National Aeronautics and
Space Administration

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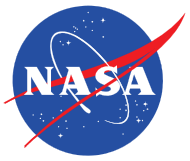

September 5, 2024

Reply to Attn of: RE-24-125

Mr. JohnDavid Nance, Bureau Chief
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

Subject: Resubmittal of NASA White Sands Test Facility (WSTF) 400 Area Supplemental Groundwater and Soil Vapor Monitoring Report – First Quarter 2024

On August 30, 2024, NASA submitted the *NASA White Sands Test Facility (WSTF) 400 Area Supplemental Groundwater and Soil Vapor Monitoring Report – First Quarter 2024*. The report was submitted in accordance with NMED's May 2, 2023 approval with modifications of the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan*, and the July 31, 2024 approval for rescheduling the submittal date for the first of four quarterly reports to August 30, 2024. Subsequent to submitting the report, NASA identified discrepancies between tables and figures in the report. To ensure that NMED has access to the most accurate information on 400 Area groundwater and soil vapor monitoring, NASA requests that NMED review this revised report rather than the August 30, 2024 submittal.

This submittal includes an Executive Summary as Enclosure 1, a printed, bound report as Enclosure 2, and a PDF of the report and Excel tables listed as Attachment 1 – Excel Tables on a CD-ROM as Enclosure 3.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments concerning this submittal, please contact Antonette Doherty of my staff at 575-202-5406.

Timothy Davis

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Timothy J. Davis
Chief, Environmental Office

cc:
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Executive Summary

This *400 Area Supplemental Groundwater and Soil Vapor Monitoring Report – First Quarter 2024* (Report) summarizes the first quarterly field groundwater and soil vapor sampling activities performed per the New Mexico Environment Department (NMED)-approved *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* (NASA, 2023a; NMED 2023d). The data collected from a total of four quarterly sampling events will be used in conjunction with a single dataset collected as a component of the *400 Area Closure Investigation Report* (NASA, 2017) to perform trend statistics and to reevaluate and update the human health risk and hazard assessment at the 400 Area Closure. The data will also be used to evaluate the need for additional investigation and future development of a Corrective Measures Evaluation encompassing the 400 Area and 300 Area Closures.

The first quarter field sampling event was performed between February 26 and 28, 2024. Groundwater zones were accessible for all six Multiport Soil Vapor and Groundwater Monitoring Well (MSVGM) wells (400-EV-131, 400-FV-131, 400-GV-125, 400-HV-147, 400-IV-123, and 400-JV-150). Within all 15 MSVGM and Multiport Soil Vapor Monitoring Well (MSVM) wells, four of the 54 available soil vapor ports within the well network were reported to be blocked and/or inaccessible. These comprised the soil vapor ports at 400-FV-131 (104 feet [ft] and 130 ft), 400-JV-150 (145 ft), and 400-KV-142 (137 ft).

Twenty-seven analytes were identified above detection limits in groundwater collected from the six MSVGM wells. These comprised volatile organic compound(s) (VOCs) (six analytes including trichloroethene [TCE]), semi-volatile organic compound(s) (SVOCs) (three analytes; N-Nitrodimethylamine [DMN], N-Nitrosodimethylamine [NDMA], and Bromacil), and metals (18 analytes). Only NDMA was detected above White Sands Test Facility Groundwater Monitoring Plan levels (NASA 2023c) within five of the wells (400-EV-131, 400-FV-131, 400-GV-125, 400-HV-147, and 400-JV-150).

Four soil vapor analytes were identified from the 50 available soil vapor ports above NMED residential vapor intrusion screening levels (VISLs) as identified in the latest Risk Assessment Guidance (NMED, 2022). The exceedances were detected in the following monitoring well sampling ports:

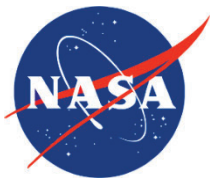
- Benzene (2 locations): 400-EV-131-47.5’ and 400-EV-131-100’
- Ethylbenzene (1 location): 400-EV-131-130’
- Freon 11 (6 locations): 400-EV-131-10’; 400-EV-131-47.5’; 400-EV-131-100’; 400-EV-131-130 (also in duplicate); 400-FV-131-15’; and 400-FV-131-63’
- TCE (5 locations): 400-EV-131-47.5’; 400-EV-131-130’ (also in duplicate); 400-FV-131-63’; 400-GV-125-105’; and 400-GV-125-120’ (also in duplicate)

Soil vapor quality assurance/quality control samples indicated that the majority of detected analytes were also identified in field blank and/or trip blank samples. Analytical reports from the off-site soil vapor laboratory using Environmental Protection Agency Method TO-15 also showed that dilutions were necessary for soil vapor samples with elevated concentrations of Trichlorofluoromethane and 1,1,2-Trichloro-1,2,2-Trifluoroethane. This was specific to the soil vapor samples that exceeded the upper calibration limits for the laboratory equipment. This

resulted in the method detection limits for other constituents increasing to above the corresponding NMED vapor intrusion screening level.

In addition to the first quarterly groundwater and soil vapor sampling event performed in February 2024, the three additional quarterly sampling events are scheduled for May 2024 (second quarter), August 2024 (third quarter), and November 2024 (fourth quarter). Contaminant vertical profiles and a comprehensive statistical evaluation including a trend analysis will be included in the fourth quarterly Report when a total of five sets of analytical results are available (the 2017 closure investigation report combined with the four quarterly 2024 reports).

National Aeronautics and Space Administration



400 Area Supplemental Groundwater and Soil Vapor Monitoring Report

First Quarter 2024

September 2024

NM8800019434

NASA Johnson Space Center White Sands Test Facility

400 Area Supplemental Groundwater and Soil Vapor Monitoring Report

First Quarter 2024

September 2024

NM8800019434

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Timothy Davis

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Executive Summary

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List of Acronyms

µg/L	Micrograms per litre
µg/m^3	Microgram per cubic meter
bgs	Below ground surface
CoC	Chain of Custody
COPC	Contaminant of Potential Concern
DMN	N-Nitrodimethylamine
EPA	Environmental Protection Agency
Freon 11	Trichlorofluoromethane
Freon 113	1,1,2-Trichloro-1,2,2-Trifluoroethane
Freon 123a	1,2-Dichloro-1,1,2-Trifluoroethane
Freon 21	Dichlorofluoromethane
ft	Feet/foot
GMP	Groundwater Monitoring Plan
HIS	Historical Information Summary
IR	Investigation Report
IWP	Investigation Work Plan
MDL	Method Detection Limit
mi	Miles
MSVGM	Multiport Soil Vapor and Groundwater Monitoring Well
MSVM	Multiport Soil Vapor Monitoring Well
NASA	National Aeronautics and Space Administration
ND	Non-detect
NDMA	N-Nitrosodimethylamine
NMED	New Mexico Environment Department
PCE	Tetrachloroethene
PSI	Pounds per Square Inch
PVC	Polyvinyl Chloride
QA/QC	Quality Assurance/Quality Control
QAR	Quality Assurance Report
RBC	Risk-Based Concentration
SVOC	Semi-volatile Organic Compound(s)
TCE	Trichloroethene
VISL	Vapor Intrusion Screening Level
VOC	Volatile Organic Compound(s)
WSTF	White Sands Test Facility

1.0 Introduction

National Aeronautics and Space Administration (NASA) performed a field investigation of the White Sands Test Facility (WSTF) 400 Area Closure between September 2016 and September 2017. The purpose of the investigation was to determine the nature, extent, and potential migration pathways of contaminant releases at the 400 Area Closure (formerly the 400 Area hazardous waste impoundments). Investigation activities included the installation of soil borings that were subsequently converted to multiport soil vapor and groundwater monitoring (MSVGM) wells and multiport soil vapor monitoring (MSVM) wells, and the collection and analysis of soil, soil vapor, and groundwater samples. An initial comprehensive groundwater and soil sampling event at the newly installed wells was performed as part of the 400 Area Closure investigation fieldwork in July and August 2017. NASA submitted the *400 Area Closure Investigation Report* (IR) to the New Mexico Environment Department (NMED) on December 27, 2017 (NASA, 2017). Following comments and revisions, NMED provided the *Approval with Modifications 400 Area Closure Investigation Report – Revision 3* on May 2, 2023 (NMED, 2023a). One of the required components of the approved IR was to provide a minimum four quarterly reports documenting 400 Area supplemental groundwater and soil vapor monitoring. This *400 Area Supplemental Groundwater and Soil Vapor Monitoring Report – First Quarter 2024* (Report) is the first of four planned quarterly reports intended to satisfy this requirement.

1.1 Site Location and Description

WSTF is located in Doña Ana County, New Mexico, 18 miles (mi) northeast of Las Cruces, New Mexico, and 65 mi north of El Paso, Texas. Access to the site is provided via NASA Road, a paved road with a guarded security gate. NASA Road intersects U.S. Highway 70, 1 mi west of Organ, New Mexico. Figure 1.1 provides a WSTF location map. The location of the WSTF 400 Area and 400 Area Closure are provided in Figure 1.2.

1.2 Objective and Scope

This first quarter 2024 report identifies the MSVGM and MSVM monitoring wells utilized for the supplemental monitoring, presents sampling methods performed at the monitoring wells, analytical requirements, and provides the groundwater and soil vapor analytical results collected for the monitoring period. The data presented and summarized within the Report is intended to supplement data from the initial groundwater and soil vapor event collected during the 400 Area Closure investigation. The quarterly groundwater analysis provided includes volatile organic compounds (VOC), semi-volatile organic compounds (SVOC, including nitrosamines), inorganic compounds, and metals. The quarterly soil vapor analysis provided comprises VOC. These data will be used to support evaluation of the vapor intrusion pathway in the 400 Area as required by NMED (NMED, 2018; Comments 17 and 18) and update the human health risk and hazard assessment at the 400 Area Closure. The data collectively comprising the initial sampling event from 2017 and the four quarterly events will also be used to support evaluation for potential additional investigation at the 400 Area Closure and future development of a corrective measures evaluation for the 400 and 300 Area Closures contaminants of concern.

Groundwater contaminants of potential concern (COPC) for the 400 Area Closure includes un-combusted hydrazine; monomethyl hydrazine; unsymmetrical dimethylhydrazine; Aerozine 50 and nitrogen tetroxide from static hot firing rocket engine tests. In addition, 11 trichlorofluoromethane (Freon®[1]),

[1] Freon is a registered trademark of The Chemours Company CF, LLC.

dichlorofluoromethane (Freon 21), 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113), and isopropyl alcohol were used as referee propellants during early cold flow firings.

Table 1.1 provides the list of COPC for the 400 Area including chemicals and wastes known to have been released and contaminants that were detected during previous soil, soil vapor, and groundwater investigations (NASA, 2017). The list of COPC is comprehensive, and the only screening applied was to exclude inorganic analytes considered to be non-toxic, not associated with potential contaminants, and essential nutrients (e.g., magnesium, potassium, iron, sodium, and fluoride; NASA, 2017).

2.0 Field Monitoring

2.1 Monitoring Well Network

For the first quarter 2024 report, NASA utilized all accessible ports and well screens in the 15 monitoring wells to collect the groundwater and soil vapor samples required to meet the objectives of the monitoring Plan (NASA, 2023a). The location of each of the wells in conjunction with other monitoring wells in the immediate vicinity of the 400 Area Closure is provided in Figure 2.1, and a summary of the design characteristics of the 15 monitoring wells and current status of the sampling screens and ports is provided in Table 2.1.

2.2 First Quarter 2024 Field Sampling Event

The first quarter field sampling event was performed at the 400 Area Closure between February 26 and 28, 2024. Groundwater zones were accessible for six multiport soil vapor and groundwater monitoring well (MSVGM) wells. A copy of the WSTF external chain of custody (CoC) form for groundwater samples collected during the sampling event is provided in Appendix A.

Of the 54 soil vapor ports within the well network scheduled for sampling, four were reported to be blocked or inaccessible. These comprised soil vapor ports at well 400-FV-131 (104 feet [ft] and 130 ft), well 400-JV-150 (145 ft), and well 400-KV-142 (137 ft). A copy of the WSTF external CoC form for soil vapor samples collected during the sampling event is provided in Appendix A.

2.2.1 Groundwater Field and Sampling Activities

Groundwater samples from 400 Area MSVGM wells were all collected on February 26, 2024 using established site-specific procedures for low-flow sampling and for traditional purge and sample methods. In accordance with the approved *Groundwater Monitoring Plan Update for 2023* (NMED, 2023c; NASA, 2023b) from wells 400-EV-131, 400-FV-131, 400-GV-125, 400-HV-147, 400-IV-123, and 400-JV-150 (Table 2.1, Figure 2.1).

Groundwater field and sampling activities were recorded in the technician's field logbook (Appendix A). Prior to the collection of the groundwater samples, each well was purged of three well volumes and/or until dry using a dedicated low-flow bladder pump. Each pump is composed of polyvinyl chloride (PVC) with Teflon bladders and has a Teflon-lined ¼-inch outer diameter air supply and groundwater sample tube. The water level was allowed to recover in each MSVGM well before groundwater samples were collected. The groundwater samples were then dispensed into laboratory-provided sample containers, which were appropriately labeled and placed in cold storage. Groundwater samples were preserved in accordance with NASA's contracted off-site analytical laboratories requirements and shipped for analysis.

Groundwater samples collected from the six MSVGM wells were analyzed for the COPCs listed in the original NMED-approved 400 Area Closure investigation workplan (IWP) (NASA, 2011a). Appendix B provides the chemical program quality assurance report (QAR) for groundwater sampling.

Groundwater samples were collected for analysis of:

- VOCs by SW-846 Method 8260C.
- SVOCs by SW-846 Method 8270D.
- Nitrosamines by EPA Method 607.
- Several metals by various SW-846 methods in accordance with the NMED-approved Groundwater Monitoring Plan (GMP; NMED 2023c; NASA, 2023b).

2.2.2 Soil Vapor Field and Sampling Activities

Soil vapor samples from 400 Area MSVM and MSVGM wells were collected between February 26 and February 28, 2024. A total of 50 soil vapor ports in the 15 MSVM and MSVGM wells were utilized for the monitoring event. Of the four blocked ports, two of the ports at 400-FV-131-130 (130 ft below ground surface [bgs]) and 400-JV-150-145 (145 ft bgs) were located beneath the potentiometric surface at their respective locations and the inability to sample the soil vapor implants is attributed to the groundwater table rising above the implant depths. For both MSVGM well locations, the aquifer is semi-confined, and this layer was breached during drilling. Underlying pressurized groundwater continued to rise gradually until equilibrium was reached, which resulted in submergence of the deepest soil vapor implant at both MSVGM well locations.

Soil vapor sampling at each MSVM or MSVGM well was performed in accordance with established WSTF procedures. Each vapor port at surface is affixed with an aluminum tag engraved with the identification of that port to ensure port identification. The soil vapor sampling sequence began with the shallowest port and continued sequentially until the deepest port had been sampled. The sampling ports and stainless-steel tubing were purged of entrained soil vapor with a non-dedicated surface vacuum pump to evacuate stagnant air below the sample collection fitting. Each port was purged for a minimum of five minutes per zone to evacuate at least three volumes of the ¼ inch tubing and soil vapor implant. Carbon dioxide, oxygen, and methane indicator parameters were monitored during purging to ensure stabilization prior to sampling and recorded in the field logbook (Appendix A).

Soil vapor samples were collected in one-liter stainless steel Summa canisters. The initial pressure for all canisters verified by the analytical laboratory is -14.3 pounds per square inch (PSI). The final canister pressure was noted in the field logbook and CoC form (Appendix A). Soil vapor samples were shipped to the laboratory for analysis for VOC using Environmental Protection Agency (EPA) Method TO-15. Soil vapor chemical samples were collected to evaluate as many COPCs as possible from the list originally provided in the NMED-approved 400 Area Closure IWP (NASA, 2011a). Appendix B provides the chemical program QAR for soil vapor sampling.

3.0 Quality Assurance/Quality Control

A total of nine quality assurance/quality control (QA/QC) samples were collected for groundwater as follows:

- Duplicate samples (2): 400-FV-131 (2402260936 for Method 8260 and 2402260945 for Method 607), and 400-GV-125 (2402261031 for Method 8260 and 2402261045 for Method 607).

- Field blanks (6): 400-EV-131 (2402260901 for Method 8260), 400-FV-131 (2402260937 for Method 8260), 400-GV-125 (2402261032 for Method 8260), 400-HV-147 (2402261006 for Method 8260), 400-IV-123 (2402261411 for Method 8260), and 400-JV-150 (2402261316 for Method 8260).
- Trip blanks (1): 400-FV-131 (2402260745 for Method 8260).

The chemical program QAR for groundwater sampling is provided in Appendix B.

A total of 16 QA/QC samples were collected for soil vapor as follows:

- Duplicate samples (5) all for Method TO-15: 400-GV-125-120 (2402261413), 400-LV-125-10 (2402270941), 400-SV-09-45 (2402280949), 400-SV-10-125 (2402281029), and 400-SV-15-10 (2402281056).
- Field blanks (8) all for Method TO-15: 400-EV-131-10 (2402260905), 400-HV-147-95 (2402261015), 400-IV-123-80 (2402261450), 400-KV-142-12.5 (2402270851), 400-SV-05-100 (2402271033), 400-SV-09-10 (2402280941), 400-SV-10-50 (2402281014), and 400-SV-15-90 (2402281111).
- Trip blanks (3) all for Method TO-15: 400-JV-150-12.5 (2402261050), 400-SV-02-10 (2402271050), and 400-SV-07-10 (2402280815).

The chemical program QAR for soil vapor sampling is provided in Appendix B.

4.0 Groundwater and Soil Vapor Analytical Results

The results section includes any issues encountered, quality parameter measurements, analytical results, a comparison of analytical results to screening and/or cleanup levels. In addition to the first set of quarterly groundwater and soil vapor samples collected in February 2024, three additional quarterly sampling events are scheduled for May 2024 (second quarter), August 2024 (third quarter), and November 2024 (fourth quarter). Contaminant vertical profiles and a comprehensive statistical evaluation including a trend analysis will be included in the fourth quarterly report when five sets of analytical results are available for evaluation (the 2017 Closure Investigation Report combined with the four quarterly 2024 reports).

4.1 Groundwater Results

4.1.1 Issues Encountered

No issues were encountered during groundwater sampling for the six available MSVGM wells.

4.1.2 Groundwater Quality Parameter and Depth Measurements

As part of groundwater sample collection for laboratory chemical analyses, four water quality field parameters (temperature; specific conductivity; pH; and turbidity) were measured in each MSVGM well during the purging process and prior to sampling. This was to ensure sufficient purging had been performed and demonstrate that all groundwater within the well and gravel pack surrounding the screened zone had been removed. Table 4.1 provides the initial groundwater quality parameter measurements for MSVGM wells. The groundwater quality parameters and other sampling records including field/internal CoC forms are provided in Appendix A. The groundwater potentiometric surface based on elevations measured in the six wells is provided in Figure 4.1, with groundwater flow from east-northeast to west-southwest at a gradient of approximately 0.05 ft/ft.

4.1.3 Groundwater Chemical Analytical Results

The electronic analytical results for groundwater (Excel spreadsheet) are provided in Attachment 1 to this report. The laboratory analytical reports for groundwater samples are provided in Appendix C. A summary of the groundwater analytical results above laboratory detection limits is provided in Table 4.2. Twenty-seven analytes were identified above detection limits in groundwater samples collected from the MSVGM wells:

- VOCs (6 constituents): Freon 113; 1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a); Chloroform; Freon 21; Trichloroethene (TCE); and Freon 11.
- SVOC Nitrosamines (2 constituents): N-Nitrodimethylamine (DMN; and N-Nitrosodimethylamine (NDMA).
- SVOC Bromacil (1 constituent).
- Metals (18 constituents): antimony; arsenic; barium; boron; calcium; chromium; cobalt; magnesium; manganese; molybdenum; nickel; potassium; selenium; sodium; strontium; thallium; vanadium; and zinc.

A summary of 400 Area groundwater analytical results above WSTF GMP cleanup-screening levels is provided in Table 4.3. The only analyte with detections above WSTF GMP levels was NDMA within five of the six wells: 400-EV-131: 400-FV-131: 400-GV-125: 400-HV-147: and 400-JV-150 (Figure 4.2).

4.1.4 Groundwater Statistical Trends

For this quarterly report, no statistical evaluations were performed due to an insufficient sample size (<6) to make reliable decisions that affect human health and the environment (EPA, 2022a). Therefore, no statistical trends will be performed for 400 Area groundwater during this study until after all four quarterly sampling events have been completed. With the original 400 Area 2017 sampling event presented in the IR and the four proposed quarterly sampling events, the sample size will be five. Statistical trends will be completed following the final (fourth) quarterly sampling event.

4.2 Soil Vapor Results

4.2.1 Issues Encountered

First quarter soil vapor samples were attempted at 54 available soil vapor ports in the 15 MSVGM and MSVM monitoring wells. Soil vapor samples were collected on the same day as groundwater samples from MSVGM wells, and all MSVGM wells were sampled on the same day (February 26, 2024). All soil vapor samples were collected on schedule between February 26 – 28, 2024 as required by the plan (NASA, 2023a). Four blocked soil vapor ports were identified at 400-FV-131-104, 400-FV-131-130, 400-JV-150-145, and 400-KV-142-137 and were not sampled for the first quarter event.

4.2.2 Soil Vapor Quality Parameter Measurements

Soil vapor quality parameters are obtained from each sampling port through field measurements. Quality parameters and other specific sampling-related details associated with each monitoring well sampling event are recorded by technicians in the field sampling record. Table 4.4 provides a summary of the soil vapor quality parameter measurements prior to sampling for MSVGM and MSVM wells. Field notes detailing the soil vapor quality parameters and other sampling records including field/internal CoC forms are provided in Appendix A.

4.2.3 Soil Vapor Chemical Analytical Results

The electronic analytical results for soil vapor (Excel spreadsheet) are provided in Attachment 1 to this report. The laboratory analytical reports for soil vapor samples are provided in Appendix C. Soil vapor samples were analyzed for VOCs using EPA Method TO-15. Table 4.5 provides all analytes that were tested. Twenty-three of the analytes analyzed by Method TO-15 are COPCs defined for the 400 Area Closure investigation (NASA, 2011a): 1,1,1-trichloroethane; 1,1-dichloroethane; 2-butanone; 2-hexanone; 2-propanol; acetone; bromodichloromethane; bromoform; chlorobenzene; chloroform; chloromethane; dibromochloromethane; Freon 11; Freon 113; Freon 123; Freon 21; m,p-Xylene; methyl tert-butyl ether; methylene chloride; Tetrachloroethylene (PCE); toluene; trans-1,2-dichloroethene; and TCE.

The soil vapor analyte detections and concentration ranges are summarized in Table 4.5. Primary observations from the tabulated data are provided below:

- A total of 64 analytes were tested using EPA Method TO-15.
- 53 analytes were detected above laboratory detection levels for either soil vapor within monitoring well sampling zones or within field blank and trip blank samples.
- 11 analytes were reported as non-detect (ND) within both monitoring well sampling zones and field blank/trip blank samples.
- 21 analytes were detected only in monitoring well sampling zones.
- 29 analytes were detected in both monitoring well sampling zones and field blank/trip blank samples.
- 3 analytes were detected only in field blank/trip blank samples (Bromodichloromethane, Bromoform, and Dibromochloromethane).
- The majority of soil vapor detections reported above screening levels corresponded to MSVGM wells where groundwater was also present.

Analytical reports from the off-site soil vapor laboratory (ALS Laboratory) indicate that dilutions were necessary for soil vapor samples with elevated concentrations of Freon 11 and Freon 113, which exceeded the upper calibration limits for the laboratory analytical equipment. Dilution is the total number of unit volumes in which the soil vapor was dissolved, calculated by dividing unit volume by the volume of soil vapor analyzed (liters) and multiplying by the container dilution factor. Soil vapor dilutions varied from 3.53 (400-SV-09) for the lowest concentration sample up to 9,200 for the highest concentration sample (400-HV-147-130). For the samples with large dilutions and high concentrations reported for Freon 11 and Freon 113, elevated method detection limits (MDL) for other COPCs in the same samples potentially increase to above the corresponding NMED vapor intrusion screening level (VISL).

From consultations with the contracted analytical laboratory regarding EPA Method TO-15 sample dilution, NASA was informed there is no practical way to mitigate sample dilution that would remedy the effect on MDL for other COPC. Each Method TO-15 soil vapor sample is analyzed collectively for the suite of target COPC. If the concentration of a single compound or multiple compounds in any sample exceeds the preliminary calibration range, the sample must be diluted for reanalysis at an optimum volume. The standard laboratory practice is to run at the greatest volume possible based on the matrix sample. There is no option other than multiple injections to analyze the largest volume possible for samples containing high concentrations of specific analytes (in this case Freon 11 and Freon 113). All steps performed in the dilution and analysis of field sample canisters are included in the MDL procedure. It is not possible to sample for specific soil vapor COPCs using Method TO-15 at lower concentrations before diluting the sample. NMED guidance (Comment 4b.; NASA, 2021) indicated that analyses conducted with detection limits that are greater than applicable background screening and regulatory cleanup levels should be considered data quality exceptions and the reasons reported. Furthermore, when

detection limits exceed screening levels (VISLs and/or risk-based concentrations [RBCs]), the resulting data cannot be used for statistical analysis or risk assessment. NASA acknowledged this issue (response to Comment 4b.; NASA, 2021), and stated that constituents exhibiting detection limits greater than screening or regulatory cleanup levels will be identified and fully discussed in future reports.

The term "non-detect" is not appropriate for specific COPCs for diluted samples where MDL are above the respective screening levels. The reporting strategy used in Table 4.5 identifies the modified COPC MDL due to dilution and compares it to the corresponding screening level. Bold font indicates where the MDL exceeds the VISL (NMED, 2022)/regional screening level (RSL; EPA, 2022b)/risk-based concentration (RBC; NASA, 2022). Of the 64 analytes detected and reported as non-detect within the EPA Method TO-15 suite, the MDL increased above the corresponding regulatory screening level (either NMED VISL, EPA RSL, or WSTF RBC) for 29 of the analytes identified in bold in Table 4.5.

A summary of 400 Area soil vapor analytical results above NMED residential VISLs is provided in Table 4.6 and Figure 4.3. A total of 21 analytical results for four analytes (benzene, ethylbenzene, Freon 11, and TCE) exceeded the NMED VISLs are described below.

Detected in monitoring well sampling ports:

- Benzene (2 locations): 400-EV-131-47.5' and 400-EV-131-100'.
- Ethylbenzene (1 location): 400-EV-131-130'.
- Freon 11 (6 locations): 400-EV-131-10'; 400-EV-131-47.5'; 400-EV-131-100'; 400-EV-131-130 (also in duplicate); 400-FV-131-15'; and 400-FV-131-63'.
- TCE (5 locations): 400-EV-131-47.5'; 400-EV-131-130' (also in duplicate); 400-FV-131-63'; 400-GV-125-105'; and 400-GV-125-120' (also in duplicate).

Detected in QA samples (field blanks):

- Benzene (2 locations): 400-EV-131-10' and 400-HV-147-195'.
- Freon 11 (2 locations): 400-EV-131-10' and 400-HV-147-195'.

All analytical results that exceeded the NMED VISLs were below the equivalent depth sensitive WSTF RBC taken from the most recently approved version of the annual WSTF RBC report (NASA, 2022). Following the disapproval of NASA's 2023 RBC update (NMED, 2023b), NASA responded with a proposal to work with a subcontractor provide the 2024 RBC update using site-specific parameters to calculate more appropriate attenuation factors for use in RBC calculations (NASA, 2024).

4.2.4 Soil Vapor Statistical Trends

For this quarterly report, no statistical evaluations were performed due to an insufficient sample size (<6) to make reliable decisions that affect human health and the environment. Therefore, no statistical trends will be performed for 400 Area soil vapor during this study until after all four quarterly sampling events have been completed. With the original 400 Area 2017 sampling event presented in the IR and the four proposed quarterly sampling events, the sample size will be five. Statistical trends will be completed following the final (fourth) quarterly sampling event.

5.0 Conclusions and Recommendations

In addition to the first quarterly groundwater and soil vapor sampling field event performed in February 2024, the three additional quarterly sampling events are scheduled for May 2024 (second quarter), August 2024 (third quarter), and November 2024 (fourth quarter). NASA recommends providing contaminant

vertical profiles and a comprehensive statistical evaluation including a trend analysis in the fourth quarterly Report when a total of five sets of analytical results are available (the 2017 Closure investigation report combined with the four quarterly 2024 reports).

6.0 References

EPA. (2022a). *ProUCL Version 5.2.0 Technical Guide – Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations*. Washington DC.

EPA. (2022b, November). Regional Screening Level (RSL) Summary Table. Retrieved from https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables.

NASA Johnson Space Center White Sands Test Facility. (2011a, June 27). *NASA White Sands Test Facility (WSTF) 400 Area Closure Investigation Work Plan, 400 Area Historical Information Summary (HIS), 400 Aspirator Discharge Pipes HIS, and 500 Fuel Storage Area HIS*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2011b, August 30). *NASA White Sands Test Facility (WSTF) 300 Area Closure Investigation Report*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2017, December 27). *NASA WSTF 400 Area Closure Investigation Report*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2021, July 27). *NASA WSTF 400 Area Closure Investigation Report – NMED Third Disapproval Response*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2022, May 10). *NASA White Sands Test Facility (WSTF) 2022 Soil Vapor Risk Based Concentrations (RBC) Memorandum*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2023a, July 11). *Response to Approval with Modifications 400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2023b, December 8). *Response to Approval with Modifications of NASA WSTF Groundwater Monitoring Plan Update for 2023*. Las Cruces, NM.

NASA Johnson Space Center White Sands Test Facility. (2024, January 18). *Response to Disapproval of the NASA WSTF 2023 Soil Vapor Risk Based Concentrations (RBC) Memorandum*. Las Cruces, NM.

NMED Hazardous Waste Bureau. (2018, August 14). *Disapproval 400 Area Closure Investigation Report*. Santa Fe, NM.

NMED Hazardous Waste Bureau. (2022, November). *Risk Assessment Guidance for Site Investigations and Remediation Volume I Soil Screening Guidance for Human Health Risk Assessments*. Santa Fe, NM.

NMED Hazardous Waste Bureau. (2023a, May 2). *Approval with Modifications 400 Area Closure Investigation Report - Revision 3*. Santa Fe, NM.

NMED Hazardous Waste Bureau. (2023b, October 18). *Disapproval 2023 Updated Soil Vapor Risk Based Concentrations (RBCs) Memorandum*. Santa Fe, NM.

NMED Hazardous Waste Bureau. (2023c, November 1). *Approval with Modifications White Sands Test Facility Groundwater Monitoring Plan*. Santa Fe, NM.

Figures

Figure 1.1 **WSTF Location Map**

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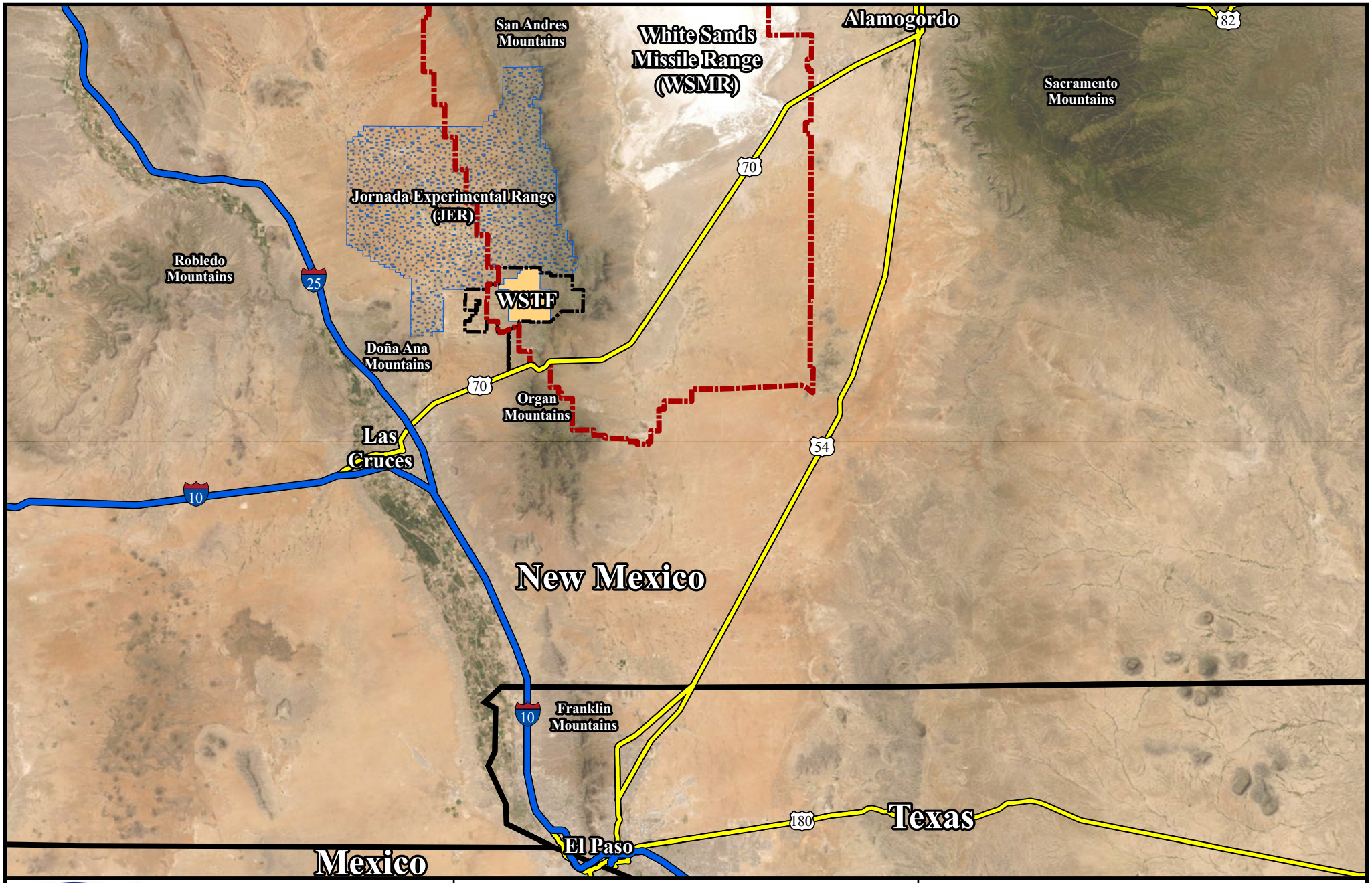

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September 2024
Edited by: srees

- WSMR Boundary
- WSTF Boundary
- Jornada Experimental Range (JER)
- WSTF Industrial Area

WSTF Location Map

NASA Johnson Space Center
White Sands Test Facility
Las Cruces, New Mexico

Coordinate System:
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Figure 1.2 WSTF Industrial Area Location Map

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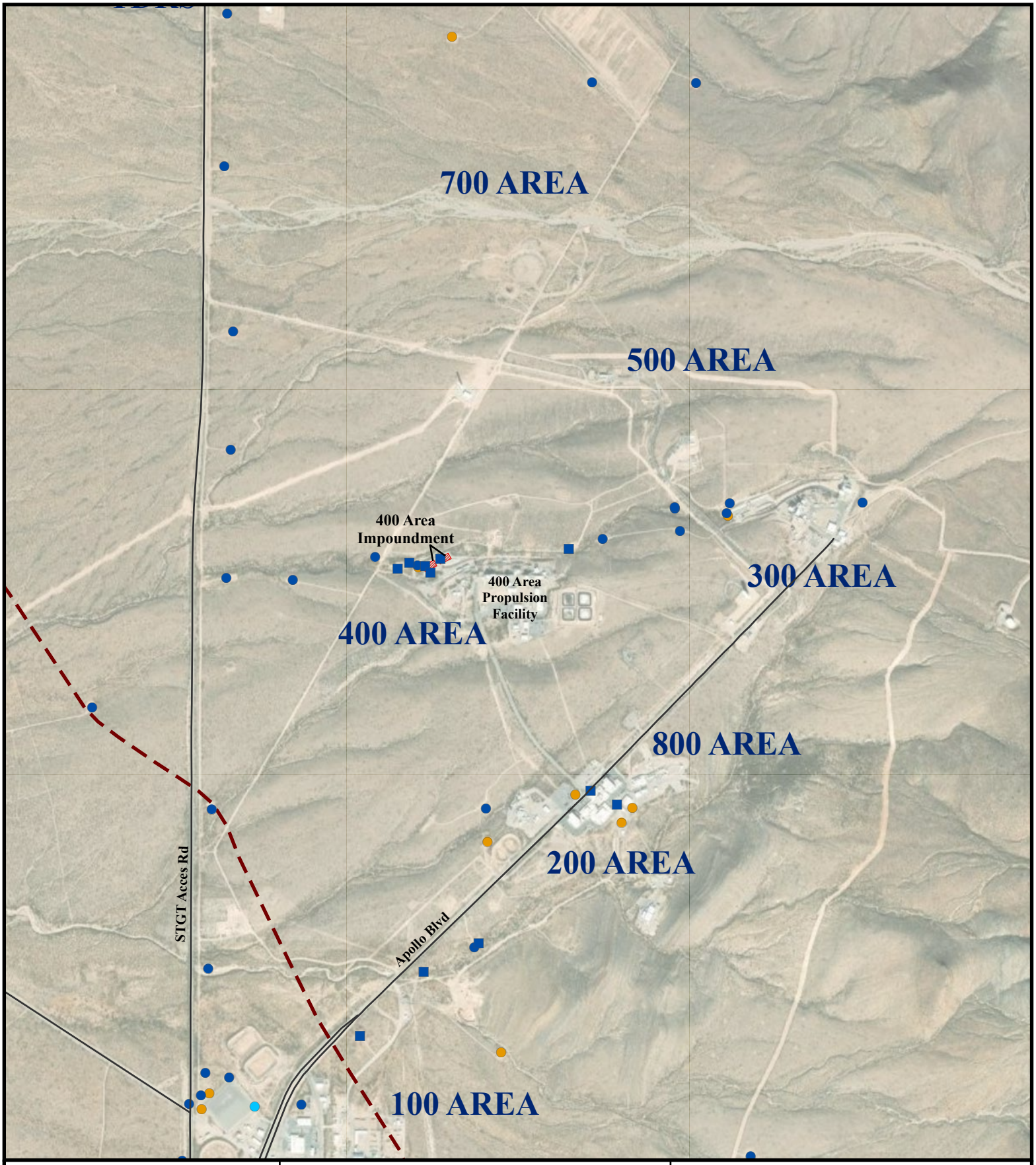

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September 2024

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Prepared by: srees

- Multiport Well
- Conventional Well
- Perched Well
- MSVGM Well
- Inferred Fault
- 400 Area Impoundment

White Sands Test Facility
Industrial Area

NASA Johnson Space Center
White Sands Test Facility Las Cruces, New Mexico

Coordinate System:
NAD 1983 HARN StatePlane New Mexico Central FIPS 3002 Feet

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Figure 2.1 **400 Area Monitoring Well Location Map**

(SEE NEXT PAGE)


400 West Fault
400 East Fault
400-001-GW
400-SV-15
400-IV-123
400-SV-03
400-SV-02
400-SV-10
400-EV-131
400-GV-125
400-SV-05
400-SV-07
NASA 6
400-FV-131
400-HV-147
400-SV-09
400-JV-150
400-D
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Conventional Well
Multiport Well
Soil Vapor Well
MSVGM Well
Inferred Fault
400 Area
Monitoring Well Locations
NASA Johnson Space Center
White Sands Test Facility Las Cruces, New Mexico
Coordinate System:
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Figure 4.1 **400 Area Potentiometric Surface Map**

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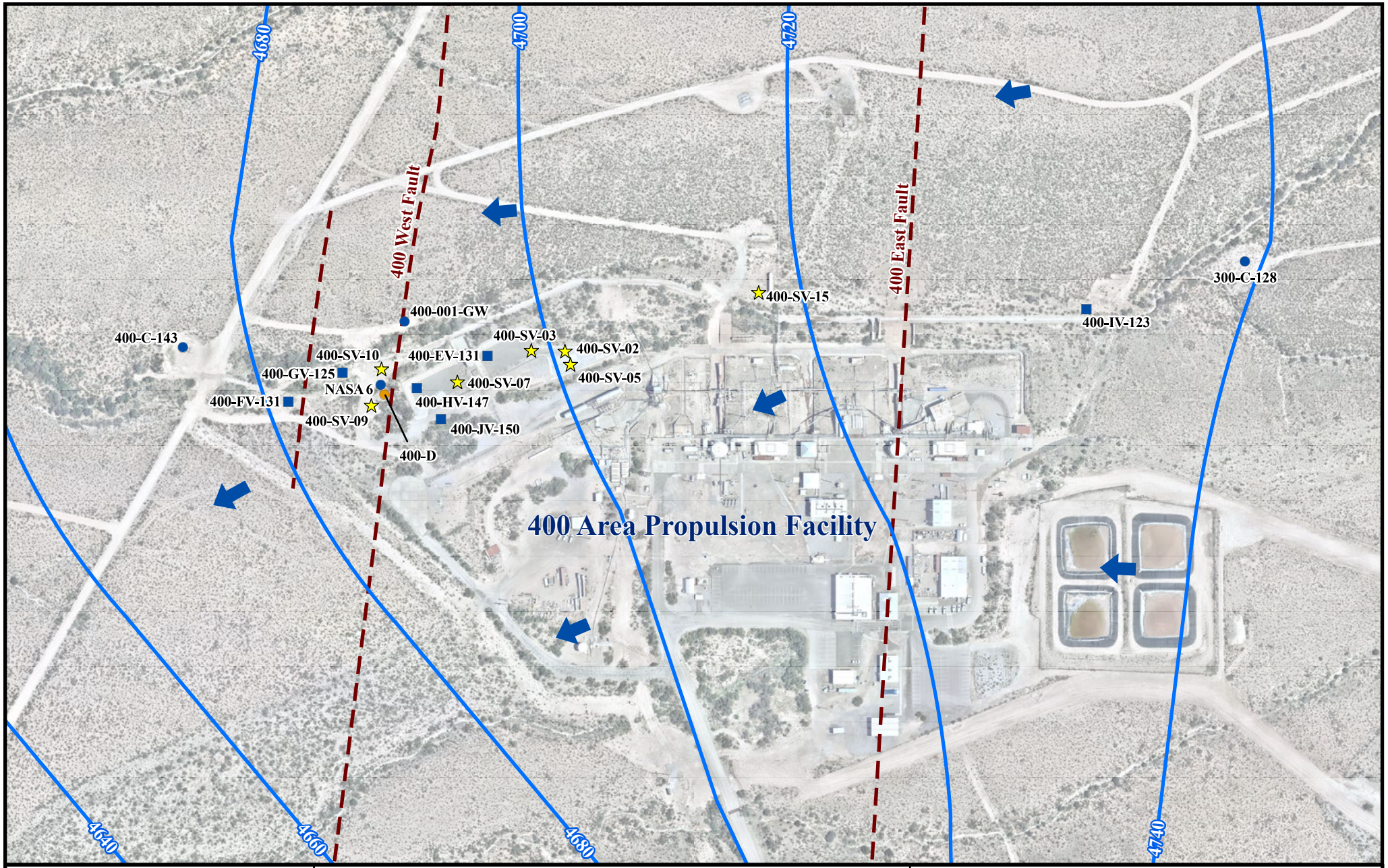

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September 2024

0 50 100 200 300 Feet

Prepared by:srees

- Conventional Well
- Multiport Well
- Soil Vapor Well
- MSVGM Well

- Groundwater Elevation 20 Feet Contour
- Inferred Fault
- General Flow Direction

400 Area Potentiometric Surface Map

NASA Johnson Space Center
White Sands Test Facility Las Cruces, New Mexico

Coordinate System:
NAD 1983 StatePlane New Mexico Central FIPS 3002

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Figure 4.2 400 Area Groundwater Analytical Cleanup Level Exceedences

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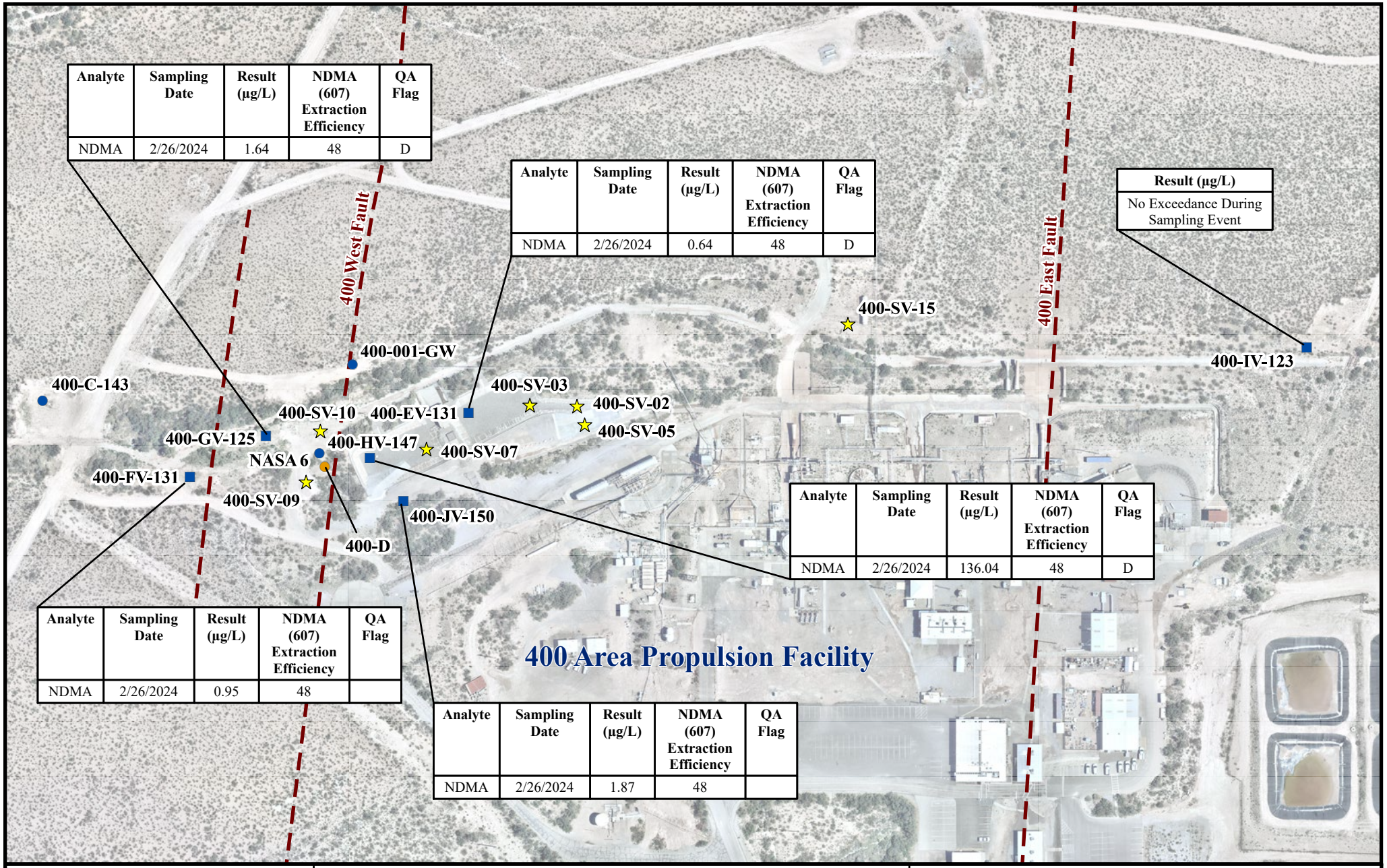

Analyte	Sampling Date	Result (µg/L)	NDMA (607) Extraction Efficiency	QA Flag
NDMA	2/26/2024	1.64	48	D

Analyte	Sampling Date	Result (µg/L)	NDMA (607) Extraction Efficiency	QA Flag
NDMA	2/26/2024	0.64	48	D

Result (µg/L)
No Exceedance During Sampling Event

Analyte	Sampling Date	Result (µg/L)	NDMA (607) Extraction Efficiency	QA Flag
NDMA	2/26/2024	136.04	48	D

Analyte	Sampling Date	Result (µg/L)	NDMA (607) Extraction Efficiency	QA Flag
NDMA	2/26/2024	0.95	48	

Analyte	Sampling Date	Result (µg/L)	NDMA (607) Extraction Efficiency	QA Flag
NDMA	2/26/2024	1.87	48	

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September 2024

0 50 100 200 300 Feet

Prepared by:srees

- Conventional Well
- Multiport Well
- Soil Vapor Well
- MSVGM Well
- Inferred Fault

NDMA Cleanup Level = 0.00491 ug/L

Notes:
* = The result, quantitation limit, and/or detection limit may have been affected by matrix interference .
D = The reported result is from a dilution.
J = The result is and estimated value less than the quantitation limit, but greater than or equal to the detection limit.
RB = The analyte was detected in the method blank.
A = The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV), or continuing calibration verification (CCV) was outside standard limits.

400 Area Groundwater Analytical Cleanup Level Exceedances

NASA Johnson Space Center
White Sands Test Facility Las Cruces, New Mexico

Coordinate System:
NAD 1983 HARN StatePlane New Mexico Central FIPS 3002 Feet

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Figure 4.3 400 Area Soil Vapor Analytical NMED Residential VISL Exceedences

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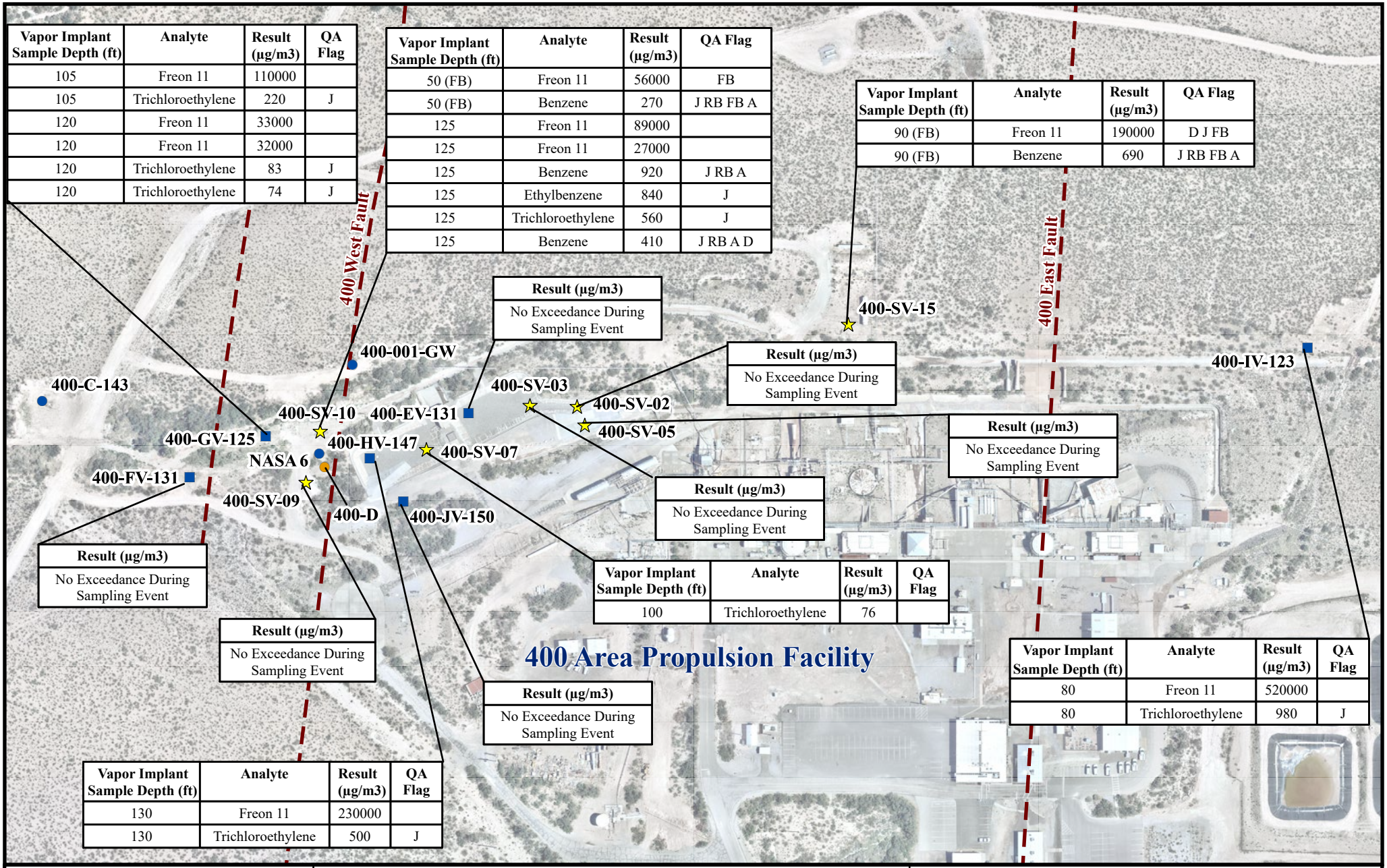

Vapor Implant Sample Depth (ft)	Analyte	Result (µg/m3)	QA Flag
105	Freon 11	110000	
105	Trichloroethylene	220	J
120	Freon 11	33000	
120	Freon 11	32000	
120	Trichloroethylene	83	J
120	Trichloroethylene	74	J

Vapor Implant Sample Depth (ft)	Analyte	Result (µg/m3)	QA Flag
50 (FB)	Freon 11	56000	FB
50 (FB)	Benzene	270	J RB FB A
125	Freon 11	89000	
125	Freon 11	27000	
125	Benzene	920	J RB A
125	Ethylbenzene	840	J
125	Trichloroethylene	560	J
125	Benzene	410	J RB A D

Vapor Implant Sample Depth (ft)	Analyte	Result (µg/m3)	QA Flag
90 (FB)	Freon 11	190000	D J FB
90 (FB)	Benzene	690	J RB FB A

Vapor Implant Sample Depth (ft)	Analyte	Result (µg/m3)	QA Flag
100	Trichloroethylene	76	

Vapor Implant Sample Depth (ft)	Analyte	Result (µg/m3)	QA Flag
80	Freon 11	520000	
80	Trichloroethylene	980	J

Vapor Implant Sample Depth (ft)	Analyte	Result (µg/m3)	QA Flag
130	Freon 11	230000	
130	Trichloroethylene	500	J

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September 2024

0 50 100 200 300 Feet

Prepared by:srees

- Conventional Well
- Multiport Well
- Soil Vapor Well
- MSVGM Well
- Inferred Fault

Notes:
FB = indicates a Field Blank sample collected concurrently with the investigation sample
RB = Analyte detected in a method blank
D = The reported result is from a dilution
J = The result is and estimated value less than the quantitation limit, but greater than or equal to the detection limit.
A = The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV), or continuing calibration verification (CCV) was outside standard limits.

No Samples Exceeded WSTF Residential RBCs
Sample Depths with FB indicate a Quality Control Field Blank Sample

400 Area Soil Vapor Analytical NMED Residential VISL Exceedances

NASA Johnson Space Center
White Sands Test Facility Las Cruces, New Mexico

Coordinate System:
NAD 1983 HARN StatePlane New Mexico Central FIPS 3002 Feet

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Tables

Table 1.1 List of Contaminants of Potential Concern for the 400 Area Closure

Constituent	Sample Type
Chloride	ANION
Cyanide	CYANIDE
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	DIOXINS/FURANS
Heptachlorodibenzo-p-dioxins (HpCDD), Total	DIOXINS/FURANS
Octachlorodibenzofuran (OCDF)	DIOXINS/FURANS
Octachlorodibenzo-p-dioxin (OCDD)	DIOXINS/FURANS
Hydrazine	HYDRAZINE
Monomethylhydrazine (MMH)	HYDRAZINE
Unsymmetrical Dimethylhydrazine (UDMH)	HYDRAZINE
Aluminum	METALS
Antimony	METALS
Arsenic	METALS
Barium	METALS
Beryllium	METALS
Boron	METALS
Cadmium	METALS
Calcium	METALS
Chromium (Total)	METALS
Chromium (VI)	METALS
Cobalt	METALS
Copper	METALS
Lead	METALS
Mercury	METALS
Molybdenum	METALS
Nickel	METALS
Selenium	METALS
Silver	METALS
Strontium	METALS
Thallium	METALS
Tin	METALS
Vanadium	METALS
Zinc	METALS
Bromacil	BROMACIL
N-Nitrodimethylamine	NITROSAMINES
N-Nitrosodimethylamine	NITROSAMINES
Nitrate	NITROGEN
Nitrite	NITROGEN
Perchlorate	PERCHLORATE
Bis(2-ethylhexyl) Phthalate	SVOA
Di-n-butyl Phthalate	SVOA
1,1,1-Trichloroethane	VOA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VOA
1,1-Dichloroethene	VOA
1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a)	VOA
1,2-Dichloroethane	VOA
2,2-Dichloro-1,1,1-trifluoroethane (Freon 123)	VOA
2-Butanone (Methyl Ethyl Ketone)	VOA
2-Hexanone	VOA

Constituent	Sample Type
2-Propanol	VOA
Acetone	VOA
Bromodichloromethane	VOA
Bromoform	VOA
Chlorobenzene	VOA
Chloroform	VOA
Chloromethane	VOA
Dibromochloromethane	VOA
Dichlorofluoromethane (Freon 21)	VOA
Methyl tert-Butyl Ether	VOA
Methylene Chloride	VOA
m-Xylene & p-Xylene	VOA
Tetrachloroethene (PCE)	VOA
Toluene	VOA
trans-1,2-Dichloroethene	VOA
Trichloroethene (TCE)	VOA
Trichlorofluoromethane (Freon 11)	VOA

Table 2.1 400 Area Monitoring Well Summary

Well ID (Screen ft bgs)	Well Type	SV Port Depths (ft bgs)	Brass Cap Elevation (ft amsl)	Depth to GW (ft bgs)[1]	Groundwater Sampling System	Status During First Quarter Sampling
400-EV-131 (131 – 146)	MSVGM	10, 50, 100, 130	4832.08	141.39	Dedicated Low-flow Bladder Pump	
400-FV-131 (130.5 – 145.5)	MSVGM	15, 63, 104, 130	4815.43	129.63	Dedicated Low-flow Bladder Pump	Soil vapor ports at 104’ and 130’ inaccessible
400-GV-125 (125 – 140)	MSVGM	10, 46, 105, 120	4818.86	130.65	Dedicated Low-flow Bladder Pump	
400-HV-147 (147 – 162)	MSVGM	12, 45, 95, 130	4829.26	NA	Dedicated Low-flow Bladder Pump	Transducer in groundwater zone
400-IV-123 (123 – 138)	MSVGM	10, 45, 80, 118	4864.22	131.58	Dedicated Low-flow Bladder Pump	
400-JV-150 (150 – 165)	MSVGM	12.5, 50, 100, 145	4835.71	146.92	Dedicated Low-flow Bladder Pump	Soil vapor port at 145’ inaccessible
400-KV-142 (142 – 157)[2]	MSVM[2]	12.5, 50, 100, 137	4839.53	P&A	P&A	Groundwater zone P&A
400-LV-125 (125 – 140)[2]	MSVM[2]	10, 50, 95, 122	4838.68	P&A	P&A	Groundwater zone P&A
400-SV-02	MSVM	10, 50, 100	4836.95	NA	NA	
400-SV-03	MSVM	10, 50, 92	4833.33	NA	NA	
400-SV-05	MSVM	10, 50, 100	4839.33	NA	NA	
400-SV-07	MSVM	10, 45, 100	4828.86	NA	NA	
400-SV-09	MSVM	10, 45, 104	4824.09	NA	NA	
400-SV-10	MSVM	10, 50, 100, 125	4821.69	NA	NA	
400-SV-15	MSVM	10, 50, 90	4845.56	NA	NA	

[1] Depth to groundwater measured pre-purging and sampling at each well on February 26, 2024.
[2] Former groundwater screened interval, well converted from MSVGM to MSVM well on January 7, 2023.
NA Not available.
P&A Well plugged and abandoned. Post-installation development indicated that groundwater recovery following well evacuation was less than 1/10 ft per day.

Table 4.1 MSVGM Well Initial Groundwater Quality Parameters

Well ID (Screen Ft)	Well Type	Date and Time Sampled (yr/mo/day/time)	Temperature (°C)	Conductivity (µmhos/cm)	pH	Turbidity (NTU)	Initial Depth to Water (ft)
400-EV-131 (131-146)	MSVGM	24/02/26/0850 24/02/26/0853 24/02/26/0856	17.50 17.58 17.64	975.30 979.75 981.32	7.63 7.60 7.54	2.90 2.16 1.90	142.39 142.52 142.68
400-FV-131 (130-5-145.5)	MSVGM	24/02/26/0920 24/02/26/0925 24/02/26/0930	20.23 20.08 20.12	1163.9 1165.2 1116.3	7.49 7.48 7.50	2.95 3.00 2.77	129.63 129.63 129.63
400-GV-125 (125-140)	MSVGM	24/02/26/1015 24/02/26/1020 24/02/26/1025	20.68 20.69 20.70	1246.8 1248.0 1249.1	7.89 7.90 7.86	0.76 0.77 0.90	130.65 130.65 130.65
400-HV-147 (147-162)	MSVGM	24/02/26/0955 24/02/26/0958 24/02/26/1001	18.59 18.54 18.63	903.08 904.68 906.12	7.51 7.54 7.55	2.26 2.02 1.84	NA NA NA
400-IV-123 (123-138)	MSVGM	24/02/26/1340 24/02/26/1345 24/02/26/1350	21.99 22.06 20.09	357.44 357.98 358.94	8.10 8.16 8.21	3.46 3.44 3.50	131.58 131.58 131.58
400-JV-150 (150-165)	MSVGM	24/02/26/1300 24/02/26/1303 24/02/26/1306	17.53 17.61 17.70	1692.8 1692.4 1695.7	7.29 7.29 7.32	3.90 3.53 3.22	146.92 146.99 147.08
400-KV-142 (142-157)	MSVM	P&A	P&A	P&A	P&A	P&A	P&A
400-LV-125 (125-140)	MSVM	P&A	P&A	P&A	P&A	P&A	P&A

Notes:
NA Not Accessible (transducer in well).
NS Not Sampled (port below water level or blocked)
P&A Following the inability to sample groundwater, the groundwater screen was subsequently plugged and abandoned on January 7, 2023.
.

Table 4.2 Groundwater Analytical Results Above Laboratory Detection Limits for First Quarter 2024

Analyte	Sampling Date	Analytical Method	Concentration Range	Laboratory Detection Limit	Number of Wells	Maximum Concentration Well	Current WSTF GMP Cleanup Level[1]
Volatile Organic Compounds (VOCs, µg /L)							
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	2/26/24	8260	3.1 - 59	0.2	6/6	400-GV-125	
1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a)	2/26/24	8260	0.26 J – 5.4	0.2	4/6	400-FV-131	
Chloroform	2/26/24	8260	0.66 J	0.51	1/6	400-HV-147	100
Dichlorofluoromethane (Freon 21)	2/26/24	8260	0.27 J – 4.4	0.2	6/6	400-FV-131	
Trichloroethene (TCE)	2/26/24	8260	0.26 J – 1.4	0.2	4/6	400-GV-125	5
Trichlorofluoromethane (Freon 11)	2/26/24	8260	33 – 220 D	0.24 – 0.6	6/6	400-GV-125	1,140
Semi-volatile Organic Compounds (SVOCs) and Bromacil/Nitrosamines (µg /L)							
Bromacil	2/26/24	607	0.04 – 5.0 D (Ext Eff 79)	0.0048 – 0.47	6/6	400-EV-131	
N-Nitrodimethylamine (DMN)	2/26/24	607	0.03 – 386.98 D (Ext Eff 86)	0.0048 – 0.47	6/6	400-HV-147	
N-Nitrosodimethylamine (NDMA)	2/26/24	607	0.61 D – 136.04 D (Ext Eff 48)	0.0049 – 0.47	5/6	400-HV-147	0.00491
Metals (mg/L)							
Antimony	2/26/24	METALS	0.0002 J – 0.0044	0.0002	2/6	400-HV-147	6
Arsenic	2/26/24	METALS	0.001 J – 0.0076	1.3	6/6	400-IV-123	10
Barium	2/26/24	METALS	0.028 – 0.087	0.003	6/6	400-HV-147	2,000
Boron	2/26/24	METALS	0.14 J – 0.97	0.02	6/6	400-JV-150	
Calcium	2/26/24	METALS	17.2 - 153	0.3	6/6	400-JV-150	

Analyte	Sampling Date	Analytical Method	Concentration Range	Laboratory Detection Limit	Number of Wells	Maximum Concentration Well	Current WSTF GMP Cleanup Level[1]
Chromium	2/26/24	METALS	0.002 J – 0.007 J	0.002	4/6	400-IV-123	50
Cobalt	2/26/24	METALS	0.003 J	0.0009	1/6	400-HV-147	50
Magnesium	2/26/24	METALS	28.2 - 118	0.03	6/6	400-HV-147	
Manganese	2/26/24	METALS	0.006 J	0.004	2/6	400-FV-131 400-JV-150	
Molybdenum	2/26/24	METALS	0.006 J – 0.01 J	0.003	6/6	400-EV-131	
Nickel	2/26/24	METALS	0.003 J	0.003	1/6	400-EV-131	200
Potassium	2/26/24	METALS	2.7 – 5.1	0.4	6/6	400-JV-150	
Selenium	2/26/24	METALS	0.007 J	0.007	1/6	400-JV-150	50
Sodium	2/26/24	METALS	30-1 - 194	0.3 – 1.4	6/6	400-JV-150	
Strontium	2/26/24	METALS	0.89 – 6.47	0.002 – 0.009	6/6	400-HV-147	
Thallium	2/26/24	METALS	0.00005 J – 0.0002 J	0.00004	4/6	400-GV-125	2
Vanadium	2/26/24	METALS	0.001 J – 0.008 J	0.0007	4/6	400-IV-123	63.1
Zinc	2/26/24	METALS	0.003 J – 0.004 J	0.003	2/6	400-HV-147	10,000

Notes:
[1] From the WSTF Groundwater Monitoring Plan (GMP; NASA, 2023b).
D The reported result is from a dilution.
J The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.

Table 4.3 Groundwater Analytical Results Above WSTF Cleanup-Screening Levels for First Quarter 2024

Well Name	Sampling Date	Analytical Method	Analyte	Result (µg/L)	NDMA (607) Extraction Efficiency	QA Flag	WSTF GMP Cleanup Level[1] (µg /L)
400-EV-131	2/26/24	607	NDMA	0.64	48	D	0.00491
400-FV-131	2/26/24	607	NDMA	0.95	48		0.00491
400-GV-125	2/26/24	607	NDMA	1.64	48	D	0.00491
400-HV-147	2/26/24	607	NDMA	136.04	48	D	0.00491
400-JV-150	2/26/24	607	NDMA	1.87	48		0.00491

Notes:
[1] From the WSTF Groundwater Monitoring Plan (GMP; NASA, 2023b).
D The reported result is from a dilution.

Table 4.4 MSVM and MSVGM Well Soil Vapor Purge Parameters for First Quarter 2024

Well Port ID – Depth (ft)	Well Type	Date and Time Sampled (yr/mo/day/time)	CH_4 (%)	CO_2 (%)	O_2 (%)	Laboratory Canister ID	Final Canister Pressure (PSI)[1]
400-EV-131-10’	MSVGM	24/02/26/0905	0.0	2.7	19.1	ALS	-3
400-EV-131-10’		24/02/26/0906	NA	NA	NA	ALS	0
400-EV-131-50’		24/02/26/0911	0.0	2.6	18.6	ALS	-2
400-EV-131-100’		24/02/26/0916	0.0	2.4	18.4	ALS	0
400-EV-131-130’		24/02/26/0924	0.0	2.5	18.2	ALS	0
400-FV-131-15’	MSVGM	24/02/26/1340	0.0	0.9	20.2	ALS	0
400-FV-131-63’		24/02/26/1344	0.0	1.8	18.9	ALS	-1
400-FV-131-104’		NS	NS	NS	NS	ALS	NS
400-FV-131-130’		NS	NS	NS	NS	ALS	NS
400-GV-125-10’	MSVGM	24/02/26/1356	0.0	1.1	19.5	ALS	0
400-GV-125-46’		24/02/26/1401	0.0	2.1	18.8	ALS	0
400-GV-125-105’		24/02/26/1406	0.0	3.4	15.2	ALS	0
400-GV-125-120’		24/02/26/1412	0.0	2.6	15.0	ALS	0
400-GV-125-120’		24/02/26/1413	0.0	2.5	15.2	ALS	-1
400-HV-147-12’	MSVGM	24/02/26/1005	0.0	1.9	19.0	ALS	-3
400-HV-147-45’		24/02/26/1009	0.0	1.5	18.3	ALS	0
400-HV-147-95’		24/02/26/1014	0.0	2.3	18.2	ALS	0
400-HV-147-95’		24/02/26/1015	NA	NA	NA	ALS	0
400-HV-147-130’		24/02/26/1024	0.0	5.1	13.6	ALS	-1
400-IV-123-10’	MSVGM	24/02/26/1435	0.0	0.2	20.8	ALS	0
400-IV-123-45’		24/02/26/1440	0.0	0.4	20.6	ALS	-2
400-IV-123-80’		24/02/26/1449	0.0	0.1	19.6	ALS	-1
400-IV-123-80’		24/02/26/1450	NA	NA	NA	ALS	0
400-IV-123-118’		24/02/26/1457	0.0	0.5	19.3	ALS	0
400-JV-150-12.5’	MSVGM	24/02/26/1050	NA	NA	NA	ALS	0
400-JV-150-12.5’		24/02/26/1051	0.0	1.8	19.3	ALS	0
400-JV-150-50’		24/02/26/1057	0.0	3.3	18.4	ALS	0
400-JV-150-100’		24/02/26/1104	0.0	3.0	18.3	ALS	0
400-JV-150-145’		NS	NS	NS	NS	ALS	NS
400-KV-142-12.5’	MSVGM	24/02/27/0850	0.0	0.8	20.6	ALS	0
400-KV-142-12.5’		24/02/27/0851	NA	NA	NA	ALS	0
400-KV-142-50’		24/02/27/0856	0.0	2.0	19.4	ALS	0
400-KV-142-100’		24/02/27/0903	0.0	2,2	18.3	ALS	0
400-KV-142-137’		NS	NS	NS	NS	ALS	NS
400-LV-125-10’	MSVGM	24/02/27/0940	0.0	1.0	20.7	ALS	-1
400-LV-125-10’		24/02/27/0941	0.0	0.9	20.7	ALS	0
400-LV-125-50’		24/02/27/0946	0.0	1.5	20.0	ALS	0
400-LV-125-95’		24/02/27/0954	0.0	1.7	19.5	ALS	0
400-LV-125-122’		24/02/27/1002	0.0	1.0	19.3	ALS	0
400-SV-02-10’	MSVM	24/02/27/1050	NA	NA	NA	ALS	NA
400-SV-02-10’		24/02/27/1051	0.0	1.2	20.1	ALS	0
400-SV-02-50’		24/02/27/1058	0.0	1.7	19.5	ALS	0
400-SV-02-100’		24/02/27/1105	0.0	2.0	18.9	ALS	0
400-SV-03-10’	MSVM	24/02/27/0940	0.0	1.0	20.7	ALS	0
400-SV-03-50’		24/02/27/0941	0.0	0.9	20.7	ALS	-1
400-SV-03-92’		24/02/27/0946	0.0	1.5	20.0	ALS	0
400-SV-05-10’	MSVM	24/02/27/1020	0.0	0.6	20.6	ALS	-2
400-SV-05-50’		24/02/27/1025	0.0	1.5	19.6	ALS	-1
400-SV-05-100’		24/02/27/1032	0.0	1.8	19.0	ALS	-1
400-SV-05-100’		24/02/27/1033	NA	NA	NA	ALS	NA

Well Port ID – Depth (ft)	Well Type	Date and Time Sampled (yr/mo/day/time)	CH_4 (%)	CO_2 (%)	O_2 (%)	Laboratory Canister ID	Final Canister Pressure (PSI)[1]
400-SV-07-10’	MSVM	24/02/28/0815	NA	NA	NA	ALS	NA
400-SV-07-10’		24/02/28/0816	0.0	2.0	19.7	ALS	0
400-SV-07-45’		24/02/28/0821	0.0	3.1	19.0	ALS	0
400-SV-07-100’		24/02/28/0827	0.0	3.3	18.7	ALS	0
400-SV-09-10’	MSVM	24/02/28/0940	0.0	0.6	21.2	ALS	0
400-SV-09-10’		24/02/28/0941	NA	NA	NA	ALS	0
400-SV-09-45’		24/02/28/0948	0.0	1.9	20.0	ALS	0
400-SV-09-45’		24/02/28/0949	0.0	1.9	19.9	ALS	0
400-SV-09-104’		24/02/28/0956	0.0	0.4	20.2	ALS	-2
400-SV-10-10’	MSVM	24/02/28/1007	0.0	0.6	21.0	ALS	0
400-SV-10-50’		24/02/28/1013	0.0	1.8	19.4	ALS	0
400-SV-10-50’		24/02/28/1014	NA	NA	NA	ALS	0
400-SV-10-100’		24/02/28/1021	0.0	2.7	14.9	ALS	-1
400-SV-10-125’		24/02/28/1028	0.0	1.8	0.2	ALS	0
400-SV-10-125’		24/02/28/1029	0.0	1.9	0.1	ALS	0
400-SV-15-10’	MSVM	24/02/28/1055	0.0	0.4	20.8	ALS	0
400-SV-15-10’		24/02/28/1056	0.0	0.6	20.6	ALS	0
400-SV-15-50’		24/02/28/1103	0.0	1.0	20.2	ALS	0
400-SV-15-90’		24/02/28/1110	0.0	1.1	20.0	ALS	0
400-SV-15-90’		24/02/28/1111	NA	NA	NA	ALS	NA

Notes:
NA Not Accessible (transducer in well).
NS Not Sampled (port below water level or blocked)
[1] The initial pre-set pressure for all soil vapor canisters at the ALS laboratory is -14.3 PSI. Any initial canister pressure with a different reading will be recorded in the Field Notes (Appendix A) and presented in this table. All initial canister pressures were reported at -14.3 PSI for the 1QTR field event.

Table 4.5 Soil Vapor Analytes and Concentration Ranges for First Quarter 2024

Analyte	Concentration Range Within Soil Vapor Monitoring Well Sampling Zones		Concentration Range Within Field Blank and Trip Blank Samples		Range of MDL Due to Dilution	VISL[1], RSL[2], or RBC[3]	
	Minimum (µg/m³)	Maximum (µg/m³)	Minimum (µg/m³)	Maximum (µg/m³)	(µg/m³)	Residential (µg/m³)	Industrial (µg/m³)
1,1,1-Trichloroethane*	ND	ND	ND	ND	0.23 - 520	174,000[1]	819,000[1]
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	0.26 – **580**	16.1[1]	79.1[1]
1,1,2-Trichloroethane	ND	ND	ND	ND	0.19 – **420**	6.95[1]	32.8[1]
1,1-Dichloroethane	ND	ND	ND	ND	0.27 – **610**	585[1]	2,870[1]
1,1-Dichloroethene*	ND	ND	ND	ND	0.26 – 580	6,950[1]	32,800[1]
1,2,4-Trichlorobenzene	ND	1.2 J	ND	ND	0.46 – 0.54	69.5[1]	328[1]
1,2,4-Trimethylbenzene	ND	380 J	ND	ND	0.26 – **580**	63[2]	260[2]
1,2-Dibromoethane (EDB)	ND	0.37 J	ND	ND	0.22 – **490**	1.56[1]	7.65[1]
1,2-Dichlorobenzene	ND	0.30 J	ND	ND	0.28 – 620	6,950[1]	32,800[1]
1,2-Dichloroethane	ND	1.5 J	ND	ND	0.21 – **460**	36[1]	176[1]
1,2-Dichloropropane	ND	12	ND	2.9	0.23 – **520**	93.6[1]	459[1]
1,3,5-Trimethylbenzene	ND	0.61 J	ND	ND	0.27 – **600**	63[2]	260[2]
1,3-Butadiene	ND	ND	ND	ND	0.31 – **690**	31.2[1]	153[1]
1,3-Dichlorobenzene	ND	0.32 J	ND	ND	0.28 – 630	NA	NA
1,4-Dichlorobenzene	ND	0.44 J	ND	ND	0.29 – **640**	85.1[1]	417[1]
1,4-Dioxane	ND	200	ND	0.48 J FB	0.22 – **490**	0.056[2]	2.5[2]
2,2,4-Trimethylpentane	ND	3600	ND	2800 FB	0.28 – 630	NA	NA
2-Butanone (MEK)*	ND	790 J	ND	600 J FB	0.39 – 860	174,000[1]	819,000[1]
2-Hexanone*	ND	3.3 J	ND	ND	0.23 – **520**	31[2]	130[2]
2-Propanol*	ND	110	ND	7.9 FB	0.78 – **1700**	210[2]	880[2]
3-Chloropropene	ND	ND	ND	ND	0.25 – **570**	0.47[2]	2[2]
4-Ethyltoluene	ND	0.44 J	ND	ND	0.30 – 670	NA	NA
4-Methyl-2-pentanone	ND	13	ND	ND	0.26 – 570	104,000[1]	492,000[1]
Acetone*	ND	220	ND	34 FB	4.2 – 9400	1,080,000[1]	5,080,000[1]
alpha-Chlorotoluene	ND	2.6	ND	ND	0.42 – **940**	0.057[2]	0.25[2]

Analyte	Concentration Range Within Soil Vapor Monitoring Well Sampling Zones		Concentration Range Within Field Blank and Trip Blank Samples		Range of MDL Due to Dilution	VISL[1], RSL[2], or RBC[3]	
	Minimum (µg/m³)	Maximum (µg/m³)	Minimum (µg/m³)	Maximum (µg/m³)	(µg/m³)	Residential (µg/m³)	Industrial (µg/m³)
Benzene	ND	920 J A	ND	690 J RB FB A	0.27 – **600**	120[1]	588[1]
Bromodichloromethane*	ND	ND	ND	0.82 J FB	0.27 – **600**	25.3[1]	124[1]
Bromoform*	ND	ND	ND	0.46 J FB	0.39 – **860**	2.6[2]	11[2]
Bromomethane	ND	3.1	ND	1.9 J FB	0.26 – **580**	174[1]	819[1]
Carbon Disulfide	ND	120	ND	2.8 J FB	0.56 – 1300	24,300[1]	115,000[1]
Carbon Tetrachloride	ND	0.31 J	ND	0.59 J FB	0.26 – **580**	156[1]	765[1]
Chlorobenzene*	ND	0.42 J	ND	ND	0.25 – 560	1,740[1]	8,190[1]
Chloroethane	ND	1.6 J	ND	0.44 J FB	0.23 – 520	10,000[2]	44,000[2]
Chloroform*	ND	14	ND	2.1 FB	0.25 – **560**	40.7[1]	199[1]
Chloromethane*	ND	3.4	ND	3.8 FB	0.30 – **680**	520[1]	2,550[1]
cis-1,2-Dichloroethene	ND	0.35 J	ND	ND	0.26 – **590**	160[2]	2,300[2]
cis-1,3-Dichloropropene	ND	ND	ND	ND	0.29 – 650	NA	NA
Cumene	ND	0.38 J	ND	ND	0.27 – 600	13,900[1]	65,500[1]
Cyclohexane	ND	3000	ND	2200 FB	0.53 – 1200	6,300[2]	26,000[2]
Dibromochloromethane*	ND	ND	ND	0.44 J FB	0.25 – **550**	34.7[1]	170[1]
Ethanol	ND	2500 J	ND	2,400 J FB	1.3 – 2900	85,000,000[3]	1,500,000,000[3]
Ethyl Benzene	ND	840 J	ND	610 J FB	0.26 - **590**	374[1]	1,840[1]
Freon 11*	4.2	520,000	ND	190,000 D FB	0.29 - 640	24,300[1]	115,000[1]
Freon 113*	2.1	450,000	ND	180,000 D FB	0.27 - 700	1,040,000[1]	4,920,000[1]
Freon 114	ND	ND	ND	ND	0.30 - 660	NA	NA
Freon 12	ND	920	ND	2.6 J FB	0.31 - 680	3,480[1]	16,400[1]
Freon 123*	ND	1.3 J	ND	ND	0.85 - 1900	21,000,000[3]	240,000,000[3]
Freon 21*	ND	5,800	ND	ND	0.85 - 1900	76,000[3]	910,000[3]
Heptane	ND	2,500	ND	2,000 FB	0.30 - **670**	420[2]	1,800[2]
Hexachlorobutadiene	ND	ND	ND	ND	0.39 - **860**	0.13[2]	0.56[2]
Hexane	ND	5,400	ND	4,200 FB	0.39 - 860	24,300[1]	115,000[1]

Analyte	Concentration Range Within Soil Vapor Monitoring Well Sampling Zones		Concentration Range Within Field Blank and Trip Blank Samples		Range of MDL Due to Dilution	VISL[1], RSL[2], or RBC[3]	
	Minimum (µg/m^3)	Maximum (µg/m^3)	Minimum (µg/m^3)	Maximum (µg/m^3)	(µg/m^3)	Residential (µg/m^3)	Industrial (µg/m^3)
m,p-Xylene*	ND	1,500 J	ND	1,100 J FB	0.49 - 1100	3,480[1]	16,400[1]
Methyl tert-butyl ether*	ND	0.47 J	ND	ND	0.22 - 490	3,600[1]	17,600[1]
Methylene Chloride*	ND	7.5	ND	1.3 J FB A	0.53 - 1200	20,900[1]	98,300[1]
o-Xylene	ND	710	ND	530 J FB	0.27 - 600	3,480[1]	16,400[1]
Propylbenzene	ND	0.48 J	ND	ND	0.27 - 600	1,000[2]	4,400[2]
Styrene	ND	4.3	ND	0.4 J FB	0.30 - 680	34,800[1]	164,000[1]
Tetrachloroethene (PCE)*	ND	38 J	ND	1.2 J FB	0.24 - 540	1,390[1]	6,550[1]
Tetrahydrofuran	ND	53 J	ND	1.0 J FB	0.24 - 530	2,100[2]	8,800[2]
Toluene*	ND	5,600	ND	4,400 FB	0.23 - 510	174,000[1]	819,000[1]
trans-1,2-Dichloroethene*	ND	0.88 J	ND	ND	0.26 - 580	NA	NA
trans-1,3-Dichloropropene	ND	0.42 J	ND	ND	0.39 - 860	NA	NA
Trichloroethene (TCE)*	ND	980 J	ND	140 J FB	0.25 - **570**	69.5[1]	328[1]
Vinyl Chloride	ND	ND	ND	ND	0.20 - **450**	55.9[1]	1,040[1]

Notes:
Shaded analytes are ND for sampling zone and field blank/trip blank samples for dataset.
Bold indicates MDL due to dilution was greater than the VISL/RSL/RBC for the constituent (residential, industrial, or both).
* = Analyte is on list of potential 400 Area COPCs identified in the IWP (NASA, 2011b – 400 Area IWP).
A = The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
FB = The analyte was detected in the field blank.
J = The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
ND = The analyte was not detected above the detection limit.
[1] VISL from NMED Risk Assessment Guidance (NMED, 2022).
[2] From RSL EPA (EPA, 2022b).
[3] From latest approved version of WSTF RBCs (NASA, 2022).

Table 4.6 Soil Vapor Analytical Results Compared to Residential NMED VISLs and WSTF RBCs for First Quarter 2024

Well ID	Vapor Implant Sample Depth	Sampling Date	Analyte	Result[1] (µg/m^3)	QA Flag	NMED Residential VISL[2] (µg/m^3)	WSTF RBC[3] Residential (µg/m^3)	Factor, Result: RBC[4] (dimensionless)
Monitoring Well Soil Vapor Sampling Zones								
400-SV-10	125	2/28/24	Benzene	920	J RB A	120	200,000 @ 100' bgs	217
400-SV-10	125	2/28/24	Benzene	410	DJ RB A	120	200,000 @ 100' bgs	488
400-SV-10	125	2/28/24	Ethylbenzene	840	J	374	NA	NA
400-IV-123	80	2/26/24	Freon 11	520,000		24,300	3,300,000 @ 50' bgs	6.3
400-HV-147	130	2/26/24	Freon 11	230,000		24,300	6,400,000 @ 100' bgs	28
400-GV-125	105	2/26/24	Freon 11	110,000		24,300	6,400,000 @ 100' bgs	58
400-SV-10	125	2/28/24	Freon 11	89,000		24,300	6,400,000 @ 100' bgs	72
400-GV-125	120	2/26/24	Freon 11	33,000		24,300	6,400,000 @ 100' bgs	194
400-GV-125	120	2/26/24	Freon 11	32,000		24,300	6,400,000 @ 100' bgs	200
400-SV-10	125	2/28/24	Freon 11	27,000		24,300	6,400,000 @ 100' bgs	237
400-IV-123	80	2/26/24	Trichloroethylene	980	J	69.5	9,100 @ 50' bgs	9.3
400-SV-10	125	2/28/24	Trichloroethylene	560	J	69.5	18,000 @ 100' bgs	32
400-HV-147	130	2/26/24	Trichloroethylene	500	J	69.5	18,000 @ 100' bgs	36
400-GV-125	105	2/26/24	Trichloroethylene	220	J	69.5	18,000 @ 100' bgs	82
400-GV-125	120	2/26/24	Trichloroethylene	83	J	69.5	18,000 @ 100' bgs	217
400-SV-07	100	2/28/24	Trichloroethylene	76		69.5	18,000 @ 100' bgs	237
400-GV-125	120	2/26/24	Trichloroethylene	74	J	69.5	18,000 @ 100' bgs	243
QA Samples								
400-SV-15	90	2/28/24	Benzene	690	J RB FB A	120	110,000 @ 50' bgs	159
400-SV-10	50	2/28/24	Benzene	270	J RB FB A	120	110,000 @ 50' bgs	407
400-SV-15	90	2/28/24	Freon 11	190,000	D J FB	24,300	3,300,000 @ 50' bgs	17
400-SV-10	50	2/28/24	Freon 11	56,000	FB	24,300	3,300,000 @ 50' bgs	59

Notes:
NA = Not available.
A = The result of an analyte for a laboratory control sample was outside standard limits.
D = Duplicate sample.
FB = The analyte was detected in the field blank.

J = The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
RB = Reference blank (the analyte was detected in a method blank).
[1] Results are provided for all analyte occurrences that exceed the equivalent NMED VISL.
[2] VISL from NMED Risk Assessment Guidance (NMED, 2022).
[3] From latest approved version of WSTF RBCs (NASA, 2022). Value taken from nearest available RBC calculation depth above port depth for more conservative value.
[4] This value reflects the ratio of the soil vapor result (µg/m^3) to the equivalent RBC (µg/m^3). This is the factor by which the equivalent RBC exceeds the result.

Appendix A
Logbook Entries and CoC Forms

AL MONTES & ROBERT BURROWS PRESENT. WEATHER IS BREEZY & WARM. THIS WELL WILL BE SAMPLED W/ A DEDICATED BLADDER PUMP. SAMPLES TO BE TAKEN FROM A DEDICATED TEFLON TUBE. PARAMETERS TAKEN W/ IN SITU AQUA TROLL. CARGO-G-3 FUELED TRUCK, LOADED K BOTTLES, PUMP DRY PRIOR.

CALIBRATION

DO - 100% SAT. AIR
PH - 4,7,10 BUFFERS
COND: 1413 uS/cm STD
TURB - 10 NTU STD

PARAMETER	TEMP °C	COND uS/cm	DO mg/L	ORP	PH	TURBNTU	DTW
240226 0920 C	20.23	1163.9	1.52	NA	7.49	2.85	129.63
0925 C	20.08	1165.2	1.52	"	7.48	3.00	129.63
0930 C	20.12	1166.3	1.52	"	7.50	2.77	129.63

SAMPLES

SAMPLE#	ANALYSIS	PRESERV	CONTAINER	LOT	LAB
240226 0935 C	8260	ICE-HCL	3-40 mL VIALS	27182	ALS
0936 C	" (DUP)	"	"	"	"
0937 C	" (EB)	"	"	"	"
0745 C	" (TB)	"	"	"	"
0940 C	6010	ICE	1LT AMB	913600-I	SRL
0945 C	" (DUP)	"	"	"	"
0950 C	TOTAL METALS	ICE-HNO_3	2-125 mL	NA	ALS
0959 C	" (DUP)	"	"	"	"

Continued from page NA

Read and Understood By

2-26-24 A-2 2-27-24

PROJECT 400·GV·125 WSI·ENV·0053

Notebook No. D32 P31C

Continued from page NA

All Monitors & P. Boards Retrieved. Weather is Breezy & Cloudy, Water will be sampled w Dedicated Bladder Pump, Samples from a Dedicated Teflon Tube

PARAMETER	TEMP °C	COND uS/cm	DO mg/L	ORP	PH	TURB	DTW
240226.1015C	20.68	1246.8	5.75	NA	7.89	0.76	130.65
—— 1020C	20.69	1248.0	5.75	"	7.96	0.77	130.65
—— 1025C	20.70	1249.1	5.75	"	7.86	0.90	130.65

CALIBRATION

DO - 100% SAT A.R

PH - 4, 7, 10 BUFF.

COND - 1413 uS/cm STD

TURB - 10 NTU STD

SAMPLES

SAMPLE #	ANALYSIS	PRESERV.	CONTAINER	LOT #	CAS
240226.1030C	8260	ICE · HCL	340ml VIALS	27182	AIS
—— 1031C	" (DUP)	"	"	"	"
—— 1032C	" (FB)	"	"	"	"
—— 1040C	6071	ICE	1 LT AMB	011360011	SRI
—— 1045C	" (DUP)	"	"	"	"
—— 1050C	TOTAL METALS	ICE · HNO3	2·125mL	NA	AIS
—— 1052C	" (DUP)	"	"	"	"

Continued from page NA

Read and Understood By

2·26·24

2-27-24

Marcus Avalos & Craig Del Ferraro present. Weather is cloudy & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using an In-Situ Aqua Troll 500. Carboy QI in use.

Calibrations
DO sensor - calibrated in 100% saturation.
Cond. sensor - " using 1413 µs/cm std.
PH sensor - " " 4.7, & 10 buffers.
Turb. sensor - " " 10 NTU std.

Parameters (time)	temp (°C)	cond (µs/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 240226 0955A	18.59	903.08	6.19	173.08	7.51	2.26	N/A
2) ——— 0958A	18.54	904.68	6.01	172.50	7.54	2.02	(transducer)
3) ——— 1001A	18.63	906.12	5.89	171.43	7.55	1.84	

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
240226 1005A	VOA by 8260	ice/HCL	(3) 40ml vials	2718-1	ALS
——— 1006A	" (FB)	"	"	"	"
——— 1007A	607/Bromacil	ice	(1) 1L Amber	0113601I	SRL
——— 1008A	Total Metals	ice/HNO_3	(2) 125ml poly's	N/A	ALS

Initial DTW - ~~0.5~~ N/A - transducer in well.

Total gallons purged - 0.5 gals

Continued from page N/A

Read and Understood By

Craig Del Ferro 2/26/24 A-4 Jon W Munck 2-27-24
Signed Date

AL MONTES & ROBERT BORROWS PRESENT - WEATHER IS WINDY & WARM. THIS WELL WILL BE SAMPLED W/ A DEDICATED BLADDER PUMP. SAMPLES TAKEN FROM A DEDICATED TEFLON TUBE. PARAMETERS MONITORED W/ INSITU AQUA TROLL. CAL BY G.S

CALIBRATIONS

DO - 100% SAT. AIR
PH - 4,7,10 BUF.
COND - 1413 uS/cm STD.
TURB - 10 NTU STD

SAMPLES

SAMPLE #	ANALYSIS	PRESERV	CONTAINERS	LOT#	LAB
240226 1410C	8260	ICE · HCl	3-40ML VIALS	271982	ACZ
——— 1411C	" (FB)	"	"	"	"
——— 1415C	607	ICE	1LT AMBER	0113601I	SRL
——— 1425C	TOTAL METAL	ICE · HNO_3	2-125 Poly	NA	ACZ

PARAMETERS

	TEMP °C	COND mS/cm	DO mg/L	ORP	PH	TURB NTU	DTW FT
240226 1340C	21.99°C	357.44	4.84	NA	8.10	3.46	131.58
——— 1345C	22.06	357.98	4.85	NA	8.16	3.44	131.58
——— 1350C	22.06	358.94	4.83	NA	8.21	3.50	131.58

Continued from page NA

Read and Understood By

2.26.24

2-27-24

Marcus Avalos & Craig Del Ferraro present. Weather is clear & cool. this well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using an In-Situ Aqua Troll 500. Carboy G1 in use.

Calibrations
DO sensor - calibrated in 100% saturation.
Cond. sensor - " using 1413us/cm std.
PH sensor - " " 4, 7, & 10 buffers.
Turb sensor - " " 10 NTU std.

Parameters(time)	Temp(°C)	Cond(us/cm)	DO	ORP	PH	Turb(NTUs)	DTW(ft.)
1) 240226 0850A	17.50	975.30	6.89	160.8	7.63	2.90	142.39
2) ——— 0853A	17.58	979.75	6.70	156.0	7.60	2.16	142.52
3) ——— 0856A	17.64	981.32	6.42	154.1	7.54	1.90	142.68

Sample	Analysis	Samples Preservative	Container	Lot	Lab
240226 0900A	VOA by 8260	ice/HCL	(3)40ml vials	2718-1	ALS
——— ~~0900A~~ 0901A dup	" (FB)	"	"	"	"
——— 0902A	607/Bromacil	ice	(1)1L Amber	011360II	SRI
——— 0903A	Total Metals	ice/HNO3	(2)125ml poly's	N/A	ALS

Initial DTW - 142.30ft.

Total gallons purged - 0.5 gals.

Continued from page N/A

Read and Understood By

Craig Del Ferraro 2/26/24 A-6 Ben Wuncke 2-27-24

Marcus Avalos & Craig Del Ferraro present. Weather is cloudy & cool. This well will be purged using a dedicated bladder pump. Samples will be collected using a teflon discharge hose. Water quality parameters will be monitored using an In-Situ Aqua Troll 500. Carboy G'l in use.

Calibrations
DO sensor - calibrated in 100% saturation.
Cond. sensor - " using 1413 us/cm std.
PH sensor - " " 4, 7, & 10 buffers.
Turb. sensor - " " 20 NTU std.

Parameters (time)	temp (°c)	cond (us/cm)	DO	ORP	PH	Turb (NTU's)	DTW (ft.)
1) 240226 1300A	17.53	1692.80	5.01	169.8	7.29	3.90	146.92
2) ——— 1303A	17.61	1694.44	4.86	170.4	7.29	3.53	146.99
3) ——— 1306A	17.70	1695.70	4.61	172.0	7.32	3.22	147.08

Samples

Sample	Analysis	Preservative	Container	Lot	Lab
240226 1315A	VOA by 8260	ice/HCL	(3) 40ml vials	2718-1	ALS
——— 1316A	" (FB)	"	"	"	"
——— 1317A	607/Bromacil	ice	(1) 1L Amber	011360 I	SRI
——— 1318A	Total Metals	ice/HNO3	(2) 125ml poly's	N/A	ALS

Initial DTW - 146.38ft.

Total gallons purged - 0.5 gals.

Continued from page N/A

Read and Understood By

Craig Del Ferraro 2/26/24 Signed Date

Ron Munds 2-27-24 Signed Date

Marcus Avalos & Craig DelFerraro present. Weather is cloudy and warm. Soil/Vapor samples will be collected from various well locations throughout the 400 area. Samples will be collected using summa canisters. Parameters will be monitored using the Landtech GA5000 gas instrument.

400-EV-131-10'
Time - 2402260905
CH_4 - 0.0%
CO_2 - 2.7%
O_2 - 19.1%

Atmos. reading: 12.47psia
Canister # ISC00861
Final canister pressure: -3

400-EV-131-10' (FB)
Time - 2402260906

Canister # ISC00145
Final canister pressure: 0

400-EV-131-50'
Time - 2402260911
CH_4 - 0.0%
CO_2 - 2.6%
O_2 - 18.6%

Canister # ISS00797
Final canister pressure: -2

400-EV-131-100'
Time - 2402260916
CH_4 - 0.0%
CO_2 - 2.4%
O_2 - 18.4%

Canister # ISS00251
Final canister pressure: -2

400-EV-131-130'
Time - 2402260924
CH_4 - 0.0%
CO_2 - 2.5%
O_2 - 18.2%

Canister # ISC01028
Final canister pressure: 0

Continued ~~from~~ page 14

Craig DelFerro — Signed
2/26/24 — Date
Read and Understood By
Signed
on 8/27/24 — Date

400-HV-147-12'
Time - 240226 1005
CH_4 - 0.0%
CO_2 - 1.9%
O_2 - 19.0%

Canister # ISS01798
Final canister pressure: -3

400-HV-147-45'
Time - 240226 1009
CH_4 - 0.0%
CO_2 - 1.5%
O_2 - 18.3%

Canister # ISS00027
Final canister pressure: Ø

400-HV-147-95'
Time - 240226 1014
CH_4 - 0.0%
CO_2 - 2.3%
O_2 - 18.2%

Canister # ISS00839
Final canister pressure: Ø

400-HV-147-95'
Time - 240226 1015 (FB)
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Canister # ISC00895
Final canister pressure: Ø

400-HV-147-130'
Time - 240226 1024
CH_4 - 0.0%
CO_2 - 5.1%
O_2 - 13.6%

Canister # ISS01178
Final canister pressure: -1

400-GV-125-10'
Time - 240226 1356
CH_4 - 0.0%
CO_2 - 1.1%
O_2 - 19.5%

Canister # ISS00037
Final canister pressure: Ø

Continued ~~from~~ page 15

Read and Understood By ON 9/24/24

Craig Del Terzo — Signed
2/26/24 — Date

Signed
Date

400-GV-125-46'
Time-2402261401
CH4 - 0.0%
CO2 - 2.1%
O2 - 18.8%

Canister # 1SS00925
Final canister pressure: Ø

400-GV-125-~~120~~ OD 105'
Time-2402261406
CH4 — 0.0%
CO2 — 3.4%
O2 — 15.2%

Canister # 1SC01196
Final canister pressure: Ø

400-GV-125-120'
Time-2402261412
CH4 - 0.0%
CO2 - 2.6%
O2 - 15.0%

Canister # 1SS00050
Final canister pressure: Ø

400-GV-125-120' (Dupl.)
Time-2402261413
CH4 — 0.0%
CO2 — 2.5%
O2 — 15.2%

Canister # 1SS00176
Final canister pressure: -1

400-IV-123-10'
Time-2402261435
CH4 — 0.0%
CO2 — 0.2%
O2 — 20.8%

Canister # 1SS00905
Final canister pressure: Ø

400-IV-123-45'
Time-2402261440
CH4 — 0.0%
CO2 — 0.4%
O2 — 20.6%

Canister # 1SS00707
Final canister pressure: -2

Continued from page 14

Craig Del Terzo
Signed
2/26/24
Date

Read and Understood By
Signed
8/27/24
Date

400-IV-123-80'
Time - 240226 1449
CH_4 — 0.0%
CO_2 — 0.1%
O_2 — 19.6%

Canister # ISS00955
Final canister pressure: -1

400-IV-123-80' (FB)
Time - 240226 1450

Canister # ISS00222
Final canister pressure: 0

400-IV-123-118'
Time - 240226 1457
CH_4 — 0.0%
CO_2 — 0.5%
O_2 — 19.3%

Canister # ISS01304
Final canister pressure: 0

400-JV-150-12.5' (TB)
Time - 240226 1050
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Canister # ISS01323
Final canister pressure: N/A

400-JV-150-12.5'
Time - 240226 1051
CH_4 — 0.0%
CO_2 — 1.8%
O_2 — 19.3%

Canister # ISS01322
Final canister pressure: 0

400-JV-150-50'
Time - 240226 1057
CH_4 — 0.0%
CO_2 — 3.3%
O_2 — 18.4%

Canister # ~~ISS01190~~ ISS01485 CO
Final canister pressure: 0

Continued from page 15

Read and Understood By

Craig Del Terzo — Signed
2/27/24 — Date
A-11
Signed
8/27/24 — Date

400-JV-150-100'
Time - 2402261104
CH_4 — 0.0%
CO_2 — 3.0%
O_2 — 18.3%

Canister # 1SS01190
Final canister pressure: Ø

400-JV-150-145'
Time - N/A - well blocked or obstructed.
unable to obtain any readings from pump.

400-FV-131-15'
Time - 2402261340
CH_4 - 0.0%
CO_2 - 0.9%
O_2 - 20.2%

Canister # 1SS01530
Final canister pressure: Ø

400-FV-131-63'
Time - 2402261344
CH_4 — 0.0%
CO_2 — 1.8%
O_2 — 18.9%

Canister # 1SS01533
Final canister pressure: -1

*400-FV zones 104' and 130' were blocked and/or obstructed.
Unable to obtain any readings from pump.

400-KV-142-12.5'
Time - 2402270850
CH_4 — 0.0%
CO_2 — 0.8%
O_2 — 20.6%

Canister # 1SS00713
Final canister pressure: Ø

400-KV-142-12.5' (FB)
Time - 2402270851

Canister # 1SS01028
Final canister pressure: Ø

Continued from page 16

Craig Reltzeen
Signed

2/27/24
Date

Read and Understood By

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Ø/27/24
Date

400-KV-142-50'
Time - 2402270856
CH_4 - ~~2.0%~~ CO 0.0%
CO_2 - 2.0%
O_2 - 19.4%
Canister # 1SC00286
Final canister pressure: Ø

400-KV-142-100'
Time - 2402270903
CH_4 — 0.0%
CO_2 — 2.2%
O_2 — 18.3%
Canister # 1SS00875
Final canister pressure: Ø

400-KV-142-137'
Time - ~~2402270910~~ CO
CH_4 — 0.0%
CO_2 — N/A
O_2 — N/A
} pump/instrument failed to obtain any readings. Well zone blocked/obstructed.
Canister # 1SC01381
Final canister pressure: -1

400-LV-125-10'
Time - 2402270940
CH_4 — 0.0%
CO_2 — 1.0%
O_2 — 20.7%
Canister # 1SS01356
Final canister pressure: -1

400-LV-125-10' (Dupl.)
Time - 2402270941
CH_4 - 0.0%
CO_2 - 0.9%
O_2 - 20.7%
Canister # 1SS00178
Final canister pressure: Ø

400-LV-125-50'
Time - 2402270946
CH_4 — 0.0%
CO_2 — N/A ~~1.5%~~ ~~port blocked CO~~
O_2 — N/A ~~20.0%~~
problem corrected
Canister # 1SS00828
Final canister pressure: Ø

Continued from page 17

Read and Understood By

Craig Del Zeno — Signed
2/27/24 — Date

Signed
8/27/24 — Date

400-LV-125-95'
Time - 2402270954
CH_4 — 0.0%
CO_2 — 1.7%
O_2 — 19.5%

Canister # 1SS00943
Final canister pressure: Ø

400-LV-125-122'
Time - 2402271002
CH_4 — 0.0%
CO_2 — 1.0%
O_2 — 19.3%

Canister # 1SS01135
Final canister pressure: Ø

400-SV-05-10'
Time - 2402271020
CH_4 — 0.0%
CO_2 — 0.6%
O_2 — 20.6%

Canister # 1SS01391
Final canister pressure: -2

400-SV-05-50'
Time - 2402271025
CH_4 — 0.0%
CO_2 — 1.5%
O_2 — 19.6%

Canister # 1SS01559
Final canister pressure: -1

400-SV-05-100'
Time - 2402271032
CH_4 — 0.0%
CO_2 — 1.8%
O_2 — 19.0%

Canister ~~# 1SS01559~~ CO
Final canister pressure: -1

400-SV-05-100' (FB)
Time - 2402271033

Canister # 1SS01483
Final canister pressure: Ø

Continued from page 18

Read and Understood By

Craig Del Zeno — Signed
2/27/24 — Date
Signed
8/27/24 — Date

400-SV-02-10' (TB)
Time - 240227 1050
CH_4 — N/A
CO_2 — N/A
O_2 — N/A

Canister # 1SC00877
Final canister pressure: N/A

400-SV-02-10'
Time - 240227 1051
CH_4 — 0.0%
CO_2 — 1.2%
O_2 — 20.1%

Canister # 1SS01206
Final canister pressure: Ø

400-SV-02-50'
Time - 240227 1058
CH_4 — 0.0%
CO_2 — 1.7%
O_2 — 19.5%

Canister # 1SS01248
Final canister pressure: Ø

400-SV-02-100'
Time - 240227 1105
CH_4 — 0.0%
CO_2 — 2.0%
O_2 — 18.9%

Canister # 1SS01396
Final canister pressure: Ø

400-SV-03-10'
Time - 240228 0855
CH_4 — 0.0%
CO_2 — 1.4%
O_2 — 20.4%

Canister # 1SS01344
Final canister pressure: Ø

400-SV-03-50
Time - 240228 0901
CH_4 — 0.0%
CO_2 — 2.0%
O_2 — 19.6%

Canister # 1SS01370
Final canister pressure: -1

Continued from page 19

Read and Understood By

Craig Del Terzo — Signed — 2/28/24 — Date

Signed — 8/27/24 — Date

400-SV-03-92'
Time - 240228 0907
CH_4 — 0.0%
CO_2 — 2.5%
O_2 — 19.1%

Canister # 1SS01596
Final canister pressure: Ø

400-SV-07-10' (TB)
Time - 2402280815 (TB)

Canister # 1SC00135 N/A

400-SV-07-10'
Time - 2402280816
CH_4 — 0.0%
CO_2 — 2.0%
O_2 — 19.7%

Canister # 1SS00140
Final canister pressure: Ø

400-SV-07-45'
Time - 2402280821
CH_4 — 0.0%
CO_2 — 3.1%
O_2 — 19.0%

Canister # 1SC00319
Final canister pressure: Ø

400-SV-07-100'
Time - 2402280827
CH_4 — 0.0%
CO_2 — 3.3%
O_2 — 18.7%

Canister # 1SC00977
Final canister pressure: Ø

400-SV-09-10'
Time - 2402280940
CH_4 — 0.0%
CO_2 — 0.6%
O_2 — 21.2%

Canister # ~~Ø~~ 1SS00862
Final canister pressure: Ø

Continued from page 20

Craig Del Terzo
Signed

2/28/24
Date

Read and Understood By

Signed

8/27/24
Date

400-SV-09-10' (FB)
Time - 240228 0941
Canister # 1SS01430
Final can pressure: 0

400-SV-09-45'
Time - 240228 0948
CH_4 — 0.0%
CO_2 — 1.9%
O_2 — 20.0%
Canister # 1SC00130
Final canister pressure: 0

400-SV-09-45' (Dupl.)
Time - 240228 0949
CH_4 — 0.0%
CO_2 — 1.9%
O_2 — 19.9%
Canister # 1SC00044
Final canister pressure: 0

400-SV-09-104'
Time - 240228 0956
CH_4 — 0.0%
CO_2 — 0.4%
O_2 — 20.2%
Canister # 1SC00751
Final canister pressure: -2

400-SV-10-10'
Time - 240228 1007
CH_4 — 0.0%
CO_2 — 0.6%
O_2 — 21.0%
Canister # 1SS01231
Final canister pressure: 0

400-SV-10-50'
Time - 240228 1013
CH_4 — 0.0%
CO_2 — 1.8%
O_2 — 19.4%
Canister # 1SS01519
Final canister pressure: 0

Continued from page 21

Read and Understood By

Craig Del Zeno — Signed
2/28/24 — Date
Jeff Hall — Signed
8/27/24 — Date

400-SV-10-50'(FB)
Time - 2402281014
Canister # 1SS01185
Final canister pressure: 0

400-SV-10-100'
Time - 2402281021
CH_4 — 0.0%
CO_2 — 2.7%
O_2 — 14.9%
Canister # 1SC00123
Final canister pressure: -1

400-SV-10-125'
Time - 2402281028
CH_4 — 0.0%
CO_2 — 1.8%
O_2 — 0.2%
Canister # 1SS01188
Final canister pressure: 0

400-SV-10-125'(Dupl.)
Time - 2402281029
CH_4 — 0.0%
CO_2 — 1.9%
O_2 — 0.1%
Canister # 1SS01404
Final canister pressure: 0

400-SV-15-10'
Time - 2402281055
CH_4 — 0.0%
CO_2 — 0.4%
O_2 — 20.8%
Canister # 1SS01388
Final canister pressure: 0

400-SV-15-10'(Dupl.)
Time - 2402281056
CH_4 — 0.0%
CO_2 — 0.6%
O_2 — 20.6%
Canister # 1SS01287
Final canister pressure: 0

Continued from page 22

Read and Understood By

Craig DelZotto 2/28/24
Signed Date

8/27/24
Signed Date

400-SV-15-50'
Time - 240228 1103
CH_4 — 0.0%
CO_2 — 1.0%
O_2 — 20.2%

Canister # ISS01517
Final canister reading: Ø

400-SV-15-90'
Time - 240228 1110
CH_4 — 0.0%
CO_2 — 1.1%
O_2 — 20.0%

Canister # ISS01235
Final canister pressure: Ø

400-SV-15-90'(FB)
Time - 240228 1111

Canister # ISC01381
Final canister pressure: Ø

Continued from page 23

Read and Understood By

Craig Del Zenno — Signed
2/28/24 — Date
Signed
8/28/24 — Date

WSTF CHAIN OF CUSTODY RECORD

Date 2-27-24

Page 1 of 2

Laboratory: ALS PO# 23EC002B

Address shipping questions to:

☒ Lori Minnick, 575-524-5119

☐ Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements

Sample Number	Sample Location	# of Containers	Sample Matrix*	Method 8260 Analytes VOA						Charge Number (WSTF Use Only)	Comments
240226090DA	400-EV-131	3	A	X						HNMU	
240226091A	"	3	A	X						"	
240226074SC	400-FV-131	3	A	X						"	
240226093SC	"	3	A	X						"	
240226093GC	"	3	A	X						"	
240226093TC	"	3	A	X						"	
240226100SA	400-HV-147	3	A	X						"	
240226100GA	"	3	A	X						"	
240226103OC	400-GV-125	3	A	X						"	
240226103IC	"	3	A	X						"	
240226103ZC	"	3	A	X						"	
240226131GA	400-JV-150	3	A	X						"	

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori Minnick	2-27-24 1100 HRS		

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

WSTF CHAIN OF CUSTODY RECORD

Date 2-27-24

Page 2 of 2

Laboratory: ALS PO# 23EC002B

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Stephanie Portillo, stephanie.portillo@nasa.gov
- [ ] Other
- [ ] Other

Analytical Requirements: Method 8260, Analytes VOA

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytical Requirements	Charge Number (WSTF Use Only)	Comments
240226131SA	400-JV-150	3	A	X	HWMU	
240226141DC	400-JV-123	3	A	X	"	
240226141IC	"	3	A	X	"	

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	2-27-24 / 1100 HRS		

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

Date 2-27-24

WSTF CHAIN OF CUSTODY RECORD

Page 1 of 1

Laboratory: ALS PO# 23EC002B

Address shipping questions to:

- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:

- [x] Stephanie Portillo, stephanie.portillo@nasa.gov
- [ ] Other
- [ ] Other

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytical Requirements: Method / Analytes						Charge Number (WSTF Use Only)	Comments
				Method: METALS							
				Analytes: TOTAL							
240226090 3A	400-EV-131	2	A	X						HWMU	
240226095 0C	400-FV-131	2	A	X						"	
240226095 9C	"	2	A	X						"	
240226100 8A	400-HV-147	2	A	X						"	
240226105 0C	400-GV-125	2	A	X						"	
240226105 2C	"	2	A	X						"	
240226131 8A	400-JV-150	2	A	X						"	
240226142 5C	400-IV-123	2	A	X						"	

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori Minnick	2-27-24 1100 HRS		

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 — P240922 — Page 1 of 7

Laboratory: ALS — PO# 23ECO17B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☑ Other GEOFF GILES, 575-524-5352 — 575-635-1284

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
1	2402260905 ✓	400-EV-131, 10'	1	SV	HWMU	CANISTER FINAL PRESSURE = -3
2	2402260906 ✓	400-EV-131, 10'	1	SV		" " " = 0
3	2402260911 ✓	400-EV-131, 50'	1	SV		" " " = -2
4	2402260916 ✓	400-EV-131, 100'	1	SV		" " " = -2
5	2402260924 ✓	400-EV-131, 130'	1	SV		" " " = 0
6	2402260925 ✓	400-EV-131, 130'	1	SV		" " " = 0
7	2402261005 ✓	400-HV-147, 12'	1	SV		" " " = -3
8	2402261009 ✓	400-HV-147, 45'	1	SV		" " " = 0
9	2402261014 ✓	400-HV-147, 95'	1	SV		" " " = 0
10	2402261015 ✓	400-HV-147, 95'	1	SV		" " " = 0
11	2402261024 ✓	400-HV-147, 130'	1	SV		" " " = -1

A23

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FEDEX	2/28/24 - 1315	FEDEX	
		[signature]	3-6-24 0947

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV – SOIL VAPOR

WSTF 381B (06/2023)

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 — PO 400922 — Page 2 of 7

Laboratory: ALS — PO# 23ECO17B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☒ Other GEOFF GILES, 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
12	2402261050 ✓	400-JV-150 TB	1	SV	HWHU	CANISTER FINAL PRESSURE = N/A
13	2402261051 ✓	400-JV-150 12.5'	1	SV		" " " = 0
14	2402261057 ✓	400-JV-150 50'	1	SV		" " " = 0
15	2402261104 ✓	400-JV-150 100'	1	SV		" " " = 0
16	2402261340 ✓	400-FV-131 15'	1	SV		" " " = 0
17	2402261344 ✓	400-FV-131 63'	1	SV		" " " = -1
18	2402261356 ✓	400-GV-125 10'	1	SV		" " " = 0
19	2402261401 ✓	400-GV-125 46'	1	SV		" " " = 0
20	2402261406 ✓	400-GV-125 105'	1	SV		" " " = 0
21	2402261412 ✓	400-GV-125 120'	1	SV		" " " = 0
22	2402261413 ✓	400-GV-125 120'	1	SV		" " " = -1

A-24

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FEDEX	2/28/24 - 1315	FEDEX	3-6-24 0947

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV – Soil VAPOR

WSTF 381B (06/2023)

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 — RJ 400922 — Page 3 of 7

Laboratory: ALS — PO# 23EC017B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☑ Other GEOFF GILES, 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
23	2402261435 ✓	400-IV-123 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = 0
24	2402261440 ✓	400-IV-123 45'	1	SV		" " " = -2
25	2402261449 ✓	400-IV-123 80'	1	SV		" " " = -1
26	2402261450 ✓	400-IV-123 80'	1	SV		" " " = 0
27	2402261457 ✓	400-IV-123 118'	1	SV		" " " = 0
28	2402270850 ✓	400-KV-142 12.5'	1	SV		" " " = 0
29	2402270851 ✓	400-KV-142 12.5'	1	SV		" " " = 0
30	2402270856 ✓	400-KV-142 50'	1	SV		" " " = 0
31	2402270903 ✓	400-KV-142 100'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	2/28/24 - 1315	[signature]	3-7-24 .0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV-SOIL VAPOR

WSTF 381B (06/2023)

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24

PJ400922

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Laboratory: ALS PO# 23EC017B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☑ Other GEOFF GILES 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
32	2402270940 ✓	400-LV-125 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = -1
33	2402270941 ✓	400-LV-125 10'	1	SV		" " " = 0
34	2402270946 ✓	400-LV-125 50'	1	SV		" " " = 0
35	2402270954 ✓	400-LV-125 95'	1	SV		" " " = 0
36 A26	2402271002 ✓	400-LV-125 122'	1	SV		" " " = 0
37	2402271020 ✓	400-SV-05 10'	1	SV		" " " = -2
38	2402271025 ✓	400-SV-05 50'	1	SV		" " " = -1
39	2402271032 ✓	400-SV-05 100'	1	SV		" " " = -1
40	2402271033 ✓	400-SV-05 100'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
	2/28/24-1315		3-7-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV-SOIL VAPOR

WSTF 381B (06/2023)

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24

RJ400922

Laboratory: ALS PO# 23EC017B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

☒ Other GEOFF GILES, 575-524-5352 575-635-1284

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO-15, Analytes VOC

Charge Number (WSTF Use Only)

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number	Comments
41	2402271050 ✓	400-SV-02 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = N/A
42	2402271051 ✓	400-SV-02 10'	1	SV	↓	" " " = 0
43	2402271058 ✓	400-SV-02 50'	1	SV		" " " = 0
44	2402271105 ✓	400-SV-02 100'	1	SV		" " " = 0
45	2402280815 ✓	400-SV-07 10'	1	SV		" " " = N/A
46	2402280816 ✓	400-SV-07 10'	1	SV		" " " = 0
47	2402280821 ✓	400-SV-07 45'	1	SV		" " " = 0
48	2402280827 ✓	400-SV-07 100'	1	SV		" " " = 0

A-27

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FEDEX	2/28/24 - 1315	FEDEX	3-7-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

SV-SOIL VAPOR

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24

PJ400922

Laboratory: ALS PO# 23EC017B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

☑ Other GEOFF GILES 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
49	2402280855	400-SV-03 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = 0
50	2402280901	400-SV-03 50'	1	SV		" " " = -1
51	2402280907	400-SV-03 92'	1	SV		" " " = 0
52	2402280940	400-SV-09 10'	1	SV		" " " = 0
53	2402280941	400-SV-09 10'	1	SV		" " " = 0
54	2402280948	400-SV-09 45'	1	SV		" " " = 0
55	2402280949	400-SV-09 45'	1	SV		" " " = 0
56	2402280956	400-SV-09 104'	1	SV		" " " = -2

A-28

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FEDEX	2/28/24 - 1315	FEDEX	3-7-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV - SOIL VAPOR

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 PJ400922 Page 7 of 7

Laboratory: ALS PO# 23ECD17B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☑ Other GEOFF GILES 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
57	240228 1007 ✓	400-SV-10 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = 0
58	240228 1013 ✓	400-SV-10 50'	1	SV		" " " = 0
59	240228 1014 ✓	400-SV-10 50'	1	SV		" " " = 0
60	240228 1021 ✓	400-SV-10 100'	1	SV		" " " = -1
61	240228 1028 ✓	400-SV-10 125'	1	SV		" " " = 0
62	240228 1029 ✓	400-SV-10 125'	1	SV		" " " = 0
63	240228 1055	400-SV-15 10'	1	SV		" " " = 0
64	240228 1056	400-SV-15 10'	1	SV		" " " = 0
65	240228 1103	400-SV-15 50'	1	SV		" " " = 0
66	240228 1110	400-SV-15 90'	1	SV		" " " = 0
67	240228 1111	400-SV-15 90'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FBR	2/28/24 - 1315	FBR	3-1-24 0730

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV - SOIL VAPOR

WSTF 381B (06/2023)

Appendix B
Quality Assurance Report

National Aeronautics and Space Administration

Quality Assurance Report for White Sands Test Facility
400 Area Supplemental Groundwater and Soil Vapor Monitoring Report

First Quarter 2024

September 2024

NM 8800019434

Report Submitted: September 2024

Report Prepared by:
Stephanie M. Portillo
Environmental Scientist IV, Quality Assurance Manager
Navarro Research and Engineering, Inc.

1.0 Introduction

The 400 Area Supplemental Groundwater and Soil Vapor (400 Area GWSV) Monitoring Plan requires the preparation of an investigation report that includes soil analytical data reported. The Quality Assurance Report (QAR) prepared and reviewed by responsible environmental contractor data management personnel provides the following information:

- A summary of notable anomalies.
- A summary of notable data quality issues by analytical method, if any.
- A list of the sample events for soil vapor and groundwater samples collected in February 2024.
- The quantity and type of quality control samples collected or prepared in February 2024.
- Definitions of data qualifiers used in WSTF analytical data reporting.
- The quantity and type of data qualifiers applied to individual analytical results.
- A list of quality assurance narratives arranged by analytical method.
- A summary table of blank sample detections.

2.0 Data Quality

Samples collected during the first quarter of 2024, included soil vapor samples, groundwater samples, duplicates, field blanks, and trip blanks in accordance with the NMED approved 400 GWSV Monitoring Plan. Soil vapor samples and duplicates, were obtained by evacuating three tubing volumes of stagnant vapor from soil vapor implants and stainless steel tubing prior to sample collection into laboratory-provided SUMMA canisters. Groundwater samples and duplicates, were obtained by using low-flow purging procedures prior to sample collection from the dedicated low-flow bladder pump and disposable discharge tubing into laboratory-provided containers. Evacuation and purging procedures were completed in accordance with the 400 Area GWSV Monitoring Plan and the NMED approved Groundwater Monitoring Plan.

2.1 Notable Anomalies

The following notable anomalies were identified:

- SVOCs by SW-846 Method 8270D, nitrosamines by EPA Method 607, and several metals by various SW-846 Methods were collected in accordance with the GMP and in addition to the requirements of the NMED-approved IWP.
- No field blanks were collected for nitrosamines by EPA Method 607 for this investigation in accordance with the NMED approved AIWP and the GMP.
- No field blanks were collected for Total Metals for this investigation in accordance with the NMED approved AIWP and the GMP.
- Twelve results for nitrosamines by EPA Method 607 were identified for reanalysis due to calibration exceedances for NDMA, DMN, and Bromacil. Only one result is retained for each sample specific analyte. Results for original or diluted samples, identified in the laboratory report case narrative (SwRI M607-035) were qualified as rejected accordingly and received an “R” flag. Affected samples area as follows:
    - 2402260902A (400-EV-131)
    - 2402261040C (400-GV-125)

- 2402261045C (400-GV-125)
- 2402261007A (400-HV-147)

No other notable anomalies are associated with the groundwater analytical data associated with this QAR.

3.0 Data Tables

Table 1 summarizes the soil vapor and groundwater sample events for the first quarter collected in February 2024. This report is based on data quality issues related to the sample events listed in Table 1. Tables 2 through 7 contain information related to the sample events identified in Table 1. As specified by the IWP, specific quality control samples are utilized to assess the quality of analytical data. Table 2 presents the quantity of quality control samples collected for each analytical method. Table 3 compares the quality control sample percentages collected to the requirements in the IWP. When data quality criteria are not met, data qualifiers are applied to the data. Definitions of data qualifiers used for WSTF chemical analytical data are listed in Table 4. Table 5 and Table 6 present the total number of individual result records and summarize the quantity of field and laboratory data qualifiers assigned to individual analyte result records in the WSTF analytical database. Table 7 provides all quality assurance narratives associated with the sample events in Table 1. Narratives associated with qualified data are identified by bold text in Table 7.

Table 1 – Sample Events for February 2024

Sample Location	Depth (ft bgs)	Event Date	Sample Type
400-EV	10	26-Feb-24	SV
	47.5	26-Feb-24	SV
	100	26-Feb-24	SV
	130	26-Feb-24	SV
	131	26-Feb-24	GW
400-FV	15	26-Feb-24	SV
	63	26-Feb-24	SV
	131	26-Feb-24	GW
400-GV	10	26-Feb-24	SV
	46	26-Feb-24	SV
	105	26-Feb-24	SV
	120	26-Feb-24	SV
	125	26-Feb-24	GW
400-HV	12	26-Feb-24	SV
	45	26-Feb-24	SV
	95	26-Feb-24	SV
	130	26-Feb-24	SV
	147	26-Feb-24	GW
400-IV	10	26-Feb-24	SV
	45	26-Feb-24	SV
	80	26-Feb-24	SV
	118	26-Feb-24	SV
	123	26-Feb-24	GW
400-JV	12.5	26-Feb-24	SV
	50	26-Feb-24	SV
	100	26-Feb-24	SV
	150	26-Feb-24	GW
400-KV	12.5	27-Feb-24	SV
400-KV	50	27-Feb-24	SV
	100	27-Feb-24	SV
400-LV	10	27-Feb-24	SV
	50	27-Feb-24	SV
	95	27-Feb-24	SV
	122	27-Feb-24	SV
400-SV-02	10	27-Feb-24	SV
	50	27-Feb-24	SV
	100	27-Feb-24	SV
400-SV-05	10	27-Feb-24	SV
	50	27-Feb-24	SV
	100	27-Feb-24	SV
400-SV-03	10	28-Feb-24	SV
	50	28-Feb-24	SV
	92	28-Feb-24	SV
400-SV-07	10	28-Feb-24	SV
	45	28-Feb-24	SV
	100	28-Feb-24	SV

Sample Location	Depth (ft bgs)	Event Date	Sample Type
400-SV-09	10	28-Feb-24	SV
	45	28-Feb-24	SV
	104	28-Feb-24	SV
400-SV-10	10	28-Feb-24	SV
	50	28-Feb-24	SV

Sample Location	Depth (ft bgs)	Event Date	Sample Type
400-SV-10	100	28-Feb-24	SV
	125	28-Feb-24	SV
400-SV-15	10	28-Feb-24	SV
	50	28-Feb-24	SV
	90	28-Feb-24	SV

Table 2 – Quantity of Quality Control Samples

Method	Sample Type	Samples	Field Blanks	Trip Blanks	Duplicates	Matrix Spikes
Nitrosamines by EPA Method 607	**GW**	**6**	**---**	**---**	**2**	**---**
Volatile Organics by SW-846 Method 8260C	**GW**	**6**	**6**	**1**	**2**	**---**
Total Metals by Various SW-846 Methods	**GW**	**6**	**---**	**---**	**2**	**---**
Soil Gas - Volatile Organic Compounds	**SV**	**51**	**8**	**3**	**5**	**---**

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement	Samp. Qty.	QC Qty.	QC %
Nitrosamines Field Blanks	2%	6	---	**---**
Nitrosamines Trip Blanks	N/A	6	---	**N/A**
Nitrosamines Duplicates	10%	6	2	**33%**
Volatile Organics Field Blanks	1 per sample event	6	6	**100%**
Volatile Organics Trip Blanks	1 per shipment	6	1	**N/A**
Volatile Organics Duplicates	10%	6	2	**33%**
Total Metals Field Blanks	5%	6	---	**---**
Total Metals Trip Blanks	N/A	6	---	**N/A**
Total Metals Duplicates	10%	6	2	**33%**
Soil Gas Field Blanks	NA	51	8	**16%**
Soil Gas Trip Blanks	NA	51	3	**6%**
Soil Gas Duplicates	NA	51	5	**10%**

Table 4 – Definitions of Data Qualifiers

Qualifier	Definition
*	User defined qualifier. See quality assurance narrative.
A	The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
AD	Relative percent difference for analyst (laboratory) duplicates was outside standard limits.
D	The reported result is from a dilution.
EB	The analyte was detected in the equipment blank.
FB	The analyte was detected in the field blank.
G	The result is an estimated value greater than the upper calibration limit.
i	The result, quantitation limit, and/or detection limit may have been affected by matrix interference.
J	The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NA	The value/result was either not analyzed for or not applicable.
ND	The analyte was not detected above the detection limit.

Qualifier	Definition
Q	The result for a blind control sample was outside standard limits.
QD	The relative percent difference for a field duplicate was outside standard limits.
R	The result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RB	The analyte was detected in the method blank.
S	The result was determined by the method of standard addition.
SP	The matrix spike recovery and/or the relative percent difference for matrix spike duplicates was outside standard limits.
T	The sample was analyzed outside the specified holding time or temperature.
TB	The analyte was detected in the trip blank.
TIC	The analyte was tentatively identified by a GC/MS library search and the amount reported is an estimated value.

Table 5 – Quantity of Field Based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"FB"	"EB"	"TB"	"Q"	"QD"	"SP"	"R"
Nitrosamines by EPA Method 607	**36**	---	---	---	---	---	---	**12**
Volatile Organics by SW-846 Method 8260C	**529**	---	---	---	---	---	---	---
Total Metals by Various SW-846 Methods	**216**	---	---	---	---	---	---	---
Soil Gas - Volatile Organic Compounds	**3640**	**34**	---	**4**	---	**6**	---	---

Table 6 – Quantity of Laboratory based Data Qualifiers Assigned to Individual Result Records

Method	Total Result Records	"*"	"A"	"AD"	"G"	"RB"	"T"	"D"	"i"	"J"
Nitrosamines by EPA Method 607	**36**	---	---	---	**7**	---	---	**12**	---	---
Volatile Organics by SW-846 Method 8260C	**529**	---	---	---	---	---	---	**2**	---	**9**
Total Metals by Various SW-846 Methods	**216**	---	---	---	---	---	---	---	---	**35**
Soil Gas - Volatile Organic Compounds	**3640**	---	**46**	---	---	**10**	---	**20**	---	**490**

Table 7 – Quality Assurance Narratives

Location Sample_ID	Event Date	Modified EPA Method 607
400-EV-131	**2/26/2024**	**For Modified EPA Method 607, original results for N-Nitrodimethylamine, N-Nitrosodimethylamine, and Bromacil in sample 2402260902A are rejected due to sample dilution and reanalysis. Original samples maintained in the Q_disk only.**
400-EV-131	**2/26/2024**	**For Modified EPA Method 607, bromacil (6.82) in sample 2402260902A is an estimated value greater than the upper calibration limit.**
400-EV-131	**2/26/2024**	**For Modified EPA Method 607, concentrations of bromacil in sample 2402260902A exceeded calibration range. Sample extract was diluted 5-fold and reanalyzed.**
400-FV-131	2/26/2024	For Modified EPA Method 607, relative percent differences (RPD) for duplicate samples 2402260940C and 2402260945C were within control limits or below the calculable range.
400-GV-125	**2/26/2024**	**For Modified EPA Method 607, original results for N-Nitrodimethylamine, N-Nitrosodimethylamine, and Bromacil in sample 2402261045C and 2402261045C are rejected due to sample dilution and reanalysis. Original samples maintained in the Q_disk only.**
400-GV-125	2/26/2024	For Modified EPA Method 607, relative percent differences (RPD) for duplicate samples 2402261040C and 2402261045C were within control limits or below the calculable range.
400-GV-125	**2/26/2024**	**For Modified EPA Method 607, bromacil (6.06 ug/L and 5.79 ug/L) in sample 2402260902A is an estimated value greater than the upper calibration limit.**
400-GV-125	**2/26/2024**	**For Modified EPA Method 607, concentrations of bromacil in sample 2402261040C and 2402261045C exceeded calibration range. Sample extract was diluted 2-fold and reanalyzed.**
400-HV-147	**2/26/2024**	**For Modified EPA Method 607, original results for N-Nitrodimethylamine, N-Nitrosodimethylamine, and Bromacil in sample 2402261007A are rejected due to sample**

		dilution and reanalysis. Original samples maintained in the Q_disk only.
400-HV-147	**2/26/2024**	**For Modified EPA Method 607, concentrations of NDMA and DMN in sample 2402261007A exceeded calibration range. Sample extract was diluted 100-fold and reanalyzed.**
400-HV-147	**2/26/2024**	**For Modified EPA Method 607, NDMA (47.09 ug/L) and DMN (159.14 ug/L) in sample 2402261007A is an estimated value greater than the upper calibration limit.**

Location Sample_ID	Event Date	SW-846 Method 8260C
400-EV-131	**2/26/2024**	**For SW-846 Method 8260C, two unknown compounds were tentatively identified by a GC/MS library search in sample 2402260900A.**
400-EV-131	2/26/2024	For SW-846 Method 8260C, there were no detections in the field blank.
400-EV-131	**2/26/2024**	**For SW-846 Method 8260C, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-FV-131	**2/26/2024**	**For SW-846 Method 8260C, one unknown compound was tentatively identified by a GC/MS library search in samples 2402260935A, 2402260936A (duplicate) and 2402260937A (field blank).**
400-FV-131	**2/26/2024**	**For SW-846 Method 8260C, Unknown was detected in the trip blank (2402260745C) at 8.5 ug/L.**
400-FV-131	**2/26/2024**	**For SW-846 Method 8260C, Unknown was detected in the field blank (2402260937C) at 9.2 ug/L.**
400-FV-131	**2/26/2024**	**For SW-846 Method 8260C, TCE results (0.55 ug/L and 0.54 ug/L) are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-FV-131	2/26/2024	For SW-846 Method 8260C, relative percent differences (RPD) for duplicate samples 2402260935C and 2402260936C were within control limits or below the calculable range.
400-GV-125	**2/26/2024**	**For SW-846 Method 8260C, Unknown was detected in the field blank (2402261032C) at 7.8 ug/L.**
400-GV-125	**2/26/2024**	**For SW-846 Method 8260C, unknown results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-GV-125	**2/26/2024**	**For SW-846 Method 8260C, concentrations of CFC 11 in sample 2402261030C and 2402261031C exceeded calibration range. Sample extract was diluted 2.5-fold and reanalyzed.**
400-GV-125	**2/26/2024**	**For SW-846 Method 8260C, one unknown compound were tentatively identified by a GC/MS library search in sample 2402260900A.**
400-GV-125	**2/26/2024**	**For Total Metals, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-HV-147	**2/26/2024**	**For SW-846 Method 8260C, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-HV-147	**2/26/2024**	**For SW-846 Method 8260C, Unknown was detected in the field blank (2402261006A) at 8.2 ug/L.**
400-HV-147	**2/26/2024**	**For SW-846 Method 8260C, one unknown compound were tentatively identified by a GC/MS library search in sample 2402261005A.**
400-IV-123	**2/26/2024**	**For SW-846 Method 8260C, one unknown compound were tentatively identified by a GC/MS library search in sample 2402261410C.**
400-IV-123	**2/26/2024**	**For SW-846 Method 8260C, Unknown was detected in the field blank (2402261411C) at 8.9 ug/L.**
400-IV-123	**2/26/2024**	**For SW-846 Method 8260C, CFC 21 result (0.44 ug/L) is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.**
400-JV-150	**2/26/2024**	**For SW-846 Method 8260C, Carbon Dioxide was detected in the field blank (2402261316A) at 9.5 ug/L.**
400-JV-150	**2/26/2024**	**For SW-846 Method 8260C, TCE (0.54 ug/L) and CFC 123a results (0.26 ug/L) are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**

Location Sample_ID	Event Date	SW-846 Method 8260C
400-JV-150	**2/26/2024**	**For SW-846 Method 8260C, one unknown compound were tentatively identified by a GC/MS library search in sample 2402261315A.**

Location Sample_ID	Event Date	Total Metals
400-EV-131	**2/26/2024**	**For Total Metals, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-FV-131	2/26/2024	For Total Metals, relative percent differences (RPD) for duplicate samples 2402260950C and 2402260959C were within control limits or below the calculable range.
400-FV-131	**2/26/2024**	**For Total Metals, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-GV-125	2/26/2024	For Total Metals, relative percent differences (RPD) for duplicate samples 2402261050C and 2402261052C were within control limits or below the calculable range.
400-HV-147	**2/26/2024**	**For Total Metals, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-IV-123	**2/26/2024**	**For Total Metals, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-JV-150	**2/26/2024**	**For Total Metals, multiple compound results are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-EV-010	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-EV-010	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-EV-010	**2/26/2024**	**For EPA Method TO-15 (air), 1,4-Dioxane was detected in the field blank (2402260906) at 0.48 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402260906) at 2.6 ng/L. 2-Propanol was detected in the field blank (2402260906) at 1.2 ng/L. Acetone was detected in the field blank (2402260906) at 22.0 ng/L. Carbon Disulfide was detected in the field blank (2402260906) at 2.8 ng/L. Chloromethane was detected in the field blank (2402260906) at 1.2 ng/L. Ethanol was detected in the field blank (2402260906) at 2.8 ng/L. Freon 11 was detected in the field blank (2402260906) at 1.1 ng/L. Freon 113 was detected in the field blank (2402260906) at 0.47 ng/L. Freon 12 was detected in the field blank (2402260906) at 2.4 ng/L. Trichloroethene was detected in the field blank (2402260906) at 1.8 ng/L.**
400-EV-010	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-EV-010	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-EV-047.5	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-EV-047.5	**2/26/2024**	**For EPA Method TO-15 (air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-EV-047.5	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-EV-047.5	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-EV-100	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-EV-100	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-EV-100	**2/26/2024**	**For EPA Method TO-15, the compound (Freon 113) reported result is from a dilution**
400-EV-100	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-EV-100	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-EV-100	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-EV-130	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-EV-130	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-EV-130	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-EV-130	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-EV-130	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-FV-015	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-FV-015	2/26/2024	For EPA Method TO-15 (air), one or multiple compounds were searched for but not dectected. See case narrative
400-FV-015	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-FV-063	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-FV-063	2/26/2024	For EPA Method TO-15 (air), one or multiple compounds were searched for but not dectected. See case narrative
400-FV-063	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-GV-010	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-GV-010	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-GV-010	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-GV-046	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-GV-046	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-GV-046	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-GV-046	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-GV-105	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-GV-105	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-GV-105	**2/26/2024**	**For EPA Method TO-15 (air), the compound's (Freon 113) reported result is from a dilution**
400-GV-105	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-GV-105	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-GV-120	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-GV-120	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-GV-120	2/26/2024	For EPA Method TO-15 (air), relative percent differences (RPD) for duplicate samples 2402261412 and 2402261413 were within control limits or below the calculable range.
400-GV-120	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-GV-120	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-HV-012	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-HV-012	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-HV-012	2/26/2024	For EPA Method TO-15 (air), one or multiple compounds were searched for but not dectected. See case narrative
400-HV-012	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-HV-012	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-HV-045	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-HV-045	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-HV-045	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-HV-045	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-HV-045	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-HV-095	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-HV-095	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-HV-095	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-HV-095	**2/26/2024**	**For EPA Method TO-15 (air), m,p-Xylene was detected in the field blank (2402261015) at 0.6 ng/L. Toluene was detected in the field blank (2402261015) at 1.1 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402261015) at 2.8 ng/L. Acetone was detected in the field blank (2402261015) at 23.0 ng/L. Benzene was detected in the field blank (2402261015) at 0.35 ng/L. Bromodichloromethane was detected in the field blank (2402261015) at 0.82 ng/L. Bromoform was detected in the field blank (2402261015) at 0.46 ng/L. Bromomethane was detected in the field blank (2402261015) at 1.9 ng/L. Carbon Disulfide was detected in the field blank (2402261015) at 0.82 ng/L. Carbon Tetrachloride was detected in the field blank (2402261015) at 0.59 ng/L. Chloroethane was detected in the field blank (2402261015) at 0.44 ng/L. Chloroform was detected in the field blank (2402261015)**
400-HV-095	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-HV-095	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-HV-130	2/26/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-HV-130	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-HV-130	**2/26/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-HV-130	**2/26/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-HV-130	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-IV-010	**2/26/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-IV-010	**2/26/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-IV-010	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-IV-010	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-IV-010	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-IV-045	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-IV-045	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-IV-045	**2/26/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-IV-045	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-IV-080	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-IV-080	**2/26/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-IV-080	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-IV-080	**2/26/2024**	**For EPA Method TO-15 (air), 1,2-Dichloropropane was detected in the field blank (2402261450) at 2.9 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402261450) at 4.2 ng/L. 2-Propanol was detected in the field blank (2402261450) at 7.9 ng/L. Acetone was detected in the field blank (2402261450) at 34.0 ng/L. Benzene was detected in the field blank (2402261450) at 0.58 ng/L. Carbon Disulfide was detected in the field blank (2402261450) at 1.3 ng/L. Chloromethane was detected in the field blank (2402261450) at 1.1 ng/L. Cyclohexane was detected in the field blank (2402261450) at 1.5 ng/L. Ethanol was detected in the field blank (2402261450) at 14.0 ng/L. Ethyl Benzene was detected in the field blank (2402261450) at 0.48 ng/L. Freon 11 was detected in the field blank (2402261450) at 2.0 ng/L. Freon 113 was detected in the field blank (2402261450) at 1.5 ng/L**
400-IV-080	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-IV-118	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-IV-118	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-IV-118	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-JV-012.5	**2/26/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-JV-012.5	2/26/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-JV-012.5	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-JV-012.5	**2/26/2024**	**For EPA Method TO-15 (air), 2-Propanol was detected in the trip blank (2402261050) at 1.1 ng/L.**
400-JV-012.5	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-JV-050	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-JV-050	**2/26/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-JV-050	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-JV-050	**2/26/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-JV-100	**2/26/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-JV-100	2/26/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-JV-100	**2/26/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-JV-100	**2/26/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-KV-012.5	2/27/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-KV-012.5	**2/27/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-KV-012.5	**2/27/2024**	**For EPA Method TO-15 (air),, 1,4-Dioxane was detected in the field blank (2402270851) at 0.4 ng/L. Acetone was detected in the field blank (2402270851) at 5.4 ng/L. Carbon Tetrachloride was detected in the field blank (2402270851) at 0.45 ng/L. Chloromethane was detected in the field blank (2402270851) at 1.1 ng/L. Freon 11 was detected in the field blank (2402270851) at 1.2 ng/L. Freon 113 was detected in the field blank (2402270851) at 0.53 ng/L. Freon 12 was detected in the field blank (2402270851) at 2.5 ng/L. Toluene was detected in the field blank (2402270851) at 2.6 ng/L.**
400-KV-012.5	2/27/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-KV-012.5	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-KV-012.5	**2/27/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-KV-050	2/27/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-KV-050	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-KV-050	**2/27/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-KV-050	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-KV-050	**2/27/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-KV-100	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-KV-100	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-KV-100	2/27/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-KV-100	**2/27/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-KV-100	**2/27/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-LV-010	2/27/2024	For EPA Method TO-15 (air), relative percent differences (RPD) for duplicate samples 2402270940 and 2402270941 were within control limits or below the calculable range.
400-LV-010	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-LV-010	**2/27/2024**	**For EPA Method TO-15, the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-LV-010	2/27/2024	For EPA Method TO-15, the compound (Freon 123a) was searched for but not found. See case narrative.
400-LV-050	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-LV-050	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-LV-050	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-LV-050	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-LV-050	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-LV-050	**2/27/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-LV-095	2/27/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-LV-095	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-LV-095	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-LV-095	2/27/2024	For EPA Method TO-15 (air), .the compound (Freon 123a) was searched for but not found. See case narrative.
400-LV-095	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-LV-122	2/27/2024	For EPA Method TO-15 (air), method blank contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.
400-LV-122	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-LV-122	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-LV-122	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-LV-122	**2/27/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-02-010	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-02-010	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-02-010	**2/27/2024**	**For EPA Method TO-15 (air), 2-Butanone (Methyl Ethyl Ketone) was detected in the trip blank (2402271050) at 1.7 ng/L. Acetone was detected in the trip blank (2402271050) at 11.0 ng/L. Toluene was detected in the trip blank (2402271050) at 0.81 ng/L. Trichloroethene was detected in the trip blank (2402271050) at 0.49 ng/L.**
400-SV-02-010	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-02-010	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-SV-02-050	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-02-050	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-SV-02-050	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-02-050	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-02-050	**2/27/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-02-100	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-02-100	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-02-100	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-03-010	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-03-010	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-03-010	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-03-050	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-03-050	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-03-050	**2/28/2024**	**For EPA Method TO-15, the compound's (Freon 113 and Freon 11) reported result is from a dilution**
400-SV-03-050	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-03-050	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-03-092	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-03-092	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-03-092	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-03-092	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-03-092	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-03-092	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-03-092	**2/28/2024**	**For EPA Method TO-15 (air), one compound (Benzene) was detected in the method blank. Affected data are appropriately qualified.**
400-SV-03-092	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-05-010	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-05-010	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-05-010	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-05-050	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-05-050	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-05-050	**2/27/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-SV-05-050	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-05-100	**2/27/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-05-100	2/27/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-05-100	**2/27/2024**	**For EPA Method TO-15 (air), 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402271033) at 1.0 ng/L. Carbon Disulfide was detected in the field blank (2402271033) at 1.8 ng/L. Carbon Tetrachloride was detected in the field blank (2402271033) at 0.45 ng/L. Chloromethane was detected in the field blank (2402271033) at 1.1 ng/L. Freon 11 was detected in the field blank (2402271033) at 1.6 ng/L. Freon 113 was detected in the field blank (2402271033) at 0.91 ng/L. Freon 12 was detected in the field blank (2402271033) at 2.6 ng/L. Trichloroethene was detected in the field blank (2402271033) at 0.83 ng/L.**
400-SV-05-100	**2/27/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-07-010	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-07-010	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-07-010	2/28/2024	For EPA Method TO-15 (air), there were no detections in the trip blank.
400-SV-07-010	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-07-010	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-07-045	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-07-045	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-07-045	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-07-045	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-07-100	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-07-100	**2/28/2024**	**For EPA Method TO-15, the compound's (Freon 113 and Freon 11) reported result is from a dilution**
400-SV-07-100	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-07-100	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-09-010	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-09-010	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-09-010	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-09-010	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-09-010	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-09-010	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-09-010	**2/28/2024**	**For EPA Method TO-15 (air), one compound (Benzene) was detected in the method blank. Affected data are appropriately qualified.**
400-SV-09-010	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-09-010	**2/28/2024**	**For EPA Method TO-15 (air), 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402280941) at 1.8 ng/L. 2-Propanol was detected in the field blank (2402280941) at 4.9 ng/L. Acetone was detected in the field blank (2402280941) at 8.7 ng/L. Benzene was detected in the field blank (2402280941) at 0.66 ng/L. Carbon Disulfide was detected in the field blank (2402280941) at 0.92 ng/L. Carbon Tetrachloride was detected in the field blank (2402280941) at 0.31 ng/L. Chloromethane was detected in the field blank (2402280941) at 0.73 ng/L. Ethanol was detected in the field blank (2402280941) at 8.5 ng/L. Freon 11 was detected in the field blank (2402280941) at 1.1 ng/L. Freon 113 was detected in the field blank (2402280941) at 0.86 ng/L. Freon 12 was detected in the field blank (2402280941) at 2.3 ng/L. Hexane was detected in the field blank (2402280941) at 0.63 ng/L. Tetr**
400-SV-09-045	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-09-045	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-09-045	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standardcontaining the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-09-045	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-09-045	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-09-045	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-09-045	**2/28/2024**	**For EPA Method TO-15 (air), one compound (Benzene) was detected in the method blank. Affected data are appropriately qualified.**
400-SV-09-045	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-09-104	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-09-104	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-09-104	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-09-104	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-09-104	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-09-104	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-09-104	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-10-010	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-10-010	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-10-010	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-10-010	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-10-010	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-10-010	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-10-010	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-10-010	**2/28/2024**	**For EPA Method TO-15 (air), one compound (Benzene) was detected in the method blank. Affected data are appropriately qualified.**
400-SV-10-050	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-10-050	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-10-050	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-10-050	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-10-050	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-10-050	**2/28/2024**	**For EPA Method TO-15 (air), one compound (Benzene) was detected in the method blank. Affected data are appropriately qualified.**
400-SV-10-050	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-10-050	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-10-050	**2/28/2024**	**For EPA Method TO-15 (air), 1,2,4-Trimethylbenzene was detected in the field blank (2402281014) at 100.0 ng/L. 2,2,4-Trimethylpentane was detected in the field blank (2402281014) at 1100.0 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402281014) at 200.0 ng/L. Benzene was detected in the field blank (2402281014) at 270.0 ng/L. Cyclohexane was detected in the field blank (2402281014) at 870.0 ng/L. Ethyl Benzene was detected in the field blank (2402281014) at 240.0 ng/L. Freon 11 was detected in the field blank (2402281014) at 56000.0 ng/L. Freon 113 was detected in the field blank (2402281014) at 24000.0 ng/L. Heptane was detected in the field blank (2402281014) at 740.0 ng/L. Hexane was detected in the field blank (2402281014) at 1600.0 ng/L. m,p-Xylene was detected in the field blank (2402281014) at 440.0 ng/L. o-Xylene was detected in the field blank**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-10-100	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-10-100	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-10-100	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-10-100	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b) ,January, 1999.**
400-SV-10-100	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-10-100	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-10-100	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-10-125	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-10-125	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-10-125	2/28/2024	For EPA Method TO-15 (air), the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-10-125	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-10-125	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-10-125	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-10-125	**2/28/2024**	**For EPA Method TO-15 (air), Benzene was detected in the method blank. Affected data are appropriately qualified.**
400-SV-10-125	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-10-125	**2/28/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**
400-SV-10-125	2/28/2024	For EPA Method TO-15 (air), relative percent differences (RPD) for duplicate samples 2402281028 and 2402281029 were within control limits or below the calculable range.
400-SV-15-010	**2/28/2024**	**For EPA Method TO-15 (air), field duplicate samples 2402281055 and 2402281056 the relative percent difference for Freon 113 was 72.1%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
400-SV-15-010	**2/28/2024**	**For EPA Method TO-15 (air), field duplicate samples 2402281055 and 2402281056 the relative percent difference for Freon 11 was 44.2%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
400-SV-15-010	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-15-010	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-15-010	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-15-010	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-15-010	**2/28/2024**	**For EPA Method TO-15 (air), field duplicate samples 2402281055 and 2402281056 the relative percent difference for Ethanol was 176.0%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
400-SV-15-050	2/28/2024	For EPA Method TO-15 (air) the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-15-050	2/28/2024	For EPA Method TO-15 (air) the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required
400-SV-15-050	2/28/2024	For EPA Method TO-15 (air) the Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.
400-SV-15-050	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-15-050	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-15-050	**2/28/2024**	**For EPA Method TO-15, the compound's (Freon 11) reported result is from a dilution**
400-SV-15-050	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-15-050	**2/28/2024**	**For EPA Method TO-15 (air), one compound (Benzene) was detected in the method blank. Affected data are appropriately qualified.**
400-SV-15-050	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.
400-SV-15-090	**2/28/2024**	**For EPA Method TO-15 (air), 1,2,4-Trimethylbenzene was detected in the field blank (2402281111) at 280.0 ng/L. 2,2,4-Trimethylpentane was detected in the field blank (2402281111) at 2800.0 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2402281111) at 600.0 ng/L. Benzene was detected in the field blank (2402281111) at 690.0 ng/L. Cyclohexane was detected in the field blank (2402281111) at 2200.0 ng/L. Ethanol was detected in the field blank (2402281111) at 2400.0 ng/L. Ethyl Benzene was detected in the field blank (2402281111) at 610.0 ng/L. Freon 11 was detected in the field blank (2402281111) at 190000.0 ng/L. Freon 113 was detected in the field blank (2402281111) at 180000.0 ng/L. Heptane was detected in the field blank (2402281111) at 2000.0 ng/L. Hexane was detected in the field blank (2402281111) at 4200.0 ng/L. m,p-Xylene was detected in the field**
400-SV-15-090	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-15-090	2/28/2024	For EPA Method TO-15 (air), the spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.
400-SV-15-090	2/28/2024	For EPA Method TO-15 (air), the lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.
400-SV-15-090	**2/28/2024**	**For EPA Method TO-15 (air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999.**
400-SV-15-090	**2/28/2024**	**For EPA Method TO-15 (air), laboratory control sample (LCS) recoveries Benzene (71%), cis-1,3-Dichloropropene (81%), and Metherlyne Chloride (70%) were outside the laboratory acceptance limits (73-128%, 87-137%, and 71-123%). Refer to ALS report P2400922, analytical batch P240319-LCS for details. All of the analytes were affected by low bias and have been qualified.**
400-SV-15-090	**2/28/2024**	**For EPA Method TO-15, the compound's (Freon 113) reported result is from a dilution**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-SV-15-090	**2/28/2024**	**For EPA Method TO-15 (air), the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. Concentrations that are below the level at which the canister was certified (0.2 ppbv for compounds reported at 0.5 ppbv and 0.8 ppbv for compounds reported at 2.0 ppbv) may be false positives. This statement applies to sample values near or below the reporting limit.**
400-SV-15-090	**2/28/2024**	**For EPA Method TO-15 (air), Benzene was detected in the method blank. Affected data are appropriately qualified.**
400-SV-15-090	2/28/2024	For EPA Method TO-15 (air), the compound (Freon 123a) was searched for but not found. See case narrative.

Appendix C Analytical Laboratory Reports

March 18, 2024

Test Report

SwRI Project #:	26040.07.009, 26040.07.010
SwRI Task Order:	240228-3, 240305-4
Batch Number:	M607-935
Date Received:	02/28/2024, 03/05/2024, 03/08/2024
Purchase Order:	23EC004B

Prepared by:

Southwest Research Institute®
Department of Analytical and Environmental Chemistry
6220 Culebra Road
San Antonio, Texas 78238

Prepared for:

Navarro Research and Engineering Inc.
NASA-JSC - White Sands Test Facility
Transportation Officer, Building 120
12600 NASA Road
Las Cruces, NM 88012
Attn: Ms. Stephanie Portillo
Phone: 575-524-5267

Alice Yau Digitally signed by Alice Yau Date: 2024.03.18 15:01:47 -05'00'

Authorized for Release
03/18/2024 4:00PM
Alice Yau, Project Manager
Alice.Yau@swri.org
210-522-5042

Lorraine Scheller Digitally signed by Lorraine Scheller Date: 2024.03.18 14:59:25 -05'00'

Mike Dammann
Laboratory Director

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within this report. This report shall not be reproduced except in full without the written approval of SwRI."

Results relate only to the items tested and the samples/materials received by the laboratory.

CLIENT: Navarro Research and Engineering Inc.
SwRI PROJECT #: 26040.07.009 and 26040.07.010
TASK ORDERS: 240228-3 and 240305-4
NAVARRO PO #: 23EC004B

NARRATIVE

(M607-935)

CLIENT: Navarro Research and Engineering Inc.
SwRI PROJECT #: 26040.07.009 and 26040.07.010
BATCH #: M607-935
TASK ORDERS: 240228-3 and 240305-4
REPORT DATE: 03/18/2024

NARRATIVE FOR NDMA/DMN/BROMACIL ANALYSIS

1. Samples were extracted with dichloromethane (DCM) and analyzed by GC/MS in selective ion monitoring mode for N-Nitrosodimethylamine (NDMA), N-Nitrodimethylamine (DMN) and Bromacil according to the modified Method 607.

2. All aqueous samples were extracted within 7 days of collection date and were analyzed within 28 days from extraction date.

3. The sample reporting limit is 0.01 ppb for 1-L aqueous extraction of samples. All targets were quantified within the calibration curve range 0.01 - 5 µg/L.

4. Laboratory control sample (LCS) and matrix spike samples (if any) were spiked at 0.50 ppb, then extracted and analyzed. The recoveries for all target compounds were within method recovery criteria of 13-110% for NDMA, 30-150% for DMN, and 40-190% for Bromacil.

5. N-Nitroso-di-n-propylamine-d14 (surrogate) was spiked into every sample before extraction at 0.50 µg/mL in extract. The surrogate recoveries for all samples were within method recovery criteria of 40-160%.

6. Laboratory process blanks (PB) were extracted and analyzed with every extraction batch.

7. A "J" value was reported if the associated value was below reporting limits but above the MDL value.

8. All analyte concentrations are expressed in µg/L (ppb). Sample calculation:

$$\text{Concentration (µg/L)} = \frac{C\left(\frac{\mu g}{mL}\right) \times FV\ (mL) \times DF}{Vsamp(L)}$$

where:
- C = result of GC/MS analysis in µg/mL for water samples
- FV = final volume of sample in mL
- V_{samp} = sample volume taken for extraction in L
- DF = dilution factor, if any

9. Bromacil slightly exceeded calibration in sample extracts of 2402260902A (400-EV-131), 2402261040C (400-GV-125) and 2402261045C (400-GV-125). All 3 samples were diluted for reanalysis. Sample 2402261007A (400-HV-147) was diluted 100-fold for NDMA and DMN based on prior results. Due to the low concentration of Bromacil in the 100-fold analysis, Bromacil result from the undiluted extract should be considered the primary result.

CLIENT: Navarro Research and Engineering Inc.
SwRI PROJECT #: 26040.07.009 and 26040.07.010
TASK ORDERS: 240228-3 and 240305-4
NAVARRO PO #: 23EC004B

TASK ORDER AND CHAIN OF CUSTODY

(M607-935)

Southwest Research Institute

Laboratory Task Order

TO #: 240228-3 Revision: 1

Project(s): 26040.07.009
Manager(s): Yau, Alice
To Client: 03/20/24

SDG: M607-935

SRR #'s: 70847
Client(s): Navarro Research and Engineering Inc.

Instructions

Email results to Stephanie Portillo (Stephanie.Portillo@nasa.gov) and cc Troy Wiebe (donavon.t.wiebe@nasa.gov).
Rev 1: GCMS test code accidentally left out.

Documents Related to this task order: 389568[COC for SRR 70847], 389569[Paperwork for SRR 70847]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: E607W
Section: EXTLAB

Holding: 7 days from CED

EXTRACTION BY METHOD 607

Cnt: 8

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
717437		1	Aqueous	2402260902A (400-EV-131)	26 Feb 24	04 Mar 24
717438		1	Aqueous	2402260940C (400-FV-131)	26 Feb 24	04 Mar 24
717439		1	Aqueous	2402260945C (400-FV-131)	26 Feb 24	04 Mar 24
717440		1	Aqueous	2402261007A (400-HV-147)	26 Feb 24	04 Mar 24
717441		1	Aqueous	2402261040C (400-GV-125)	26 Feb 24	04 Mar 24
717442		1	Aqueous	2402261045C (400-GV-125)	26 Feb 24	04 Mar 24
717443		1	Aqueous	2402261317A (400-JV-150)	26 Feb 24	04 Mar 24
717444		1	Aqueous	2402261415C (400-IV-123)	26 Feb 24	04 Mar 24

Test: T607W
Section: TDG

Holding: 40 days from VTSR

NDMA/DMN ANALYSIS BY GC/MS/SIM

Cnt: 8

System ID	Type	Cont	Matrix	Customer ID	VTSR	Method Date
717437		1	Aqueous	2402260902A (400-EV-131)	28 Feb 24	08 Apr 24
717438		1	Aqueous	2402260940C (400-FV-131)	28 Feb 24	08 Apr 24
717439		1	Aqueous	2402260945C (400-FV-131)	28 Feb 24	08 Apr 24
717440		1	Aqueous	2402261007A (400-HV-147)	28 Feb 24	08 Apr 24
717441		1	Aqueous	2402261040C (400-GV-125)	28 Feb 24	08 Apr 24
717442		1	Aqueous	2402261045C (400-GV-125)	28 Feb 24	08 Apr 24
717443		1	Aqueous	2402261317A (400-JV-150)	28 Feb 24	08 Apr 24
717444		1	Aqueous	2402261415C (400-IV-123)	28 Feb 24	08 Apr 24

WSTF CHAIN OF CUSTODY RECORD

Date 2-27-24

Laboratory: SwRI PO# 23EC004B

Analytical Requirements

Address shipping questions to:

☑ Lori Minnick, 575-524-5119

☐ Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytes / Method: NDMA / DMN / BROMAC 607						Charge Number (WSTF Use Only)	Comments
2402260902A	400-EV-131	1	A	X						HWMU	
2402260940C	400-FV-131	1	A	X						"	
2402260945C	"	1	A	X						"	
2402261007A	400-HV-147	1	A	X						"	
2402261040C	400-GV-125	1	A	X						"	
2402261045C	"	1	A	X						"	
2402261317A	400-JV-150	1	A	X						"	
2402261415C	400-IV-123	1	A	X						"	

Client: Navarro Research and Engineering Inc.
SRR # 70847
Project # 26040.07.009
Case: 23EC004B
VTSR: 02/28/24
Sample(s) Received: Intact
Temperature: 1.8°C SN # 029926

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Jon W Jumonville	2-27-24 1100HRS	David Flores	02.28.24 08:30

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

1 Ocean Blue OB4

NASA-WSTF SHIPPING DOCUMENT

SHIPPED FROM:	WSTF ORIGINATOR/MAIL CODE/TELEPHONE NO.			
NASA JSC WHITE SANDS TEST FACILITY	Deb Smith/Purchasing Dept. /(575) 524-5023		Stephanie Portillo 524-5267	
12600 NASA ROAD; BLDG. 120	ORDER OR CONTRACT NUMBER		SHIPMENT CONTROL NO	
LAS CRUCES, NEW MEXICO 88012	23EC004B			
SHIP TO: (ADDRESS, PHONE#, POINT OF CONTACT)	PROJECT or TASK NUMBER		SHIP VIA	
Southwest Research Institute	X008	505-005	Navarro Third Party Billing	
6220 Culebra Road	Contain Batteries	NO. PKG.	DATE SHIPPED	AirBill/ PRO #/Bol #
San Antonio, TX 78238	NO		2-27-24	
Alice Yau	Battery Type-Part #	AUTHORIZED BY:	DEPT.	
210-522-5042				

ITEM NO.	EQUIPMENT CONTROL NO.	MODEL NO./ STOCK NO./ PART NO.	ITEM NAME - MANUFACTURER'S NAME AND SERIAL NO.	UNIT OF ISSUE	QTY.
1			Groudwater Sample NDMN, DMN & bromacil Modified EPA Method 607 21 Day TAT	EA	8
2			Groundwater Sample NDMN, DMN & bromacil Modified EPA Method 607 7 Day TAT	EA	

JUSTIFICATION FOR SHIPMENT: (MDR #, Return Authorization #'s, Warranty Replacement, Repair, Overage/Shortage, Damage, Recycling)
Groundwater samples for analysis per SOW

DOT HAZARDOUS MATERIALS INFO; EMERGENCY PHONE NUMBER AND GUIDE NUMBER:

PROPERTY REVIEW: ☐ REMOVE EQUIPMENT TAG ☐ DO NOT REMOVE EQUIPMENT TAG

PACKED BY:	# CONTAINERS	TYPE CONTAINERS	DIMENSIONS	WEIGHT
Please check off the applicable labels!				
☐ FRAGILE				
☐ GLASS				
☐ DELICATE				
☐ DO NOT XRAY				
☐ REFRIGERATE				
☐ OTHER				
	TOTAL			TOTAL
☐ BUBBLEWRAP	CONTAINERS			WEIGHT
☐ FOAM				

RECEIVED BY: David Hamm
REPRESENTING: SwRI

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked, labeled, and are in proper condition for transportation according to the regulations of the D.O.T. _____ Date_____

Client: Navarro Research and Engineering Inc.
SRR # 70847
Project # 26040.07.009
Case: 23EC004B
VTSR: 02/28/24
Sample(s) Received: Intact
Temperature: 1.8°C SN # 029926

WSTF 196 (1/06)

G

Southwest Research Institute

Laboratory Task Order

TO #: 240305-4 Revision: 2

Project(s): 26040.07.010
Manager(s): Yau, Alice
To Client: 03/26/24

SDG: M607-935

SRR #'s: 70866, 70889
Client(s): Navarro Research and Engineering Inc.

Instructions

Email results to Stephanie Portillo (Stephanie.Portillo@nasa.gov) and cc Troy Wiebe (donavon.t.wiebe@nasa.gov).
Rev 2: SRR 70889 added to this task order.

Documents Related to this task order: 389875[COC for SRR 70866], 389876[Paperwork for SRR 70866], 390102[COC for SRR 70889], 390103[Paperwork for SRR 70889]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: E607W Holding: 7 days from CED
Section: EXTLAB **EXTRACTION BY METHOD 607** Cnt: 4

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
717602		1	Aqueous	2403010938A (WW-1-452)	01 Mar 24	08 Mar 24
717603		1	Aqueous	2403011044C (BLM-13-300)	01 Mar 24	08 Mar 24
717604	MS	1	Aqueous	2403011046C (BLM-13-300)	01 Mar 24	08 Mar 24
717815		1	Aqueous	2403041452A (ST-4-690)	04 Mar 24	11 Mar 24

Test: T607W Holding: 40 days from VTSR
Section: TDG **NDMA/DMN ANALYSIS BY GC/MS/SIM** Cnt: 4

System ID	Type	Cont	Matrix	Customer ID	VTSR	Method Date
717602		1	Aqueous	2403010938A (WW-1-452)	05 Mar 24	14 Apr 24
717603		1	Aqueous	2403011044C (BLM-13-300)	05 Mar 24	14 Apr 24
717604	MS	1	Aqueous	2403011046C (BLM-13-300)	05 Mar 24	14 Apr 24
717815		1	Aqueous	2403041452A (ST-4-690)	08 Mar 24	17 Apr 24

WSTF CHAIN OF CUSTODY RECORD

Date 3-4-24

Laboratory: SWRI PO# 23EC004B

Address shipping questions to:
- ☑ Lori Minnick, 575-524-5119
- ☐ Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Analytes: NDMA / Method: 1667 / BROMIDE

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	NDMA						Charge Number (WSTF Use Only)	Comments
240301093BA	WW-1-452	1	A	X						X008	
2403011044C	BLM-13-300	1	A	X						"	
2403011046C	"	1	A	X						"	x MATRIX SPIKE FOR # 2403011044C

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	3-4-24 / 1100 HRS	David Marcin	03.05.24 08:25

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

Client: Navarro Research and Engineering Inc.
SRR # 70866
Project # 26040.07.010
Case: 23EC004B
VTSR: 03/05/24
Sample(s) Received: Intact
Temperature: 2.0°C SN # 029926

1 Ocean Blue OBID

NASA-WSTF SHIPPING DOCUMENT

SHIPPED FROM:	WSTF ORIGINATOR/MAIL CODE/TELEPHONE NO.
NASA JSC WHITE SANDS TEST FACILITY	Deb Smith/Purchasing Dept. /(575) 524-5023 Stephanie Portillo 524-5267
12600 NASA ROAD; BLDG. 120	ORDER OR CONTRACT NUMBER / SHIPMENT CONTROL NO
LAS CRUCES, NEW MEXICO 88012	23EC004B
SHIP TO: (ADDRESS, PHONE#, POINT OF CONTACT)	PROJECT or TASK NUMBER / SHIP VIA
Southwest Research Institute	X008 505-005 / Navarro Third Party Billing
6220 Culebra Road	Contain Batteries / NO. PKG. / DATE SHIPPED / AirBill/ PRO #/Bol #
San Antonio, TX 78238	NO / 3-4-24
Alice Yau	Battery Type-Part # / AUTHORIZED BY: / DEPT.
210-522-5042	

ITEM NO.	EQUIPMENT CONTROL NO.	MODEL NO./ STOCK NO./ PART NO.	ITEM NAME - MANUFACTURER'S NAME AND SERIAL NO.	UNIT OF ISSUE	QTY.
1			Groudwater Sample NDMN, DMN & bromacil Modified EPA Method 607 21 Day TAT	EA	3
2			Groundwater Sample NDMN, DMN & bromacil Modified EPA Method 607 7 Day TAT	EA	

JUSTIFICATION FOR SHIPMENT: (MDR #, Return Authorization #'s, Warranty Replacement, Repair, Overage/Shortage, Damage, Recycling)
Groundwater samples for analysis per SOW

DOT HAZARDOUS MATERIALS INFO; EMERGENCY PHONE NUMBER AND GUIDE NUMBER:

PROPERTY REVIEW: ☐ REMOVE EQUIPMENT TAG ☐ DO NOT REMOVE EQUIPMENT TAG

PACKED BY:	# CONTAINERS	TYPE CONTAINERS	DIMENSIONS	WEIGHT
Please check off the applicable labels!				
☐ FRAGILE				
☐ GLASS				
☐ DELICATE				
☐ DO NOT XRAY				
☐ REFRIGERATE				
☐ OTHER				
	TOTAL			TOTAL
☐ BUBBLEWRAP	CONTAINERS			WEIGHT
☐ FOAM				

RECEIVED BY: Daniel Martin
REPRESENTING: SwRI

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked, labeled, and are in proper condition for transportation according to the regulations of the D.O.T. _____ Date_____

Client: Navarro Research and Engineering Inc.
SRR # 70866
Project # 26040.07.010
Case: 23EC004B
VTSR: 03/05/24
Sample(s) Received: Intact
Temperature: 2.0°C SN # 029926

WSTF 196 (1/06)

G-11

G

Date 3-7-24

WSTF CHAIN OF CUSTODY RECORD

Laboratory: SwRI PO# 23EC004B

Address shipping questions to:
- ☑ Lori Minnick, 575-524-5119
- ☐ Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytes / Method: NDMA / DMAB / BROMAC 6017						Charge Number (WSTF Use Only)	Comments
240304145 2A	ST-4-690	1	A	X						X008	

Client: Navarro Research and Engineering Inc.
SRR # 70889
Project # 26040.07.010
Case: 23EC004B
VTSR: 03/08/24
Sample(s) Received: Intact
Temperature: 1.6°C SN # 025069

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori W Minnick	3-7-24 1100 HRS.	David Marin	03.08.24 08:30

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

1 WHITE WH2

NASA-WSTF SHIPPING DOCUMENT

SHIPPED FROM:	WSTF ORIGINATOR/MAIL CODE/TELEPHONE NO.			
NASA JSC WHITE SANDS TEST FACILITY	Deb Smith/Purchasing Dept. /(575) 524-5023 Stephanie Portillo 524-5267			
12600 NASA ROAD; BLDG. 120	ORDER OR CONTRACT NUMBER	SHIPMENT CONTROL NO		
LAS CRUCES, NEW MEXICO 88012	23EC004B			
SHIP TO: (ADDRESS, PHONE#, POINT OF CONTACT)	PROJECT or TASK NUMBER	SHIP VIA		
Southwest Research Institute	X008 505-005	Navarro Third Party Billing		
6220 Culebra Road	Contain Batteries	NO. PKG.	DATE SHIPPED	AirBill/ PRO #/Bol #
San Antonio, TX 78238	NO		3-7-24	
Alice Yau	Battery Type-Part #	AUTHORIZED BY:	DEPT.	
210-522-5042				

ITEM NO.	EQUIPMENT CONTROL NO.	MODEL NO./ STOCK NO./ PART NO.	ITEM NAME - MANUFACTURER'S NAME AND SERIAL NO.	UNIT OF ISSUE	QTY.
1			Groudwater Sample NDMN, DMN & bromacil Modified EPA Method 607 21 Day TAT	EA	1
2			Groundwater Sample NDMN, DMN & bromacil Modified EPA Method 607 7 Day TAT	EA	

JUSTIFICATION FOR SHIPMENT: (MDR #, Return Authorization #'s, Warranty Replacement, Repair, Overage/Shortage, Damage, Recycling)
Groundwater samples for analysis per SOW

DOT HAZARDOUS MATERIALS INFO; EMERGENCY PHONE NUMBER AND GUIDE NUMBER:

PROPERTY REVIEW: ☐ REMOVE EQUIPMENT TAG ☐ DO NOT REMOVE EQUIPMENT TAG

PACKED BY:	# CONTAINERS	TYPE CONTAINERS	DIMENSIONS	WEIGHT
Please check off the applicable labels!				
☐ FRAGILE				
☐ GLASS				
☐ DELICATE				
☐ DO NOT XRAY				
☐ REFRIGERATE				
☐ OTHER				
☐ BUBBLEWRAP	TOTAL CONTAINERS			TOTAL WEIGHT
☐ FOAM				

RECEIVED BY: David Marez

REPRESENTING: SwRI

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked, labeled, and are in proper condition for transportation according to the regulations of the D.O.T. _____ Date _____

Client: Navarro Research and Engineering Inc.
SRR # 70889
Project # 26040.07.010
Case: 23EC004B
VTSR: 03/08/24
Sample(s) Received: Intact
Temperature: 1.6°C SN # 025069

WSTF 196 (1/06)

G

CLIENT: Navarro Research and Engineering Inc.
SwRI PROJECT #: 26040.07.009 and 26040.07.010
TASK ORDERS: 240228-3 and 240305-4
NAVARRO PO #: 23EC004B

ANALYTICAL DATA REPORT SHEETS

(M607-935)

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402260902A (400-EV-131)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1030 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717437
Lab File Name: A03132405.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.61	
4164-28-7	N-Nitrodimethylamine	1.62	
314-40-9	Bromacil	6.82	E

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402260902A (400-EV-131) DL

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1030 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717437 DL
Lab File Name: A03132417.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 5
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.64	D
4164-28-7	N-Nitrodimethylamine	1.75	D
314-40-9	Bromacil	5.00	D

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402260940C (400-FV-131)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1030 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717438
Lab File Name: A03132406.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.95	
4164-28-7	N-Nitrodimethylamine	1.51	
314-40-9	Bromacil	1.70	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402260945C (400-FV-131)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1060 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717439
Lab File Name: A03132407.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.99	
4164-28-7	N-Nitrodimethylamine	1.61	
314-40-9	Bromacil	1.81	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261007A (400-HV-147)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1060 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717440
Lab File Name: A03132418.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	47.09	E
4164-28-7	N-Nitrodimethylamine	159.14	E
314-40-9	Bromacil	1.37	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261007A (400-HV-147) DL

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1060 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717440 DL
Lab File Name: A03132408.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 100
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	136.04	D
4164-28-7	N-Nitrodimethylamine	386.98	D
314-40-9	Bromacil	3.68	D

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261040C (400-GV-125)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1060 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717441
Lab File Name: A03132409.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	1.58	
4164-28-7	N-Nitrodimethylamine	3.59	
314-40-9	Bromacil	6.06	E

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261040C (400-GV-125) DL

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1060 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717441 DL
Lab File Name: A03132419.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 2
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	1.64	D
4164-28-7	N-Nitrodimethylamine	3.78	D
314-40-9	Bromacil	5.03	D

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261045C (400-GV-125)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1040 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717442
Lab File Name: A03132410.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	1.59	
4164-28-7	N-Nitrodimethylamine	3.49	
314-40-9	Bromacil	5.79	E

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261045C (400-GV-125) DL

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1040 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717442 DL
Lab File Name: A03132420.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 2
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	1.65	D
4164-28-7	N-Nitrodimethylamine	3.65	D
314-40-9	Bromacil	4.76	D

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261317A (400-JV-150)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1030 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717443
Lab File Name: A03132416.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	1.87	
4164-28-7	N-Nitrodimethylamine	4.43	
314-40-9	Bromacil	1.08	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2402261415C (400-IV-123)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240228-3
Matrix: Aqueous
Sample Wt/Vol: 1050 mL

Project: 26040.07.009
Date Received: 2/28/2024
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717444
Lab File Name: A03132411.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	<0.01	U
4164-28-7	N-Nitrodimethylamine	0.03	
314-40-9	Bromacil	0.04	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2403010938A (WW-1-452)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240305-4
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.010
Date Received: 3/5/2024
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717602
Lab File Name: A03132412.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	<0.01	U
4164-28-7	N-Nitrodimethylamine	<0.01	U
314-40-9	Bromacil	<0.01	U

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2403011044C (BLM-13-300)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240305-4
Matrix: Aqueous
Sample Wt/Vol: 1010 mL

Project: 26040.07.010
Date Received: 3/5/2024
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717603
Lab File Name: A03132414.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	<0.01	U
4164-28-7	N-Nitrodimethylamine	<0.01	U
314-40-9	Bromacil	<0.01	U

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2403011046C (BLM-13-300)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240305-4
Matrix: Aqueous
Sample Wt/Vol: 1050 mL

Project: 26040.07.010
Date Received: 3/5/2024
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717604 MS
Lab File Name: A03132415.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.20	
4164-28-7	N-Nitrodimethylamine	0.38	
314-40-9	Bromacil	0.37	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

2403041452A (ST-4-690)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240305-4
Matrix: Aqueous
Sample Wt/Vol: 1050 mL

Project: 26040.07.010
Date Received: 3/8/2024
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717815
Lab File Name: A03132413.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	<0.01	U
4164-28-7	N-Nitrodimethylamine	<0.01	U
314-40-9	Bromacil	<0.01	U

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

CLIENT:	**Navarro Research and Engineering Inc.**
SwRI PROJECT #:	**26040.07.009 and 26040.07.010**
TASK ORDERS:	**240228-3 and 240305-4**
NAVARRO PO #:	**23EC004B**

QA DATA SHEETS

(BLANK, MATRIX SPIKE, SURROGATE, CALIBRATION)

(M607-935)

Southwest Research Institute

Method 607 Surrogate Recovery Summary

Client: Navarro Research and Engineering Inc.

Matrix: Aqueous SDG: M607-935

Project: 26040.07.009 and 26040.07.010

	Client Sample ID	Lab Sample ID	N-Nitroso-di-n-propylamine-d14	
			% Recovery	Recovery Limits
1	PB24C01CM1	PB24C01CM1	93	40-160
2	LCS24C01CM1	LCS24C01CM1	99	40-160
3	PB24C08CM1	PB24C08CM1	94	40-160
4	LCS24C08CM1	LCS24C08CM1	82	40-160
5	2402260902A (400-EV-131)	717437	81	40-160
6	2402260940C (400-FV-131)	717438	88	40-160
7	2402260945C (400-FV-131)	717439	97	40-160
8	2402261007A (400-HV-147) DL	717440 DL	88	40-160
9	2402261040C (400-GV-125)	717441	98	40-160
10	2402261045C (400-GV-125)	717442	91	40-160
11	2402261415C (400-IV-123)	717444	90	40-160
12	2403010938A (WW-1-452)	717602	96	40-160
13	2403041452A (ST-4-690)	717815	83	40-160
14	2403011044C (BLM-13-300)	717603	99	40-160
15	2403011046C (BLM-13-300)	717604 MS	98	40-160
16	2402261317A (400-JV-150)	717443	90	40-160
17	2402260902A (400-EV-131) DL	717437 DL	79	40-160
18	2402261007A (400-HV-147)	717440	113	40-160
19	2402261040C (400-GV-125) DL	717441 DL	99	40-160
20	2402261045C (400-GV-125) DL	717442 DL	91	40-160

Southwest Research Institute

Method 607 Matrix Spike Recovery Report

Sample ID

2403011046C (BLM-13-300)

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: 240305-4
Matrix: Aqueous
Sample Wt/Vol: 1050 mL

Project: 26040.07.010
Date Received: 3/5/2024
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: 717604 MS
Unfortified Sample ID:
2403011044C (BLM-13-300)

ANALYTE	Spike Added µg/L	Sample Conc µg/L	MS Conc µg/L	% Recovery	QC % Recovery Limits
N-Nitrosodimethylamine	0.476	0	0.203	43	13 - 110
N-Nitrodimethylamine	0.476	0	0.380	80	30 - 150
Bromacil	0.476	0	0.367	77	40 - 190

Southwest Research Institute

Method 607 Blank Spike Recovery Report

Sample ID: LCS24C01CM1

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: N/A
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.009
Date Received: N/A
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: LCS24C01CM1
Blank ID: PB24C01CM1

ANALYTE	Spike Added µg/L	Blank Conc µg/L	LCS Conc µg/L	% Recovery	QC % Recovery Limits
N-Nitrosodimethylamine	0.500	0	0.239	48	13 - 110
N-Nitrodimethylamine	0.500	0	0.430	86	30 - 150
Bromacil	0.500	0	0.395	79	40 - 190

Southwest Research Institute

Method 607 Blank Spike Recovery Report

Sample ID: LCS24C08CM1

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: N/A
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.010
Date Received: N/A
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: LCS24C08CM1
Blank ID: PB24C08CM1

ANALYTE	Spike Added µg/L	Blank Conc µg/L	LCS Conc µg/L	% Recovery	QC % Recovery Limits
N-Nitrosodimethylamine	0.500	0	0.222	44	13 - 110
N-Nitrodimethylamine	0.500	0	0.398	80	30 - 150
Bromacil	0.500	0	0.383	77	40 - 190

Southwest Research Institute

Method 607 Blank Summary

Blank ID: PB24C01CM1 Project: 26040.07.009

Client: Navarro Research and Engineering Inc. SDG: M607-935

Matrix: Aqueous

This method blank applies to the following samples, MS, and MSD's

Client Sample ID	Lab Sample ID	Date Acquired	Time Acquired
LCS24C01CM1	LCS24C01CM1	3/13/2024	14:43:00
2402260902A (400-EV-131)	717437	3/13/2024	16:03:00
2402260940C (400-FV-131)	717438	3/13/2024	16:31:00
2402260945C (400-FV-131)	717439	3/13/2024	16:55:00
2402261007A (400-HV-147) DL	717440 DL	3/13/2024	17:22:00
2402261040C (400-GV-125)	717441	3/13/2024	17:48:00
2402261045C (400-GV-125)	717442	3/13/2024	18:15:00
2402261415C (400-IV-123)	717444	3/13/2024	18:42:00
2402261317A (400-JV-150)	717443	3/13/2024	20:56:00
2402260902A (400-EV-131) DL	717437 DL	3/13/2024	21:23:00
2402261007A (400-HV-147)	717440	3/13/2024	21:50:00
2402261040C (400-GV-125) DL	717441 DL	3/13/2024	22:17:00
2402261045C (400-GV-125) DL	717442 DL	3/13/2024	22:44:00

Southwest Research Institute

Method 607 Blank Summary

Blank ID: PB24C08CM1 Project: 26040.07.010

Client: Navarro Research and Engineering Inc. SDG: M607-935

Matrix: Aqueous

This method blank applies to the following samples, MS, and MSD's

Client Sample ID	Lab Sample ID	Date Acquired	Time Acquired
LCS24C08CM1	LCS24C08CM1	3/13/2024	15:36:00
2403010938A (WW-1-452)	717602	3/13/2024	19:08:00
2403041452A (ST-4-690)	717815	3/13/2024	19:35:00
2403011044C (BLM-13-300)	717603	3/13/2024	20:02:00
2403011046C (BLM-13-300)	717604 MS	3/13/2024	20:29:00

Southwest Research Institute

Initial Calibration Data Sheet

SwRI Project #:	26040.07	Calibration Date:	03/13/2024
Sponsor:	Navarro Research and Engineering Inc.	Analytical Method:	TAP-01-0408-031
SwRI Standard IDs:	257248 - 257253	Std Concentration:	0.01 - 5.0 µg/mL

ANALYTE	RRF 0.01	RRF 0.05	RRF 0.2	RRF 0.5	RRF 2	RRF 5	Avg	% RSD
N-Nitrosodimethylamine	0.266	0.289	0.304	0.323	0.317	0.346	0.307	9.09
N-Nitrodimethylamine	0.109	0.108	0.108	0.115	0.113	0.121	0.112	4.52
N-Nitroso-di-n-propylamine-d14	0.081	0.084	0.084	0.101	0.107	0.116	0.096	15.22
Bromacil	0.610	0.568	0.519	0.656	0.763	0.977	0.682	24.43

Southwest Research Institute

Continuing Calibration Check Sheet

SwRI Project #:	26040.07	Calibration Date:	03/13/2024
Sponsor:	Navarro Research and Engineering Inc.	Analytical Method:	TAP 01-0408-031
SwRI Standard ID:	257250	Std Concentration:	0.5 µg/mL
File ID #:	A031324S8	Initial Calibration Date:	03/13/2023

ANALYTE	Mean RRF	CC RRF	% Dev
N-Nitrosodimethylamine	0.307	0.318	-3.4
N-Nitrodimethylamine	0.112	0.114	-1.2
N-Nitroso-di-n-propylamine-d14	0.096	0.096	0.1
Bromacil	0.682	0.660	3.2

Southwest Research Institute

Method 607 Internal Standard Summary

Filename: A031324S8.txt
Standard ID: 257250
Project: 26040.07.009 and 26040.07.010

Date Analyzed: 03/13/2024
Time Analyzed: 13:49:00
Client: Navarro Research and Engineering Inc.

		IS1		IS2	
		Area	RT	Area	RT
Mid Point Standard		602195	8.67	73184	15.22
Upper Limit		1204390	9	146368	15.55
Lower Limit		301097.5	8.34	36592	14.89
Client Sample ID	**Lab Sample ID**				
PB24C01CM1	PB24C01CM1	593593	8.67	74383	15.22
LCS24C01CM1	LCS24C01CM1	625733	8.67	82534	15.22
PB24C08CM1	PB24C08CM1	621105	8.67	78637	15.22
LCS24C08CM1	LCS24C08CM1	620450	8.67	76880	15.22
2402260902A (400-EV-131)	717437	633865	8.67	106151	15.22
2402260940C (400-FV-131)	717438	631556	8.67	101083	15.22
2402260945C (400-FV-131)	717439	629984	8.67	106984	15.22
2402261007A (400-HV-147) DL	717440 DL	596979	8.67	78294	15.23
2402261040C (400-GV-125)	717441	618996	8.67	100873	15.22
2402261045C (400-GV-125)	717442	636959	8.67	103808	15.22
2402261415C (400-IV-123)	717444	600584	8.67	111038	15.22
2403010938A (WW-1-452)	717602	595292	8.67	93479	15.22
2403041452A (ST-4-690)	717815	612400	8.67	113458	15.22
2403011044C (BLM-13-300)	717603	602210	8.67	120093	15.22
2403011046C (BLM-13-300)	717604 MS	602697	8.67	117643	15.22
2402261317A (400-JV-150)	717443	632486	8.67	130614	15.22
2402260902A (400-EV-131) DL	717437 DL	565445	8.67	107419	15.22
2402261007A (400-HV-147)	717440	664321	8.69	165423 *	15.22
2402261040C (400-GV-125) DL	717441 DL	558118	8.67	99823	15.22
2402261045C (400-GV-125) DL	717442 DL	553947	8.67	99447	15.22

IS1 = 1,4-Dichlorobenzene-D4
IS2 = Atrazine-D5

* Flag indicating value is outside QC limits

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID

PB24C01CM1

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: N/A
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.009
Date Received: N/A
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: PB24C01CM1
Lab File Name: A03132401.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	<0.01	U
4164-28-7	N-Nitrodimethylamine	<0.01	U
314-40-9	Bromacil	<0.01	U

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID: LCS24C01CM1

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: N/A
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.009
Date Received: N/A
Date Extracted: 3/1/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: LCS24C01CM1
Lab File Name: A03132402.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.24	
4164-28-7	N-Nitrodimethylamine	0.43	
314-40-9	Bromacil	0.40	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID: PB24C08CM1

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: N/A
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.010
Date Received: N/A
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: PB24C08CM1
Lab File Name: A03132403.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	<0.01	U
4164-28-7	N-Nitrodimethylamine	<0.01	U
314-40-9	Bromacil	<0.01	U

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

Southwest Research Institute

Method 607 Analysis Data Sheet

Sample ID: LCS24C08CM1

Client: Navarro Research and Engineering Inc.
Batch: M607-935
Task Order: N/A
Matrix: Aqueous
Sample Wt/Vol: 1000 mL

Project: 26040.07.010
Date Received: N/A
Date Extracted: 3/8/2024
Date Analyzed: 3/13/2024
Date Reported: 3/18/2024

Lab Sample ID: LCS24C08CM1
Lab File Name: A03132404.txt
Final Extraction Vol: 1000 uL
Dilution Factor: 1
Reporting Unit: µg/L
Method: TAP 01-0408-031

CAS No.	ANALYTE	RESULT	Q
62-75-9	N-Nitrosodimethylamine	0.22	
4164-28-7	N-Nitrodimethylamine	0.40	
314-40-9	Bromacil	0.38	

D - Results reported from dilution analysis

U - Undetected, indicates not found above the detection limit

J - Estimated value, greater than the MDL but less than the PQL

E - Exceeded calibration

CLIENT:	**Navarro Research and Engineering Inc.**
SwRI PROJECT #:	**26040.07.009 and 26040.07.010**
TASK ORDERS:	**240228-3 and 240305-4**
NAVARRO PO #:	**23EC004B**

EXTRACTION AND INJECTION LOG

(M607-935)

Preparation Log

Semi-volatiles

A37062

Southwest Research Institute
San Antonio, Texas 78238

Batch: 20240301-P002 (Ver. 1)
Status: APPROVED

Client(s): Navarro Research and Engineering Inc.
Task Order(s): 240228-3
SDG(s): M607-935
Case(s): 23EC004B
Project(s): 26040.07.009
Method(s): Water Extraction By Sep-Funnel 3510C (TAP: TAP 01-0402-015)
Matrix(s): Aqueous
Reagent(s): DCM Fisher Optima CIMS#256269, Organic Free Water CIMS#254663 (K), Sodium Sulfate CIMS#254774
Wiretrol(s): 50-100uL 218870
pH Paper: 250767(6.0-8.0)
Notes: Emulsion:C=Centrigfuge, W=Wired, T=Tilted

Location: Box I, C7-D4 FREEZER 75

Sample Identification	Client Identification	pH	Sample Vol (mL)	FV DCM (uL)	Emulsion
PB24C01CM1 ①	NA	6.4	1000	1000	NO
LCS24C01CM1 ②	NA	6.4	1000	1000	NO
717437 ①	2402260902A (400-EV-131)	6.4	1030	1000	NO
717438 ①	2402260940C (400-FV-131)	6.4	1030	1000	NO
717439 ①	2402260945C (400-FV-131)	6.4	1060	1000	NO
717440 ①	2402261007A (400-HV-147)	6.4	1060	1000	NO
717441 ①	2402261040C (400-GV-125)	6.4	1060	1000	NO
717442 ①	2402261045C (400-GV-125)	6.4	1040	1000	NO
717443 ①	2402261317A (400-JV-150)	6.4	1030	1000	NO
717444 ①	2402261415C (400-IV-123)	6.4	1050	1000	NO

① spiked 0.100 mL of CI# 254622 M607 surrogate (Lot# 062422, Source: Absolute Standards, Inc., Exp: 06/24/2027)
② spiked 0.05 mL of CI# 226098 607 MS/LCS solution (Lot# 224743, 070722, 041922, SDGI-021, Source: Fisher Scientific, Absolute Standards, Inc., Cambridge Isotope Laboratories, Exp: 01/09/2025) and
0.100 mL of CI# 254622 M607 surrogate (Lot# 062422, Source: Absolute Standards, Inc., Exp: 06/24/2027)

Comments:
Hamed Edrisi:Set-Up, Spike,Extract
Marina Lebron:Set-Up, Extract, Concentrate, Qualitative Transfer
Christina Menn:Set-Up, Spike Witness,Extract, Blow Down, Qualitative Transfer, Final Volume

CGL - 03/12/2024

Prepared by: MENN, CHRISTINA Date: 03/01/2024

Reviewed by: YAU, ALICE Date: 03/12/2024

Disposal Int/Date/Loc:

Preparation Log

Semi-volatiles

A37062

Southwest Research Institute
San Antonio, Texas 78238

Batch: 20240301-P002 (Ver. 1)
Status: APPROVED

Client(s): Navarro Research and Engineering Inc.
Task Order(s): 240228-3
SDG(s): M607-935
Case(s): 23EC004B
Project(s): 26040.07.009
Method(s): Water Extraction By Sep-Funnel 3510C (TAP: TAP 01-0402-015)
Matrix(s): Aqueous
Reagent(s): DCM Fisher Optima CIMS#256269, Organic Free Water CIMS#254663 (K), Sodium Sulfate CIMS#254774
Wiretrol(s): 50-100uL 218870
pH Paper: 250767(6.0-8.0)
Notes: Emulsion:C=Centrigfuge, W=Wired, T=Tilted

Location: Box I, C7-D4 FREEZER 75

XmL —> ext 3x w/DCM ——> concentrated ——> FV 1000uL DCM for analysis

Prepared by: MENN, CHRISTINA Date: 03/01/2024

Reviewed by: YAU, ALICE Date: 03/12/2024

Disposal Int/Date/Loc:

Preparation Log

Semi-volatiles

A37186

Southwest Research Institute
San Antonio, Texas 78238

Batch: 20240308-P005 (Ver. 1)
Status: APPROVED

Client(s): Navarro Research and Engineering Inc.
Task Order(s): 240305-4
SDG(s): M607-935
Case(s): 23EC004B
Project(s): 26040.07.010
Method(s): Water Extraction By Sep-Funnel 3510C (TAP: TAP 01-0402-015)
Matrix(s): Aqueous
Reagent(s): DCM Fisher Optima CIMS#256269, Organic Free Water CIMS#255777 (L), Sodium Sulfate CIMS#255774 (M)
Wiretrol(s): 50-100uL 218870
pH Paper: CIMS#250767 (6.0-8.0)
Notes: Emulsion:C=Centrigfuge, W=Wired, T=Tilted

Location: Box I, D6-D11 FREEZER 75

Sample Identification	Client Identification	pH	Sample Vol (mL)	FV DCM (uL)	Emulsion
PB24C08CM1 ①	NA	6.4	1000	1000	NO
LCS24C08CM1 ②	NA	6.4	1000	1000	NO
717602 ①	2403010938A (WW-1-452)	6.4	1000	1000	NO
717603 ①	2403011044C (BLM-13-300)	6.4	1010	1000	NO
717604MS ②	2403011046C (BLM-13-300)	6.4	1050	1000	NO
717815 ①	2403041452A (ST-4-690)	6.4	1050	1000	NO

① spiked 0.100 mL of CI# 254622 M607 surrogate (Lot# 062422, Source: Absolute Standards, Inc., Exp: 06/24/2027)
② spiked 0.05 mL of CI# 226098 607 MS/LCS solution (Lot# 224743, 070722, 041922, SDGI-021, Source: Fisher Scientific, Absolute Standards, Inc., Cambridge Isotope Laboratories, Exp: 01/09/2025) and
0.100 mL of CI# 254622 M607 surrogate (Lot# 062422, Source: Absolute Standards, Inc., Exp: 06/24/2027)

Comments:
Hamed Edrisi: Set Up, Spike, Extract
Christina Menn: Set up, Spike witness, Extract, Blow down, Final Volume
Marina Lebron: Set Up, Extract, Concentrate, Qualitative Transfer

CGL - 03/12/2024

Prepared by: MENN, CHRISTINA Date: 03/08/2024

Reviewed by: YAU, ALICE Date: 03/12/2024

Disposal Int/Date/Loc:

Preparation Log

Semi-volatiles

A37186

Southwest Research Institute
San Antonio, Texas 78238

Batch: 20240308-P005 (Ver. 1)
Status: APPROVED

Client(s): Navarro Research and Engineering Inc.
Task Order(s): 240305-4
SDG(s): M607-935
Case(s): 23EC004B
Project(s): 26040.07.010
Method(s): Water Extraction By Sep-Funnel 3510C (TAP: TAP 01-0402-015)
Matrix(s): Aqueous
Reagent(s): DCM Fisher Optima CIMS#256269, Organic Free Water CIMS#255777 (L), Sodium Sulfate CIMS#255774 (M)
Wiretrol(s): 50-100uL 218870
pH Paper: CIMS#250767 (6.0-8.0)
Notes: Emulsion:C=Centrigfuge, W=Wired, T=Tilted

Location: Box I, D6-D11 FREEZER 75

XmL —> ext 3x w/DCM ——> concentrated ——> FV 1000uL DCM for analysis

Prepared by: MENN, CHRISTINA Date: 03/08/2024

Reviewed by: YAU, ALICE Date: 03/12/2024

Disposal Int/Date/Loc: _____

Southwest Research Institute GC/MS Injection Log

OPERATOR: AYY SEQUENCE DATE: 3/13/2024 INSTRUMENT: Amidala
COLUMN: Agilent DB-1701 30 m;0.25 mm;0.25 µm film
DETECTOR TYPE: MS INJECTION TYPE: Pulsed splitless
CARRIER GAS: Helium SOLVENT: DCM
METHOD FILE: MET_607C.M
CLIENT NAME: Navarro Research & Engineering PROJECT NUMBER: 26040.07.009 and 010
TASK ORDERS: 240228-3 and 240305-4 MATRIX: Aqueous
DATA PATH: C:\MassHunter\GCMS\1\data\2024\031324.sequence

OVEN PROGRAM:
Initial temp: 40 'C (On) Maximum temp: 340 'C
Initial time: 4.00 min Equilibration time: 0.50 min
Ramps:
Rate Final temp Final time
1 15.00 150 0.00
2 25.00 270 3.00
3 0.0(Off)
Post temp: 0 'C
Post time: 0.00 min
Run time: 19.13 min

FILENAME	VIAL	DATE/TIME	METHOD	SAMPLE DESCRIPTION
A031324S1	95	3/13/2024 09:20	MET_607C	M607 Std6 5 ug/mL CIMS: 257248 (NOT USED)
A031324S2	96	3/13/2024 11:07	MET_607C	M607 Std5 2 ug/mL CIMS: 257249
A031324S3	97	3/13/2024 11:34	MET_607C	M607 Std4 0.5 ug/mL CIMS: 257250
A031324S4	98	3/13/2024 12:01	MET_607C	M607 Std3 0.2 ug/mL CIMS: 257251
A031324S5	99	3/13/2024 12:27	MET_607C	M607 Std2 0.05 ug/mL CIMS: 257252
A031324S6	100	3/13/2024 12:54	MET_607C	M607 Std1 0.01 ug/mL CIMS: 257253
A031324S7	95	3/13/2024 13:22	MET_607C	M607 Std6 5 ug/mL CIMS: 257248
A031324S8	97	3/13/2024 13:49	MET_607C	M607 CC Std4 0.5 ug/mL CIMS: 257250
A03132401	1	3/13/2024 14:16	MET_607C	PB24C01CM1 IS=0.2NG/UL
A03132402	2	3/13/2024 14:43	MET_607C	LCS24C01CM1 IS=0.2NG/UL
A03132403	11	3/13/2024 15:10	MET_607C	PB24C08CM1 IS=0.2NG/UL
A03132404	12	3/13/2024 15:36	MET_607C	LCS24C08CM1 IS=0.2NG/UL
A03132405	3	3/13/2024 16:03	MET_607C	2402260902A (400-EV-131) IS=0.2NG/UL 717437
A03132406	4	3/13/2024 16:31	MET_607C	2402260940C (400-FV-131) IS=0.2NG/UL 717438
A03132407	5	3/13/2024 16:55	MET_607C	2402260945C (400-FV-131) IS=0.2NG/UL 717439
A03132408	6	3/13/2024 17:22	MET_607C	2402261007A (400-HV-147) DL100 IS=0.2NG/UL 717440
A03132409	7	3/13/2024 17:48	MET_607C	2402261040C (400-GV-125) IS=0.2NG/UL 717441
A03132410	8	3/13/2024 18:15	MET_607C	2402261045C (400-GV-125) IS=0.2NG/UL 717442
A03132411	10	3/13/2024 18:42	MET_607C	2402261415C (400-IV-123) IS=0.2NG/UL 717444
A03132412	13	3/13/2024 19:08	MET_607C	2403010938A (WW-1-452) IS=0.2NG/UL 717602
A03132413	16	3/13/2024 19:35	MET_607C	2403041452A (ST-4-690) IS=0.2NG/UL 717815
A03132414	14	3/13/2024 20:02	MET_607C	2403011044C (BLM-13-300) IS=0.2NG/UL 717603
A03132415	15	3/13/2024 20:29	MET_607C	2403011046C (BLM-13-300) MS IS=0.2NG/UL 717604
A03132416	9	3/13/2024 20:56	MET_607C	2402261317A (400-JV-150) IS=0.2NG/UL 717443
A03132417	3	3/13/2024 21:23	MET_607C	2402260902A (400-EV-131) DL5 IS=0.2NG/UL 717437
A03132418	17	3/13/2024 21:50	MET_607C	2402261007A (400-HV-147) IS=0.2NG/UL 717440
A03132419	18	3/13/2024 22:17	MET_607C	2402261040C (400-GV-125) DL2 IS=0.2NG/UL 717441
A03132420	19	3/13/2024 22:44	MET_607C	2402261045C (400-GV-125) DL2 IS=0.2NG/UL 717442
A03132421	100	3/13/2024 23:12	MET_607C	M607 Std3 0.2 µg/mL CIMS: 228027***

END OF SEQUENCE
Page 1 of 1
Notes: A031324S1 was not used in calibration; system might not be stabilized.
*** Standard used for verification of new calibration curve.

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LABORATORY REPORT

March 28, 2024

Stephanie Portillo
NASA White Sands Test Facility
12600 NASA Rd., Bldg. 120
Las Cruces, NM 88012

RE: NASA White Sands Test Facility (WSTF)

Dear Stephanie:

Enclosed are the results of the samples submitted to our laboratory on March 6-7, 2024. For your reference, these analyses have been assigned our service request number P2400922.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

ALS | Environmental

By Sue Anderson at 11:15 am, Mar 28, 2024

For Denise Posada
Project Manager

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
T +1 805 526 7161

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Client: NASA White Sands Test Facility
Project: NASA White Sands Test Facility (WSTF)

Service Request No: P2400922

CASE NARRATIVE

The samples were received intact under chain of custody on March 6-7, 2024 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

The samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph/mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is included on the laboratory's NELAP and DoD-ELAP scope of accreditation. Any analytes flagged with an X are not included on the NELAP or DoD-ELAP accreditation.

The lower control criteria were exceeded for Benzene and cis-1,3-Dichloropropene in the Laboratory Control Sample (LCS) for MS16 analyzed on March 19, 2024. The error associated with the reduced recoveries equates to a potential low bias. However, a Method Reporting Limit (MRL) check standard containing the analytes of concern was analyzed and verified that instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Since the sensitivity was verified and the samples were non-detect, the data quality has not been significantly affected. No further corrective action was taken.

The Method Blank (MB) associated with the samples analyzed on March 19, 2024 on MS9 and MS9 analyzed on March 22, 2024 contained low levels of alpha-Chlorotoluene above the Method Reporting Limit (MRL). Therefore, a potential for a high bias exists for those associated sample concentrations reported with positive results. No corrective action was taken.

The Method Blank associated with the samples analyzed on March 19, 2024 on MS16 contained a concentration of Benzene above the Method Detection Limit (MDL) but below the Method Reporting Limit (MRL). The data has been qualified accordingly. No further corrective action was taken.

The spike recoveries of Benzene, cis-1,3-Dichloropropene and Methylene Chloride for the Laboratory Control Sample (LCS) on MS16 analyzed on March 19, 2024 were outside the laboratory generated control criteria. The recovery errors equate to a potential low bias. However, the spike recoveries of the analytes in question were within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.

The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL.

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Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	https://dec.alaska.gov/spar/csp/lab-approval/list-of-approved-labs	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	https://internet.deq.louisiana.gov/portal/divisions/lelap/accredited-laboratories	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	2022028
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	006-999-456
New Jersey DEP (NELAP)	https://dep.nj.gov/dsr/oqa/certified-laboratories/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oklahoma DEQ (NELAP)	labaccreditation.deq.ok.gov/labaccreditation/	2207
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068
Pennsylvania DEP	hhttp://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413-23-14
Utah DOH (NELAP)	https://uphl.utah.gov/certifications/environmental-laboratory-certification/	CA016272023-15
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: NASA White Sands Test Facility Service Request: P2400922
Project ID: NASA White Sands Test Facility (WSTF)

Date Received: 3/6/2024
Time Received: 09:47

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	2nd Pi (psig)	2nd Pf (psig)	TO-15 - VOC Cans
2402260905	P2400922-001	Soil Gas	2/26/2024	09:05	1SC00861	-1.82	5.53			X
2402260906	P2400922-002	Soil Gas	2/26/2024	09:06	1SC00145	-1.89	6.45			X
2402260911	P2400922-003	Soil Gas	2/26/2024	09:11	1SS00797	-1.96	5.80			X
2402260916	P2400922-004	Soil Gas	2/26/2024	09:16	1SS00251	-1.80	6.20			X
2402260924	P2400922-005	Soil Gas	2/26/2024	09:24	1SC01125	-1.90	6.47			X
2402260925	P2400922-006	Soil Gas	2/26/2024	09:25	1SC01028	-0.29	5.80			X
2402261005	P2400922-007	Soil Gas	2/26/2024	10:05	1SS01798	-0.40	5.75			X
2402261009	P2400922-008	Soil Gas	2/26/2024	10:09	1SS00027	-2.10	5.93			X
2402261014	P2400922-009	Soil Gas	2/26/2024	10:14	1SS00839	-2.20	5.86			X
2402261015	P2400922-010	Soil Gas	2/26/2024	10:15	1SS00895	-2.40	6.13			X
2402261024	P2400922-011	Soil Gas	2/26/2024	10:24	1SS01178	0.28	5.93			X
2402261050	P2400922-012	Soil Gas	2/26/2024	10:50	1SS01229	5.81	5.81			X
2402261051	P2400922-013	Soil Gas	2/26/2024	10:51	1SS01322	0.13	6.50			X
2402261057	P2400922-014	Soil Gas	2/26/2024	10:57	1SS01485	-1.95	5.92			X
2402261104	P2400922-015	Soil Gas	2/26/2024	11:04	1SS01190	-1.97	8.00			X
2402261340	P2400922-016	Soil Gas	2/26/2024	13:40	1SS01530	-2.22	5.60			X
2402261344	P2400922-017	Soil Gas	2/26/2024	13:44	1SS01533	-2.02	6.05			X
2402261356	P2400922-018	Soil Gas	2/26/2024	13:56	1SS00037	-2.15	5.85			X
2402261401	P2400922-019	Soil Gas	2/26/2024	14:01	1SS00925	-2.23	6.25			X
2402261406	P2400922-020	Soil Gas	2/26/2024	14:06	1SC01196	-1.97	6.50			X
2402261412	P2400922-021	Soil Gas	2/26/2024	14:12	1SS00050	-2.26	6.01			X
2402261413	P2400922-022	Soil Gas	2/26/2024	14:13	1SS00176	-2.27	5.53			X
2402261435	P2400922-023	Soil Gas	2/26/2024	14:35	1SS00905	-2.19	5.78			X
2402261440	P2400922-024	Soil Gas	2/26/2024	14:40	1SS00707	-1.28	6.06			X
2402261449	P2400922-025	Soil Gas	2/26/2024	14:49	1SS00955	-1.83	5.52			X
2402261450	P2400922-026	Soil Gas	2/26/2024	14:50	1SS00222	-1.61	5.69			X
2402261457	P2400922-027	Soil Gas	2/26/2024	14:57	1SS01304	-2.22	6.47			X
2402270850	P2400922-028	Soil Gas	2/27/2024	08:50	1SS00713	-1.79	5.54			X
2402270851	P2400922-029	Soil Gas	2/27/2024	08:51	1SS01028	-1.86	5.60			X
2402270856	P2400922-030	Soil Gas	2/27/2024	08:56	1SC00286	-1.67	6.91			X
2402270903	P2400922-031	Soil Gas	2/27/2024	09:03	1SS00875	-2.09	5.54			X
2402270940	P2400922-032	Soil Gas	2/27/2024	09:40	1SS01356	-2.40	5.67			X
2402270941	P2400922-033	Soil Gas	2/27/2024	09:41	1SS00178	-2.31	5.91			X
2402270946	P2400922-034	Soil Gas	2/27/2024	09:46	1SS00828	-2.11	6.20			X
2402270954	P2400922-035	Soil Gas	2/27/2024	09:54	1SS00943	-2.34	5.65			X
2402271002	P2400922-036	Soil Gas	2/27/2024	10:02	1SS01135	-1.26	5.67			X
2402271020	P2400922-037	Soil Gas	2/27/2024	10:20	1SS01391	-2.22	6.07			X
2402271025	P2400922-038	Soil Gas	2/27/2024	10:25	1SS01559	-2.36	6.76			X
2402271032	P2400922-039	Soil Gas	2/27/2024	10:32	1SS01202	-2.30	5.59			X
2402271033	P2400922-040	Soil Gas	2/27/2024	10:33	1SS01483	-2.41	5.81	-0.19	4.75	X

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: NASA White Sands Test Facility Service Request: P2400922

Project ID: NASA White Sands Test Facility (WSTF)

Date Received: 3/6/2024

Time Received: 09:47

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	2nd Pi (psig)	2nd Pf (psig)	TO-15 - VOC Cans
2402271050	P2400922-041	Soil Gas	2/27/2024	10:50	1SS01460	4.80	4.80	-7.02	5.14	X
2402271051	P2400922-042	Soil Gas	2/27/2024	10:51	1SS01206	-2.21	5.61	-0.85	4.65	X
2402271058	P2400922-043	Soil Gas	2/27/2024	10:58	1SS01248	-2.16	6.08			X
2402271105	P2400922-044	Soil Gas	2/27/2024	11:05	1SS01396	-2.15	5.62			X
2402280815	P2400922-045	Soil Gas	2/28/2024	08:15	1SS01489	5.86	5.86	-0.08	5.65	X
2402280816	P2400922-046	Soil Gas	2/28/2024	08:16	1SS00140	-1.52	6.16	-5.58	4.93	X
2402280821	P2400922-047	Soil Gas	2/28/2024	08:21	1SC00319	-1.62	5.61	-3.25	5.30	X
2402280827	P2400922-048	Soil Gas	2/28/2024	08:27	1SC00977	-1.69	5.61	2.03	4.55	X
2402280855	P2400922-049	Soil Gas	2/28/2024	08:55	1SS01344	-1.71	5.80	-2.04	5.07	X
2402280901	P2400922-050	Soil Gas	2/28/2024	09:01	1SS01370	-1.57	5.74	-3.59	5.50	X
2402280907	P2400922-051	Soil Gas	2/28/2024	09:07	1SS01596	-1.70	5.51			X
2402280940	P2400922-052	Soil Gas	2/28/2024	09:40	1SS00862	-1.80	6.21			X
2402280941	P2400922-053	Soil Gas	2/28/2024	09:41	1SS01430	-1.98	5.74			X
2402280948	P2400922-054	Soil Gas	2/28/2024	09:48	1SC00130	-1.59	5.99			X
2402280949	P2400922-055	Soil Gas	2/28/2024	09:49	1SC00044	-1.56	5.84			X
2402280956	P2400922-056	Soil Gas	2/28/2024	09:56	1SC00751	0.17	6.23			X
2402281007	P2400922-057	Soil Gas	2/28/2024	10:07	1SS01231	-1.66	6.10			X
2402281013	P2400922-058	Soil Gas	2/28/2024	10:13	1SS01519	-1.80	5.69			X
2402281014	P2400922-059	Soil Gas	2/28/2024	10:14	1SS01185	-2.25	5.57			X
2402281021	P2400922-060	Soil Gas	2/28/2024	10:21	1SC00123	0.19	5.54			X
2402281028	P2400922-061	Soil Gas	2/28/2024	10:28	1SS01188	-3.10	5.87			X
2402281029	P2400922-062	Soil Gas	2/28/2024	10:29	1SS01404	-2.89	5.78			X
2402281055	P2400922-063	Soil Gas	2/28/2024	10:55	1SS01323	-1.89	6.22			X
2402281056	P2400922-064	Soil Gas	2/28/2024	10:56	1SS01287	-1.65	6.07			X
2402281103	P2400922-065	Soil Gas	2/28/2024	11:03	1SS01323	-13.01	-13.01			X
2402281110	P2400922-066	Soil Gas	2/28/2024	11:10	1SS01235	-2.05	6.02			X
2402281111	P2400922-067	Soil Gas	2/28/2024	11:11	1SC01381	-2.04	6.40			X

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 — B40922 — Page 1 of 7

Laboratory: ALS — PO# 23ECO17B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☑ Other GEOFF GILES, 575-524-5352 — 575-635-1284

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
1	2402260905 ✓	400-EV-131, 10'	1	SV	HWMU	CANISTER FINAL PRESSURE = -3
2	2402260906 ✓	400-EV-131, 10'	1	SV		" " " = 0
3	2402260911 ✓	400-EV-131, 50'	1	SV		" " " = -2
4	2402260916 ✓	400-EV-131, 100'	1	SV		" " " = -2
5	2402260924 ✓	400-EV-131, 130'	1	SV		" " " = 0
6	2402260925 ✓	400-EV-131, 130'	1	SV		" " " = 0
7	2402261005 ✓	400-HV-147, 12'	1	SV		" " " = -3
8	2402261009 ✓	400-HV-147, 45'	1	SV		" " " = 0
9	2402261014 ✓	400-HV-147, 95'	1	SV		" " " = 0
10	2402261015 ✓	400-HV-147, 95'	1	SV		" " " = 0
11	2402261024 ✓	400-HV-147, 130'	1	SV		" " " = -1

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FEDEX	2/28/24 - 1315	FEDEX	
		[signature]	3-6-24 0947

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV – SOIL VAPOR

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 — P400922 — Page 2 of 7

Laboratory: ALS — PO# 23ECO17B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☒ Other GEOFF GILES, 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
12	2402261050 ✓	400-JV-150 TB	1	SV	HWHU	CANISTER FINAL PRESSURE = N/A
13	2402261051 ✓	400-JV-150 12.5'	1	SV		" " " = 0
14	2402261057 ✓	400-JV-150 50'	1	SV		" " " = 0
15	2402261104 ✓	400-JV-150 100'	1	SV		" " " = 0
16	2402261340 ✓	400-FV-131 15'	1	SV		" " " = 0
17	2402261344 ✓	400-FV-131 63'	1	SV		" " " = -1
18	2402261356 ✓	400-GV-125 10'	1	SV		" " " = 0
19	2402261401 ✓	400-GV-125 46'	1	SV		" " " = 0
20	2402261406 ✓	400-GV-125 105'	1	SV		" " " = 0
21	2402261412 ✓	400-GV-125 120'	1	SV		" " " = 0
22	2402261413 ✓	400-GV-125 120'	1	SV		" " " = -1

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FEDEX	2/28/24 - 1315	FEDEX	3-6-24 0947

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV – Soil VAPOR

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 — RJ 400922 — Page 3 of 7

Laboratory: ALS — PO# 23EC017B

Address shipping questions to:
- ☐ Lori Minnick, 575-524-5119
- ☑ Other GEOFF GILES, 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:
- ☒ Stephanie Portillo, stephanie.portillo@nasa.gov
- ☐ Other
- ☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
23	2402261435 ✓	400-IV-123 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = 0
24	2402261440 ✓	400-IV-123 45'	1	SV		" " " = -2
25	2402261449 ✓	400-IV-123 80'	1	SV		" " " = -1
26	2402261450 ✓	400-IV-123 80'	1	SV		" " " = 0
27	2402261457 ✓	400-IV-123 118'	1	SV		" " " = 0
28	2402270850 ✓	400-KV-142 12.5'	1	SV		" " " = 0
29	2402270851 ✓	400-KV-142 12.5'	1	SV		" " " = 0
30	2402270856 ✓	400-KV-142 50'	1	SV		" " " = 0
31	2402270903 ✓	400-KV-142 100'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	2/28/24 - 1315	[signature]	3-7-24 .0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV-SOIL VAPOR

WSTF 381B (06/2023)

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 PJ400922 Page 4 of 7

Laboratory: ALS PO# 23EC017B

Address shipping questions to:
☐ Lori Minnick, 575-524-5119
☑ Other GEOFF GILES, 575-524-5252 575-635-1284

Send sample receipt confirmation and analytical reports to:
☒ Stephanie Portillo, stephanie.portillo@nasa.gov
☐ Other
☐ Other

Analytical Requirements: Method TO-15, Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
32	2402270940 ✓	400-LV-125 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = -1
33	2402270941 ✓	400-LV-125 10'	1	SV		" " " = 0
34	2402270946 ✓	400-LV-125 50'	1	SV		" " " = 0
35	2402270954 ✓	400-LV-125 95'	1	SV		" " " = 0
36	2402271002 ✓	400-LV-125 122'	1	SV		" " " = 0
37	2402271020 ✓	400-SV-05 10'	1	SV		" " " = -2
38	2402271025 ✓	400-SV-05 50'	1	SV		" " " = -1
39	2402271032 ✓	400-SV-05 100'	1	SV		" " " = -1
40	2402271033 ✓	400-SV-05 100'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
	2/28/24-1315	PKZ	3-7-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV-SOIL VAPOR

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24 RJ-008922 Page 5 of 7

Laboratory: ALS PO# 23EC017B

Address shipping questions to:
☐ Lori Minnick, 575-524-5119
☒ Other GEOFF GILES, 575-524-5352 575-635-1284

Send sample receipt confirmation and analytical reports to:
☒ Stephanie Portillo, stephanie.portillo@nasa.gov
☐ Other
☐ Other

Analytical Requirements: Method TO-15, Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:
NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
41	2402271050 ✓	400-SV-02 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = N/A
42	2402271051 ✓	400-SV-02 10'	1	SV		" " " = 0
43	2402271058 ✓	400-SV-02 50'	1	SV		" " " = 0
44	2402271105 ✓	400-SV-02 100'	1	SV		" " " = 0
45	2402280815 ✓	400-SV-07 10'	1	SV		" " " = N/A
46	2402280816 ✓	400-SV-07 10'	1	SV		" " " = 0
47	2402280821 ✓	400-SV-07 45'	1	SV		" " " = 0
48	2402280827 ✓	400-SV-07 100'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FEDEX	2/28/24 - 1315	FEDEX [signature]	3-7-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid
SV-SOIL VAPOR

WSTF 381B (06/2023)

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24

PJ400922

Laboratory: ALS PO# 23EC017B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

☑ Other GEOFF GILES 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO-15, Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
49	2402280855	400-SV-03 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = 0
50	2402280901	400-SV-03 50'	1	SV		" " " = -1
51	2402280907	400-SV-03 92'	1	SV		" " " = 0
52	2402280940	400-SV-09 10'	1	SV		" " " = 0
53	2402280941	400-SV-09 10'	1	SV		" " " = 0
54	2402280948	400-SV-09 45'	1	SV		" " " = 0
55	2402280949	400-SV-09 45'	1	SV		" " " = 0
56	2402280956	400-SV-09 104'	1	SV		" " " = -2

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FEDEX	2/28/24 - 1315	FEDEX	3-7-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

SV - SOIL VAPOR

WSTF CHAIN OF CUSTODY RECORD

Date 2-28-24

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Laboratory: ALS PO# 23ECD17B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

☑ Other GEOFF GILES 575-635-1284, 575-524-5352

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO-15; Analytes VOC

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
57	2402281007 ✓	400-SV-10 10'	1	SV	HWHU	CANISTER FINAL PRESSURE = 0
58	2402281013 ✓	400-SV-10 50'	1	SV		" " " = 0
59	2402281014 ✓	400-SV-10 50'	1	SV		" " " = 0
60	2402281021 ✓	400-SV-10 100'	1	SV		" " " = -1
61	2402281028 ✓	400-SV-10 125'	1	SV		" " " = 0
62	2402281029 ✓	400-SV-10 125'	1	SV		" " " = 0
63	2402281055	400-SV-15 10'	1	SV		" " " = 0
64	2402281056	400-SV-15 10'	1	SV		" " " = 0
65	2402281103	400-SV-15 50'	1	SV		" " " = 0
66	2402281110	400-SV-15 90'	1	SV		" " " = 0
67	2402281111	400-SV-15 90'	1	SV		" " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FBR	2/28/24 - 1315	FBR	3-1-24 0930

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

SV - SOIL VAPOR

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2400922

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 3/6 - 7/24 Date opened: 3/6 - 7/24 by: ADAVID

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Did **sample containers** arrive in good condition?	☒	☐	☐
3	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
4	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
5	Was **sample volume** received adequate for analysis?	☒	☐	☐
6	Are samples within specified holding times?	☒	☐	☐
7	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
8	Were **custody seals** on outside of cooler/Box/Container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
9	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
10	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
11	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒
12	Lab Notification: Analyst and PM were alerted of Short HT or RUSH samples?	☐	☐	☒
13	Client Notification: Client has been notified regarding HT exceedances and/or other CoC discrepancies?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2400922-001.01	1.0 L Source Can					
P2400922-002.01	1.0 L Source Can					
P2400922-003.01	1.0 L Source Silonite Canister					
P2400922-004.01	1.0 L Source Silonite Canister					
P2400922-005.01	1.0 L Source Can					
P2400922-006.01	1.0 L Source Can					
P2400922-007.01	1.0 L Source Silonite Canister					
P2400922-008.01	1.0 L Source Silonite Canister					
P2400922-009.01	1.0 L Source Silonite Canister					
P2400922-010.01	1.0 L Source Silonite Canister					
P2400922-011.01	1.0 L Source Silonite Canister					
P2400922-012.01	1.0 L Source Silonite Canister					
P2400922-013.01	1.0 L Source Silonite Canister					

Explain any discrepancies: (include lab sample ID numbers):

Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2400922

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 3/6 - 7/24 Date opened: 3/6 - 7/24 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2400922-014.01	1.0 L Source Silonite Canister					
P2400922-015.01	1.0 L Source Silonite Canister					
P2400922-016.01	1.0 L Source Silonite Canister					
P2400922-017.01	1.0 L Source Silonite Canister					
P2400922-018.01	1.0 L Source Silonite Canister					
P2400922-019.01	1.0 L Source Silonite Canister					
P2400922-020.01	1.0 L Source Can					
P2400922-021.01	1.0 L Source Silonite Canister					
P2400922-022.01	1.0 L Source Silonite Canister					
P2400922-023.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-024.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-025.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-026.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-027.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-028.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-029.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-030.01	1.0 L Source Can					Received 3/7/24
P2400922-031.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-032.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-033.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-034.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-035.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-036.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-037.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-038.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-039.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-040.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-041.01	1.0 L Source Can					Received 3/7/24
P2400922-042.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-043.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-044.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-045.01	1.0 L Source Can					Received 3/7/24
P2400922-046.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-047.01	1.0 L Source Can					Received 3/7/24
P2400922-048.01	1.0 L Source Can					Received 3/7/24
P2400922-049.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-050.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-051.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-052.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-053.01	1.0 L Source Silonite Canister					Received 3/7/24

Explain any discrepancies: (include lab sample ID numbers):

Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2400922

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 3/6 - 7/24 Date opened: 3/6 - 7/24 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2400922-054.01	1.0 L Source Can					Received 3/7/24
P2400922-055.01	1.0 L Source Can					Received 3/7/24
P2400922-056.01	1.0 L Source Can					Received 3/7/24
P2400922-057.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-058.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-059.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-060.01	1.0 L Source Can					Received 3/7/24
P2400922-061.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-062.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-063.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-064.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-065.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-066.01	1.0 L Source Silonite Canister					Received 3/7/24
P2400922-067.01	1.0 L Source Can					Received 3/7/24
P2400922-068.01	1.0 L Source Silonite Canister					Returned Unused
P2400922-069.01	1.0 L Source Silonite Canister					Returned Unused
P2400922-070.01	1.0 L Source Silonite Canister					Returned Unused

Explain any discrepancies: (include lab sample ID numbers):

Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260905** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-001

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00861

Initial Pressure (psig): -1.82 Final Pressure (psig): 5.53

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.076	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.069	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.059	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.49	0.057	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.42	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.062	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.89	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
123-91-1	1,4-Dioxane	**0.34**	2.0	0.25	**0.094**	0.54	0.069	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.31	ND	0.42	0.067	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**4.6**	20	0.43	**1.6**	6.7	0.15	**J**
591-78-6	2-Hexanone	**0.82**	2.0	0.26	**0.20**	0.48	0.063	**J**
67-63-0	2-Propanol	**0.89**	3.9	0.86	**0.36**	1.6	0.35	**J**
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.63	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.068	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260905** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-001

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00861

Initial Pressure (psig): -1.82 Final Pressure (psig): 5.53

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.36**	2.0	0.29	**0.087**	0.48	0.070	**J**
67-64-1	Acetone	**23**	20	4.7	**9.5**	8.3	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.091	
71-43-2	Benzene	ND	2.0	0.30	ND	0.61	0.095	
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.51	0.075	
75-15-0	Carbon Disulfide	**12**	20	0.63	**3.9**	6.3	0.20	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.31	0.046	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	**1.5**	2.0	0.28	**0.31**	0.40	0.057	**J**
74-87-3	Chloromethane	**0.45**	2.0	0.34	**0.22**	0.95	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.43	0.072	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.062	
110-82-7	Cyclohexane	ND	3.9	0.59	ND	1.1	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**3.6**	20	1.5	**1.9**	10	0.77	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.29	ND	0.45	0.068	
75-69-4	Freon 11	**67**	2.0	0.32	**12**	0.35	0.057	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402260905** ALS Sample ID: P2400922-001
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00861

Initial Pressure (psig): -1.82 Final Pressure (psig): 5.53

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**130**	2.0	0.30	**17**	0.26	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.4**	2.0	0.34	**0.48**	0.40	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	**5.3**	2.0	0.94	**1.3**	0.47	0.22	**X**
142-82-5	Heptane	ND	2.0	0.33	ND	0.48	0.081	
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	ND	2.0	0.43	ND	0.56	0.12	
179601-23-1	m,p-Xylene	ND	3.9	0.55	ND	0.90	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.54	0.069	
75-09-2	Methylene Chloride	ND	2.0	0.59	ND	0.57	0.17	
95-47-6	o-Xylene	ND	2.0	0.30	ND	0.45	0.070	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.062	
100-42-5	Styrene	ND	2.0	0.34	ND	0.46	0.079	
127-18-4	Tetrachloroethene	ND	2.0	0.27	ND	0.29	0.040	
109-99-9	Tetrahydrofuran	**0.31**	2.0	0.26	**0.10**	0.67	0.089	**J**
108-88-3	Toluene	ND	2.0	0.26	ND	0.52	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	ND	2.0	0.28	ND	0.37	0.053	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.77	0.088	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402260905** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-001

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00861		

Initial Pressure (psig): -1.82 Final Pressure (psig): 5.53

Container Dilution Factor: 1.57

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260906** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-002

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00145

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.45

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	**0.48**	2.1	0.26	**0.13**	0.57	0.072	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.6**	21	0.45	**0.90**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.50	0.066	
67-63-0	2-Propanol	**1.2**	4.1	0.91	**0.49**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.095	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260906** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-002

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00145

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.45

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.074	
67-64-1	Acetone	**22**	21	5.0	**9.3**	8.7	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	ND	2.1	0.32	ND	0.65	0.099	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**2.8**	21	0.66	**0.90**	6.6	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	ND	2.1	0.29	ND	0.42	0.060	
74-87-3	Chloromethane	**1.2**	2.1	0.35	**0.60**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**2.8**	21	1.5	**1.5**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.071	
75-69-4	Freon 11	**1.1**	2.1	0.33	**0.20**	0.37	0.059	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402260906** ALS Sample ID: P2400922-002
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00145

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.45

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.47**	2.1	0.31	**0.062**	0.27	0.041	**J**
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.4**	2.1	0.36	**0.48**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	0.99	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	0.99	ND	0.49	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.043	
110-54-3	Hexane	ND	2.1	0.45	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.58	ND	0.95	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	ND	2.1	0.27	ND	0.55	0.071	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.10	
79-01-6	Trichloroethene	**1.8**	2.1	0.30	**0.33**	0.38	0.055	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.092	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402260906** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-002

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00145		

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.45

Container Dilution Factor: 1.65

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260911** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-003

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00797

Initial Pressure (psig): -1.96 Final Pressure (psig): 5.80

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.50	0.078	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.52	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.061	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.50	0.059	
78-87-5	1,2-Dichloropropane	ND	2.0	0.27	ND	0.44	0.058	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.91	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.33	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.56	0.070	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.43	0.069	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**0.79**	20	0.44	**0.27**	6.8	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.27	ND	0.49	0.065	
67-63-0	2-Propanol	ND	4.0	0.89	ND	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.64	0.093	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260911** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-003

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00797

Initial Pressure (psig): -1.96 Final Pressure (psig): 5.80

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.29	ND	0.49	0.072	
67-64-1	Acetone	ND	20	4.8	ND	8.5	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.48	ND	0.39	0.093	
71-43-2	Benzene	**0.43**	2.0	0.31	**0.13**	0.63	0.097	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.046	
75-25-2	Bromoform	ND	2.0	0.44	ND	0.19	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.077	
75-15-0	Carbon Disulfide	**2.6**	20	0.64	**0.84**	6.5	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.30	ND	0.32	0.047	
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.062	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.76	0.10	
67-66-3	Chloroform	**5.9**	2.0	0.29	**1.2**	0.41	0.059	
74-87-3	Chloromethane	ND	2.0	0.35	ND	0.97	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.074	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	ND	4.0	0.60	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.24	0.033	
64-17-5	Ethanol	ND	20	1.5	ND	11	0.79	
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.46	0.070	
75-69-4	Freon 11	**230**	2.0	0.33	**41**	0.36	0.058	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402260911** ALS Sample ID: P2400922-003
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00797

Initial Pressure (psig): -1.96 Final Pressure (psig): 5.80

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**280**	2.0	0.31	**37**	0.26	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.048	
75-71-8	Freon 12	**2.4**	2.0	0.35	**0.49**	0.41	0.071	
306-83-2	Freon 123	ND	2.0	0.97	ND	0.32	0.15	**X**
75-43-4	Freon 21	**6.3**	2.0	0.97	**1.5**	0.48	0.23	**X**
142-82-5	Heptane	ND	2.0	0.34	ND	0.49	0.084	
87-68-3	Hexachlorobutadiene	ND	2.0	0.44	ND	0.19	0.042	
110-54-3	Hexane	**0.58**	2.0	0.44	**0.16**	0.57	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.0	0.56	ND	0.93	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.56	0.070	
75-09-2	Methylene Chloride	ND	2.0	0.60	ND	0.58	0.17	
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.46	0.071	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	ND	2.0	0.35	ND	0.47	0.081	
127-18-4	Tetrachloroethene	**1.7**	2.0	0.28	**0.25**	0.30	0.041	**J**
109-99-9	Tetrahydrofuran	ND	2.0	0.27	ND	0.68	0.091	
108-88-3	Toluene	**0.41**	2.0	0.26	**0.11**	0.53	0.069	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.075	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.44	ND	0.44	0.098	
79-01-6	Trichloroethene	**1.2**	2.0	0.29	**0.22**	0.37	0.054	**J**
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.79	0.090	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402260911** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-003

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		
Container ID:	1SS00797		

Initial Pressure (psig): -1.96 Final Pressure (psig): 5.80

Container Dilution Factor: 1.61

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**16**	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260916** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-004

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19 - 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00251

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.20

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	8.1	1.1	ND	1.5	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	8.1	1.2	ND	1.2	0.17	
79-00-5	1,1,2-Trichloroethane	ND	8.1	0.87	ND	1.5	0.16	
75-34-3	1,1-Dichloroethane	ND	8.1	1.3	ND	2.0	0.31	
75-35-4	1,1-Dichloroethene	ND	8.1	1.2	ND	2.0	0.30	
120-82-1	1,2,4-Trichlorobenzene	ND	8.1	2.1	ND	1.1	0.28	
95-63-6	1,2,4-Trimethylbenzene	ND	8.1	1.2	ND	1.6	0.24	
106-93-4	1,2-Dibromoethane (EDB)	ND	8.1	1.0	ND	1.1	0.13	
95-50-1	1,2-Dichlorobenzene	ND	8.1	1.3	ND	1.3	0.21	
107-06-2	1,2-Dichloroethane	ND	8.1	0.96	ND	2.0	0.24	
78-87-5	1,2-Dichloropropane	ND	8.1	1.1	ND	1.8	0.23	
108-67-8	1,3,5-Trimethylbenzene	ND	8.1	1.2	ND	1.6	0.25	
106-99-0	1,3-Butadiene	ND	8.1	1.4	ND	3.7	0.64	
541-73-1	1,3-Dichlorobenzene	ND	8.1	1.3	ND	1.3	0.22	
106-46-7	1,4-Dichlorobenzene	ND	8.1	1.3	ND	1.3	0.22	
123-91-1	1,4-Dioxane	ND	8.1	1.0	ND	2.2	0.28	
540-84-1	2,2,4-Trimethylpentane	ND	8.1	1.3	ND	1.7	0.28	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.1**	81	1.8	**0.72**	27	0.60	**J**
591-78-6	2-Hexanone	ND	8.1	1.1	ND	2.0	0.26	
67-63-0	2-Propanol	ND	16	3.6	ND	6.6	1.5	
107-05-1	3-Chloropropene	ND	8.1	1.2	ND	2.6	0.37	
622-96-8	4-Ethyltoluene	ND	8.1	1.4	ND	1.6	0.28	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260916** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-004

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19 - 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00251

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.20

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	8.1	1.2	ND	2.0	0.29	
67-64-1	Acetone	ND	81	19	ND	34	8.2	
100-44-7	alpha-Chlorotoluene	ND	8.1	1.9	ND	1.6	0.38	
71-43-2	Benzene	**1.7**	8.1	1.2	**0.53**	2.5	0.39	**J**
75-27-4	Bromodichloromethane	ND	8.1	1.2	ND	1.2	0.19	
75-25-2	Bromoform	ND	8.1	1.8	ND	0.78	0.17	
74-83-9	Bromomethane	ND	8.1	1.2	ND	2.1	0.31	
75-15-0	Carbon Disulfide	**14**	81	2.6	**4.6**	26	0.83	**J**
56-23-5	Carbon Tetrachloride	ND	8.1	1.2	ND	1.3	0.19	
108-90-7	Chlorobenzene	ND	8.1	1.2	ND	1.8	0.25	
75-00-3	Chloroethane	ND	8.1	1.1	ND	3.1	0.41	
67-66-3	Chloroform	**8.3**	8.1	1.2	**1.7**	1.7	0.24	
74-87-3	Chloromethane	ND	8.1	1.4	ND	3.9	0.67	
156-59-2	cis-1,2-Dichloroethene	ND	8.1	1.2	ND	2.0	0.31	
10061-01-5	cis-1,3-Dichloropropene	ND	8.1	1.3	ND	1.8	0.30	
98-82-8	Cumene	ND	8.1	1.2	ND	1.6	0.25	
110-82-7	Cyclohexane	ND	16	2.4	ND	4.7	0.71	
124-48-1	Dibromochloromethane	ND	8.1	1.1	ND	0.95	0.13	
64-17-5	Ethanol	**7.8**	81	6.0	**4.2**	43	3.2	**J**
100-41-4	Ethyl Benzene	ND	8.1	1.2	ND	1.9	0.28	
75-69-4	Freon 11	**1,100**	8.1	1.3	**190**	1.4	0.23	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402260916** ALS Sample ID: P2400922-004
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19 - 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS00251

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.20

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,300**	16	2.5	**180**	2.1	0.32	**D**
76-14-2	Freon 114	ND	8.1	1.4	ND	1.2	0.19	
75-71-8	Freon 12	**2.5**	8.1	1.4	**0.51**	1.6	0.29	**J**
306-83-2	Freon 123	ND	8.1	3.9	ND	1.3	0.62	**X**
75-43-4	Freon 21	**4.1**	8.1	3.9	**0.97**	1.9	0.92	**J, X**
142-82-5	Heptane	**6.8**	8.1	1.4	**1.7**	2.0	0.34	**J**
87-68-3	Hexachlorobutadiene	ND	8.1	1.8	ND	0.76	0.17	
110-54-3	Hexane	**27**	8.1	1.8	**7.6**	2.3	0.51	
179601-23-1	m,p-Xylene	ND	16	2.3	ND	3.7	0.52	
1634-04-4	Methyl tert-butyl ether	ND	8.1	1.0	ND	2.2	0.28	
75-09-2	Methylene Chloride	ND	8.1	2.4	ND	2.3	0.70	
95-47-6	o-Xylene	ND	8.1	1.2	ND	1.9	0.29	
103-65-1	Propylbenzene	ND	8.1	1.2	ND	1.6	0.25	
100-42-5	Styrene	ND	8.1	1.4	ND	1.9	0.33	
127-18-4	Tetrachloroethene	**1.6**	8.1	1.1	**0.24**	1.2	0.16	**J**
109-99-9	Tetrahydrofuran	ND	8.1	1.1	ND	2.7	0.37	
108-88-3	Toluene	**2.2**	8.1	1.1	**0.58**	2.2	0.28	**J**
156-60-5	trans-1,2-Dichloroethene	ND	8.1	1.2	ND	2.0	0.30	
10061-02-6	trans-1,3-Dichloropropene	ND	8.1	1.8	ND	1.8	0.39	
79-01-6	Trichloroethene	ND	8.1	1.2	ND	1.5	0.22	
75-01-4	Vinyl Chloride	ND	8.1	0.92	ND	3.2	0.36	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402260916** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-004

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19 - 3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.10 Liter(s)
Test Notes:			0.050 Liter(s)
Container ID:	1SS00251		

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.20

Container Dilution Factor: 1.62

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260924** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-005

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01125

Initial Pressure (psig): -1.90 Final Pressure (psig): 6.47

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	**1.3**	2.1	0.26	**0.36**	0.57	0.072	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.2**	21	0.45	**1.1**	7.0	0.15	**J**
591-78-6	2-Hexanone	**0.77**	2.1	0.27	**0.19**	0.50	0.066	**J**
67-63-0	2-Propanol	ND	4.1	0.91	ND	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.095	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260924** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-005

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01125

Initial Pressure (psig): -1.90 Final Pressure (psig): 6.47

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.074	
67-64-1	Acetone	**17**	21	5.0	**7.0**	8.7	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	**0.59**	2.1	0.32	**0.18**	0.65	0.099	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**7.7**	21	0.66	**2.5**	6.6	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**4.4**	2.1	0.29	**0.91**	0.42	0.060	
74-87-3	Chloromethane	ND	2.1	0.35	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**2.7**	21	1.5	**1.4**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.071	
75-69-4	Freon 11	**260**	2.1	0.33	**46**	0.37	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402260924** ALS Sample ID: P2400922-005
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01125

Initial Pressure (psig): -1.90 Final Pressure (psig): 6.47

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**310**	2.1	0.31	**41**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.4**	2.1	0.36	**0.48**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	0.99	ND	0.33	0.16	**X**
75-43-4	Freon 21	**6.2**	2.1	0.99	**1.5**	0.49	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.043	
110-54-3	Hexane	**0.76**	2.1	0.45	**0.22**	0.59	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.1	0.58	ND	0.95	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	**1.9**	2.1	0.28	**0.28**	0.30	0.042	**J**
109-99-9	Tetrahydrofuran	**0.28**	2.1	0.28	**0.097**	0.70	0.094	**J**
108-88-3	Toluene	**0.42**	2.1	0.27	**0.11**	0.55	0.071	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.10	
79-01-6	Trichloroethene	**0.91**	2.1	0.30	**0.17**	0.38	0.055	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.092	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402260924** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-005

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		
Container ID:	1SC01125		

Initial Pressure (psig): -1.90 Final Pressure (psig): 6.47

Container Dilution Factor: 1.65

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**16**	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260925** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-006

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.80

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.23	ND	0.33	0.043	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.26	0.038	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.33	0.035	
75-34-3	1,1-Dichloroethane	ND	1.8	0.28	ND	0.44	0.068	
75-35-4	1,1-Dichloroethene	ND	1.8	0.26	ND	0.45	0.066	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.46	ND	0.24	0.062	
95-63-6	1,2,4-Trimethylbenzene	ND	1.8	0.26	ND	0.36	0.053	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.8	0.22	ND	0.23	0.029	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
107-06-2	1,2-Dichloroethane	ND	1.8	0.21	ND	0.44	0.052	
78-87-5	1,2-Dichloropropane	ND	1.8	0.23	ND	0.38	0.051	
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.27	ND	0.36	0.056	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.80	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.29	ND	0.30	0.048	
123-91-1	1,4-Dioxane	ND	1.8	0.22	ND	0.49	0.062	
540-84-1	2,2,4-Trimethylpentane	ND	1.8	0.28	ND	0.38	0.061	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**4.5**	18	0.39	**1.5**	6.0	0.13	**J**
591-78-6	2-Hexanone	**0.39**	1.8	0.23	**0.096**	0.43	0.057	**J**
67-63-0	2-Propanol	**5.5**	3.6	0.78	**2.2**	1.4	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.26	ND	0.57	0.082	
622-96-8	4-Ethyltoluene	ND	1.8	0.30	ND	0.36	0.061	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402260925** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-006

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.80

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.61**	1.8	0.26	**0.15**	0.43	0.063	**J**
67-64-1	Acetone	**21**	18	4.3	**8.8**	7.5	1.8	
100-44-7	alpha-Chlorotoluene	**2.2**	1.8	0.43	**0.42**	0.34	0.082	
71-43-2	Benzene	**0.62**	1.8	0.27	**0.20**	0.56	0.086	**J**
75-27-4	Bromodichloromethane	ND	1.8	0.27	ND	0.27	0.041	
75-25-2	Bromoform	ND	1.8	0.39	ND	0.17	0.038	
74-83-9	Bromomethane	**0.75**	1.8	0.26	**0.19**	0.46	0.068	**J**
75-15-0	Carbon Disulfide	**1.7**	18	0.57	**0.53**	5.7	0.18	**J**
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.28	0.042	
108-90-7	Chlorobenzene	ND	1.8	0.25	ND	0.39	0.055	
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.67	0.089	
67-66-3	Chloroform	**3.9**	1.8	0.25	**0.79**	0.36	0.052	
74-87-3	Chloromethane	**1.6**	1.8	0.31	**0.75**	0.86	0.15	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.27	ND	0.45	0.067	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.29	ND	0.39	0.065	
98-82-8	Cumene	ND	1.8	0.27	ND	0.36	0.056	
110-82-7	Cyclohexane	**0.61**	3.6	0.53	**0.18**	1.0	0.15	**J**
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.029	
64-17-5	Ethanol	**32**	18	1.3	**17**	9.4	0.70	
100-41-4	Ethyl Benzene	**0.45**	1.8	0.27	**0.10**	0.41	0.061	**J**
75-69-4	Freon 11	**210**	1.8	0.29	**38**	0.32	0.051	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402260925** ALS Sample ID: P2400922-006
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01028

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.80

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**260**	1.8	0.27	**34**	0.23	0.035	
76-14-2	Freon 114	ND	1.8	0.30	ND	0.25	0.043	
75-71-8	Freon 12	**2.5**	1.8	0.31	**0.51**	0.36	0.062	
306-83-2	Freon 123	ND	1.8	0.85	ND	0.28	0.14	**X**
75-43-4	Freon 21	**5.2**	1.8	0.85	**1.2**	0.42	0.20	**X**
142-82-5	Heptane	**0.43**	1.8	0.30	**0.10**	0.43	0.074	**J**
87-68-3	Hexachlorobutadiene	ND	1.8	0.39	ND	0.17	0.037	
110-54-3	Hexane	**1.2**	1.8	0.39	**0.33**	0.50	0.11	**J**
179601-23-1	m,p-Xylene	**1.2**	3.6	0.50	**0.28**	0.82	0.11	**J**
1634-04-4	Methyl tert-butyl ether	ND	1.8	0.22	ND	0.49	0.062	
75-09-2	Methylene Chloride	**1.5**	1.8	0.53	**0.42**	0.51	0.15	**J**
95-47-6	o-Xylene	**0.54**	1.8	0.27	**0.12**	0.41	0.063	**J**
103-65-1	Propylbenzene	ND	1.8	0.27	ND	0.36	0.056	
100-42-5	Styrene	**0.47**	1.8	0.31	**0.11**	0.42	0.072	**J**
127-18-4	Tetrachloroethene	**2.0**	1.8	0.24	**0.30**	0.26	0.036	
109-99-9	Tetrahydrofuran	**0.46**	1.8	0.24	**0.16**	0.60	0.081	**J**
108-88-3	Toluene	**4.7**	1.8	0.23	**1.2**	0.47	0.061	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	0.26	ND	0.45	0.066	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.39	ND	0.39	0.086	
79-01-6	Trichloroethene	**1.7**	1.8	0.26	**0.31**	0.33	0.048	**J**
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.69	0.079	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402260925** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-006

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		
Container ID:	1SC01028		

Initial Pressure (psig): -0.29 Final Pressure (psig): 5.80

Container Dilution Factor: 1.42

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**12**	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261005** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-007

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01798

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.75

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.24	ND	0.33	0.043	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.26	0.039	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.33	0.035	
75-34-3	1,1-Dichloroethane	ND	1.8	0.28	ND	0.44	0.069	
75-35-4	1,1-Dichloroethene	ND	1.8	0.26	ND	0.45	0.067	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.46	ND	0.24	0.063	
95-63-6	1,2,4-Trimethylbenzene	**0.34**	1.8	0.26	**0.070**	0.36	0.054	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.8	0.22	ND	0.23	0.029	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
107-06-2	1,2-Dichloroethane	ND	1.8	0.21	ND	0.44	0.052	
78-87-5	1,2-Dichloropropane	**0.62**	1.8	0.24	**0.13**	0.39	0.051	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.28	ND	0.36	0.056	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.81	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.29	ND	0.30	0.048	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.29	ND	0.30	0.049	
123-91-1	1,4-Dioxane	**0.70**	1.8	0.23	**0.19**	0.50	0.063	**J**
540-84-1	2,2,4-Trimethylpentane	ND	1.8	0.29	ND	0.38	0.061	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**8.8**	18	0.39	**3.0**	6.1	0.13	**J**
591-78-6	2-Hexanone	ND	1.8	0.24	ND	0.44	0.058	
67-63-0	2-Propanol	**19**	3.6	0.79	**7.8**	1.5	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.26	ND	0.57	0.082	
622-96-8	4-Ethyltoluene	ND	1.8	0.30	ND	0.36	0.062	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261005** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-007

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01798

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.75

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.4**	1.8	0.26	**0.33**	0.44	0.064	**J**
67-64-1	Acetone	**31**	18	4.3	**13**	7.5	1.8	
100-44-7	alpha-Chlorotoluene	ND	1.8	0.43	ND	0.35	0.083	
71-43-2	Benzene	**1.9**	1.8	0.28	**0.60**	0.56	0.086	
75-27-4	Bromodichloromethane	ND	1.8	0.28	ND	0.27	0.041	
75-25-2	Bromoform	ND	1.8	0.39	ND	0.17	0.038	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.46	0.068	
75-15-0	Carbon Disulfide	**2.3**	18	0.57	**0.74**	5.7	0.18	**J**
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.28	0.042	
108-90-7	Chlorobenzene	ND	1.8	0.25	ND	0.39	0.055	
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.68	0.089	
67-66-3	Chloroform	**1.4**	1.8	0.25	**0.30**	0.37	0.052	**J**
74-87-3	Chloromethane	**0.54**	1.8	0.31	**0.26**	0.87	0.15	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.27	ND	0.45	0.068	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.30	ND	0.39	0.065	
98-82-8	Cumene	ND	1.8	0.28	ND	0.36	0.056	
110-82-7	Cyclohexane	**2.7**	3.6	0.54	**0.78**	1.0	0.16	**J**
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.029	
64-17-5	Ethanol	**100**	18	1.3	**54**	9.5	0.70	
100-41-4	Ethyl Benzene	**1.3**	1.8	0.27	**0.31**	0.41	0.062	**J**
75-69-4	Freon 11	**16**	1.8	0.29	**2.8**	0.32	0.052	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261005** ALS Sample ID: P2400922-007
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01798

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.75

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**20**	1.8	0.27	**2.6**	0.23	0.035	
76-14-2	Freon 114	ND	1.8	0.30	ND	0.26	0.043	
75-71-8	Freon 12	**2.5**	1.8	0.31	**0.50**	0.36	0.063	
306-83-2	Freon 123	ND	1.8	0.86	ND	0.29	0.14	**X**
75-43-4	Freon 21	**1.1**	1.8	0.86	**0.27**	0.42	0.20	**JX**
142-82-5	Heptane	**1.1**	1.8	0.30	**0.26**	0.44	0.074	**J**
87-68-3	Hexachlorobutadiene	ND	1.8	0.39	ND	0.17	0.037	
110-54-3	Hexane	**2.0**	1.8	0.39	**0.57**	0.51	0.11	
179601-23-1	m,p-Xylene	**3.4**	3.6	0.50	**0.79**	0.82	0.12	**J**
1634-04-4	Methyl tert-butyl ether	ND	1.8	0.23	ND	0.50	0.062	
75-09-2	Methylene Chloride	**2.6**	1.8	0.54	**0.75**	0.51	0.15	
95-47-6	o-Xylene	**1.4**	1.8	0.28	**0.32**	0.41	0.063	**J**
103-65-1	Propylbenzene	ND	1.8	0.28	ND	0.36	0.056	
100-42-5	Styrene	**1.4**	1.8	0.31	**0.33**	0.42	0.072	**J**
127-18-4	Tetrachloroethene	**0.94**	1.8	0.25	**0.14**	0.26	0.036	**J**
109-99-9	Tetrahydrofuran	**2.4**	1.8	0.24	**0.83**	0.61	0.081	
108-88-3	Toluene	**20**	1.8	0.23	**5.3**	0.47	0.062	
156-60-5	trans-1,2-Dichloroethene	**0.29**	1.8	0.26	**0.072**	0.45	0.067	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.39	ND	0.39	0.087	
79-01-6	Trichloroethene	ND	1.8	0.26	ND	0.33	0.048	
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.70	0.080	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261005** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-007

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01798		

Initial Pressure (psig): -0.40 Final Pressure (psig): 5.75

Container Dilution Factor: 1.43

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261009** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-008

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00027

Initial Pressure (psig): -2.10 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.079	
75-35-4	1,1-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.53	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.30	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.44	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.064	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	**3.5**	2.1	0.26	**0.97**	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.2**	21	0.45	**0.40**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.50	0.066	
67-63-0	2-Propanol	ND	4.1	0.90	ND	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.094	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261009** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-008

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00027

Initial Pressure (psig): -2.10 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.073	
67-64-1	Acetone	**7.2**	21	4.9	**3.0**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	**0.59**	2.1	0.32	**0.19**	0.64	0.099	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.30	ND	0.53	0.078	
75-15-0	Carbon Disulfide	**18**	21	0.66	**5.8**	6.6	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.30	ND	0.33	0.048	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.063	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**6.0**	2.1	0.29	**1.2**	0.42	0.060	
74-87-3	Chloromethane	**0.66**	2.1	0.35	**0.32**	0.99	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.064	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**15**	21	1.5	**8.2**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**98**	2.1	0.33	**17**	0.36	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261009** ALS Sample ID: P2400922-008
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00027

Initial Pressure (psig): -2.10 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**92**	2.1	0.31	**12**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.5**	2.1	0.36	**0.51**	0.41	0.072	
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	**1.1**	2.1	0.98	**0.25**	0.49	0.23	**J, X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.1	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.47	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.064	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	**0.36**	2.1	0.27	**0.12**	0.70	0.093	**J**
108-88-3	Toluene	**0.98**	2.1	0.27	**0.26**	0.54	0.071	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.23	ND	0.80	0.091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261009** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-008

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00027		

Initial Pressure (psig): -2.10 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261014** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-009

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00839

Initial Pressure (psig): -2.20 Final Pressure (psig): 5.86

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	10	1.4	ND	1.9	0.25	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	1.5	ND	1.5	0.22	
79-00-5	1,1,2-Trichloroethane	ND	10	1.1	ND	1.9	0.20	
75-34-3	1,1-Dichloroethane	ND	10	1.6	ND	2.5	0.40	
75-35-4	1,1-Dichloroethene	ND	10	1.5	ND	2.6	0.38	
120-82-1	1,2,4-Trichlorobenzene	ND	10	2.7	ND	1.4	0.36	
95-63-6	1,2,4-Trimethylbenzene	ND	10	1.5	ND	2.1	0.31	
106-93-4	1,2-Dibromoethane (EDB)	ND	10	1.3	ND	1.3	0.17	
95-50-1	1,2-Dichlorobenzene	ND	10	1.6	ND	1.7	0.27	
107-06-2	1,2-Dichloroethane	ND	10	1.2	ND	2.5	0.30	
78-87-5	1,2-Dichloropropane	ND	10	1.4	ND	2.2	0.29	
108-67-8	1,3,5-Trimethylbenzene	ND	10	1.6	ND	2.1	0.32	
106-99-0	1,3-Butadiene	ND	10	1.8	ND	4.6	0.82	
541-73-1	1,3-Dichlorobenzene	ND	10	1.6	ND	1.7	0.27	
106-46-7	1,4-Dichlorobenzene	ND	10	1.7	ND	1.7	0.28	
123-91-1	1,4-Dioxane	ND	10	1.3	ND	2.8	0.36	
540-84-1	2,2,4-Trimethylpentane	ND	10	1.6	ND	2.2	0.35	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	100	2.3	ND	35	0.76	
591-78-6	2-Hexanone	ND	10	1.4	ND	2.5	0.33	
67-63-0	2-Propanol	ND	21	4.5	ND	8.3	1.8	
107-05-1	3-Chloropropene	ND	10	1.5	ND	3.3	0.47	
622-96-8	4-Ethyltoluene	ND	10	1.7	ND	2.1	0.35	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261014** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-009

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00839

Initial Pressure (psig): -2.20 Final Pressure (psig): 5.86

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	10	1.5	ND	2.5	0.37	
67-64-1	Acetone	ND	100	25	ND	43	10	
100-44-7	alpha-Chlorotoluene	ND	10	2.5	ND	2.0	0.48	
71-43-2	Benzene	ND	10	1.6	ND	3.2	0.49	
75-27-4	Bromodichloromethane	ND	10	1.6	ND	1.5	0.24	
75-25-2	Bromoform	ND	10	2.3	ND	0.99	0.22	
74-83-9	Bromomethane	ND	10	1.5	ND	2.6	0.39	
75-15-0	Carbon Disulfide	**6.8**	100	3.3	**2.2**	33	1.1	**J**
56-23-5	Carbon Tetrachloride	ND	10	1.5	ND	1.6	0.24	
108-90-7	Chlorobenzene	ND	10	1.5	ND	2.2	0.32	
75-00-3	Chloroethane	ND	10	1.4	ND	3.9	0.51	
67-66-3	Chloroform	**11**	10	1.5	**2.2**	2.1	0.30	
74-87-3	Chloromethane	ND	10	1.8	ND	5.0	0.85	
156-59-2	cis-1,2-Dichloroethene	ND	10	1.5	ND	2.6	0.39	
10061-01-5	cis-1,3-Dichloropropene	ND	10	1.7	ND	2.3	0.37	
98-82-8	Cumene	ND	10	1.6	ND	2.1	0.32	
110-82-7	Cyclohexane	ND	21	3.1	ND	6.0	0.89	
124-48-1	Dibromochloromethane	ND	10	1.4	ND	1.2	0.17	
64-17-5	Ethanol	ND	100	7.6	ND	54	4.0	
100-41-4	Ethyl Benzene	ND	10	1.5	ND	2.4	0.35	
75-69-4	Freon 11	**2,000**	10	1.7	**350**	1.8	0.30	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261014** ALS Sample ID: P2400922-009
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00839

Initial Pressure (psig): -2.20 Final Pressure (psig): 5.86

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,800**	10	1.6	**230**	1.3	0.20	
76-14-2	Freon 114	ND	10	1.7	ND	1.5	0.25	
75-71-8	Freon 12	**2.6**	10	1.8	**0.53**	2.1	0.36	**J**
306-83-2	Freon 123	ND	10	4.9	ND	1.6	0.79	**X**
75-43-4	Freon 21	ND	10	4.9	ND	2.4	1.2	**X**
142-82-5	Heptane	ND	10	1.7	ND	2.5	0.43	
87-68-3	Hexachlorobutadiene	ND	10	2.3	ND	0.96	0.21	
110-54-3	Hexane	ND	10	2.3	ND	2.9	0.64	
179601-23-1	m,p-Xylene	ND	21	2.9	ND	4.7	0.66	
1634-04-4	Methyl tert-butyl ether	ND	10	1.3	ND	2.8	0.36	
75-09-2	Methylene Chloride	ND	10	3.1	ND	3.0	0.89	
95-47-6	o-Xylene	ND	10	1.6	ND	2.4	0.36	
103-65-1	Propylbenzene	ND	10	1.6	ND	2.1	0.32	
100-42-5	Styrene	ND	10	1.8	ND	2.4	0.41	
127-18-4	Tetrachloroethene	ND	10	1.4	ND	1.5	0.21	
109-99-9	Tetrahydrofuran	ND	10	1.4	ND	3.5	0.47	
108-88-3	Toluene	**1.4**	10	1.3	**0.36**	2.7	0.35	**J**
156-60-5	trans-1,2-Dichloroethene	ND	10	1.5	ND	2.6	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	10	2.3	ND	2.3	0.50	
79-01-6	Trichloroethene	**3.4**	10	1.5	**0.64**	1.9	0.27	**J**
75-01-4	Vinyl Chloride	ND	10	1.2	ND	4.0	0.46	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261014** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-009

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			
Container ID:	1SS00839		

Initial Pressure (psig): -2.20 Final Pressure (psig): 5.86

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261015** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-010

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00895

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.13

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.081	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.28	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.066	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.96	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.35	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.074	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.8**	21	0.46	**0.96**	7.2	0.16	**J**
591-78-6	2-Hexanone	ND	2.1	0.28	ND	0.52	0.068	
67-63-0	2-Propanol	ND	4.2	0.93	ND	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.68	0.097	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.073	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261015** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-010

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00895

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.13

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.075	
67-64-1	Acetone	**23**	21	5.1	**9.7**	8.9	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.098	
71-43-2	Benzene	**0.35**	2.1	0.33	**0.11**	0.66	0.10	**J**
75-27-4	Bromodichloromethane	**0.82**	2.1	0.33	**0.12**	0.32	0.049	**J**
75-25-2	Bromoform	**0.46**	2.1	0.46	**0.045**	0.20	0.045	**J**
74-83-9	Bromomethane	**1.9**	2.1	0.31	**0.49**	0.54	0.081	**J**
75-15-0	Carbon Disulfide	**0.82**	21	0.68	**0.26**	6.8	0.22	**J**
56-23-5	Carbon Tetrachloride	**0.59**	2.1	0.31	**0.094**	0.34	0.050	**J**
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.065	
75-00-3	Chloroethane	**0.44**	2.1	0.28	**0.17**	0.80	0.11	**J**
67-66-3	Chloroform	**2.1**	2.1	0.30	**0.44**	0.43	0.061	
74-87-3	Chloromethane	**3.8**	2.1	0.36	**1.8**	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.53	0.080	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.077	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.066	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	**0.44**	2.1	0.30	**0.052**	0.25	0.035	**J**
64-17-5	Ethanol	**4.2**	21	1.6	**2.2**	11	0.83	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.49	0.073	
75-69-4	Freon 11	**1.8**	2.1	0.34	**0.33**	0.38	0.061	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261015** ALS Sample ID: P2400922-010
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00895

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.13

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1.1**	2.1	0.32	**0.14**	0.28	0.042	**J**
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.051	
75-71-8	Freon 12	**2.5**	2.1	0.37	**0.51**	0.43	0.074	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.52	0.088	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.044	
110-54-3	Hexane	ND	2.1	0.46	ND	0.60	0.13	
179601-23-1	m,p-Xylene	**0.60**	4.2	0.59	**0.14**	0.97	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.074	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.61	0.18	
95-47-6	o-Xylene	ND	2.1	0.33	ND	0.49	0.075	
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.066	
100-42-5	Styrene	ND	2.1	0.36	ND	0.50	0.085	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.72	0.096	
108-88-3	Toluene	**1.1**	2.1	0.27	**0.30**	0.56	0.073	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.83	0.094	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261015** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-010

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00895		

Initial Pressure (psig): -2.40 Final Pressure (psig): 6.13

Container Dilution Factor: 1.69

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261024** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-011

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00015 Liter(s)
Container ID: 1SS01178

Initial Pressure (psig): 0.28 Final Pressure (psig): 5.93

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2,300	300	ND	420	56	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2,300	340	ND	340	50	
79-00-5	1,1,2-Trichloroethane	ND	2,300	250	ND	420	46	
75-34-3	1,1-Dichloroethane	ND	2,300	360	ND	570	89	
75-35-4	1,1-Dichloroethene	ND	2,300	340	ND	580	86	
120-82-1	1,2,4-Trichlorobenzene	ND	2,300	600	ND	310	81	
95-63-6	1,2,4-Trimethylbenzene	ND	2,300	340	ND	470	69	
106-93-4	1,2-Dibromoethane (EDB)	ND	2,300	290	ND	300	37	
95-50-1	1,2-Dichlorobenzene	ND	2,300	360	ND	380	60	
107-06-2	1,2-Dichloroethane	ND	2,300	270	ND	570	67	
78-87-5	1,2-Dichloropropane	ND	2,300	300	ND	500	66	
108-67-8	1,3,5-Trimethylbenzene	ND	2,300	350	ND	470	72	
106-99-0	1,3-Butadiene	ND	2,300	400	ND	1,000	180	
541-73-1	1,3-Dichlorobenzene	ND	2,300	370	ND	380	61	
106-46-7	1,4-Dichlorobenzene	ND	2,300	380	ND	380	63	
123-91-1	1,4-Dioxane	ND	2,300	290	ND	640	80	
540-84-1	2,2,4-Trimethylpentane	ND	2,300	370	ND	490	79	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	23,000	510	ND	7,800	170	
591-78-6	2-Hexanone	ND	2,300	300	ND	560	74	
67-63-0	2-Propanol	ND	4,600	1,000	ND	1,900	410	
107-05-1	3-Chloropropene	ND	2,300	330	ND	740	110	
622-96-8	4-Ethyltoluene	ND	2,300	390	ND	470	80	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261024** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-011

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00015 Liter(s)
Container ID: 1SS01178

Initial Pressure (psig): 0.28 Final Pressure (psig): 5.93

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2,300	340	ND	560	82	
67-64-1	Acetone	ND	23,000	5,500	ND	9,700	2,300	
100-44-7	alpha-Chlorotoluene	ND	2,300	550	ND	440	110	
71-43-2	Benzene	ND	2,300	350	ND	720	110	
75-27-4	Bromodichloromethane	ND	2,300	350	ND	340	53	
75-25-2	Bromoform	ND	2,300	510	ND	220	49	
74-83-9	Bromomethane	ND	2,300	340	ND	590	88	
75-15-0	Carbon Disulfide	ND	23,000	740	ND	7,400	240	
56-23-5	Carbon Tetrachloride	ND	2,300	340	ND	370	54	
108-90-7	Chlorobenzene	ND	2,300	330	ND	500	71	
75-00-3	Chloroethane	ND	2,300	300	ND	870	120	
67-66-3	Chloroform	ND	2,300	330	ND	470	67	
74-87-3	Chloromethane	ND	2,300	400	ND	1,100	190	
156-59-2	cis-1,2-Dichloroethene	ND	2,300	350	ND	580	87	
10061-01-5	cis-1,3-Dichloropropene	ND	2,300	380	ND	510	84	
98-82-8	Cumene	ND	2,300	350	ND	470	72	
110-82-7	Cyclohexane	ND	4,600	690	ND	1,300	200	
124-48-1	Dibromochloromethane	ND	2,300	320	ND	270	38	
64-17-5	Ethanol	ND	23,000	1,700	ND	12,000	900	
100-41-4	Ethyl Benzene	ND	2,300	350	ND	530	79	
75-69-4	Freon 11	**230,000**	2,300	370	**41,000**	410	66	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261024** ALS Sample ID: P2400922-011
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00030 Liter(s)
Test Notes: 0.00015 Liter(s)
Container ID: 1SS01178

Initial Pressure (psig): 0.28 Final Pressure (psig): 5.93

Container Dilution Factor: 1.38

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**450,000**	4,600	700	**59,000**	600	91	**D**
76-14-2	Freon 114	ND	2,300	390	ND	330	55	
75-71-8	Freon 12	ND	2,300	400	ND	470	81	
306-83-2	Freon 123	ND	2,300	1,100	ND	370	180	**X**
75-43-4	Freon 21	ND	2,300	1,100	ND	550	260	**X**
142-82-5	Heptane	ND	2,300	390	ND	560	95	
87-68-3	Hexachlorobutadiene	ND	2,300	510	ND	220	47	
110-54-3	Hexane	ND	2,300	510	ND	650	140	
179601-23-1	m,p-Xylene	ND	4,600	640	ND	1,100	150	
1634-04-4	Methyl tert-butyl ether	ND	2,300	290	ND	640	80	
75-09-2	Methylene Chloride	ND	2,300	690	ND	660	200	
95-47-6	o-Xylene	ND	2,300	350	ND	530	82	
103-65-1	Propylbenzene	ND	2,300	350	ND	470	72	
100-42-5	Styrene	ND	2,300	400	ND	540	93	
127-18-4	Tetrachloroethene	ND	2,300	320	ND	340	47	
109-99-9	Tetrahydrofuran	ND	2,300	310	ND	780	100	
108-88-3	Toluene	ND	2,300	300	ND	610	79	
156-60-5	trans-1,2-Dichloroethene	ND	2,300	340	ND	580	86	
10061-02-6	trans-1,3-Dichloropropene	ND	2,300	510	ND	510	110	
79-01-6	Trichloroethene	**500**	2,300	330	**92**	430	62	**J**
75-01-4	Vinyl Chloride	ND	2,300	260	ND	900	100	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261024** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-011

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.00030 Liter(s)
Test Notes:			0.00015 Liter(s)
Container ID:	1SS01178		

Initial Pressure (psig): 0.28 Final Pressure (psig): 5.93

Container Dilution Factor: 1.38

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261050** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-012

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01229

Initial Pressure (psig): 5.81 Final Pressure (psig): 5.81

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.3	0.17	ND	0.23	0.030	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	0.19	ND	0.18	0.027	
79-00-5	1,1,2-Trichloroethane	ND	1.3	0.14	ND	0.23	0.025	
75-34-3	1,1-Dichloroethane	ND	1.3	0.20	ND	0.31	0.048	
75-35-4	1,1-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	0.33	ND	0.17	0.044	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.038	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.3	0.16	ND	0.16	0.020	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
107-06-2	1,2-Dichloroethane	ND	1.3	0.15	ND	0.31	0.036	
78-87-5	1,2-Dichloropropane	ND	1.3	0.17	ND	0.27	0.036	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.039	
106-99-0	1,3-Butadiene	ND	1.3	0.22	ND	0.57	0.099	
541-73-1	1,3-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.21	ND	0.21	0.034	
123-91-1	1,4-Dioxane	ND	1.3	0.16	ND	0.35	0.044	
540-84-1	2,2,4-Trimethylpentane	ND	1.3	0.20	ND	0.27	0.043	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	13	0.28	ND	4.2	0.093	
591-78-6	2-Hexanone	ND	1.3	0.17	ND	0.31	0.040	
67-63-0	2-Propanol	**1.1**	2.5	0.55	**0.45**	1.0	0.22	**J**
107-05-1	3-Chloropropene	ND	1.3	0.18	ND	0.40	0.058	
622-96-8	4-Ethyltoluene	ND	1.3	0.21	ND	0.25	0.043	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261050** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-012

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01229

Initial Pressure (psig): 5.81 Final Pressure (psig): 5.81

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	1.3	0.18	ND	0.31	0.045	
67-64-1	Acetone	ND	13	3.0	ND	5.3	1.3	
100-44-7	alpha-Chlorotoluene	ND	1.3	0.30	ND	0.24	0.058	
71-43-2	Benzene	ND	1.3	0.19	ND	0.39	0.060	
75-27-4	Bromodichloromethane	ND	1.3	0.19	ND	0.19	0.029	
75-25-2	Bromoform	ND	1.3	0.28	ND	0.12	0.027	
74-83-9	Bromomethane	ND	1.3	0.19	ND	0.32	0.048	
75-15-0	Carbon Disulfide	ND	13	0.40	ND	4.0	0.13	
56-23-5	Carbon Tetrachloride	ND	1.3	0.19	ND	0.20	0.029	
108-90-7	Chlorobenzene	ND	1.3	0.18	ND	0.27	0.039	
75-00-3	Chloroethane	ND	1.3	0.17	ND	0.47	0.063	
67-66-3	Chloroform	ND	1.3	0.18	ND	0.26	0.036	
74-87-3	Chloromethane	ND	1.3	0.22	ND	0.61	0.10	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	0.21	ND	0.28	0.046	
98-82-8	Cumene	ND	1.3	0.19	ND	0.25	0.039	
110-82-7	Cyclohexane	ND	2.5	0.38	ND	0.73	0.11	
124-48-1	Dibromochloromethane	ND	1.3	0.18	ND	0.15	0.021	
64-17-5	Ethanol	ND	13	0.93	ND	6.6	0.49	
100-41-4	Ethyl Benzene	ND	1.3	0.19	ND	0.29	0.043	
75-69-4	Freon 11	ND	1.3	0.20	ND	0.22	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261050** ALS Sample ID: P2400922-012
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01229

Initial Pressure (psig): 5.81 Final Pressure (psig): 5.81

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	1.3	0.19	ND	0.16	0.025	
76-14-2	Freon 114	ND	1.3	0.21	ND	0.18	0.030	
75-71-8	Freon 12	ND	1.3	0.22	ND	0.25	0.044	
306-83-2	Freon 123	ND	1.3	0.60	ND	0.20	0.096	**X**
75-43-4	Freon 21	ND	1.3	0.60	ND	0.30	0.14	**X**
142-82-5	Heptane	ND	1.3	0.21	ND	0.31	0.052	
87-68-3	Hexachlorobutadiene	ND	1.3	0.28	ND	0.12	0.026	
110-54-3	Hexane	ND	1.3	0.28	ND	0.35	0.078	
179601-23-1	m,p-Xylene	ND	2.5	0.35	ND	0.58	0.081	
1634-04-4	Methyl tert-butyl ether	ND	1.3	0.16	ND	0.35	0.044	
75-09-2	Methylene Chloride	ND	1.3	0.38	ND	0.36	0.11	
95-47-6	o-Xylene	ND	1.3	0.19	ND	0.29	0.044	
103-65-1	Propylbenzene	ND	1.3	0.19	ND	0.25	0.039	
100-42-5	Styrene	ND	1.3	0.22	ND	0.29	0.051	
127-18-4	Tetrachloroethene	ND	1.3	0.17	ND	0.18	0.025	
109-99-9	Tetrahydrofuran	ND	1.3	0.17	ND	0.42	0.057	
108-88-3	Toluene	ND	1.3	0.16	ND	0.33	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	0.28	ND	0.28	0.061	
79-01-6	Trichloroethene	ND	1.3	0.18	ND	0.23	0.034	
75-01-4	Vinyl Chloride	ND	1.3	0.14	ND	0.49	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261050** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-012

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01229		

Initial Pressure (psig): 5.81 Final Pressure (psig): 5.81

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261051** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-013

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS01322

Initial Pressure (psig): 0.13 Final Pressure (psig): 6.50

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.24	ND	0.33	0.043	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.26	0.039	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.33	0.035	
75-34-3	1,1-Dichloroethane	ND	1.8	0.28	ND	0.44	0.069	
75-35-4	1,1-Dichloroethene	ND	1.8	0.26	ND	0.45	0.067	
120-82-1	1,2,4-Trichlorobenzene	**1.2**	1.8	0.46	**0.17**	0.24	0.063	**J**
95-63-6	1,2,4-Trimethylbenzene	**1.3**	1.8	0.26	**0.27**	0.36	0.054	**J**
106-93-4	1,2-Dibromoethane (EDB)	**0.37**	1.8	0.22	**0.048**	0.23	0.029	**J**
95-50-1	1,2-Dichlorobenzene	**0.30**	1.8	0.28	**0.050**	0.30	0.047	**J**
107-06-2	1,2-Dichloroethane	**0.49**	1.8	0.21	**0.12**	0.44	0.052	**J**
78-87-5	1,2-Dichloropropane	**12**	1.8	0.24	**2.6**	0.39	0.051	
108-67-8	1,3,5-Trimethylbenzene	**0.42**	1.8	0.28	**0.086**	0.36	0.056	**J**
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.81	0.14	
541-73-1	1,3-Dichlorobenzene	**0.32**	1.8	0.29	**0.053**	0.30	0.048	**J**
106-46-7	1,4-Dichlorobenzene	**0.44**	1.8	0.29	**0.073**	0.30	0.049	**J**
123-91-1	1,4-Dioxane	ND	1.8	0.23	ND	0.50	0.063	
540-84-1	2,2,4-Trimethylpentane	ND	1.8	0.29	ND	0.38	0.061	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**15**	18	0.39	**5.0**	6.1	0.13	**J**
591-78-6	2-Hexanone	**0.60**	1.8	0.24	**0.15**	0.44	0.058	**J**
67-63-0	2-Propanol	**41**	3.6	0.79	**17**	1.5	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.26	ND	0.57	0.082	
622-96-8	4-Ethyltoluene	**0.39**	1.8	0.30	**0.080**	0.36	0.062	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261051** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-013

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS01322

Initial Pressure (psig): 0.13 Final Pressure (psig): 6.50

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.3**	1.8	0.26	**0.32**	0.44	0.064	**J**
67-64-1	Acetone	**120**	18	4.3	**49**	7.5	1.8	
100-44-7	alpha-Chlorotoluene	**2.6**	1.8	0.43	**0.50**	0.35	0.083	
71-43-2	Benzene	**1.0**	1.8	0.28	**0.32**	0.56	0.086	**J**
75-27-4	Bromodichloromethane	ND	1.8	0.28	ND	0.27	0.041	
75-25-2	Bromoform	ND	1.8	0.39	ND	0.17	0.038	
74-83-9	Bromomethane	**0.53**	1.8	0.26	**0.14**	0.46	0.068	**J**
75-15-0	Carbon Disulfide	**4.8**	18	0.57	**1.6**	5.7	0.18	**J**
56-23-5	Carbon Tetrachloride	ND	1.8	0.26	ND	0.28	0.042	
108-90-7	Chlorobenzene	**0.26**	1.8	0.25	**0.056**	0.39	0.055	**J**
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.68	0.089	
67-66-3	Chloroform	**1.2**	1.8	0.25	**0.24**	0.37	0.052	**J**
74-87-3	Chloromethane	**0.58**	1.8	0.31	**0.28**	0.87	0.15	**J**
156-59-2	cis-1,2-Dichloroethene	**0.35**	1.8	0.27	**0.089**	0.45	0.068	**J**
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.30	ND	0.39	0.065	
98-82-8	Cumene	ND	1.8	0.28	ND	0.36	0.056	
110-82-7	Cyclohexane	**3.8**	3.6	0.54	**1.1**	1.0	0.16	
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.029	
64-17-5	Ethanol	**50**	18	1.3	**26**	9.5	0.70	
100-41-4	Ethyl Benzene	**2.4**	1.8	0.27	**0.55**	0.41	0.062	
75-69-4	Freon 11	**200**	1.8	0.29	**35**	0.32	0.052	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261051** ALS Sample ID: P2400922-013
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS01322

Initial Pressure (psig): 0.13 Final Pressure (psig): 6.50

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**440**	14	2.2	**58**	1.9	0.28	**D**
76-14-2	Freon 114	ND	1.8	0.30	ND	0.26	0.043	
75-71-8	Freon 12	**2.4**	1.8	0.31	**0.48**	0.36	0.063	
306-83-2	Freon 123	**1.3**	1.8	0.86	**0.21**	0.29	0.14	**J, X**
75-43-4	Freon 21	ND	1.8	0.86	ND	0.42	0.20	**X**
142-82-5	Heptane	**5.4**	1.8	0.30	**1.3**	0.44	0.074	
87-68-3	Hexachlorobutadiene	ND	1.8	0.39	ND	0.17	0.037	
110-54-3	Hexane	**2.2**	1.8	0.39	**0.63**	0.51	0.11	
179601-23-1	m,p-Xylene	**7.3**	3.6	0.50	**1.7**	0.82	0.12	
1634-04-4	Methyl tert-butyl ether	ND	1.8	0.23	ND	0.50	0.062	
75-09-2	Methylene Chloride	**3.9**	1.8	0.54	**1.1**	0.51	0.15	
95-47-6	o-Xylene	**3.4**	1.8	0.28	**0.78**	0.41	0.063	
103-65-1	Propylbenzene	**0.35**	1.8	0.28	**0.071**	0.36	0.056	**J**
100-42-5	Styrene	**2.2**	1.8	0.31	**0.52**	0.42	0.072	
127-18-4	Tetrachloroethene	**6.3**	1.8	0.25	**0.93**	0.26	0.036	
109-99-9	Tetrahydrofuran	**0.91**	1.8	0.24	**0.31**	0.61	0.081	**J**
108-88-3	Toluene	**200**	1.8	0.23	**53**	0.47	0.062	
156-60-5	trans-1,2-Dichloroethene	**0.41**	1.8	0.26	**0.10**	0.45	0.067	**J**
10061-02-6	trans-1,3-Dichloropropene	**0.42**	1.8	0.39	**0.092**	0.39	0.087	**J**
79-01-6	Trichloroethene	**0.66**	1.8	0.26	**0.12**	0.33	0.048	**J**
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.70	0.080	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261051** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-013

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.050 Liter(s)
Container ID:	1SS01322		

Initial Pressure (psig): 0.13 Final Pressure (psig): 6.50

Container Dilution Factor: 1.43

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261057** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-014

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01485

Initial Pressure (psig): -1.95 Final Pressure (psig): 5.92

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.32	ND	0.50	0.078	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.53	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.061	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.34	0.053	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.50	0.059	
78-87-5	1,2-Dichloropropane	ND	2.0	0.27	ND	0.44	0.058	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.36	ND	0.92	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.34	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.34	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.26	ND	0.56	0.071	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.43	0.069	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.5**	20	0.45	**0.52**	6.9	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.27	ND	0.49	0.065	
67-63-0	2-Propanol	ND	4.1	0.89	ND	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.65	0.093	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261057** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-014

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01485

Initial Pressure (psig): -1.95 Final Pressure (psig): 5.92

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.30	ND	0.49	0.072	
67-64-1	Acetone	**6.6**	20	4.9	**2.8**	8.5	2.0	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.49	ND	0.39	0.094	
71-43-2	Benzene	**0.34**	2.0	0.31	**0.11**	0.63	0.098	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.047	
75-25-2	Bromoform	ND	2.0	0.45	ND	0.20	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.077	
75-15-0	Carbon Disulfide	**7.3**	20	0.65	**2.3**	6.5	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.30	ND	0.32	0.048	
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.062	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.77	0.10	
67-66-3	Chloroform	**4.5**	2.0	0.29	**0.91**	0.41	0.059	
74-87-3	Chloromethane	ND	2.0	0.35	ND	0.98	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.077	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.34	ND	0.45	0.074	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	ND	4.1	0.61	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.24	0.033	
64-17-5	Ethanol	**2.5**	20	1.5	**1.3**	11	0.80	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.47	0.070	
75-69-4	Freon 11	**130**	2.0	0.33	**23**	0.36	0.058	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261057** ALS Sample ID: P2400922-014
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01485

Initial Pressure (psig): -1.95 Final Pressure (psig): 5.92

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**120**	2.0	0.31	**16**	0.26	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.3**	2.0	0.35	**0.47**	0.41	0.071	
306-83-2	Freon 123	ND	2.0	0.97	ND	0.32	0.16	**X**
75-43-4	Freon 21	ND	2.0	0.97	ND	0.48	0.23	**X**
142-82-5	Heptane	ND	2.0	0.34	ND	0.49	0.084	
87-68-3	Hexachlorobutadiene	ND	2.0	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.0	0.45	ND	0.57	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.93	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.26	ND	0.56	0.071	
75-09-2	Methylene Chloride	ND	2.0	0.61	ND	0.58	0.17	
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.47	0.072	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	ND	2.0	0.35	ND	0.48	0.082	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	ND	2.0	0.27	ND	0.69	0.092	
108-88-3	Toluene	**0.34**	2.0	0.26	**0.089**	0.54	0.070	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.45	ND	0.45	0.098	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.38	0.054	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.79	0.090	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261057** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-014

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01485		

Initial Pressure (psig): -1.95 Final Pressure (psig): 5.92

Container Dilution Factor: 1.62

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261104** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-015

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS01190

Initial Pressure (psig): -1.97 Final Pressure (psig): 8.00

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	8.9	1.2	ND	1.6	0.22	
79-34-5	1,1,2,2-Tetrachloroethane	ND	8.9	1.3	ND	1.3	0.19	
79-00-5	1,1,2-Trichloroethane	ND	8.9	0.96	ND	1.6	0.18	
75-34-3	1,1-Dichloroethane	ND	8.9	1.4	ND	2.2	0.34	
75-35-4	1,1-Dichloroethene	ND	8.9	1.3	ND	2.2	0.33	
120-82-1	1,2,4-Trichlorobenzene	ND	8.9	2.3	ND	1.2	0.31	
95-63-6	1,2,4-Trimethylbenzene	ND	8.9	1.3	ND	1.8	0.27	
106-93-4	1,2-Dibromoethane (EDB)	ND	8.9	1.1	ND	1.2	0.14	
95-50-1	1,2-Dichlorobenzene	ND	8.9	1.4	ND	1.5	0.23	
107-06-2	1,2-Dichloroethane	ND	8.9	1.1	ND	2.2	0.26	
78-87-5	1,2-Dichloropropane	ND	8.9	1.2	ND	1.9	0.25	
108-67-8	1,3,5-Trimethylbenzene	ND	8.9	1.4	ND	1.8	0.28	
106-99-0	1,3-Butadiene	ND	8.9	1.6	ND	4.0	0.71	
541-73-1	1,3-Dichlorobenzene	ND	8.9	1.4	ND	1.5	0.24	
106-46-7	1,4-Dichlorobenzene	ND	8.9	1.5	ND	1.5	0.24	
123-91-1	1,4-Dioxane	ND	8.9	1.1	ND	2.5	0.31	
540-84-1	2,2,4-Trimethylpentane	ND	8.9	1.4	ND	1.9	0.30	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.0**	89	2.0	**0.66**	30	0.66	**J**
591-78-6	2-Hexanone	ND	8.9	1.2	ND	2.2	0.29	
67-63-0	2-Propanol	ND	18	3.9	ND	7.2	1.6	
107-05-1	3-Chloropropene	ND	8.9	1.3	ND	2.8	0.41	
622-96-8	4-Ethyltoluene	ND	8.9	1.5	ND	1.8	0.31	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261104** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-015

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS01190

Initial Pressure (psig): -1.97 Final Pressure (psig): 8.00

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	8.9	1.3	ND	2.2	0.32	
67-64-1	Acetone	ND	89	21	ND	37	9.0	
100-44-7	alpha-Chlorotoluene	ND	8.9	2.1	ND	1.7	0.41	
71-43-2	Benzene	ND	8.9	1.4	ND	2.8	0.43	
75-27-4	Bromodichloromethane	ND	8.9	1.4	ND	1.3	0.20	
75-25-2	Bromoform	ND	8.9	2.0	ND	0.86	0.19	
74-83-9	Bromomethane	ND	8.9	1.3	ND	2.3	0.34	
75-15-0	Carbon Disulfide	ND	89	2.8	ND	29	0.91	
56-23-5	Carbon Tetrachloride	ND	8.9	1.3	ND	1.4	0.21	
108-90-7	Chlorobenzene	ND	8.9	1.3	ND	1.9	0.27	
75-00-3	Chloroethane	ND	8.9	1.2	ND	3.4	0.45	
67-66-3	Chloroform	**8.5**	8.9	1.3	**1.7**	1.8	0.26	**J**
74-87-3	Chloromethane	ND	8.9	1.5	ND	4.3	0.74	
156-59-2	cis-1,2-Dichloroethene	ND	8.9	1.3	ND	2.2	0.34	
10061-01-5	cis-1,3-Dichloropropene	ND	8.9	1.5	ND	2.0	0.33	
98-82-8	Cumene	ND	8.9	1.4	ND	1.8	0.28	
110-82-7	Cyclohexane	ND	18	2.7	ND	5.2	0.78	
124-48-1	Dibromochloromethane	ND	8.9	1.2	ND	1.0	0.15	
64-17-5	Ethanol	ND	89	6.6	ND	47	3.5	
100-41-4	Ethyl Benzene	ND	8.9	1.3	ND	2.0	0.31	
75-69-4	Freon 11	**1,700**	8.9	1.4	**310**	1.6	0.26	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261104** ALS Sample ID: P2400922-015
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.050 Liter(s)
Container ID: 1SS01190

Initial Pressure (psig): -1.97 Final Pressure (psig): 8.00

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,700**	18	2.7	**230**	2.3	0.35	**D**
76-14-2	Freon 114	ND	8.9	1.5	ND	1.3	0.21	
75-71-8	Freon 12	**2.4**	8.9	1.5	**0.49**	1.8	0.31	**J**
306-83-2	Freon 123	ND	8.9	4.3	ND	1.4	0.68	**X**
75-43-4	Freon 21	ND	8.9	4.3	ND	2.1	1.0	**X**
142-82-5	Heptane	ND	8.9	1.5	ND	2.2	0.37	
87-68-3	Hexachlorobutadiene	ND	8.9	2.0	ND	0.83	0.18	
110-54-3	Hexane	ND	8.9	2.0	ND	2.5	0.56	
179601-23-1	m,p-Xylene	ND	18	2.5	ND	4.1	0.57	
1634-04-4	Methyl tert-butyl ether	ND	8.9	1.1	ND	2.5	0.31	
75-09-2	Methylene Chloride	ND	8.9	2.7	ND	2.6	0.77	
95-47-6	o-Xylene	ND	8.9	1.4	ND	2.0	0.32	
103-65-1	Propylbenzene	ND	8.9	1.4	ND	1.8	0.28	
100-42-5	Styrene	ND	8.9	1.5	ND	2.1	0.36	
127-18-4	Tetrachloroethene	ND	8.9	1.2	ND	1.3	0.18	
109-99-9	Tetrahydrofuran	ND	8.9	1.2	ND	3.0	0.40	
108-88-3	Toluene	ND	8.9	1.2	ND	2.4	0.31	
156-60-5	trans-1,2-Dichloroethene	ND	8.9	1.3	ND	2.2	0.33	
10061-02-6	trans-1,3-Dichloropropene	ND	8.9	2.0	ND	2.0	0.43	
79-01-6	Trichloroethene	**1.7**	8.9	1.3	**0.32**	1.7	0.24	**J**
75-01-4	Vinyl Chloride	ND	8.9	1.0	ND	3.5	0.40	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261104** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-015

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.10 Liter(s)
Test Notes:			0.050 Liter(s)
Container ID:	1SS01190		

Initial Pressure (psig): -1.97 Final Pressure (psig): 8.00

Container Dilution Factor: 1.78

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261340** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-016

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01530

Initial Pressure (psig): -2.22 Final Pressure (psig): 5.60

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.32	ND	0.50	0.079	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.53	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.061	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.50	0.059	
78-87-5	1,2-Dichloropropane	ND	2.0	0.27	ND	0.44	0.058	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.064	
106-99-0	1,3-Butadiene	ND	2.0	0.36	ND	0.92	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.33	ND	0.34	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.0	0.26	ND	0.57	0.071	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.8**	20	0.45	**0.60**	6.9	0.15	**J**
591-78-6	2-Hexanone	**0.31**	2.0	0.27	**0.075**	0.50	0.066	**J**
67-63-0	2-Propanol	ND	4.1	0.90	ND	1.7	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.65	0.094	
622-96-8	4-Ethyltoluene	ND	2.0	0.35	ND	0.41	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261340** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-016

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01530

Initial Pressure (psig): -2.22 Final Pressure (psig): 5.60

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.30	ND	0.50	0.073	
67-64-1	Acetone	**12**	20	4.9	**4.9**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.49	ND	0.39	0.094	
71-43-2	Benzene	ND	2.0	0.31	ND	0.64	0.098	
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.047	
75-25-2	Bromoform	ND	2.0	0.45	ND	0.20	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.078	
75-15-0	Carbon Disulfide	**0.84**	20	0.65	**0.27**	6.5	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.30	ND	0.32	0.048	
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.063	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.77	0.10	
67-66-3	Chloroform	**0.36**	2.0	0.29	**0.073**	0.42	0.059	**J**
74-87-3	Chloromethane	ND	2.0	0.35	ND	0.99	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.31	ND	0.51	0.077	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.064	
110-82-7	Cyclohexane	ND	4.1	0.61	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.0	0.29	ND	0.24	0.033	
64-17-5	Ethanol	**3.0**	20	1.5	**1.6**	11	0.80	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.31	ND	0.47	0.070	
75-69-4	Freon 11	**13**	2.0	0.33	**2.3**	0.36	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261340** ALS Sample ID: P2400922-016
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01530

Initial Pressure (psig): -2.22 Final Pressure (psig): 5.60

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**23**	2.0	0.31	**3.0**	0.27	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.4**	2.0	0.35	**0.49**	0.41	0.072	
306-83-2	Freon 123	ND	2.0	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.0	0.98	ND	0.48	0.23	**X**
142-82-5	Heptane	ND	2.0	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.0	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.0	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.26	ND	0.57	0.071	
75-09-2	Methylene Chloride	ND	2.0	0.61	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.47	0.072	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.064	
100-42-5	Styrene	ND	2.0	0.35	ND	0.48	0.082	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	ND	2.0	0.27	ND	0.69	0.093	
108-88-3	Toluene	**0.33**	2.0	0.26	**0.088**	0.54	0.070	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.80	0.091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261340** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-016

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01530		

Initial Pressure (psig): -2.22 Final Pressure (psig): 5.60

Container Dilution Factor: 1.63

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261344** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-017

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01533

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.05

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.079	
75-35-4	1,1-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.53	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.30	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.44	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.064	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.2**	21	0.45	**1.1**	7.0	0.15	**J**
591-78-6	2-Hexanone	**1.0**	2.1	0.27	**0.25**	0.50	0.066	**J**
67-63-0	2-Propanol	**1.2**	4.1	0.90	**0.50**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.094	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261344** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-017

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01533

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.05

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.073	
67-64-1	Acetone	**13**	21	4.9	**5.6**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	ND	2.1	0.32	ND	0.64	0.099	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.30	ND	0.53	0.078	
75-15-0	Carbon Disulfide	**1.0**	21	0.66	**0.32**	6.6	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.30	ND	0.33	0.048	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.063	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**0.40**	2.1	0.29	**0.082**	0.42	0.060	**J**
74-87-3	Chloromethane	**0.54**	2.1	0.35	**0.26**	0.99	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.064	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**9.9**	21	1.5	**5.2**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**22**	2.1	0.33	**3.9**	0.36	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261344** ALS Sample ID: P2400922-017
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01533

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.05

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**23**	2.1	0.31	**3.0**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.4**	2.1	0.36	**0.49**	0.41	0.072	
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	0.98	ND	0.49	0.23	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.1	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.47	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.064	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.27	ND	0.70	0.093	
108-88-3	Toluene	**0.50**	2.1	0.27	**0.13**	0.54	0.071	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	**0.93**	2.1	0.30	**0.17**	0.38	0.055	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.23	ND	0.80	0.091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261344** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-017

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01533		

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.05

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261356** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-018

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00037

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.85

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.079	
75-35-4	1,1-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.53	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.30	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.44	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.064	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	**0.45**	2.1	0.26	**0.12**	0.57	0.072	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**0.80**	21	0.45	**0.27**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.50	0.066	
67-63-0	2-Propanol	ND	4.1	0.90	ND	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.094	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261356** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-018

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00037

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.85

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.073	
67-64-1	Acetone	**5.2**	21	4.9	**2.2**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	ND	2.1	0.32	ND	0.64	0.099	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.30	ND	0.53	0.078	
75-15-0	Carbon Disulfide	**5.0**	21	0.66	**1.6**	6.6	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.30	ND	0.33	0.048	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.063	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**1.2**	2.1	0.29	**0.24**	0.42	0.060	**J**
74-87-3	Chloromethane	ND	2.1	0.35	ND	0.99	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.064	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**2.5**	21	1.5	**1.3**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**4.7**	2.1	0.33	**0.84**	0.36	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261356** ALS Sample ID: P2400922-018
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00037

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.85

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**3.1**	2.1	0.31	**0.41**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.5**	2.1	0.36	**0.50**	0.41	0.072	
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	0.98	ND	0.49	0.23	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.1	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.47	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.064	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.27	ND	0.70	0.093	
108-88-3	Toluene	**0.36**	2.1	0.27	**0.096**	0.54	0.071	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.23	ND	0.80	0.091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261356** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-018

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00037		

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.85

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261401** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-019

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00925

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.25

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.081	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.28	0.074	
95-63-6	1,2,4-Trimethylbenzene	**0.39**	2.1	0.31	**0.079**	0.43	0.063	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.066	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.95	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	**0.29**	2.1	0.26	**0.079**	0.58	0.073	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**5.5**	21	0.46	**1.9**	7.1	0.16	**J**
591-78-6	2-Hexanone	**1.0**	2.1	0.28	**0.25**	0.51	0.068	**J**
67-63-0	2-Propanol	**1.6**	4.2	0.92	**0.63**	1.7	0.38	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.097	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.073	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261401** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-019

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00925

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.25

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.53**	2.1	0.31	**0.13**	0.51	0.075	**J**
67-64-1	Acetone	**44**	21	5.0	**19**	8.8	2.1	
100-44-7	alpha-Chlorotoluene	**2.5**	2.1	0.50	**0.49**	0.41	0.097	
71-43-2	Benzene	**0.62**	2.1	0.32	**0.19**	0.66	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.045	
74-83-9	Bromomethane	**0.73**	2.1	0.31	**0.19**	0.54	0.080	**J**
75-15-0	Carbon Disulfide	**3.2**	21	0.67	**1.0**	6.7	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.065	
75-00-3	Chloroethane	**1.6**	2.1	0.28	**0.60**	0.80	0.11	**J**
67-66-3	Chloroform	**2.9**	2.1	0.30	**0.59**	0.43	0.061	
74-87-3	Chloromethane	**3.4**	2.1	0.36	**1.7**	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.077	
98-82-8	Cumene	ND	2.1	0.32	ND	0.43	0.066	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.035	
64-17-5	Ethanol	**6.1**	21	1.6	**3.3**	11	0.83	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.48	0.073	
75-69-4	Freon 11	**67**	2.1	0.34	**12**	0.37	0.061	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261401** ALS Sample ID: P2400922-019
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00925

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.25

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**68**	2.1	0.32	**8.9**	0.27	0.042	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.5**	2.1	0.37	**0.50**	0.42	0.074	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	**0.39**	2.1	0.36	**0.095**	0.51	0.087	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	**0.66**	2.1	0.46	**0.19**	0.60	0.13	**J**
179601-23-1	m,p-Xylene	**1.1**	4.2	0.59	**0.25**	0.97	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.43	0.066	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.085	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**0.85**	2.1	0.27	**0.23**	0.56	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.094	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261401** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-019

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00925		

Initial Pressure (psig): -2.23 Final Pressure (psig): 6.25

Container Dilution Factor: 1.68

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261406** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-020

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00070 Liter(s)
Container ID: 1SC01196

Initial Pressure (psig): -1.97 Final Pressure (psig): 6.50

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	840	110	ND	150	20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	840	120	ND	120	18	
79-00-5	1,1,2-Trichloroethane	ND	840	90	ND	150	17	
75-34-3	1,1-Dichloroethane	ND	840	130	ND	210	32	
75-35-4	1,1-Dichloroethene	ND	840	120	ND	210	31	
120-82-1	1,2,4-Trichlorobenzene	ND	840	220	ND	110	29	
95-63-6	1,2,4-Trimethylbenzene	ND	840	120	ND	170	25	
106-93-4	1,2-Dibromoethane (EDB)	ND	840	100	ND	110	13	
95-50-1	1,2-Dichlorobenzene	ND	840	130	ND	140	22	
107-06-2	1,2-Dichloroethane	ND	840	99	ND	210	24	
78-87-5	1,2-Dichloropropane	ND	840	110	ND	180	24	
108-67-8	1,3,5-Trimethylbenzene	ND	840	130	ND	170	26	
106-99-0	1,3-Butadiene	ND	840	150	ND	380	66	
541-73-1	1,3-Dichlorobenzene	ND	840	130	ND	140	22	
106-46-7	1,4-Dichlorobenzene	ND	840	140	ND	140	23	
123-91-1	1,4-Dioxane	ND	840	110	ND	230	29	
540-84-1	2,2,4-Trimethylpentane	ND	840	130	ND	180	29	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	8,400	180	ND	2,800	62	
591-78-6	2-Hexanone	ND	840	110	ND	200	27	
67-63-0	2-Propanol	ND	1,700	370	ND	680	150	
107-05-1	3-Chloropropene	ND	840	120	ND	270	38	
622-96-8	4-Ethyltoluene	ND	840	140	ND	170	29	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261406** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-020

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00070 Liter(s)
Container ID: 1SC01196

Initial Pressure (psig): -1.97 Final Pressure (psig): 6.50

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	840	120	ND	200	30	
67-64-1	Acetone	ND	8,400	2,000	ND	3,500	840	
100-44-7	alpha-Chlorotoluene	ND	840	200	ND	160	39	
71-43-2	Benzene	ND	840	130	ND	260	40	
75-27-4	Bromodichloromethane	ND	840	130	ND	120	19	
75-25-2	Bromoform	ND	840	180	ND	81	18	
74-83-9	Bromomethane	ND	840	120	ND	220	32	
75-15-0	Carbon Disulfide	ND	8,400	270	ND	2,700	86	
56-23-5	Carbon Tetrachloride	ND	840	120	ND	130	20	
108-90-7	Chlorobenzene	ND	840	120	ND	180	26	
75-00-3	Chloroethane	ND	840	110	ND	320	42	
67-66-3	Chloroform	ND	840	120	ND	170	24	
74-87-3	Chloromethane	ND	840	140	ND	400	70	
156-59-2	cis-1,2-Dichloroethene	ND	840	130	ND	210	32	
10061-01-5	cis-1,3-Dichloropropene	ND	840	140	ND	180	31	
98-82-8	Cumene	ND	840	130	ND	170	26	
110-82-7	Cyclohexane	ND	1,700	250	ND	490	73	
124-48-1	Dibromochloromethane	ND	840	120	ND	98	14	
64-17-5	Ethanol	ND	8,400	620	ND	4,400	330	
100-41-4	Ethyl Benzene	ND	840	130	ND	190	29	
75-69-4	Freon 11	**110,000**	840	140	**20,000**	150	24	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261406** ALS Sample ID: P2400922-020
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00070 Liter(s)
Container ID: 1SC01196

Initial Pressure (psig): -1.97 Final Pressure (psig): 6.50

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**63,000**	1,200	180	**8,200**	160	24	**D**
76-14-2	Freon 114	ND	840	140	ND	120	20	
75-71-8	Freon 12	**920**	840	150	**190**	170	29	
306-83-2	Freon 123	ND	840	400	ND	130	64	**X**
75-43-4	Freon 21	**2,700**	840	400	**640**	200	95	**X**
142-82-5	Heptane	ND	840	140	ND	200	35	
87-68-3	Hexachlorobutadiene	ND	840	180	ND	78	17	
110-54-3	Hexane	ND	840	180	ND	240	52	
179601-23-1	m,p-Xylene	ND	1,700	230	ND	380	54	
1634-04-4	Methyl tert-butyl ether	ND	840	110	ND	230	29	
75-09-2	Methylene Chloride	ND	840	250	ND	240	72	
95-47-6	o-Xylene	ND	840	130	ND	190	30	
103-65-1	Propylbenzene	ND	840	130	ND	170	26	
100-42-5	Styrene	ND	840	140	ND	200	34	
127-18-4	Tetrachloroethene	ND	840	120	ND	120	17	
109-99-9	Tetrahydrofuran	ND	840	110	ND	280	38	
108-88-3	Toluene	ND	840	110	ND	220	29	
156-60-5	trans-1,2-Dichloroethene	ND	840	120	ND	210	31	
10061-02-6	trans-1,3-Dichloropropene	ND	840	180	ND	180	40	
79-01-6	Trichloroethene	**220**	840	120	**42**	160	22	**J**
75-01-4	Vinyl Chloride	ND	840	95	ND	330	37	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261406** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-020

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.0010 Liter(s)
Test Notes:	**T**		0.00070 Liter(s)
Container ID:	1SC01196		

Initial Pressure (psig): -1.97 Final Pressure (psig): 6.50

Container Dilution Factor: 1.67

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**12,000**	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261412** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-021

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.01

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	280	37	ND	51	6.7	
79-34-5	1,1,2,2-Tetrachloroethane	ND	280	41	ND	40	6.0	
79-00-5	1,1,2-Trichloroethane	ND	280	30	ND	51	5.5	
75-34-3	1,1-Dichloroethane	ND	280	43	ND	68	11	
75-35-4	1,1-Dichloroethene	ND	280	41	ND	70	10	
120-82-1	1,2,4-Trichlorobenzene	ND	280	72	ND	37	9.7	
95-63-6	1,2,4-Trimethylbenzene	ND	280	41	ND	56	8.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	280	34	ND	36	4.5	
95-50-1	1,2-Dichlorobenzene	ND	280	44	ND	46	7.3	
107-06-2	1,2-Dichloroethane	ND	280	33	ND	68	8.1	
78-87-5	1,2-Dichloropropane	ND	280	37	ND	60	7.9	
108-67-8	1,3,5-Trimethylbenzene	ND	280	43	ND	56	8.7	
106-99-0	1,3-Butadiene	ND	280	49	ND	130	22	
541-73-1	1,3-Dichlorobenzene	ND	280	44	ND	46	7.4	
106-46-7	1,4-Dichlorobenzene	ND	280	45	ND	46	7.5	
123-91-1	1,4-Dioxane	ND	280	35	ND	77	9.7	
540-84-1	2,2,4-Trimethylpentane	ND	280	44	ND	59	9.5	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	2,800	61	ND	940	21	
591-78-6	2-Hexanone	ND	280	37	ND	68	8.9	
67-63-0	2-Propanol	ND	550	120	ND	230	50	
107-05-1	3-Chloropropene	ND	280	40	ND	88	13	
622-96-8	4-Ethyltoluene	ND	280	47	ND	56	9.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261412** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-021

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.01

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	280	40	ND	68	9.9	
67-64-1	Acetone	ND	2,800	660	ND	1,200	280	
100-44-7	alpha-Chlorotoluene	ND	280	66	ND	53	13	
71-43-2	Benzene	ND	280	43	ND	87	13	
75-27-4	Bromodichloromethane	ND	280	43	ND	41	6.4	
75-25-2	Bromoform	ND	280	61	ND	27	5.9	
74-83-9	Bromomethane	ND	280	41	ND	71	11	
75-15-0	Carbon Disulfide	ND	2,800	89	ND	890	28	
56-23-5	Carbon Tetrachloride	ND	280	41	ND	44	6.5	
108-90-7	Chlorobenzene	ND	280	39	ND	60	8.5	
75-00-3	Chloroethane	ND	280	37	ND	100	14	
67-66-3	Chloroform	ND	280	39	ND	57	8.0	
74-87-3	Chloromethane	ND	280	48	ND	130	23	
156-59-2	cis-1,2-Dichloroethene	ND	280	42	ND	70	10	
10061-01-5	cis-1,3-Dichloropropene	ND	280	46	ND	61	10	
98-82-8	Cumene	ND	280	43	ND	56	8.7	
110-82-7	Cyclohexane	ND	550	83	ND	160	24	
124-48-1	Dibromochloromethane	ND	280	39	ND	32	4.5	
64-17-5	Ethanol	ND	2,800	200	ND	1,500	110	
100-41-4	Ethyl Benzene	ND	280	42	ND	64	9.6	
75-69-4	Freon 11	**33,000**	280	45	**5,900**	49	8.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261412** ALS Sample ID: P2400922-021
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00050

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.01

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**49,000**	280	42	**6,400**	36	5.5	
76-14-2	Freon 114	ND	280	46	ND	40	6.7	
75-71-8	Freon 12	**240**	280	48	**49**	56	9.7	**J**
306-83-2	Freon 123	ND	280	130	ND	44	21	**X**
75-43-4	Freon 21	**350**	280	130	**83**	66	32	**X**
142-82-5	Heptane	ND	280	47	ND	68	11	
87-68-3	Hexachlorobutadiene	ND	280	61	ND	26	5.7	
110-54-3	Hexane	ND	280	61	ND	79	17	
179601-23-1	m,p-Xylene	ND	550	77	ND	130	18	
1634-04-4	Methyl tert-butyl ether	ND	280	35	ND	77	9.7	
75-09-2	Methylene Chloride	ND	280	83	ND	80	24	
95-47-6	o-Xylene	ND	280	43	ND	64	9.8	
103-65-1	Propylbenzene	ND	280	43	ND	56	8.7	
100-42-5	Styrene	ND	280	48	ND	65	11	
127-18-4	Tetrachloroethene	ND	280	38	ND	41	5.6	
109-99-9	Tetrahydrofuran	ND	280	37	ND	94	13	
108-88-3	Toluene	ND	280	36	ND	73	9.5	
156-60-5	trans-1,2-Dichloroethene	ND	280	41	ND	70	10	
10061-02-6	trans-1,3-Dichloropropene	ND	280	61	ND	61	13	
79-01-6	Trichloroethene	**74**	280	40	**14**	52	7.4	**J**
75-01-4	Vinyl Chloride	ND	280	32	ND	110	12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261412** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-021

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.0030 Liter(s)
Test Notes:	**T**		
Container ID:	1SS00050		

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.01

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**2,700**	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261413** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-022

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00176

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.53

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	270	36	ND	50	6.6	
79-34-5	1,1,2,2-Tetrachloroethane	ND	270	40	ND	40	5.9	
79-00-5	1,1,2-Trichloroethane	ND	270	29	ND	50	5.4	
75-34-3	1,1-Dichloroethane	ND	270	42	ND	67	10	
75-35-4	1,1-Dichloroethene	ND	270	40	ND	69	10	
120-82-1	1,2,4-Trichlorobenzene	ND	270	71	ND	37	9.5	
95-63-6	1,2,4-Trimethylbenzene	ND	270	40	ND	55	8.2	
106-93-4	1,2-Dibromoethane (EDB)	ND	270	34	ND	35	4.4	
95-50-1	1,2-Dichlorobenzene	ND	270	43	ND	45	7.1	
107-06-2	1,2-Dichloroethane	ND	270	32	ND	67	7.9	
78-87-5	1,2-Dichloropropane	ND	270	36	ND	59	7.8	
108-67-8	1,3,5-Trimethylbenzene	ND	270	42	ND	55	8.5	
106-99-0	1,3-Butadiene	ND	270	48	ND	120	22	
541-73-1	1,3-Dichlorobenzene	ND	270	43	ND	45	7.2	
106-46-7	1,4-Dichlorobenzene	ND	270	45	ND	45	7.4	
123-91-1	1,4-Dioxane	ND	270	34	ND	75	9.5	
540-84-1	2,2,4-Trimethylpentane	ND	270	43	ND	58	9.3	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	2,700	60	ND	920	20	
591-78-6	2-Hexanone	ND	270	36	ND	66	8.8	
67-63-0	2-Propanol	ND	540	120	ND	220	49	
107-05-1	3-Chloropropene	ND	270	39	ND	87	13	
622-96-8	4-Ethyltoluene	ND	270	46	ND	55	9.4	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261413** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-022

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00176

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.53

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	270	40	ND	66	9.7	
67-64-1	Acetone	ND	2,700	650	ND	1,100	270	
100-44-7	alpha-Chlorotoluene	ND	270	65	ND	52	13	
71-43-2	Benzene	ND	270	42	ND	85	13	
75-27-4	Bromodichloromethane	ND	270	42	ND	41	6.2	
75-25-2	Bromoform	ND	270	60	ND	26	5.8	
74-83-9	Bromomethane	ND	270	40	ND	70	10	
75-15-0	Carbon Disulfide	ND	2,700	87	ND	870	28	
56-23-5	Carbon Tetrachloride	ND	270	40	ND	43	6.4	
108-90-7	Chlorobenzene	ND	270	39	ND	59	8.4	
75-00-3	Chloroethane	ND	270	36	ND	100	14	
67-66-3	Chloroform	ND	270	39	ND	56	7.9	
74-87-3	Chloromethane	ND	270	47	ND	130	23	
156-59-2	cis-1,2-Dichloroethene	ND	270	41	ND	69	10	
10061-01-5	cis-1,3-Dichloropropene	ND	270	45	ND	60	9.9	
98-82-8	Cumene	ND	270	42	ND	55	8.5	
110-82-7	Cyclohexane	ND	540	82	ND	160	24	
124-48-1	Dibromochloromethane	ND	270	38	ND	32	4.5	
64-17-5	Ethanol	ND	2,700	200	ND	1,400	110	
100-41-4	Ethyl Benzene	ND	270	41	ND	63	9.4	
75-69-4	Freon 11	**32,000**	270	44	**5,800**	48	7.8	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261413** ALS Sample ID: P2400922-022
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/6/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: 1SS00176

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.53

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**49,000**	270	41	**6,400**	35	5.4	
76-14-2	Freon 114	ND	270	46	ND	39	6.5	
75-71-8	Freon 12	**220**	270	47	**46**	55	9.6	**J**
306-83-2	Freon 123	ND	270	130	ND	43	21	**X**
75-43-4	Freon 21	**330**	270	130	**79**	65	31	**X**
142-82-5	Heptane	ND	270	46	ND	66	11	
87-68-3	Hexachlorobutadiene	ND	270	60	ND	25	5.6	
110-54-3	Hexane	ND	270	60	ND	77	17	
179601-23-1	m,p-Xylene	ND	540	76	ND	130	18	
1634-04-4	Methyl tert-butyl ether	ND	270	34	ND	75	9.5	
75-09-2	Methylene Chloride	ND	270	82	ND	78	23	
95-47-6	o-Xylene	ND	270	42	ND	63	9.6	
103-65-1	Propylbenzene	ND	270	42	ND	55	8.5	
100-42-5	Styrene	ND	270	47	ND	64	11	
127-18-4	Tetrachloroethene	**38**	270	37	**5.6**	40	5.5	**J**
109-99-9	Tetrahydrofuran	ND	270	36	ND	92	12	
108-88-3	Toluene	ND	270	35	ND	72	9.4	
156-60-5	trans-1,2-Dichloroethene	ND	270	40	ND	69	10	
10061-02-6	trans-1,3-Dichloropropene	ND	270	60	ND	60	13	
79-01-6	Trichloroethene	**83**	270	39	**15**	51	7.3	**J**
75-01-4	Vinyl Chloride	ND	270	31	ND	110	12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261413** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-022

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/6/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.0030 Liter(s)
Test Notes:	**T**		
Container ID:	1SS00176		

Initial Pressure (psig): -2.27 Final Pressure (psig): 5.53

Container Dilution Factor: 1.63

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**2,600**	

T = Analyte is a tentatively identified compound, result is estimated.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261435** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-023

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00905

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.78

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.079	
75-35-4	1,1-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.53	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	**0.74**	2.1	0.30	**0.15**	0.42	0.062	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.44	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.064	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	**3.1**	2.1	0.26	**0.86**	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	21	0.45	ND	7.0	0.15	
591-78-6	2-Hexanone	**0.98**	2.1	0.27	**0.24**	0.50	0.066	**J**
67-63-0	2-Propanol	**7.7**	4.1	0.90	**3.1**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.094	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261435** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-023

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00905

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.78

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**13**	2.1	0.30	**3.2**	0.50	0.073	
67-64-1	Acetone	**220**	21	4.9	**94**	8.6	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	**1.0**	2.1	0.32	**0.32**	0.64	0.099	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.30	ND	0.53	0.078	
75-15-0	Carbon Disulfide	**80**	21	0.66	**26**	6.6	0.21	
56-23-5	Carbon Tetrachloride	ND	2.1	0.30	ND	0.33	0.048	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.063	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	ND	2.1	0.29	ND	0.42	0.060	
74-87-3	Chloromethane	ND	2.1	0.35	ND	0.99	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.064	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**26**	21	1.5	**14**	11	0.81	
100-41-4	Ethyl Benzene	**0.58**	2.1	0.31	**0.13**	0.47	0.071	**J**
75-69-4	Freon 11	**310**	2.1	0.33	**56**	0.36	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261435** ALS Sample ID: P2400922-023
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00905

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.78

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**330**	21	3.1	**43**	2.7	0.41	**D**
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.4**	2.1	0.36	**0.49**	0.41	0.072	
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	**2.7**	2.1	0.98	**0.63**	0.49	0.23	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.1	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	**3.6**	4.1	0.57	**0.83**	0.94	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	**0.62**	2.1	0.32	**0.14**	0.47	0.073	**J**
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.064	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.27	ND	0.70	0.093	
108-88-3	Toluene	**2.9**	2.1	0.27	**0.78**	0.54	0.071	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.23	ND	0.80	0.091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261435** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-023

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00905		

Initial Pressure (psig): -2.19 Final Pressure (psig): 5.78

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261440** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-024

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00707

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	9.7	1.3	ND	1.8	0.23	
79-34-5	1,1,2,2-Tetrachloroethane	ND	9.7	1.4	ND	1.4	0.21	
79-00-5	1,1,2-Trichloroethane	ND	9.7	1.0	ND	1.8	0.19	
75-34-3	1,1-Dichloroethane	ND	9.7	1.5	ND	2.4	0.37	
75-35-4	1,1-Dichloroethene	ND	9.7	1.4	ND	2.4	0.36	
120-82-1	1,2,4-Trichlorobenzene	ND	9.7	2.5	ND	1.3	0.34	
95-63-6	1,2,4-Trimethylbenzene	ND	9.7	1.4	ND	2.0	0.29	
106-93-4	1,2-Dibromoethane (EDB)	ND	9.7	1.2	ND	1.3	0.16	
95-50-1	1,2-Dichlorobenzene	ND	9.7	1.5	ND	1.6	0.25	
107-06-2	1,2-Dichloroethane	ND	9.7	1.1	ND	2.4	0.28	
78-87-5	1,2-Dichloropropane	**3.1**	9.7	1.3	**0.67**	2.1	0.28	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	9.7	1.5	ND	2.0	0.30	
106-99-0	1,3-Butadiene	ND	9.7	1.7	ND	4.4	0.77	
541-73-1	1,3-Dichlorobenzene	ND	9.7	1.6	ND	1.6	0.26	
106-46-7	1,4-Dichlorobenzene	ND	9.7	1.6	ND	1.6	0.26	
123-91-1	1,4-Dioxane	ND	9.7	1.2	ND	2.7	0.34	
540-84-1	2,2,4-Trimethylpentane	ND	9.7	1.6	ND	2.1	0.33	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**4.7**	97	2.1	**1.6**	33	0.72	**J**
591-78-6	2-Hexanone	ND	9.7	1.3	ND	2.4	0.31	
67-63-0	2-Propanol	**17**	19	4.3	**6.8**	7.9	1.7	**J**
107-05-1	3-Chloropropene	ND	9.7	1.4	ND	3.1	0.45	
622-96-8	4-Ethyltoluene	ND	9.7	1.6	ND	2.0	0.34	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261440** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-024

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00707

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	9.7	1.4	ND	2.4	0.35	
67-64-1	Acetone	**33**	97	23	**14**	41	9.8	**J**
100-44-7	alpha-Chlorotoluene	ND	9.7	2.3	ND	1.9	0.45	
71-43-2	Benzene	**1.9**	9.7	1.5	**0.59**	3.0	0.47	**J**
75-27-4	Bromodichloromethane	ND	9.7	1.5	ND	1.4	0.22	
75-25-2	Bromoform	ND	9.7	2.1	ND	0.94	0.21	
74-83-9	Bromomethane	ND	9.7	1.4	ND	2.5	0.37	
75-15-0	Carbon Disulfide	ND	97	3.1	ND	31	1.0	
56-23-5	Carbon Tetrachloride	ND	9.7	1.4	ND	1.5	0.23	
108-90-7	Chlorobenzene	ND	9.7	1.4	ND	2.1	0.30	
75-00-3	Chloroethane	ND	9.7	1.3	ND	3.7	0.48	
67-66-3	Chloroform	ND	9.7	1.4	ND	2.0	0.28	
74-87-3	Chloromethane	ND	9.7	1.7	ND	4.7	0.81	
156-59-2	cis-1,2-Dichloroethene	ND	9.7	1.5	ND	2.4	0.37	
10061-01-5	cis-1,3-Dichloropropene	ND	9.7	1.6	ND	2.1	0.35	
98-82-8	Cumene	ND	9.7	1.5	ND	2.0	0.30	
110-82-7	Cyclohexane	ND	19	2.9	ND	5.6	0.84	
124-48-1	Dibromochloromethane	ND	9.7	1.4	ND	1.1	0.16	
64-17-5	Ethanol	**29**	97	7.2	**15**	51	3.8	**J**
100-41-4	Ethyl Benzene	ND	9.7	1.5	ND	2.2	0.33	
75-69-4	Freon 11	**1,300**	9.7	1.6	**230**	1.7	0.28	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261440** ALS Sample ID: P2400922-024
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00707

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**210**	9.7	1.5	**27**	1.3	0.19	
76-14-2	Freon 114	ND	9.7	1.6	ND	1.4	0.23	
75-71-8	Freon 12	**2.7**	9.7	1.7	**0.54**	2.0	0.34	**J**
306-83-2	Freon 123	ND	9.7	4.7	ND	1.5	0.74	**X**
75-43-4	Freon 21	ND	9.7	4.7	ND	2.3	1.1	**X**
142-82-5	Heptane	ND	9.7	1.6	ND	2.4	0.40	
87-68-3	Hexachlorobutadiene	ND	9.7	2.1	ND	0.91	0.20	
110-54-3	Hexane	ND	9.7	2.1	ND	2.7	0.60	
179601-23-1	m,p-Xylene	ND	19	2.7	ND	4.5	0.62	
1634-04-4	Methyl tert-butyl ether	ND	9.7	1.2	ND	2.7	0.34	
75-09-2	Methylene Chloride	ND	9.7	2.9	ND	2.8	0.84	
95-47-6	o-Xylene	ND	9.7	1.5	ND	2.2	0.34	
103-65-1	Propylbenzene	ND	9.7	1.5	ND	2.0	0.30	
100-42-5	Styrene	ND	9.7	1.7	ND	2.3	0.39	
127-18-4	Tetrachloroethene	**1.7**	9.7	1.3	**0.25**	1.4	0.20	**J**
109-99-9	Tetrahydrofuran	ND	9.7	1.3	ND	3.3	0.44	
108-88-3	Toluene	**57**	9.7	1.3	**15**	2.6	0.33	
156-60-5	trans-1,2-Dichloroethene	ND	9.7	1.4	ND	2.4	0.36	
10061-02-6	trans-1,3-Dichloropropene	ND	9.7	2.1	ND	2.1	0.47	
79-01-6	Trichloroethene	ND	9.7	1.4	ND	1.8	0.26	
75-01-4	Vinyl Chloride	ND	9.7	1.1	ND	3.8	0.43	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261440** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-024

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			
Container ID:	1SS00707		

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261449** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-025

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00955

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.52

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	3,900	520	ND	720	95	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3,900	580	ND	570	85	
79-00-5	1,1,2-Trichloroethane	ND	3,900	420	ND	720	78	
75-34-3	1,1-Dichloroethane	ND	3,900	610	ND	970	150	
75-35-4	1,1-Dichloroethene	ND	3,900	580	ND	990	150	
120-82-1	1,2,4-Trichlorobenzene	ND	3,900	1,000	ND	530	140	
95-63-6	1,2,4-Trimethylbenzene	ND	3,900	580	ND	800	120	
106-93-4	1,2-Dibromoethane (EDB)	ND	3,900	490	ND	510	63	
95-50-1	1,2-Dichlorobenzene	ND	3,900	620	ND	650	100	
107-06-2	1,2-Dichloroethane	ND	3,900	460	ND	970	110	
78-87-5	1,2-Dichloropropane	ND	3,900	520	ND	850	110	
108-67-8	1,3,5-Trimethylbenzene	ND	3,900	600	ND	800	120	
106-99-0	1,3-Butadiene	ND	3,900	690	ND	1,800	310	
541-73-1	1,3-Dichlorobenzene	ND	3,900	630	ND	650	100	
106-46-7	1,4-Dichlorobenzene	ND	3,900	640	ND	650	110	
123-91-1	1,4-Dioxane	ND	3,900	490	ND	1,100	140	
540-84-1	2,2,4-Trimethylpentane	ND	3,900	630	ND	840	130	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	39,000	860	ND	13,000	290	
591-78-6	2-Hexanone	ND	3,900	520	ND	960	130	
67-63-0	2-Propanol	ND	7,900	1,700	ND	3,200	700	
107-05-1	3-Chloropropene	ND	3,900	570	ND	1,300	180	
622-96-8	4-Ethyltoluene	ND	3,900	670	ND	800	140	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261449** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-025

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00955

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.52

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	3,900	570	ND	960	140	
67-64-1	Acetone	ND	39,000	9,400	ND	17,000	4,000	
100-44-7	alpha-Chlorotoluene	ND	3,900	940	ND	760	180	
71-43-2	Benzene	ND	3,900	600	ND	1,200	190	
75-27-4	Bromodichloromethane	ND	3,900	600	ND	590	90	
75-25-2	Bromoform	ND	3,900	860	ND	380	84	
74-83-9	Bromomethane	ND	3,900	580	ND	1,000	150	
75-15-0	Carbon Disulfide	ND	39,000	1,300	ND	13,000	400	
56-23-5	Carbon Tetrachloride	ND	3,900	580	ND	620	92	
108-90-7	Chlorobenzene	ND	3,900	560	ND	850	120	
75-00-3	Chloroethane	ND	3,900	520	ND	1,500	200	
67-66-3	Chloroform	ND	3,900	560	ND	800	110	
74-87-3	Chloromethane	ND	3,900	680	ND	1,900	330	
156-59-2	cis-1,2-Dichloroethene	ND	3,900	590	ND	990	150	
10061-01-5	cis-1,3-Dichloropropene	ND	3,900	650	ND	860	140	
98-82-8	Cumene	ND	3,900	600	ND	800	120	
110-82-7	Cyclohexane	ND	7,900	1,200	ND	2,300	340	
124-48-1	Dibromochloromethane	ND	3,900	550	ND	460	65	
64-17-5	Ethanol	ND	39,000	2,900	ND	21,000	1,500	
100-41-4	Ethyl Benzene	ND	3,900	590	ND	900	140	
75-69-4	Freon 11	**520,000**	3,900	640	**92,000**	700	110	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261449** ALS Sample ID: P2400922-025
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00955

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.52

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**45,000**	3,900	600	**5,800**	510	78	
76-14-2	Freon 114	ND	3,900	660	ND	560	94	
75-71-8	Freon 12	ND	3,900	680	ND	790	140	
306-83-2	Freon 123	ND	3,900	1,900	ND	630	300	**X**
75-43-4	Freon 21	ND	3,900	1,900	ND	930	450	**X**
142-82-5	Heptane	ND	3,900	670	ND	960	160	
87-68-3	Hexachlorobutadiene	ND	3,900	860	ND	370	81	
110-54-3	Hexane	ND	3,900	860	ND	1,100	250	
179601-23-1	m,p-Xylene	ND	7,900	1,100	ND	1,800	250	
1634-04-4	Methyl tert-butyl ether	ND	3,900	490	ND	1,100	140	
75-09-2	Methylene Chloride	ND	3,900	1,200	ND	1,100	340	
95-47-6	o-Xylene	ND	3,900	600	ND	900	140	
103-65-1	Propylbenzene	ND	3,900	600	ND	800	120	
100-42-5	Styrene	ND	3,900	680	ND	920	160	
127-18-4	Tetrachloroethene	ND	3,900	540	ND	580	80	
109-99-9	Tetrahydrofuran	ND	3,900	530	ND	1,300	180	
108-88-3	Toluene	ND	3,900	510	ND	1,000	140	
156-60-5	trans-1,2-Dichloroethene	ND	3,900	580	ND	990	150	
10061-02-6	trans-1,3-Dichloropropene	ND	3,900	860	ND	860	190	
79-01-6	Trichloroethene	**980**	3,900	570	**180**	730	110	**J**
75-01-4	Vinyl Chloride	ND	3,900	450	ND	1,500	180	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261449** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-025

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.00020 Liter(s)
Test Notes:			
Container ID:	1SS00955		

Initial Pressure (psig): -1.83 Final Pressure (psig): 5.52

Container Dilution Factor: 1.57

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261450** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-026

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00222

Initial Pressure (psig): -1.61 Final Pressure (psig): 5.69

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.28	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.30	ND	0.48	0.075	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.068	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.059	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.25	0.031	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.051	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.48	0.057	
78-87-5	1,2-Dichloropropane	**2.9**	2.0	0.26	**0.64**	0.42	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.061	
106-99-0	1,3-Butadiene	ND	2.0	0.34	ND	0.88	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.32	0.053	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.54	0.068	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.31	ND	0.42	0.067	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**4.2**	20	0.43	**1.4**	6.6	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.26	ND	0.48	0.063	
67-63-0	2-Propanol	**7.9**	3.9	0.86	**3.2**	1.6	0.35	
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.62	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.067	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261450** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-026

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00222

Initial Pressure (psig): -1.61 Final Pressure (psig): 5.69

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.28	ND	0.48	0.069	
67-64-1	Acetone	**34**	20	4.7	**14**	8.2	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.090	
71-43-2	Benzene	**0.58**	2.0	0.30	**0.18**	0.61	0.094	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.50	0.074	
75-15-0	Carbon Disulfide	**1.3**	20	0.62	**0.42**	6.3	0.20	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.31	0.046	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.42	0.060	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	ND	2.0	0.28	ND	0.40	0.057	
74-87-3	Chloromethane	**1.1**	2.0	0.34	**0.54**	0.94	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.32	ND	0.43	0.071	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.061	
110-82-7	Cyclohexane	**1.5**	3.9	0.59	**0.43**	1.1	0.17	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**14**	20	1.4	**7.7**	10	0.77	**J**
100-41-4	Ethyl Benzene	**0.48**	2.0	0.29	**0.11**	0.45	0.067	**J**
75-69-4	Freon 11	**2.0**	2.0	0.32	**0.35**	0.35	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261450** ALS Sample ID: P2400922-026
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00222

Initial Pressure (psig): -1.61 Final Pressure (psig): 5.69

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1.5**	2.0	0.30	**0.19**	0.25	0.039	**J**
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.4**	2.0	0.34	**0.49**	0.39	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.94	ND	0.46	0.22	**X**
142-82-5	Heptane	**1.2**	2.0	0.33	**0.29**	0.48	0.081	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	**0.62**	2.0	0.43	**0.18**	0.55	0.12	**J**
179601-23-1	m,p-Xylene	**1.4**	3.9	0.55	**0.33**	0.90	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.54	0.068	
75-09-2	Methylene Chloride	**1.3**	2.0	0.59	**0.38**	0.56	0.17	**J**
95-47-6	o-Xylene	**0.67**	2.0	0.30	**0.16**	0.45	0.069	**J**
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.061	
100-42-5	Styrene	**0.40**	2.0	0.34	**0.093**	0.46	0.079	**J**
127-18-4	Tetrachloroethene	**1.2**	2.0	0.27	**0.18**	0.29	0.040	**J**
109-99-9	Tetrahydrofuran	**0.27**	2.0	0.26	**0.091**	0.66	0.089	**J**
108-88-3	Toluene	**47**	2.0	0.25	**12**	0.52	0.067	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	**0.35**	2.0	0.28	**0.065**	0.36	0.052	**J**
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.76	0.087	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261450** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-026

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00222		

Initial Pressure (psig): -1.61 Final Pressure (psig): 5.69

Container Dilution Factor: 1.56

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261457** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-027

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS01304

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.47

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	43	5.6	ND	7.8	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	ND	43	6.3	ND	6.2	0.92	
79-00-5	1,1,2-Trichloroethane	ND	43	4.6	ND	7.8	0.84	
75-34-3	1,1-Dichloroethane	ND	43	6.6	ND	11	1.6	
75-35-4	1,1-Dichloroethene	ND	43	6.3	ND	11	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	43	11	ND	5.7	1.5	
95-63-6	1,2,4-Trimethylbenzene	ND	43	6.3	ND	8.6	1.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	43	5.3	ND	5.5	0.69	
95-50-1	1,2-Dichlorobenzene	ND	43	6.7	ND	7.1	1.1	
107-06-2	1,2-Dichloroethane	ND	43	5.0	ND	11	1.2	
78-87-5	1,2-Dichloropropane	ND	43	5.6	ND	9.2	1.2	
108-67-8	1,3,5-Trimethylbenzene	ND	43	6.5	ND	8.6	1.3	
106-99-0	1,3-Butadiene	ND	43	7.5	ND	19	3.4	
541-73-1	1,3-Dichlorobenzene	ND	43	6.8	ND	7.1	1.1	
106-46-7	1,4-Dichlorobenzene	ND	43	7.0	ND	7.1	1.2	
123-91-1	1,4-Dioxane	ND	43	5.4	ND	12	1.5	
540-84-1	2,2,4-Trimethylpentane	ND	43	6.8	ND	9.1	1.5	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	430	9.4	ND	140	3.2	
591-78-6	2-Hexanone	ND	43	5.6	ND	10	1.4	
67-63-0	2-Propanol	ND	85	19	ND	35	7.6	
107-05-1	3-Chloropropene	ND	43	6.1	ND	14	2.0	
622-96-8	4-Ethyltoluene	ND	43	7.2	ND	8.6	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261457** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-027

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS01304

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.47

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	43	6.2	ND	10	1.5	
67-64-1	Acetone	ND	430	100	ND	180	43	
100-44-7	alpha-Chlorotoluene	ND	43	10	ND	8.2	2.0	
71-43-2	Benzene	ND	43	6.5	ND	13	2.0	
75-27-4	Bromodichloromethane	ND	43	6.5	ND	6.3	0.98	
75-25-2	Bromoform	ND	43	9.4	ND	4.1	0.90	
74-83-9	Bromomethane	ND	43	6.3	ND	11	1.6	
75-15-0	Carbon Disulfide	ND	430	14	ND	140	4.4	
56-23-5	Carbon Tetrachloride	ND	43	6.3	ND	6.8	1.0	
108-90-7	Chlorobenzene	ND	43	6.0	ND	9.2	1.3	
75-00-3	Chloroethane	ND	43	5.6	ND	16	2.1	
67-66-3	Chloroform	ND	43	6.0	ND	8.7	1.2	
74-87-3	Chloromethane	ND	43	7.3	ND	21	3.5	
156-59-2	cis-1,2-Dichloroethene	ND	43	6.4	ND	11	1.6	
10061-01-5	cis-1,3-Dichloropropene	ND	43	7.1	ND	9.4	1.6	
98-82-8	Cumene	ND	43	6.5	ND	8.6	1.3	
110-82-7	Cyclohexane	ND	85	13	ND	25	3.7	
124-48-1	Dibromochloromethane	ND	43	6.0	ND	5.0	0.70	
64-17-5	Ethanol	ND	430	31	ND	230	17	
100-41-4	Ethyl Benzene	ND	43	6.4	ND	9.8	1.5	
75-69-4	Freon 11	**5,700**	43	6.9	**1,000**	7.6	1.2	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402261457** ALS Sample ID: P2400922-027
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SS01304

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.47

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,500**	43	6.5	**200**	5.5	0.84	
76-14-2	Freon 114	ND	43	7.1	ND	6.1	1.0	
75-71-8	Freon 12	ND	43	7.4	ND	8.6	1.5	
306-83-2	Freon 123	ND	43	20	ND	6.8	3.3	**X**
75-43-4	Freon 21	ND	43	20	ND	10	4.8	**X**
142-82-5	Heptane	ND	43	7.2	ND	10	1.8	
87-68-3	Hexachlorobutadiene	ND	43	9.4	ND	4.0	0.88	
110-54-3	Hexane	ND	43	9.4	ND	12	2.7	
179601-23-1	m,p-Xylene	ND	85	12	ND	20	2.7	
1634-04-4	Methyl tert-butyl ether	ND	43	5.4	ND	12	1.5	
75-09-2	Methylene Chloride	ND	43	13	ND	12	3.7	
95-47-6	o-Xylene	ND	43	6.5	ND	9.8	1.5	
103-65-1	Propylbenzene	ND	43	6.5	ND	8.6	1.3	
100-42-5	Styrene	ND	43	7.3	ND	10	1.7	
127-18-4	Tetrachloroethene	ND	43	5.9	ND	6.3	0.87	
109-99-9	Tetrahydrofuran	ND	43	5.7	ND	14	1.9	
108-88-3	Toluene	**8.7**	43	5.5	**2.3**	11	1.5	**J**
156-60-5	trans-1,2-Dichloroethene	ND	43	6.3	ND	11	1.6	
10061-02-6	trans-1,3-Dichloropropene	ND	43	9.4	ND	9.4	2.1	
79-01-6	Trichloroethene	ND	43	6.1	ND	7.9	1.1	
75-01-4	Vinyl Chloride	ND	43	4.8	ND	17	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402261457** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-027

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:			
Container ID:	1SS01304		

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.47

Container Dilution Factor: 1.70

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270850** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-028

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -1.79 Final Pressure (psig): 5.54

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.076	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.069	
95-63-6	1,2,4-Trimethylbenzene	**0.37**	2.0	0.29	**0.075**	0.40	0.059	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	**0.35**	2.0	0.23	**0.087**	0.49	0.057	**J**
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.42	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.062	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.89	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
123-91-1	1,4-Dioxane	**3.7**	2.0	0.25	**1.0**	0.54	0.069	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.31	ND	0.42	0.067	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**6.2**	20	0.43	**2.1**	6.7	0.15	**J**
591-78-6	2-Hexanone	**1.2**	2.0	0.26	**0.30**	0.48	0.063	**J**
67-63-0	2-Propanol	**7.9**	3.9	0.86	**3.2**	1.6	0.35	
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.63	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.068	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270850** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-028

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -1.79 Final Pressure (psig): 5.54

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.86**	2.0	0.29	**0.21**	0.48	0.070	**J**
67-64-1	Acetone	**36**	20	4.7	**15**	8.3	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.091	
71-43-2	Benzene	**1.2**	2.0	0.30	**0.37**	0.61	0.095	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	**3.1**	2.0	0.29	**0.81**	0.51	0.075	
75-15-0	Carbon Disulfide	ND	20	0.63	ND	6.3	0.20	
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.31	0.046	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	**0.85**	2.0	0.28	**0.17**	0.40	0.057	**J**
74-87-3	Chloromethane	**1.0**	2.0	0.34	**0.49**	0.95	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.43	0.072	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.062	
110-82-7	Cyclohexane	**1.3**	3.9	0.59	**0.38**	1.1	0.17	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**24**	20	1.5	**13**	10	0.77	
100-41-4	Ethyl Benzene	**0.66**	2.0	0.29	**0.15**	0.45	0.068	**J**
75-69-4	Freon 11	**51**	2.0	0.32	**9.2**	0.35	0.057	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270850** ALS Sample ID: P2400922-028
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00713

Initial Pressure (psig): -1.79 Final Pressure (psig): 5.54

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**52**	2.0	0.30	**6.7**	0.26	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.5**	2.0	0.34	**0.51**	0.40	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.94	ND	0.47	0.22	**X**
142-82-5	Heptane	**1.3**	2.0	0.33	**0.32**	0.48	0.081	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	**0.95**	2.0	0.43	**0.27**	0.56	0.12	**J**
179601-23-1	m,p-Xylene	**1.7**	3.9	0.55	**0.39**	0.90	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.54	0.069	
75-09-2	Methylene Chloride	**1.6**	2.0	0.59	**0.47**	0.57	0.17	**J**
95-47-6	o-Xylene	**0.70**	2.0	0.30	**0.16**	0.45	0.070	**J**
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.062	
100-42-5	Styrene	**0.76**	2.0	0.34	**0.18**	0.46	0.079	**J**
127-18-4	Tetrachloroethene	ND	2.0	0.27	ND	0.29	0.040	
109-99-9	Tetrahydrofuran	**1.1**	2.0	0.26	**0.36**	0.67	0.089	**J**
108-88-3	Toluene	**8.7**	2.0	0.26	**2.3**	0.52	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	**0.77**	2.0	0.28	**0.14**	0.37	0.053	**J**
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.77	0.088	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270850** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-028

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00713		

Initial Pressure (psig): -1.79 Final Pressure (psig): 5.54

Container Dilution Factor: 1.57

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270851** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-029

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01028

Initial Pressure (psig): -1.86 Final Pressure (psig): 5.60

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.048	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.076	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.27	0.069	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.059	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.49	0.058	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.43	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.062	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.89	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
123-91-1	1,4-Dioxane	**0.40**	2.0	0.25	**0.11**	0.55	0.069	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.42	0.068	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	20	0.43	ND	6.7	0.15	
591-78-6	2-Hexanone	ND	2.0	0.26	ND	0.48	0.064	
67-63-0	2-Propanol	ND	4.0	0.87	ND	1.6	0.35	
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.63	0.091	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.40	0.068	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270851** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-029

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01028

Initial Pressure (psig): -1.86 Final Pressure (psig): 5.60

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.29	ND	0.48	0.070	
67-64-1	Acetone	**5.4**	20	4.7	**2.3**	8.3	2.0	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.092	
71-43-2	Benzene	ND	2.0	0.30	ND	0.62	0.095	
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.51	0.075	
75-15-0	Carbon Disulfide	ND	20	0.63	ND	6.3	0.20	
56-23-5	Carbon Tetrachloride	**0.45**	2.0	0.29	**0.071**	0.31	0.046	**J**
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.75	0.099	
67-66-3	Chloroform	ND	2.0	0.28	ND	0.40	0.057	
74-87-3	Chloromethane	**1.1**	2.0	0.34	**0.54**	0.96	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.072	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.062	
110-82-7	Cyclohexane	ND	4.0	0.59	ND	1.1	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.23	0.032	
64-17-5	Ethanol	ND	20	1.5	ND	10	0.78	
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.45	0.068	
75-69-4	Freon 11	**1.2**	2.0	0.32	**0.22**	0.35	0.057	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270851** ALS Sample ID: P2400922-029
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01028

Initial Pressure (psig): -1.86 Final Pressure (psig): 5.60

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.53**	2.0	0.30	**0.069**	0.26	0.039	**J**
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.5**	2.0	0.34	**0.51**	0.40	0.070	
306-83-2	Freon 123	ND	2.0	0.95	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.95	ND	0.47	0.23	**X**
142-82-5	Heptane	ND	2.0	0.34	ND	0.48	0.082	
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.19	0.041	
110-54-3	Hexane	ND	2.0	0.43	ND	0.56	0.12	
179601-23-1	m,p-Xylene	ND	4.0	0.55	ND	0.91	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.55	0.069	
75-09-2	Methylene Chloride	ND	2.0	0.59	ND	0.57	0.17	
95-47-6	o-Xylene	ND	2.0	0.30	ND	0.45	0.070	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.062	
100-42-5	Styrene	ND	2.0	0.34	ND	0.46	0.080	
127-18-4	Tetrachloroethene	ND	2.0	0.27	ND	0.29	0.040	
109-99-9	Tetrahydrofuran	ND	2.0	0.26	ND	0.67	0.090	
108-88-3	Toluene	**2.6**	2.0	0.26	**0.69**	0.52	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.44	0.096	
79-01-6	Trichloroethene	ND	2.0	0.28	ND	0.37	0.053	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.77	0.088	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270851** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-029

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01028		

Initial Pressure (psig): -1.86 Final Pressure (psig): 5.60

Container Dilution Factor: 1.58

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270856** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-030

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24 & 3/22/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00286

Initial Pressure (psig): -1.67 Final Pressure (psig): 6.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	**0.59**	2.1	0.54	**0.079**	0.28	0.073	**J**
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	**1.1**	2.1	0.26	**0.31**	0.58	0.073	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**6.8**	21	0.46	**2.3**	7.0	0.15	**J**
591-78-6	2-Hexanone	**1.1**	2.1	0.27	**0.28**	0.51	0.067	**J**
67-63-0	2-Propanol	**6.0**	4.2	0.91	**2.5**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270856** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-030

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24 & 3/22/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00286

Initial Pressure (psig): -1.67 Final Pressure (psig): 6.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.65**	2.1	0.30	**0.16**	0.51	0.074	**J**
67-64-1	Acetone	**43**	21	5.0	**18**	8.7	2.1	
100-44-7	alpha-Chlorotoluene	**2.5**	2.1	0.50	**0.49**	0.40	0.096	
71-43-2	Benzene	**1.6**	2.1	0.32	**0.49**	0.65	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	**0.77**	2.1	0.31	**0.20**	0.53	0.079	**J**
75-15-0	Carbon Disulfide	**3.1**	21	0.66	**1.0**	6.7	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	**0.62**	2.1	0.27	**0.24**	0.79	0.10	**J**
67-66-3	Chloroform	**3.9**	2.1	0.29	**0.79**	0.43	0.060	
74-87-3	Chloromethane	**1.9**	2.1	0.36	**0.93**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	**0.98**	4.2	0.62	**0.28**	1.2	0.18	**J**
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**19**	21	1.5	**10**	11	0.82	**J**
100-41-4	Ethyl Benzene	**0.37**	2.1	0.31	**0.085**	0.48	0.072	**J**
75-69-4	Freon 11	**380**	2.1	0.34	**67**	0.37	0.060	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270856** ALS Sample ID: P2400922-030
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24 & 3/22/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00286

Initial Pressure (psig): -1.67 Final Pressure (psig): 6.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**290**	21	3.2	**37**	2.7	0.41	**D**
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**1.4**	2.1	0.36	**0.28**	0.42	0.073	**J**
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	**3.0**	2.1	1.0	**0.70**	0.49	0.24	**X**
142-82-5	Heptane	**0.74**	2.1	0.35	**0.18**	0.51	0.086	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.19	0.043	
110-54-3	Hexane	**0.95**	2.1	0.46	**0.27**	0.59	0.13	**J**
179601-23-1	m,p-Xylene	**0.88**	4.2	0.58	**0.20**	0.96	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	**1.2**	2.1	0.62	**0.34**	0.60	0.18	**J**
95-47-6	o-Xylene	**0.39**	2.1	0.32	**0.090**	0.48	0.074	**J**
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	**0.64**	2.1	0.36	**0.15**	0.49	0.084	**J**
127-18-4	Tetrachloroethene	**2.0**	2.1	0.29	**0.29**	0.31	0.042	**J**
109-99-9	Tetrahydrofuran	**0.64**	2.1	0.28	**0.22**	0.70	0.094	**J**
108-88-3	Toluene	**3.6**	2.1	0.27	**0.97**	0.55	0.072	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	**1.7**	2.1	0.30	**0.31**	0.39	0.056	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.093	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270856** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-030

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24 & 3/22/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC00286		

Initial Pressure (psig): -1.67 Final Pressure (psig): 6.91

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270903** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-031

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24 & 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00875

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.54

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	10	1.3	ND	1.8	0.24	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	1.5	ND	1.5	0.22	
79-00-5	1,1,2-Trichloroethane	ND	10	1.1	ND	1.8	0.20	
75-34-3	1,1-Dichloroethane	ND	10	1.6	ND	2.5	0.39	
75-35-4	1,1-Dichloroethene	ND	10	1.5	ND	2.5	0.38	
120-82-1	1,2,4-Trichlorobenzene	ND	10	2.6	ND	1.4	0.35	
95-63-6	1,2,4-Trimethylbenzene	**1.9**	10	1.5	**0.38**	2.0	0.30	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	10	1.2	ND	1.3	0.16	
95-50-1	1,2-Dichlorobenzene	ND	10	1.6	ND	1.7	0.26	
107-06-2	1,2-Dichloroethane	ND	10	1.2	ND	2.5	0.29	
78-87-5	1,2-Dichloropropane	ND	10	1.3	ND	2.2	0.29	
108-67-8	1,3,5-Trimethylbenzene	ND	10	1.5	ND	2.0	0.32	
106-99-0	1,3-Butadiene	ND	10	1.8	ND	4.6	0.80	
541-73-1	1,3-Dichlorobenzene	ND	10	1.6	ND	1.7	0.27	
106-46-7	1,4-Dichlorobenzene	ND	10	1.7	ND	1.7	0.27	
123-91-1	1,4-Dioxane	ND	10	1.3	ND	2.8	0.35	
540-84-1	2,2,4-Trimethylpentane	ND	10	1.6	ND	2.2	0.34	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**19**	100	2.2	**6.3**	34	0.75	**J**
591-78-6	2-Hexanone	**1.4**	10	1.3	**0.34**	2.5	0.32	**J**
67-63-0	2-Propanol	ND	20	4.4	ND	8.2	1.8	
107-05-1	3-Chloropropene	ND	10	1.4	ND	3.2	0.46	
622-96-8	4-Ethyltoluene	ND	10	1.7	ND	2.0	0.35	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270903** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-031

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24 & 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00875

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.54

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	10	1.5	ND	2.5	0.36	
67-64-1	Acetone	**110**	100	24	**47**	42	10	
100-44-7	alpha-Chlorotoluene	ND	10	2.4	ND	1.9	0.47	
71-43-2	Benzene	**110**	10	1.5	**34**	3.2	0.49	
75-27-4	Bromodichloromethane	ND	10	1.5	ND	1.5	0.23	
75-25-2	Bromoform	ND	10	2.2	ND	0.97	0.21	
74-83-9	Bromomethane	ND	10	1.5	ND	2.6	0.38	
75-15-0	Carbon Disulfide	**33**	100	3.2	**11**	32	1.0	**J**
56-23-5	Carbon Tetrachloride	ND	10	1.5	ND	1.6	0.24	
108-90-7	Chlorobenzene	ND	10	1.4	ND	2.2	0.31	
75-00-3	Chloroethane	ND	10	1.3	ND	3.8	0.50	
67-66-3	Chloroform	**12**	10	1.4	**2.5**	2.1	0.29	
74-87-3	Chloromethane	ND	10	1.7	ND	4.9	0.84	
156-59-2	cis-1,2-Dichloroethene	ND	10	1.5	ND	2.5	0.38	
10061-01-5	cis-1,3-Dichloropropene	ND	10	1.7	ND	2.2	0.37	
98-82-8	Cumene	ND	10	1.5	ND	2.0	0.32	
110-82-7	Cyclohexane	ND	20	3.0	ND	5.8	0.88	
124-48-1	Dibromochloromethane	ND	10	1.4	ND	1.2	0.17	
64-17-5	Ethanol	ND	100	7.4	ND	53	4.0	
100-41-4	Ethyl Benzene	**2.3**	10	1.5	**0.54**	2.3	0.35	**J**
75-69-4	Freon 11	**1,400**	10	1.6	**260**	1.8	0.29	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270903** ALS Sample ID: P2400922-031
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24 & 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00875

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.54

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,700**	20	3.1	**220**	2.6	0.40	**D**
76-14-2	Freon 114	ND	10	1.7	ND	1.4	0.24	
75-71-8	Freon 12	**2.6**	10	1.8	**0.53**	2.0	0.35	**J**
306-83-2	Freon 123	ND	10	4.8	ND	1.6	0.77	**X**
75-43-4	Freon 21	**5.8**	10	4.8	**1.4**	2.4	1.1	**J, X**
142-82-5	Heptane	ND	10	1.7	ND	2.5	0.42	
87-68-3	Hexachlorobutadiene	ND	10	2.2	ND	0.94	0.21	
110-54-3	Hexane	ND	10	2.2	ND	2.9	0.63	
179601-23-1	m,p-Xylene	**15**	20	2.8	**3.6**	4.6	0.65	**J**
1634-04-4	Methyl tert-butyl ether	ND	10	1.3	ND	2.8	0.35	
75-09-2	Methylene Chloride	ND	10	3.0	ND	2.9	0.87	
95-47-6	o-Xylene	**5.9**	10	1.5	**1.4**	2.3	0.36	**J**
103-65-1	Propylbenzene	ND	10	1.5	ND	2.0	0.32	
100-42-5	Styrene	**1.8**	10	1.7	**0.43**	2.4	0.41	**J**
127-18-4	Tetrachloroethene	**37**	10	1.4	**5.4**	1.5	0.20	
109-99-9	Tetrahydrofuran	ND	10	1.3	ND	3.4	0.46	
108-88-3	Toluene	**120**	10	1.3	**32**	2.7	0.35	
156-60-5	trans-1,2-Dichloroethene	ND	10	1.5	ND	2.5	0.38	
10061-02-6	trans-1,3-Dichloropropene	ND	10	2.2	ND	2.2	0.49	
79-01-6	Trichloroethene	**2.2**	10	1.4	**0.41**	1.9	0.27	**J**
75-01-4	Vinyl Chloride	ND	10	1.1	ND	3.9	0.45	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270903** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-031

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24 & 3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00875		

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.54

Container Dilution Factor: 1.61

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270940** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-032

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01356

Initial Pressure (psig): -2.40 Final Pressure (psig): 5.67

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**0.61**	21	0.46	**0.21**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.51	0.067	
67-63-0	2-Propanol	ND	4.2	0.91	ND	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270940** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-032

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01356

Initial Pressure (psig): -2.40 Final Pressure (psig): 5.67

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	ND	21	5.0	ND	8.7	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	ND	2.1	0.32	ND	0.65	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	ND	21	0.66	ND	6.7	0.21	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.79	0.10	
67-66-3	Chloroform	**0.82**	2.1	0.29	**0.17**	0.43	0.060	**J**
74-87-3	Chloromethane	ND	2.1	0.36	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	ND	21	1.5	ND	11	0.82	
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**310**	2.1	0.34	**55**	0.37	0.060	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270940** ALS Sample ID: P2400922-032
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01356

Initial Pressure (psig): -2.40 Final Pressure (psig): 5.67

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**310**	2.1	0.32	**40**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.5**	2.1	0.36	**0.50**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.49	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.19	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	ND	2.1	0.27	ND	0.55	0.072	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	**0.54**	2.1	0.30	**0.10**	0.39	0.056	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.093	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270940** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-032

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01356		

Initial Pressure (psig): -2.40 Final Pressure (psig): 5.67

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270941** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-033

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00178

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	**0.73**	2.1	0.26	**0.20**	0.58	0.073	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**0.50**	21	0.46	**0.17**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.51	0.067	
67-63-0	2-Propanol	**2.3**	4.2	0.91	**0.92**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270941** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-033

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00178

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	ND	21	5.0	ND	8.7	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	ND	2.1	0.32	ND	0.65	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**1.2**	21	0.66	**0.39**	6.7	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.79	0.10	
67-66-3	Chloroform	**0.71**	2.1	0.29	**0.14**	0.43	0.060	**J**
74-87-3	Chloromethane	ND	2.1	0.36	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**2.4**	21	1.5	**1.3**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**270**	2.1	0.34	**47**	0.37	0.060	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270941** ALS Sample ID: P2400922-033
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00178

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**260**	2.1	0.32	**34**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.5**	2.1	0.36	**0.50**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.49	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.19	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	**0.46**	2.1	0.27	**0.12**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	**0.34**	2.1	0.30	**0.063**	0.39	0.056	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.093	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270941** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-033

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00178		

Initial Pressure (psig): -2.31 Final Pressure (psig): 5.91

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270946** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-034

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/21 - 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00828

Initial Pressure (psig): -2.11 Final Pressure (psig): 6.20

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	10	1.4	ND	1.9	0.25	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	1.5	ND	1.5	0.22	
79-00-5	1,1,2-Trichloroethane	ND	10	1.1	ND	1.9	0.21	
75-34-3	1,1-Dichloroethane	ND	10	1.6	ND	2.6	0.40	
75-35-4	1,1-Dichloroethene	ND	10	1.5	ND	2.6	0.39	
120-82-1	1,2,4-Trichlorobenzene	ND	10	2.7	ND	1.4	0.36	
95-63-6	1,2,4-Trimethylbenzene	ND	10	1.5	ND	2.1	0.31	
106-93-4	1,2-Dibromoethane (EDB)	ND	10	1.3	ND	1.4	0.17	
95-50-1	1,2-Dichlorobenzene	ND	10	1.6	ND	1.7	0.27	
107-06-2	1,2-Dichloroethane	ND	10	1.2	ND	2.6	0.30	
78-87-5	1,2-Dichloropropane	ND	10	1.4	ND	2.2	0.30	
108-67-8	1,3,5-Trimethylbenzene	ND	10	1.6	ND	2.1	0.33	
106-99-0	1,3-Butadiene	ND	10	1.8	ND	4.7	0.83	
541-73-1	1,3-Dichlorobenzene	ND	10	1.7	ND	1.7	0.28	
106-46-7	1,4-Dichlorobenzene	ND	10	1.7	ND	1.7	0.28	
123-91-1	1,4-Dioxane	**5.8**	10	1.3	**1.6**	2.9	0.36	**J**
540-84-1	2,2,4-Trimethylpentane	ND	10	1.7	ND	2.2	0.36	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	100	2.3	ND	35	0.77	
591-78-6	2-Hexanone	ND	10	1.4	ND	2.5	0.33	
67-63-0	2-Propanol	**9.9**	21	4.6	**4.0**	8.4	1.9	**J**
107-05-1	3-Chloropropene	ND	10	1.5	ND	3.3	0.48	
622-96-8	4-Ethyltoluene	ND	10	1.8	ND	2.1	0.36	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270946** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-034

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/21 - 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00828

Initial Pressure (psig): -2.11 Final Pressure (psig): 6.20

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	10	1.5	ND	2.5	0.37	
67-64-1	Acetone	ND	100	25	ND	44	10	
100-44-7	alpha-Chlorotoluene	ND	10	2.5	ND	2.0	0.48	
71-43-2	Benzene	**1.9**	10	1.6	**0.58**	3.2	0.50	**J**
75-27-4	Bromodichloromethane	ND	10	1.6	ND	1.5	0.24	
75-25-2	Bromoform	ND	10	2.3	ND	1.0	0.22	
74-83-9	Bromomethane	ND	10	1.5	ND	2.7	0.40	
75-15-0	Carbon Disulfide	ND	100	3.3	ND	33	1.1	
56-23-5	Carbon Tetrachloride	ND	10	1.5	ND	1.7	0.24	
108-90-7	Chlorobenzene	ND	10	1.5	ND	2.3	0.32	
75-00-3	Chloroethane	ND	10	1.4	ND	3.9	0.52	
67-66-3	Chloroform	**4.9**	10	1.5	**1.0**	2.1	0.30	**J**
74-87-3	Chloromethane	ND	10	1.8	ND	5.0	0.86	
156-59-2	cis-1,2-Dichloroethene	ND	10	1.6	ND	2.6	0.39	
10061-01-5	cis-1,3-Dichloropropene	ND	10	1.7	ND	2.3	0.38	
98-82-8	Cumene	ND	10	1.6	ND	2.1	0.33	
110-82-7	Cyclohexane	ND	21	3.1	ND	6.0	0.90	
124-48-1	Dibromochloromethane	ND	10	1.5	ND	1.2	0.17	
64-17-5	Ethanol	**19**	100	7.7	**10**	55	4.1	**J**
100-41-4	Ethyl Benzene	ND	10	1.6	ND	2.4	0.36	
75-69-4	Freon 11	**2,100**	10	1.7	**370**	1.8	0.30	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270946** ALS Sample ID: P2400922-034
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/21 - 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00828

Initial Pressure (psig): -2.11 Final Pressure (psig): 6.20

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2,000**	21	3.2	**260**	2.7	0.41	**D**
76-14-2	Freon 114	ND	10	1.7	ND	1.5	0.25	
75-71-8	Freon 12	**2.7**	10	1.8	**0.55**	2.1	0.37	**J**
306-83-2	Freon 123	ND	10	5.0	ND	1.7	0.80	**X**
75-43-4	Freon 21	ND	10	5.0	ND	2.5	1.2	**X**
142-82-5	Heptane	ND	10	1.8	ND	2.5	0.43	
87-68-3	Hexachlorobutadiene	ND	10	2.3	ND	0.97	0.21	
110-54-3	Hexane	ND	10	2.3	ND	2.9	0.65	
179601-23-1	m,p-Xylene	ND	21	2.9	ND	4.8	0.67	
1634-04-4	Methyl tert-butyl ether	ND	10	1.3	ND	2.9	0.36	
75-09-2	Methylene Chloride	ND	10	3.1	ND	3.0	0.90	
95-47-6	o-Xylene	ND	10	1.6	ND	2.4	0.37	
103-65-1	Propylbenzene	ND	10	1.6	ND	2.1	0.33	
100-42-5	Styrene	ND	10	1.8	ND	2.4	0.42	
127-18-4	Tetrachloroethene	ND	10	1.4	ND	1.5	0.21	
109-99-9	Tetrahydrofuran	ND	10	1.4	ND	3.5	0.47	
108-88-3	Toluene	**7.0**	10	1.3	**1.9**	2.8	0.36	**J**
156-60-5	trans-1,2-Dichloroethene	ND	10	1.5	ND	2.6	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	10	2.3	ND	2.3	0.50	
79-01-6	Trichloroethene	**2.9**	10	1.5	**0.54**	1.9	0.28	**J**
75-01-4	Vinyl Chloride	ND	10	1.2	ND	4.1	0.46	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270946** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-034

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/21 - 3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00828		

Initial Pressure (psig): -2.11 Final Pressure (psig): 6.20

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270954** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-035

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24 & 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00943

Initial Pressure (psig): -2.34 Final Pressure (psig): 5.65

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	41	5.4	ND	7.6	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	ND	41	6.1	ND	6.0	0.89	
79-00-5	1,1,2-Trichloroethane	ND	41	4.5	ND	7.6	0.82	
75-34-3	1,1-Dichloroethane	ND	41	6.4	ND	10	1.6	
75-35-4	1,1-Dichloroethene	ND	41	6.1	ND	10	1.5	
120-82-1	1,2,4-Trichlorobenzene	ND	41	11	ND	5.6	1.4	
95-63-6	1,2,4-Trimethylbenzene	ND	41	6.1	ND	8.4	1.2	
106-93-4	1,2-Dibromoethane (EDB)	ND	41	5.1	ND	5.4	0.67	
95-50-1	1,2-Dichlorobenzene	ND	41	6.5	ND	6.9	1.1	
107-06-2	1,2-Dichloroethane	ND	41	4.9	ND	10	1.2	
78-87-5	1,2-Dichloropropane	ND	41	5.4	ND	8.9	1.2	
108-67-8	1,3,5-Trimethylbenzene	ND	41	6.4	ND	8.4	1.3	
106-99-0	1,3-Butadiene	ND	41	7.3	ND	19	3.3	
541-73-1	1,3-Dichlorobenzene	ND	41	6.6	ND	6.9	1.1	
106-46-7	1,4-Dichlorobenzene	ND	41	6.8	ND	6.9	1.1	
123-91-1	1,4-Dioxane	ND	41	5.2	ND	11	1.4	
540-84-1	2,2,4-Trimethylpentane	ND	41	6.6	ND	8.8	1.4	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	410	9.1	ND	140	3.1	
591-78-6	2-Hexanone	ND	41	5.4	ND	10	1.3	
67-63-0	2-Propanol	ND	83	18	ND	34	7.4	
107-05-1	3-Chloropropene	ND	41	5.9	ND	13	1.9	
622-96-8	4-Ethyltoluene	ND	41	7.0	ND	8.4	1.4	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402270954** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-035

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24 & 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00943

Initial Pressure (psig): -2.34 Final Pressure (psig): 5.65

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	41	6.0	ND	10	1.5	
67-64-1	Acetone	ND	410	99	ND	170	42	
100-44-7	alpha-Chlorotoluene	ND	41	9.9	ND	8.0	1.9	
71-43-2	Benzene	ND	41	6.4	ND	13	2.0	
75-27-4	Bromodichloromethane	ND	41	6.4	ND	6.2	0.95	
75-25-2	Bromoform	ND	41	9.1	ND	4.0	0.88	
74-83-9	Bromomethane	ND	41	6.1	ND	11	1.6	
75-15-0	Carbon Disulfide	ND	410	13	ND	130	4.2	
56-23-5	Carbon Tetrachloride	ND	41	6.1	ND	6.6	0.97	
108-90-7	Chlorobenzene	ND	41	5.9	ND	9.0	1.3	
75-00-3	Chloroethane	ND	41	5.4	ND	16	2.1	
67-66-3	Chloroform	**10**	41	5.9	**2.1**	8.5	1.2	**J**
74-87-3	Chloromethane	ND	41	7.1	ND	20	3.4	
156-59-2	cis-1,2-Dichloroethene	ND	41	6.2	ND	10	1.6	
10061-01-5	cis-1,3-Dichloropropene	ND	41	6.8	ND	9.1	1.5	
98-82-8	Cumene	ND	41	6.4	ND	8.4	1.3	
110-82-7	Cyclohexane	ND	83	12	ND	24	3.6	
124-48-1	Dibromochloromethane	ND	41	5.8	ND	4.8	0.68	
64-17-5	Ethanol	ND	410	31	ND	220	16	
100-41-4	Ethyl Benzene	ND	41	6.2	ND	9.5	1.4	
75-69-4	Freon 11	**6,200**	41	6.7	**1,100**	7.3	1.2	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402270954** ALS Sample ID: P2400922-035
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24 & 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS00943

Initial Pressure (psig): -2.34 Final Pressure (psig): 5.65

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**7,100**	55	8.4	**930**	7.2	1.1	**D**
76-14-2	Freon 114	ND	41	6.9	ND	5.9	0.99	
75-71-8	Freon 12	ND	41	7.2	ND	8.3	1.5	
306-83-2	Freon 123	ND	41	20	ND	6.6	3.2	**X**
75-43-4	Freon 21	ND	41	20	ND	9.8	4.7	**X**
142-82-5	Heptane	ND	41	7.0	ND	10	1.7	
87-68-3	Hexachlorobutadiene	ND	41	9.1	ND	3.9	0.85	
110-54-3	Hexane	ND	41	9.1	ND	12	2.6	
179601-23-1	m,p-Xylene	ND	83	12	ND	19	2.7	
1634-04-4	Methyl tert-butyl ether	ND	41	5.2	ND	11	1.4	
75-09-2	Methylene Chloride	ND	41	12	ND	12	3.6	
95-47-6	o-Xylene	ND	41	6.4	ND	9.5	1.5	
103-65-1	Propylbenzene	ND	41	6.4	ND	8.4	1.3	
100-42-5	Styrene	ND	41	7.1	ND	9.7	1.7	
127-18-4	Tetrachloroethene	ND	41	5.7	ND	6.1	0.84	
109-99-9	Tetrahydrofuran	ND	41	5.5	ND	14	1.9	
108-88-3	Toluene	ND	41	5.4	ND	11	1.4	
156-60-5	trans-1,2-Dichloroethene	ND	41	6.1	ND	10	1.5	
10061-02-6	trans-1,3-Dichloropropene	ND	41	9.1	ND	9.1	2.0	
79-01-6	Trichloroethene	**6.4**	41	5.9	**1.2**	7.7	1.1	**J**
75-01-4	Vinyl Chloride	ND	41	4.7	ND	16	1.8	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402270954** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-035

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/22/24 & 3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:			0.015 Liter(s)
Container ID:	1SS00943		

Initial Pressure (psig): -2.34 Final Pressure (psig): 5.65

Container Dilution Factor: 1.65

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271002** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-036

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SS01135

Initial Pressure (psig): -1.26 Final Pressure (psig): 5.67

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	6.3	0.84	ND	1.2	0.15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.3	0.94	ND	0.92	0.14	
79-00-5	1,1,2-Trichloroethane	ND	6.3	0.68	ND	1.2	0.13	
75-34-3	1,1-Dichloroethane	ND	6.3	0.99	ND	1.6	0.24	
75-35-4	1,1-Dichloroethene	ND	6.3	0.94	ND	1.6	0.24	
120-82-1	1,2,4-Trichlorobenzene	ND	6.3	1.6	ND	0.85	0.22	
95-63-6	1,2,4-Trimethylbenzene	ND	6.3	0.94	ND	1.3	0.19	
106-93-4	1,2-Dibromoethane (EDB)	ND	6.3	0.79	ND	0.82	0.10	
95-50-1	1,2-Dichlorobenzene	ND	6.3	1.0	ND	1.1	0.17	
107-06-2	1,2-Dichloroethane	ND	6.3	0.75	ND	1.6	0.18	
78-87-5	1,2-Dichloropropane	ND	6.3	0.84	ND	1.4	0.18	
108-67-8	1,3,5-Trimethylbenzene	ND	6.3	0.98	ND	1.3	0.20	
106-99-0	1,3-Butadiene	ND	6.3	1.1	ND	2.9	0.50	
541-73-1	1,3-Dichlorobenzene	ND	6.3	1.0	ND	1.1	0.17	
106-46-7	1,4-Dichlorobenzene	ND	6.3	1.0	ND	1.1	0.17	
123-91-1	1,4-Dioxane	ND	6.3	0.80	ND	1.8	0.22	
540-84-1	2,2,4-Trimethylpentane	ND	6.3	1.0	ND	1.4	0.22	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.6**	63	1.4	**1.2**	21	0.47	**J**
591-78-6	2-Hexanone	ND	6.3	0.84	ND	1.5	0.20	
67-63-0	2-Propanol	**39**	13	2.8	**16**	5.2	1.1	
107-05-1	3-Chloropropene	ND	6.3	0.91	ND	2.0	0.29	
622-96-8	4-Ethyltoluene	ND	6.3	1.1	ND	1.3	0.22	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271002** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-036

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SS01135

Initial Pressure (psig): -1.26 Final Pressure (psig): 5.67

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.8**	6.3	0.92	**0.45**	1.5	0.23	**J**
67-64-1	Acetone	**52**	63	15	**22**	27	6.4	**J**
100-44-7	alpha-Chlorotoluene	ND	6.3	1.5	ND	1.2	0.29	
71-43-2	Benzene	**2.8**	6.3	0.98	**0.88**	2.0	0.31	**J**
75-27-4	Bromodichloromethane	ND	6.3	0.98	ND	0.95	0.15	
75-25-2	Bromoform	ND	6.3	1.4	ND	0.61	0.13	
74-83-9	Bromomethane	ND	6.3	0.94	ND	1.6	0.24	
75-15-0	Carbon Disulfide	ND	63	2.0	ND	20	0.65	
56-23-5	Carbon Tetrachloride	ND	6.3	0.94	ND	1.0	0.15	
108-90-7	Chlorobenzene	ND	6.3	0.90	ND	1.4	0.20	
75-00-3	Chloroethane	ND	6.3	0.84	ND	2.4	0.32	
67-66-3	Chloroform	**1.3**	6.3	0.90	**0.26**	1.3	0.18	**J**
74-87-3	Chloromethane	ND	6.3	1.1	ND	3.1	0.53	
156-59-2	cis-1,2-Dichloroethene	ND	6.3	0.95	ND	1.6	0.24	
10061-01-5	cis-1,3-Dichloropropene	ND	6.3	1.1	ND	1.4	0.23	
98-82-8	Cumene	ND	6.3	0.98	ND	1.3	0.20	
110-82-7	Cyclohexane	**5.8**	13	1.9	**1.7**	3.7	0.55	**J**
124-48-1	Dibromochloromethane	ND	6.3	0.89	ND	0.74	0.10	
64-17-5	Ethanol	**78**	63	4.7	**42**	34	2.5	
100-41-4	Ethyl Benzene	**1.6**	6.3	0.95	**0.36**	1.5	0.22	**J**
75-69-4	Freon 11	**900**	6.3	1.0	**160**	1.1	0.18	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271002** ALS Sample ID: P2400922-036
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.12 Liter(s)
Test Notes:
Container ID: 1SS01135

Initial Pressure (psig): -1.26 Final Pressure (psig): 5.67

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**880**	6.3	0.96	**110**	0.83	0.13	
76-14-2	Freon 114	ND	6.3	1.1	ND	0.91	0.15	
75-71-8	Freon 12	**2.4**	6.3	1.1	**0.48**	1.3	0.22	**J**
306-83-2	Freon 123	ND	6.3	3.0	ND	1.0	0.49	**X**
75-43-4	Freon 21	ND	6.3	3.0	ND	1.5	0.72	**X**
142-82-5	Heptane	**5.8**	6.3	1.1	**1.4**	1.5	0.26	**J**
87-68-3	Hexachlorobutadiene	ND	6.3	1.4	ND	0.59	0.13	
110-54-3	Hexane	**7.7**	6.3	1.4	**2.2**	1.8	0.40	
179601-23-1	m,p-Xylene	**4.0**	13	1.8	**0.92**	2.9	0.41	**J**
1634-04-4	Methyl tert-butyl ether	ND	6.3	0.80	ND	1.8	0.22	
75-09-2	Methylene Chloride	**6.0**	6.3	1.9	**1.7**	1.8	0.55	**J**
95-47-6	o-Xylene	**1.6**	6.3	0.98	**0.36**	1.5	0.22	**J**
103-65-1	Propylbenzene	ND	6.3	0.98	ND	1.3	0.20	
100-42-5	Styrene	**2.7**	6.3	1.1	**0.64**	1.5	0.26	**J**
127-18-4	Tetrachloroethene	**1.1**	6.3	0.87	**0.16**	0.93	0.13	**J**
109-99-9	Tetrahydrofuran	**2.8**	6.3	0.85	**0.95**	2.1	0.29	**J**
108-88-3	Toluene	**16**	6.3	0.82	**4.3**	1.7	0.22	
156-60-5	trans-1,2-Dichloroethene	ND	6.3	0.94	ND	1.6	0.24	
10061-02-6	trans-1,3-Dichloropropene	ND	6.3	1.4	ND	1.4	0.31	
79-01-6	Trichloroethene	**2.4**	6.3	0.91	**0.46**	1.2	0.17	**J**
75-01-4	Vinyl Chloride	ND	6.3	0.72	ND	2.5	0.28	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271002** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-036

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.12 Liter(s)
Test Notes:			
Container ID:	1SS01135		

Initial Pressure (psig): -1.26 Final Pressure (psig): 5.67

Container Dilution Factor: 1.52

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271020** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-037

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01391

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.07

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	**0.86**	2.1	0.26	**0.24**	0.58	0.073	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.6**	21	0.46	**0.90**	7.0	0.15	**J**
591-78-6	2-Hexanone	**0.32**	2.1	0.27	**0.079**	0.51	0.067	**J**
67-63-0	2-Propanol	ND	4.2	0.91	ND	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271020** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-037

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01391

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.07

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	**11**	21	5.0	**4.5**	8.7	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	ND	2.1	0.32	ND	0.65	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**1.1**	21	0.66	**0.36**	6.7	0.21	**J**
56-23-5	Carbon Tetrachloride	**0.31**	2.1	0.31	**0.050**	0.33	0.049	**J**
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.79	0.10	
67-66-3	Chloroform	**0.64**	2.1	0.29	**0.13**	0.43	0.060	**J**
74-87-3	Chloromethane	ND	2.1	0.36	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**7.3**	21	1.5	**3.9**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**85**	2.1	0.34	**15**	0.37	0.060	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271020** ALS Sample ID: P2400922-037
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01391

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.07

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**69**	2.1	0.32	**9.0**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.3**	2.1	0.36	**0.47**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.49	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.19	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	**0.37**	2.1	0.27	**0.099**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.093	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271020** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-037

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01391		

Initial Pressure (psig): -2.22 Final Pressure (psig): 6.07

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271025** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-038

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24 & 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01559

Initial Pressure (psig): -2.36 Final Pressure (psig): 6.76

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	11	1.4	ND	2.0	0.26	
79-34-5	1,1,2,2-Tetrachloroethane	ND	11	1.6	ND	1.6	0.23	
79-00-5	1,1,2-Trichloroethane	ND	11	1.2	ND	2.0	0.22	
75-34-3	1,1-Dichloroethane	ND	11	1.7	ND	2.7	0.42	
75-35-4	1,1-Dichloroethene	ND	11	1.6	ND	2.7	0.41	
120-82-1	1,2,4-Trichlorobenzene	ND	11	2.8	ND	1.5	0.38	
95-63-6	1,2,4-Trimethylbenzene	ND	11	1.6	ND	2.2	0.33	
106-93-4	1,2-Dibromoethane (EDB)	ND	11	1.3	ND	1.4	0.18	
95-50-1	1,2-Dichlorobenzene	ND	11	1.7	ND	1.8	0.29	
107-06-2	1,2-Dichloroethane	ND	11	1.3	ND	2.7	0.32	
78-87-5	1,2-Dichloropropane	ND	11	1.4	ND	2.4	0.31	
108-67-8	1,3,5-Trimethylbenzene	ND	11	1.7	ND	2.2	0.34	
106-99-0	1,3-Butadiene	ND	11	1.9	ND	4.9	0.87	
541-73-1	1,3-Dichlorobenzene	ND	11	1.7	ND	1.8	0.29	
106-46-7	1,4-Dichlorobenzene	ND	11	1.8	ND	1.8	0.30	
123-91-1	1,4-Dioxane	**2.5**	11	1.4	**0.71**	3.0	0.38	**J**
540-84-1	2,2,4-Trimethylpentane	ND	11	1.7	ND	2.3	0.37	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.7**	110	2.4	**1.3**	37	0.81	**J**
591-78-6	2-Hexanone	ND	11	1.4	ND	2.7	0.35	
67-63-0	2-Propanol	ND	22	4.8	ND	8.9	1.9	
107-05-1	3-Chloropropene	ND	11	1.6	ND	3.5	0.50	
622-96-8	4-Ethyltoluene	ND	11	1.8	ND	2.2	0.38	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271025** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-038

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24 & 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01559

Initial Pressure (psig): -2.36 Final Pressure (psig): 6.76

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	11	1.6	ND	2.7	0.39	
67-64-1	Acetone	ND	110	26	ND	46	11	
100-44-7	alpha-Chlorotoluene	ND	11	2.6	ND	2.1	0.50	
71-43-2	Benzene	ND	11	1.7	ND	3.4	0.52	
75-27-4	Bromodichloromethane	ND	11	1.7	ND	1.6	0.25	
75-25-2	Bromoform	ND	11	2.4	ND	1.1	0.23	
74-83-9	Bromomethane	ND	11	1.6	ND	2.8	0.41	
75-15-0	Carbon Disulfide	ND	110	3.5	ND	35	1.1	
56-23-5	Carbon Tetrachloride	ND	11	1.6	ND	1.7	0.26	
108-90-7	Chlorobenzene	ND	11	1.5	ND	2.4	0.34	
75-00-3	Chloroethane	ND	11	1.4	ND	4.1	0.54	
67-66-3	Chloroform	**5.7**	11	1.5	**1.2**	2.2	0.32	**J**
74-87-3	Chloromethane	ND	11	1.9	ND	5.3	0.91	
156-59-2	cis-1,2-Dichloroethene	ND	11	1.6	ND	2.7	0.41	
10061-01-5	cis-1,3-Dichloropropene	ND	11	1.8	ND	2.4	0.40	
98-82-8	Cumene	ND	11	1.7	ND	2.2	0.34	
110-82-7	Cyclohexane	ND	22	3.3	ND	6.3	0.95	
124-48-1	Dibromochloromethane	ND	11	1.5	ND	1.3	0.18	
64-17-5	Ethanol	ND	110	8.0	ND	58	4.3	
100-41-4	Ethyl Benzene	ND	11	1.6	ND	2.5	0.38	
75-69-4	Freon 11	**2,000**	11	1.8	**350**	1.9	0.31	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271025** ALS Sample ID: P2400922-038
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/22/24 & 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01559

Initial Pressure (psig): -2.36 Final Pressure (psig): 6.76

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2,400**	22	3.3	**310**	2.8	0.43	**D**
76-14-2	Freon 114	ND	11	1.8	ND	1.6	0.26	
75-71-8	Freon 12	**2.5**	11	1.9	**0.51**	2.2	0.38	**J**
306-83-2	Freon 123	ND	11	5.2	ND	1.7	0.83	**X**
75-43-4	Freon 21	ND	11	5.2	ND	2.6	1.2	**X**
142-82-5	Heptane	ND	11	1.8	ND	2.7	0.45	
87-68-3	Hexachlorobutadiene	ND	11	2.4	ND	1.0	0.22	
110-54-3	Hexane	ND	11	2.4	ND	3.1	0.68	
179601-23-1	m,p-Xylene	ND	22	3.0	ND	5.0	0.70	
1634-04-4	Methyl tert-butyl ether	ND	11	1.4	ND	3.0	0.38	
75-09-2	Methylene Chloride	ND	11	3.3	ND	3.1	0.94	
95-47-6	o-Xylene	ND	11	1.7	ND	2.5	0.39	
103-65-1	Propylbenzene	ND	11	1.7	ND	2.2	0.34	
100-42-5	Styrene	ND	11	1.9	ND	2.6	0.44	
127-18-4	Tetrachloroethene	ND	11	1.5	ND	1.6	0.22	
109-99-9	Tetrahydrofuran	ND	11	1.5	ND	3.7	0.49	
108-88-3	Toluene	ND	11	1.4	ND	2.9	0.38	
156-60-5	trans-1,2-Dichloroethene	ND	11	1.6	ND	2.7	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	11	2.4	ND	2.4	0.53	
79-01-6	Trichloroethene	**2.5**	11	1.6	**0.47**	2.0	0.29	**J**
75-01-4	Vinyl Chloride	ND	11	1.2	ND	4.3	0.49	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271025** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-038

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/22/24 & 3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01559		

Initial Pressure (psig): -2.36 Final Pressure (psig): 6.76

Container Dilution Factor: 1.74

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271032** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-039

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SS01202

Initial Pressure (psig): -2.30 Final Pressure (psig): 5.59

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	160	22	ND	30	4.0	
79-34-5	1,1,2,2-Tetrachloroethane	ND	160	24	ND	24	3.5	
79-00-5	1,1,2-Trichloroethane	ND	160	18	ND	30	3.2	
75-34-3	1,1-Dichloroethane	ND	160	26	ND	41	6.3	
75-35-4	1,1-Dichloroethene	ND	160	24	ND	41	6.1	
120-82-1	1,2,4-Trichlorobenzene	ND	160	43	ND	22	5.7	
95-63-6	1,2,4-Trimethylbenzene	ND	160	24	ND	33	4.9	
106-93-4	1,2-Dibromoethane (EDB)	ND	160	20	ND	21	2.6	
95-50-1	1,2-Dichlorobenzene	ND	160	26	ND	27	4.3	
107-06-2	1,2-Dichloroethane	ND	160	19	ND	41	4.8	
78-87-5	1,2-Dichloropropane	ND	160	22	ND	35	4.7	
108-67-8	1,3,5-Trimethylbenzene	ND	160	25	ND	33	5.1	
106-99-0	1,3-Butadiene	ND	160	29	ND	74	13	
541-73-1	1,3-Dichlorobenzene	ND	160	26	ND	27	4.4	
106-46-7	1,4-Dichlorobenzene	ND	160	27	ND	27	4.5	
123-91-1	1,4-Dioxane	ND	160	21	ND	46	5.7	
540-84-1	2,2,4-Trimethylpentane	ND	160	26	ND	35	5.6	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	1,600	36	ND	560	12	
591-78-6	2-Hexanone	ND	160	22	ND	40	5.3	
67-63-0	2-Propanol	ND	330	72	ND	130	29	
107-05-1	3-Chloropropene	ND	160	24	ND	52	7.5	
622-96-8	4-Ethyltoluene	ND	160	28	ND	33	5.7	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271032** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-039

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SS01202

Initial Pressure (psig): -2.30 Final Pressure (psig): 5.59

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	160	24	ND	40	5.8	
67-64-1	Acetone	ND	1,600	390	ND	690	170	
100-44-7	alpha-Chlorotoluene	ND	160	39	ND	32	7.6	
71-43-2	Benzene	ND	160	25	ND	51	7.9	
75-27-4	Bromodichloromethane	ND	160	25	ND	24	3.8	
75-25-2	Bromoform	ND	160	36	ND	16	3.5	
74-83-9	Bromomethane	ND	160	24	ND	42	6.3	
75-15-0	Carbon Disulfide	ND	1,600	52	ND	530	17	
56-23-5	Carbon Tetrachloride	ND	160	24	ND	26	3.9	
108-90-7	Chlorobenzene	ND	160	23	ND	36	5.1	
75-00-3	Chloroethane	ND	160	22	ND	62	8.2	
67-66-3	Chloroform	ND	160	23	ND	34	4.8	
74-87-3	Chloromethane	ND	160	28	ND	79	14	
156-59-2	cis-1,2-Dichloroethene	ND	160	25	ND	41	6.2	
10061-01-5	cis-1,3-Dichloropropene	ND	160	27	ND	36	6.0	
98-82-8	Cumene	ND	160	25	ND	33	5.1	
110-82-7	Cyclohexane	ND	330	49	ND	95	14	
124-48-1	Dibromochloromethane	ND	160	23	ND	19	2.7	
64-17-5	Ethanol	ND	1,600	120	ND	870	64	
100-41-4	Ethyl Benzene	ND	160	25	ND	38	5.7	
75-69-4	Freon 11	**14,000**	160	27	**2,500**	29	4.7	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271032** ALS Sample ID: P2400922-039
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SS01202

Initial Pressure (psig): -2.30 Final Pressure (psig): 5.59

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**23,000**	160	25	**3,000**	21	3.3	
76-14-2	Freon 114	ND	160	28	ND	23	3.9	
75-71-8	Freon 12	ND	160	29	ND	33	5.8	
306-83-2	Freon 123	ND	160	79	ND	26	13	**X**
75-43-4	Freon 21	ND	160	79	ND	39	19	**X**
142-82-5	Heptane	ND	160	28	ND	40	6.8	
87-68-3	Hexachlorobutadiene	ND	160	36	ND	15	3.4	
110-54-3	Hexane	ND	160	36	ND	47	10	
179601-23-1	m,p-Xylene	ND	330	46	ND	76	11	
1634-04-4	Methyl tert-butyl ether	ND	160	21	ND	46	5.7	
75-09-2	Methylene Chloride	ND	160	49	ND	47	14	
95-47-6	o-Xylene	ND	160	25	ND	38	5.8	
103-65-1	Propylbenzene	ND	160	25	ND	33	5.1	
100-42-5	Styrene	ND	160	28	ND	39	6.6	
127-18-4	Tetrachloroethene	ND	160	23	ND	24	3.3	
109-99-9	Tetrahydrofuran	ND	160	22	ND	56	7.5	
108-88-3	Toluene	ND	160	21	ND	44	5.7	
156-60-5	trans-1,2-Dichloroethene	ND	160	24	ND	41	6.1	
10061-02-6	trans-1,3-Dichloropropene	ND	160	36	ND	36	8.0	
79-01-6	Trichloroethene	**37**	160	24	**6.9**	31	4.4	**J**
75-01-4	Vinyl Chloride	ND	160	19	ND	64	7.3	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271032** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-039

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.0050 Liter(s)
Test Notes:			
Container ID:	1SS01202		

Initial Pressure (psig): -2.30 Final Pressure (psig): 5.59

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271033** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-040

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01483

Initial Pressure (psig): -2.41 Final Pressure (psig): 5.81
Initial Pressure 2 (psig): -0.19 Final Pressure 2 (psig): 4.75
Container Dilution Factor: 2.24

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.8	0.37	ND	0.51	0.068	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.8	0.41	ND	0.41	0.060	
79-00-5	1,1,2-Trichloroethane	ND	2.8	0.30	ND	0.51	0.055	
75-34-3	1,1-Dichloroethane	ND	2.8	0.44	ND	0.69	0.11	
75-35-4	1,1-Dichloroethene	ND	2.8	0.41	ND	0.71	0.10	
120-82-1	1,2,4-Trichlorobenzene	ND	2.8	0.73	ND	0.38	0.098	
95-63-6	1,2,4-Trimethylbenzene	ND	2.8	0.41	ND	0.57	0.084	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.8	0.35	ND	0.36	0.045	
95-50-1	1,2-Dichlorobenzene	ND	2.8	0.44	ND	0.47	0.074	
107-06-2	1,2-Dichloroethane	ND	2.8	0.33	ND	0.69	0.082	
78-87-5	1,2-Dichloropropane	ND	2.8	0.37	ND	0.61	0.080	
108-67-8	1,3,5-Trimethylbenzene	ND	2.8	0.43	ND	0.57	0.088	
106-99-0	1,3-Butadiene	ND	2.8	0.49	ND	1.3	0.22	
541-73-1	1,3-Dichlorobenzene	ND	2.8	0.45	ND	0.47	0.075	
106-46-7	1,4-Dichlorobenzene	ND	2.8	0.46	ND	0.47	0.076	
123-91-1	1,4-Dioxane	ND	2.8	0.35	ND	0.78	0.098	
540-84-1	2,2,4-Trimethylpentane	ND	2.8	0.45	ND	0.60	0.096	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.0**	28	0.62	**0.34**	9.5	0.21	**J**
591-78-6	2-Hexanone	ND	2.8	0.37	ND	0.68	0.090	
67-63-0	2-Propanol	ND	5.6	1.2	ND	2.3	0.50	
107-05-1	3-Chloropropene	ND	2.8	0.40	ND	0.89	0.13	
622-96-8	4-Ethyltoluene	ND	2.8	0.48	ND	0.57	0.097	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271033** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-040

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01483

Initial Pressure (psig): -2.41 Final Pressure (psig): 5.81
Initial Pressure 2 (psig): -0.19 Final Pressure 2 (psig): 4.75
Container Dilution Factor: 2.24

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.8	0.41	ND	0.68	0.10	
67-64-1	Acetone	ND	28	6.7	ND	12	2.8	
100-44-7	alpha-Chlorotoluene	ND	2.8	0.67	ND	0.54	0.13	
71-43-2	Benzene	ND	2.8	0.43	ND	0.88	0.14	
75-27-4	Bromodichloromethane	ND	2.8	0.43	ND	0.42	0.064	
75-25-2	Bromoform	ND	2.8	0.62	ND	0.27	0.060	
74-83-9	Bromomethane	ND	2.8	0.41	ND	0.72	0.11	
75-15-0	Carbon Disulfide	**1.8**	28	0.90	**0.58**	9.0	0.29	**J**
56-23-5	Carbon Tetrachloride	**0.45**	2.8	0.41	**0.072**	0.45	0.066	**J**
108-90-7	Chlorobenzene	ND	2.8	0.40	ND	0.61	0.086	
75-00-3	Chloroethane	ND	2.8	0.37	ND	1.1	0.14	
67-66-3	Chloroform	ND	2.8	0.40	ND	0.57	0.081	
74-87-3	Chloromethane	**1.1**	2.8	0.48	**0.55**	1.4	0.23	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.8	0.42	ND	0.71	0.11	
10061-01-5	cis-1,3-Dichloropropene	ND	2.8	0.46	ND	0.62	0.10	
98-82-8	Cumene	ND	2.8	0.43	ND	0.57	0.088	
110-82-7	Cyclohexane	ND	5.6	0.84	ND	1.6	0.24	
124-48-1	Dibromochloromethane	ND	2.8	0.39	ND	0.33	0.046	
64-17-5	Ethanol	ND	28	2.1	ND	15	1.1	
100-41-4	Ethyl Benzene	ND	2.8	0.42	ND	0.64	0.097	
75-69-4	Freon 11	**1.6**	2.8	0.45	**0.29**	0.50	0.081	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271033** ALS Sample ID: P2400922-040
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01483

Initial Pressure (psig): -2.41 Final Pressure (psig): 5.81
Initial Pressure 2 (psig): -0.19 Final Pressure 2 (psig): 4.75

Container Dilution Factor: 2.24

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.91**	2.8	0.43	**0.12**	0.37	0.056	**J**
76-14-2	Freon 114	ND	2.8	0.47	ND	0.40	0.067	
75-71-8	Freon 12	**2.6**	2.8	0.49	**0.53**	0.57	0.099	**J**
306-83-2	Freon 123	ND	2.8	1.3	ND	0.45	0.21	**X**
75-43-4	Freon 21	ND	2.8	1.3	ND	0.67	0.32	**X**
142-82-5	Heptane	ND	2.8	0.48	ND	0.68	0.12	
87-68-3	Hexachlorobutadiene	ND	2.8	0.62	ND	0.26	0.058	
110-54-3	Hexane	ND	2.8	0.62	ND	0.79	0.17	
179601-23-1	m,p-Xylene	ND	5.6	0.78	ND	1.3	0.18	
1634-04-4	Methyl tert-butyl ether	ND	2.8	0.35	ND	0.78	0.098	
75-09-2	Methylene Chloride	ND	2.8	0.84	ND	0.81	0.24	
95-47-6	o-Xylene	ND	2.8	0.43	ND	0.64	0.099	
103-65-1	Propylbenzene	ND	2.8	0.43	ND	0.57	0.088	
100-42-5	Styrene	ND	2.8	0.48	ND	0.66	0.11	
127-18-4	Tetrachloroethene	ND	2.8	0.39	ND	0.41	0.057	
109-99-9	Tetrahydrofuran	ND	2.8	0.38	ND	0.95	0.13	
108-88-3	Toluene	ND	2.8	0.36	ND	0.74	0.097	
156-60-5	trans-1,2-Dichloroethene	ND	2.8	0.41	ND	0.71	0.10	
10061-02-6	trans-1,3-Dichloropropene	ND	2.8	0.62	ND	0.62	0.14	
79-01-6	Trichloroethene	**0.83**	2.8	0.40	**0.15**	0.52	0.075	**J**
75-01-4	Vinyl Chloride	ND	2.8	0.32	ND	1.1	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271033** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-040

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01483		

Initial Pressure (psig):	-2.41	Final Pressure (psig):	5.81
Initial Pressure 2 (psig):	-0.19	Final Pressure 2 (psig):	4.75

Container Dilution Factor: 2.24

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271050** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-041

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01460

Initial Pressure (psig): 4.80 Final Pressure (psig): 4.80
Initial Pressure 2 (psig): -7.02 Final Pressure 2 (psig): 5.14
Container Dilution Factor: 2.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	3.2	0.43	ND	0.59	0.078	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.2	0.48	ND	0.47	0.070	
79-00-5	1,1,2-Trichloroethane	ND	3.2	0.35	ND	0.59	0.064	
75-34-3	1,1-Dichloroethane	ND	3.2	0.50	ND	0.80	0.12	
75-35-4	1,1-Dichloroethene	ND	3.2	0.48	ND	0.81	0.12	
120-82-1	1,2,4-Trichlorobenzene	ND	3.2	0.84	ND	0.43	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	3.2	0.48	ND	0.66	0.097	
106-93-4	1,2-Dibromoethane (EDB)	ND	3.2	0.40	ND	0.42	0.052	
95-50-1	1,2-Dichlorobenzene	ND	3.2	0.51	ND	0.54	0.085	
107-06-2	1,2-Dichloroethane	ND	3.2	0.38	ND	0.80	0.094	
78-87-5	1,2-Dichloropropane	ND	3.2	0.43	ND	0.70	0.092	
108-67-8	1,3,5-Trimethylbenzene	ND	3.2	0.50	ND	0.66	0.10	
106-99-0	1,3-Butadiene	ND	3.2	0.57	ND	1.5	0.26	
541-73-1	1,3-Dichlorobenzene	ND	3.2	0.52	ND	0.54	0.086	
106-46-7	1,4-Dichlorobenzene	ND	3.2	0.53	ND	0.54	0.088	
123-91-1	1,4-Dioxane	ND	3.2	0.41	ND	0.90	0.11	
540-84-1	2,2,4-Trimethylpentane	ND	3.2	0.52	ND	0.69	0.11	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.7**	32	0.71	**0.57**	11	0.24	**J**
591-78-6	2-Hexanone	ND	3.2	0.43	ND	0.79	0.10	
67-63-0	2-Propanol	ND	6.5	1.4	ND	2.6	0.58	
107-05-1	3-Chloropropene	ND	3.2	0.46	ND	1.0	0.15	
622-96-8	4-Ethyltoluene	ND	3.2	0.55	ND	0.66	0.11	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271050** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-041

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01460

Initial Pressure (psig): 4.80 Final Pressure (psig): 4.80
Initial Pressure 2 (psig): -7.02 Final Pressure 2 (psig): 5.14

Container Dilution Factor: 2.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	3.2	0.47	ND	0.79	0.11	
67-64-1	Acetone	**11**	32	7.7	**4.5**	14	3.3	**J**
100-44-7	alpha-Chlorotoluene	ND	3.2	0.77	ND	0.62	0.15	
71-43-2	Benzene	ND	3.2	0.50	ND	1.0	0.16	
75-27-4	Bromodichloromethane	ND	3.2	0.50	ND	0.48	0.074	
75-25-2	Bromoform	ND	3.2	0.71	ND	0.31	0.069	
74-83-9	Bromomethane	ND	3.2	0.48	ND	0.83	0.12	
75-15-0	Carbon Disulfide	ND	32	1.0	ND	10	0.33	
56-23-5	Carbon Tetrachloride	ND	3.2	0.48	ND	0.51	0.076	
108-90-7	Chlorobenzene	ND	3.2	0.46	ND	0.70	0.099	
75-00-3	Chloroethane	ND	3.2	0.43	ND	1.2	0.16	
67-66-3	Chloroform	ND	3.2	0.46	ND	0.66	0.094	
74-87-3	Chloromethane	ND	3.2	0.55	ND	1.6	0.27	
156-59-2	cis-1,2-Dichloroethene	ND	3.2	0.48	ND	0.81	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	3.2	0.54	ND	0.71	0.12	
98-82-8	Cumene	ND	3.2	0.50	ND	0.66	0.10	
110-82-7	Cyclohexane	ND	6.5	0.97	ND	1.9	0.28	
124-48-1	Dibromochloromethane	ND	3.2	0.45	ND	0.38	0.053	
64-17-5	Ethanol	ND	32	2.4	ND	17	1.3	
100-41-4	Ethyl Benzene	ND	3.2	0.48	ND	0.74	0.11	
75-69-4	Freon 11	ND	3.2	0.52	ND	0.57	0.093	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271050** ALS Sample ID: P2400922-041
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01460

Initial Pressure (psig): 4.80 Final Pressure (psig): 4.80
Initial Pressure 2 (psig): -7.02 Final Pressure 2 (psig): 5.14

Container Dilution Factor: 2.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	3.2	0.49	ND	0.42	0.064	
76-14-2	Freon 114	ND	3.2	0.54	ND	0.46	0.078	
75-71-8	Freon 12	ND	3.2	0.56	ND	0.65	0.11	
306-83-2	Freon 123	ND	3.2	1.5	ND	0.52	0.25	**X**
75-43-4	Freon 21	ND	3.2	1.5	ND	0.77	0.37	**X**
142-82-5	Heptane	ND	3.2	0.55	ND	0.79	0.13	
87-68-3	Hexachlorobutadiene	ND	3.2	0.71	ND	0.30	0.067	
110-54-3	Hexane	ND	3.2	0.71	ND	0.92	0.20	
179601-23-1	m,p-Xylene	ND	6.5	0.90	ND	1.5	0.21	
1634-04-4	Methyl tert-butyl ether	ND	3.2	0.41	ND	0.89	0.11	
75-09-2	Methylene Chloride	ND	3.2	0.97	ND	0.93	0.28	
95-47-6	o-Xylene	ND	3.2	0.50	ND	0.74	0.11	
103-65-1	Propylbenzene	ND	3.2	0.50	ND	0.66	0.10	
100-42-5	Styrene	ND	3.2	0.55	ND	0.76	0.13	
127-18-4	Tetrachloroethene	ND	3.2	0.45	ND	0.48	0.066	
109-99-9	Tetrahydrofuran	ND	3.2	0.43	ND	1.1	0.15	
108-88-3	Toluene	**0.81**	3.2	0.42	**0.22**	0.86	0.11	**J**
156-60-5	trans-1,2-Dichloroethene	ND	3.2	0.48	ND	0.81	0.12	
10061-02-6	trans-1,3-Dichloropropene	ND	3.2	0.71	ND	0.71	0.16	
79-01-6	Trichloroethene	**0.49**	3.2	0.46	**0.091**	0.60	0.086	**J**
75-01-4	Vinyl Chloride	ND	3.2	0.37	ND	1.3	0.14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271050** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-041

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01460		

Initial Pressure (psig):	4.80	Final Pressure (psig):	4.80
Initial Pressure 2 (psig):	-7.02	Final Pressure 2 (psig):	5.14

Container Dilution Factor: 2.58

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271051** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-042

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01206

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): -0.85 Final Pressure 2 (psig): 4.65
Container Dilution Factor: 2.27

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.8	0.37	ND	0.52	0.069	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.8	0.42	ND	0.41	0.061	
79-00-5	1,1,2-Trichloroethane	ND	2.8	0.31	ND	0.52	0.056	
75-34-3	1,1-Dichloroethane	ND	2.8	0.44	ND	0.70	0.11	
75-35-4	1,1-Dichloroethene	ND	2.8	0.42	ND	0.72	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	2.8	0.74	ND	0.38	0.099	
95-63-6	1,2,4-Trimethylbenzene	ND	2.8	0.42	ND	0.58	0.085	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.8	0.35	ND	0.37	0.046	
95-50-1	1,2-Dichlorobenzene	ND	2.8	0.45	ND	0.47	0.075	
107-06-2	1,2-Dichloroethane	ND	2.8	0.33	ND	0.70	0.083	
78-87-5	1,2-Dichloropropane	ND	2.8	0.37	ND	0.61	0.081	
108-67-8	1,3,5-Trimethylbenzene	ND	2.8	0.44	ND	0.58	0.089	
106-99-0	1,3-Butadiene	ND	2.8	0.50	ND	1.3	0.23	
541-73-1	1,3-Dichlorobenzene	ND	2.8	0.45	ND	0.47	0.076	
106-46-7	1,4-Dichlorobenzene	ND	2.8	0.47	ND	0.47	0.077	
123-91-1	1,4-Dioxane	ND	2.8	0.36	ND	0.79	0.099	
540-84-1	2,2,4-Trimethylpentane	ND	2.8	0.45	ND	0.61	0.097	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.0**	28	0.62	**1.0**	9.6	0.21	**J**
591-78-6	2-Hexanone	**0.40**	2.8	0.37	**0.097**	0.69	0.091	**J**
67-63-0	2-Propanol	ND	5.7	1.2	ND	2.3	0.51	
107-05-1	3-Chloropropene	ND	2.8	0.41	ND	0.91	0.13	
622-96-8	4-Ethyltoluene	ND	2.8	0.48	ND	0.58	0.098	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271051** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-042

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01206

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): -0.85 Final Pressure 2 (psig): 4.65
Container Dilution Factor: 2.27

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.8	0.41	ND	0.69	0.10	
67-64-1	Acetone	**11**	28	6.8	**4.5**	12	2.9	**J**
100-44-7	alpha-Chlorotoluene	ND	2.8	0.68	ND	0.55	0.13	
71-43-2	Benzene	ND	2.8	0.44	ND	0.89	0.14	
75-27-4	Bromodichloromethane	ND	2.8	0.44	ND	0.42	0.065	
75-25-2	Bromoform	ND	2.8	0.62	ND	0.27	0.060	
74-83-9	Bromomethane	ND	2.8	0.42	ND	0.73	0.11	
75-15-0	Carbon Disulfide	ND	28	0.91	ND	9.1	0.29	
56-23-5	Carbon Tetrachloride	ND	2.8	0.42	ND	0.45	0.067	
108-90-7	Chlorobenzene	ND	2.8	0.40	ND	0.62	0.088	
75-00-3	Chloroethane	ND	2.8	0.37	ND	1.1	0.14	
67-66-3	Chloroform	**1.6**	2.8	0.40	**0.32**	0.58	0.083	**J**
74-87-3	Chloromethane	ND	2.8	0.49	ND	1.4	0.24	
156-59-2	cis-1,2-Dichloroethene	ND	2.8	0.43	ND	0.72	0.11	
10061-01-5	cis-1,3-Dichloropropene	ND	2.8	0.47	ND	0.63	0.10	
98-82-8	Cumene	ND	2.8	0.44	ND	0.58	0.089	
110-82-7	Cyclohexane	ND	5.7	0.85	ND	1.6	0.25	
124-48-1	Dibromochloromethane	ND	2.8	0.40	ND	0.33	0.047	
64-17-5	Ethanol	**11**	28	2.1	**5.8**	15	1.1	**J**
100-41-4	Ethyl Benzene	ND	2.8	0.43	ND	0.65	0.098	
75-69-4	Freon 11	**460**	2.8	0.46	**82**	0.51	0.082	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271051** ALS Sample ID: P2400922-042
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01206

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): -0.85 Final Pressure 2 (psig): 4.65
Container Dilution Factor: 2.27

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**460**	28	4.3	**60**	3.7	0.56	**D**
76-14-2	Freon 114	ND	2.8	0.48	ND	0.41	0.068	
75-71-8	Freon 12	**2.6**	2.8	0.49	**0.53**	0.57	0.10	**J**
306-83-2	Freon 123	ND	2.8	1.4	ND	0.45	0.22	**X**
75-43-4	Freon 21	ND	2.8	1.4	ND	0.67	0.32	**X**
142-82-5	Heptane	ND	2.8	0.48	ND	0.69	0.12	
87-68-3	Hexachlorobutadiene	ND	2.8	0.62	ND	0.27	0.059	
110-54-3	Hexane	ND	2.8	0.62	ND	0.81	0.18	
179601-23-1	m,p-Xylene	ND	5.7	0.79	ND	1.3	0.18	
1634-04-4	Methyl tert-butyl ether	ND	2.8	0.36	ND	0.79	0.099	
75-09-2	Methylene Chloride	ND	2.8	0.85	ND	0.82	0.25	
95-47-6	o-Xylene	ND	2.8	0.44	ND	0.65	0.10	
103-65-1	Propylbenzene	ND	2.8	0.44	ND	0.58	0.089	
100-42-5	Styrene	ND	2.8	0.49	ND	0.67	0.11	
127-18-4	Tetrachloroethene	**0.99**	2.8	0.39	**0.15**	0.42	0.058	**J**
109-99-9	Tetrahydrofuran	**0.45**	2.8	0.38	**0.15**	0.96	0.13	**J**
108-88-3	Toluene	**0.39**	2.8	0.37	**0.10**	0.75	0.098	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.8	0.42	ND	0.72	0.11	
10061-02-6	trans-1,3-Dichloropropene	ND	2.8	0.62	ND	0.63	0.14	
79-01-6	Trichloroethene	**1.4**	2.8	0.41	**0.25**	0.53	0.076	**J**
75-01-4	Vinyl Chloride	ND	2.8	0.32	ND	1.1	0.13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271051** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-042

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25 - 3/26/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01206		

Initial Pressure (psig):	-2.21	Final Pressure (psig):	5.61
Initial Pressure 2 (psig):	-0.85	Final Pressure 2 (psig):	4.65

Container Dilution Factor: 2.27

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271058** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-043

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01248

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	10	1.4	ND	1.9	0.25	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	1.5	ND	1.5	0.22	
79-00-5	1,1,2-Trichloroethane	ND	10	1.1	ND	1.9	0.21	
75-34-3	1,1-Dichloroethane	ND	10	1.6	ND	2.6	0.40	
75-35-4	1,1-Dichloroethene	ND	10	1.5	ND	2.6	0.39	
120-82-1	1,2,4-Trichlorobenzene	ND	10	2.7	ND	1.4	0.36	
95-63-6	1,2,4-Trimethylbenzene	ND	10	1.5	ND	2.1	0.31	
106-93-4	1,2-Dibromoethane (EDB)	ND	10	1.3	ND	1.4	0.17	
95-50-1	1,2-Dichlorobenzene	ND	10	1.6	ND	1.7	0.27	
107-06-2	1,2-Dichloroethane	ND	10	1.2	ND	2.6	0.30	
78-87-5	1,2-Dichloropropane	ND	10	1.4	ND	2.2	0.30	
108-67-8	1,3,5-Trimethylbenzene	ND	10	1.6	ND	2.1	0.33	
106-99-0	1,3-Butadiene	ND	10	1.8	ND	4.7	0.83	
541-73-1	1,3-Dichlorobenzene	ND	10	1.7	ND	1.7	0.28	
106-46-7	1,4-Dichlorobenzene	ND	10	1.7	ND	1.7	0.28	
123-91-1	1,4-Dioxane	**200**	10	1.3	**55**	2.9	0.36	
540-84-1	2,2,4-Trimethylpentane	ND	10	1.7	ND	2.2	0.36	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**10**	100	2.3	**3.5**	35	0.77	**J**
591-78-6	2-Hexanone	**1.8**	10	1.4	**0.45**	2.5	0.33	**J**
67-63-0	2-Propanol	ND	21	4.6	ND	8.4	1.9	
107-05-1	3-Chloropropene	ND	10	1.5	ND	3.3	0.48	
622-96-8	4-Ethyltoluene	ND	10	1.8	ND	2.1	0.36	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271058** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-043

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01248

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	10	1.5	ND	2.5	0.37	
67-64-1	Acetone	**33**	100	25	**14**	44	10	**J**
100-44-7	alpha-Chlorotoluene	ND	10	2.5	ND	2.0	0.48	
71-43-2	Benzene	**2.1**	10	1.6	**0.66**	3.2	0.50	**J**
75-27-4	Bromodichloromethane	ND	10	1.6	ND	1.5	0.24	
75-25-2	Bromoform	ND	10	2.3	ND	1.0	0.22	
74-83-9	Bromomethane	ND	10	1.5	ND	2.7	0.40	
75-15-0	Carbon Disulfide	ND	100	3.3	ND	33	1.1	
56-23-5	Carbon Tetrachloride	ND	10	1.5	ND	1.7	0.24	
108-90-7	Chlorobenzene	ND	10	1.5	ND	2.3	0.32	
75-00-3	Chloroethane	ND	10	1.4	ND	3.9	0.52	
67-66-3	Chloroform	**5.1**	10	1.5	**1.1**	2.1	0.30	**J**
74-87-3	Chloromethane	ND	10	1.8	ND	5.0	0.86	
156-59-2	cis-1,2-Dichloroethene	ND	10	1.6	ND	2.6	0.39	
10061-01-5	cis-1,3-Dichloropropene	ND	10	1.7	ND	2.3	0.38	
98-82-8	Cumene	ND	10	1.6	ND	2.1	0.33	
110-82-7	Cyclohexane	ND	21	3.1	ND	6.0	0.90	
124-48-1	Dibromochloromethane	ND	10	1.5	ND	1.2	0.17	
64-17-5	Ethanol	**14**	100	7.7	**7.5**	55	4.1	**J**
100-41-4	Ethyl Benzene	**1.7**	10	1.6	**0.39**	2.4	0.36	**J**
75-69-4	Freon 11	**1,700**	10	1.7	**300**	1.8	0.30	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271058** ALS Sample ID: P2400922-043
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01248

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,700**	21	3.2	**220**	2.7	0.41	**D**
76-14-2	Freon 114	ND	10	1.7	ND	1.5	0.25	
75-71-8	Freon 12	**2.6**	10	1.8	**0.52**	2.1	0.37	**J**
306-83-2	Freon 123	ND	10	5.0	ND	1.7	0.80	**X**
75-43-4	Freon 21	ND	10	5.0	ND	2.5	1.2	**X**
142-82-5	Heptane	ND	10	1.8	ND	2.5	0.43	
87-68-3	Hexachlorobutadiene	ND	10	2.3	ND	0.97	0.21	
110-54-3	Hexane	ND	10	2.3	ND	2.9	0.65	
179601-23-1	m,p-Xylene	ND	21	2.9	ND	4.8	0.67	
1634-04-4	Methyl tert-butyl ether	ND	10	1.3	ND	2.9	0.36	
75-09-2	Methylene Chloride	ND	10	3.1	ND	3.0	0.90	
95-47-6	o-Xylene	ND	10	1.6	ND	2.4	0.37	
103-65-1	Propylbenzene	ND	10	1.6	ND	2.1	0.33	
100-42-5	Styrene	ND	10	1.8	ND	2.4	0.42	
127-18-4	Tetrachloroethene	ND	10	1.4	ND	1.5	0.21	
109-99-9	Tetrahydrofuran	**3.8**	10	1.4	**1.3**	3.5	0.47	**J**
108-88-3	Toluene	**2.8**	10	1.3	**0.75**	2.8	0.36	**J**
156-60-5	trans-1,2-Dichloroethene	ND	10	1.5	ND	2.6	0.39	
10061-02-6	trans-1,3-Dichloropropene	ND	10	2.3	ND	2.3	0.50	
79-01-6	Trichloroethene	**1.6**	10	1.5	**0.30**	1.9	0.28	**J**
75-01-4	Vinyl Chloride	ND	10	1.2	ND	4.1	0.46	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271058** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-043

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25 - 3/26/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01248		

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.08

Container Dilution Factor: 1.66

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271105** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-044

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SS01396

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.62

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	160	21	ND	30	3.9	
79-34-5	1,1,2,2-Tetrachloroethane	ND	160	24	ND	24	3.5	
79-00-5	1,1,2-Trichloroethane	ND	160	17	ND	30	3.2	
75-34-3	1,1-Dichloroethane	ND	160	25	ND	40	6.2	
75-35-4	1,1-Dichloroethene	ND	160	24	ND	41	6.0	
120-82-1	1,2,4-Trichlorobenzene	ND	160	42	ND	22	5.7	
95-63-6	1,2,4-Trimethylbenzene	ND	160	24	ND	33	4.9	
106-93-4	1,2-Dibromoethane (EDB)	ND	160	20	ND	21	2.6	
95-50-1	1,2-Dichlorobenzene	ND	160	26	ND	27	4.3	
107-06-2	1,2-Dichloroethane	ND	160	19	ND	40	4.7	
78-87-5	1,2-Dichloropropane	ND	160	21	ND	35	4.6	
108-67-8	1,3,5-Trimethylbenzene	ND	160	25	ND	33	5.1	
106-99-0	1,3-Butadiene	ND	160	29	ND	73	13	
541-73-1	1,3-Dichlorobenzene	ND	160	26	ND	27	4.3	
106-46-7	1,4-Dichlorobenzene	ND	160	27	ND	27	4.4	
123-91-1	1,4-Dioxane	ND	160	20	ND	45	5.7	
540-84-1	2,2,4-Trimethylpentane	ND	160	26	ND	35	5.6	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	1,600	36	ND	550	12	
591-78-6	2-Hexanone	ND	160	21	ND	40	5.2	
67-63-0	2-Propanol	ND	320	71	ND	130	29	
107-05-1	3-Chloropropene	ND	160	23	ND	52	7.5	
622-96-8	4-Ethyltoluene	ND	160	28	ND	33	5.6	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402271105** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-044

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SS01396

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.62

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	160	24	ND	40	5.8	
67-64-1	Acetone	ND	1,600	390	ND	680	160	
100-44-7	alpha-Chlorotoluene	ND	160	39	ND	31	7.5	
71-43-2	Benzene	ND	160	25	ND	51	7.8	
75-27-4	Bromodichloromethane	ND	160	25	ND	24	3.7	
75-25-2	Bromoform	ND	160	36	ND	16	3.4	
74-83-9	Bromomethane	ND	160	24	ND	42	6.2	
75-15-0	Carbon Disulfide	ND	1,600	52	ND	520	17	
56-23-5	Carbon Tetrachloride	ND	160	24	ND	26	3.8	
108-90-7	Chlorobenzene	ND	160	23	ND	35	5.0	
75-00-3	Chloroethane	ND	160	21	ND	61	8.1	
67-66-3	Chloroform	ND	160	23	ND	33	4.7	
74-87-3	Chloromethane	ND	160	28	ND	78	13	
156-59-2	cis-1,2-Dichloroethene	ND	160	24	ND	41	6.1	
10061-01-5	cis-1,3-Dichloropropene	ND	160	27	ND	36	5.9	
98-82-8	Cumene	ND	160	25	ND	33	5.1	
110-82-7	Cyclohexane	ND	320	49	ND	94	14	
124-48-1	Dibromochloromethane	ND	160	23	ND	19	2.7	
64-17-5	Ethanol	ND	1,600	120	ND	860	64	
100-41-4	Ethyl Benzene	ND	160	24	ND	37	5.6	
75-69-4	Freon 11	**20,000**	160	26	**3,600**	29	4.7	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402271105** ALS Sample ID: P2400922-044
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0050 Liter(s)
Test Notes:
Container ID: 1SS01396

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.62

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**27,000**	160	25	**3,600**	21	3.2	
76-14-2	Freon 114	ND	160	27	ND	23	3.9	
75-71-8	Freon 12	ND	160	28	ND	33	5.7	
306-83-2	Freon 123	ND	160	78	ND	26	12	**X**
75-43-4	Freon 21	ND	160	78	ND	39	18	**X**
142-82-5	Heptane	ND	160	28	ND	40	6.7	
87-68-3	Hexachlorobutadiene	ND	160	36	ND	15	3.3	
110-54-3	Hexane	ND	160	36	ND	46	10	
179601-23-1	m,p-Xylene	ND	320	45	ND	75	10	
1634-04-4	Methyl tert-butyl ether	ND	160	20	ND	45	5.7	
75-09-2	Methylene Chloride	ND	160	49	ND	47	14	
95-47-6	o-Xylene	ND	160	25	ND	37	5.7	
103-65-1	Propylbenzene	ND	160	25	ND	33	5.1	
100-42-5	Styrene	ND	160	28	ND	38	6.5	
127-18-4	Tetrachloroethene	ND	160	22	ND	24	3.3	
109-99-9	Tetrahydrofuran	**53**	160	22	**18**	55	7.4	**J**
108-88-3	Toluene	ND	160	21	ND	43	5.6	
156-60-5	trans-1,2-Dichloroethene	ND	160	24	ND	41	6.0	
10061-02-6	trans-1,3-Dichloropropene	ND	160	36	ND	36	7.9	
79-01-6	Trichloroethene	**36**	160	23	**6.7**	30	4.3	**J**
75-01-4	Vinyl Chloride	ND	160	18	ND	63	7.2	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402271105** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-044

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/26/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.0050 Liter(s)
Test Notes:			
Container ID:	1SS01396		

Initial Pressure (psig): -2.15 Final Pressure (psig): 5.62

Container Dilution Factor: 1.62

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280815** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-045

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01489

Initial Pressure (psig): 5.86 Final Pressure (psig): 5.86
Initial Pressure 2 (psig): -0.08 Final Pressure 2 (psig): 5.65
Container Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.7	0.23	ND	0.32	0.042	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.7	0.26	ND	0.25	0.037	
79-00-5	1,1,2-Trichloroethane	ND	1.7	0.19	ND	0.32	0.034	
75-34-3	1,1-Dichloroethane	ND	1.7	0.27	ND	0.43	0.067	
75-35-4	1,1-Dichloroethene	ND	1.7	0.26	ND	0.44	0.065	
120-82-1	1,2,4-Trichlorobenzene	ND	1.7	0.45	ND	0.23	0.061	
95-63-6	1,2,4-Trimethylbenzene	ND	1.7	0.26	ND	0.35	0.052	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.7	0.22	ND	0.23	0.028	
95-50-1	1,2-Dichlorobenzene	ND	1.7	0.27	ND	0.29	0.046	
107-06-2	1,2-Dichloroethane	ND	1.7	0.21	ND	0.43	0.051	
78-87-5	1,2-Dichloropropane	ND	1.7	0.23	ND	0.38	0.050	
108-67-8	1,3,5-Trimethylbenzene	ND	1.7	0.27	ND	0.35	0.054	
106-99-0	1,3-Butadiene	ND	1.7	0.31	ND	0.79	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.7	0.28	ND	0.29	0.046	
106-46-7	1,4-Dichlorobenzene	ND	1.7	0.28	ND	0.29	0.047	
123-91-1	1,4-Dioxane	ND	1.7	0.22	ND	0.48	0.061	
540-84-1	2,2,4-Trimethylpentane	ND	1.7	0.28	ND	0.37	0.060	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	17	0.38	ND	5.9	0.13	
591-78-6	2-Hexanone	ND	1.7	0.23	ND	0.42	0.056	
67-63-0	2-Propanol	ND	3.5	0.76	ND	1.4	0.31	
107-05-1	3-Chloropropene	ND	1.7	0.25	ND	0.56	0.080	
622-96-8	4-Ethyltoluene	ND	1.7	0.30	ND	0.35	0.060	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280815** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-045

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01489

Initial Pressure (psig): 5.86 Final Pressure (psig): 5.86
Initial Pressure 2 (psig): -0.08 Final Pressure 2 (psig): 5.65

Container Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	1.7	0.25	ND	0.42	0.062	
67-64-1	Acetone	ND	17	4.2	ND	7.3	1.8	
100-44-7	alpha-Chlorotoluene	ND	1.7	0.42	ND	0.34	0.081	
71-43-2	Benzene	ND	1.7	0.27	ND	0.54	0.084	
75-27-4	Bromodichloromethane	ND	1.7	0.27	ND	0.26	0.040	
75-25-2	Bromoform	ND	1.7	0.38	ND	0.17	0.037	
74-83-9	Bromomethane	ND	1.7	0.26	ND	0.45	0.066	
75-15-0	Carbon Disulfide	ND	17	0.56	ND	5.6	0.18	
56-23-5	Carbon Tetrachloride	ND	1.7	0.26	ND	0.28	0.041	
108-90-7	Chlorobenzene	ND	1.7	0.25	ND	0.38	0.054	
75-00-3	Chloroethane	ND	1.7	0.23	ND	0.66	0.087	
67-66-3	Chloroform	ND	1.7	0.25	ND	0.36	0.051	
74-87-3	Chloromethane	ND	1.7	0.30	ND	0.84	0.14	
156-59-2	cis-1,2-Dichloroethene	ND	1.7	0.26	ND	0.44	0.066	
10061-01-5	cis-1,3-Dichloropropene	ND	1.7	0.29	ND	0.38	0.064	
98-82-8	Cumene	ND	1.7	0.27	ND	0.35	0.054	
110-82-7	Cyclohexane	ND	3.5	0.52	ND	1.0	0.15	
124-48-1	Dibromochloromethane	ND	1.7	0.24	ND	0.20	0.029	
64-17-5	Ethanol	ND	17	1.3	ND	9.2	0.68	
100-41-4	Ethyl Benzene	ND	1.7	0.26	ND	0.40	0.060	
75-69-4	Freon 11	ND	1.7	0.28	ND	0.31	0.050	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280815** ALS Sample ID: P2400922-045
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01489

Initial Pressure (psig): 5.86 Final Pressure (psig): 5.86
Initial Pressure 2 (psig): -0.08 Final Pressure 2 (psig): 5.65

Container Dilution Factor: 1.39

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	1.7	0.26	ND	0.23	0.034	
76-14-2	Freon 114	ND	1.7	0.29	ND	0.25	0.042	
75-71-8	Freon 12	ND	1.7	0.30	ND	0.35	0.061	
306-83-2	Freon 123	ND	1.7	0.83	ND	0.28	0.13	**X**
75-43-4	Freon 21	ND	1.7	0.83	ND	0.41	0.20	**X**
142-82-5	Heptane	ND	1.7	0.30	ND	0.42	0.072	
87-68-3	Hexachlorobutadiene	ND	1.7	0.38	ND	0.16	0.036	
110-54-3	Hexane	ND	1.7	0.38	ND	0.49	0.11	
179601-23-1	m,p-Xylene	ND	3.5	0.49	ND	0.80	0.11	
1634-04-4	Methyl tert-butyl ether	ND	1.7	0.22	ND	0.48	0.061	
75-09-2	Methylene Chloride	ND	1.7	0.52	ND	0.50	0.15	
95-47-6	o-Xylene	ND	1.7	0.27	ND	0.40	0.062	
103-65-1	Propylbenzene	ND	1.7	0.27	ND	0.35	0.054	
100-42-5	Styrene	ND	1.7	0.30	ND	0.41	0.070	
127-18-4	Tetrachloroethene	ND	1.7	0.24	ND	0.26	0.035	
109-99-9	Tetrahydrofuran	ND	1.7	0.23	ND	0.59	0.079	
108-88-3	Toluene	ND	1.7	0.23	ND	0.46	0.060	
156-60-5	trans-1,2-Dichloroethene	ND	1.7	0.26	ND	0.44	0.065	
10061-02-6	trans-1,3-Dichloropropene	ND	1.7	0.38	ND	0.38	0.084	
79-01-6	Trichloroethene	ND	1.7	0.25	ND	0.32	0.047	
75-01-4	Vinyl Chloride	ND	1.7	0.20	ND	0.68	0.078	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280815** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-045

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01489		

Initial Pressure (psig):	5.86	Final Pressure (psig):	5.86
Initial Pressure 2 (psig):	-0.08	Final Pressure 2 (psig):	5.65

Container Dilution Factor: 1.39

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280816** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-046

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00140

Initial Pressure (psig): -1.52 Final Pressure (psig): 6.16
Initial Pressure 2 (psig): -5.58 Final Pressure 2 (psig): 4.93
Container Dilution Factor: 3.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	4.3	0.56	ND	0.78	0.10	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.3	0.63	ND	0.62	0.092	
79-00-5	1,1,2-Trichloroethane	ND	4.3	0.46	ND	0.78	0.084	
75-34-3	1,1-Dichloroethane	ND	4.3	0.66	ND	1.1	0.16	
75-35-4	1,1-Dichloroethene	ND	4.3	0.63	ND	1.1	0.16	
120-82-1	1,2,4-Trichlorobenzene	ND	4.3	1.1	ND	0.57	0.15	
95-63-6	1,2,4-Trimethylbenzene	ND	4.3	0.63	ND	0.87	0.13	
106-93-4	1,2-Dibromoethane (EDB)	ND	4.3	0.53	ND	0.55	0.069	
95-50-1	1,2-Dichlorobenzene	ND	4.3	0.67	ND	0.71	0.11	
107-06-2	1,2-Dichloroethane	ND	4.3	0.50	ND	1.1	0.12	
78-87-5	1,2-Dichloropropane	ND	4.3	0.56	ND	0.92	0.12	
108-67-8	1,3,5-Trimethylbenzene	ND	4.3	0.66	ND	0.87	0.13	
106-99-0	1,3-Butadiene	ND	4.3	0.75	ND	1.9	0.34	
541-73-1	1,3-Dichlorobenzene	ND	4.3	0.68	ND	0.71	0.11	
106-46-7	1,4-Dichlorobenzene	ND	4.3	0.70	ND	0.71	0.12	
123-91-1	1,4-Dioxane	**0.83**	4.3	0.54	**0.23**	1.2	0.15	**J**
540-84-1	2,2,4-Trimethylpentane	ND	4.3	0.68	ND	0.91	0.15	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**0.95**	43	0.94	**0.32**	14	0.32	**J**
591-78-6	2-Hexanone	ND	4.3	0.56	ND	1.0	0.14	
67-63-0	2-Propanol	ND	8.5	1.9	ND	3.5	0.76	
107-05-1	3-Chloropropene	ND	4.3	0.61	ND	1.4	0.20	
622-96-8	4-Ethyltoluene	ND	4.3	0.72	ND	0.87	0.15	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280816** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-046

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00140

Initial Pressure (psig): -1.52 Final Pressure (psig): 6.16
Initial Pressure 2 (psig): -5.58 Final Pressure 2 (psig): 4.93
Container Dilution Factor: 3.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	4.3	0.62	ND	1.0	0.15	
67-64-1	Acetone	ND	43	10	ND	18	4.3	
100-44-7	alpha-Chlorotoluene	ND	4.3	1.0	ND	0.82	0.20	
71-43-2	Benzene	**3.7**	4.3	0.66	**1.2**	1.3	0.21	**J**
75-27-4	Bromodichloromethane	ND	4.3	0.66	ND	0.64	0.098	
75-25-2	Bromoform	ND	4.3	0.94	ND	0.41	0.091	
74-83-9	Bromomethane	ND	4.3	0.63	ND	1.1	0.16	
75-15-0	Carbon Disulfide	**2.6**	43	1.4	**0.82**	14	0.44	**J**
56-23-5	Carbon Tetrachloride	ND	4.3	0.63	ND	0.68	0.10	
108-90-7	Chlorobenzene	ND	4.3	0.61	ND	0.93	0.13	
75-00-3	Chloroethane	ND	4.3	0.56	ND	1.6	0.21	
67-66-3	Chloroform	**0.67**	4.3	0.61	**0.14**	0.87	0.12	**J**
74-87-3	Chloromethane	**0.86**	4.3	0.73	**0.42**	2.1	0.36	**J**
156-59-2	cis-1,2-Dichloroethene	ND	4.3	0.64	ND	1.1	0.16	
10061-01-5	cis-1,3-Dichloropropene	ND	4.3	0.71	ND	0.94	0.16	
98-82-8	Cumene	ND	4.3	0.66	ND	0.87	0.13	
110-82-7	Cyclohexane	ND	8.5	1.3	ND	2.5	0.37	
124-48-1	Dibromochloromethane	ND	4.3	0.60	ND	0.50	0.070	
64-17-5	Ethanol	**5.0**	43	3.2	**2.7**	23	1.7	**J**
100-41-4	Ethyl Benzene	ND	4.3	0.64	ND	0.98	0.15	
75-69-4	Freon 11	**50**	4.3	0.69	**8.9**	0.76	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280816** ALS Sample ID: P2400922-046
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00140

Initial Pressure (psig): -1.52 Final Pressure (psig): 6.16
Initial Pressure 2 (psig): -5.58 Final Pressure 2 (psig): 4.93

Container Dilution Factor: 3.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**120**	4.3	0.65	**15**	0.56	0.085	
76-14-2	Freon 114	ND	4.3	0.72	ND	0.61	0.10	
75-71-8	Freon 12	**2.7**	4.3	0.74	**0.54**	0.86	0.15	**J**
306-83-2	Freon 123	ND	4.3	2.0	ND	0.68	0.33	**X**
75-43-4	Freon 21	**2.2**	4.3	2.0	**0.53**	1.0	0.49	**J, X**
142-82-5	Heptane	ND	4.3	0.72	ND	1.0	0.18	
87-68-3	Hexachlorobutadiene	ND	4.3	0.94	ND	0.40	0.088	
110-54-3	Hexane	ND	4.3	0.94	ND	1.2	0.27	
179601-23-1	m,p-Xylene	ND	8.5	1.2	ND	2.0	0.27	
1634-04-4	Methyl tert-butyl ether	ND	4.3	0.54	ND	1.2	0.15	
75-09-2	Methylene Chloride	ND	4.3	1.3	ND	1.2	0.37	
95-47-6	o-Xylene	ND	4.3	0.66	ND	0.98	0.15	
103-65-1	Propylbenzene	ND	4.3	0.66	ND	0.87	0.13	
100-42-5	Styrene	ND	4.3	0.73	ND	1.0	0.17	
127-18-4	Tetrachloroethene	ND	4.3	0.59	ND	0.63	0.087	
109-99-9	Tetrahydrofuran	ND	4.3	0.57	ND	1.4	0.19	
108-88-3	Toluene	**1.1**	4.3	0.55	**0.30**	1.1	0.15	**J**
156-60-5	trans-1,2-Dichloroethene	ND	4.3	0.63	ND	1.1	0.16	
10061-02-6	trans-1,3-Dichloropropene	ND	4.3	0.94	ND	0.94	0.21	
79-01-6	Trichloroethene	**0.70**	4.3	0.61	**0.13**	0.79	0.11	**J**
75-01-4	Vinyl Chloride	ND	4.3	0.49	ND	1.7	0.19	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280816** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-046

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		
Container ID:	1SS00140		

Initial Pressure (psig):	-1.52	Final Pressure (psig):	6.16
Initial Pressure 2 (psig):	-5.58	Final Pressure 2 (psig):	4.93

Container Dilution Factor: 3.41

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**1.2**	

T = Analyte is a tentatively identified compound, result is estimated.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280821** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-047

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00319

Initial Pressure (psig): -1.62 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): -3.25 Final Pressure 2 (psig): 5.30
Container Dilution Factor: 2.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	3.4	0.45	ND	0.62	0.082	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.4	0.50	ND	0.49	0.073	
79-00-5	1,1,2-Trichloroethane	ND	3.4	0.37	ND	0.62	0.067	
75-34-3	1,1-Dichloroethane	ND	3.4	0.53	ND	0.84	0.13	
75-35-4	1,1-Dichloroethene	ND	3.4	0.50	ND	0.85	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	3.4	0.88	ND	0.46	0.12	
95-63-6	1,2,4-Trimethylbenzene	ND	3.4	0.50	ND	0.69	0.10	
106-93-4	1,2-Dibromoethane (EDB)	ND	3.4	0.42	ND	0.44	0.055	
95-50-1	1,2-Dichlorobenzene	ND	3.4	0.54	ND	0.56	0.089	
107-06-2	1,2-Dichloroethane	ND	3.4	0.40	ND	0.84	0.099	
78-87-5	1,2-Dichloropropane	ND	3.4	0.45	ND	0.73	0.097	
108-67-8	1,3,5-Trimethylbenzene	ND	3.4	0.52	ND	0.69	0.11	
106-99-0	1,3-Butadiene	ND	3.4	0.60	ND	1.5	0.27	
541-73-1	1,3-Dichlorobenzene	ND	3.4	0.54	ND	0.56	0.090	
106-46-7	1,4-Dichlorobenzene	ND	3.4	0.56	ND	0.56	0.092	
123-91-1	1,4-Dioxane	ND	3.4	0.43	ND	0.94	0.12	
540-84-1	2,2,4-Trimethylpentane	ND	3.4	0.54	ND	0.73	0.12	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**10**	34	0.75	**3.5**	11	0.25	**J**
591-78-6	2-Hexanone	**2.4**	3.4	0.45	**0.60**	0.83	0.11	**J**
67-63-0	2-Propanol	**5.3**	6.8	1.5	**2.2**	2.8	0.61	**J**
107-05-1	3-Chloropropene	ND	3.4	0.49	ND	1.1	0.16	
622-96-8	4-Ethyltoluene	ND	3.4	0.58	ND	0.69	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280821** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-047

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00319

Initial Pressure (psig): -1.62 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): -3.25 Final Pressure 2 (psig): 5.30
Container Dilution Factor: 2.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.64**	3.4	0.49	**0.16**	0.83	0.12	**J**
67-64-1	Acetone	**48**	34	8.1	**20**	14	3.4	
100-44-7	alpha-Chlorotoluene	ND	3.4	0.81	ND	0.65	0.16	
71-43-2	Benzene	**1.1**	3.4	0.52	**0.34**	1.1	0.16	**J**
75-27-4	Bromodichloromethane	ND	3.4	0.52	ND	0.51	0.078	
75-25-2	Bromoform	ND	3.4	0.75	ND	0.33	0.072	
74-83-9	Bromomethane	ND	3.4	0.50	ND	0.87	0.13	
75-15-0	Carbon Disulfide	**17**	34	1.1	**5.5**	11	0.35	**J**
56-23-5	Carbon Tetrachloride	ND	3.4	0.50	ND	0.54	0.080	
108-90-7	Chlorobenzene	ND	3.4	0.48	ND	0.74	0.10	
75-00-3	Chloroethane	ND	3.4	0.45	ND	1.3	0.17	
67-66-3	Chloroform	**4.4**	3.4	0.48	**0.90**	0.69	0.099	
74-87-3	Chloromethane	**1.5**	3.4	0.58	**0.75**	1.6	0.28	**J**
156-59-2	cis-1,2-Dichloroethene	ND	3.4	0.51	ND	0.85	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	3.4	0.56	ND	0.75	0.12	
98-82-8	Cumene	ND	3.4	0.52	ND	0.69	0.11	
110-82-7	Cyclohexane	**1.1**	6.8	1.0	**0.32**	2.0	0.30	**J**
124-48-1	Dibromochloromethane	ND	3.4	0.47	ND	0.40	0.056	
64-17-5	Ethanol	**13**	34	2.5	**6.8**	18	1.3	**J**
100-41-4	Ethyl Benzene	ND	3.4	0.51	ND	0.78	0.12	
75-69-4	Freon 11	**100**	3.4	0.55	**18**	0.60	0.098	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280821** ALS Sample ID: P2400922-047
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00319

Initial Pressure (psig): -1.62 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): -3.25 Final Pressure 2 (psig): 5.30

Container Dilution Factor: 2.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**180**	3.4	0.51	**24**	0.44	0.067	
76-14-2	Freon 114	ND	3.4	0.57	ND	0.48	0.081	
75-71-8	Freon 12	**2.7**	3.4	0.59	**0.54**	0.69	0.12	**J**
306-83-2	Freon 123	ND	3.4	1.6	ND	0.54	0.26	**X**
75-43-4	Freon 21	**5.2**	3.4	1.6	**1.2**	0.81	0.39	**X**
142-82-5	Heptane	**0.74**	3.4	0.58	**0.18**	0.83	0.14	**J**
87-68-3	Hexachlorobutadiene	ND	3.4	0.75	ND	0.32	0.070	
110-54-3	Hexane	**1.5**	3.4	0.75	**0.42**	0.96	0.21	**J**
179601-23-1	m,p-Xylene	**1.1**	6.8	0.95	**0.25**	1.6	0.22	**J**
1634-04-4	Methyl tert-butyl ether	ND	3.4	0.43	ND	0.94	0.12	
75-09-2	Methylene Chloride	**1.3**	3.4	1.0	**0.37**	0.98	0.29	**J**
95-47-6	o-Xylene	ND	3.4	0.52	ND	0.78	0.12	
103-65-1	Propylbenzene	ND	3.4	0.52	ND	0.69	0.11	
100-42-5	Styrene	ND	3.4	0.58	ND	0.80	0.14	
127-18-4	Tetrachloroethene	**14**	3.4	0.47	**2.1**	0.50	0.069	
109-99-9	Tetrahydrofuran	**0.56**	3.4	0.45	**0.19**	1.1	0.15	**J**
108-88-3	Toluene	**3.6**	3.4	0.44	**0.95**	0.90	0.12	
156-60-5	trans-1,2-Dichloroethene	ND	3.4	0.50	ND	0.85	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	3.4	0.75	ND	0.75	0.16	
79-01-6	Trichloroethene	**2.6**	3.4	0.49	**0.49**	0.63	0.091	**J**
75-01-4	Vinyl Chloride	ND	3.4	0.39	ND	1.3	0.15	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280821** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-047

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00319		

Initial Pressure (psig):	-1.62	Final Pressure (psig):	5.61
Initial Pressure 2 (psig):	-3.25	Final Pressure 2 (psig):	5.30

Container Dilution Factor: 2.71

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280827** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-048

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00977

Initial Pressure (psig): -1.69 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): 2.03 Final Pressure 2 (psig): 4.55
Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	11	1.5	ND	2.1	0.27	
79-34-5	1,1,2,2-Tetrachloroethane	ND	11	1.7	ND	1.6	0.24	
79-00-5	1,1,2-Trichloroethane	ND	11	1.2	ND	2.1	0.22	
75-34-3	1,1-Dichloroethane	ND	11	1.8	ND	2.8	0.43	
75-35-4	1,1-Dichloroethene	ND	11	1.7	ND	2.8	0.42	
120-82-1	1,2,4-Trichlorobenzene	ND	11	2.9	ND	1.5	0.39	
95-63-6	1,2,4-Trimethylbenzene	ND	11	1.7	ND	2.3	0.34	
106-93-4	1,2-Dibromoethane (EDB)	ND	11	1.4	ND	1.5	0.18	
95-50-1	1,2-Dichlorobenzene	ND	11	1.8	ND	1.9	0.30	
107-06-2	1,2-Dichloroethane	ND	11	1.3	ND	2.8	0.33	
78-87-5	1,2-Dichloropropane	ND	11	1.5	ND	2.4	0.32	
108-67-8	1,3,5-Trimethylbenzene	ND	11	1.7	ND	2.3	0.35	
106-99-0	1,3-Butadiene	ND	11	2.0	ND	5.1	0.90	
541-73-1	1,3-Dichlorobenzene	ND	11	1.8	ND	1.9	0.30	
106-46-7	1,4-Dichlorobenzene	ND	11	1.8	ND	1.9	0.31	
123-91-1	1,4-Dioxane	ND	11	1.4	ND	3.1	0.39	
540-84-1	2,2,4-Trimethylpentane	ND	11	1.8	ND	2.4	0.39	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**11**	110	2.5	**3.6**	38	0.84	**J**
591-78-6	2-Hexanone	**3.3**	11	1.5	**0.80**	2.7	0.36	**J**
67-63-0	2-Propanol	ND	23	5.0	ND	9.2	2.0	
107-05-1	3-Chloropropene	ND	11	1.6	ND	3.6	0.52	
622-96-8	4-Ethyltoluene	ND	11	1.9	ND	2.3	0.39	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280827** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-048

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00977

Initial Pressure (psig): -1.69 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): 2.03 Final Pressure 2 (psig): 4.55
Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	11	1.6	ND	2.7	0.40	
67-64-1	Acetone	**43**	110	27	**18**	47	11	**J**
100-44-7	alpha-Chlorotoluene	ND	11	2.7	ND	2.2	0.52	
71-43-2	Benzene	ND	11	1.7	ND	3.5	0.54	
75-27-4	Bromodichloromethane	ND	11	1.7	ND	1.7	0.26	
75-25-2	Bromoform	ND	11	2.5	ND	1.1	0.24	
74-83-9	Bromomethane	ND	11	1.7	ND	2.9	0.43	
75-15-0	Carbon Disulfide	ND	110	3.6	ND	36	1.2	
56-23-5	Carbon Tetrachloride	ND	11	1.7	ND	1.8	0.26	
108-90-7	Chlorobenzene	ND	11	1.6	ND	2.4	0.35	
75-00-3	Chloroethane	ND	11	1.5	ND	4.3	0.56	
67-66-3	Chloroform	**14**	11	1.6	**2.8**	2.3	0.33	
74-87-3	Chloromethane	ND	11	1.9	ND	5.5	0.94	
156-59-2	cis-1,2-Dichloroethene	ND	11	1.7	ND	2.8	0.43	
10061-01-5	cis-1,3-Dichloropropene	ND	11	1.9	ND	2.5	0.41	
98-82-8	Cumene	ND	11	1.7	ND	2.3	0.35	
110-82-7	Cyclohexane	ND	23	3.4	ND	6.5	0.98	
124-48-1	Dibromochloromethane	ND	11	1.6	ND	1.3	0.18	
64-17-5	Ethanol	ND	110	8.3	ND	60	4.4	
100-41-4	Ethyl Benzene	ND	11	1.7	ND	2.6	0.39	
75-69-4	Freon 11	**2,200**	23	3.6	**400**	4.0	0.65	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280827** ALS Sample ID: P2400922-048
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00977

Initial Pressure (psig): -1.69 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): 2.03 Final Pressure 2 (psig): 4.55

Container Dilution Factor: 1.80

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2,300**	23	3.4	**300**	2.9	0.45	**D**
76-14-2	Freon 114	ND	11	1.9	ND	1.6	0.27	
75-71-8	Freon 12	**2.7**	11	2.0	**0.56**	2.3	0.40	**J**
306-83-2	Freon 123	ND	11	5.4	ND	1.8	0.86	**X**
75-43-4	Freon 21	ND	11	5.4	ND	2.7	1.3	**X**
142-82-5	Heptane	ND	11	1.9	ND	2.7	0.47	
87-68-3	Hexachlorobutadiene	ND	11	2.5	ND	1.1	0.23	
110-54-3	Hexane	ND	11	2.5	ND	3.2	0.70	
179601-23-1	m,p-Xylene	ND	23	3.2	ND	5.2	0.73	
1634-04-4	Methyl tert-butyl ether	ND	11	1.4	ND	3.1	0.39	
75-09-2	Methylene Chloride	ND	11	3.4	ND	3.2	0.97	
95-47-6	o-Xylene	ND	11	1.7	ND	2.6	0.40	
103-65-1	Propylbenzene	ND	11	1.7	ND	2.3	0.35	
100-42-5	Styrene	ND	11	1.9	ND	2.6	0.45	
127-18-4	Tetrachloroethene	ND	11	1.6	ND	1.7	0.23	
109-99-9	Tetrahydrofuran	ND	11	1.5	ND	3.8	0.51	
108-88-3	Toluene	ND	11	1.5	ND	3.0	0.39	
156-60-5	trans-1,2-Dichloroethene	ND	11	1.7	ND	2.8	0.42	
10061-02-6	trans-1,3-Dichloropropene	ND	11	2.5	ND	2.5	0.55	
79-01-6	Trichloroethene	**76**	11	1.6	**14**	2.1	0.30	
75-01-4	Vinyl Chloride	ND	11	1.3	ND	4.4	0.50	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280827** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-048

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25 - 3/26/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.080 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC00977		

Initial Pressure (psig):	-1.69	Final Pressure (psig):	5.61
Initial Pressure 2 (psig):	2.03	Final Pressure 2 (psig):	4.55

Container Dilution Factor: 1.80

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280855** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-049

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01344

Initial Pressure (psig): -1.71 Final Pressure (psig): 5.80
Initial Pressure 2 (psig): -2.04 Final Pressure 2 (psig): 5.07
Container Dilution Factor: 2.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	3.1	0.41	ND	0.56	0.074	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.1	0.46	ND	0.45	0.066	
79-00-5	1,1,2-Trichloroethane	ND	3.1	0.33	ND	0.56	0.061	
75-34-3	1,1-Dichloroethane	ND	3.1	0.48	ND	0.76	0.12	
75-35-4	1,1-Dichloroethene	ND	3.1	0.46	ND	0.78	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	3.1	0.80	ND	0.41	0.11	
95-63-6	1,2,4-Trimethylbenzene	**0.93**	3.1	0.46	**0.19**	0.63	0.093	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	3.1	0.38	ND	0.40	0.050	
95-50-1	1,2-Dichlorobenzene	ND	3.1	0.49	ND	0.51	0.081	
107-06-2	1,2-Dichloroethane	ND	3.1	0.36	ND	0.76	0.090	
78-87-5	1,2-Dichloropropane	ND	3.1	0.41	ND	0.67	0.088	
108-67-8	1,3,5-Trimethylbenzene	ND	3.1	0.47	ND	0.63	0.096	
106-99-0	1,3-Butadiene	ND	3.1	0.54	ND	1.4	0.24	
541-73-1	1,3-Dichlorobenzene	ND	3.1	0.49	ND	0.51	0.082	
106-46-7	1,4-Dichlorobenzene	ND	3.1	0.50	ND	0.51	0.084	
123-91-1	1,4-Dioxane	ND	3.1	0.39	ND	0.85	0.11	
540-84-1	2,2,4-Trimethylpentane	ND	3.1	0.49	ND	0.66	0.11	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**46**	31	0.68	**15**	10	0.23	
591-78-6	2-Hexanone	**1.4**	3.1	0.41	**0.34**	0.75	0.099	**J**
67-63-0	2-Propanol	**4.7**	6.2	1.4	**1.9**	2.5	0.55	**J**
107-05-1	3-Chloropropene	ND	3.1	0.44	ND	0.98	0.14	
622-96-8	4-Ethyltoluene	ND	3.1	0.52	ND	0.63	0.11	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280855** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-049

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01344

Initial Pressure (psig): -1.71 Final Pressure (psig): 5.80
Initial Pressure 2 (psig): -2.04 Final Pressure 2 (psig): 5.07
Container Dilution Factor: 2.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**2.2**	3.1	0.45	**0.53**	0.75	0.11	**J**
67-64-1	Acetone	**39**	31	7.4	**16**	13	3.1	
100-44-7	alpha-Chlorotoluene	ND	3.1	0.74	ND	0.59	0.14	
71-43-2	Benzene	ND	3.1	0.47	ND	0.96	0.15	
75-27-4	Bromodichloromethane	ND	3.1	0.47	ND	0.46	0.071	
75-25-2	Bromoform	ND	3.1	0.68	ND	0.30	0.065	
74-83-9	Bromomethane	ND	3.1	0.46	ND	0.79	0.12	
75-15-0	Carbon Disulfide	**120**	31	0.98	**39**	9.9	0.32	
56-23-5	Carbon Tetrachloride	ND	3.1	0.46	ND	0.49	0.072	
108-90-7	Chlorobenzene	ND	3.1	0.44	ND	0.67	0.095	
75-00-3	Chloroethane	ND	3.1	0.41	ND	1.2	0.15	
67-66-3	Chloroform	**1.4**	3.1	0.44	**0.28**	0.63	0.089	**J**
74-87-3	Chloromethane	ND	3.1	0.53	ND	1.5	0.26	
156-59-2	cis-1,2-Dichloroethene	ND	3.1	0.46	ND	0.78	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	3.1	0.51	ND	0.68	0.11	
98-82-8	Cumene	ND	3.1	0.47	ND	0.63	0.096	
110-82-7	Cyclohexane	ND	6.2	0.92	ND	1.8	0.27	
124-48-1	Dibromochloromethane	ND	3.1	0.43	ND	0.36	0.051	
64-17-5	Ethanol	**11**	31	2.3	**6.0**	16	1.2	**J**
100-41-4	Ethyl Benzene	**0.99**	3.1	0.46	**0.23**	0.71	0.11	**J**
75-69-4	Freon 11	**210**	3.1	0.50	**38**	0.55	0.089	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280855** ALS Sample ID: P2400922-049
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01344

Initial Pressure (psig): -1.71 Final Pressure (psig): 5.80
Initial Pressure 2 (psig): -2.04 Final Pressure 2 (psig): 5.07

Container Dilution Factor: 2.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**200**	3.1	0.47	**27**	0.40	0.061	
76-14-2	Freon 114	ND	3.1	0.52	ND	0.44	0.074	
75-71-8	Freon 12	**2.7**	3.1	0.54	**0.54**	0.62	0.11	**J**
306-83-2	Freon 123	ND	3.1	1.5	ND	0.49	0.24	**X**
75-43-4	Freon 21	ND	3.1	1.5	ND	0.73	0.35	**X**
142-82-5	Heptane	ND	3.1	0.52	ND	0.75	0.13	
87-68-3	Hexachlorobutadiene	ND	3.1	0.68	ND	0.29	0.063	
110-54-3	Hexane	ND	3.1	0.68	ND	0.87	0.19	
179601-23-1	m,p-Xylene	**2.0**	6.2	0.86	**0.45**	1.4	0.20	**J**
1634-04-4	Methyl tert-butyl ether	ND	3.1	0.39	ND	0.85	0.11	
75-09-2	Methylene Chloride	ND	3.1	0.92	ND	0.89	0.27	
95-47-6	o-Xylene	**0.82**	3.1	0.47	**0.19**	0.71	0.11	**J**
103-65-1	Propylbenzene	ND	3.1	0.47	ND	0.63	0.096	
100-42-5	Styrene	ND	3.1	0.53	ND	0.72	0.12	
127-18-4	Tetrachloroethene	ND	3.1	0.42	ND	0.45	0.063	
109-99-9	Tetrahydrofuran	**6.0**	3.1	0.41	**2.0**	1.0	0.14	
108-88-3	Toluene	**1.5**	3.1	0.40	**0.39**	0.82	0.11	**J**
156-60-5	trans-1,2-Dichloroethene	ND	3.1	0.46	ND	0.78	0.11	
10061-02-6	trans-1,3-Dichloropropene	ND	3.1	0.68	ND	0.68	0.15	
79-01-6	Trichloroethene	**0.84**	3.1	0.44	**0.16**	0.57	0.082	**J**
75-01-4	Vinyl Chloride	ND	3.1	0.35	ND	1.2	0.14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280855** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-049

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01344		

Initial Pressure (psig):	-1.71	Final Pressure (psig):	5.80
Initial Pressure 2 (psig):	-2.04	Final Pressure 2 (psig):	5.07

Container Dilution Factor: 2.46

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280901** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-050

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01370

Initial Pressure (psig): -1.57 Final Pressure (psig): 5.74
Initial Pressure 2 (psig): -3.59 Final Pressure 2 (psig): 5.50
Container Dilution Factor: 2.83

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	3.5	0.47	ND	0.65	0.086	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.5	0.52	ND	0.52	0.076	
79-00-5	1,1,2-Trichloroethane	ND	3.5	0.38	ND	0.65	0.070	
75-34-3	1,1-Dichloroethane	ND	3.5	0.55	ND	0.87	0.14	
75-35-4	1,1-Dichloroethene	ND	3.5	0.52	ND	0.89	0.13	
120-82-1	1,2,4-Trichlorobenzene	ND	3.5	0.92	ND	0.48	0.12	
95-63-6	1,2,4-Trimethylbenzene	ND	3.5	0.52	ND	0.72	0.11	
106-93-4	1,2-Dibromoethane (EDB)	ND	3.5	0.44	ND	0.46	0.057	
95-50-1	1,2-Dichlorobenzene	ND	3.5	0.56	ND	0.59	0.093	
107-06-2	1,2-Dichloroethane	ND	3.5	0.42	ND	0.87	0.10	
78-87-5	1,2-Dichloropropane	ND	3.5	0.47	ND	0.77	0.10	
108-67-8	1,3,5-Trimethylbenzene	ND	3.5	0.54	ND	0.72	0.11	
106-99-0	1,3-Butadiene	ND	3.5	0.62	ND	1.6	0.28	
541-73-1	1,3-Dichlorobenzene	ND	3.5	0.57	ND	0.59	0.094	
106-46-7	1,4-Dichlorobenzene	ND	3.5	0.58	ND	0.59	0.097	
123-91-1	1,4-Dioxane	**6.1**	3.5	0.45	**1.7**	0.98	0.12	
540-84-1	2,2,4-Trimethylpentane	ND	3.5	0.57	ND	0.76	0.12	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.6**	35	0.78	**1.2**	12	0.26	**J**
591-78-6	2-Hexanone	**0.50**	3.5	0.47	**0.12**	0.86	0.11	**J**
67-63-0	2-Propanol	**7.2**	7.1	1.6	**2.9**	2.9	0.63	
107-05-1	3-Chloropropene	ND	3.5	0.51	ND	1.1	0.16	
622-96-8	4-Ethyltoluene	ND	3.5	0.60	ND	0.72	0.12	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280901** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-050

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01370

Initial Pressure (psig): -1.57 Final Pressure (psig): 5.74
Initial Pressure 2 (psig): -3.59 Final Pressure 2 (psig): 5.50
Container Dilution Factor: 2.83

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	3.5	0.52	ND	0.86	0.13	
67-64-1	Acetone	**20**	35	8.5	**8.3**	15	3.6	**J**
100-44-7	alpha-Chlorotoluene	ND	3.5	0.85	ND	0.68	0.16	
71-43-2	Benzene	**1.2**	3.5	0.54	**0.37**	1.1	0.17	**J**
75-27-4	Bromodichloromethane	ND	3.5	0.54	ND	0.53	0.081	
75-25-2	Bromoform	ND	3.5	0.78	ND	0.34	0.075	
74-83-9	Bromomethane	ND	3.5	0.52	ND	0.91	0.13	
75-15-0	Carbon Disulfide	ND	35	1.1	ND	11	0.36	
56-23-5	Carbon Tetrachloride	ND	3.5	0.52	ND	0.56	0.083	
108-90-7	Chlorobenzene	ND	3.5	0.50	ND	0.77	0.11	
75-00-3	Chloroethane	ND	3.5	0.47	ND	1.3	0.18	
67-66-3	Chloroform	**4.2**	3.5	0.50	**0.87**	0.72	0.10	
74-87-3	Chloromethane	ND	3.5	0.61	ND	1.7	0.29	
156-59-2	cis-1,2-Dichloroethene	ND	3.5	0.53	ND	0.89	0.13	
10061-01-5	cis-1,3-Dichloropropene	ND	3.5	0.59	ND	0.78	0.13	
98-82-8	Cumene	ND	3.5	0.54	ND	0.72	0.11	
110-82-7	Cyclohexane	ND	7.1	1.1	ND	2.1	0.31	
124-48-1	Dibromochloromethane	ND	3.5	0.50	ND	0.42	0.058	
64-17-5	Ethanol	**25**	35	2.6	**13**	19	1.4	**J**
100-41-4	Ethyl Benzene	ND	3.5	0.53	ND	0.81	0.12	
75-69-4	Freon 11	**570**	35	5.7	**100**	6.3	1.0	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280901** ALS Sample ID: P2400922-050
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/26/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01370

Initial Pressure (psig): -1.57 Final Pressure (psig): 5.74
Initial Pressure 2 (psig): -3.59 Final Pressure 2 (psig): 5.50

Container Dilution Factor: 2.83

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**610**	35	5.4	**79**	4.6	0.70	**D**
76-14-2	Freon 114	ND	3.5	0.59	ND	0.51	0.085	
75-71-8	Freon 12	**2.7**	3.5	0.62	**0.56**	0.72	0.12	**J**
306-83-2	Freon 123	ND	3.5	1.7	ND	0.57	0.27	**X**
75-43-4	Freon 21	**2.5**	3.5	1.7	**0.59**	0.84	0.40	**J, X**
142-82-5	Heptane	**0.76**	3.5	0.60	**0.18**	0.86	0.15	**J**
87-68-3	Hexachlorobutadiene	ND	3.5	0.78	ND	0.33	0.073	
110-54-3	Hexane	**1.0**	3.5	0.78	**0.30**	1.0	0.22	**J**
179601-23-1	m,p-Xylene	**1.1**	7.1	0.99	**0.25**	1.6	0.23	**J**
1634-04-4	Methyl tert-butyl ether	ND	3.5	0.45	ND	0.98	0.12	
75-09-2	Methylene Chloride	**1.9**	3.5	1.1	**0.56**	1.0	0.31	**J**
95-47-6	o-Xylene	ND	3.5	0.54	ND	0.81	0.13	
103-65-1	Propylbenzene	ND	3.5	0.54	ND	0.72	0.11	
100-42-5	Styrene	ND	3.5	0.61	ND	0.83	0.14	
127-18-4	Tetrachloroethene	ND	3.5	0.49	ND	0.52	0.072	
109-99-9	Tetrahydrofuran	**1.0**	3.5	0.47	**0.36**	1.2	0.16	**J**
108-88-3	Toluene	**4.9**	3.5	0.46	**1.3**	0.94	0.12	
156-60-5	trans-1,2-Dichloroethene	ND	3.5	0.52	ND	0.89	0.13	
10061-02-6	trans-1,3-Dichloropropene	ND	3.5	0.78	ND	0.78	0.17	
79-01-6	Trichloroethene	**2.5**	3.5	0.51	**0.47**	0.66	0.095	**J**
75-01-4	Vinyl Chloride	ND	3.5	0.40	ND	1.4	0.16	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280901** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-050

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	3/7/24
Analyst:	Simon Cao	Date Analyzed:	3/26/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01370		

Initial Pressure (psig):	-1.57	Final Pressure (psig):	5.74
Initial Pressure 2 (psig):	-3.59	Final Pressure 2 (psig):	5.50

Container Dilution Factor: 2.83

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280907** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-051

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01596

Initial Pressure (psig): -1.70 Final Pressure (psig): 5.51

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	16	2.0	ND	2.8	0.38	
79-34-5	1,1,2,2-Tetrachloroethane	ND	16	2.3	ND	2.3	0.33	
79-00-5	1,1,2-Trichloroethane	ND	16	1.7	ND	2.8	0.31	
75-34-3	1,1-Dichloroethane	ND	16	2.4	ND	3.8	0.60	
75-35-4	1,1-Dichloroethene	ND	16	2.3	ND	3.9	0.58	
120-82-1	1,2,4-Trichlorobenzene	ND	16	4.0	ND	2.1	0.54	
95-63-6	1,2,4-Trimethylbenzene	ND	16	2.3	ND	3.2	0.47	
106-93-4	1,2-Dibromoethane (EDB)	ND	16	1.9	ND	2.0	0.25	
95-50-1	1,2-Dichlorobenzene	ND	16	2.4	ND	2.6	0.41	
107-06-2	1,2-Dichloroethane	ND	16	1.8	ND	3.8	0.45	
78-87-5	1,2-Dichloropropane	ND	16	2.0	ND	3.4	0.44	
108-67-8	1,3,5-Trimethylbenzene	ND	16	2.4	ND	3.2	0.49	
106-99-0	1,3-Butadiene	ND	16	2.7	ND	7.0	1.2	
541-73-1	1,3-Dichlorobenzene	ND	16	2.5	ND	2.6	0.41	
106-46-7	1,4-Dichlorobenzene	ND	16	2.5	ND	2.6	0.42	
123-91-1	1,4-Dioxane	ND	16	2.0	ND	4.3	0.54	
540-84-1	2,2,4-Trimethylpentane	ND	16	2.5	ND	3.3	0.53	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	160	3.4	ND	53	1.2	
591-78-6	2-Hexanone	ND	16	2.0	ND	3.8	0.50	
67-63-0	2-Propanol	ND	31	6.8	ND	13	2.8	
107-05-1	3-Chloropropene	ND	16	2.2	ND	5.0	0.71	
622-96-8	4-Ethyltoluene	ND	16	2.6	ND	3.2	0.54	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280907** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-051

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01596

Initial Pressure (psig): -1.70 Final Pressure (psig): 5.51

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	16	2.3	ND	3.8	0.55	
67-64-1	Acetone	ND	160	37	ND	65	16	
100-44-7	alpha-Chlorotoluene	ND	16	3.7	ND	3.0	0.72	
71-43-2	Benzene	**4.0**	16	2.4	**1.3**	4.9	0.75	**J, B**
75-27-4	Bromodichloromethane	ND	16	2.4	ND	2.3	0.36	
75-25-2	Bromoform	ND	16	3.4	ND	1.5	0.33	
74-83-9	Bromomethane	ND	16	2.3	ND	4.0	0.59	
75-15-0	Carbon Disulfide	ND	160	5.0	ND	50	1.6	
56-23-5	Carbon Tetrachloride	ND	16	2.3	ND	2.5	0.36	
108-90-7	Chlorobenzene	ND	16	2.2	ND	3.4	0.48	
75-00-3	Chloroethane	ND	16	2.0	ND	5.9	0.78	
67-66-3	Chloroform	**8.7**	16	2.2	**1.8**	3.2	0.45	**J**
74-87-3	Chloromethane	ND	16	2.7	ND	7.5	1.3	
156-59-2	cis-1,2-Dichloroethene	ND	16	2.3	ND	3.9	0.59	
10061-01-5	cis-1,3-Dichloropropene	ND	16	2.6	ND	3.4	0.57	
98-82-8	Cumene	ND	16	2.4	ND	3.2	0.49	
110-82-7	Cyclohexane	ND	31	4.7	ND	9.0	1.4	
124-48-1	Dibromochloromethane	ND	16	2.2	ND	1.8	0.25	
64-17-5	Ethanol	ND	160	11	ND	82	6.1	
100-41-4	Ethyl Benzene	ND	16	2.3	ND	3.6	0.54	
75-69-4	Freon 11	**2,000**	16	2.5	**360**	2.8	0.45	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280907** ALS Sample ID: P2400922-051
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.050 Liter(s)
Test Notes:
Container ID: 1SS01596

Initial Pressure (psig): -1.70 Final Pressure (psig): 5.51

Container Dilution Factor: 1.55

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2,700**	16	2.4	**350**	2.0	0.31	
76-14-2	Freon 114	ND	16	2.6	ND	2.2	0.37	
75-71-8	Freon 12	ND	16	2.7	ND	3.1	0.55	
306-83-2	Freon 123	ND	16	7.4	ND	2.5	1.2	**X**
75-43-4	Freon 21	ND	16	7.4	ND	3.7	1.8	**X**
142-82-5	Heptane	ND	16	2.6	ND	3.8	0.64	
87-68-3	Hexachlorobutadiene	ND	16	3.4	ND	1.5	0.32	
110-54-3	Hexane	ND	16	3.4	ND	4.4	0.97	
179601-23-1	m,p-Xylene	ND	31	4.3	ND	7.1	1.0	
1634-04-4	Methyl tert-butyl ether	ND	16	2.0	ND	4.3	0.54	
75-09-2	Methylene Chloride	ND	16	4.7	ND	4.5	1.3	
95-47-6	o-Xylene	ND	16	2.4	ND	3.6	0.55	
103-65-1	Propylbenzene	ND	16	2.4	ND	3.2	0.49	
100-42-5	Styrene	ND	16	2.7	ND	3.6	0.63	
127-18-4	Tetrachloroethene	ND	16	2.1	ND	2.3	0.32	
109-99-9	Tetrahydrofuran	ND	16	2.1	ND	5.3	0.70	
108-88-3	Toluene	ND	16	2.0	ND	4.1	0.53	
156-60-5	trans-1,2-Dichloroethene	ND	16	2.3	ND	3.9	0.58	
10061-02-6	trans-1,3-Dichloropropene	ND	16	3.4	ND	3.4	0.75	
79-01-6	Trichloroethene	ND	16	2.2	ND	2.9	0.42	
75-01-4	Vinyl Chloride	ND	16	1.8	ND	6.1	0.69	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280907** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-051

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.050 Liter(s)
Test Notes:			
Container ID:	1SS01596		

Initial Pressure (psig): -1.70 Final Pressure (psig): 5.51

Container Dilution Factor: 1.55

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280940** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-052

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00862

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.21

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.32	ND	0.50	0.078	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.53	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.061	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.34	0.053	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.50	0.059	
78-87-5	1,2-Dichloropropane	ND	2.0	0.27	ND	0.44	0.058	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.36	ND	0.92	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.34	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.34	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.26	ND	0.56	0.071	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.43	0.069	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.6**	20	0.45	**0.55**	6.9	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.27	ND	0.49	0.065	
67-63-0	2-Propanol	**3.3**	4.1	0.89	**1.3**	1.6	0.36	**J**
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.65	0.093	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280940** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-052

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00862

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.21

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.30	ND	0.49	0.072	
67-64-1	Acetone	**8.6**	20	4.9	**3.6**	8.5	2.0	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.49	ND	0.39	0.094	
71-43-2	Benzene	**0.70**	2.0	0.31	**0.22**	0.63	0.098	**J, B**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.047	
75-25-2	Bromoform	ND	2.0	0.45	ND	0.20	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.077	
75-15-0	Carbon Disulfide	**7.6**	20	0.65	**2.4**	6.5	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.30	ND	0.32	0.048	
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.062	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.77	0.10	
67-66-3	Chloroform	**1.1**	2.0	0.29	**0.22**	0.41	0.059	**J**
74-87-3	Chloromethane	ND	2.0	0.35	ND	0.98	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.077	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.34	ND	0.45	0.074	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	**0.62**	4.1	0.61	**0.18**	1.2	0.18	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.24	0.033	
64-17-5	Ethanol	**15**	20	1.5	**7.7**	11	0.80	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.47	0.070	
75-69-4	Freon 11	**13**	2.0	0.33	**2.3**	0.36	0.058	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280940** ALS Sample ID: P2400922-052
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00862

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.21

Container Dilution Factor: 1.62

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**15**	2.0	0.31	**1.9**	0.26	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.2**	2.0	0.35	**0.45**	0.41	0.071	
306-83-2	Freon 123	ND	2.0	0.97	ND	0.32	0.16	**X**
75-43-4	Freon 21	ND	2.0	0.97	ND	0.48	0.23	**X**
142-82-5	Heptane	**0.59**	2.0	0.34	**0.14**	0.49	0.084	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.45	ND	0.19	0.042	
110-54-3	Hexane	**0.70**	2.0	0.45	**0.20**	0.57	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.93	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.26	ND	0.56	0.071	
75-09-2	Methylene Chloride	**0.73**	2.0	0.61	**0.21**	0.58	0.17	**J**
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.47	0.072	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	ND	2.0	0.35	ND	0.48	0.082	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	**0.62**	2.0	0.27	**0.21**	0.69	0.092	**J**
108-88-3	Toluene	**2.8**	2.0	0.26	**0.75**	0.54	0.070	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.45	ND	0.45	0.098	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.38	0.054	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.79	0.090	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280940** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-052

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00862		

Initial Pressure (psig): -1.80 Final Pressure (psig): 6.21

Container Dilution Factor: 1.62

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280941** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-053

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01430

Initial Pressure (psig): -1.98 Final Pressure (psig): 5.74

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.50	0.078	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.52	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.061	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.50	0.059	
78-87-5	1,2-Dichloropropane	ND	2.0	0.27	ND	0.44	0.058	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.91	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.33	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.56	0.070	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.43	0.069	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.8**	20	0.44	**0.62**	6.8	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.27	ND	0.49	0.065	
67-63-0	2-Propanol	**4.9**	4.0	0.89	**2.0**	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.64	0.093	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280941** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-053

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01430

Initial Pressure (psig): -1.98 Final Pressure (psig): 5.74

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.29	ND	0.49	0.072	
67-64-1	Acetone	**8.7**	20	4.8	**3.7**	8.5	2.0	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.48	ND	0.39	0.093	
71-43-2	Benzene	**0.66**	2.0	0.31	**0.21**	0.63	0.097	**J, B**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.046	
75-25-2	Bromoform	ND	2.0	0.44	ND	0.19	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.077	
75-15-0	Carbon Disulfide	**0.92**	20	0.64	**0.30**	6.5	0.21	**J**
56-23-5	Carbon Tetrachloride	**0.31**	2.0	0.30	**0.049**	0.32	0.047	**J**
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.062	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.76	0.10	
67-66-3	Chloroform	ND	2.0	0.29	ND	0.41	0.059	
74-87-3	Chloromethane	**0.73**	2.0	0.35	**0.35**	0.97	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.074	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	ND	4.0	0.60	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.24	0.033	
64-17-5	Ethanol	**8.5**	20	1.5	**4.5**	11	0.79	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.46	0.070	
75-69-4	Freon 11	**1.1**	2.0	0.33	**0.19**	0.36	0.058	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280941** ALS Sample ID: P2400922-053
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01430

Initial Pressure (psig): -1.98 Final Pressure (psig): 5.74

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.86**	2.0	0.31	**0.11**	0.26	0.040	**J**
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.048	
75-71-8	Freon 12	**2.3**	2.0	0.35	**0.46**	0.41	0.071	
306-83-2	Freon 123	ND	2.0	0.97	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.97	ND	0.48	0.23	**X**
142-82-5	Heptane	ND	2.0	0.34	ND	0.49	0.084	
87-68-3	Hexachlorobutadiene	ND	2.0	0.44	ND	0.19	0.042	
110-54-3	Hexane	**0.63**	2.0	0.44	**0.18**	0.57	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.0	0.56	ND	0.93	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.56	0.070	
75-09-2	Methylene Chloride	ND	2.0	0.60	ND	0.58	0.17	
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.46	0.071	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	ND	2.0	0.35	ND	0.47	0.081	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	**1.0**	2.0	0.27	**0.35**	0.68	0.091	**J**
108-88-3	Toluene	ND	2.0	0.26	ND	0.53	0.069	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.075	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.44	ND	0.44	0.098	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.37	0.054	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.79	0.090	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280941** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-053

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01430		

Initial Pressure (psig): -1.98 Final Pressure (psig): 5.74

Container Dilution Factor: 1.61

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280948** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-054

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -1.59 Final Pressure (psig): 5.99

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.048	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.076	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.27	0.069	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.059	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.49	0.058	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.43	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.062	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.89	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.55	0.069	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.42	0.068	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.2**	20	0.43	**1.1**	6.7	0.15	**J**
591-78-6	2-Hexanone	**1.0**	2.0	0.26	**0.25**	0.48	0.064	**J**
67-63-0	2-Propanol	**3.0**	4.0	0.87	**1.2**	1.6	0.35	**J**
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.63	0.091	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.40	0.068	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280948** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-054

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -1.59 Final Pressure (psig): 5.99

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.65**	2.0	0.29	**0.16**	0.48	0.070	**J**
67-64-1	Acetone	**20**	20	4.7	**8.5**	8.3	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.092	
71-43-2	Benzene	**0.80**	2.0	0.30	**0.25**	0.62	0.095	**J, B**
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.51	0.075	
75-15-0	Carbon Disulfide	**0.77**	20	0.63	**0.25**	6.3	0.20	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.31	0.046	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.75	0.099	
67-66-3	Chloroform	**2.5**	2.0	0.28	**0.51**	0.40	0.057	
74-87-3	Chloromethane	ND	2.0	0.34	ND	0.96	0.16	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.072	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.062	
110-82-7	Cyclohexane	**0.89**	4.0	0.59	**0.26**	1.1	0.17	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.23	0.032	
64-17-5	Ethanol	**15**	20	1.5	**8.2**	10	0.78	**J**
100-41-4	Ethyl Benzene	**0.32**	2.0	0.30	**0.075**	0.45	0.068	**J**
75-69-4	Freon 11	**62**	2.0	0.32	**11**	0.35	0.057	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280948** ALS Sample ID: P2400922-054
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00130

Initial Pressure (psig): -1.59 Final Pressure (psig): 5.99

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**57**	2.0	0.30	**7.4**	0.26	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.2**	2.0	0.34	**0.45**	0.40	0.070	
306-83-2	Freon 123	ND	2.0	0.95	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.95	ND	0.47	0.23	**X**
142-82-5	Heptane	**0.56**	2.0	0.34	**0.14**	0.48	0.082	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.19	0.041	
110-54-3	Hexane	**0.67**	2.0	0.43	**0.19**	0.56	0.12	**J**
179601-23-1	m,p-Xylene	**0.76**	4.0	0.55	**0.18**	0.91	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.55	0.069	
75-09-2	Methylene Chloride	**1.3**	2.0	0.59	**0.38**	0.57	0.17	**J**
95-47-6	o-Xylene	ND	2.0	0.30	ND	0.45	0.070	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.062	
100-42-5	Styrene	**0.62**	2.0	0.34	**0.15**	0.46	0.080	**J**
127-18-4	Tetrachloroethene	**0.73**	2.0	0.27	**0.11**	0.29	0.040	**J**
109-99-9	Tetrahydrofuran	ND	2.0	0.26	ND	0.67	0.090	
108-88-3	Toluene	**2.0**	2.0	0.26	**0.52**	0.52	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.44	0.096	
79-01-6	Trichloroethene	**0.51**	2.0	0.28	**0.095**	0.37	0.053	**J**
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.77	0.088	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280948** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-054

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00130		

Initial Pressure (psig): -1.59 Final Pressure (psig): 5.99

Container Dilution Factor: 1.58

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280949** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-055

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -1.56 Final Pressure (psig): 5.84

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.28	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.30	ND	0.48	0.075	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.068	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.059	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.25	0.031	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.051	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.48	0.057	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.42	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.061	
106-99-0	1,3-Butadiene	ND	2.0	0.34	ND	0.88	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.32	0.053	
123-91-1	1,4-Dioxane	**3.1**	2.0	0.25	**0.86**	0.54	0.068	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.31	ND	0.42	0.067	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**8.3**	20	0.43	**2.8**	6.6	0.15	**J**
591-78-6	2-Hexanone	**1.9**	2.0	0.26	**0.48**	0.48	0.063	**J**
67-63-0	2-Propanol	**1.4**	3.9	0.86	**0.57**	1.6	0.35	**J**
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.62	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.067	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280949** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-055

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -1.56 Final Pressure (psig): 5.84

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.63**	2.0	0.28	**0.15**	0.48	0.069	**J**
67-64-1	Acetone	**40**	20	4.7	**17**	8.2	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.090	
71-43-2	Benzene	**0.74**	2.0	0.30	**0.23**	0.61	0.094	**J, B**
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.50	0.074	
75-15-0	Carbon Disulfide	**57**	20	0.62	**18**	6.3	0.20	
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.31	0.046	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.42	0.060	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	**3.0**	2.0	0.28	**0.62**	0.40	0.057	
74-87-3	Chloromethane	ND	2.0	0.34	ND	0.94	0.16	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.32	ND	0.43	0.071	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.061	
110-82-7	Cyclohexane	ND	3.9	0.59	ND	1.1	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**5.0**	20	1.4	**2.6**	10	0.77	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.29	ND	0.45	0.067	
75-69-4	Freon 11	**75**	2.0	0.32	**13**	0.35	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280949** ALS Sample ID: P2400922-055
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00044

Initial Pressure (psig): -1.56 Final Pressure (psig): 5.84

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**68**	2.0	0.30	**8.9**	0.25	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	ND	2.0	0.34	ND	0.39	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.94	ND	0.46	0.22	**X**
142-82-5	Heptane	ND	2.0	0.33	ND	0.48	0.081	
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	ND	2.0	0.43	ND	0.55	0.12	
179601-23-1	m,p-Xylene	ND	3.9	0.55	ND	0.90	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.54	0.068	
75-09-2	Methylene Chloride	ND	2.0	0.59	ND	0.56	0.17	
95-47-6	o-Xylene	ND	2.0	0.30	ND	0.45	0.069	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.061	
100-42-5	Styrene	ND	2.0	0.34	ND	0.46	0.079	
127-18-4	Tetrachloroethene	**0.30**	2.0	0.27	**0.044**	0.29	0.040	**J**
109-99-9	Tetrahydrofuran	**1.2**	2.0	0.26	**0.40**	0.66	0.089	**J**
108-88-3	Toluene	**0.47**	2.0	0.25	**0.12**	0.52	0.067	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	**2.0**	2.0	0.28	**0.38**	0.36	0.052	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.76	0.087	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280949** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-055

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00044		

Initial Pressure (psig): -1.56 Final Pressure (psig): 5.84

Container Dilution Factor: 1.56

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280956** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-056

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00751

Initial Pressure (psig): 0.17 Final Pressure (psig): 6.23

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.23	ND	0.32	0.043	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.26	0.038	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.32	0.035	
75-34-3	1,1-Dichloroethane	ND	1.8	0.27	ND	0.44	0.068	
75-35-4	1,1-Dichloroethene	ND	1.8	0.26	ND	0.44	0.066	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.46	ND	0.24	0.062	
95-63-6	1,2,4-Trimethylbenzene	**1.7**	1.8	0.26	**0.34**	0.36	0.053	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.8	0.22	ND	0.23	0.028	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.28	ND	0.29	0.046	
107-06-2	1,2-Dichloroethane	**1.5**	1.8	0.21	**0.37**	0.44	0.051	**J**
78-87-5	1,2-Dichloropropane	**0.80**	1.8	0.23	**0.17**	0.38	0.050	**J**
108-67-8	1,3,5-Trimethylbenzene	**0.61**	1.8	0.27	**0.12**	0.36	0.055	**J**
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.80	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.28	ND	0.29	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.29	ND	0.29	0.048	
123-91-1	1,4-Dioxane	ND	1.8	0.22	ND	0.49	0.062	
540-84-1	2,2,4-Trimethylpentane	**2.0**	1.8	0.28	**0.42**	0.38	0.060	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**14**	18	0.39	**4.6**	6.0	0.13	**J**
591-78-6	2-Hexanone	ND	1.8	0.23	ND	0.43	0.057	
67-63-0	2-Propanol	**110**	3.5	0.78	**43**	1.4	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.25	ND	0.56	0.081	
622-96-8	4-Ethyltoluene	**0.44**	1.8	0.30	**0.090**	0.36	0.061	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280956** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-056

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00751

Initial Pressure (psig): 0.17 Final Pressure (psig): 6.23

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**2.7**	1.8	0.26	**0.67**	0.43	0.063	
67-64-1	Acetone	**150**	18	4.2	**62**	7.4	1.8	
100-44-7	alpha-Chlorotoluene	ND	1.8	0.42	ND	0.34	0.082	
71-43-2	Benzene	**12**	1.8	0.27	**3.9**	0.55	0.085	**B**
75-27-4	Bromodichloromethane	ND	1.8	0.27	ND	0.26	0.041	
75-25-2	Bromoform	ND	1.8	0.39	ND	0.17	0.038	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.45	0.067	
75-15-0	Carbon Disulfide	**0.90**	18	0.56	**0.29**	5.7	0.18	**J**
56-23-5	Carbon Tetrachloride	**0.30**	1.8	0.26	**0.047**	0.28	0.041	**J**
108-90-7	Chlorobenzene	**0.42**	1.8	0.25	**0.091**	0.38	0.054	**J**
75-00-3	Chloroethane	ND	1.8	0.23	ND	0.67	0.088	
67-66-3	Chloroform	ND	1.8	0.25	ND	0.36	0.051	
74-87-3	Chloromethane	**1.1**	1.8	0.30	**0.55**	0.85	0.15	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.26	ND	0.44	0.067	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.29	ND	0.39	0.064	
98-82-8	Cumene	**0.38**	1.8	0.27	**0.077**	0.36	0.055	**J**
110-82-7	Cyclohexane	**12**	3.5	0.53	**3.4**	1.0	0.15	
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.029	
64-17-5	Ethanol	**150**	18	1.3	**81**	9.4	0.69	
100-41-4	Ethyl Benzene	**3.3**	1.8	0.26	**0.75**	0.41	0.061	
75-69-4	Freon 11	**8.5**	1.8	0.29	**1.5**	0.31	0.051	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402280956** ALS Sample ID: P2400922-056
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00751

Initial Pressure (psig): 0.17 Final Pressure (psig): 6.23

Container Dilution Factor: 1.41

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**9.8**	1.8	0.27	**1.3**	0.23	0.035	
76-14-2	Freon 114	ND	1.8	0.30	ND	0.25	0.042	
75-71-8	Freon 12	**2.3**	1.8	0.31	**0.47**	0.36	0.062	
306-83-2	Freon 123	ND	1.8	0.85	ND	0.28	0.14	**X**
75-43-4	Freon 21	ND	1.8	0.85	ND	0.42	0.20	**X**
142-82-5	Heptane	**18**	1.8	0.30	**4.5**	0.43	0.073	
87-68-3	Hexachlorobutadiene	ND	1.8	0.39	ND	0.17	0.036	
110-54-3	Hexane	**19**	1.8	0.39	**5.3**	0.50	0.11	
179601-23-1	m,p-Xylene	**9.2**	3.5	0.49	**2.1**	0.81	0.11	
1634-04-4	Methyl tert-butyl ether	**0.47**	1.8	0.22	**0.13**	0.49	0.062	**J**
75-09-2	Methylene Chloride	**7.5**	1.8	0.53	**2.2**	0.51	0.15	
95-47-6	o-Xylene	**3.9**	1.8	0.27	**0.91**	0.41	0.063	
103-65-1	Propylbenzene	**0.48**	1.8	0.27	**0.098**	0.36	0.055	**J**
100-42-5	Styrene	**4.3**	1.8	0.30	**1.0**	0.41	0.071	
127-18-4	Tetrachloroethene	**2.1**	1.8	0.24	**0.32**	0.26	0.036	
109-99-9	Tetrahydrofuran	**14**	1.8	0.24	**4.6**	0.60	0.080	
108-88-3	Toluene	**79**	1.8	0.23	**21**	0.47	0.061	
156-60-5	trans-1,2-Dichloroethene	**0.88**	1.8	0.26	**0.22**	0.44	0.066	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.39	ND	0.39	0.085	
79-01-6	Trichloroethene	**57**	1.8	0.25	**11**	0.33	0.047	
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.69	0.079	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402280956** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-056

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00751		

Initial Pressure (psig): 0.17 Final Pressure (psig): 6.23

Container Dilution Factor: 1.41

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281007** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-057

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01231

Initial Pressure (psig): -1.66 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.37	0.048	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.077	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.52	ND	0.27	0.070	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.060	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.49	0.058	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.43	0.057	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.90	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.33	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.56	0.070	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.43	0.069	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.7**	20	0.44	**0.91**	6.8	0.15	**J**
591-78-6	2-Hexanone	**0.37**	2.0	0.26	**0.091**	0.49	0.064	**J**
67-63-0	2-Propanol	ND	4.0	0.88	ND	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.64	0.092	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.069	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281007** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-057

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01231

Initial Pressure (psig): -1.66 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.29	ND	0.49	0.071	
67-64-1	Acetone	**22**	20	4.8	**9.4**	8.4	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.48	ND	0.39	0.093	
71-43-2	Benzene	**0.62**	2.0	0.31	**0.19**	0.63	0.096	**J, B**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.046	
75-25-2	Bromoform	ND	2.0	0.44	ND	0.19	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.076	
75-15-0	Carbon Disulfide	**2.6**	20	0.64	**0.83**	6.4	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.30	ND	0.32	0.047	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.062	
75-00-3	Chloroethane	**0.68**	2.0	0.26	**0.26**	0.76	0.10	**J**
67-66-3	Chloroform	**1.7**	2.0	0.28	**0.36**	0.41	0.058	**J**
74-87-3	Chloromethane	ND	2.0	0.34	ND	0.97	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.076	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.073	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	ND	4.0	0.60	ND	1.2	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.23	0.033	
64-17-5	Ethanol	**4.4**	20	1.5	**2.3**	11	0.79	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.46	0.069	
75-69-4	Freon 11	**4.2**	2.0	0.32	**0.75**	0.36	0.058	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281007** ALS Sample ID: P2400922-057
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01231

Initial Pressure (psig): -1.66 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2.1**	2.0	0.30	**0.27**	0.26	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.048	
75-71-8	Freon 12	**2.2**	2.0	0.35	**0.44**	0.40	0.070	
306-83-2	Freon 123	ND	2.0	0.96	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.96	ND	0.48	0.23	**X**
142-82-5	Heptane	ND	2.0	0.34	ND	0.49	0.083	
87-68-3	Hexachlorobutadiene	ND	2.0	0.44	ND	0.19	0.041	
110-54-3	Hexane	ND	2.0	0.44	ND	0.57	0.12	
179601-23-1	m,p-Xylene	ND	4.0	0.56	ND	0.92	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.55	0.070	
75-09-2	Methylene Chloride	ND	2.0	0.60	ND	0.58	0.17	
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.46	0.071	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	ND	2.0	0.34	ND	0.47	0.081	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	ND	2.0	0.27	ND	0.68	0.091	
108-88-3	Toluene	**0.28**	2.0	0.26	**0.075**	0.53	0.069	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.44	ND	0.44	0.097	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.37	0.054	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.78	0.089	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281007** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-057

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01231		

Initial Pressure (psig): -1.66 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281013** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-058

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01519

Initial Pressure (psig): -1.80 Final Pressure (psig): 5.69

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.048	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.076	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.27	0.069	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.059	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.49	0.058	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.43	0.056	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.062	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.89	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.55	0.069	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.42	0.068	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.1**	20	0.43	**0.72**	6.7	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.26	ND	0.48	0.064	
67-63-0	2-Propanol	**2.7**	4.0	0.87	**1.1**	1.6	0.35	**J**
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.63	0.091	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.40	0.068	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281013** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-058

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01519

Initial Pressure (psig): -1.80 Final Pressure (psig): 5.69

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.29	ND	0.48	0.070	
67-64-1	Acetone	**7.2**	20	4.7	**3.0**	8.3	2.0	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.092	
71-43-2	Benzene	**0.88**	2.0	0.30	**0.27**	0.62	0.095	**J, B**
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.51	0.075	
75-15-0	Carbon Disulfide	**0.98**	20	0.63	**0.31**	6.3	0.20	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.31	0.046	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.75	0.099	
67-66-3	Chloroform	**5.8**	2.0	0.28	**1.2**	0.40	0.057	
74-87-3	Chloromethane	ND	2.0	0.34	ND	0.96	0.16	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.072	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.062	
110-82-7	Cyclohexane	ND	4.0	0.59	ND	1.1	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.23	0.032	
64-17-5	Ethanol	**5.9**	20	1.5	**3.1**	10	0.78	**J**
100-41-4	Ethyl Benzene	ND	2.0	0.30	ND	0.45	0.068	
75-69-4	Freon 11	**21**	2.0	0.32	**3.7**	0.35	0.057	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281013** ALS Sample ID: P2400922-058
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01519

Initial Pressure (psig): -1.80 Final Pressure (psig): 5.69

Container Dilution Factor: 1.58

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**20**	2.0	0.30	**2.7**	0.26	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.2**	2.0	0.34	**0.45**	0.40	0.070	
306-83-2	Freon 123	ND	2.0	0.95	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.95	ND	0.47	0.23	**X**
142-82-5	Heptane	**0.52**	2.0	0.34	**0.13**	0.48	0.082	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.19	0.041	
110-54-3	Hexane	**0.55**	2.0	0.43	**0.15**	0.56	0.12	**J**
179601-23-1	m,p-Xylene	ND	4.0	0.55	ND	0.91	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.55	0.069	
75-09-2	Methylene Chloride	ND	2.0	0.59	ND	0.57	0.17	
95-47-6	o-Xylene	ND	2.0	0.30	ND	0.45	0.070	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.062	
100-42-5	Styrene	ND	2.0	0.34	ND	0.46	0.080	
127-18-4	Tetrachloroethene	**0.31**	2.0	0.27	**0.046**	0.29	0.040	**J**
109-99-9	Tetrahydrofuran	**0.66**	2.0	0.26	**0.23**	0.67	0.090	**J**
108-88-3	Toluene	**2.4**	2.0	0.26	**0.64**	0.52	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.44	0.096	
79-01-6	Trichloroethene	ND	2.0	0.28	ND	0.37	0.053	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.77	0.088	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281013** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-058

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01519		

Initial Pressure (psig): -1.80 Final Pressure (psig): 5.69

Container Dilution Factor: 1.58

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281014** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-059

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SS01185

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.57

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	330	43	ND	60	7.9	
79-34-5	1,1,2,2-Tetrachloroethane	ND	330	48	ND	47	7.0	
79-00-5	1,1,2-Trichloroethane	ND	330	35	ND	60	6.5	
75-34-3	1,1-Dichloroethane	ND	330	51	ND	81	13	
75-35-4	1,1-Dichloroethene	ND	330	48	ND	82	12	
120-82-1	1,2,4-Trichlorobenzene	ND	330	85	ND	44	11	
95-63-6	1,2,4-Trimethylbenzene	**100**	330	48	**21**	66	9.8	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	330	40	ND	42	5.3	
95-50-1	1,2-Dichlorobenzene	ND	330	52	ND	54	8.6	
107-06-2	1,2-Dichloroethane	ND	330	38	ND	81	9.5	
78-87-5	1,2-Dichloropropane	ND	330	43	ND	71	9.3	
108-67-8	1,3,5-Trimethylbenzene	ND	330	50	ND	66	10	
106-99-0	1,3-Butadiene	ND	330	57	ND	150	26	
541-73-1	1,3-Dichlorobenzene	ND	330	52	ND	54	8.7	
106-46-7	1,4-Dichlorobenzene	ND	330	53	ND	54	8.9	
123-91-1	1,4-Dioxane	ND	330	41	ND	91	11	
540-84-1	2,2,4-Trimethylpentane	**1,100**	330	52	**230**	70	11	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**200**	3,300	72	**68**	1,100	24	**J**
591-78-6	2-Hexanone	ND	330	43	ND	80	11	
67-63-0	2-Propanol	ND	650	140	ND	270	58	
107-05-1	3-Chloropropene	ND	330	47	ND	100	15	
622-96-8	4-Ethyltoluene	ND	330	55	ND	66	11	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281014** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-059

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SS01185

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.57

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	330	48	ND	80	12	
67-64-1	Acetone	ND	3,300	780	ND	1,400	330	
100-44-7	alpha-Chlorotoluene	ND	330	78	ND	63	15	
71-43-2	Benzene	**270**	330	50	**86**	100	16	**J, B**
75-27-4	Bromodichloromethane	ND	330	50	ND	49	7.5	
75-25-2	Bromoform	ND	330	72	ND	32	6.9	
74-83-9	Bromomethane	ND	330	48	ND	84	12	
75-15-0	Carbon Disulfide	ND	3,300	100	ND	1,000	34	
56-23-5	Carbon Tetrachloride	ND	330	48	ND	52	7.7	
108-90-7	Chlorobenzene	ND	330	46	ND	71	10	
75-00-3	Chloroethane	ND	330	43	ND	120	16	
67-66-3	Chloroform	ND	330	46	ND	67	9.5	
74-87-3	Chloromethane	ND	330	56	ND	160	27	
156-59-2	cis-1,2-Dichloroethene	ND	330	49	ND	82	12	
10061-01-5	cis-1,3-Dichloropropene	ND	330	54	ND	72	12	
98-82-8	Cumene	ND	330	50	ND	66	10	
110-82-7	Cyclohexane	**870**	650	98	**250**	190	28	
124-48-1	Dibromochloromethane	ND	330	46	ND	38	5.4	
64-17-5	Ethanol	ND	3,300	240	ND	1,700	130	
100-41-4	Ethyl Benzene	**240**	330	49	**55**	75	11	**J**
75-69-4	Freon 11	**56,000**	330	53	**9,900**	58	9.4	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281014** ALS Sample ID: P2400922-059
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: 1SS01185

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.57

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**24,000**	330	50	**3,200**	43	6.5	
76-14-2	Freon 114	ND	330	55	ND	47	7.8	
75-71-8	Freon 12	ND	330	57	ND	66	11	
306-83-2	Freon 123	ND	330	160	ND	52	25	**X**
75-43-4	Freon 21	ND	330	160	ND	77	37	**X**
142-82-5	Heptane	**740**	330	55	**180**	80	14	
87-68-3	Hexachlorobutadiene	ND	330	72	ND	31	6.7	
110-54-3	Hexane	**1,600**	330	72	**450**	93	20	
179601-23-1	m,p-Xylene	**440**	650	91	**100**	150	21	**J**
1634-04-4	Methyl tert-butyl ether	ND	330	41	ND	90	11	
75-09-2	Methylene Chloride	ND	330	98	ND	94	28	
95-47-6	o-Xylene	**210**	330	50	**49**	75	12	**J**
103-65-1	Propylbenzene	ND	330	50	ND	66	10	
100-42-5	Styrene	ND	330	56	ND	77	13	
127-18-4	Tetrachloroethene	ND	330	45	ND	48	6.6	
109-99-9	Tetrahydrofuran	ND	330	44	ND	110	15	
108-88-3	Toluene	**1,600**	330	42	**440**	87	11	
156-60-5	trans-1,2-Dichloroethene	ND	330	48	ND	82	12	
10061-02-6	trans-1,3-Dichloropropene	ND	330	72	ND	72	16	
79-01-6	Trichloroethene	ND	330	47	ND	61	8.7	
75-01-4	Vinyl Chloride	ND	330	37	ND	130	15	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281014** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-059

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.0025 Liter(s)
Test Notes:			
Container ID:	1SS01185		

Initial Pressure (psig): -2.25 Final Pressure (psig): 5.57

Container Dilution Factor: 1.63

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281021** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-060

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.14 Liter(s)
Test Notes:
Container ID: 1SC00123

Initial Pressure (psig): 0.19 Final Pressure (psig): 5.54

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	4.9	0.64	ND	0.89	0.12	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.9	0.72	ND	0.71	0.10	
79-00-5	1,1,2-Trichloroethane	ND	4.9	0.52	ND	0.89	0.096	
75-34-3	1,1-Dichloroethane	ND	4.9	0.76	ND	1.2	0.19	
75-35-4	1,1-Dichloroethene	ND	4.9	0.72	ND	1.2	0.18	
120-82-1	1,2,4-Trichlorobenzene	ND	4.9	1.3	ND	0.65	0.17	
95-63-6	1,2,4-Trimethylbenzene	**1.1**	4.9	0.72	**0.23**	0.99	0.15	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	4.9	0.60	ND	0.63	0.078	
95-50-1	1,2-Dichlorobenzene	ND	4.9	0.77	ND	0.81	0.13	
107-06-2	1,2-Dichloroethane	**1.2**	4.9	0.57	**0.30**	1.2	0.14	**J**
78-87-5	1,2-Dichloropropane	**0.80**	4.9	0.64	**0.17**	1.1	0.14	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	4.9	0.75	ND	0.99	0.15	
106-99-0	1,3-Butadiene	ND	4.9	0.85	ND	2.2	0.39	
541-73-1	1,3-Dichlorobenzene	ND	4.9	0.78	ND	0.81	0.13	
106-46-7	1,4-Dichlorobenzene	ND	4.9	0.80	ND	0.81	0.13	
123-91-1	1,4-Dioxane	ND	4.9	0.61	ND	1.3	0.17	
540-84-1	2,2,4-Trimethylpentane	ND	4.9	0.78	ND	1.0	0.17	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**10**	49	1.1	**3.5**	16	0.36	**J**
591-78-6	2-Hexanone	**0.82**	4.9	0.64	**0.20**	1.2	0.16	**J**
67-63-0	2-Propanol	**66**	9.7	2.1	**27**	4.0	0.87	
107-05-1	3-Chloropropene	ND	4.9	0.70	ND	1.6	0.22	
622-96-8	4-Ethyltoluene	ND	4.9	0.83	ND	0.99	0.17	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281021** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-060

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.14 Liter(s)
Test Notes:
Container ID: 1SC00123

Initial Pressure (psig): 0.19 Final Pressure (psig): 5.54

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**2.8**	4.9	0.71	**0.69**	1.2	0.17	**J**
67-64-1	Acetone	**160**	49	12	**67**	20	4.9	
100-44-7	alpha-Chlorotoluene	ND	4.9	1.2	ND	0.94	0.23	
71-43-2	Benzene	**5.4**	4.9	0.75	**1.7**	1.5	0.23	**B**
75-27-4	Bromodichloromethane	ND	4.9	0.75	ND	0.73	0.11	
75-25-2	Bromoform	ND	4.9	1.1	ND	0.47	0.10	
74-83-9	Bromomethane	ND	4.9	0.72	ND	1.3	0.19	
75-15-0	Carbon Disulfide	ND	49	1.6	ND	16	0.50	
56-23-5	Carbon Tetrachloride	ND	4.9	0.72	ND	0.77	0.11	
108-90-7	Chlorobenzene	ND	4.9	0.69	ND	1.1	0.15	
75-00-3	Chloroethane	ND	4.9	0.64	ND	1.8	0.24	
67-66-3	Chloroform	**7.6**	4.9	0.69	**1.6**	1.0	0.14	
74-87-3	Chloromethane	**1.5**	4.9	0.84	**0.75**	2.4	0.40	**J**
156-59-2	cis-1,2-Dichloroethene	ND	4.9	0.73	ND	1.2	0.18	
10061-01-5	cis-1,3-Dichloropropene	ND	4.9	0.81	ND	1.1	0.18	
98-82-8	Cumene	ND	4.9	0.75	ND	0.99	0.15	
110-82-7	Cyclohexane	**8.5**	9.7	1.5	**2.5**	2.8	0.42	**J**
124-48-1	Dibromochloromethane	ND	4.9	0.68	ND	0.57	0.080	
64-17-5	Ethanol	**110**	49	3.6	**60**	26	1.9	
100-41-4	Ethyl Benzene	**2.6**	4.9	0.73	**0.60**	1.1	0.17	**J**
75-69-4	Freon 11	**100**	4.9	0.79	**19**	0.86	0.14	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281021** ALS Sample ID: P2400922-060
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.14 Liter(s)
Test Notes:
Container ID: 1SC00123

Initial Pressure (psig): 0.19 Final Pressure (psig): 5.54

Container Dilution Factor: 1.36

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**720**	4.9	0.74	**94**	0.63	0.096	
76-14-2	Freon 114	ND	4.9	0.82	ND	0.70	0.12	
75-71-8	Freon 12	**2.3**	4.9	0.85	**0.47**	0.98	0.17	**J**
306-83-2	Freon 123	ND	4.9	2.3	ND	0.78	0.37	**X**
75-43-4	Freon 21	ND	4.9	2.3	ND	1.2	0.55	**X**
142-82-5	Heptane	**10**	4.9	0.83	**2.5**	1.2	0.20	
87-68-3	Hexachlorobutadiene	ND	4.9	1.1	ND	0.46	0.10	
110-54-3	Hexane	**8.5**	4.9	1.1	**2.4**	1.4	0.30	
179601-23-1	m,p-Xylene	**7.2**	9.7	1.4	**1.7**	2.2	0.31	**J**
1634-04-4	Methyl tert-butyl ether	ND	4.9	0.61	ND	1.3	0.17	
75-09-2	Methylene Chloride	**6.9**	4.9	1.5	**2.0**	1.4	0.42	
95-47-6	o-Xylene	**3.0**	4.9	0.75	**0.70**	1.1	0.17	**J**
103-65-1	Propylbenzene	ND	4.9	0.75	ND	0.99	0.15	
100-42-5	Styrene	**3.2**	4.9	0.84	**0.76**	1.1	0.20	**J**
127-18-4	Tetrachloroethene	**0.85**	4.9	0.67	**0.13**	0.72	0.099	**J**
109-99-9	Tetrahydrofuran	**6.2**	4.9	0.65	**2.1**	1.6	0.22	
108-88-3	Toluene	**41**	4.9	0.63	**11**	1.3	0.17	
156-60-5	trans-1,2-Dichloroethene	ND	4.9	0.72	ND	1.2	0.18	
10061-02-6	trans-1,3-Dichloropropene	ND	4.9	1.1	ND	1.1	0.24	
79-01-6	Trichloroethene	**2.3**	4.9	0.70	**0.43**	0.90	0.13	**J**
75-01-4	Vinyl Chloride	ND	4.9	0.55	ND	1.9	0.22	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281021** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-060

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.14 Liter(s)
Test Notes:			
Container ID:	1SC00123		

Initial Pressure (psig): 0.19 Final Pressure (psig): 5.54

Container Dilution Factor: 1.36

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281028** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-061

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS01188

Initial Pressure (psig): -3.10 Final Pressure (psig): 5.87

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	440	58	ND	81	11	
79-34-5	1,1,2,2-Tetrachloroethane	ND	440	65	ND	64	9.5	
79-00-5	1,1,2-Trichloroethane	ND	440	48	ND	81	8.8	
75-34-3	1,1-Dichloroethane	ND	440	69	ND	110	17	
75-35-4	1,1-Dichloroethene	ND	440	65	ND	110	17	
120-82-1	1,2,4-Trichlorobenzene	ND	440	120	ND	60	16	
95-63-6	1,2,4-Trimethylbenzene	**150**	440	65	**30**	90	13	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	440	55	ND	58	7.1	
95-50-1	1,2-Dichlorobenzene	ND	440	70	ND	74	12	
107-06-2	1,2-Dichloroethane	ND	440	52	ND	110	13	
78-87-5	1,2-Dichloropropane	ND	440	58	ND	96	13	
108-67-8	1,3,5-Trimethylbenzene	ND	440	68	ND	90	14	
106-99-0	1,3-Butadiene	ND	440	78	ND	200	35	
541-73-1	1,3-Dichlorobenzene	ND	440	71	ND	74	12	
106-46-7	1,4-Dichlorobenzene	ND	440	73	ND	74	12	
123-91-1	1,4-Dioxane	ND	440	56	ND	120	15	
540-84-1	2,2,4-Trimethylpentane	**1,400**	440	71	**300**	95	15	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	4,400	97	ND	1,500	33	
591-78-6	2-Hexanone	ND	440	58	ND	110	14	
67-63-0	2-Propanol	ND	890	190	ND	360	79	
107-05-1	3-Chloropropene	ND	440	64	ND	140	20	
622-96-8	4-Ethyltoluene	ND	440	75	ND	90	15	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281028** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-061

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS01188

Initial Pressure (psig): -3.10 Final Pressure (psig): 5.87

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	440	65	ND	110	16	
67-64-1	Acetone	ND	4,400	1,100	ND	1,900	450	
100-44-7	alpha-Chlorotoluene	ND	440	110	ND	86	21	
71-43-2	Benzene	**410**	440	68	**130**	140	21	**J, B**
75-27-4	Bromodichloromethane	ND	440	68	ND	66	10	
75-25-2	Bromoform	ND	440	97	ND	43	9.4	
74-83-9	Bromomethane	ND	440	65	ND	110	17	
75-15-0	Carbon Disulfide	ND	4,400	140	ND	1,400	45	
56-23-5	Carbon Tetrachloride	ND	440	65	ND	70	10	
108-90-7	Chlorobenzene	ND	440	63	ND	96	14	
75-00-3	Chloroethane	ND	440	58	ND	170	22	
67-66-3	Chloroform	ND	440	63	ND	91	13	
74-87-3	Chloromethane	ND	440	76	ND	210	37	
156-59-2	cis-1,2-Dichloroethene	ND	440	66	ND	110	17	
10061-01-5	cis-1,3-Dichloropropene	ND	440	73	ND	98	16	
98-82-8	Cumene	ND	440	68	ND	90	14	
110-82-7	Cyclohexane	**1,200**	890	130	**340**	260	39	
124-48-1	Dibromochloromethane	ND	440	62	ND	52	7.3	
64-17-5	Ethanol	ND	4,400	330	ND	2,300	170	
100-41-4	Ethyl Benzene	**310**	440	66	**71**	100	15	**J**
75-69-4	Freon 11	**27,000**	440	72	**4,900**	79	13	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281028** ALS Sample ID: P2400922-061
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: 1SS01188

Initial Pressure (psig): -3.10 Final Pressure (psig): 5.87

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**71,000**	440	67	**9,200**	58	8.8	
76-14-2	Freon 114	ND	440	74	ND	63	11	
75-71-8	Freon 12	ND	440	77	ND	90	16	
306-83-2	Freon 123	ND	440	210	ND	71	34	**X**
75-43-4	Freon 21	**2,000**	440	210	**470**	110	50	**X**
142-82-5	Heptane	**1,000**	440	75	**250**	110	18	
87-68-3	Hexachlorobutadiene	ND	440	97	ND	42	9.1	
110-54-3	Hexane	**2,100**	440	97	**590**	130	28	
179601-23-1	m,p-Xylene	**540**	890	120	**120**	200	29	**J**
1634-04-4	Methyl tert-butyl ether	ND	440	56	ND	120	15	
75-09-2	Methylene Chloride	ND	440	130	ND	130	38	
95-47-6	o-Xylene	**260**	440	68	**60**	100	16	**J**
103-65-1	Propylbenzene	ND	440	68	ND	90	14	
100-42-5	Styrene	ND	440	76	ND	100	18	
127-18-4	Tetrachloroethene	ND	440	61	ND	65	9.0	
109-99-9	Tetrahydrofuran	ND	440	59	ND	150	20	
108-88-3	Toluene	**2,100**	440	58	**560**	120	15	
156-60-5	trans-1,2-Dichloroethene	ND	440	65	ND	110	17	
10061-02-6	trans-1,3-Dichloropropene	ND	440	97	ND	98	21	
79-01-6	Trichloroethene	ND	440	64	ND	82	12	
75-01-4	Vinyl Chloride	ND	440	50	ND	170	20	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281028** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-061

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.0020 Liter(s)
Test Notes:			
Container ID:	1SS01188		

Initial Pressure (psig): -3.10 Final Pressure (psig): 5.87

Container Dilution Factor: 1.77

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281029** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-062

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19 - 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00080 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SS01404

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.78

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1,100	140	ND	200	26	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1,100	160	ND	160	23	
79-00-5	1,1,2-Trichloroethane	ND	1,100	120	ND	200	21	
75-34-3	1,1-Dichloroethane	ND	1,100	170	ND	270	42	
75-35-4	1,1-Dichloroethene	ND	1,100	160	ND	270	40	
120-82-1	1,2,4-Trichlorobenzene	ND	1,100	280	ND	150	38	
95-63-6	1,2,4-Trimethylbenzene	**380**	1,100	160	**78**	220	33	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1,100	130	ND	140	17	
95-50-1	1,2-Dichlorobenzene	ND	1,100	170	ND	180	28	
107-06-2	1,2-Dichloroethane	ND	1,100	130	ND	270	32	
78-87-5	1,2-Dichloropropane	ND	1,100	140	ND	230	31	
108-67-8	1,3,5-Trimethylbenzene	ND	1,100	170	ND	220	34	
106-99-0	1,3-Butadiene	ND	1,100	190	ND	490	86	
541-73-1	1,3-Dichlorobenzene	ND	1,100	170	ND	180	29	
106-46-7	1,4-Dichlorobenzene	ND	1,100	180	ND	180	30	
123-91-1	1,4-Dioxane	ND	1,100	140	ND	300	38	
540-84-1	2,2,4-Trimethylpentane	**3,600**	1,100	170	**770**	230	37	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**790**	11,000	240	**270**	3,700	81	**J**
591-78-6	2-Hexanone	ND	1,100	140	ND	260	35	
67-63-0	2-Propanol	ND	2,200	480	ND	880	190	
107-05-1	3-Chloropropene	ND	1,100	160	ND	350	50	
622-96-8	4-Ethyltoluene	ND	1,100	180	ND	220	37	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281029** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-062

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19 - 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00080 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SS01404

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.78

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	1,100	160	ND	260	39	
67-64-1	Acetone	ND	11,000	2,600	ND	4,600	1,100	
100-44-7	alpha-Chlorotoluene	ND	1,100	260	ND	210	50	
71-43-2	Benzene	**920**	1,100	170	**290**	340	52	**J, B**
75-27-4	Bromodichloromethane	ND	1,100	170	ND	160	25	
75-25-2	Bromoform	ND	1,100	240	ND	100	23	
74-83-9	Bromomethane	ND	1,100	160	ND	280	41	
75-15-0	Carbon Disulfide	ND	11,000	350	ND	3,500	110	
56-23-5	Carbon Tetrachloride	ND	1,100	160	ND	170	25	
108-90-7	Chlorobenzene	ND	1,100	150	ND	230	33	
75-00-3	Chloroethane	ND	1,100	140	ND	410	54	
67-66-3	Chloroform	ND	1,100	150	ND	220	31	
74-87-3	Chloromethane	ND	1,100	190	ND	520	90	
156-59-2	cis-1,2-Dichloroethene	ND	1,100	160	ND	270	41	
10061-01-5	cis-1,3-Dichloropropene	ND	1,100	180	ND	240	40	
98-82-8	Cumene	ND	1,100	170	ND	220	34	
110-82-7	Cyclohexane	**3,000**	2,200	320	**880**	630	94	
124-48-1	Dibromochloromethane	ND	1,100	150	ND	130	18	
64-17-5	Ethanol	**2,500**	11,000	800	**1,300**	5,700	420	**J**
100-41-4	Ethyl Benzene	**840**	1,100	160	**190**	250	37	**J**
75-69-4	Freon 11	**89,000**	1,100	180	**16,000**	190	31	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281029** ALS Sample ID: P2400922-062
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19 - 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00080 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SS01404

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.78

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**230,000**	1,700	260	**31,000**	230	34	**D**
76-14-2	Freon 114	ND	1,100	180	ND	150	26	
75-71-8	Freon 12	ND	1,100	190	ND	220	38	
306-83-2	Freon 123	ND	1,100	520	ND	170	83	**X**
75-43-4	Freon 21	**5,800**	1,100	520	**1,400**	260	120	**X**
142-82-5	Heptane	**2,500**	1,100	180	**620**	260	45	
87-68-3	Hexachlorobutadiene	ND	1,100	240	ND	100	22	
110-54-3	Hexane	**5,400**	1,100	240	**1,500**	310	68	
179601-23-1	m,p-Xylene	**1,500**	2,200	300	**340**	500	70	**J**
1634-04-4	Methyl tert-butyl ether	ND	1,100	140	ND	300	38	
75-09-2	Methylene Chloride	ND	1,100	320	ND	310	93	
95-47-6	o-Xylene	**710**	1,100	170	**160**	250	38	**J**
103-65-1	Propylbenzene	ND	1,100	170	ND	220	34	
100-42-5	Styrene	ND	1,100	190	ND	250	44	
127-18-4	Tetrachloroethene	ND	1,100	150	ND	160	22	
109-99-9	Tetrahydrofuran	ND	1,100	140	ND	370	49	
108-88-3	Toluene	**5,600**	1,100	140	**1,500**	290	37	
156-60-5	trans-1,2-Dichloroethene	ND	1,100	160	ND	270	40	
10061-02-6	trans-1,3-Dichloropropene	ND	1,100	240	ND	240	52	
79-01-6	Trichloroethene	**560**	1,100	160	**100**	200	29	**J**
75-01-4	Vinyl Chloride	ND	1,100	120	ND	420	48	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281029** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-062

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19 - 3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.00080 Liter(s)
Test Notes:			0.00050 Liter(s)
Container ID:	1SS01404		

Initial Pressure (psig): -2.89 Final Pressure (psig): 5.78

Container Dilution Factor: 1.73

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281055** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-063

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01323

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.22

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.32	ND	0.50	0.079	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.53	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.061	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.0	0.24	ND	0.50	0.059	
78-87-5	1,2-Dichloropropane	ND	2.0	0.27	ND	0.44	0.058	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.064	
106-99-0	1,3-Butadiene	ND	2.0	0.36	ND	0.92	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.33	ND	0.34	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.0	0.26	ND	0.57	0.071	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**6.9**	20	0.45	**2.3**	6.9	0.15	**J**
591-78-6	2-Hexanone	**0.33**	2.0	0.27	**0.082**	0.50	0.066	**J**
67-63-0	2-Propanol	ND	4.1	0.90	ND	1.7	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.65	0.094	
622-96-8	4-Ethyltoluene	ND	2.0	0.35	ND	0.41	0.070	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281055** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-063

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01323

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.22

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.30	ND	0.50	0.073	
67-64-1	Acetone	**17**	20	4.9	**7.2**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.0	0.49	ND	0.39	0.094	
71-43-2	Benzene	**0.51**	2.0	0.31	**0.16**	0.64	0.098	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.047	
75-25-2	Bromoform	ND	2.0	0.45	ND	0.20	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.078	
75-15-0	Carbon Disulfide	ND	20	0.65	ND	6.5	0.21	
56-23-5	Carbon Tetrachloride	ND	2.0	0.30	ND	0.32	0.048	
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.063	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.77	0.10	
67-66-3	Chloroform	ND	2.0	0.29	ND	0.42	0.059	
74-87-3	Chloromethane	ND	2.0	0.35	ND	0.99	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.31	ND	0.51	0.077	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.064	
110-82-7	Cyclohexane	ND	4.1	0.61	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.0	0.29	ND	0.24	0.033	
64-17-5	Ethanol	**44**	20	1.5	**23**	11	0.80	
100-41-4	Ethyl Benzene	ND	2.0	0.31	ND	0.47	0.070	
75-69-4	Freon 11	**58**	2.0	0.33	**10**	0.36	0.059	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281055** ALS Sample ID: P2400922-063
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01323

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.22

Container Dilution Factor: 1.63

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**20**	2.0	0.31	**2.6**	0.27	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**1.8**	2.0	0.35	**0.37**	0.41	0.072	**J**
306-83-2	Freon 123	ND	2.0	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.0	0.98	ND	0.48	0.23	**X**
142-82-5	Heptane	ND	2.0	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.0	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.0	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.26	ND	0.57	0.071	
75-09-2	Methylene Chloride	ND	2.0	0.61	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.0	0.31	ND	0.47	0.072	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.064	
100-42-5	Styrene	ND	2.0	0.35	ND	0.48	0.082	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	ND	2.0	0.27	ND	0.69	0.093	
108-88-3	Toluene	**0.82**	2.0	0.26	**0.22**	0.54	0.070	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	**0.40**	2.0	0.29	**0.074**	0.38	0.055	**J**
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.80	0.091	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281055** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-063

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01323		

Initial Pressure (psig): -1.89 Final Pressure (psig): 6.22

Container Dilution Factor: 1.63

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281056** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-064

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01287

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.07

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.048	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.077	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.52	ND	0.27	0.070	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.29	ND	0.40	0.060	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.49	0.058	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.43	0.057	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.40	0.062	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.90	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.33	0.054	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.55	0.070	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.32	ND	0.43	0.068	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.0**	20	0.44	**0.69**	6.7	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.26	ND	0.49	0.064	
67-63-0	2-Propanol	ND	4.0	0.87	ND	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.64	0.091	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.40	0.069	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281056** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-064

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01287

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.07

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.31**	2.0	0.29	**0.077**	0.49	0.071	**J**
67-64-1	Acetone	ND	20	4.8	ND	8.4	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.48	ND	0.38	0.092	
71-43-2	Benzene	**1.0**	2.0	0.31	**0.32**	0.62	0.096	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.046	
75-25-2	Bromoform	ND	2.0	0.44	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.51	0.076	
75-15-0	Carbon Disulfide	**1.3**	20	0.64	**0.42**	6.4	0.20	**J**
56-23-5	Carbon Tetrachloride	ND	2.0	0.29	ND	0.32	0.047	
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.75	0.099	
67-66-3	Chloroform	ND	2.0	0.28	ND	0.41	0.058	
74-87-3	Chloromethane	ND	2.0	0.34	ND	0.96	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.073	
98-82-8	Cumene	ND	2.0	0.31	ND	0.40	0.062	
110-82-7	Cyclohexane	ND	4.0	0.60	ND	1.2	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.23	0.033	
64-17-5	Ethanol	**690**	20	1.5	**370**	11	0.78	
100-41-4	Ethyl Benzene	**0.39**	2.0	0.30	**0.090**	0.46	0.069	**J**
75-69-4	Freon 11	**37**	2.0	0.32	**6.5**	0.35	0.057	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281056** ALS Sample ID: P2400922-064
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01287

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.07

Container Dilution Factor: 1.59

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**9.4**	2.0	0.30	**1.2**	0.26	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.048	
75-71-8	Freon 12	**1.8**	2.0	0.35	**0.37**	0.40	0.070	**J**
306-83-2	Freon 123	ND	2.0	0.95	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.95	ND	0.47	0.23	**X**
142-82-5	Heptane	**0.40**	2.0	0.34	**0.097**	0.49	0.082	**J**
87-68-3	Hexachlorobutadiene	ND	2.0	0.44	ND	0.19	0.041	
110-54-3	Hexane	**0.99**	2.0	0.44	**0.28**	0.56	0.12	**J**
179601-23-1	m,p-Xylene	**1.0**	4.0	0.56	**0.23**	0.92	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.55	0.069	
75-09-2	Methylene Chloride	**0.76**	2.0	0.60	**0.22**	0.57	0.17	**J**
95-47-6	o-Xylene	**0.40**	2.0	0.31	**0.092**	0.46	0.070	**J**
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.40	0.062	
100-42-5	Styrene	ND	2.0	0.34	ND	0.47	0.080	
127-18-4	Tetrachloroethene	ND	2.0	0.27	ND	0.29	0.040	
109-99-9	Tetrahydrofuran	**0.66**	2.0	0.27	**0.22**	0.67	0.090	**J**
108-88-3	Toluene	**6.6**	2.0	0.26	**1.8**	0.53	0.069	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.44	ND	0.44	0.096	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.37	0.053	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.78	0.089	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281056** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-064

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01287		

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.07

Container Dilution Factor: 1.59

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281103** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-065

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24 & 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS01323

Initial Pressure (psig): -13.01 Final Pressure (psig): -13.01

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	11	1.5	ND	2.0	0.27	
79-34-5	1,1,2,2-Tetrachloroethane	ND	11	1.6	ND	1.6	0.24	
79-00-5	1,1,2-Trichloroethane	ND	11	1.2	ND	2.0	0.22	
75-34-3	1,1-Dichloroethane	ND	11	1.7	ND	2.7	0.43	
75-35-4	1,1-Dichloroethene	ND	11	1.6	ND	2.8	0.41	
120-82-1	1,2,4-Trichlorobenzene	ND	11	2.9	ND	1.5	0.39	
95-63-6	1,2,4-Trimethylbenzene	ND	11	1.6	ND	2.3	0.33	
106-93-4	1,2-Dibromoethane (EDB)	ND	11	1.4	ND	1.4	0.18	
95-50-1	1,2-Dichlorobenzene	ND	11	1.8	ND	1.8	0.29	
107-06-2	1,2-Dichloroethane	ND	11	1.3	ND	2.7	0.32	
78-87-5	1,2-Dichloropropane	ND	11	1.5	ND	2.4	0.32	
108-67-8	1,3,5-Trimethylbenzene	ND	11	1.7	ND	2.3	0.35	
106-99-0	1,3-Butadiene	ND	11	2.0	ND	5.0	0.88	
541-73-1	1,3-Dichlorobenzene	ND	11	1.8	ND	1.8	0.30	
106-46-7	1,4-Dichlorobenzene	ND	11	1.8	ND	1.8	0.30	
123-91-1	1,4-Dioxane	ND	11	1.4	ND	3.1	0.39	
540-84-1	2,2,4-Trimethylpentane	ND	11	1.8	ND	2.4	0.38	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	110	2.4	ND	38	0.83	
591-78-6	2-Hexanone	ND	11	1.5	ND	2.7	0.36	
67-63-0	2-Propanol	ND	22	4.9	ND	9.0	2.0	
107-05-1	3-Chloropropene	ND	11	1.6	ND	3.6	0.51	
622-96-8	4-Ethyltoluene	ND	11	1.9	ND	2.3	0.38	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281103** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-065

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24 & 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS01323

Initial Pressure (psig): -13.01 Final Pressure (psig): -13.01

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	11	1.6	ND	2.7	0.40	
67-64-1	Acetone	ND	110	27	ND	47	11	
100-44-7	alpha-Chlorotoluene	ND	11	2.7	ND	2.1	0.52	
71-43-2	Benzene	**3.2**	11	1.7	**1.0**	3.5	0.54	**J, B**
75-27-4	Bromodichloromethane	ND	11	1.7	ND	1.7	0.26	
75-25-2	Bromoform	ND	11	2.4	ND	1.1	0.24	
74-83-9	Bromomethane	ND	11	1.6	ND	2.9	0.42	
75-15-0	Carbon Disulfide	ND	110	3.6	ND	36	1.1	
56-23-5	Carbon Tetrachloride	ND	11	1.6	ND	1.8	0.26	
108-90-7	Chlorobenzene	ND	11	1.6	ND	2.4	0.34	
75-00-3	Chloroethane	ND	11	1.5	ND	4.2	0.56	
67-66-3	Chloroform	**2.9**	11	1.6	**0.59**	2.3	0.32	**J**
74-87-3	Chloromethane	ND	11	1.9	ND	5.4	0.93	
156-59-2	cis-1,2-Dichloroethene	ND	11	1.7	ND	2.8	0.42	
10061-01-5	cis-1,3-Dichloropropene	ND	11	1.8	ND	2.4	0.41	
98-82-8	Cumene	ND	11	1.7	ND	2.3	0.35	
110-82-7	Cyclohexane	ND	22	3.3	ND	6.5	0.97	
124-48-1	Dibromochloromethane	ND	11	1.6	ND	1.3	0.18	
64-17-5	Ethanol	**9.1**	110	8.2	**4.8**	59	4.4	**J**
100-41-4	Ethyl Benzene	ND	11	1.7	ND	2.6	0.38	
75-69-4	Freon 11	**2,300**	33	5.4	**410**	5.9	0.96	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281103** ALS Sample ID: P2400922-065
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24 & 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.045 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS01323

Initial Pressure (psig): -13.01 Final Pressure (psig): -13.01

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**880**	11	1.7	**120**	1.5	0.22	
76-14-2	Freon 114	ND	11	1.9	ND	1.6	0.27	
75-71-8	Freon 12	ND	11	1.9	ND	2.2	0.39	
306-83-2	Freon 123	ND	11	5.3	ND	1.8	0.85	**X**
75-43-4	Freon 21	ND	11	5.3	ND	2.6	1.3	**X**
142-82-5	Heptane	ND	11	1.9	ND	2.7	0.46	
87-68-3	Hexachlorobutadiene	ND	11	2.4	ND	1.0	0.23	
110-54-3	Hexane	ND	11	2.4	ND	3.2	0.69	
179601-23-1	m,p-Xylene	ND	22	3.1	ND	5.1	0.72	
1634-04-4	Methyl tert-butyl ether	ND	11	1.4	ND	3.1	0.39	
75-09-2	Methylene Chloride	ND	11	3.3	ND	3.2	0.96	
95-47-6	o-Xylene	ND	11	1.7	ND	2.6	0.39	
103-65-1	Propylbenzene	ND	11	1.7	ND	2.3	0.35	
100-42-5	Styrene	ND	11	1.9	ND	2.6	0.45	
127-18-4	Tetrachloroethene	ND	11	1.5	ND	1.6	0.23	
109-99-9	Tetrahydrofuran	ND	11	1.5	ND	3.8	0.51	
108-88-3	Toluene	ND	11	1.4	ND	2.9	0.38	
156-60-5	trans-1,2-Dichloroethene	ND	11	1.6	ND	2.8	0.41	
10061-02-6	trans-1,3-Dichloropropene	ND	11	2.4	ND	2.4	0.54	
79-01-6	Trichloroethene	ND	11	1.6	ND	2.1	0.30	
75-01-4	Vinyl Chloride	ND	11	1.3	ND	4.3	0.50	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281103** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-065

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24 & 3/21/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.045 Liter(s)
Test Notes:			0.015 Liter(s)
Container ID:	1SS01323		

Initial Pressure (psig): -13.01 Final Pressure (psig): -13.01

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281110** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-066

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24 & 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01235

Initial Pressure (psig): -2.05 Final Pressure (psig): 6.02

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	55	7.2	ND	10	1.3	
79-34-5	1,1,2,2-Tetrachloroethane	ND	55	8.1	ND	8.0	1.2	
79-00-5	1,1,2-Trichloroethane	ND	55	5.9	ND	10	1.1	
75-34-3	1,1-Dichloroethane	ND	55	8.5	ND	14	2.1	
75-35-4	1,1-Dichloroethene	ND	55	8.1	ND	14	2.0	
120-82-1	1,2,4-Trichlorobenzene	ND	55	14	ND	7.4	1.9	
95-63-6	1,2,4-Trimethylbenzene	ND	55	8.1	ND	11	1.6	
106-93-4	1,2-Dibromoethane (EDB)	ND	55	6.8	ND	7.1	0.88	
95-50-1	1,2-Dichlorobenzene	ND	55	8.6	ND	9.1	1.4	
107-06-2	1,2-Dichloroethane	ND	55	6.5	ND	14	1.6	
78-87-5	1,2-Dichloropropane	ND	55	7.2	ND	12	1.6	
108-67-8	1,3,5-Trimethylbenzene	ND	55	8.4	ND	11	1.7	
106-99-0	1,3-Butadiene	ND	55	9.6	ND	25	4.4	
541-73-1	1,3-Dichlorobenzene	ND	55	8.7	ND	9.1	1.5	
106-46-7	1,4-Dichlorobenzene	ND	55	9.0	ND	9.1	1.5	
123-91-1	1,4-Dioxane	ND	55	6.9	ND	15	1.9	
540-84-1	2,2,4-Trimethylpentane	ND	55	8.7	ND	12	1.9	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	550	12	ND	190	4.1	
591-78-6	2-Hexanone	ND	55	7.2	ND	13	1.8	
67-63-0	2-Propanol	ND	110	24	ND	44	9.8	
107-05-1	3-Chloropropene	ND	55	7.9	ND	17	2.5	
622-96-8	4-Ethyltoluene	ND	55	9.3	ND	11	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281110** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-066

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24 & 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01235

Initial Pressure (psig): -2.05 Final Pressure (psig): 6.02

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	55	8.0	ND	13	1.9	
67-64-1	Acetone	ND	550	130	ND	230	55	
100-44-7	alpha-Chlorotoluene	ND	55	13	ND	11	2.5	
71-43-2	Benzene	**11**	55	8.4	**3.5**	17	2.6	**J, B**
75-27-4	Bromodichloromethane	ND	55	8.4	ND	8.2	1.3	
75-25-2	Bromoform	ND	55	12	ND	5.3	1.2	
74-83-9	Bromomethane	ND	55	8.1	ND	14	2.1	
75-15-0	Carbon Disulfide	ND	550	17	ND	180	5.6	
56-23-5	Carbon Tetrachloride	ND	55	8.1	ND	8.7	1.3	
108-90-7	Chlorobenzene	ND	55	7.8	ND	12	1.7	
75-00-3	Chloroethane	ND	55	7.2	ND	21	2.7	
67-66-3	Chloroform	ND	55	7.8	ND	11	1.6	
74-87-3	Chloromethane	ND	55	9.4	ND	26	4.6	
156-59-2	cis-1,2-Dichloroethene	ND	55	8.2	ND	14	2.1	
10061-01-5	cis-1,3-Dichloropropene	ND	55	9.1	ND	12	2.0	
98-82-8	Cumene	ND	55	8.4	ND	11	1.7	
110-82-7	Cyclohexane	ND	110	16	ND	32	4.8	
124-48-1	Dibromochloromethane	ND	55	7.7	ND	6.4	0.90	
64-17-5	Ethanol	**110**	550	40	**60**	290	21	**J**
100-41-4	Ethyl Benzene	ND	55	8.2	ND	13	1.9	
75-69-4	Freon 11	**7,100**	160	27	**1,300**	29	4.7	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281110** ALS Sample ID: P2400922-066
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24 & 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01235

Initial Pressure (psig): -2.05 Final Pressure (psig): 6.02

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**5,400**	55	8.3	**710**	7.1	1.1	
76-14-2	Freon 114	ND	55	9.2	ND	7.8	1.3	
75-71-8	Freon 12	ND	55	9.5	ND	11	1.9	
306-83-2	Freon 123	ND	55	26	ND	8.7	4.2	**X**
75-43-4	Freon 21	ND	55	26	ND	13	6.2	**X**
142-82-5	Heptane	ND	55	9.3	ND	13	2.3	
87-68-3	Hexachlorobutadiene	ND	55	12	ND	5.1	1.1	
110-54-3	Hexane	ND	55	12	ND	16	3.4	
179601-23-1	m,p-Xylene	ND	110	15	ND	25	3.5	
1634-04-4	Methyl tert-butyl ether	ND	55	6.9	ND	15	1.9	
75-09-2	Methylene Chloride	ND	55	16	ND	16	4.7	
95-47-6	o-Xylene	ND	55	8.4	ND	13	1.9	
103-65-1	Propylbenzene	ND	55	8.4	ND	11	1.7	
100-42-5	Styrene	ND	55	9.4	ND	13	2.2	
127-18-4	Tetrachloroethene	ND	55	7.5	ND	8.1	1.1	
109-99-9	Tetrahydrofuran	ND	55	7.3	ND	19	2.5	
108-88-3	Toluene	ND	55	7.1	ND	15	1.9	
156-60-5	trans-1,2-Dichloroethene	ND	55	8.1	ND	14	2.0	
10061-02-6	trans-1,3-Dichloropropene	ND	55	12	ND	12	2.7	
79-01-6	Trichloroethene	ND	55	7.9	ND	10	1.5	
75-01-4	Vinyl Chloride	ND	55	6.2	ND	21	2.4	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281110** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-066

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24 & 3/21/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.015 Liter(s)
Test Notes:			0.0050 Liter(s)
Container ID:	1SS01235		

Initial Pressure (psig): -2.05 Final Pressure (psig): 6.02

Container Dilution Factor: 1.64

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281111** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-067

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SC01381

Initial Pressure (psig): -2.04 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	840	110	ND	150	20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	840	120	ND	120	18	
79-00-5	1,1,2-Trichloroethane	ND	840	90	ND	150	17	
75-34-3	1,1-Dichloroethane	ND	840	130	ND	210	32	
75-35-4	1,1-Dichloroethene	ND	840	120	ND	210	31	
120-82-1	1,2,4-Trichlorobenzene	ND	840	220	ND	110	29	
95-63-6	1,2,4-Trimethylbenzene	**280**	840	120	**57**	170	25	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	840	100	ND	110	13	
95-50-1	1,2-Dichlorobenzene	ND	840	130	ND	140	22	
107-06-2	1,2-Dichloroethane	ND	840	99	ND	210	24	
78-87-5	1,2-Dichloropropane	ND	840	110	ND	180	24	
108-67-8	1,3,5-Trimethylbenzene	ND	840	130	ND	170	26	
106-99-0	1,3-Butadiene	ND	840	150	ND	380	66	
541-73-1	1,3-Dichlorobenzene	ND	840	130	ND	140	22	
106-46-7	1,4-Dichlorobenzene	ND	840	140	ND	140	23	
123-91-1	1,4-Dioxane	ND	840	110	ND	230	29	
540-84-1	2,2,4-Trimethylpentane	**2,800**	840	130	**600**	180	29	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**600**	8,400	180	**200**	2,800	62	**J**
591-78-6	2-Hexanone	ND	840	110	ND	200	27	
67-63-0	2-Propanol	ND	1,700	370	ND	680	150	
107-05-1	3-Chloropropene	ND	840	120	ND	270	38	
622-96-8	4-Ethyltoluene	ND	840	140	ND	170	29	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402281111** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-067

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SC01381

Initial Pressure (psig): -2.04 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	840	120	ND	200	30	
67-64-1	Acetone	ND	8,400	2,000	ND	3,500	840	
100-44-7	alpha-Chlorotoluene	ND	840	200	ND	160	39	
71-43-2	Benzene	**690**	840	130	**220**	260	40	**J, B**
75-27-4	Bromodichloromethane	ND	840	130	ND	120	19	
75-25-2	Bromoform	ND	840	180	ND	81	18	
74-83-9	Bromomethane	ND	840	120	ND	220	32	
75-15-0	Carbon Disulfide	ND	8,400	270	ND	2,700	86	
56-23-5	Carbon Tetrachloride	ND	840	120	ND	130	20	
108-90-7	Chlorobenzene	ND	840	120	ND	180	26	
75-00-3	Chloroethane	ND	840	110	ND	320	42	
67-66-3	Chloroform	ND	840	120	ND	170	24	
74-87-3	Chloromethane	ND	840	140	ND	400	70	
156-59-2	cis-1,2-Dichloroethene	ND	840	130	ND	210	32	
10061-01-5	cis-1,3-Dichloropropene	ND	840	140	ND	180	31	
98-82-8	Cumene	ND	840	130	ND	170	26	
110-82-7	Cyclohexane	**2,200**	1,700	250	**650**	490	73	
124-48-1	Dibromochloromethane	ND	840	120	ND	98	14	
64-17-5	Ethanol	**2,400**	8,400	620	**1,300**	4,400	330	**J**
100-41-4	Ethyl Benzene	**610**	840	130	**140**	190	29	**J**
75-69-4	Freon 11	**190,000**	1,700	270	**34,000**	300	48	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

B = Analyte detected in both the sample and the associated method blank.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **2402281111** ALS Sample ID: P2400922-067
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/7/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.0010 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SC01381

Initial Pressure (psig): -2.04 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**180,000**	1,700	250	**24,000**	220	33	**D**
76-14-2	Freon 114	ND	840	140	ND	120	20	
75-71-8	Freon 12	ND	840	150	ND	170	29	
306-83-2	Freon 123	ND	840	400	ND	130	64	**X**
75-43-4	Freon 21	ND	840	400	ND	200	95	**X**
142-82-5	Heptane	**2,000**	840	140	**480**	200	35	
87-68-3	Hexachlorobutadiene	ND	840	180	ND	78	17	
110-54-3	Hexane	**4,200**	840	180	**1,200**	240	52	
179601-23-1	m,p-Xylene	**1,100**	1,700	230	**260**	380	54	**J**
1634-04-4	Methyl tert-butyl ether	ND	840	110	ND	230	29	
75-09-2	Methylene Chloride	ND	840	250	ND	240	72	
95-47-6	o-Xylene	**530**	840	130	**120**	190	30	**J**
103-65-1	Propylbenzene	ND	840	130	ND	170	26	
100-42-5	Styrene	ND	840	140	ND	200	34	
127-18-4	Tetrachloroethene	ND	840	120	ND	120	17	
109-99-9	Tetrahydrofuran	ND	840	110	ND	280	38	
108-88-3	Toluene	**4,400**	840	110	**1,200**	220	29	
156-60-5	trans-1,2-Dichloroethene	ND	840	120	ND	210	31	
10061-02-6	trans-1,3-Dichloropropene	ND	840	180	ND	180	40	
79-01-6	Trichloroethene	**140**	840	120	**26**	160	22	**J**
75-01-4	Vinyl Chloride	ND	840	95	ND	330	37	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2402281111** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-067

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	3/7/24
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.0010 Liter(s)
Test Notes:			0.00050 Liter(s)
Container ID:	1SC01381		

Initial Pressure (psig): -2.04 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	**0.60**	0.50	0.12	**0.12**	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240319-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240319-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	**0.094**	0.50	0.077	**0.029**	0.16	0.024	**J**
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240319-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240319-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	NA
Analyst:	Charles Im	Date Analyzed:	3/19/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240320-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240320-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240320-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240320-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	NA
Analyst:	Charles Im	Date Analyzed:	3/20/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240321-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240321-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240321-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240321-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16	Date Received:	NA
Analyst:	Charles Im	Date Analyzed:	3/21/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240322-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240322-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	**0.60**	0.50	0.12	**0.11**	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240322-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240322-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	3/22/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240325-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240325-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Method Blank** ALS Sample ID: P240325-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2400922
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240325-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	3/25/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
	Freon 123a	NF	

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Project ID: P2400922

Test Code: EPA TO-15 / EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 2/26 - 2/28/24
Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Received: 3/4 - 3/7/24
Analyst: Charles Im/Simon Cao Date(s) Analyzed: 3/19 - 3/26/24
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) / 1.0 L Bottle-Vac™(s)
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P240319-MB	**97**	**105**	**102**	70-130	
Method Blank	P240319-MB	**103**	**100**	**96**	70-130	
Method Blank	P240320-MB	**102**	**103**	**101**	70-130	
Method Blank	P240320-MB	**99**	**102**	**97**	70-130	
Method Blank	P240321-MB	**99**	**106**	**105**	70-130	
Method Blank	P240322-MB	**99**	**104**	**100**	70-130	
Method Blank	P240325-MB	**98**	**114**	**106**	70-130	
Lab Control Sample	P240319-LCS	**96**	**103**	**102**	70-130	
Lab Control Sample	P240319-LCS	**98**	**102**	**100**	70-130	
Lab Control Sample	P240320-LCS	**100**	**100**	**101**	70-130	
Lab Control Sample	P240320-LCS	**94**	**105**	**102**	70-130	
Lab Control Sample	P240321-LCS	**96**	**109**	**109**	70-130	
Lab Control Sample	P240322-LCS	**97**	**104**	**102**	70-130	
Lab Control Sample	P240325-LCS	**97**	**111**	**106**	70-130	
Duplicate Lab Control Sample	P240319-DLCS	**96**	**103**	**103**	70-130	
Duplicate Lab Control Sample	P240320-DLCS	**99**	**102**	**101**	70-130	
Duplicate Lab Control Sample	P240320-DLCS	**97**	**108**	**111**	70-130	
Duplicate Lab Control Sample	P240321-DLCS	**96**	**108**	**109**	70-130	
Duplicate Lab Control Sample	P240322-DLCS	**97**	**103**	**100**	70-130	
Duplicate Lab Control Sample	P240325-DLCS	**96**	**112**	**106**	70-130	
Batch QC	P2400875-001	**100**	**102**	**101**	70-130	
Batch QC	P2400875-001DUP	**100**	**100**	**101**	70-130	
2402260905	P2400922-001	**100**	**101**	**100**	70-130	
2402260906	P2400922-002	**99**	**102**	**102**	70-130	
2402260911	P2400922-003	**99**	**102**	**101**	70-130	
2402260916	P2400922-004	**100**	**102**	**100**	70-130	
2402260924	P2400922-005	**101**	**100**	**101**	70-130	
2402260925	P2400922-006	**101**	**101**	**101**	70-130	
2402261005	P2400922-007	**102**	**100**	**101**	70-130	
2402261009	P2400922-008	**101**	**100**	**101**	70-130	
2402261014	P2400922-009	**99**	**102**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **NASA White Sands Test Facility**
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Project ID: P2400922

Test Code: EPA TO-15 / EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 2/26 - 2/28/24
Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Received: 3/4 - 3/7/24
Analyst: Charles Im/Simon Cao Date(s) Analyzed: 3/19 - 3/26/24
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) / 1.0 L Bottle-Vac™(s)
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
2402261015	P2400922-010	**101**	**101**	**102**	70-130	
2402261024	P2400922-011	**97**	**105**	**103**	70-130	
2402261050	P2400922-012	**99**	**104**	**100**	70-130	
2402261051	P2400922-013	**100**	**101**	**100**	70-130	
2402261057	P2400922-014	**100**	**103**	**101**	70-130	
2402261104	P2400922-015	**101**	**101**	**100**	70-130	
2402261340	P2400922-016	**101**	**100**	**99**	70-130	
2402261344	P2400922-017	**101**	**101**	**102**	70-130	
2402261356	P2400922-018	**102**	**100**	**101**	70-130	
2402261401	P2400922-019	**103**	**99**	**100**	70-130	
2402261406	P2400922-020	**98**	**103**	**102**	70-130	
2402261412	P2400922-021	**97**	**104**	**103**	70-130	
2402261413	P2400922-022	**97**	**104**	**103**	70-130	
2402261435	P2400922-023	**101**	**98**	**100**	70-130	
2402261440	P2400922-024	**101**	**100**	**100**	70-130	
2402261440	P2400922-024DUP	**101**	**100**	**100**	70-130	
2402261449	P2400922-025	**98**	**104**	**102**	70-130	
2402261450	P2400922-026	**99**	**103**	**102**	70-130	
2402261457	P2400922-027	**101**	**101**	**101**	70-130	
2402270850	P2400922-028	**99**	**101**	**101**	70-130	
2402270851	P2400922-029	**103**	**99**	**101**	70-130	
2402270856	P2400922-030	**103**	**96**	**100**	70-130	
2402270903	P2400922-031	**103**	**98**	**100**	70-130	
2402270940	P2400922-032	**103**	**99**	**100**	70-130	
2402270941	P2400922-033	**103**	**99**	**100**	70-130	
2402270946	P2400922-034	**104**	**98**	**98**	70-130	
2402270954	P2400922-035	**97**	**104**	**101**	70-130	
2402271002	P2400922-036	**98**	**103**	**102**	70-130	
2402271020	P2400922-037	**98**	**102**	**101**	70-130	
2402271025	P2400922-038	**99**	**103**	**102**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **NASA White Sands Test Facility**
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Project ID: P2400922

Test Code: EPA TO-15 / EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 2/26 - 2/28/24
Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Received: 3/4 - 3/7/24
Analyst: Charles Im/Simon Cao Date(s) Analyzed: 3/19 - 3/26/24
Sampling Media: 1.0 L Summa Canister(s) / 1.0 L Silonite Summa Canister(s) / 1.0 L Bottle-Vac™(s)
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
2402271032	P2400922-039	**97**	**113**	**104**	70-130	
2402271033	P2400922-040	**98**	**113**	**104**	70-130	
2402271050	P2400922-041	**99**	**113**	**105**	70-130	
2402271051	P2400922-042	**100**	**112**	**104**	70-130	
2402271058	P2400922-043	**100**	**111**	**104**	70-130	
2402271105	P2400922-044	**100**	**112**	**100**	70-130	
2402280815	P2400922-045	**100**	**112**	**104**	70-130	
2402280816	P2400922-046	**100**	**112**	**104**	70-130	
2402280821	P2400922-047	**101**	**109**	**102**	70-130	
2402280827	P2400922-048	**101**	**112**	**104**	70-130	
2402280827	P2400922-048DUP	**101**	**113**	**103**	70-130	
2402280855	P2400922-049	**100**	**112**	**103**	70-130	
2402280901	P2400922-050	**101**	**111**	**103**	70-130	
2402280907	P2400922-051	**95**	**106**	**103**	70-130	
2402280940	P2400922-052	**97**	**105**	**103**	70-130	
2402280941	P2400922-053	**96**	**107**	**104**	70-130	
2402280948	P2400922-054	**95**	**104**	**102**	70-130	
2402280949	P2400922-055	**93**	**104**	**104**	70-130	
2402280956	P2400922-056	**96**	**103**	**105**	70-130	
2402281007	P2400922-057	**95**	**103**	**105**	70-130	
2402281013	P2400922-058	**97**	**104**	**103**	70-130	
2402281014	P2400922-059	**95**	**103**	**102**	70-130	
2402281021	P2400922-060	**97**	**102**	**102**	70-130	
2402281028	P2400922-061	**96**	**101**	**101**	70-130	
2402281029	P2400922-062	**95**	**102**	**102**	70-130	
2402281055	P2400922-063	**99**	**104**	**104**	70-130	
2402281056	P2400922-064	**97**	**103**	**102**	70-130	
2402281103	P2400922-065	**98**	**104**	**101**	70-130	
2402281110	P2400922-066	**99**	**101**	**102**	70-130	
2402281111	P2400922-067	**100**	**100**	**97**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	202	199	**96**	**95**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	206	203	**95**	**94**	71-128	1	25	
79-00-5	1,1,2-Trichloroethane	216	214	211	**99**	**98**	71-119	1	25	
75-34-3	1,1-Dichloroethane	216	209	207	**97**	**96**	66-120	1	25	
75-35-4	1,1-Dichloroethene	208	209	208	**100**	**100**	75-120	0	25	
120-82-1	1,2,4-Trichlorobenzene	440	383	377	**87**	**86**	50-137	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	206	202	**97**	**95**	67-130	2	25	
106-93-4	1,2-Dibromoethane (EDB)	206	212	210	**103**	**102**	69-129	1	25	
95-50-1	1,2-Dichlorobenzene	212	195	191	**92**	**90**	57-138	2	25	
107-06-2	1,2-Dichloroethane	206	191	190	**93**	**92**	64-138	1	25	
78-87-5	1,2-Dichloropropane	214	209	206	**98**	**96**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	212	208	**97**	**95**	66-125	2	25	
106-99-0	1,3-Butadiene	212	211	206	**100**	**97**	62-132	3	25	
541-73-1	1,3-Dichlorobenzene	214	196	192	**92**	**90**	57-135	2	25	
106-46-7	1,4-Dichlorobenzene	214	196	193	**92**	**90**	56-129	2	25	
123-91-1	1,4-Dioxane	214	223	220	**104**	**103**	76-127	1	25	
540-84-1	2,2,4-Trimethylpentane	214	213	210	**100**	**98**	62-124	2	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	412	406	**100**	**98**	70-125	2	25	
591-78-6	2-Hexanone	426	402	396	**94**	**93**	70-136	1	25	
67-63-0	2-Propanol	418	389	386	**93**	**92**	59-132	1	25	
107-05-1	3-Chloropropene	214	207	204	**97**	**95**	50-118	2	25	
622-96-8	4-Ethyltoluene	218	211	209	**97**	**96**	67-128	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	421	415	**99**	**97**	67-137	2	25	
67-64-1	Acetone	1,060	991	978	**93**	**92**	61-120	1	25	
100-44-7	alpha-Chlorotoluene	430	362	354	**84**	**82**	58-151	2	25	
71-43-2	Benzene	206	194	191	**94**	**93**	73-128	1	25	
75-27-4	Bromodichloromethane	218	212	209	**97**	**96**	70-125	1	25	
75-25-2	Bromoform	218	231	227	**106**	**104**	63-132	2	25	
74-83-9	Bromomethane	210	206	199	**98**	**95**	72-120	3	25	
75-15-0	Carbon Disulfide	430	424	420	**99**	**98**	69-115	1	25	
56-23-5	Carbon Tetrachloride	210	205	202	**98**	**96**	71-134	2	25	
108-90-7	Chlorobenzene	218	208	205	**95**	**94**	63-124	1	25	
75-00-3	Chloroethane	212	204	200	**96**	**94**	67-123	2	25	
67-66-3	Chloroform	216	211	207	**98**	**96**	64-121	2	25	
74-87-3	Chloromethane	208	200	196	**96**	**94**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	216	205	202	**95**	**94**	64-120	1	25	
10061-01-5	cis-1,3-Dichloropropene	212	219	218	**103**	**103**	87-137	0	25	
98-82-8	Cumene	212	208	205	**98**	**97**	66-126	1	25	
110-82-7	Cyclohexane	428	434	429	**101**	**100**	71-118	1	25	
124-48-1	Dibromochloromethane	214	211	207	**99**	**97**	67-128	2	25	
64-17-5	Ethanol	1,110	944	936	**85**	**84**	52-120	1	25	
100-41-4	Ethyl Benzene	218	217	214	**100**	**98**	64-119	2	25	
75-69-4	Freon 11	210	191	189	**91**	**90**	65-122	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	204	201	**97**	**96**	65-121	1	25	
76-14-2	Freon 114	208	210	203	**101**	**98**	63-120	3	25	
75-71-8	Freon 12	204	190	186	**93**	**91**	66-122	2	25	
142-82-5	Heptane	214	218	216	**102**	**101**	72-121	1	25	
87-68-3	Hexachlorobutadiene	214	154	151	**72**	**71**	50-133	1	25	
110-54-3	Hexane	212	213	211	**100**	**100**	60-125	0	25	
179601-23-1	m,p-Xylene	432	427	422	**99**	**98**	64-121	1	25	
1634-04-4	Methyl tert-butyl ether	216	227	221	**105**	**102**	65-124	3	25	
75-09-2	Methylene Chloride	208	180	177	**87**	**85**	71-123	2	25	
95-47-6	o-Xylene	216	214	210	**99**	**97**	66-122	2	25	
103-65-1	Propylbenzene	214	208	205	**97**	**96**	67-126	1	25	
100-42-5	Styrene	214	226	223	**106**	**104**	71-125	2	25	
127-18-4	Tetrachloroethene	214	207	204	**97**	**95**	55-132	2	25	
109-99-9	Tetrahydrofuran	404	406	403	**100**	**100**	67-117	0	25	
108-88-3	Toluene	214	210	207	**98**	**97**	64-121	1	25	
156-60-5	trans-1,2-Dichloroethene	218	211	209	**97**	**96**	67-123	1	25	
10061-02-6	trans-1,3-Dichloropropene	196	210	209	**107**	**107**	73-127	0	25	
79-01-6	Trichloroethene	214	192	189	**90**	**88**	68-124	2	25	
75-01-4	Vinyl Chloride	212	205	199	**97**	**94**	57-129	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
71-55-6	1,1,1-Trichloroethane	42.0	**33.7**	**80**	67-125	
79-34-5	1,1,2,2-Tetrachloroethane	43.2	**33.9**	**78**	71-128	
79-00-5	1,1,2-Trichloroethane	43.2	**33.8**	**78**	71-119	
75-34-3	1,1-Dichloroethane	43.2	**33.3**	**77**	66-120	
75-35-4	1,1-Dichloroethene	41.6	**32.7**	**79**	75-120	
120-82-1	1,2,4-Trichlorobenzene	88.0	**63.4**	**72**	50-137	
95-63-6	1,2,4-Trimethylbenzene	42.4	**34.5**	**81**	67-130	
106-93-4	1,2-Dibromoethane (EDB)	41.2	**31.9**	**77**	69-129	
95-50-1	1,2-Dichlorobenzene	42.4	**32.2**	**76**	57-138	
107-06-2	1,2-Dichloroethane	41.2	**31.1**	**75**	64-138	
78-87-5	1,2-Dichloropropane	42.8	**33.0**	**77**	68-121	
108-67-8	1,3,5-Trimethylbenzene	43.6	**34.4**	**79**	66-125	
106-99-0	1,3-Butadiene	42.4	**36.6**	**86**	62-132	
541-73-1	1,3-Dichlorobenzene	42.8	**30.9**	**72**	57-135	
106-46-7	1,4-Dichlorobenzene	42.8	**29.8**	**70**	56-129	
123-91-1	1,4-Dioxane	42.8	**34.4**	**80**	76-127	
540-84-1	2,2,4-Trimethylpentane	42.8	**34.8**	**81**	62-124	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	82.8	**69.7**	**84**	70-125	
591-78-6	2-Hexanone	85.2	**71.3**	**84**	70-136	
67-63-0	2-Propanol	83.6	**72.8**	**87**	59-132	
107-05-1	3-Chloropropene	42.8	**31.9**	**75**	50-118	
622-96-8	4-Ethyltoluene	43.6	**34.5**	**79**	67-128	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
108-10-1	4-Methyl-2-pentanone	85.2	**72.5**	**85**	67-137	
67-64-1	Acetone	212	**167**	**79**	61-120	
100-44-7	alpha-Chlorotoluene	86.0	**66.1**	**77**	58-151	
71-43-2	Benzene	41.2	**29.2**	**71**	73-128	**L**
75-27-4	Bromodichloromethane	43.6	**34.7**	**80**	70-125	
75-25-2	Bromoform	43.6	**33.9**	**78**	63-132	
74-83-9	Bromomethane	42.0	**32.6**	**78**	72-120	
75-15-0	Carbon Disulfide	86.0	**70.6**	**82**	69-115	
56-23-5	Carbon Tetrachloride	42.0	**35.7**	**85**	71-134	
108-90-7	Chlorobenzene	43.6	**32.4**	**74**	63-124	
75-00-3	Chloroethane	42.4	**31.3**	**74**	67-123	
67-66-3	Chloroform	43.2	**34.7**	**80**	64-121	
74-87-3	Chloromethane	41.6	**34.6**	**83**	56-131	
156-59-2	cis-1,2-Dichloroethene	43.2	**33.4**	**77**	64-120	
10061-01-5	cis-1,3-Dichloropropene	42.4	**34.4**	**81**	87-137	**L**
98-82-8	Cumene	42.4	**33.8**	**80**	66-126	
110-82-7	Cyclohexane	85.6	**71.3**	**83**	71-118	
124-48-1	Dibromochloromethane	42.8	**33.4**	**78**	67-128	
64-17-5	Ethanol	223	**153**	**69**	52-120	
100-41-4	Ethyl Benzene	43.6	**35.0**	**80**	64-119	
75-69-4	Freon 11	42.0	**32.1**	**76**	65-122	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240319-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount µg/m³	Result µg/m³	% Recovery	ALS Acceptance Limits	Data Qualifier
76-13-1	Freon 113	42.0	**31.5**	**75**	65-121	
76-14-2	Freon 114	41.6	**36.0**	**87**	63-120	
75-71-8	Freon 12	40.8	**33.5**	**82**	66-122	
142-82-5	Heptane	42.8	**34.5**	**81**	72-121	
87-68-3	Hexachlorobutadiene	42.8	**31.1**	**73**	50-133	
110-54-3	Hexane	42.4	**34.1**	**80**	60-125	
179601-23-1	m,p-Xylene	86.4	**67.4**	**78**	64-121	
1634-04-4	Methyl tert-butyl ether	43.2	**39.3**	**91**	65-124	
75-09-2	Methylene Chloride	41.6	**29.0**	**70**	71-123	**L**
95-47-6	o-Xylene	43.2	**34.1**	**79**	66-122	
103-65-1	Propylbenzene	42.8	**33.4**	**78**	67-126	
100-42-5	Styrene	42.8	**33.3**	**78**	71-125	
127-18-4	Tetrachloroethene	42.8	**32.4**	**76**	55-132	
109-99-9	Tetrahydrofuran	80.8	**62.0**	**77**	67-117	
108-88-3	Toluene	42.8	**33.7**	**79**	64-121	
156-60-5	trans-1,2-Dichloroethene	43.6	**33.0**	**76**	67-123	
10061-02-6	trans-1,3-Dichloropropene	39.2	**31.9**	**81**	73-127	
79-01-6	Trichloroethene	42.8	**30.6**	**71**	68-124	
75-01-4	Vinyl Chloride	42.4	**34.7**	**82**	57-129	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased low.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	214	212	**102**	**101**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	208	212	**96**	**98**	71-128	2	25	
79-00-5	1,1,2-Trichloroethane	216	217	219	**100**	**101**	71-119	1	25	
75-34-3	1,1-Dichloroethane	216	213	214	**99**	**99**	66-120	0	25	
75-35-4	1,1-Dichloroethene	208	213	216	**102**	**104**	75-120	2	25	
120-82-1	1,2,4-Trichlorobenzene	440	384	390	**87**	**89**	50-137	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	212	216	**100**	**102**	67-130	2	25	
106-93-4	1,2-Dibromoethane (EDB)	206	214	221	**104**	**107**	69-129	3	25	
95-50-1	1,2-Dichlorobenzene	212	200	203	**94**	**96**	57-138	2	25	
107-06-2	1,2-Dichloroethane	206	204	203	**99**	**99**	64-138	0	25	
78-87-5	1,2-Dichloropropane	214	207	211	**97**	**99**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	217	221	**100**	**101**	66-125	1	25	
106-99-0	1,3-Butadiene	212	211	216	**100**	**102**	62-132	2	25	
541-73-1	1,3-Dichlorobenzene	214	203	205	**95**	**96**	57-135	1	25	
106-46-7	1,4-Dichlorobenzene	214	201	205	**94**	**96**	56-129	2	25	
123-91-1	1,4-Dioxane	214	226	229	**106**	**107**	76-127	0.9	25	
540-84-1	2,2,4-Trimethylpentane	214	212	214	**99**	**100**	62-124	1	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	414	418	**100**	**101**	70-125	1	25	
591-78-6	2-Hexanone	426	399	408	**94**	**96**	70-136	2	25	
67-63-0	2-Propanol	418	388	397	**93**	**95**	59-132	2	25	
107-05-1	3-Chloropropene	214	207	213	**97**	**100**	50-118	3	25	
622-96-8	4-Ethyltoluene	218	218	220	**100**	**101**	67-128	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	421	426	**99**	**100**	67-137	1	25	
67-64-1	Acetone	1,060	984	1000	**93**	**94**	61-120	1	25	
100-44-7	alpha-Chlorotoluene	430	361	371	**84**	**86**	58-151	2	25	
71-43-2	Benzene	206	196	198	**95**	**96**	73-128	1	25	
75-27-4	Bromodichloromethane	218	220	220	**101**	**101**	70-125	0	25	
75-25-2	Bromoform	218	240	243	**110**	**111**	63-132	0.9	25	
74-83-9	Bromomethane	210	203	206	**97**	**98**	72-120	1	25	
75-15-0	Carbon Disulfide	430	431	436	**100**	**101**	69-115	1	25	
56-23-5	Carbon Tetrachloride	210	220	218	**105**	**104**	71-134	1	25	
108-90-7	Chlorobenzene	218	211	215	**97**	**99**	63-124	2	25	
75-00-3	Chloroethane	212	201	204	**95**	**96**	67-123	1	25	
67-66-3	Chloroform	216	218	220	**101**	**102**	64-121	1	25	
74-87-3	Chloromethane	208	197	202	**95**	**97**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	216	209	210	**97**	**97**	64-120	0	25	
10061-01-5	cis-1,3-Dichloropropene	212	221	225	**104**	**106**	87-137	2	25	
98-82-8	Cumene	212	213	217	**100**	**102**	66-126	2	25	
110-82-7	Cyclohexane	428	439	443	**103**	**104**	71-118	1	25	
124-48-1	Dibromochloromethane	214	218	221	**102**	**103**	67-128	1	25	
64-17-5	Ethanol	1,110	923	946	**83**	**85**	52-120	2	25	
100-41-4	Ethyl Benzene	218	221	226	**101**	**104**	64-119	3	25	
75-69-4	Freon 11	210	205	205	**98**	**98**	65-122	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	212	214	**101**	**102**	65-121	1	25	
76-14-2	Freon 114	208	218	217	**105**	**104**	63-120	1	25	
75-71-8	Freon 12	204	202	204	**99**	**100**	66-122	1	25	
142-82-5	Heptane	214	220	222	**103**	**104**	72-121	1	25	
87-68-3	Hexachlorobutadiene	214	157	160	**73**	**75**	50-133	3	25	
110-54-3	Hexane	212	216	220	**102**	**104**	60-125	2	25	
179601-23-1	m,p-Xylene	432	438	447	**101**	**103**	64-121	2	25	
1634-04-4	Methyl tert-butyl ether	216	240	245	**111**	**113**	65-124	2	25	
75-09-2	Methylene Chloride	208	179	183	**86**	**88**	71-123	2	25	
95-47-6	o-Xylene	216	219	222	**101**	**103**	66-122	2	25	
103-65-1	Propylbenzene	214	214	217	**100**	**101**	67-126	1	25	
100-42-5	Styrene	214	229	234	**107**	**109**	71-125	2	25	
127-18-4	Tetrachloroethene	214	214	217	**100**	**101**	55-132	1	25	
109-99-9	Tetrahydrofuran	404	409	414	**101**	**102**	67-117	1	25	
108-88-3	Toluene	214	212	217	**99**	**101**	64-121	2	25	
156-60-5	trans-1,2-Dichloroethene	218	213	217	**98**	**100**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	212	216	**108**	**110**	73-127	2	25	
79-01-6	Trichloroethene	214	198	198	**93**	**93**	68-124	0	25	
75-01-4	Vinyl Chloride	212	203	204	**96**	**96**	57-129	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	194	204	**92**	**97**	67-125	5	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	212	226	**98**	**105**	71-128	7	25	
79-00-5	1,1,2-Trichloroethane	216	201	204	**93**	**94**	71-119	1	25	
75-34-3	1,1-Dichloroethane	216	200	199	**93**	**92**	66-120	1	25	
75-35-4	1,1-Dichloroethene	208	193	194	**93**	**93**	75-120	0	25	
120-82-1	1,2,4-Trichlorobenzene	440	456	499	**104**	**113**	50-137	8	25	
95-63-6	1,2,4-Trimethylbenzene	212	216	229	**102**	**108**	67-130	6	25	
106-93-4	1,2-Dibromoethane (EDB)	206	213	217	**103**	**105**	69-129	2	25	
95-50-1	1,2-Dichlorobenzene	212	203	221	**96**	**104**	57-138	8	25	
107-06-2	1,2-Dichloroethane	206	178	186	**86**	**90**	64-138	5	25	
78-87-5	1,2-Dichloropropane	214	191	194	**89**	**91**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	215	234	**99**	**107**	66-125	8	25	
106-99-0	1,3-Butadiene	212	215	215	**101**	**101**	62-132	0	25	
541-73-1	1,3-Dichlorobenzene	214	202	220	**94**	**103**	57-135	9	25	
106-46-7	1,4-Dichlorobenzene	214	208	230	**97**	**107**	56-129	10	25	
123-91-1	1,4-Dioxane	214	196	199	**92**	**93**	76-127	1	25	
540-84-1	2,2,4-Trimethylpentane	214	201	211	**94**	**99**	62-124	5	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	408	410	**99**	**99**	70-125	0	25	
591-78-6	2-Hexanone	426	411	447	**96**	**105**	70-136	9	25	
67-63-0	2-Propanol	418	368	360	**88**	**86**	59-132	2	25	
107-05-1	3-Chloropropene	214	206	206	**96**	**96**	50-118	0	25	
622-96-8	4-Ethyltoluene	218	216	233	**99**	**107**	67-128	8	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	407	421	**96**	**99**	67-137	3	25	
67-64-1	Acetone	1,060	939	945	**89**	**89**	61-120	0	25	
100-44-7	alpha-Chlorotoluene	430	535	566	**124**	**132**	58-151	6	25	
71-43-2	Benzene	206	169	171	**82**	**83**	73-128	1	25	
75-27-4	Bromodichloromethane	218	201	211	**92**	**97**	70-125	5	25	
75-25-2	Bromoform	218	237	255	**109**	**117**	63-132	7	25	
74-83-9	Bromomethane	210	195	195	**93**	**93**	72-120	0	25	
75-15-0	Carbon Disulfide	430	425	427	**99**	**99**	69-115	0	25	
56-23-5	Carbon Tetrachloride	210	219	232	**104**	**110**	71-134	6	25	
108-90-7	Chlorobenzene	218	203	219	**93**	**100**	63-124	7	25	
75-00-3	Chloroethane	212	184	184	**87**	**87**	67-123	0	25	
67-66-3	Chloroform	216	199	203	**92**	**94**	64-121	2	25	
74-87-3	Chloromethane	208	201	193	**97**	**93**	56-131	4	25	
156-59-2	cis-1,2-Dichloroethene	216	201	202	**93**	**94**	64-120	1	25	
10061-01-5	cis-1,3-Dichloropropene	212	211	217	**100**	**102**	87-137	2	25	
98-82-8	Cumene	212	210	223	**99**	**105**	66-126	6	25	
110-82-7	Cyclohexane	428	418	424	**98**	**99**	71-118	1	25	
124-48-1	Dibromochloromethane	214	223	231	**104**	**108**	67-128	4	25	
64-17-5	Ethanol	1,110	895	896	**81**	**81**	52-120	0	25	
100-41-4	Ethyl Benzene	218	215	229	**99**	**105**	64-119	6	25	
75-69-4	Freon 11	210	192	194	**91**	**92**	65-122	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240320-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	191	193	**91**	**92**	65-121	1	25	
76-14-2	Freon 114	208	212	210	**102**	**101**	63-120	1	25	
75-71-8	Freon 12	204	201	195	**99**	**96**	66-122	3	25	
142-82-5	Heptane	214	205	207	**96**	**97**	72-121	1	25	
87-68-3	Hexachlorobutadiene	214	199	212	**93**	**99**	50-133	6	25	
110-54-3	Hexane	212	199	201	**94**	**95**	60-125	1	25	
179601-23-1	m,p-Xylene	432	416	441	**96**	**102**	64-121	6	25	
1634-04-4	Methyl tert-butyl ether	216	215	219	**100**	**101**	65-124	1	25	
75-09-2	Methylene Chloride	208	169	169	**81**	**81**	71-123	0	25	
95-47-6	o-Xylene	216	210	224	**97**	**104**	66-122	7	25	
103-65-1	Propylbenzene	214	205	222	**96**	**104**	67-126	8	25	
100-42-5	Styrene	214	226	249	**106**	**116**	71-125	9	25	
127-18-4	Tetrachloroethene	214	206	212	**96**	**99**	55-132	3	25	
109-99-9	Tetrahydrofuran	404	370	368	**92**	**91**	67-117	1	25	
108-88-3	Toluene	214	211	219	**99**	**102**	64-121	3	25	
156-60-5	trans-1,2-Dichloroethene	218	202	201	**93**	**92**	67-123	1	25	
10061-02-6	trans-1,3-Dichloropropene	196	206	216	**105**	**110**	73-127	5	25	
79-01-6	Trichloroethene	214	183	185	**86**	**86**	68-124	0	25	
75-01-4	Vinyl Chloride	212	209	206	**99**	**97**	57-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240321-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	42.0	43.1	44.5	**103**	**106**	67-125	3	25	
79-34-5	1,1,2,2-Tetrachloroethane	43.2	48.6	48.3	**113**	**112**	71-128	0.9	25	
79-00-5	1,1,2-Trichloroethane	43.2	45.2	44.6	**105**	**103**	71-119	2	25	
75-34-3	1,1-Dichloroethane	43.2	43.6	44.5	**101**	**103**	66-120	2	25	
75-35-4	1,1-Dichloroethene	41.6	43.8	43.5	**105**	**105**	75-120	0	25	
120-82-1	1,2,4-Trichlorobenzene	88.0	101	103	**115**	**117**	50-137	2	25	
95-63-6	1,2,4-Trimethylbenzene	42.4	48.5	48.9	**114**	**115**	67-130	0.9	25	
106-93-4	1,2-Dibromoethane (EDB)	41.2	46.3	48.6	**112**	**118**	69-129	5	25	
95-50-1	1,2-Dichlorobenzene	42.4	46.3	48.5	**109**	**114**	57-138	4	25	
107-06-2	1,2-Dichloroethane	41.2	39.9	40.4	**97**	**98**	64-138	1	25	
78-87-5	1,2-Dichloropropane	42.8	42.1	43.1	**98**	**101**	68-121	3	25	
108-67-8	1,3,5-Trimethylbenzene	43.6	48.5	49.3	**111**	**113**	66-125	2	25	
106-99-0	1,3-Butadiene	42.4	43.1	44.0	**102**	**104**	62-132	2	25	
541-73-1	1,3-Dichlorobenzene	42.8	45.9	48.8	**107**	**114**	57-135	6	25	
106-46-7	1,4-Dichlorobenzene	42.8	45.9	48.4	**107**	**113**	56-129	5	25	
123-91-1	1,4-Dioxane	42.8	43.8	43.3	**102**	**101**	76-127	1	25	
540-84-1	2,2,4-Trimethylpentane	42.8	45.2	46.0	**106**	**107**	62-124	0.9	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	82.8	88.9	90.3	**107**	**109**	70-125	2	25	
591-78-6	2-Hexanone	85.2	92.5	95.3	**109**	**112**	70-136	3	25	
67-63-0	2-Propanol	83.6	92.8	93.7	**111**	**112**	59-132	0.9	25	
107-05-1	3-Chloropropene	42.8	41.6	42.0	**97**	**98**	50-118	1	25	
622-96-8	4-Ethyltoluene	43.6	48.2	49.2	**111**	**113**	67-128	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240321-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	85.2	91.5	91.1	**107**	**107**	67-137	0	25	
67-64-1	Acetone	212	215	216	**101**	**102**	61-120	1	25	
100-44-7	alpha-Chlorotoluene	86.0	99.2	105	**115**	**122**	58-151	6	25	
71-43-2	Benzene	41.2	38.1	38.6	**92**	**94**	73-128	2	25	
75-27-4	Bromodichloromethane	43.6	44.1	45.7	**101**	**105**	70-125	4	25	
75-25-2	Bromoform	43.6	50.4	51.6	**116**	**118**	63-132	2	25	
74-83-9	Bromomethane	42.0	43.6	43.5	**104**	**104**	72-120	0	25	
75-15-0	Carbon Disulfide	86.0	92.7	94.6	**108**	**110**	69-115	2	25	
56-23-5	Carbon Tetrachloride	42.0	46.7	48.5	**111**	**115**	71-134	4	25	
108-90-7	Chlorobenzene	43.6	47.0	47.8	**108**	**110**	63-124	2	25	
75-00-3	Chloroethane	42.4	40.3	41.7	**95**	**98**	67-123	3	25	
67-66-3	Chloroform	43.2	45.4	46.0	**105**	**106**	64-121	0.9	25	
74-87-3	Chloromethane	41.6	44.5	45.3	**107**	**109**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	43.2	43.2	44.2	**100**	**102**	64-120	2	25	
10061-01-5	cis-1,3-Dichloropropene	42.4	45.0	46.1	**106**	**109**	87-137	3	25	
98-82-8	Cumene	42.4	48.0	48.9	**113**	**115**	66-126	2	25	
110-82-7	Cyclohexane	85.6	93.6	95.7	**109**	**112**	71-118	3	25	
124-48-1	Dibromochloromethane	42.8	47.9	49.7	**112**	**116**	67-128	4	25	
64-17-5	Ethanol	223	198	202	**89**	**91**	52-120	2	25	
100-41-4	Ethyl Benzene	43.6	48.9	50.3	**112**	**115**	64-119	3	25	
75-69-4	Freon 11	42.0	42.3	43.6	**101**	**104**	65-122	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240321-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	42.0	42.8	42.9	**102**	**102**	65-121	0	25	
76-14-2	Freon 114	41.6	47.4	49.0	**114**	**118**	63-120	3	25	
75-71-8	Freon 12	40.8	44.5	44.8	**109**	**110**	66-122	0.9	25	
142-82-5	Heptane	42.8	44.8	45.5	**105**	**106**	72-121	0.9	25	
87-68-3	Hexachlorobutadiene	42.8	44.4	44.7	**104**	**104**	50-133	0	25	
110-54-3	Hexane	42.4	44.5	45.5	**105**	**107**	60-125	2	25	
179601-23-1	m,p-Xylene	86.4	95.5	97.2	**111**	**113**	64-121	2	25	
1634-04-4	Methyl tert-butyl ether	43.2	49.2	50.4	**114**	**117**	65-124	3	25	
75-09-2	Methylene Chloride	41.6	38.1	38.4	**92**	**92**	71-123	0	25	
95-47-6	o-Xylene	43.2	48.1	49.1	**111**	**114**	66-122	3	25	
103-65-1	Propylbenzene	42.8	46.9	47.2	**110**	**110**	67-126	0	25	
100-42-5	Styrene	42.8	50.0	51.2	**117**	**120**	71-125	3	25	
127-18-4	Tetrachloroethene	42.8	46.3	47.4	**108**	**111**	55-132	3	25	
109-99-9	Tetrahydrofuran	80.8	80.4	81.5	**100**	**101**	67-117	1	25	
108-88-3	Toluene	42.8	47.3	48.7	**111**	**114**	64-121	3	25	
156-60-5	trans-1,2-Dichloroethene	43.6	43.2	43.9	**99**	**101**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	39.2	42.9	44.1	**109**	**113**	73-127	4	25	
79-01-6	Trichloroethene	42.8	41.4	41.6	**97**	**97**	68-124	0	25	
75-01-4	Vinyl Chloride	42.4	45.4	46.4	**107**	**109**	57-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240322-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	198	200	**94**	**95**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	201	203	**93**	**94**	71-128	1	25	
79-00-5	1,1,2-Trichloroethane	216	208	212	**96**	**98**	71-119	2	25	
75-34-3	1,1-Dichloroethane	216	203	206	**94**	**95**	66-120	1	25	
75-35-4	1,1-Dichloroethene	208	204	208	**98**	**100**	75-120	2	25	
120-82-1	1,2,4-Trichlorobenzene	440	344	350	**78**	**80**	50-137	3	25	
95-63-6	1,2,4-Trimethylbenzene	212	200	202	**94**	**95**	67-130	1	25	
106-93-4	1,2-Dibromoethane (EDB)	206	208	210	**101**	**102**	69-129	1	25	
95-50-1	1,2-Dichlorobenzene	212	187	188	**88**	**89**	57-138	1	25	
107-06-2	1,2-Dichloroethane	206	188	190	**91**	**92**	64-138	1	25	
78-87-5	1,2-Dichloropropane	214	202	206	**94**	**96**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	206	208	**94**	**95**	66-125	1	25	
106-99-0	1,3-Butadiene	212	206	211	**97**	**100**	62-132	3	25	
541-73-1	1,3-Dichlorobenzene	214	188	190	**88**	**89**	57-135	1	25	
106-46-7	1,4-Dichlorobenzene	214	187	190	**87**	**89**	56-129	2	25	
123-91-1	1,4-Dioxane	214	215	220	**100**	**103**	76-127	3	25	
540-84-1	2,2,4-Trimethylpentane	214	207	210	**97**	**98**	62-124	1	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	399	403	**96**	**97**	70-125	1	25	
591-78-6	2-Hexanone	426	382	386	**90**	**91**	70-136	1	25	
67-63-0	2-Propanol	418	375	380	**90**	**91**	59-132	1	25	
107-05-1	3-Chloropropene	214	205	206	**96**	**96**	50-118	0	25	
622-96-8	4-Ethyltoluene	218	206	208	**94**	**95**	67-128	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240322-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	402	410	**94**	**96**	67-137	2	25	
67-64-1	Acetone	1,060	962	974	**91**	**92**	61-120	1	25	
100-44-7	alpha-Chlorotoluene	430	331	335	**77**	**78**	58-151	1	25	
71-43-2	Benzene	206	189	192	**92**	**93**	73-128	1	25	
75-27-4	Bromodichloromethane	218	206	210	**94**	**96**	70-125	2	25	
75-25-2	Bromoform	218	225	227	**103**	**104**	63-132	1	25	
74-83-9	Bromomethane	210	199	199	**95**	**95**	72-120	0	25	
75-15-0	Carbon Disulfide	430	416	419	**97**	**97**	69-115	0	25	
56-23-5	Carbon Tetrachloride	210	201	203	**96**	**97**	71-134	1	25	
108-90-7	Chlorobenzene	218	203	205	**93**	**94**	63-124	1	25	
75-00-3	Chloroethane	212	198	198	**93**	**93**	67-123	0	25	
67-66-3	Chloroform	216	205	208	**95**	**96**	64-121	1	25	
74-87-3	Chloromethane	208	193	196	**93**	**94**	56-131	1	25	
156-59-2	cis-1,2-Dichloroethene	216	200	203	**93**	**94**	64-120	1	25	
10061-01-5	cis-1,3-Dichloropropene	212	214	218	**101**	**103**	87-137	2	25	
98-82-8	Cumene	212	204	205	**96**	**97**	66-126	1	25	
110-82-7	Cyclohexane	428	423	430	**99**	**100**	71-118	1	25	
124-48-1	Dibromochloromethane	214	206	208	**96**	**97**	67-128	1	25	
64-17-5	Ethanol	1,110	908	923	**82**	**83**	52-120	1	25	
100-41-4	Ethyl Benzene	218	213	215	**98**	**99**	64-119	1	25	
75-69-4	Freon 11	210	188	189	**90**	**90**	65-122	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240322-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	199	202	**95**	**96**	65-121	1	25	
76-14-2	Freon 114	208	205	205	**99**	**99**	63-120	0	25	
75-71-8	Freon 12	204	187	188	**92**	**92**	66-122	0	25	
142-82-5	Heptane	214	212	217	**99**	**101**	72-121	2	25	
87-68-3	Hexachlorobutadiene	214	141	142	**66**	**66**	50-133	0	25	
110-54-3	Hexane	212	208	211	**98**	**100**	60-125	2	25	
179601-23-1	m,p-Xylene	432	421	424	**97**	**98**	64-121	1	25	
1634-04-4	Methyl tert-butyl ether	216	239	241	**111**	**112**	65-124	0.9	25	
75-09-2	Methylene Chloride	208	174	176	**84**	**85**	71-123	1	25	
95-47-6	o-Xylene	216	210	212	**97**	**98**	66-122	1	25	
103-65-1	Propylbenzene	214	203	204	**95**	**95**	67-126	0	25	
100-42-5	Styrene	214	219	222	**102**	**104**	71-125	2	25	
127-18-4	Tetrachloroethene	214	202	205	**94**	**96**	55-132	2	25	
109-99-9	Tetrahydrofuran	404	395	403	**98**	**100**	67-117	2	25	
108-88-3	Toluene	214	206	208	**96**	**97**	64-121	1	25	
156-60-5	trans-1,2-Dichloroethene	218	205	209	**94**	**96**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	205	209	**105**	**107**	73-127	2	25	
79-01-6	Trichloroethene	214	187	190	**87**	**89**	68-124	2	25	
75-01-4	Vinyl Chloride	212	201	201	**95**	**95**	57-129	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240325-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	213	211	**101**	**100**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	233	234	**108**	**108**	71-128	0	25	
79-00-5	1,1,2-Trichloroethane	216	224	224	**104**	**104**	71-119	0	25	
75-34-3	1,1-Dichloroethane	216	222	219	**103**	**101**	66-120	2	25	
75-35-4	1,1-Dichloroethene	208	220	218	**106**	**105**	75-120	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	440	415	412	**94**	**94**	50-137	0	25	
95-63-6	1,2,4-Trimethylbenzene	212	235	235	**111**	**111**	67-130	0	25	
106-93-4	1,2-Dibromoethane (EDB)	206	240	238	**117**	**116**	69-129	0.9	25	
95-50-1	1,2-Dichlorobenzene	212	219	217	**103**	**102**	57-138	1	25	
107-06-2	1,2-Dichloroethane	206	205	201	**100**	**98**	64-138	2	25	
78-87-5	1,2-Dichloropropane	214	217	219	**101**	**102**	68-121	1	25	
108-67-8	1,3,5-Trimethylbenzene	218	240	240	**110**	**110**	66-125	0	25	
106-99-0	1,3-Butadiene	212	217	213	**102**	**100**	62-132	2	25	
541-73-1	1,3-Dichlorobenzene	214	220	218	**103**	**102**	57-135	1	25	
106-46-7	1,4-Dichlorobenzene	214	218	217	**102**	**101**	56-129	1	25	
123-91-1	1,4-Dioxane	214	231	230	**108**	**107**	76-127	0.9	25	
540-84-1	2,2,4-Trimethylpentane	214	216	216	**101**	**101**	62-124	0	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	431	428	**104**	**103**	70-125	1	25	
591-78-6	2-Hexanone	426	402	403	**94**	**95**	70-136	1	25	
67-63-0	2-Propanol	418	378	376	**90**	**90**	59-132	0	25	
107-05-1	3-Chloropropene	214	208	204	**97**	**95**	50-118	2	25	
622-96-8	4-Ethyltoluene	218	242	241	**111**	**111**	67-128	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240325-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	402	401	**94**	**94**	67-137	0	25	
67-64-1	Acetone	1,060	989	980	**93**	**92**	61-120	1	25	
100-44-7	alpha-Chlorotoluene	430	357	357	**83**	**83**	58-151	0	25	
71-43-2	Benzene	206	204	203	**99**	**99**	73-128	0	25	
75-27-4	Bromodichloromethane	218	223	221	**102**	**101**	70-125	1	25	
75-25-2	Bromoform	218	266	264	**122**	**121**	63-132	0.8	25	
74-83-9	Bromomethane	210	217	211	**103**	**100**	72-120	3	25	
75-15-0	Carbon Disulfide	430	453	445	**105**	**103**	69-115	2	25	
56-23-5	Carbon Tetrachloride	210	221	219	**105**	**104**	71-134	1	25	
108-90-7	Chlorobenzene	218	244	243	**112**	**111**	63-124	0.9	25	
75-00-3	Chloroethane	212	212	209	**100**	**99**	67-123	1	25	
67-66-3	Chloroform	216	223	219	**103**	**101**	64-121	2	25	
74-87-3	Chloromethane	208	202	197	**97**	**95**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	216	212	208	**98**	**96**	64-120	2	25	
10061-01-5	cis-1,3-Dichloropropene	212	236	236	**111**	**111**	87-137	0	25	
98-82-8	Cumene	212	238	238	**112**	**112**	66-126	0	25	
110-82-7	Cyclohexane	428	472	469	**110**	**110**	71-118	0	25	
124-48-1	Dibromochloromethane	214	245	241	**114**	**113**	67-128	0.9	25	
64-17-5	Ethanol	1,110	913	909	**82**	**82**	52-120	0	25	
100-41-4	Ethyl Benzene	218	249	248	**114**	**114**	64-119	0	25	
75-69-4	Freon 11	210	207	202	**99**	**96**	65-122	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240325-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	225	221	**107**	**105**	65-121	2	25	
76-14-2	Freon 114	208	223	215	**107**	**103**	63-120	4	25	
75-71-8	Freon 12	204	206	199	**101**	**98**	66-122	3	25	
142-82-5	Heptane	214	236	237	**110**	**111**	72-121	0.9	25	
87-68-3	Hexachlorobutadiene	214	169	165	**79**	**77**	50-133	3	25	
110-54-3	Hexane	212	223	219	**105**	**103**	60-125	2	25	
179601-23-1	m,p-Xylene	432	492	489	**114**	**113**	64-121	0.9	25	
1634-04-4	Methyl tert-butyl ether	216	262	254	**121**	**118**	65-124	3	25	
75-09-2	Methylene Chloride	208	188	185	**90**	**89**	71-123	1	25	
95-47-6	o-Xylene	216	244	244	**113**	**113**	66-122	0	25	
103-65-1	Propylbenzene	214	238	236	**111**	**110**	67-126	0.9	25	
100-42-5	Styrene	214	254	254	**119**	**119**	71-125	0	25	
127-18-4	Tetrachloroethene	214	243	240	**114**	**112**	55-132	2	25	
109-99-9	Tetrahydrofuran	404	430	424	**106**	**105**	67-117	0.9	25	
108-88-3	Toluene	214	240	240	**112**	**112**	64-121	0	25	
156-60-5	trans-1,2-Dichloroethene	218	218	214	**100**	**98**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	224	224	**114**	**114**	73-127	0	25	
79-01-6	Trichloroethene	214	209	209	**98**	**98**	68-124	0	25	
75-01-4	Vinyl Chloride	212	217	211	**102**	**100**	57-129	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261440** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-024DUP

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00707

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	3.10	0.671	3.27	0.709	3.185	**5**	25	**J**
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
2,2,4-Trimethylpentane	ND	ND	ND	ND	-	-	25	
2-Butanone (Methyl Ethyl Ketone)	4.67	1.58	4.51	1.53	4.59	**3**	25	**J**
2-Hexanone	ND	ND	ND	ND	-	-	25	
2-Propanol	16.7	6.79	16.4	6.68	16.55	**2**	25	**J**
3-Chloropropene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261440** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-024DUP

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00707

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
Acetone	33.3	14.0	33.5	14.1	33.4	**0.6**	25	**J**
alpha-Chlorotoluene	ND	ND	ND	ND	-	-	25	
Benzene	1.88	0.589	2.02	0.631	1.95	**7**	25	**J**
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Chloroform	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
Ethanol	29.1	15.4	ND	ND	-	-	25	
Ethyl Benzene	ND	ND	ND	ND	-	-	25	
Freon 11	1,280	227	1,300	231	1290	**2**	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402261440** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-024DUP

Test Code: EPA TO-15 Date Collected: 2/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes:
Container ID: 1SS00707

Initial Pressure (psig): -1.28 Final Pressure (psig): 6.06

Container Dilution Factor: 1.55

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Freon 113	206	26.9	208	27.1	207	**1**	25	
Freon 114	ND	ND	ND	ND	-	-	25	
Freon 12	2.65	0.537	2.52	0.510	2.585	**5**	25	**J**
Freon 123	ND	ND	ND	ND	-	-	25	**X**
Freon 21	ND	ND	ND	ND	-	-	25	**X**
Heptane	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
Hexane	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Methyl tert-butyl ether	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
Propylbenzene	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	1.67	0.246	1.74	0.257	1.705	**4**	25	**J**
Tetrahydrofuran	ND	ND	ND	ND	-	-	25	
Toluene	57.1	15.2	57.8	15.3	57.45	**1**	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
Trichloroethene	ND	ND	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280827** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-048DUP

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00977

Initial Pressure (psig): -1.69 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): 2.03 Final Pressure 2 (psig): 4.55
Container Dilution Factor: 1.80

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
2,2,4-Trimethylpentane	ND	ND	ND	ND	-	-	25	
2-Butanone (Methyl Ethyl Ketone)	10.7	3.63	10.6	3.61	10.65	**0.9**	25	**J**
2-Hexanone	3.29	0.802	3.04	0.742	3.165	**8**	25	**J**
2-Propanol	ND	ND	ND	ND	-	-	25	
3-Chloropropene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280827** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-048DUP

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00977

Initial Pressure (psig): -1.69 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): 2.03 Final Pressure 2 (psig): 4.55
Container Dilution Factor: 1.80

Compound	Sample Result µg/m³	Sample Result ppbV	**Duplicate Sample Result µg/m³**	**Duplicate Sample Result ppbV**	Average µg/m³	**% RPD**	RPD Limit	**Data Qualifier**
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
Acetone	42.6	17.9	41.2	17.4	41.9	**3**	25	**J**
alpha-Chlorotoluene	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Chloroform	13.5	2.77	13.2	2.71	13.35	**2**	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Ethyl Benzene	ND	ND	ND	ND	-	-	25	
Freon 11	2,240	398	2,240	399	2240	**0**	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2402280827** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400922-048DUP

Test Code: EPA TO-15 Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 3/7/24
Analyst: Simon Cao Date Analyzed: 3/25 - 3/26/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.080 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00977

Initial Pressure (psig): -1.69 Final Pressure (psig): 5.61
Initial Pressure 2 (psig): 2.03 Final Pressure 2 (psig): 4.55
Container Dilution Factor: 1.80

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Freon 113	2,320	303	2,320	303	2320	**0**	25	
Freon 114	ND	ND	ND	ND	-	-	25	
Freon 12	2.75	0.555	2.68	0.542	2.715	**3**	25	**J**
Freon 123	ND	ND	ND	ND	-	-	25	**X**
Freon 21	ND	ND	ND	ND	-	-	25	**X**
Heptane	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
Hexane	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Methyl tert-butyl ether	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
Propylbenzene	ND	ND	ND	ND	-	-	25	
Styrene	ND	ND	ND	ND	-	-	25	
Tetrachloroethene	ND	ND	ND	ND	-	-	25	
Tetrahydrofuran	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
Trichloroethene	75.7	14.1	73.8	13.7	74.75	**3**	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
X = See case narrative.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **Batch QC** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400875-001

Test Code: EPA TO-15 Modified Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/4/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Bottle-Vac™ Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1BV32443

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.66

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	43	5.7	ND	7.9	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	ND	43	6.4	ND	6.3	0.93	
79-00-5	1,1,2-Trichloroethane	ND	43	4.7	ND	7.9	0.86	
75-34-3	1,1-Dichloroethane	ND	43	6.7	ND	11	1.7	
75-35-4	1,1-Dichloroethene	**85**	43	6.4	**21**	11	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	43	11	ND	5.8	1.5	
95-63-6	1,2,4-Trimethylbenzene	ND	43	6.4	ND	8.8	1.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	43	5.4	ND	5.6	0.70	
95-50-1	1,2-Dichlorobenzene	ND	43	6.8	ND	7.2	1.1	
107-06-2	1,2-Dichloroethane	ND	43	5.1	ND	11	1.3	
78-87-5	1,2-Dichloropropane	ND	43	5.7	ND	9.4	1.2	
108-67-8	1,3,5-Trimethylbenzene	ND	43	6.7	ND	8.8	1.4	
106-99-0	1,3-Butadiene	ND	43	7.6	ND	20	3.4	
541-73-1	1,3-Dichlorobenzene	ND	43	6.9	ND	7.2	1.2	
106-46-7	1,4-Dichlorobenzene	ND	43	7.1	ND	7.2	1.2	
123-91-1	1,4-Dioxane	ND	43	5.4	ND	12	1.5	
540-84-1	2,2,4-Trimethylpentane	ND	43	6.9	ND	9.3	1.5	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	430	9.5	ND	150	3.2	
591-78-6	2-Hexanone	ND	43	5.7	ND	11	1.4	
67-63-0	2-Propanol	ND	87	19	ND	35	7.7	
107-05-1	3-Chloropropene	ND	43	6.2	ND	14	2.0	
622-96-8	4-Ethyltoluene	ND	43	7.4	ND	8.8	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Batch QC** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400875-001

Test Code: EPA TO-15 Modified Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/4/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Bottle-Vac™ Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1BV32443

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.66

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	43	6.3	ND	11	1.5	
67-64-1	Acetone	ND	430	100	ND	180	44	
100-44-7	alpha-Chlorotoluene	ND	43	10	ND	8.4	2.0	
71-43-2	Benzene	ND	43	6.7	ND	14	2.1	
75-27-4	Bromodichloromethane	ND	43	6.7	ND	6.5	0.99	
75-25-2	Bromoform	ND	43	9.5	ND	4.2	0.92	
74-83-9	Bromomethane	ND	43	6.4	ND	11	1.6	
75-15-0	Carbon Disulfide	ND	430	14	ND	140	4.4	
56-23-5	Carbon Tetrachloride	ND	43	6.4	ND	6.9	1.0	
108-90-7	Chlorobenzene	ND	43	6.1	ND	9.4	1.3	
75-00-3	Chloroethane	ND	43	5.7	ND	16	2.2	
67-66-3	Chloroform	ND	43	6.1	ND	8.9	1.3	
74-87-3	Chloromethane	ND	43	7.4	ND	21	3.6	
156-59-2	cis-1,2-Dichloroethene	**68**	43	6.5	**17**	11	1.6	
10061-01-5	cis-1,3-Dichloropropene	ND	43	7.2	ND	9.5	1.6	
98-82-8	Cumene	ND	43	6.7	ND	8.8	1.4	
110-82-7	Cyclohexane	ND	87	13	ND	25	3.8	
124-48-1	Dibromochloromethane	ND	43	6.1	ND	5.1	0.71	
64-17-5	Ethanol	ND	430	32	ND	230	17	
100-41-4	Ethyl Benzene	ND	43	6.5	ND	10	1.5	
75-69-4	Freon 11	ND	43	7.0	ND	7.7	1.2	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Sample ID: **Batch QC** ALS Sample ID: P2400875-001
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Modified Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/4/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Bottle-Vac™ Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1BV32443

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.66

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	43	6.6	ND	5.6	0.86	
76-14-2	Freon 114	ND	43	7.3	ND	6.2	1.0	
75-71-8	Freon 12	ND	43	7.5	ND	8.8	1.5	
142-82-5	Heptane	ND	43	7.4	ND	11	1.8	
87-68-3	Hexachlorobutadiene	ND	43	9.5	ND	4.1	0.89	
110-54-3	Hexane	ND	43	9.5	ND	12	2.7	
179601-23-1	m,p-Xylene	ND	87	12	ND	20	2.8	
1634-04-4	Methyl tert-butyl ether	ND	43	5.4	ND	12	1.5	
75-09-2	Methylene Chloride	ND	43	13	ND	12	3.7	
95-47-6	o-Xylene	ND	43	6.7	ND	10	1.5	
103-65-1	Propylbenzene	ND	43	6.7	ND	8.8	1.4	
100-42-5	Styrene	**310**	43	7.4	**74**	10	1.7	
127-18-4	Tetrachloroethene	**55**	43	6.0	**8.2**	6.4	0.88	
109-99-9	Tetrahydrofuran	ND	43	5.8	ND	15	2.0	
108-88-3	Toluene	ND	43	5.6	ND	11	1.5	
156-60-5	trans-1,2-Dichloroethene	ND	43	6.4	ND	11	1.6	
10061-02-6	trans-1,3-Dichloropropene	ND	43	9.5	ND	9.5	2.1	
79-01-6	Trichloroethene	**1,400**	43	6.2	**260**	8.1	1.2	
75-01-4	Vinyl Chloride	ND	43	4.9	ND	17	1.9	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **Batch QC** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400875-001DUP

Test Code: EPA TO-15 Modified Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/4/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Bottle-Vac™ Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1BV32443

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.66

Container Dilution Factor: 1.73

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
1,1,1-Trichloroethane	ND	ND	ND	ND	-	-	25	
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,1-Dichloroethene	85.1	21.5	74.2	18.7	79.65	**14**	25	
1,2,4-Trichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2,4-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	ND	ND	-	-	25	
1,2-Dichloropropane	ND	ND	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	ND	ND	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	ND	ND	-	-	25	
1,4-Dioxane	ND	ND	ND	ND	-	-	25	
2,2,4-Trimethylpentane	ND	ND	ND	ND	-	-	25	
2-Butanone (Methyl Ethyl Ketone)	ND	ND	ND	ND	-	-	25	
2-Hexanone	ND	ND	ND	ND	-	-	25	
2-Propanol	ND	ND	ND	ND	-	-	25	
3-Chloropropene	ND	ND	ND	ND	-	-	25	
4-Ethyltoluene	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **Batch QC** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400875-001DUP

Test Code: EPA TO-15 Modified Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/4/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Bottle-Vac™ Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1BV32443

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.66

Container Dilution Factor: 1.73

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
4-Methyl-2-pentanone	ND	ND	ND	ND	-	-	25	
Acetone	ND	ND	ND	ND	-	-	25	
alpha-Chlorotoluene	ND	ND	ND	ND	-	-	25	
Benzene	ND	ND	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	ND	ND	-	-	25	
Bromoform	ND	ND	ND	ND	-	-	25	
Bromomethane	ND	ND	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	ND	ND	-	-	25	
Carbon Tetrachloride	ND	ND	ND	ND	-	-	25	
Chlorobenzene	ND	ND	ND	ND	-	-	25	
Chloroethane	ND	ND	ND	ND	-	-	25	
Chloroform	ND	ND	ND	ND	-	-	25	
Chloromethane	ND	ND	ND	ND	-	-	25	
cis-1,2-Dichloroethene	67.6	17.0	62.0	15.6	64.8	**9**	25	
cis-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
Cumene	ND	ND	ND	ND	-	-	25	
Cyclohexane	ND	ND	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	ND	ND	-	-	25	
Ethanol	ND	ND	ND	ND	-	-	25	
Ethyl Benzene	ND	ND	ND	ND	-	-	25	
Freon 11	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **NASA White Sands Test Facility**
Client Sample ID: **Batch QC** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2400875-001DUP

Test Code: EPA TO-15 Modified Date Collected: 2/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 3/4/24
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Bottle-Vac™ Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1BV32443

Initial Pressure (psig): -2.90 Final Pressure (psig): 5.66

Container Dilution Factor: 1.73

Compound	Sample Result µg/m³	Sample Result ppbV	Duplicate Sample Result µg/m³	Duplicate Sample Result ppbV	Average µg/m³	% RPD	RPD Limit	Data Qualifier
Freon 113	ND	ND	ND	ND	-	-	25	
Freon 114	ND	ND	ND	ND	-	-	25	
Freon 12	ND	ND	ND	ND	-	-	25	
Freon 123	ND	ND	ND	ND	-	-	25	
Freon 21	ND	ND	ND	ND	-	-	25	
Heptane	ND	ND	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	ND	ND	-	-	25	
Hexane	ND	ND	ND	ND	-	-	25	
m,p-Xylenes	ND	ND	ND	ND	-	-	25	
Methyl tert-butyl ether	ND	ND	ND	ND	-	-	25	
Methylene Chloride	ND	ND	ND	ND	-	-	25	
o-Xylene	ND	ND	ND	ND	-	-	25	
Propylbenzene	ND	ND	ND	ND	-	-	25	
Styrene	314	73.9	309	72.7	311.5	**2**	25	
Tetrachloroethene	55.4	8.17	49.8	7.35	52.6	**11**	25	
Tetrahydrofuran	ND	ND	ND	ND	-	-	25	
Toluene	ND	ND	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	ND	ND	-	-	25	
trans-1,3-Dichloropropene	ND	ND	ND	ND	-	-	25	
Trichloroethene	1,370	256	1,310	244	1340	**4**	25	
Vinyl Chloride	ND	ND	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03192405.D
Analyst: Simon Cao Date Analyzed: 3/19/24
Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 11:41
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240319-LCS	03192406.D	12:14
Duplicate Lab Control Sample	P240319-DLCS	03192407.D	12:46
2402261024 (Dilution)	P2400922-011	03192408.D	13:37
2402261024	P2400922-011	03192409.D	14:09
2402261406 (Dilution)	P2400922-020	03192410.D	14:47
2402261406	P2400922-020	03192411.D	15:27
2402261412	P2400922-021	03192412.D	16:03
2402261413	P2400922-022	03192413.D	16:35
2402261449	P2400922-025	03192414.D	17:09
2402260905	P2400922-001	03192415.D	17:41
2402260906	P2400922-002	03192416.D	18:14
2402260911	P2400922-003	03192417.D	18:46
2402260916	P2400922-004	03192418.D	19:18
2402260924	P2400922-005	03192419.D	19:50
2402260925	P2400922-006	03192420.D	20:23
2402261005	P2400922-007	03192421.D	20:55
2402261009	P2400922-008	03192422.D	21:27
2402261014	P2400922-009	03192423.D	21:59
2402261015	P2400922-010	03192424.D	22:32
2402261051 (Dilution)	P2400922-013	03192427.D	00:09

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 03192418.D
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 08:55
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240319-LCS	03192420.D	10:02
Batch QC	P2400875-001	03192422.D	11:09
Batch QC (Lab Duplicate)	P2400875-001DUP	03192423.D	11:43
2402281111	P2400922-067	03192424.D	12:38
2402281110	P2400922-066	03192425.D	13:11
2402281111 (Dilution)	P2400922-067	03192426.D	13:45
2402281029	P2400922-062	03192428.D	14:54
2402281028	P2400922-061	03192429.D	15:28
2402281103	P2400922-065	03192430.D	16:01
2402281014	P2400922-059	03192432.D	17:10
2402280907	P2400922-051	03192433.D	17:44
2402280940	P2400922-052	03192434.D	18:17
2402280941	P2400922-053	03192435.D	18:51
2402280948	P2400922-054	03192436.D	19:24
2402280949	P2400922-055	03192437.D	19:58
2402280956	P2400922-056	03192438.D	20:32
2402281007	P2400922-057	03192439.D	21:05
2402281013	P2400922-058	03192440.D	21:39
2402281021	P2400922-060	03192441.D	22:13

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03202405.D
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:22
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240320-LCS	03202406.D	03:54
Duplicate Lab Control Sample	P240320-DLCS	03202407.D	04:26
2402261050	P2400922-012	03202408.D	08:59
2402261051	P2400922-013	03202409.D	09:31
2402261057	P2400922-014	03202410.D	10:03
2402260916 (Dilution)	P2400922-004	03202411.D	10:35
2402261104 (Dilution)	P2400922-015	03202416.D	13:44
2402261344	P2400922-017	03202418.D	14:49
2402261356	P2400922-018	03202419.D	15:21
2402261401	P2400922-019	03202420.D	15:54
2402261435	P2400922-023	03202421.D	16:26
2402261104	P2400922-015	03202422.D	17:16
2402261340	P2400922-016	03202423.D	17:48
2402261435 (Dilution)	P2400922-023	03202424.D	18:20
2402261440	P2400922-024	03202425.D	18:52
2402261440 (Lab Duplicate)	P2400922-024DUP	03202426.D	19:24
2402261457	P2400922-027	03202428.D	20:28
2402270851	P2400922-029	03202430.D	21:33
2402270856	P2400922-030	03202431.D	22:05
2402270903	P2400922-031	03202432.D	22:38
2402270940	P2400922-032	03202433.D	23:10
2402270941	P2400922-033	03202434.D	23:42
2402270946	P2400922-034	03202435.D	00:15

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 03202404.D
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 04:56
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240320-LCS	03202405.D	05:30
Duplicate Lab Control Sample	P240320-DLCS	03202406.D	06:03
2402281029 (Dilution)	P2400922-062	03202408.D	09:05
2402281055	P2400922-063	03202409.D	09:38
2402281056	P2400922-064	03202410.D	10:11

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 03212411.D
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:47
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240321-LCS	03212412.D	10:20
Duplicate Lab Control Sample	P240321-DLCS	03212413.D	10:54
2402281110 (Dilution)	P2400922-066	03212416.D	12:34
2402281103 (Dilution)	P2400922-065	03212417.D	13:08

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03222405.D
Analyst: Simon Cao Date Analyzed: 3/22/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 01:43
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240322-LCS	03222406.D	02:15
Duplicate Lab Control Sample	P240322-DLCS	03222407.D	02:47
2402270954	P2400922-035	03222420.D	16:29
2402271002	P2400922-036	03222421.D	17:02
2402271020	P2400922-037	03222422.D	17:34
2402271025	P2400922-038	03222423.D	18:06
2402261450	P2400922-026	03222424.D	18:38
2402270850	P2400922-028	03222425.D	19:10
2402270856 (Dilution)	P2400922-030	03222426.D	19:42
2402270903 (Dilution)	P2400922-031	03222427.D	20:15
2402270946 (Dilution)	P2400922-034	03222428.D	20:47

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Method Blank Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03252408.D
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 15:11
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P240325-LCS	03252409.D	15:43
Duplicate Lab Control Sample	P240325-DLCS	03252410.D	16:16
2402271032	P2400922-039	03252411.D	17:09
2402270954 (Dilution)	P2400922-035	03252412.D	17:41
2402271025 (Dilution)	P2400922-038	03252413.D	18:13
2402271033	P2400922-040	03252414.D	18:45
2402271050	P2400922-041	03252415.D	19:17
2402271051	P2400922-042	03252416.D	19:49
2402271058	P2400922-043	03252417.D	20:21
2402280815	P2400922-045	03252418.D	20:54
2402280816	P2400922-046	03252419.D	21:26
2402280821	P2400922-047	03252420.D	21:58
2402280827	P2400922-048	03252421.D	22:30
2402280827 (Lab Duplicate)	P2400922-048DUP	03252422.D	23:02
2402280855	P2400922-049	03252423.D	23:34
2402280901	P2400922-050	03252424.D	00:06
2402271105	P2400922-044	03252425.D	08:42
2402271051 (Dilution)	P2400922-042	03252426.D	09:15
2402271058 (Dilution)	P2400922-043	03252427.D	09:47
2402280827 (Dilution)	P2400922-048	03252428.D	10:19
2402280827 (Lab Duplicate - Dilution)	P2400922-048DUP	03252429.D	10:51
2402280901 (Dilution)	P2400922-050	03252431.D	12:05

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 03192415.D
Analyst: Charles Im Date Analyzed: 3/19/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 07:14
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	240026	11.39	1074690	13.51	235804	17.79
	Upper Limit	336036	11.72	1504566	13.84	330126	18.12
	Lower Limit	144016	11.06	644814	13.18	141482	17.46
	Client Sample ID						
01	Method Blank	167842	11.38	804030	13.51	198815	17.79
02	Lab Control Sample	233406	11.39	1042185	13.51	234921	17.79
03	Batch QC	216257	11.38	987785	13.51	225386	17.78
04	Batch QC (Lab Duplicate)	214560	11.38	992075	13.51	226988	17.78
05	2402281111	216952	11.37	994161	13.50	230224	17.78
06	2402281110	210615	11.38	979490	13.50	222859	17.78
07	2402281111 (Dilution)	215977	11.38	987217	13.51	219023	17.78
08	2402281029	217002	11.38	984503	13.51	218259	17.78
09	2402281028	217196	11.38	986296	13.51	224336	17.78
10	2402281103	209212	11.38	969568	13.50	214020	17.78
11	2402281014	212119	11.38	967868	13.50	212937	17.78
12	2402280907	210262	11.38	957511	13.51	207136	17.78
13	2402280940	204261	11.38	965696	13.51	209877	17.78
14	2402280941	209692	11.38	942323	13.51	203148	17.78
15	2402280948	209187	11.38	962947	13.50	212569	17.78
16	2402280949	215364	11.38	964917	13.51	215480	17.78
17	2402280956	217325	11.40	985026	13.51	214585	17.78
18	2402281007	222827	11.38	998716	13.50	222933	17.78
19	2402281013	220649	11.37	997561	13.51	222510	17.78
20	2402281021	216215	11.38	994169	13.51	223446	17.78

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03192402.D

Analyst: Simon Cao Date Analyzed: 3/19/24

Sampling Media: 1.0 L Summa Canister(s) Time Analyzed: 10:05

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	173908	7.27	747038	9.33	161218	14.85
	Upper Limit	243471	7.60	1045853	9.66	225705	15.18
	Lower Limit	104345	6.94	448223	9.00	96731	14.52
	Client Sample ID						
01	Method Blank	162340	7.22	705758	9.30	152209	14.84
02	Lab Control Sample	172893	7.27	736809	9.33	162150	14.85
03	Duplicate Lab Control Sample	175281	7.27	749893	9.33	165120	14.85
04	2402261024 (Dilution)	185645	7.22	799475	9.30	173361	14.84
05	2402261024	183521	7.22	782946	9.30	169069	14.84
06	2402261406 (Dilution)	177085	7.22	759252	9.30	164839	14.84
07	2402261406	175666	7.22	750754	9.30	164255	14.84
08	2402261412	168847	7.23	718071	9.30	156822	14.84
09	2402261413	166599	7.23	713830	9.30	155619	14.84
10	2402261449	164035	7.23	706867	9.30	153841	14.84
11	2402260905	157120	7.23	682232	9.30	152962	14.84
12	2402260906	160335	7.22	689915	9.30	150710	14.84
13	2402260911	157507	7.22	673376	9.30	148841	14.84
14	2402260916	154561	7.22	660956	9.30	146480	14.84
15	2402260924	151186	7.23	652153	9.30	146977	14.84
16	2402260925	148643	7.23	643161	9.30	144472	14.84
17	2402261005	149353	7.24	642862	9.31	145344	14.84
18	2402261009	148258	7.22	640752	9.30	145688	14.84
19	2402261014	149417	7.22	633744	9.30	141419	14.84
20	2402261015	146492	7.22	628121	9.30	141242	14.84
21	2402261051 (Dilution)	141378	7.23	599298	9.30	133685	14.84

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03202402.D
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 01:45
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	148062	7.27	629965	9.33	142513	14.85
	Upper Limit	207287	7.60	881951	9.66	199518	15.18
	Lower Limit	88837	6.94	377979	9.00	85508	14.52
	Client Sample ID						
01	Method Blank	141069	7.22	611929	9.30	133833	14.84
02	Lab Control Sample	147080	7.28	627085	9.33	139748	14.85
03	Duplicate Lab Control Sample	150255	7.27	644139	9.33	140941	14.85
04	2402261050	173387	7.22	744910	9.29	158346	14.84
05	2402261051	153056	7.24	657325	9.31	145668	14.84
06	2402261057	153832	7.22	665353	9.30	145953	14.84
07	2402260916 (Dilution)	152126	7.22	651183	9.30	144215	14.84
08	2402261104 (Dilution)	169988	7.21	723819	9.29	160267	14.84
09	2402261344	145966	7.23	625586	9.30	141794	14.84
10	2402261356	142396	7.22	614359	9.30	140675	14.84
11	2402261401	144233	7.23	623405	9.30	142636	14.84
12	2402261435	146991	7.24	626257	9.32	145700	14.85
13	2402261104	167468	7.22	717213	9.30	160480	14.84
14	2402261340	145867	7.23	625088	9.30	142664	14.84
15	2402261435 (Dilution)	148739	7.23	630343	9.30	143012	14.84
16	2402261440	148795	7.23	639315	9.30	143872	14.84
17	2402261440 (Lab Duplicate)	145826	7.23	621655	9.30	140896	14.84
18	2402261457	140526	7.22	597045	9.30	134448	14.84
19	2402270851	136079	7.22	585400	9.30	134310	14.84
20	2402270856	136432	7.23	587433	9.30	137763	14.84

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03202402.D
Analyst: Simon Cao Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 01:45
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	148062	7.27	629965	9.33	142513	14.85
	Upper Limit	207287	7.60	881951	9.66	199518	15.18
	Lower Limit	88837	6.94	377979	9.00	85508	14.52
	Client Sample ID						
21	2402270903	140198	7.23	602560	9.30	139420	14.84
22	2402270940	139614	7.22	593859	9.30	136608	14.84
23	2402270941	138857	7.22	595532	9.30	136524	14.84
24	2402270946	136343	7.22	585186	9.30	133919	14.84
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 03202401.D
Analyst: Charles Im Date Analyzed: 3/20/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 03:16
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	232708	11.40	1061788	13.51	226100	17.79
	Upper Limit	325791	11.73	1486503	13.84	316540	18.12
	Lower Limit	139625	11.07	637073	13.18	135660	17.46
	Client Sample ID						
01	Method Blank	160522	11.38	783582	13.50	188911	17.78
02	Lab Control Sample	228171	11.41	1057705	13.51	228436	17.79
03	Duplicate Lab Control Sample	231240	11.41	1039178	13.51	219594	17.79
04	2402281029 (Dilution)	221526	11.38	1058820	13.50	226249	17.78
05	2402281055	219752	11.38	1010017	13.50	222973	17.78
06	2402281056	219744	11.38	1004534	13.51	220293	17.78
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 03212401.D
Analyst: Charles Im Date Analyzed: 3/21/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 00:24
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	233015	11.40	1035706	13.51	198045	17.79
	Upper Limit	326221	11.73	1449988	13.84	277263	18.12
	Lower Limit	139809	11.07	621424	13.18	118827	17.46
	Client Sample ID						
01	Method Blank	205550	11.38	966600	13.51	206837	17.79
02	Lab Control Sample	224813	11.39	1019308	13.51	214582	17.78
03	Duplicate Lab Control Sample	224296	11.39	1017708	13.51	212882	17.78
04	2402281110 (Dilution)	225849	11.38	1016553	13.50	219179	17.78
05	2402281103 (Dilution)	220089	11.38	1019317	13.50	217778	17.78
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IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03222402.D

Analyst: Simon Cao Date Analyzed: 3/22/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 00:06

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	167298	7.27	712626	9.33	157126	14.85
	Upper Limit	234217	7.60	997676	9.66	219976	15.18
	Lower Limit	100379	6.94	427576	9.00	94276	14.52
	Client Sample ID						
01	Method Blank	153650	7.21	668962	9.30	145559	14.84
02	Lab Control Sample	166789	7.27	712252	9.33	155275	14.85
03	Duplicate Lab Control Sample	165908	7.27	708158	9.33	155789	14.85
04	2402270954	183459	7.22	784815	9.30	173264	14.84
05	2402271002	162679	7.23	698433	9.30	156428	14.84
06	2402271020	160752	7.22	690067	9.30	155609	14.84
07	2402271025	161181	7.21	693522	9.29	154731	14.84
08	2402261450	159018	7.23	687101	9.30	152327	14.85
09	2402270850	159016	7.24	680068	9.31	154516	14.84
10	2402270856 (Dilution)	155755	7.22	669489	9.30	150904	14.84
11	2402270903 (Dilution)	155767	7.23	668427	9.30	151523	14.84
12	2402270946 (Dilution)	153944	7.22	663797	9.30	148309	14.84
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922

Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03252405.D

Analyst: Simon Cao Date Analyzed: 3/25/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 12:52

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	136979	7.27	588463	9.33	117161	14.85
	Upper Limit	191771	7.60	823848	9.66	164025	15.18
	Lower Limit	82187	6.94	353078	9.00	70297	14.52
	Client Sample ID						
01	Method Blank	145061	7.22	630668	9.30	125752	14.84
02	Lab Control Sample	136960	7.28	589060	9.33	119716	14.85
03	Duplicate Lab Control Sample	142177	7.28	603434	9.33	122829	14.85
04	2402271032	151646	7.22	652193	9.30	130387	14.84
05	2402270954 (Dilution)	134699	7.23	577280	9.30	117614	14.84
06	2402271025 (Dilution)	130848	7.22	563732	9.30	112861	14.84
07	2402271033	129818	7.23	558342	9.30	113206	14.84
08	2402271050	125457	7.22	540805	9.30	109126	14.84
09	2402271051	122464	7.22	528125	9.30	107912	14.84
10	2402271058	122613	7.22	529147	9.30	108259	14.84
11	2402280815	122020	7.22	527305	9.30	107298	14.84
12	2402280816	122259	7.22	527302	9.30	107934	14.84
13	2402280821	118112	7.23	511393	9.30	107101	14.84
14	2402280827	119805	7.22	518857	9.30	104627	14.84
15	2402280827 (Lab Duplicate)	117681	7.22	506449	9.30	102202	14.84
16	2402280855	116986	7.23	496530	9.30	101207	14.84
17	2402280901	118153	7.22	507448	9.30	103136	14.84
18	2402271105	130899	7.22	556335	9.30	109207	14.84
19	2402271051 (Dilution)	119072	7.22	509469	9.30	101256	14.84
20	2402271058 (Dilution)	117762	7.22	503787	9.30	100914	14.84

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2400922
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 03252405.D
Analyst: Simon Cao Date Analyzed: 3/25/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 12:52
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	136979	7.27	588463	9.33	117161	14.85
	Upper Limit	191771	7.60	823848	9.66	164025	15.18
	Lower Limit	82187	6.94	353078	9.00	70297	14.52
	Client Sample ID						
21	2402280827 (Dilution)	116979	7.22	499825	9.30	101451	14.84
22	2402280827 (Dilution)	116071	7.22	489550	9.30	100900	14.84
23	2402280901 (Dilution)	127724	7.22	545696	9.30	113648	14.84
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:23:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	157120	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	682232	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	152962	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	320096	12.453	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	12.43	98	778287	12.672	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	16.83	174	269528	12.448	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	19589m	0.608	ng		
4) Chloromethane	3.50	50	2733	0.114	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	492	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	110	N.D.			
8) Bromomethane	4.02	94	341	N.D.			
9) Chloroethane	4.14	64	264	N.D.			
10) Ethanol	4.28	45	13799m	0.909	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	4737	0.435	ng		94
13) Acetone	4.62	58	66737	5.775	ng	#	77
14) Trichlorofluoromethane	4.75	101	532971	17.087	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	10443	0.227	ng		69
16) Acrylonitrile	4.99	53	936	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	608	N.D.			
19) Methylene Chloride	5.33	84	1055	0.063	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	437685	33.289	ng		99
22) Carbon Disulfide	5.59	76	163880	3.130	ng		76
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	6.32	63	108	N.D.			
25) Methyl tert-Butyl Ether	6.29	73	676	N.D.			
26) Vinyl Acetate	6.42	86	6337	2.465	ng	#	15
27) 2-Butanone (MEK)	6.66	72	11170	1.182	ng		98
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	1868	0.329	ng		82
31) n-Hexane	7.30	57	682	N.D.			
32) Chloroform	7.36	83	10589	0.389	ng		99
34) Tetrahydrofuran (THF)	7.78	72	670	0.078	ng	#	51
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	210	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	3493	No Calib		#	
40) 1-Butanol	8.80	56	6663	No Calib		#	
41) Benzene	8.89	78	3923	0.064	ng		90
42) Carbon Tetrachloride	9.07	117	281	N.D.			
43) Cyclohexane	9.22	84	143	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	678	N.D.			
47) Trichloroethene	10.14	130	612	N.D.			
48) 1,4-Dioxane	10.13	88	924	0.086	ng		99
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:23:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

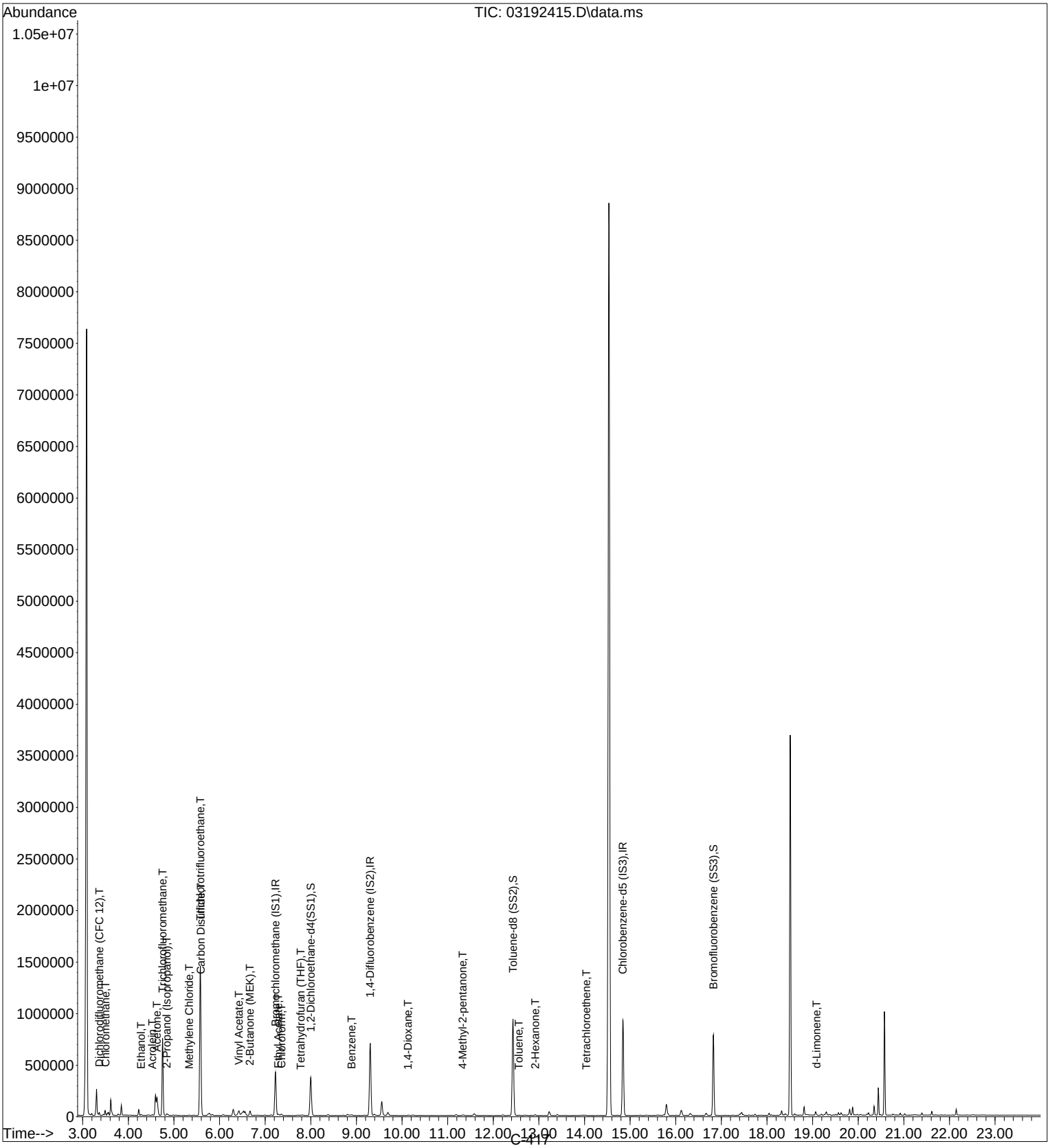
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.33	58	1198	0.091	ng	#	45
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	3324	0.057	ng		92
59) 2-Hexanone	12.92	43	7068	0.208	ng		95
60) Dibromochloromethane	13.06	129	382	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.77	43	1443	N.D.			
63) n-Octane	13.93	57	245	N.D.			
64) Tetrachloroethene	14.04	166	928	0.051	ng		94
65) Chlorobenzene	14.90	112	997	N.D.			
66) Ethylbenzene	15.41	91	1490	N.D.			
67) m- & p-Xylenes	15.63	91	2574	N.D.			
68) Bromoform	15.67	173	587	N.D.			
69) Styrene	16.10	104	1051	N.D.			
70) o-Xylene	16.24	91	1207	N.D.			
71) n-Nonane	16.61	43	931	N.D.			
72) 1,1,2,2-Tetrachloroethane	16.21	83	483	N.D.			
74) Cumene	17.03	105	978	N.D.			
75) alpha-Pinene	17.53	93	333	N.D.			
76) n-Propylbenzene	17.67	91	1419	N.D.			
77) 3-Ethyltoluene	17.03	105	978	No Calib			
78) 4-Ethyltoluene	17.86	105	952	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	872	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	978	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1189	N.D.			
83) n-Decane	17.10	58	255	No Calib		#	
84) Benzyl Chloride	0.00	91	0	N.D. d			
85) 1,3-Dichlorobenzene	18.58	146	701	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	725	N.D.			
87) sec-Butylbenzene	18.74	105	997	N.D.			
88) 4-Isopropyltoluene (p-...	18.93	119	1224	N.D.			
89) 1,2,3-Trimethylbenzene	17.03	105	978	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	637	N.D.			
91) d-Limonene	19.09	68	1179	0.057	ng		88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	20.84	180	1087	N.D.			
95) Naphthalene	0.00	128	0	N.D. d			
96) n-Dodecane	18.89	58	177	No Calib		#	
97) Hexachlorobutadiene	21.30	225	664	N.D.			
98) Cyclohexanone	15.39	55	639	No Calib		#	
99) tert-Butylbenzene	18.43	119	975	N.D.			
100) n-Butylbenzene	19.39	91	1648	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:23:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:23:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

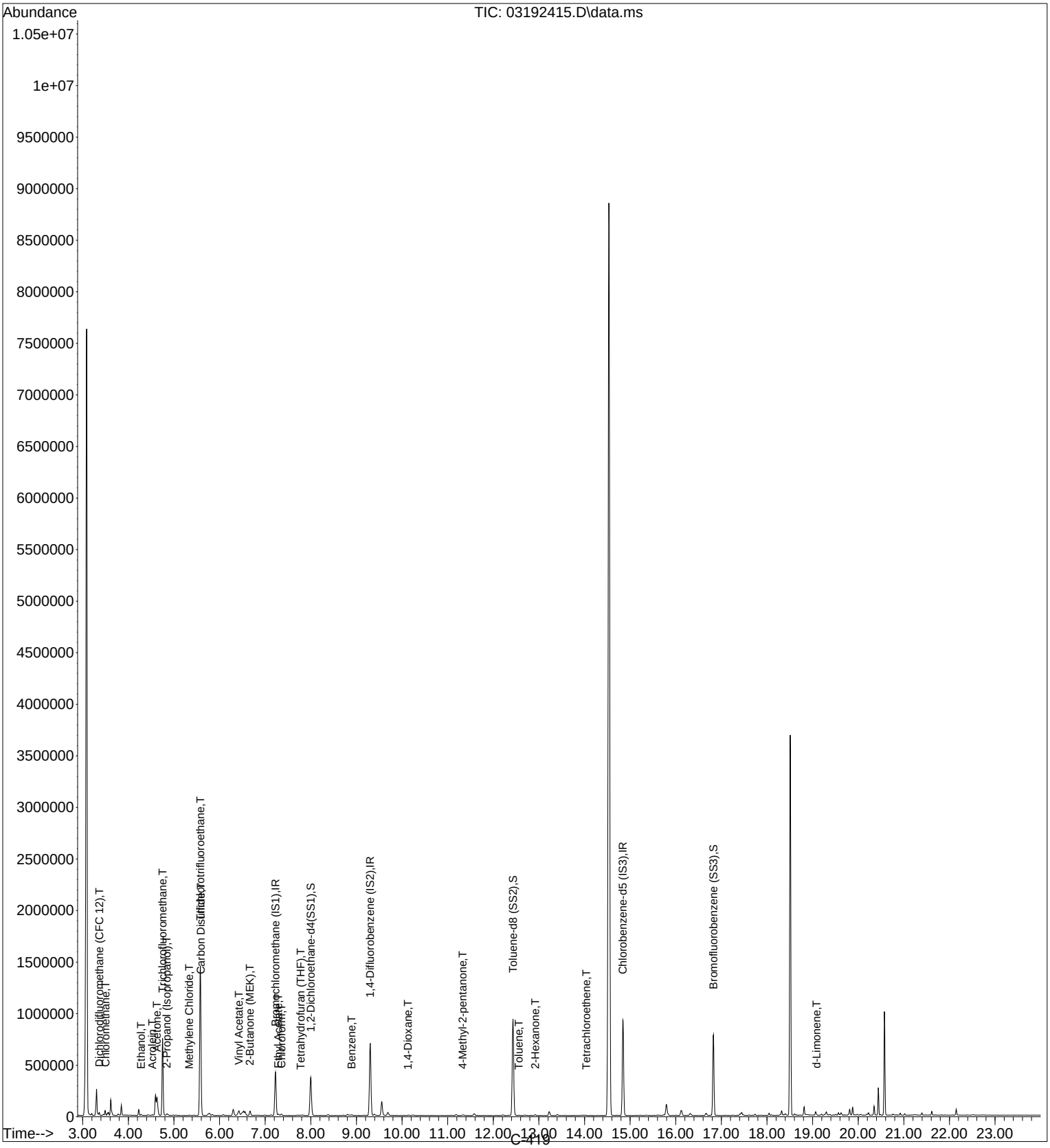
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	157120	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	682232	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	152962	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	320096	12.453	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	12.43	98	778287	12.672	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
73) Bromofluorobenzene (SS3)	16.83	174	269528	12.448	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	19589m	0.608	ng		
4) Chloromethane	3.50	50	2733	0.114	ng		90
10) Ethanol	4.28	45	13799m	0.909	ng		
12) Acrolein	4.52	56	4737	0.435	ng		94
13) Acetone	4.62	58	66737	5.775	ng	#	77
14) Trichlorofluoromethane	4.75	101	532971	17.087	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	10443	0.227	ng		69
19) Methylene Chloride	5.33	84	1055	0.063	ng		99
21) Trichlorotrifluoroethane	5.58	151	437685	33.289	ng		99
22) Carbon Disulfide	5.59	76	163880	3.130	ng		76
26) Vinyl Acetate	6.42	86	6337	2.465	ng	#	15
27) 2-Butanone (MEK)	6.66	72	11170	1.182	ng		98
30) Ethyl Acetate	7.29	61	1868	0.329	ng		82
32) Chloroform	7.36	83	10589	0.389	ng		99
34) Tetrahydrofuran (THF)	7.78	72	670	0.078	ng	#	51
41) Benzene	8.89	78	3923	0.064	ng		90
48) 1,4-Dioxane	10.13	88	924	0.086	ng		99
53) 4-Methyl-2-pentanone	11.33	58	1198	0.091	ng	#	45
58) Toluene	12.56	91	3324	0.057	ng		92
59) 2-Hexanone	12.92	43	7068	0.208	ng		95
64) Tetrachloroethene	14.04	166	928	0.051	ng		94
91) d-Limonene	19.09	68	1179	0.057	ng		88

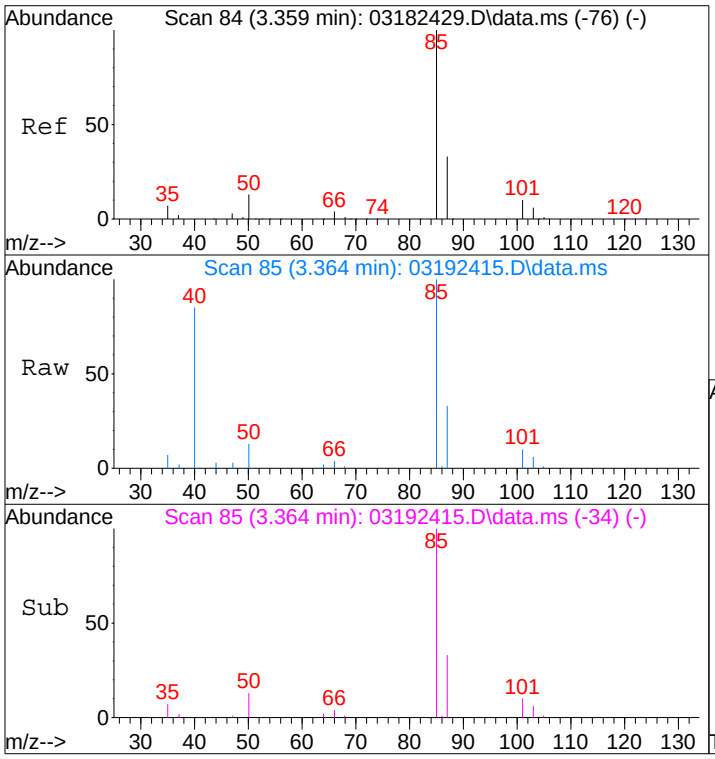
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:23:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

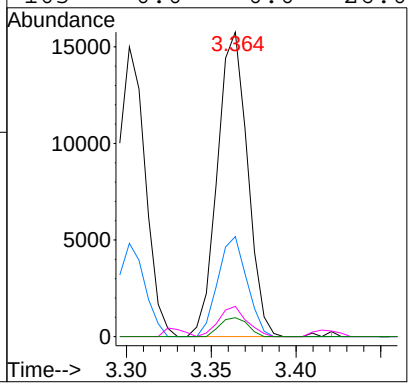


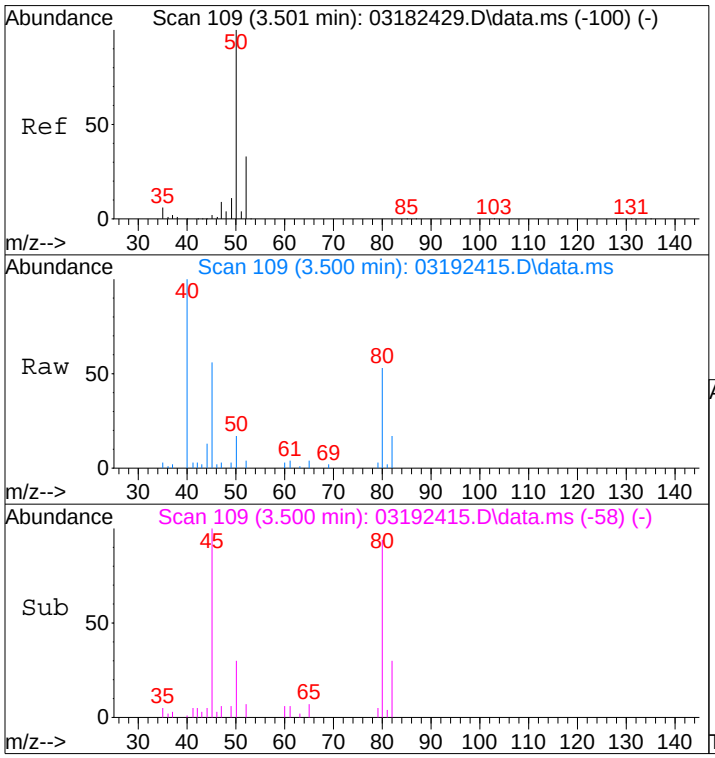


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 85 Resp: 19589

Ion	Ratio	Lower	Upper
85	100		
87	28.1	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

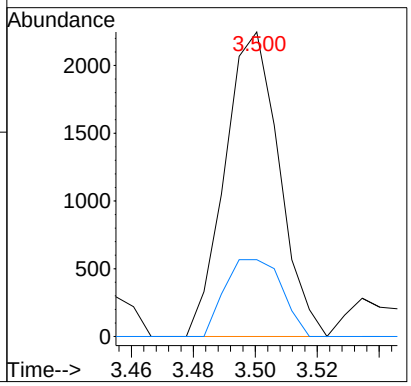


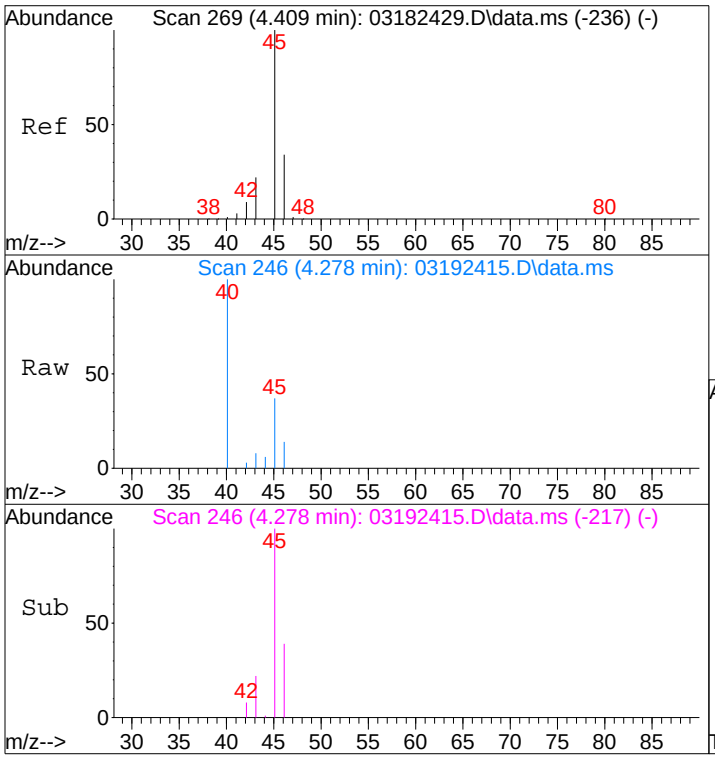


#4
Chloromethane
Concen: 0.11 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.038 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 50 Resp: 2733

Ion	Ratio	Lower	Upper
50	100		
52	26.7	12.3	52.3

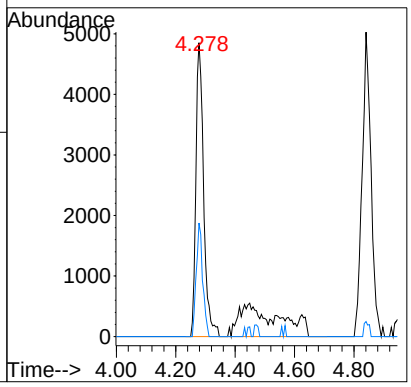


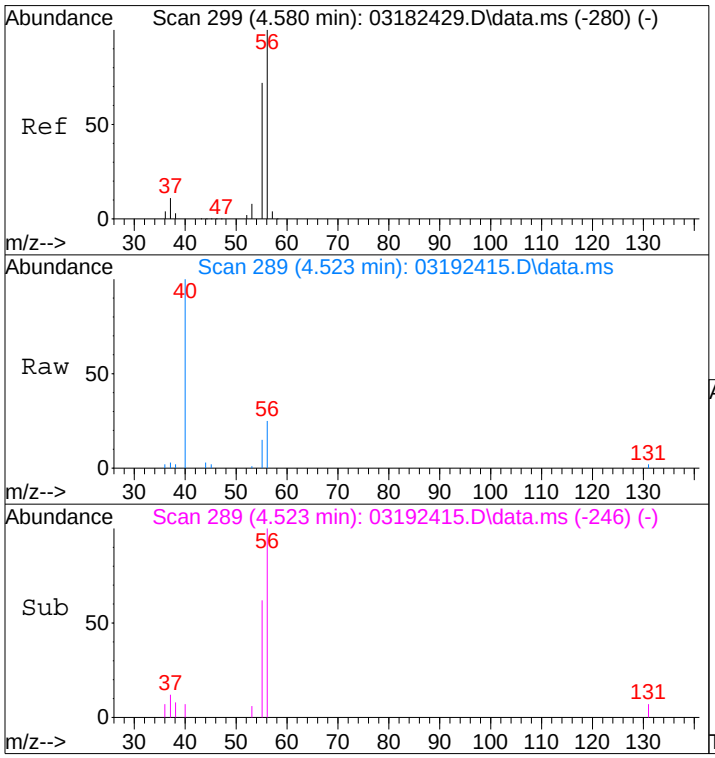


#10
Ethanol
Concen: 0.91 ng m
RT: 4.28 min Scan# 246
Delta R.T. -0.083 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 45 Resp: 13799

Ion	Ratio	Lower	Upper
45	100		
46	1.1	13.3	53.3#

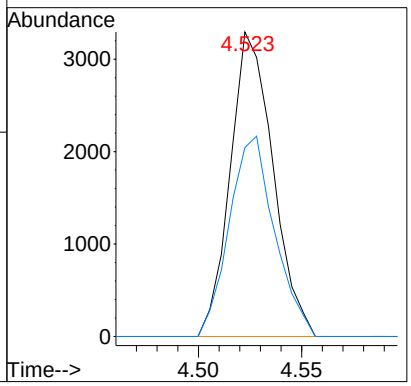


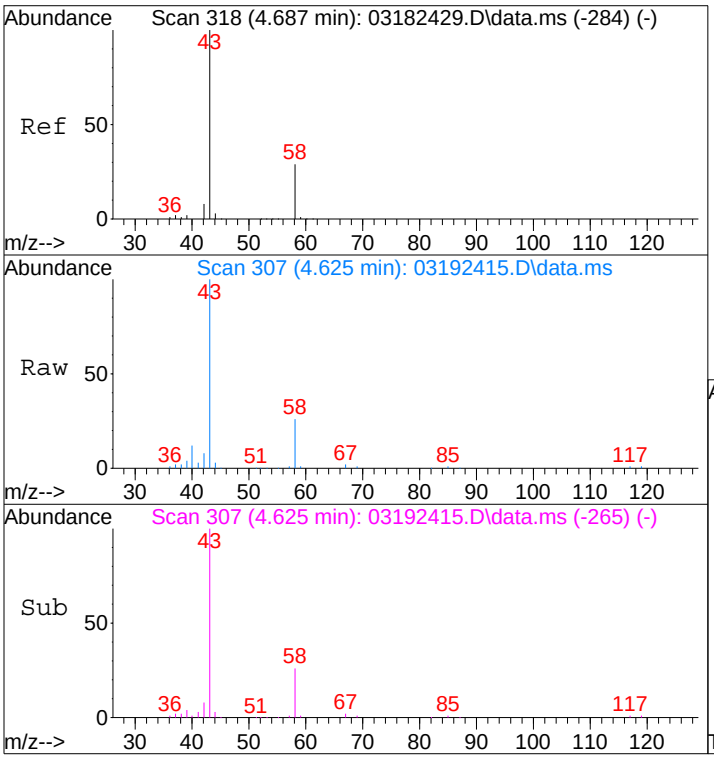


#12
Acrolein
Concen: 0.44 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.007 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 56 Resp: 4737

Ion	Ratio	Lower	Upper
56	100		
55	69.8	54.9	94.9

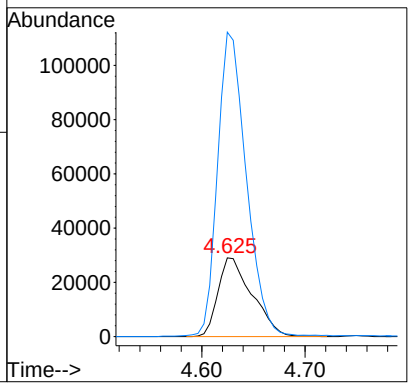


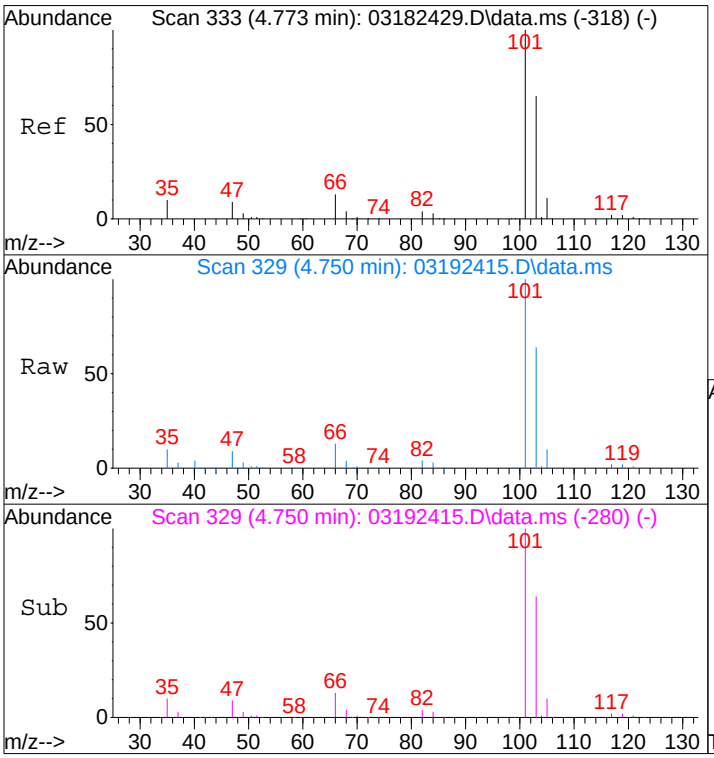


#13
Acetone
Concen: 5.78 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.012 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 58 Resp: 66737

Ion	Ratio	Lower	Upper
58	100		
43	327.7	350.1	410.1#

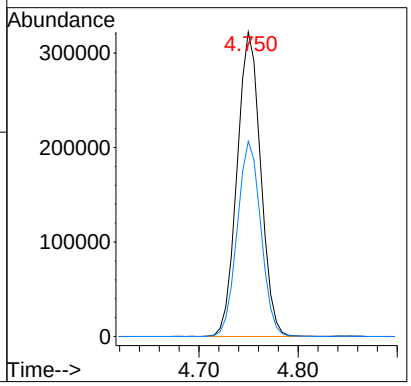


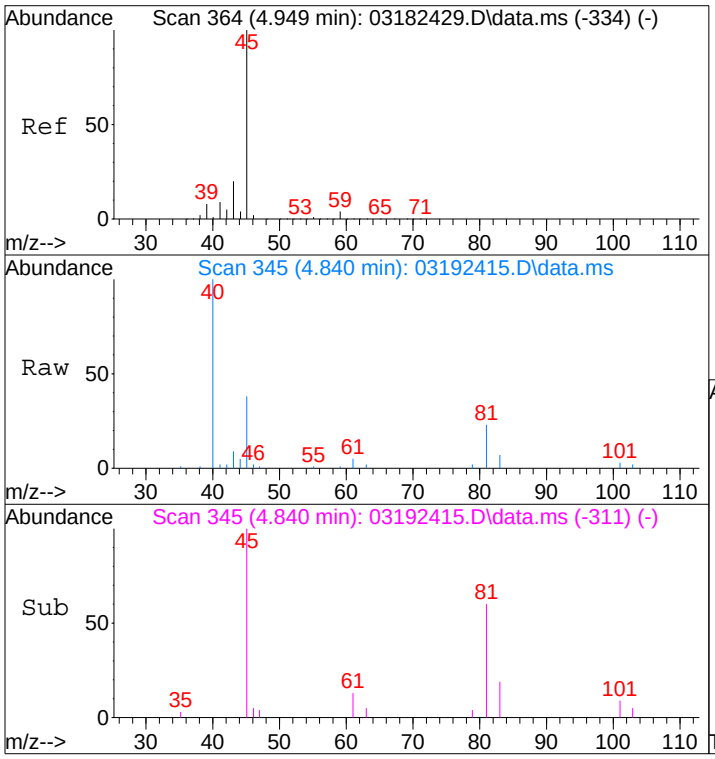


#14
Trichlorofluoromethane
Concen: 17.09 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion:101 Resp: 532971

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.7	84.7

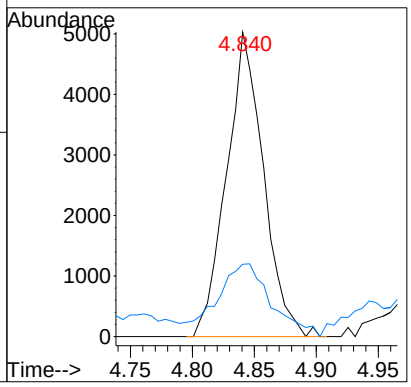


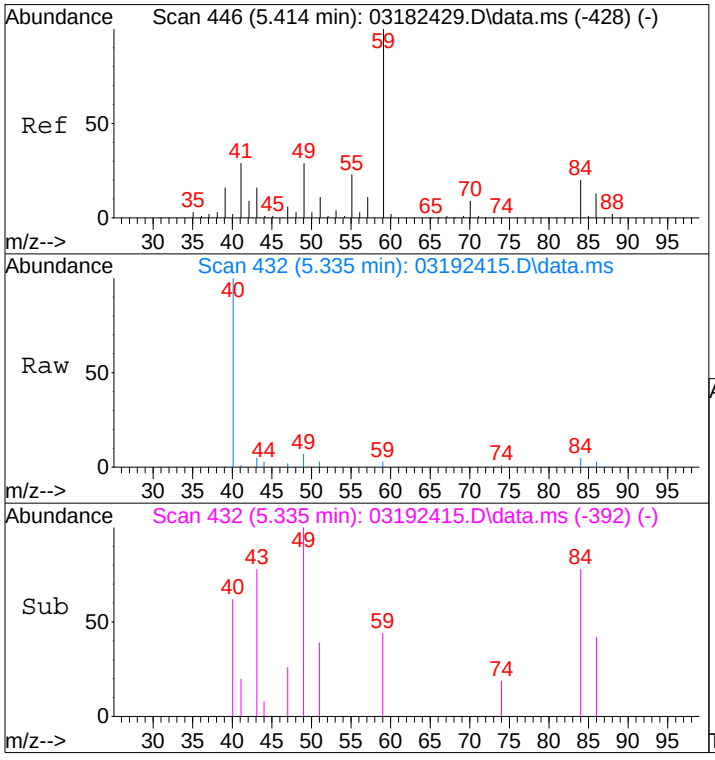


#15
2-Propanol (Isopropanol)
Concen: 0.23 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.054 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 45 Resp: 10443

Ion	Ratio	Lower	Upper
45	100		
43	34.8	0.4	40.4

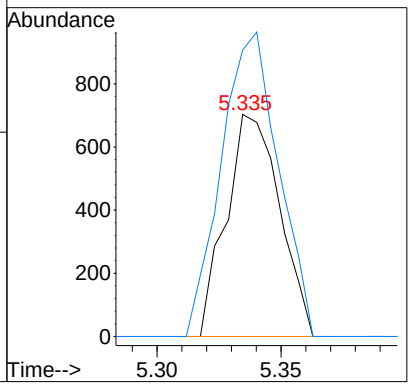


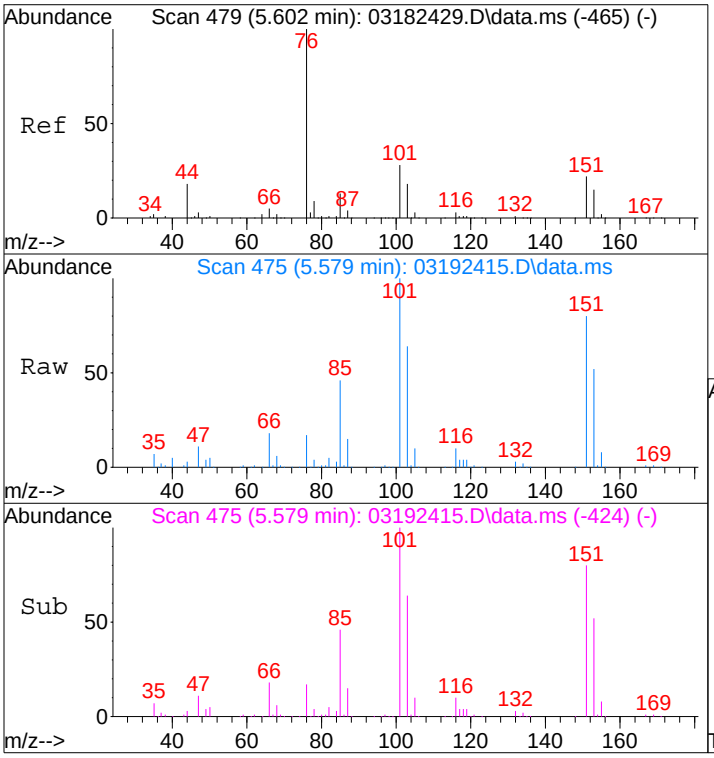


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 84 Resp: 1055

Ion	Ratio	Lower	Upper
84	100		
49	146.5	122.9	172.9

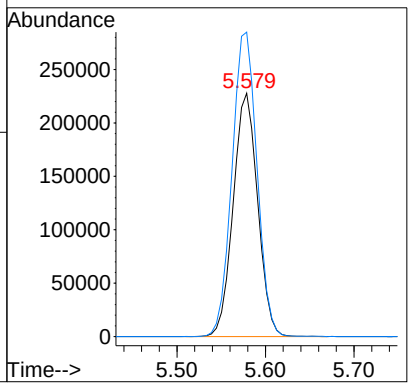


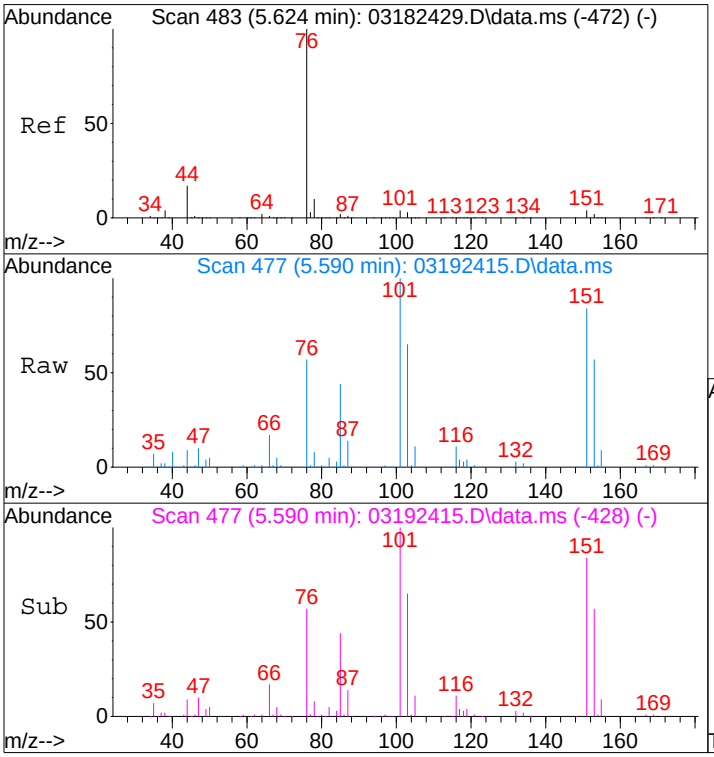


#21
Trichlorotrifluoroethane
Concen: 33.29 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion:151 Resp: 437685

Ion	Ratio	Lower	Upper
151	100		
101	127.9	106.4	146.4

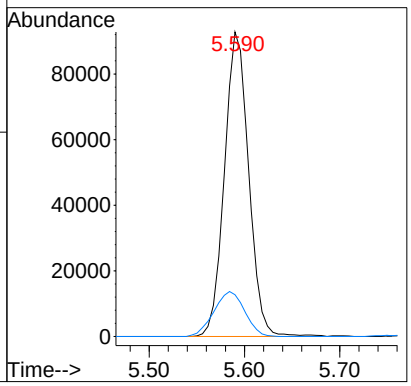


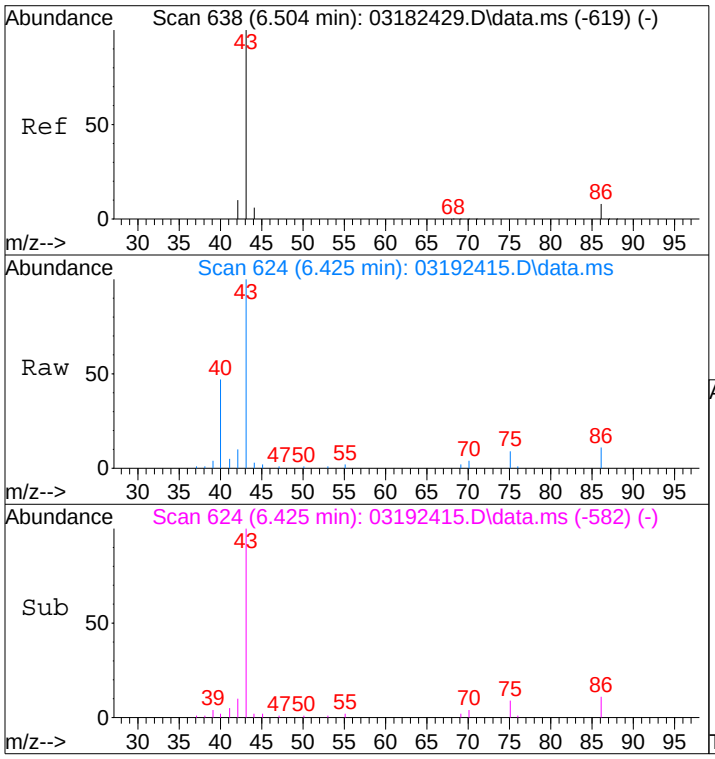


#22
Carbon Disulfide
Concen: 3.13 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 76 Resp: 163880

Ion	Ratio	Lower	Upper
76	100		
78	18.7	0.0	29.8

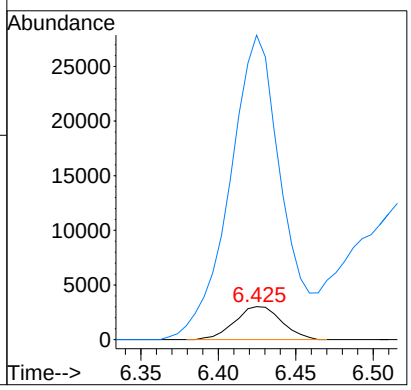


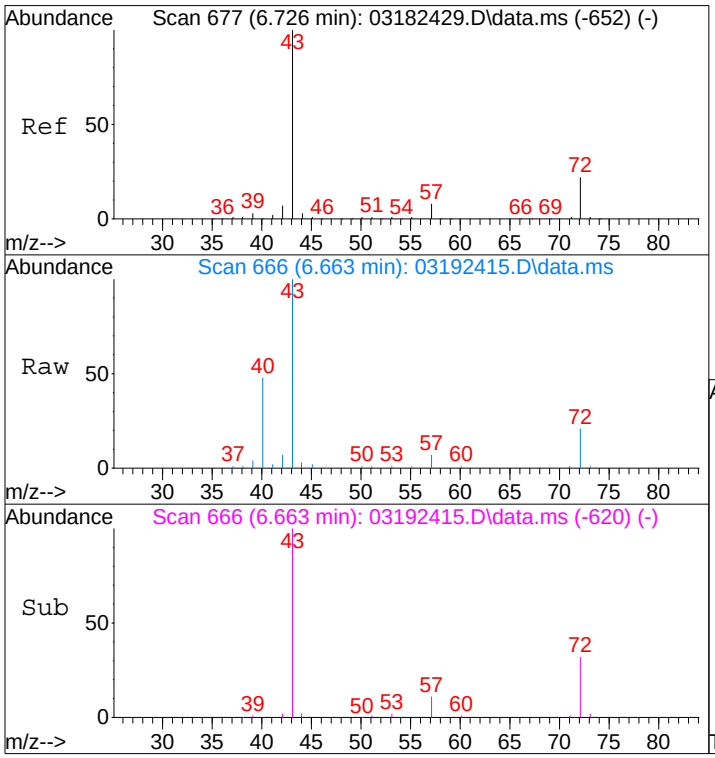


#26
Vinyl Acetate
Concen: 2.47 ng
RT: 6.42 min Scan# 624
Delta R.T. -0.009 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 86 Resp: 6337

Ion	Ratio	Lower	Upper
86	100		
43	1039.0	1541.5	1581.5#

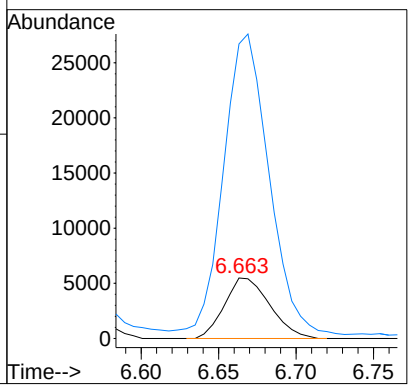


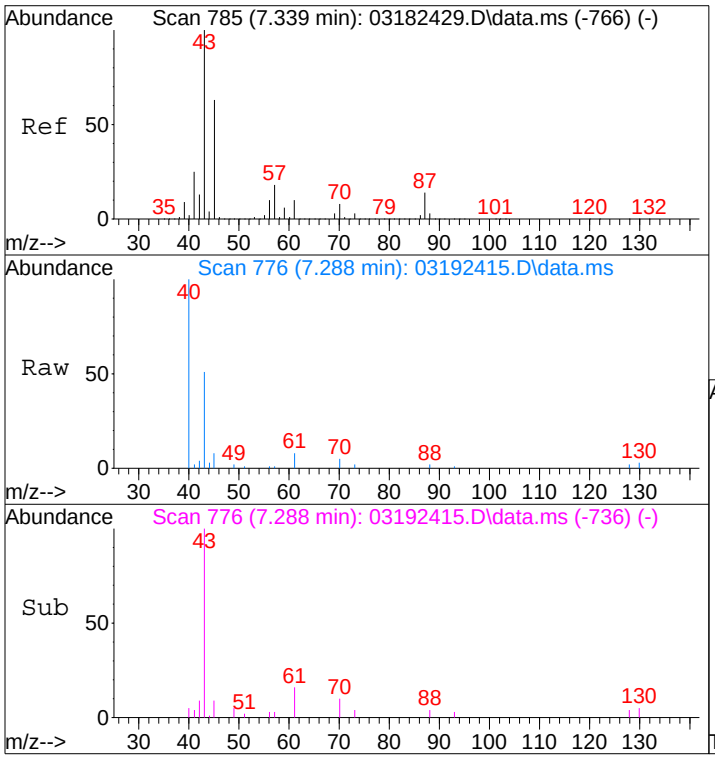


#27
2-Butanone (MEK)
Concen: 1.18 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 72 Resp: 11170

Ion	Ratio	Lower	Upper
72	100		
43	494.6	468.6	508.6

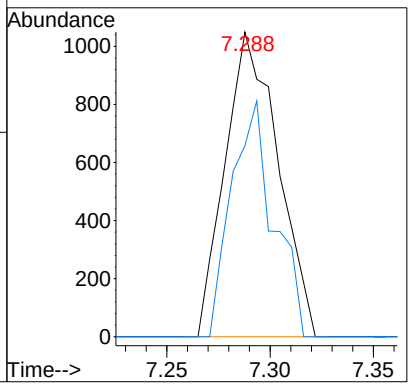


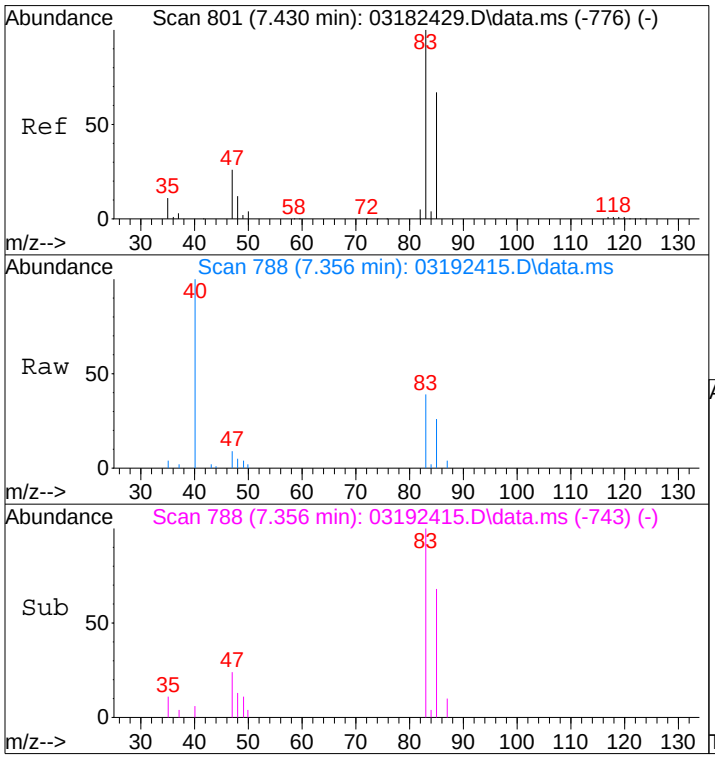


#30
Ethyl Acetate
Concen: 0.33 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.028 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 61 Resp: 1868

Ion	Ratio	Lower	Upper
61	100		
70	61.7	57.3	97.3

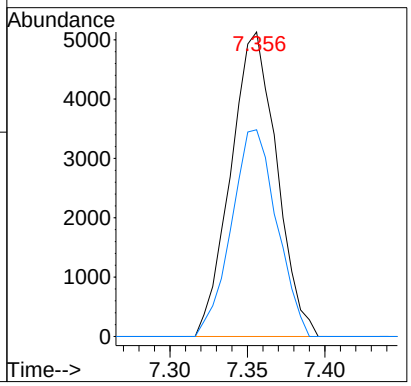


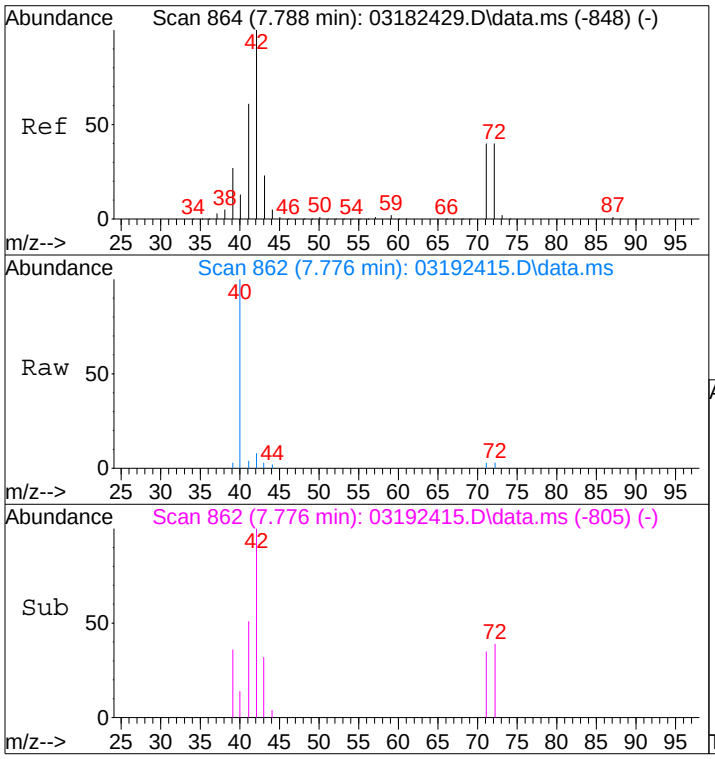


#32
Chloroform
Concen: 0.39 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.007 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 83 Resp: 10589

Ion	Ratio	Lower	Upper
83	100		
85	67.0	46.1	86.1

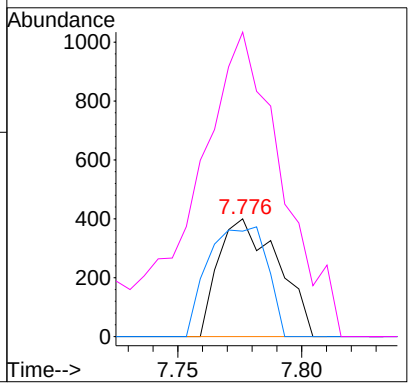


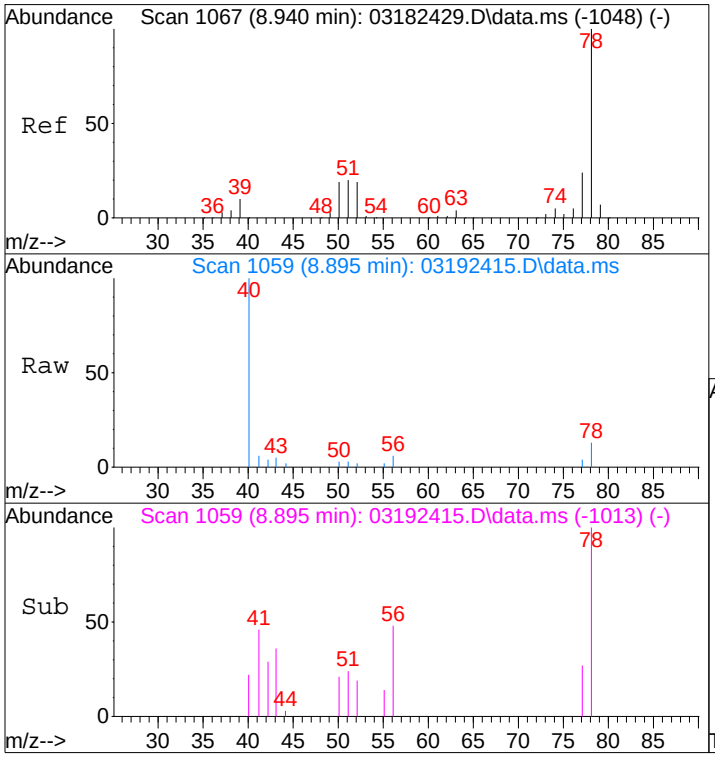


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.073 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 72 Resp: 670

Ion	Ratio	Lower	Upper
72	100		
71	92.4	80.7	120.7
42	393.3	255.0	295.0#

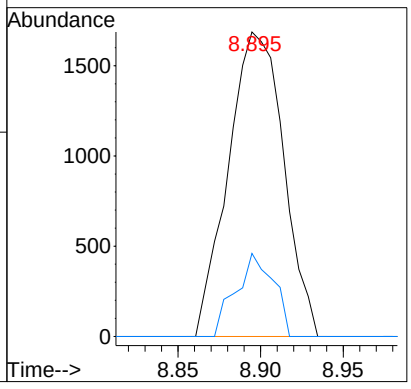


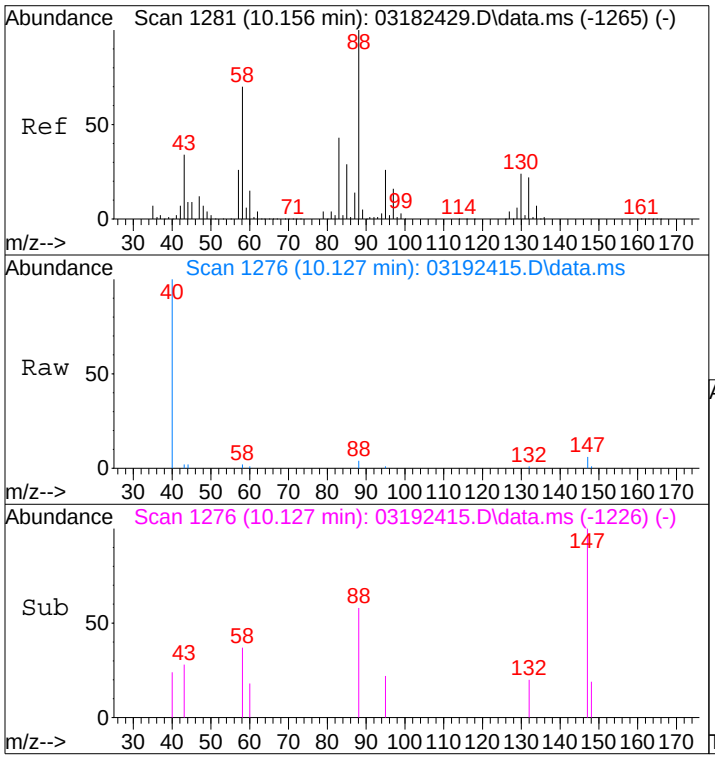


#41
Benzene
Concen: 0.06 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 78 Resp: 3923

Ion	Ratio	Lower	Upper
78	100		
77	18.6	3.6	43.6

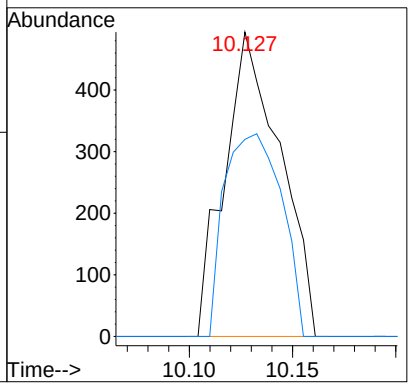


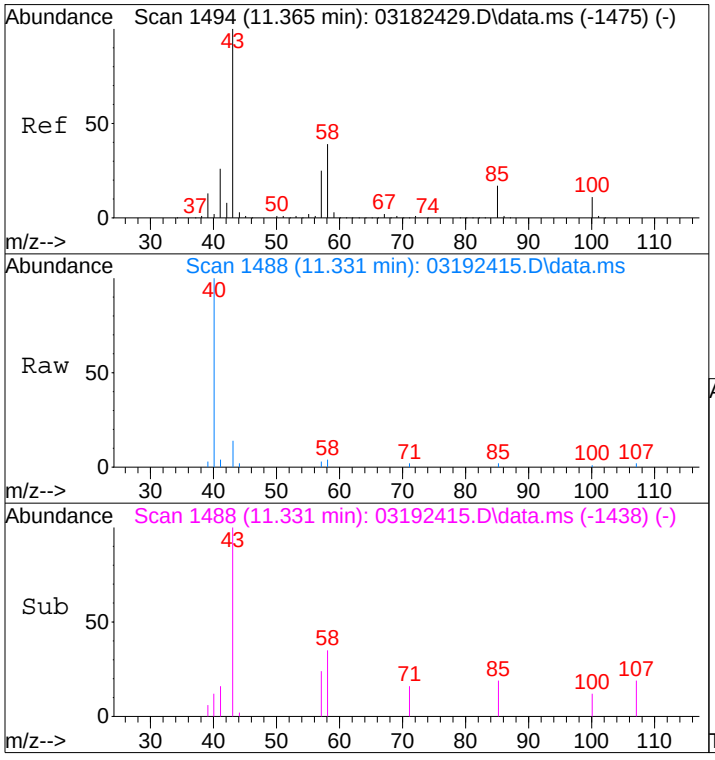


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.033 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 88 Resp: 924

Ion	Ratio	Lower	Upper
88	100		
58	68.8	48.2	88.2

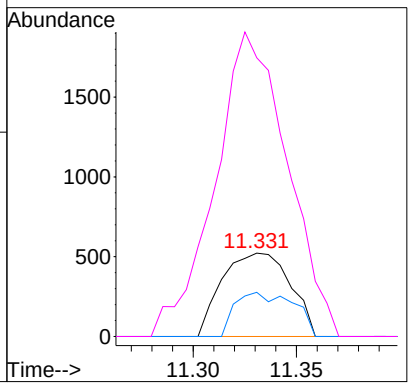


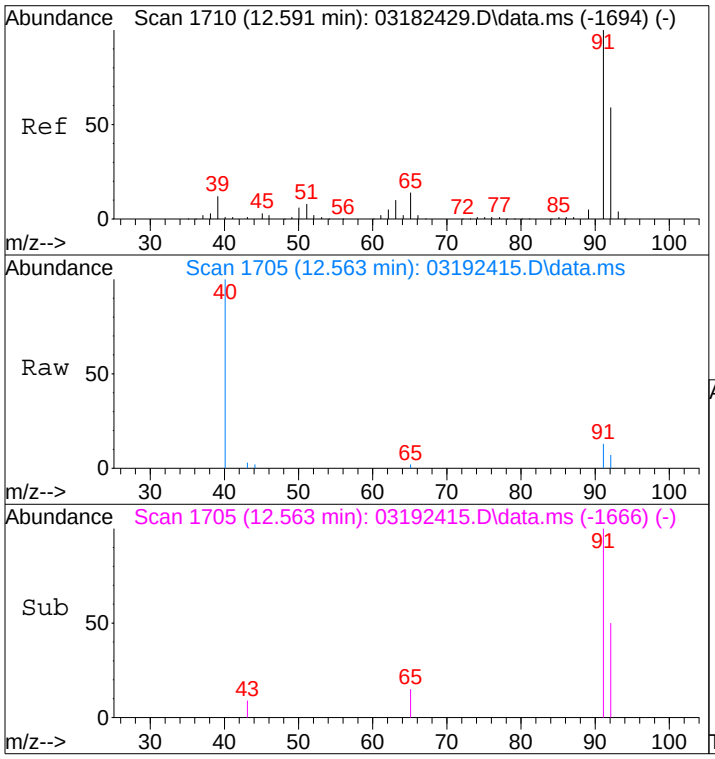


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 11.33 min Scan# 1488
Delta R.T. 0.035 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 58 Resp: 1198

Ion	Ratio	Lower	Upper
58	100		
85	45.6	34.5	51.7
43	388.8	218.4	327.6#

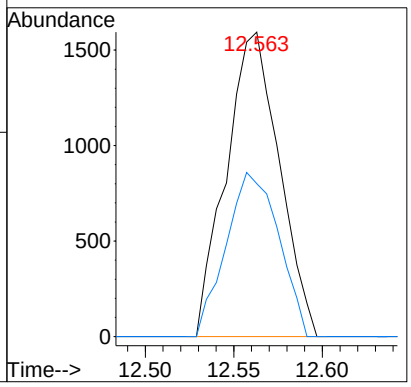


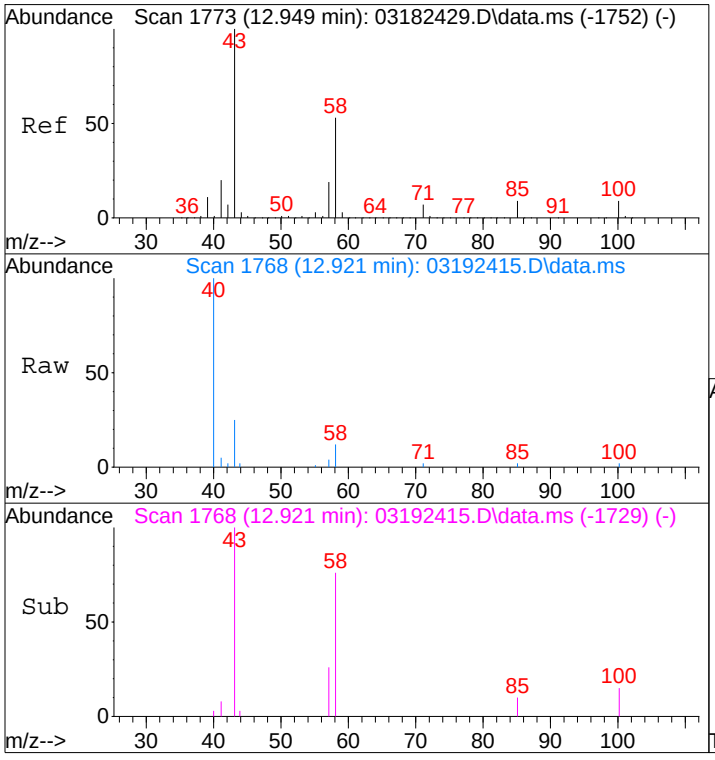


#58
Toluene
Concen: 0.06 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 91 Resp: 3324

Ion	Ratio	Lower	Upper
91	100		
92	53.4	39.2	79.2

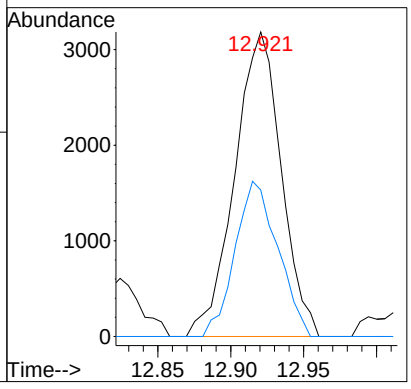


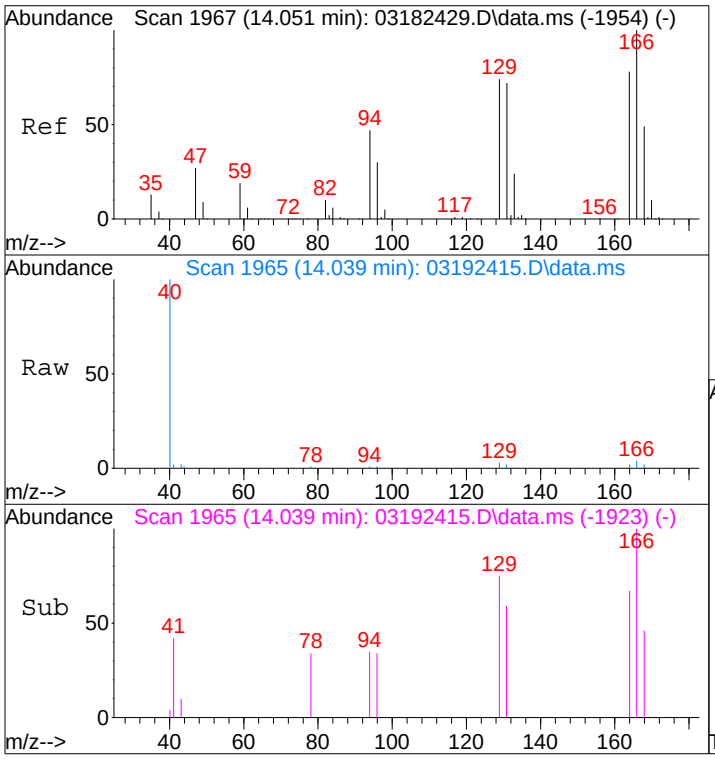


#59
2-Hexanone
Concen: 0.21 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.029 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 43 Resp: 7068

Ion	Ratio	Lower	Upper
43	100		
58	46.8	30.2	70.2

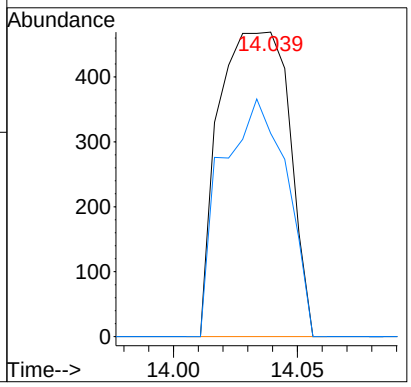


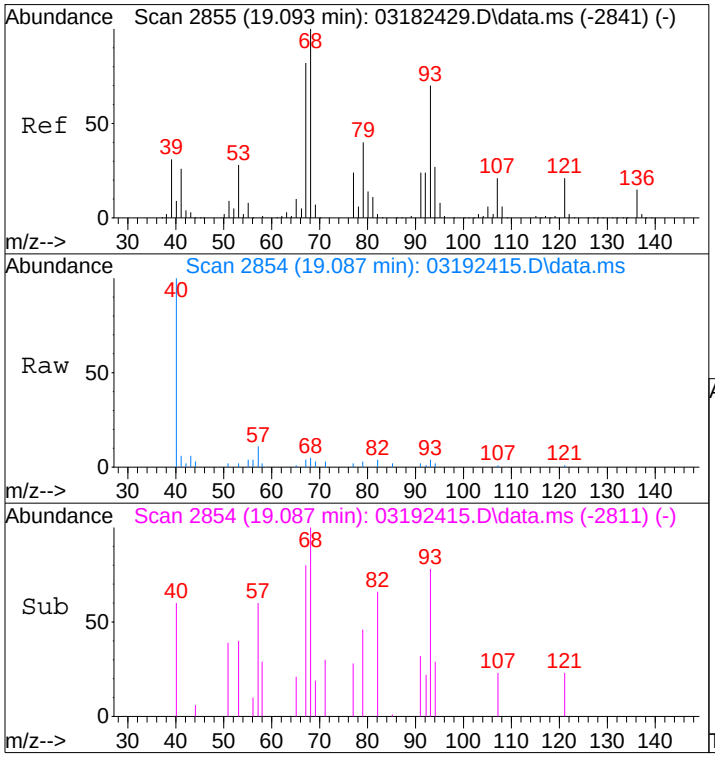


#64
Tetrachloroethene
Concen: 0.05 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.012 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion:166 Resp: 928

Ion	Ratio	Lower	Upper
166	100		
164	71.9	56.7	96.7

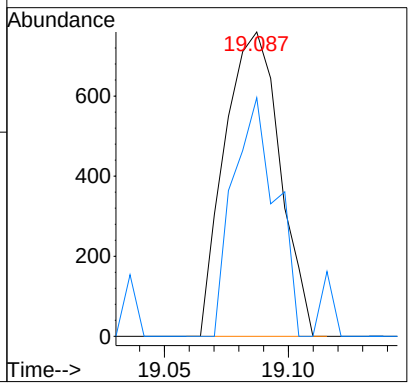




#91
d-Limonene
Concen: 0.06 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03192415.D
Acq: 19 Mar 2024 17:41

Tgt Ion: 68 Resp: 1179

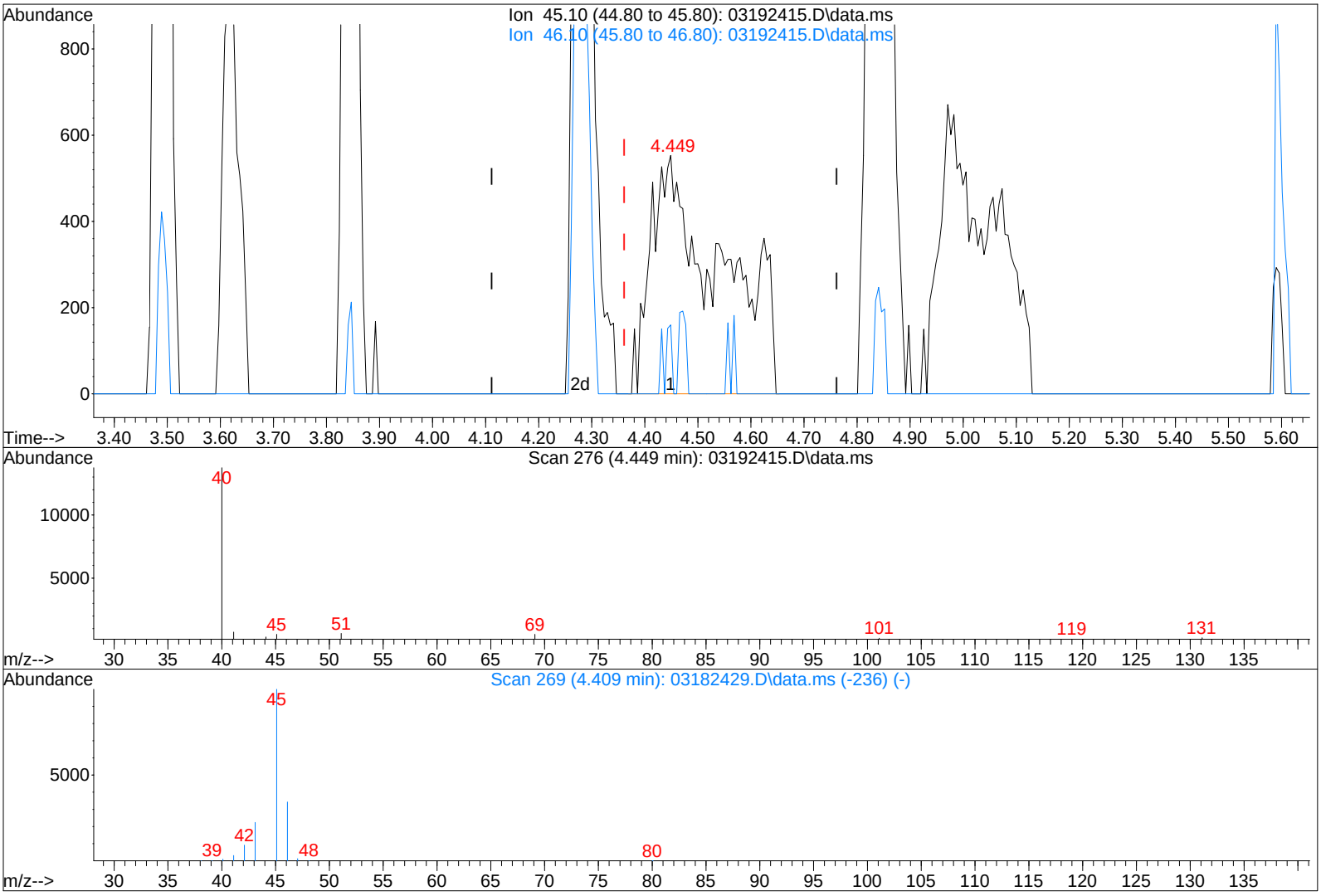
Ion	Ratio	Lower	Upper
68	100		
93	61.2	51.5	91.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:03 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192415.D\data.ms

(10) Ethanol (T)

4.449min (+0.087) 0.33ng

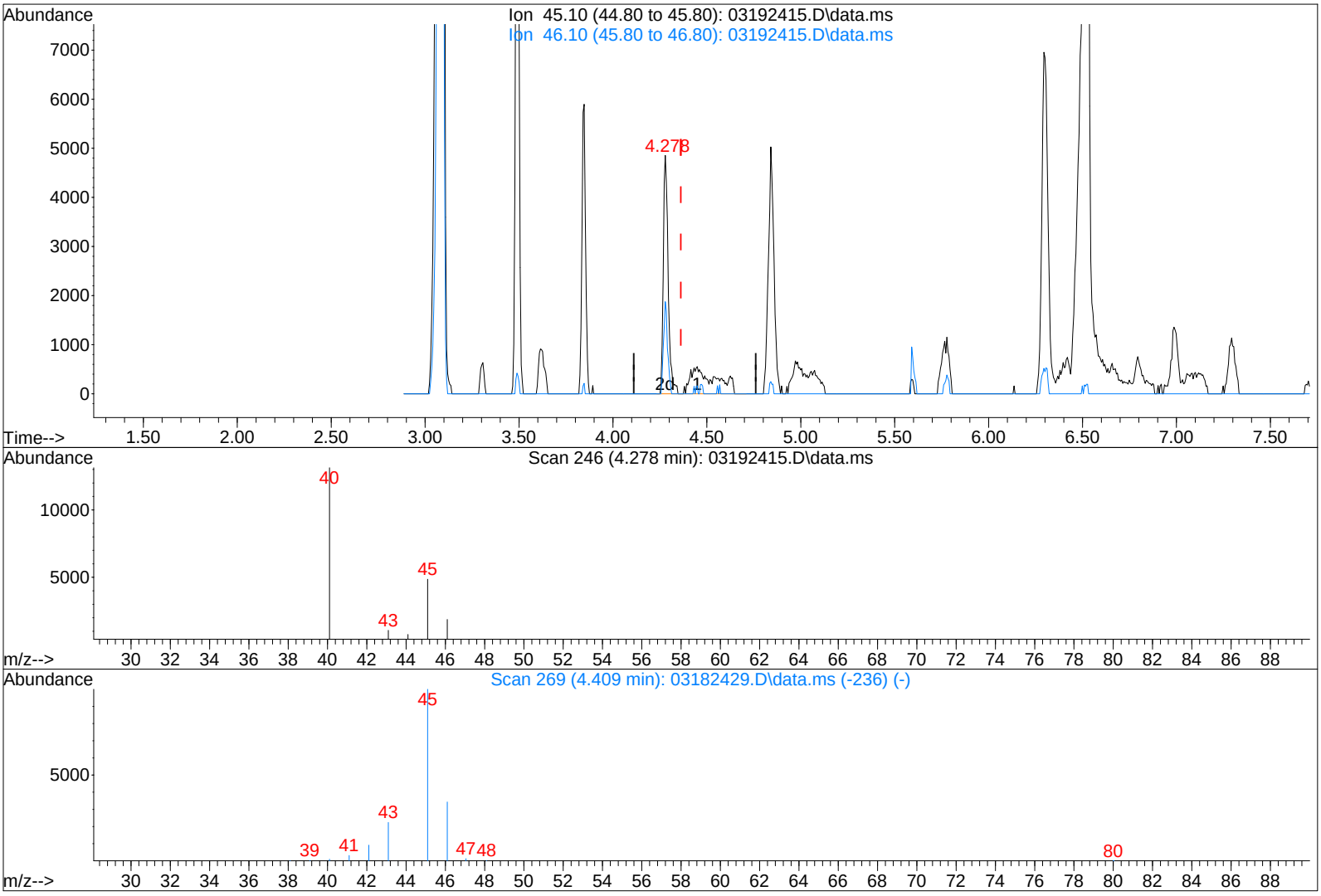
response 5025

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	3.14#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:03 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192415.D\data.ms

WP 3/20/24

(10) Ethanol (T)

4.278min (-0.083) 0.91ng m

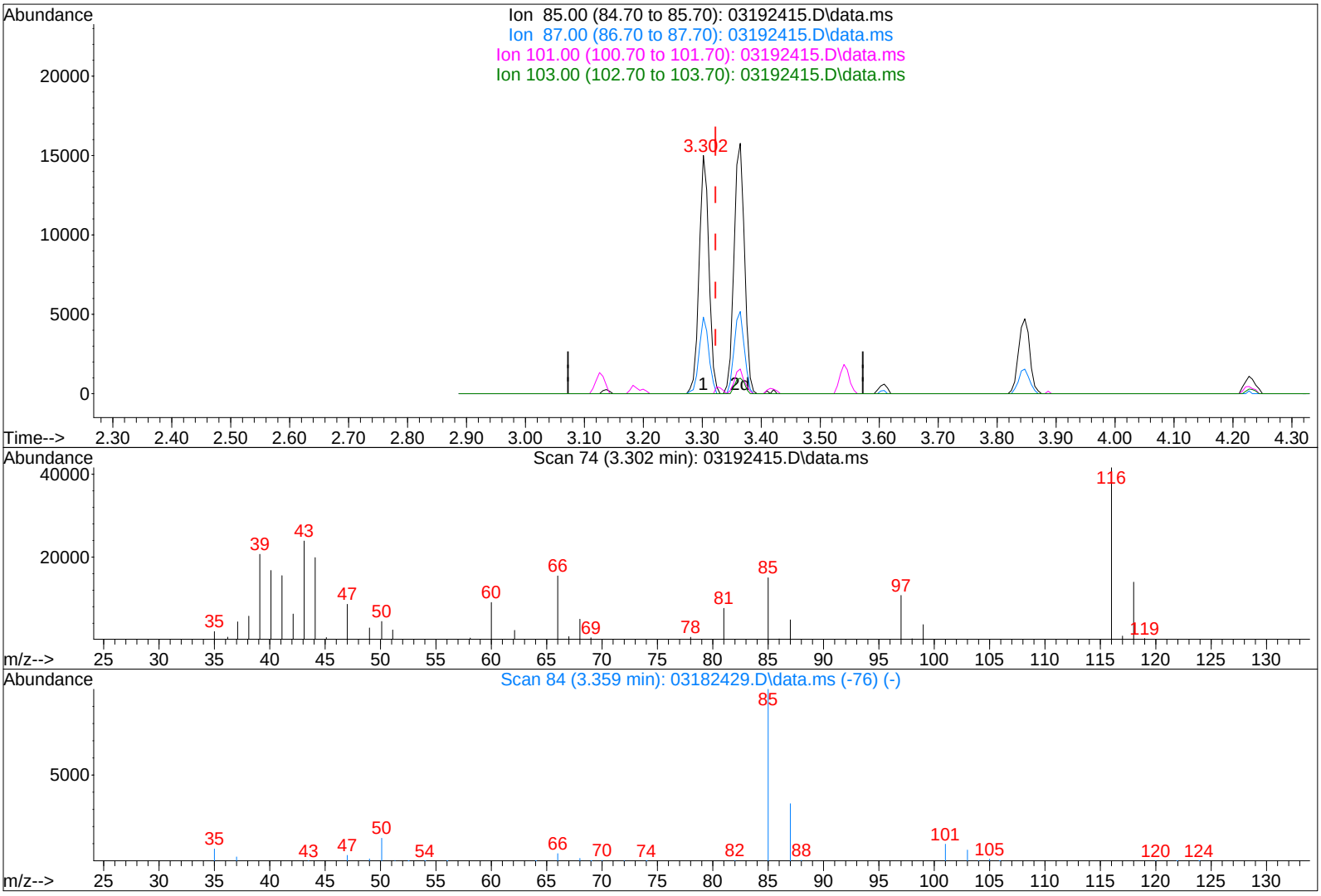
response 13799

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	1.15#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:03 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192415.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.021) 0.54ng

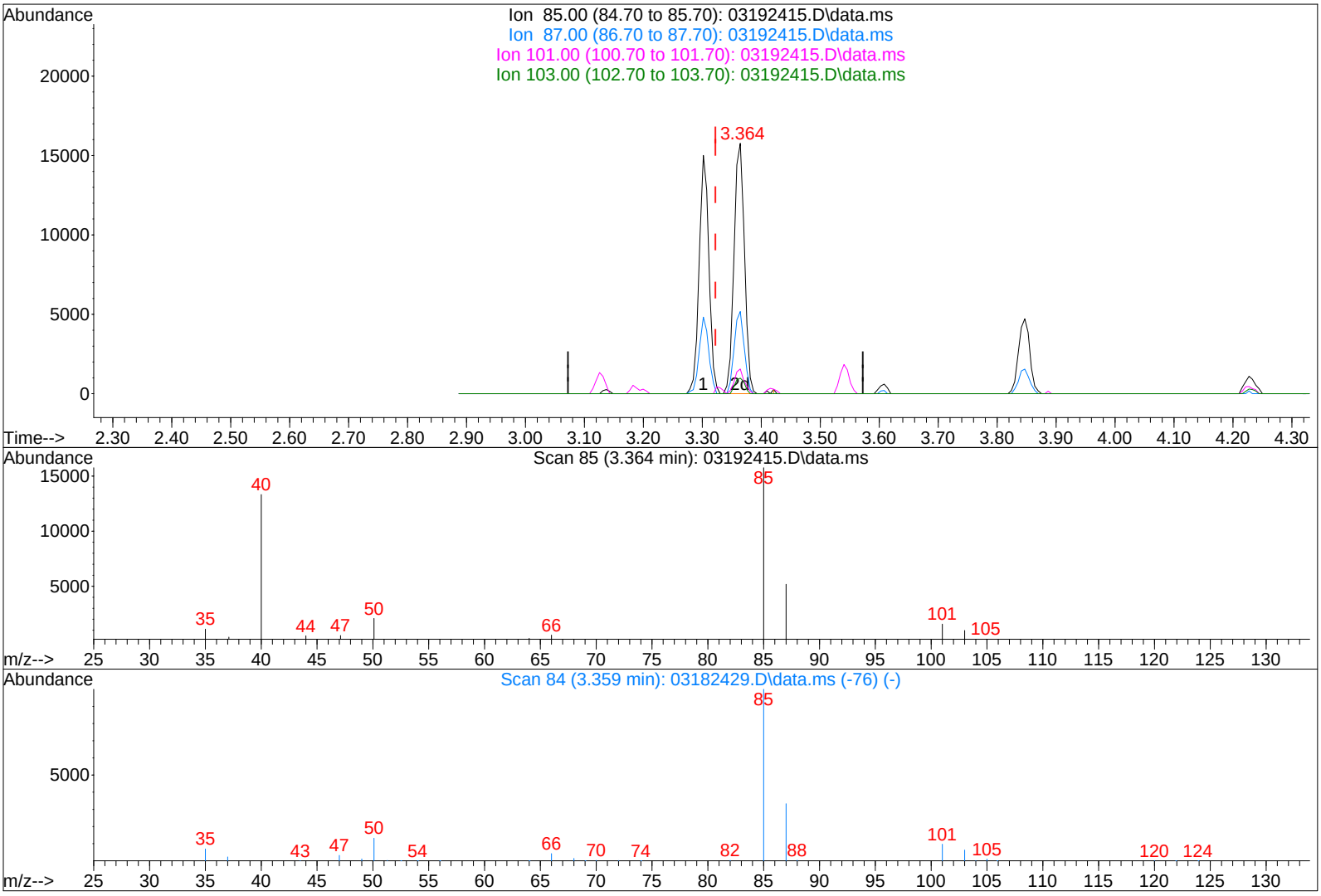
response 17318

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	31.75
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:03 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192415.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.61ng m

response 19589

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	28.07
101.00	9.20	0.00
103.00	6.00	0.00

WP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:52:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

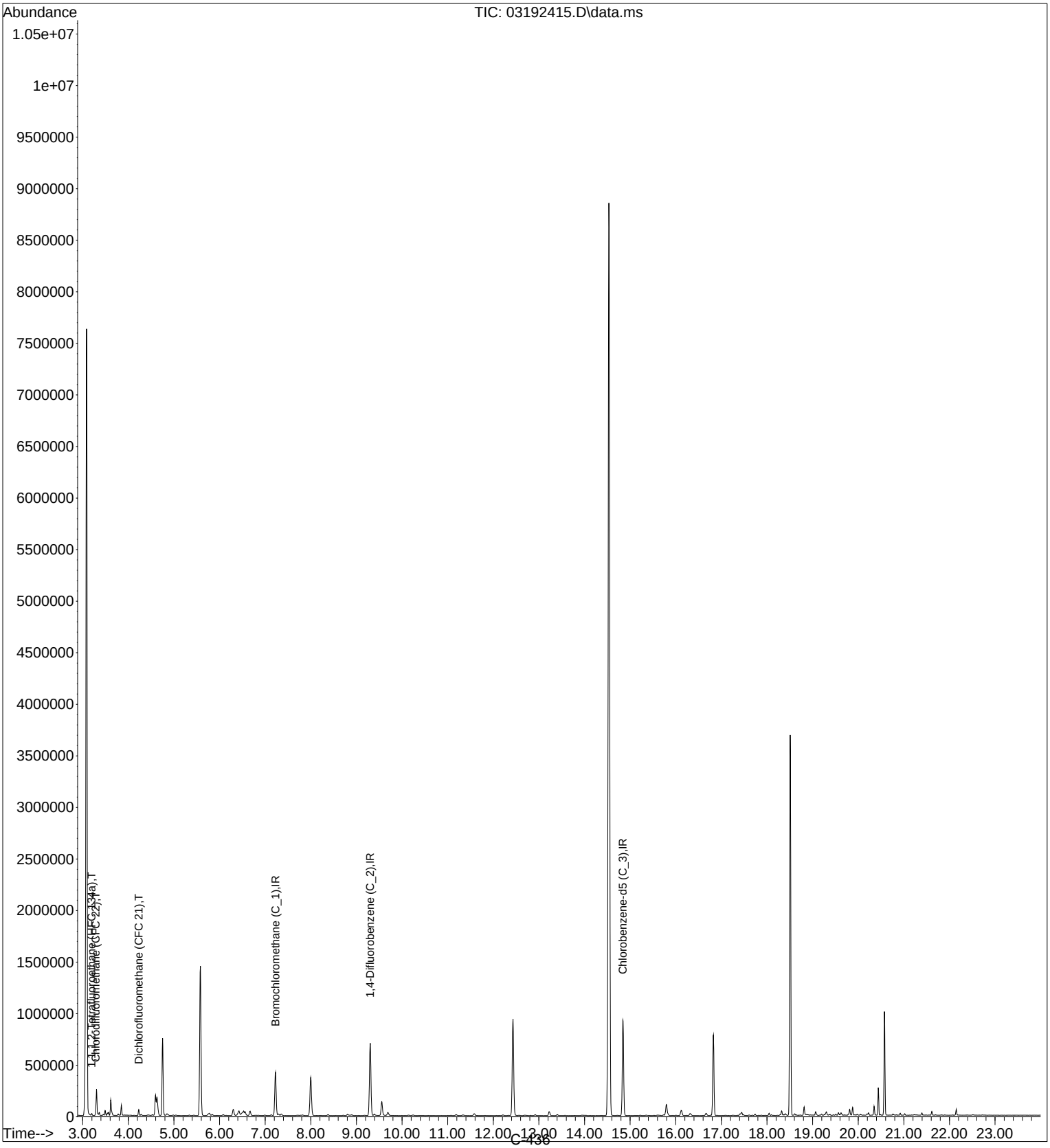
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	157120	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	683035	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	152962	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	210	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1904	0.132	ng	#	1
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.28	67	3976	0.861	ng	#	94
6) 1-Chloro-1,1-Difluoroe...	3.51	65	559	N.D.			
7) Dichlorofluoromethane ...	4.23	67	41716	1.361	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d		
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1695	N.D.			
12) 2-Methylpentane	6.49	71	707	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	8.99	84	55	N.D.			
17) 2,3-Dimethylpentane	9.52	56	1368	N.D.			
18) Dibromomethane	9.80	174	250	N.D.			
20) Methyl Cyclohexane	11.31	55	530	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	888	N.D.			
25) Bromobenzene	17.03	77	60	N.D.			
26) 2-Chlorotoluene	17.60	91	596	N.D.			
27) 4-Chlorotoluene	17.67	91	1419	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	56	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	587	N.D.			
32) 1,2,3,5-Tetramethylben...	20.61	119	51	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

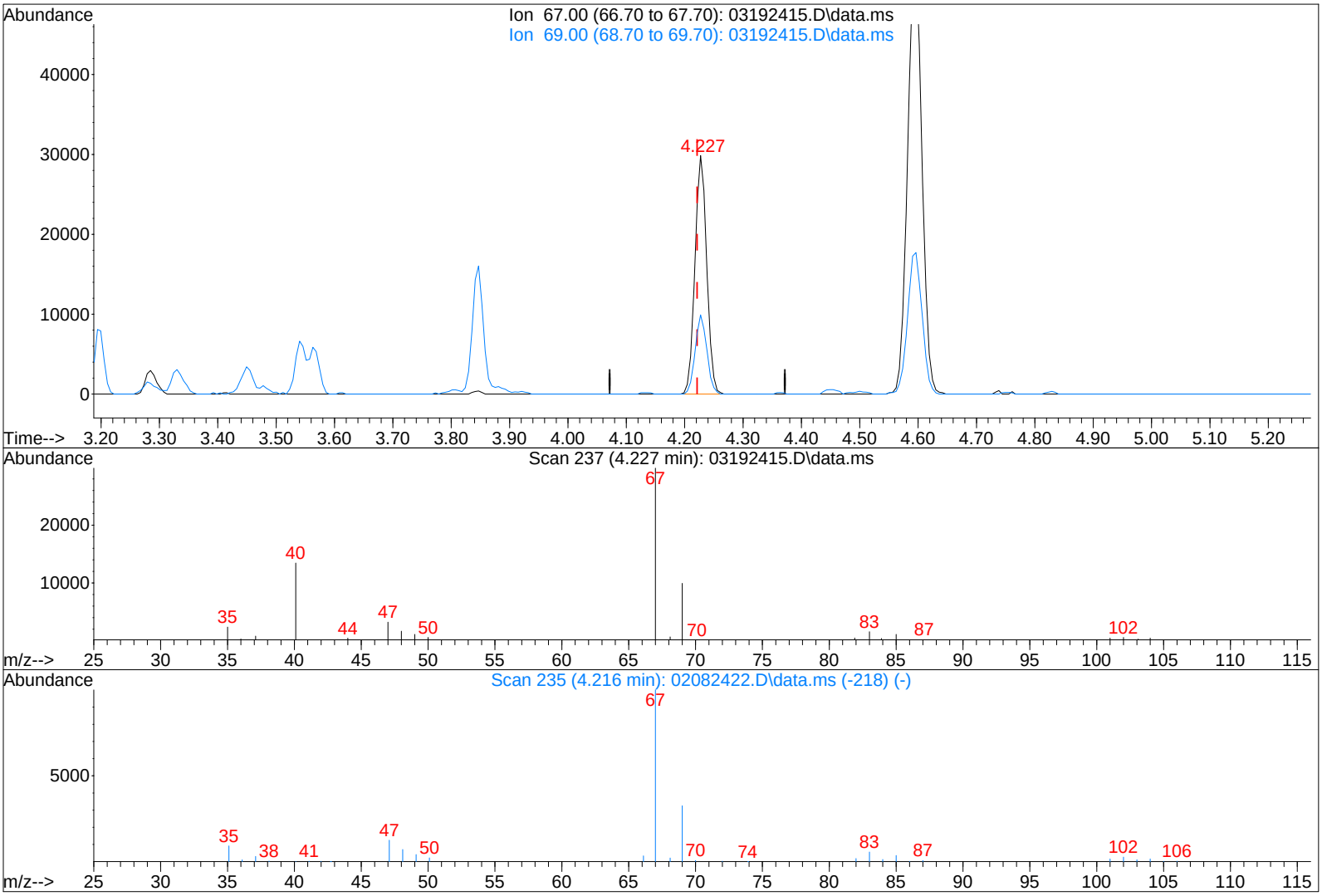
Quant Time: Mar 21 09:52:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192415.D Vial: 4
Acq On : 19 Mar 2024 17:41 Operator: SC
Sample : P2400922-001 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:50:57 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192415.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.36ng

response 41716

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.93
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 17:41
Operator : SC
Sample : P2400922-001 (400mL)
Misc : S37-02202408
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192415.D\data.ms

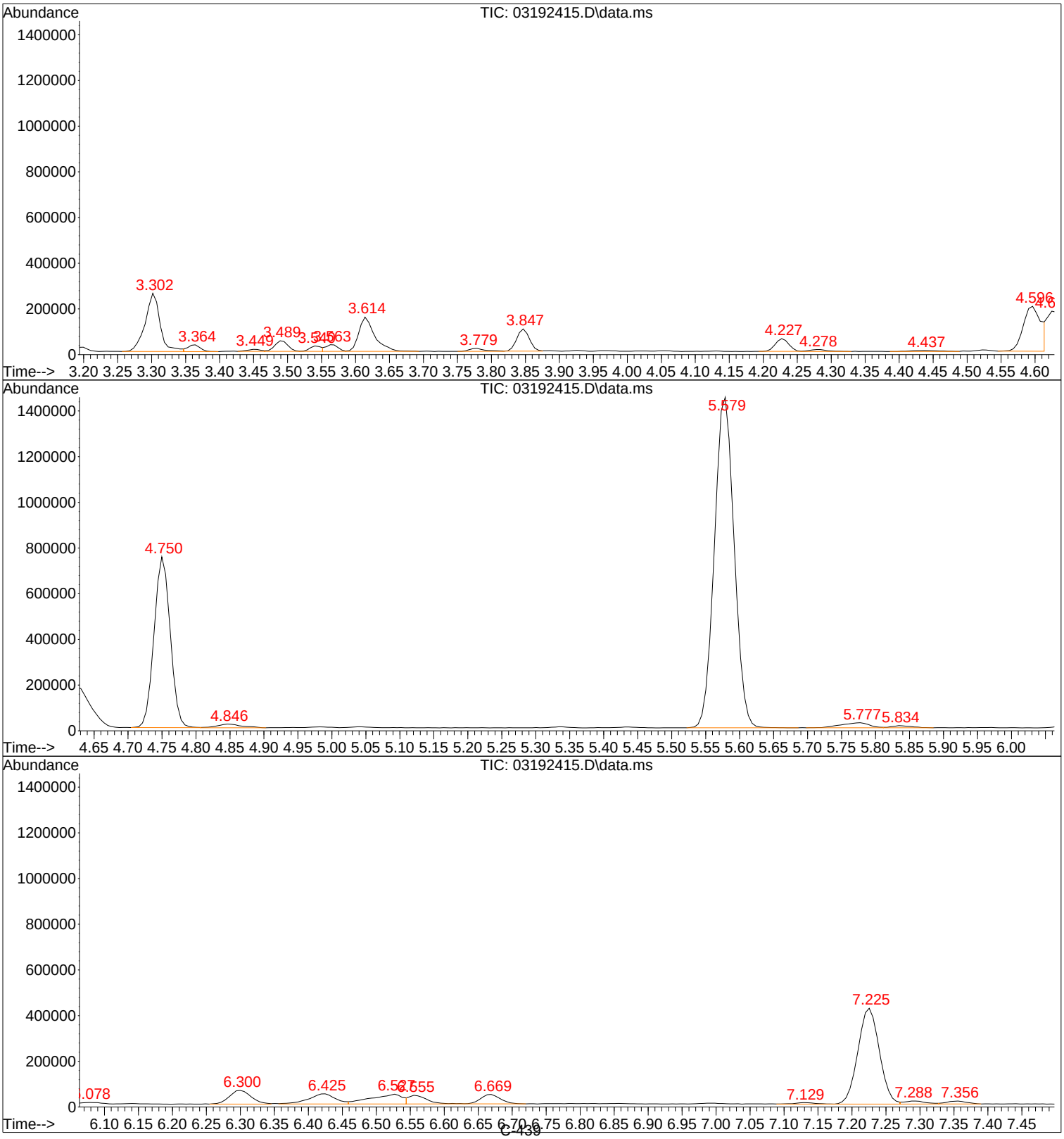
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	66	74	82	rBV3	254942	389199	13.34%	5.134%
2	3.364	82	85	91	rVB	29185	35069	1.20%	0.463%
3	3.449	96	100	103	rVV3	8795	12696	0.44%	0.167%
4	3.489	103	107	112	rVV3	46635	61987	2.12%	0.818%
5	3.540	112	116	118	rVV	23547	28980	0.99%	0.382%
6	3.563	118	120	124	rVV	28873	34575	1.18%	0.456%
7	3.614	124	129	143	rVB	149837	241578	8.28%	3.187%
8	3.779	153	158	165	rBV3	13073	21105	0.72%	0.278%
9	3.847	165	170	175	rBV2	97409	125709	4.31%	1.658%
10	4.227	231	237	242	rBV	55716	77425	2.65%	1.021%
11	4.278	242	246	255	rVB2	8021	13982	0.48%	0.184%
12	4.437	265	274	283	rBV5	4346	13376	0.46%	0.176%
13	4.596	293	302	305	rBV	196135	364003	12.47%	4.802%
14	4.625	305	307	318	rVB	175863	329863	11.30%	4.352%
15	4.750	321	329	339	rVV	747457	1236286	42.36%	16.310%
16	4.846	339	346	356	rVB5	16121	40435	1.39%	0.533%
17	5.579	465	475	494	rBV2	1446863	2918466	100.00%	38.502%
18	5.777	496	510	516	rVV2	22184	64067	2.20%	0.845%
19	5.834	516	520	529	rVB2	9338	18493	0.63%	0.244%
20	6.078	555	563	569	rBV2	6920	16638	0.57%	0.219%
21	6.300	594	602	610	rBV	59348	132933	4.55%	1.754%
22	6.425	612	624	630	rVV2	44288	123772	4.24%	1.633%
23	6.527	630	642	645	rVV	42948	139707	4.79%	1.843%
24	6.555	645	647	660	rVV	37707	67916	2.33%	0.896%
25	6.669	660	667	676	rVB	41537	83360	2.86%	1.100%
26	7.129	741	748	756	rVB5	6217	13109	0.45%	0.173%
27	7.225	756	765	773	rBV	419519	921628	31.58%	12.159%
28	7.288	773	776	783	rVV	13093	27827	0.95%	0.367%
29	7.356	783	788	794	rVB2	13199	25903	0.89%	0.342%

Sum of corrected areas: 7580087

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 17:41
Operator : SC
Sample : P2400922-001 (400mL)
Misc : S37-02202408
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192415.D
Acq On : 19 Mar 2024 17:411
Operator : SCC
Sample : P2400922-001 (400mL))
Misc : S37-022024088
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:25:15 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	160335	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	689915	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	150710	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	325294	12.401	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	12.43	98	775236	12.811	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
73) Bromofluorobenzene (SS3)	16.83	174	271009	12.703	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
Target Compounds							Qvalue
2) Propene	3.31	42	3668	0.201	ng	#	77
3) Dichlorodifluoromethan...	3.37	85	18976	0.577	ng		99
4) Chloromethane	3.51	50	7367	0.301	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	336	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	344	N.D.			
10) Ethanol	4.27	45	10653	0.688	ng		98
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.52	56	3452	0.311	ng		100
13) Acetone	4.62	58	63060	5.348	ng	#	66
14) Trichlorofluoromethane	4.76	101	8770	0.276	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	13557	0.289	ng		100
16) Acrylonitrile	4.98	53	679	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	170	N.D.			
19) Methylene Chloride	5.35	84	1824	0.106	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1538	0.115	ng		94
22) Carbon Disulfide	5.59	76	36406	0.681	ng		100
23) trans-1,2-Dichloroethene	6.12	61	142	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	6167	0.640	ng	#	82
28) cis-1,2-Dichloroethene	7.07	61	297	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	1137	0.197	ng		100
31) n-Hexane	7.30	57	119	N.D.			
32) Chloroform	7.35	83	638	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	421	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	238	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	1831	No Calib		#	
41) Benzene	8.90	78	1578	N.D.			
42) Carbon Tetrachloride	9.07	117	1658	0.068	ng		93
43) Cyclohexane	9.29	84	636	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	377	N.D.			
47) Trichloroethene	10.14	130	7179	0.429	ng		98
48) 1,4-Dioxane	10.14	88	1266	0.117	ng		96
49) 2,2,4-Trimethylpentane...	10.14	57	108	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:25:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

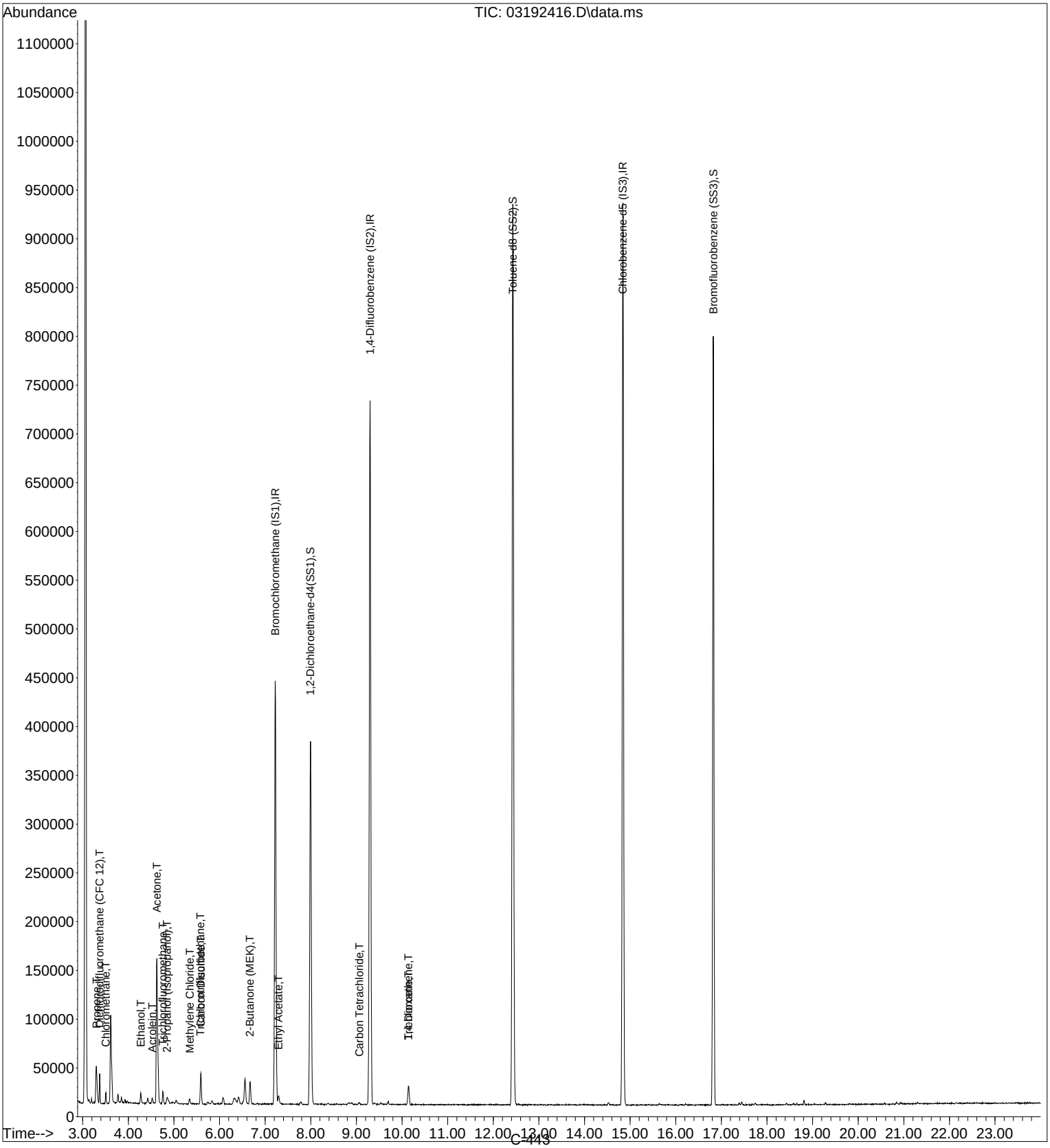
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	0.00	71	0	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	12.56	91	879	N.D.
59) 2-Hexanone	0.00	43	0	N.D.
60) Dibromochloromethane	13.07	129	292	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	0.00	43	0	N.D.
63) n-Octane	0.00	57	0	N.D.
64) Tetrachloroethene	14.03	166	363	N.D.
65) Chlorobenzene	14.89	112	608	N.D.
66) Ethylbenzene	15.41	91	848	N.D.
67) m- & p-Xylenes	15.63	91	807	N.D.
68) Bromoform	15.67	173	376	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	16.24	91	694	N.D.
71) n-Nonane	0.00	43	0	N.D.
72) 1,1,2,2-Tetrachloroethane	16.21	83	326	N.D.
74) Cumene	17.03	105	707	N.D.
75) alpha-Pinene	0.00	93	0	N.D.
76) n-Propylbenzene	17.68	91	1050	N.D.
77) 3-Ethyltoluene	17.03	105	707	No Calib #
78) 4-Ethyltoluene	17.86	105	583	N.D.
79) 1,3,5-Trimethylbenzene	17.96	105	367	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	17.03	105	707	No Calib #
82) 1,2,4-Trimethylbenzene	18.43	105	436	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	0.00	91	0	N.D.
85) 1,3-Dichlorobenzene	18.58	146	460	N.D.
86) 1,4-Dichlorobenzene	18.66	146	562	N.D.
87) sec-Butylbenzene	18.74	105	842	N.D.
88) 4-Isopropyltoluene (p-...	18.93	119	496	N.D.
89) 1,2,3-Trimethylbenzene	17.03	105	707	No Calib #
90) 1,2-Dichlorobenzene	19.04	146	501	N.D.
91) d-Limonene	0.00	68	0	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	20.84	180	796	N.D.
95) Naphthalene	0.00	128	0	N.D. d
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	21.31	225	541	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	18.42	119	804	N.D.
100) n-Butylbenzene	19.39	91	500	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:25:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:25:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

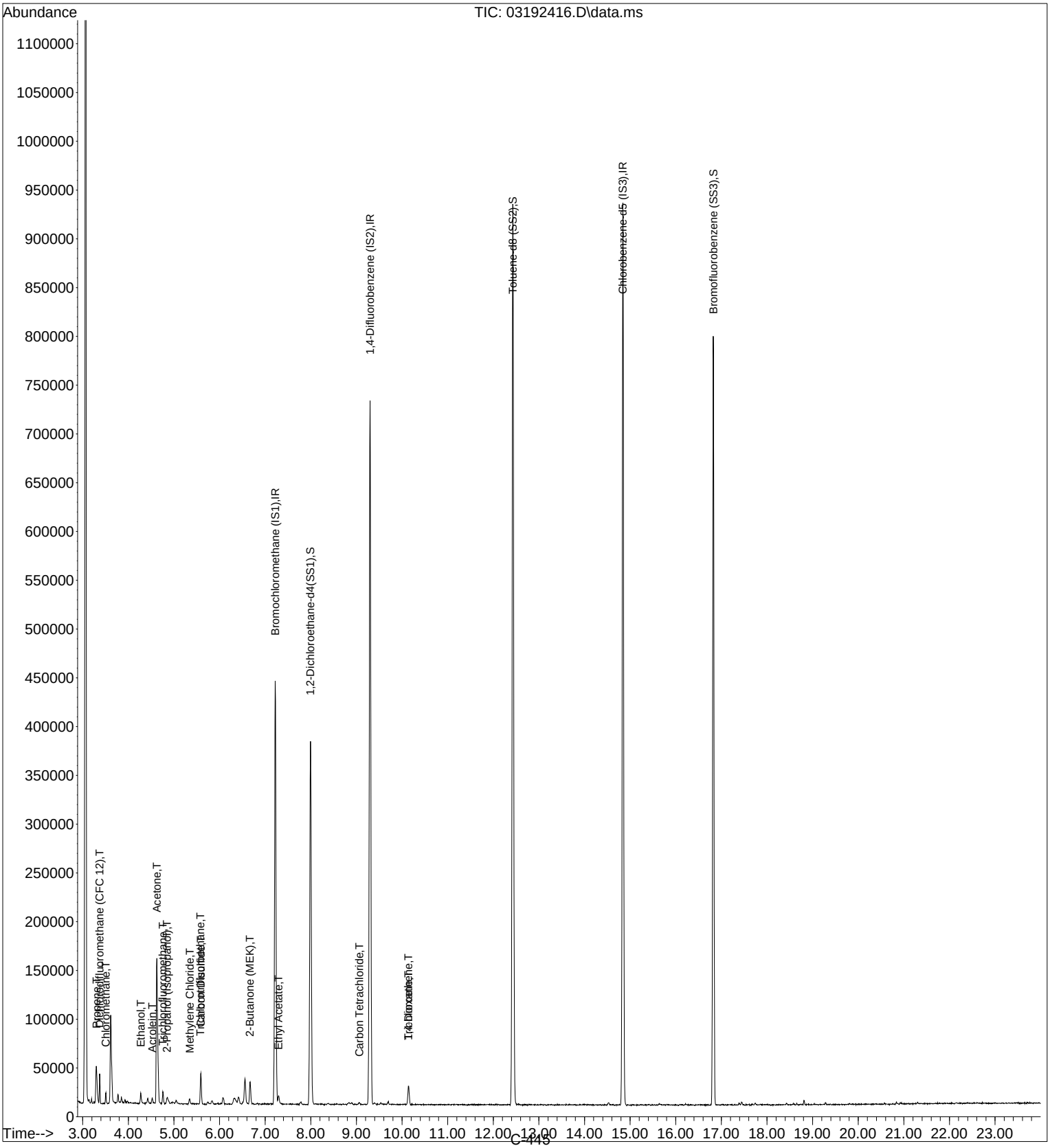
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	160335	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	689915	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	150710	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	325294	12.401	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
57) Toluene-d8 (SS2)	12.43	98	775236	12.811	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
73) Bromofluorobenzene (SS3)	16.83	174	271009	12.703	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
Target Compounds							Qvalue
2) Propene	3.31	42	3668	0.201	ng	#	77
3) Dichlorodifluoromethan...	3.37	85	18976	0.577	ng		99
4) Chloromethane	3.51	50	7367	0.301	ng		100
10) Ethanol	4.27	45	10653	0.688	ng		98
12) Acrolein	4.52	56	3452	0.311	ng		100
13) Acetone	4.62	58	63060	5.348	ng	#	66
14) Trichlorofluoromethane	4.76	101	8770	0.276	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	13557	0.289	ng		100
19) Methylene Chloride	5.35	84	1824	0.106	ng		98
21) Trichlorotrifluoroethane	5.58	151	1538	0.115	ng		94
22) Carbon Disulfide	5.59	76	36406	0.681	ng		100
27) 2-Butanone (MEK)	6.66	72	6167	0.640	ng	#	82
30) Ethyl Acetate	7.29	61	1137	0.197	ng		100
42) Carbon Tetrachloride	9.07	117	1658	0.068	ng		93
47) Trichloroethene	10.14	130	7179	0.429	ng		98
48) 1,4-Dioxane	10.14	88	1266	0.117	ng		96

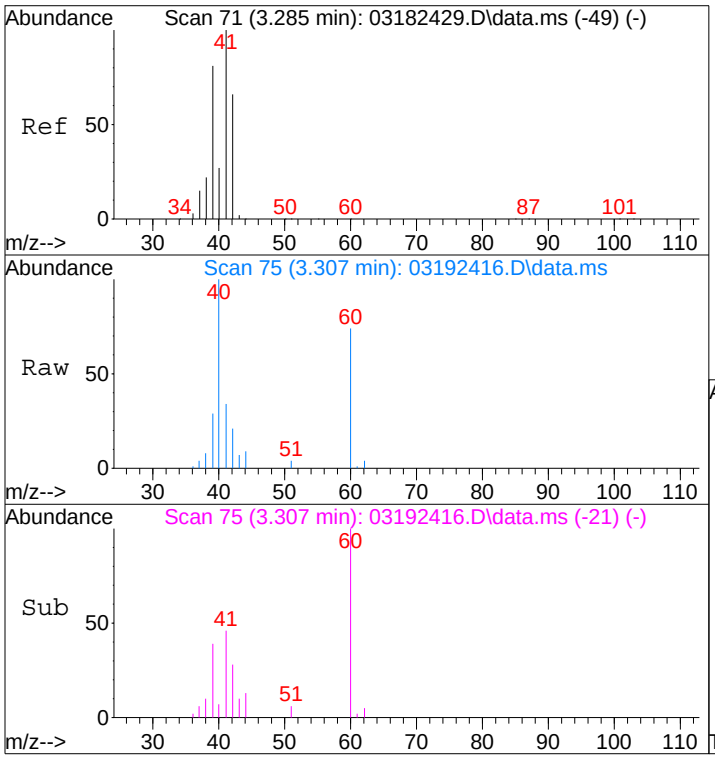
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:25:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

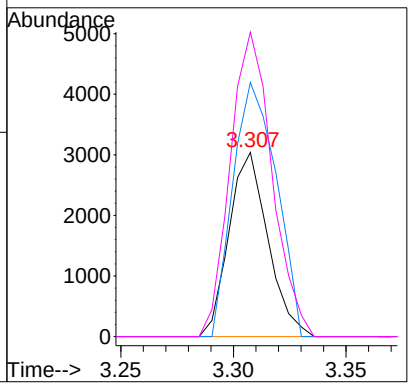


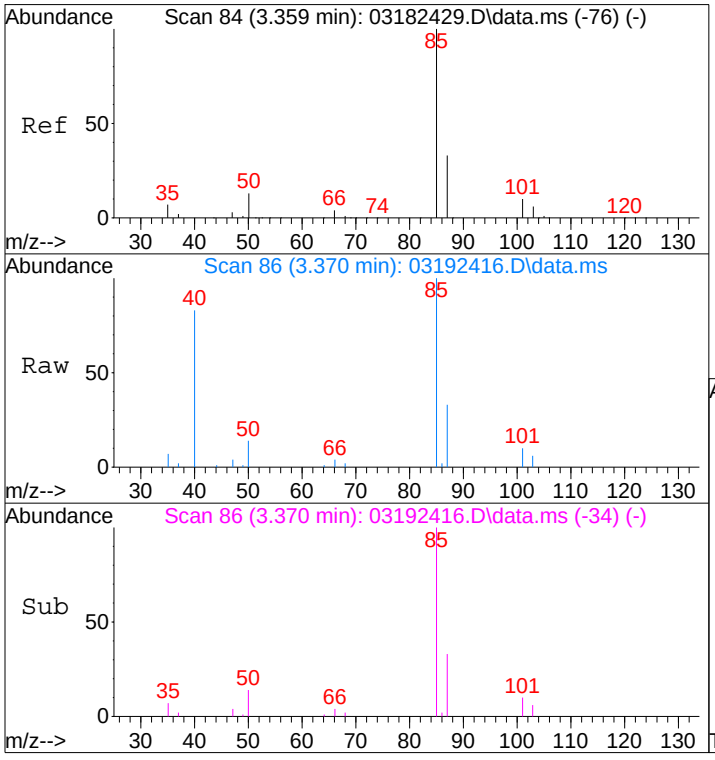


#2
Propene
Concen: 0.20 ng
RT: 3.31 min Scan# 75
Delta R.T. 0.058 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 42 Resp: 3668

Ion	Ratio	Lower	Upper
42	100		
39	154.0	102.3	142.3#
41	178.0	133.8	173.8#

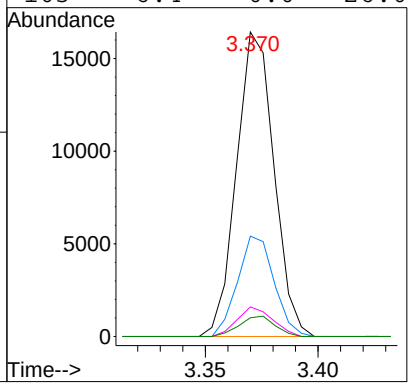


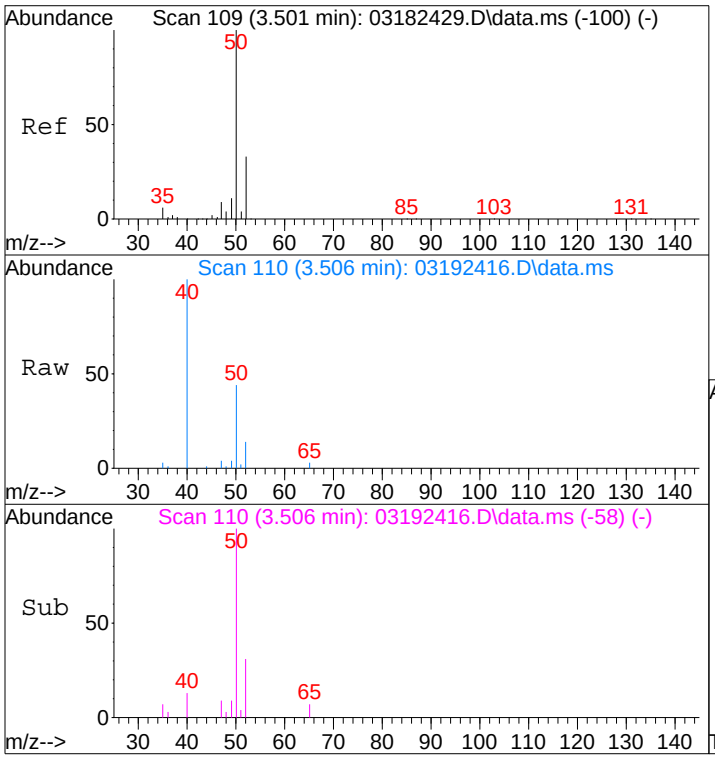


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.048 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 85 Resp: 18976

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	9.2	0.0	29.2
103	6.4	0.0	26.0

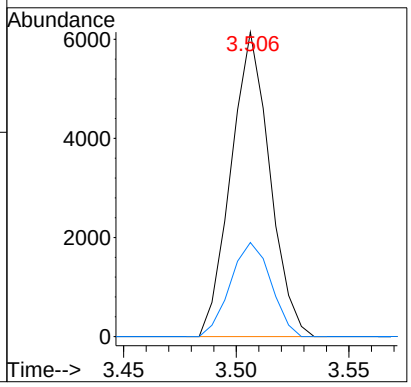


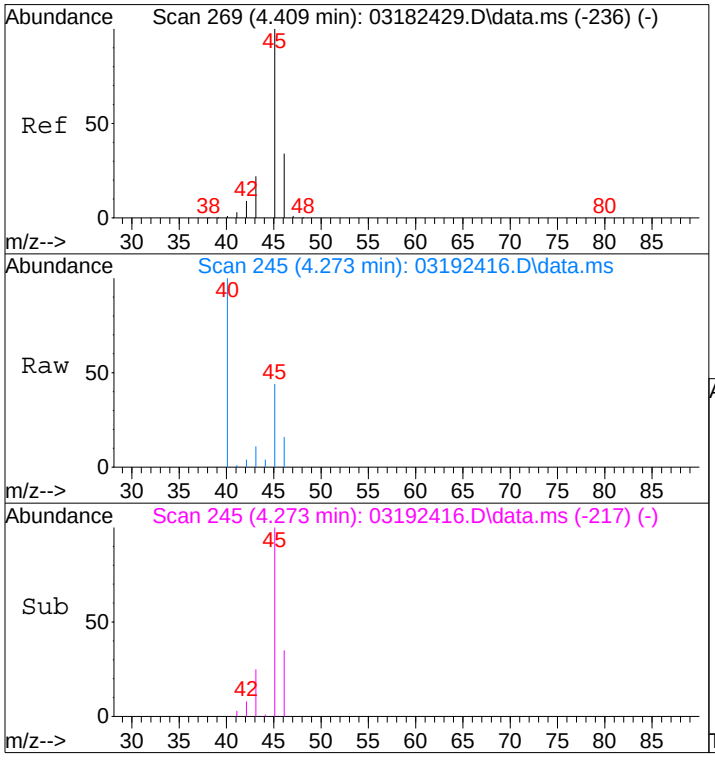


#4
Chloromethane
Concen: 0.30 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.044 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 50 Resp: 7367

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.3	52.3

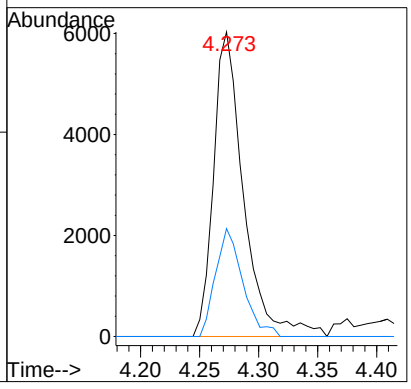


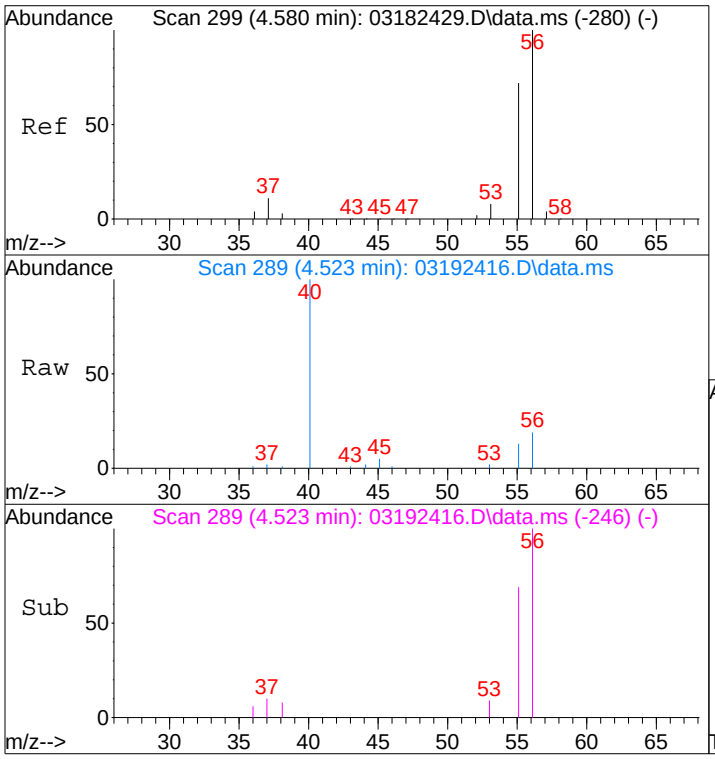


#10
Ethanol
Concen: 0.69 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.088 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 45 Resp: 10653

Ion	Ratio	Lower	Upper
45	100		
46	32.1	13.3	53.3

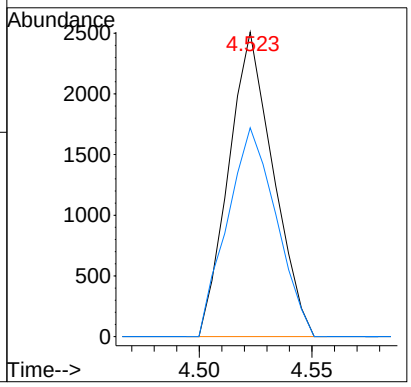


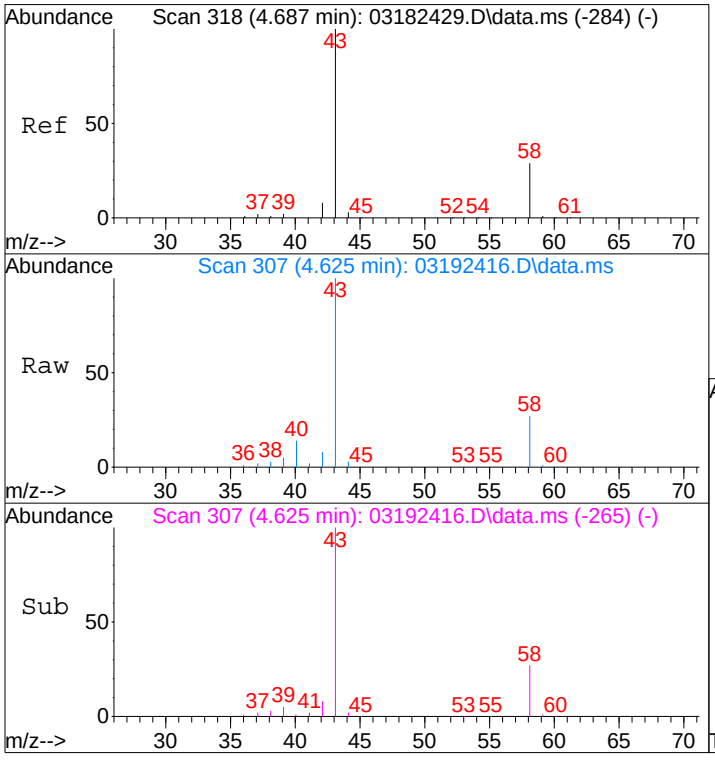


#12
Acrolein
Concen: 0.31 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.007 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 56 Resp: 3452

Ion	Ratio	Lower	Upper
56	100		
55	75.3	54.9	94.9

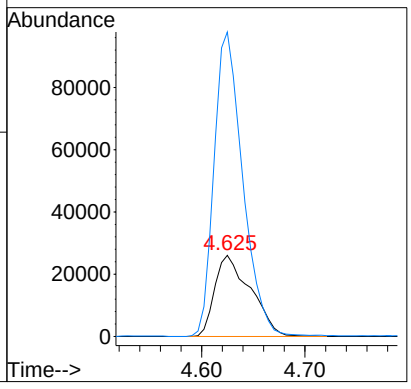


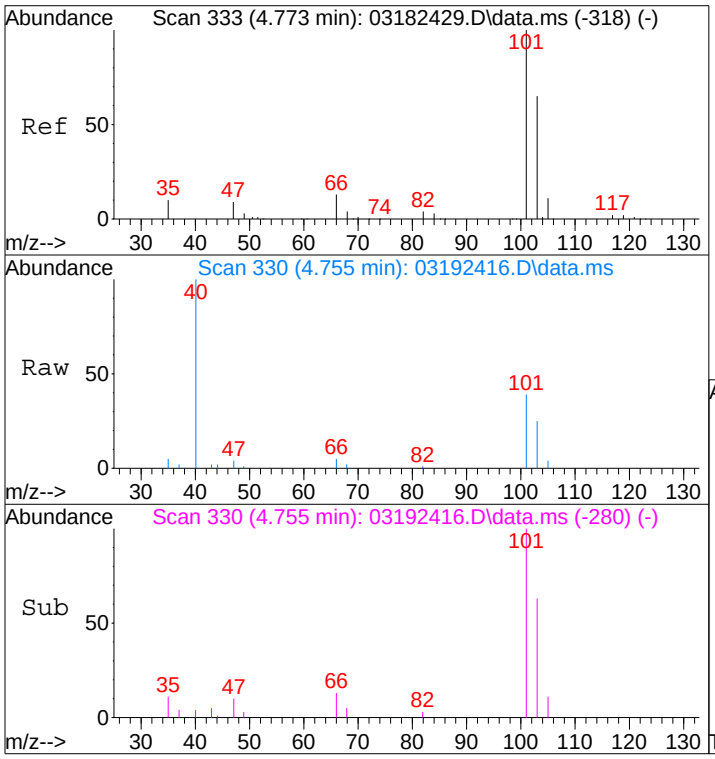


#13
Acetone
Concen: 5.35 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.012 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 58 Resp: 63060

Ion	Ratio	Lower	Upper
58	100		
43	301.1	350.1	410.1#

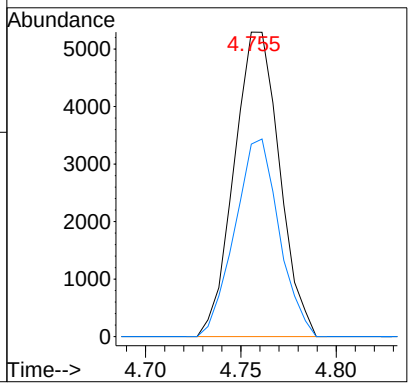


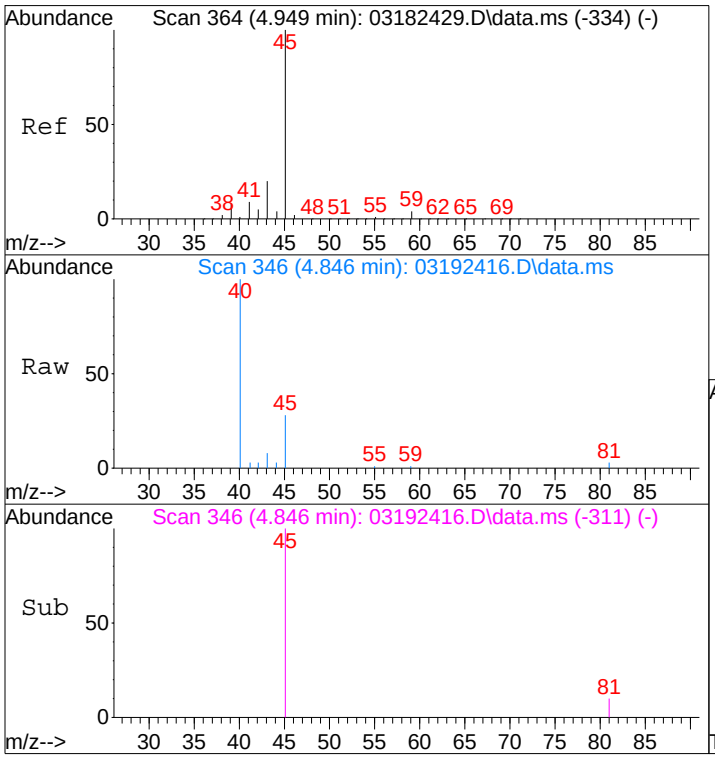


#14
Trichlorofluoromethane
Concen: 0.28 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion:101 Resp: 8770

Ion	Ratio	Lower	Upper
101	100		
103	63.3	44.7	84.7

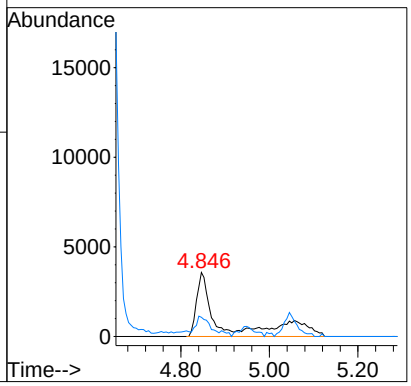


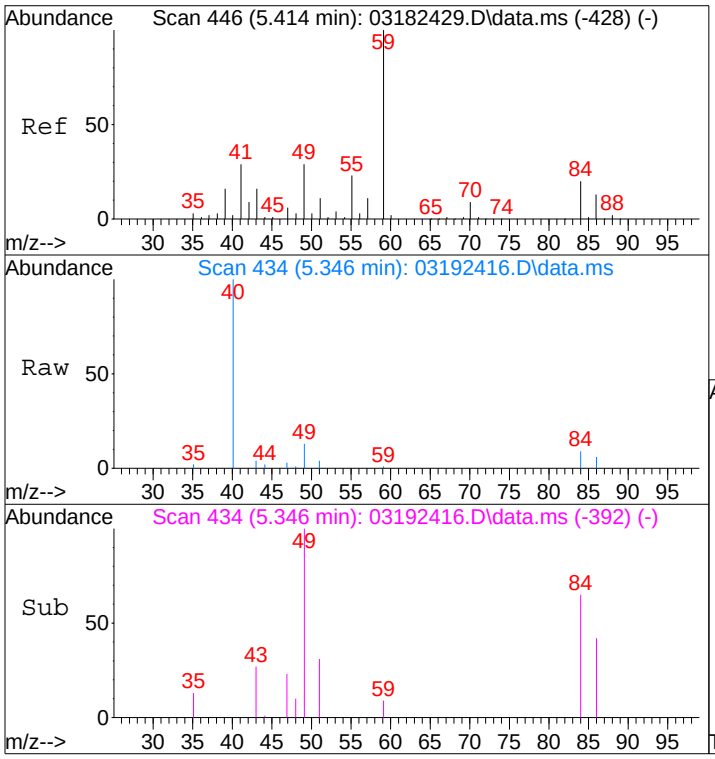


#15
2-Propanol (Isopropanol)
Concen: 0.29 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.049 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 45 Resp: 13557

Ion	Ratio	Lower	Upper
45	100		
43	20.4	0.4	40.4

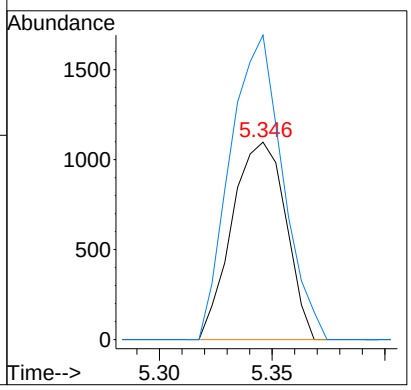


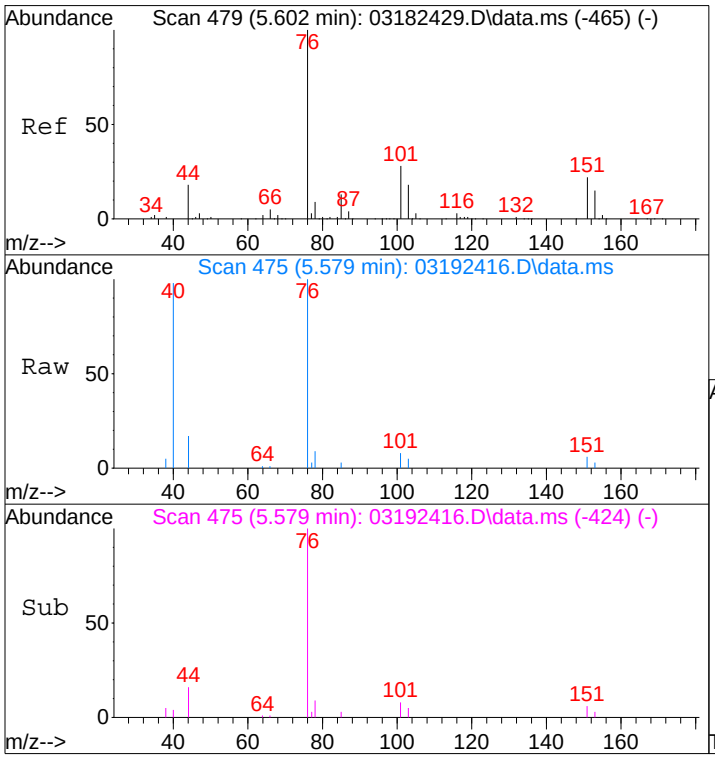


#19
Methylene Chloride
Concen: 0.11 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.009 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 84 Resp: 1824

Ion	Ratio	Lower	Upper
84	100		
49	150.4	122.9	172.9

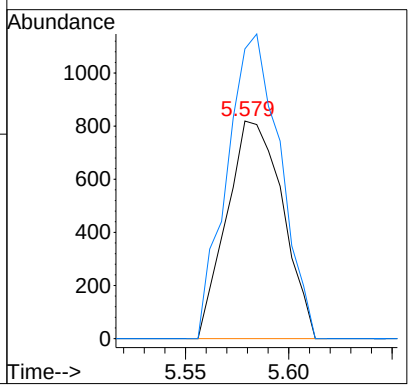


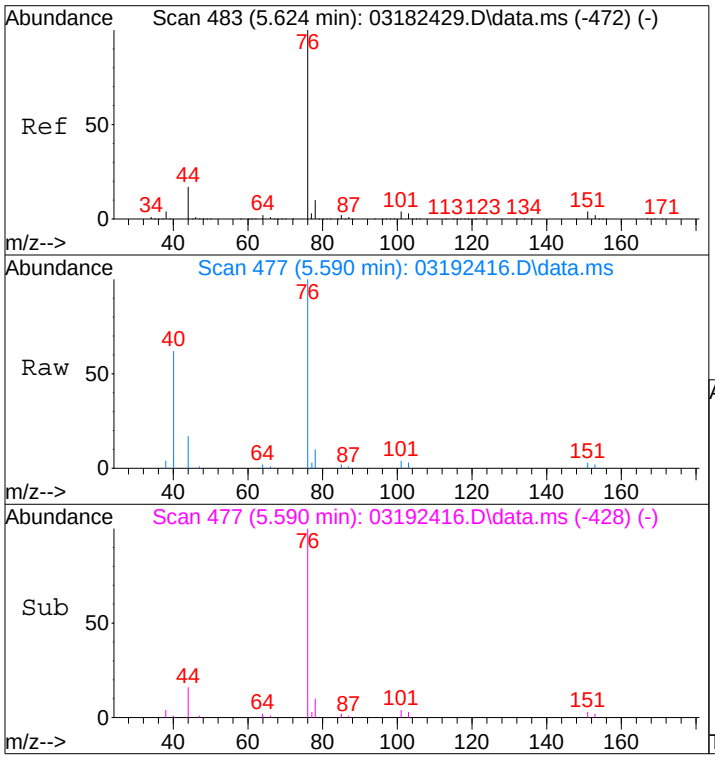


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion:151 Resp: 1538

Ion	Ratio	Lower	Upper
151	100		
101	133.2	106.4	146.4

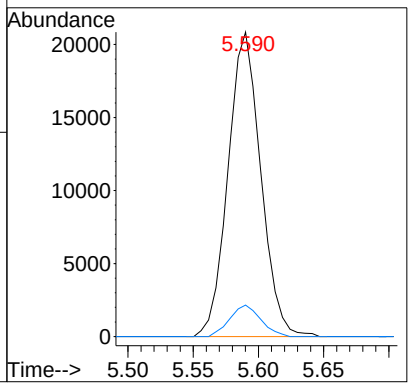


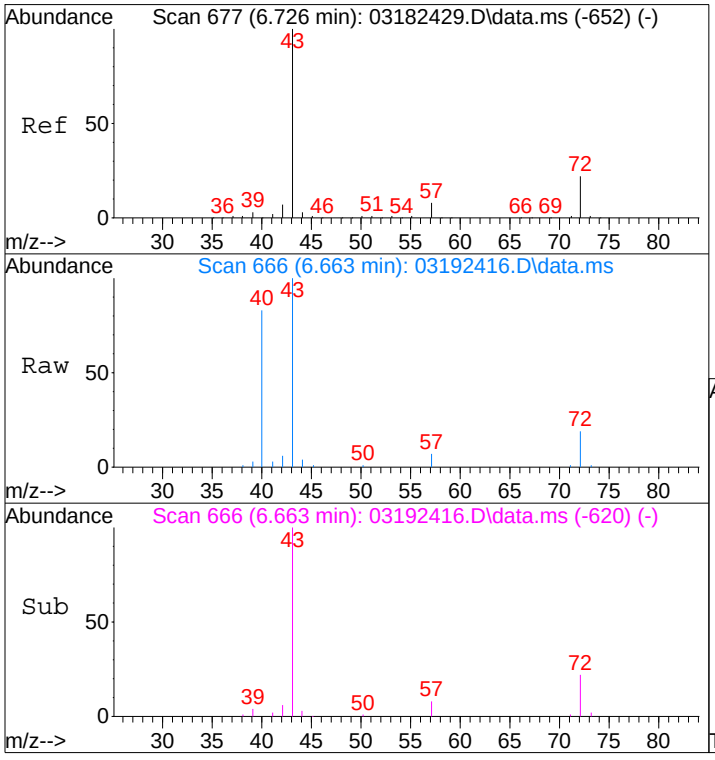


#22
Carbon Disulfide
Concen: 0.68 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 76 Resp: 36406

Ion	Ratio	Lower	Upper
76	100		
78	9.8	0.0	29.8

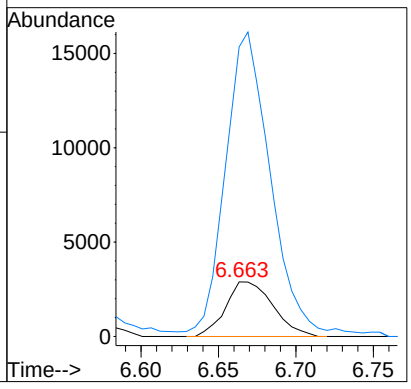


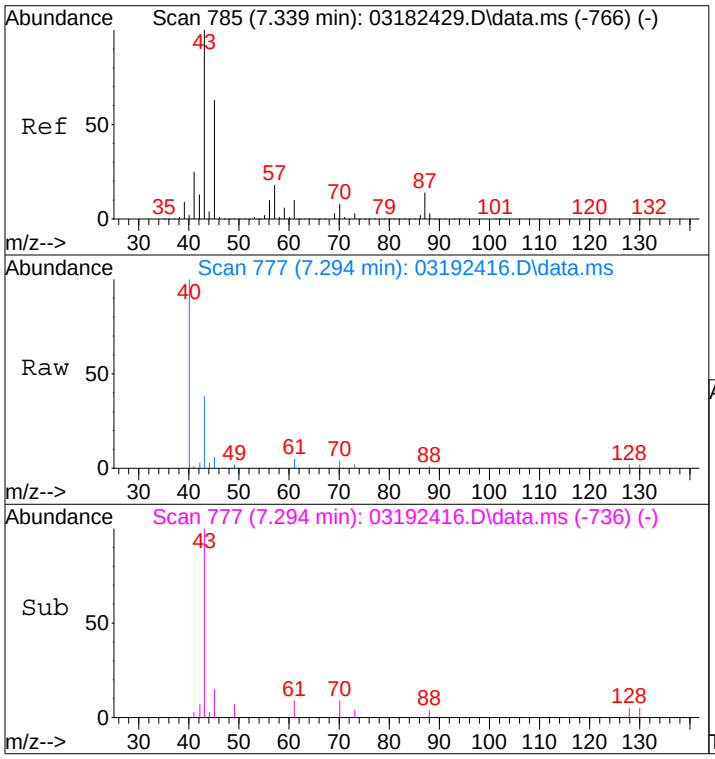


#27
2-Butanone (MEK)
Concen: 0.64 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 72 Resp: 6167

Ion	Ratio	Lower	Upper
72	100		
43	537.6	468.6	508.6#

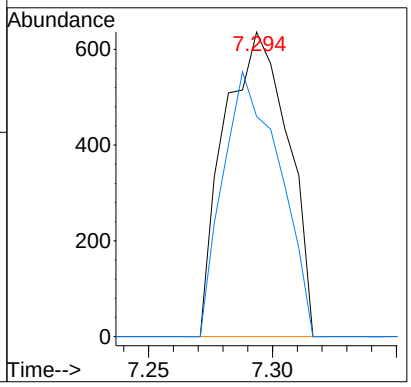


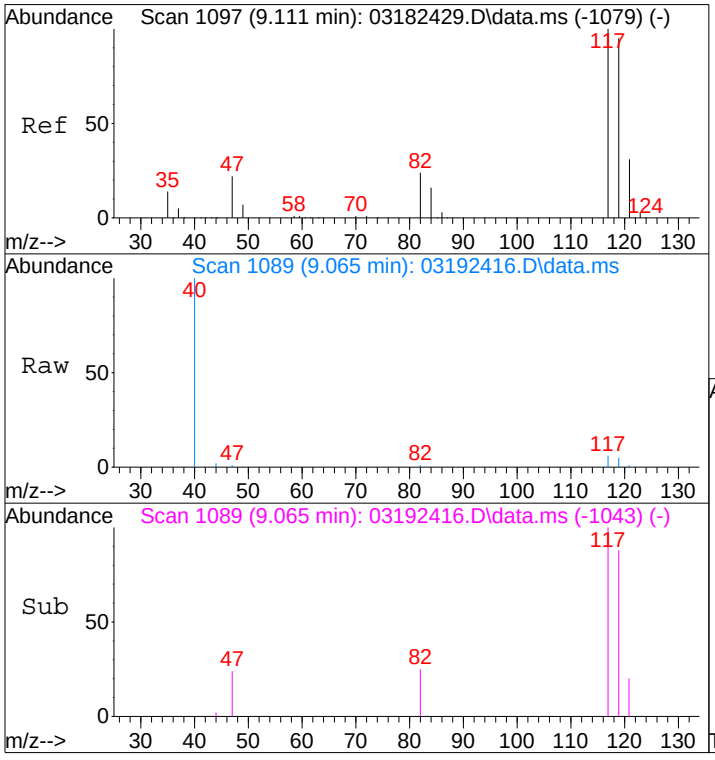


#30
Ethyl Acetate
Concen: 0.20 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 61 Resp: 1137

Ion	Ratio	Lower	Upper
61	100		
70	77.5	57.3	97.3

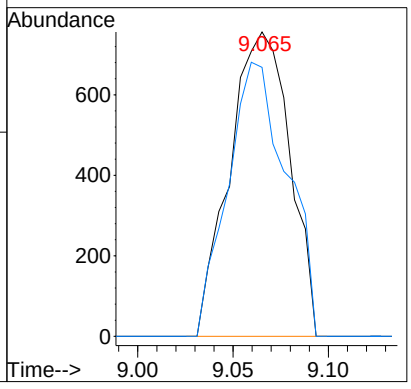


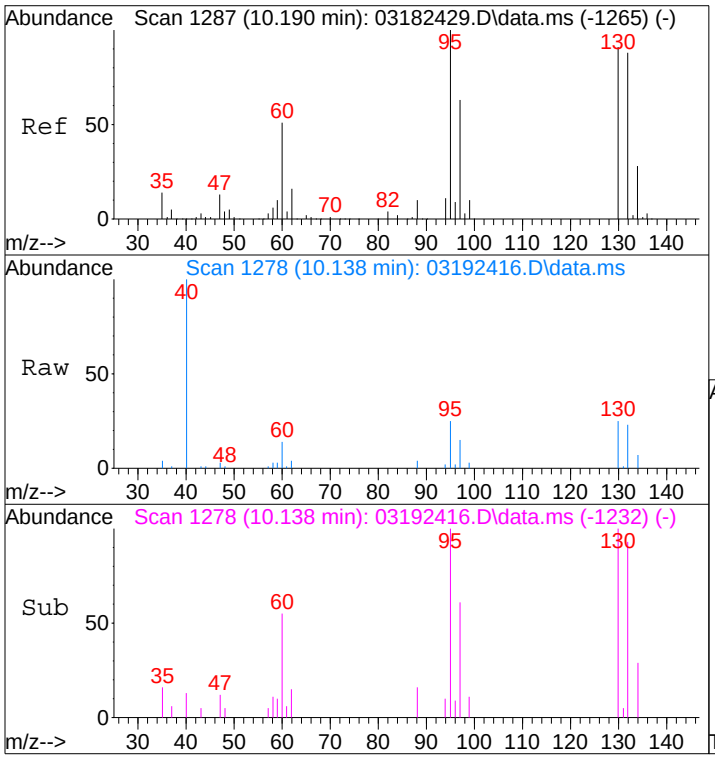


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.010 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion:117 Resp: 1658

Ion	Ratio	Lower	Upper
117	100		
119	88.8	75.7	115.7

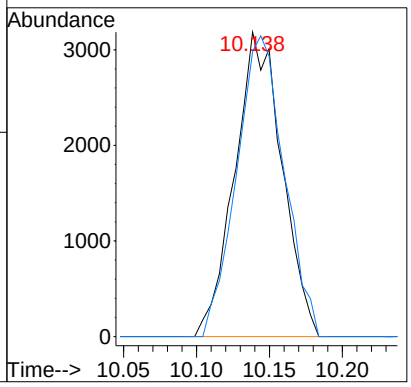


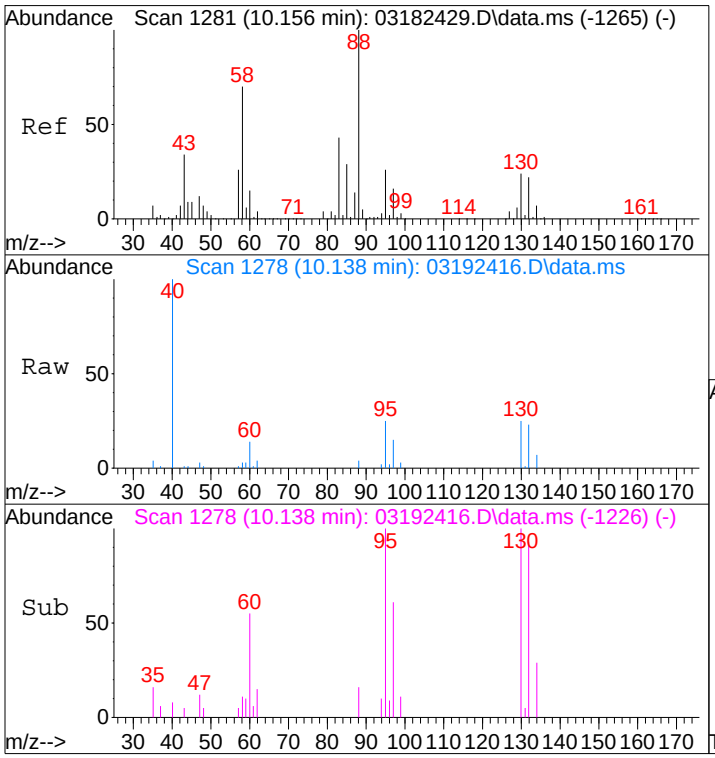


#47
Trichloroethene
Concen: 0.43 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion:130 Resp: 7179

Ion	Ratio	Lower	Upper
130	100		
132	99.6	77.5	117.5

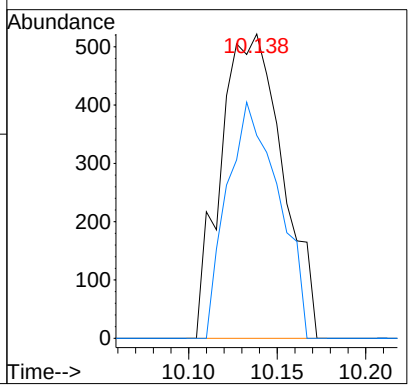




#48
1,4-Dioxane
Concen: 0.12 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.045 min
Lab File: 03192416.D
Acq: 19 Mar 2024 18:14

Tgt Ion: 88 Resp: 1266

Ion	Ratio	Lower	Upper
88	100		
58	64.8	48.2	88.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

3/21/24

Quant Time: Mar 21 09:55:27 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

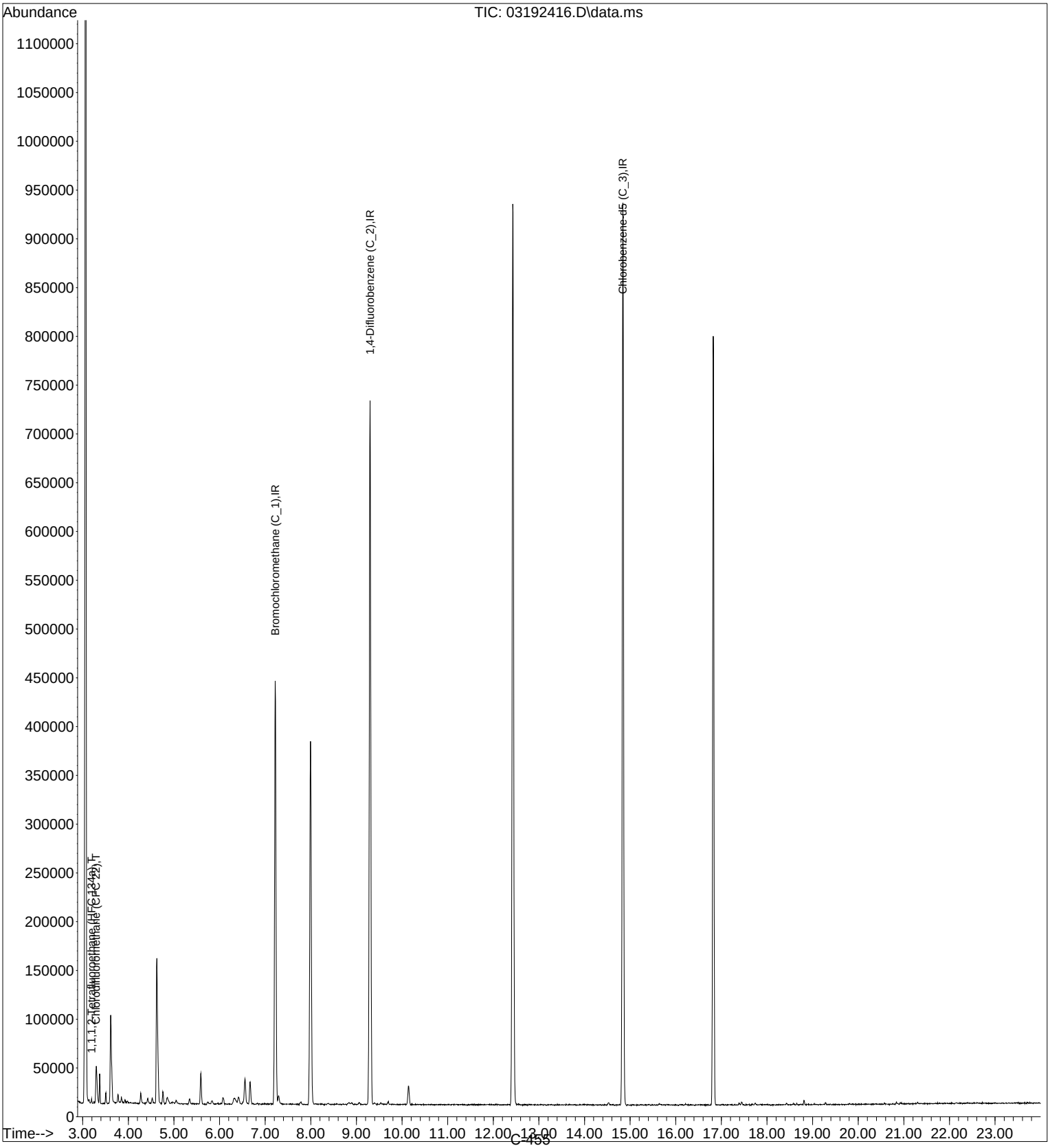
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	160335	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	691084	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	150710	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	147	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1895	0.128	ng	#	70
4) 1,1-Difluoroethane	3.25	65	436	N.D.			
5) Chlorodifluoromethane ...	3.29	67	1085	0.230	ng	#	76
6) 1-Chloro-1,1-Difluoroe...	3.50	65	566	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1467	N.D.			
12) 2-Methylpentane	6.56	71	204	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.06	84	57	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.80	174	107	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	562	N.D.			
27) 4-Chlorotoluene	17.68	91	1050	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192416.D Vial: 5
Acq On : 19 Mar 2024 18:14 Operator: SC
Sample : P2400922-002 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:55:27 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192416.D
Acq On : 19 Mar 2024 18:14
Operator : SC
Sample : P2400922-002 (400mL)
Misc : S37-02202408
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192416.D\data.ms

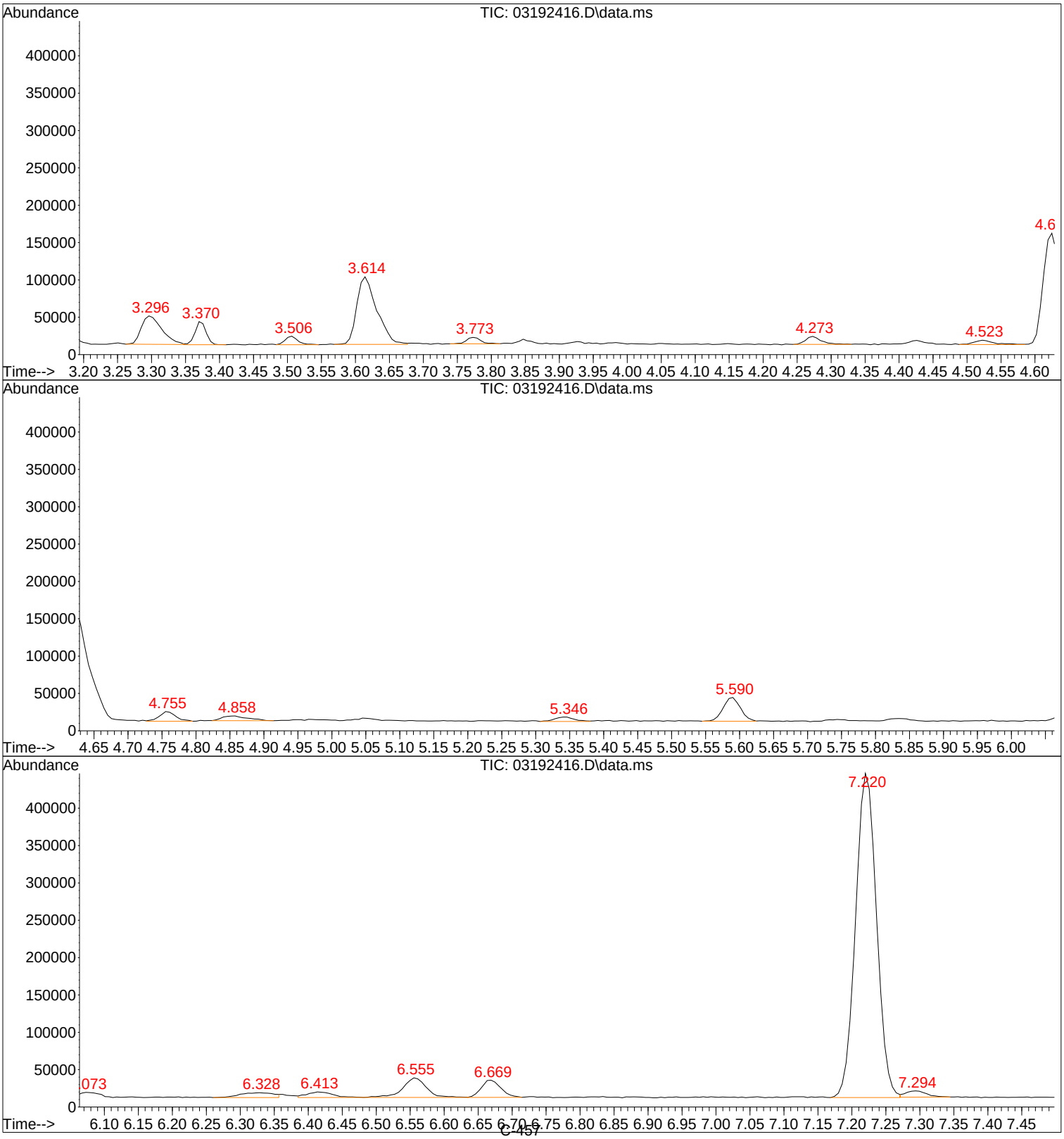
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	67	73	82	rBV3	38012	79984	8.58%	4.220%
2	3.370	82	86	93	rVB	30890	35011	3.76%	1.847%
3	3.506	106	110	117	rVB2	11372	14463	1.55%	0.763%
4	3.614	121	129	140	rBV	90552	185538	19.90%	9.788%
5	3.773	151	157	164	rBV2	8528	12533	1.34%	0.661%
6	4.273	240	245	255	rBV	10653	16764	1.80%	0.884%
7	4.523	283	289	300	rBV3	5690	11754	1.26%	0.620%
8	4.625	300	307	321	rVV	149271	316257	33.93%	16.684%
9	4.755	325	330	337	rVB2	12958	21426	2.30%	1.130%
10	4.858	342	348	358	rVB6	6400	16485	1.77%	0.870%
11	5.346	427	434	440	rBV3	5844	11935	1.28%	0.630%
12	5.590	469	477	483	rBV	31843	56463	6.06%	2.979%
13	6.073	558	562	569	rVB3	7050	15098	1.62%	0.796%
14	6.328	595	607	612	rBV4	6561	23138	2.48%	1.221%
15	6.413	617	622	634	rVV4	7499	19367	2.08%	1.022%
16	6.555	634	647	661	rVV3	26246	63655	6.83%	3.358%
17	6.669	661	667	675	rVB	22954	46047	4.94%	2.429%
18	7.220	755	764	773	rBV	433915	932213	100.00%	49.178%
19	7.294	773	777	786	rVB3	8270	17442	1.87%	0.920%

Sum of corrected areas: 1895573

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192416.D
Acq On : 19 Mar 2024 18:14
Operator : SC
Sample : P2400922-002 (400mL)
Misc : S37-02202408
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192416.D
Acq On : 19 Mar 2024 18:144
Operator : SCC
Sample : P2400922-002 (400mL))
Misc : S37-022024088
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:28:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	157507	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	673376	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	148841	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	319654	12.405	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
57) Toluene-d8 (SS2)	12.43	98	758872	12.698	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	16.83	174	266037	12.627	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	19354m	0.599	ng		
4) Chloromethane	3.49	50	1178	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	409	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	203	N.D.			
9) Chloroethane	4.15	64	168	N.D.			
10) Ethanol	4.28	45	3253m	0.214	ng		
11) Acetonitrile	4.43	41	1367	N.D.			
12) Acrolein	4.53	56	1336	0.122	ng		98
13) Acetone	4.64	58	13804	1.192	ng	#	83
14) Trichlorofluoromethane	4.75	101	1778629	56.882	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	4736	0.103	ng		94
16) Acrylonitrile	5.04	53	188	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	116	N.D.			
19) Methylene Chloride	5.33	84	1326	0.079	ng		91
20) 3-Chloro-1-propene (Al...	5.39	41	456	N.D.			
21) Trichlorotrifluoroethane	5.58	151	929628	70.530	ng		98
22) Carbon Disulfide	5.59	76	33981	0.647	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	1865	0.197	ng	#	53
28) cis-1,2-Dichloroethene	7.07	61	331	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.31	57	3527	0.144	ng		98
32) Chloroform	7.34	83	40249	1.474	ng		100
34) Tetrahydrofuran (THF)	7.77	72	112	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	260	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	3192	No Calib		#	
40) 1-Butanol	8.80	56	3093	No Calib		#	
41) Benzene	8.89	78	6396	0.106	ng		99
42) Carbon Tetrachloride	9.07	117	189	N.D.			
43) Cyclohexane	9.23	84	681	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	1186	0.053	ng	#	72
47) Trichloroethene	10.14	130	4716	0.289	ng		92
48) 1,4-Dioxane	10.13	88	507	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	109	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:28:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

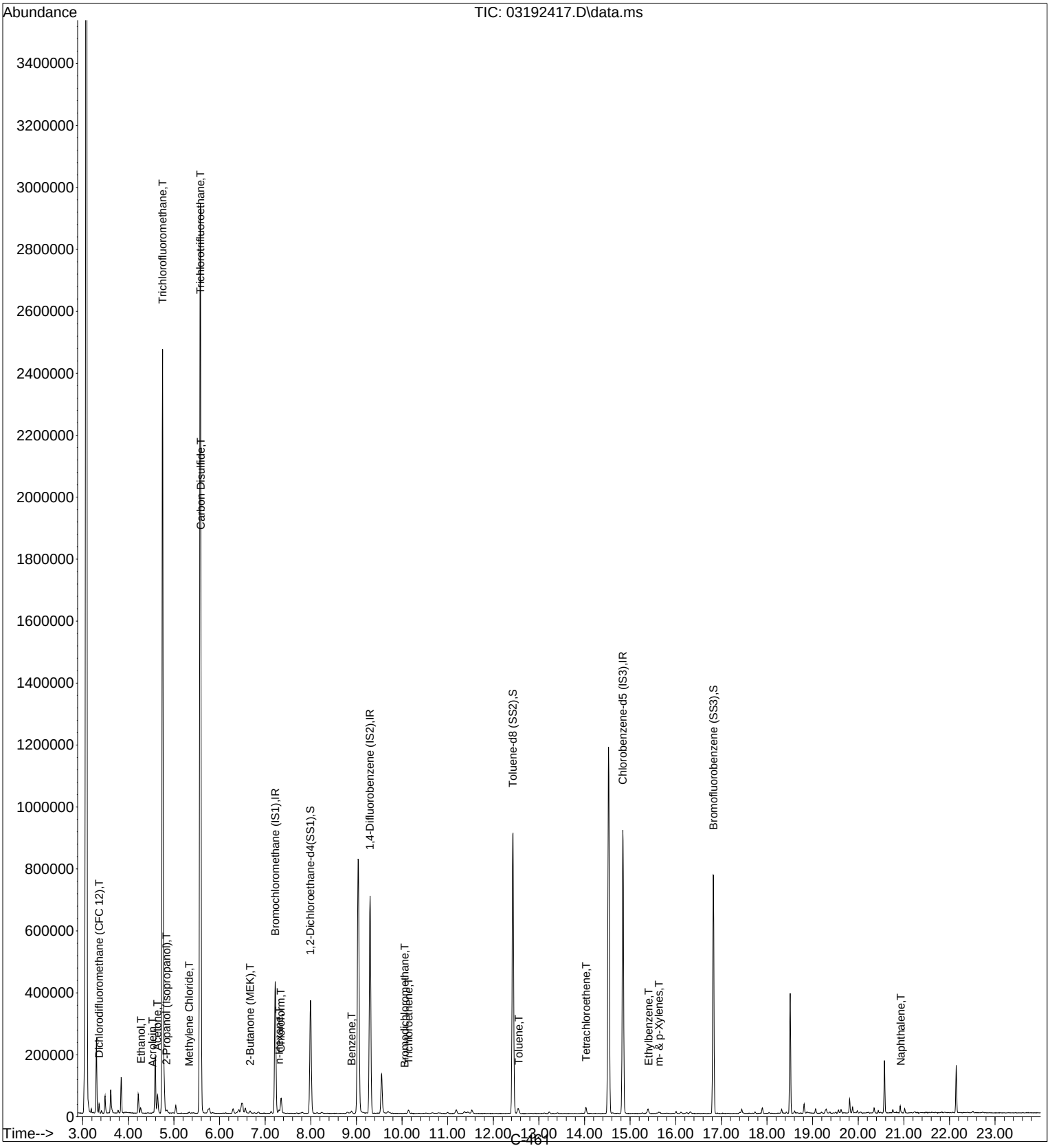
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5762	0.101 ng	98
59) 2-Hexanone	12.92	43	1037	N.D.	
60) Dibromochloromethane	13.07	129	418	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	335	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	7474	0.426 ng	98
65) Chlorobenzene	14.90	112	1071	N.D.	
66) Ethylbenzene	15.41	91	3873	0.059 ng	95
67) m- & p-Xylenes	15.64	91	4944	0.091 ng	97
68) Bromoform	15.67	173	534	N.D.	
69) Styrene	16.10	104	223	N.D.	
70) o-Xylene	16.24	91	2206	N.D.	
71) n-Nonane	16.61	43	572	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.22	83	609	N.D.	
74) Cumene	17.04	105	1067	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1342	N.D.	
77) 3-Ethyltoluene	17.04	105	1067	No Calib #	
78) 4-Ethyltoluene	17.86	105	1041	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	655	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	1067	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	2296	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	601	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	820	N.D.	
87) sec-Butylbenzene	18.74	105	955	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	1412	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	1067	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	510	N.D.	
91) d-Limonene	19.09	68	128	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	948	N.D.	
95) Naphthalene	20.94	128	1485	0.374 ng	94
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	558	N.D.	
98) Cyclohexanone	15.35	55	625	No Calib #	
99) tert-Butylbenzene	18.42	119	959	N.D.	
100) n-Butylbenzene	19.39	91	898	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:28:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:28:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

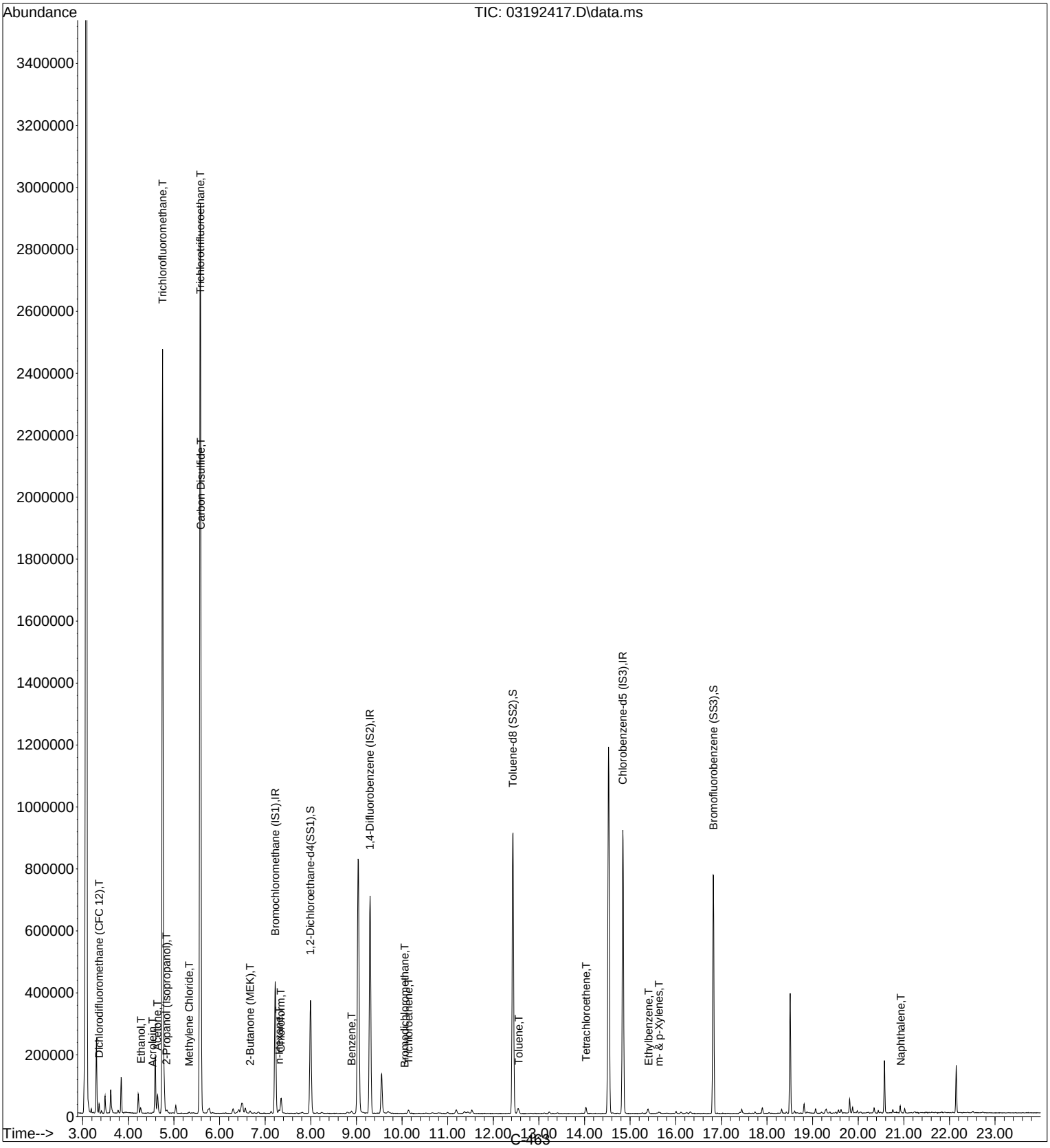
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	157507	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	673376	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	148841	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	319654	12.405	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
57) Toluene-d8 (SS2)	12.43	98	758872	12.698	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
73) Bromofluorobenzene (SS3)	16.83	174	266037	12.627	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	19354m	0.599	ng		
10) Ethanol	4.28	45	3253m	0.214	ng		
12) Acrolein	4.53	56	1336	0.122	ng		98
13) Acetone	4.64	58	13804	1.192	ng	#	83
14) Trichlorofluoromethane	4.75	101	1778629	56.882	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	4736	0.103	ng		94
19) Methylene Chloride	5.33	84	1326	0.079	ng		91
21) Trichlorotrifluoroethane	5.58	151	929628	70.530	ng		98
22) Carbon Disulfide	5.59	76	33981	0.647	ng	#	1
27) 2-Butanone (MEK)	6.67	72	1865	0.197	ng	#	53
31) n-Hexane	7.31	57	3527	0.144	ng		98
32) Chloroform	7.34	83	40249	1.474	ng		100
41) Benzene	8.89	78	6396	0.106	ng		99
46) Bromodichloromethane	10.06	83	1186	0.053	ng	#	72
47) Trichloroethene	10.14	130	4716	0.289	ng		92
58) Toluene	12.56	91	5762	0.101	ng		98
64) Tetrachloroethene	14.03	166	7474	0.426	ng		98
66) Ethylbenzene	15.41	91	3873	0.059	ng		95
67) m- & p-Xylenes	15.64	91	4944	0.091	ng		97
95) Naphthalene	20.94	128	1485	0.374	ng		94

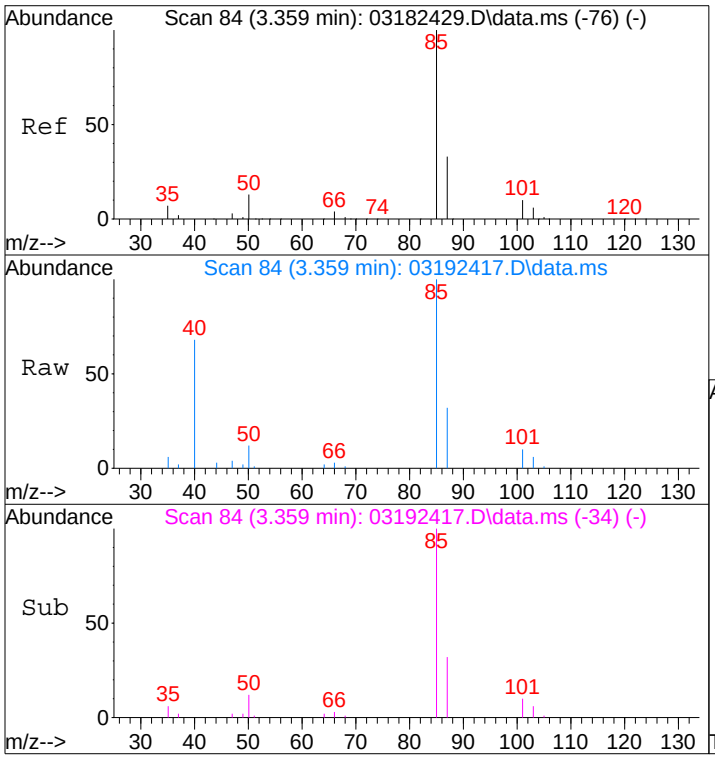
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:28:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

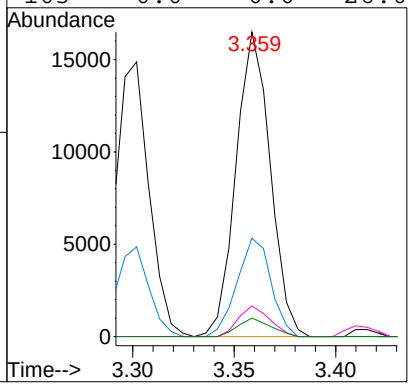


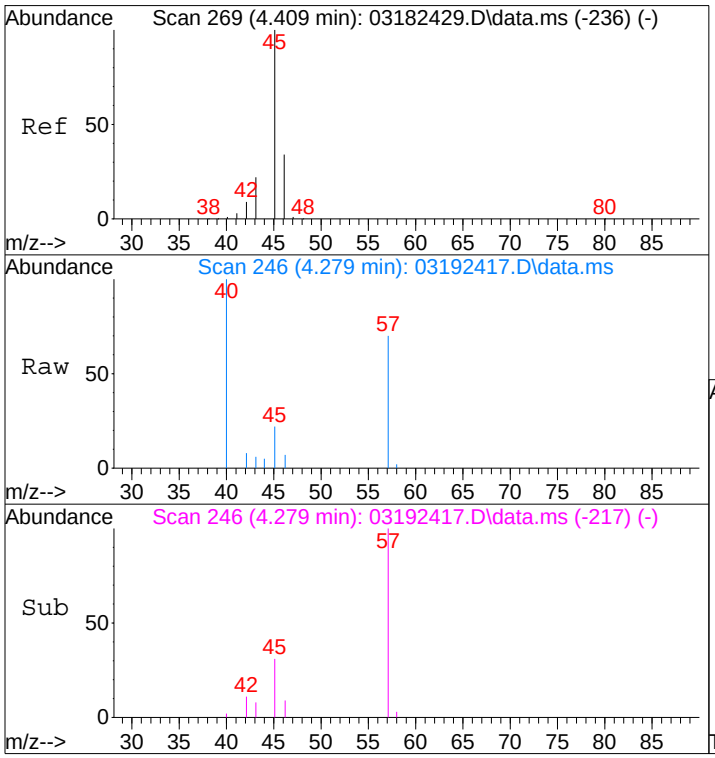


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.036 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 85 Resp: 19354

Ion	Ratio	Lower	Upper
85	100		
87	28.1	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

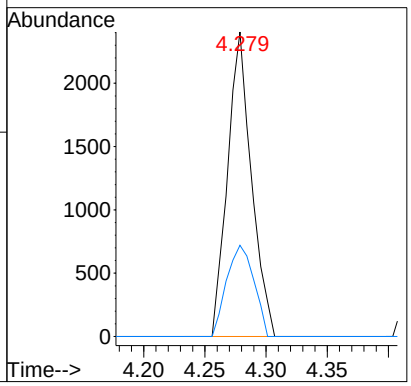


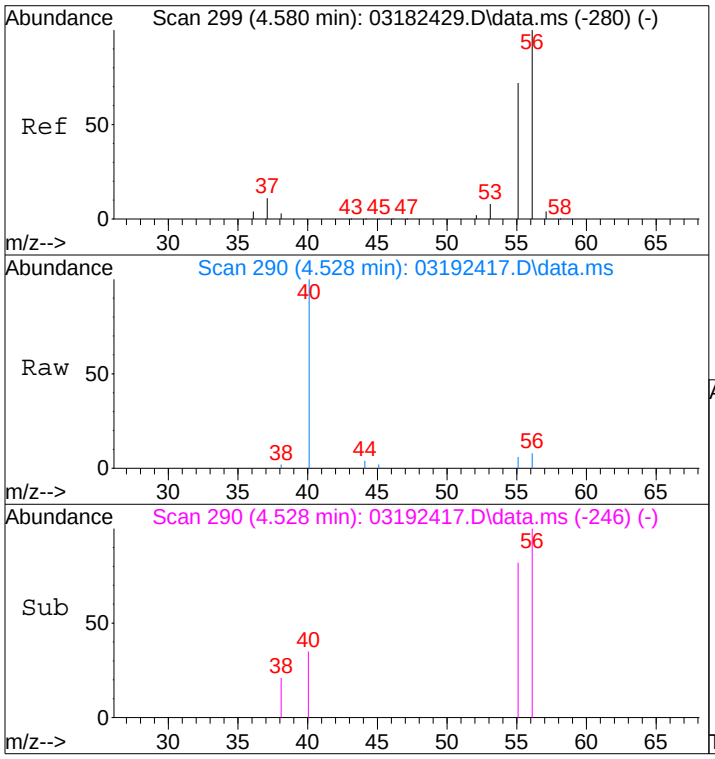


#10
Ethanol
Concen: 0.21 ng m
RT: 4.28 min Scan# 246
Delta R.T. -0.083 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 45 Resp: 3253

Ion	Ratio	Lower	Upper
45	100		
46	0.0	13.3	53.3#

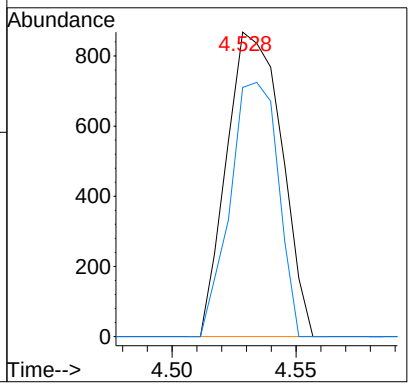


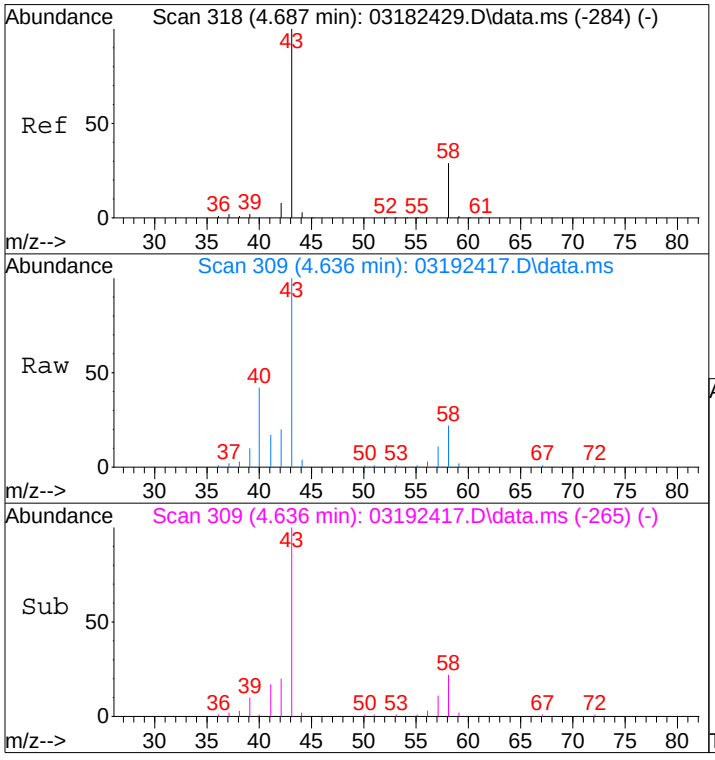


#12
Acrolein
Concen: 0.12 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.001 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 56 Resp: 1336

Ion	Ratio	Lower	Upper
56	100		
55	73.3	54.9	94.9

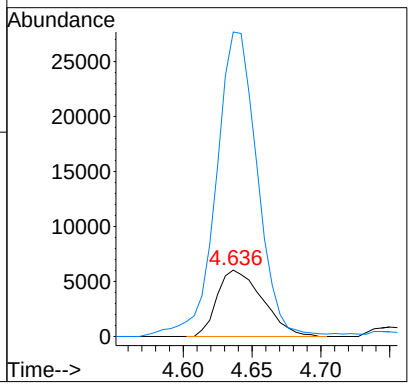


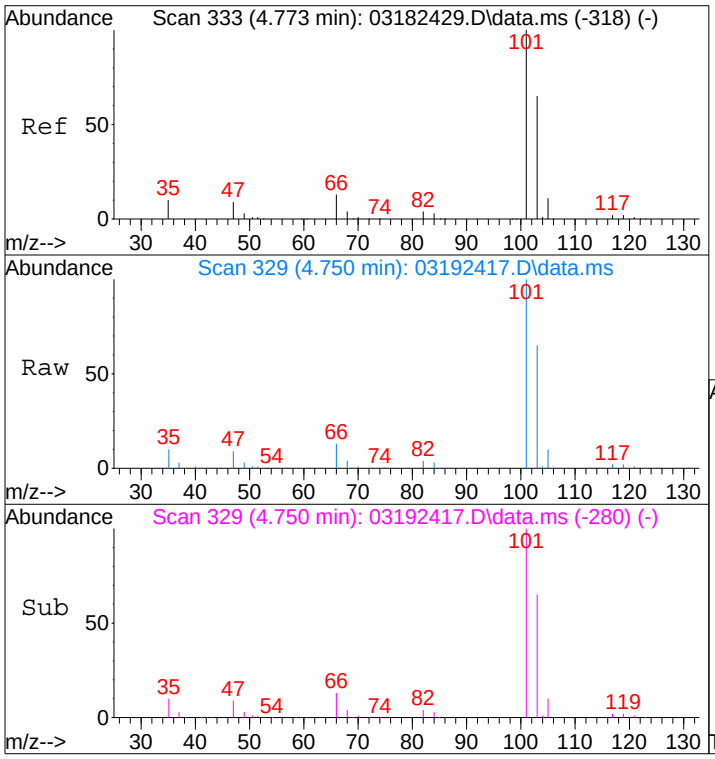


#13
Acetone
Concen: 1.19 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.000 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 58 Resp: 13804

Ion	Ratio	Lower	Upper
58	100		
43	418.7	350.1	410.1#

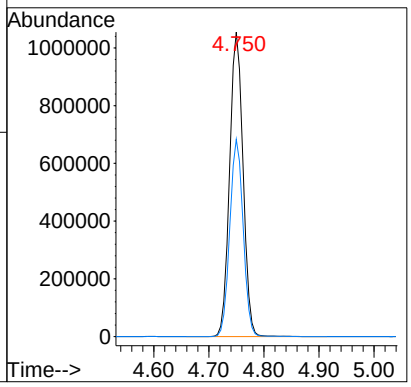


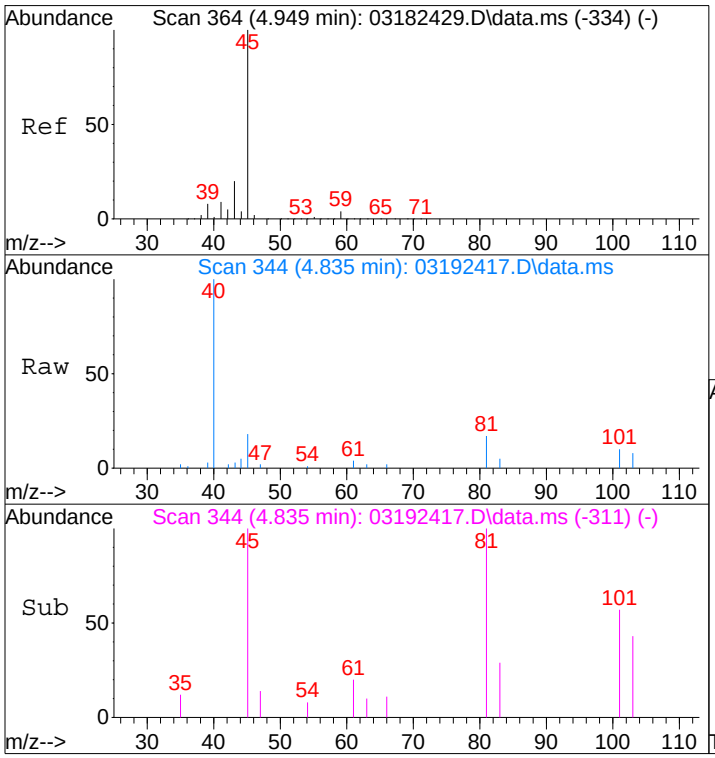


#14
Trichlorofluoromethane
Concen: 56.88 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion:101 Resp: 1778629

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.7	84.7

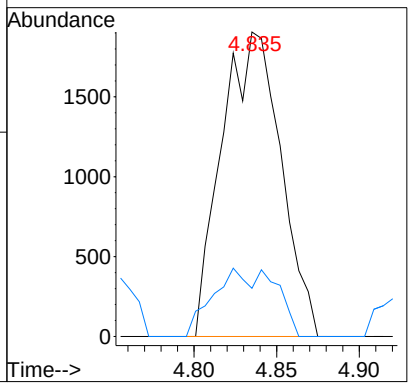


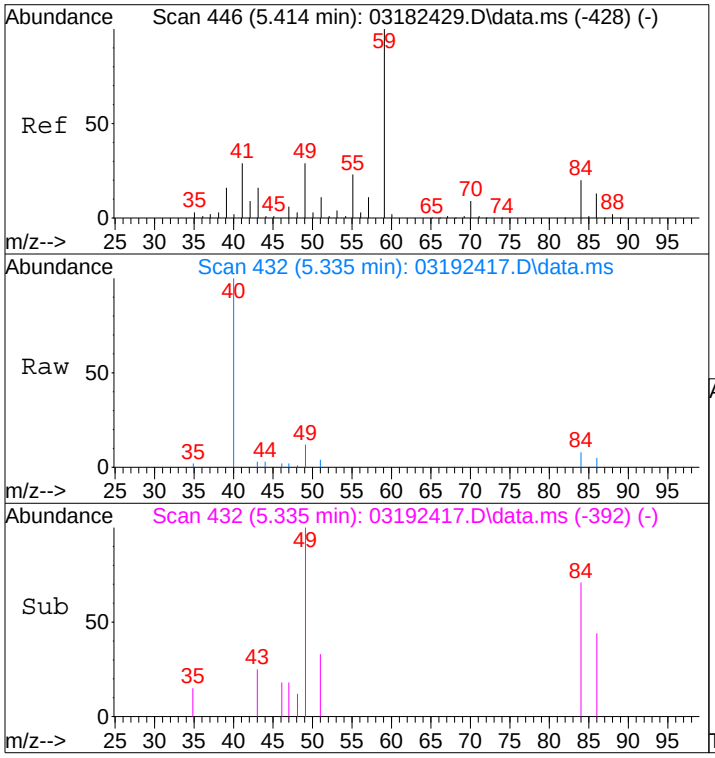


#15
2-Propanol (Isopropanol)
Concen: 0.10 ng
RT: 4.84 min Scan# 344
Delta R.T. -0.060 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 45 Resp: 4736

Ion	Ratio	Lower	Upper
45	100		
43	23.4	0.4	40.4

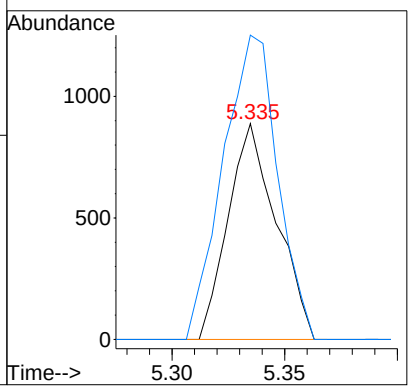


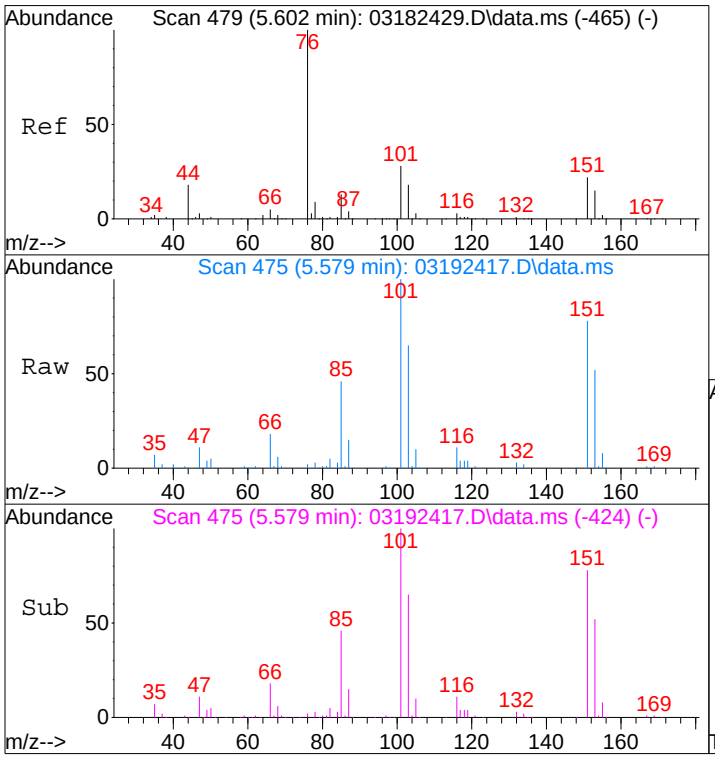


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 84 Resp: 1326

Ion	Ratio	Lower	Upper
84	100		
49	159.7	122.9	172.9

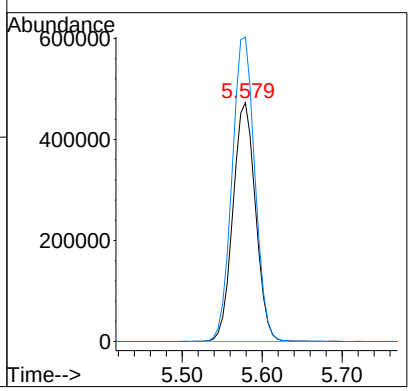


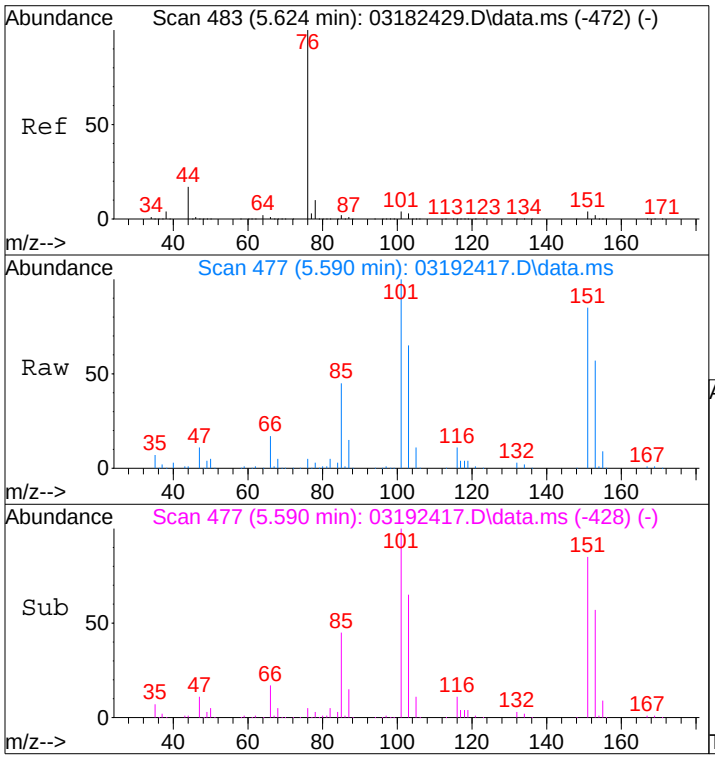


#21
Trichlorotrifluoroethane
Concen: 70.53 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion:151 Resp: 929628

Ion	Ratio	Lower	Upper
151	100		
101	128.7	106.4	146.4

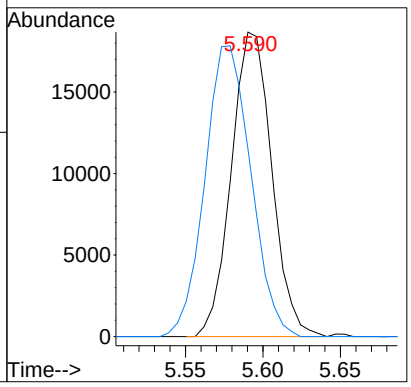


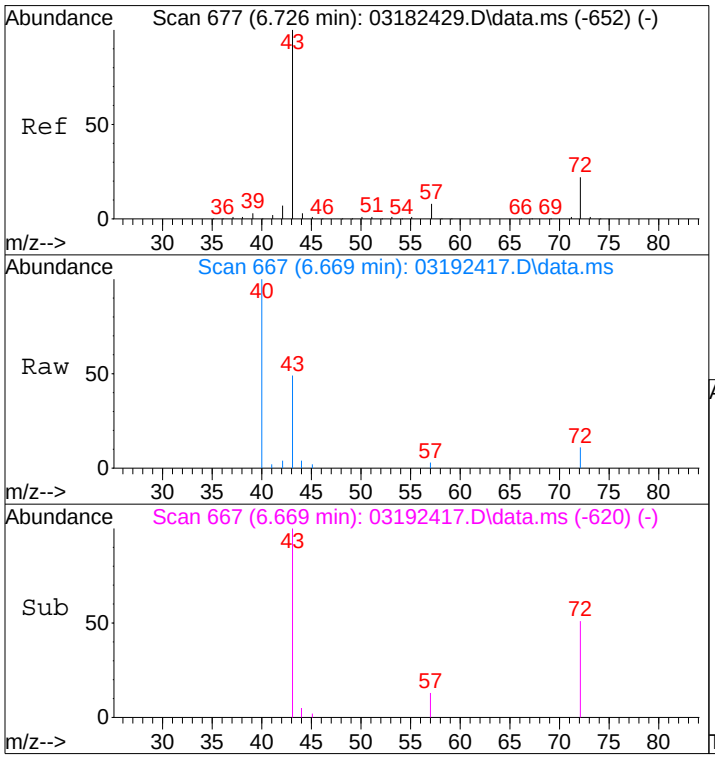


#22
Carbon Disulfide
Concen: 0.65 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 76 Resp: 33981

Ion	Ratio	Lower	Upper
76	100		
78	108.4	0.0	29.8#

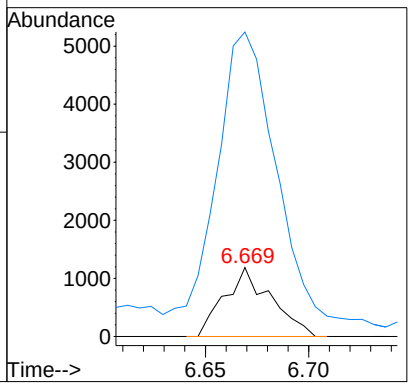


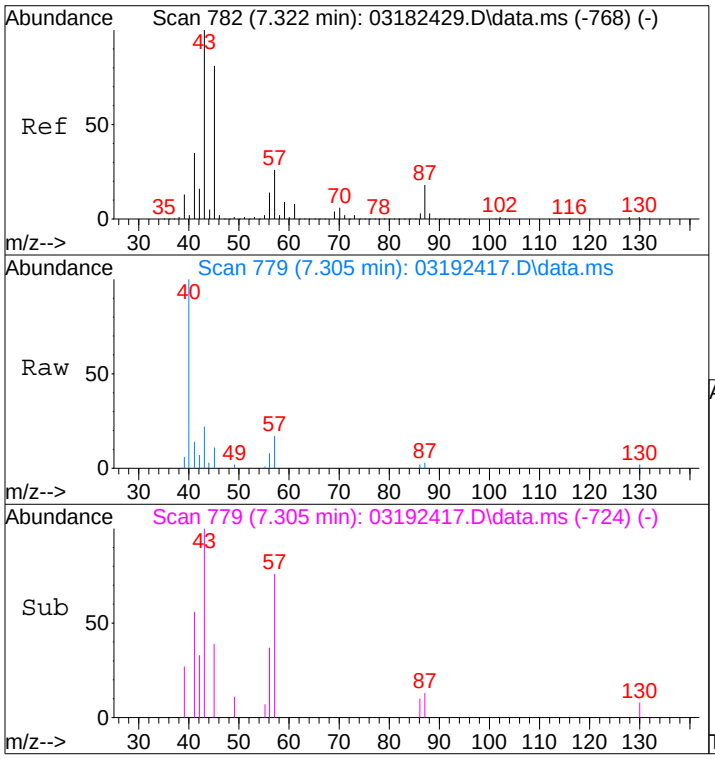


#27
2-Butanone (MEK)
Concen: 0.20 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 72 Resp: 1865

Ion	Ratio	Lower	Upper
72	100		
43	616.9	468.6	508.6#

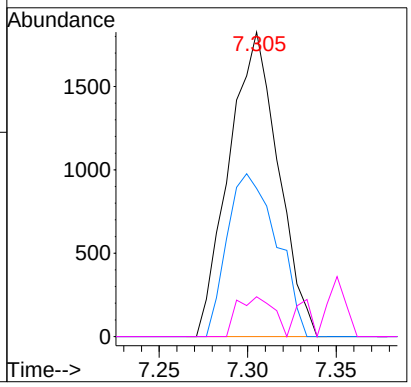


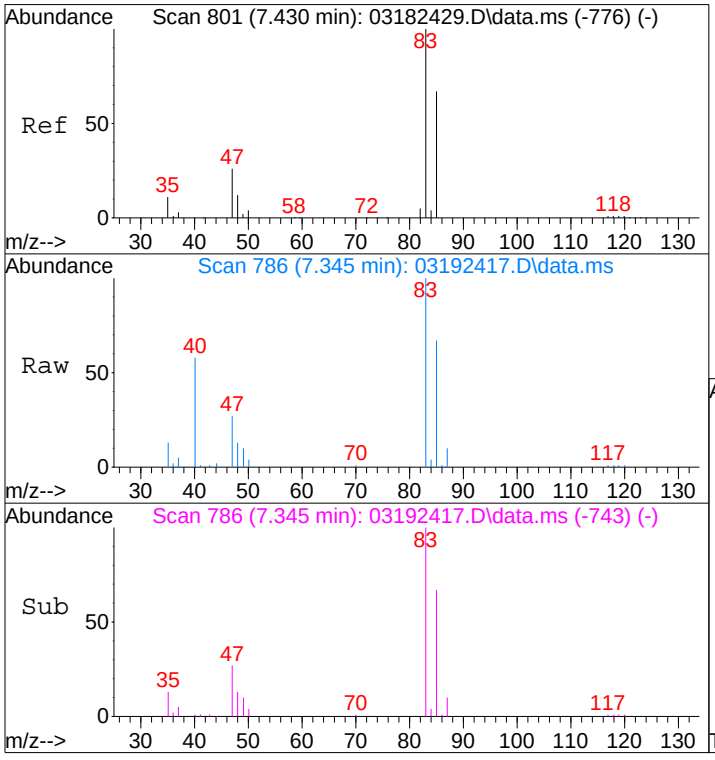


#31
n-Hexane
Concen: 0.14 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.063 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 57 Resp: 3527

Ion	Ratio	Lower	Upper
57	100		
56	54.0	42.2	63.4
86	9.6	9.4	14.2

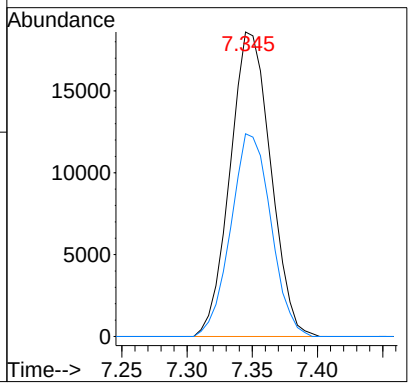


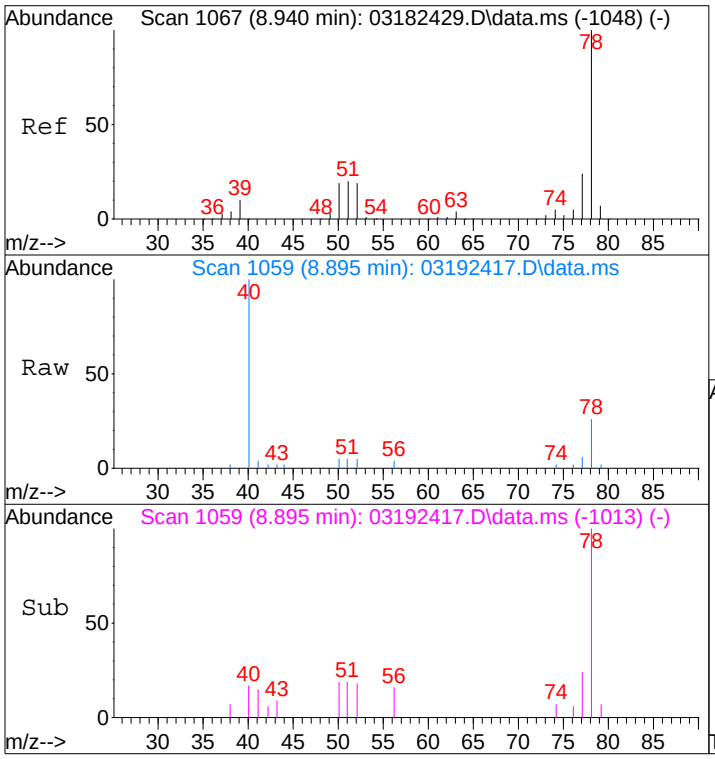


#32
Chloroform
Concen: 1.47 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.004 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 83 Resp: 40249

Ion	Ratio	Lower	Upper
83	100		
85	65.8	46.1	86.1

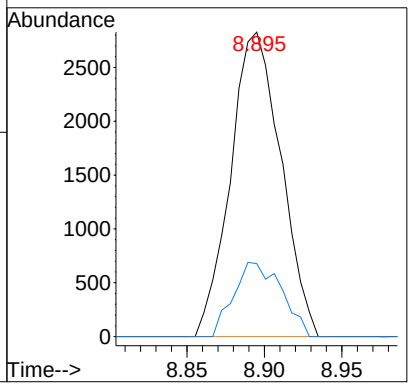


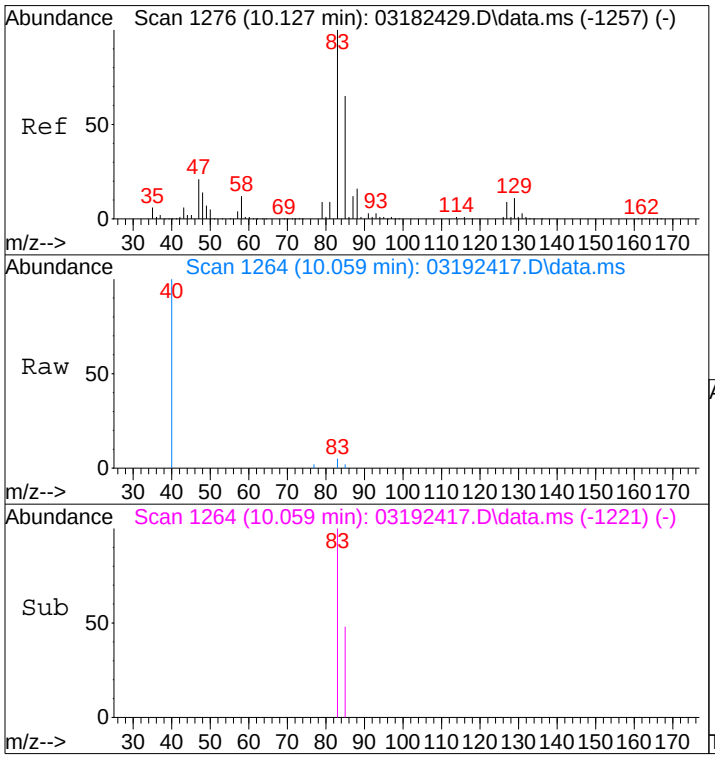


#41
Benzene
Concen: 0.11 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 78 Resp: 6396

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.6	43.6

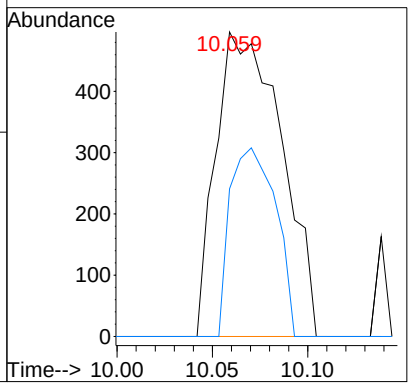


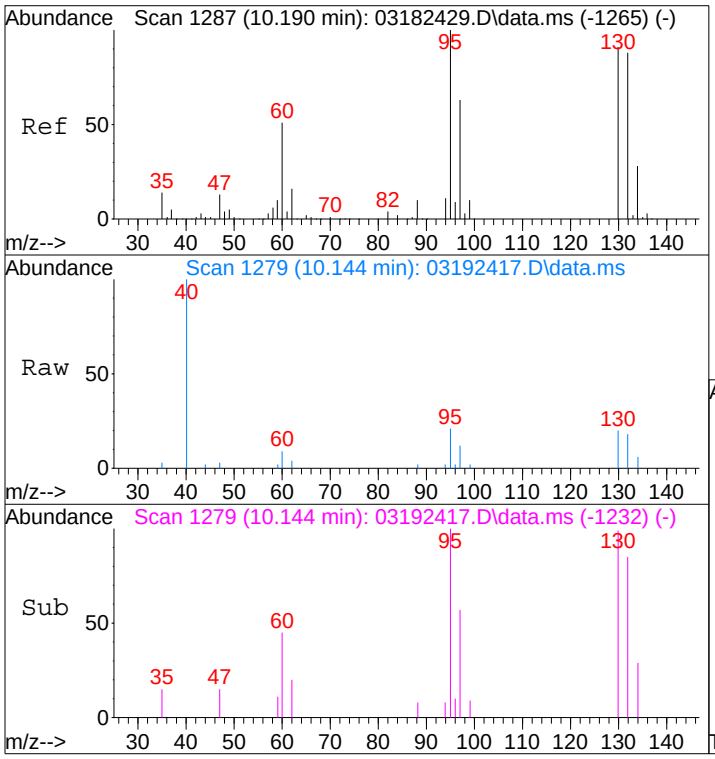


#46
Bromodichloromethane
Concen: 0.05 ng
RT: 10.06 min Scan# 1264
Delta R.T. -0.007 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 83 Resp: 1186

Ion	Ratio	Lower	Upper
83	100		
85	43.3	45.2	85.2#

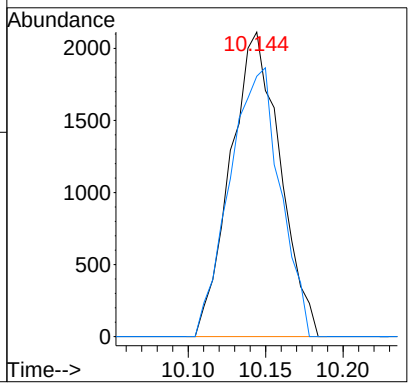


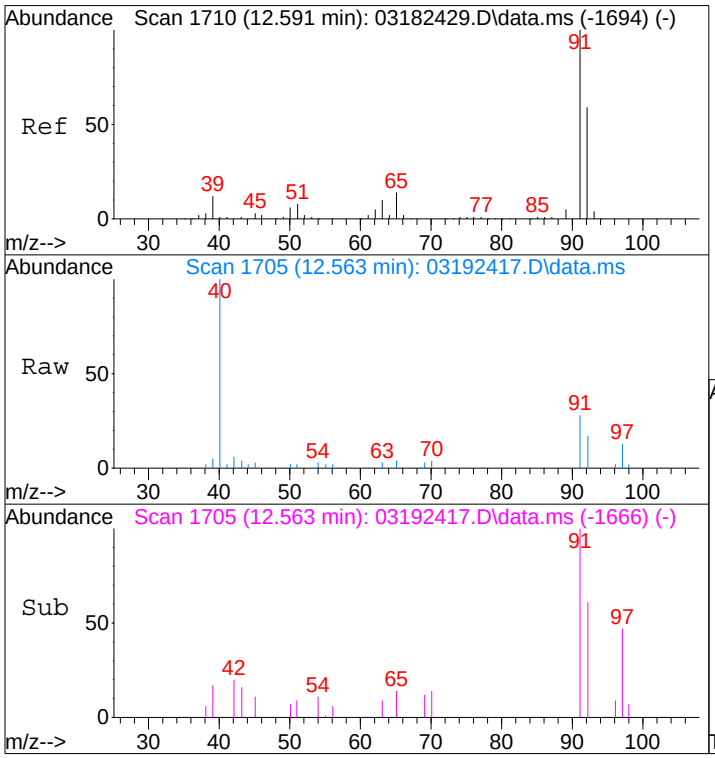


#47
Trichloroethene
Concen: 0.29 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion:130 Resp: 4716

Ion	Ratio	Lower	Upper
130	100		
132	89.9	77.5	117.5

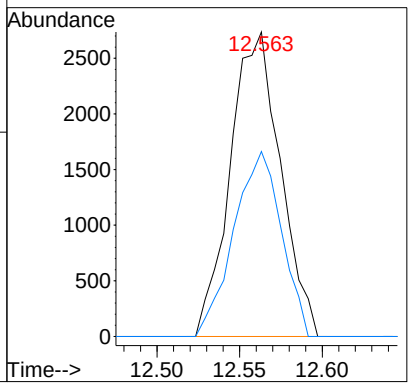


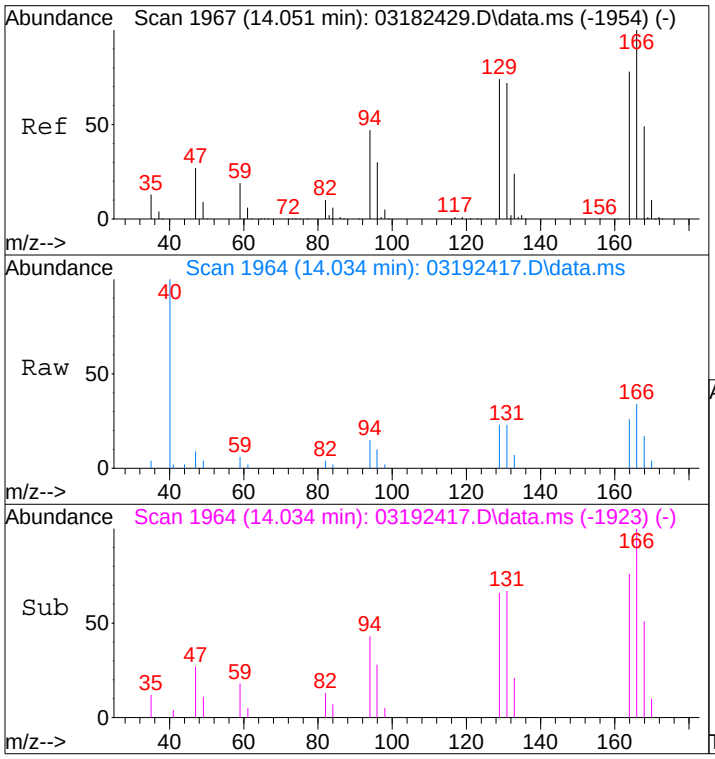


#58
Toluene
Concen: 0.10 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 91 Resp: 5762

Ion	Ratio	Lower	Upper
91	100		
92	57.9	39.2	79.2

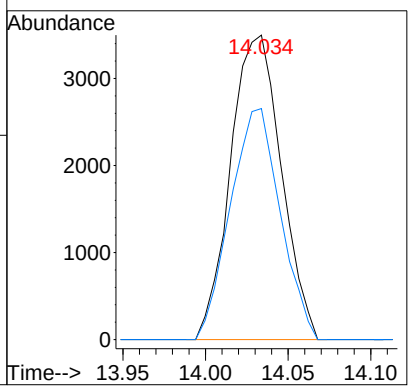


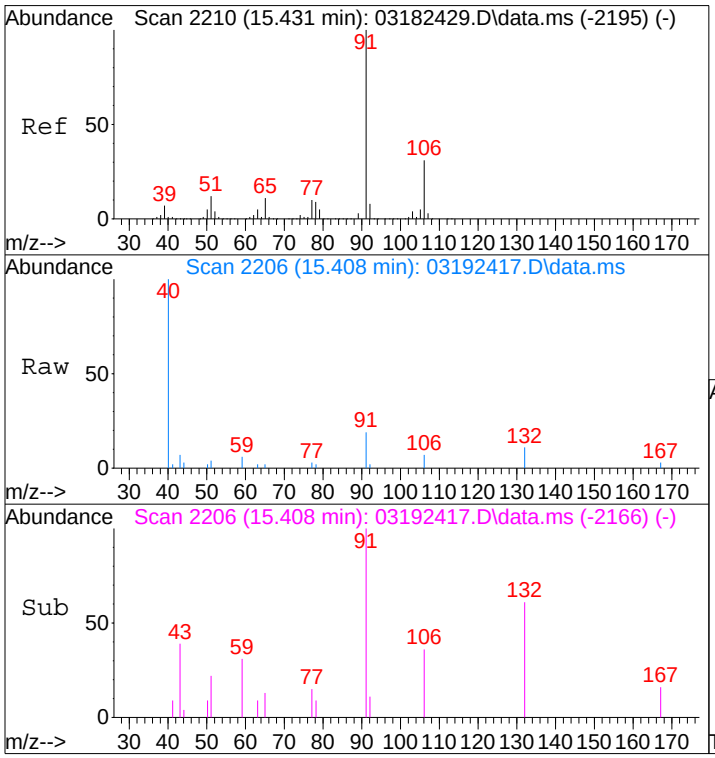


#64
Tetrachloroethene
Concen: 0.43 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion:166 Resp: 7474

Ion	Ratio	Lower	Upper
166	100		
164	74.7	56.7	96.7

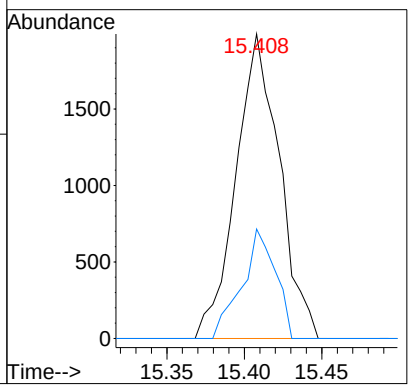


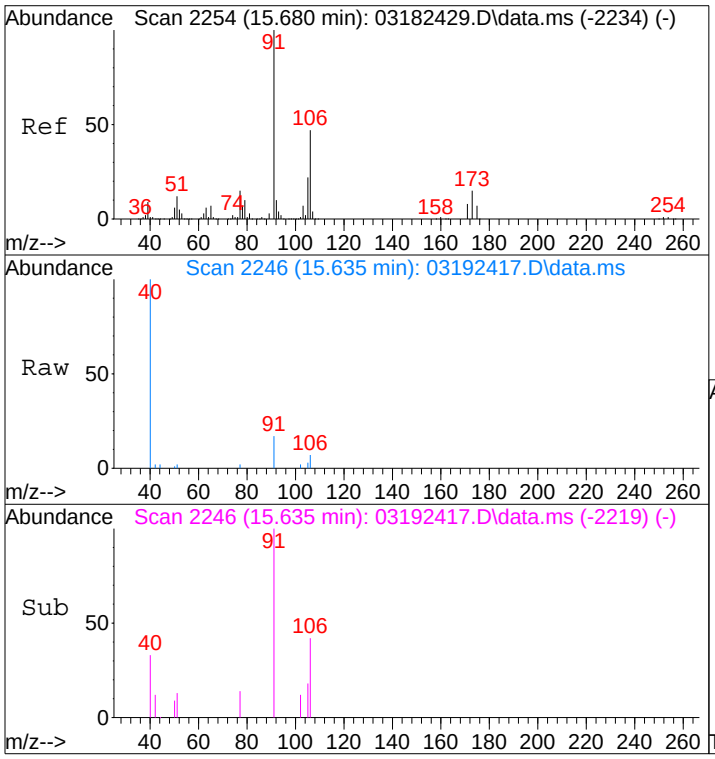


#66
Ethylbenzene
Concen: 0.06 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.023 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 91 Resp: 3873

Ion	Ratio	Lower	Upper
91	100		
106	27.9	10.4	50.4

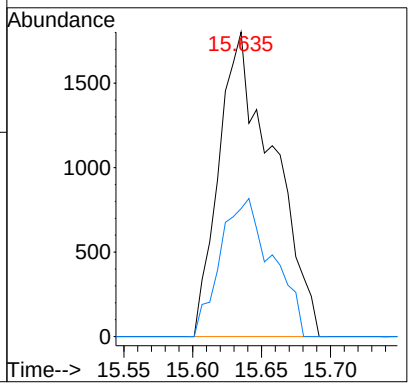


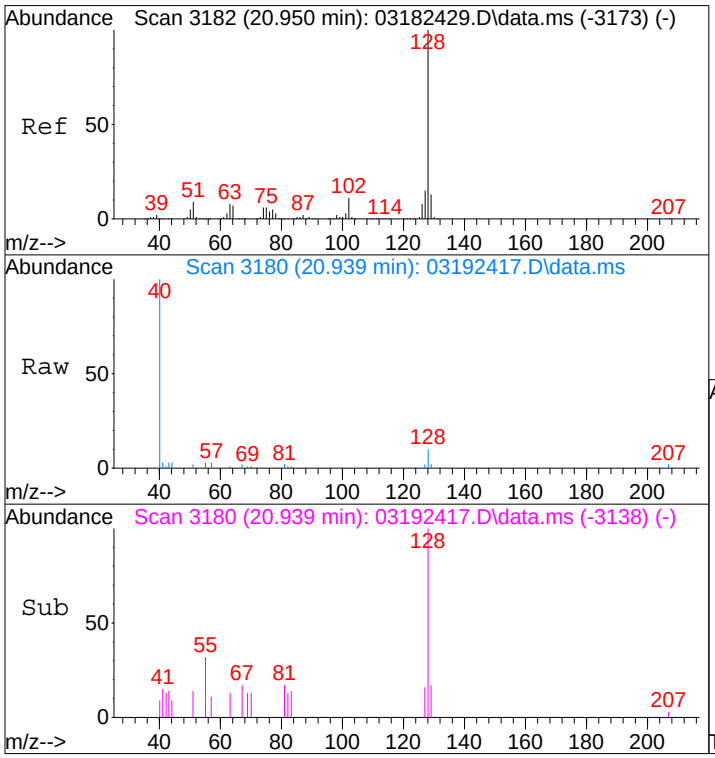


#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.045 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion: 91 Resp: 4944

Ion	Ratio	Lower	Upper
91	100		
106	43.4	25.6	65.6

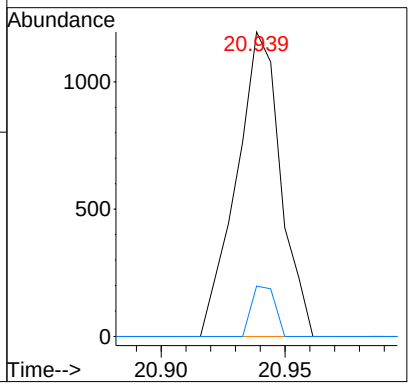




#95
Naphthalene
Concen: 0.37 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03192417.D
Acq: 19 Mar 2024 18:46

Tgt Ion:128 Resp: 1485

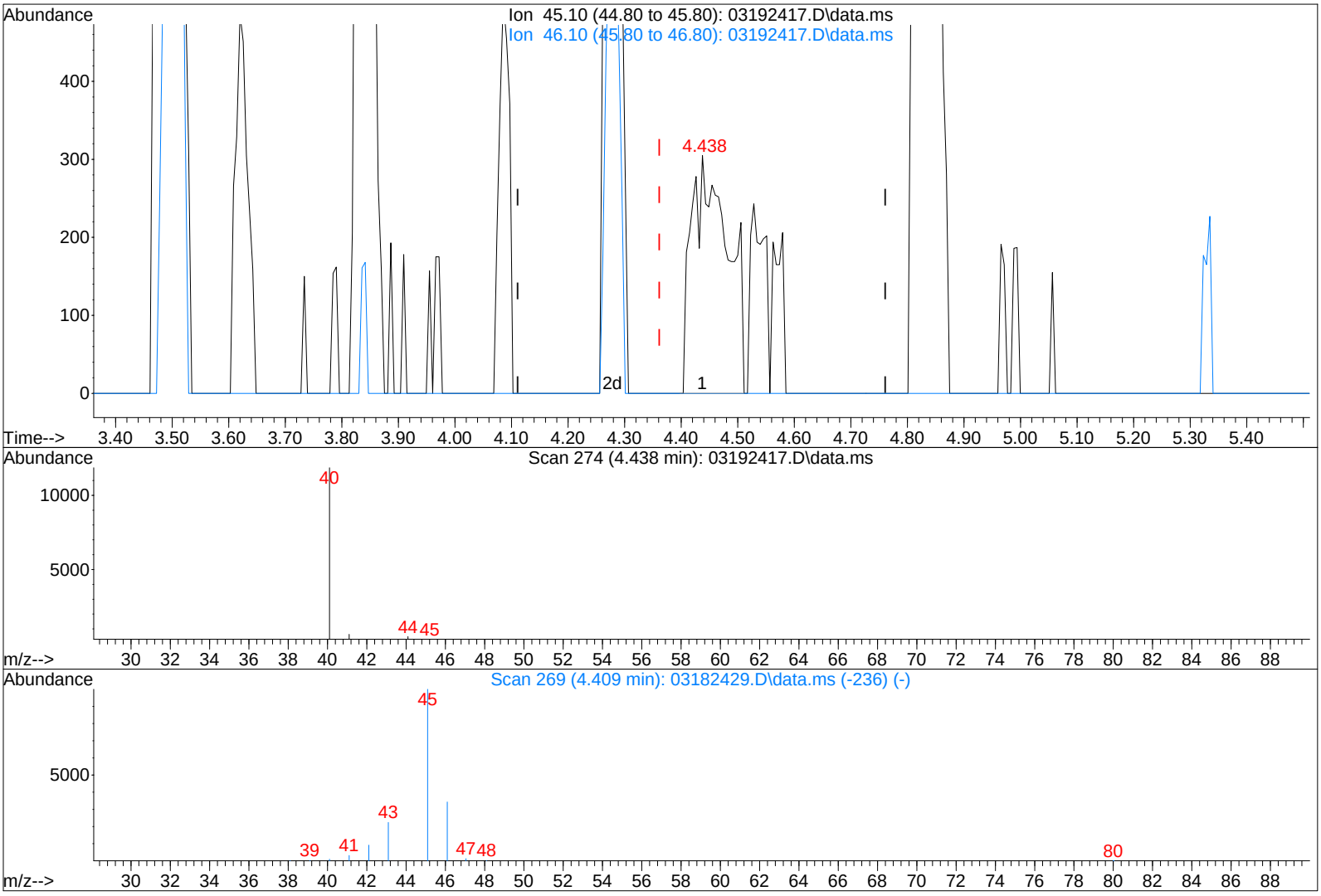
Ion	Ratio	Lower	Upper
128	100		
129	8.8	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192417.D\data.ms

(10) Ethanol (T)

4.438min (+0.076) 0.09ng

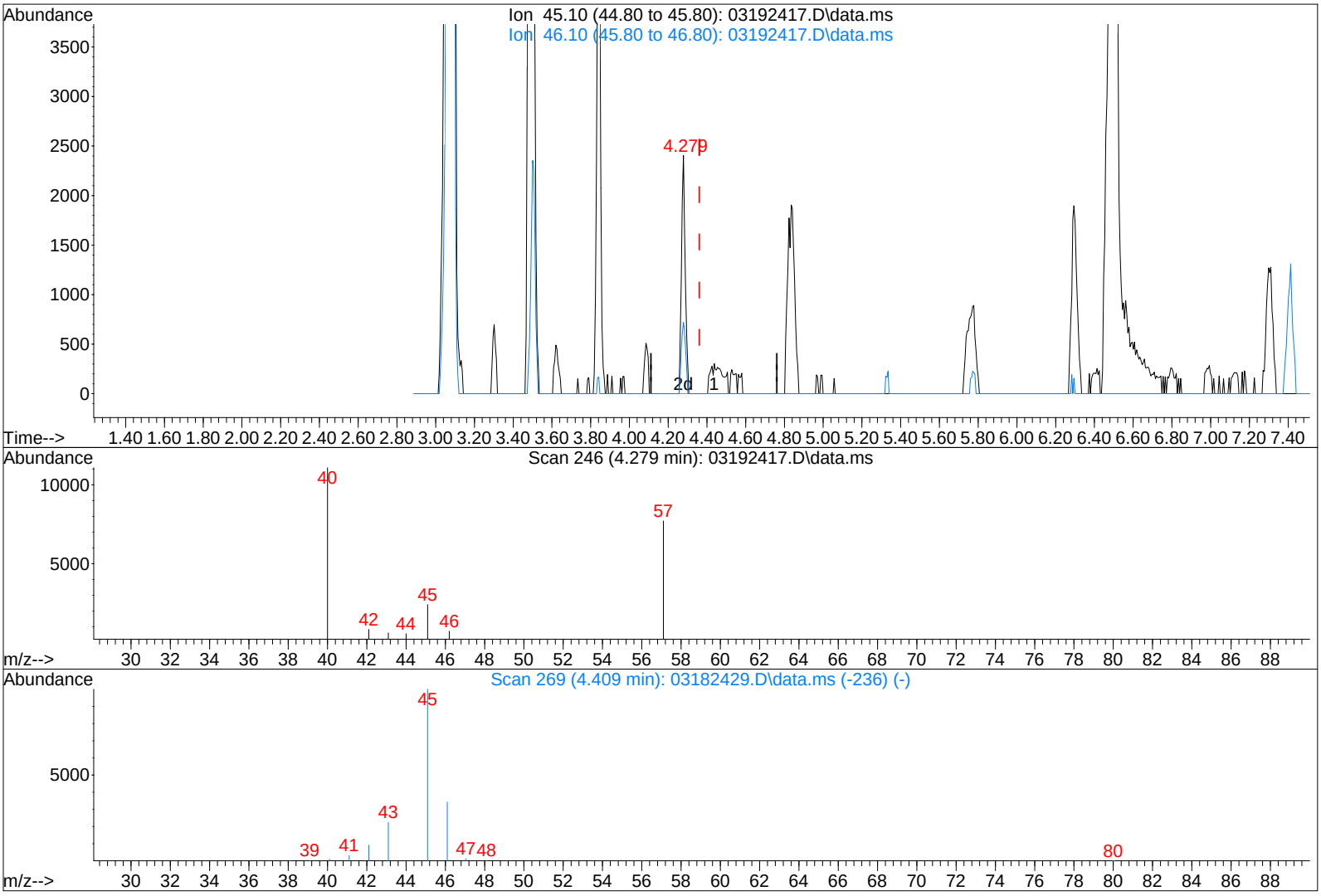
response 1355

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192417.D\data.ms

MP 3/20/24

LH 3/21/24

(10) Ethanol (T)

4.279min (-0.083) 0.21ng m

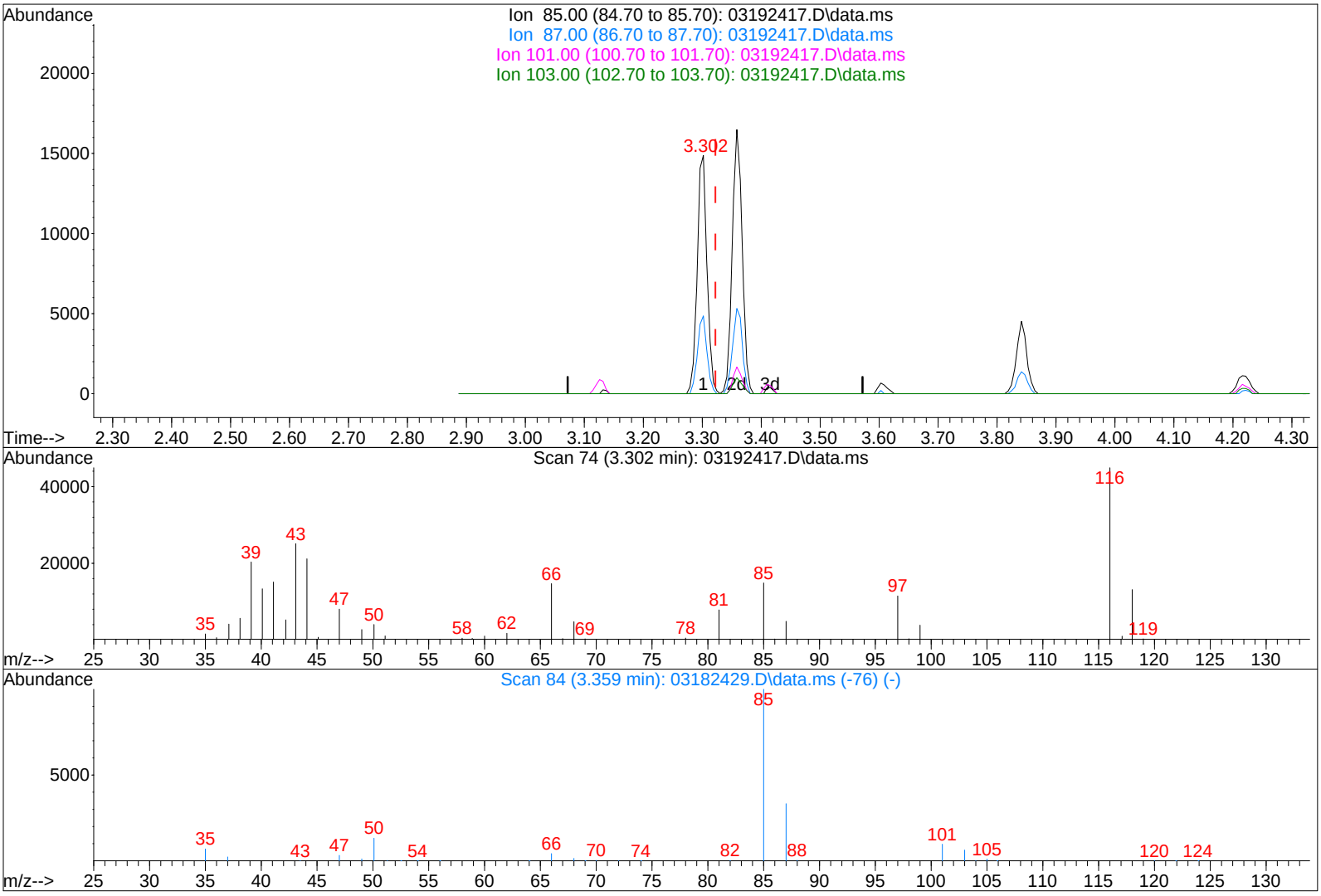
response 3253

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192417.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.020) 0.53ng

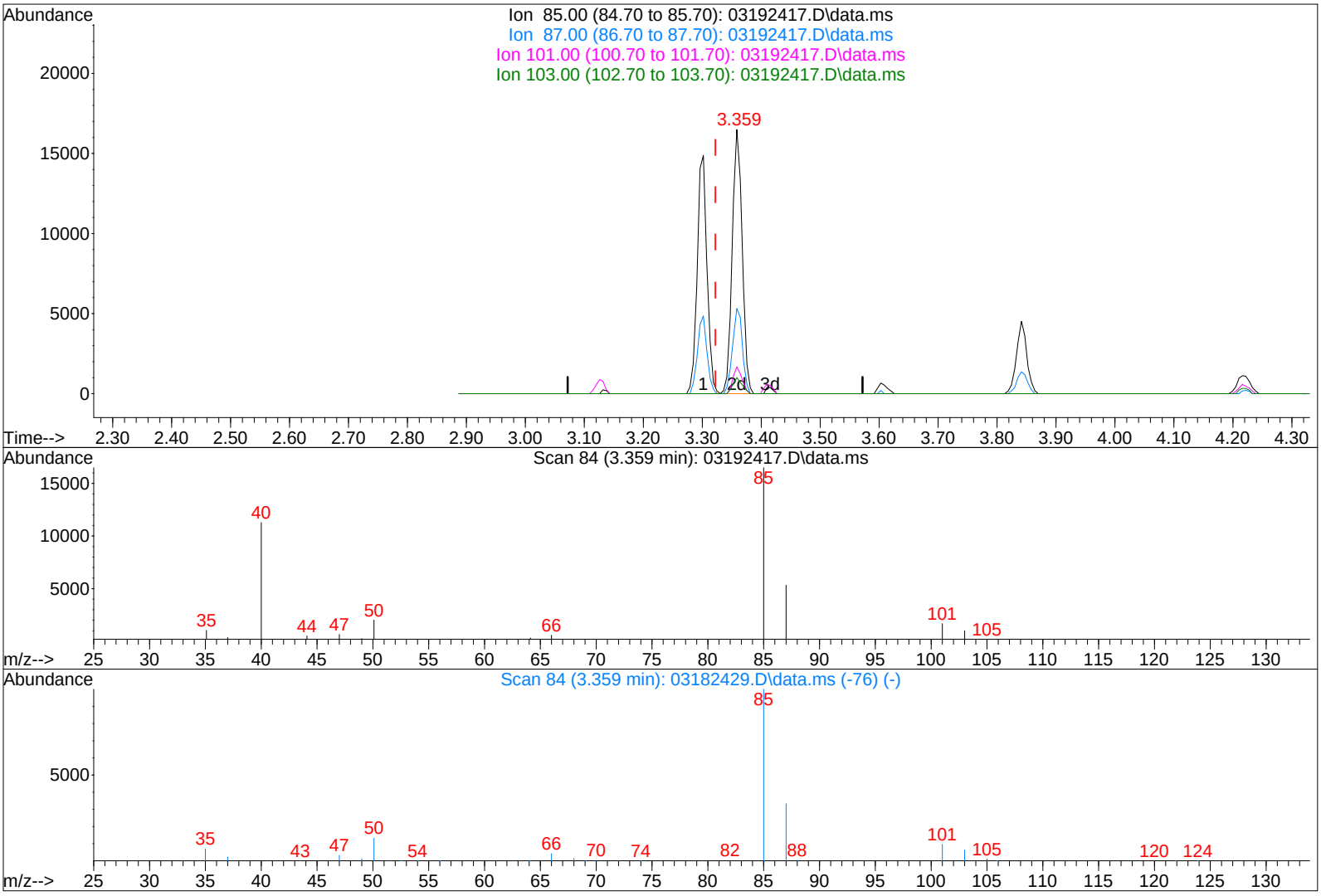
response 17157

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	31.75
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192417.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.359min (+0.036) 0.60ng m

response 19354

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	28.14
101.00	9.20	0.00
103.00	6.00	0.00

WP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:56:32 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

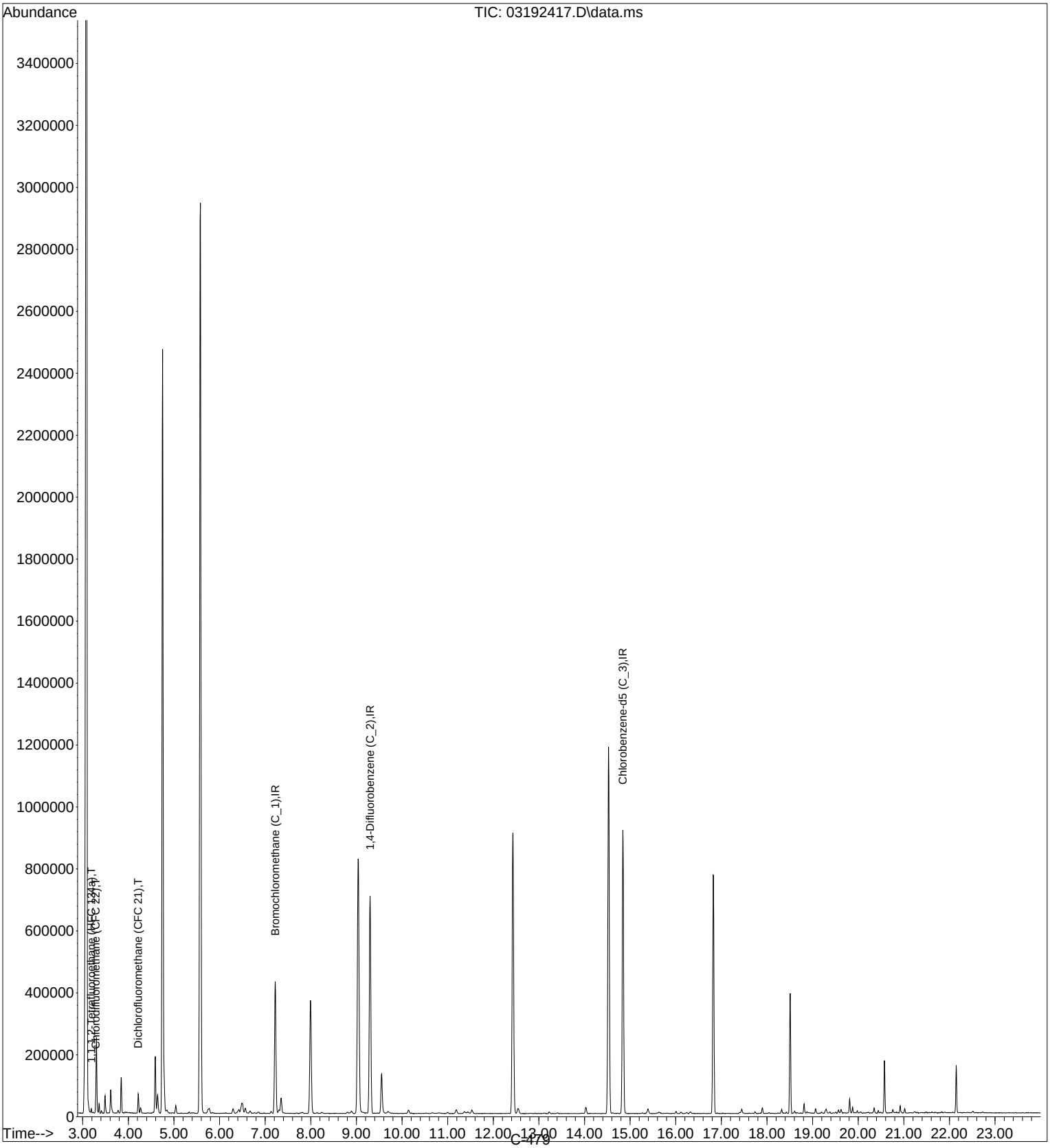
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	157507	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	673682	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	148841	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	149	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1647	0.114	ng	#	1
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.28	67	3415	0.738	ng		97
6) 1-Chloro-1,1-Difluoroe...	3.50	65	536	N.D.			
7) Dichlorofluoromethane ...	4.22	67	48328	1.573	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	1482	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	698	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.	d		
17) 2,3-Dimethylpentane	9.53	56	1181	N.D.			
18) Dibromomethane	9.79	174	116	N.D.			
20) Methyl Cyclohexane	11.41	55	1441	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	132	N.D.			
25) Bromobenzene	17.02	77	56	N.D.			
26) 2-Chlorotoluene	17.61	91	666	N.D.			
27) 4-Chlorotoluene	17.68	91	1342	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	180	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	287	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	908	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

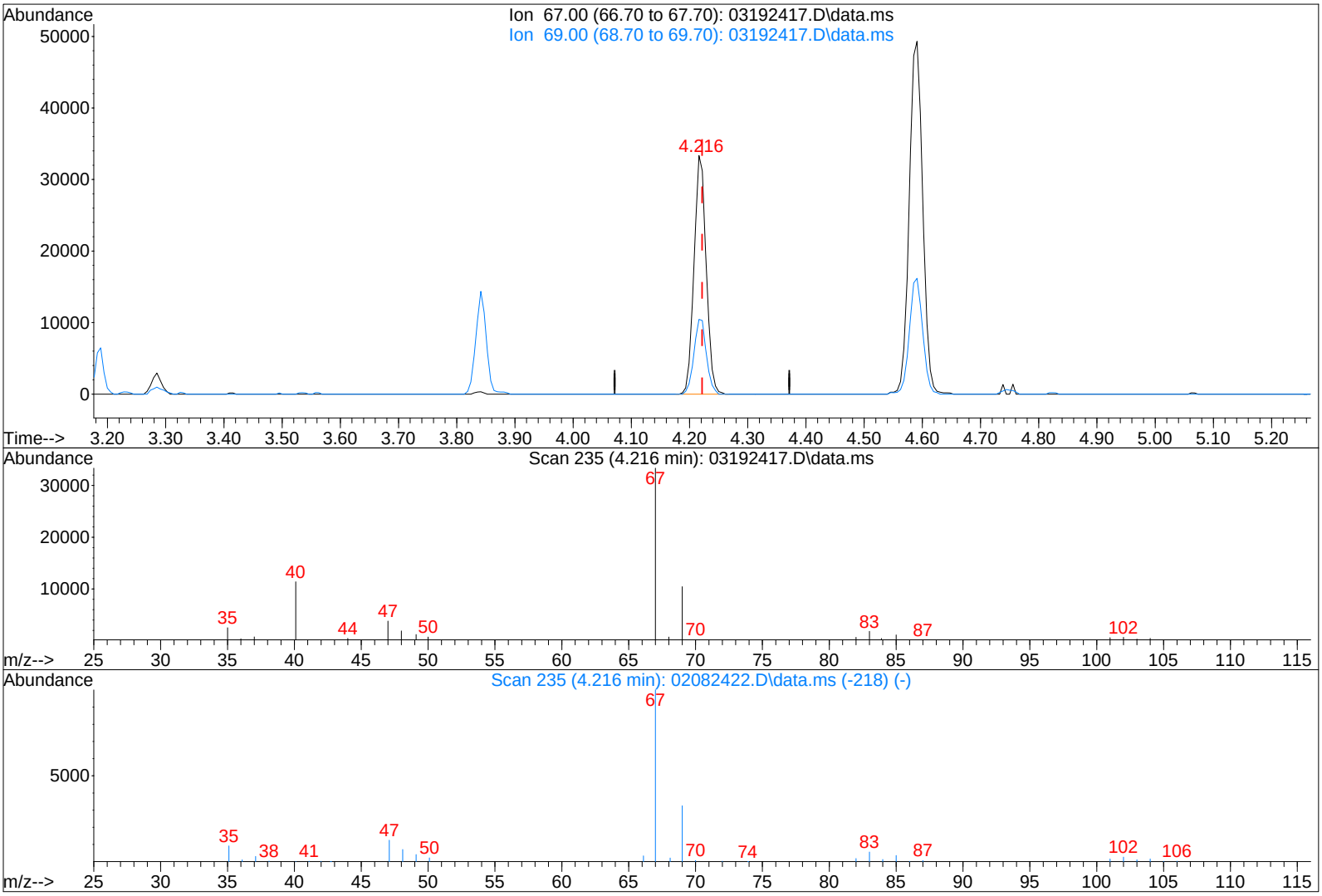
Quant Time: Mar 21 09:56:32 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192417.D Vial: 6
Acq On : 19 Mar 2024 18:46 Operator: SC
Sample : P2400922-003 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:55:55 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192417.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.005) 1.57ng

response 48328

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.13
0.00	0.00	0.00
0.00	0.00	0.00

Library Search Compound Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192417.D
Acq On : 19 Mar 2024 18:46
Operator : SC
Sample : P2400922-003 (400mL)
Misc : S37-02202408
ALS Vial : 6 Sample Multiplier: 1

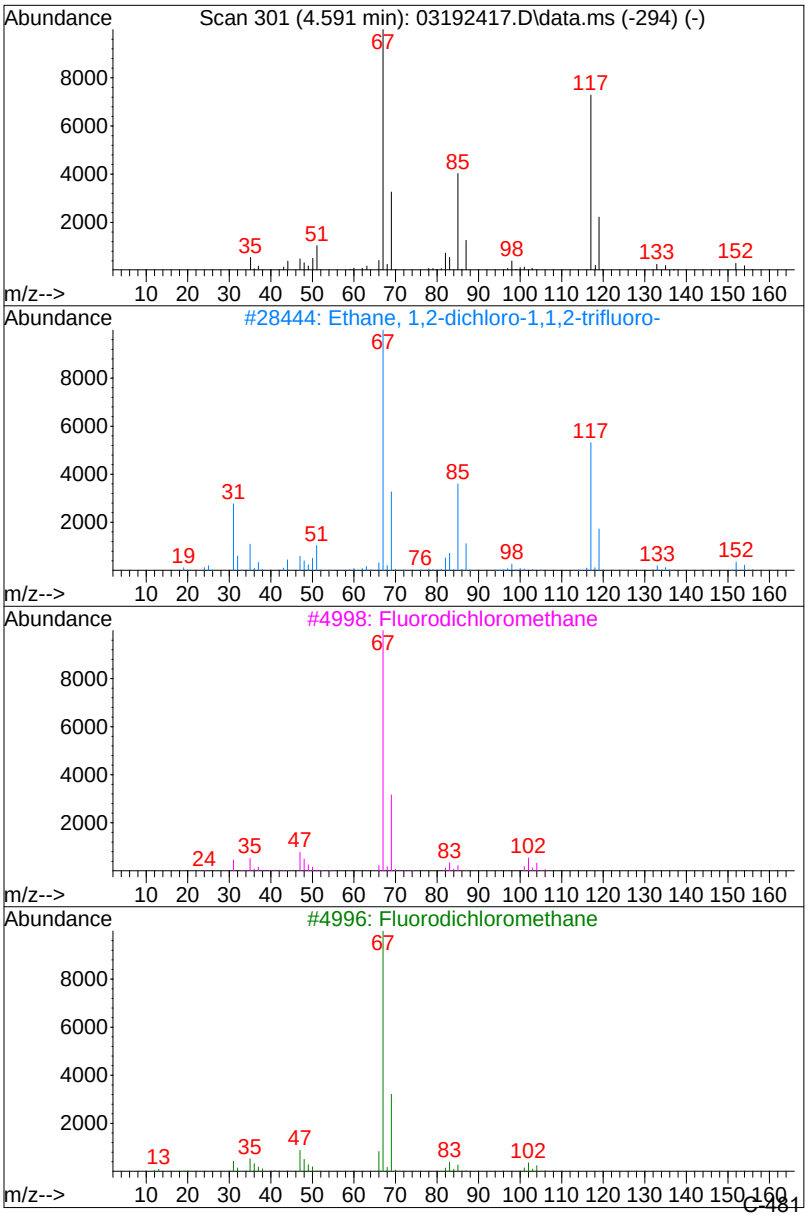
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

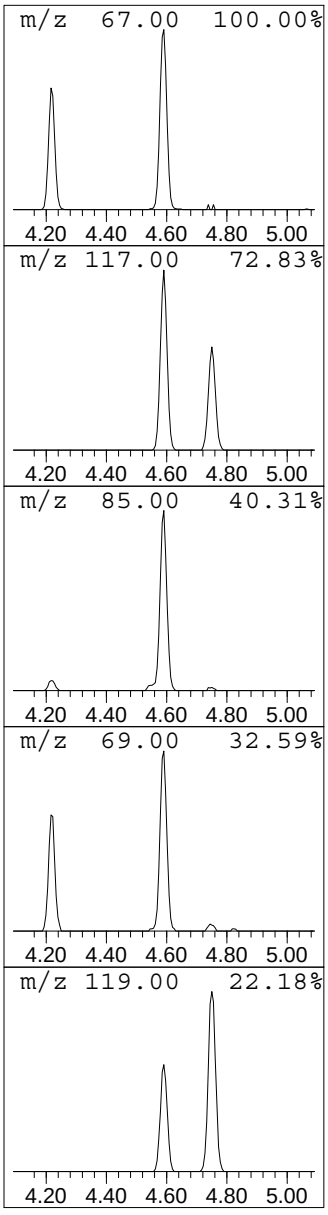
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	3.92 ng	285121	Bromochloromethane (IS1)	7.220

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	12





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\19\
Data File : 03192417.D
Acq On : 19 Mar 2024 18:46
Operator : SC
Sample : P2400922-003 (400mL)
Misc : S37-02202408
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.591	3.9	ng	285121	1	7.220	908982	12.5

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:32:31 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	154561	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	660956	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	146480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	315708	12.486	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	12.43	98	747404	12.708	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	16.83	174	259761	12.528	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
2) Propene	3.28	42	20216m	1.148	ng		
3) Dichlorodifluoromethan...	3.36	85	4950m	0.156	ng		
4) Chloromethane	3.50	50	503	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	7217	0.483	ng		98
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	446	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.75	101	2043319	66.593	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	59	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	119	N.D.			
19) Methylene Chloride	5.34	84	1206	0.073	ng		91
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	1166290	90.172	ng		99
22) Carbon Disulfide	5.60	76	45184	0.877	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.29	73	420	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	1219	0.131	ng	#	83
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	5890	1.056	ng		97
31) n-Hexane	7.30	57	39956	1.662	ng		96
32) Chloroform	7.35	83	13729	0.512	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.81	56	1653	No Calib		#	
41) Benzene	8.89	78	6240	0.105	ng		98
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	200	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	958	N.D.			
47) Trichloroethene	10.14	130	1119	0.070	ng		86
48) 1,4-Dioxane	10.14	88	316	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	229	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:32:31 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

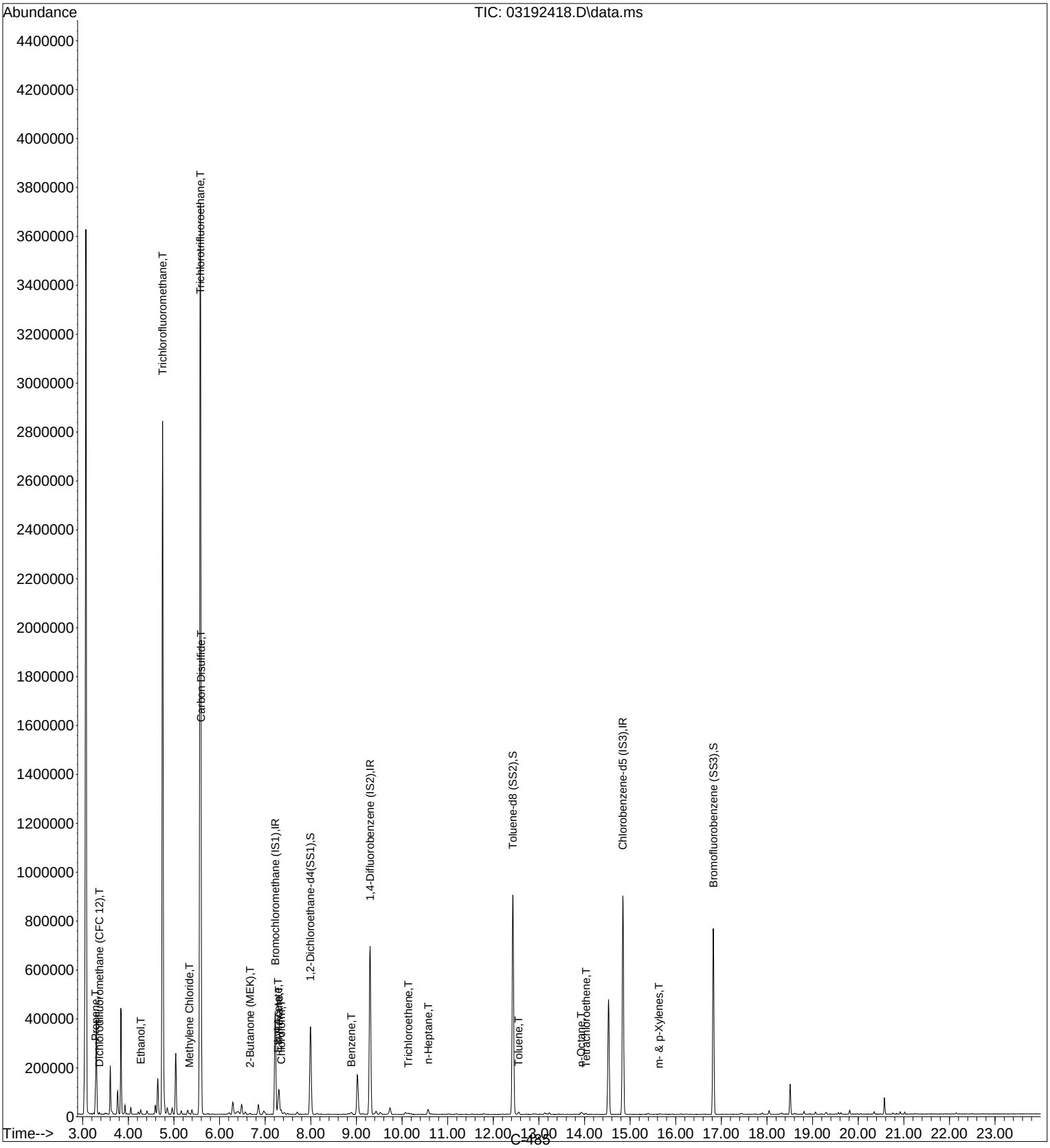
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	5317	0.418 ng	99
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	7632	0.136 ng	100
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	13.06	129	422	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1064	N.D.	
63) n-Octane	13.93	57	1358	0.115 ng	88
64) Tetrachloroethene	14.03	166	1743	0.101 ng	97
65) Chlorobenzene	14.89	112	629	N.D.	
66) Ethylbenzene	15.41	91	1735	N.D.	
67) m- & p-Xylenes	15.63	91	3053	0.057 ng	87
68) Bromoform	15.67	173	435	N.D.	
69) Styrene	16.11	104	291	N.D.	
70) o-Xylene	16.24	91	1332	N.D.	
71) n-Nonane	16.61	43	816	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	460	N.D.	
74) Cumene	17.03	105	880	N.D.	
75) alpha-Pinene	17.52	93	195	N.D.	
76) n-Propylbenzene	17.68	91	1183	N.D.	
77) 3-Ethyltoluene	17.03	105	880	No Calib #	
78) 4-Ethyltoluene	17.86	105	760	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	482	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	880	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	746	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	578	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	669	N.D.	
87) sec-Butylbenzene	18.75	105	837	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	950	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	880	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	474	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	749	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	548	N.D.	
98) Cyclohexanone	15.37	55	605	No Calib #	
99) tert-Butylbenzene	18.43	119	872	N.D.	
100) n-Butylbenzene	19.39	91	657	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:32:31 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:32:31 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

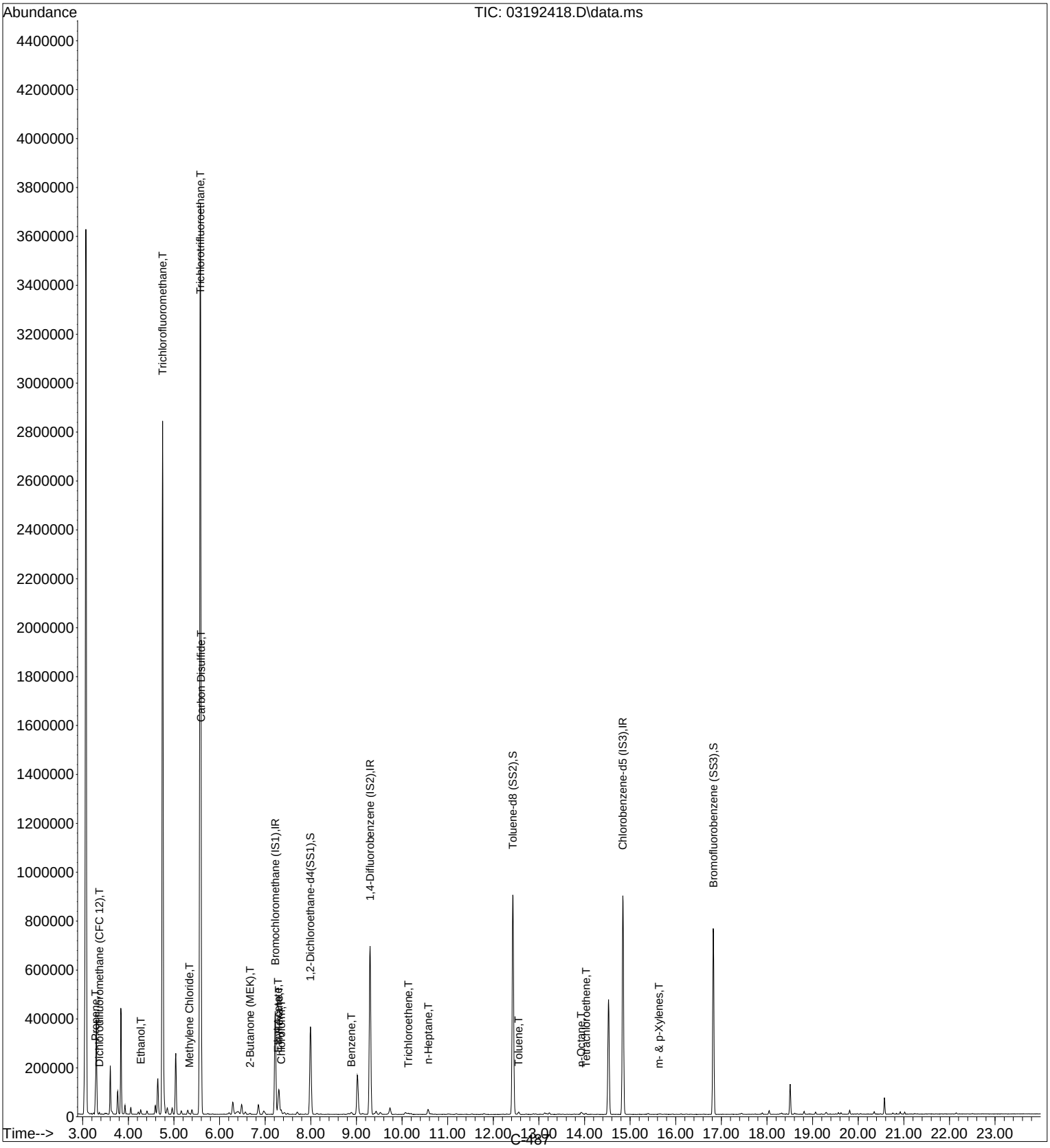
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	154561	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	660956	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	146480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	315708	12.486	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	12.43	98	747404	12.708	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
73) Bromofluorobenzene (SS3)	16.83	174	259761	12.528	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
2) Propene	3.28	42	20216m	1.148	ng		
3) Dichlorodifluoromethan...	3.36	85	4950m	0.156	ng		
10) Ethanol	4.27	45	7217	0.483	ng		98
14) Trichlorofluoromethane	4.75	101	2043319	66.593	ng		100
19) Methylene Chloride	5.34	84	1206	0.073	ng		91
21) Trichlorotrifluoroethane	5.58	151	1166290	90.172	ng		99
22) Carbon Disulfide	5.60	76	45184	0.877	ng	#	1
27) 2-Butanone (MEK)	6.67	72	1219	0.131	ng	#	83
30) Ethyl Acetate	7.28	61	5890	1.056	ng		97
31) n-Hexane	7.30	57	39956	1.662	ng		96
32) Chloroform	7.35	83	13729	0.512	ng		99
41) Benzene	8.89	78	6240	0.105	ng		98
47) Trichloroethene	10.14	130	1119	0.070	ng		86
51) n-Heptane	10.58	71	5317	0.418	ng		99
58) Toluene	12.56	91	7632	0.136	ng		100
63) n-Octane	13.93	57	1358	0.115	ng		88
64) Tetrachloroethene	14.03	166	1743	0.101	ng		97
67) m- & p-Xylenes	15.63	91	3053	0.057	ng		87

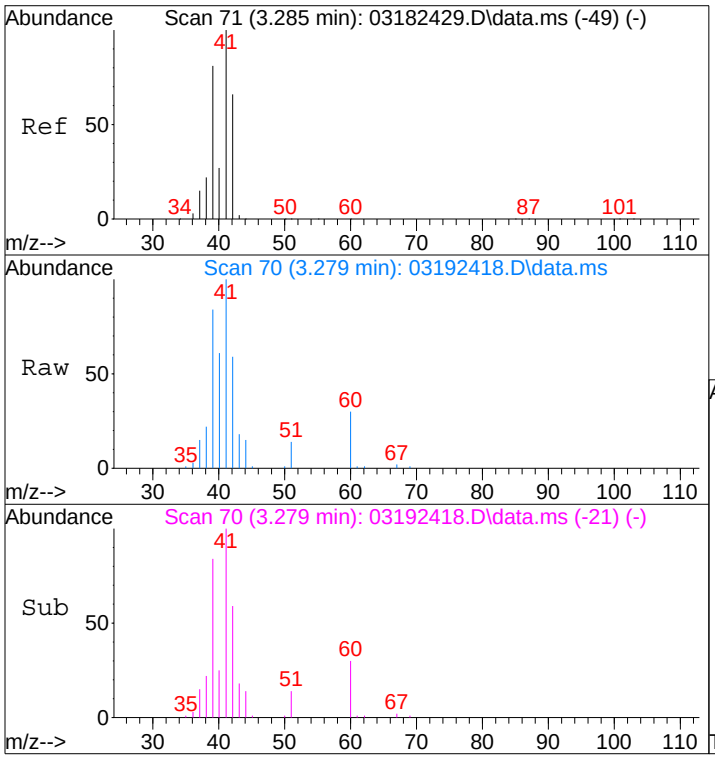
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:32:31 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

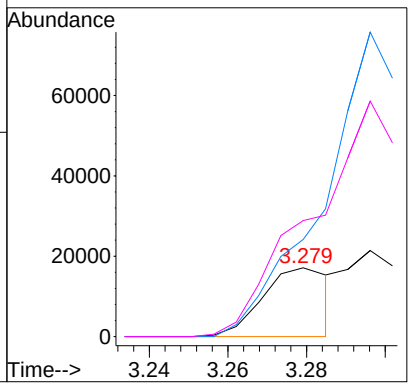


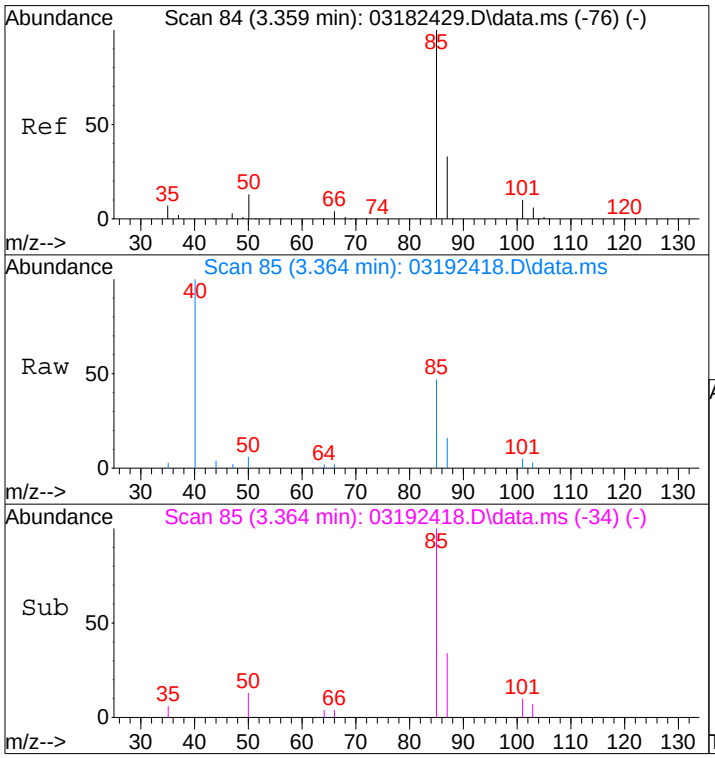


#2
Propene
Concen: 1.15 ng m
RT: 3.28 min Scan# 70
Delta R.T. 0.030 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 42 Resp: 20216

Ion	Ratio	Lower	Upper
42	100		
39	569.2	102.3	142.3#
41	494.3	133.8	173.8#

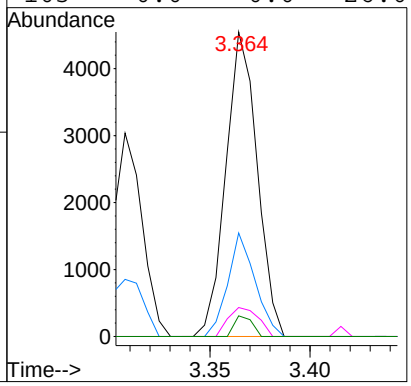


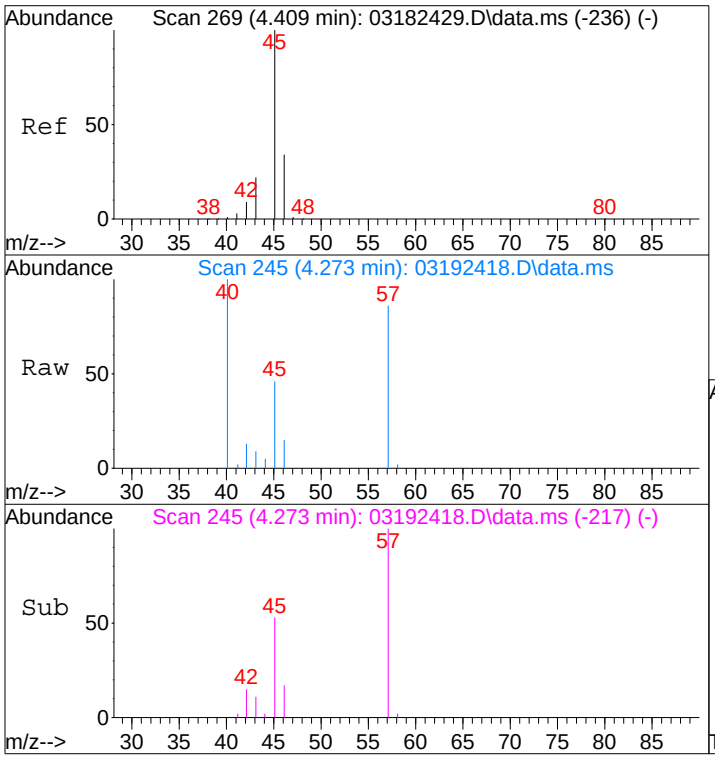


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.16 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 85 Resp: 4950

Ion	Ratio	Lower	Upper
85	100		
87	19.7	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

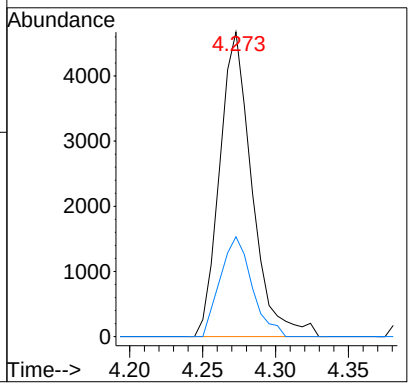


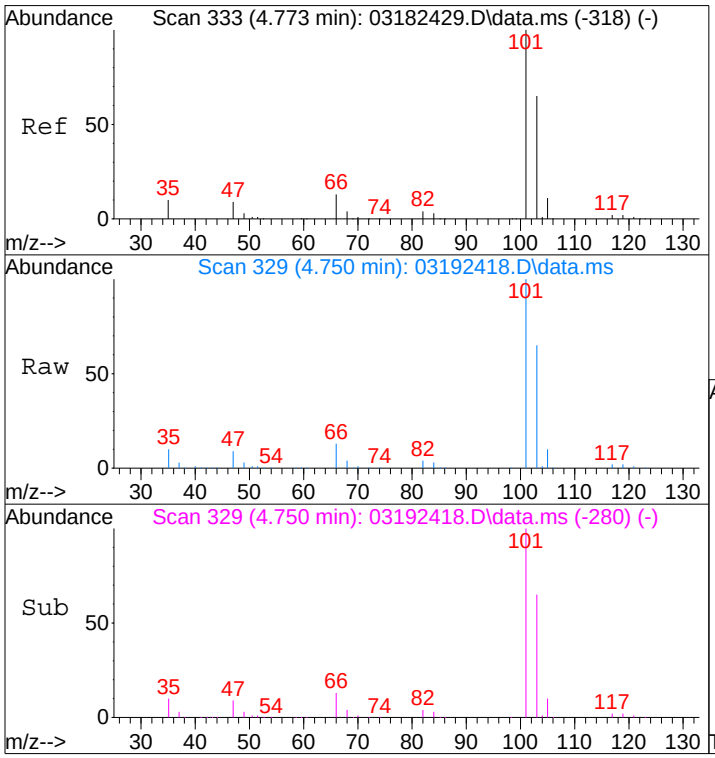


#10
Ethanol
Concen: 0.48 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.088 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 45 Resp: 7217

Ion	Ratio	Lower	Upper
45	100		
46	32.2	13.3	53.3

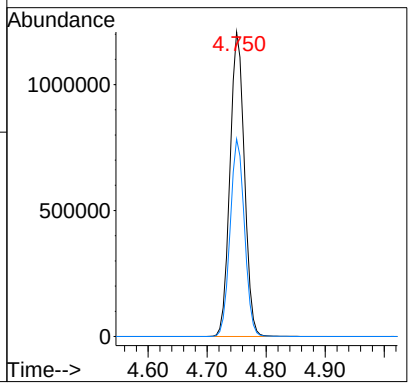


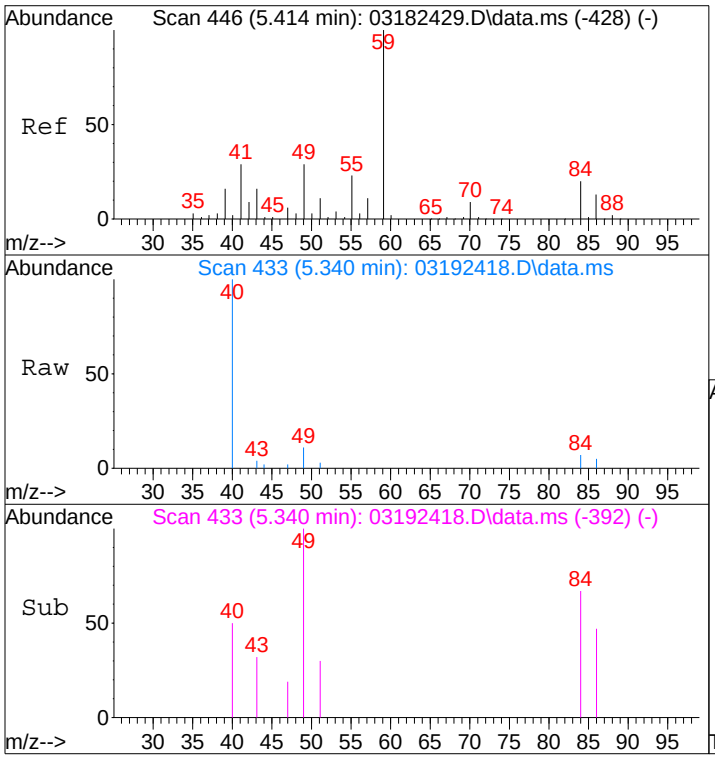


#14
Trichlorofluoromethane
Concen: 66.59 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion:101 Resp: 2043319

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.7	84.7

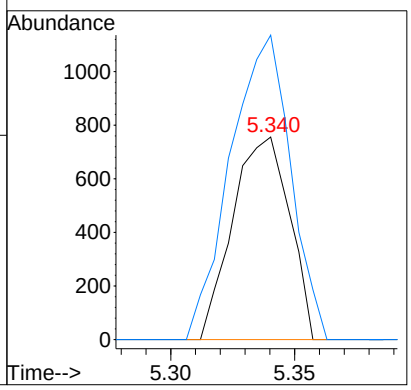


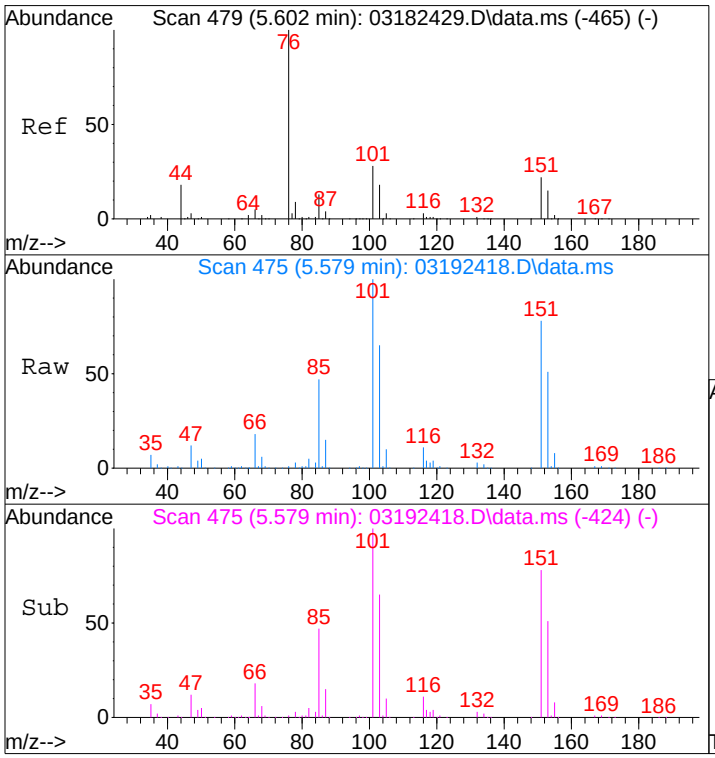


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 84 Resp: 1206

Ion	Ratio	Lower	Upper
84	100		
49	158.8	122.9	172.9

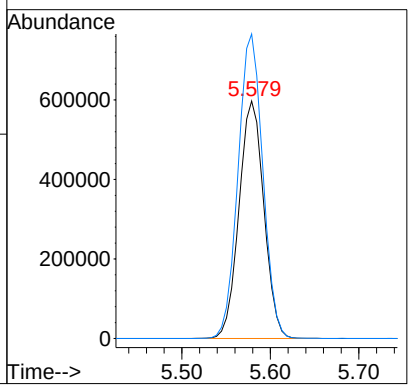


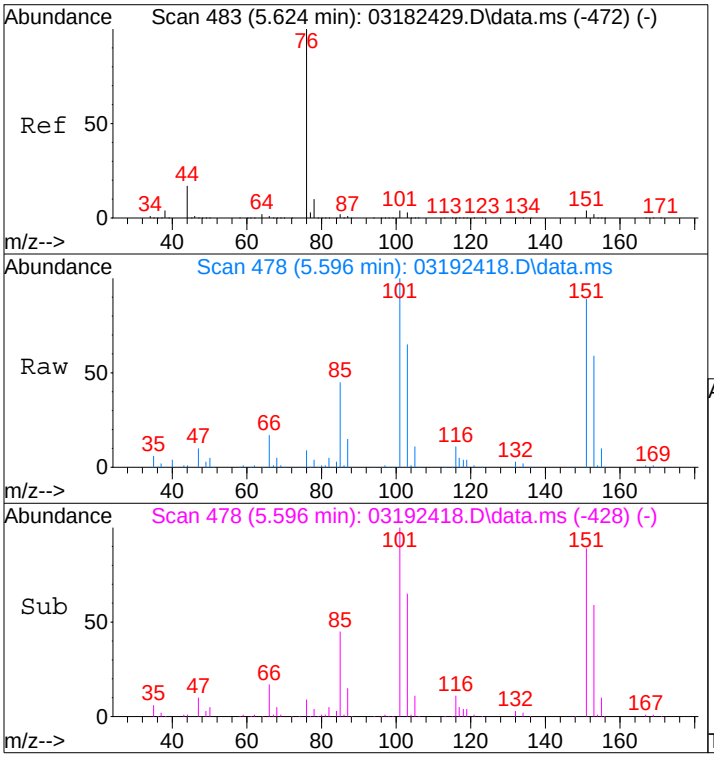


#21
Trichlorotrifluoroethane
Concen: 90.17 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion:151 Resp: 1166290

Ion	Ratio	Lower	Upper
151	100		
101	127.7	106.4	146.4

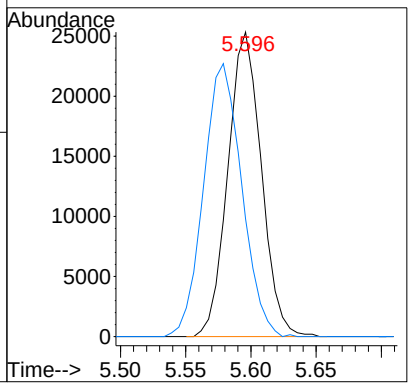


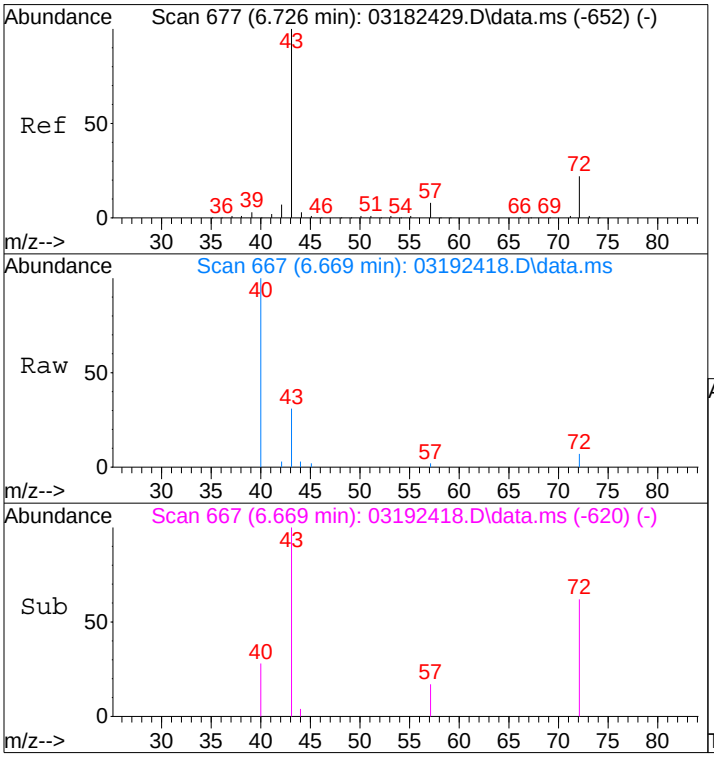


#22
Carbon Disulfide
Concen: 0.88 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 76 Resp: 45184

Ion	Ratio	Lower	Upper
76	100		
78	102.2	0.0	29.8#

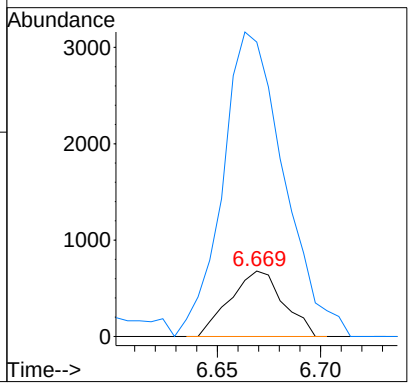


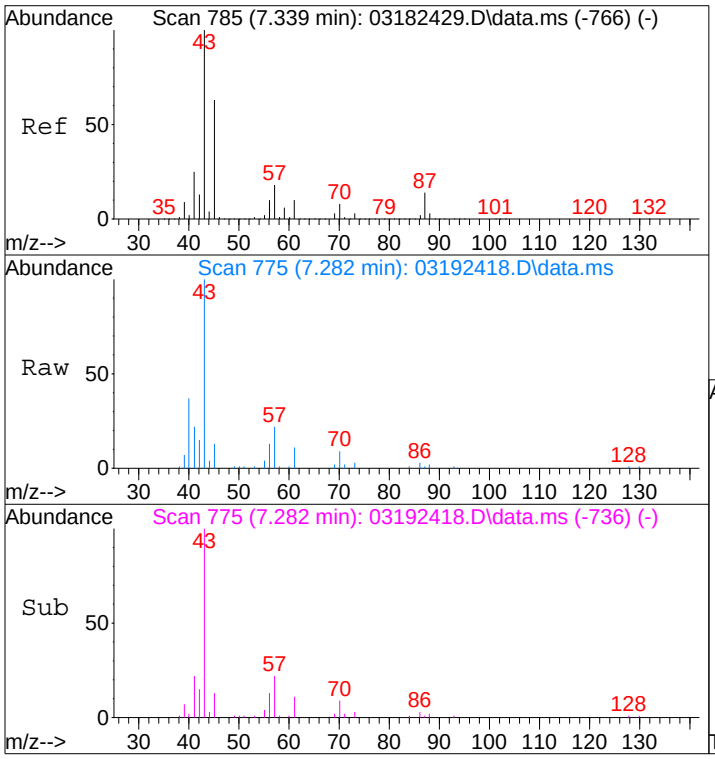


#27
2-Butanone (MEK)
Concen: 0.13 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 72 Resp: 1219

Ion	Ratio	Lower	Upper
72	100		
43	535.0	468.6	508.6#

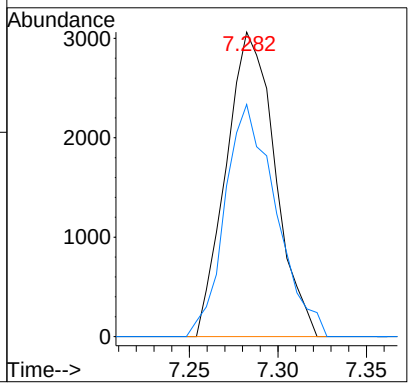


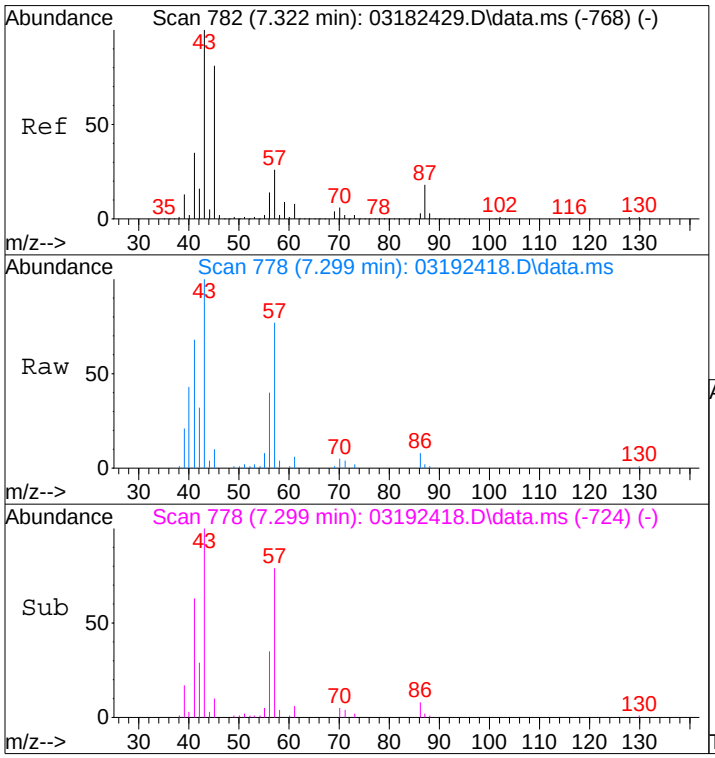


#30
Ethyl Acetate
Concen: 1.06 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 61 Resp: 5890

Ion	Ratio	Lower	Upper
61	100		
70	79.5	57.3	97.3

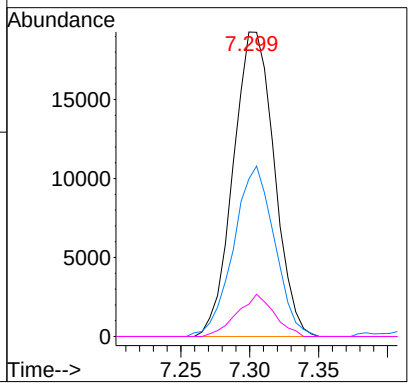


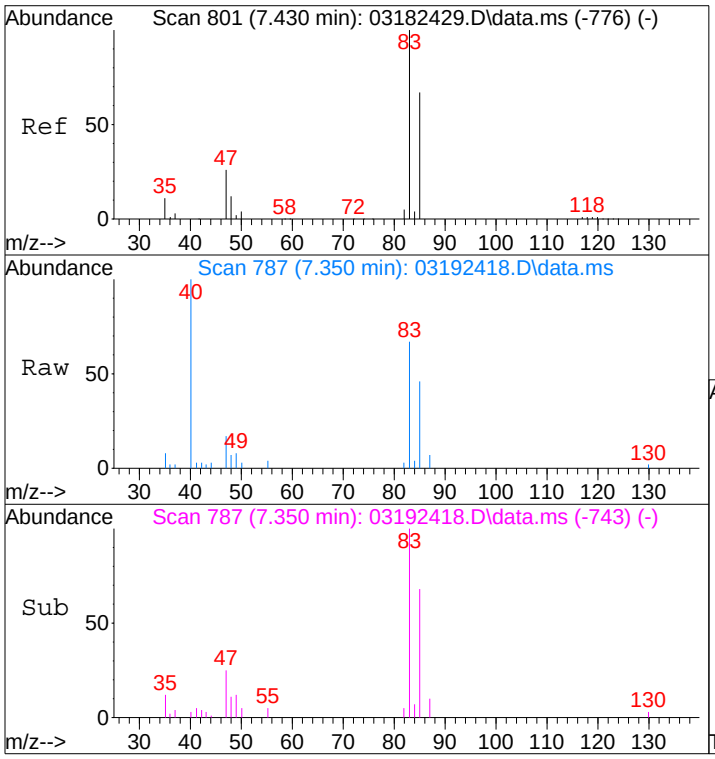


#31
n-Hexane
Concen: 1.66 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 57 Resp: 39956

Ion	Ratio	Lower	Upper
57	100		
56	55.8	42.2	63.4
86	12.5	9.4	14.2

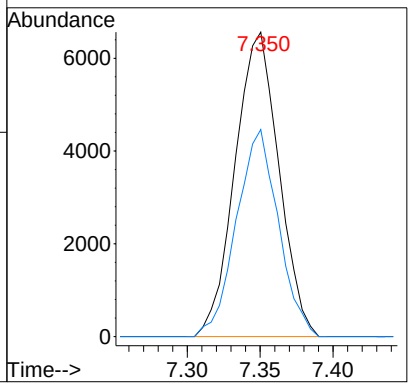


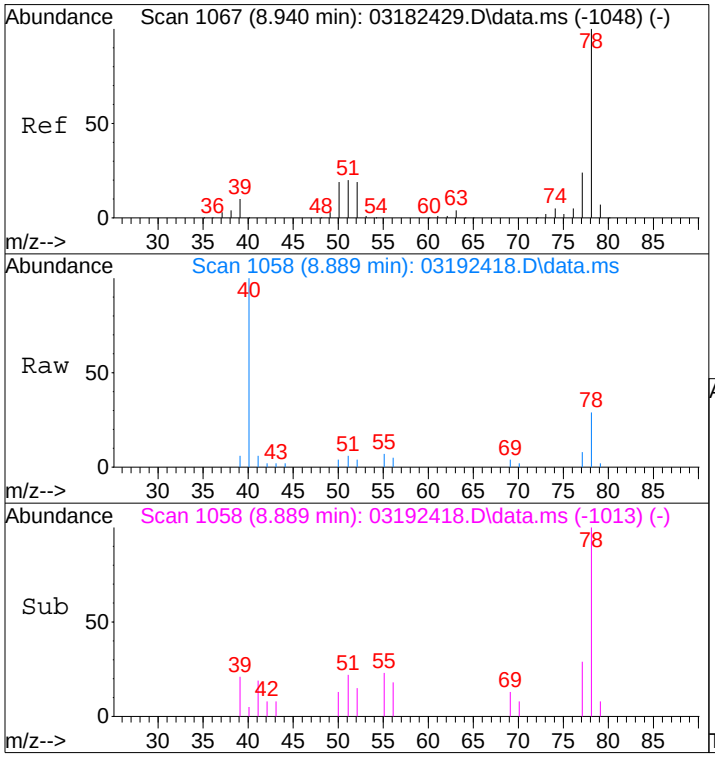


#32
Chloroform
Concen: 0.51 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 83 Resp: 13729

Ion	Ratio	Lower	Upper
83	100		
85	65.1	46.1	86.1

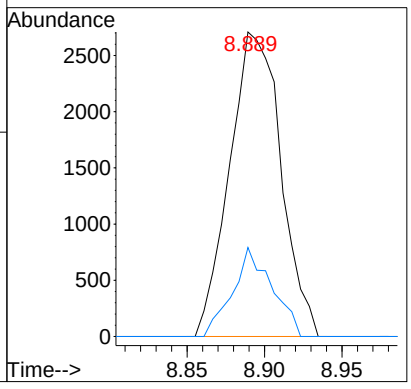


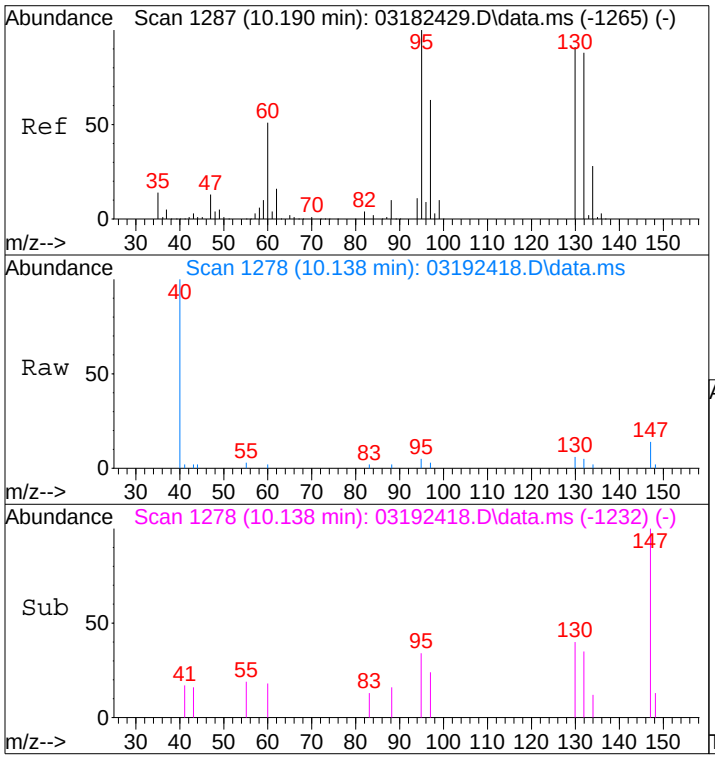


#41
Benzene
Concen: 0.10 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 78 Resp: 6240

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.6	43.6

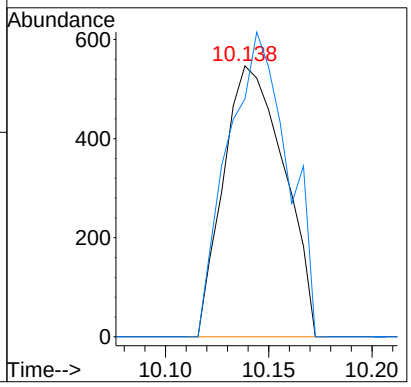


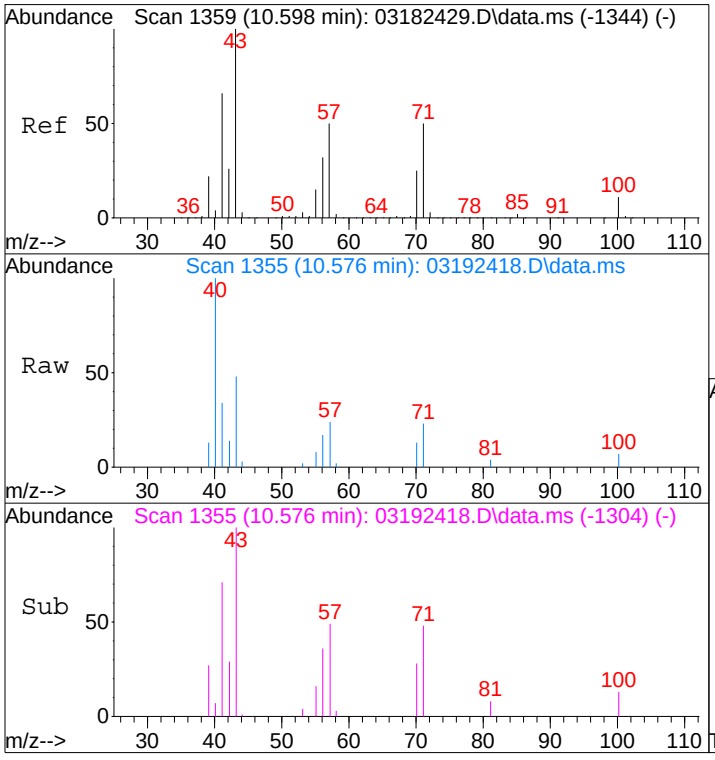


#47
Trichloroethene
Concen: 0.07 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion:130 Resp: 1119

Ion	Ratio	Lower	Upper
130	100		
132	111.0	77.5	117.5

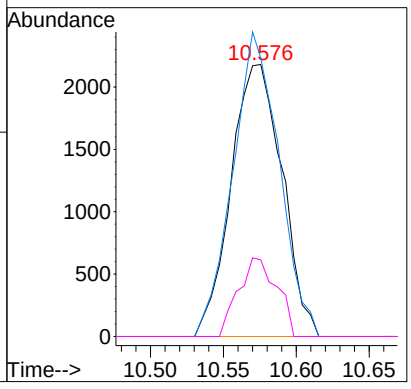


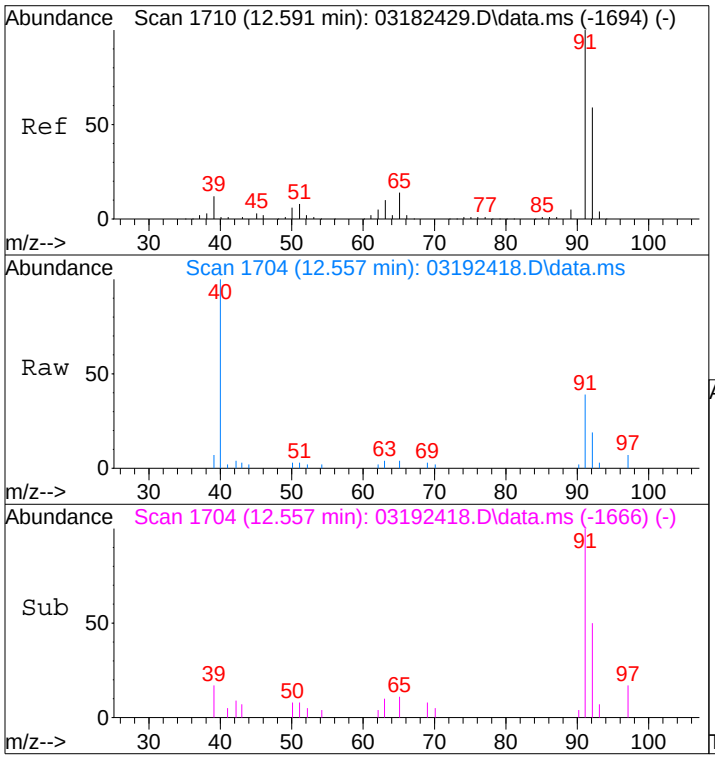


#51
n-Heptane
Concen: 0.42 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.042 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 71 Resp: 5317

Ion	Ratio	Lower	Upper
71	100		
57	101.5	81.2	121.2
100	21.7	4.0	44.0

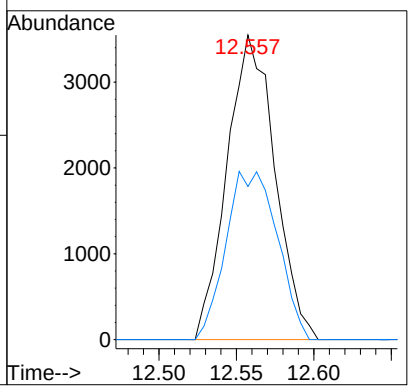


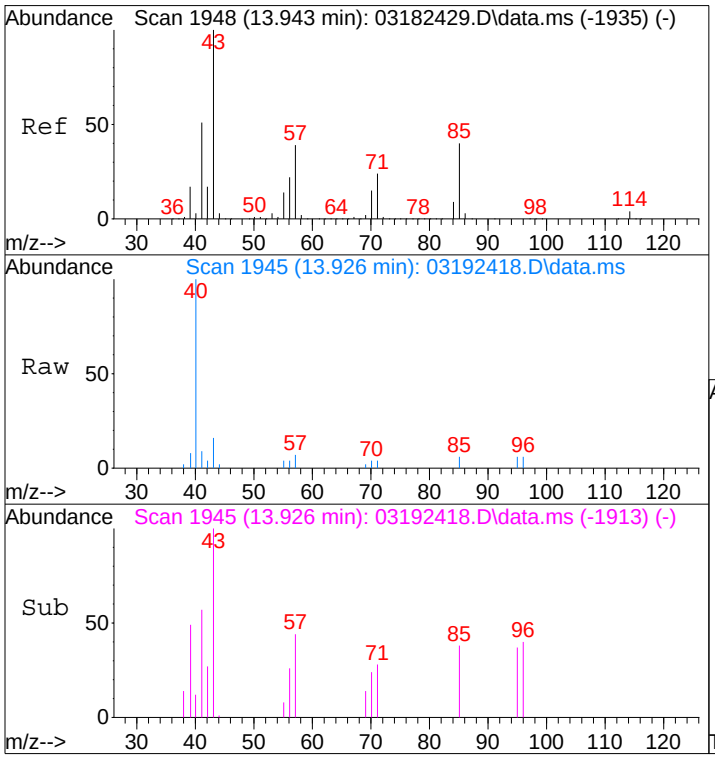


#58
Toluene
Concen: 0.14 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 91 Resp: 7632

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.2	79.2

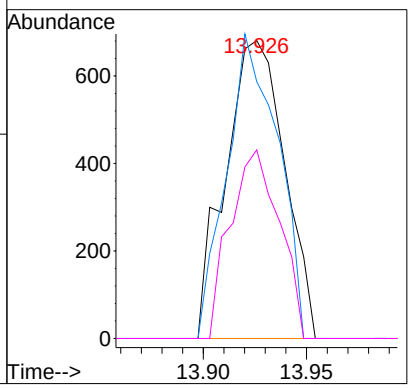


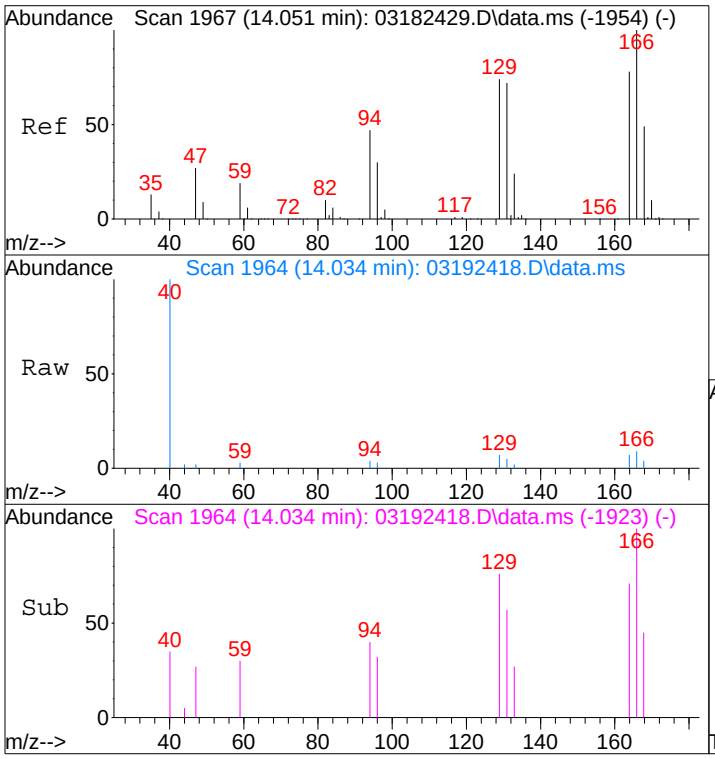


#63
n-Octane
Concen: 0.11 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 57 Resp: 1358

Ion	Ratio	Lower	Upper
57	100		
85	88.1	80.6	121.0
71	52.7	49.3	73.9

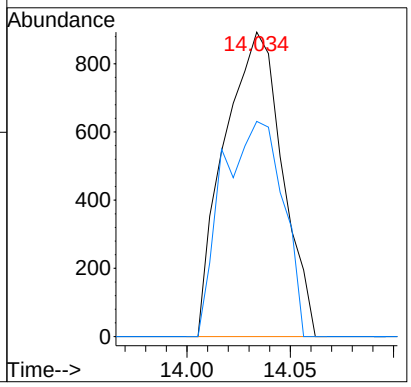


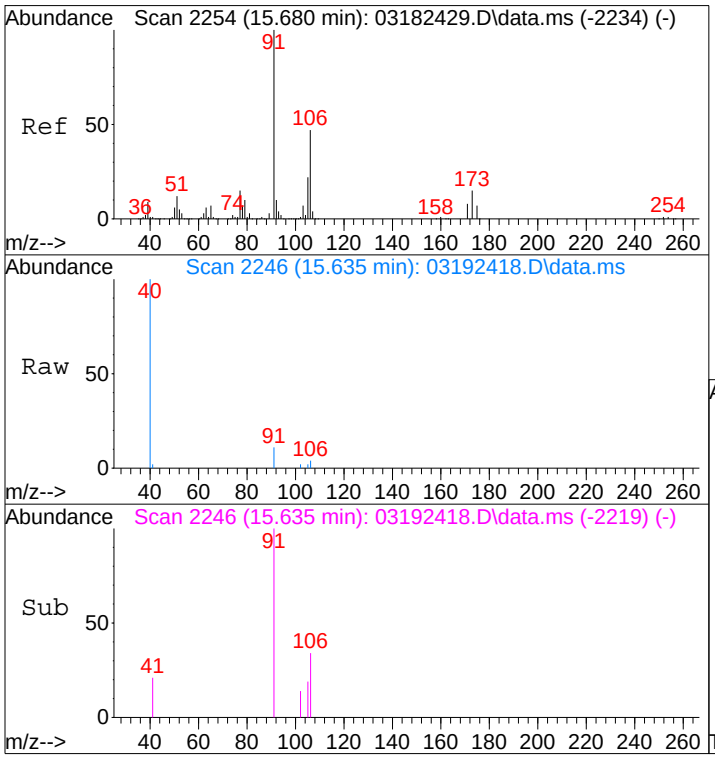


#64
Tetrachloroethene
Concen: 0.10 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion:166 Resp: 1743

Ion	Ratio	Lower	Upper
166	100		
164	73.8	56.7	96.7

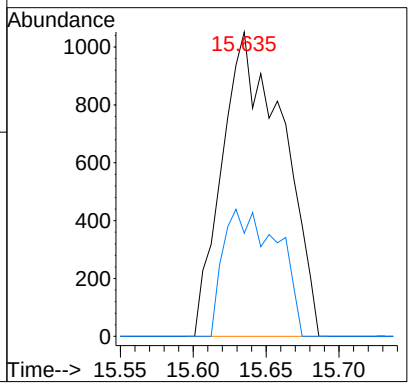




#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.045 min
Lab File: 03192418.D
Acq: 19 Mar 2024 19:18

Tgt Ion: 91 Resp: 3053

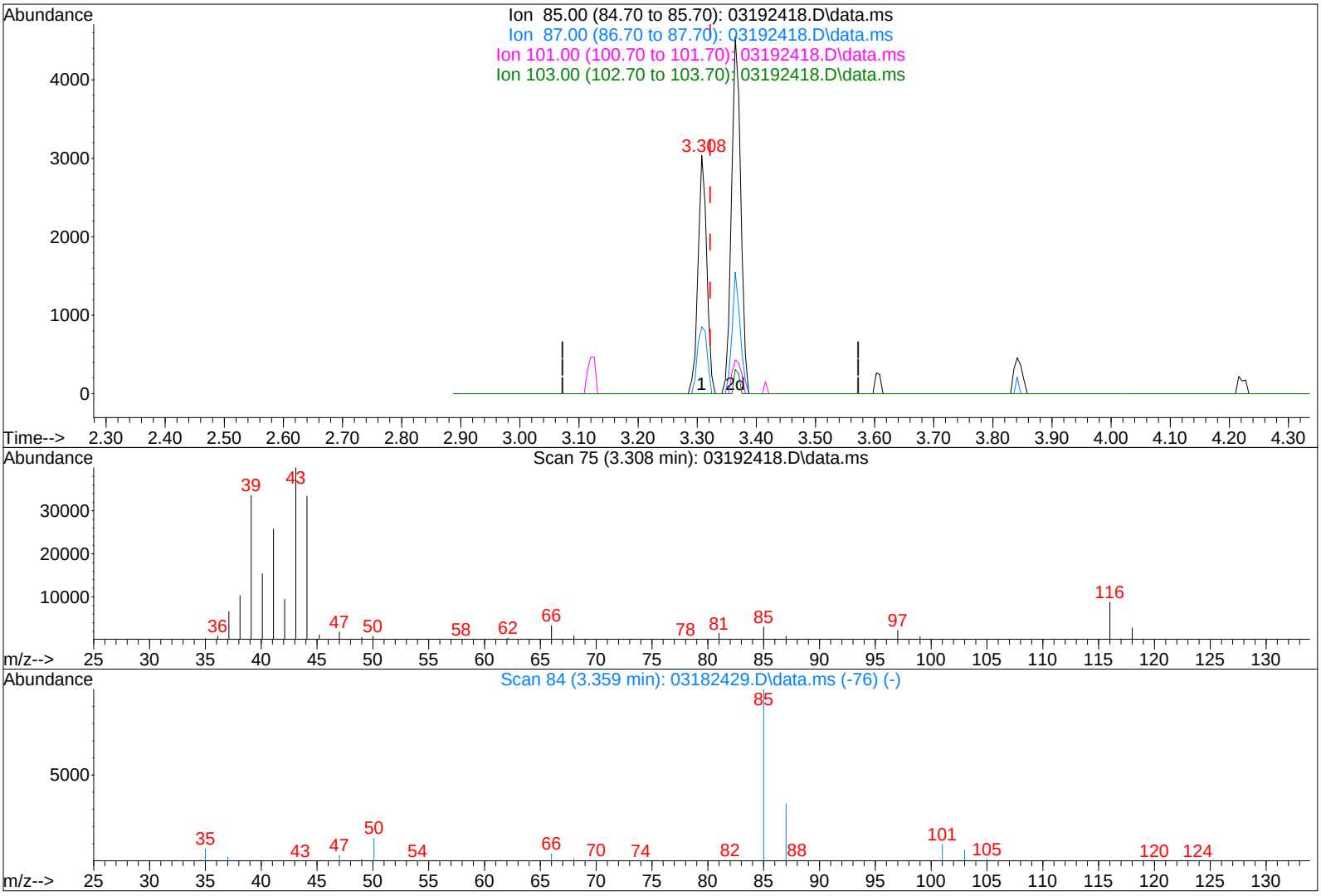
Ion	Ratio	Lower	Upper
91	100		
106	37.3	25.6	65.6



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192418.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.015) 0.10ng

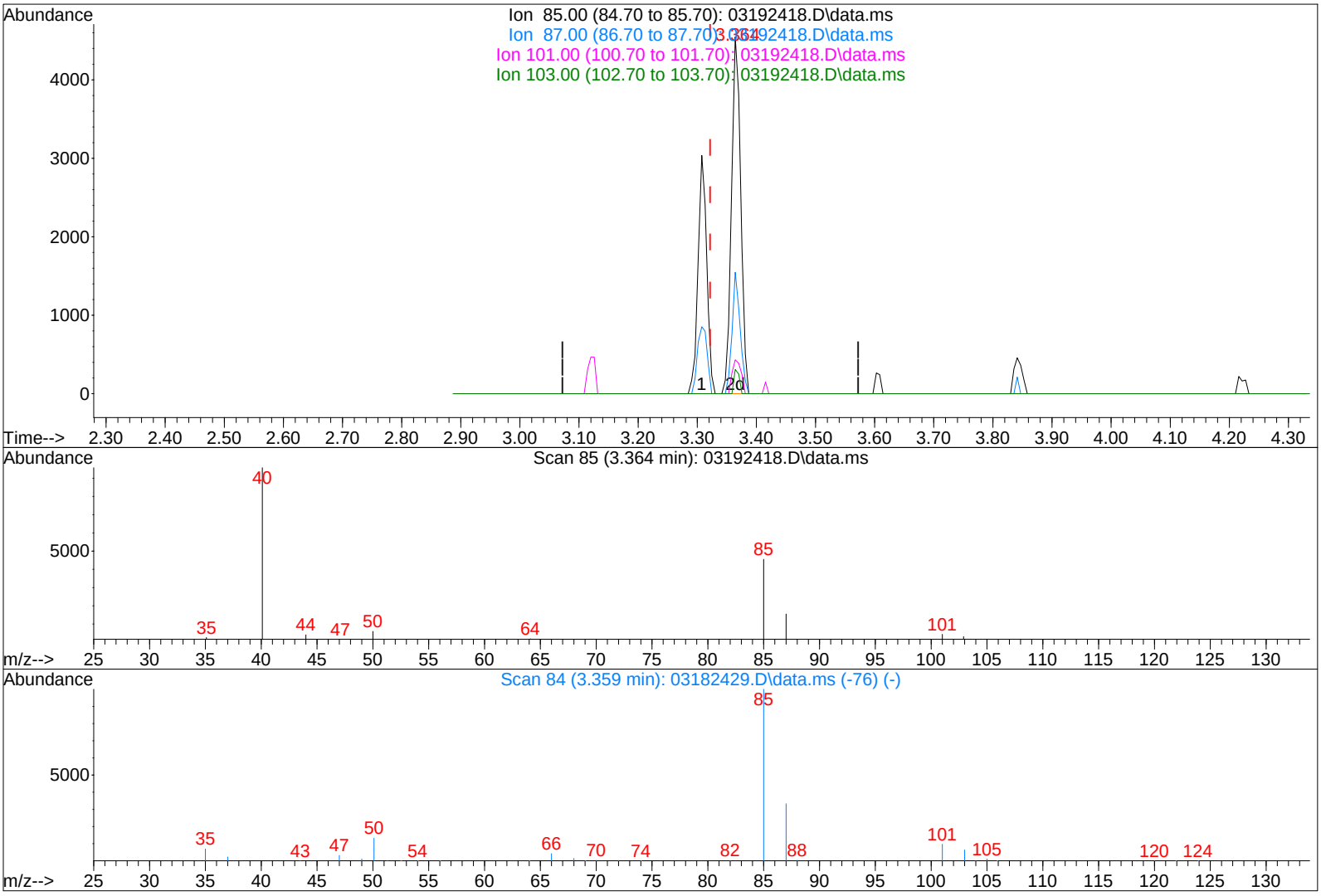
response 3119

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	31.32
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:24:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192418.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.16ng m

response 4950

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	19.74
101.00	9.20	0.00
103.00	6.00	0.00

WP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:57:52 2024 3/21/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

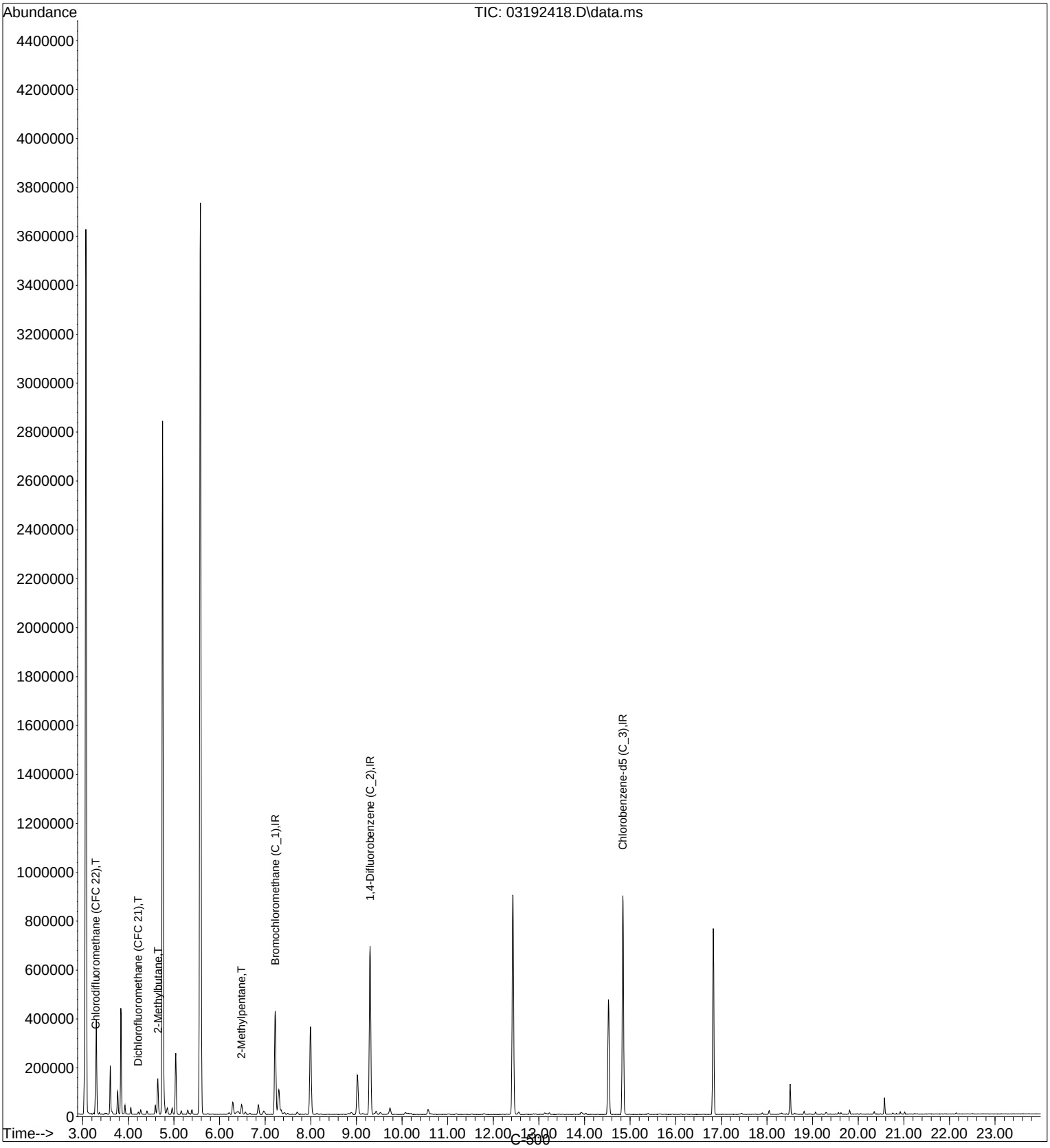
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	154561	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	660956	12.500 ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	146480	12.500 ng		-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	619	N.D.		
4) 1,1-Difluoroethane	3.24	65	1102	N.D.		
5) Chlorodifluoromethane ...	3.28	67	821	0.181 ng		99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	56	N.D.		
7) Dichlorofluoromethane ...	4.22	67	7620	0.253 ng		97
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	350	N.D.		
10) 2-Methylbutane	4.65	57	29604	1.912 ng	#	74
11) Methyl Acetate	5.29	43	69	N.D.		
12) 2-Methylpentane	6.48	71	8182	0.704 ng	#	73
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.52	56	2484	N.D.		
18) Dibromomethane	9.79	174	53	N.D.		
20) Methyl Cyclohexane	11.41	55	372	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	542	N.D.		
27) 4-Chlorotoluene	17.68	91	1183	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	20.58	119	176	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

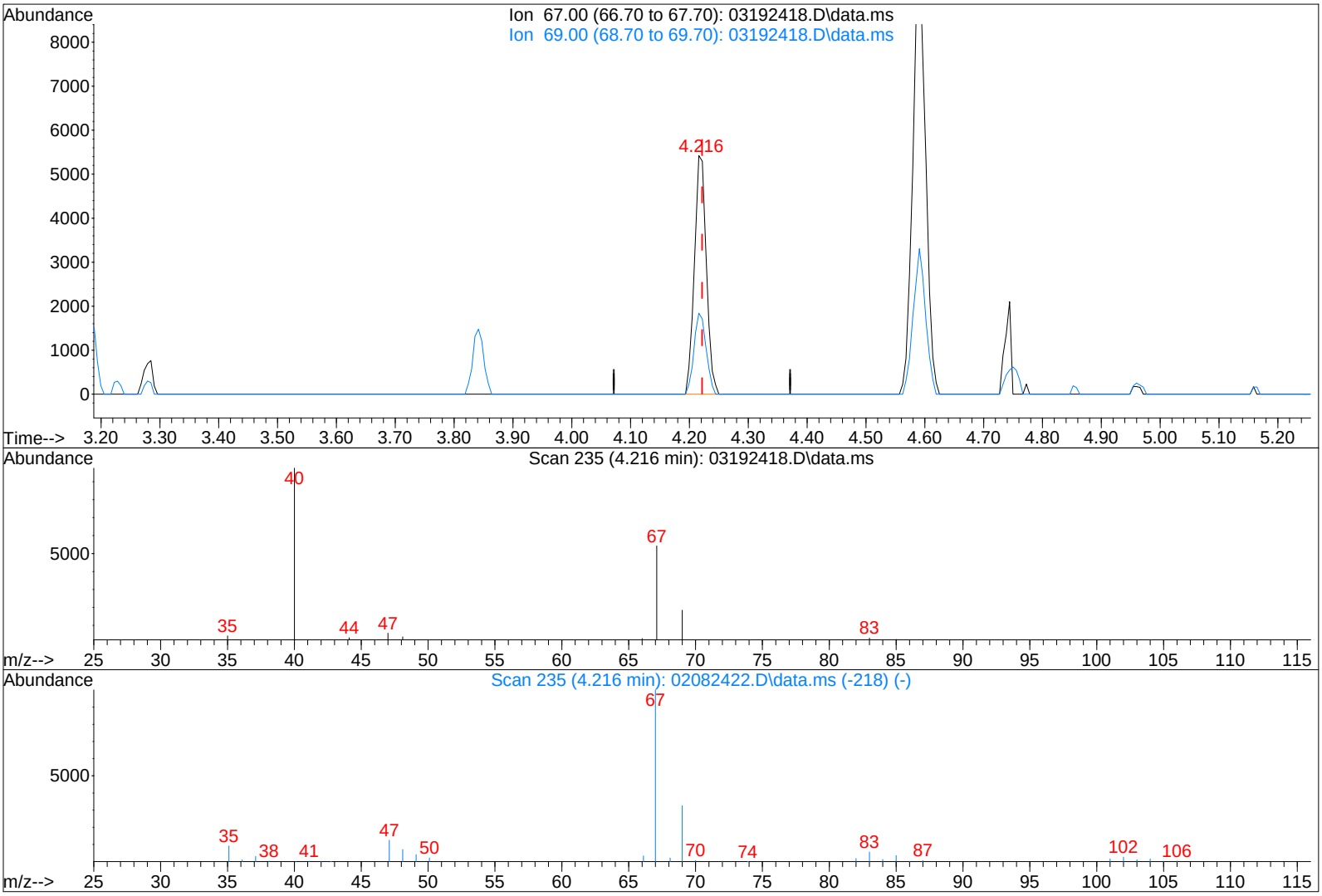
Quant Time: Mar 21 09:57:52 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192418.D Vial: 7
Acq On : 19 Mar 2024 19:18 Operator: SC
Sample : P2400922-004 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:57:18 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192418.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 0.25ng

response 7620

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	34.34
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202411.D Vial: 7
Acq On : 20 Mar 2024 10:35 Operator: SC
Sample : P2400922-004Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:02:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	152126	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	651183	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	144215	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	311332	12.510	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
57) Toluene-d8 (SS2)	12.43	98	736836	12.725	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
73) Bromofluorobenzene (SS3)	16.83	174	253557	12.420	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	2229m	0.071	ng		
4) Chloromethane	3.51	50	139	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	432	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.43	45	559	N.D.			
11) Acetonitrile	4.41	41	1080	N.D.			
12) Acrolein	4.54	56	57	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.74	101	936322	31.004	ng		100
15) 2-Propanol (Isopropanol)	4.95	45	51	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.34	84	963	0.059	ng		92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.57	151	529725	41.611	ng		99
22) Carbon Disulfide	5.59	76	20321	0.401	ng	#	1
23) trans-1,2-Dichloroethene	6.12	61	121	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	450	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.30	87	238	N.D.			
30) Ethyl Acetate	7.29	61	2614	0.476	ng		98
31) n-Hexane	7.30	57	18349	0.776	ng		96
32) Chloroform	7.34	83	6403	0.243	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	128	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	793	No Calib		#	
41) Benzene	8.89	78	3206	0.055	ng		88
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	525	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	420	N.D.			
47) Trichloroethene	10.14	130	756	N.D.			
48) 1,4-Dioxane	10.13	88	114	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202411.D Vial: 7
Acq On : 20 Mar 2024 10:35 Operator: SC
Sample : P2400922-004Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:02:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

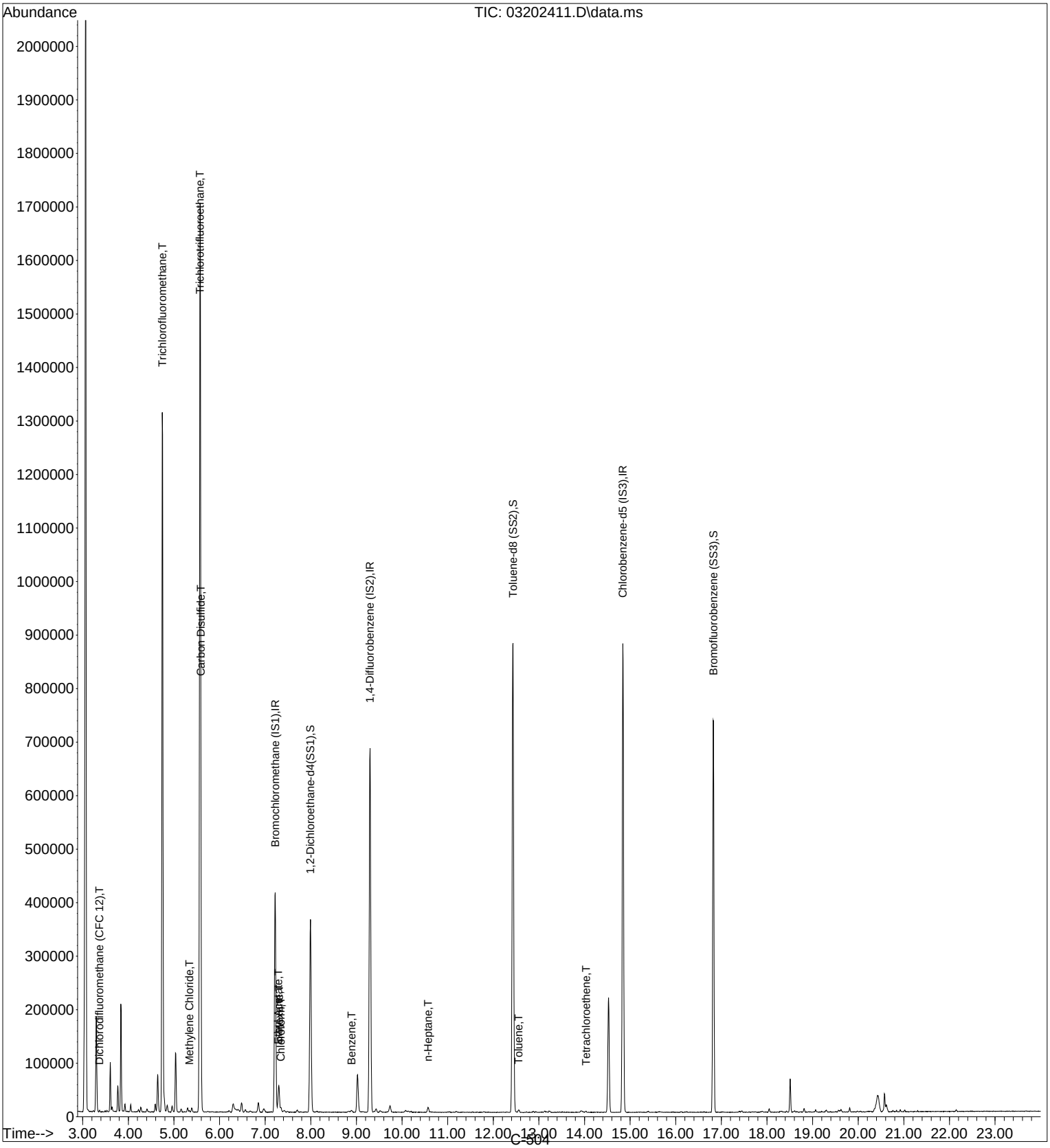
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.57	71	2237	0.179 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4158	0.075 ng	98
59) 2-Hexanone	12.93	43	940	N.D.	
60) Dibromochloromethane	13.06	129	405	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	413	N.D.	
63) n-Octane	13.93	57	504	N.D.	
64) Tetrachloroethene	14.03	166	893	0.053 ng	99
65) Chlorobenzene	14.89	112	498	N.D.	
66) Ethylbenzene	15.41	91	1152	N.D.	
67) m- & p-Xylenes	15.64	91	2141	N.D.	
68) Bromoform	15.67	173	405	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	947	N.D.	
71) n-Nonane	16.62	43	457	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	198	N.D.	
74) Cumene	17.04	105	774	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	977	N.D.	
77) 3-Ethyltoluene	17.04	105	774	No Calib	#
78) 4-Ethyltoluene	17.86	105	611	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	308	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	774	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	625	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	469	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	474	N.D.	
87) sec-Butylbenzene	18.74	105	840	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	650	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	774	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	456	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	706	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	618	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	816	N.D.	
100) n-Butylbenzene	19.39	91	593	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202411.D Vial: 7
Acq On : 20 Mar 2024 10:35 Operator: SC
Sample : P2400922-004Dil (50mL) Inst : MS09
Misc : S37-02202408

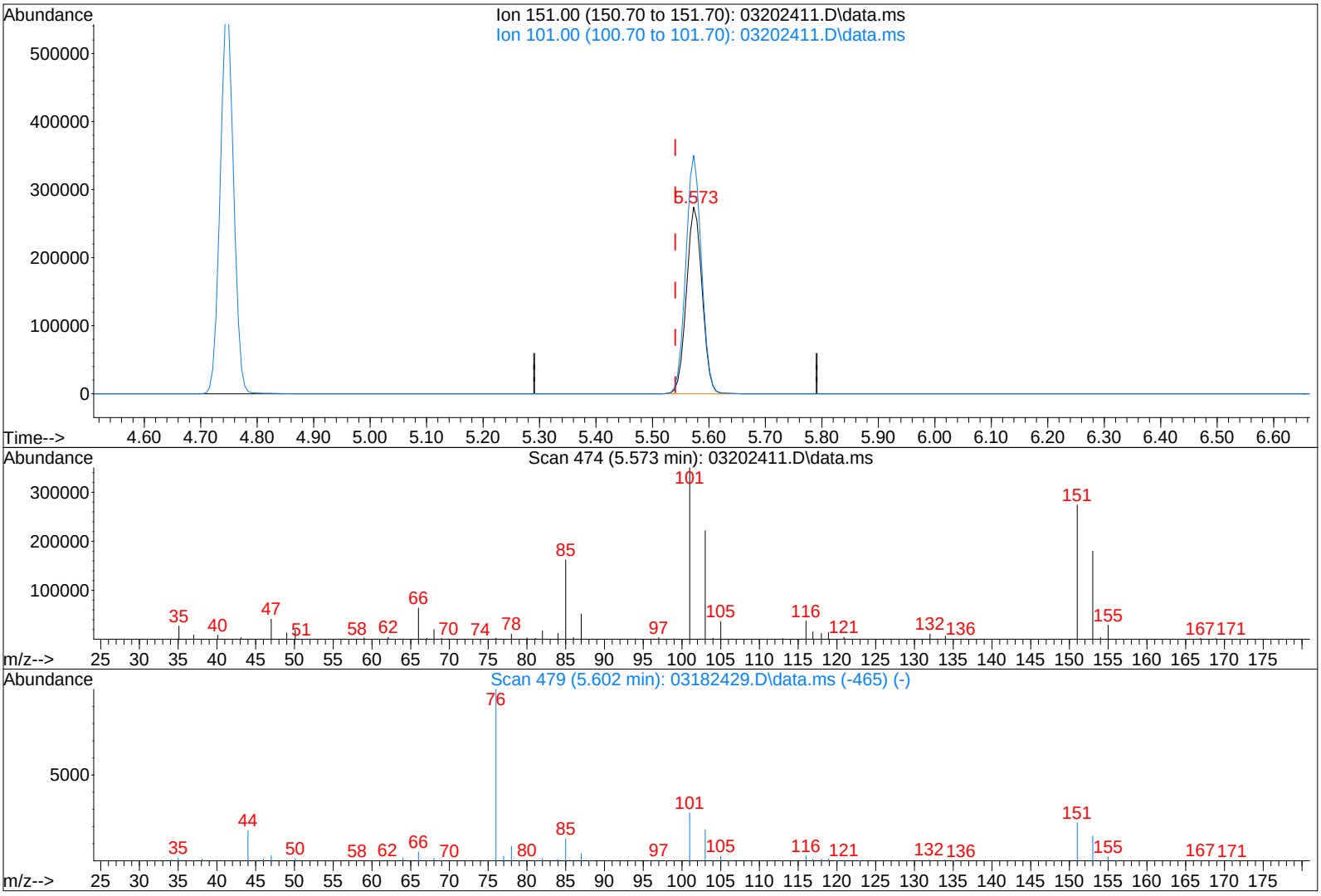
Quant Time: Mar 20 11:02:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202411.D Vial: 7
Acq On : 20 Mar 2024 10:35 Operator: SC
Sample : P2400922-004Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:01:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202411.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (+0.032) 41.61ng

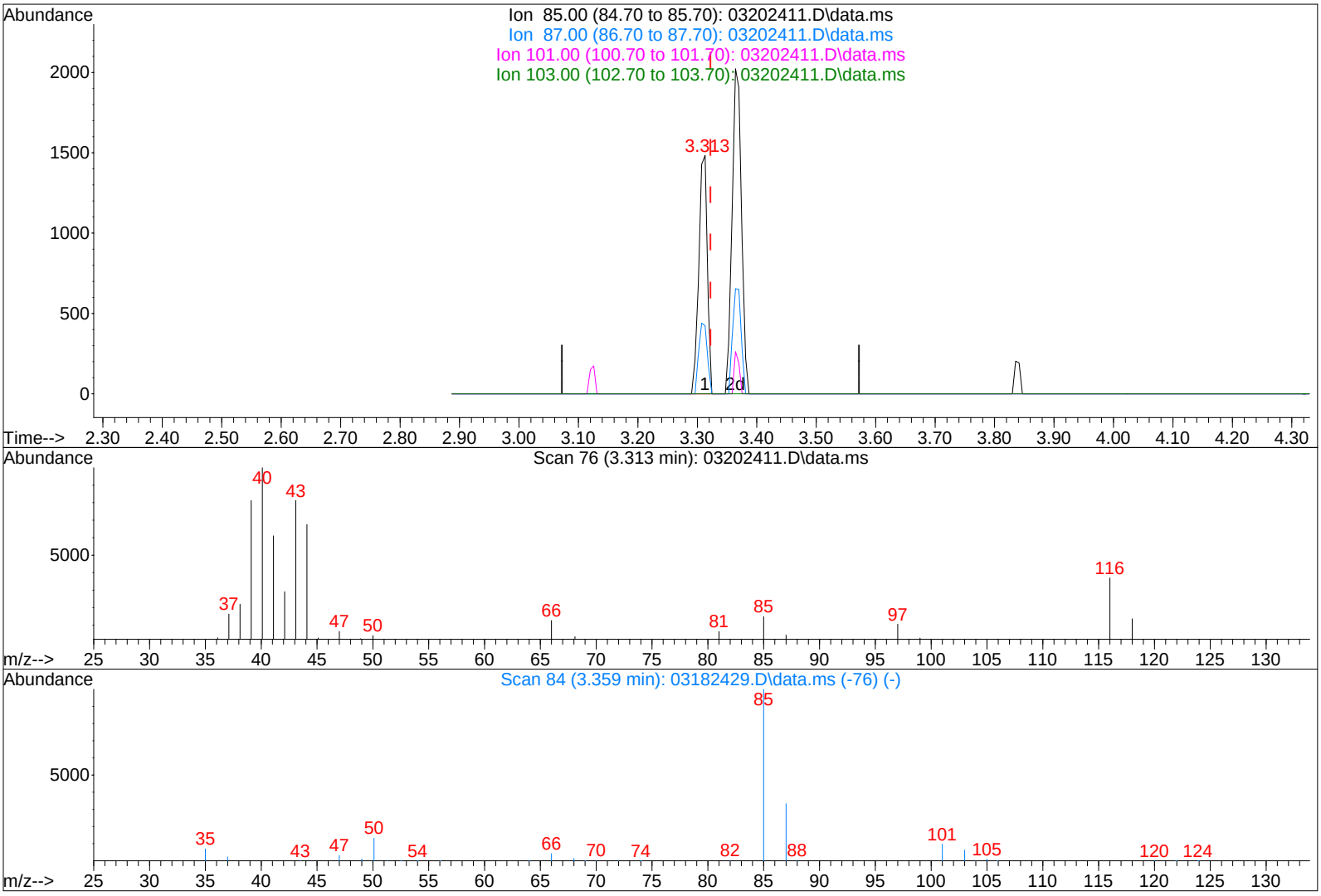
response 529725

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	127.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202411.D Vial: 7
Acq On : 20 Mar 2024 10:35 Operator: SC
Sample : P2400922-004Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:01:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202411.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.009) 0.05ng

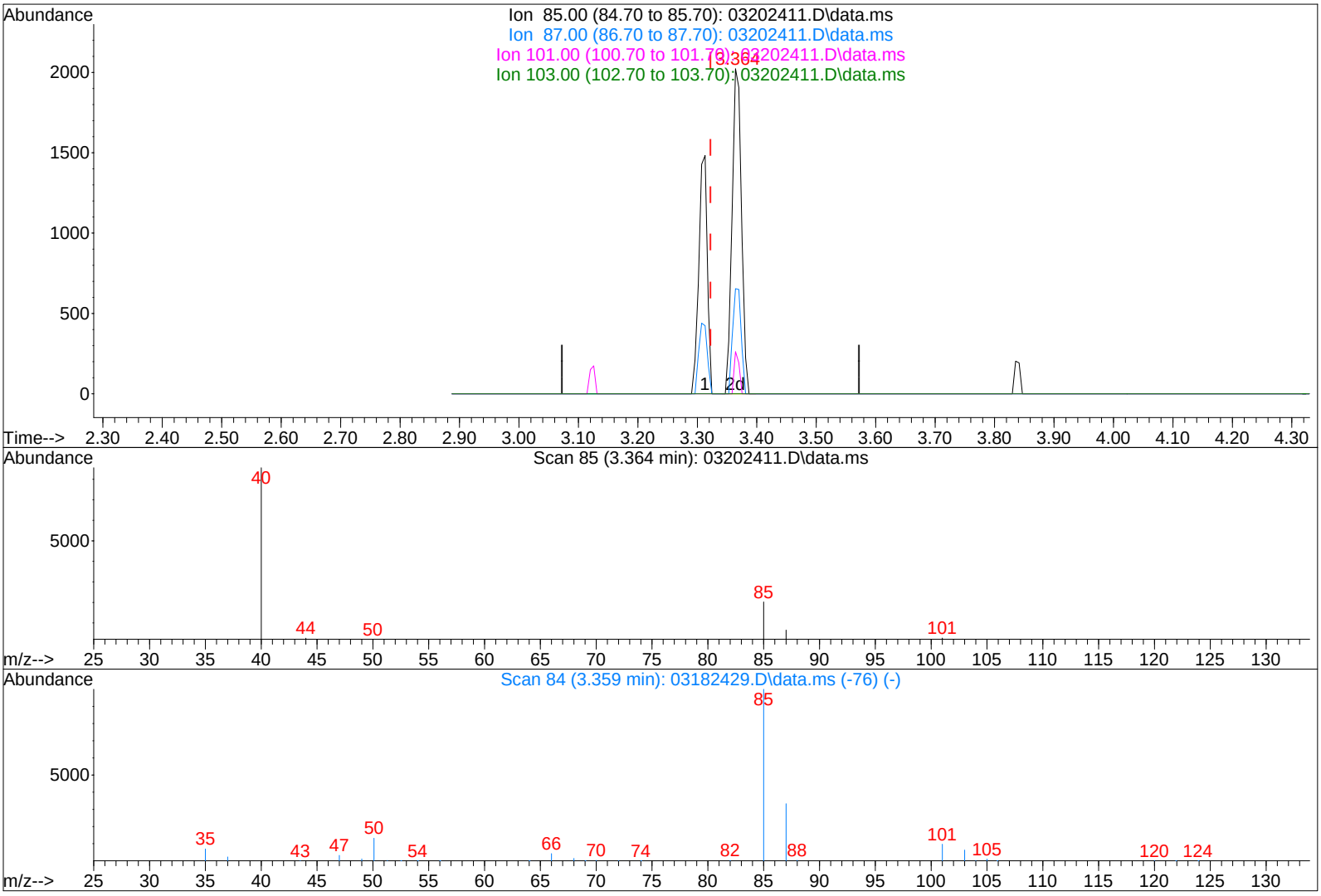
response 1480

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	29.53
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202411.D Vial: 7
Acq On : 20 Mar 2024 10:35 Operator: SC
Sample : P2400922-004Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:01:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202411.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.07ng m

response 2229

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	19.61
101.00	9.20	0.00
103.00	6.00	0.00

MP 3/20/24

LH 3/21/24

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192418.D
Acq On : 19 Mar 2024 19:18
Operator : SC
Sample : P2400922-004 (100mL)
Misc : S37-02202408
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192418.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	66	73	81	rVB2	386060	593896	8.15%	3.654%
2	3.603	121	127	141	rBV	198266	261107	3.58%	1.607%
3	3.767	147	156	162	rBV	94474	142929	1.96%	0.879%
4	3.836	162	168	176	rVV	432575	579170	7.94%	3.563%
5	3.926	179	184	188	rVB	34906	41495	0.57%	0.255%
6	4.051	199	206	212	rVB	27672	38051	0.52%	0.234%
7	4.216	229	235	240	rBV2	9410	13519	0.19%	0.083%
8	4.273	240	245	253	rVB	17734	26411	0.36%	0.162%
9	4.409	262	269	278	rBV2	13432	22187	0.30%	0.137%
10	4.591	295	301	305	rBV	35436	53277	0.73%	0.328%
11	4.648	305	311	319	rVB	145071	245444	3.37%	1.510%
12	4.750	319	329	342	rBV	2835058	4841133	66.40%	29.786%
13	4.852	342	347	357	rVB2	26532	49979	0.69%	0.308%
14	4.960	361	366	372	rVV2	25946	42422	0.58%	0.261%
15	5.039	372	380	394	rVB	249500	405492	5.56%	2.495%
16	5.159	394	401	409	rBV2	15142	23968	0.33%	0.147%
17	5.301	421	426	431	rBV	16982	31440	0.43%	0.193%
18	5.391	437	442	449	rBV	19078	31000	0.43%	0.191%
19	5.579	463	475	491	rBV	3726939	7291342	100.00%	44.861%
20	6.215	582	587	592	rVB2	6602	12979	0.18%	0.080%
21	6.289	592	600	609	rVV	50096	109081	1.50%	0.671%
22	6.408	609	621	628	rVV8	11842	51855	0.71%	0.319%
23	6.482	628	634	642	rVV	40613	84352	1.16%	0.519%
24	6.561	642	648	656	rVB4	9958	21354	0.29%	0.131%
25	6.851	690	699	706	rBV	39394	80682	1.11%	0.496%
26	6.970	713	720	729	rVB4	13897	36664	0.50%	0.226%
27	7.220	754	764	771	rBV	422186	902678	12.38%	5.554%
28	7.299	771	778	785	rVB2	85720	200731	2.75%	1.235%
29	7.424	793	800	805	rVB4	7681	18451	0.25%	0.114%

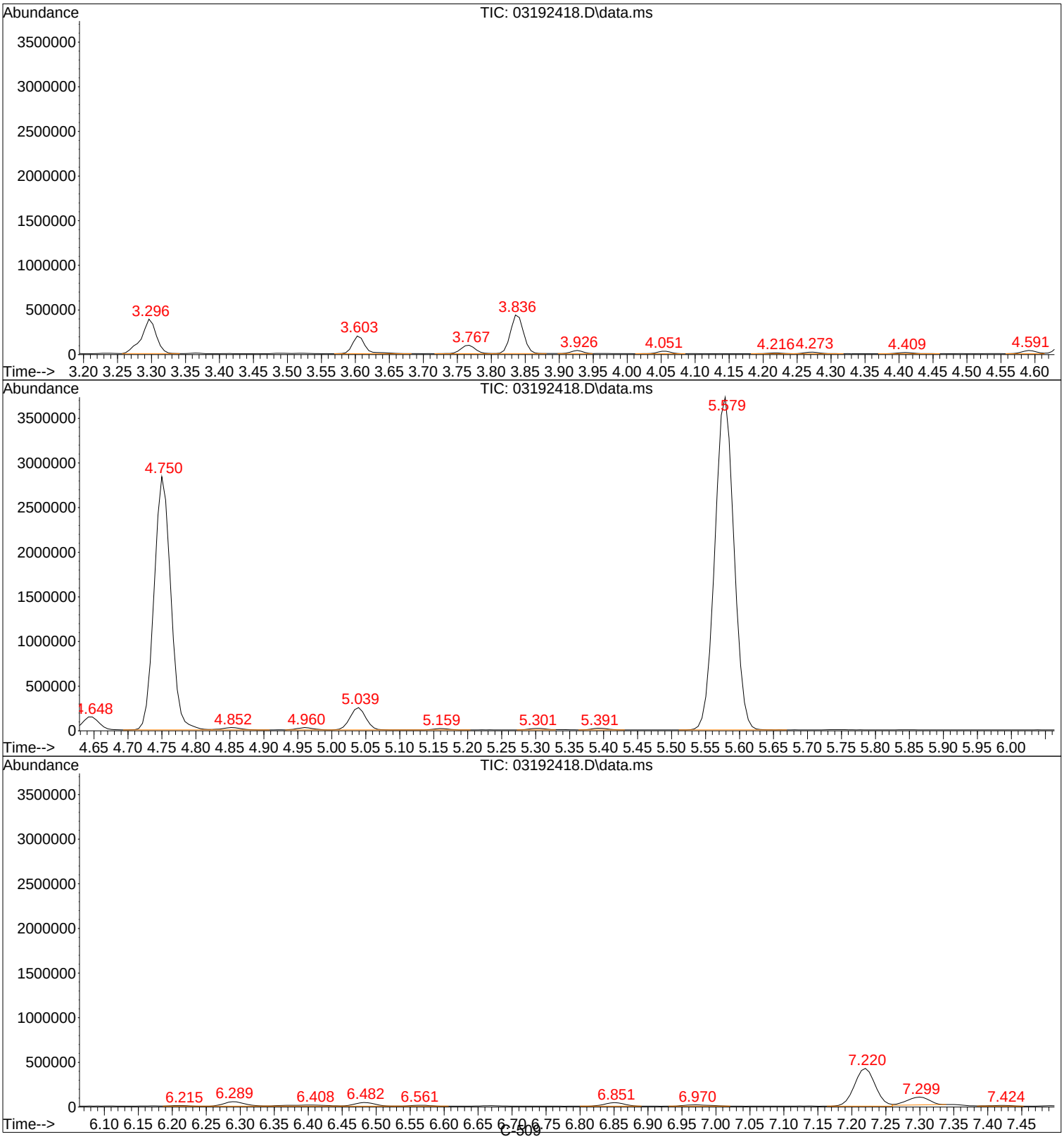
Sum of corrected areas: 16253089

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192418.D
Acq On : 19 Mar 2024 19:18
Operator : SC
Sample : P2400922-004 (100mL)
Misc : S37-02202408
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192418.D
Acq On : 19 Mar 2024 19:188
Operator : SCC
Sample : P2400922-004 (100mL))
Misc : S37-022024088
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:35:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	151186	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	652153	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	146977	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	311665	12.601	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	12.43	98	739789	12.536	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	16.83	174	262337	12.609	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	17810m	0.574	ng		
4) Chloromethane	3.49	50	1841	0.080	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	434	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	197	N.D.			
8) Bromomethane	4.02	94	374	N.D.			
9) Chloroethane	4.15	64	387	N.D.			
10) Ethanol	4.28	45	9635m	0.659	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	4174	0.399	ng		97
13) Acetone	4.63	58	44586	4.010	ng	#	82
14) Trichlorofluoromethane	4.76	101	1875626	62.492	ng		100
15) 2-Propanol (Isopropanol)	4.89	45	112	N.D.			
16) Acrylonitrile	5.04	53	274	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.34	59	694	N.D.			
19) Methylene Chloride	5.34	84	1319	0.082	ng		85
20) 3-Chloro-1-propene (Al...	5.44	41	120	N.D.			
21) Trichlorotrifluoroethane	5.58	151	965482	76.313	ng		99
22) Carbon Disulfide	5.60	76	94118	1.868	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.43	86	4875	1.971	ng	#	4
27) 2-Butanone (MEK)	6.66	72	7033	0.774	ng	#	87
28) cis-1,2-Dichloroethene	7.07	61	265	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	916	0.168	ng		91
31) n-Hexane	7.31	57	4350	0.185	ng	#	96
32) Chloroform	7.36	83	28229	1.077	ng		99
34) Tetrahydrofuran (THF)	7.77	72	567	0.069	ng	#	34
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	146	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	4012	No Calib		#	
40) 1-Butanol	8.81	56	9605	No Calib		#	
41) Benzene	8.89	78	8378	0.143	ng		97
42) Carbon Tetrachloride	9.07	117	347	N.D.			
43) Cyclohexane	9.22	84	597	N.D.			
44) tert-Amyl Methyl Ether	9.58	73	1058	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	1096	0.051	ng		84
47) Trichloroethene	10.14	130	3491	0.221	ng		99
48) 1,4-Dioxane	10.12	88	3183	0.311	ng		100
49) 2,2,4-Trimethylpentane...	10.24	57	1068	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:35:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

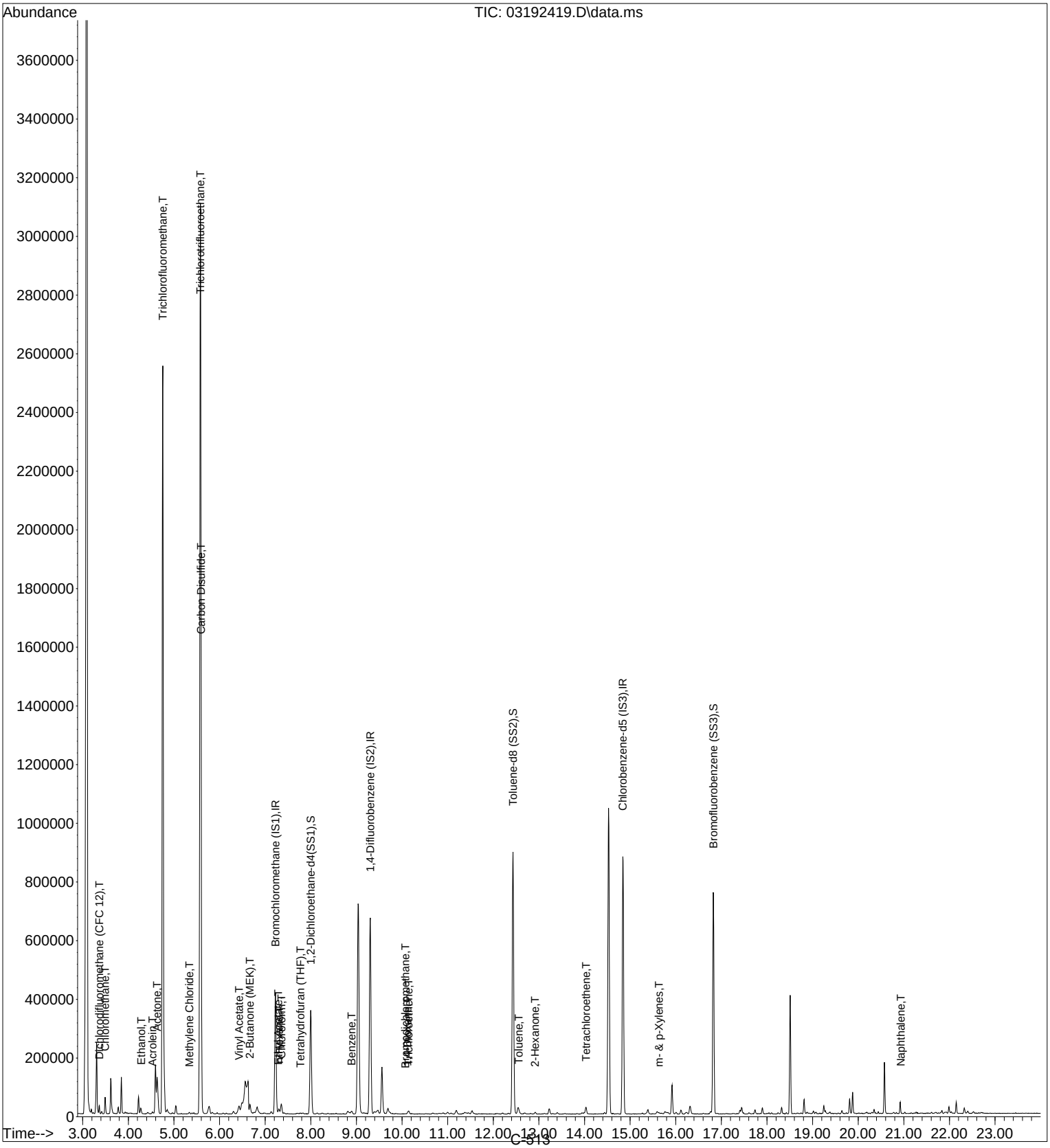
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.32	58	202	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5676	0.101 ng	100
59) 2-Hexanone	12.92	43	6126	0.187 ng	87
60) Dibromochloromethane	13.07	129	359	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	597	N.D.	
63) n-Octane	13.93	57	120	N.D.	
64) Tetrachloroethene	14.03	166	8106	0.468 ng	97
65) Chlorobenzene	14.90	112	897	N.D.	
66) Ethylbenzene	15.41	91	2109	N.D.	
67) m- & p-Xylenes	15.64	91	3293	0.062 ng	97
68) Bromoform	15.68	173	597	N.D.	
69) Styrene	16.10	104	338	N.D.	
70) o-Xylene	16.24	91	2351	N.D.	
71) n-Nonane	16.62	43	1118	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	485	N.D.	
74) Cumene	17.03	105	968	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1345	N.D.	
77) 3-Ethyltoluene	17.03	105	968	No Calib #	
78) 4-Ethyltoluene	17.86	105	735	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	463	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	968	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	704	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	617	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	648	N.D.	
87) sec-Butylbenzene	18.74	105	1003	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	853	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	968	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	492	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	888	N.D.	
95) Naphthalene	20.94	128	1371	0.373 ng #	71
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	537	N.D.	
98) Cyclohexanone	15.49	55	214	No Calib #	
99) tert-Butylbenzene	18.43	119	830	N.D.	
100) n-Butylbenzene	19.38	91	869	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:35:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
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QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	151186	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	652153	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	146977	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	311665	12.601	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	12.43	98	739789	12.536	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
73) Bromofluorobenzene (SS3)	16.83	174	262337	12.609	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	17810m	0.574	ng		
4) Chloromethane	3.49	50	1841	0.080	ng		95
10) Ethanol	4.28	45	9635m	0.659	ng		
12) Acrolein	4.53	56	4174	0.399	ng		97
13) Acetone	4.63	58	44586	4.010	ng	#	82
14) Trichlorofluoromethane	4.76	101	1875626	62.492	ng		100
19) Methylene Chloride	5.34	84	1319	0.082	ng		85
21) Trichlorotrifluoroethane	5.58	151	965482	76.313	ng		99
22) Carbon Disulfide	5.60	76	94118	1.868	ng	#	1
26) Vinyl Acetate	6.43	86	4875	1.971	ng	#	4
27) 2-Butanone (MEK)	6.66	72	7033	0.774	ng	#	87
30) Ethyl Acetate	7.29	61	916	0.168	ng		91
31) n-Hexane	7.31	57	4350	0.185	ng	#	96
32) Chloroform	7.36	83	28229	1.077	ng		99
34) Tetrahydrofuran (THF)	7.77	72	567	0.069	ng	#	34
41) Benzene	8.89	78	8378	0.143	ng		97
46) Bromodichloromethane	10.07	83	1096	0.051	ng		84
47) Trichloroethene	10.14	130	3491	0.221	ng		99
48) 1,4-Dioxane	10.12	88	3183	0.311	ng		100
58) Toluene	12.56	91	5676	0.101	ng		100
59) 2-Hexanone	12.92	43	6126	0.187	ng		87
64) Tetrachloroethene	14.03	166	8106	0.468	ng		97
67) m- & p-Xylenes	15.64	91	3293	0.062	ng		97
95) Naphthalene	20.94	128	1371	0.373	ng	#	71

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
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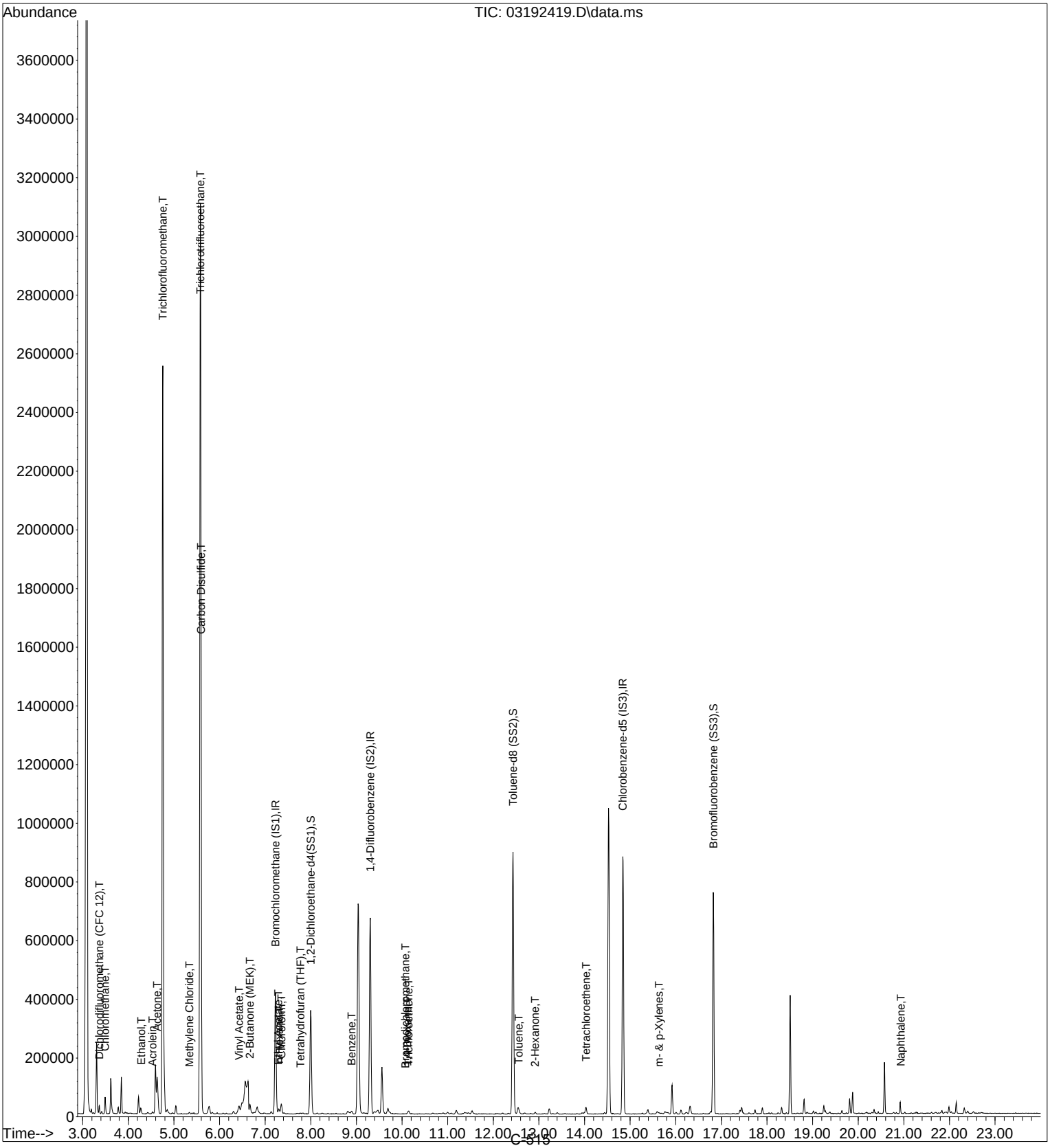
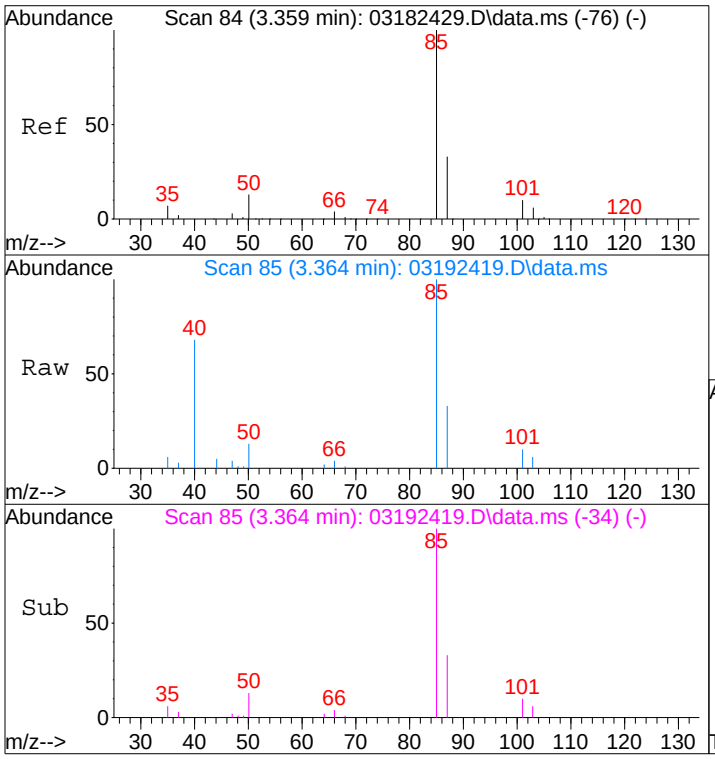
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

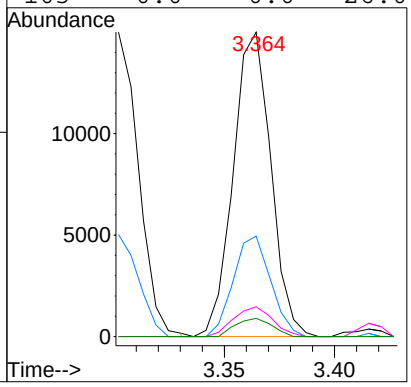


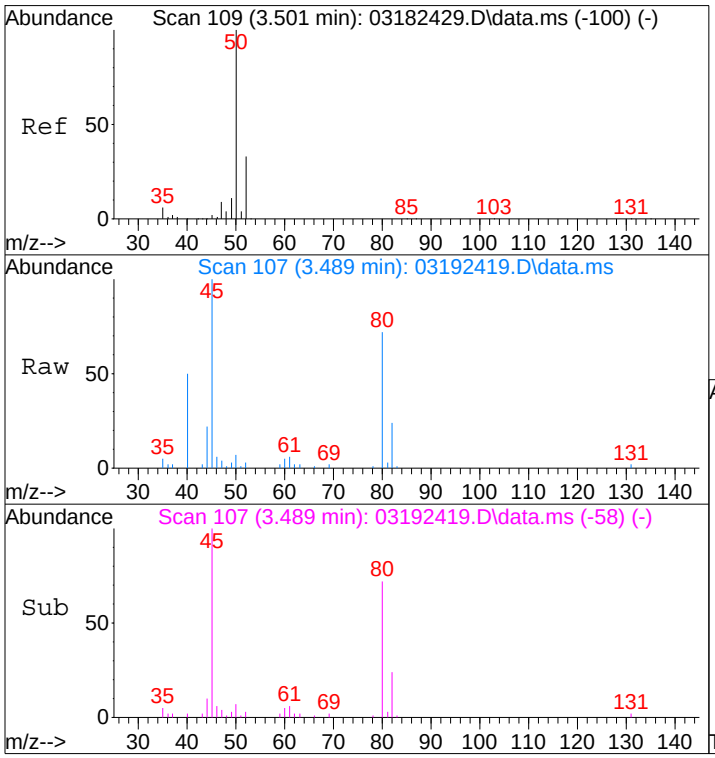


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.57 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 85 Resp: 17810

Ion	Ratio	Lower	Upper
85	100		
87	30.3	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

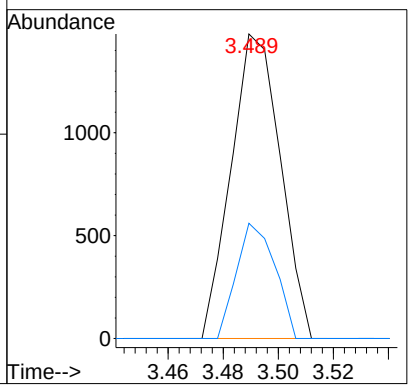


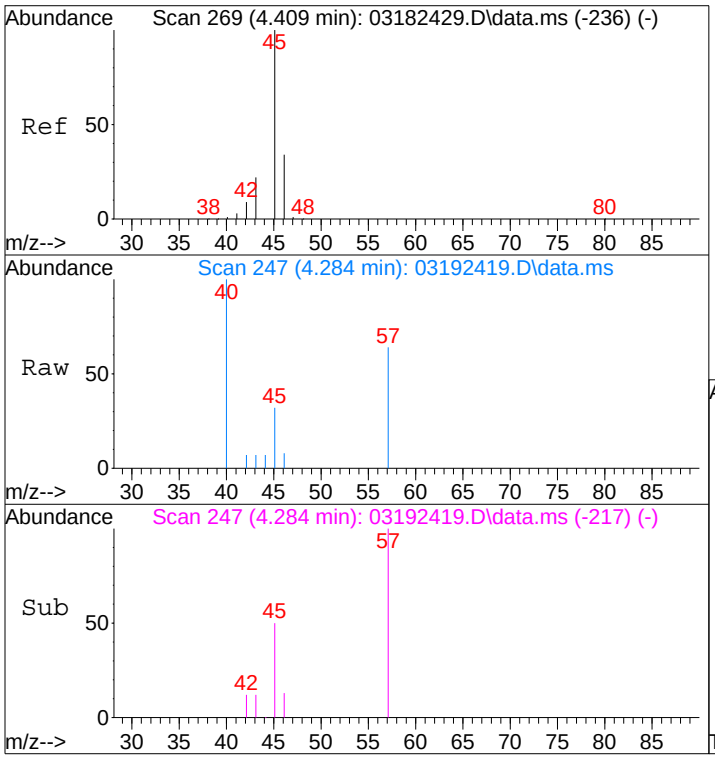


#4
Chloromethane
Concen: 0.08 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.027 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 50 Resp: 1841

Ion	Ratio	Lower	Upper
50	100		
52	29.5	12.3	52.3

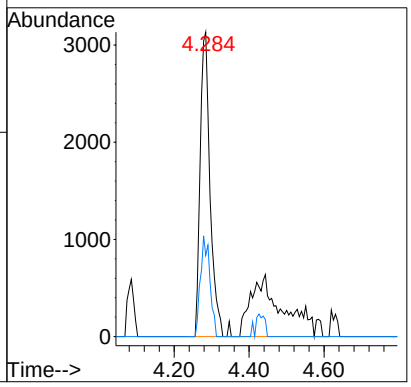


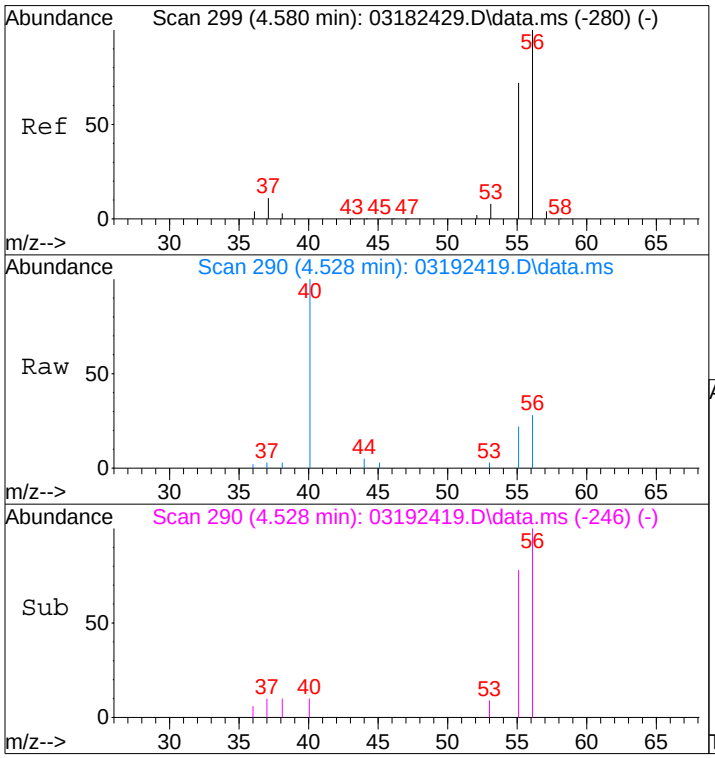


#10
Ethanol
Concen: 0.66 ng m
RT: 4.28 min Scan# 247
Delta R.T. -0.077 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 45 Resp: 9635

Ion	Ratio	Lower	Upper
45	100		
46	0.0	13.3	53.3#

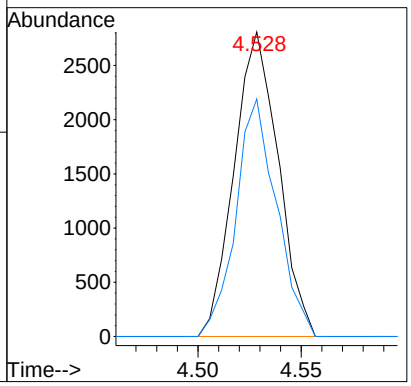


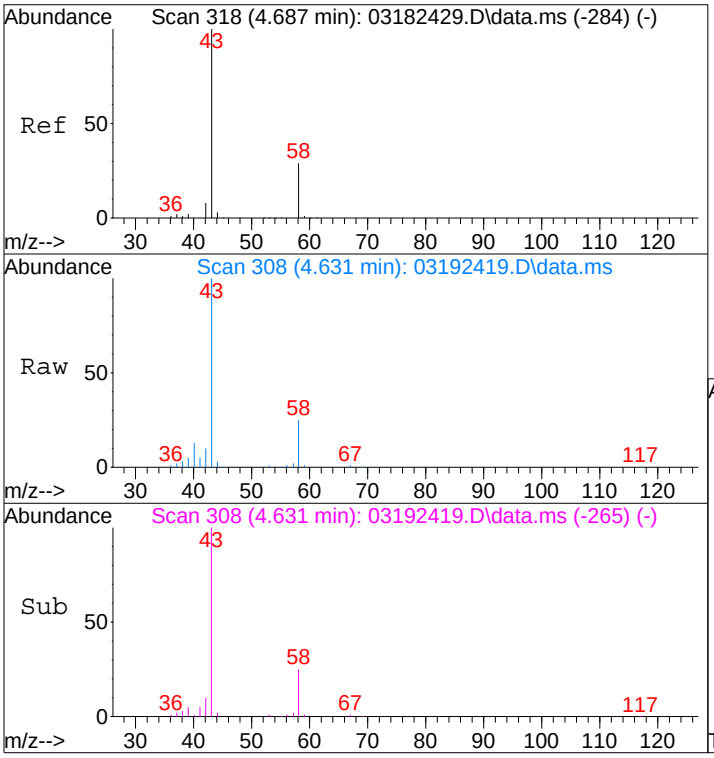


#12
Acrolein
Concen: 0.40 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.001 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 56 Resp: 4174

Ion	Ratio	Lower	Upper
56	100		
55	72.0	54.9	94.9

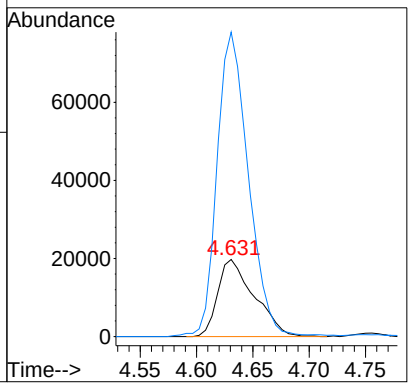


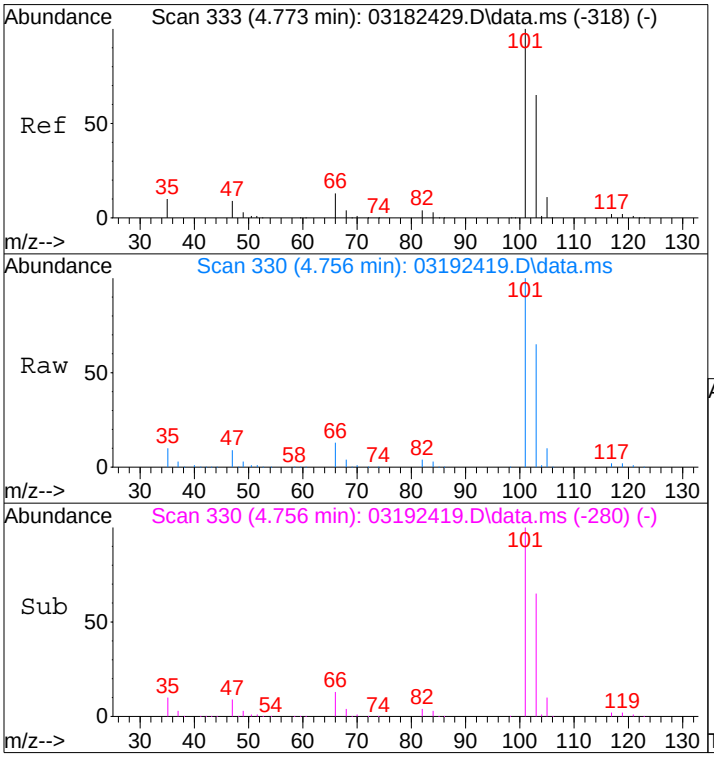


#13
Acetone
Concen: 4.01 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 58 Resp: 44586

Ion	Ratio	Lower	Upper
58	100		
43	339.5	350.1	410.1#

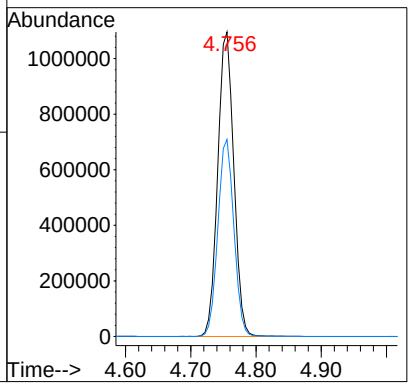


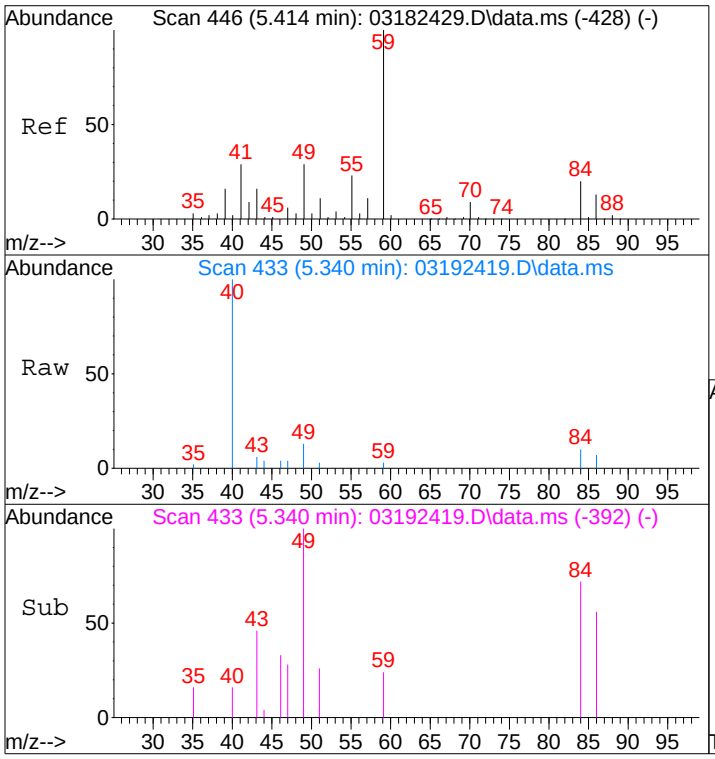


#14
Trichlorofluoromethane
Concen: 62.49 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion:101 Resp: 1875626

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

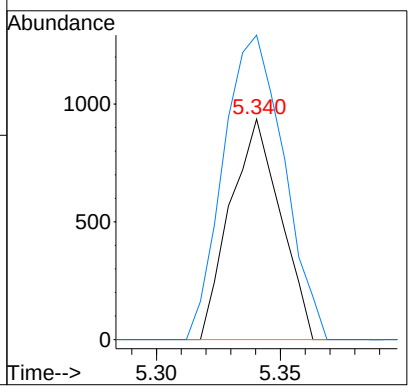


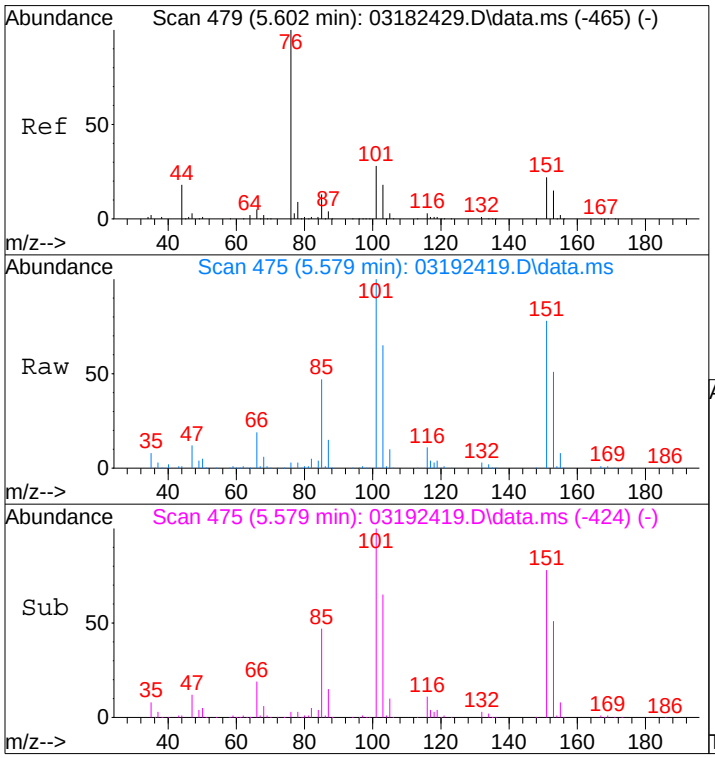


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 84 Resp: 1319

Ion	Ratio	Lower	Upper
84	100		
49	166.7	122.9	172.9

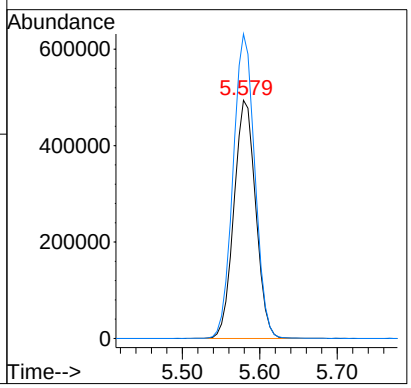


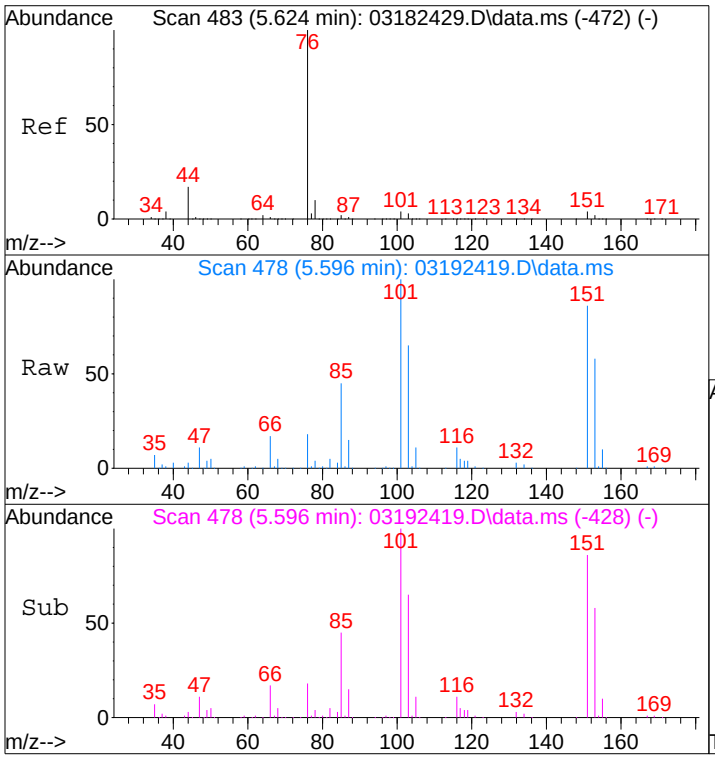


#21
Trichlorotrifluoroethane
Concen: 76.31 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion:151 Resp: 965482

Ion	Ratio	Lower	Upper
151	100		
101	127.6	106.4	146.4

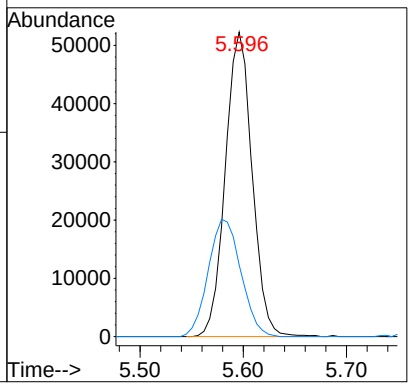


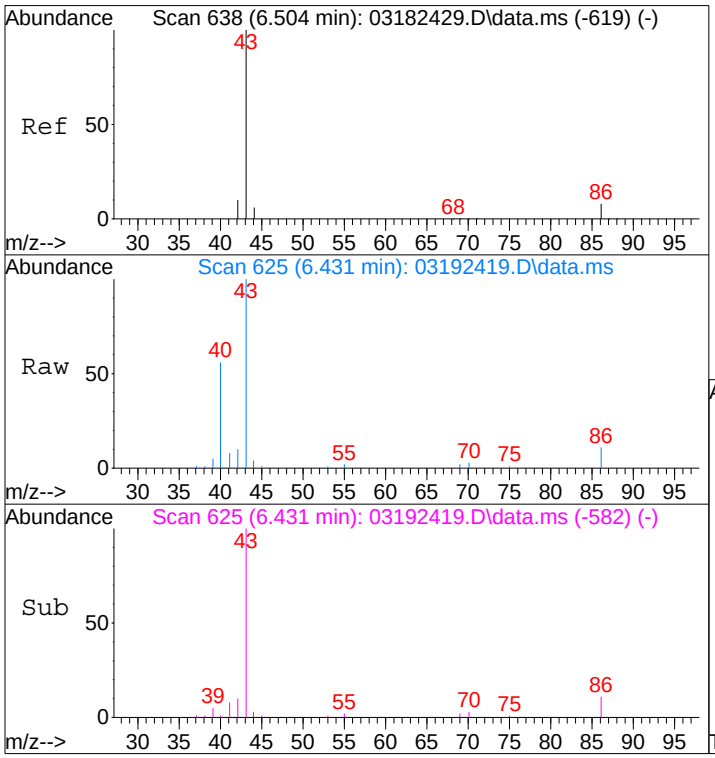


#22
Carbon Disulfide
Concen: 1.87 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 76 Resp: 94118

Ion	Ratio	Lower	Upper
76	100		
78	46.8	0.0	29.8#

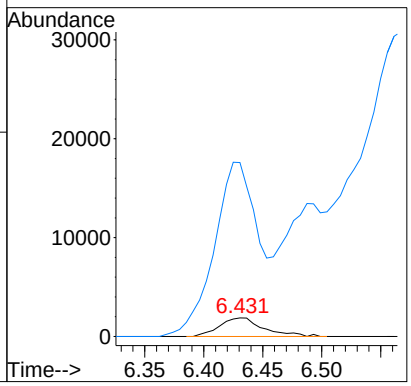


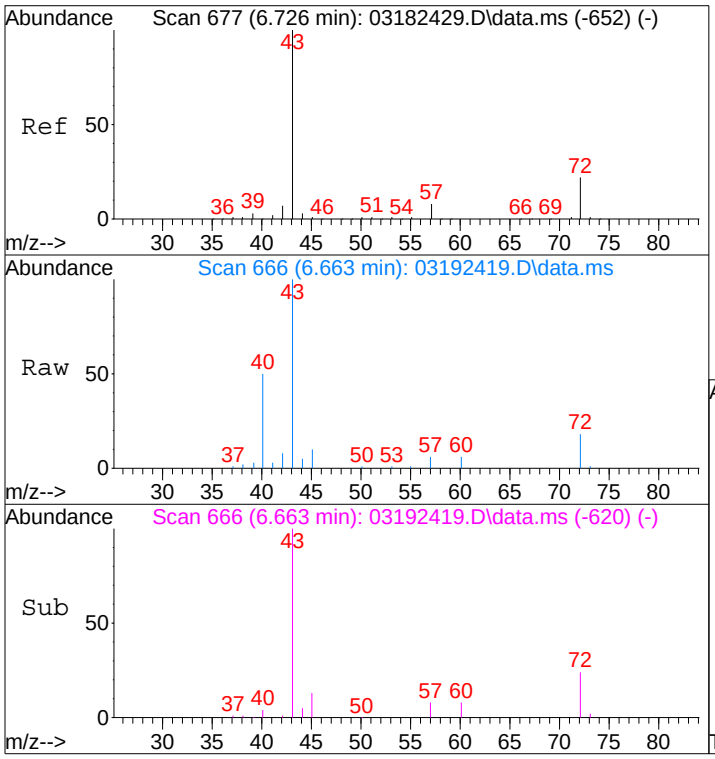


#26
Vinyl Acetate
Concen: 1.97 ng
RT: 6.43 min Scan# 625
Delta R.T. -0.003 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 86 Resp: 4875

Ion	Ratio	Lower	Upper
86	100		
43	969.9	1541.5	1581.5#

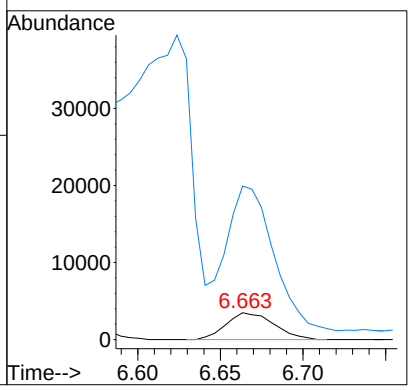


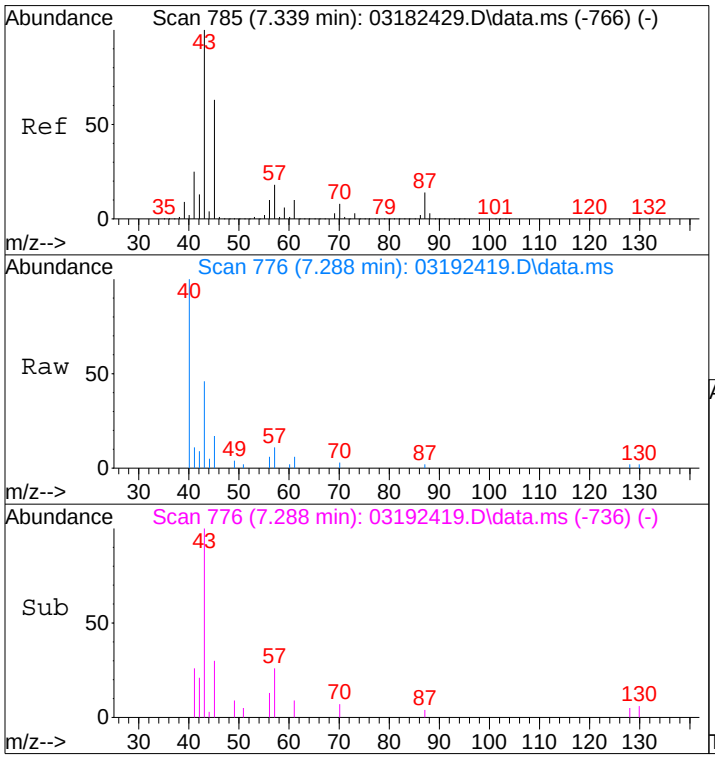


#27
2-Butanone (MEK)
Concen: 0.77 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.011 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 72 Resp: 7033

Ion	Ratio	Lower	Upper
72	100		
43	524.2	468.6	508.6#

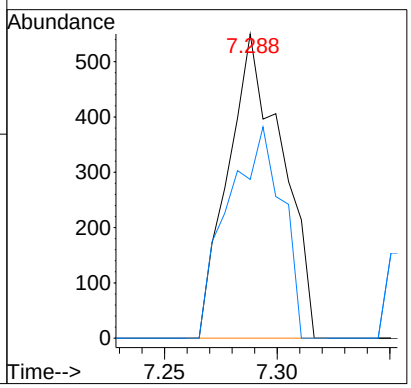


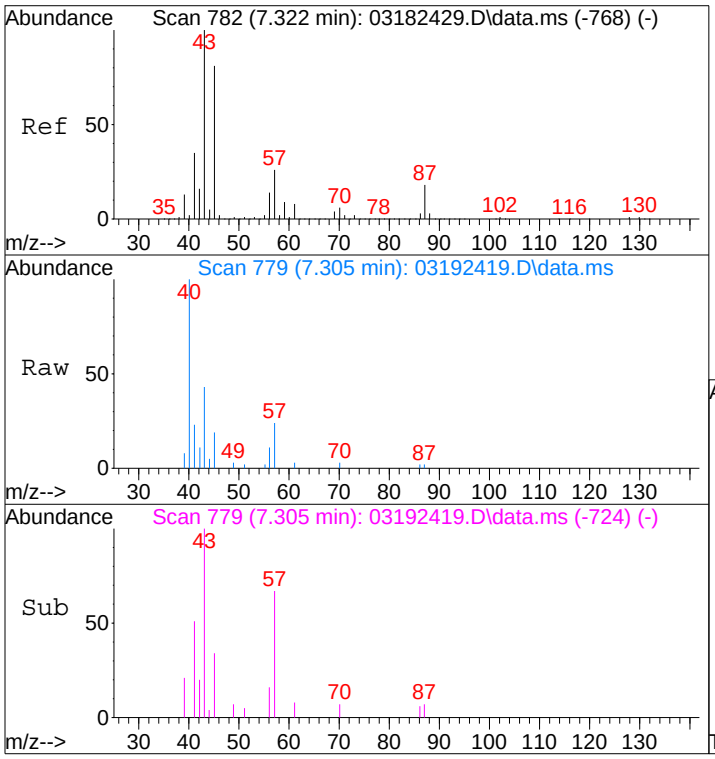


#30
Ethyl Acetate
Concen: 0.17 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.029 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 61 Resp: 916

Ion	Ratio	Lower	Upper
61	100		
70	69.5	57.3	97.3

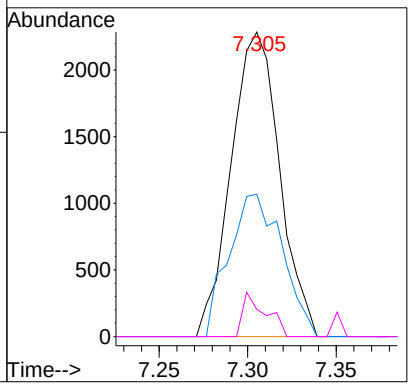


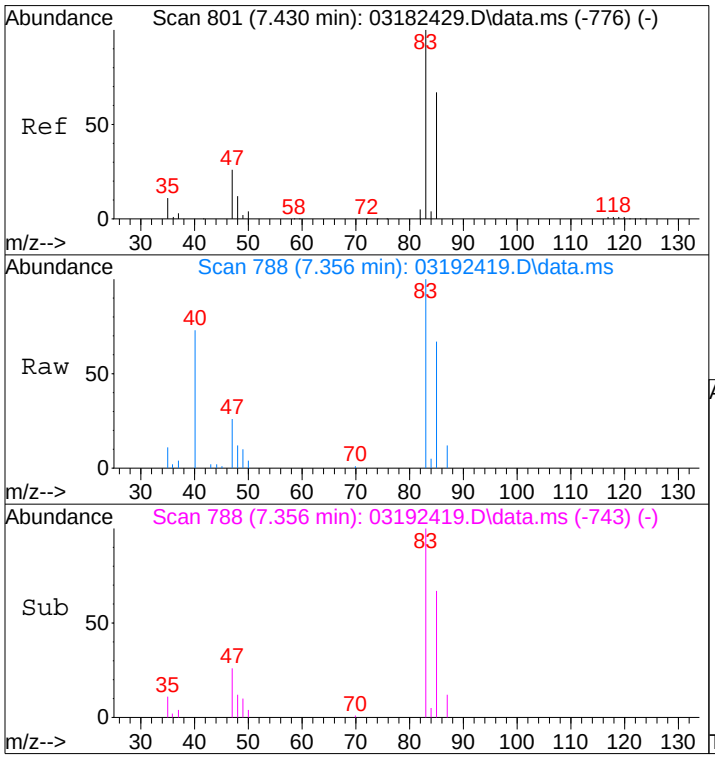


#31
n-Hexane
Concen: 0.19 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.063 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 57 Resp: 4350

Ion	Ratio	Lower	Upper
57	100		
56	51.4	42.2	63.4
86	6.9	9.4	14.2#

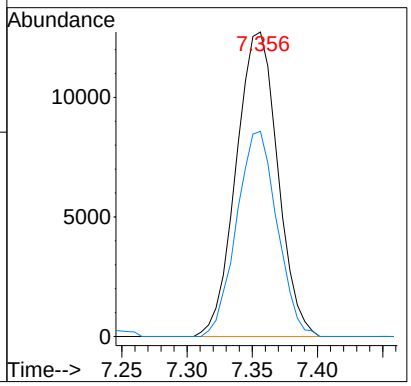


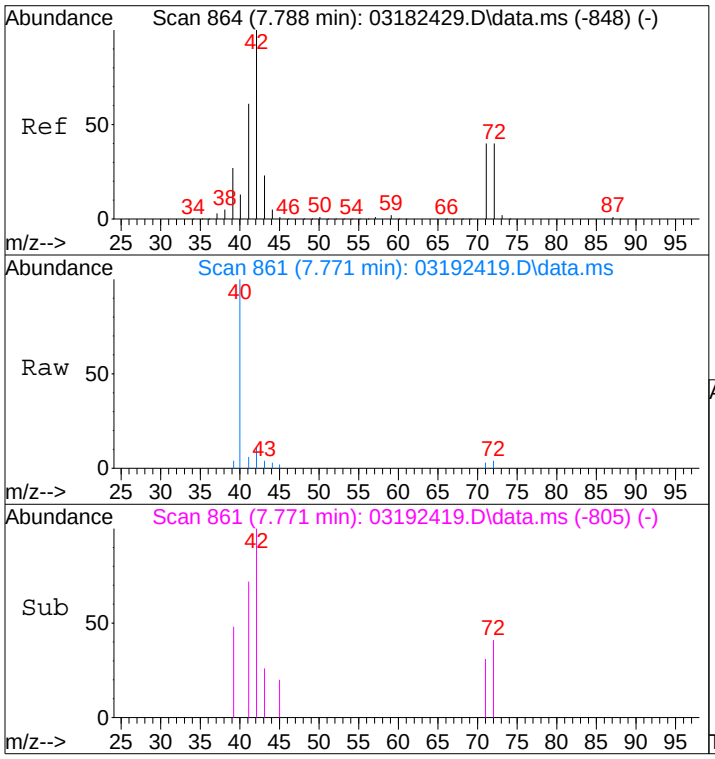


#32
Chloroform
Concen: 1.08 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.007 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 83 Resp: 28229

Ion	Ratio	Lower	Upper
83	100		
85	65.6	46.1	86.1

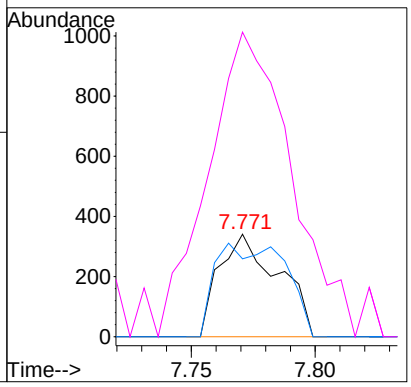


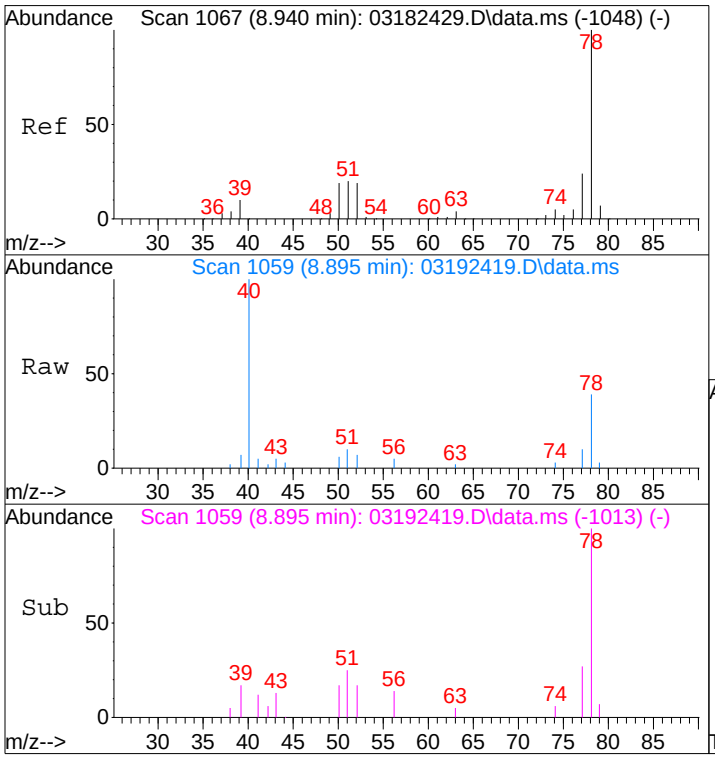


#34
Tetrahydrofuran (THF)
Concen: 0.07 ng
RT: 7.77 min Scan# 861
Delta R.T. 0.068 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 72 Resp: 567

Ion	Ratio	Lower	Upper
72	100		
71	107.6	80.7	120.7
42	437.4	255.0	295.0#

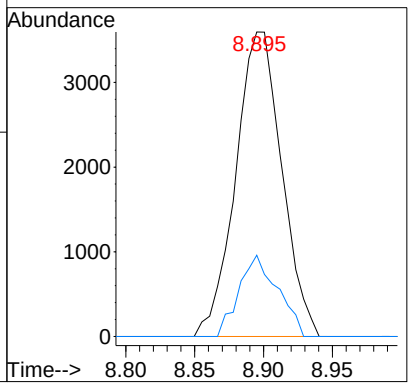


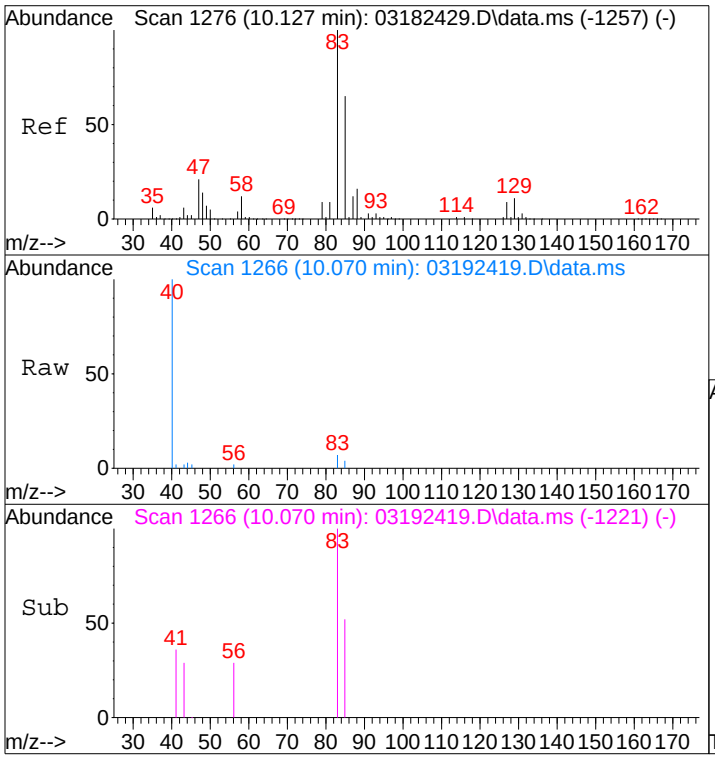


#41
Benzene
Concen: 0.14 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 78 Resp: 8378

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.6	43.6

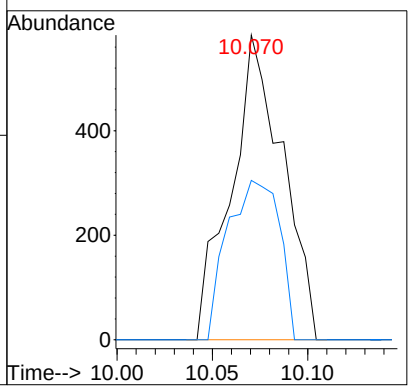


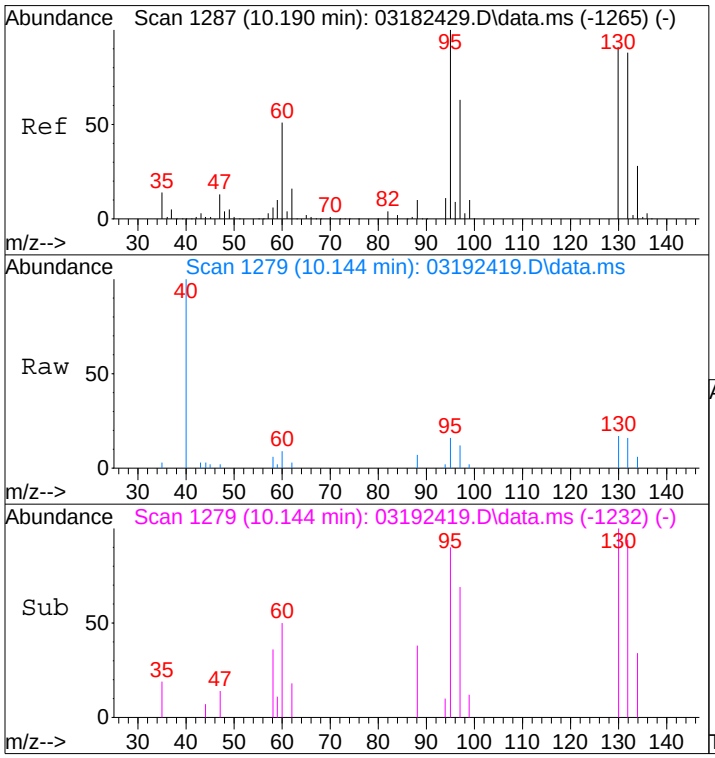


#46
Bromodichloromethane
Concen: 0.05 ng
RT: 10.07 min Scan# 1266
Delta R.T. 0.005 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 83 Resp: 1096

Ion	Ratio	Lower	Upper
83	100		
85	52.6	45.2	85.2

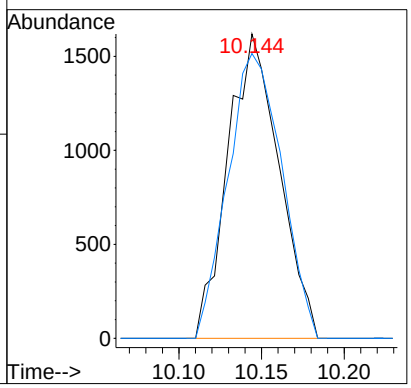


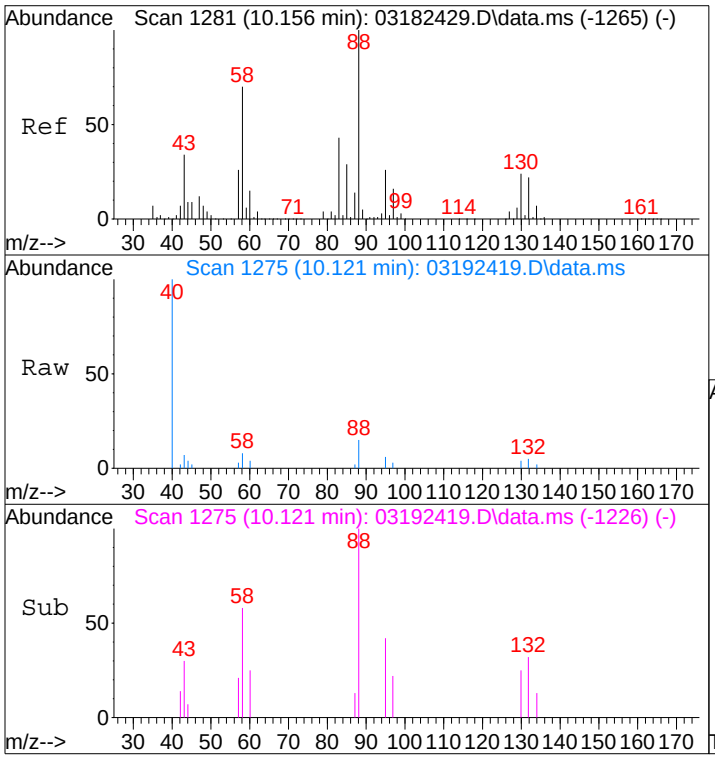


#47
Trichloroethene
Concen: 0.22 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion:130 Resp: 3491

Ion	Ratio	Lower	Upper
130	100		
132	98.5	77.5	117.5

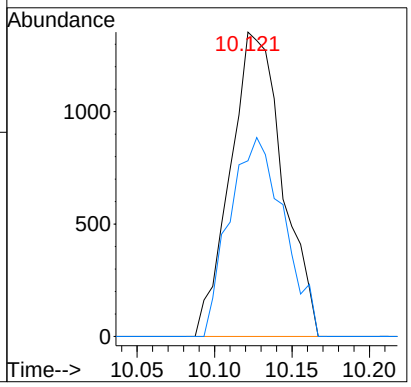


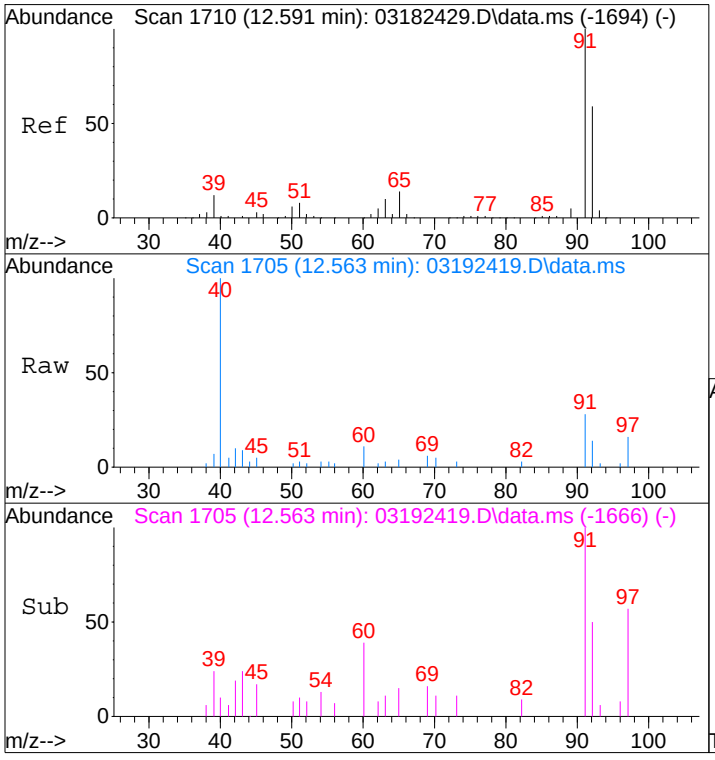


#48
1,4-Dioxane
Concen: 0.31 ng
RT: 10.12 min Scan# 1275
Delta R.T. 0.028 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 88 Resp: 3183

Ion	Ratio	Lower	Upper
88	100		
58	68.1	48.2	88.2

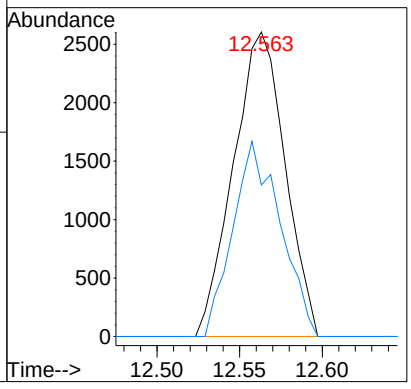


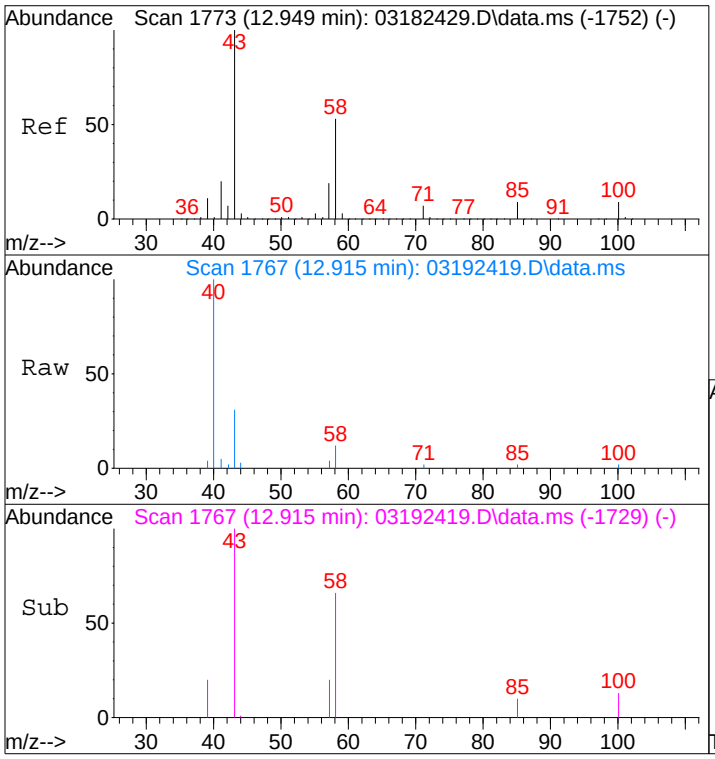


#58
Toluene
Concen: 0.10 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 91 Resp: 5676

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.2	79.2

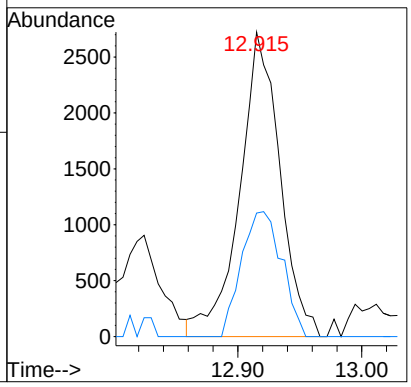


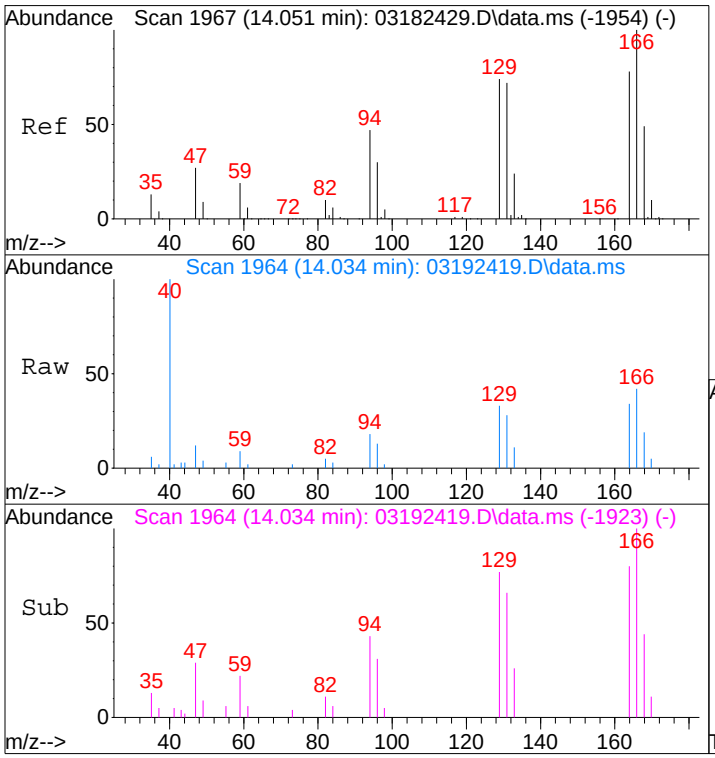


#59
2-Hexanone
Concen: 0.19 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 43 Resp: 6126

Ion	Ratio	Lower	Upper
43	100		
58	41.3	30.2	70.2

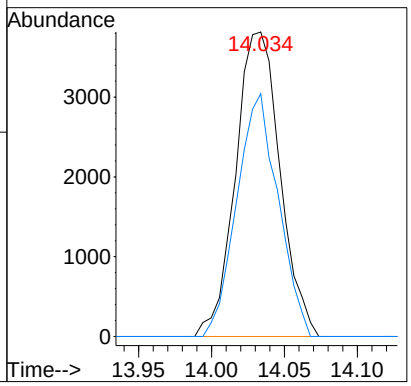


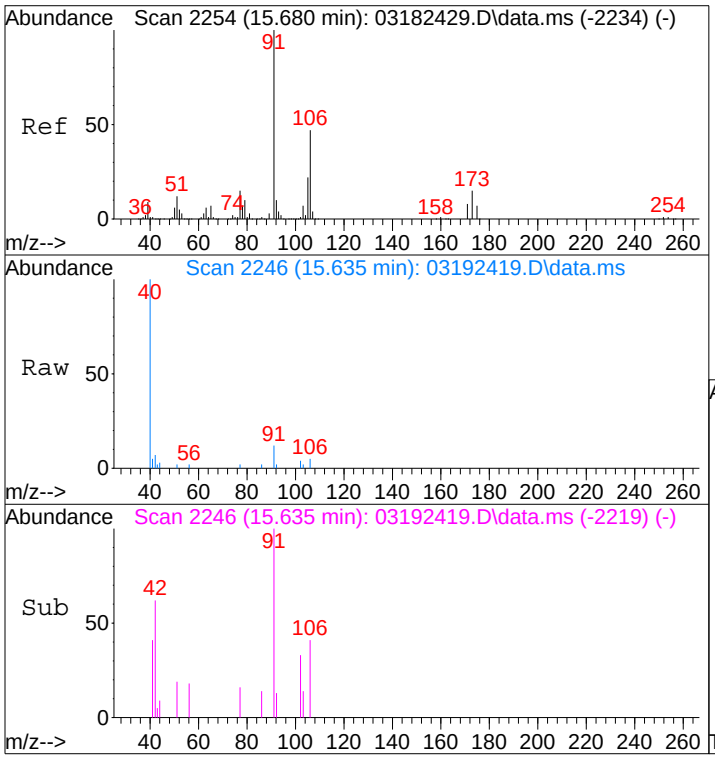


#64
Tetrachloroethene
Concen: 0.47 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion:166 Resp: 8106

Ion	Ratio	Lower	Upper
166	100		
164	74.2	56.7	96.7

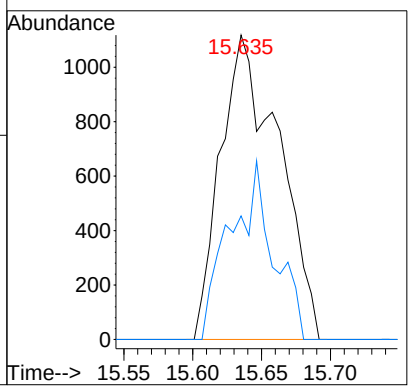


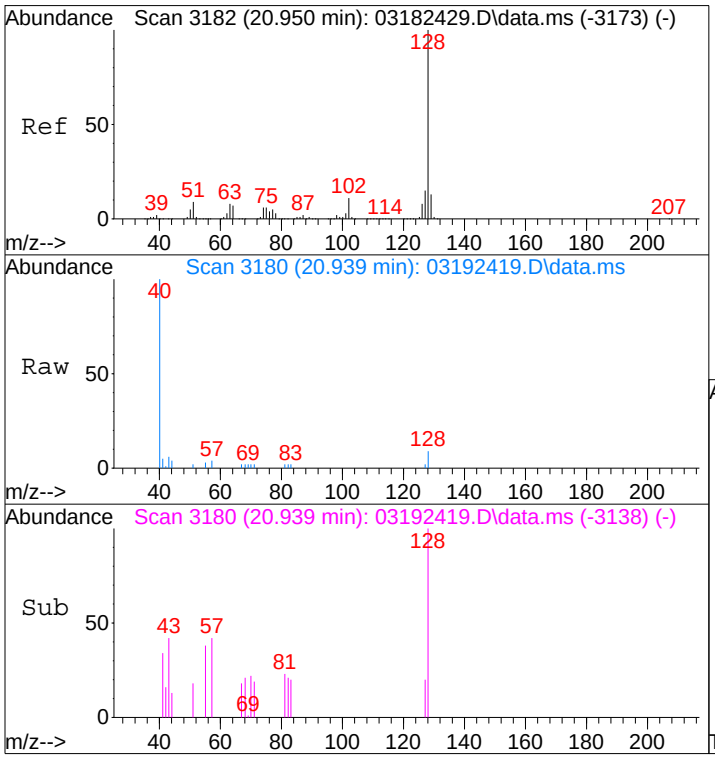


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.045 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion: 91 Resp: 3293

Ion	Ratio	Lower	Upper
91	100		
106	43.5	25.6	65.6

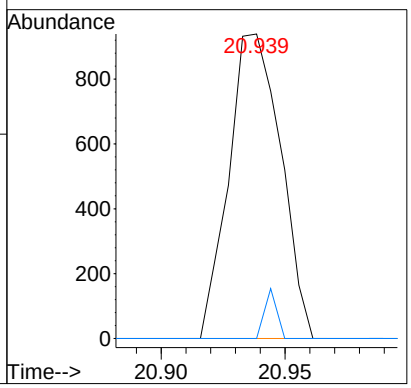




#95
Naphthalene
Concen: 0.37 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03192419.D
Acq: 19 Mar 2024 19:50

Tgt Ion:128 Resp: 1371

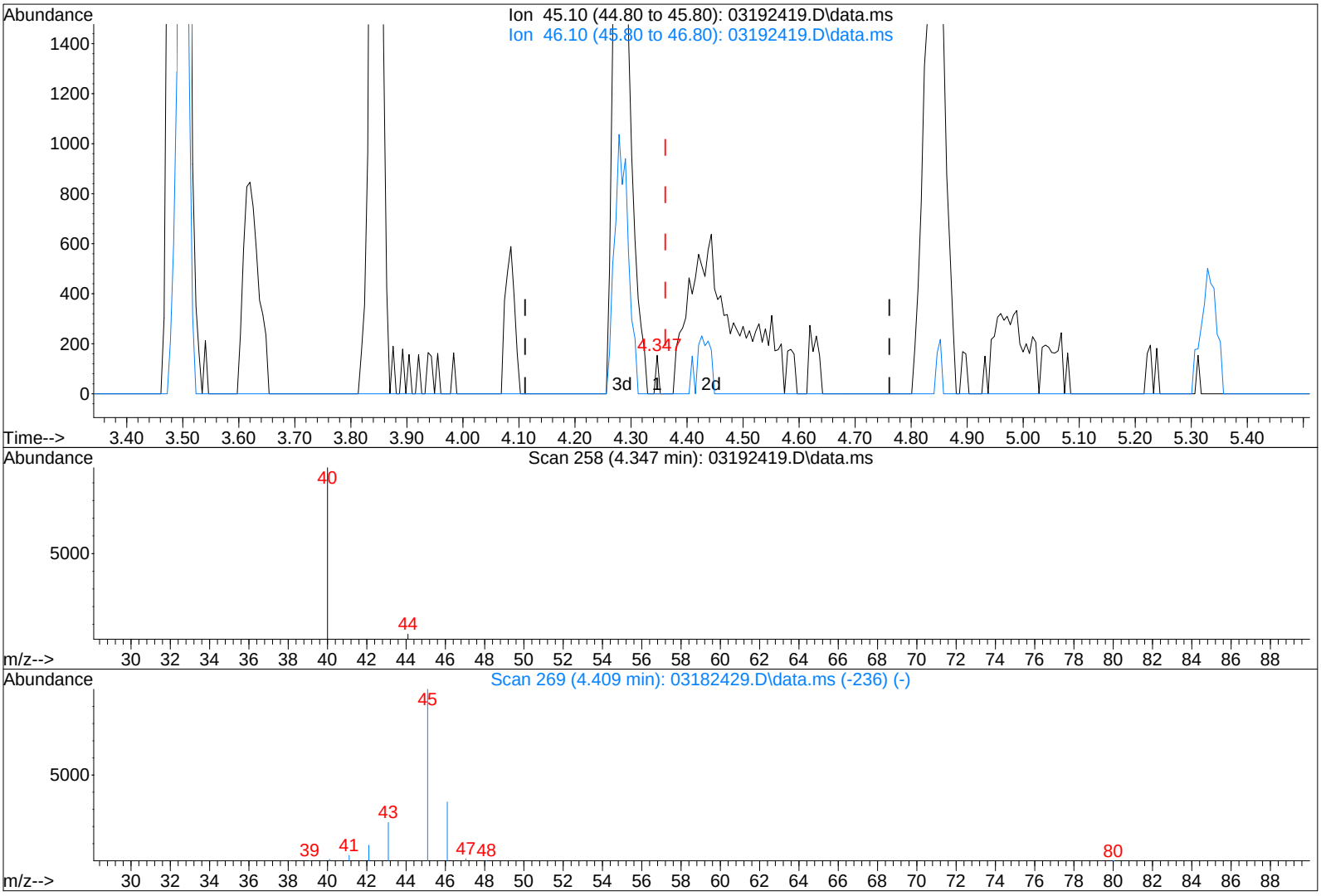
Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192419.D\data.ms

(10) Ethanol (T)

4.347min (-0.015) 0.00ng

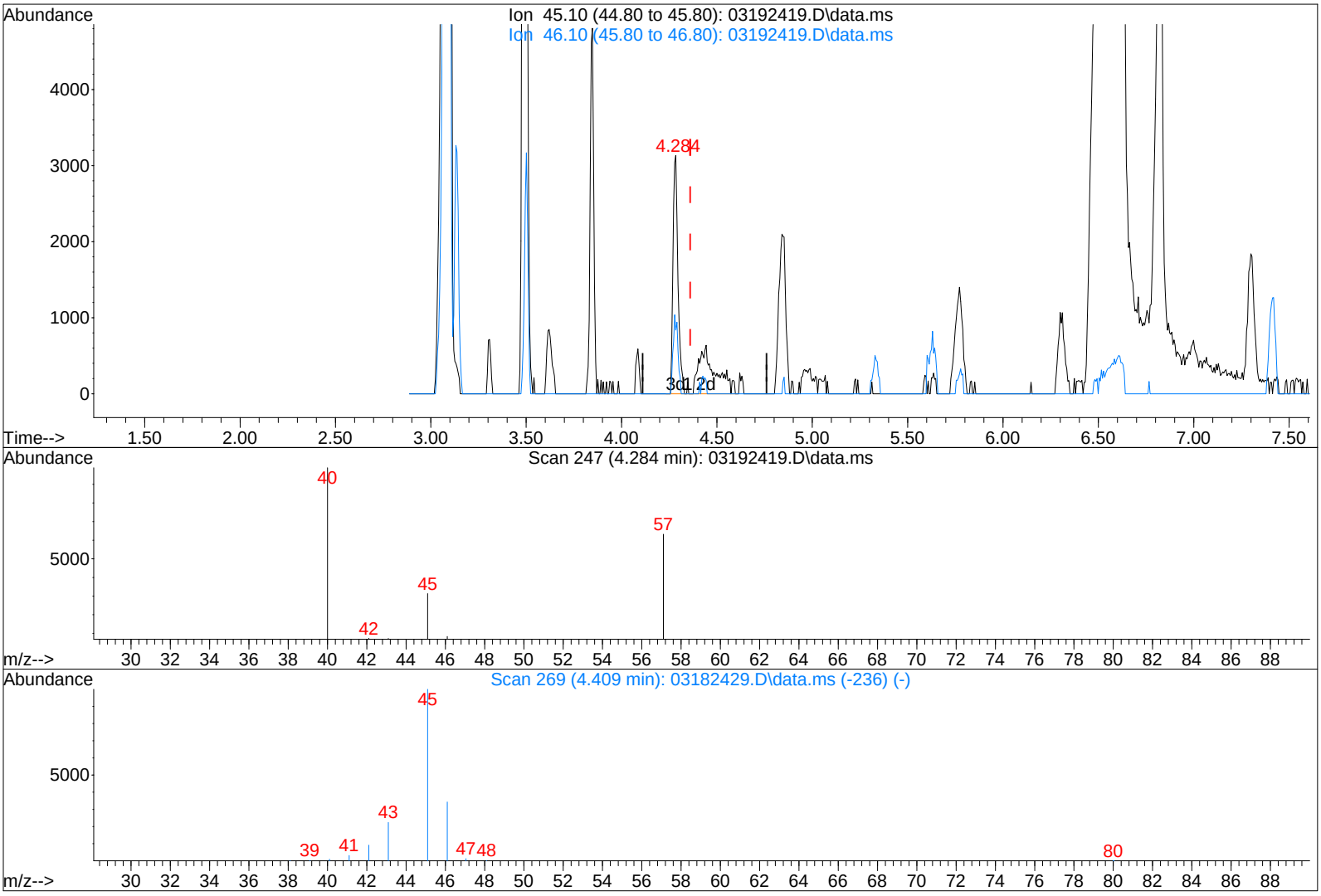
response 52

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192419.D\data.ms

MP 3/20/24

(10) Ethanol (T)

4.284min (-0.077) 0.66ng m

response 9635

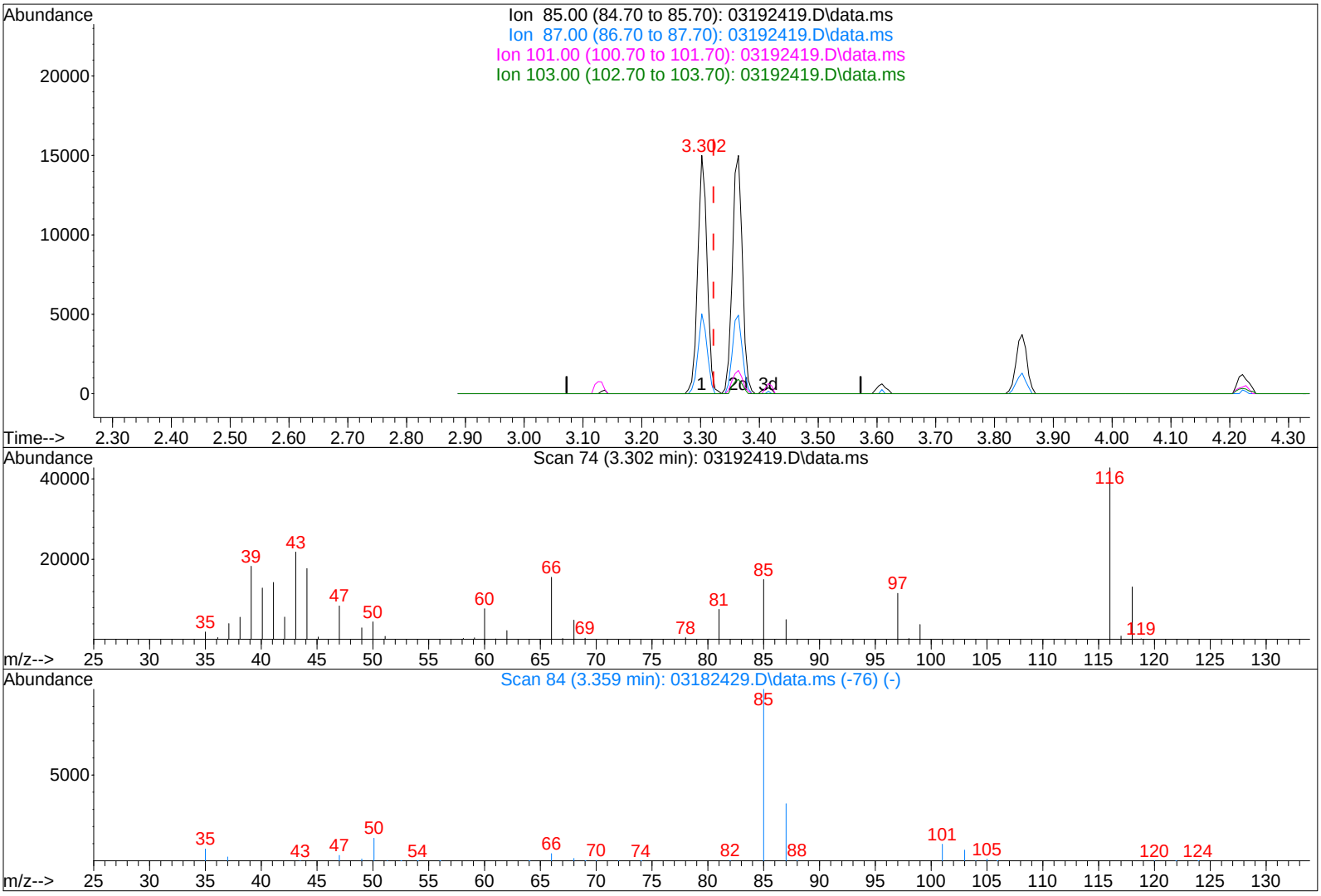
Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

LH 3/21/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.020) 0.53ng

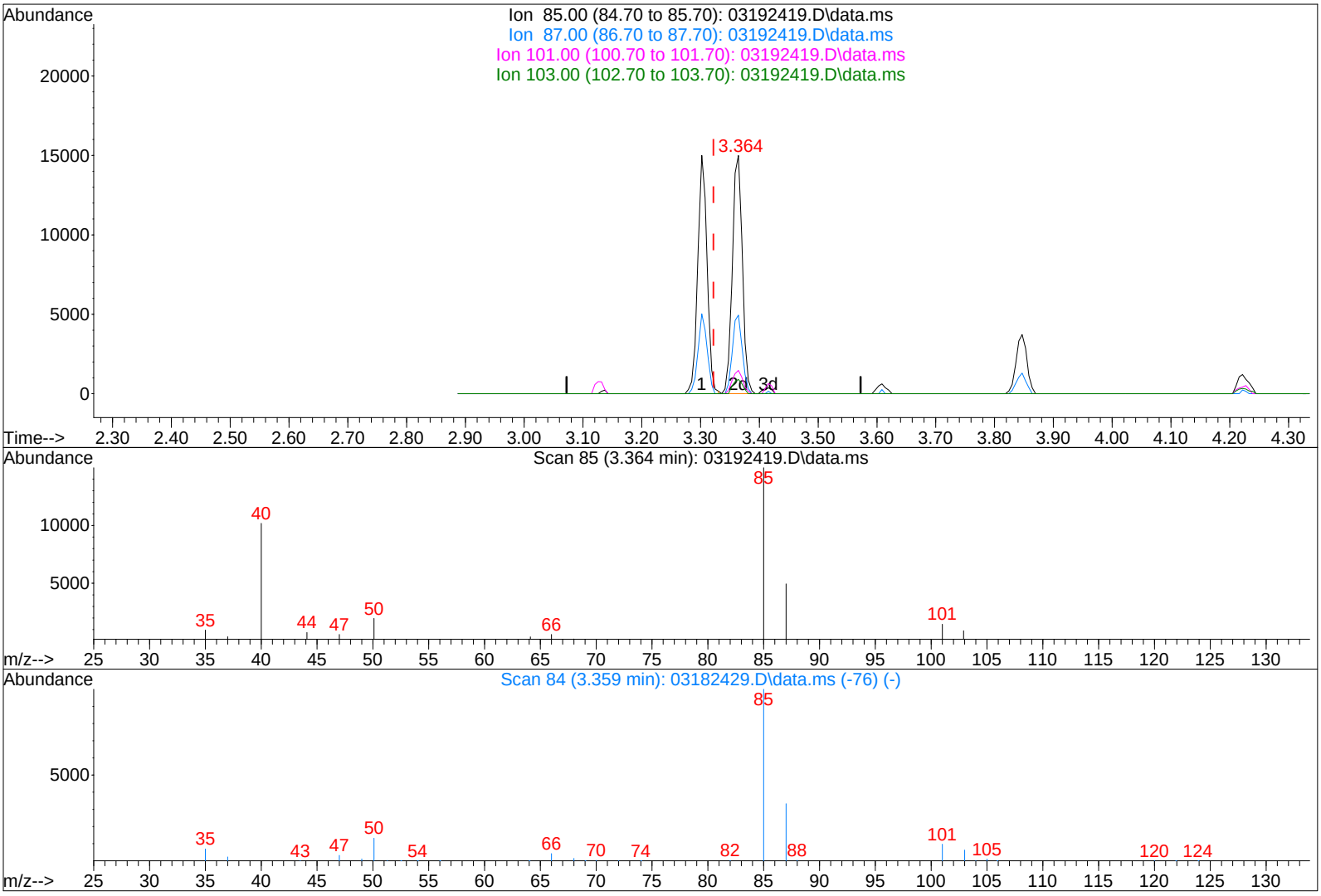
response 16488

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	32.77
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.57ng m

response 17810

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	30.34
101.00	9.20	0.00
103.00	6.00	0.00

WP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:00:01 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

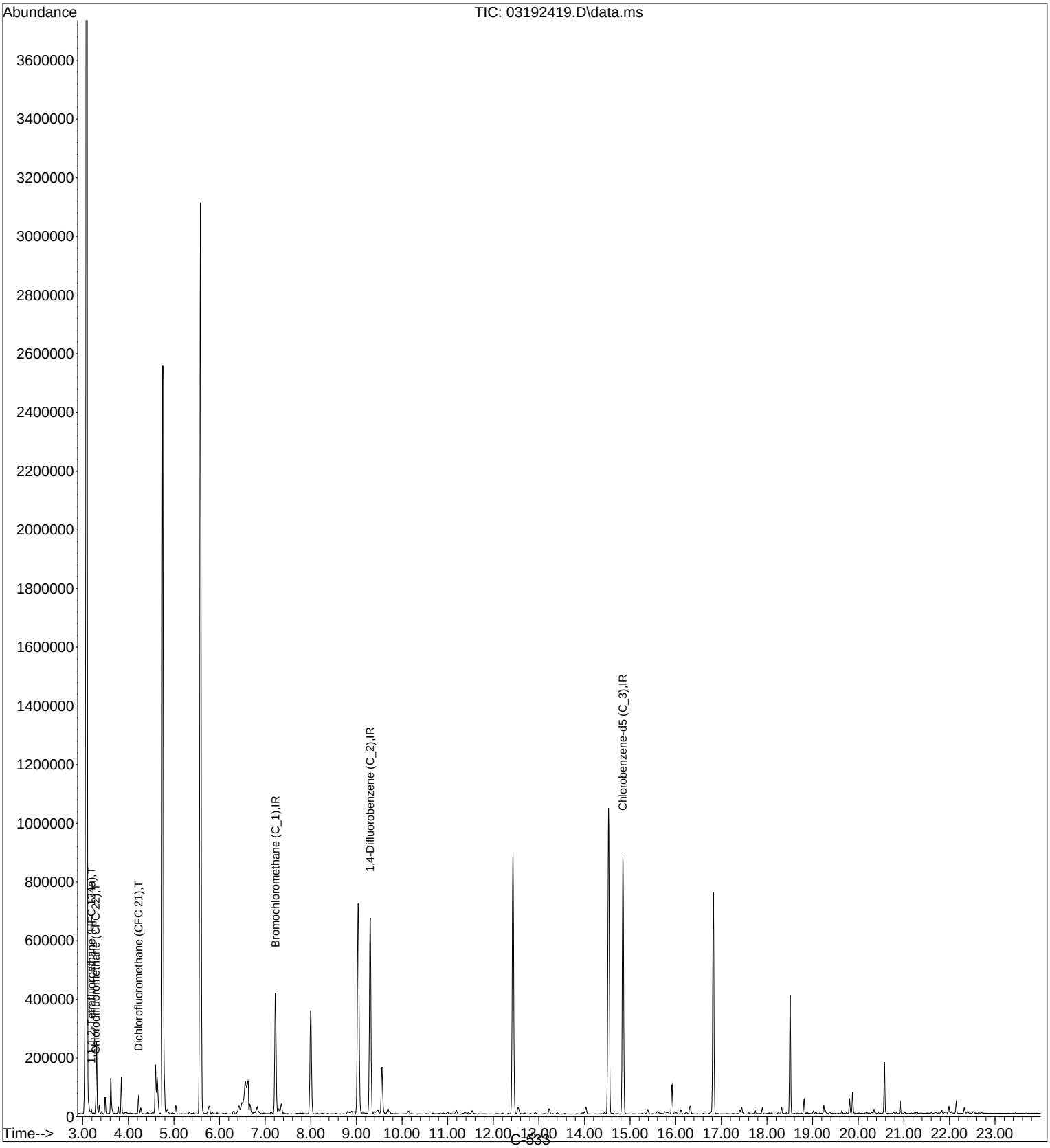
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	151186	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	652508	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	146977	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	132	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1513	0.109	ng	#	1
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.28	67	3167	0.713	ng	#	91
6) 1-Chloro-1,1-Difluoroe...	3.50	65	521	N.D.			
7) Dichlorofluoromethane ...	4.22	67	44498	1.509	ng		98
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1233	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.34	43	1095	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.	d		
17) 2,3-Dimethylpentane	9.52	56	1851	N.D.			
18) Dibromomethane	9.80	174	183	N.D.			
20) Methyl Cyclohexane	11.42	55	1957	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	1431	N.D.			
25) Bromobenzene	17.11	77	662	N.D.			
26) 2-Chlorotoluene	17.61	91	583	N.D.			
27) 4-Chlorotoluene	17.74	91	56	N.D.			
28) Indane	19.02	117	561	N.D.			
29) Indene	19.25	115	66	N.D.			
30) 1,2,4,5-Tetramethylben...	20.23	119	52	N.D.			
31) 1,2,3,4-Tetramethylben...	20.23	119	52	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	1017	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

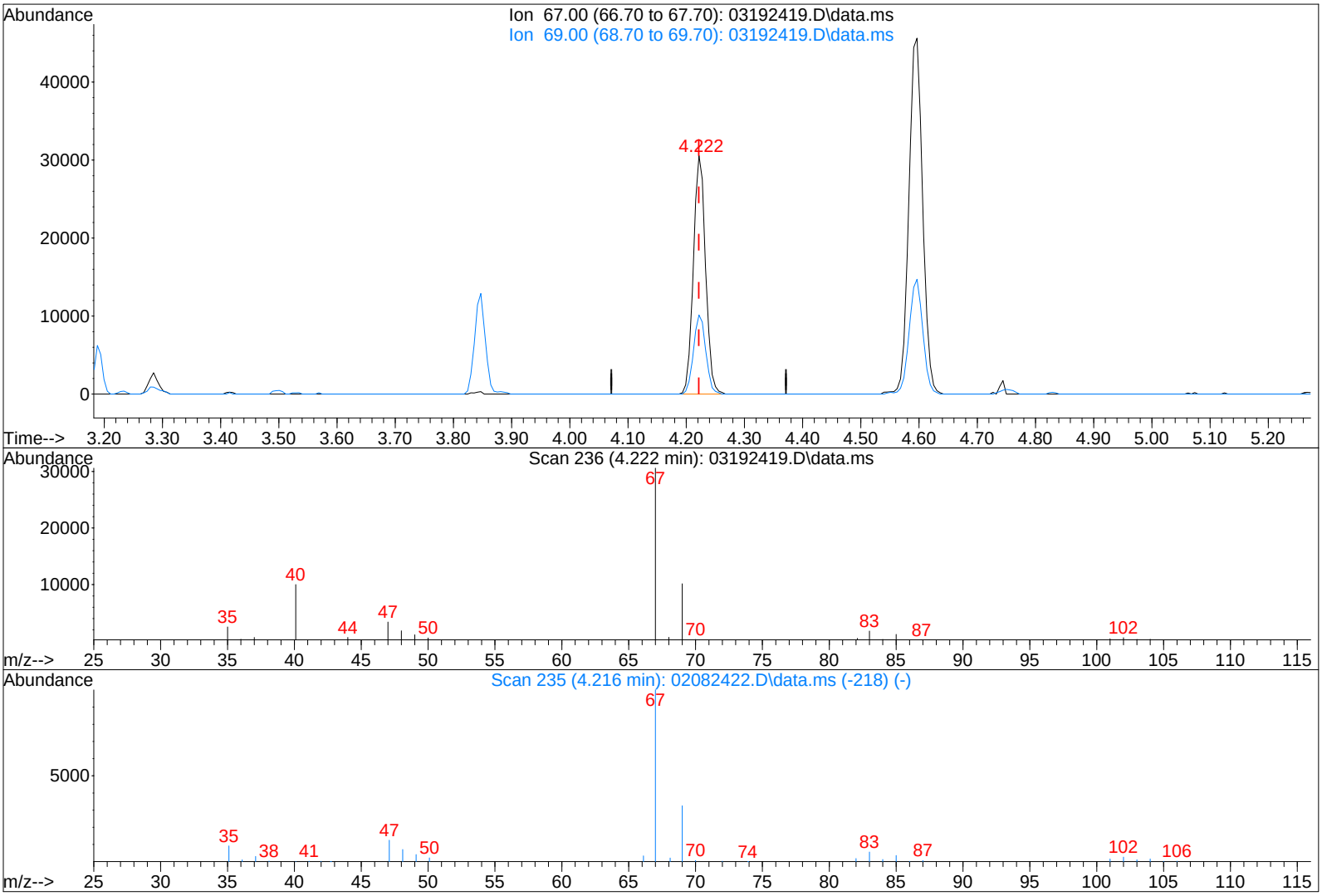
Quant Time: Mar 21 10:00:01 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192419.D Vial: 8
Acq On : 19 Mar 2024 19:50 Operator: SC
Sample : P2400922-005 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 09:58:21 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192419.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 1.51ng

response 44498

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	33.49
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192419.D
Acq On : 19 Mar 2024 19:50
Operator : SC
Sample : P2400922-005 (400mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192419.D\data.ms

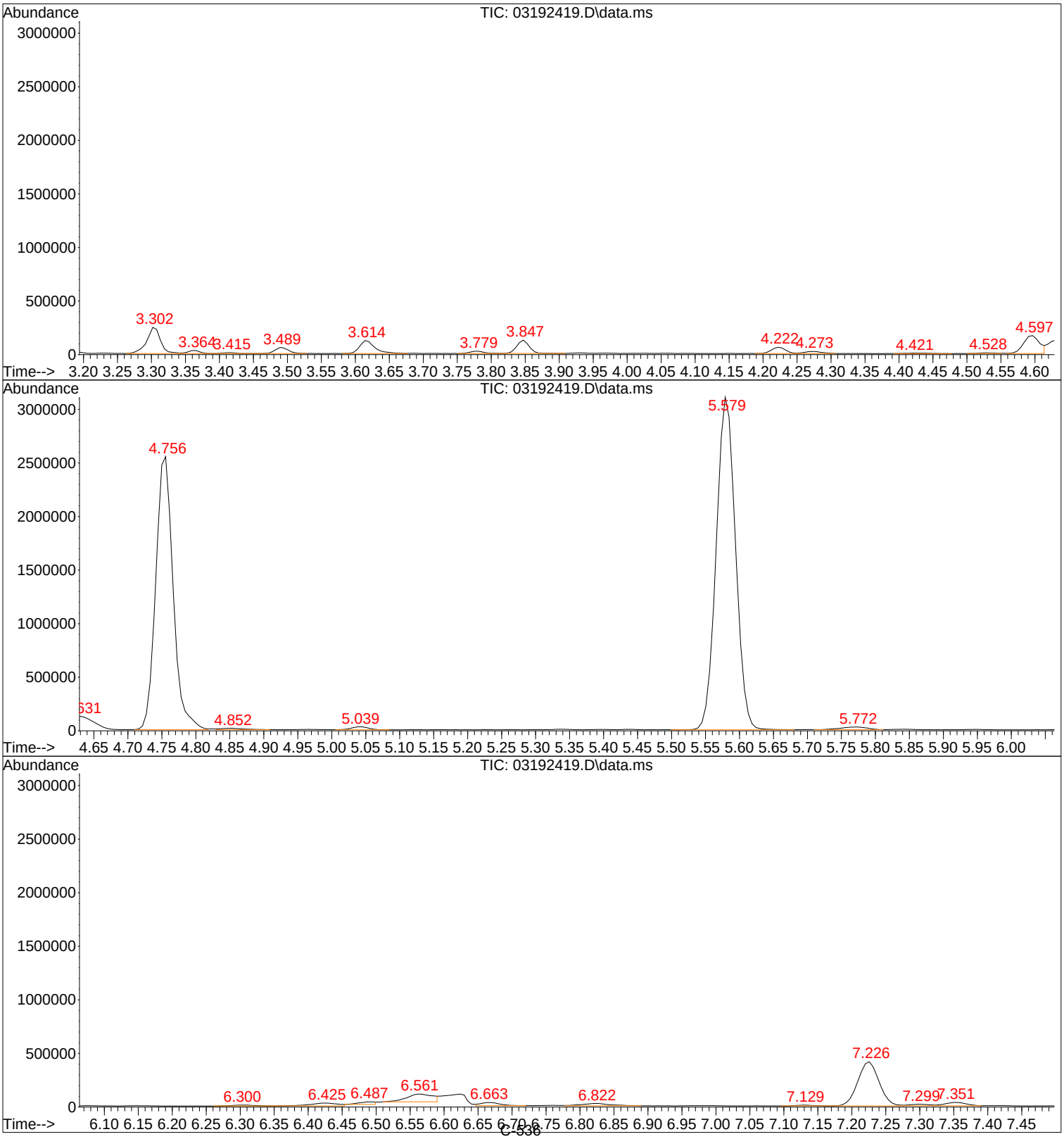
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	67	74	81	rBV3	243554	341854	5.59%	2.482%
2	3.364	81	85	89	rVB	27950	33005	0.54%	0.240%
3	3.415	89	94	100	rVB2	8129	11383	0.19%	0.083%
4	3.489	100	107	114	rBV2	56830	78684	1.29%	0.571%
5	3.614	123	129	140	rBV2	120304	185368	3.03%	1.346%
6	3.779	153	158	165	rBV	21501	30275	0.50%	0.220%
7	3.847	165	170	181	rVV	123657	155429	2.54%	1.129%
8	4.222	230	236	241	rBV	58378	85297	1.40%	0.619%
9	4.273	241	245	251	rVB2	19124	32135	0.53%	0.233%
10	4.421	266	271	281	rVB4	4731	10791	0.18%	0.078%
11	4.528	285	290	294	rVV2	6665	11133	0.18%	0.081%
12	4.597	295	302	305	rVV	167211	282861	4.63%	2.054%
13	4.631	305	308	319	rVV	124867	258823	4.23%	1.879%
14	4.756	322	330	341	rVV	2548632	4531450	74.12%	32.901%
15	4.852	343	347	357	rVB8	13873	30517	0.50%	0.222%
16	5.039	374	380	388	rVB	27702	48729	0.80%	0.354%
17	5.579	461	475	493	rBV	3104410	6113496	100.00%	44.388%
18	5.772	498	509	516	rVB4	24678	67702	1.11%	0.492%
19	6.300	595	602	611	rBV2	8853	22533	0.37%	0.164%
20	6.425	611	624	629	rBV2	26496	77439	1.27%	0.562%
21	6.487	629	635	637	rBV2	24064	42640	0.70%	0.310%
22	6.561	639	648	653	rBV3	72680	200264	3.28%	1.454%
23	6.663	663	666	676	rVB	29666	55305	0.90%	0.402%
24	6.822	686	694	706	rVB2	21668	60852	1.00%	0.442%
25	7.129	742	748	756	rBV3	7376	14155	0.23%	0.103%
26	7.226	756	765	774	rBV	412087	895553	14.65%	6.502%
27	7.299	774	778	782	rVV3	15062	29066	0.48%	0.211%
28	7.351	782	787	794	rVB	31524	66173	1.08%	0.480%

Sum of corrected areas: 13772912

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192419.D
Acq On : 19 Mar 2024 19:50
Operator : SC
Sample : P2400922-005 (400mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192419.D
Acq On : 19 Mar 2024 19:50
Operator : SC
Sample : P2400922-005 (400mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

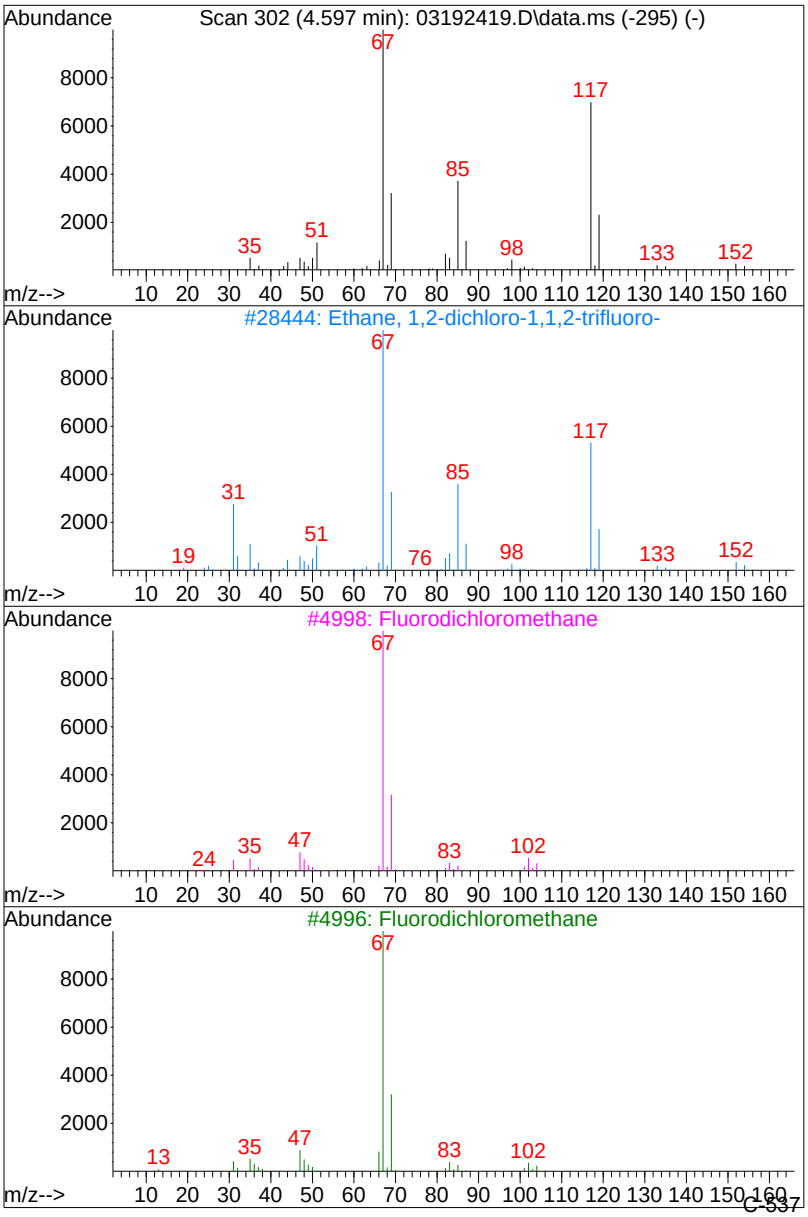
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

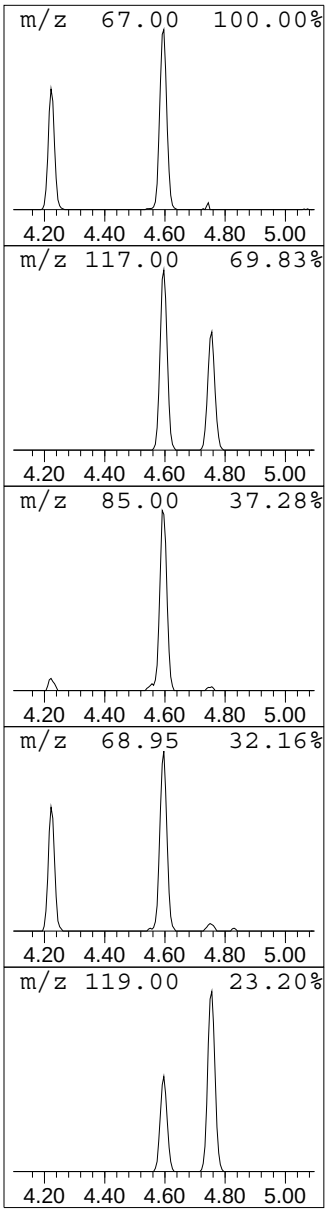
****

Peak Number 5 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.597	3.95 ng	282861	Bromochloromethane (IS1)	7.226

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	12





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\19\
Data File : 03192419.D
Acq On : 19 Mar 2024 19:50
Operator : SC
Sample : P2400922-005 (400mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.597	4.0	ng	282861	1	7.226	895553	12.5

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

3/20/24

Quant Time: Mar 20 13:59:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	148643	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	643161	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	144472	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	307833	12.659	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	12.43	98	728780	12.564	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	16.83	174	258226	12.627	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	21867m	0.717	ng		
4) Chloromethane	3.49	50	9916	0.437	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	519	N.D.			
6) Vinyl Chloride	3.68	62	303	N.D.			
7) 1,3-Butadiene	3.77	54	310	N.D.			
8) Bromomethane	4.01	94	2598	0.210	ng		95
9) Chloroethane	4.15	64	606	0.065	ng		97
10) Ethanol	4.28	45	128812	8.967	ng		99
11) Acetonitrile	4.53	41	238	N.D.			
12) Acrolein	4.52	56	7611	0.739	ng		100
13) Acetone	4.62	58	64526	5.902	ng	#	72
14) Trichlorofluoromethane	4.75	101	1782877	60.418	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	67223	1.544	ng		95
16) Acrylonitrile	5.03	53	839	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.33	84	6585	0.414	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	286	N.D.			
21) Trichlorotrifluoroethane	5.58	151	919812	73.947	ng		99
22) Carbon Disulfide	5.59	76	23120	0.467	ng	#	1
23) trans-1,2-Dichloroethene	6.13	61	502	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	185	N.D.			
26) Vinyl Acetate	6.43	86	5035	2.070	ng	#	16
27) 2-Butanone (MEK)	6.66	72	11250	1.259	ng		98
28) cis-1,2-Dichloroethene	7.07	61	423	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	43225	8.059	ng		94
31) n-Hexane	7.30	57	7482	0.324	ng		94
32) Chloroform	7.36	83	28094	1.090	ng		100
34) Tetrahydrofuran (THF)	7.76	72	1043	0.129	ng	#	61
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	745	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	4241	No Calib		#	
40) 1-Butanol	8.80	56	8999	No Calib		#	
41) Benzene	8.89	78	10185	0.176	ng		99
42) Carbon Tetrachloride	9.07	117	875	N.D.			
43) Cyclohexane	9.22	84	3147	0.172	ng		90
44) tert-Amyl Methyl Ether	9.59	73	188	N.D.			
45) 1,2-Dichloropropane	9.85	63	523	N.D.			
46) Bromodichloromethane	10.07	83	1086	0.051	ng		90
47) Trichloroethene	10.14	130	7334	0.470	ng		98
48) 1,4-Dioxane	10.13	88	305	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 13:59:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

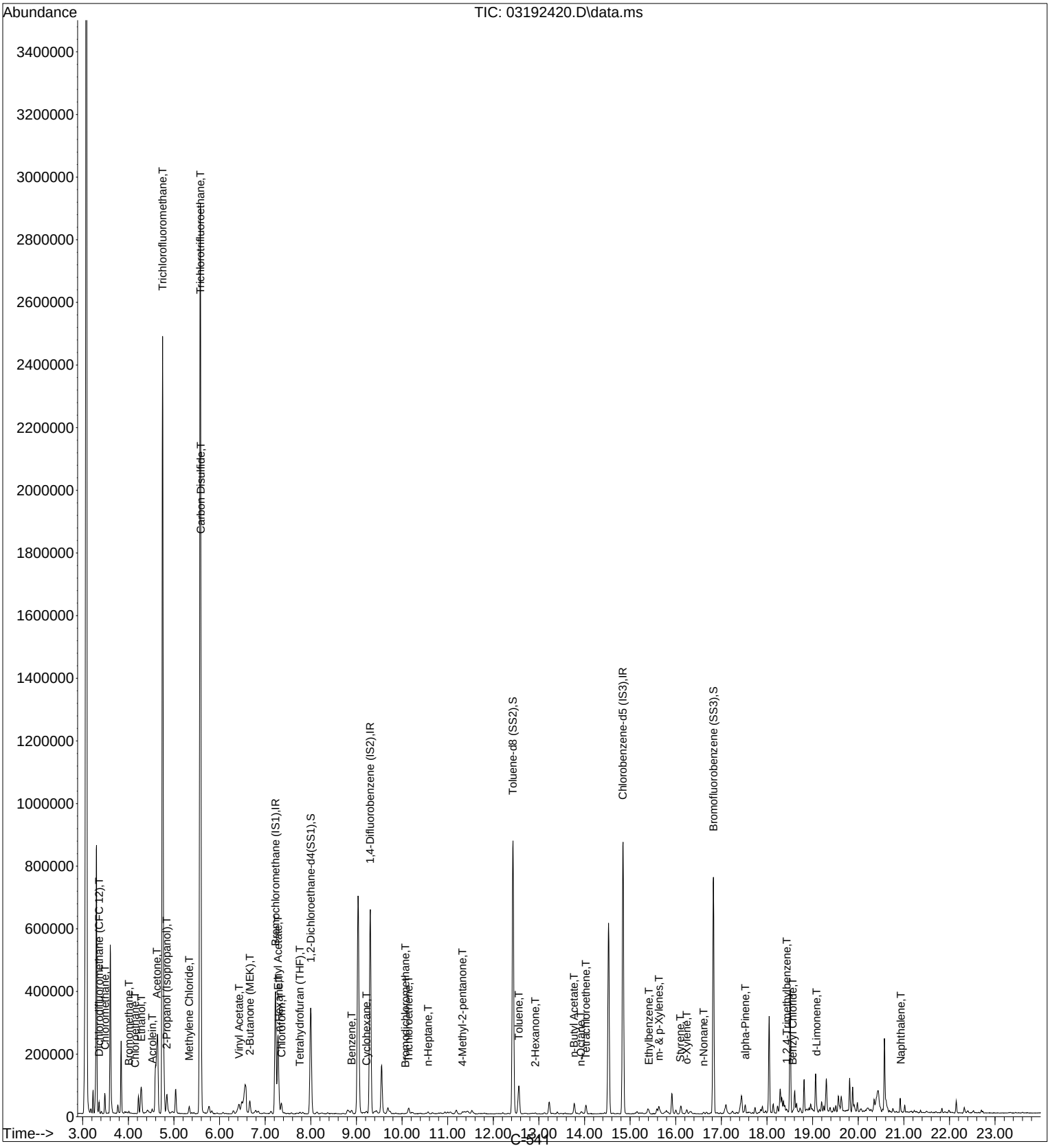
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	1487	0.120 ng		92
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	2141	0.173 ng	#	49
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	72947	1.318 ng		100
59) 2-Hexanone	12.92	43	3582	0.111 ng	#	69
60) Dibromochloromethane	13.08	129	392	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	31625	0.888 ng		98
63) n-Octane	13.92	57	1148	0.098 ng		87
64) Tetrachloroethene	14.03	166	9681	0.569 ng		99
65) Chlorobenzene	14.90	112	1065	N.D.		
66) Ethylbenzene	15.41	91	8019	0.127 ng		98
67) m- & p-Xylenes	15.63	91	18105	0.344 ng		99
68) Bromoform	15.67	173	553	N.D.		
69) Styrene	16.10	104	4778	0.133 ng		98
70) o-Xylene	16.24	91	7904	0.152 ng		98
71) n-Nonane	16.61	43	2348	0.079 ng		80
72) 1,1,2,2-Tetrachloroethane	16.22	83	424	N.D.		
74) Cumene	17.04	105	1585	N.D.		
75) alpha-Pinene	17.53	93	11270	0.359 ng		94
76) n-Propylbenzene	17.68	91	2399	N.D.		
77) 3-Ethyltoluene	17.04	105	1585	No Calib		
78) 4-Ethyltoluene	17.86	105	1995	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1677	N.D.		
80) alpha-Methylstyrene	17.09	118	194	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1585	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	4005	0.072 ng		96
83) n-Decane	17.10	58	2909	No Calib	#	
84) Benzyl Chloride	18.56	91	1294	0.614 ng		99
85) 1,3-Dichlorobenzene	18.58	146	658	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	892	N.D.		
87) sec-Butylbenzene	18.74	105	1424	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	2027	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	1585	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	551	N.D.		
91) d-Limonene	19.09	68	3648m	0.188 ng		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.86	58	255	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	925	N.D.		
95) Naphthalene	20.94	128	1856	0.379 ng	#	71
96) n-Dodecane	18.96	58	1411	No Calib	#	
97) Hexachlorobutadiene	21.30	225	619	N.D.		
98) Cyclohexanone	15.39	55	550	No Calib	#	
99) tert-Butylbenzene	18.43	119	1456	N.D.		
100) n-Butylbenzene	19.39	91	1838	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 13:59:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

3/20/24

Quant Time: Mar 20 13:59:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

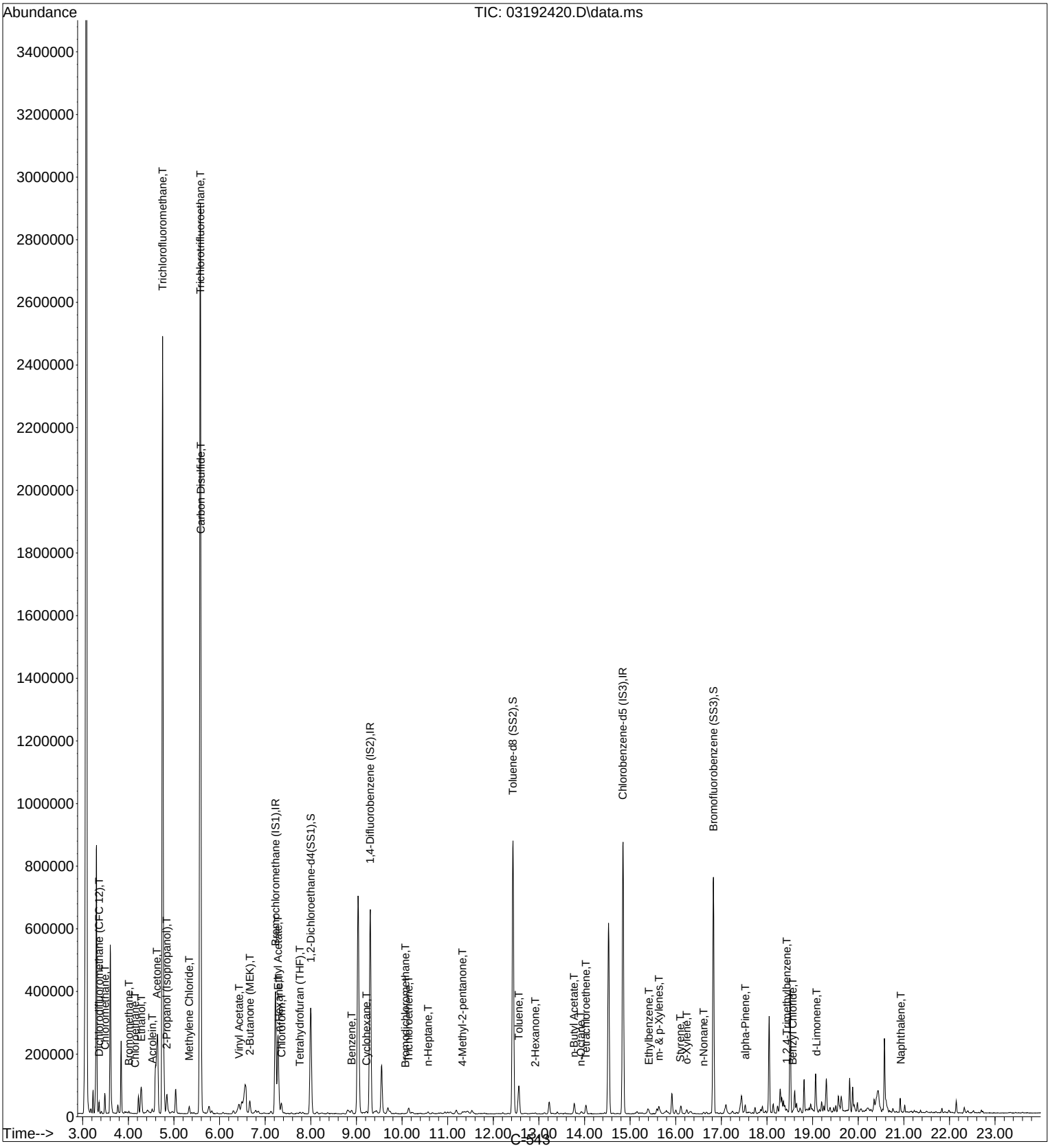
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	148643	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	643161	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	144472	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	307833	12.659	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	12.43	98	728780	12.564	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	16.83	174	258226	12.627	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	21867m	0.717	ng		
4) Chloromethane	3.49	50	9916	0.437	ng		96
8) Bromomethane	4.01	94	2598	0.210	ng		95
9) Chloroethane	4.15	64	606	0.065	ng		97
10) Ethanol	4.28	45	128812	8.967	ng		99
12) Acrolein	4.52	56	7611	0.739	ng		100
13) Acetone	4.62	58	64526	5.902	ng	#	72
14) Trichlorofluoromethane	4.75	101	1782877	60.418	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	67223	1.544	ng		95
19) Methylene Chloride	5.33	84	6585	0.414	ng		96
21) Trichlorotrifluoroethane	5.58	151	919812	73.947	ng		99
22) Carbon Disulfide	5.59	76	23120	0.467	ng	#	1
26) Vinyl Acetate	6.43	86	5035	2.070	ng	#	16
27) 2-Butanone (MEK)	6.66	72	11250	1.259	ng		98
30) Ethyl Acetate	7.28	61	43225	8.059	ng		94
31) n-Hexane	7.30	57	7482	0.324	ng		94
32) Chloroform	7.36	83	28094	1.090	ng		100
34) Tetrahydrofuran (THF)	7.76	72	1043	0.129	ng	#	61
41) Benzene	8.89	78	10185	0.176	ng		99
43) Cyclohexane	9.22	84	3147	0.172	ng		90
46) Bromodichloromethane	10.07	83	1086	0.051	ng		90
47) Trichloroethene	10.14	130	7334	0.470	ng		98
51) n-Heptane	10.57	71	1487	0.120	ng		92
53) 4-Methyl-2-pentanone	11.33	58	2141	0.173	ng	#	49
58) Toluene	12.56	91	72947	1.318	ng		100
59) 2-Hexanone	12.92	43	3582	0.111	ng	#	69
62) n-Butyl Acetate	13.77	43	31625	0.888	ng		98
63) n-Octane	13.92	57	1148	0.098	ng		87
64) Tetrachloroethene	14.03	166	9681	0.569	ng		99
66) Ethylbenzene	15.41	91	8019	0.127	ng		98
67) m- & p-Xylenes	15.63	91	18105	0.344	ng		99
69) Styrene	16.10	104	4778	0.133	ng		98
70) o-Xylene	16.24	91	7904	0.152	ng		98
71) n-Nonane	16.61	43	2348	0.079	ng		80
75) alpha-Pinene	17.53	93	11270	0.359	ng		94
82) 1,2,4-Trimethylbenzene	18.43	105	4005	0.072	ng		96
84) Benzyl Chloride	18.56	91	1294	0.614	ng		99
91) d-Limonene	19.09	68	3648m	0.188	ng		
95) Naphthalene	20.94	128	1856	0.379	ng	#	71

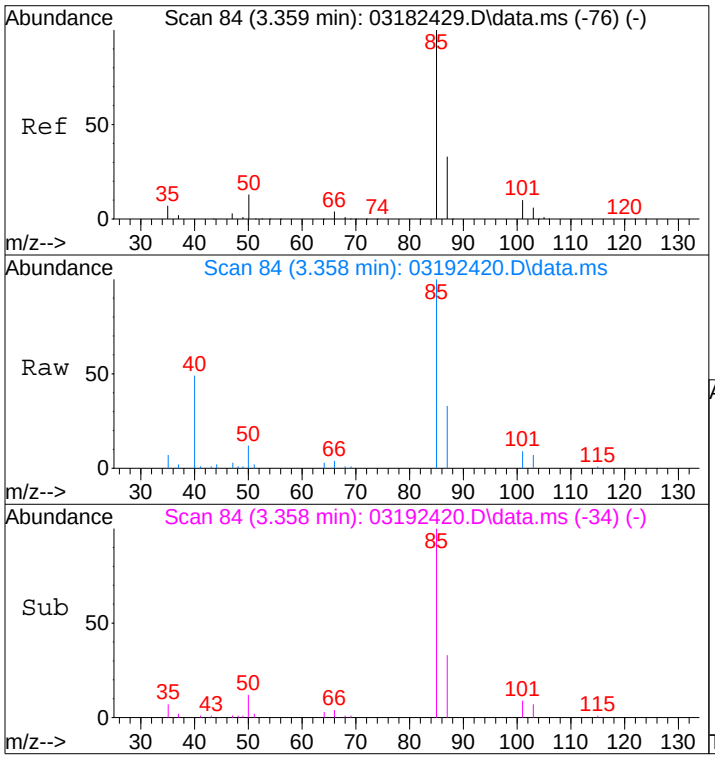
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 13:59:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

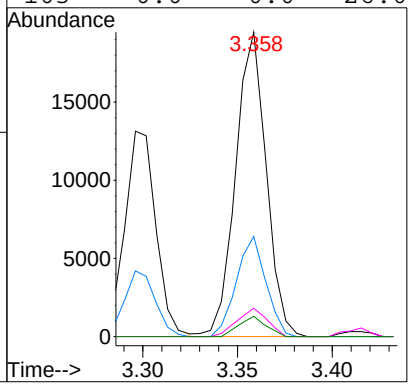


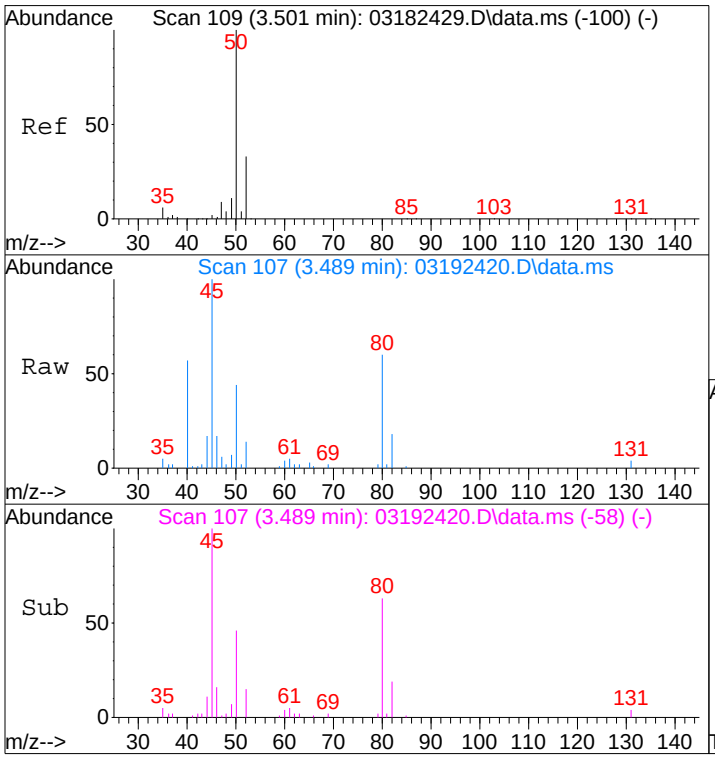


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.72 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.036 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 85 Resp: 21867

Ion	Ratio	Lower	Upper
85	100		
87	21.9	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

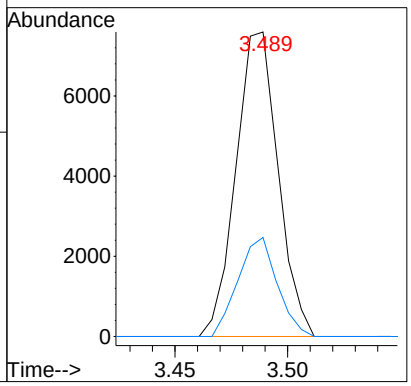


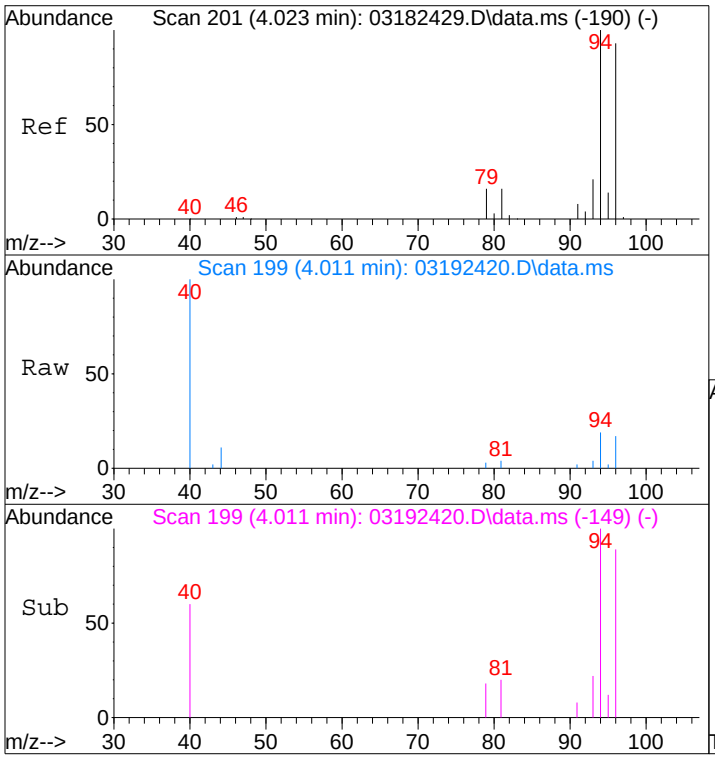


#4
Chloromethane
Concen: 0.44 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.026 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 50 Resp: 9916

Ion	Ratio	Lower	Upper
50	100		
52	30.3	12.3	52.3

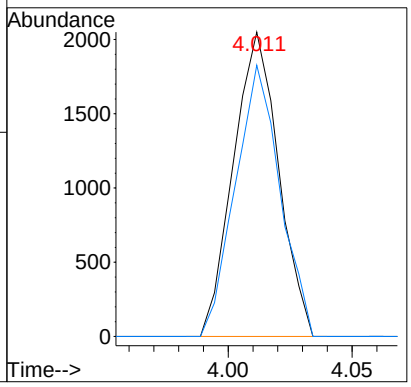


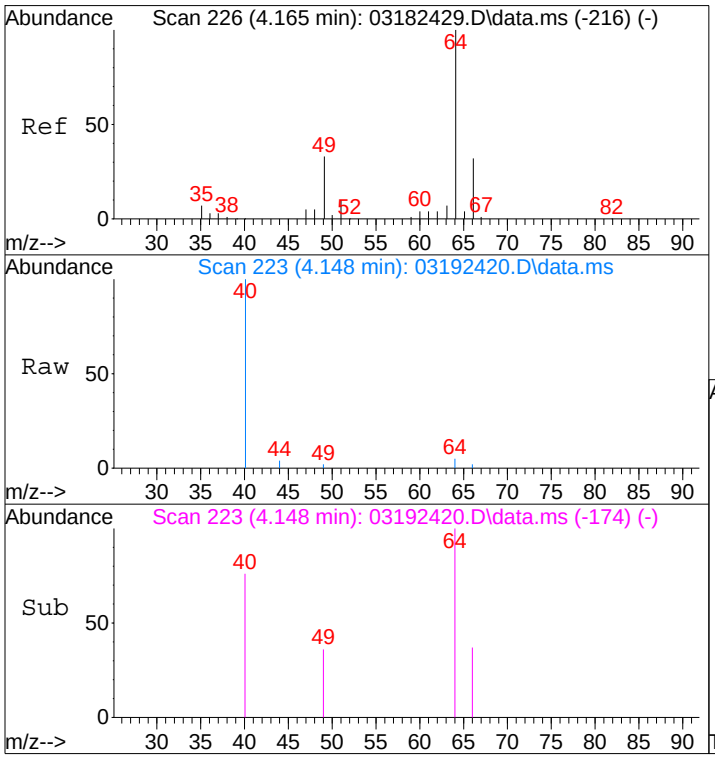


#8
Bromomethane
Concen: 0.21 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.032 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 94 Resp: 2598

Ion	Ratio	Lower	Upper
94	100		
96	88.2	72.7	112.7

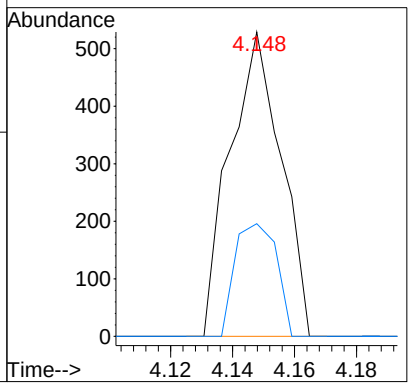


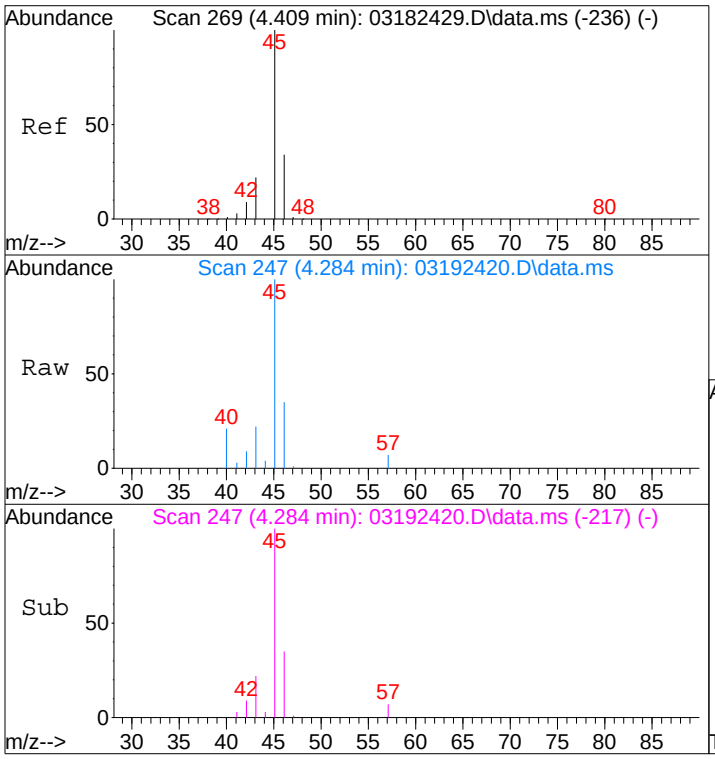


#9
Chloroethane
Concen: 0.07 ng
RT: 4.15 min Scan# 223
Delta R.T. 0.028 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 64 Resp: 606

Ion	Ratio	Lower	Upper
64	100		
66	30.2	11.8	51.8

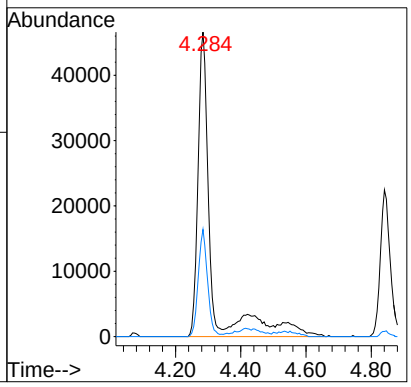


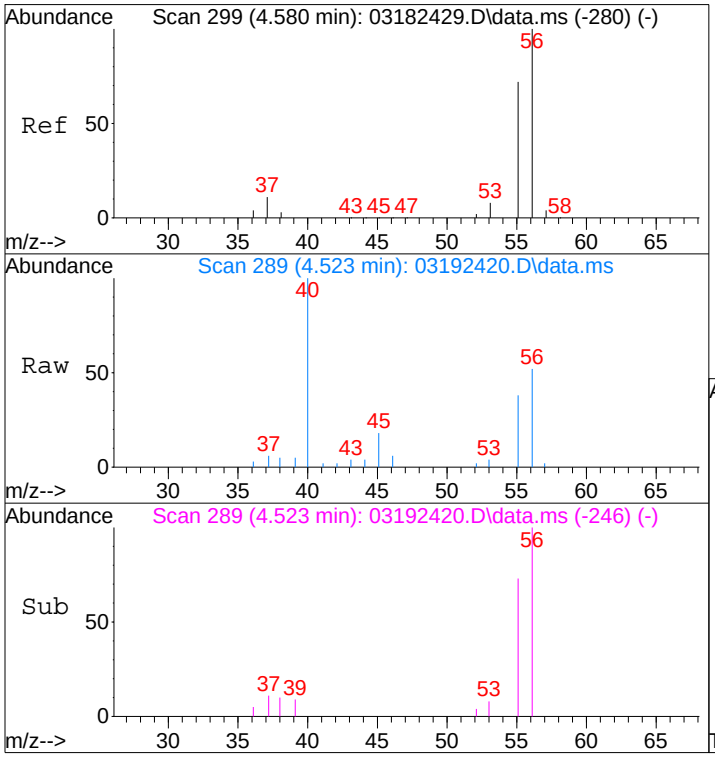


#10
Ethanol
Concen: 8.97 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.077 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 45 Resp: 128812

Ion	Ratio	Lower	Upper
45	100		
46	33.6	13.3	53.3

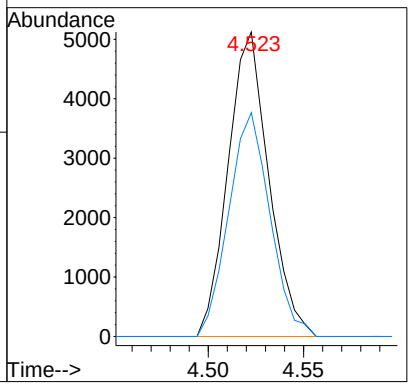


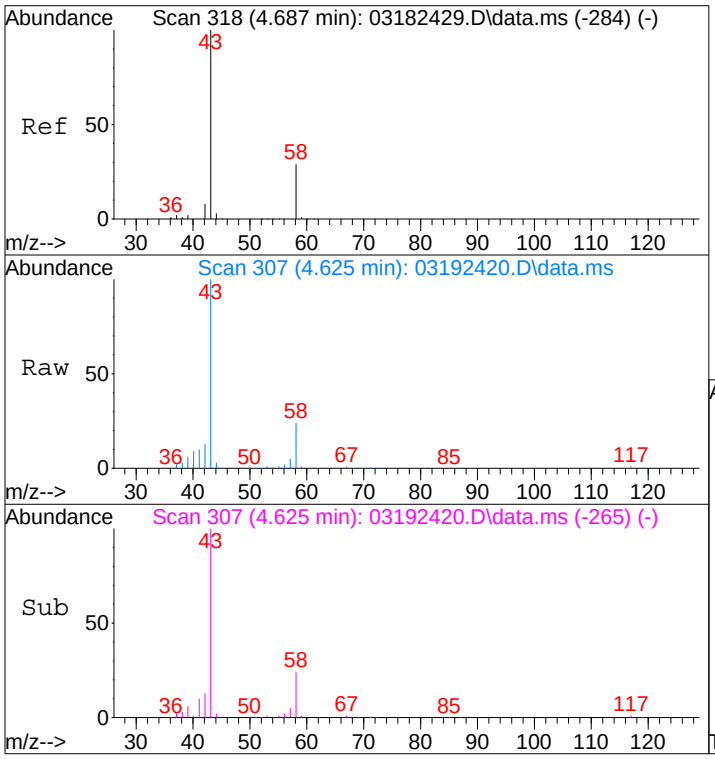


#12
Acrolein
Concen: 0.74 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.007 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 56 Resp: 7611

Ion	Ratio	Lower	Upper
56	100		
55	74.5	54.9	94.9

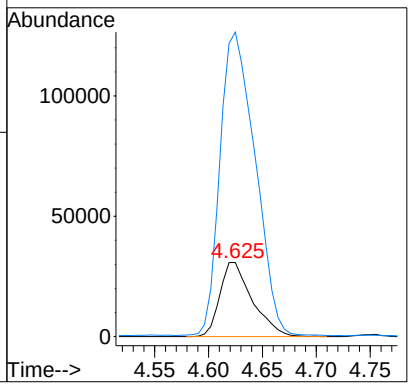


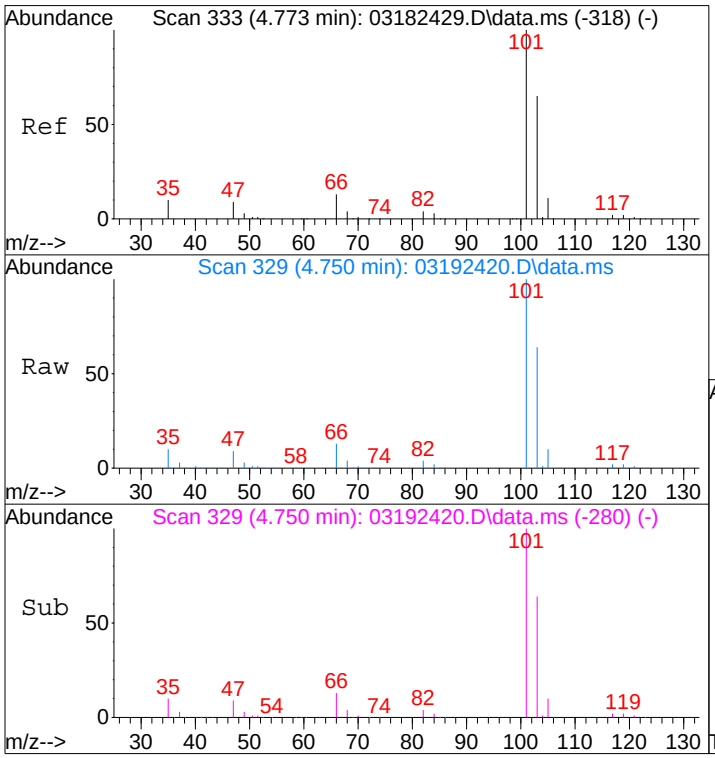


#13
Acetone
Concen: 5.90 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.012 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 58 Resp: 64526

Ion	Ratio	Lower	Upper
58	100		
43	444.6	350.1	410.1#

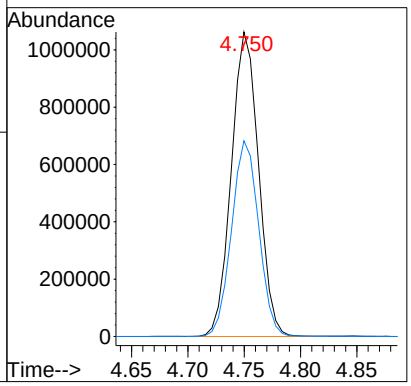


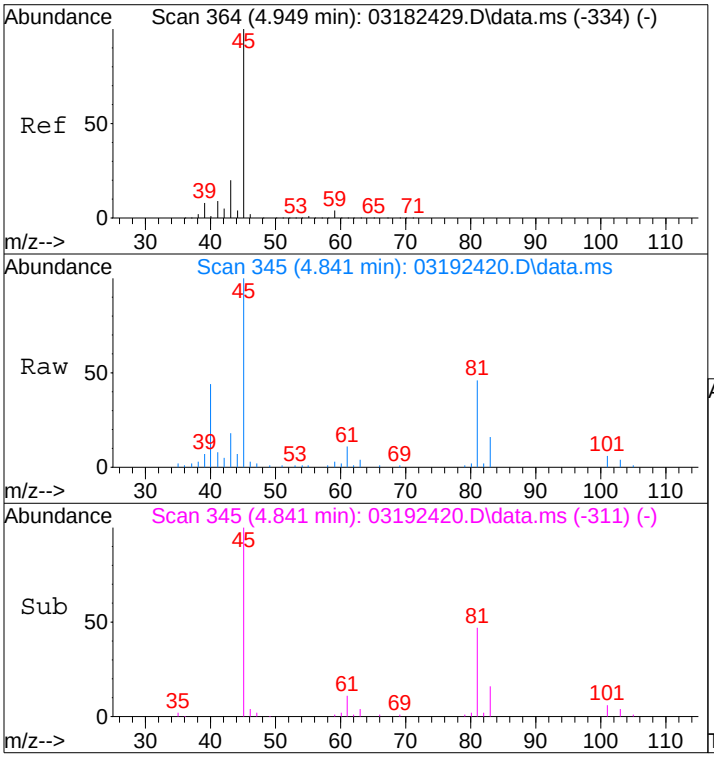


#14
Trichlorofluoromethane
Concen: 60.42 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:101 Resp: 1782877

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.7	84.7

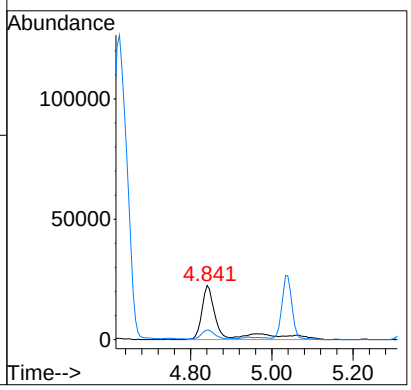


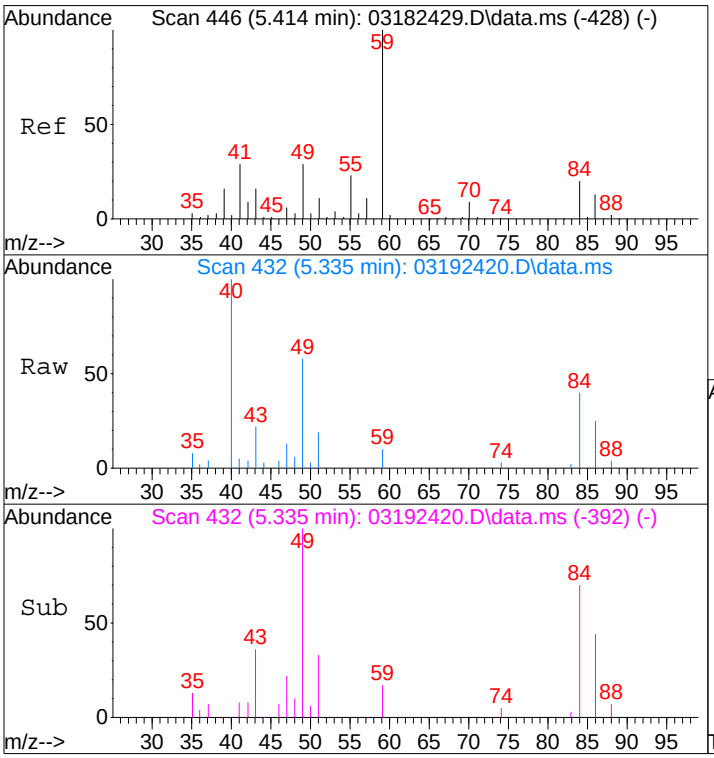


#15
2-Propanol (Isopropanol)
Concen: 1.54 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.054 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 45 Resp: 67223

Ion	Ratio	Lower	Upper
45	100		
43	17.9	0.4	40.4

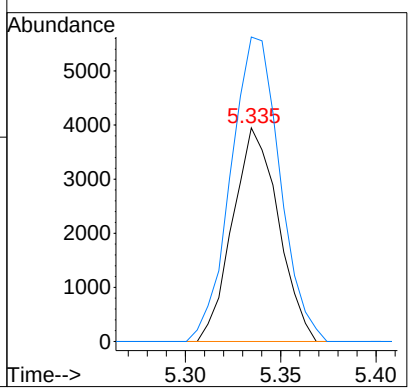


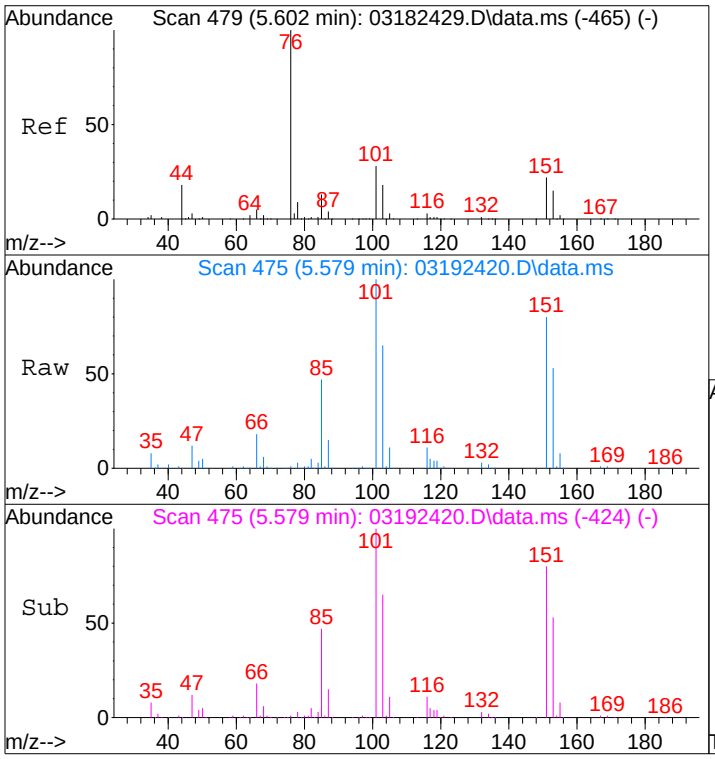


#19
Methylene Chloride
Concen: 0.41 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 84 Resp: 6585

Ion	Ratio	Lower	Upper
84	100		
49	153.3	122.9	172.9

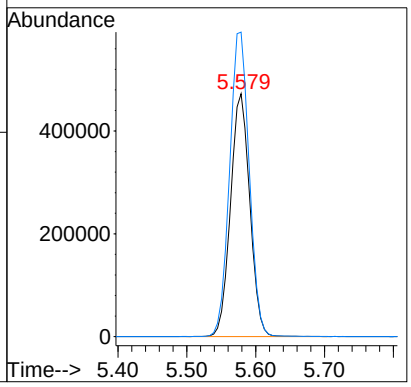


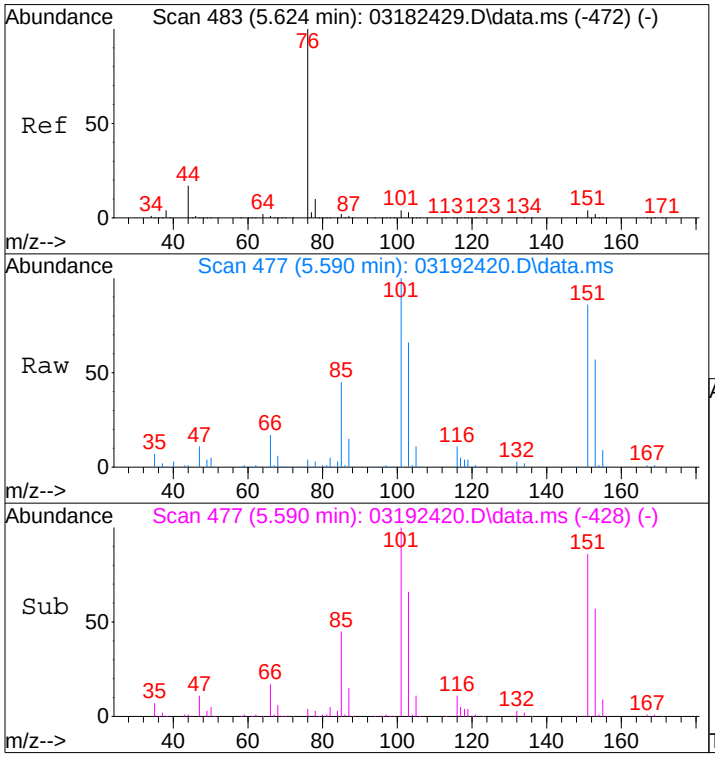


#21
Trichlorotrifluoroethane
Concen: 73.95 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:151 Resp: 919812

Ion	Ratio	Lower	Upper
151	100		
101	127.5	106.4	146.4

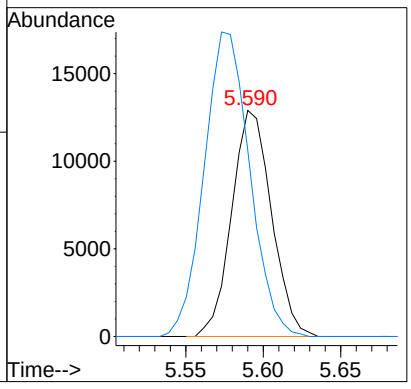


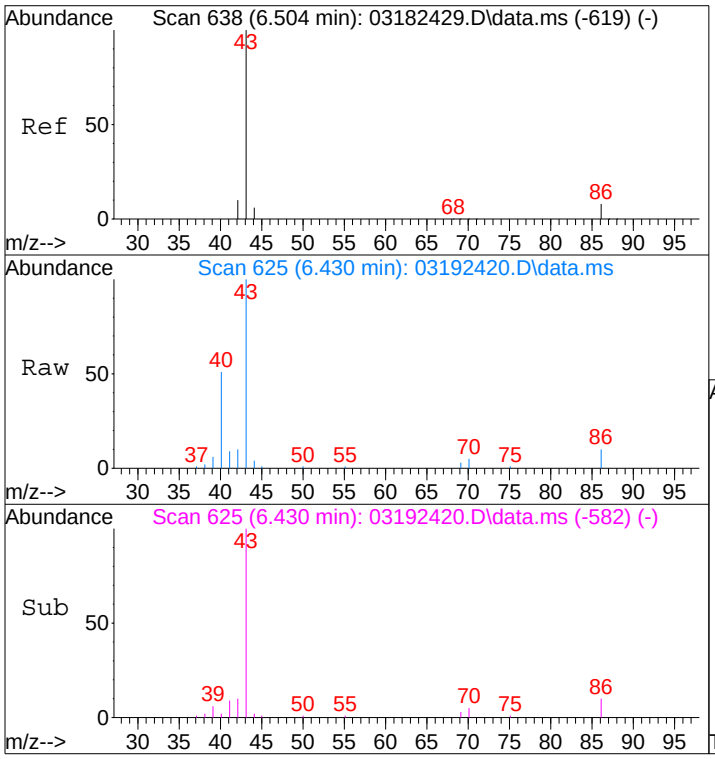


#22
Carbon Disulfide
Concen: 0.47 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 76 Resp: 23120

Ion	Ratio	Lower	Upper
76	100		
78	153.7	0.0	29.8#

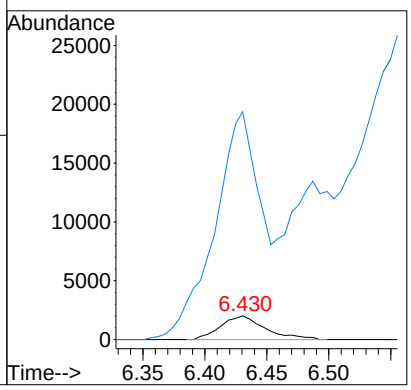


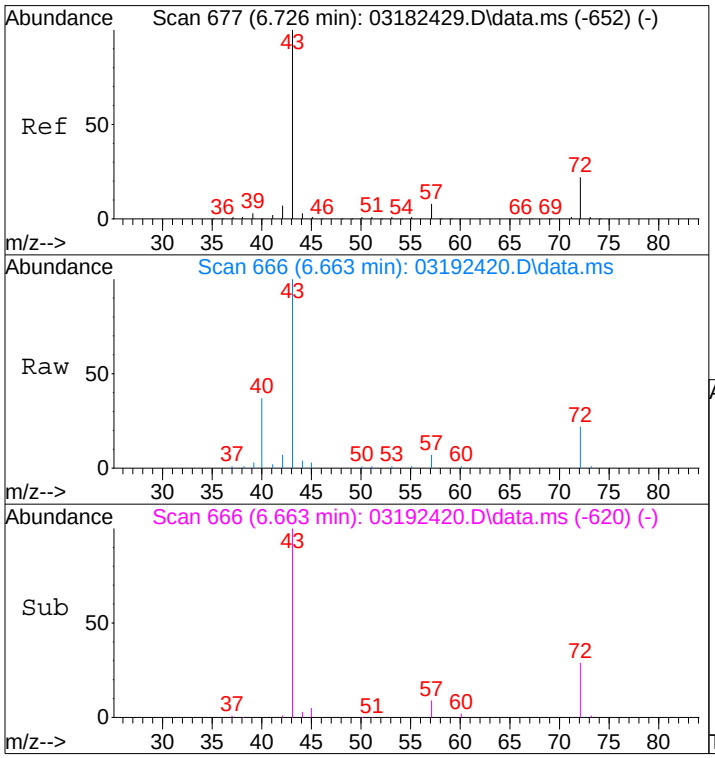


#26
Vinyl Acetate
Concen: 2.07 ng
RT: 6.43 min Scan# 625
Delta R.T. -0.003 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 86 Resp: 5035

Ion	Ratio	Lower	Upper
86	100		
43	1045.2	1541.5	1581.5#

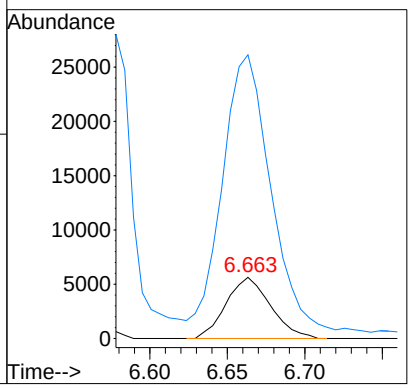


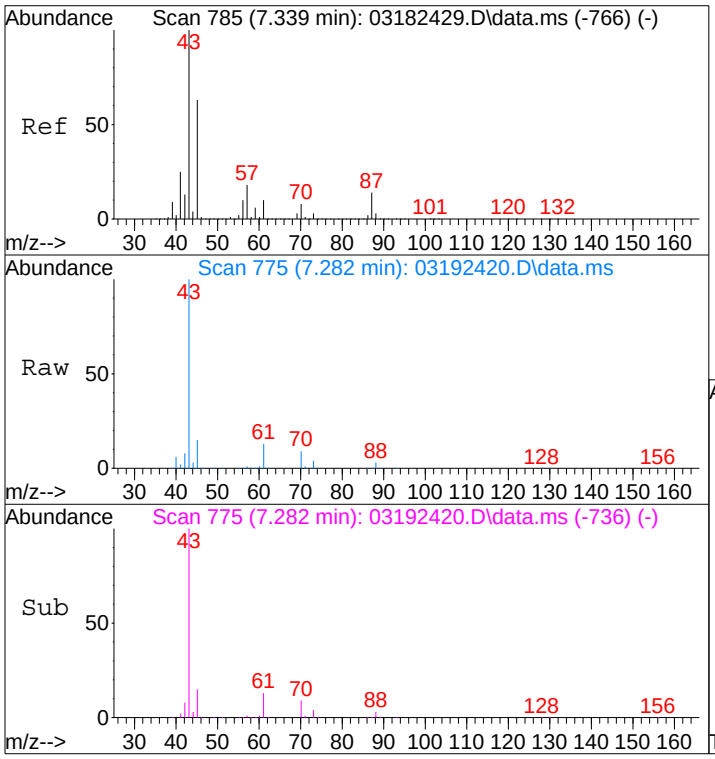


#27
2-Butanone (MEK)
Concen: 1.26 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 72 Resp: 11250

Ion	Ratio	Lower	Upper
72	100		
43	493.5	468.6	508.6

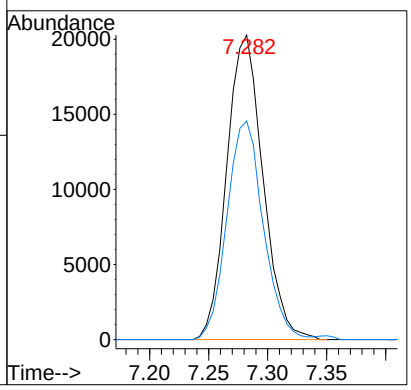


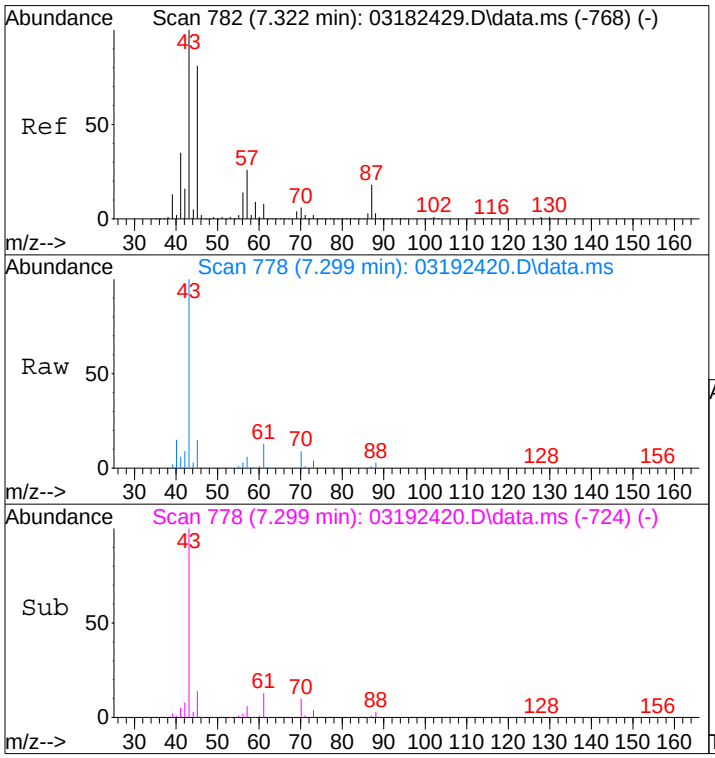


#30
Ethyl Acetate
Concen: 8.06 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 61 Resp: 43225

Ion	Ratio	Lower	Upper
61	100		
70	72.2	57.3	97.3

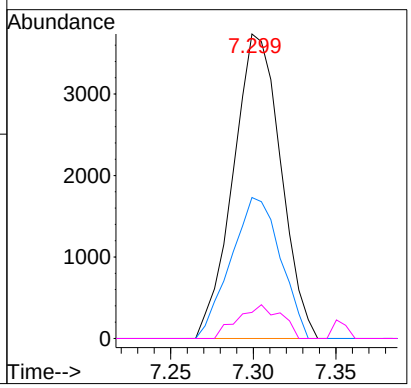


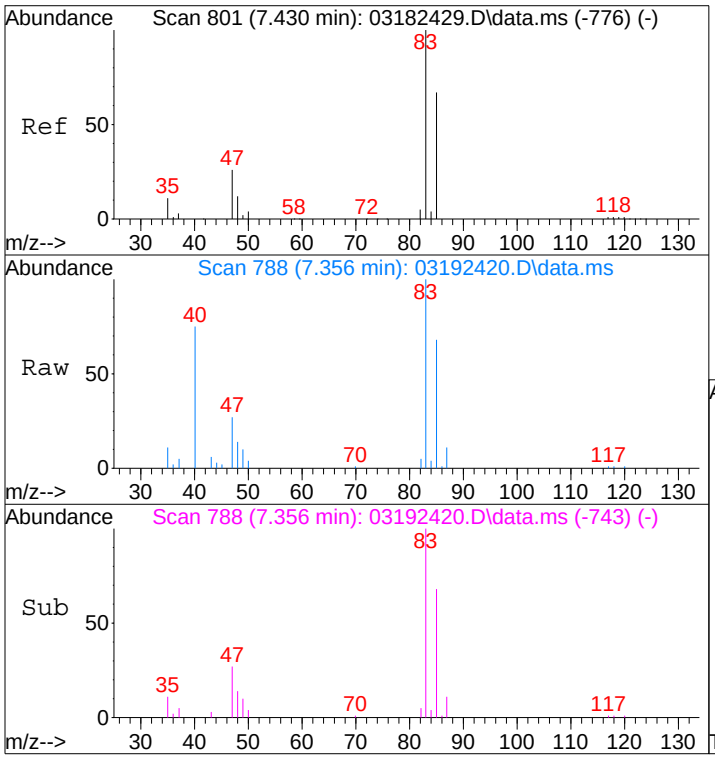


#31
n-Hexane
Concen: 0.32 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 57 Resp: 7482

Ion	Ratio	Lower	Upper
57	100		
56	48.3	42.2	63.4
86	10.0	9.4	14.2

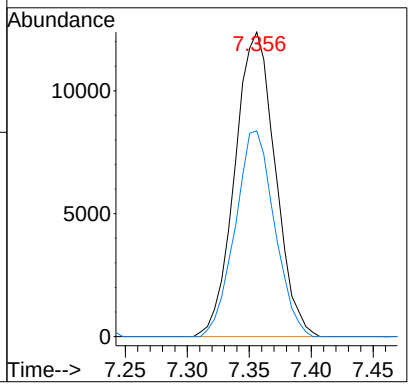


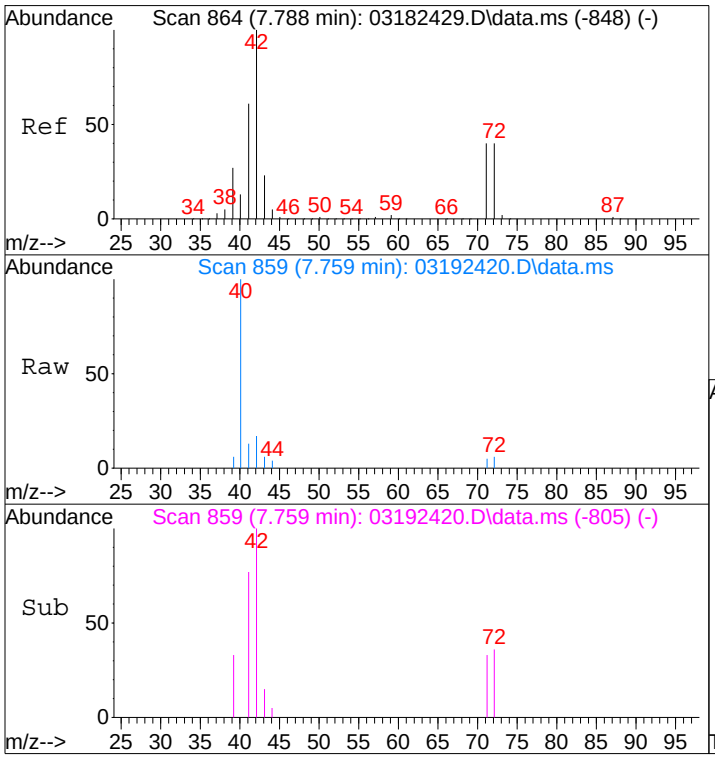


#32
Chloroform
Concen: 1.09 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.007 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 83 Resp: 28094

Ion	Ratio	Lower	Upper
83	100		
85	65.9	46.1	86.1

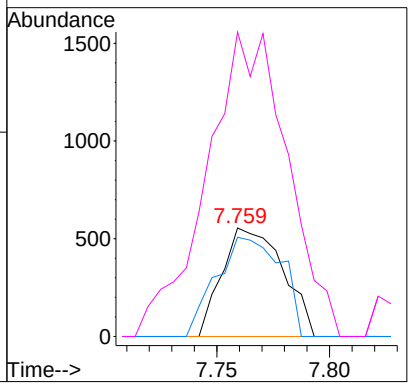


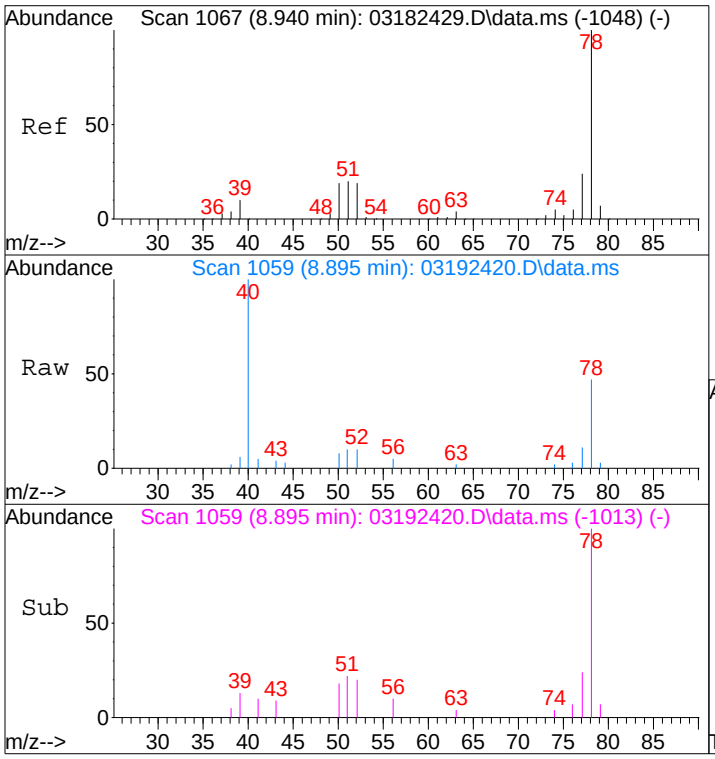


#34
Tetrahydrofuran (THF)
Concen: 0.13 ng
RT: 7.76 min Scan# 859
Delta R.T. 0.056 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 72 Resp: 1043

Ion	Ratio	Lower	Upper
72	100		
71	97.7	80.7	120.7
42	372.9	255.0	295.0#

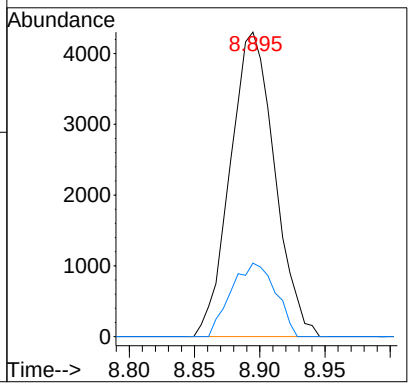


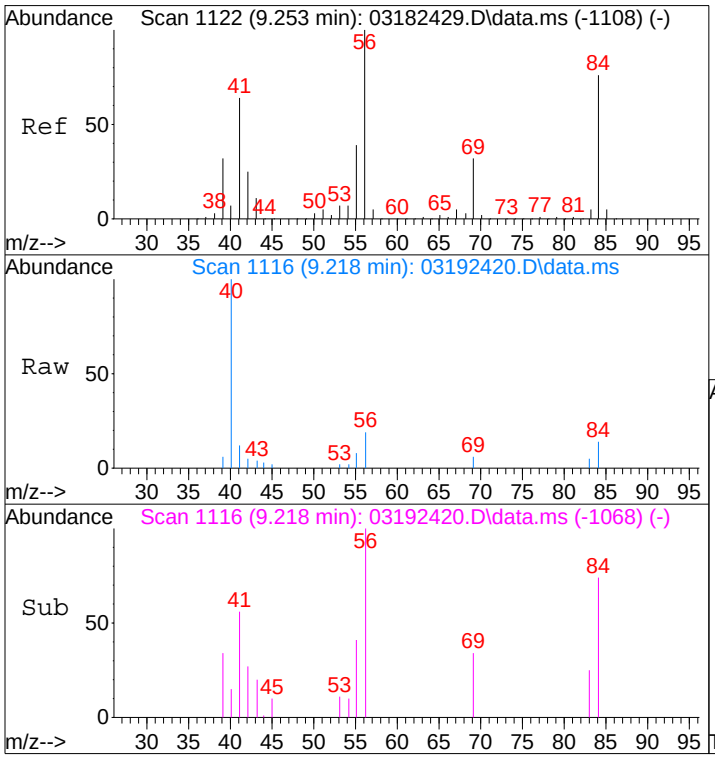


#41
Benzene
Concen: 0.18 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 78 Resp: 10185

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.6	43.6

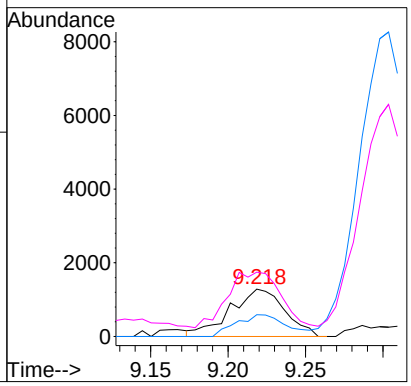


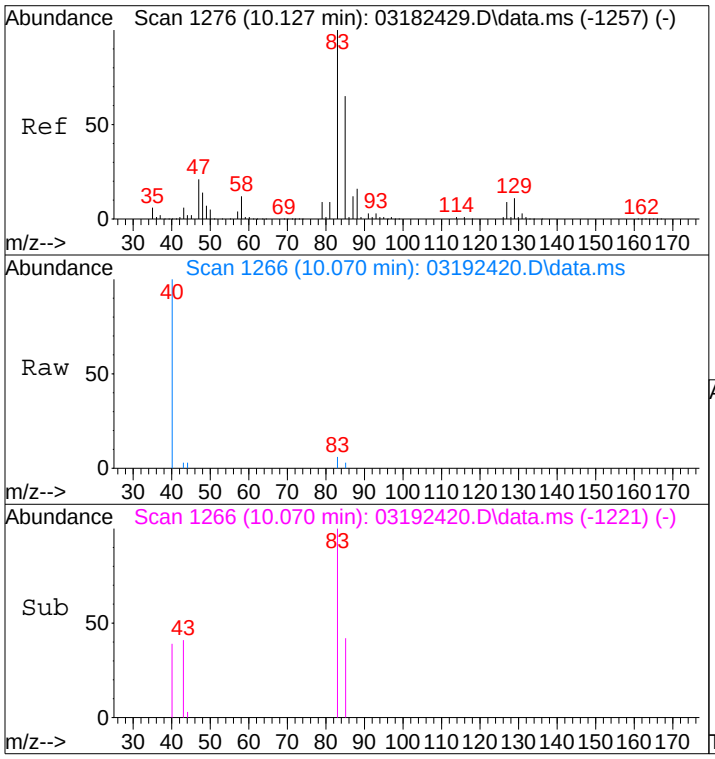


#43
Cyclohexane
Concen: 0.17 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 84 Resp: 3147

Ion	Ratio	Lower	Upper
84	100		
69	42.5	21.3	61.3
56	150.4	115.3	155.3

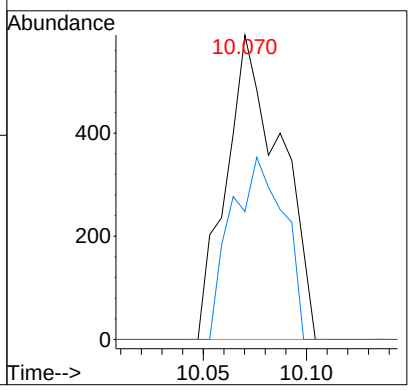


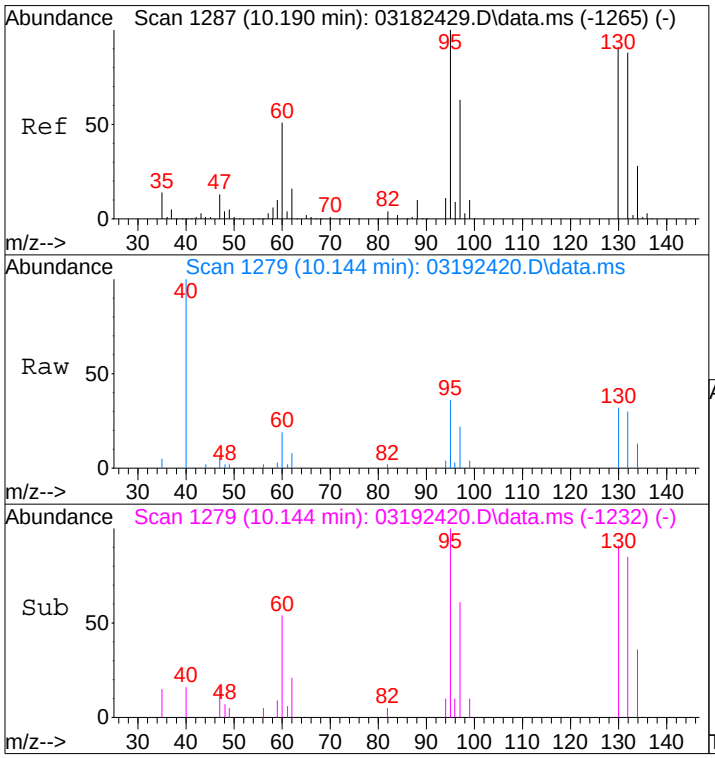


#46
Bromodichloromethane
Concen: 0.05 ng
RT: 10.07 min Scan# 1266
Delta R.T. 0.005 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 83 Resp: 1086

Ion	Ratio	Lower	Upper
83	100		
85	57.6	45.2	85.2

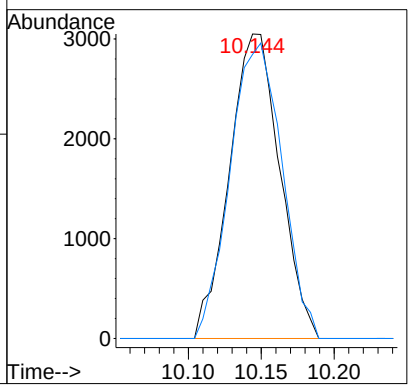


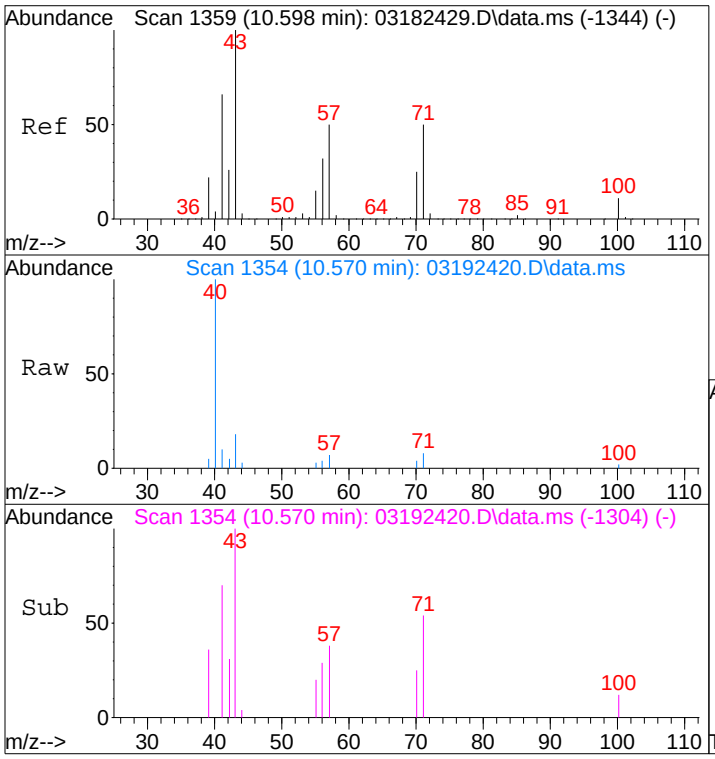


#47
Trichloroethene
Concen: 0.47 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:130 Resp: 7334

Ion	Ratio	Lower	Upper
130	100		
132	99.9	77.5	117.5

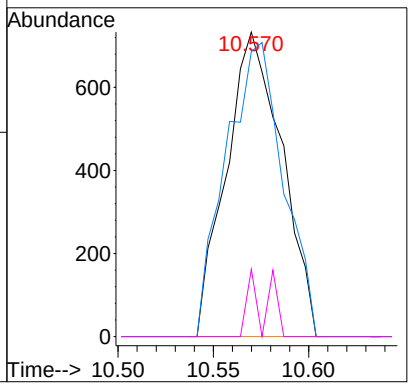


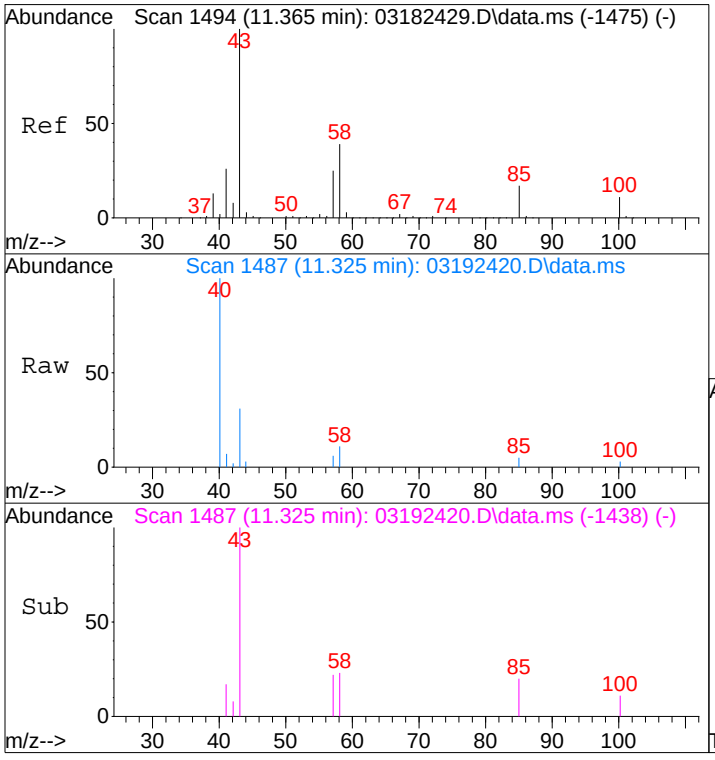


#51
n-Heptane
Concen: 0.12 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.036 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 71 Resp: 1487

Ion	Ratio	Lower	Upper
71	100		
57	99.5	81.2	121.2
100	7.4	4.0	44.0

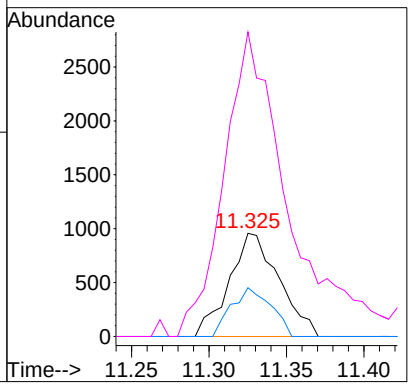


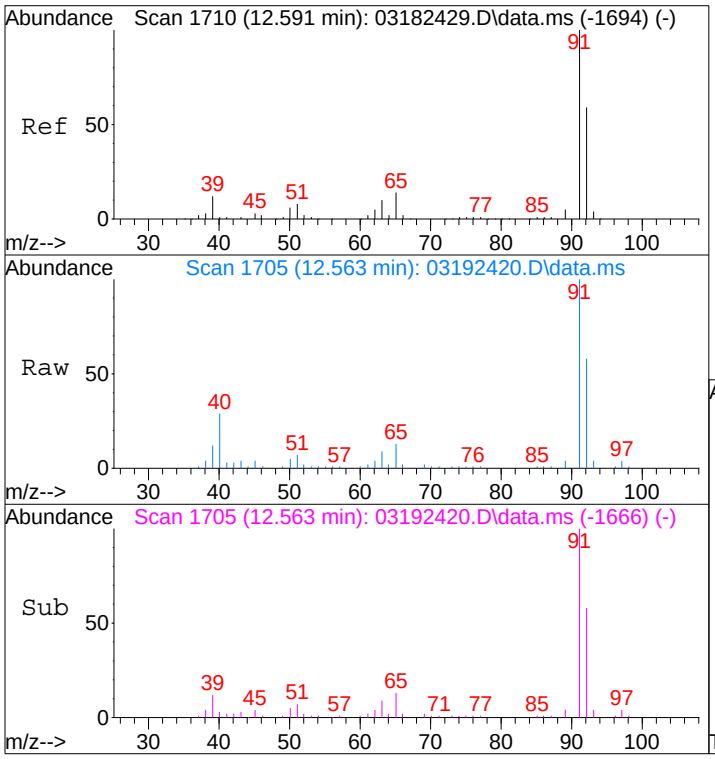


#53
4-Methyl-2-pentanone
Concen: 0.17 ng
RT: 11.33 min Scan# 1487
Delta R.T. 0.029 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 58 Resp: 2141

Ion	Ratio	Lower	Upper
58	100		
85	37.6	34.5	51.7
43	380.5	218.4	327.6#

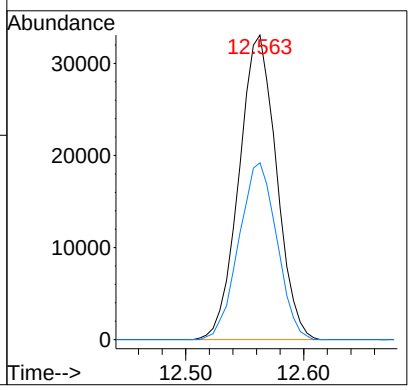


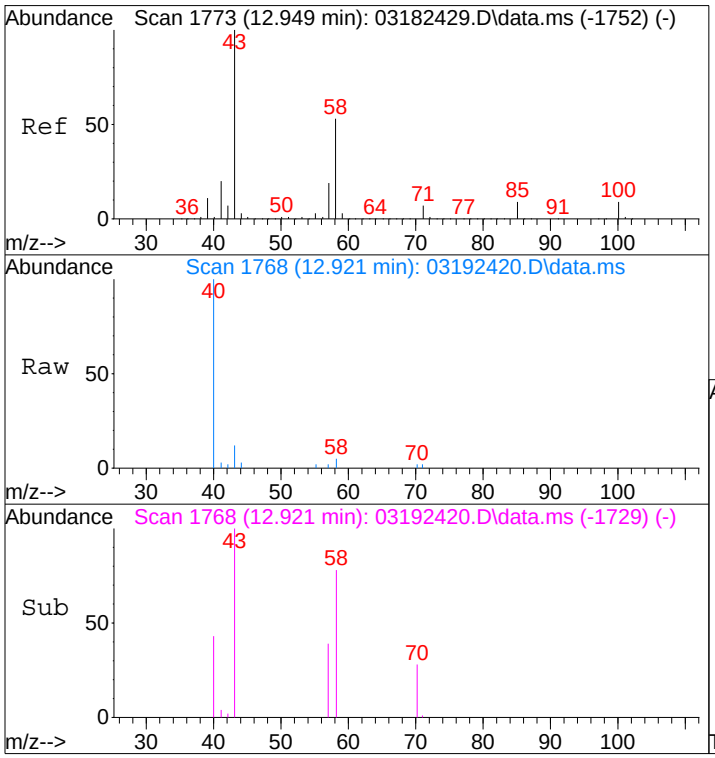


#58
Toluene
Concen: 1.32 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 91 Resp: 72947

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.2	79.2

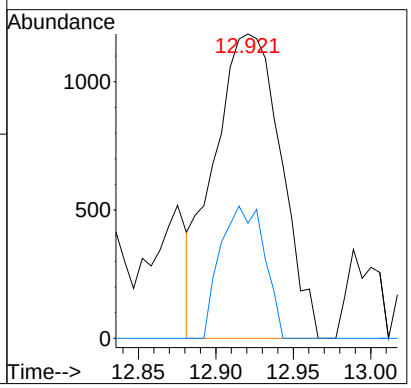


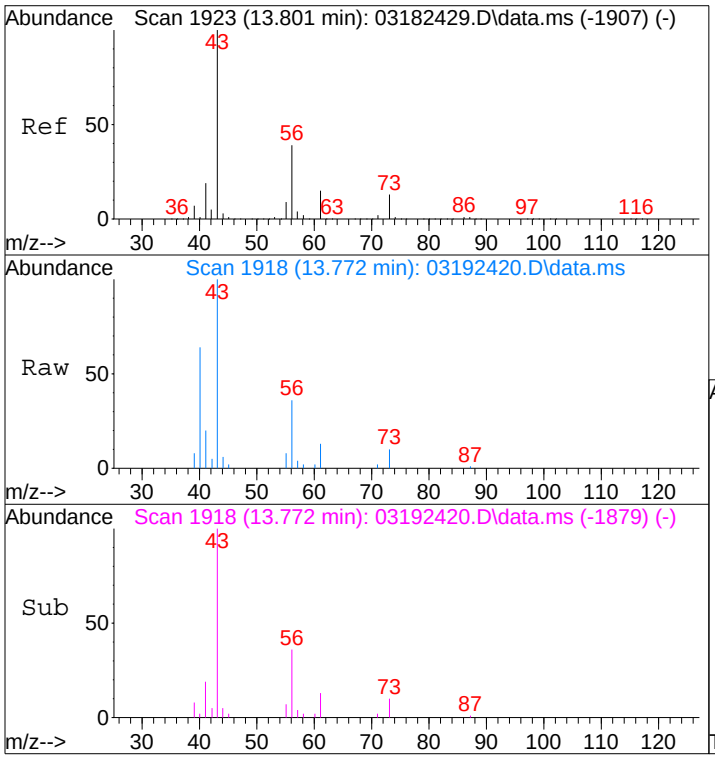


#59
2-Hexanone
Concen: 0.11 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.029 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 43 Resp: 3582

Ion	Ratio	Lower	Upper
43	100		
58	28.6	30.2	70.2#

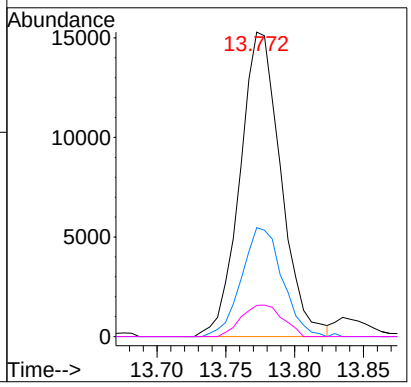


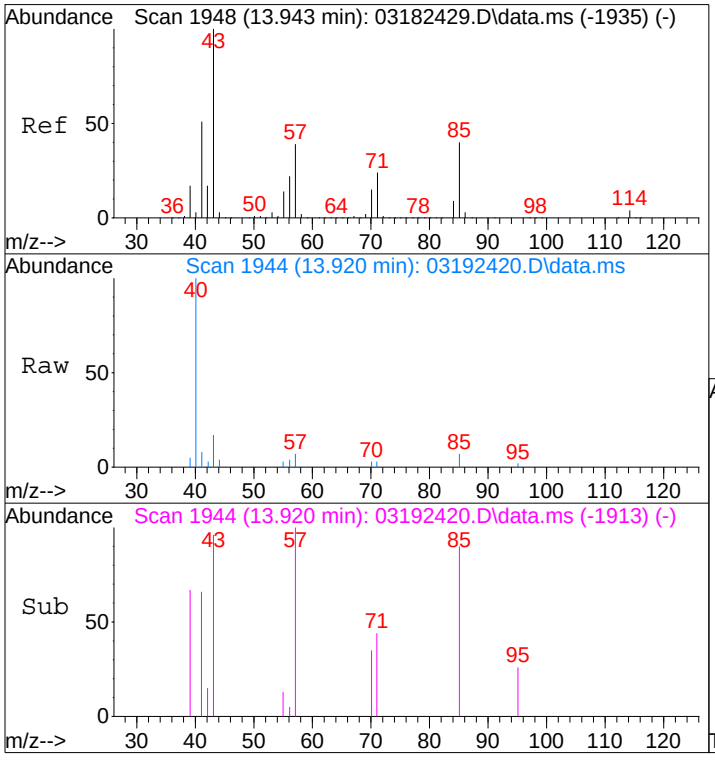


#62
n-Butyl Acetate
Concen: 0.89 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.029 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 43 Resp: 31625

Ion	Ratio	Lower	Upper
43	100		
56	35.8	16.7	56.7
73	10.4	0.0	31.3

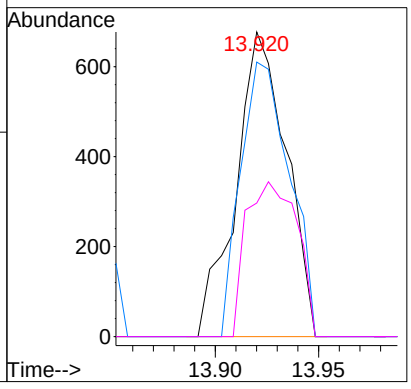


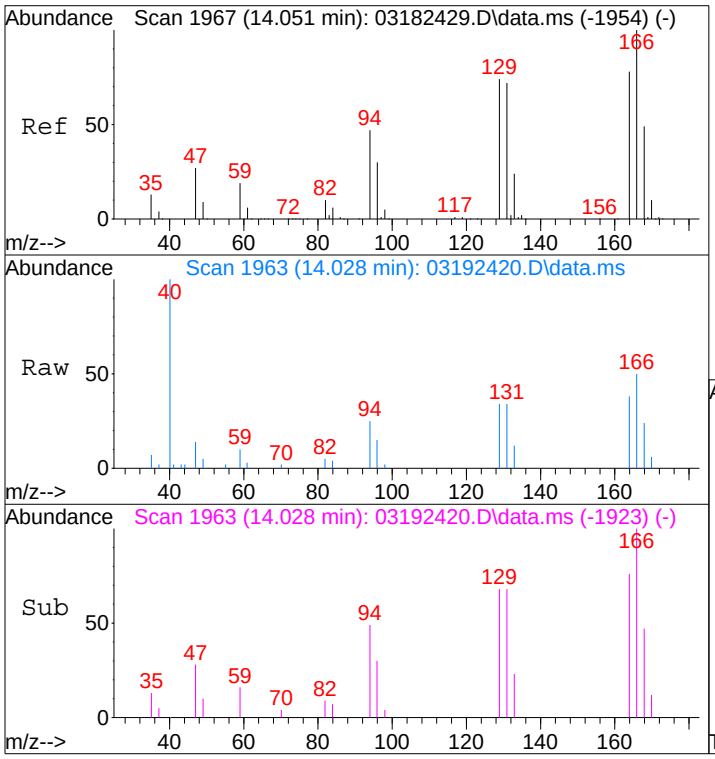


#63
n-Octane
Concen: 0.10 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 57 Resp: 1148

Ion	Ratio	Lower	Upper
57	100		
85	87.5	80.6	121.0
71	51.3	49.3	73.9

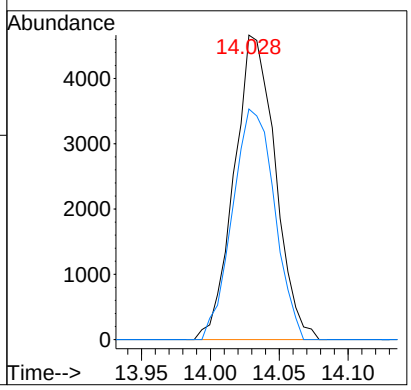


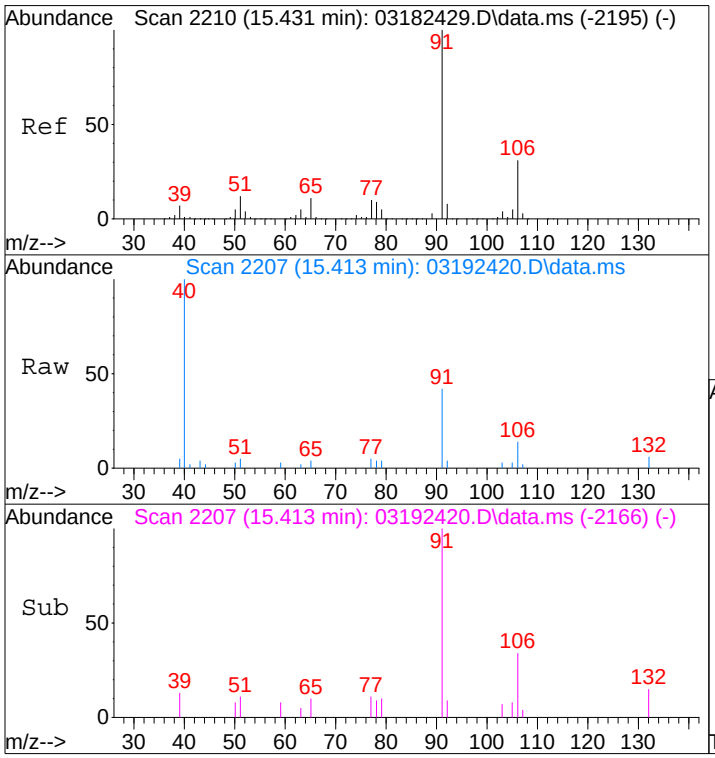


#64
Tetrachloroethene
Concen: 0.57 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:166 Resp: 9681

Ion	Ratio	Lower	Upper
166	100		
164	77.4	56.7	96.7

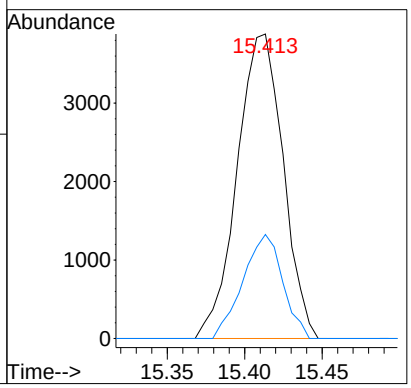


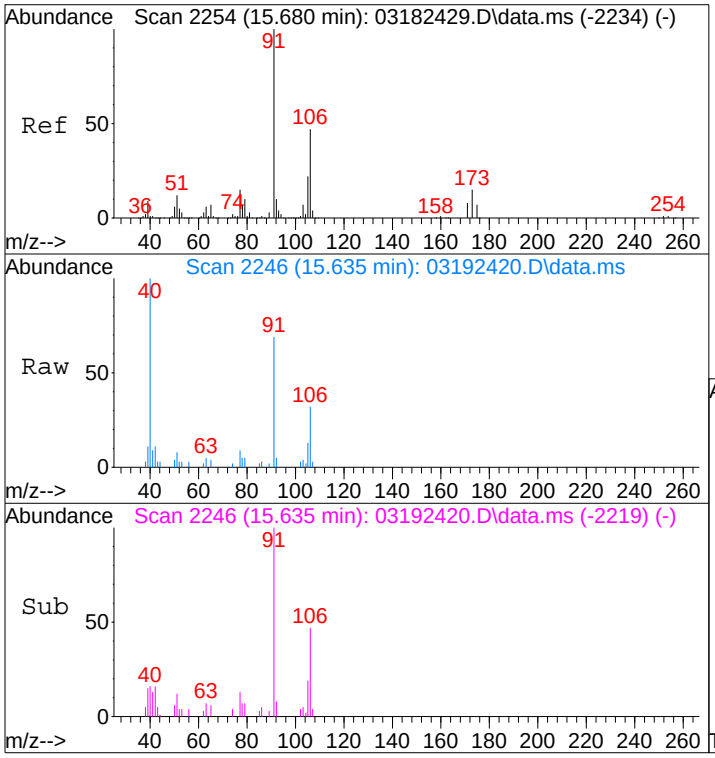


#66
Ethylbenzene
Concen: 0.13 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 91 Resp: 8019

Ion	Ratio	Lower	Upper
91	100		
106	29.6	10.4	50.4

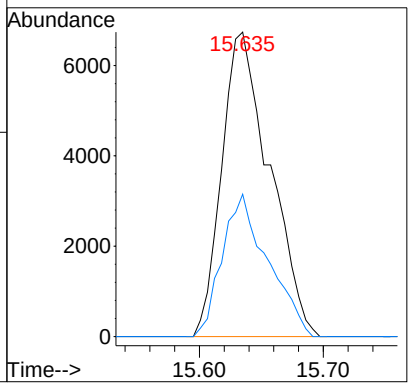


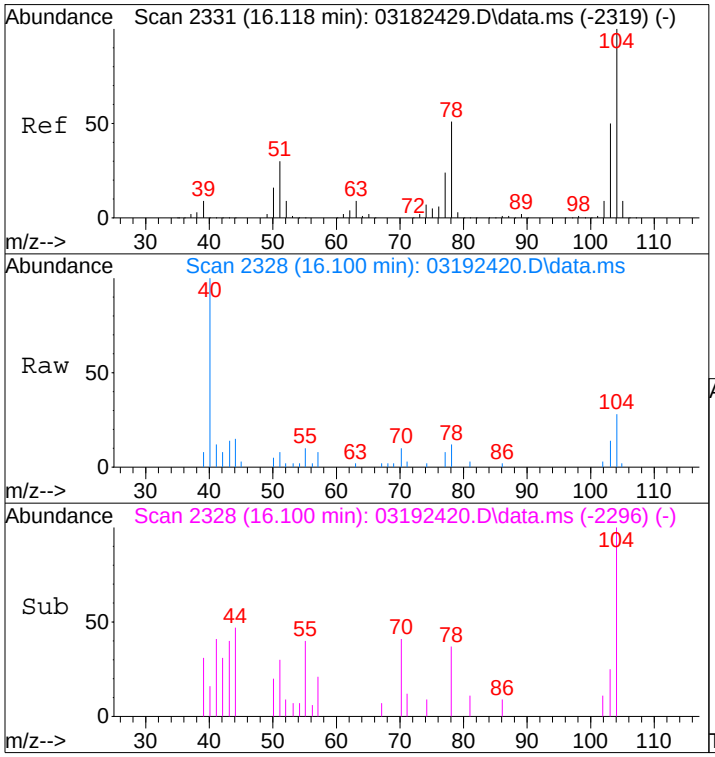


#67
m- & p-Xylenes
Concen: 0.34 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 91 Resp: 18105

Ion	Ratio	Lower	Upper
91	100		
106	44.6	25.6	65.6

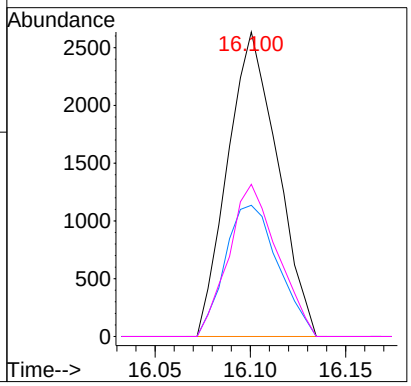


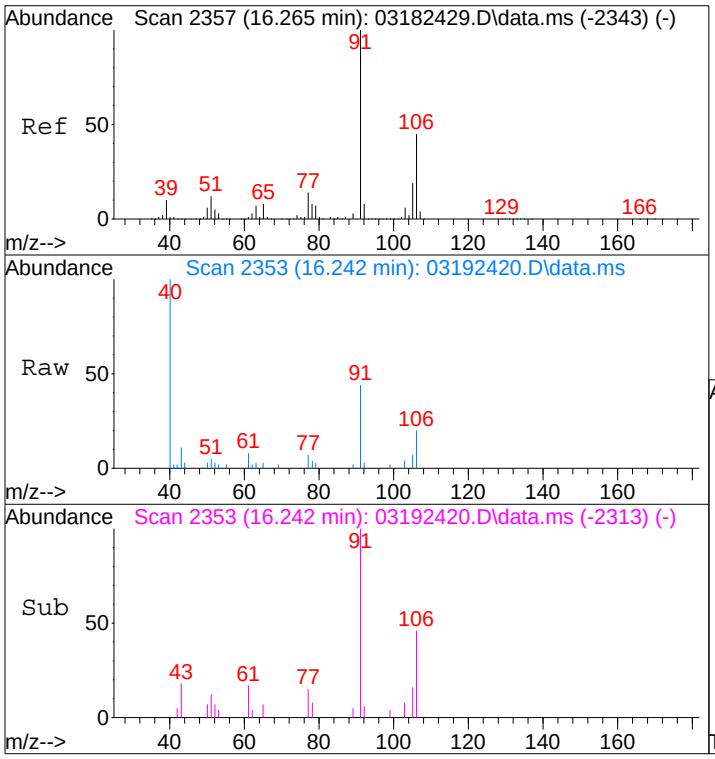


#69
Styrene
Concen: 0.13 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:104 Resp: 4778

Ion	Ratio	Lower	Upper
104	100		
78	45.9	28.5	68.5
103	49.0	28.4	68.4

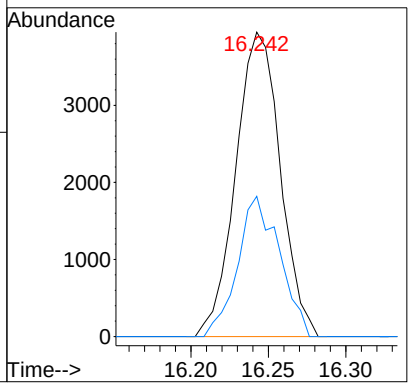


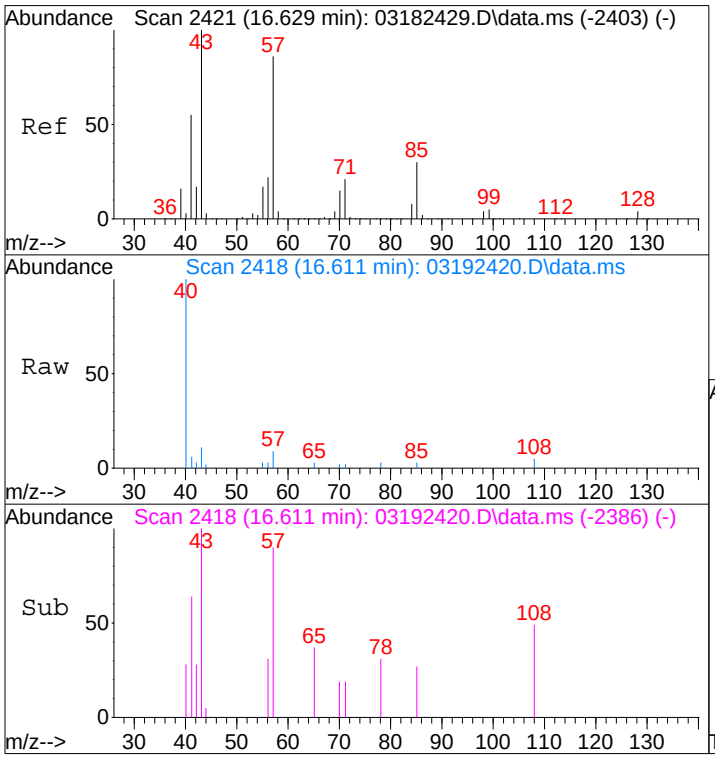


#70
o-Xylene
Concen: 0.15 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 91 Resp: 7904

Ion	Ratio	Lower	Upper
91	100		
106	43.3	24.4	64.4

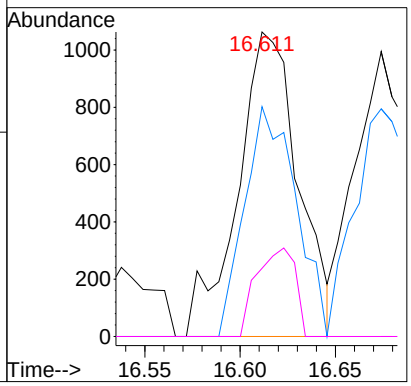


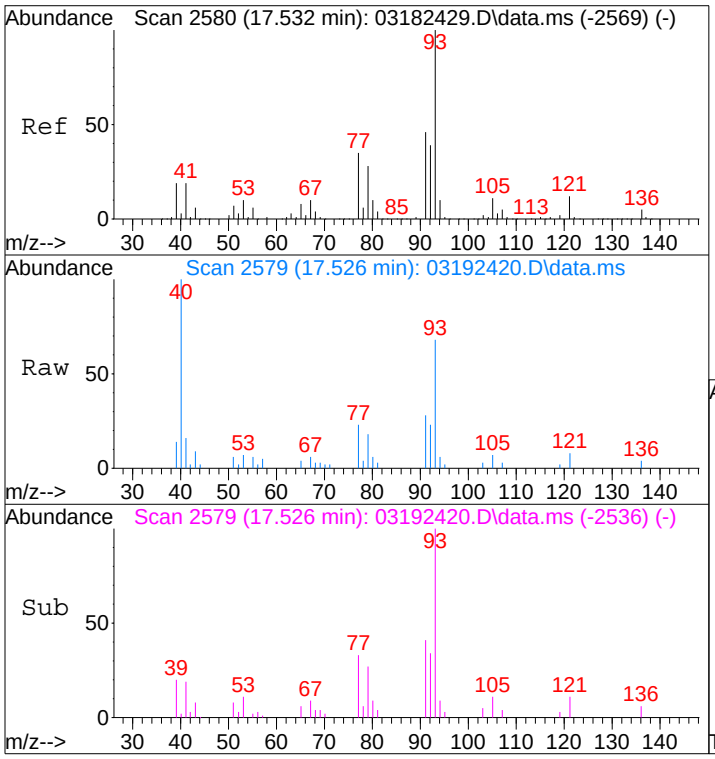


#71
n-Nonane
Concen: 0.08 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 43 Resp: 2348

Ion	Ratio	Lower	Upper
43	100		
57	64.0	63.3	103.3
85	18.6	7.8	47.8

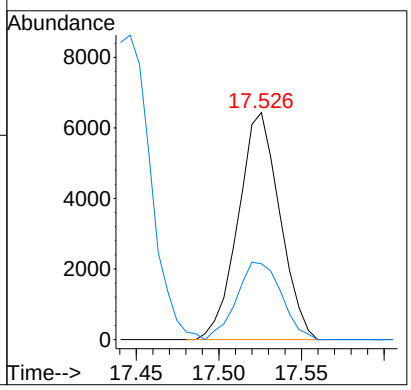


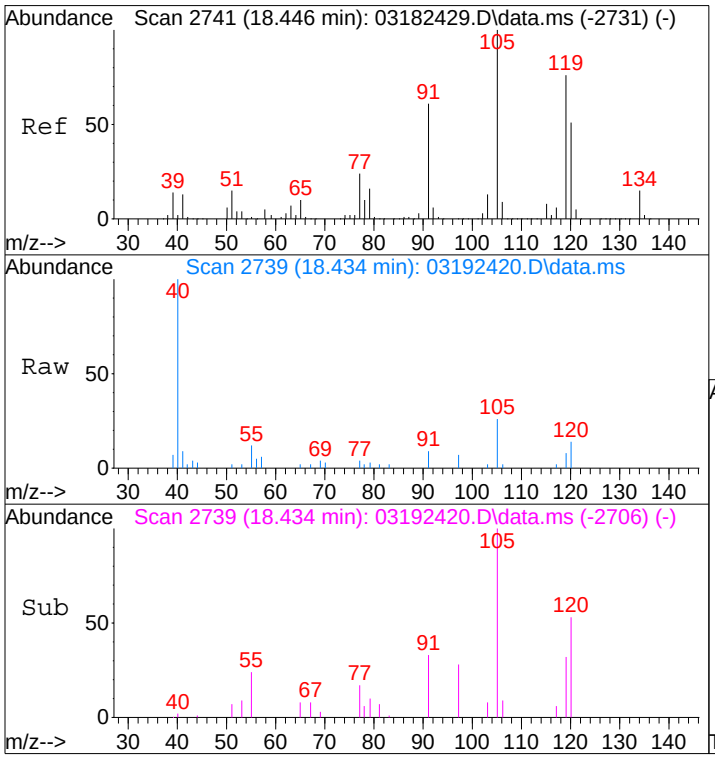


#75
alpha-Pinene
Concen: 0.36 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 93 Resp: 11270

Ion	Ratio	Lower	Upper
93	100		
77	36.6	13.4	53.4

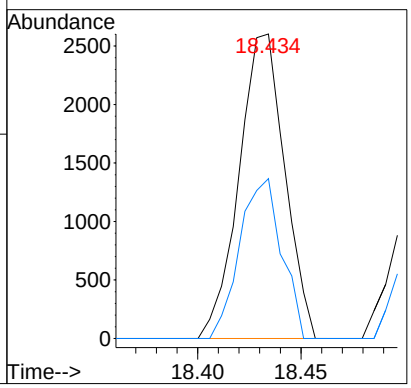


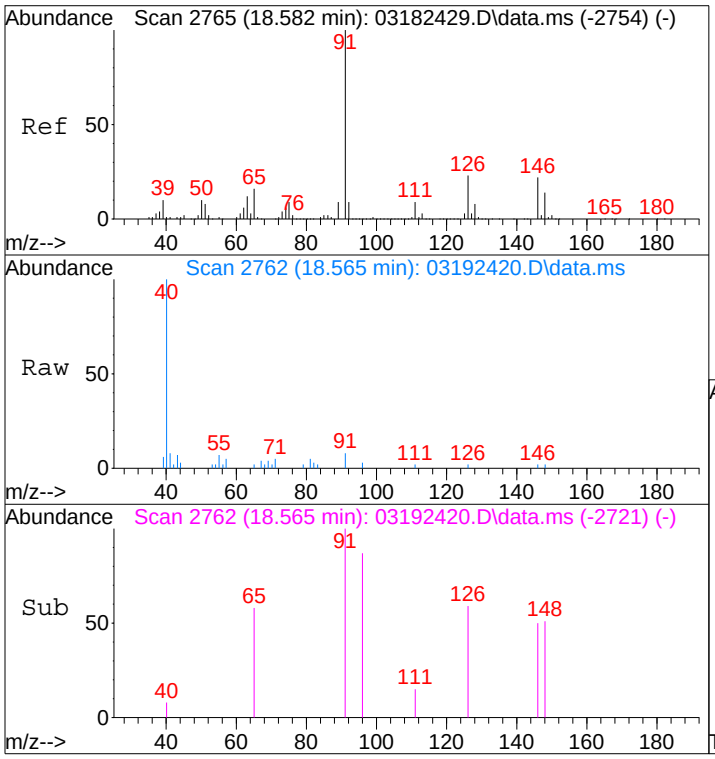


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 18.43 min Scan# 2739
Delta R.T. -0.012 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:105 Resp: 4005

Ion	Ratio	Lower	Upper
105	100		
120	48.1	31.1	71.1

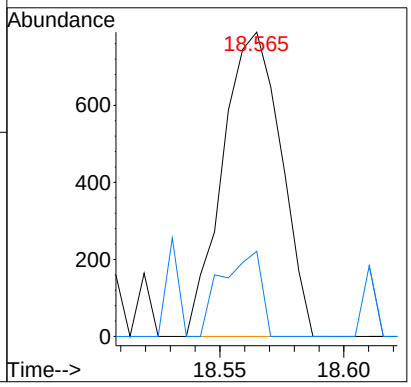


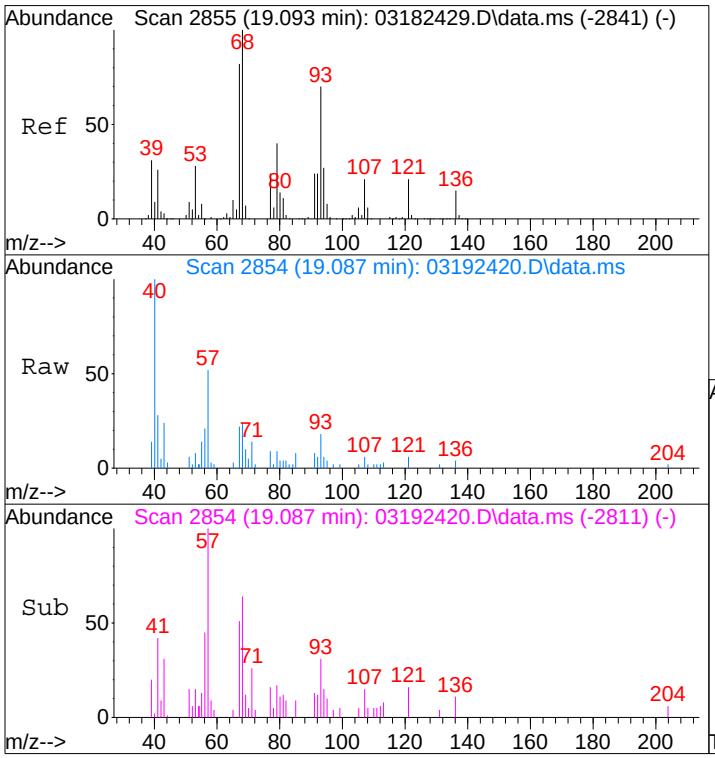


#84
Benzyl Chloride
Concen: 0.61 ng
RT: 18.56 min Scan# 2762
Delta R.T. -0.017 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 91 Resp: 1294

Ion	Ratio	Lower	Upper
91	100		
126	19.1	0.0	39.7

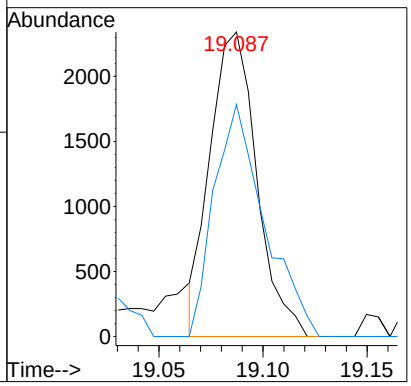


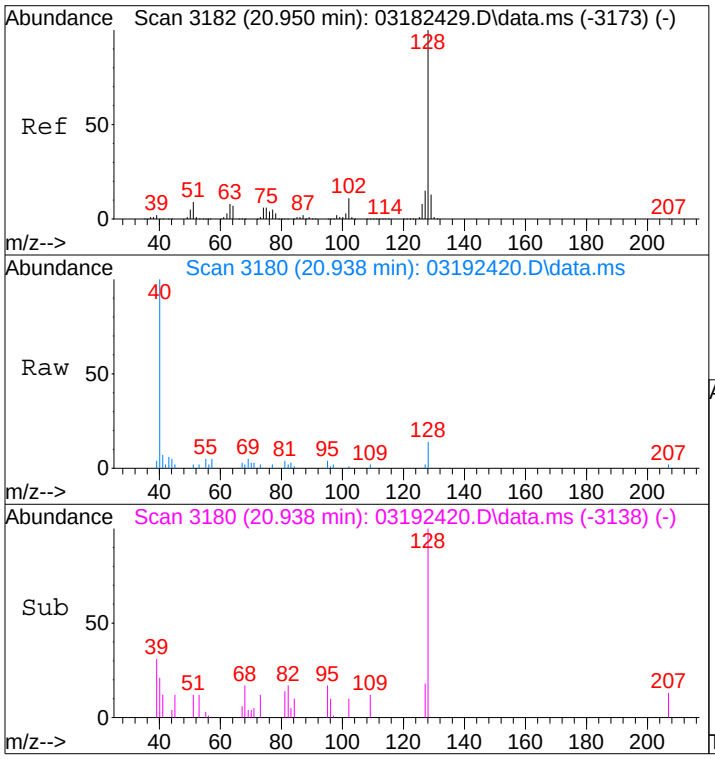


#91
d-Limonene
Concen: 0.19 ng m
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion: 68 Resp: 3648

Ion	Ratio	Lower	Upper
68	100		
93	82.5	51.5	91.5

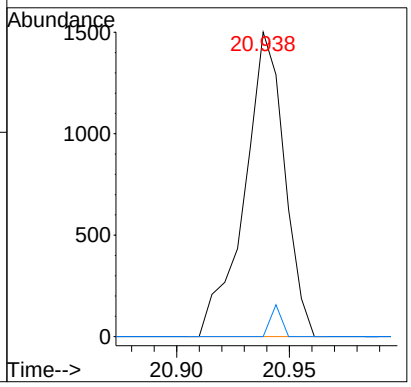




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.012 min
Lab File: 03192420.D
Acq: 19 Mar 2024 20:23

Tgt Ion:128 Resp: 1856

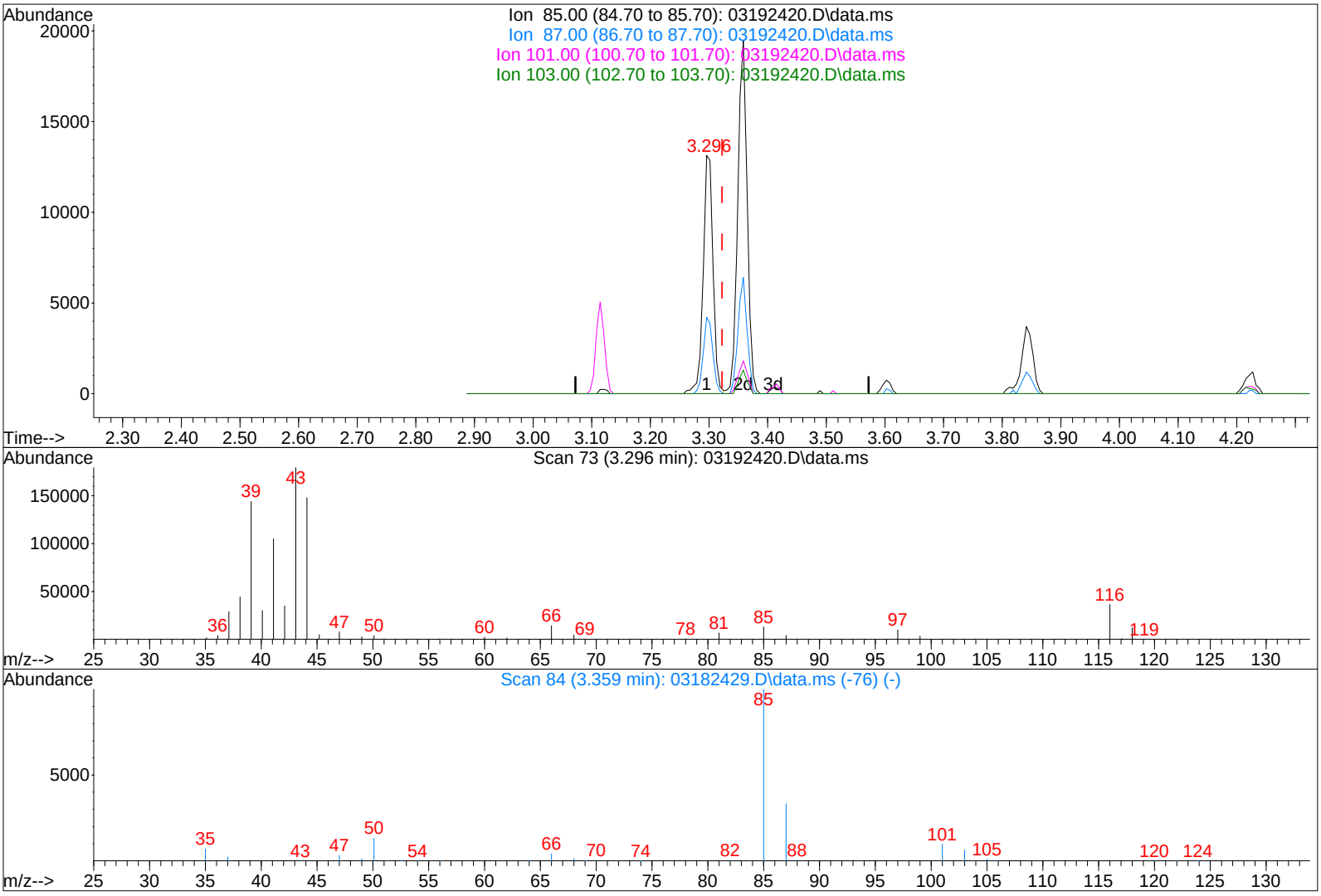
Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.296min (-0.026) 0.50ng

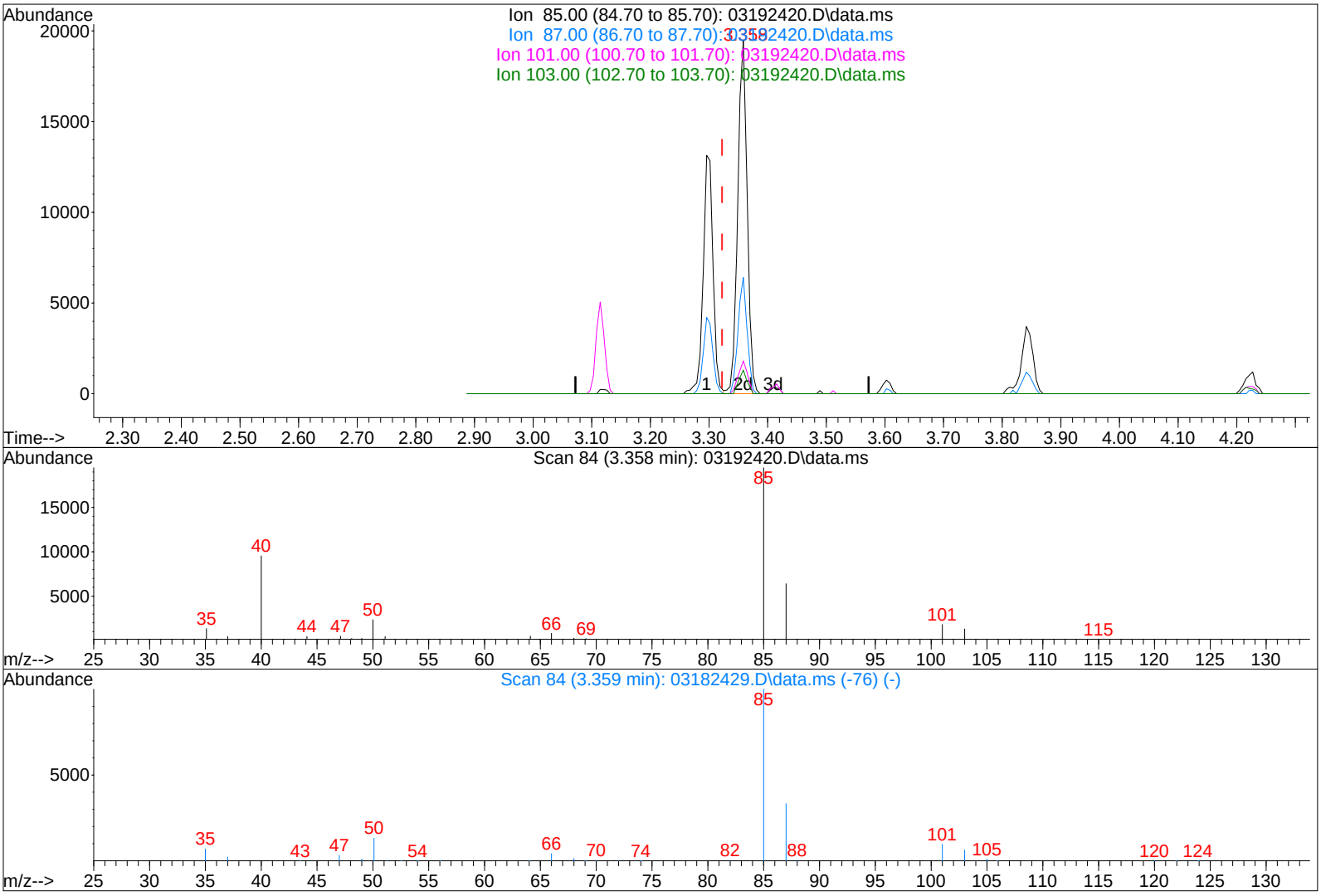
response 15390

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	31.08
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192420.D\data.ms

WP

3/20/24

LH 3/21/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.358min (+0.036) 0.72ng m

response 21867

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	21.87
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:01:22 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

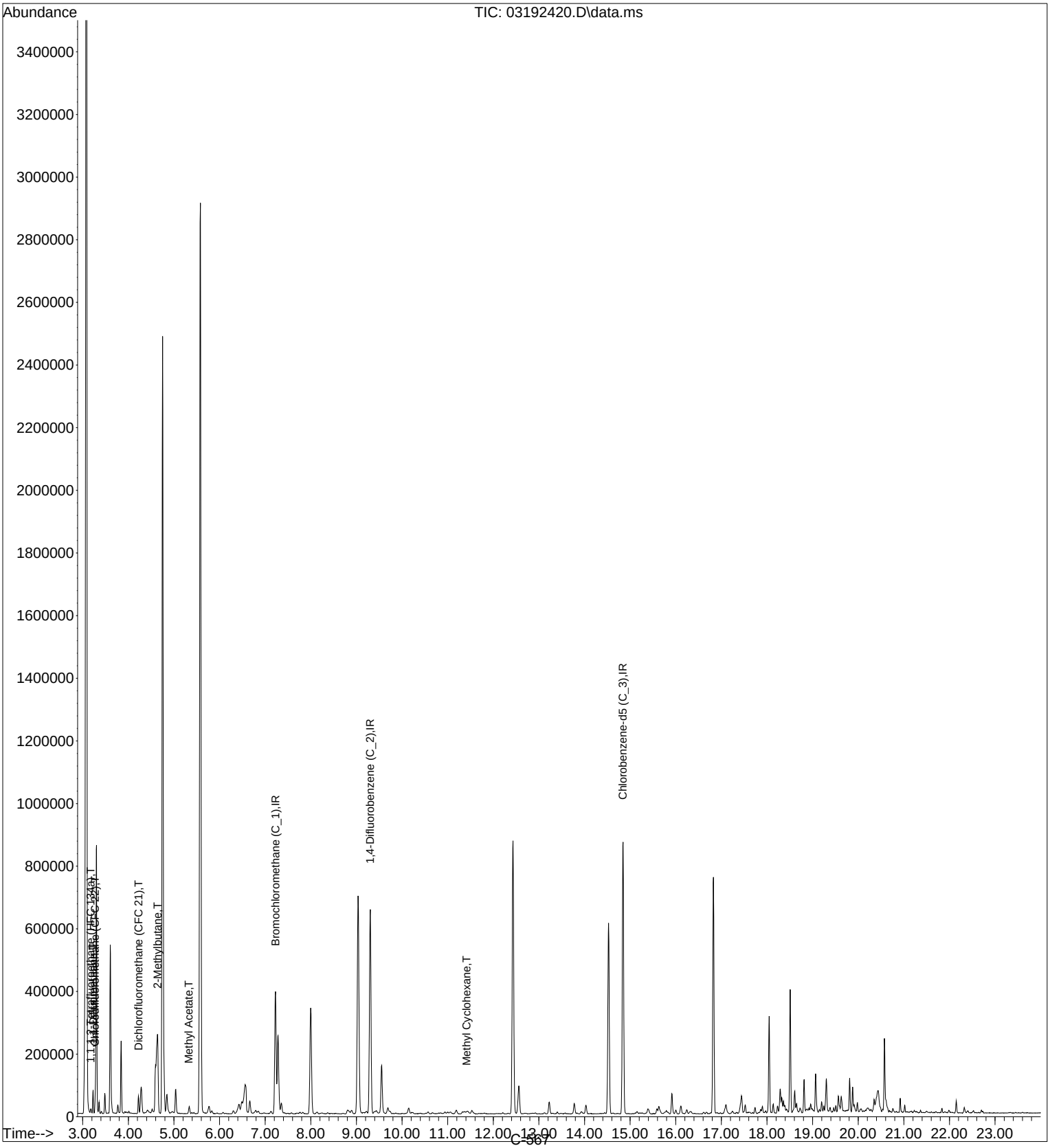
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	148643	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	643161	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	144472	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	230	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	5946	0.435	ng	#	10
4) 1,1-Difluoroethane	3.23	65	19133	1.699	ng	#	65
5) Chlorodifluoromethane ...	3.27	67	3788	0.868	ng		89
6) 1-Chloro-1,1-Difluoroe...	3.49	65	748	N.D.			
7) Dichlorofluoromethane ...	4.22	67	42168	1.454	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d		
10) 2-Methylbutane	4.64	57	47287	3.176	ng	#	81
11) Methyl Acetate	5.32	43	6192	0.162	ng	#	73
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.	d		
17) 2,3-Dimethylpentane	9.52	56	2572	N.D.			
18) Dibromomethane	9.80	174	236	N.D.			
20) Methyl Cyclohexane	11.42	55	3846	0.169	ng	#	85
21) 1,3-Dichloropropane	12.56	76	206	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	481	N.D.			
25) Bromobenzene	0.00	77	0	N.D.	d		
26) 2-Chlorotoluene	17.62	91	706	N.D.			
27) 4-Chlorotoluene	17.72	91	69	N.D.			
28) Indane	19.12	117	341	N.D.			
29) Indene	19.25	115	51	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	1234	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	1234	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	2548	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

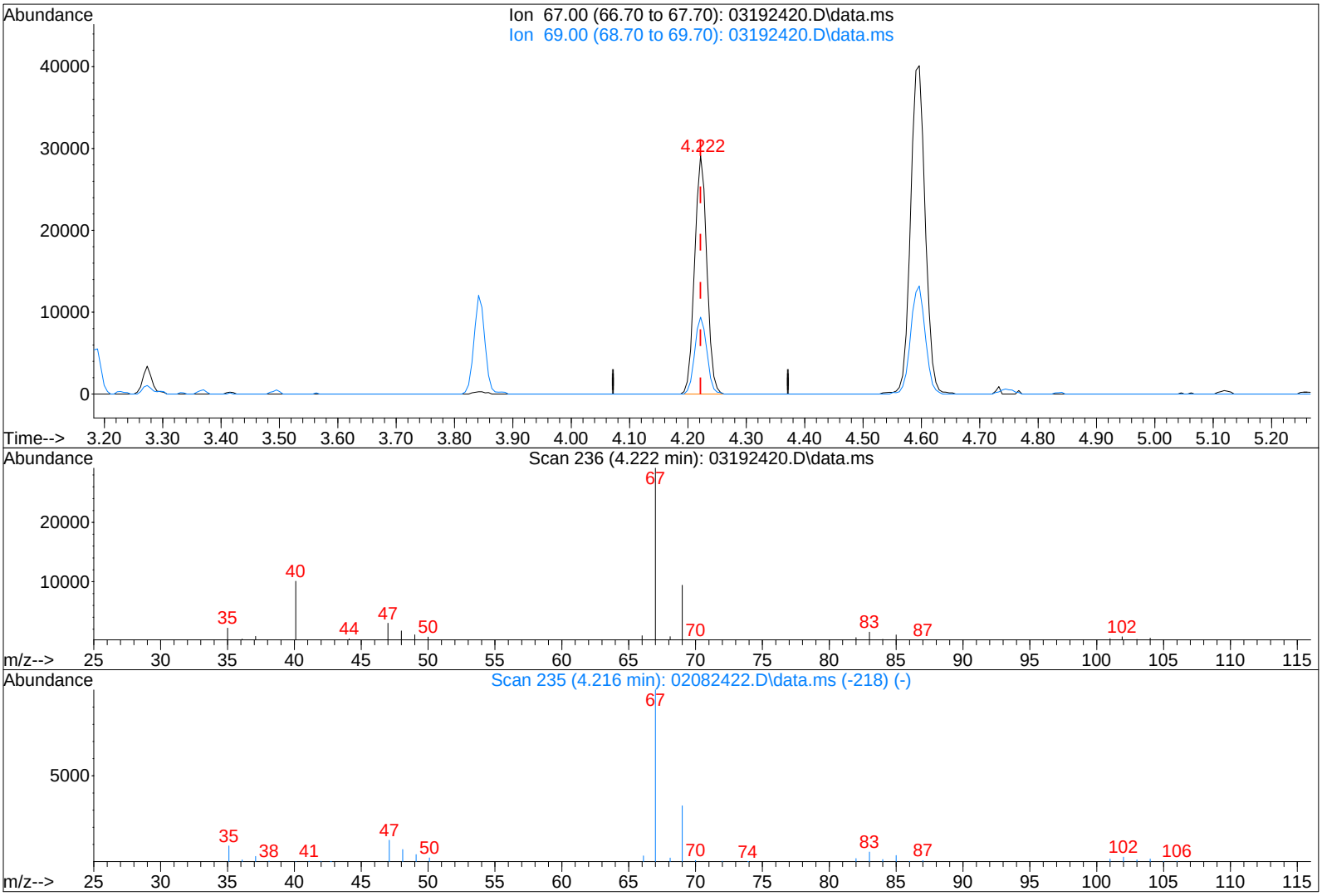
Quant Time: Mar 21 10:01:22 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192420.D Vial: 9
Acq On : 19 Mar 2024 20:23 Operator: SC
Sample : P2400922-006 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:00:33 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192420.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 1.45ng

response 42168

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.07
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 20:23
Operator : SC
Sample : P2400922-006 (400mL)
Misc : S37-02202408
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192420.D\data.ms

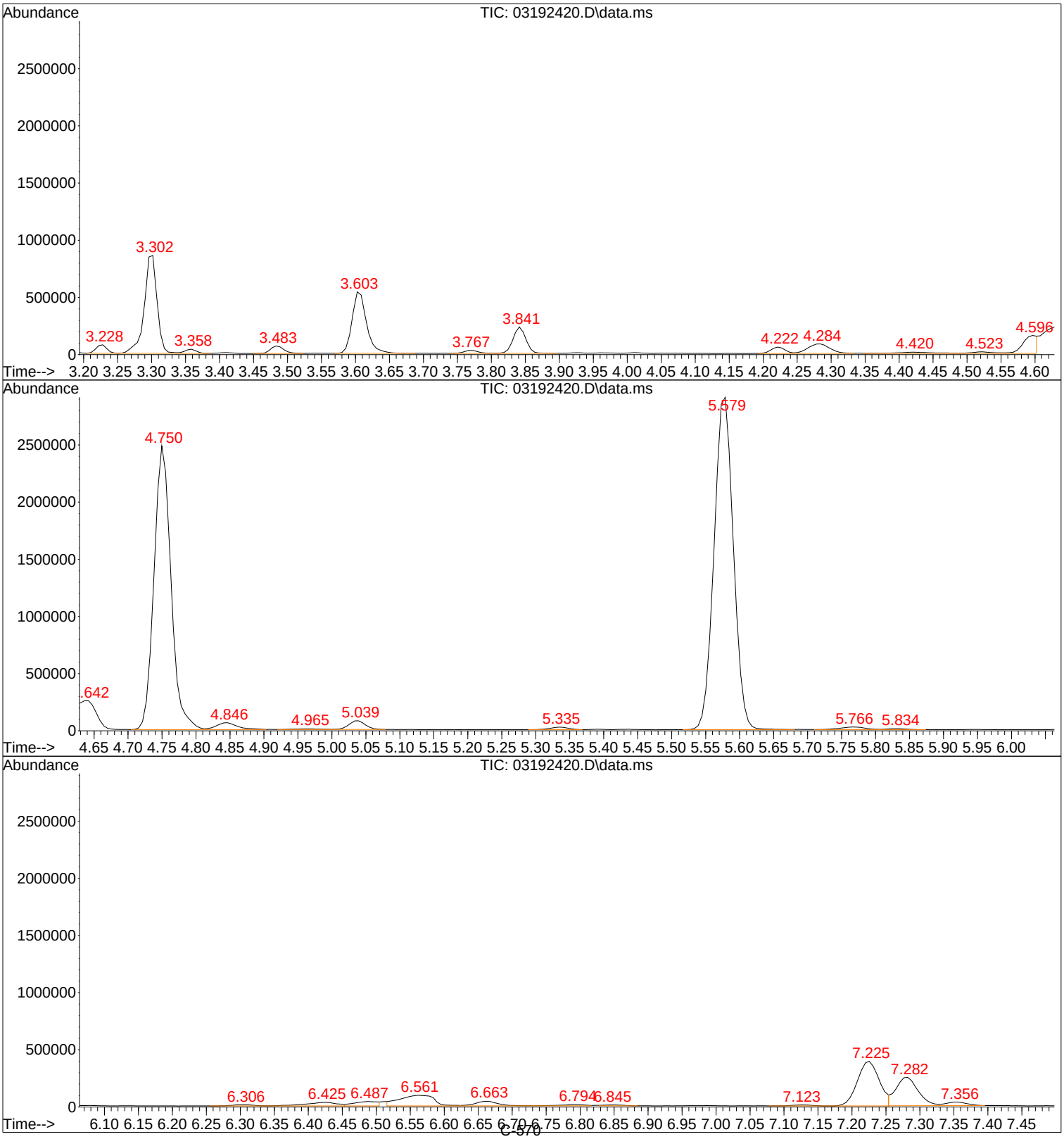
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	57	61	65	rBV	73089	81393	1.42%	0.498%
2	3.302	65	74	80	rVV	855289	1127776	19.67%	6.903%
3	3.359	80	84	89	rVB	36241	43164	0.75%	0.264%
4	3.483	100	106	113	rBV3	65318	88018	1.53%	0.539%
5	3.603	121	127	142	rBV2	537344	788508	13.75%	4.827%
6	3.767	151	156	163	rBV	26445	38920	0.68%	0.238%
7	3.841	163	169	179	rVB	230683	300886	5.25%	1.842%
8	4.222	231	236	240	rBV	55534	79148	1.38%	0.484%
9	4.284	240	247	256	rVV2	83467	186285	3.25%	1.140%
10	4.420	258	271	283	rVV4	10834	41280	0.72%	0.253%
11	4.523	283	289	295	rVV	14056	29898	0.52%	0.183%
12	4.596	295	302	303	rVV	157059	228783	3.99%	1.400%
13	4.642	303	310	321	rVV2	251979	678582	11.83%	4.154%
14	4.750	321	329	340	rVV	2480482	4304462	75.07%	26.349%
15	4.846	340	346	356	rVV2	59776	128234	2.24%	0.785%
16	4.965	359	367	373	rVV6	5296	15550	0.27%	0.095%
17	5.039	373	380	387	rVB	75842	129817	2.26%	0.795%
18	5.335	424	432	438	rVB2	22406	41037	0.72%	0.251%
19	5.579	464	475	493	rBV	2907117	5734110	100.00%	35.100%
20	5.766	498	508	515	rVV2	23285	62709	1.09%	0.384%
21	5.834	515	520	527	rVB4	9027	18299	0.32%	0.112%
22	6.306	594	603	609	rBV2	9502	22690	0.40%	0.139%
23	6.425	609	624	629	rVV3	30221	102012	1.78%	0.624%
24	6.487	629	635	638	rVV3	38004	93982	1.64%	0.575%
25	6.561	640	648	659	rVV3	92715	324167	5.65%	1.984%
26	6.663	659	666	678	rVV	39874	91006	1.59%	0.557%
27	6.794	678	689	693	rVV3	9903	26446	0.46%	0.162%
28	6.845	695	698	705	rVB4	7314	13878	0.24%	0.085%
29	7.123	739	747	755	rVB4	7763	17049	0.30%	0.104%
30	7.225	755	765	770	rBV	389907	880803	15.36%	5.392%
31	7.282	770	775	783	rVV	246999	551465	9.62%	3.376%
32	7.356	783	788	795	rVB	31226	66204	1.15%	0.405%

Sum of corrected areas: 16336561

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 20:23
Operator : SC
Sample : P2400922-006 (400mL)
Misc : S37-02202408
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 20:23
Operator : SC
Sample : P2400922-006 (400mL)
Misc : S37-02202408
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

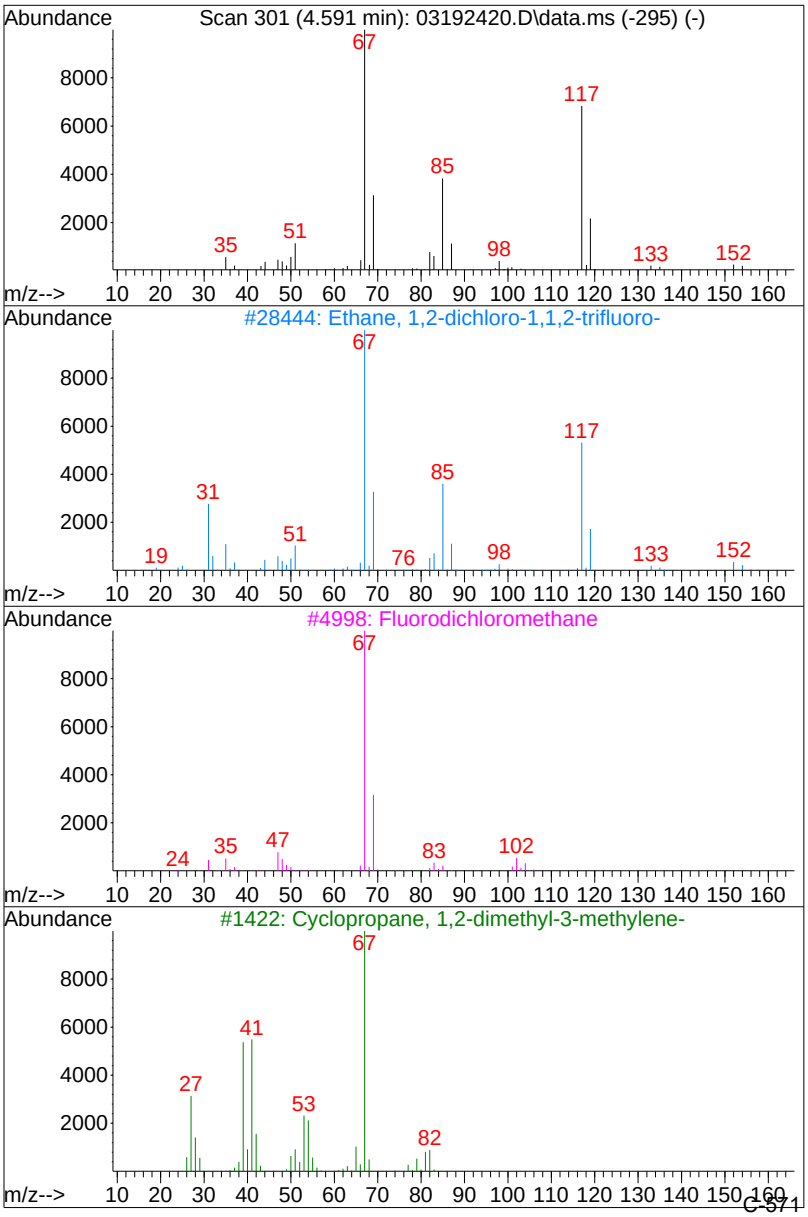
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

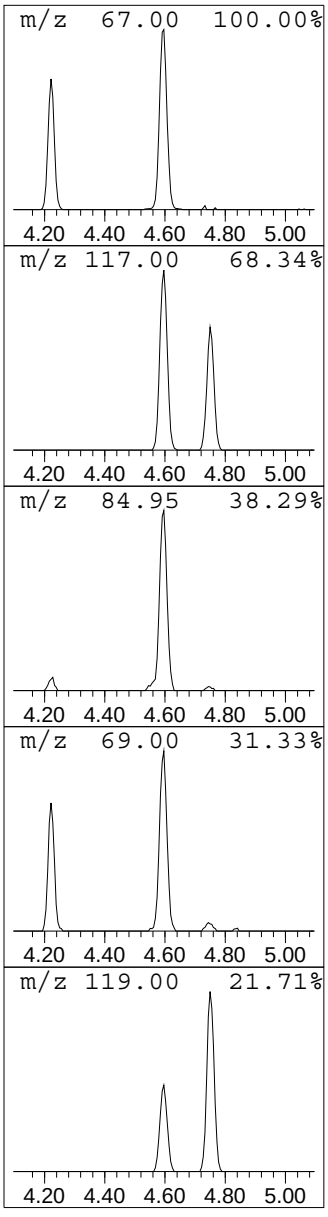
****

Peak Number 5 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.596	3.26 ng	229427	Bromochloromethane (IS1)	7.225

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
4	Fluorodichloromethane	102	CHCl2F	000075-43-4	16
5	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9





C-871

Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 20:23
Operator : SC
Sample : P2400922-006 (400mL)
Misc : S37-02202408
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.596	3.3	ng	229427	1	7.225	880803	12.5

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

3/20/24

Quant Time: Mar 20 14:02:33 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	149353	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	642862	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	145344	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	310085	12.691	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	12.43	98	730715	12.521	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	16.83	174	260363	12.655	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	3.28	42	26904m	1.582	ng		
3) Dichlorodifluoromethan...	3.35	85	21166	0.691	ng		100
4) Chloromethane	3.48	50	3466	0.152	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	347	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.80	54	333	N.D.			
8) Bromomethane	4.01	94	301	N.D.			
9) Chloroethane	4.15	64	201	N.D.			
10) Ethanol	4.30	45	411543	28.514	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.52	56	3624	0.350	ng		95
13) Acetone	4.61	58	93865	8.545	ng	#	67
14) Trichlorofluoromethane	4.74	101	129218	4.358	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	234904	5.370	ng		94
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.34	84	11663	0.730	ng		99
20) 3-Chloro-1-propene (Al...	5.48	41	183	N.D.			
21) Trichlorotrifluoroethane	5.58	151	70742	5.660	ng		98
22) Carbon Disulfide	5.60	76	31975	0.643	ng		81
23) trans-1,2-Dichloroethene	6.13	61	1762	0.080	ng		90
24) 1,1-Dichloroethane	6.32	63	624	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	180	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	22162	2.468	ng		96
28) cis-1,2-Dichloroethene	7.08	61	510	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	339515	63.001	ng		95
31) n-Hexane	7.30	57	13092	0.564	ng		94
32) Chloroform	7.37	83	10443	0.403	ng		99
34) Tetrahydrofuran (THF)	7.75	72	5559	0.684	ng		94
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	1303	0.054	ng		78
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	665	No Calib		#	
40) 1-Butanol	8.80	56	8206	No Calib		#	
41) Benzene	8.89	78	30959	0.535	ng		99
42) Carbon Tetrachloride	9.07	117	1211	0.053	ng		98
43) Cyclohexane	9.22	84	13740	0.751	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.87	63	2457	0.174	ng		97
46) Bromodichloromethane	10.08	83	692	N.D.			
47) Trichloroethene	10.15	130	981	0.063	ng		95
48) 1,4-Dioxane	10.13	88	1970	0.195	ng		88
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	10.40	100	137	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:02:33 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

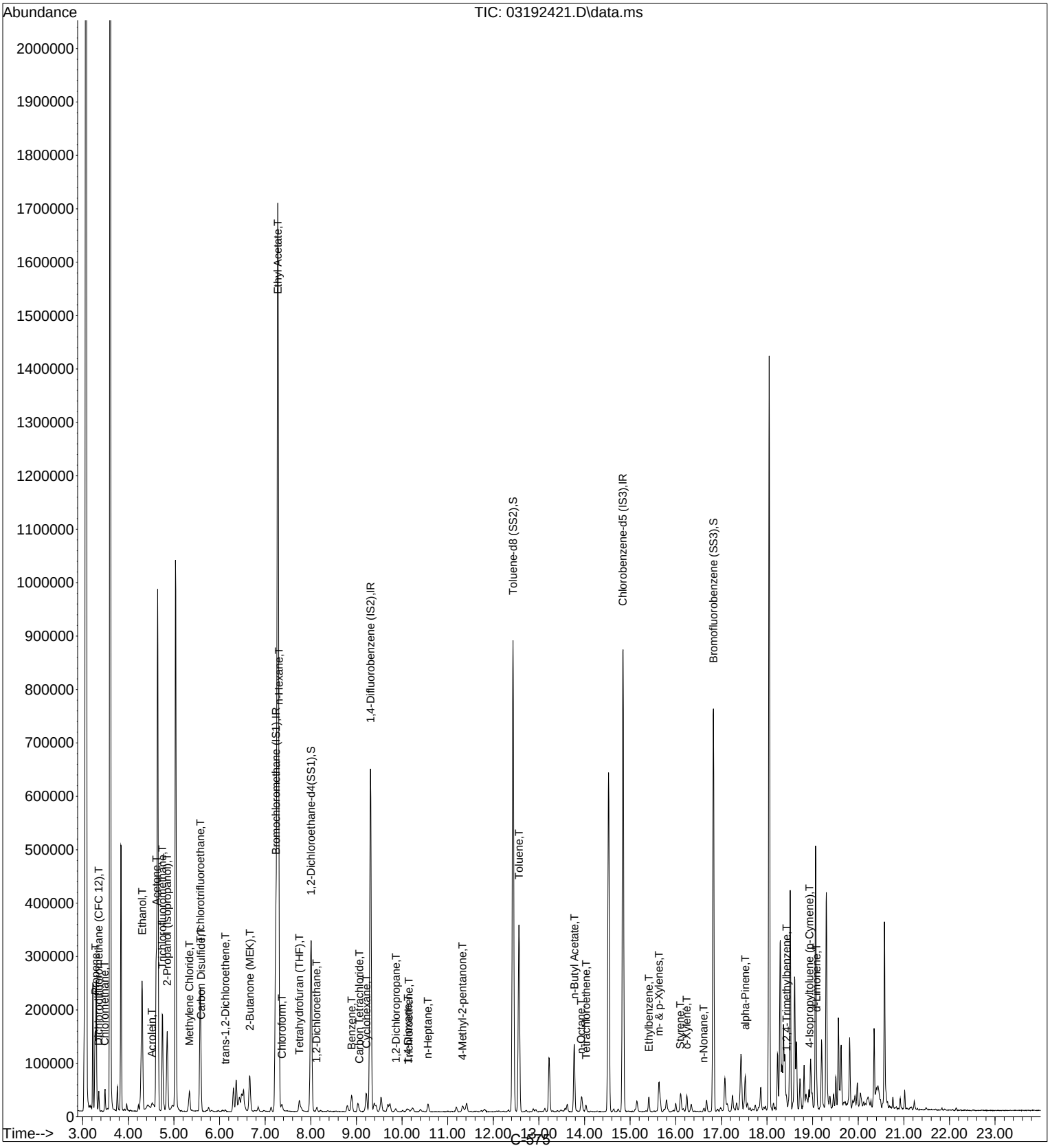
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.56	71	3753	0.303 ng	96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	4695	0.378 ng	96
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	310499	5.574 ng	99
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	13.07	129	358	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	118405	3.305 ng	100
63) n-Octane	13.93	57	2956	0.251 ng	98
64) Tetrachloroethene	14.03	166	4509	0.263 ng	95
65) Chlorobenzene	14.90	112	802	N.D.	
66) Ethylbenzene	15.41	91	23794	0.373 ng	97
67) m- & p-Xylenes	15.63	91	50632	0.957 ng	98
68) Bromoform	15.67	173	536	N.D.	
69) Styrene	16.10	104	14020	0.387 ng	98
70) o-Xylene	16.24	91	20403	0.391 ng	99
71) n-Nonane	16.61	43	3594	0.120 ng	91
72) 1,1,2,2-Tetrachloroethane	16.21	83	416	N.D.	
74) Cumene	17.04	105	2302	N.D.	
75) alpha-Pinene	17.53	93	26241	0.832 ng	100
76) n-Propylbenzene	17.68	91	3205	N.D.	
77) 3-Ethyltoluene	17.04	105	2302	No Calib	
78) 4-Ethyltoluene	17.86	105	2548	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	2134	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	2302	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	5356	0.096 ng	93
83) n-Decane	17.08	58	1977	No Calib #	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.57	146	789	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	821	N.D.	
87) sec-Butylbenzene	18.74	105	1277	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	3235	0.053 ng	88
89) 1,2,3-Trimethylbenzene	17.04	105	2302	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	443	N.D.	
91) d-Limonene	19.09	68	9592	0.492 ng	93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.86	58	927	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	937	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	18.92	58	694	No Calib #	
97) Hexachlorobutadiene	21.30	225	543	N.D.	
98) Cyclohexanone	15.52	55	703	No Calib #	
99) tert-Butylbenzene	18.43	119	1470	N.D.	
100) n-Butylbenzene	19.38	91	2097	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:02:33 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:02:33 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

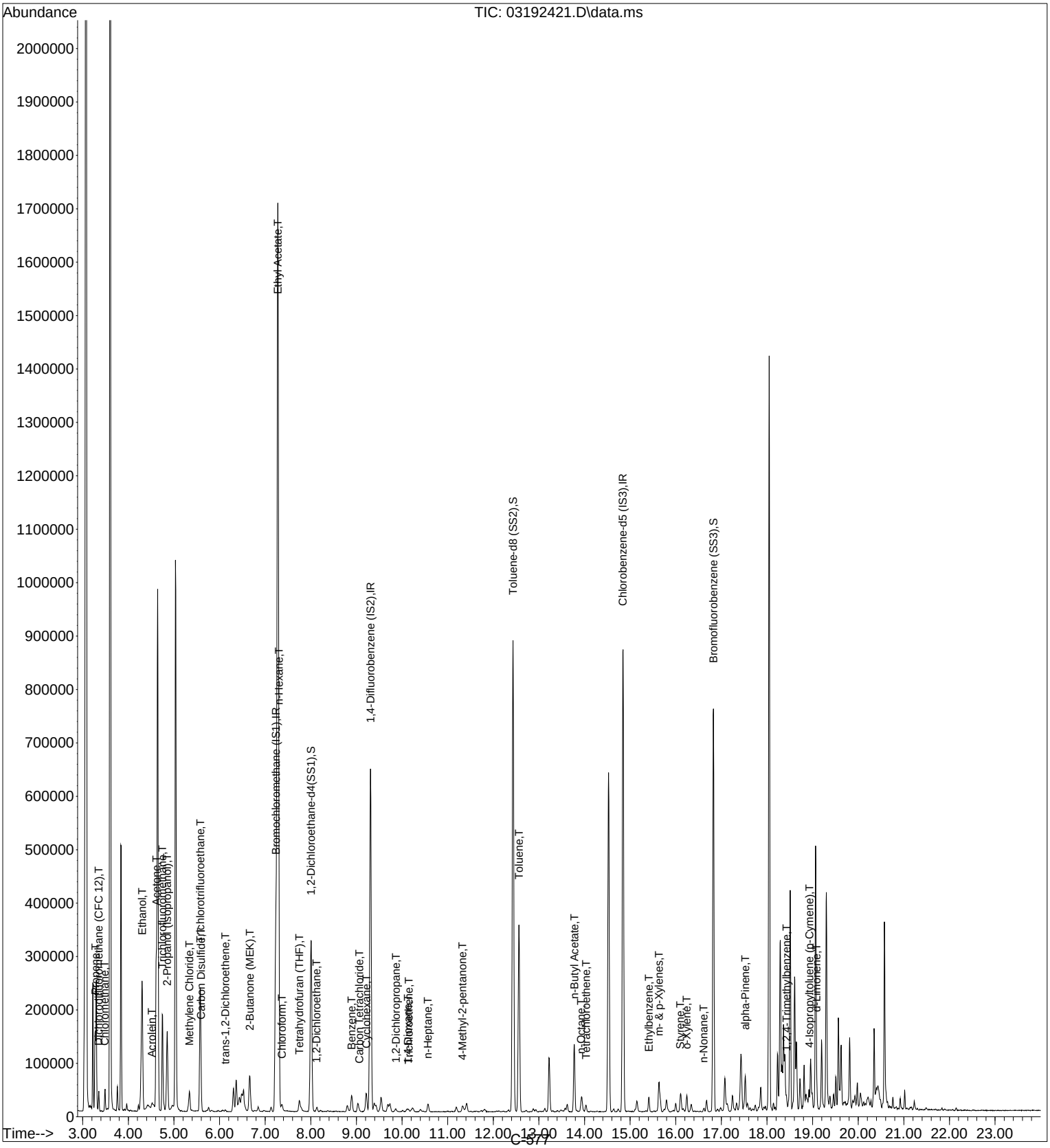
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	149353	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	642862	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	145344	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	310085	12.691	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%				
57) Toluene-d8 (SS2)	12.43	98	730715	12.521	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	16.83	174	260363	12.655	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	3.28	42	26904m	1.582	ng		
3) Dichlorodifluoromethan...	3.35	85	21166	0.691	ng		100
4) Chloromethane	3.48	50	3466	0.152	ng		97
10) Ethanol	4.30	45	411543	28.514	ng		100
12) Acrolein	4.52	56	3624	0.350	ng		95
13) Acetone	4.61	58	93865	8.545	ng	#	67
14) Trichlorofluoromethane	4.74	101	129218	4.358	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	234904	5.370	ng		94
19) Methylene Chloride	5.34	84	11663	0.730	ng		99
21) Trichlorotrifluoroethane	5.58	151	70742	5.660	ng		98
22) Carbon Disulfide	5.60	76	31975	0.643	ng		81
23) trans-1,2-Dichloroethene	6.13	61	1762	0.080	ng		90
27) 2-Butanone (MEK)	6.66	72	22162	2.468	ng		96
30) Ethyl Acetate	7.28	61	339515	63.001	ng		95
31) n-Hexane	7.30	57	13092	0.564	ng		94
32) Chloroform	7.37	83	10443	0.403	ng		99
34) Tetrahydrofuran (THF)	7.75	72	5559	0.684	ng		94
36) 1,2-Dichloroethane	8.12	62	1303	0.054	ng		78
41) Benzene	8.89	78	30959	0.535	ng		99
42) Carbon Tetrachloride	9.07	117	1211	0.053	ng		98
43) Cyclohexane	9.22	84	13740	0.751	ng		99
45) 1,2-Dichloropropane	9.87	63	2457	0.174	ng		97
47) Trichloroethene	10.15	130	981	0.063	ng		95
48) 1,4-Dioxane	10.13	88	1970	0.195	ng		88
51) n-Heptane	10.56	71	3753	0.303	ng		96
53) 4-Methyl-2-pentanone	11.33	58	4695	0.378	ng		96
58) Toluene	12.56	91	310499	5.574	ng		99
62) n-Butyl Acetate	13.78	43	118405	3.305	ng		100
63) n-Octane	13.93	57	2956	0.251	ng		98
64) Tetrachloroethene	14.03	166	4509	0.263	ng		95
66) Ethylbenzene	15.41	91	23794	0.373	ng		97
67) m- & p-Xylenes	15.63	91	50632	0.957	ng		98
69) Styrene	16.10	104	14020	0.387	ng		98
70) o-Xylene	16.24	91	20403	0.391	ng		99
71) n-Nonane	16.61	43	3594	0.120	ng		91
75) alpha-Pinene	17.53	93	26241	0.832	ng		100
82) 1,2,4-Trimethylbenzene	18.43	105	5356	0.096	ng		93
88) 4-Isopropyltoluene (p-...	18.93	119	3235	0.053	ng		88
91) d-Limonene	19.09	68	9592	0.492	ng		93

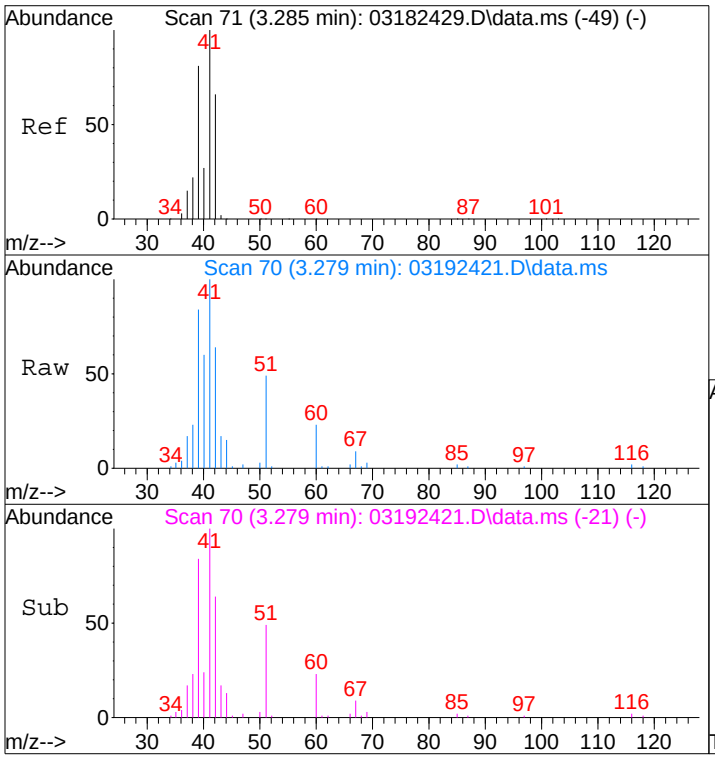
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:02:33 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

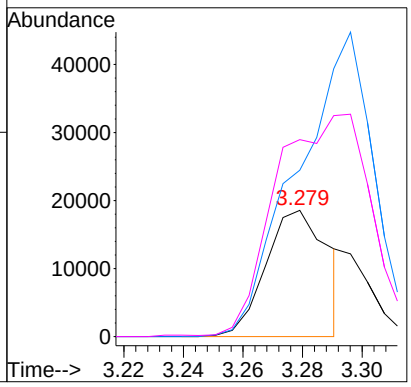


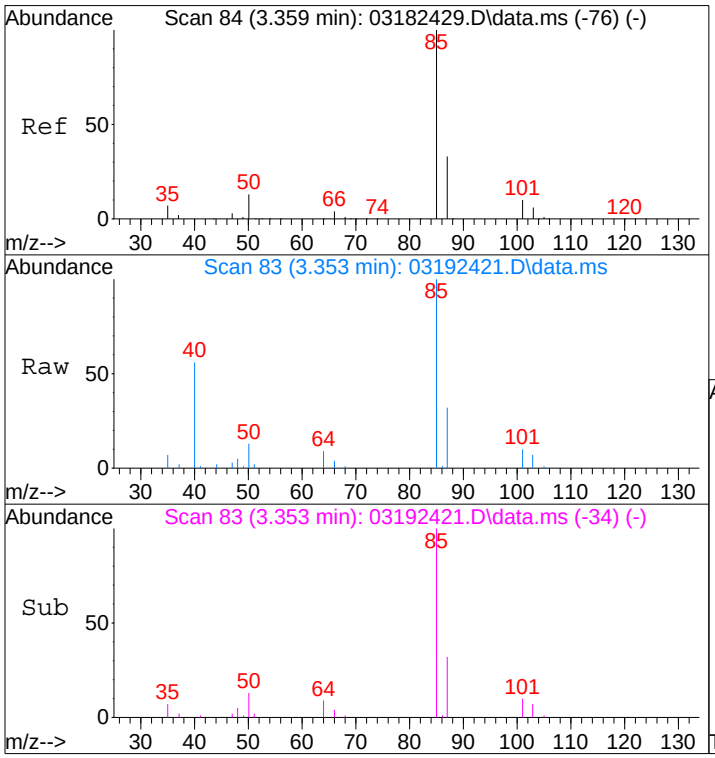


#2
Propene
Concen: 1.58 ng m
RT: 3.28 min Scan# 70
Delta R.T. 0.030 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 42 Resp: 26904

Ion	Ratio	Lower	Upper
42	100		
39	293.6	102.3	142.3#
41	269.8	133.8	173.8#

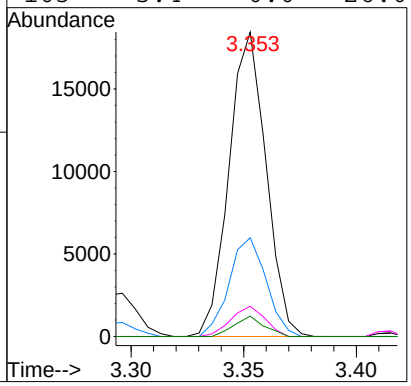


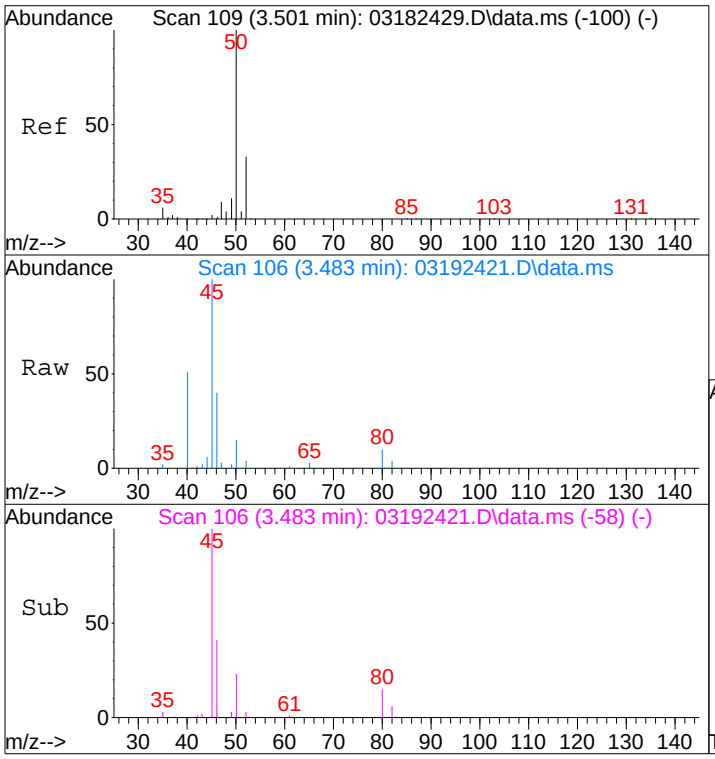


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.69 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.031 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 85 Resp: 21166

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.5	52.5
101	9.2	0.0	29.2
103	5.4	0.0	26.0

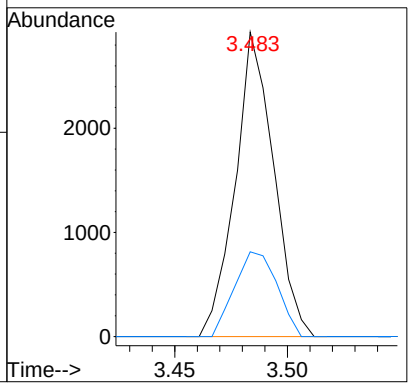


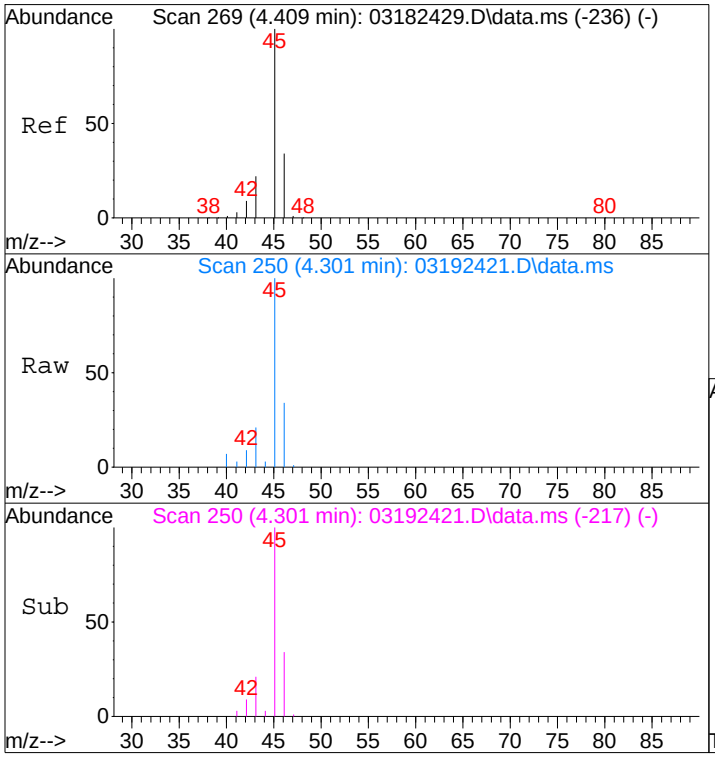


#4
Chloromethane
Concen: 0.15 ng
RT: 3.48 min Scan# 106
Delta R.T. 0.021 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 50 Resp: 3466

Ion	Ratio	Lower	Upper
50	100		
52	30.9	12.3	52.3

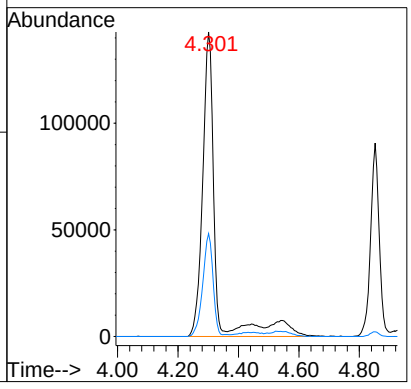


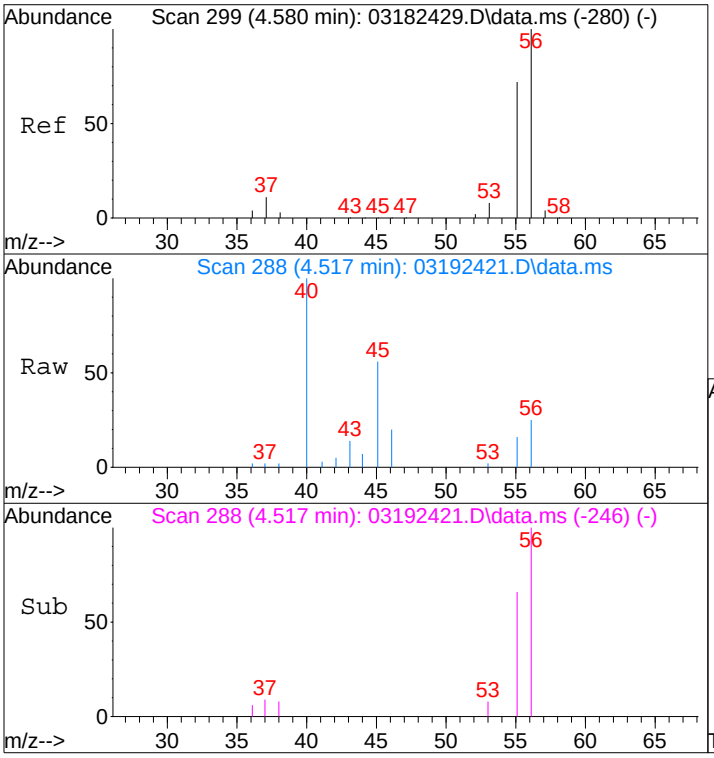


#10
Ethanol
Concen: 28.51 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.060 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 45 Resp: 411543

Ion	Ratio	Lower	Upper
45	100		
46	33.4	13.3	53.3

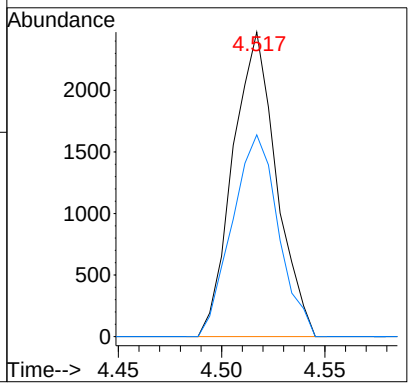


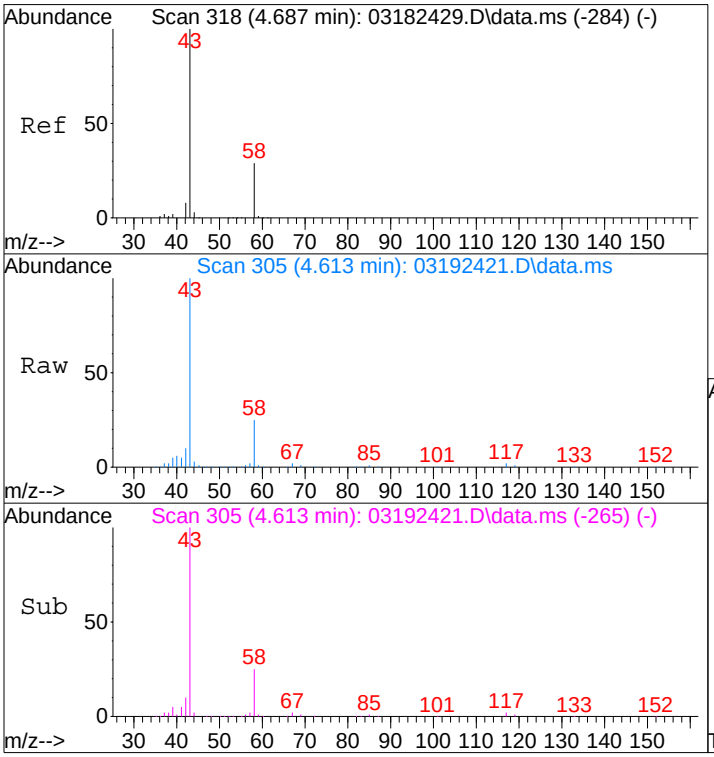


#12
Acrolein
Concen: 0.35 ng
RT: 4.52 min Scan# 288
Delta R.T. -0.013 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 56 Resp: 3624

Ion	Ratio	Lower	Upper
56	100		
55	70.4	54.9	94.9

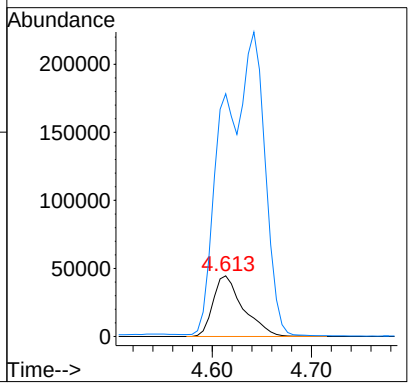


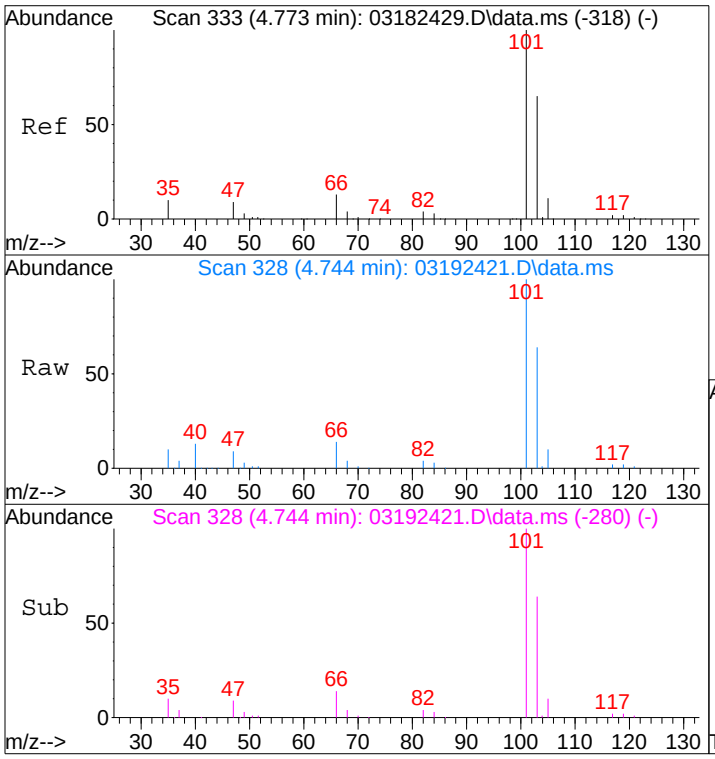


#13
Acetone
Concen: 8.55 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.023 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 58 Resp: 93865

Ion	Ratio	Lower	Upper
58	100		
43	305.4	350.1	410.1#

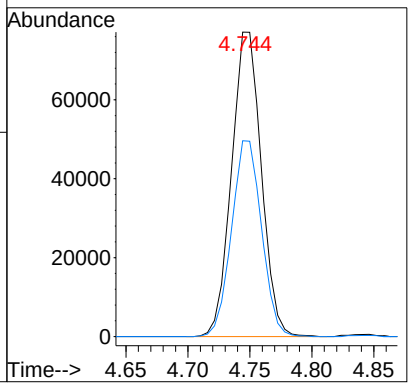


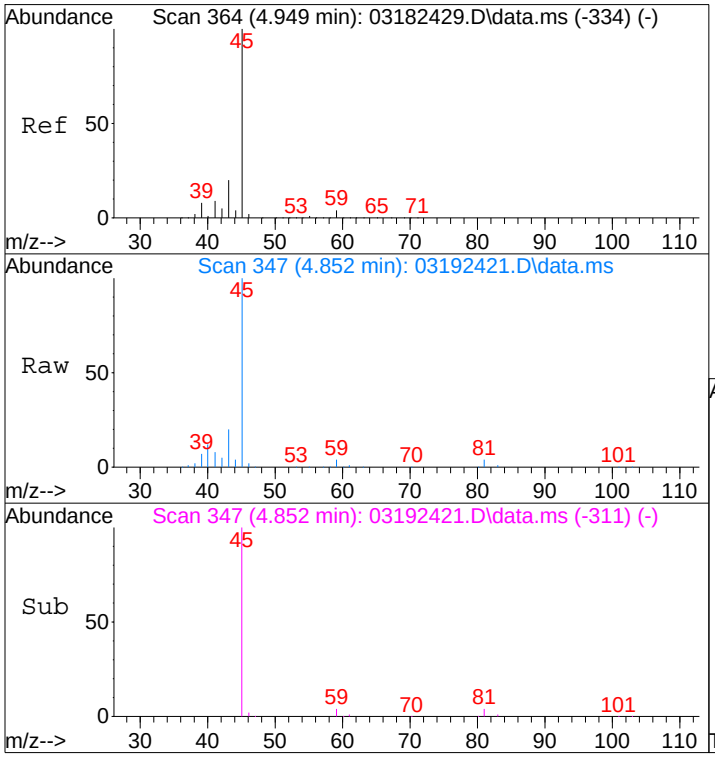


#14
Trichlorofluoromethane
Concen: 4.36 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.023 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:101 Resp: 129218

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

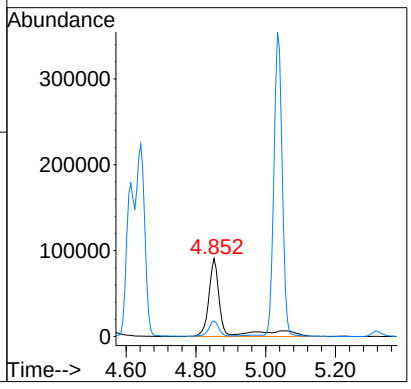


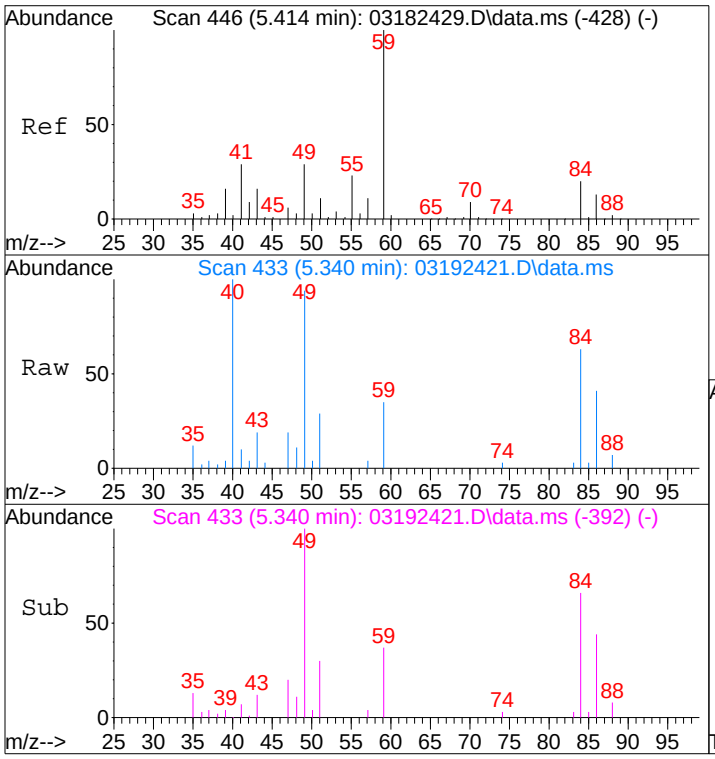


#15
2-Propanol (Isopropanol)
Concen: 5.37 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.043 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 45 Resp: 234904

Ion	Ratio	Lower	Upper
45	100		
43	17.5	0.4	40.4

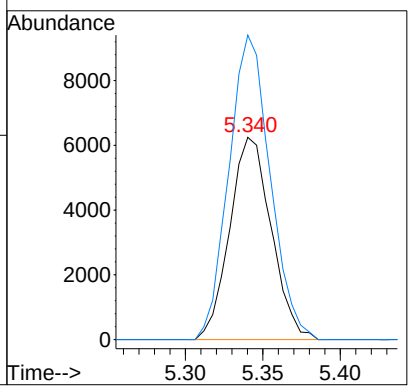


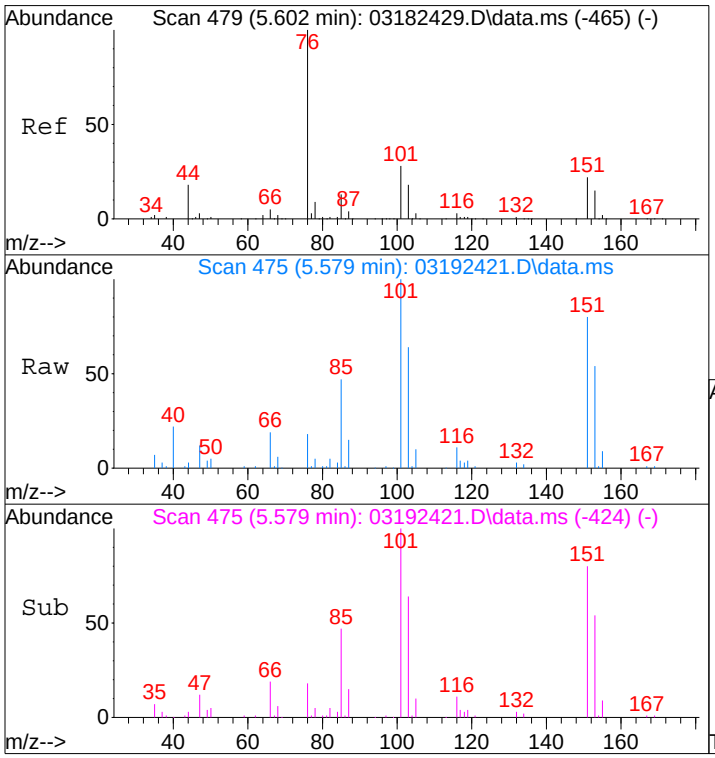


#19
Methylene Chloride
Concen: 0.73 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 84 Resp: 11663

Ion	Ratio	Lower	Upper
84	100		
49	149.7	122.9	172.9

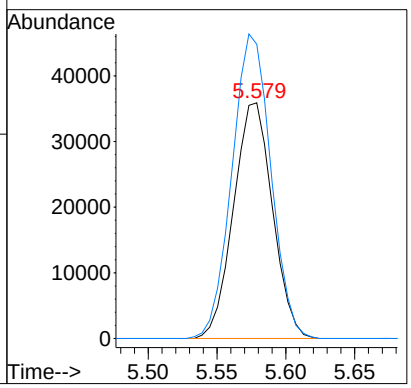


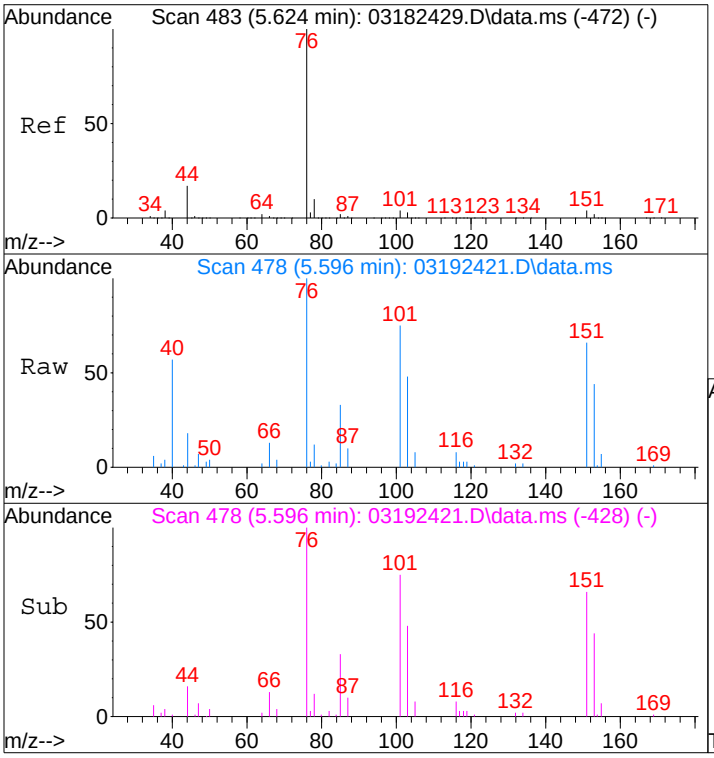


#21
Trichlorotrifluoroethane
Concen: 5.66 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:151 Resp: 70742

Ion	Ratio	Lower	Upper
151	100		
101	129.1	106.4	146.4

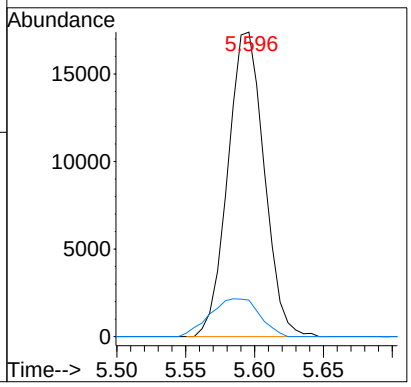


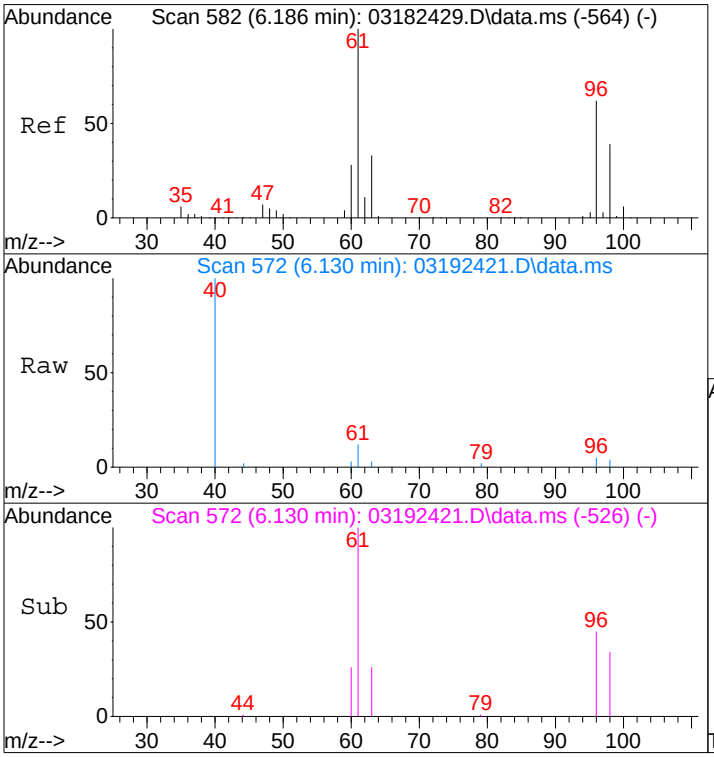


#22
Carbon Disulfide
Concen: 0.64 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 76 Resp: 31975

Ion	Ratio	Lower	Upper
76	100		
78	16.9	0.0	29.8

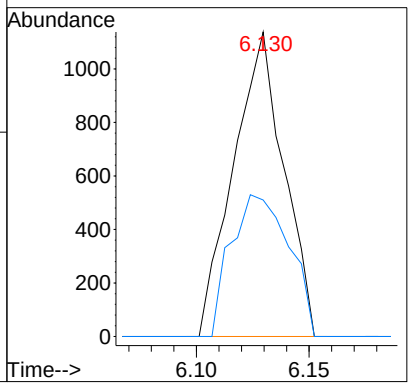


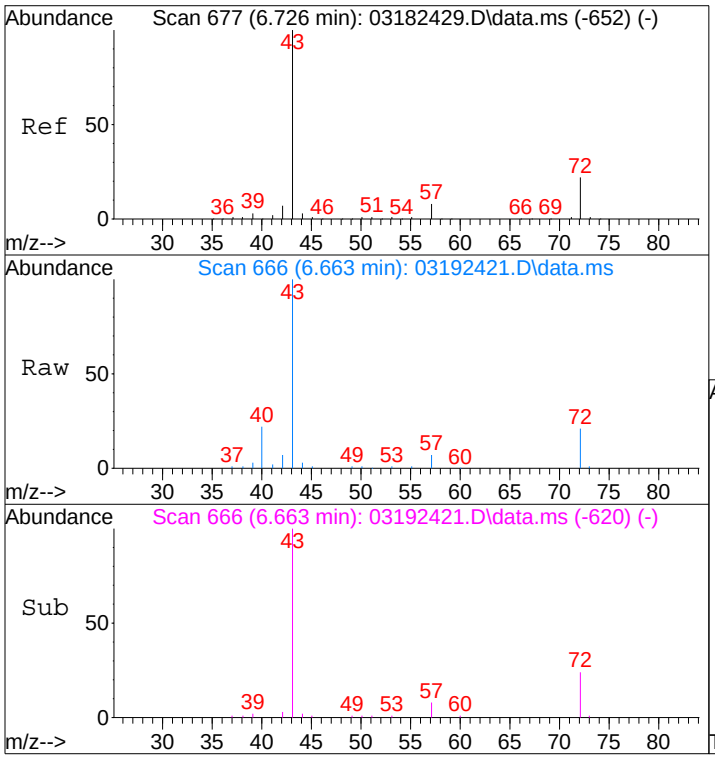


#23
trans-1,2-Dichloroethene
Concen: 0.08 ng
RT: 6.13 min Scan# 572
Delta R.T. 0.010 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 61 Resp: 1762

Ion	Ratio	Lower	Upper
61	100		
96	54.0	41.8	81.8

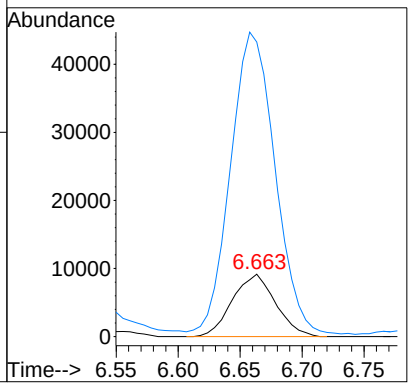


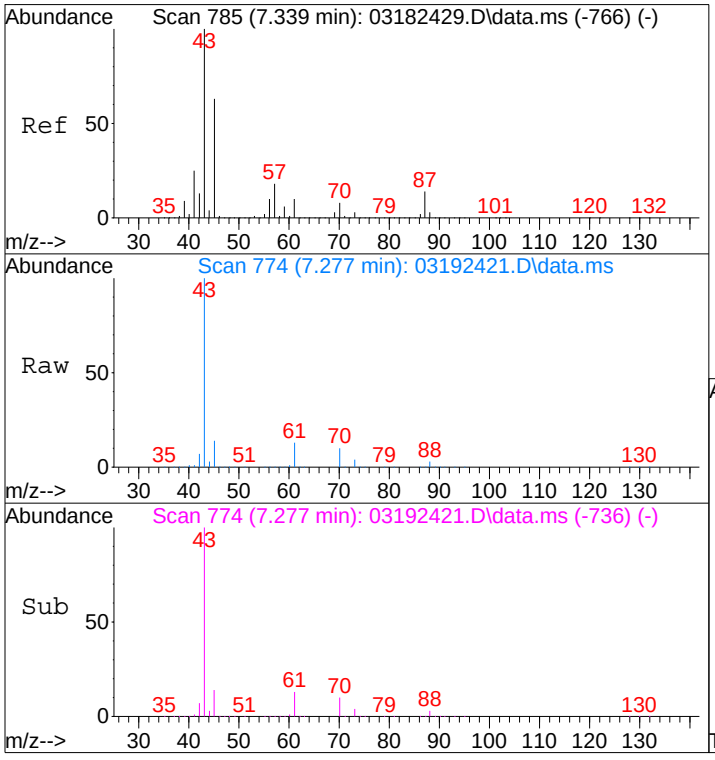


#27
2-Butanone (MEK)
Concen: 2.47 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.011 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 72 Resp: 22162

Ion	Ratio	Lower	Upper
72	100		
43	500.5	468.6	508.6

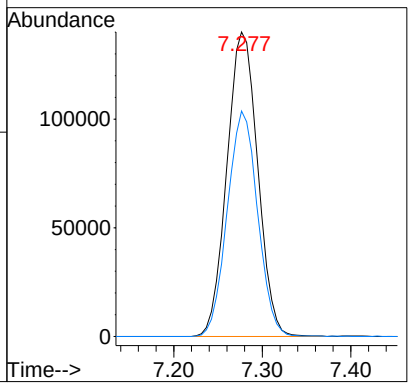


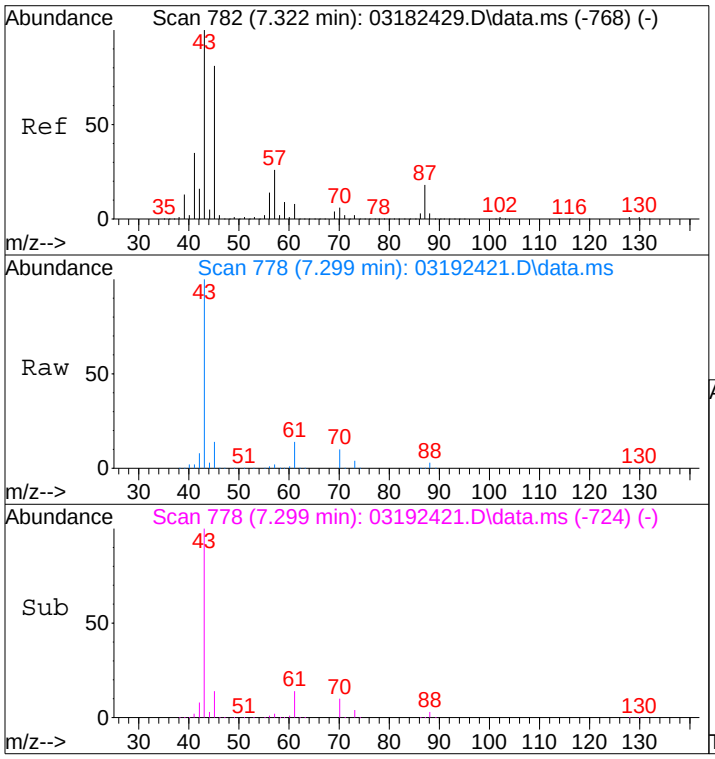


#30
Ethyl Acetate
Concen: 63.00 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 61 Resp: 339515

Ion	Ratio	Lower	Upper
61	100		
70	72.8	57.3	97.3

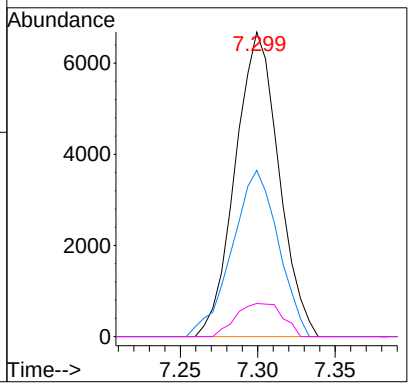


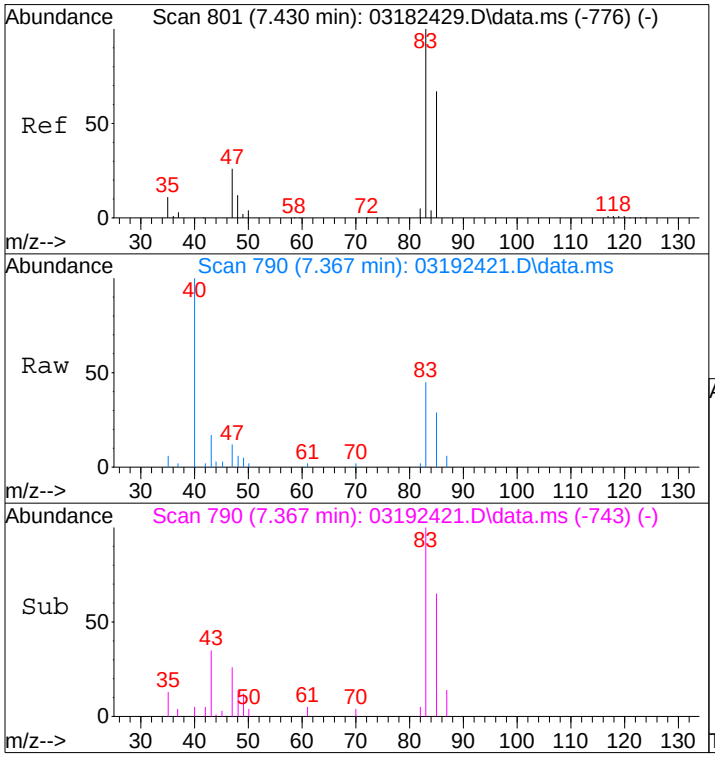


#31
n-Hexane
Concen: 0.56 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 57 Resp: 13092

Ion	Ratio	Lower	Upper
57	100		
56	57.8	42.2	63.4
86	11.7	9.4	14.2

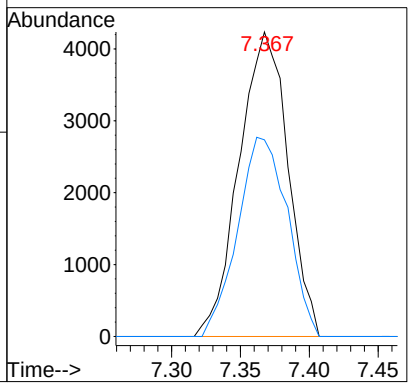


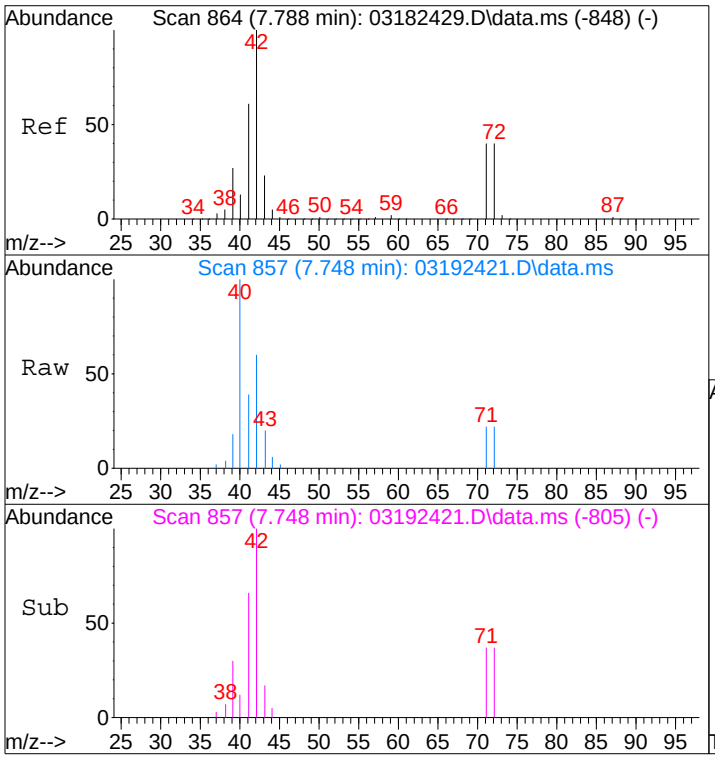


#32
Chloroform
Concen: 0.40 ng
RT: 7.37 min Scan# 790
Delta R.T. 0.018 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 83 Resp: 10443

Ion	Ratio	Lower	Upper
83	100		
85	66.6	46.1	86.1

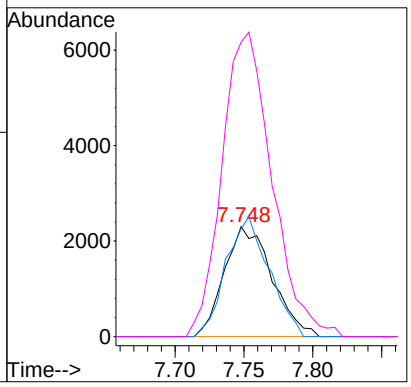


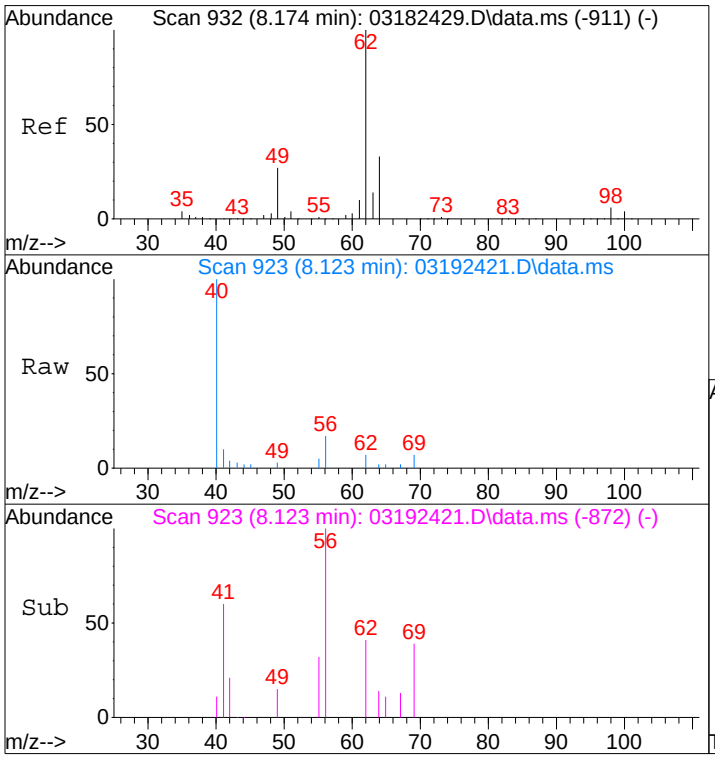


#34
Tetrahydrofuran (THF)
Concen: 0.68 ng
RT: 7.75 min Scan# 857
Delta R.T. 0.045 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 72 Resp: 5559

Ion	Ratio	Lower	Upper
72	100		
71	98.3	80.7	120.7
42	289.5	255.0	295.0

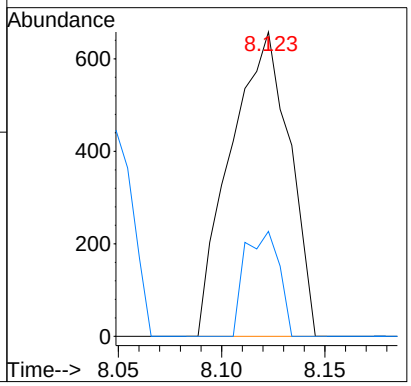


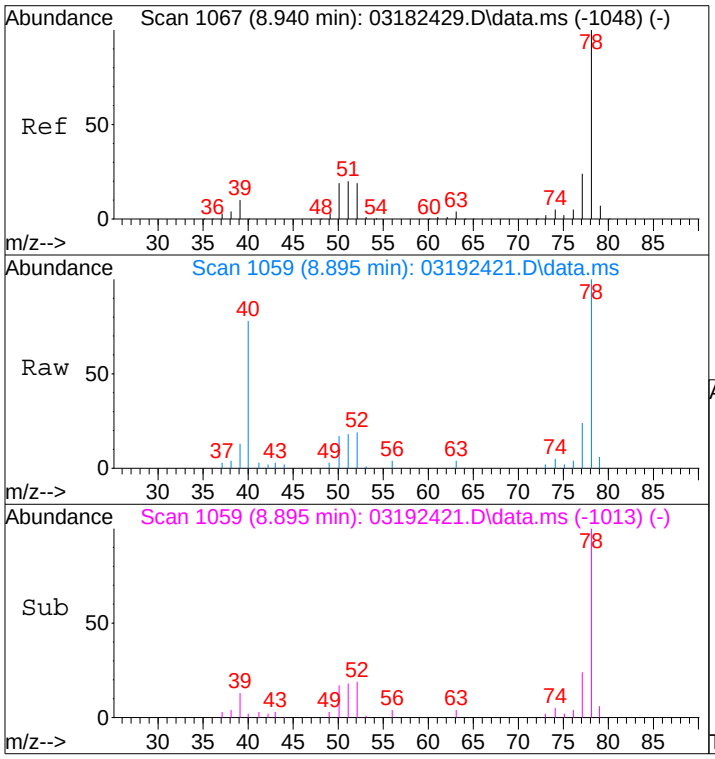


#36
1,2-Dichloroethane
Concen: 0.05 ng
RT: 8.12 min Scan# 923
Delta R.T. 0.038 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 62 Resp: 1303

Ion	Ratio	Lower	Upper
62	100		
64	20.2	12.6	52.6

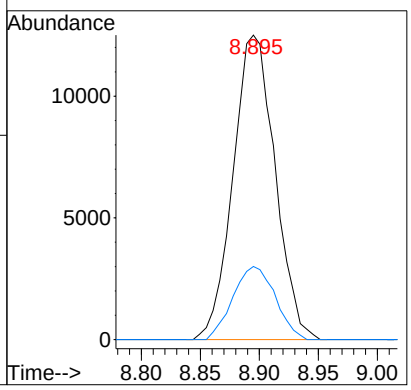


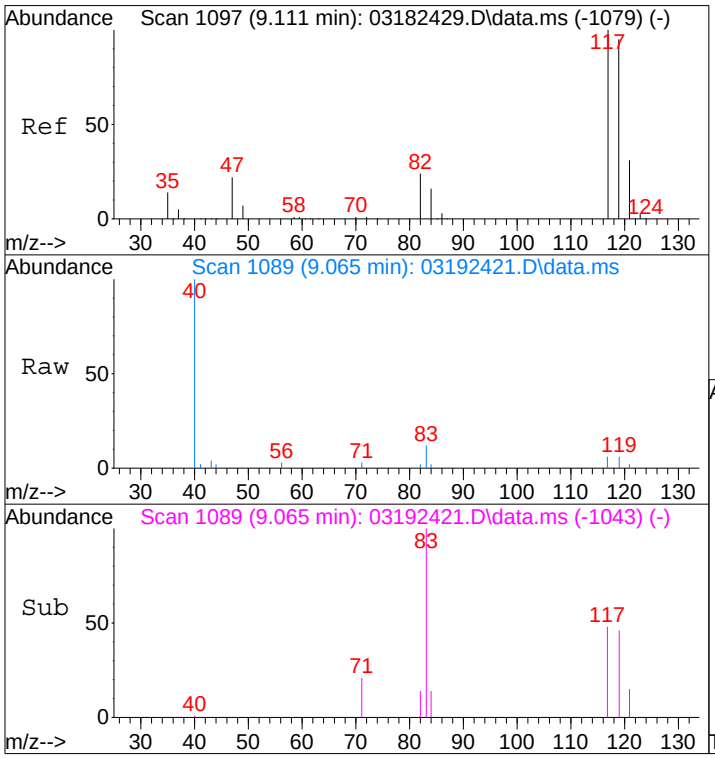


#41
Benzene
Concen: 0.54 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 78 Resp: 30959

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.6	43.6

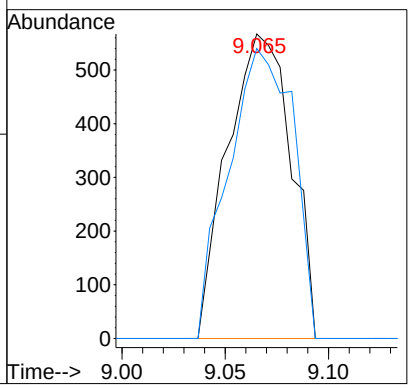


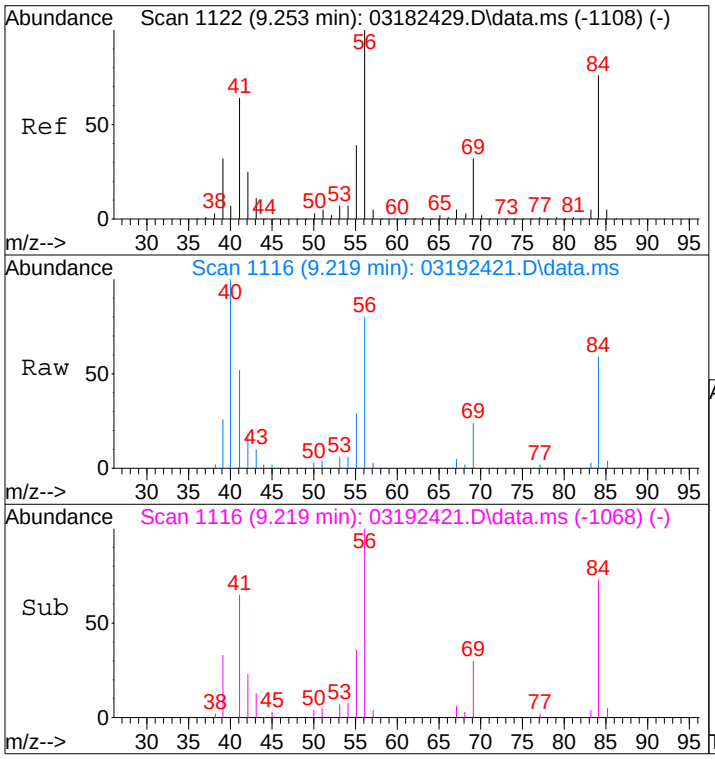


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.010 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:117 Resp: 1211

Ion	Ratio	Lower	Upper
117	100		
119	97.4	75.7	115.7

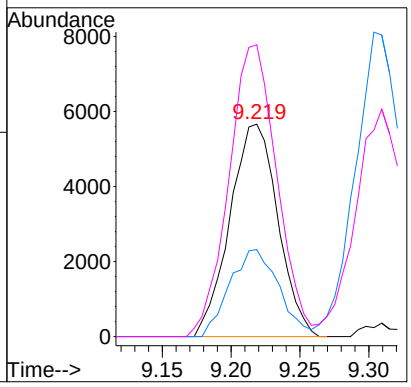


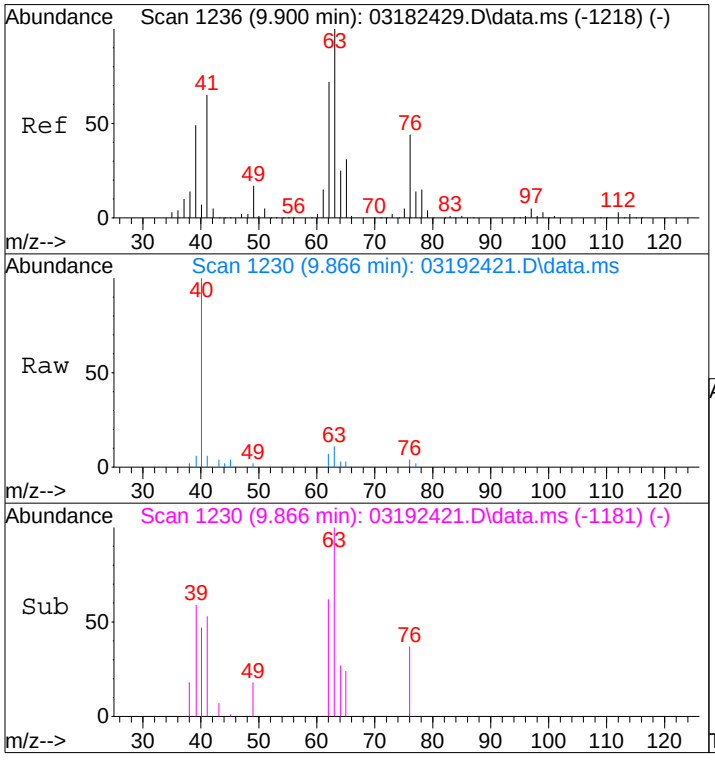


#43
Cyclohexane
Concen: 0.75 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 84 Resp: 13740

Ion	Ratio	Lower	Upper
84	100		
69	41.8	21.3	61.3
56	137.0	115.3	155.3

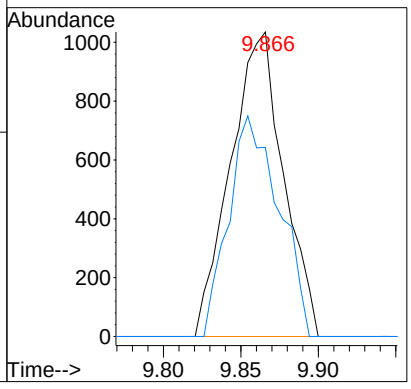


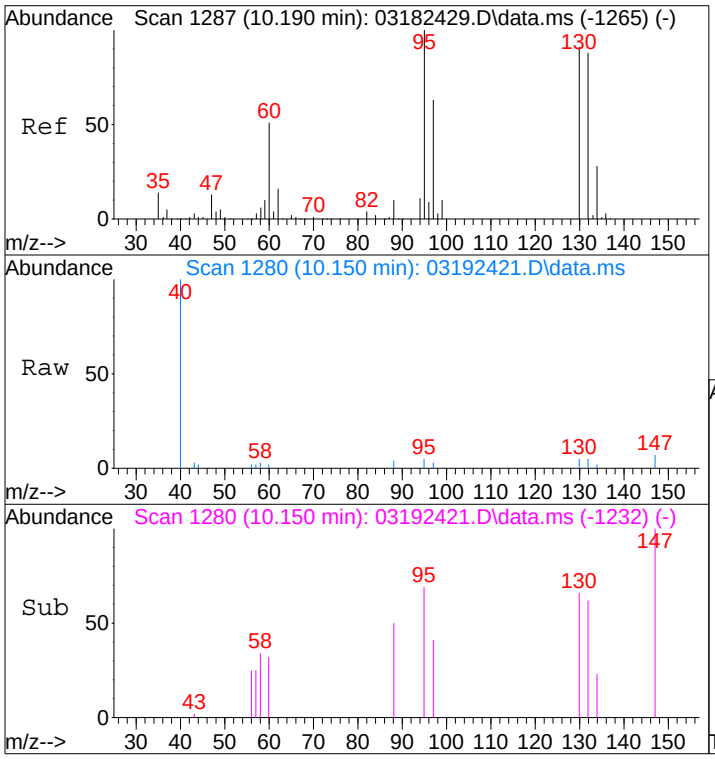


#45
1,2-Dichloropropane
Concen: 0.17 ng
RT: 9.87 min Scan# 1230
Delta R.T. 0.026 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 63 Resp: 2457

Ion	Ratio	Lower	Upper
63	100		
62	68.9	51.8	91.8

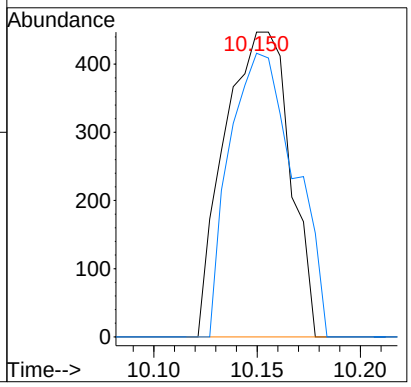


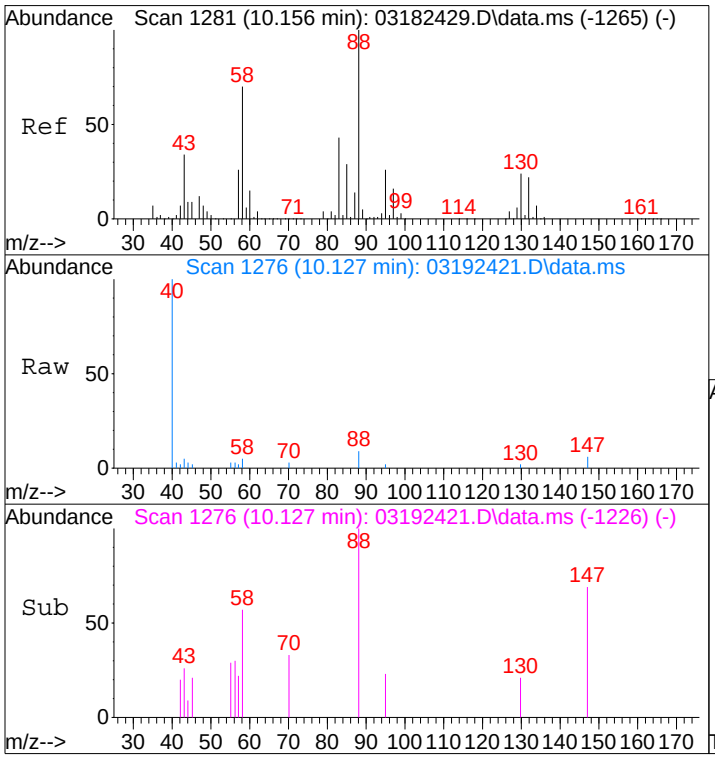


#47
Trichloroethene
Concen: 0.06 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:130 Resp: 981

Ion	Ratio	Lower	Upper
130	100		
132	92.7	77.5	117.5

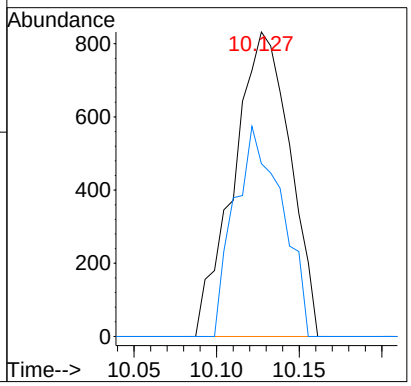


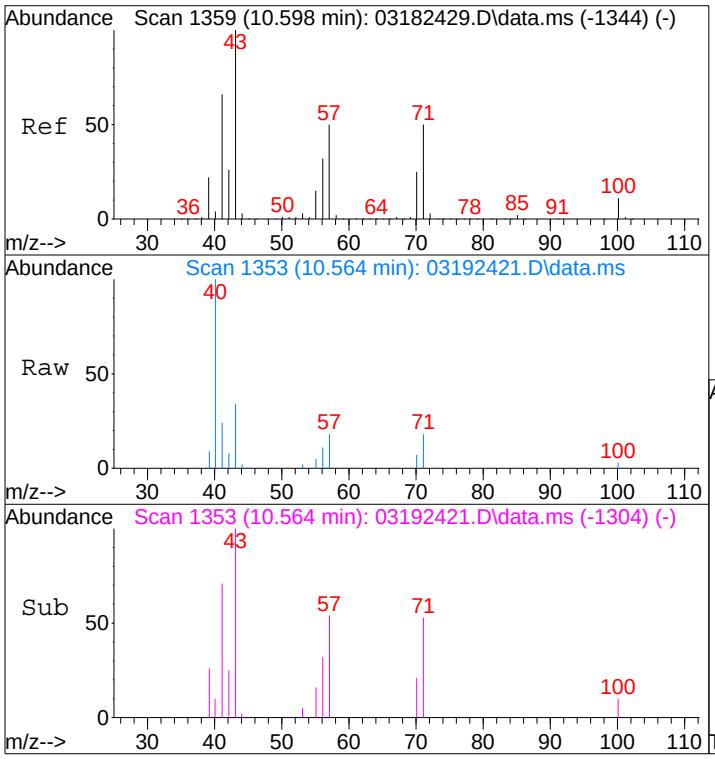


#48
1,4-Dioxane
Concen: 0.20 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.033 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 88 Resp: 1970

Ion	Ratio	Lower	Upper
88	100		
58	58.3	48.2	88.2

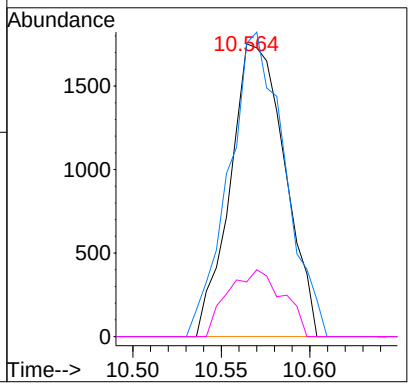


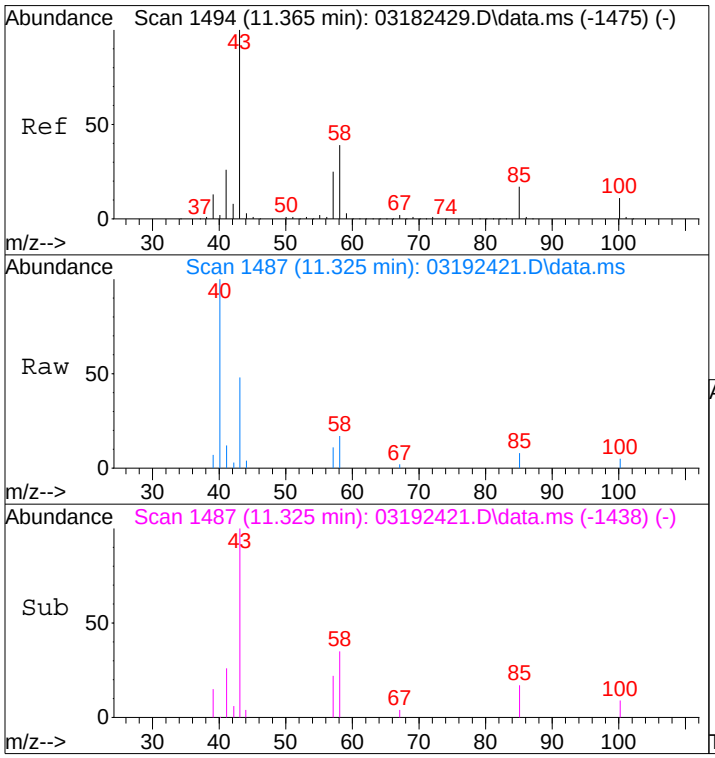


#51
n-Heptane
Concen: 0.30 ng
RT: 10.56 min Scan# 1353
Delta R.T. 0.030 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 71 Resp: 3753

Ion	Ratio	Lower	Upper
71	100		
57	106.3	81.2	121.2
100	23.0	4.0	44.0

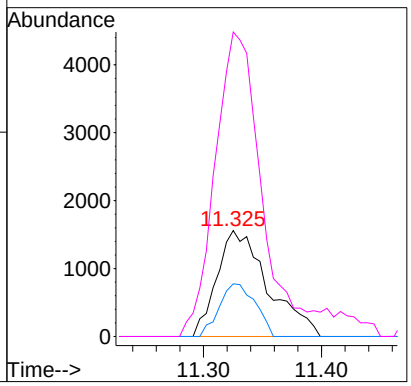


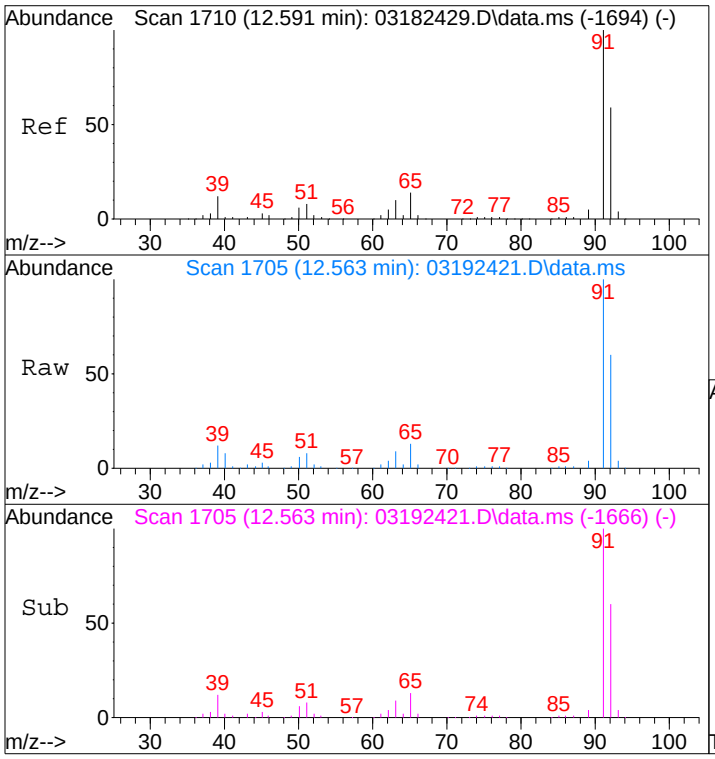


#53
4-Methyl-2-pentanone
Concen: 0.38 ng
RT: 11.33 min Scan# 1487
Delta R.T. 0.029 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 58 Resp: 4695

Ion	Ratio	Lower	Upper
58	100		
85	35.0	34.5	51.7
43	278.7	218.4	327.6

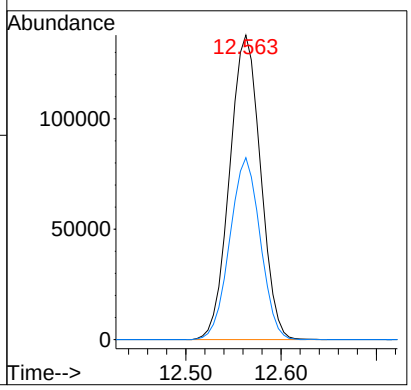


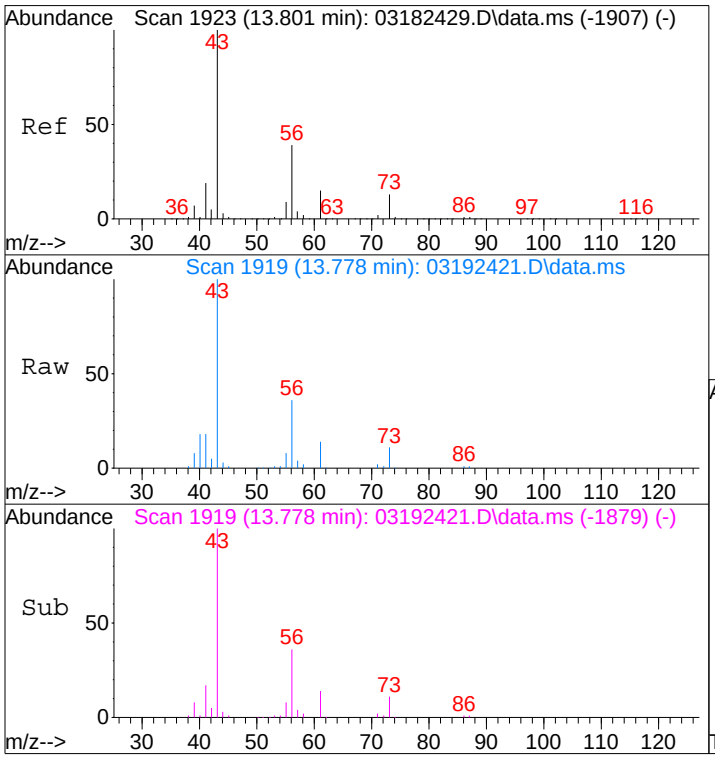


#58
Toluene
Concen: 5.57 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 91 Resp: 310499

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.2	79.2

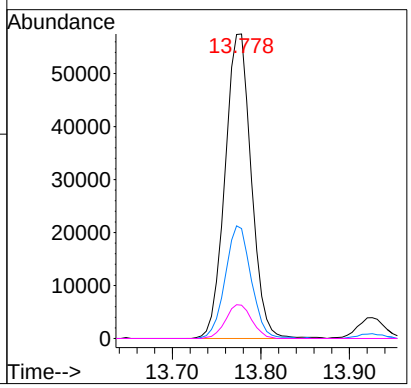


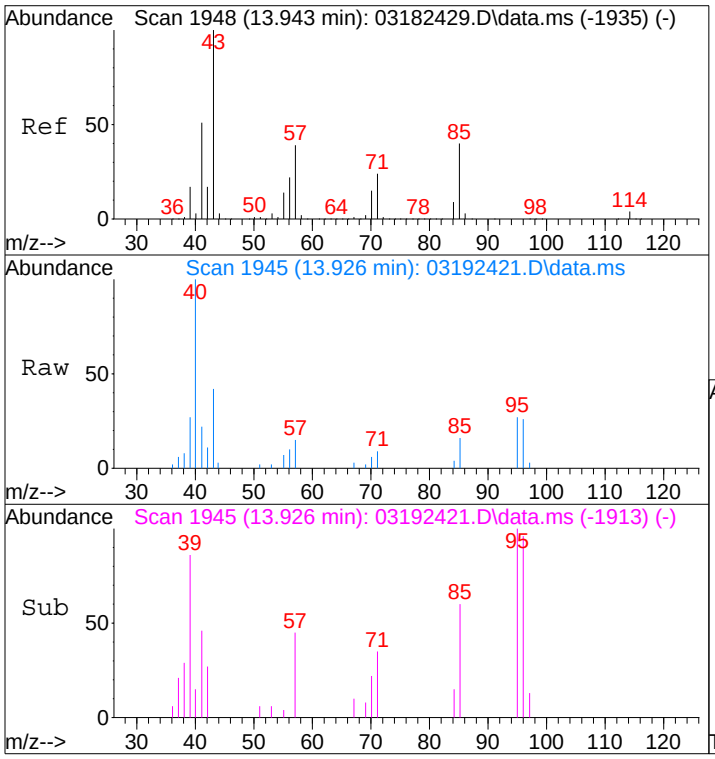


#62
n-Butyl Acetate
Concen: 3.31 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 43 Resp: 118405

Ion	Ratio	Lower	Upper
43	100		
56	36.5	16.7	56.7
73	11.1	0.0	31.3

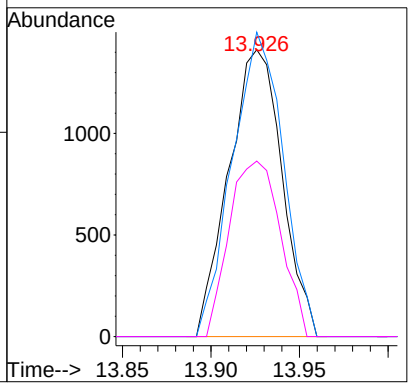


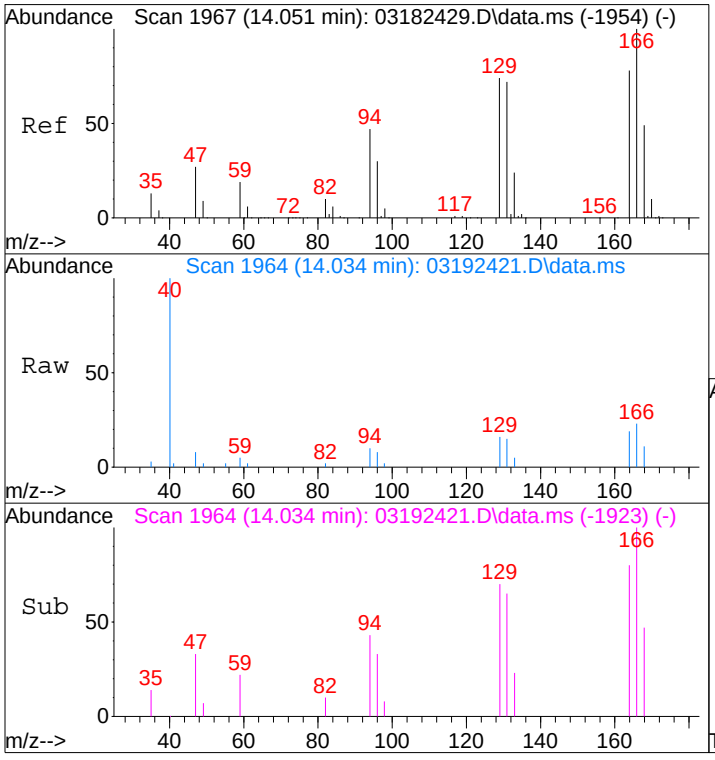


#63
n-Octane
Concen: 0.25 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 57 Resp: 2956

Ion	Ratio	Lower	Upper
57	100		
85	101.4	80.6	121.0
71	59.0	49.3	73.9

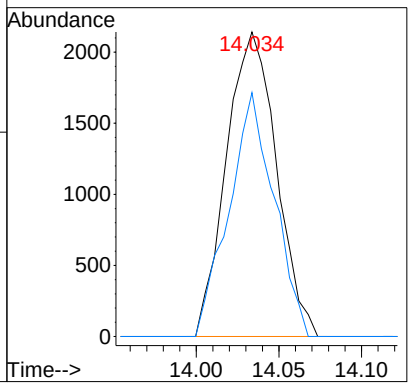


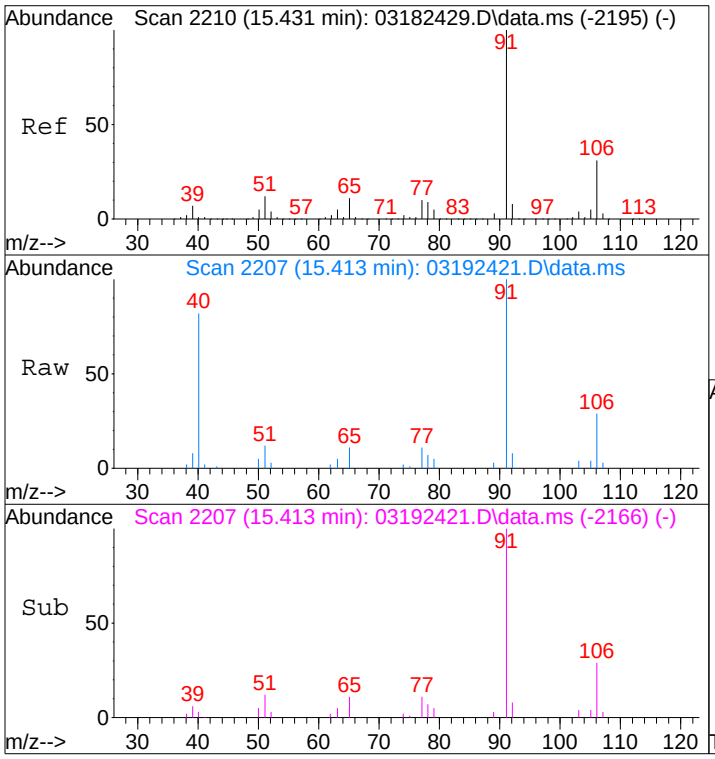


#64
Tetrachloroethene
Concen: 0.26 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:166 Resp: 4509

Ion	Ratio	Lower	Upper
166	100		
164	72.3	56.7	96.7

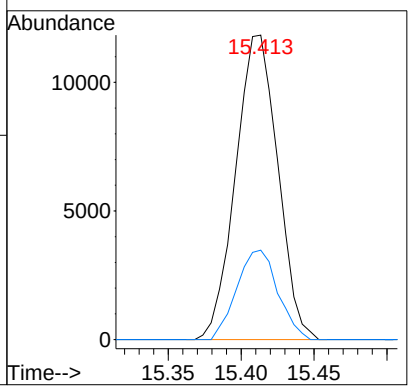


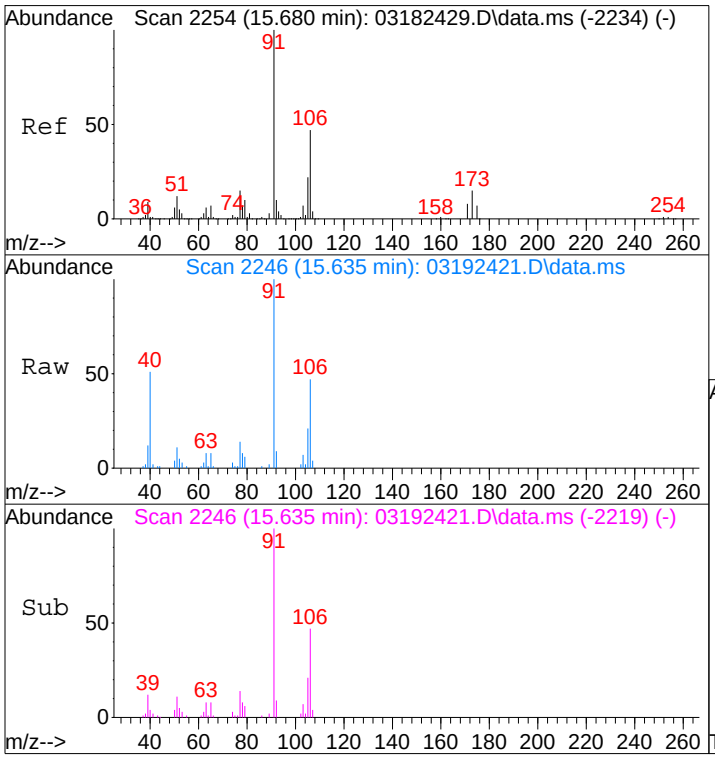


#66
Ethylbenzene
Concen: 0.37 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 91 Resp: 23794

Ion	Ratio	Lower	Upper
91	100		
106	28.7	10.4	50.4

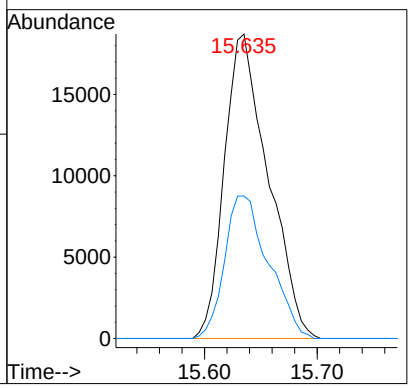


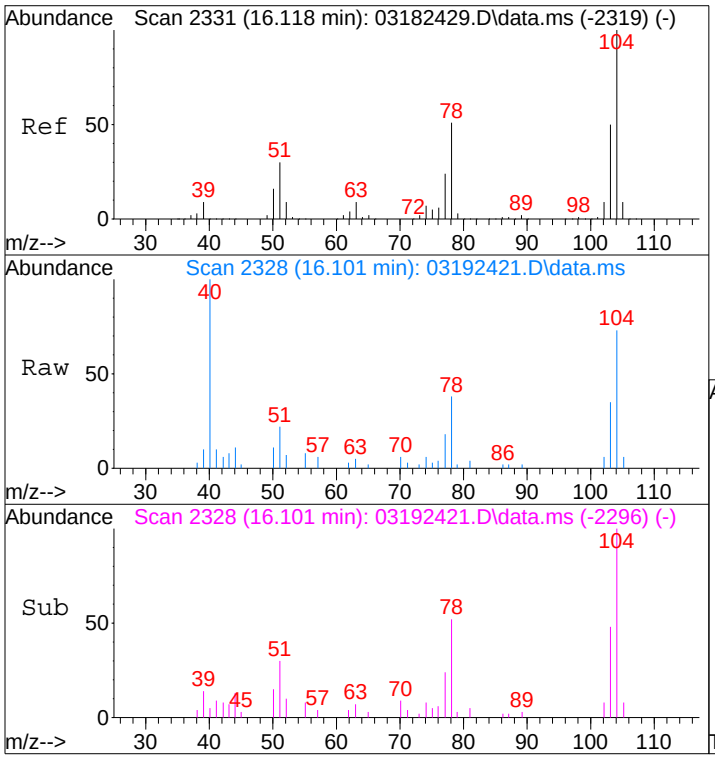


#67
m- & p-Xylenes
Concen: 0.96 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 91 Resp: 50632

Ion	Ratio	Lower	Upper
91	100		
106	46.9	25.6	65.6

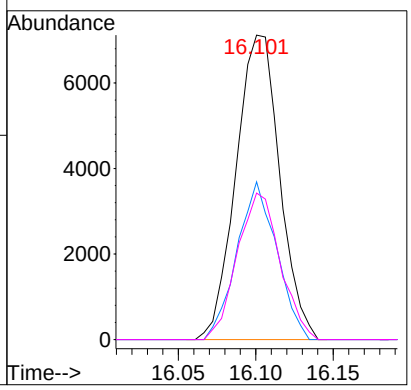


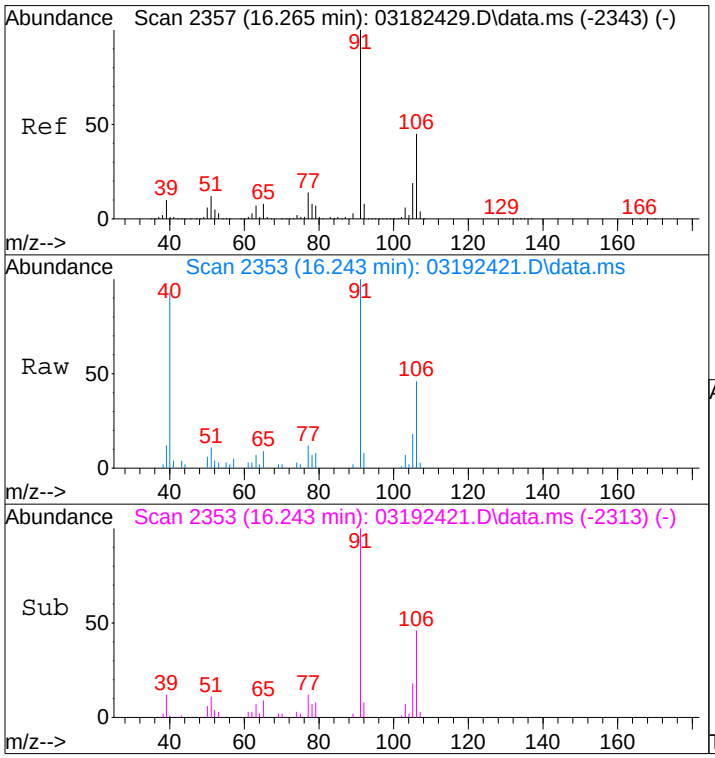


#69
Styrene
Concen: 0.39 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:104 Resp: 14020

Ion	Ratio	Lower	Upper
104	100		
78	47.0	28.5	68.5
103	47.2	28.4	68.4

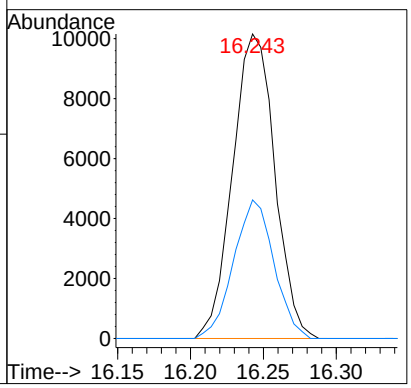


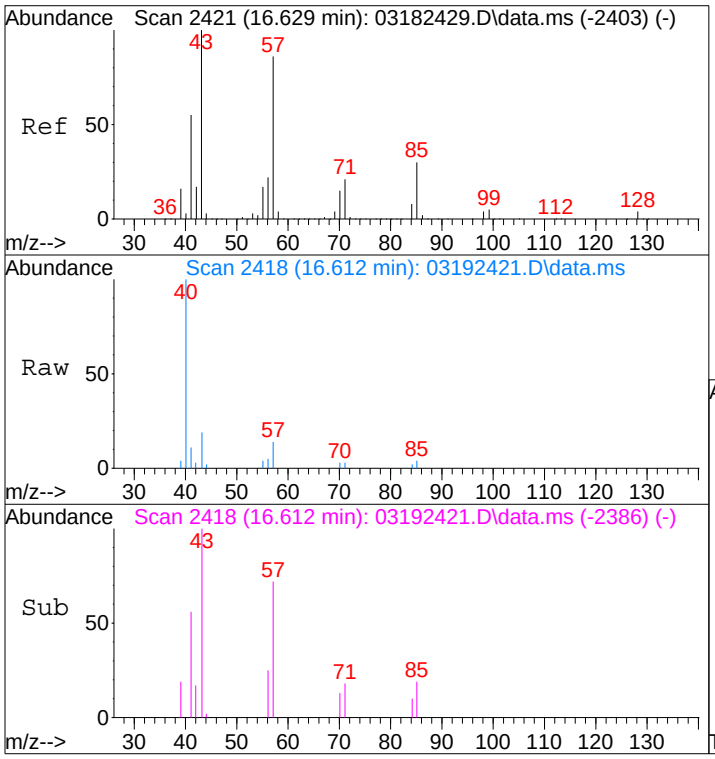


#70
o-Xylene
Concen: 0.39 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 91 Resp: 20403

Ion	Ratio	Lower	Upper
91	100		
106	43.6	24.4	64.4

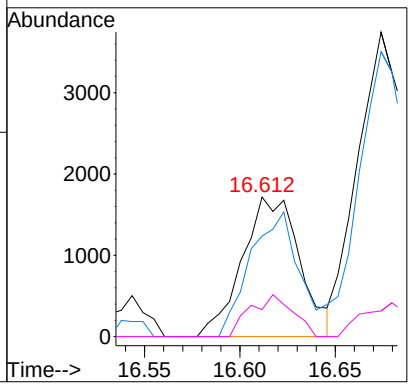


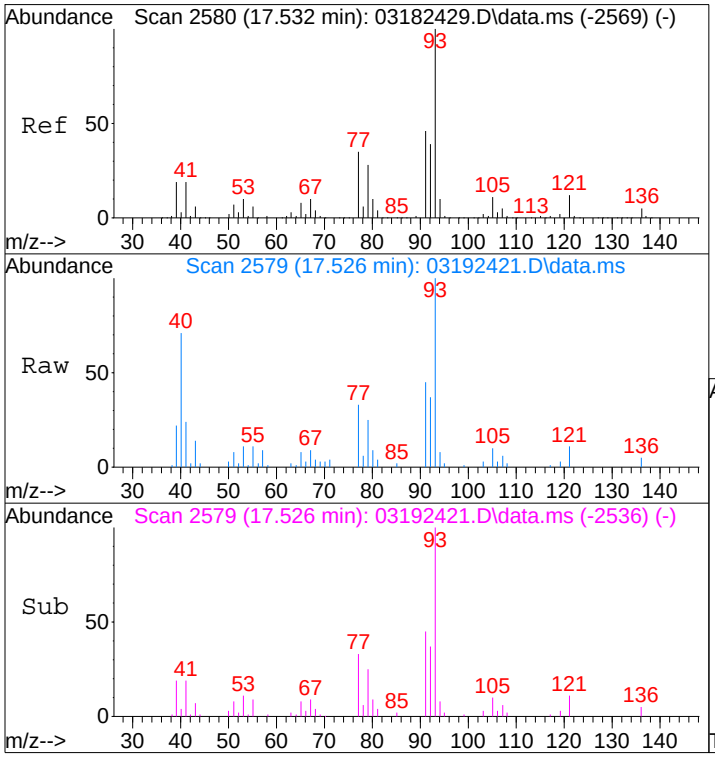


#71
n-Nonane
Concen: 0.12 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 43 Resp: 3594

Ion	Ratio	Lower	Upper
43	100		
57	75.1	63.3	103.3
85	22.4	7.8	47.8

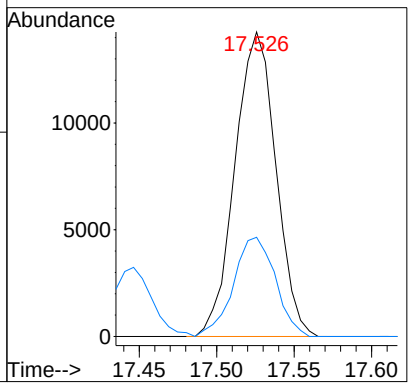


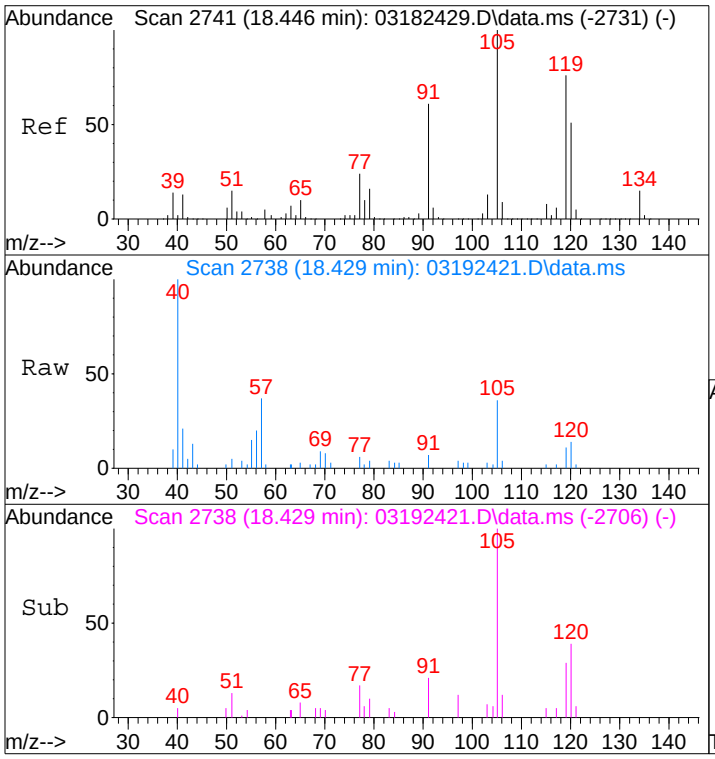


#75
alpha-Pinene
Concen: 0.83 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 93 Resp: 26241

Ion	Ratio	Lower	Upper
93	100		
77	33.4	13.4	53.4

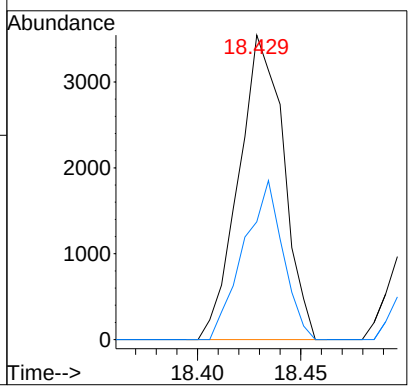


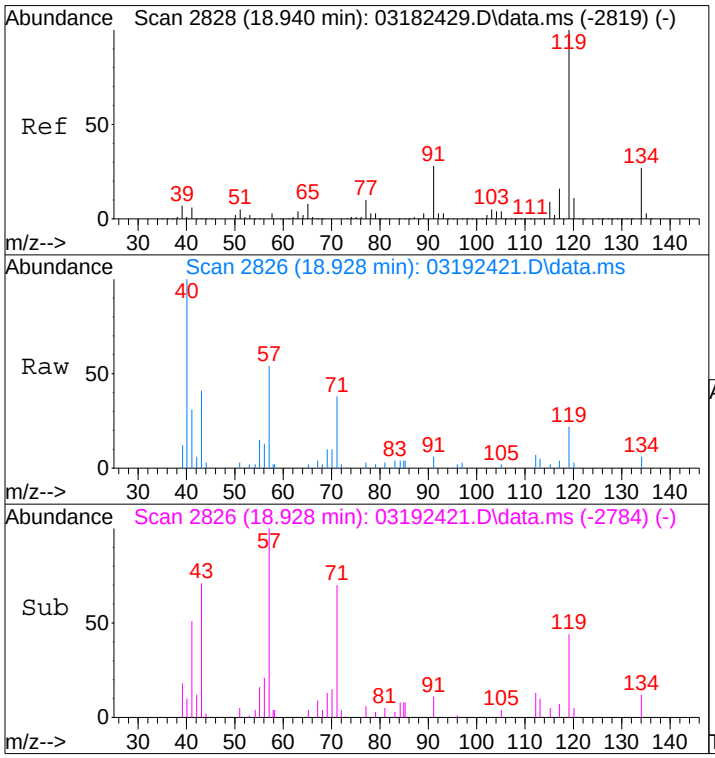


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:105 Resp: 5356

Ion	Ratio	Lower	Upper
105	100		
120	46.1	31.1	71.1

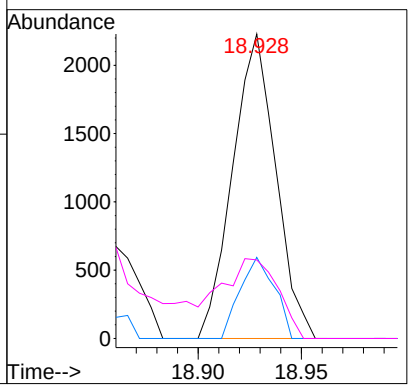


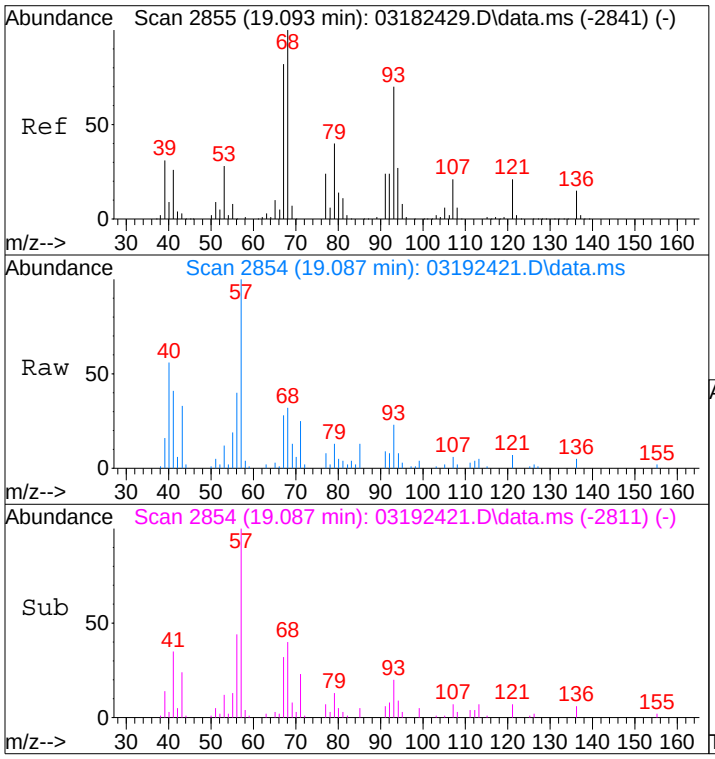


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.05 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.011 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion:119 Resp: 3235

Ion	Ratio	Lower	Upper
119	100		
134	21.4	5.0	45.0
91	34.4	5.8	45.8

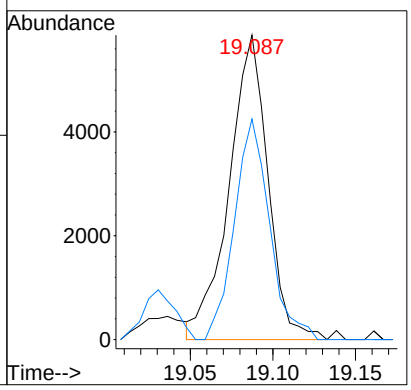




#91
d-Limonene
Concen: 0.49 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03192421.D
Acq: 19 Mar 2024 20:55

Tgt Ion: 68 Resp: 9592

Ion	Ratio	Lower	Upper
68	100		
93	65.5	51.5	91.5



Quantitation Report (QT Reviewed)

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Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:02:37 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

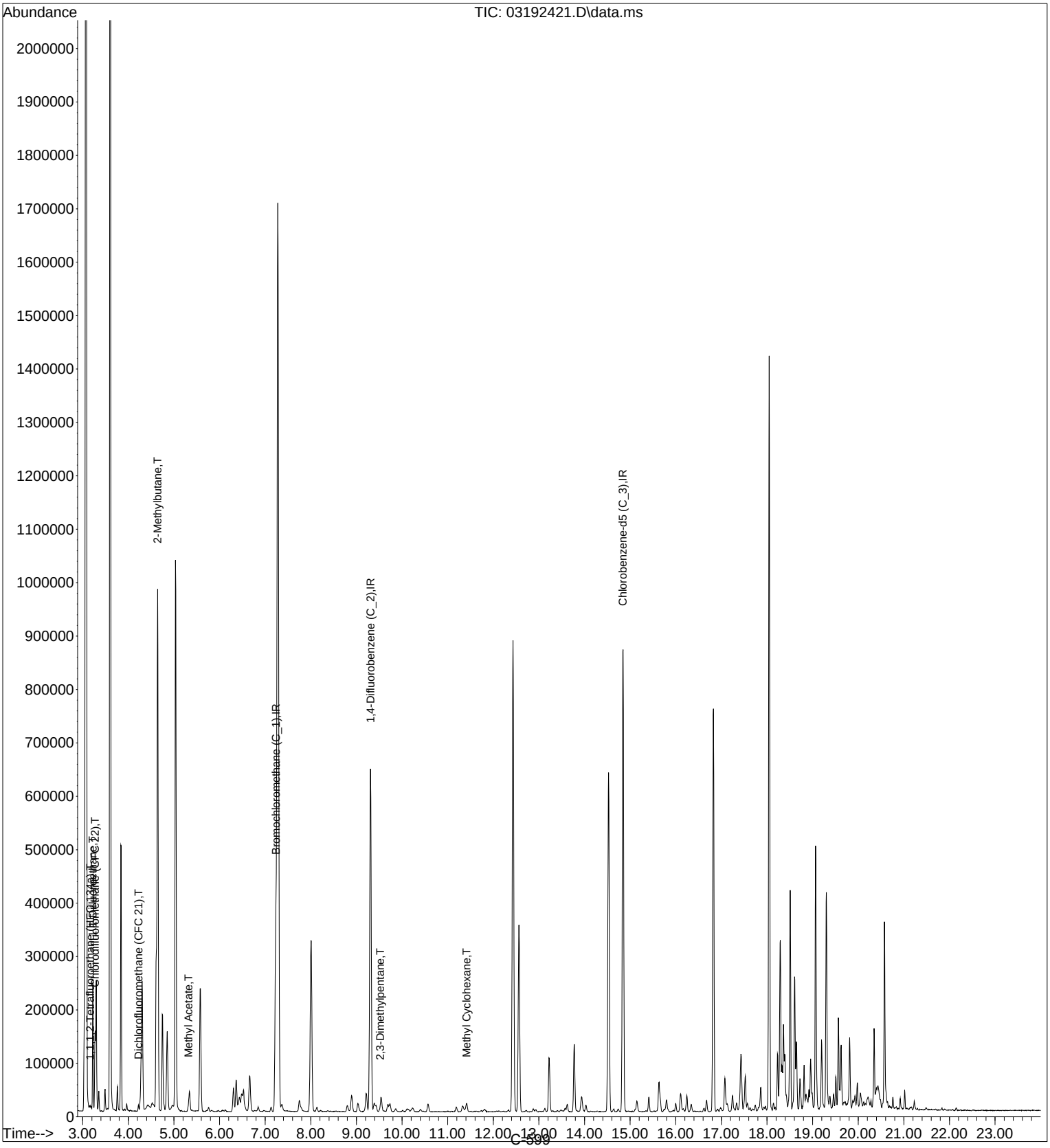
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	149353	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	643249	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	145344	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	160	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	3917	0.285	ng	#	9
4) 1,1-Difluoroethane	3.22	65	61402	5.427	ng	#	67
5) Chlorodifluoromethane ...	3.27	67	11866	2.705	ng		91
6) 1-Chloro-1,1-Difluoroe...	3.48	65	597	N.D.			
7) Dichlorofluoromethane ...	4.22	67	9306	0.319	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	523	N.D.			
10) 2-Methylbutane	4.64	57	217012	14.507	ng	#	76
11) Methyl Acetate	5.32	43	12980	0.337	ng	#	47
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.04	84	973	N.D.			
17) 2,3-Dimethylpentane	9.52	56	3087	0.119	ng	#	74
18) Dibromomethane	9.81	174	130	N.D.			
20) Methyl Cyclohexane	11.42	55	7141	0.313	ng		95
21) 1,3-Dichloropropane	12.56	76	1380	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.34	75	570	N.D.			
25) Bromobenzene	17.03	77	341	N.D.			
26) 2-Chlorotoluene	17.61	91	798	N.D.			
27) 4-Chlorotoluene	17.68	91	3205	N.D.			
28) Indane	19.11	117	427	N.D.			
29) Indene	19.29	115	140	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	401	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	701	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	2652	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

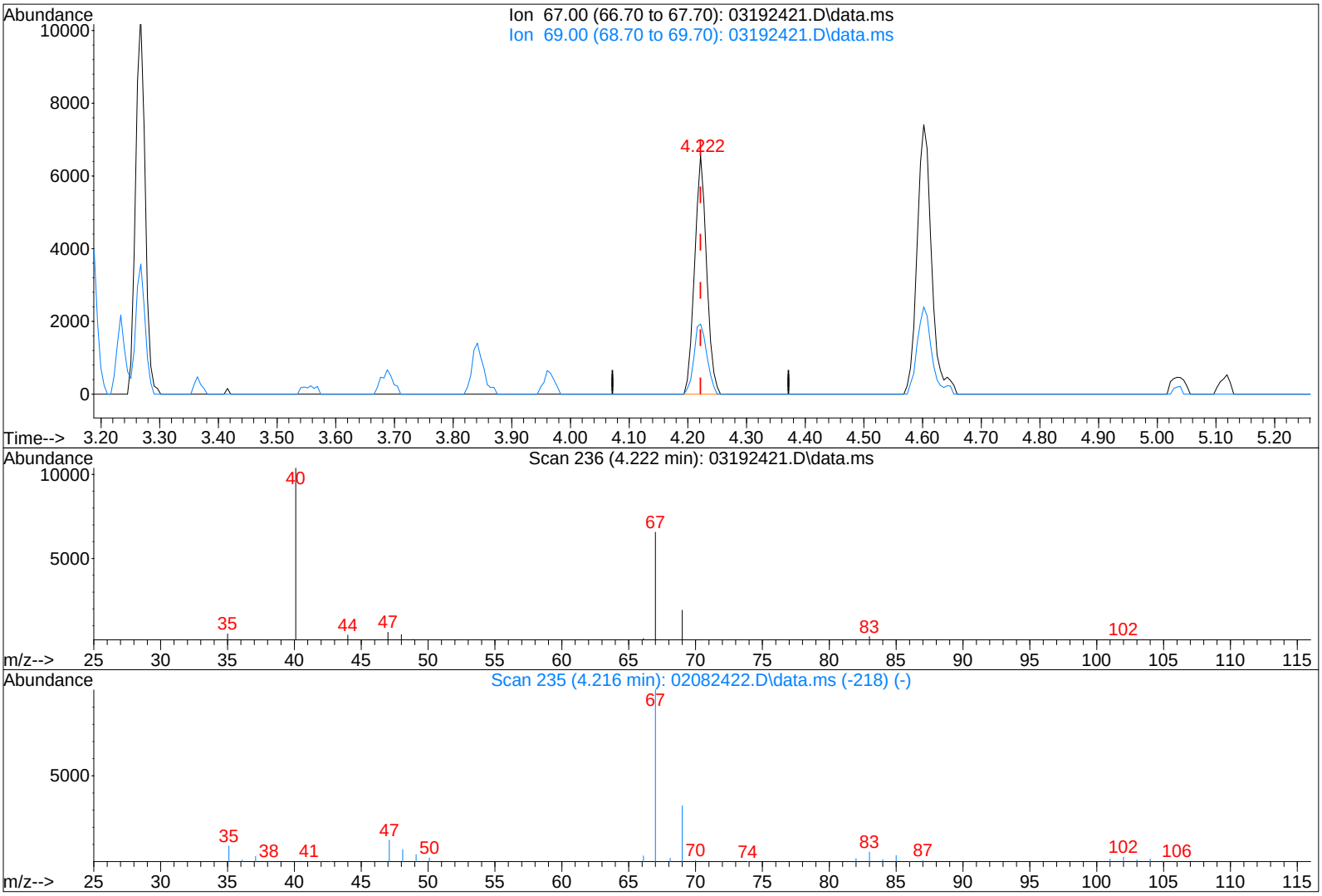
Quant Time: Mar 21 10:02:37 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192421.D Vial: 10
Acq On : 19 Mar 2024 20:55 Operator: SC
Sample : P2400922-007 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:01:47 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192421.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 0.32ng

response 9306

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	31.70
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192421.D
Acq On : 19 Mar 2024 20:55
Operator : SC
Sample : P2400922-007 (400mL)
Misc : S37-02202408
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192421.D\data.ms

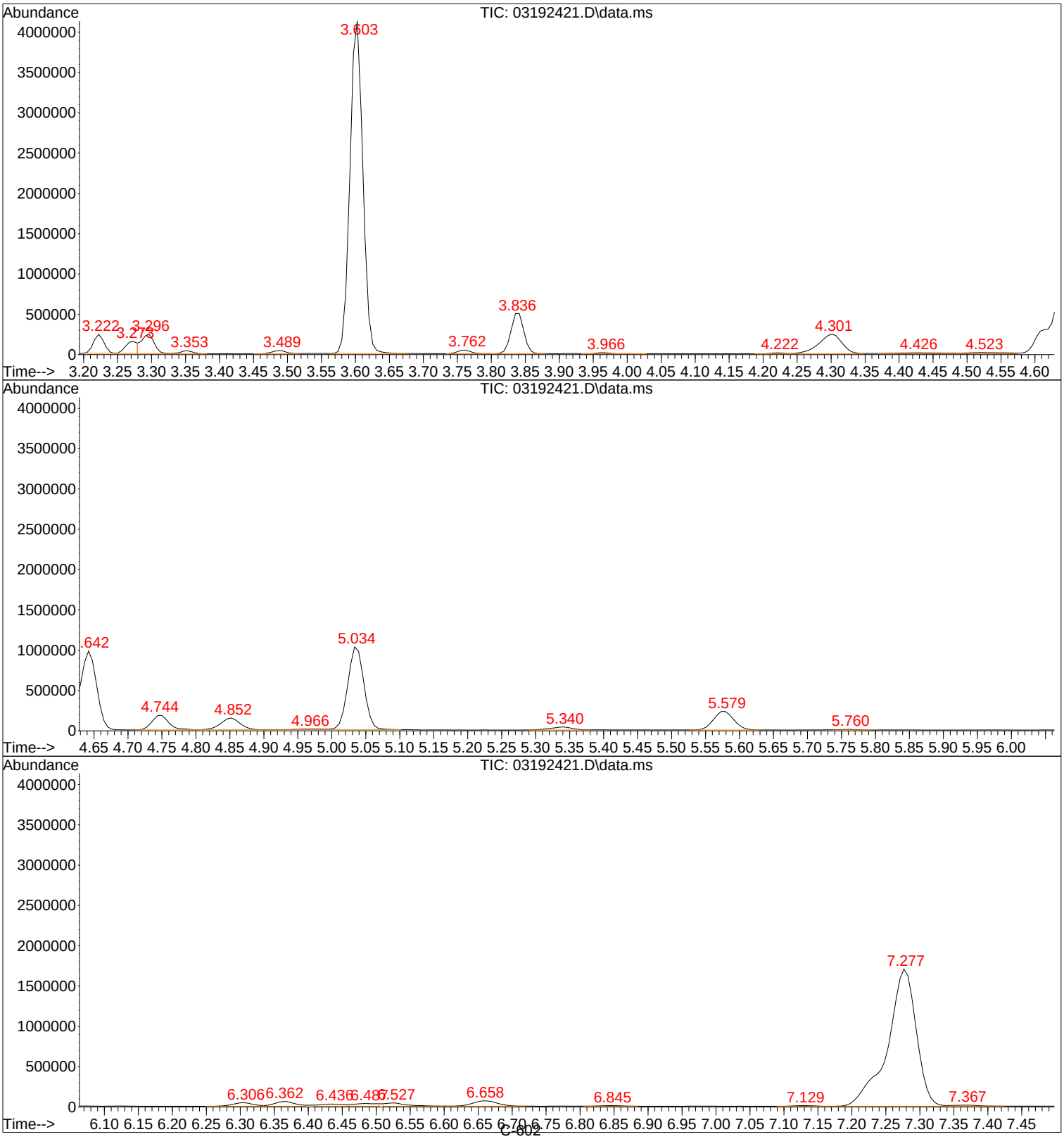
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.222	57	60	64	rVB	234124	247640	4.55%	1.351%
2	3.273	64	69	70	rVV	146014	187490	3.44%	1.022%
3	3.296	70	73	79	rVV	242486	299702	5.51%	1.634%
4	3.353	79	83	88	rVB	37381	46854	0.86%	0.256%
5	3.489	100	107	112	rBV2	41587	60816	1.12%	0.332%
6	3.603	120	127	140	rVB	4123615	5443820	100.00%	29.688%
7	3.762	150	155	162	rBV	45027	62989	1.16%	0.344%
8	3.836	162	168	176	rVB	496678	665629	12.23%	3.630%
9	3.966	185	191	202	rVB4	13333	22108	0.41%	0.121%
10	4.222	230	236	239	rBV	11908	16455	0.30%	0.090%
11	4.301	239	250	258	rVV	243730	576214	10.58%	3.142%
12	4.426	262	272	283	rVV4	11192	55335	1.02%	0.302%
13	4.523	283	289	298	rVV4	14472	54728	1.01%	0.298%
14	4.642	298	310	322	rVB2	976461	2027271	37.24%	11.056%
15	4.744	322	328	338	rBV	180127	312870	5.75%	1.706%
16	4.852	338	347	357	rVV	146764	291487	5.35%	1.590%
17	4.966	357	367	372	rVV5	8191	26013	0.48%	0.142%
18	5.034	372	379	391	rVB	1028444	1700369	31.23%	9.273%
19	5.340	424	433	440	rBV3	36923	81990	1.51%	0.447%
20	5.579	466	475	484	rVB2	229598	479159	8.80%	2.613%
21	5.760	503	507	513	rVB	7738	13159	0.24%	0.072%
22	6.306	593	603	608	rBV	43534	93070	1.71%	0.508%
23	6.362	608	613	619	rVV	58782	124901	2.29%	0.681%
24	6.436	621	626	630	rVV	26493	65268	1.20%	0.356%
25	6.487	630	635	638	rVV3	32884	79510	1.46%	0.434%
26	6.527	639	642	656	rVV3	40307	82439	1.51%	0.450%
27	6.658	656	665	676	rVB2	65849	166718	3.06%	0.909%
28	6.845	691	698	705	rVB2	8447	16702	0.31%	0.091%
29	7.129	741	748	754	rVB4	8298	16194	0.30%	0.088%
30	7.277	754	774	785	rBV	1701245	4988190	91.63%	27.203%
31	7.367	785	790	800	rVB3	12047	31634	0.58%	0.173%

Sum of corrected areas: 18336724

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192421.D
Acq On : 19 Mar 2024 20:55
Operator : SC
Sample : P2400922-007 (400mL)
Misc : S37-02202408
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192421.D
Acq On : 19 Mar 2024 20:555
Operator : SCC
Sample : P2400922-007 (400mL))
Misc : S37-022024088
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:05:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	148258	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	640752	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	145688	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	307507	12.678	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	12.43	98	729527	12.472	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	16.83	174	259151	12.566	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	18809m	0.619	ng		
4) Chloromethane	3.49	50	3610	0.160	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	398	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	395	N.D.			
9) Chloroethane	4.15	64	222	N.D.			
10) Ethanol	4.27	45	53720	3.749	ng		80
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	1724	0.168	ng		89
13) Acetone	4.63	58	19227	1.763	ng	#	19
14) Trichlorofluoromethane	4.75	101	701024	23.818	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	7932	0.183	ng		90
16) Acrylonitrile	4.98	53	983	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	698	N.D.			
19) Methylene Chloride	5.33	84	1736	0.109	ng		90
20) 3-Chloro-1-propene (Al...	5.39	41	123	N.D.			
21) Trichlorotrifluoroethane	5.58	151	278803	22.472	ng		100
22) Carbon Disulfide	5.59	76	219028	4.434	ng		89
23) trans-1,2-Dichloroethene	6.12	61	139	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	251	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	2582	0.290	ng	#	86
28) cis-1,2-Dichloroethene	7.06	61	426	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	12984	2.427	ng		96
31) n-Hexane	7.30	57	1368	0.059	ng	#	90
32) Chloroform	7.35	83	37522	1.460	ng		99
34) Tetrahydrofuran (THF)	7.76	72	712	0.088	ng	#	36
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	122	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	7563	No Calib		#	
40) 1-Butanol	8.80	56	7336	No Calib		#	
41) Benzene	8.89	78	8384	0.145	ng		99
42) Carbon Tetrachloride	9.07	117	235	N.D.			
43) Cyclohexane	9.21	84	2501	0.137	ng		92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	829	N.D.			
47) Trichloroethene	10.14	130	1044	0.067	ng		95
48) 1,4-Dioxane	10.12	88	8576	0.852	ng		100
49) 2,2,4-Trimethylpentane...	10.22	57	398	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:05:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

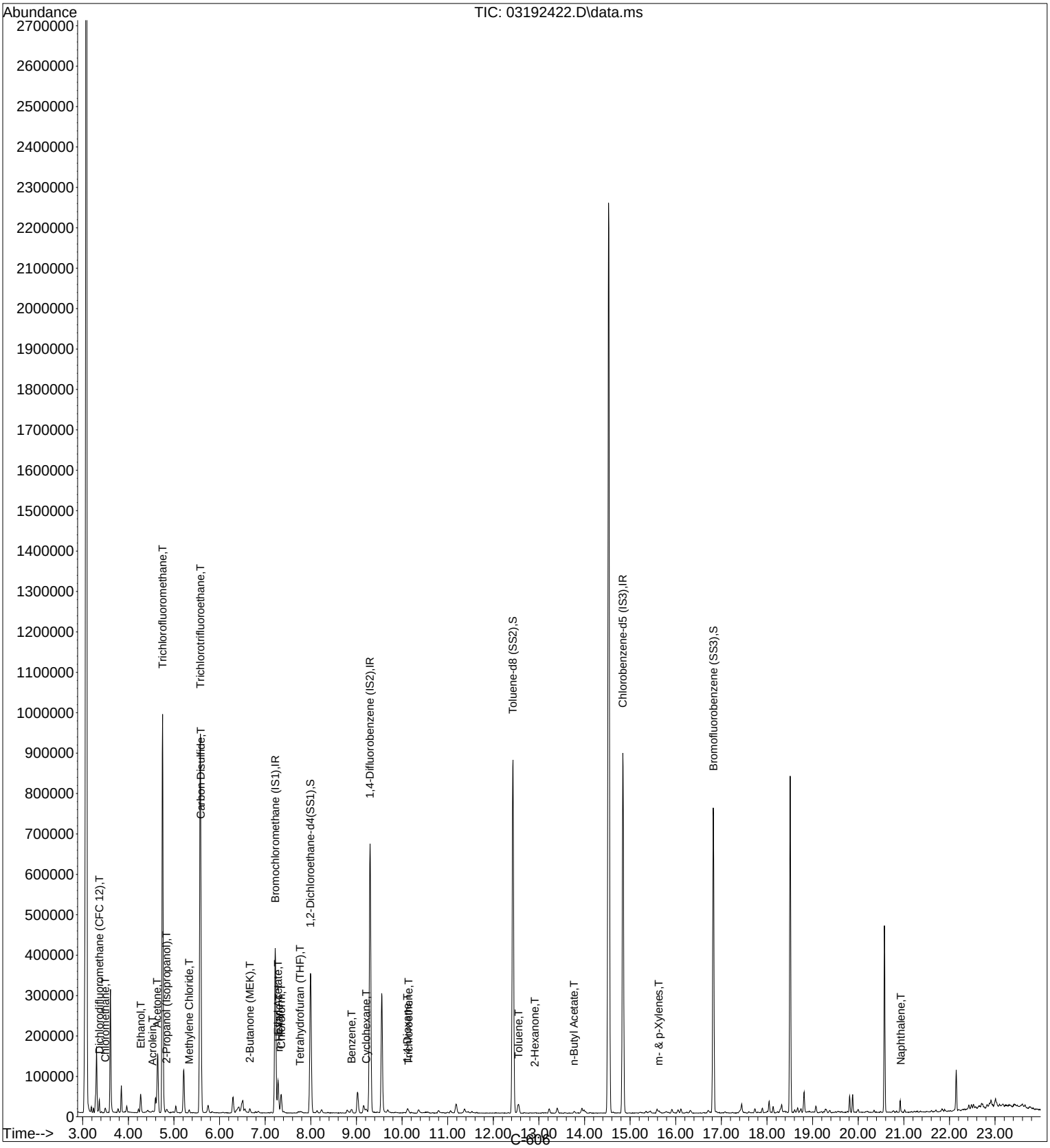
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	468	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	203	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	13279	0.238 ng		99
59) 2-Hexanone	12.91	43	1681	0.052 ng	#	63
60) Dibromochloromethane	13.07	129	443	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	4112	0.115 ng		92
63) n-Octane	13.92	57	208	N.D.		
64) Tetrachloroethene	14.04	166	702	N.D.		
65) Chlorobenzene	14.89	112	670	N.D.		
66) Ethylbenzene	15.41	91	3021	N.D.		
67) m- & p-Xylenes	15.63	91	3857	0.073 ng		94
68) Bromoform	15.67	173	496	N.D.		
69) Styrene	16.10	104	637	N.D.		
70) o-Xylene	16.24	91	1573	N.D.		
71) n-Nonane	16.62	43	976	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	366	N.D.		
74) Cumene	17.04	105	890	N.D.		
75) alpha-Pinene	17.53	93	781	N.D.		
76) n-Propylbenzene	17.67	91	1310	N.D.		
77) 3-Ethyltoluene	17.04	105	890	No Calib	#	
78) 4-Ethyltoluene	17.86	105	963	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	624	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	890	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	991	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	603	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	752	N.D.		
87) sec-Butylbenzene	18.74	105	1004	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1841	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	890	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	543	N.D.		
91) d-Limonene	19.09	68	642	N.D.		
92) 1,2-Dibromo-3-Chloropr...	19.51	157	117	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	961	N.D.		
95) Naphthalene	20.94	128	2167	0.383 ng		86
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	539	N.D.		
98) Cyclohexanone	15.35	55	1333	No Calib	#	
99) tert-Butylbenzene	18.43	119	836	N.D.		
100) n-Butylbenzene	19.38	91	909	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:05:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:05:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

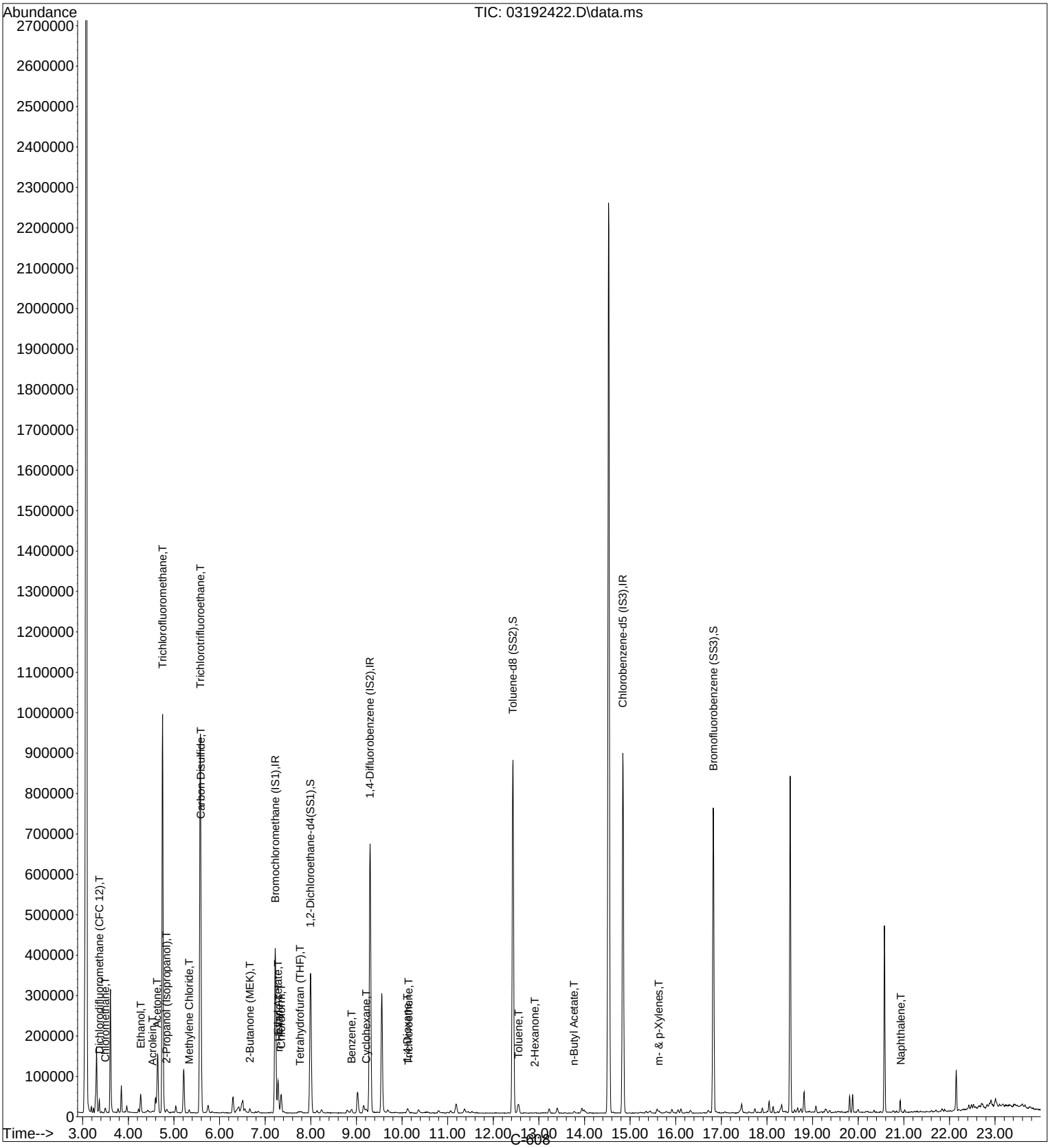
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	148258	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	640752	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	145688	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	307507	12.678	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	12.43	98	729527	12.472	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	16.83	174	259151	12.566	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	18809m	0.619	ng		
4) Chloromethane	3.49	50	3610	0.160	ng		95
10) Ethanol	4.27	45	53720	3.749	ng		80
12) Acrolein	4.53	56	1724	0.168	ng		89
13) Acetone	4.63	58	19227	1.763	ng	#	19
14) Trichlorofluoromethane	4.75	101	701024	23.818	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	7932	0.183	ng		90
19) Methylene Chloride	5.33	84	1736	0.109	ng		90
21) Trichlorotrifluoroethane	5.58	151	278803	22.472	ng		100
22) Carbon Disulfide	5.59	76	219028	4.434	ng		89
27) 2-Butanone (MEK)	6.66	72	2582	0.290	ng	#	86
30) Ethyl Acetate	7.28	61	12984	2.427	ng		96
31) n-Hexane	7.30	57	1368	0.059	ng	#	90
32) Chloroform	7.35	83	37522	1.460	ng		99
34) Tetrahydrofuran (THF)	7.76	72	712	0.088	ng	#	36
41) Benzene	8.89	78	8384	0.145	ng		99
43) Cyclohexane	9.21	84	2501	0.137	ng		92
47) Trichloroethene	10.14	130	1044	0.067	ng		95
48) 1,4-Dioxane	10.12	88	8576	0.852	ng		100
58) Toluene	12.56	91	13279	0.238	ng		99
59) 2-Hexanone	12.91	43	1681	0.052	ng	#	63
62) n-Butyl Acetate	13.77	43	4112	0.115	ng		92
67) m- & p-Xylenes	15.63	91	3857	0.073	ng		94
95) Naphthalene	20.94	128	2167	0.383	ng		86

(#) = qualifier out of range (m) = manual integration (+) = signals summed

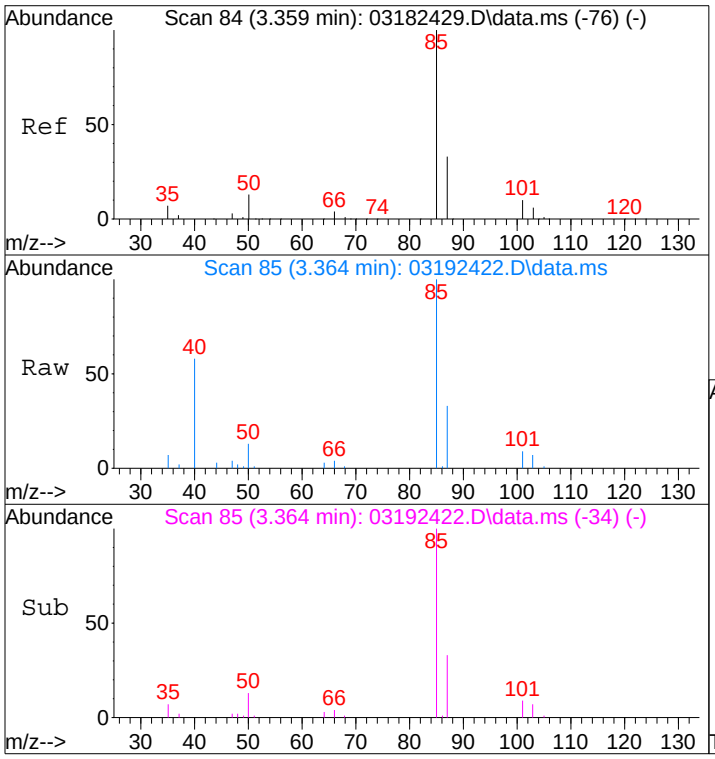
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:05:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



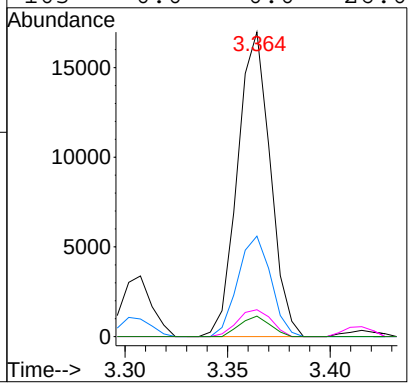
C-008

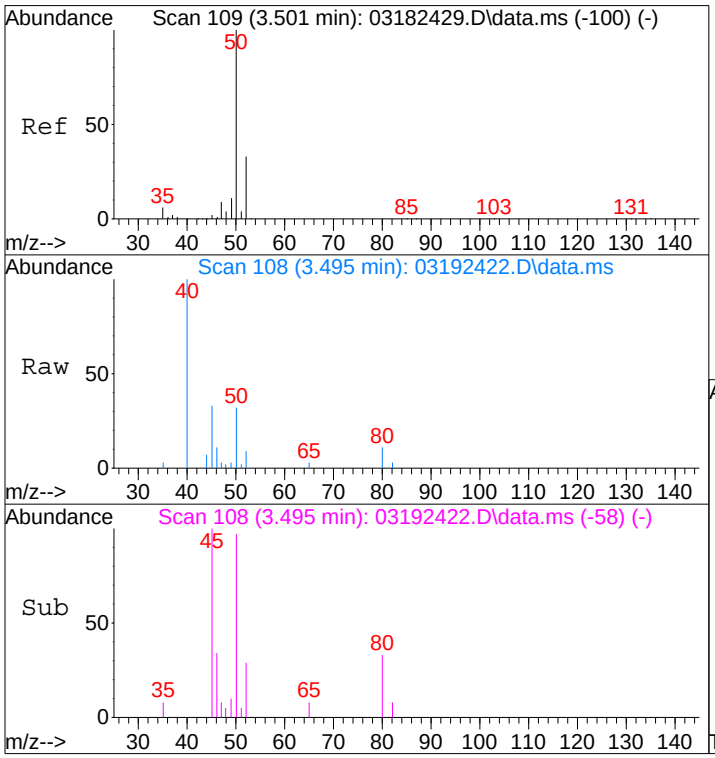


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.62 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 85 Resp: 18809

Ion	Ratio	Lower	Upper
85	100		
87	5.9	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

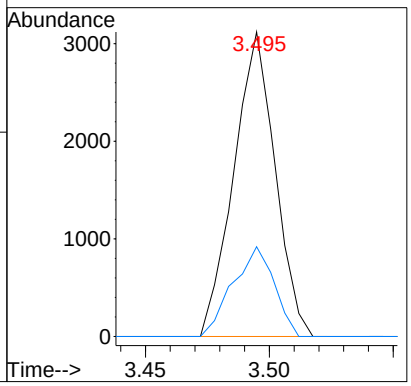


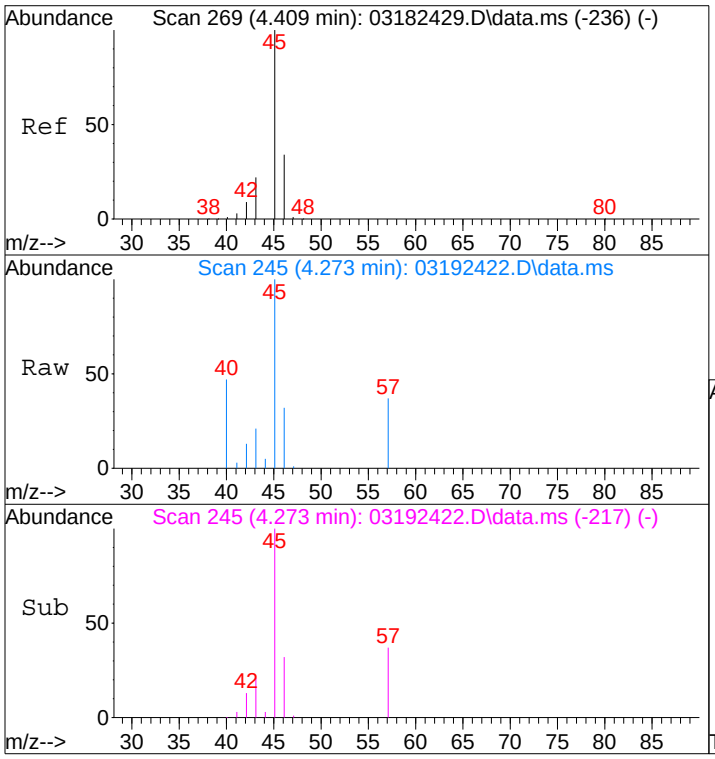


#4
Chloromethane
Concen: 0.16 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.032 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 50 Resp: 3610

Ion	Ratio	Lower	Upper
50	100		
52	29.6	12.3	52.3

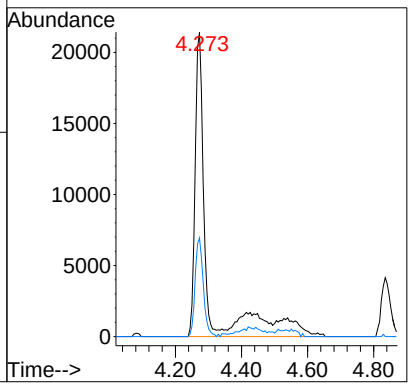


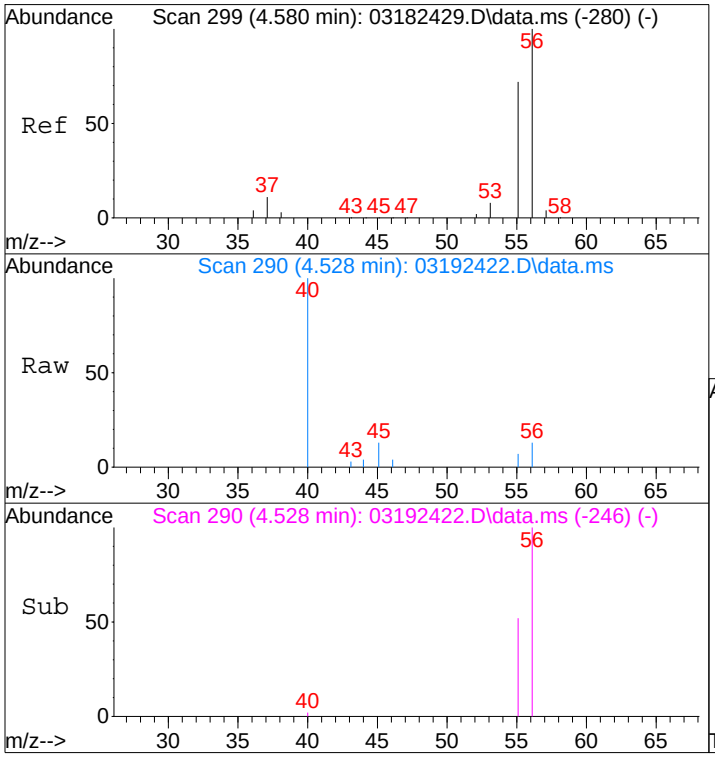


#10
Ethanol
Concen: 3.75 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.088 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 45 Resp: 53720

Ion	Ratio	Lower	Upper
45	100		
46	22.1	13.3	53.3

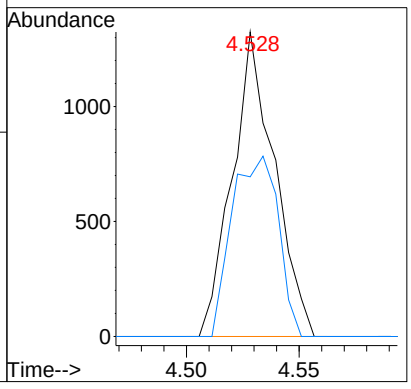


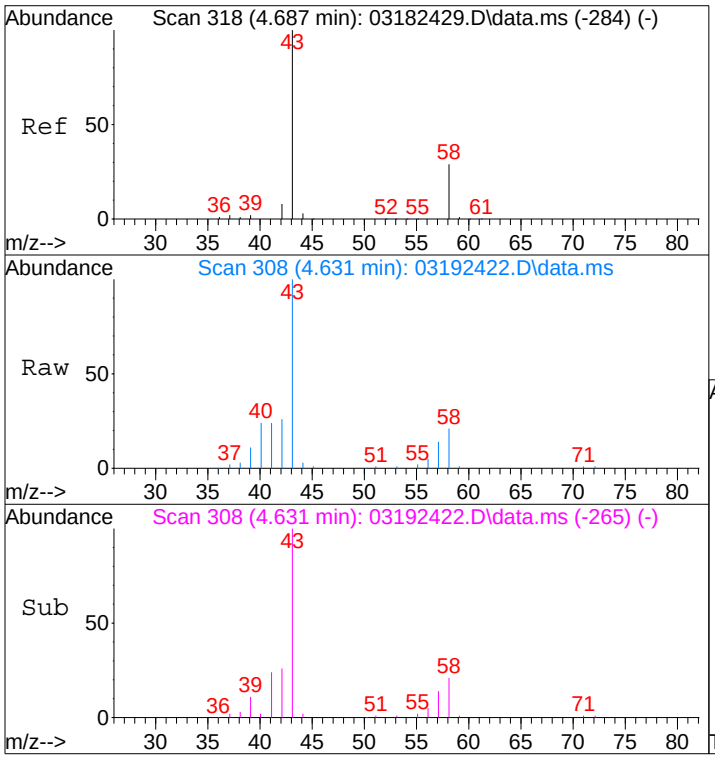


#12
Acrolein
Concen: 0.17 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.001 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 56 Resp: 1724

Ion	Ratio	Lower	Upper
56	100		
55	65.3	54.9	94.9

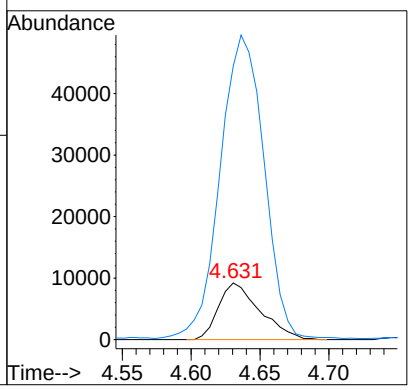


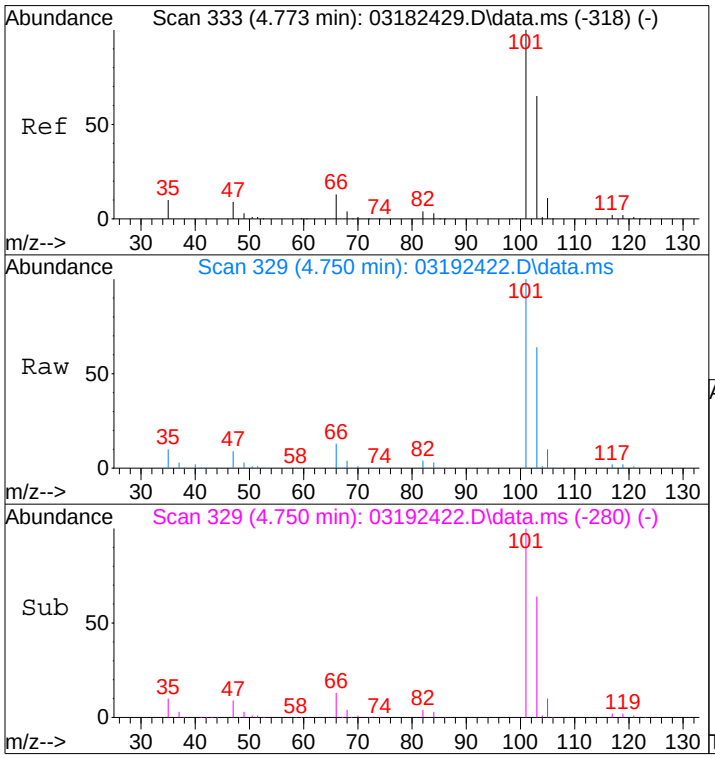


#13
Acetone
Concen: 1.76 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 58 Resp: 19227

Ion	Ratio	Lower	Upper
58	100		
43	566.4	350.1	410.1#

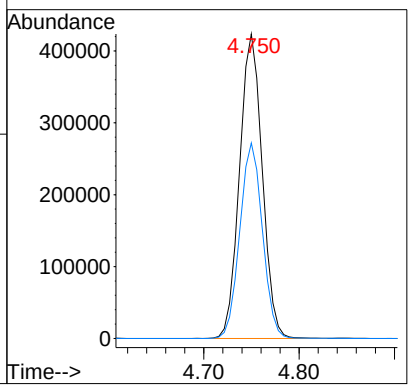


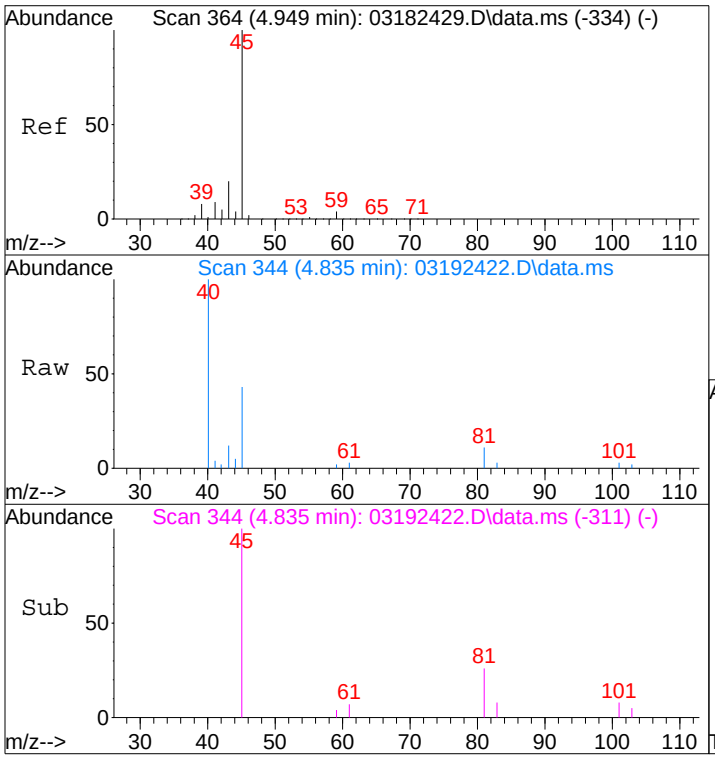


#14
Trichlorofluoromethane
Concen: 23.82 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion:101 Resp: 701024

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.7	84.7

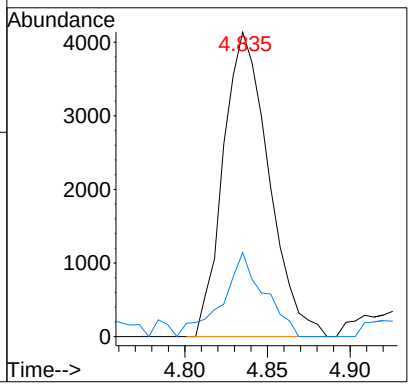


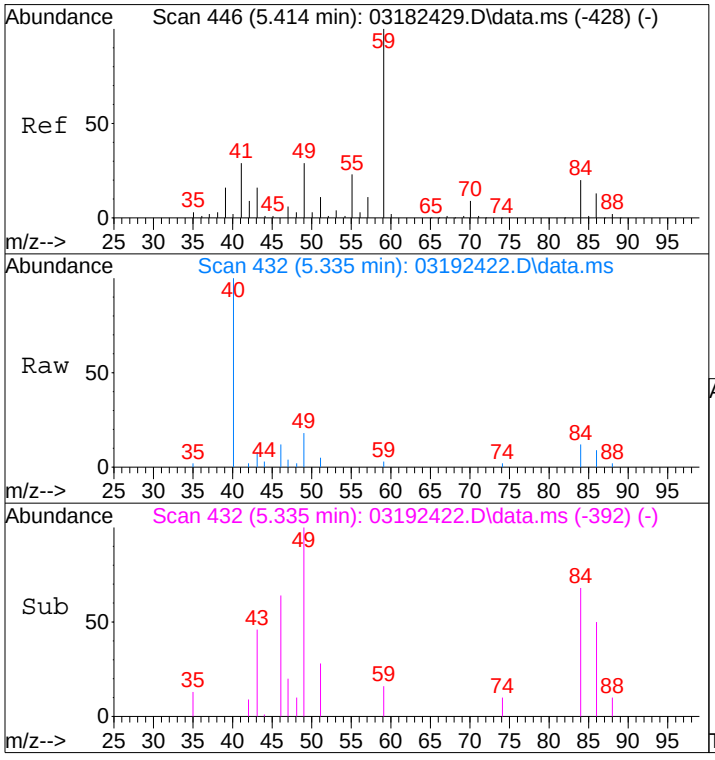


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.060 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 45 Resp: 7932

Ion	Ratio	Lower	Upper
45	100		
43	25.1	0.4	40.4

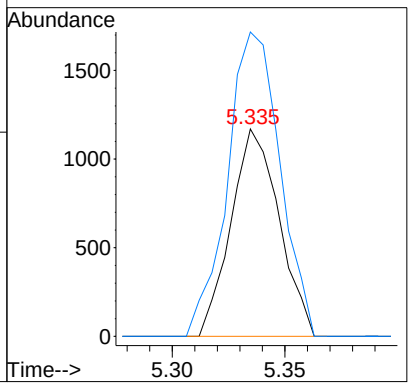


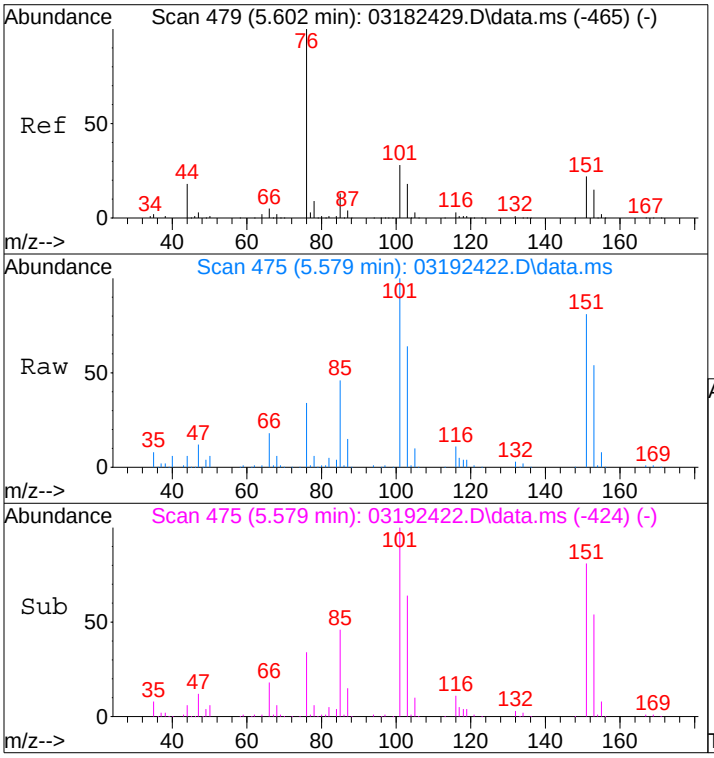


#19
Methylene Chloride
Concen: 0.11 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 84 Resp: 1736

Ion	Ratio	Lower	Upper
84	100		
49	160.4	122.9	172.9

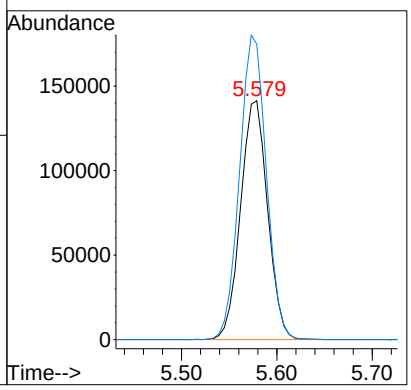


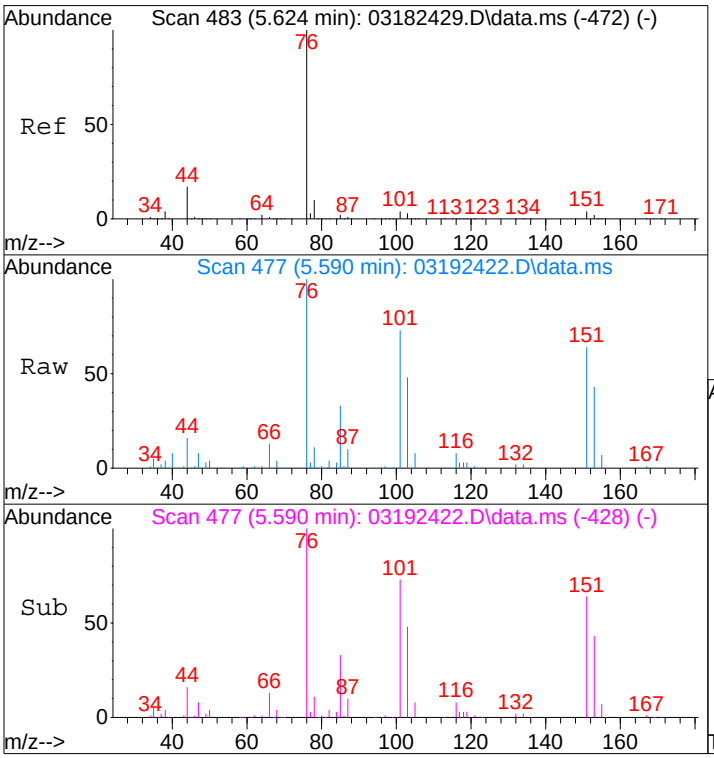


#21
Trichlorotrifluoroethane
Concen: 22.47 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion:151 Resp: 278803

Ion	Ratio	Lower	Upper
151	100		
101	126.3	106.4	146.4

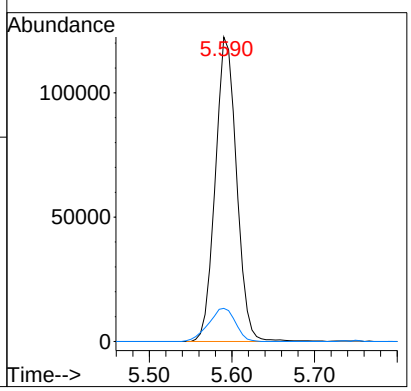


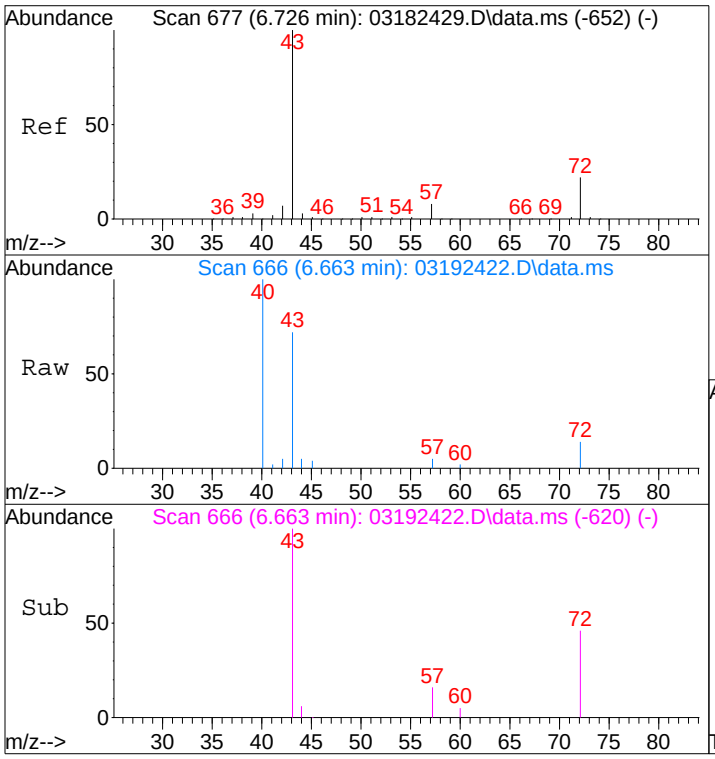


#22
Carbon Disulfide
Concen: 4.43 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 76 Resp: 219028

Ion	Ratio	Lower	Upper
76	100		
78	13.8	0.0	29.8

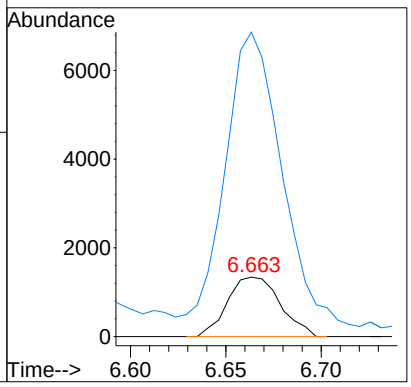


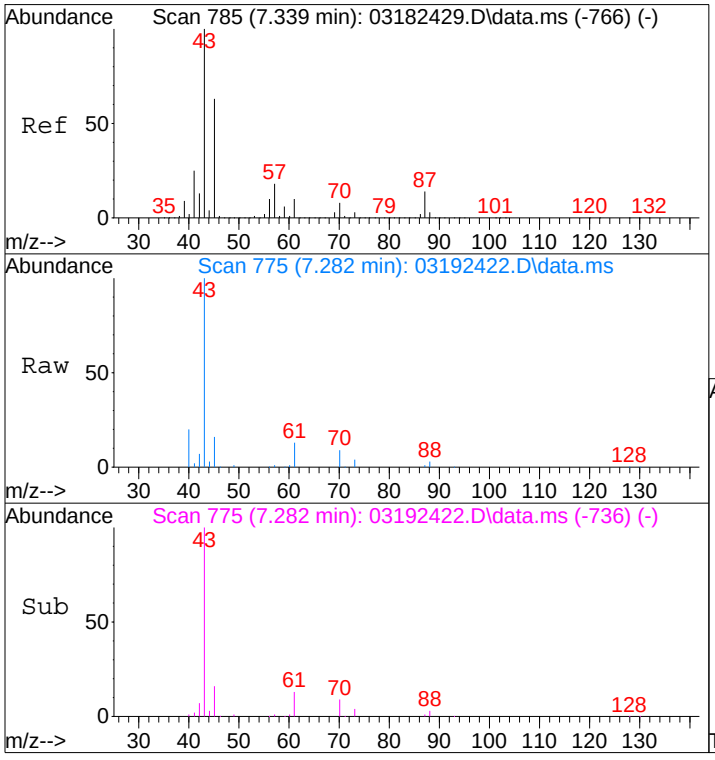


#27
2-Butanone (MEK)
Concen: 0.29 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.011 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 72 Resp: 2582

Ion	Ratio	Lower	Upper
72	100		
43	526.5	468.6	508.6#

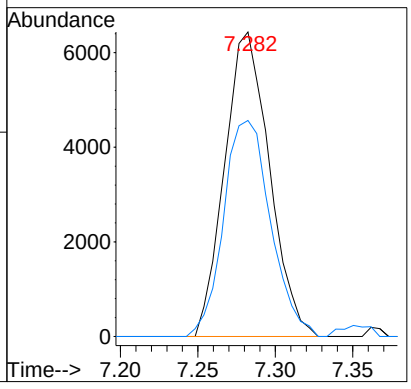


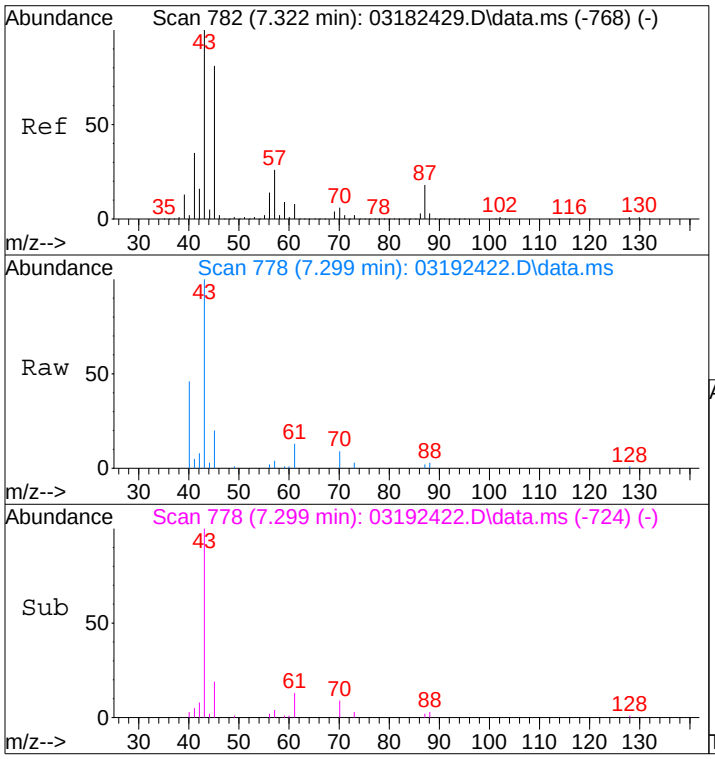


#30
Ethyl Acetate
Concen: 2.43 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 61 Resp: 12984

Ion	Ratio	Lower	Upper
61	100		
70	74.3	57.3	97.3

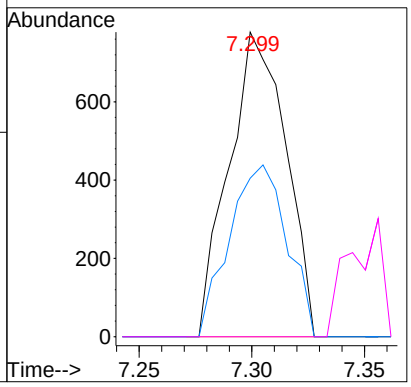


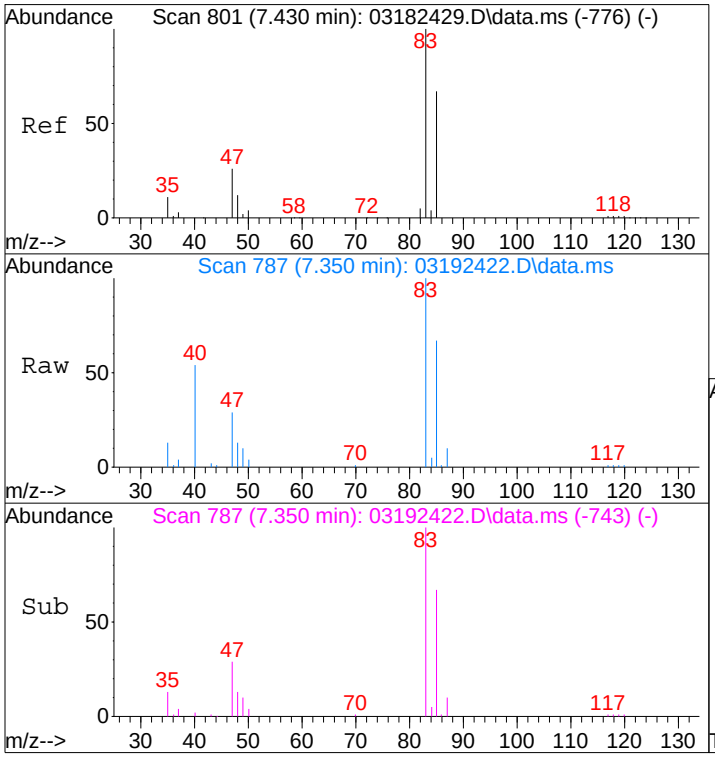


#31
n-Hexane
Concen: 0.06 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 57 Resp: 1368

Ion	Ratio	Lower	Upper
57	100		
56	57.0	42.2	63.4
86	22.1	9.4	14.2#

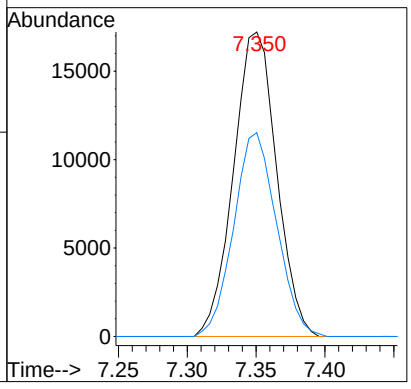


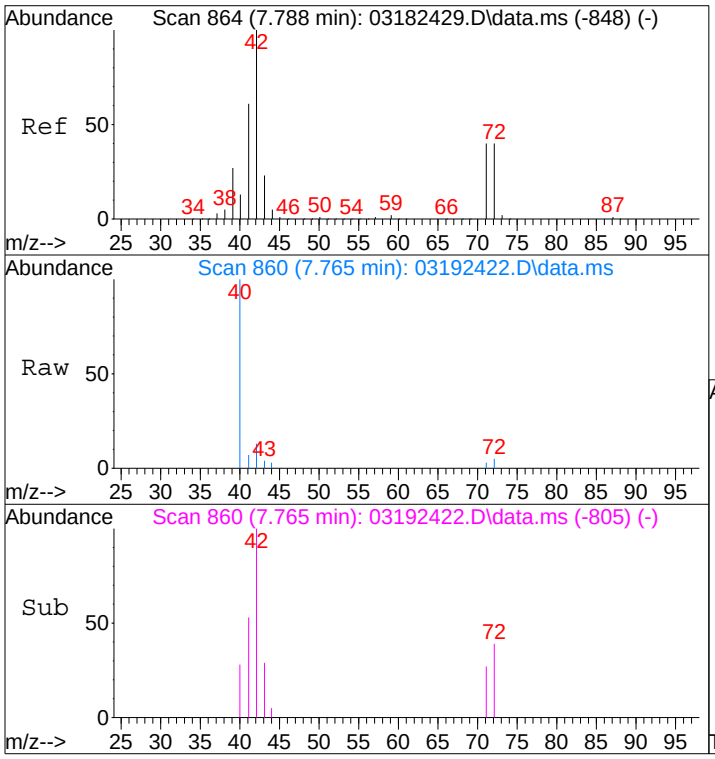


#32
Chloroform
Concen: 1.46 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 83 Resp: 37522

Ion	Ratio	Lower	Upper
83	100		
85	66.5	46.1	86.1

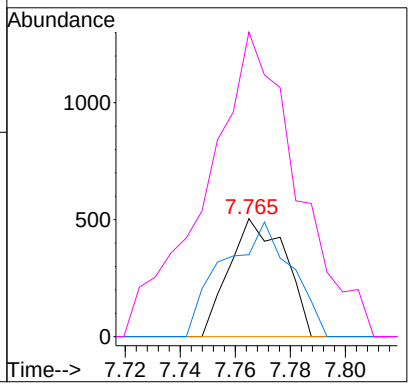


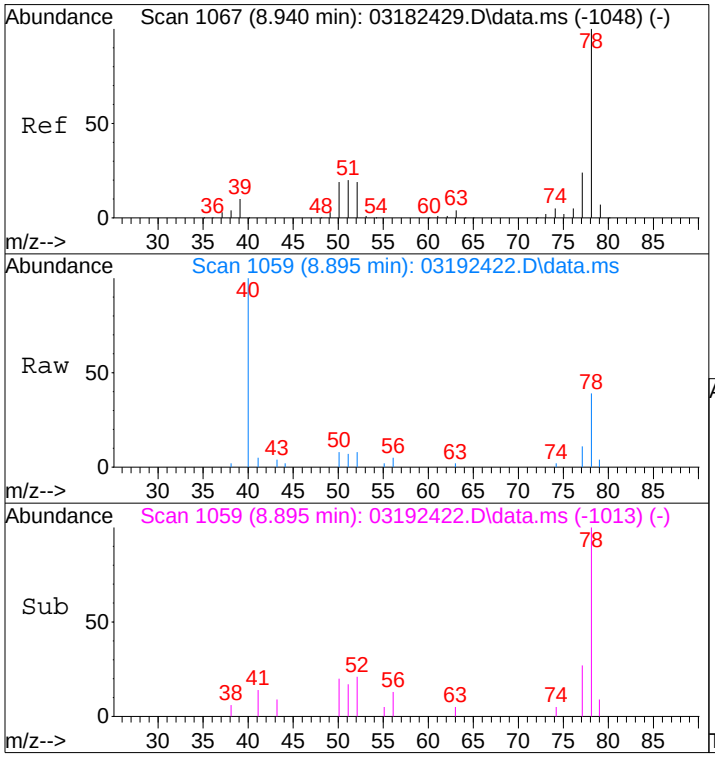


#34
Tetrahydrofuran (THF)
Concen: 0.09 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.062 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 72 Resp: 712

Ion	Ratio	Lower	Upper
72	100		
71	118.7	80.7	120.7
42	425.3	255.0	295.0#

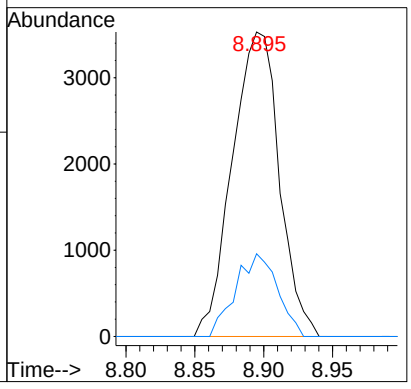


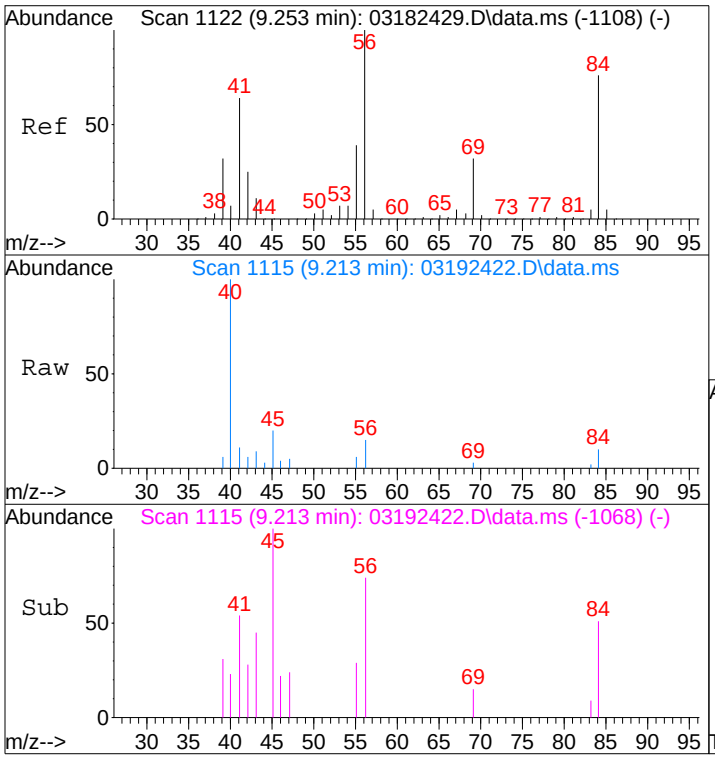


#41
Benzene
Concen: 0.15 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 78 Resp: 8384

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.6	43.6

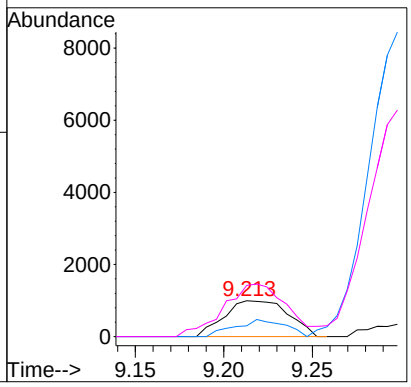


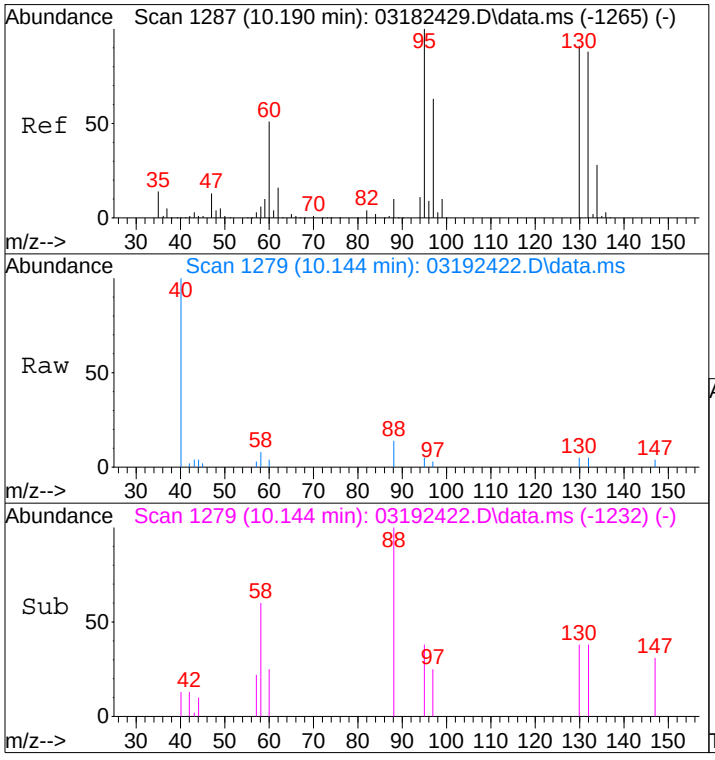


#43
Cyclohexane
Concen: 0.14 ng
RT: 9.21 min Scan# 1115
Delta R.T. 0.016 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 84 Resp: 2501

Ion	Ratio	Lower	Upper
84	100		
69	37.3	21.3	61.3
56	145.4	115.3	155.3

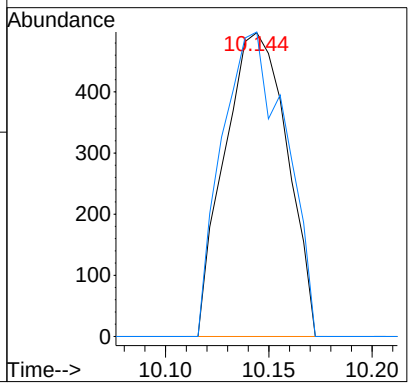


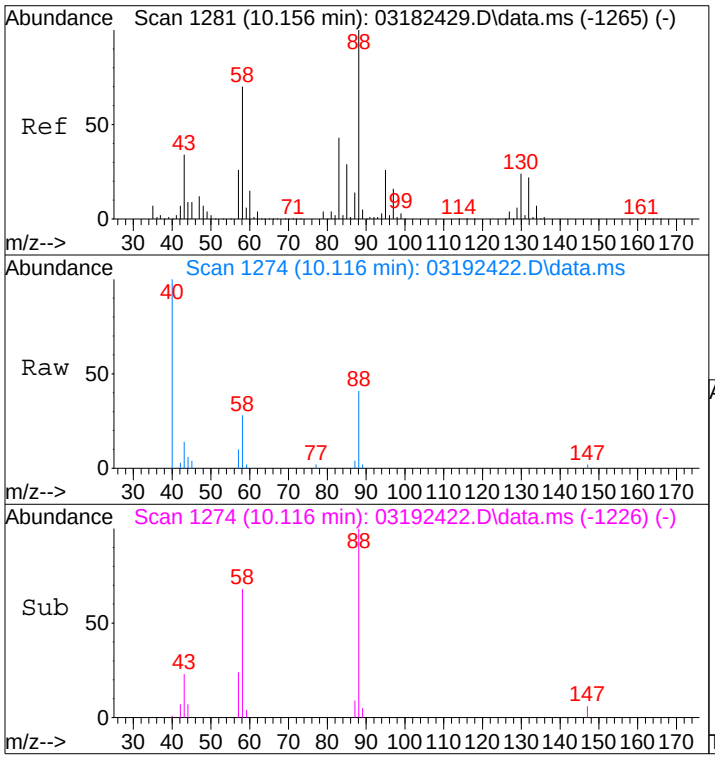


#47
Trichloroethene
Concen: 0.07 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion:130 Resp: 1044

Ion	Ratio	Lower	Upper
130	100		
132	102.5	77.5	117.5

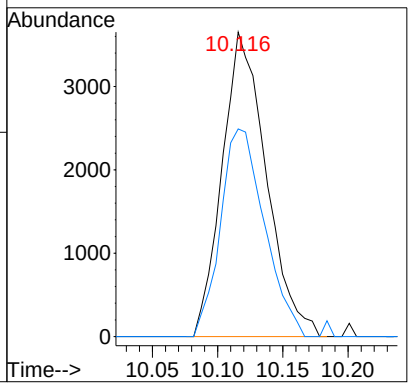


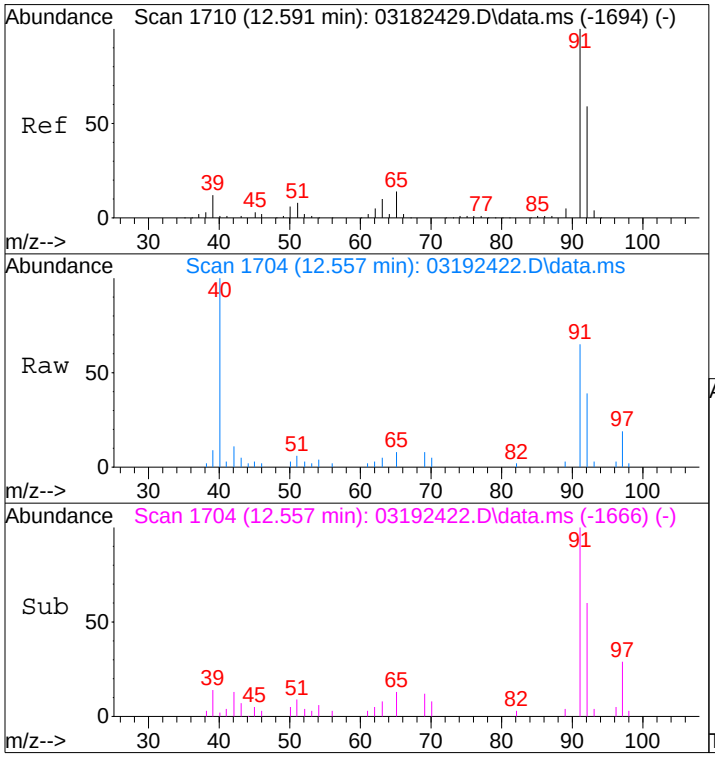


#48
1,4-Dioxane
Concen: 0.85 ng
RT: 10.12 min Scan# 1274
Delta R.T. 0.022 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 88 Resp: 8576

Ion	Ratio	Lower	Upper
88	100		
58	68.0	48.2	88.2

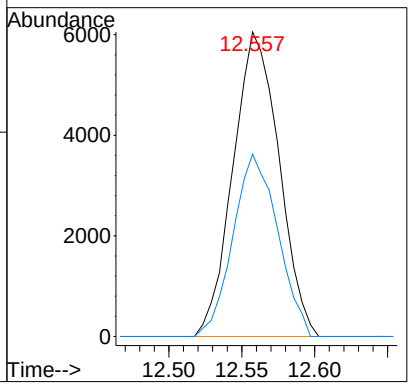


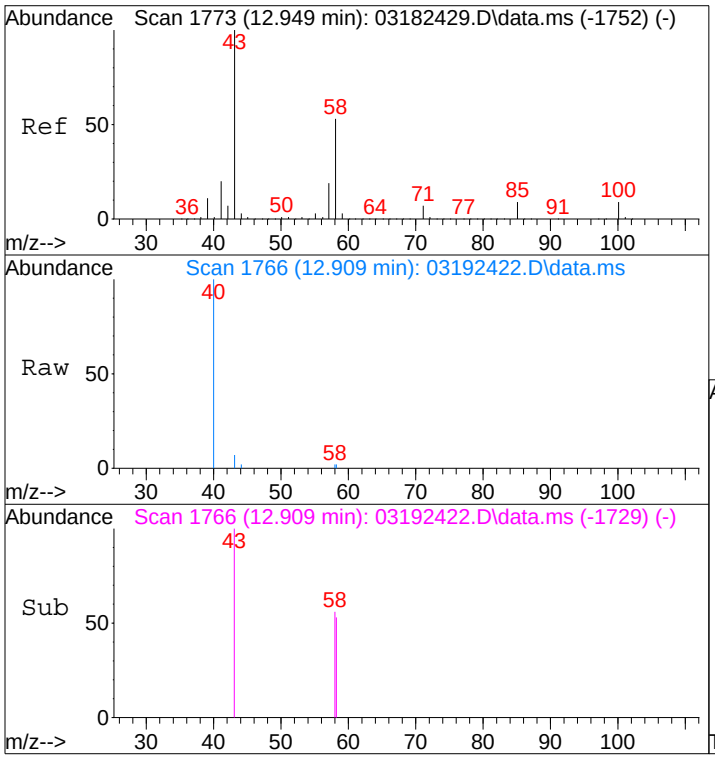


#58
Toluene
Concen: 0.24 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 91 Resp: 13279

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.2	79.2

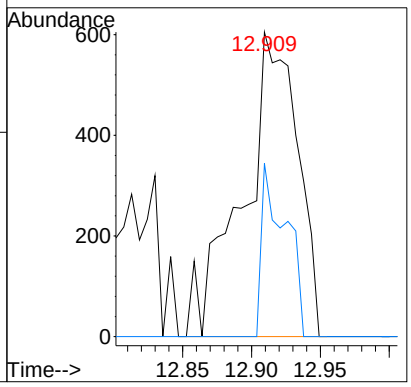


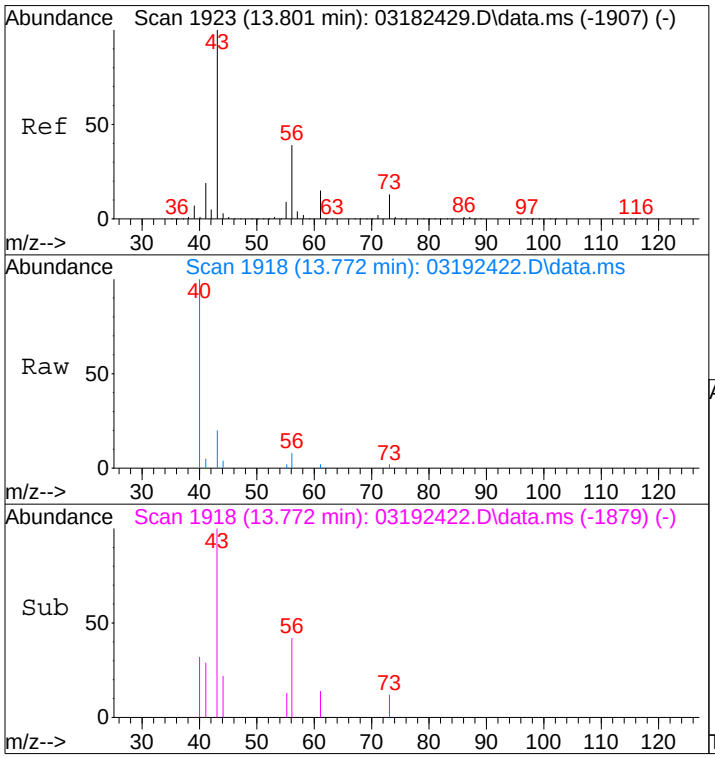


#59
2-Hexanone
Concen: 0.05 ng
RT: 12.91 min Scan# 1766
Delta R.T. -0.040 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 43 Resp: 1681

Ion	Ratio	Lower	Upper
43	100		
58	24.9	30.2	70.2#

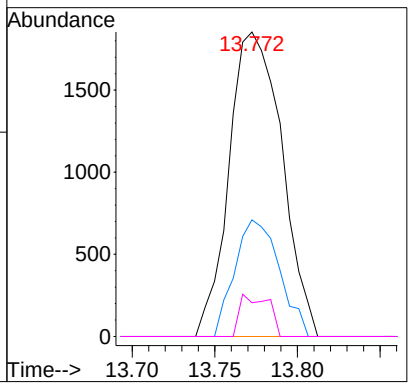


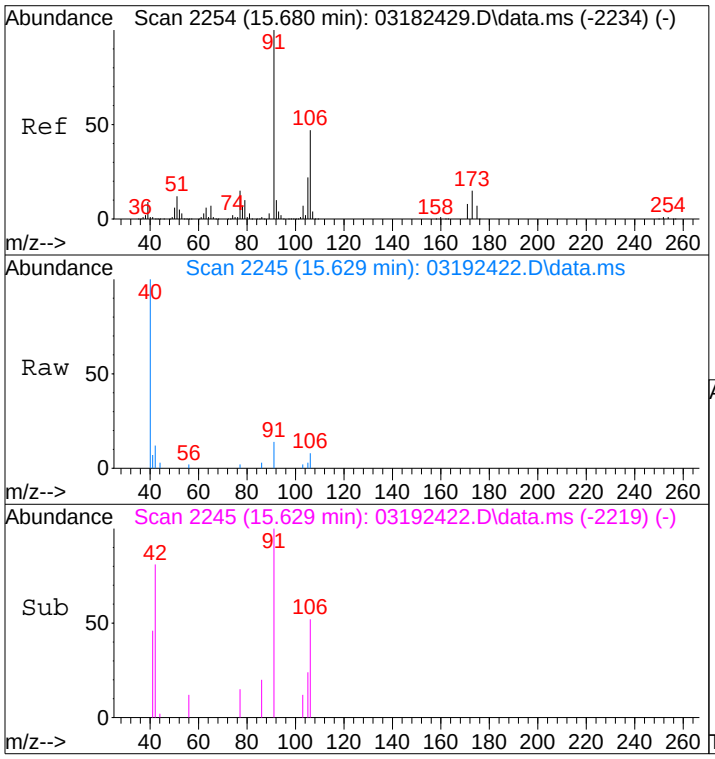


#62
n-Butyl Acetate
Concen: 0.11 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 43 Resp: 4112

Ion	Ratio	Lower	Upper
43	100		
56	32.4	16.7	56.7
73	7.5	0.0	31.3

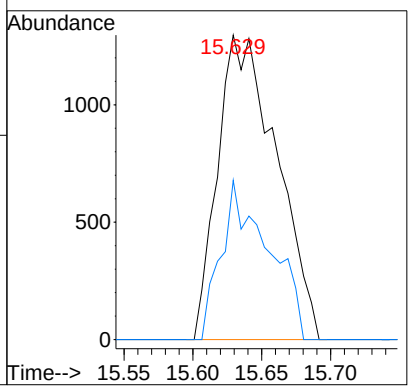


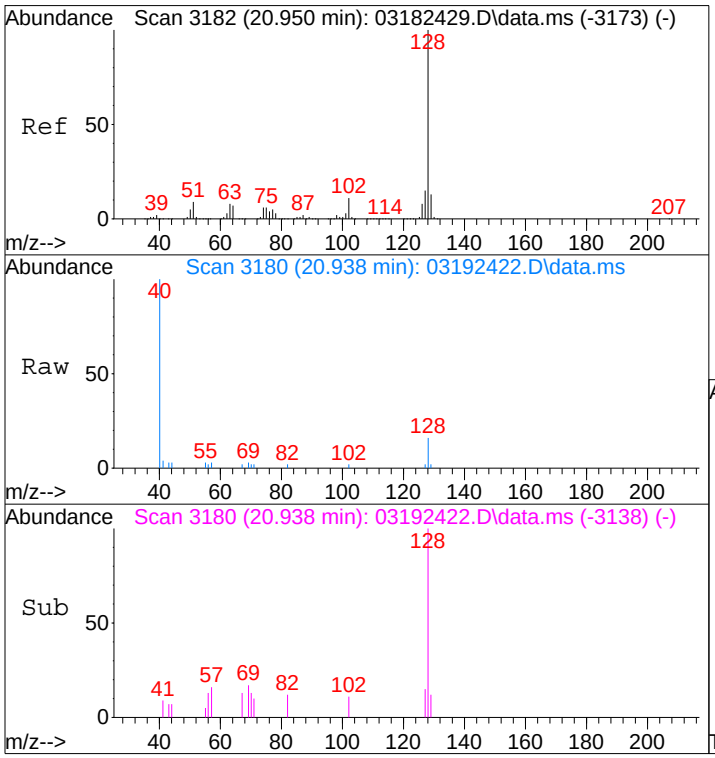


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion: 91 Resp: 3857

Ion	Ratio	Lower	Upper
91	100		
106	41.9	25.6	65.6

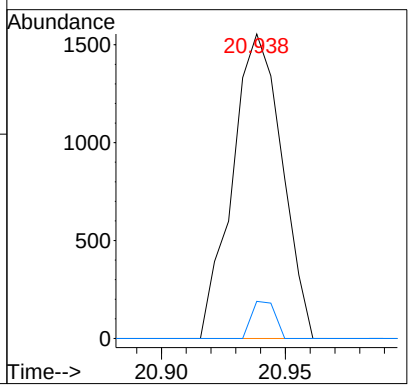




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03192422.D
Acq: 19 Mar 2024 21:27

Tgt Ion:128 Resp: 2167

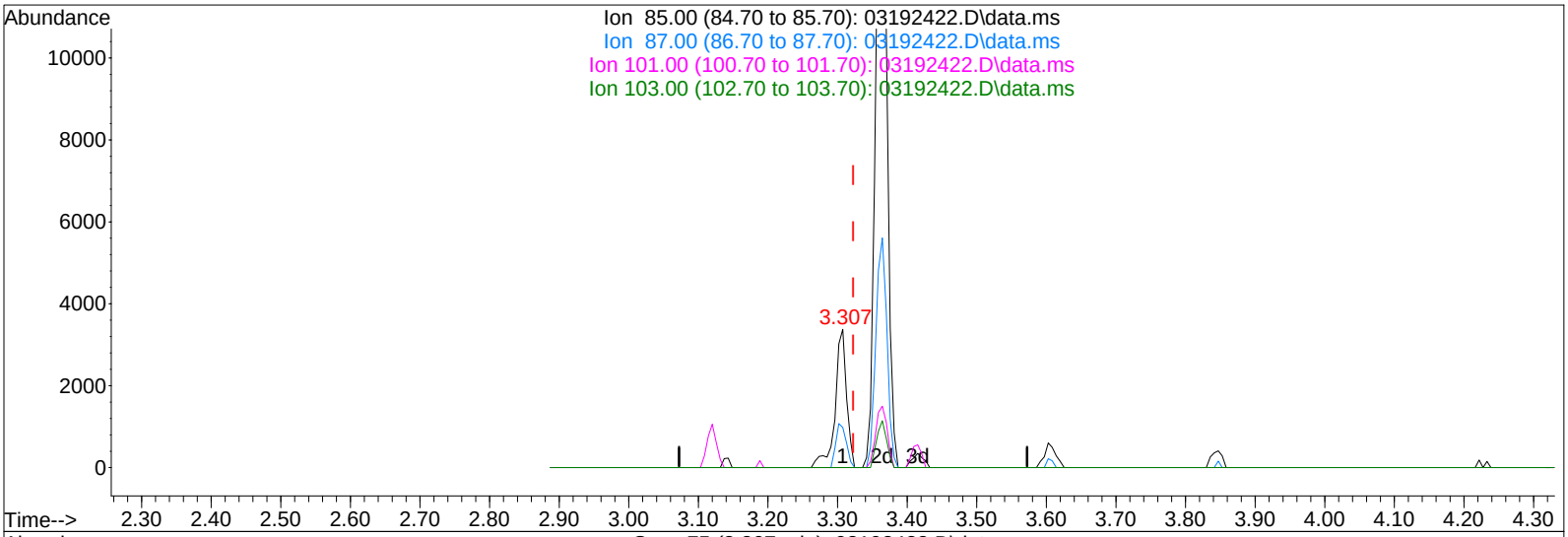
Ion	Ratio	Lower	Upper
128	100		
129	5.8	0.0	31.1

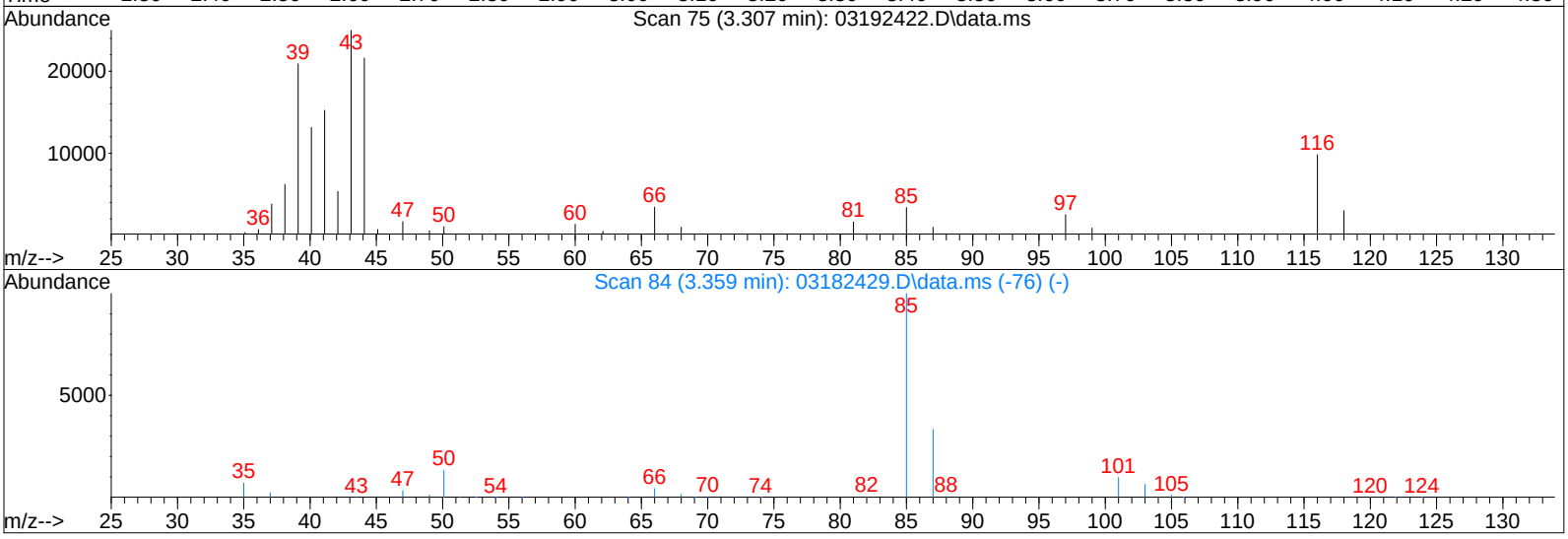


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03192422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.015) 0.13ng

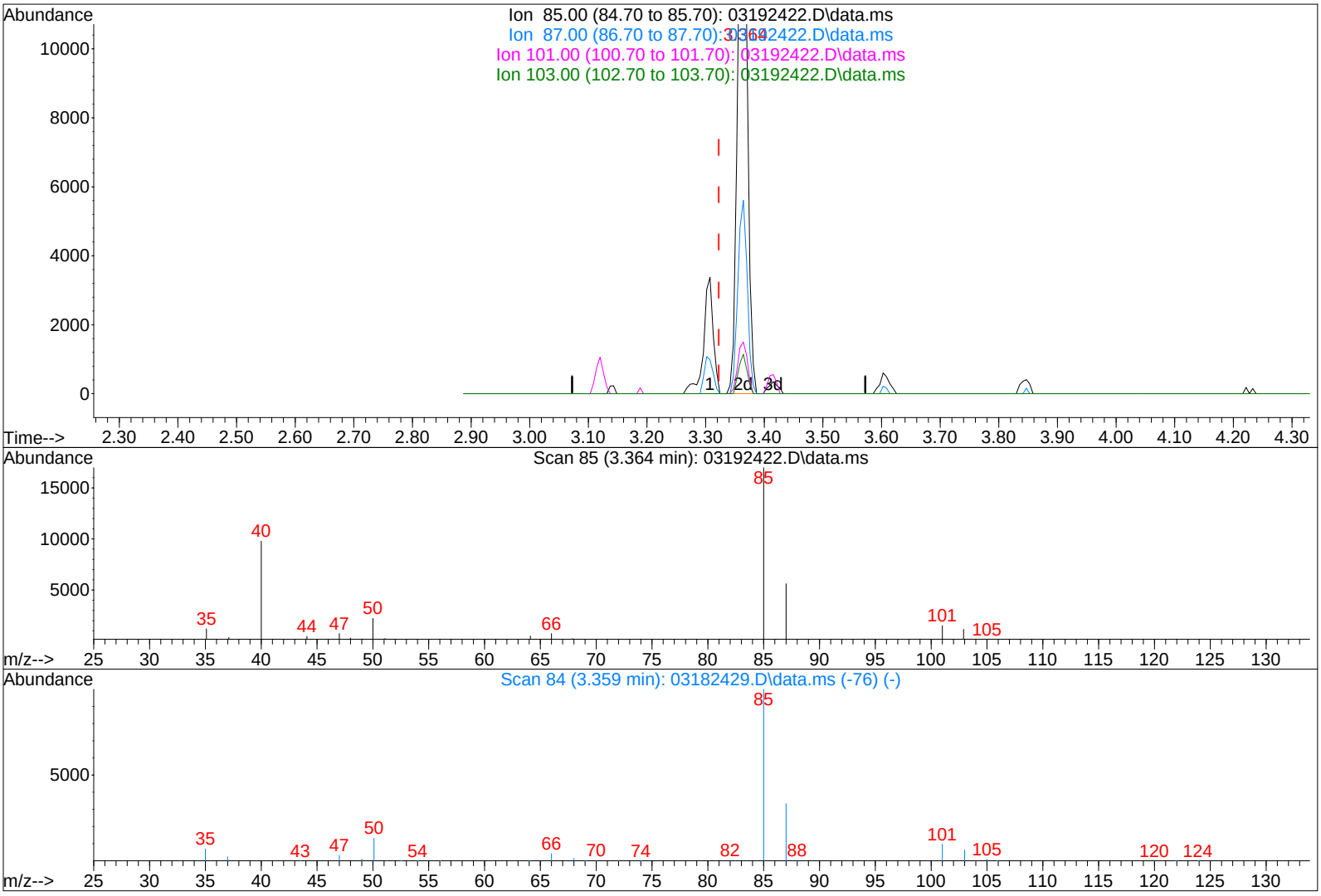
response 3874

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	28.78
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:25:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.62ng m

response 18809

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	5.93#
101.00	9.20	0.00
103.00	6.00	0.00

WP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:05:07 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

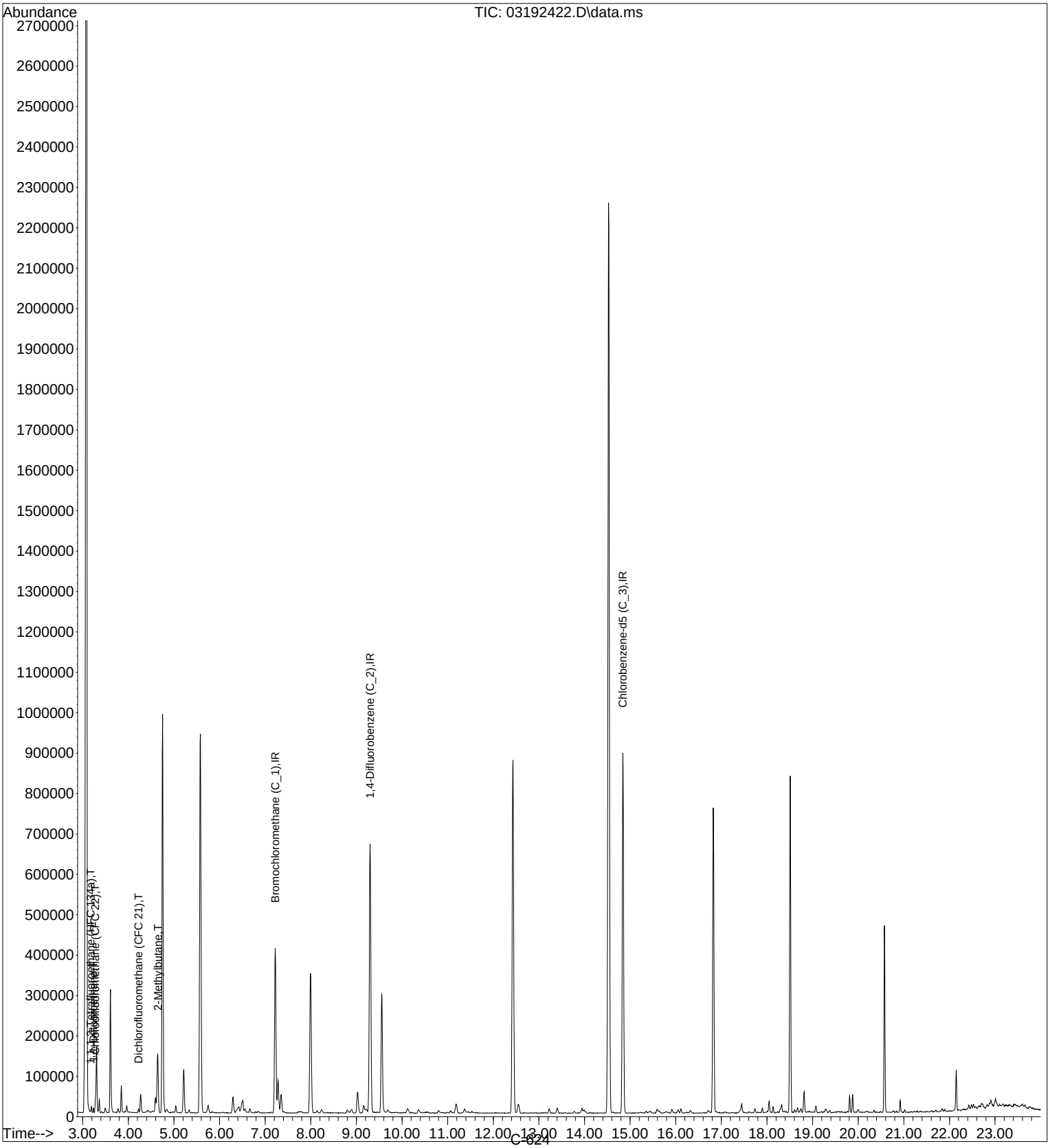
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	148258	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	640752	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	145688	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	155	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1574	0.115	ng	#	1
4) 1,1-Difluoroethane	3.23	65	2719	0.242	ng	#	68
5) Chlorodifluoromethane ...	3.27	67	4261	0.978	ng		96
6) 1-Chloro-1,1-Difluoroe...	3.51	65	465	N.D.			
7) Dichlorofluoromethane ...	4.22	67	7421	0.257	ng		97
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	580	N.D.			
10) 2-Methylbutane	4.65	57	28407	1.913	ng	#	79
11) Methyl Acetate	5.33	43	1542	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.	d		
17) 2,3-Dimethylpentane	9.55	56	726	N.D.			
18) Dibromomethane	9.79	174	54	N.D.			
20) Methyl Cyclohexane	11.41	55	1159	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	60	N.D.			
25) Bromobenzene	17.03	77	54	N.D.			
26) 2-Chlorotoluene	17.61	91	686	N.D.			
27) 4-Chlorotoluene	17.67	91	1310	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	60	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	60	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	1901	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

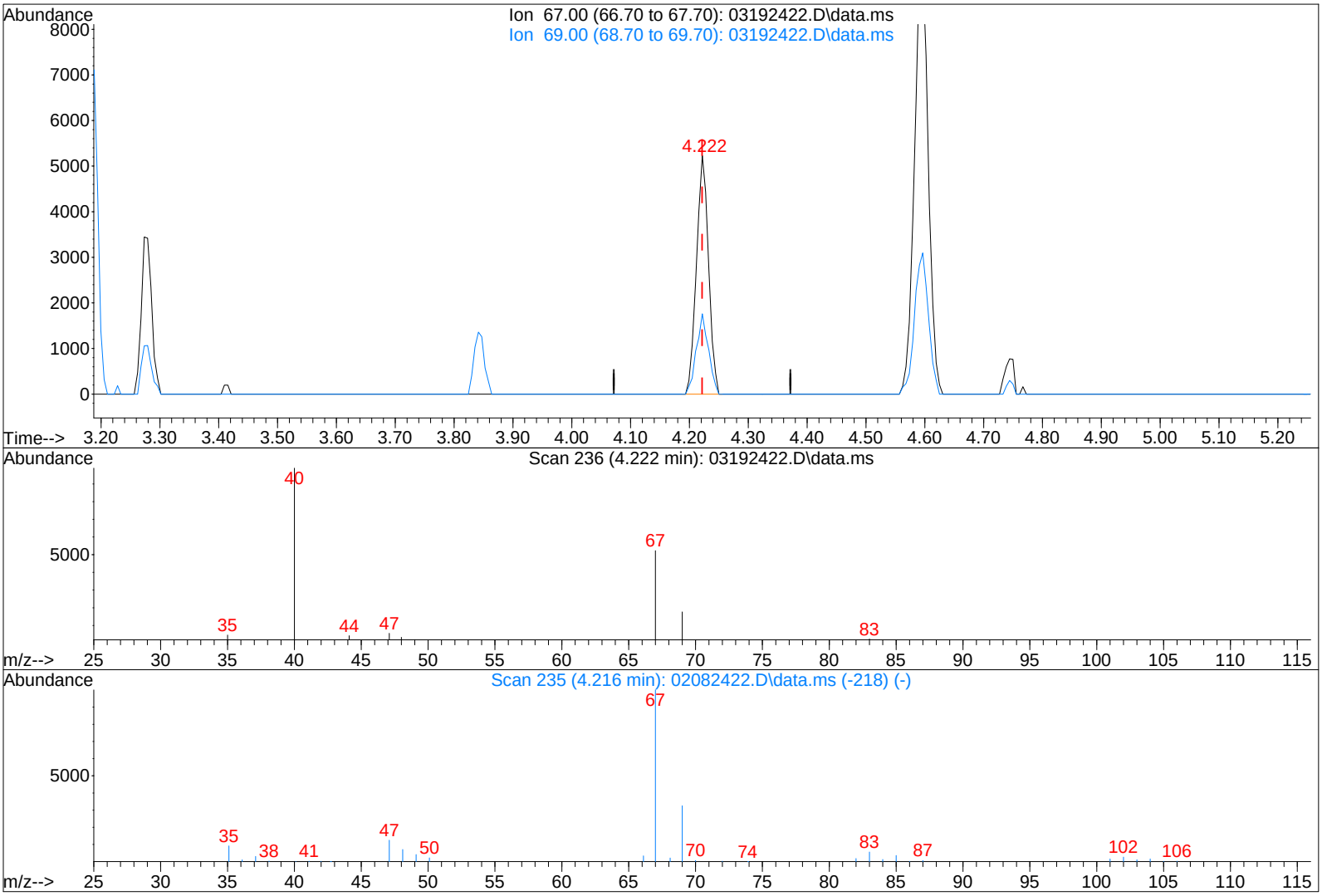
Quant Time: Mar 21 10:05:07 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192422.D Vial: 11
Acq On : 19 Mar 2024 21:27 Operator: SC
Sample : P2400922-008 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:04:40 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192422.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 0.26ng

response 7421

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	33.94
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192422.D
Acq On : 19 Mar 2024 21:27
Operator : SC
Sample : P2400922-008 (400mL)
Misc : S37-02202408
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192422.D\data.ms

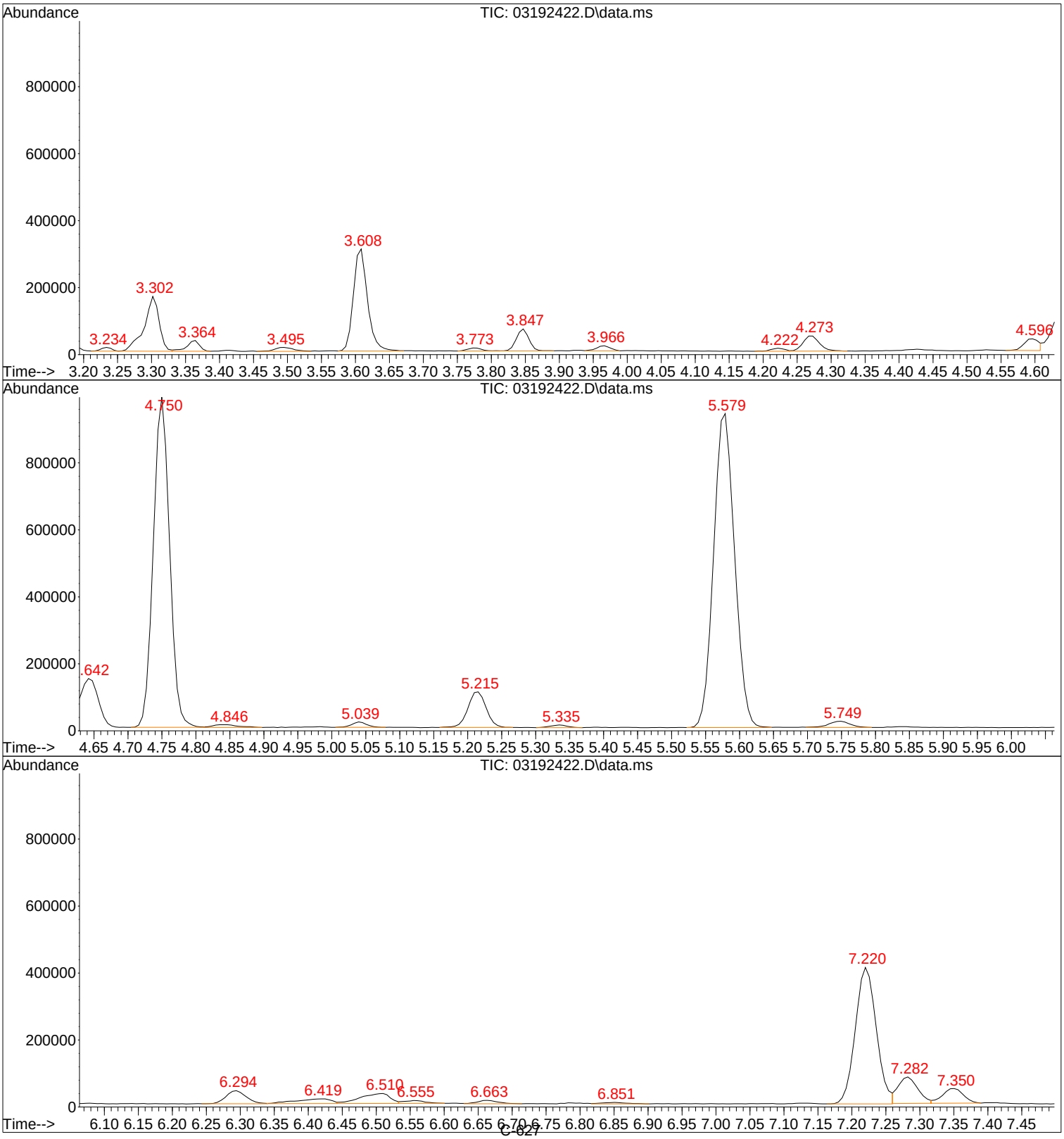
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	58	62	65	rVB	11323	12308	0.61%	0.184%
2	3.302	65	74	79	rVV4	163470	250186	12.45%	3.749%
3	3.364	79	85	89	rVB	32320	40520	2.02%	0.607%
4	3.495	101	108	115	rBV6	11657	22774	1.13%	0.341%
5	3.608	122	128	139	rBV2	304680	439864	21.88%	6.592%
6	3.773	153	157	164	rBV2	9245	13808	0.69%	0.207%
7	3.847	164	170	178	rVV	65446	83825	4.17%	1.256%
8	3.966	186	191	195	rVB	15277	21094	1.05%	0.316%
9	4.222	230	236	239	rBV2	9217	12908	0.64%	0.193%
10	4.273	239	245	254	rVB2	45078	77237	3.84%	1.158%
11	4.596	295	302	304	rBV	34617	54374	2.70%	0.815%
12	4.642	304	310	318	rVB3	145716	293476	14.60%	4.398%
13	4.750	321	329	340	rBV	985753	1639938	81.58%	24.577%
14	4.846	340	346	355	rVB4	8284	21464	1.07%	0.322%
15	5.039	374	380	387	rVB	16114	24369	1.21%	0.365%
16	5.215	401	411	420	rVB	106391	199751	9.94%	2.994%
17	5.335	426	432	438	rBV4	7875	13652	0.68%	0.205%
18	5.579	465	475	487	rBV2	937793	2010254	100.00%	30.127%
19	5.749	496	505	513	rVB	18430	40714	2.03%	0.610%
20	6.294	592	601	609	rBV	39026	81141	4.04%	1.216%
21	6.419	609	623	627	rVV4	14031	50742	2.52%	0.760%
22	6.510	627	639	643	rVV2	29685	90291	4.49%	1.353%
23	6.555	643	647	655	rVB2	8462	17228	0.86%	0.258%
24	6.663	660	666	675	rVB	10104	21388	1.06%	0.321%
25	6.851	693	699	708	rVB4	4280	10058	0.50%	0.151%
26	7.220	754	764	771	rBV	407430	879062	43.73%	13.174%
27	7.282	771	775	781	rVV	78977	157484	7.83%	2.360%
28	7.350	781	787	794	rVB	43366	92721	4.61%	1.390%

Sum of corrected areas: 6672631

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192422.D
Acq On : 19 Mar 2024 21:27
Operator : SC
Sample : P2400922-008 (400mL)
Misc : S37-02202408
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192422.D
Acq On : 19 Mar 2024 21:277
Operator : SCC
Sample : P2400922-008 (400mL))
Misc : S37-022024088
ALS Vial : 11 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:07:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	149417	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	633744	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	141419	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	303878	12.432	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	12.43	98	722287	12.721	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	16.83	174	254748	12.726	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.38	85	3914m	0.128	ng		
4) Chloromethane	3.52	50	349	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	78	N.D.			
11) Acetonitrile	4.44	41	1112	N.D.			
12) Acrolein	4.54	56	208	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.76	101	2868126	96.692	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1313	N.D.			
16) Acrylonitrile	4.99	53	465	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	53	N.D.			
19) Methylene Chloride	5.35	84	920	0.058	ng		85
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1079524	86.337	ng		99
22) Carbon Disulfide	5.60	76	16639	0.334	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	288	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	135	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	621	0.115	ng	#	75
31) n-Hexane	7.31	57	513	N.D.			
32) Chloroform	7.35	83	13492	0.521	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.51	61	226	No Calib		#	
40) 1-Butanol	8.83	56	496	No Calib		#	
41) Benzene	8.89	78	2739	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	126	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	416	N.D.			
47) Trichloroethene	10.14	130	2565	0.167	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:07:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

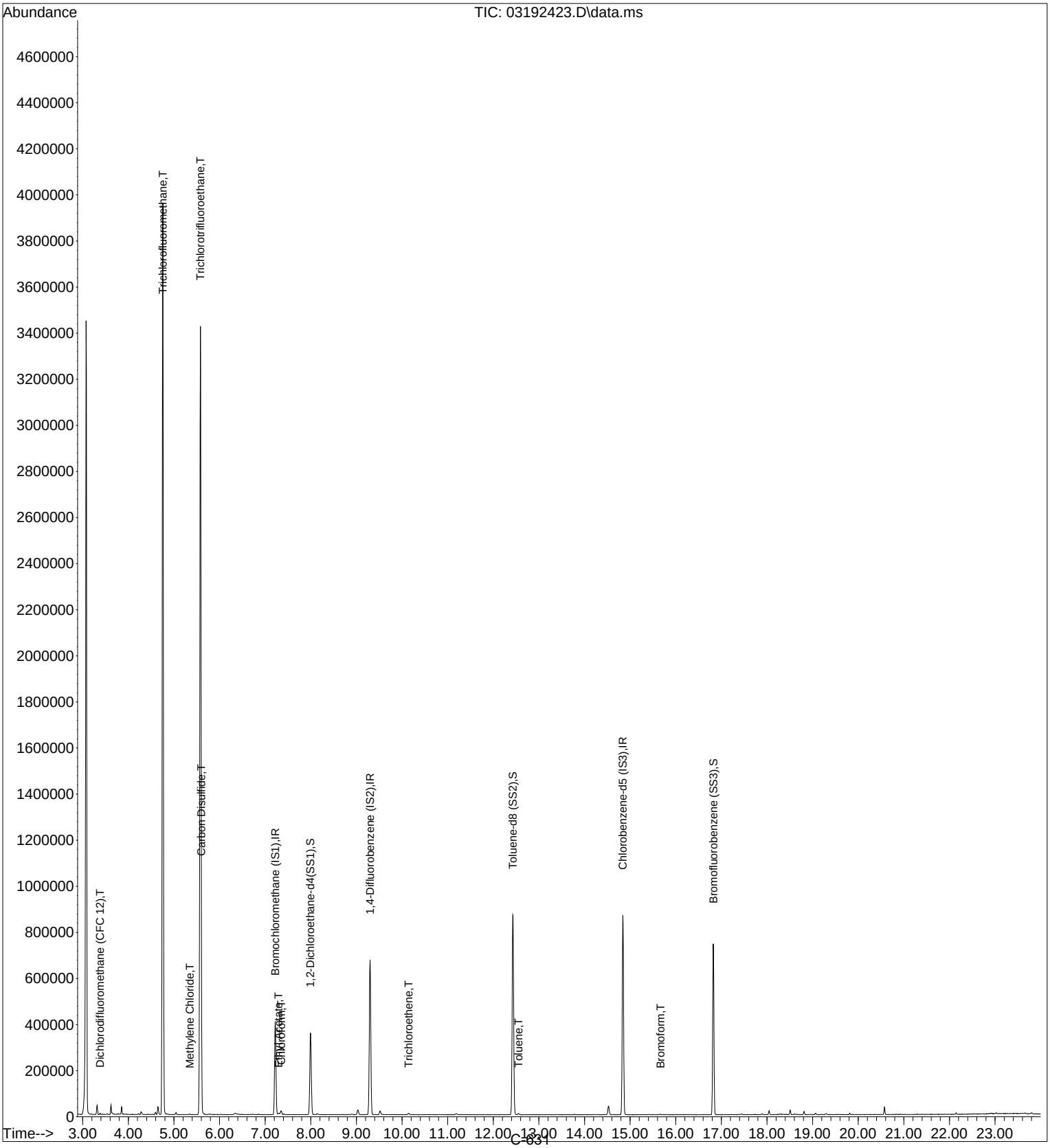
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	3641	0.067 ng	95
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	427	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1687	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	333	N.D.	
65) Chlorobenzene	14.90	112	572	N.D.	
66) Ethylbenzene	15.41	91	1316	N.D.	
67) m- & p-Xylenes	15.62	91	2193	N.D.	
68) Bromoform	15.67	173	1056	0.072 ng	84
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	1175	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	185	N.D.	
74) Cumene	17.04	105	632	N.D.	
75) alpha-Pinene	17.53	93	130	N.D.	
76) n-Propylbenzene	17.68	91	957	N.D.	
77) 3-Ethyltoluene	17.04	105	632	No Calib #	
78) 4-Ethyltoluene	17.86	105	511	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	327	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	632	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	544	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	553	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	605	N.D.	
87) sec-Butylbenzene	18.74	105	863	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	483	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	632	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	448	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	701	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	502	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	748	N.D.	
100) n-Butylbenzene	19.39	91	518	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:07:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:07:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

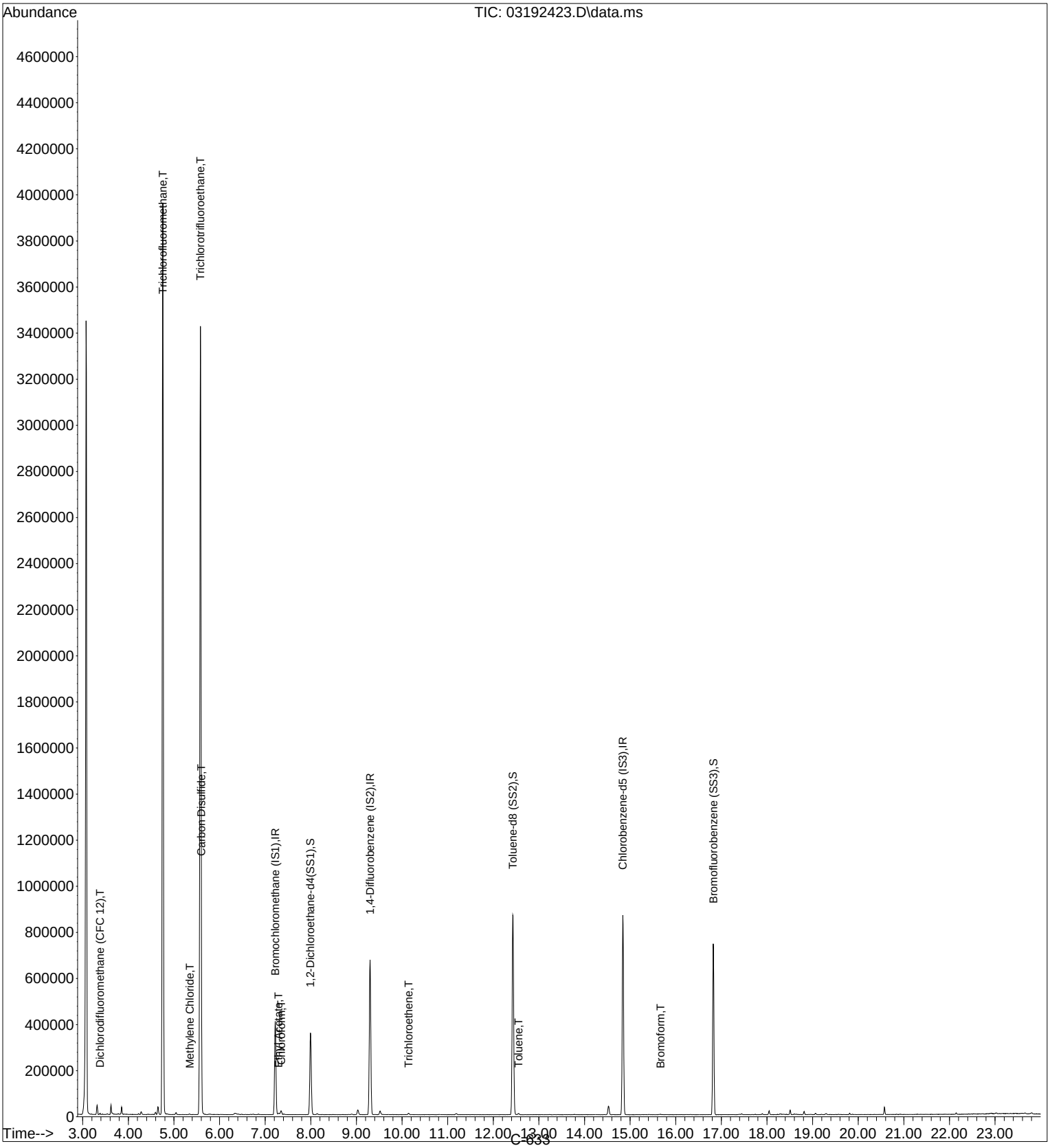
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	149417	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	633744	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	141419	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	303878	12.432	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	12.43	98	722287	12.721	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
73) Bromofluorobenzene (SS3)	16.83	174	254748	12.726	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	3914m	0.128	ng		
14) Trichlorofluoromethane	4.76	101	2868126	96.692	ng		100
19) Methylene Chloride	5.35	84	920	0.058	ng		85
21) Trichlorotrifluoroethane	5.58	151	1079524	86.337	ng		99
22) Carbon Disulfide	5.60	76	16639	0.334	ng	#	1
30) Ethyl Acetate	7.29	61	621	0.115	ng	#	75
32) Chloroform	7.35	83	13492	0.521	ng		99
47) Trichloroethene	10.14	130	2565	0.167	ng		98
58) Toluene	12.56	91	3641	0.067	ng		95
68) Bromoform	15.67	173	1056	0.072	ng		84

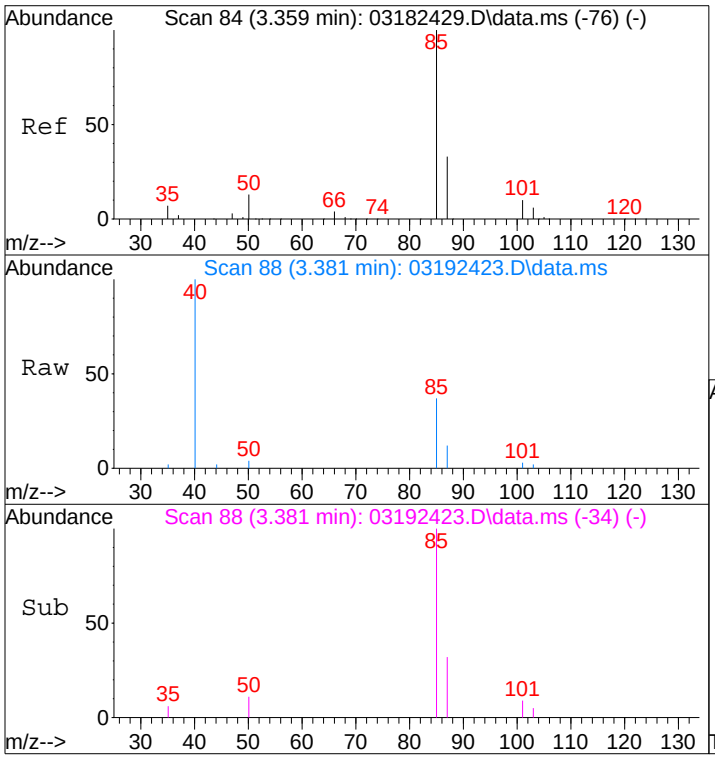
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:07:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

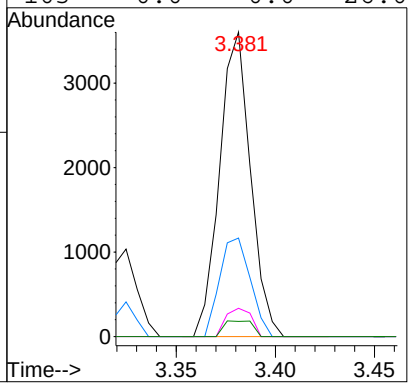


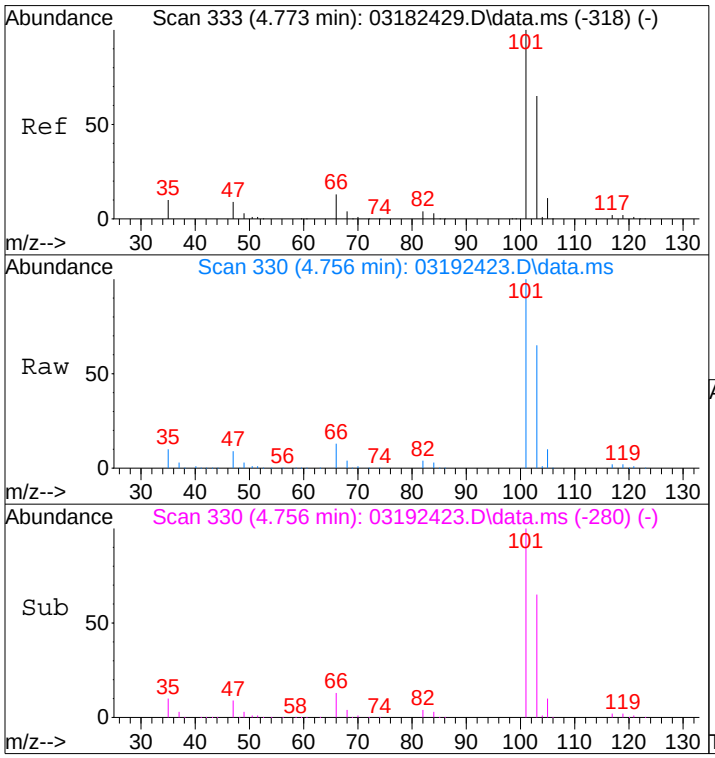


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.13 ng m
RT: 3.38 min Scan# 88
Delta R.T. 0.059 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion: 85 Resp: 3914

Ion	Ratio	Lower	Upper
85	100		
87	7.4	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

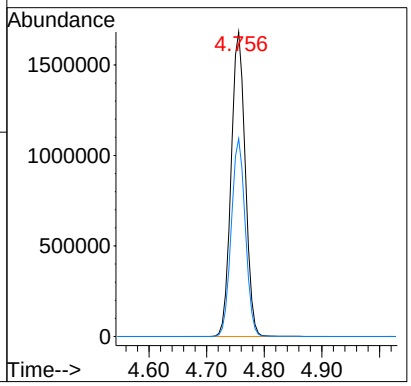


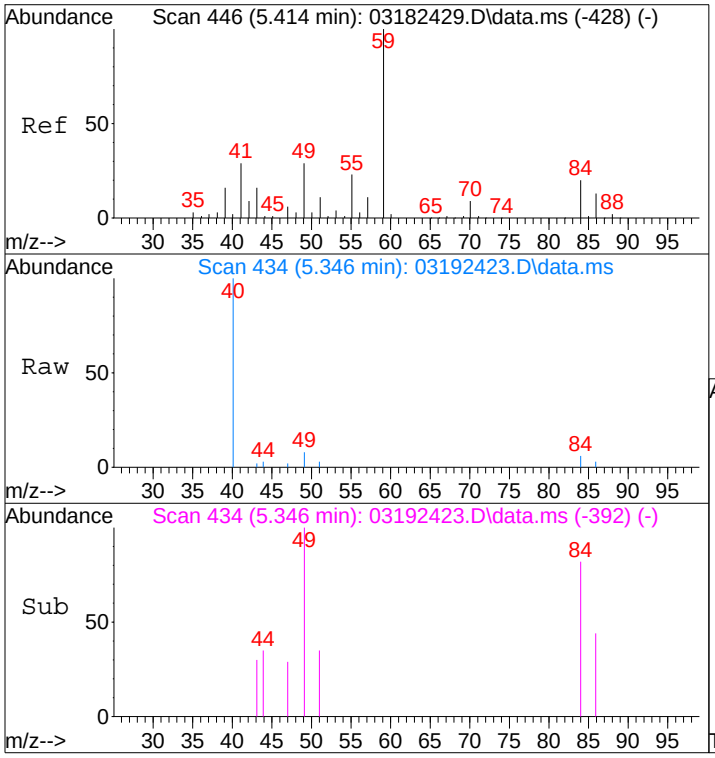


#14
Trichlorofluoromethane
Concen: 96.69 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion:101 Resp: 2868126

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

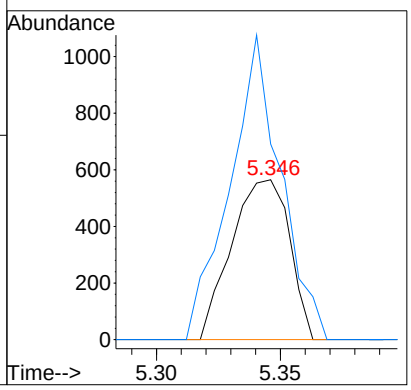


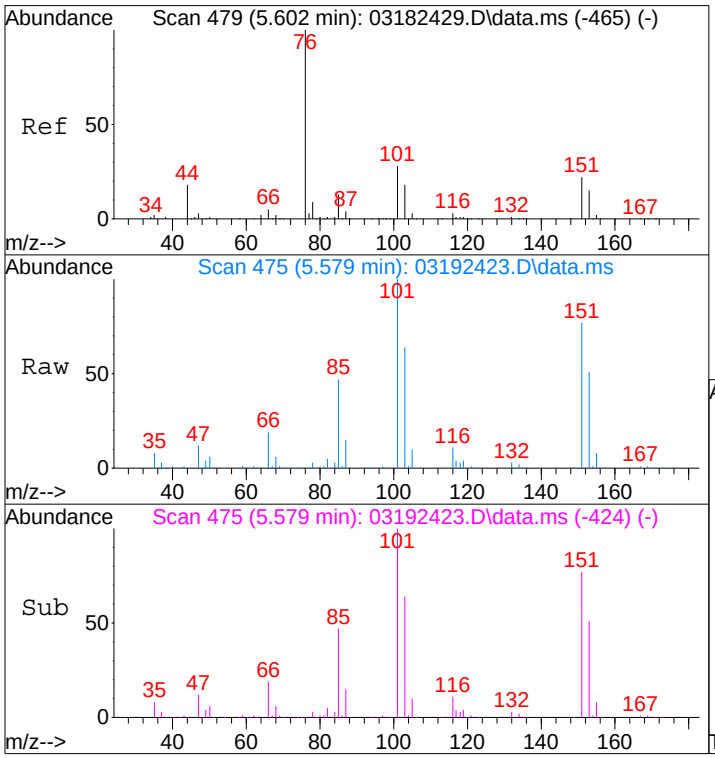


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.009 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion: 84 Resp: 920

Ion	Ratio	Lower	Upper
84	100		
49	166.8	122.9	172.9

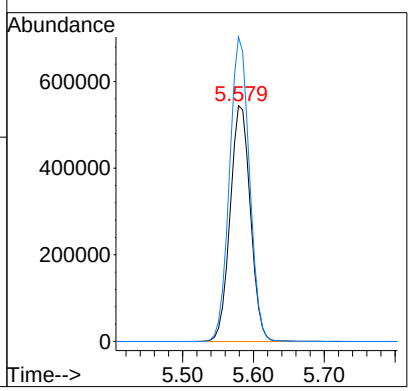


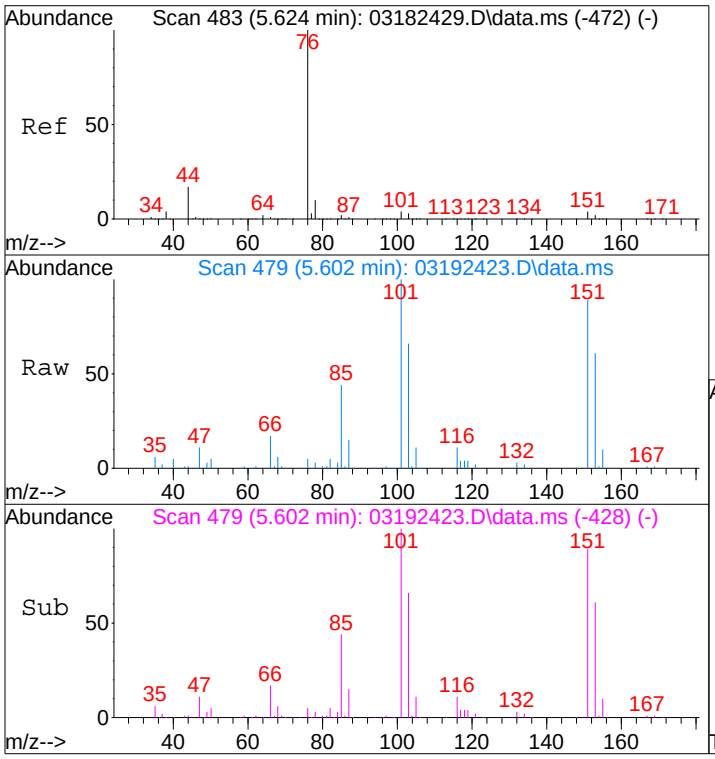


#21
Trichlorotrifluoroethane
Concen: 86.34 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion:151 Resp: 1079524

Ion	Ratio	Lower	Upper
151	100		
101	127.3	106.4	146.4

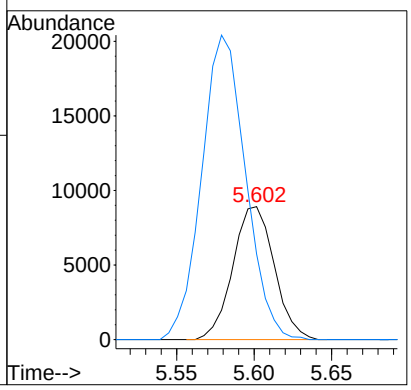


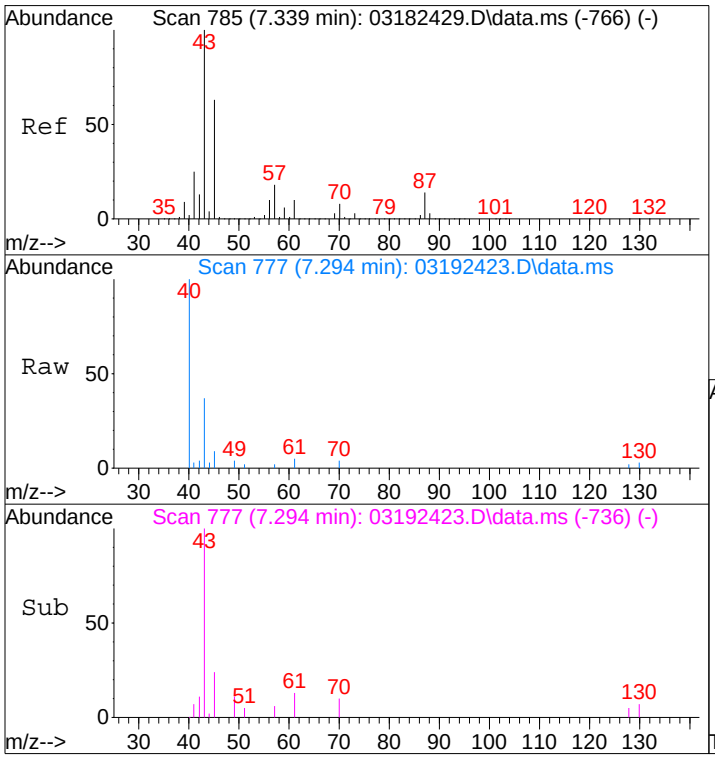


#22
Carbon Disulfide
Concen: 0.33 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion: 76 Resp: 16639

Ion	Ratio	Lower	Upper
76	100		
78	242.4	0.0	29.8#

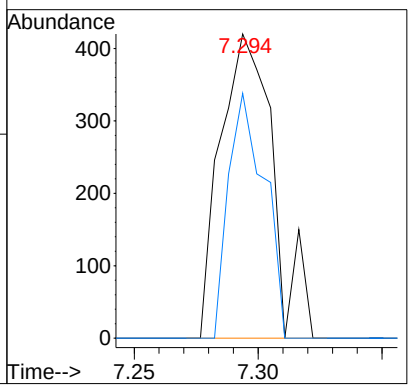


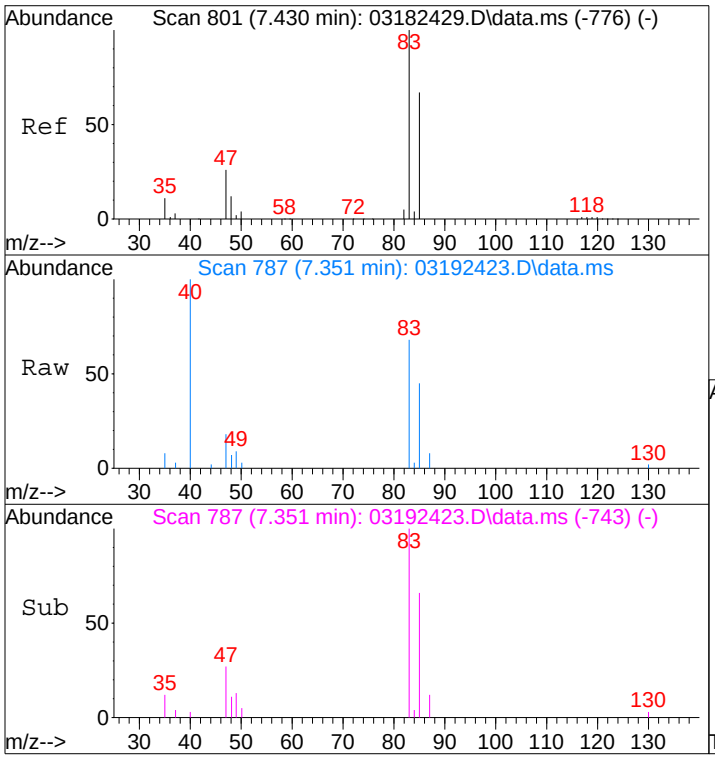


#30
Ethyl Acetate
Concen: 0.12 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion: 61 Resp: 621

Ion	Ratio	Lower	Upper
61	100		
70	55.2	57.3	97.3#

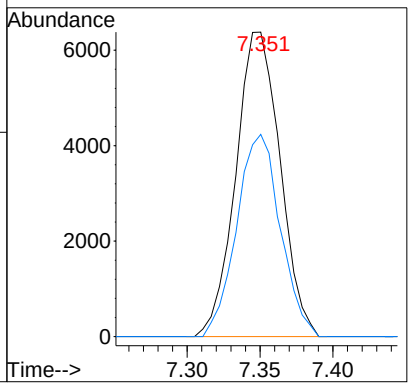


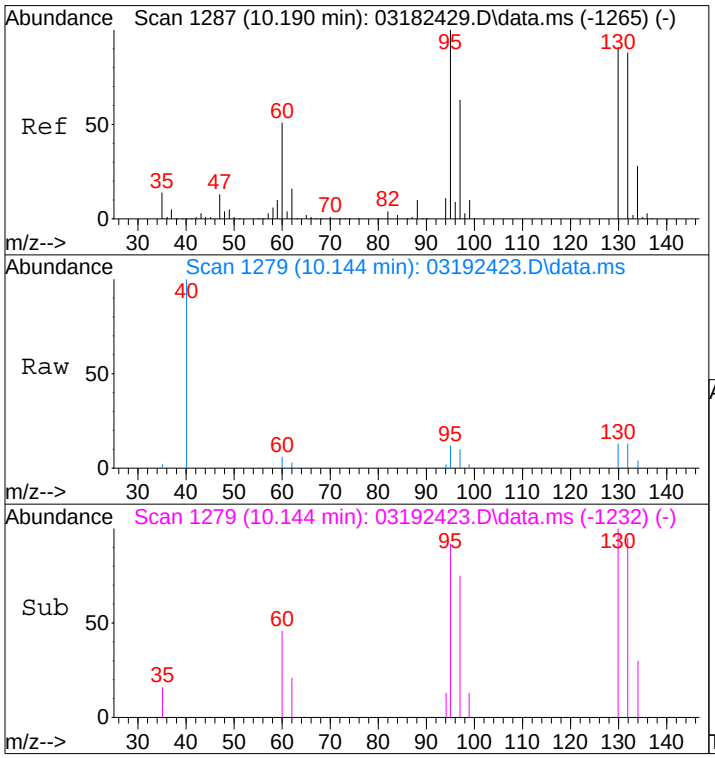


#32
Chloroform
Concen: 0.52 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion: 83 Resp: 13492

Ion	Ratio	Lower	Upper
83	100		
85	65.4	46.1	86.1

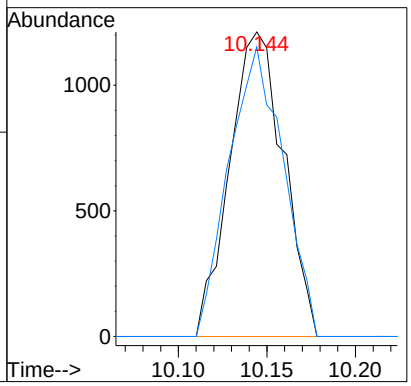


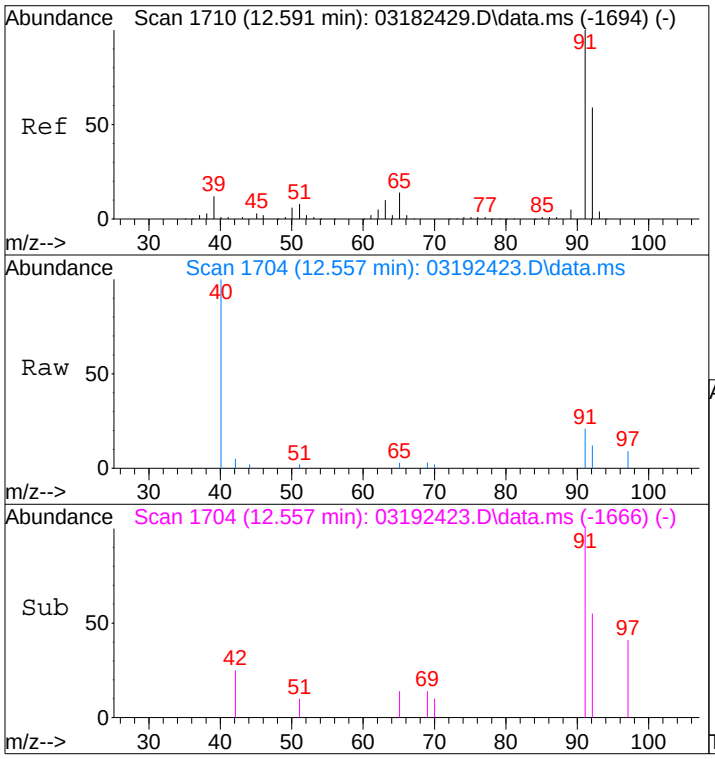


#47
Trichloroethene
Concen: 0.17 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion:130 Resp: 2565

Ion	Ratio	Lower	Upper
130	100		
132	95.9	77.5	117.5

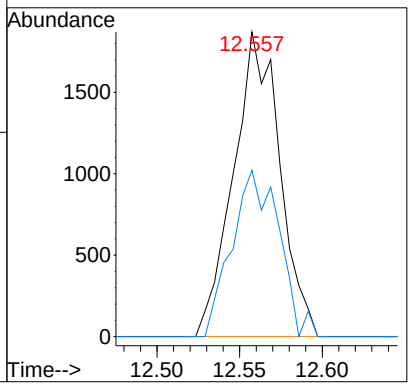


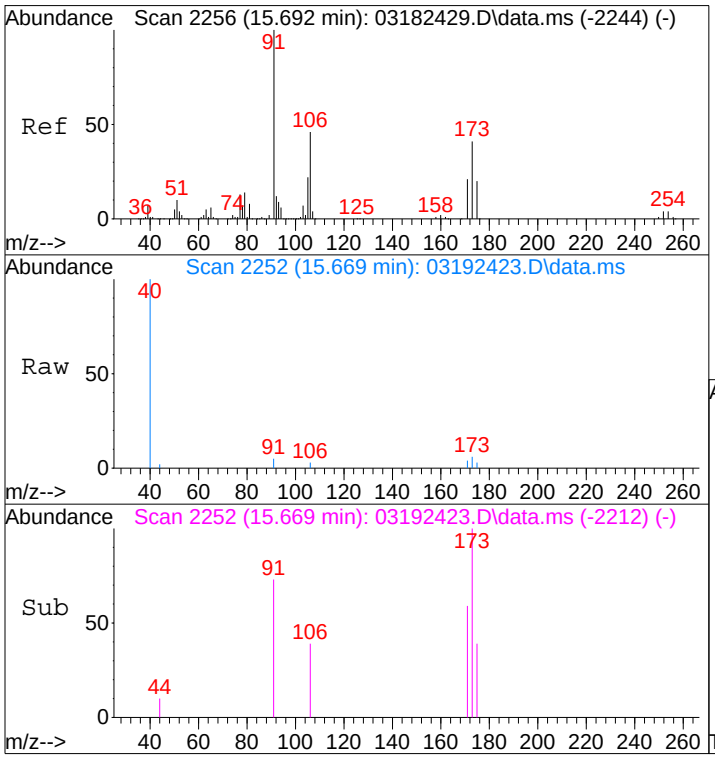


#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion: 91 Resp: 3641

Ion	Ratio	Lower	Upper
91	100		
92	55.8	39.2	79.2

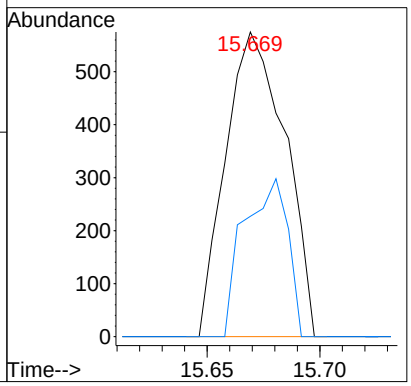




#68
Bromoform
Concen: 0.07 ng
RT: 15.67 min Scan# 2252
Delta R.T. -0.023 min
Lab File: 03192423.D
Acq: 19 Mar 2024 21:59

Tgt Ion:173 Resp: 1056

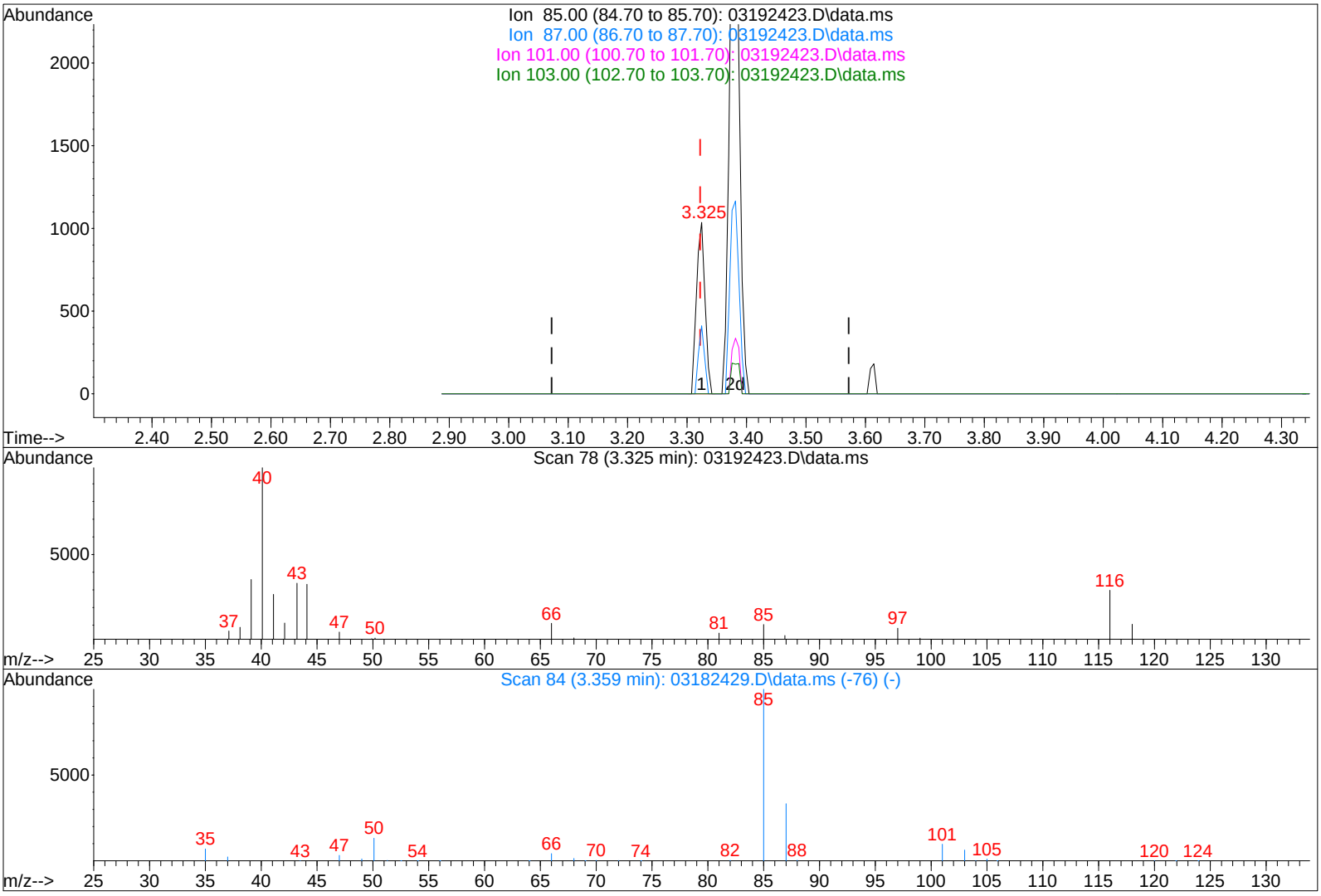
Ion	Ratio	Lower	Upper
173	100		
175	38.1	28.7	68.7



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:26:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.325min (+0.002) 0.03ng

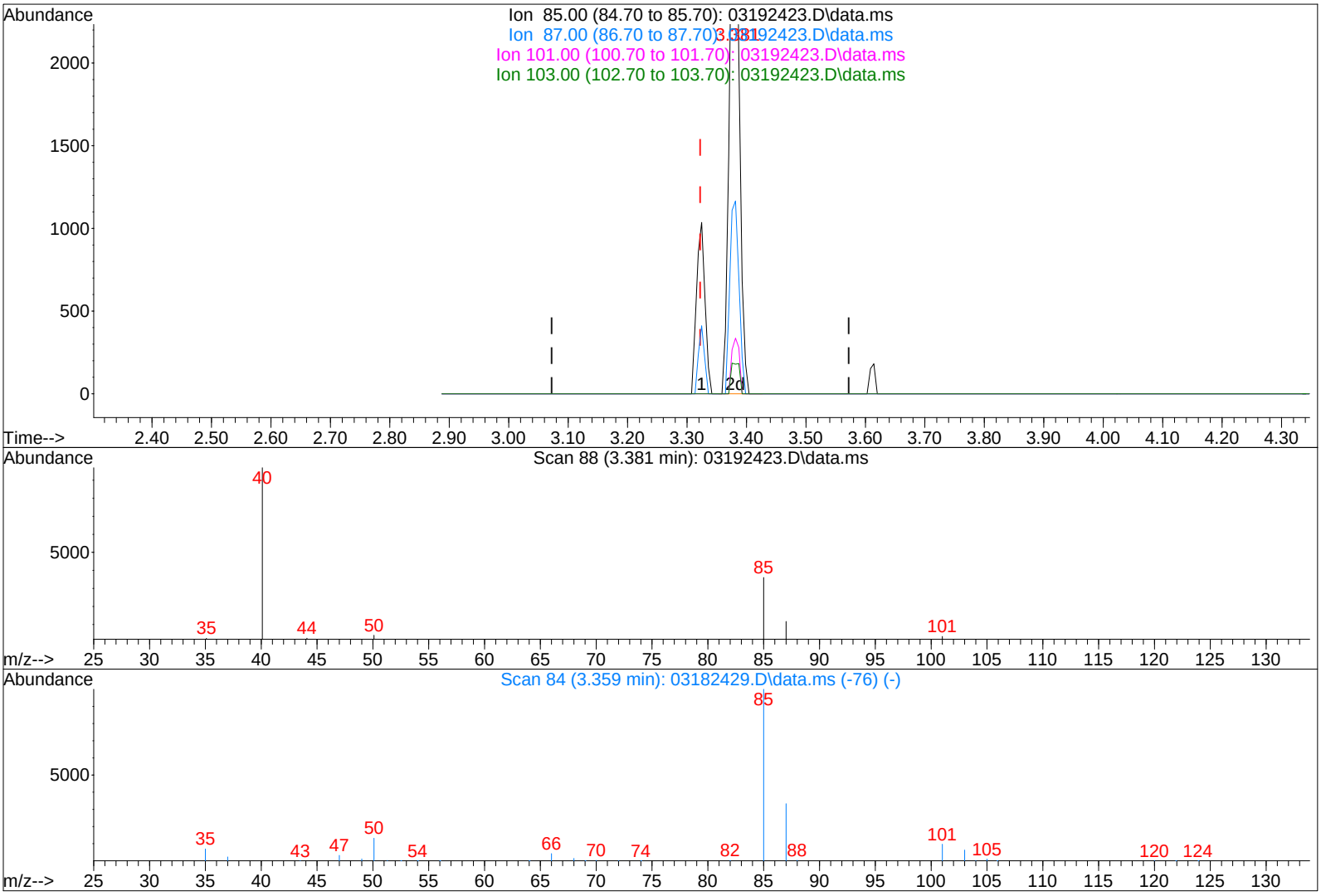
response 1029

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.99
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:26:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.381min (+0.059) 0.13ng m

response 3914

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	7.36#
101.00	9.20	0.00
103.00	6.00	0.00

WP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:05:36 2024 3/21/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

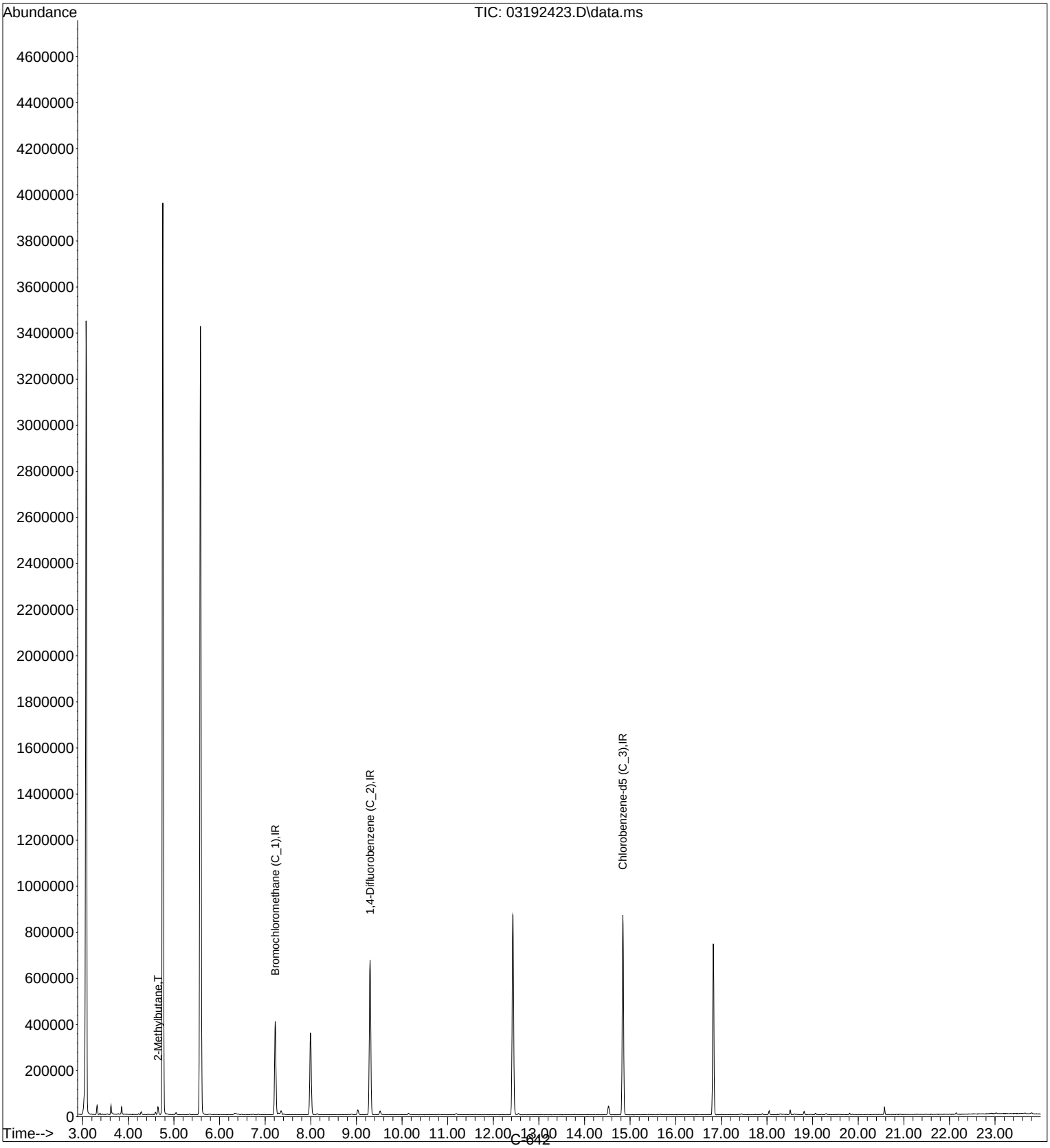
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	149417	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	634944	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	141419	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	186	N.D.			
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.29	67	53	N.D.			
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.			
7) Dichlorofluoromethane ...	4.22	67	2893	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	76	N.D.			
10) 2-Methylbutane	4.65	57	5940	0.397	ng	#	71
11) Methyl Acetate	5.35	43	369	N.D.			
12) 2-Methylpentane	6.48	71	274	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	985	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.80	174	176	N.D.			
20) Methyl Cyclohexane	11.41	55	68	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	530	N.D.			
27) 4-Chlorotoluene	17.68	91	957	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192423.D Vial: 12
Acq On : 19 Mar 2024 21:59 Operator: SC
Sample : P2400922-009 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:05:36 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192423.D
Acq On : 19 Mar 2024 21:59
Operator : SC
Sample : P2400922-009 (80mL)
Misc : S37-02202408
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192423.D\data.ms

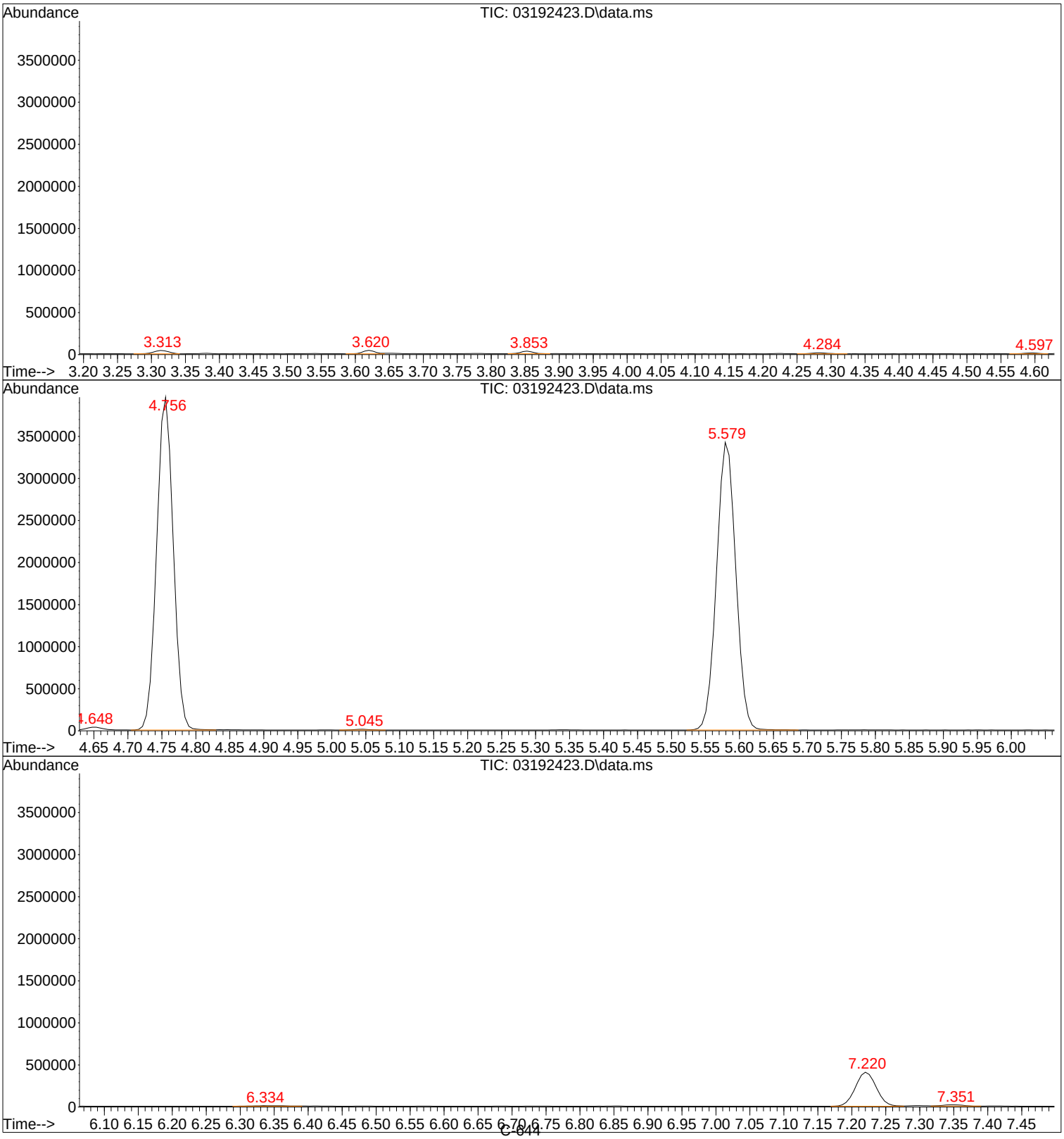
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	69	76	81	rVB3	40614	61945	0.92%	0.424%
2	3.620	124	130	134	rBV	41280	52331	0.78%	0.358%
3	3.853	166	171	177	rVB	31491	39196	0.58%	0.268%
4	4.284	241	247	254	rBV	12400	20538	0.31%	0.141%
5	4.597	296	302	306	rBV2	10352	16648	0.25%	0.114%
6	4.648	306	311	319	rVB2	33276	53611	0.80%	0.367%
7	4.756	321	330	343	rBV	3955131	6720039	100.00%	45.982%
8	5.045	375	381	387	rVB	8676	14087	0.21%	0.096%
9	5.579	465	475	494	rBV	3420831	6717767	99.97%	45.966%
10	6.334	600	608	618	rBV3	6364	23233	0.35%	0.159%
11	7.220	755	764	774	rBV	404602	862486	12.83%	5.902%
12	7.351	781	787	794	rVB3	15520	32696	0.49%	0.224%

Sum of corrected areas: 14614577

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192423.D
Acq On : 19 Mar 2024 21:59
Operator : SC
Sample : P2400922-009 (80mL)
Misc : S37-02202408
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192423.D
Acq On : 19 Mar 2024 21:599
Operator : SCC
Sample : P2400922-009 (80mL))
Misc : S37-022024088
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

3/20/24

Quant Time: Mar 20 14:11:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	146492	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	628121	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	141242	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	302014	12.602	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	12.43	98	715091	12.610	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	16.83	174	254898	12.749	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	17869	0.595	ng		99
4) Chloromethane	3.49	50	20039	0.897	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	351	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	5500	0.450	ng		99
9) Chloroethane	4.15	64	959	0.105	ng		68
10) Ethanol	4.27	45	13988m	0.988	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	1970	0.194	ng		98
13) Acetone	4.62	58	58692	5.448	ng		90
14) Trichlorofluoromethane	4.76	101	12692	0.436	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	4758	0.111	ng	#	31
16) Acrylonitrile	4.97	53	718	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	354	N.D.			
19) Methylene Chloride	5.35	84	2057	0.131	ng		97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	3166	0.258	ng		95
22) Carbon Disulfide	5.59	76	9533	0.195	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	3970	1.656	ng	#	3
27) 2-Butanone (MEK)	6.66	72	5918	0.672	ng	#	88
28) cis-1,2-Dichloroethene	7.07	61	120	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	4400	0.832	ng		95
31) n-Hexane	7.30	57	272	N.D.			
32) Chloroform	7.35	83	12831	0.505	ng		100
34) Tetrahydrofuran (THF)	7.76	72	458	0.057	ng	#	57
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	684	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.53	61	304	No Calib		#	
40) 1-Butanol	8.80	56	2419	No Calib			
41) Benzene	8.89	78	4702	0.083	ng		100
42) Carbon Tetrachloride	9.07	117	3113	0.140	ng		99
43) Cyclohexane	9.29	84	502	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	4029	0.193	ng		97
47) Trichloroethene	10.15	130	672	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	168	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:11:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

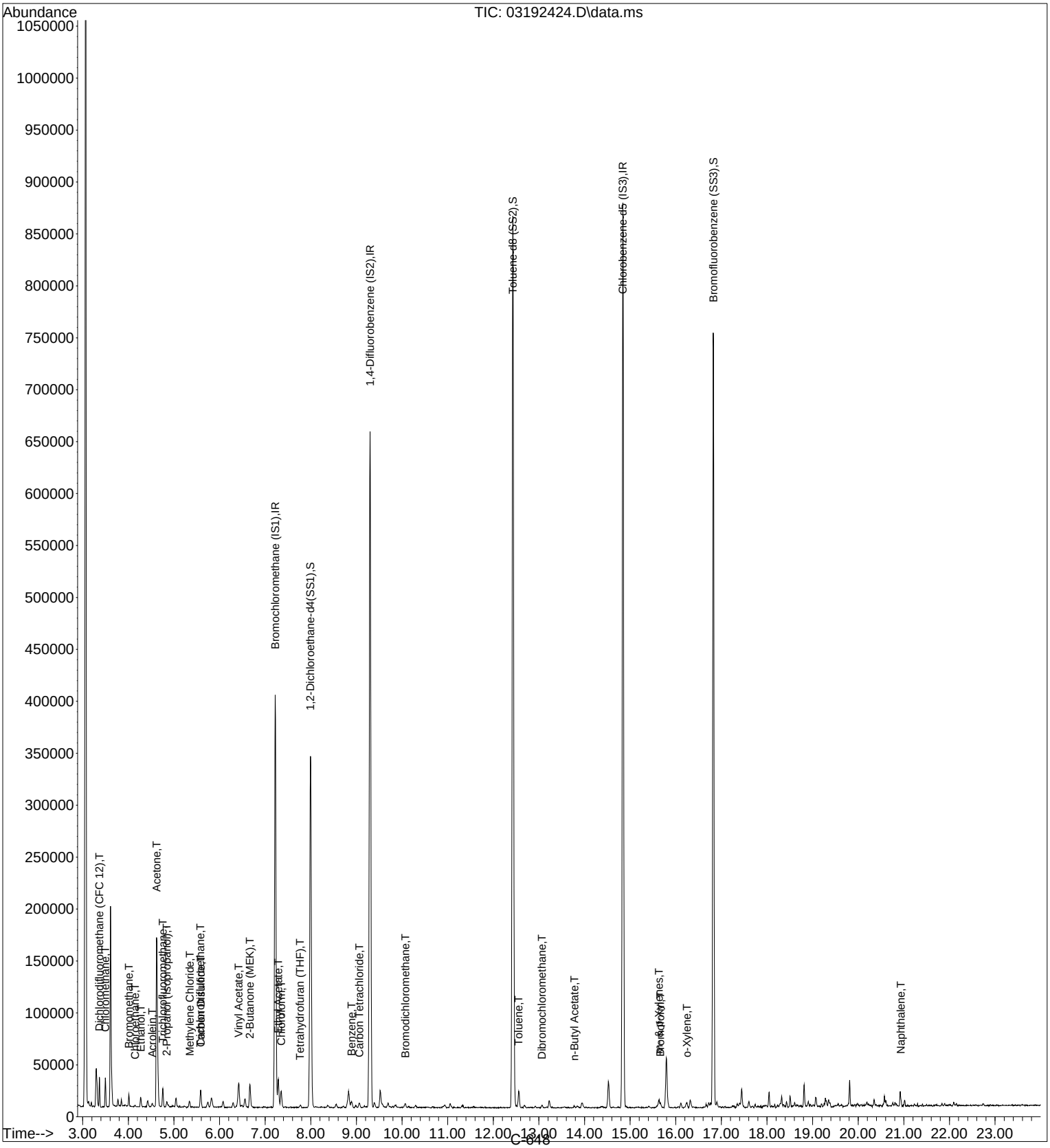
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	284	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	14454	0.267 ng		98
59) 2-Hexanone	12.93	43	1475	N.D.		
60) Dibromochloromethane	13.07	129	1831	0.105 ng		94
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	1933	0.056 ng	#	78
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	357	N.D.		
65) Chlorobenzene	14.90	112	581	N.D.		
66) Ethylbenzene	15.41	91	2332	N.D.		
67) m- & p-Xylenes	15.63	91	7322	0.142 ng		98
68) Bromoform	15.66	173	1628	0.110 ng		97
69) Styrene	16.10	104	593	N.D.		
70) o-Xylene	16.25	91	2943	0.058 ng		90
71) n-Nonane	16.61	43	615	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	427	N.D.		
74) Cumene	17.03	105	944	N.D.		
75) alpha-Pinene	17.52	93	133	N.D.		
76) n-Propylbenzene	17.68	91	1457	N.D.		
77) 3-Ethyltoluene	17.03	105	944	No Calib	#	
78) 4-Ethyltoluene	17.86	105	1049	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	807	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	944	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	2451	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	521	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	440	N.D.		
87) sec-Butylbenzene	18.74	105	912	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1380	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	944	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	592	N.D.		
91) d-Limonene	19.09	68	290	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	869	N.D.		
95) Naphthalene	20.94	128	3611	0.401 ng		93
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	564	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1083	N.D.		
100) n-Butylbenzene	19.38	91	1097	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:11:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:11:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

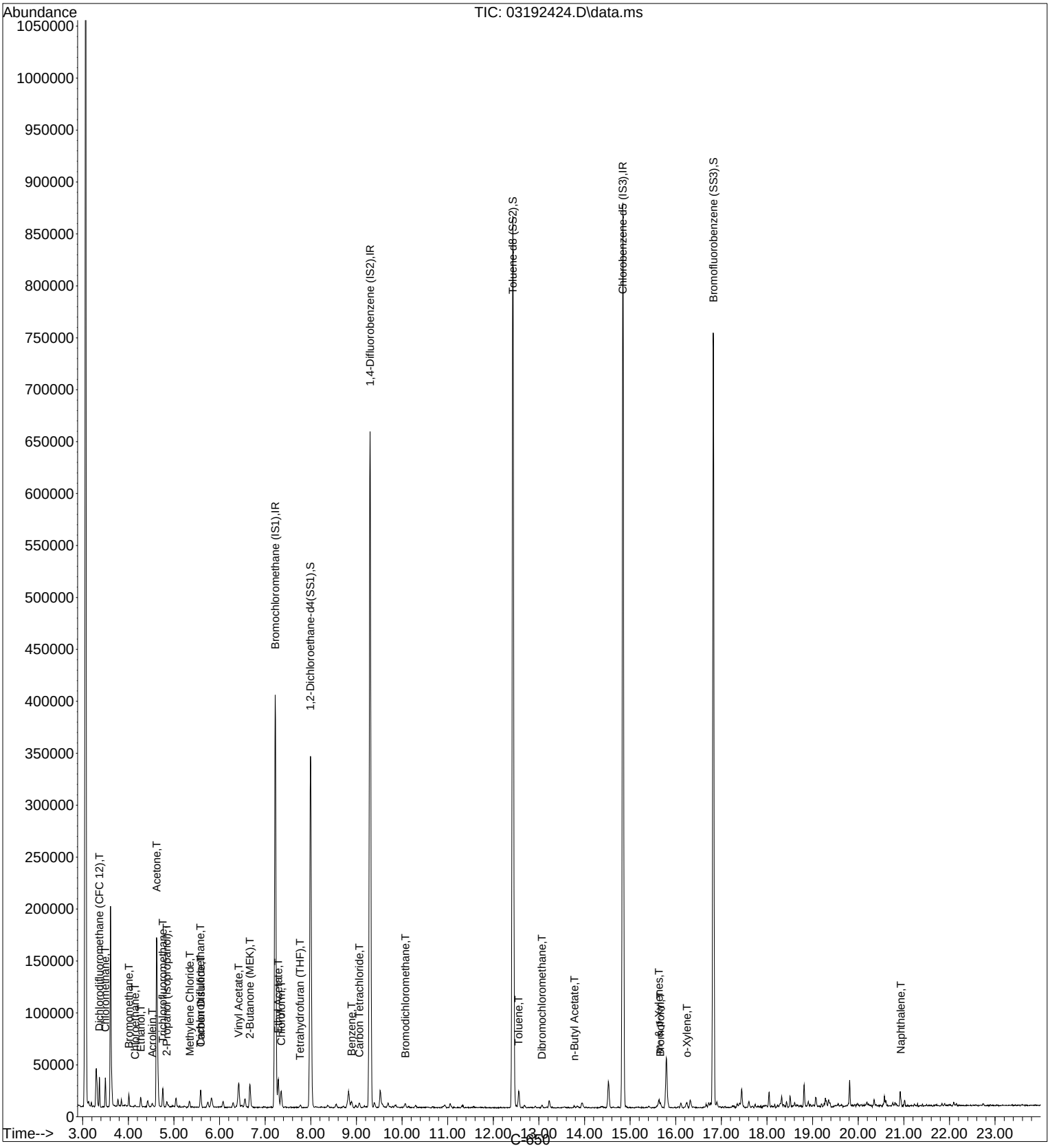
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	146492	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	628121	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	141242	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	302014	12.602	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	12.43	98	715091	12.610	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	16.83	174	254898	12.749	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	17869	0.595	ng		99
4) Chloromethane	3.49	50	20039	0.897	ng		99
8) Bromomethane	4.01	94	5500	0.450	ng		99
9) Chloroethane	4.15	64	959	0.105	ng		68
10) Ethanol	4.27	45	13988m	0.988	ng		
12) Acrolein	4.52	56	1970	0.194	ng		98
13) Acetone	4.62	58	58692	5.448	ng		90
14) Trichlorofluoromethane	4.76	101	12692	0.436	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	4758	0.111	ng	#	31
19) Methylene Chloride	5.35	84	2057	0.131	ng		97
21) Trichlorotrifluoroethane	5.58	151	3166	0.258	ng		95
22) Carbon Disulfide	5.59	76	9533	0.195	ng		100
26) Vinyl Acetate	6.42	86	3970	1.656	ng	#	3
27) 2-Butanone (MEK)	6.66	72	5918	0.672	ng	#	88
30) Ethyl Acetate	7.29	61	4400	0.832	ng		95
32) Chloroform	7.35	83	12831	0.505	ng		100
34) Tetrahydrofuran (THF)	7.76	72	458	0.057	ng	#	57
41) Benzene	8.89	78	4702	0.083	ng		100
42) Carbon Tetrachloride	9.07	117	3113	0.140	ng		99
46) Bromodichloromethane	10.07	83	4029	0.193	ng		97
58) Toluene	12.56	91	14454	0.267	ng		98
60) Dibromochloromethane	13.07	129	1831	0.105	ng		94
62) n-Butyl Acetate	13.78	43	1933	0.056	ng	#	78
67) m- & p-Xylenes	15.63	91	7322	0.142	ng		98
68) Bromoform	15.66	173	1628	0.110	ng		97
70) o-Xylene	16.25	91	2943	0.058	ng		90
95) Naphthalene	20.94	128	3611	0.401	ng		93

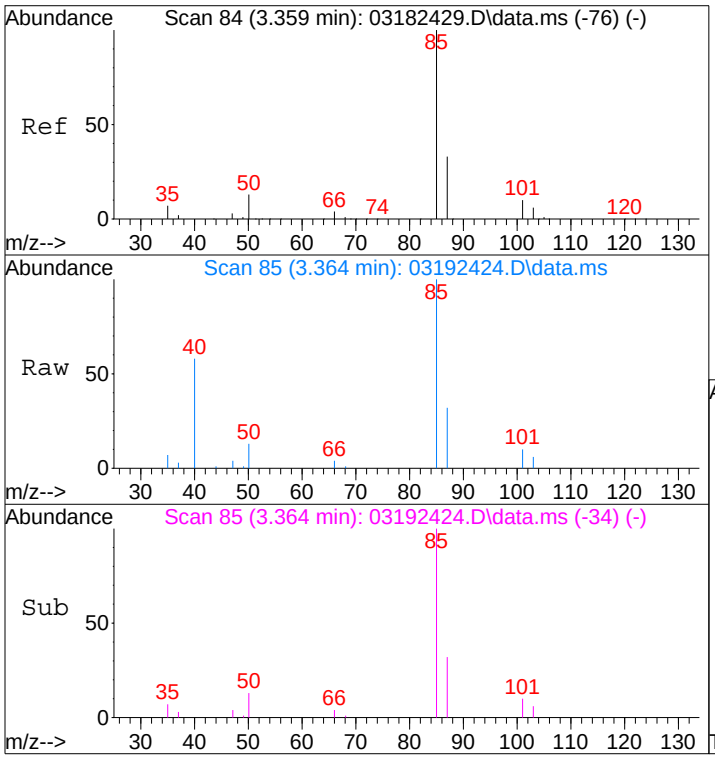
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:11:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

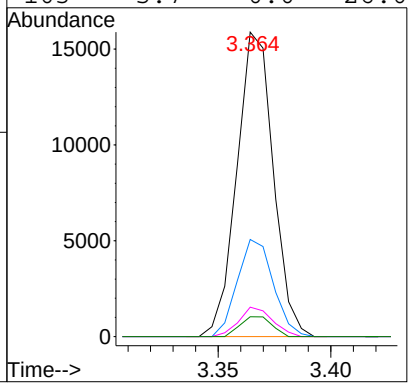


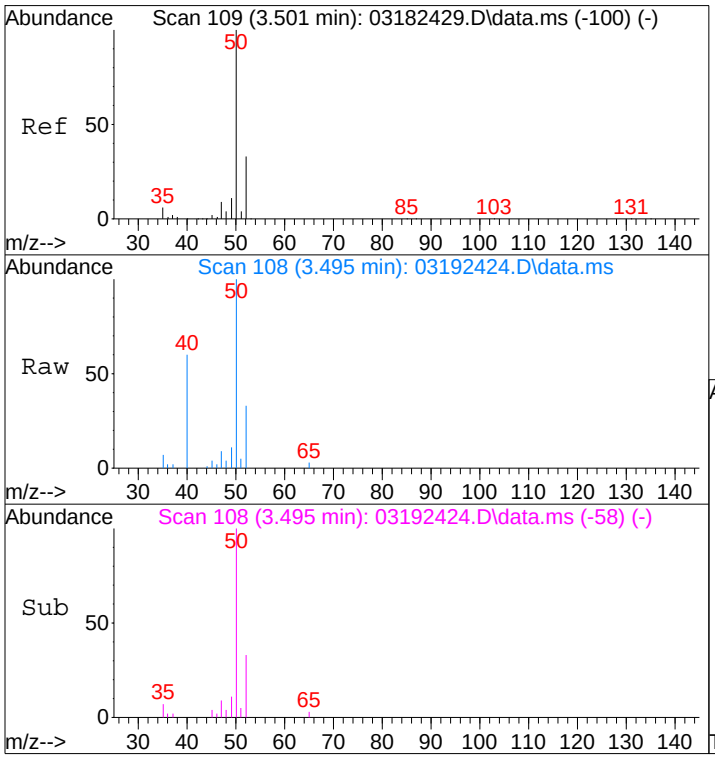


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 85 Resp: 17869

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.5	52.5
101	9.0	0.0	29.2
103	5.7	0.0	26.0

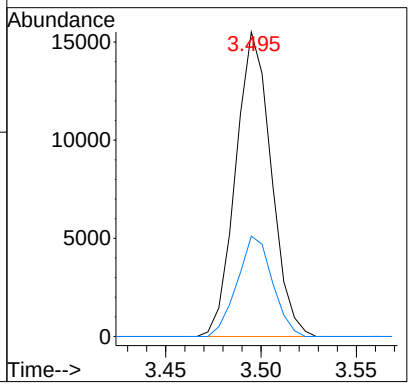


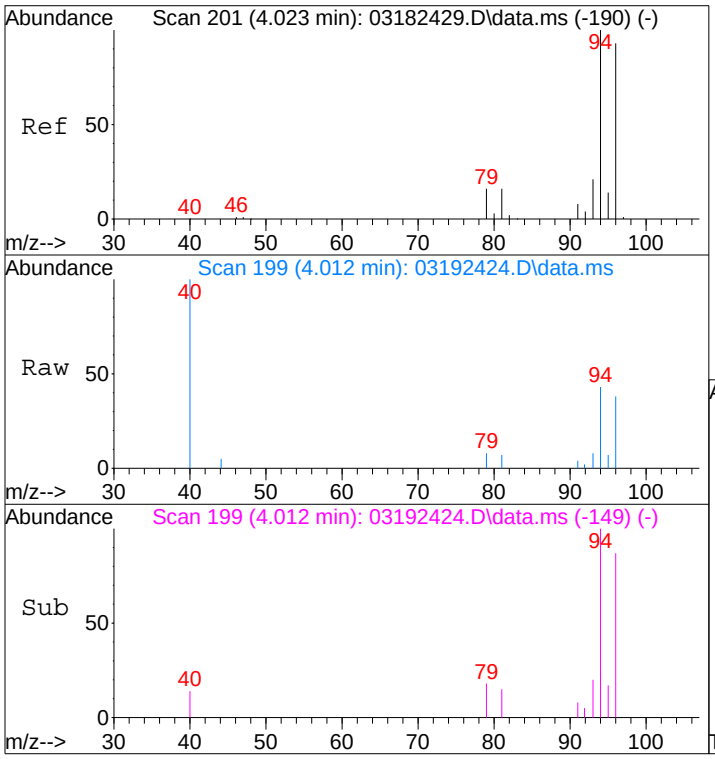


#4
Chloromethane
Concen: 0.90 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.032 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 50 Resp: 20039

Ion	Ratio	Lower	Upper
50	100		
52	32.8	12.3	52.3

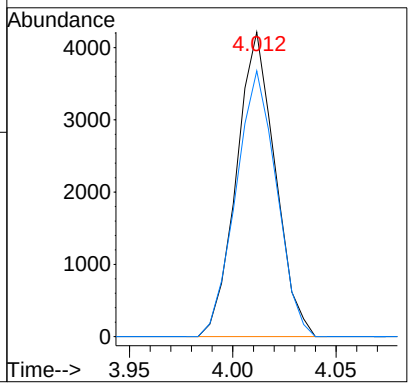


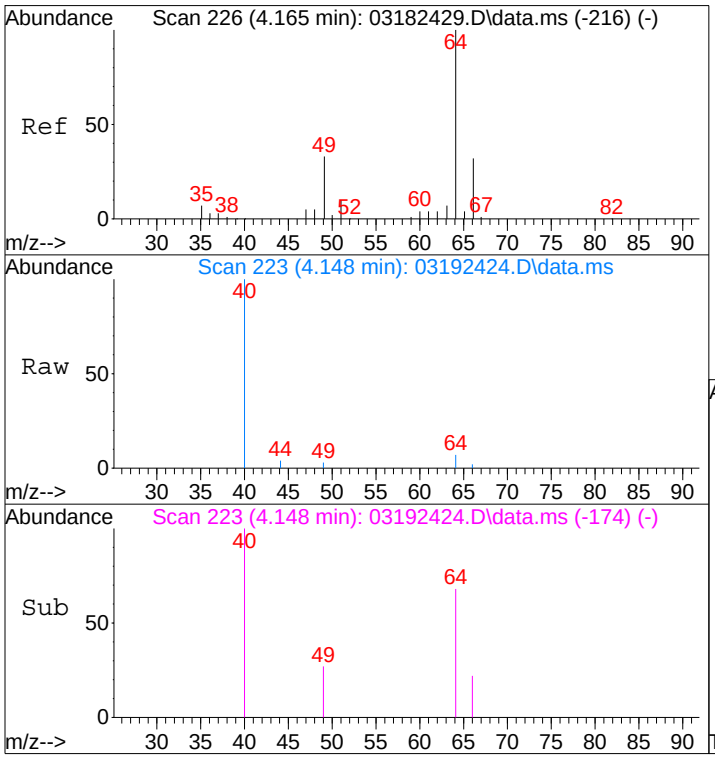


#8
Bromomethane
Concen: 0.45 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.032 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 94 Resp: 5500

Ion	Ratio	Lower	Upper
94	100		
96	91.3	72.7	112.7

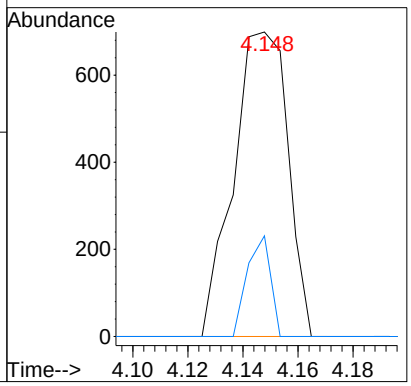


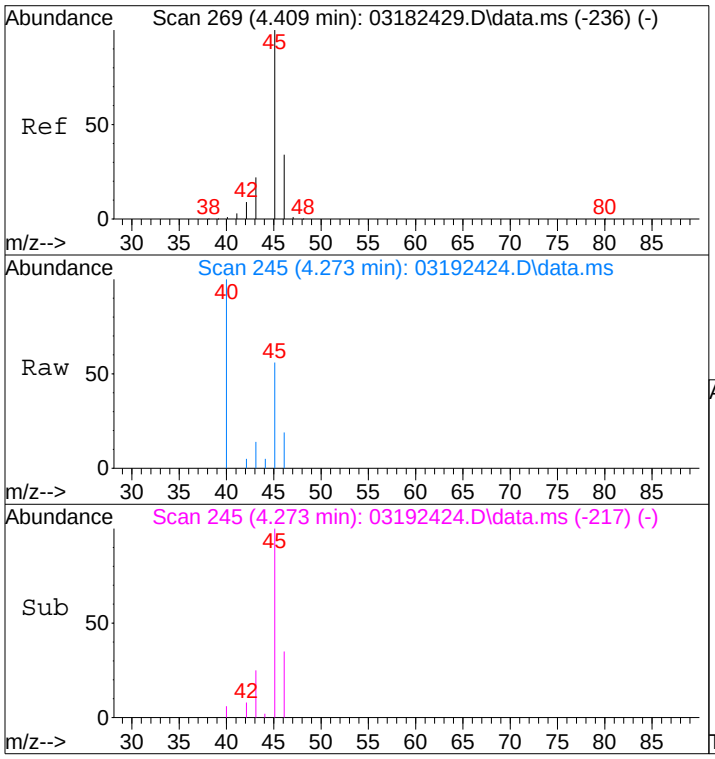


#9
Chloroethane
Concen: 0.10 ng
RT: 4.15 min Scan# 223
Delta R.T. 0.028 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 64 Resp: 959

Ion	Ratio	Lower	Upper
64	100		
66	14.2	11.8	51.8

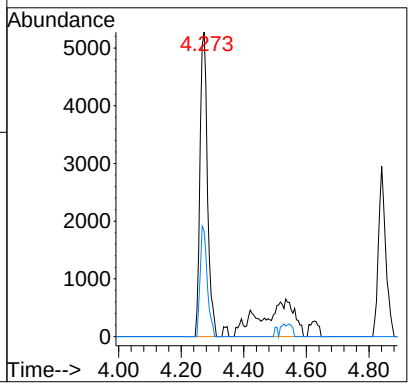


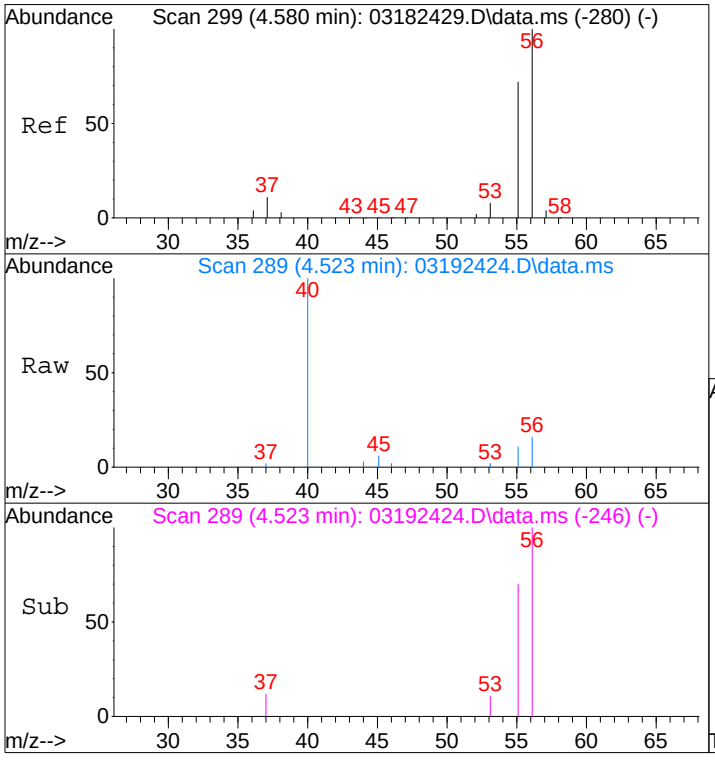


#10
Ethanol
Concen: 0.99 ng m
RT: 4.27 min Scan# 245
Delta R.T. -0.089 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 45 Resp: 13988

Ion	Ratio	Lower	Upper
45	100		
46	0.0	13.3	53.3#

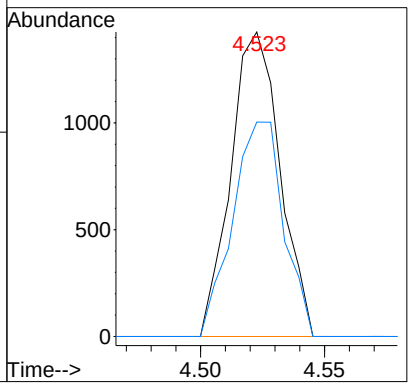


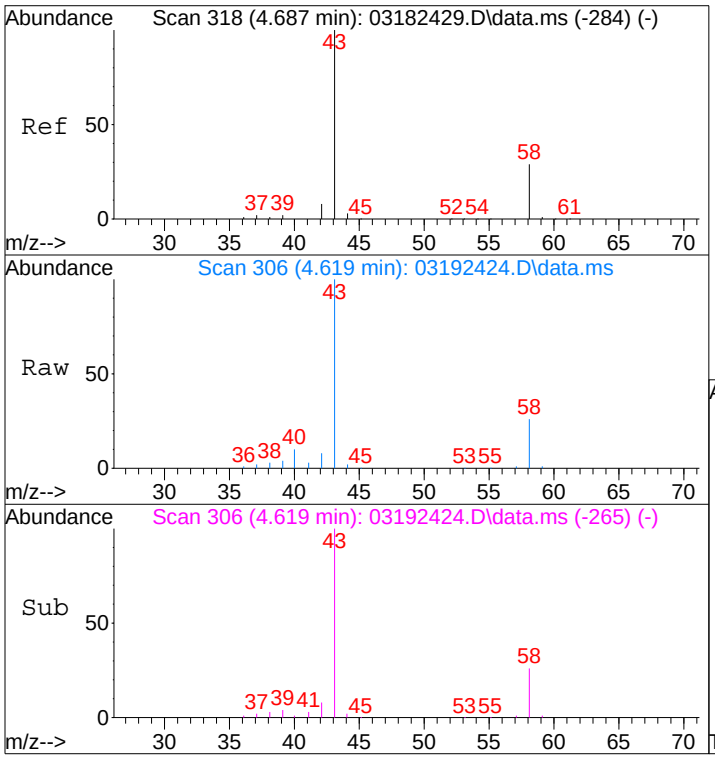


#12
Acrolein
Concen: 0.19 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.007 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 56 Resp: 1970

Ion	Ratio	Lower	Upper
56	100		
55	73.1	54.9	94.9

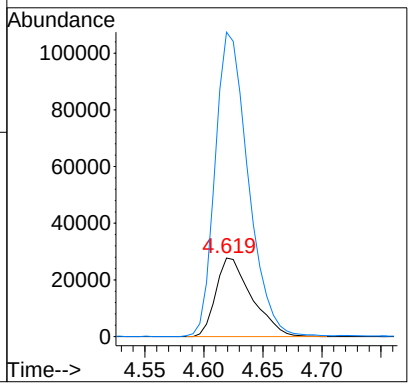


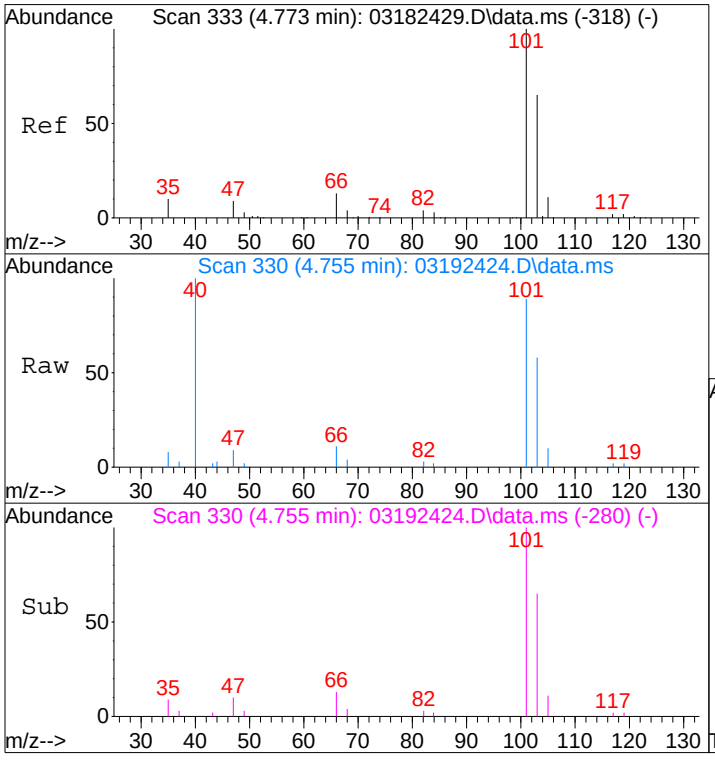


#13
Acetone
Concen: 5.45 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.017 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 58 Resp: 58692

Ion	Ratio	Lower	Upper
58	100		
43	357.9	350.1	410.1

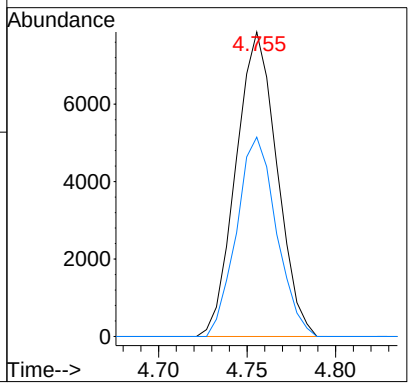


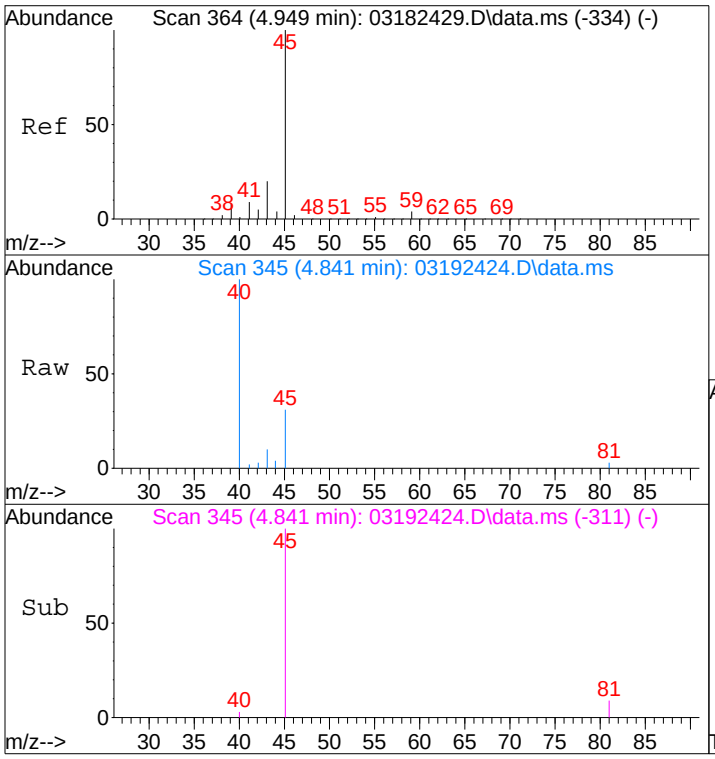


#14
Trichlorofluoromethane
Concen: 0.44 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion:101 Resp: 12692

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.7	84.7

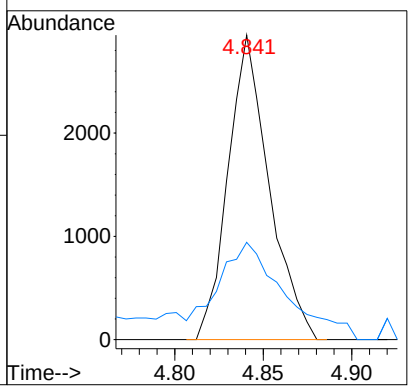


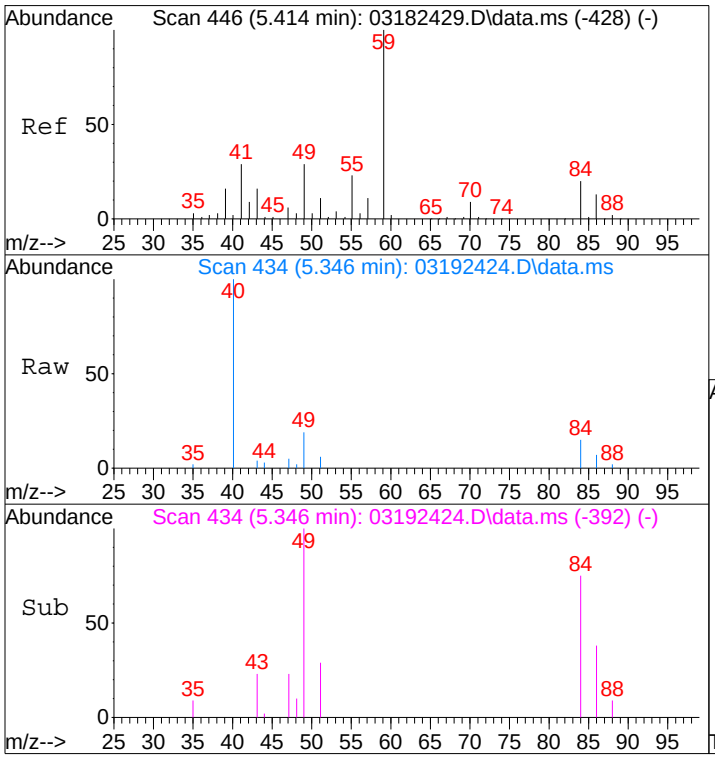


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.054 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 45 Resp: 4758

Ion	Ratio	Lower	Upper
45	100		
43	52.2	0.4	40.4#

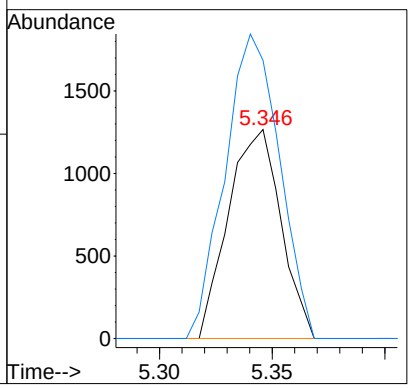


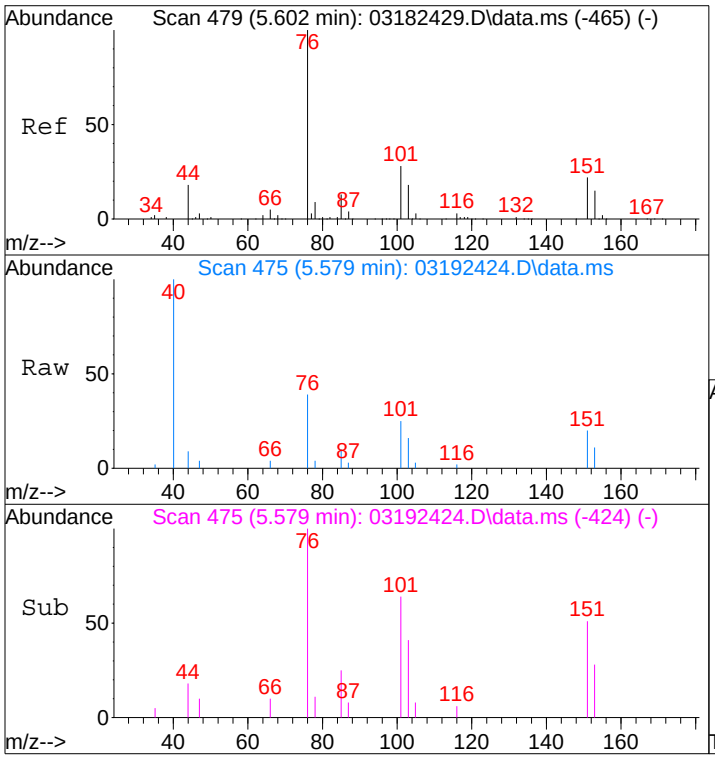


#19
Methylene Chloride
Concen: 0.13 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.009 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 84 Resp: 2057

Ion	Ratio	Lower	Upper
84	100		
49	151.6	122.9	172.9

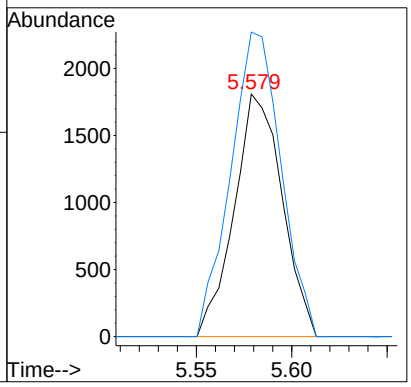


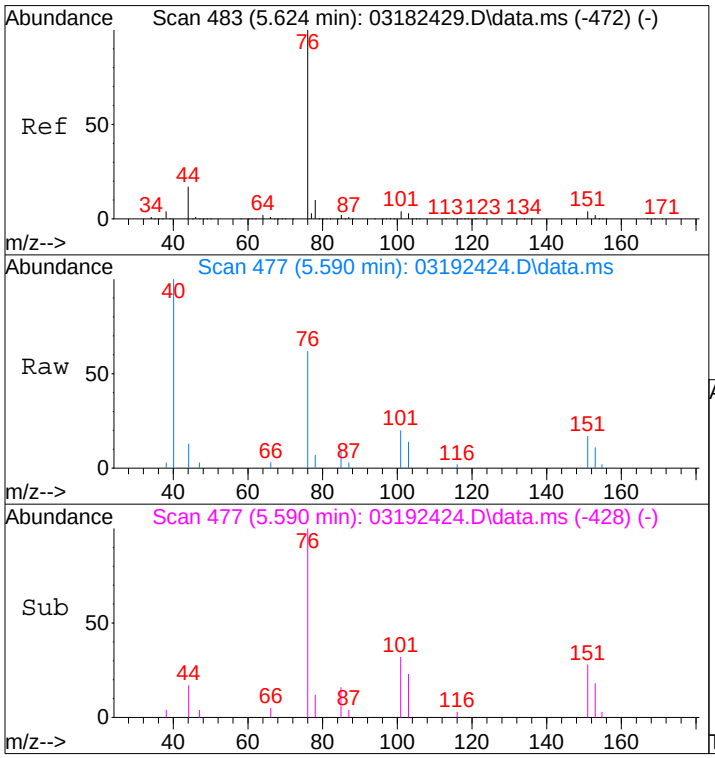


#21
Trichlorotrifluoroethane
Concen: 0.26 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion:151 Resp: 3166

Ion	Ratio	Lower	Upper
151	100		
101	131.8	106.4	146.4

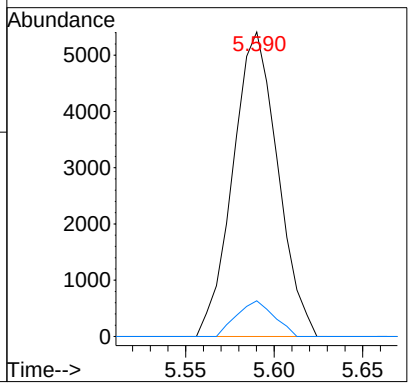


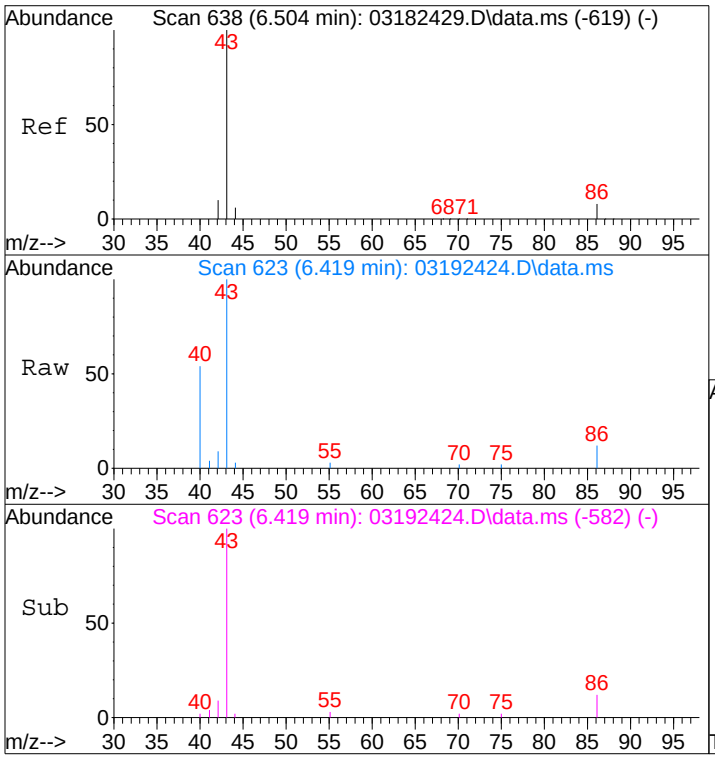


#22
Carbon Disulfide
Concen: 0.20 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 76 Resp: 9533

Ion	Ratio	Lower	Upper
76	100		
78	9.7	0.0	29.8

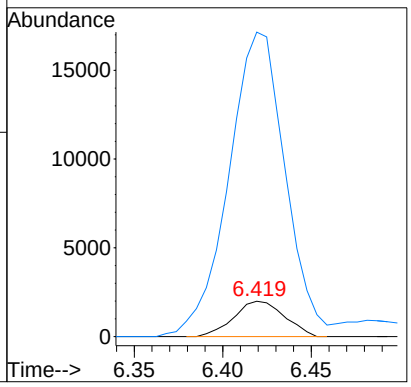


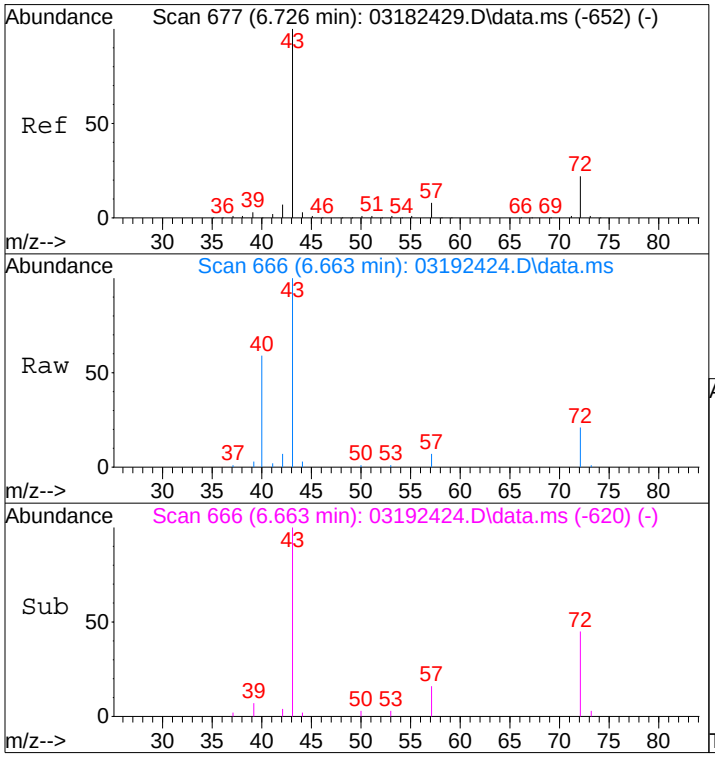


#26
Vinyl Acetate
Concen: 1.66 ng
RT: 6.42 min Scan# 623
Delta R.T. -0.015 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 86 Resp: 3970

Ion	Ratio	Lower	Upper
86	100		
43	964.5	1541.5	1581.5#

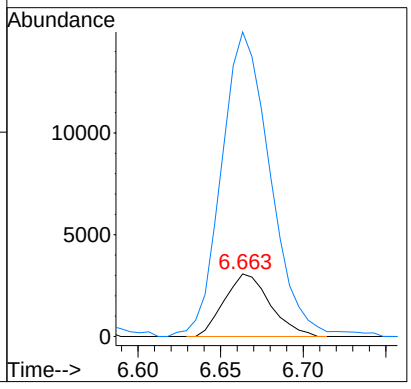


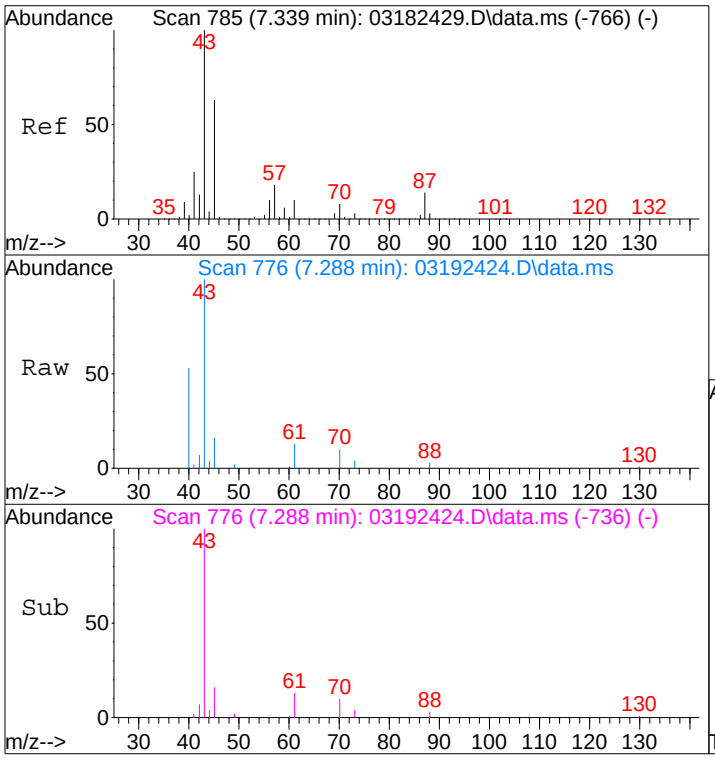


#27
2-Butanone (MEK)
Concen: 0.67 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 72 Resp: 5918

Ion	Ratio	Lower	Upper
72	100		
43	521.0	468.6	508.6#

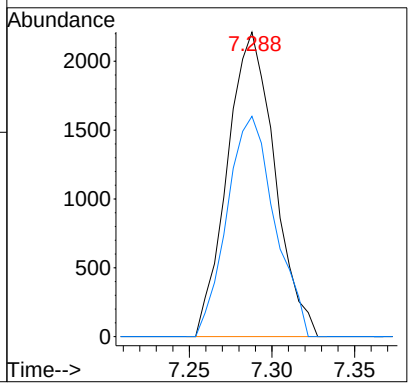


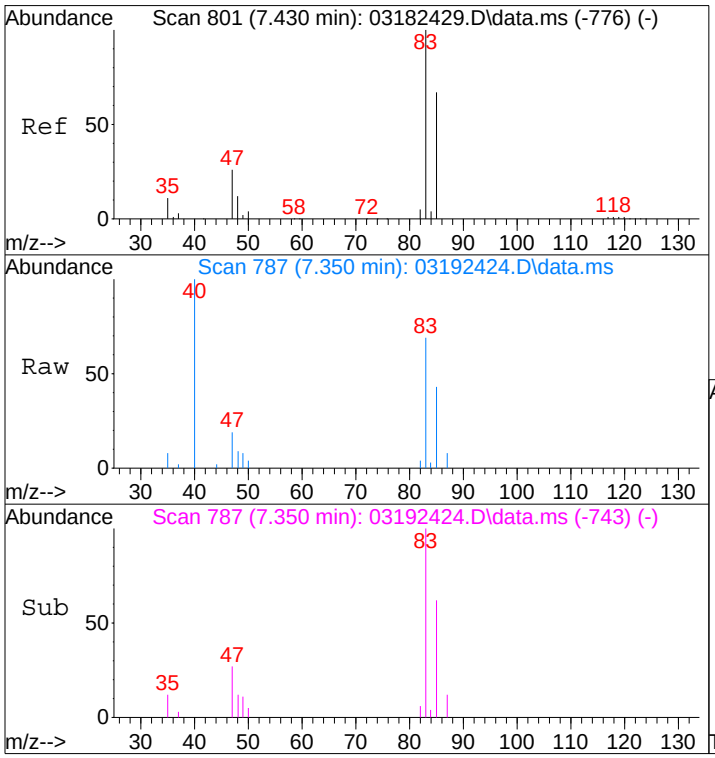


#30
Ethyl Acetate
Concen: 0.83 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.028 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 61 Resp: 4400

Ion	Ratio	Lower	Upper
61	100		
70	72.8	57.3	97.3

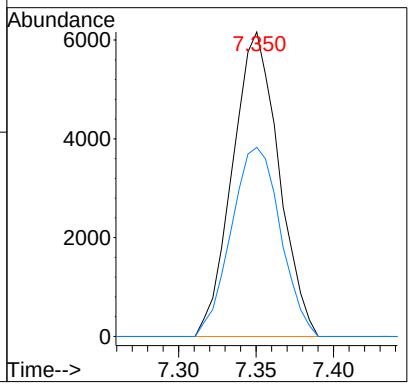


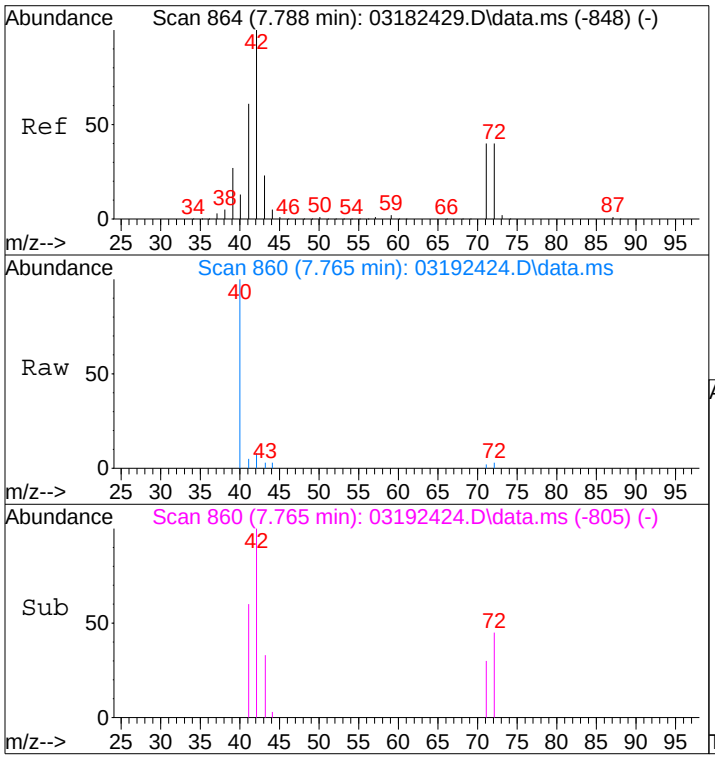


#32
Chloroform
Concen: 0.51 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 83 Resp: 12831

Ion	Ratio	Lower	Upper
83	100		
85	66.0	46.1	86.1

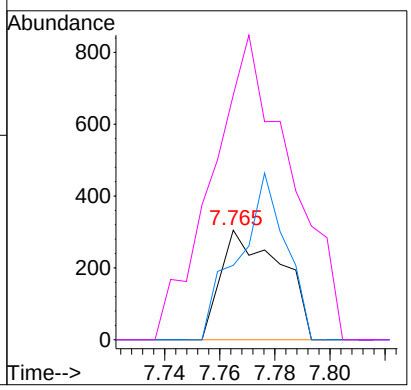


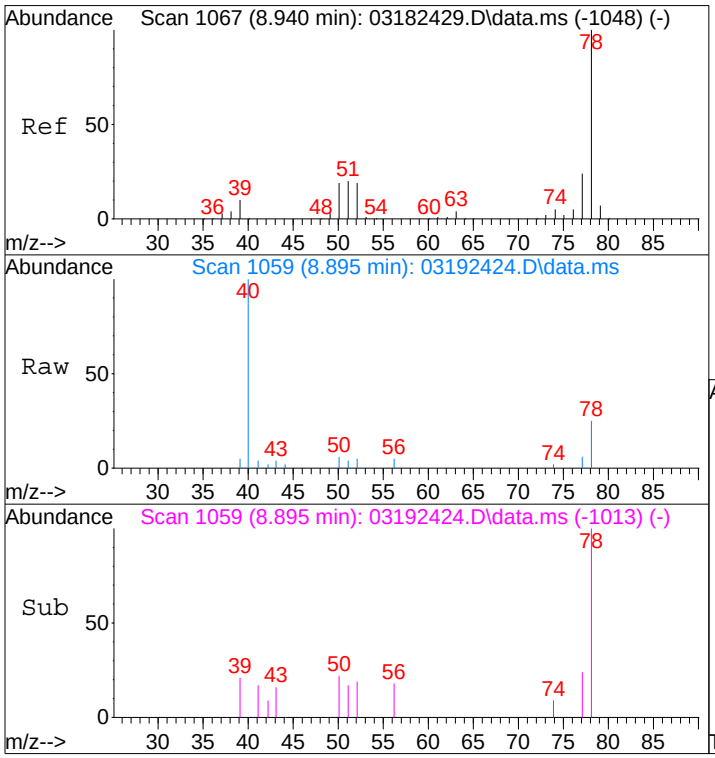


#34
Tetrahydrofuran (THF)
Concen: 0.06 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.062 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 72 Resp: 458

Ion	Ratio	Lower	Upper
72	100		
71	121.2	80.7	120.7#
42	369.4	255.0	295.0#

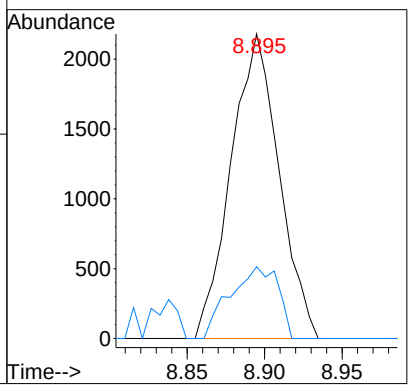


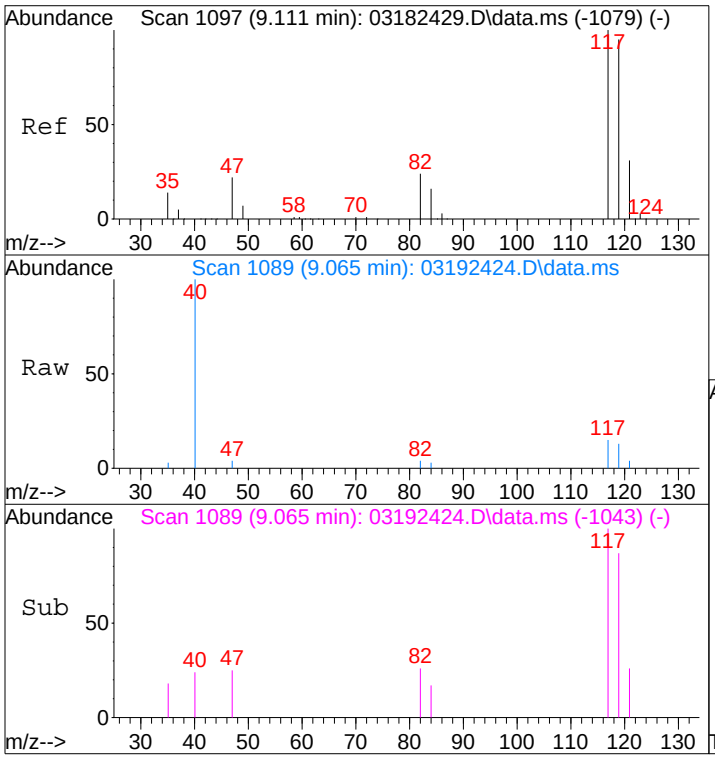


#41
Benzene
Concen: 0.08 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 78 Resp: 4702

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.6	43.6

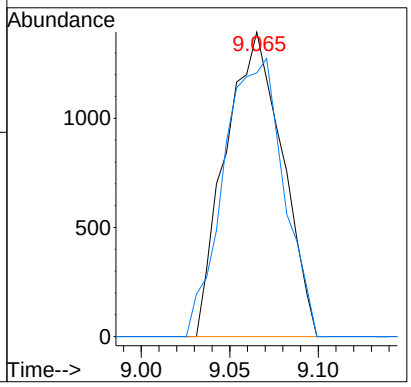


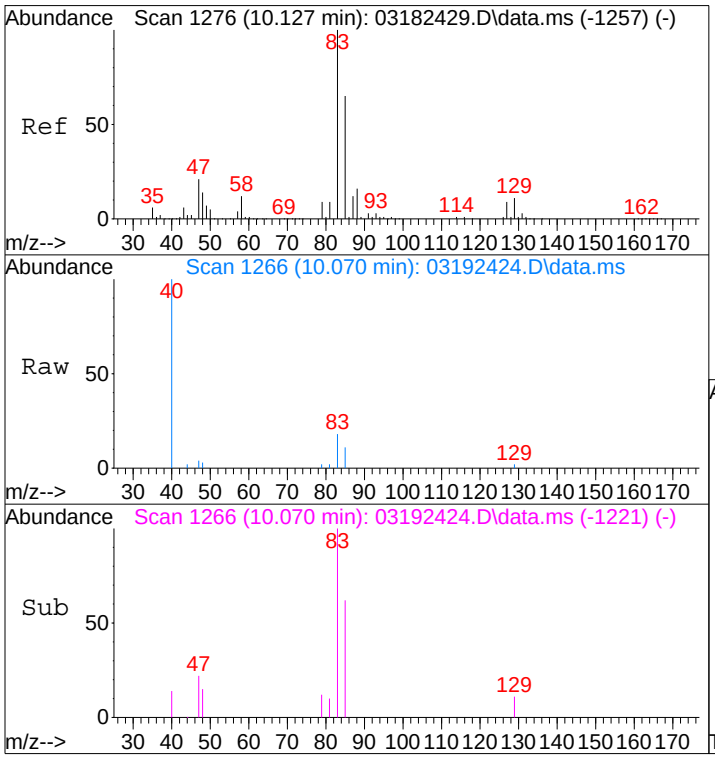


#42
Carbon Tetrachloride
Concen: 0.14 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.010 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion:117 Resp: 3113

Ion	Ratio	Lower	Upper
117	100		
119	96.3	75.7	115.7

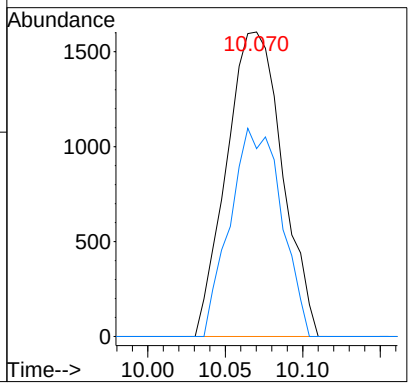


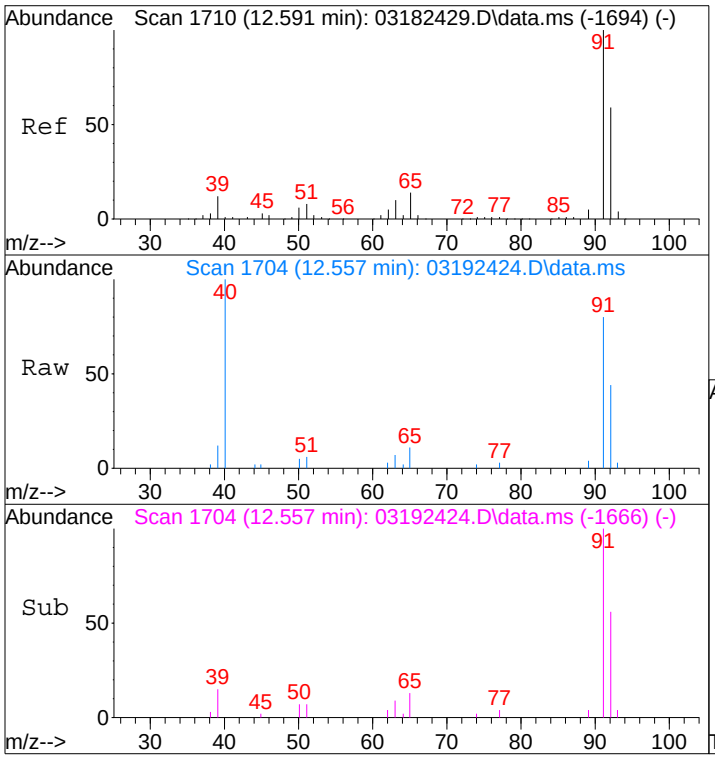


#46
Bromodichloromethane
Concen: 0.19 ng
RT: 10.07 min Scan# 1266
Delta R.T. 0.005 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 83 Resp: 4029

Ion	Ratio	Lower	Upper
83	100		
85	62.8	45.2	85.2

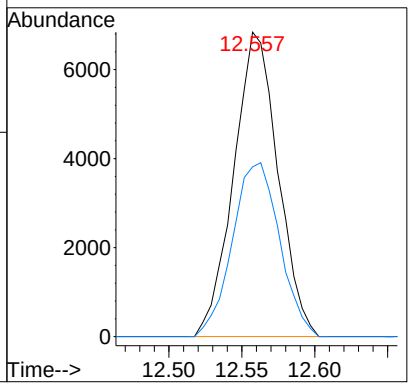


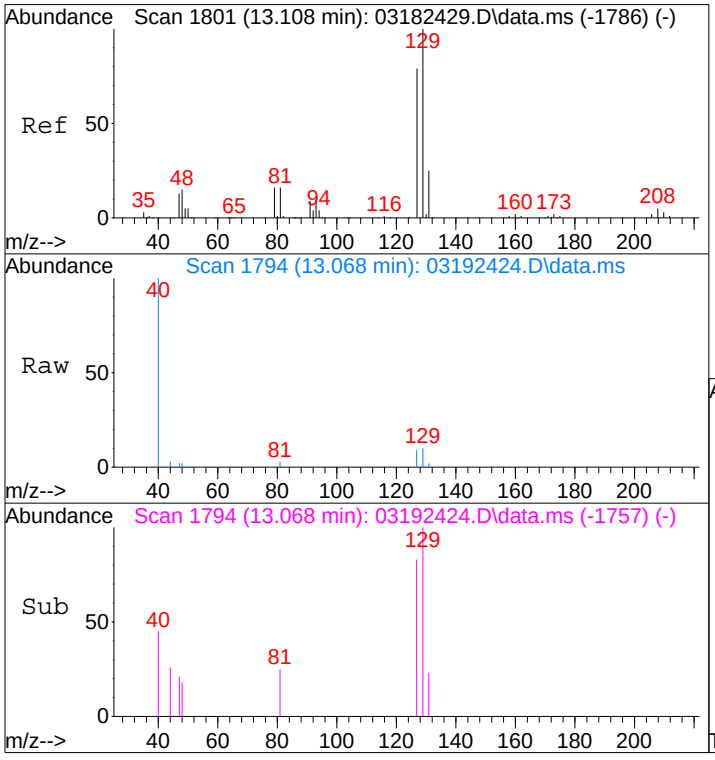


#58
Toluene
Concen: 0.27 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 91 Resp: 14454

Ion	Ratio	Lower	Upper
91	100		
92	60.8	39.2	79.2

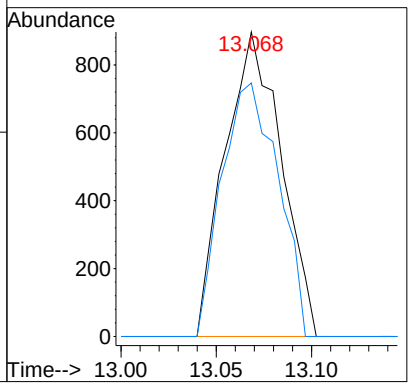


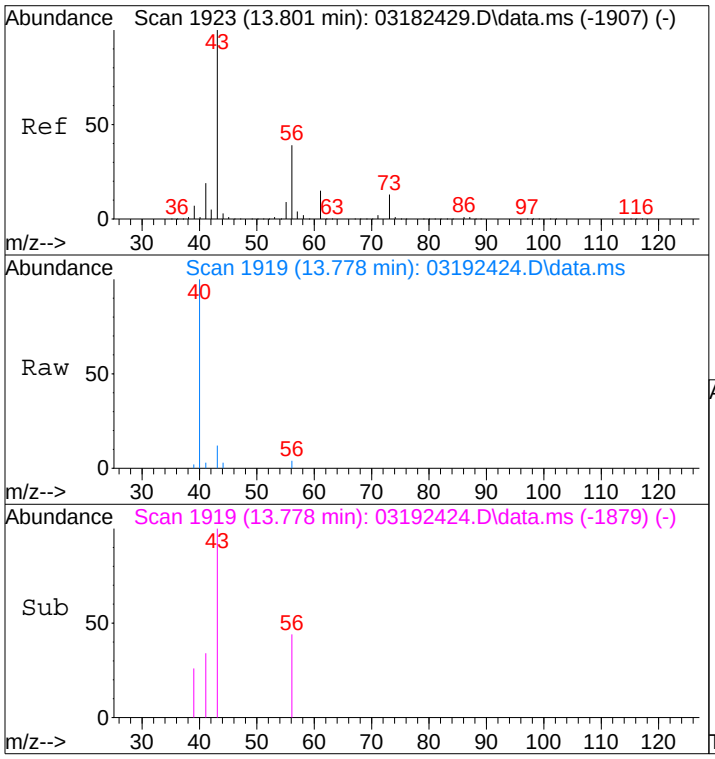


#60
Dibromochloromethane
Concen: 0.11 ng
RT: 13.07 min Scan# 1794
Delta R.T. -0.040 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion:129 Resp: 1831

Ion	Ratio	Lower	Upper
129	100		
127	83.7	58.1	98.1

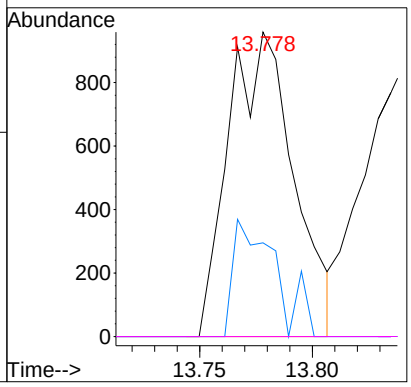


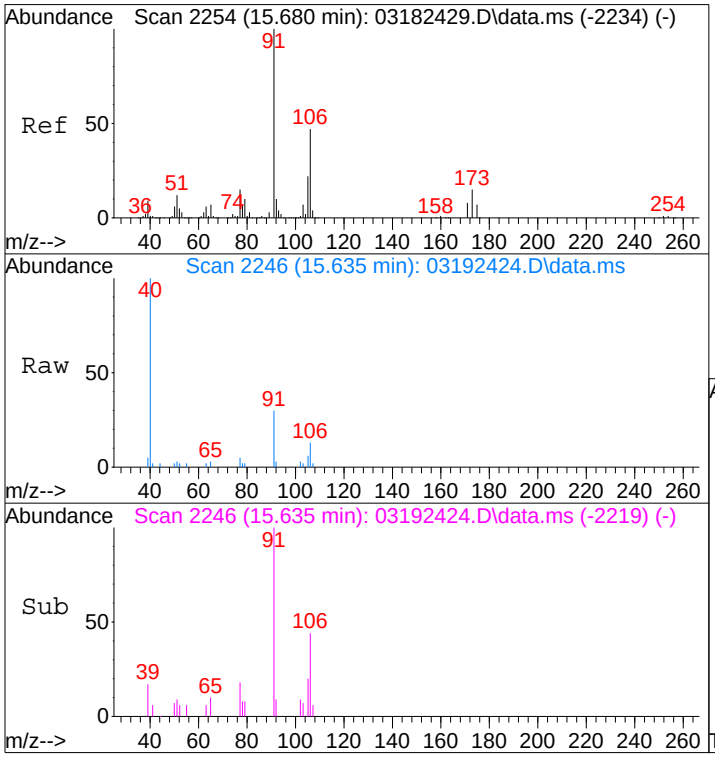


#62
n-Butyl Acetate
Concen: 0.06 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 43 Resp: 1933

Ion	Ratio	Lower	Upper
43	100		
56	25.1	16.7	56.7
73	0.0	0.0	31.3

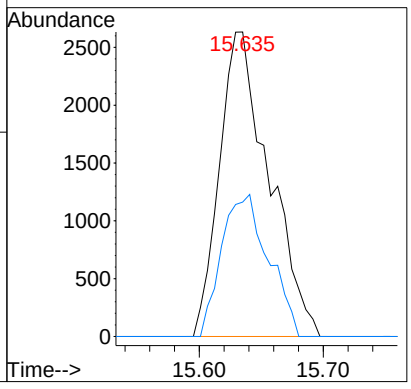


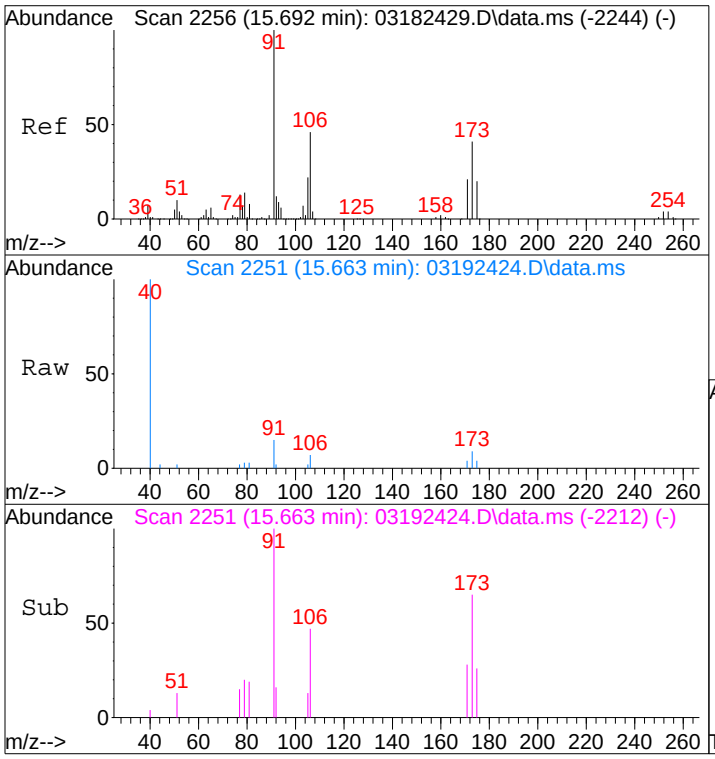


#67
m- & p-Xylenes
Concen: 0.14 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 91 Resp: 7322

Ion	Ratio	Lower	Upper
91	100		
106	44.0	25.6	65.6

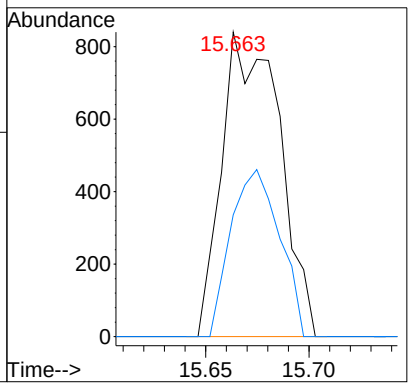


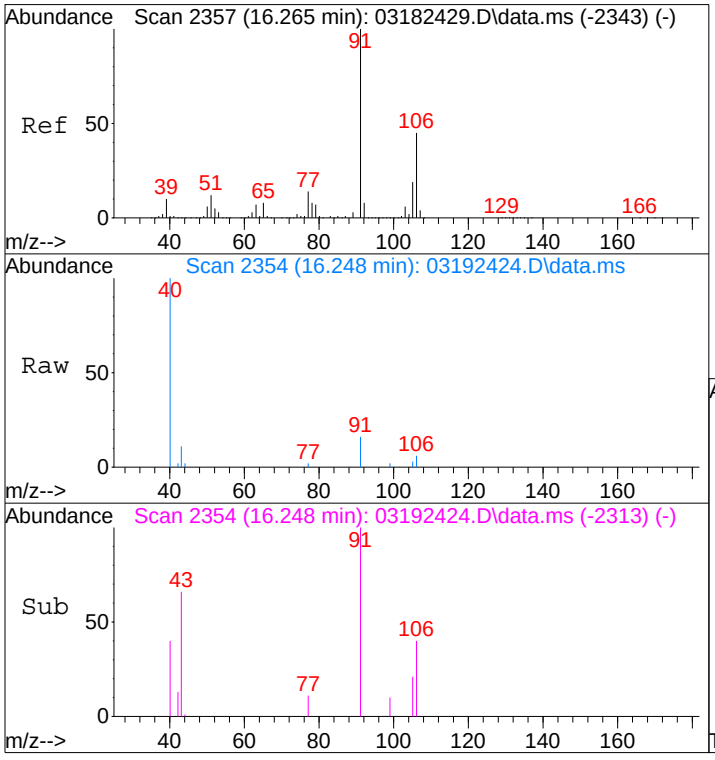


#68
Bromoform
Concen: 0.11 ng
RT: 15.66 min Scan# 2251
Delta R.T. -0.029 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion:173 Resp: 1628

Ion	Ratio	Lower	Upper
173	100		
175	46.6	28.7	68.7

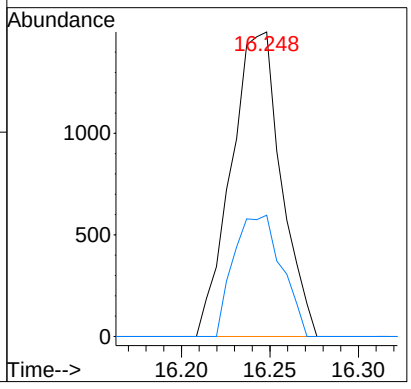


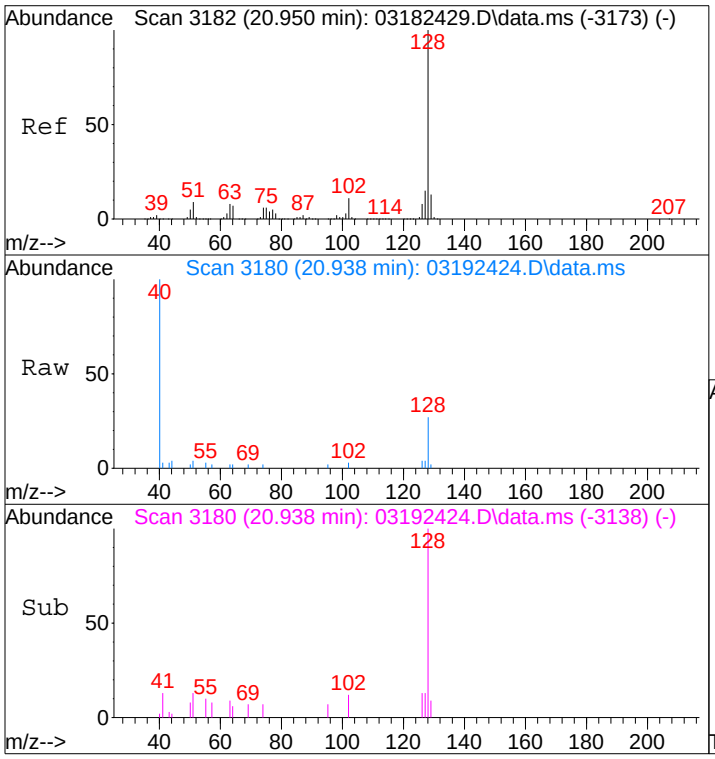


#70
o-Xylene
Concen: 0.06 ng
RT: 16.25 min Scan# 2354
Delta R.T. -0.017 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion: 91 Resp: 2943

Ion	Ratio	Lower	Upper
91	100		
106	38.2	24.4	64.4

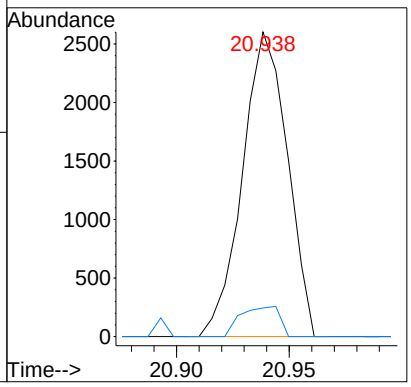




#95
Naphthalene
Concen: 0.40 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 22:32

Tgt Ion:128 Resp: 3611

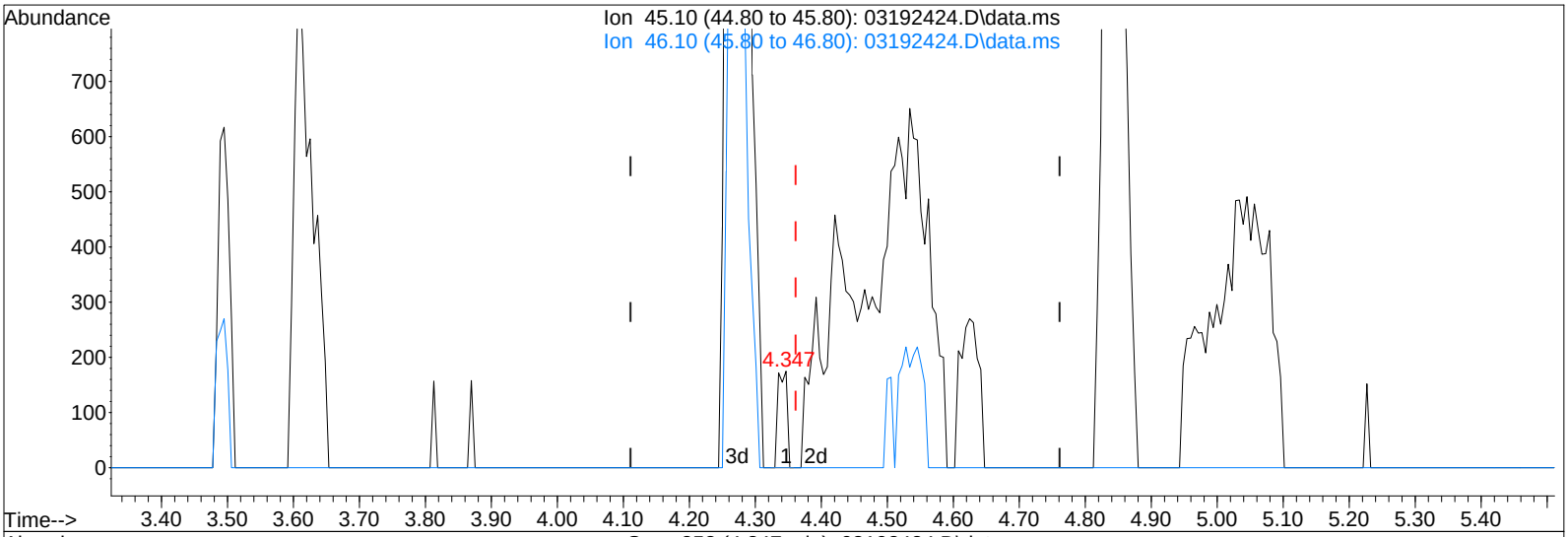
Ion	Ratio	Lower	Upper
128	100		
129	8.5	0.0	31.1

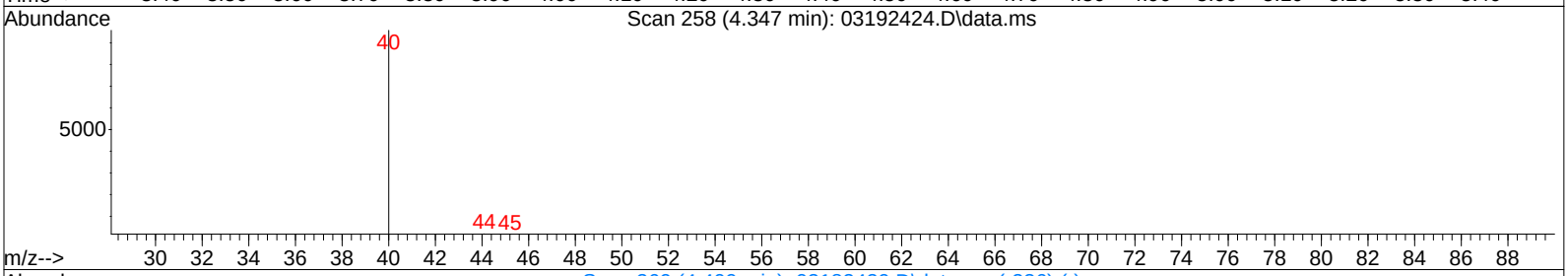


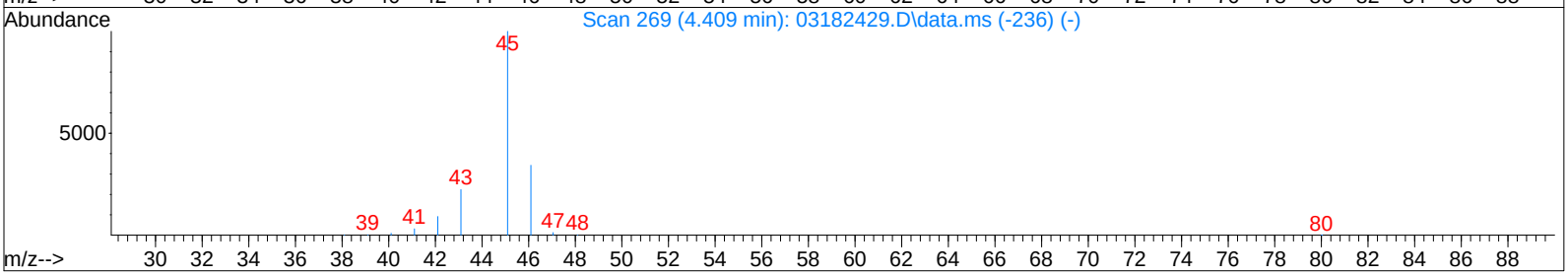
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:26:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03192424.D\data.ms

(10) Ethanol (T)

4.347min (-0.015) 0.01ng

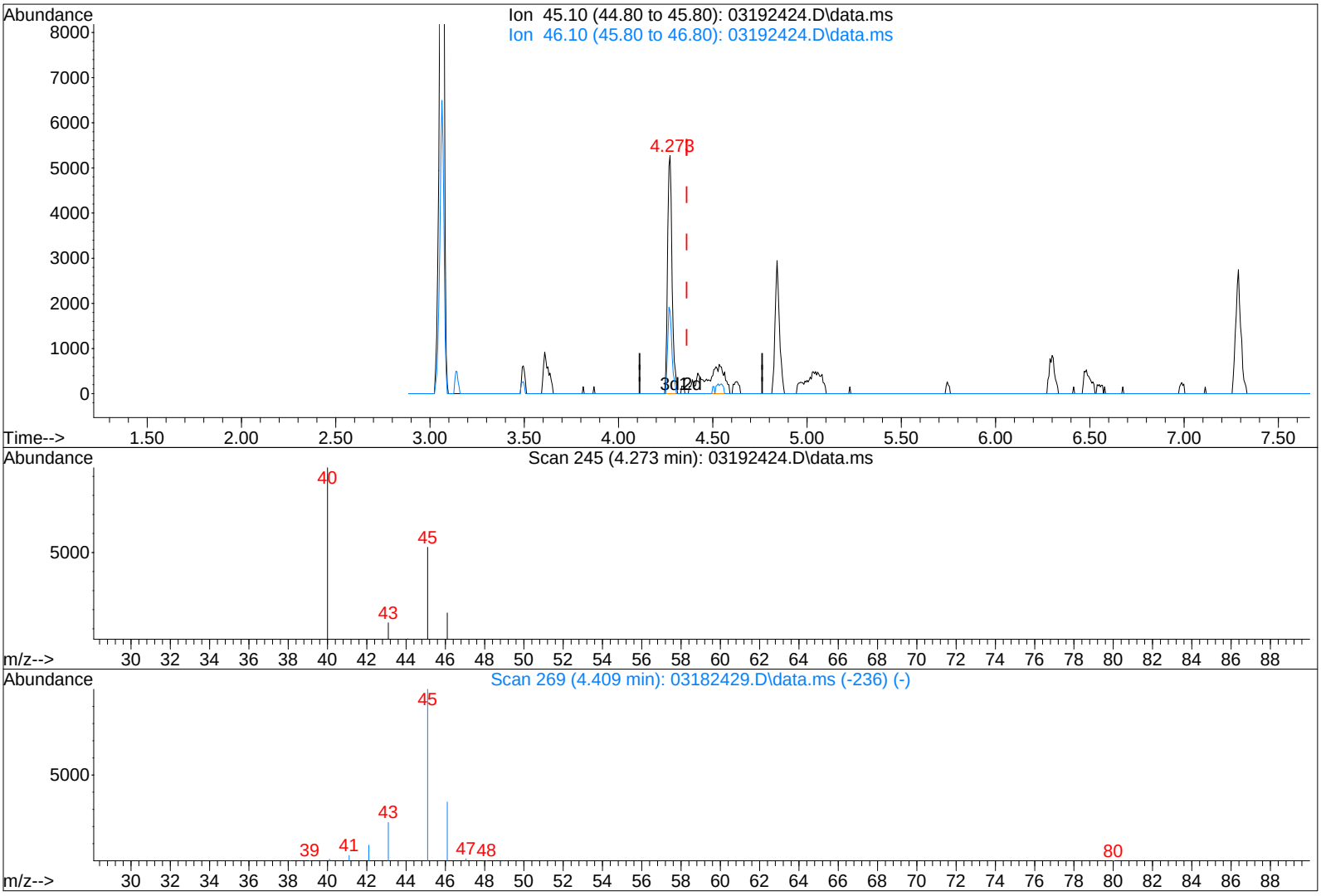
response 171

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:26:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192424.D\data.ms

(10) Ethanol (T)

4.273min (-0.089) 0.99ng m

response 13988

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP 3/20/24

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:06:11 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

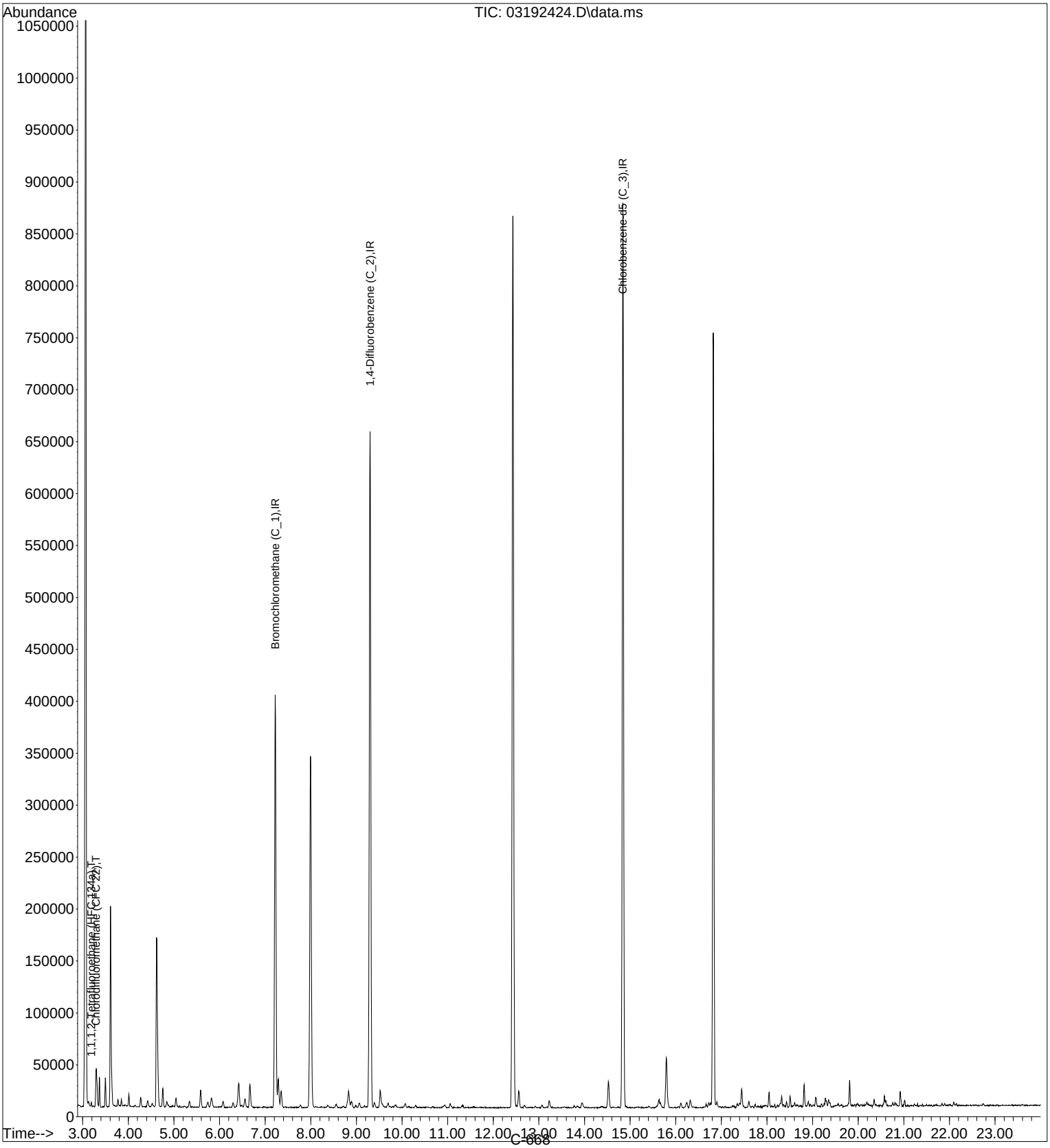
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	146492	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	628671	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	141242	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	196	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1865	0.138	ng	#	76
4) 1,1-Difluoroethane	3.24	65	317	N.D.			
5) Chlorodifluoromethane ...	3.29	67	1414	0.329	ng		90
6) 1-Chloro-1,1-Difluoroe...	3.50	65	587	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.62	57	566	N.D.			
11) Methyl Acetate	5.33	43	1675	N.D.			
12) 2-Methylpentane	6.56	71	52	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	53	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.79	174	528	N.D.			
20) Methyl Cyclohexane	11.31	55	753	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	81	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	767	N.D.			
27) 4-Chlorotoluene	17.68	91	1457	N.D.			
28) Indane	19.11	117	141	N.D.			
29) Indene	19.21	115	79	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	593	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	457	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	1228	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192424.D Vial: 13
Acq On : 19 Mar 2024 22:32 Operator: SC
Sample : P2400922-010 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:06:11 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-008

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 22:32
Operator : SC
Sample : P2400922-010 (400mL)
Misc : S37-02202408
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192424.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	66	73	82	rBV4	37093	76489	8.93%	3.805%
2	3.364	82	85	93	rVB	29056	32921	3.85%	1.638%
3	3.495	103	108	117	rBV	28156	36772	4.30%	1.829%
4	3.608	122	128	142	rBV	193053	299326	34.96%	14.890%
5	4.012	194	199	203	rVB	11705	14999	1.75%	0.746%
6	4.273	241	245	253	rVB	9199	14945	1.75%	0.743%
7	4.426	267	272	279	rBV2	5834	11204	1.31%	0.557%
8	4.619	298	306	319	rBV	162823	330185	38.57%	16.426%
9	4.755	324	330	336	rVB	17662	28316	3.31%	1.409%
10	5.045	376	381	387	rBV2	8097	13320	1.56%	0.663%
11	5.340	426	433	438	rBV5	5979	11309	1.32%	0.563%
12	5.584	469	476	483	rVB2	17032	30705	3.59%	1.527%
13	5.743	496	504	510	rBV4	5299	11861	1.39%	0.590%
14	5.823	510	518	526	rVV3	8842	22446	2.62%	1.117%
15	6.078	558	563	568	rVB3	5968	11348	1.33%	0.565%
16	6.419	608	623	630	rBV	23465	58294	6.81%	2.900%
17	6.555	641	647	655	rVB3	7873	16217	1.89%	0.807%
18	6.663	660	666	677	rBV	22035	45559	5.32%	2.266%
19	7.220	754	764	772	rBV	397192	856156	100.00%	42.591%
20	7.288	772	776	782	rVV	27359	53909	6.30%	2.682%
21	7.350	782	787	796	rVB	15899	33916	3.96%	1.687%

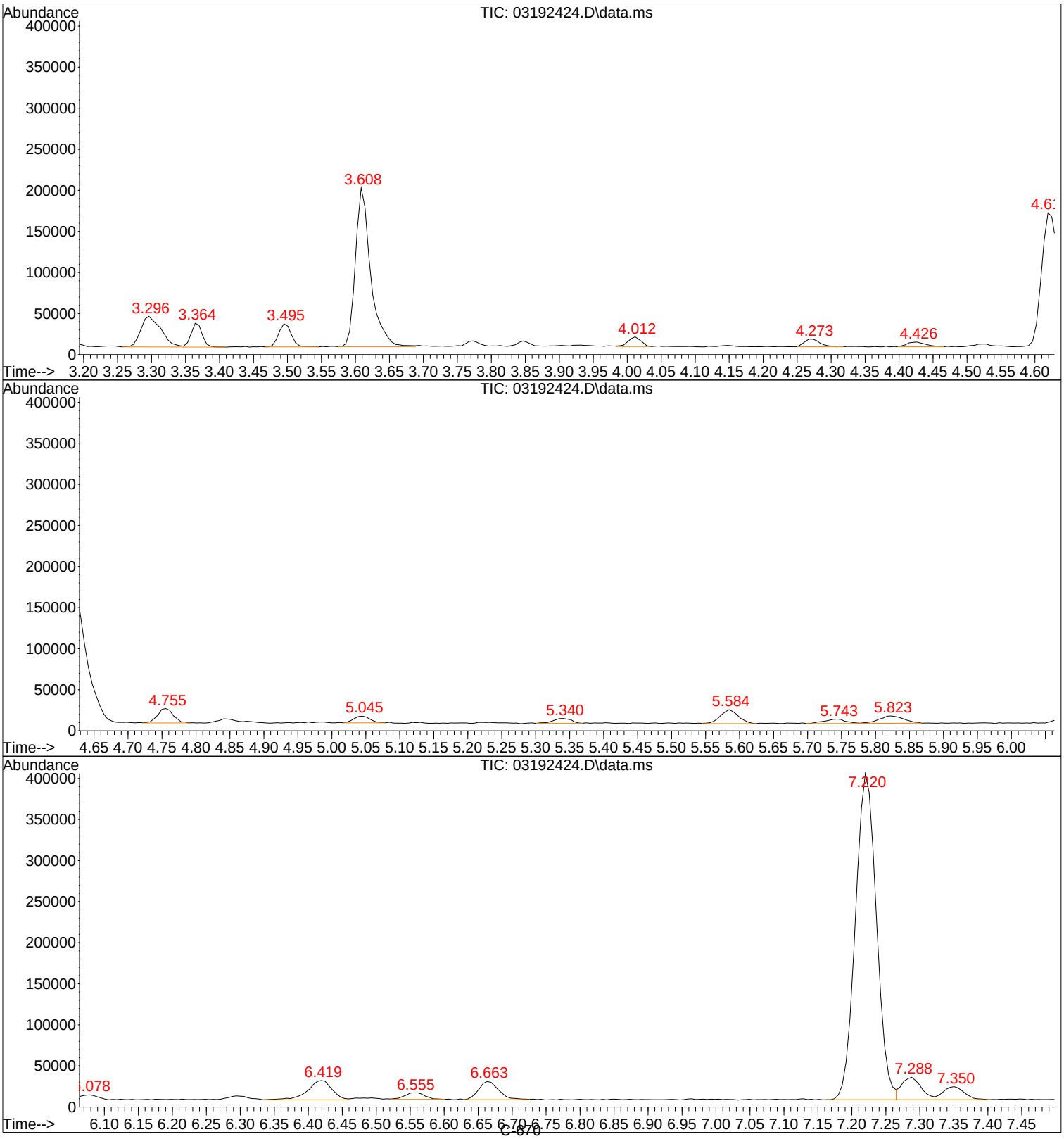
Sum of corrected areas: 2010197

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 22:32
Operator : SC
Sample : P2400922-010 (400mL)
Misc : S37-02202408
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192424.D
Acq On : 19 Mar 2024 22:322
Operator : SCC
Sample : P2400922-010 (400mL))
Misc : S37-022024088
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:40:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	183521	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	782946	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	169069	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	363195	12.097	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	12.43	98	890346	13.116	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
73) Bromofluorobenzene (SS3)	16.83	174	308427	12.887	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
2) Propene	3.32	42	507	N.D.			
3) Dichlorodifluoromethan...	3.33	85	604	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	2050	0.116	ng		91
11) Acetonitrile	4.44	41	507	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.66	58	2324	0.172	ng	#	86
14) Trichlorofluoromethane	4.76	101	1803830	49.511	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	660	N.D.			
16) Acrylonitrile	5.00	53	713	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	900	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	2031934	132.309	ng		98
22) Carbon Disulfide	5.60	76	1040	N.D.			
23) trans-1,2-Dichloroethene	6.12	61	188	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	517	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.35	83	1049	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	119	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.90	78	1606	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	546	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	290	N.D.			
47) Trichloroethene	10.14	130	2060	0.108	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	134	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:40:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

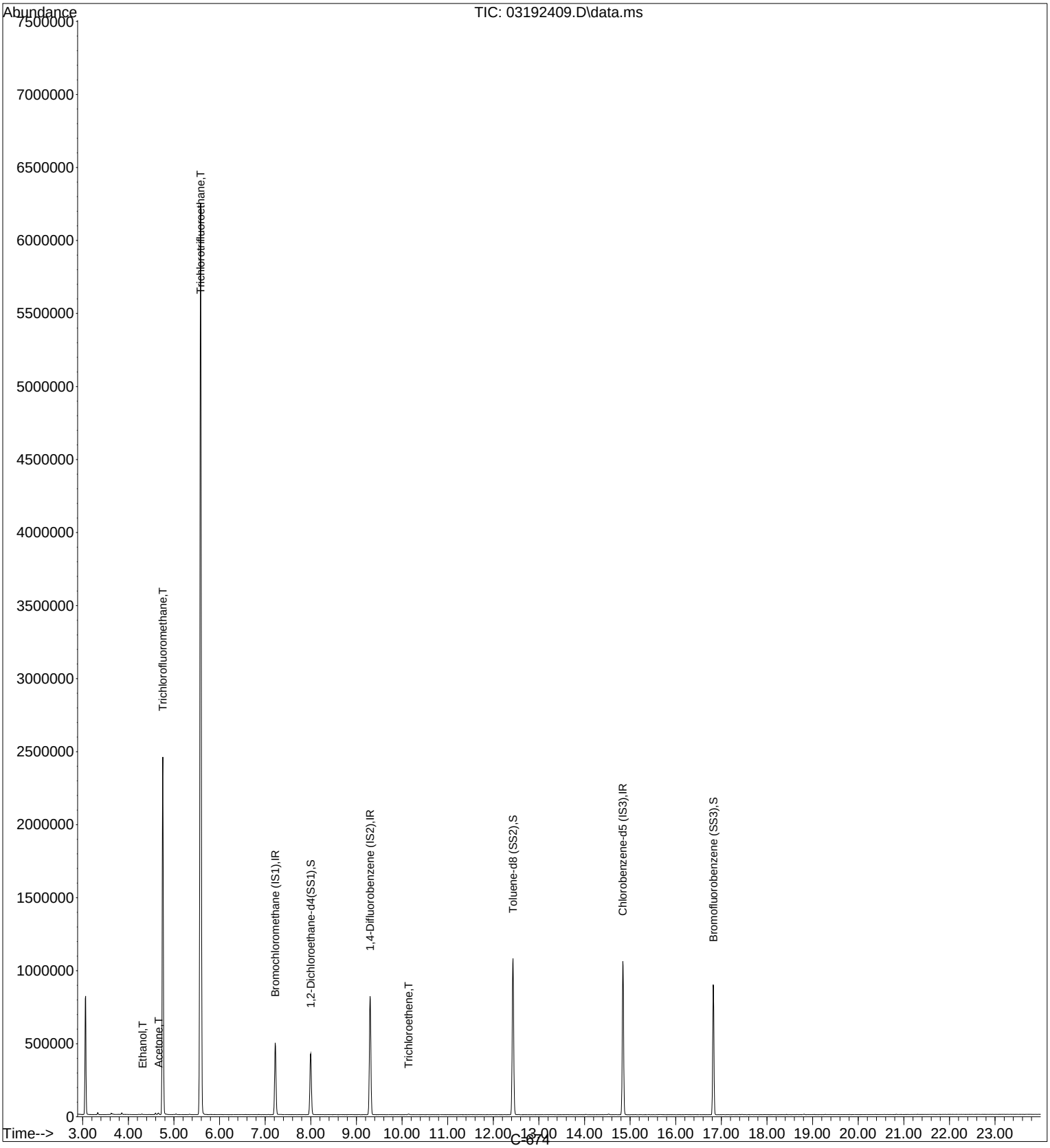
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2019	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	538	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	870	N.D.	
65) Chlorobenzene	14.90	112	769	N.D.	
66) Ethylbenzene	15.40	91	1498	N.D.	
67) m- & p-Xylenes	15.64	91	2042	N.D.	
68) Bromoform	15.67	173	545	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	947	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	456	N.D.	
74) Cumene	17.03	105	951	N.D.	
75) alpha-Pinene	17.53	93	174	N.D.	
76) n-Propylbenzene	17.68	91	1086	N.D.	
77) 3-Ethyltoluene	17.03	105	951	No Calib	#
78) 4-Ethyltoluene	17.86	105	681	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	393	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	951	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	588	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	631	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	778	N.D.	
87) sec-Butylbenzene	18.74	105	886	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	417	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	951	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	690	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	895	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	606	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	750	N.D.	
100) n-Butylbenzene	19.39	91	601	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:40:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-674

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:40:06 2024 3/19/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

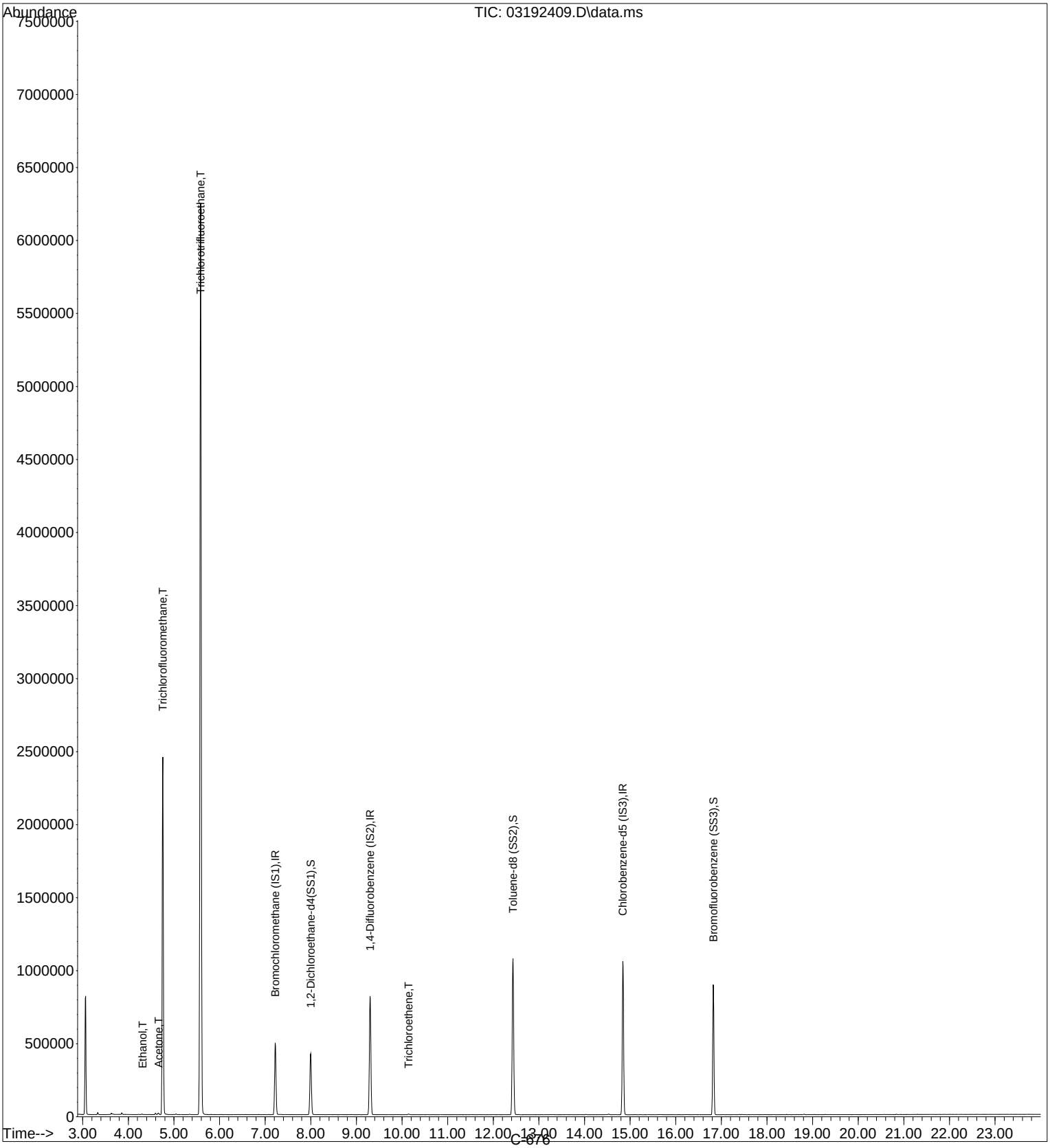
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	183521	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	782946	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	169069	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	363195	12.097	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	12.43	98	890346	13.116	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
73) Bromofluorobenzene (SS3)	16.83	174	308427	12.887	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
10) Ethanol	4.31	45	2050	0.116	ng		91
13) Acetone	4.66	58	2324	0.172	ng	#	86
14) Trichlorofluoromethane	4.76	101	1803830	49.511	ng		100
21) Trichlorotrifluoroethane	5.58	151	2031934	132.309	ng		98
47) Trichloroethene	10.14	130	2060	0.108	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

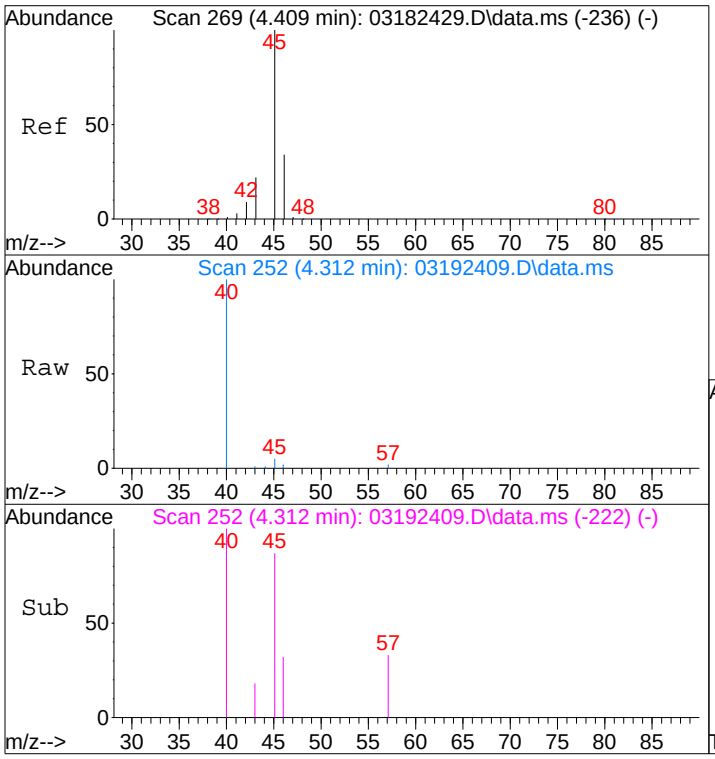
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:40:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



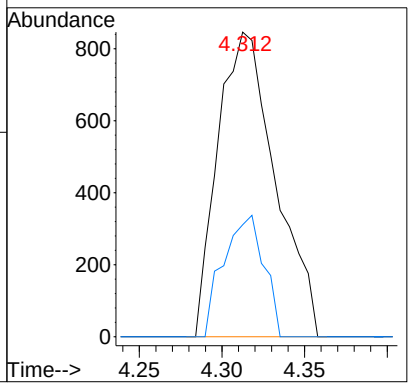
C-676

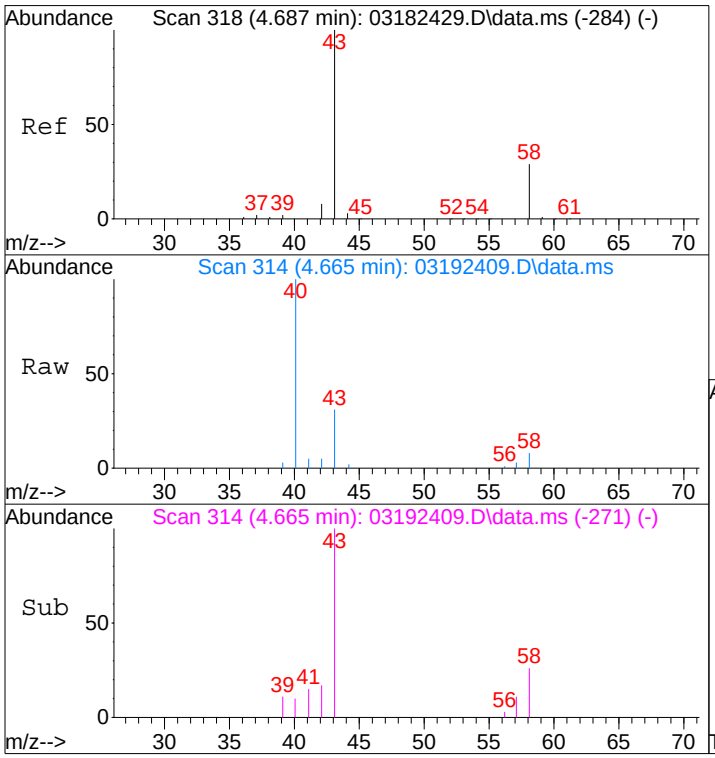


#10
Ethanol
Concen: 0.12 ng
RT: 4.31 min Scan# 252
Delta R.T. -0.080 min
Lab File: 03192409.D
Acq: 19 Mar 2024 14:09

Tgt Ion: 45 Resp: 2050

Ion	Ratio	Lower	Upper
45	100		
46	28.0	13.3	53.3

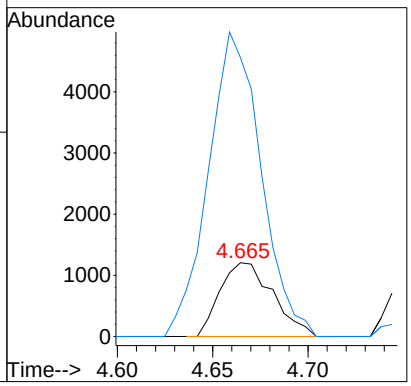


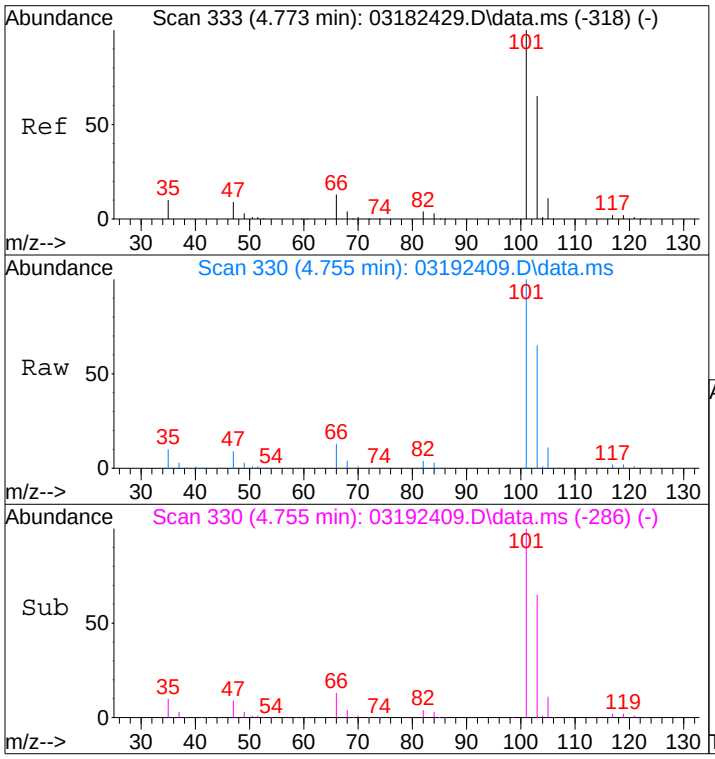


#13
Acetone
Concen: 0.17 ng
RT: 4.66 min Scan# 314
Delta R.T. -0.005 min
Lab File: 03192409.D
Acq: 19 Mar 2024 14:09

Tgt Ion: 58 Resp: 2324

Ion	Ratio	Lower	Upper
58	100		
43	411.8	350.1	410.1#

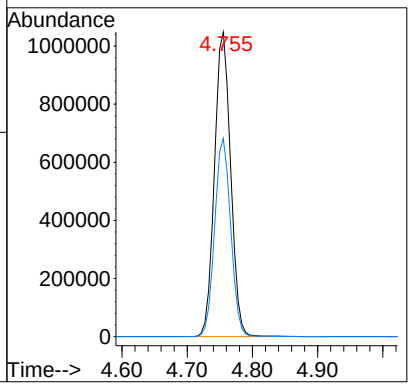


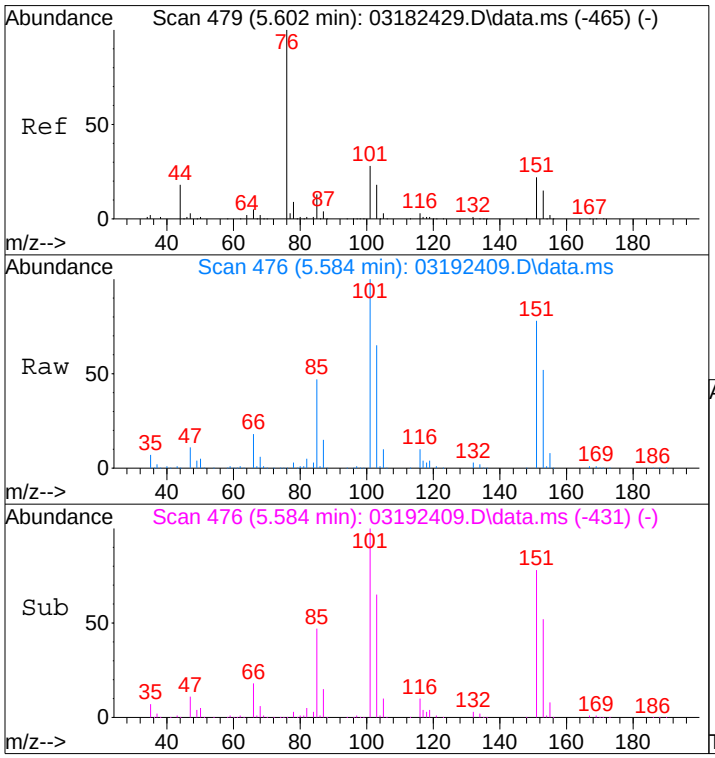


#14
Trichlorofluoromethane
Concen: 49.51 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.001 min
Lab File: 03192409.D
Acq: 19 Mar 2024 14:09

Tgt Ion:101 Resp: 1803830

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

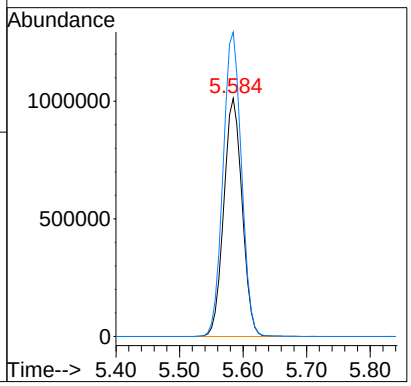


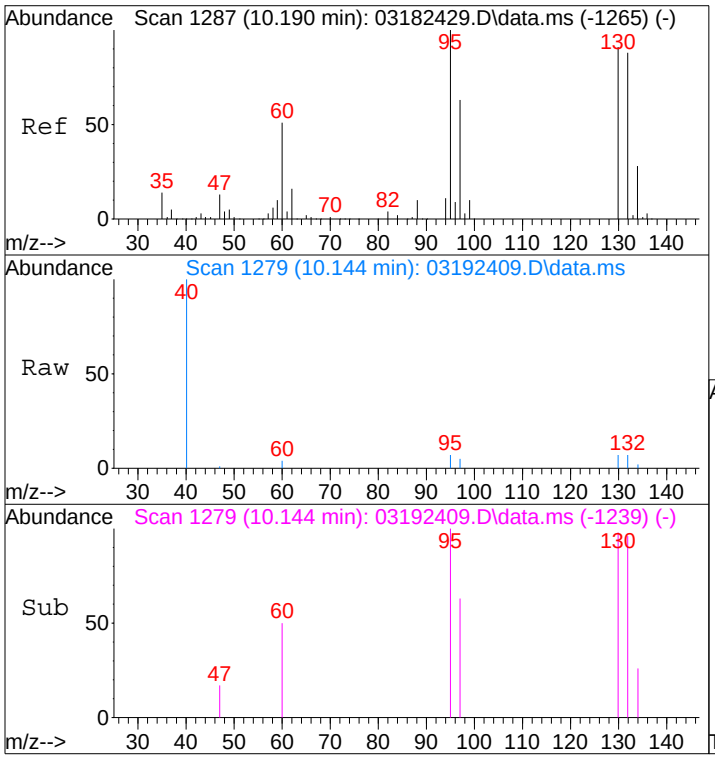


#21
Trichlorotrifluoroethane
Concen: 132.31 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.004 min
Lab File: 03192409.D
Acq: 19 Mar 2024 14:09

Tgt Ion:151 Resp: 2031934

Ion	Ratio	Lower	Upper
151	100		
101	128.3	106.4	146.4

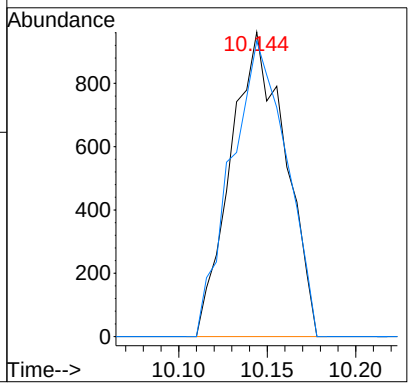




#47
Trichloroethene
Concen: 0.11 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.021 min
Lab File: 03192409.D
Acq: 19 Mar 2024 14:09

Tgt Ion:130 Resp: 2060

Ion	Ratio	Lower	Upper
130	100		
132	98.9	77.5	117.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:07:10 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

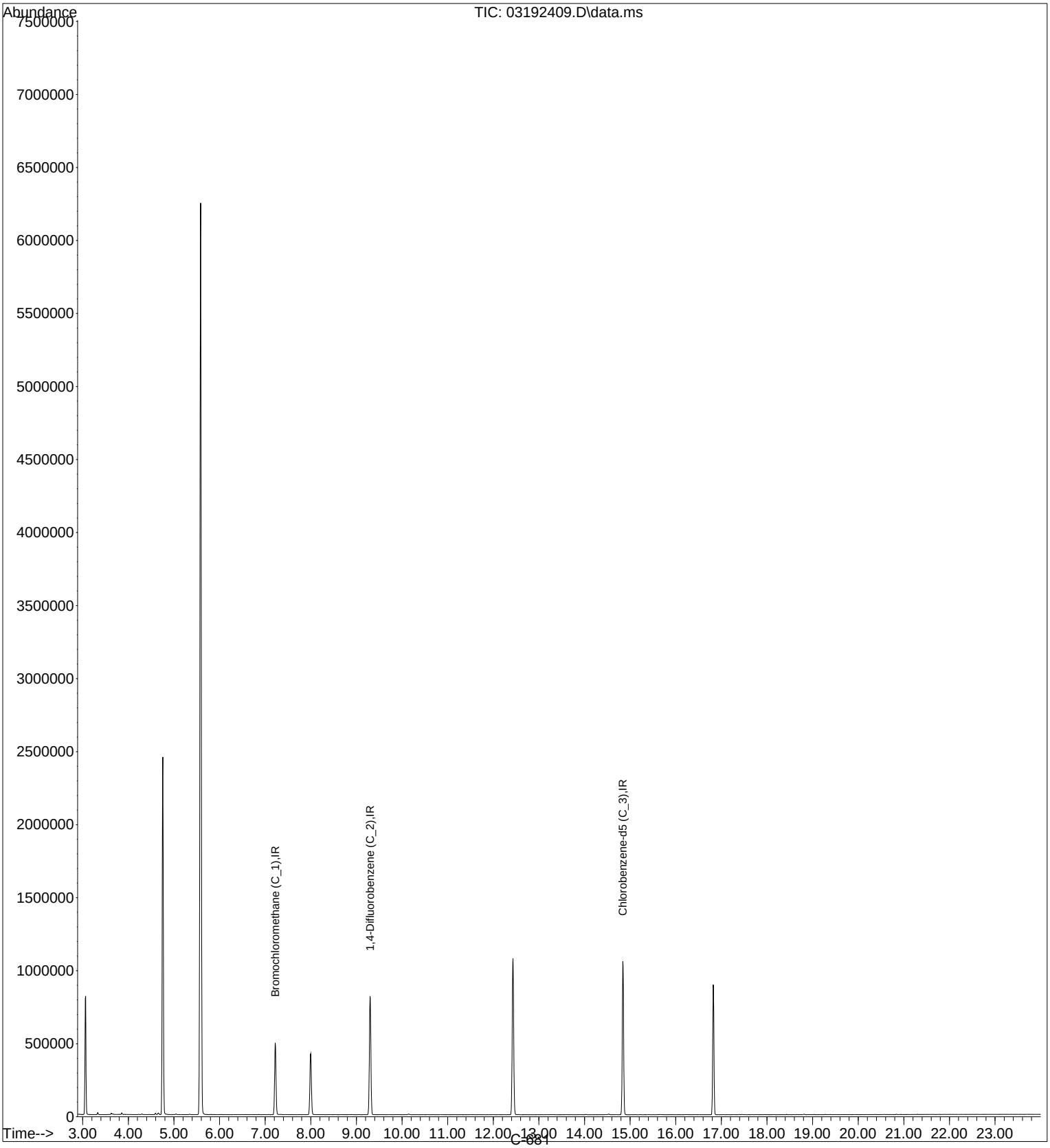
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	183789	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	783039	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	169069	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.26	65	59	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	1640	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	126	N.D.		
10) 2-Methylbutane	4.65	57	1698	N.D.		
11) Methyl Acetate	5.36	43	384	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.79	174	134	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	728	N.D.		
27) 4-Chlorotoluene	17.61	91	728	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192409.D Vial: 1
Acq On : 19 Mar 2024 14:09 Operator: SC
Sample : P2400922-011 (0.3mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:07:10 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-081

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192408.D Vial: 1
Acq On : 19 Mar 2024 13:37 Operator: SC
Sample : P2400922-011Dil (0.15mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:18:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	185645	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	799475	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	173361	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	366296	12.061	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%			
57) Toluene-d8 (SS2)	12.43	98	914513	13.138	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%			
73) Bromofluorobenzene (SS3)	16.82	174	314630	12.821	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
Target Compounds						Qvalue
2) Propene	3.33	42	414	N.D.		
3) Dichlorodifluoromethan...	3.33	85	258	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.31	45	2133	0.119	ng	86
11) Acetonitrile	4.44	41	684	N.D.		
12) Acrolein	4.55	56	139	N.D.		
13) Acetone	4.66	58	2316	0.170	ng	94
14) Trichlorofluoromethane	4.75	101	690844	18.745	ng	100
15) 2-Propanol (Isopropanol)	4.91	45	486	N.D.		
16) Acrylonitrile	4.99	53	860	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.33	84	913	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.57	151	760101	48.928	ng	99
22) Carbon Disulfide	5.60	76	790	N.D.		
23) trans-1,2-Dichloroethene	6.12	61	211	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.07	61	610	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.34	83	609	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	196	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.89	78	1048	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	567	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.08	83	411	N.D.		
47) Trichloroethene	10.14	130	1961	0.101	ng	100
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.24	57	232	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192408.D Vial: 1
Acq On : 19 Mar 2024 13:37 Operator: SC
Sample : P2400922-011Dil (0.15mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:18:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

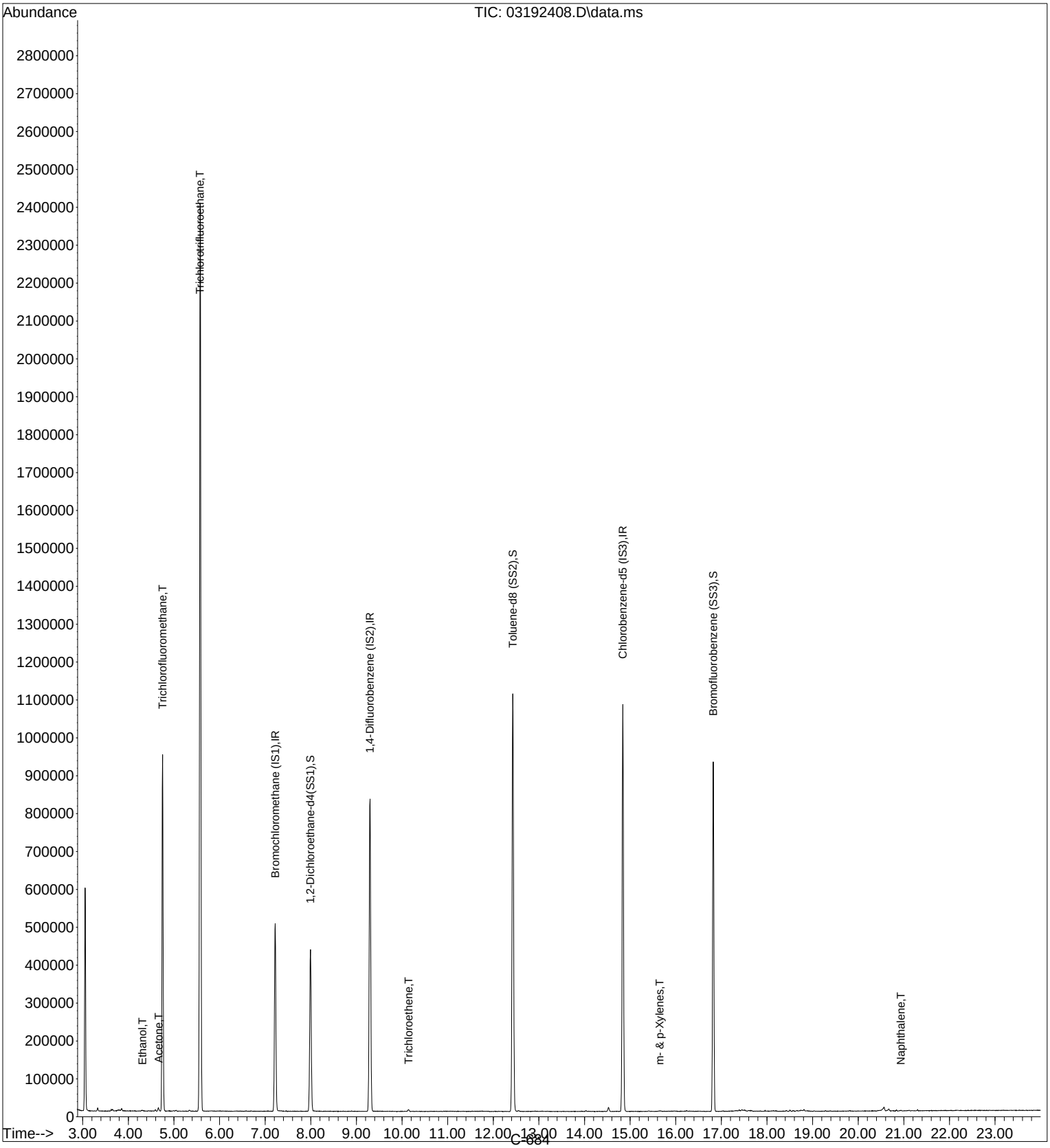
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	12.17	97	108	N.D.	
58) Toluene	12.56	91	2471	N.D.	
59) 2-Hexanone	12.93	43	406	N.D.	
60) Dibromochloromethane	13.07	129	453	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.02	166	834	N.D.	
65) Chlorobenzene	14.90	112	785	N.D.	
66) Ethylbenzene	15.41	91	1929	N.D.	
67) m- & p-Xylenes	15.65	91	3237	0.051 ng #	52
68) Bromoform	15.67	173	587	N.D.	
69) Styrene	16.11	104	111	N.D.	
70) o-Xylene	16.24	91	1128	N.D.	
71) n-Nonane	16.61	43	239	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	393	N.D.	
74) Cumene	17.03	105	1431	N.D.	
75) alpha-Pinene	17.52	93	165	N.D.	
76) n-Propylbenzene	17.67	91	1490	N.D.	
77) 3-Ethyltoluene	17.03	105	1431	No Calib	
78) 4-Ethyltoluene	17.86	105	1168	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	504	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	1431	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	604	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	658	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	856	N.D.	
87) sec-Butylbenzene	18.74	105	1236	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	525	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	1431	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	629	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1026	N.D.	
95) Naphthalene	20.94	128	1288	0.370 ng #	71
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	737	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	921	N.D.	
100) n-Butylbenzene	19.39	91	582	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192408.D Vial: 1
Acq On : 19 Mar 2024 13:37 Operator: SC
Sample : P2400922-011Dil (0.15mL) Inst : MS09
Misc : S37-02202408

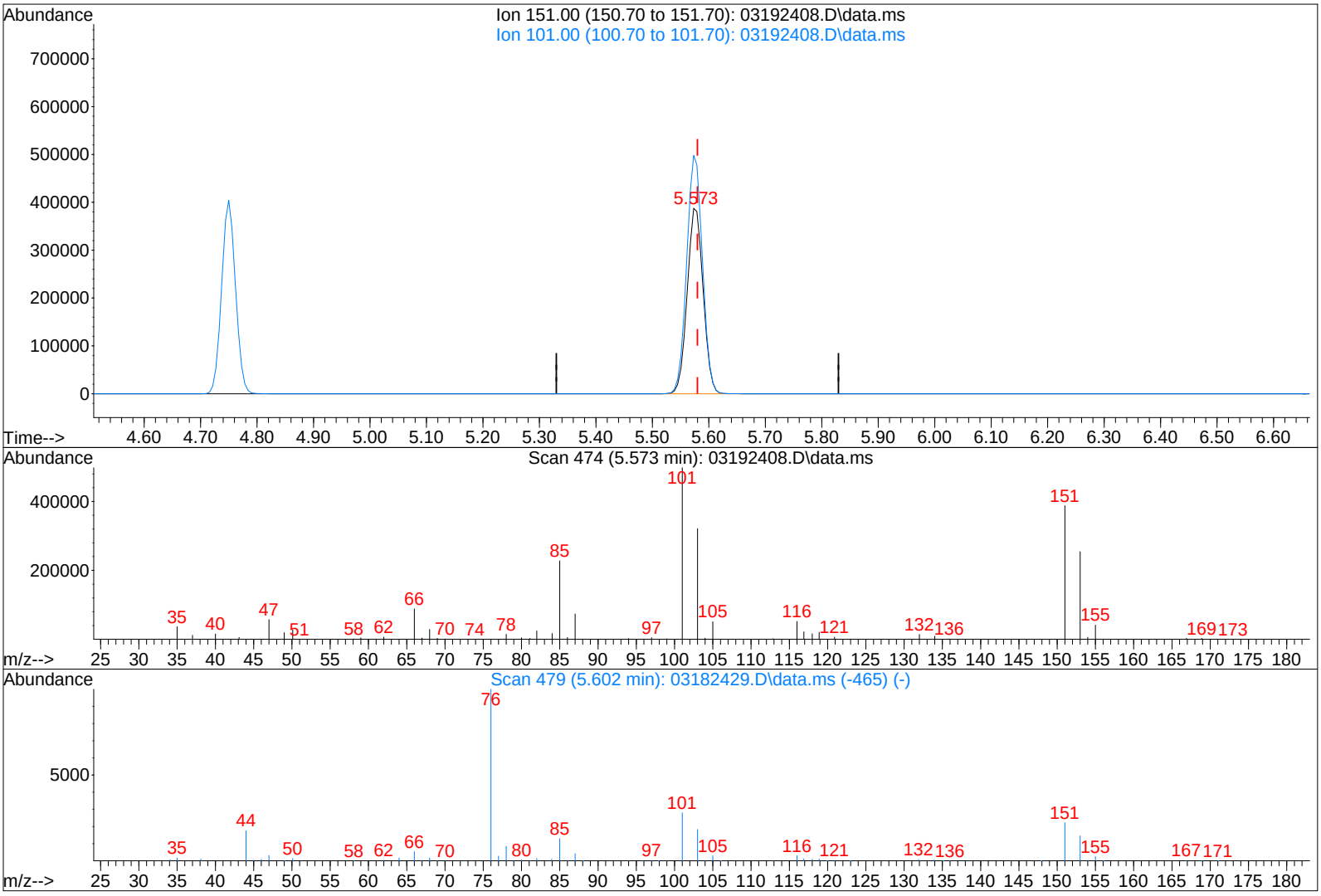
Quant Time: Mar 19 14:18:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192408.D Vial: 1
Acq On : 19 Mar 2024 13:37 Operator: SC
Sample : P2400922-011Dil (0.15mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 14:09:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192408.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (-0.007) 48.93ng

response 760101

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	127.31
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192409.D
Acq On : 19 Mar 2024 14:09
Operator : SC
Sample : P2400922-011 (0.3mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192409.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.330	74	79	85	rVB3	14515	18467	0.15%	0.103%
2	3.625	127	131	134	rBV	9685	11767	0.09%	0.066%
3	3.858	167	172	178	rVB2	10651	15726	0.13%	0.088%
4	4.596	296	302	307	rBV2	10704	15292	0.12%	0.085%
5	4.659	307	313	321	rVB4	10882	21474	0.17%	0.120%
6	4.755	321	330	343	rBV	2448572	4201980	33.41%	23.457%
7	5.584	464	476	496	rBV	6242401	12575607	100.00%	70.202%
8	7.220	755	764	777	rBV	491944	1053030	8.37%	5.878%

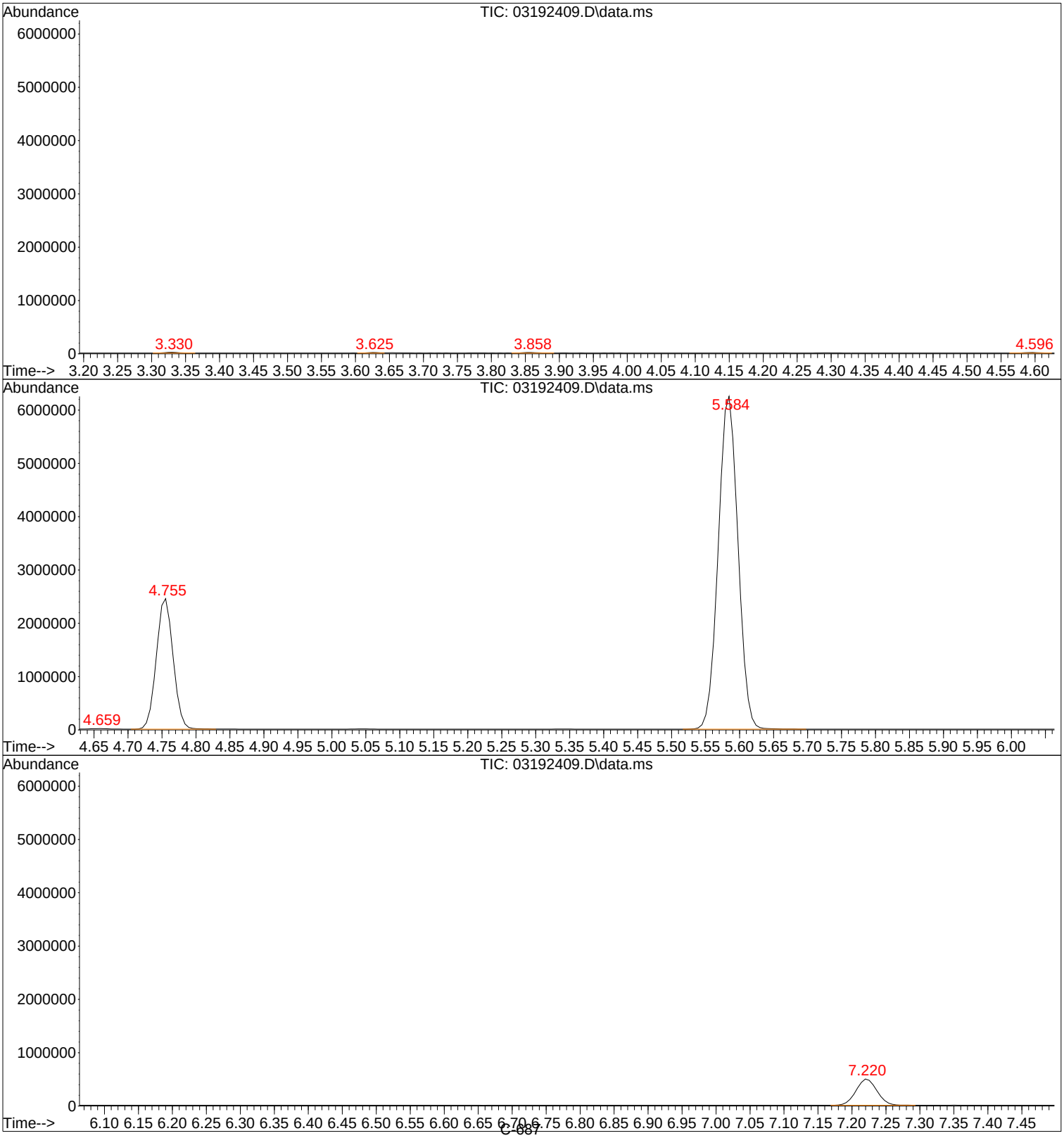
Sum of corrected areas: 17913343

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192409.D
Acq On : 19 Mar 2024 14:09
Operator : SC
Sample : P2400922-011 (0.3mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192409.D
Acq On : 19 Mar 2024 14:099
Operator : SCC
Sample : P2400922-011 (0.3mL))
Misc : S37-022024088
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 09:23:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	173387	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	744910	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	158346	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	350948	12.372	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
57) Toluene-d8 (SS2)	12.43	98	830381	13.061	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
73) Bromofluorobenzene (SS3)	16.82	174	281285	12.549	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.32	42	1921	0.097	ng		92
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.52	50	291	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	106	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	3993	0.238	ng		91
11) Acetonitrile	4.43	41	1429	N.D.			
12) Acrolein	4.54	56	309	N.D.			
13) Acetone	4.65	58	5551	0.435	ng		98
14) Trichlorofluoromethane	4.76	101	407	N.D.			
15) 2-Propanol (Isopropanol)	4.89	45	22708	0.447	ng		91
16) Acrylonitrile	4.98	53	1074	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.34	84	1203	0.065	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.60	76	2913	0.050	ng	#	73
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	7.06	61	141	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	198	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	109	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	1793	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	534	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	351	N.D.			
47) Trichloroethene	10.14	130	332	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 09:23:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

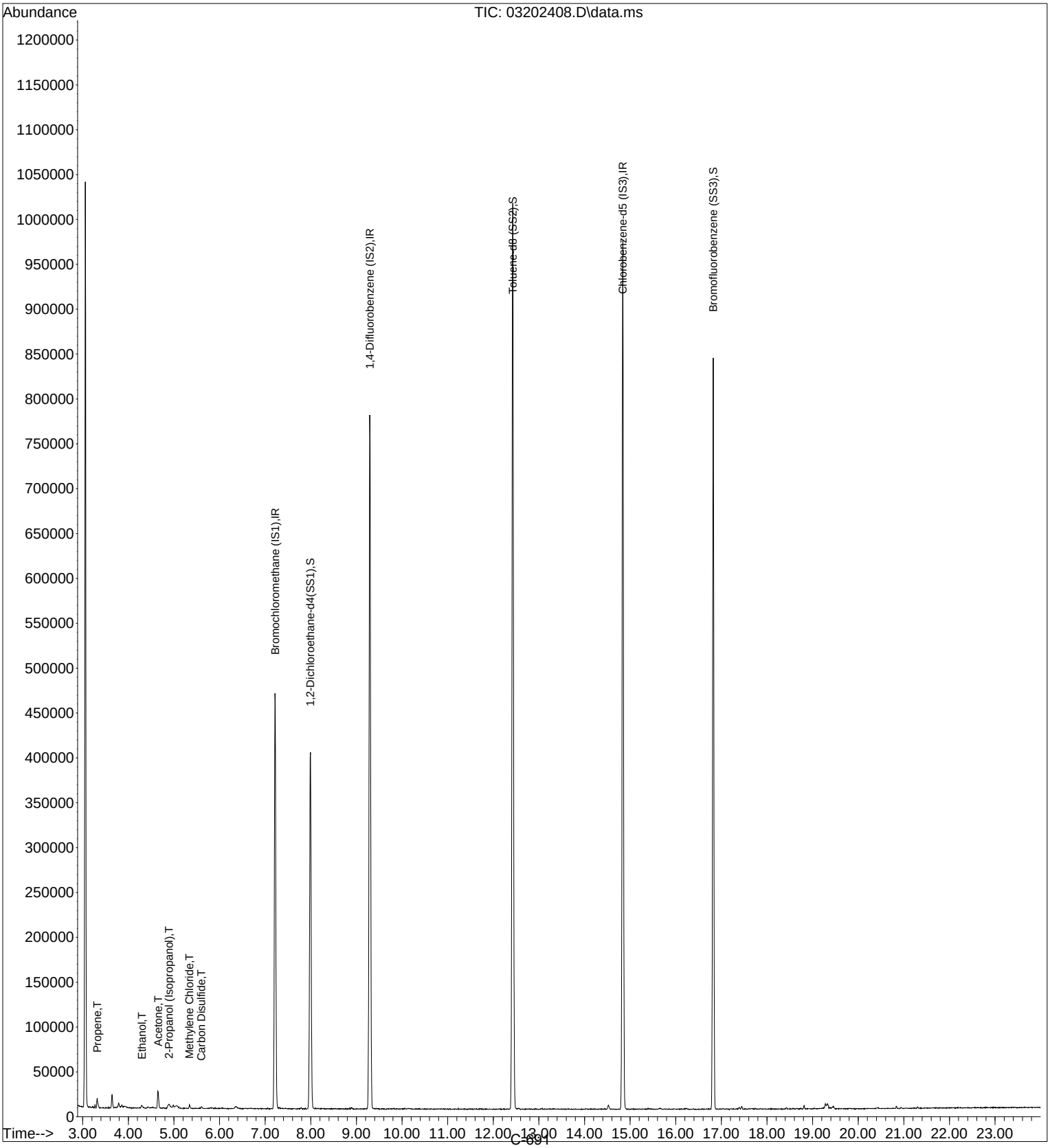
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	843	N.D.		
59) 2-Hexanone	12.94	43	270	N.D.		
60) Dibromochloromethane	13.07	129	347	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.02	166	271	N.D.		
65) Chlorobenzene	14.89	112	604	N.D.		
66) Ethylbenzene	15.41	91	873	N.D.		
67) m- & p-Xylenes	15.64	91	801	N.D.		
68) Bromoform	15.67	173	460	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	715	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.20	83	390	N.D.		
74) Cumene	17.03	105	739	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	939	N.D.		
77) 3-Ethyltoluene	17.03	105	739	No Calib		#
78) 4-Ethyltoluene	17.86	105	532	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	393	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	739	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	395	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	557	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	628	N.D.		
87) sec-Butylbenzene	18.74	105	759	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	490	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	739	No Calib		#
90) 1,2-Dichlorobenzene	19.04	146	478	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	937	N.D.		
95) Naphthalene	0.00	128	0	N.D.	d	
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	517	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	677	N.D.		
100) n-Butylbenzene	19.39	91	573	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 09:23:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 09:23:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

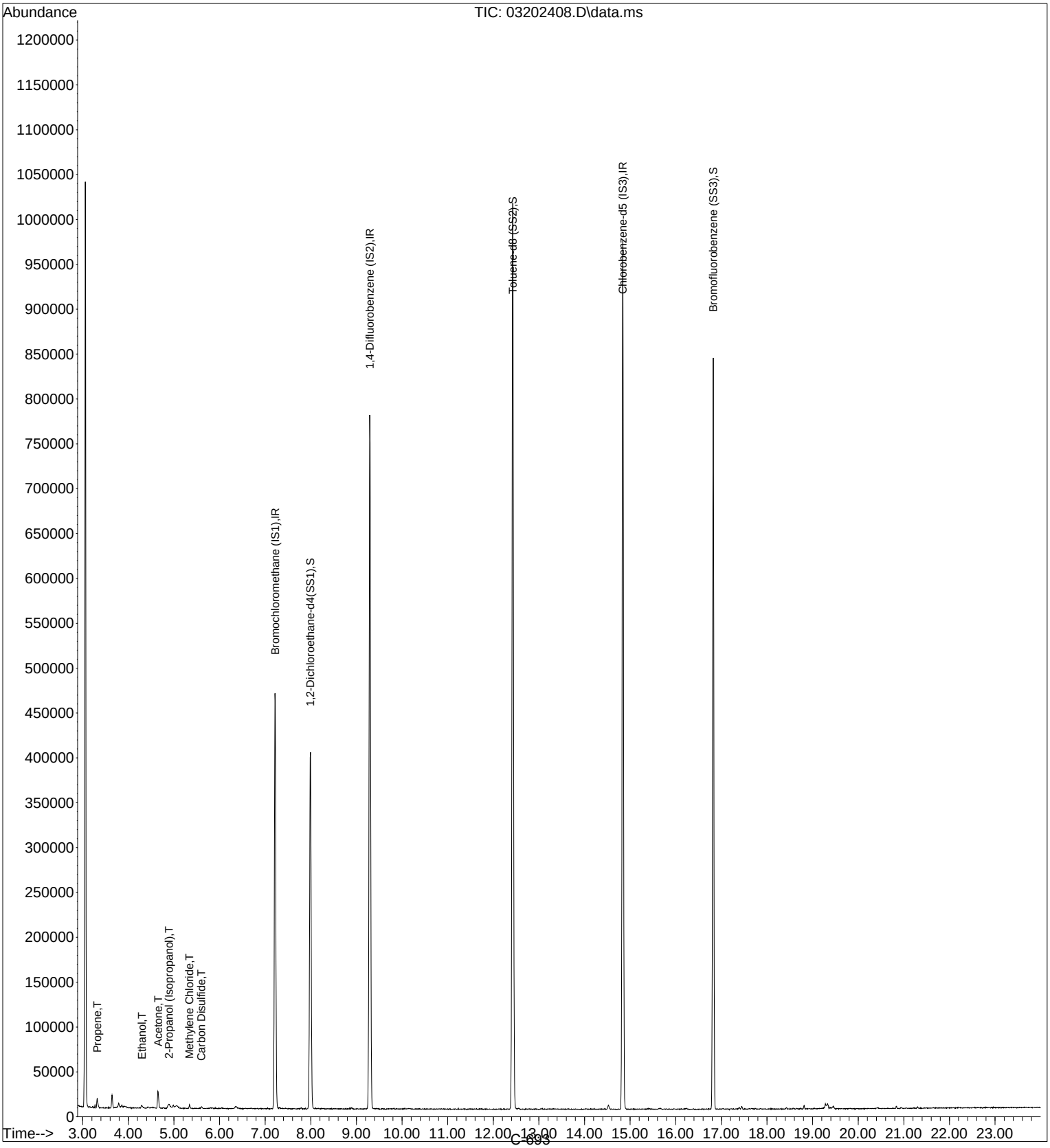
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	173387	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	744910	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	158346	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	350948	12.372	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
57) Toluene-d8 (SS2)	12.43	98	830381	13.061	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
73) Bromofluorobenzene (SS3)	16.82	174	281285	12.549	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.32	42	1921	0.097	ng		92
10) Ethanol	4.30	45	3993	0.238	ng		91
13) Acetone	4.65	58	5551	0.435	ng		98
15) 2-Propanol (Isopropanol)	4.89	45	22708	0.447	ng		91
19) Methylene Chloride	5.34	84	1203	0.065	ng		99
22) Carbon Disulfide	5.60	76	2913	0.050	ng	#	73

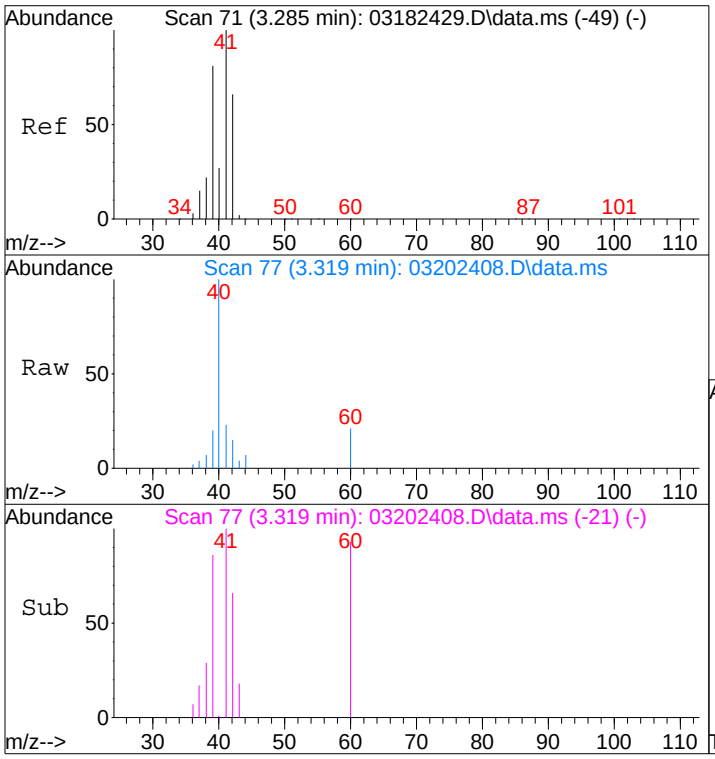
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 09:23:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

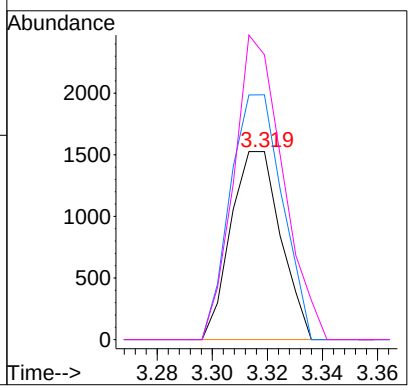


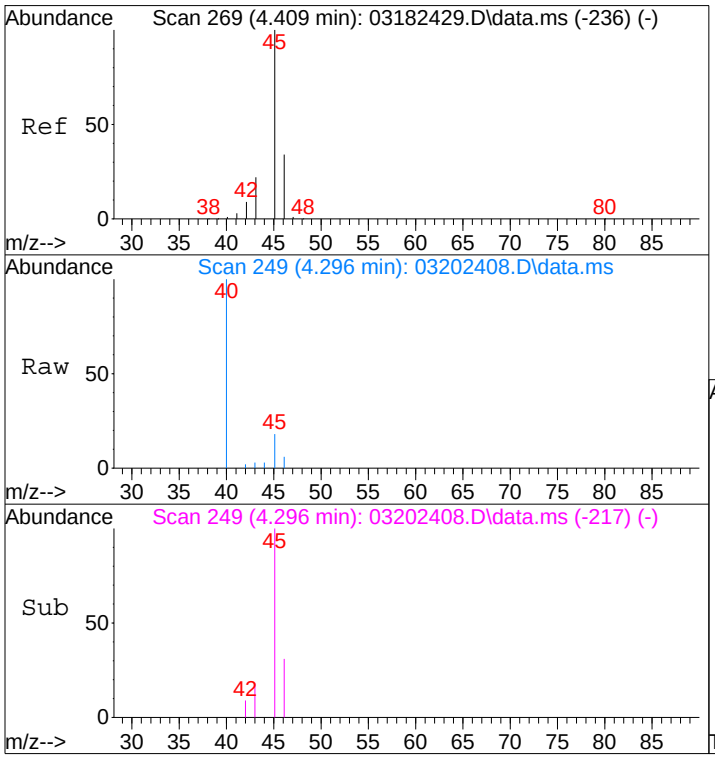


#2
Propene
Concen: 0.10 ng
RT: 3.32 min Scan# 77
Delta R.T. 0.070 min
Lab File: 03202408.D
Acq: 20 Mar 2024 8:59

Tgt Ion: 42 Resp: 1921

Ion	Ratio	Lower	Upper
42	100		
39	135.9	102.3	142.3
41	159.1	133.8	173.8

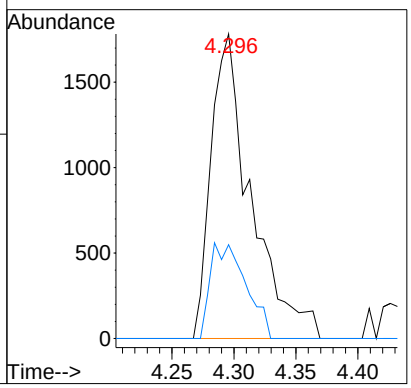


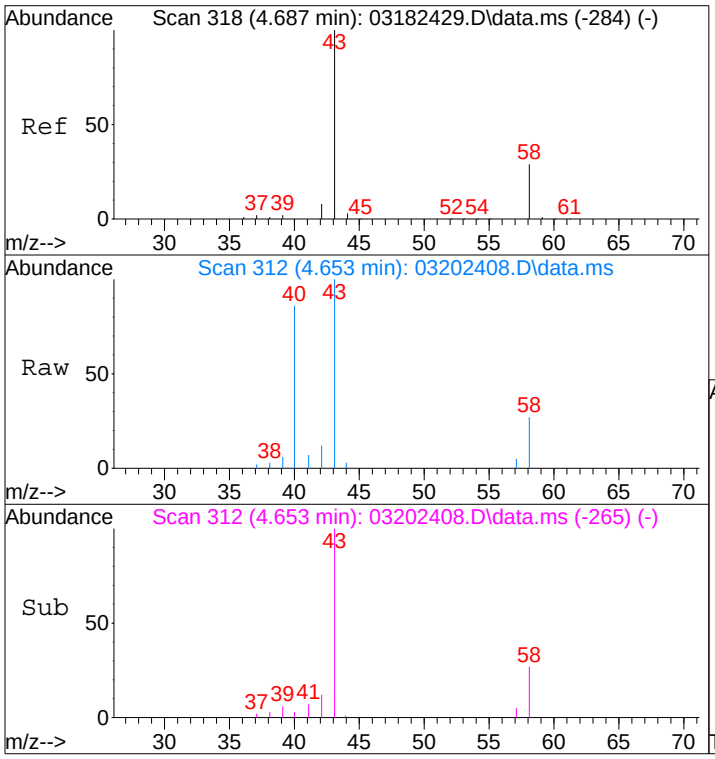


#10
Ethanol
Concen: 0.24 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.066 min
Lab File: 03202408.D
Acq: 20 Mar 2024 8:59

Tgt Ion: 45 Resp: 3993

Ion	Ratio	Lower	Upper
45	100		
46	27.9	13.3	53.3

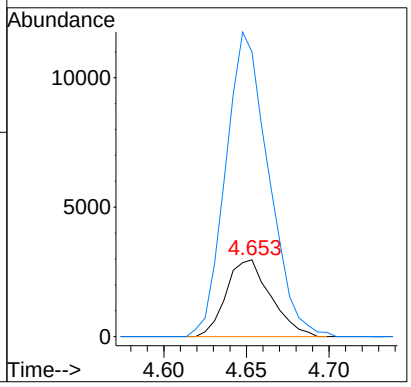


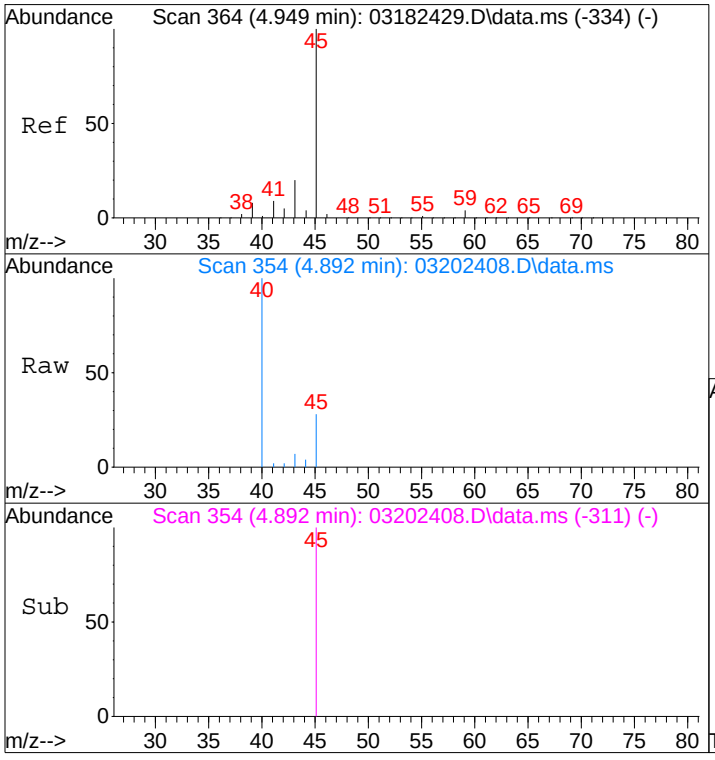


#13
Acetone
Concen: 0.44 ng
RT: 4.65 min Scan# 312
Delta R.T. 0.017 min
Lab File: 03202408.D
Acq: 20 Mar 2024 8:59

Tgt Ion: 58 Resp: 5551

Ion	Ratio	Lower	Upper
58	100		
43	383.6	350.1	410.1

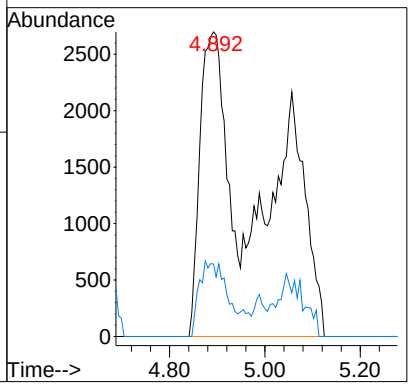


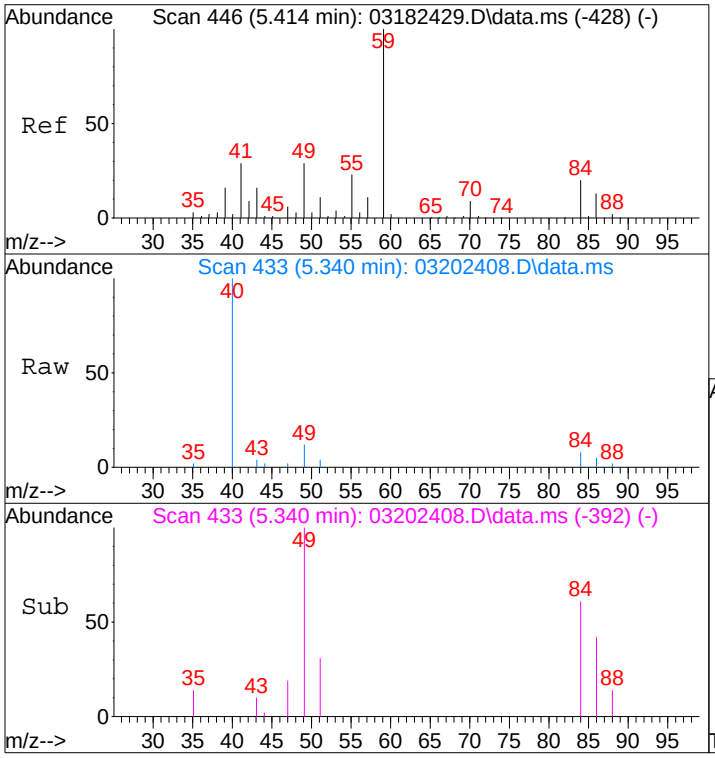


#15
2-Propanol (Isopropanol)
Concen: 0.45 ng
RT: 4.89 min Scan# 354
Delta R.T. -0.003 min
Lab File: 03202408.D
Acq: 20 Mar 2024 8:59

Tgt Ion: 45 Resp: 22708

Ion	Ratio	Lower	Upper
45	100		
43	24.7	0.4	40.4

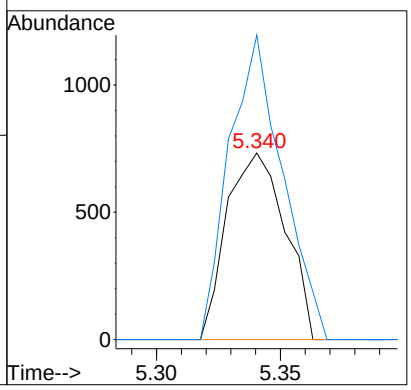


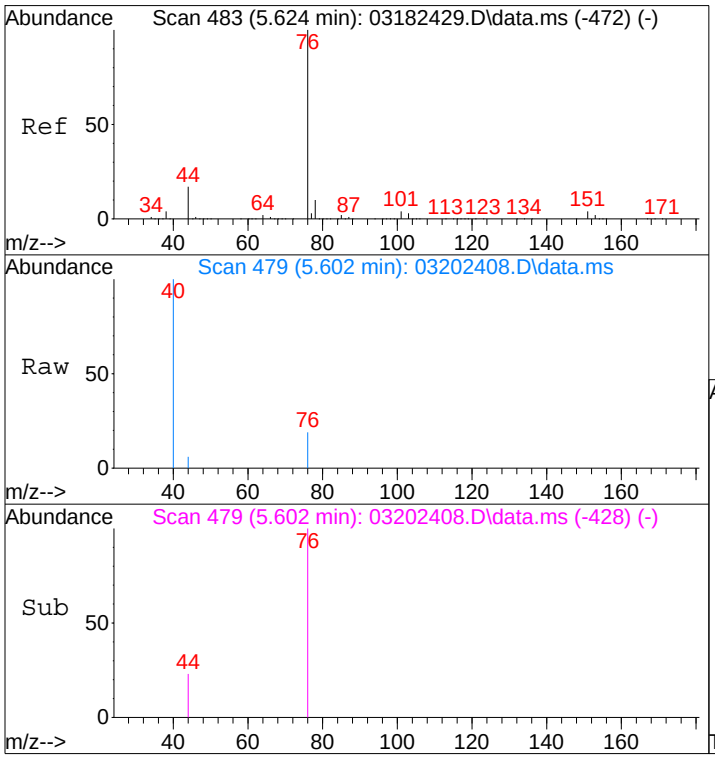


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202408.D
Acq: 20 Mar 2024 8:59

Tgt Ion: 84 Resp: 1203

Ion	Ratio	Lower	Upper
84	100		
49	148.9	122.9	172.9

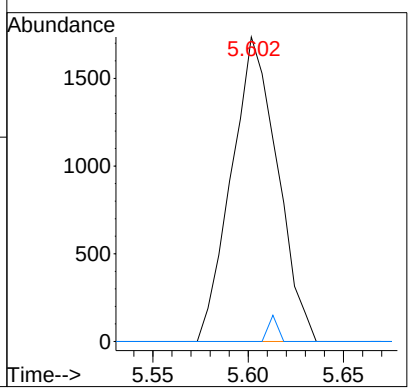




#22
Carbon Disulfide
Concen: 0.05 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 03202408.D
Acq: 20 Mar 2024 8:59

Tgt Ion: 76 Resp: 2913

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	29.8



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:10:39 2024 3/21/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

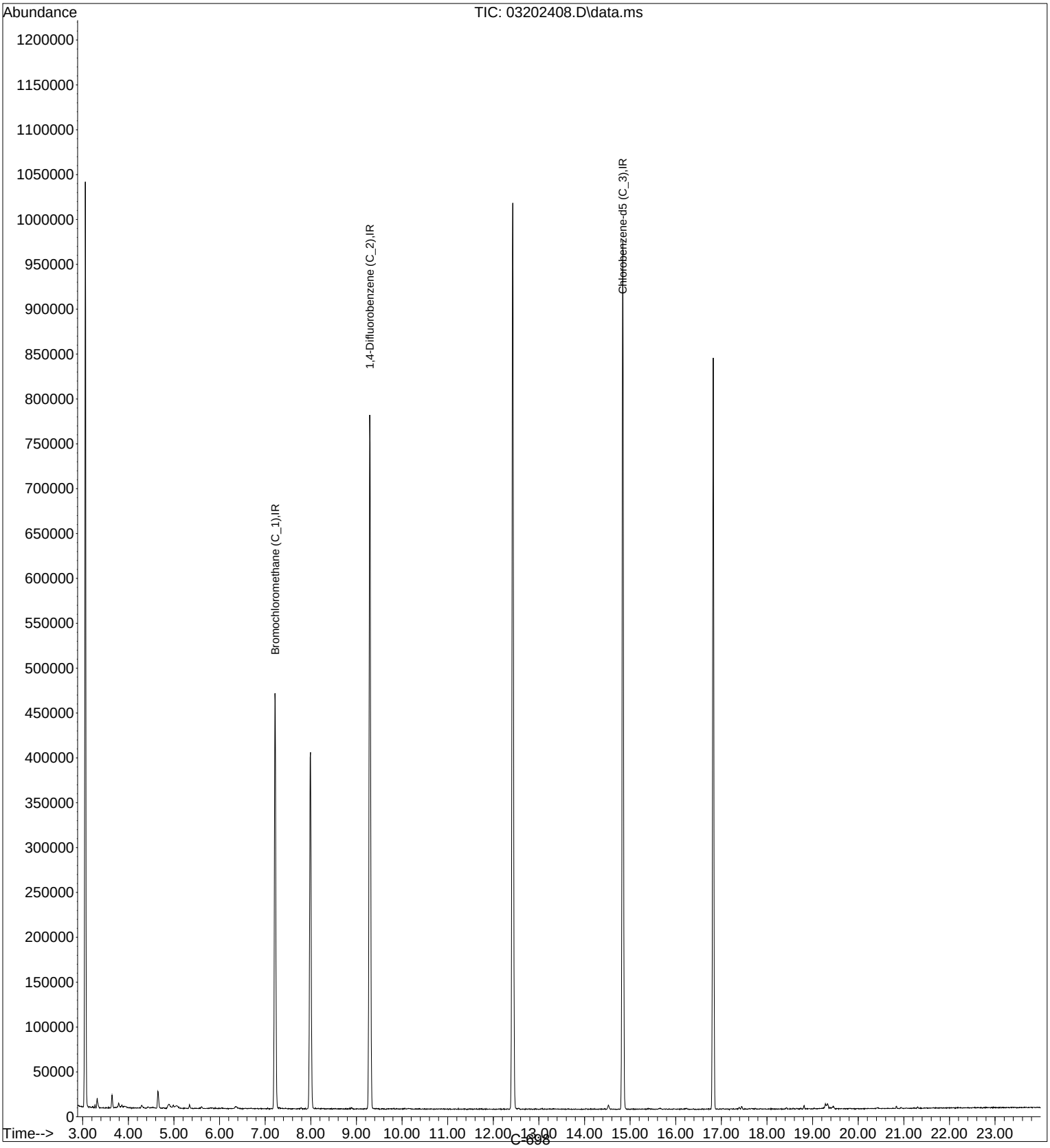
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	173387	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.29	114	744910	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	158346	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.66	57	932	N.D.		
11) Methyl Acetate	5.35	43	557	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.79	174	110	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	596	N.D.		
27) 4-Chlorotoluene	17.68	91	939	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202408.D Vial: 14
Acq On : 20 Mar 2024 8:59 Operator: SC
Sample : P2400922-012 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:10:39 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202408.D
Acq On : 20 Mar 2024 8:59
Operator : SC
Sample : P2400922-012 (400mL)
Misc : S37-02202408
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202408.D\data.ms

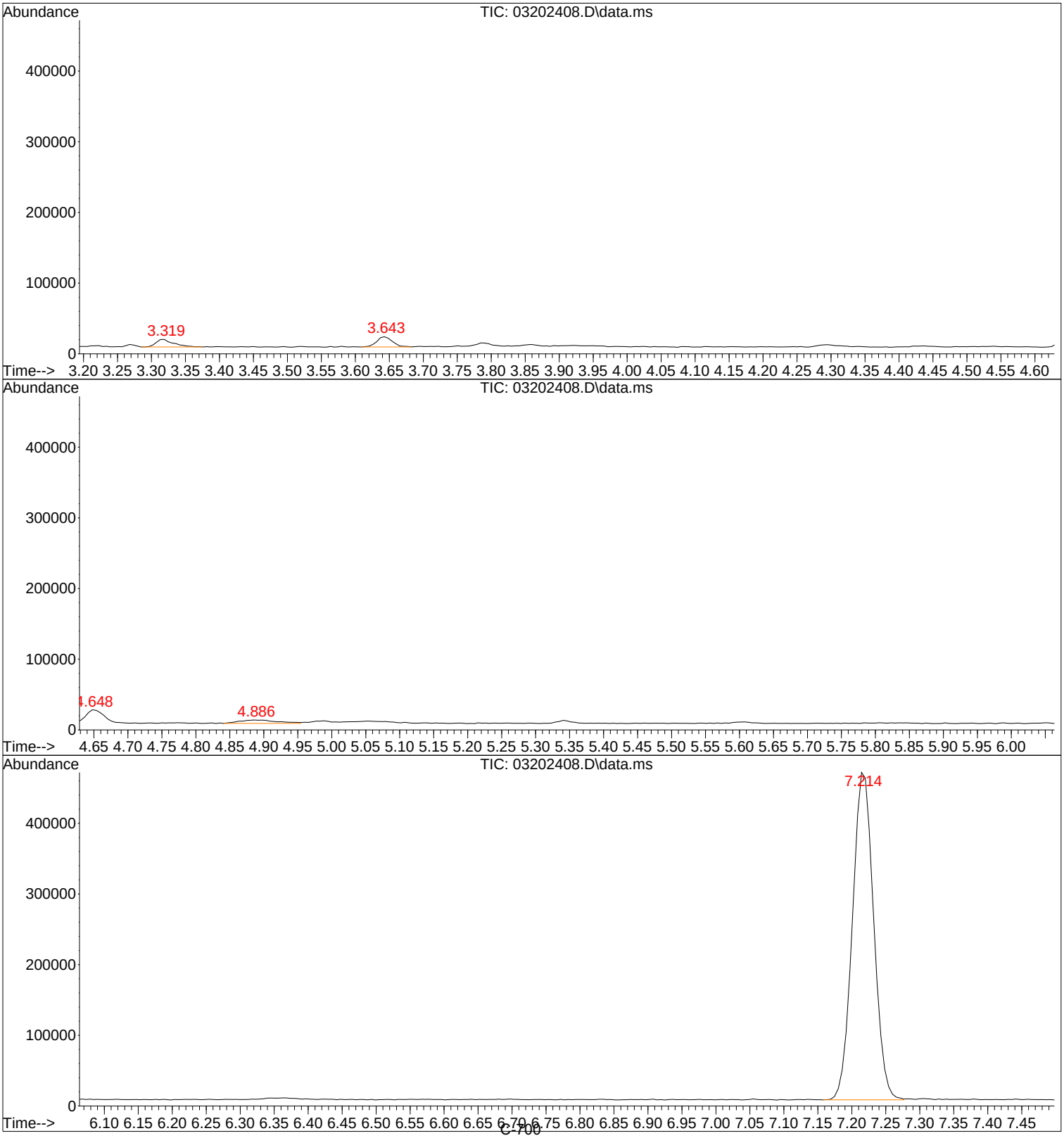
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	71	77	87	rBV5	10710	19298	1.92%	1.749%
2	3.643	128	134	141	rBV	14574	23426	2.33%	2.123%
3	4.648	304	311	321	rBV	19110	35850	3.56%	3.250%
4	4.886	345	353	365	rBV4	4758	18731	1.86%	1.698%
5	7.214	753	763	774	rBV	463136	1005912	100.00%	91.180%

Sum of corrected areas: 1103217

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202408.D
Acq On : 20 Mar 2024 8:59
Operator : SC
Sample : P2400922-012 (400mL)
Misc : S37-02202408
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202408.D
Acq On : 20 Mar 2024 8:599
Operator : SCC
Sample : P2400922-012 (400mL))
Misc : S37-022024088
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:57:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	153056	12.500 ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	657325	12.500 ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	145668	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.01	65	312261	12.471 ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
57) Toluene-d8 (SS2)	12.43	98	741336	12.675 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
73) Bromofluorobenzene (SS3)	16.83	174	256958	12.461 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%			
Target Compounds						Qvalue
2) Propene	3.28	42	52270m	2.999 ng		
3) Dichlorodifluoromethan...	3.36	85	20681m	0.659 ng		
4) Chloromethane	3.49	50	3753	0.161 ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	524	N.D.		
6) Vinyl Chloride	3.68	62	534	N.D.		
7) 1,3-Butadiene	3.77	54	299	N.D.		
8) Bromomethane	4.01	94	1874	0.147 ng		99
9) Chloroethane	4.15	64	304	N.D.		
10) Ethanol	4.30	45	206280	13.946 ng		99
11) Acetonitrile	4.43	41	10375	0.306 ng	#	63
12) Acrolein	4.52	56	5971	0.563 ng		97
13) Acetone	4.62	58	363070	32.254 ng	#	64
14) Trichlorofluoromethane	4.76	101	1661600	54.685 ng		99
15) 2-Propanol (Isopropanol)	4.85	45	511116	11.403 ng		95
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	5.35	84	17679	1.080 ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d		
21) Trichlorotrifluoroethane	5.58	151	1800157	140.549 ng		99
22) Carbon Disulfide	5.60	76	69103	1.355 ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	2565	0.114 ng		100
24) 1,1-Dichloroethane	6.33	63	302	N.D.		
25) Methyl tert-Butyl Ether	6.31	73	339	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.66	72	37817	4.109 ng		98
28) cis-1,2-Dichloroethene	7.08	61	2167	0.099 ng		92
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	7.28	61	137528	24.903 ng		92
31) n-Hexane	7.30	57	14794	0.622 ng		95
32) Chloroform	7.37	83	8545	0.322 ng		99
34) Tetrahydrofuran (THF)	7.76	72	2127	0.255 ng	#	57
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	3383	0.137 ng		94
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.54	61	3759	No Calib	#	
40) 1-Butanol	8.80	56	17402	No Calib	#	
41) Benzene	8.90	78	17088	0.289 ng		99
42) Carbon Tetrachloride	9.08	117	1300	0.056 ng		99
43) Cyclohexane	9.22	84	19848	1.061 ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.87	63	48707	3.383 ng		100
46) Bromodichloromethane	10.09	83	1570	0.072 ng	#	69
47) Trichloroethene	10.15	130	2968	0.186 ng		92
48) 1,4-Dioxane	10.13	88	415	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	10.41	100	3841	0.792 ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:57:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

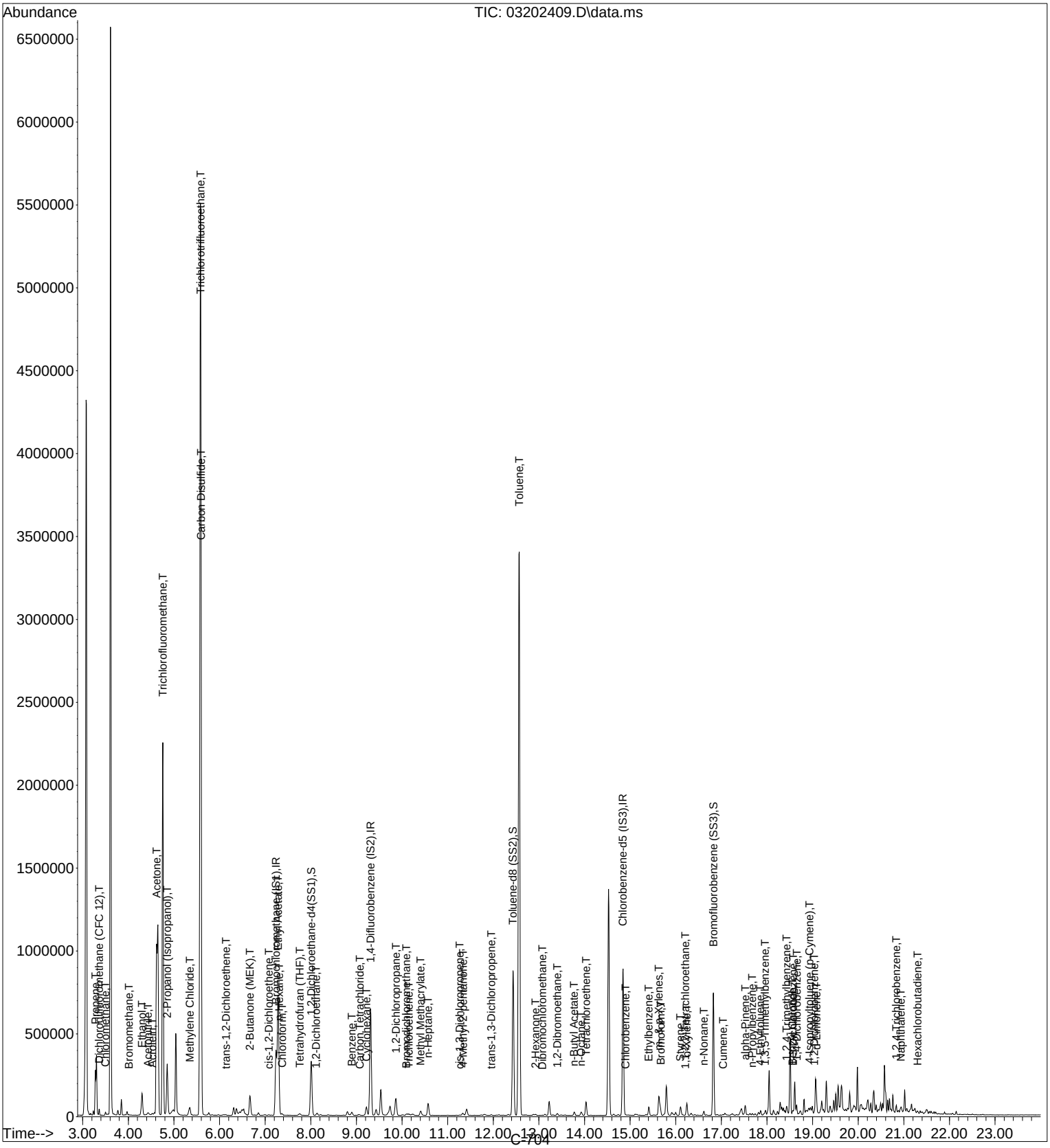
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.57	71	18994	1.502	ng		99
52) cis-1,3-Dichloropropene	11.26	75	1853	0.077	ng		90
53) 4-Methyl-2-pentanone	11.34	58	4634	0.365	ng		84
54) trans-1,3-Dichloropropene	11.96	75	2411	0.117	ng		96
55) 1,1,2-Trichloroethane	12.18	97	521	N.D.			
58) Toluene	12.57	91	3110573	55.720	ng		100
59) 2-Hexanone	12.93	43	5420	0.167	ng	#	65
60) Dibromochloromethane	13.07	129	974	0.054	ng		94
61) 1,2-Dibromoethane	13.40	107	1608	0.103	ng		98
62) n-Butyl Acetate	13.77	43	19834	0.552	ng		98
63) n-Octane	13.93	57	3836	0.325	ng		95
64) Tetrachloroethene	14.03	166	30277	1.764	ng		98
65) Chlorobenzene	14.90	112	2710	0.072	ng		91
66) Ethylbenzene	15.41	91	42443	0.665	ng		99
67) m- & p-Xylenes	15.63	91	107824	2.033	ng		100
68) Bromoform	15.67	173	1408	0.093	ng		86
69) Styrene	16.10	104	22619	0.623	ng		98
70) o-Xylene	16.24	91	49413	0.945	ng		99
71) n-Nonane	16.62	43	11219	0.372	ng		96
72) 1,1,2,2-Tetrachloroethane	16.21	83	1304	0.053	ng		96
74) Cumene	17.04	105	4308	0.067	ng		97
75) alpha-Pinene	17.53	93	25263	0.799	ng		100
76) n-Propylbenzene	17.68	91	7586	0.098	ng		96
77) 3-Ethyltoluene	17.04	105	4308	No Calib			
78) 4-Ethyltoluene	17.86	105	6820	0.110	ng		94
79) 1,3,5-Trimethylbenzene	17.96	105	6309	0.118	ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.04	105	4308	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	20902	0.375	ng		90
83) n-Decane	17.09	58	291	No Calib		#	
84) Benzyl Chloride	18.56	91	7839	0.727	ng		96
85) 1,3-Dichlorobenzene	18.58	146	3078	0.089	ng		95
86) 1,4-Dichlorobenzene	18.66	146	4153	0.123	ng		100
87) sec-Butylbenzene	18.74	105	3439	N.D.			
88) 4-Isopropyltoluene (p-...	18.93	119	7279	0.118	ng	#	74
89) 1,2,3-Trimethylbenzene	17.04	105	4308	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	2796	0.084	ng		99
91) d-Limonene	19.09	68	16746	0.858	ng		94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	d		
93) n-Undecane	17.86	58	383	No Calib		#	
94) 1,2,4-Trichlorobenzene	20.84	180	8445	0.349	ng		97
95) Naphthalene	20.94	128	11380	0.489	ng		97
96) n-Dodecane	18.91	58	345	No Calib		#	
97) Hexachlorobutadiene	21.30	225	1325	0.067	ng		99
98) Cyclohexanone	15.41	55	411	No Calib		#	
99) tert-Butylbenzene	0.00	119	0	N.D.	d		
100) n-Butylbenzene	0.00	91	0	N.D.	d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:57:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:57:09 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	153056	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	657325	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	145668	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	312261	12.471	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
57) Toluene-d8 (SS2)	12.43	98	741336	12.675	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
73) Bromofluorobenzene (SS3)	16.83	174	256958	12.461	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
Target Compounds							Qvalue
2) Propene	3.28	42	52270m	2.999	ng		
3) Dichlorodifluoromethan...	3.36	85	20681m	0.659	ng		
4) Chloromethane	3.49	50	3753	0.161	ng		97
8) Bromomethane	4.01	94	1874	0.147	ng		99
10) Ethanol	4.30	45	206280	13.946	ng		99
11) Acetonitrile	4.43	41	10375	0.306	ng	#	63
12) Acrolein	4.52	56	5971	0.563	ng		97
13) Acetone	4.62	58	363070	32.254	ng	#	64
14) Trichlorofluoromethane	4.76	101	1661600	54.685	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	511116	11.403	ng		95
19) Methylene Chloride	5.35	84	17679	1.080	ng		99
21) Trichlorotrifluoroethane	5.58	151	1800157	140.549	ng		99
22) Carbon Disulfide	5.60	76	69103	1.355	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	2565	0.114	ng		100
27) 2-Butanone (MEK)	6.66	72	37817	4.109	ng		98
28) cis-1,2-Dichloroethene	7.08	61	2167	0.099	ng		92
30) Ethyl Acetate	7.28	61	137528	24.903	ng		92
31) n-Hexane	7.30	57	14794	0.622	ng		95
32) Chloroform	7.37	83	8545	0.322	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2127	0.255	ng	#	57
36) 1,2-Dichloroethane	8.12	62	3383	0.137	ng		94
41) Benzene	8.90	78	17088	0.289	ng		99
42) Carbon Tetrachloride	9.08	117	1300	0.056	ng		99
43) Cyclohexane	9.22	84	19848	1.061	ng		99
45) 1,2-Dichloropropane	9.87	63	48707	3.383	ng		100
46) Bromodichloromethane	10.09	83	1570	0.072	ng	#	69
47) Trichloroethene	10.15	130	2968	0.186	ng		92
50) Methyl Methacrylate	10.41	100	3841	0.792	ng		95
51) n-Heptane	10.57	71	18994	1.502	ng		99
52) cis-1,3-Dichloropropene	11.26	75	1853	0.077	ng		90
53) 4-Methyl-2-pentanone	11.34	58	4634	0.365	ng		84
54) trans-1,3-Dichloropropene	11.96	75	2411	0.117	ng		96
58) Toluene	12.57	91	3110573	55.720	ng		100
59) 2-Hexanone	12.93	43	5420	0.167	ng	#	65
60) Dibromochloromethane	13.07	129	974	0.054	ng		94
61) 1,2-Dibromoethane	13.40	107	1608	0.103	ng		98
62) n-Butyl Acetate	13.77	43	19834	0.552	ng		98
63) n-Octane	13.93	57	3836	0.325	ng		95
64) Tetrachloroethene	14.03	166	30277	1.764	ng		98
65) Chlorobenzene	14.90	112	2710	0.072	ng		91
66) Ethylbenzene	15.41	91	42443	0.665	ng		99
67) m- & p-Xylenes	15.63	91	107824	2.033	ng		100
68) Bromoform	15.67	173	1408	0.093	ng		86
69) Styrene	16.10	104	22619	0.623	ng		98
70) o-Xylene	16.24	91	49413	0.945	ng		99
71) n-Nonane	16.62	43	11219	0.372	ng		96
72) 1,1,2,2-Tetrachloroethane	16.21	83	1304	0.053	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:57:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

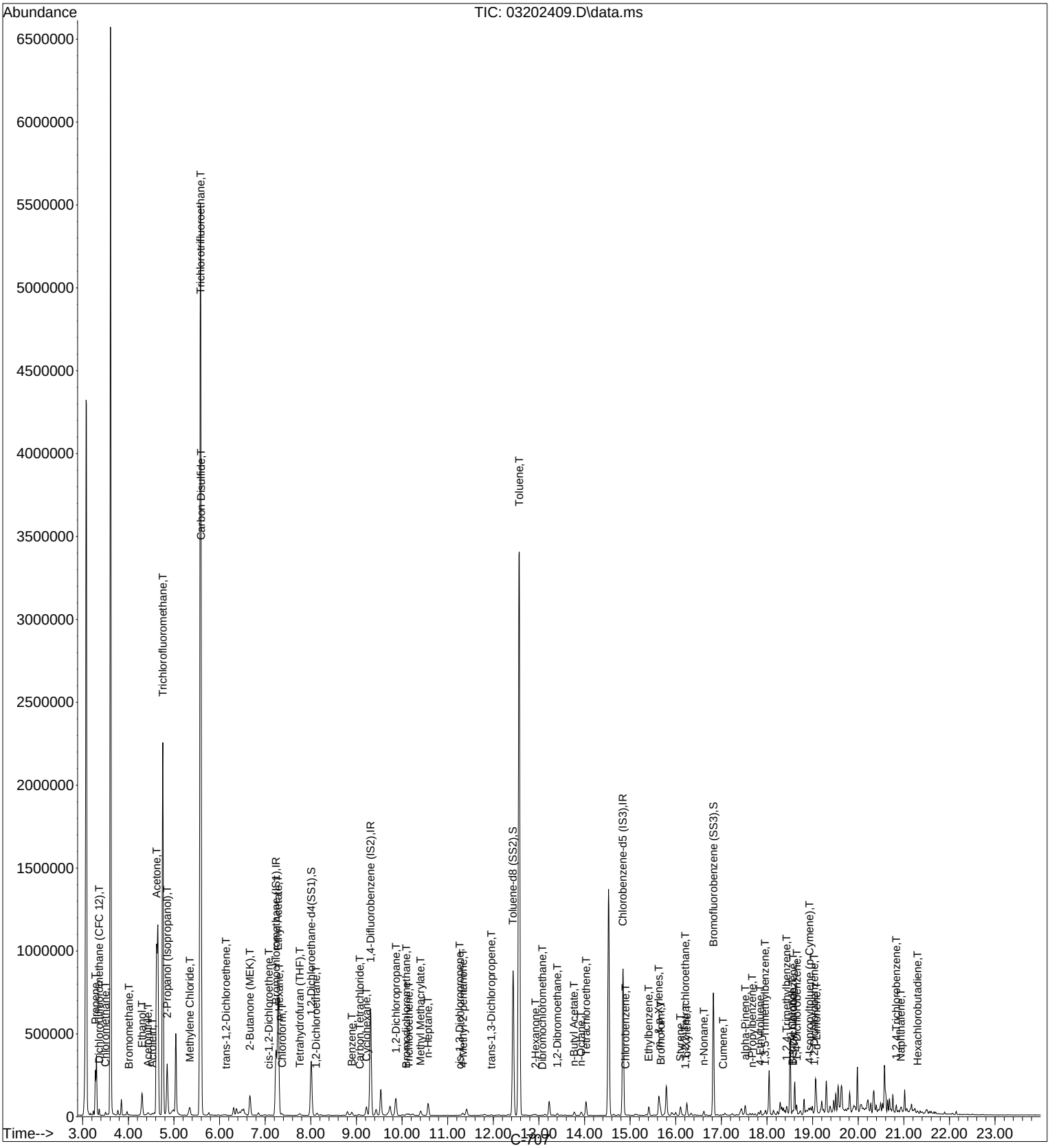
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
74) Cumene	17.04	105	4308	0.067	ng		97
75) alpha-Pinene	17.53	93	25263	0.799	ng		100
76) n-Propylbenzene	17.68	91	7586	0.098	ng		96
78) 4-Ethyltoluene	17.86	105	6820	0.110	ng		94
79) 1,3,5-Trimethylbenzene	17.96	105	6309	0.118	ng		99
82) 1,2,4-Trimethylbenzene	18.43	105	20902	0.375	ng		90
84) Benzyl Chloride	18.56	91	7839	0.727	ng		96
85) 1,3-Dichlorobenzene	18.58	146	3078	0.089	ng		95
86) 1,4-Dichlorobenzene	18.66	146	4153	0.123	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	7279	0.118	ng	#	74
90) 1,2-Dichlorobenzene	19.04	146	2796	0.084	ng		99
91) d-Limonene	19.09	68	16746	0.858	ng		94
94) 1,2,4-Trichlorobenzene	20.84	180	8445	0.349	ng		97
95) Naphthalene	20.94	128	11380	0.489	ng		97
97) Hexachlorobutadiene	21.30	225	1325	0.067	ng		99

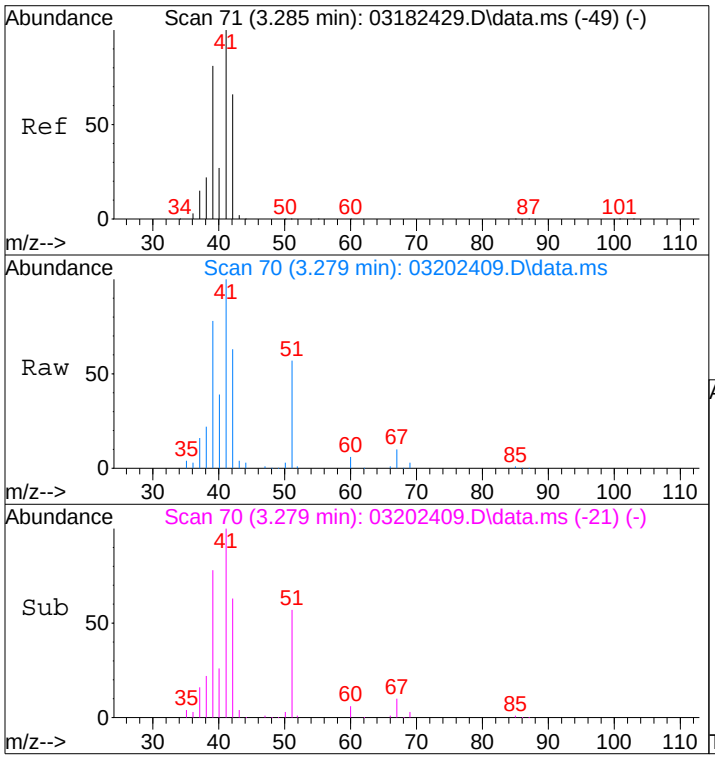
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:57:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

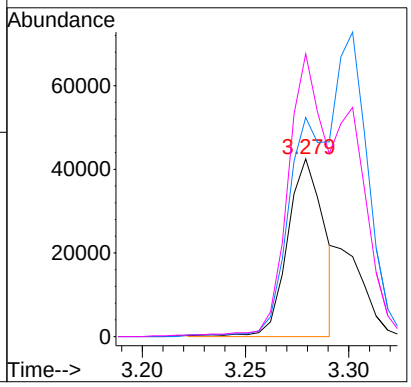


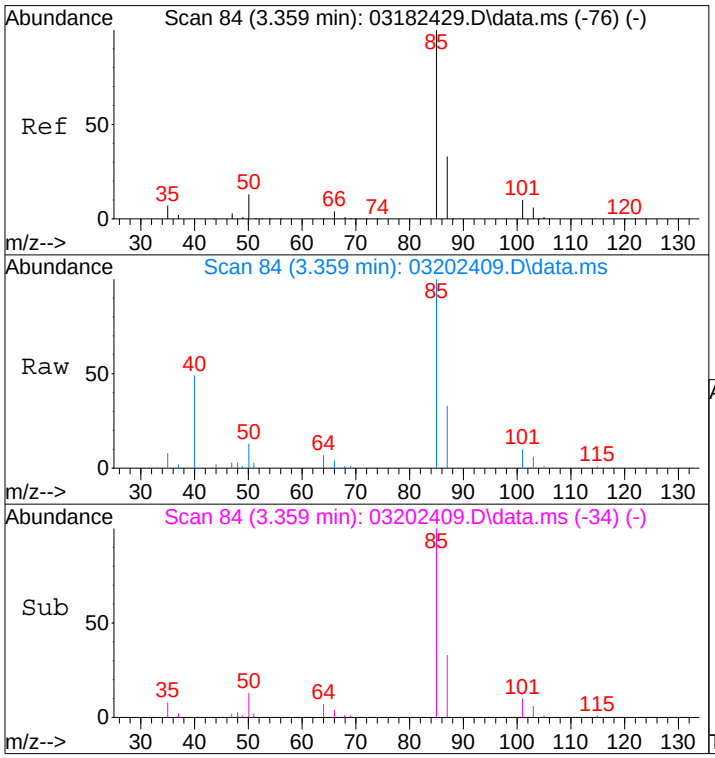


#2
Propene
Concen: 3.00 ng m
RT: 3.28 min Scan# 70
Delta R.T. 0.030 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 42 Resp: 52270

Ion	Ratio	Lower	Upper
42	100		
39	283.1	102.3	142.3#
41	271.1	133.8	173.8#

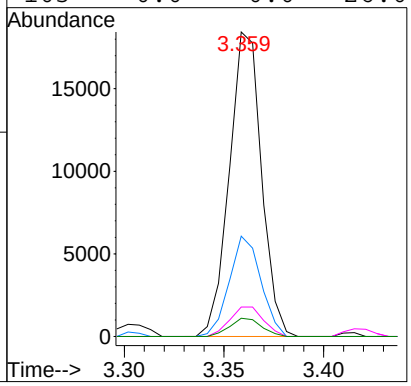


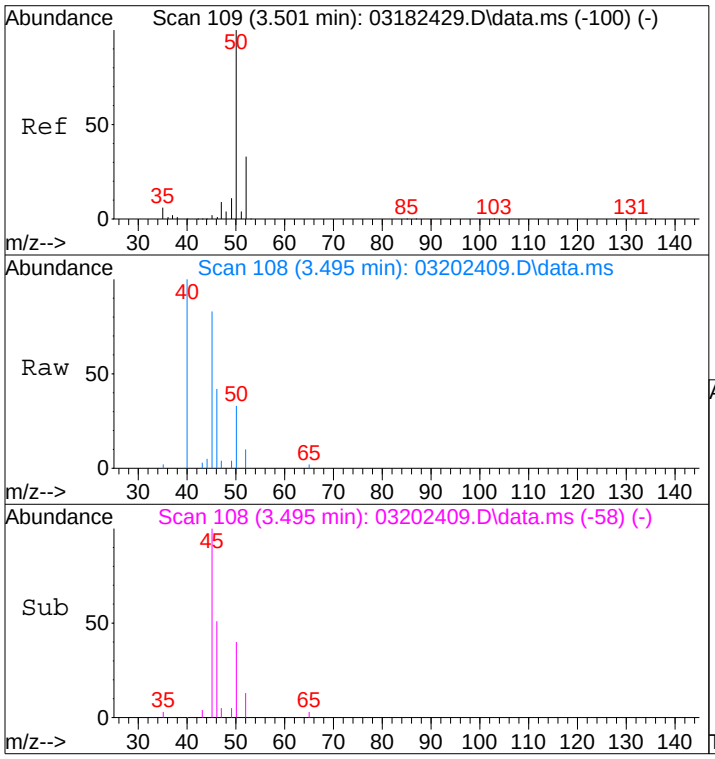


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.66 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.036 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 85 Resp: 20681

Ion	Ratio	Lower	Upper
85	100		
87	0.8	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

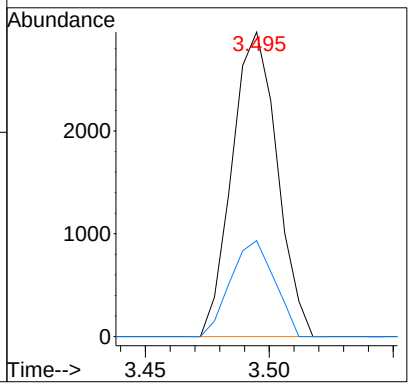


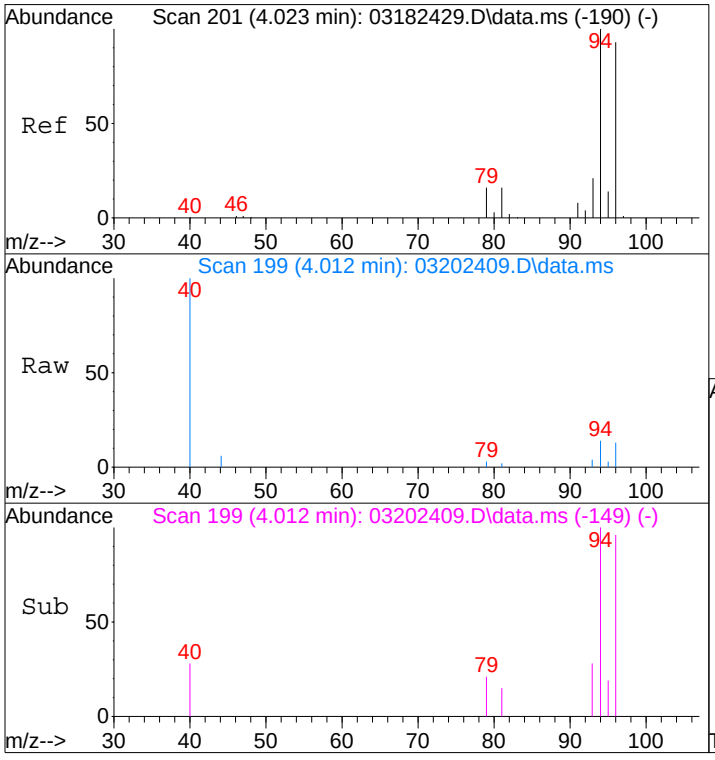


#4
Chloromethane
Concen: 0.16 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.032 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 50 Resp: 3753

Ion	Ratio	Lower	Upper
50	100		
52	30.7	12.3	52.3

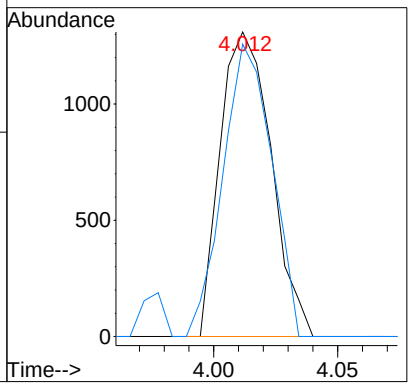


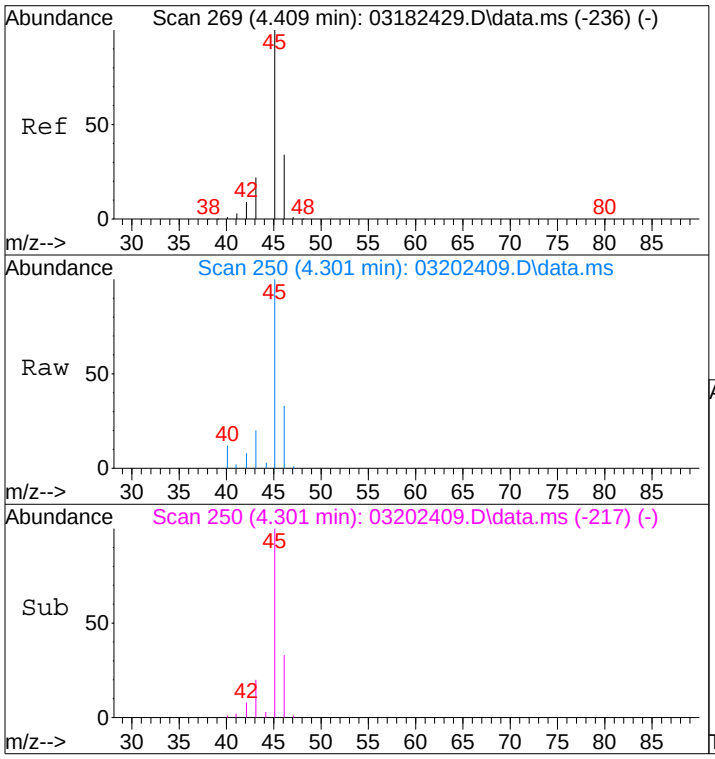


#8
Bromomethane
Concen: 0.15 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.032 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 94 Resp: 1874

Ion	Ratio	Lower	Upper
94	100		
96	91.9	72.7	112.7

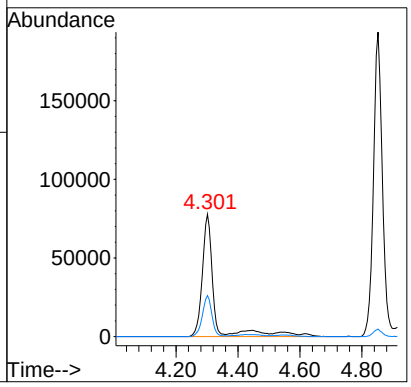


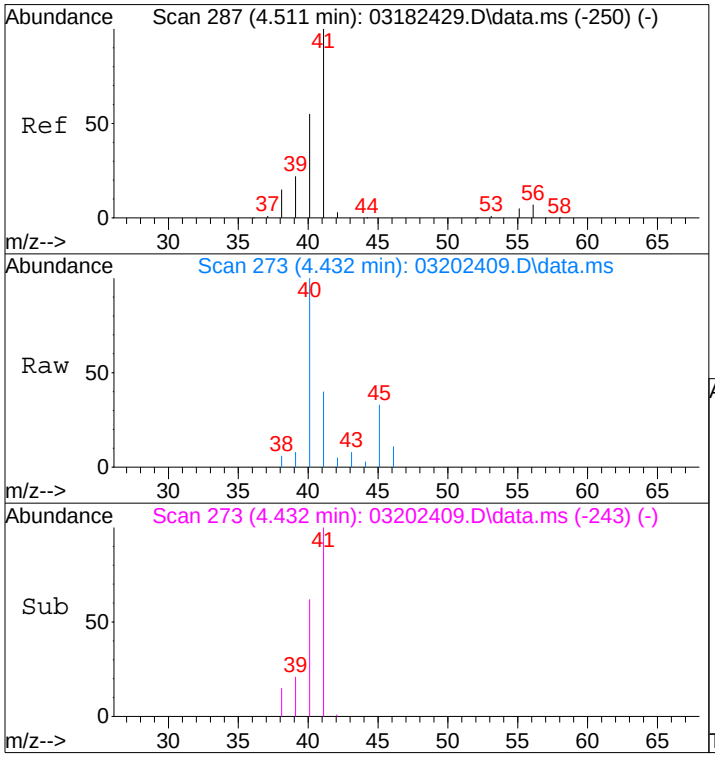


#10
Ethanol
Concen: 13.95 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.060 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 45 Resp: 206280

Ion	Ratio	Lower	Upper
45	100		
46	32.9	13.3	53.3

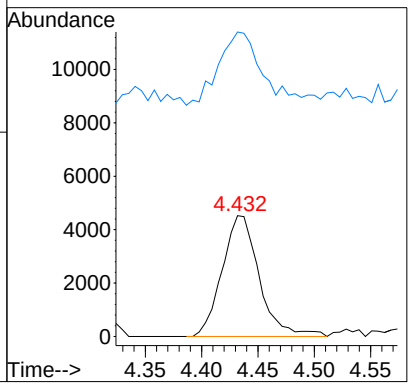


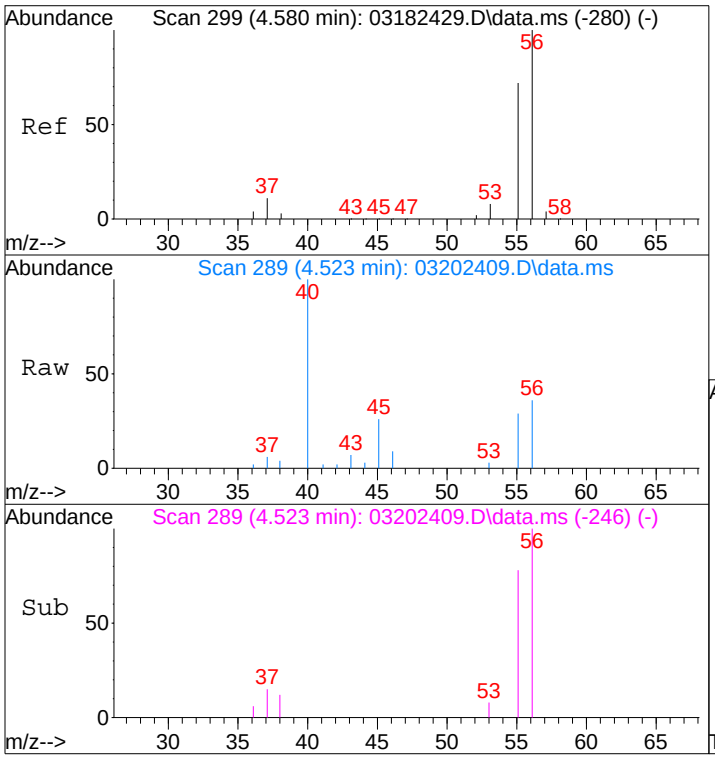


#11
Acetonitrile
Concen: 0.31 ng
RT: 4.43 min Scan# 273
Delta R.T. -0.031 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 41 Resp: 10375

Ion	Ratio	Lower	Upper
41	100		
40	81.4	34.9	74.9#

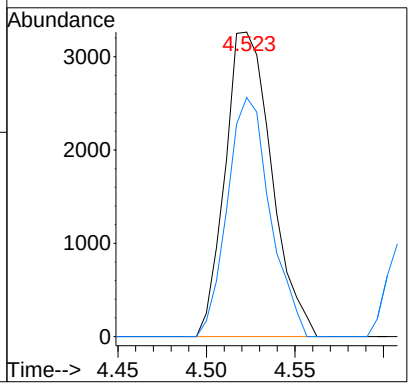


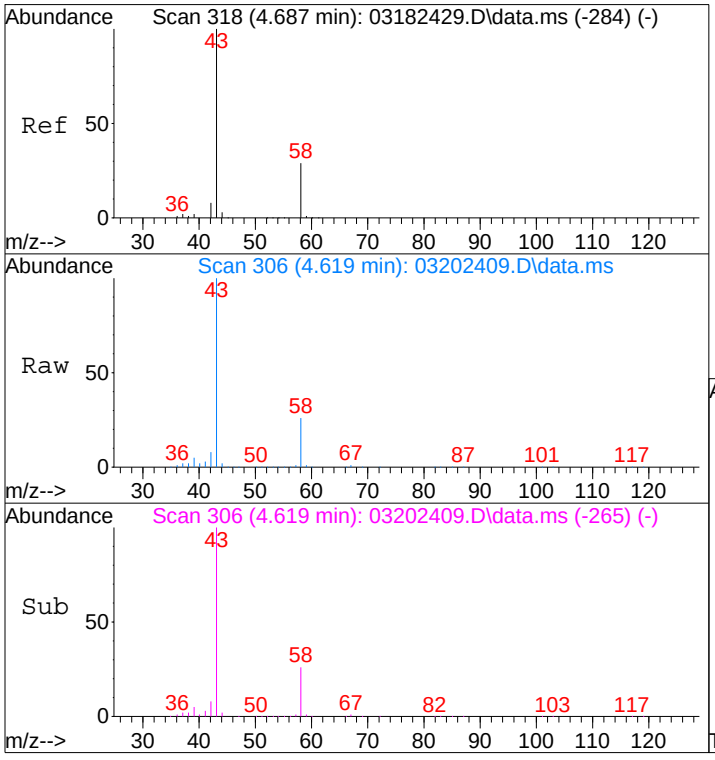


#12
Acrolein
Concen: 0.56 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.007 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 56 Resp: 5971

Ion	Ratio	Lower	Upper
56	100		
55	72.2	54.9	94.9

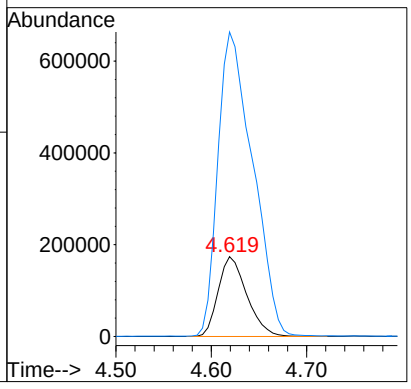


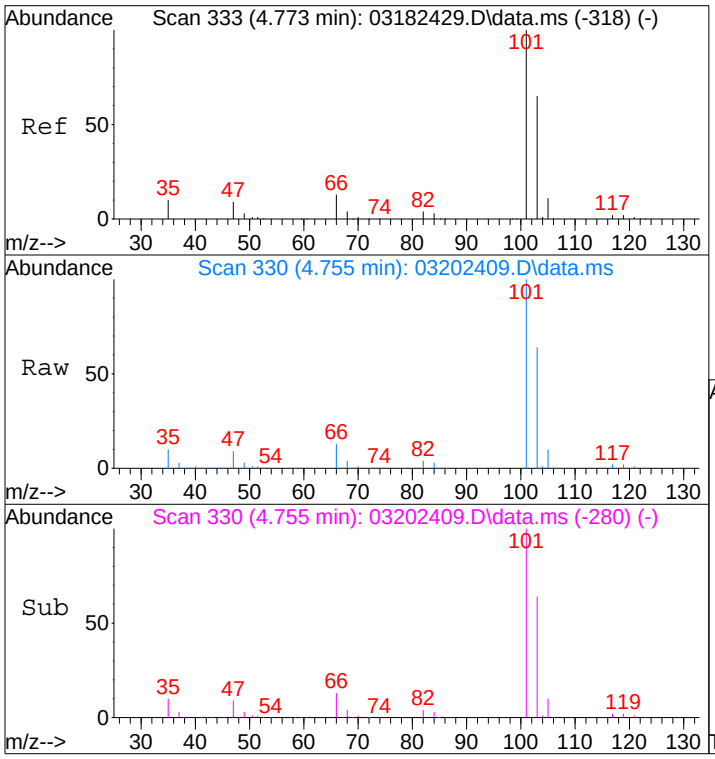


#13
Acetone
Concen: 32.25 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 58 Resp: 363070

Ion	Ratio	Lower	Upper
58	100		
43	463.0	350.1	410.1#

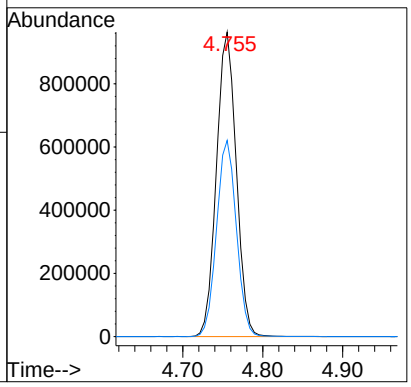


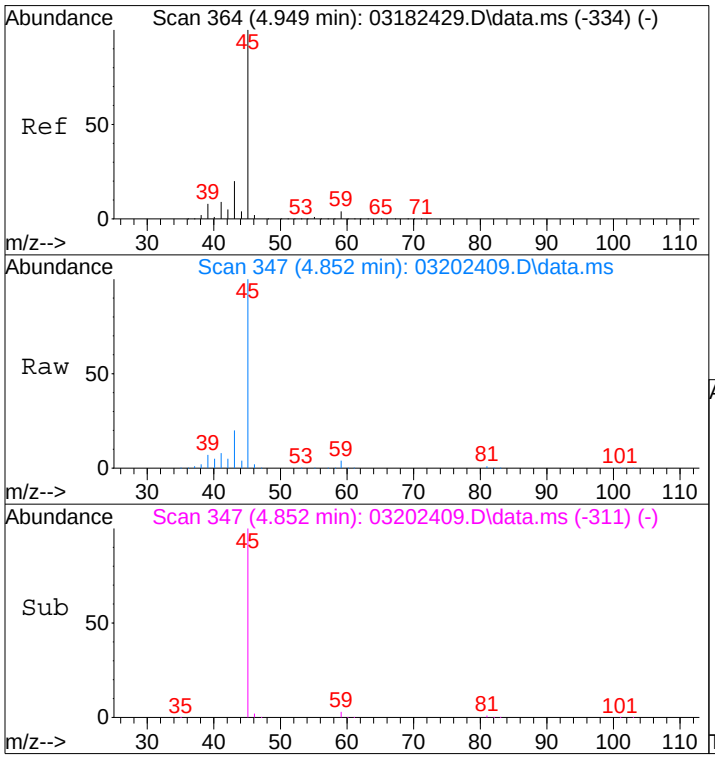


#14
Trichlorofluoromethane
Concen: 54.68 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:101 Resp: 1661600

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.7	84.7

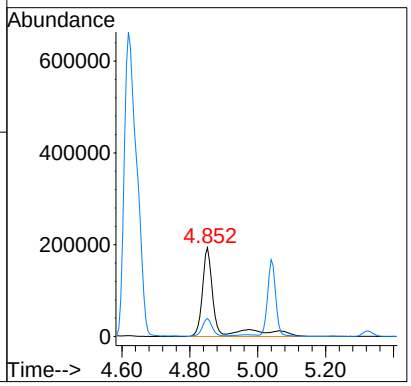


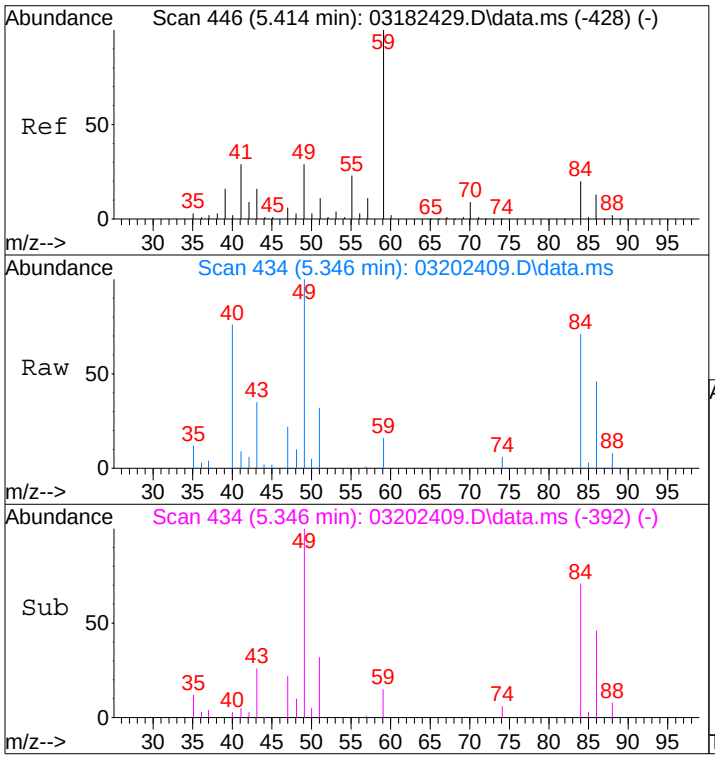


#15
2-Propanol (Isopropanol)
Concen: 11.40 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.043 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 45 Resp: 511116

Ion	Ratio	Lower	Upper
45	100		
43	17.9	0.4	40.4

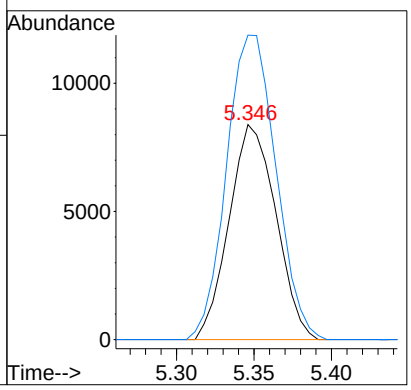


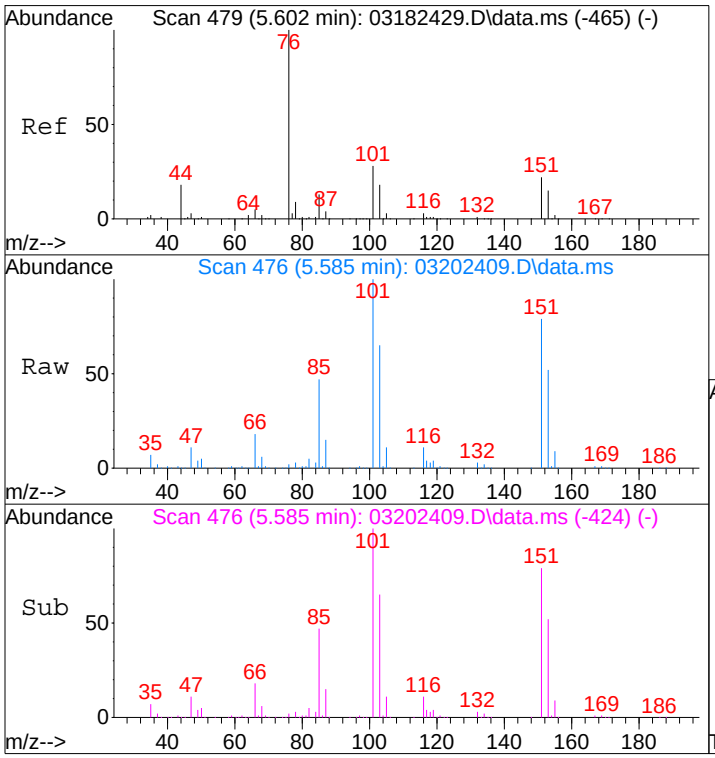


#19
Methylene Chloride
Concen: 1.08 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.009 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 84 Resp: 17679

Ion	Ratio	Lower	Upper
84	100		
49	149.4	122.9	172.9

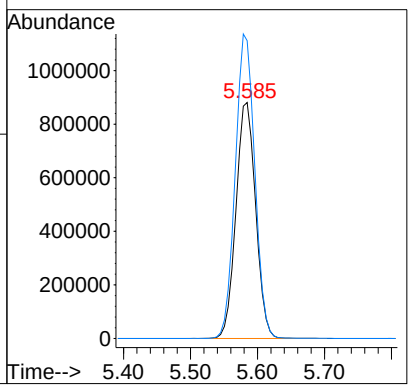


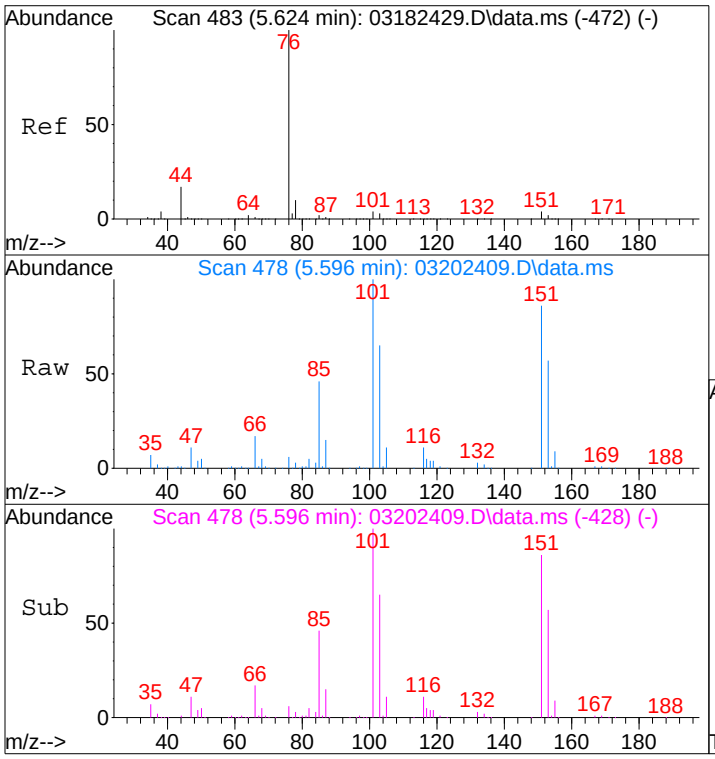


#21
Trichlorotrifluoroethane
Concen: 140.55 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:151 Resp: 1800157

Ion	Ratio	Lower	Upper
151	100		
101	128.1	106.4	146.4

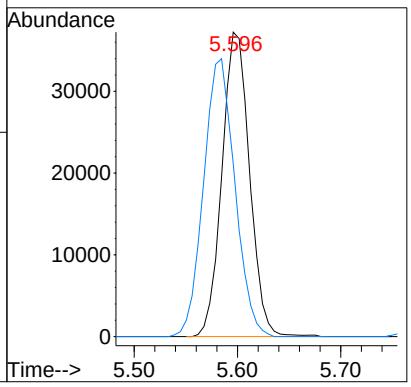


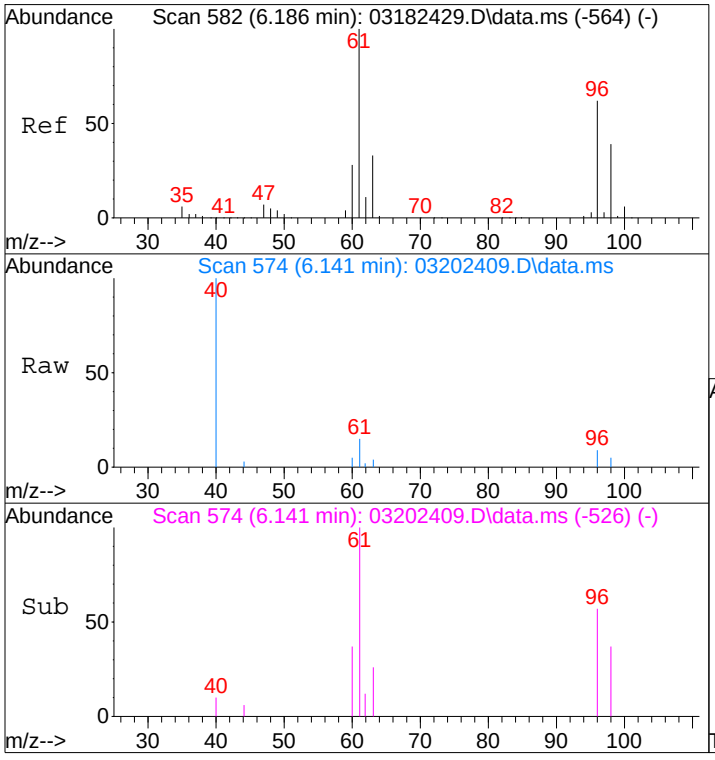


#22
Carbon Disulfide
Concen: 1.35 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 76 Resp: 69103

Ion	Ratio	Lower	Upper
76	100		
78	103.4	0.0	29.8#

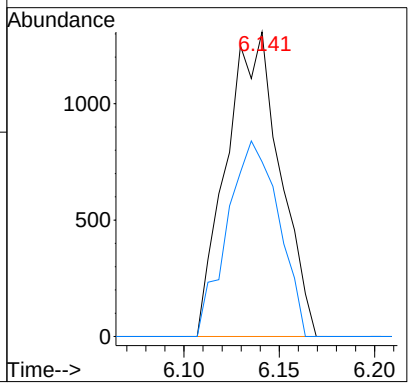


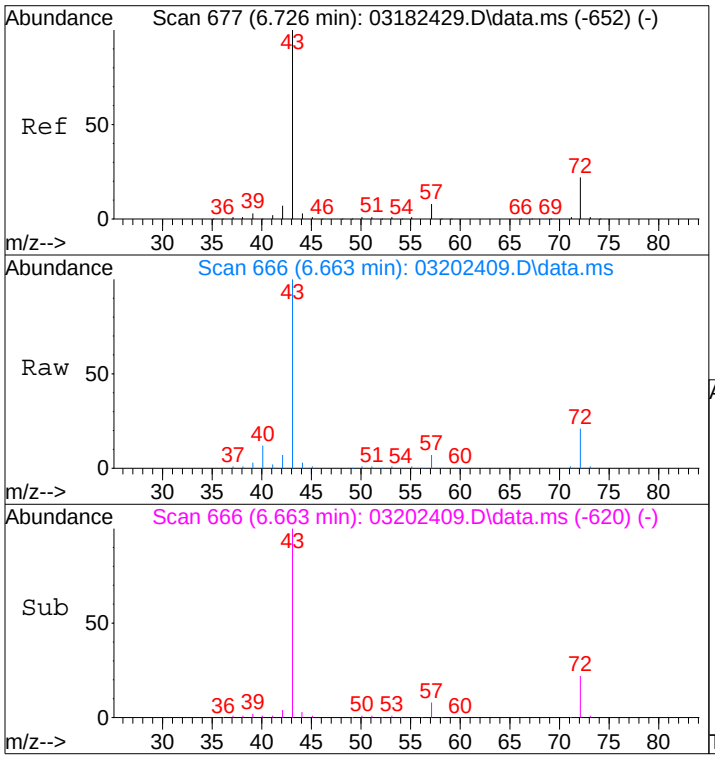


#23
trans-1,2-Dichloroethene
Concen: 0.11 ng
RT: 6.14 min Scan# 574
Delta R.T. 0.022 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 61 Resp: 2565

Ion	Ratio	Lower	Upper
61	100		
96	61.5	41.8	81.8

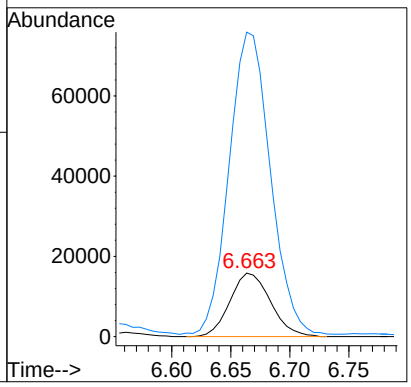


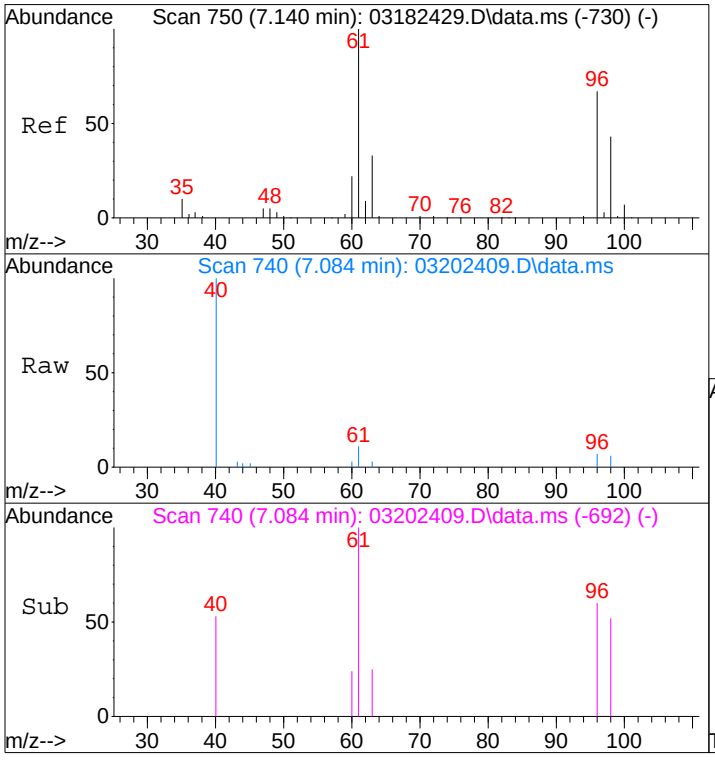


#27
2-Butanone (MEK)
Concen: 4.11 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 72 Resp: 37817

Ion	Ratio	Lower	Upper
72	100		
43	484.2	468.6	508.6

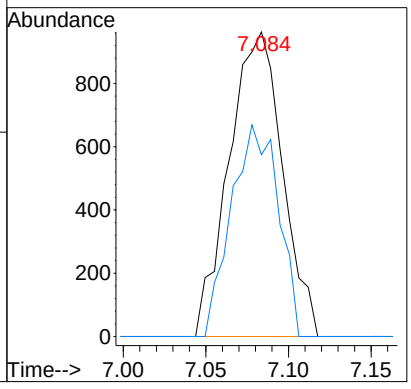


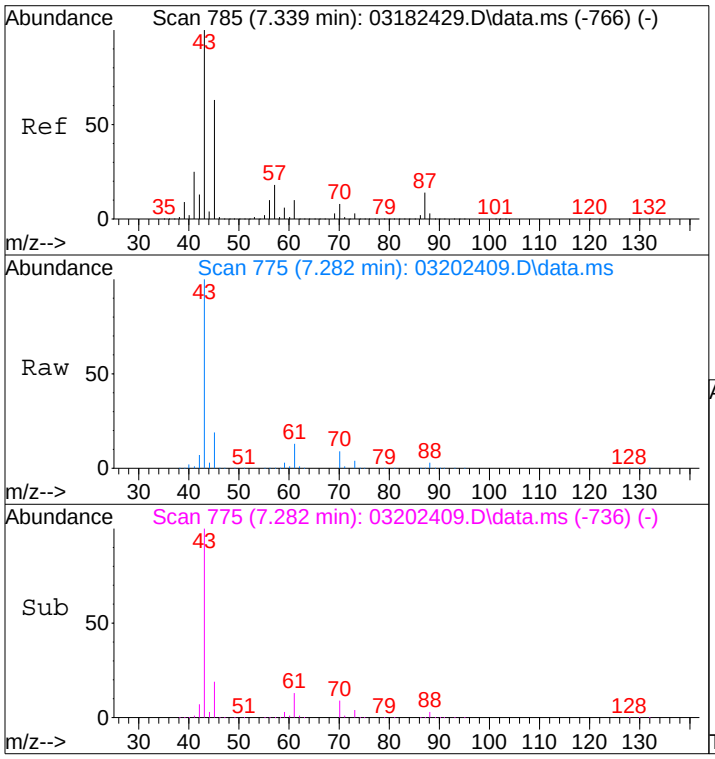


#28
cis-1,2-Dichloroethene
Concen: 0.10 ng
RT: 7.08 min Scan# 740
Delta R.T. 0.021 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 61 Resp: 2167

Ion	Ratio	Lower	Upper
61	100		
96	61.3	47.4	87.4

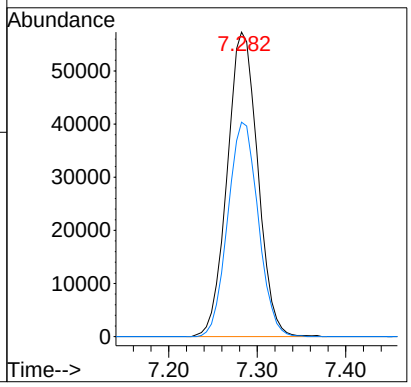


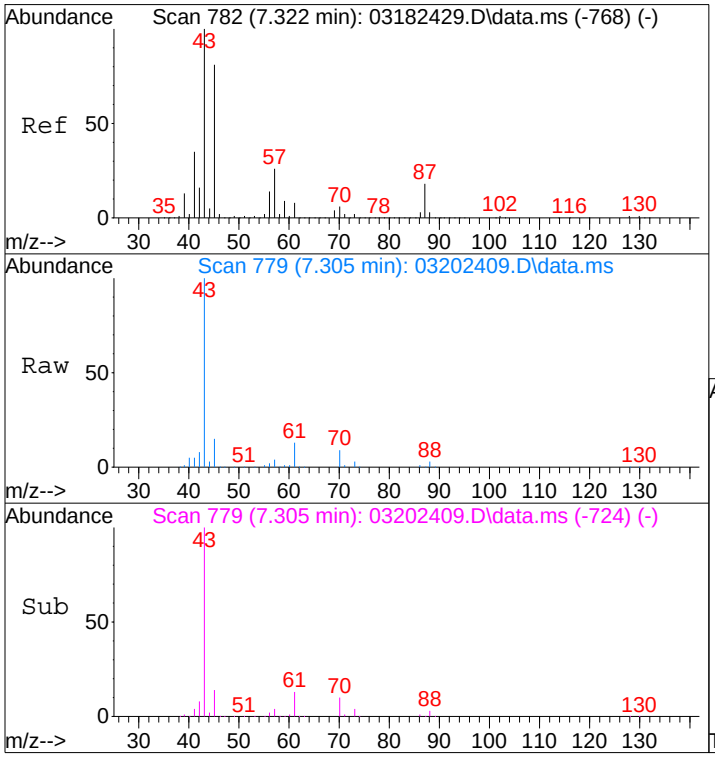


#30
Ethyl Acetate
Concen: 24.90 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 61 Resp: 137528

Ion	Ratio	Lower	Upper
61	100		
70	70.0	57.3	97.3

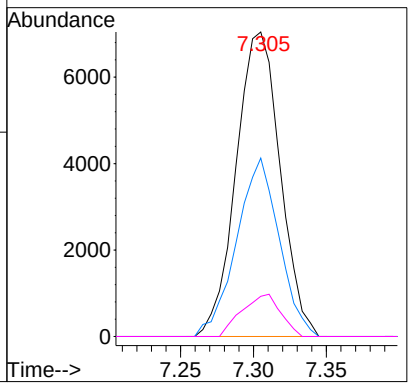


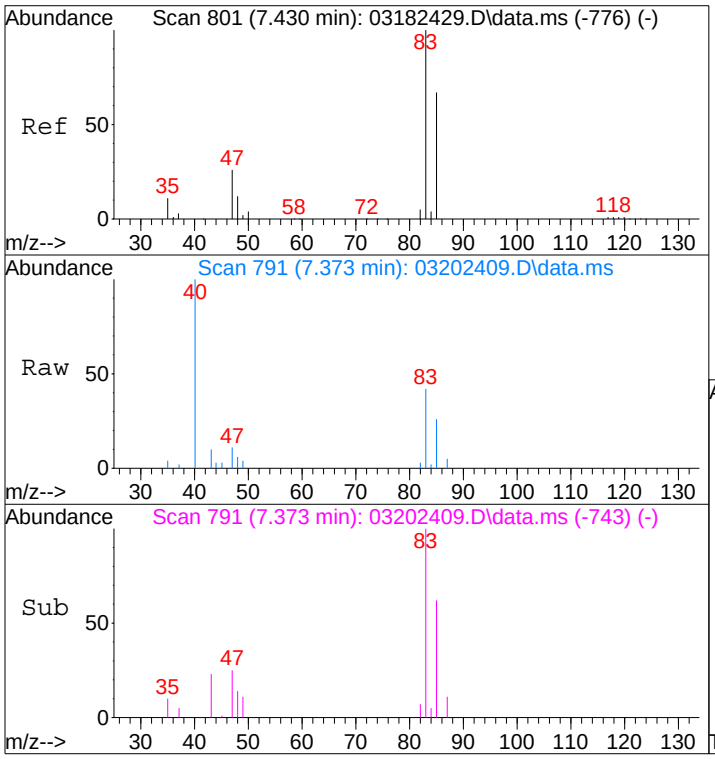


#31
n-Hexane
Concen: 0.62 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.062 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 57 Resp: 14794

Ion	Ratio	Lower	Upper
57	100		
56	56.6	42.2	63.4
86	12.2	9.4	14.2

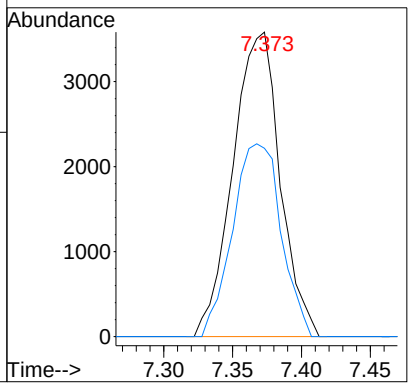


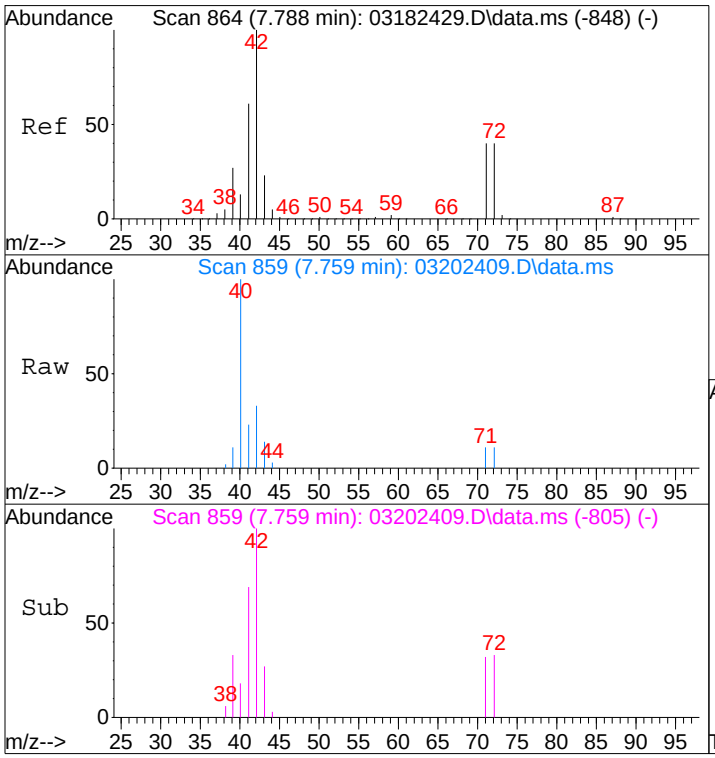


#32
Chloroform
Concen: 0.32 ng
RT: 7.37 min Scan# 791
Delta R.T. 0.024 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 83 Resp: 8545

Ion	Ratio	Lower	Upper
83	100		
85	65.0	46.1	86.1

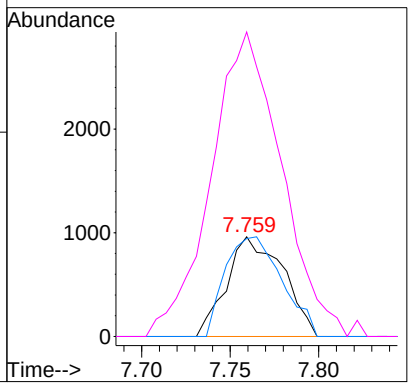


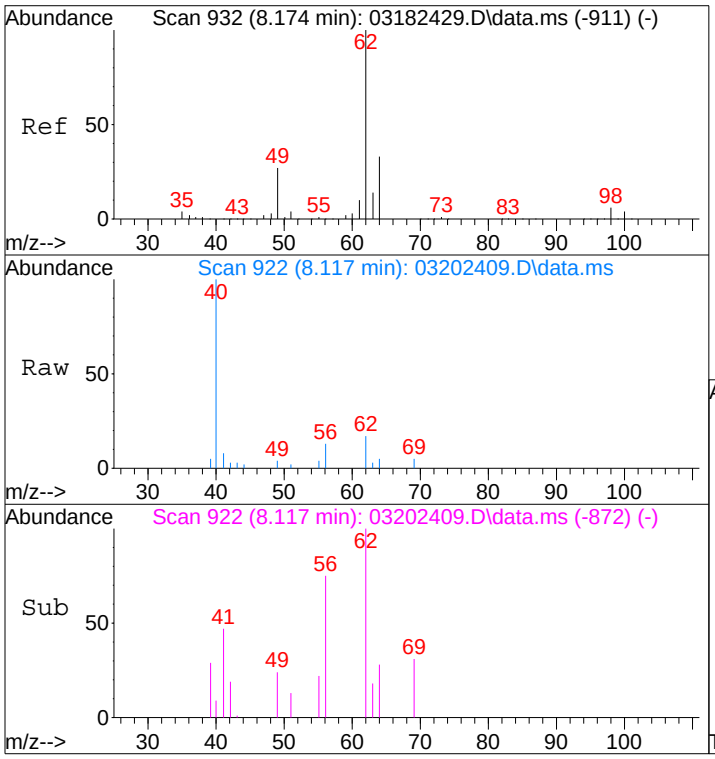


#34
Tetrahydrofuran (THF)
Concen: 0.26 ng
RT: 7.76 min Scan# 859
Delta R.T. 0.056 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 72 Resp: 2127

Ion	Ratio	Lower	Upper
72	100		
71	100.5	80.7	120.7
42	384.6	255.0	295.0#

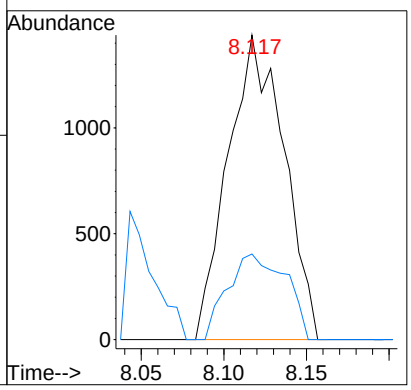


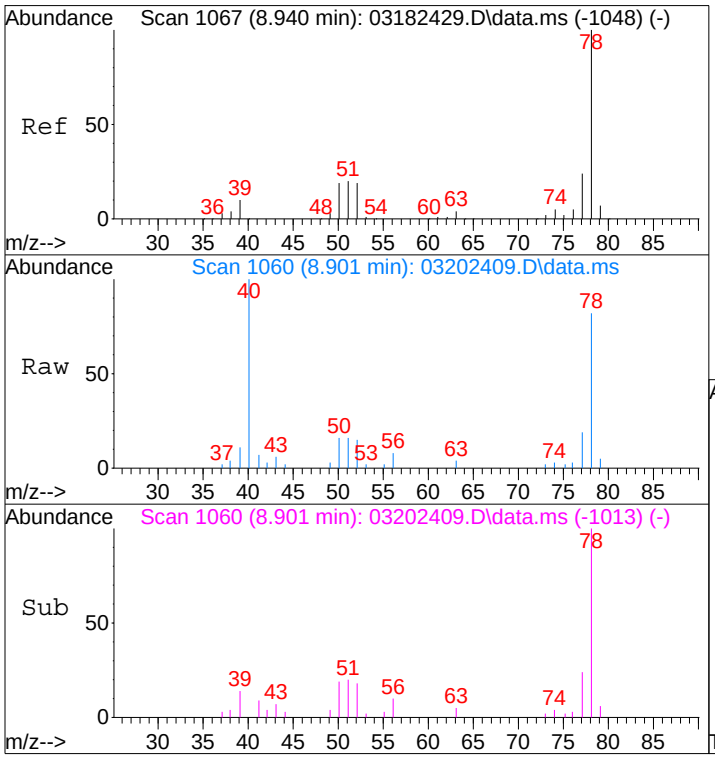


#36
1,2-Dichloroethane
Concen: 0.14 ng
RT: 8.12 min Scan# 922
Delta R.T. 0.032 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 62 Resp: 3383

Ion	Ratio	Lower	Upper
62	100		
64	29.2	12.6	52.6

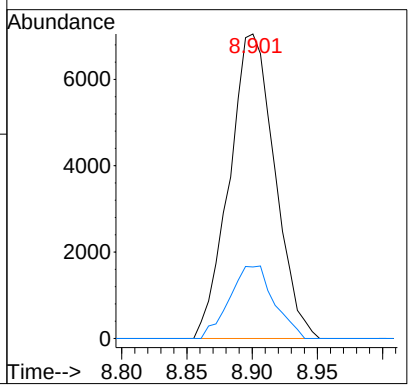


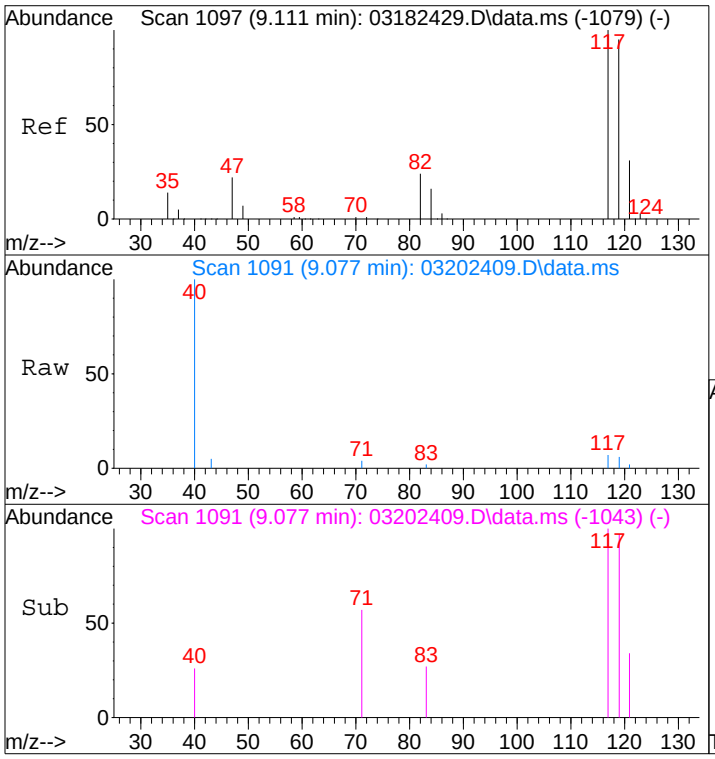


#41
Benzene
Concen: 0.29 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.015 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 78 Resp: 17088

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.6	43.6

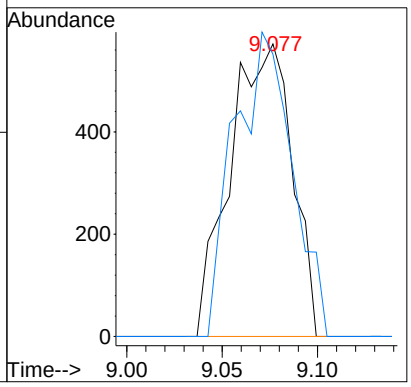


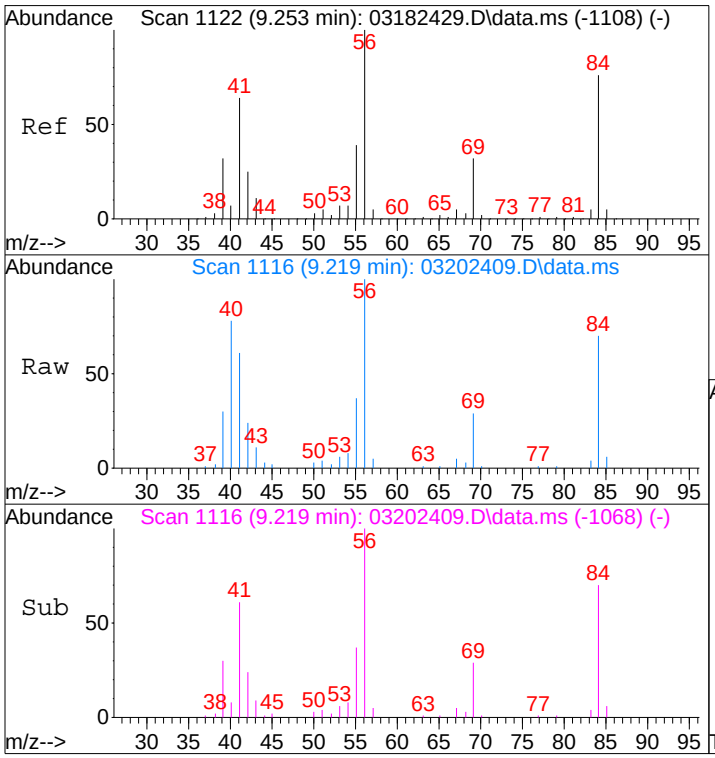


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 9.08 min Scan# 1091
Delta R.T. 0.021 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:117 Resp: 1300

Ion	Ratio	Lower	Upper
117	100		
119	96.8	75.7	115.7

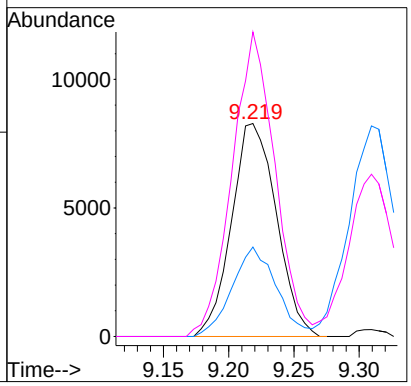


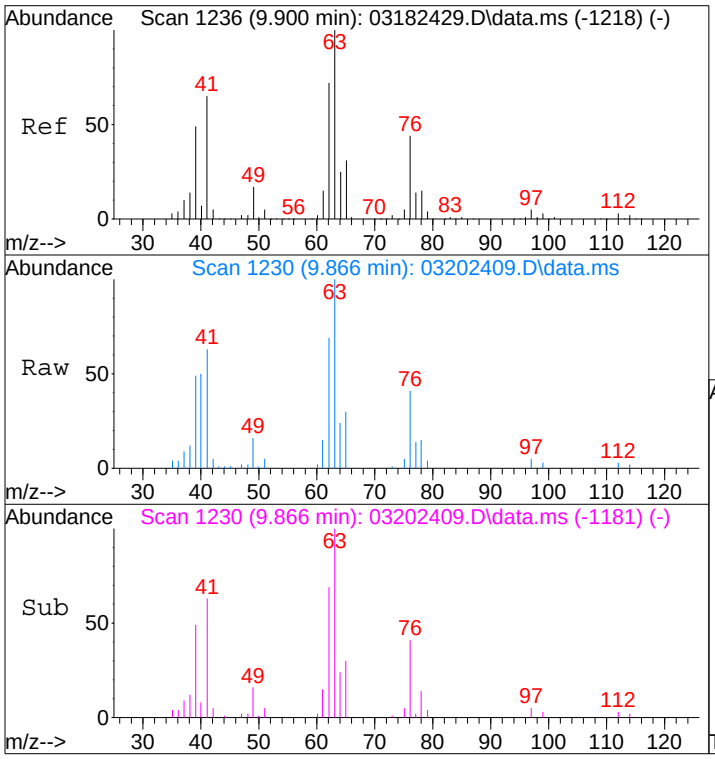


#43
Cyclohexane
Concen: 1.06 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 84 Resp: 19848

Ion	Ratio	Lower	Upper
84	100		
69	41.6	21.3	61.3
56	136.5	115.3	155.3

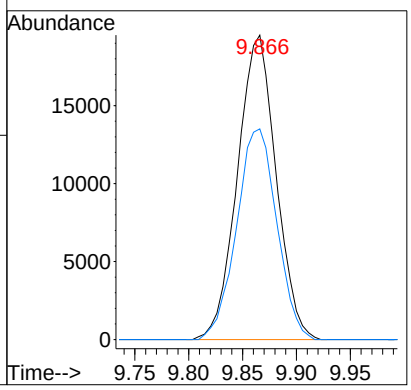


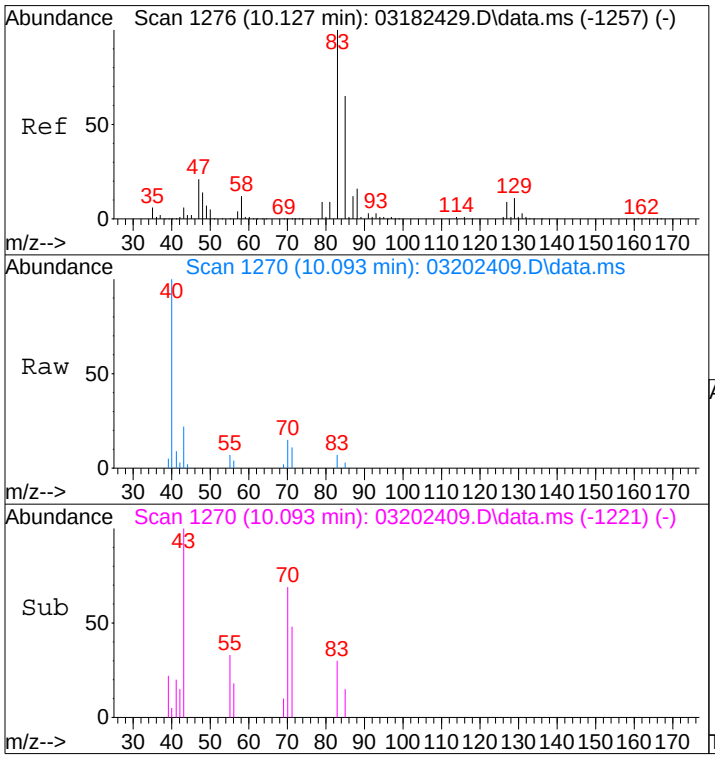


#45
1,2-Dichloropropane
Concen: 3.38 ng
RT: 9.87 min Scan# 1230
Delta R.T. 0.026 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 63 Resp: 48707

Ion	Ratio	Lower	Upper
63	100		
62	72.0	51.8	91.8

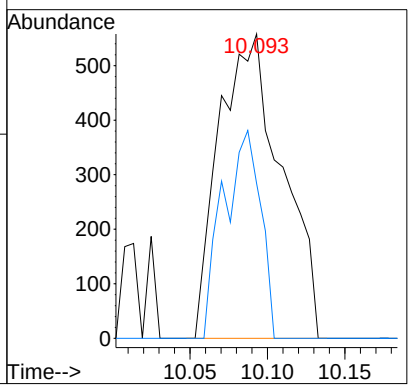


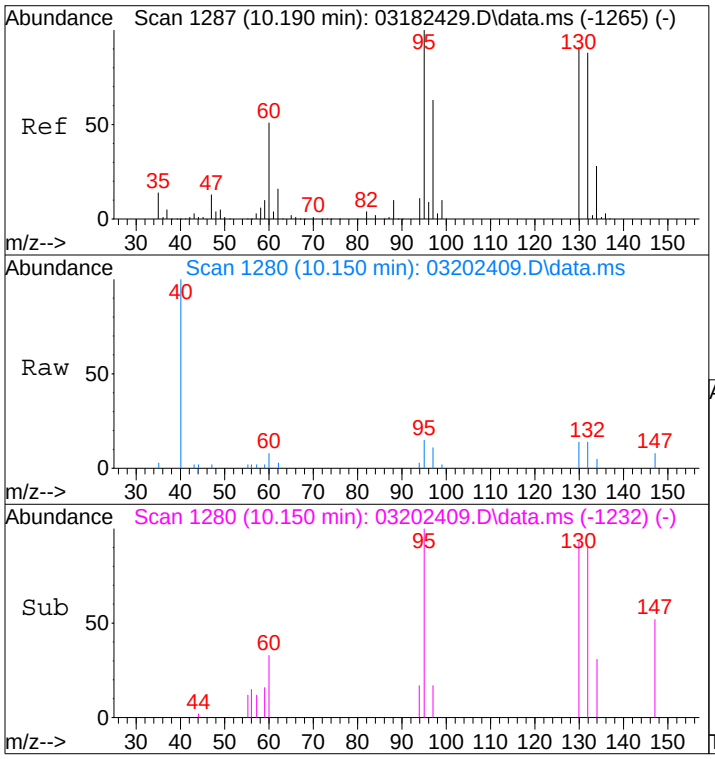


#46
Bromodichloromethane
Concen: 0.07 ng
RT: 10.09 min Scan# 1270
Delta R.T. 0.027 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 83 Resp: 1570

Ion	Ratio	Lower	Upper
83	100		
85	40.9	45.2	85.2#

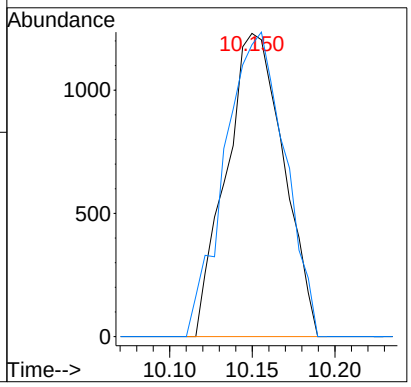


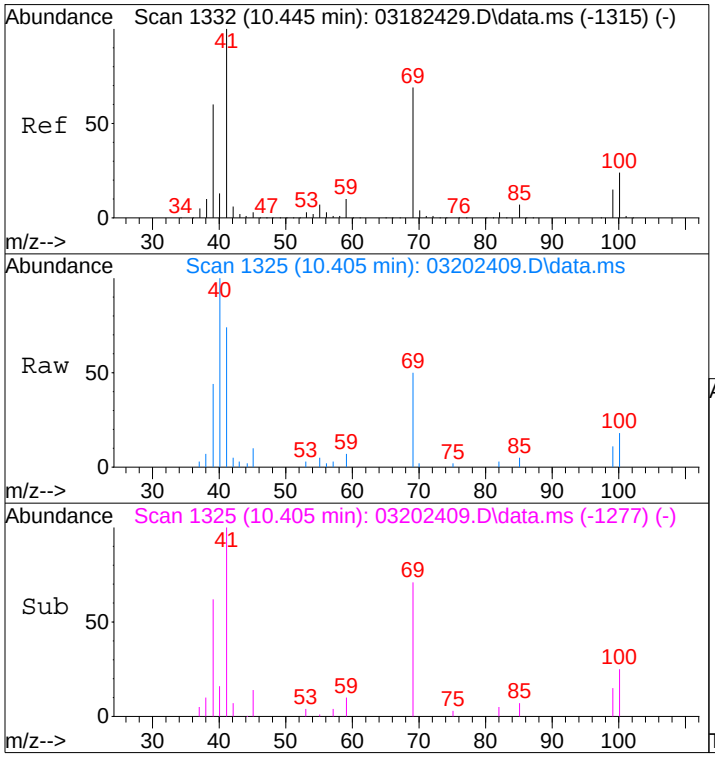


#47
Trichloroethene
Concen: 0.19 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:130 Resp: 2968

Ion	Ratio	Lower	Upper
130	100		
132	105.1	77.5	117.5

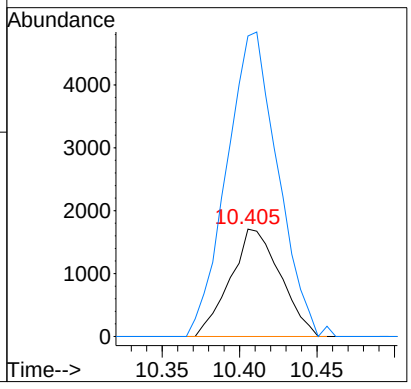


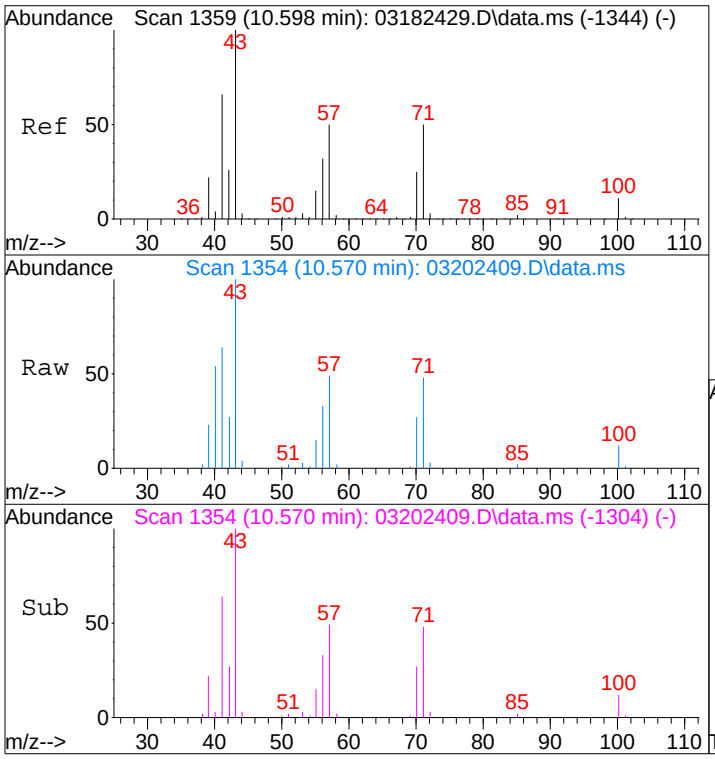


#50
Methyl Methacrylate
Concen: 0.79 ng
RT: 10.41 min Scan# 1325
Delta R.T. 0.024 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:100 Resp: 3841

Ion	Ratio	Lower	Upper
100	100		
69	290.3	261.2	301.2

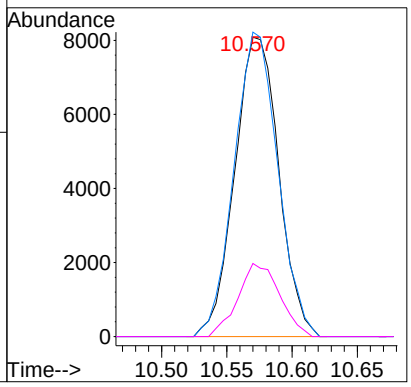


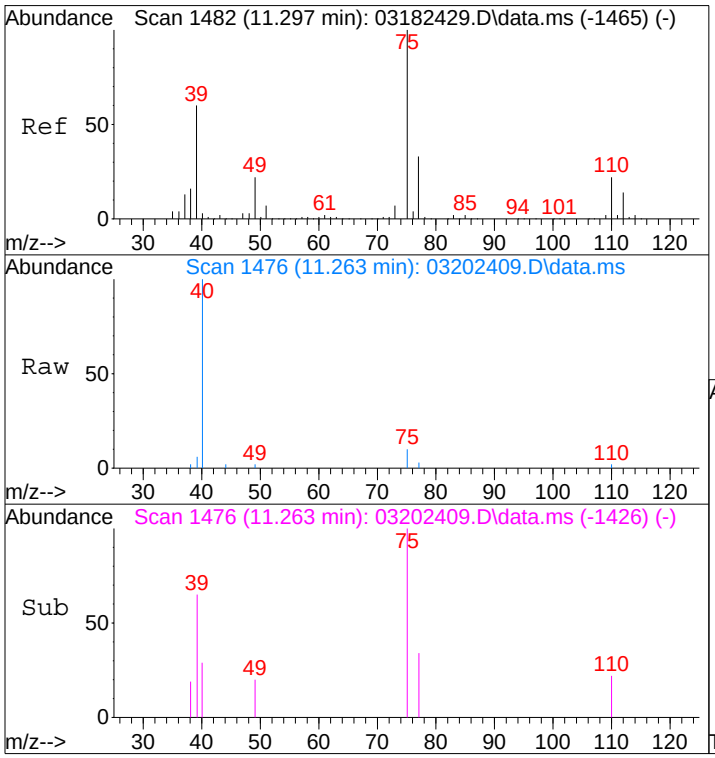


#51
n-Heptane
Concen: 1.50 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.036 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 71 Resp: 18994

Ion	Ratio	Lower	Upper
71	100		
57	100.8	81.2	121.2
100	23.1	4.0	44.0

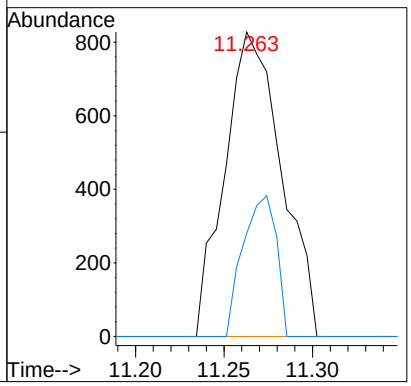


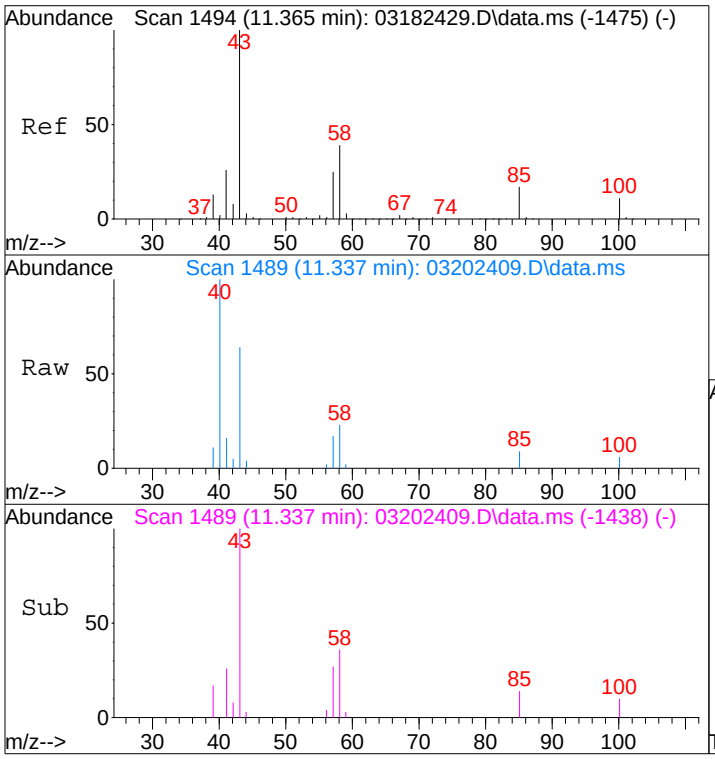


#52
cis-1,3-Dichloropropene
Concen: 0.08 ng
RT: 11.26 min Scan# 1476
Delta R.T. 0.035 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 75 Resp: 1853

Ion	Ratio	Lower	Upper
75	100		
77	27.2	12.7	52.7

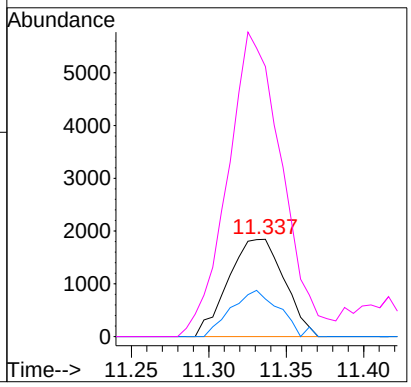


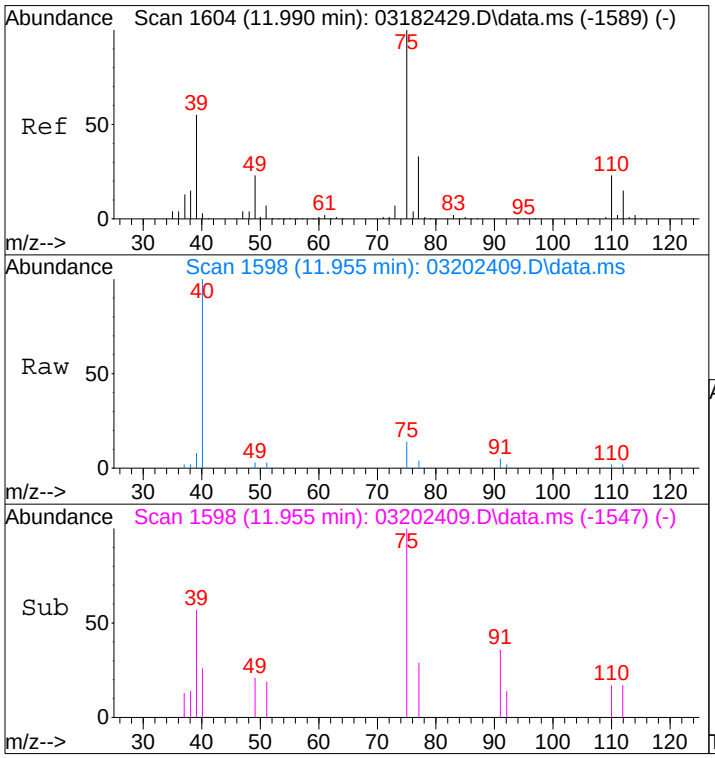


#53
4-Methyl-2-pentanone
Concen: 0.37 ng
RT: 11.34 min Scan# 1489
Delta R.T. 0.041 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 58 Resp: 4634

Ion	Ratio	Lower	Upper
58	100		
85	41.5	34.5	51.7
43	306.0	218.4	327.6

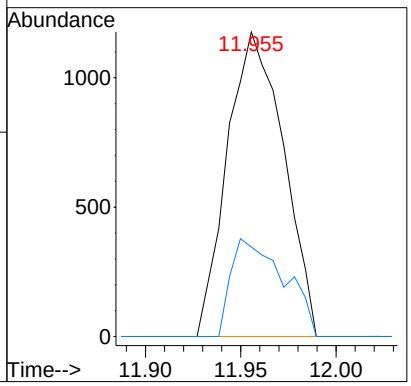


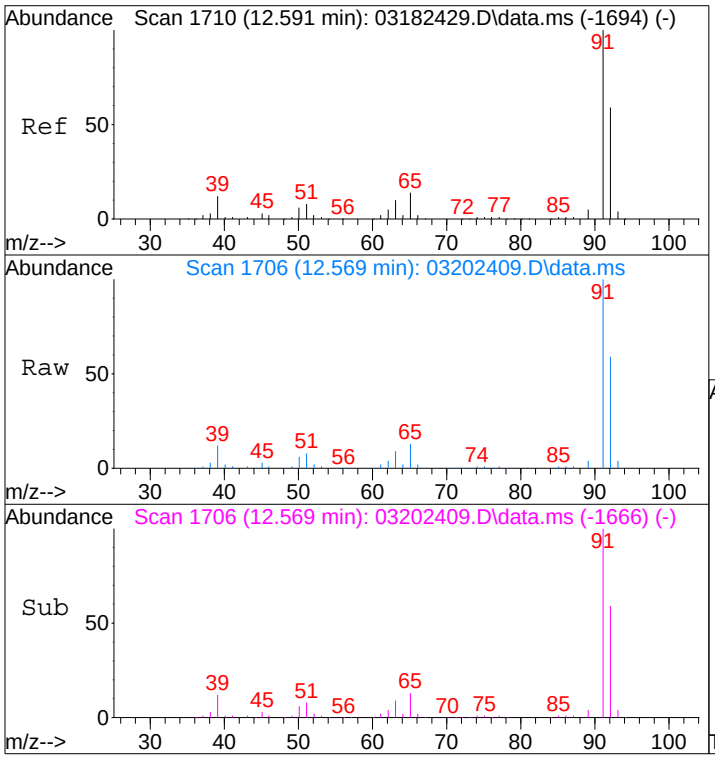


#54
trans-1,3-Dichloropropene
Concen: 0.12 ng
RT: 11.96 min Scan# 1598
Delta R.T. 0.039 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 75 Resp: 2411

Ion	Ratio	Lower	Upper
75	100		
77	30.2	12.3	52.3

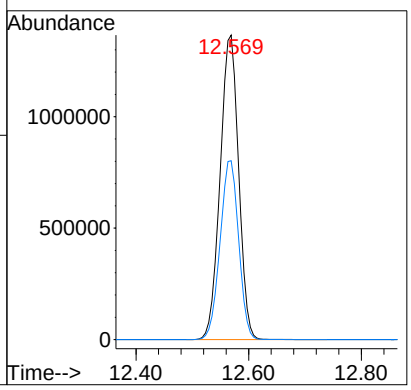


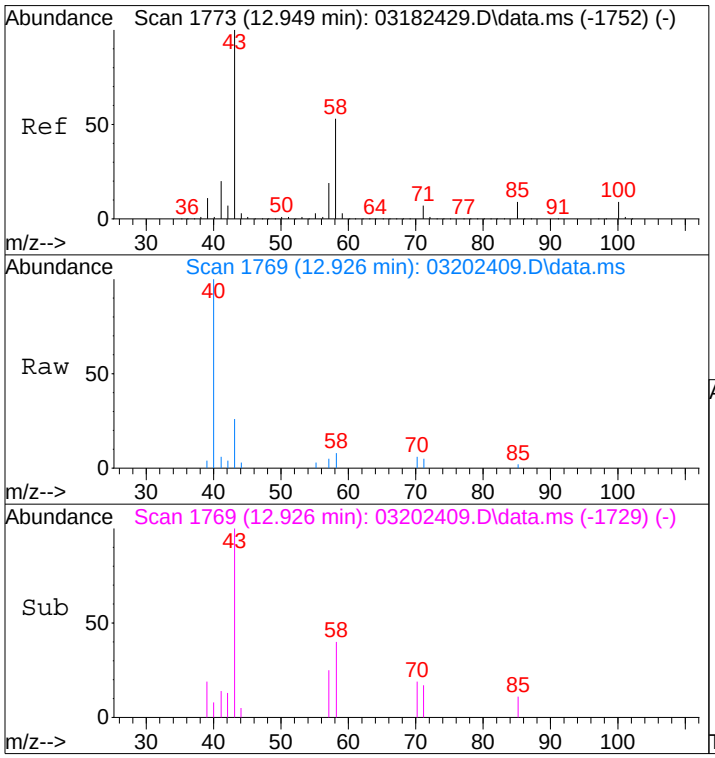


#58
Toluene
Concen: 55.72 ng
RT: 12.57 min Scan# 1706
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 91 Resp: 3110573

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.2	79.2

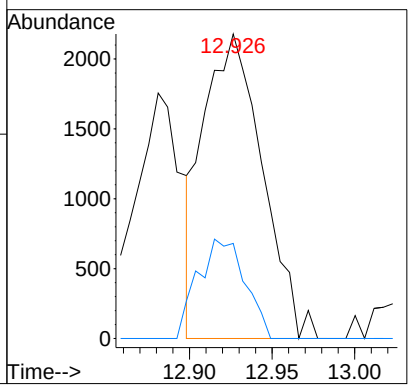


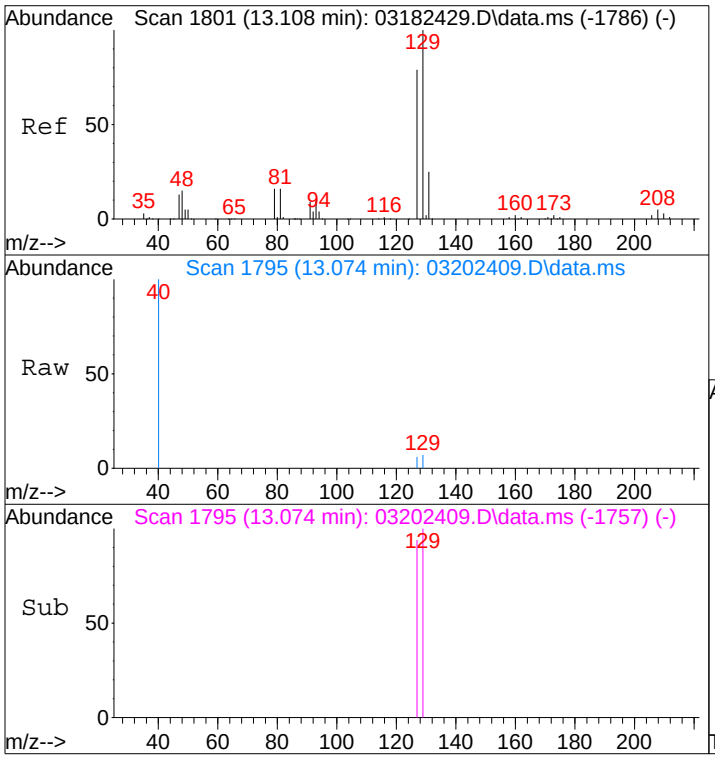


#59
2-Hexanone
Concen: 0.17 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 43 Resp: 5420

Ion	Ratio	Lower	Upper
43	100		
58	26.1	30.2	70.2#

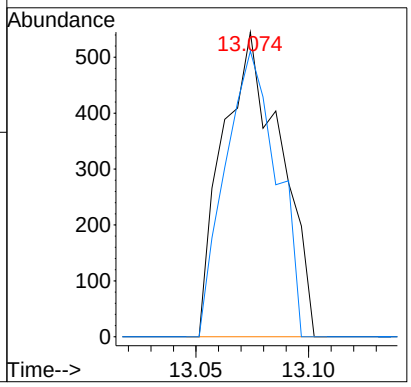


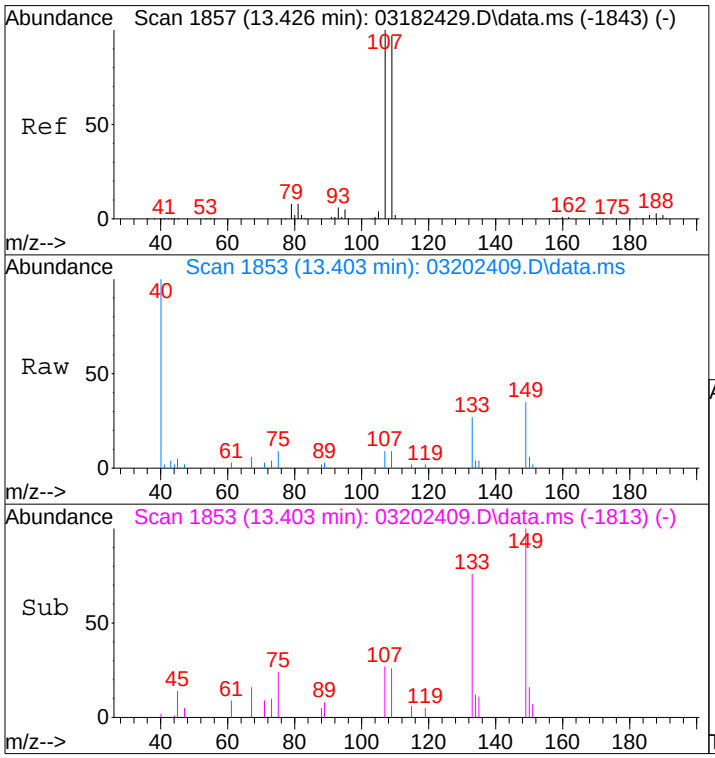


#60
Dibromochloromethane
Concen: 0.05 ng
RT: 13.07 min Scan# 1795
Delta R.T. -0.034 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:129 Resp: 974

Ion	Ratio	Lower	Upper
129	100		
127	83.6	58.1	98.1

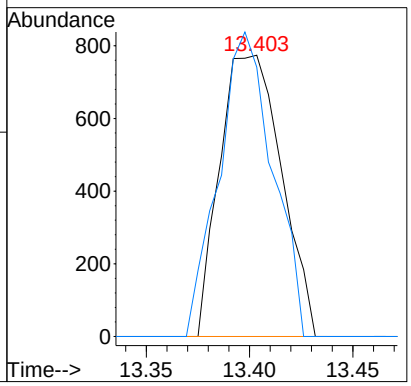


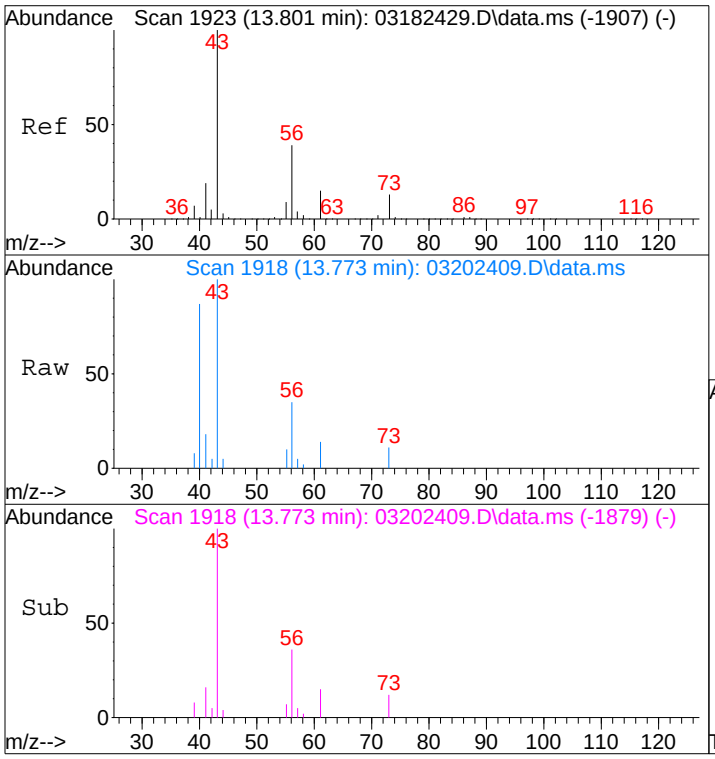


#61
1,2-Dibromoethane
Concen: 0.10 ng
RT: 13.40 min Scan# 1853
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:107 Resp: 1608

Ion	Ratio	Lower	Upper
107	100		
109	94.8	76.3	116.3

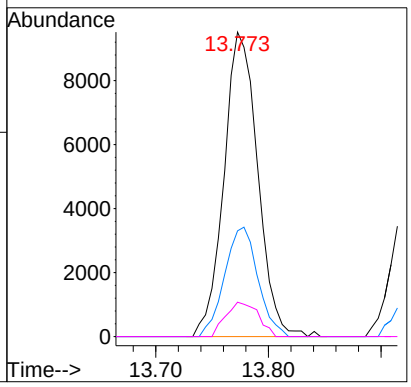


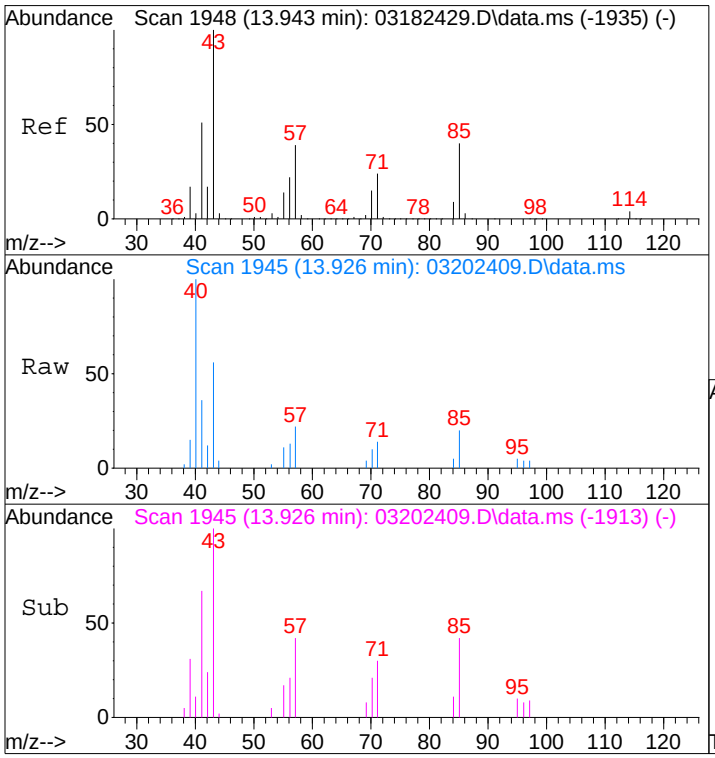


#62
n-Butyl Acetate
Concen: 0.55 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 43 Resp: 19834

Ion	Ratio	Lower	Upper
43	100		
56	35.4	16.7	56.7
73	10.9	0.0	31.3

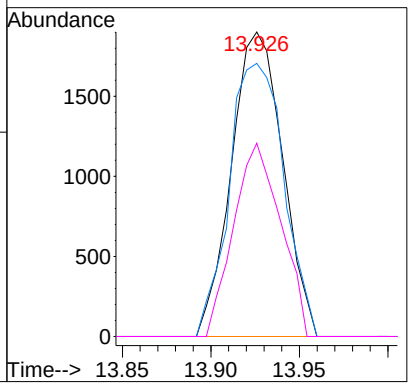


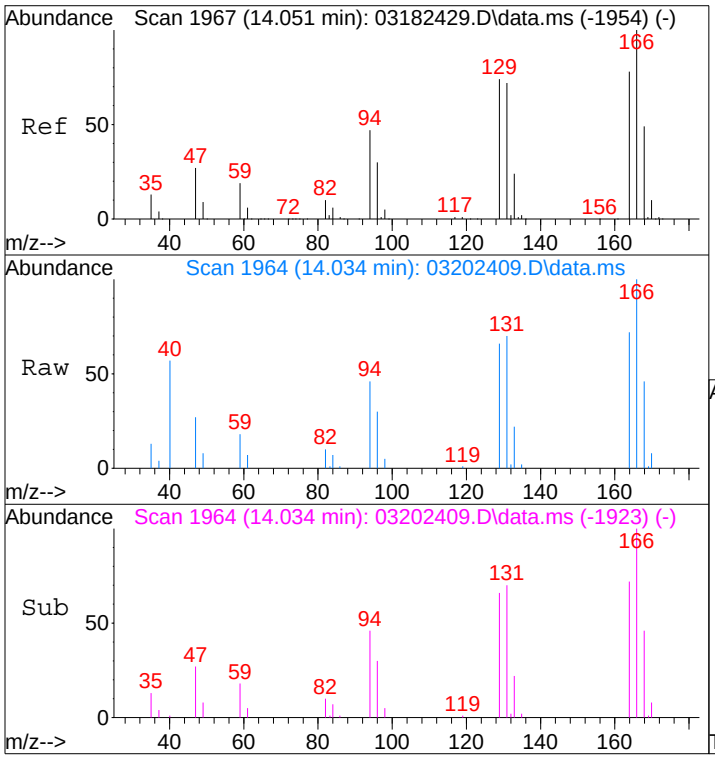


#63
n-Octane
Concen: 0.33 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 57 Resp: 3836

Ion	Ratio	Lower	Upper
57	100		
85	95.8	80.6	121.0
71	58.3	49.3	73.9

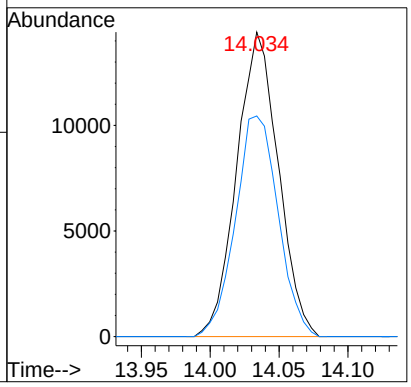


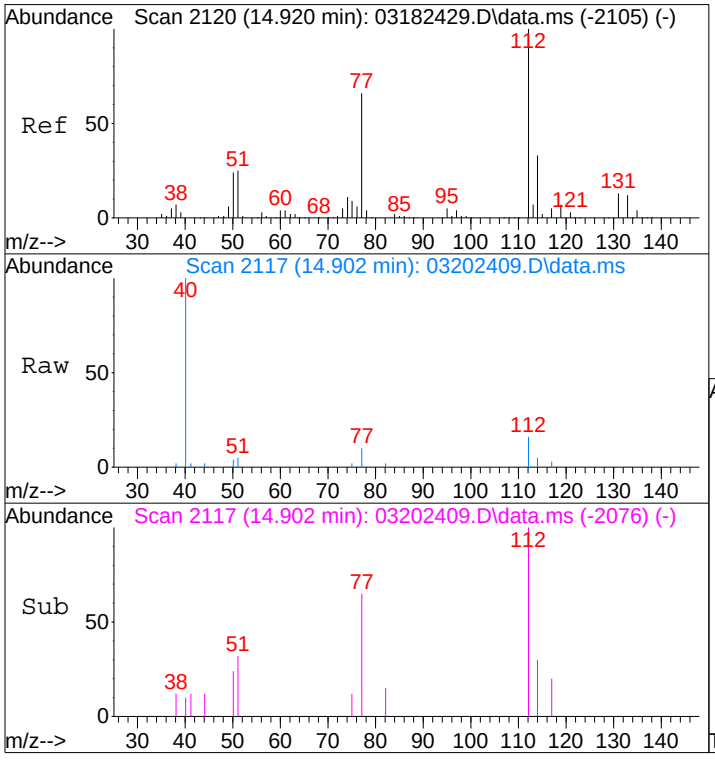


#64
Tetrachloroethene
Concen: 1.76 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:166 Resp: 30277

Ion	Ratio	Lower	Upper
166	100		
164	74.6	56.7	96.7

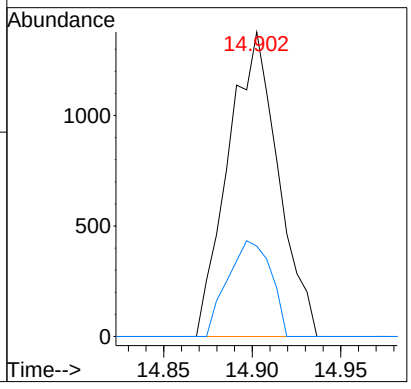


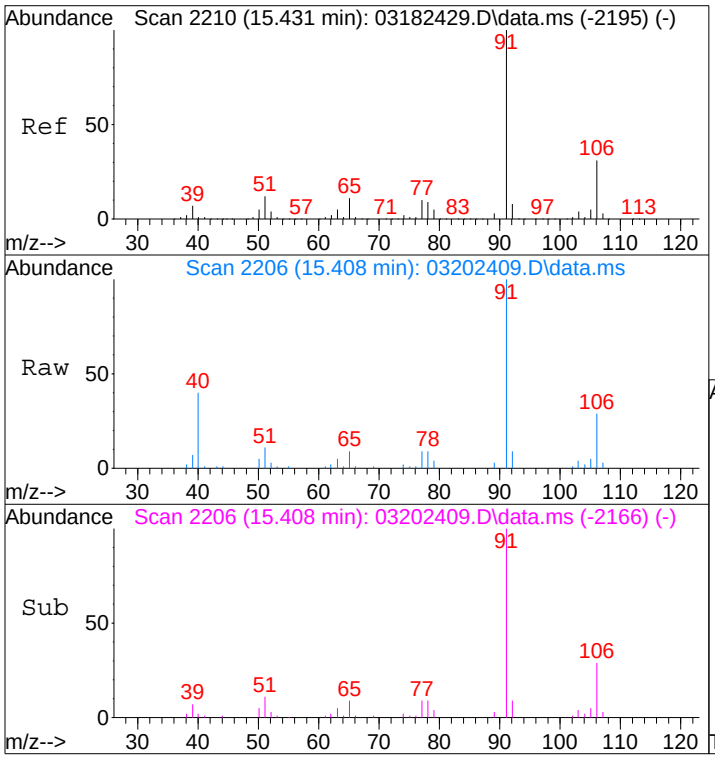


#65
Chlorobenzene
Concen: 0.07 ng
RT: 14.90 min Scan# 2117
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:112 Resp: 2710

Ion	Ratio	Lower	Upper
112	100		
114	27.2	12.2	52.2

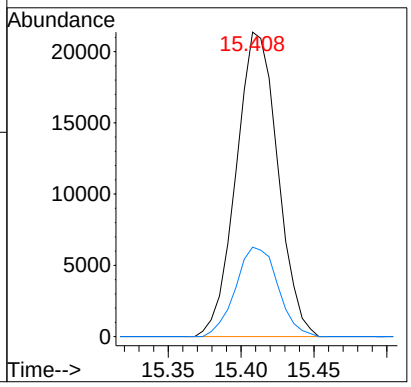


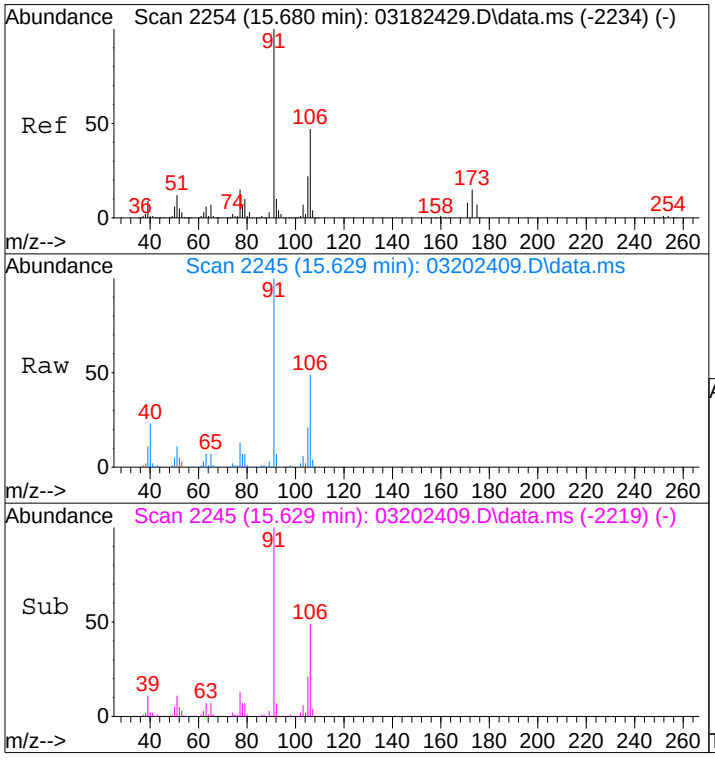


#66
Ethylbenzene
Concen: 0.66 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 91 Resp: 42443

Ion	Ratio	Lower	Upper
91	100		
106	29.8	10.4	50.4

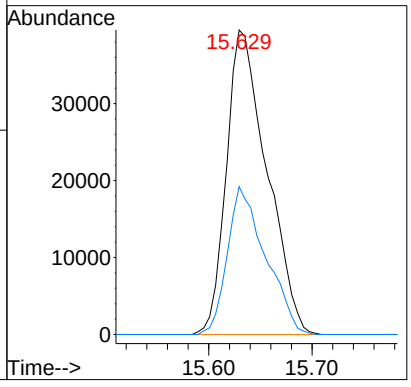


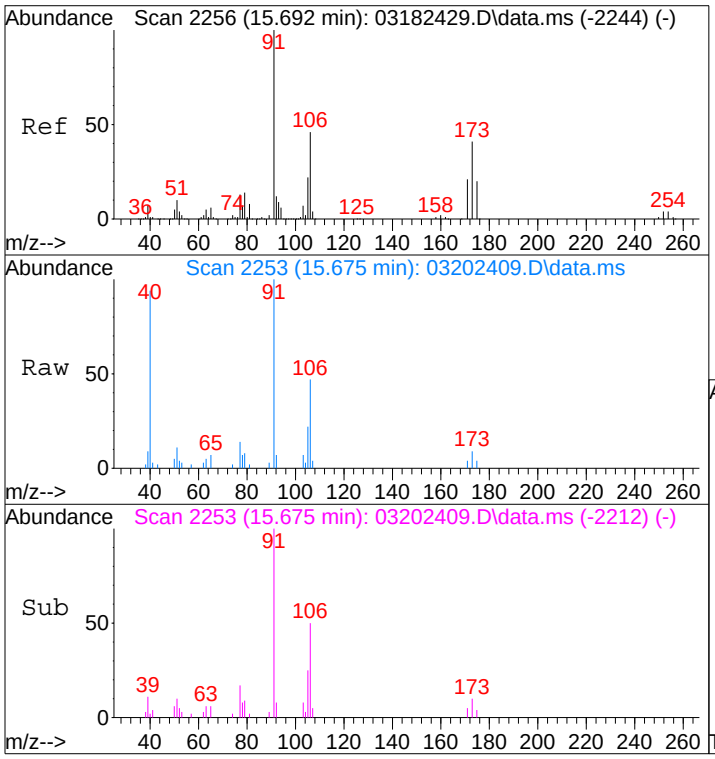


#67
m- & p-Xylenes
Concen: 2.03 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 91 Resp: 107824

Ion	Ratio	Lower	Upper
91	100		
106	45.8	25.6	65.6

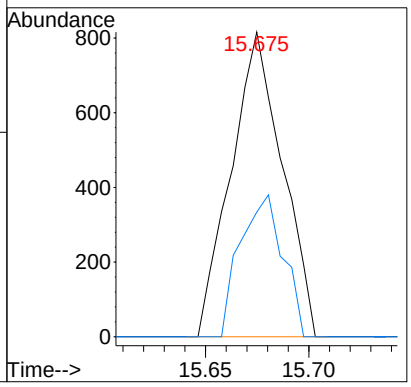


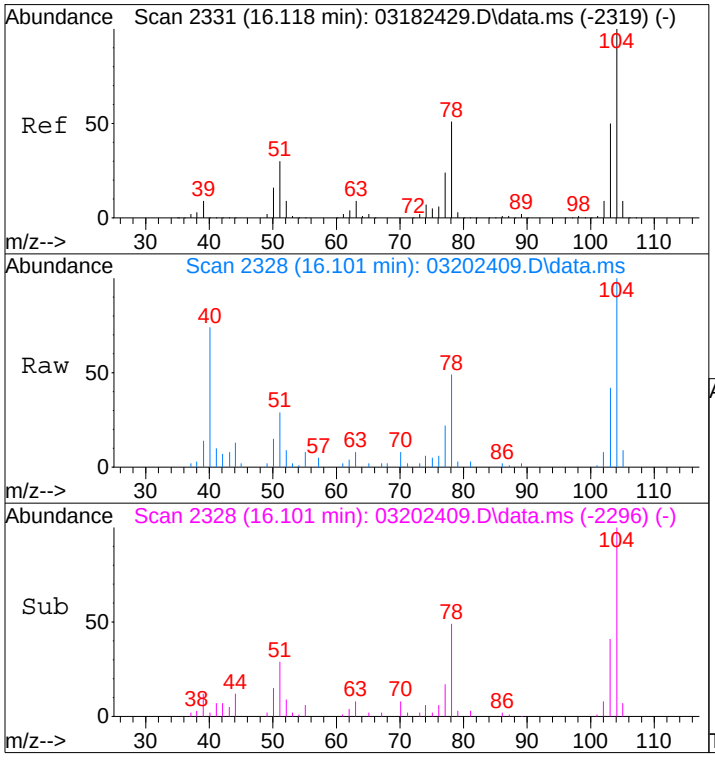


#68
Bromoform
Concen: 0.09 ng
RT: 15.67 min Scan# 2253
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:173 Resp: 1408

Ion	Ratio	Lower	Upper
173	100		
175	38.9	28.7	68.7

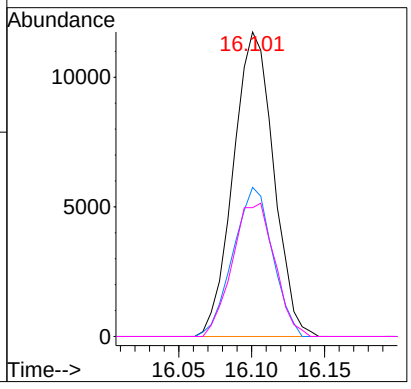


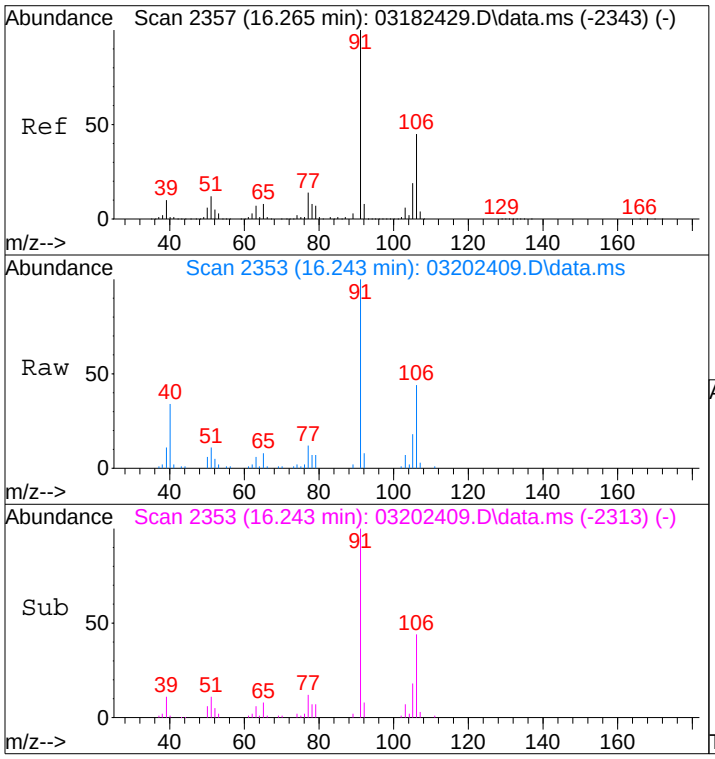


#69
Styrene
Concen: 0.62 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:104 Resp: 22619

Ion	Ratio	Lower	Upper
104	100		
78	48.1	28.5	68.5
103	45.9	28.4	68.4

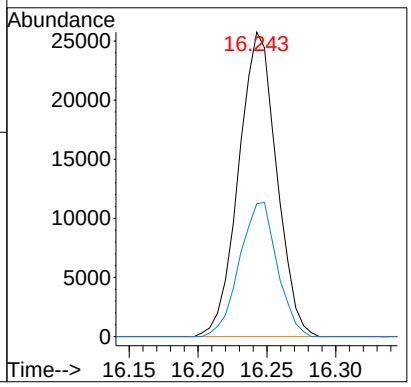


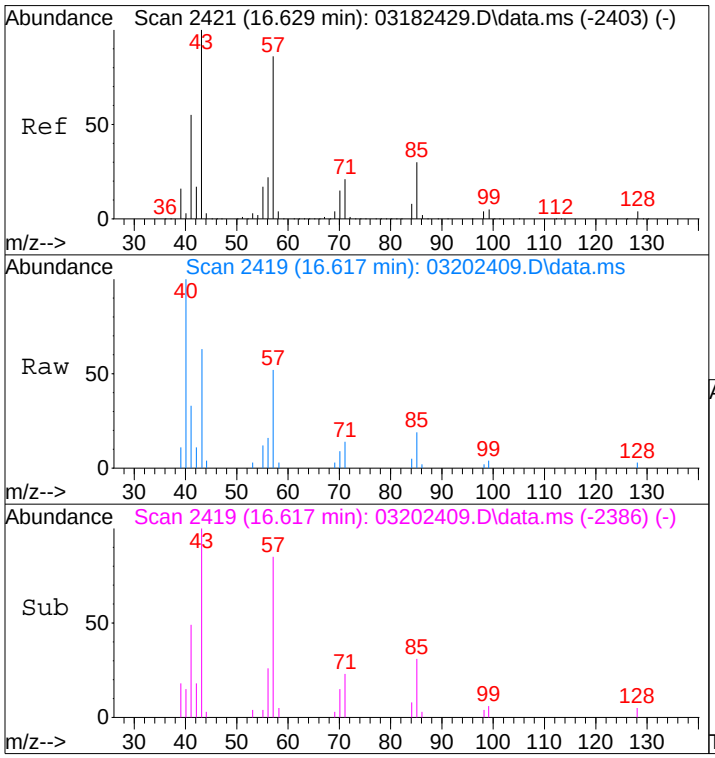


#70
o-Xylene
Concen: 0.95 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 91 Resp: 49413

Ion	Ratio	Lower	Upper
91	100		
106	43.7	24.4	64.4

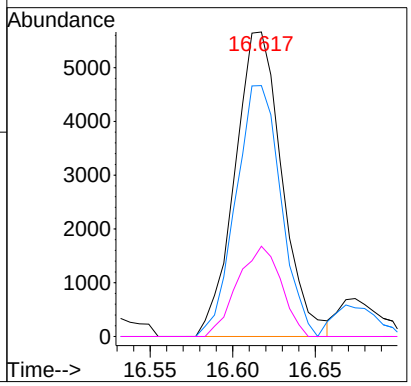


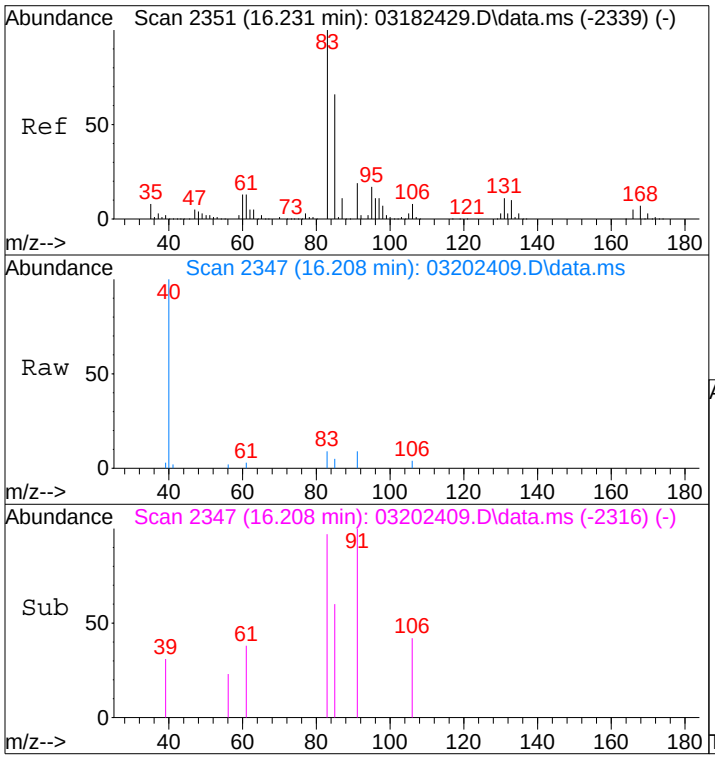


#71
n-Nonane
Concen: 0.37 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 43 Resp: 11219

Ion	Ratio	Lower	Upper
43	100		
57	78.6	63.3	103.3
85	27.5	7.8	47.8

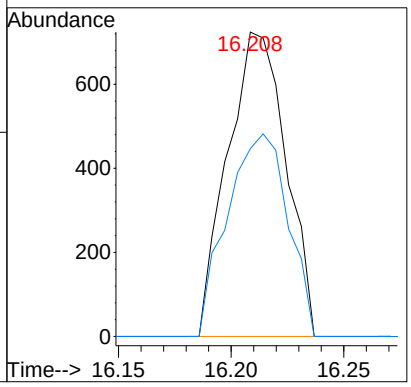


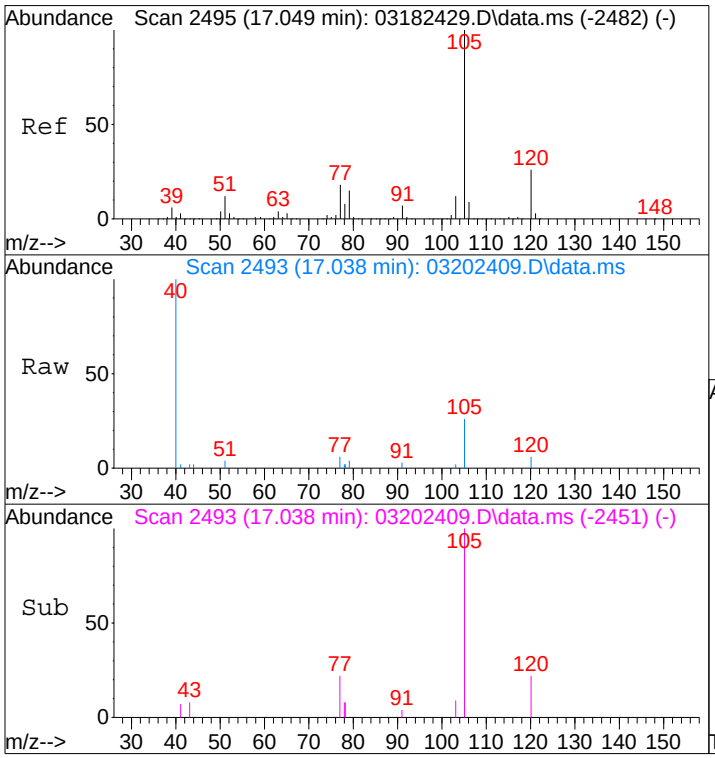


#72
1,1,2,2-Tetrachloroethane
Concen: 0.05 ng
RT: 16.21 min Scan# 2347
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 83 Resp: 1304

Ion	Ratio	Lower	Upper
83	100		
85	69.4	46.6	86.6

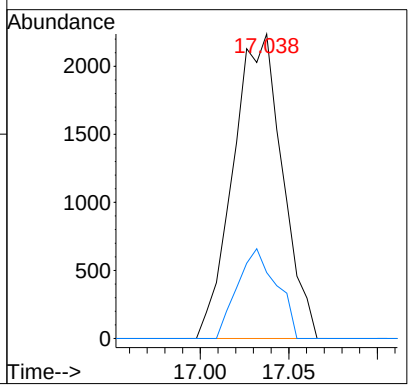


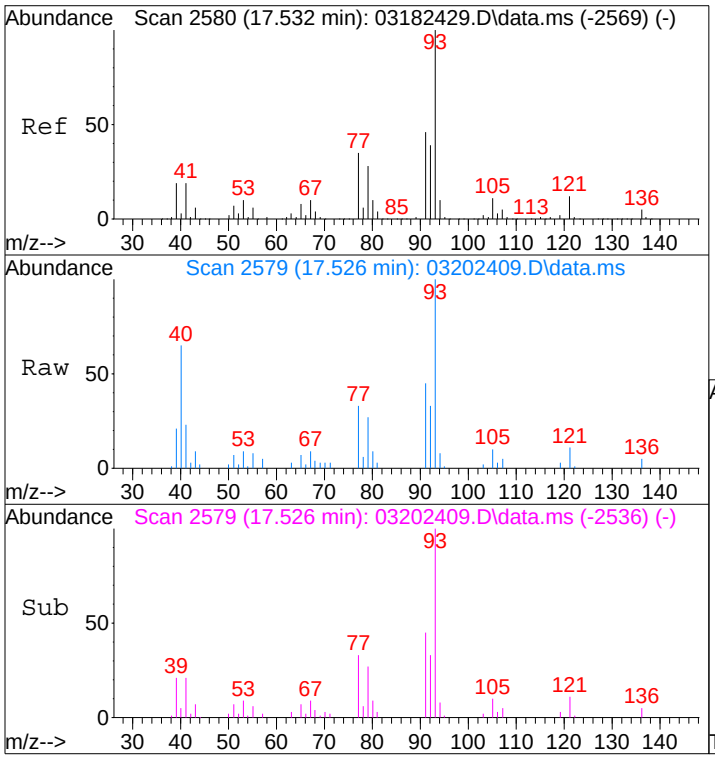


#74
Cumene
Concen: 0.07 ng
RT: 17.04 min Scan# 2493
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:105 Resp: 4308

Ion	Ratio	Lower	Upper
105	100		
120	23.7	5.3	45.3

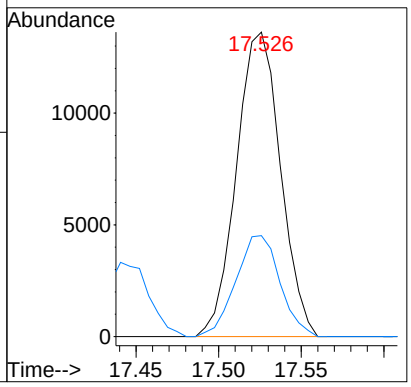


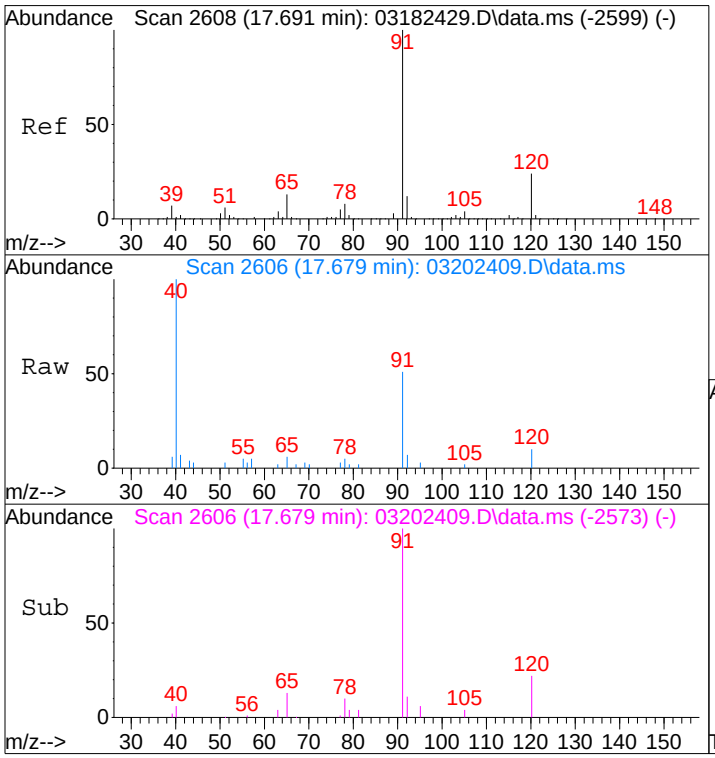


#75
alpha-Pinene
Concen: 0.80 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 93 Resp: 25263

Ion	Ratio	Lower	Upper
93	100		
77	33.2	13.4	53.4

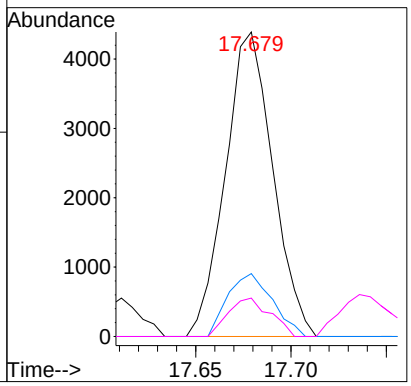


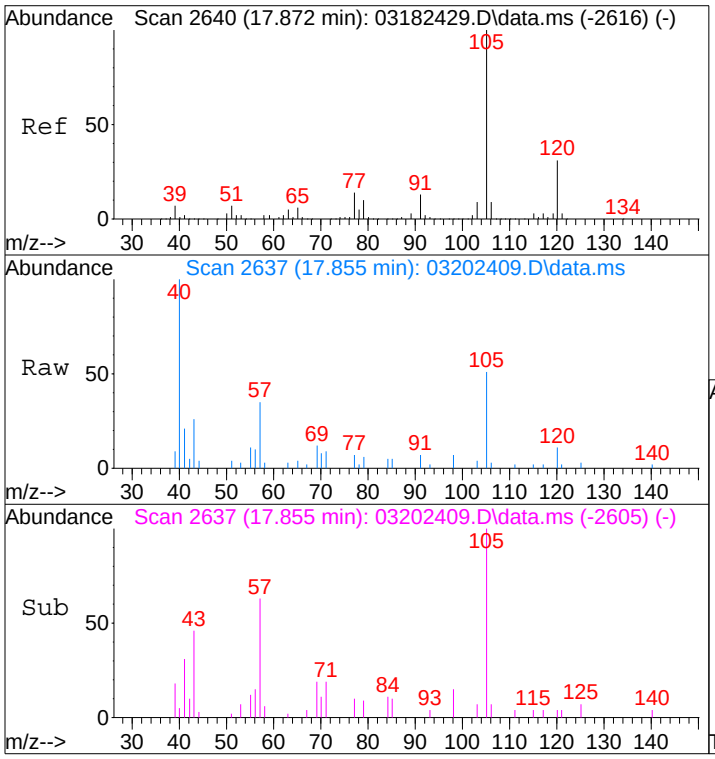


#76
n-Propylbenzene
Concen: 0.10 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 91 Resp: 7586

Ion	Ratio	Lower	Upper
91	100		
120	19.5	2.2	42.2
65	11.2	0.0	32.0

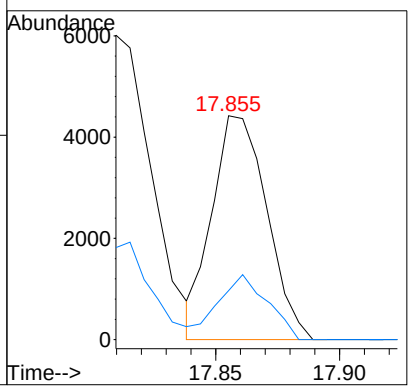


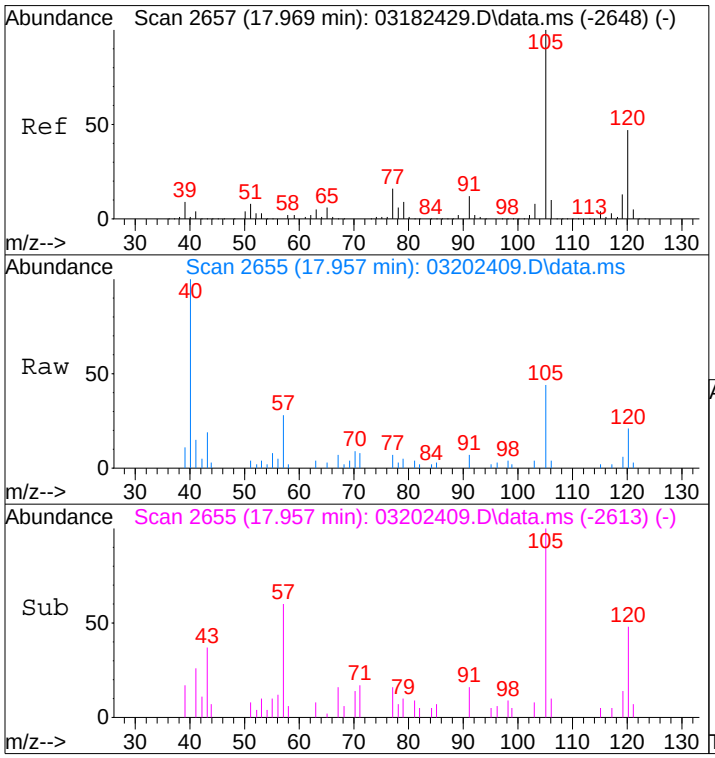


#78
4-Ethyltoluene
Concen: 0.11 ng
RT: 17.86 min Scan# 2637
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:105 Resp: 6820

Ion	Ratio	Lower	Upper
105	100		
120	26.2	9.6	49.6

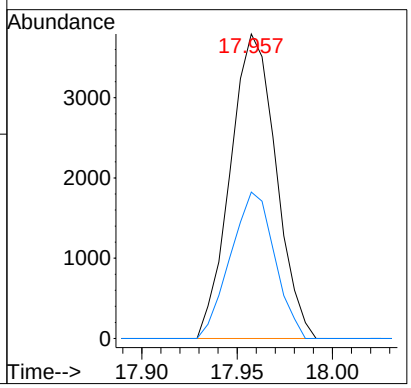


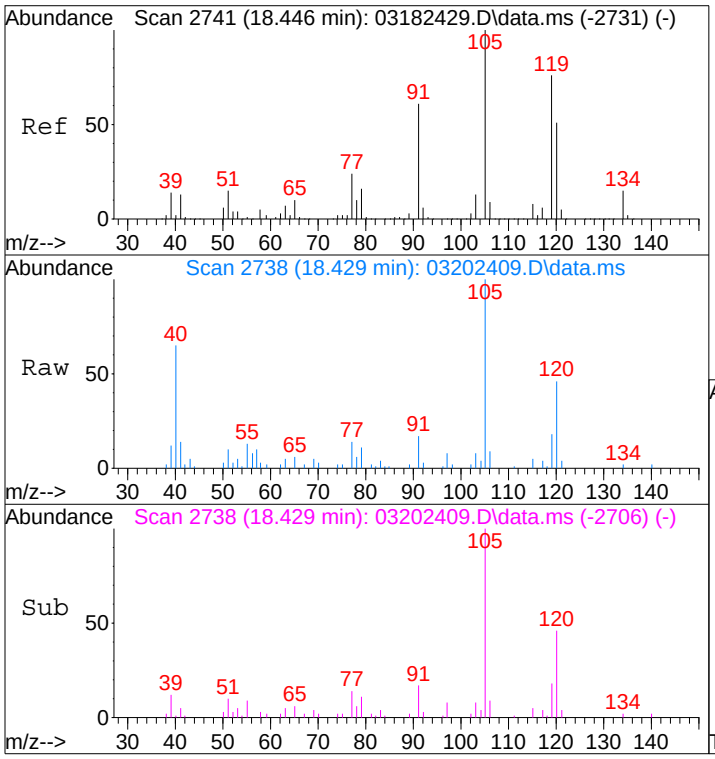


#79
1,3,5-Trimethylbenzene
Concen: 0.12 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:105 Resp: 6309

Ion	Ratio	Lower	Upper
105	100		
120	46.4	26.9	66.9

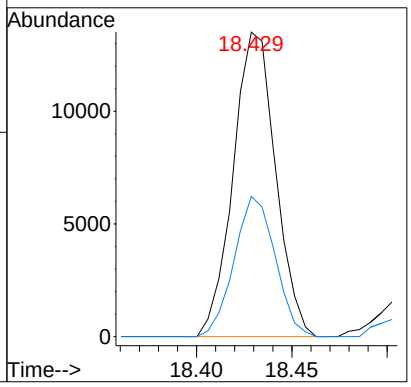


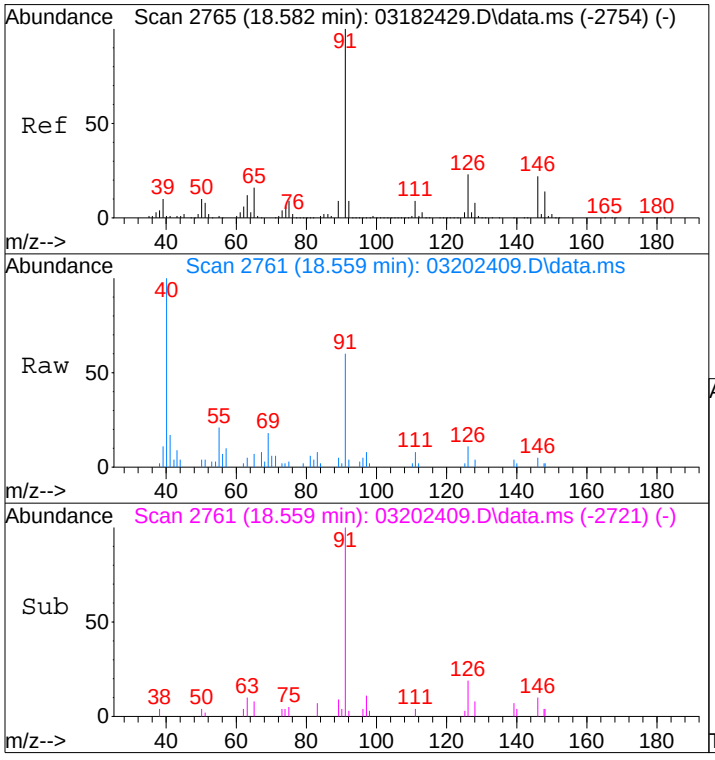


#82
1,2,4-Trimethylbenzene
Concen: 0.37 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:105 Resp: 20902

Ion	Ratio	Lower	Upper
105	100		
120	44.5	31.1	71.1

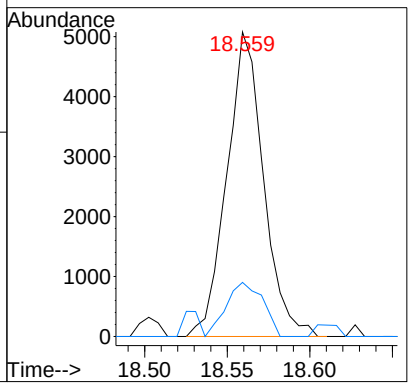


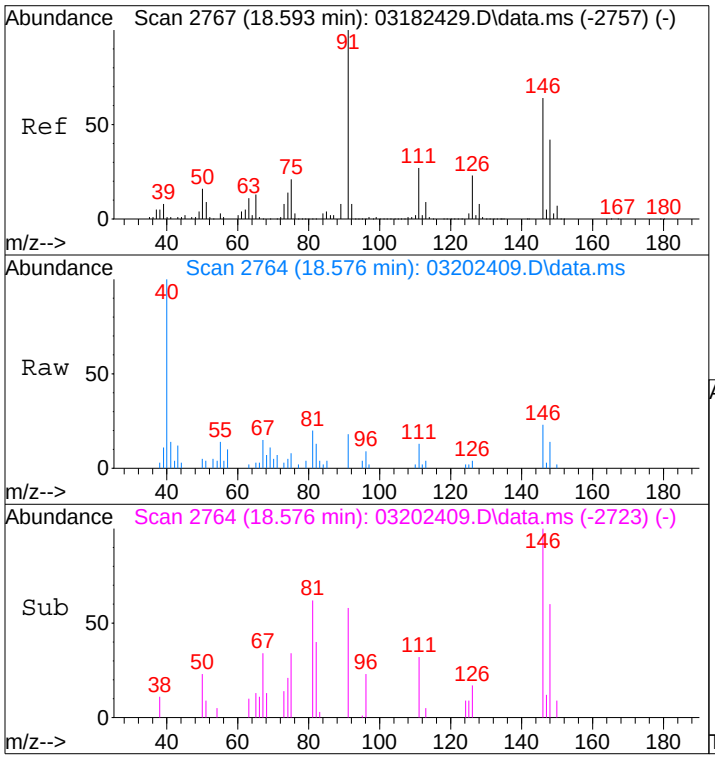


#84
Benzyl Chloride
Concen: 0.73 ng
RT: 18.56 min Scan# 2761
Delta R.T. -0.023 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 91 Resp: 7839

Ion	Ratio	Lower	Upper
91	100		
126	17.8	0.0	39.7

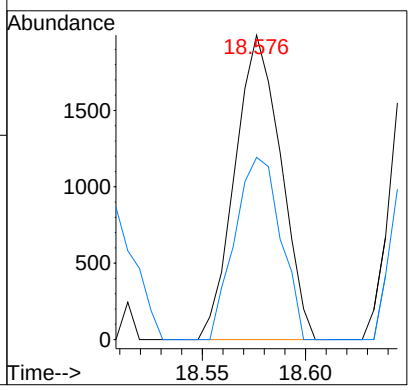


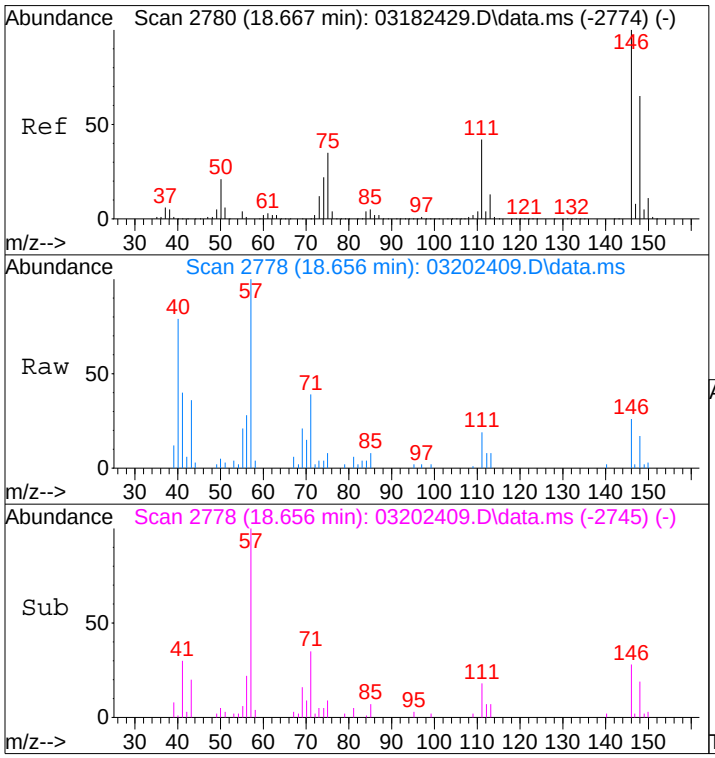


#85
1,3-Dichlorobenzene
Concen: 0.09 ng
RT: 18.58 min Scan# 2764
Delta R.T. -0.017 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:146 Resp: 3078

Ion	Ratio	Lower	Upper
146	100		
148	59.9	43.9	83.9

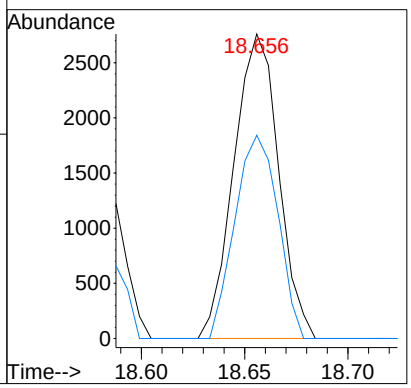


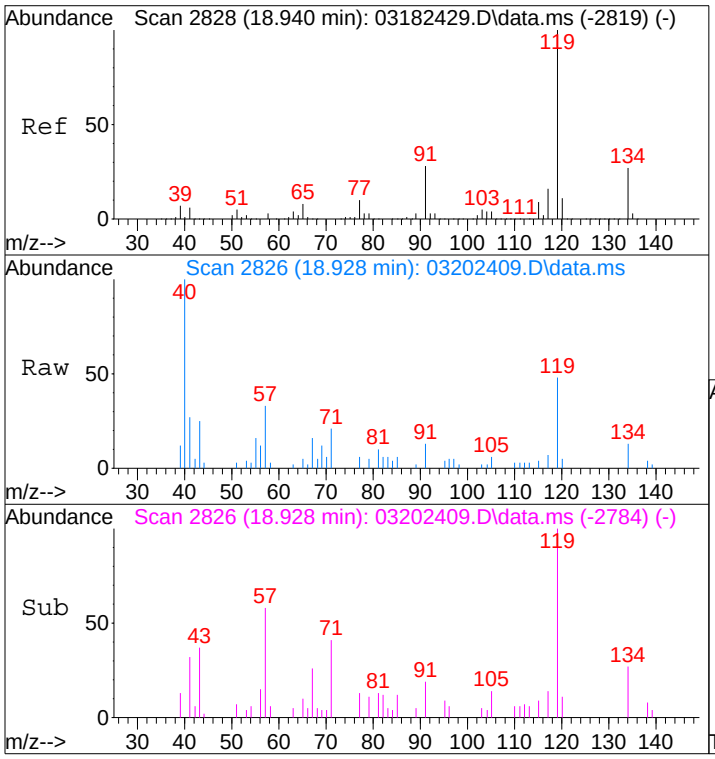


#86
1,4-Dichlorobenzene
Concen: 0.12 ng
RT: 18.66 min Scan# 2778
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:146 Resp: 4153

Ion	Ratio	Lower	Upper
146	100		
148	64.2	44.0	84.0

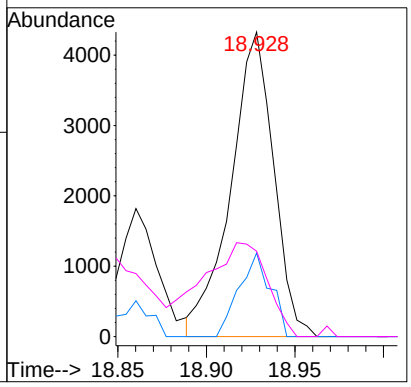


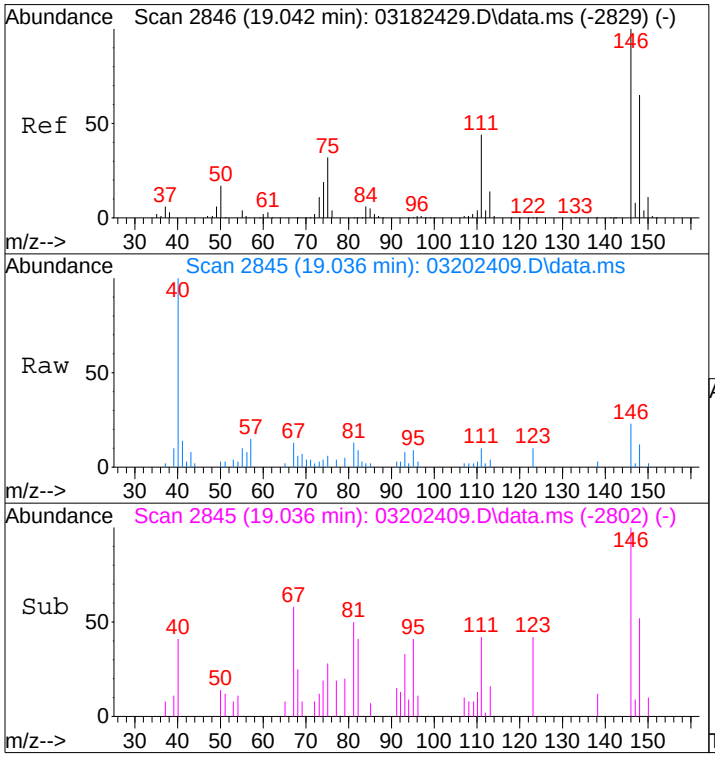


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.12 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:119 Resp: 7279

Ion	Ratio	Lower	Upper
119	100		
134	20.2	5.0	45.0
91	47.4	5.8	45.8#

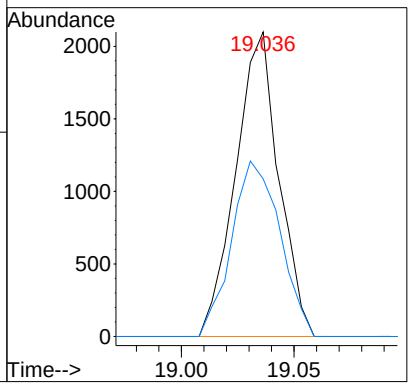


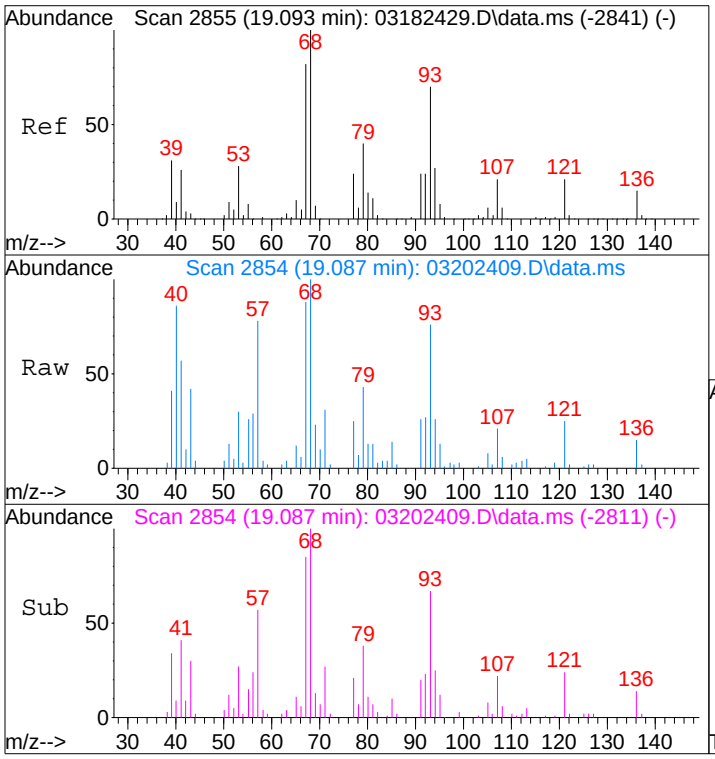


#90
1,2-Dichlorobenzene
Concen: 0.08 ng
RT: 19.04 min Scan# 2845
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:146 Resp: 2796

Ion	Ratio	Lower	Upper
146	100		
148	64.6	43.9	83.9

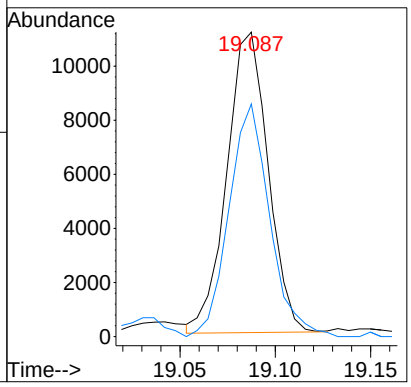


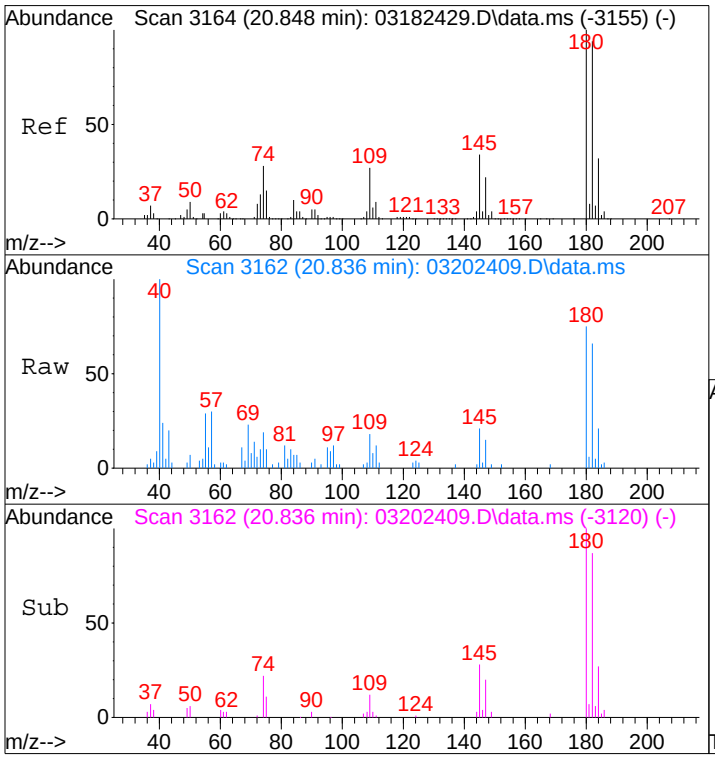


#91
d-Limonene
Concen: 0.86 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion: 68 Resp: 16746

Ion	Ratio	Lower	Upper
68	100		
93	76.1	51.5	91.5

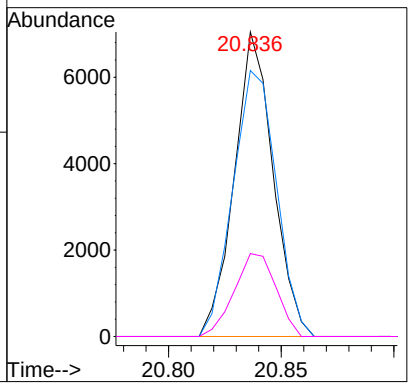


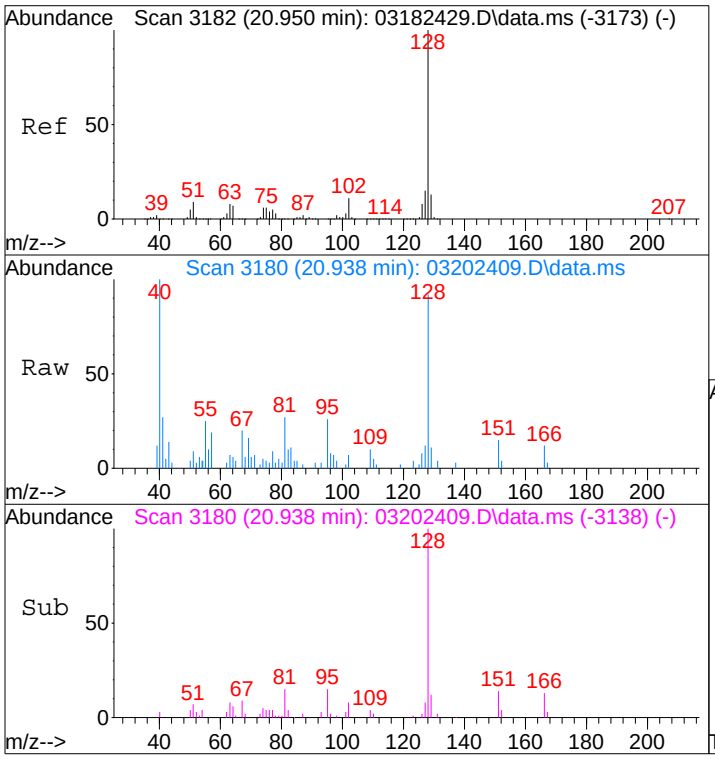


#94
1,2,4-Trichlorobenzene
Concen: 0.35 ng
RT: 20.84 min Scan# 3162
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:180 Resp: 8445

Ion	Ratio	Lower	Upper
180	100		
182	97.9	76.1	114.1
184	29.4	24.5	36.7

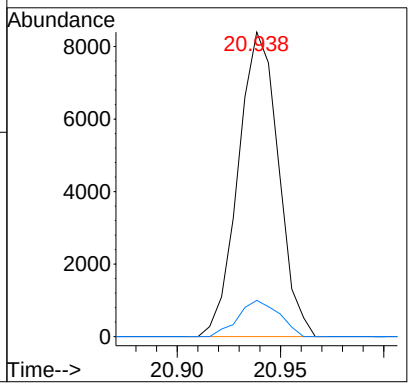


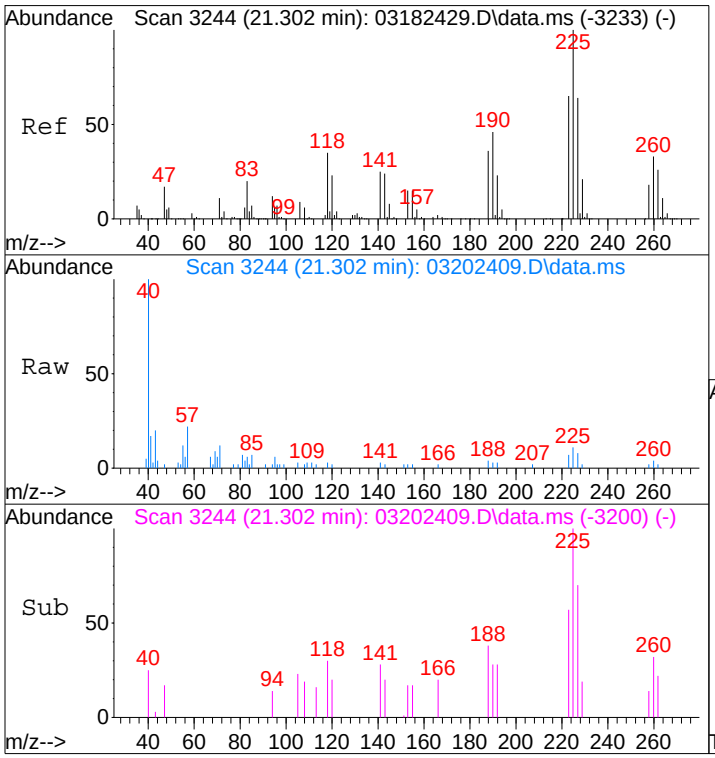


#95
Naphthalene
Concen: 0.49 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:128 Resp: 11380

Ion	Ratio	Lower	Upper
128	100		
129	12.1	0.0	31.1

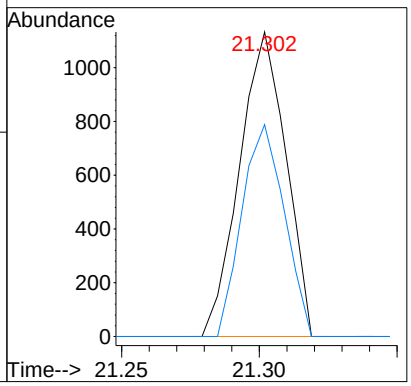




#97
Hexachlorobutadiene
Concen: 0.07 ng
RT: 21.30 min Scan# 3244
Delta R.T. -0.000 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:31

Tgt Ion:225 Resp: 1325

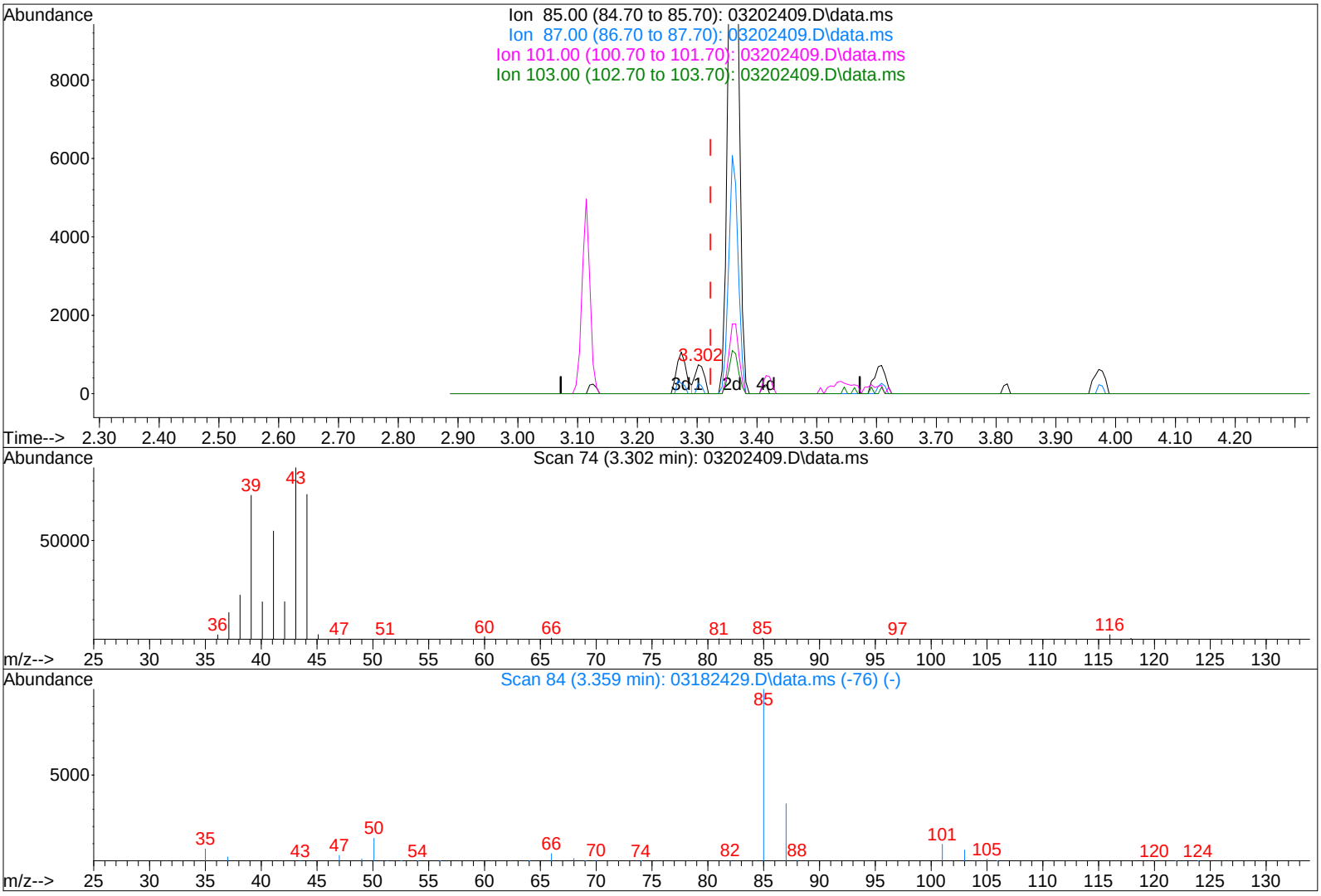
Ion	Ratio	Lower	Upper
225	100		
227	63.6	44.1	84.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:53:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202409.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.020) 0.02ng

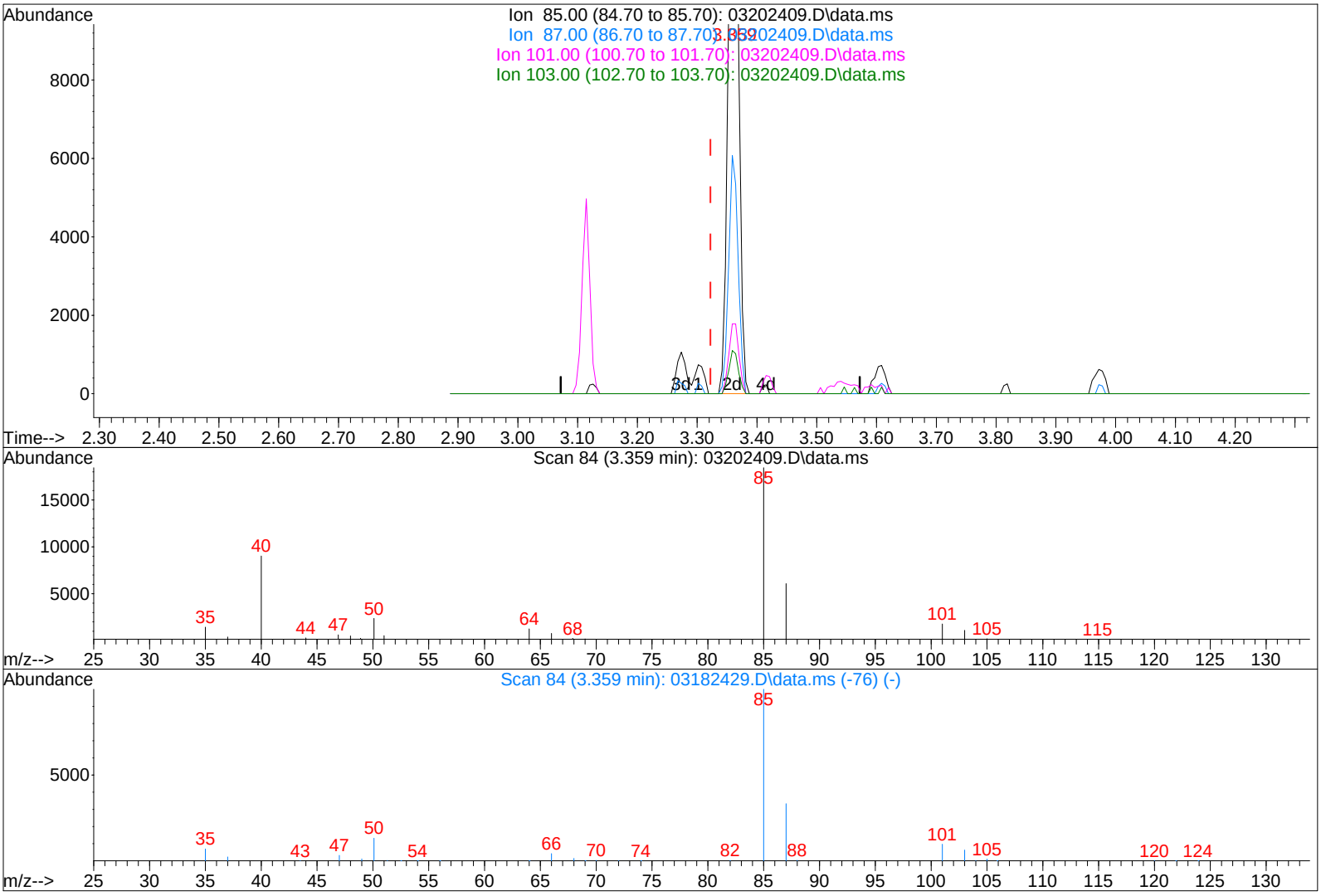
response 782

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	20.20
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:53:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202409.D\data.ms

MP 3/20/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.359min (+0.036) 0.66ng m

response 20681

LH 3/21/24

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.76#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:14:11 2024 3/21/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	153056	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	657325	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	145668	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	211	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	4968	0.353	ng	#	57
4) 1,1-Difluoroethane	3.23	65	5336	0.460	ng		77
5) Chlorodifluoromethane ...	3.27	67	12110	2.693	ng		96
6) 1-Chloro-1,1-Difluoroe...	3.48	65	621	N.D.			
7) Dichlorofluoromethane ...	4.23	67	1555	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	6767	0.361	ng	#	51
10) 2-Methylbutane	4.65	57	229769	14.988	ng	#	81
11) Methyl Acetate	5.32	43	26668	0.677	ng	#	82
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	d		
18) Dibromomethane	9.81	174	258	N.D.			
20) Methyl Cyclohexane	11.42	55	16553	0.723	ng		99
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.34	75	597	N.D.			
25) Bromobenzene	17.04	77	800	N.D.			
26) 2-Chlorotoluene	17.61	91	907	N.D.			
27) 4-Chlorotoluene	0.00	91	0	N.D.	d		
28) Indane	19.11	117	3370	N.D.			
29) Indene	19.21	115	606	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	2820	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	4696	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	5192	0.100	ng		91
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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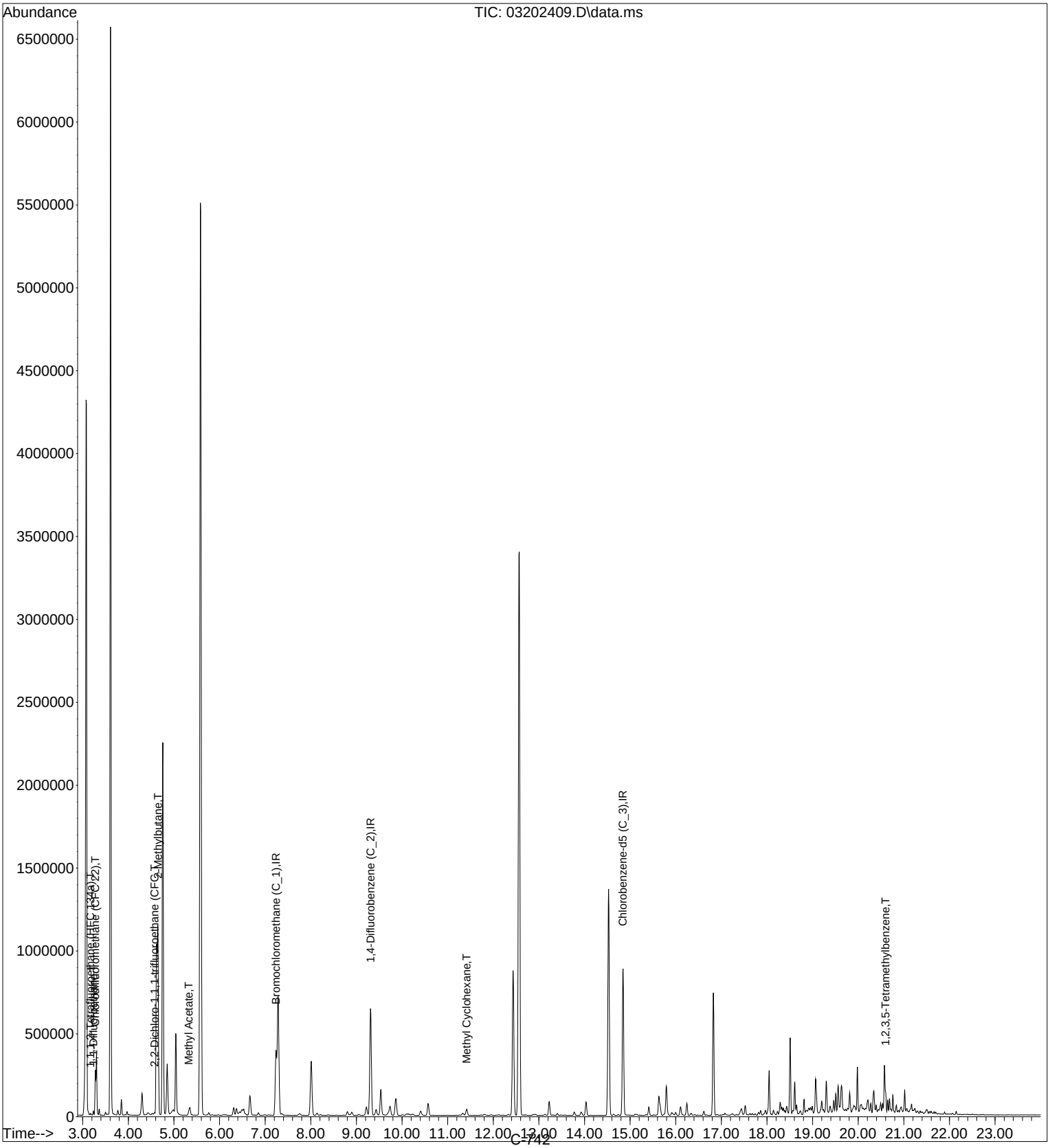
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

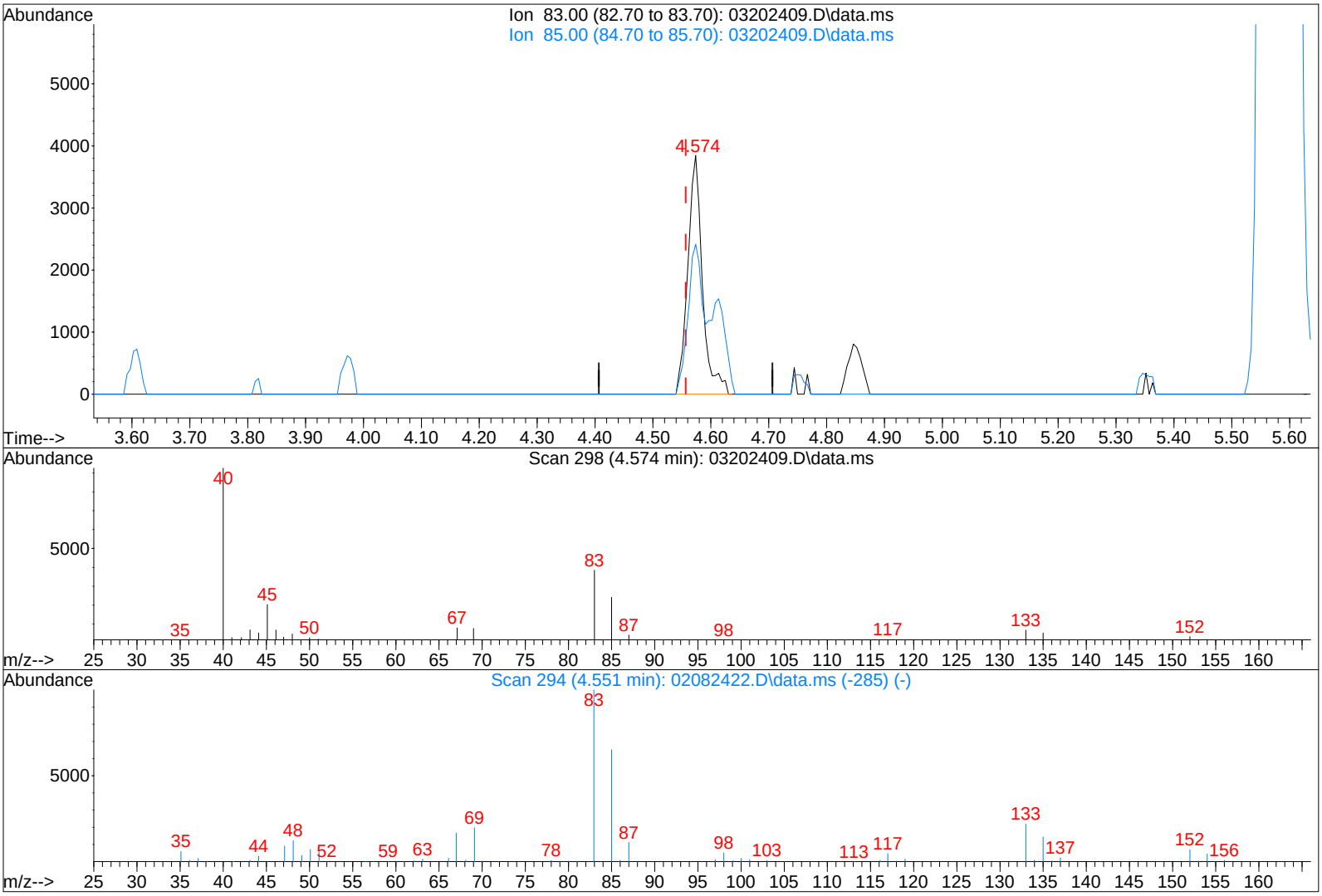
Quant Time: Mar 21 10:14:11 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202409.D Vial: 15
Acq On : 20 Mar 2024 9:31 Operator: SC
Sample : P2400922-013 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:13:19 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202409.D\data.ms

(9) 2,2-Dichloro-1,1,1-trifluoroethane (CFC (T)

4.574min (+0.017) 0.36ng

response 6767

Ion	Exp%	Act%
83.00	100	100
85.00	65.80	104.86#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192427.D Vial: 15
Acq On : 20 Mar 2024 00:09 Operator: SC
Sample : P2400922-013Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:14:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	141378	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	599298	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	133685	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	292743	12.657	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	12.43	98	676369	12.601	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
73) Bromofluorobenzene (SS3)	16.83	174	238328	12.594	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	2299m	0.079	ng		
4) Chloromethane	3.52	50	707	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.02	94	254	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	66	N.D.			
11) Acetonitrile	4.43	41	1178	N.D.			
12) Acrolein	4.53	56	556	0.057	ng		82
13) Acetone	4.62	58	37733	3.629	ng	#	61
14) Trichlorofluoromethane	4.75	101	173509	6.182	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	68438	1.653	ng		99
16) Acrylonitrile	5.04	53	498	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	322	N.D.			
19) Methylene Chloride	5.33	84	2293	0.152	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	183041	15.472	ng		99
22) Carbon Disulfide	5.60	76	6840	0.145	ng	#	1
23) trans-1,2-Dichloroethene	6.12	61	354	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	3567	0.420	ng		93
28) cis-1,2-Dichloroethene	7.06	61	210	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.28	61	12515	2.453	ng		92
31) n-Hexane	7.30	57	1500	0.068	ng	#	91
32) Chloroform	7.35	83	997	N.D.			
34) Tetrahydrofuran (THF)	7.77	72	168	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	477	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	1059	No Calib			
41) Benzene	8.90	78	2324	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	1826	0.107	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	4724	0.360	ng		96
46) Bromodichloromethane	10.06	83	265	N.D.			
47) Trichloroethene	10.14	130	392	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	755	N.D.			
50) Methyl Methacrylate	10.40	100	173	N.D.			

Quantitation Report (QT Reviewed)

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Acq On : 20 Mar 2024 00:09 Operator: SC
Sample : P2400922-013Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:14:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	1986	0.172 ng	#	80
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	237	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	310746	6.065 ng		99
59) 2-Hexanone	12.92	43	528	N.D.		
60) Dibromochloromethane	13.07	129	458	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	1519	N.D.		
63) n-Octane	13.92	57	238	N.D.		
64) Tetrachloroethene	14.03	166	3181	0.202 ng		100
65) Chlorobenzene	14.90	112	747	N.D.		
66) Ethylbenzene	15.41	91	4622	0.079 ng		98
67) m- & p-Xylenes	15.63	91	11068	0.227 ng		96
68) Bromoform	15.67	173	472	N.D.		
69) Styrene	16.10	104	2085	0.063 ng		93
70) o-Xylene	16.25	91	5181	0.108 ng		95
71) n-Nonane	16.62	43	1048	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	393	N.D.		
74) Cumene	17.03	105	905	N.D.		
75) alpha-Pinene	17.52	93	2241	0.077 ng		96
76) n-Propylbenzene	17.67	91	1519	N.D.		
77) 3-Ethyltoluene	17.03	105	905	No Calib		
78) 4-Ethyltoluene	17.86	105	1069	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	908	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	905	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	2203	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	744	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	916	N.D.		
87) sec-Butylbenzene	18.74	105	1107	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1130	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	905	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	735	N.D.		
91) d-Limonene	19.09	68	1446	0.081 ng		92
92) 1,2-Dibromo-3-Chloropr...	19.52	157	340	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	1898	0.085 ng		97
95) Naphthalene	20.94	128	2351	0.387 ng		92
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	659	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1004	N.D.		
100) n-Butylbenzene	19.39	91	911	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Misc : S37-02202408

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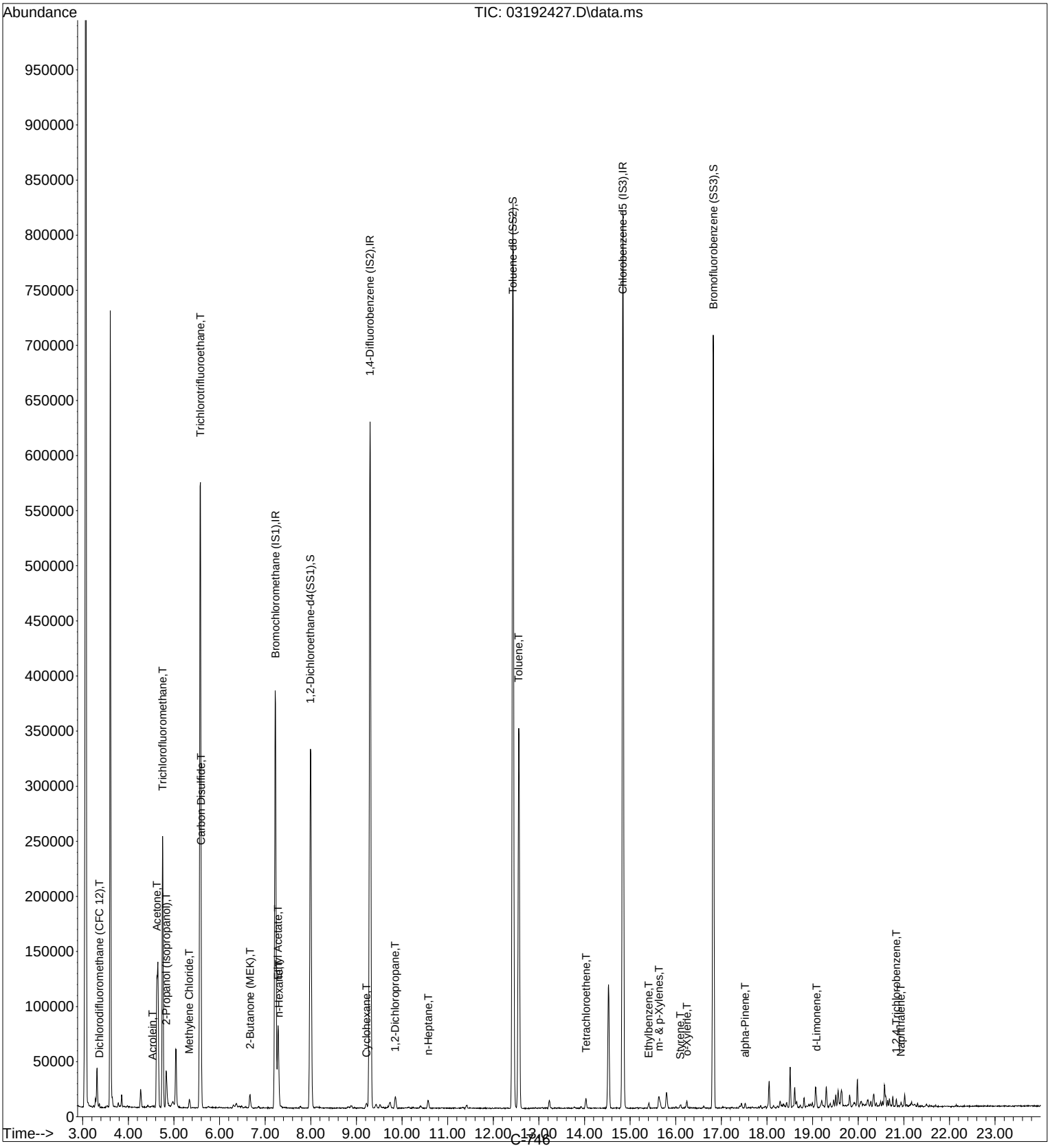
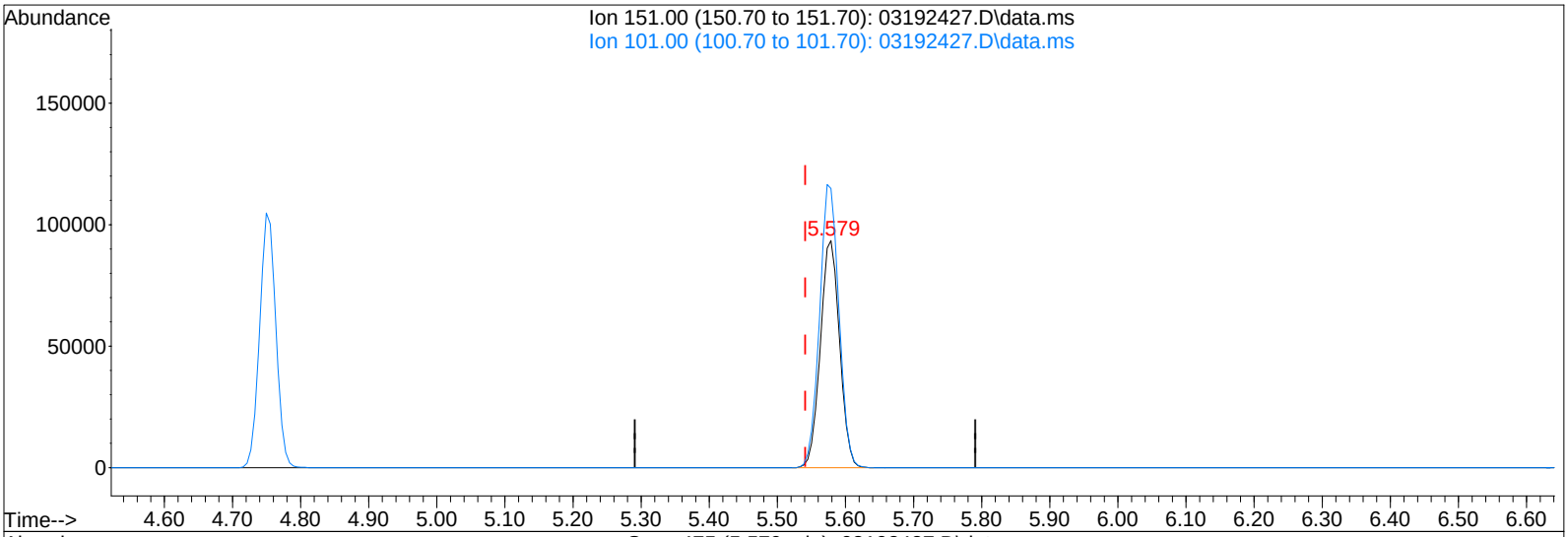
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

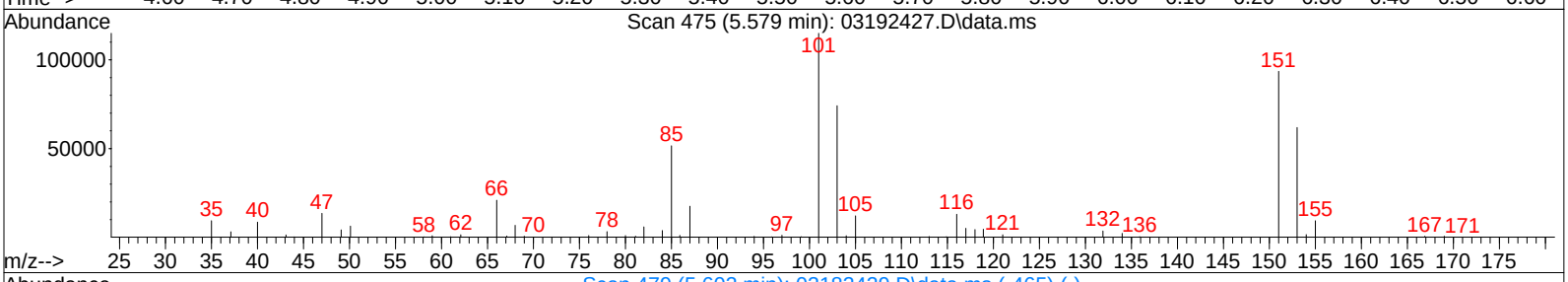


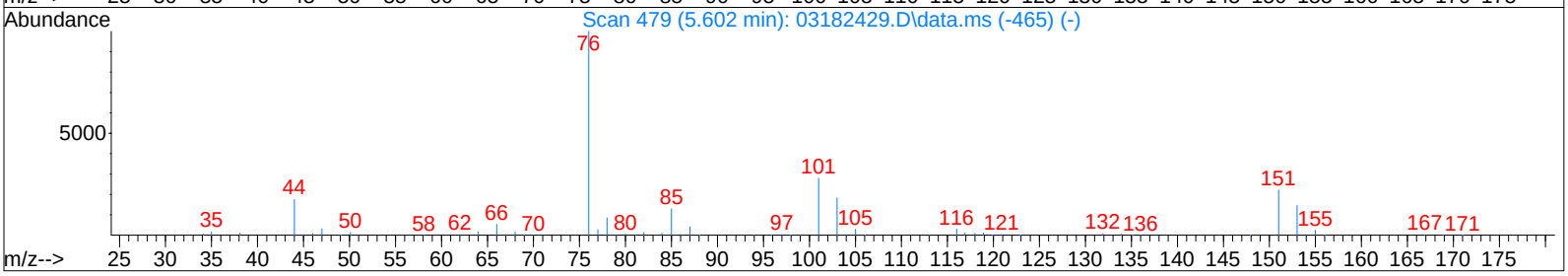
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192427.D Vial: 15
Acq On : 20 Mar 2024 00:09 Operator: SC
Sample : P2400922-013Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:27:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03192427.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.038) 15.47ng

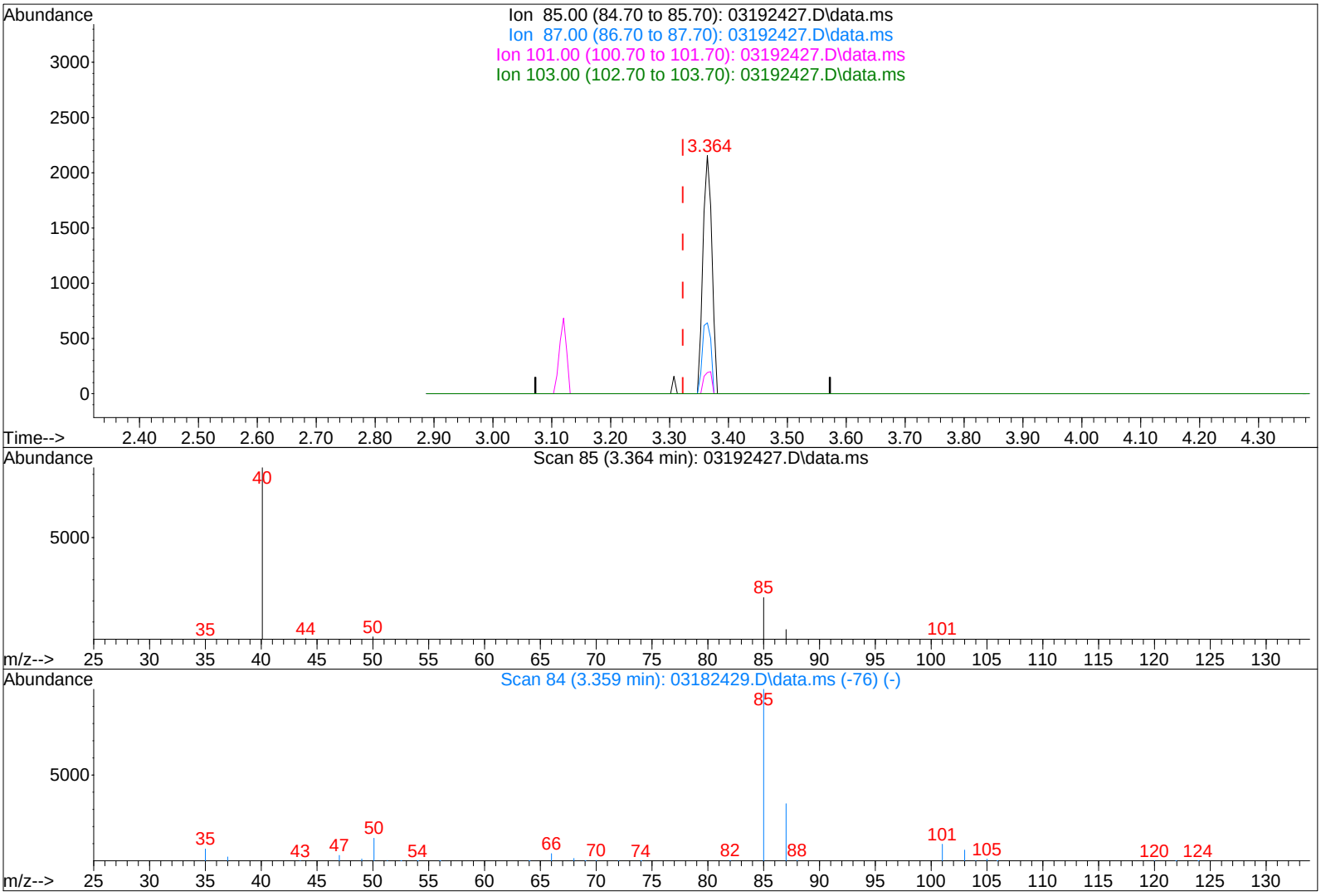
response 183041

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	125.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192427.D Vial: 15
Acq On : 20 Mar 2024 00:09 Operator: SC
Sample : P2400922-013Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:27:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192427.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.08ng

response 2300

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	28.74
101.00	9.20	8.13
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192427.D Vial: 15
Acq On : 20 Mar 2024 00:09 Operator: SC
Sample : P2400922-013Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:27:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
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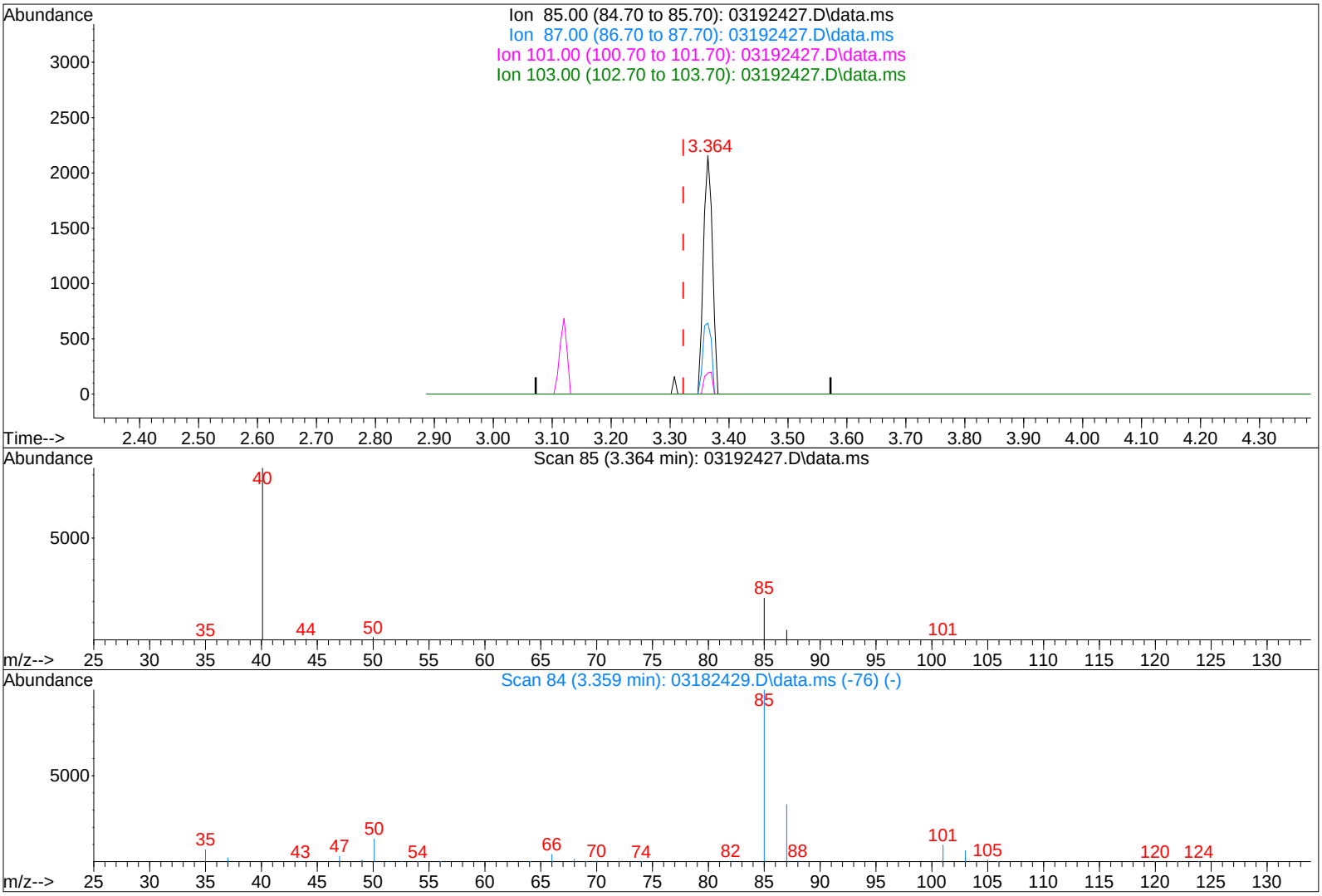
DataAcq Meth:TO15.M



TIC: 03192427.D\data.ms

WP 3/20/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.08ng m

response 2299

LH 3/21/24

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	28.75
101.00	9.20	8.13
103.00	6.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:31
Operator : SC
Sample : P2400922-013 (400mL)
Misc : S37-02202408
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202409.D\data.ms

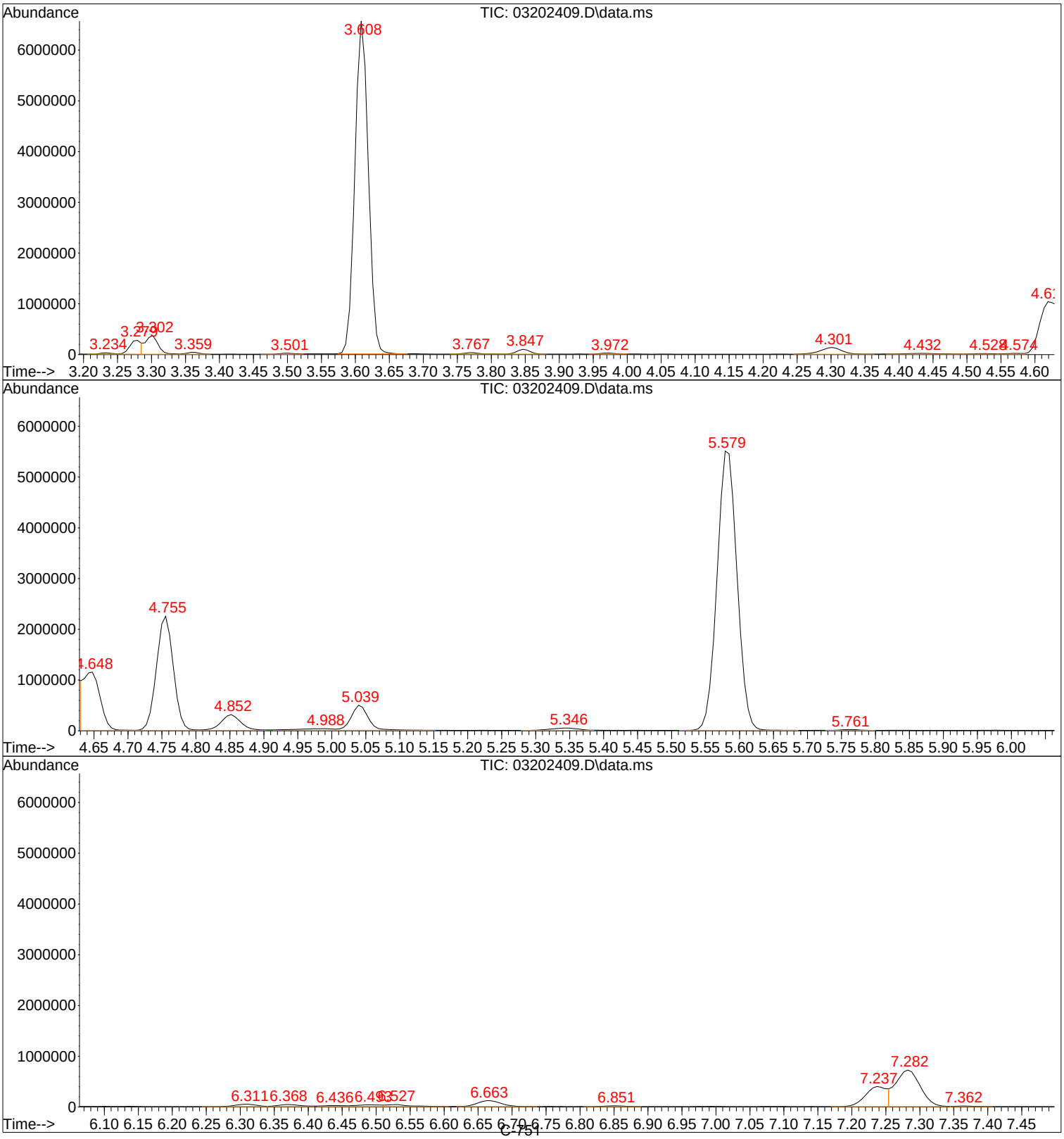
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	57	62	65	rBV	24369	29949	0.27%	0.087%
2	3.279	65	70	71	rVV2	272001	328075	2.91%	0.953%
3	3.302	71	74	81	rVV	365822	456929	4.06%	1.327%
4	3.359	81	84	89	rVB	35780	42167	0.37%	0.122%
5	3.501	102	109	113	rBV2	19256	30107	0.27%	0.087%
6	3.608	122	128	140	rVB	6556340	9042638	80.26%	26.259%
7	3.767	151	156	164	rBV2	27049	41395	0.37%	0.120%
8	3.847	164	170	176	rVB	94579	125591	1.11%	0.365%
9	3.972	187	192	197	rVB2	20533	27660	0.25%	0.080%
10	4.301	240	250	261	rBV	130795	284088	2.52%	0.825%
11	4.432	264	273	284	rVV4	14523	49475	0.44%	0.144%
12	4.528	284	290	293	rVV3	10841	22976	0.20%	0.067%
13	4.574	293	298	300	rVV4	15443	27648	0.25%	0.080%
14	4.619	300	306	308	rVV	1033397	1734191	15.39%	5.036%
15	4.648	308	311	322	rVV	1148643	1870472	16.60%	5.432%
16	4.755	322	330	339	rVV	2247739	3869092	34.34%	11.236%
17	4.852	339	347	356	rVV	308534	618793	5.49%	1.797%
18	4.988	358	371	374	rVV4	31522	121675	1.08%	0.353%
19	5.039	374	380	400	rVB	492691	861410	7.65%	2.501%
20	5.346	422	434	441	rBV3	46690	128525	1.14%	0.373%
21	5.579	463	475	494	rVB	5501976	11266567	100.00%	32.718%
22	5.761	501	507	514	rVB	14835	28592	0.25%	0.083%
23	6.311	592	604	609	rBV	46345	101034	0.90%	0.293%
24	6.368	609	614	621	rVV	40424	93005	0.83%	0.270%
25	6.436	622	626	630	rVV	20901	47807	0.42%	0.139%
26	6.493	630	636	639	rVV3	33413	87347	0.78%	0.254%
27	6.527	639	642	656	rVV3	37874	86548	0.77%	0.251%
28	6.663	658	666	679	rVB	115861	276587	2.45%	0.803%
29	6.851	691	699	706	rVB2	15316	32887	0.29%	0.096%
30	7.237	755	767	770	rBV	395207	906337	8.04%	2.632%
31	7.282	770	775	786	rVV2	719850	1774131	15.75%	5.152%
32	7.362	786	789	797	rVB3	10017	22115	0.20%	0.064%

Sum of corrected areas: 34435813

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:31
Operator : SC
Sample : P2400922-013 (400mL)
Misc : S37-02202408
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:311
Operator : SCC
Sample : P2400922-013 (400mL))
Misc : S37-022024088
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:00:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	153832	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	665353	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	145953	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	316135	12.562	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	12.43	98	754202	12.870	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	16.83	174	260398	12.604	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	18125m	0.574	ng		
4) Chloromethane	3.50	50	906	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	346	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	355	N.D.			
9) Chloroethane	4.15	64	214	N.D.			
10) Ethanol	4.27	45	9011	0.606	ng		92
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	2266	0.213	ng		98
13) Acetone	4.63	58	18434	1.629	ng		97
14) Trichlorofluoromethane	4.74	101	968021	31.698	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	3415	0.076	ng		92
16) Acrylonitrile	4.98	53	908	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	705	N.D.			
19) Methylene Chloride	5.33	84	1273	0.077	ng		88
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	393422	30.562	ng		99
22) Carbon Disulfide	5.59	76	91963	1.794	ng		60
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	1689	0.671	ng	#	9
27) 2-Butanone (MEK)	6.67	72	3515	0.380	ng	#	91
28) cis-1,2-Dichloroethene	7.06	61	406	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	476	0.086	ng	#	75
31) n-Hexane	7.30	57	710	N.D.			
32) Chloroform	7.34	83	29338	1.100	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	184	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	1295	No Calib		#	
40) 1-Butanol	8.80	56	4785	No Calib		#	
41) Benzene	8.89	78	4958	0.083	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	466	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	726	N.D.			
47) Trichloroethene	10.14	130	1119	0.069	ng	#	71
48) 1,4-Dioxane	10.13	88	475	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:00:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

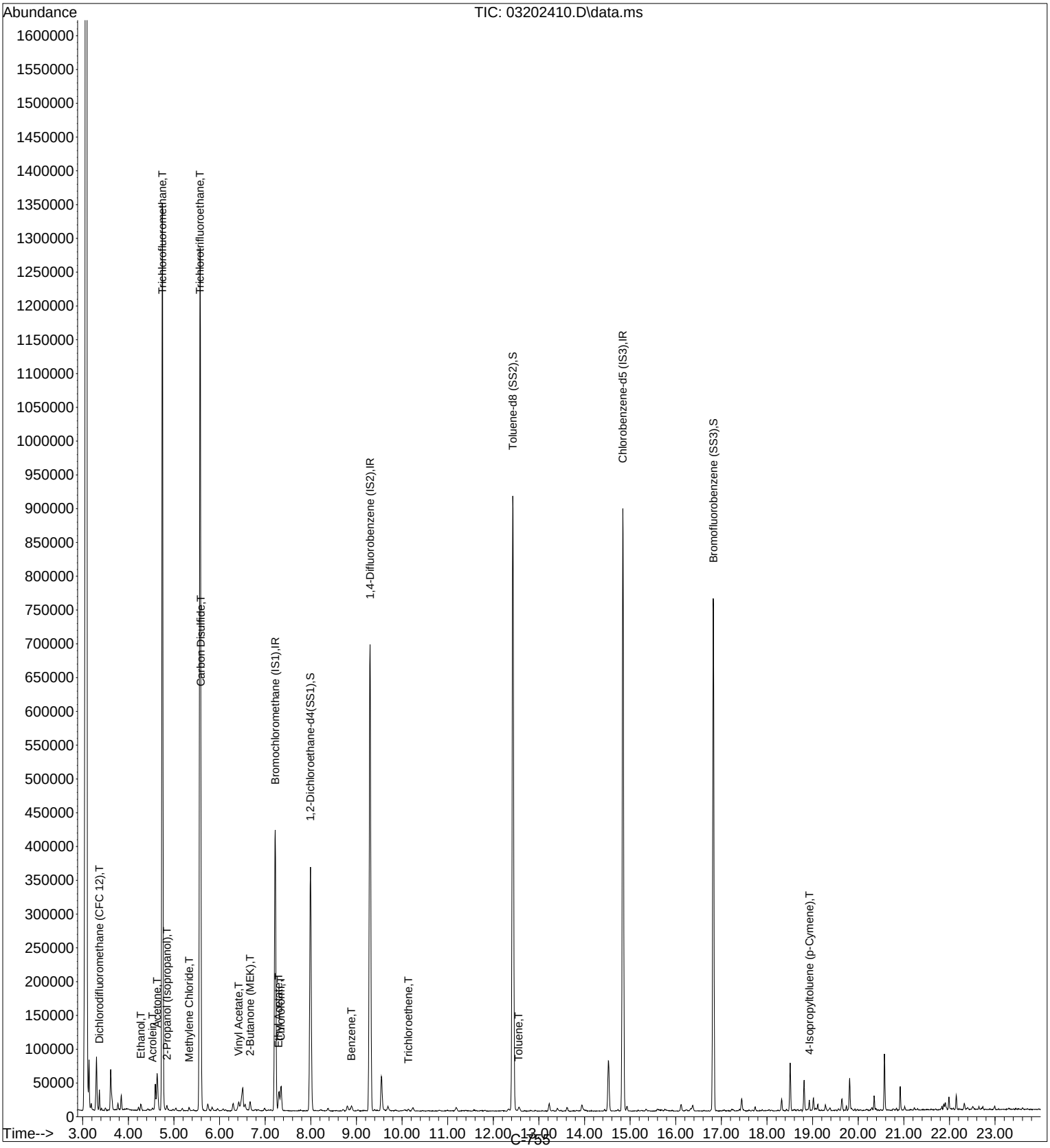
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4657	0.083 ng	99
59) 2-Hexanone	12.93	43	1270	N.D.	
60) Dibromochloromethane	13.07	129	413	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	555	N.D.	
65) Chlorobenzene	14.90	112	500	N.D.	
66) Ethylbenzene	15.41	91	1013	N.D.	
67) m- & p-Xylenes	15.63	91	2436	N.D.	
68) Bromoform	15.67	173	503	N.D.	
69) Styrene	16.10	104	183	N.D.	
70) o-Xylene	16.24	91	943	N.D.	
71) n-Nonane	16.62	43	671	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	390	N.D.	
74) Cumene	17.03	105	858	N.D.	
75) alpha-Pinene	17.52	93	338	N.D.	
76) n-Propylbenzene	17.67	91	1247	N.D.	
77) 3-Ethyltoluene	17.03	105	858	No Calib	#
78) 4-Ethyltoluene	17.86	105	751	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	443	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	858	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	697	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	645	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	765	N.D.	
87) sec-Butylbenzene	18.74	105	821	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	7603	0.123 ng	98
89) 1,2,3-Trimethylbenzene	17.03	105	858	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	589	N.D.	
91) d-Limonene	19.11	68	609	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1036	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	557	N.D.	
98) Cyclohexanone	15.35	55	802	No Calib	#
99) tert-Butylbenzene	18.43	119	792	N.D.	
100) n-Butylbenzene	19.39	91	773	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:00:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:00:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

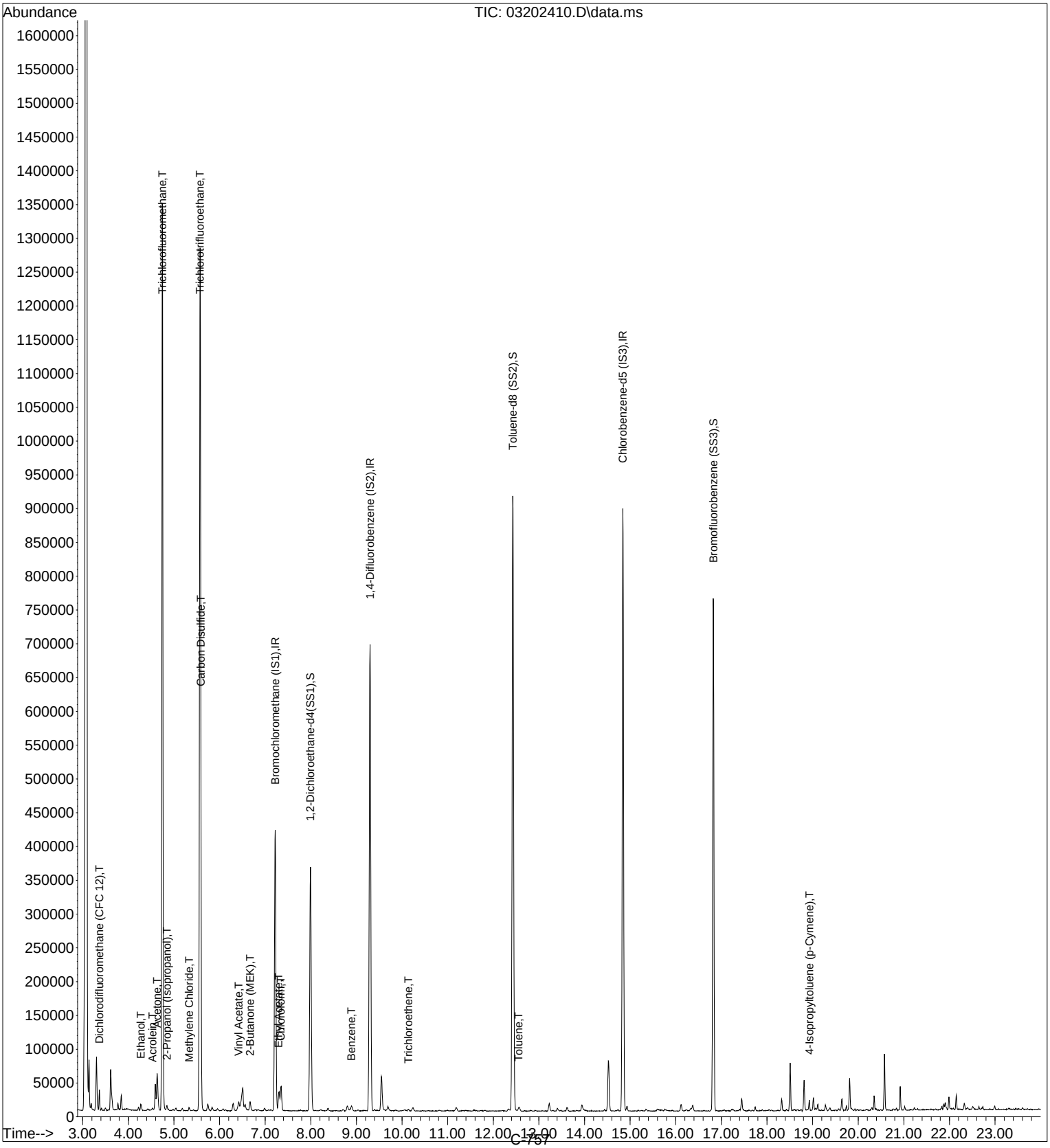
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	153832	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	665353	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	145953	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	316135	12.562	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
57) Toluene-d8 (SS2)	12.43	98	754202	12.870	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
73) Bromofluorobenzene (SS3)	16.83	174	260398	12.604	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	18125m	0.574	ng		
10) Ethanol	4.27	45	9011	0.606	ng		92
12) Acrolein	4.53	56	2266	0.213	ng		98
13) Acetone	4.63	58	18434	1.629	ng		97
14) Trichlorofluoromethane	4.74	101	968021	31.698	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	3415	0.076	ng		92
19) Methylene Chloride	5.33	84	1273	0.077	ng		88
21) Trichlorotrifluoroethane	5.57	151	393422	30.562	ng		99
22) Carbon Disulfide	5.59	76	91963	1.794	ng		60
26) Vinyl Acetate	6.42	86	1689	0.671	ng	#	9
27) 2-Butanone (MEK)	6.67	72	3515	0.380	ng	#	91
30) Ethyl Acetate	7.29	61	476	0.086	ng	#	75
32) Chloroform	7.34	83	29338	1.100	ng		100
41) Benzene	8.89	78	4958	0.083	ng		99
47) Trichloroethene	10.14	130	1119	0.069	ng	#	71
58) Toluene	12.56	91	4657	0.083	ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	7603	0.123	ng		98

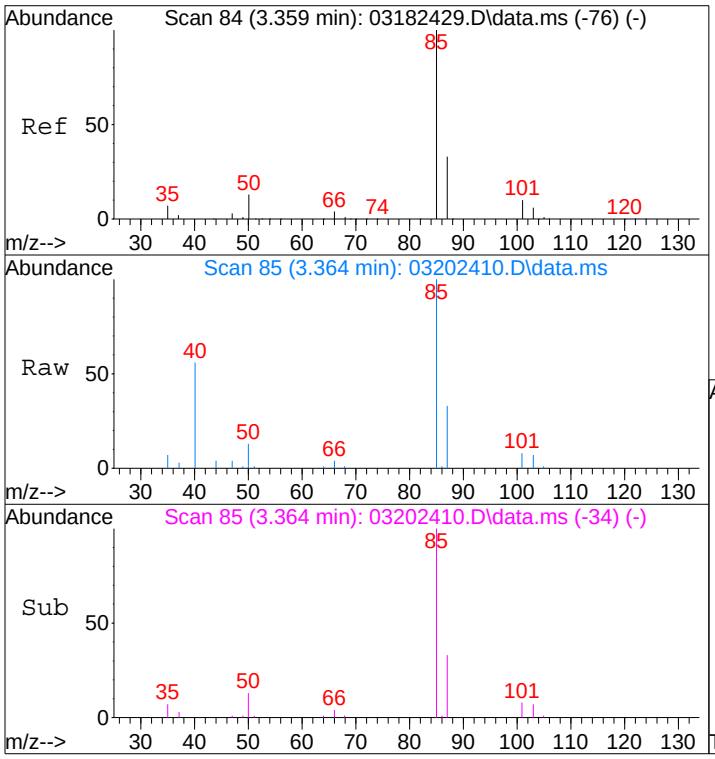
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 11:00:15 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

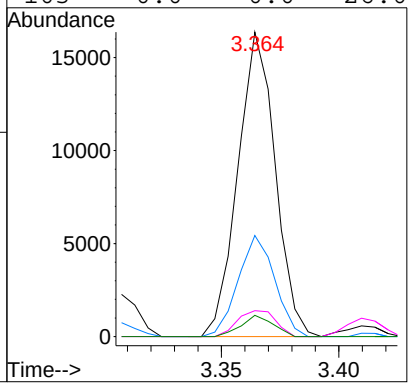


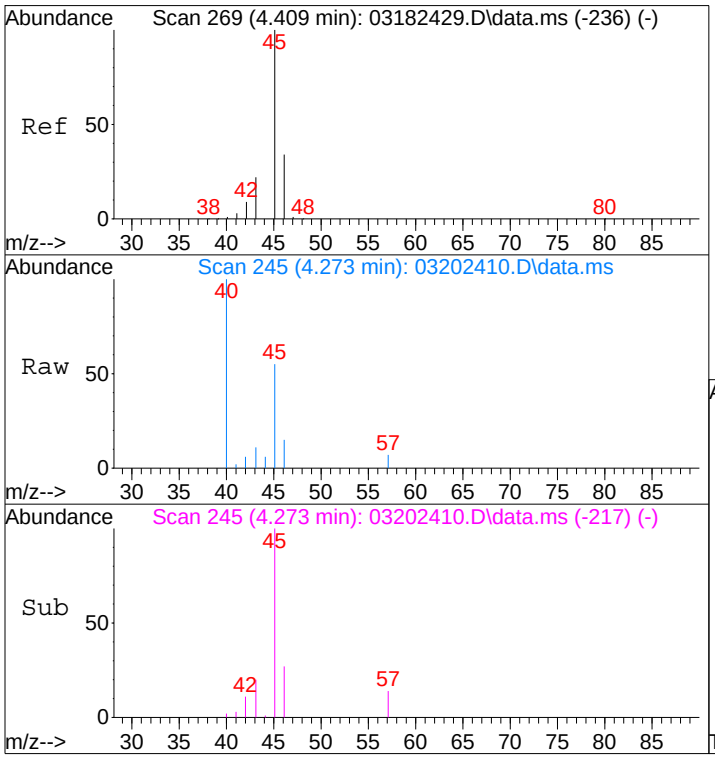


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.57 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 85 Resp: 18125

Ion	Ratio	Lower	Upper
85	100		
87	4.0	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

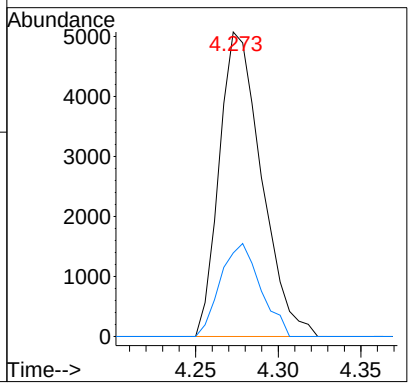


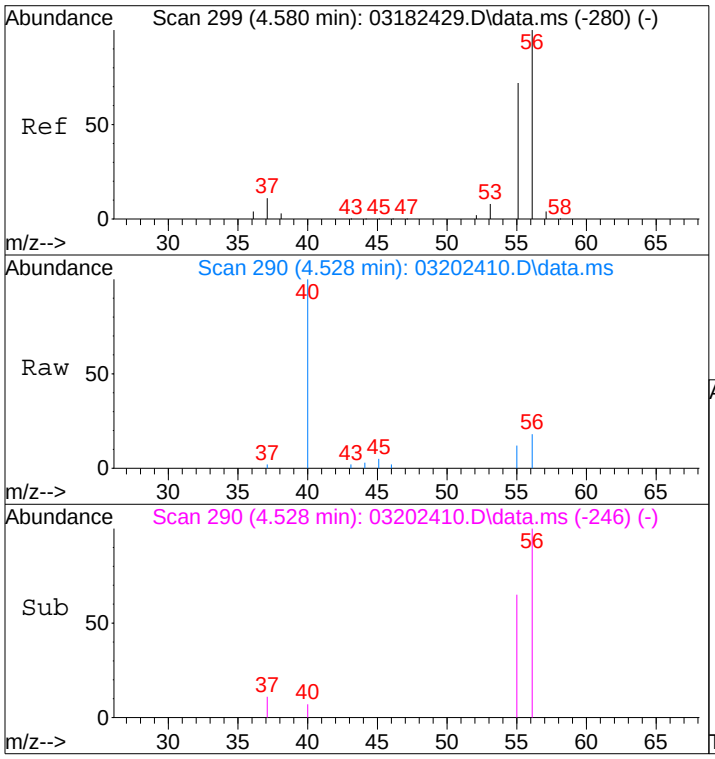


#10
Ethanol
Concen: 0.61 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.089 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 45 Resp: 9011

Ion	Ratio	Lower	Upper
45	100		
46	29.0	13.3	53.3

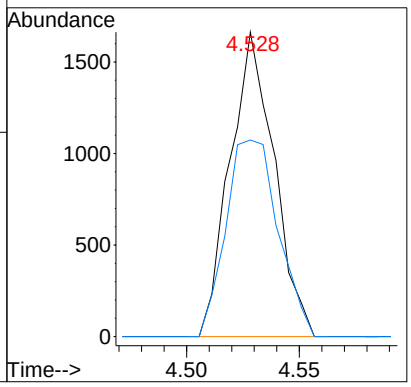


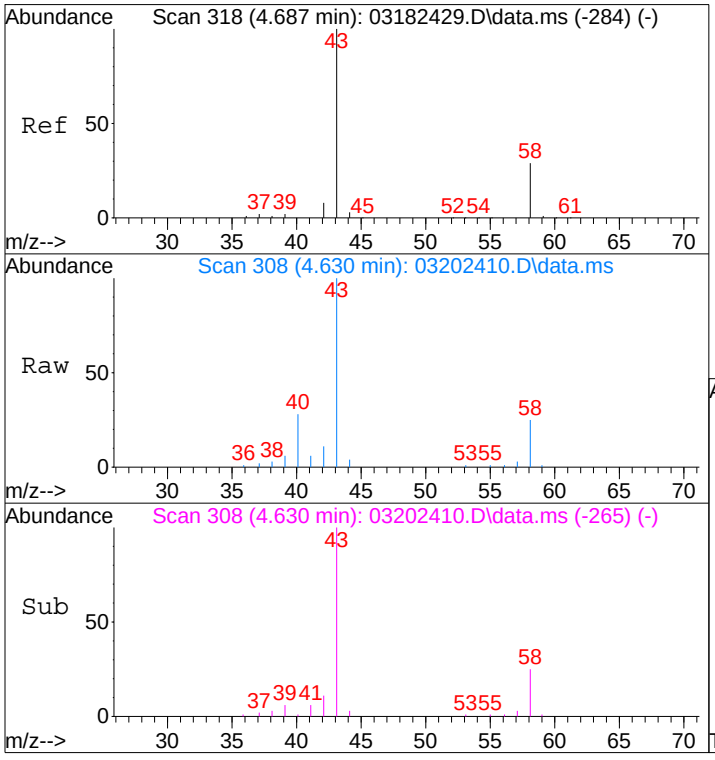


#12
Acrolein
Concen: 0.21 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.002 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 56 Resp: 2266

Ion	Ratio	Lower	Upper
56	100		
55	76.7	54.9	94.9

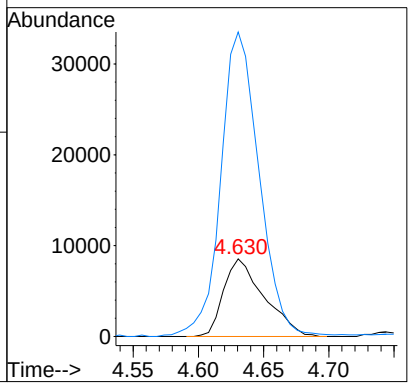


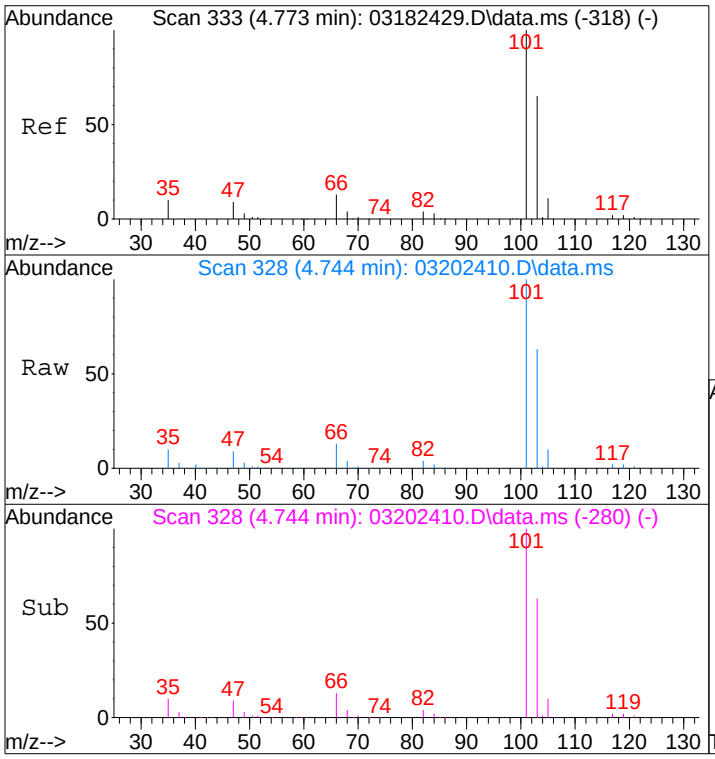


#13
Acetone
Concen: 1.63 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 58 Resp: 18434

Ion	Ratio	Lower	Upper
58	100		
43	373.6	350.1	410.1

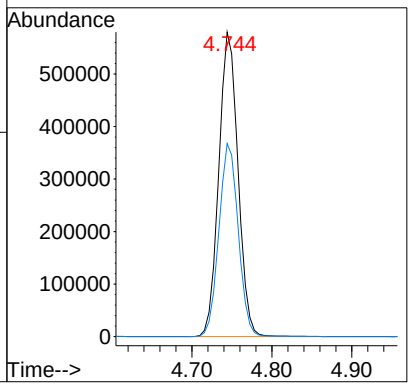


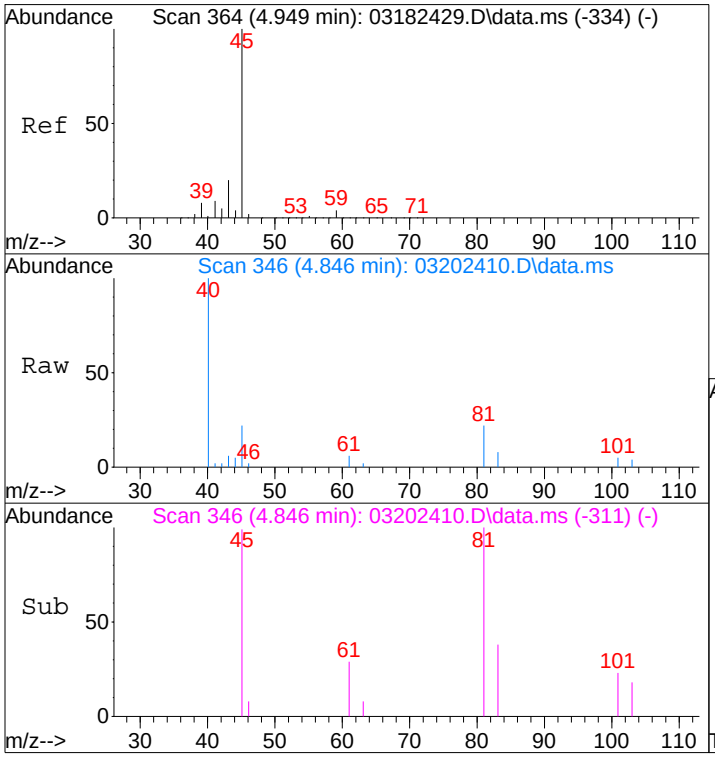


#14
Trichlorofluoromethane
Concen: 31.70 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.023 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion:101 Resp: 968021

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.7	84.7

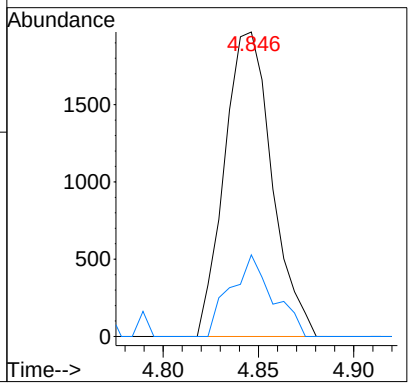


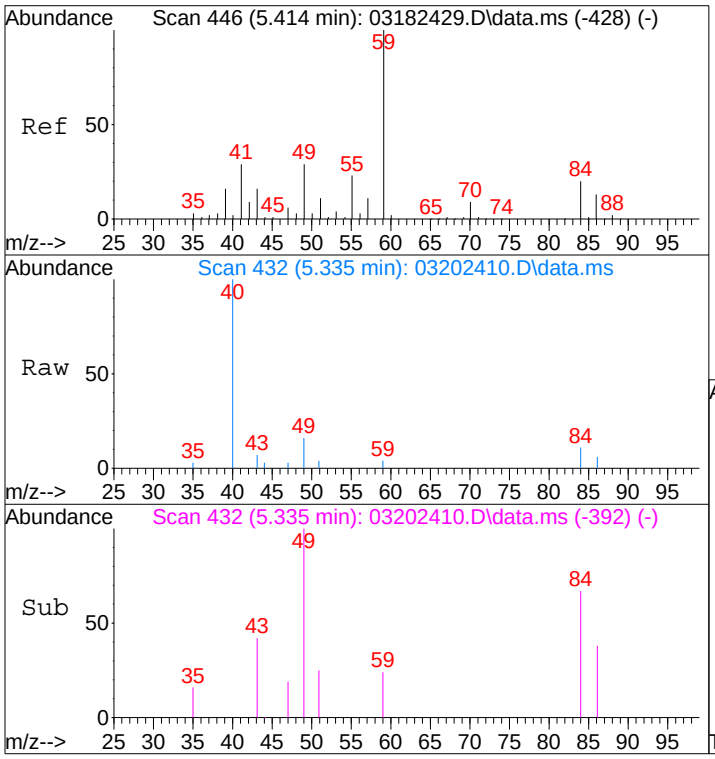


#15
2-Propanol (Isopropanol)
Concen: 0.08 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.049 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 45 Resp: 3415

Ion	Ratio	Lower	Upper
45	100		
43	24.0	0.4	40.4

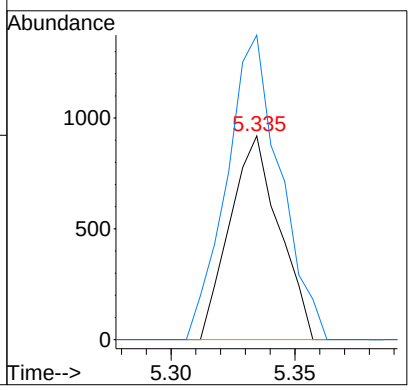


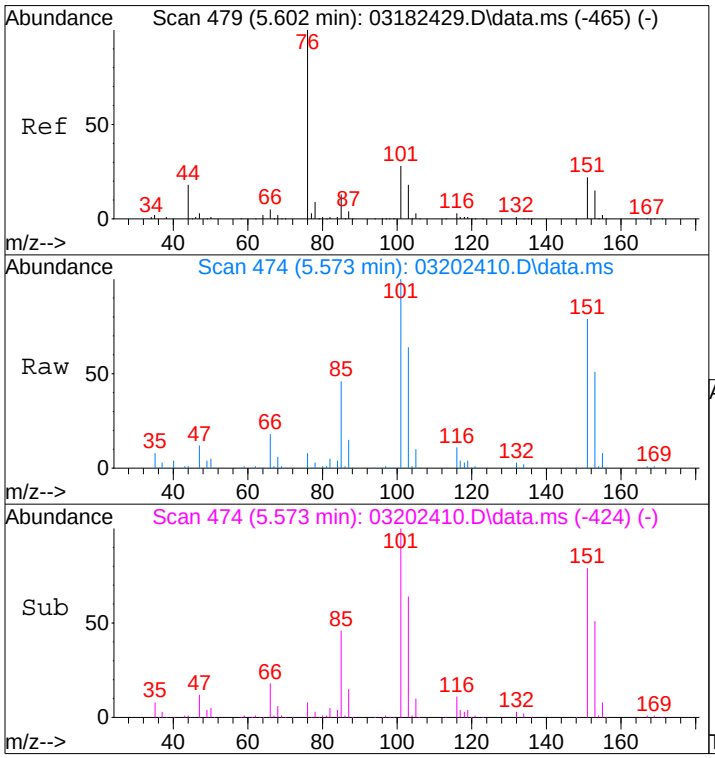


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 84 Resp: 1273

Ion	Ratio	Lower	Upper
84	100		
49	162.6	122.9	172.9

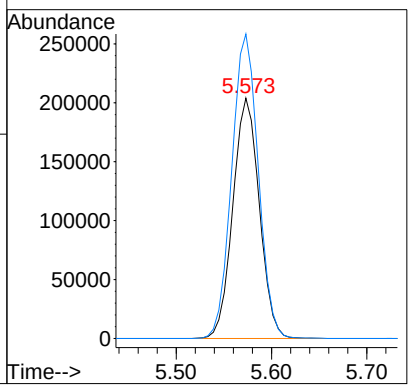


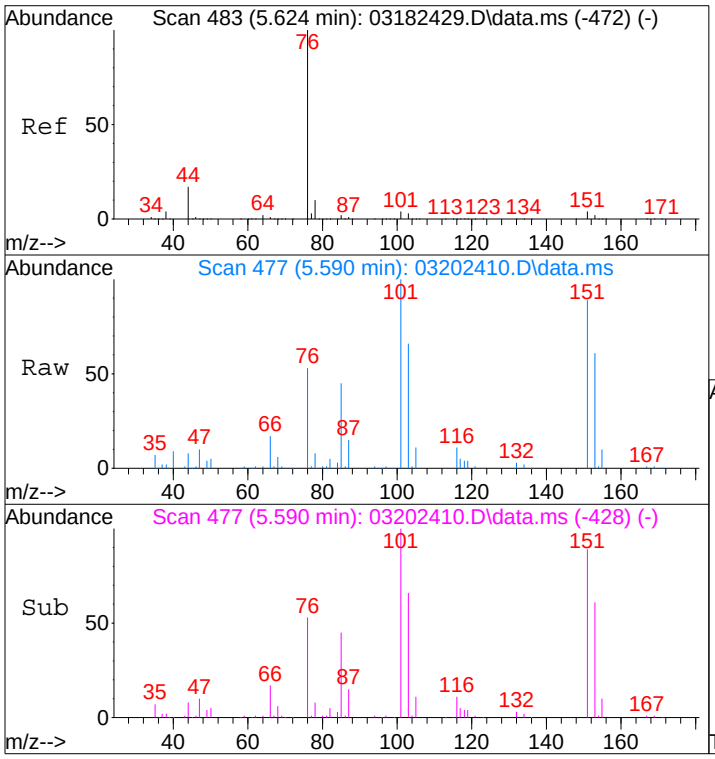


#21
Trichlorotrifluoroethane
Concen: 30.56 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.032 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion:151 Resp: 393422

Ion	Ratio	Lower	Upper
151	100		
101	127.0	106.4	146.4

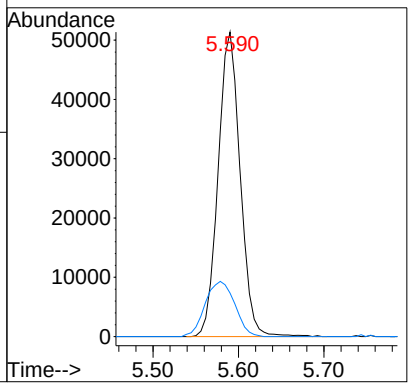


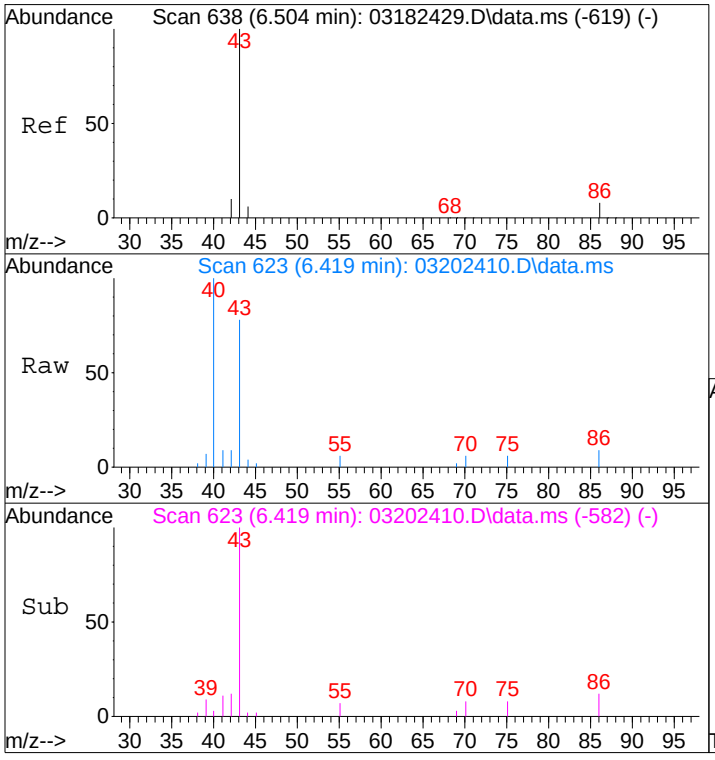


#22
Carbon Disulfide
Concen: 1.79 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 76 Resp: 91963

Ion	Ratio	Lower	Upper
76	100		
78	24.4	0.0	29.8

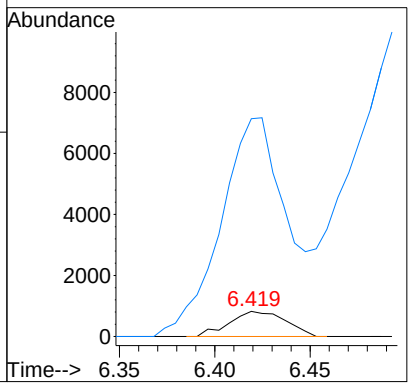


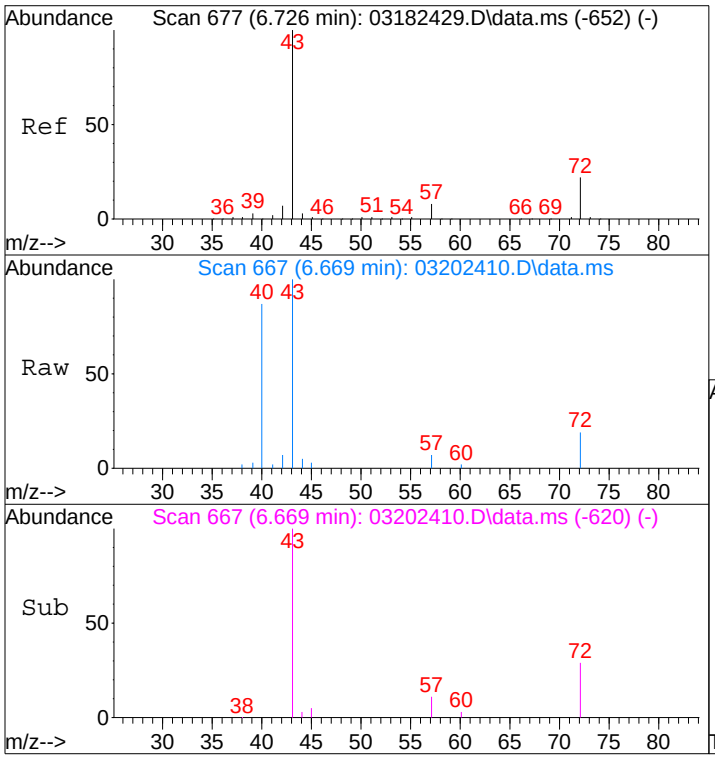


#26
Vinyl Acetate
Concen: 0.67 ng
RT: 6.42 min Scan# 623
Delta R.T. -0.015 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 86 Resp: 1689

Ion	Ratio	Lower	Upper
86	100		
43	1003.8	1541.5	1581.5#

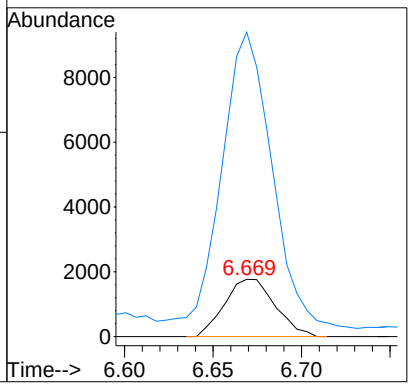


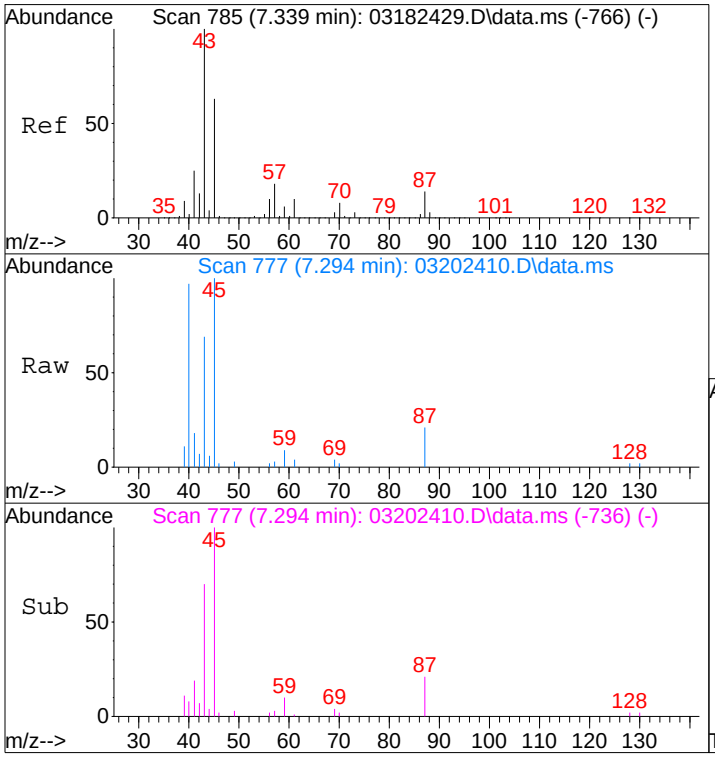


#27
2-Butanone (MEK)
Concen: 0.38 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 72 Resp: 3515

Ion	Ratio	Lower	Upper
72	100		
43	513.0	468.6	508.6#

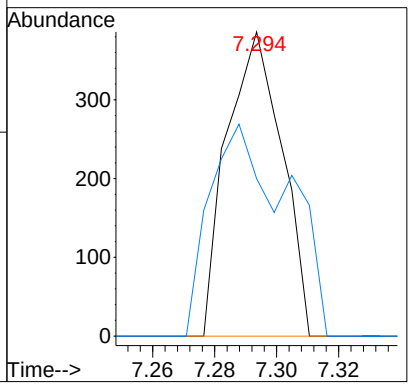


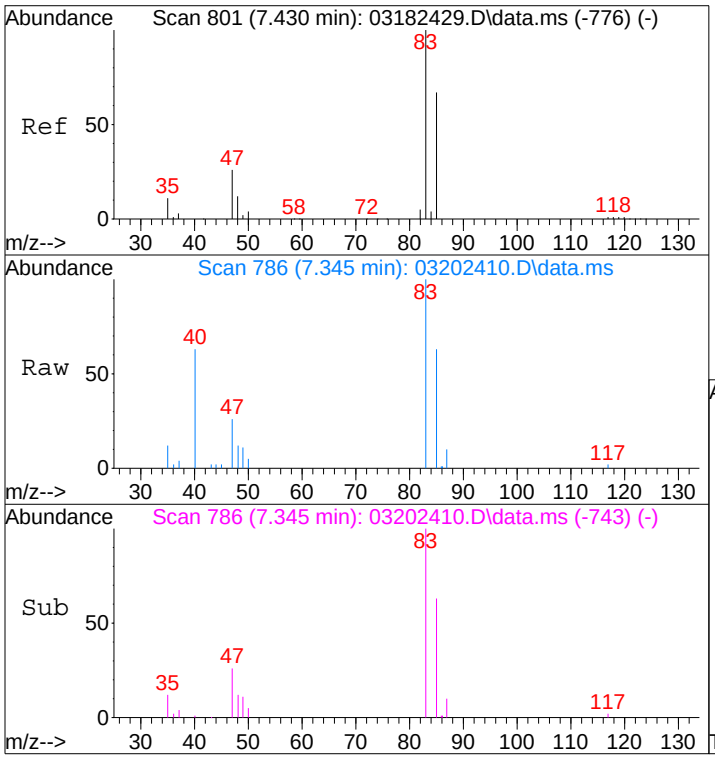


#30
Ethyl Acetate
Concen: 0.09 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 61 Resp: 476

Ion	Ratio	Lower	Upper
61	100		
70	98.9	57.3	97.3#

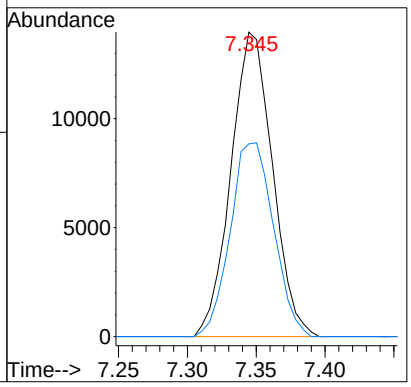


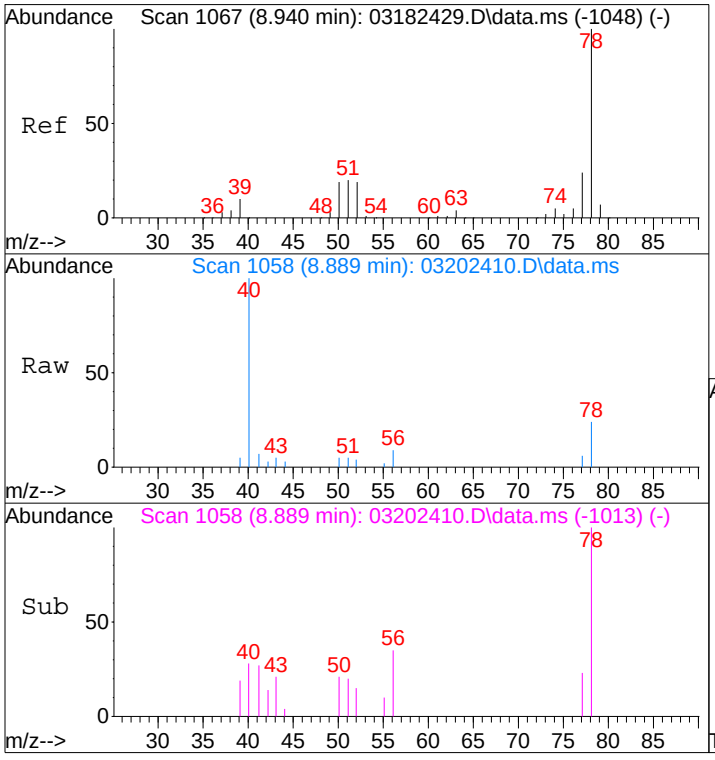


#32
Chloroform
Concen: 1.10 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.005 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 83 Resp: 29338

Ion	Ratio	Lower	Upper
83	100		
85	66.4	46.1	86.1

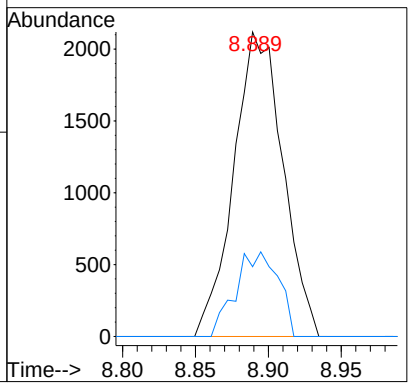


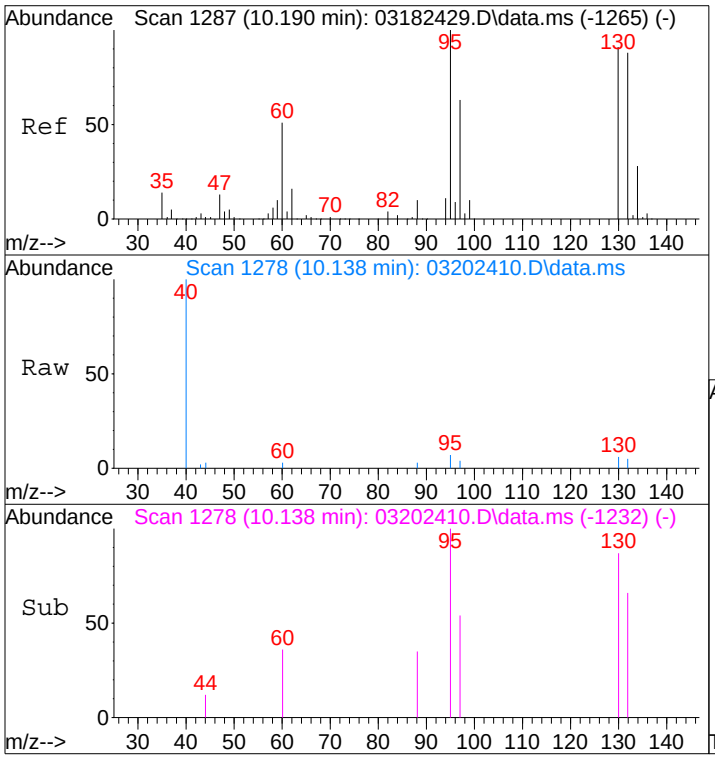


#41
Benzene
Concen: 0.08 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 78 Resp: 4958

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.6	43.6

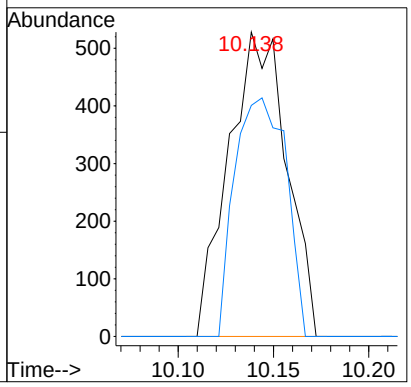


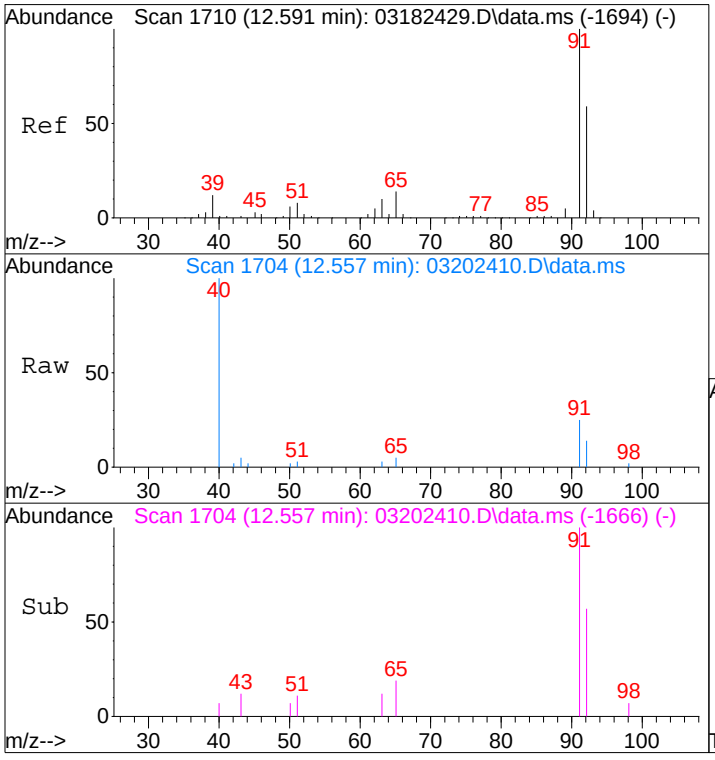


#47
Trichloroethene
Concen: 0.07 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion:130 Resp: 1119

Ion	Ratio	Lower	Upper
130	100		
132	69.3	77.5	117.5#

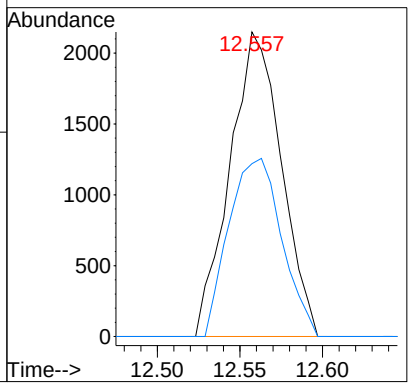


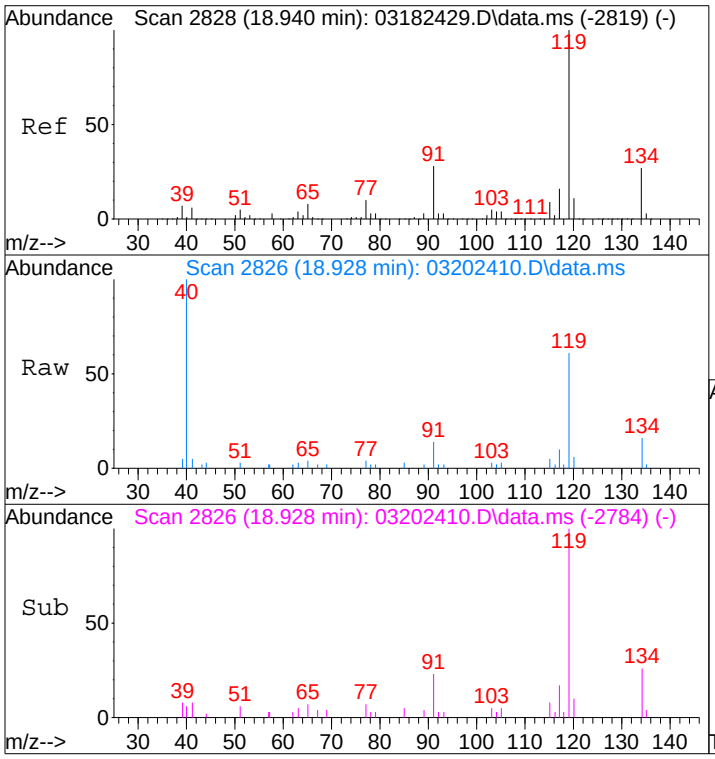


#58
Toluene
Concen: 0.08 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion: 91 Resp: 4657

Ion	Ratio	Lower	Upper
91	100		
92	60.2	39.2	79.2

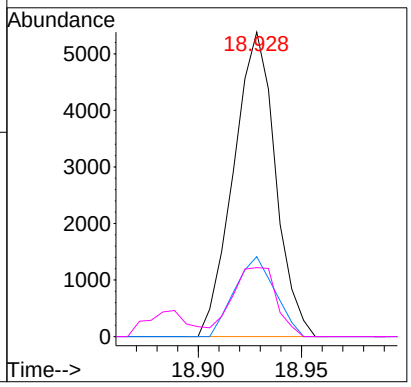




#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.12 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.012 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:03

Tgt Ion:119 Resp: 7603

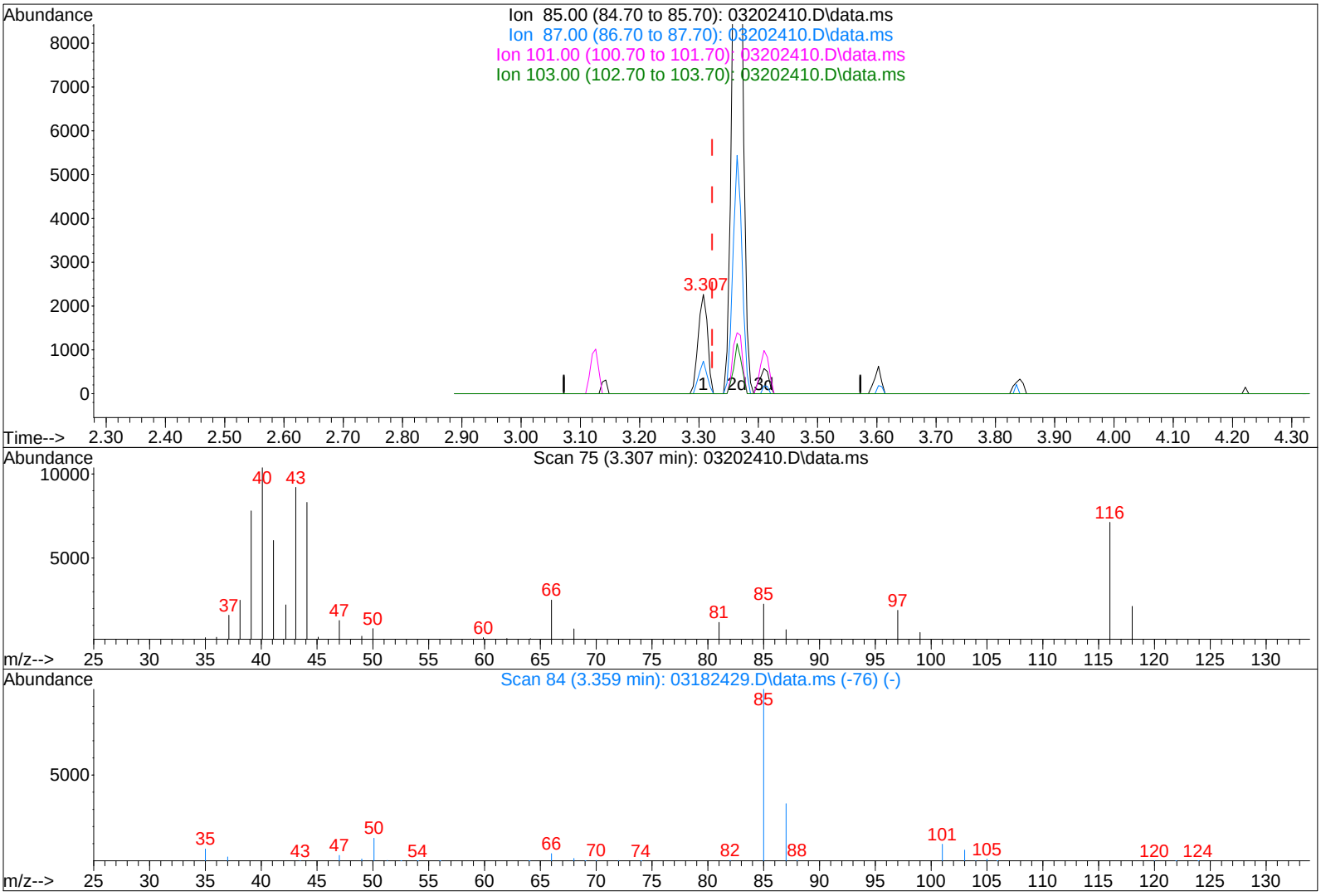
Ion	Ratio	Lower	Upper
119	100		
134	25.3	5.0	45.0
91	23.8	5.8	45.8



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:58:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202410.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.015) 0.08ng

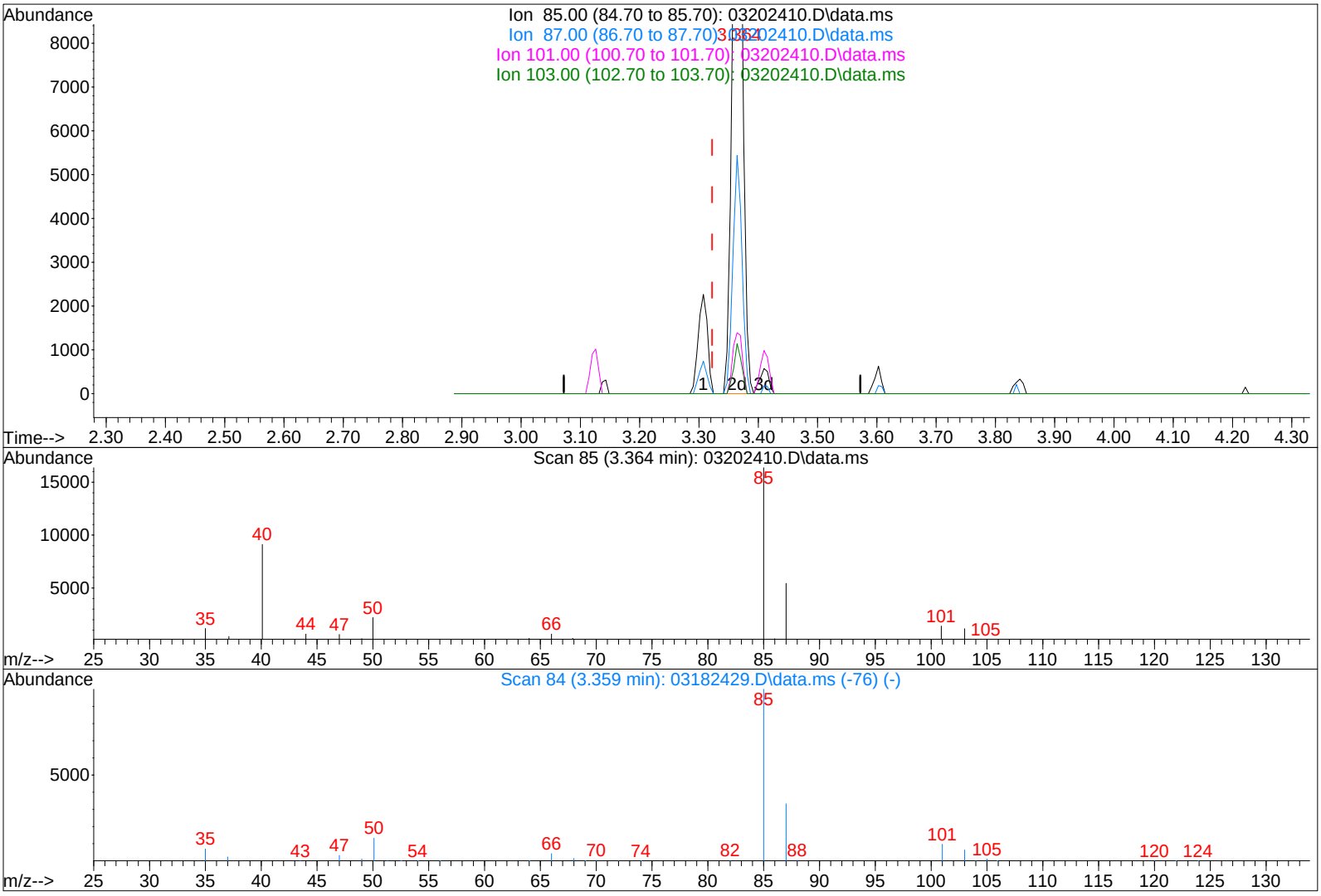
response 2477

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	29.15
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 10:58:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202410.D\data.ms

WP 3/20/24

LH 3/21/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.57ng m

response 18125

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	3.98#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:15:31 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

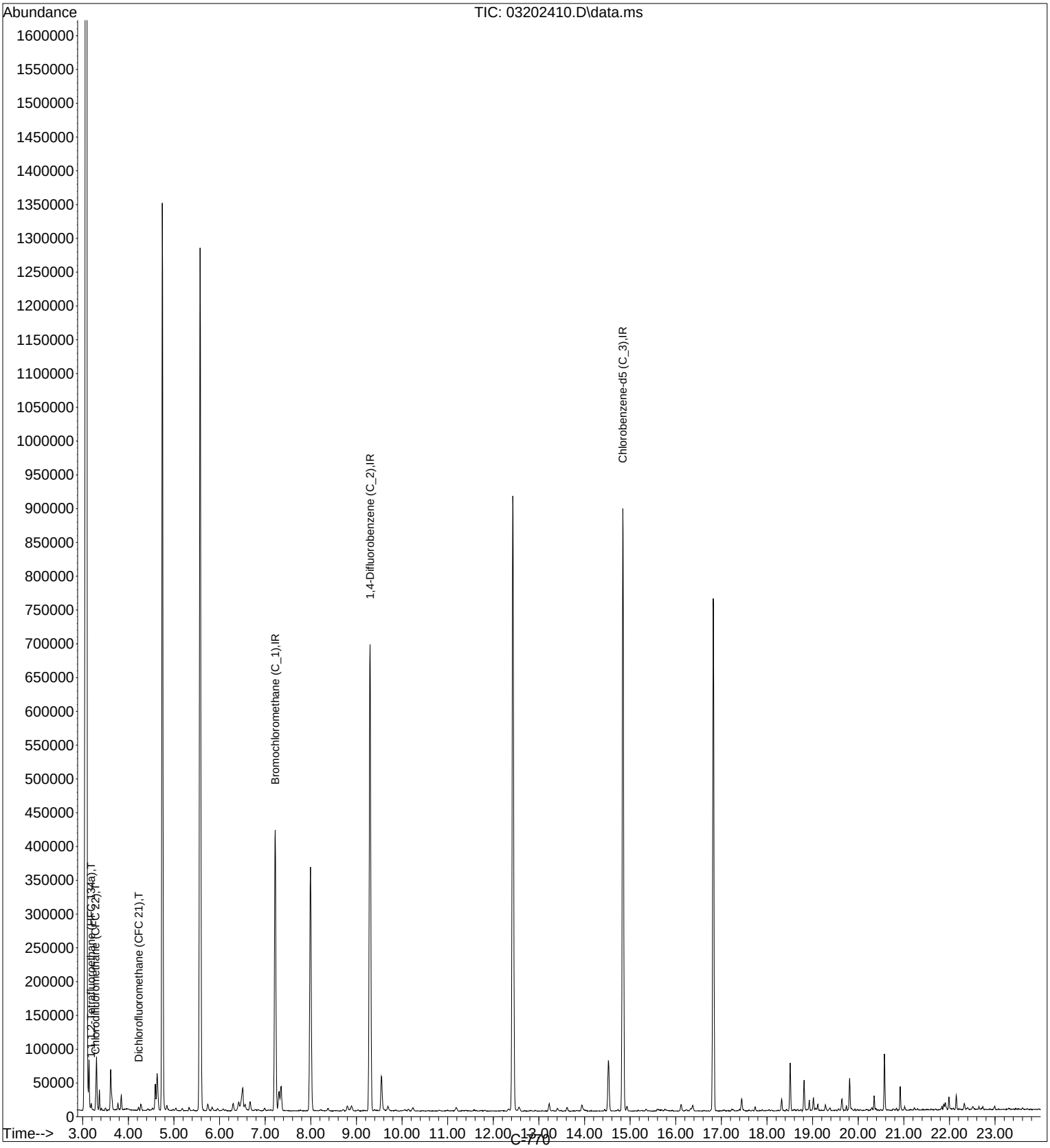
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	153832	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	665353	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	145953	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	199	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1519	0.107	ng	#	1
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.28	67	962	0.213	ng	#	96
6) 1-Chloro-1,1-Difluoroe...	3.50	65	466	N.D.			
7) Dichlorofluoromethane ...	4.23	67	4097	0.137	ng		97
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	640	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1146	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.80	174	130	N.D.			
20) Methyl Cyclohexane	11.39	55	56	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	569	N.D.			
27) 4-Chlorotoluene	17.67	91	1247	N.D.			
28) Indane	19.12	117	52	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	51	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

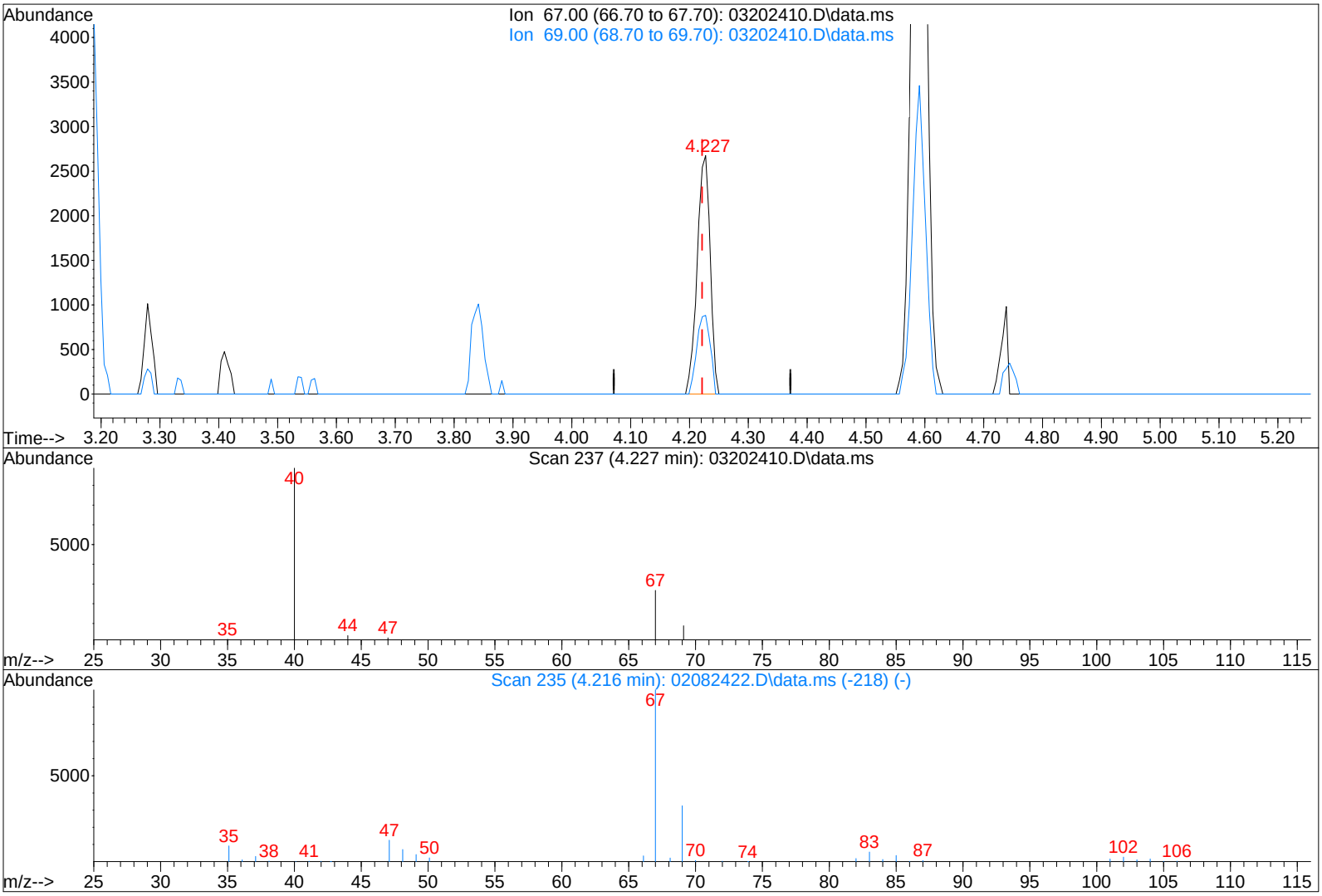
Quant Time: Mar 21 10:15:31 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202410.D Vial: 16
Acq On : 20 Mar 2024 10:03 Operator: SC
Sample : P2400922-014 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:15:04 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202410.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.14ng

response 4097

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	33.98
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192428.D Vial: 16
Acq On : 20 Mar 2024 00:41 Operator: SC
Sample : P2400922-014 Dil(100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:17:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	141198	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	604265	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	135523	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	293297	12.697	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
57) Toluene-d8 (SS2)	12.43	98	682448	12.542	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%			
73) Bromofluorobenzene (SS3)	16.83	174	239249	12.471	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.38	85	4386m	0.151	ng	
4) Chloromethane	3.52	50	234	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.43	45	61	N.D.		
11) Acetonitrile	4.43	41	339	N.D.		
12) Acrolein	4.53	56	573	0.059	ng	84
13) Acetone	4.65	58	5252	0.506	ng	87
14) Trichlorofluoromethane	4.75	101	223159	7.961	ng	99
15) 2-Propanol (Isopropanol)	4.85	45	896	N.D.		
16) Acrylonitrile	4.98	53	494	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.34	84	879	0.058	ng	98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	89152	7.545	ng	98
22) Carbon Disulfide	5.60	76	19897	0.423	ng	59
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.69	72	728	0.086	ng #	43
28) cis-1,2-Dichloroethene	7.07	61	134	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	6531	0.267	ng	98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.83	56	1339	No Calib #		
41) Benzene	8.89	78	2433	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	655	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.08	83	333	N.D.		
47) Trichloroethene	10.14	130	423	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.25	57	1167	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192428.D Vial: 16
Acq On : 20 Mar 2024 00:41 Operator: SC
Sample : P2400922-014 Dil(100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:17:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

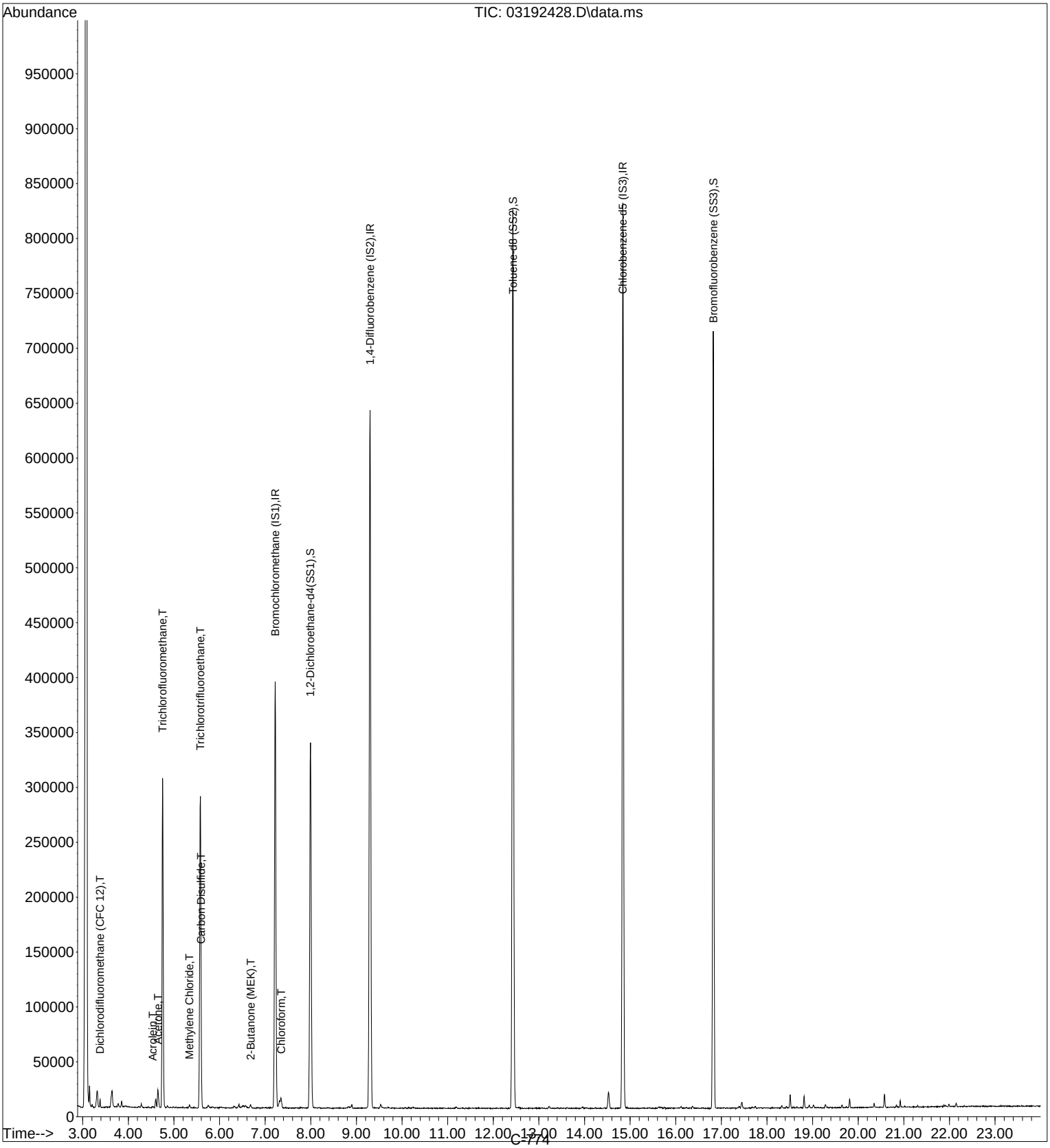
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	1266	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	13.06	129	443	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	202	N.D.		
65) Chlorobenzene	14.90	112	485	N.D.		
66) Ethylbenzene	15.41	91	816	N.D.		
67) m- & p-Xylenes	15.63	91	1018	N.D.		
68) Bromoform	15.67	173	456	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	647	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	272	N.D.		
74) Cumene	17.03	105	600	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	778	N.D.		
77) 3-Ethyltoluene	17.03	105	600	No Calib		#
78) 4-Ethyltoluene	17.87	105	516	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	368	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	600	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	349	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	428	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	446	N.D.		
87) sec-Butylbenzene	18.74	105	637	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1866	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	600	No Calib		#
90) 1,2-Dichlorobenzene	19.03	146	373	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	678	N.D.		
95) Naphthalene	0.00	128	0	N.D.	d	
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	410	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	623	N.D.		
100) n-Butylbenzene	19.39	91	474	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192428.D Vial: 16
Acq On : 20 Mar 2024 00:41 Operator: SC
Sample : P2400922-014 Dil(100mL) Inst : MS09
Misc : S37-02202408

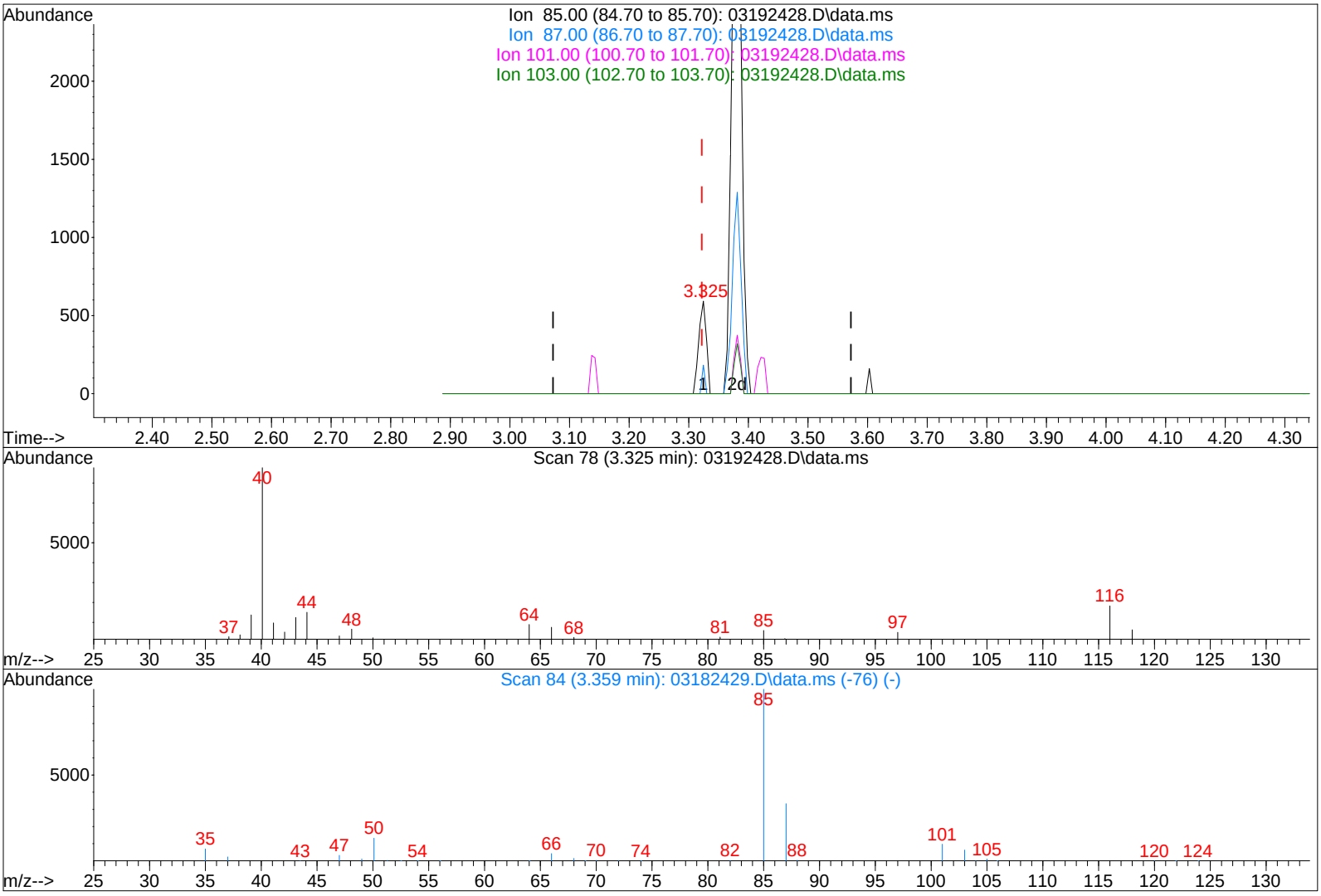
Quant Time: Mar 20 14:17:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192428.D Vial: 16
Acq On : 20 Mar 2024 00:41 Operator: SC
Sample : P2400922-014 Dil(100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:28:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192428.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.325min (+0.002) 0.02ng

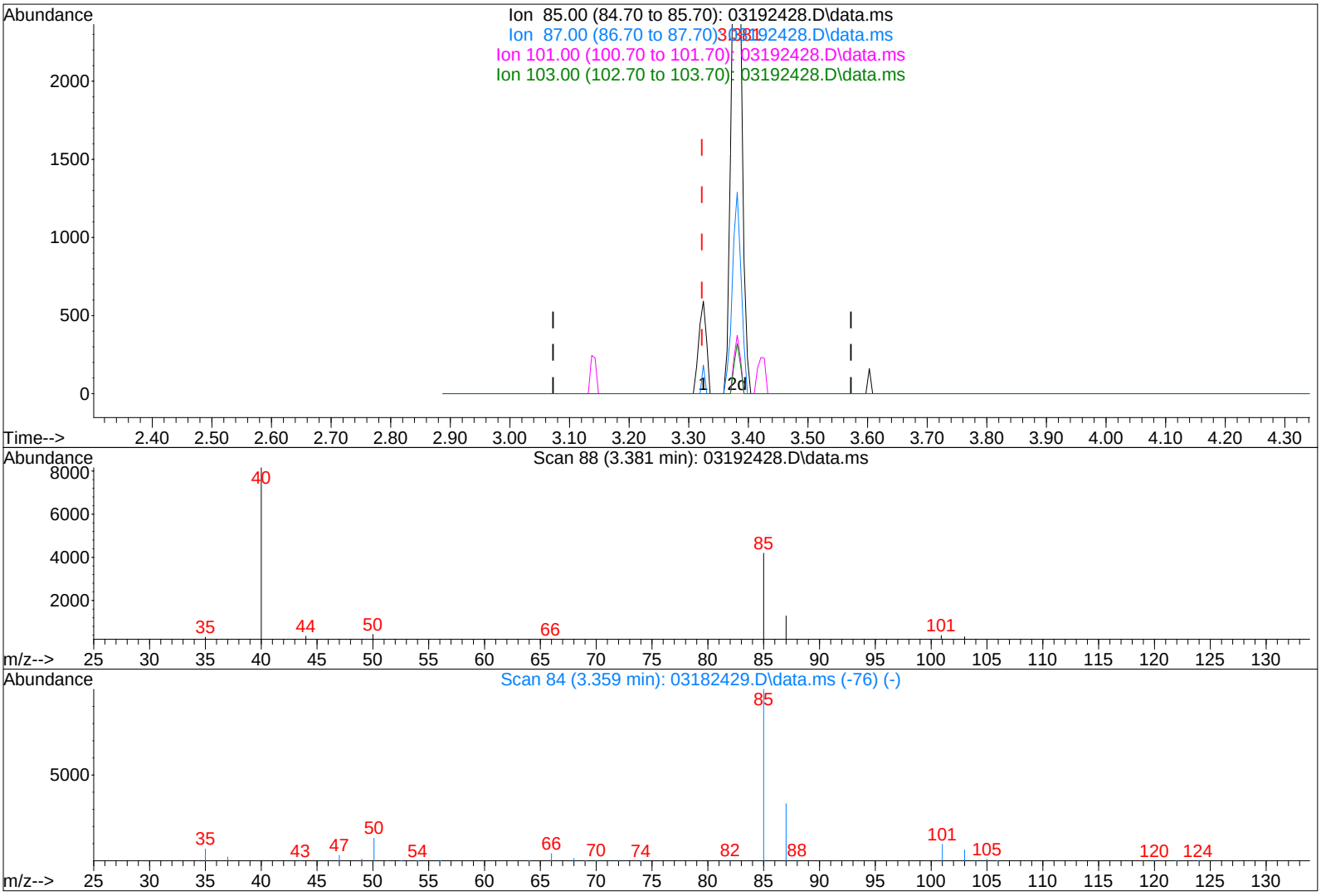
response 524

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192428.D Vial: 16
Acq On : 20 Mar 2024 00:41 Operator: SC
Sample : P2400922-014 Dil(100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 08:28:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192428.D\data.ms

WP 3/20/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.381min (+0.059) 0.15ng m

response 4386

LH 3/21/24

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:03
Operator : SC
Sample : P2400922-014 (400mL)
Misc : S37-02202408
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202410.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	66	74	81	rBV5	79413	125081	4.92%	1.906%
2	3.364	81	85	89	rVB	30674	32981	1.30%	0.503%
3	3.614	123	129	143	rBV2	60335	117918	4.64%	1.797%
4	3.773	153	157	164	rBV	9387	12656	0.50%	0.193%
5	3.847	164	170	175	rBV	21567	28956	1.14%	0.441%
6	4.273	241	245	252	rVB2	9503	16530	0.65%	0.252%
7	4.591	295	301	304	rBV	37686	58623	2.31%	0.893%
8	4.630	304	308	320	rVB	54419	111614	4.39%	1.701%
9	4.744	320	328	340	rBV	1342742	2240723	88.12%	34.147%
10	4.846	340	346	357	rVB4	7469	15553	0.61%	0.237%
11	5.573	464	474	489	rBV2	1276837	2542734	100.00%	38.750%
12	5.738	497	503	511	rBV	9939	19685	0.77%	0.300%
13	5.834	515	520	527	rBV2	5438	10933	0.43%	0.167%
14	6.300	594	602	609	rBV	10992	22516	0.89%	0.343%
15	6.419	614	623	627	rBV2	12668	30401	1.20%	0.463%
16	6.510	627	639	644	rVV	32861	97294	3.83%	1.483%
17	6.561	644	648	656	rVB2	7895	15538	0.61%	0.237%
18	6.669	661	667	675	rVB	12889	26361	1.04%	0.402%
19	7.220	754	764	773	rBV	415201	898929	35.35%	13.699%
20	7.305	773	779	782	rVV2	28177	61390	2.41%	0.936%
21	7.350	782	787	795	rVB	36054	75481	2.97%	1.150%

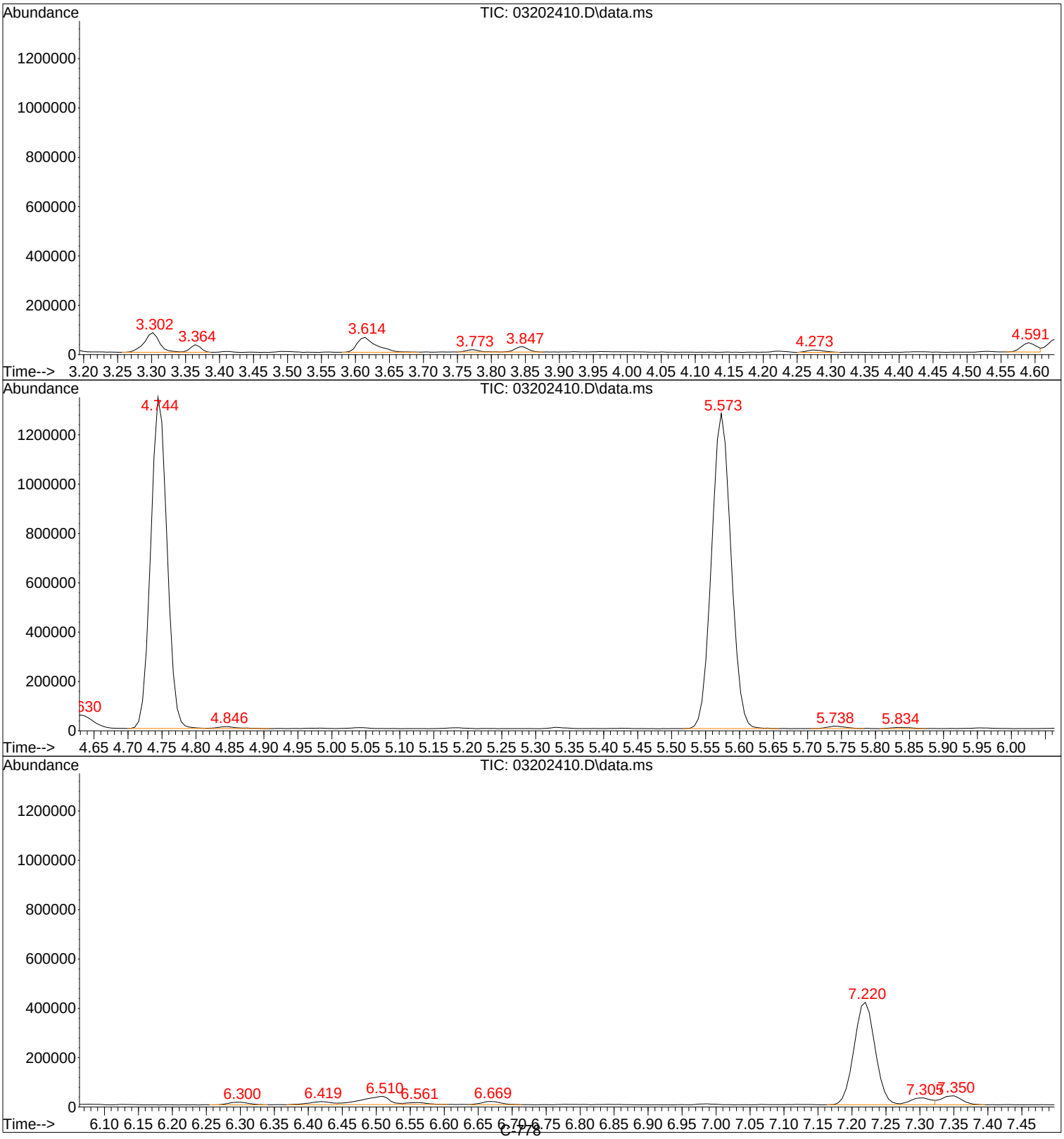
Sum of corrected areas: 6561897

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:03
Operator : SC
Sample : P2400922-014 (400mL)
Misc : S37-02202408
ALS Vial : 16 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:033
Operator : SCC
Sample : P2400922-014 (400mL))
Misc : S37-022024088
ALS Vial : 16 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:47:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	167468	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	717213	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	160480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347523	12.685	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	12.43	98	814414	12.639	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	16.82	174	284630	12.529	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	4657m	0.136	ng		
4) Chloromethane	3.51	50	475	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.80	54	190	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.44	45	179	N.D.			
11) Acetonitrile	4.44	41	907	N.D.			
12) Acrolein	4.53	56	561	N.D.			
13) Acetone	4.65	58	6560	0.533	ng	#	86
14) Trichlorofluoromethane	4.75	101	3219692	96.844	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	6455	0.132	ng		95
16) Acrylonitrile	4.98	53	587	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.35	59	62	N.D.			
19) Methylene Chloride	5.33	84	1075	0.060	ng		100
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1321543	94.301	ng		98
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	1103	0.110	ng		98
28) cis-1,2-Dichloroethene	7.07	61	117	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.30	61	512	0.085	ng		94
31) n-Hexane	7.30	57	287	N.D.			
32) Chloroform	7.34	83	13791	0.475	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	128	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.54	61	113	No Calib		#	
40) 1-Butanol	8.81	56	2169	No Calib		#	
41) Benzene	8.89	78	3809	0.059	ng		95
42) Carbon Tetrachloride	9.05	117	109	N.D.			
43) Cyclohexane	9.29	84	671	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	659	N.D.			
47) Trichloroethene	10.15	130	1698	0.098	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:47:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

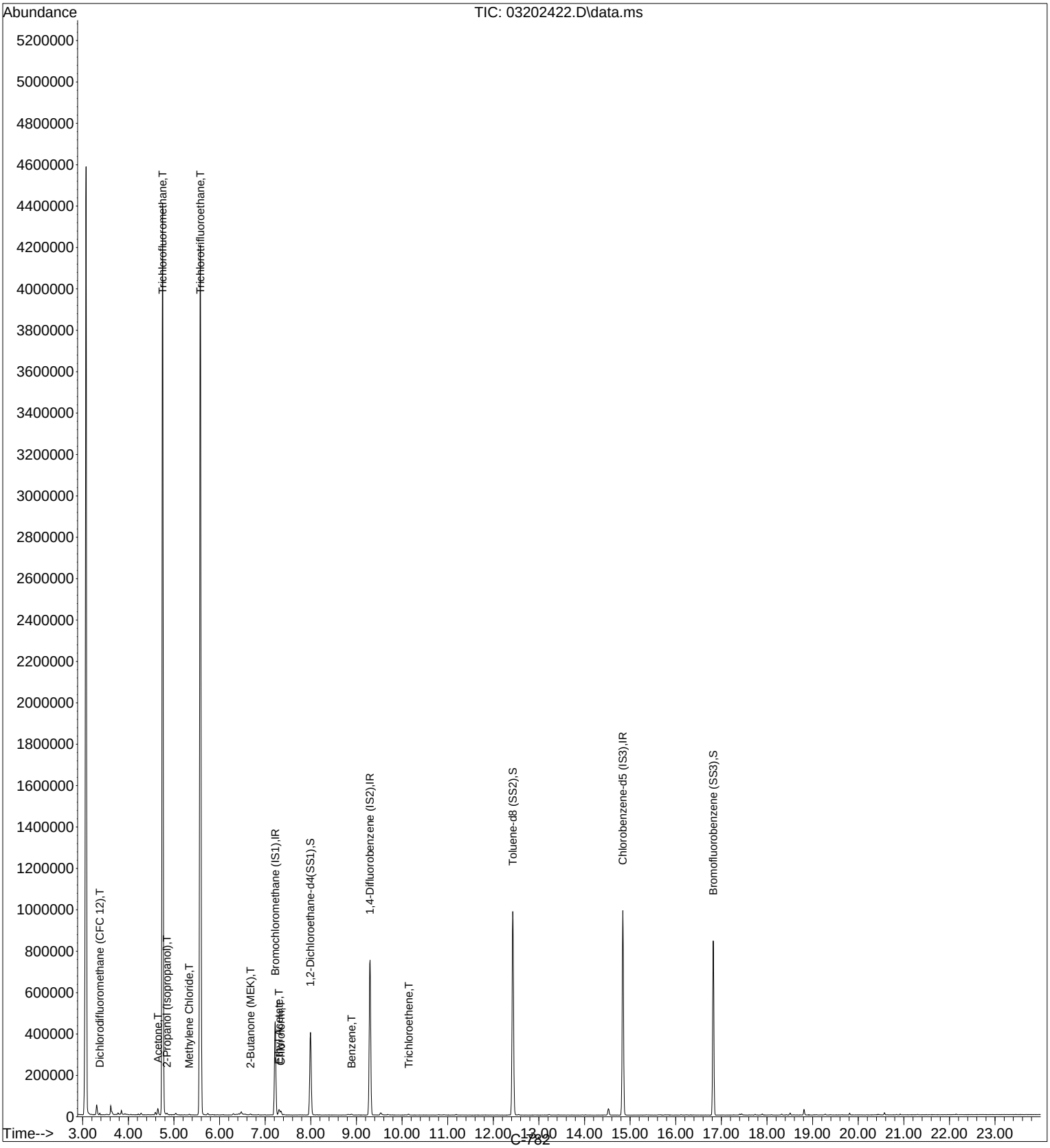
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2621	N.D.		
59) 2-Hexanone	12.92	43	601	N.D.		
60) Dibromochloromethane	13.06	129	346	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	419	N.D.		
65) Chlorobenzene	14.89	112	565	N.D.		
66) Ethylbenzene	15.40	91	912	N.D.		
67) m- & p-Xylenes	15.63	91	1757	N.D.		
68) Bromoform	15.66	173	420	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	771	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.20	83	376	N.D.		
74) Cumene	17.03	105	648	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	877	N.D.		
77) 3-Ethyltoluene	17.03	105	648	No Calib		#
78) 4-Ethyltoluene	17.86	105	616	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	363	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	648	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	502	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	499	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	509	N.D.		
87) sec-Butylbenzene	18.74	105	975	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	588	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	648	No Calib		#
90) 1,2-Dichlorobenzene	19.04	146	511	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	727	N.D.		
95) Naphthalene	0.00	128	0	N.D.	d	
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	644	N.D.		
98) Cyclohexanone	15.35	55	209	No Calib		#
99) tert-Butylbenzene	18.43	119	745	N.D.		
100) n-Butylbenzene	19.39	91	647	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:47:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

3/21/24

Quant Time: Mar 21 10:47:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

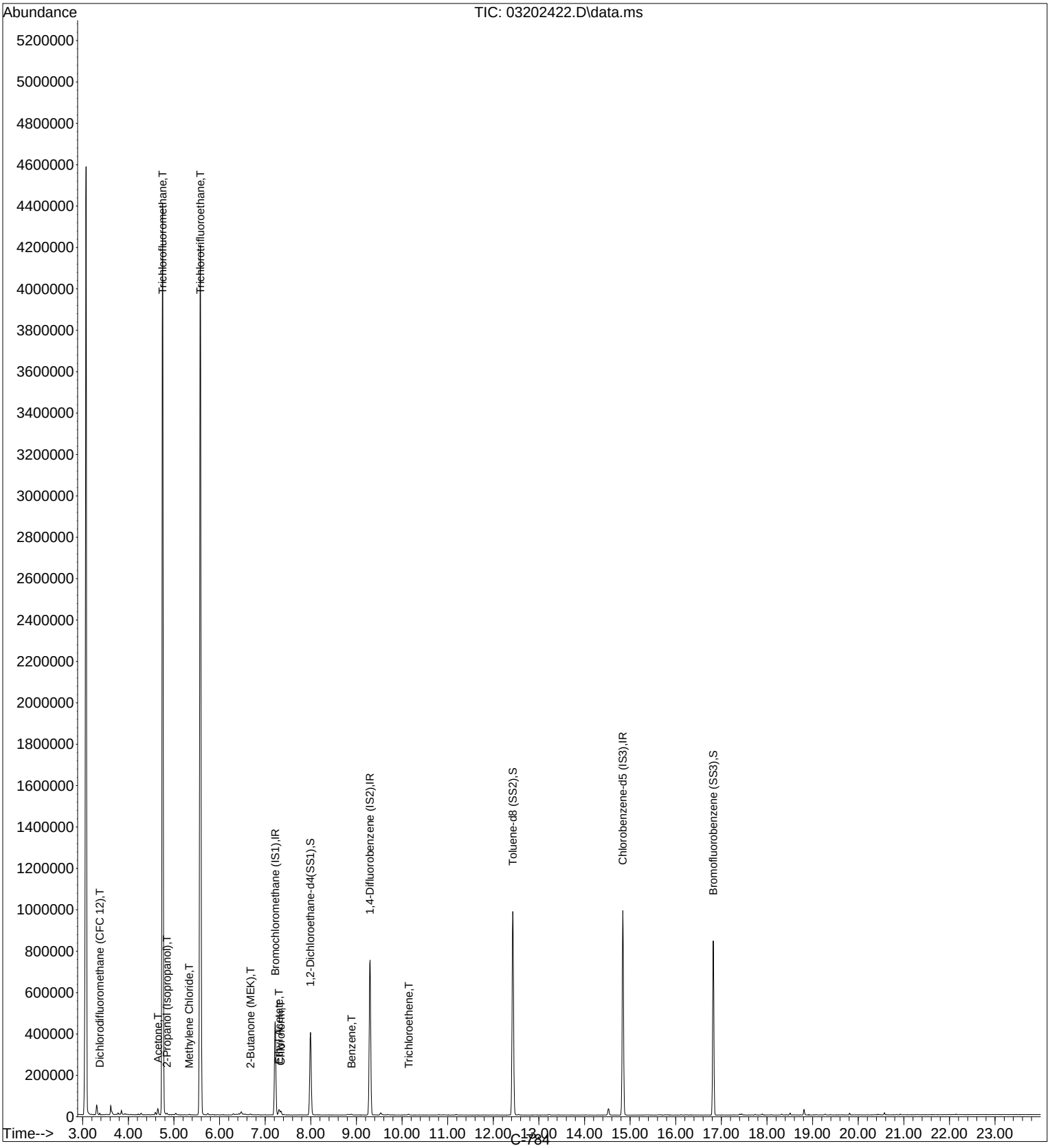
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	167468	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	717213	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	160480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347523	12.685	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
57) Toluene-d8 (SS2)	12.43	98	814414	12.639	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
73) Bromofluorobenzene (SS3)	16.82	174	284630	12.529	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	4657m	0.136	ng		
13) Acetone	4.65	58	6560	0.533	ng	#	86
14) Trichlorofluoromethane	4.75	101	3219692	96.844	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	6455	0.132	ng		95
19) Methylene Chloride	5.33	84	1075	0.060	ng		100
21) Trichlorotrifluoroethane	5.58	151	1321543	94.301	ng		98
27) 2-Butanone (MEK)	6.68	72	1103	0.110	ng		98
30) Ethyl Acetate	7.30	61	512	0.085	ng		94
32) Chloroform	7.34	83	13791	0.475	ng		98
41) Benzene	8.89	78	3809	0.059	ng		95
47) Trichloroethene	10.15	130	1698	0.098	ng		99

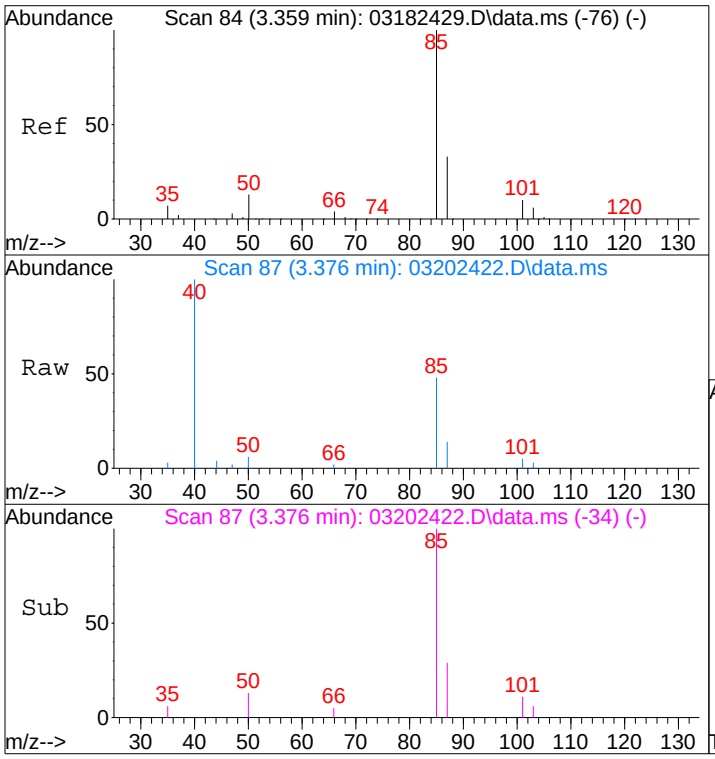
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:47:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

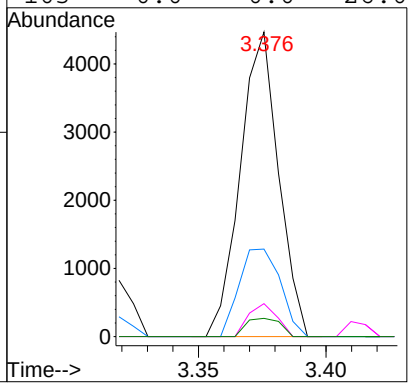


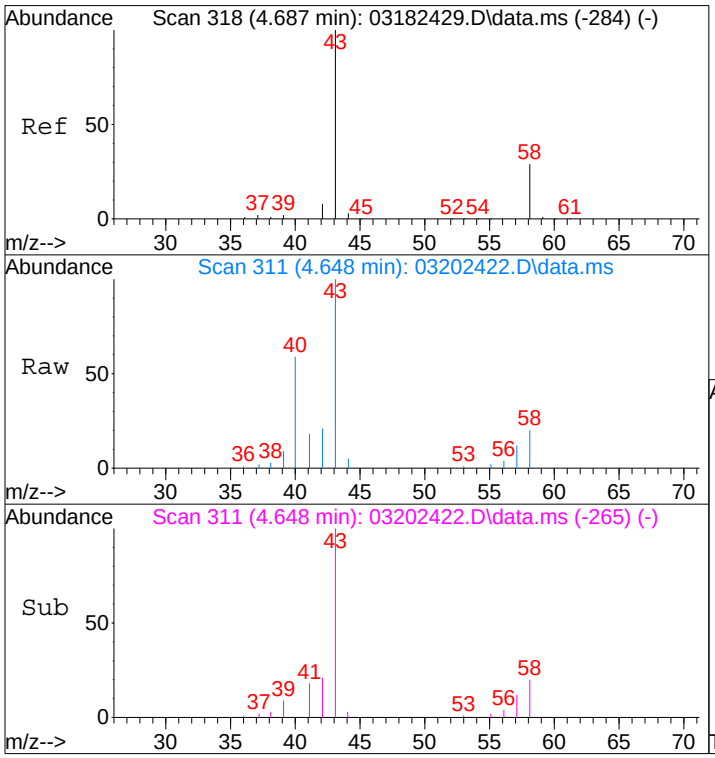


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.14 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.053 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 85 Resp: 4657

Ion	Ratio	Lower	Upper
85	100		
87	5.2	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

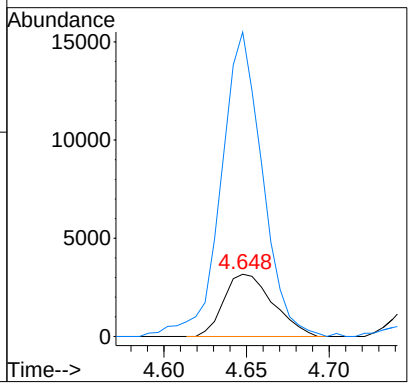


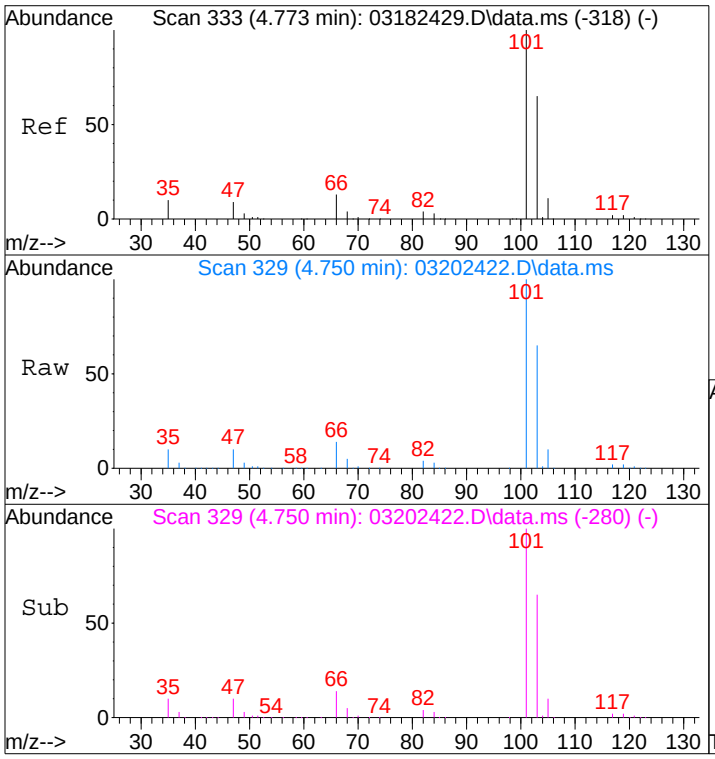


#13
Acetone
Concen: 0.53 ng
RT: 4.65 min Scan# 311
Delta R.T. 0.011 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 58 Resp: 6560

Ion	Ratio	Lower	Upper
58	100		
43	412.0	350.1	410.1#

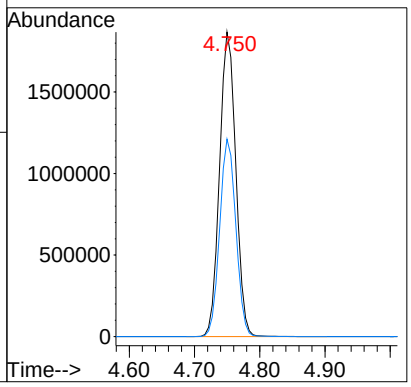


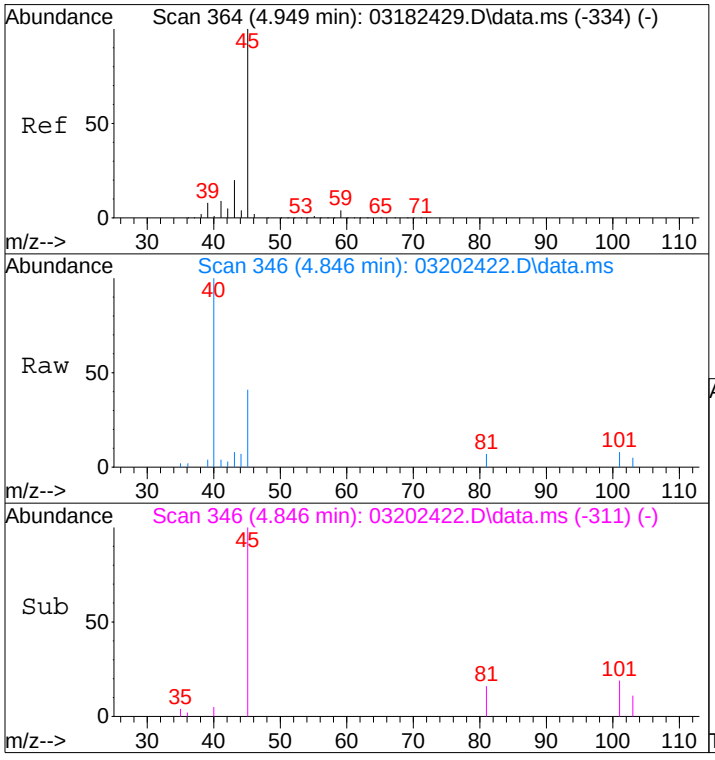


#14
Trichlorofluoromethane
Concen: 96.84 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion:101 Resp: 3219692

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

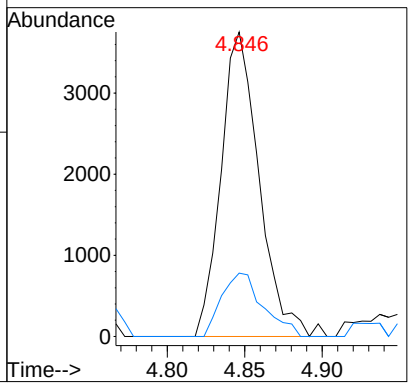


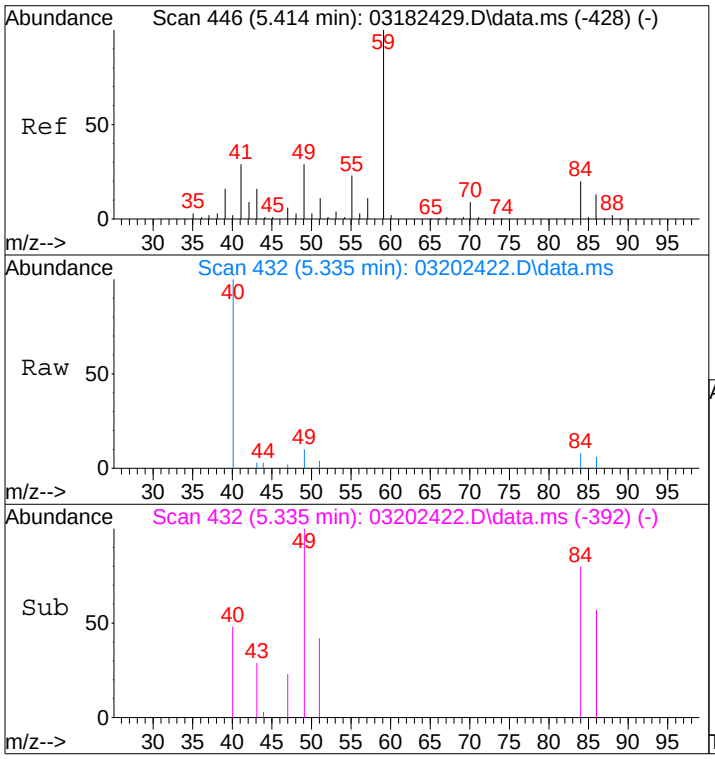


#15
2-Propanol (Isopropanol)
Concen: 0.13 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.049 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 45 Resp: 6455

Ion	Ratio	Lower	Upper
45	100		
43	22.5	0.4	40.4

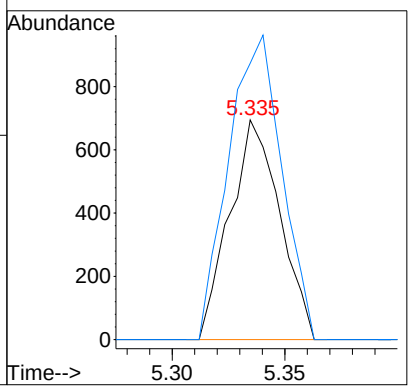


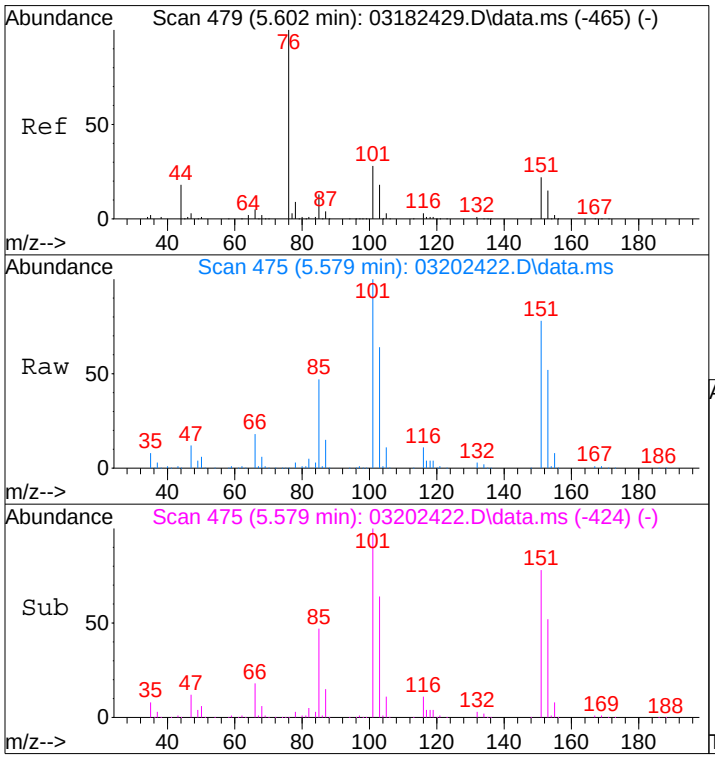


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 84 Resp: 1075

Ion	Ratio	Lower	Upper
84	100		
49	147.3	122.9	172.9

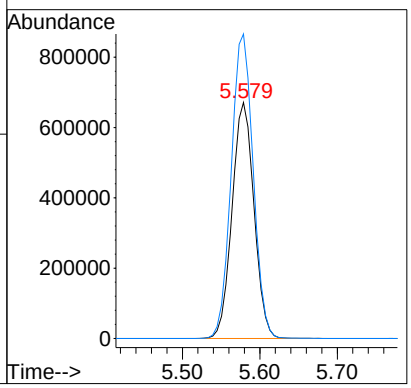


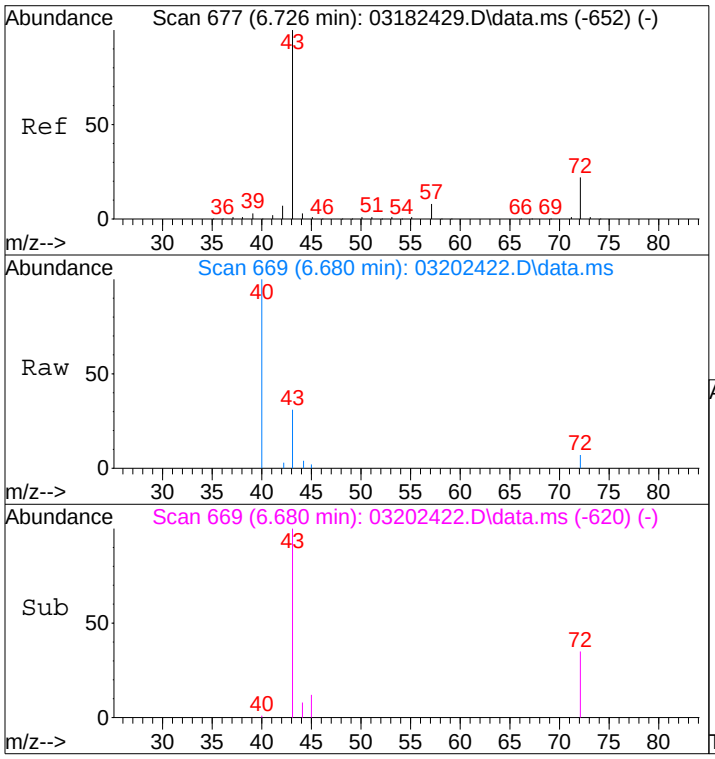


#21
Trichlorotrifluoroethane
Concen: 94.30 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion:151 Resp: 1321543

Ion	Ratio	Lower	Upper
151	100		
101	129.1	106.4	146.4

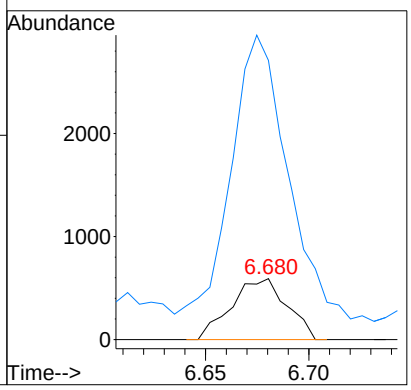


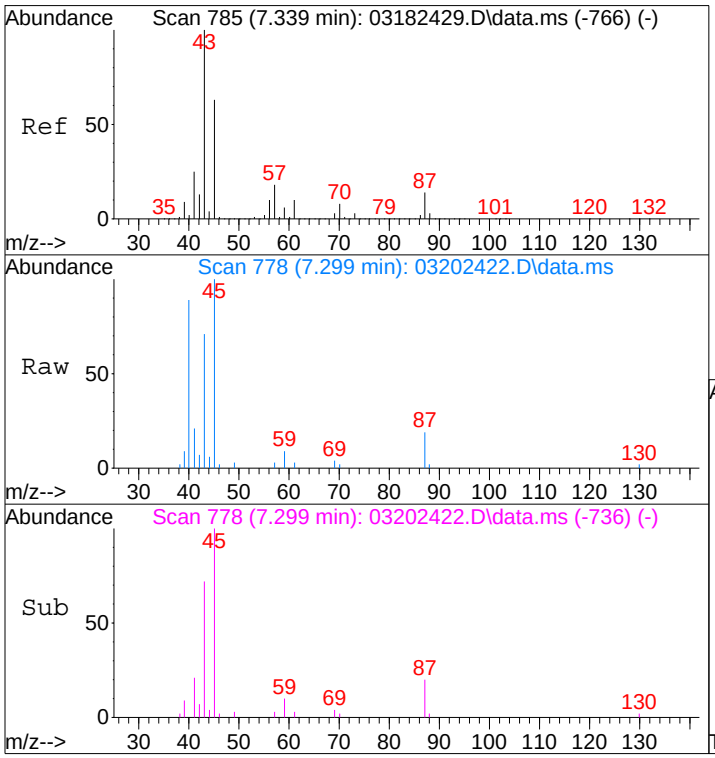


#27
2-Butanone (MEK)
Concen: 0.11 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.028 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 72 Resp: 1103

Ion	Ratio	Lower	Upper
72	100		
43	483.6	468.6	508.6

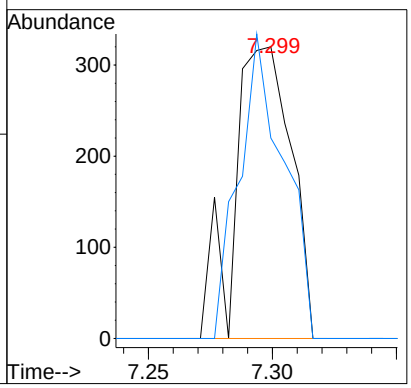


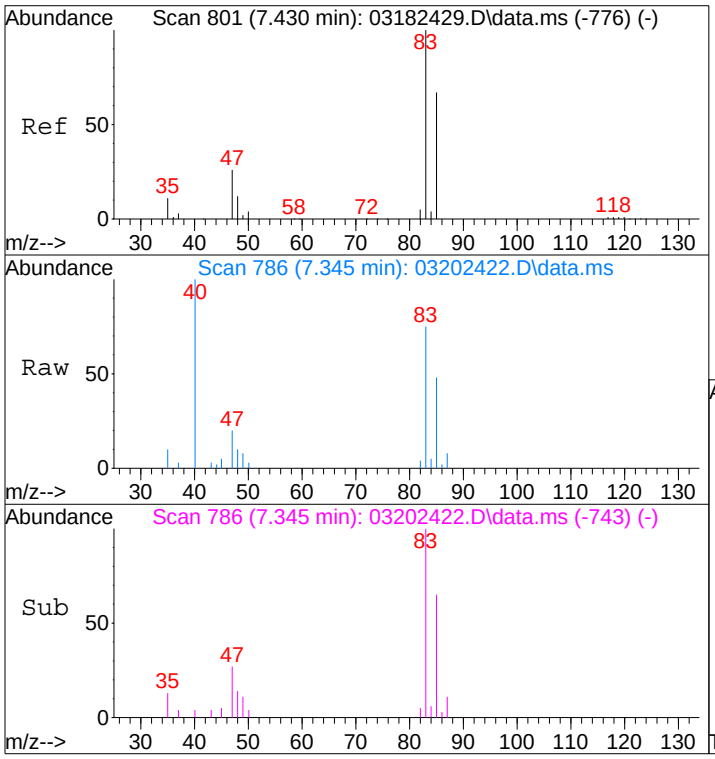


#30
Ethyl Acetate
Concen: 0.08 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.040 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 61 Resp: 512

Ion	Ratio	Lower	Upper
61	100		
70	82.4	57.3	97.3

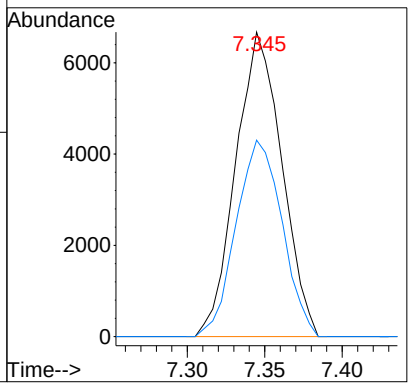


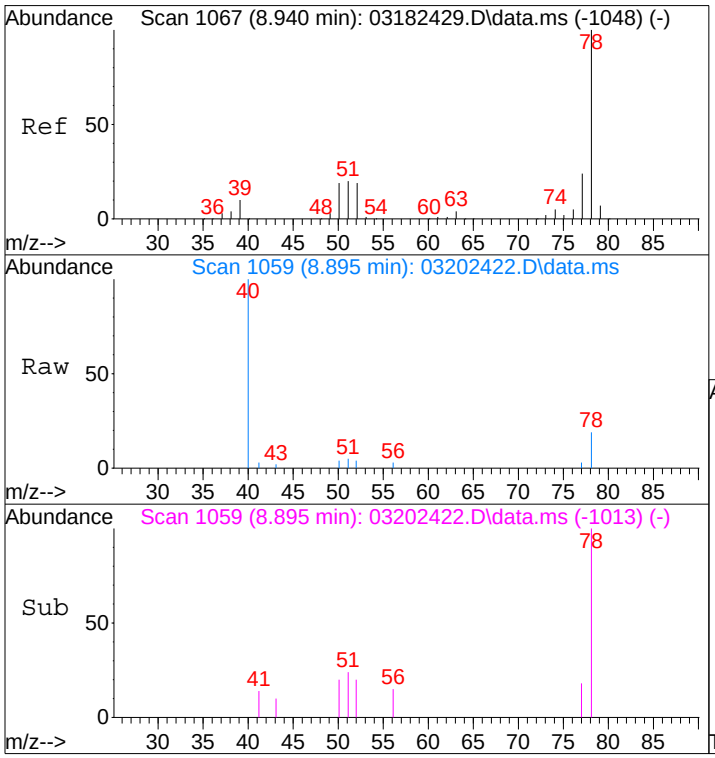


#32
Chloroform
Concen: 0.48 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.005 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 83 Resp: 13791

Ion	Ratio	Lower	Upper
83	100		
85	64.5	46.1	86.1

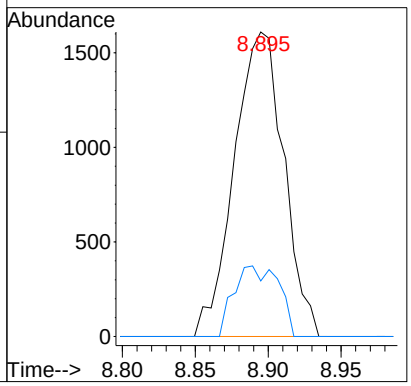


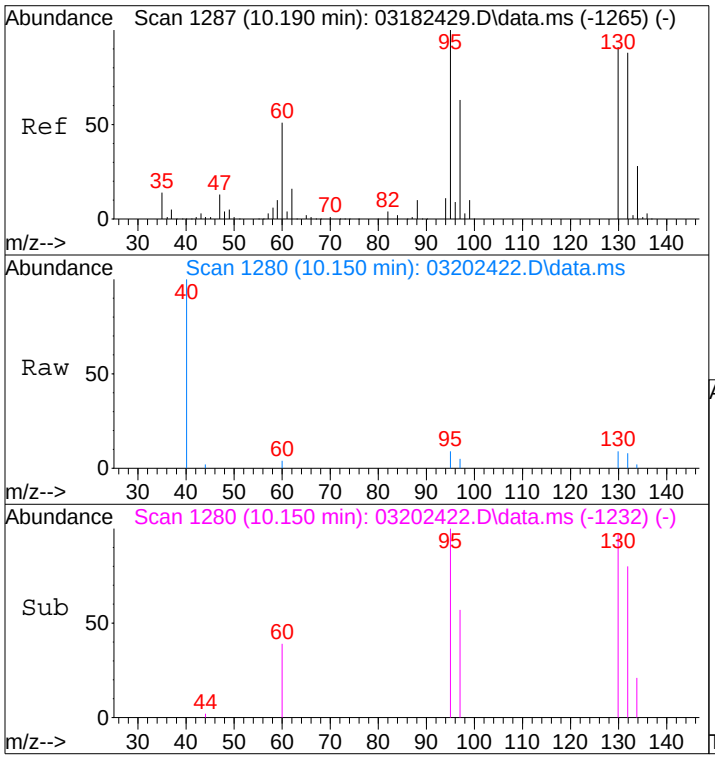


#41
Benzene
Concen: 0.06 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion: 78 Resp: 3809

Ion	Ratio	Lower	Upper
78	100		
77	20.9	3.6	43.6

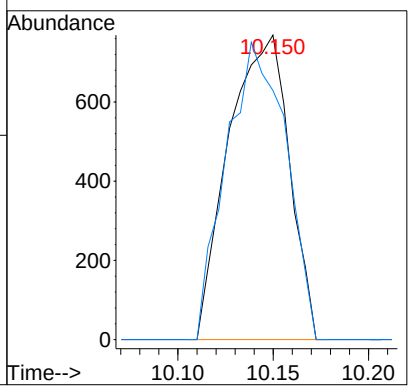




#47
Trichloroethene
Concen: 0.10 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03202422.D
Acq: 20 Mar 2024 17:16

Tgt Ion:130 Resp: 1698

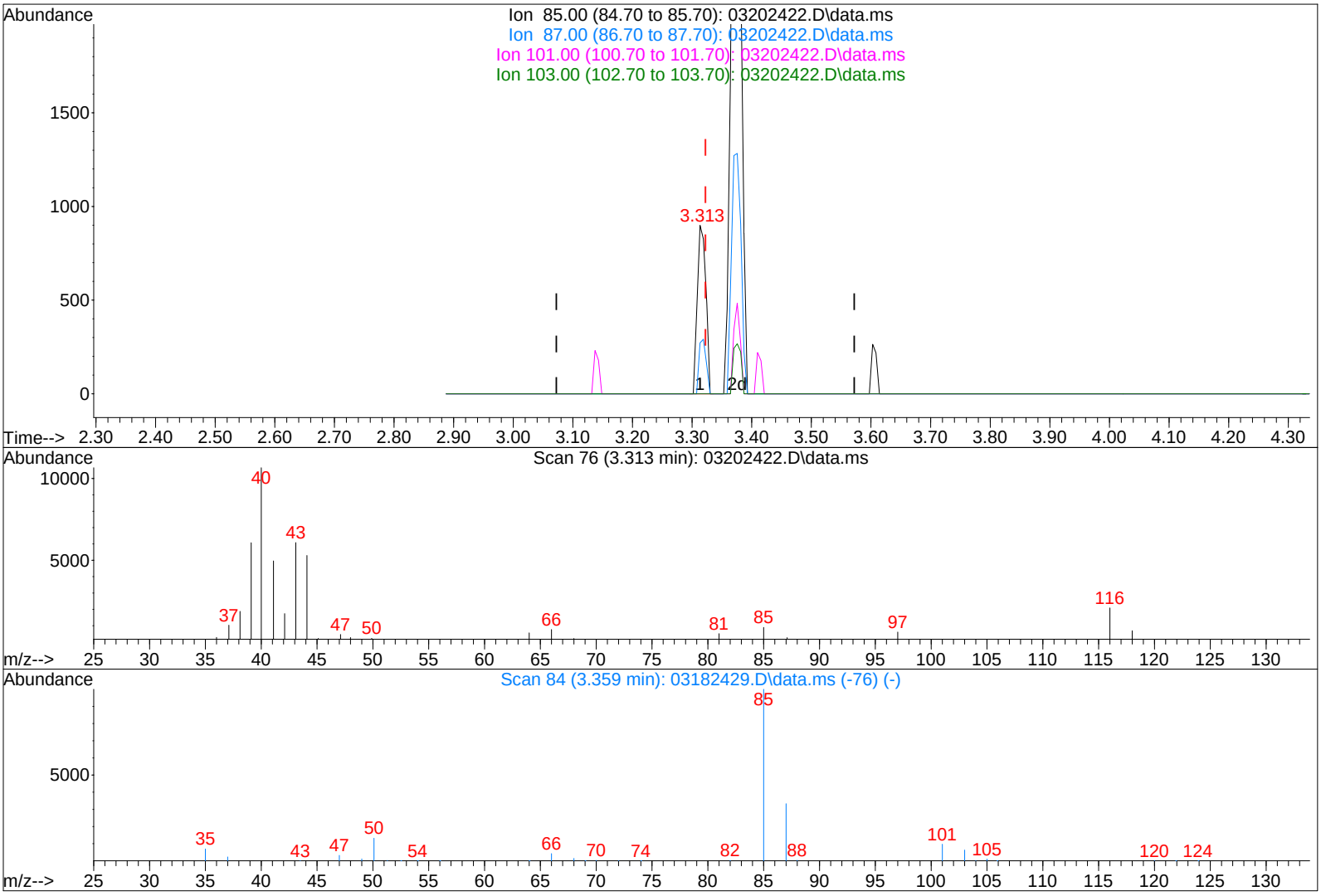
Ion	Ratio	Lower	Upper
130	100		
132	96.7	77.5	117.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:23:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.009) 0.03ng

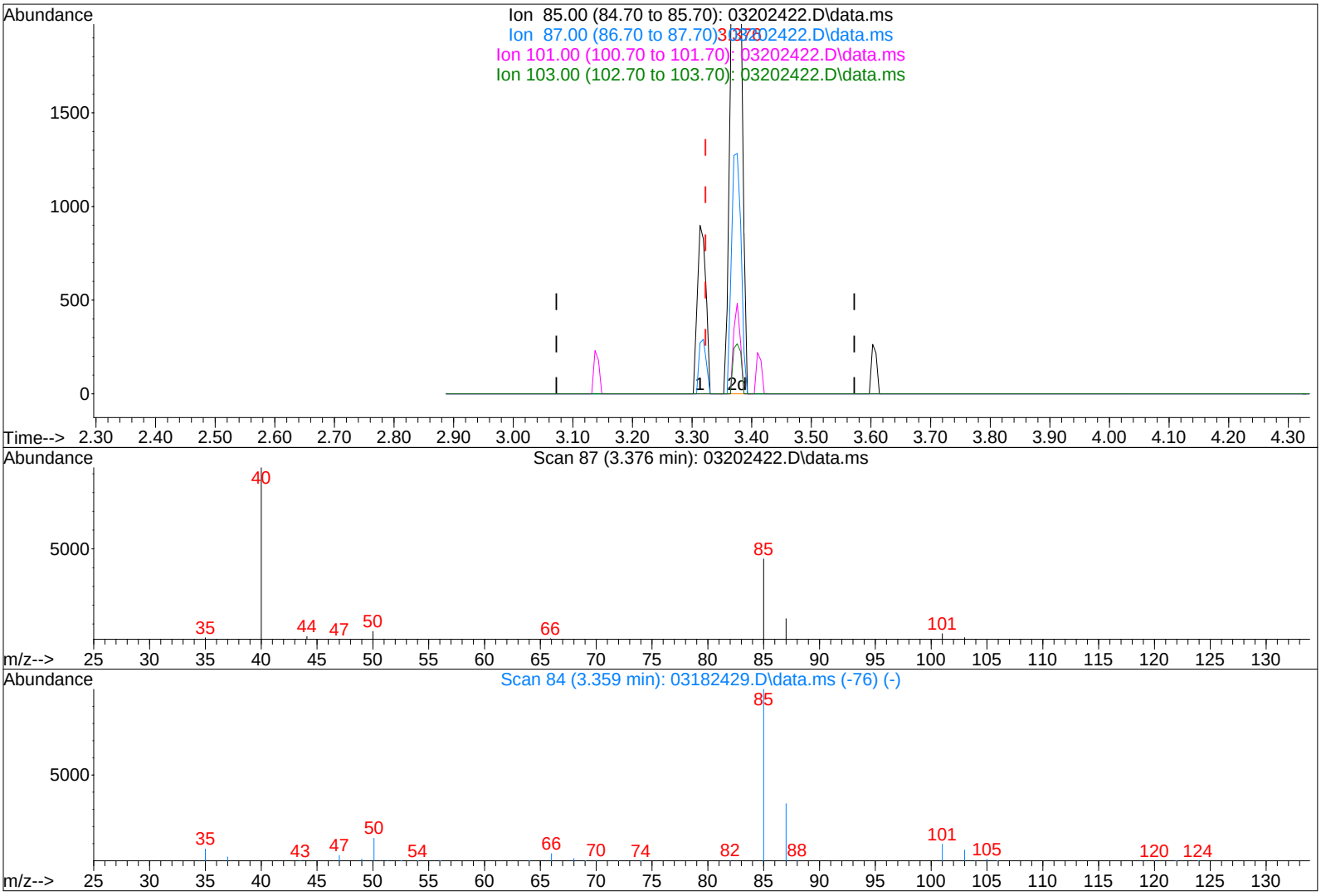
response 898

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.06
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:23:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202422.D\data.ms

MP 3/21/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.053) 0.14ng m

response 4657

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	5.22#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:19:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

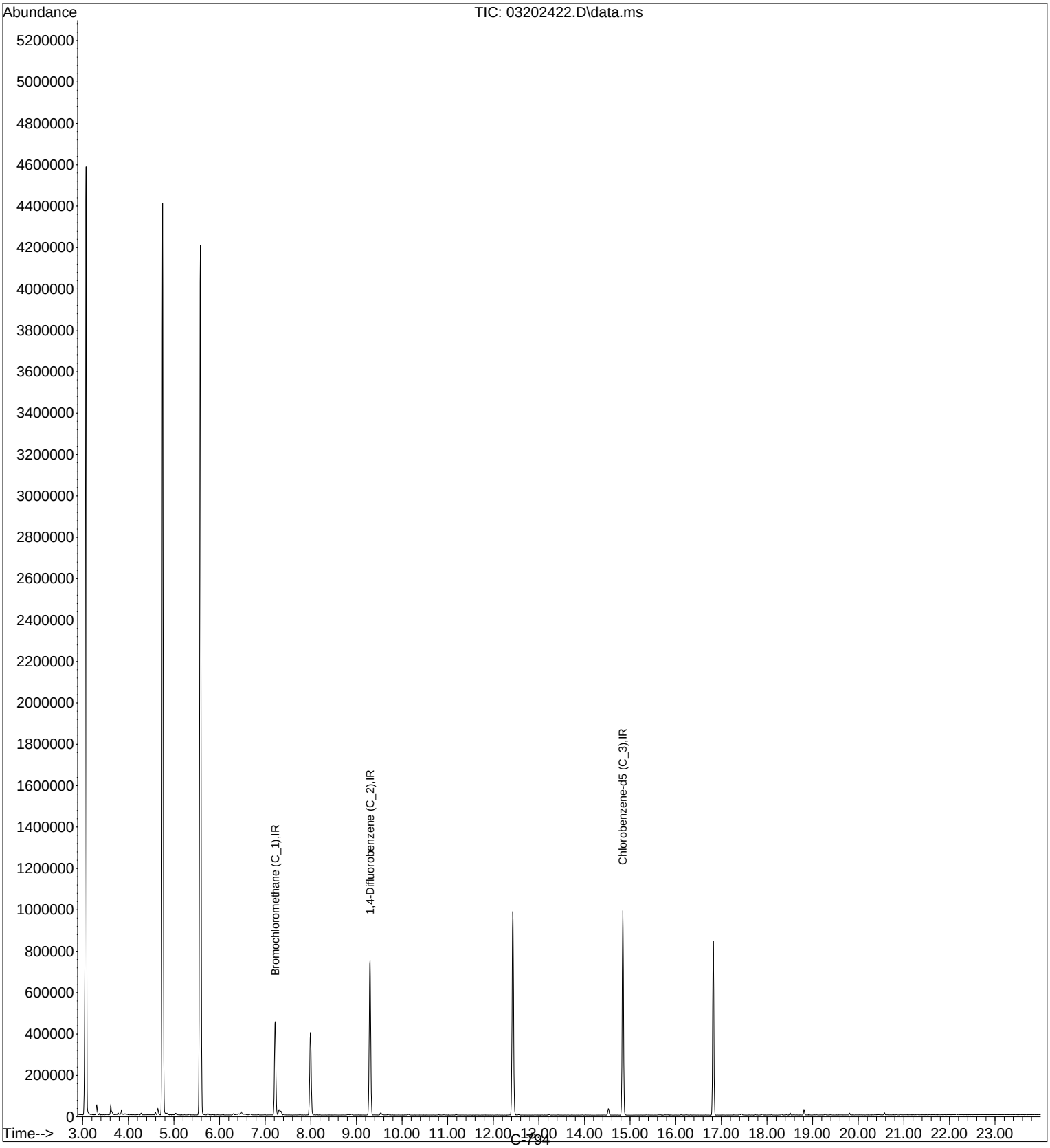
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	167468	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	717450	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	160480	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	341	N.D.		
4) 1,1-Difluoroethane	3.25	65	177	N.D.		
5) Chlorodifluoromethane ...	3.29	67	230	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	3109	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	72	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.34	43	540	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.79	174	221	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	747	N.D.		
27) 4-Chlorotoluene	17.67	91	877	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202422.D Vial: 4
Acq On : 20 Mar 2024 17:16 Operator: SC
Sample : P2400922-015 (100mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:19:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202416.D Vial: 4
Acq On : 20 Mar 2024 13:44 Operator: SC
Sample : P2400922-015Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:19:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	169988	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	723819	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	160267	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	348475	12.531	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%			
57) Toluene-d8 (SS2)	12.43	98	817535	12.705	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
73) Bromofluorobenzene (SS3)	16.82	174	286933	12.648	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.31	85	445	N.D.		
4) Chloromethane	3.51	50	216	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	2533	0.154	ng	98
11) Acetonitrile	4.44	41	297	N.D.		
12) Acrolein	4.55	56	278	N.D.		
13) Acetone	4.65	58	3815	0.305	ng	93
14) Trichlorofluoromethane	4.74	101	1698796	50.340	ng	100
15) 2-Propanol (Isopropanol)	4.85	45	3161	0.063	ng	92
16) Acrylonitrile	4.99	53	597	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.33	84	894	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.57	151	690435	48.537	ng	99
22) Carbon Disulfide	5.60	76	2103	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.68	72	381	N.D.		
28) cis-1,2-Dichloroethene	7.05	61	122	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.34	83	7096	0.241	ng	98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.82	56	730	No Calib	#	
41) Benzene	8.89	78	2305	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.07	83	520	N.D.		
47) Trichloroethene	10.14	130	928	0.053	ng	94
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202416.D Vial: 4
Acq On : 20 Mar 2024 13:44 Operator: SC
Sample : P2400922-015Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:19:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

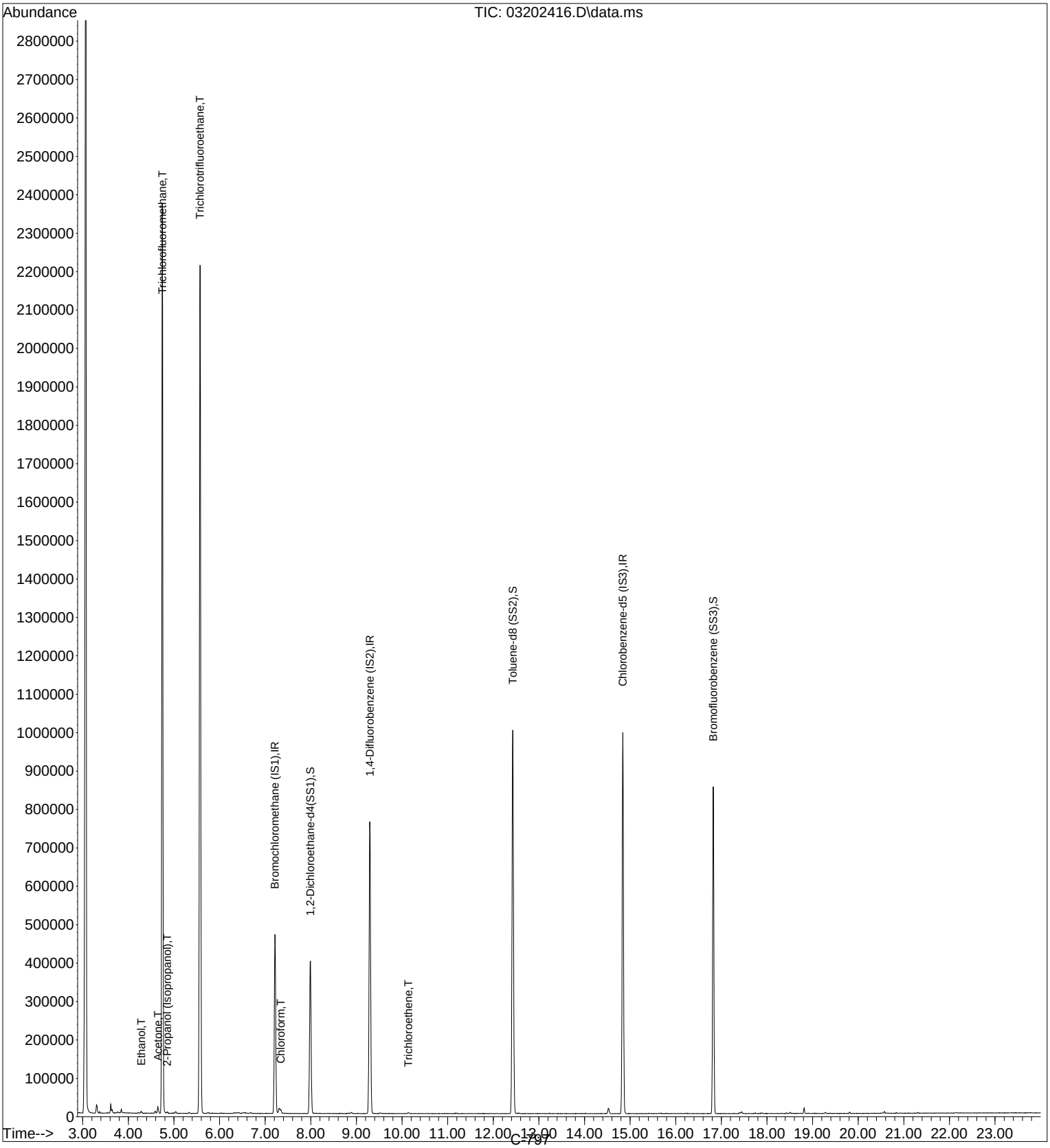
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	0.00	71	0	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	12.55	91	1699	N.D.
59) 2-Hexanone	12.93	43	201	N.D.
60) Dibromochloromethane	13.07	129	366	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	0.00	43	0	N.D.
63) n-Octane	0.00	57	0	N.D.
64) Tetrachloroethene	14.02	166	362	N.D.
65) Chlorobenzene	14.90	112	581	N.D.
66) Ethylbenzene	15.41	91	853	N.D.
67) m- & p-Xylenes	15.66	91	1804	N.D.
68) Bromoform	15.67	173	545	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	16.23	91	826	N.D.
71) n-Nonane	0.00	43	0	N.D.
72) 1,1,2,2-Tetrachloroethane	16.21	83	330	N.D.
74) Cumene	17.03	105	872	N.D.
75) alpha-Pinene	0.00	93	0	N.D.
76) n-Propylbenzene	17.68	91	956	N.D.
77) 3-Ethyltoluene	17.03	105	872	No Calib
78) 4-Ethyltoluene	17.86	105	563	N.D.
79) 1,3,5-Trimethylbenzene	17.96	105	283	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	17.03	105	872	No Calib
82) 1,2,4-Trimethylbenzene	18.42	105	459	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	0.00	91	0	N.D.
85) 1,3-Dichlorobenzene	18.58	146	542	N.D.
86) 1,4-Dichlorobenzene	18.66	146	507	N.D.
87) sec-Butylbenzene	18.74	105	730	N.D.
88) 4-Isopropyltoluene (p-...	18.92	119	494	N.D.
89) 1,2,3-Trimethylbenzene	17.03	105	872	No Calib
90) 1,2-Dichlorobenzene	19.02	146	504	N.D.
91) d-Limonene	0.00	68	0	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	20.84	180	701	N.D.
95) Naphthalene	0.00	128	0	N.D. d
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	21.30	225	612	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	18.43	119	803	N.D.
100) n-Butylbenzene	19.39	91	521	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202416.D Vial: 4
Acq On : 20 Mar 2024 13:44 Operator: SC
Sample : P2400922-015Dil (50mL) Inst : MS09
Misc : S37-02202408

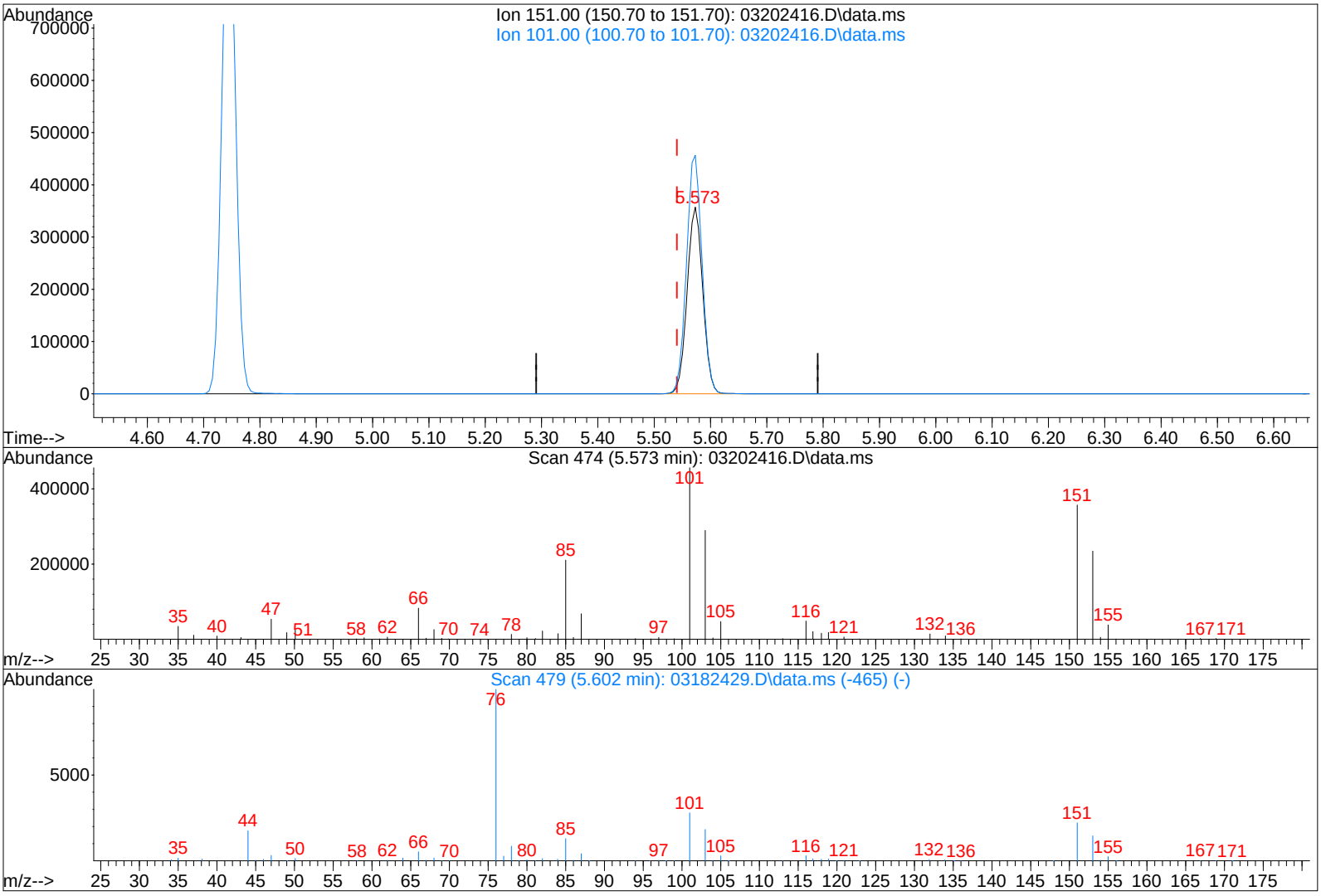
Quant Time: Mar 20 14:19:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202416.D Vial: 4
Acq On : 20 Mar 2024 13:44 Operator: SC
Sample : P2400922-015Dil (50mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 14:18:10 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202416.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (+0.032) 48.54ng

response 690435

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	127.68
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202422.D
Acq On : 20 Mar 2024 17:16
Operator : SC
Sample : P2400922-015 (100mL)
Misc : S37-02202408
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202422.D\data.ms

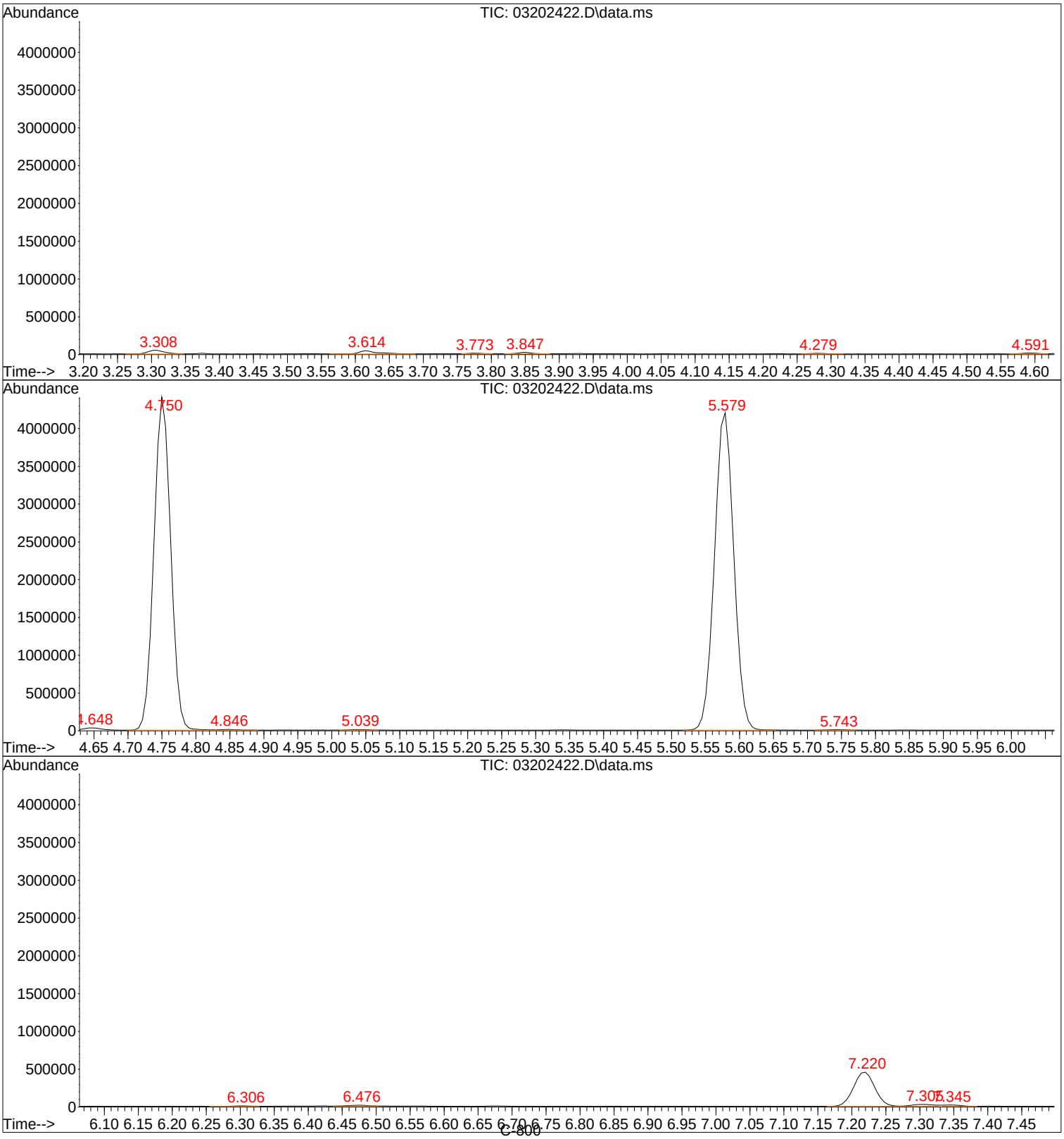
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.308	67	75	82	rBV4	48094	83402	1.01%	0.483%
2	3.614	120	129	142	rBV2	43263	79375	0.96%	0.460%
3	3.773	154	157	162	rBV2	7353	10380	0.13%	0.060%
4	3.847	165	170	177	rVB	19076	24045	0.29%	0.139%
5	4.279	242	246	253	rVB3	8299	12977	0.16%	0.075%
6	4.591	296	301	306	rBV2	12160	19165	0.23%	0.111%
7	4.648	306	311	320	rVB	30175	52490	0.63%	0.304%
8	4.750	320	329	343	rBV	4405814	7569188	91.46%	43.820%
9	4.846	343	346	354	rVB	7932	13568	0.16%	0.079%
10	5.039	375	380	385	rBV2	7753	13343	0.16%	0.077%
11	5.579	464	475	488	rBV	4203479	8275872	100.00%	47.911%
12	5.743	498	504	509	rBV	6696	12428	0.15%	0.072%
13	6.306	594	603	607	rBV2	6401	12607	0.15%	0.073%
14	6.476	626	633	638	rBV	11924	23779	0.29%	0.138%
15	7.220	754	764	773	rBV	451423	985283	11.91%	5.704%
16	7.305	773	779	783	rVV2	25174	58448	0.71%	0.338%
17	7.345	784	786	793	rVB2	18007	26948	0.33%	0.156%

Sum of corrected areas: 17273298

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202422.D
Acq On : 20 Mar 2024 17:16
Operator : SC
Sample : P2400922-015 (100mL)
Misc : S37-02202408
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202422.D
Acq On : 20 Mar 2024 17:166
Operator : SCC
Sample : P2400922-015 (100mL))
Misc : S37-022024088
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:43:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145867	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	625088	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	142664	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	302247	12.666	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	713585	12.458	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.83	174	250974	12.428	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	17817	0.596	ng		99
4) Chloromethane	3.46	50	445	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	298	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	10377m	0.736	ng		
11) Acetonitrile	4.43	41	1515	N.D.			
12) Acrolein	4.53	56	2178	0.216	ng		91
13) Acetone	4.63	58	30743	2.866	ng	#	74
14) Trichlorofluoromethane	4.76	101	92787	3.204	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	59	N.D.			
16) Acrylonitrile	4.99	53	564	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	941	N.D.			
19) Methylene Chloride	5.34	84	837	0.054	ng		97
20) 3-Chloro-1-propene (Al...	5.35	41	180	N.D.			
21) Trichlorotrifluoroethane	5.58	151	69979	5.733	ng		99
22) Carbon Disulfide	5.60	76	10077	0.207	ng	#	34
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.29	73	391	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	3787	0.432	ng	#	76
28) cis-1,2-Dichloroethene	7.07	61	127	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	751	0.143	ng		93
31) n-Hexane	7.30	57	1290	0.057	ng	#	94
32) Chloroform	7.35	83	2228	0.088	ng		97
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	7020	No Calib		#	
40) 1-Butanol	8.81	56	9757	No Calib		#	
41) Benzene	8.89	78	2934	0.052	ng		90
42) Carbon Tetrachloride	9.08	117	248	N.D.			
43) Cyclohexane	9.22	84	122	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	214	N.D.			
47) Trichloroethene	10.14	130	961	0.063	ng		94
48) 1,4-Dioxane	10.13	88	131	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	122	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:43:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

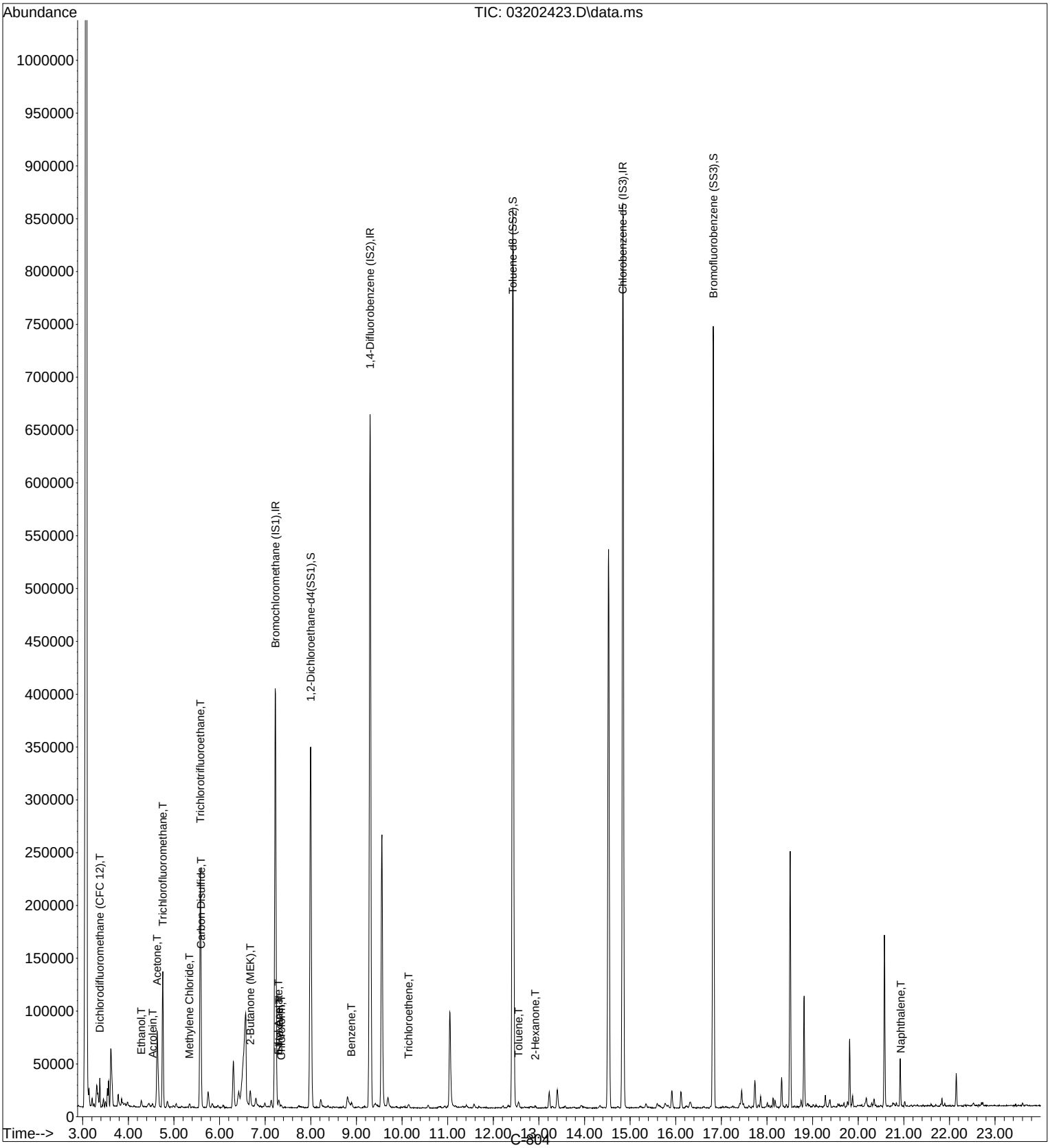
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.57	71	525	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.34	58	297	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4414	0.081 ng	100
59) 2-Hexanone	12.92	43	2391	0.075 ng	72
60) Dibromochloromethane	13.07	129	311	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.76	43	1037	N.D.	
63) n-Octane	13.93	57	444	N.D.	
64) Tetrachloroethene	14.03	166	233	N.D.	
65) Chlorobenzene	14.89	112	542	N.D.	
66) Ethylbenzene	15.41	91	1058	N.D.	
67) m- & p-Xylenes	15.63	91	2396	N.D.	
68) Bromoform	15.68	173	469	N.D.	
69) Styrene	16.09	104	241	N.D.	
70) o-Xylene	16.25	91	985	N.D.	
71) n-Nonane	16.62	43	1020	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	321	N.D.	
74) Cumene	17.03	105	919	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1187	N.D.	
77) 3-Ethyltoluene	17.03	105	919	No Calib #	
78) 4-Ethyltoluene	17.86	105	724	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	313	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	919	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	653	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	541	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	537	N.D.	
87) sec-Butylbenzene	18.74	105	1033	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1430	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	919	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	387	N.D.	
91) d-Limonene	19.08	68	231	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.86	58	1244	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	797	N.D.	
95) Naphthalene	20.94	128	1844	0.379 ng #	71
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	550	N.D.	
98) Cyclohexanone	15.35	55	1356	No Calib #	
99) tert-Butylbenzene	18.42	119	819	N.D.	
100) n-Butylbenzene	19.38	91	884	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:43:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:43:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

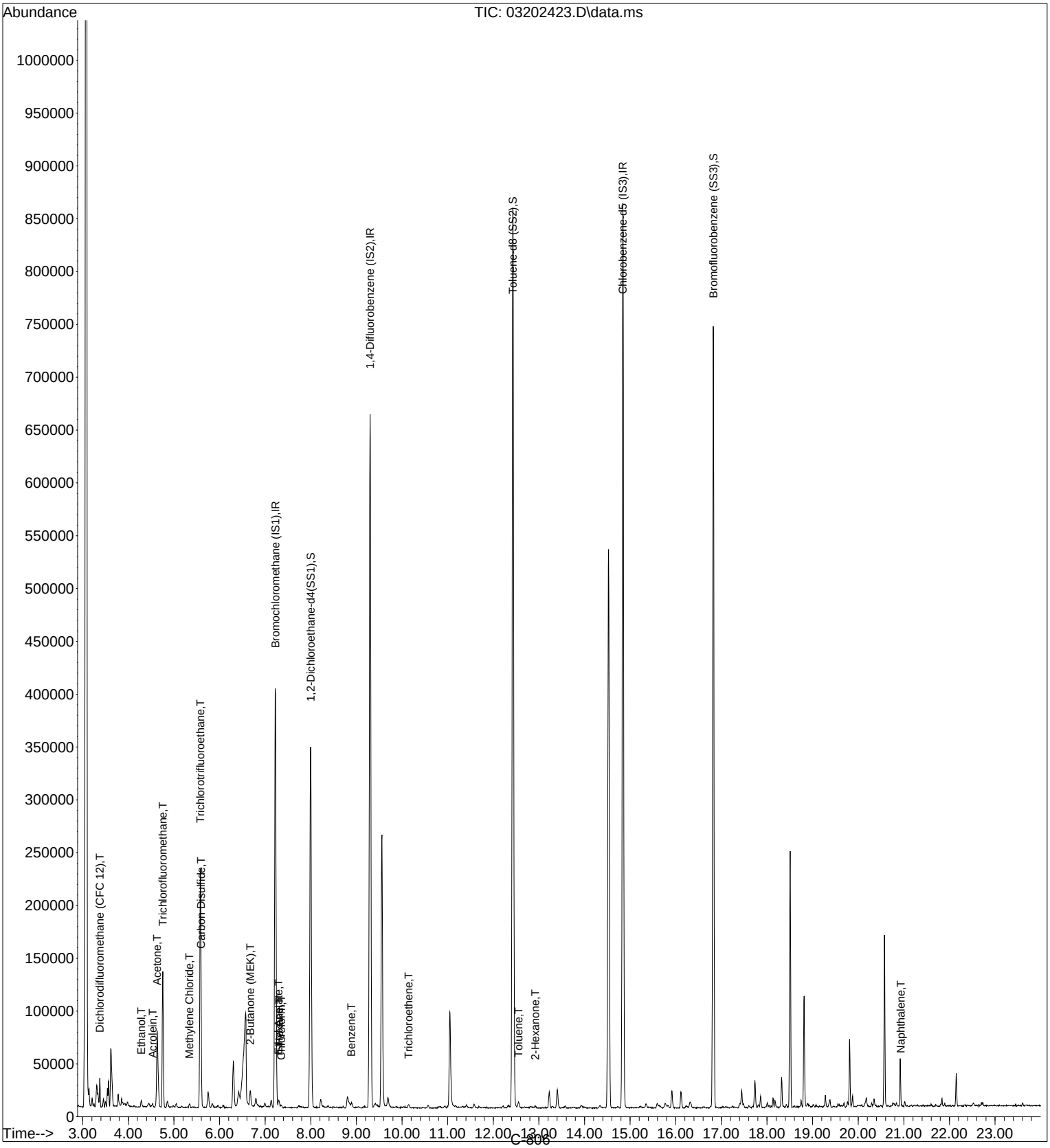
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145867	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	625088	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	142664	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	302247	12.666	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	713585	12.458	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.83	174	250974	12.428	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	17817	0.596	ng		99
10) Ethanol	4.28	45	10377m	0.736	ng		
12) Acrolein	4.53	56	2178	0.216	ng		91
13) Acetone	4.63	58	30743	2.866	ng	#	74
14) Trichlorofluoromethane	4.76	101	92787	3.204	ng		100
19) Methylene Chloride	5.34	84	837	0.054	ng		97
21) Trichlorotrifluoroethane	5.58	151	69979	5.733	ng		99
22) Carbon Disulfide	5.60	76	10077	0.207	ng	#	34
27) 2-Butanone (MEK)	6.67	72	3787	0.432	ng	#	76
30) Ethyl Acetate	7.29	61	751	0.143	ng		93
31) n-Hexane	7.30	57	1290	0.057	ng	#	94
32) Chloroform	7.35	83	2228	0.088	ng		97
41) Benzene	8.89	78	2934	0.052	ng		90
47) Trichloroethene	10.14	130	961	0.063	ng		94
58) Toluene	12.56	91	4414	0.081	ng		100
59) 2-Hexanone	12.92	43	2391	0.075	ng		72
95) Naphthalene	20.94	128	1844	0.379	ng	#	71

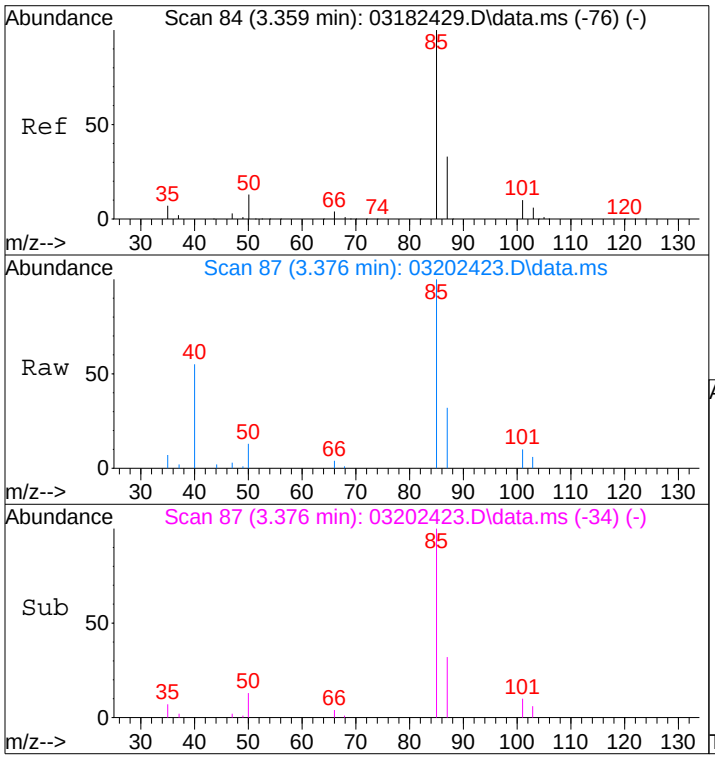
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:43:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

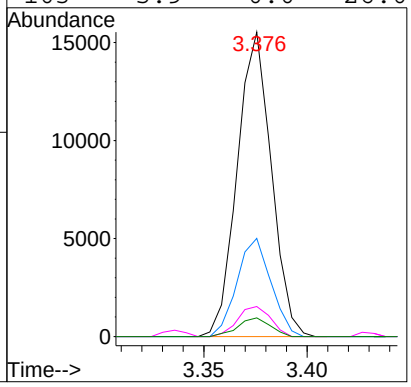


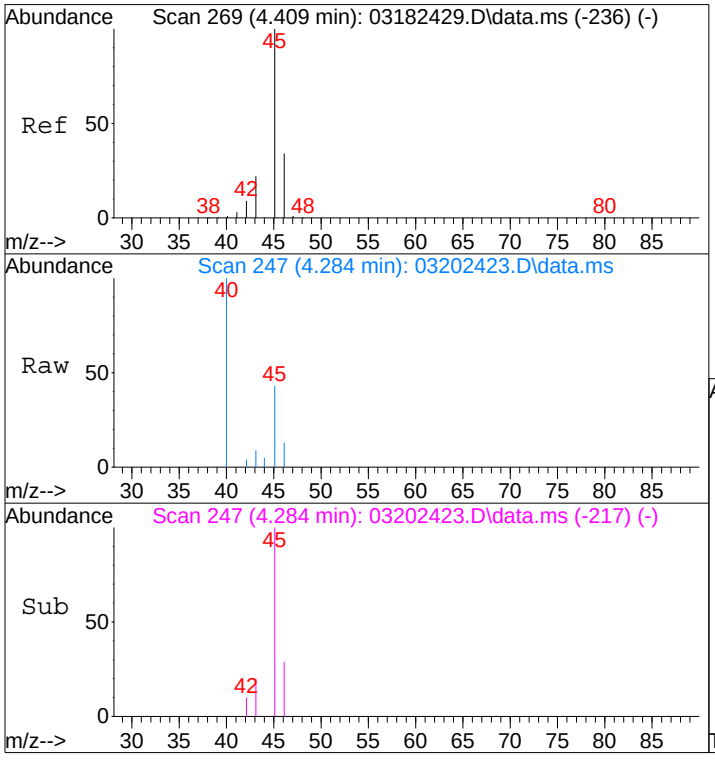


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng
RT: 3.38 min Scan# 87
Delta R.T. 0.053 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 85 Resp: 17817

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	9.7	0.0	29.2
103	5.9	0.0	26.0

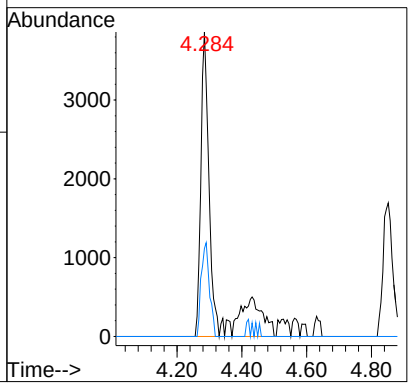


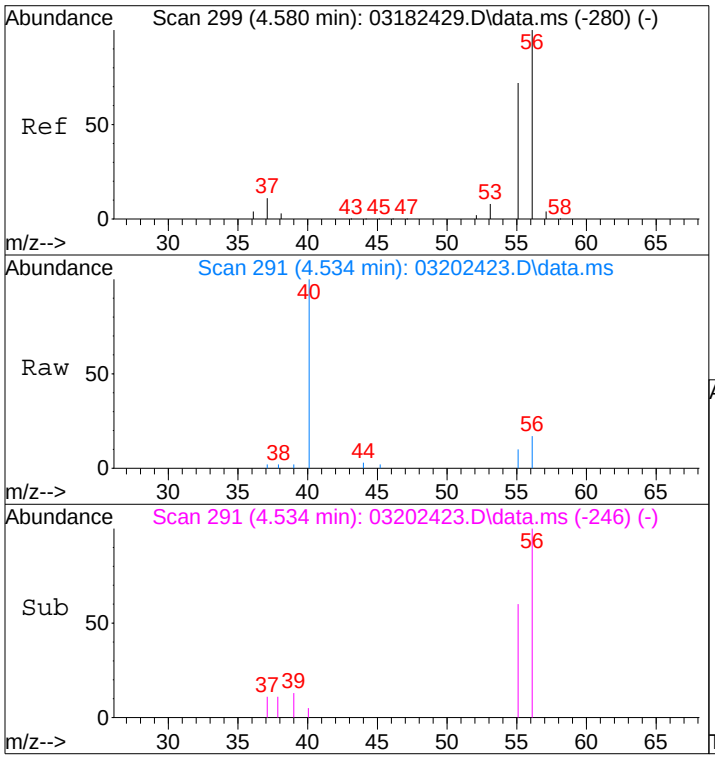


#10
Ethanol
Concen: 0.74 ng m
RT: 4.28 min Scan# 247
Delta R.T. -0.077 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 45 Resp: 10377

Ion	Ratio	Lower	Upper
45	100		
46	1.3	13.3	53.3#

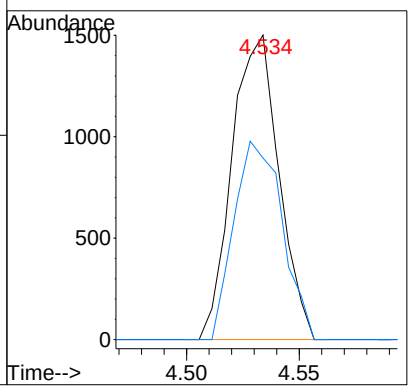


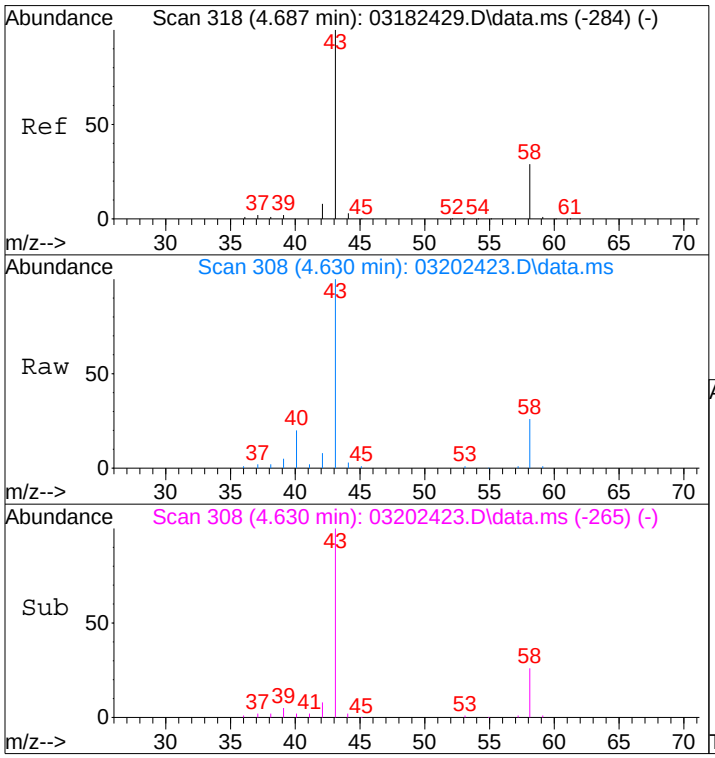


#12
Acrolein
Concen: 0.22 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.004 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 56 Resp: 2178

Ion	Ratio	Lower	Upper
56	100		
55	67.0	54.9	94.9

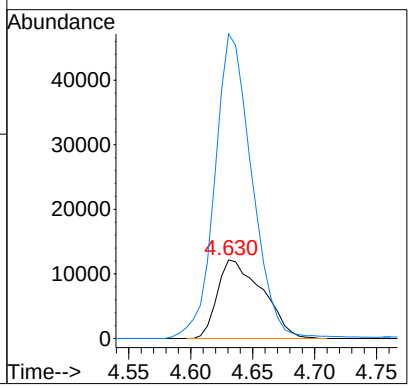


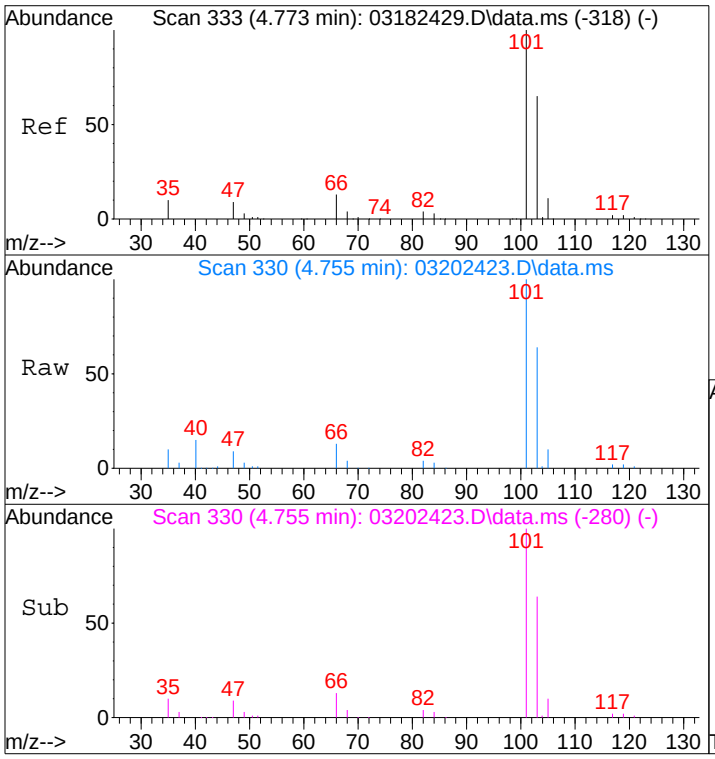


#13
Acetone
Concen: 2.87 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 58 Resp: 30743

Ion	Ratio	Lower	Upper
58	100		
43	321.4	350.1	410.1#

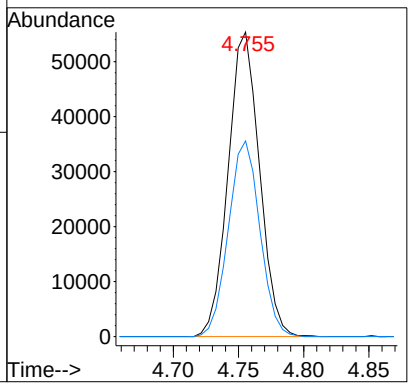


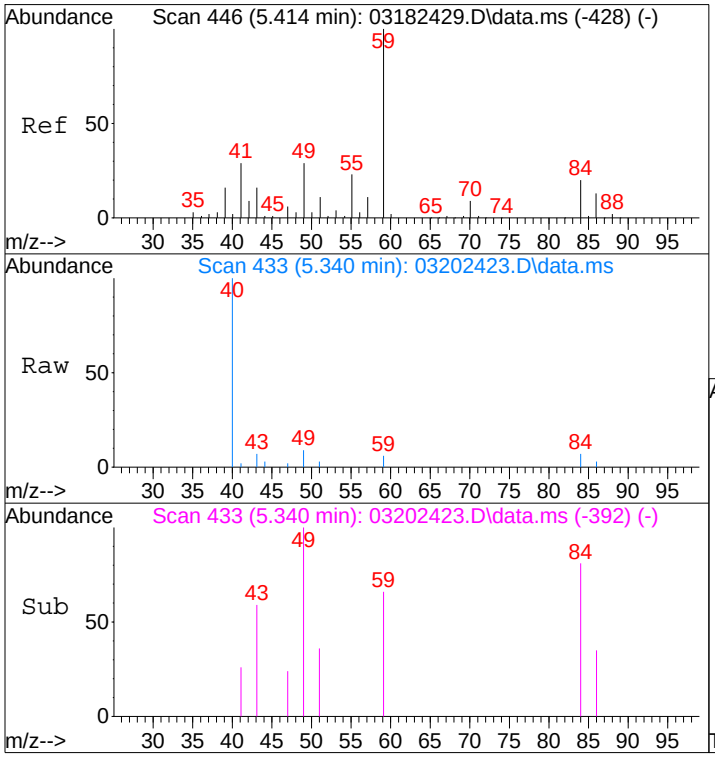


#14
Trichlorofluoromethane
Concen: 3.20 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion:101 Resp: 92787

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

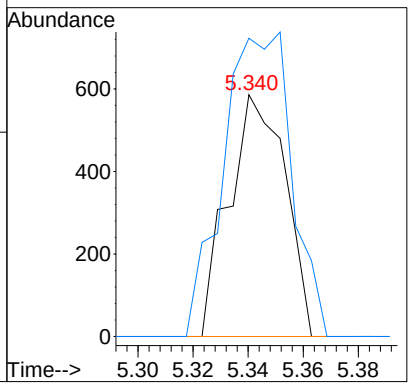


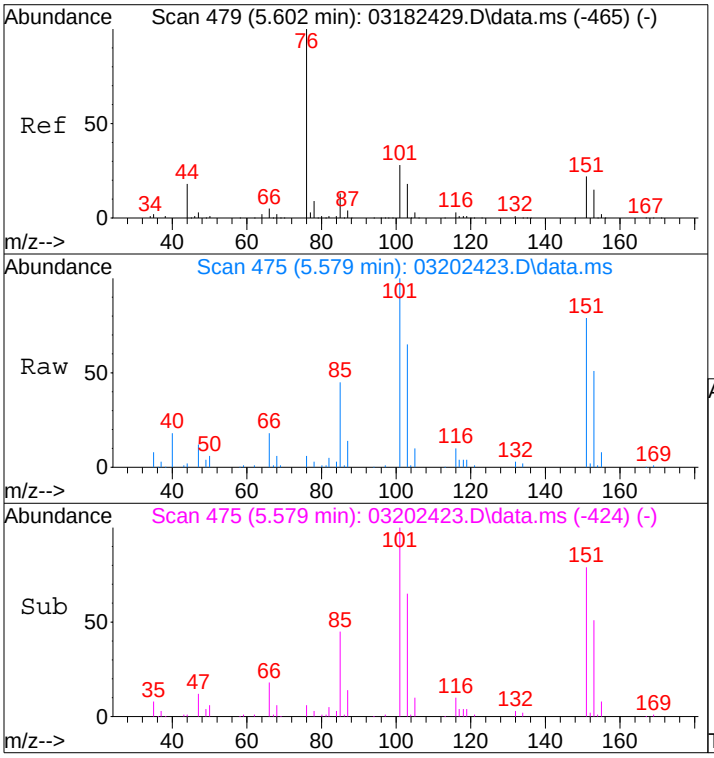


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 84 Resp: 837

Ion	Ratio	Lower	Upper
84	100		
49	151.6	122.9	172.9

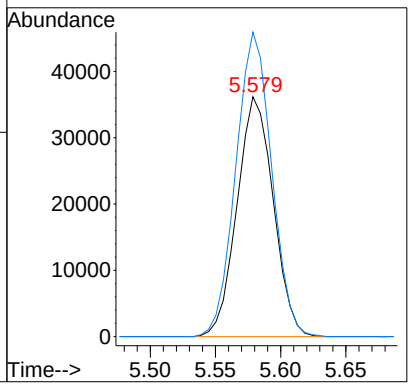


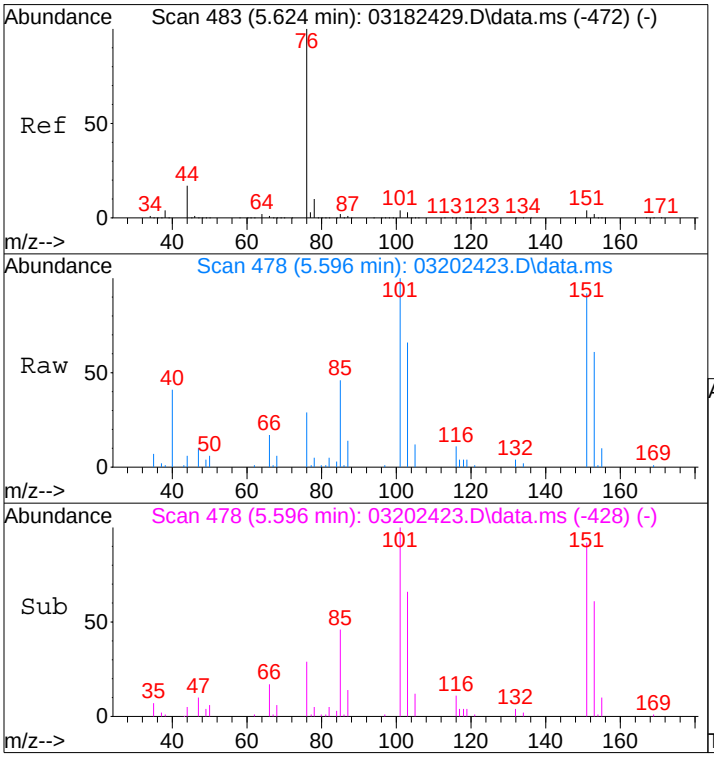


#21
Trichlorotrifluoroethane
Concen: 5.73 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion:151 Resp: 69979

Ion	Ratio	Lower	Upper
151	100		
101	125.6	106.4	146.4

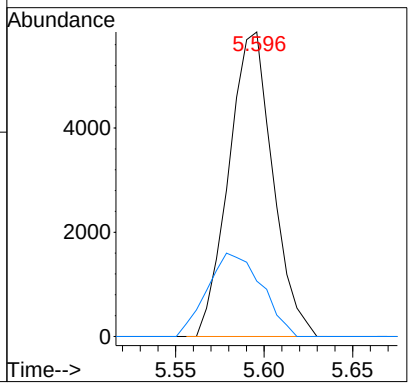


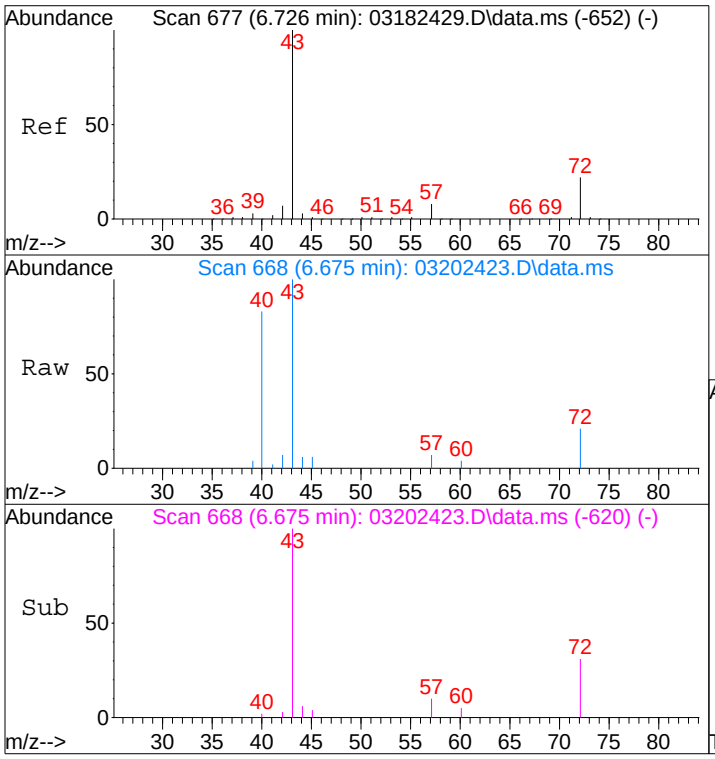


#22
Carbon Disulfide
Concen: 0.21 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 76 Resp: 10077

Ion	Ratio	Lower	Upper
76	100		
78	33.9	0.0	29.8#

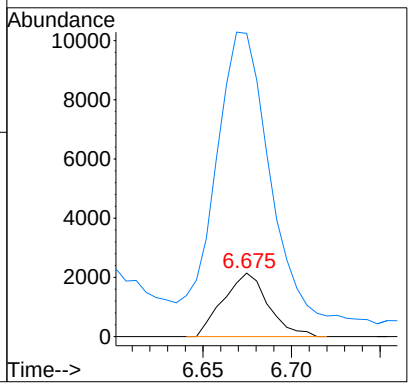


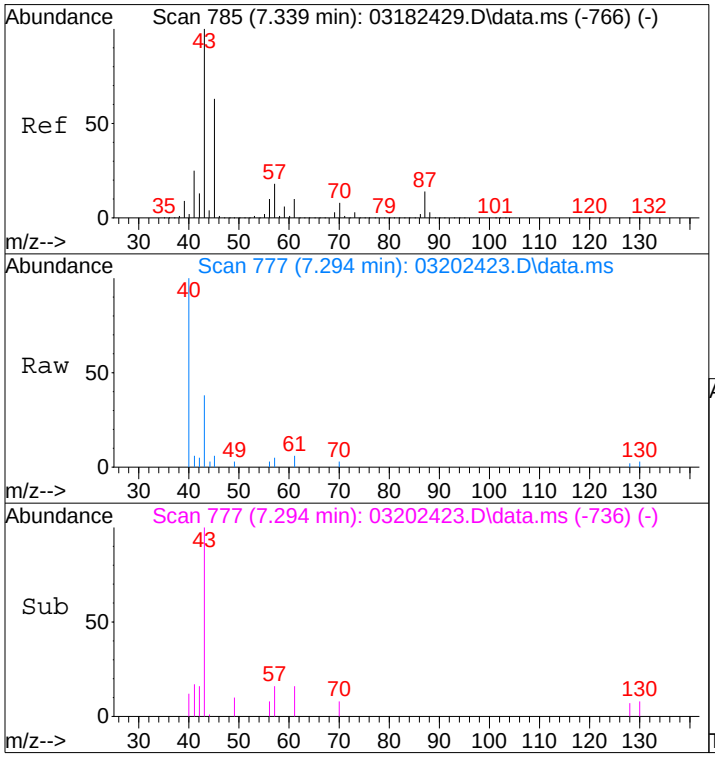


#27
2-Butanone (MEK)
Concen: 0.43 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.022 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 72 Resp: 3787

Ion	Ratio	Lower	Upper
72	100		
43	553.7	468.6	508.6#

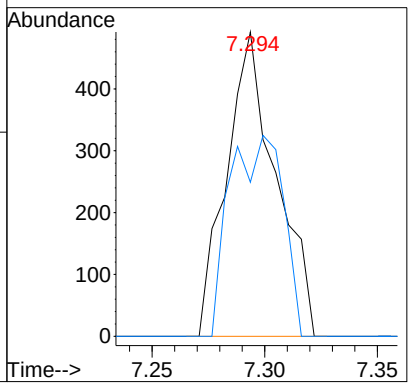


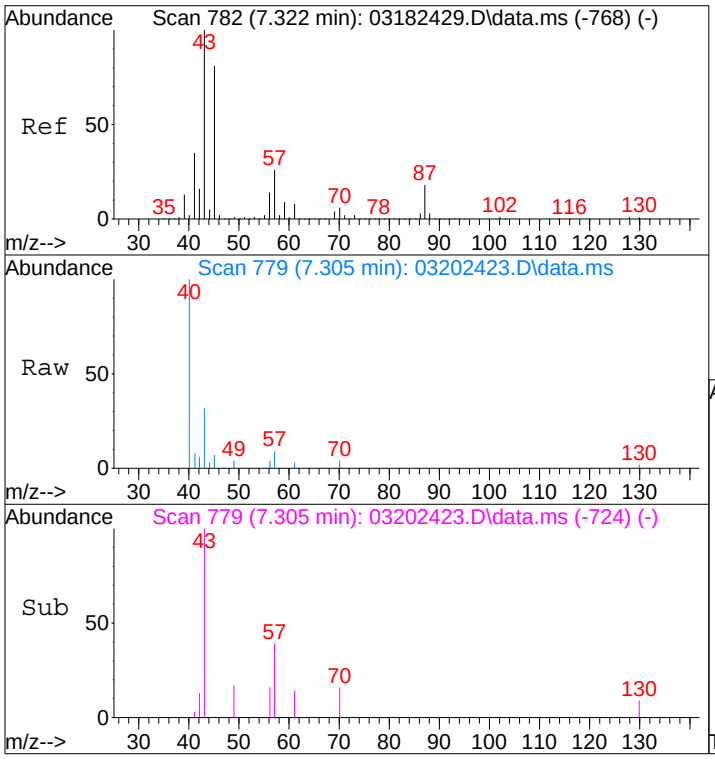


#30
Ethyl Acetate
Concen: 0.14 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 61 Resp: 751

Ion	Ratio	Lower	Upper
61	100		
70	71.5	57.3	97.3

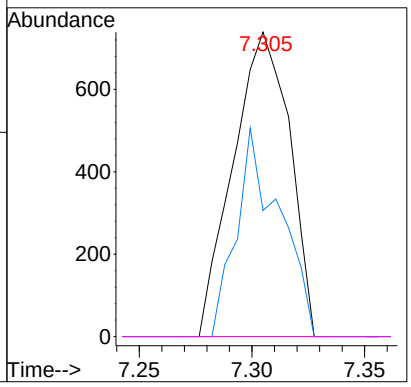


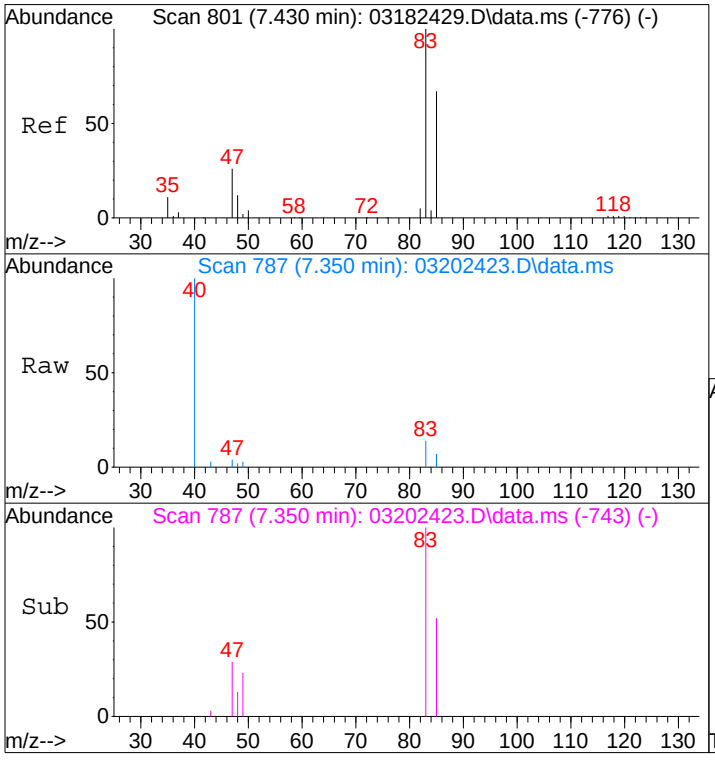


#31
n-Hexane
Concen: 0.06 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.062 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 57 Resp: 1290

Ion	Ratio	Lower	Upper
57	100		
56	52.5	42.2	63.4
86	0.0	9.4	14.2#

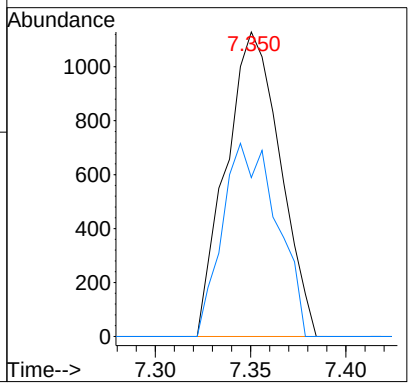


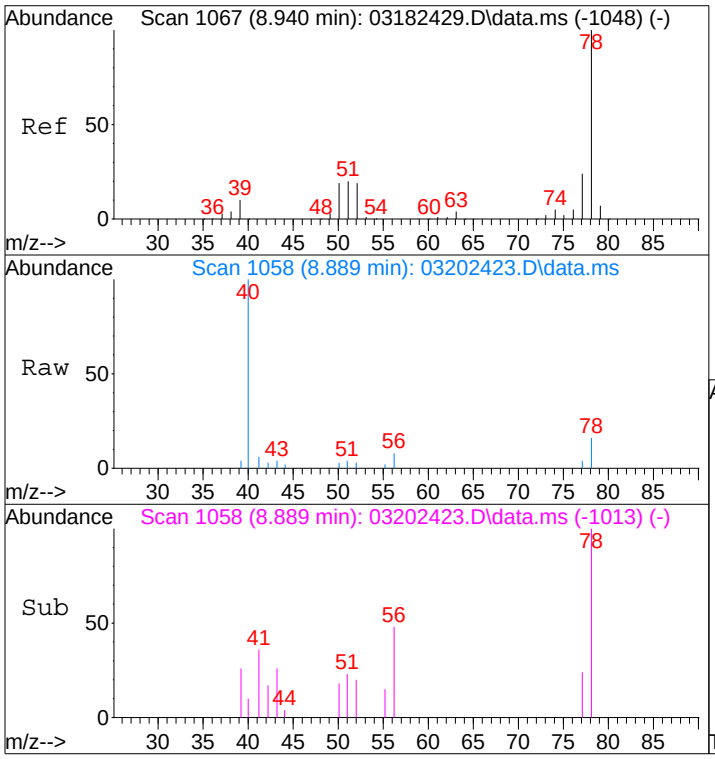


#32
Chloroform
Concen: 0.09 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 83 Resp: 2228

Ion	Ratio	Lower	Upper
83	100		
85	63.8	46.1	86.1

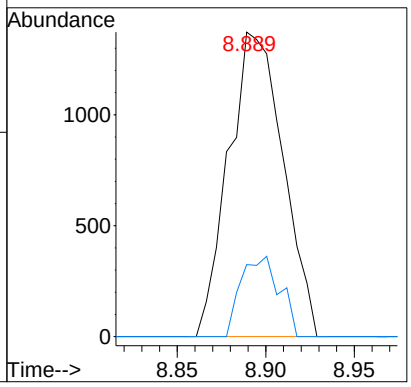


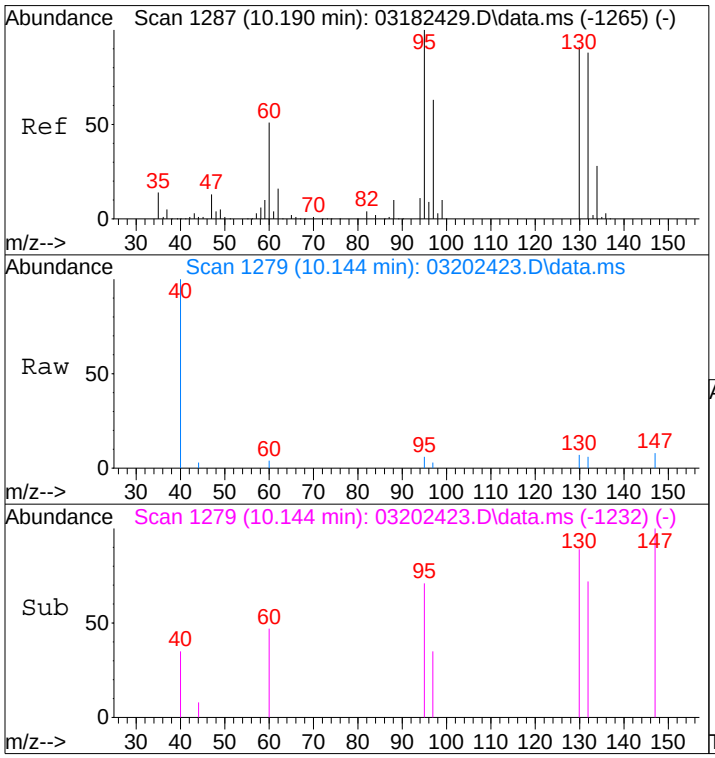


#41
Benzene
Concen: 0.05 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 78 Resp: 2934

Ion	Ratio	Lower	Upper
78	100		
77	18.8	3.6	43.6

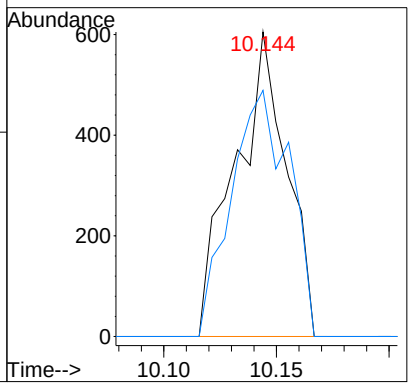


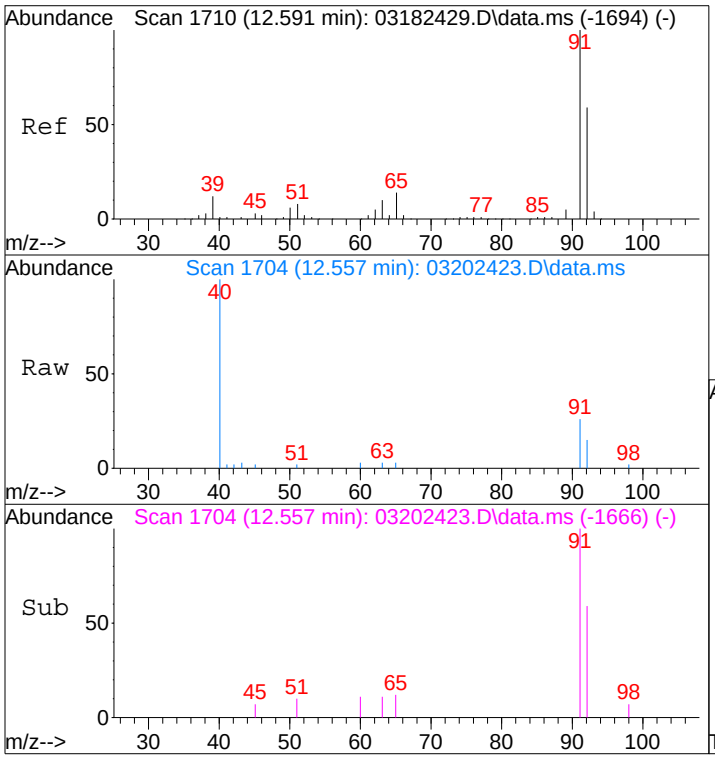


#47
Trichloroethene
Concen: 0.06 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion:130 Resp: 961

Ion	Ratio	Lower	Upper
130	100		
132	91.8	77.5	117.5

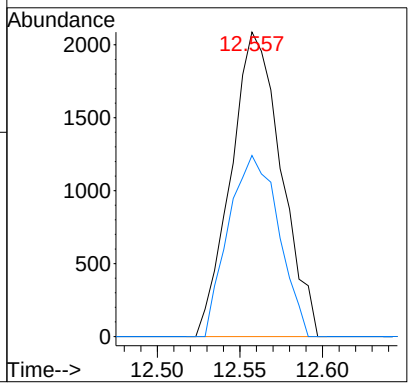


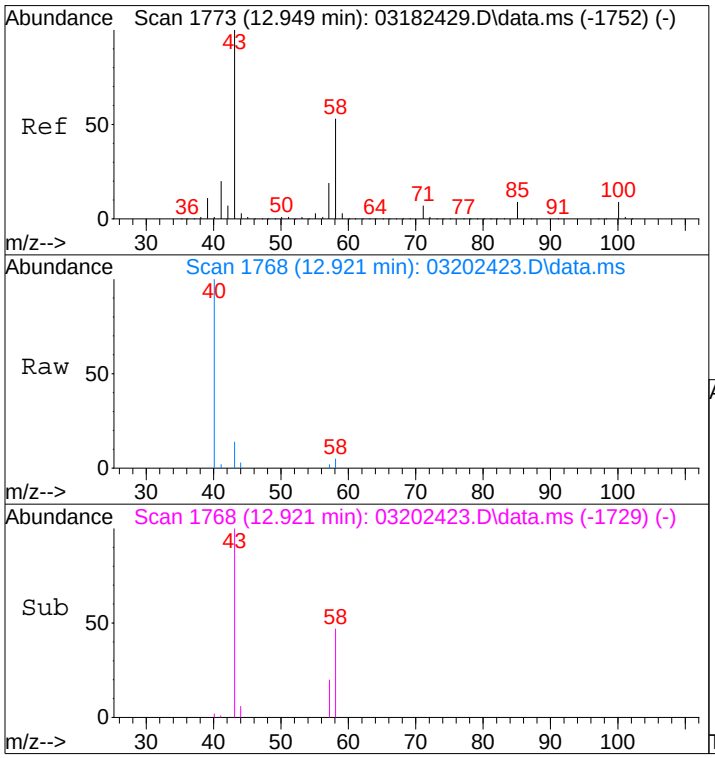


#58
Toluene
Concen: 0.08 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 91 Resp: 4414

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.2	79.2

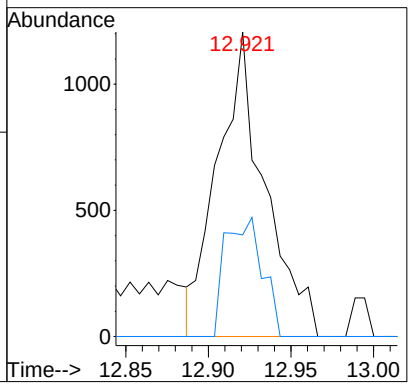


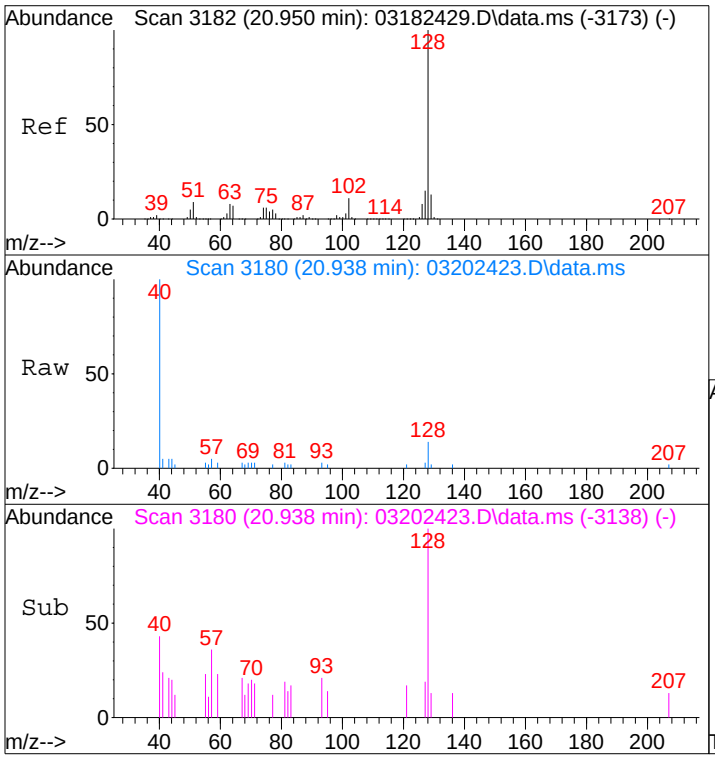


#59
2-Hexanone
Concen: 0.08 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.029 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion: 43 Resp: 2391

Ion	Ratio	Lower	Upper
43	100		
58	30.8	30.2	70.2

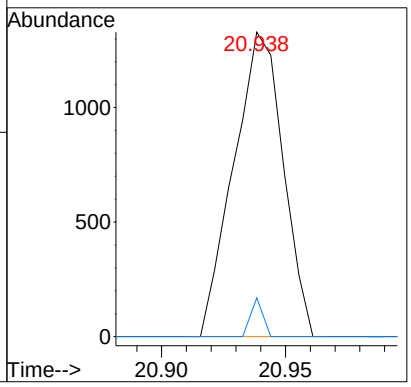




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03202423.D
Acq: 20 Mar 2024 17:48

Tgt Ion:128 Resp: 1844

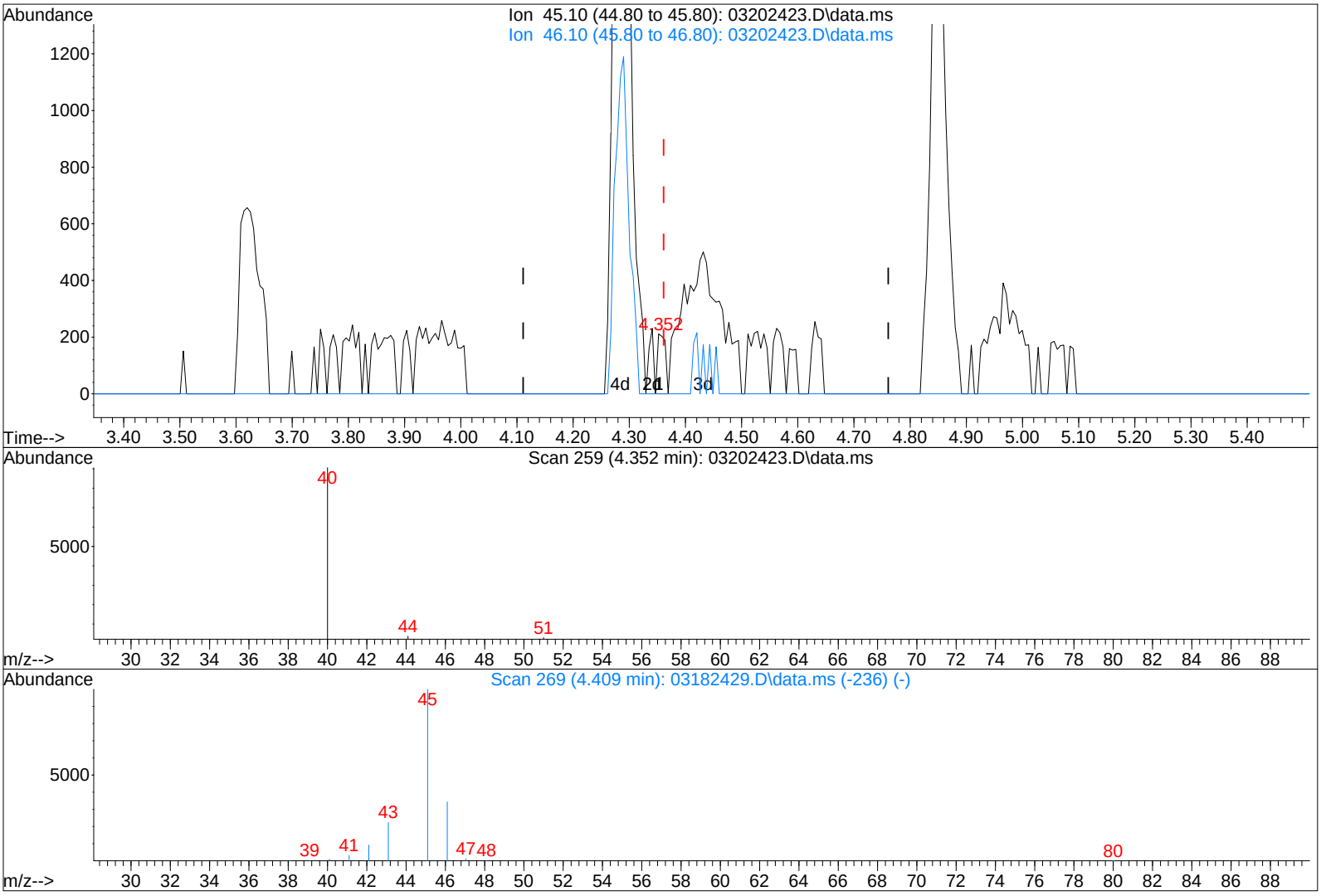
Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:23:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202423.D\data.ms

(10) Ethanol (T)

4.352min (-0.009) 0.01ng

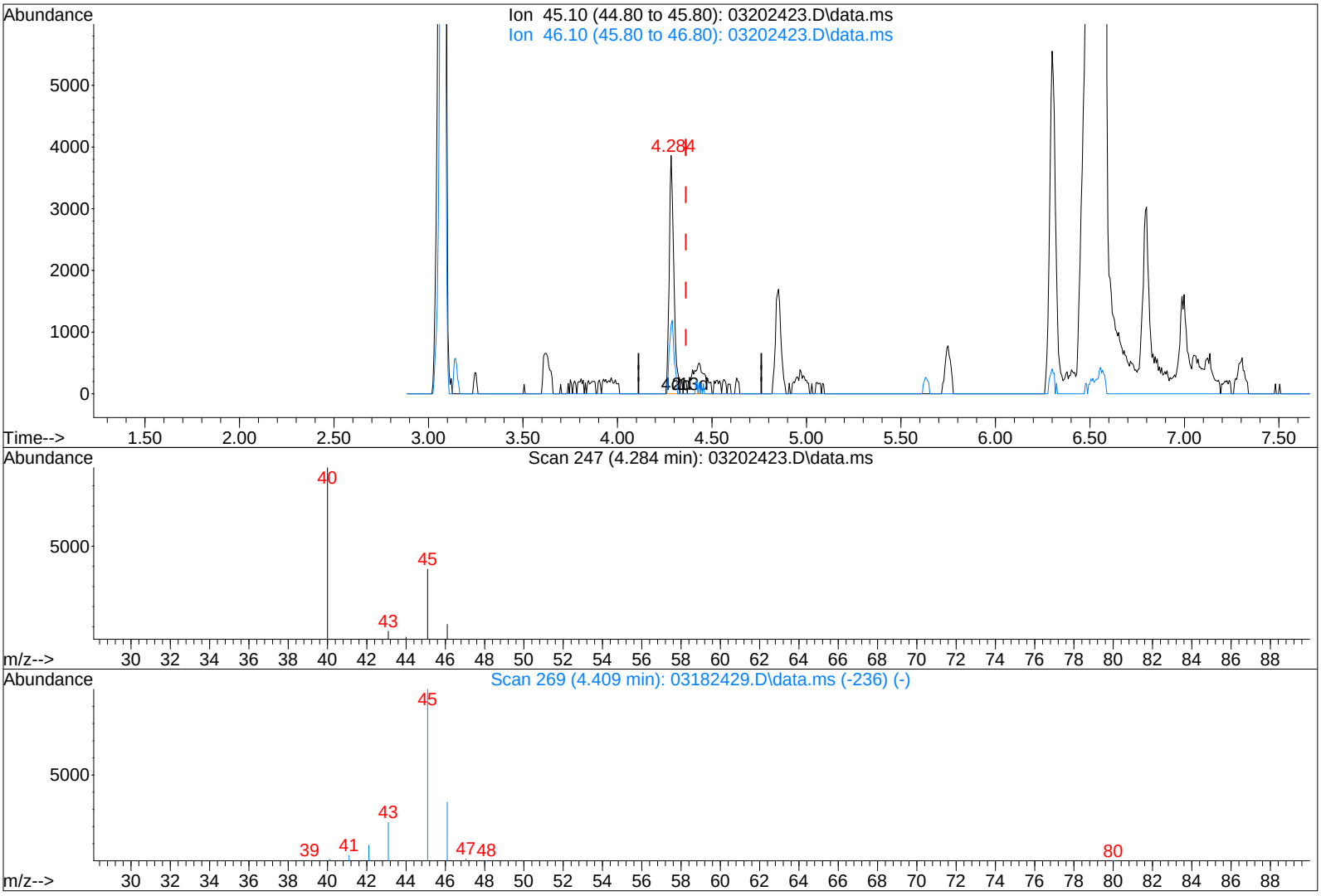
response 205

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	65.85#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:23:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202423.D\data.ms

MP 3/21/24

(10) Ethanol (T)

4.284min (-0.077) 0.74ng m

response 10377

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	1.30#
0.00	0.00	0.00
0.00	0.00	0.00

LH 3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:20:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

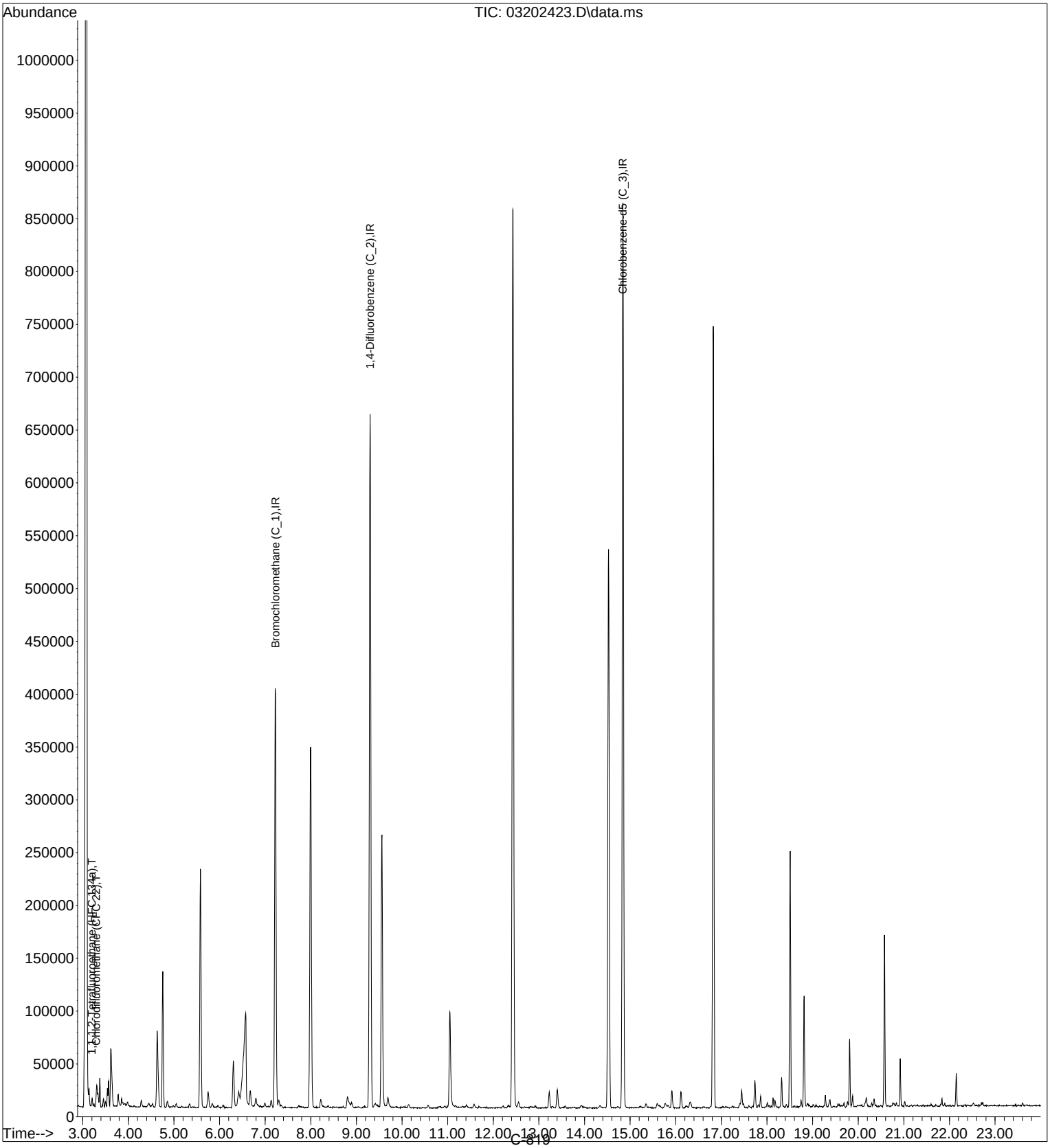
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145867	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	625088	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	142664	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	233	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1865m	0.139	ng		
4) 1,1-Difluoroethane	3.25	65	880	N.D.			
5) Chlorodifluoromethane ...	3.30	67	604	0.141	ng	#	77
6) 1-Chloro-1,1-Difluoroe...	3.51	65	415	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1664	N.D.			
12) 2-Methylpentane	6.57	71	116	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.56	56	560	N.D.			
18) Dibromomethane	9.79	174	55	N.D.			
20) Methyl Cyclohexane	11.42	55	872	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	53	N.D.			
25) Bromobenzene	17.11	77	156	N.D.			
26) 2-Chlorotoluene	17.60	91	683	N.D.			
27) 4-Chlorotoluene	17.72	91	720	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	565	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202423.D Vial: 5
Acq On : 20 Mar 2024 17:48 Operator: SC
Sample : P2400922-016 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:20:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202423.D
Acq On : 20 Mar 2024 17:48
Operator : SC
Sample : P2400922-016 (400mL)
Misc : S37-02202408
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202423.D\data.ms

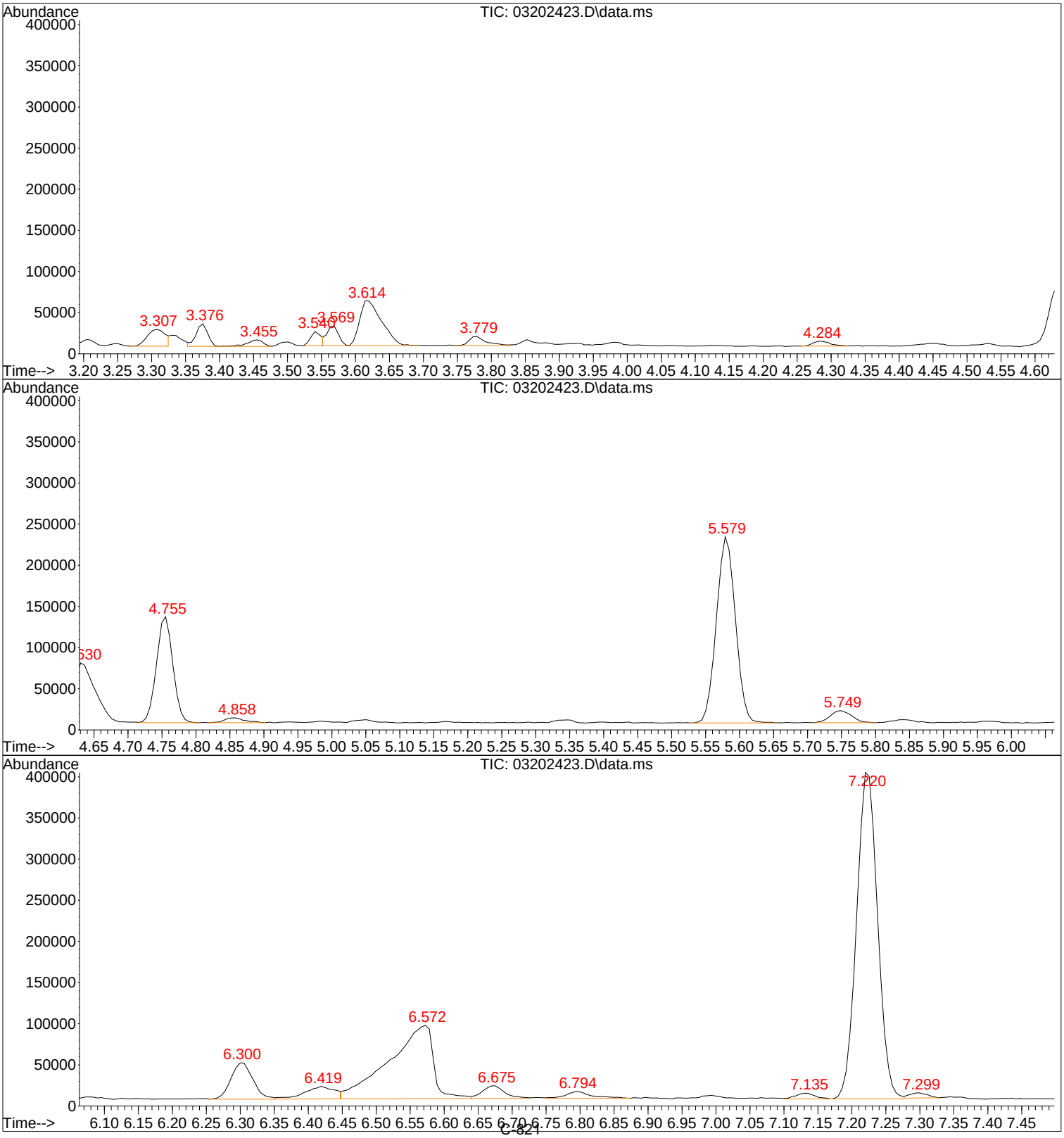
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	68	75	78	rBV4	20547	38947	4.55%	1.475%
2	3.376	83	87	91	rVB	27494	32247	3.77%	1.222%
3	3.455	91	101	105	rBV5	7972	12866	1.50%	0.487%
4	3.540	113	116	118	rBV	17279	19000	2.22%	0.720%
5	3.569	118	121	125	rVV	24114	27975	3.27%	1.060%
6	3.614	125	129	143	rVB	54274	122057	14.26%	4.624%
7	3.779	152	158	167	rBV3	11146	19875	2.32%	0.753%
8	4.284	242	247	254	rBV3	6064	10424	1.22%	0.395%
9	4.630	299	308	323	rBV	72482	163781	19.13%	6.205%
10	4.755	323	330	339	rVB	128781	215802	25.20%	8.176%
11	4.858	341	348	356	rBV5	5883	12607	1.47%	0.478%
12	5.579	466	475	488	rBV2	226182	441161	51.52%	16.713%
13	5.749	498	505	514	rBV	14653	32094	3.75%	1.216%
14	6.300	594	602	611	rBV	44141	99810	11.66%	3.781%
15	6.419	611	623	628	rVV5	15454	47432	5.54%	1.797%
16	6.572	628	650	662	rVV2	89342	404061	47.19%	15.308%
17	6.675	662	668	677	rVV	15540	35685	4.17%	1.352%
18	6.794	681	689	703	rVB3	8256	22652	2.65%	0.858%
19	7.135	743	749	755	rVB4	6980	13734	1.60%	0.520%
20	7.220	755	764	774	rBV	396668	856229	100.00%	32.438%
21	7.299	774	778	783	rVB2	6058	11177	1.31%	0.423%

Sum of corrected areas: 2639616

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202423.D
Acq On : 20 Mar 2024 17:48
Operator : SC
Sample : P2400922-016 (400mL)
Misc : S37-02202408
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202423.D
Acq On : 20 Mar 2024 17:488
Operator : SCC
Sample : P2400922-016 (400mL))
Misc : S37-022024088
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:21:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145966	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	625586	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	141794	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	301519	12.627	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	12.43	98	717650	12.605	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	16.83	174	255043	12.707	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	3.30	42	5021	0.302	ng	#	48
3) Dichlorodifluoromethan...	3.37	85	17576	0.587	ng		98
4) Chloromethane	3.49	50	2924	0.131	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	313	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	331	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	33933	2.406	ng		77
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	3738	0.370	ng		97
13) Acetone	4.63	58	34863	3.248	ng		90
14) Trichlorofluoromethane	4.76	101	153916	5.312	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	12754	0.298	ng		95
16) Acrylonitrile	4.98	53	696	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	1126	0.072	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	69311	5.674	ng		100
22) Carbon Disulfide	5.59	76	11892	0.245	ng	#	42
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	250	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	6896	0.786	ng	#	92
28) cis-1,2-Dichloroethene	7.07	61	161	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	3031	0.575	ng		89
31) n-Hexane	7.30	57	1572	0.069	ng	#	89
32) Chloroform	7.36	83	2492	0.098	ng		97
34) Tetrahydrofuran (THF)	7.78	72	172	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	107	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	3791	No Calib		#	
40) 1-Butanol	8.80	56	16315	No Calib		#	
41) Benzene	8.90	78	3445	0.061	ng		95
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	159	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	270	N.D.			
47) Trichloroethene	10.15	130	3428	0.226	ng		98
48) 1,4-Dioxane	10.13	88	228	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:21:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

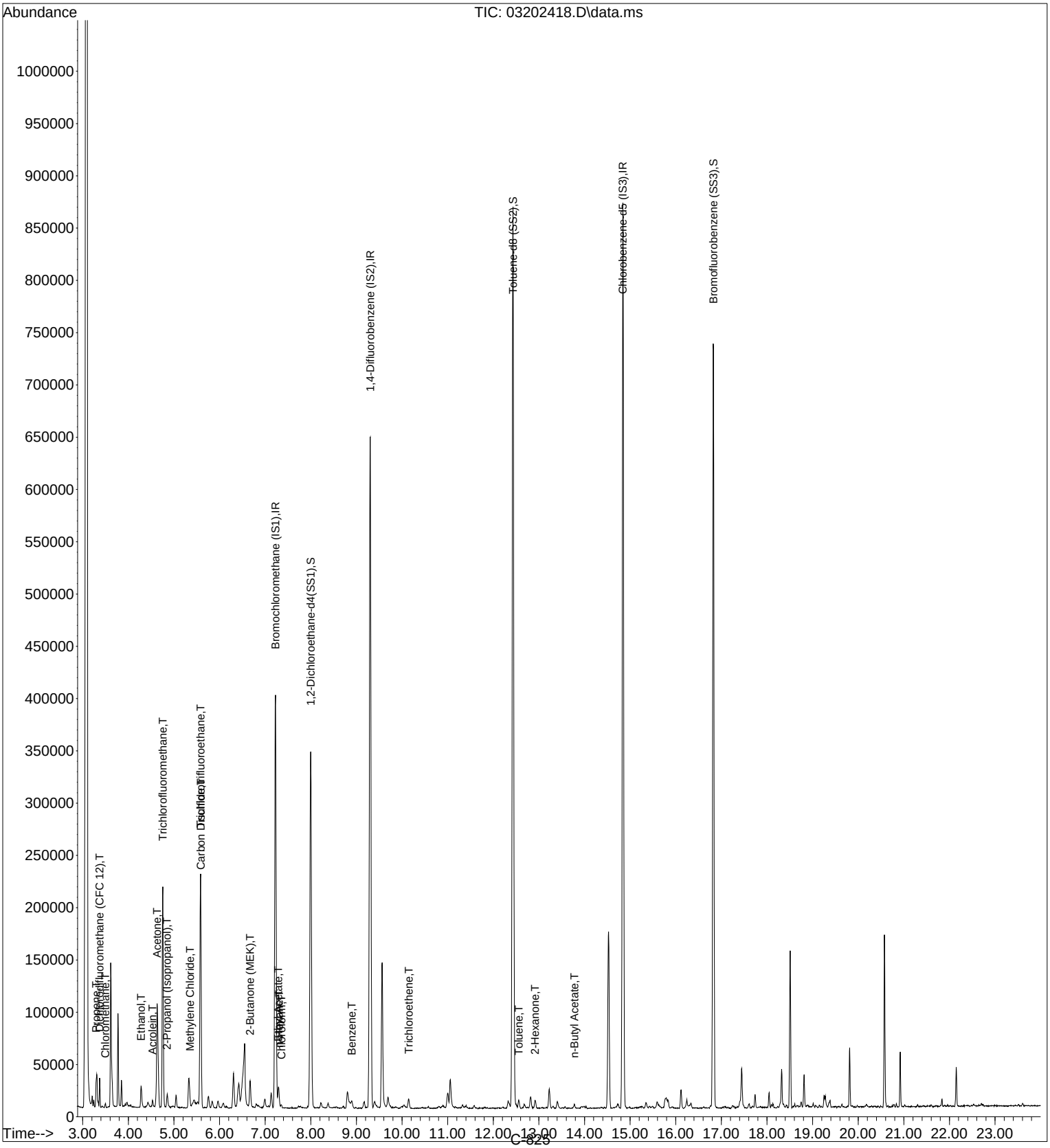
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.57	71	297	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	6697	0.123 ng	97
59) 2-Hexanone	12.92	43	7843	0.248 ng	91
60) Dibromochloromethane	13.06	129	305	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	3809	0.109 ng	78
63) n-Octane	13.93	57	232	N.D.	
64) Tetrachloroethene	14.03	166	646	N.D.	
65) Chlorobenzene	14.89	112	547	N.D.	
66) Ethylbenzene	15.41	91	1320	N.D.	
67) m- & p-Xylenes	15.63	91	2504	N.D.	
68) Bromoform	15.66	173	436	N.D.	
69) Styrene	16.10	104	458	N.D.	
70) o-Xylene	16.24	91	1150	N.D.	
71) n-Nonane	16.62	43	1135	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	417	N.D.	
74) Cumene	17.04	105	991	N.D.	
75) alpha-Pinene	17.53	93	262	N.D.	
76) n-Propylbenzene	17.68	91	1249	N.D.	
77) 3-Ethyltoluene	17.04	105	991	No Calib	#
78) 4-Ethyltoluene	17.86	105	705	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	384	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	991	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	643	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	564	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	521	N.D.	
87) sec-Butylbenzene	18.75	105	920	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	729	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	991	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	536	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	799	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	571	N.D.	
98) Cyclohexanone	15.35	55	1799	No Calib	#
99) tert-Butylbenzene	18.43	119	821	N.D.	
100) n-Butylbenzene	19.38	91	996	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:21:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:21:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

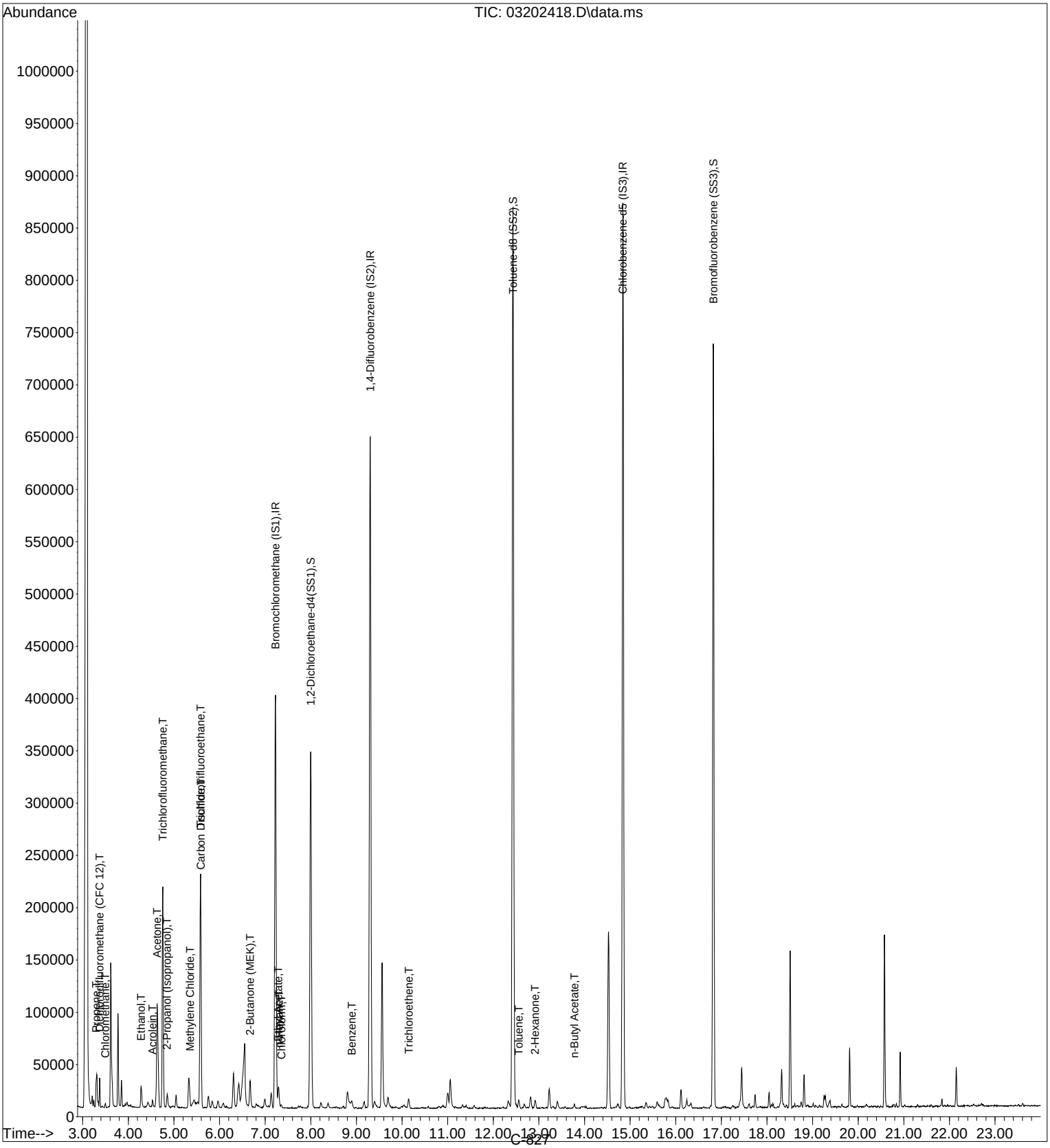
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145966	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	625586	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	141794	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	301519	12.627	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	12.43	98	717650	12.605	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
73) Bromofluorobenzene (SS3)	16.83	174	255043	12.707	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
Target Compounds							Qvalue
2) Propene	3.30	42	5021	0.302	ng	#	48
3) Dichlorodifluoromethan...	3.37	85	17576	0.587	ng		98
4) Chloromethane	3.49	50	2924	0.131	ng		99
10) Ethanol	4.28	45	33933	2.406	ng		77
12) Acrolein	4.53	56	3738	0.370	ng		97
13) Acetone	4.63	58	34863	3.248	ng		90
14) Trichlorofluoromethane	4.76	101	153916	5.312	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	12754	0.298	ng		95
19) Methylene Chloride	5.35	84	1126	0.072	ng		98
21) Trichlorotrifluoroethane	5.58	151	69311	5.674	ng		100
22) Carbon Disulfide	5.59	76	11892	0.245	ng	#	42
27) 2-Butanone (MEK)	6.67	72	6896	0.786	ng	#	92
30) Ethyl Acetate	7.29	61	3031	0.575	ng		89
31) n-Hexane	7.30	57	1572	0.069	ng	#	89
32) Chloroform	7.36	83	2492	0.098	ng		97
41) Benzene	8.90	78	3445	0.061	ng		95
47) Trichloroethene	10.15	130	3428	0.226	ng		98
58) Toluene	12.56	91	6697	0.123	ng		97
59) 2-Hexanone	12.92	43	7843	0.248	ng		91
62) n-Butyl Acetate	13.78	43	3809	0.109	ng		78

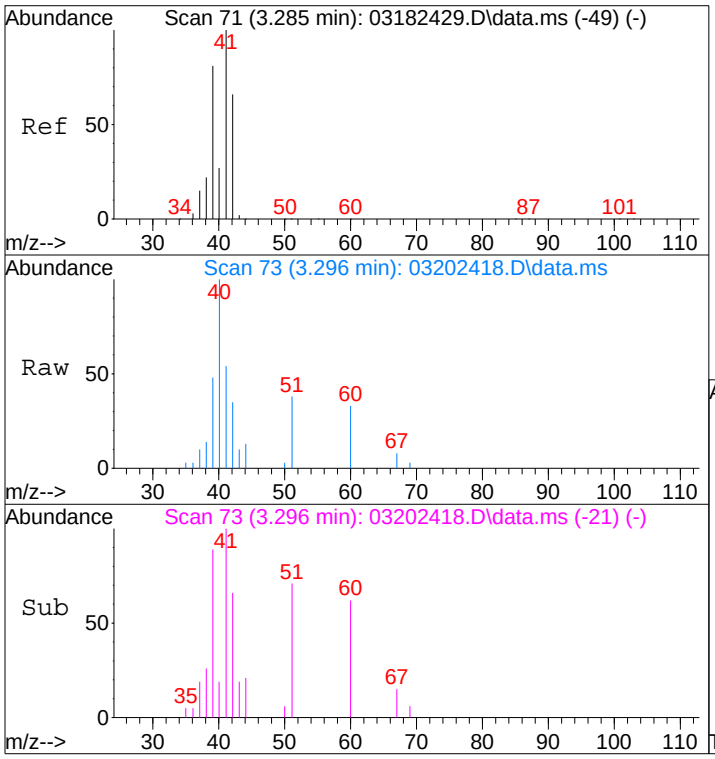
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:21:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

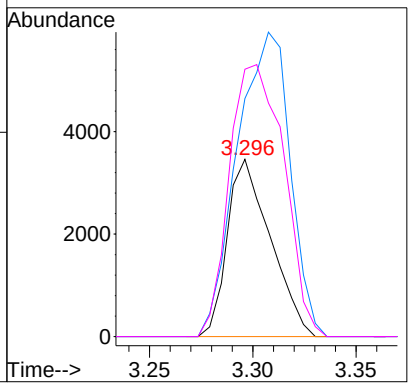


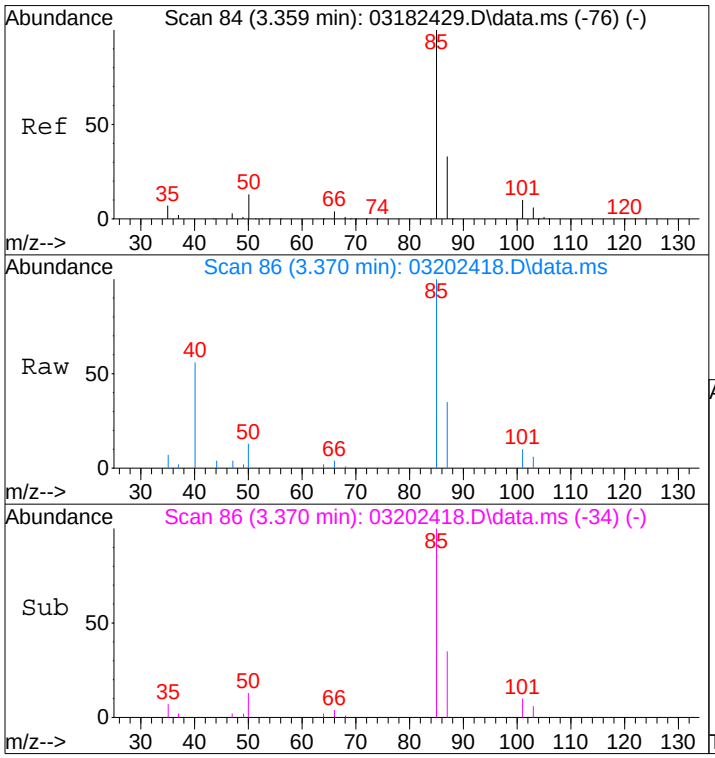


#2
Propene
Concen: 0.30 ng
RT: 3.30 min Scan# 73
Delta R.T. 0.047 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 42 Resp: 5021

Ion	Ratio	Lower	Upper
42	100		
39	210.5	102.3	142.3#
41	193.9	133.8	173.8#

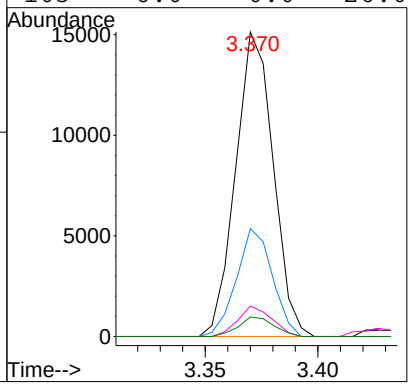


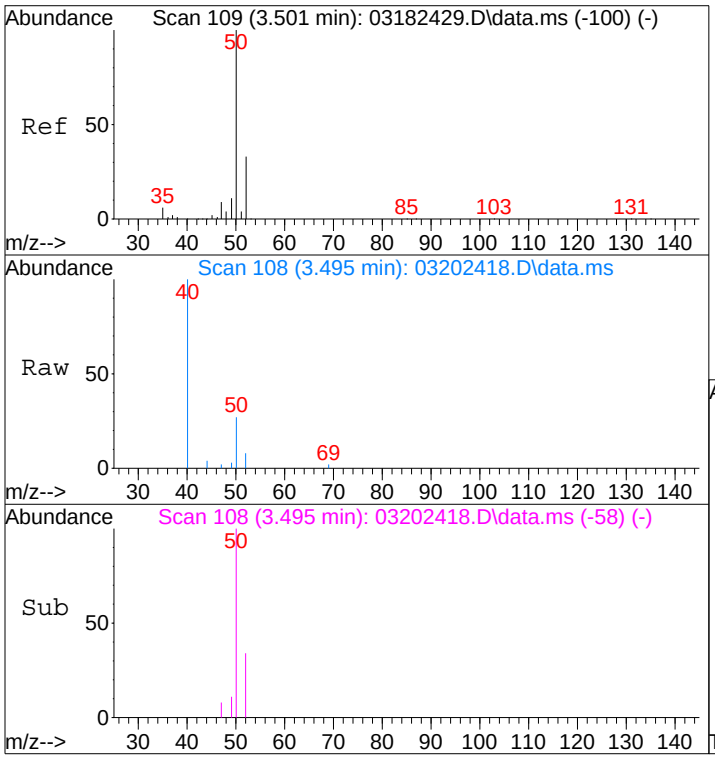


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.048 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 85 Resp: 17576

Ion	Ratio	Lower	Upper
85	100		
87	33.8	12.5	52.5
101	9.0	0.0	29.2
103	6.0	0.0	26.0

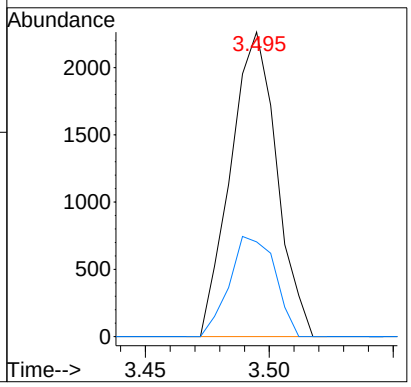


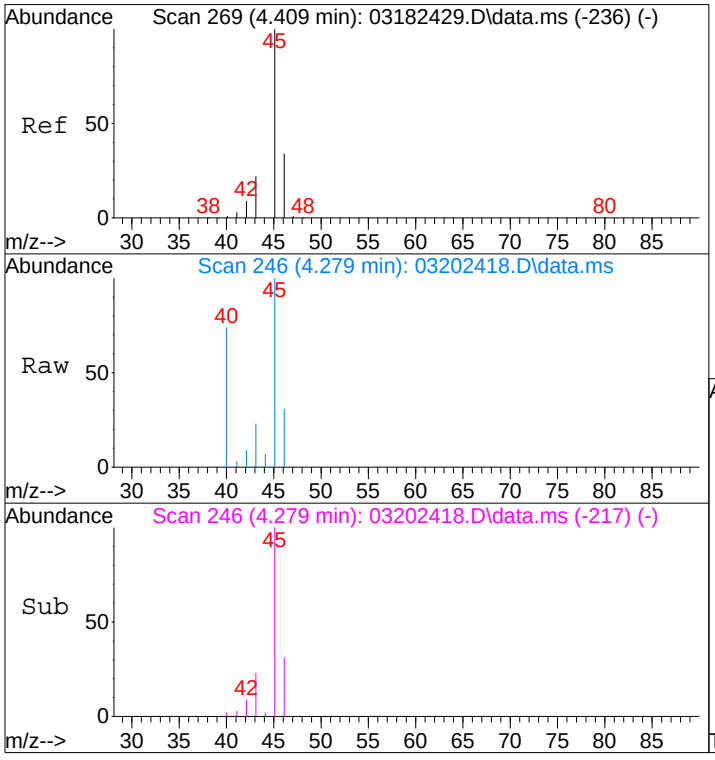


#4
Chloromethane
Concen: 0.13 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.032 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 50 Resp: 2924

Ion	Ratio	Lower	Upper
50	100		
52	32.7	12.3	52.3

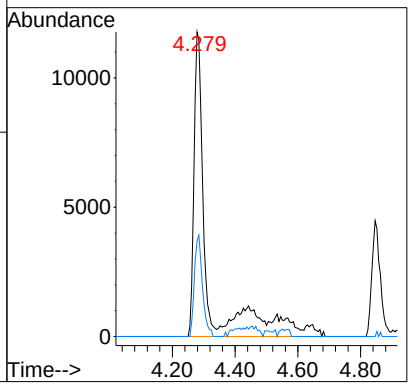


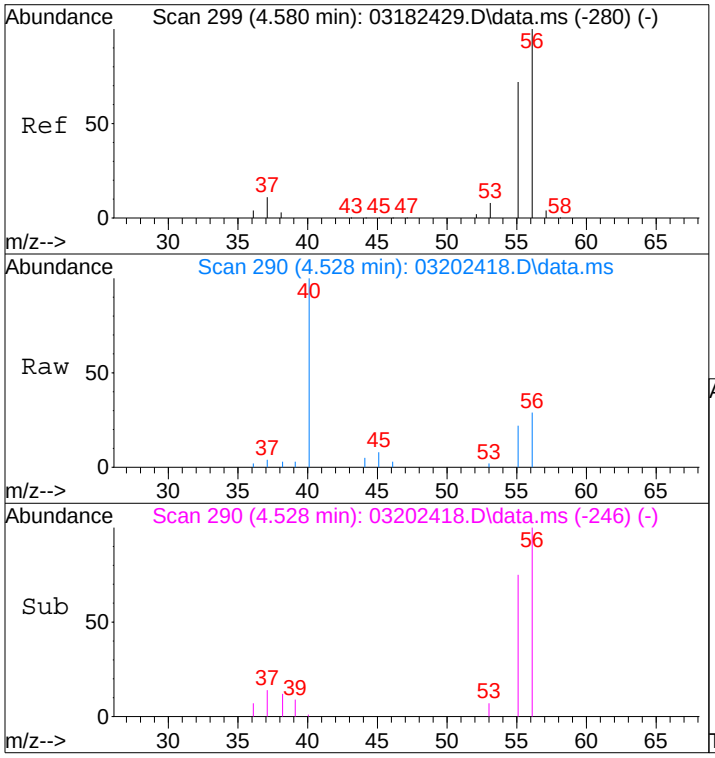


#10
Ethanol
Concen: 2.41 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.083 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 45 Resp: 33933

Ion	Ratio	Lower	Upper
45	100		
46	20.5	13.3	53.3

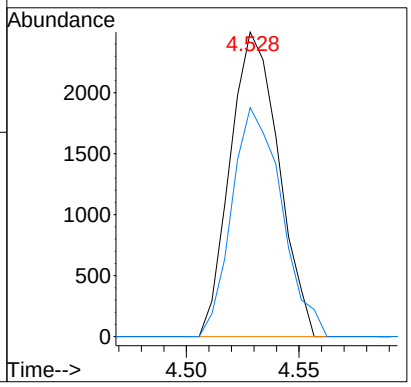


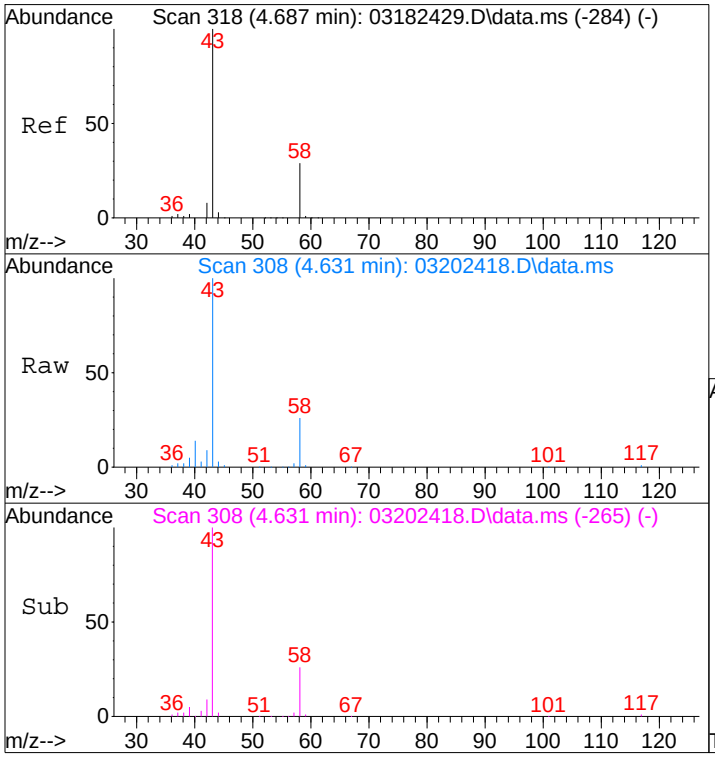


#12
Acrolein
Concen: 0.37 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.001 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 56 Resp: 3738

Ion	Ratio	Lower	Upper
56	100		
55	77.4	54.9	94.9

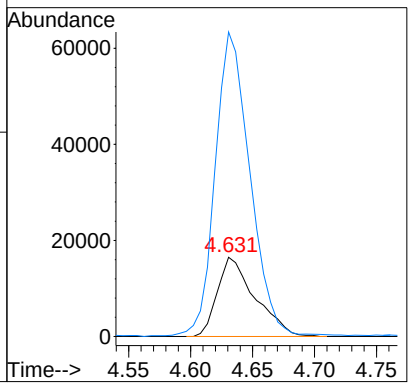


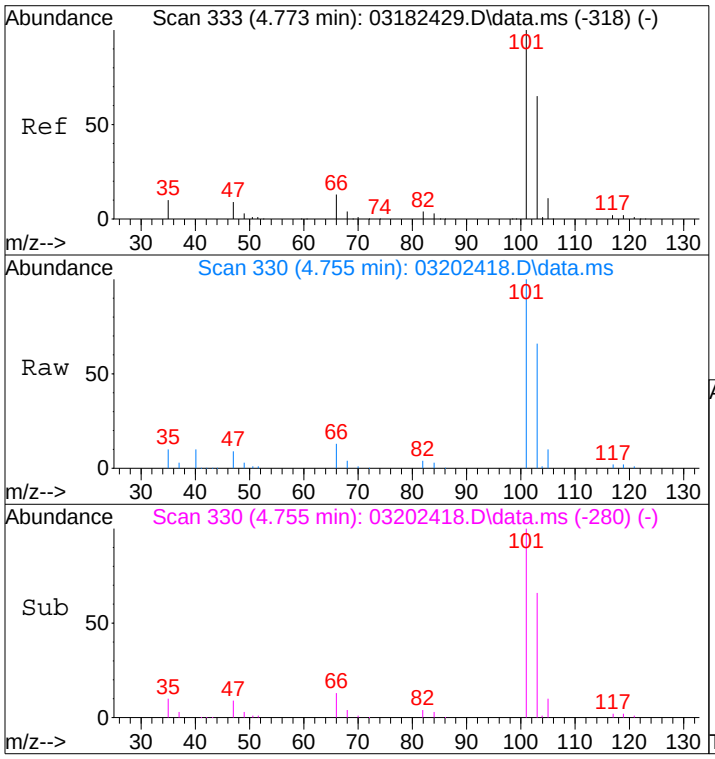


#13
Acetone
Concen: 3.25 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 58 Resp: 34863

Ion	Ratio	Lower	Upper
58	100		
43	358.1	350.1	410.1

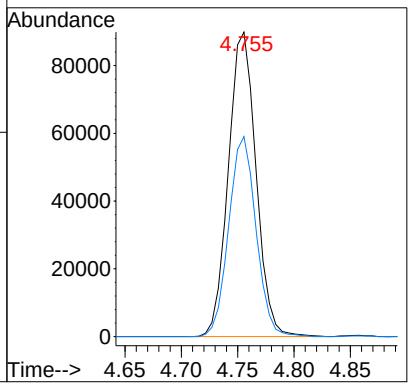


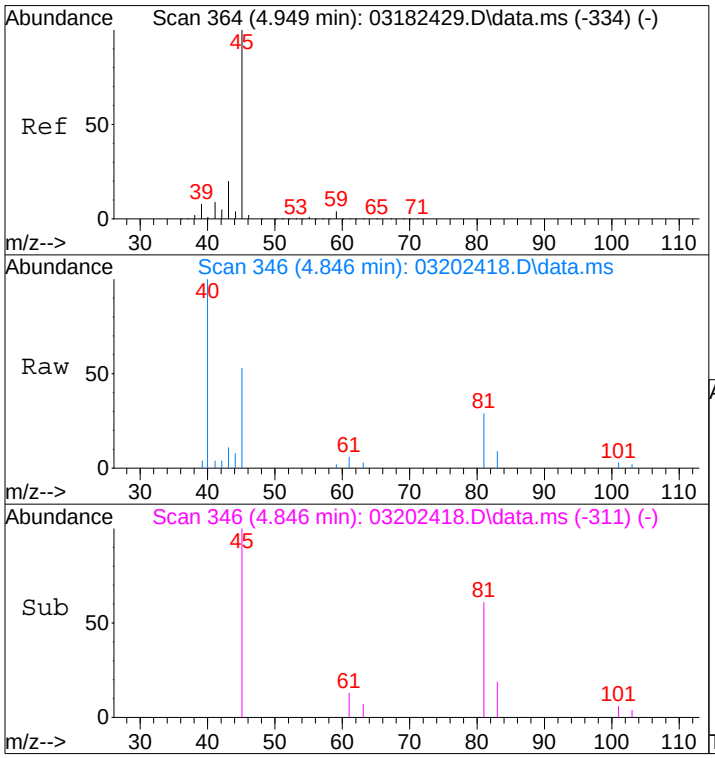


#14
Trichlorofluoromethane
Concen: 5.31 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion:101 Resp: 153916

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.7	84.7

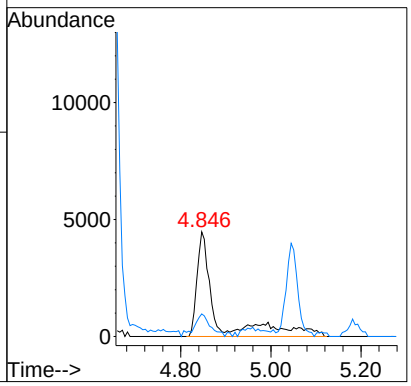


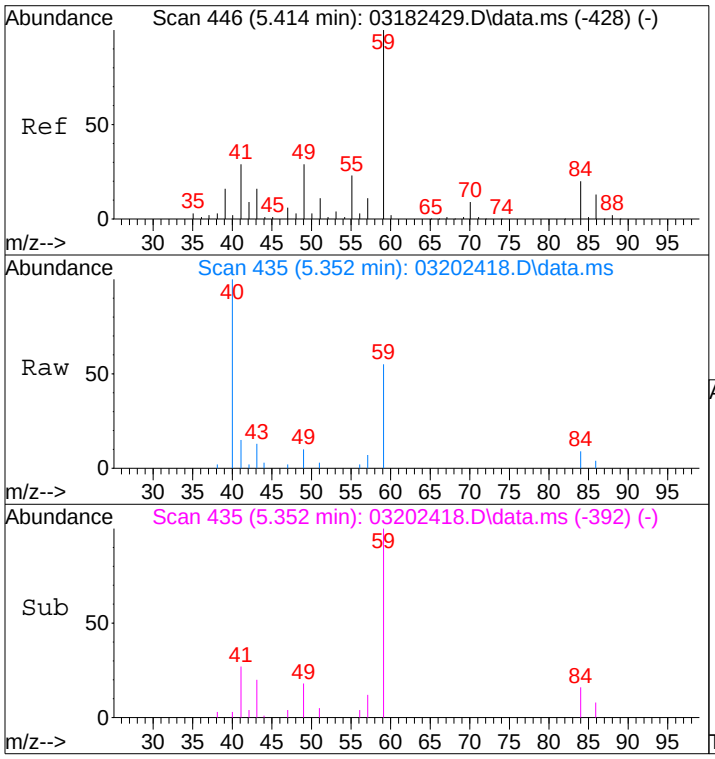


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.049 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 45 Resp: 12754

Ion	Ratio	Lower	Upper
45	100		
43	18.2	0.4	40.4

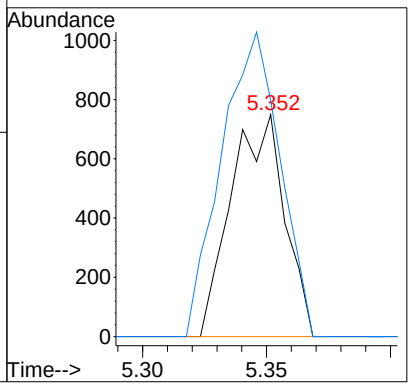


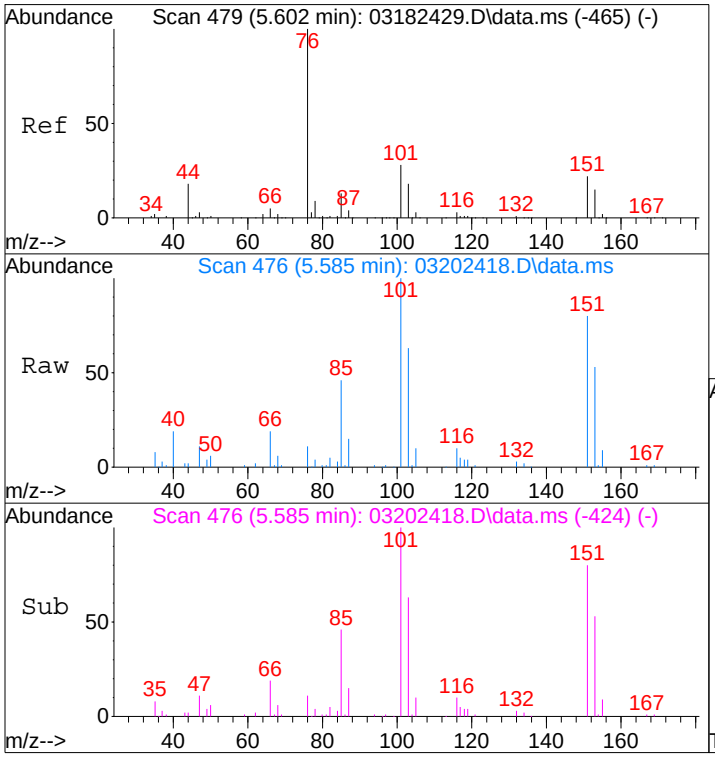


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.004 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 84 Resp: 1126

Ion	Ratio	Lower	Upper
84	100		
49	150.6	122.9	172.9

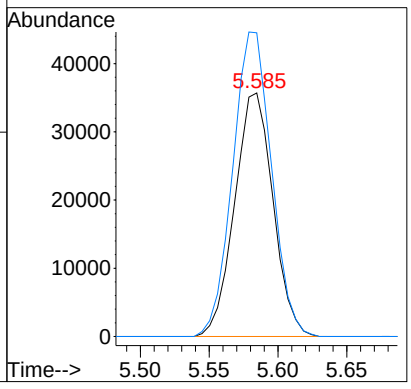


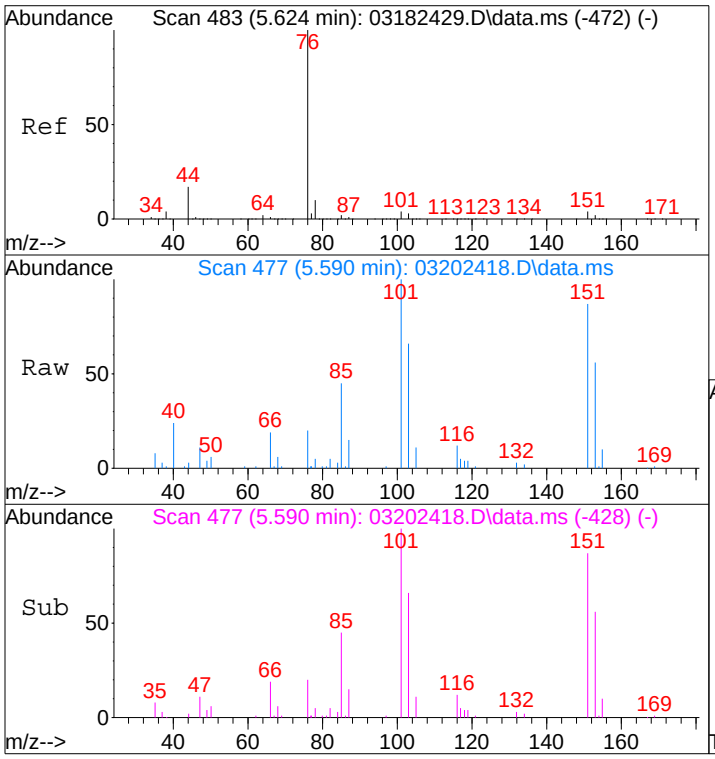


#21
Trichlorotrifluoroethane
Concen: 5.67 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion:151 Resp: 69311

Ion	Ratio	Lower	Upper
151	100		
101	126.5	106.4	146.4

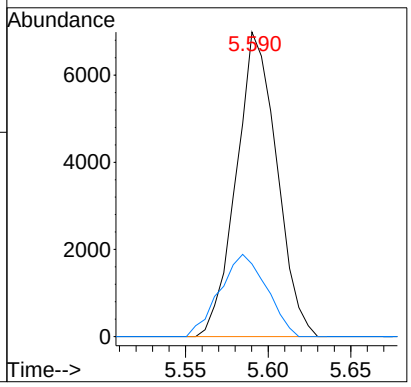


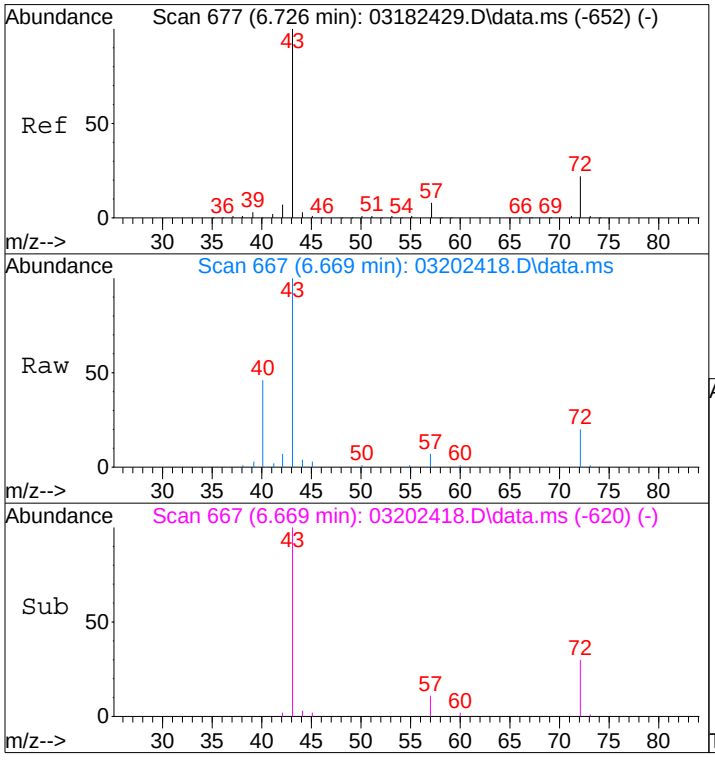


#22
Carbon Disulfide
Concen: 0.24 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 76 Resp: 11892

Ion	Ratio	Lower	Upper
76	100		
78	31.3	0.0	29.8#

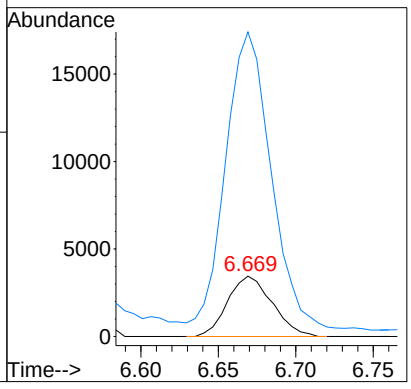


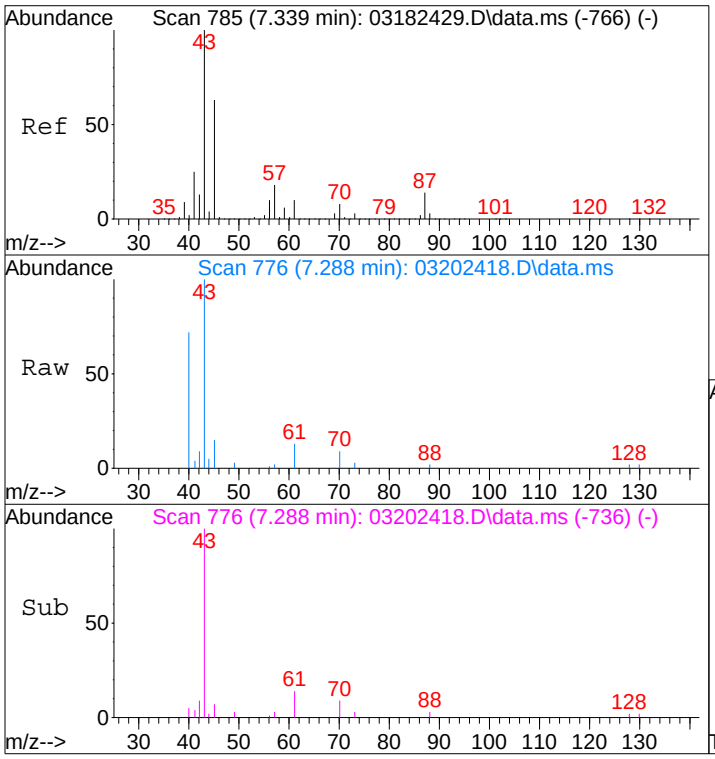


#27
2-Butanone (MEK)
Concen: 0.79 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 72 Resp: 6896

Ion	Ratio	Lower	Upper
72	100		
43	510.7	468.6	508.6#

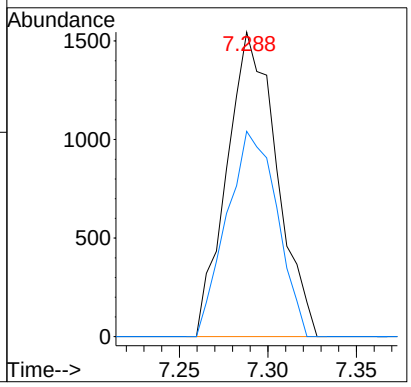


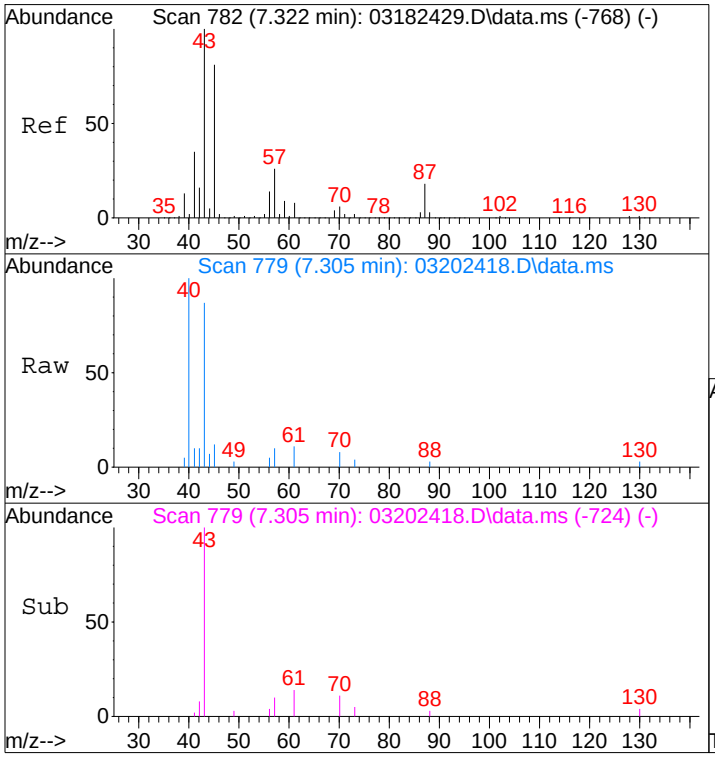


#30
Ethyl Acetate
Concen: 0.58 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.029 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 61 Resp: 3031

Ion	Ratio	Lower	Upper
61	100		
70	67.9	57.3	97.3

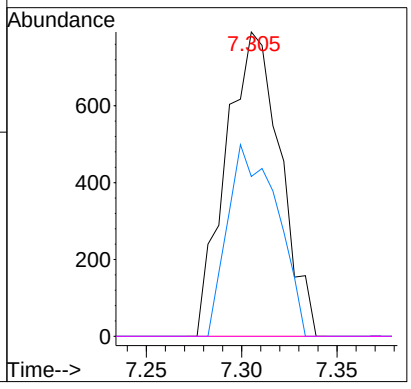


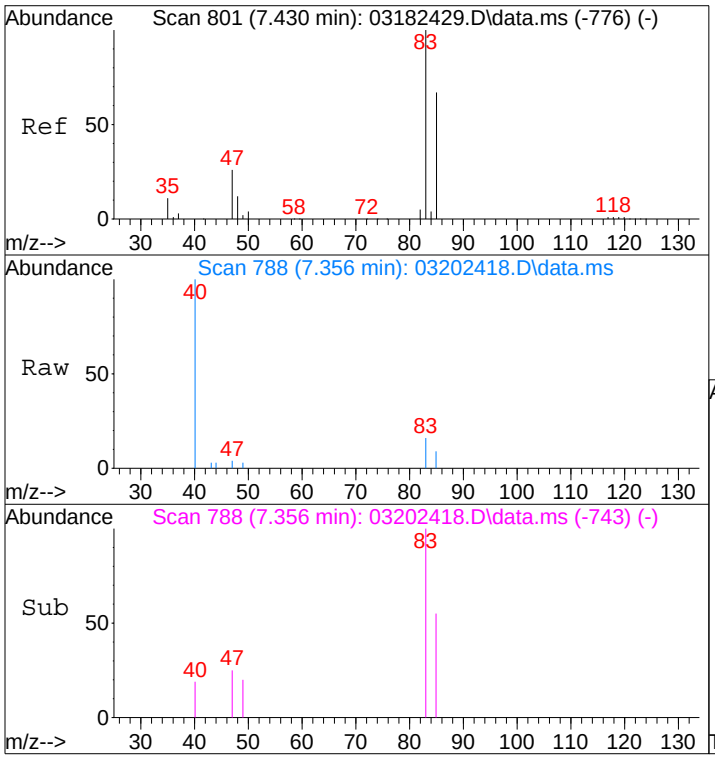


#31
n-Hexane
Concen: 0.07 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.062 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 57 Resp: 1572

Ion	Ratio	Lower	Upper
57	100		
56	57.4	42.2	63.4
86	0.0	9.4	14.2#

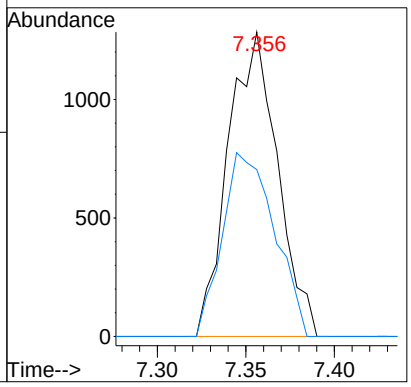


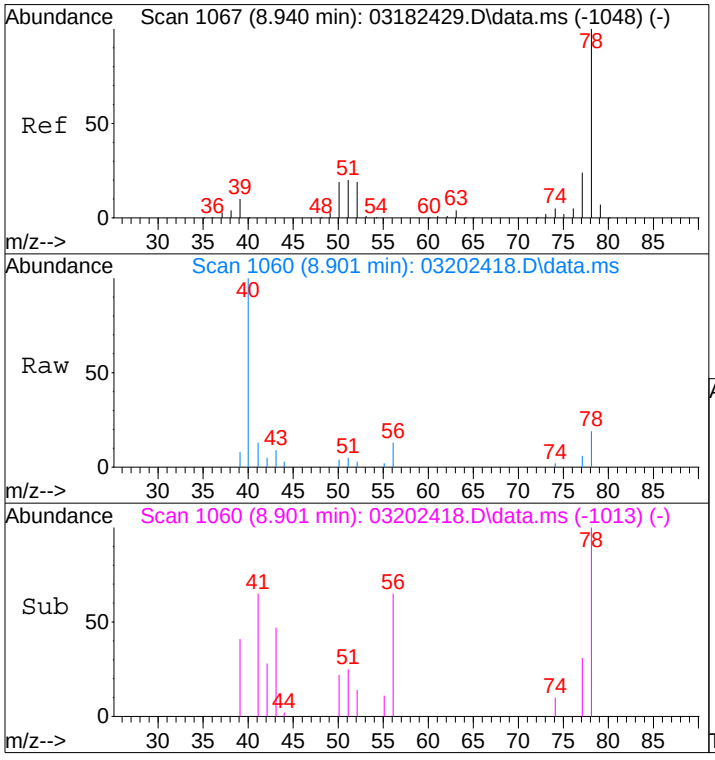


#32
Chloroform
Concen: 0.10 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.007 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 83 Resp: 2492

Ion	Ratio	Lower	Upper
83	100		
85	63.8	46.1	86.1

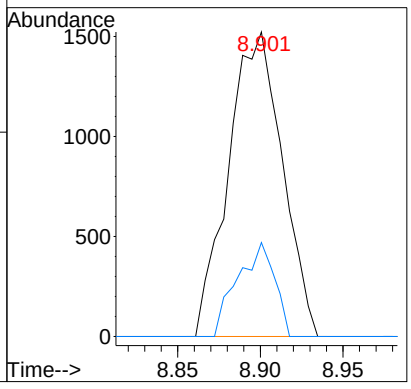


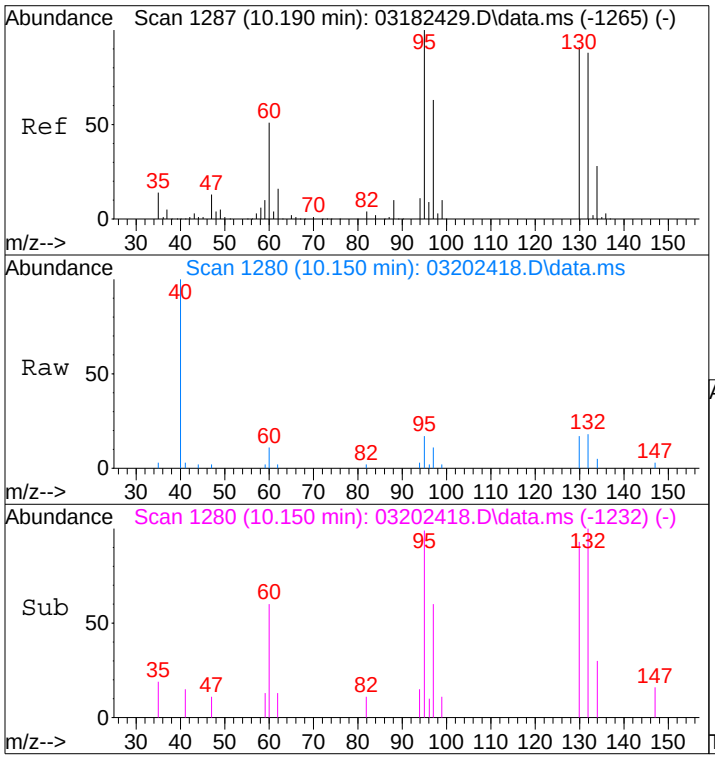


#41
Benzene
Concen: 0.06 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.015 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 78 Resp: 3445

Ion	Ratio	Lower	Upper
78	100		
77	21.3	3.6	43.6

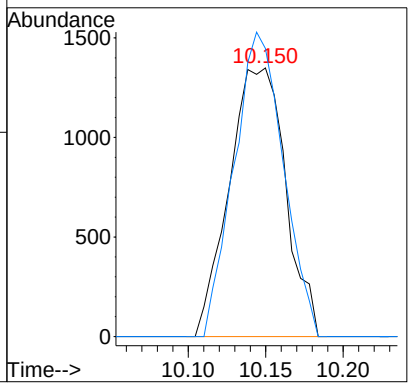


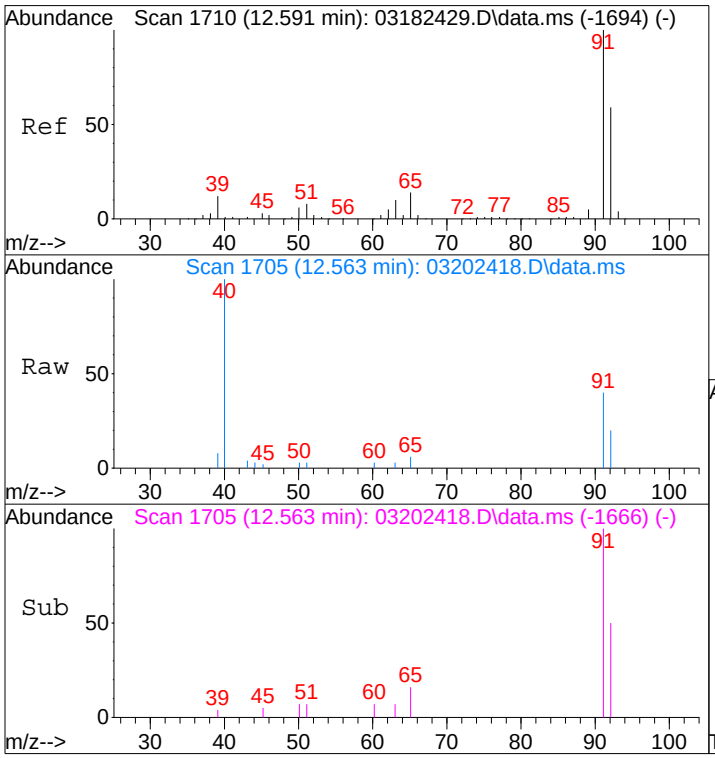


#47
Trichloroethene
Concen: 0.23 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion:130 Resp: 3428

Ion	Ratio	Lower	Upper
130	100		
132	99.2	77.5	117.5

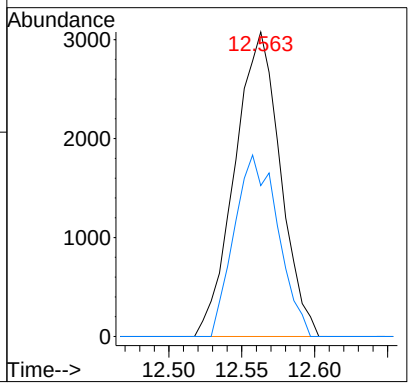


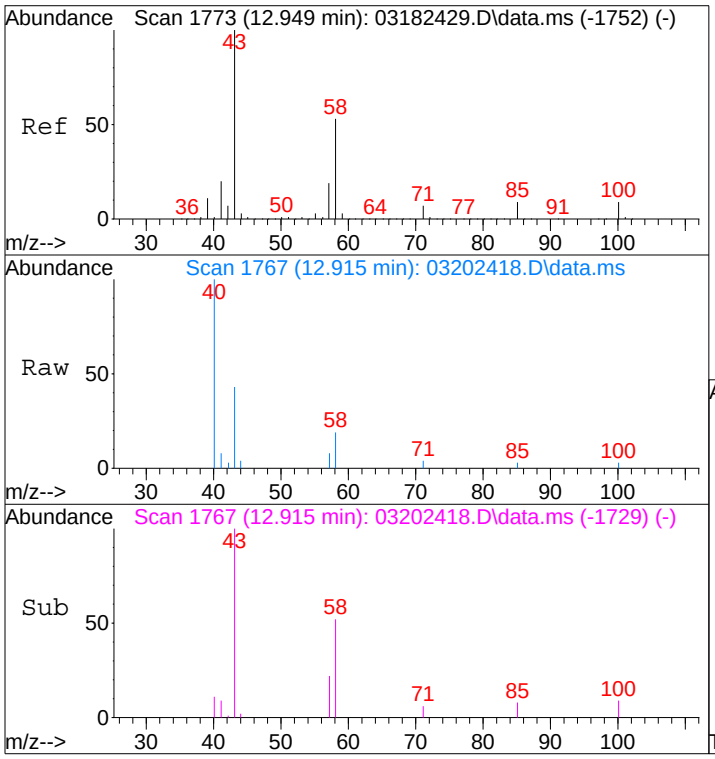


#58
Toluene
Concen: 0.12 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 91 Resp: 6697

Ion	Ratio	Lower	Upper
91	100		
92	57.2	39.2	79.2

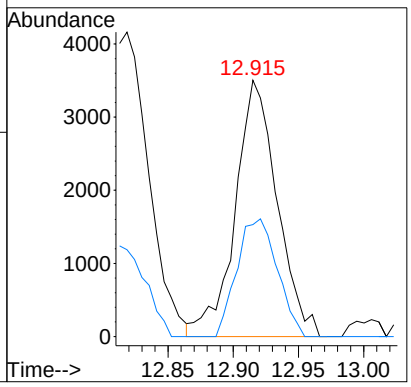


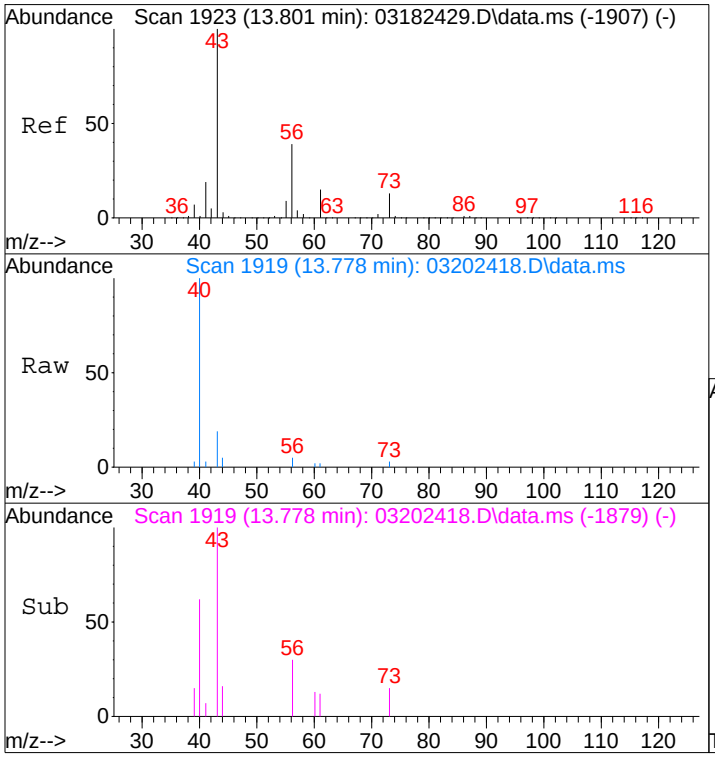


#59
2-Hexanone
Concen: 0.25 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 43 Resp: 7843

Ion	Ratio	Lower	Upper
43	100		
58	44.1	30.2	70.2

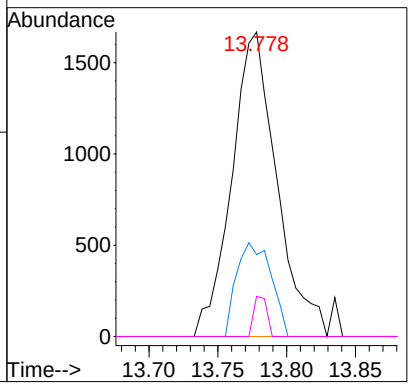




#62
n-Butyl Acetate
Concen: 0.11 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 03202418.D
Acq: 20 Mar 2024 14:49

Tgt Ion: 43 Resp: 3809

Ion	Ratio	Lower	Upper
43	100		
56	23.5	16.7	56.7
73	3.8	0.0	31.3



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

3/21/24

Quant Time: Mar 21 10:17:37 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

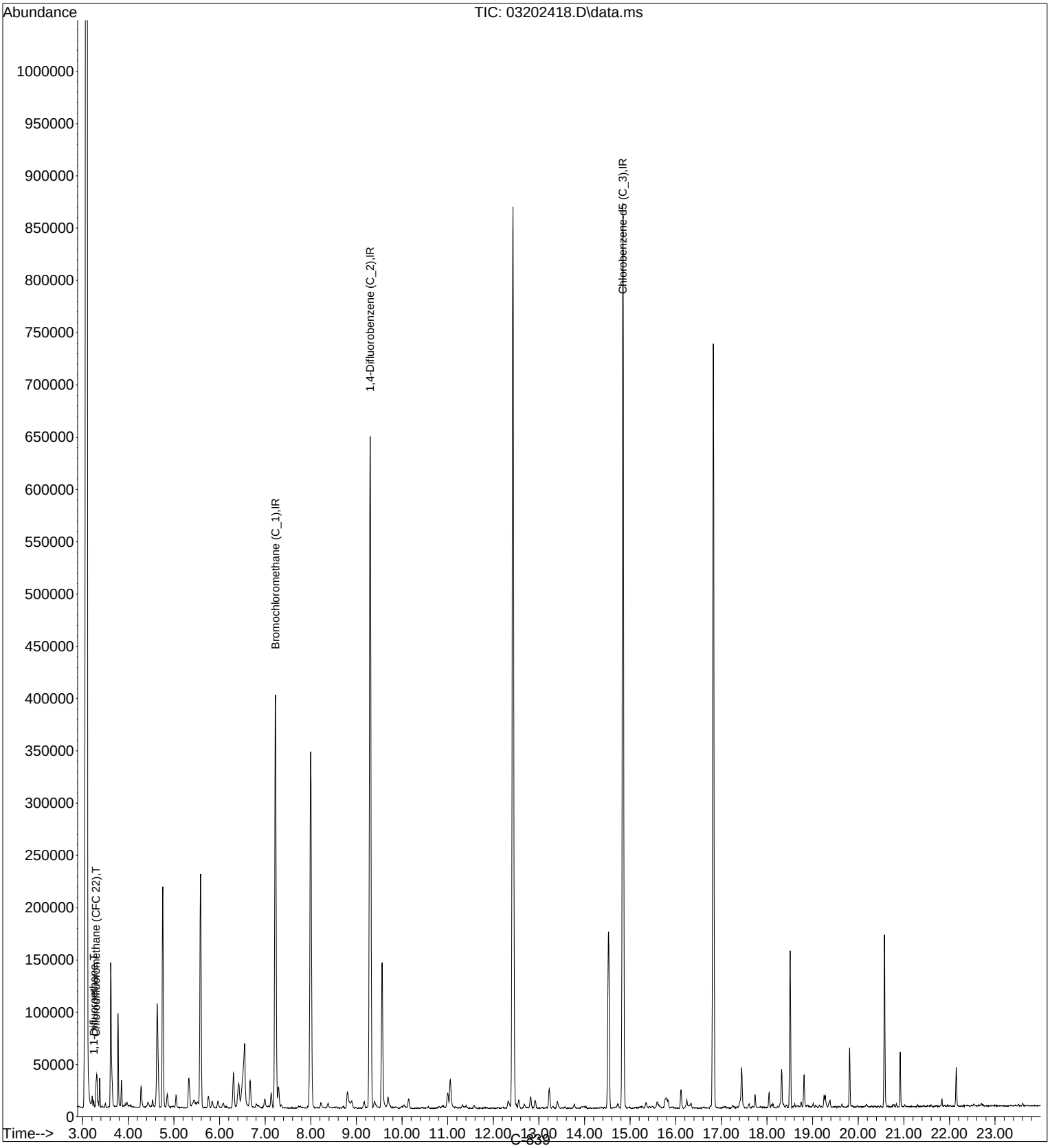
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145966	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	625586	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	141794	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	146	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1209	N.D.			
4) 1,1-Difluoroethane	3.25	65	1822	0.165	ng	#	60
5) Chlorodifluoromethane ...	3.29	67	1019	0.238	ng		92
6) 1-Chloro-1,1-Difluoroe...	3.50	65	297	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.60	83	182	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	0.00	43	0	N.D.	d		
12) 2-Methylpentane	6.49	71	55	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.55	56	327	N.D.			
18) Dibromomethane	9.80	174	65	N.D.			
20) Methyl Cyclohexane	11.42	55	329	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	576	N.D.			
27) 4-Chlorotoluene	17.68	91	1249	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	51	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202418.D Vial: 6
Acq On : 20 Mar 2024 14:49 Operator: SC
Sample : P2400922-017 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:17:37 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202418.D
Acq On : 20 Mar 2024 14:49
Operator : SC
Sample : P2400922-017 (400mL)
Misc : S37-02202408
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202418.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.308	67	75	83	rBV4	31283	67568	7.92%	2.184%
2	3.370	83	86	91	rVB	28228	31628	3.71%	1.022%
3	3.614	124	129	143	rBV	137616	229071	26.85%	7.405%
4	3.773	152	157	166	rBV	88848	112303	13.16%	3.630%
5	3.847	166	170	177	rVB	25061	32006	3.75%	1.035%
6	4.279	242	246	258	rVB	20117	37604	4.41%	1.216%
7	4.631	299	308	319	rVB	99262	228235	26.75%	7.378%
8	4.755	322	330	338	rVV	211084	356728	41.82%	11.532%
9	4.852	341	347	358	rVB4	12881	25543	2.99%	0.826%
10	5.045	376	381	389	rVB2	11565	18583	2.18%	0.601%
11	5.329	423	431	440	rBV	28397	67587	7.92%	2.185%
12	5.437	440	450	456	rBV5	5713	18828	2.21%	0.609%
13	5.585	468	476	486	rVB2	223873	442955	51.92%	14.319%
14	5.755	499	506	514	rBV	11070	24605	2.88%	0.795%
15	5.834	514	520	528	rBV4	6330	13797	1.62%	0.446%
16	5.965	535	543	552	rBV5	6693	16069	1.88%	0.519%
17	6.084	556	564	572	rVV4	4214	10498	1.23%	0.339%
18	6.306	594	603	611	rBV	33286	74194	8.70%	2.398%
19	6.419	614	623	629	rVV4	23307	68177	7.99%	2.204%
20	6.550	629	646	660	rVV2	61117	228225	26.75%	7.378%
21	6.669	660	667	678	rVB	24951	52238	6.12%	1.689%
22	6.993	716	724	731	rBV2	8158	18697	2.19%	0.604%
23	7.129	743	748	755	rVB3	14154	27894	3.27%	0.902%
24	7.226	755	765	773	rBV	394857	853103	100.00%	27.578%
25	7.294	773	777	784	rVB	18654	37248	4.37%	1.204%

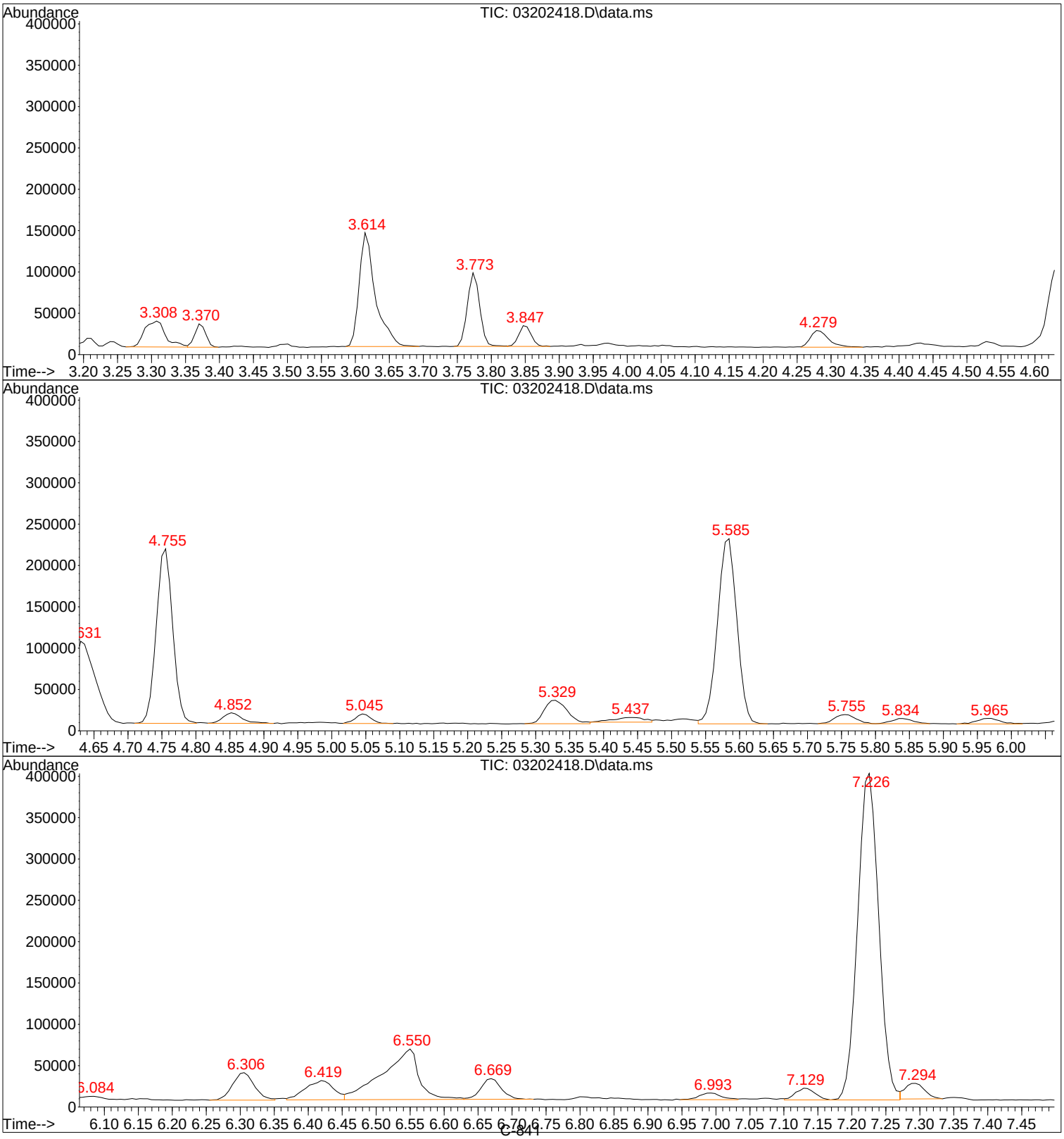
Sum of corrected areas: 3093384

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202418.D
Acq On : 20 Mar 2024 14:49
Operator : SC
Sample : P2400922-017 (400mL)
Misc : S37-02202408
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202418.D
Acq On : 20 Mar 2024 14:499
Operator : SCC
Sample : P2400922-017 (400mL))
Misc : S37-022024088
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

3/20/24

Quant Time: Mar 20 15:53:35 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	142396	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	614359	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	140675	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	297494	12.770	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	12.43	98	702562	12.439	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	16.83	174	251754	12.642	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	17681	0.605	ng		99
4) Chloromethane	3.51	50	925	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	382	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	8286	0.602	ng		97
11) Acetonitrile	4.43	41	1085	N.D.			
12) Acrolein	4.53	56	1150	0.117	ng		99
13) Acetone	4.64	58	13159	1.257	ng	#	86
14) Trichlorofluoromethane	4.76	101	32517	1.150	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	2387	0.057	ng		70
16) Acrylonitrile	4.99	53	477	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	279	N.D.			
19) Methylene Chloride	5.35	84	956	0.063	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	9086	0.763	ng		100
22) Carbon Disulfide	5.60	76	58019	1.223	ng		99
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	1672	0.195	ng	#	59
28) cis-1,2-Dichloroethene	7.07	61	127	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.30	61	4156	0.809	ng		93
31) n-Hexane	7.31	57	253	N.D.			
32) Chloroform	7.35	83	7098	0.288	ng		100
34) Tetrahydrofuran (THF)	7.78	72	133	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	3948	No Calib		#	
40) 1-Butanol	8.80	56	8227	No Calib		#	
41) Benzene	8.90	78	2536	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	415	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	189	N.D.			
47) Trichloroethene	10.14	130	191	N.D.			
48) 1,4-Dioxane	10.14	88	1055	0.109	ng		92
49) 2,2,4-Trimethylpentane...	10.14	57	263	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:53:35 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

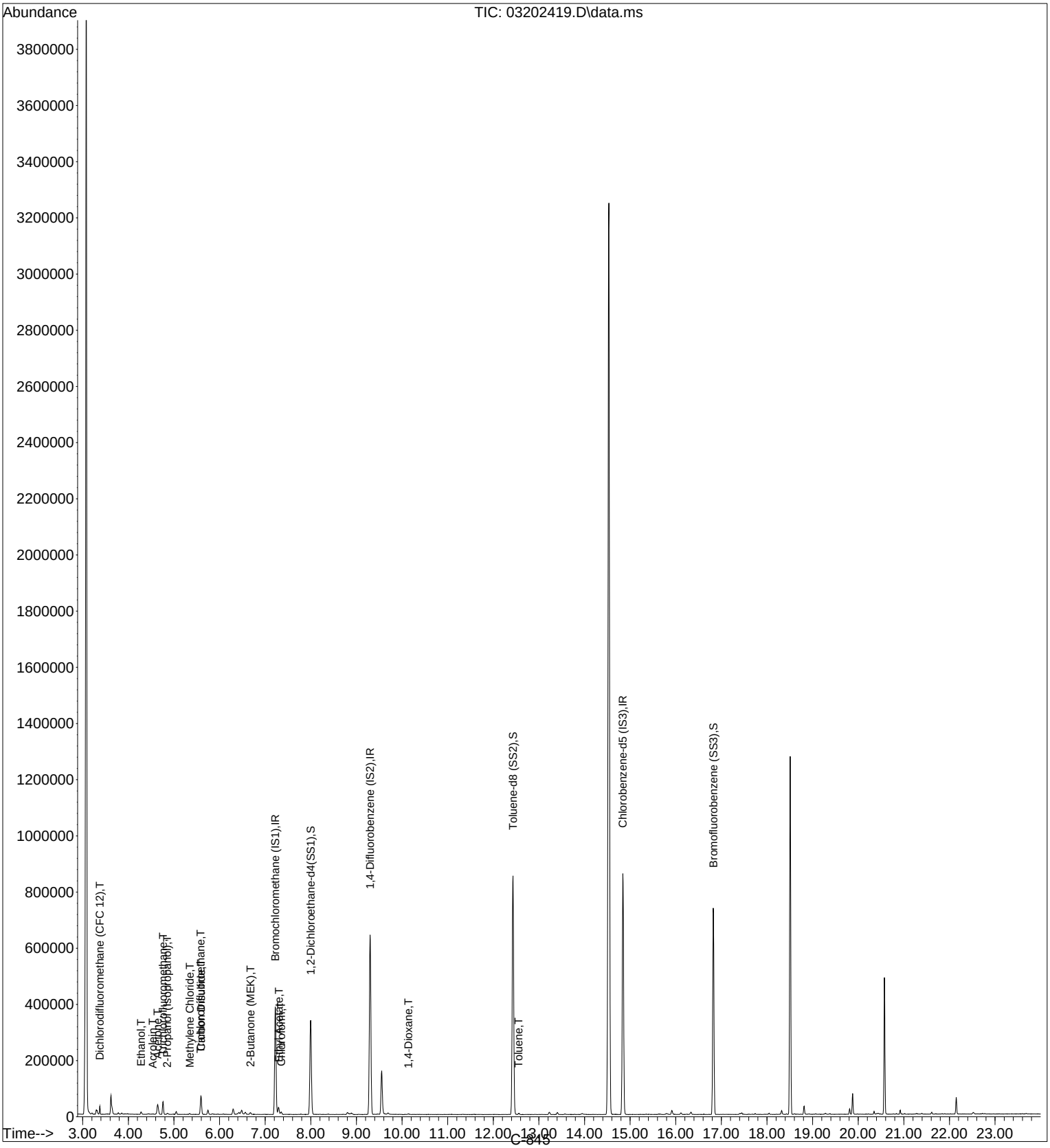
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	116	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4740	0.088 ng	95
59) 2-Hexanone	12.92	43	717	N.D.	
60) Dibromochloromethane	13.07	129	248	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	463	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	358	N.D.	
65) Chlorobenzene	14.90	112	513	N.D.	
66) Ethylbenzene	15.41	91	1409	N.D.	
67) m- & p-Xylenes	15.64	91	2546	N.D.	
68) Bromoform	15.67	173	451	N.D.	
69) Styrene	16.09	104	426	N.D.	
70) o-Xylene	16.24	91	1137	N.D.	
71) n-Nonane	16.61	43	581	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	292	N.D.	
74) Cumene	17.03	105	788	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	1170	N.D.	
77) 3-Ethyltoluene	17.03	105	788	No Calib	#
78) 4-Ethyltoluene	17.87	105	752	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	362	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	788	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	804	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.57	146	528	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	524	N.D.	
87) sec-Butylbenzene	18.74	105	840	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1626	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	788	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	405	N.D.	
91) d-Limonene	19.09	68	105	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	745	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	452	N.D.	
98) Cyclohexanone	15.35	55	434	No Calib	#
99) tert-Butylbenzene	18.42	119	725	N.D.	
100) n-Butylbenzene	19.38	91	811	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:53:35 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:53:35 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

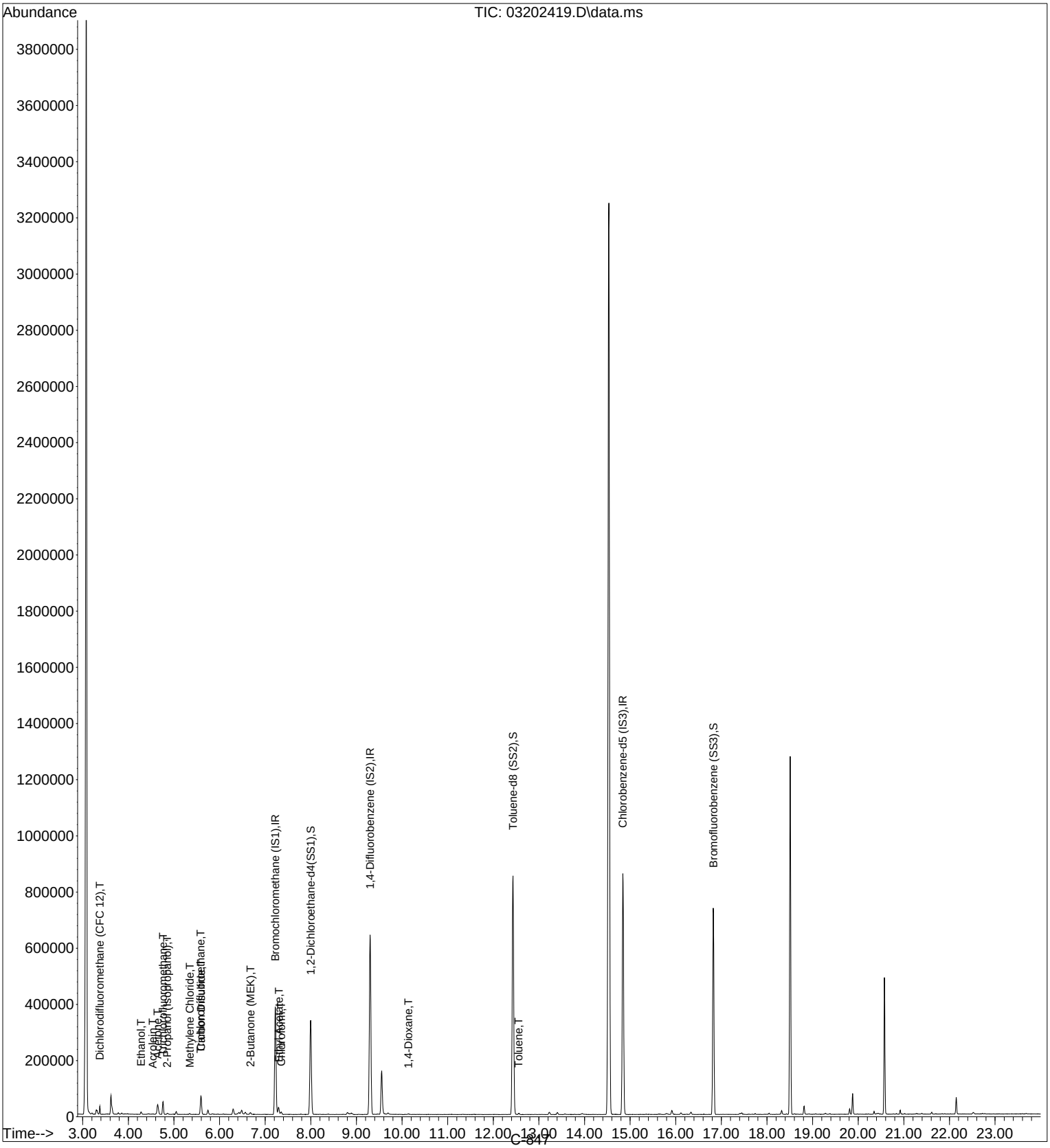
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	142396	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	614359	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	140675	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	297494	12.770	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	12.43	98	702562	12.439	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	16.83	174	251754	12.642	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	17681	0.605	ng		99
10) Ethanol	4.28	45	8286	0.602	ng		97
12) Acrolein	4.53	56	1150	0.117	ng		99
13) Acetone	4.64	58	13159	1.257	ng	#	86
14) Trichlorofluoromethane	4.76	101	32517	1.150	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	2387	0.057	ng		70
19) Methylene Chloride	5.35	84	956	0.063	ng		96
21) Trichlorotrifluoroethane	5.58	151	9086	0.763	ng		100
22) Carbon Disulfide	5.60	76	58019	1.223	ng		99
27) 2-Butanone (MEK)	6.68	72	1672	0.195	ng	#	59
30) Ethyl Acetate	7.30	61	4156	0.809	ng		93
32) Chloroform	7.35	83	7098	0.288	ng		100
48) 1,4-Dioxane	10.14	88	1055	0.109	ng		92
58) Toluene	12.56	91	4740	0.088	ng		95

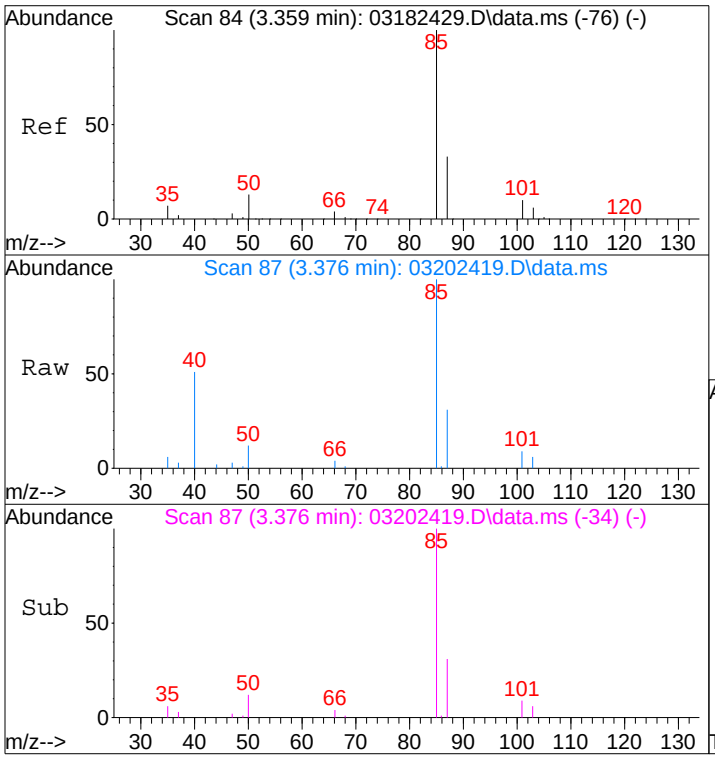
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 15:53:35 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

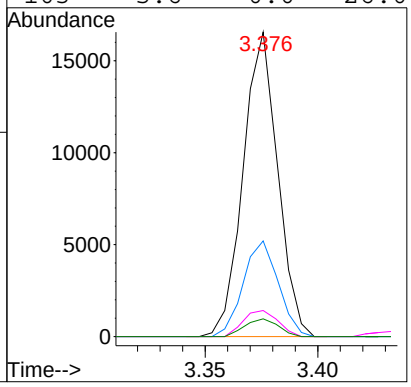


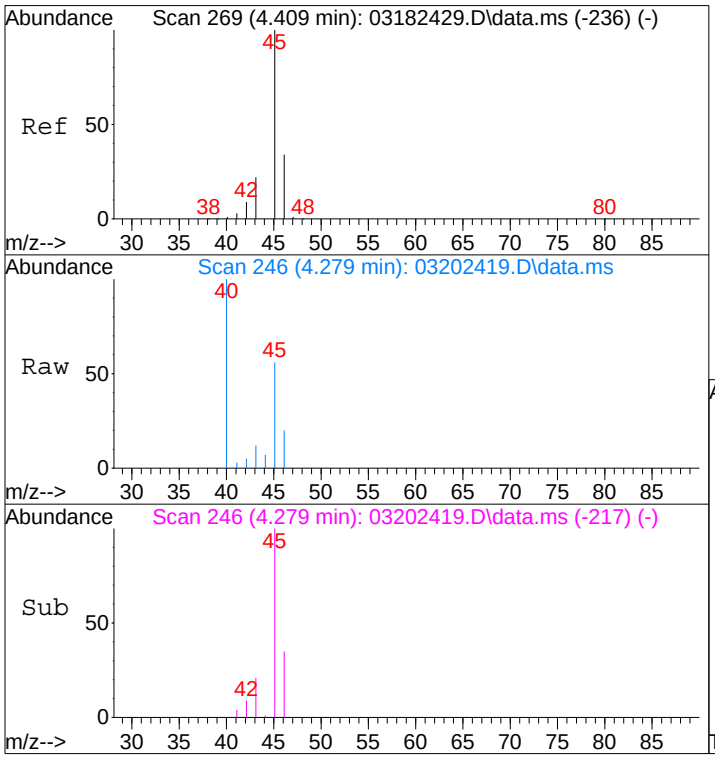


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 3.38 min Scan# 87
Delta R.T. 0.054 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 85 Resp: 17681

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.5	52.5
101	8.6	0.0	29.2
103	5.6	0.0	26.0

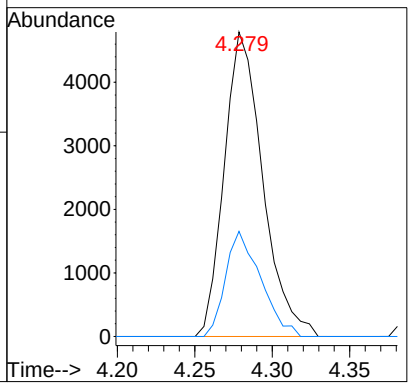


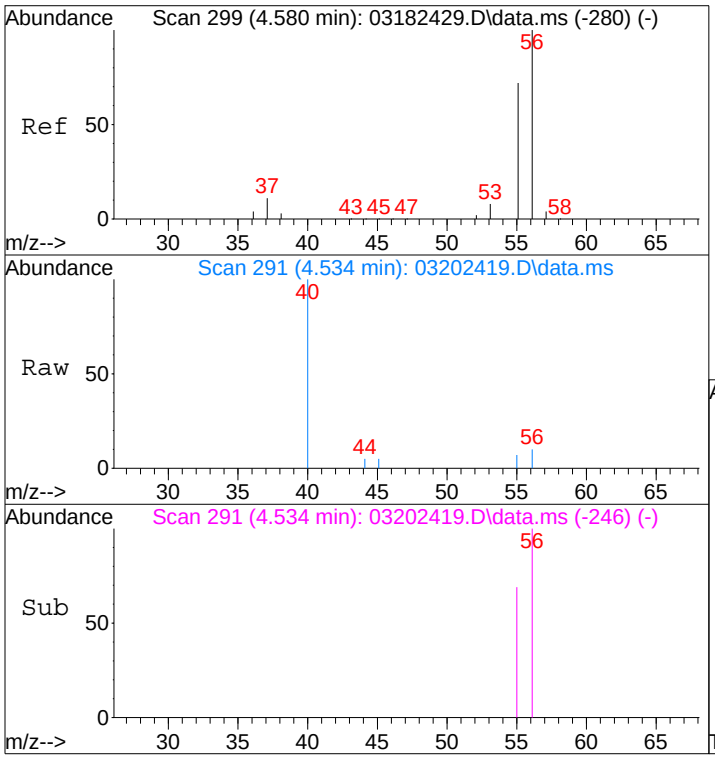


#10
Ethanol
Concen: 0.60 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.083 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 45 Resp: 8286

Ion	Ratio	Lower	Upper
45	100		
46	31.5	13.3	53.3

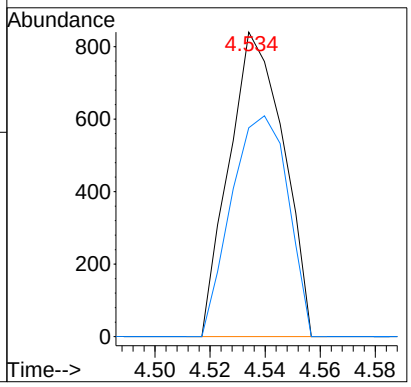


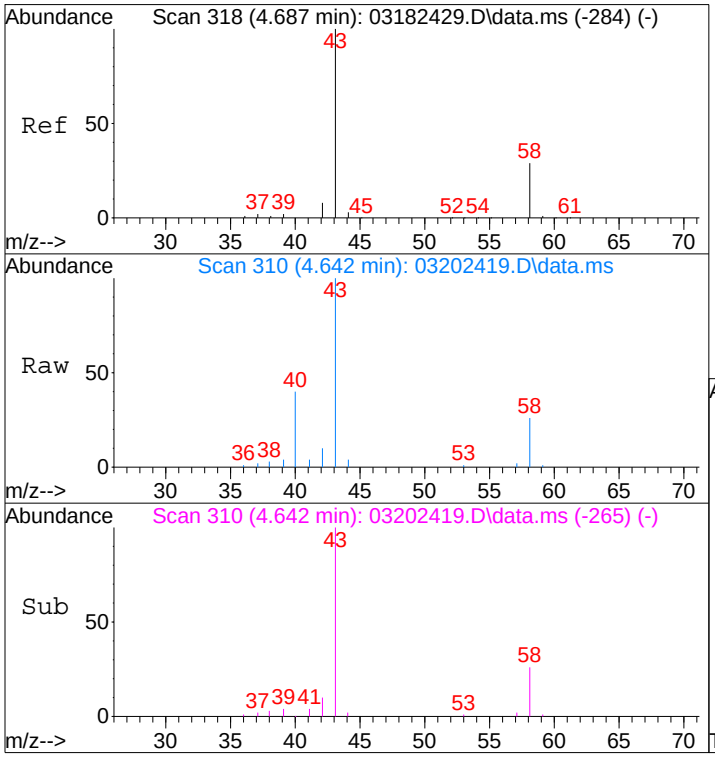


#12
Acrolein
Concen: 0.12 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.004 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 56 Resp: 1150

Ion	Ratio	Lower	Upper
56	100		
55	75.8	54.9	94.9

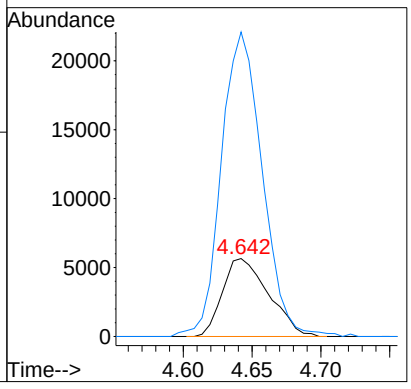


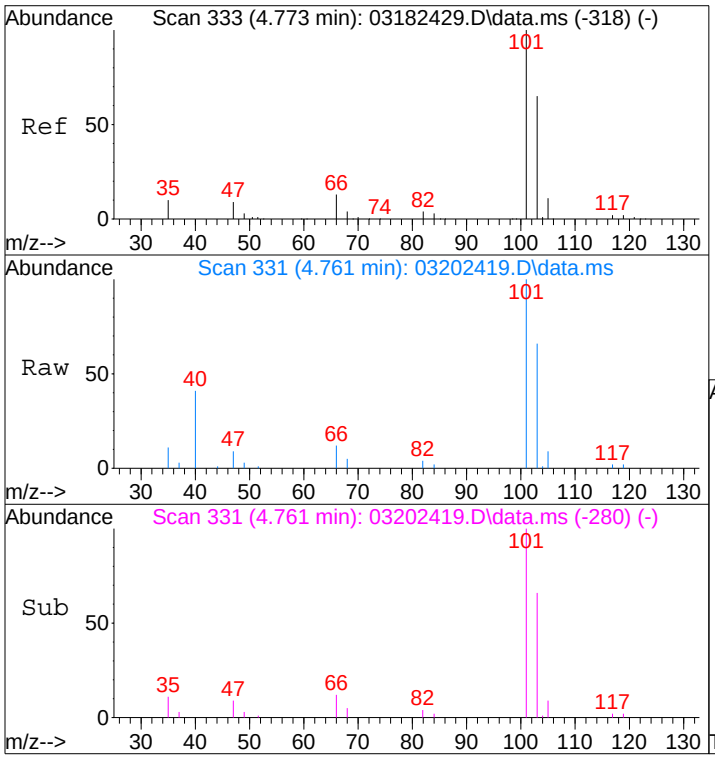


#13
Acetone
Concen: 1.26 ng
RT: 4.64 min Scan# 310
Delta R.T. 0.005 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 58 Resp: 13159

Ion	Ratio	Lower	Upper
58	100		
43	347.7	350.1	410.1#

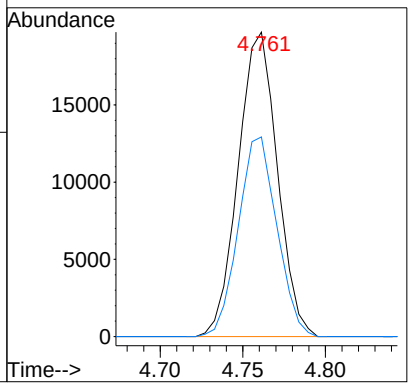


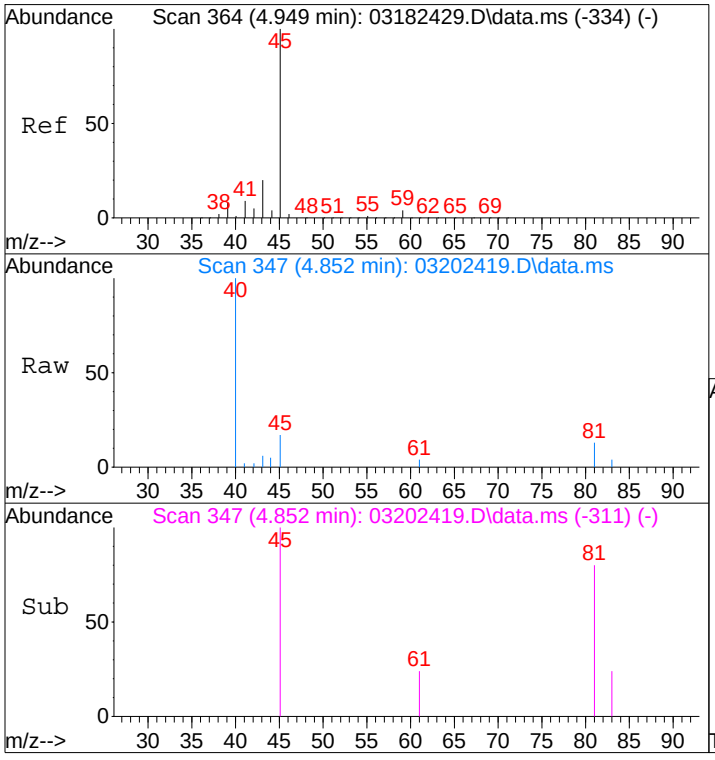


#14
Trichlorofluoromethane
Concen: 1.15 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.040 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion:101 Resp: 32517

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

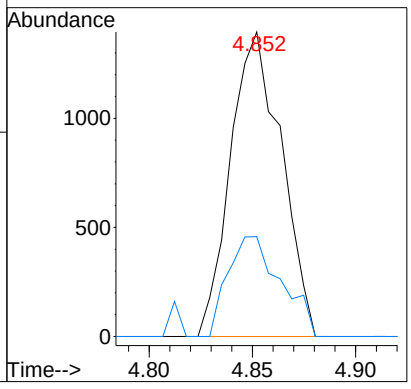


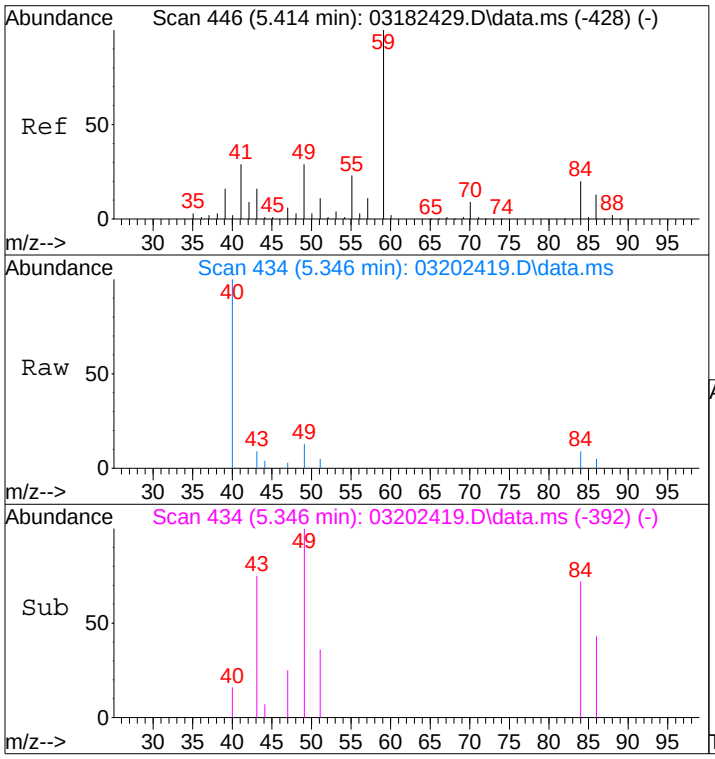


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.043 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 45 Resp: 2387

Ion	Ratio	Lower	Upper
45	100		
43	34.3	0.4	40.4

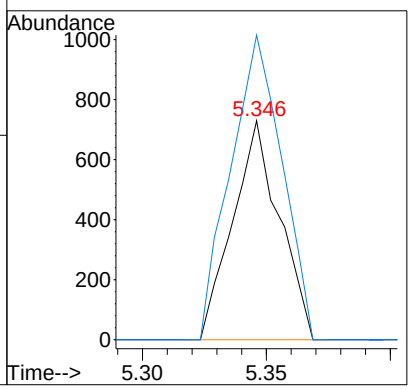


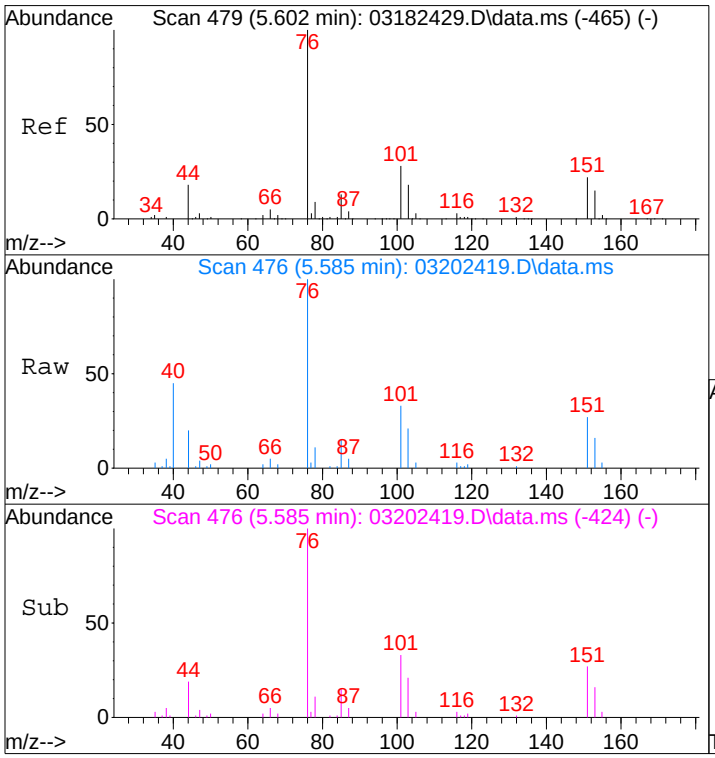


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.009 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 84 Resp: 956

Ion	Ratio	Lower	Upper
84	100		
49	153.0	122.9	172.9

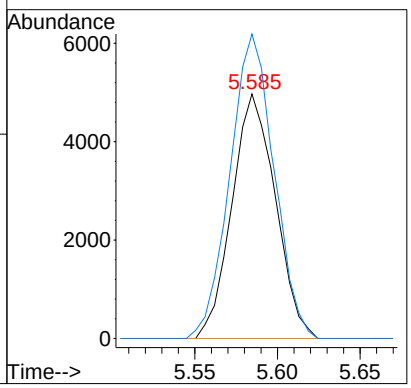


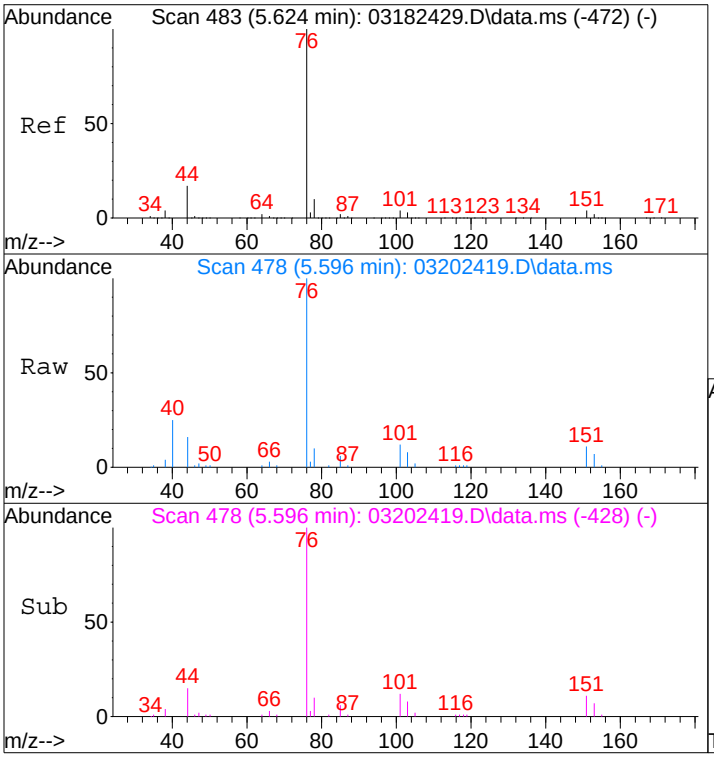


#21
Trichlorotrifluoroethane
Concen: 0.76 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion:151 Resp: 9086

Ion	Ratio	Lower	Upper
151	100		
101	126.4	106.4	146.4

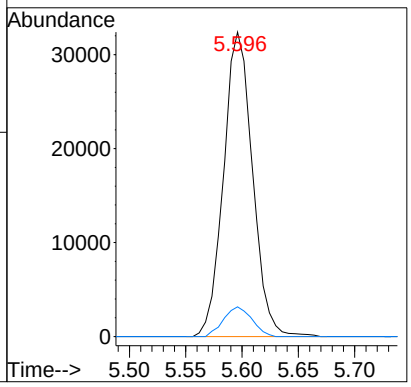


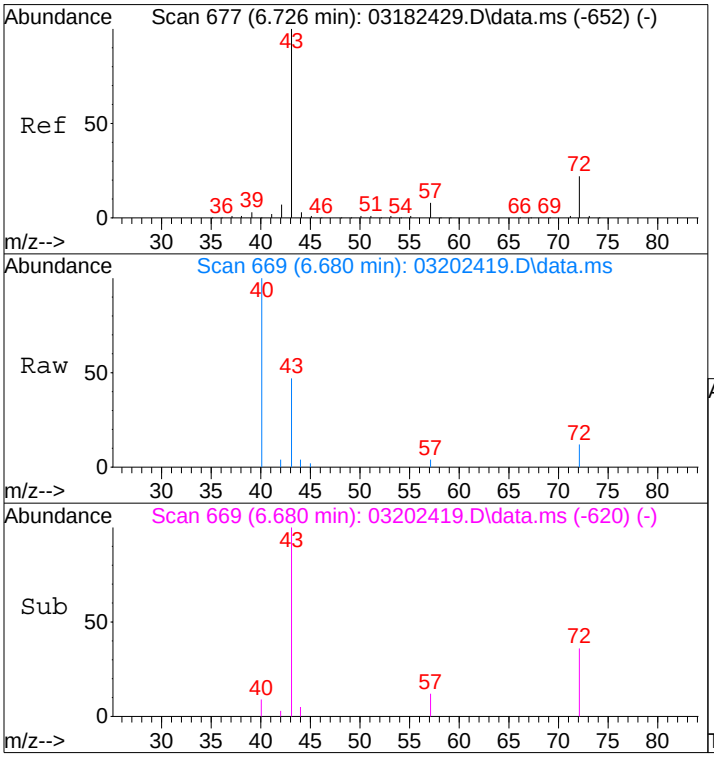


#22
Carbon Disulfide
Concen: 1.22 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 76 Resp: 58019

Ion	Ratio	Lower	Upper
76	100		
78	9.6	0.0	29.8

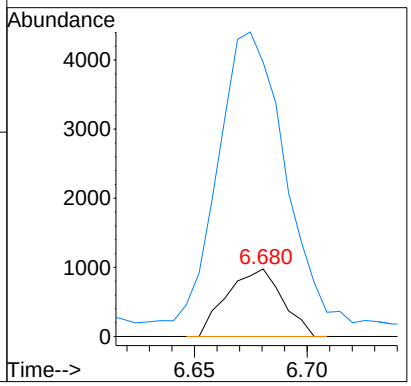


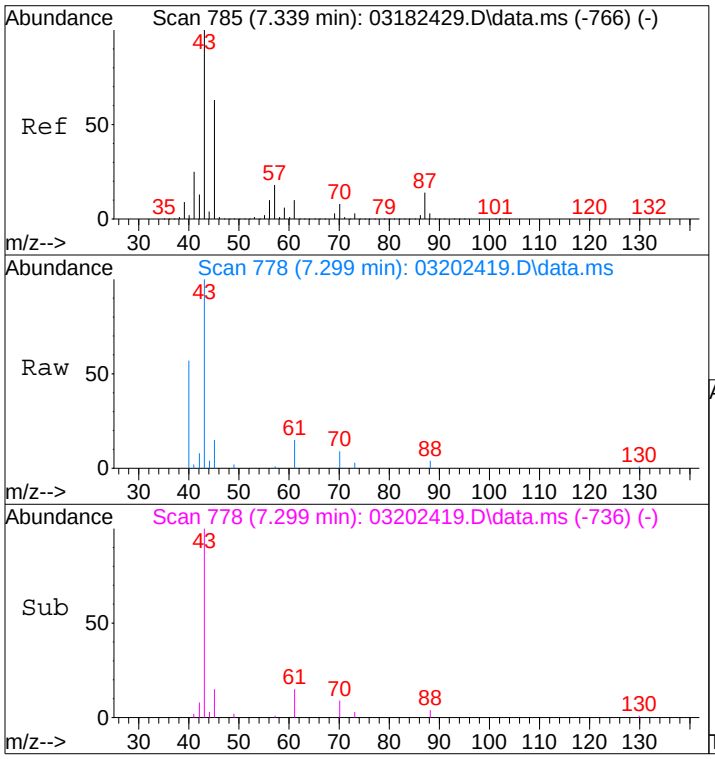


#27
2-Butanone (MEK)
Concen: 0.20 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.028 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 72 Resp: 1672

Ion	Ratio	Lower	Upper
72	100		
43	600.5	468.6	508.6#

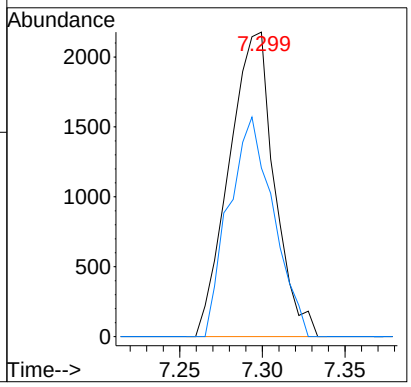


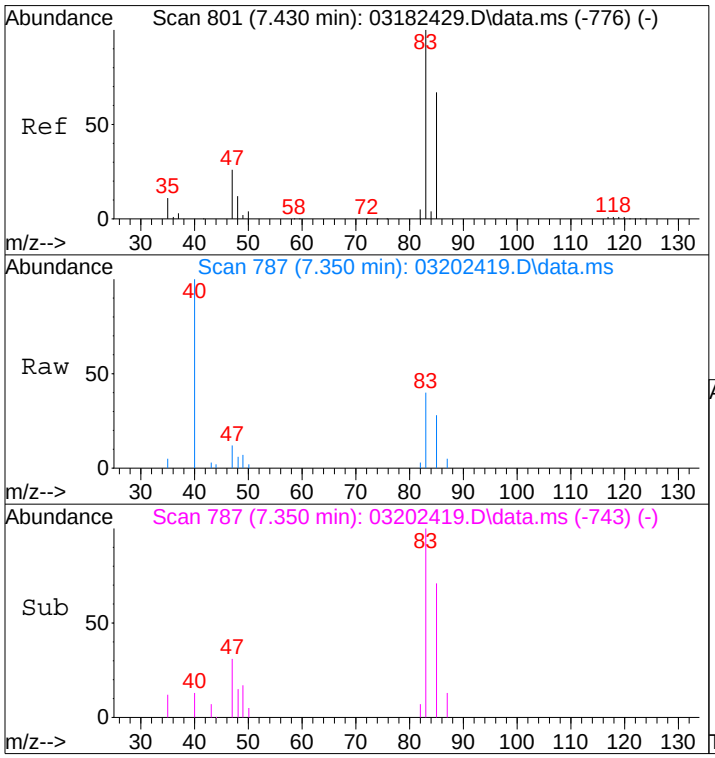


#30
Ethyl Acetate
Concen: 0.81 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.040 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 61 Resp: 4156

Ion	Ratio	Lower	Upper
61	100		
70	71.0	57.3	97.3

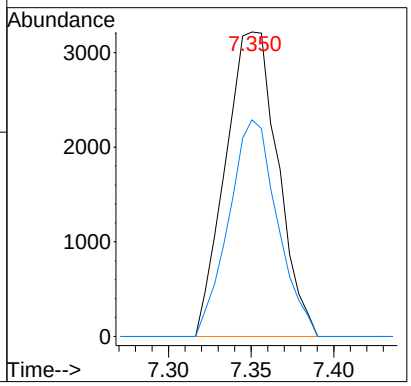


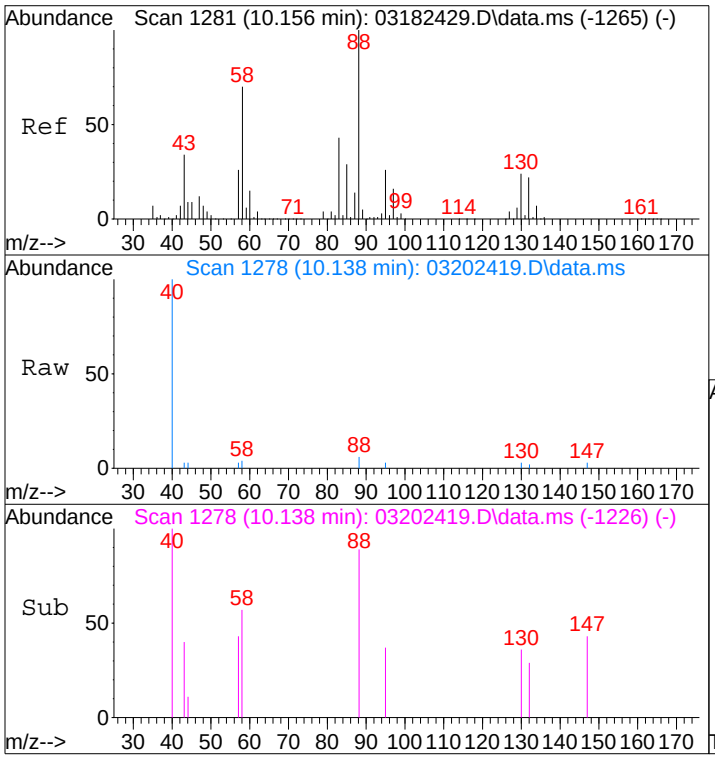


#32
Chloroform
Concen: 0.29 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 83 Resp: 7098

Ion	Ratio	Lower	Upper
83	100		
85	66.0	46.1	86.1

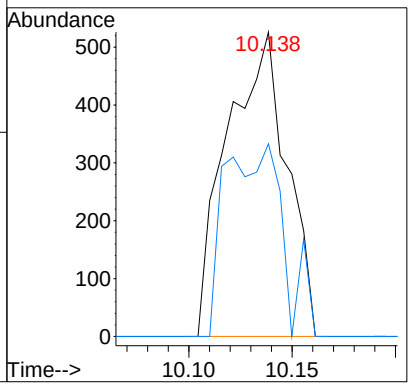


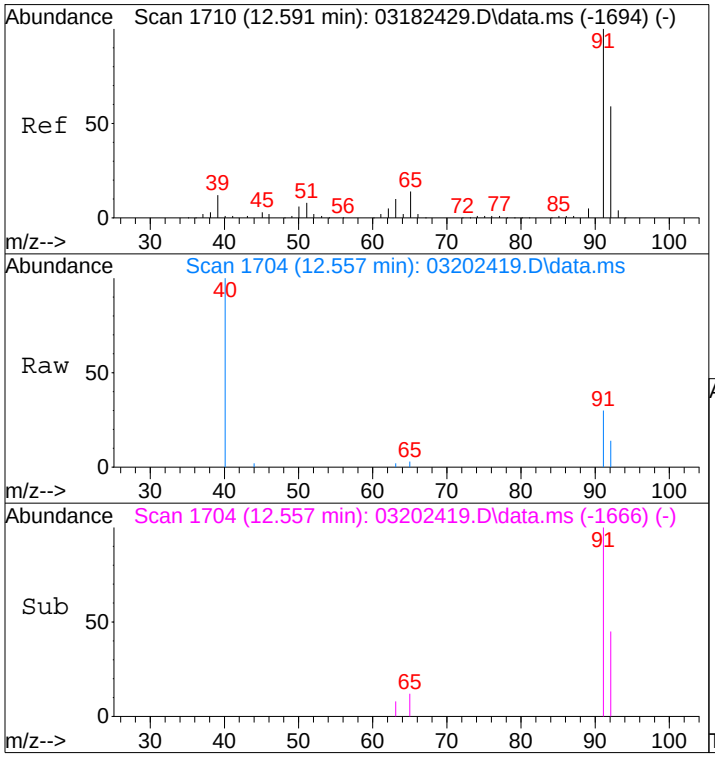


#48
1,4-Dioxane
Concen: 0.11 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.045 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 88 Resp: 1055

Ion	Ratio	Lower	Upper
88	100		
58	61.9	48.2	88.2

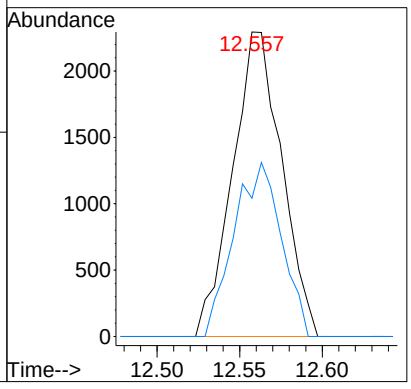




#58
Toluene
Concen: 0.09 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202419.D
Acq: 20 Mar 2024 15:21

Tgt Ion: 91 Resp: 4740

Ion	Ratio	Lower	Upper
91	100		
92	55.1	39.2	79.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:18:17 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

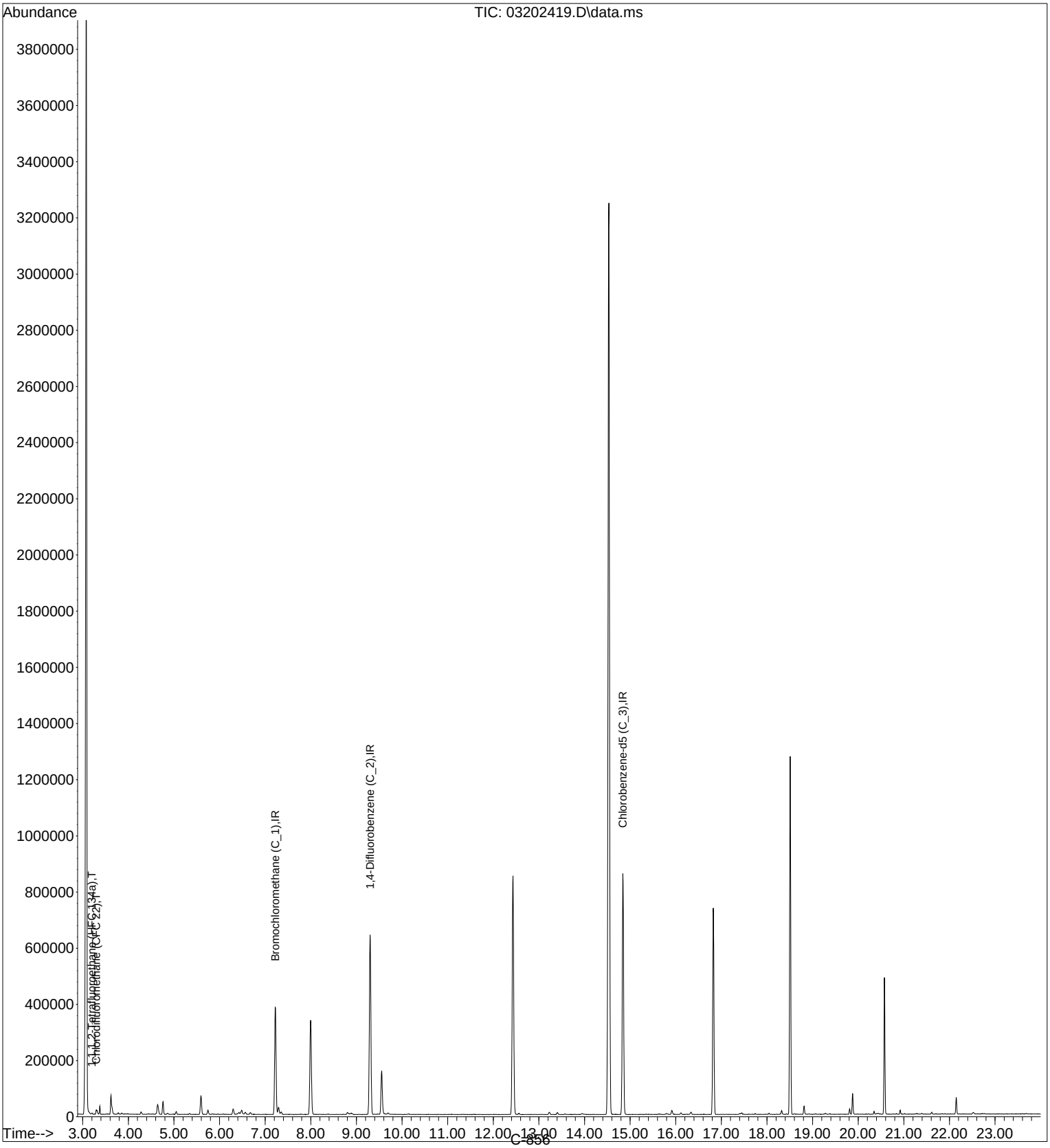
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	142396	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	615663	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	140675	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	142	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1893	0.145	ng	#	1
4) 1,1-Difluoroethane	3.25	65	181	N.D.			
5) Chlorodifluoromethane ...	3.30	67	695	0.166	ng	#	80
6) 1-Chloro-1,1-Difluoroe...	3.51	65	431	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.35	43	1483	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.55	56	274	N.D.			
18) Dibromomethane	9.79	174	57	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	649	N.D.			
27) 4-Chlorotoluene	17.67	91	1170	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	1737	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202419.D Vial: 7
Acq On : 20 Mar 2024 15:21 Operator: SC
Sample : P2400922-018 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:18:17 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202419.D
Acq On : 20 Mar 2024 15:21
Operator : SC
Sample : P2400922-018 (400mL)
Misc : S37-02202408
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202419.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	69	73	83	rBV4	15672	36198	4.36%	2.300%
2	3.376	83	87	92	rVB	29814	32828	3.95%	2.086%
3	3.620	125	130	145	rBV2	67029	127262	15.31%	8.086%
4	4.279	240	246	254	rBV	8376	14114	1.70%	0.897%
5	4.642	299	310	323	rVV	34742	80473	9.68%	5.113%
6	4.761	325	331	337	rVV	44985	73825	8.88%	4.691%
7	5.051	377	382	388	rVB2	10707	17164	2.07%	1.091%
8	5.590	469	477	487	rBV2	65546	130436	15.70%	8.288%
9	5.744	497	504	516	rBV	15921	28871	3.47%	1.834%
10	6.294	594	601	609	rBV	20376	42881	5.16%	2.725%
11	6.425	612	624	628	rVV4	7030	20328	2.45%	1.292%
12	6.482	628	634	643	rVV	14741	36528	4.40%	2.321%
13	6.567	643	649	654	rVB3	7270	14476	1.74%	0.920%
14	6.680	660	669	676	rVB2	6078	13048	1.57%	0.829%
15	7.220	755	764	772	rBV	382013	831004	100.00%	52.800%
16	7.294	772	777	783	rVV3	25785	55287	6.65%	3.513%
17	7.350	783	787	795	rVB	9433	19146	2.30%	1.216%

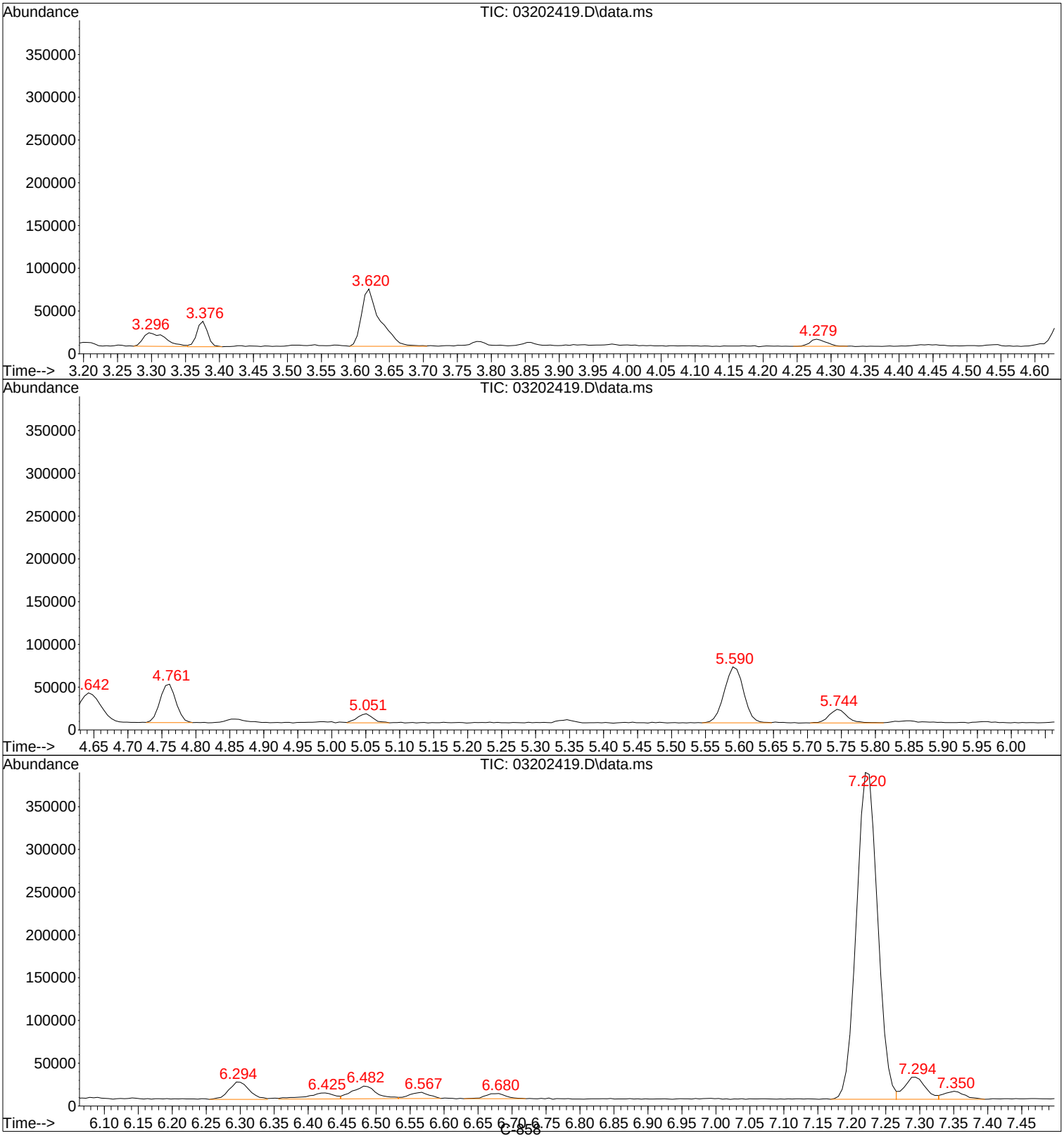
Sum of corrected areas: 1573869

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202419.D
Acq On : 20 Mar 2024 15:21
Operator : SC
Sample : P2400922-018 (400mL)
Misc : S37-02202408
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202419.D
Acq On : 20 Mar 2024 15:211
Operator : SCC
Sample : P2400922-018 (400mL))
Misc : S37-022024088
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:22:52 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	144233	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	623405	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	142636	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	303560	12.865	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
57) Toluene-d8 (SS2)	12.43	98	709443	12.388	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	16.83	174	253554	12.558	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	10772	0.656	ng	#	76
3) Dichlorodifluoromethan...	3.36	85	17298m	0.585	ng		
4) Chloromethane	3.48	50	17909	0.814	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	311	N.D.			
6) Vinyl Chloride	3.68	62	143	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.01	94	2079	0.173	ng		92
9) Chloroethane	4.15	64	3401	0.377	ng		99
10) Ethanol	4.28	45	20401m	1.464	ng		
11) Acetonitrile	4.42	41	8597	0.269	ng	#	1
12) Acrolein	4.52	56	7193	0.720	ng		94
13) Acetone	4.62	58	112365	10.593	ng	#	67
14) Trichlorofluoromethane	4.75	101	453579	15.841	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	15667m	0.371	ng		
16) Acrylonitrile	4.98	53	826	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.33	84	2117	0.137	ng		95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.57	151	195432	16.192	ng		100
22) Carbon Disulfide	5.59	76	36323	0.756	ng		49
23) trans-1,2-Dichloroethene	6.12	61	122	N.D.			
24) 1,1-Dichloroethane	6.31	63	138	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	885	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	11452	1.321	ng		98
28) cis-1,2-Dichloroethene	7.07	61	112	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	2639	0.507	ng		98
31) n-Hexane	7.30	57	3507	0.156	ng	#	63
32) Chloroform	7.36	83	16997	0.680	ng		100
34) Tetrahydrofuran (THF)	7.78	72	276	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.80	56	27522	No Calib		#	
41) Benzene	8.89	78	8304	0.148	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	708	N.D.			
44) tert-Amyl Methyl Ether	9.52	73	707	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	1007	N.D.			
47) Trichloroethene	10.14	130	834	0.055	ng		99
48) 1,4-Dioxane	10.14	88	670	0.068	ng		81
49) 2,2,4-Trimethylpentane...	10.22	57	378	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:22:52 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

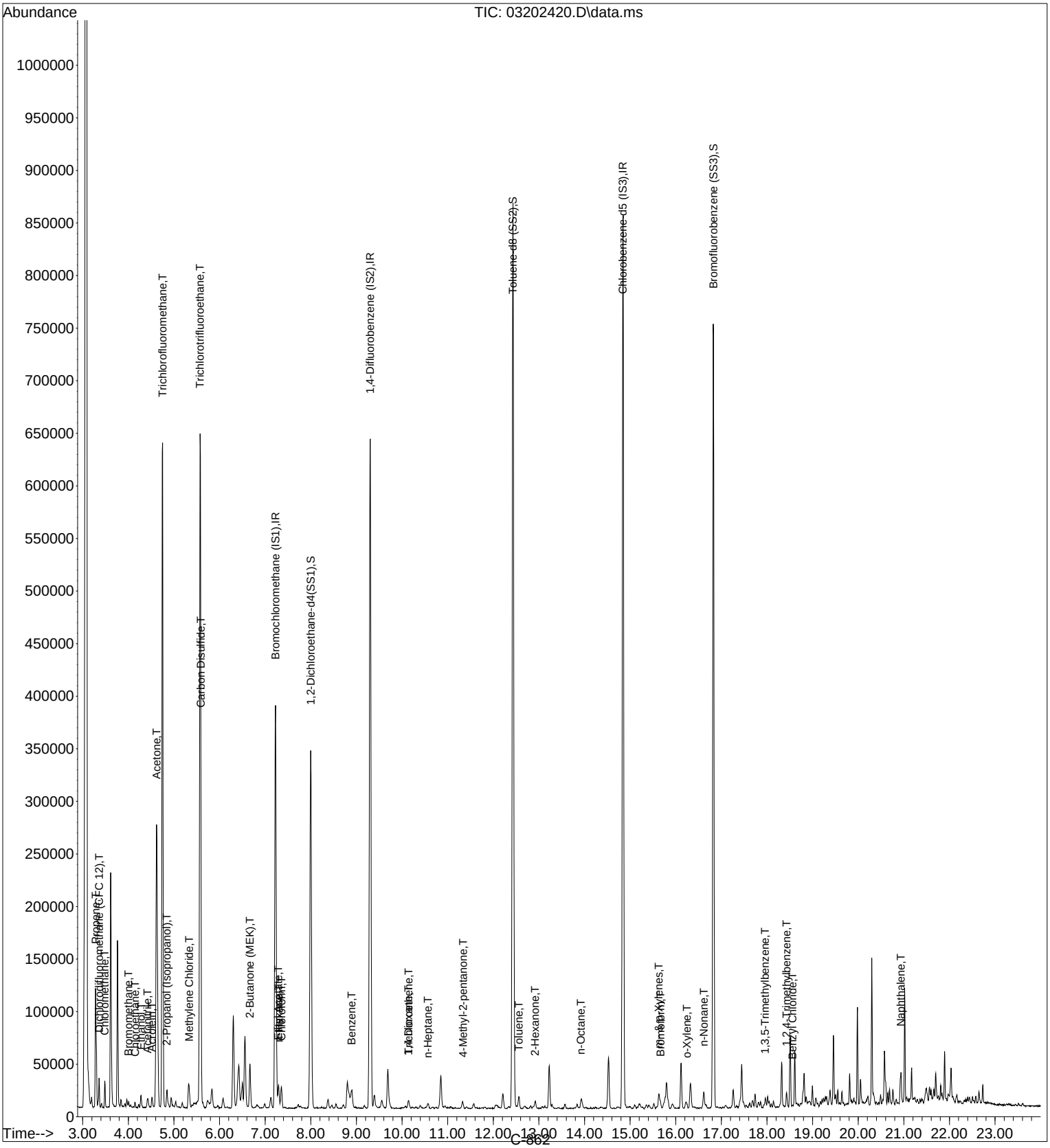
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	1117	0.093 ng	#	78
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	1523	0.127 ng	#	34
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	11018	0.202 ng		98
59) 2-Hexanone	12.91	43	7728	0.243 ng		79
60) Dibromochloromethane	13.07	129	446	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	846	N.D.		
63) n-Octane	13.92	57	1363	0.118 ng		96
64) Tetrachloroethene	14.03	166	302	N.D.		
65) Chlorobenzene	14.90	112	933	N.D.		
66) Ethylbenzene	15.41	91	2796	N.D.		
67) m- & p-Xylenes	15.63	91	13303	0.256 ng		99
68) Bromoform	15.67	173	773	0.052 ng		96
69) Styrene	16.10	104	768	N.D.		
70) o-Xylene	16.25	91	2858	0.056 ng		93
71) n-Nonane	16.62	43	7810	0.265 ng		95
72) 1,1,2,2-Tetrachloroethane	16.21	83	304	N.D.		
74) Cumene	17.03	105	1279	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	3551	N.D.		
77) 3-Ethyltoluene	17.03	105	1279	No Calib		
78) 4-Ethyltoluene	17.86	105	2104	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	3127	0.060 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1279	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5012	0.092 ng		93
83) n-Decane	17.10	58	362	No Calib	#	
84) Benzyl Chloride	18.56	91	852	0.607 ng	#	57
85) 1,3-Dichlorobenzene	18.58	146	500	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	582	N.D.		
87) sec-Butylbenzene	18.74	105	1386	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	2067	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	1279	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	489	N.D.		
91) d-Limonene	19.09	68	324	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	765	N.D.		
95) Naphthalene	20.94	128	15959	0.546 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	548	N.D.		
98) Cyclohexanone	15.35	55	1170	No Calib	#	
99) tert-Butylbenzene	18.43	119	1372	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:22:52 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:22:52 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

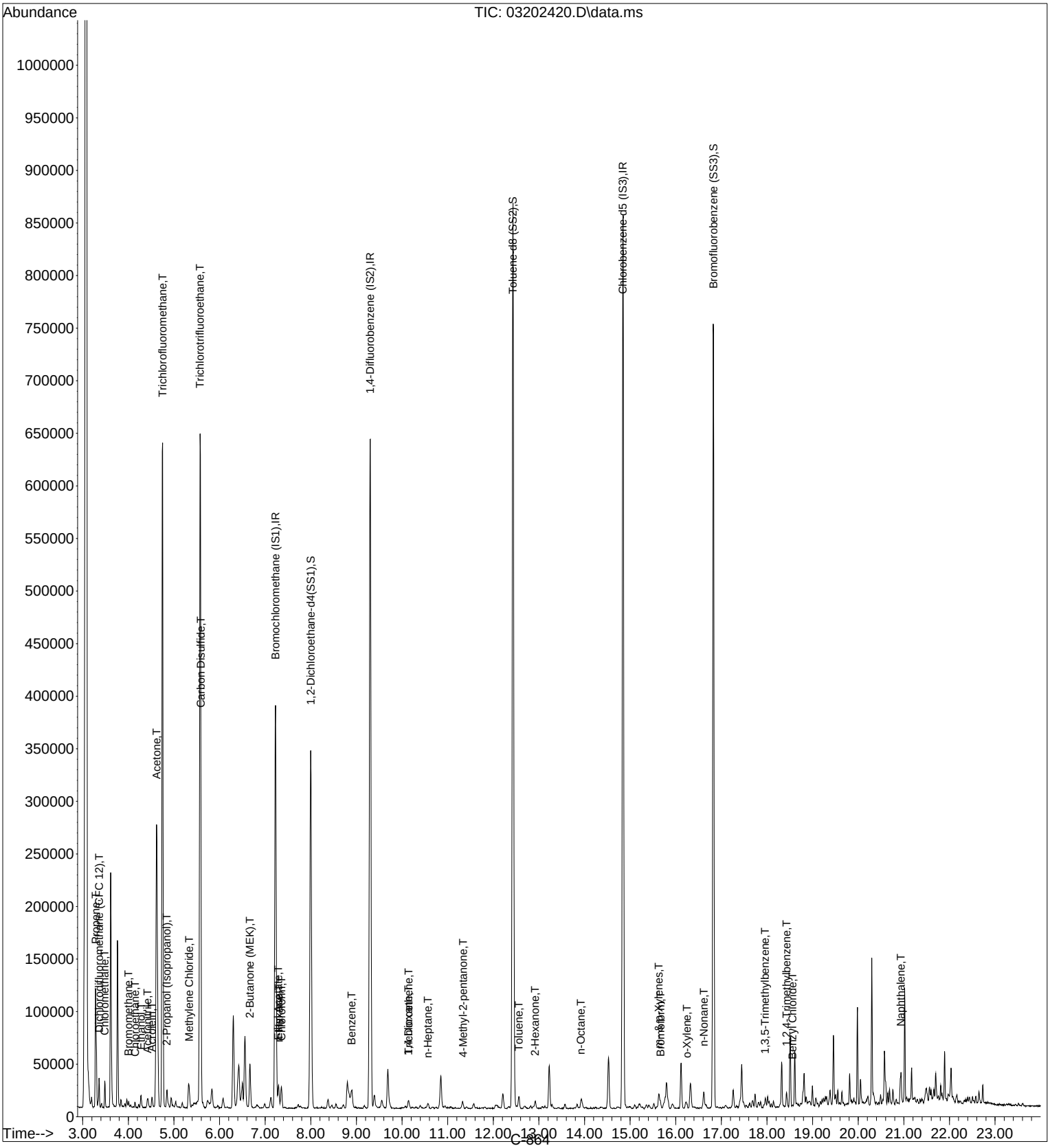
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	144233	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	623405	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	142636	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	303560	12.865	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
57) Toluene-d8 (SS2)	12.43	98	709443	12.388	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
73) Bromofluorobenzene (SS3)	16.83	174	253554	12.558	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	10772	0.656	ng	#	76
3) Dichlorodifluoromethan...	3.36	85	17298m	0.585	ng		
4) Chloromethane	3.48	50	17909	0.814	ng		99
8) Bromomethane	4.01	94	2079	0.173	ng		92
9) Chloroethane	4.15	64	3401	0.377	ng		99
10) Ethanol	4.28	45	20401m	1.464	ng		
11) Acetonitrile	4.42	41	8597	0.269	ng	#	1
12) Acrolein	4.52	56	7193	0.720	ng		94
13) Acetone	4.62	58	112365	10.593	ng	#	67
14) Trichlorofluoromethane	4.75	101	453579	15.841	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	15667m	0.371	ng		
19) Methylene Chloride	5.33	84	2117	0.137	ng		95
21) Trichlorotrifluoroethane	5.57	151	195432	16.192	ng		100
22) Carbon Disulfide	5.59	76	36323	0.756	ng		49
27) 2-Butanone (MEK)	6.66	72	11452	1.321	ng		98
30) Ethyl Acetate	7.29	61	2639	0.507	ng		98
31) n-Hexane	7.30	57	3507	0.156	ng	#	63
32) Chloroform	7.36	83	16997	0.680	ng		100
41) Benzene	8.89	78	8304	0.148	ng		99
47) Trichloroethene	10.14	130	834	0.055	ng		99
48) 1,4-Dioxane	10.14	88	670	0.068	ng		81
51) n-Heptane	10.56	71	1117	0.093	ng	#	78
53) 4-Methyl-2-pentanone	11.34	58	1523	0.127	ng	#	34
58) Toluene	12.56	91	11018	0.202	ng		98
59) 2-Hexanone	12.91	43	7728	0.243	ng		79
63) n-Octane	13.92	57	1363	0.118	ng		96
67) m- & p-Xylenes	15.63	91	13303	0.256	ng		99
68) Bromoform	15.67	173	773	0.052	ng		96
70) o-Xylene	16.25	91	2858	0.056	ng		93
71) n-Nonane	16.62	43	7810	0.265	ng		95
79) 1,3,5-Trimethylbenzene	17.96	105	3127	0.060	ng		98
82) 1,2,4-Trimethylbenzene	18.43	105	5012	0.092	ng		93
84) Benzyl Chloride	18.56	91	852	0.607	ng	#	57
95) Naphthalene	20.94	128	15959	0.546	ng		99

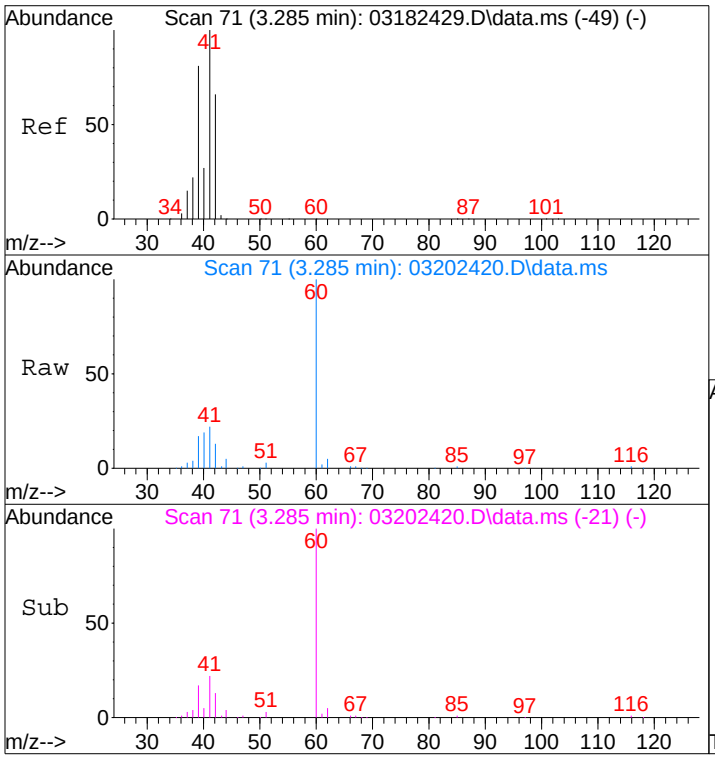
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:22:52 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

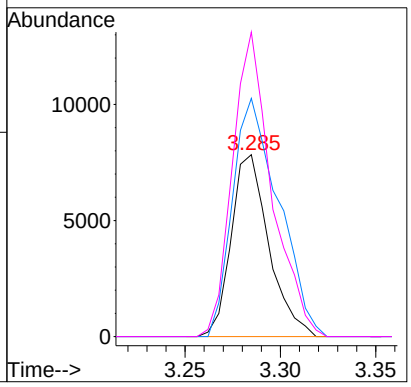


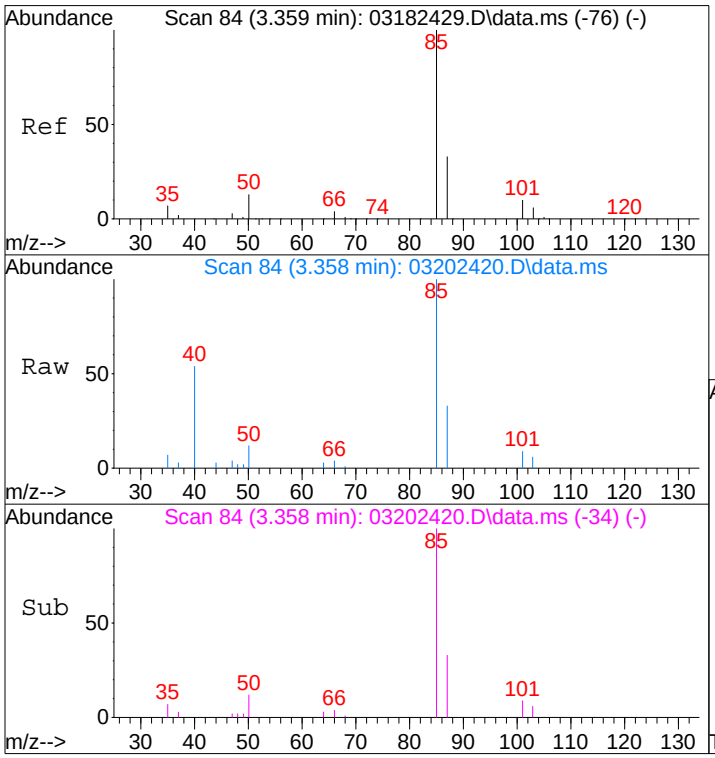


#2
Propene
Concen: 0.66 ng
RT: 3.28 min Scan# 71
Delta R.T. 0.035 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 42 Resp: 10772

Ion	Ratio	Lower	Upper
42	100		
39	160.5	102.3	142.3#
41	174.5	133.8	173.8#

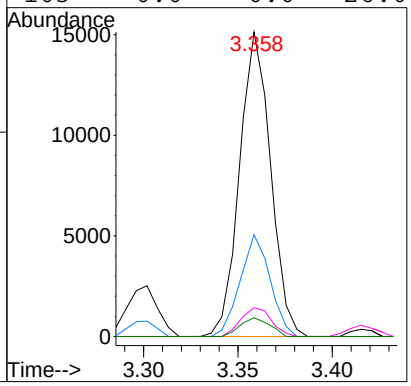


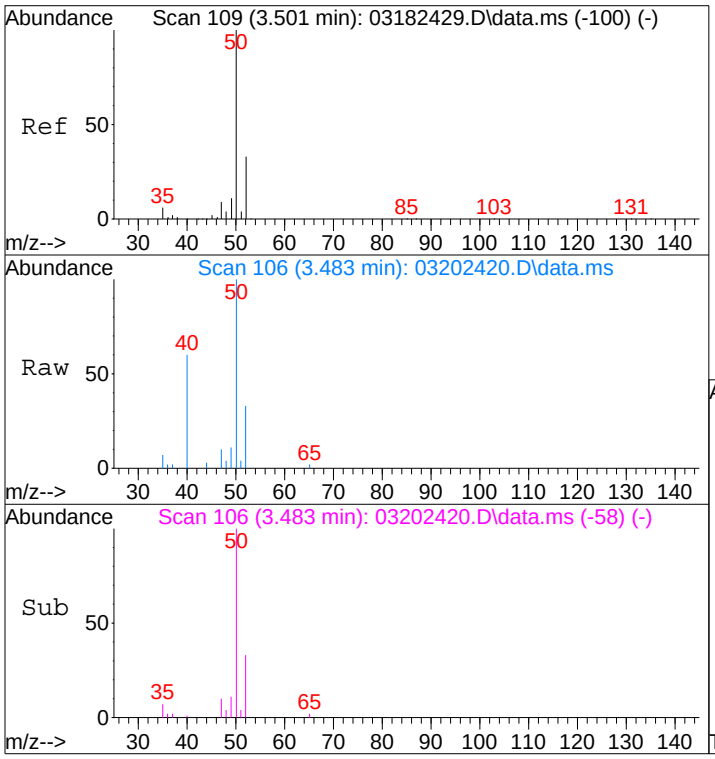


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.036 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 85 Resp: 17298

Ion	Ratio	Lower	Upper
85	100		
87	4.4	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

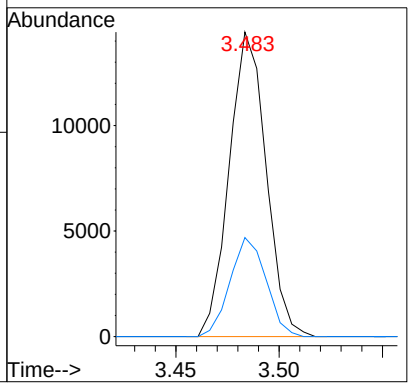


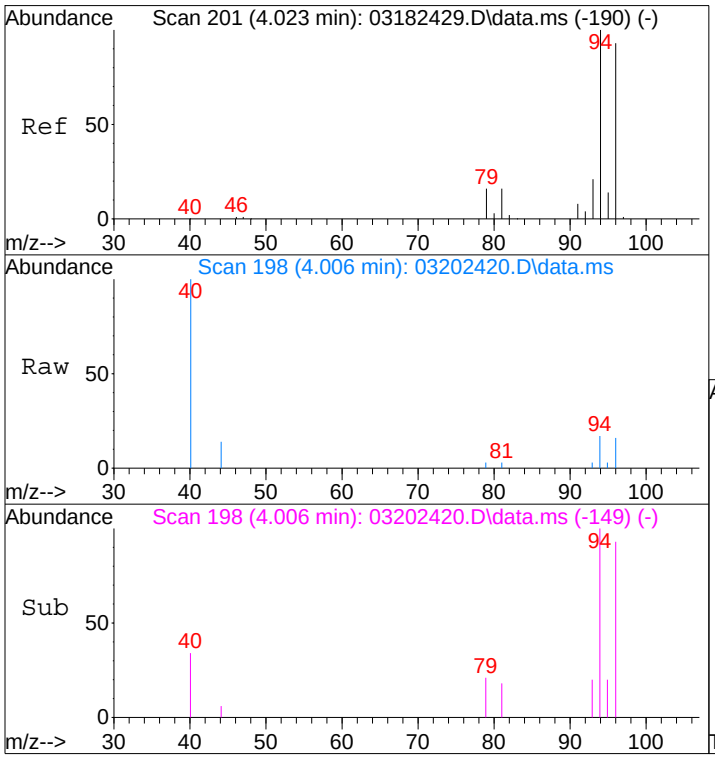


#4
Chloromethane
Concen: 0.81 ng
RT: 3.48 min Scan# 106
Delta R.T. 0.021 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 50 Resp: 17909

Ion	Ratio	Lower	Upper
50	100		
52	31.7	12.3	52.3

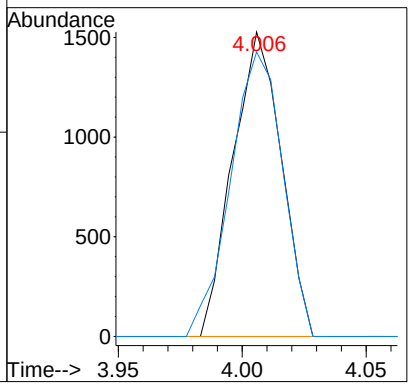


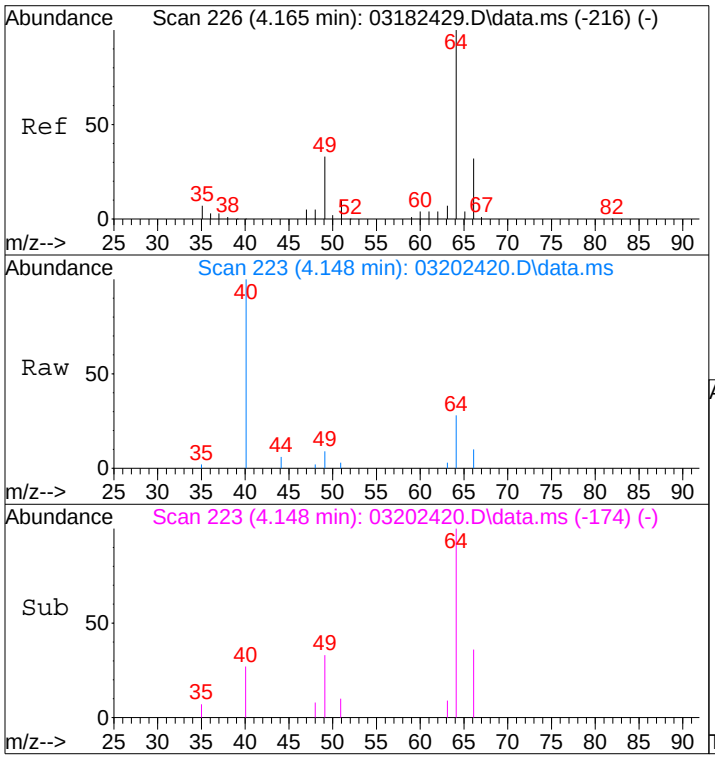


#8
Bromomethane
Concen: 0.17 ng
RT: 4.01 min Scan# 198
Delta R.T. 0.026 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 94 Resp: 2079

Ion	Ratio	Lower	Upper
94	100		
96	100.7	72.7	112.7

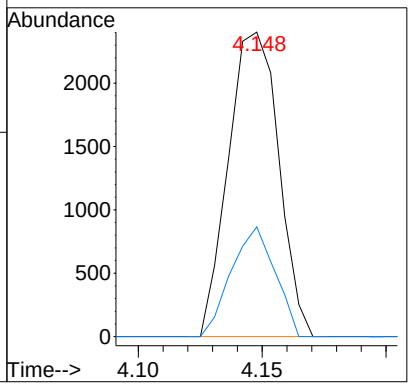


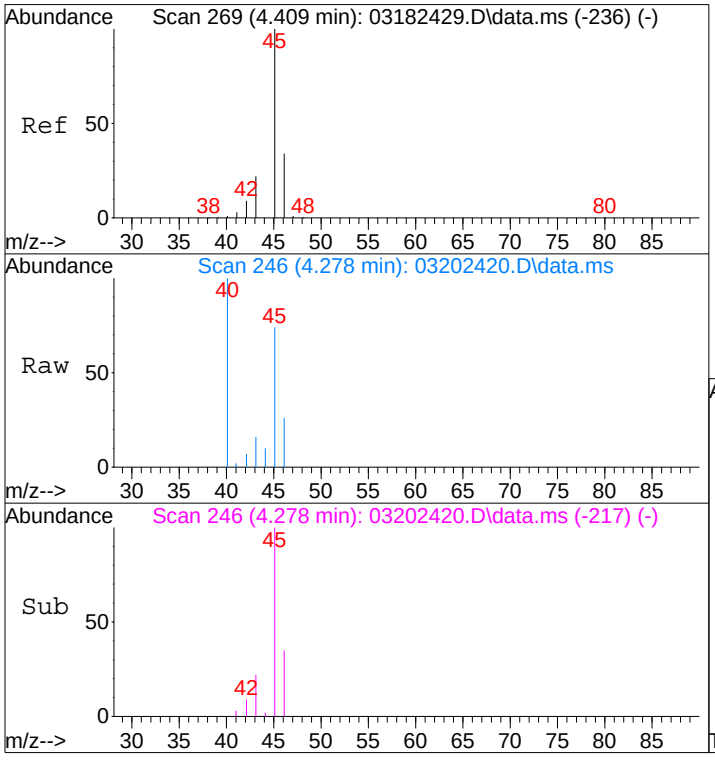


#9
Chloroethane
Concen: 0.38 ng
RT: 4.15 min Scan# 223
Delta R.T. 0.028 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 64 Resp: 3401

Ion	Ratio	Lower	Upper
64	100		
66	31.4	11.8	51.8

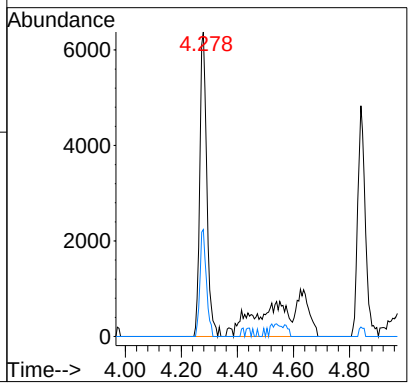


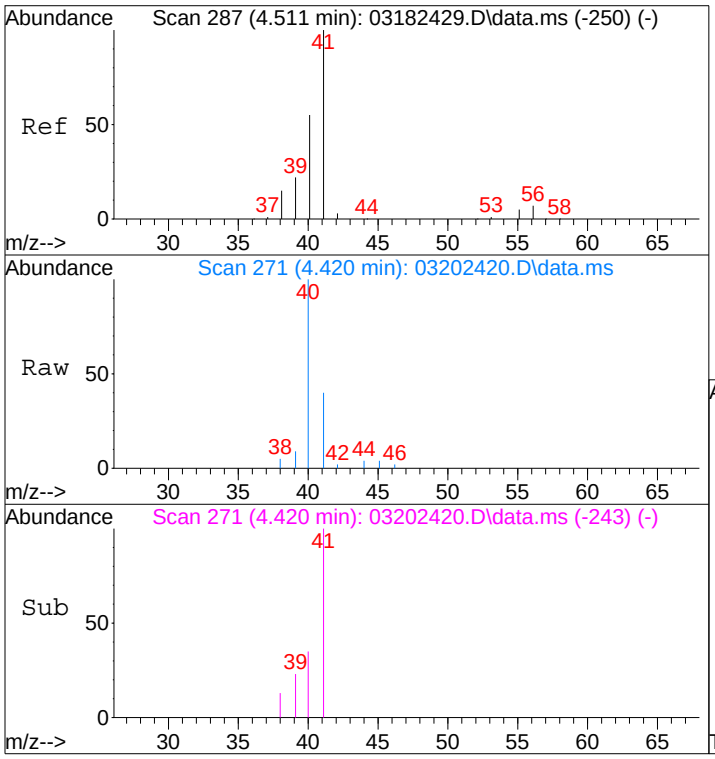


#10
Ethanol
Concen: 1.46 ng m
RT: 4.28 min Scan# 246
Delta R.T. -0.083 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 45 Resp: 20401

Ion	Ratio	Lower	Upper
45	100		
46	0.6	13.3	53.3#

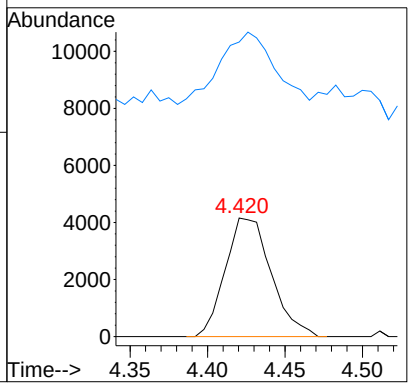


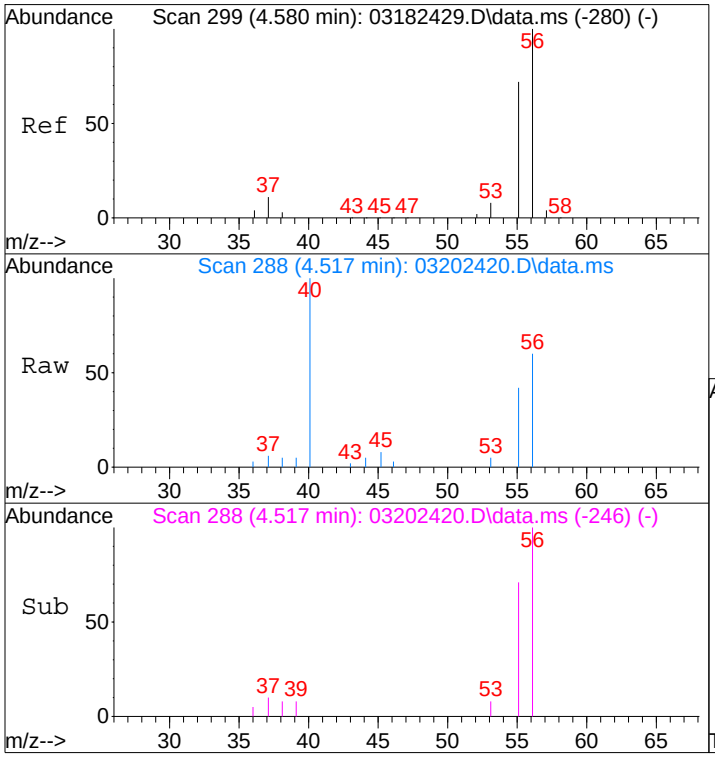


#11
Acetonitrile
Concen: 0.27 ng
RT: 4.42 min Scan# 271
Delta R.T. -0.042 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 41 Resp: 8597

Ion	Ratio	Lower	Upper
41	100		
40	183.4	34.9	74.9#

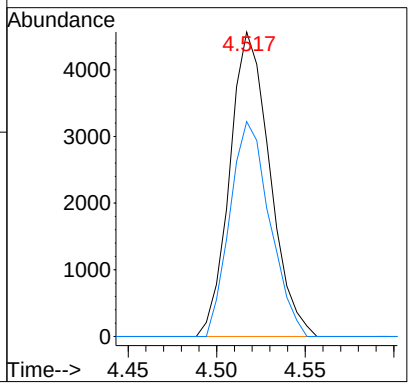


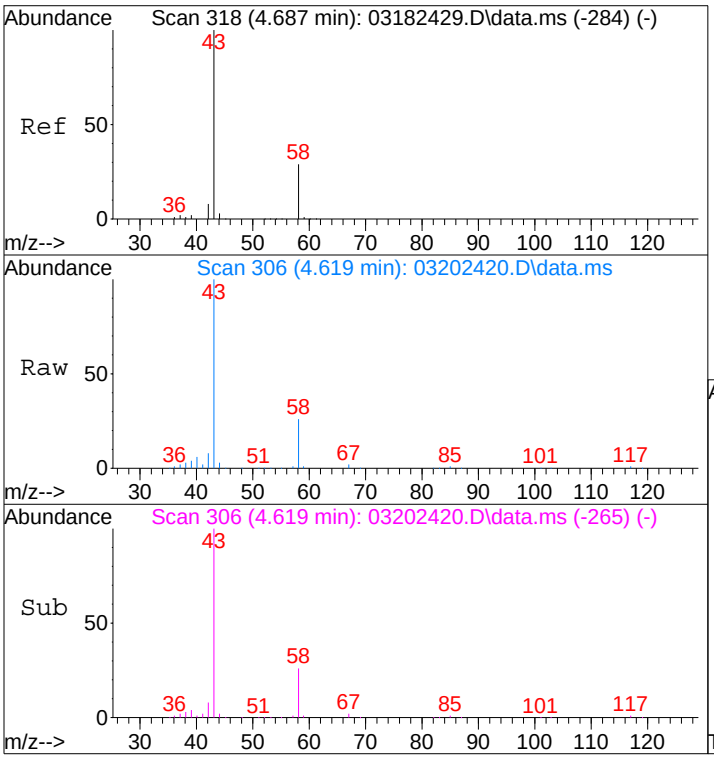


#12
Acrolein
Concen: 0.72 ng
RT: 4.52 min Scan# 288
Delta R.T. -0.013 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 56 Resp: 7193

Ion	Ratio	Lower	Upper
56	100		
55	70.2	54.9	94.9

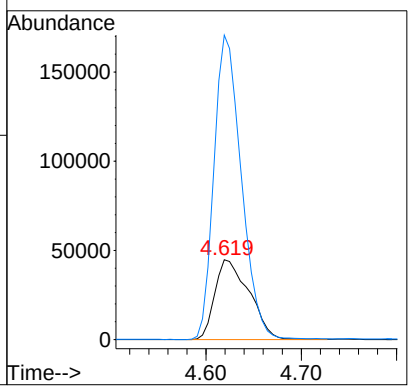


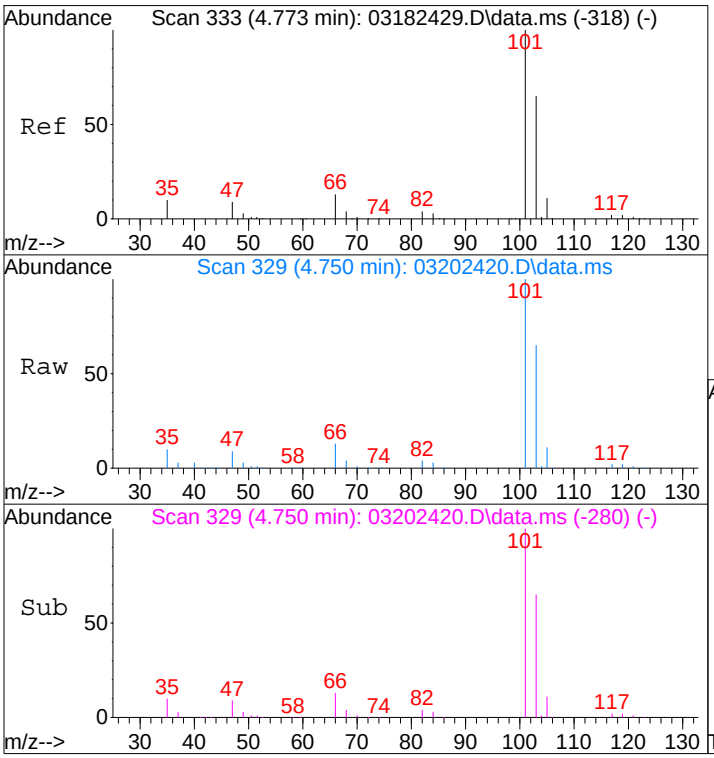


#13
Acetone
Concen: 10.59 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.017 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 58 Resp: 112365

Ion	Ratio	Lower	Upper
58	100		
43	304.2	350.1	410.1#

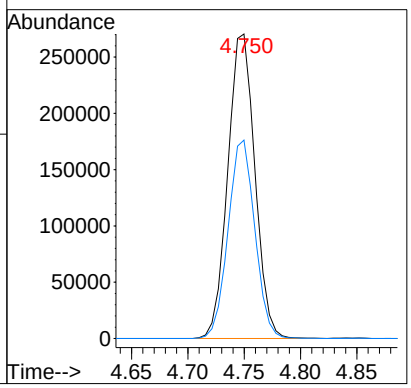


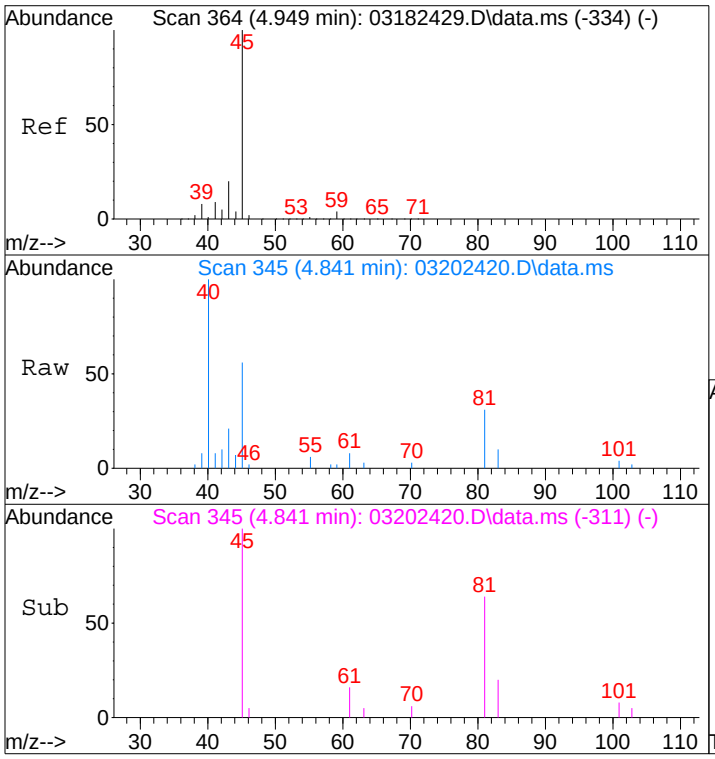


#14
Trichlorofluoromethane
Concen: 15.84 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:101 Resp: 453579

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.7	84.7

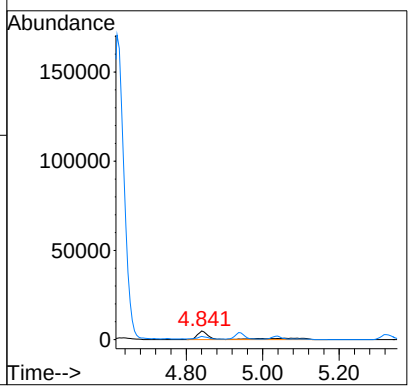


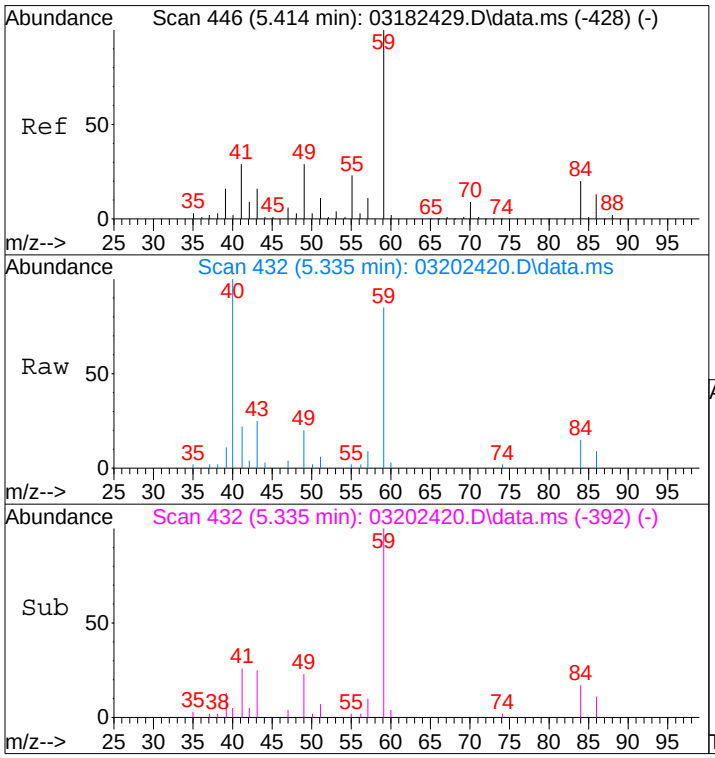


#15
2-Propanol (Isopropanol)
Concen: 0.37 ng m
RT: 4.84 min Scan# 345
Delta R.T. -0.054 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 45 Resp: 15667

Ion	Ratio	Lower	Upper
45	100		
43	42.0	0.4	40.4#

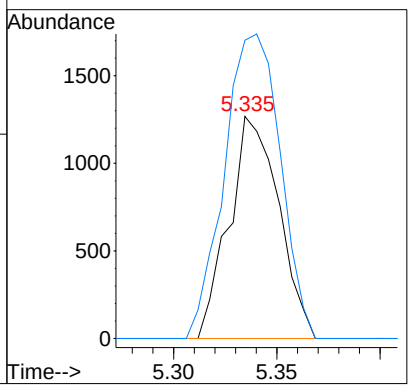


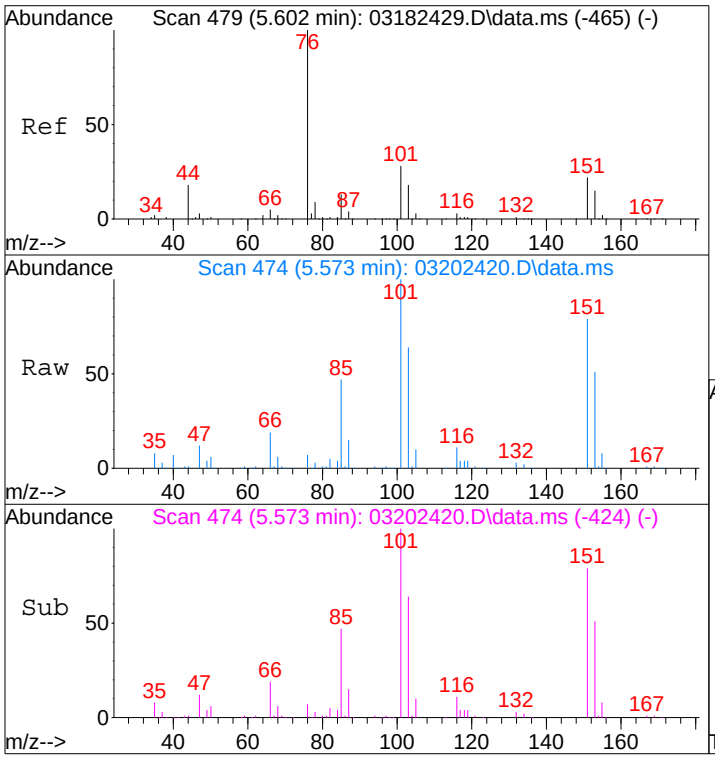


#19
Methylene Chloride
Concen: 0.14 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 84 Resp: 2117

Ion	Ratio	Lower	Upper
84	100		
49	154.8	122.9	172.9

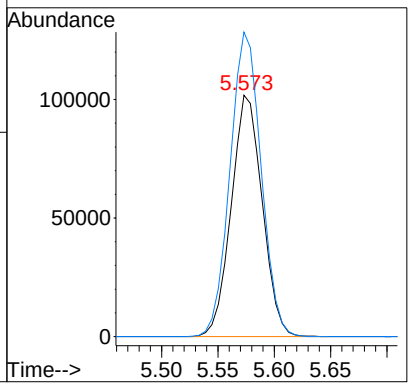


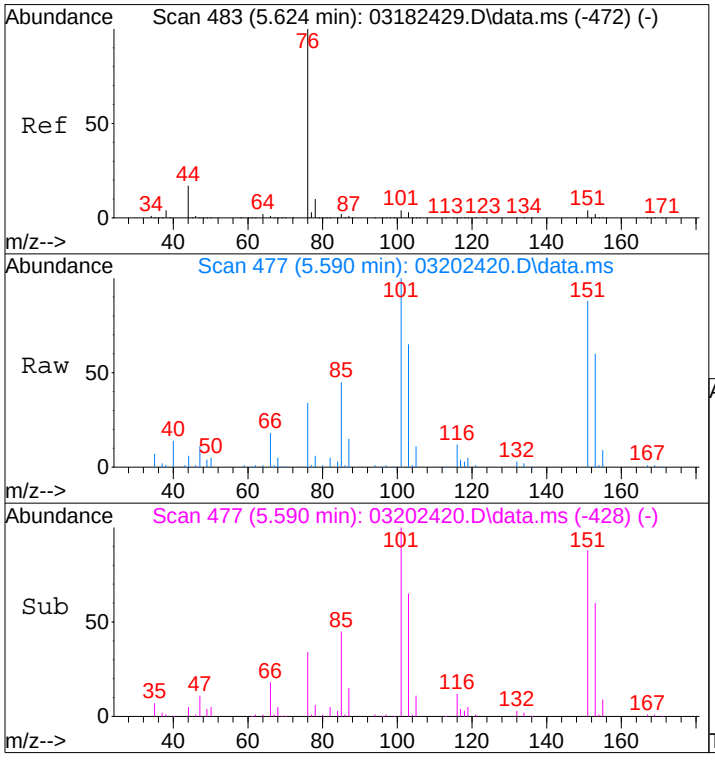


#21
Trichlorotrifluoroethane
Concen: 16.19 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.032 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:151 Resp: 195432

Ion	Ratio	Lower	Upper
151	100		
101	126.7	106.4	146.4

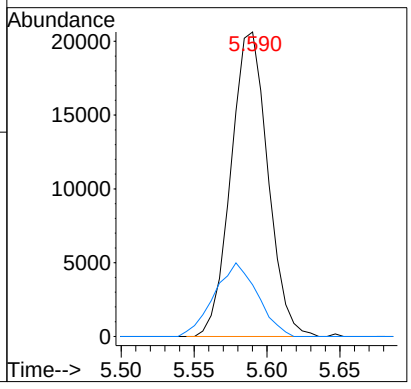


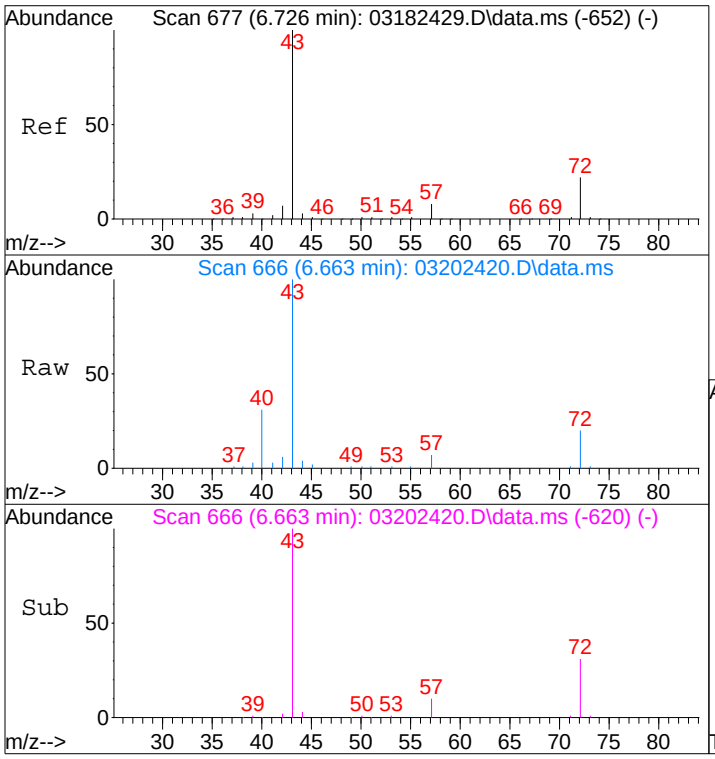


#22
Carbon Disulfide
Concen: 0.76 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 76 Resp: 36323

Ion	Ratio	Lower	Upper
76	100		
78	28.4	0.0	29.8

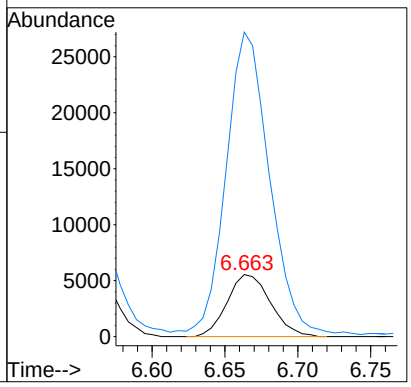


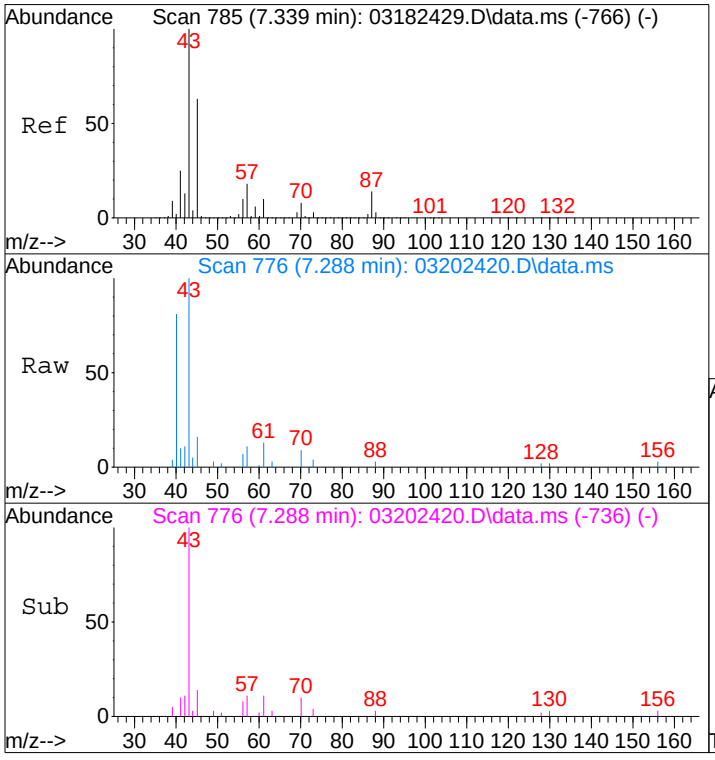


#27
2-Butanone (MEK)
Concen: 1.32 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 72 Resp: 11452

Ion	Ratio	Lower	Upper
72	100		
43	483.7	468.6	508.6

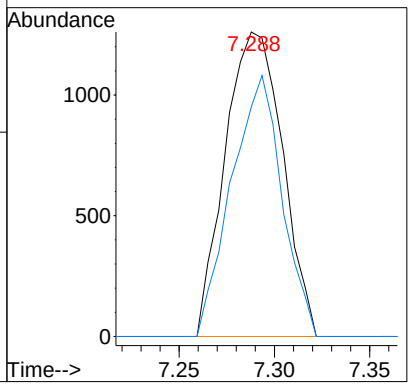


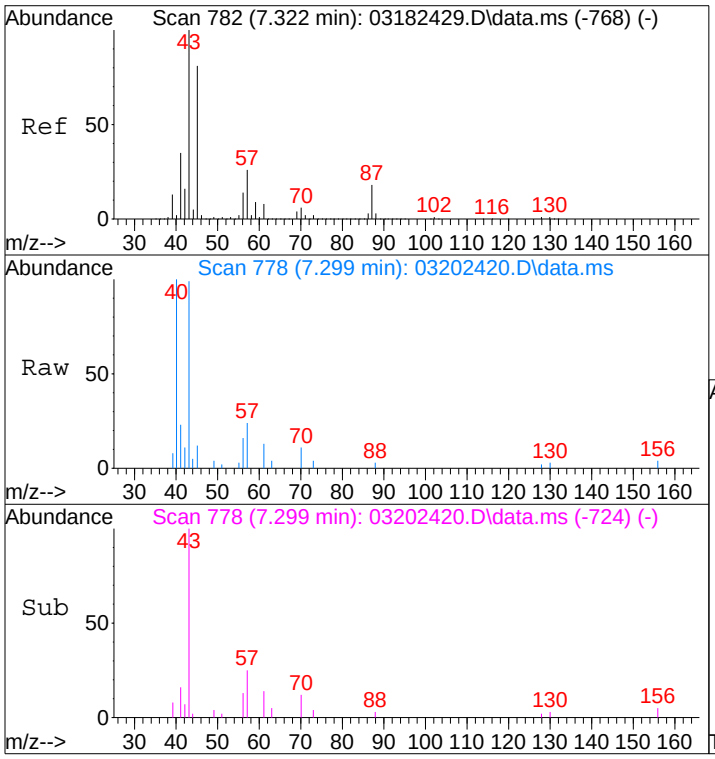


#30
Ethyl Acetate
Concen: 0.51 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.028 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 61 Resp: 2639

Ion	Ratio	Lower	Upper
61	100		
70	75.4	57.3	97.3

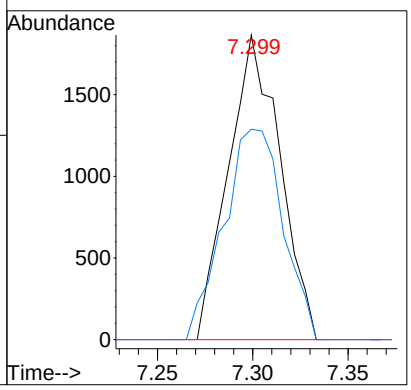


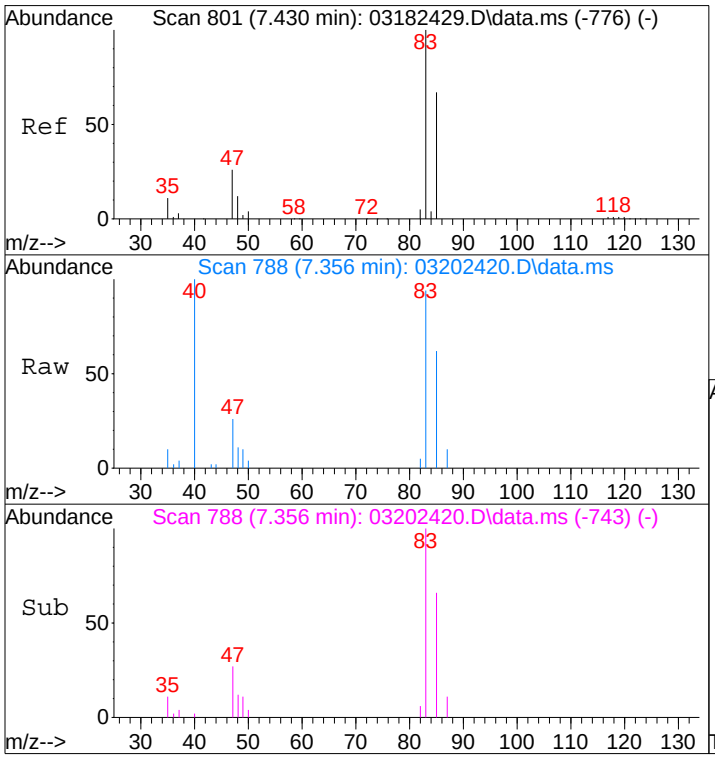


#31
n-Hexane
Concen: 0.16 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 57 Resp: 3507

Ion	Ratio	Lower	Upper
57	100		
56	79.8	42.2	63.4#
86	0.0	9.4	14.2#

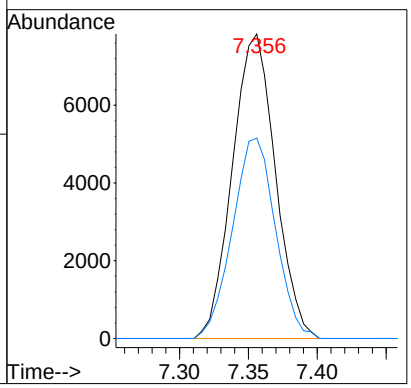


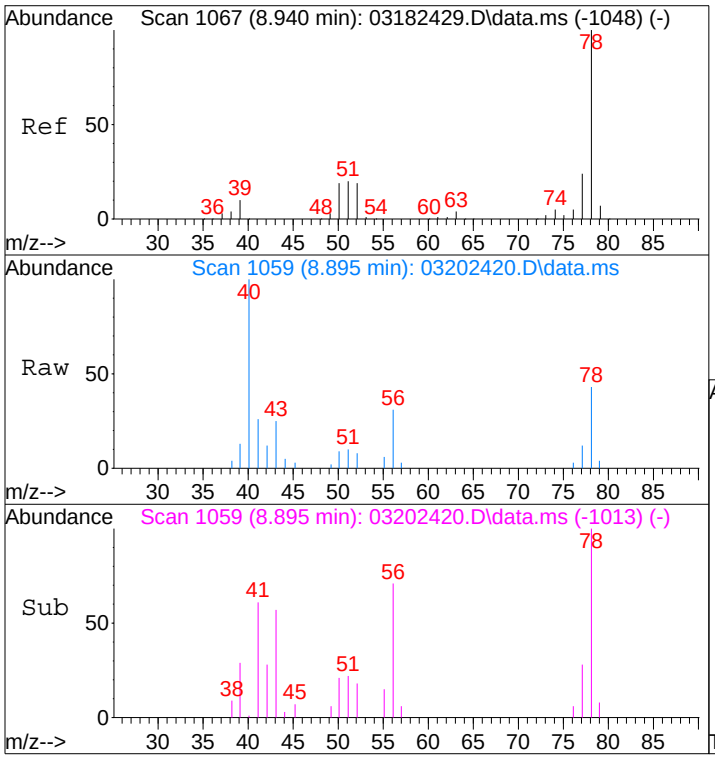


#32
Chloroform
Concen: 0.68 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.007 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 83 Resp: 16997

Ion	Ratio	Lower	Upper
83	100		
85	65.9	46.1	86.1

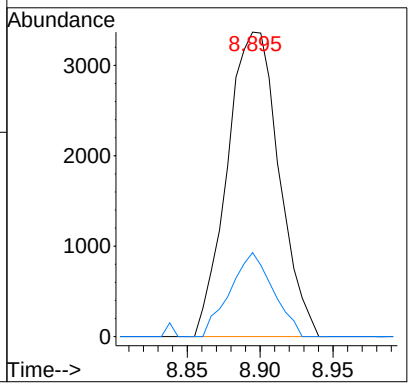


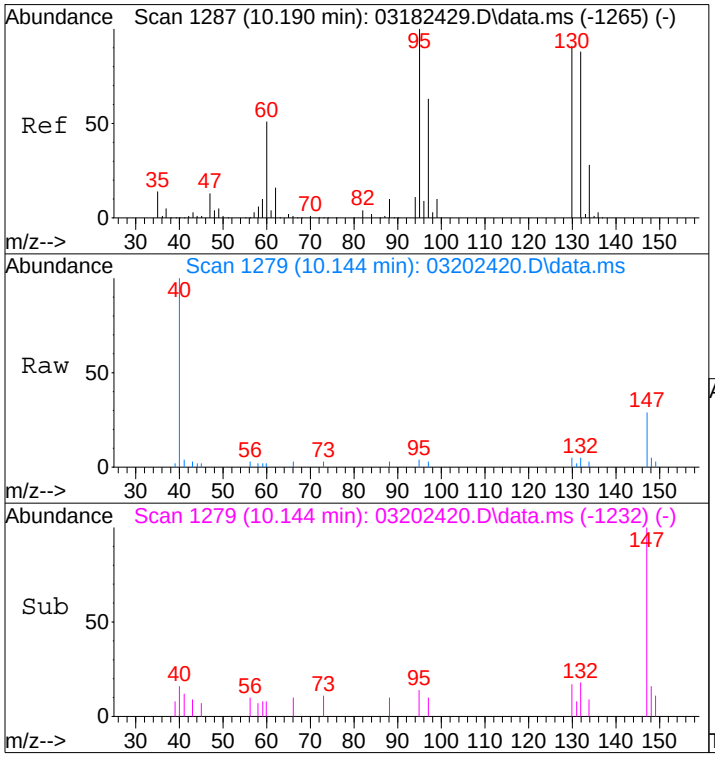


#41
Benzene
Concen: 0.15 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 78 Resp: 8304

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.6	43.6

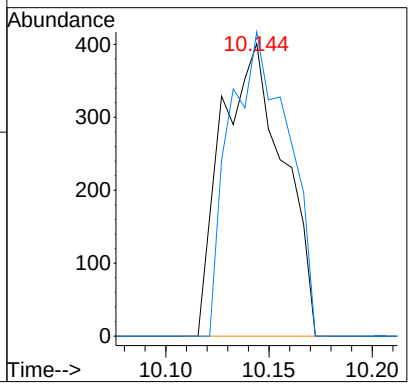


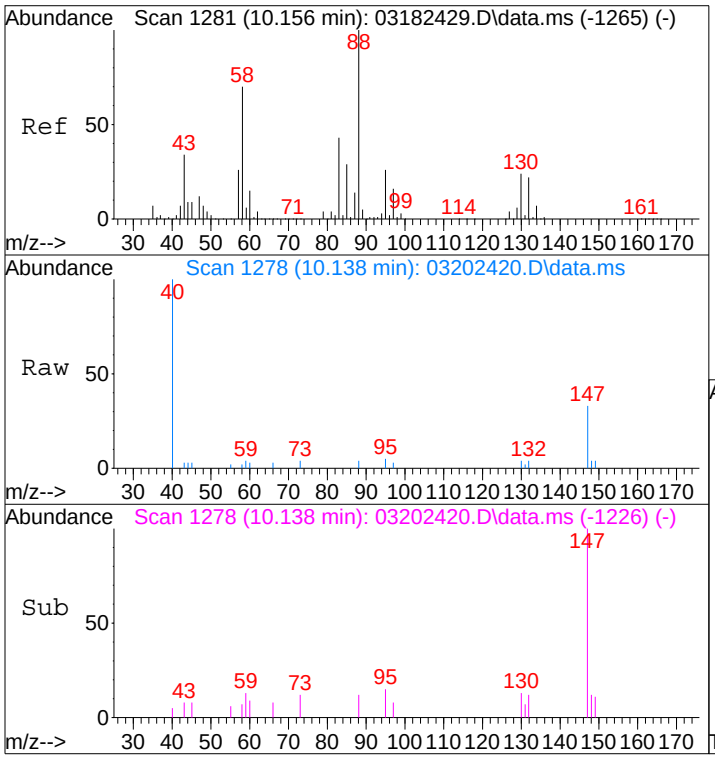


#47
Trichloroethene
Concen: 0.06 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:130 Resp: 834

Ion	Ratio	Lower	Upper
130	100		
132	98.9	77.5	117.5

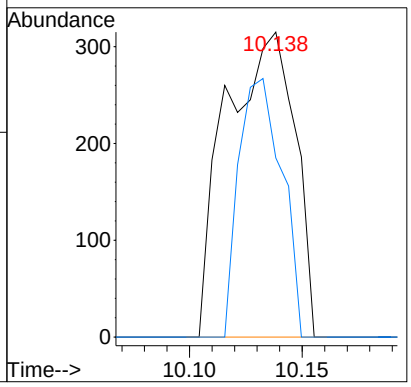


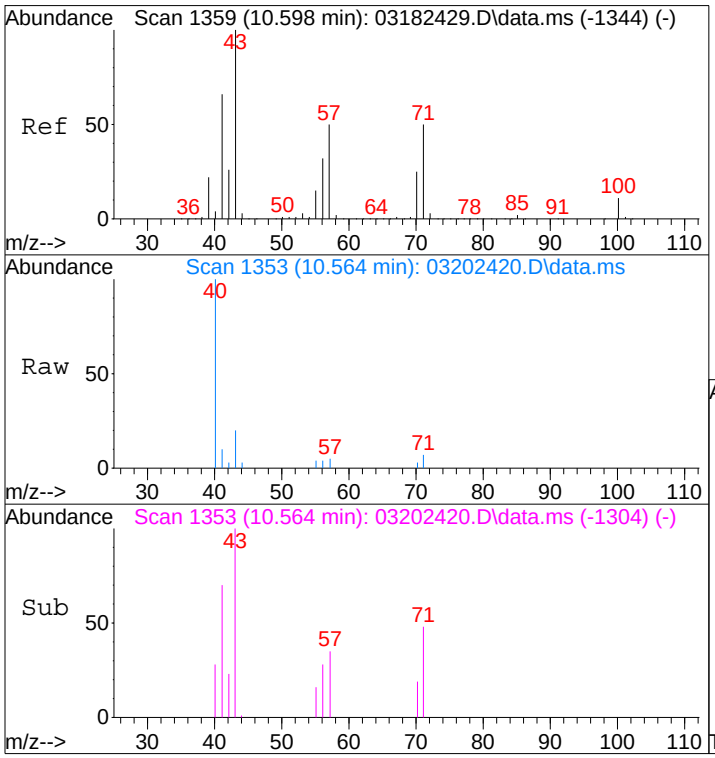


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.045 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 88 Resp: 670

Ion	Ratio	Lower	Upper
88	100		
58	53.1	48.2	88.2

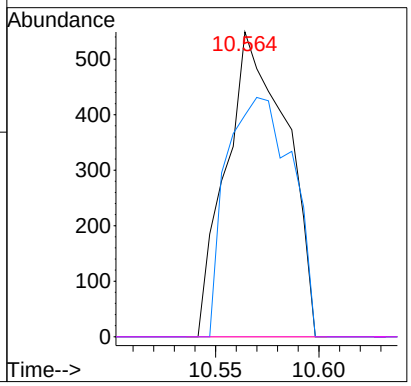


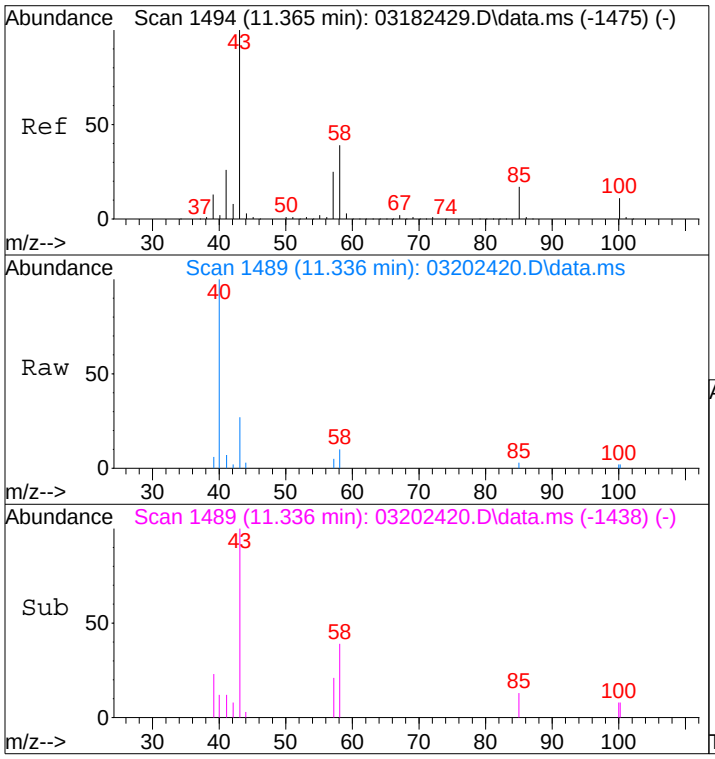


#51
n-Heptane
Concen: 0.09 ng
RT: 10.56 min Scan# 1353
Delta R.T. 0.030 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 71 Resp: 1117

Ion	Ratio	Lower	Upper
71	100		
57	85.6	81.2	121.2
100	0.0	4.0	44.0#

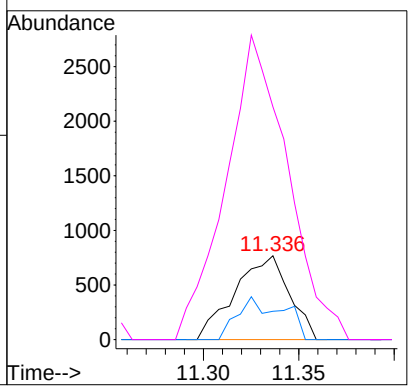


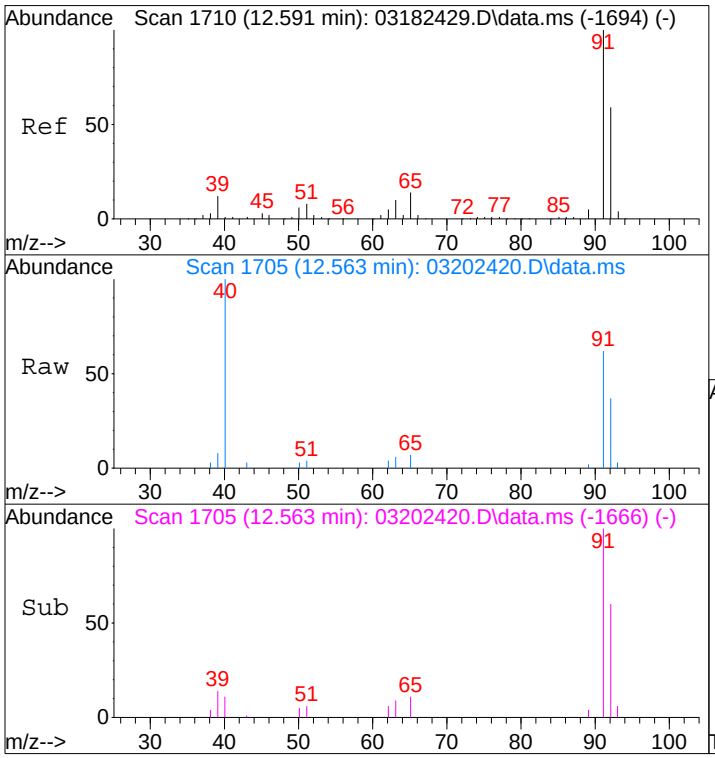


#53
4-Methyl-2-pentanone
Concen: 0.13 ng
RT: 11.34 min Scan# 1489
Delta R.T. 0.041 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 58 Resp: 1523

Ion	Ratio	Lower	Upper
58	100		
85	42.0	34.5	51.7
43	413.9	218.4	327.6#

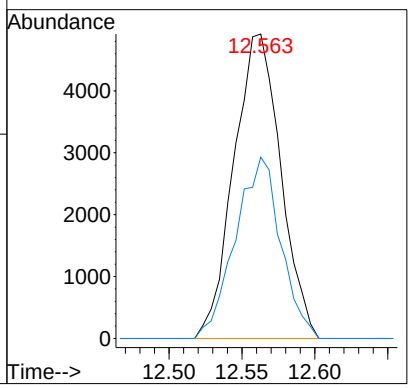


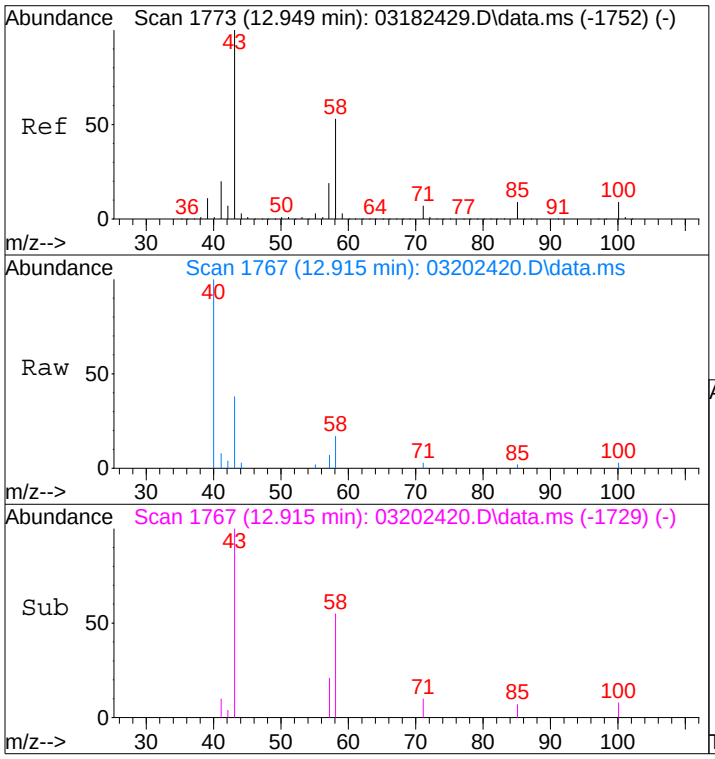


#58
Toluene
Concen: 0.20 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 91 Resp: 11018

Ion	Ratio	Lower	Upper
91	100		
92	57.6	39.2	79.2

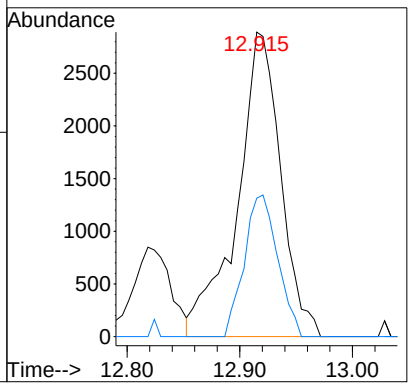


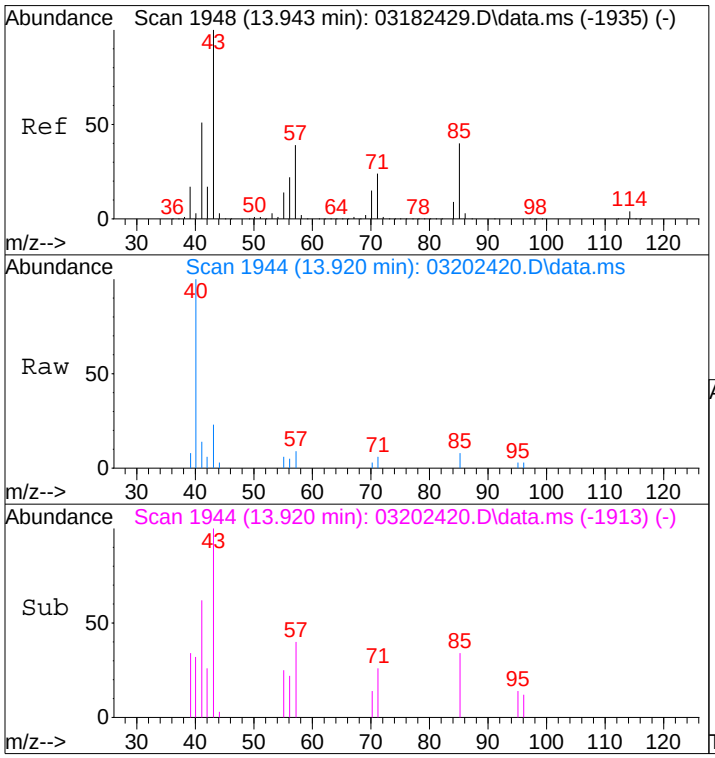


#59
2-Hexanone
Concen: 0.24 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 43 Resp: 7728

Ion	Ratio	Lower	Upper
43	100		
58	35.9	30.2	70.2

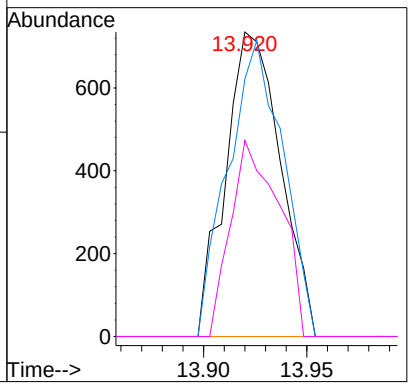


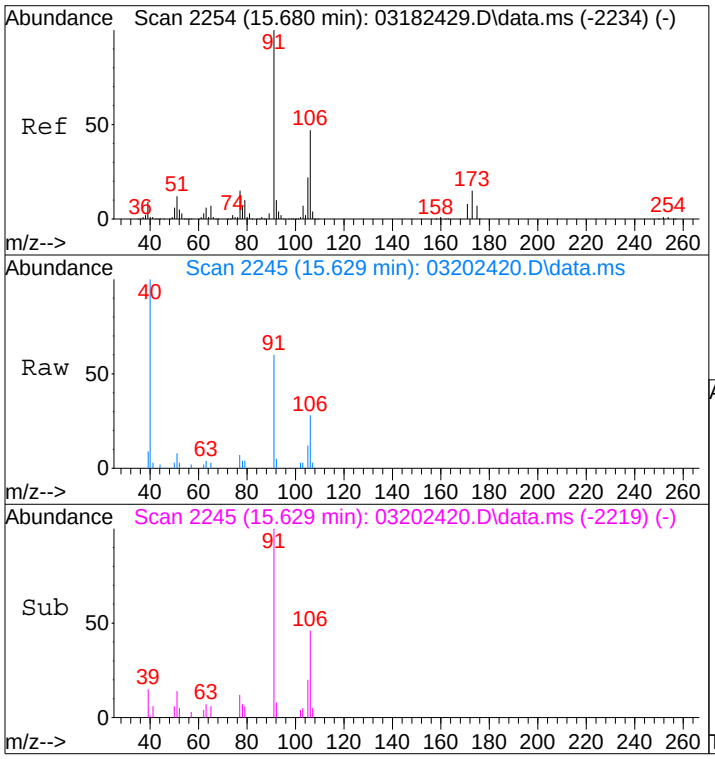


#63
n-Octane
Concen: 0.12 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 57 Resp: 1363

Ion	Ratio	Lower	Upper
57	100		
85	97.4	80.6	121.0
71	57.2	49.3	73.9

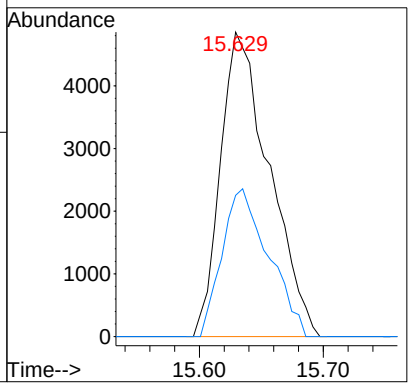


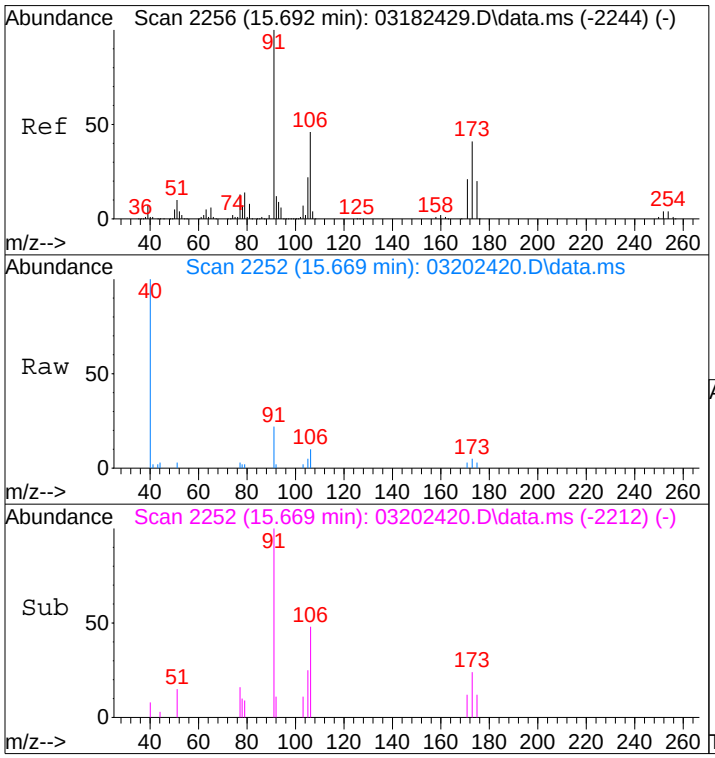


#67
m- & p-Xylenes
Concen: 0.26 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 91 Resp: 13303

Ion	Ratio	Lower	Upper
91	100		
106	46.2	25.6	65.6

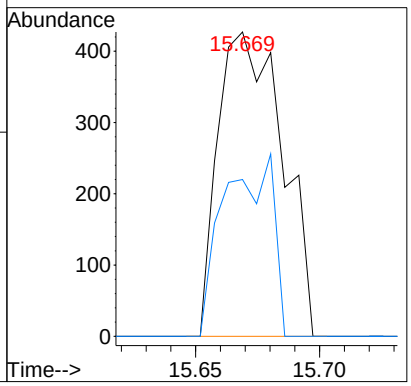


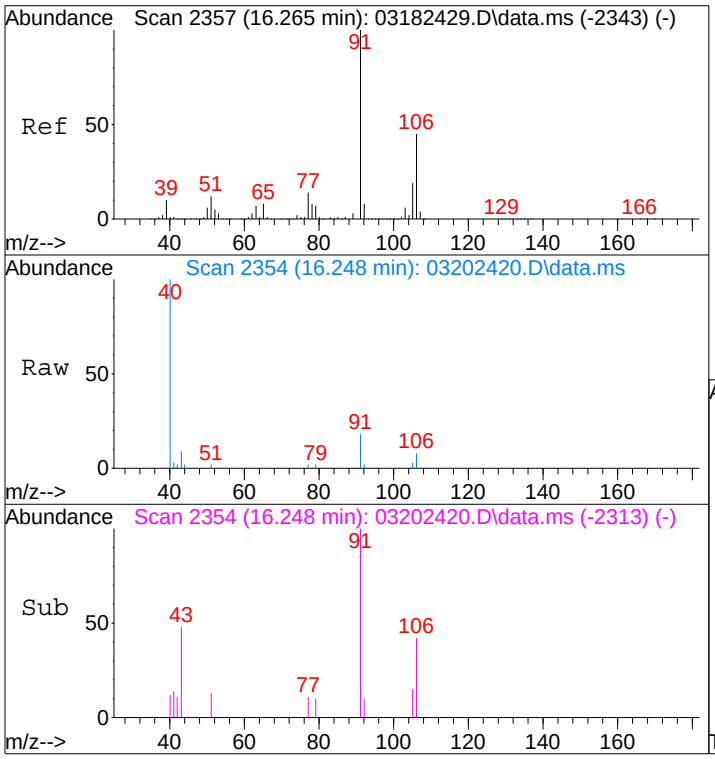


#68
Bromoform
Concen: 0.05 ng
RT: 15.67 min Scan# 2252
Delta R.T. -0.023 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:173 Resp: 773

Ion	Ratio	Lower	Upper
173	100		
175	45.7	28.7	68.7

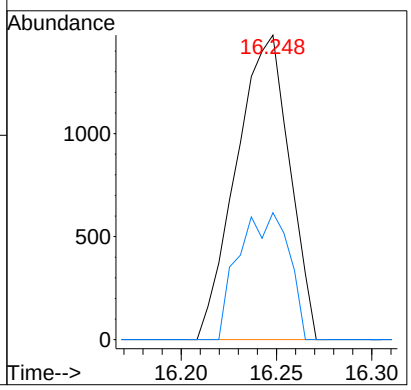


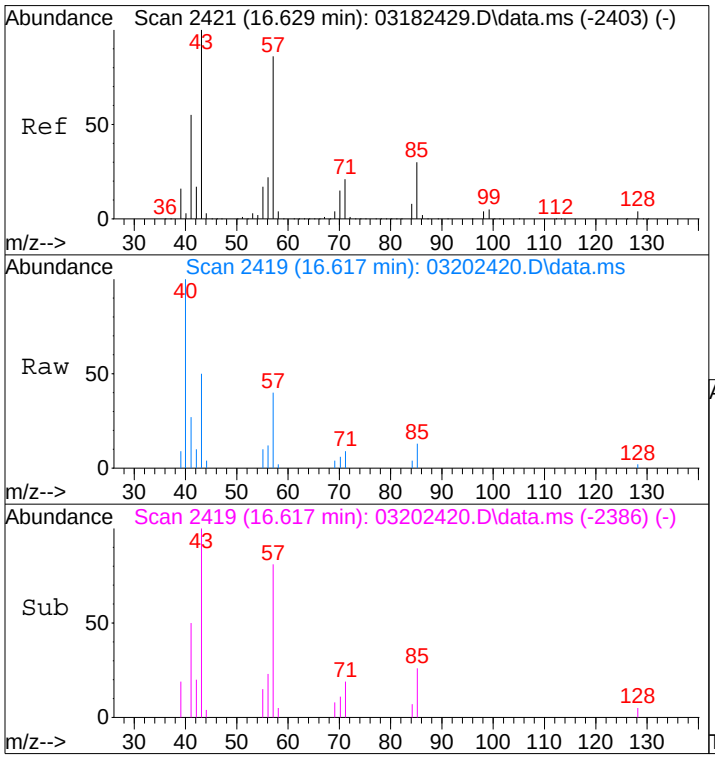


#70
o-Xylene
Concen: 0.06 ng
RT: 16.25 min Scan# 2354
Delta R.T. -0.017 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 91 Resp: 2858

Ion	Ratio	Lower	Upper
91	100		
106	39.6	24.4	64.4

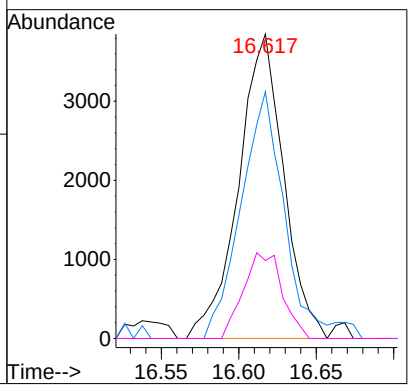


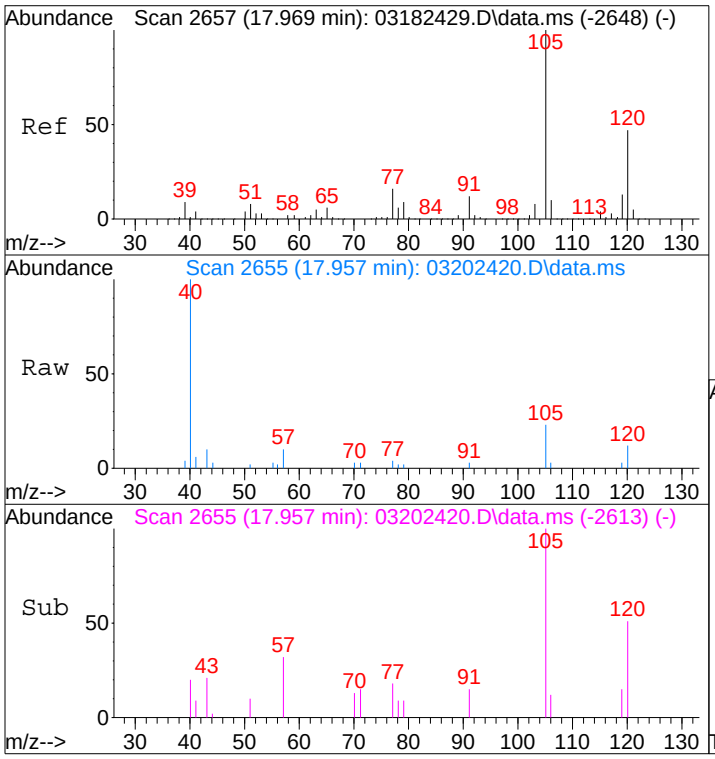


#71
n-Nonane
Concen: 0.26 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.012 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 43 Resp: 7810

Ion	Ratio	Lower	Upper
43	100		
57	79.3	63.3	103.3
85	24.3	7.8	47.8

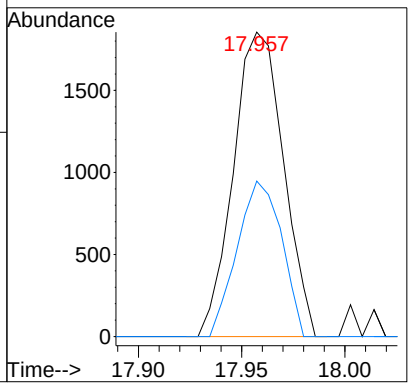


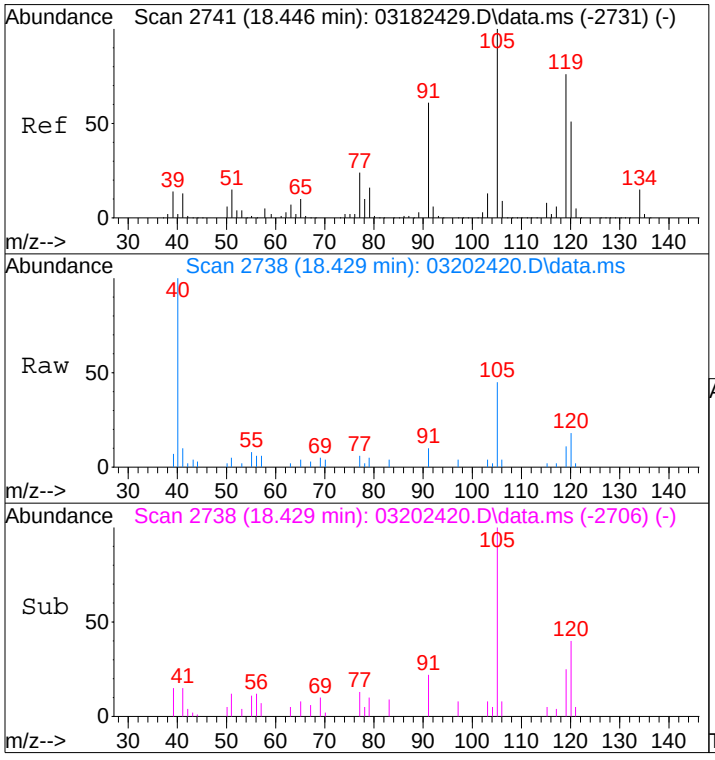


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.012 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:105 Resp: 3127

Ion	Ratio	Lower	Upper
105	100		
120	45.3	26.9	66.9

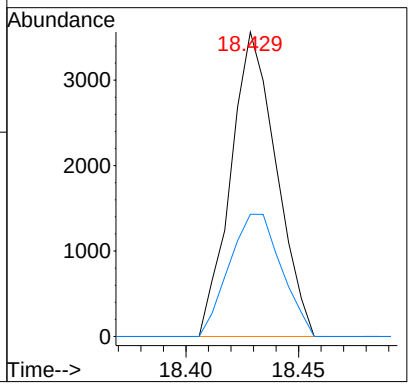


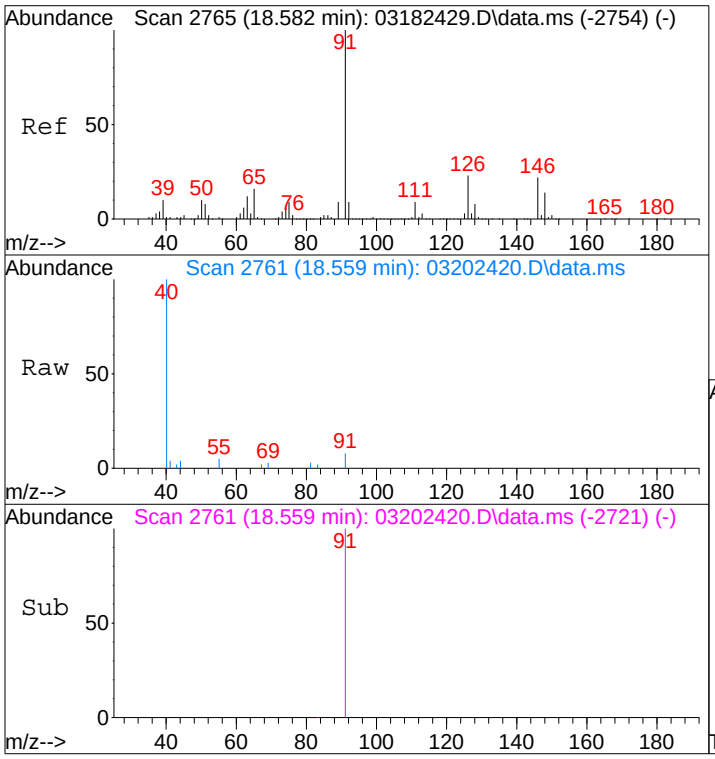


#82
1,2,4-Trimethylbenzene
Concen: 0.09 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:105 Resp: 5012

Ion	Ratio	Lower	Upper
105	100		
120	46.1	31.1	71.1

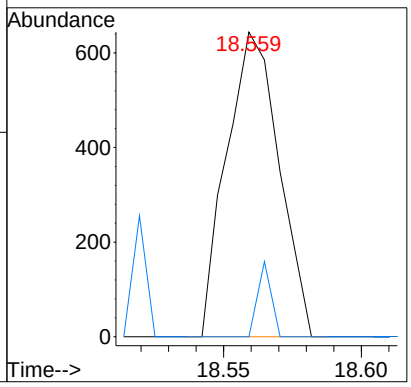


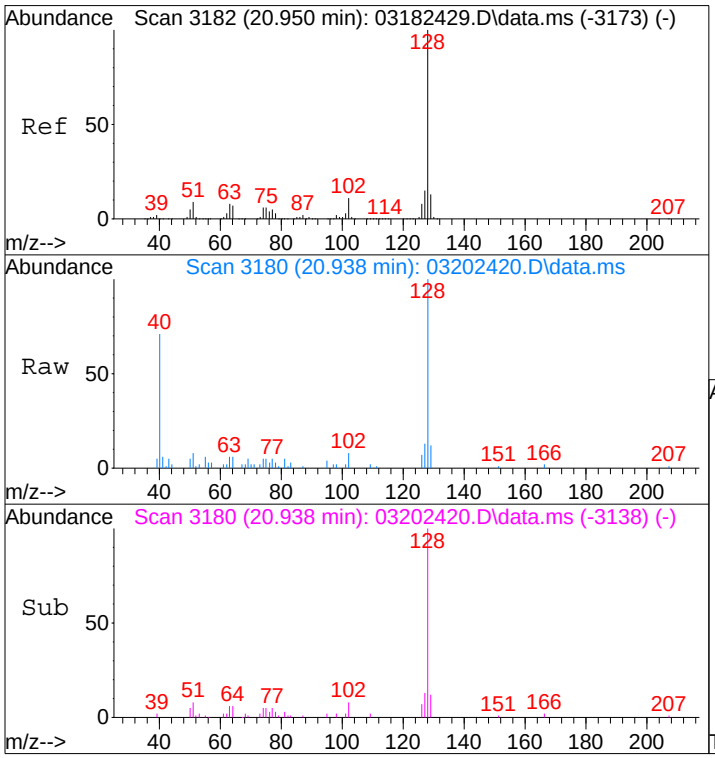


#84
Benzyl Chloride
Concen: 0.61 ng
RT: 18.56 min Scan# 2761
Delta R.T. -0.023 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion: 91 Resp: 852

Ion	Ratio	Lower	Upper
91	100		
126	0.0	0.0	39.7

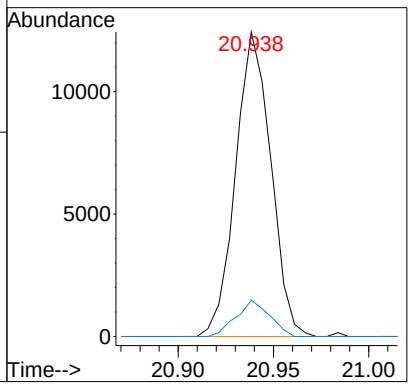




#95
Naphthalene
Concen: 0.55 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.012 min
Lab File: 03202420.D
Acq: 20 Mar 2024 15:54

Tgt Ion:128 Resp: 15959

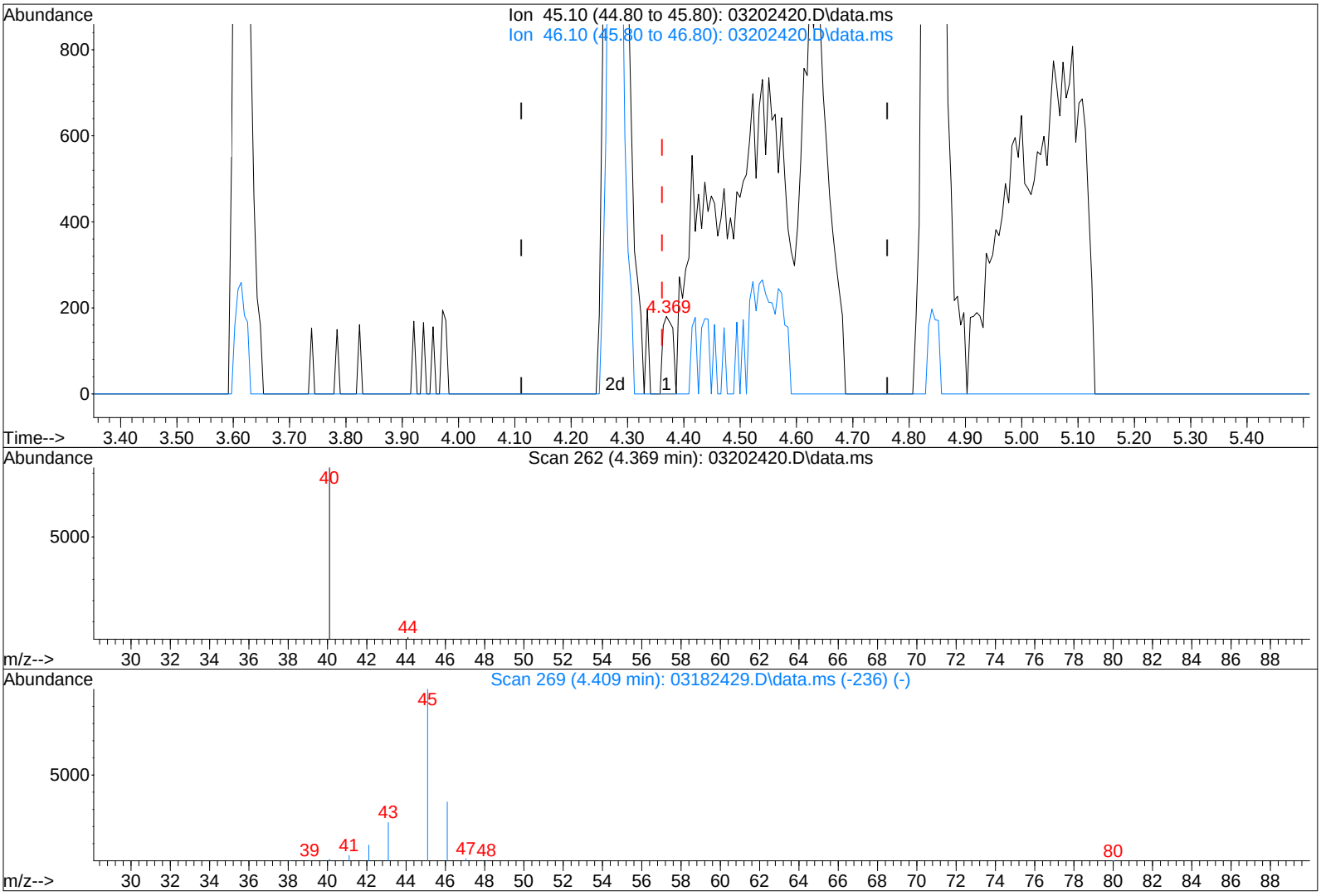
Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:19:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202420.D\data.ms

(10) Ethanol (T)

4.369min (+0.008) 0.02ng

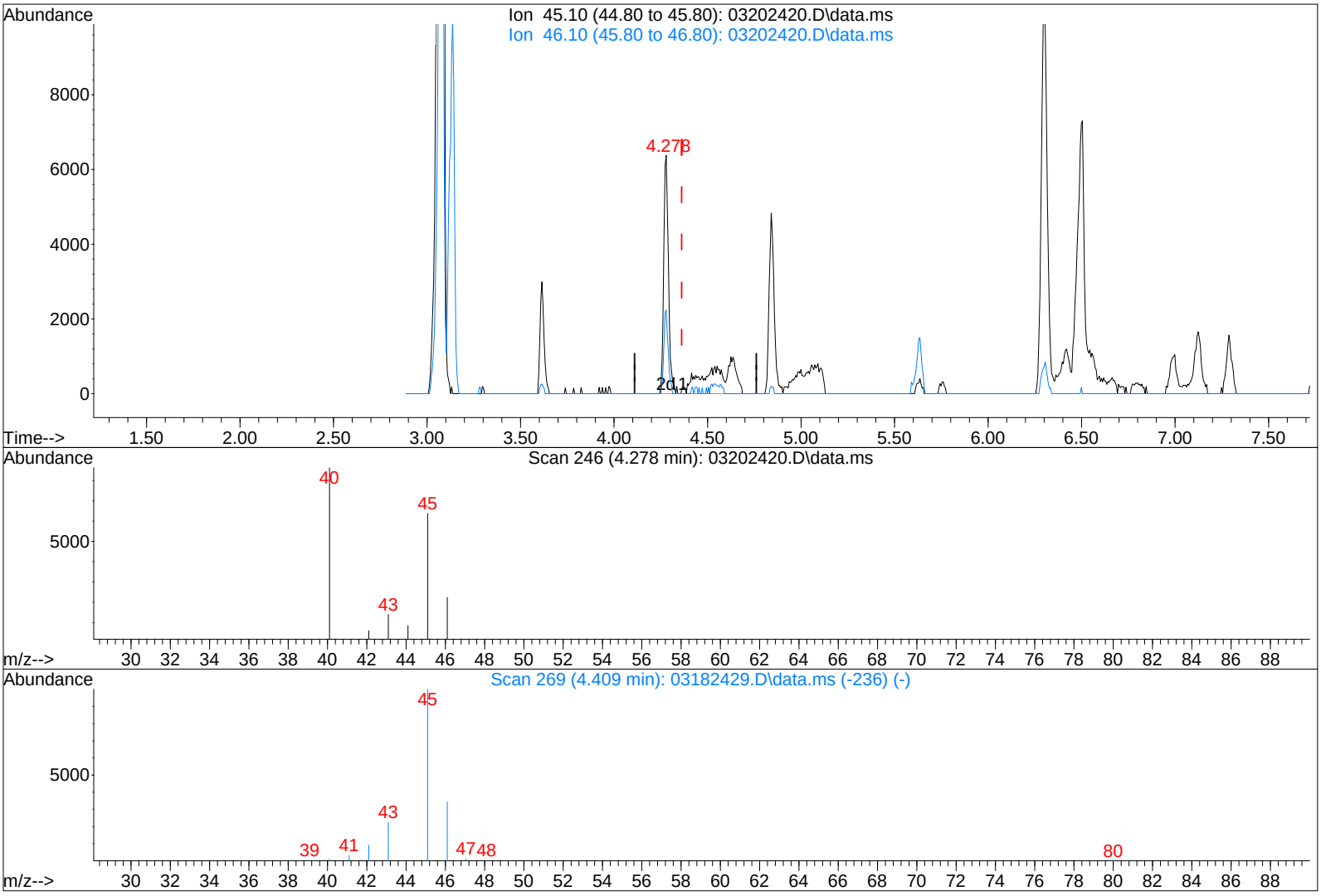
response 224

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	50.89
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:19:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202420.D\data.ms

MP 3/20/24

(10) Ethanol (T)

4.278min (-0.083) 1.46ng m

response 20401

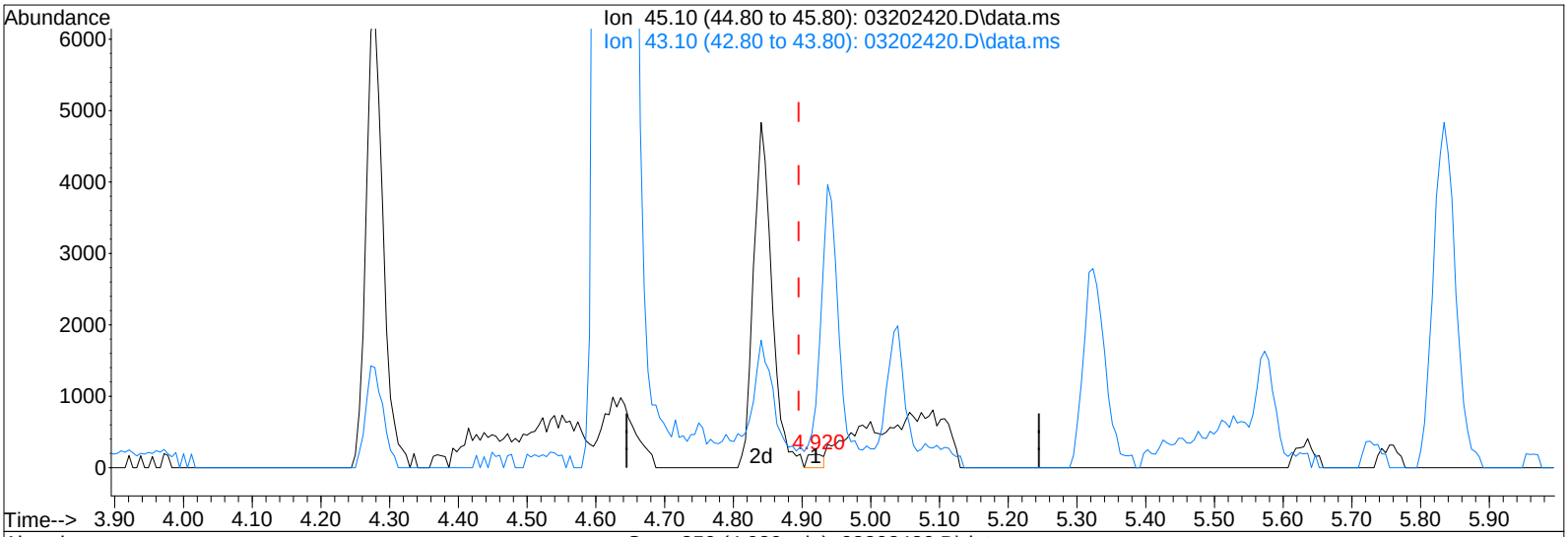
Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.56#
0.00	0.00	0.00
0.00	0.00	0.00

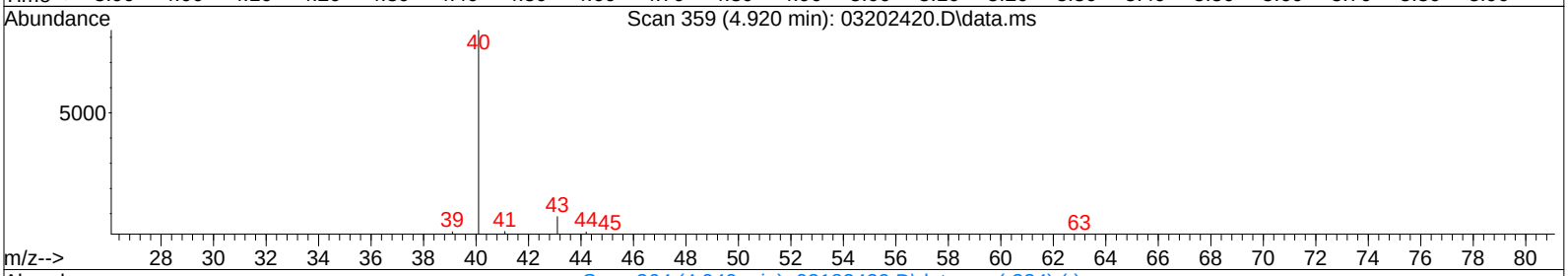
LH 3/21/24

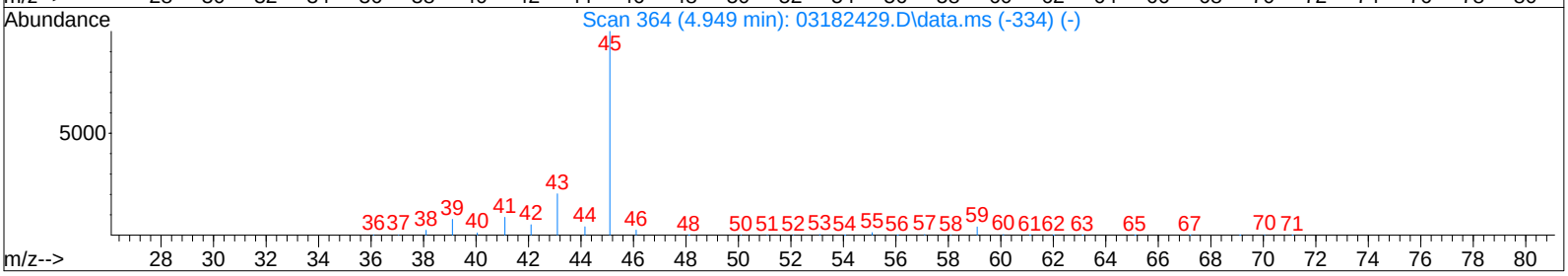
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:19:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03202420.D\data.ms

(15) 2-Propanol (Isopropanol) (T)

4.920min (+0.025) 0.01ng

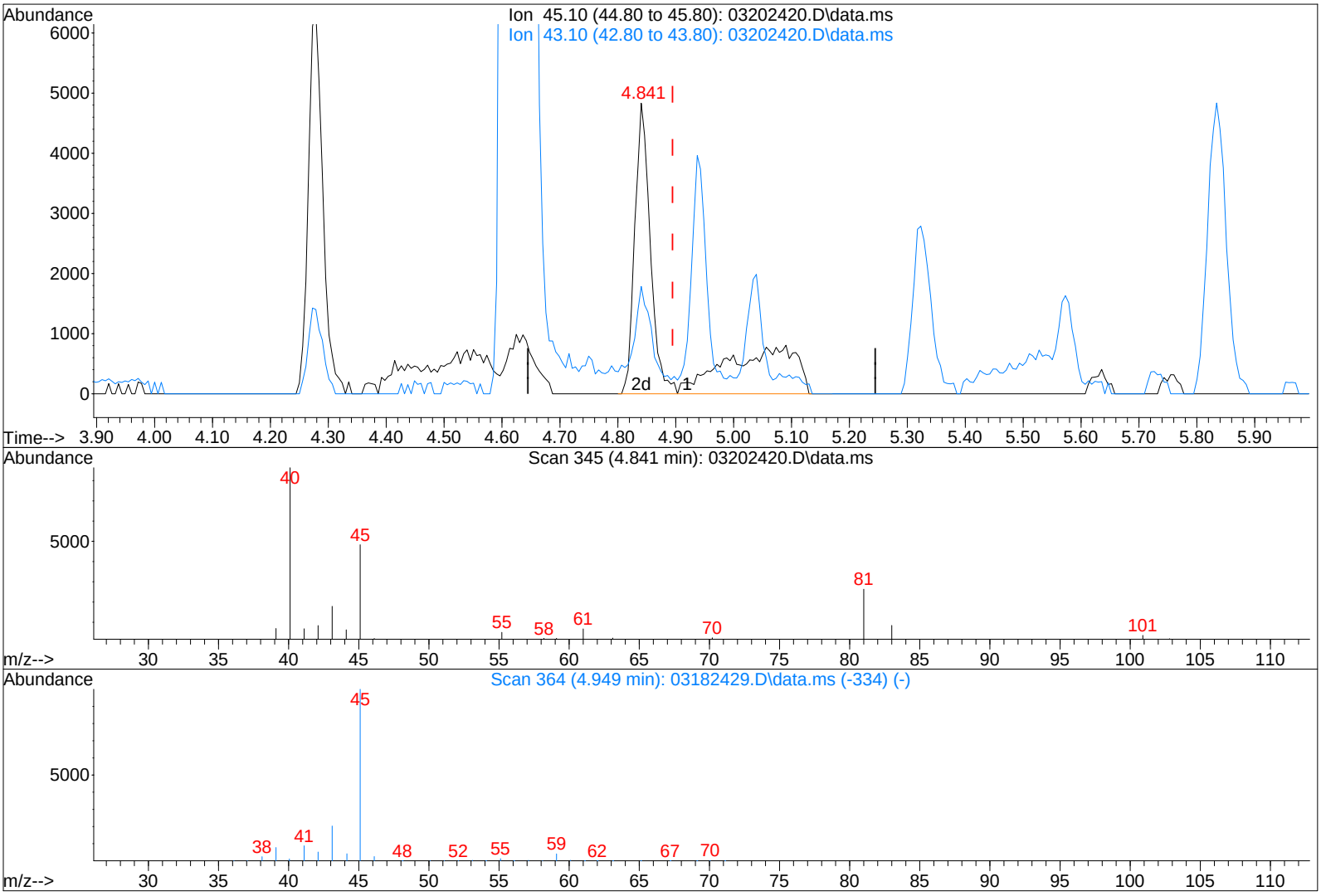
response 301

Ion	Exp%	Act%
45.10	100	100
43.10	20.40	2187.04#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:19:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202420.D\data.ms

MP 3/20/24

LH 3/21/24

(15) 2-Propanol (Isopropanol) (T)

4.841min (-0.054) 0.37ng m

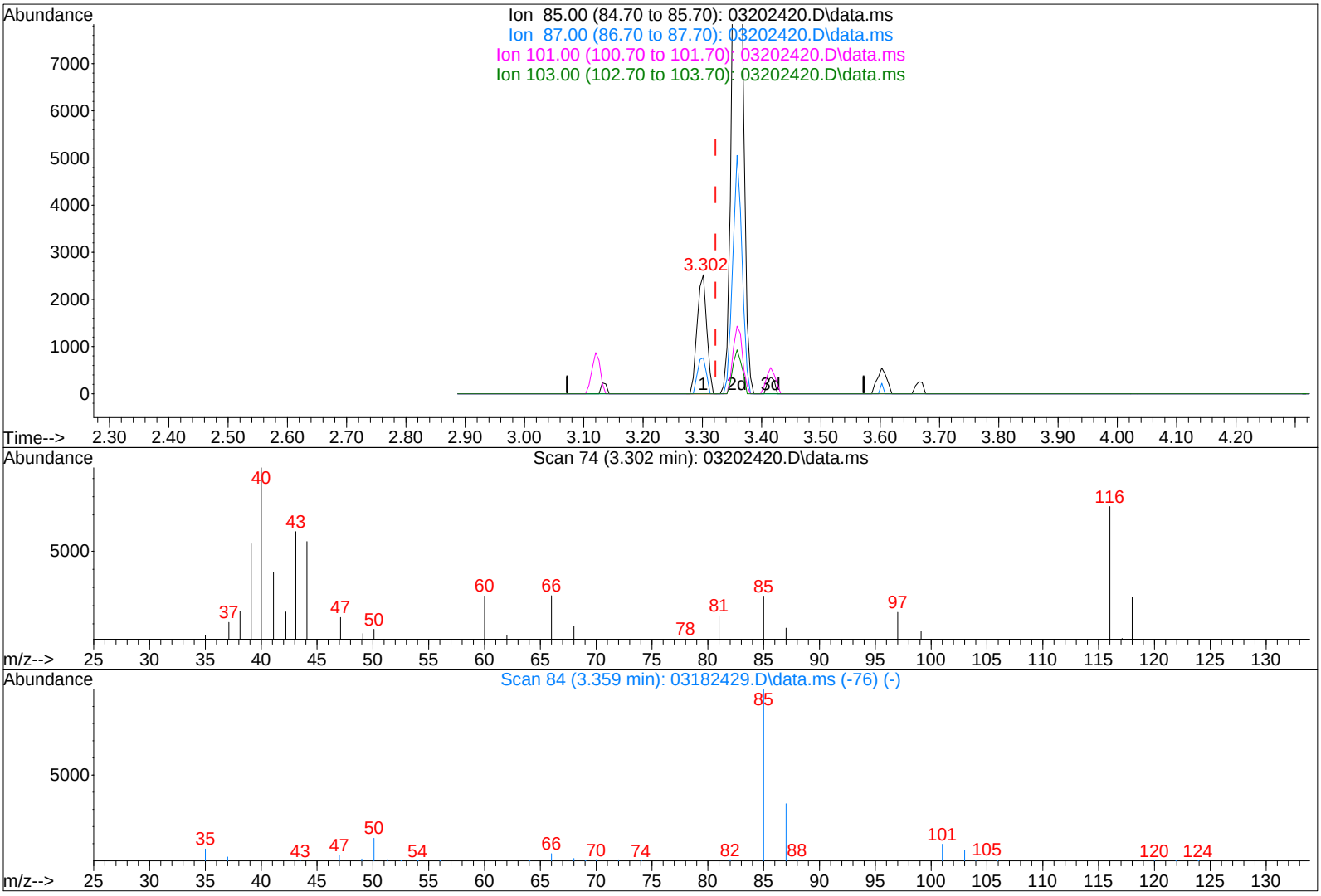
response 15667

Ion	Exp%	Act%
45.10	100	100
43.10	20.40	42.02#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:19:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.020) 0.10ng

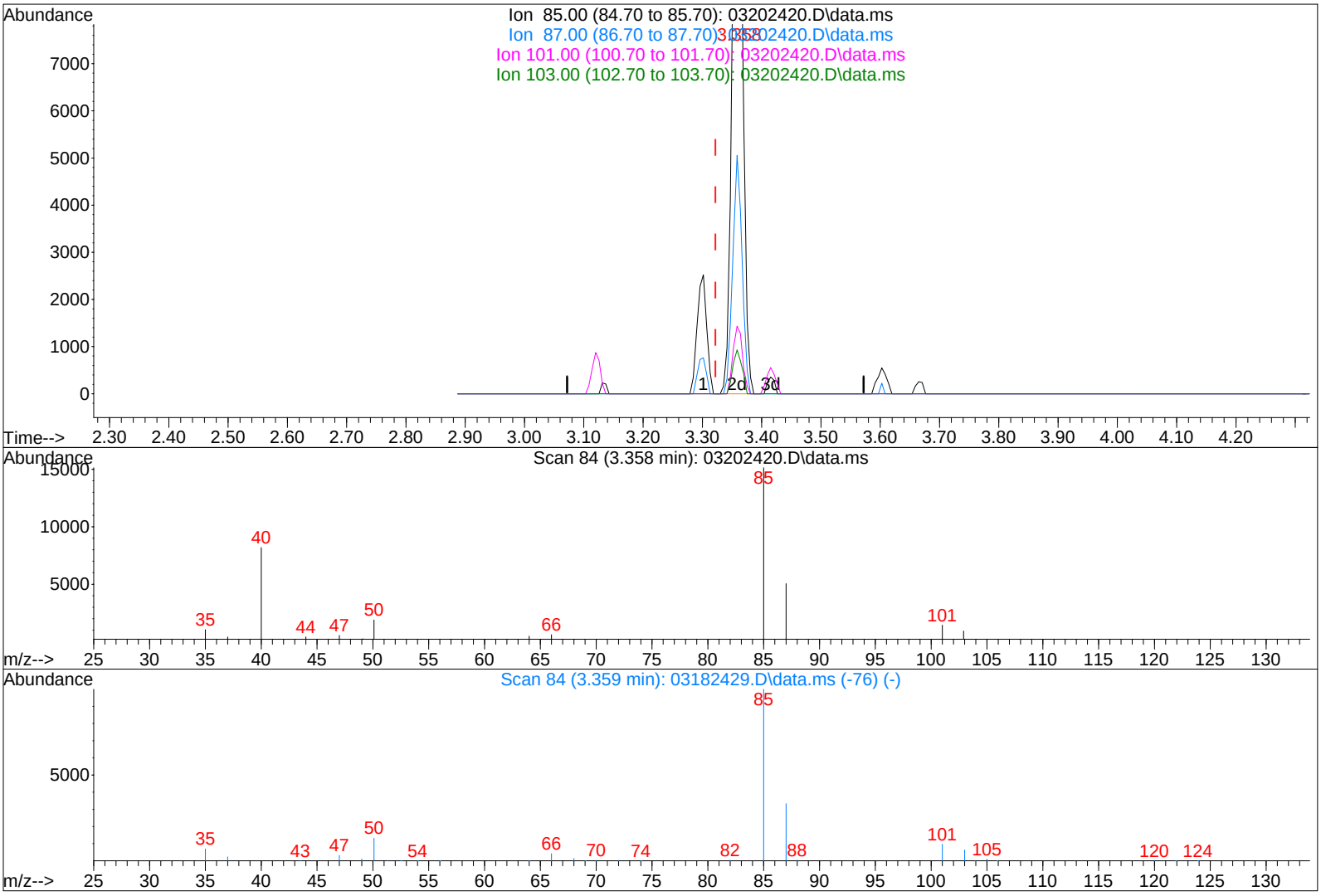
response 2829

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.11
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 16:19:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202420.D\data.ms

WP

3/20/24

3/21/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.358min (+0.036) 0.58ng m

response 17298

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	4.43#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:19:04 2024 3/21/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

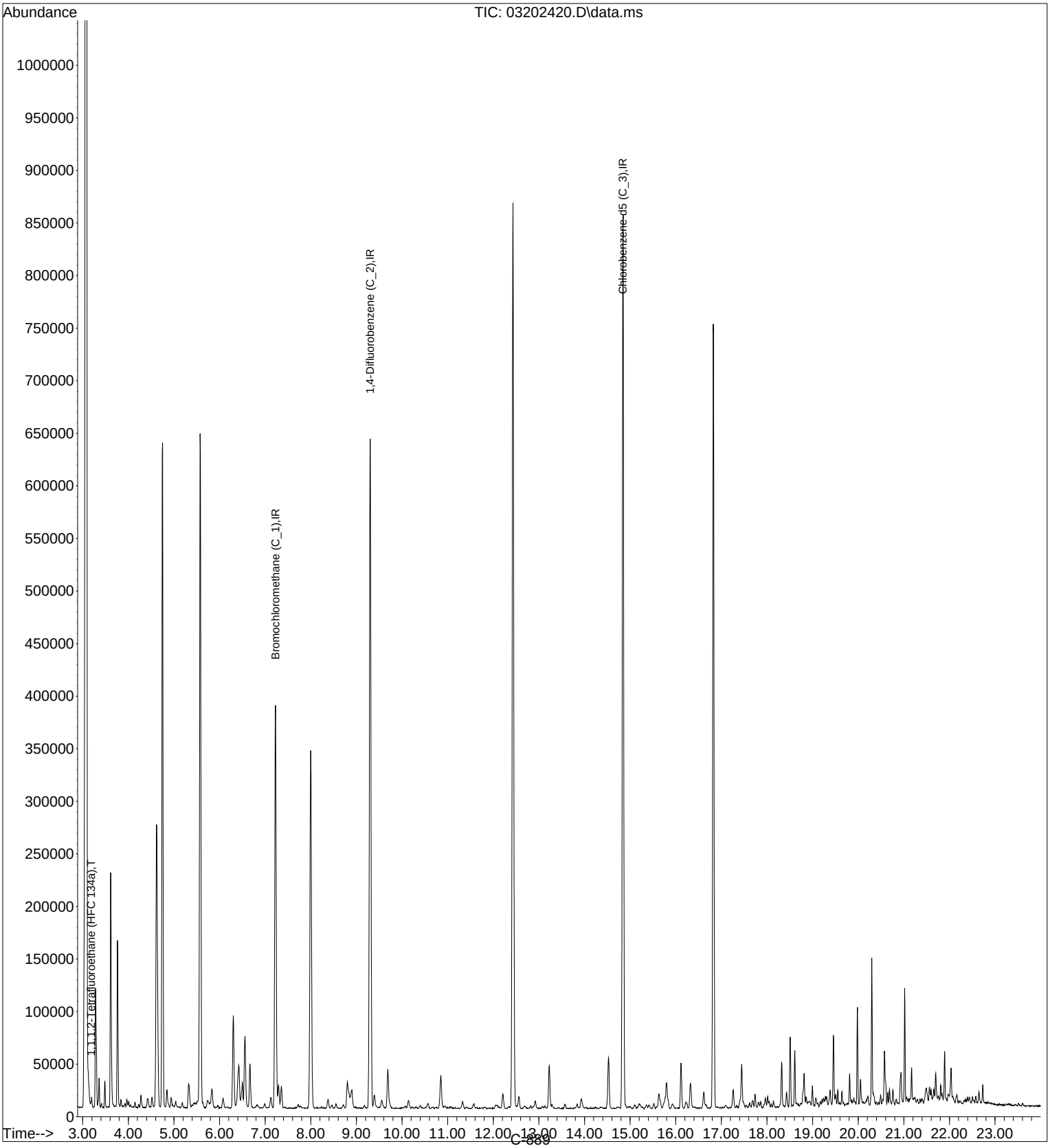
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	144233	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	623405	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	142636	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	149	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1446	0.109	ng	#	1
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d		
6) 1-Chloro-1,1-Difluoroe...	3.49	65	387	N.D.			
7) Dichlorofluoromethane ...	4.23	67	2357	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.60	83	1450	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	0.00	43	0	N.D.	d		
12) 2-Methylpentane	6.49	71	67	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.43	56	163	N.D.			
18) Dibromomethane	9.79	174	57	N.D.			
20) Methyl Cyclohexane	11.42	55	628	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.20	91	1211	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	1116	N.D.			
25) Bromobenzene	17.03	77	56	N.D.			
26) 2-Chlorotoluene	17.61	91	804	N.D.			
27) 4-Chlorotoluene	17.68	91	3551	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	371	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	628	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	667	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202420.D Vial: 8
Acq On : 20 Mar 2024 15:54 Operator: SC
Sample : P2400922-019 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:19:04 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202420.D
Acq On : 20 Mar 2024 15:54
Operator : SC
Sample : P2400922-019 (400mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202420.D\data.ms

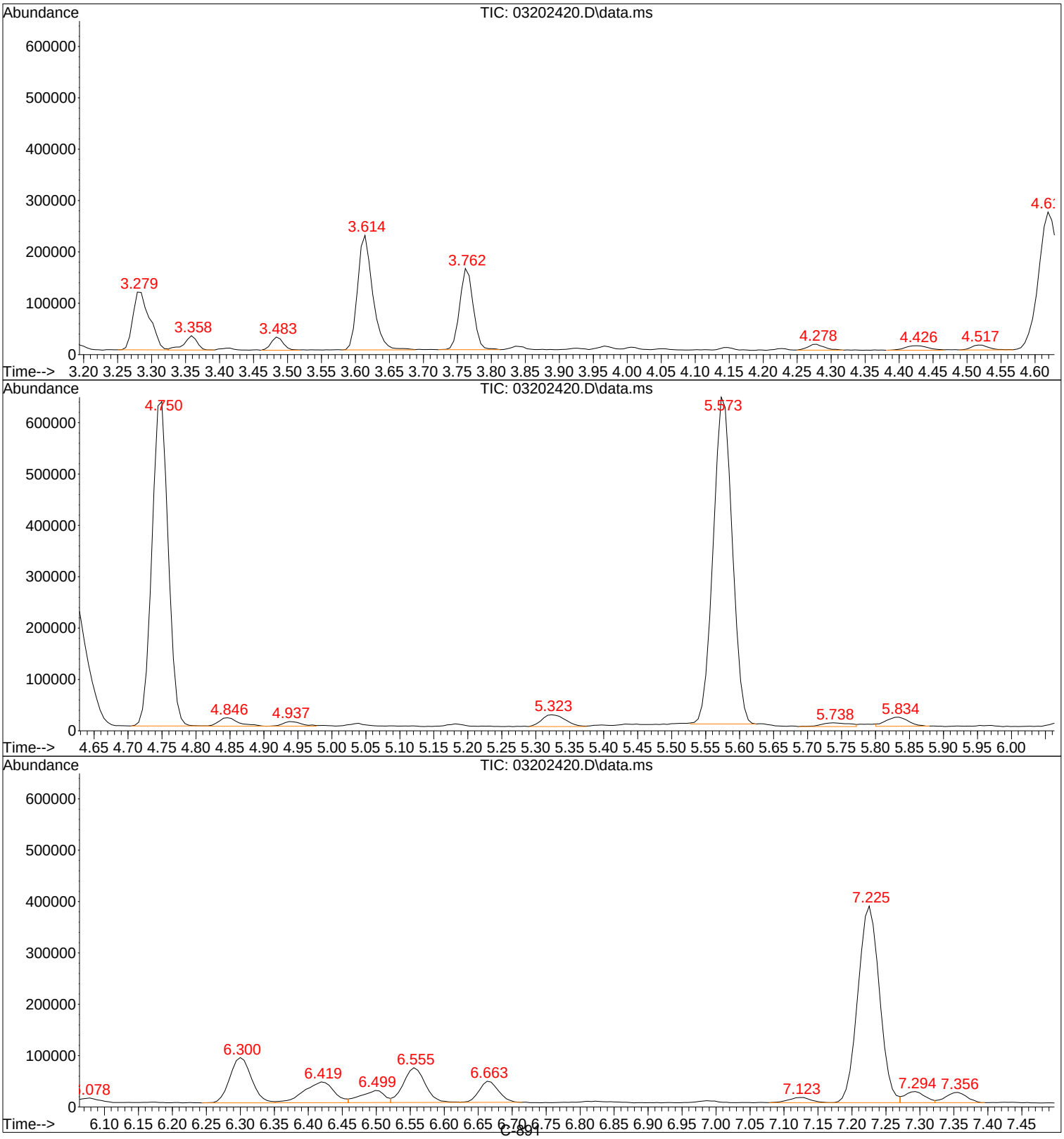
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.279	65	70	78	rBV2	112377	193009	15.59%	3.476%
2	3.359	78	84	90	rVB2	27850	37233	3.01%	0.670%
3	3.483	102	106	112	rBV	25559	31884	2.57%	0.574%
4	3.614	123	129	142	rBV	223120	343070	27.70%	6.178%
5	3.762	148	155	164	rBV	158091	218498	17.64%	3.935%
6	4.278	241	246	253	rVB	11435	18853	1.52%	0.339%
7	4.426	264	272	279	rBV	8677	20634	1.67%	0.372%
8	4.517	283	288	297	rVV	9580	17740	1.43%	0.319%
9	4.619	297	306	317	rVV	268541	629152	50.81%	11.329%
10	4.750	321	329	341	rBV	631499	1053271	85.05%	18.967%
11	4.846	341	346	356	rVB4	16324	33112	2.67%	0.596%
12	4.937	356	362	369	rBV2	8997	17286	1.40%	0.311%
13	5.323	424	430	439	rBV2	22923	55393	4.47%	0.997%
14	5.573	466	474	483	rVB2	636231	1238354	100.00%	22.300%
15	5.738	494	503	509	rBV4	7350	21782	1.76%	0.392%
16	5.834	514	520	528	rVB3	17421	40191	3.25%	0.724%
17	6.078	555	563	569	rBV2	8981	19346	1.56%	0.348%
18	6.300	592	602	611	rBV	88095	195463	15.78%	3.520%
19	6.419	611	623	630	rVV3	40438	124220	10.03%	2.237%
20	6.499	630	637	641	rVV	23622	56571	4.57%	1.019%
21	6.555	641	647	659	rVV	67674	149606	12.08%	2.694%
22	6.663	659	666	675	rVB	41178	81647	6.59%	1.470%
23	7.123	739	747	755	rBV2	9840	22309	1.80%	0.402%
24	7.225	755	765	773	rVV	382762	848824	68.54%	15.285%
25	7.294	773	777	782	rVV3	21610	43345	3.50%	0.781%
26	7.356	782	788	795	rVB	20077	42451	3.43%	0.764%

Sum of corrected areas: 5553244

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202420.D
Acq On : 20 Mar 2024 15:54
Operator : SC
Sample : P2400922-019 (400mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202420.D
Acq On : 20 Mar 2024 15:544
Operator : SCC
Sample : P2400922-019 (400mL))
Misc : S37-022024088
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 15:49:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	175666	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	750754	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	164255	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	351288	12.224	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
57) Toluene-d8 (SS2)	12.43	98	853196	12.937	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	16.83	174	297735	12.805	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
2) Propene	3.32	42	276	N.D.			
3) Dichlorodifluoromethan...	3.31	85	19893	0.552	ng	#	92
4) Chloromethane	3.52	50	110	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	1350	0.080	ng		80
11) Acetonitrile	4.45	41	57	N.D.			
12) Acrolein	4.55	56	55	N.D.			
13) Acetone	4.66	58	2268	0.176	ng	#	75
14) Trichlorofluoromethane	4.76	101	2339828	67.095	ng		100
15) 2-Propanol (Isopropanol)	4.89	45	239	N.D.			
16) Acrylonitrile	5.00	53	626	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	801	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1445213	98.313	ng		98
22) Carbon Disulfide	5.60	76	839	N.D.			
23) trans-1,2-Dichloroethene	6.12	61	167	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	566	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.36	83	270	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	168	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	1103	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.30	84	603	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	405	N.D.			
47) Trichloroethene	10.15	130	2435	0.134	ng		94
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 15:49:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

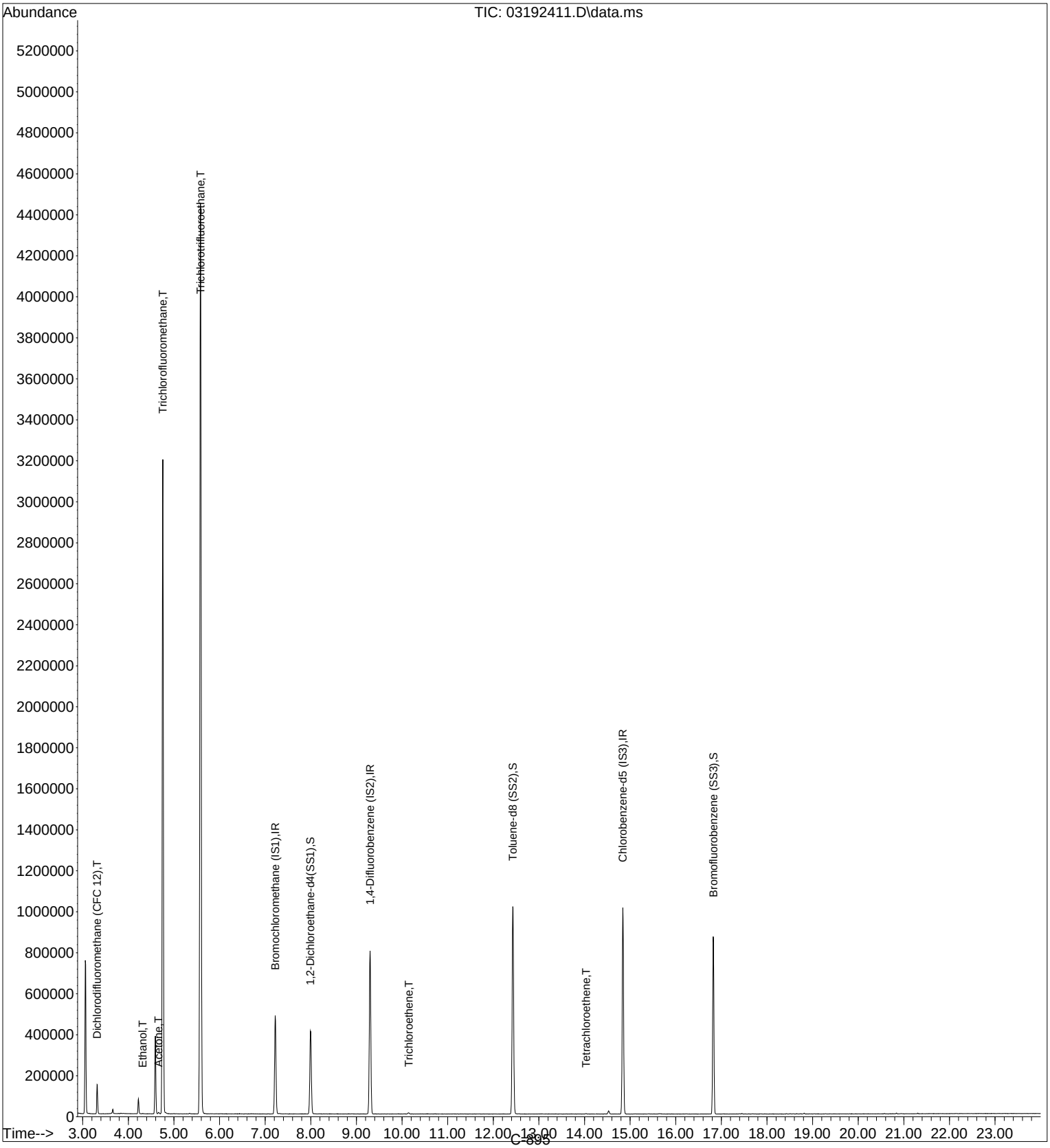
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1664	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.06	129	355	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	1027	0.053 ng	80
65) Chlorobenzene	14.89	112	564	N.D.	
66) Ethylbenzene	15.41	91	1514	N.D.	
67) m- & p-Xylenes	15.62	91	2249	N.D.	
68) Bromoform	15.68	173	463	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	873	N.D.	
71) n-Nonane	16.61	43	110	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	383	N.D.	
74) Cumene	17.04	105	890	N.D.	
75) alpha-Pinene	17.52	93	190	N.D.	
76) n-Propylbenzene	17.68	91	1329	N.D.	
77) 3-Ethyltoluene	17.04	105	890	No Calib	
78) 4-Ethyltoluene	17.86	105	841	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	337	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	890	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	565	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	713	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	853	N.D.	
87) sec-Butylbenzene	18.74	105	910	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	651	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	890	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	681	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1240	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	592	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	888	N.D.	
100) n-Butylbenzene	19.39	91	553	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 15:49:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 15:49:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

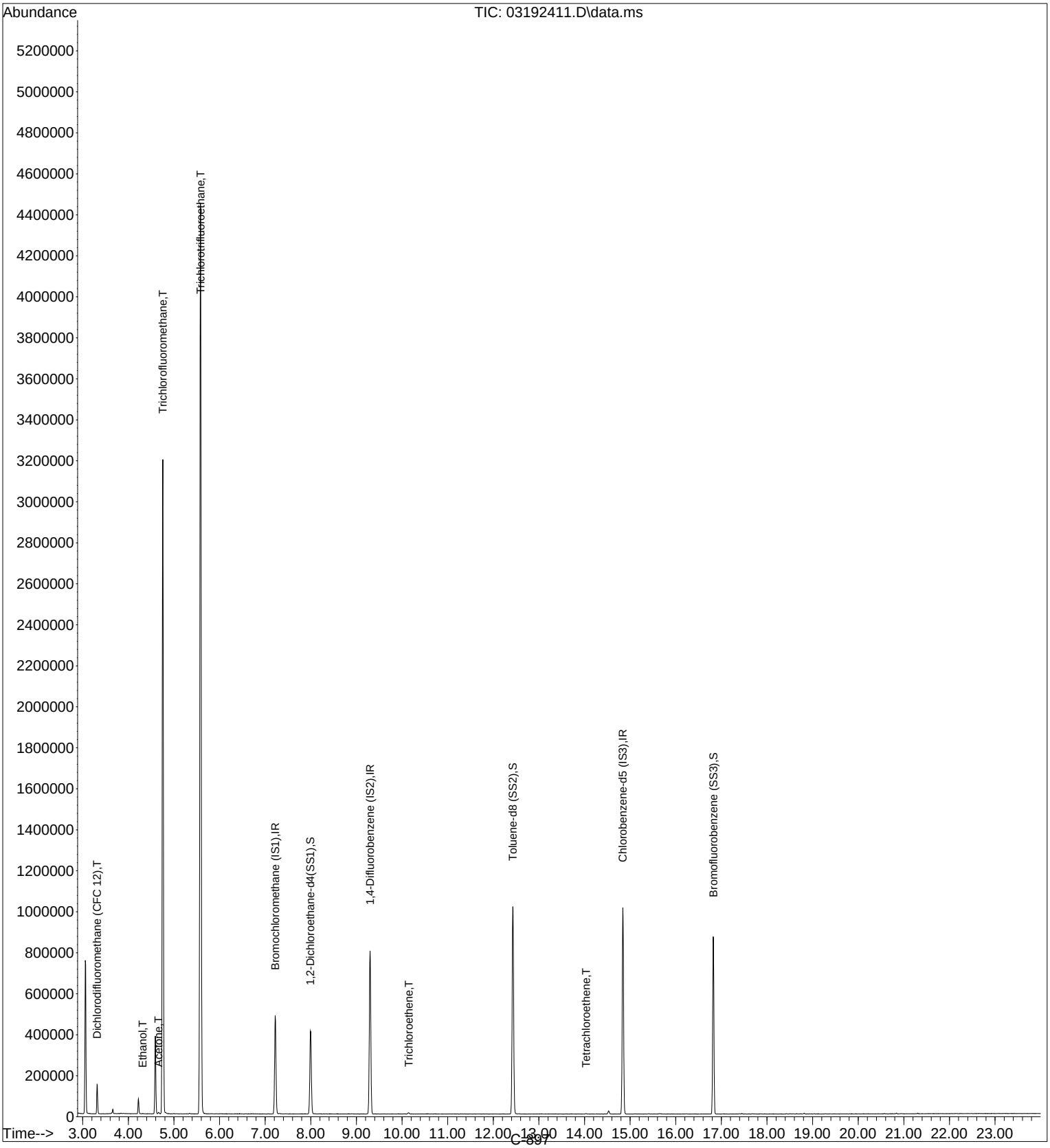
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	175666	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	750754	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	164255	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	351288	12.224	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%				
57) Toluene-d8 (SS2)	12.43	98	853196	12.937	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	16.83	174	297735	12.805	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.31	85	19893	0.552	ng	#	92
10) Ethanol	4.31	45	1350	0.080	ng		80
13) Acetone	4.66	58	2268	0.176	ng	#	75
14) Trichlorofluoromethane	4.76	101	2339828	67.095	ng		100
21) Trichlorotrifluoroethane	5.58	151	1445213	98.313	ng		98
47) Trichloroethene	10.15	130	2435	0.134	ng		94
64) Tetrachloroethene	14.03	166	1027	0.053	ng		80

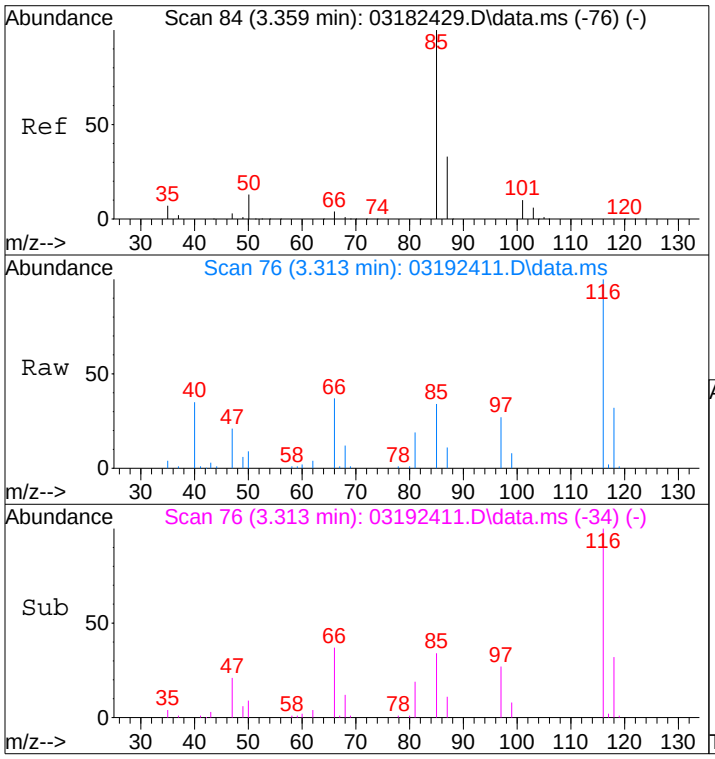
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 15:49:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

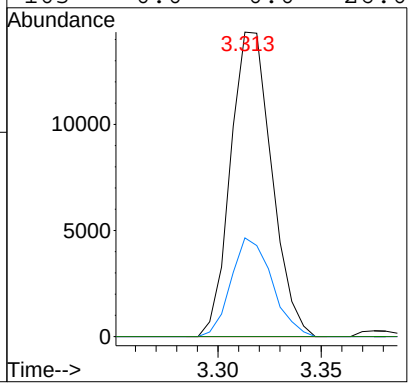


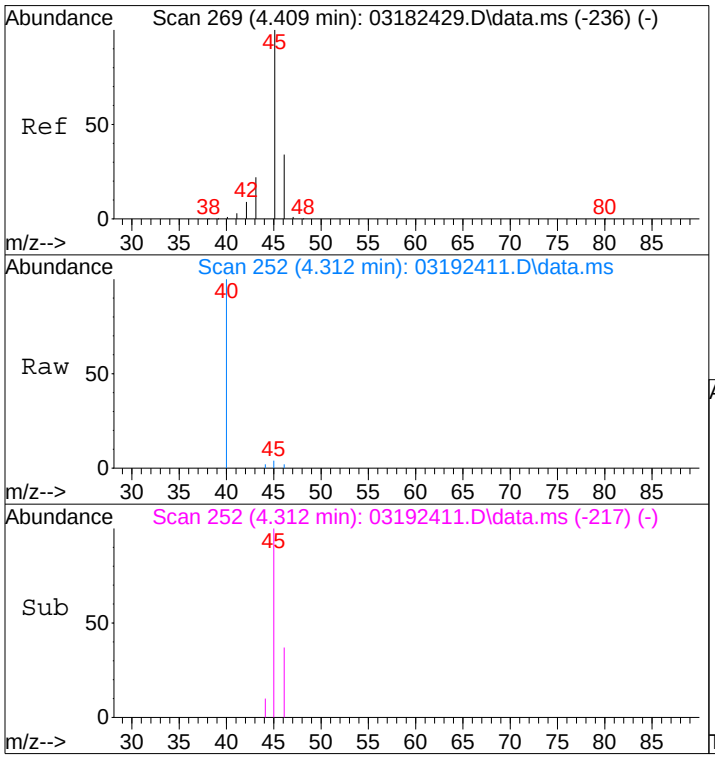


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 3.31 min Scan# 76
Delta R.T. -0.009 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion: 85 Resp: 19893

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

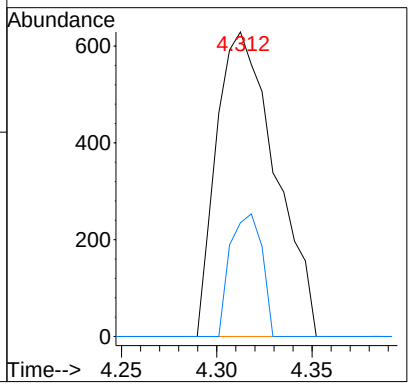


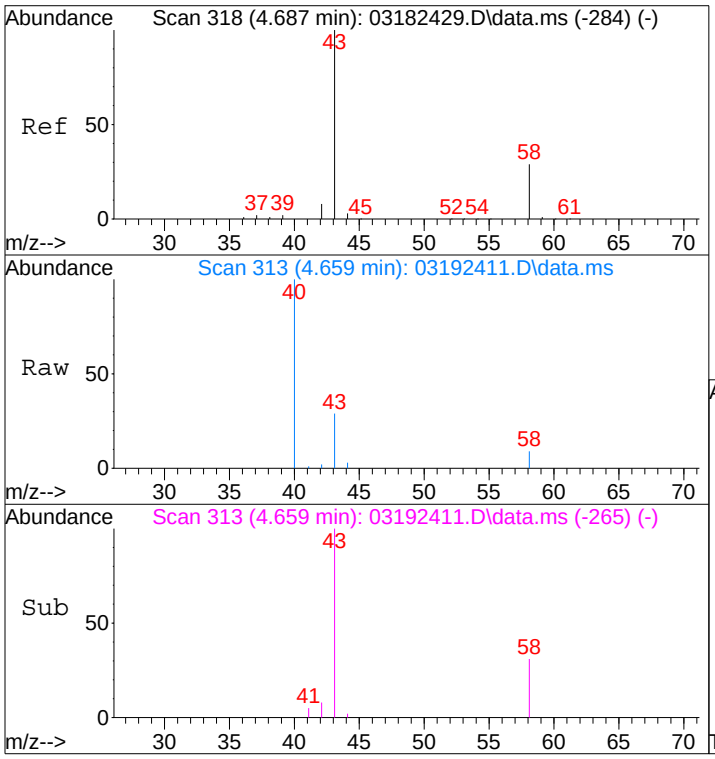


#10
Ethanol
Concen: 0.08 ng
RT: 4.31 min Scan# 252
Delta R.T. -0.049 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion: 45 Resp: 1350

Ion	Ratio	Lower	Upper
45	100		
46	21.8	13.3	53.3

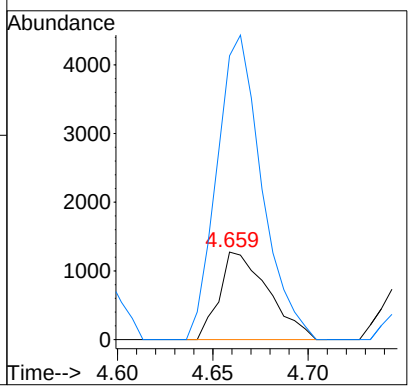


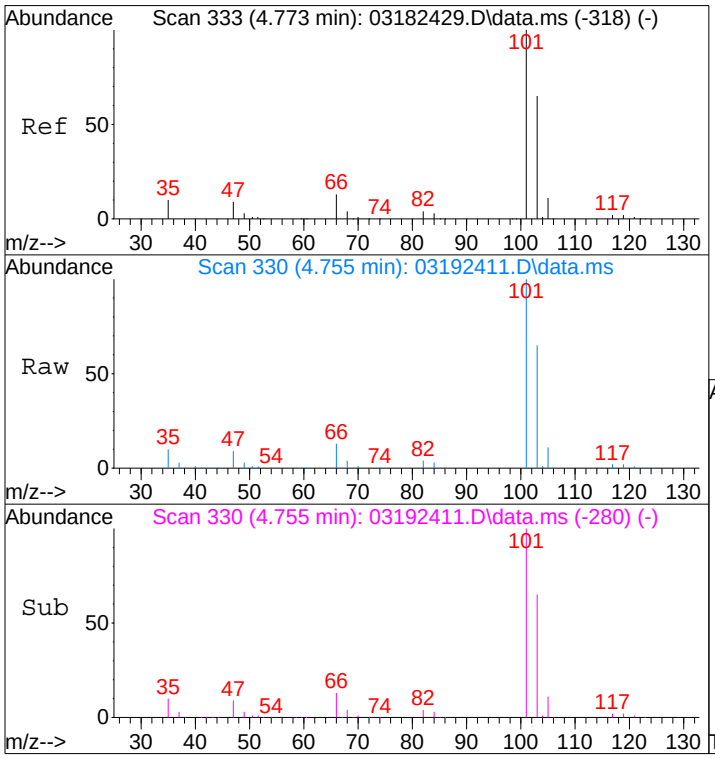


#13
Acetone
Concen: 0.18 ng
RT: 4.66 min Scan# 313
Delta R.T. 0.022 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion: 58 Resp: 2268

Ion	Ratio	Lower	Upper
58	100		
43	321.6	350.1	410.1#

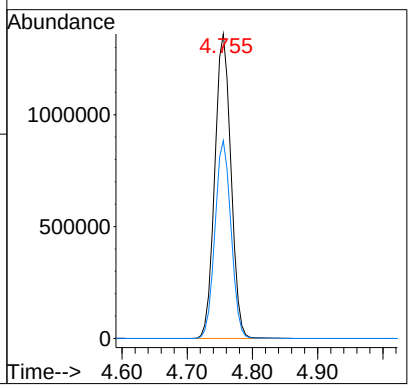


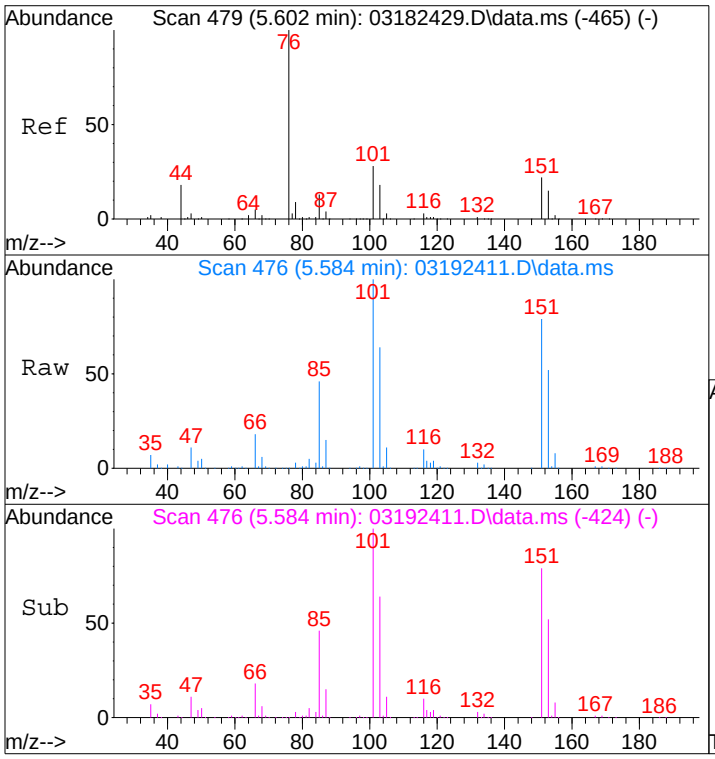


#14
Trichlorofluoromethane
Concen: 67.09 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion:101 Resp: 2339828

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

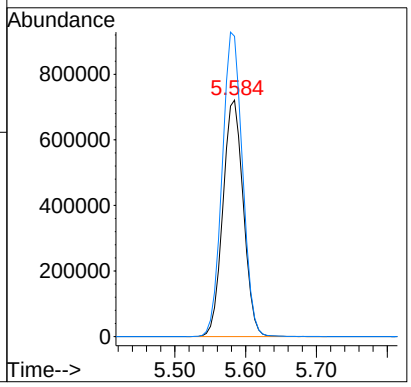


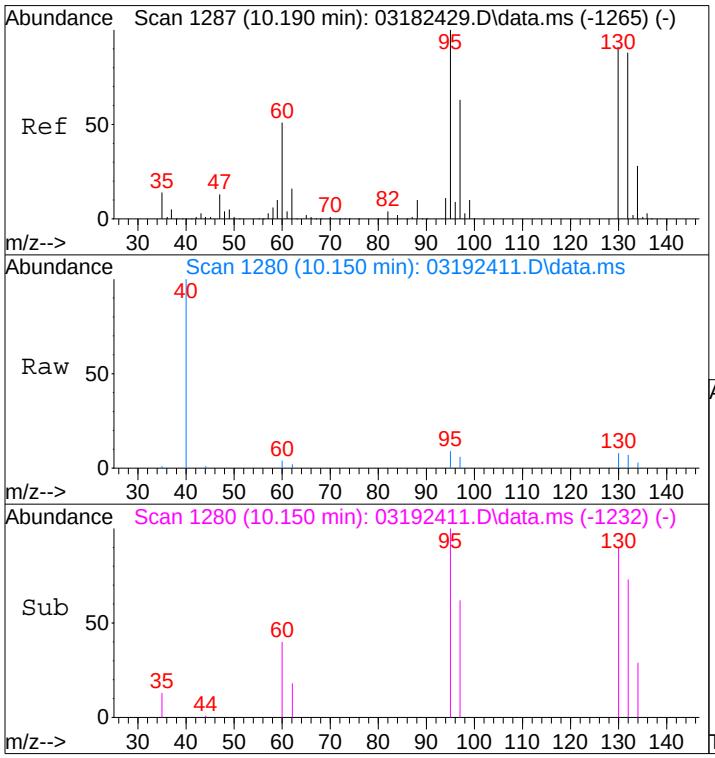


#21
Trichlorotrifluoroethane
Concen: 98.31 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion:151 Resp: 1445213

Ion	Ratio	Lower	Upper
151	100		
101	128.4	106.4	146.4

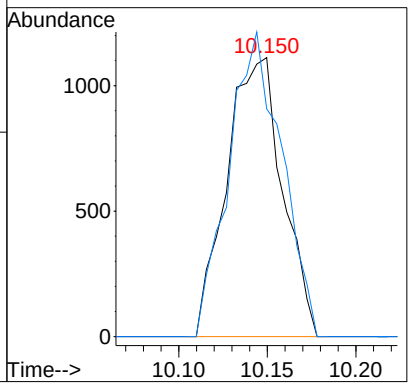


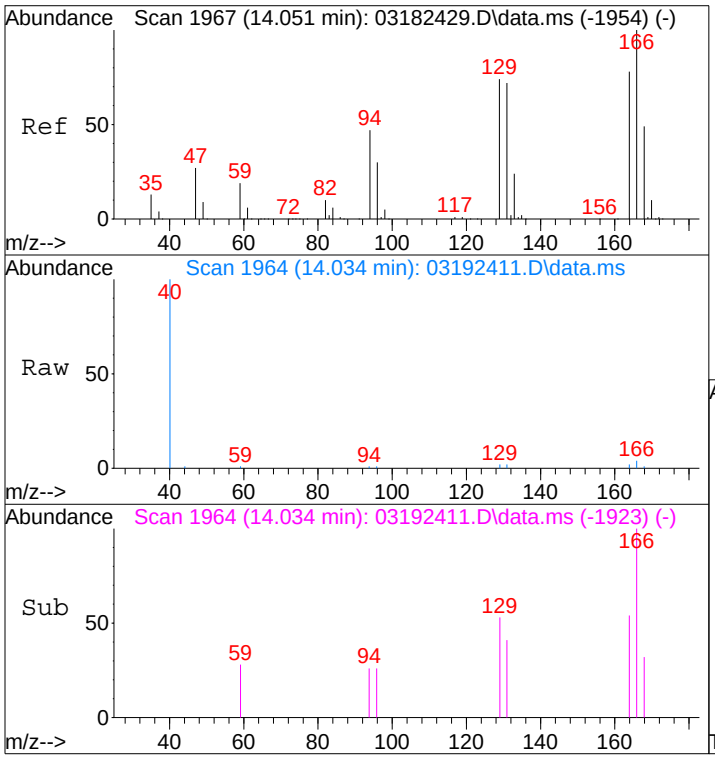


#47
Trichloroethene
Concen: 0.13 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion:130 Resp: 2435

Ion	Ratio	Lower	Upper
130	100		
132	103.7	77.5	117.5

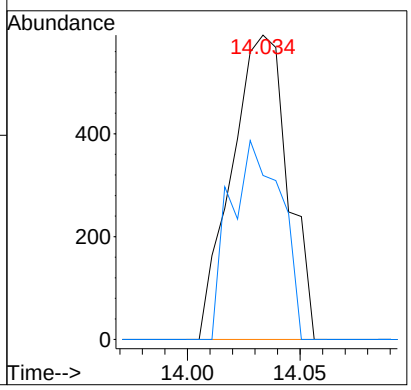




#64
Tetrachloroethene
Concen: 0.05 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03192411.D
Acq: 19 Mar 2024 15:27

Tgt Ion:166 Resp: 1027

Ion	Ratio	Lower	Upper
166	100		
164	59.4	56.7	96.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:09:52 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

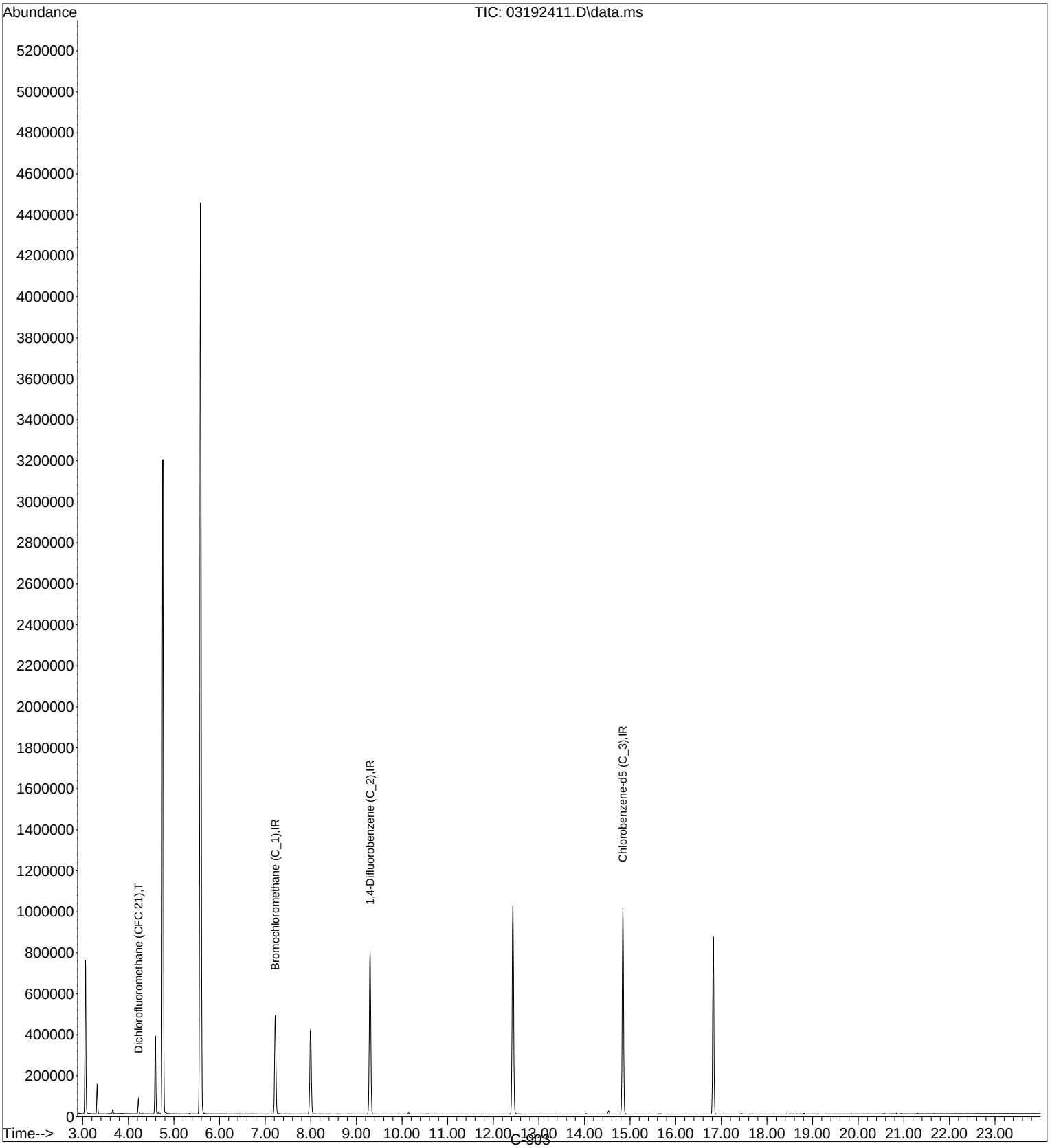
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	175666	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	752187	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	164255	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	55515	1.620	ng	99
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d	
10) 2-Methylbutane	0.00	57	0	N.D.		
11) Methyl Acetate	5.35	43	293	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.78	174	192	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	746	N.D.		
27) 4-Chlorotoluene	17.68	91	1329	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

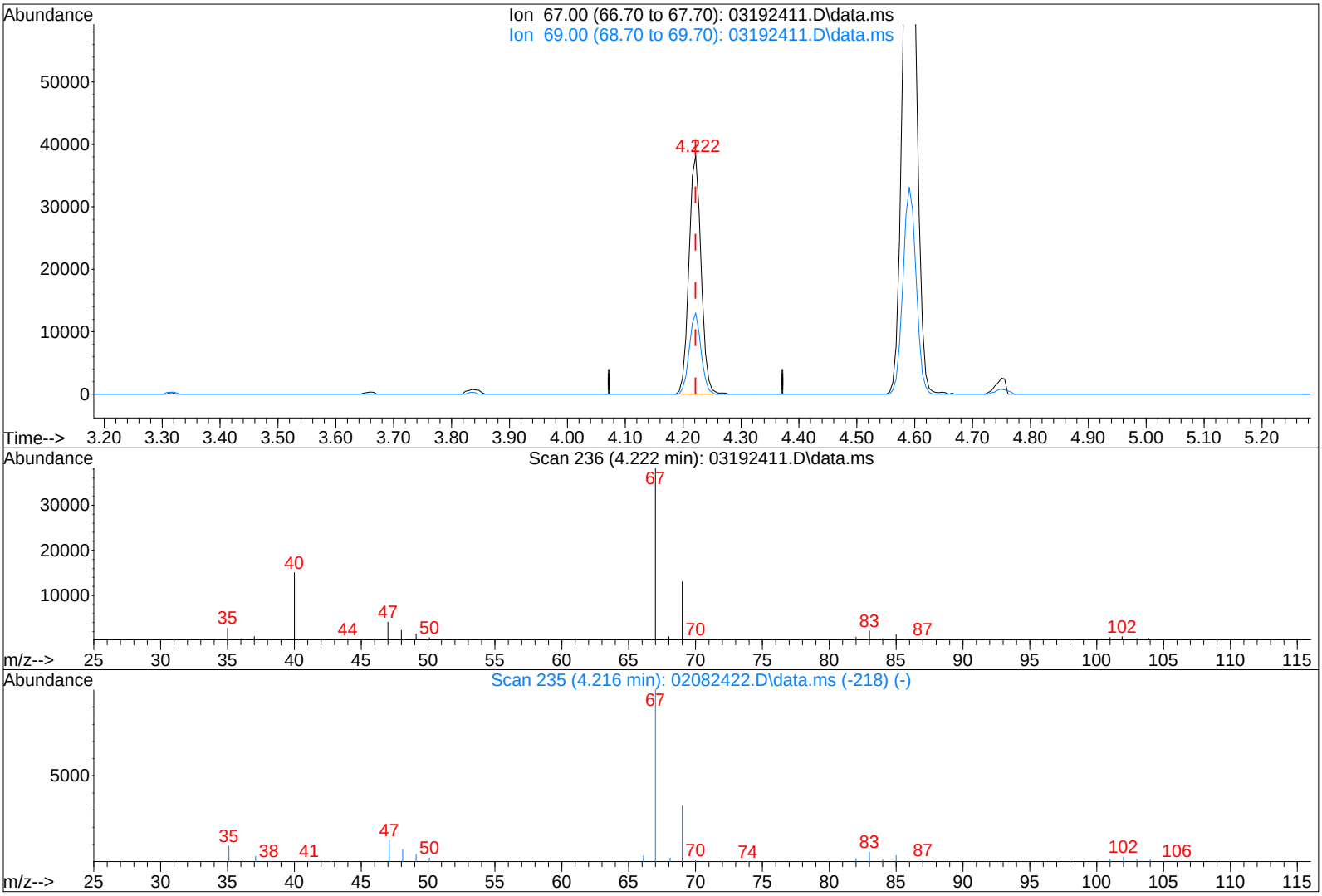
Quant Time: Mar 21 10:09:52 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192411.D Vial: 1
Acq On : 19 Mar 2024 15:27 Operator: SC
Sample : P2400922-020 (1.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:09:16 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192411.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (-0.000) 1.62ng

response 55515

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.94
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192410.D Vial: 1
Acq On : 19 Mar 2024 14:47 Operator: SC
Sample : P2400922-020Dil (0.7mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:55:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/21/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	177085	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	759252	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	164839	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	350535	12.100	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%			
57) Toluene-d8 (SS2)	12.43	98	863291	13.044	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%			
73) Bromofluorobenzene (SS3)	16.83	174	301160	12.907	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%			
Target Compounds						Qvalue
2) Propene	3.32	42	417	N.D.		
3) Dichlorodifluoromethan...	3.33	85	834	N.D.		
4) Chloromethane	3.53	50	196	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.30	45	2802	0.164	ng	98
11) Acetonitrile	4.45	41	685	N.D.		
12) Acrolein	4.55	56	235	N.D.		
13) Acetone	4.66	58	2856	0.219	ng	99
14) Trichlorofluoromethane	4.76	101	380023	10.810	ng	99
15) 2-Propanol (Isopropanol)	4.89	45	591	N.D.		
16) Acrylonitrile	4.99	53	1646	0.065	ng	93
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.33	84	1324	0.070	ng	99
20) 3-Chloro-1-propene (Al...	5.45	41	180	N.D.		
21) Trichlorotrifluoroethane	5.58	151	388554	26.220	ng	99
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	6.14	61	639	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.06	61	1389	0.055	ng	98
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.30	61	942	0.147	ng	97
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	690	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	568	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.84	56	184	No Calib	#	
41) Benzene	8.89	78	1697	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	634	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	499	N.D.		
47) Trichloroethene	10.14	130	4055	0.220	ng	93
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.24	57	298	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192410.D Vial: 1
Acq On : 19 Mar 2024 14:47 Operator: SC
Sample : P2400922-020Dil (0.7mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 10:55:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

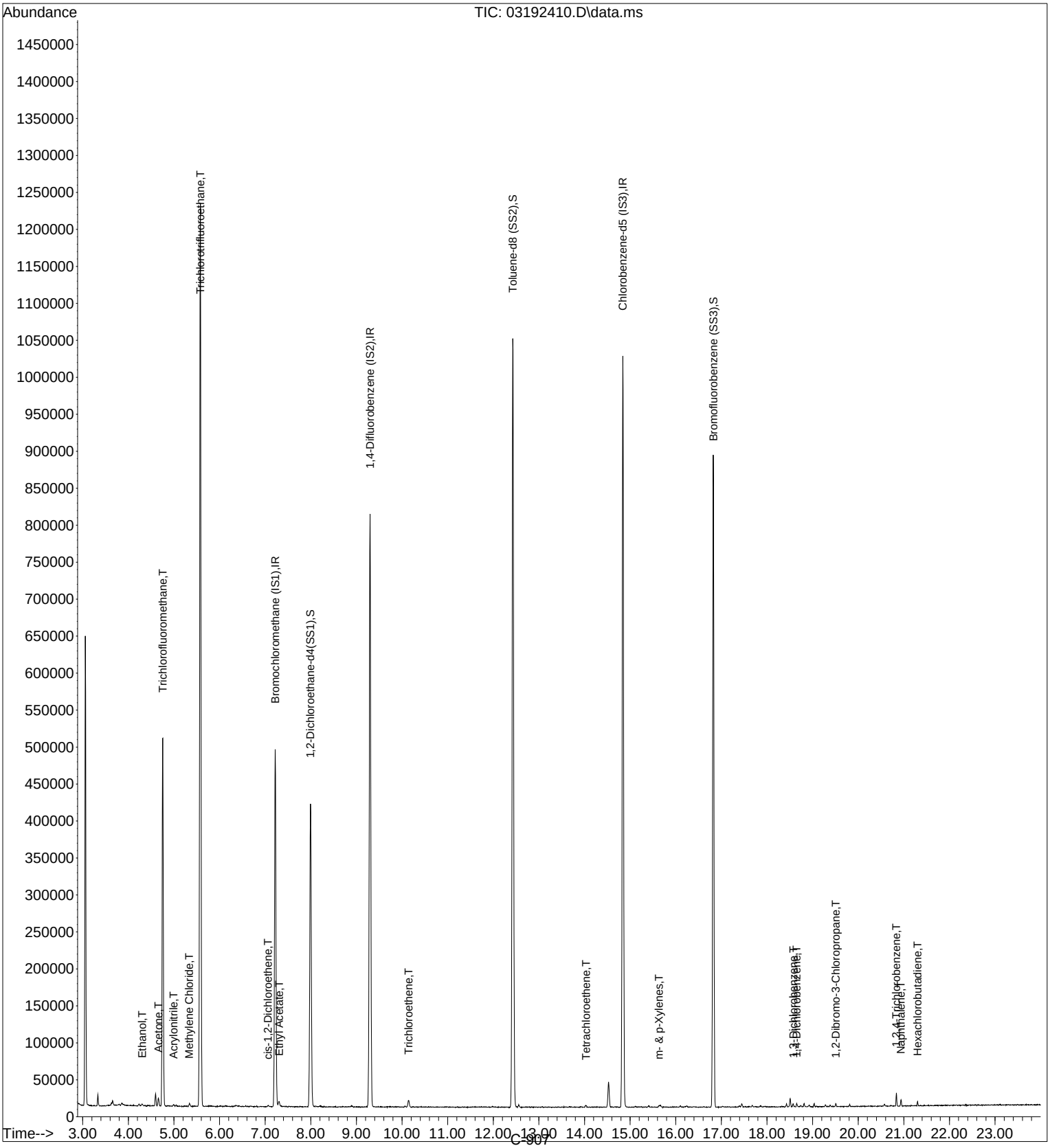
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	3048	N.D.	
59) 2-Hexanone	12.93	43	119	N.D.	
60) Dibromochloromethane	13.07	129	569	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	374	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	1122	0.058 ng	96
65) Chlorobenzene	14.89	112	1047	N.D.	
66) Ethylbenzene	15.41	91	2251	N.D.	
67) m- & p-Xylenes	15.63	91	3865	0.064 ng	94
68) Bromoform	15.67	173	665	N.D.	
69) Styrene	16.09	104	1200	N.D.	
70) o-Xylene	16.24	91	1501	N.D.	
71) n-Nonane	16.61	43	430	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	547	N.D.	
74) Cumene	17.03	105	1558	N.D.	
75) alpha-Pinene	17.51	93	334	N.D.	
76) n-Propylbenzene	17.68	91	2148	N.D.	
77) 3-Ethyltoluene	17.03	105	1558	No Calib	
78) 4-Ethyltoluene	17.86	105	1726	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1061	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	1558	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1439	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	2154	0.055 ng	91
86) 1,4-Dichlorobenzene	18.65	146	2106	0.055 ng	96
87) sec-Butylbenzene	18.74	105	1592	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1859	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	1558	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	1779	N.D.	
91) d-Limonene	19.09	68	299	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.51	157	997	0.077 ng	91
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	5114	0.187 ng	98
95) Naphthalene	20.94	128	6361	0.422 ng	100
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	1265	0.056 ng	95
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1181	N.D.	
100) n-Butylbenzene	19.38	91	1610	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192410.D Vial: 1
Acq On : 19 Mar 2024 14:47 Operator: SC
Sample : P2400922-020Dil (0.7mL) Inst : MS09
Misc : S37-02202408

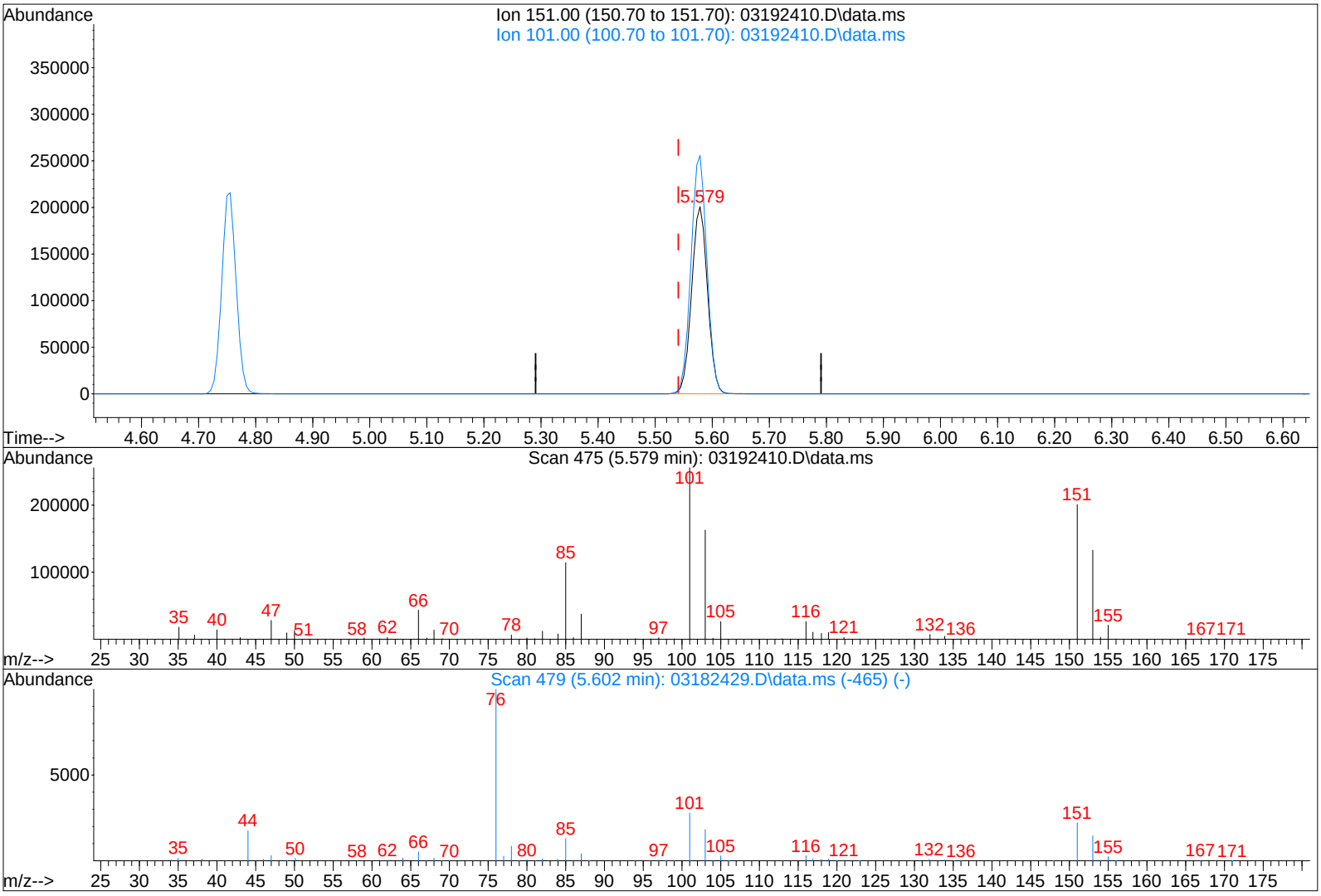
Quant Time: Mar 21 10:55:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192410.D Vial: 1
Acq On : 19 Mar 2024 14:47 Operator: SC
Sample : P2400922-020Dil (0.7mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 15:10:10 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192410.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.038) 26.22ng

response 388554

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	127.55
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 15:27
Operator : SC
Sample : P2400922-020 (1.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192411.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	71	76	91	rVB	143000	200914	2.25%	1.229%
2	3.659	133	137	141	rVB2	20658	24858	0.28%	0.152%
3	4.222	230	236	243	rVB	72702	102840	1.15%	0.629%
4	4.591	293	301	309	rBV	379057	586093	6.56%	3.585%
5	4.664	309	314	321	rVV	6851	11392	0.13%	0.070%
6	4.755	321	330	351	rVV	3191786	5465370	61.13%	33.430%
7	5.579	464	475	491	rBV	4444010	8941103	100.00%	54.690%
8	7.220	755	764	775	rBV	478668	1016259	11.37%	6.216%

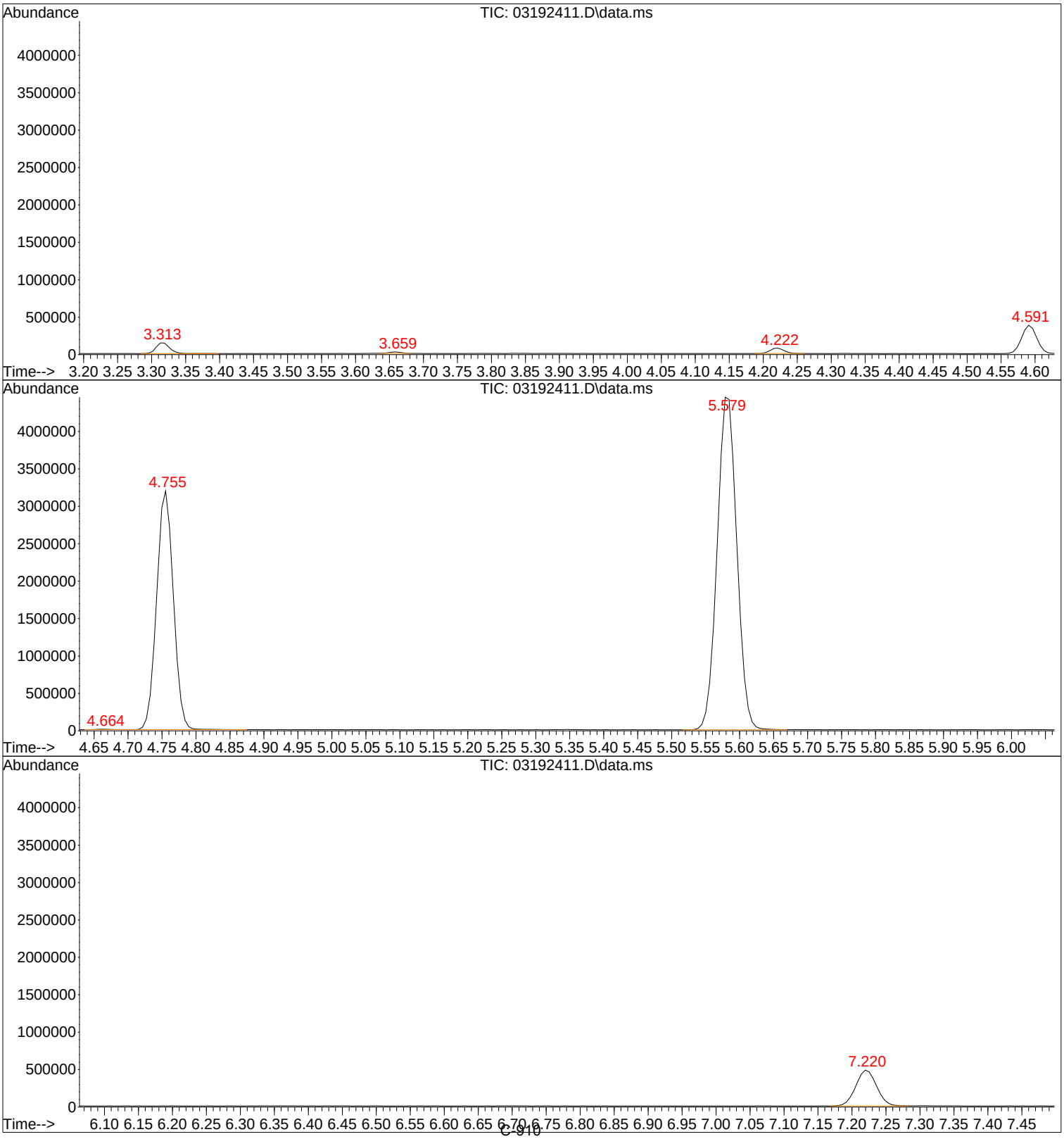
Sum of corrected areas: 16348829

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 15:27
Operator : SC
Sample : P2400922-020 (1.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 15:27
Operator : SC
Sample : P2400922-020 (1.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

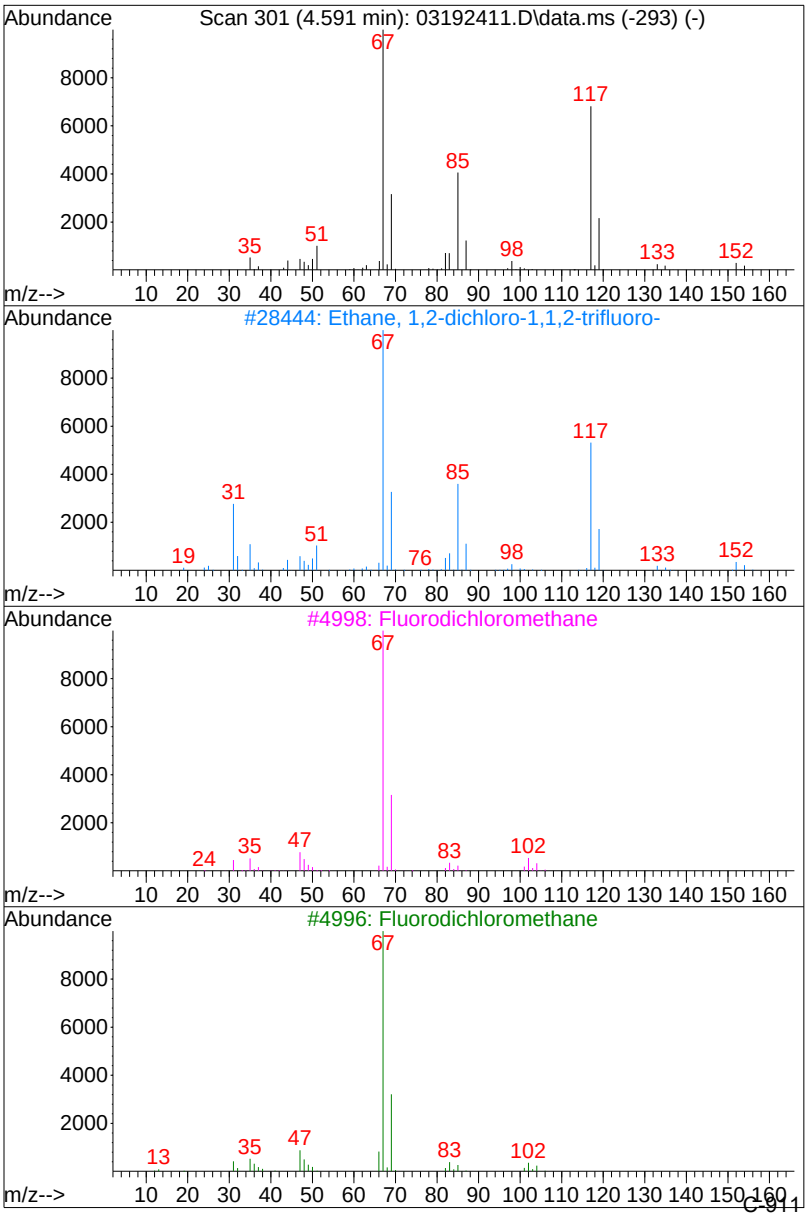
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

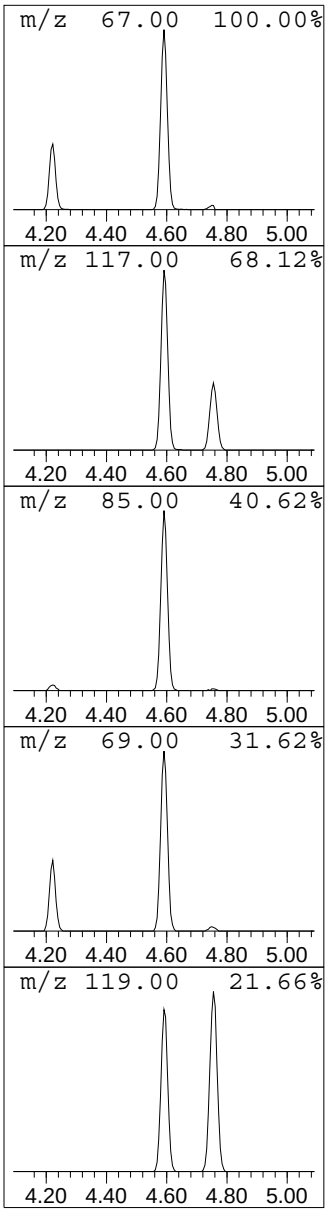
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	7.21 ng	586093	Bromochloromethane (IS1)	7.220

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	9
5	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 15:27
Operator : SC
Sample : P2400922-020 (1.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.591	7.2	ng	586093	1	7.220	1016260	12.5

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	168847	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	718071	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	156822	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	334774	12.119	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	12.43	98	818051	12.992	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	16.82	174	284658	12.823	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.32	85	15237	0.440	ng	#	92
4) Chloromethane	3.53	50	154	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	116	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	1372	0.084	ng		85
11) Acetonitrile	4.45	41	405	N.D.			
12) Acrolein	4.55	56	107	N.D.			
13) Acetone	4.67	58	2729	0.220	ng	#	81
14) Trichlorofluoromethane	4.76	101	1998377	59.618	ng		100
15) 2-Propanol (Isopropanol)	4.89	45	69	N.D.			
16) Acrylonitrile	4.99	53	667	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	1130	0.063	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1261086	89.252	ng		99
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	135	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	553	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.36	83	506	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	133	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.90	78	2179	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	473	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	338	N.D.			
47) Trichloroethene	10.14	130	2322	0.133	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	380	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

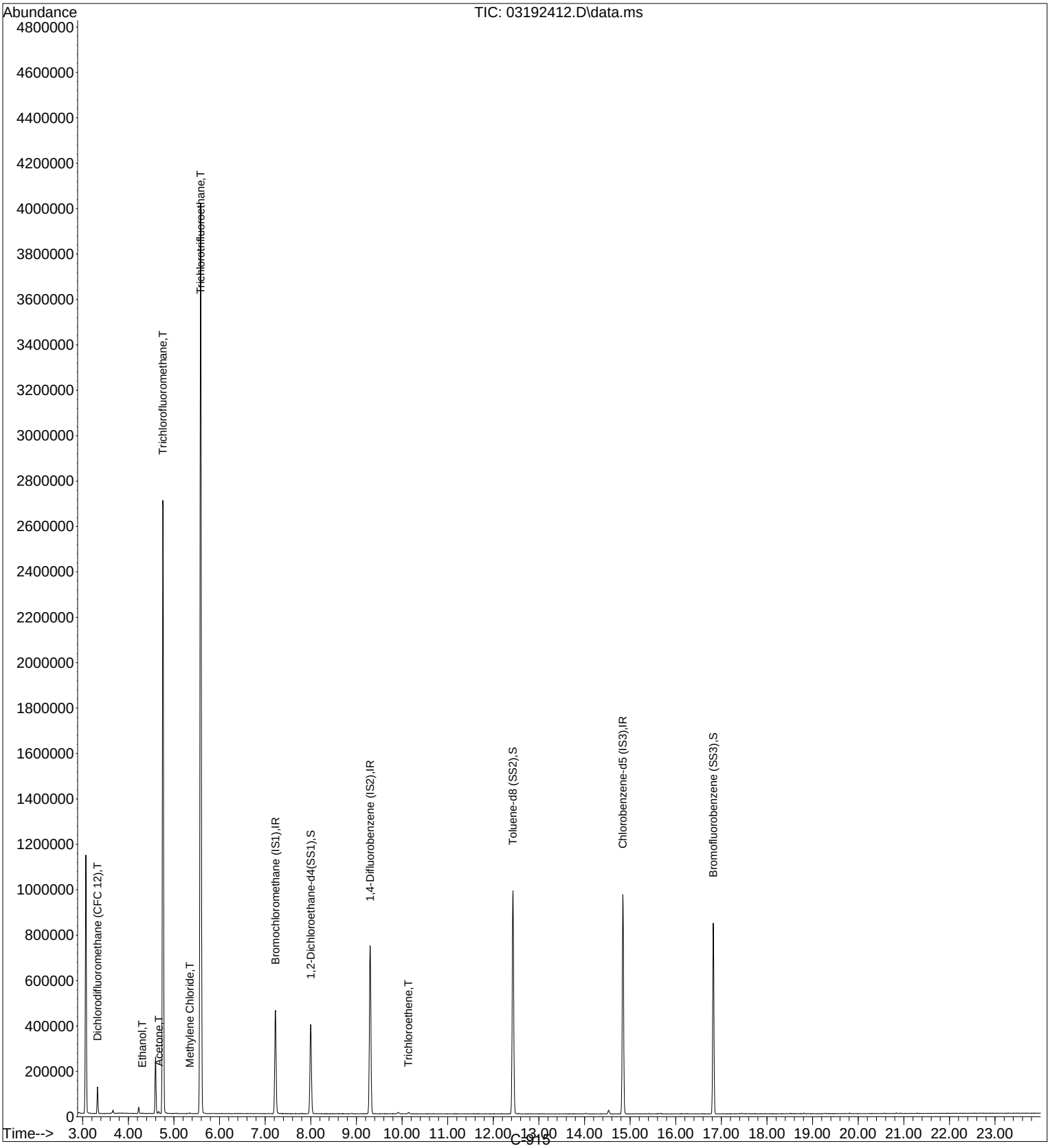
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2253	N.D.	
59) 2-Hexanone	12.93	43	179	N.D.	
60) Dibromochloromethane	13.06	129	325	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	894	N.D.	
65) Chlorobenzene	14.90	112	601	N.D.	
66) Ethylbenzene	15.41	91	1803	N.D.	
67) m- & p-Xylenes	15.62	91	2148	N.D.	
68) Bromoform	15.67	173	430	N.D.	
69) Styrene	16.11	104	103	N.D.	
70) o-Xylene	16.24	91	836	N.D.	
71) n-Nonane	16.61	43	215	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	321	N.D.	
74) Cumene	17.03	105	856	N.D.	
75) alpha-Pinene	17.52	93	270	N.D.	
76) n-Propylbenzene	17.68	91	1118	N.D.	
77) 3-Ethyltoluene	17.03	105	856	No Calib	#
78) 4-Ethyltoluene	17.86	105	657	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	446	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	856	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	492	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	644	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	718	N.D.	
87) sec-Butylbenzene	18.74	105	838	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	595	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	856	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	463	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1103	N.D.	
95) Naphthalene	0.00	128	0	N.D.	d
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	546	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	800	N.D.	
100) n-Butylbenzene	19.39	91	537	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

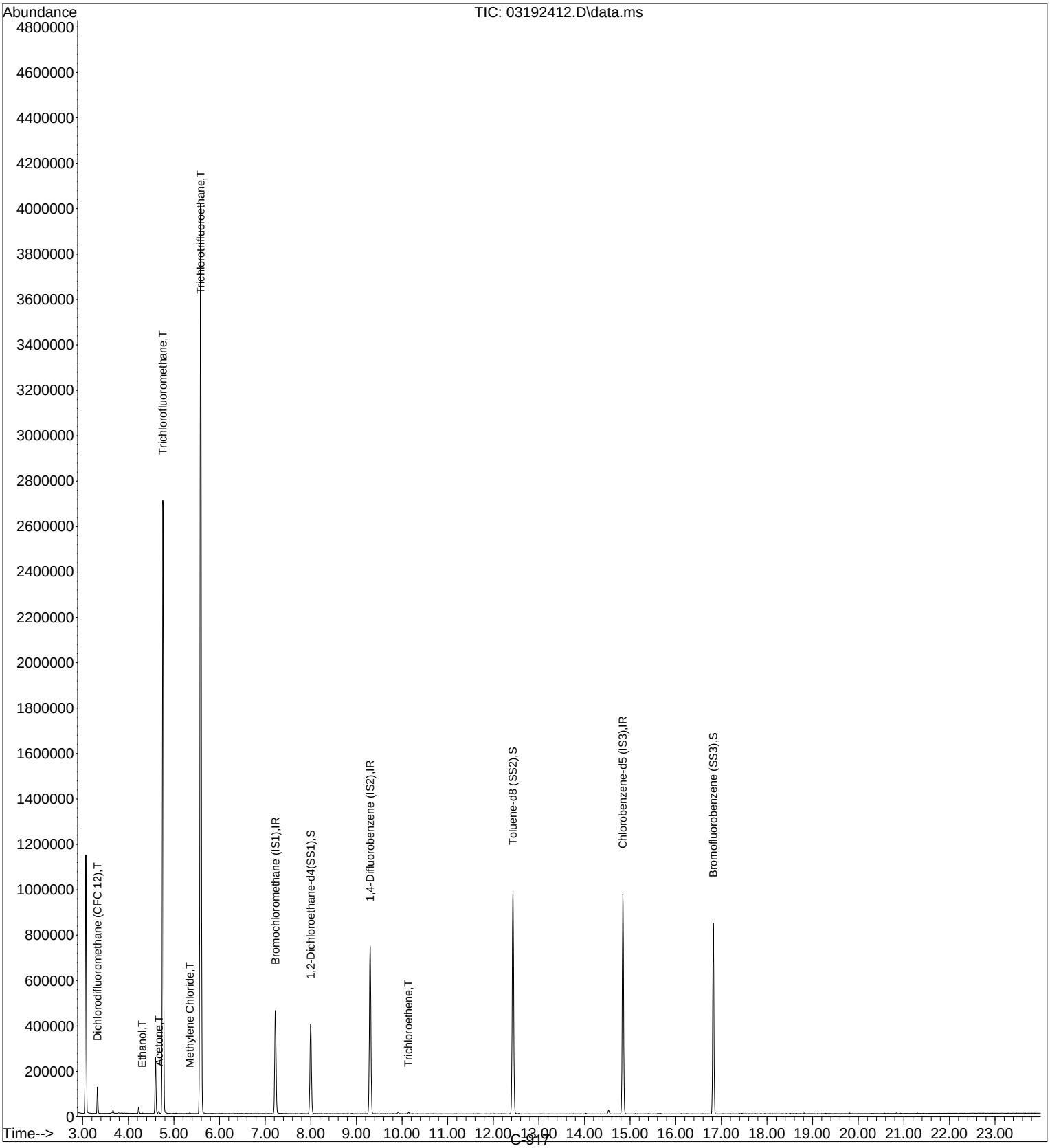
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	168847	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	718071	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	156822	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	334774	12.119	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.96%				
57) Toluene-d8 (SS2)	12.43	98	818051	12.992	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	16.82	174	284658	12.823	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.32	85	15237	0.440	ng	#	92
10) Ethanol	4.31	45	1372	0.084	ng		85
13) Acetone	4.67	58	2729	0.220	ng	#	81
14) Trichlorofluoromethane	4.76	101	1998377	59.618	ng		100
19) Methylene Chloride	5.35	84	1130	0.063	ng		96
21) Trichlorotrifluoroethane	5.58	151	1261086	89.252	ng		99
47) Trichloroethene	10.14	130	2322	0.133	ng		100

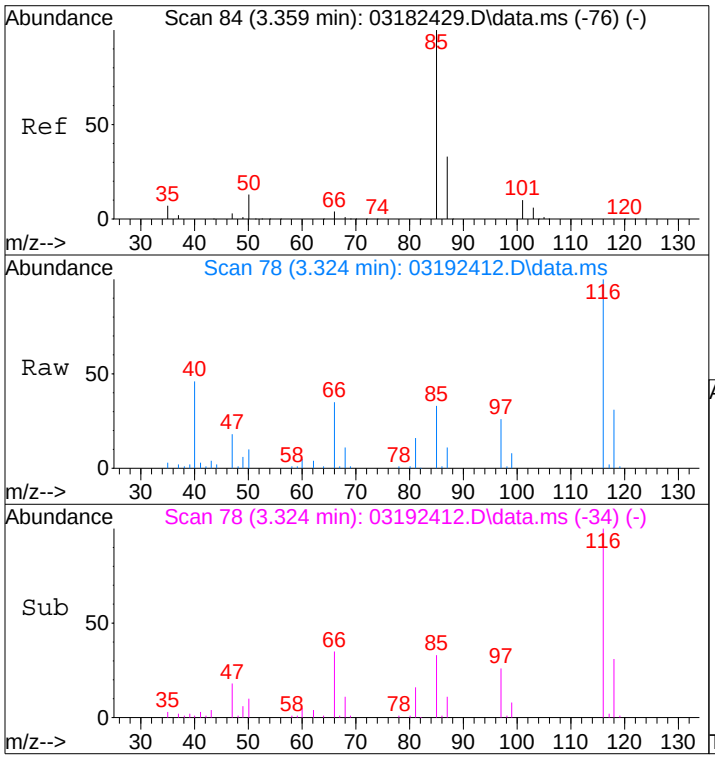
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 19 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

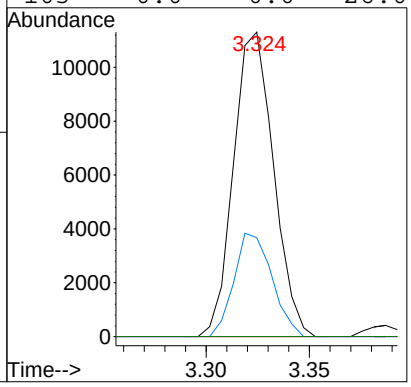


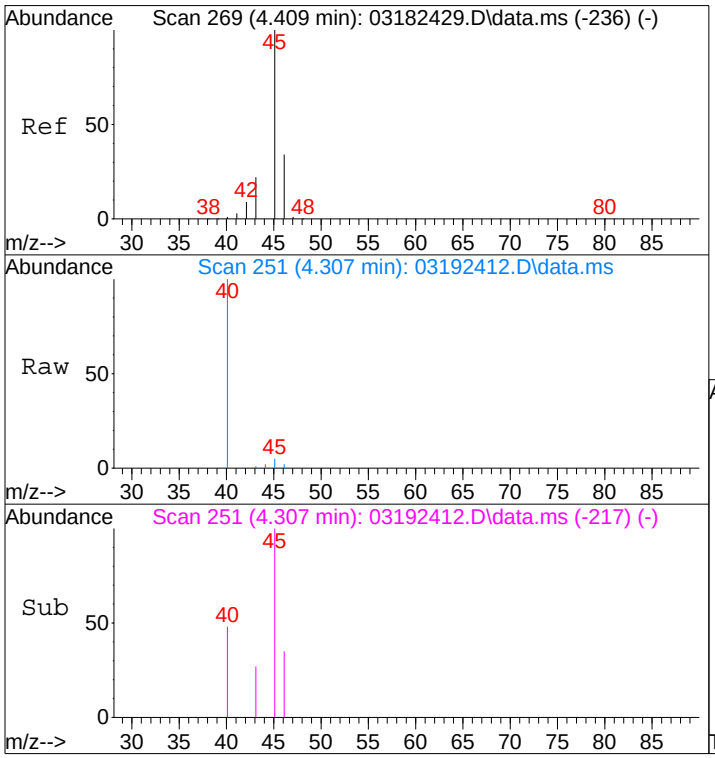


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng
RT: 3.32 min Scan# 78
Delta R.T. 0.002 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion: 85 Resp: 15237

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

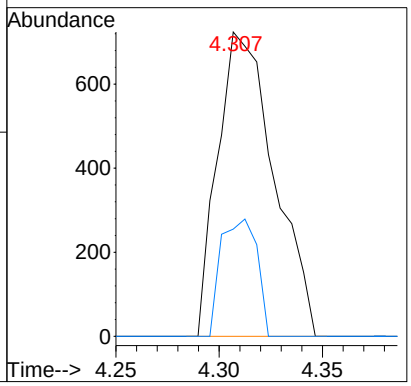


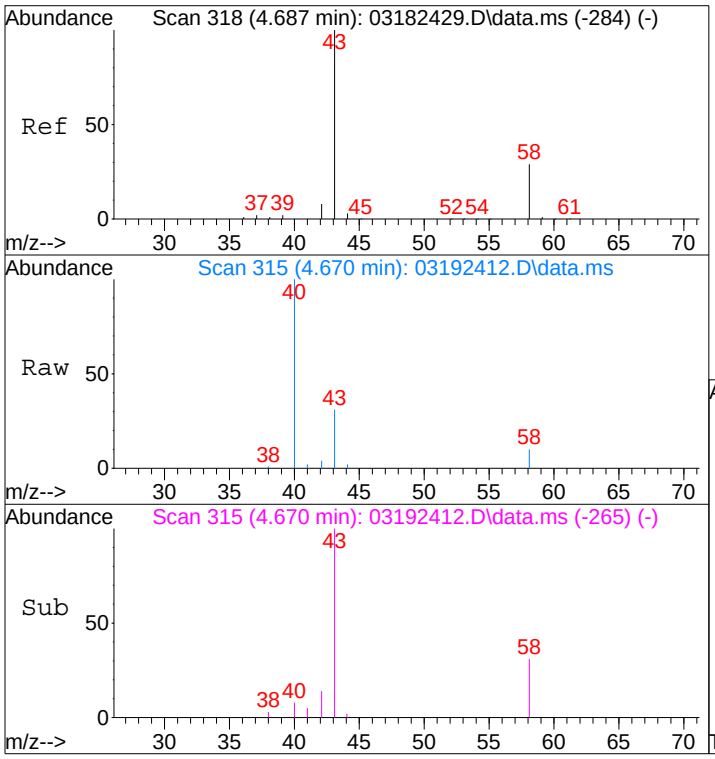


#10
Ethanol
Concen: 0.08 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.054 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion: 45 Resp: 1372

Ion	Ratio	Lower	Upper
45	100		
46	24.7	13.3	53.3

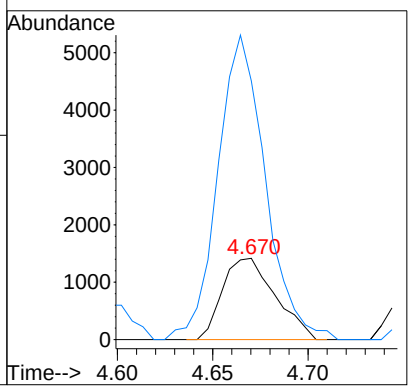


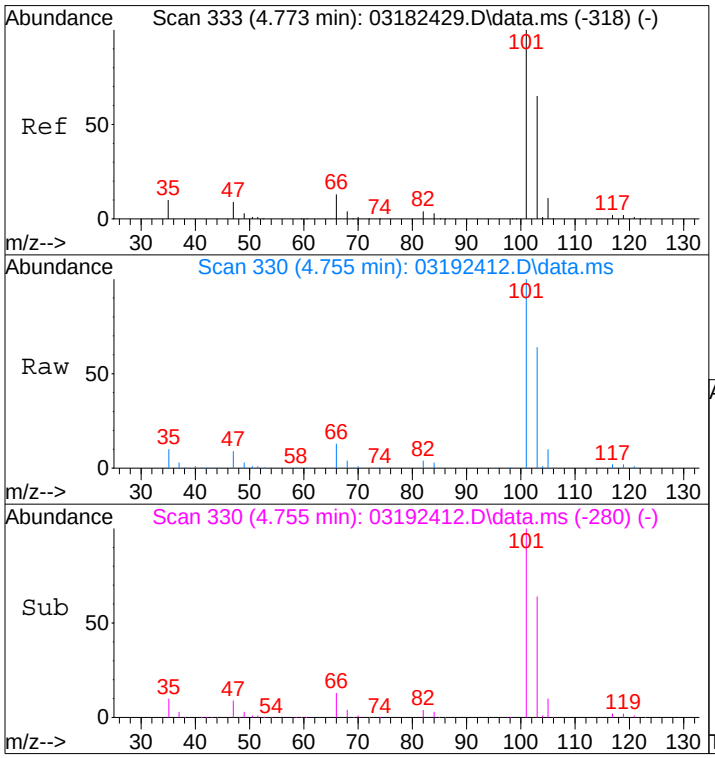


#13
Acetone
Concen: 0.22 ng
RT: 4.67 min Scan# 315
Delta R.T. 0.034 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion: 58 Resp: 2729

Ion	Ratio	Lower	Upper
58	100		
43	337.7	350.1	410.1#

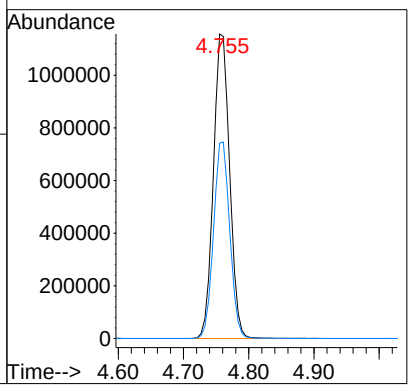


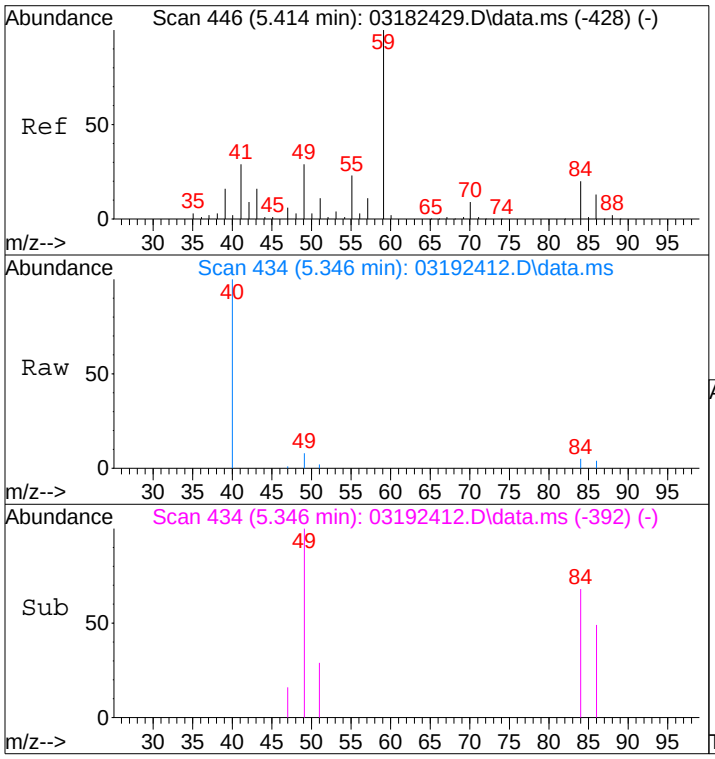


#14
Trichlorofluoromethane
Concen: 59.62 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion:101 Resp: 1998377

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

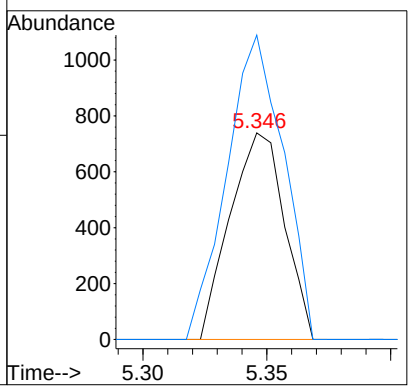


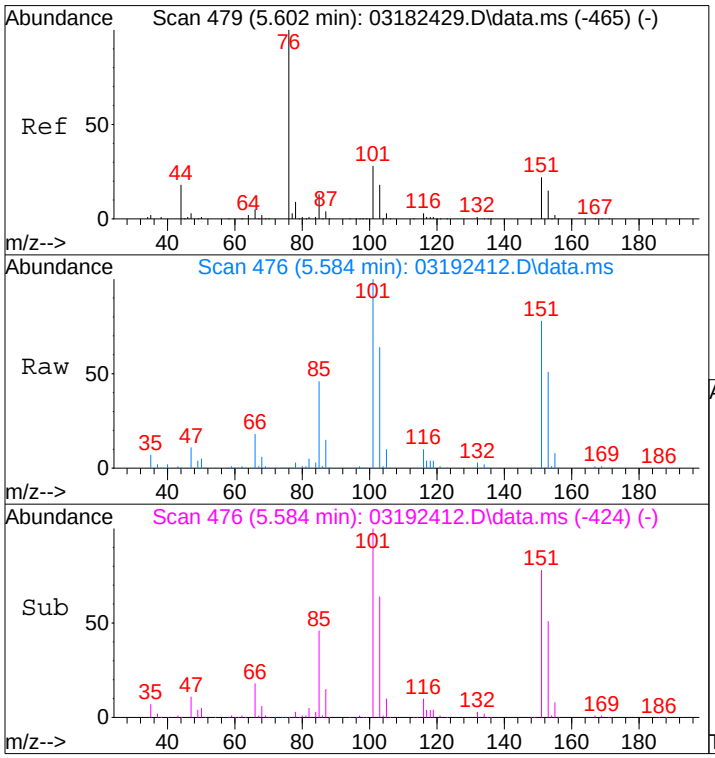


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.010 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion: 84 Resp: 1130

Ion	Ratio	Lower	Upper
84	100		
49	153.1	122.9	172.9

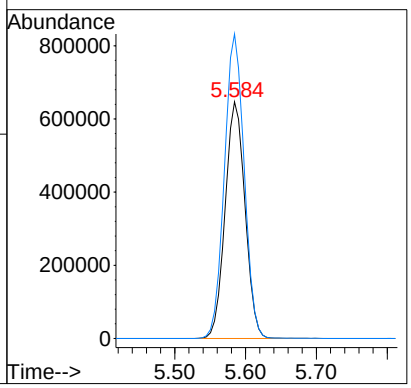


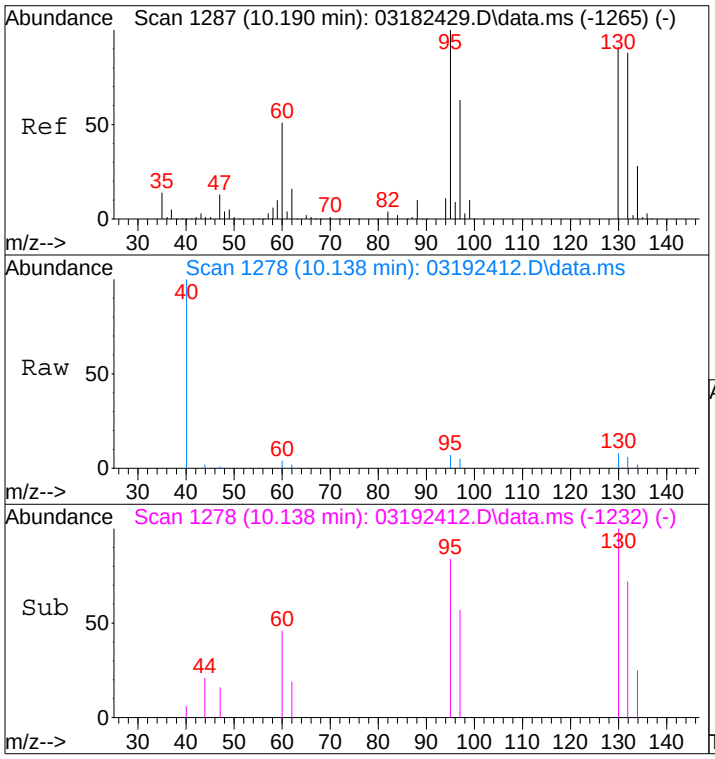


#21
Trichlorotrifluoroethane
Concen: 89.25 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion:151 Resp: 1261086

Ion	Ratio	Lower	Upper
151	100		
101	128.1	106.4	146.4

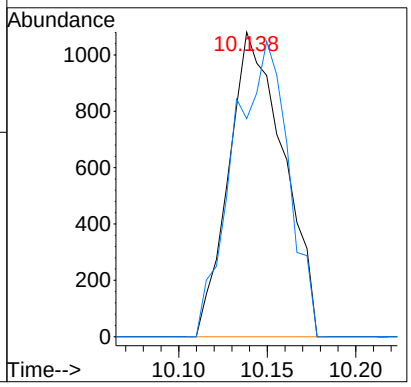




#47
Trichloroethene
Concen: 0.13 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03192412.D
Acq: 19 Mar 2024 16:03

Tgt Ion:130 Resp: 2322

Ion	Ratio	Lower	Upper
130	100		
132	97.9	77.5	117.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:41:09 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

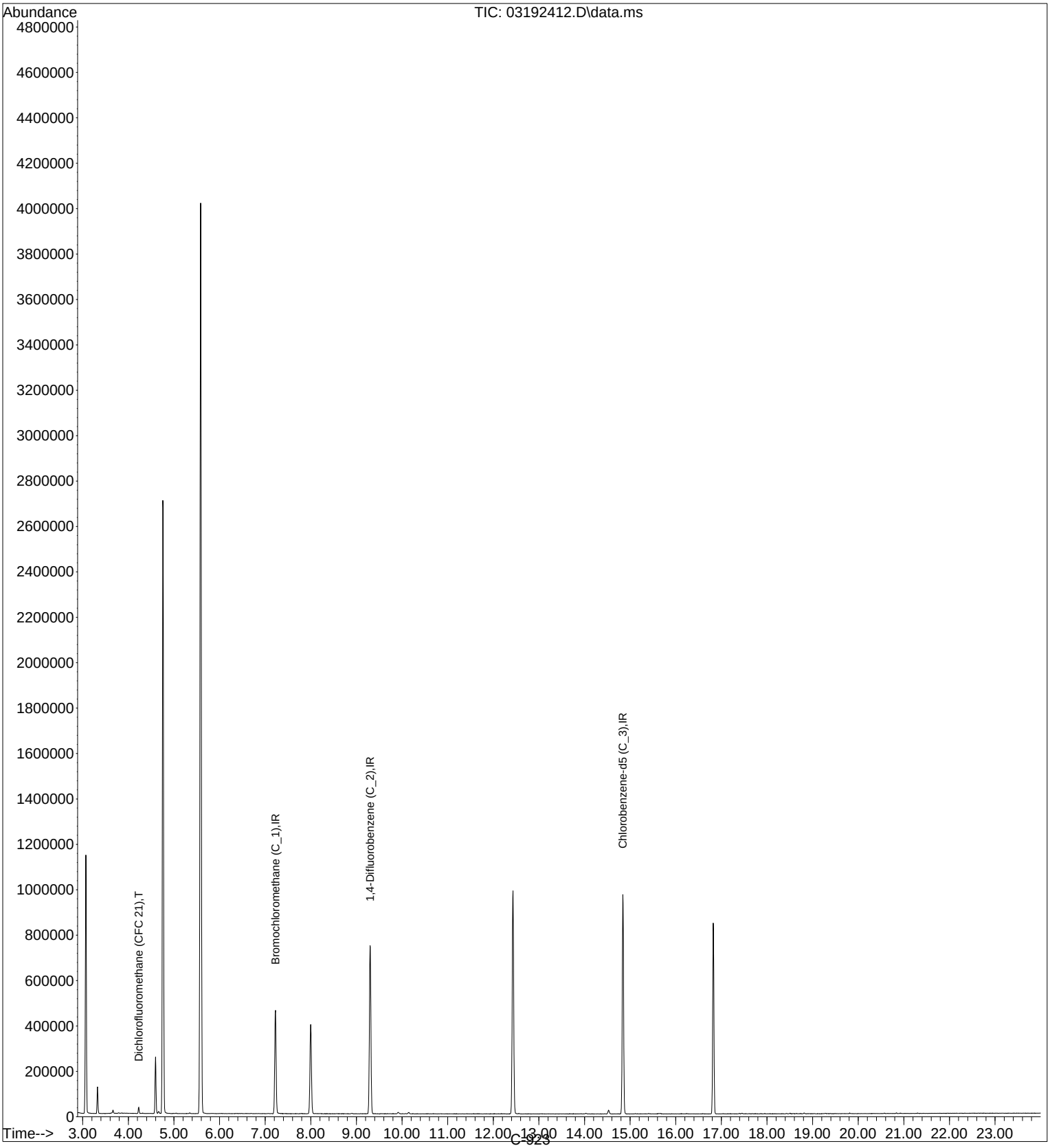
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	168847	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	718878	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	156822	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	20675	0.628	ng	98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d	
10) 2-Methylbutane	4.65	57	507	N.D.		
11) Methyl Acetate	5.36	43	270	N.D.		
12) 2-Methylpentane	6.48	71	63	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	59	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.62	91	607	N.D.		
27) 4-Chlorotoluene	17.68	91	1118	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

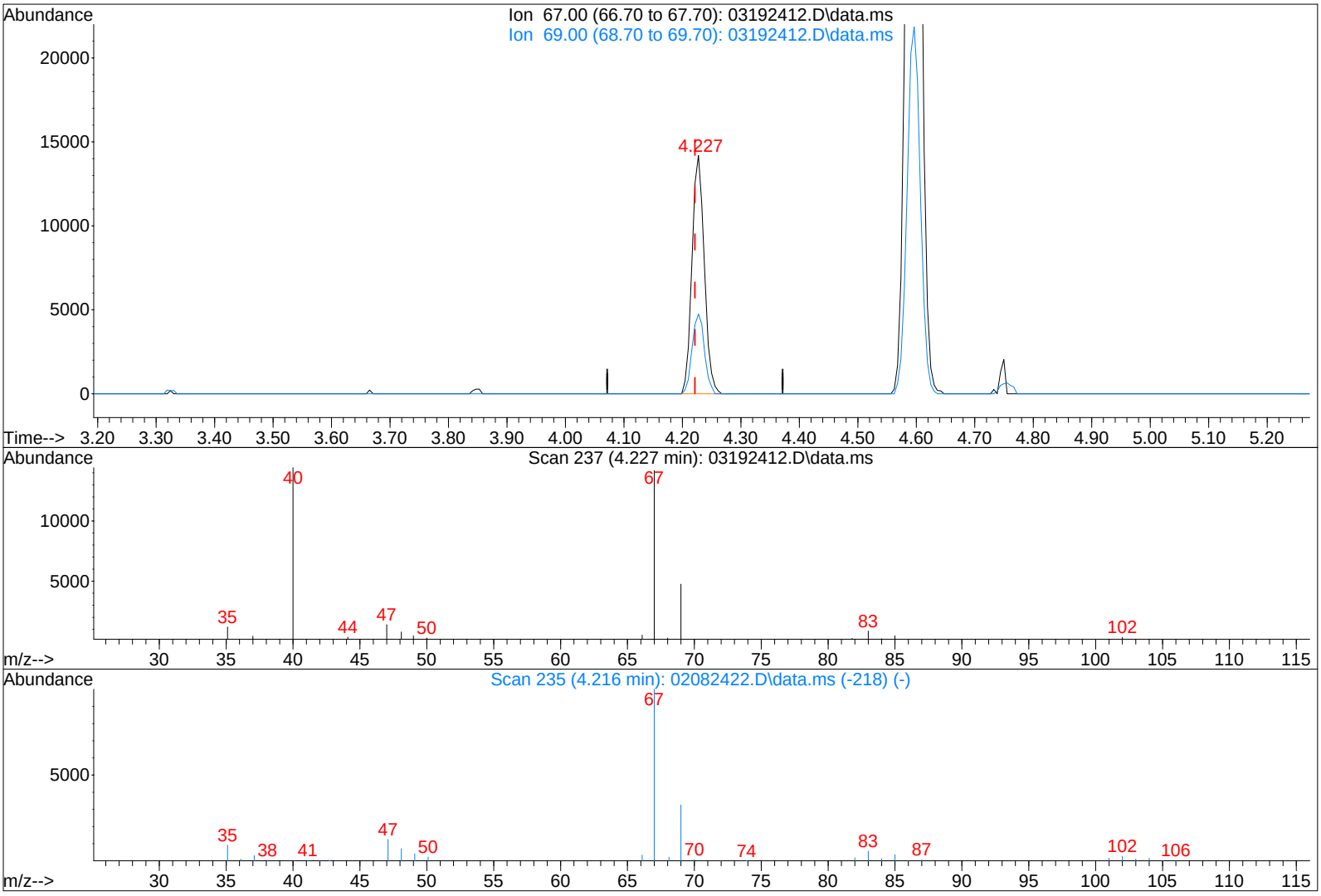
Quant Time: Mar 25 10:41:09 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192412.D Vial: 1
Acq On : 19 Mar 2024 16:03 Operator: SC
Sample : P2400922-021 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:40:41 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192412.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.63ng

response 20675

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	33.50
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192412.D
Acq On : 19 Mar 2024 16:03
Operator : SC
Sample : P2400922-021 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192412.D\data.ms

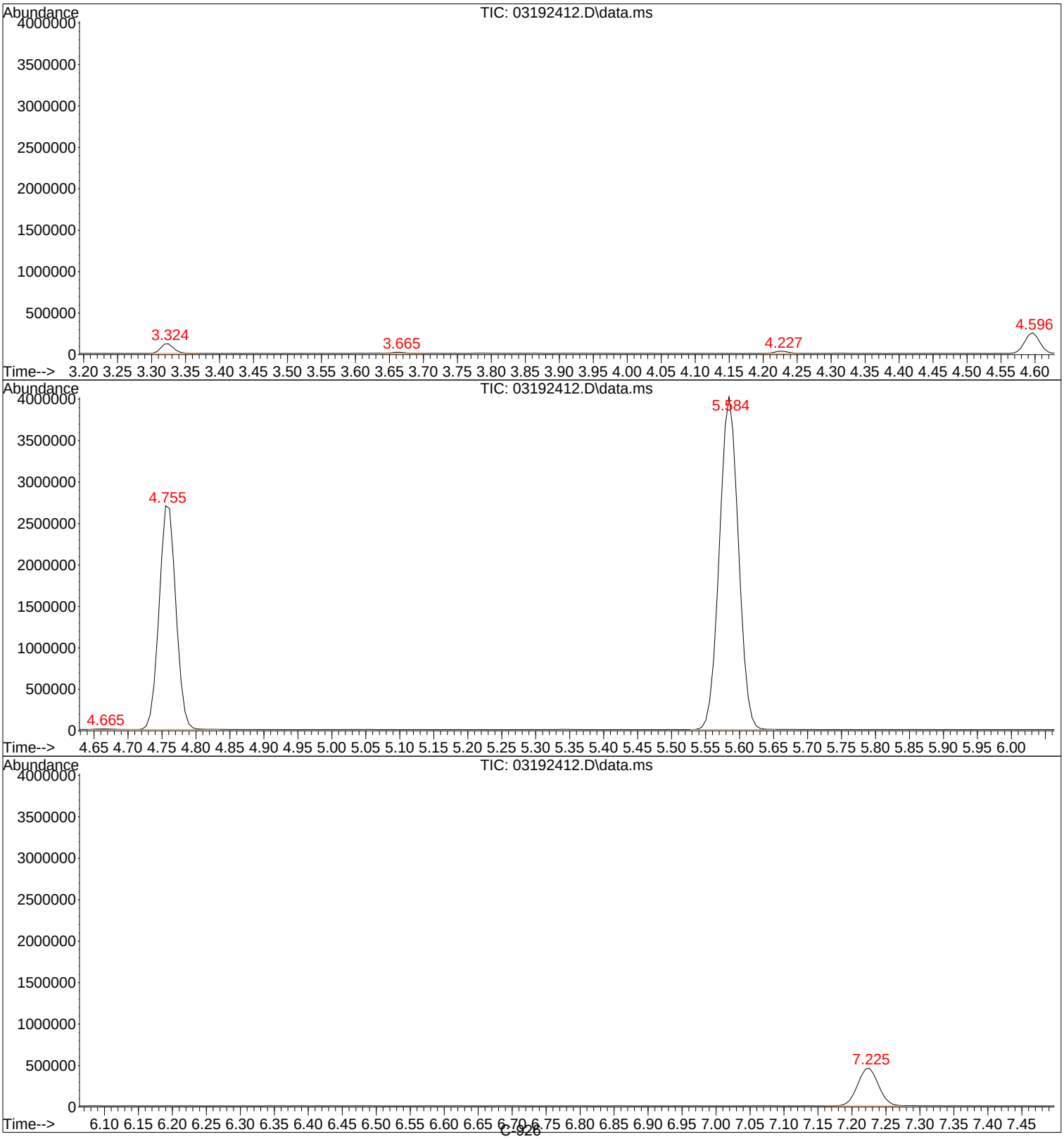
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.324	73	78	86	rVB	118099	158028	2.03%	1.126%
2	3.665	133	138	144	rVB2	14371	20850	0.27%	0.149%
3	4.227	232	237	242	rVB	27084	38500	0.49%	0.274%
4	4.596	295	302	310	rBV	248230	381113	4.89%	2.716%
5	4.665	310	314	322	rVB3	8447	13417	0.17%	0.096%
6	4.755	322	330	344	rBV	2700584	4649039	59.64%	33.129%
7	5.584	466	476	488	rBV	4011003	7794868	100.00%	55.545%
8	7.225	753	765	774	rBV	456047	977518	12.54%	6.966%

Sum of corrected areas: 14033333

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192412.D
Acq On : 19 Mar 2024 16:03
Operator : SC
Sample : P2400922-021 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192412.D
Acq On : 19 Mar 2024 16:03
Operator : SC
Sample : P2400922-021 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

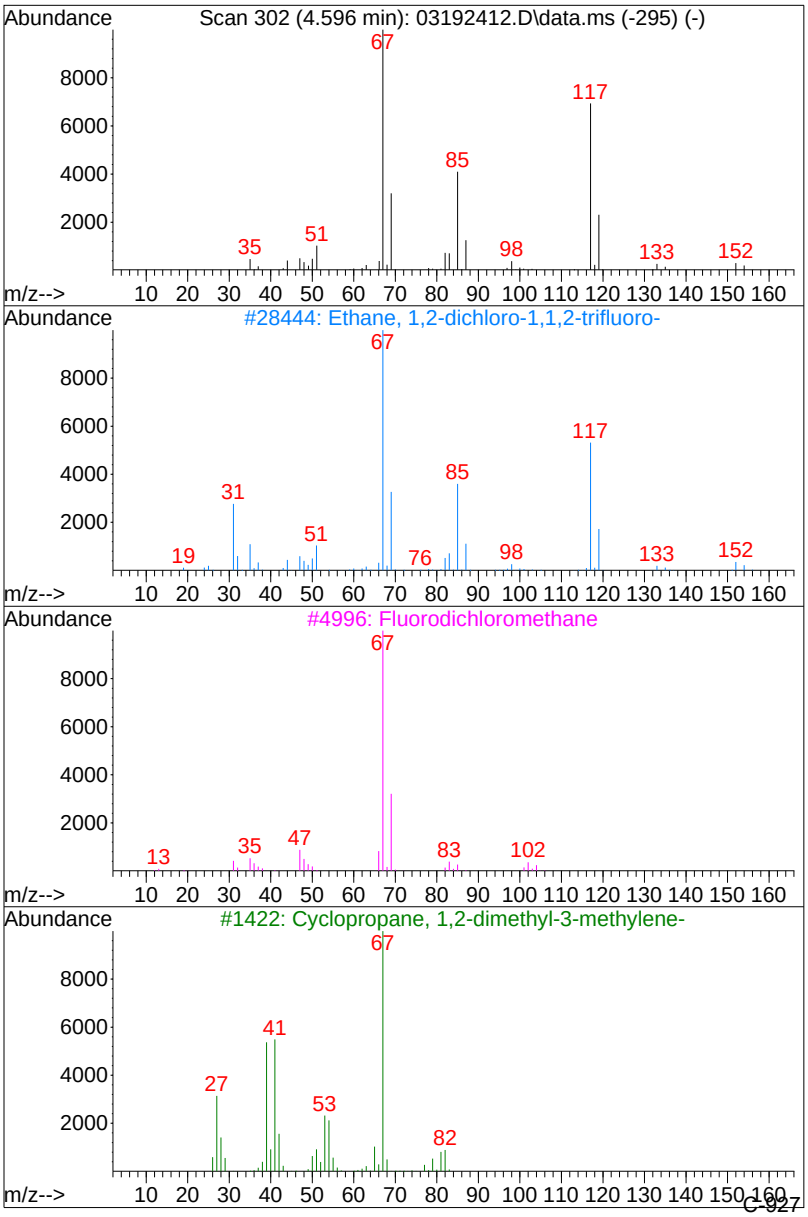
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

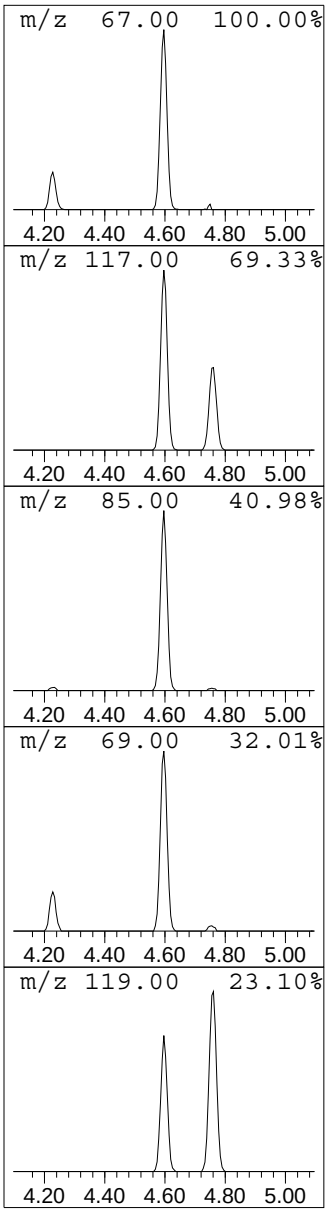
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.596	4.87 ng	381113	Bromochloromethane (IS1)	7.225

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
3	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
4	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9
5	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\19\
Data File : 03192412.D
Acq On : 19 Mar 2024 16:03
Operator : SC
Sample : P2400922-021 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.596	4.9	ng	381113	1	7.225	977518	12.5

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

3/20/24

Quant Time: Mar 20 12:18:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	166599	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	713830	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	155619	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	8.00	65	331533	12.164 ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%		
57) Toluene-d8 (SS2)	12.43	98	813042	13.012 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%		
73) Bromofluorobenzene (SS3)	16.83	174	282383	12.819 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.32	85	14163	0.414 ng #	93
4) Chloromethane	3.53	50	115	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	4.31	45	1643	0.102 ng	85
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	4.55	56	62	N.D.	
13) Acetone	4.67	58	2220	0.181 ng	95
14) Trichlorofluoromethane	4.76	101	1978008	59.806 ng	100
15) 2-Propanol (Isopropanol)	4.90	45	459	N.D.	
16) Acrylonitrile	5.00	53	575	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	
19) Methylene Chloride	5.34	84	1029	0.058 ng	82
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	5.58	151	1251832	89.792 ng	99
22) Carbon Disulfide	5.60	76	1006	N.D.	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	7.07	61	466	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	7.31	57	189	N.D.	
32) Chloroform	7.35	83	435	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	0.00	56	0	N.D.	
41) Benzene	8.90	78	2333	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	9.29	84	593	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	10.08	83	381	N.D.	
47) Trichloroethene	10.14	130	2636	0.152 ng	99
48) 1,4-Dioxane	0.00	88	0	N.D.	
49) 2,2,4-Trimethylpentane...	10.23	57	197	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:18:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

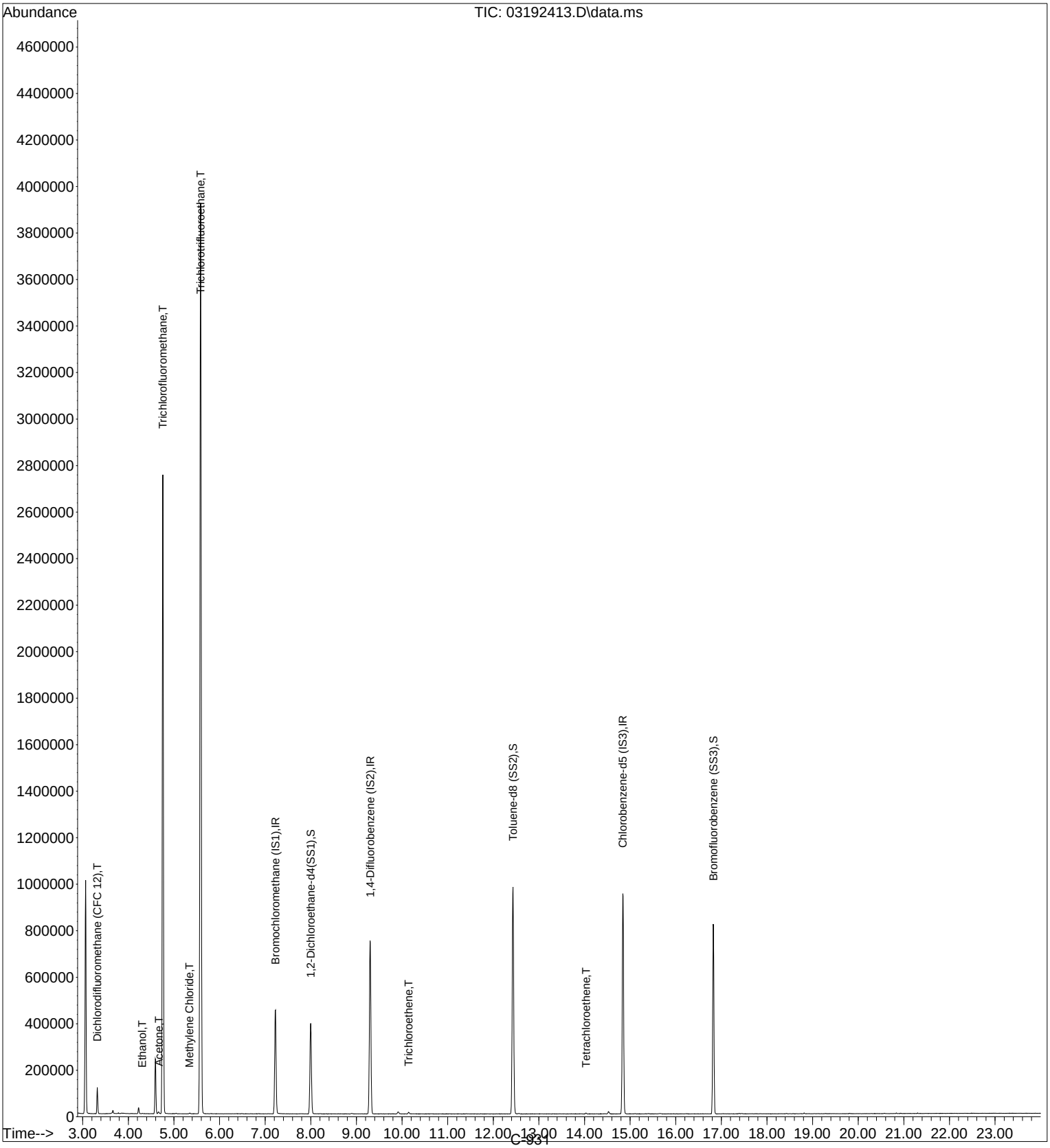
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2606	N.D.	
59) 2-Hexanone	12.93	43	110	N.D.	
60) Dibromochloromethane	13.06	129	387	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	1279	0.070 ng	98
65) Chlorobenzene	14.90	112	607	N.D.	
66) Ethylbenzene	15.41	91	1609	N.D.	
67) m- & p-Xylenes	15.63	91	2019	N.D.	
68) Bromoform	15.67	173	506	N.D.	
69) Styrene	16.11	104	223	N.D.	
70) o-Xylene	16.24	91	763	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	361	N.D.	
74) Cumene	17.03	105	860	N.D.	
75) alpha-Pinene	17.53	93	378	N.D.	
76) n-Propylbenzene	17.67	91	1050	N.D.	
77) 3-Ethyltoluene	17.03	105	860	No Calib	#
78) 4-Ethyltoluene	17.86	105	608	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	279	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	860	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	533	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	685	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	511	N.D.	
87) sec-Butylbenzene	18.74	105	735	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	522	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	860	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	508	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	857	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	594	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	783	N.D.	
100) n-Butylbenzene	19.39	91	527	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:18:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:18:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

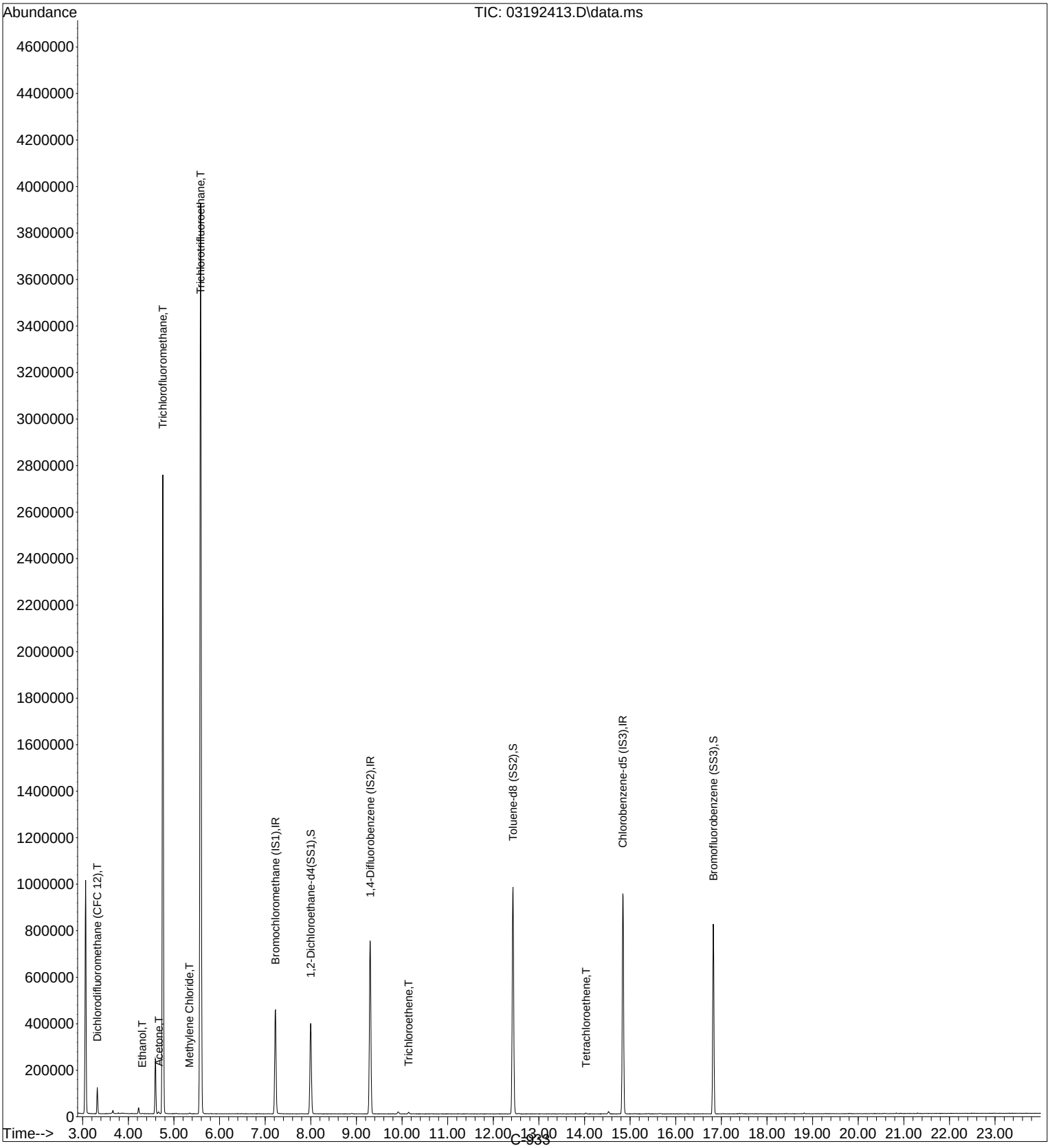
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	166599	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	713830	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	155619	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	331533	12.164	ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%			
57) Toluene-d8 (SS2)	12.43	98	813042	13.012	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%			
73) Bromofluorobenzene (SS3)	16.83	174	282383	12.819	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.32	85	14163	0.414	ng	# 93
10) Ethanol	4.31	45	1643	0.102	ng	85
13) Acetone	4.67	58	2220	0.181	ng	95
14) Trichlorofluoromethane	4.76	101	1978008	59.806	ng	100
19) Methylene Chloride	5.34	84	1029	0.058	ng	82
21) Trichlorotrifluoroethane	5.58	151	1251832	89.792	ng	99
47) Trichloroethene	10.14	130	2636	0.152	ng	99
64) Tetrachloroethene	14.03	166	1279	0.070	ng	98

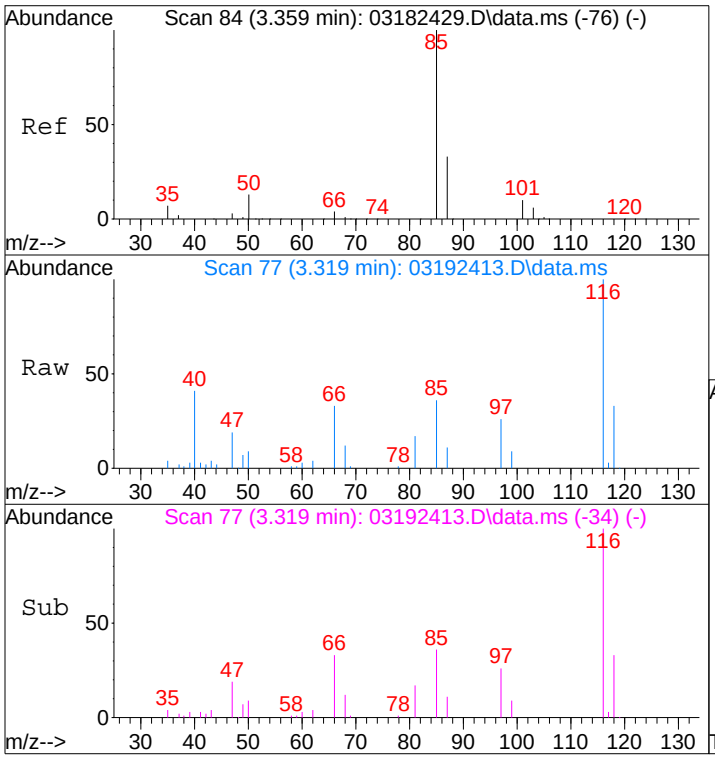
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:18:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

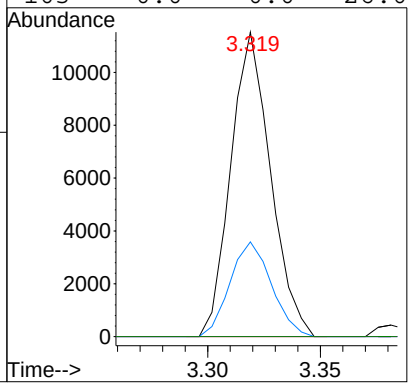


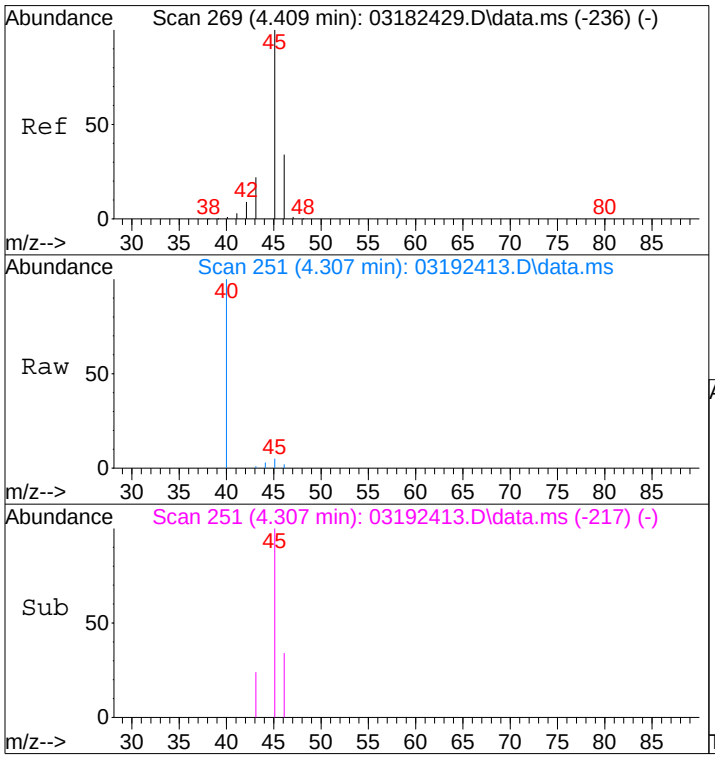


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.41 ng
RT: 3.32 min Scan# 77
Delta R.T. -0.003 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion: 85 Resp: 14163

Ion	Ratio	Lower	Upper
85	100		
87	32.5	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

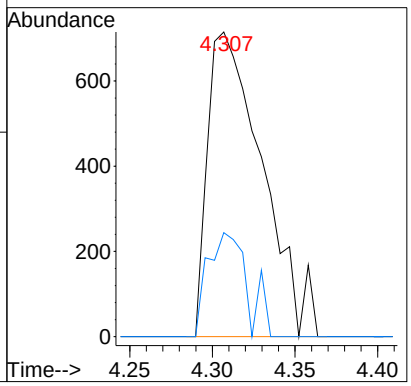


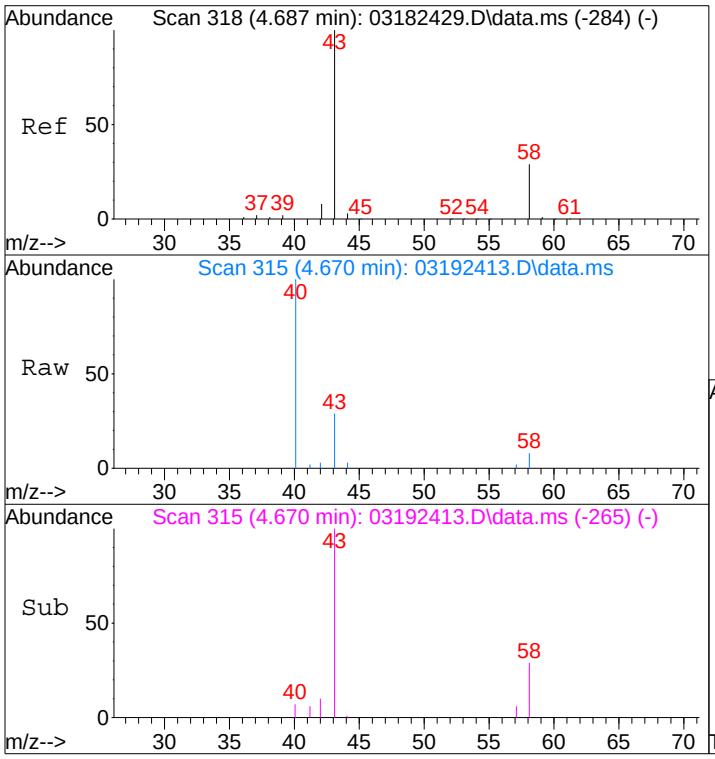


#10
Ethanol
Concen: 0.10 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.054 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion: 45 Resp: 1643

Ion	Ratio	Lower	Upper
45	100		
46	24.7	13.3	53.3

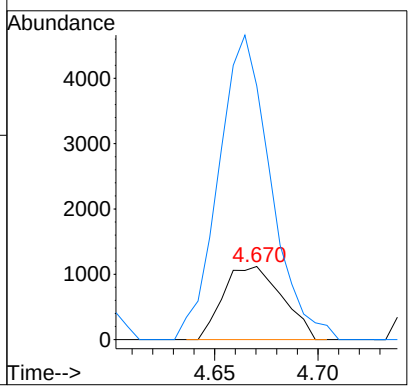


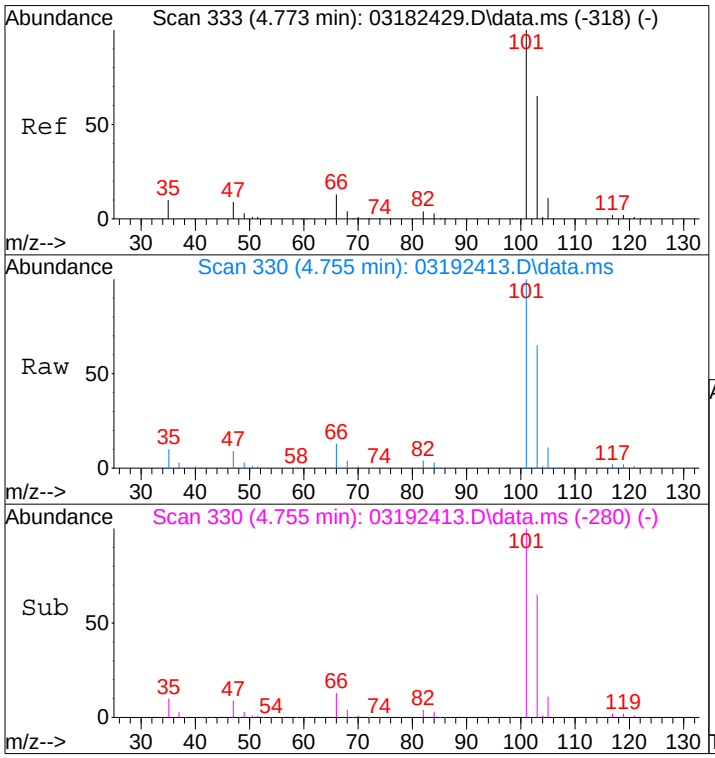


#13
Acetone
Concen: 0.18 ng
RT: 4.67 min Scan# 315
Delta R.T. 0.034 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion: 58 Resp: 2220

Ion	Ratio	Lower	Upper
58	100		
43	368.7	350.1	410.1

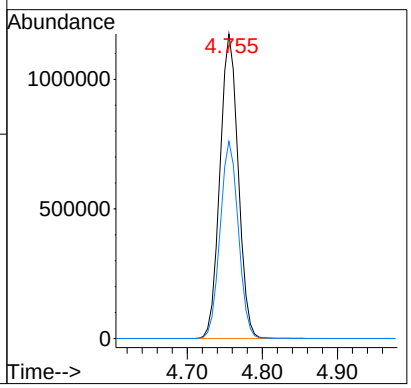


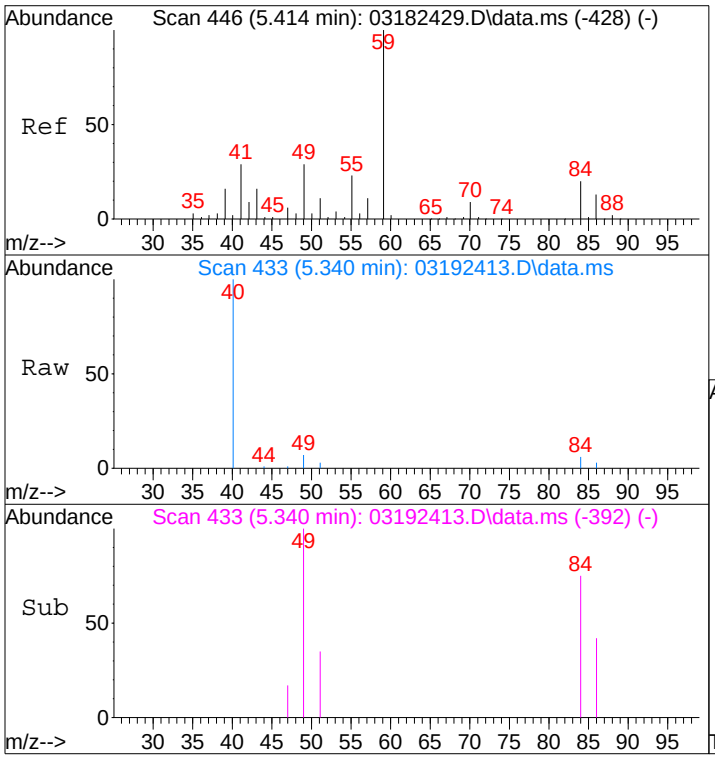


#14
Trichlorofluoromethane
Concen: 59.81 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion:101 Resp: 1978008

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

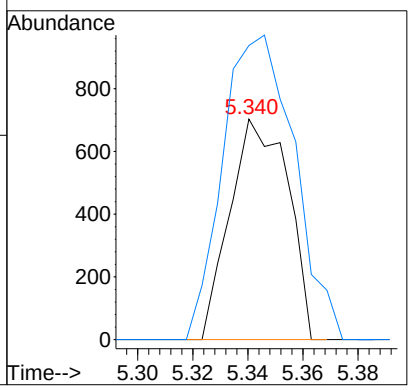


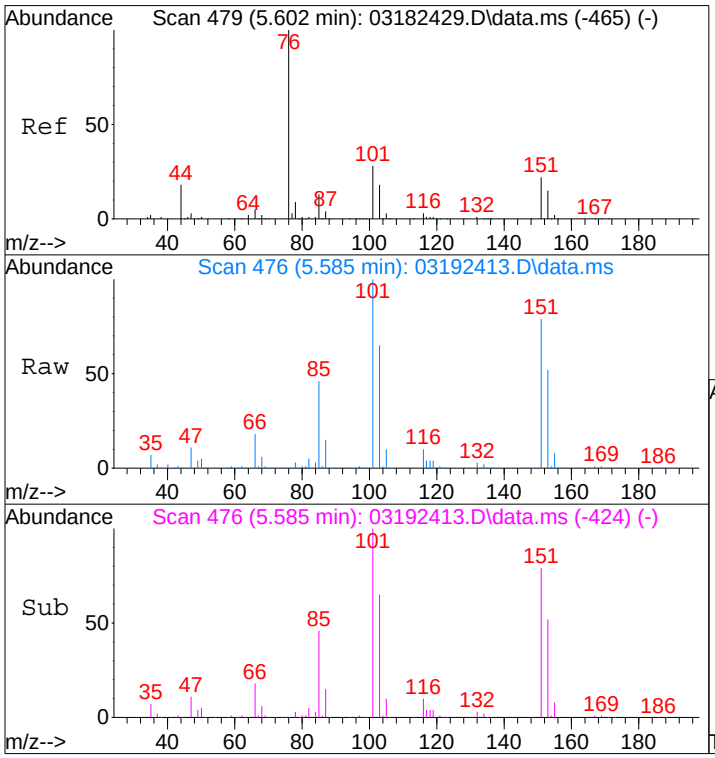


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion: 84 Resp: 1029

Ion	Ratio	Lower	Upper
84	100		
49	170.3	122.9	172.9

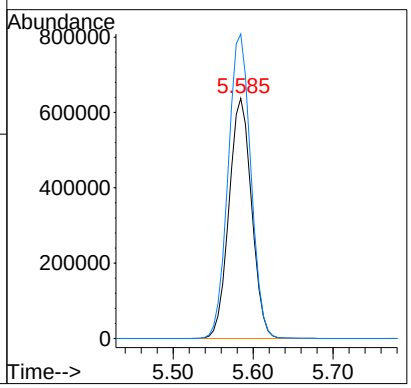


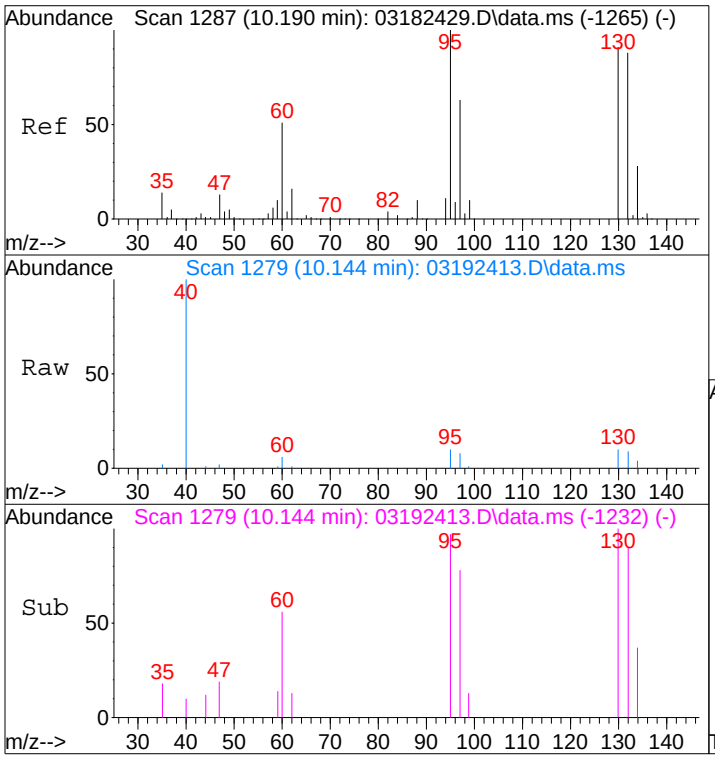


#21
Trichlorotrifluoroethane
Concen: 89.79 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion:151 Resp: 1251832

Ion	Ratio	Lower	Upper
151	100		
101	127.6	106.4	146.4

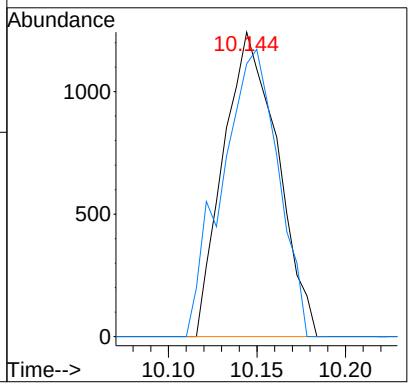


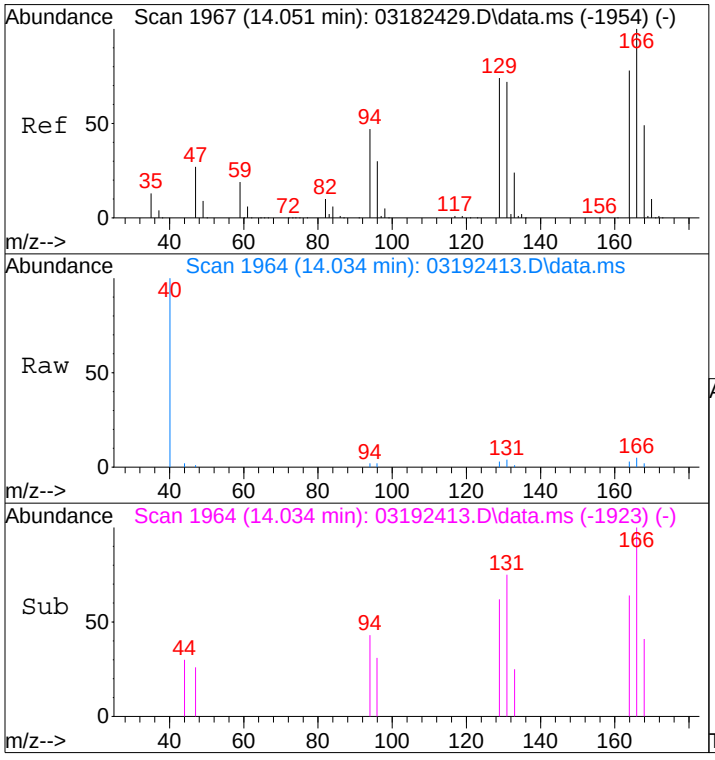


#47
Trichloroethene
Concen: 0.15 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion:130 Resp: 2636

Ion	Ratio	Lower	Upper
130	100		
132	98.1	77.5	117.5

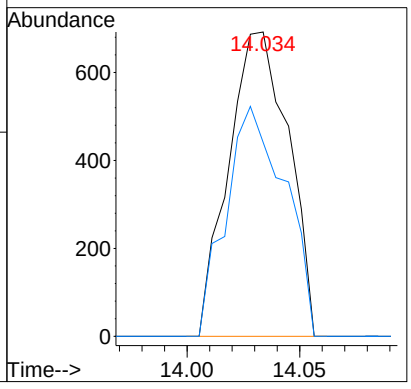




#64
Tetrachloroethene
Concen: 0.07 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03192413.D
Acq: 19 Mar 2024 16:35

Tgt Ion:166 Resp: 1279

Ion	Ratio	Lower	Upper
166	100		
164	74.7	56.7	96.7



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:41:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

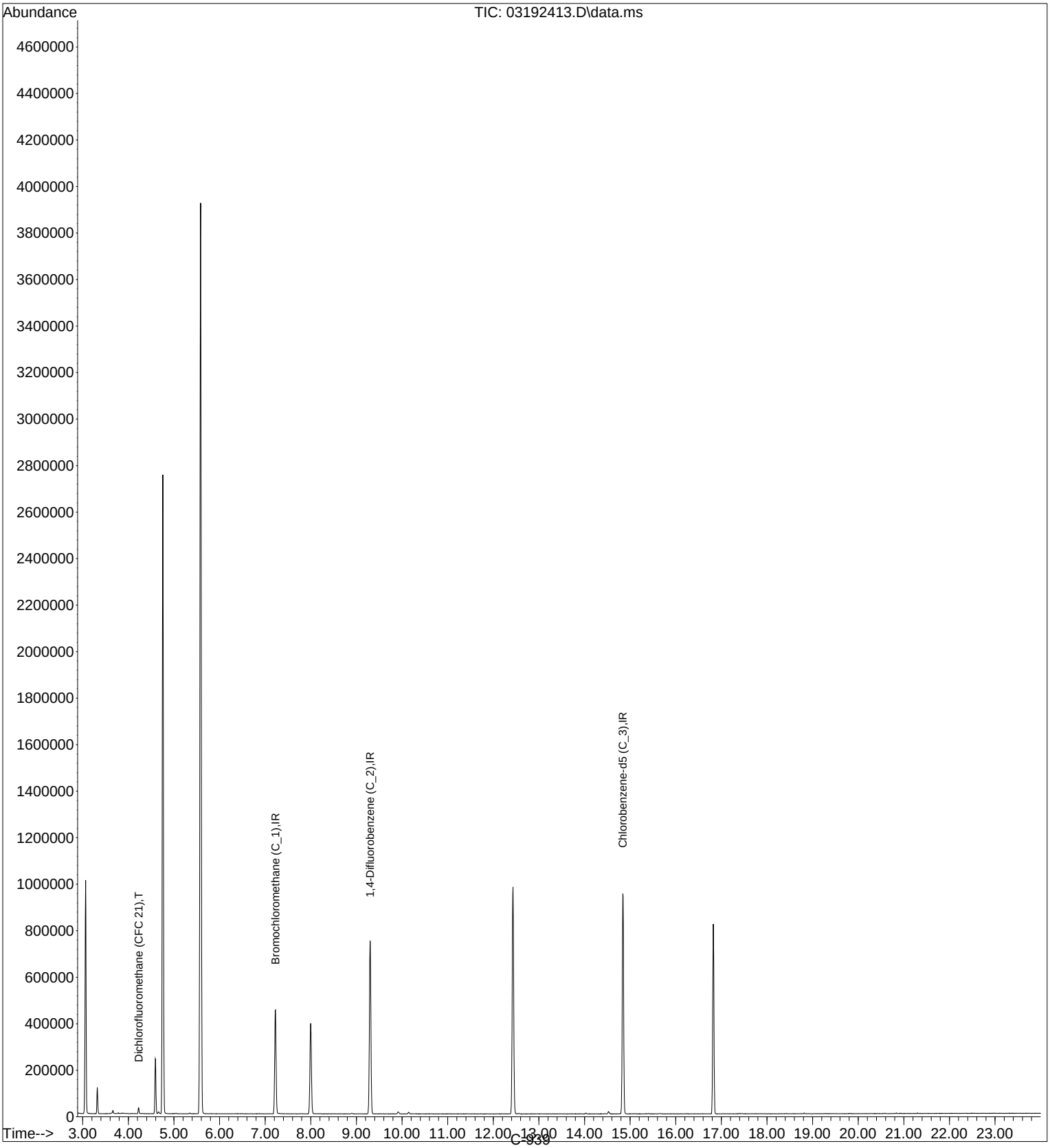
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	166599	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	714838	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	155619	12.500 ng	-0.02
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	
4) 1,1-Difluoroethane	3.26	65	85	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.23	67	19906	0.612 ng	99
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d	
10) 2-Methylbutane	4.65	57	733	N.D.	
11) Methyl Acetate	5.36	43	327	N.D.	
12) 2-Methylpentane	6.49	71	139	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	9.53	56	55	N.D.	
18) Dibromomethane	0.00	174	0	N.D.	
20) Methyl Cyclohexane	11.40	55	374	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.61	91	728	N.D.	
27) 4-Chlorotoluene	17.67	91	1050	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

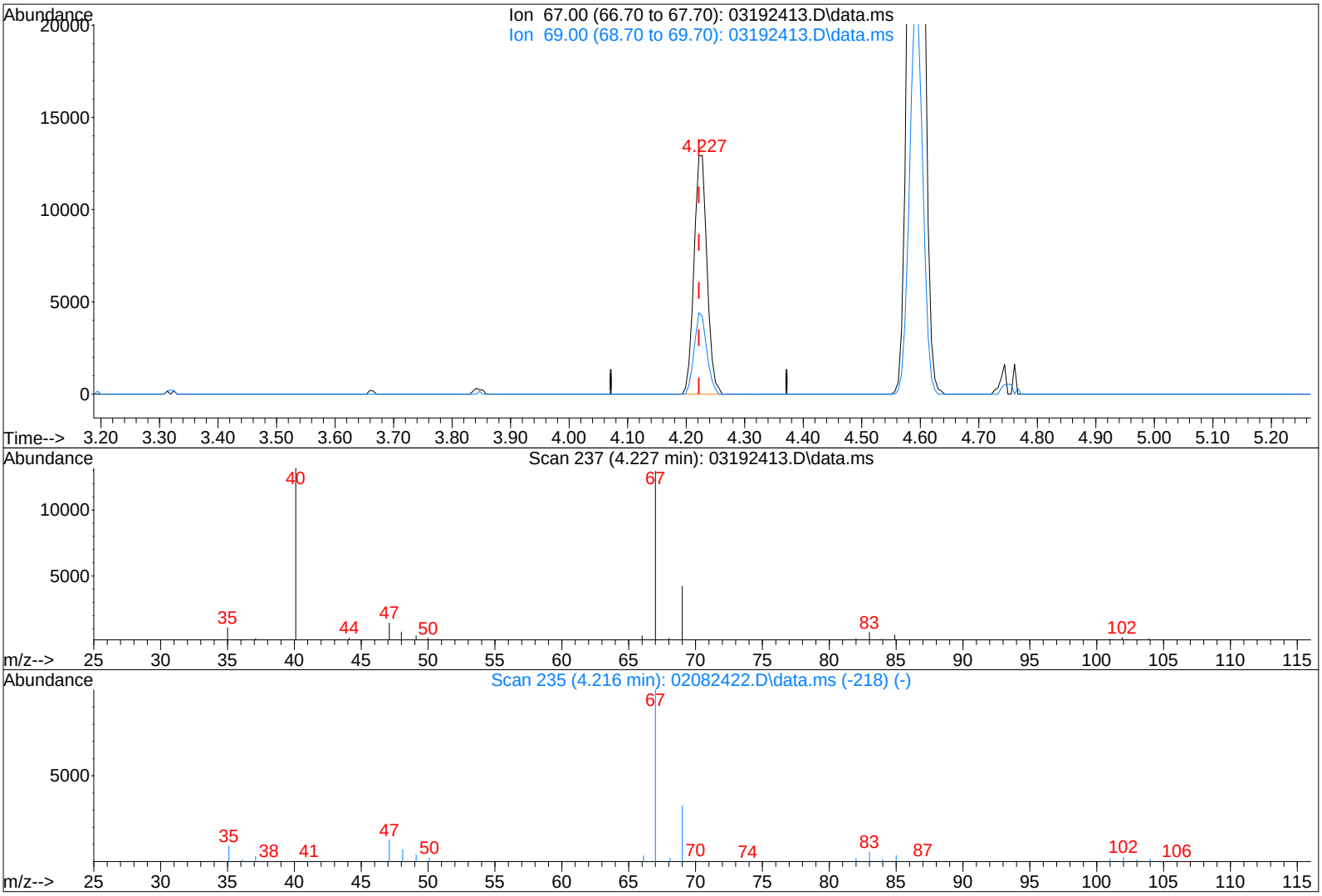
Quant Time: Mar 25 10:41:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192413.D Vial: 1
Acq On : 19 Mar 2024 16:35 Operator: SC
Sample : P2400922-022 (3.0mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:41:34 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192413.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.61ng

response 19906

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192413.D
Acq On : 19 Mar 2024 16:35
Operator : SC
Sample : P2400922-022 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192413.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	72	77	84	rBV	112648	147989	1.92%	1.066%
2	3.660	134	137	145	rVB2	13141	16777	0.22%	0.121%
3	4.222	231	236	243	rBV	24901	36903	0.48%	0.266%
4	4.591	293	301	308	rBV	236241	374924	4.86%	2.701%
5	4.659	308	313	322	rVB3	7402	14616	0.19%	0.105%
6	4.755	322	330	346	rBV	2747185	4613692	59.81%	33.239%
7	5.585	466	476	494	rVB	3916190	7713293	100.00%	55.570%
8	7.226	756	765	778	rBV	445996	962055	12.47%	6.931%

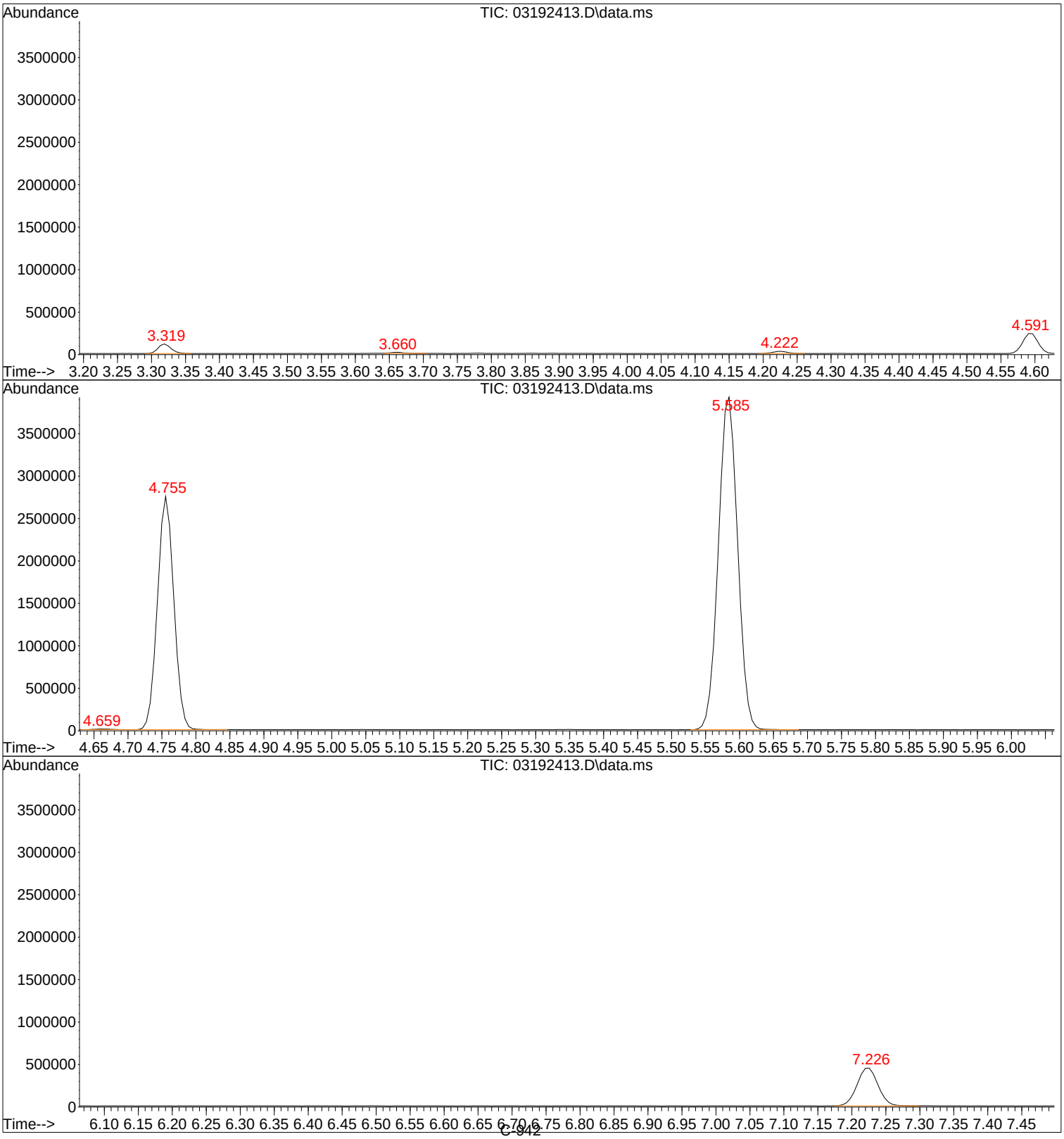
Sum of corrected areas: 13880249

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192413.D
Acq On : 19 Mar 2024 16:35
Operator : SC
Sample : P2400922-022 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192413.D
Acq On : 19 Mar 2024 16:35
Operator : SC
Sample : P2400922-022 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

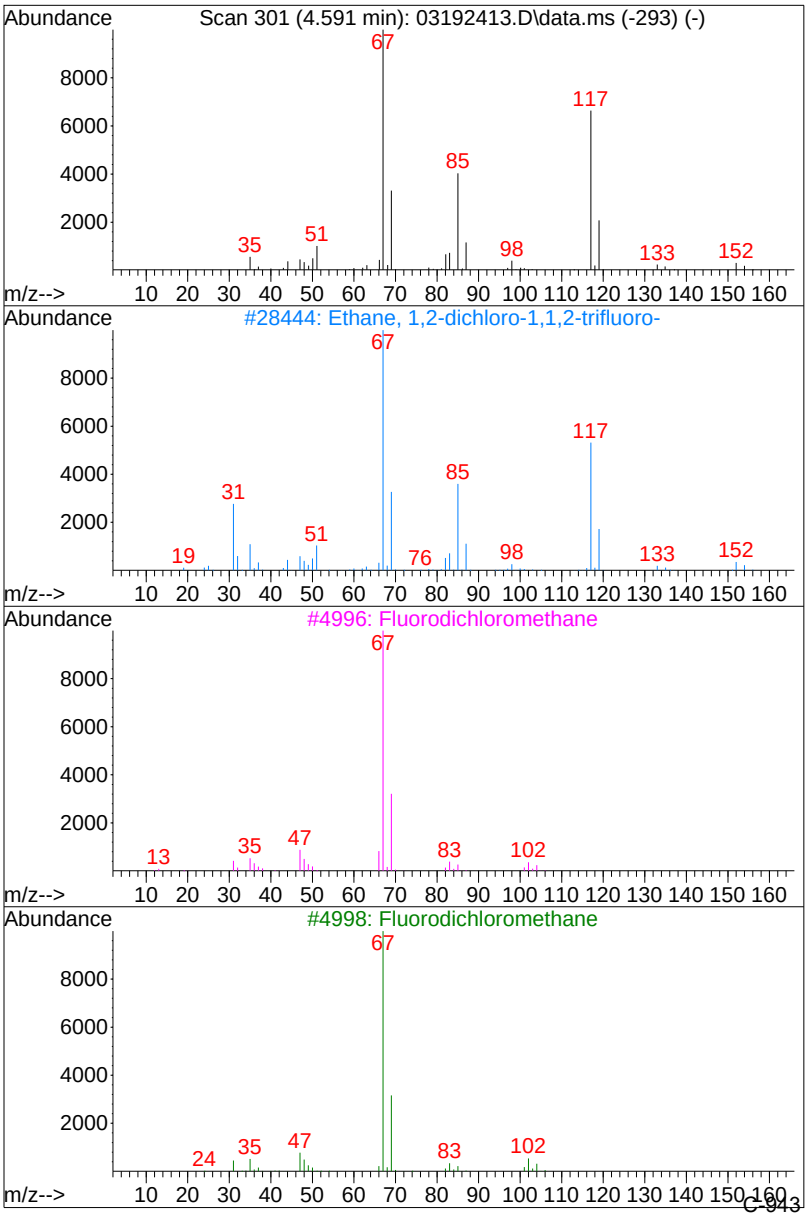
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

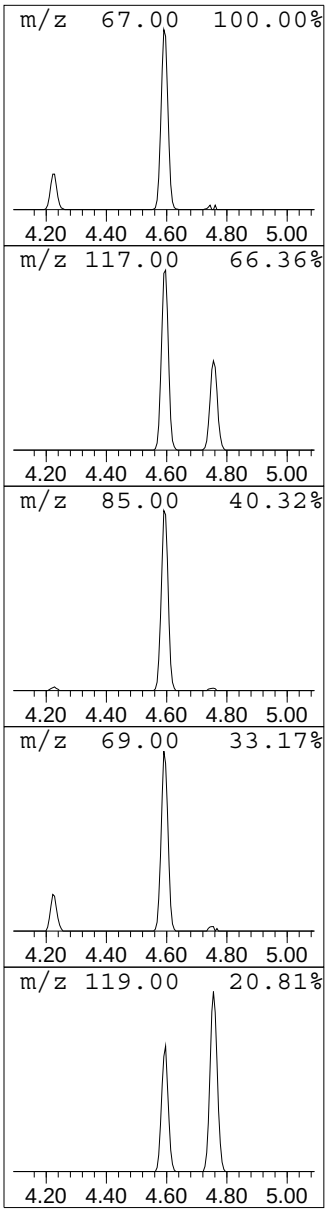
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	4.87 ng	374924	Bromochloromethane (IS1)	7.226

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	17
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\19\
Data File : 03192413.D
Acq On : 19 Mar 2024 16:35
Operator : SC
Sample : P2400922-022 (3.0mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.591	4.9	ng	374924	1	7.226	962055	12.5

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:46:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	146991	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.32	114	626257	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	145700	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	304632	12.668	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.44	98	719383	12.297	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	16.83	174	258781	12.547	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	17645m	0.585	ng		
4) Chloromethane	3.49	50	701	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	362	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D. d			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.32	45	89557	6.305	ng		98
11) Acetonitrile	4.45	41	129170	3.962	ng		99
12) Acrolein	4.53	56	13569	1.333	ng		97
13) Acetone	4.64	58	590842	54.654	ng	#	84
14) Trichlorofluoromethane	4.76	101	2229290	76.395	ng		100
15) 2-Propanol (Isopropanol)	4.88	45	81106	1.884	ng		87
16) Acrylonitrile	5.01	53	5287	0.253	ng		98
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.35	84	656	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d			
21) Trichlorotrifluoroethane	5.58	151	1188347	96.609	ng		99
22) Carbon Disulfide	5.60	76	958174	19.563	ng		89
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
26) Vinyl Acetate	6.45	86	79244	32.949	ng	#	4
27) 2-Butanone (MEK)	0.00	72	0	N.D. d			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.31	61	1395	0.263	ng		90
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	7.37	83	1749	0.069	ng		79
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.57	61	9510	No Calib	#		
40) 1-Butanol	8.83	56	214706	No Calib	#		
41) Benzene	8.90	78	14001	0.248	ng		98
42) Carbon Tetrachloride	9.07	117	1424	0.064	ng		93
43) Cyclohexane	9.31	84	716	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.09	83	490	N.D.			
47) Trichloroethene	10.16	130	567	N.D.			
48) 1,4-Dioxane	10.14	88	7444	0.757	ng		93
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	10.41	100	2302	0.498	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:46:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

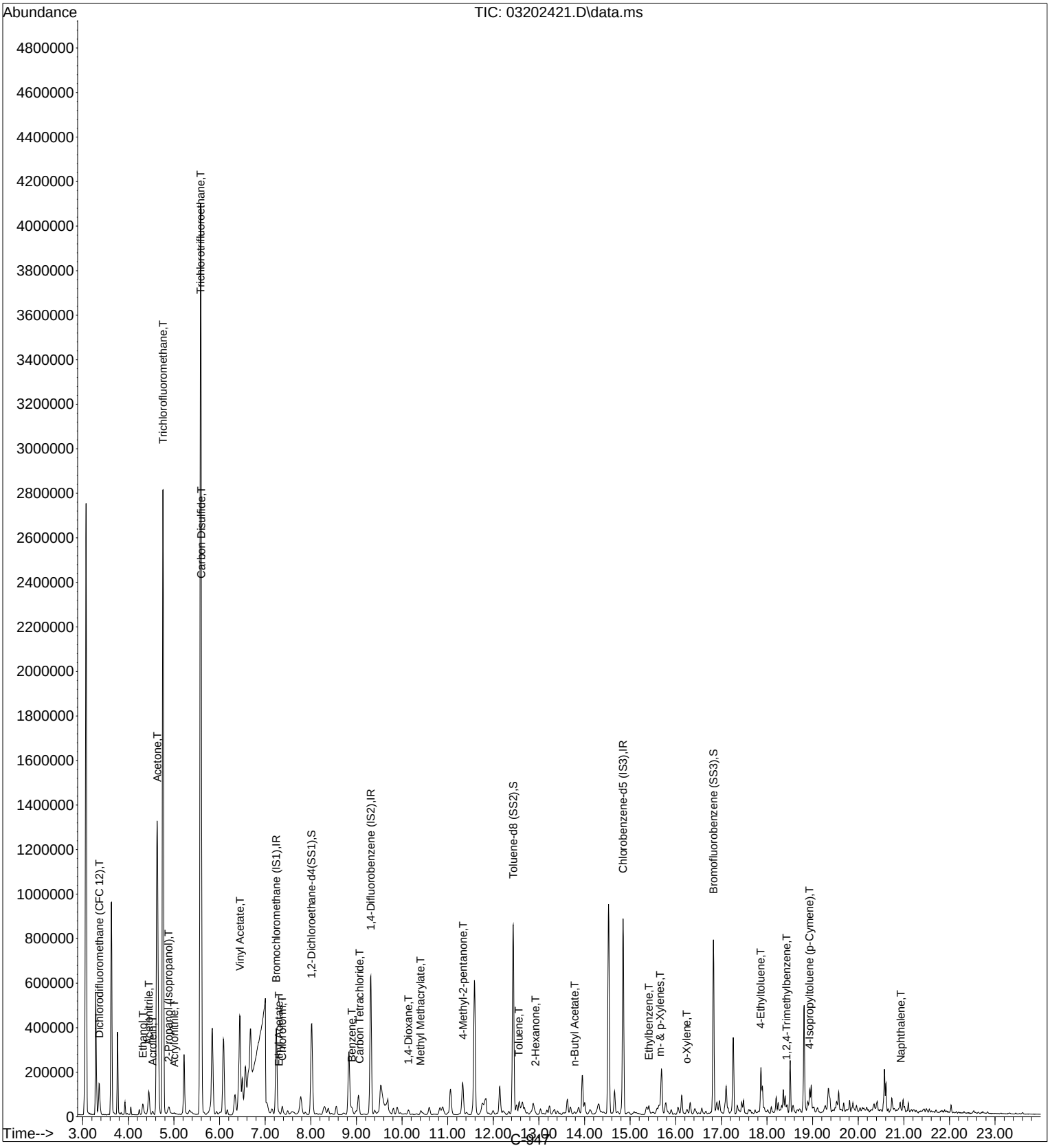
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	38450	3.182 ng	#	67
54) trans-1,3-Dichloropropene	11.91	75	423	N.D.		
55) 1,1,2-Trichloroethane	12.18	97	418	N.D.		
58) Toluene	12.56	91	39965	0.716 ng		99
59) 2-Hexanone	12.93	43	7789	0.240 ng		91
60) Dibromochloromethane	13.07	129	461	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	7293	0.203 ng		94
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	14.04	166	478	N.D.		
65) Chlorobenzene	14.90	112	652	N.D.		
66) Ethylbenzene	15.41	91	9016	0.141 ng	#	1
67) m- & p-Xylenes	15.66	91	46444	0.876 ng		89
68) Bromoform	15.67	173	527	N.D.		
69) Styrene	16.10	104	462	N.D.		
70) o-Xylene	16.24	91	7822	0.150 ng		99
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	16.21	83	612	N.D.		
74) Cumene	17.03	105	1864	N.D.		
75) alpha-Pinene	17.44	93	126	N.D.		
76) n-Propylbenzene	17.68	91	2872	N.D.		
77) 3-Ethyltoluene	17.03	105	1864	No Calib		
78) 4-Ethyltoluene	17.86	105	3374	0.055 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	2325	N.D.		
80) alpha-Methylstyrene	17.10	118	178	No Calib	#	
81) 2-Ethyltoluene	17.03	105	1864	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	10029	0.180 ng		93
83) n-Decane	17.10	58	2997	No Calib	#	
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	551	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1503	N.D.		
87) sec-Butylbenzene	18.75	105	1345	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	21291	0.346 ng	#	20
89) 1,2,3-Trimethylbenzene	17.03	105	1864	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	427	N.D.		
91) d-Limonene	19.09	68	878	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.90	58	7309	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	820	N.D.		
95) Naphthalene	20.94	128	5771	0.424 ng		96
96) n-Dodecane	18.94	58	1193	No Calib	#	
97) Hexachlorobutadiene	21.30	225	558	N.D.		
98) Cyclohexanone	15.41	55	3379	No Calib	#	
99) tert-Butylbenzene	18.43	119	1931	N.D.		
100) n-Butylbenzene	19.43	91	800	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:46:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
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Quant Time: Mar 25 13:46:28 2024
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

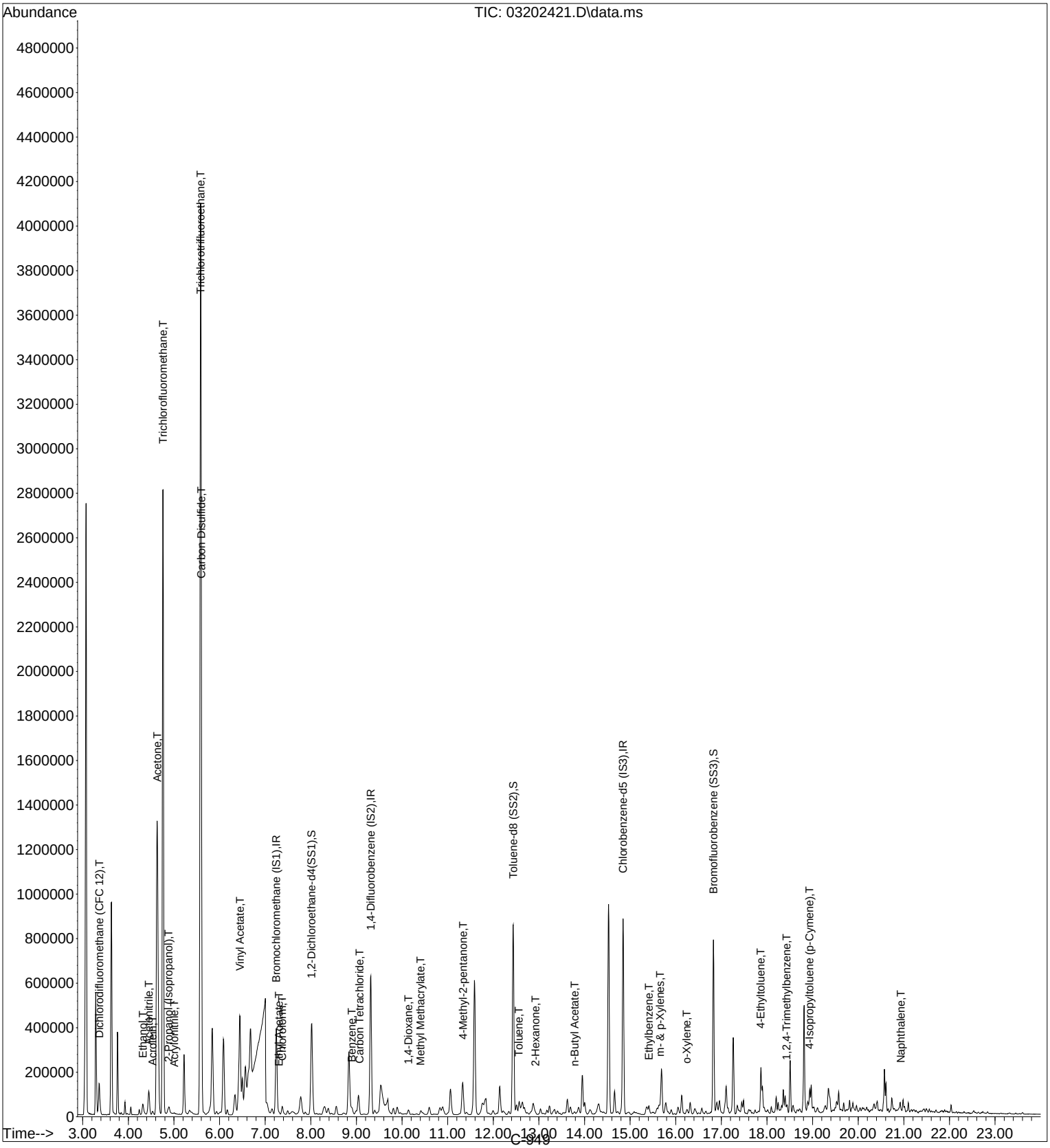
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	146991	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.32	114	626257	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	145700	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	304632	12.668	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.44	98	719383	12.297	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
73) Bromofluorobenzene (SS3)	16.83	174	258781	12.547	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	17645m	0.585	ng		
10) Ethanol	4.32	45	89557	6.305	ng		98
11) Acetonitrile	4.45	41	129170	3.962	ng		99
12) Acrolein	4.53	56	13569	1.333	ng		97
13) Acetone	4.64	58	590842	54.654	ng	#	84
14) Trichlorofluoromethane	4.76	101	2229290	76.395	ng		100
15) 2-Propanol (Isopropanol)	4.88	45	81106	1.884	ng		87
16) Acrylonitrile	5.01	53	5287	0.253	ng		98
21) Trichlorotrifluoroethane	5.58	151	1188347	96.609	ng		99
22) Carbon Disulfide	5.60	76	958174	19.563	ng		89
26) Vinyl Acetate	6.45	86	79244	32.949	ng	#	4
30) Ethyl Acetate	7.31	61	1395	0.263	ng		90
32) Chloroform	7.37	83	1749	0.069	ng		79
41) Benzene	8.90	78	14001	0.248	ng		98
42) Carbon Tetrachloride	9.07	117	1424	0.064	ng		93
48) 1,4-Dioxane	10.14	88	7444	0.757	ng		93
50) Methyl Methacrylate	10.41	100	2302	0.498	ng		97
53) 4-Methyl-2-pentanone	11.34	58	38450	3.182	ng	#	67
58) Toluene	12.56	91	39965	0.716	ng		99
59) 2-Hexanone	12.93	43	7789	0.240	ng		91
62) n-Butyl Acetate	13.78	43	7293	0.203	ng		94
66) Ethylbenzene	15.41	91	9016	0.141	ng	#	1
67) m- & p-Xylenes	15.66	91	46444	0.876	ng		89
70) o-Xylene	16.24	91	7822	0.150	ng		99
78) 4-Ethyltoluene	17.86	105	3374	0.055	ng		100
82) 1,2,4-Trimethylbenzene	18.43	105	10029	0.180	ng		93
88) 4-Isopropyltoluene (p-...	18.93	119	21291	0.346	ng	#	20
95) Naphthalene	20.94	128	5771	0.424	ng		96

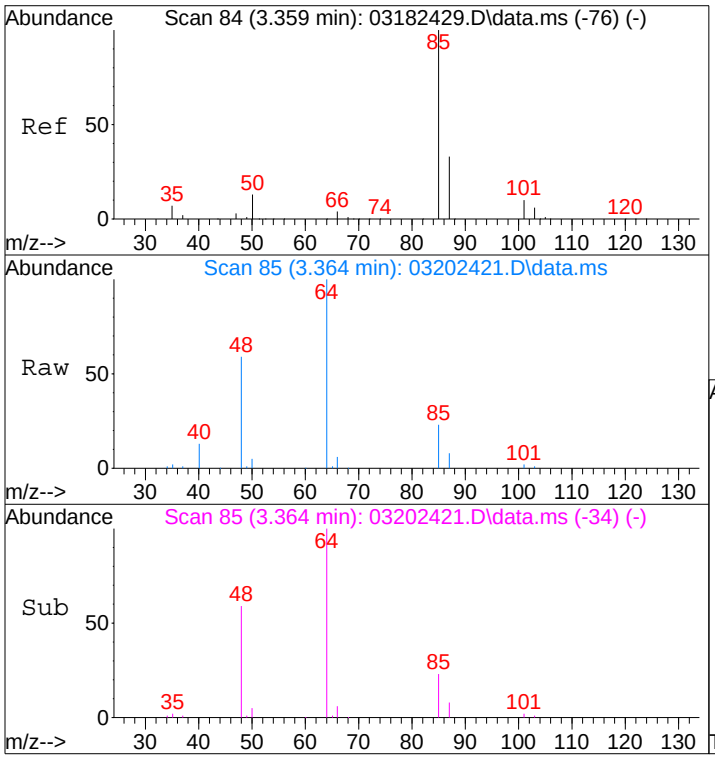
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:46:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

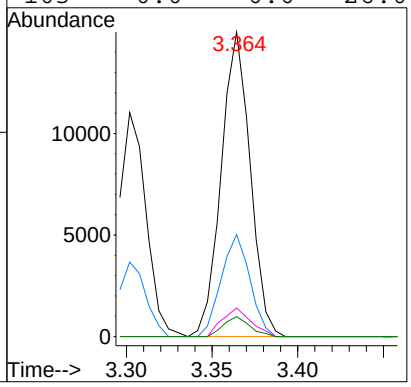


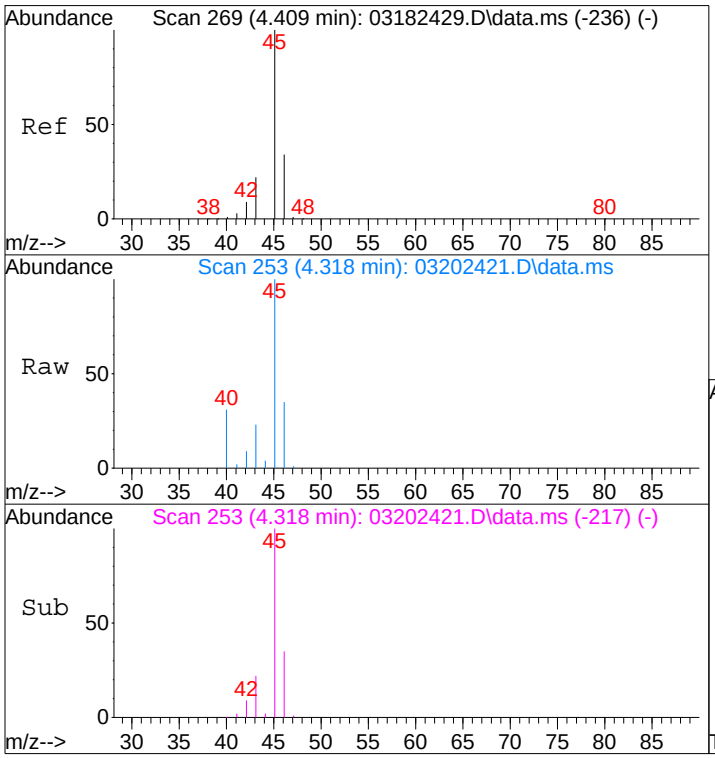


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 85 Resp: 17645

Ion	Ratio	Lower	Upper
85	100		
87	23.1	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

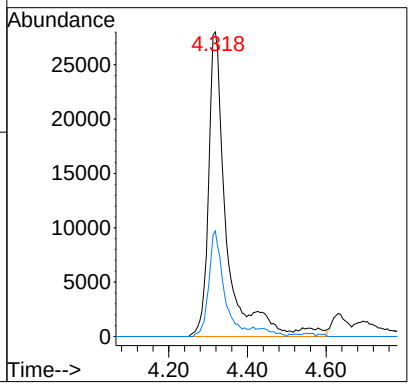


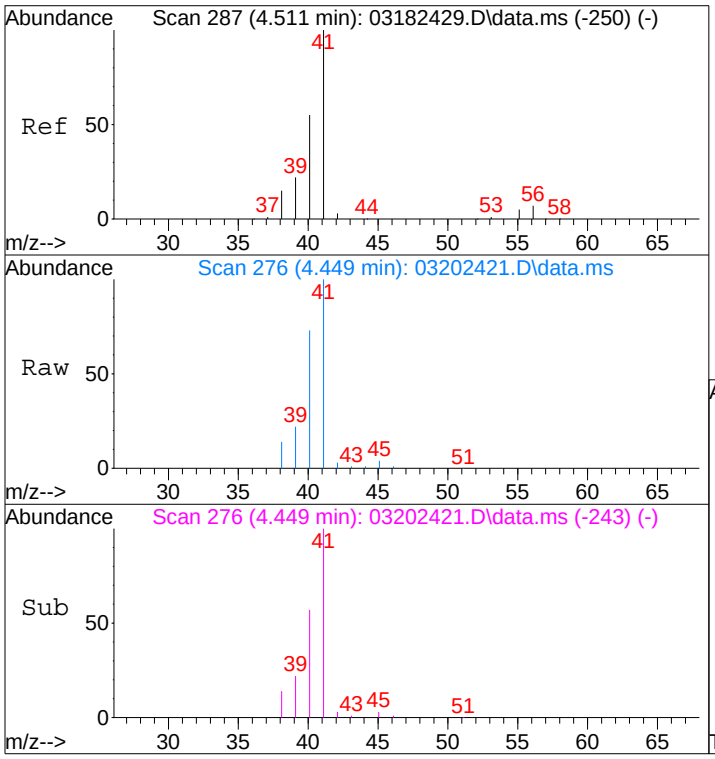


#10
Ethanol
Concen: 6.30 ng
RT: 4.32 min Scan# 253
Delta R.T. -0.043 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 45 Resp: 89557

Ion	Ratio	Lower	Upper
45	100		
46	32.4	13.3	53.3

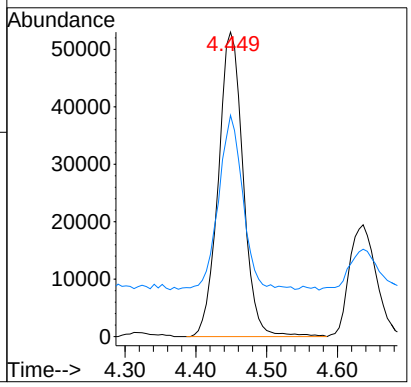


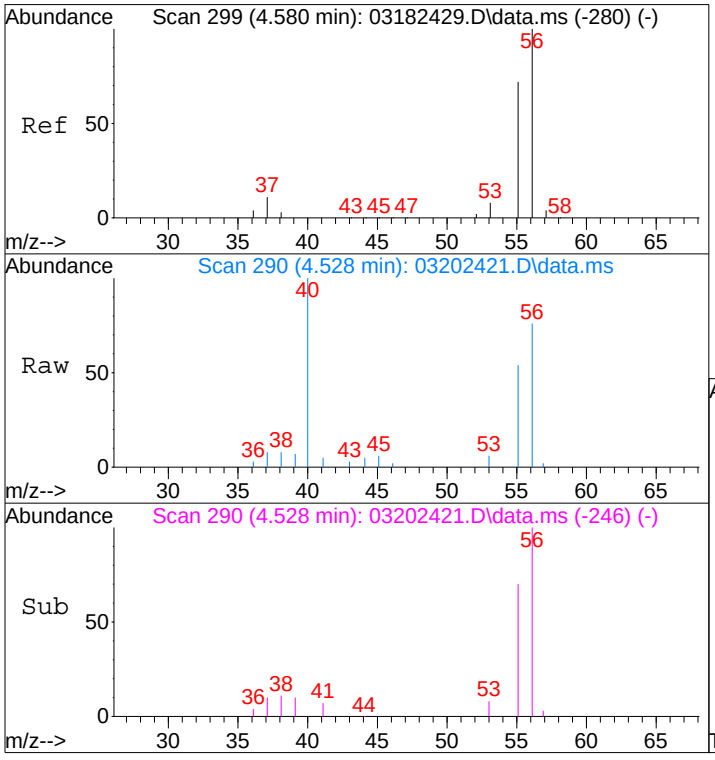


#11
Acetonitrile
Concen: 3.96 ng
RT: 4.45 min Scan# 276
Delta R.T. -0.013 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 41 Resp: 129170

Ion	Ratio	Lower	Upper
41	100		
40	55.4	34.9	74.9

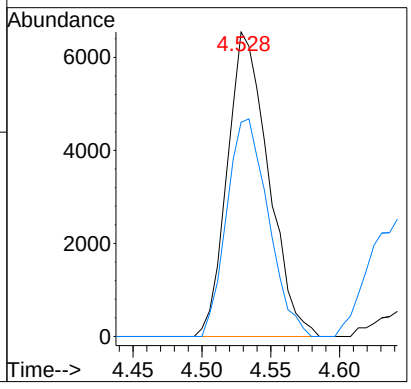


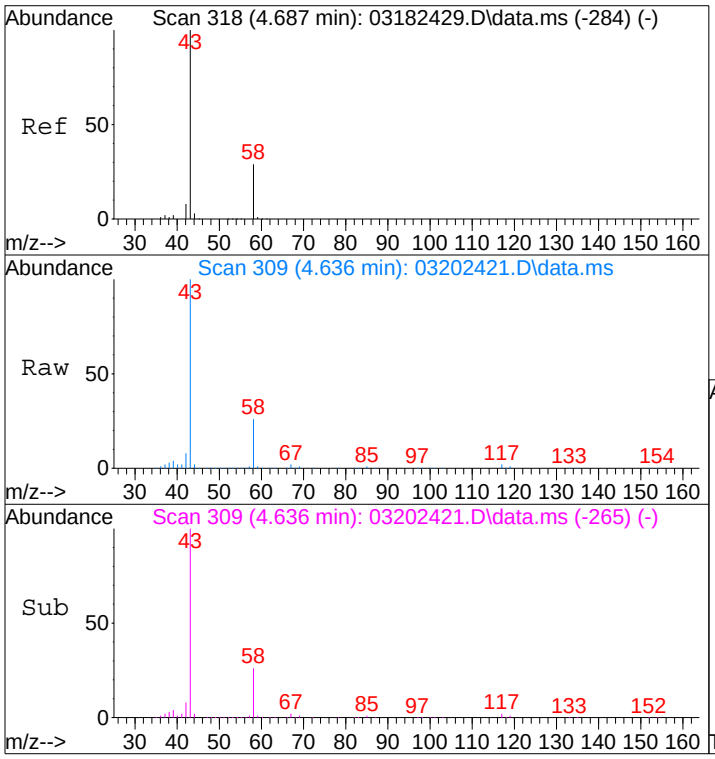


#12
Acrolein
Concen: 1.33 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.001 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 56 Resp: 13569

Ion	Ratio	Lower	Upper
56	100		
55	72.3	54.9	94.9

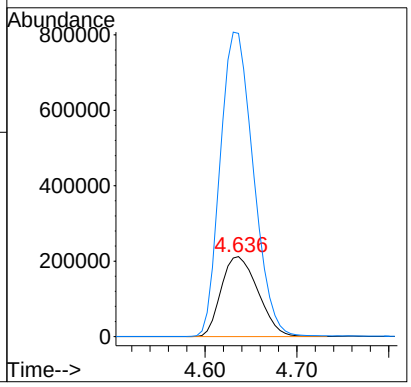


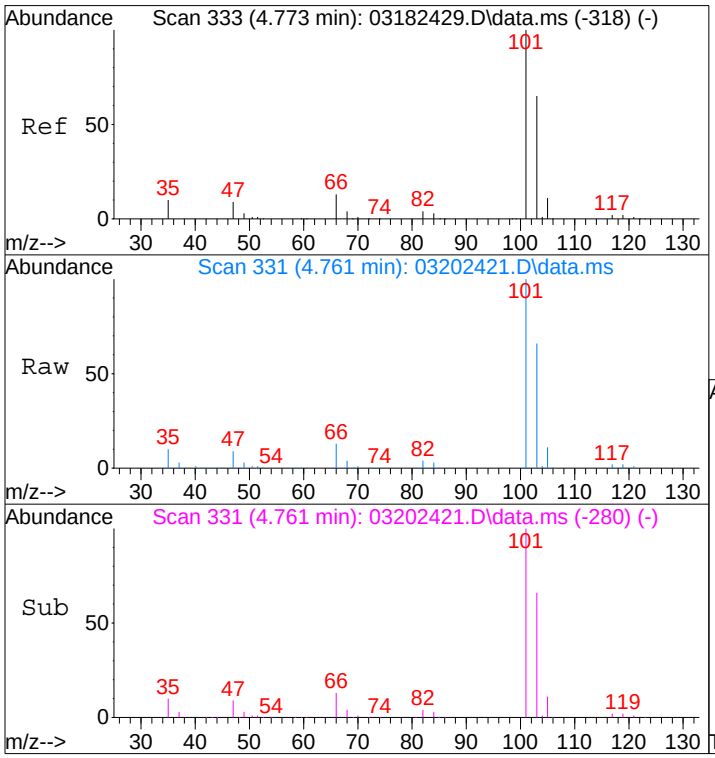


#13
Acetone
Concen: 54.65 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.000 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 58 Resp: 590842

Ion	Ratio	Lower	Upper
58	100		
43	344.1	350.1	410.1#

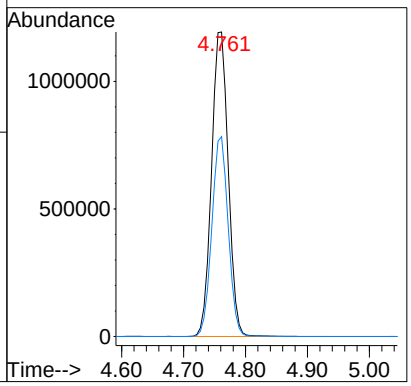


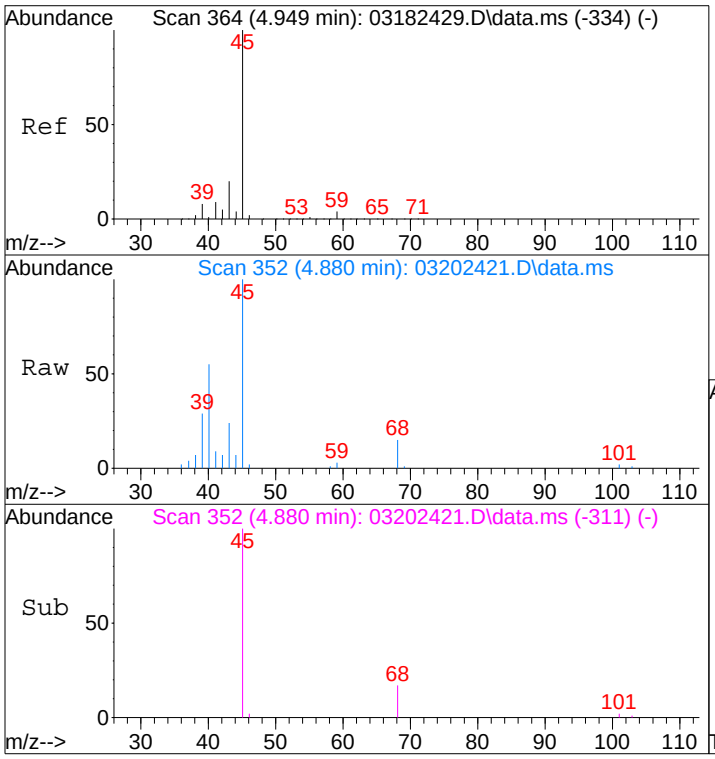


#14
Trichlorofluoromethane
Concen: 76.40 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.040 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:101 Resp: 2229290

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

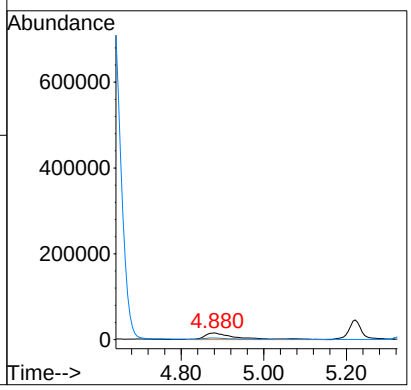


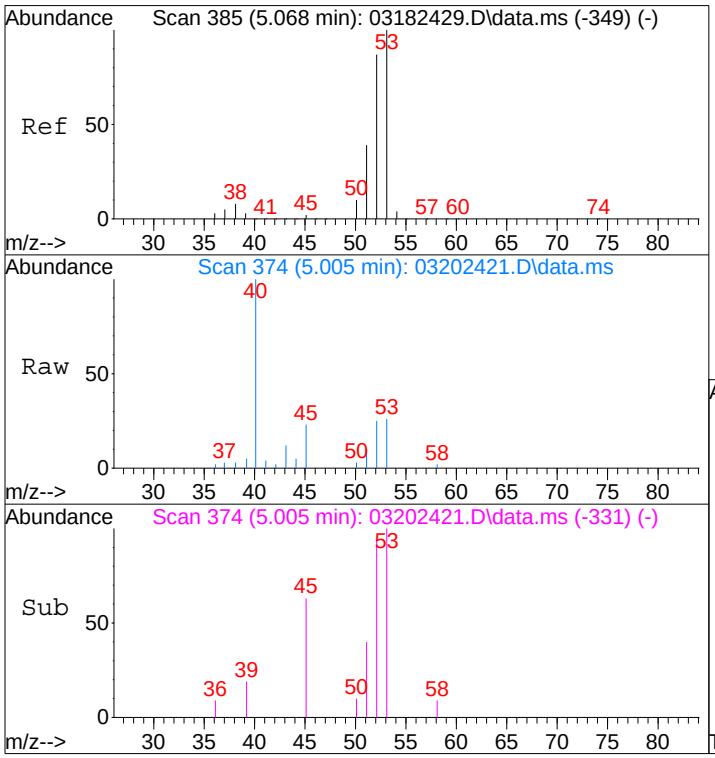


#15
2-Propanol (Isopropanol)
Concen: 1.88 ng
RT: 4.88 min Scan# 352
Delta R.T. -0.014 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 45 Resp: 81106

Ion	Ratio	Lower	Upper
45	100		
43	14.6	0.4	40.4

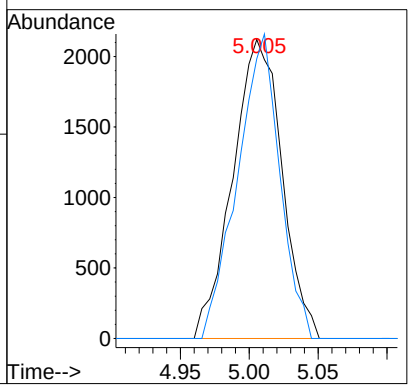


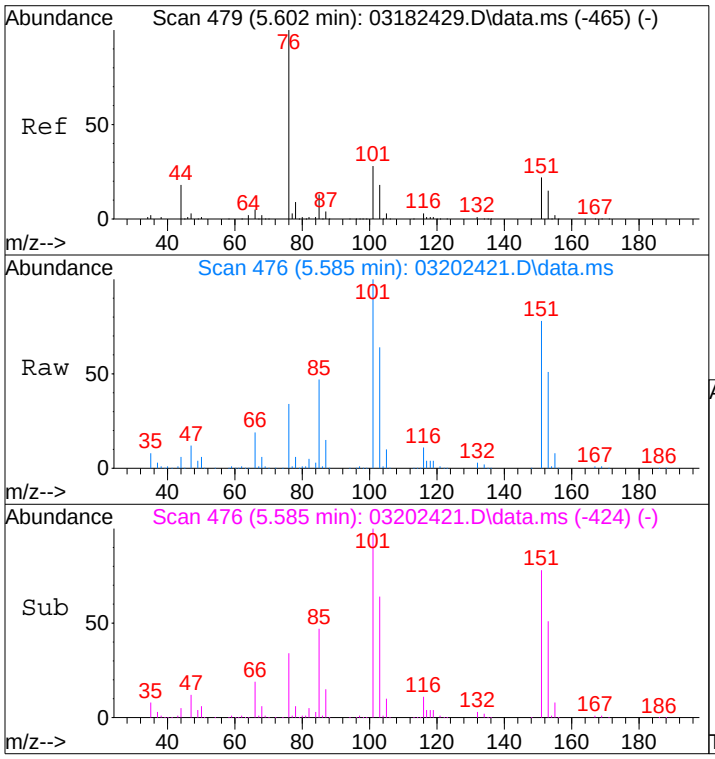


#16
Acrylonitrile
Concen: 0.25 ng
RT: 5.01 min Scan# 374
Delta R.T. -0.007 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 53 Resp: 5287

Ion	Ratio	Lower	Upper
53	100		
52	87.2	65.1	105.1

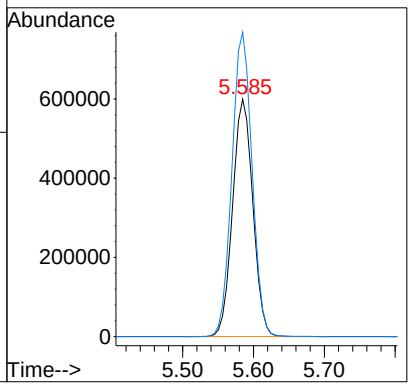


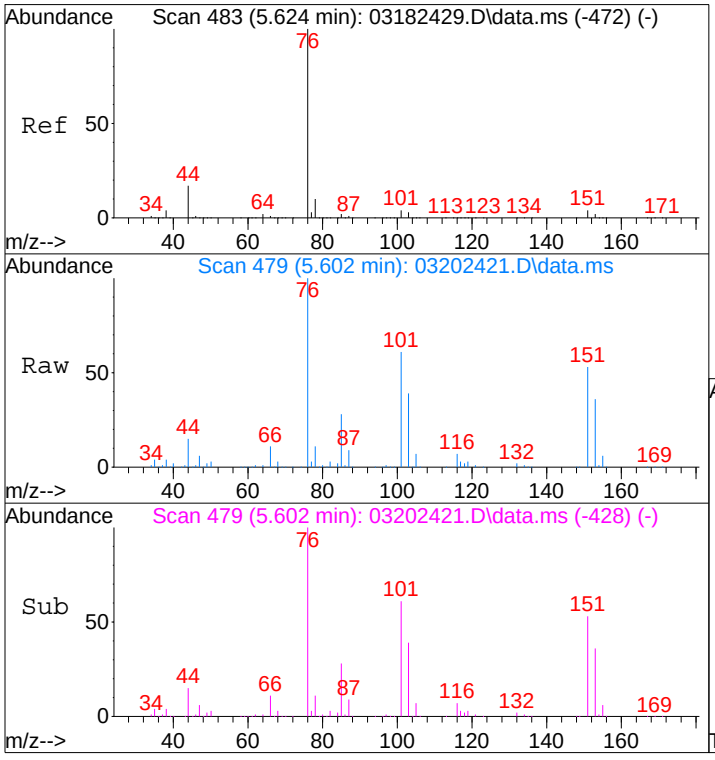


#21
Trichlorotrifluoroethane
Concen: 96.61 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:151 Resp: 1188347

Ion	Ratio	Lower	Upper
151	100		
101	127.7	106.4	146.4

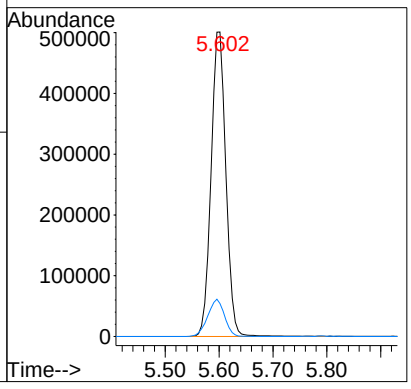


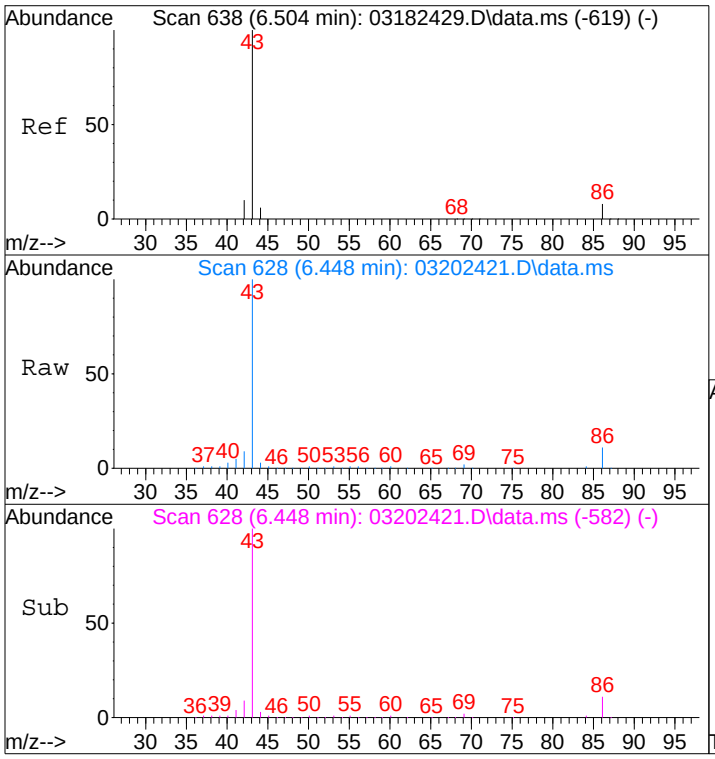


#22
Carbon Disulfide
Concen: 19.56 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 76 Resp: 958174

Ion	Ratio	Lower	Upper
76	100		
78	13.8	0.0	29.8

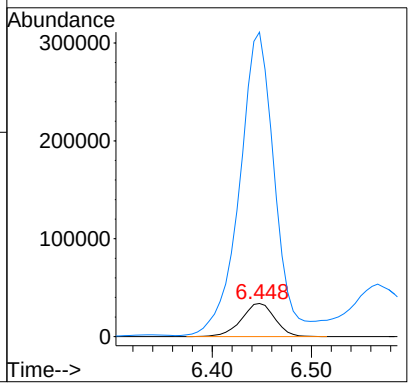


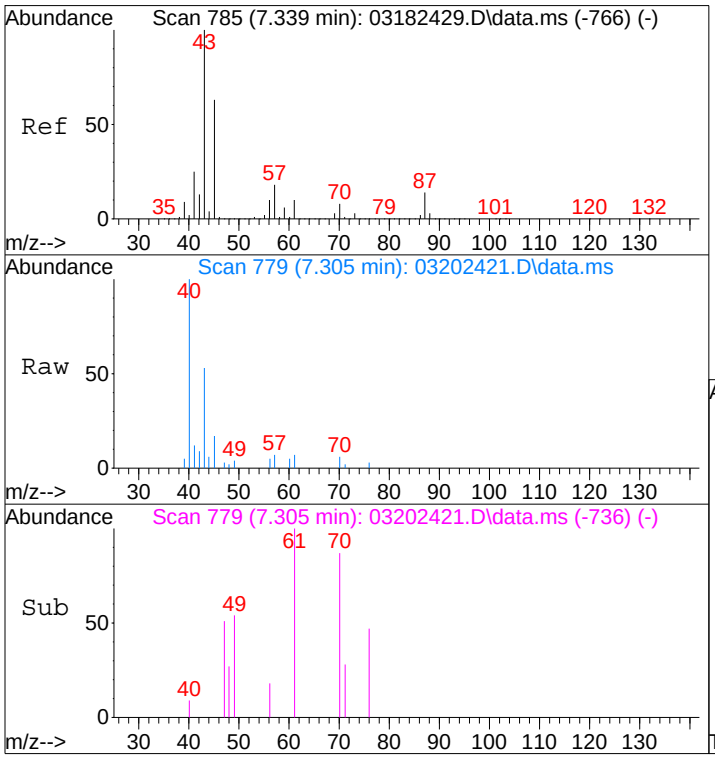


#26
Vinyl Acetate
Concen: 32.95 ng
RT: 6.45 min Scan# 628
Delta R.T. 0.014 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 86 Resp: 79244

Ion	Ratio	Lower	Upper
86	100		
43	973.9	1541.5	1581.5#

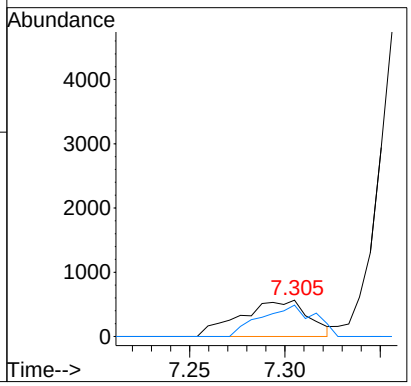


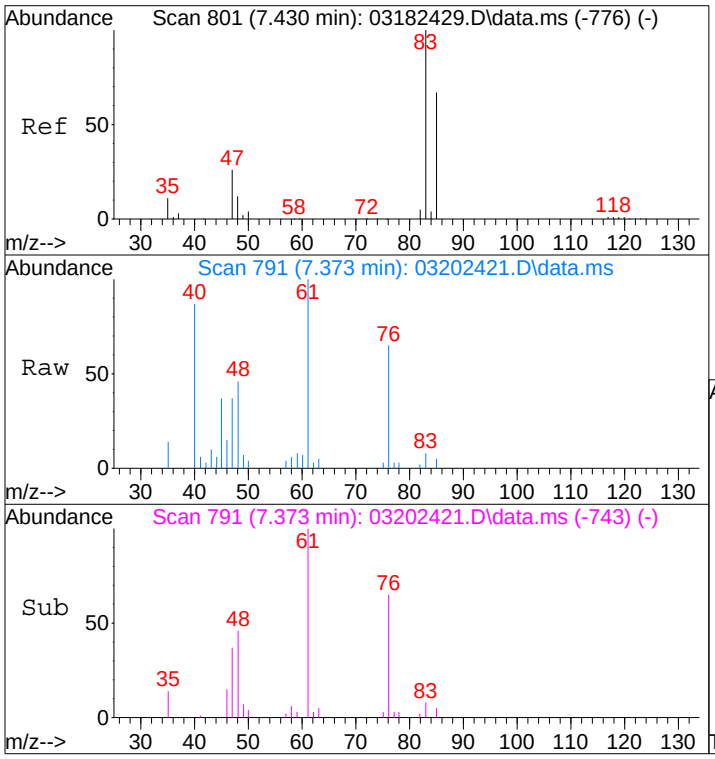


#30
Ethyl Acetate
Concen: 0.26 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.046 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 61 Resp: 1395

Ion	Ratio	Lower	Upper
61	100		
70	68.5	57.3	97.3

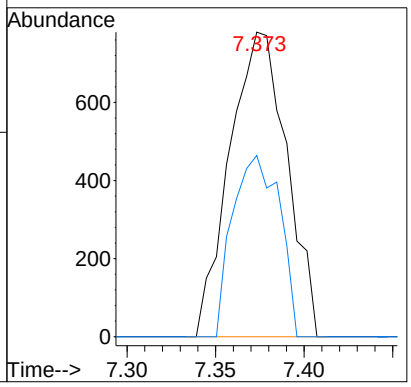


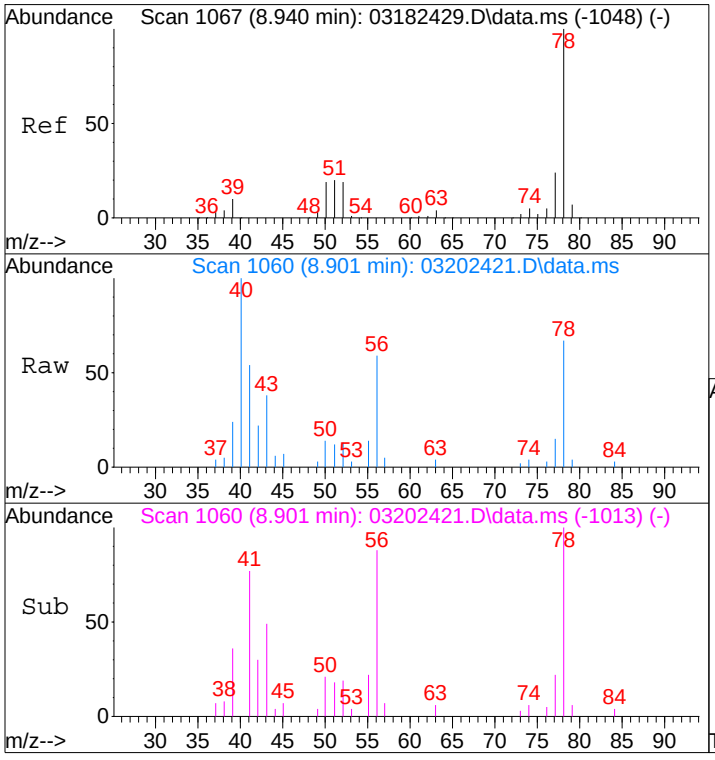


#32
Chloroform
Concen: 0.07 ng
RT: 7.37 min Scan# 791
Delta R.T. 0.024 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 83 Resp: 1749

Ion	Ratio	Lower	Upper
83	100		
85	49.0	46.1	86.1

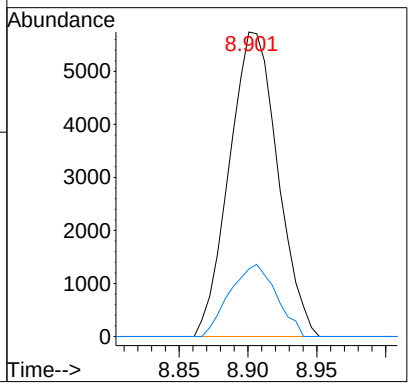


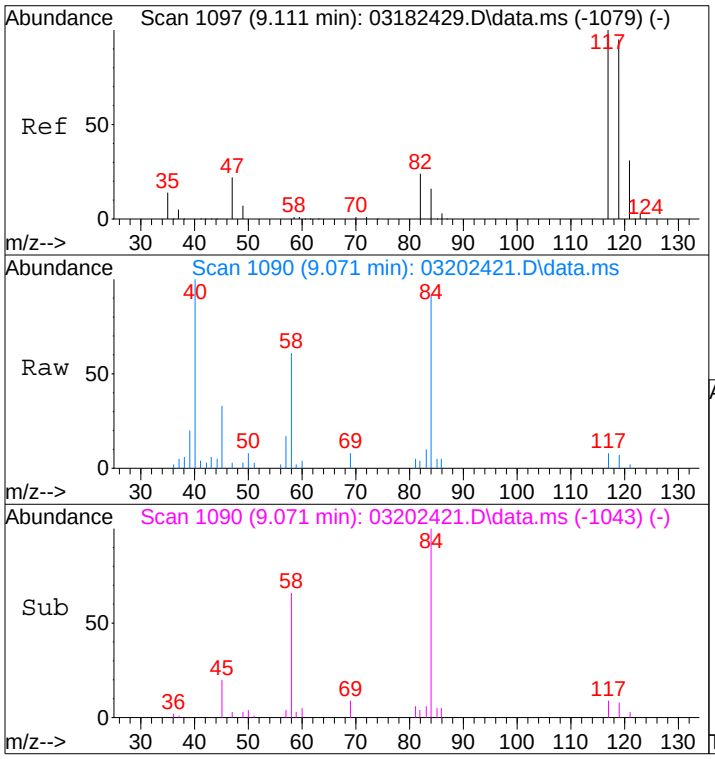


#41
Benzene
Concen: 0.25 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.015 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 78 Resp: 14001

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.6	43.6

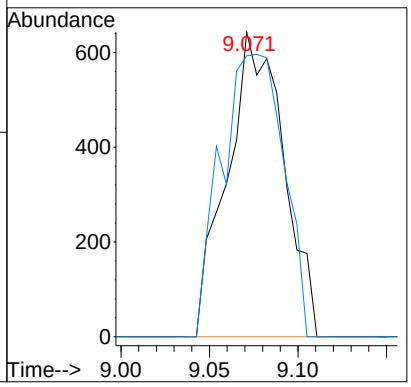


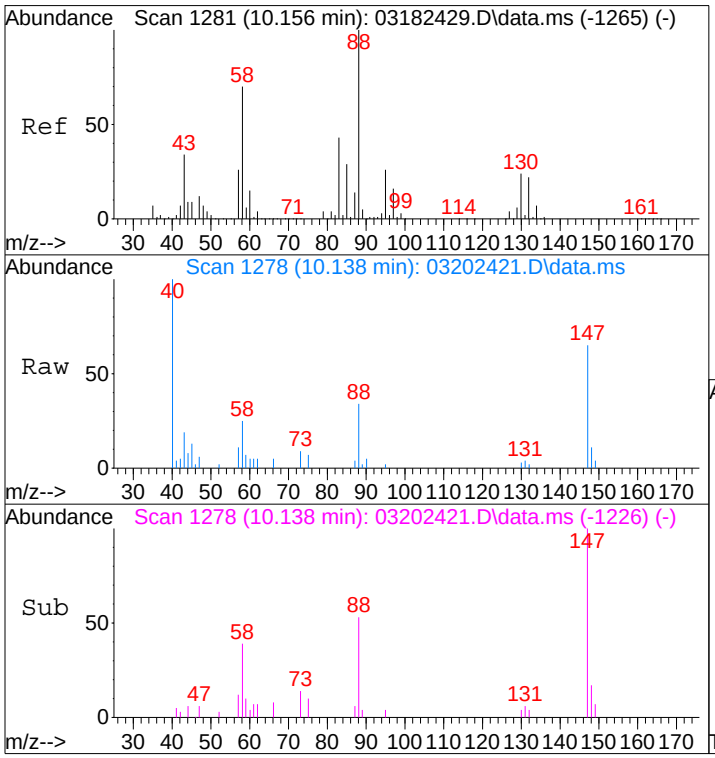


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 9.07 min Scan# 1090
Delta R.T. 0.016 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:117 Resp: 1424

Ion	Ratio	Lower	Upper
117	100		
119	102.9	75.7	115.7

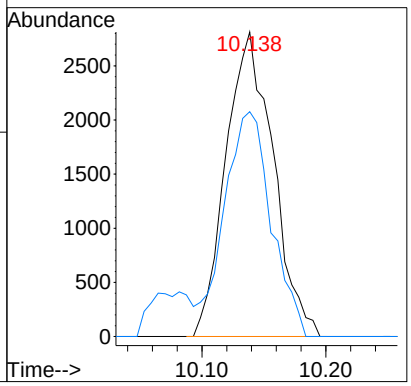


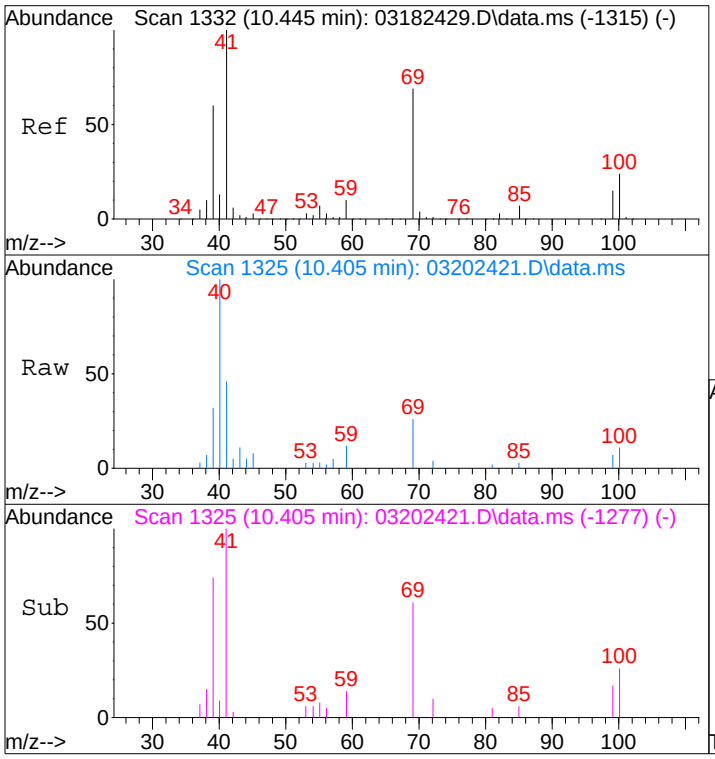


#48
1,4-Dioxane
Concen: 0.76 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.045 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 88 Resp: 7444

Ion	Ratio	Lower	Upper
88	100		
58	73.8	48.2	88.2

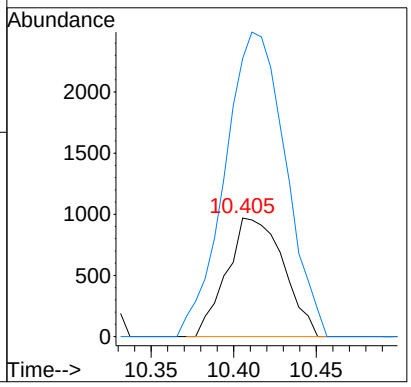


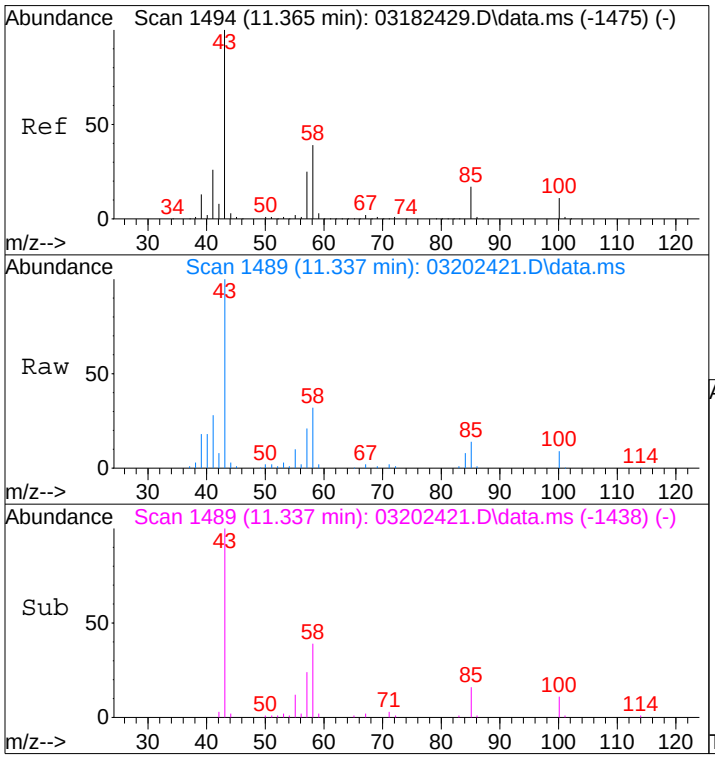


#50
Methyl Methacrylate
Concen: 0.50 ng
RT: 10.41 min Scan# 1325
Delta R.T. 0.024 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:100 Resp: 2302

Ion	Ratio	Lower	Upper
100	100		
69	276.2	261.2	301.2

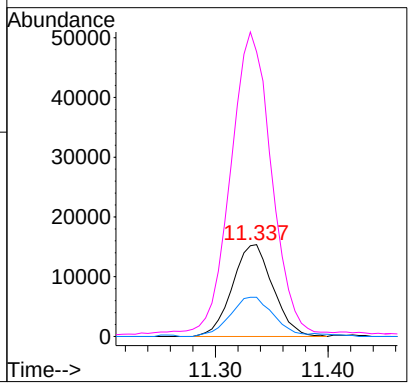


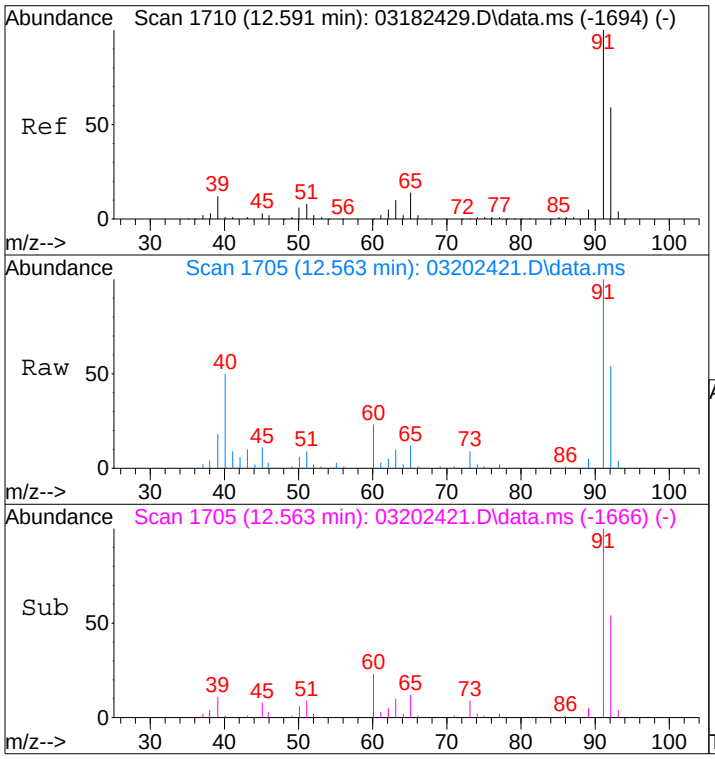


#53
4-Methyl-2-pentanone
Concen: 3.18 ng
RT: 11.34 min Scan# 1489
Delta R.T. 0.041 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 58 Resp: 38450

Ion	Ratio	Lower	Upper
58	100		
85	47.8	34.5	51.7
43	340.4	218.4	327.6#

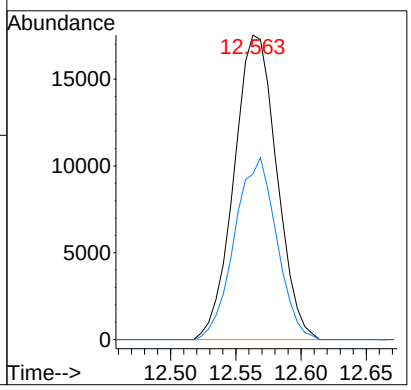


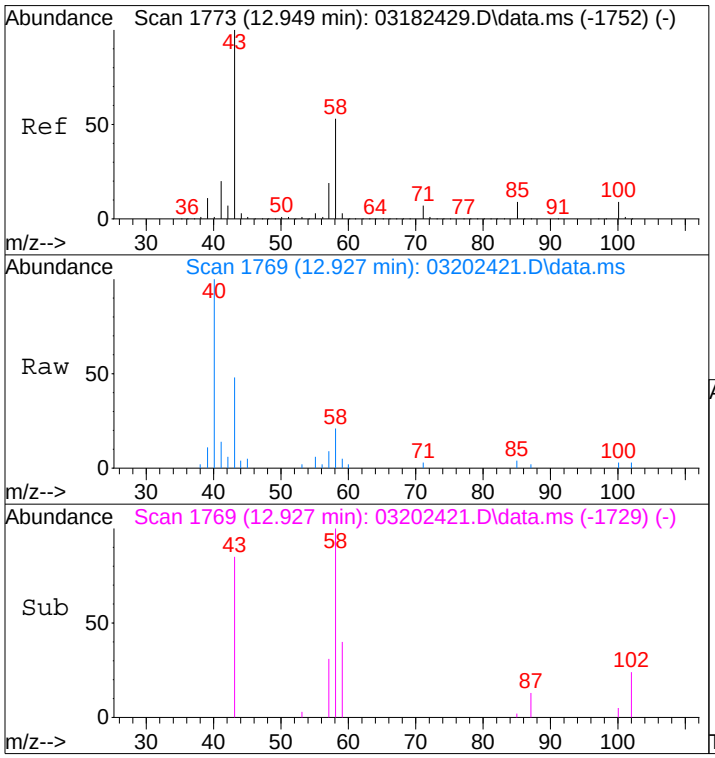


#58
Toluene
Concen: 0.72 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 91 Resp: 39965

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.2	79.2

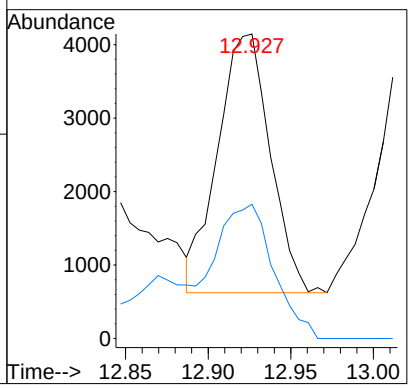


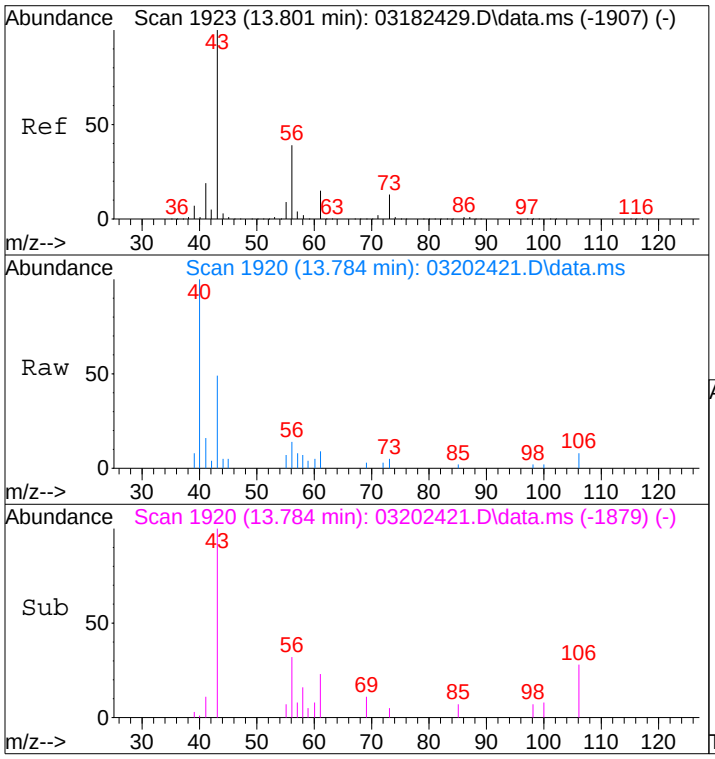


#59
2-Hexanone
Concen: 0.24 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 43 Resp: 7789

Ion	Ratio	Lower	Upper
43	100		
58	56.7	30.2	70.2

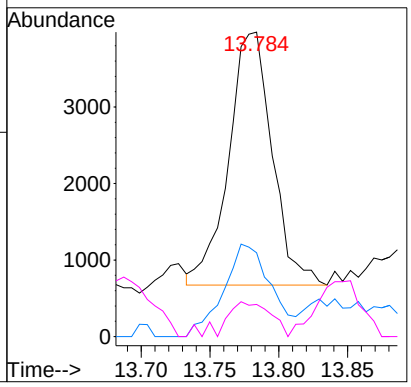


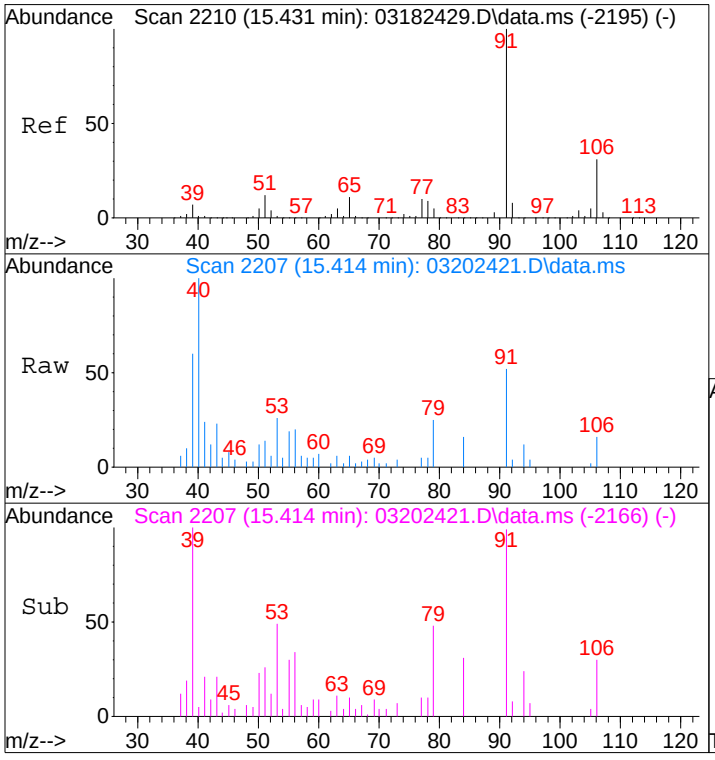


#62
n-Butyl Acetate
Concen: 0.20 ng
RT: 13.78 min Scan# 1920
Delta R.T. -0.017 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 43 Resp: 7293

Ion	Ratio	Lower	Upper
43	100		
56	39.9	16.7	56.7
73	13.7	0.0	31.3

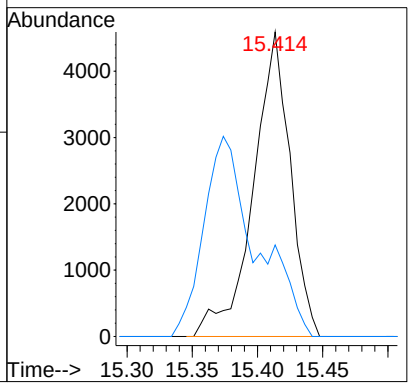


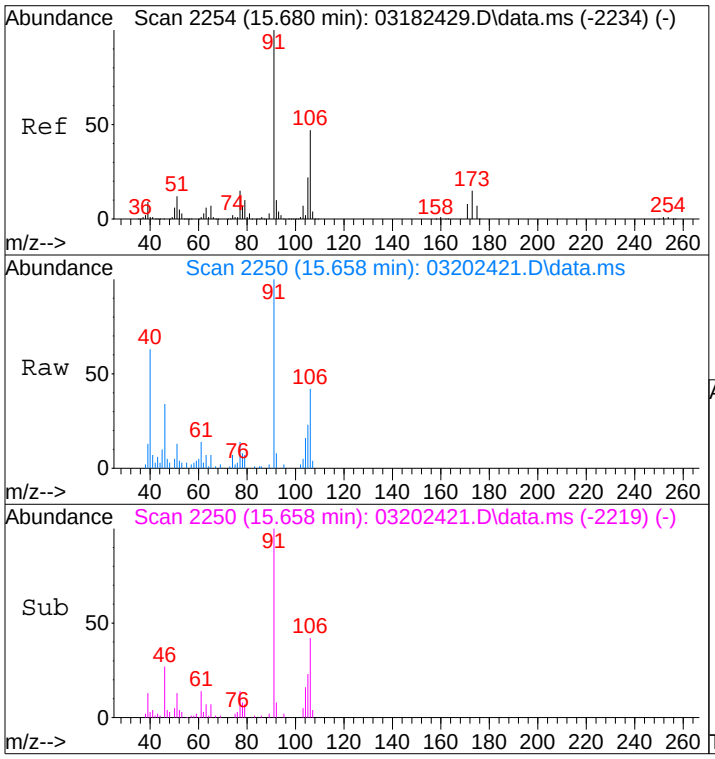


#66
Ethylbenzene
Concen: 0.14 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 91 Resp: 9016

Ion	Ratio	Lower	Upper
91	100		
106	93.2	10.4	50.4#

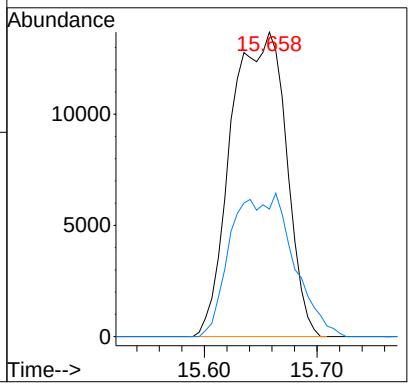


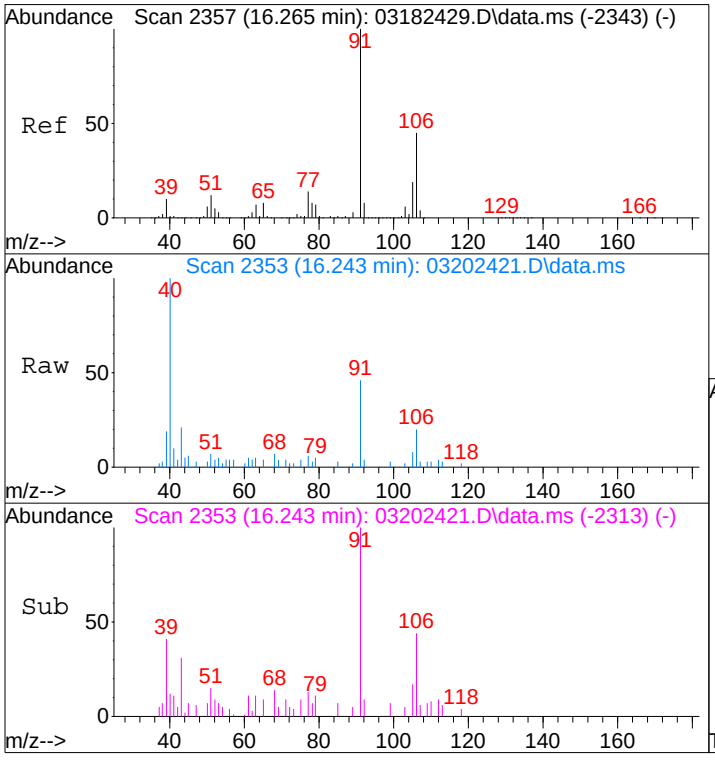


#67
m- & p-Xylenes
Concen: 0.88 ng
RT: 15.66 min Scan# 2250
Delta R.T. -0.023 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 91 Resp: 46444

Ion	Ratio	Lower	Upper
91	100		
106	53.0	25.6	65.6

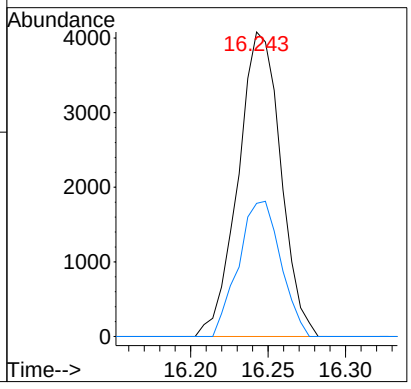


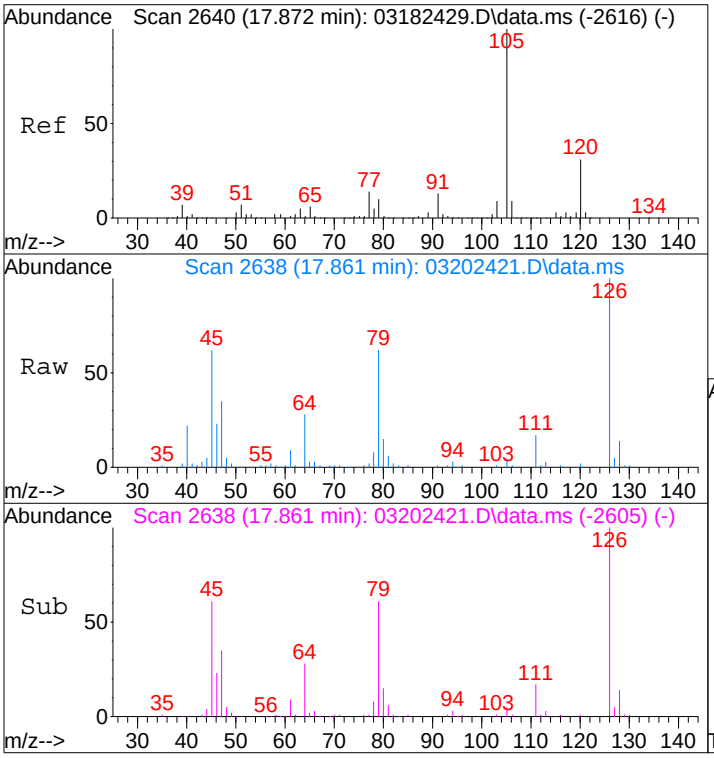


#70
o-Xylene
Concen: 0.15 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion: 91 Resp: 7822

Ion	Ratio	Lower	Upper
91	100		
106	43.9	24.4	64.4

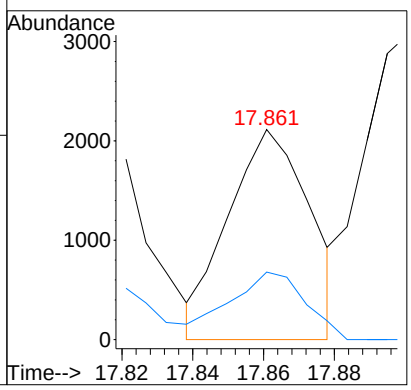


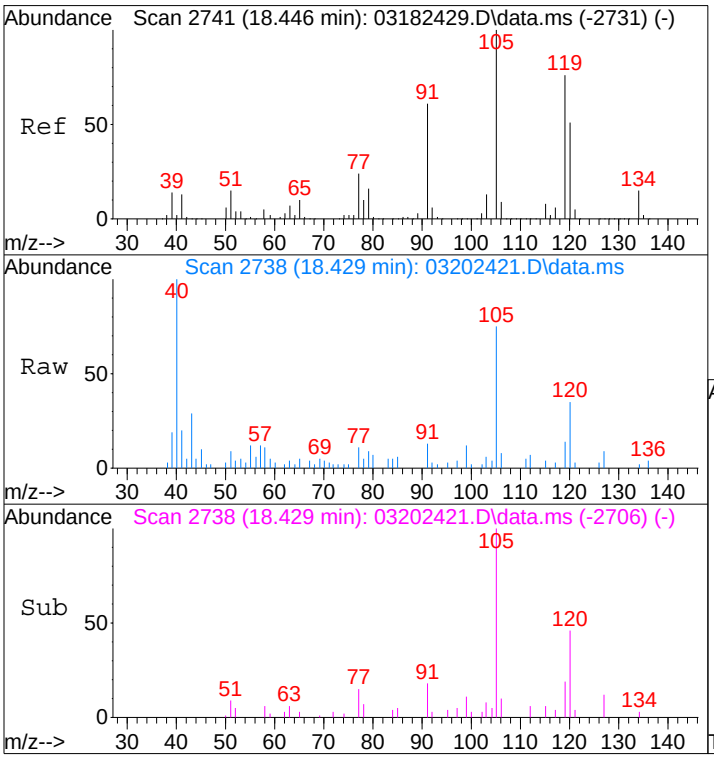


#78
4-Ethyltoluene
Concen: 0.05 ng
RT: 17.86 min Scan# 2638
Delta R.T. -0.011 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:105 Resp: 3374

Ion	Ratio	Lower	Upper
105	100		
120	29.8	9.6	49.6

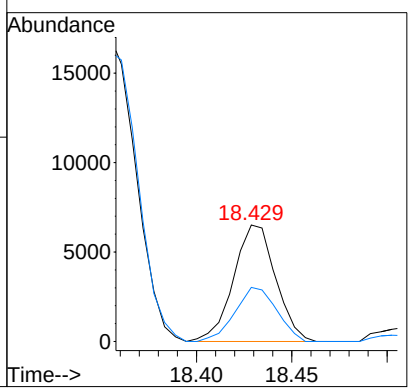


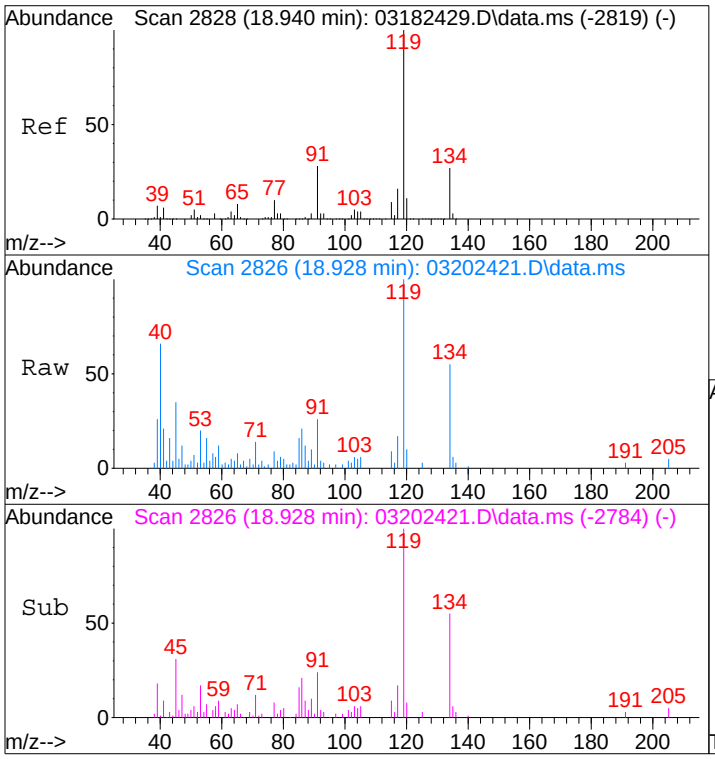


#82
1,2,4-Trimethylbenzene
Concen: 0.18 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:105 Resp: 10029

Ion	Ratio	Lower	Upper
105	100		
120	46.0	31.1	71.1

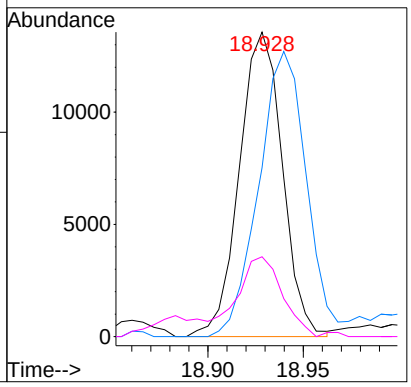


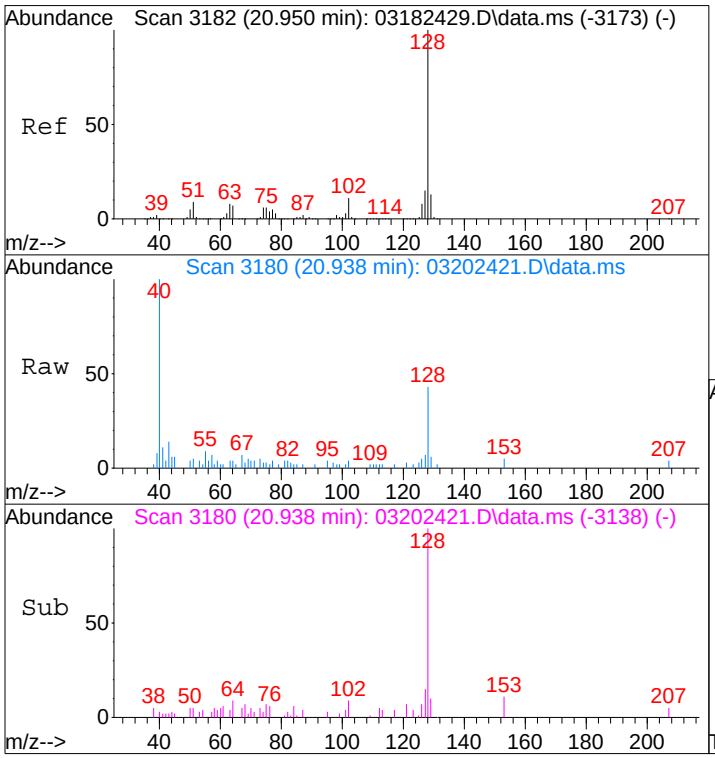


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.35 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.011 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:119 Resp: 21291

Ion	Ratio	Lower	Upper
119	100		
134	104.2	5.0	45.0#
91	27.9	5.8	45.8

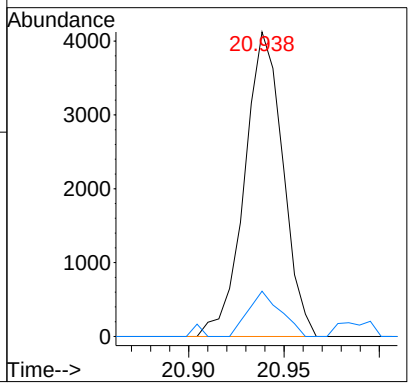




#95
Naphthalene
Concen: 0.42 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.011 min
Lab File: 03202421.D
Acq: 20 Mar 2024 16:26

Tgt Ion:128 Resp: 5771

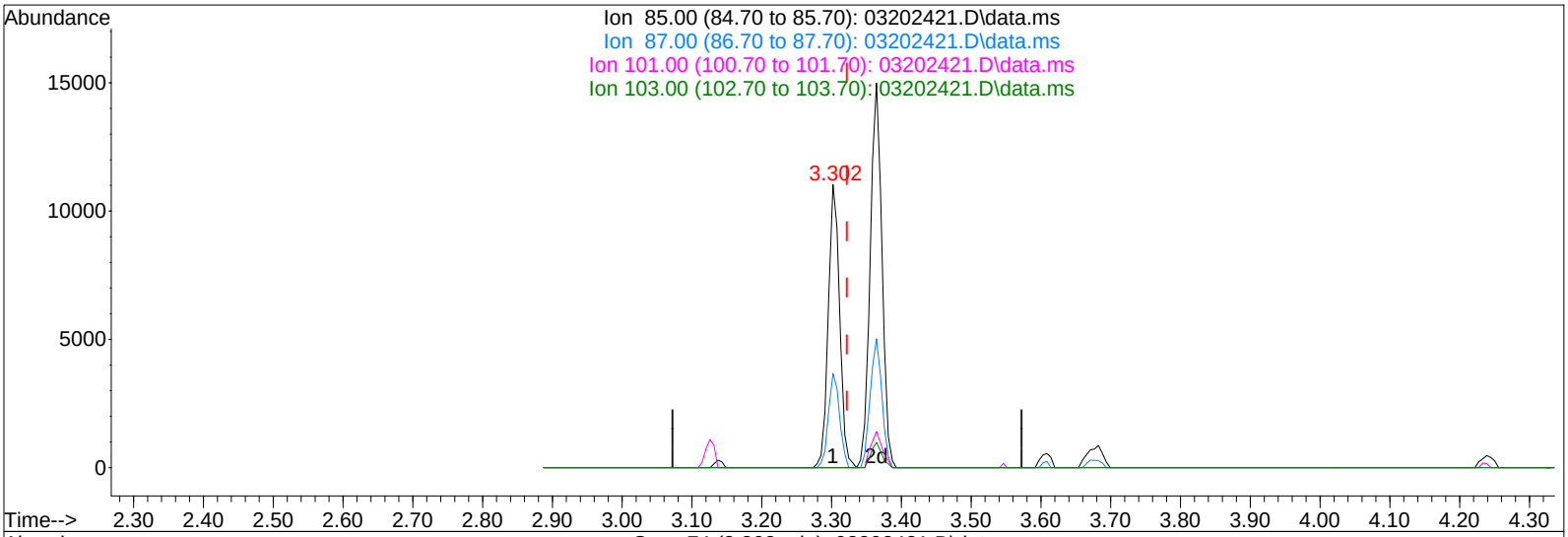
Ion	Ratio	Lower	Upper
128	100		
129	12.6	0.0	31.1

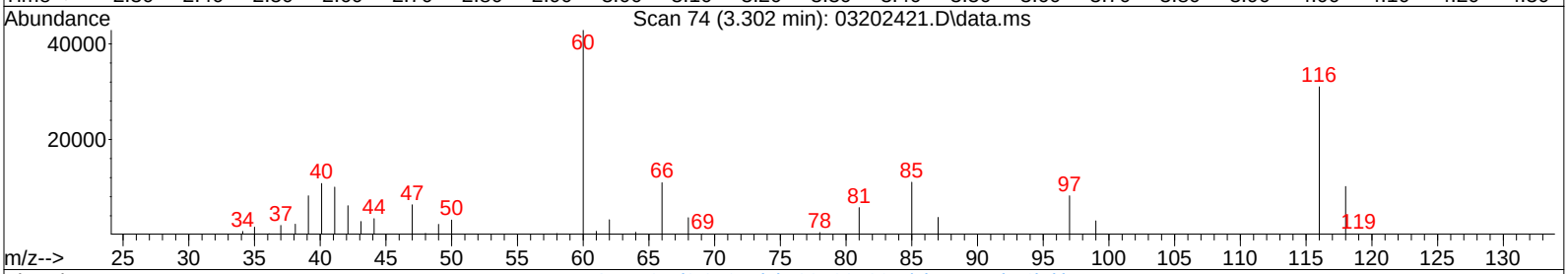


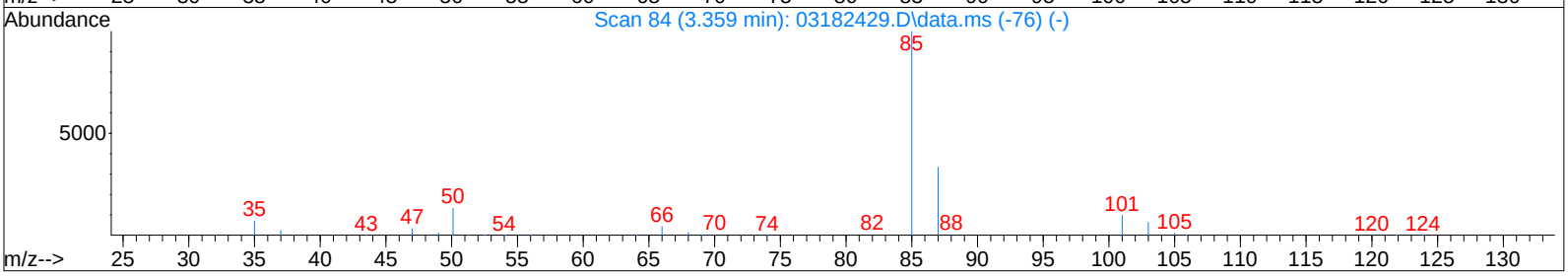
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 17:02:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03202421.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.020) 0.41ng

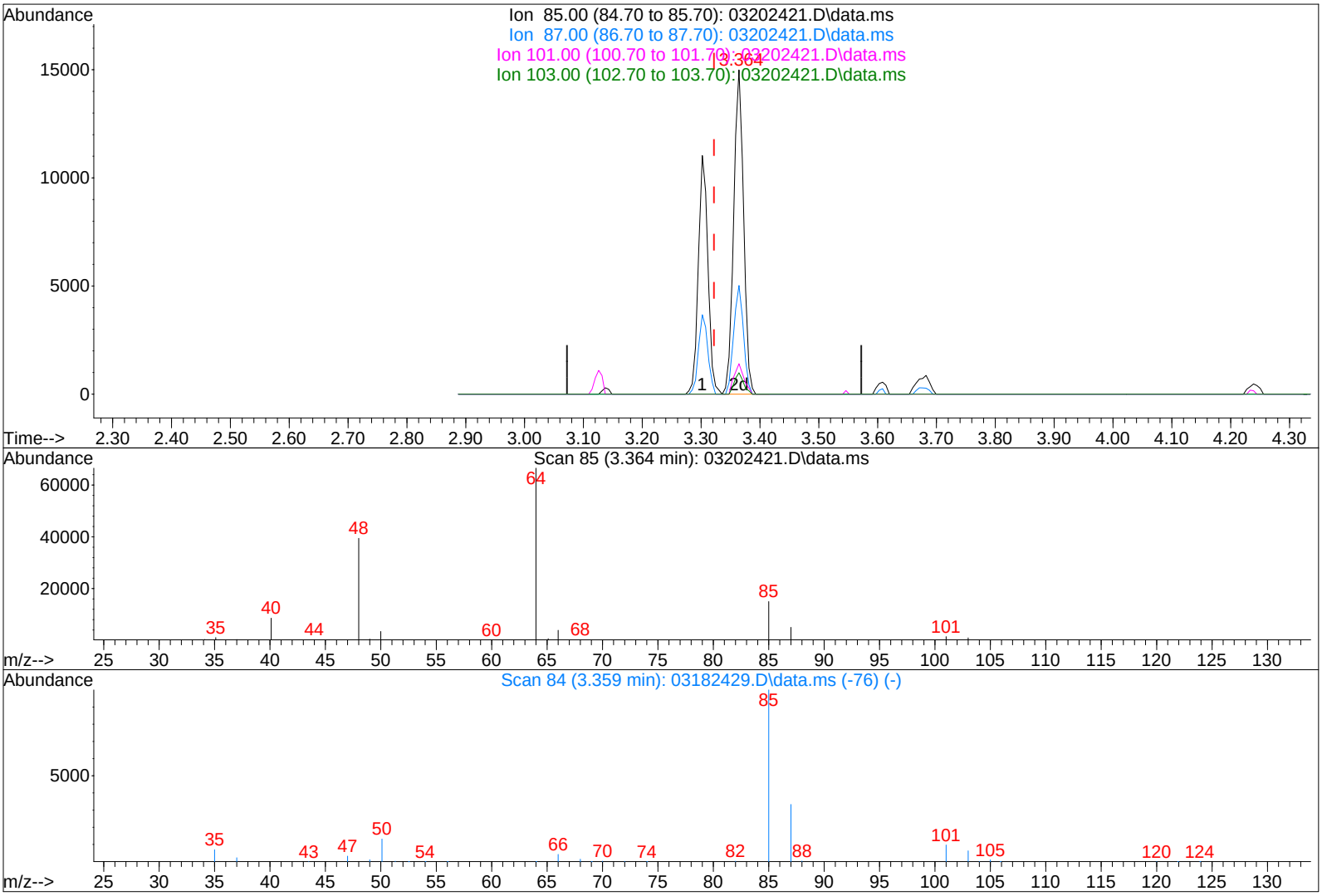
response 12454

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	32.70
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 17:02:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202421.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.59ng m

response 17645

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	23.08
101.00	9.20	0.00
103.00	6.00	0.00

MP 3/25/24

LH 3/25/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:01:19 2024 3/25/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

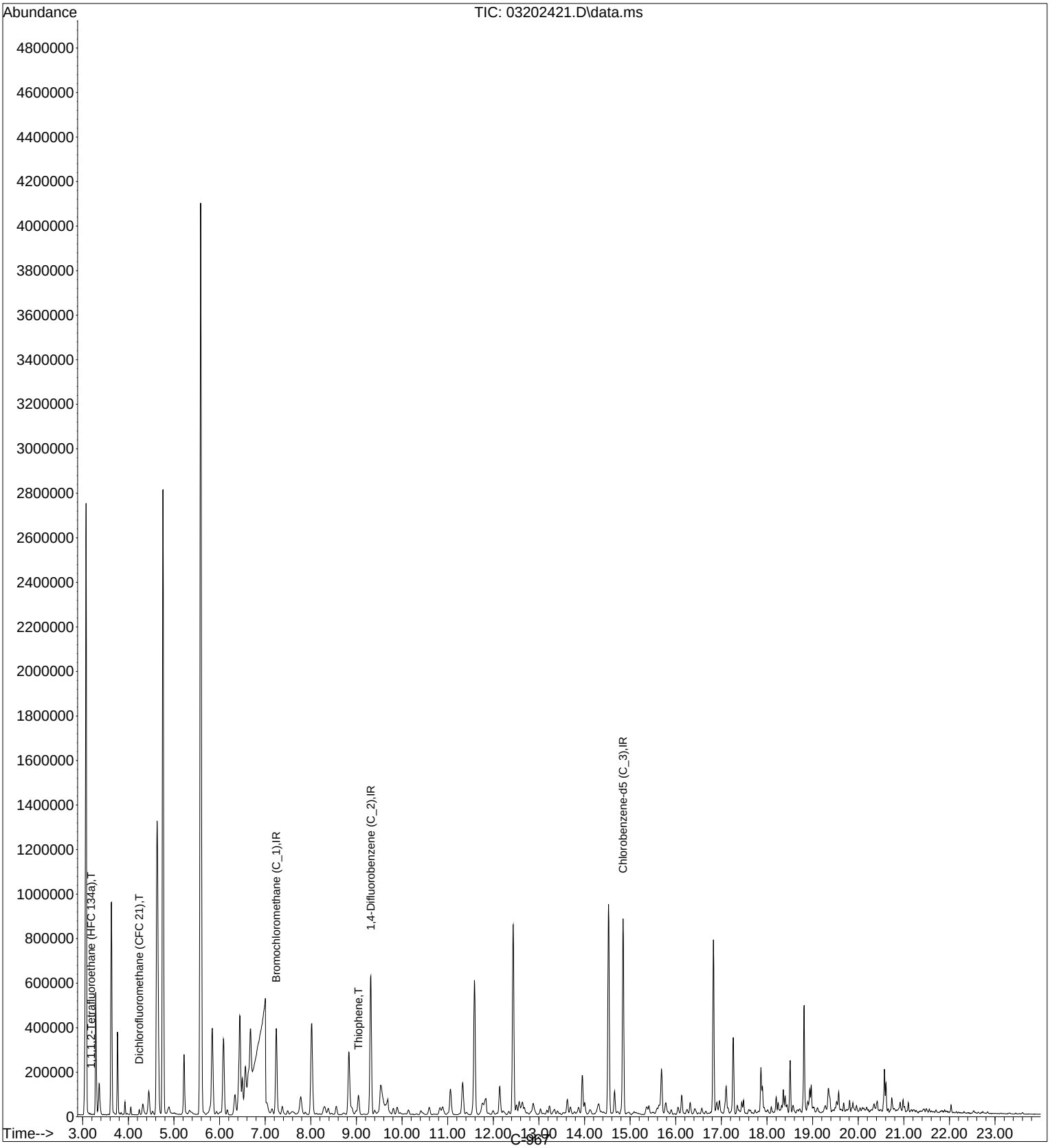
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	146991	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C 2)	9.32	114	626257	12.500	ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	145700	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	228	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1592	0.118	ng	#	42
4) 1,1-Difluoroethane	3.23	65	53	N.D.			
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d		
6) 1-Chloro-1,1-Difluoroe...	3.49	65	421	N.D.			
7) Dichlorofluoromethane ...	4.24	67	18599	0.649	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d		
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	0.00	43	0	N.D.	d		
12) 2-Methylpentane	6.49	71	597	N.D.			
13) 2,2-Dichloropropane	7.36	77	551	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.04	84	66641	2.523	ng		91
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	d		
18) Dibromomethane	9.81	174	60	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.	d		
21) 1,3-Dichloropropane	12.51	76	489	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.40	75	51	N.D.			
25) Bromobenzene	0.00	77	0	N.D.	d		
26) 2-Chlorotoluene	17.61	91	963	N.D.			
27) 4-Chlorotoluene	17.68	91	2872	N.D.			
28) Indane	19.12	117	912	N.D.			
29) Indene	19.21	115	466	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	2106	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	2106	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	3052	N.D.			
33) 1,2,3-Trichlorobenzene	21.10	180	64	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

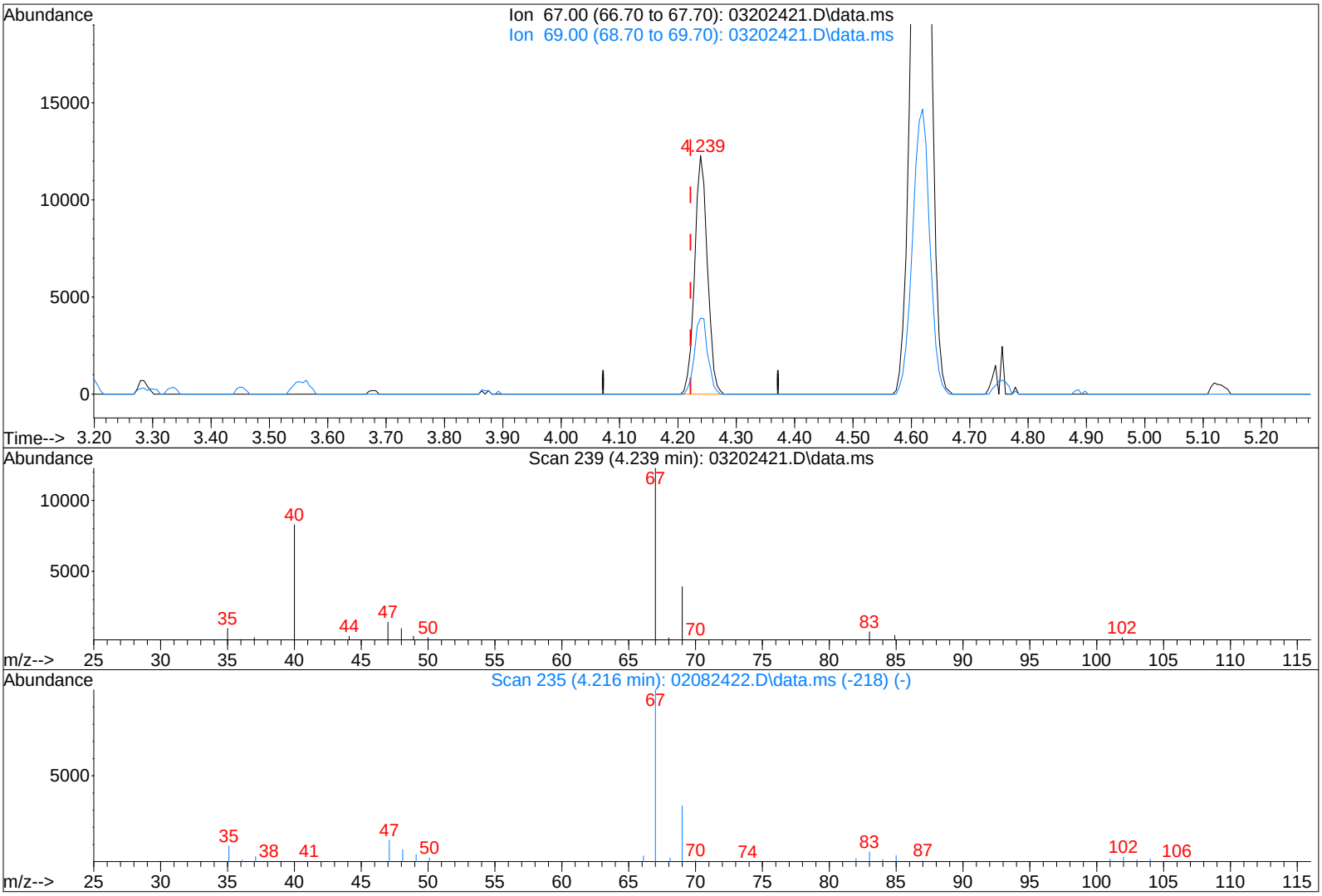
Quant Time: Mar 25 14:01:19 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202421.D Vial: 9
Acq On : 20 Mar 2024 16:26 Operator: SC
Sample : P2400922-023 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:48:31 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202421.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.239min (+0.017) 0.65ng

response 18599

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	33.30
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202424.D Vial: 9
Acq On : 20 Mar 2024 18:20 Operator: SC
Sample : P2400922-023Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	148739	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	630343	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	143012	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	306519	12.597	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	12.43	98	718957	12.521	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	16.83	174	252673	12.481	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.32	85	1043	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	367	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.41	45	198	N.D.			
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	1048	0.102	ng		98
13) Acetone	4.62	58	56094	5.128	ng	#	76
14) Trichlorofluoromethane	4.75	101	195078	6.607	ng		99
15) 2-Propanol (Isopropanol)	4.93	45	61	N.D.			
16) Acrylonitrile	4.98	53	798	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.34	84	673	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	100704	8.091	ng		99
22) Carbon Disulfide	5.59	76	79002	1.594	ng		90
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	6.42	86	6258	2.571	ng	#	11
27) 2-Butanone (MEK)	6.67	72	6594	0.737	ng	#	53
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D. d			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.36	83	174	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	412	No Calib		#	
40) 1-Butanol	8.80	56	12081	No Calib		#	
41) Benzene	8.89	78	2333	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	298	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	181	N.D.			
47) Trichloroethene	10.14	130	172	N.D.			
48) 1,4-Dioxane	10.13	88	573	0.058	ng	#	62
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202424.D Vial: 9
Acq On : 20 Mar 2024 18:20 Operator: SC
Sample : P2400922-023Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

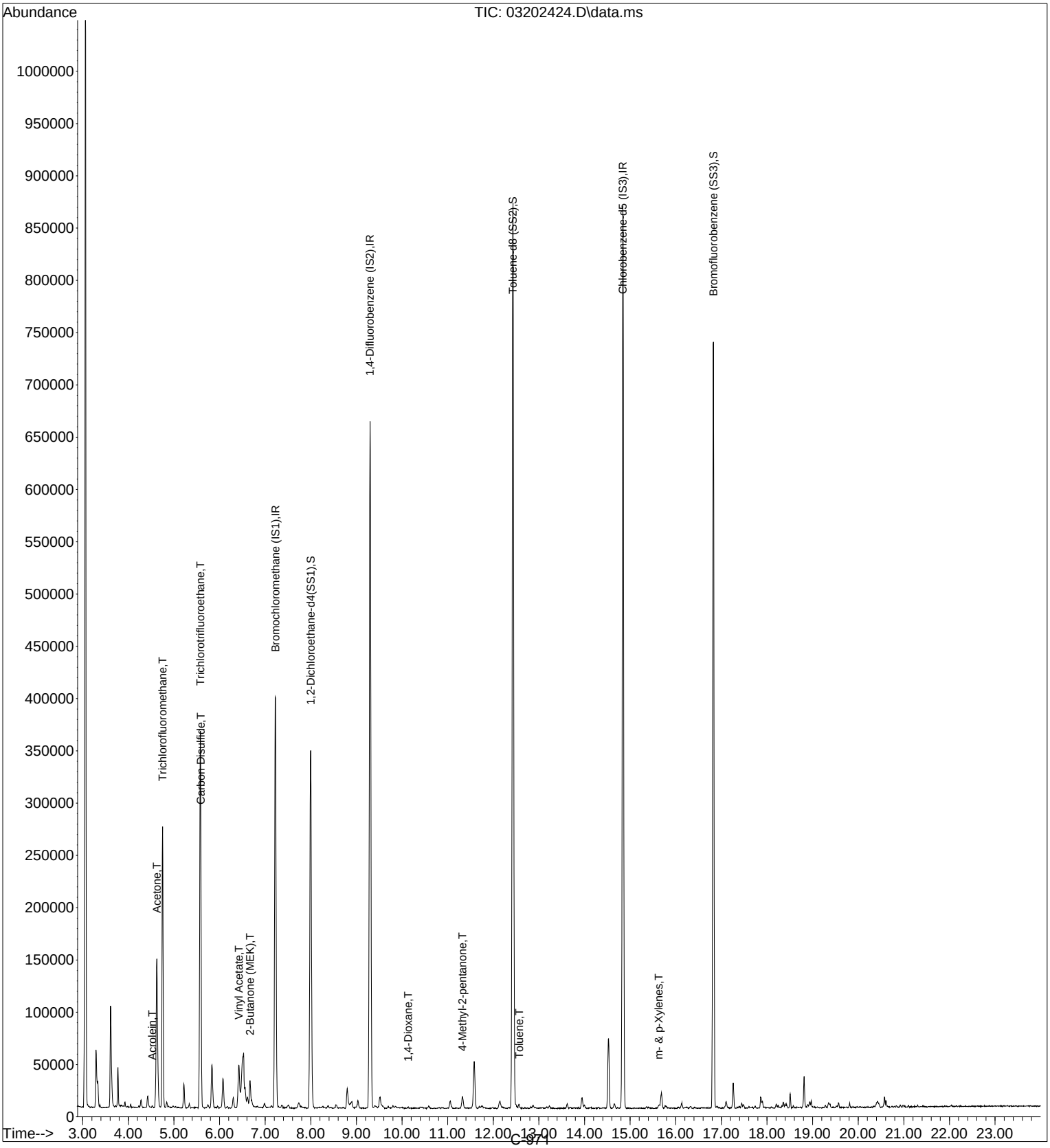
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	3005	0.247 ng #	62
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.57	91	3956	0.072 ng	95
59) 2-Hexanone	12.93	43	889	N.D.	
60) Dibromochloromethane	13.07	129	356	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	752	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.02	166	121	N.D.	
65) Chlorobenzene	14.90	112	557	N.D.	
66) Ethylbenzene	15.41	91	1240	N.D.	
67) m- & p-Xylenes	15.63	91	4792	0.092 ng	72
68) Bromoform	15.67	173	429	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	1096	N.D.	
71) n-Nonane	16.62	43	351	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	351	N.D.	
74) Cumene	17.03	105	682	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1019	N.D.	
77) 3-Ethyltoluene	17.03	105	682	No Calib #	
78) 4-Ethyltoluene	17.86	105	701	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	380	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	682	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	1236	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	446	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	601	N.D.	
87) sec-Butylbenzene	18.74	105	833	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	2141	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	682	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	341	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.90	58	298	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	645	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	546	N.D.	
98) Cyclohexanone	15.36	55	246	No Calib #	
99) tert-Butylbenzene	18.42	119	773	N.D.	
100) n-Butylbenzene	19.39	91	569	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202424.D Vial: 9
Acq On : 20 Mar 2024 18:20 Operator: SC
Sample : P2400922-023Dil (40mL) Inst : MS09
Misc : S37-02202408

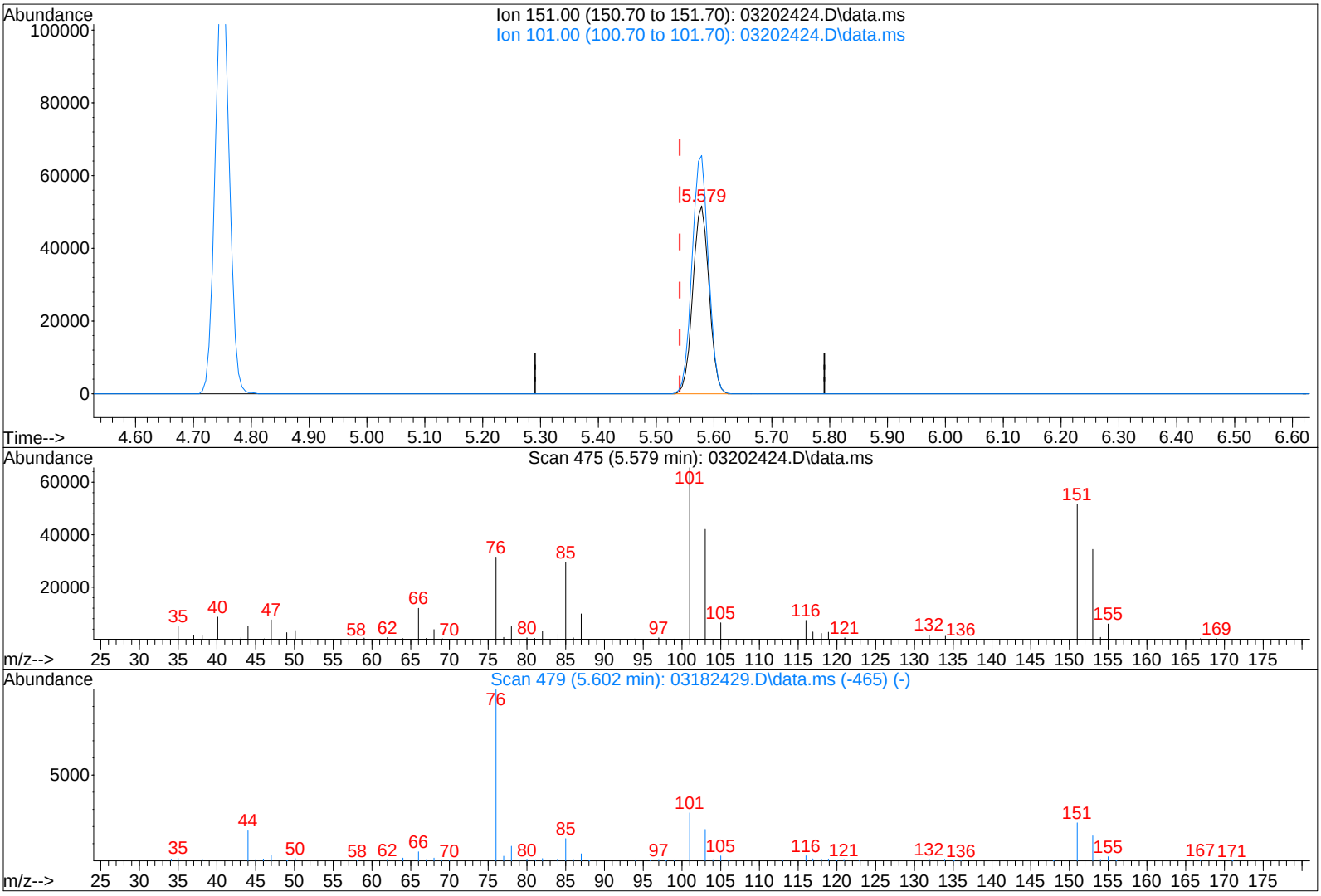
Quant Time: Mar 25 10:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202424.D Vial: 9
Acq On : 20 Mar 2024 18:20 Operator: SC
Sample : P2400922-023Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:23:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202424.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.038) 8.09ng

response 100704

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	128.09
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202421.D
Acq On : 20 Mar 2024 16:26
Operator : SC
Sample : P2400922-023 (400mL)
Misc : S37-02202408
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202421.D\data.ms

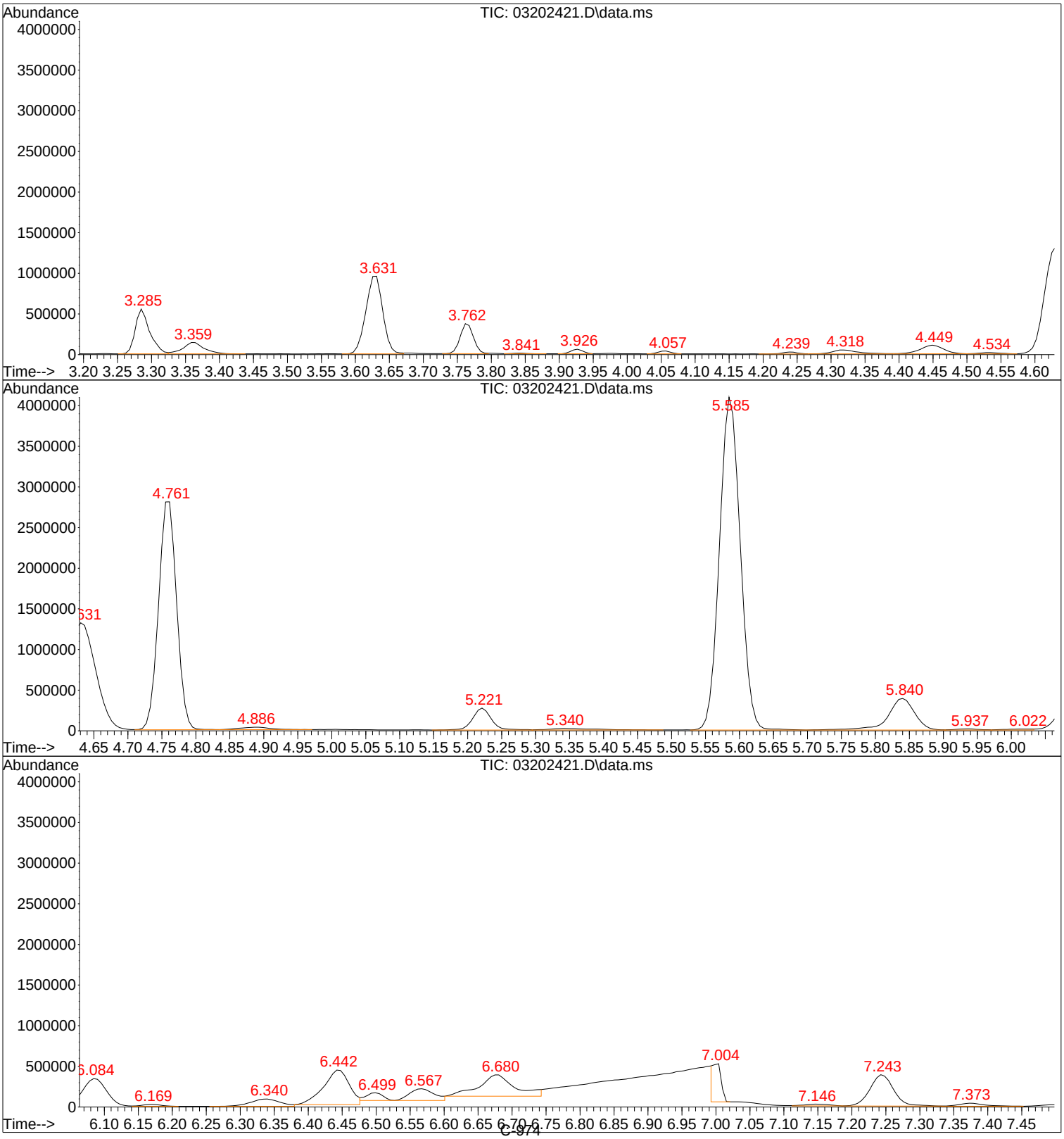
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.285	65	71	78	rBV	550751	816513	9.38%	2.879%
2	3.359	78	84	98	rVB2	140998	303899	3.49%	1.071%
3	3.631	123	132	139	rBV	954583	1664007	19.12%	5.867%
4	3.762	149	155	161	rBV	369359	503876	5.79%	1.776%
5	3.841	165	169	176	rVB	8106	10978	0.13%	0.039%
6	3.926	179	184	188	rBV	56120	69343	0.80%	0.244%
7	4.057	202	207	211	rVB	34603	47122	0.54%	0.166%
8	4.239	231	239	244	rBV	23198	35792	0.41%	0.126%
9	4.318	244	253	266	rVV	47905	123248	1.42%	0.435%
10	4.449	266	276	285	rVV	105173	250444	2.88%	0.883%
11	4.534	285	291	298	rVB	14534	30928	0.36%	0.109%
12	4.631	298	308	322	rBV	1319119	3518831	40.43%	12.406%
13	4.761	322	331	344	rVV	2802502	5194132	59.68%	18.312%
14	4.886	344	353	368	rVB2	29569	93408	1.07%	0.329%
15	5.221	399	412	425	rBV	269960	514085	5.91%	1.812%
16	5.340	425	433	459	rVB4	18783	85320	0.98%	0.301%
17	5.585	466	476	496	rVB2	4093545	8703099	100.00%	30.683%
18	5.840	496	521	532	rVV2	388345	1059932	12.18%	3.737%
19	5.937	532	538	544	rVV2	14192	33556	0.39%	0.118%
20	6.022	544	553	555	rVV6	12080	34698	0.40%	0.122%
21	6.084	555	564	574	rVV	339753	848115	9.74%	2.990%
22	6.169	574	579	586	rVB2	22623	44137	0.51%	0.156%
23	6.340	594	609	616	rBV	90469	277982	3.19%	0.980%
24	6.442	616	627	633	rBV	425155	1139663	13.09%	4.018%
25	6.499	633	637	642	rVB	94359	156778	1.80%	0.553%
26	6.567	642	649	655	rBV	145399	373801	4.30%	1.318%
27	6.680	655	669	680	rBV	261838	983440	11.30%	3.467%
28	7.004	724	726	729	rVB2	469018	370071	4.25%	1.305%
29	7.146	745	751	758	rVB5	21255	52804	0.61%	0.186%
30	7.243	758	768	784	rVV	385077	932941	10.72%	3.289%
31	7.373	784	791	805	rVB2	36311	91313	1.05%	0.322%

Sum of corrected areas: 28364256

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202421.D
Acq On : 20 Mar 2024 16:26
Operator : SC
Sample : P2400922-023 (400mL)
Misc : S37-02202408
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202421.D
Acq On : 20 Mar 2024 16:266
Operator : SCC
Sample : P2400922-023 (400mL))
Misc : S37-022024088
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 10:46:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	148795	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	639315	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	143872	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	308498	12.673	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	722025	12.499	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	16.83	174	255086	12.525	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	4179	0.137	ng		98
4) Chloromethane	3.52	50	1196	0.053	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	21565	1.500	ng		82
11) Acetonitrile	4.43	41	560	N.D.			
12) Acrolein	4.53	56	437	N.D.			
13) Acetone	4.62	58	18795	1.717	ng	#	54
14) Trichlorofluoromethane	4.75	101	1947575	65.932	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	37531	0.861	ng		99
16) Acrylonitrile	5.04	53	839	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	306	N.D.			
19) Methylene Chloride	5.34	84	2350	0.148	ng		95
20) 3-Chloro-1-propene (Al...	5.34	41	107	N.D.			
21) Trichlorotrifluoroethane	5.58	151	132615	10.651	ng		99
22) Carbon Disulfide	5.60	76	3742	0.075	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	2160	0.241	ng	#	81
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	65302	12.163	ng		93
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	7.37	83	461	N.D.			
34) Tetrahydrofuran (THF)	7.77	72	176	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	223	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	1052	No Calib		#	
41) Benzene	8.90	78	5568	0.097	ng		98
42) Carbon Tetrachloride	9.07	117	193	N.D.			
43) Cyclohexane	9.22	84	1456	0.080	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	2242	0.160	ng		98
46) Bromodichloromethane	10.08	83	203	N.D.			
47) Trichloroethene	10.14	130	461	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	689	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:46:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

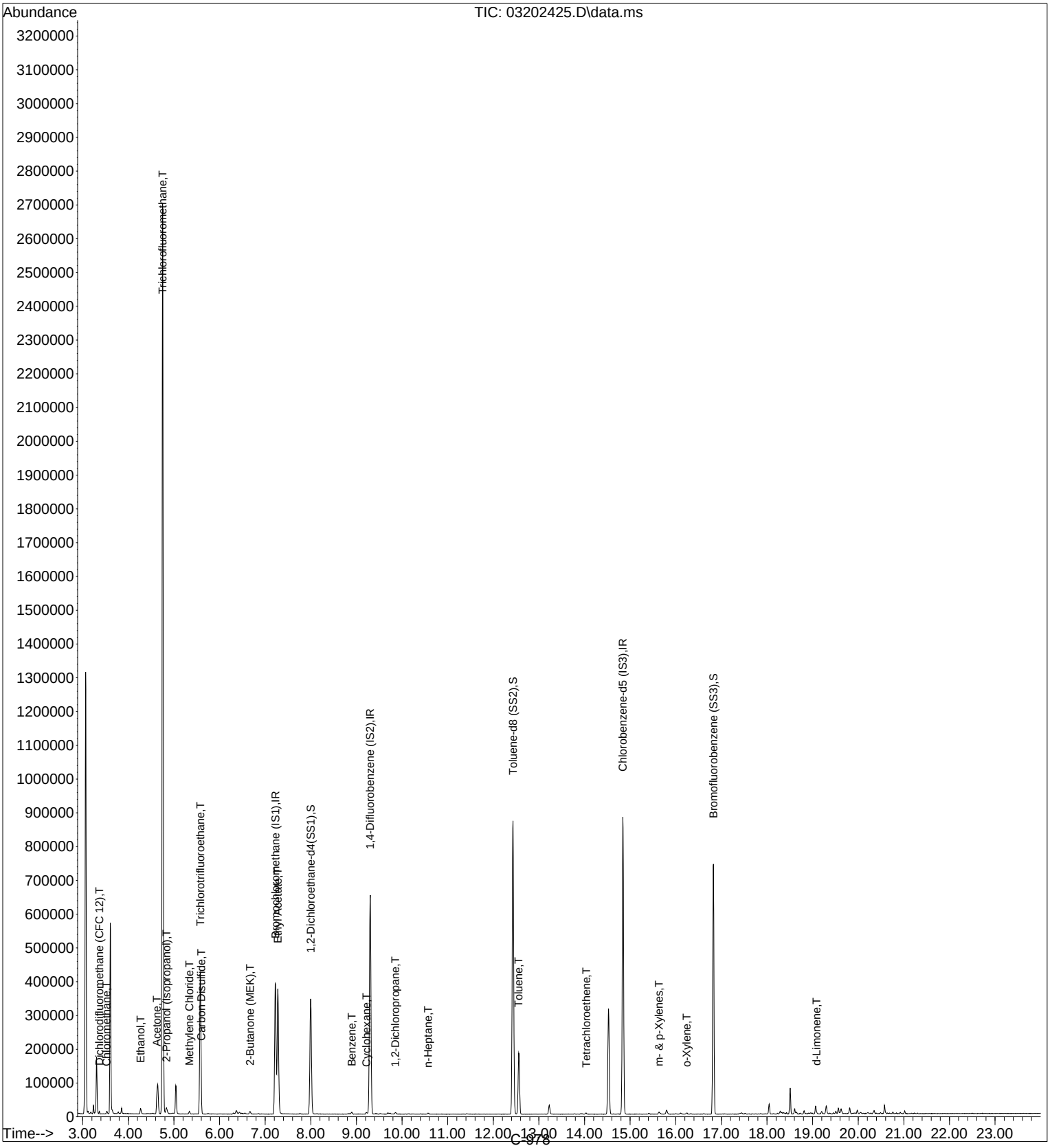
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	714	0.058 ng	#	89
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	162524	2.948 ng		99
59) 2-Hexanone	12.93	43	616	N.D.		
60) Dibromochloromethane	13.07	129	336	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	1054	N.D.		
63) n-Octane	13.93	57	248	N.D.		
64) Tetrachloroethene	14.04	166	1452	0.086 ng		92
65) Chlorobenzene	14.90	112	524	N.D.		
66) Ethylbenzene	15.41	91	3037	N.D.		
67) m- & p-Xylenes	15.63	91	6755	0.129 ng		98
68) Bromoform	15.67	173	340	N.D.		
69) Styrene	16.09	104	1201	N.D.		
70) o-Xylene	16.24	91	3014	0.058 ng		93
71) n-Nonane	16.61	43	684	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	284	N.D.		
74) Cumene	17.03	105	716	N.D.		
75) alpha-Pinene	17.53	93	1449	N.D.		
76) n-Propylbenzene	17.67	91	1193	N.D.		
77) 3-Ethyltoluene	17.03	105	716	No Calib	#	
78) 4-Ethyltoluene	17.86	105	795	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	465	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	716	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1537	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	532	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	494	N.D.		
87) sec-Butylbenzene	18.74	105	918	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	800	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	716	No Calib	#	
90) 1,2-Dichlorobenzene	19.02	146	398	N.D.		
91) d-Limonene	19.09	68	1253	0.065 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	645	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	514	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	884	N.D.		
100) n-Butylbenzene	19.39	91	698	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:46:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:46:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

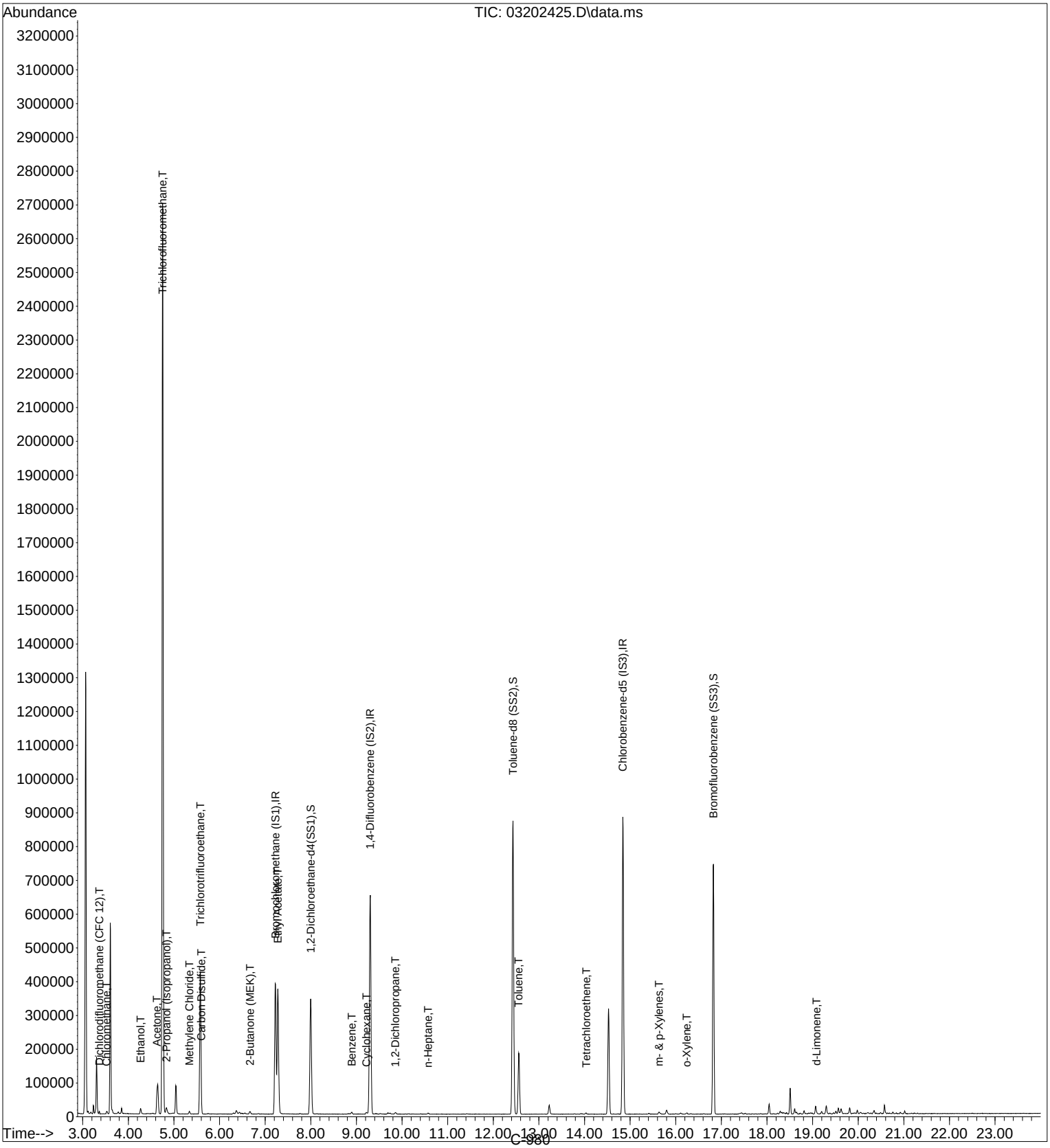
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	148795	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	639315	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	143872	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	308498	12.673	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	722025	12.499	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	16.83	174	255086	12.525	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	4179	0.137	ng		98
4) Chloromethane	3.52	50	1196	0.053	ng		98
10) Ethanol	4.27	45	21565	1.500	ng		82
13) Acetone	4.62	58	18795	1.717	ng	#	54
14) Trichlorofluoromethane	4.75	101	1947575	65.932	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	37531	0.861	ng		99
19) Methylene Chloride	5.34	84	2350	0.148	ng		95
21) Trichlorotrifluoroethane	5.58	151	132615	10.651	ng		99
22) Carbon Disulfide	5.60	76	3742	0.075	ng	#	1
27) 2-Butanone (MEK)	6.67	72	2160	0.241	ng	#	81
30) Ethyl Acetate	7.28	61	65302	12.163	ng		93
41) Benzene	8.90	78	5568	0.097	ng		98
43) Cyclohexane	9.22	84	1456	0.080	ng		93
45) 1,2-Dichloropropane	9.85	63	2242	0.160	ng		98
51) n-Heptane	10.57	71	714	0.058	ng	#	89
58) Toluene	12.56	91	162524	2.948	ng		99
64) Tetrachloroethene	14.04	166	1452	0.086	ng		92
67) m- & p-Xylenes	15.63	91	6755	0.129	ng		98
70) o-Xylene	16.24	91	3014	0.058	ng		93
91) d-Limonene	19.09	68	1253	0.065	ng		99

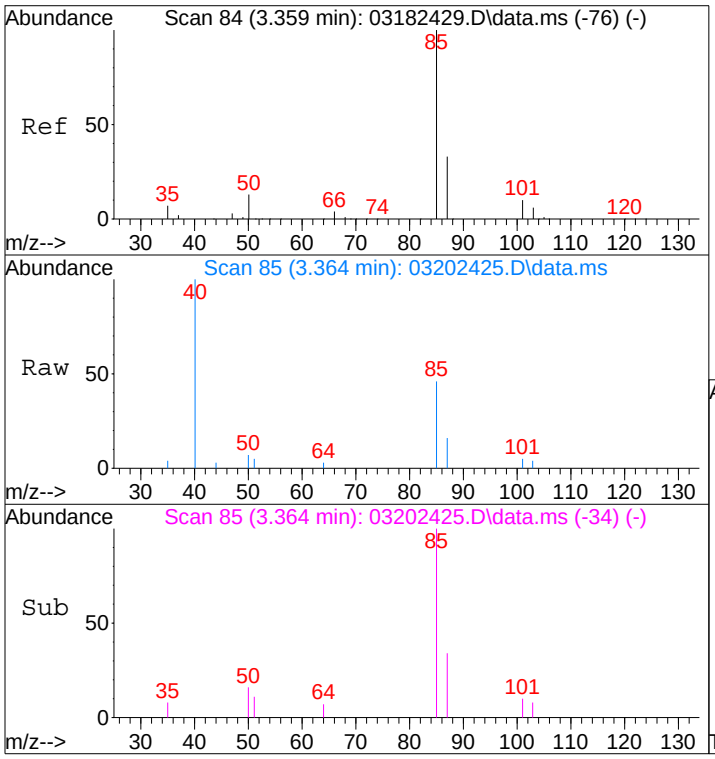
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:46:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

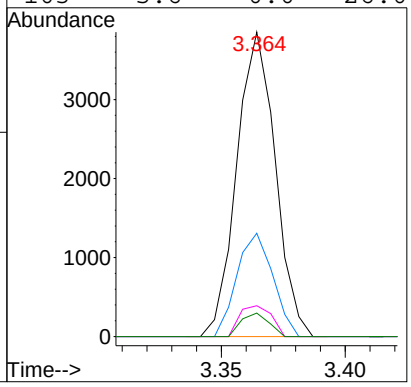


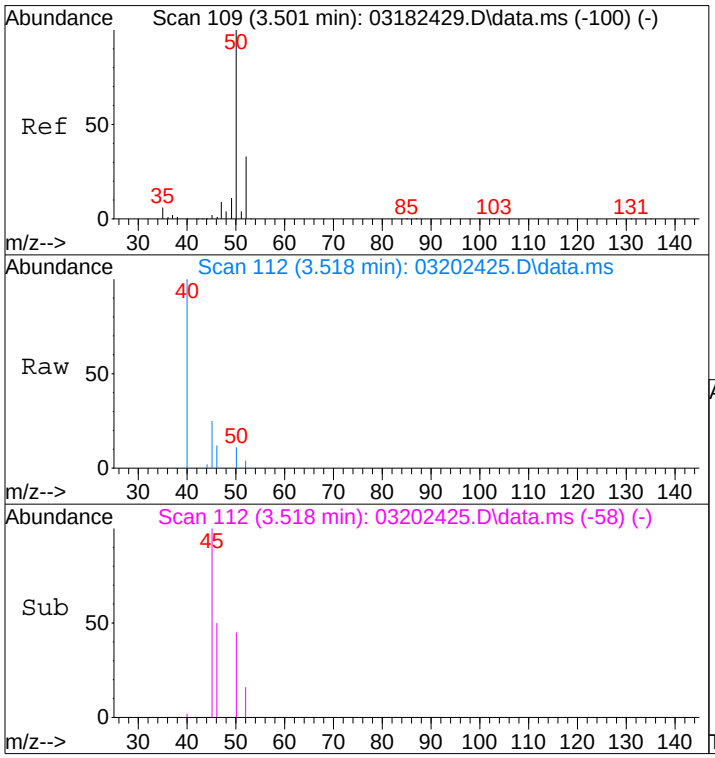


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.14 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 85 Resp: 4179

Ion	Ratio	Lower	Upper
85	100		
87	31.7	12.5	52.5
101	8.4	0.0	29.2
103	5.6	0.0	26.0

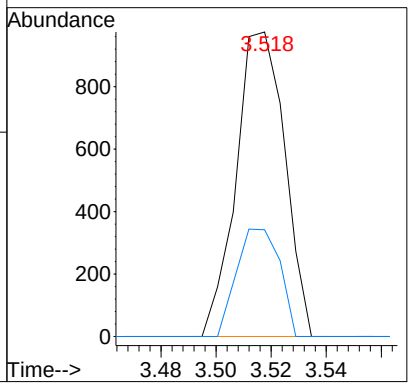


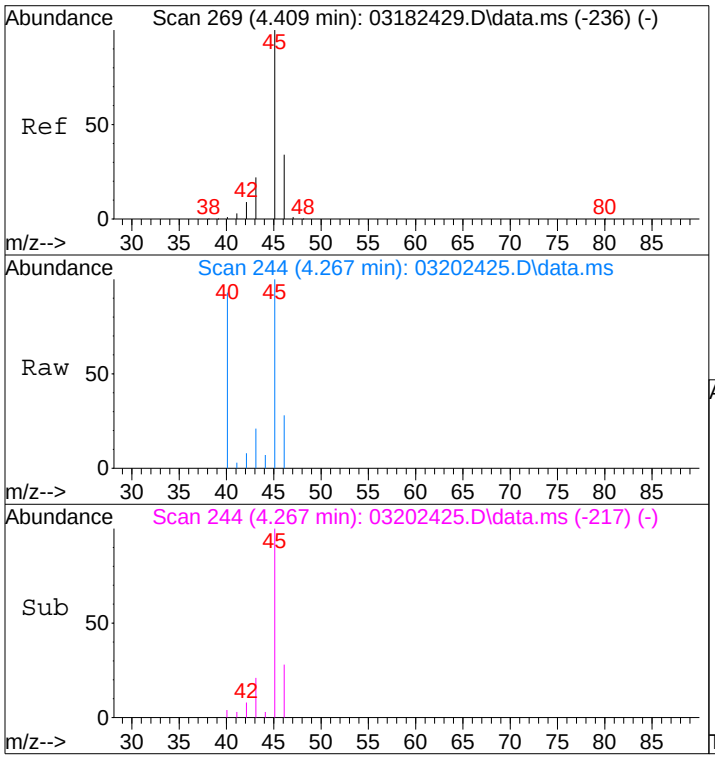


#4
Chloromethane
Concen: 0.05 ng
RT: 3.52 min Scan# 112
Delta R.T. 0.055 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 50 Resp: 1196

Ion	Ratio	Lower	Upper
50	100		
52	31.4	12.3	52.3

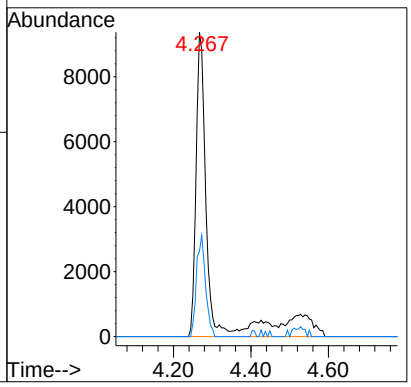


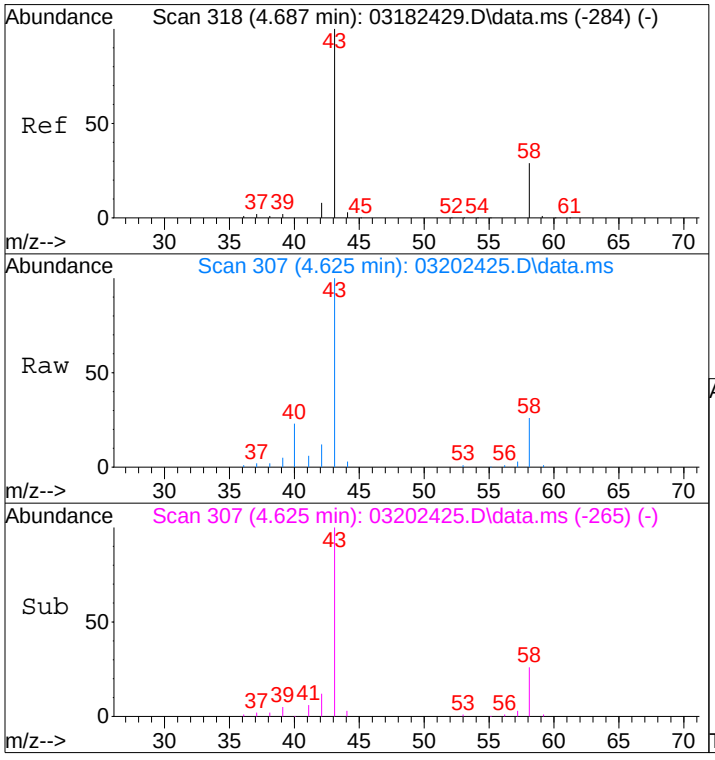


#10
Ethanol
Concen: 1.50 ng
RT: 4.27 min Scan# 244
Delta R.T. -0.094 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 45 Resp: 21565

Ion	Ratio	Lower	Upper
45	100		
46	23.3	13.3	53.3

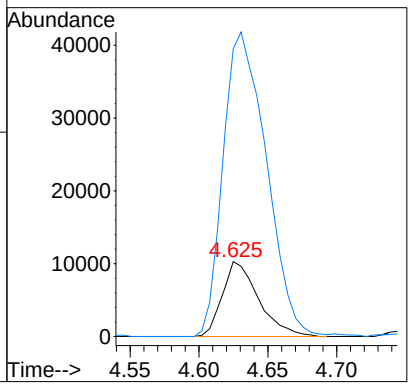


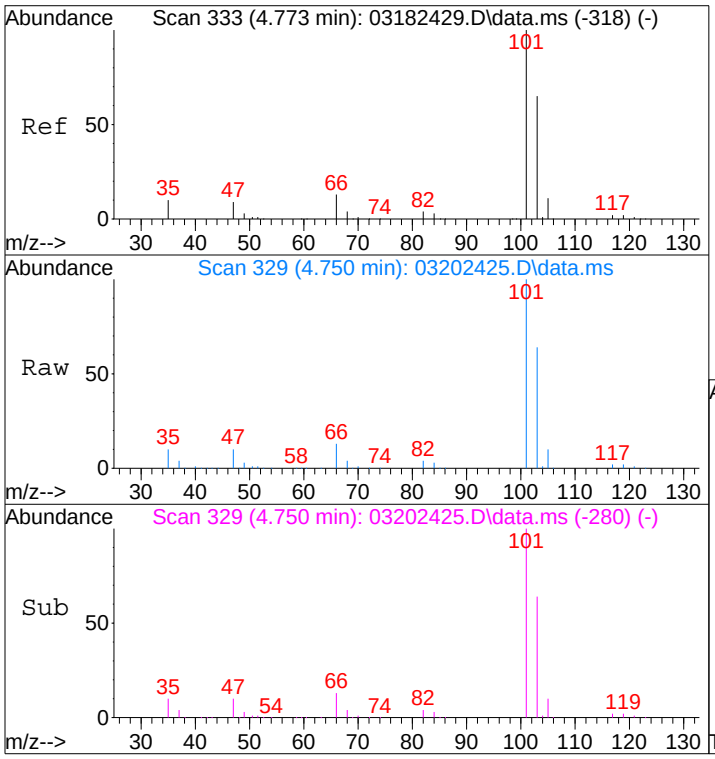


#13
Acetone
Concen: 1.72 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.012 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 58 Resp: 18795

Ion	Ratio	Lower	Upper
58	100		
43	486.4	350.1	410.1#

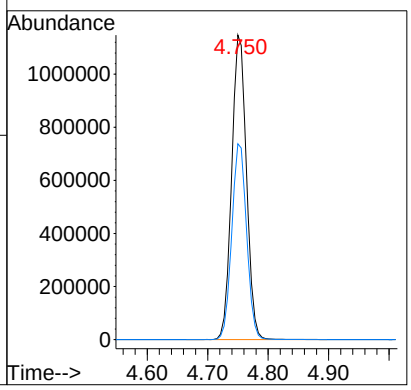


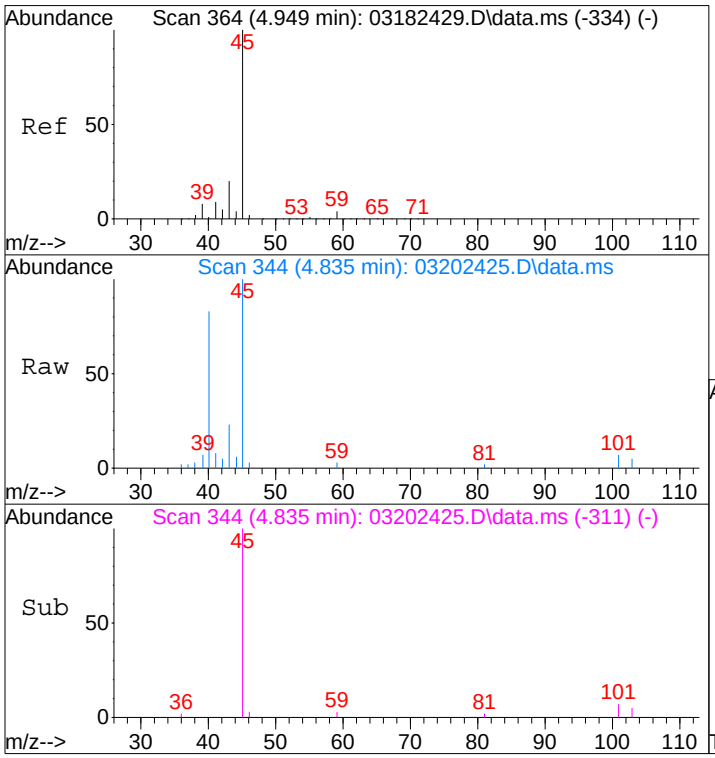


#14
Trichlorofluoromethane
Concen: 65.93 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion:101 Resp: 1947575

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

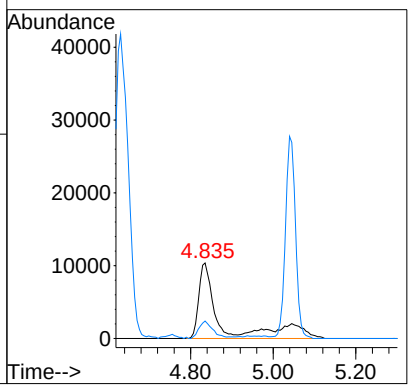


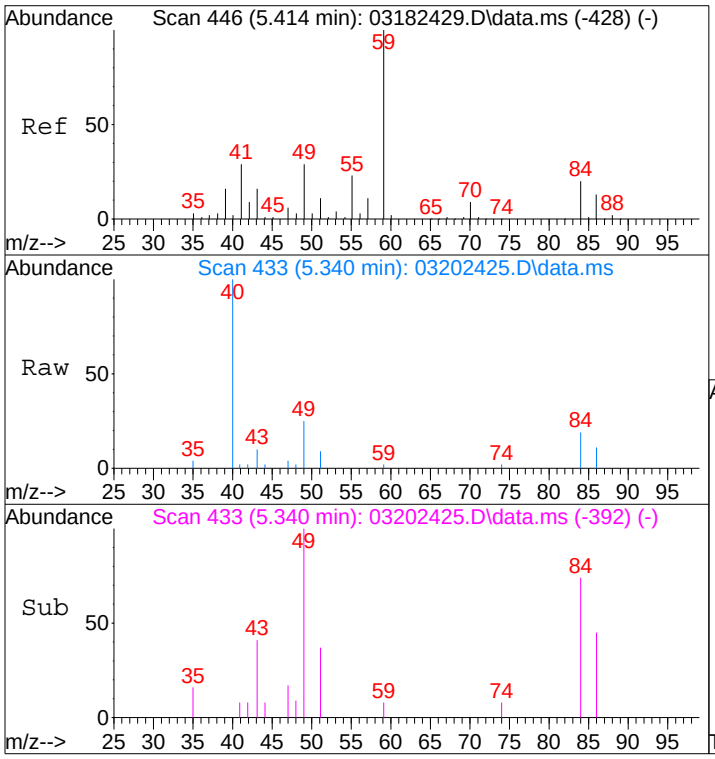


#15
2-Propanol (Isopropanol)
Concen: 0.86 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.060 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 45 Resp: 37531

Ion	Ratio	Lower	Upper
45	100		
43	19.8	0.4	40.4

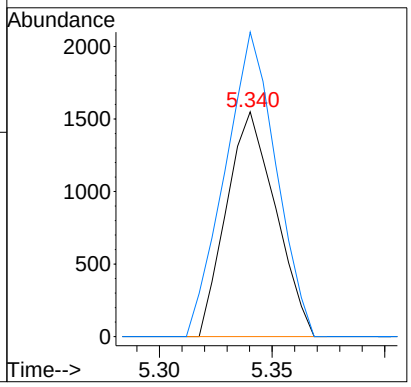


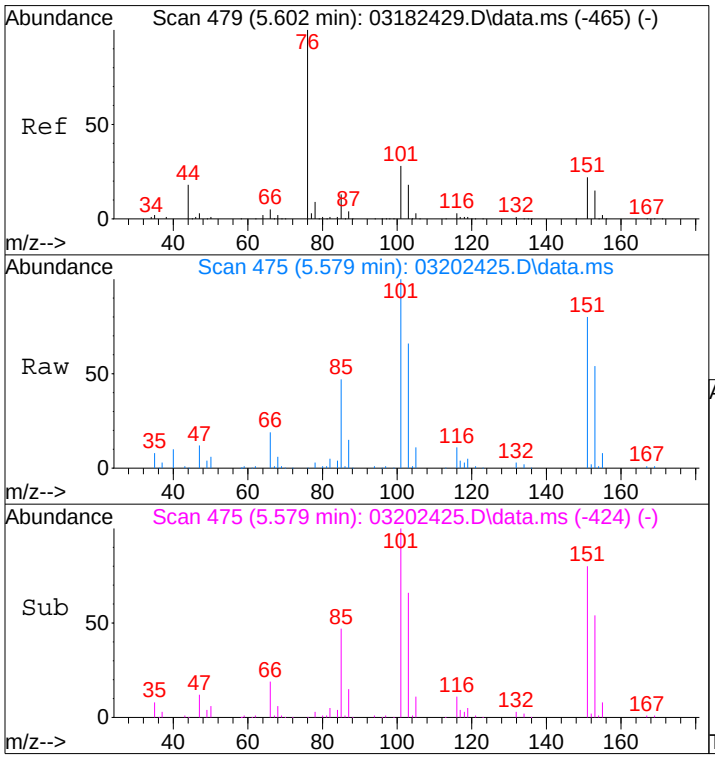


#19
Methylene Chloride
Concen: 0.15 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 84 Resp: 2350

Ion	Ratio	Lower	Upper
84	100		
49	141.0	122.9	172.9

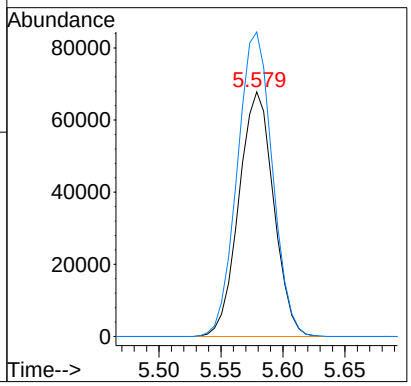


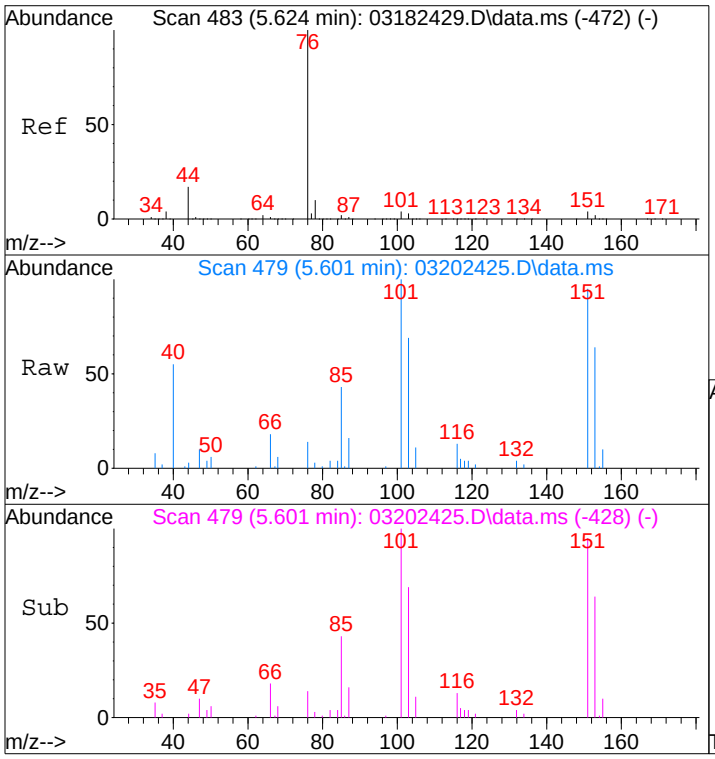


#21
Trichlorotrifluoroethane
Concen: 10.65 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion:151 Resp: 132615

Ion	Ratio	Lower	Upper
151	100		
101	125.6	106.4	146.4

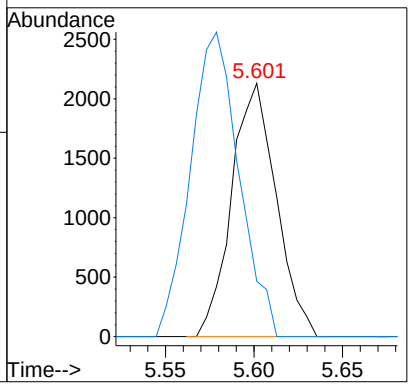


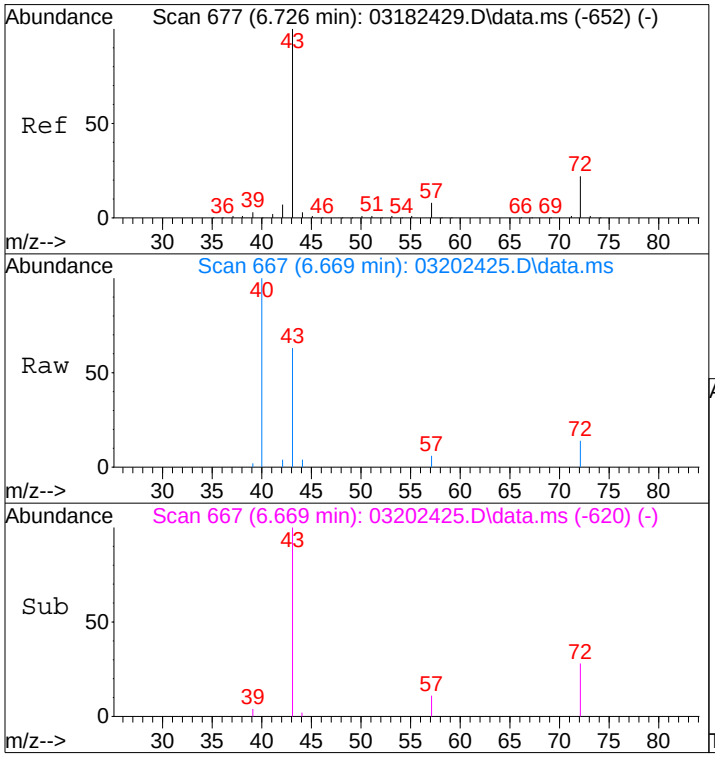


#22
Carbon Disulfide
Concen: 0.08 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 76 Resp: 3742

Ion	Ratio	Lower	Upper
76	100		
78	130.4	0.0	29.8#

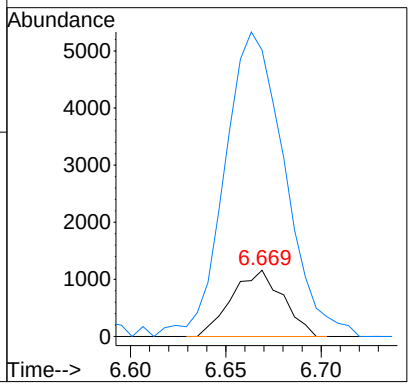


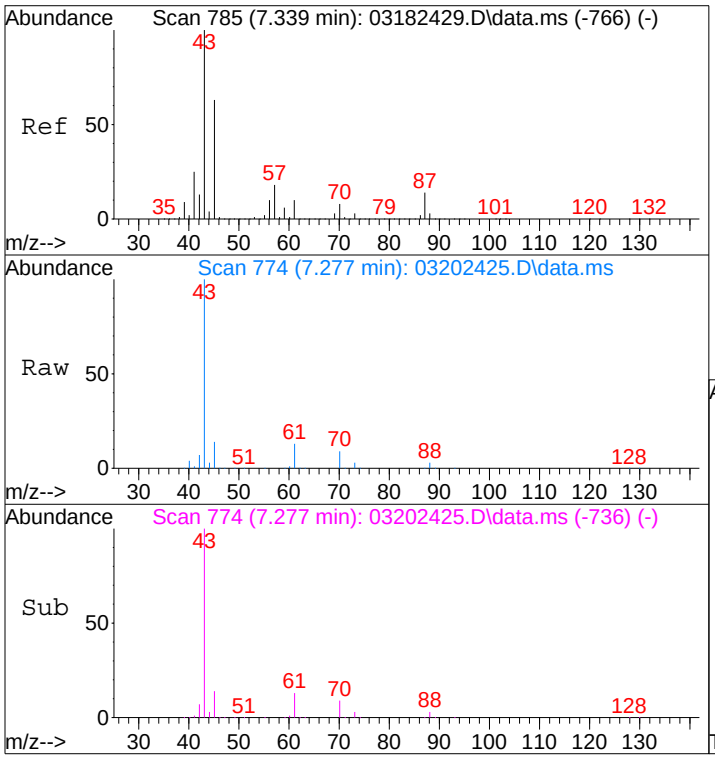


#27
2-Butanone (MEK)
Concen: 0.24 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 72 Resp: 2160

Ion	Ratio	Lower	Upper
72	100		
43	540.8	468.6	508.6#

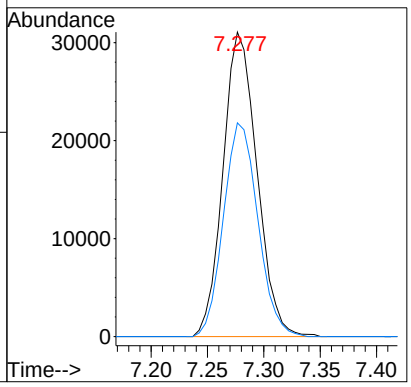


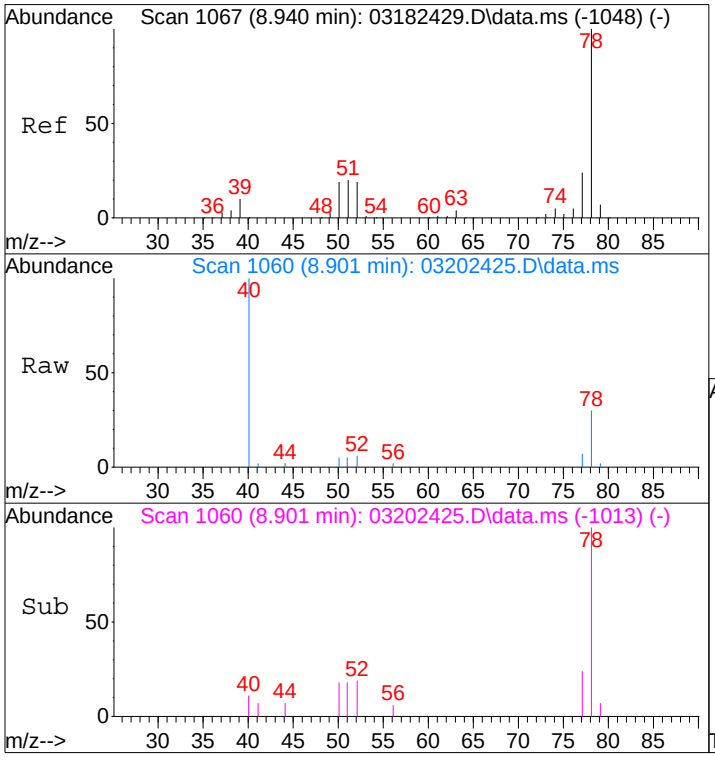


#30
Ethyl Acetate
Concen: 12.16 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.017 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 61 Resp: 65302

Ion	Ratio	Lower	Upper
61	100		
70	71.0	57.3	97.3

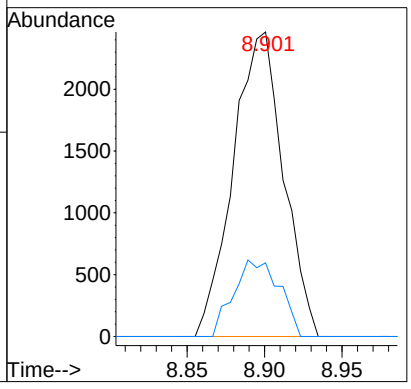


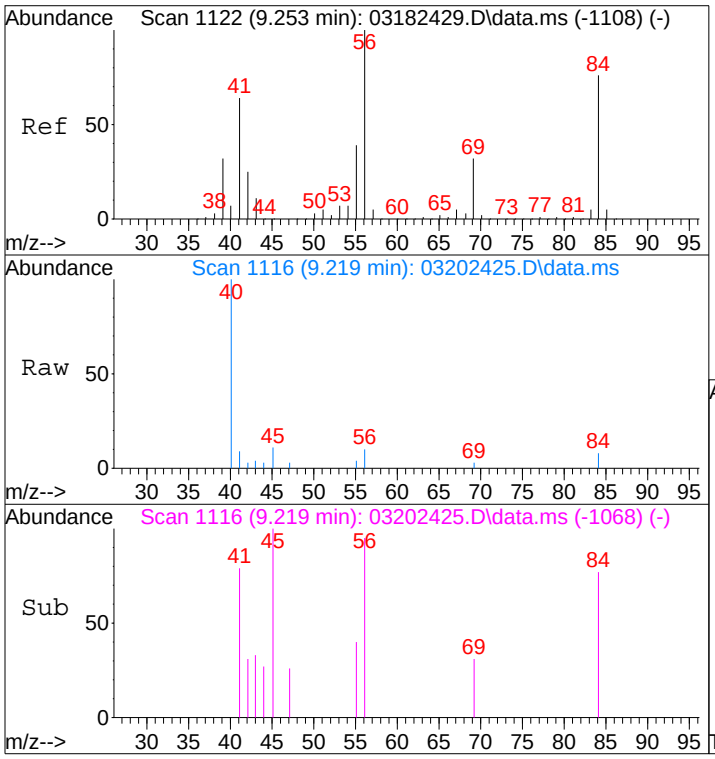


#41
Benzene
Concen: 0.10 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.015 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 78 Resp: 5568

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.6	43.6

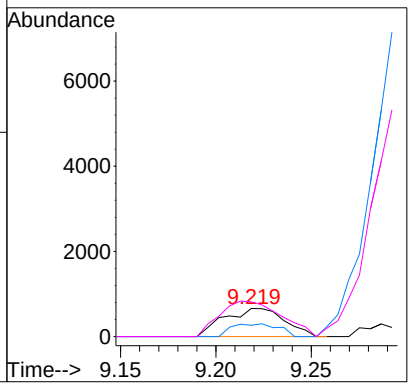


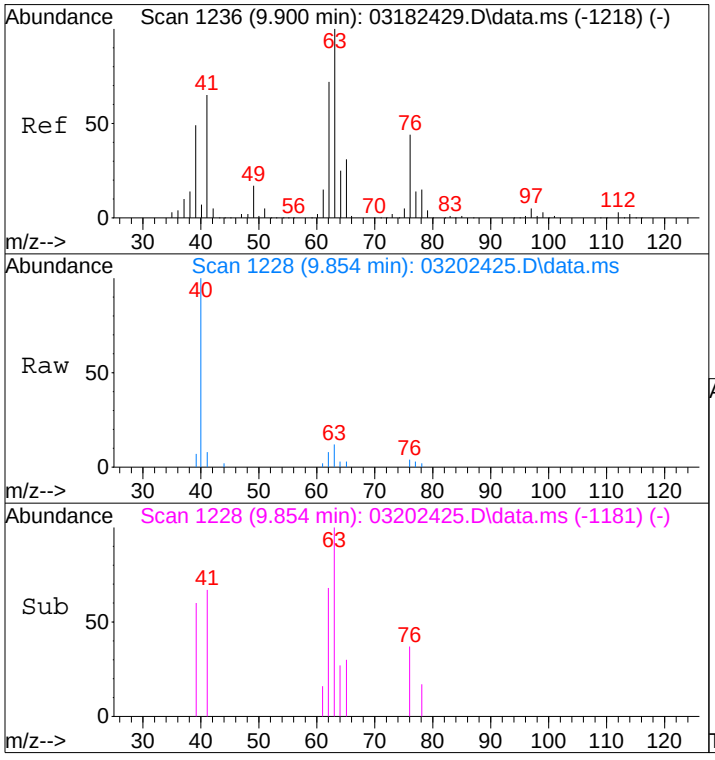


#43
Cyclohexane
Concen: 0.08 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 84 Resp: 1456

Ion	Ratio	Lower	Upper
84	100		
69	35.1	21.3	61.3
56	128.4	115.3	155.3

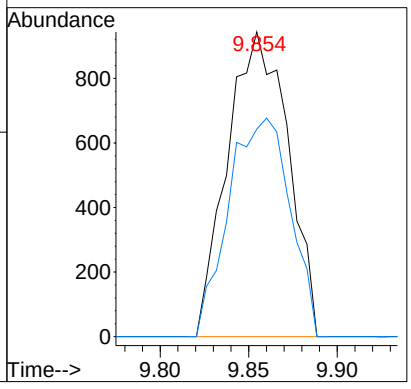


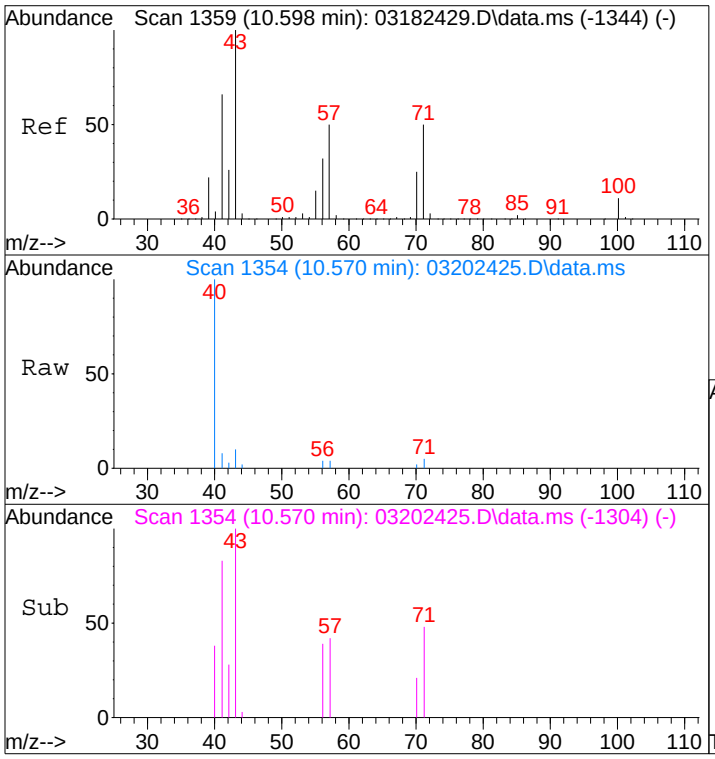


#45
1,2-Dichloropropane
Concen: 0.16 ng
RT: 9.85 min Scan# 1228
Delta R.T. 0.015 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 63 Resp: 2242

Ion	Ratio	Lower	Upper
63	100		
62	73.1	51.8	91.8

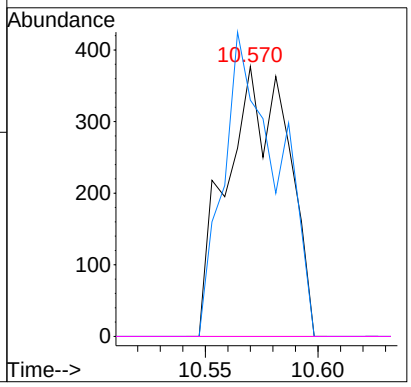


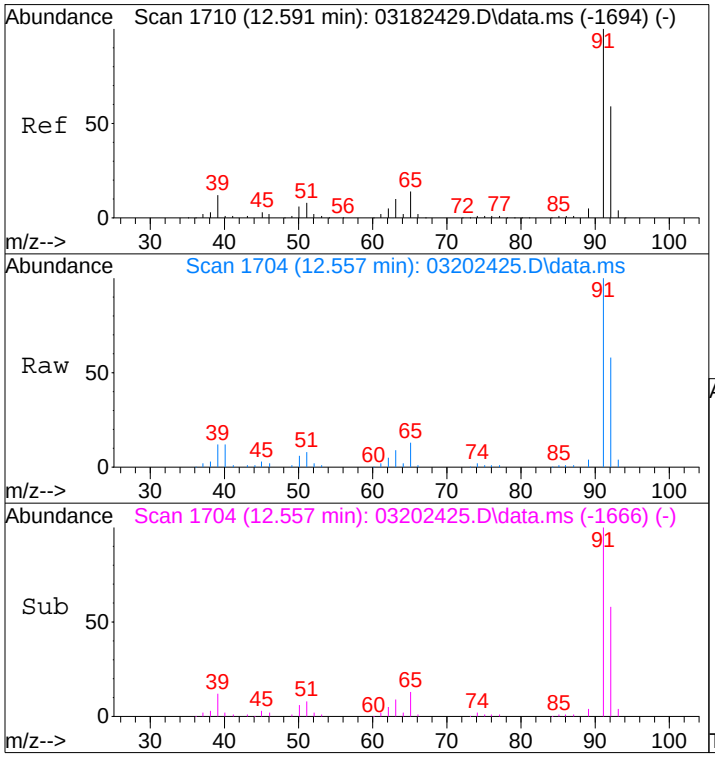


#51
n-Heptane
Concen: 0.06 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.036 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 71 Resp: 714

Ion	Ratio	Lower	Upper
71	100		
57	99.2	81.2	121.2
100	0.0	4.0	44.0#

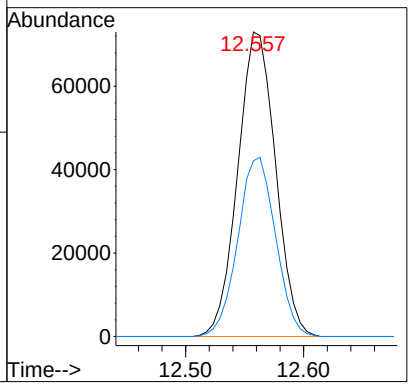


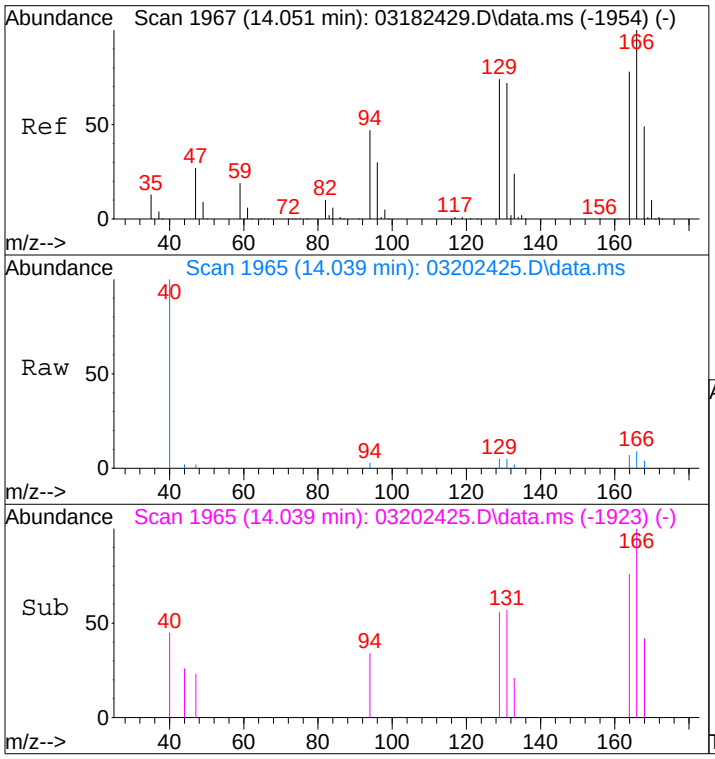


#58
Toluene
Concen: 2.95 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 91 Resp: 162524

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.2	79.2

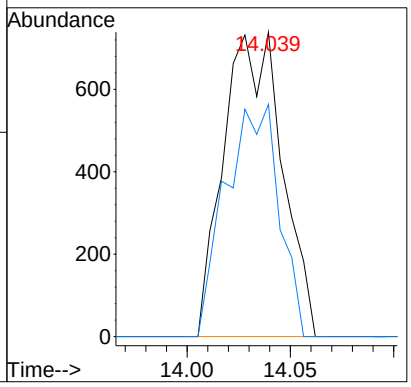


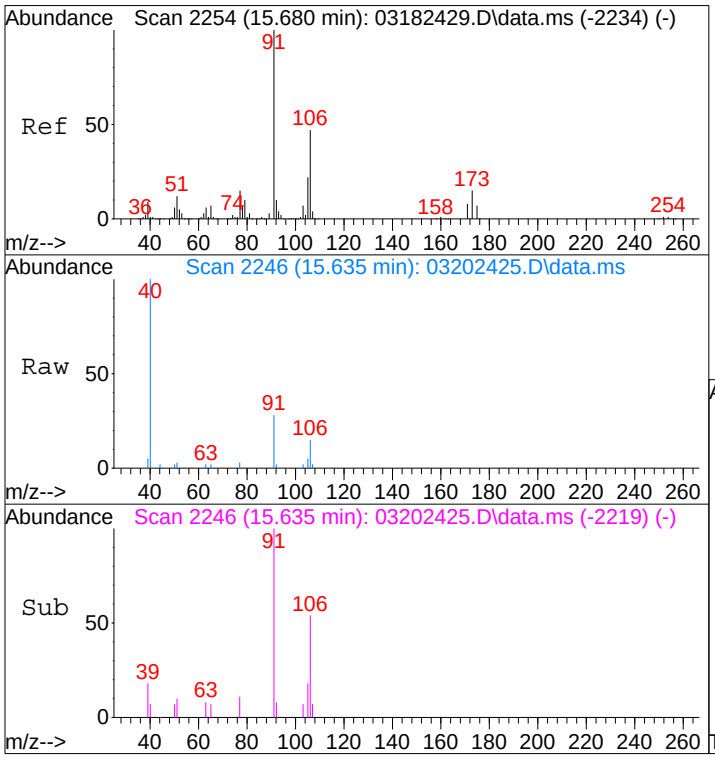


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion:166 Resp: 1452

Ion	Ratio	Lower	Upper
166	100		
164	69.8	56.7	96.7

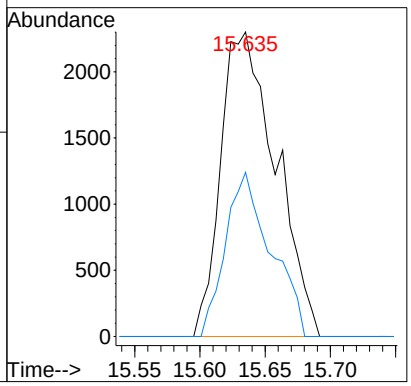


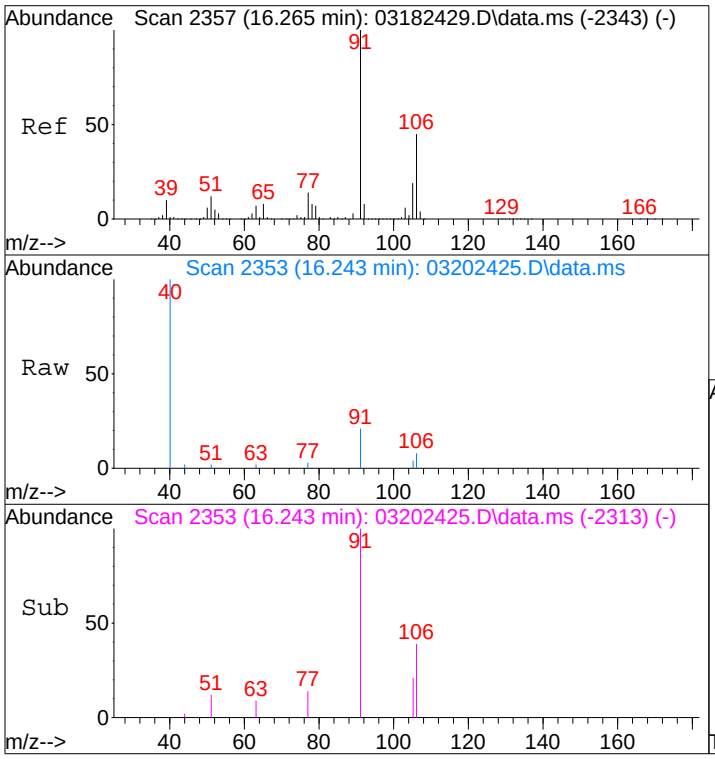


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 91 Resp: 6755

Ion	Ratio	Lower	Upper
91	100		
106	44.4	25.6	65.6

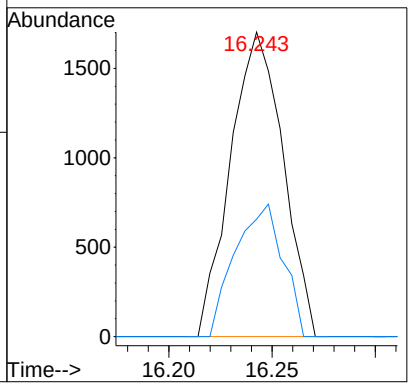


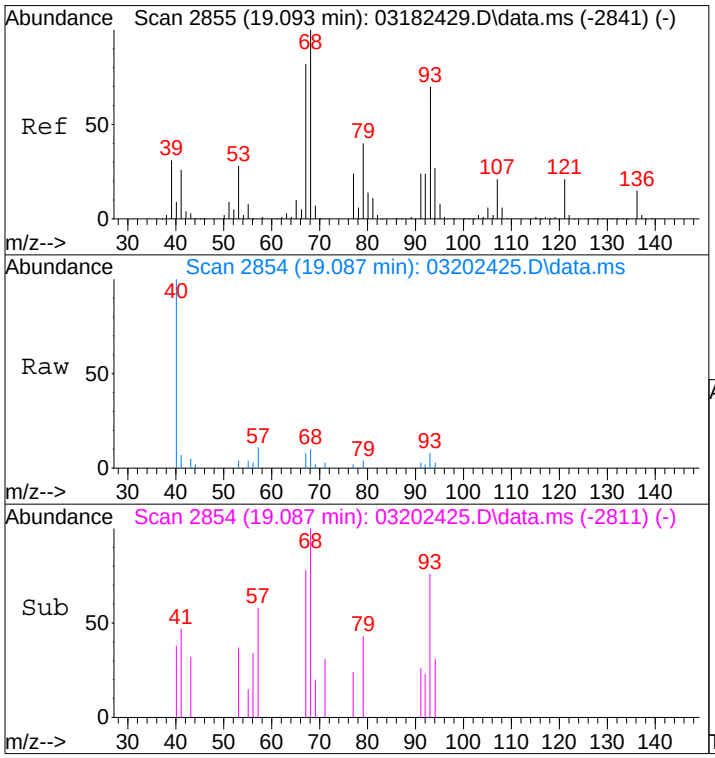


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 91 Resp: 3014

Ion	Ratio	Lower	Upper
91	100		
106	39.6	24.4	64.4

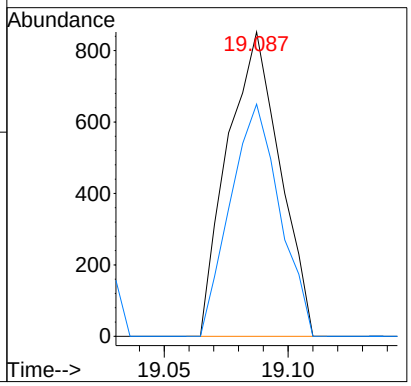




#91
d-Limonene
Concen: 0.06 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03202425.D
Acq: 20 Mar 2024 18:52

Tgt Ion: 68 Resp: 1253

Ion	Ratio	Lower	Upper
68	100		
93	72.2	51.5	91.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:52:41 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

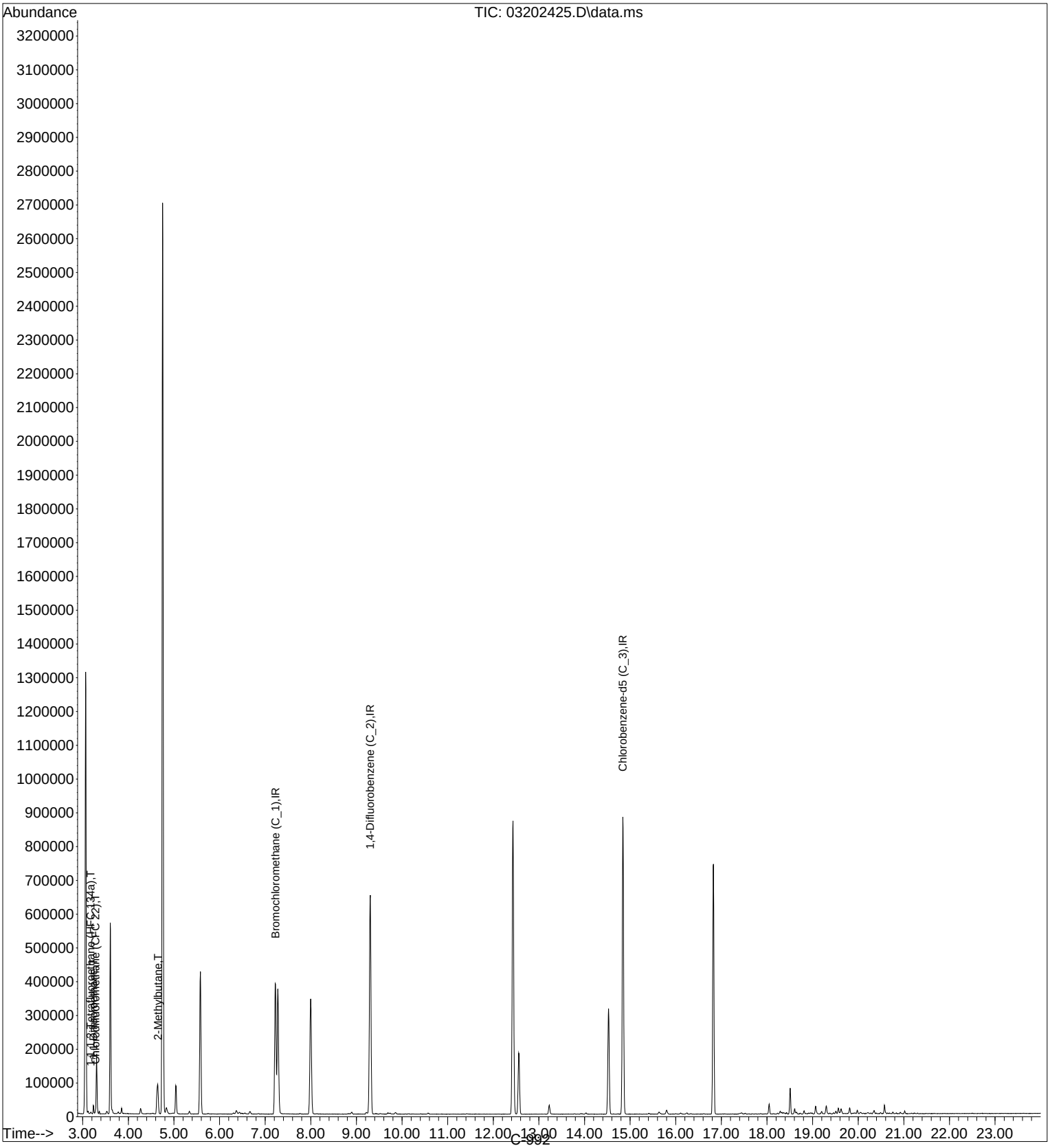
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	148795	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	639799	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	143872	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	2816	0.206	ng	#	53
4) 1,1-Difluoroethane	3.23	65	7001	0.621	ng	#	62
5) Chlorodifluoromethane ...	3.28	67	1536	0.351	ng	#	86
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.			
7) Dichlorofluoromethane ...	4.23	67	80	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	220	N.D.			
10) 2-Methylbutane	4.65	57	15947	1.070	ng	#	83
11) Methyl Acetate	5.33	43	2132	N.D.			
12) 2-Methylpentane	6.48	71	388	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.52	56	272	N.D.			
18) Dibromomethane	9.80	174	171	N.D.			
20) Methyl Cyclohexane	11.41	55	692	N.D.			
21) 1,3-Dichloropropane	12.56	76	769	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	619	N.D.			
27) 4-Chlorotoluene	17.67	91	1193	N.D.			
28) Indane	19.11	117	68	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	116	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	116	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202425.D Vial: 10
Acq On : 20 Mar 2024 18:52 Operator: SC
Sample : P2400922-024 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:52:41 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202425.D
Acq On : 20 Mar 2024 18:52
Operator : SC
Sample : P2400922-024 (80mL)
Misc : S37-02202408
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202425.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	58	62	66	rBV	24827	28493	0.63%	0.332%
2	3.302	66	74	82	rVB2	168297	234267	5.14%	2.728%
3	3.529	110	114	120	rBV3	7487	13071	0.29%	0.152%
4	3.603	120	127	134	rBV	565503	795233	17.46%	9.259%
5	3.853	165	171	178	rVB	15730	19391	0.43%	0.226%
6	4.267	239	244	252	rBV	16013	28281	0.62%	0.329%
7	4.642	301	310	321	rBV2	87903	211800	4.65%	2.466%
8	4.750	321	329	339	rVV	2696773	4555338	100.00%	53.040%
9	4.835	339	344	354	rVB	17309	39641	0.87%	0.462%
10	5.039	374	380	394	rVB	83846	144673	3.18%	1.685%
11	5.340	426	433	440	rBV2	8177	14191	0.31%	0.165%
12	5.579	466	475	486	rBV	421665	819396	17.99%	9.541%
13	6.374	608	615	621	rBV3	8084	16457	0.36%	0.192%
14	6.669	659	667	672	rBV3	7214	15179	0.33%	0.177%
15	7.220	755	764	770	rBV	387100	893310	19.61%	10.401%
16	7.277	770	774	788	rVB	369464	759715	16.68%	8.846%

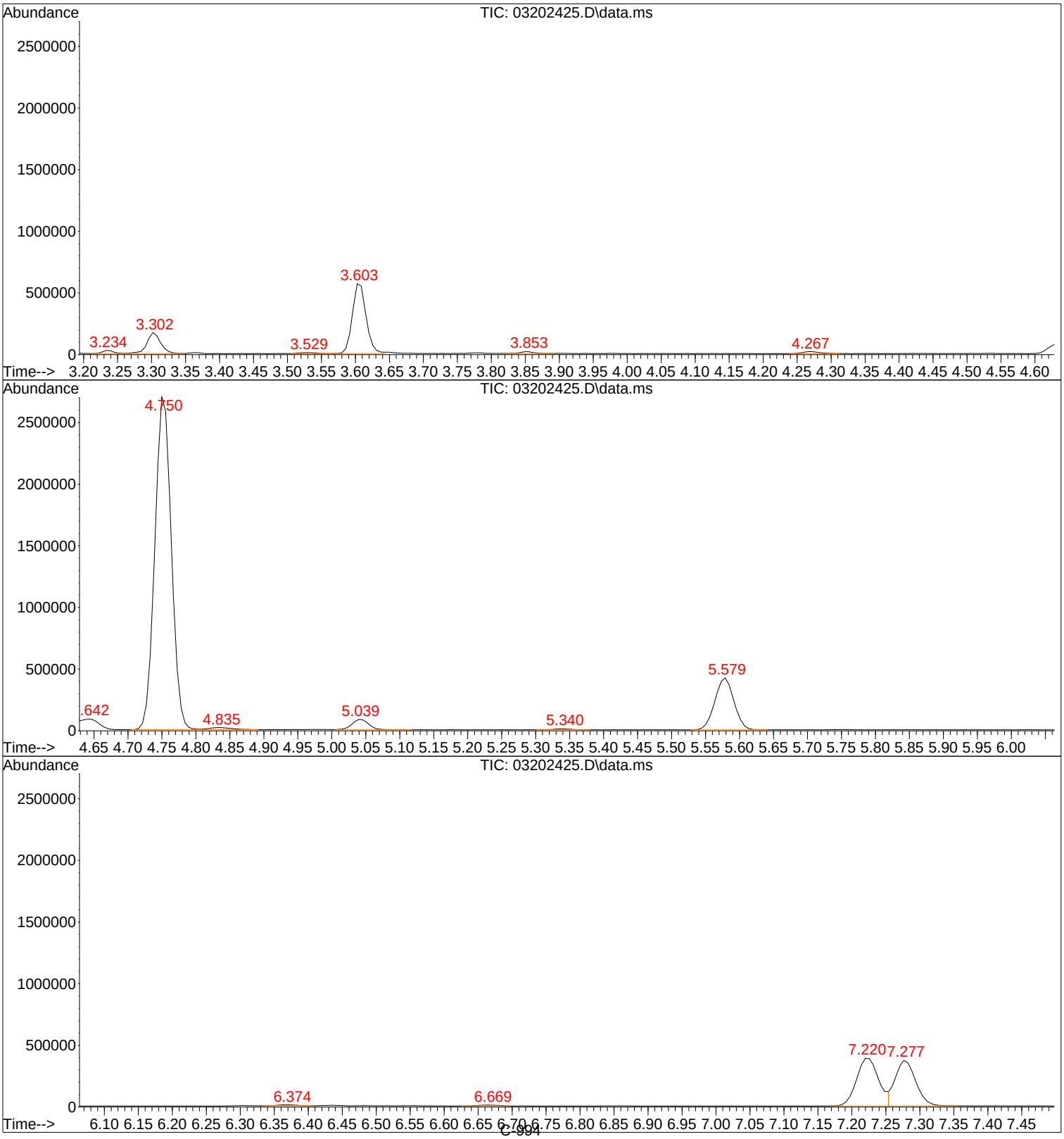
Sum of corrected areas: 8588436

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202425.D
Acq On : 20 Mar 2024 18:52
Operator : SC
Sample : P2400922-024 (80mL)
Misc : S37-02202408
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202425.D
Acq On : 20 Mar 2024 18:522
Operator : SCC
Sample : P2400922-024 (80mL))
Misc : S37-022024088
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:19:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	164035	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	706867	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	153841	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	328603	12.245	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
57) Toluene-d8 (SS2)	12.43	98	804855	13.030	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
73) Bromofluorobenzene (SS3)	16.83	174	278457	12.787	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	3.33	42	189	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	1286	0.081	ng		67
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.66	58	2066	0.171	ng	#	71
14) Trichlorofluoromethane	4.76	101	2153145	66.119	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	62	N.D.			
16) Acrylonitrile	5.00	53	499	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	678	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	78296	5.704	ng		99
22) Carbon Disulfide	5.61	76	535	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	496	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.35	83	189	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	115	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.90	78	1543	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	219	N.D.			
47) Trichloroethene	10.14	130	2150	0.125	ng		91
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	178	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:19:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

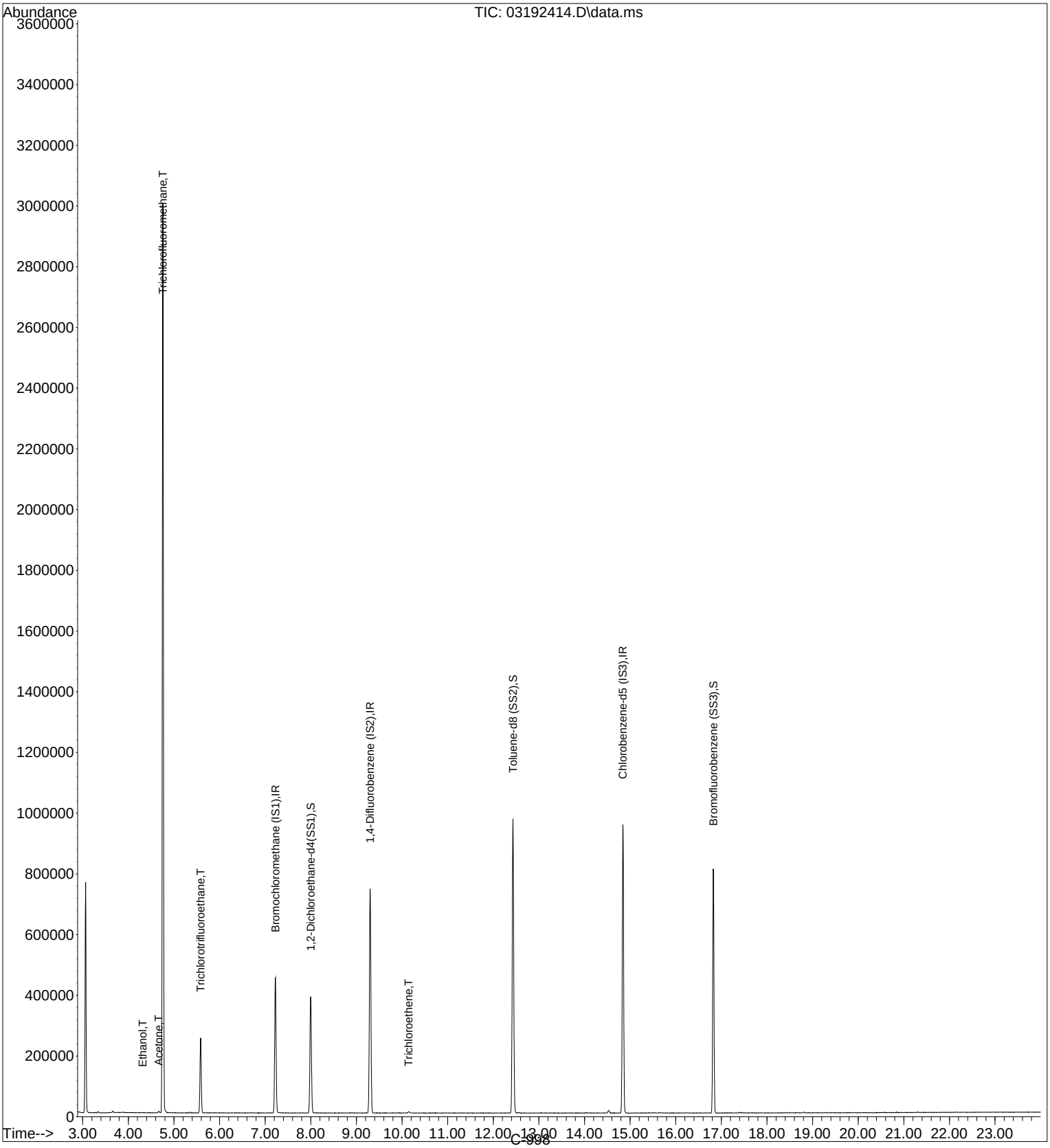
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	0.00	71	0	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	12.56	91	1452	N.D.
59) 2-Hexanone	0.00	43	0	N.D.
60) Dibromochloromethane	13.07	129	368	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	0.00	43	0	N.D.
63) n-Octane	0.00	57	0	N.D.
64) Tetrachloroethene	14.03	166	737	N.D.
65) Chlorobenzene	14.91	112	671	N.D.
66) Ethylbenzene	15.41	91	1319	N.D.
67) m- & p-Xylenes	15.66	91	950	N.D.
68) Bromoform	15.67	173	539	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	16.23	91	747	N.D.
71) n-Nonane	0.00	43	0	N.D.
72) 1,1,2,2-Tetrachloroethane	16.21	83	312	N.D.
74) Cumene	17.03	105	814	N.D.
75) alpha-Pinene	17.53	93	218	N.D.
76) n-Propylbenzene	17.68	91	1130	N.D.
77) 3-Ethyltoluene	17.03	105	814	No Calib #
78) 4-Ethyltoluene	17.86	105	561	N.D.
79) 1,3,5-Trimethylbenzene	17.95	105	388	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	17.03	105	814	No Calib #
82) 1,2,4-Trimethylbenzene	18.43	105	370	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	0.00	91	0	N.D.
85) 1,3-Dichlorobenzene	18.58	146	527	N.D.
86) 1,4-Dichlorobenzene	18.66	146	579	N.D.
87) sec-Butylbenzene	18.75	105	723	N.D.
88) 4-Isopropyltoluene (p-...	18.93	119	508	N.D.
89) 1,2,3-Trimethylbenzene	17.03	105	814	No Calib #
90) 1,2-Dichlorobenzene	19.03	146	590	N.D.
91) d-Limonene	0.00	68	0	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	20.84	180	769	N.D.
95) Naphthalene	0.00	128	0	N.D. d
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	21.30	225	562	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	18.42	119	789	N.D.
100) n-Butylbenzene	19.39	91	503	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:19:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:19:36 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

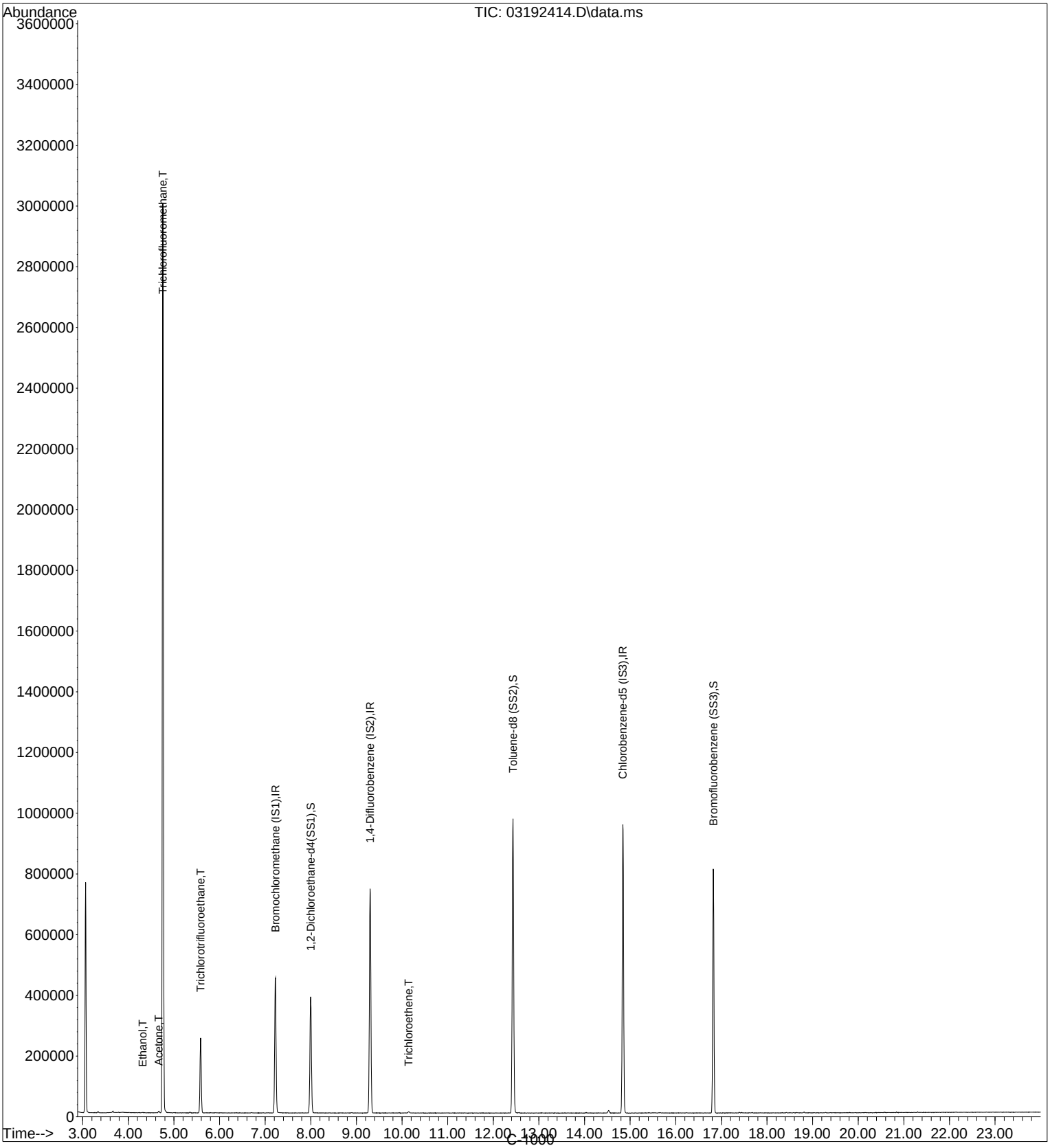
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	164035	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	706867	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	153841	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	328603	12.245	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.00%				
57) Toluene-d8 (SS2)	12.43	98	804855	13.030	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
73) Bromofluorobenzene (SS3)	16.83	174	278457	12.787	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
10) Ethanol	4.31	45	1286	0.081	ng		67
13) Acetone	4.66	58	2066	0.171	ng	#	71
14) Trichlorofluoromethane	4.76	101	2153145	66.119	ng		100
21) Trichlorotrifluoroethane	5.58	151	78296	5.704	ng		99
47) Trichloroethene	10.14	130	2150	0.125	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

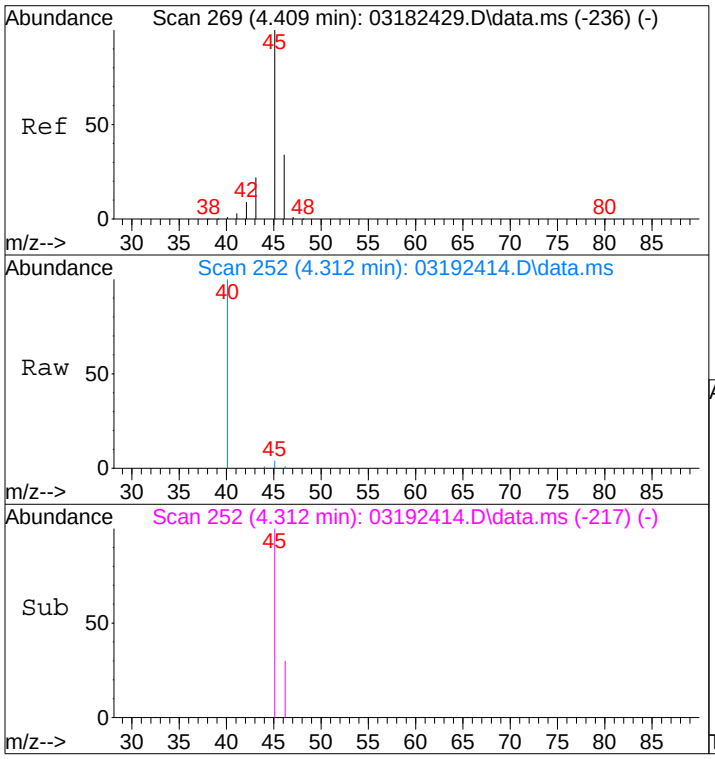
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 20 12:19:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



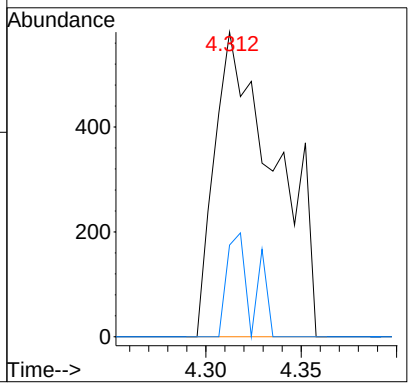
C-1000

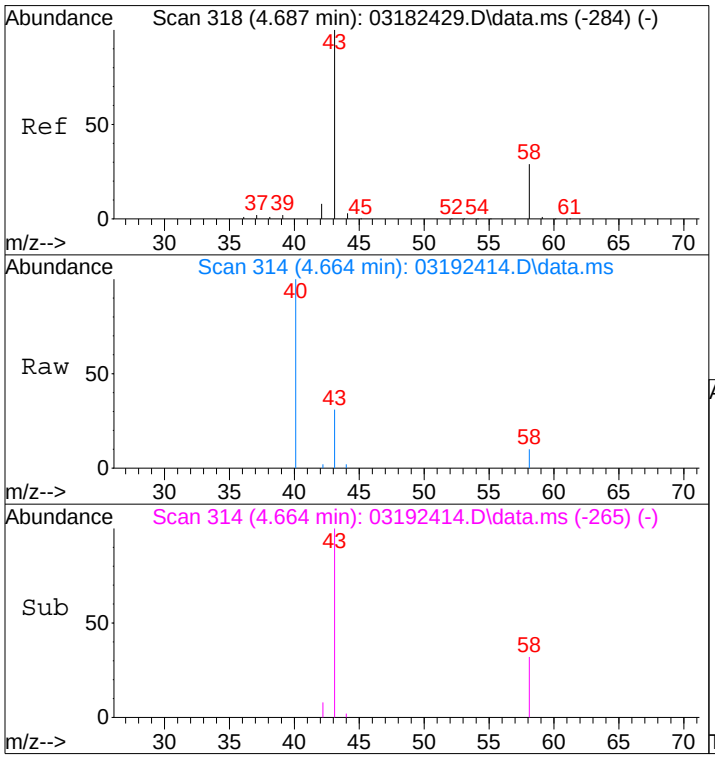


#10
Ethanol
Concen: 0.08 ng
RT: 4.31 min Scan# 252
Delta R.T. -0.049 min
Lab File: 03192414.D
Acq: 19 Mar 2024 17:09

Tgt Ion: 45 Resp: 1286

Ion	Ratio	Lower	Upper
45	100		
46	14.3	13.3	53.3

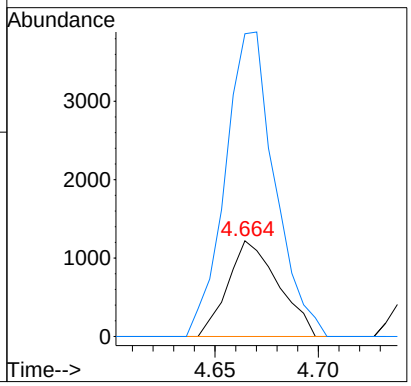


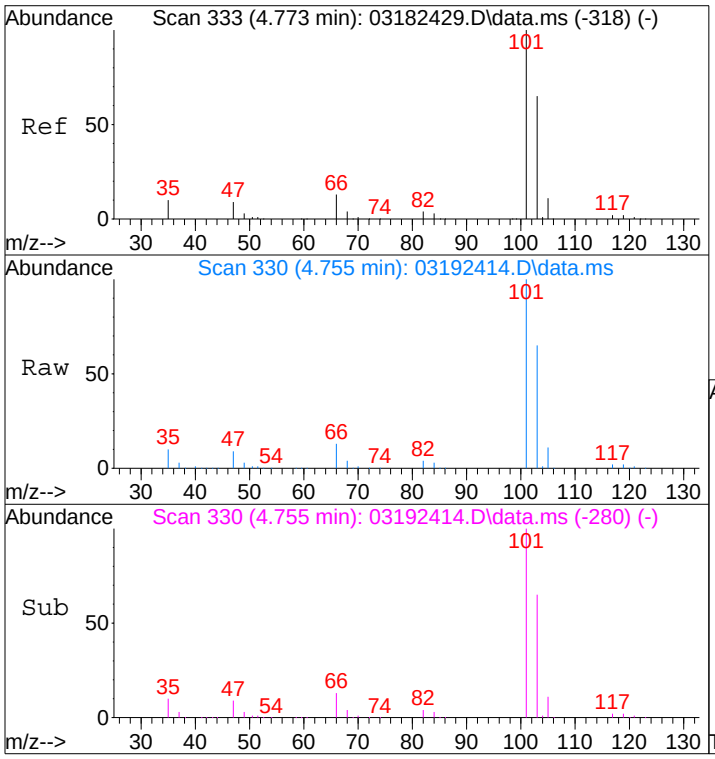


#13
Acetone
Concen: 0.17 ng
RT: 4.66 min Scan# 314
Delta R.T. 0.028 min
Lab File: 03192414.D
Acq: 19 Mar 2024 17:09

Tgt Ion: 58 Resp: 2066

Ion	Ratio	Lower	Upper
58	100		
43	313.6	350.1	410.1#

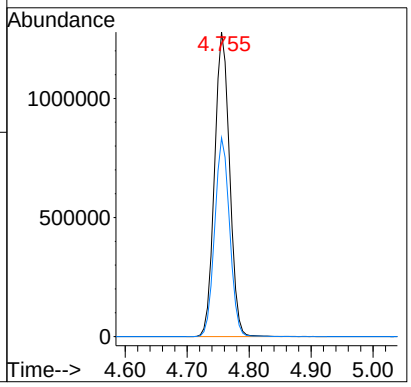


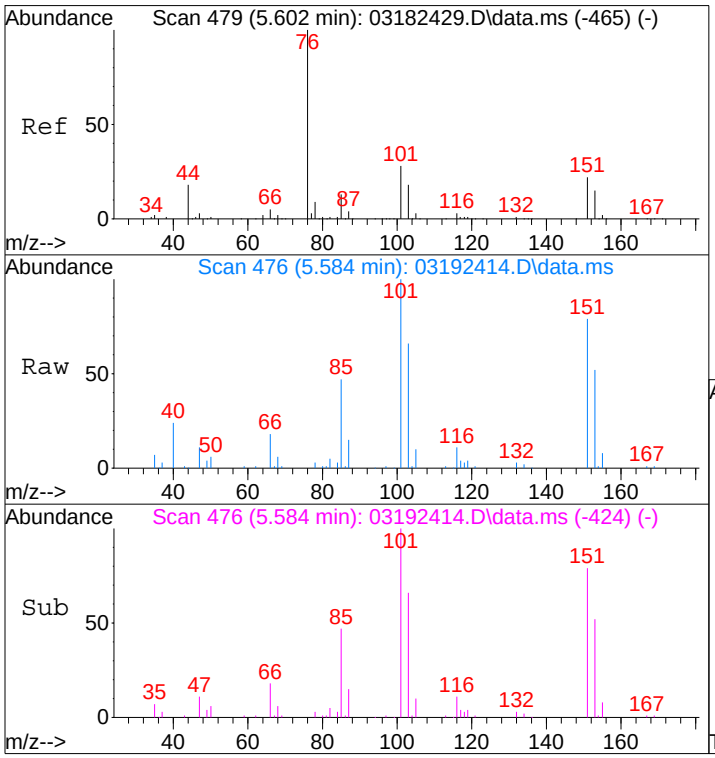


#14
Trichlorofluoromethane
Concen: 66.12 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03192414.D
Acq: 19 Mar 2024 17:09

Tgt Ion:101 Resp: 2153145

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

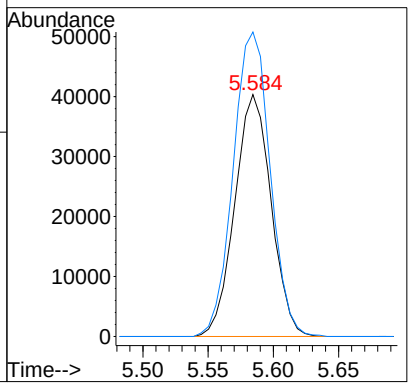


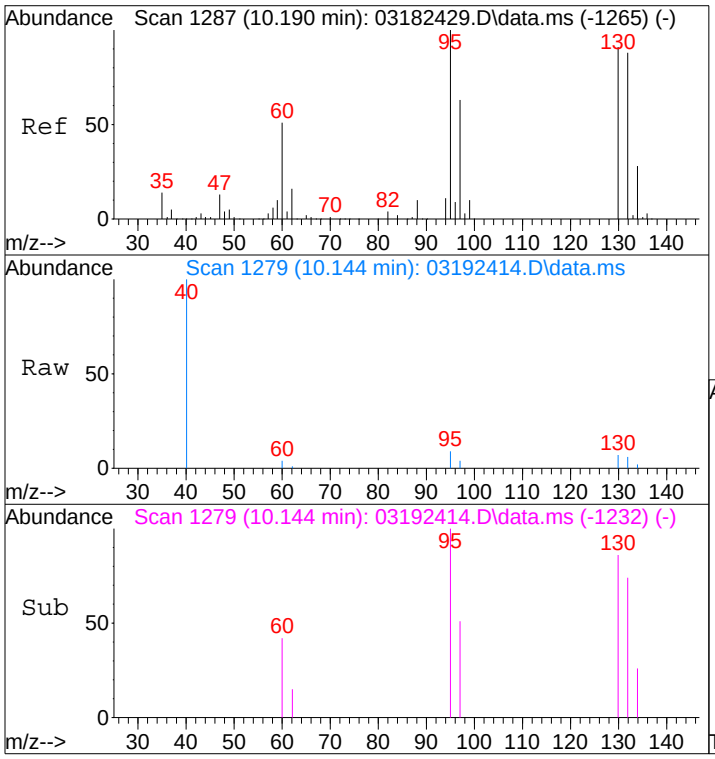


#21
Trichlorotrifluoroethane
Concen: 5.70 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03192414.D
Acq: 19 Mar 2024 17:09

Tgt Ion:151 Resp: 78296

Ion	Ratio	Lower	Upper
151	100		
101	127.9	106.4	146.4

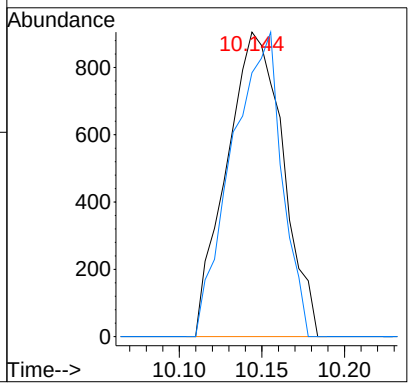




#47
Trichloroethene
Concen: 0.13 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03192414.D
Acq: 19 Mar 2024 17:09

Tgt Ion:130 Resp: 2150

Ion	Ratio	Lower	Upper
130	100		
132	88.7	77.5	117.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:42:14 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

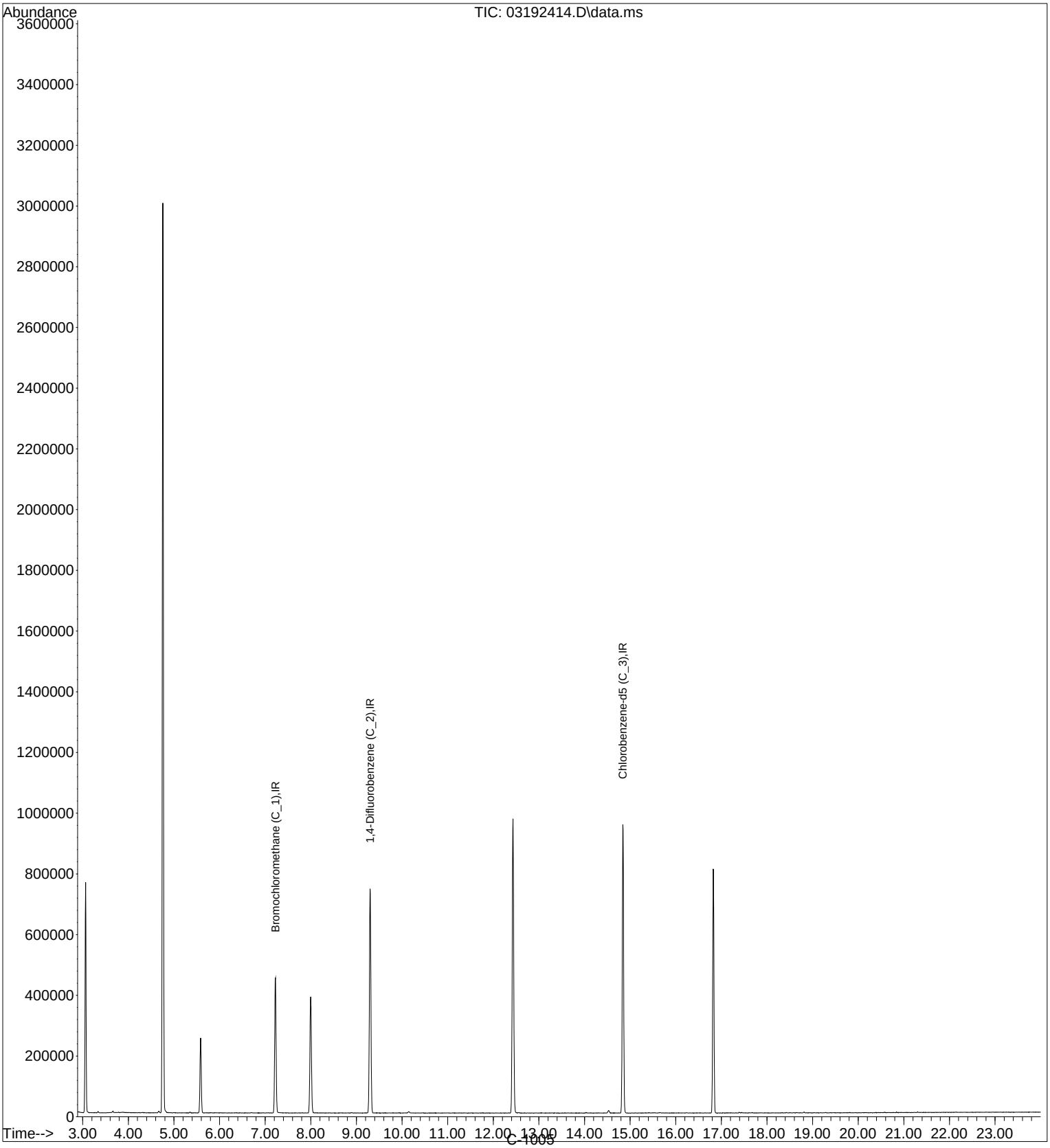
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	164595	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	707665	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	153841	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.27	65	229	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	540	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.		
11) Methyl Acetate	5.36	43	139	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	191	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	657	N.D.		
27) 4-Chlorotoluene	17.68	91	1130	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192414.D Vial: 1
Acq On : 19 Mar 2024 17:09 Operator: SC
Sample : P2400922-025 (0.2mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:42:14 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1005

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192414.D
Acq On : 19 Mar 2024 17:09
Operator : SC
Sample : P2400922-025 (0.2mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192414.D\data.ms

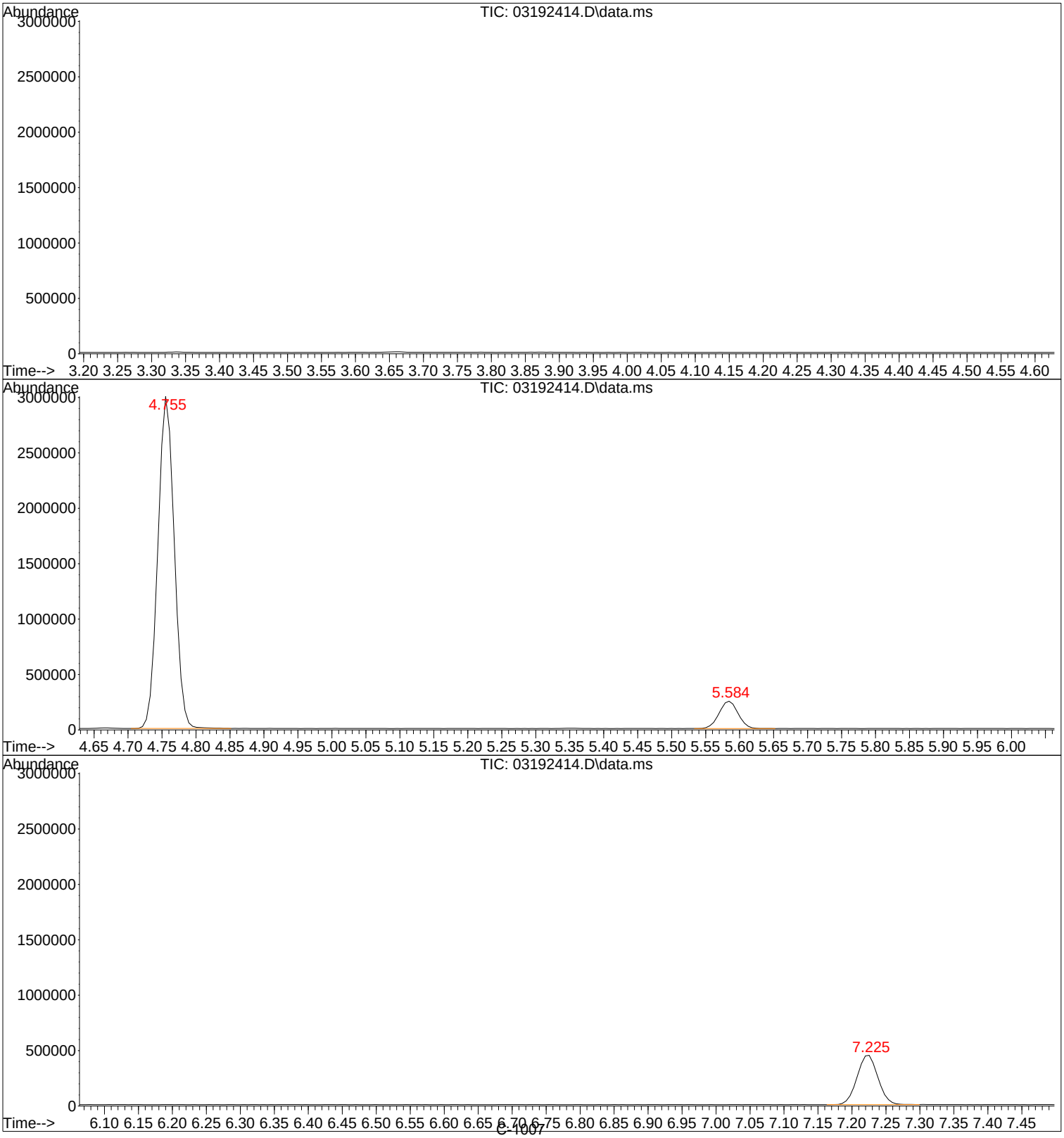
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.755	321	330	347	rBV	2996944	5023381	100.00%	77.766%
2	5.584	467	476	488	rVB	247166	481712	9.59%	7.457%
3	7.225	754	765	778	rBV	445266	954496	19.00%	14.776%

Sum of corrected areas: 6459589

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192414.D
Acq On : 19 Mar 2024 17:09
Operator : SC
Sample : P2400922-025 (0.2mL)
Misc : S37-02202408
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\19\\
Data File : 03192414.D
Acq On : 19 Mar 2024 17:099
Operator : SCC
Sample : P2400922-025 (0.2mL))
Misc : S37-022024088
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:19:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	159018	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	687101	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	152327	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321954	12.376	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	12.43	98	785861	12.849	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	16.83	174	275102	12.758	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	20298	0.622	ng		99
4) Chloromethane	3.50	50	6897	0.284	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	468	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.02	94	319	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	56856	3.700	ng		83
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	314	N.D.			
13) Acetone	4.62	58	102603	8.773	ng	#	78
14) Trichlorofluoromethane	4.75	101	15895	0.504	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	93767	2.013	ng		93
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.37	59	117	N.D.			
19) Methylene Chloride	5.35	84	5736	0.337	ng		97
20) 3-Chloro-1-propene (Al...	5.46	41	110	N.D.			
21) Trichlorotrifluoroethane	5.59	151	4951	0.372	ng		95
22) Carbon Disulfide	5.60	76	17758	0.335	ng		100
23) trans-1,2-Dichloroethene	6.13	61	202	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	10253	1.072	ng		93
28) cis-1,2-Dichloroethene	7.07	61	207	N.D.			
29) Diisopropyl Ether	7.27	87	166	N.D.			
30) Ethyl Acetate	7.28	61	57788	10.072	ng		93
31) n-Hexane	7.30	57	3932	0.159	ng	#	91
32) Chloroform	7.35	83	891	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	597	0.069	ng	#	50
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	675	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	7828	No Calib		#	
41) Benzene	8.89	78	9241	0.149	ng		99
42) Carbon Tetrachloride	9.07	117	1693	0.070	ng		95
43) Cyclohexane	9.22	84	7373	0.377	ng		100
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.86	63	11361	0.755	ng		98
46) Bromodichloromethane	10.08	83	266	N.D.			
47) Trichloroethene	10.15	130	1477	0.089	ng		96
48) 1,4-Dioxane	10.14	88	451	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	1847	N.D.			
50) Methyl Methacrylate	10.41	100	603	0.119	ng	#	82

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:19:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

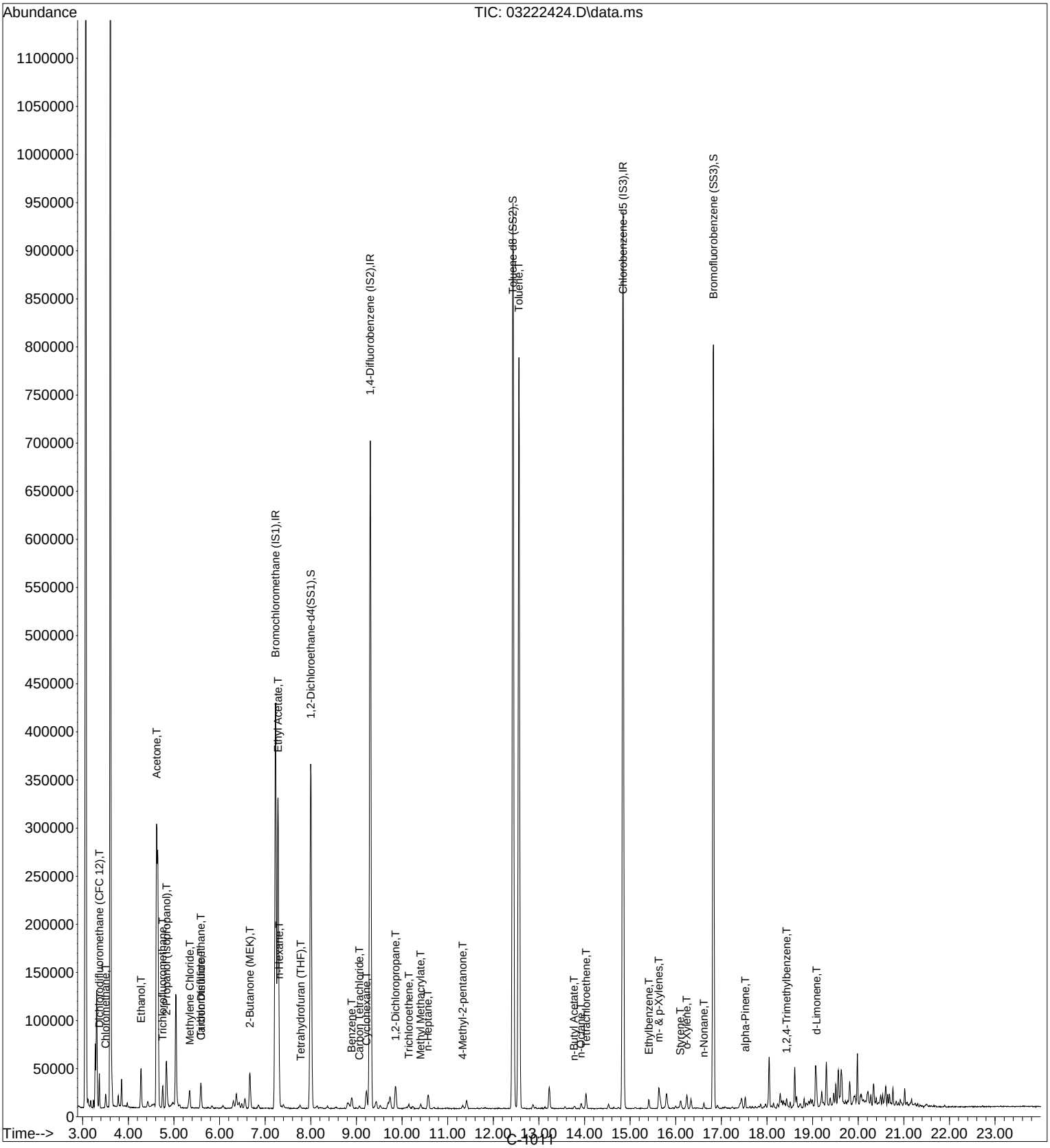
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	3986	0.302 ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	836	0.063 ng	#	46
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	699216	11.978 ng		99
59) 2-Hexanone	12.93	43	1416	N.D.		
60) Dibromochloromethane	13.07	129	312	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	2790	0.074 ng	#	89
63) n-Octane	13.92	57	918	0.074 ng		89
64) Tetrachloroethene	14.03	166	5527	0.308 ng		96
65) Chlorobenzene	14.89	112	643	N.D.		
66) Ethylbenzene	15.41	91	8170	0.122 ng		99
67) m- & p-Xylenes	15.63	91	20343	0.367 ng		100
68) Bromoform	15.67	173	477	N.D.		
69) Styrene	16.10	104	3865	0.102 ng		97
70) o-Xylene	16.24	91	9451	0.173 ng		99
71) n-Nonane	16.62	43	2457	0.078 ng		91
72) 1,1,2,2-Tetrachloroethane	16.21	83	276	N.D.		
74) Cumene	17.04	105	1228	N.D.		
75) alpha-Pinene	17.53	93	4966	0.150 ng		97
76) n-Propylbenzene	17.68	91	2193	N.D.		
77) 3-Ethyltoluene	17.04	105	1228	No Calib		
78) 4-Ethyltoluene	17.86	105	1631	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1324	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	1228	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	3949	0.068 ng		90
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	555	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	873	N.D.		
87) sec-Butylbenzene	18.74	105	1158	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1892	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	1228	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	535	N.D.		
91) d-Limonene	19.09	68	4455	0.218 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	731	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	589	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1194	N.D.		
100) n-Butylbenzene	19.39	91	1599	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:19:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:19:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

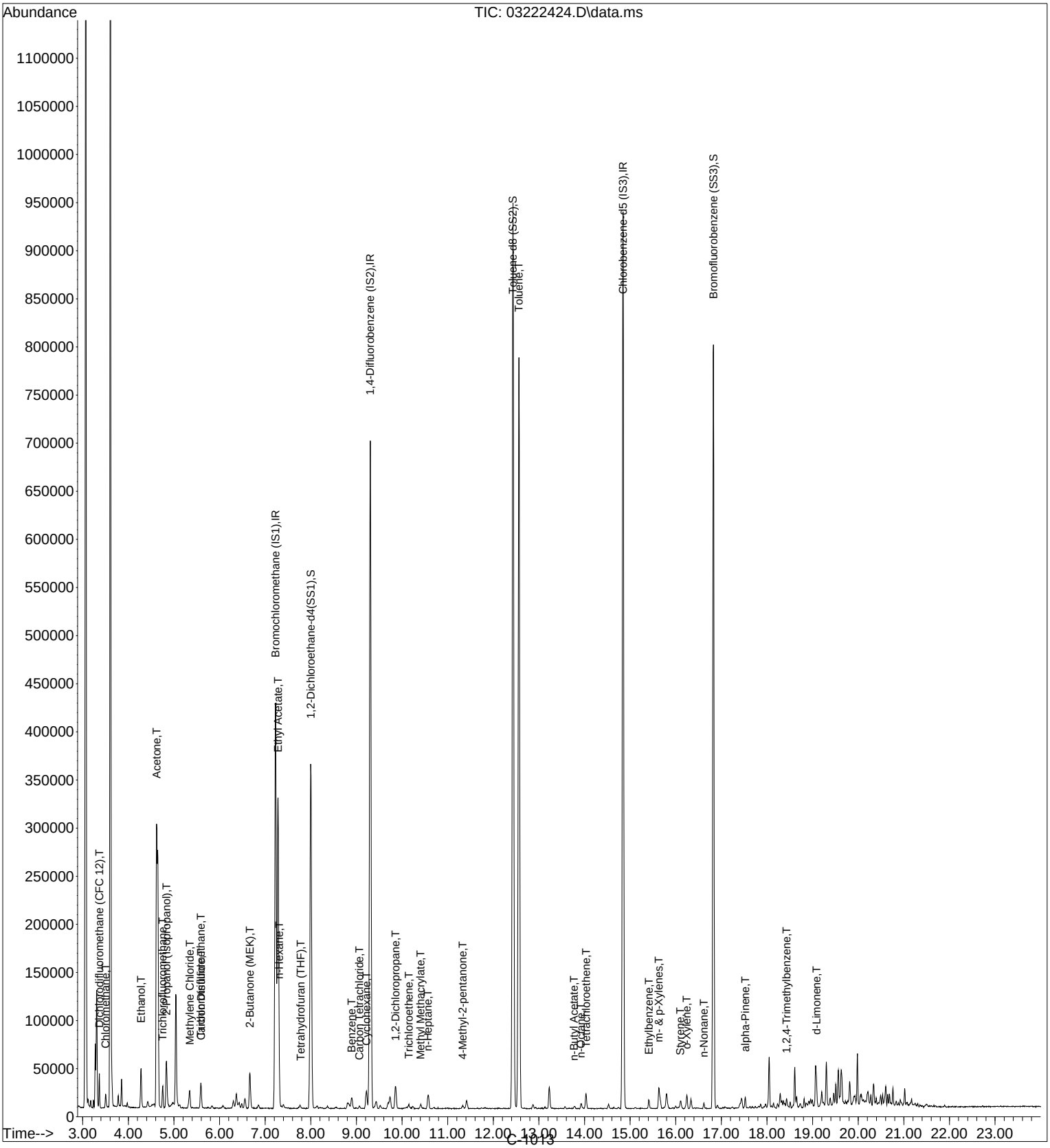
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	159018	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	687101	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	152327	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321954	12.376	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	12.43	98	785861	12.849	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	16.83	174	275102	12.758	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	20298	0.622	ng		99
4) Chloromethane	3.50	50	6897	0.284	ng		99
10) Ethanol	4.28	45	56856	3.700	ng		83
13) Acetone	4.62	58	102603	8.773	ng	#	78
14) Trichlorofluoromethane	4.75	101	15895	0.504	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	93767	2.013	ng		93
19) Methylene Chloride	5.35	84	5736	0.337	ng		97
21) Trichlorotrifluoroethane	5.59	151	4951	0.372	ng		95
22) Carbon Disulfide	5.60	76	17758	0.335	ng		100
27) 2-Butanone (MEK)	6.66	72	10253	1.072	ng		93
30) Ethyl Acetate	7.28	61	57788	10.072	ng		93
31) n-Hexane	7.30	57	3932	0.159	ng	#	91
34) Tetrahydrofuran (THF)	7.78	72	597	0.069	ng	#	50
41) Benzene	8.89	78	9241	0.149	ng		99
42) Carbon Tetrachloride	9.07	117	1693	0.070	ng		95
43) Cyclohexane	9.22	84	7373	0.377	ng		100
45) 1,2-Dichloropropane	9.86	63	11361	0.755	ng		98
47) Trichloroethene	10.15	130	1477	0.089	ng		96
50) Methyl Methacrylate	10.41	100	603	0.119	ng	#	82
51) n-Heptane	10.56	71	3986	0.302	ng		97
53) 4-Methyl-2-pentanone	11.33	58	836	0.063	ng	#	46
58) Toluene	12.56	91	699216	11.978	ng		99
62) n-Butyl Acetate	13.77	43	2790	0.074	ng	#	89
63) n-Octane	13.92	57	918	0.074	ng		89
64) Tetrachloroethene	14.03	166	5527	0.308	ng		96
66) Ethylbenzene	15.41	91	8170	0.122	ng		99
67) m- & p-Xylenes	15.63	91	20343	0.367	ng		100
69) Styrene	16.10	104	3865	0.102	ng		97
70) o-Xylene	16.24	91	9451	0.173	ng		99
71) n-Nonane	16.62	43	2457	0.078	ng		91
75) alpha-Pinene	17.53	93	4966	0.150	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	3949	0.068	ng		90
91) d-Limonene	19.09	68	4455	0.218	ng		99

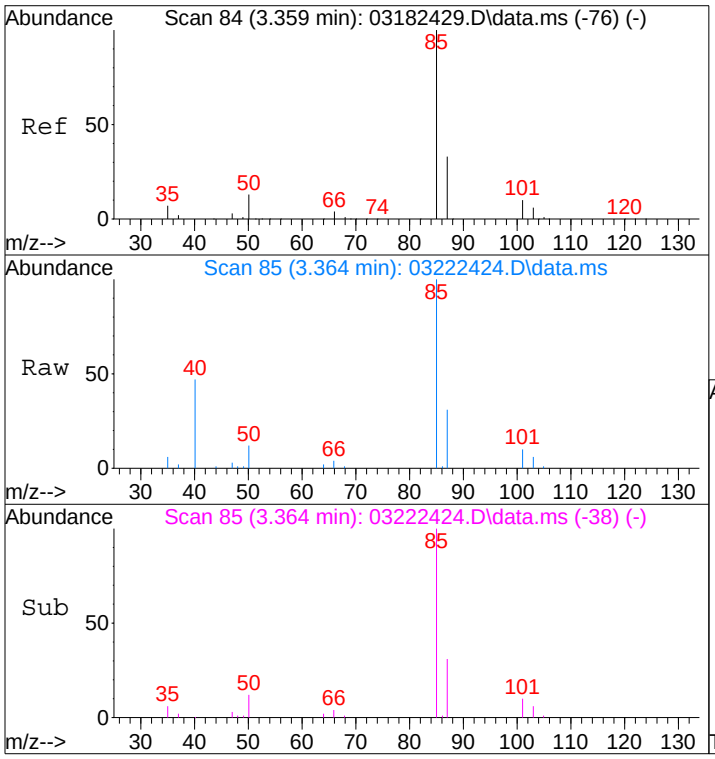
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:19:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

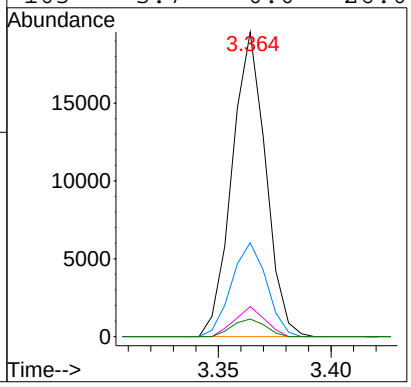


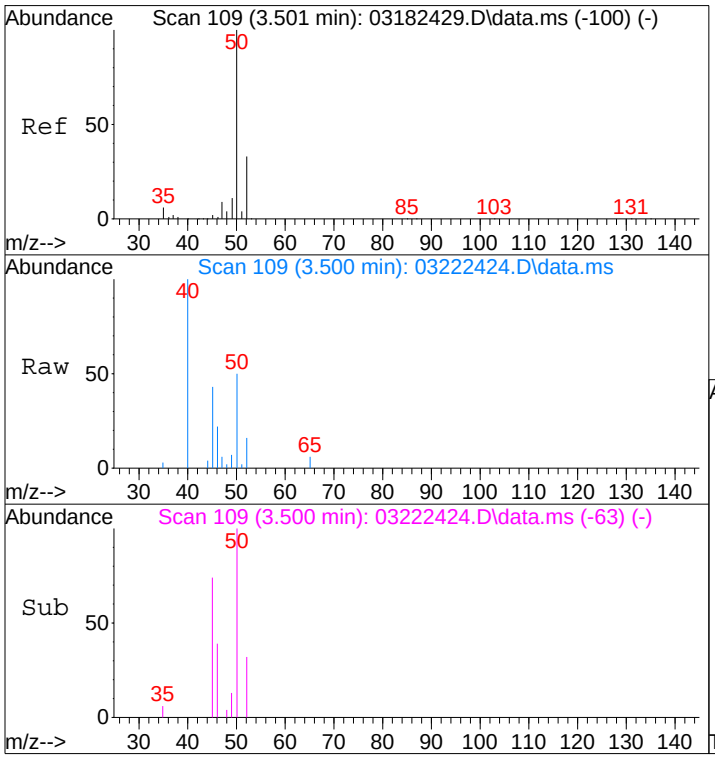


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.62 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.018 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 85 Resp: 20298

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.5	52.5
101	8.9	0.0	29.2
103	5.7	0.0	26.0

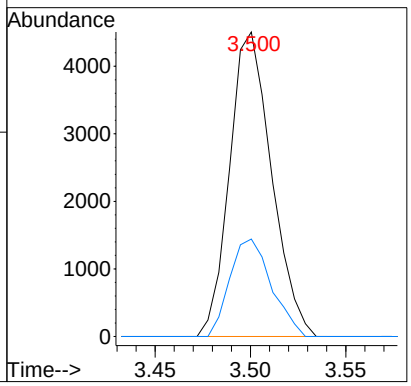


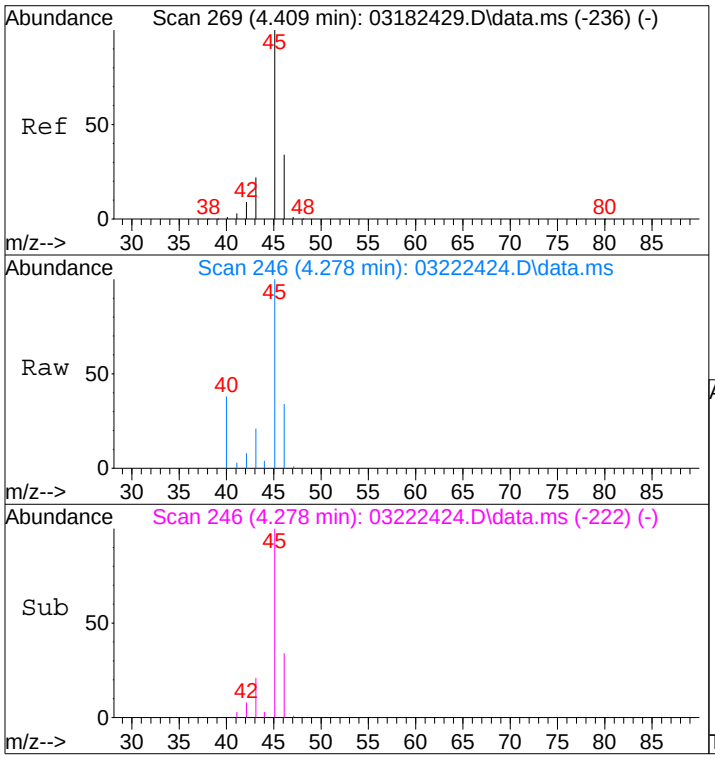


#4
Chloromethane
Concen: 0.28 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.013 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 50 Resp: 6897

Ion	Ratio	Lower	Upper
50	100		
52	31.6	12.3	52.3

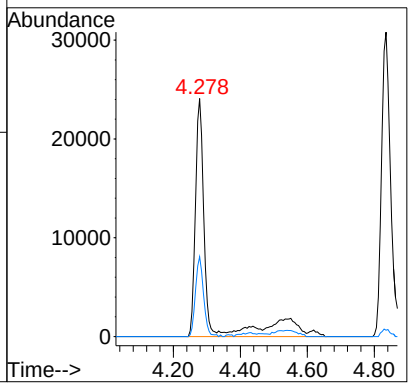


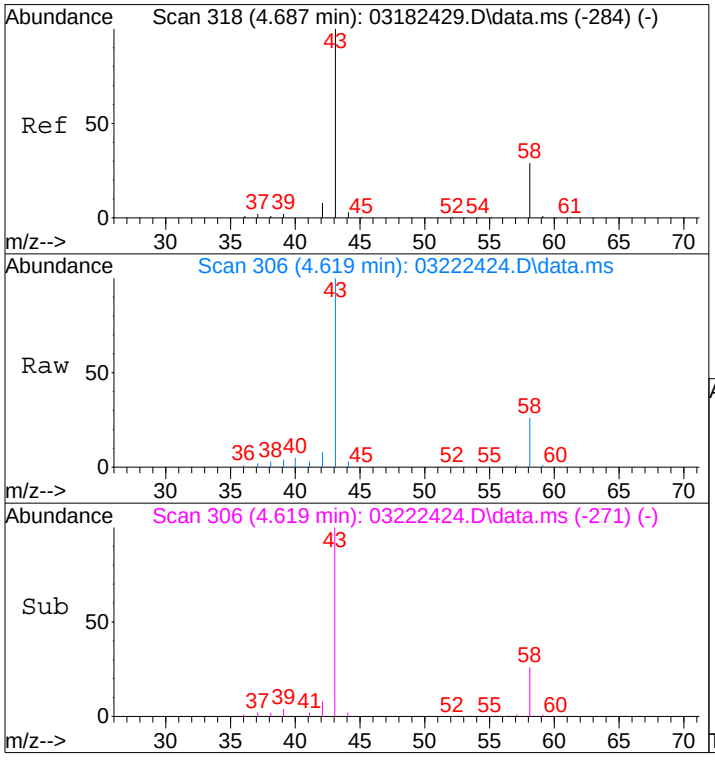


#10
Ethanol
Concen: 3.70 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.114 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 45 Resp: 56856

Ion	Ratio	Lower	Upper
45	100		
46	23.9	13.3	53.3

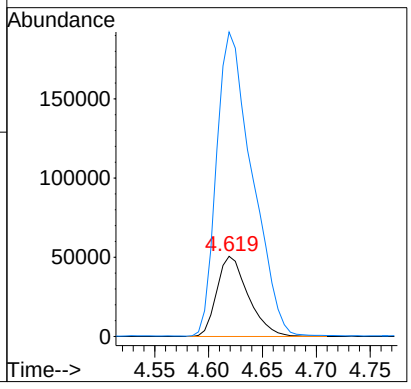


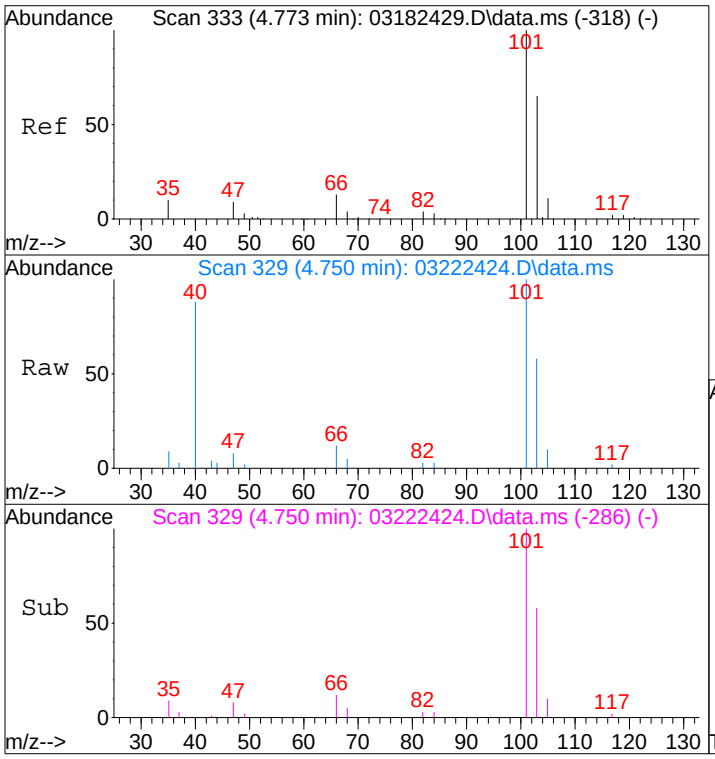


#13
Acetone
Concen: 8.77 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.050 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 58 Resp: 102603

Ion	Ratio	Lower	Upper
58	100		
43	431.5	350.1	410.1#

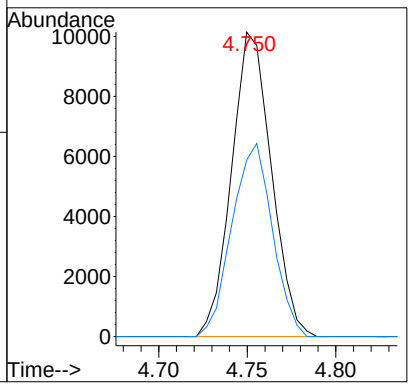


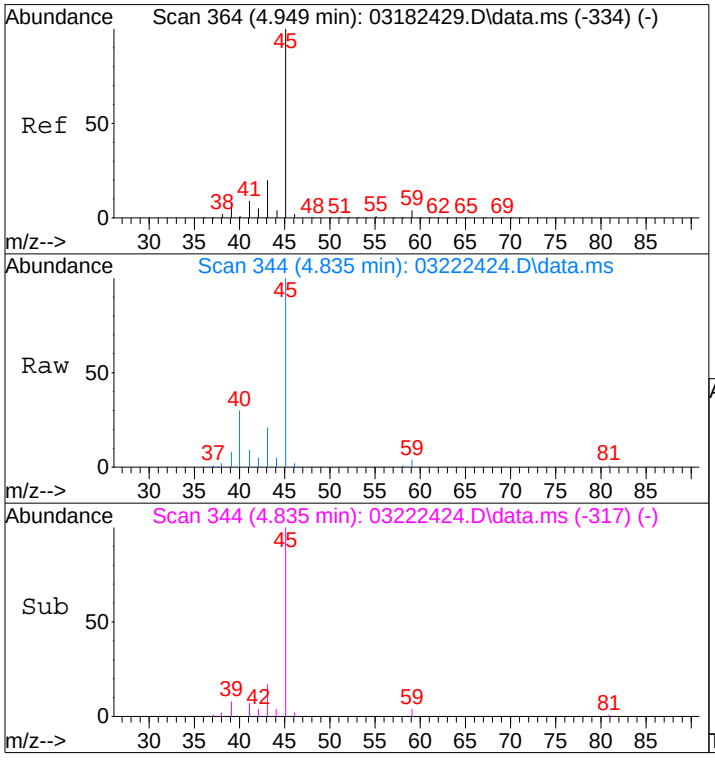


#14
Trichlorofluoromethane
Concen: 0.50 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.005 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:101 Resp: 15895

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

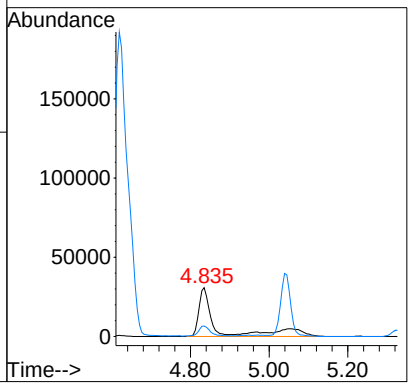


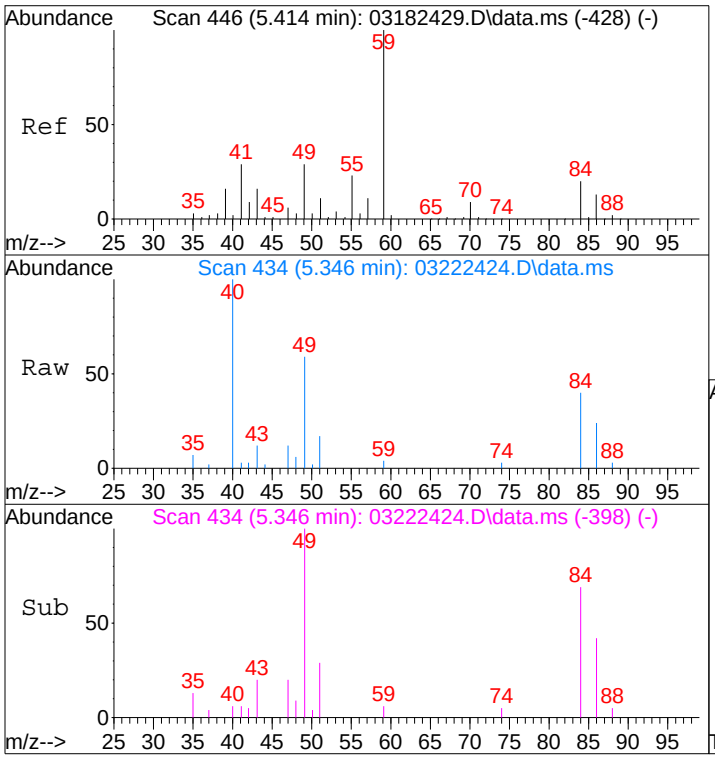


#15
2-Propanol (Isopropanol)
Concen: 2.01 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.095 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 45 Resp: 93767

Ion	Ratio	Lower	Upper
45	100		
43	17.0	0.4	40.4

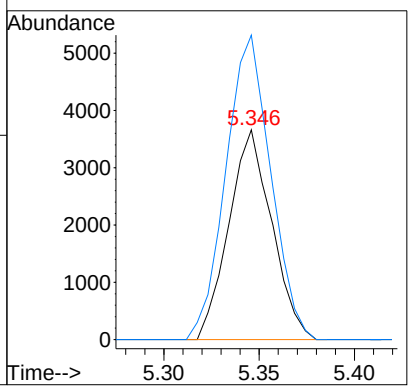


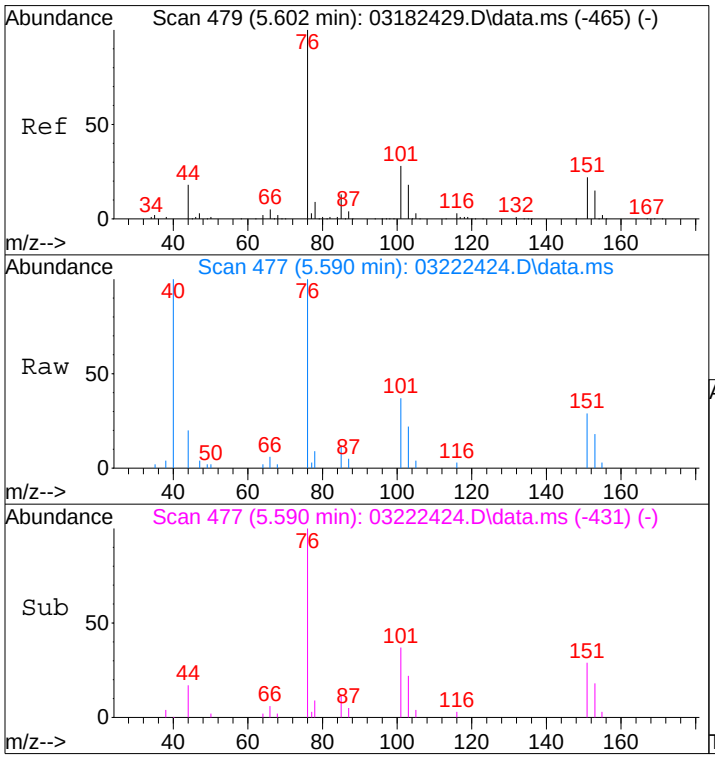


#19
Methylene Chloride
Concen: 0.34 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.048 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 84 Resp: 5736

Ion	Ratio	Lower	Upper
84	100		
49	151.6	122.9	172.9

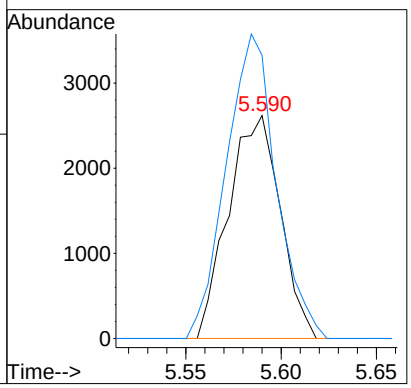


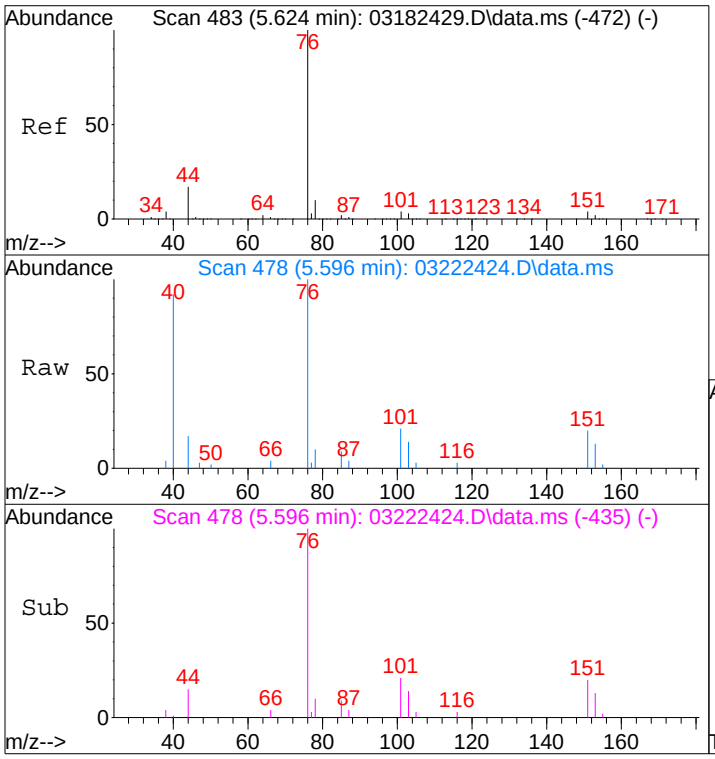


#21
Trichlorotrifluoroethane
Concen: 0.37 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.010 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:151 Resp: 4951

Ion	Ratio	Lower	Upper
151	100		
101	132.1	106.4	146.4

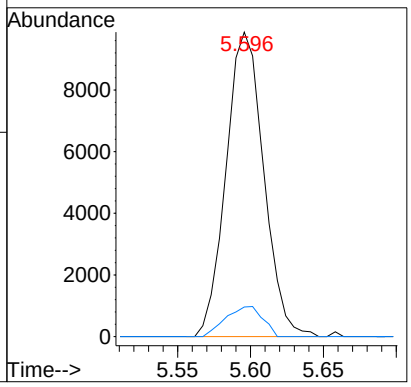


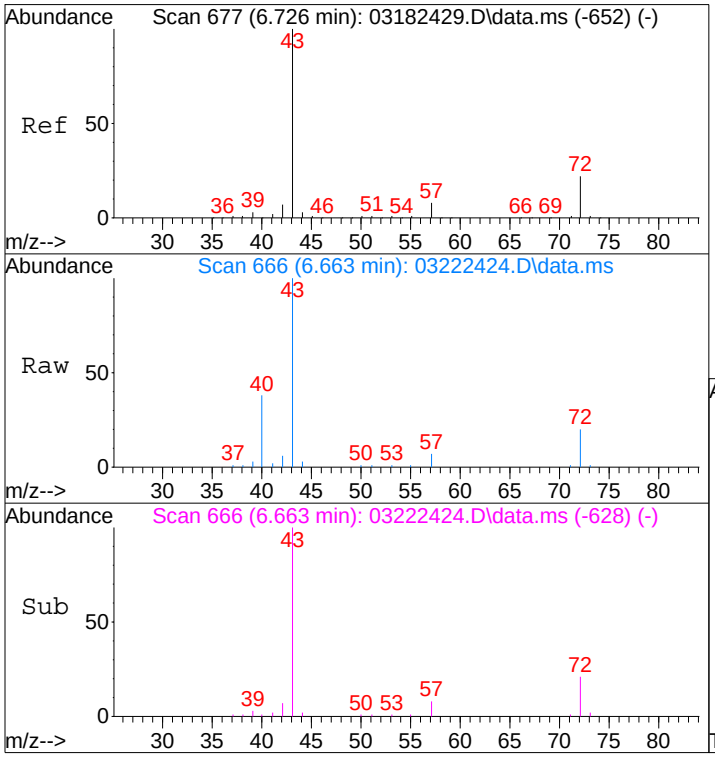


#22
Carbon Disulfide
Concen: 0.34 ng
RT: 5.60 min Scan# 478
Delta R.T. -0.007 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 76 Resp: 17758

Ion	Ratio	Lower	Upper
76	100		
78	9.7	0.0	29.8

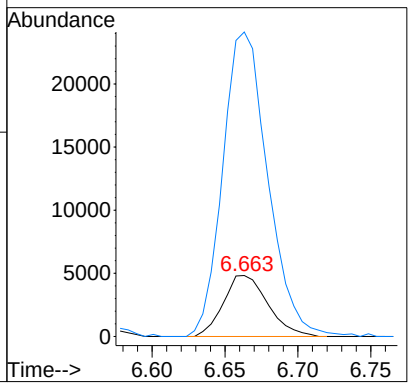


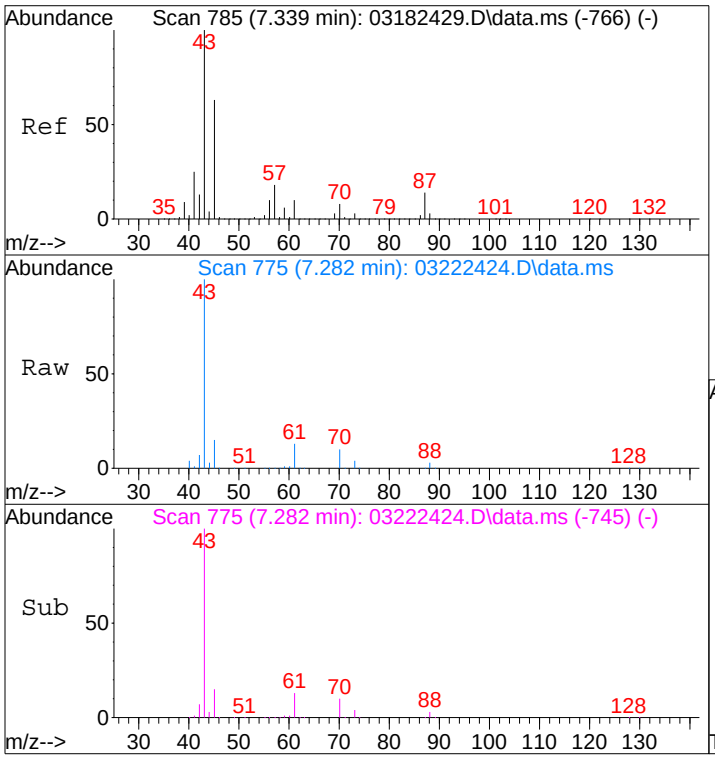


#27
2-Butanone (MEK)
Concen: 1.07 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.037 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 72 Resp: 10253

Ion	Ratio	Lower	Upper
72	100		
43	506.6	468.6	508.6

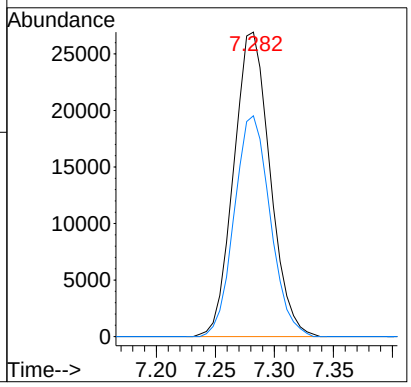


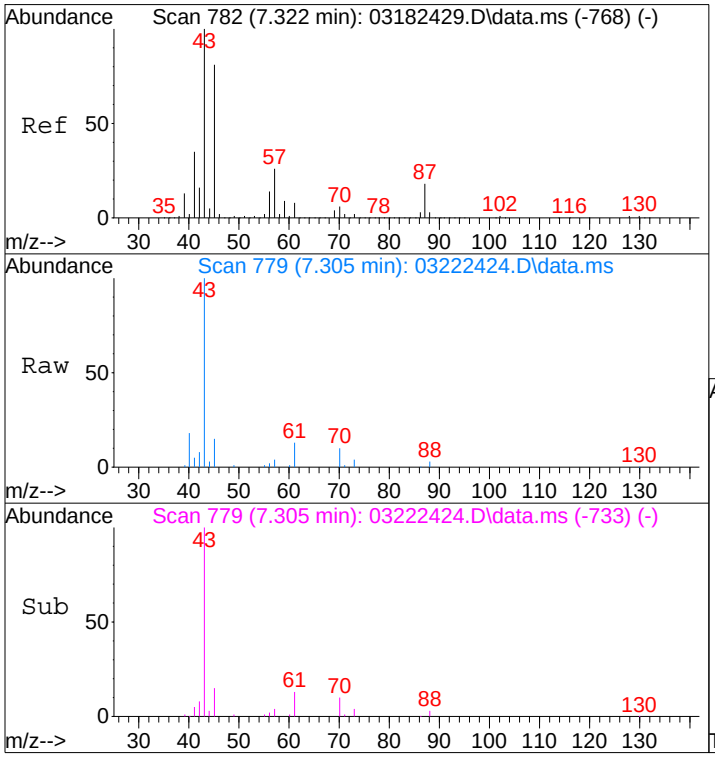


#30
Ethyl Acetate
Concen: 10.07 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.029 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 61 Resp: 57788

Ion	Ratio	Lower	Upper
61	100		
70	71.5	57.3	97.3

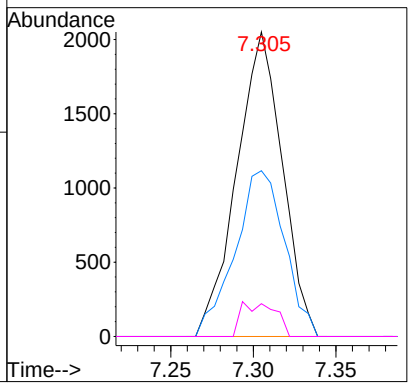


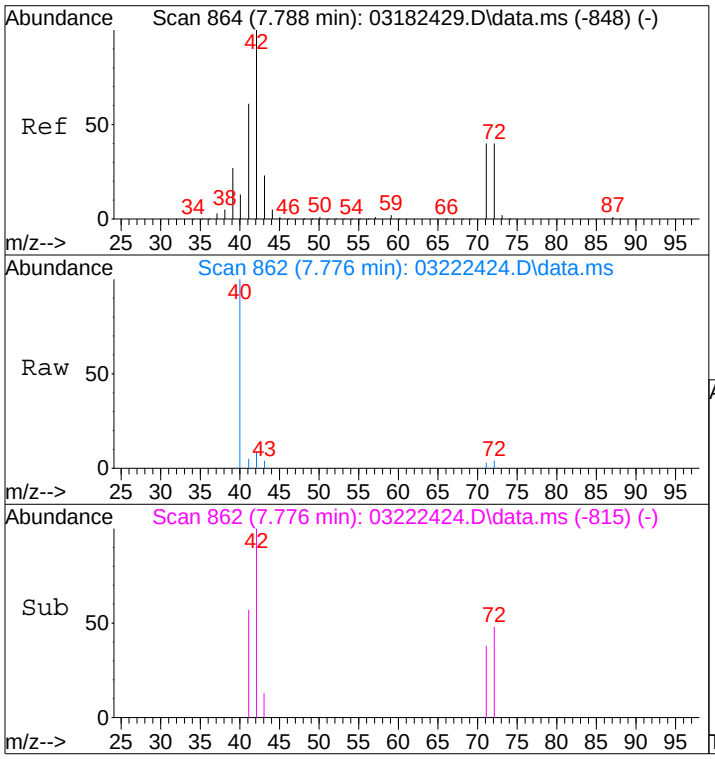


#31
n-Hexane
Concen: 0.16 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.011 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 57 Resp: 3932

Ion	Ratio	Lower	Upper
57	100		
56	59.2	42.2	63.4
86	8.4	9.4	14.2#

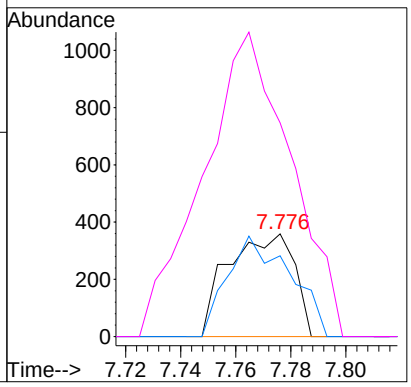


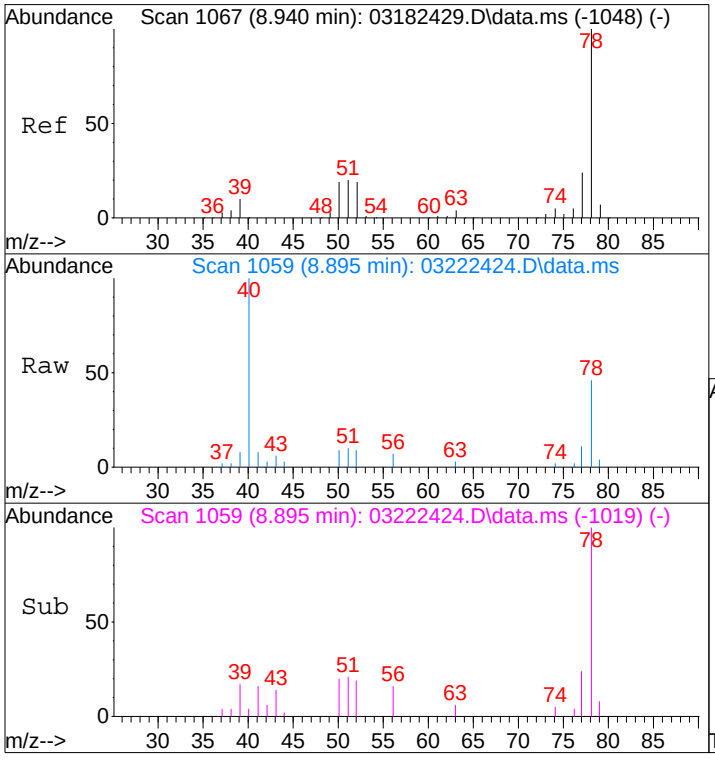


#34
Tetrahydrofuran (THF)
Concen: 0.07 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.018 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 72 Resp: 597

Ion	Ratio	Lower	Upper
72	100		
71	93.1	80.7	120.7
42	396.3	255.0	295.0#

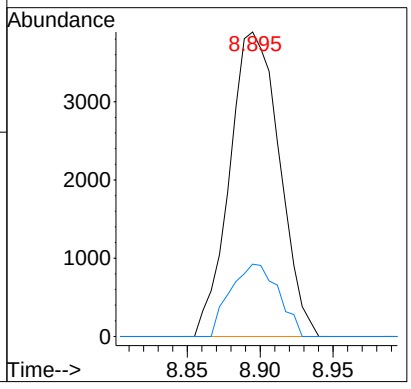


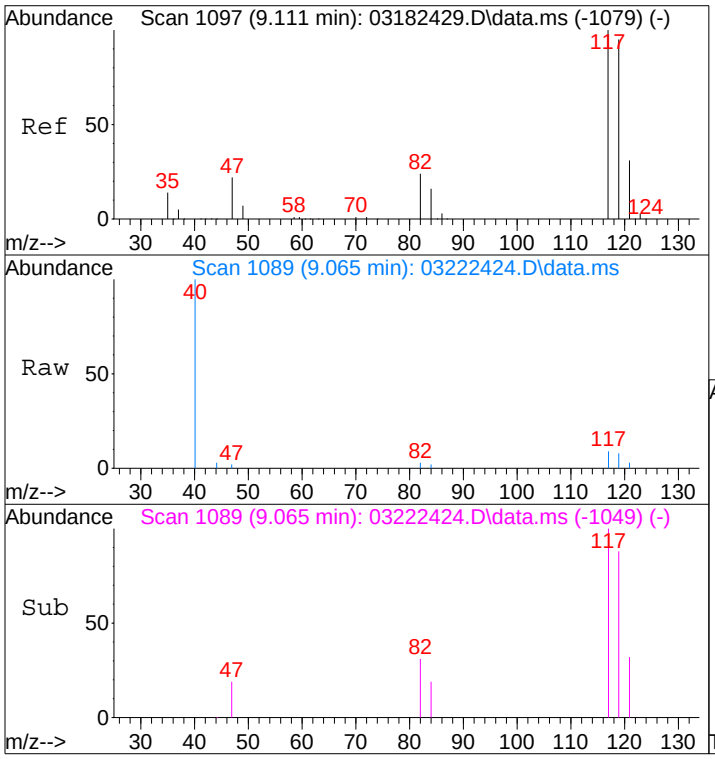


#41
Benzene
Concen: 0.15 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.024 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 78 Resp: 9241

Ion	Ratio	Lower	Upper
78	100		
77	22.9	3.6	43.6

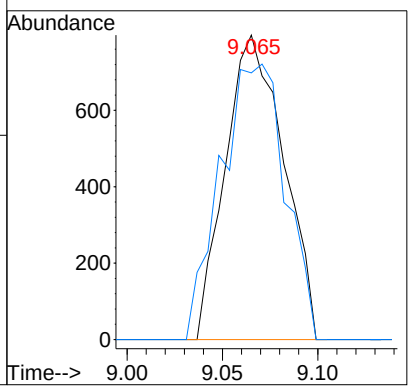


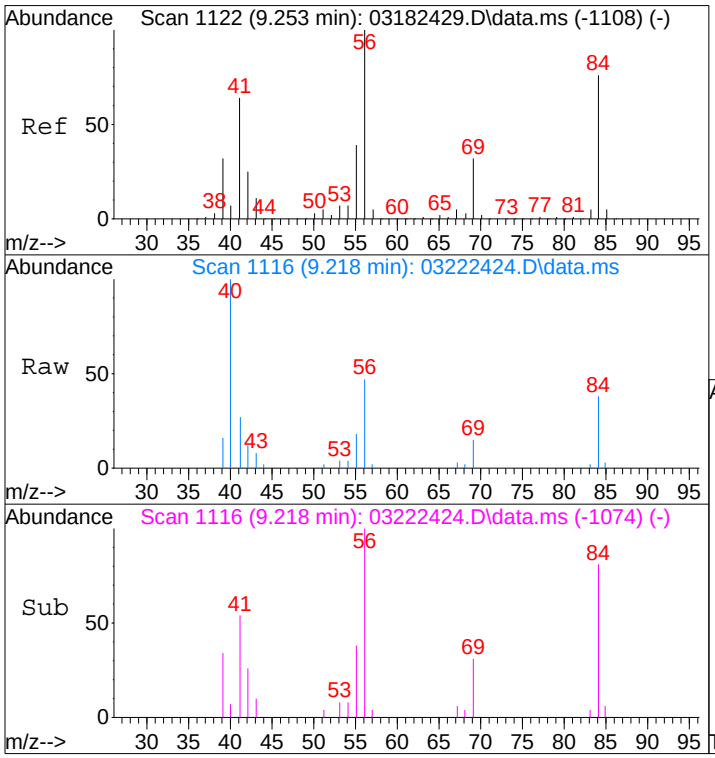


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.024 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:117 Resp: 1693

Ion	Ratio	Lower	Upper
117	100		
119	100.8	75.7	115.7

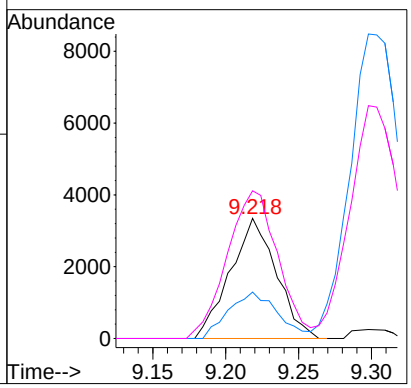


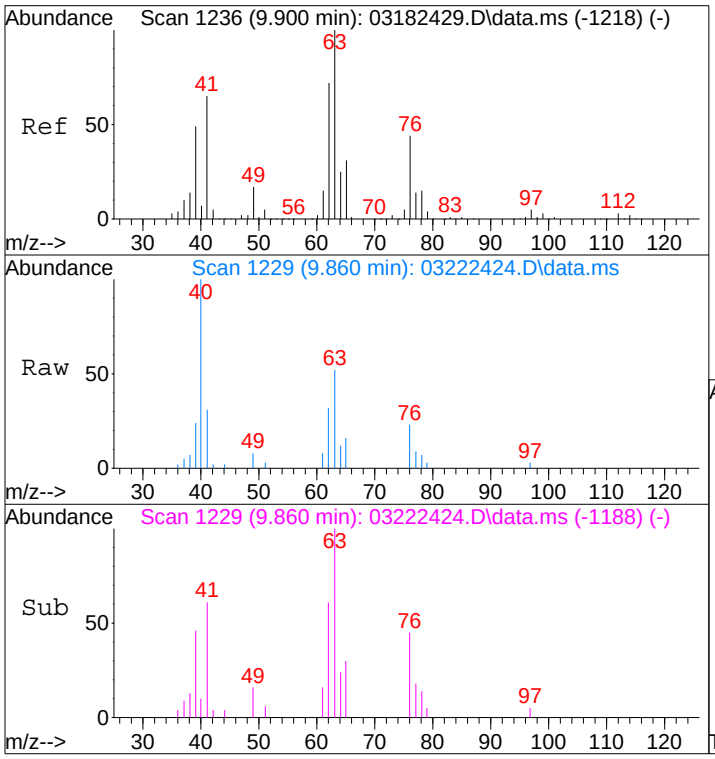


#43
Cyclohexane
Concen: 0.38 ng
RT: 9.22 min Scan# 1116
Delta R.T. -0.012 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 84 Resp: 7373

Ion	Ratio	Lower	Upper
84	100		
69	41.3	21.3	61.3
56	134.5	115.3	155.3

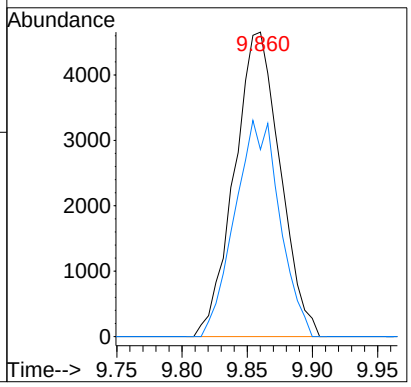


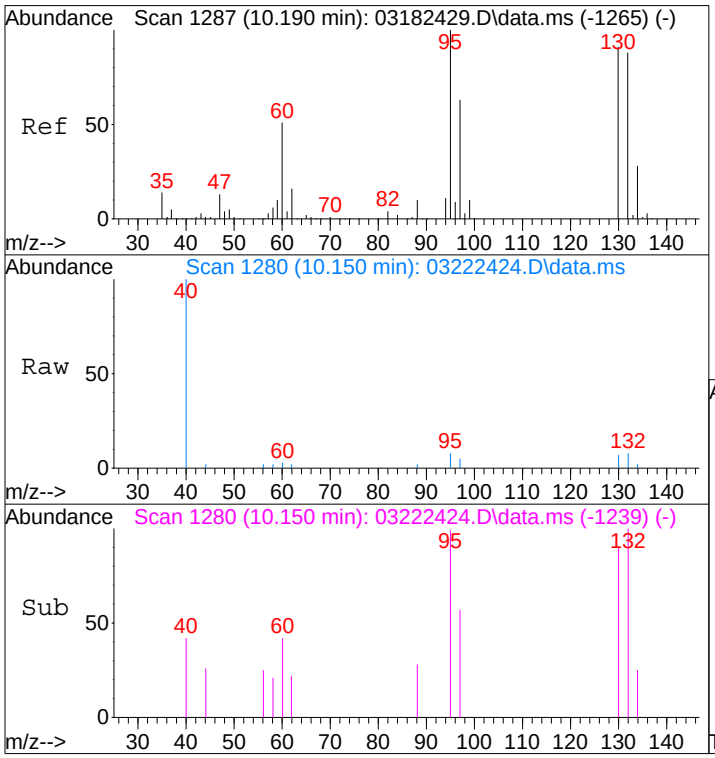


#45
1,2-Dichloropropane
Concen: 0.75 ng
RT: 9.86 min Scan# 1229
Delta R.T. -0.016 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 63 Resp: 11361

Ion	Ratio	Lower	Upper
63	100		
62	69.8	51.8	91.8

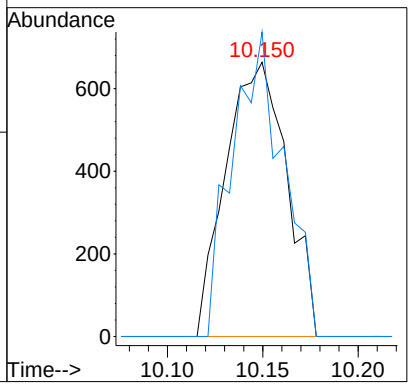


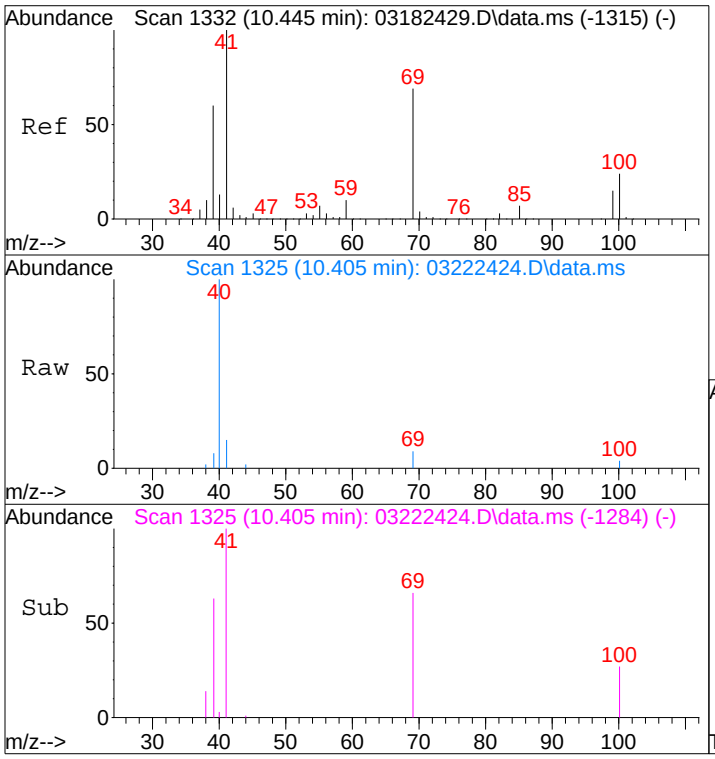


#47
Trichloroethene
Concen: 0.09 ng
RT: 10.15 min Scan# 1280
Delta R.T. -0.015 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:130 Resp: 1477

Ion	Ratio	Lower	Upper
130	100		
132	93.2	77.5	117.5

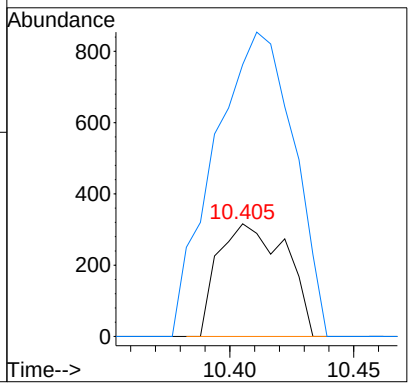


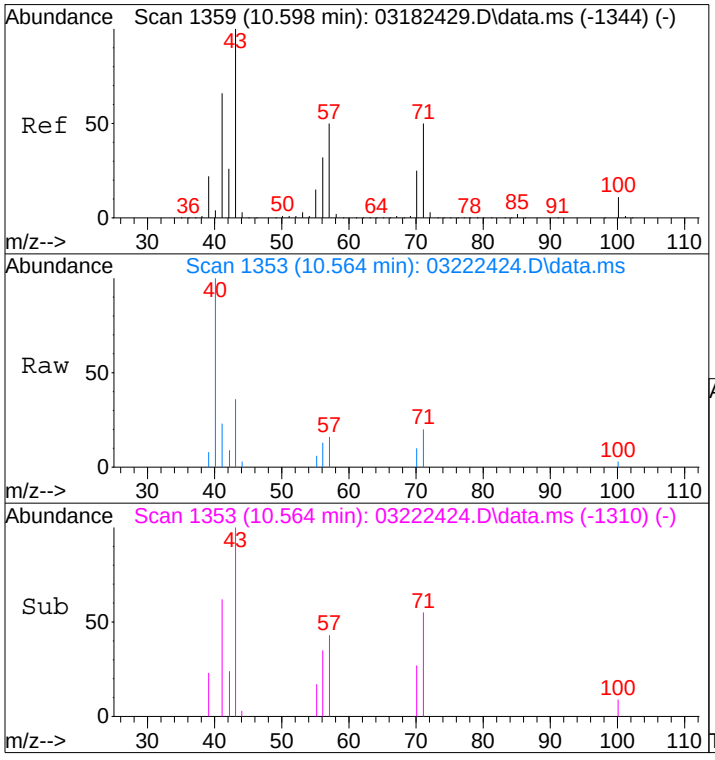


#50
Methyl Methacrylate
Concen: 0.12 ng
RT: 10.41 min Scan# 1325
Delta R.T. -0.015 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:100 Resp: 603

Ion	Ratio	Lower	Upper
100	100		
69	315.8	261.2	301.2#

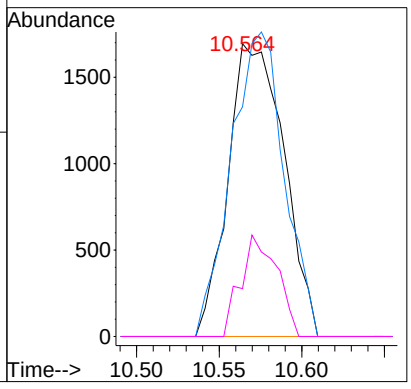


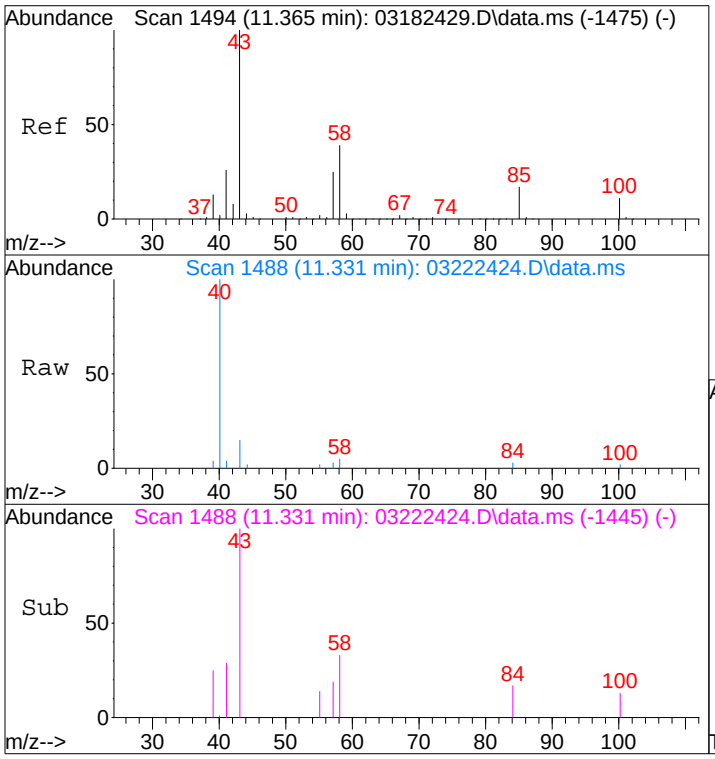


#51
n-Heptane
Concen: 0.30 ng
RT: 10.56 min Scan# 1353
Delta R.T. -0.009 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 71 Resp: 3986

Ion	Ratio	Lower	Upper
71	100		
57	98.8	81.2	121.2
100	22.5	4.0	44.0

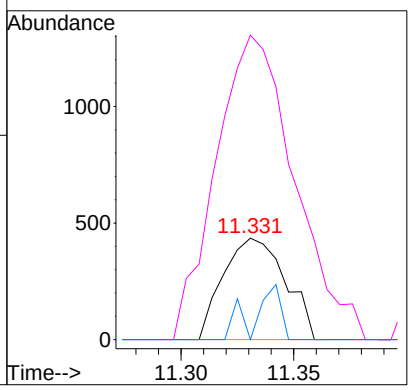


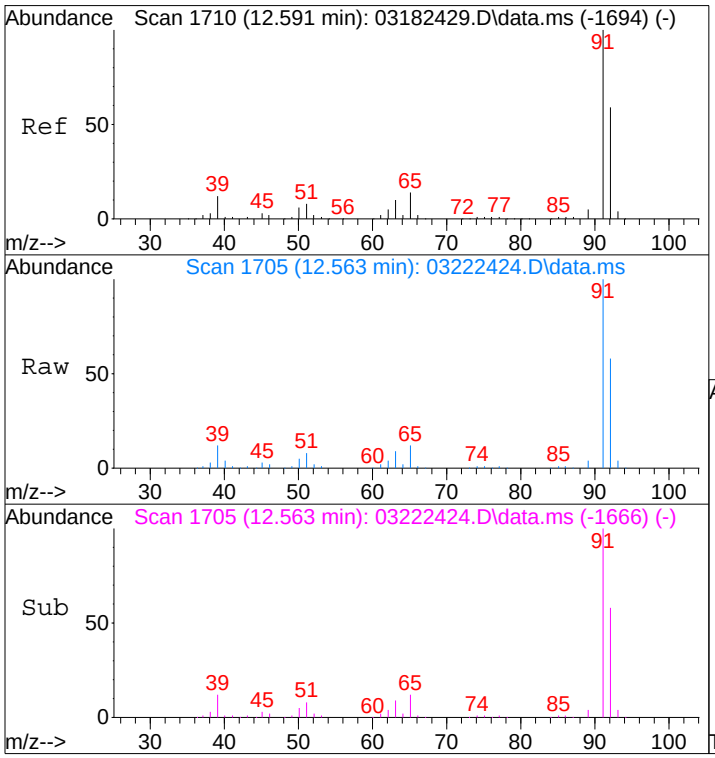


#53
4-Methyl-2-pentanone
Concen: 0.06 ng
RT: 11.33 min Scan# 1488
Delta R.T. -0.007 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 58 Resp: 836

Ion	Ratio	Lower	Upper
58	100		
85	23.6	34.5	51.7#
43	379.9	218.4	327.6#

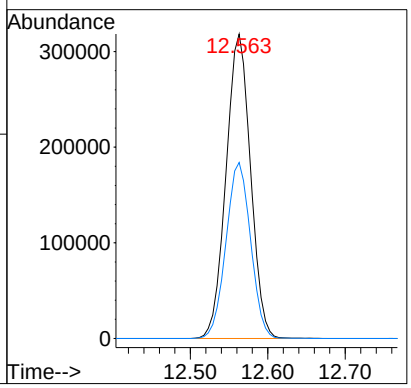


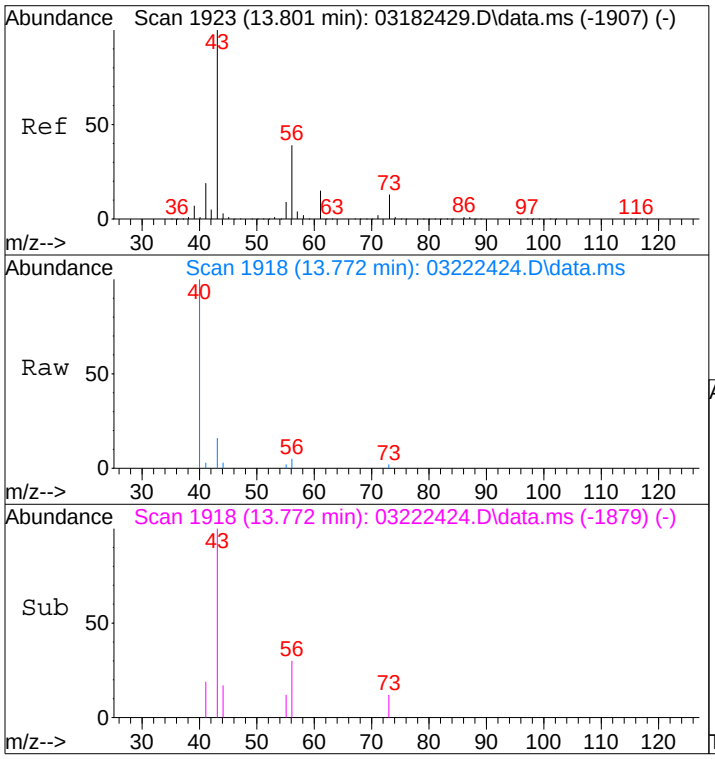


#58
Toluene
Concen: 11.98 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 91 Resp: 699216

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.2	79.2

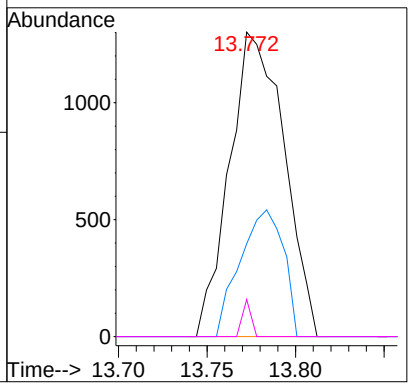


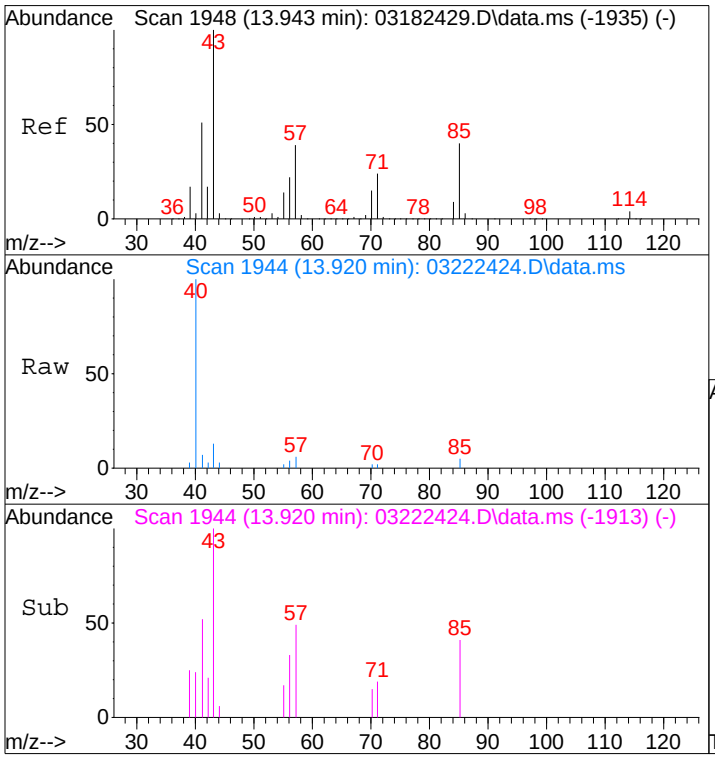


#62
n-Butyl Acetate
Concen: 0.07 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.029 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 43 Resp: 2790

Ion	Ratio	Lower	Upper
43	100		
56	33.2	16.7	56.7
73	0.0	0.0	31.3

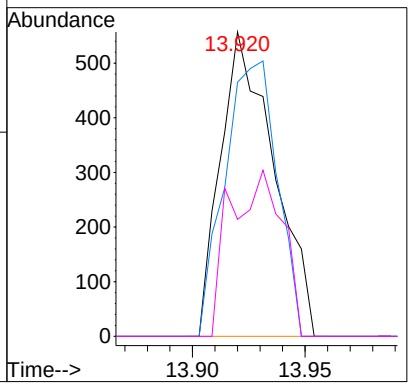


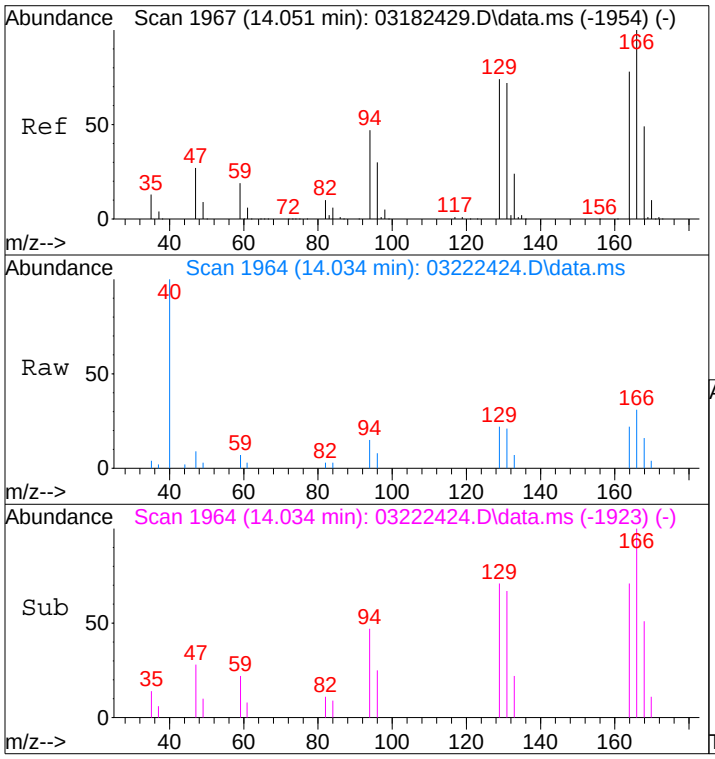


#63
n-Octane
Concen: 0.07 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 57 Resp: 918

Ion	Ratio	Lower	Upper
57	100		
85	89.0	80.6	121.0
71	53.6	49.3	73.9

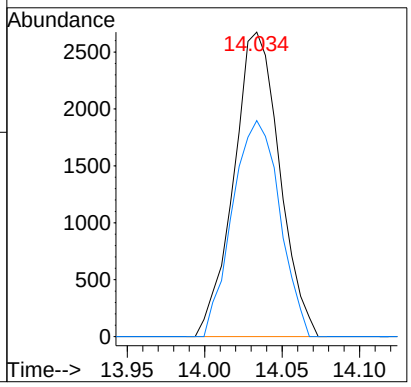


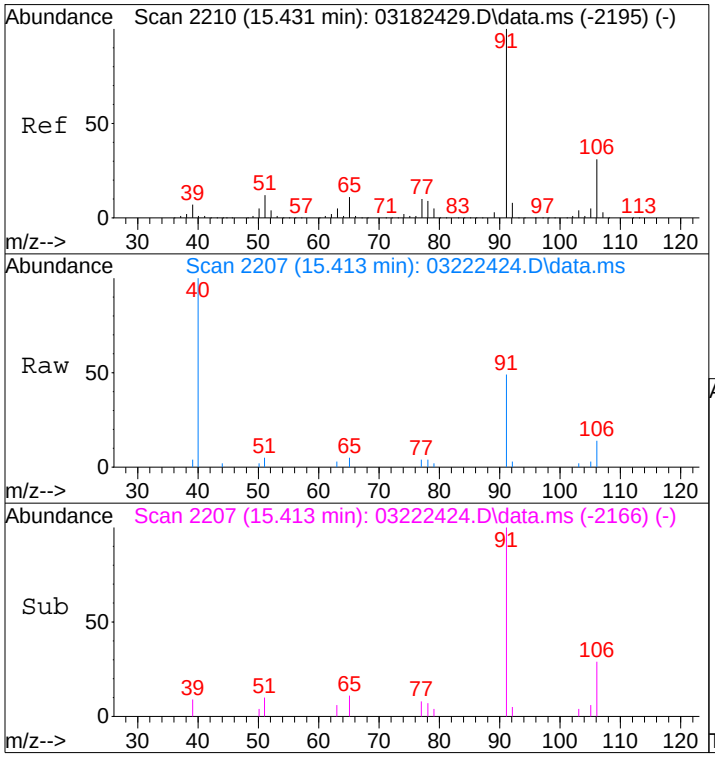


#64
Tetrachloroethene
Concen: 0.31 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:166 Resp: 5527

Ion	Ratio	Lower	Upper
166	100		
164	73.0	56.7	96.7

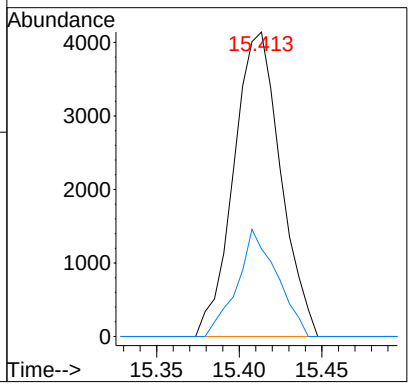


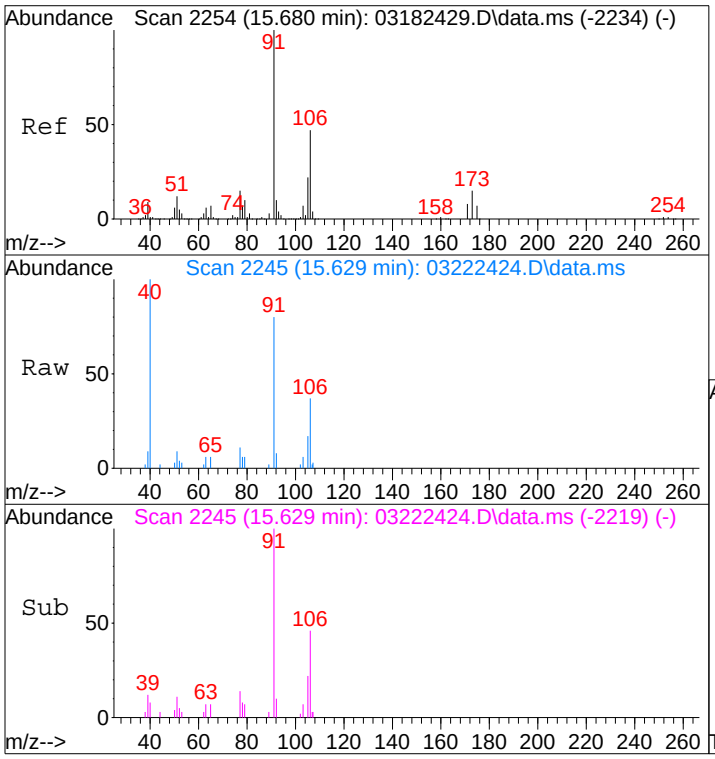


#66
Ethylbenzene
Concen: 0.12 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 91 Resp: 8170

Ion	Ratio	Lower	Upper
91	100		
106	29.9	10.4	50.4

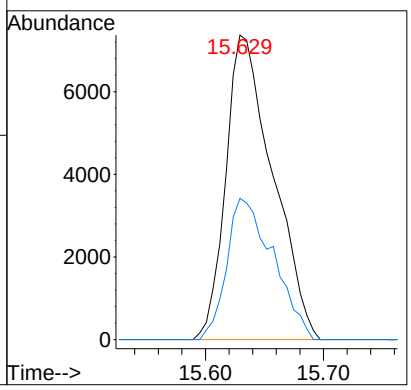


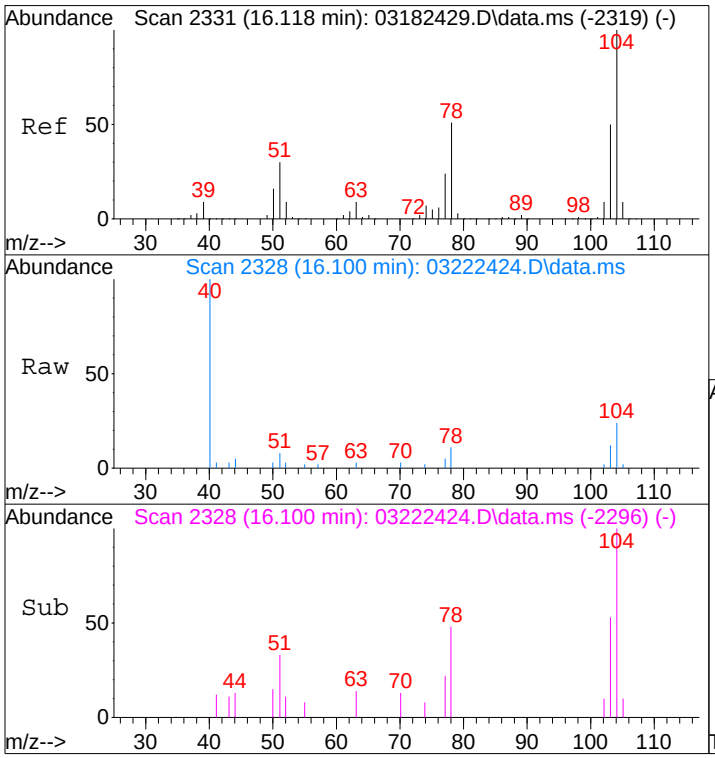


#67
m- & p-Xylenes
Concen: 0.37 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 91 Resp: 20343

Ion	Ratio	Lower	Upper
91	100		
106	45.8	25.6	65.6

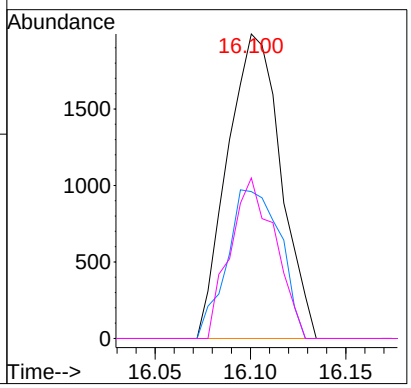


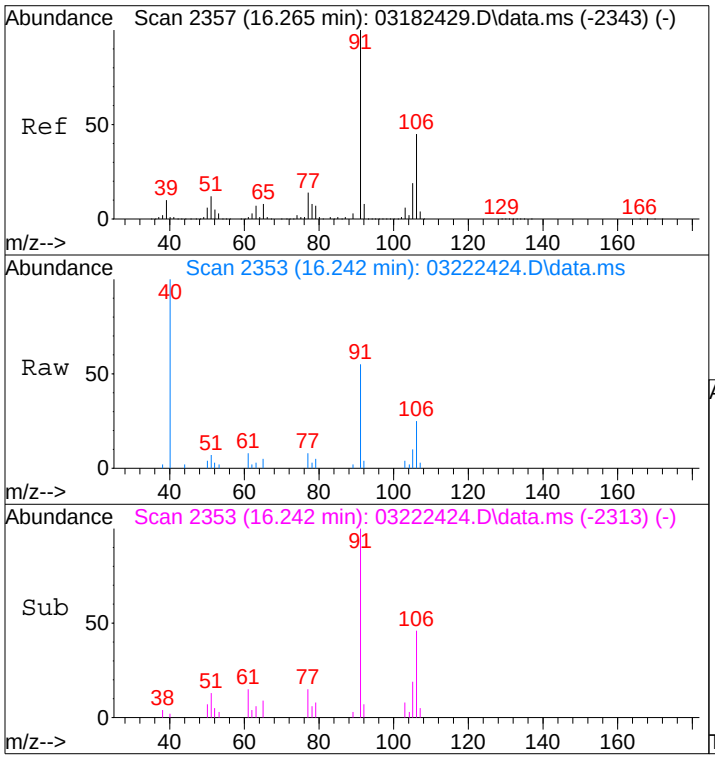


#69
Styrene
Concen: 0.10 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:104 Resp: 3865

Ion	Ratio	Lower	Upper
104	100		
78	48.7	28.5	68.5
103	44.5	28.4	68.4

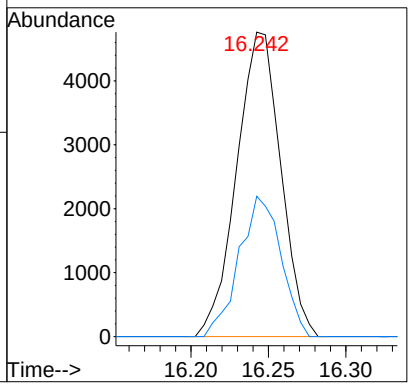


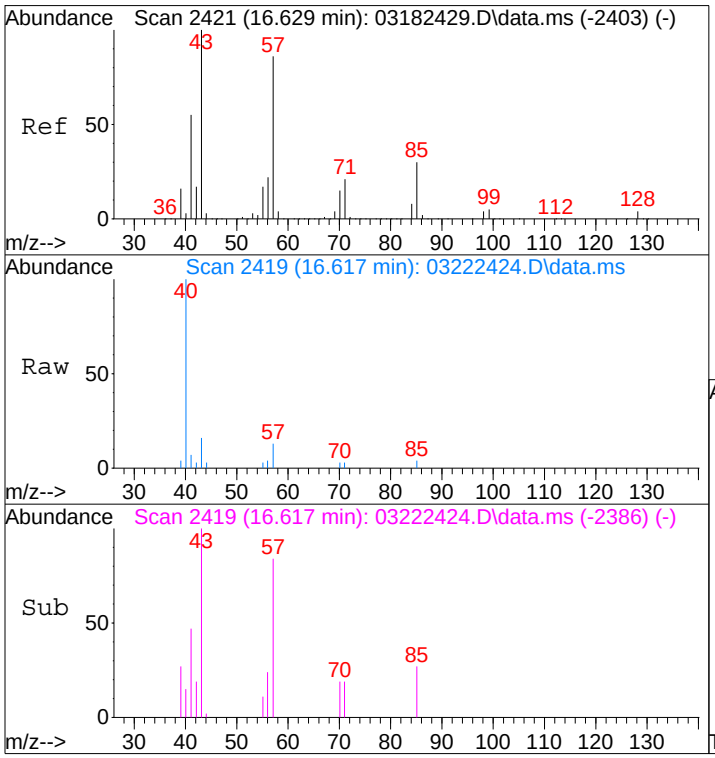


#70
o-Xylene
Concen: 0.17 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 91 Resp: 9451

Ion	Ratio	Lower	Upper
91	100		
106	43.6	24.4	64.4

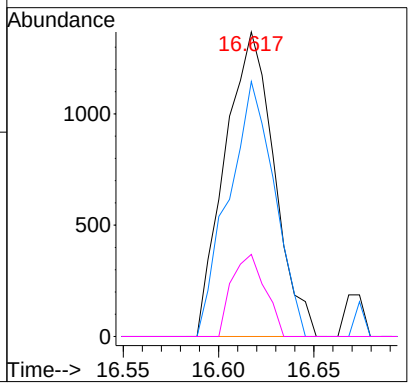


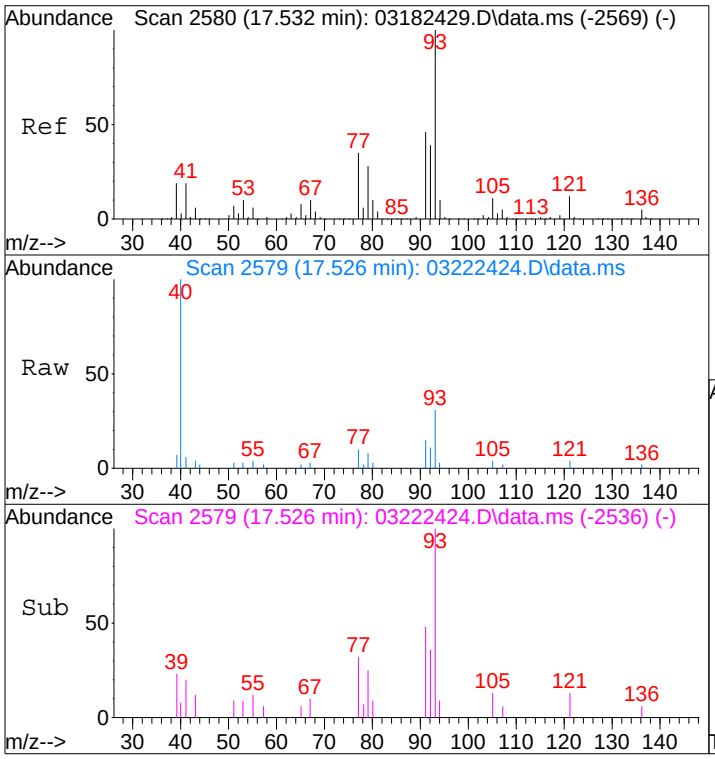


#71
n-Nonane
Concen: 0.08 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.012 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 43 Resp: 2457

Ion	Ratio	Lower	Upper
43	100		
57	78.1	63.3	103.3
85	18.3	7.8	47.8

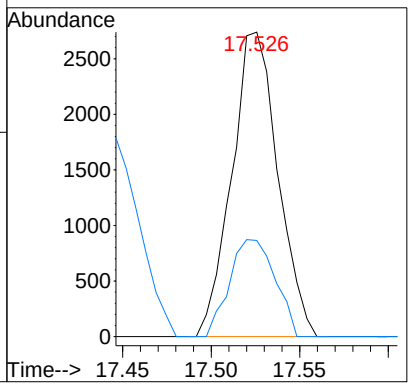


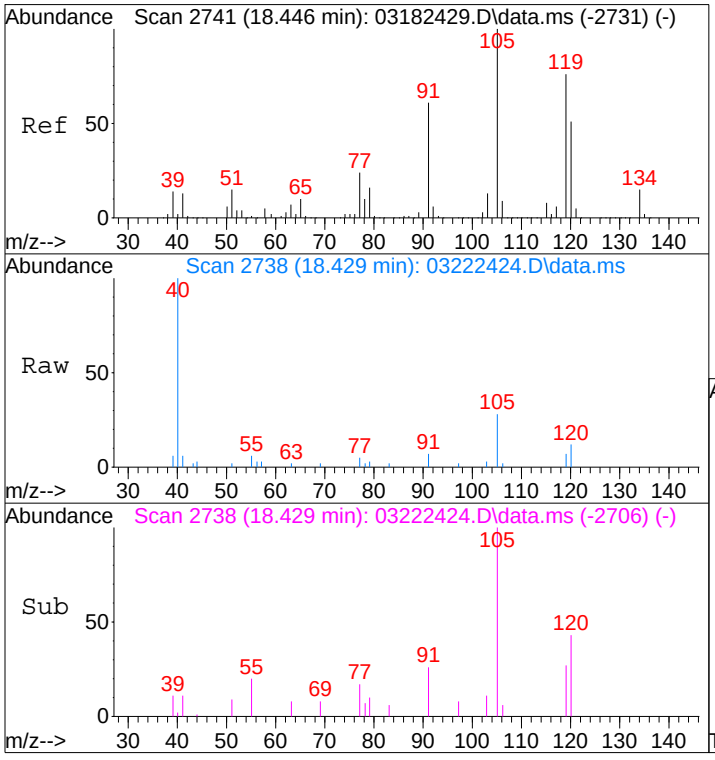


#75
alpha-Pinene
Concen: 0.15 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 93 Resp: 4966

Ion	Ratio	Lower	Upper
93	100		
77	31.5	13.4	53.4

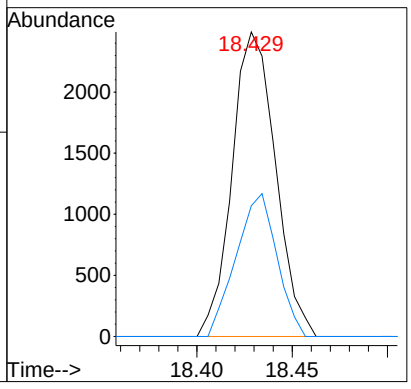


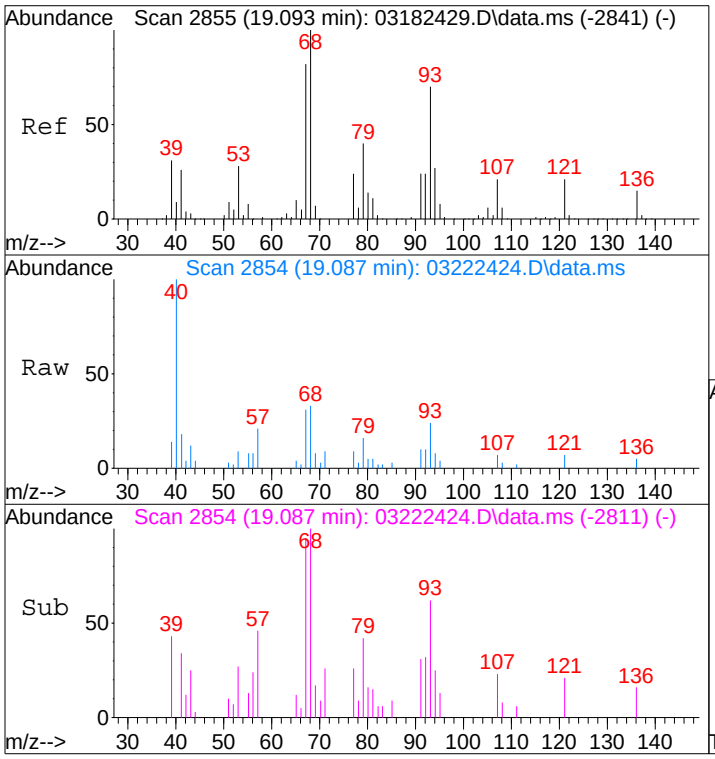


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion:105 Resp: 3949

Ion	Ratio	Lower	Upper
105	100		
120	44.0	31.1	71.1

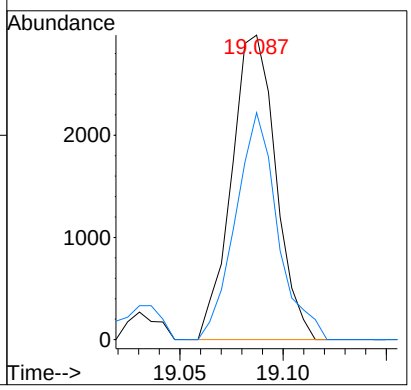




#91
d-Limonene
Concen: 0.22 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03222424.D
Acq: 22 Mar 2024 18:38

Tgt Ion: 68 Resp: 4455

Ion	Ratio	Lower	Upper
68	100		
93	70.7	51.5	91.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:36:34 2024 3/25/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

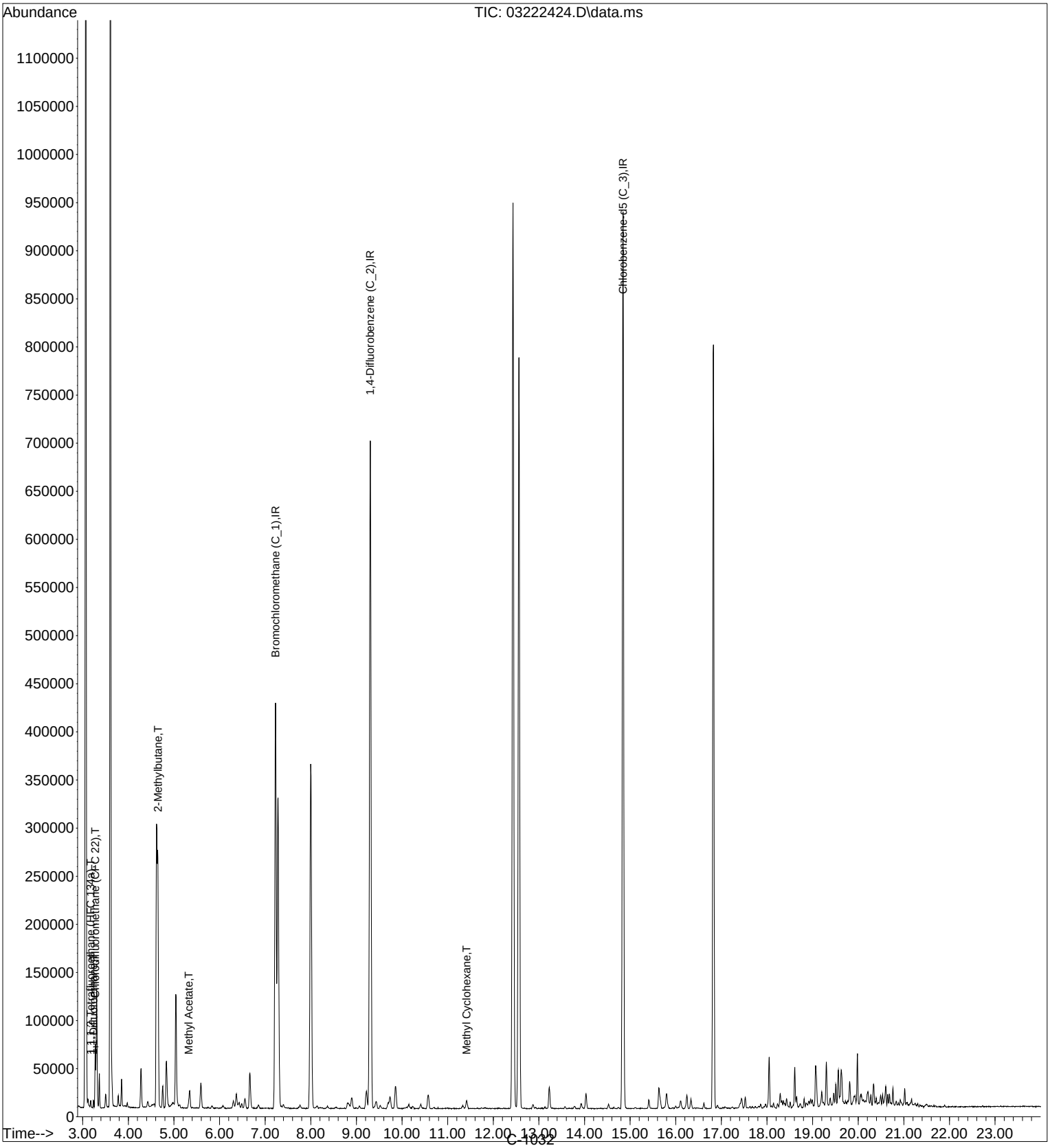
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	159018	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	687101	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	152327	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	268	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	3258	0.223	ng	#	60
4) 1,1-Difluoroethane	3.23	65	1624	0.135	ng		71
5) Chlorodifluoromethane ...	3.27	67	8666	1.855	ng		99
6) 1-Chloro-1,1-Difluoroe...	3.50	65	718	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1439	N.D.			
10) 2-Methylbutane	4.65	57	50812	3.190	ng	#	77
11) Methyl Acetate	5.32	43	7496	0.183	ng	#	83
12) 2-Methylpentane	6.48	71	938	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.07	84	52	N.D.			
17) 2,3-Dimethylpentane	9.53	56	1582	N.D.			
18) Dibromomethane	9.79	174	126	N.D.			
20) Methyl Cyclohexane	11.42	55	3778	0.158	ng		99
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	17.04	77	113	N.D.			
26) 2-Chlorotoluene	17.62	91	742	N.D.			
27) 4-Chlorotoluene	17.68	91	2193	N.D.			
28) Indane	19.12	117	700	N.D.			
29) Indene	19.11	115	126	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	405	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	758	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	627	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222424.D Vial: 4
Acq On : 22 Mar 2024 18:38 Operator: SC
Sample : P2400922-026 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:36:34 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222424.D
Acq On : 22 Mar 2024 18:38
Operator : SC
Sample : P2400922-026 (400mL)
Misc : S37-02202408
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03222424.D\data.ms

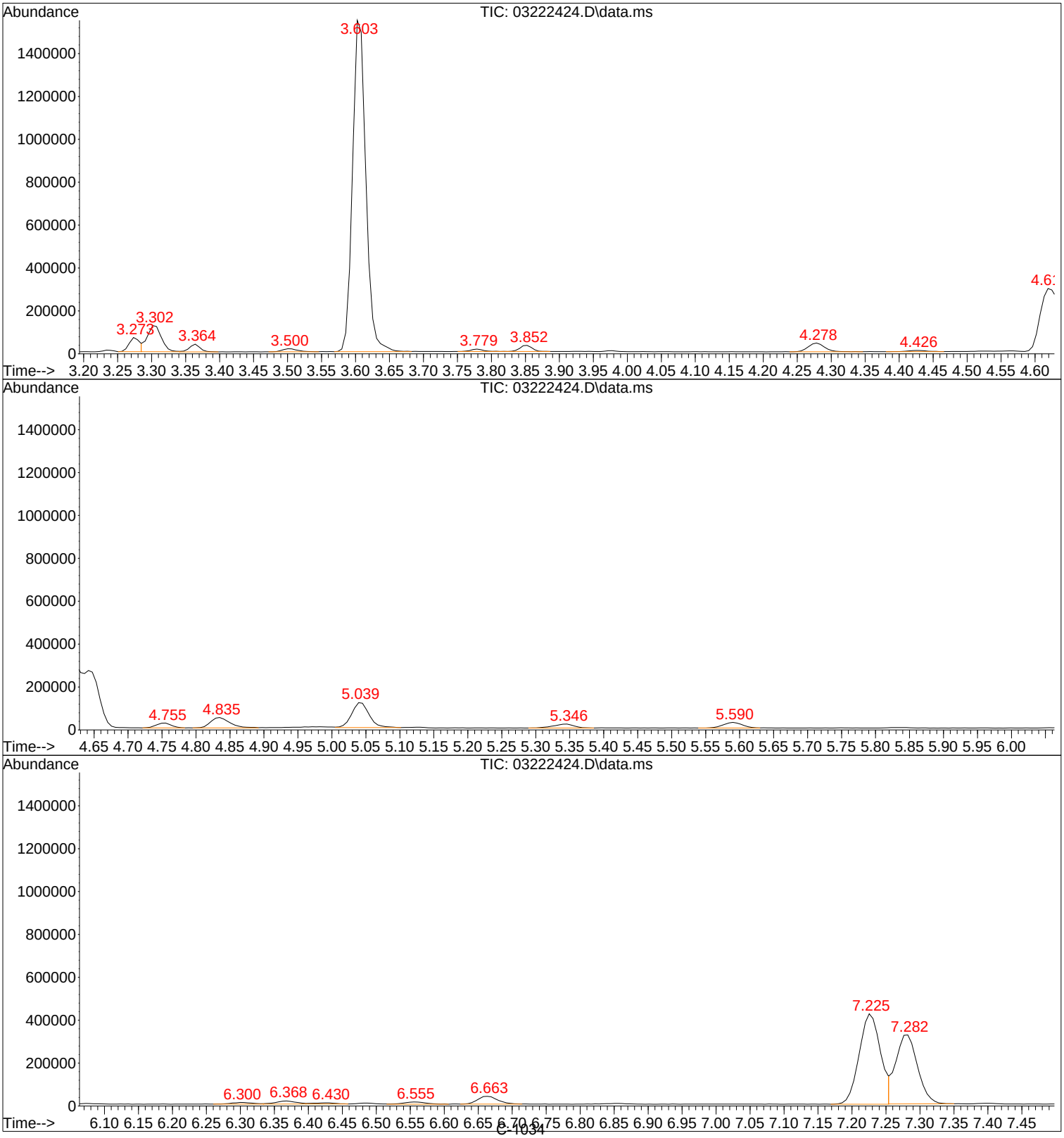
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.273	65	69	71	rBV	65950	74085	3.51%	1.390%
2	3.302	71	74	81	rVV3	121912	174930	8.28%	3.282%
3	3.364	81	85	91	rVB	35725	38154	1.81%	0.716%
4	3.500	104	109	117	rBV2	13995	22728	1.08%	0.426%
5	3.603	121	127	141	rBV	1545009	2111569	100.00%	39.612%
6	3.779	153	158	166	rBV	11261	14904	0.71%	0.280%
7	3.852	166	171	177	rVB	28198	35442	1.68%	0.665%
8	4.278	239	246	258	rBV	40658	69228	3.28%	1.299%
9	4.426	264	272	279	rBV3	5752	11950	0.57%	0.224%
10	4.619	300	306	309	rBV	293467	555461	26.31%	10.420%
11	4.755	324	330	335	rVB	22505	35349	1.67%	0.663%
12	4.835	337	344	354	rBV	48205	94622	4.48%	1.775%
13	5.039	374	380	391	rVB	116038	205780	9.75%	3.860%
14	5.346	424	434	441	rBV3	18269	38818	1.84%	0.728%
15	5.590	468	477	484	rBV4	26220	51239	2.43%	0.961%
16	6.300	595	602	608	rBV	7779	16647	0.79%	0.312%
17	6.368	608	614	619	rVV	14488	29373	1.39%	0.551%
18	6.430	619	625	630	rVB2	5317	11244	0.53%	0.211%
19	6.555	640	647	656	rVB3	10220	22753	1.08%	0.427%
20	6.663	659	666	675	rVV	36183	75067	3.56%	1.408%
21	7.225	755	765	770	rBV	421742	934763	44.27%	17.535%
22	7.282	770	775	787	rVB	321167	706584	33.46%	13.255%

Sum of corrected areas: 5330690

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222424.D
Acq On : 22 Mar 2024 18:38
Operator : SC
Sample : P2400922-026 (400mL)
Misc : S37-02202408
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\22\\
Data File : 03222424.D
Acq On : 22 Mar 2024 18:388
Operator : SCC
Sample : P2400922-026 (400mL))
Misc : S37-022024088
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:53:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	140526	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	597045	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	134448	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	290384	12.631	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	12.43	98	678199	12.563	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	16.83	174	239483	12.583	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
2) Propene	3.32	42	544	N.D.			
3) Dichlorodifluoromethan...	3.38	85	868	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	1717	0.126	ng		85
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.65	58	2732	0.264	ng	#	78
14) Trichlorofluoromethane	4.75	101	1882133	67.466	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	1096	N.D.			
16) Acrylonitrile	5.00	53	419	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.34	84	673	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	209876	17.847	ng		100
22) Carbon Disulfide	5.60	76	885	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	392	0.077	ng		99
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	580	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	232	No Calib		#	
41) Benzene	8.89	78	1167	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	717	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	303	N.D.			
47) Trichloroethene	10.15	130	553	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:53:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

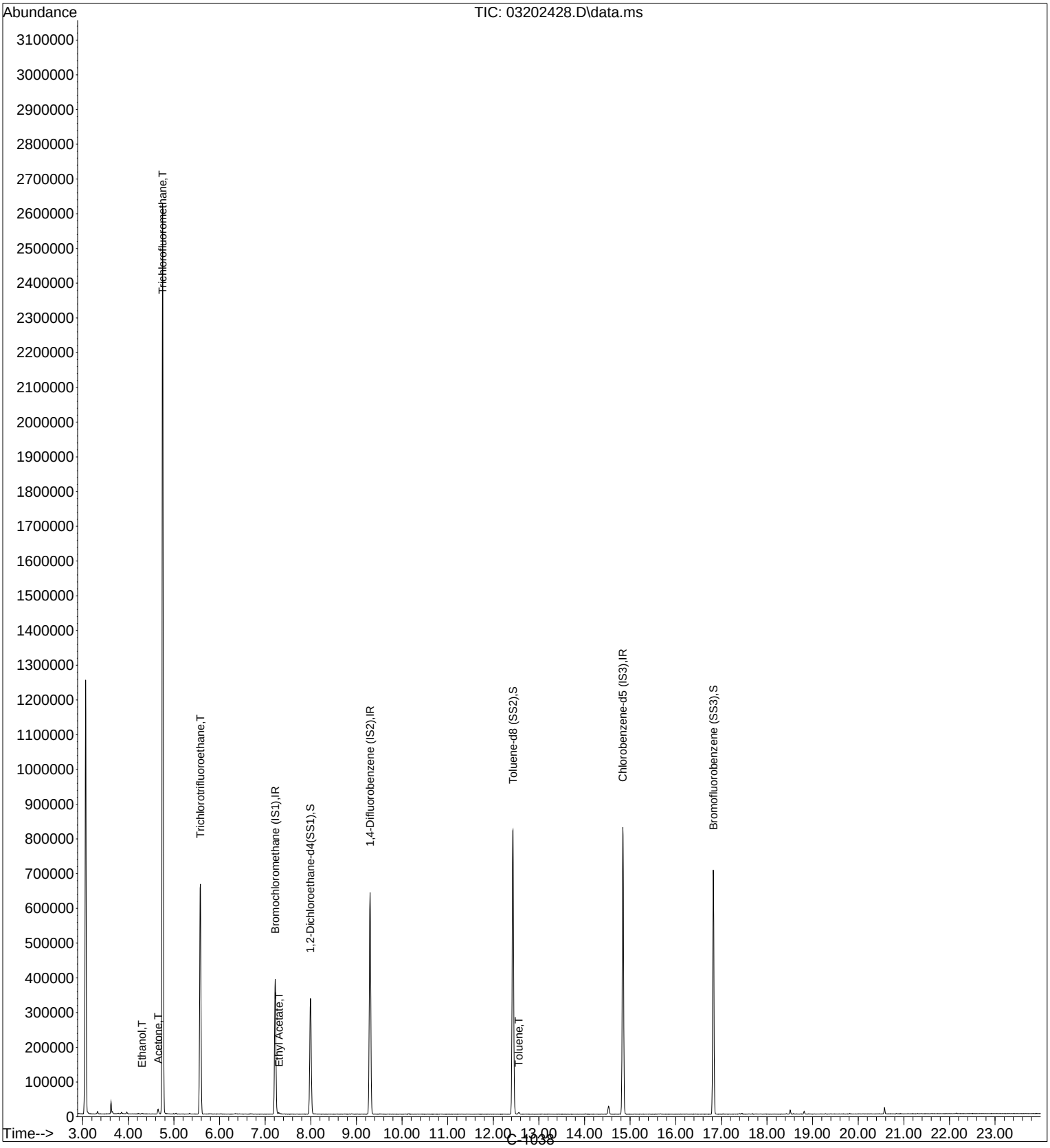
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5260	0.102 ng	96
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.06	129	261	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	306	N.D.	
65) Chlorobenzene	14.89	112	351	N.D.	
66) Ethylbenzene	15.41	91	745	N.D.	
67) m- & p-Xylenes	15.66	91	781	N.D.	
68) Bromoform	15.67	173	392	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	459	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	204	N.D.	
74) Cumene	17.03	105	562	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	774	N.D.	
77) 3-Ethyltoluene	17.03	105	562	No Calib #	
78) 4-Ethyltoluene	17.86	105	428	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	299	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	562	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	327	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	533	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	427	N.D.	
87) sec-Butylbenzene	18.74	105	570	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	327	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	562	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	404	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	499	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	510	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	499	N.D.	
100) n-Butylbenzene	19.39	91	339	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:53:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:53:30 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

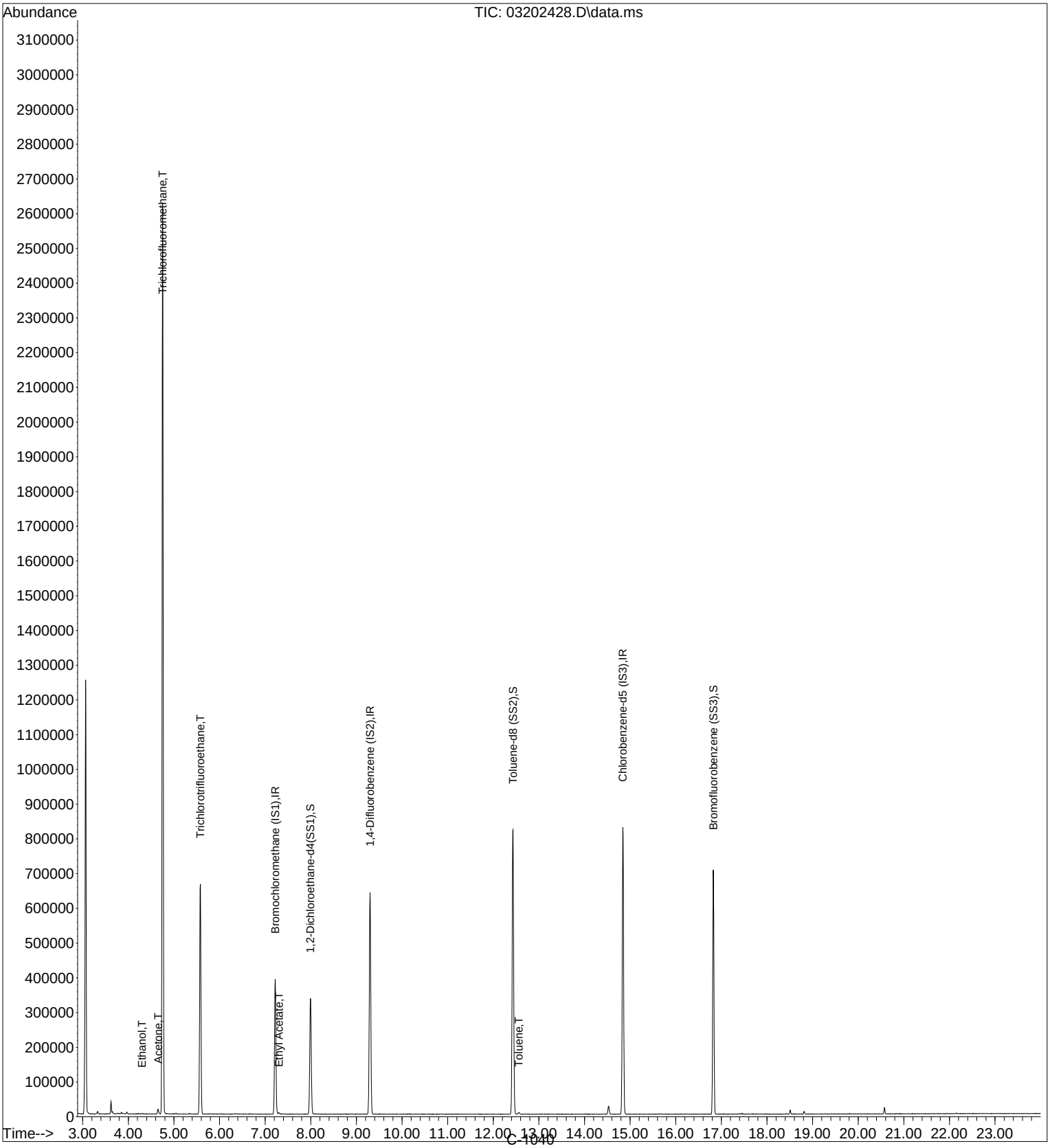
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	140526	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	597045	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	134448	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	290384	12.631	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	12.43	98	678199	12.563	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
73) Bromofluorobenzene (SS3)	16.83	174	239483	12.583	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
10) Ethanol	4.30	45	1717	0.126	ng		85
13) Acetone	4.65	58	2732	0.264	ng	#	78
14) Trichlorofluoromethane	4.75	101	1882133	67.466	ng		100
21) Trichlorotrifluoroethane	5.58	151	209876	17.847	ng		100
30) Ethyl Acetate	7.30	61	392	0.077	ng		99
58) Toluene	12.56	91	5260	0.102	ng		96

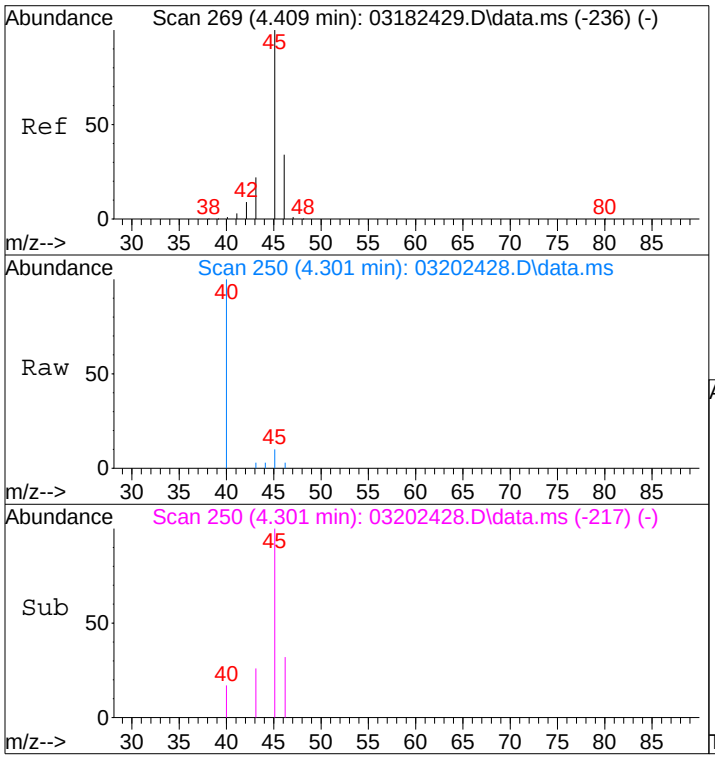
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:53:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

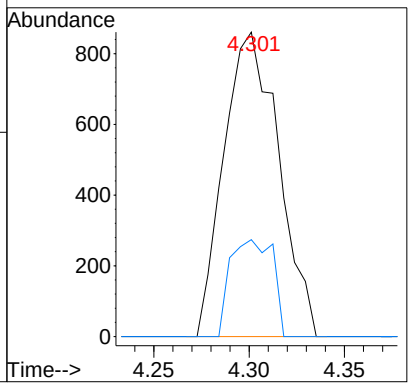


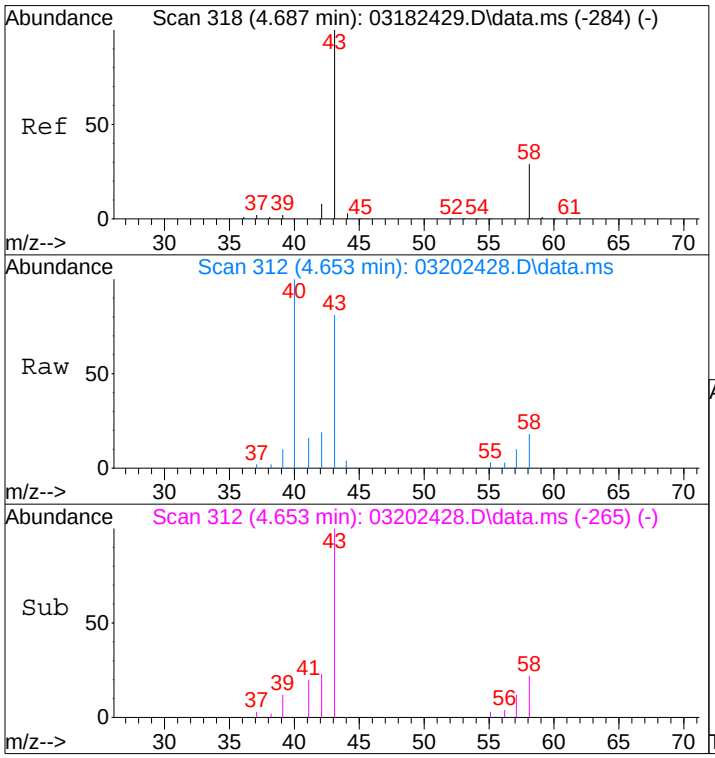


#10
Ethanol
Concen: 0.13 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.060 min
Lab File: 03202428.D
Acq: 20 Mar 2024 20:28

Tgt Ion: 45 Resp: 1717

Ion	Ratio	Lower	Upper
45	100		
46	24.8	13.3	53.3

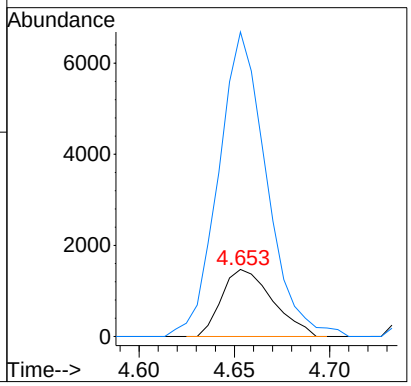


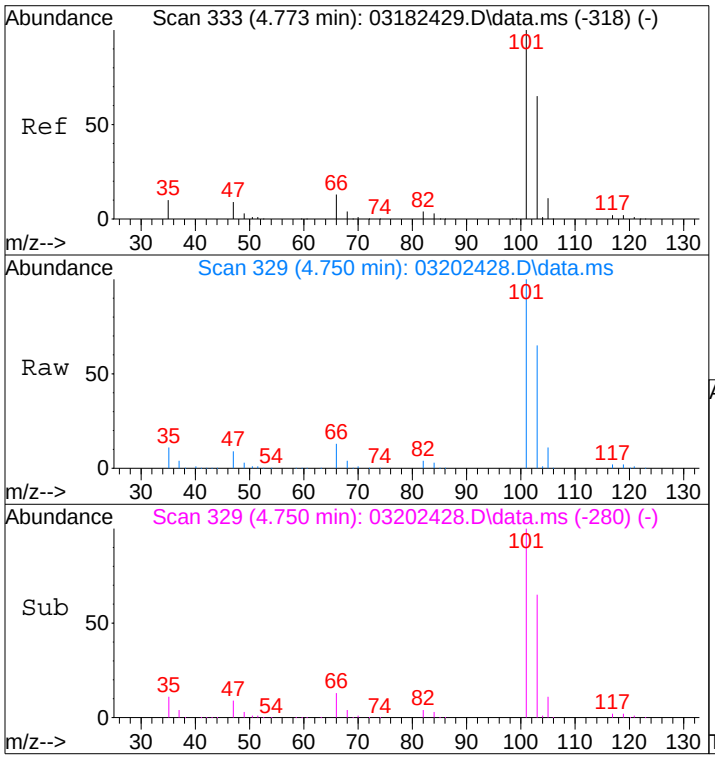


#13
Acetone
Concen: 0.26 ng
RT: 4.65 min Scan# 312
Delta R.T. 0.017 min
Lab File: 03202428.D
Acq: 20 Mar 2024 20:28

Tgt Ion: 58 Resp: 2732

Ion	Ratio	Lower	Upper
58	100		
43	429.8	350.1	410.1#

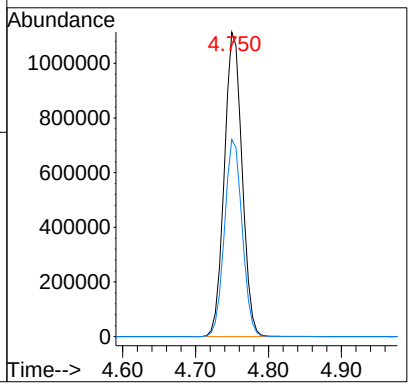


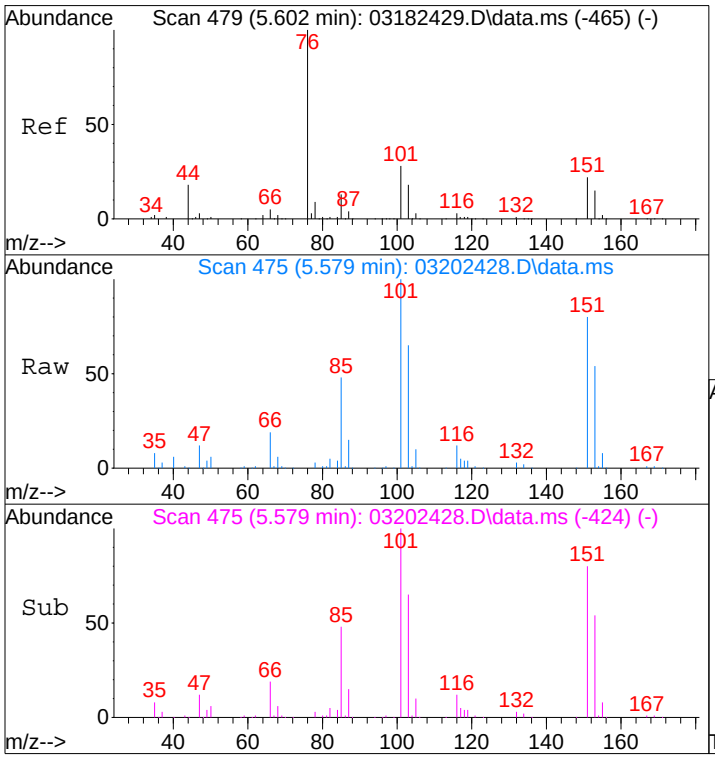


#14
Trichlorofluoromethane
Concen: 67.47 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202428.D
Acq: 20 Mar 2024 20:28

Tgt Ion:101 Resp: 1882133

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

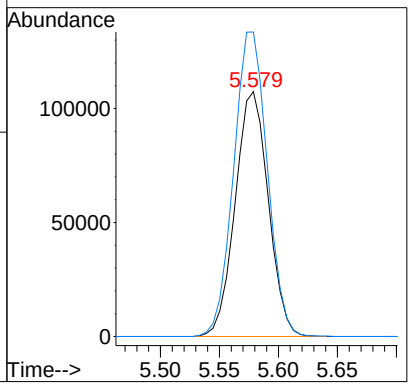


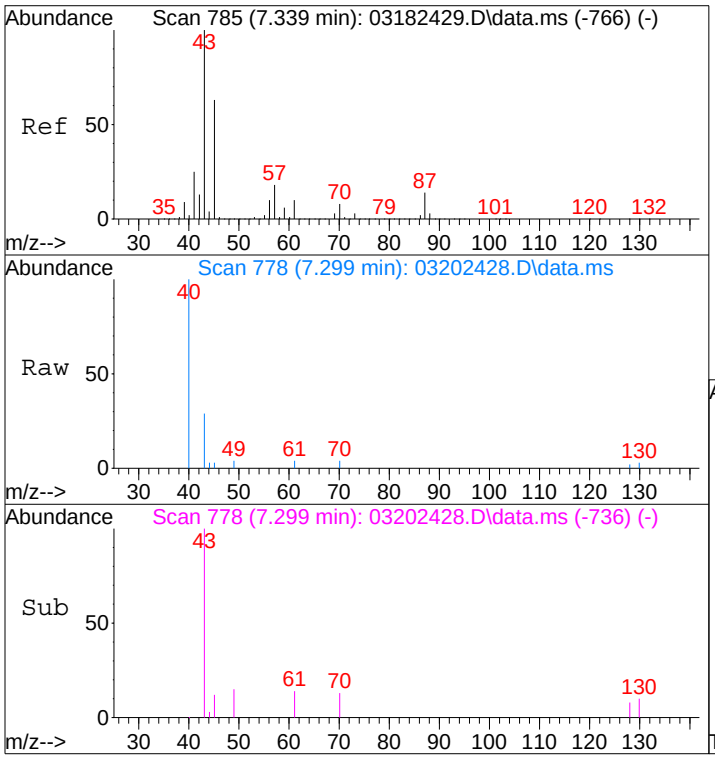


#21
Trichlorotrifluoroethane
Concen: 17.85 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202428.D
Acq: 20 Mar 2024 20:28

Tgt Ion:151 Resp: 209876

Ion	Ratio	Lower	Upper
151	100		
101	126.5	106.4	146.4

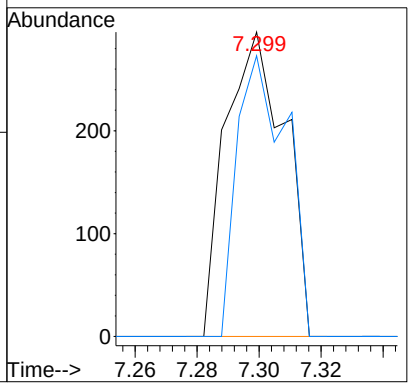


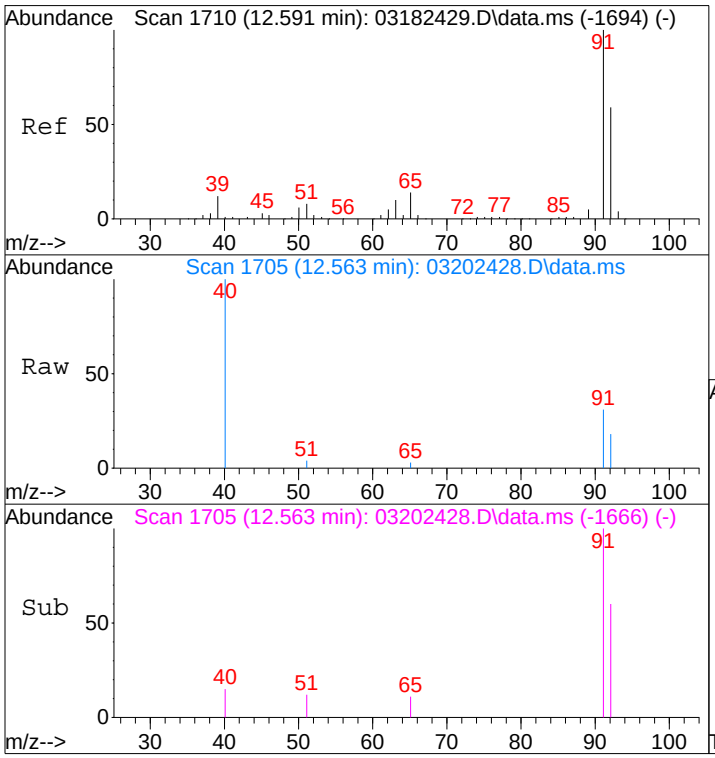


#30
Ethyl Acetate
Concen: 0.08 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.040 min
Lab File: 03202428.D
Acq: 20 Mar 2024 20:28

Tgt Ion: 61 Resp: 392

Ion	Ratio	Lower	Upper
61	100		
70	77.8	57.3	97.3

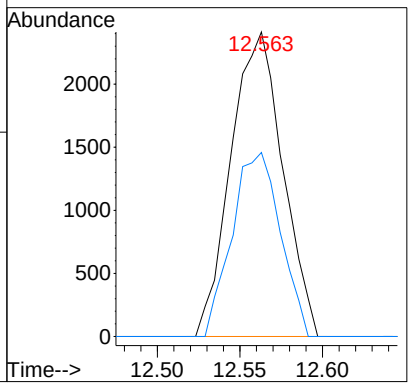




#58
Toluene
Concen: 0.10 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03202428.D
Acq: 20 Mar 2024 20:28

Tgt Ion: 91 Resp: 5260

Ion	Ratio	Lower	Upper
91	100		
92	56.5	39.2	79.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:54:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

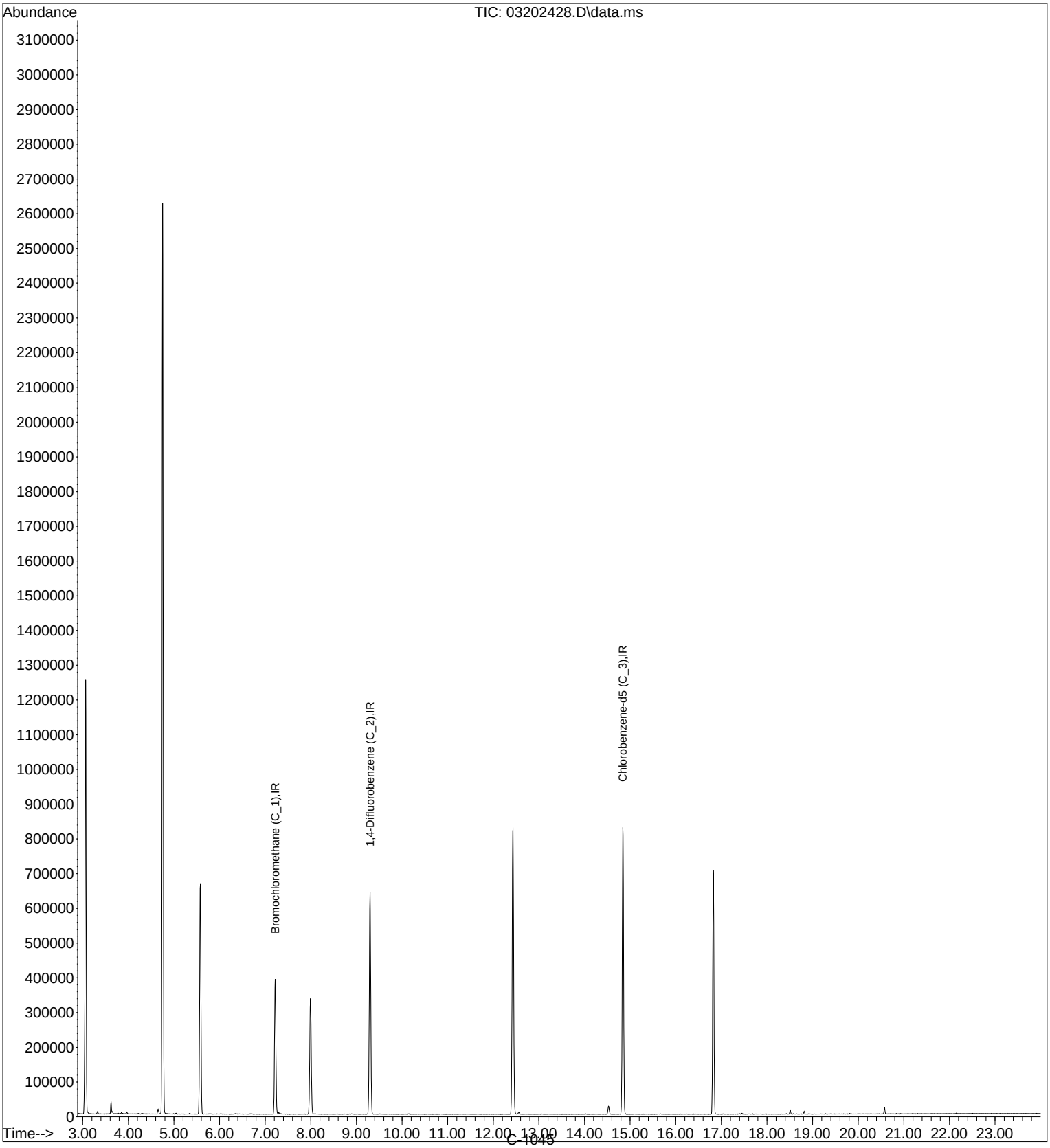
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	140526	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	597327	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	134448	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	1326	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.34	43	359	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	520	N.D.		
27) 4-Chlorotoluene	17.68	91	774	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202428.D Vial: 12
Acq On : 20 Mar 2024 20:28 Operator: SC
Sample : P2400922-027 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:54:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202428.D
Acq On : 20 Mar 2024 20:28
Operator : SC
Sample : P2400922-027 (20mL)
Misc : S37-02202408
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202428.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.620	126	130	134	rBV	34628	44625	1.01%	0.678%
2	4.653	305	312	321	rBV2	14056	25362	0.58%	0.386%
3	4.750	321	329	342	rBV	2622669	4398272	100.00%	66.865%
4	5.579	465	475	484	rBV	662124	1296852	29.49%	19.715%
5	7.220	754	764	775	rBV	388251	812775	18.48%	12.356%

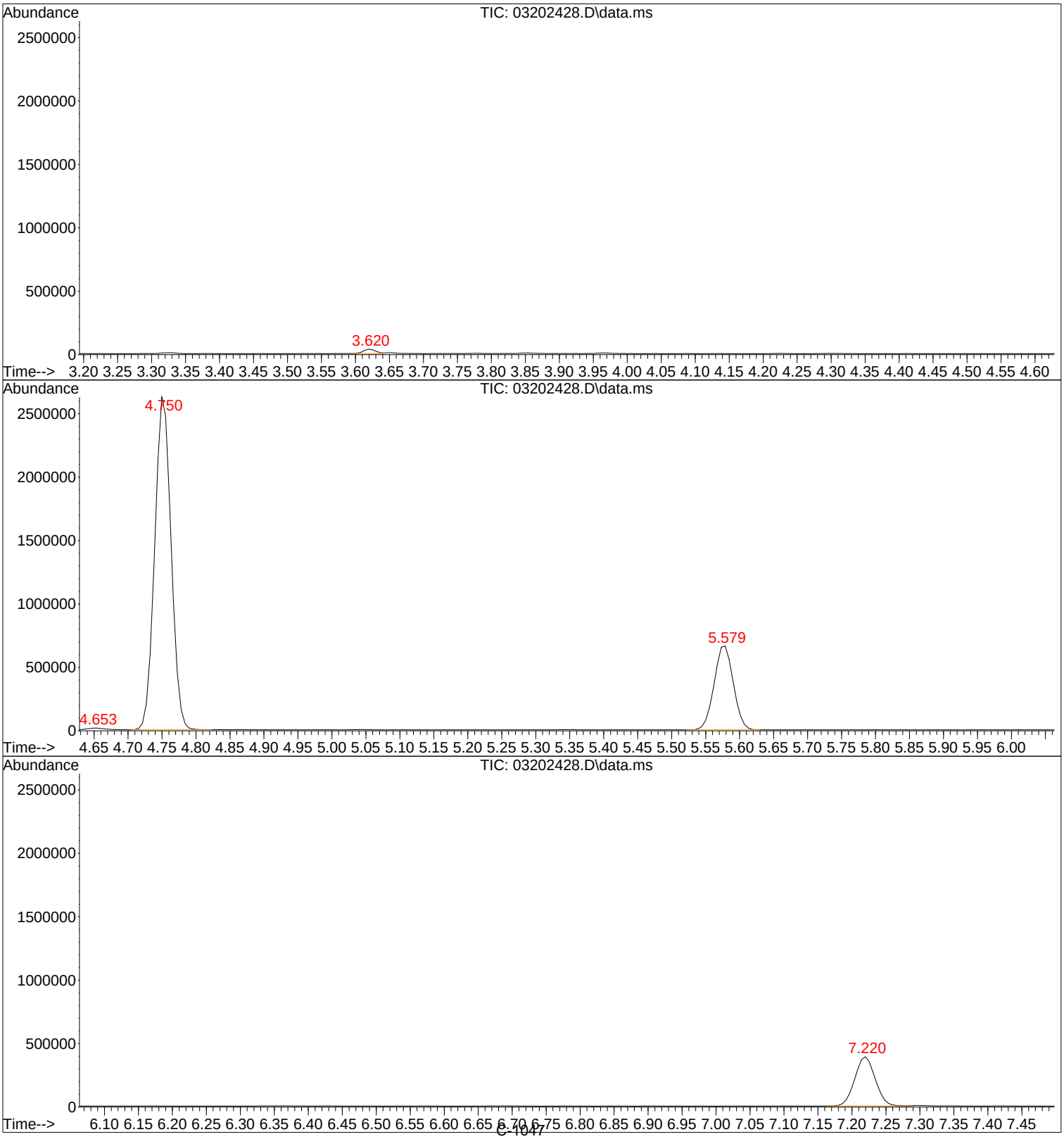
Sum of corrected areas: 6577886

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202428.D
Acq On : 20 Mar 2024 20:28
Operator : SC
Sample : P2400922-027 (20mL)
Misc : S37-02202408
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202428.D
Acq On : 20 Mar 2024 20:288
Operator : SCC
Sample : P2400922-027 (20mL))
Misc : S37-022024088
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:26:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	159016	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	680068	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	154516	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	320755	12.330	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
57) Toluene-d8 (SS2)	12.43	98	784620	12.647	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
73) Bromofluorobenzene (SS3)	16.83	174	275785	12.609	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	20966m	0.643	ng		
4) Chloromethane	3.49	50	6229	0.257	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	429	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	190	N.D.			
8) Bromomethane	4.01	94	10566	0.797	ng		98
9) Chloroethane	4.15	64	648	0.065	ng		100
10) Ethanol	4.28	45	93304	6.072	ng		83
11) Acetonitrile	4.51	41	392	N.D.			
12) Acrolein	4.52	56	9029	0.820	ng		96
13) Acetone	4.62	58	107002	9.149	ng	#	87
14) Trichlorofluoromethane	4.75	101	413446	13.097	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	94057	2.020	ng		85
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.41	59	235	N.D.			
19) Methylene Chloride	5.35	84	7147	0.420	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	276	N.D.			
21) Trichlorotrifluoroethane	5.58	151	175240	13.169	ng		100
22) Carbon Disulfide	5.60	76	5313	0.100	ng	#	1
23) trans-1,2-Dichloroethene	6.13	61	607	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	341	N.D.			
26) Vinyl Acetate	6.44	86	11500	4.420	ng	#	23
27) 2-Butanone (MEK)	6.66	72	14987	1.568	ng		93
28) cis-1,2-Dichloroethene	7.08	61	188	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	249102	43.415	ng		95
31) n-Hexane	7.30	57	6018	0.243	ng		89
32) Chloroform	7.37	83	5969	0.217	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2350	0.271	ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	2327	0.090	ng		97
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	119	No Calib		#	
40) 1-Butanol	8.80	56	7264	No Calib			
41) Benzene	8.89	78	18163	0.297	ng		99
42) Carbon Tetrachloride	9.07	117	1224	0.051	ng		95
43) Cyclohexane	9.22	84	6387	0.330	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	183	N.D.			
46) Bromodichloromethane	10.08	83	778	N.D.			
47) Trichloroethene	10.15	130	3227	0.196	ng		100
48) 1,4-Dioxane	10.12	88	9981	0.934	ng		97
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:26:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

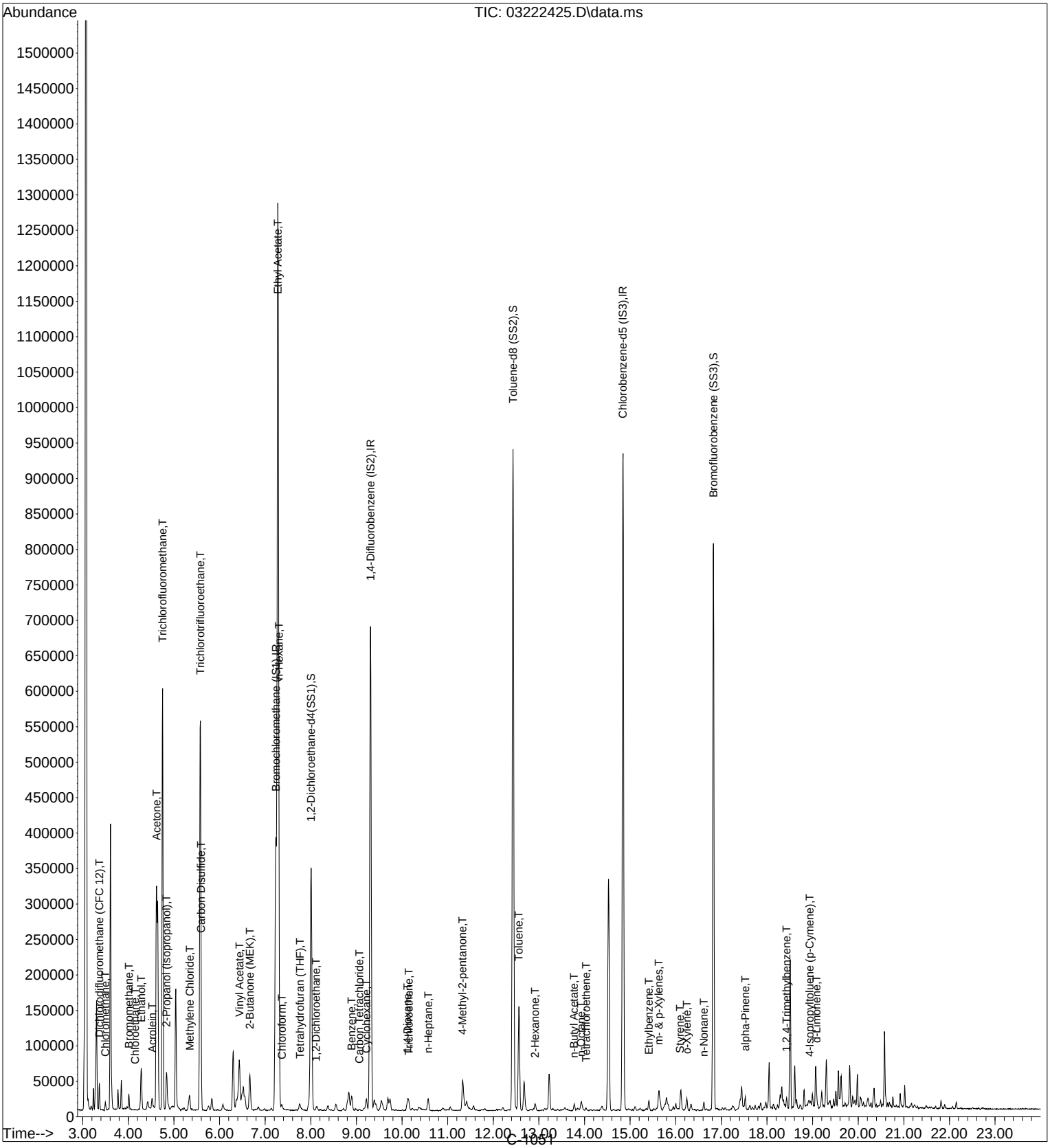
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	4418	0.338 ng		98
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	2876	0.219 ng	#	57
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	131040	2.213 ng		99
59) 2-Hexanone	12.92	43	10838	0.315 ng		82
60) Dibromochloromethane	13.07	129	588	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	8924	0.234 ng		97
63) n-Octane	13.93	57	1816	0.145 ng		98
64) Tetrachloroethene	14.03	166	961	0.053 ng		96
65) Chlorobenzene	14.90	112	1601	N.D.		
66) Ethylbenzene	15.41	91	11479	0.169 ng		99
67) m- & p-Xylenes	15.63	91	24468	0.435 ng		98
68) Bromoform	15.67	173	650	N.D.		
69) Styrene	16.09	104	7453	0.193 ng		99
70) o-Xylene	16.25	91	9878	0.178 ng		96
71) n-Nonane	16.62	43	5720	0.179 ng		90
72) 1,1,2,2-Tetrachloroethane	16.21	83	495	N.D.		
74) Cumene	17.04	105	1754	N.D.		
75) alpha-Pinene	17.53	93	7568	0.226 ng		99
76) n-Propylbenzene	17.67	91	2904	N.D.		
77) 3-Ethyltoluene	17.04	105	1754	No Calib		
78) 4-Ethyltoluene	17.86	105	2406	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1999	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	1754	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5577	0.094 ng		89
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	554	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	732	N.D.		
87) sec-Butylbenzene	18.74	105	1365	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	4202	0.064 ng		83
89) 1,2,3-Trimethylbenzene	17.04	105	1754	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	434	N.D.		
91) d-Limonene	19.09	68	4245	0.205 ng		94
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	772	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	18.96	58	263	No Calib	#	
97) Hexachlorobutadiene	21.31	225	557	N.D.		
98) Cyclohexanone	15.36	55	1729	No Calib	#	
99) tert-Butylbenzene	18.43	119	1671	N.D.		
100) n-Butylbenzene	19.39	91	1855	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:26:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:26:57 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

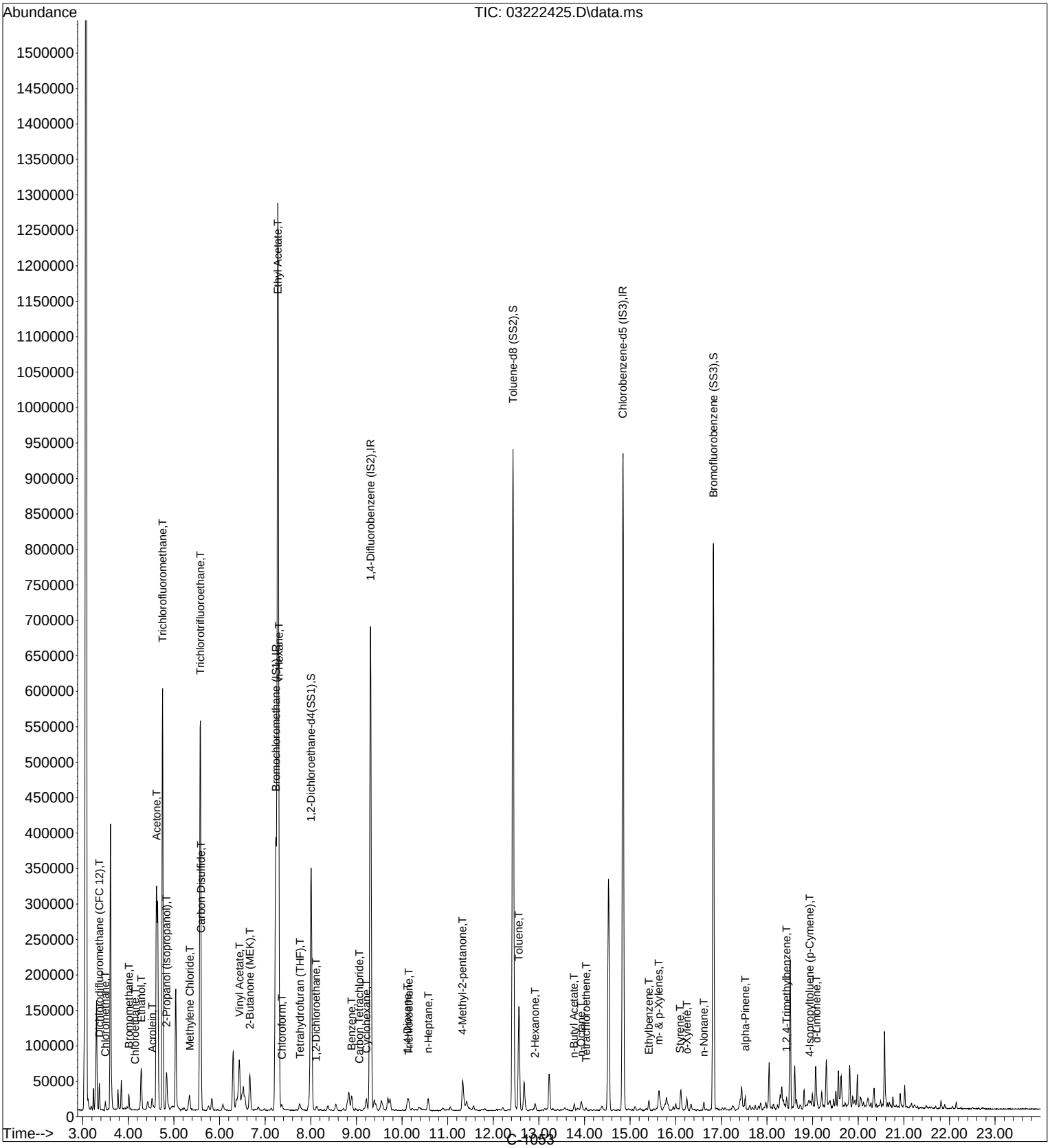
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	159016	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	680068	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	154516	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	320755	12.330	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.64%				
57) Toluene-d8 (SS2)	12.43	98	784620	12.647	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
73) Bromofluorobenzene (SS3)	16.83	174	275785	12.609	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	20966m	0.643	ng		
4) Chloromethane	3.49	50	6229	0.257	ng		98
8) Bromomethane	4.01	94	10566	0.797	ng		98
9) Chloroethane	4.15	64	648	0.065	ng		100
10) Ethanol	4.28	45	93304	6.072	ng		83
12) Acrolein	4.52	56	9029	0.820	ng		96
13) Acetone	4.62	58	107002	9.149	ng	#	87
14) Trichlorofluoromethane	4.75	101	413446	13.097	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	94057	2.020	ng		85
19) Methylene Chloride	5.35	84	7147	0.420	ng		99
21) Trichlorotrifluoroethane	5.58	151	175240	13.169	ng		100
22) Carbon Disulfide	5.60	76	5313	0.100	ng	#	1
26) Vinyl Acetate	6.44	86	11500	4.420	ng	#	23
27) 2-Butanone (MEK)	6.66	72	14987	1.568	ng		93
30) Ethyl Acetate	7.28	61	249102	43.415	ng		95
31) n-Hexane	7.30	57	6018	0.243	ng		89
32) Chloroform	7.37	83	5969	0.217	ng		99
34) Tetrahydrofuran (THF)	7.76	72	2350	0.271	ng	#	85
36) 1,2-Dichloroethane	8.12	62	2327	0.090	ng		97
41) Benzene	8.89	78	18163	0.297	ng		99
42) Carbon Tetrachloride	9.07	117	1224	0.051	ng		95
43) Cyclohexane	9.22	84	6387	0.330	ng		99
47) Trichloroethene	10.15	130	3227	0.196	ng		100
48) 1,4-Dioxane	10.12	88	9981	0.934	ng		97
51) n-Heptane	10.58	71	4418	0.338	ng		98
53) 4-Methyl-2-pentanone	11.33	58	2876	0.219	ng	#	57
58) Toluene	12.56	91	131040	2.213	ng		99
59) 2-Hexanone	12.92	43	10838	0.315	ng		82
62) n-Butyl Acetate	13.77	43	8924	0.234	ng		97
63) n-Octane	13.93	57	1816	0.145	ng		98
64) Tetrachloroethene	14.03	166	961	0.053	ng		96
66) Ethylbenzene	15.41	91	11479	0.169	ng		99
67) m- & p-Xylenes	15.63	91	24468	0.435	ng		98
69) Styrene	16.09	104	7453	0.193	ng		99
70) o-Xylene	16.25	91	9878	0.178	ng		96
71) n-Nonane	16.62	43	5720	0.179	ng		90
75) alpha-Pinene	17.53	93	7568	0.226	ng		99
82) 1,2,4-Trimethylbenzene	18.43	105	5577	0.094	ng		89
88) 4-Isopropyltoluene (p-...	18.93	119	4202	0.064	ng		83
91) d-Limonene	19.09	68	4245	0.205	ng		94

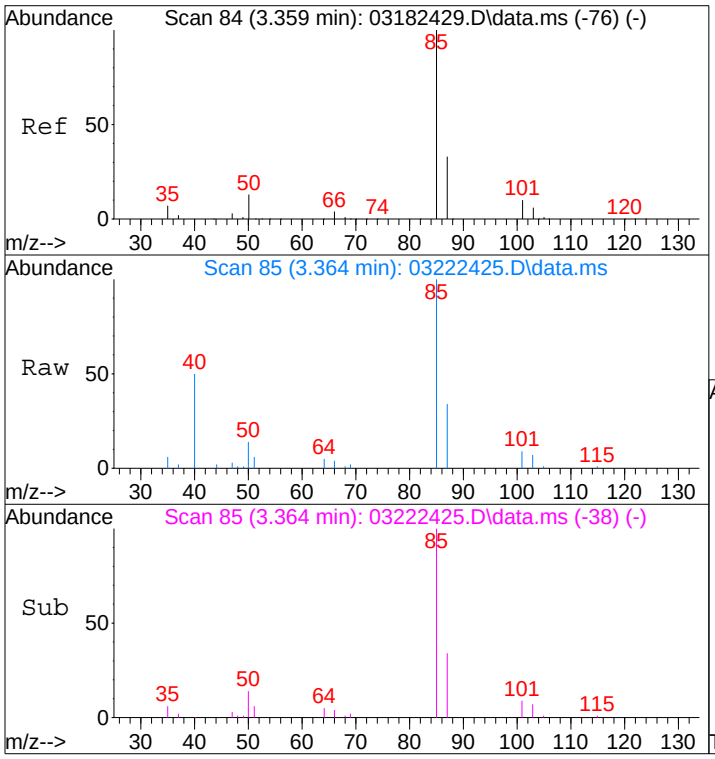
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:26:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

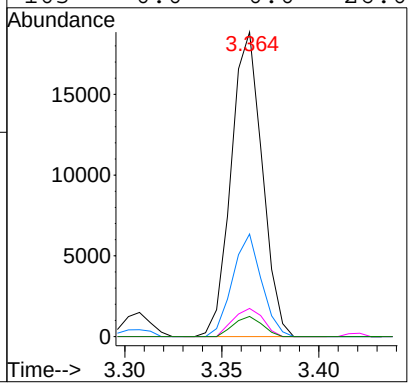


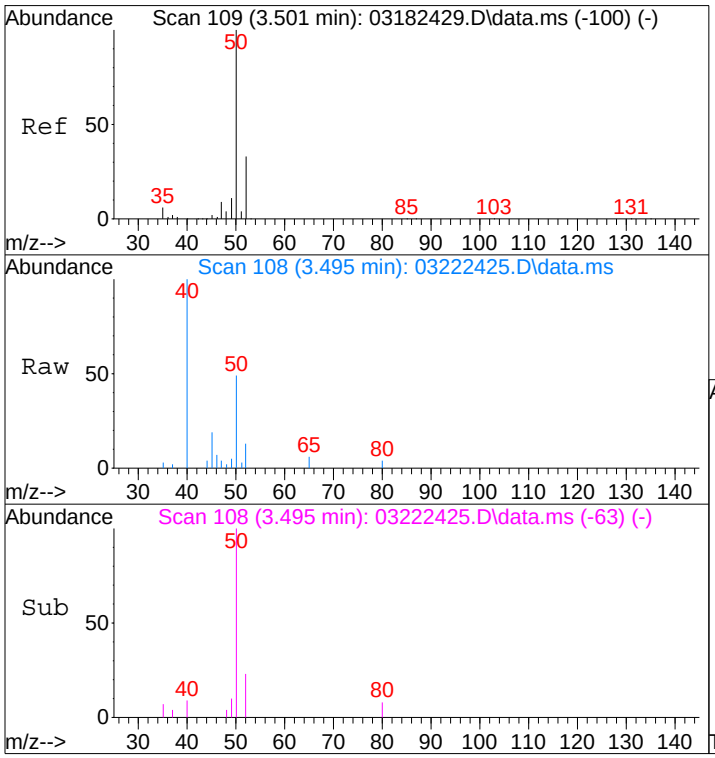


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.64 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.019 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 85 Resp: 20966

Ion	Ratio	Lower	Upper
85	100		
87	2.3	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

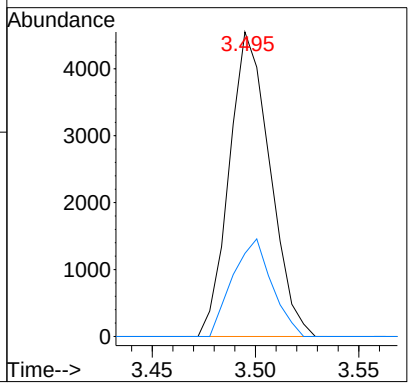


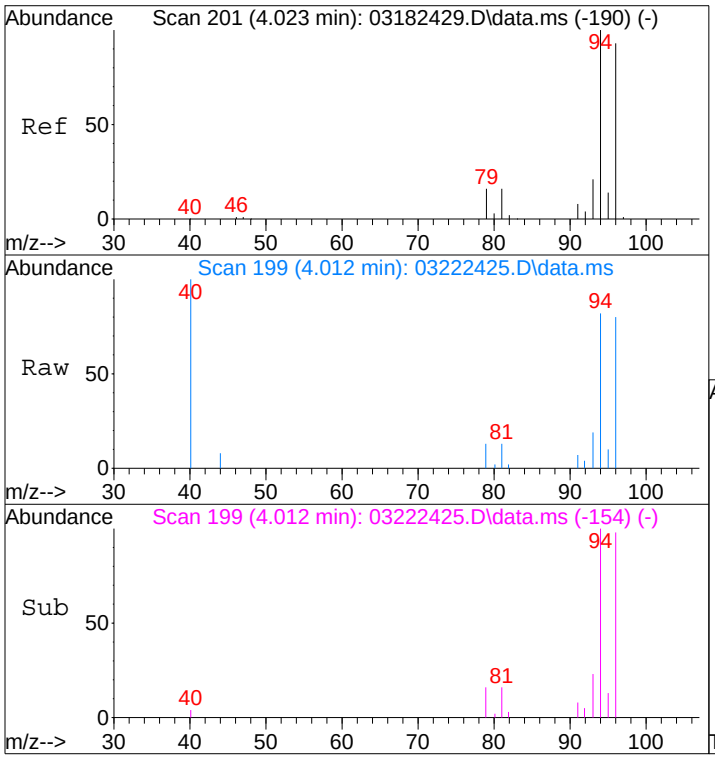


#4
Chloromethane
Concen: 0.26 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.008 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 50 Resp: 6229

Ion	Ratio	Lower	Upper
50	100		
52	31.0	12.3	52.3

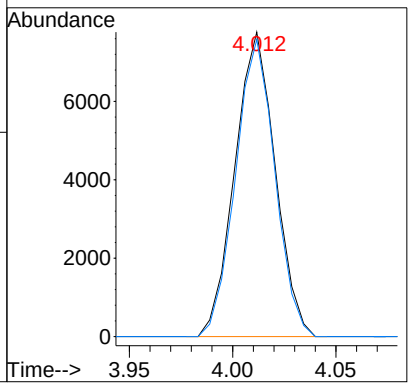


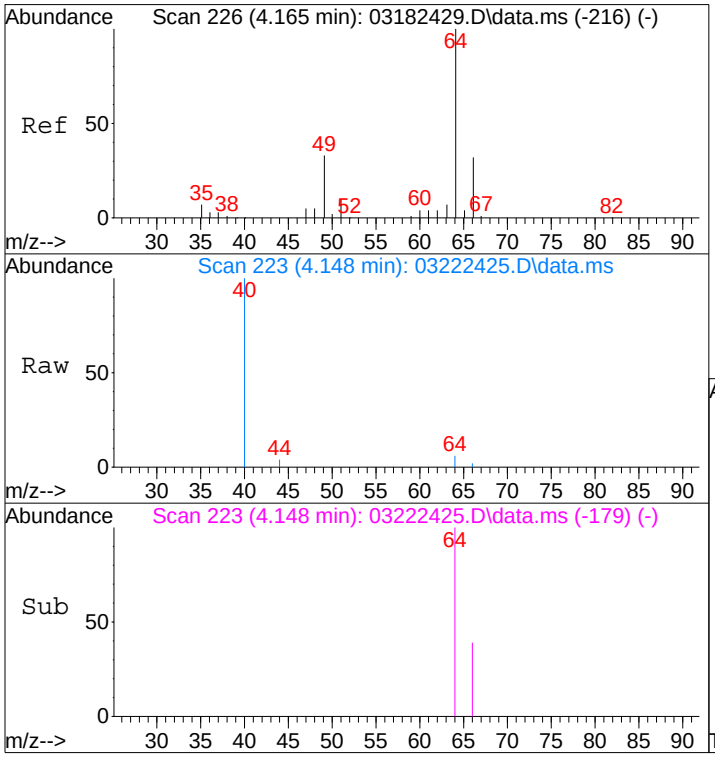


#8
Bromomethane
Concen: 0.80 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.004 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 94 Resp: 10566

Ion	Ratio	Lower	Upper
94	100		
96	94.9	72.7	112.7

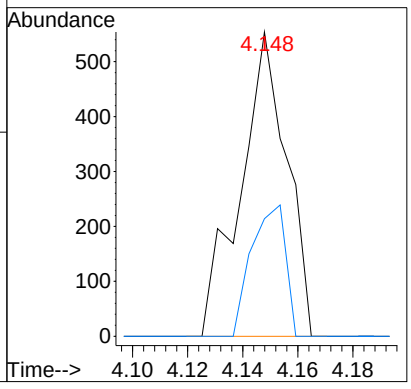


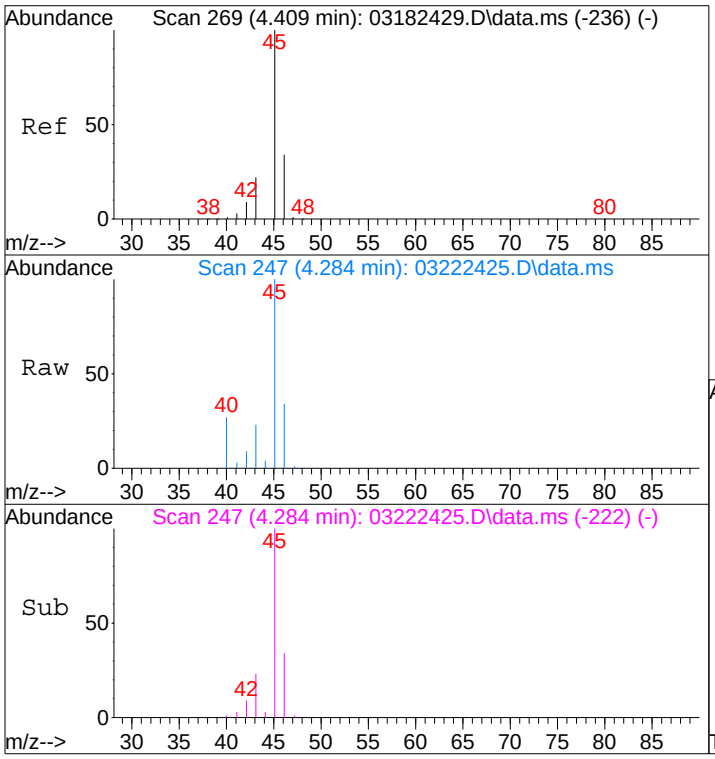


#9
Chloroethane
Concen: 0.07 ng
RT: 4.15 min Scan# 223
Delta R.T. -0.001 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 64 Resp: 648

Ion	Ratio	Lower	Upper
64	100		
66	31.6	11.8	51.8

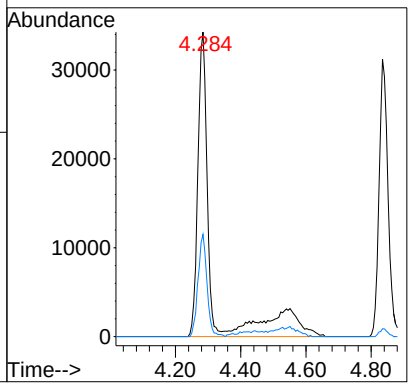


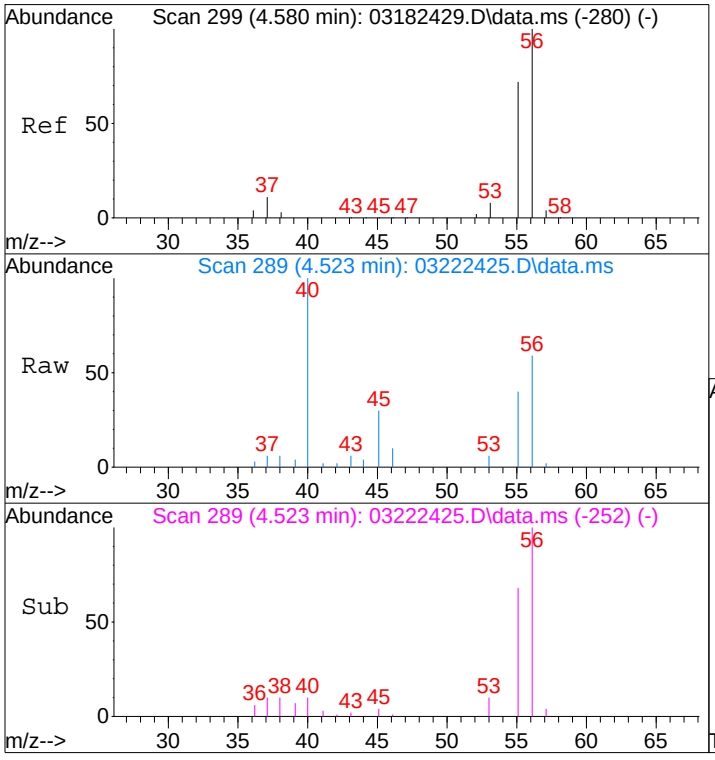


#10
Ethanol
Concen: 6.07 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.108 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 45 Resp: 93304

Ion	Ratio	Lower	Upper
45	100		
46	23.6	13.3	53.3

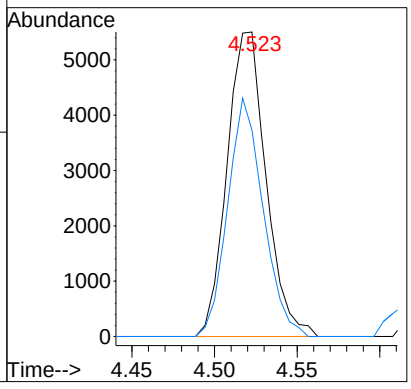


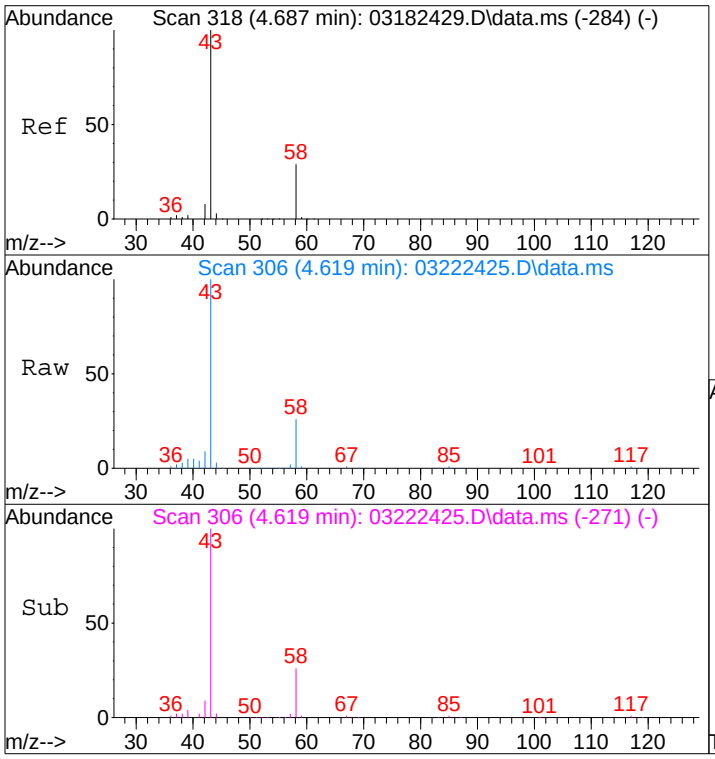


#12
Acrolein
Concen: 0.82 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.039 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 56 Resp: 9029

Ion	Ratio	Lower	Upper
56	100		
55	71.3	54.9	94.9

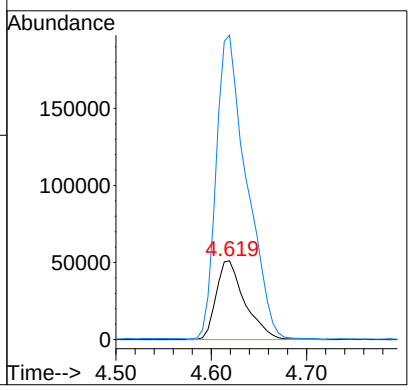


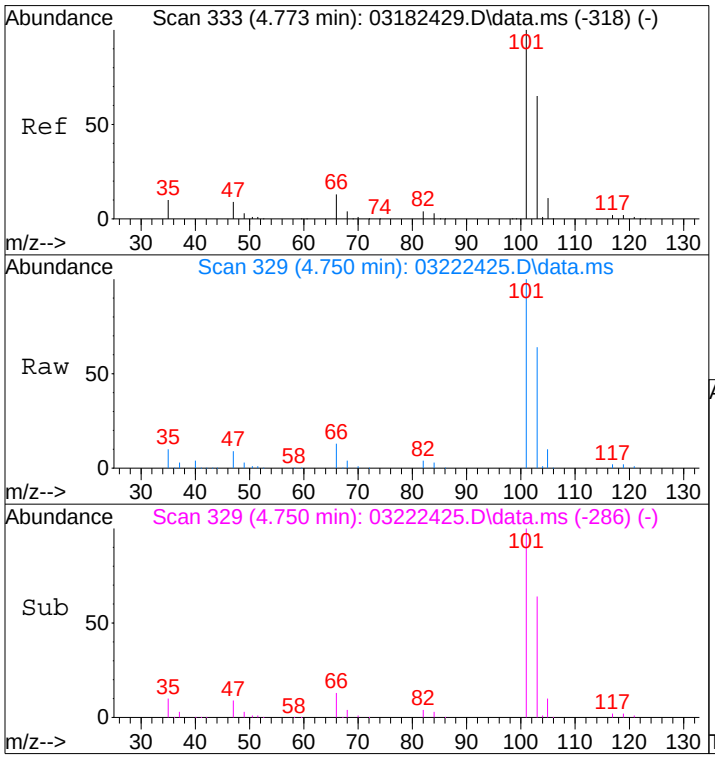


#13
Acetone
Concen: 9.15 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.050 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 58 Resp: 107002

Ion	Ratio	Lower	Upper
58	100		
43	410.2	350.1	410.1#

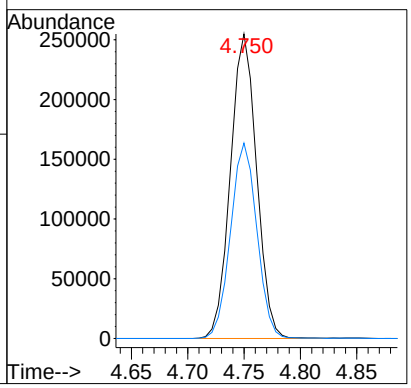


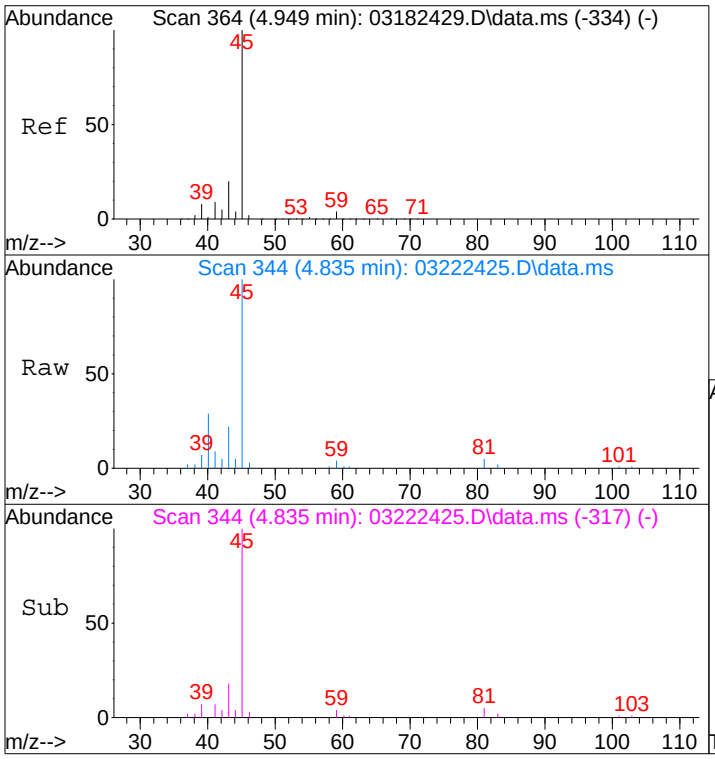


#14
Trichlorofluoromethane
Concen: 13.10 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.004 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:101 Resp: 413446

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

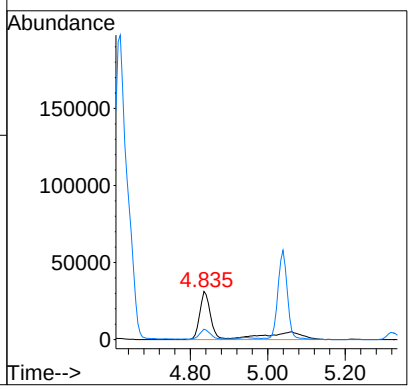


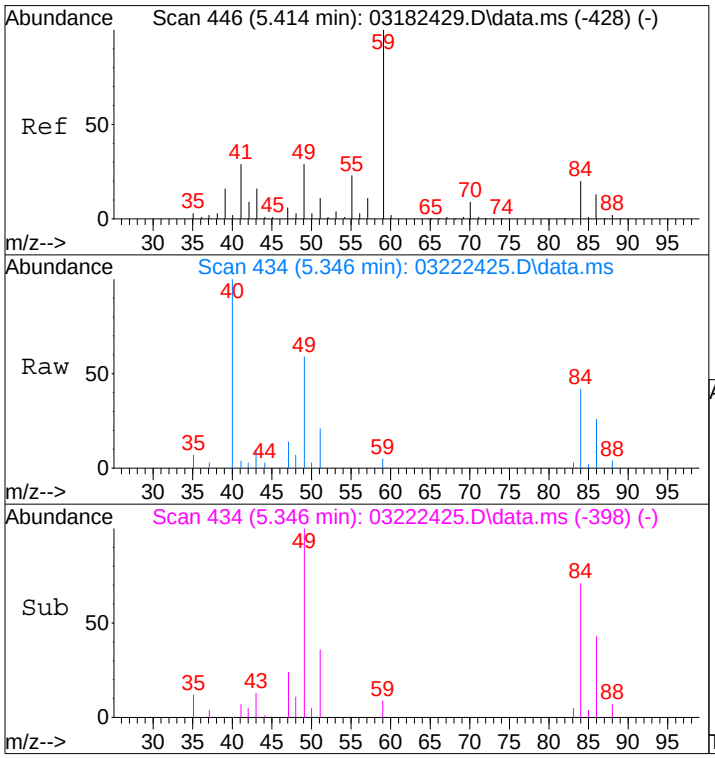


#15
2-Propanol (Isopropanol)
Concen: 2.02 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.095 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 45 Resp: 94057

Ion	Ratio	Lower	Upper
45	100		
43	13.6	0.4	40.4

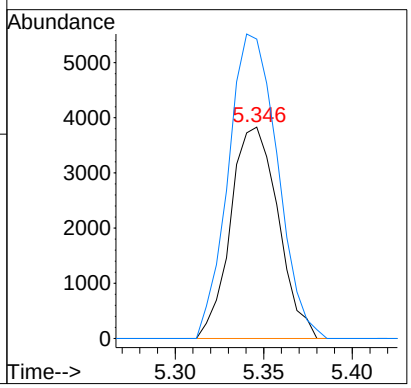


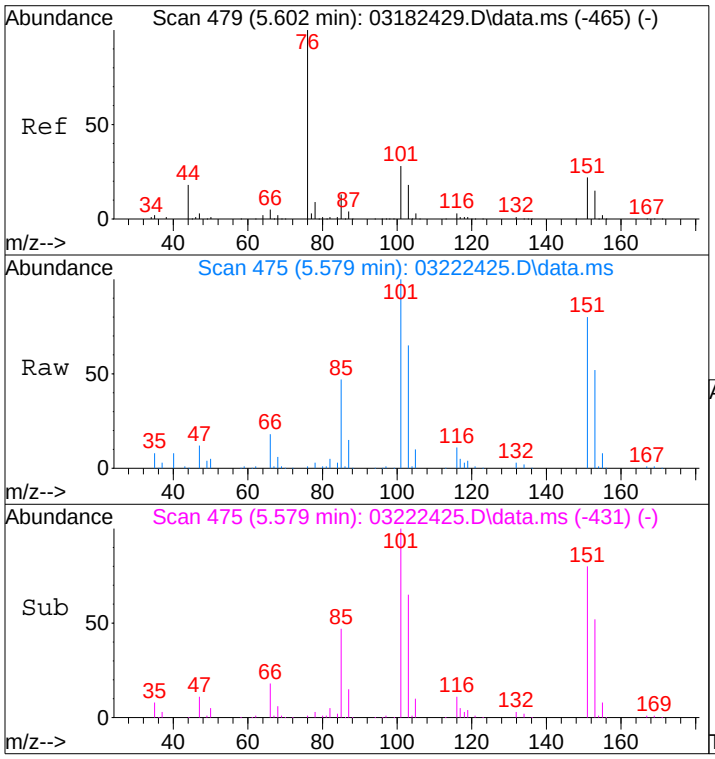


#19
Methylene Chloride
Concen: 0.42 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.047 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 84 Resp: 7147

Ion	Ratio	Lower	Upper
84	100		
49	149.4	122.9	172.9

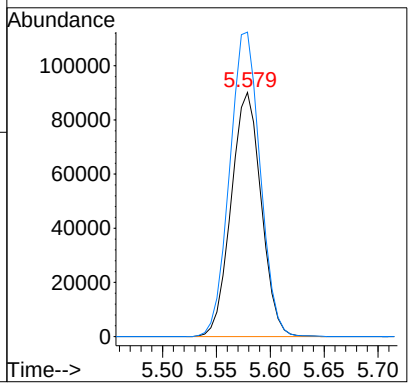


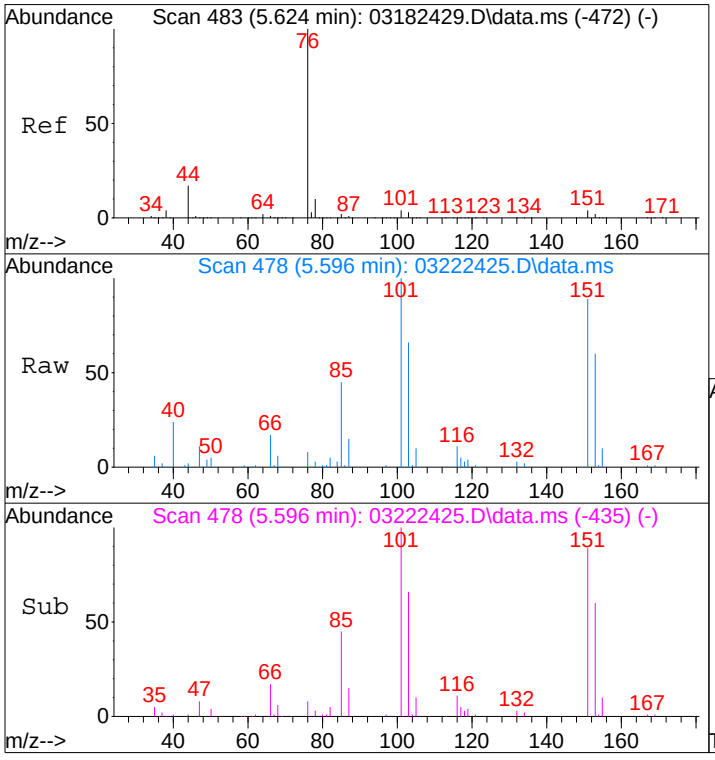


#21
Trichlorotrifluoroethane
Concen: 13.17 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.001 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:151 Resp: 175240

Ion	Ratio	Lower	Upper
151	100		
101	126.4	106.4	146.4

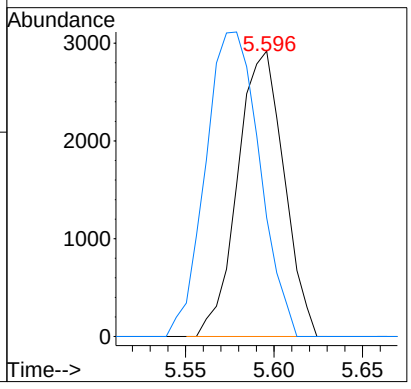


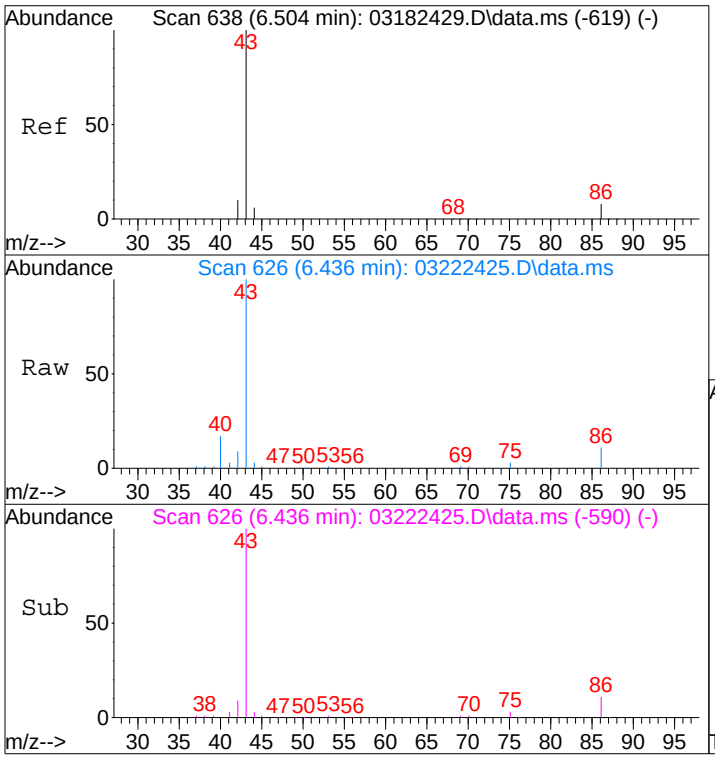


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 5.60 min Scan# 478
Delta R.T. -0.007 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 76 Resp: 5313

Ion	Ratio	Lower	Upper
76	100		
78	124.4	0.0	29.8#

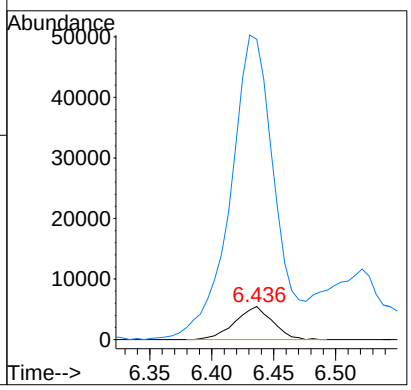


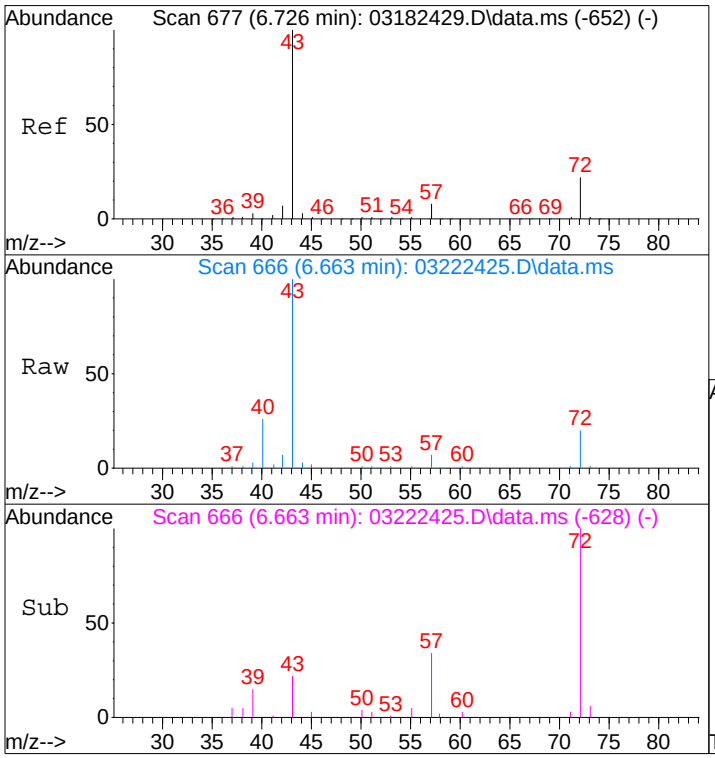


#26
Vinyl Acetate
Concen: 4.42 ng
RT: 6.44 min Scan# 626
Delta R.T. -0.043 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 86 Resp: 11500

Ion	Ratio	Lower	Upper
86	100		
43	1090.6	1541.5	1581.5#

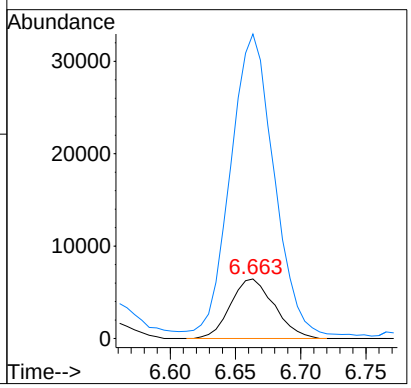


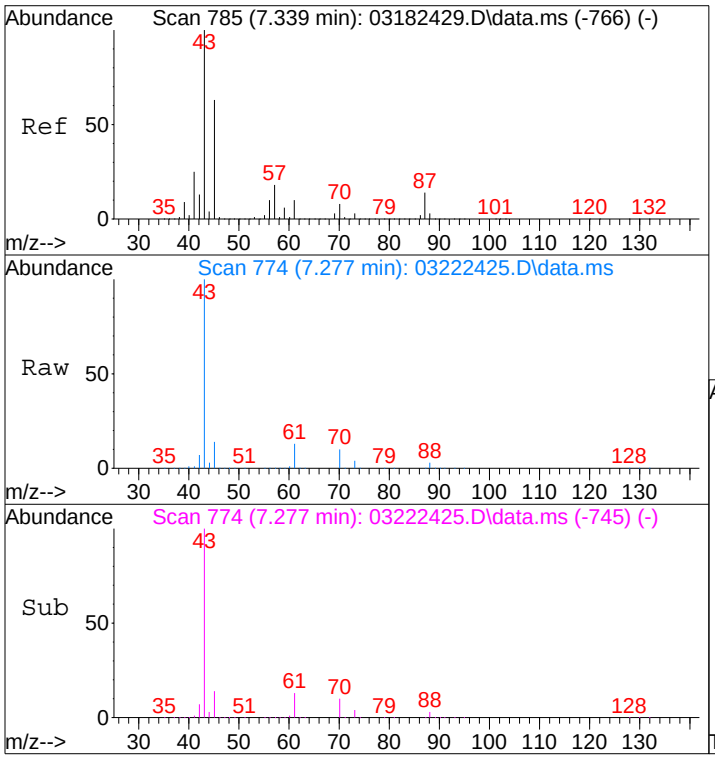


#27
2-Butanone (MEK)
Concen: 1.57 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.037 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 72 Resp: 14987

Ion	Ratio	Lower	Upper
72	100		
43	507.1	468.6	508.6

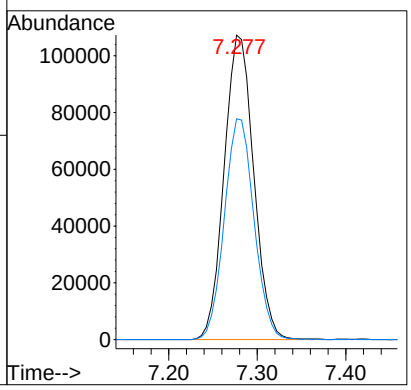


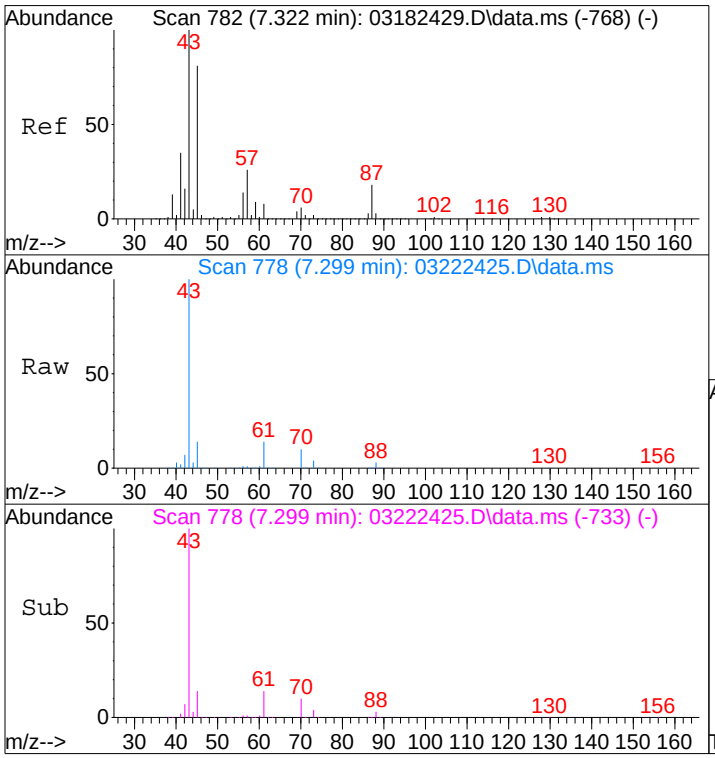


#30
Ethyl Acetate
Concen: 43.42 ng
RT: 7.28 min Scan# 774
Delta R.T. -0.034 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 61 Resp: 249102

Ion	Ratio	Lower	Upper
61	100		
70	72.6	57.3	97.3

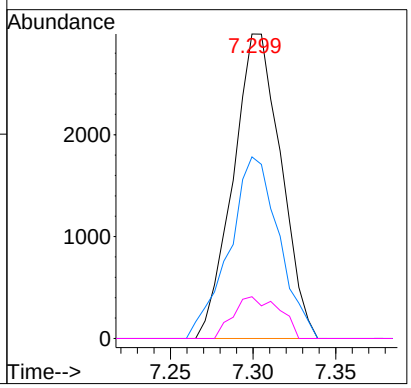


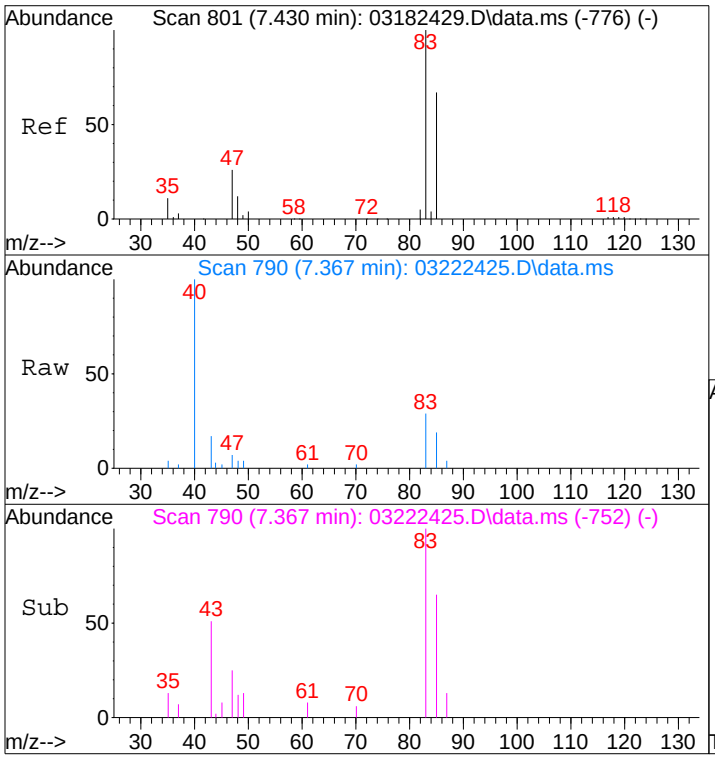


#31
n-Hexane
Concen: 0.24 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.005 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 57 Resp: 6018

Ion	Ratio	Lower	Upper
57	100		
56	62.0	42.2	63.4
86	13.2	9.4	14.2

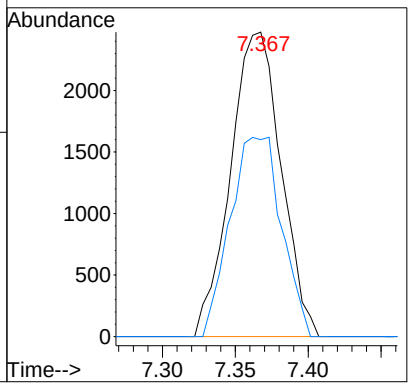


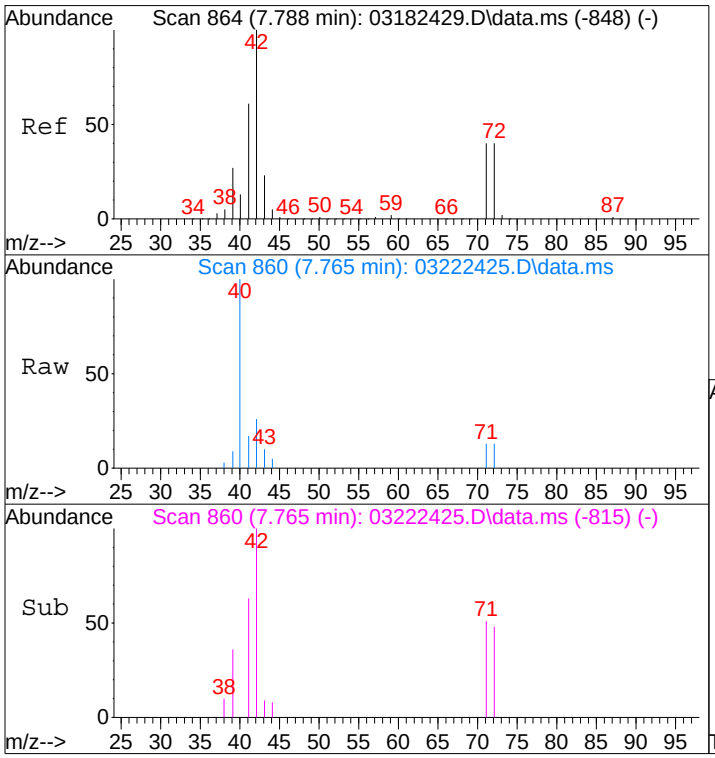


#32
Chloroform
Concen: 0.22 ng
RT: 7.37 min Scan# 790
Delta R.T. -0.034 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 83 Resp: 5969

Ion	Ratio	Lower	Upper
83	100		
85	66.6	46.1	86.1

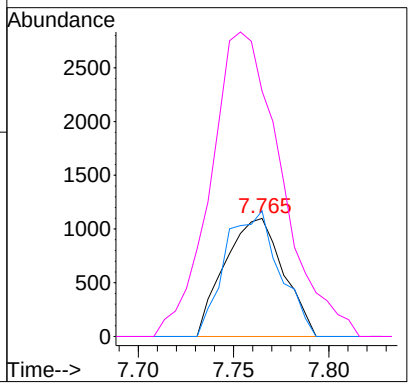


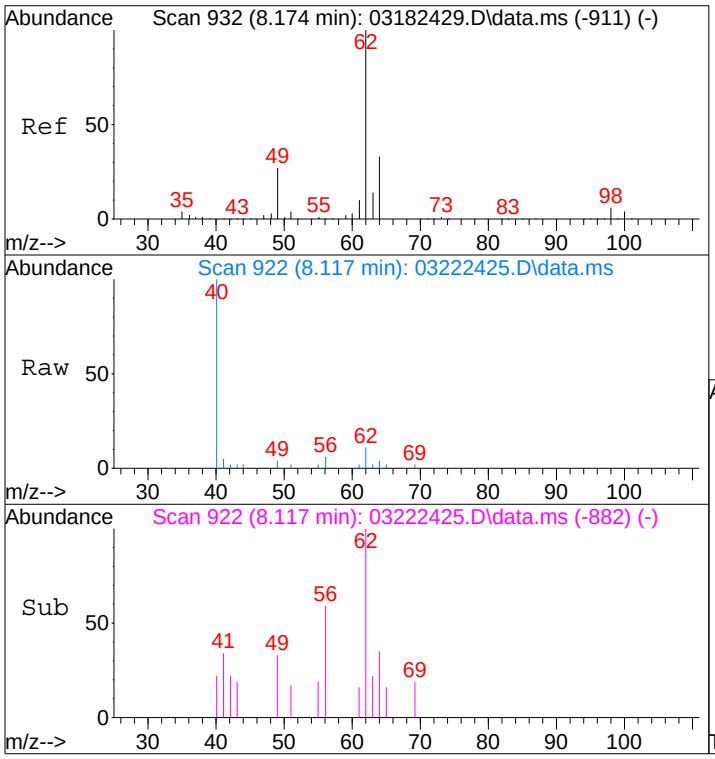


#34
Tetrahydrofuran (THF)
Concen: 0.27 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.007 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 72 Resp: 2350

Ion	Ratio	Lower	Upper
72	100		
71	98.5	80.7	120.7
42	311.1	255.0	295.0#

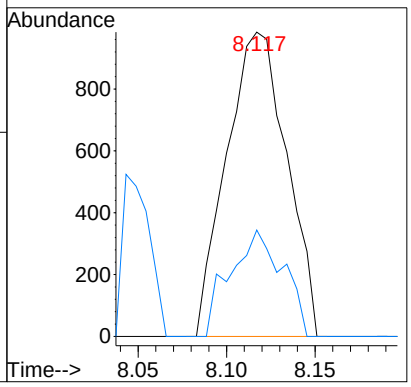


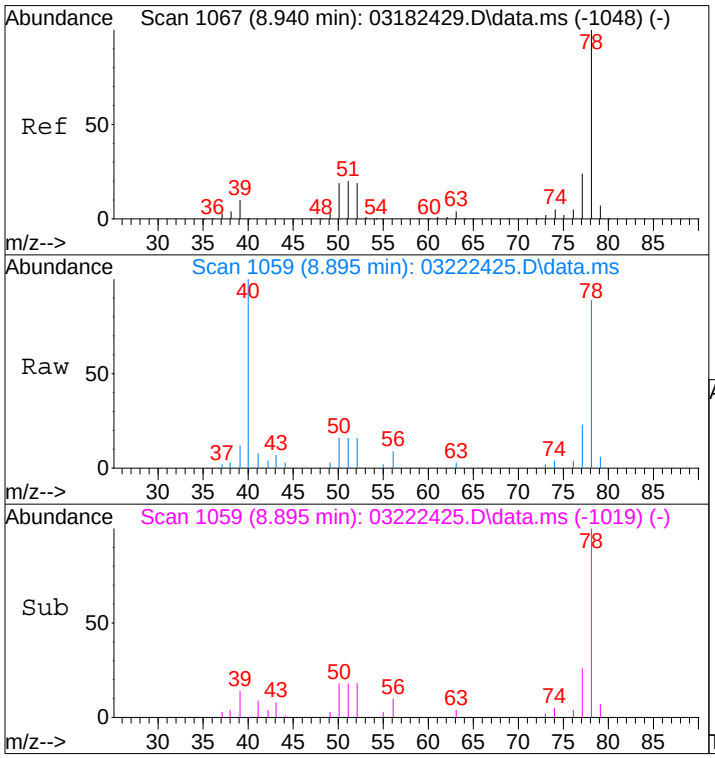


#36
1,2-Dichloroethane
Concen: 0.09 ng
RT: 8.12 min Scan# 922
Delta R.T. -0.025 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 62 Resp: 2327

Ion	Ratio	Lower	Upper
62	100		
64	30.6	12.6	52.6

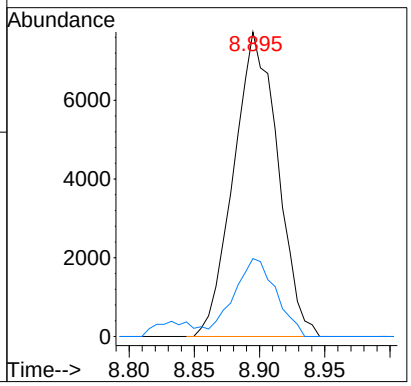


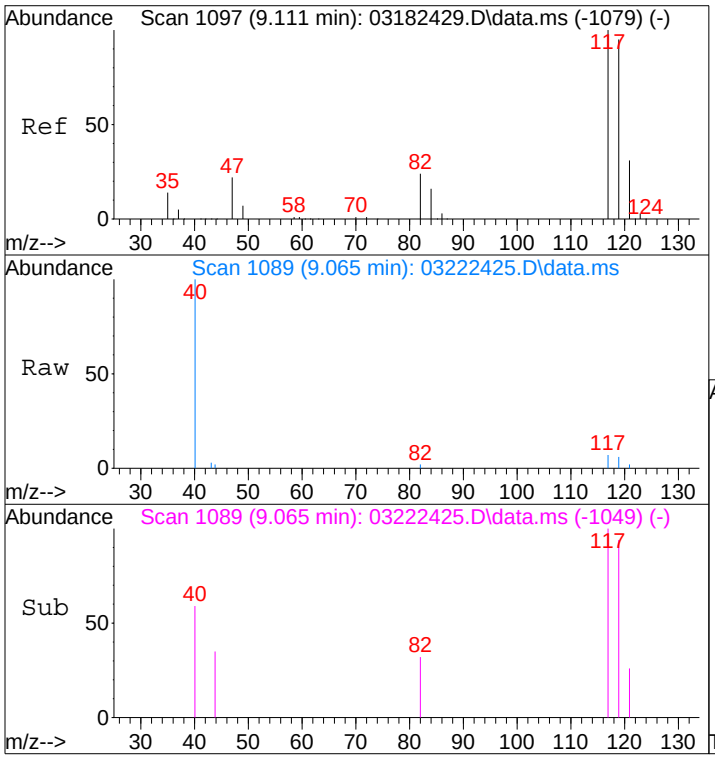


#41
Benzene
Concen: 0.30 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.024 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 78 Resp: 18163

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.6	43.6

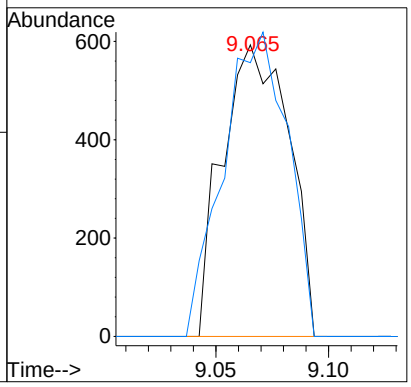


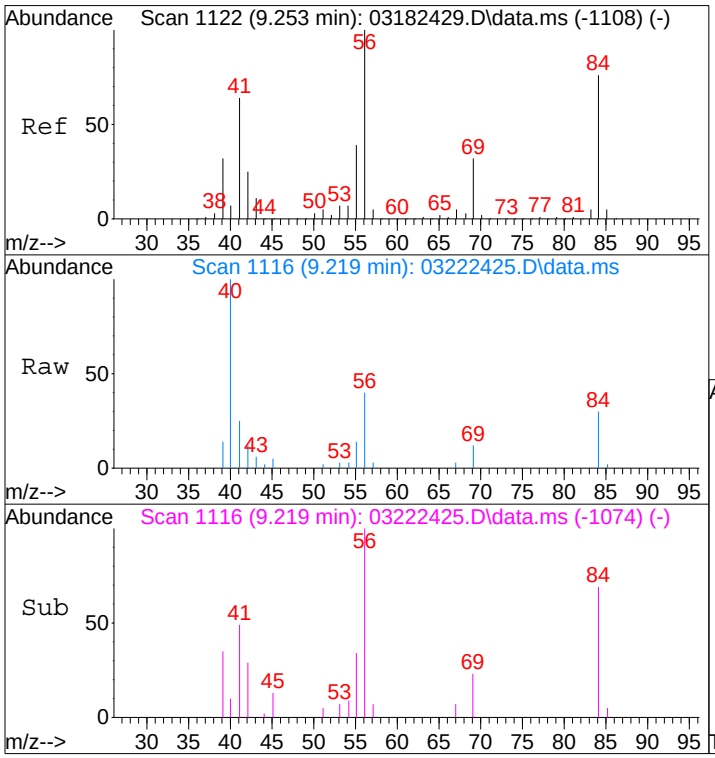


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.023 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:117 Resp: 1224

Ion	Ratio	Lower	Upper
117	100		
119	100.9	75.7	115.7

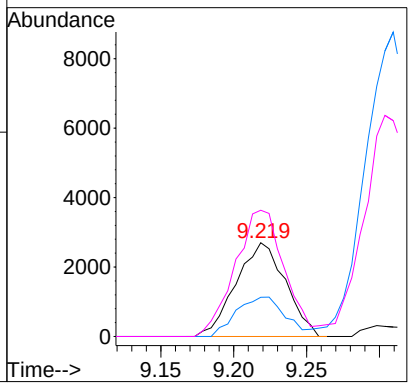


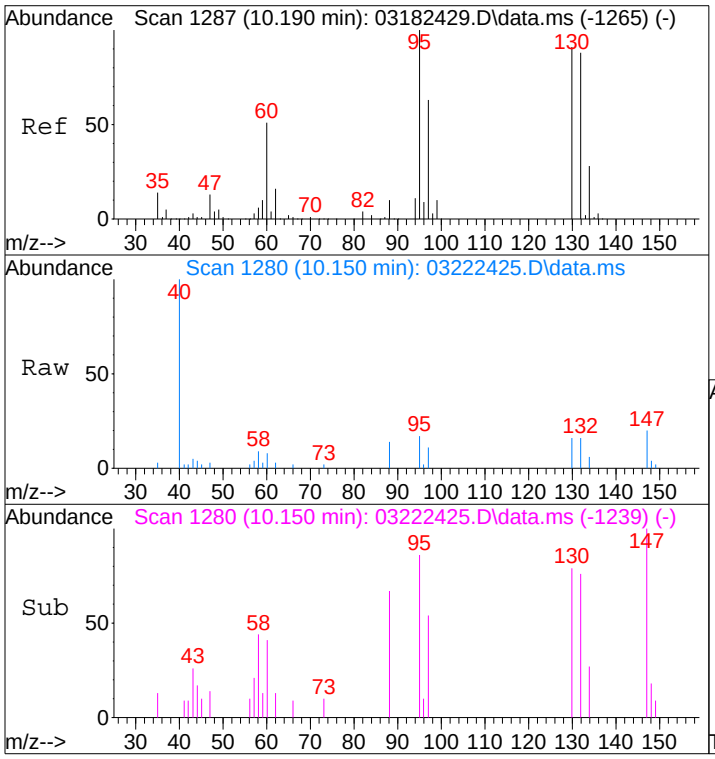


#43
Cyclohexane
Concen: 0.33 ng
RT: 9.22 min Scan# 1116
Delta R.T. -0.012 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 84 Resp: 6387

Ion	Ratio	Lower	Upper
84	100		
69	41.7	21.3	61.3
56	134.5	115.3	155.3

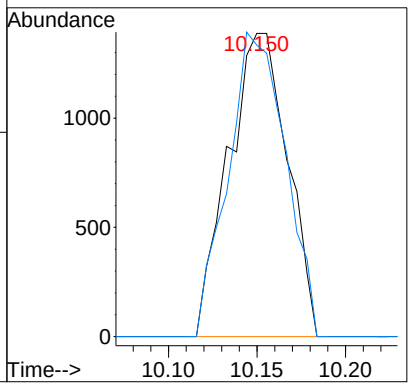


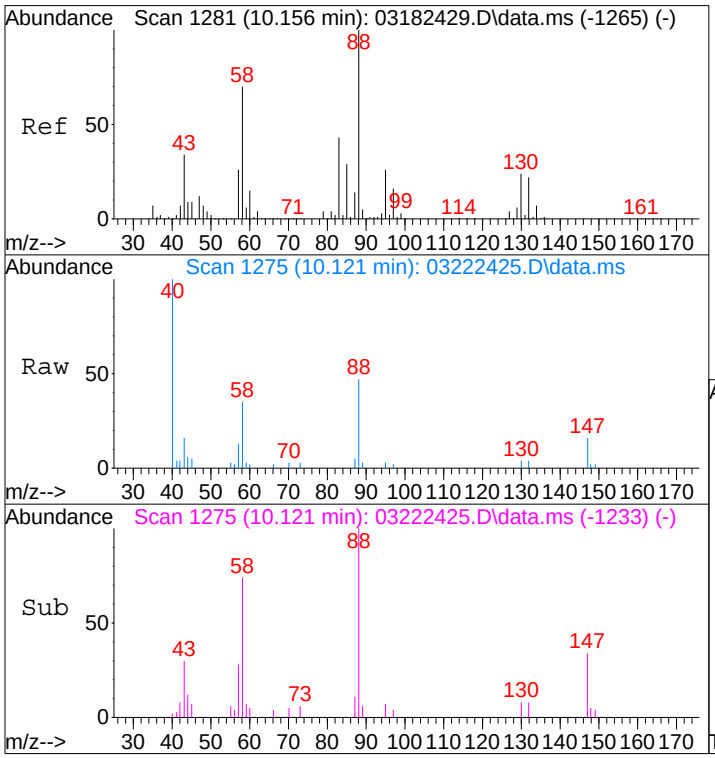


#47
Trichloroethene
Concen: 0.20 ng
RT: 10.15 min Scan# 1280
Delta R.T. -0.015 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:130 Resp: 3227

Ion	Ratio	Lower	Upper
130	100		
132	97.2	77.5	117.5

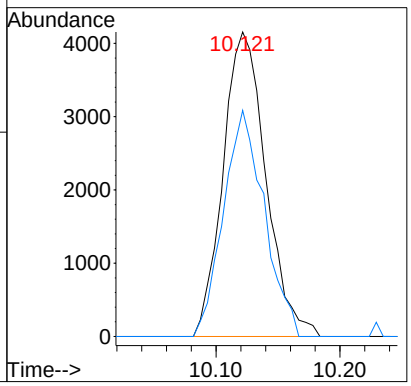


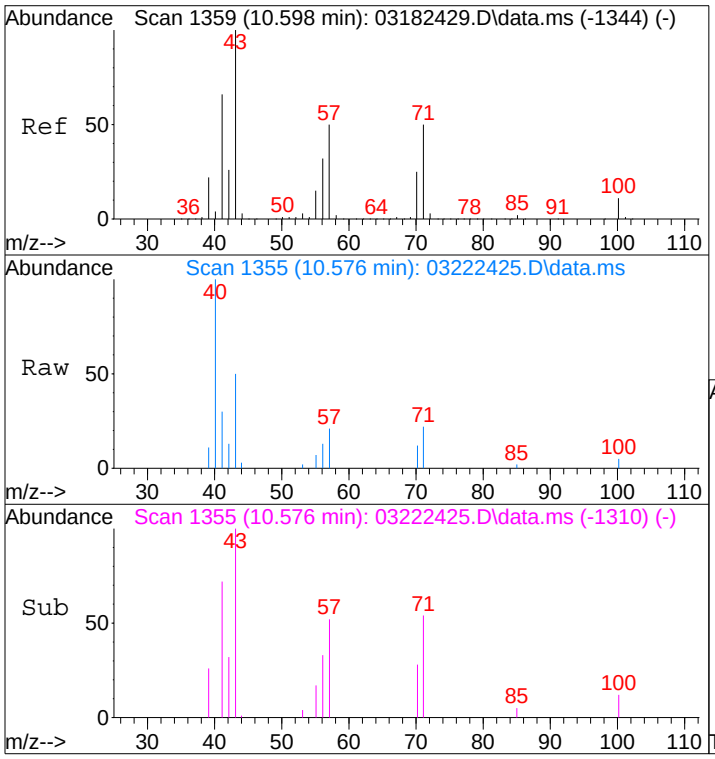


#48
1,4-Dioxane
Concen: 0.93 ng
RT: 10.12 min Scan# 1275
Delta R.T. -0.009 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 88 Resp: 9981

Ion	Ratio	Lower	Upper
88	100		
58	70.7	48.2	88.2

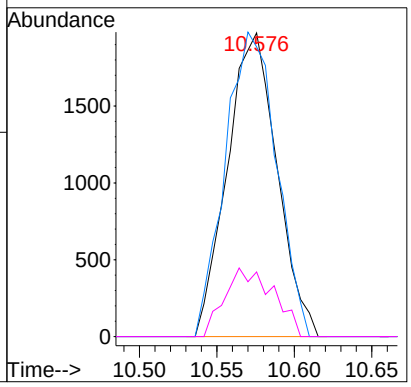


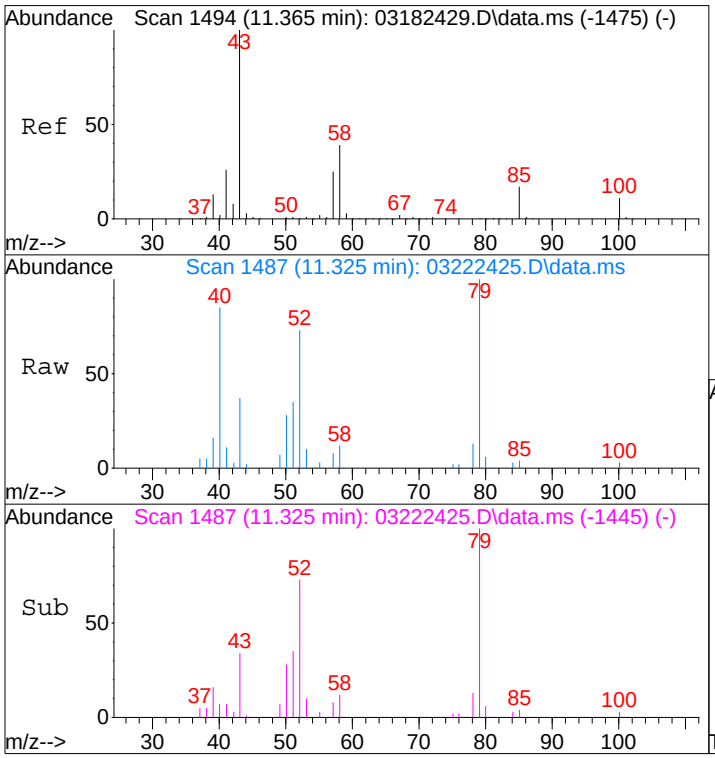


#51
n-Heptane
Concen: 0.34 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.003 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 71 Resp: 4418

Ion	Ratio	Lower	Upper
71	100		
57	103.3	81.2	121.2
100	22.0	4.0	44.0

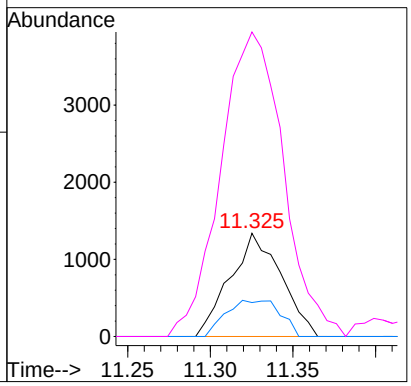


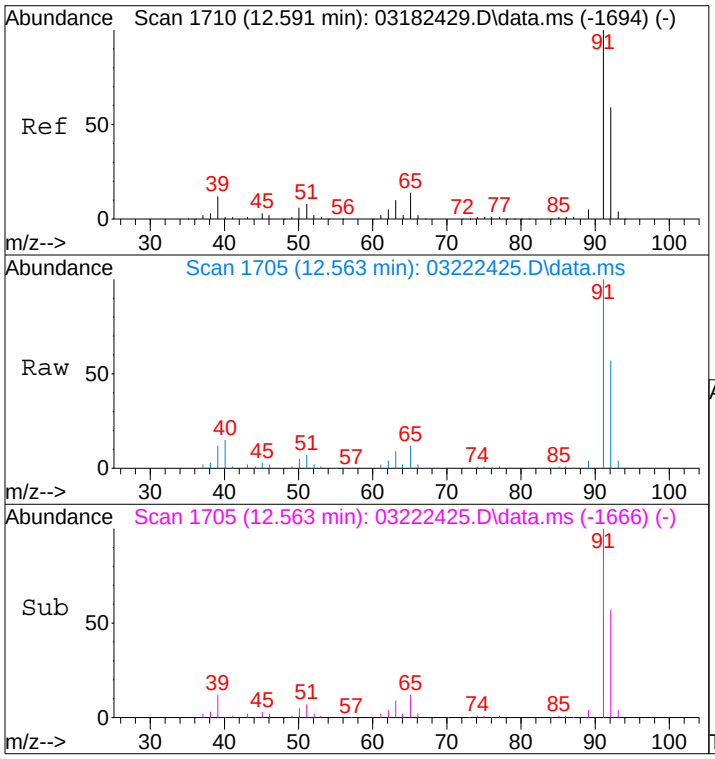


#53
4-Methyl-2-pentanone
Concen: 0.22 ng
RT: 11.33 min Scan# 1487
Delta R.T. -0.012 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 58 Resp: 2876

Ion	Ratio	Lower	Upper
58	100		
85	37.1	34.5	51.7
43	362.2	218.4	327.6#

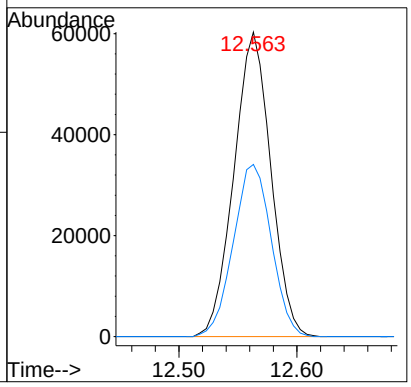


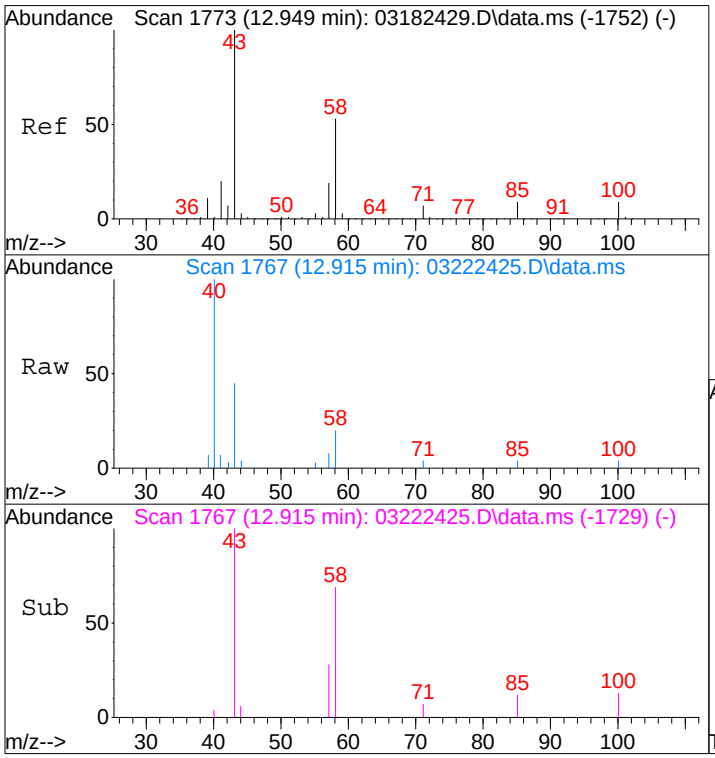


#58
Toluene
Concen: 2.21 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 91 Resp: 131040

Ion	Ratio	Lower	Upper
91	100		
92	58.3	39.2	79.2

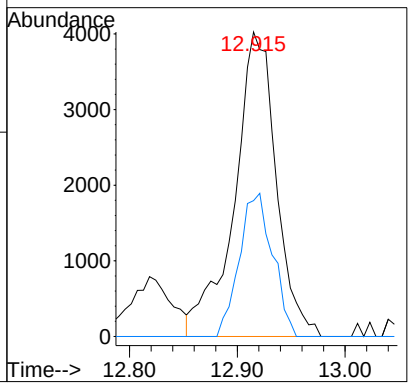


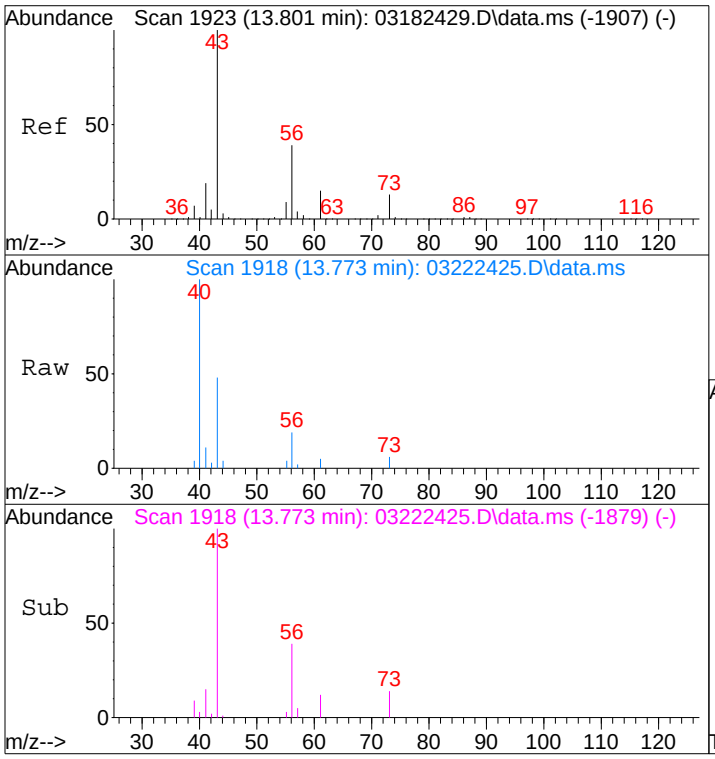


#59
2-Hexanone
Concen: 0.31 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 43 Resp: 10838

Ion	Ratio	Lower	Upper
43	100		
58	37.5	30.2	70.2

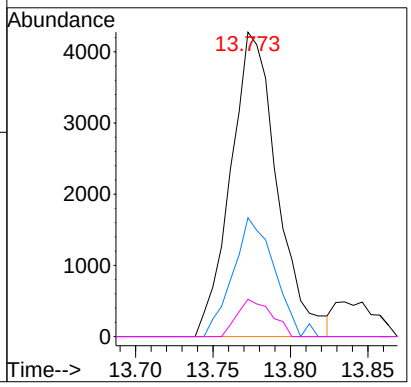


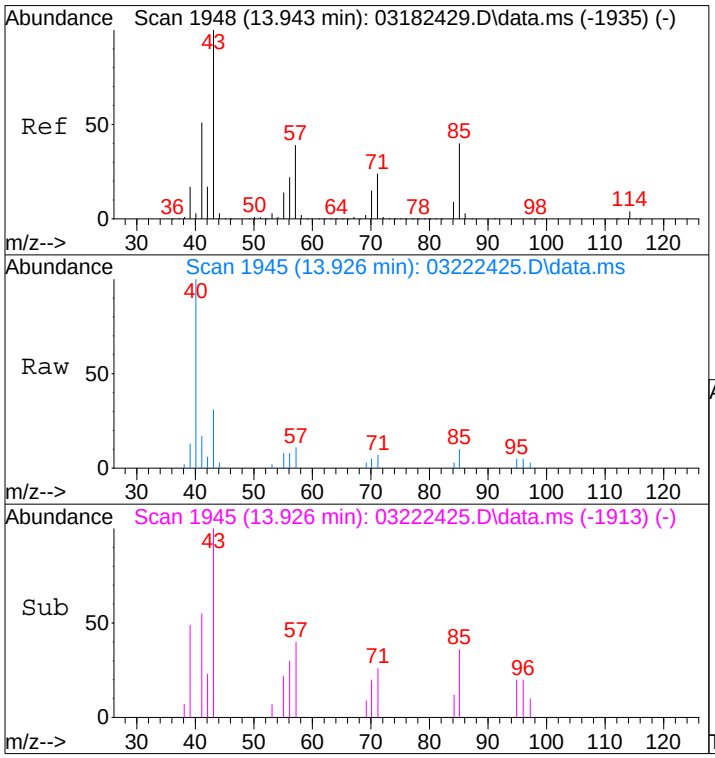


#62
n-Butyl Acetate
Concen: 0.23 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 43 Resp: 8924

Ion	Ratio	Lower	Upper
43	100		
56	35.1	16.7	56.7
73	9.1	0.0	31.3

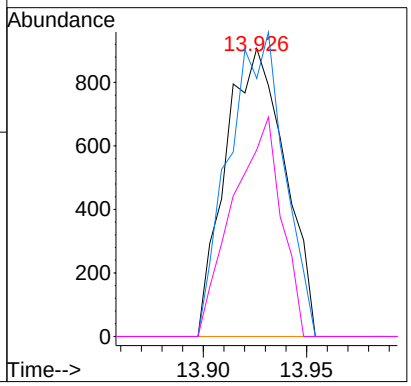


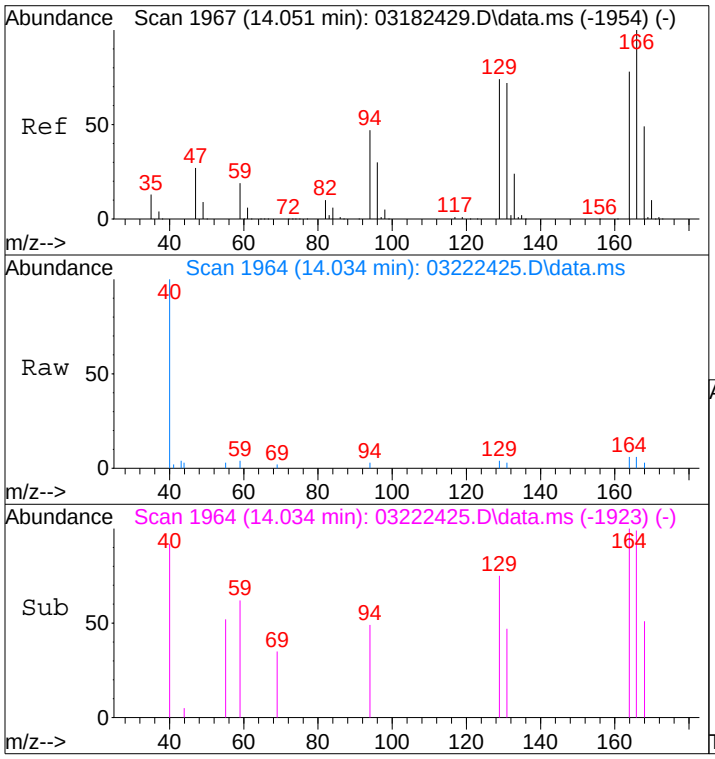


#63
n-Octane
Concen: 0.15 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 57 Resp: 1816

Ion	Ratio	Lower	Upper
57	100		
85	97.9	80.6	121.0
71	62.2	49.3	73.9

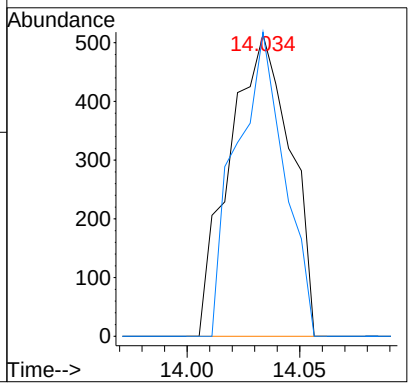


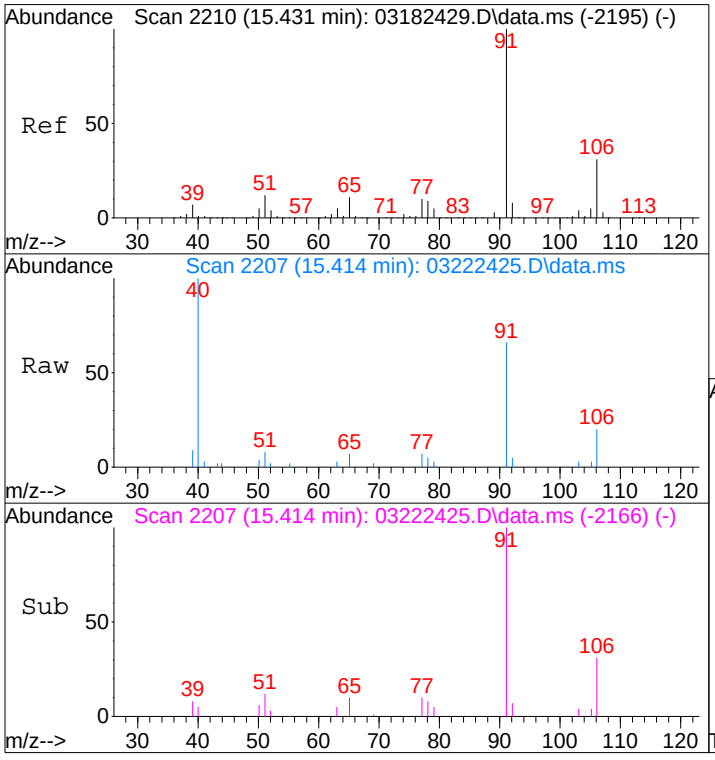


#64
Tetrachloroethene
Concen: 0.05 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:166 Resp: 961

Ion	Ratio	Lower	Upper
166	100		
164	80.3	56.7	96.7

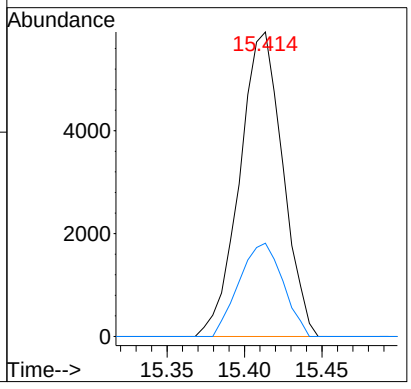


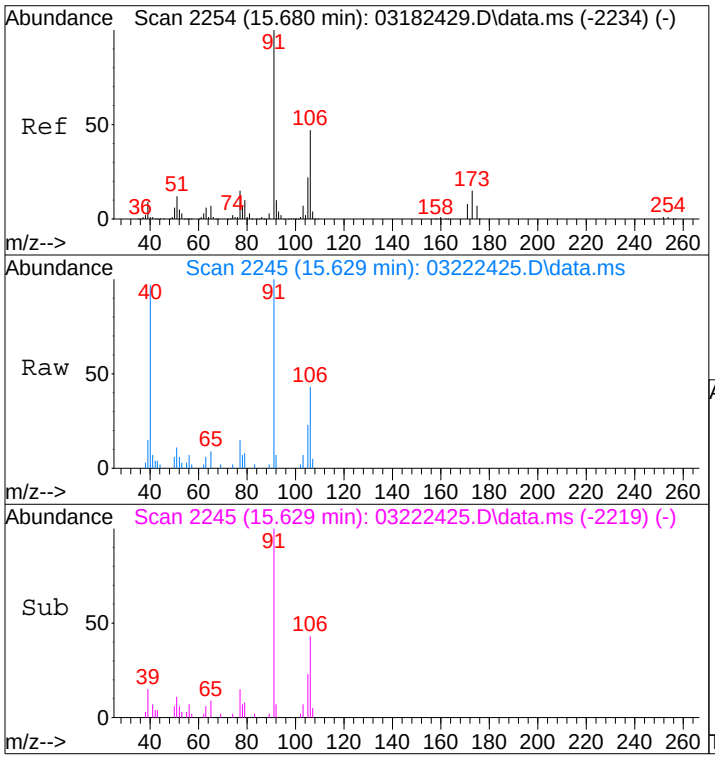


#66
Ethylbenzene
Concen: 0.17 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 91 Resp: 11479

Ion	Ratio	Lower	Upper
91	100		
106	31.1	10.4	50.4

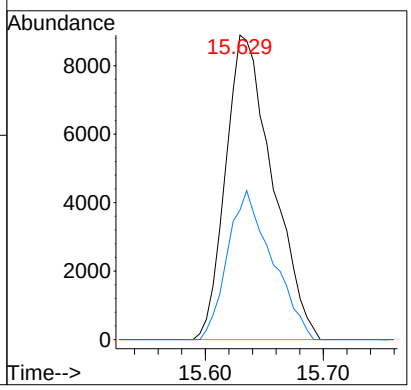


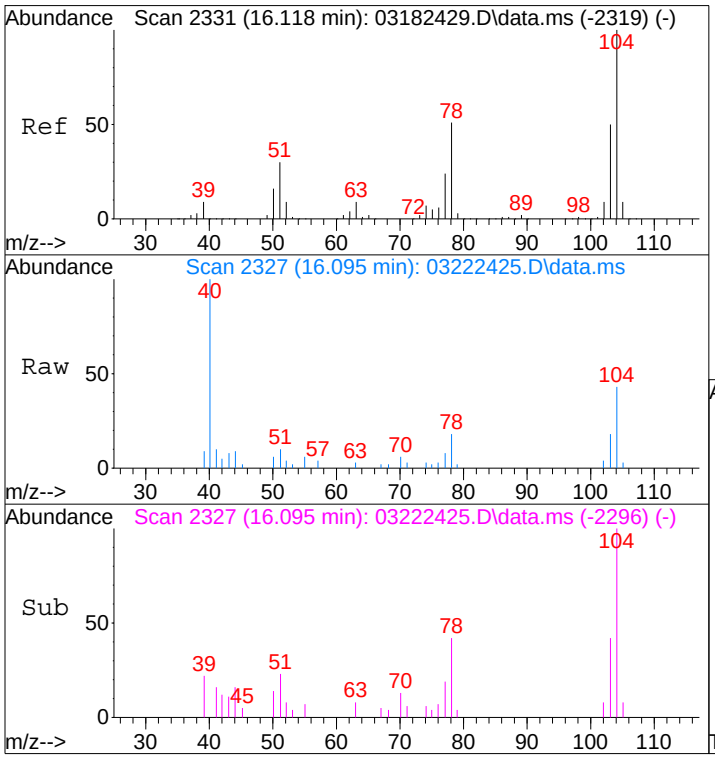


#67
m- & p-Xylenes
Concen: 0.43 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 91 Resp: 24468

Ion	Ratio	Lower	Upper
91	100		
106	46.7	25.6	65.6

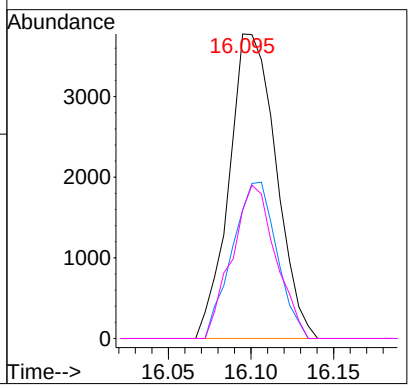


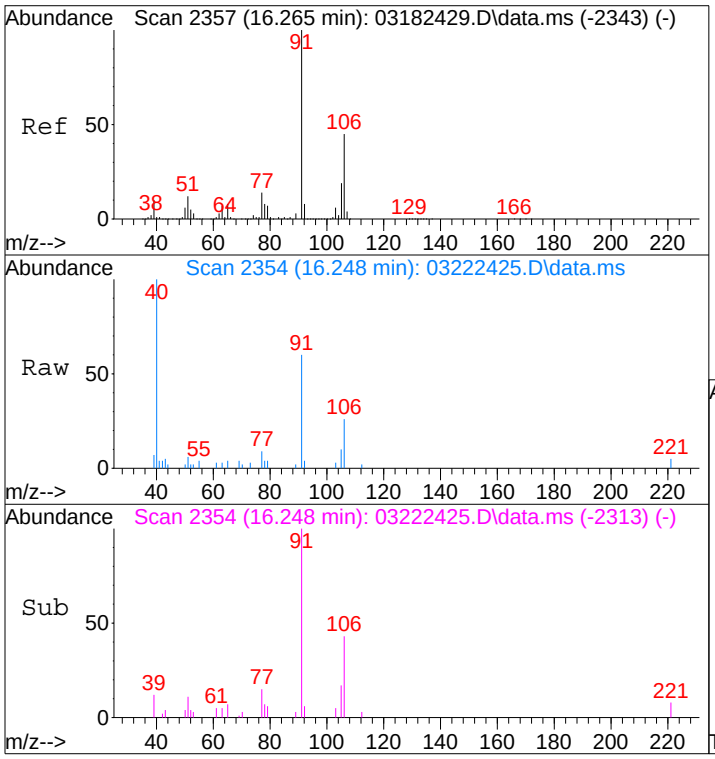


#69
Styrene
Concen: 0.19 ng
RT: 16.09 min Scan# 2327
Delta R.T. -0.023 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:104 Resp: 7453

Ion	Ratio	Lower	Upper
104	100		
78	48.6	28.5	68.5
103	46.8	28.4	68.4

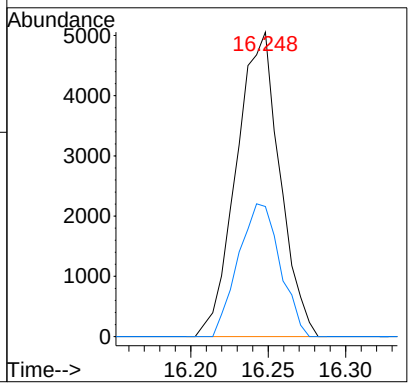


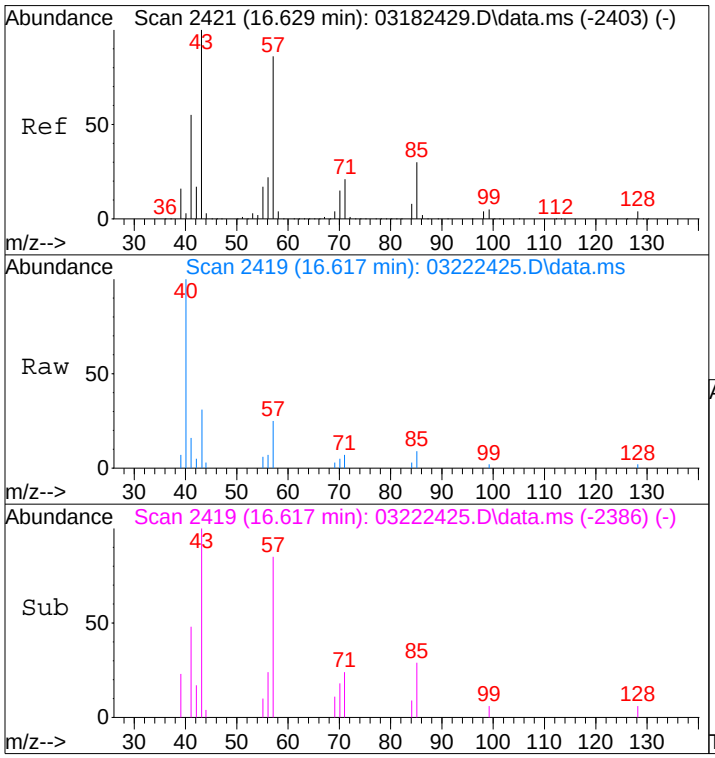


#70
o-Xylene
Concen: 0.18 ng
RT: 16.25 min Scan# 2354
Delta R.T. -0.017 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 91 Resp: 9878

Ion	Ratio	Lower	Upper
91	100		
106	42.0	24.4	64.4

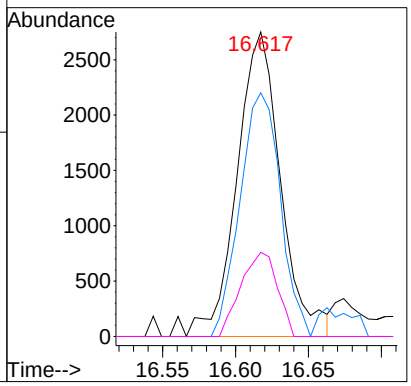


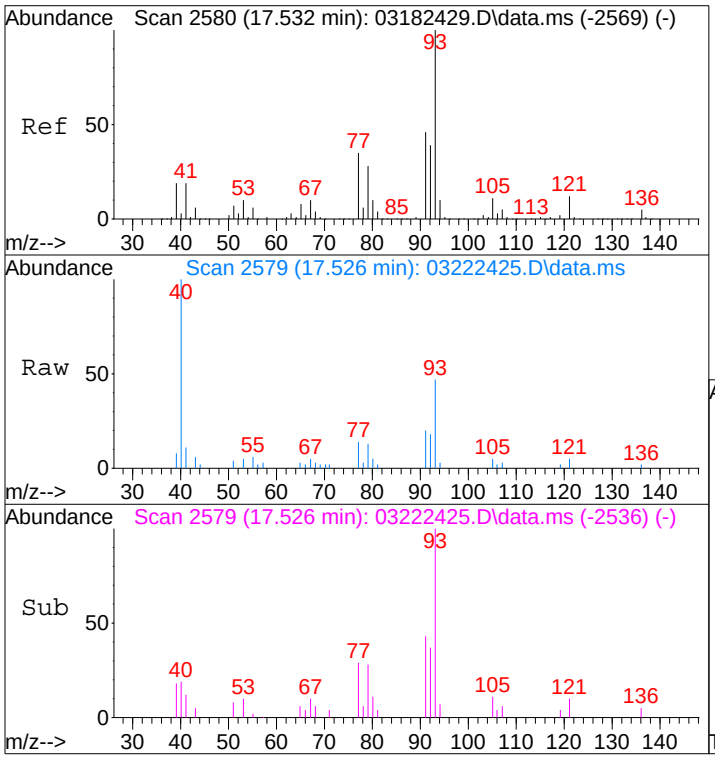


#71
n-Nonane
Concen: 0.18 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.011 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 43 Resp: 5720

Ion	Ratio	Lower	Upper
43	100		
57	74.1	63.3	103.3
85	23.1	7.8	47.8

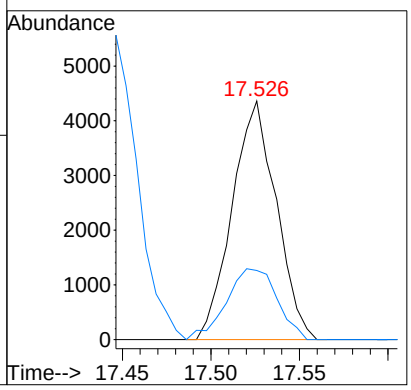


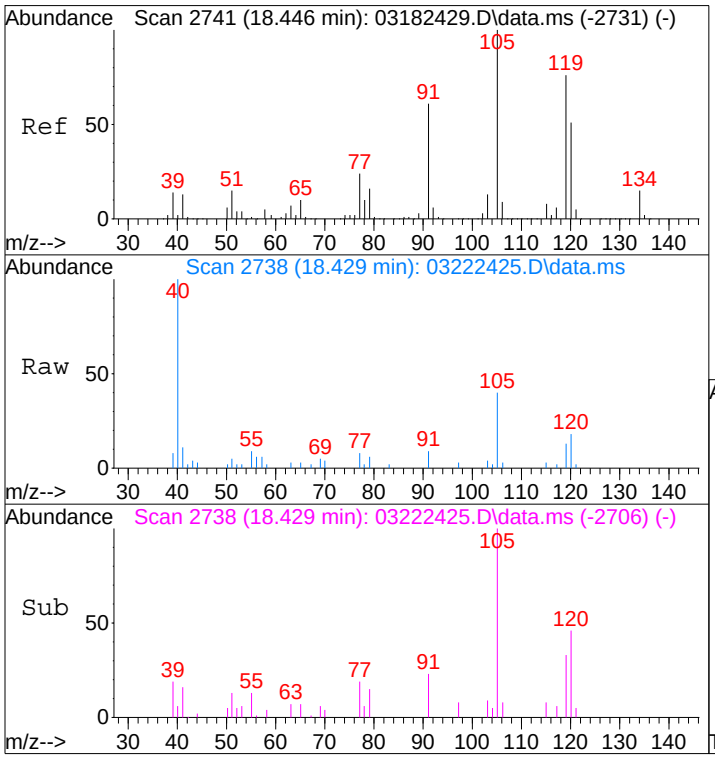


#75
alpha-Pinene
Concen: 0.23 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 93 Resp: 7568

Ion	Ratio	Lower	Upper
93	100		
77	34.1	13.4	53.4

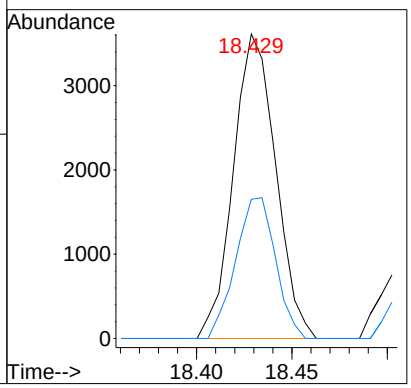


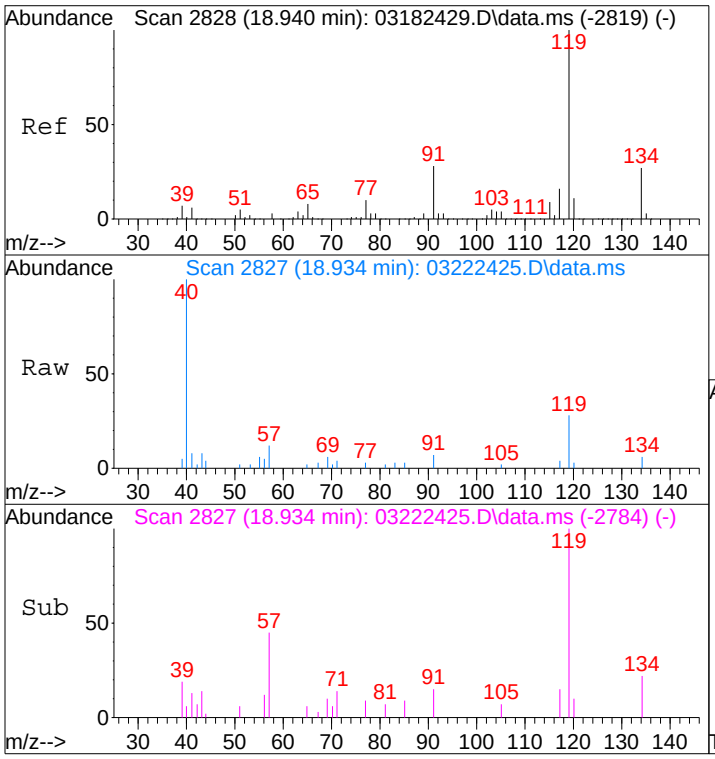


#82
1,2,4-Trimethylbenzene
Concen: 0.09 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:105 Resp: 5577

Ion	Ratio	Lower	Upper
105	100		
120	43.5	31.1	71.1

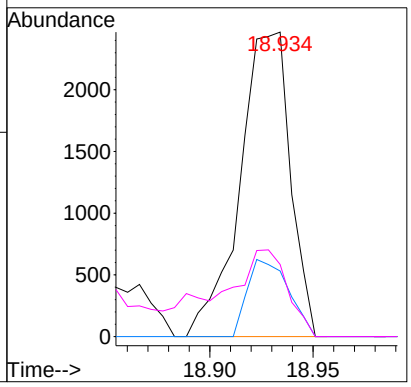


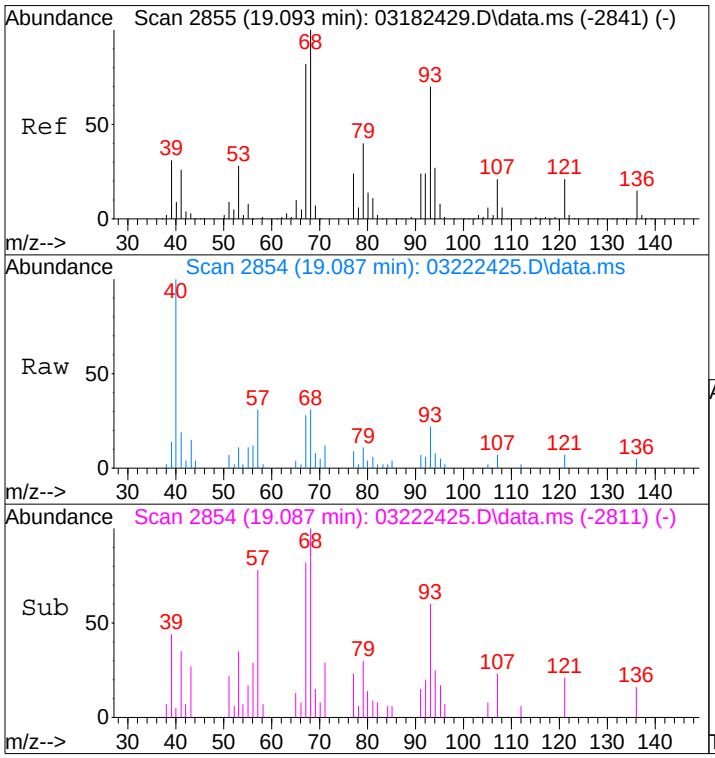


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.06 ng
RT: 18.93 min Scan# 2827
Delta R.T. -0.006 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion:119 Resp: 4202

Ion	Ratio	Lower	Upper
119	100		
134	20.6	5.0	45.0
91	38.9	5.8	45.8

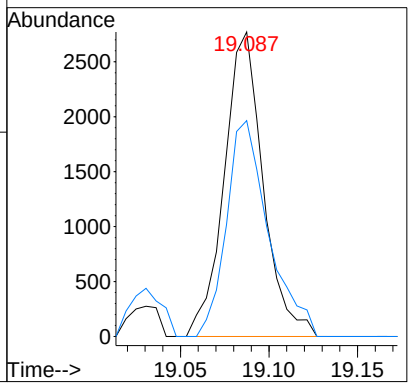




#91
d-Limonene
Concen: 0.20 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03222425.D
Acq: 22 Mar 2024 19:10

Tgt Ion: 68 Resp: 4245

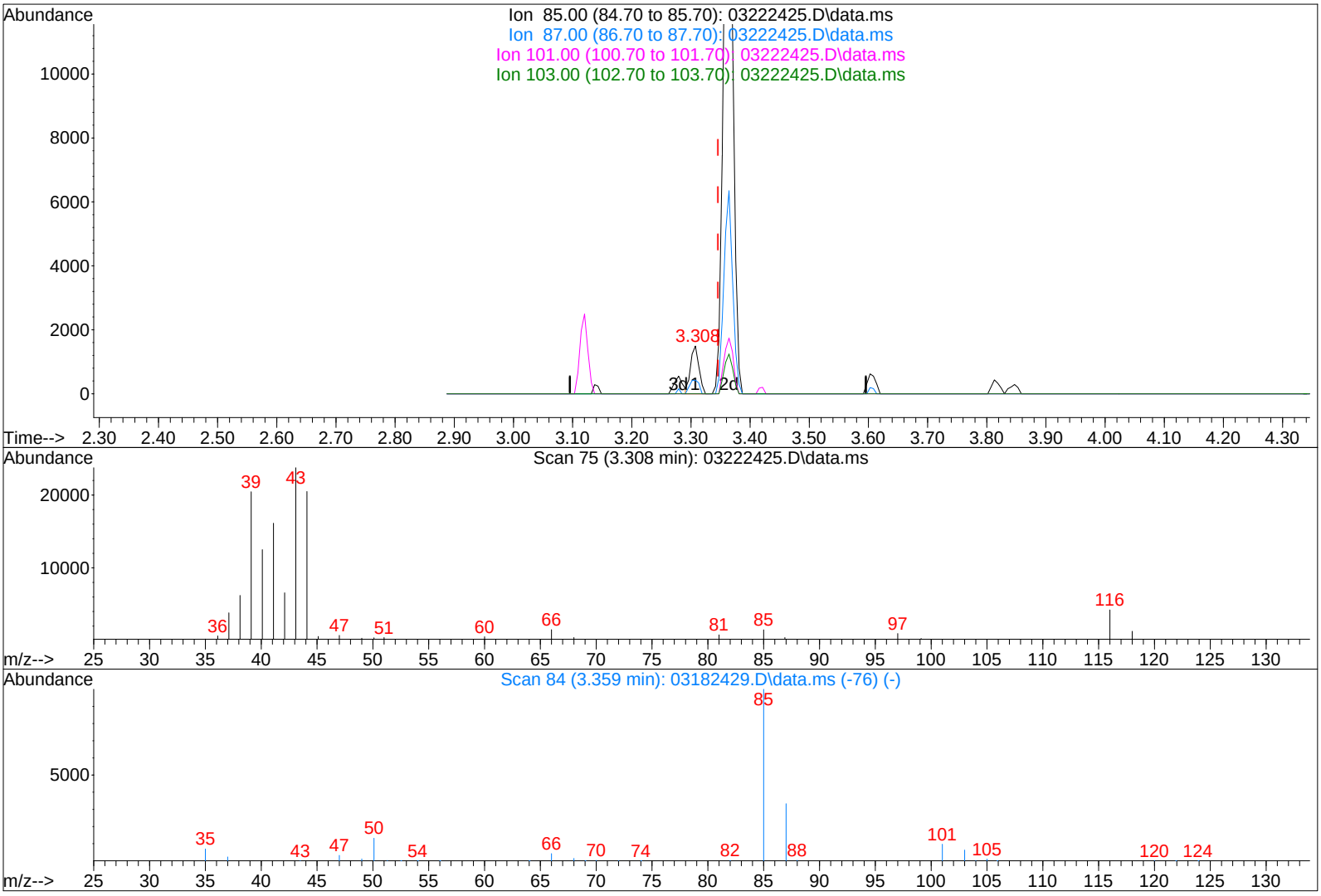
Ion	Ratio	Lower	Upper
68	100		
93	76.4	51.5	91.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222425.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.038) 0.04ng

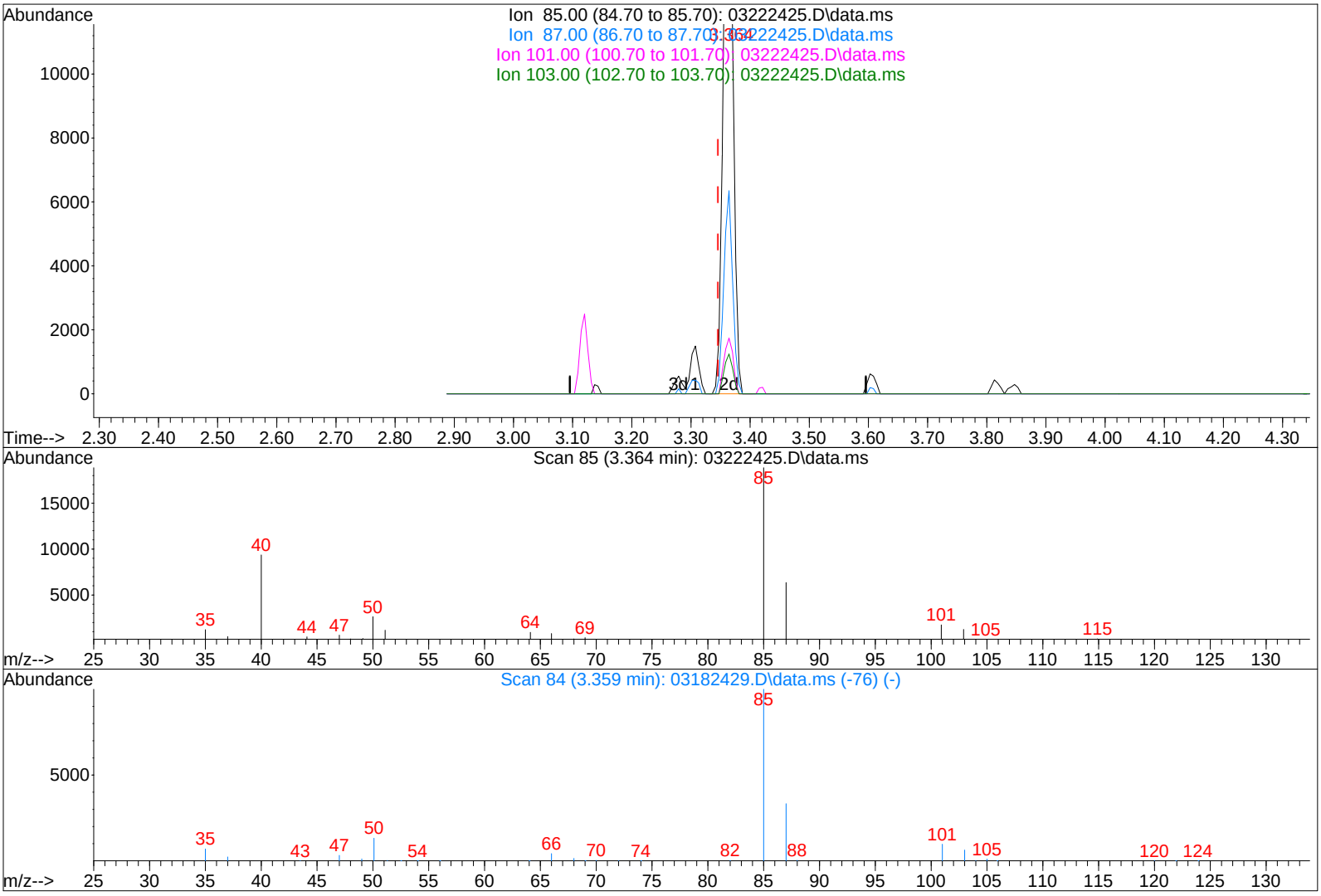
response 1466

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	32.26
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222425.D\data.ms

MP 3/25/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.019) 0.64ng m

response 20966

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	2.26#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/25/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 14:37:16 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

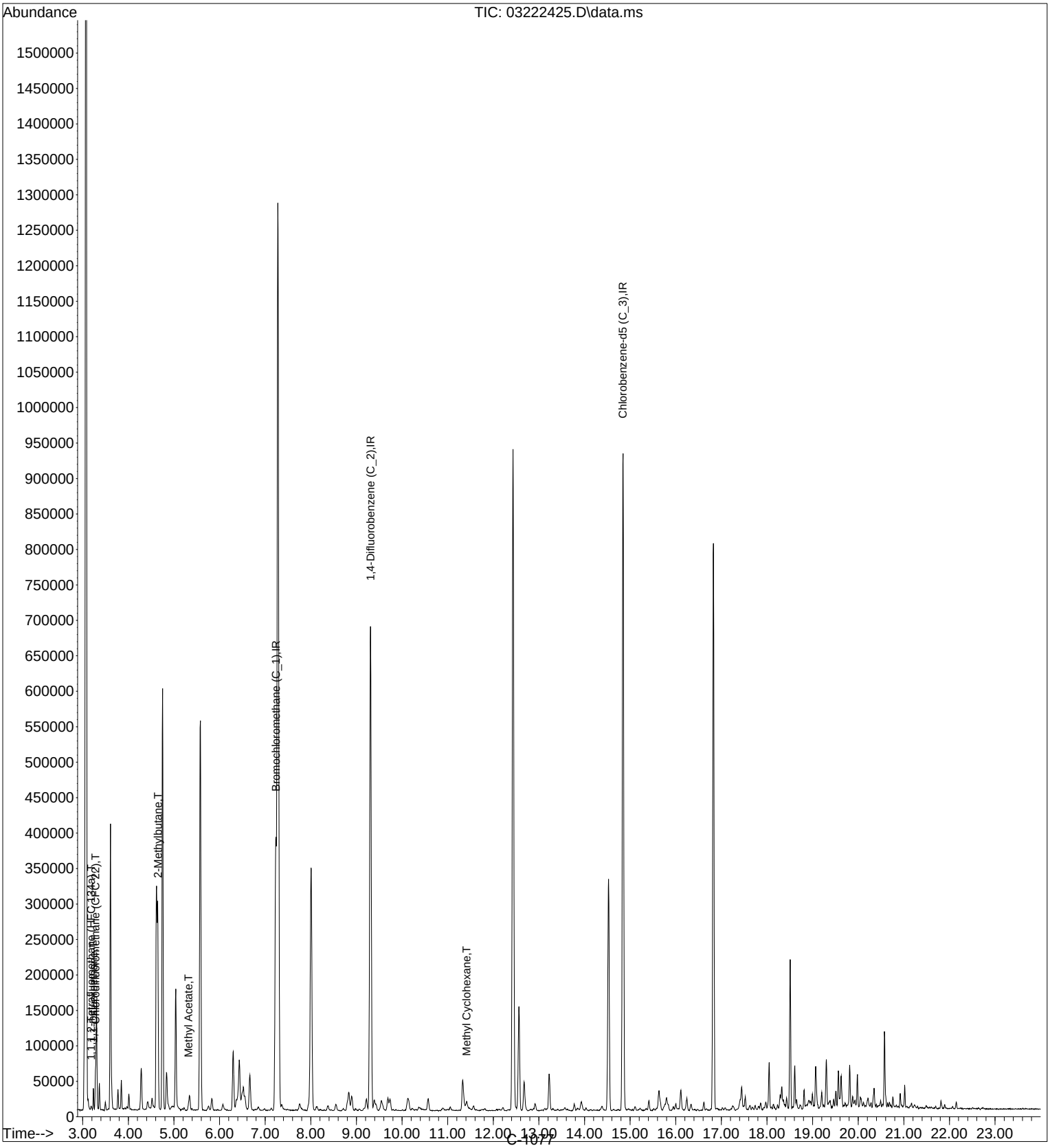
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	159016	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	680291	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	154516	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	178	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	2864	0.196	ng	#	36
4) 1,1-Difluoroethane	3.23	65	7600	0.631	ng	#	66
5) Chlorodifluoromethane ...	3.28	67	5790	1.240	ng		95
6) 1-Chloro-1,1-Difluoroe...	3.50	65	592	N.D.			
7) Dichlorofluoromethane ...	4.23	67	1443	N.D.			
8) Vinylbromide	4.42	108	70	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	201	N.D.			
10) 2-Methylbutane	4.65	57	58801	3.692	ng	#	79
11) Methyl Acetate	5.32	43	9281	0.227	ng	#	65
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	129	N.D.			
17) 2,3-Dimethylpentane	9.52	56	1724	N.D.			
18) Dibromomethane	9.80	174	562	N.D.			
20) Methyl Cyclohexane	11.42	55	4252	0.175	ng		95
21) 1,3-Dichloropropane	12.56	76	431	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.33	75	201	N.D.			
25) Bromobenzene	17.03	77	276	N.D.			
26) 2-Chlorotoluene	17.61	91	733	N.D.			
27) 4-Chlorotoluene	17.61	91	733	N.D.			
28) Indane	19.12	117	703	N.D.			
29) Indene	19.21	115	465	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	664	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	664	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	1929	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222425.D Vial: 5
Acq On : 22 Mar 2024 19:10 Operator: SC
Sample : P2400922-028 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:37:16 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222425.D
Acq On : 22 Mar 2024 19:10
Operator : SC
Sample : P2400922-028 (400mL)
Misc : S37-02202408
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03222425.D\data.ms

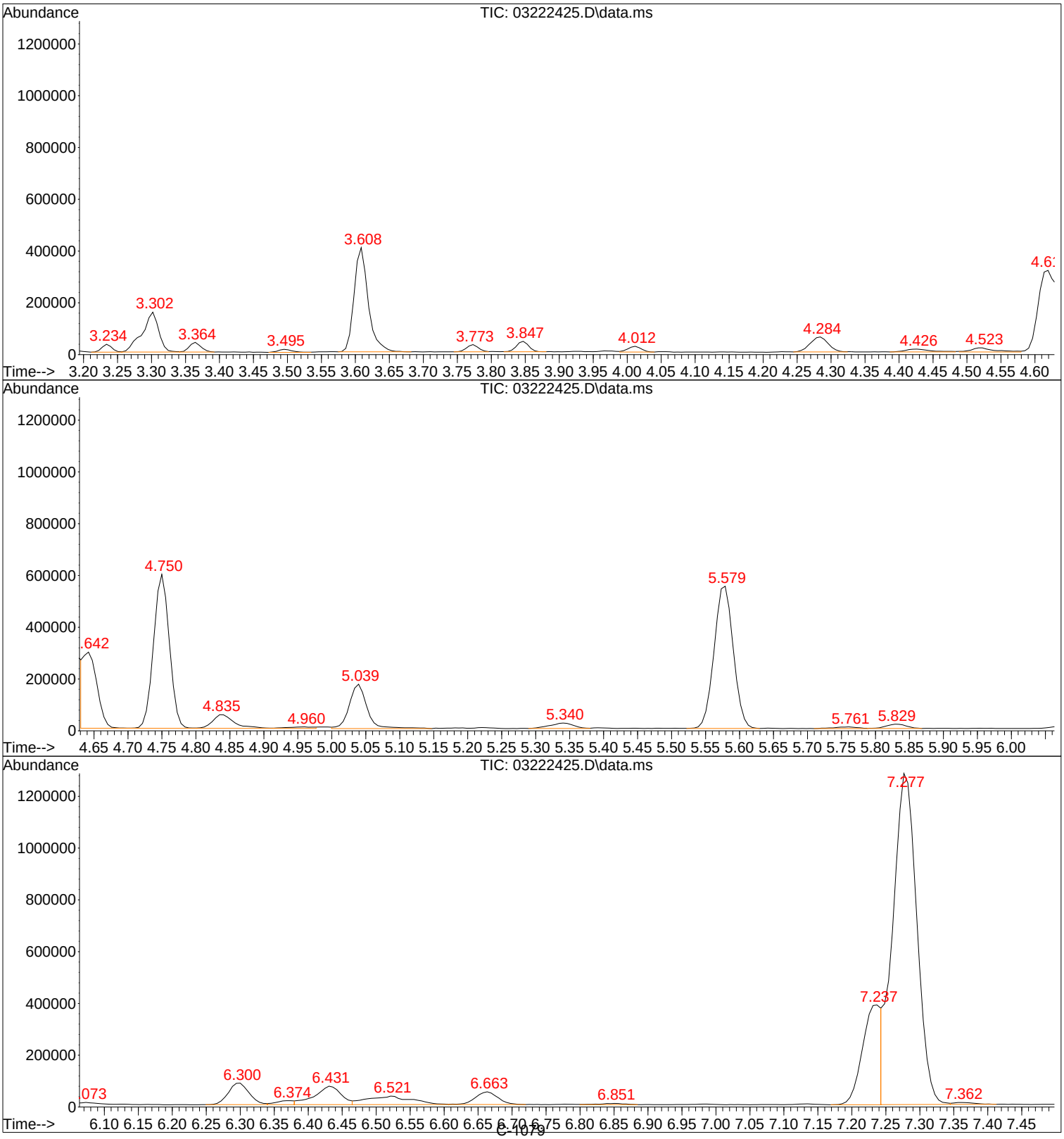
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	58	62	66	rBV	30245	31350	1.00%	0.335%
2	3.302	66	74	81	rVV4	154151	261060	8.33%	2.793%
3	3.364	81	85	90	rVB2	37292	44705	1.43%	0.478%
4	3.495	104	108	115	rBV3	11929	17714	0.57%	0.189%
5	3.608	122	128	141	rBV	402503	581975	18.58%	6.226%
6	3.773	152	157	161	rBV	27986	34367	1.10%	0.368%
7	3.847	165	170	176	rVB	40297	50248	1.60%	0.538%
8	4.012	195	199	204	rVB	22004	29378	0.94%	0.314%
9	4.284	240	247	254	rBV	58273	108108	3.45%	1.156%
10	4.426	265	272	282	rBV	10675	28294	0.90%	0.303%
11	4.523	283	289	299	rVV2	15869	38305	1.22%	0.410%
12	4.619	299	306	308	rVV	315386	551941	17.62%	5.904%
13	4.642	308	310	321	rVV	294338	406506	12.98%	4.349%
14	4.750	321	329	338	rVV	594341	962217	30.71%	10.293%
15	4.835	338	344	358	rVV	52682	116047	3.70%	1.241%
16	4.960	358	366	369	rVV4	5773	15884	0.51%	0.170%
17	5.039	373	380	399	rVB	171339	307373	9.81%	3.288%
18	5.340	424	433	440	rBV2	20590	49339	1.57%	0.528%
19	5.579	465	475	484	rVB	549418	1081583	34.52%	11.570%
20	5.761	498	507	512	rBV2	6341	15491	0.49%	0.166%
21	5.829	512	519	526	rVB2	16468	34479	1.10%	0.369%
22	6.073	553	562	569	rBV	8752	19945	0.64%	0.213%
23	6.300	593	602	609	rBV	83198	178505	5.70%	1.910%
24	6.374	609	615	616	rVV	15298	28203	0.90%	0.302%
25	6.431	616	625	631	rVV	71084	190632	6.08%	2.039%
26	6.521	631	641	656	rVV3	32710	147148	4.70%	1.574%
27	6.663	656	666	676	rVB	48803	111708	3.57%	1.195%
28	6.851	690	699	705	rVB2	4643	10724	0.34%	0.115%
29	7.237	755	767	768	rBV	385485	747019	23.84%	7.991%
30	7.277	768	774	786	rVV	1278816	3132874	100.00%	33.514%
31	7.362	786	789	798	rVB4	6787	14751	0.47%	0.158%

Sum of corrected areas: 9347873

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222425.D
Acq On : 22 Mar 2024 19:10
Operator : SC
Sample : P2400922-028 (400mL)
Misc : S37-02202408
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\22\\
Data File : 03222425.D
Acq On : 22 Mar 2024 19:100
Operator : SCC
Sample : P2400922-028 (400mL))
Misc : S37-022024088
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:32:06 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	136079	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	585400	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	134310	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	287044	12.894 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%			
57) Toluene-d8 (SS2)	12.43	98	670257	12.429 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%			
73) Bromofluorobenzene (SS3)	16.83	174	239624	12.604 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.37	85	17736	0.635 ng		99
4) Chloromethane	3.50	50	5824	0.281 ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	292	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.44	45	113	N.D.		
11) Acetonitrile	4.43	41	1469	N.D.		
12) Acrolein	4.53	56	135	N.D.		
13) Acetone	4.64	58	13752	1.374 ng		93
14) Trichlorofluoromethane	4.76	101	8346	0.309 ng		100
15) 2-Propanol (Isopropanol)	4.85	45	3771	0.095 ng		85
16) Acrylonitrile	4.98	53	420	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.36	59	52	N.D.		
19) Methylene Chloride	5.34	84	1595	0.110 ng		97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	1515	0.133 ng		92
22) Carbon Disulfide	5.61	76	2177	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.67	72	872	0.107 ng	#	72
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.29	61	1051	0.214 ng		86
31) n-Hexane	7.31	57	375	N.D.		
32) Chloroform	7.34	83	431	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.10	62	383	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.83	56	1112	No Calib	#	
41) Benzene	8.89	78	2190	N.D.		
42) Carbon Tetrachloride	9.07	117	2340	0.113 ng		96
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.85	63	496	N.D.		
46) Bromodichloromethane	10.07	83	198	N.D.		
47) Trichloroethene	10.14	130	357	N.D.		
48) 1,4-Dioxane	10.14	88	915	0.100 ng		90
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:32:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

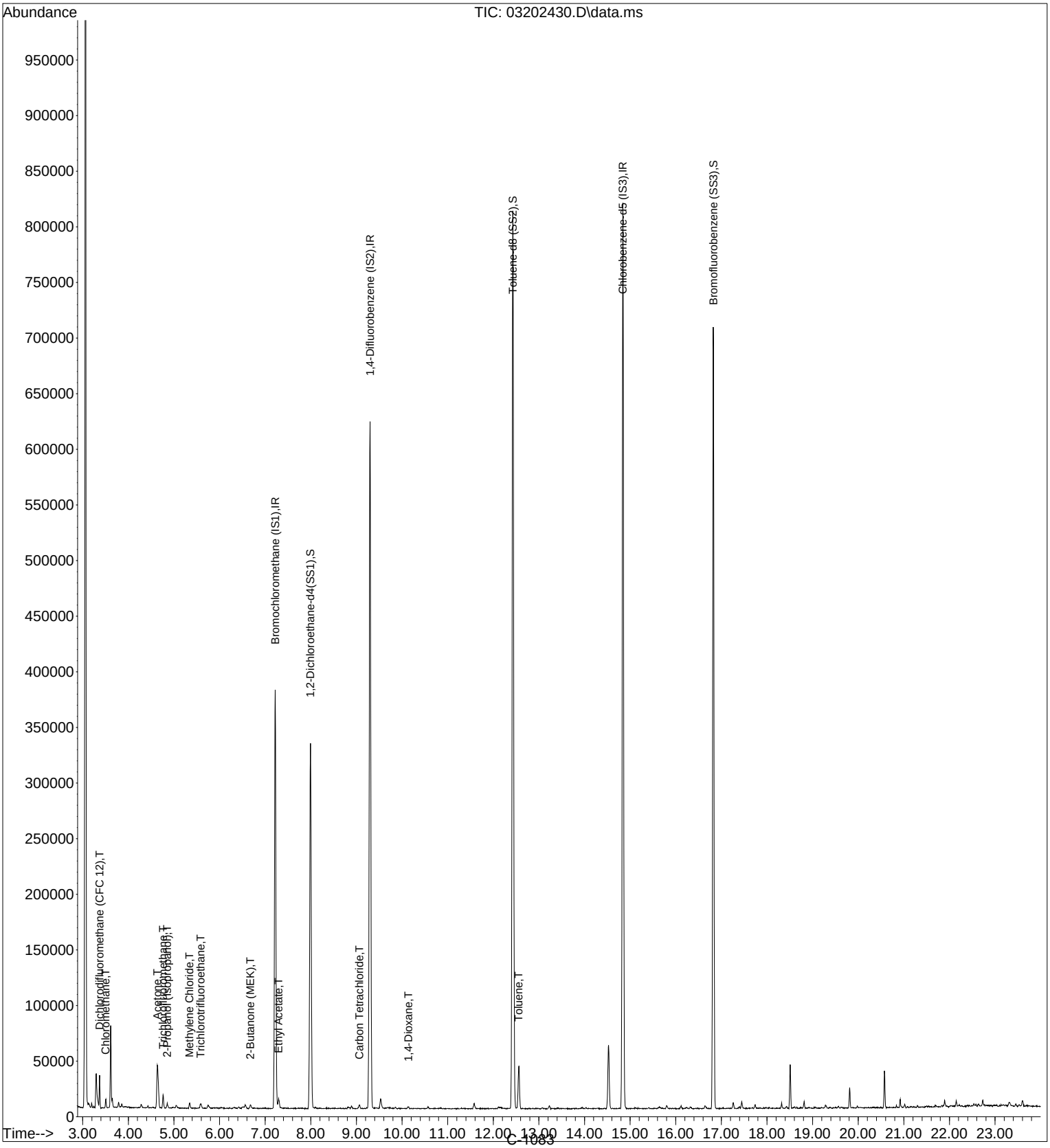
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.57	71	229	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	34038	0.661 ng	99
59) 2-Hexanone	12.93	43	107	N.D.	
60) Dibromochloromethane	13.07	129	330	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	529	N.D.	
65) Chlorobenzene	14.90	112	414	N.D.	
66) Ethylbenzene	15.41	91	1116	N.D.	
67) m- & p-Xylenes	15.63	91	2140	N.D.	
68) Bromoform	15.67	173	384	N.D.	
69) Styrene	16.11	104	139	N.D.	
70) o-Xylene	16.25	91	911	N.D.	
71) n-Nonane	16.62	43	187	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	147	N.D.	
74) Cumene	17.03	105	605	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	820	N.D.	
77) 3-Ethyltoluene	17.03	105	605	No Calib	#
78) 4-Ethyltoluene	17.86	105	468	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	311	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	605	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	550	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	432	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	448	N.D.	
87) sec-Butylbenzene	18.75	105	750	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	662	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	605	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	393	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	480	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	504	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	698	N.D.	
100) n-Butylbenzene	19.38	91	518	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:32:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:32:06 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

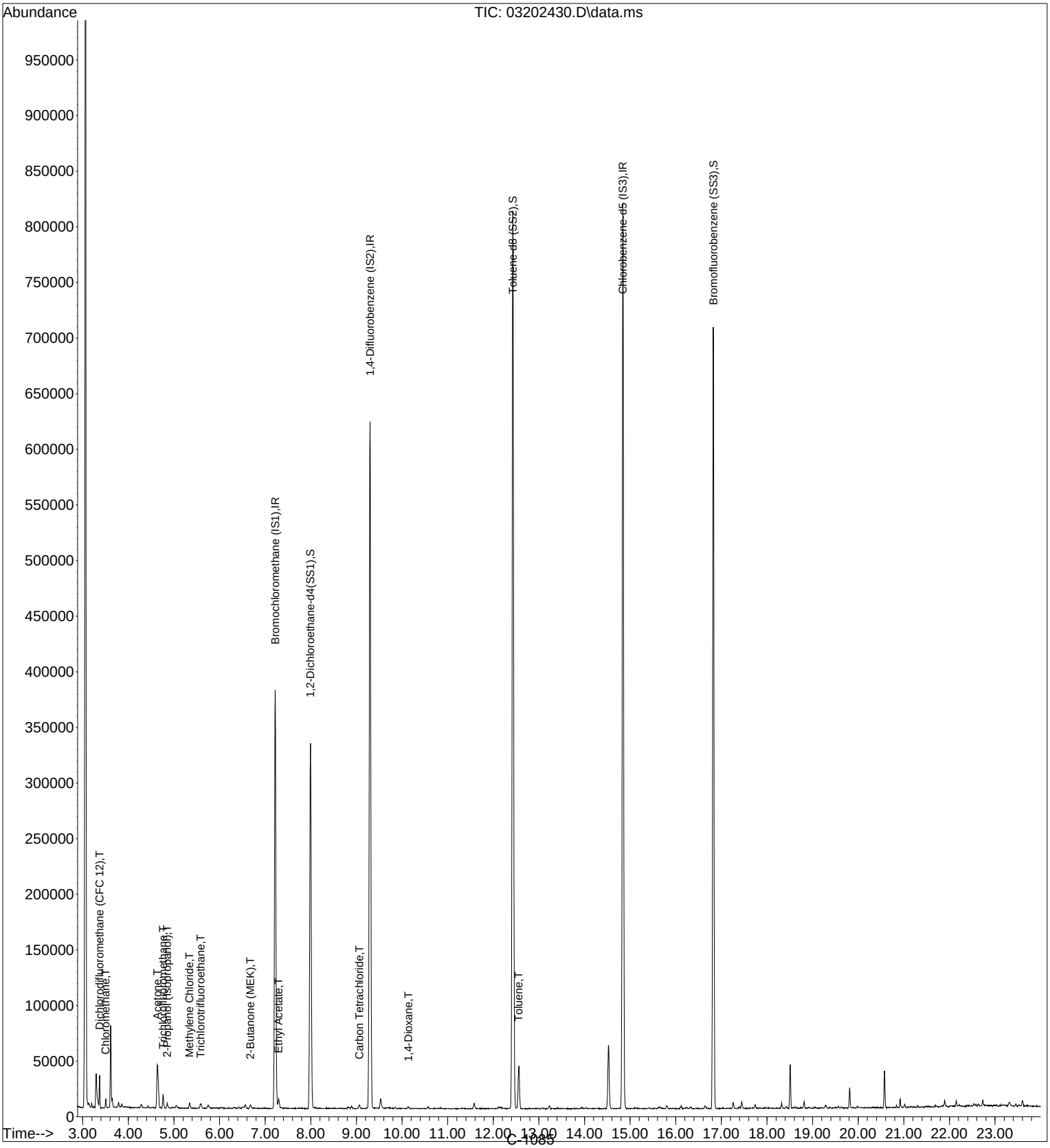
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	136079	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	585400	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	134310	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	287044	12.894	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
57) Toluene-d8 (SS2)	12.43	98	670257	12.429	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
73) Bromofluorobenzene (SS3)	16.83	174	239624	12.604	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	17736	0.635	ng		99
4) Chloromethane	3.50	50	5824	0.281	ng		100
13) Acetone	4.64	58	13752	1.374	ng		93
14) Trichlorofluoromethane	4.76	101	8346	0.309	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	3771	0.095	ng		85
19) Methylene Chloride	5.34	84	1595	0.110	ng		97
21) Trichlorotrifluoroethane	5.58	151	1515	0.133	ng		92
27) 2-Butanone (MEK)	6.67	72	872	0.107	ng	#	72
30) Ethyl Acetate	7.29	61	1051	0.214	ng		86
42) Carbon Tetrachloride	9.07	117	2340	0.113	ng		96
48) 1,4-Dioxane	10.14	88	915	0.100	ng		90
58) Toluene	12.56	91	34038	0.661	ng		99

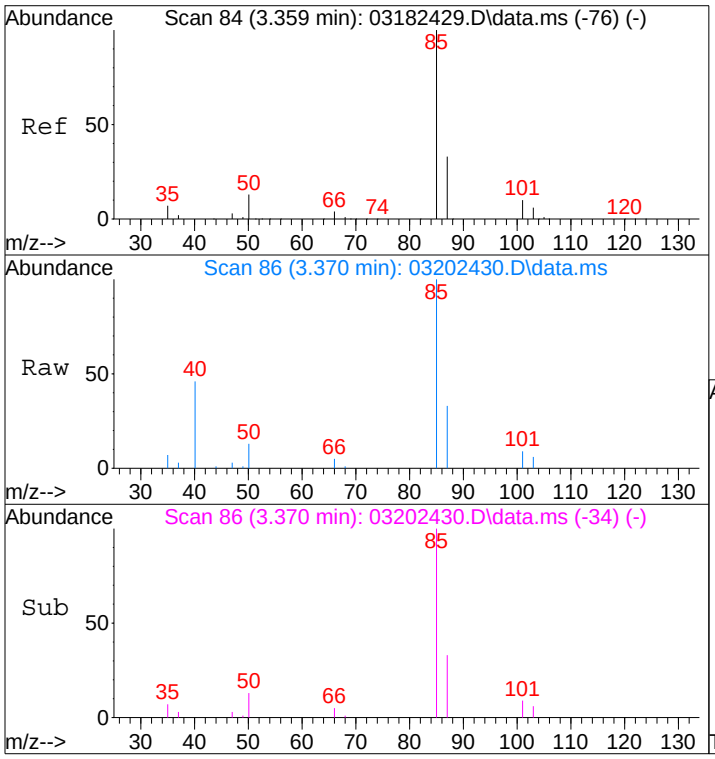
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:32:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

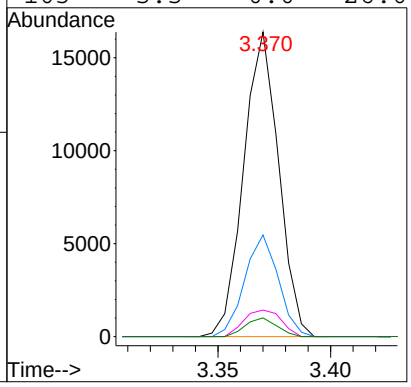


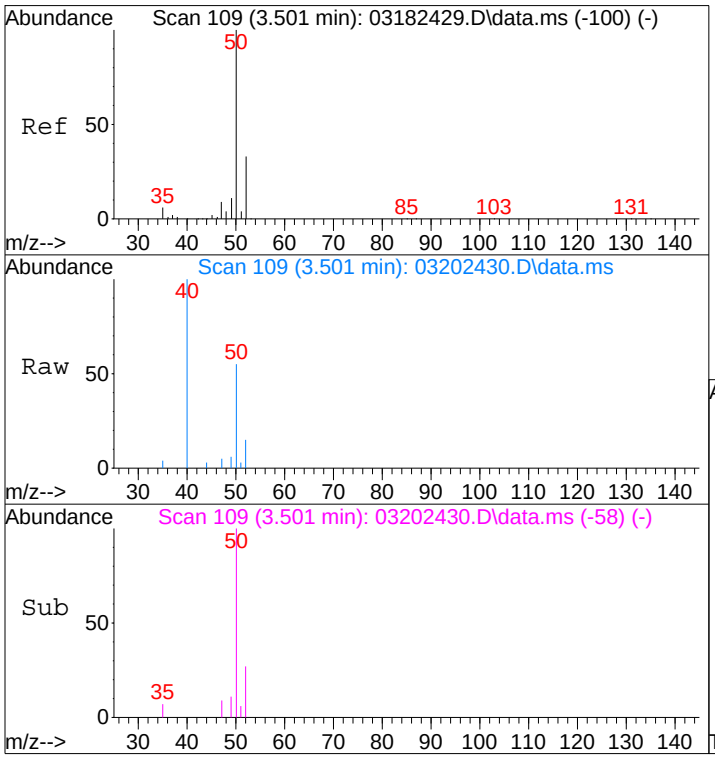


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.64 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.048 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 85 Resp: 17736

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.5	52.5
101	9.3	0.0	29.2
103	5.5	0.0	26.0

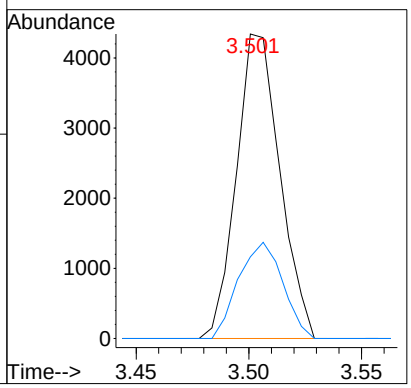


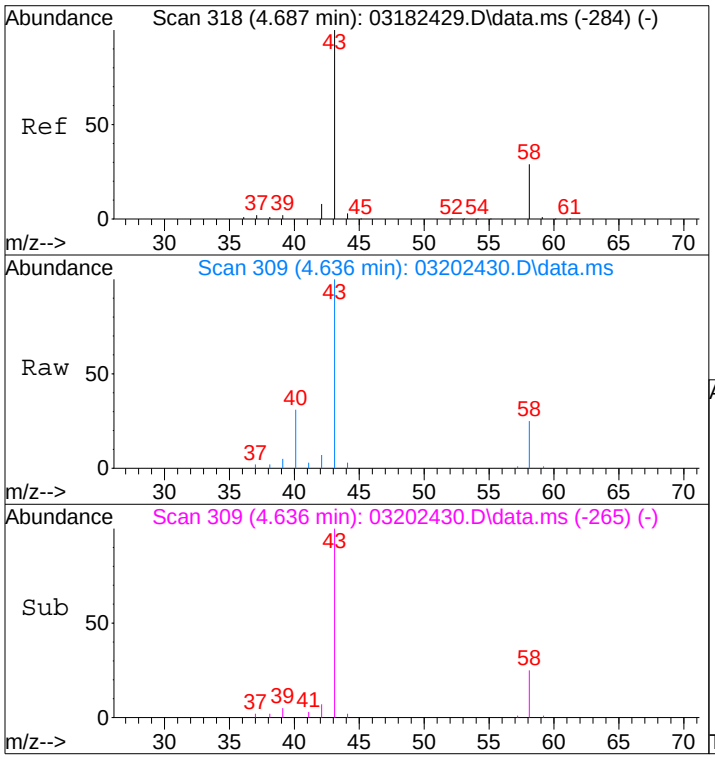


#4
Chloromethane
Concen: 0.28 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.038 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 50 Resp: 5824

Ion	Ratio	Lower	Upper
50	100		
52	32.1	12.3	52.3

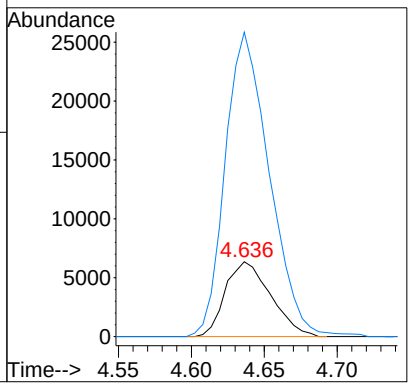


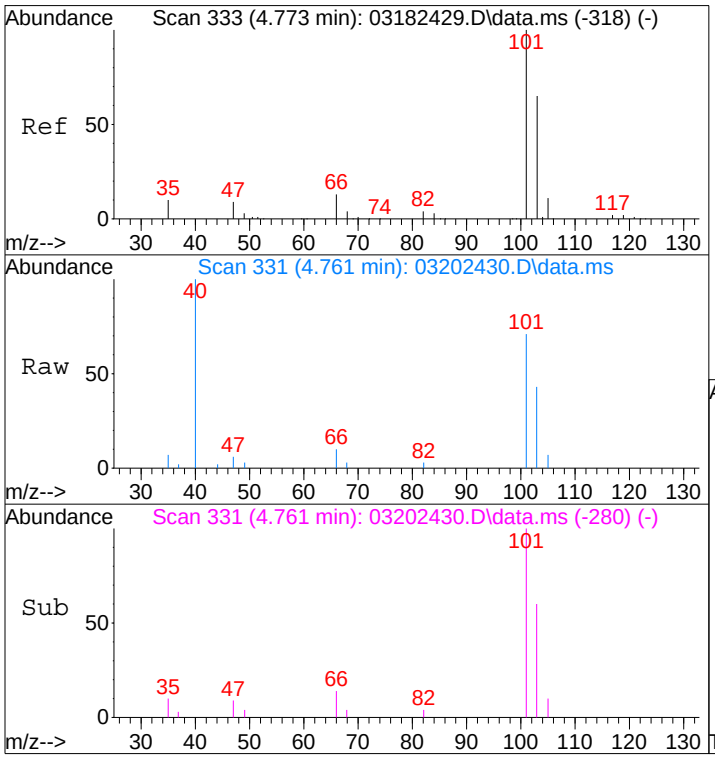


#13
Acetone
Concen: 1.37 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.000 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 58 Resp: 13752

Ion	Ratio	Lower	Upper
58	100		
43	396.4	350.1	410.1

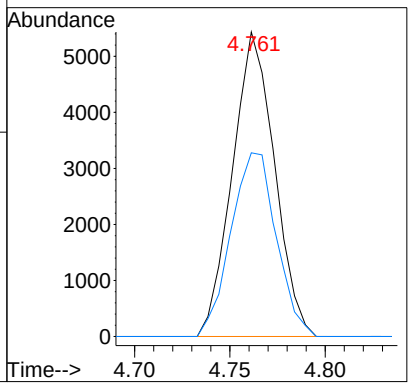


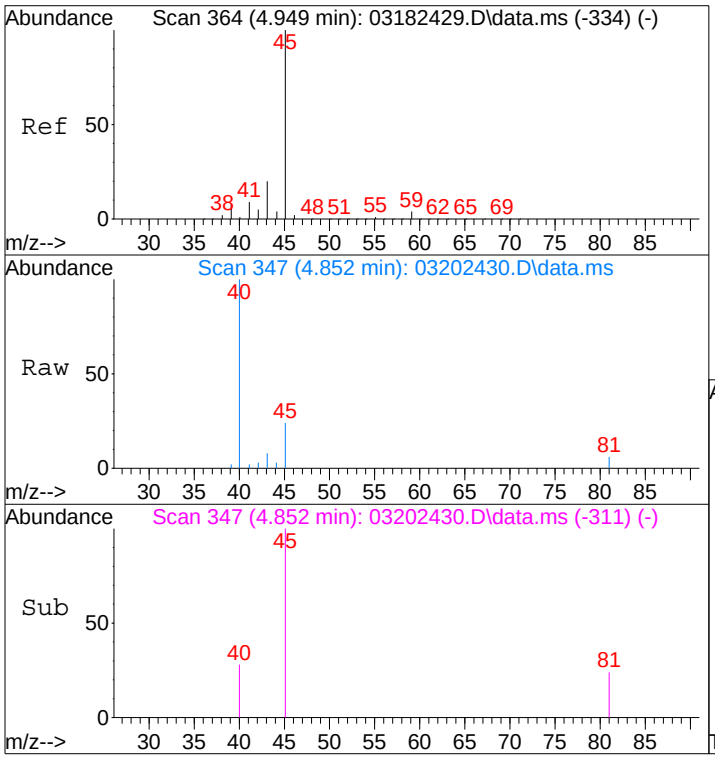


#14
Trichlorofluoromethane
Concen: 0.31 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.040 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion:101 Resp: 8346

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.7	84.7

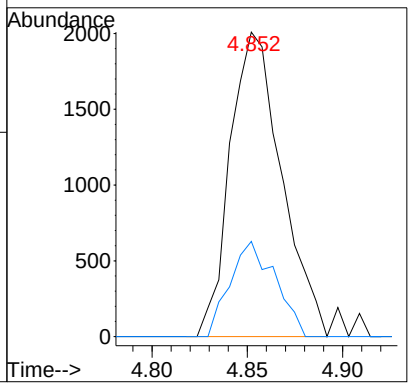


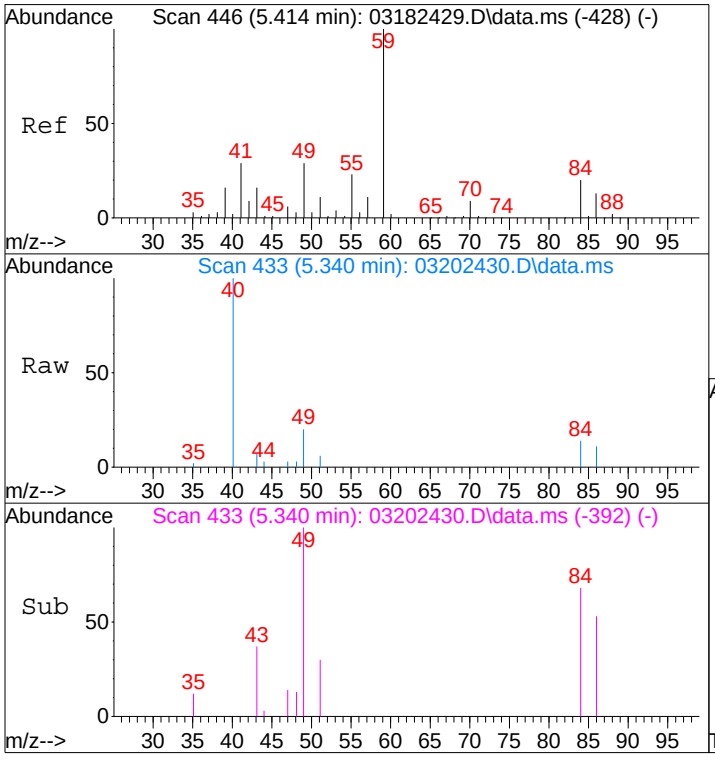


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.043 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 45 Resp: 3771

Ion	Ratio	Lower	Upper
45	100		
43	27.4	0.4	40.4

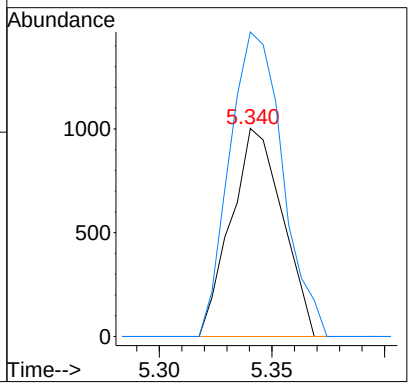


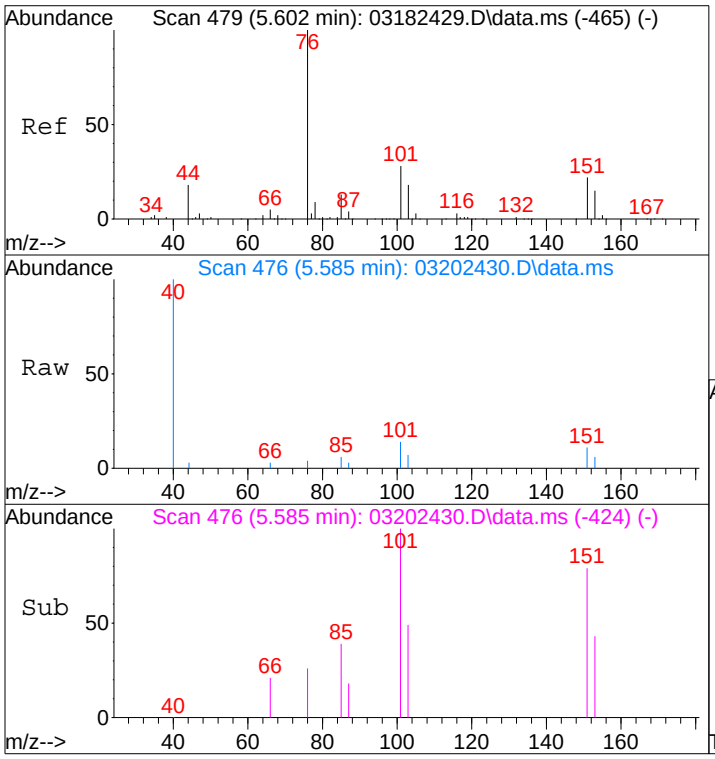


#19
Methylene Chloride
Concen: 0.11 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 84 Resp: 1595

Ion	Ratio	Lower	Upper
84	100		
49	151.3	122.9	172.9

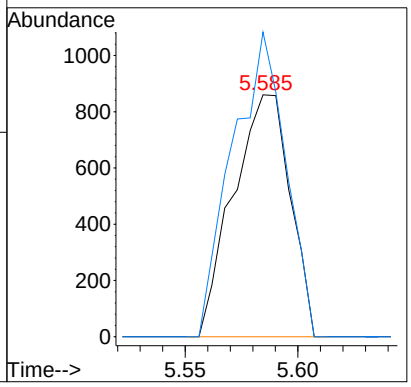


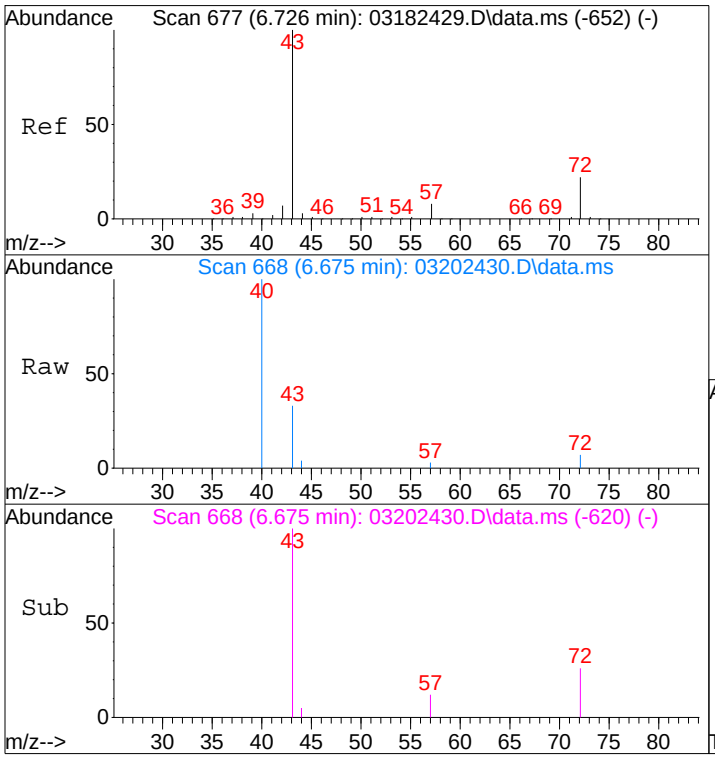


#21
Trichlorotrifluoroethane
Concen: 0.13 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion:151 Resp: 1515

Ion	Ratio	Lower	Upper
151	100		
101	117.6	106.4	146.4

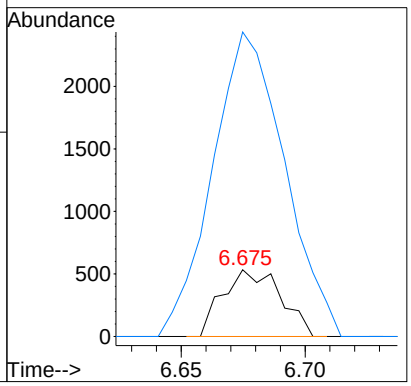


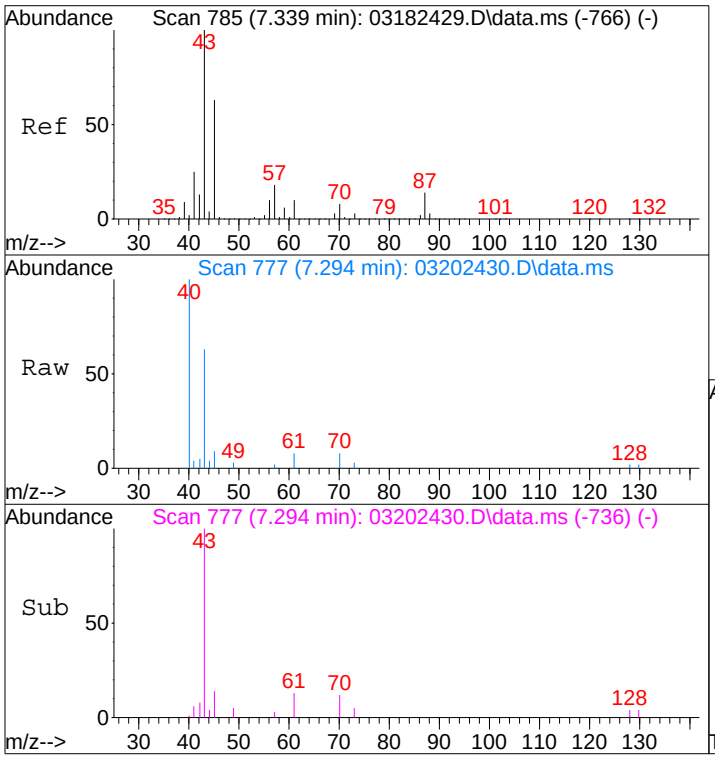


#27
2-Butanone (MEK)
Concen: 0.11 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.022 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 72 Resp: 872

Ion	Ratio	Lower	Upper
72	100		
43	565.4	468.6	508.6#

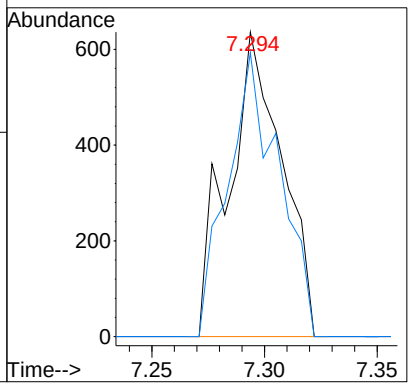


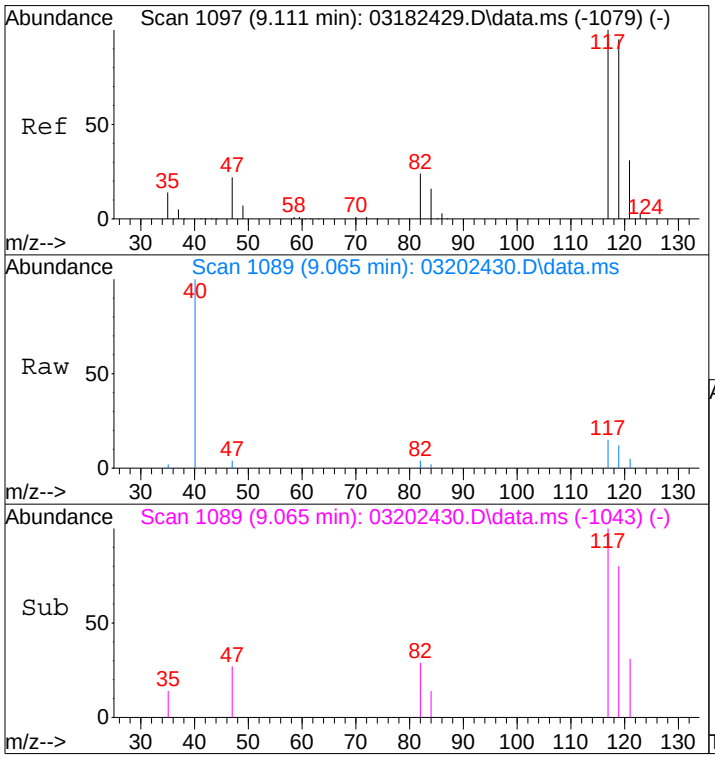


#30
Ethyl Acetate
Concen: 0.21 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 61 Resp: 1051

Ion	Ratio	Lower	Upper
61	100		
70	89.2	57.3	97.3

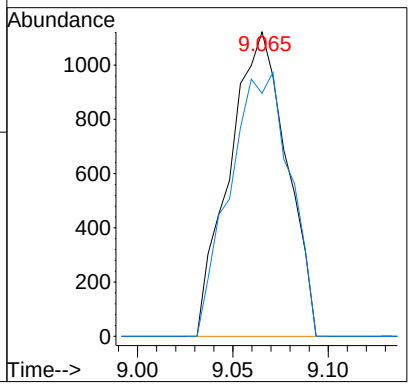


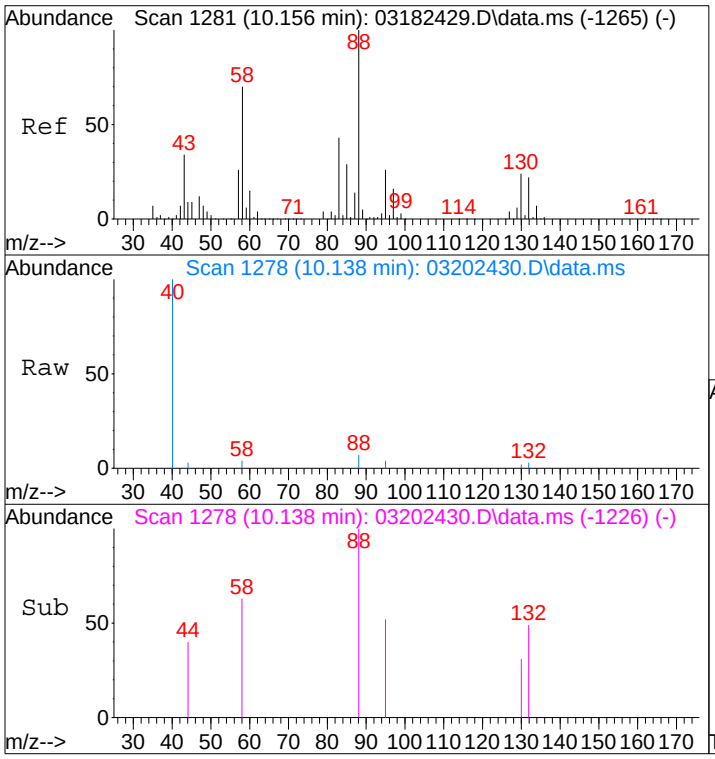


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.010 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion:117 Resp: 2340

Ion	Ratio	Lower	Upper
117	100		
119	91.5	75.7	115.7

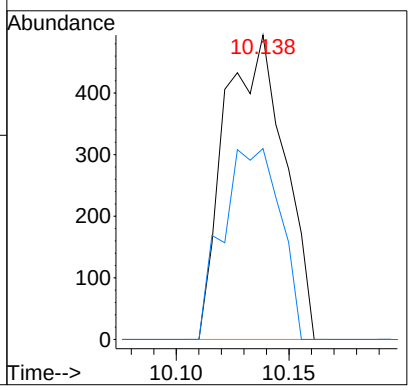


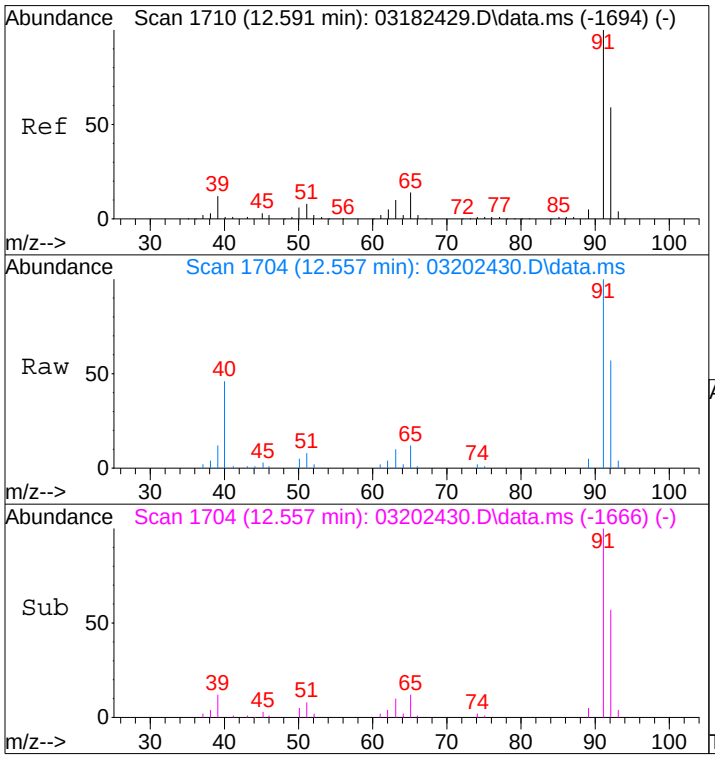


#48
1,4-Dioxane
Concen: 0.10 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.045 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 88 Resp: 915

Ion	Ratio	Lower	Upper
88	100		
58	60.4	48.2	88.2

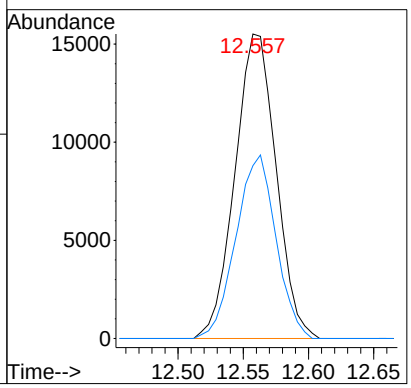




#58
Toluene
Concen: 0.66 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202430.D
Acq: 20 Mar 2024 21:33

Tgt Ion: 91 Resp: 34038

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.2	79.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:36:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

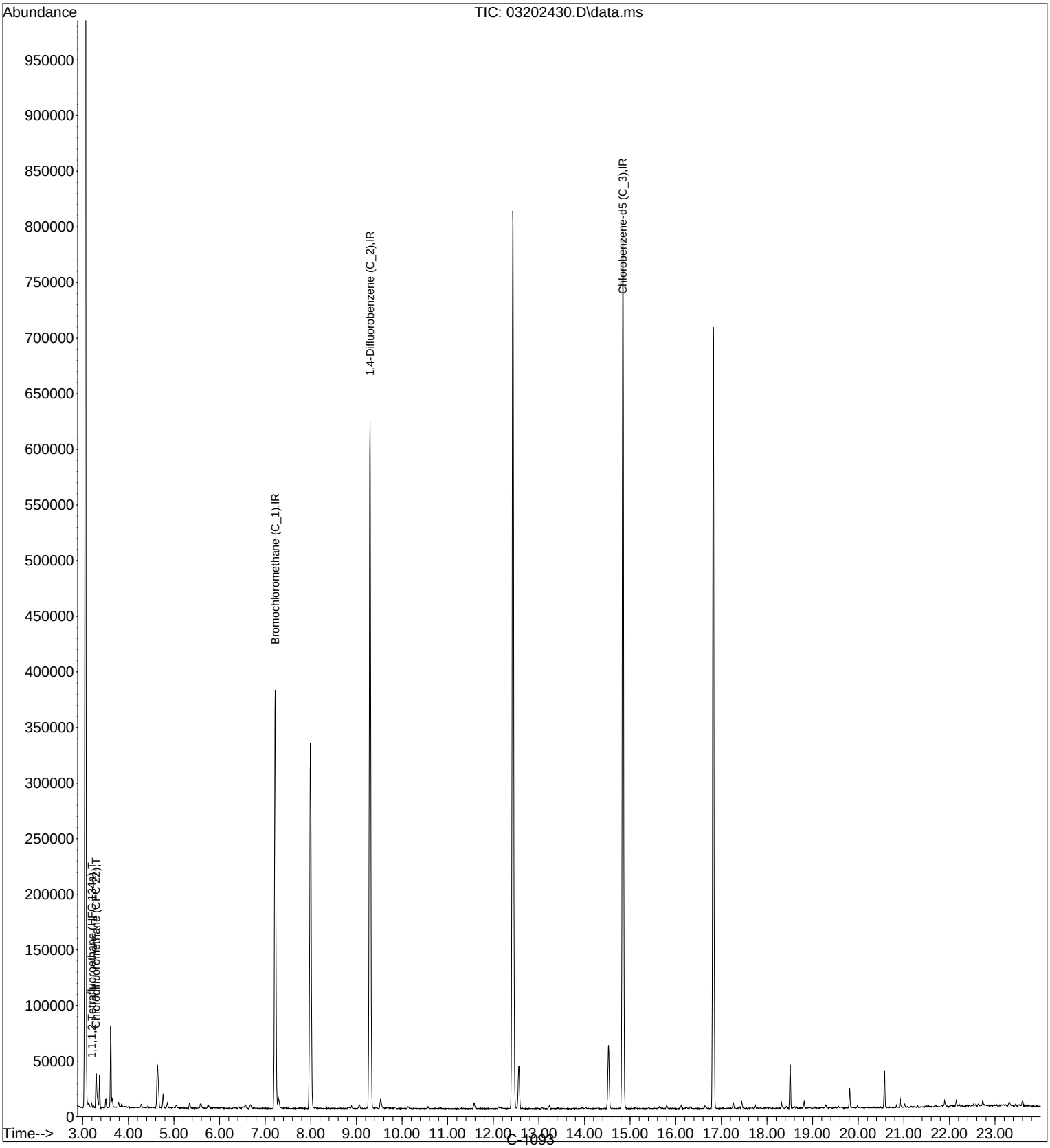
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	136079	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	586134	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	134310	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	130	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1920	0.153	ng		98
4) 1,1-Difluoroethane	3.25	65	424	N.D.			
5) Chlorodifluoromethane ...	3.29	67	1097	0.274	ng	#	97
6) 1-Chloro-1,1-Difluoroe...	3.52	65	513	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.35	43	1090	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.07	84	107	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.79	174	146	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	535	N.D.			
27) 4-Chlorotoluene	17.67	91	820	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202430.D Vial: 14
Acq On : 20 Mar 2024 21:33 Operator: SC
Sample : P2400922-029 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:36:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1093

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202430.D
Acq On : 20 Mar 2024 21:33
Operator : SC
Sample : P2400922-029 (400mL)
Misc : S37-02202408
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202430.D\data.ms

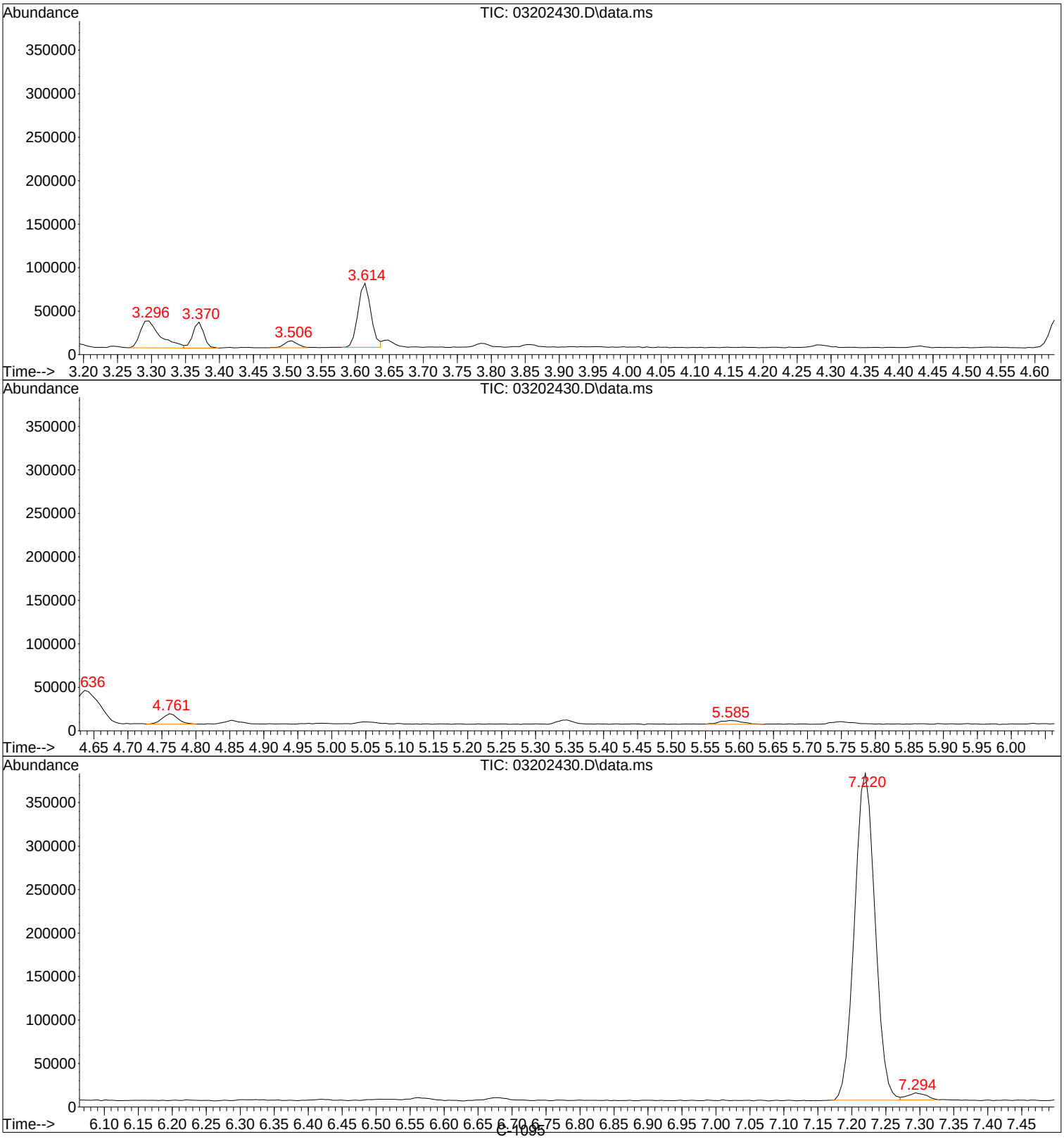
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	68	73	82	rBV2	30900	64480	8.17%	5.683%
2	3.370	82	86	91	rVB	29897	33568	4.25%	2.959%
3	3.506	104	110	114	rBV	8042	10966	1.39%	0.967%
4	3.614	123	129	133	rBV	73537	97111	12.30%	8.559%
5	4.636	300	309	319	rBV	38855	94490	11.97%	8.328%
6	4.761	325	331	338	rBV	12006	19336	2.45%	1.704%
7	5.585	470	476	485	rVB5	4234	10294	1.30%	0.907%
8	7.220	755	764	773	rBV	375705	789545	100.00%	69.590%
9	7.294	773	777	783	rVB	7965	14783	1.87%	1.303%

Sum of corrected areas: 1134573

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202430.D
Acq On : 20 Mar 2024 21:33
Operator : SC
Sample : P2400922-029 (400mL)
Misc : S37-02202408
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202430.D
Acq On : 20 Mar 2024 21:333
Operator : SCC
Sample : P2400922-029 (400mL))
Misc : S37-022024088
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 11:34:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	136432	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	587433	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	137763	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	287041	12.860	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
57) Toluene-d8 (SS2)	12.43	98	666985	12.058	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	16.83	174	243426	12.483	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	3.29	42	16500	1.062	ng	#	49
3) Dichlorodifluoromethan...	3.31	85	9172	0.328	ng	#	90
4) Chloromethane	3.49	50	9664	0.464	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	379	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	316	N.D.			
8) Bromomethane	4.02	94	2105	0.185	ng		100
9) Chloroethane	4.15	64	1275	0.150	ng		85
10) Ethanol	4.28	45	60523	4.590	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.52	56	7877	0.834	ng		91
13) Acetone	4.62	58	104175	10.382	ng		94
14) Trichlorofluoromethane	4.76	101	2459586	90.811	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	58046	1.453	ng		96
16) Acrylonitrile	5.04	53	600	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.34	84	4184	0.287	ng		96
20) 3-Chloro-1-propene (Al...	5.44	41	365	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1115734	97.726	ng		99
22) Carbon Disulfide	5.60	76	34483	0.759	ng	#	1
23) trans-1,2-Dichloroethene	6.13	61	289	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	378	N.D.			
26) Vinyl Acetate	6.43	86	6929	3.104	ng	#	28
27) 2-Butanone (MEK)	6.66	72	13478	1.643	ng		97
28) cis-1,2-Dichloroethene	7.07	61	276	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	108511	22.043	ng		94
31) n-Hexane	7.30	57	4885	0.230	ng	#	87
32) Chloroform	7.36	83	22025	0.931	ng		99
34) Tetrahydrofuran (THF)	7.76	72	1155	0.155	ng	#	70
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	740	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.54	61	3602	No Calib		#	
40) 1-Butanol	8.80	56	6840	No Calib		#	
41) Benzene	8.89	78	19775	0.374	ng		98
42) Carbon Tetrachloride	9.07	117	457	N.D.			
43) Cyclohexane	9.22	84	3926	0.235	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	843	N.D.			
47) Trichloroethene	10.16	130	5680	0.399	ng		99
48) 1,4-Dioxane	10.12	88	2510	0.272	ng		92
49) 2,2,4-Trimethylpentane...	10.23	57	1214	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:34:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

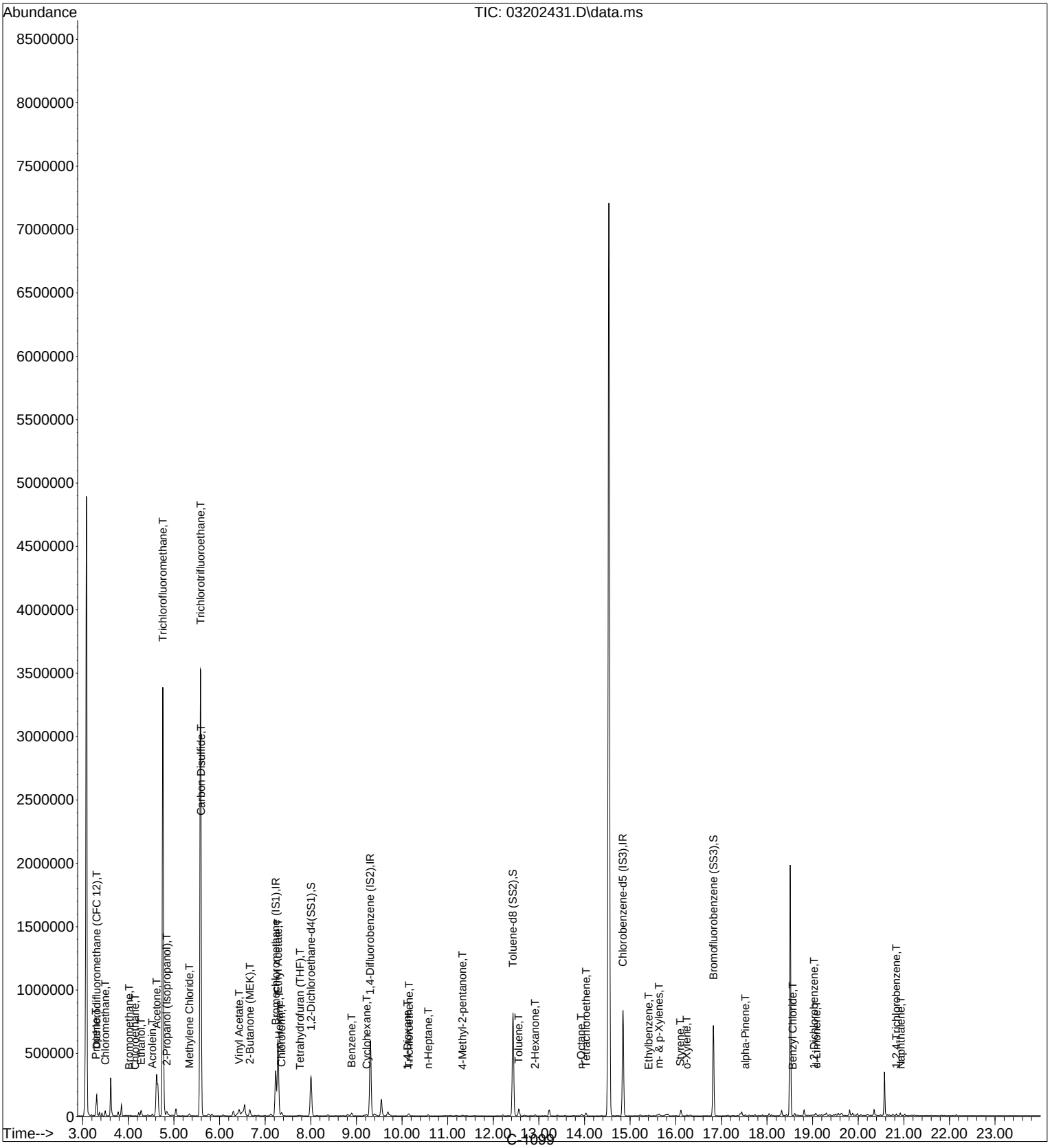
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	2009	0.178 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	1775	0.157 ng	#	52
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	46321	0.877 ng		99
59) 2-Hexanone	12.91	43	8490	0.277 ng		90
60) Dibromochloromethane	13.07	129	383	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.93	57	933	0.084 ng		96
64) Tetrachloroethene	14.03	166	7801	0.481 ng		97
65) Chlorobenzene	14.90	112	1180	N.D.		
66) Ethylbenzene	15.41	91	5402	0.089 ng		99
67) m- & p-Xylenes	15.63	91	10683	0.213 ng		98
68) Bromoform	15.67	173	425	N.D.		
69) Styrene	16.10	104	5305	0.154 ng		98
70) o-Xylene	16.24	91	4667	0.094 ng		94
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	16.21	83	382	N.D.		
74) Cumene	17.03	105	953	N.D.		
75) alpha-Pinene	17.53	93	3444	0.115 ng		95
76) n-Propylbenzene	17.68	91	1855	N.D.		
77) 3-Ethyltoluene	17.03	105	953	No Calib	#	
78) 4-Ethyltoluene	17.87	105	1069	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	801	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	953	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1591	N.D.		
83) n-Decane	17.10	58	253	No Calib	#	
84) Benzyl Chloride	18.56	91	1198	0.613 ng		91
85) 1,3-Dichlorobenzene	18.58	146	708	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1093	N.D.		
87) sec-Butylbenzene	18.74	105	926	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1116	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	953	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	2386	0.076 ng		92
91) d-Limonene	19.09	68	1521	0.082 ng		97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	3251	0.142 ng		99
95) Naphthalene	20.94	128	2036	0.382 ng		96
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	640	N.D.		
98) Cyclohexanone	15.52	55	1220	No Calib	#	
99) tert-Butylbenzene	18.43	119	937	N.D.		
100) n-Butylbenzene	19.39	91	1252	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:34:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:34:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

V 3/25/24

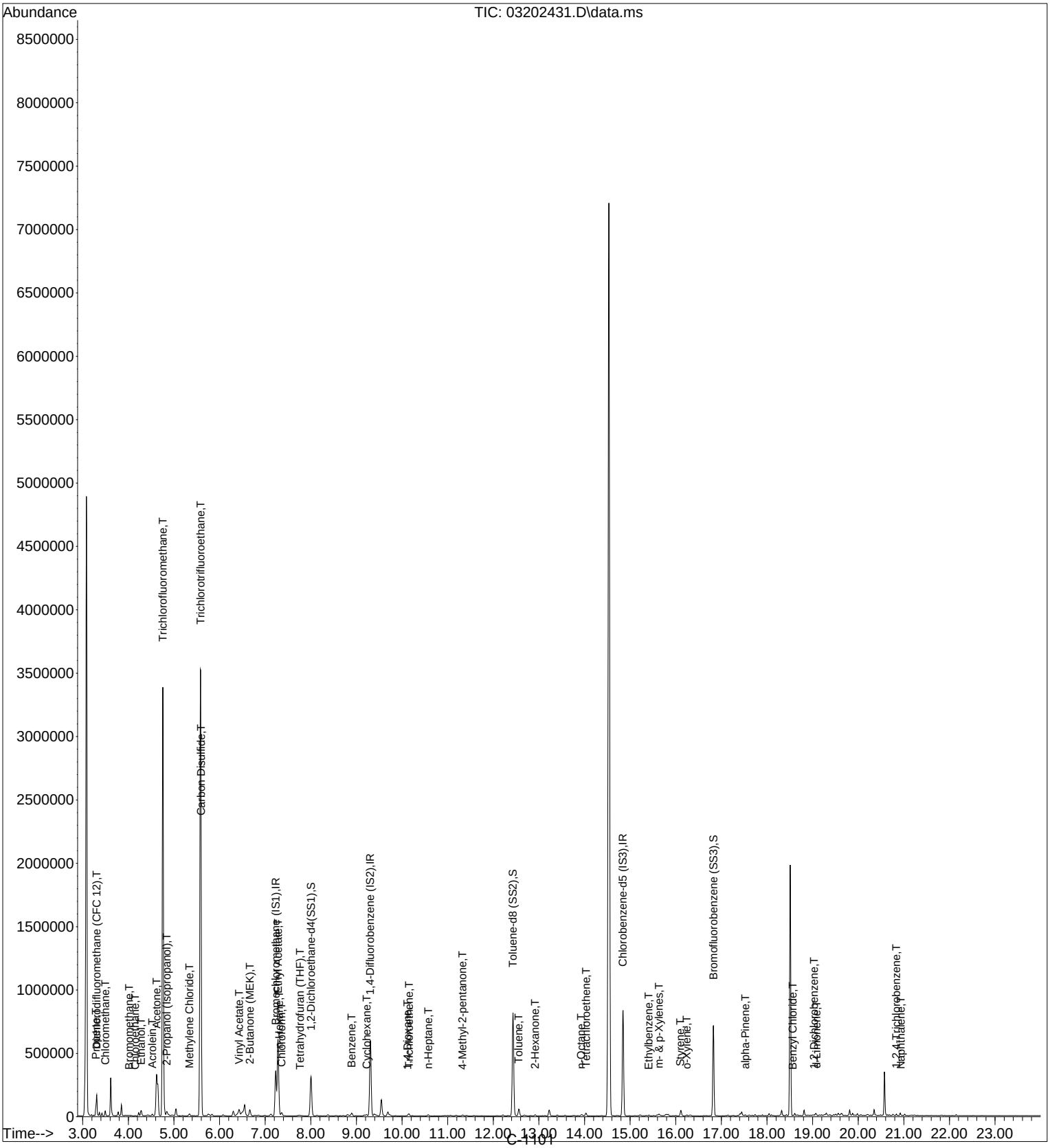
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	136432	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	587433	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	137763	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	287041	12.860	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
57) Toluene-d8 (SS2)	12.43	98	666985	12.058	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
73) Bromofluorobenzene (SS3)	16.83	174	243426	12.483	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	3.29	42	16500	1.062	ng	#	49
3) Dichlorodifluoromethan...	3.31	85	9172	0.328	ng	#	90
4) Chloromethane	3.49	50	9664	0.464	ng		95
8) Bromomethane	4.02	94	2105	0.185	ng		100
9) Chloroethane	4.15	64	1275	0.150	ng		85
10) Ethanol	4.28	45	60523	4.590	ng		100
12) Acrolein	4.52	56	7877	0.834	ng		91
13) Acetone	4.62	58	104175	10.382	ng		94
14) Trichlorofluoromethane	4.76	101	2459586	90.811	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	58046	1.453	ng		96
19) Methylene Chloride	5.34	84	4184	0.287	ng		96
21) Trichlorotrifluoroethane	5.58	151	1115734	97.726	ng		99
22) Carbon Disulfide	5.60	76	34483	0.759	ng	#	1
26) Vinyl Acetate	6.43	86	6929	3.104	ng	#	28
27) 2-Butanone (MEK)	6.66	72	13478	1.643	ng		97
30) Ethyl Acetate	7.28	61	108511	22.043	ng		94
31) n-Hexane	7.30	57	4885	0.230	ng	#	87
32) Chloroform	7.36	83	22025	0.931	ng		99
34) Tetrahydrofuran (THF)	7.76	72	1155	0.155	ng	#	70
41) Benzene	8.89	78	19775	0.374	ng		98
43) Cyclohexane	9.22	84	3926	0.235	ng		94
47) Trichloroethene	10.16	130	5680	0.399	ng		99
48) 1,4-Dioxane	10.12	88	2510	0.272	ng		92
51) n-Heptane	10.58	71	2009	0.178	ng		94
53) 4-Methyl-2-pentanone	11.33	58	1775	0.157	ng	#	52
58) Toluene	12.56	91	46321	0.877	ng		99
59) 2-Hexanone	12.91	43	8490	0.277	ng		90
63) n-Octane	13.93	57	933	0.084	ng		96
64) Tetrachloroethene	14.03	166	7801	0.481	ng		97
66) Ethylbenzene	15.41	91	5402	0.089	ng		99
67) m- & p-Xylenes	15.63	91	10683	0.213	ng		98
69) Styrene	16.10	104	5305	0.154	ng		98
70) o-Xylene	16.24	91	4667	0.094	ng		94
75) alpha-Pinene	17.53	93	3444	0.115	ng		95
84) Benzyl Chloride	18.56	91	1198	0.613	ng		91
90) 1,2-Dichlorobenzene	19.03	146	2386	0.076	ng		92
91) d-Limonene	19.09	68	1521	0.082	ng		97
94) 1,2,4-Trichlorobenzene	20.84	180	3251	0.142	ng		99
95) Naphthalene	20.94	128	2036	0.382	ng		96

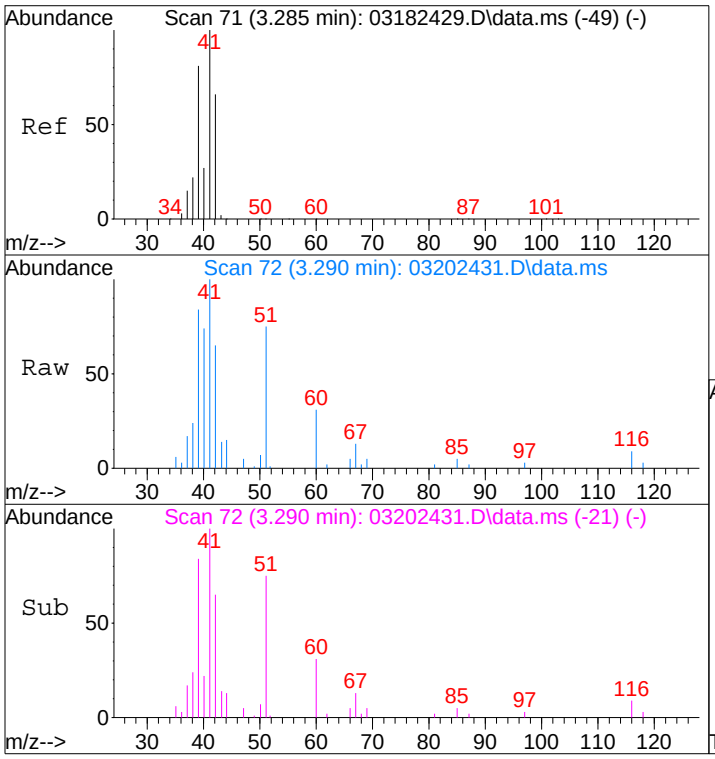
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:34:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

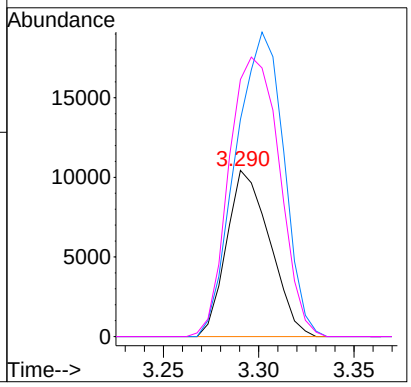


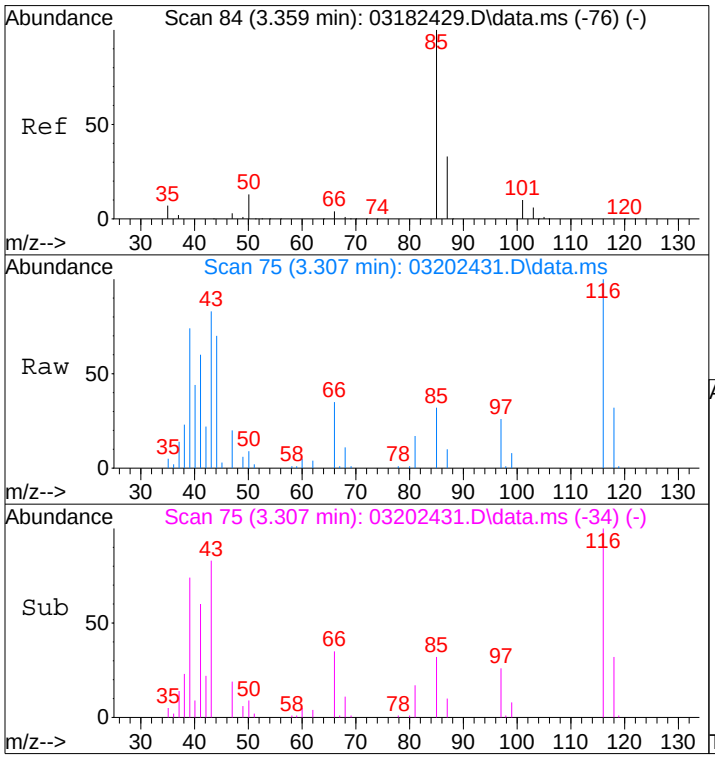


#2
Propene
Concen: 1.06 ng
RT: 3.29 min Scan# 72
Delta R.T. 0.041 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 42 Resp: 16500

Ion	Ratio	Lower	Upper
42	100		
39	203.9	102.3	142.3#
41	196.5	133.8	173.8#

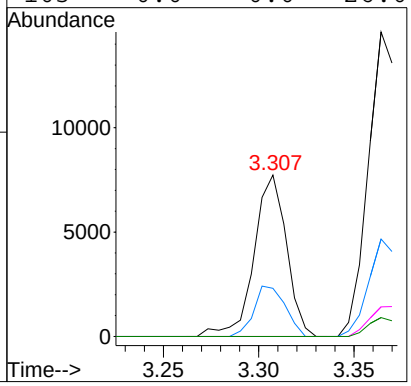


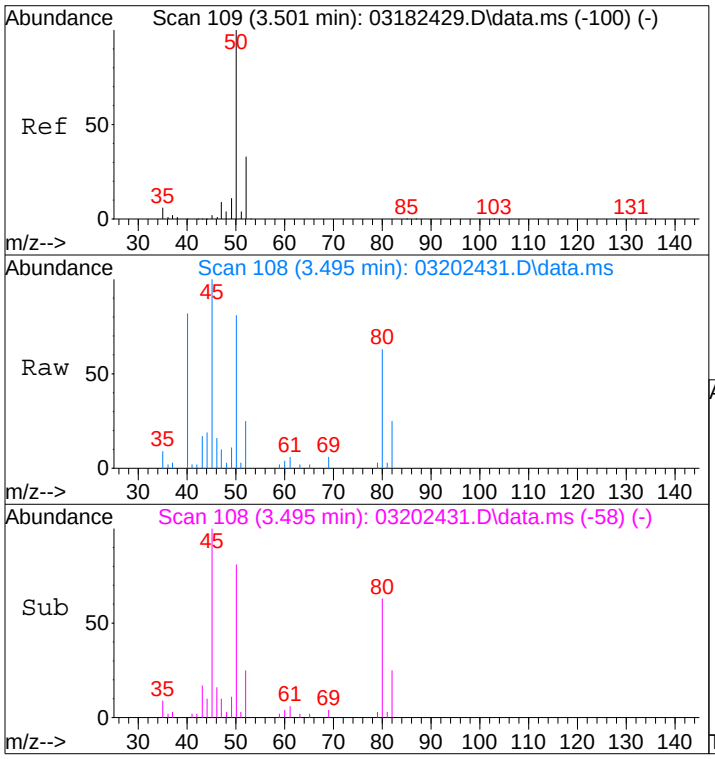


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.33 ng
RT: 3.31 min Scan# 75
Delta R.T. -0.015 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 85 Resp: 9172

Ion	Ratio	Lower	Upper
85	100		
87	30.1	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

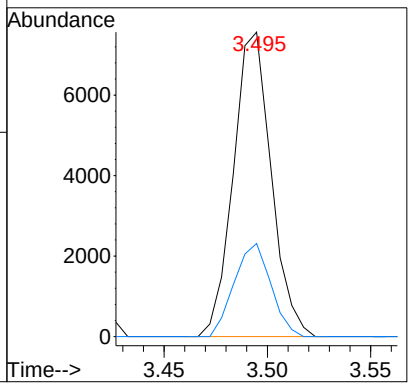


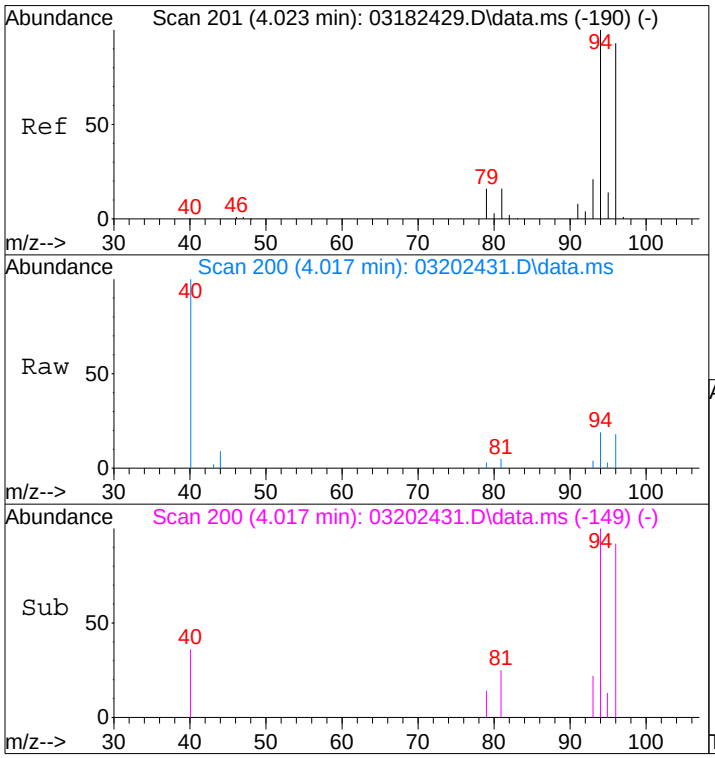


#4
Chloromethane
Concen: 0.46 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.032 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 50 Resp: 9664

Ion	Ratio	Lower	Upper
50	100		
52	29.6	12.3	52.3

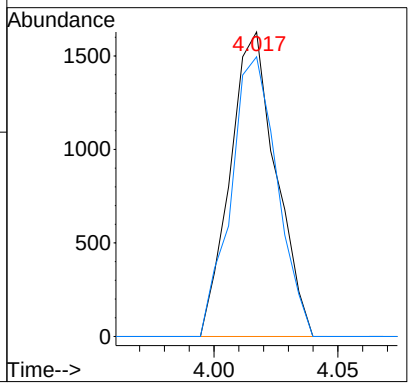


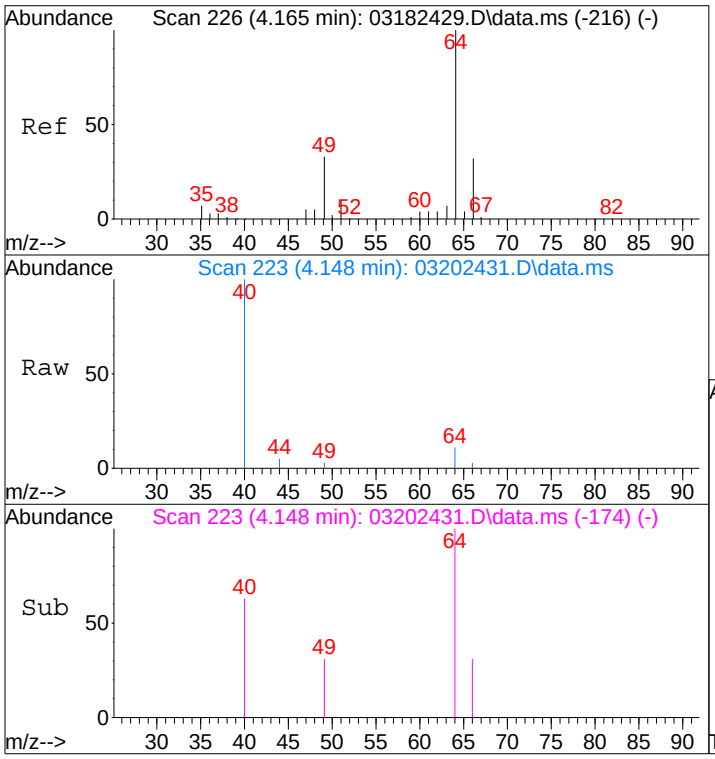


#8
Bromomethane
Concen: 0.19 ng
RT: 4.02 min Scan# 200
Delta R.T. 0.038 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 94 Resp: 2105

Ion	Ratio	Lower	Upper
94	100		
96	92.5	72.7	112.7

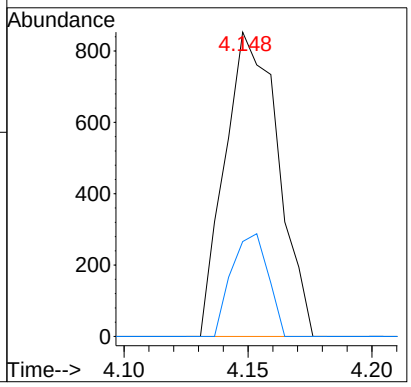


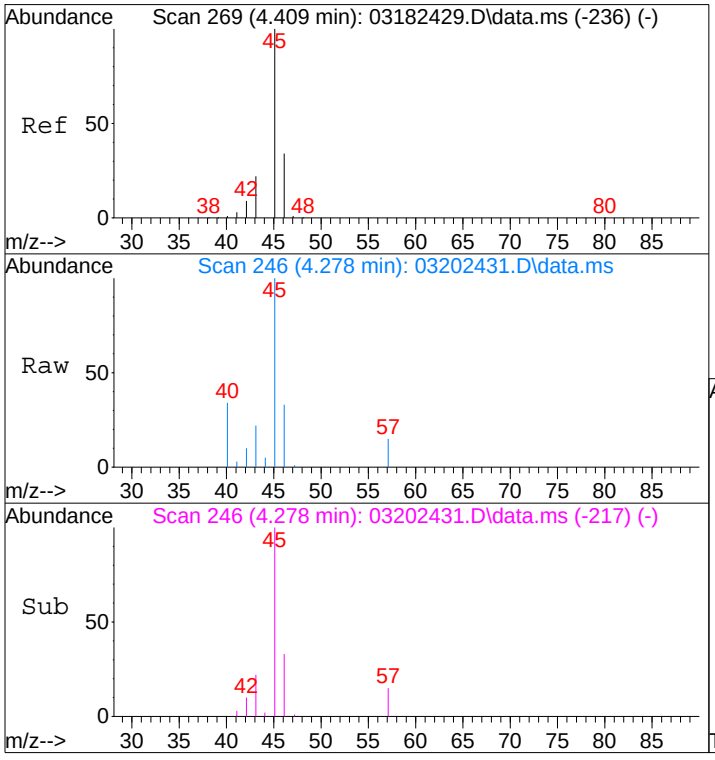


#9
Chloroethane
Concen: 0.15 ng
RT: 4.15 min Scan# 223
Delta R.T. 0.028 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 64 Resp: 1275

Ion	Ratio	Lower	Upper
64	100		
66	23.2	11.8	51.8

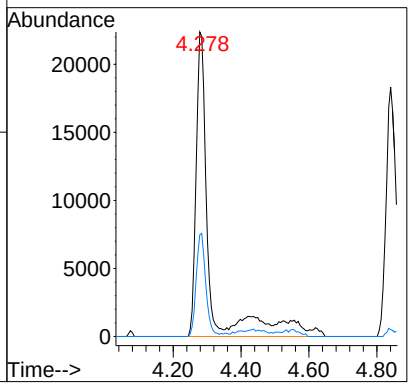


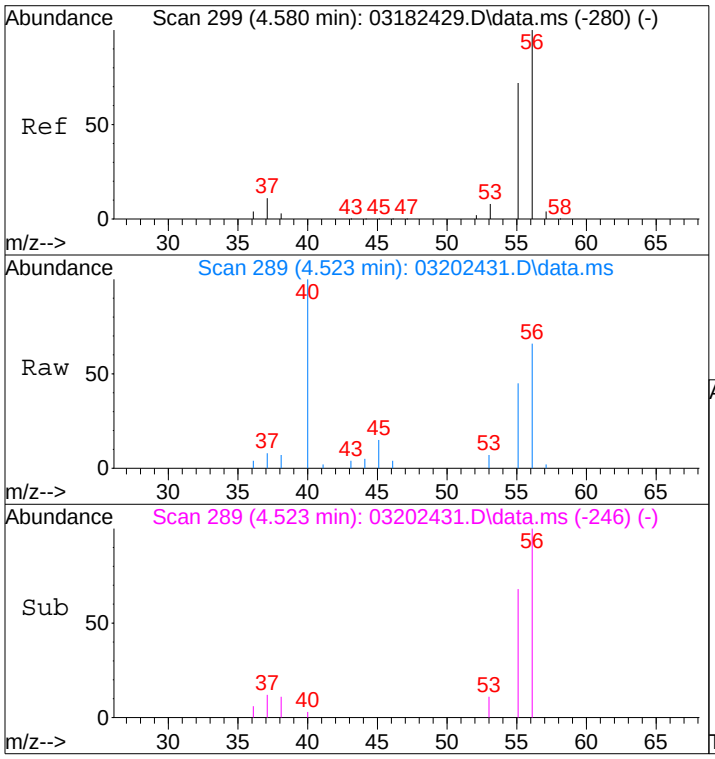


#10
Ethanol
Concen: 4.59 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.083 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 45 Resp: 60523

Ion	Ratio	Lower	Upper
45	100		
46	33.2	13.3	53.3

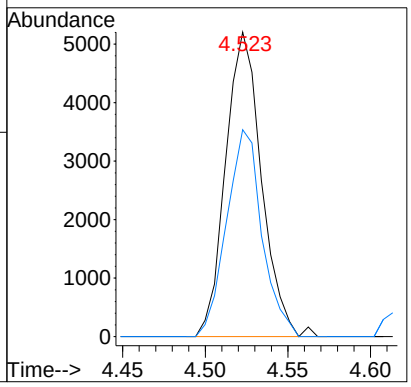


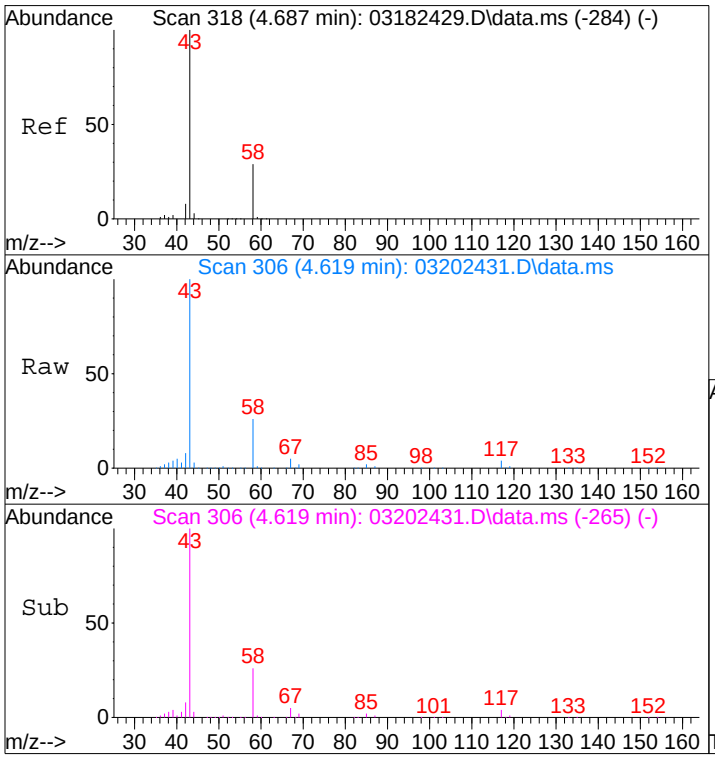


#12
Acrolein
Concen: 0.83 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.007 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 56 Resp: 7877

Ion	Ratio	Lower	Upper
56	100		
55	66.9	54.9	94.9

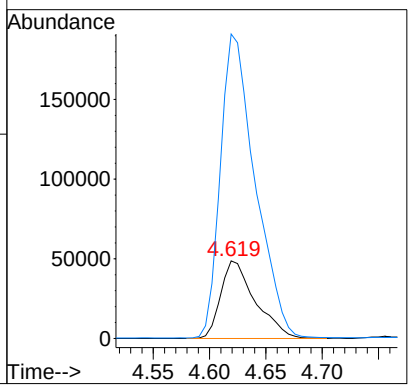


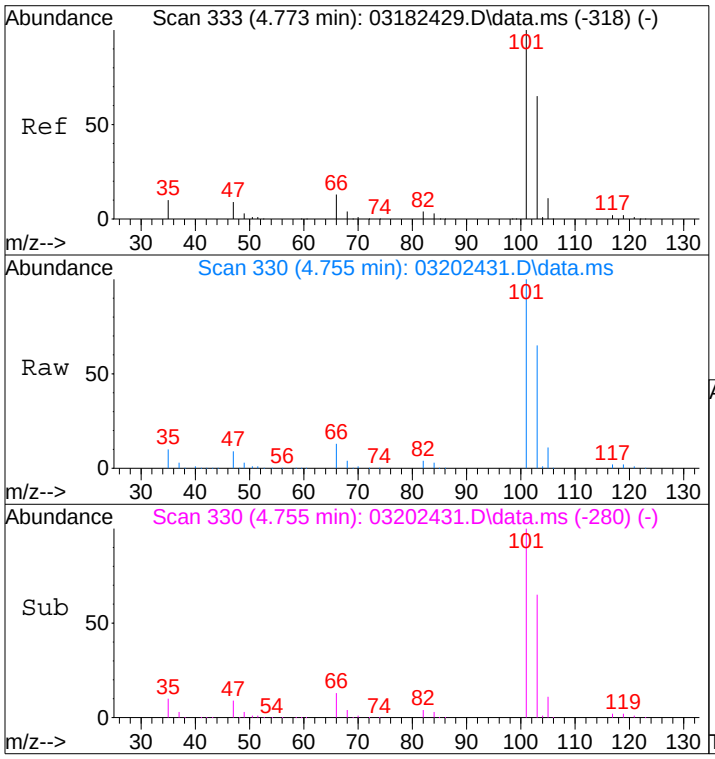


#13
Acetone
Concen: 10.38 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.017 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 58 Resp: 104175

Ion	Ratio	Lower	Upper
58	100		
43	394.7	350.1	410.1

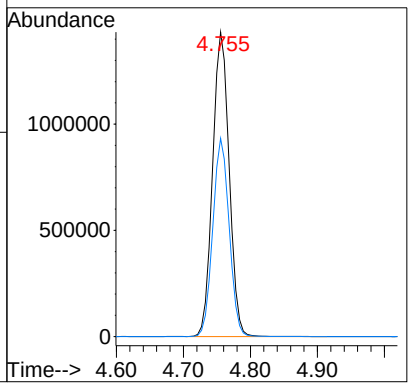


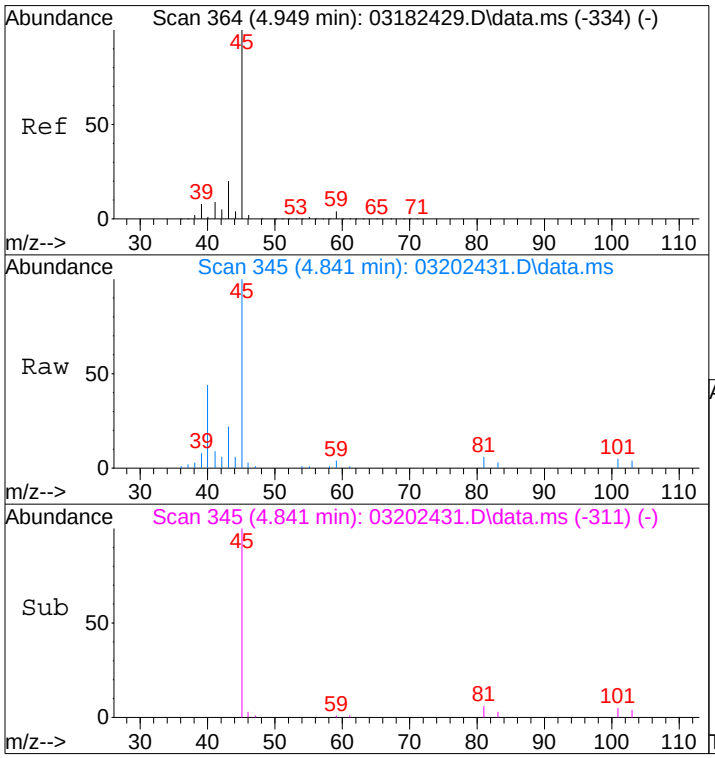


#14
Trichlorofluoromethane
Concen: 90.81 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:101 Resp: 2459586

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

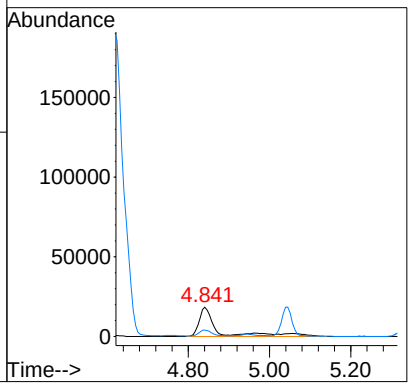


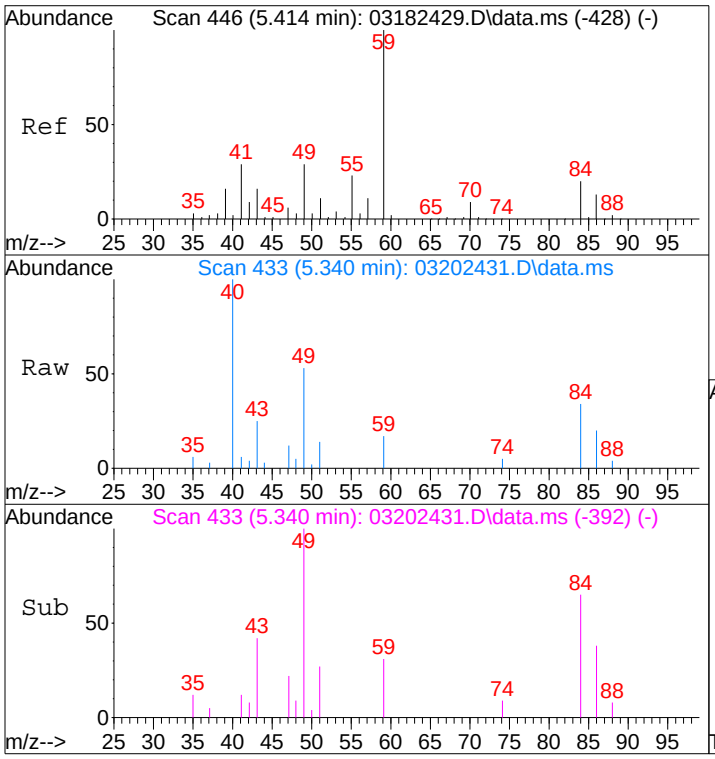


#15
2-Propanol (Isopropanol)
Concen: 1.45 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.054 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 45 Resp: 58046

Ion	Ratio	Lower	Upper
45	100		
43	22.2	0.4	40.4

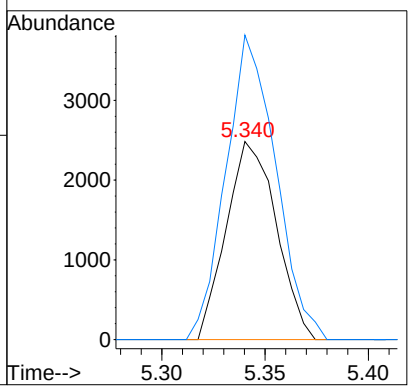


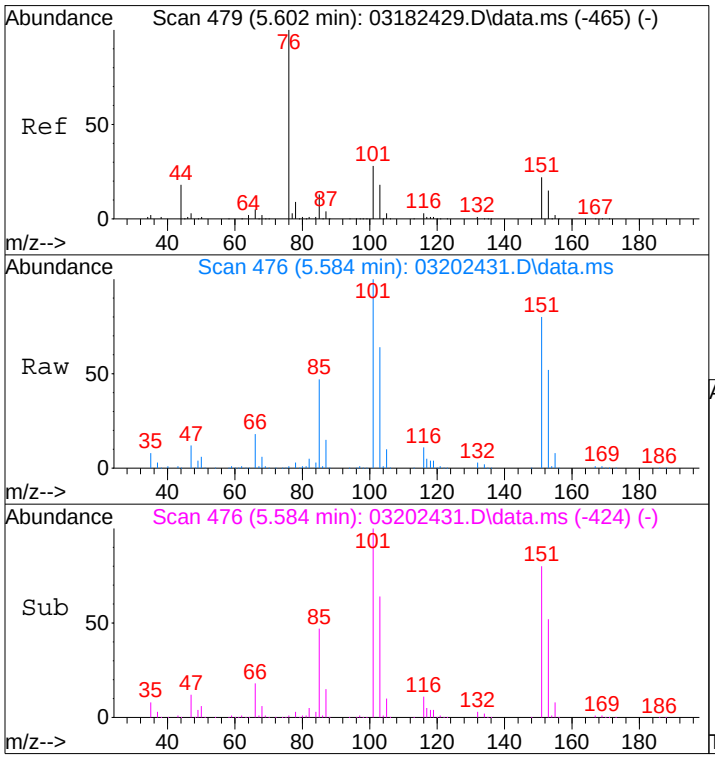


#19
Methylene Chloride
Concen: 0.29 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 84 Resp: 4184

Ion	Ratio	Lower	Upper
84	100		
49	153.2	122.9	172.9

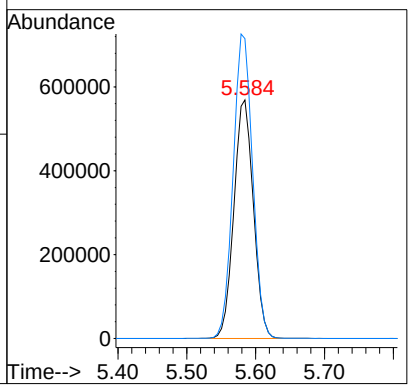


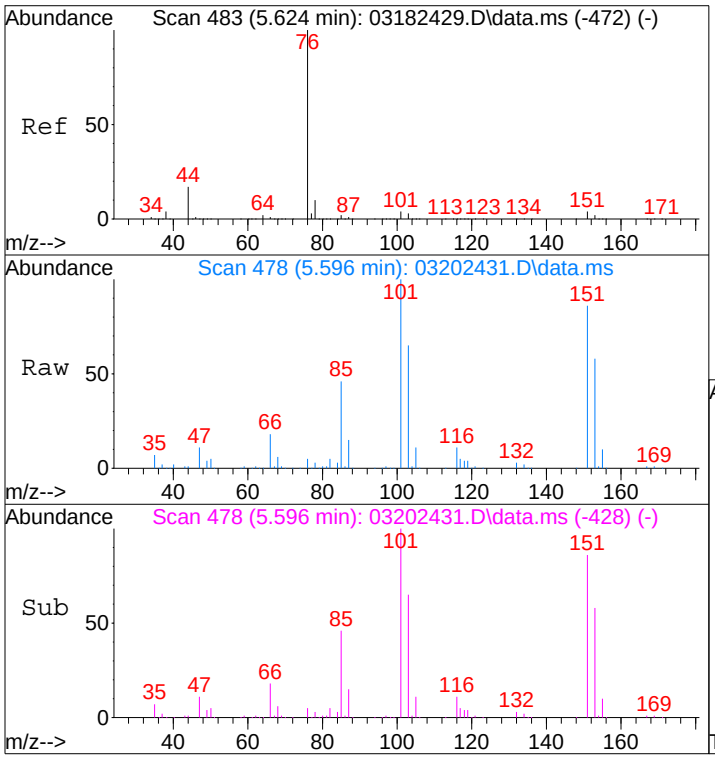


#21
Trichlorotrifluoroethane
Concen: 97.73 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.044 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:151 Resp: 1115734

Ion	Ratio	Lower	Upper
151	100		
101	127.6	106.4	146.4

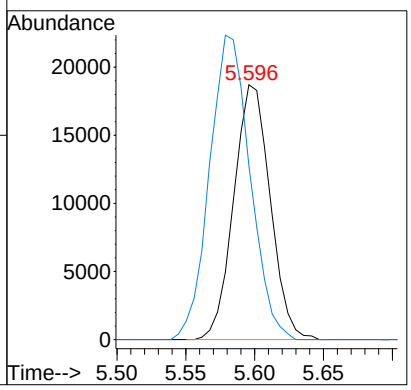


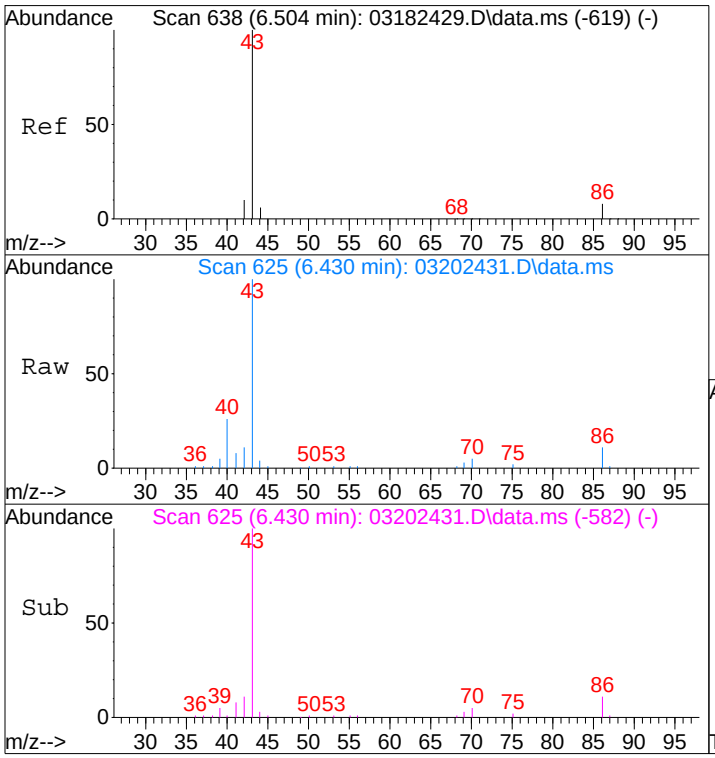


#22
Carbon Disulfide
Concen: 0.76 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 76 Resp: 34483

Ion	Ratio	Lower	Upper
76	100		
78	132.2	0.0	29.8#

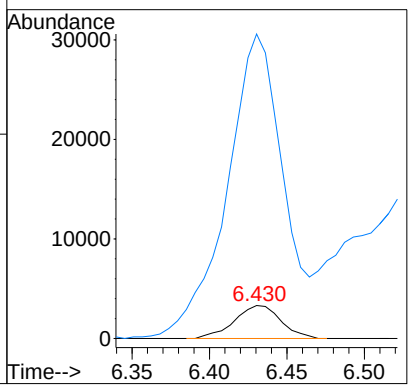


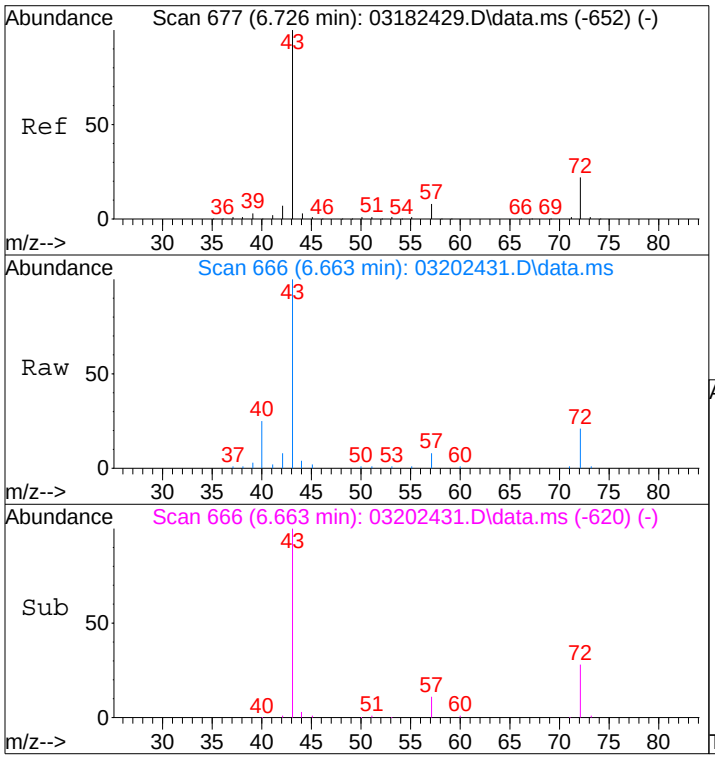


#26
Vinyl Acetate
Concen: 3.10 ng
RT: 6.43 min Scan# 625
Delta R.T. -0.003 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 86 Resp: 6929

Ion	Ratio	Lower	Upper
86	100		
43	1118.3	1541.5	1581.5#

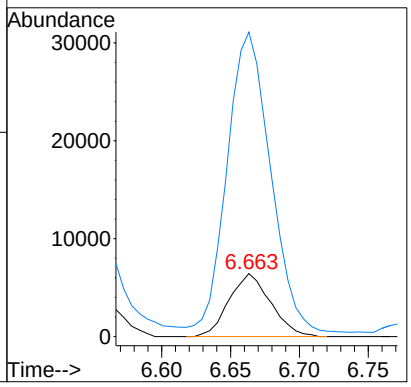


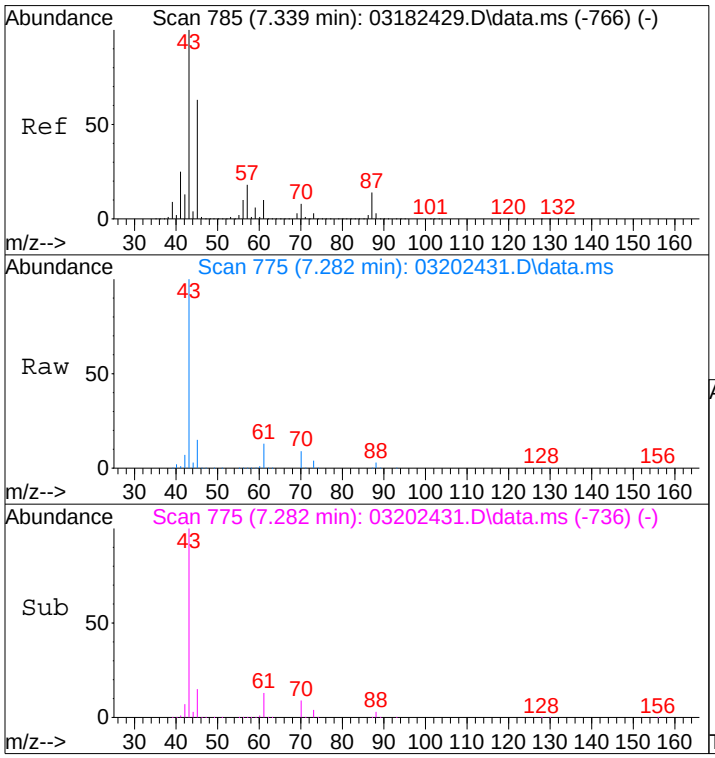


#27
2-Butanone (MEK)
Concen: 1.64 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 72 Resp: 13478

Ion	Ratio	Lower	Upper
72	100		
43	496.8	468.6	508.6

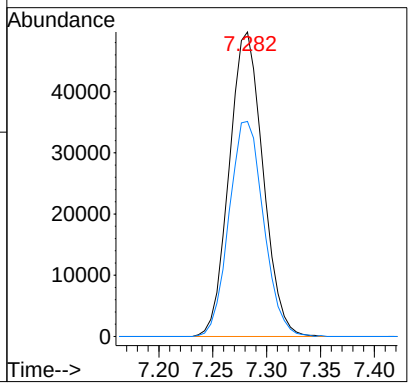


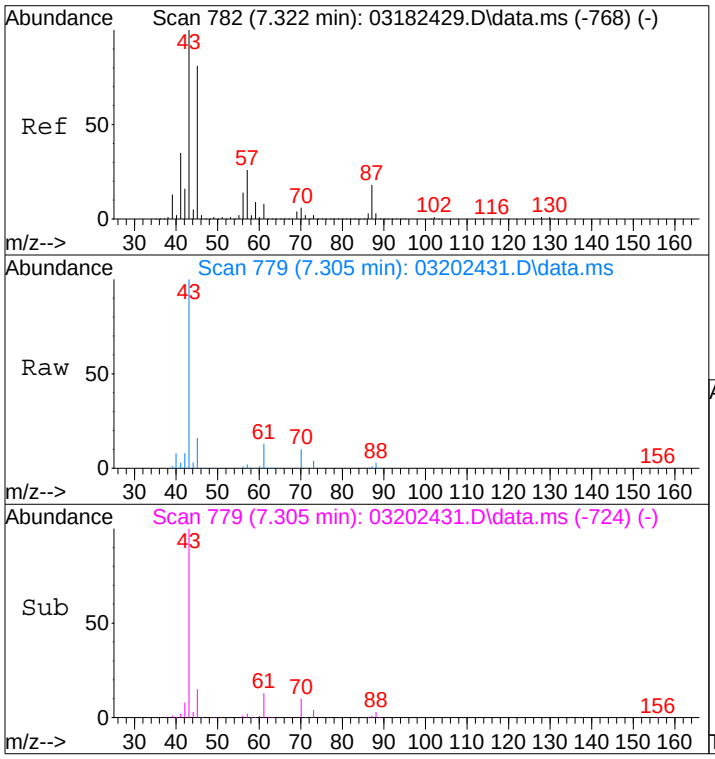


#30
Ethyl Acetate
Concen: 22.04 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 61 Resp: 108511

Ion	Ratio	Lower	Upper
61	100		
70	72.1	57.3	97.3

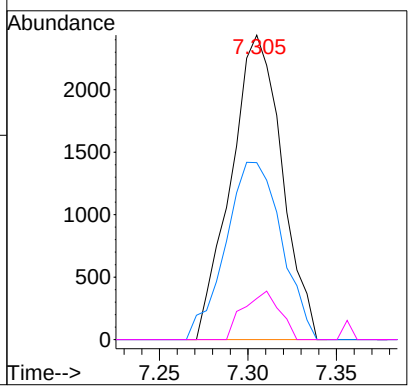


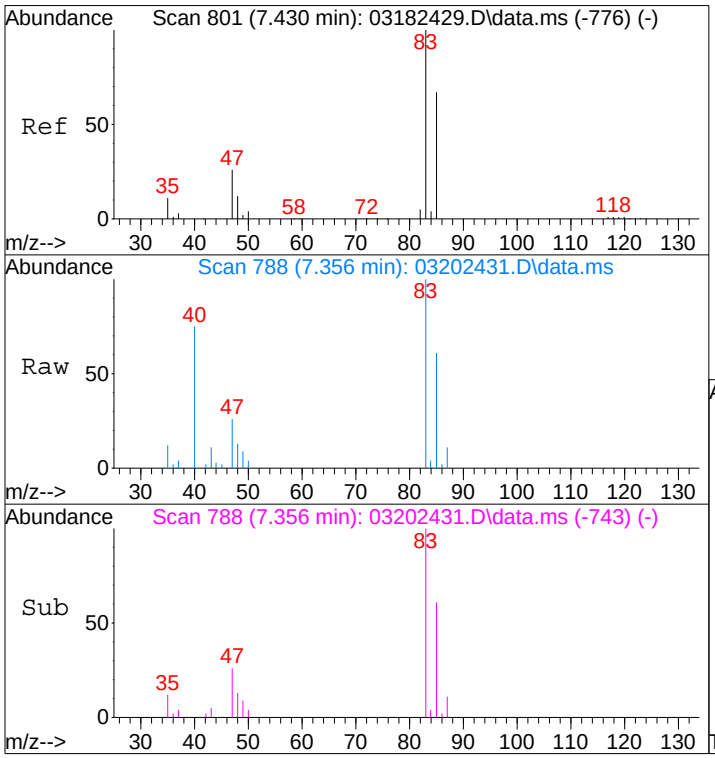


#31
n-Hexane
Concen: 0.23 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.062 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 57 Resp: 4885

Ion	Ratio	Lower	Upper
57	100		
56	63.8	42.2	63.4#
86	11.4	9.4	14.2

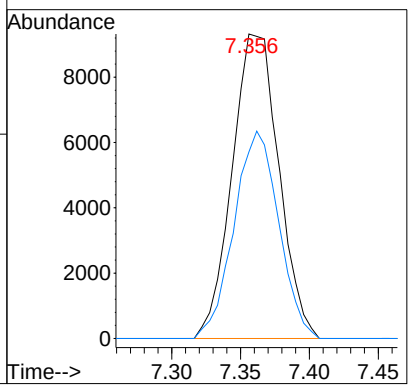


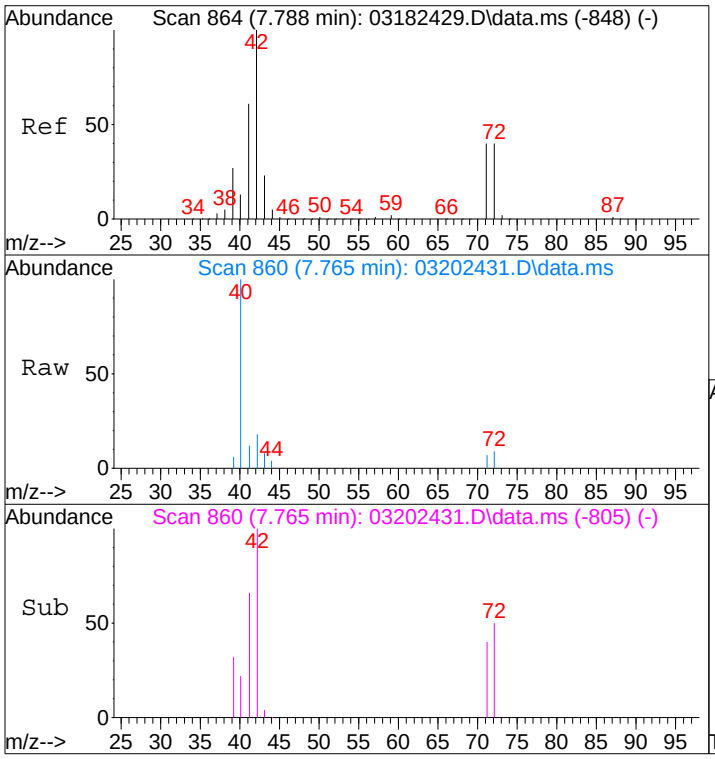


#32
Chloroform
Concen: 0.93 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.007 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 83 Resp: 22025

Ion	Ratio	Lower	Upper
83	100		
85	65.1	46.1	86.1

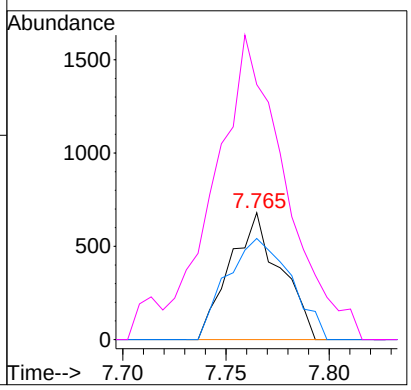


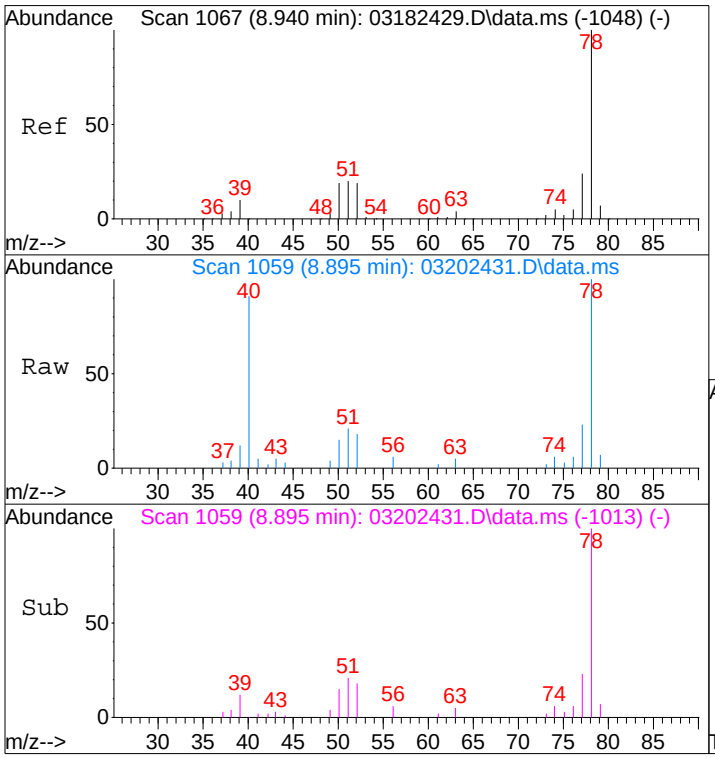


#34
Tetrahydrofuran (THF)
Concen: 0.16 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.062 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 72 Resp: 1155

Ion	Ratio	Lower	Upper
72	100		
71	100.9	80.7	120.7
42	351.2	255.0	295.0#

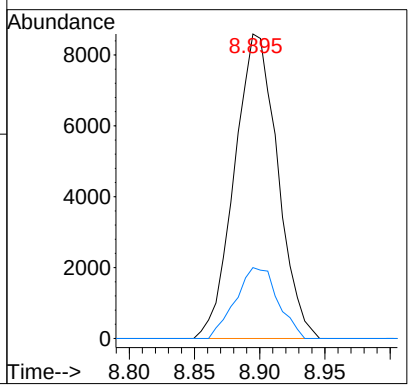


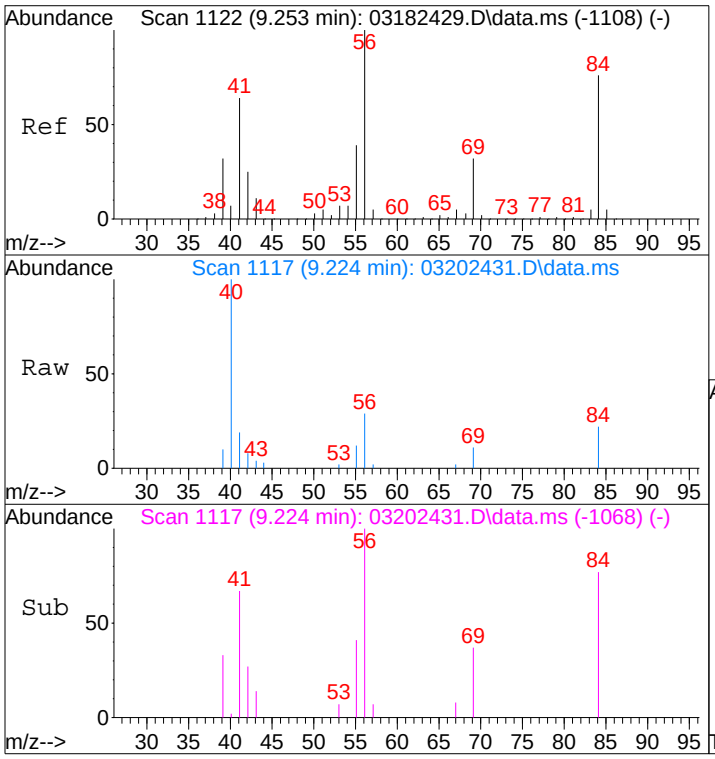


#41
Benzene
Concen: 0.37 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 78 Resp: 19775

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.6	43.6

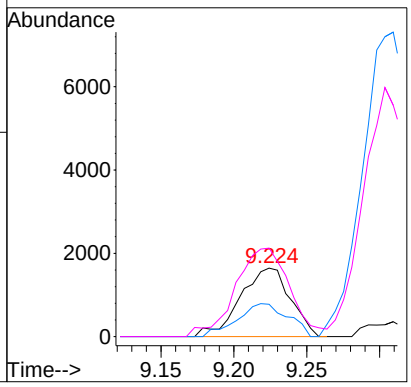


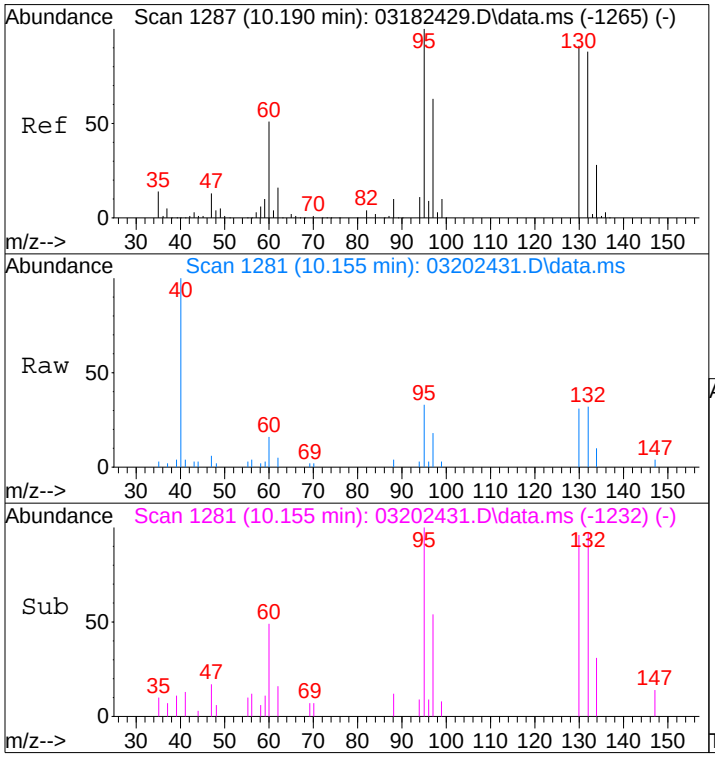


#43
Cyclohexane
Concen: 0.23 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.028 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 84 Resp: 3926

Ion	Ratio	Lower	Upper
84	100		
69	48.6	21.3	61.3
56	140.3	115.3	155.3

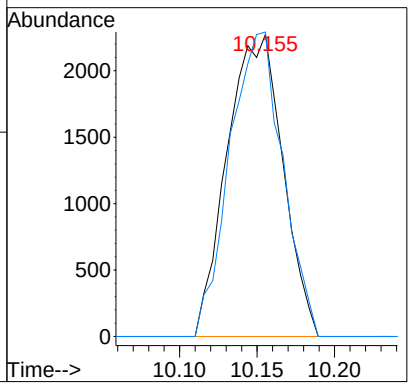


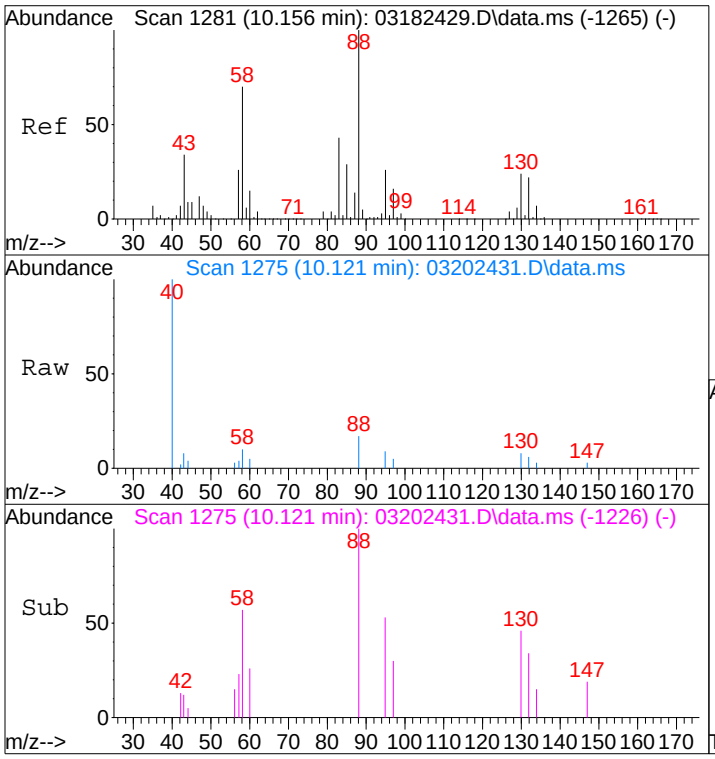


#47
Trichloroethene
Concen: 0.40 ng
RT: 10.16 min Scan# 1281
Delta R.T. 0.028 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:130 Resp: 5680

Ion	Ratio	Lower	Upper
130	100		
132	96.3	77.5	117.5

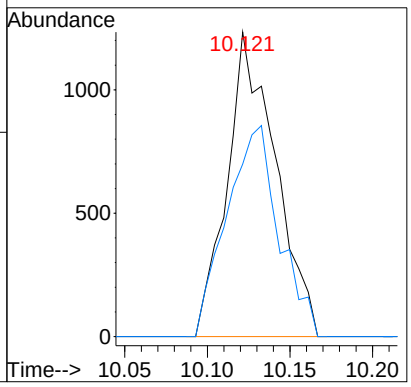


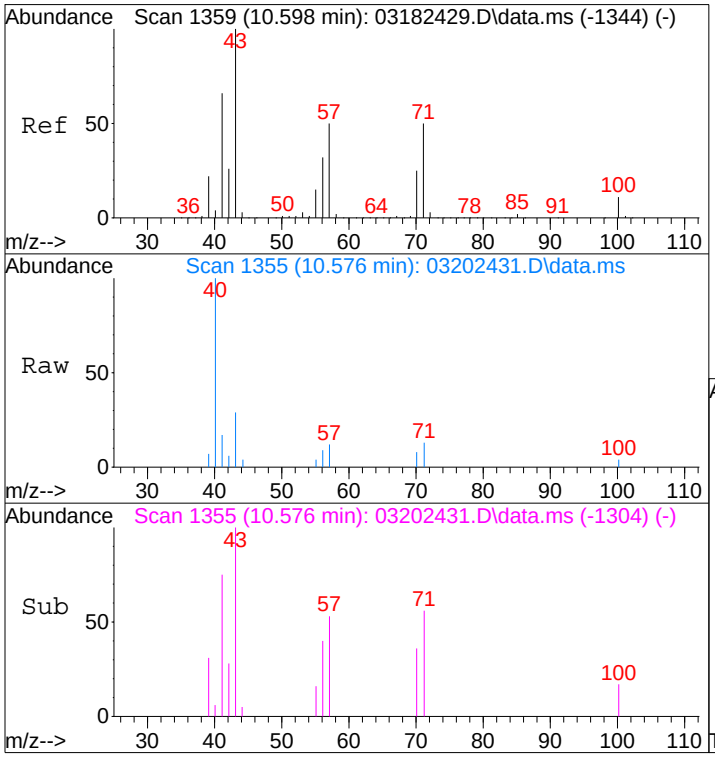


#48
1,4-Dioxane
Concen: 0.27 ng
RT: 10.12 min Scan# 1275
Delta R.T. 0.028 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 88 Resp: 2510

Ion	Ratio	Lower	Upper
88	100		
58	74.8	48.2	88.2

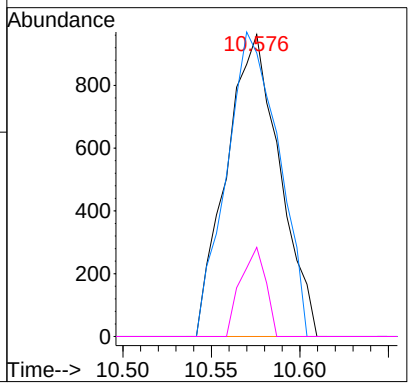


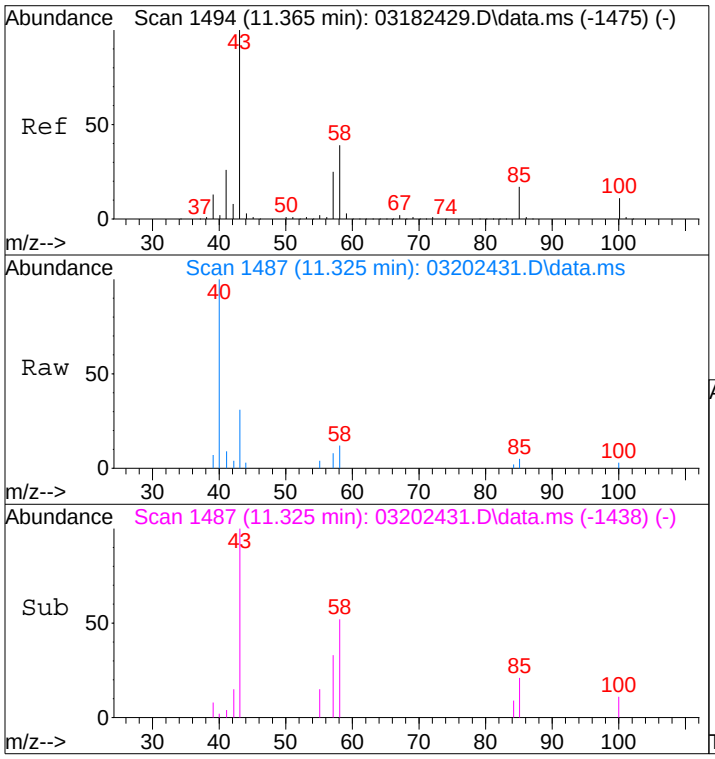


#51
n-Heptane
Concen: 0.18 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.042 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 71 Resp: 2009

Ion	Ratio	Lower	Upper
71	100		
57	98.9	81.2	121.2
100	14.0	4.0	44.0

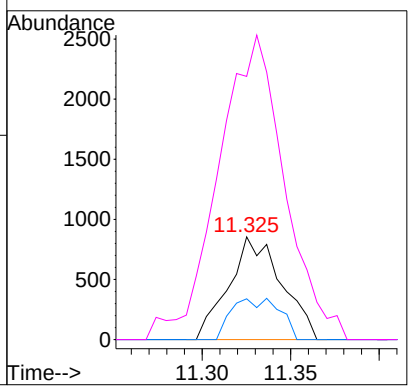


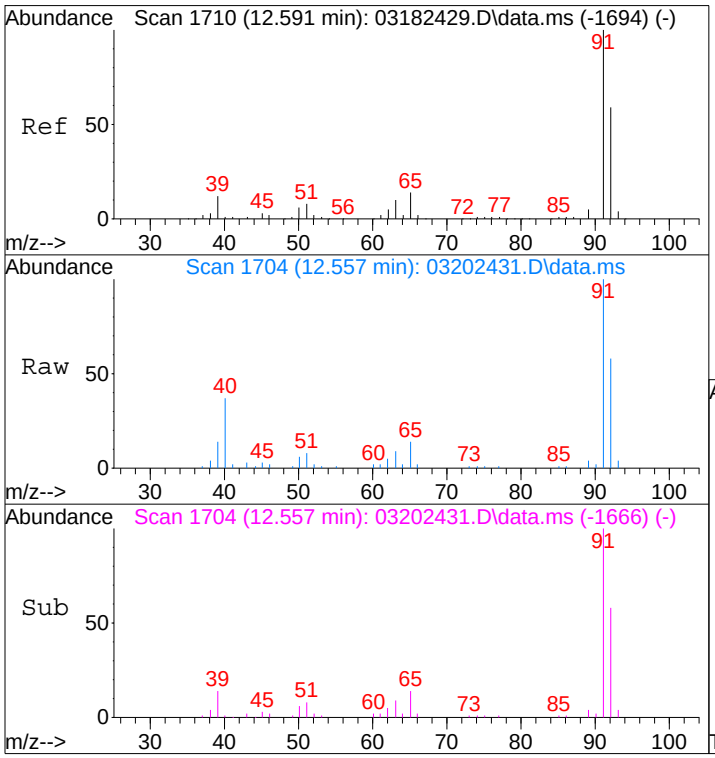


#53
4-Methyl-2-pentanone
Concen: 0.16 ng
RT: 11.33 min Scan# 1487
Delta R.T. 0.029 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 58 Resp: 1775

Ion	Ratio	Lower	Upper
58	100		
85	36.7	34.5	51.7
43	371.9	218.4	327.6#

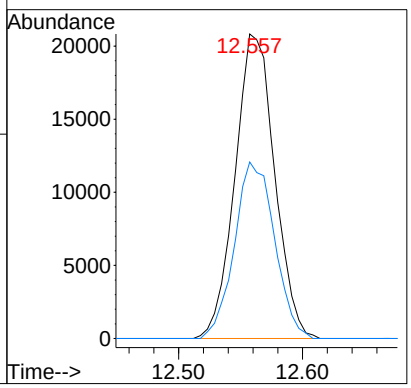


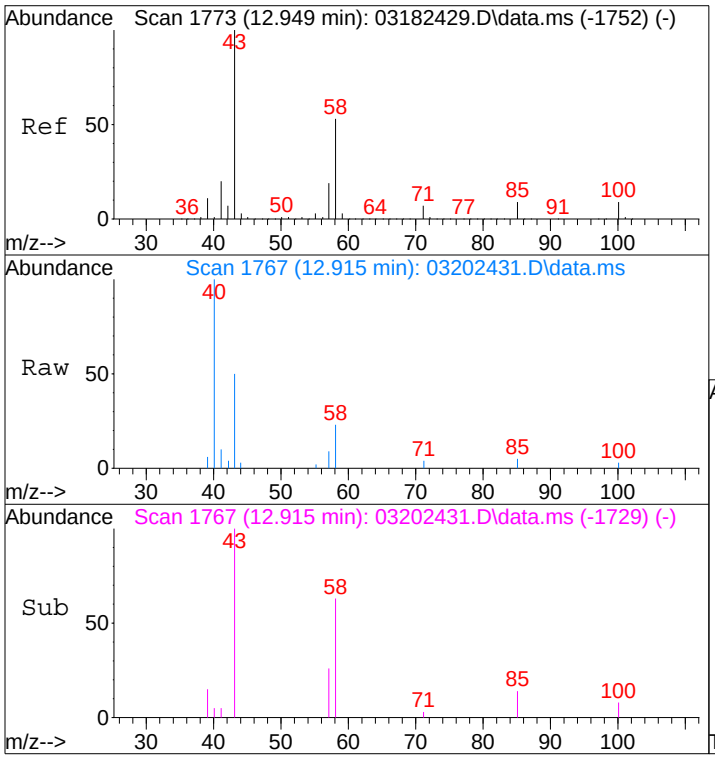


#58
Toluene
Concen: 0.88 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 91 Resp: 46321

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.2	79.2

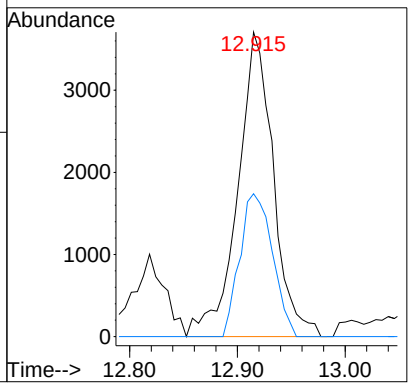


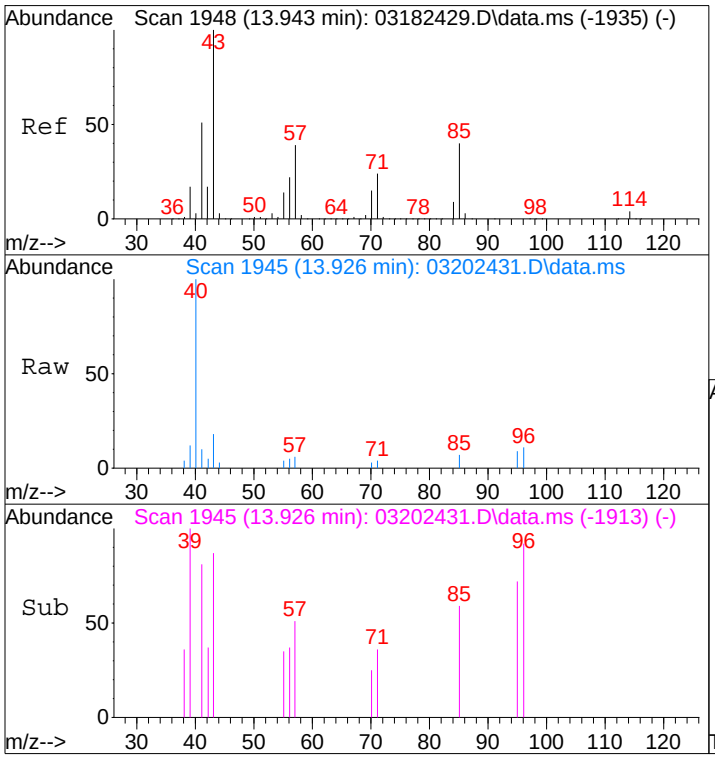


#59
2-Hexanone
Concen: 0.28 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 43 Resp: 8490

Ion	Ratio	Lower	Upper
43	100		
58	43.2	30.2	70.2

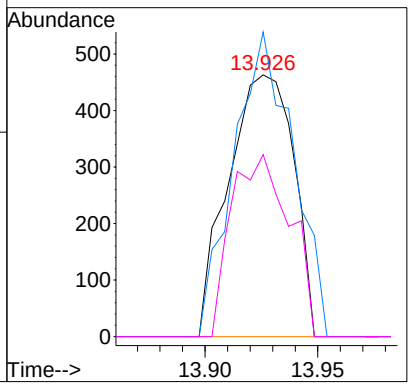


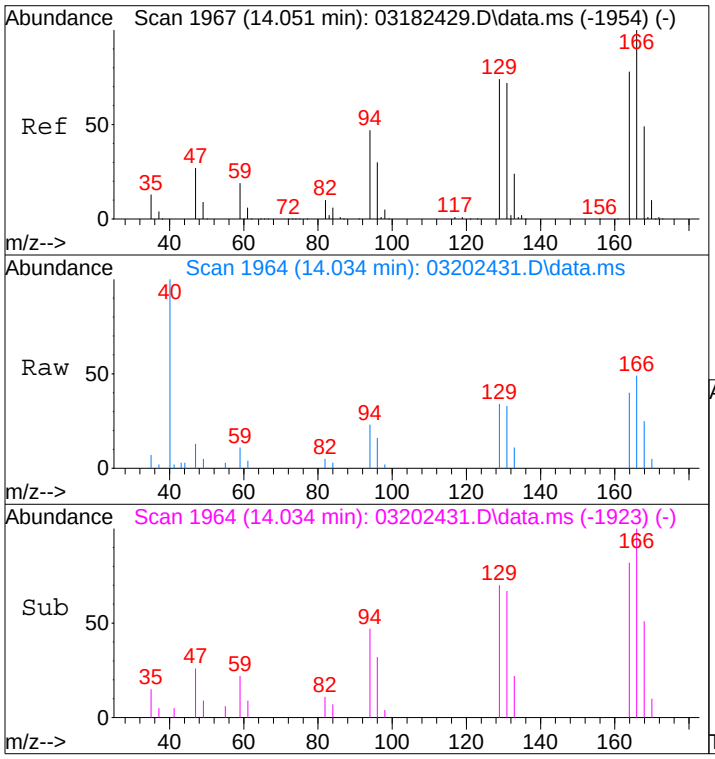


#63
n-Octane
Concen: 0.08 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 57 Resp: 933

Ion	Ratio	Lower	Upper
57	100		
85	105.9	80.6	121.0
71	62.6	49.3	73.9

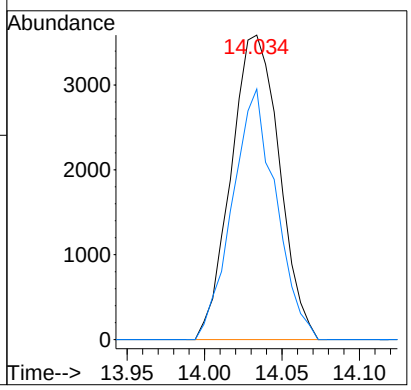


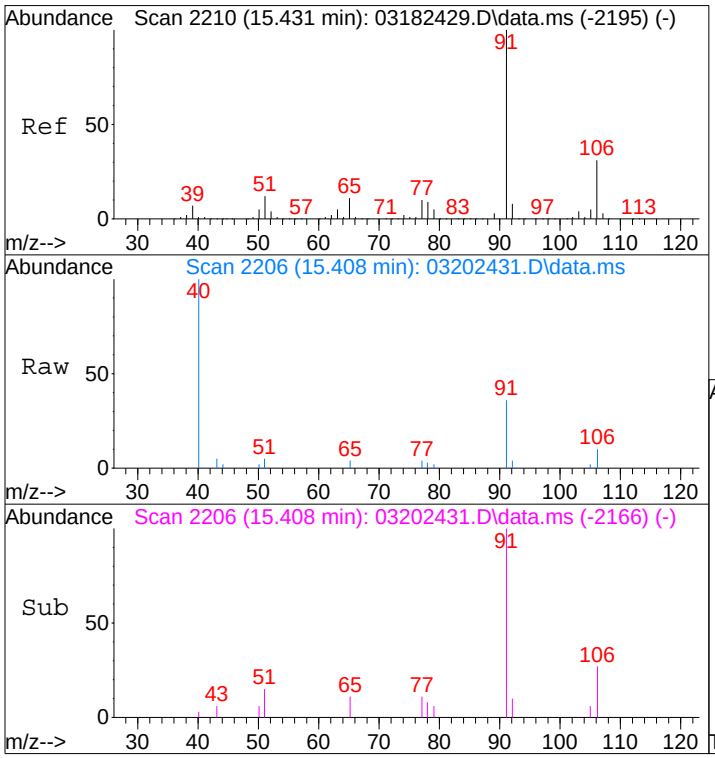


#64
Tetrachloroethene
Concen: 0.48 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:166 Resp: 7801

Ion	Ratio	Lower	Upper
166	100		
164	74.2	56.7	96.7

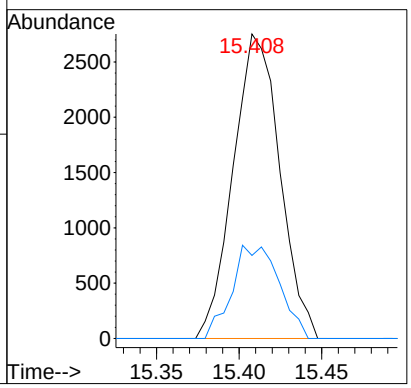


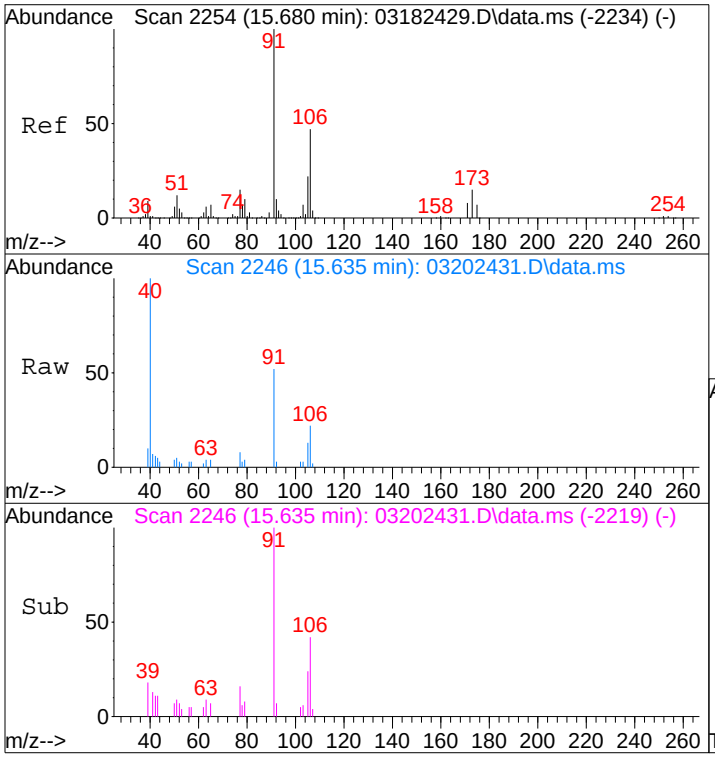


#66
Ethylbenzene
Concen: 0.09 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.023 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 91 Resp: 5402

Ion	Ratio	Lower	Upper
91	100		
106	30.9	10.4	50.4

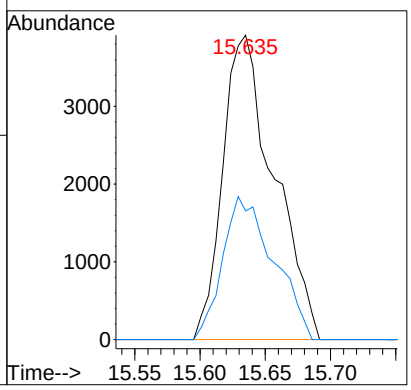


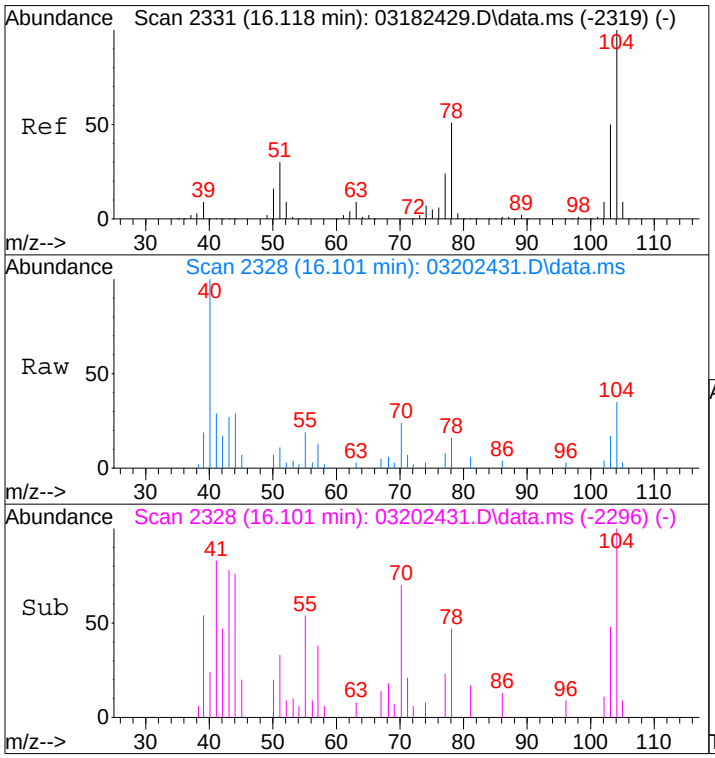


#67
m- & p-Xylenes
Concen: 0.21 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 91 Resp: 10683

Ion	Ratio	Lower	Upper
91	100		
106	46.8	25.6	65.6

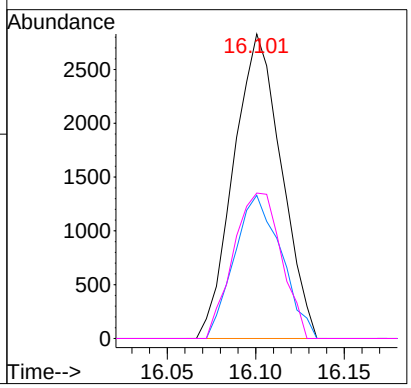


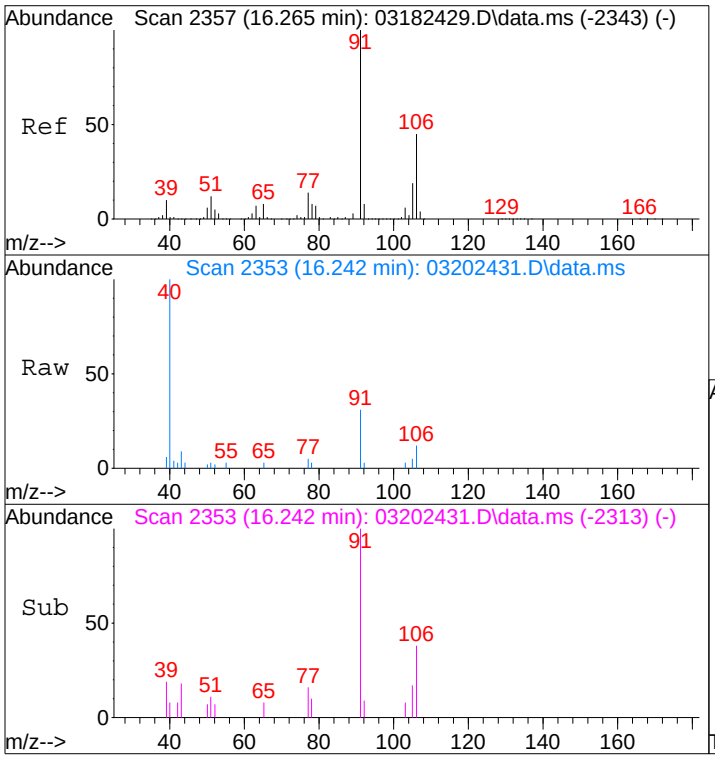


#69
Styrene
Concen: 0.15 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:104 Resp: 5305

Ion	Ratio	Lower	Upper
104	100		
78	46.3	28.5	68.5
103	48.1	28.4	68.4

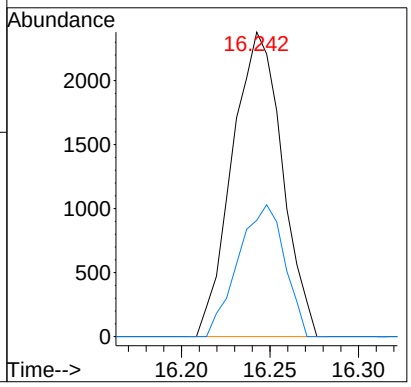


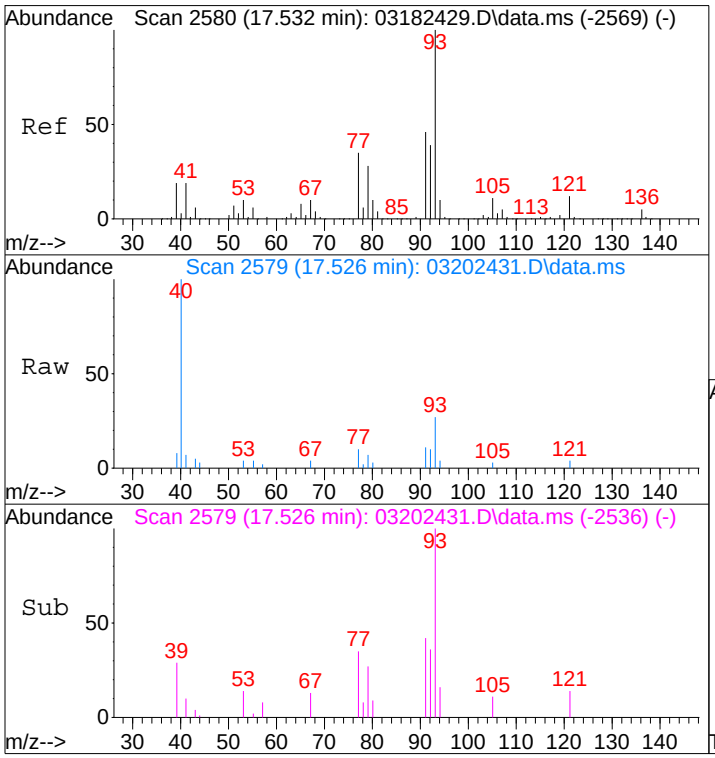


#70
o-Xylene
Concen: 0.09 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 91 Resp: 4667

Ion	Ratio	Lower	Upper
91	100		
106	40.2	24.4	64.4

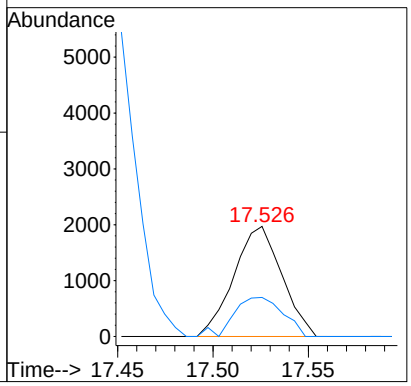


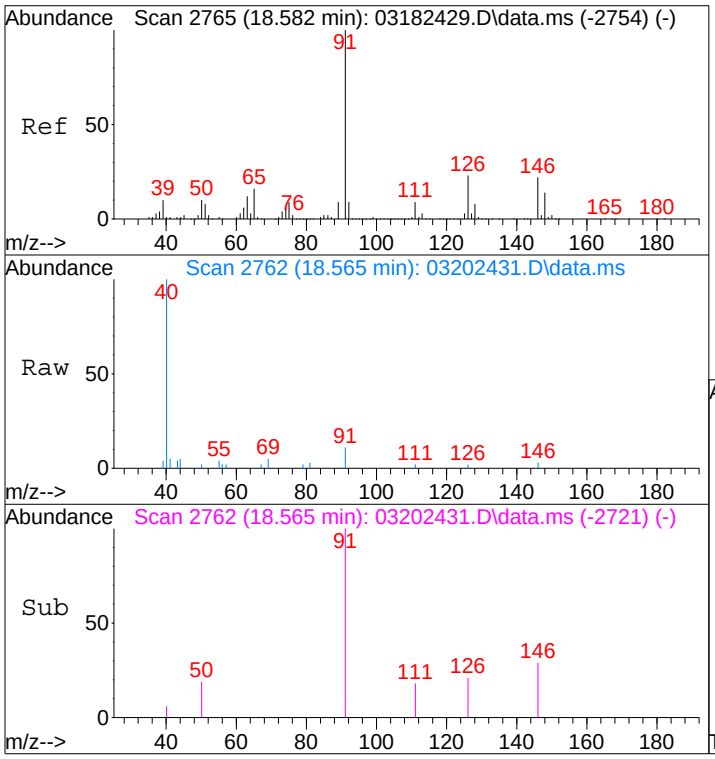


#75
alpha-Pinene
Concen: 0.12 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 93 Resp: 3444

Ion	Ratio	Lower	Upper
93	100		
77	36.4	13.4	53.4

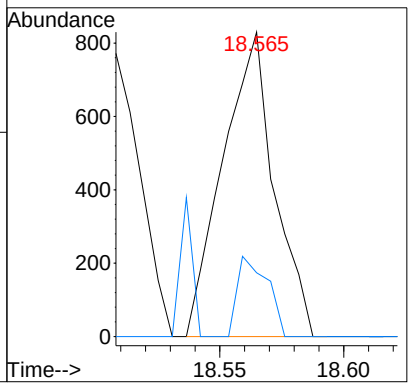


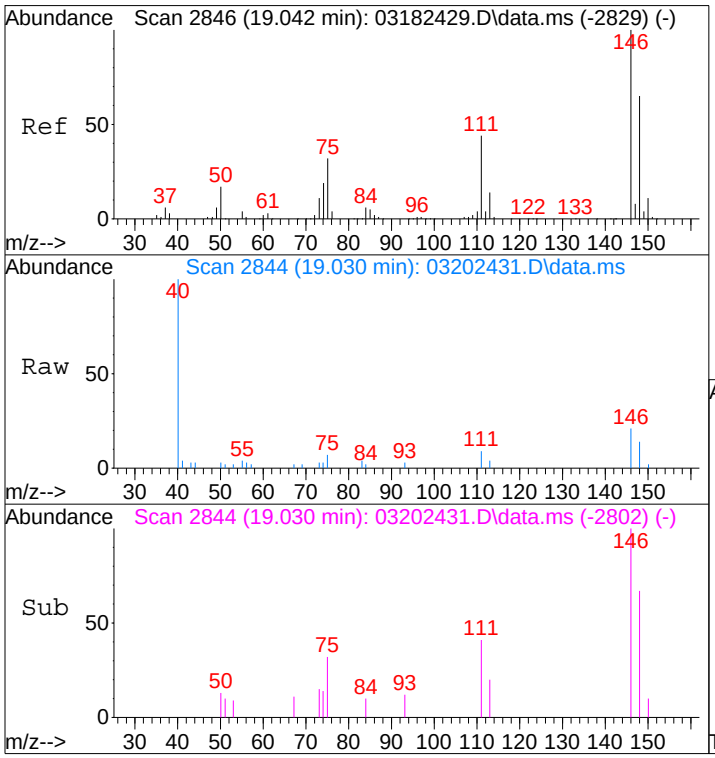


#84
Benzyl Chloride
Concen: 0.61 ng
RT: 18.56 min Scan# 2762
Delta R.T. -0.017 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 91 Resp: 1198

Ion	Ratio	Lower	Upper
91	100		
126	15.4	0.0	39.7

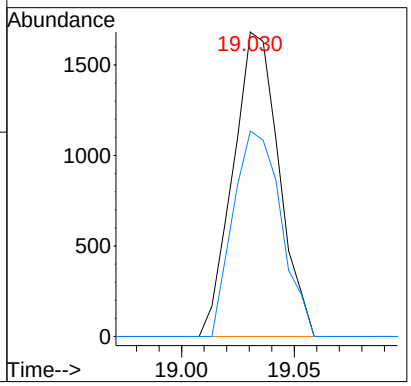


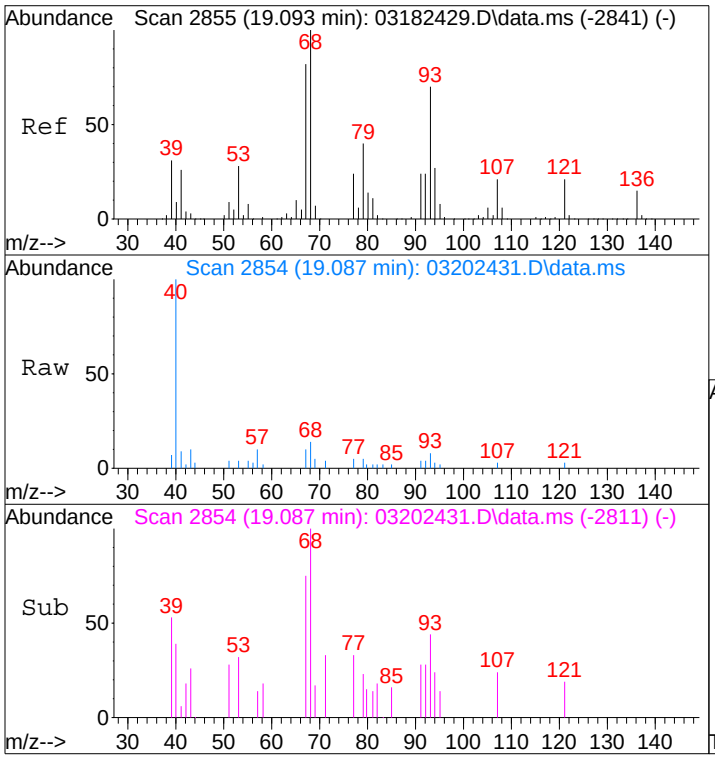


#90
1,2-Dichlorobenzene
Concen: 0.08 ng
RT: 19.03 min Scan# 2844
Delta R.T. -0.012 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:146 Resp: 2386

Ion	Ratio	Lower	Upper
146	100		
148	70.5	43.9	83.9

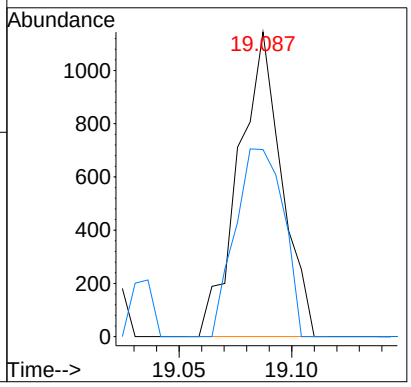


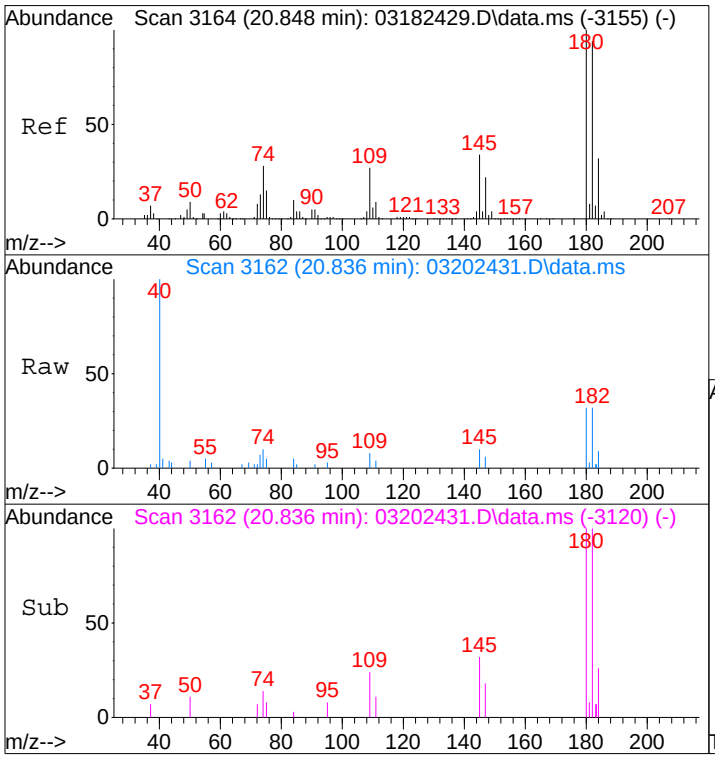


#91
d-Limonene
Concen: 0.08 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion: 68 Resp: 1521

Ion	Ratio	Lower	Upper
68	100		
93	69.2	51.5	91.5

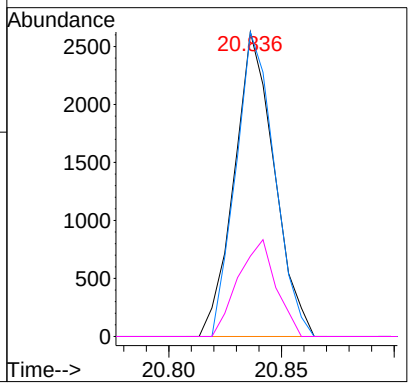


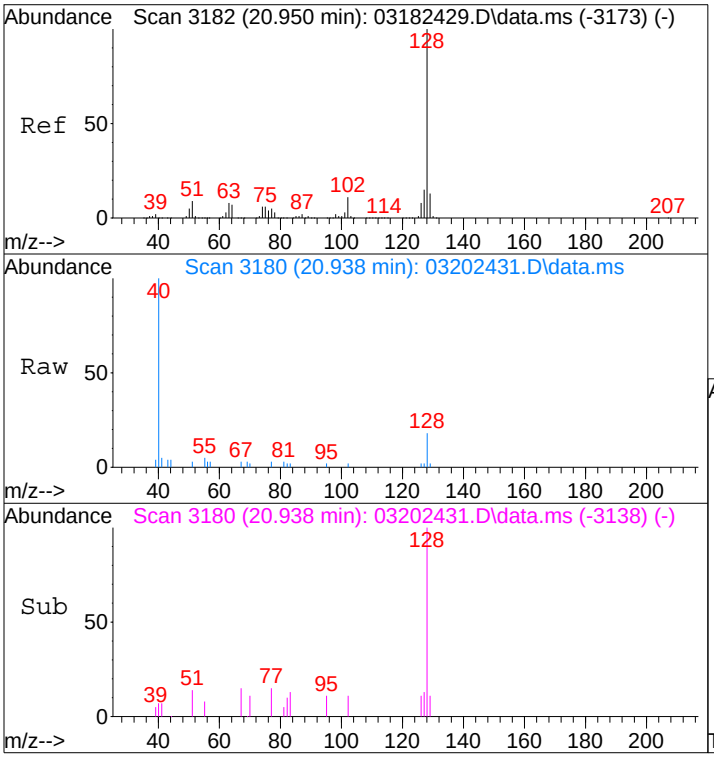


#94
1,2,4-Trichlorobenzene
Concen: 0.14 ng
RT: 20.84 min Scan# 3162
Delta R.T. -0.012 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:180 Resp: 3251

Ion	Ratio	Lower	Upper
180	100		
182	96.5	76.1	114.1
184	30.0	24.5	36.7

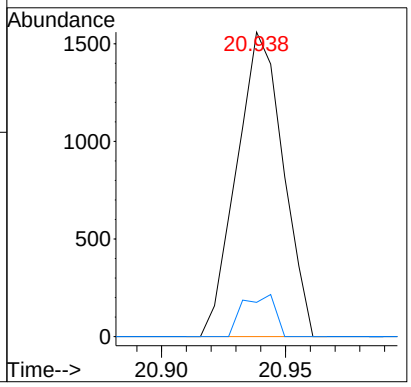




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.012 min
Lab File: 03202431.D
Acq: 20 Mar 2024 22:05

Tgt Ion:128 Resp: 2036

Ion	Ratio	Lower	Upper
128	100		
129	9.7	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:37:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

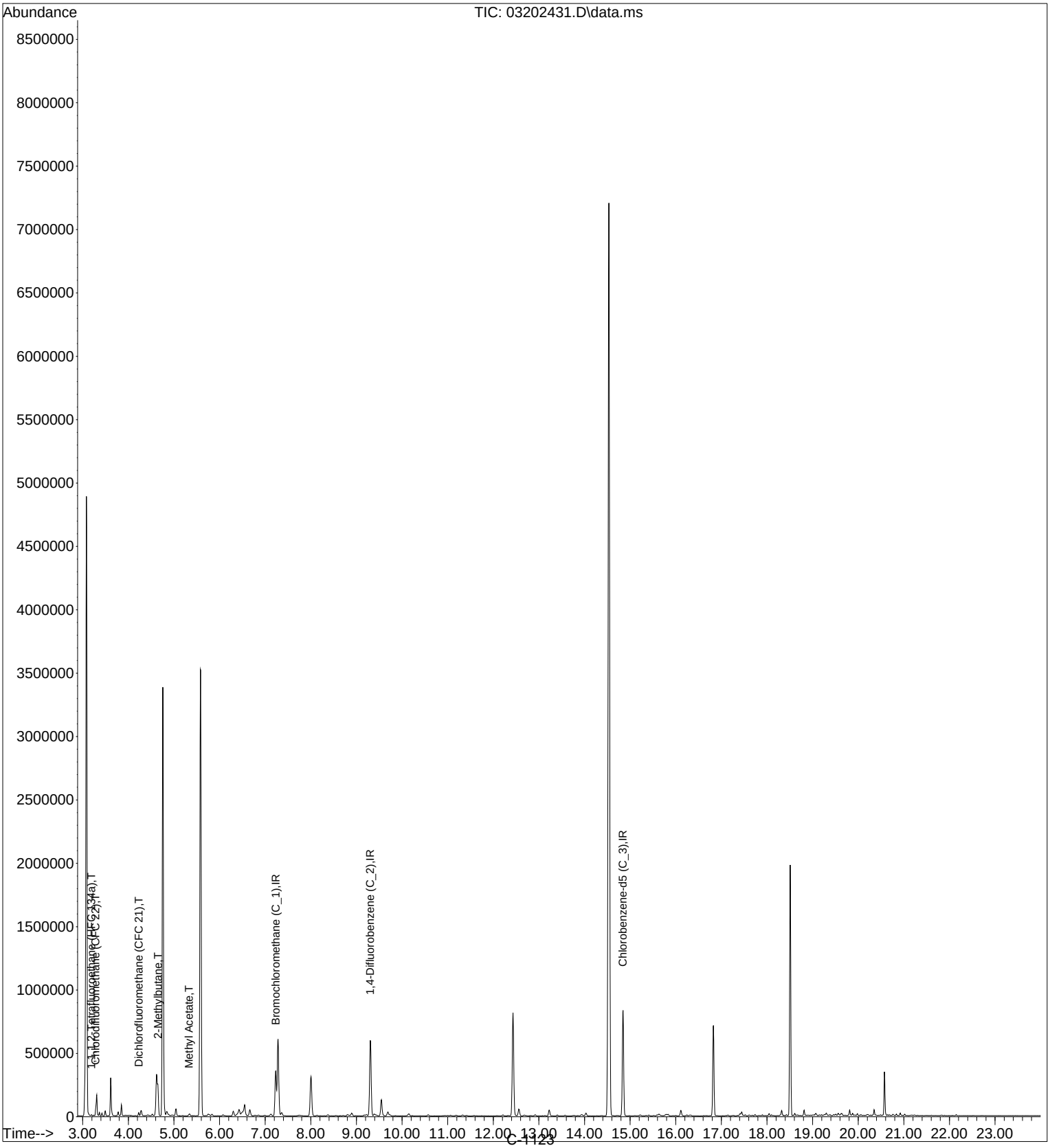
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	136432	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	587433	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	137763	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	140	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1532	0.122	ng	#	1
4) 1,1-Difluoroethane	3.24	65	511	N.D.			
5) Chlorodifluoromethane ...	3.28	67	4331	1.081	ng		99
6) 1-Chloro-1,1-Difluoroe...	3.51	65	404	N.D.			
7) Dichlorofluoromethane ...	4.23	67	18939	0.712	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	966	N.D.			
10) 2-Methylbutane	4.65	57	49291	3.607	ng	#	78
11) Methyl Acetate	5.33	43	6351	0.181	ng	#	57
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	8.97	84	57	N.D.			
17) 2,3-Dimethylpentane	9.53	56	1330	N.D.			
18) Dibromomethane	9.80	174	55	N.D.			
20) Methyl Cyclohexane	11.42	55	1901	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.20	91	119	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	758	N.D.			
27) 4-Chlorotoluene	17.68	91	1855	N.D.			
28) Indane	19.12	117	282	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	139	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	438	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	1480	N.D.			
33) 1,2,3-Trichlorobenzene	21.19	180	627	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

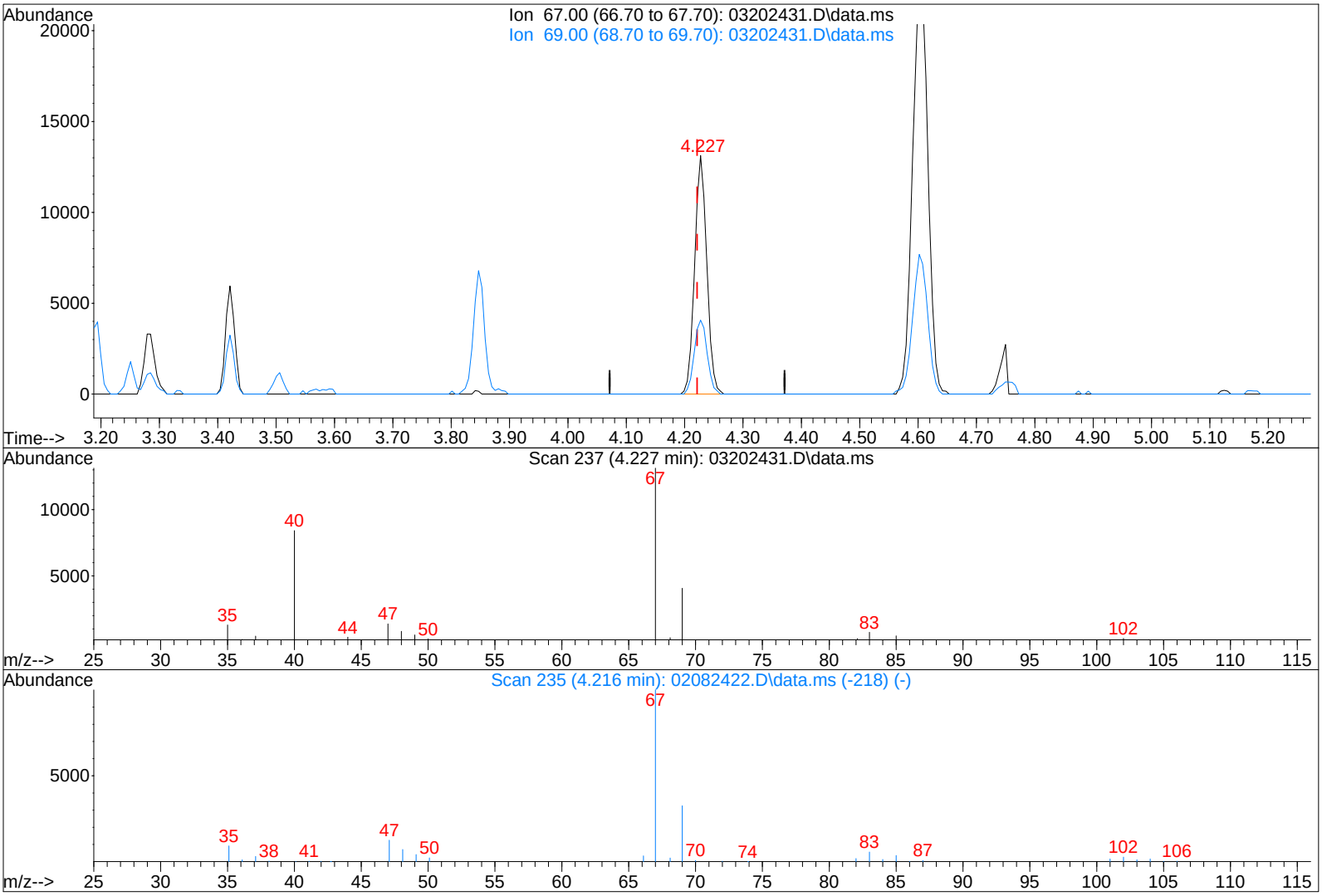
Quant Time: Mar 25 13:37:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202431.D Vial: 15
Acq On : 20 Mar 2024 22:05 Operator: SC
Sample : P2400922-030 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:37:13 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202431.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.71ng

response 18939

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	33.09
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222426.D Vial: 6
Acq On : 22 Mar 2024 19:42 Operator: SC
Sample : P2400922-030Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:29:41 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	155755	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	669489	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	150904	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	316653	12.427	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.44%				
57) Toluene-d8 (SS2)	12.43	98	774995	12.791	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	16.83	174	267733	12.534	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.32	85	776	N.D.			
4) Chloromethane	3.51	50	1337	0.056	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.02	94	175	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.40	45	132	N.D.			
11) Acetonitrile	4.44	41	572	N.D.			
12) Acrolein	4.54	56	701	0.065	ng		91
13) Acetone	4.64	58	11590	1.012	ng		95
14) Trichlorofluoromethane	4.76	101	198718	6.427	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	65	N.D.			
16) Acrylonitrile	4.98	53	551	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.34	59	127	N.D.			
19) Methylene Chloride	5.34	84	1457	0.087	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	89586	6.873	ng		98
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	1244	0.133	ng	#	87
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.28	61	9248	1.646	ng		90
31) n-Hexane	7.30	57	372	N.D.			
32) Chloroform	7.34	83	1977	0.073	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	185	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	477	No Calib		#	
41) Benzene	8.89	78	3131	0.052	ng		91
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	121	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	336	N.D.			
47) Trichloroethene	10.13	130	811	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Data File : I:\MS09\DATA\2024 03\22\03222426.D Vial: 6
Acq On : 22 Mar 2024 19:42 Operator: SC
Sample : P2400922-030Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:29:41 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

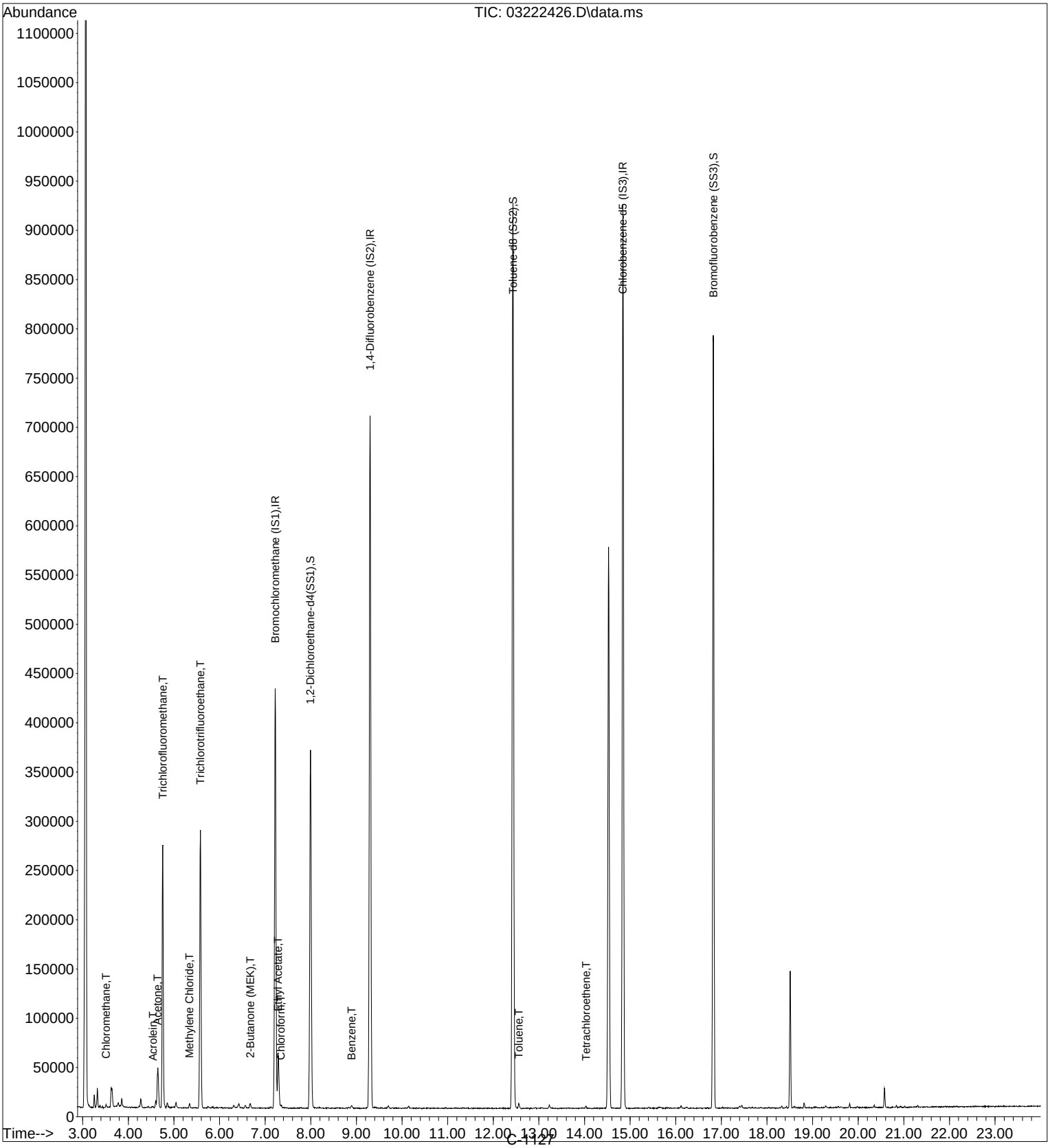
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4855	0.084 ng	95
59) 2-Hexanone	12.93	43	601	N.D.	
60) Dibromochloromethane	13.07	129	271	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	909	0.051 ng	87
65) Chlorobenzene	14.90	112	565	N.D.	
66) Ethylbenzene	15.41	91	1256	N.D.	
67) m- & p-Xylenes	15.64	91	2137	N.D.	
68) Bromoform	15.67	173	427	N.D.	
69) Styrene	16.10	104	487	N.D.	
70) o-Xylene	16.24	91	943	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	342	N.D.	
74) Cumene	17.03	105	701	N.D.	
75) alpha-Pinene	17.53	93	200	N.D.	
76) n-Propylbenzene	17.68	91	984	N.D.	
77) 3-Ethyltoluene	17.03	105	701	No Calib #	
78) 4-Ethyltoluene	17.86	105	573	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	370	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	701	No Calib #	
82) 1,2,4-Trimethylbenzene	18.42	105	460	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	551	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	619	N.D.	
87) sec-Butylbenzene	18.74	105	768	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	515	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	701	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	611	N.D.	
91) d-Limonene	19.09	68	203	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	760	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	559	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	716	N.D.	
100) n-Butylbenzene	19.39	91	582	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222426.D Vial: 6
Acq On : 22 Mar 2024 19:42 Operator: SC
Sample : P2400922-030Dil (40mL) Inst : MS09
Misc : S37-02202408

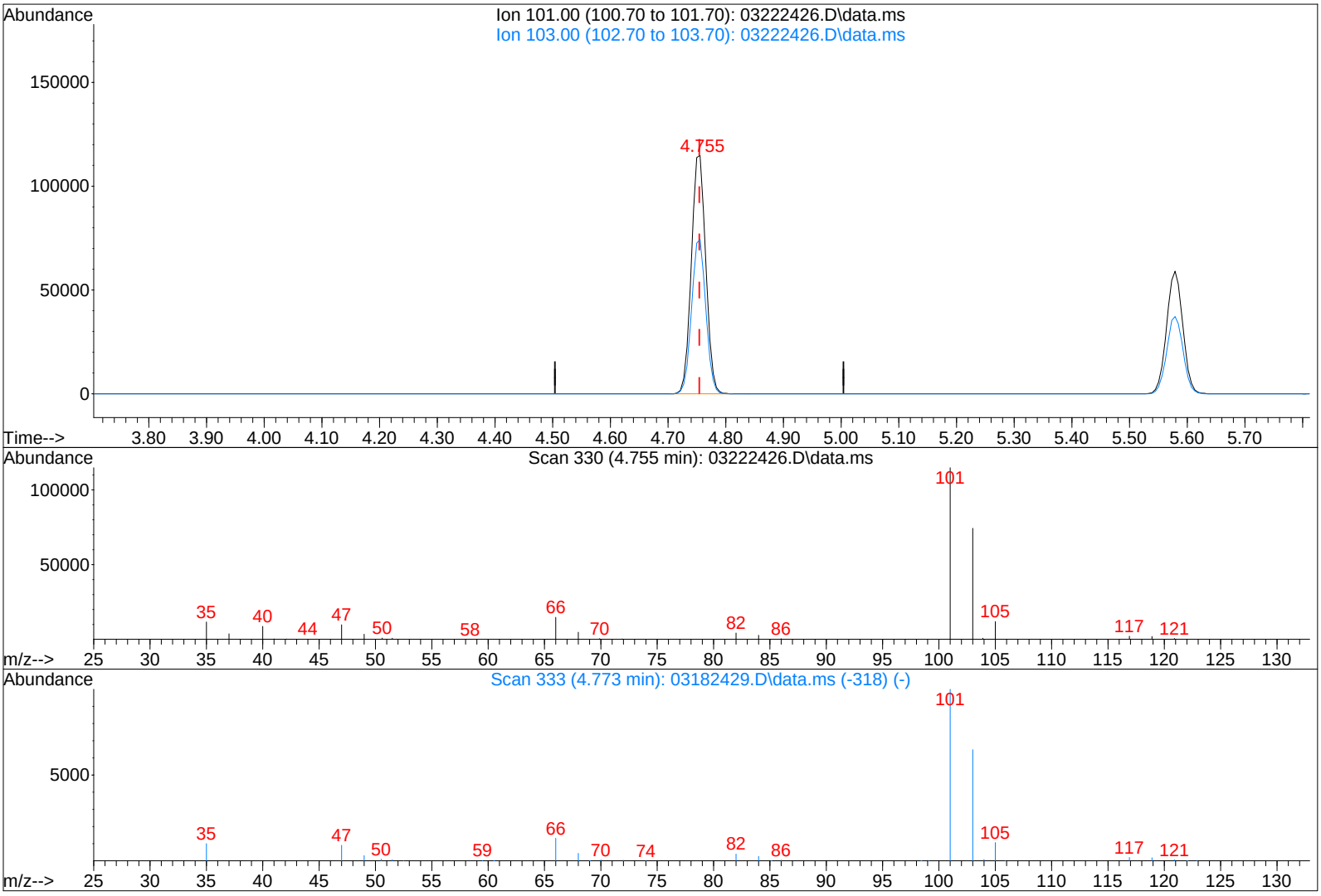
Quant Time: Mar 25 14:29:41 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222426.D Vial: 6
Acq On : 22 Mar 2024 19:42 Operator: SC
Sample : P2400922-030Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:10 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222426.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.001) 6.43ng

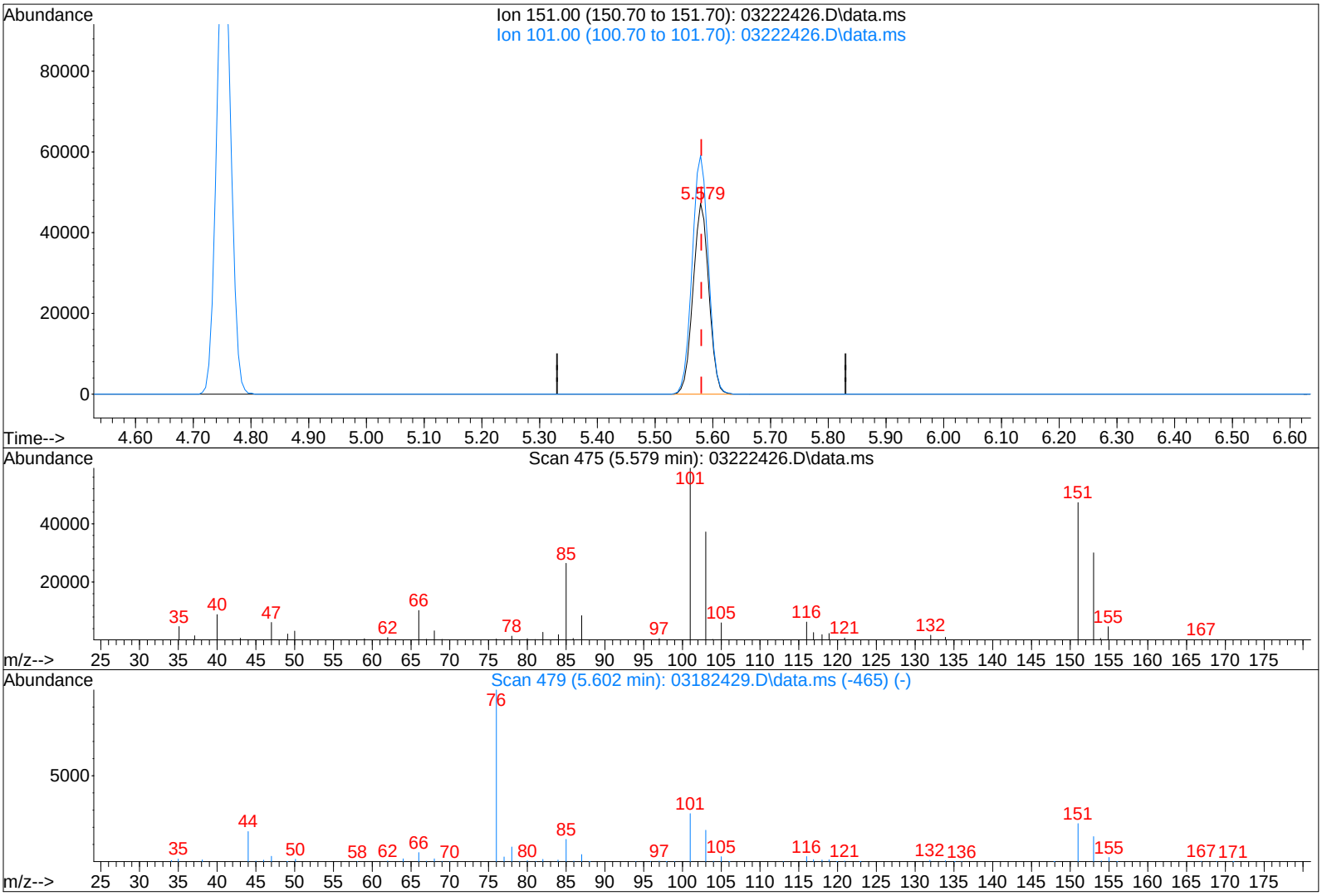
response 198718

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.06
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222426.D Vial: 6
Acq On : 22 Mar 2024 19:42 Operator: SC
Sample : P2400922-030Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:10 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222426.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.001) 6.87ng

response 89586

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	128.65
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202431.D
Acq On : 20 Mar 2024 22:05
Operator : SC
Sample : P2400922-030 (400mL)
Misc : S37-02202408
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202431.D\data.ms

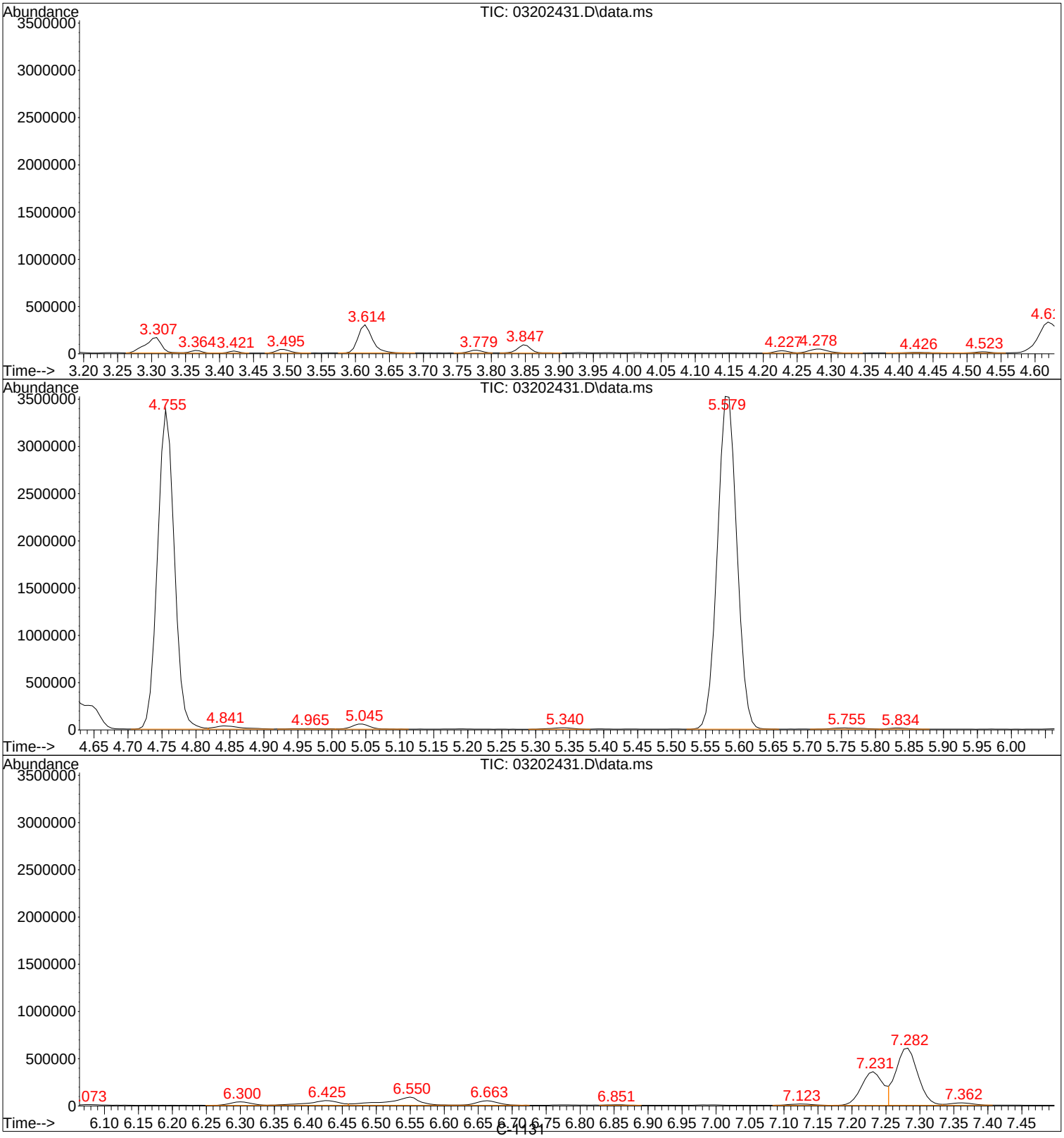
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	67	75	82	rBV4	163447	276199	3.94%	1.522%
2	3.364	82	85	90	rVB	27734	31877	0.45%	0.176%
3	3.421	90	95	99	rBV	21556	22082	0.31%	0.122%
4	3.495	103	108	115	rBV3	38670	54757	0.78%	0.302%
5	3.614	122	129	142	rBV2	298543	435695	6.21%	2.400%
6	3.779	152	158	162	rBV	29721	40516	0.58%	0.223%
7	3.847	164	170	180	rVB	86517	114993	1.64%	0.634%
8	4.227	232	237	241	rBV	25757	36132	0.52%	0.199%
9	4.278	241	246	258	rVB2	41441	81047	1.16%	0.447%
10	4.426	264	272	283	rBV4	5649	14575	0.21%	0.080%
11	4.523	283	289	295	rVV	12030	19813	0.28%	0.109%
12	4.619	295	306	321	rVV2	327354	999867	14.26%	5.509%
13	4.755	321	330	341	rVV	3380799	5814398	82.91%	32.034%
14	4.841	341	345	358	rVV3	33737	88629	1.26%	0.488%
15	4.965	359	367	374	rVV7	5448	19564	0.28%	0.108%
16	5.045	374	381	393	rVB	54184	99070	1.41%	0.546%
17	5.340	424	433	440	rBV4	15049	34631	0.49%	0.191%
18	5.579	465	475	489	rBV	3520861	7012787	100.00%	38.636%
19	5.755	497	506	515	rBV2	12499	37045	0.53%	0.204%
20	5.834	515	520	528	rVB3	12260	24070	0.34%	0.133%
21	6.073	555	562	569	rBV3	7893	16933	0.24%	0.093%
22	6.300	593	602	609	rBV	36826	78177	1.11%	0.431%
23	6.425	609	624	630	rVV2	49341	157362	2.24%	0.867%
24	6.550	630	646	657	rVV2	86128	290394	4.14%	1.600%
25	6.663	657	666	677	rVB	47700	104411	1.49%	0.575%
26	6.851	695	699	706	rVB3	5169	10720	0.15%	0.059%
27	7.123	740	747	755	rVB3	13546	32841	0.47%	0.181%
28	7.231	755	766	770	rBV	355830	820196	11.70%	4.519%
29	7.282	770	775	784	rVV	603741	1327809	18.93%	7.315%
30	7.362	784	789	797	rVB	24425	54372	0.78%	0.300%

Sum of corrected areas: 18150962

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202431.D
Acq On : 20 Mar 2024 22:05
Operator : SC
Sample : P2400922-030 (400mL)
Misc : S37-02202408
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202431.D
Acq On : 20 Mar 2024 22:055
Operator : SCC
Sample : P2400922-030 (400mL))
Misc : S37-022024088
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					|--Internal Standard---|		
TIC Top Hit name	RT	EstConc	Units	Response	# RT Resp Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:38:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140198	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	602560	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	139420	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	8.00	65	295734	12.894 ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%		
57) Toluene-d8 (SS2)	12.43	98	684534	12.229 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%		
73) Bromofluorobenzene (SS3)	16.83	174	247581	12.545 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.36	85	3743m	0.130 ng	
4) Chloromethane	3.49	50	1824	0.085 ng	94
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	3.76	54	408	N.D.	
8) Bromomethane	4.00	94	109	N.D.	
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	4.27	45	4612	0.340 ng	98
11) Acetonitrile	4.42	41	15638	0.503 ng	78
12) Acrolein	4.52	56	158	N.D.	
13) Acetone	4.62	58	56819	5.511 ng	100
14) Trichlorofluoromethane	4.75	101	1997831	71.781 ng	100
15) 2-Propanol (Isopropanol)	4.84	45	1339	N.D.	
16) Acrylonitrile	4.98	53	3498	0.175 ng #	73
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	5.39	59	111	N.D.	
19) Methylene Chloride	5.33	84	841	0.056 ng	86
20) 3-Chloro-1-propene (Al...	5.44	41	279	N.D.	
21) Trichlorotrifluoroethane	5.58	151	1117715	95.270 ng	99
22) Carbon Disulfide	5.59	76	76955	1.647 ng #	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	6.42	86	2011	0.877 ng #	38
27) 2-Butanone (MEK)	6.66	72	7820	0.928 ng	94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	0.00	61	0	N.D.	
31) n-Hexane	7.31	57	1830	0.084 ng #	89
32) Chloroform	7.35	83	14586	0.600 ng	100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	8.81	56	311	No Calib #	
41) Benzene	8.89	78	295285	5.445 ng	100
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	9.22	84	120	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	10.07	83	702	N.D.	
47) Trichloroethene	10.15	130	1608	0.110 ng	92
48) 1,4-Dioxane	10.12	88	231	N.D.	
49) 2,2,4-Trimethylpentane...	10.24	57	149	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:38:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

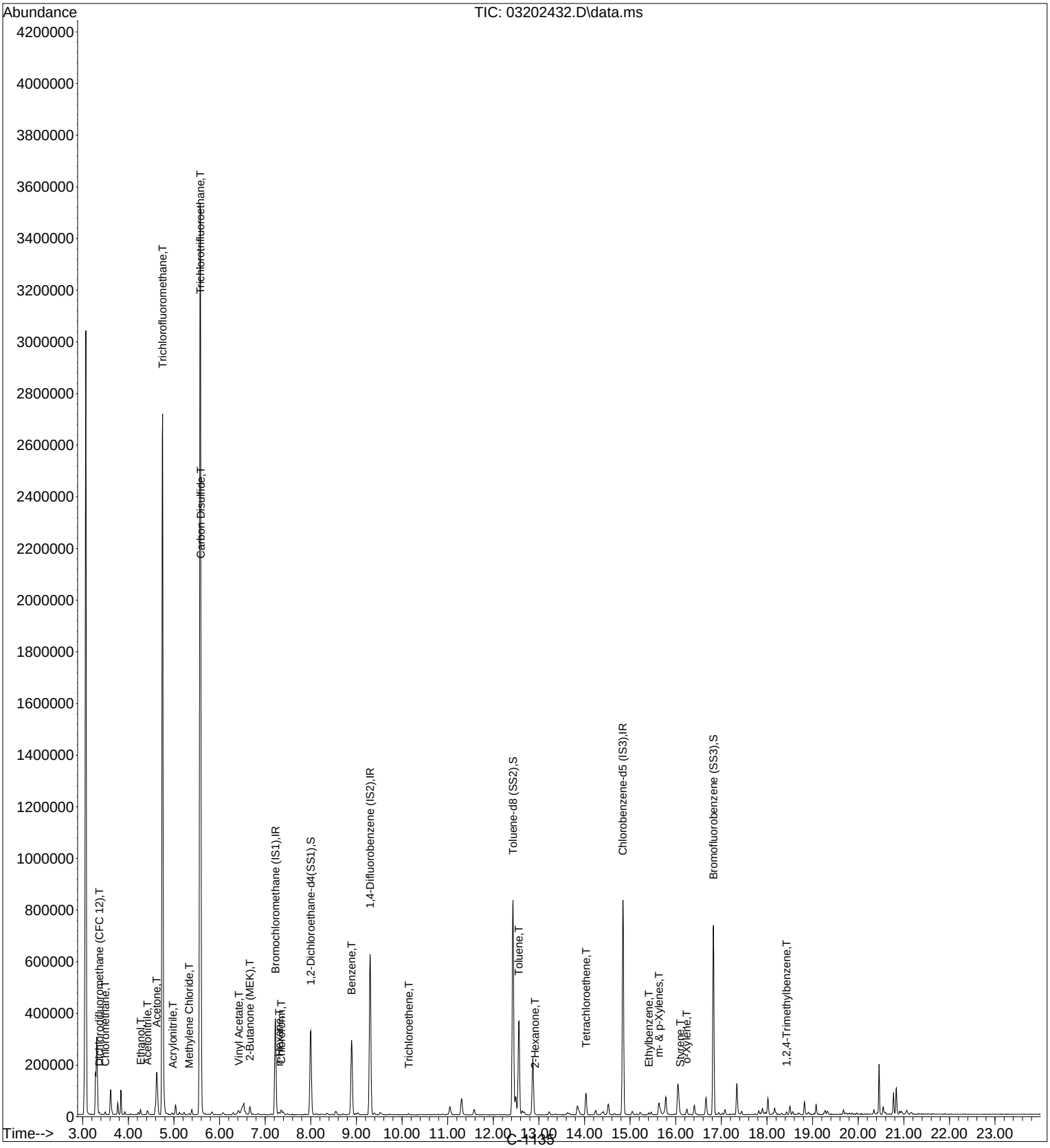
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	511	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	324781	6.079 ng		100
59) 2-Hexanone	12.92	43	2155	0.069 ng		92
60) Dibromochloromethane	13.07	129	389	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.91	43	108	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	30128	1.834 ng		99
65) Chlorobenzene	14.90	112	472	N.D.		
66) Ethylbenzene	15.41	91	7083	0.116 ng		97
67) m- & p-Xylenes	15.64	91	39086	0.770 ng		99
68) Bromoform	15.67	173	431	N.D.		
69) Styrene	16.10	104	3154	0.091 ng	#	80
70) o-Xylene	16.24	91	14702	0.294 ng		100
71) n-Nonane	16.62	43	274	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	361	N.D.		
74) Cumene	17.03	105	902	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	1109	N.D.		
77) 3-Ethyltoluene	17.03	105	902	No Calib	#	
78) 4-Ethyltoluene	17.86	105	1508	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	808	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	902	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	4982	0.093 ng		90
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	454	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	483	N.D.		
87) sec-Butylbenzene	18.74	105	785	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	2705	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	902	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	374	N.D.		
91) d-Limonene	19.07	68	387	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	652	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.31	225	454	N.D.		
98) Cyclohexanone	15.46	55	235	No Calib	#	
99) tert-Butylbenzene	18.43	119	1384	N.D.		
100) n-Butylbenzene	19.39	91	558	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:38:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 11:38:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

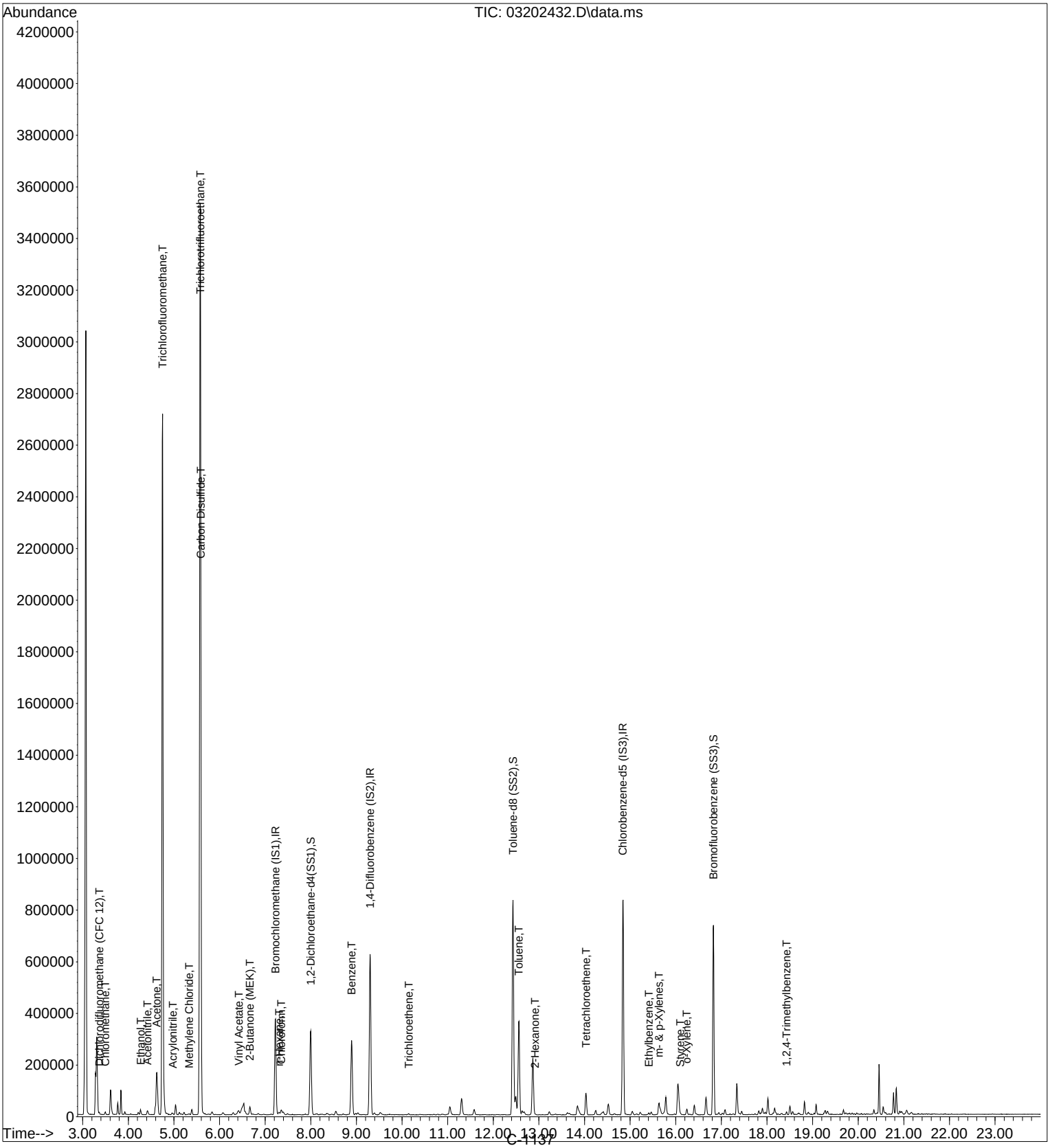
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140198	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	602560	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	139420	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	295734	12.894	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
57) Toluene-d8 (SS2)	12.43	98	684534	12.229	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
73) Bromofluorobenzene (SS3)	16.83	174	247581	12.545	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	3743m	0.130	ng		
4) Chloromethane	3.49	50	1824	0.085	ng		94
10) Ethanol	4.27	45	4612	0.340	ng		98
11) Acetonitrile	4.42	41	15638	0.503	ng		78
13) Acetone	4.62	58	56819	5.511	ng		100
14) Trichlorofluoromethane	4.75	101	1997831	71.781	ng		100
16) Acrylonitrile	4.98	53	3498	0.175	ng	#	73
19) Methylene Chloride	5.33	84	841	0.056	ng		86
21) Trichlorotrifluoroethane	5.58	151	1117715	95.270	ng		99
22) Carbon Disulfide	5.59	76	76955	1.647	ng	#	1
26) Vinyl Acetate	6.42	86	2011	0.877	ng	#	38
27) 2-Butanone (MEK)	6.66	72	7820	0.928	ng		94
31) n-Hexane	7.31	57	1830	0.084	ng	#	89
32) Chloroform	7.35	83	14586	0.600	ng		100
41) Benzene	8.89	78	295285	5.445	ng		100
47) Trichloroethene	10.15	130	1608	0.110	ng		92
58) Toluene	12.56	91	324781	6.079	ng		100
59) 2-Hexanone	12.92	43	2155	0.069	ng		92
64) Tetrachloroethene	14.03	166	30128	1.834	ng		99
66) Ethylbenzene	15.41	91	7083	0.116	ng		97
67) m- & p-Xylenes	15.64	91	39086	0.770	ng		99
69) Styrene	16.10	104	3154	0.091	ng	#	80
70) o-Xylene	16.24	91	14702	0.294	ng		100
82) 1,2,4-Trimethylbenzene	18.43	105	4982	0.093	ng		90

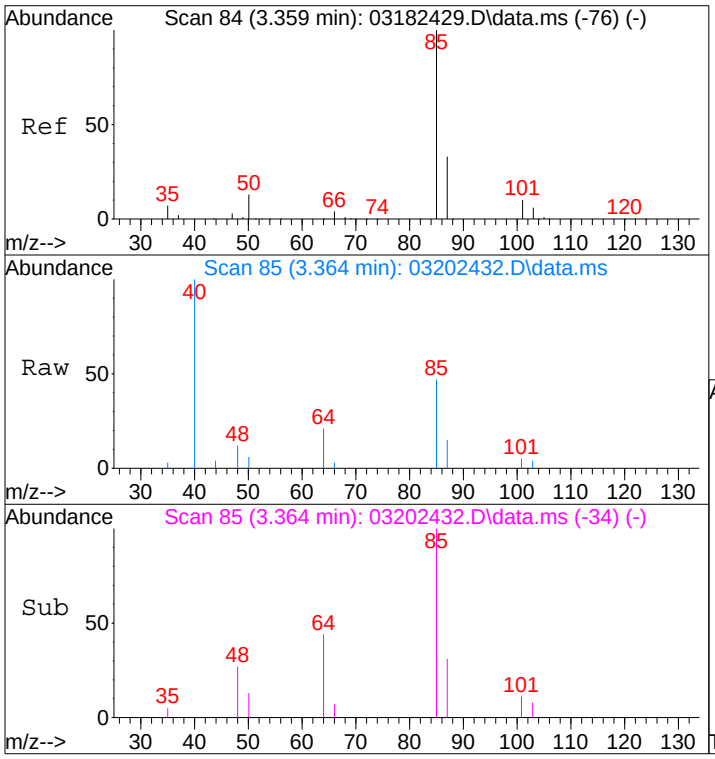
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:38:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

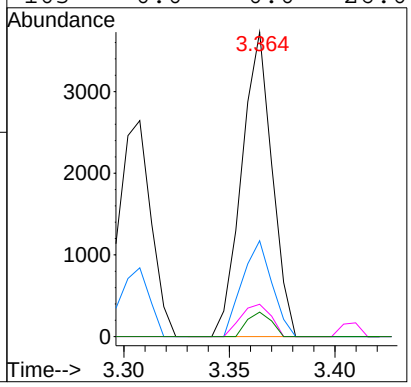


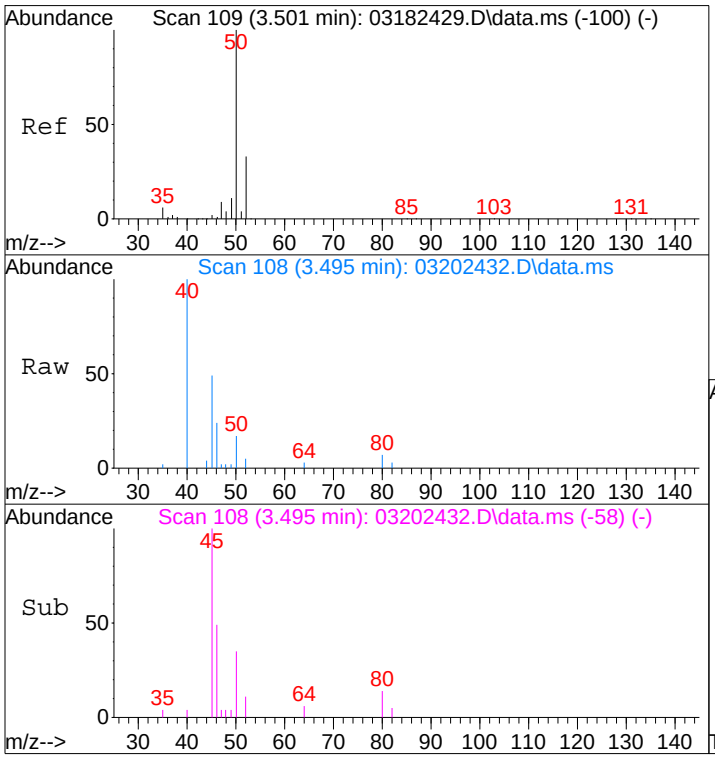


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.13 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 85 Resp: 3743

Ion	Ratio	Lower	Upper
85	100		
87	20.9	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

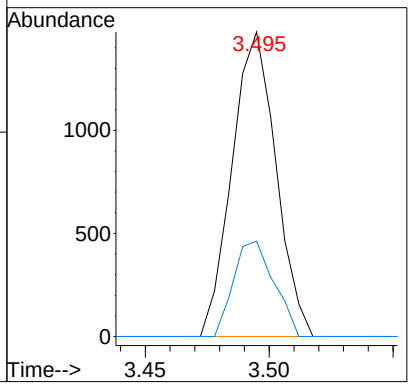


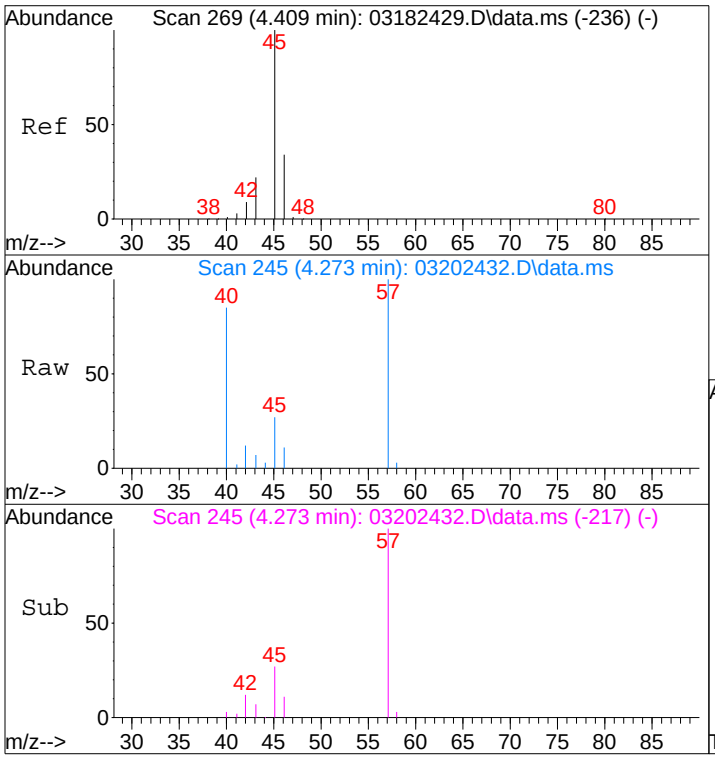


#4
Chloromethane
Concen: 0.09 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.032 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 50 Resp: 1824

Ion	Ratio	Lower	Upper
50	100		
52	28.8	12.3	52.3

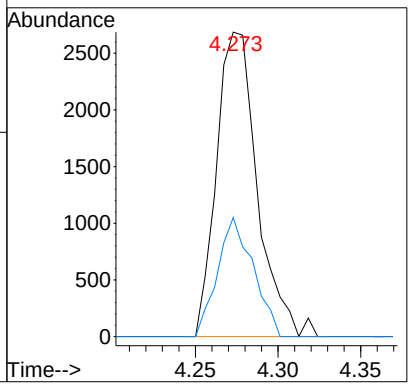


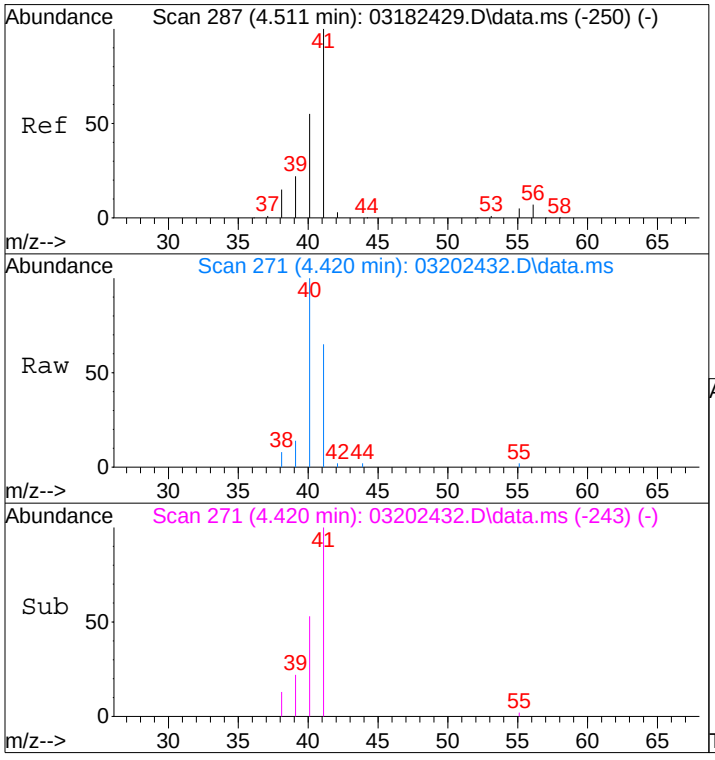


#10
Ethanol
Concen: 0.34 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.088 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 45 Resp: 4612

Ion	Ratio	Lower	Upper
45	100		
46	34.2	13.3	53.3

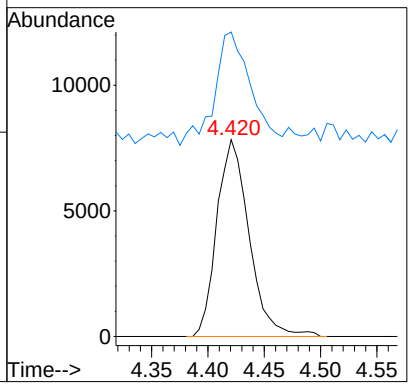


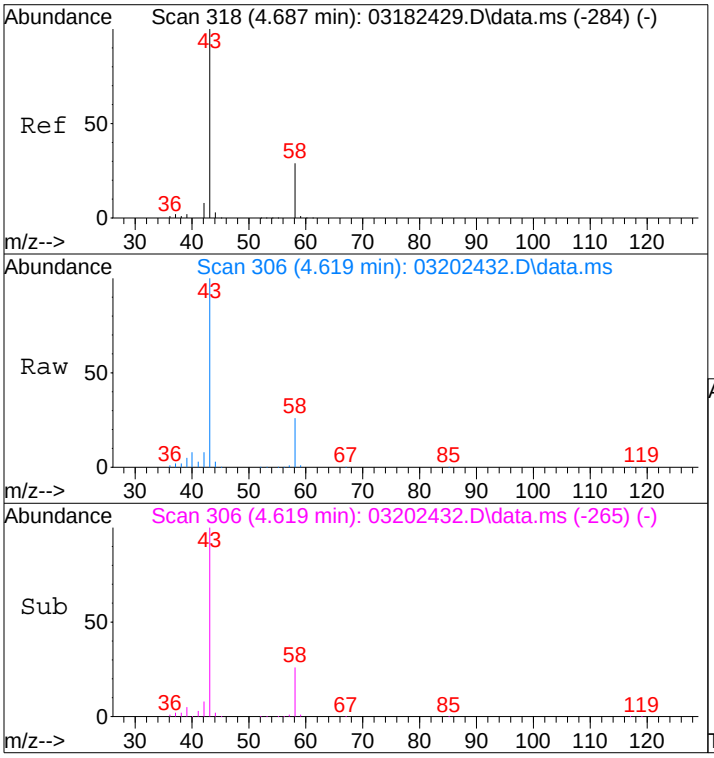


#11
Acetonitrile
Concen: 0.50 ng
RT: 4.42 min Scan# 271
Delta R.T. -0.042 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 41 Resp: 15638

Ion	Ratio	Lower	Upper
41	100		
40	70.9	34.9	74.9

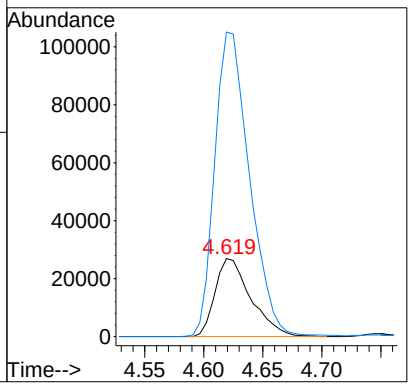


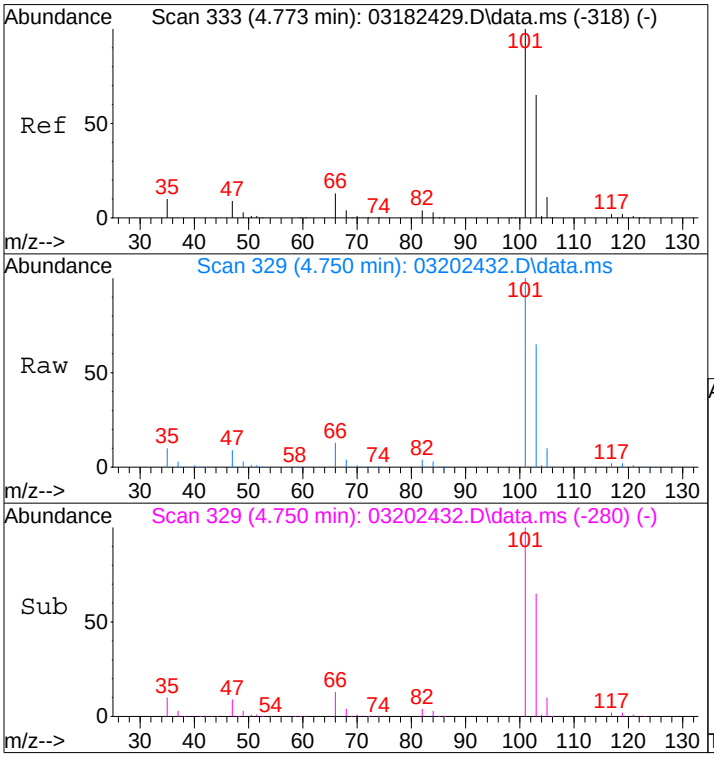


#13
Acetone
Concen: 5.51 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.017 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 58 Resp: 56819

Ion	Ratio	Lower	Upper
58	100		
43	380.3	350.1	410.1

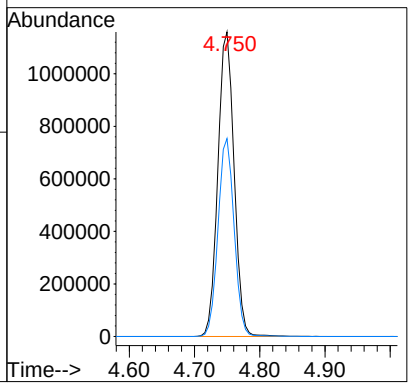


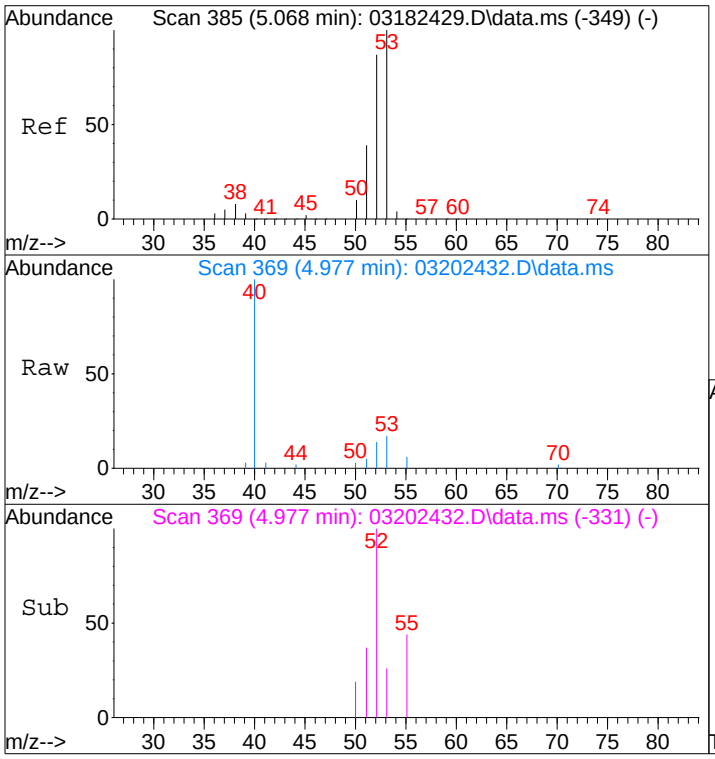


#14
Trichlorofluoromethane
Concen: 71.78 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion:101 Resp: 1997831

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

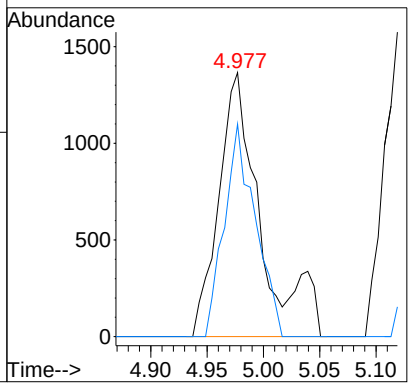


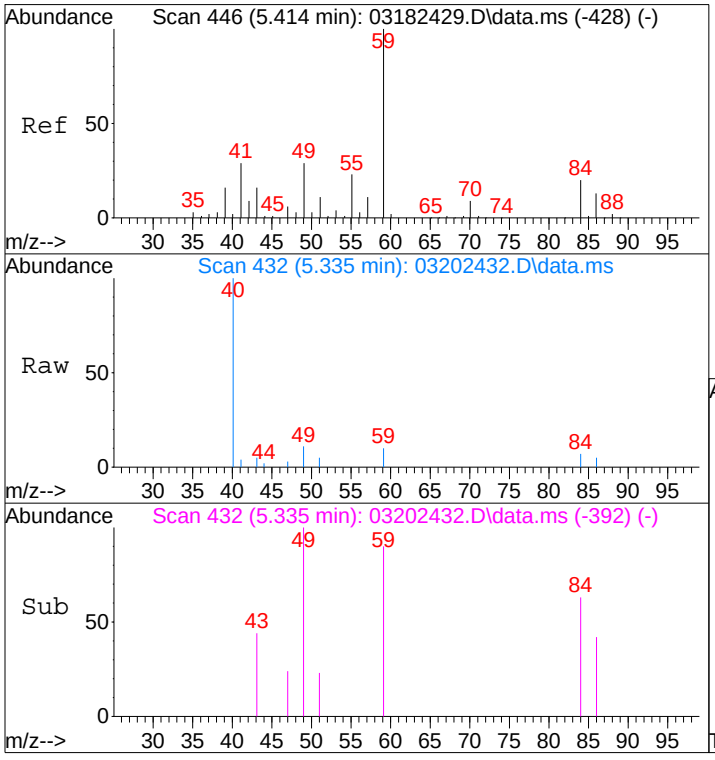


#16
Acrylonitrile
Concen: 0.18 ng
RT: 4.98 min Scan# 369
Delta R.T. -0.036 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 53 Resp: 3498

Ion	Ratio	Lower	Upper
53	100		
52	60.1	65.1	105.1#

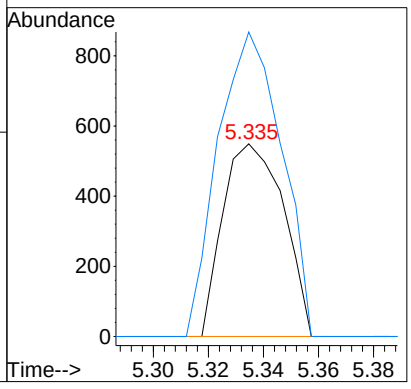


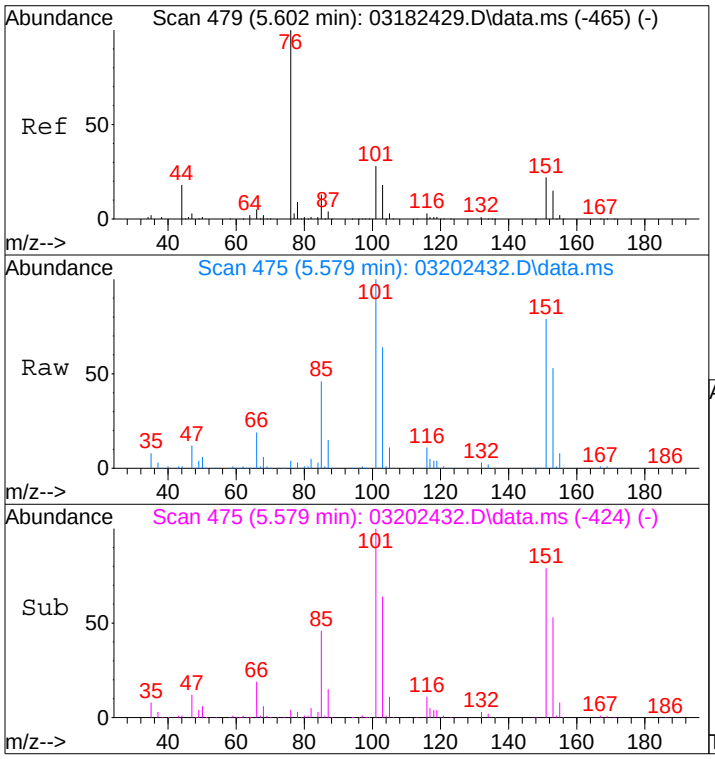


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.021 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 84 Resp: 841

Ion	Ratio	Lower	Upper
84	100		
49	165.5	122.9	172.9

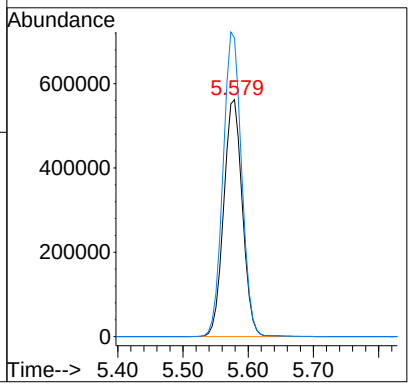


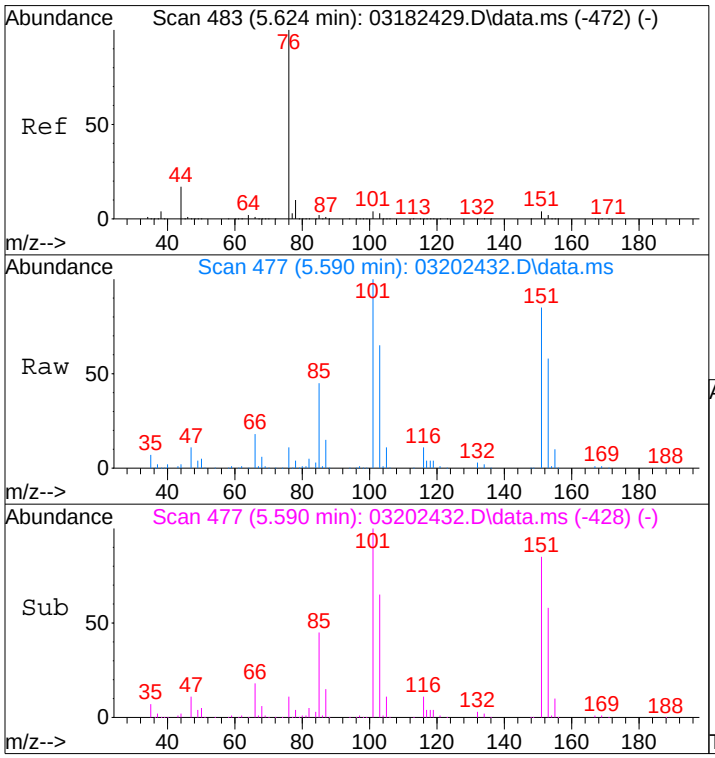


#21
Trichlorotrifluoroethane
Concen: 95.27 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion:151 Resp: 1117715

Ion	Ratio	Lower	Upper
151	100		
101	127.9	106.4	146.4

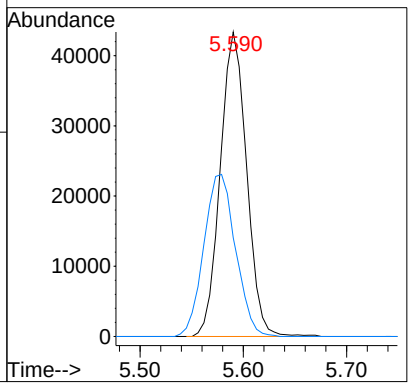


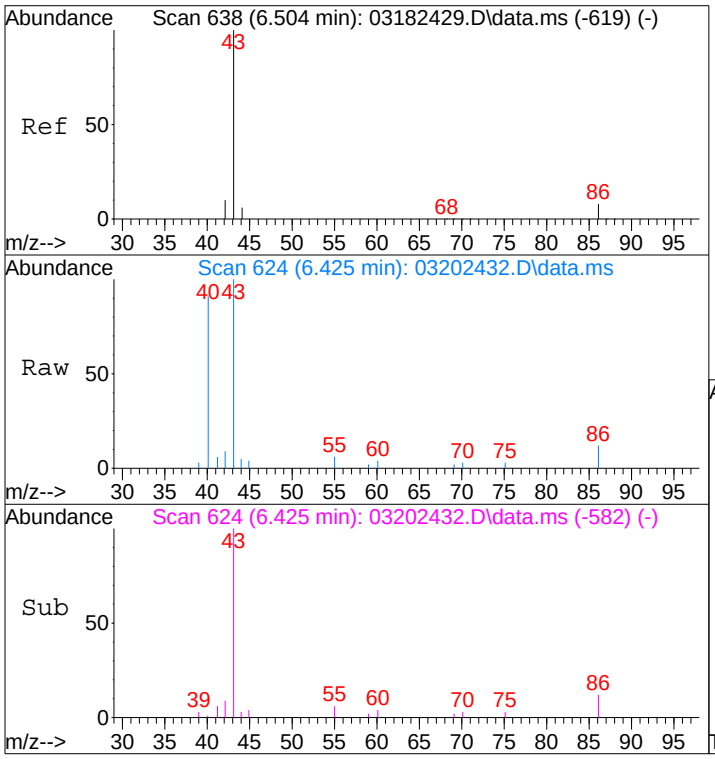


#22
Carbon Disulfide
Concen: 1.65 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 76 Resp: 76955

Ion	Ratio	Lower	Upper
76	100		
78	63.9	0.0	29.8#

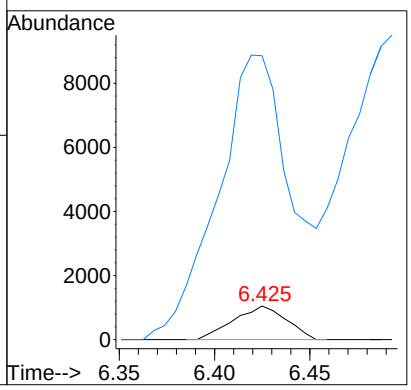


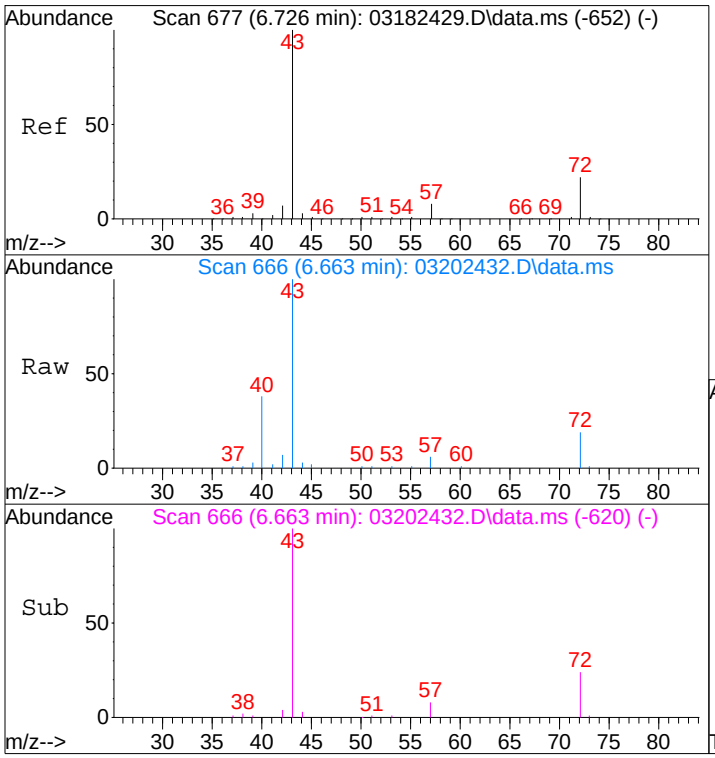


#26
Vinyl Acetate
Concen: 0.88 ng
RT: 6.42 min Scan# 624
Delta R.T. -0.009 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 86 Resp: 2011

Ion	Ratio	Lower	Upper
86	100		
43	1183.2	1541.5	1581.5#

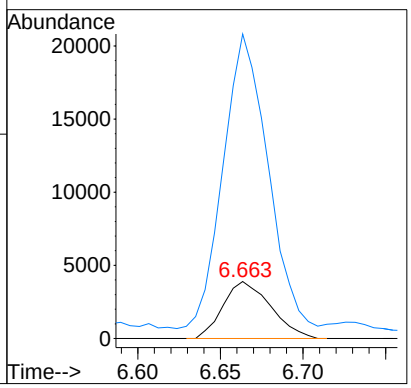


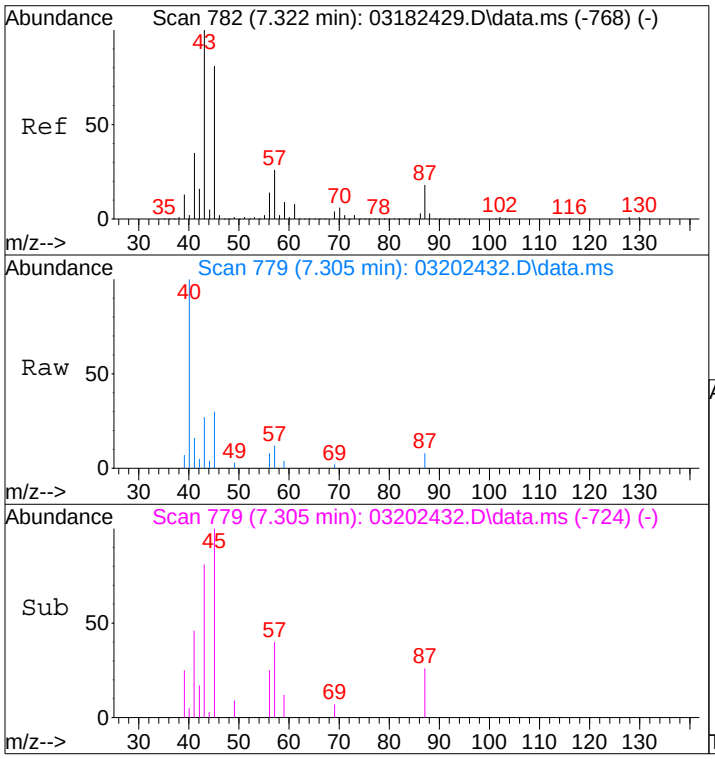


#27
2-Butanone (MEK)
Concen: 0.93 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.011 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 72 Resp: 7820

Ion	Ratio	Lower	Upper
72	100		
43	504.3	468.6	508.6

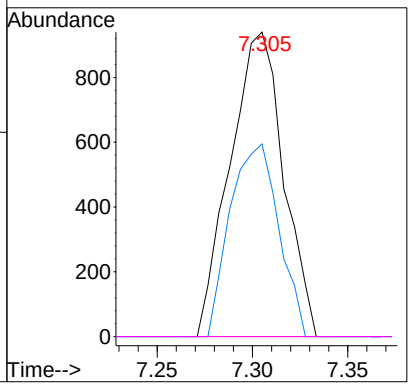


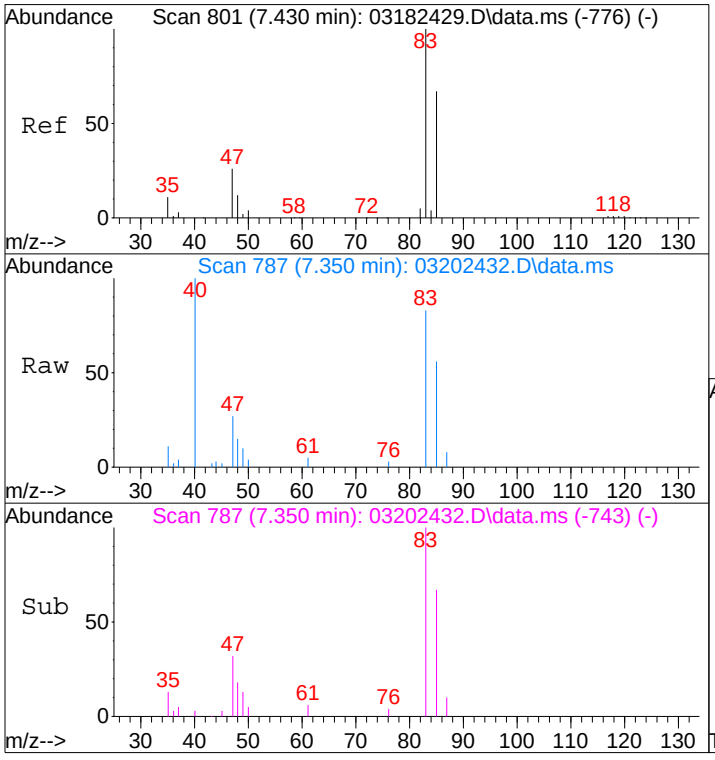


#31
n-Hexane
Concen: 0.08 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.062 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 57 Resp: 1830

Ion	Ratio	Lower	Upper
57	100		
56	57.7	42.2	63.4
86	0.0	9.4	14.2#

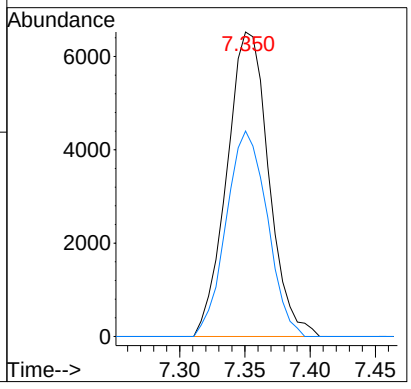


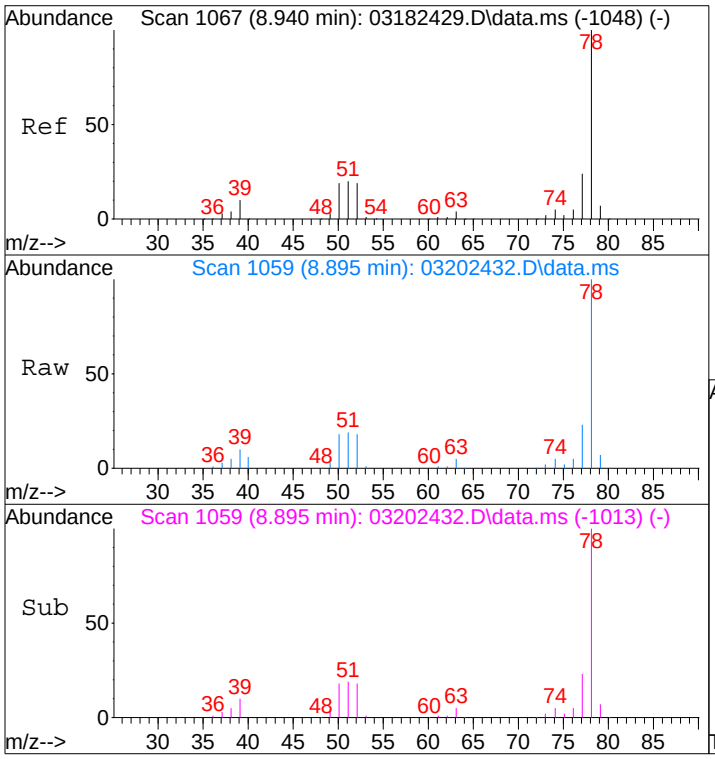


#32
Chloroform
Concen: 0.60 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 83 Resp: 14586

Ion	Ratio	Lower	Upper
83	100		
85	66.2	46.1	86.1

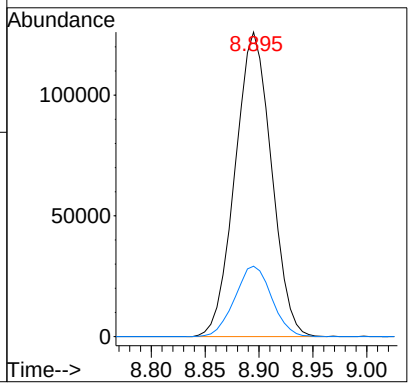


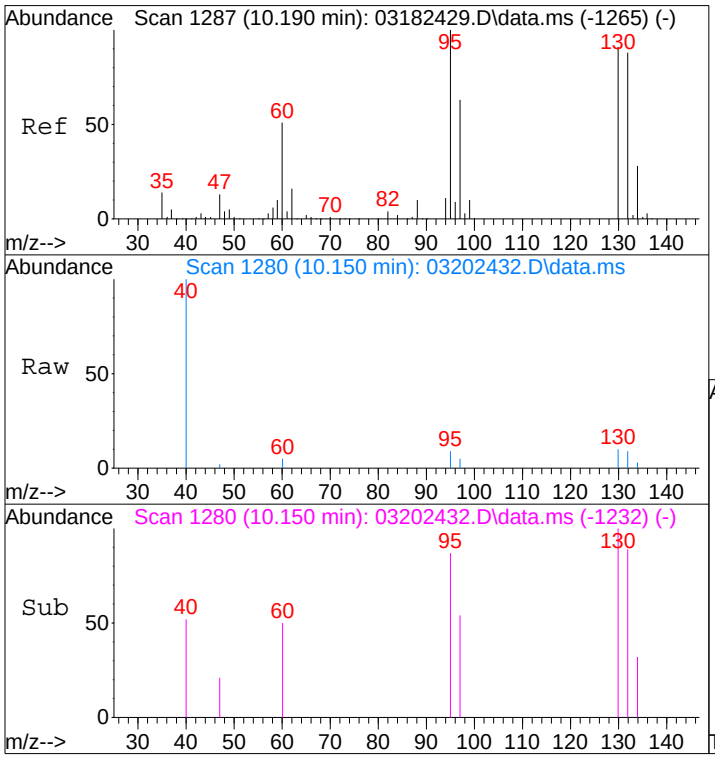


#41
Benzene
Concen: 5.45 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 78 Resp: 295285

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.6	43.6

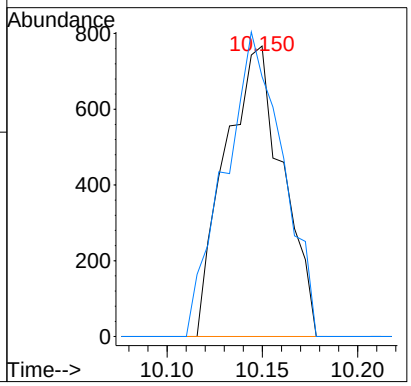


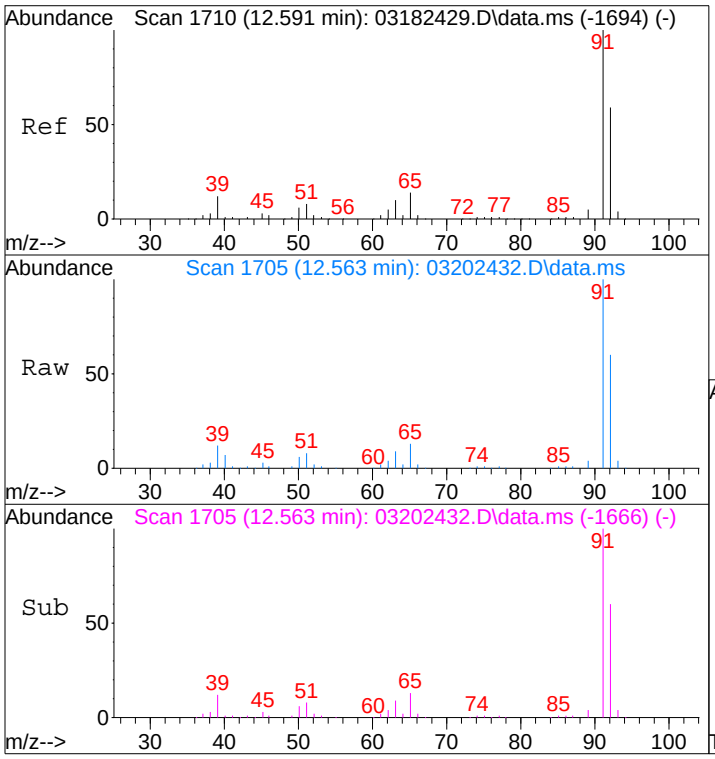


#47
Trichloroethene
Concen: 0.11 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion:130 Resp: 1608

Ion	Ratio	Lower	Upper
130	100		
132	105.5	77.5	117.5

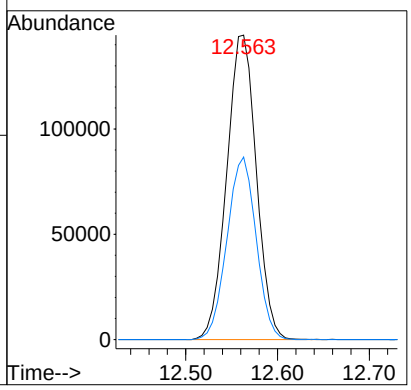


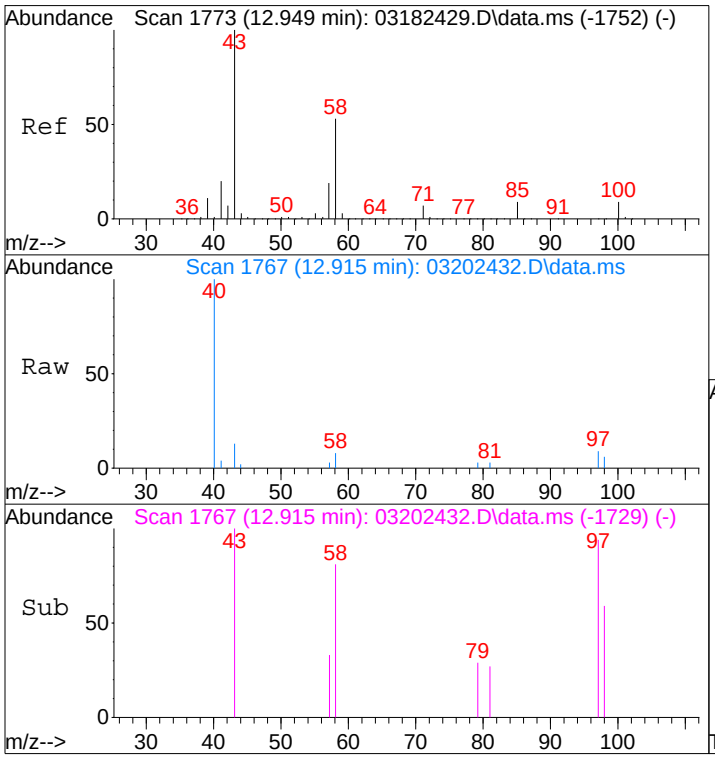


#58
Toluene
Concen: 6.08 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 91 Resp: 324781

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.2	79.2

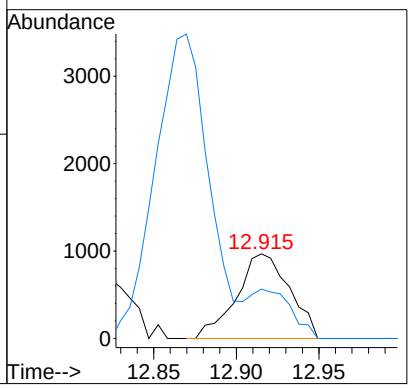


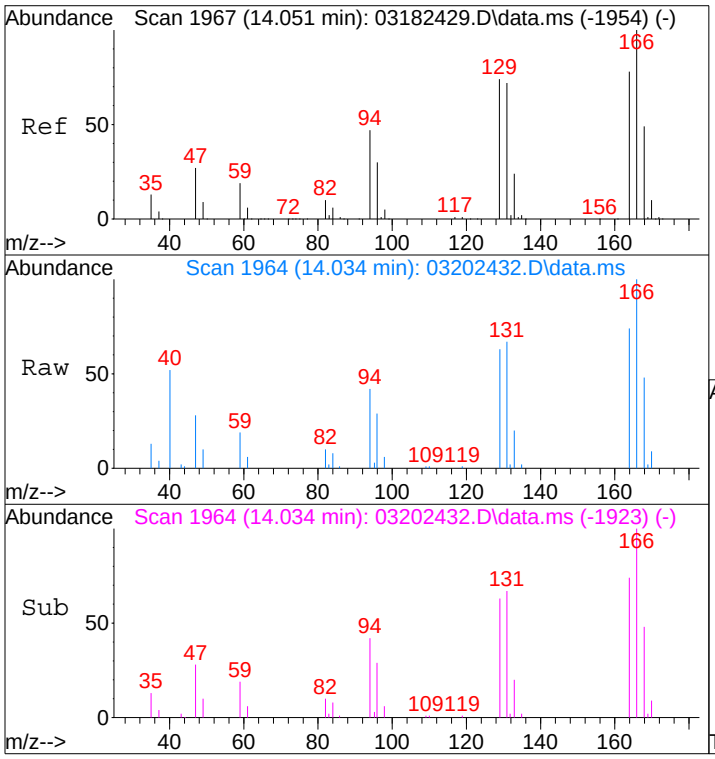


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 43 Resp: 2155

Ion	Ratio	Lower	Upper
43	100		
58	44.5	30.2	70.2

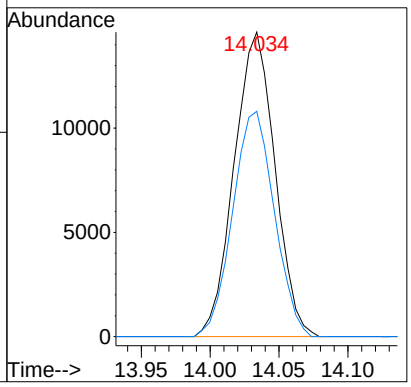


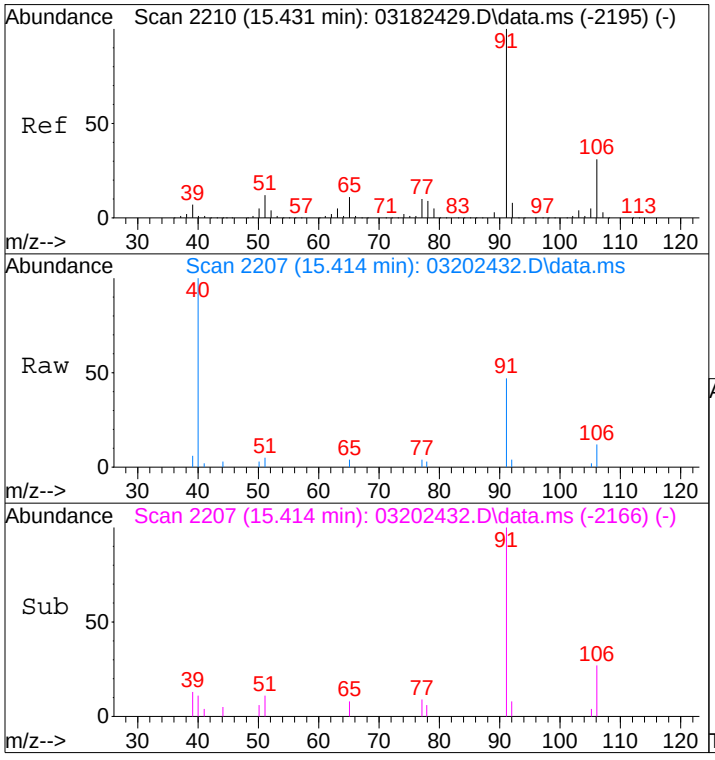


#64
Tetrachloroethene
Concen: 1.83 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion:166 Resp: 30128

Ion	Ratio	Lower	Upper
166	100		
164	75.5	56.7	96.7

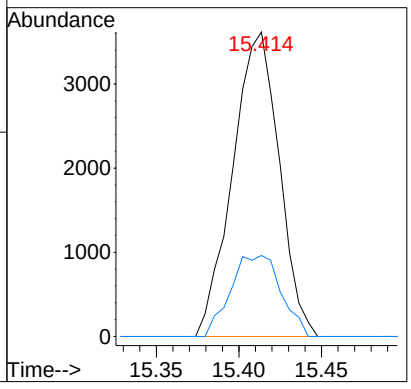


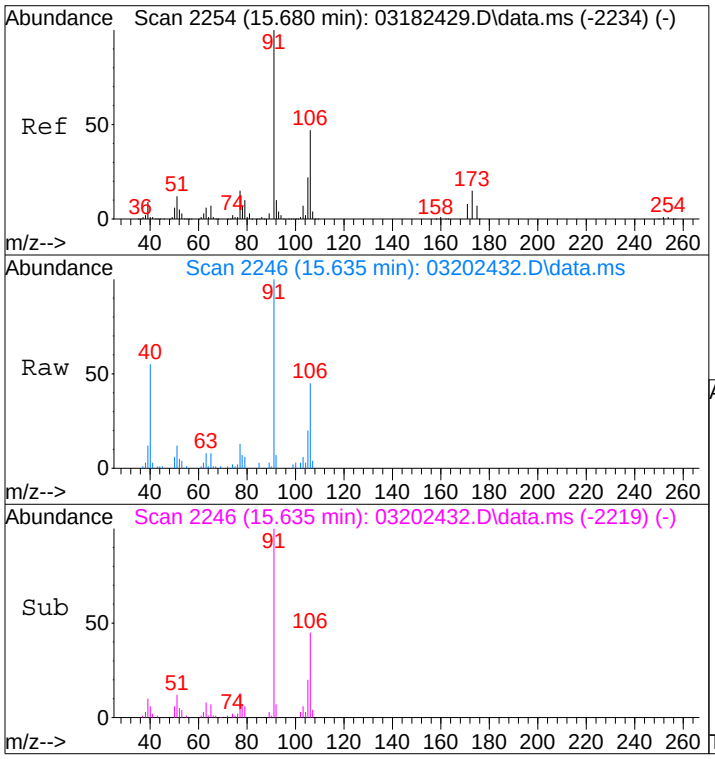


#66
Ethylbenzene
Concen: 0.12 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 91 Resp: 7083

Ion	Ratio	Lower	Upper
91	100		
106	28.8	10.4	50.4

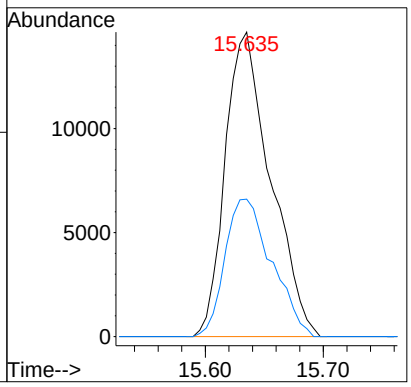


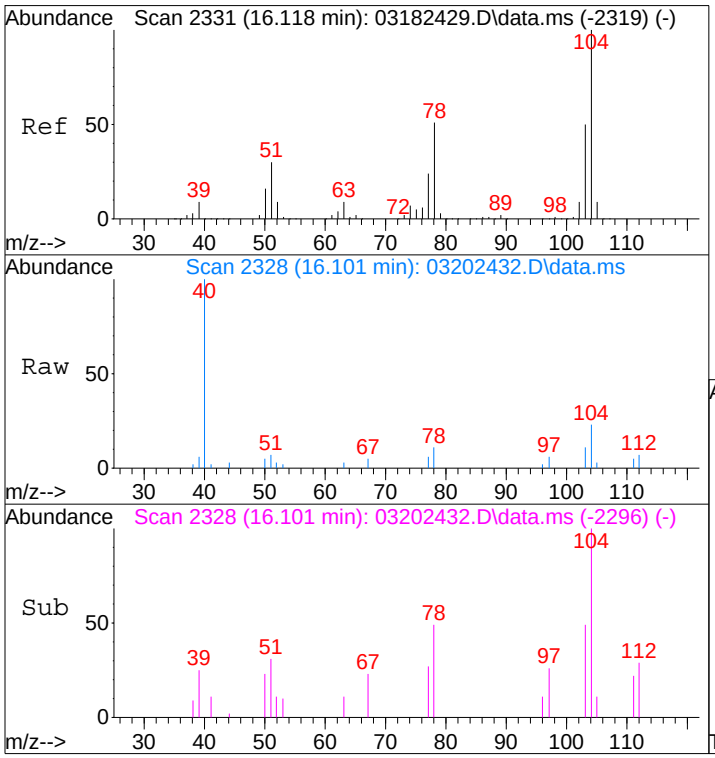


#67
m- & p-Xylenes
Concen: 0.77 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.045 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 91 Resp: 39086

Ion	Ratio	Lower	Upper
91	100		
106	46.4	25.6	65.6

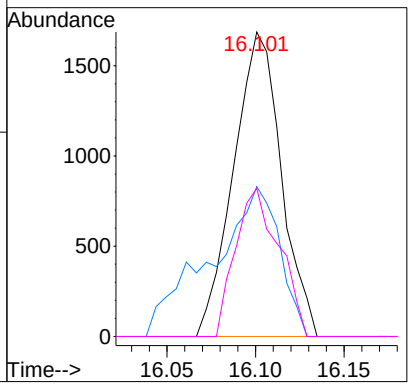


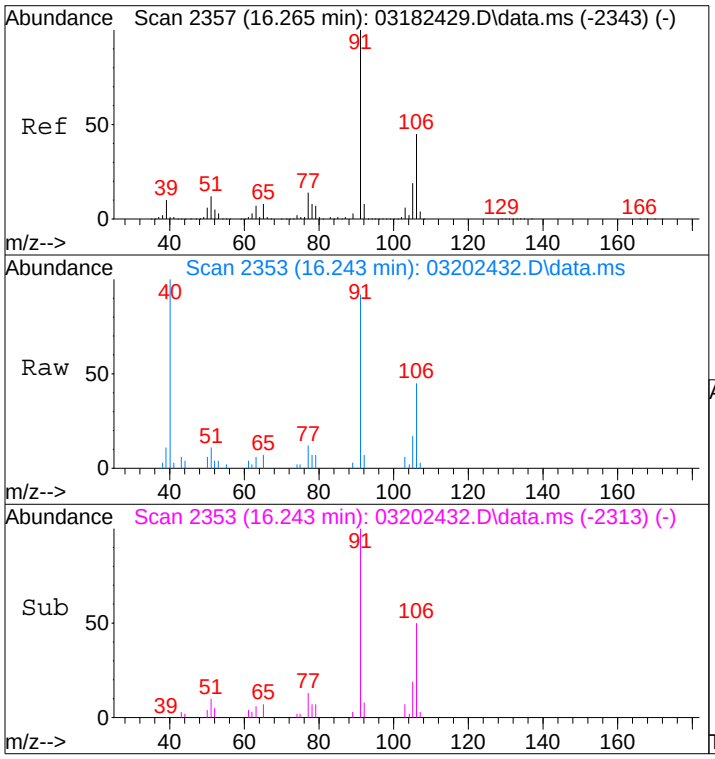


#69
Styrene
Concen: 0.09 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion:104 Resp: 3154

Ion	Ratio	Lower	Upper
104	100		
78	71.3	28.5	68.5#
103	44.6	28.4	68.4

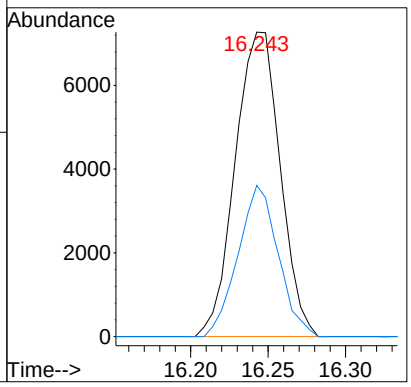


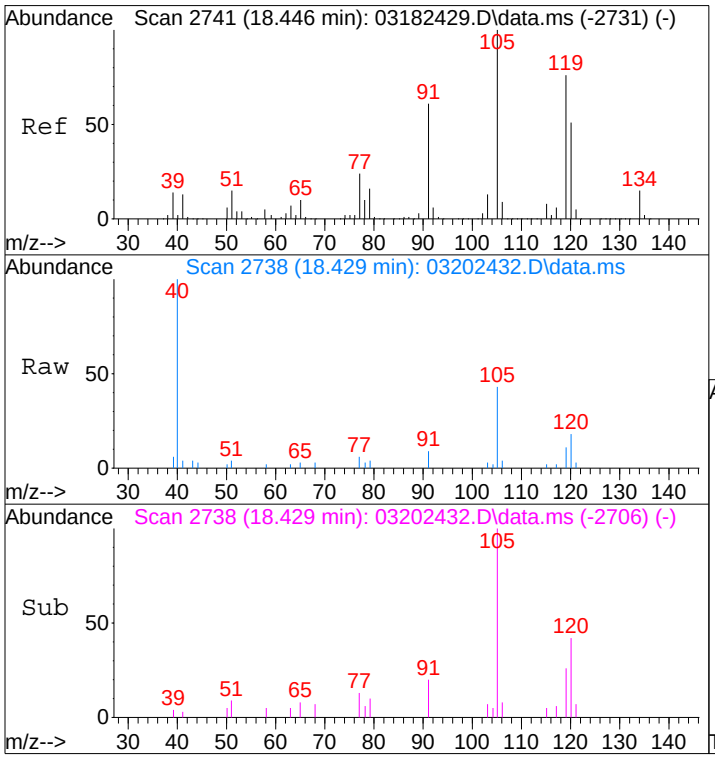


#70
o-Xylene
Concen: 0.29 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion: 91 Resp: 14702

Ion	Ratio	Lower	Upper
91	100		
106	44.4	24.4	64.4

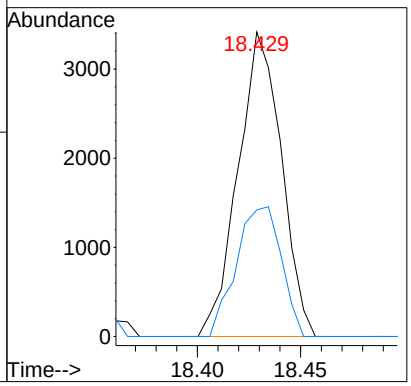




#82
1,2,4-Trimethylbenzene
Concen: 0.09 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03202432.D
Acq: 20 Mar 2024 22:38

Tgt Ion:105 Resp: 4982

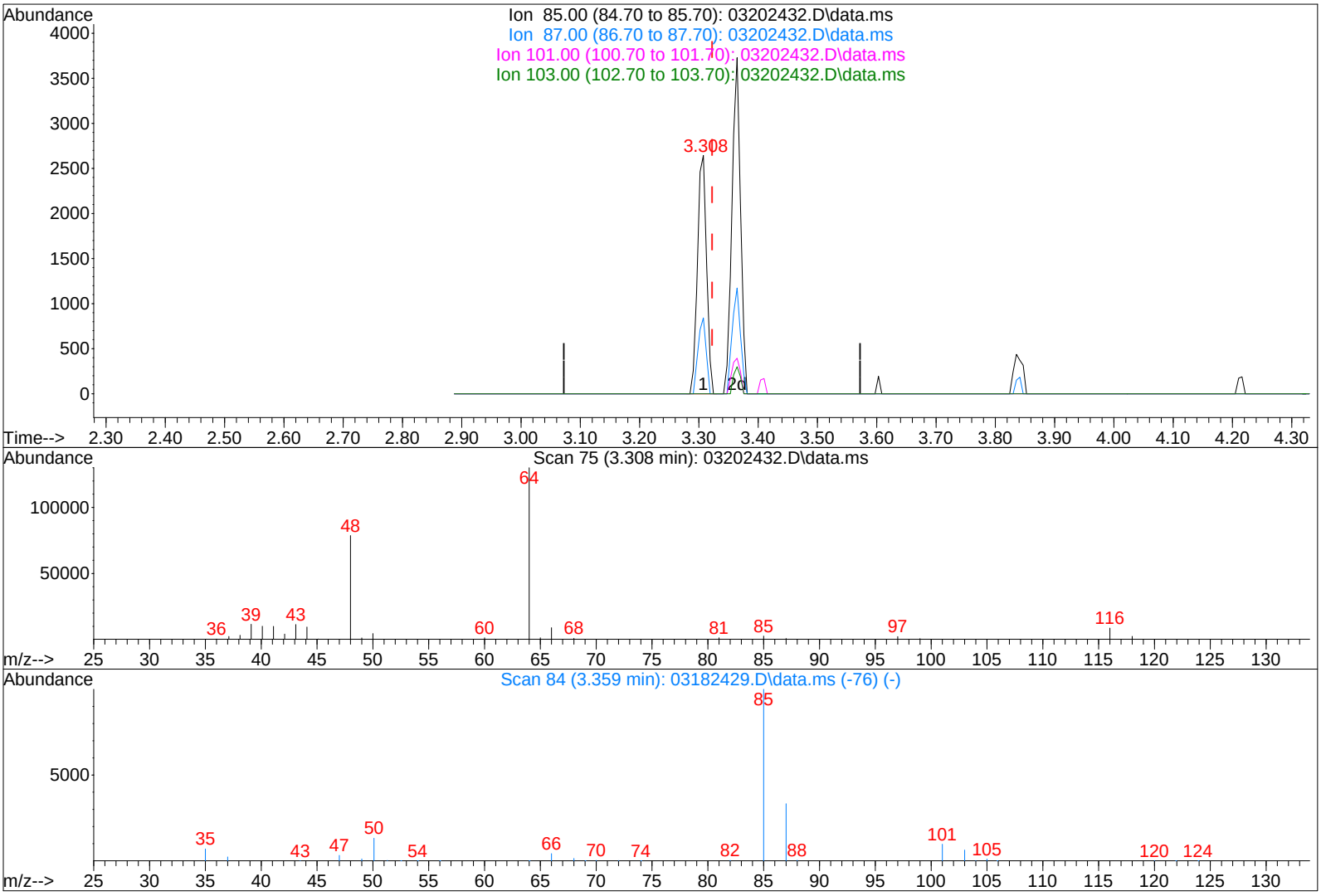
Ion	Ratio	Lower	Upper
105	100		
120	44.3	31.1	71.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202432.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.015) 0.10ng

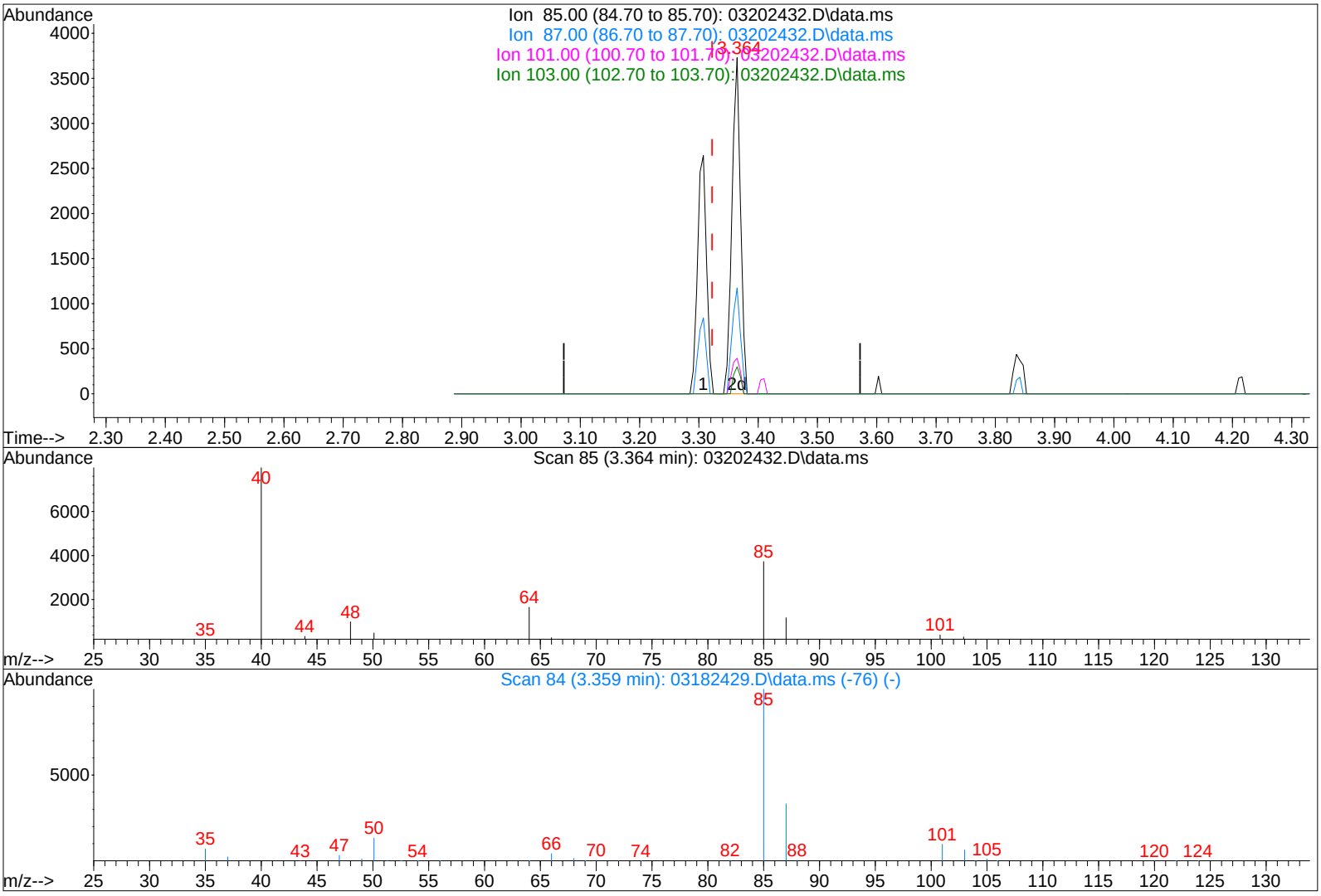
response 2805

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.91
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202432.D\data.ms

MP 3/25/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.042) 0.13ng m

response 3743

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	20.92
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/25/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:38:44 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

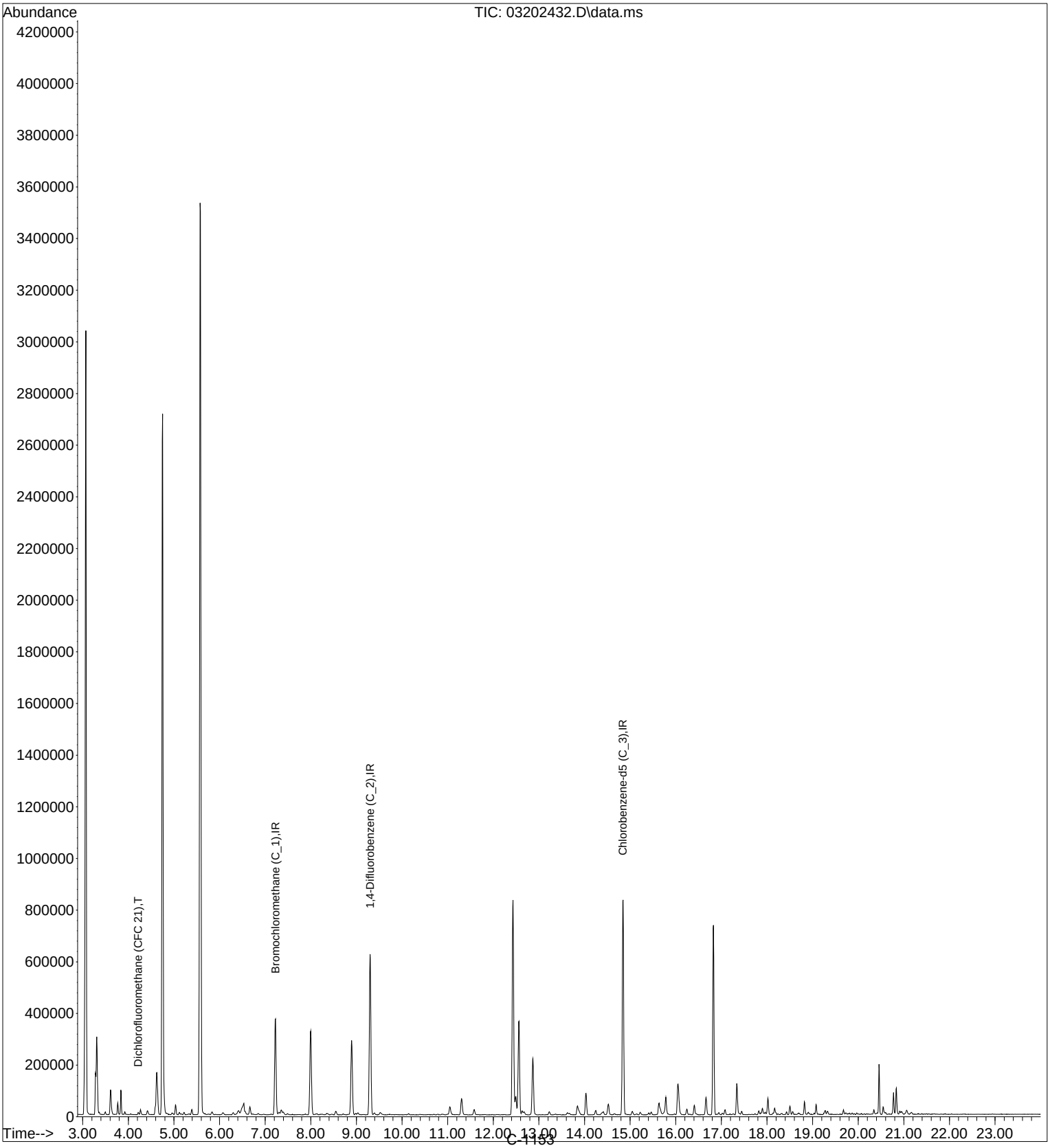
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	140198	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	602560	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	139420	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	179	N.D.		
4) 1,1-Difluoroethane	3.23	65	119	N.D.		
5) Chlorodifluoromethane ...	3.27	67	400	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	7872	0.288	ng	98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	240	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.33	43	817	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	813	N.D.		
21) 1,3-Dichloropropane	12.56	76	1460	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	17.08	77	247	N.D.		
26) 2-Chlorotoluene	17.61	91	657	N.D.		
27) 4-Chlorotoluene	17.67	91	1109	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	19.21	115	120	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	1080	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1080	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	2762	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

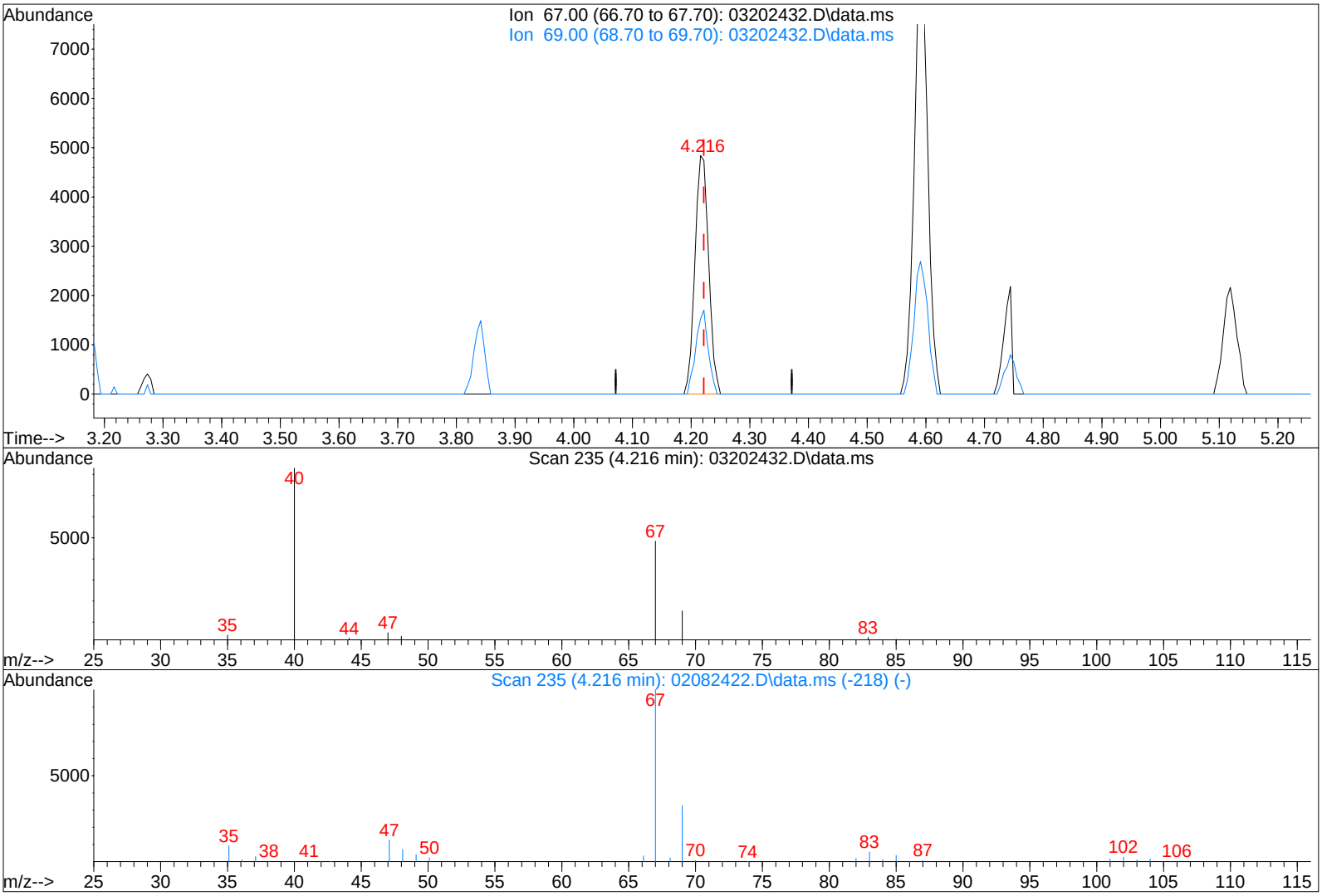
Quant Time: Mar 25 13:38:44 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202432.D Vial: 16
Acq On : 20 Mar 2024 22:38 Operator: SC
Sample : P2400922-031 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:38:18 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202432.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 0.29ng

response 7872

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	31.53
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222427.D Vial: 7
Acq On : 22 Mar 2024 20:15 Operator: SC
Sample : P2400922-031Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:31:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	155767	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	668427	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	151523	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	315420	12.378	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	12.43	98	766143	12.593	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
73) Bromofluorobenzene (SS3)	16.83	174	269481	12.564	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.32	85	1485	N.D.			
4) Chloromethane	3.51	50	960	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	215	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	3485	0.232	ng		97
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.63	58	31520	2.751	ng		94
14) Trichlorofluoromethane	4.75	101	984055	31.823	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	862	N.D.			
16) Acrylonitrile	5.04	53	65	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1078	N.D.			
19) Methylene Chloride	5.34	84	860	0.052	ng		86
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	558112	42.817	ng		98
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	3990	0.426	ng	#	91
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.31	87	391	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	947	N.D.			
32) Chloroform	7.35	83	7349	0.272	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.81	56	172	No Calib			
41) Benzene	8.89	78	155908	2.592	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	355	N.D.			
47) Trichloroethene	10.14	130	921	0.057	ng	#	80
48) 1,4-Dioxane	10.14	88	122	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222427.D Vial: 7
Acq On : 22 Mar 2024 20:15 Operator: SC
Sample : P2400922-031Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:31:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

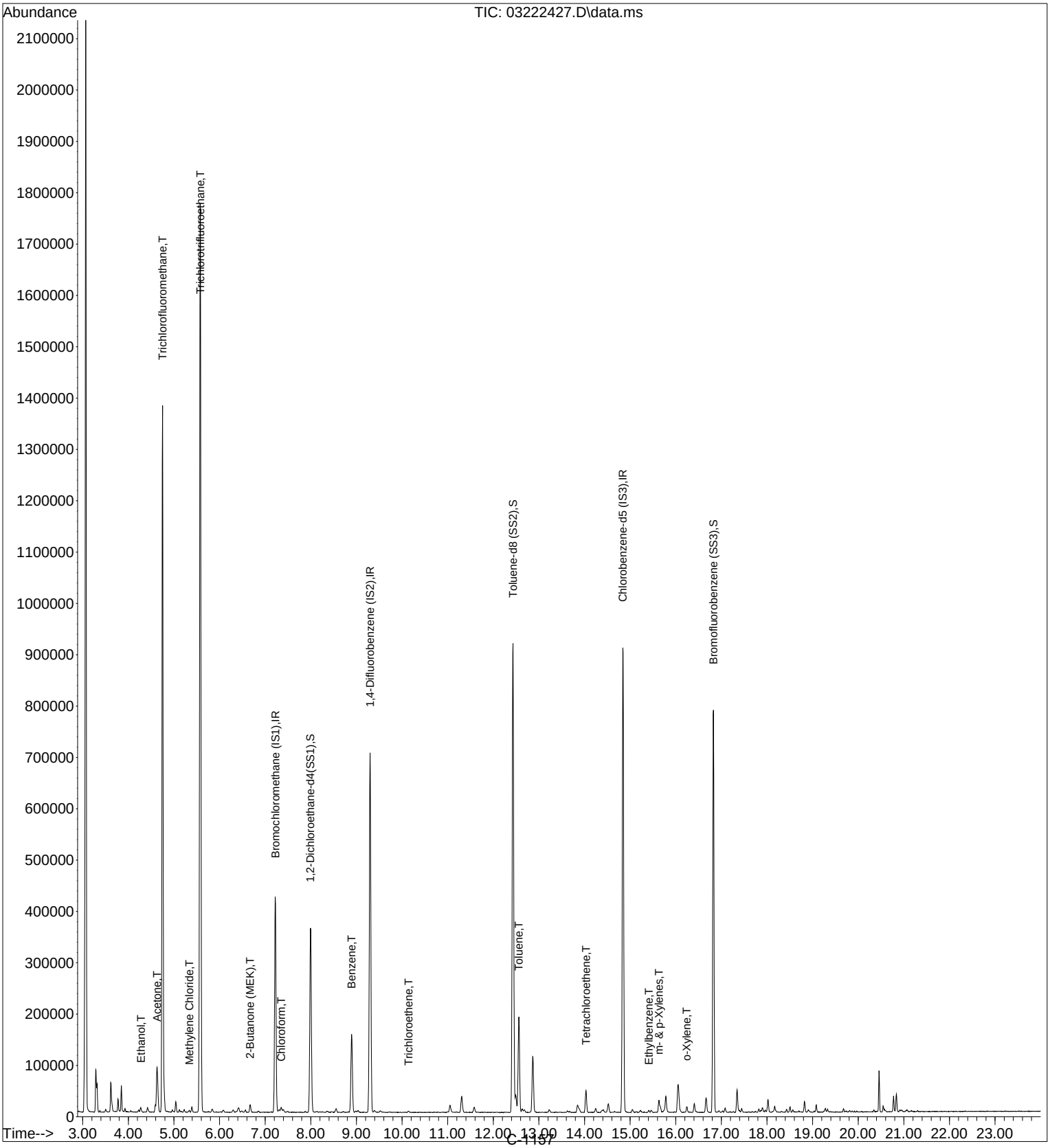
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	168905	2.909 ng	99
59) 2-Hexanone	12.92	43	1133	N.D.	
60) Dibromochloromethane	13.07	129	372	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	15231	0.853 ng	99
65) Chlorobenzene	14.90	112	602	N.D.	
66) Ethylbenzene	15.41	91	4082	0.061 ng	99
67) m- & p-Xylenes	15.63	91	20341	0.369 ng	98
68) Bromoform	15.67	173	504	N.D.	
69) Styrene	16.10	104	1654	N.D.	
70) o-Xylene	16.24	91	7866	0.145 ng	98
71) n-Nonane	16.66	43	838	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	291	N.D.	
74) Cumene	17.03	105	790	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1078	N.D.	
77) 3-Ethyltoluene	17.03	105	790	No Calib #	
78) 4-Ethyltoluene	17.86	105	1160	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	623	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	790	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	2837	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	535	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	569	N.D.	
87) sec-Butylbenzene	18.74	105	824	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1488	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	790	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	377	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	663	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	647	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1030	N.D.	
100) n-Butylbenzene	19.39	91	586	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222427.D Vial: 7
Acq On : 22 Mar 2024 20:15 Operator: SC
Sample : P2400922-031Dil (40mL) Inst : MS09
Misc : S37-02202408

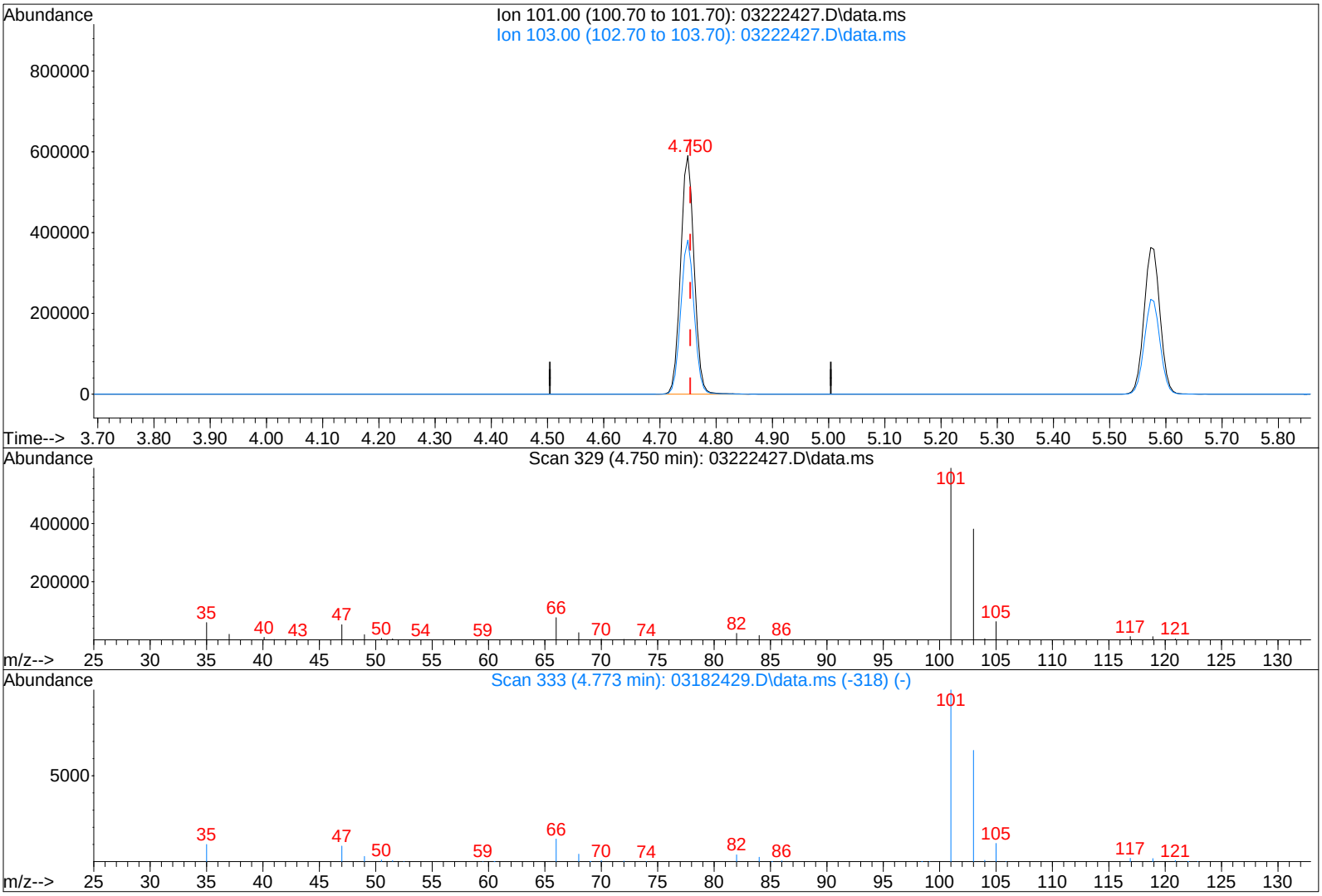
Quant Time: Mar 25 14:31:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222427.D Vial: 7
Acq On : 22 Mar 2024 20:15 Operator: SC
Sample : P2400922-031Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:14 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222427.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.005) 31.82ng

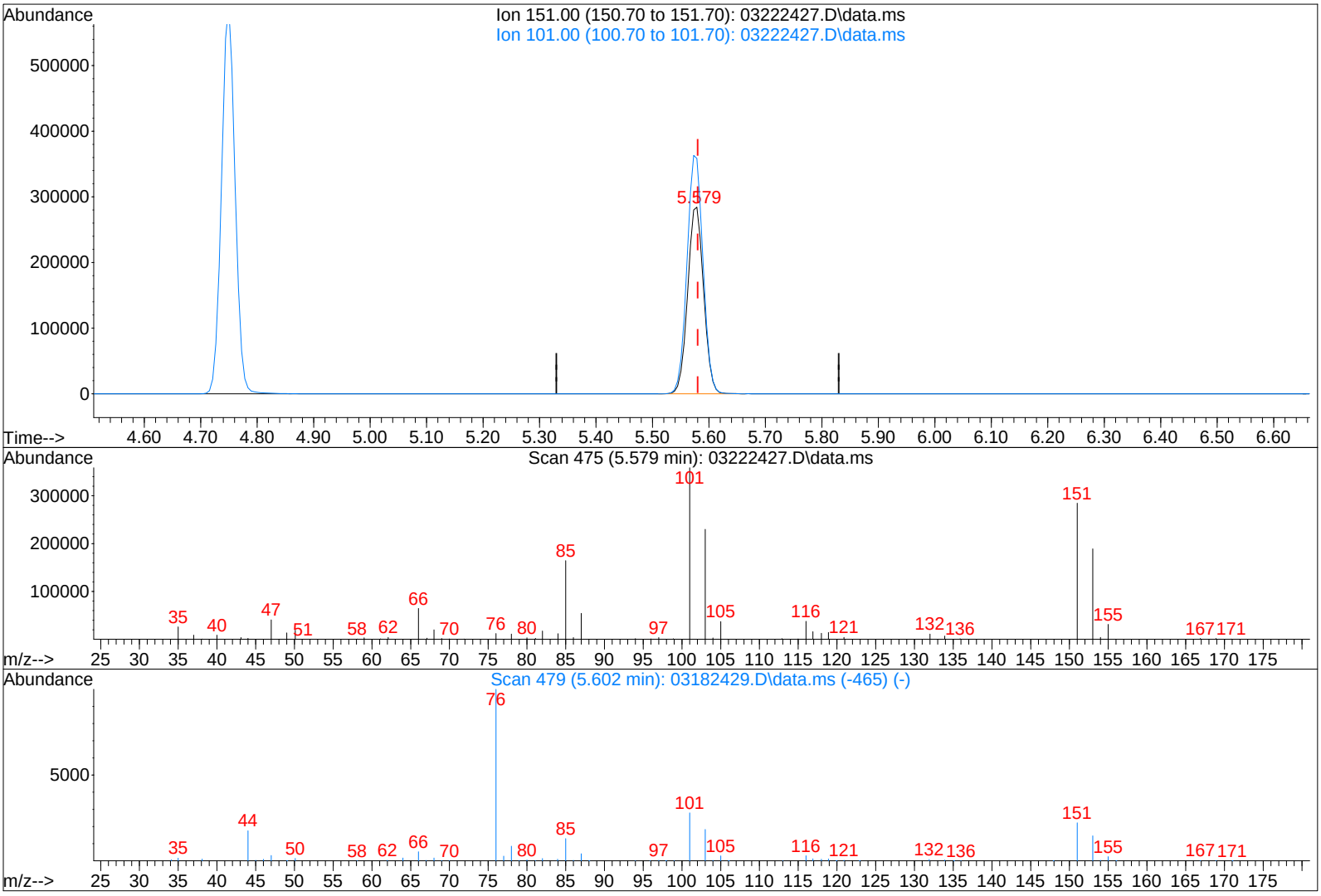
response 984055

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222427.D Vial: 7
Acq On : 22 Mar 2024 20:15 Operator: SC
Sample : P2400922-031Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:14 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222427.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.001) 42.82ng

response 558112

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	128.17
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202432.D
Acq On : 20 Mar 2024 22:38
Operator : SC
Sample : P2400922-031 (80mL)
Misc : S37-02202408
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202432.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.279	65	70	72	rBV	160512	219305	3.09%	1.483%
2	3.308	72	75	83	rVB	296067	495104	6.99%	3.347%
3	3.495	102	108	116	rVB3	10471	16323	0.23%	0.110%
4	3.609	122	128	139	rBV3	94986	181958	2.57%	1.230%
5	3.768	151	156	162	rBV	44128	57107	0.81%	0.386%
6	3.836	163	168	175	rVB	94561	123523	1.74%	0.835%
7	3.921	180	183	188	rVB2	10563	12466	0.18%	0.084%
8	4.216	231	235	239	rBV2	8863	14046	0.20%	0.095%
9	4.267	239	244	252	rVB2	19927	30916	0.44%	0.209%
10	4.420	263	271	281	rBV	15524	34272	0.48%	0.232%
11	4.625	296	307	320	rBV	163247	415420	5.86%	2.809%
12	4.750	320	329	343	rBV	2712534	4763101	67.20%	32.202%
13	4.954	361	365	373	rBV4	6324	15004	0.21%	0.101%
14	5.034	373	379	386	rVB	37971	62860	0.89%	0.425%
15	5.119	389	394	398	rBV3	9166	15754	0.22%	0.107%
16	5.221	406	412	417	rVB	9390	15815	0.22%	0.107%
17	5.391	437	442	448	rBV2	20697	33287	0.47%	0.225%
18	5.573	463	474	498	rVB	3529395	7087905	100.00%	47.919%
19	5.834	513	520	529	rVB2	11269	25149	0.35%	0.170%
20	6.073	554	562	568	rVB4	7171	16310	0.23%	0.110%
21	6.300	595	602	608	rBV	8733	19147	0.27%	0.129%
22	6.414	615	622	627	rBV2	12801	31146	0.44%	0.211%
23	6.533	627	643	646	rBV	37575	119112	1.68%	0.805%
24	6.663	660	666	674	rBV	29772	55823	0.79%	0.377%
25	6.851	688	699	707	rVB3	4595	11411	0.16%	0.077%
26	7.226	754	765	774	rBV	370908	830273	11.71%	5.613%
27	7.305	774	779	782	rVV5	9996	21302	0.30%	0.144%
28	7.350	782	787	792	rVV2	18580	44836	0.63%	0.303%
29	7.396	792	795	804	rVB5	10552	22685	0.32%	0.153%

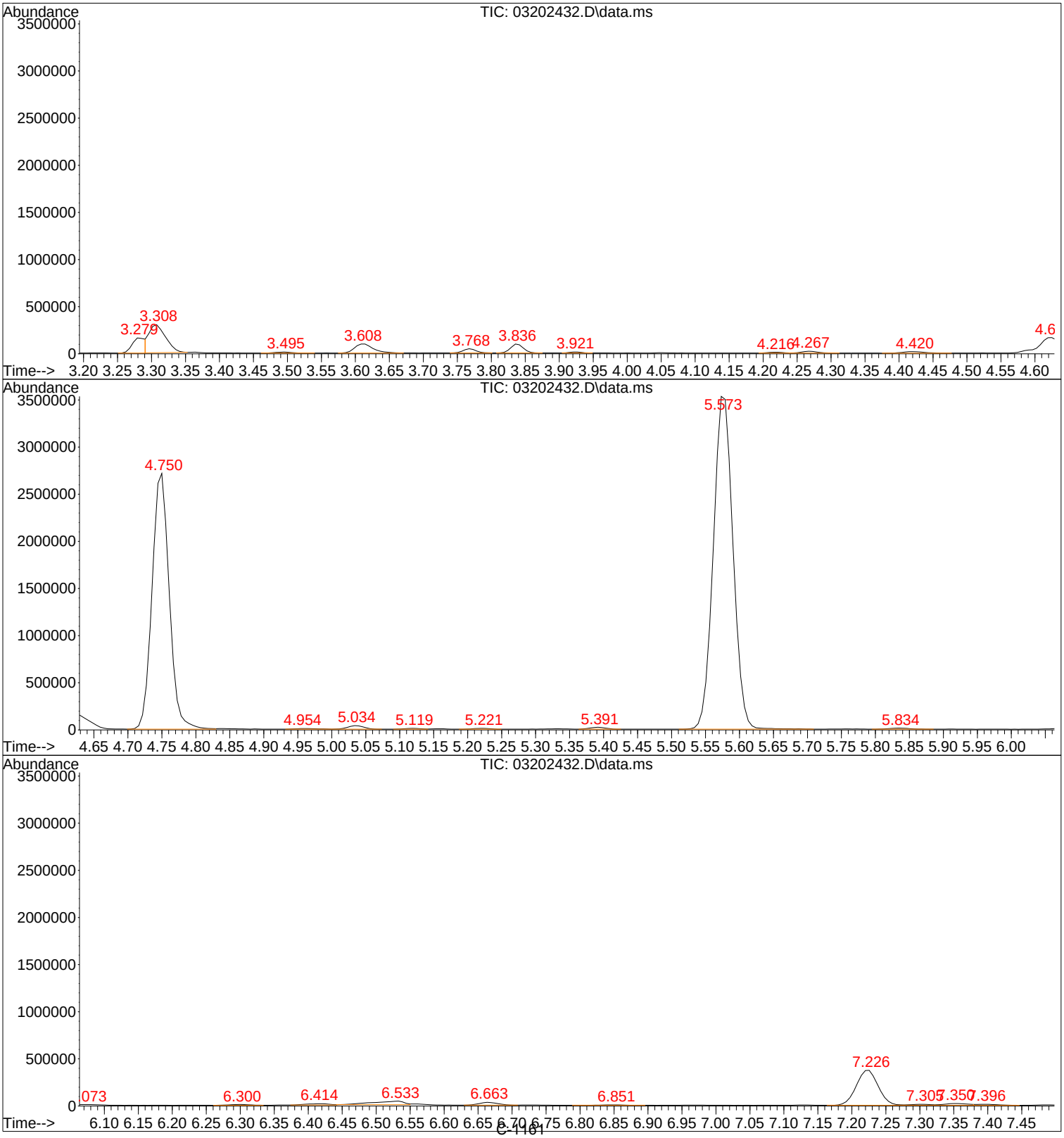
Sum of corrected areas: 14791360

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202432.D
Acq On : 20 Mar 2024 22:38
Operator : SC
Sample : P2400922-031 (80mL)
Misc : S37-02202408
ALS Vial : 16 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202432.D
Acq On : 20 Mar 2024 22:388
Operator : SCC
Sample : P2400922-031 (80mL))
Misc : S37-022024088
ALS Vial : 16 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:43:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	139614	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	593859	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	136608	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	292951	12.826 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%			
57) Toluene-d8 (SS2)	12.43	98	679285	12.385 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	16.83	174	241779	12.503 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.38	85	17224m	0.601 ng		
4) Chloromethane	3.51	50	467	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	298	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	3679	0.273 ng		95
11) Acetonitrile	4.43	41	469	N.D.		
12) Acrolein	4.54	56	959	0.099 ng		99
13) Acetone	4.64	58	7458	0.726 ng		100
14) Trichlorofluoromethane	4.75	101	2073463	74.810 ng		100
15) 2-Propanol (Isopropanol)	4.84	45	1470	N.D.		
16) Acrylonitrile	4.98	53	379	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.34	84	901	0.060 ng	#	79
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	869125	74.391 ng		99
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.67	72	1236	0.147 ng	#	56
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.35	87	373	N.D.		
30) Ethyl Acetate	7.30	61	857	0.170 ng		87
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	4800	0.198 ng		96
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.10	62	118	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.55	61	467	No Calib	#	
40) 1-Butanol	8.81	56	2023	No Calib	#	
41) Benzene	8.90	78	1595	N.D.		
42) Carbon Tetrachloride	9.07	117	880	N.D.		
43) Cyclohexane	9.29	84	614	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	609	N.D.		
47) Trichloroethene	10.14	130	1883	0.131 ng		86
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:43:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

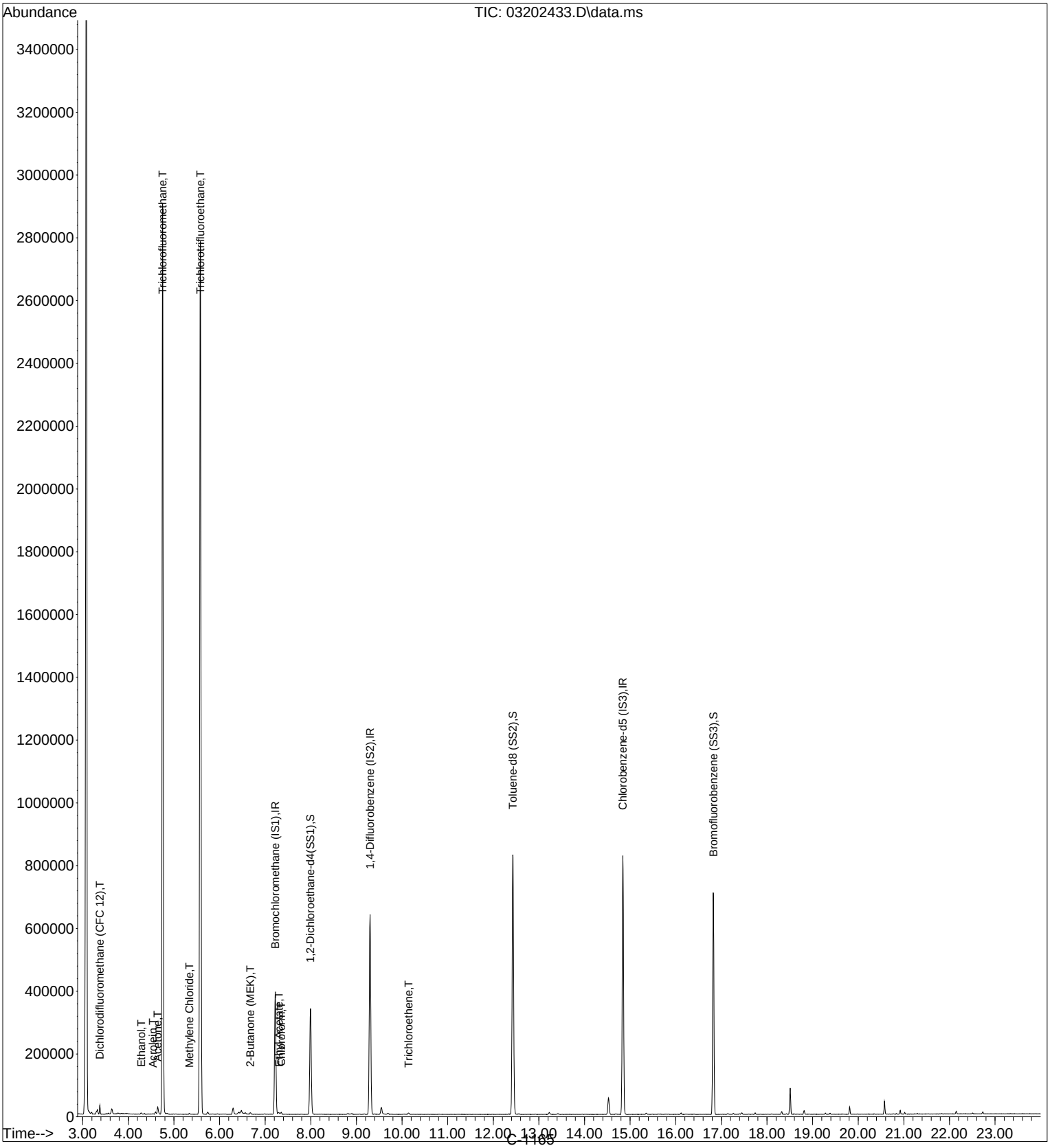
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2390	N.D.		
59) 2-Hexanone	12.92	43	931	N.D.		
60) Dibromochloromethane	13.07	129	216	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	360	N.D.		
65) Chlorobenzene	14.90	112	405	N.D.		
66) Ethylbenzene	15.41	91	866	N.D.		
67) m- & p-Xylenes	15.63	91	1504	N.D.		
68) Bromoform	15.67	173	400	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	498	N.D.		
71) n-Nonane	16.61	43	198	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.20	83	205	N.D.		
74) Cumene	17.03	105	678	N.D.		
75) alpha-Pinene	17.53	93	177	N.D.		
76) n-Propylbenzene	17.68	91	757	N.D.		
77) 3-Ethyltoluene	17.03	105	678	No Calib		#
78) 4-Ethyltoluene	17.86	105	445	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	266	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	678	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	426	N.D.		
83) n-Decane	17.14	58	186	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	523	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	338	N.D.		
87) sec-Butylbenzene	18.74	105	718	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	673	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	678	No Calib		#
90) 1,2-Dichlorobenzene	19.04	146	365	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	508	N.D.		
95) Naphthalene	0.00	128	0	N.D.	d	
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	517	N.D.		
98) Cyclohexanone	15.35	55	1049	No Calib		#
99) tert-Butylbenzene	18.42	119	713	N.D.		
100) n-Butylbenzene	19.39	91	626	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:43:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 11:43:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

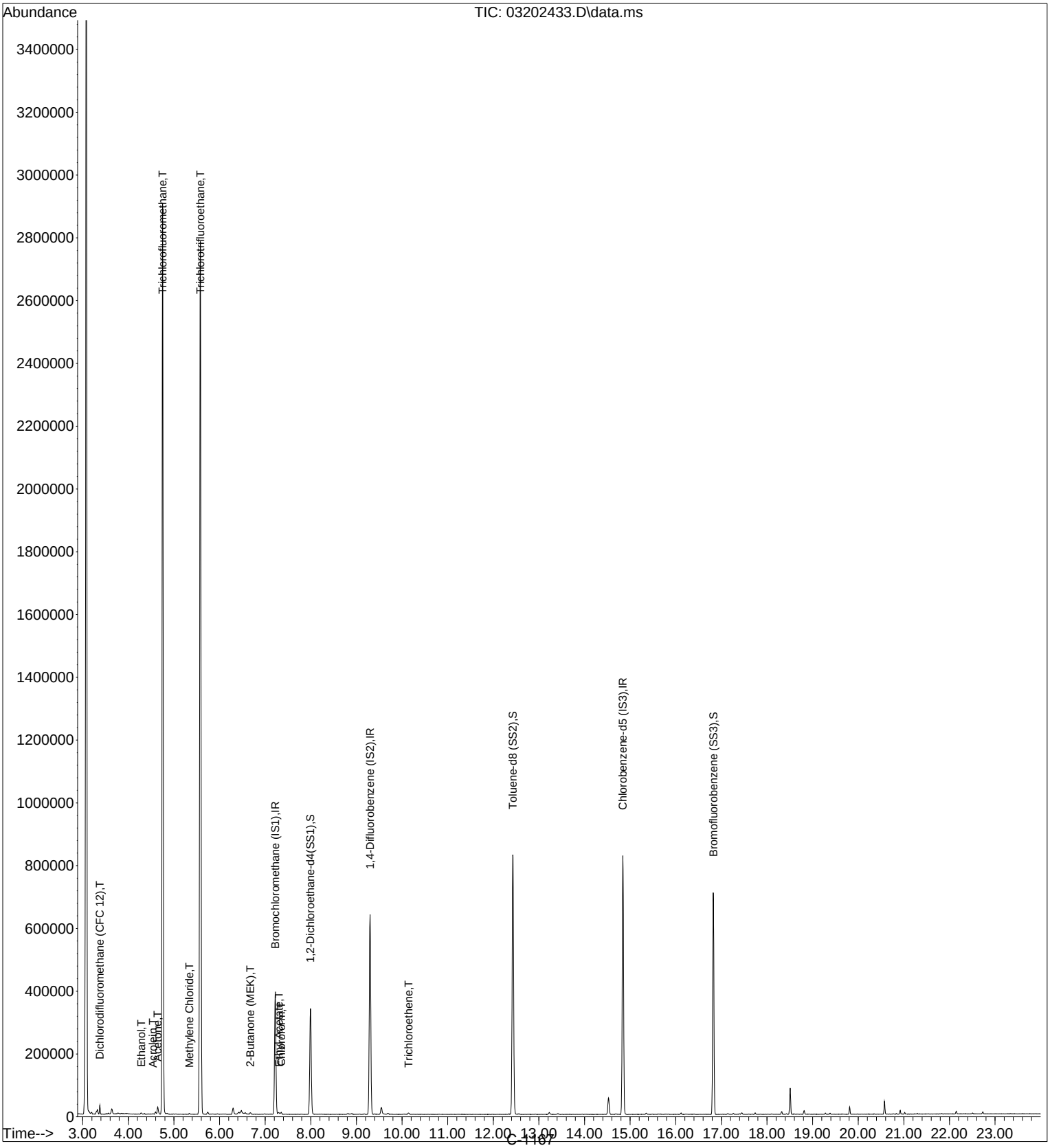
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	139614	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	593859	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	136608	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	292951	12.826	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	12.43	98	679285	12.385	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
73) Bromofluorobenzene (SS3)	16.83	174	241779	12.503	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	17224m	0.601	ng		
10) Ethanol	4.28	45	3679	0.273	ng		95
12) Acrolein	4.54	56	959	0.099	ng		99
13) Acetone	4.64	58	7458	0.726	ng		100
14) Trichlorofluoromethane	4.75	101	2073463	74.810	ng		100
19) Methylene Chloride	5.34	84	901	0.060	ng	#	79
21) Trichlorotrifluoroethane	5.58	151	869125	74.391	ng		99
27) 2-Butanone (MEK)	6.67	72	1236	0.147	ng	#	56
30) Ethyl Acetate	7.30	61	857	0.170	ng		87
32) Chloroform	7.35	83	4800	0.198	ng		96
47) Trichloroethene	10.14	130	1883	0.131	ng		86

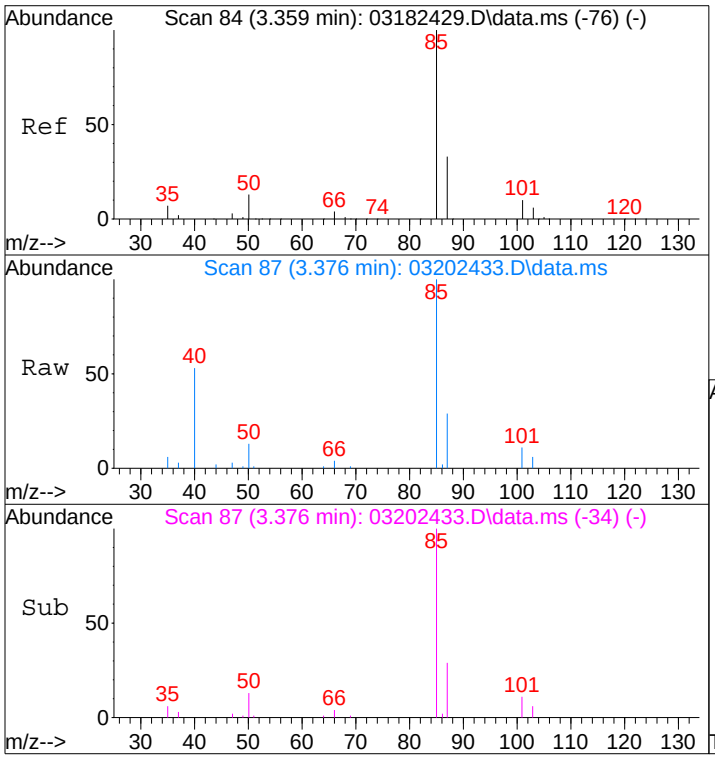
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:43:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

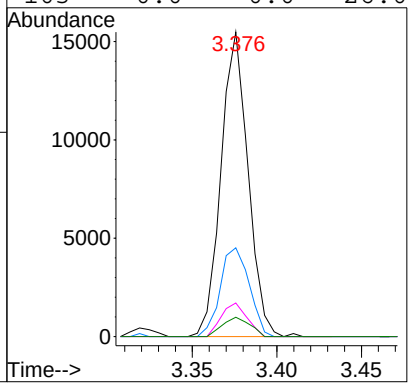


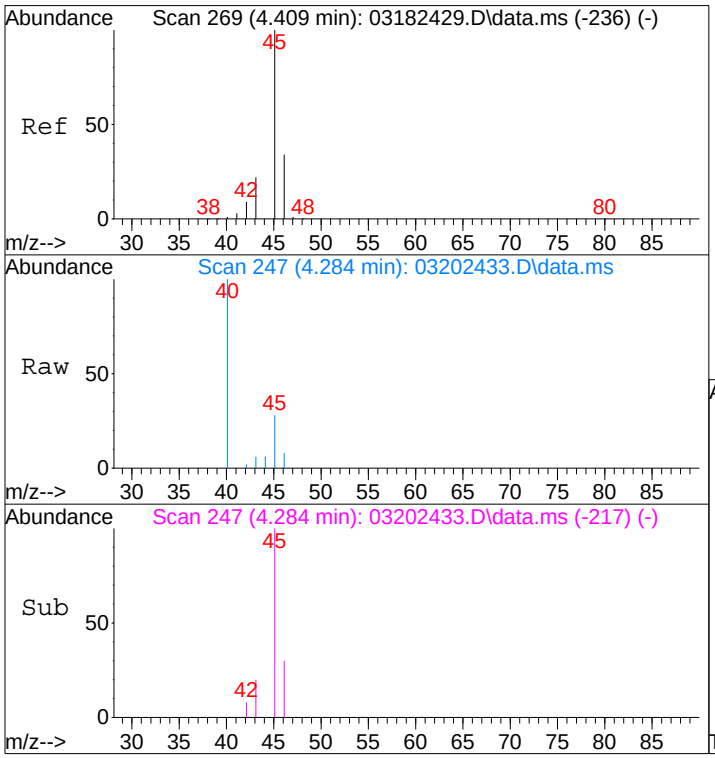


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.053 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 85 Resp: 17224

Ion	Ratio	Lower	Upper
85	100		
87	0.0	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

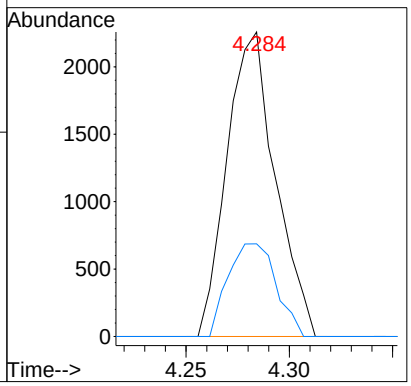


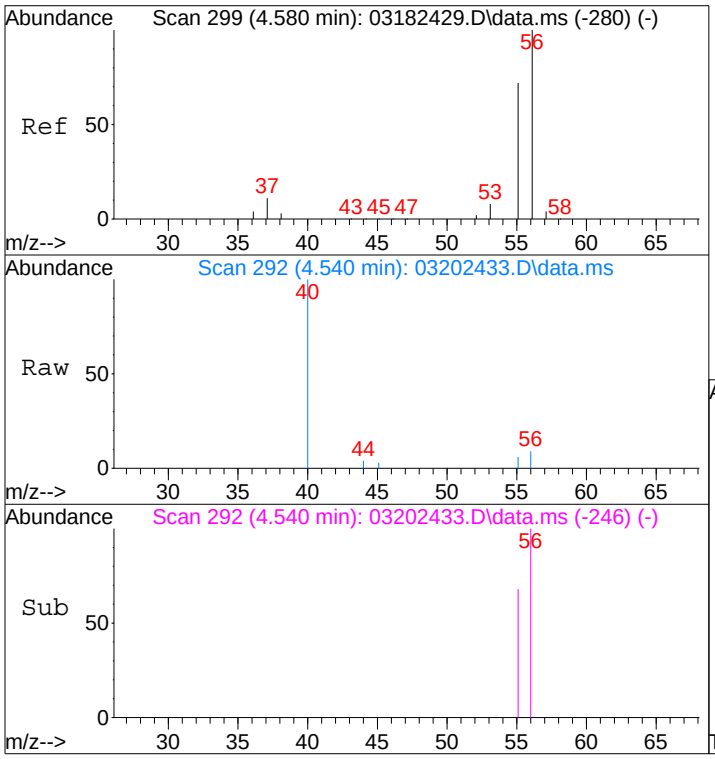


#10
Ethanol
Concen: 0.27 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.077 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 45 Resp: 3679

Ion	Ratio	Lower	Upper
45	100		
46	30.3	13.3	53.3

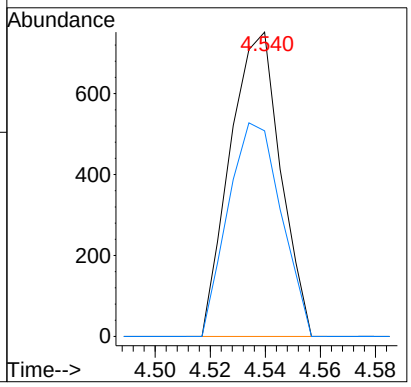


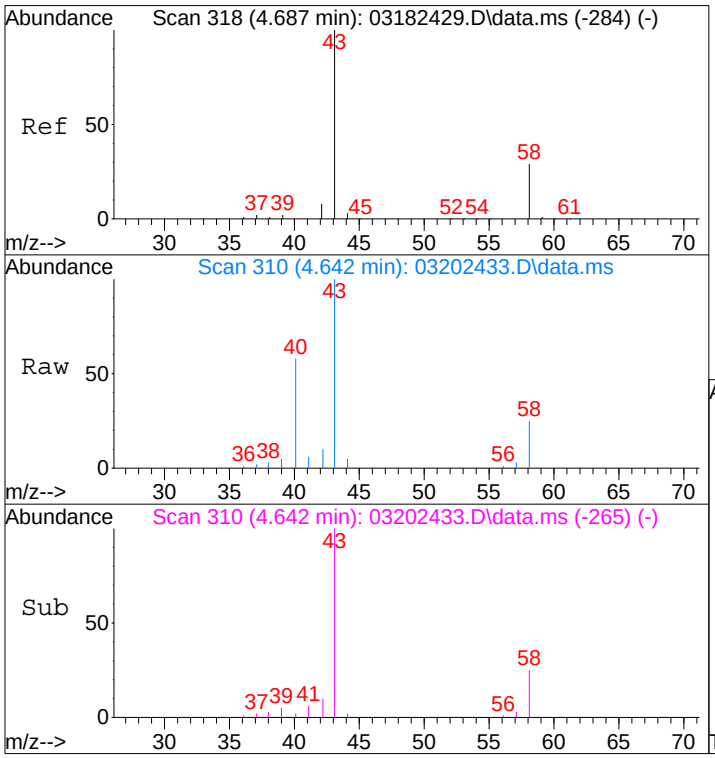


#12
Acrolein
Concen: 0.10 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.010 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 56 Resp: 959

Ion	Ratio	Lower	Upper
56	100		
55	73.7	54.9	94.9

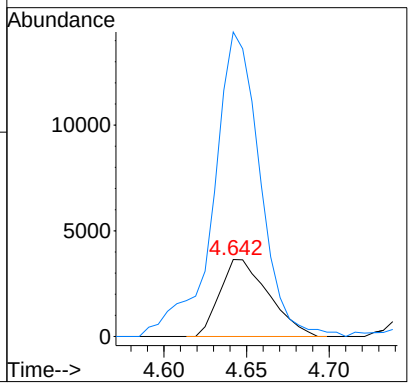


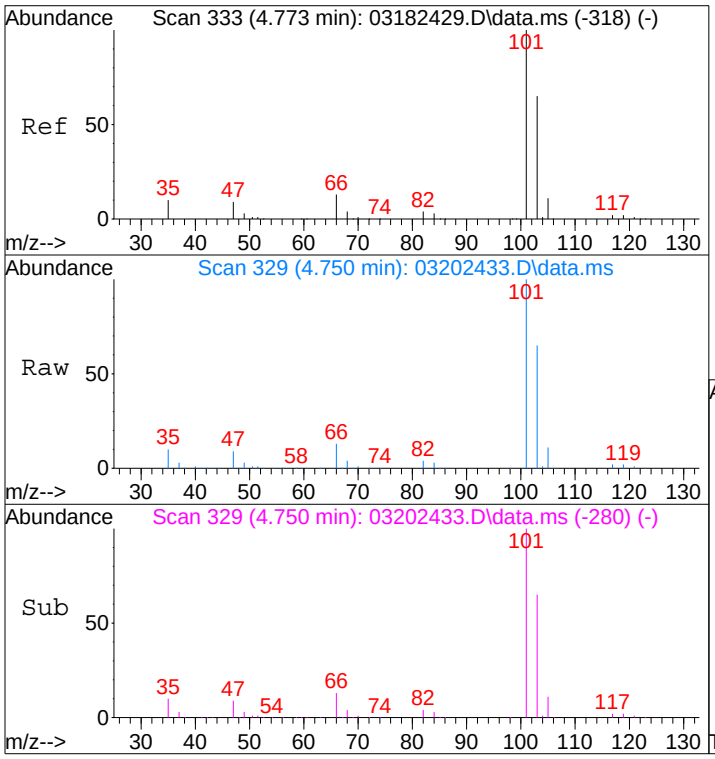


#13
Acetone
Concen: 0.73 ng
RT: 4.64 min Scan# 310
Delta R.T. 0.005 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 58 Resp: 7458

Ion	Ratio	Lower	Upper
58	100		
43	380.3	350.1	410.1

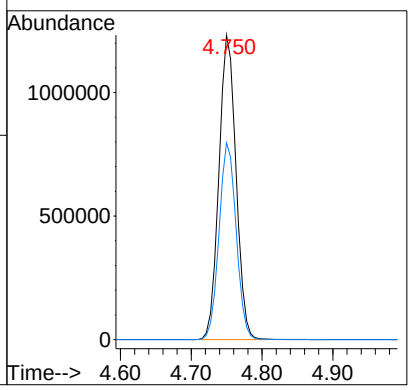


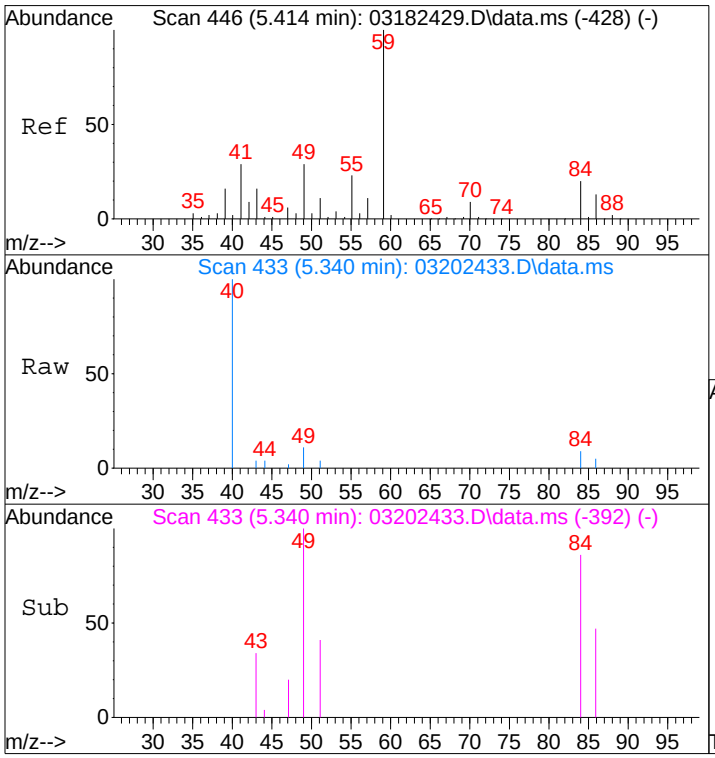


#14
Trichlorofluoromethane
Concen: 74.81 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion:101 Resp: 2073463

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

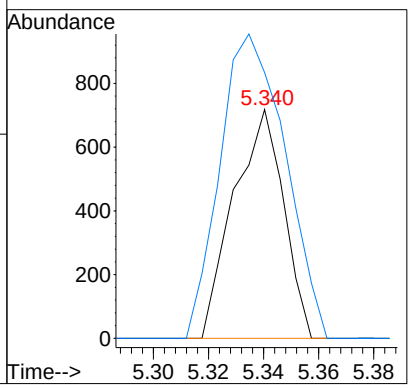


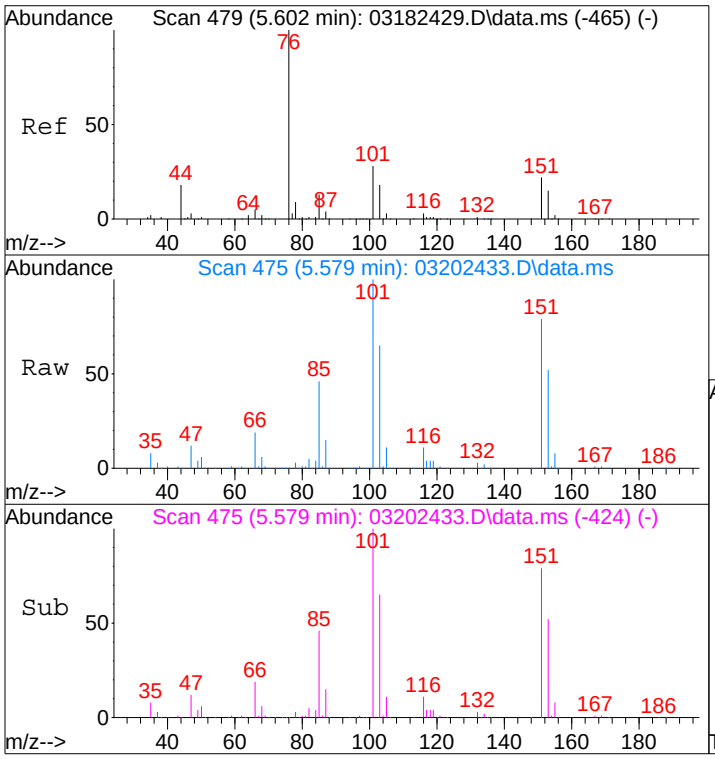


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 84 Resp: 901

Ion	Ratio	Lower	Upper
84	100		
49	174.5	122.9	172.9#

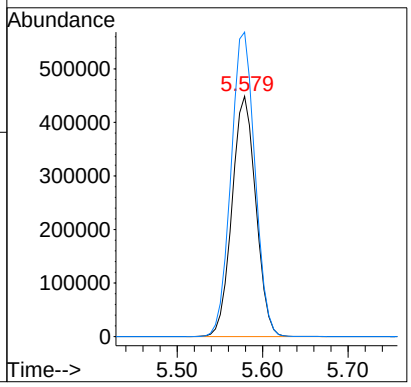


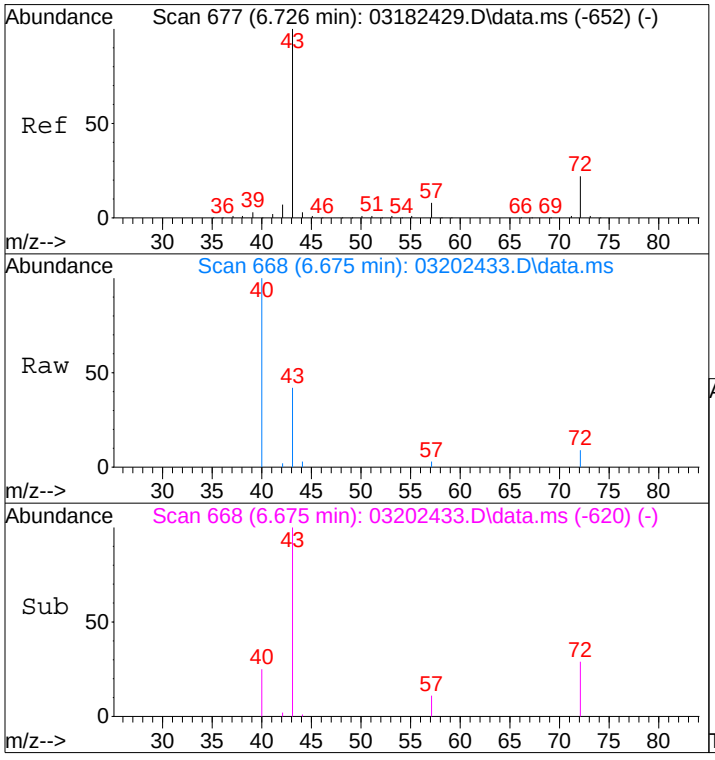


#21
Trichlorotrifluoroethane
Concen: 74.39 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion:151 Resp: 869125

Ion	Ratio	Lower	Upper
151	100		
101	127.7	106.4	146.4

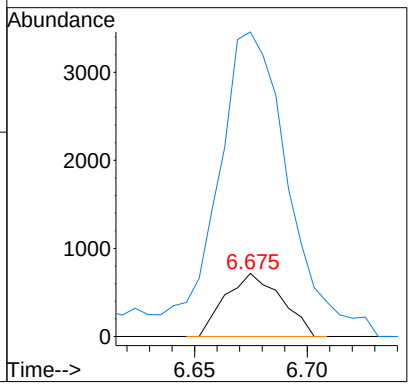


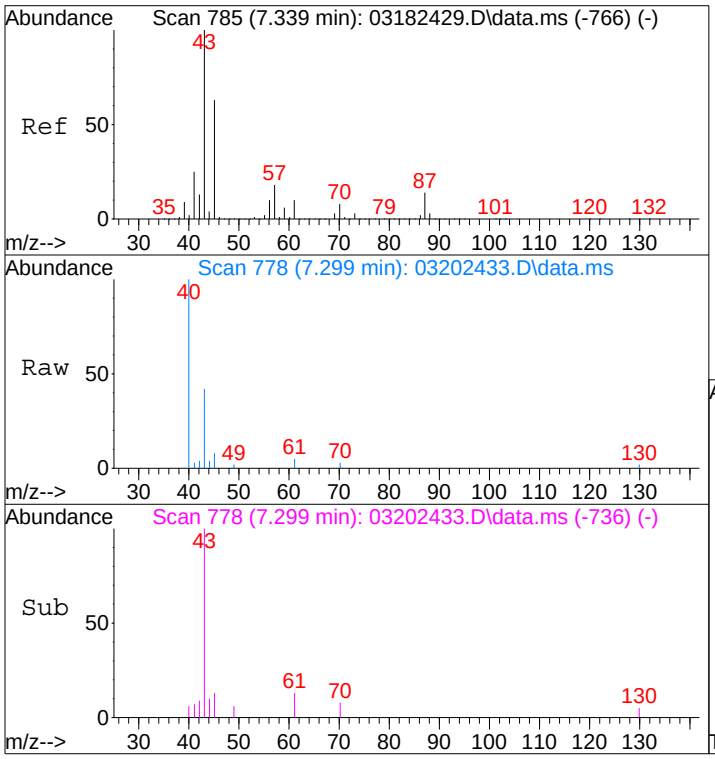


#27
2-Butanone (MEK)
Concen: 0.15 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.022 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 72 Resp: 1236

Ion	Ratio	Lower	Upper
72	100		
43	608.4	468.6	508.6#

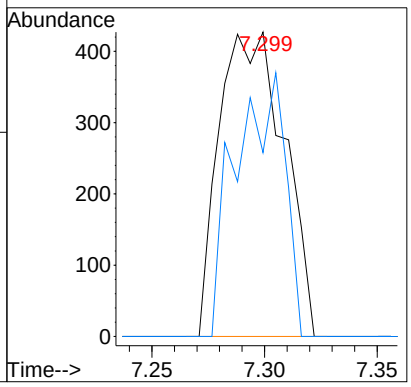


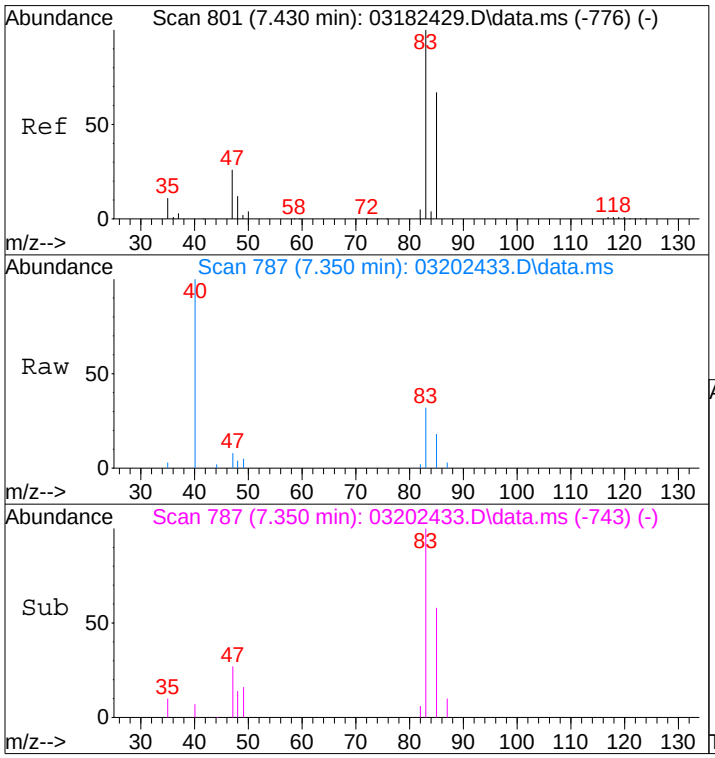


#30
Ethyl Acetate
Concen: 0.17 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.040 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 61 Resp: 857

Ion	Ratio	Lower	Upper
61	100		
70	66.0	57.3	97.3

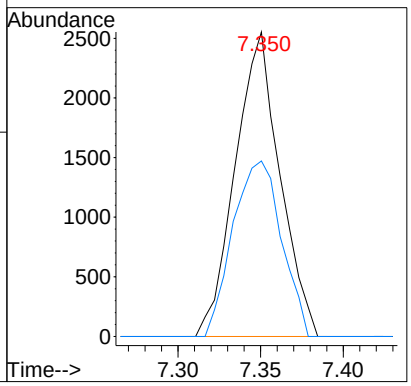


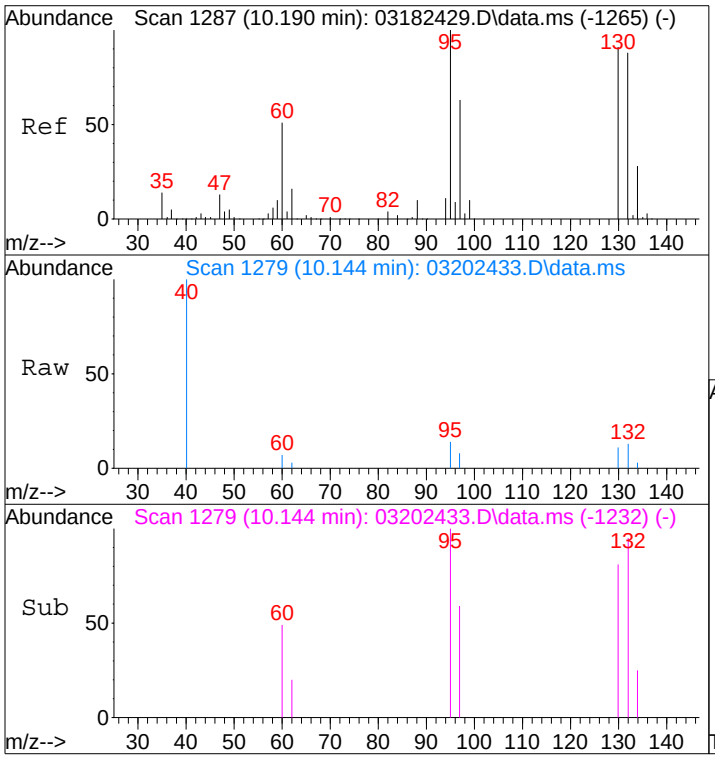


#32
Chloroform
Concen: 0.20 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion: 83 Resp: 4800

Ion	Ratio	Lower	Upper
83	100		
85	62.7	46.1	86.1

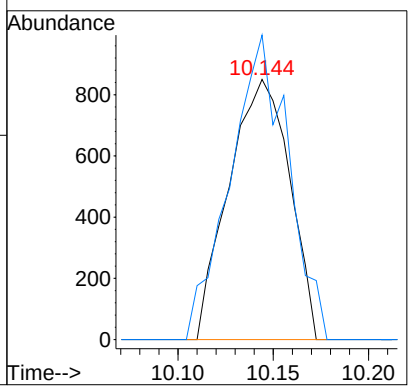




#47
Trichloroethene
Concen: 0.13 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03202433.D
Acq: 20 Mar 2024 23:10

Tgt Ion:130 Resp: 1883

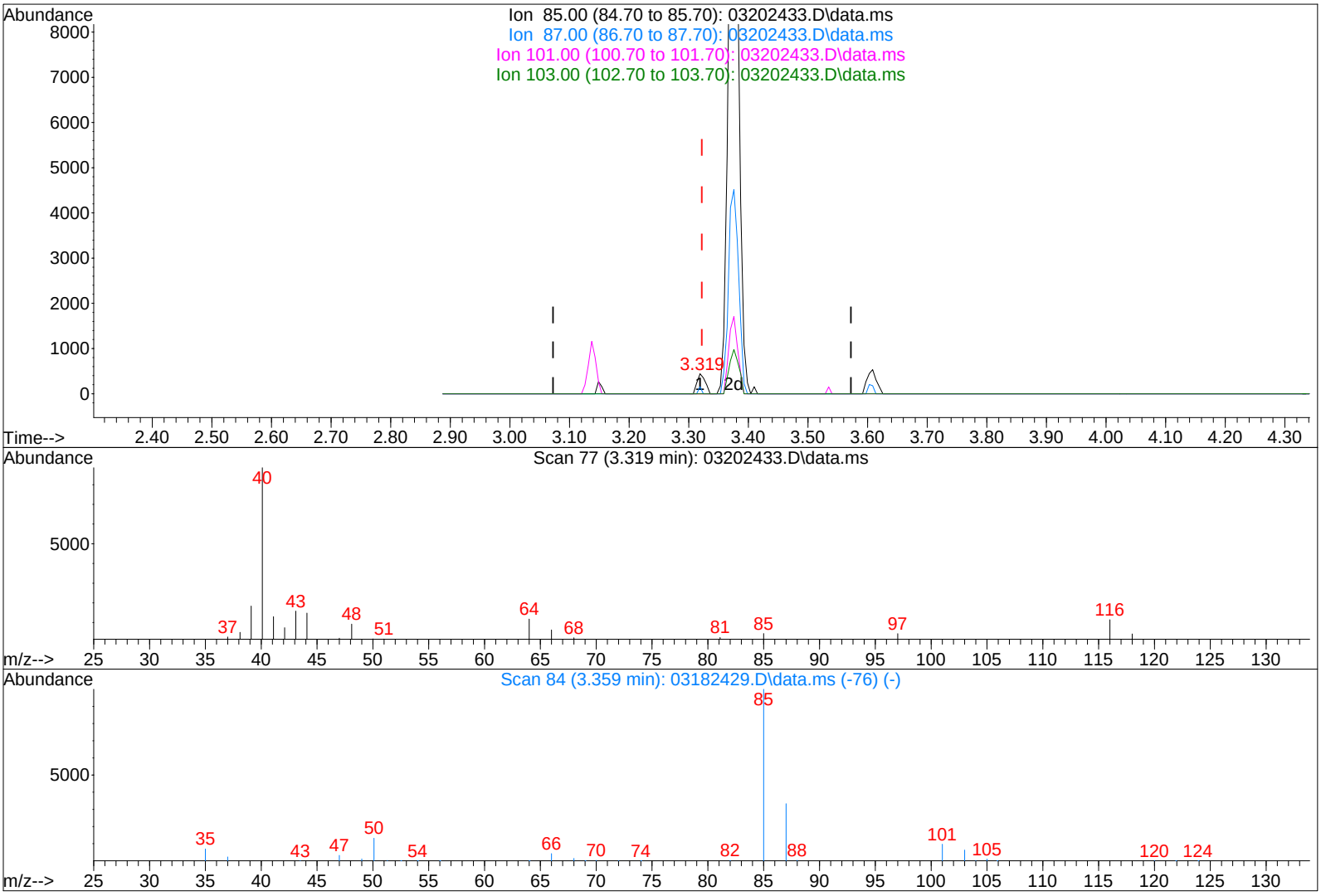
Ion	Ratio	Lower	Upper
130	100		
132	111.8	77.5	117.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202433.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.003) 0.01ng

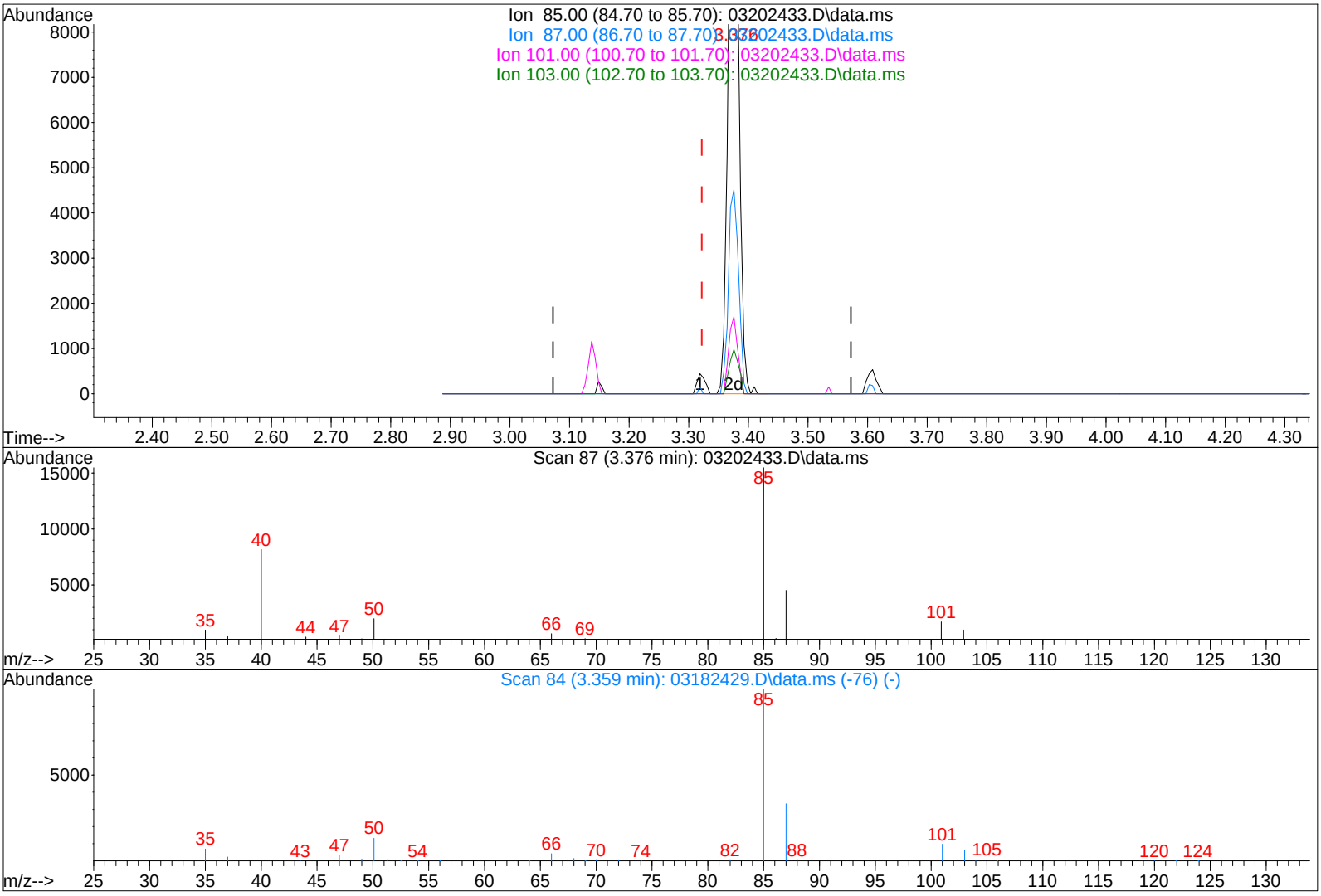
response 415

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202433.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.053) 0.60ng m

response 17224

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

MP 3/25/24

LH 3/25/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 13:39:14 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

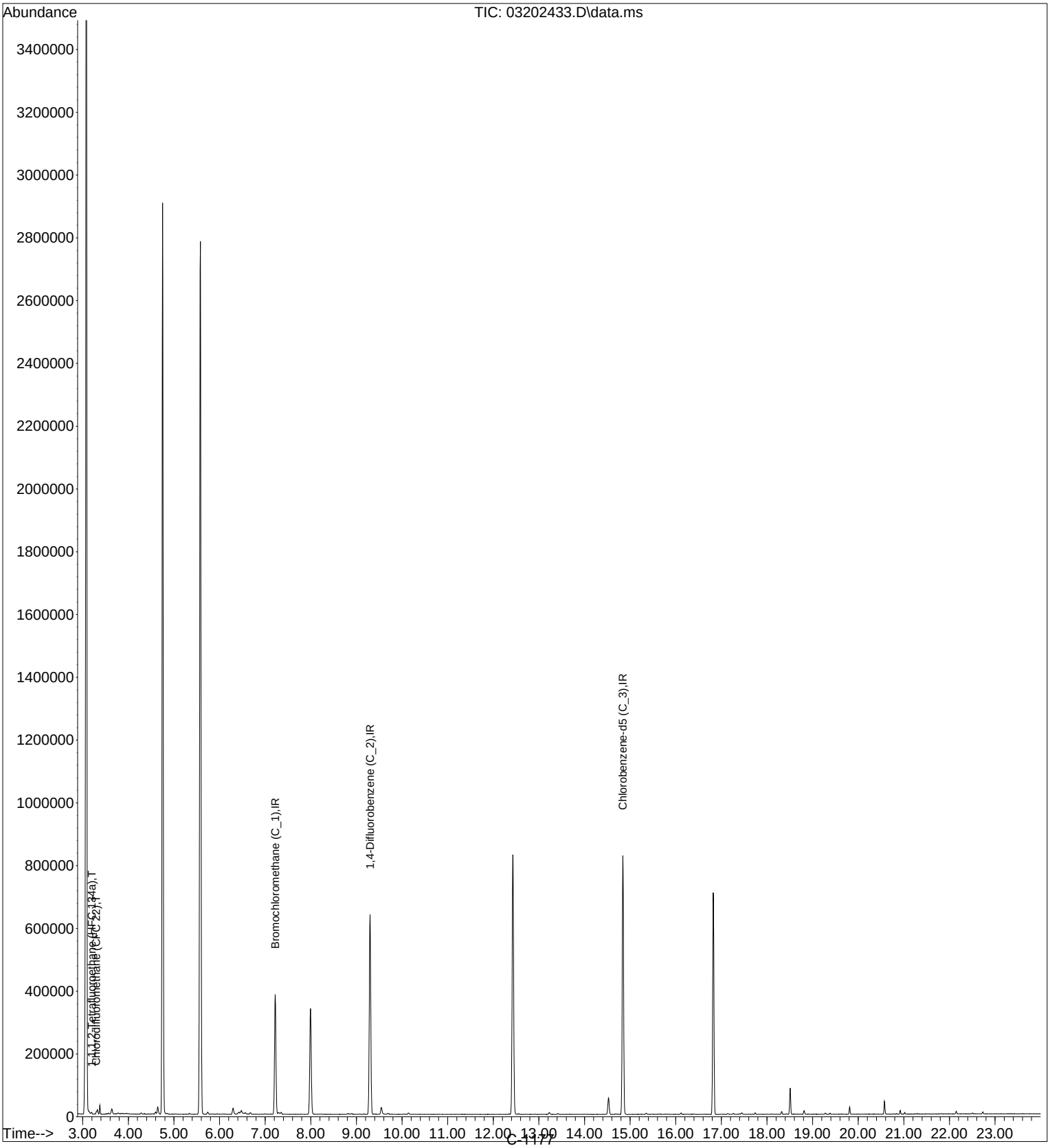
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	139614	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	593977	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	136608	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	146	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1451	0.113	ng	#	1
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.30	67	804	0.196	ng	#	69
6) 1-Chloro-1,1-Difluoroe...	3.51	65	526	N.D.			
7) Dichlorofluoromethane ...	4.22	67	197	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	62	N.D.			
10) 2-Methylbutane	4.65	57	1038	N.D.			
11) Methyl Acetate	5.35	43	502	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.79	174	60	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	503	N.D.			
27) 4-Chlorotoluene	17.68	91	757	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	114	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202433.D Vial: 6
Acq On : 20 Mar 2024 23:10 Operator: SC
Sample : P2400922-032 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:39:14 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202433.D
Acq On : 20 Mar 2024 23:10
Operator : SC
Sample : P2400922-032 (400mL)
Misc : S37-02202408
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202433.D\data.ms

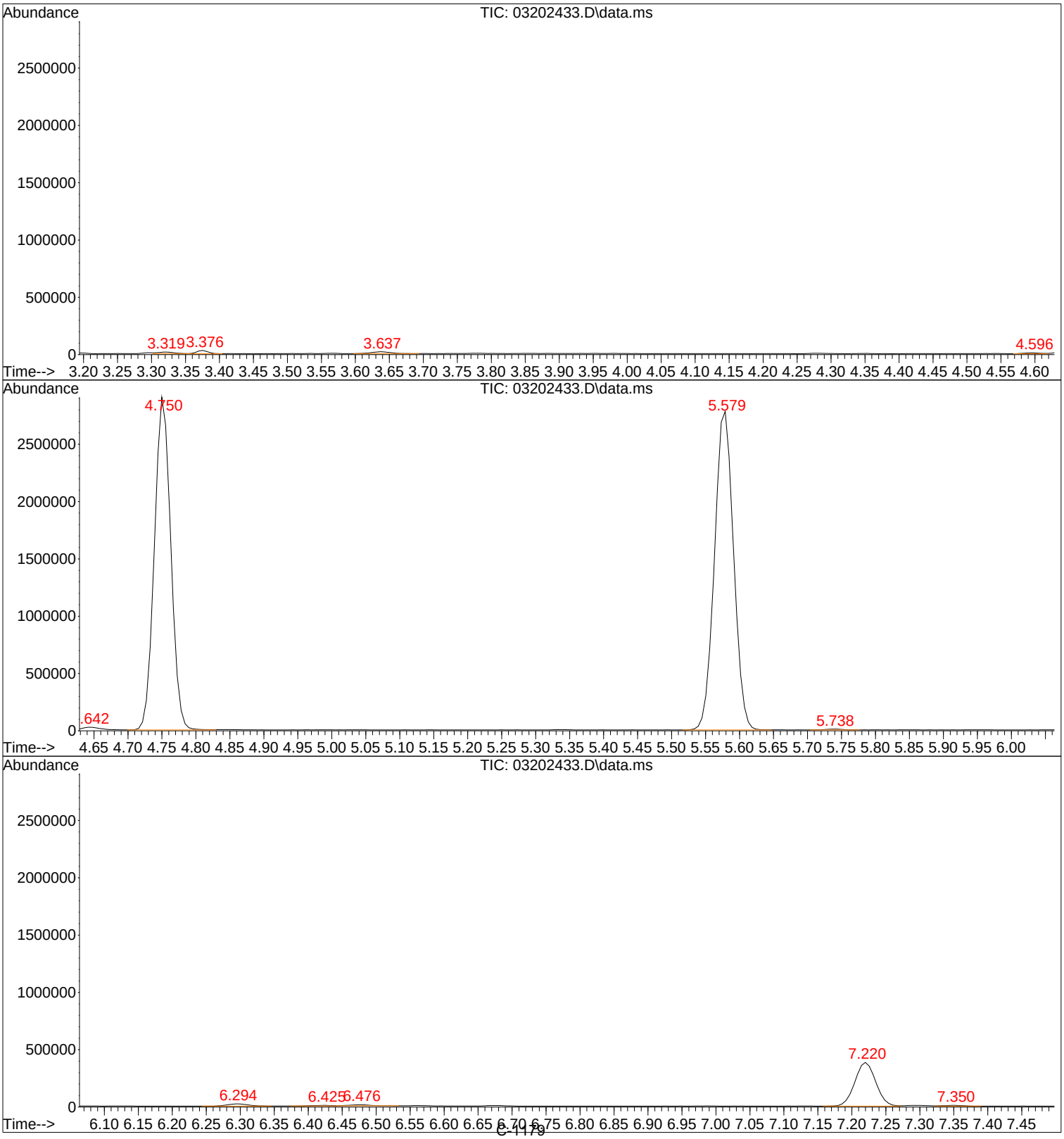
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	74	77	83	rVB3	13898	21438	0.40%	0.189%
2	3.376	83	87	92	rVB	28378	32232	0.59%	0.284%
3	3.637	126	133	143	rBV2	16191	31777	0.59%	0.280%
4	4.596	297	302	306	rBV	7232	13033	0.24%	0.115%
5	4.642	306	310	320	rVB	23341	42042	0.78%	0.371%
6	4.750	320	329	343	rBV	2902886	4861858	89.70%	42.865%
7	5.579	464	475	487	rBV	2780239	5419900	100.00%	47.785%
8	5.738	497	503	510	rBV2	6710	12530	0.23%	0.110%
9	6.294	592	601	610	rBV	19877	42932	0.79%	0.379%
10	6.425	615	624	627	rBV4	6179	14060	0.26%	0.124%
11	6.476	627	633	643	rVB	9924	23016	0.42%	0.203%
12	7.220	753	764	773	rBV	381323	814713	15.03%	7.183%
13	7.350	782	787	794	rVB3	6577	12708	0.23%	0.112%

Sum of corrected areas: 11342239

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202433.D
Acq On : 20 Mar 2024 23:10
Operator : SC
Sample : P2400922-032 (400mL)
Misc : S37-02202408
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202433.D
Acq On : 20 Mar 2024 23:100
Operator : SCC
Sample : P2400922-032 (400mL))
Misc : S37-022024088
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:47:34 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	138857	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	595532	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	136524	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	291139	12.816	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	12.43	98	677352	12.357	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	16.83	174	241251	12.483	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	3.30	42	2694	0.170	ng	#	81
3) Dichlorodifluoromethan...	3.37	85	16949m	0.595	ng		
4) Chloromethane	3.50	50	940	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	365	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	7920m	0.590	ng		
11) Acetonitrile	4.43	41	867	N.D.			
12) Acrolein	4.53	56	1113	0.116	ng		90
13) Acetone	4.64	58	9017	0.883	ng	#	85
14) Trichlorofluoromethane	4.75	101	1771386	64.259	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	22259	0.547	ng		91
16) Acrylonitrile	4.99	53	492	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	311	N.D.			
19) Methylene Chloride	5.34	84	857	0.058	ng	#	74
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	734427	63.204	ng		99
22) Carbon Disulfide	5.60	76	13703	0.296	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	1008	0.121	ng	#	58
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	2576	0.514	ng		92
31) n-Hexane	7.30	57	185	N.D.			
32) Chloroform	7.35	83	4098	0.170	ng		97
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	21061	No Calib		#	
40) 1-Butanol	8.80	56	2709	No Calib		#	
41) Benzene	8.89	78	3507	0.065	ng		97
42) Carbon Tetrachloride	9.08	117	940	N.D.			
43) Cyclohexane	9.29	84	441	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	477	N.D.			
47) Trichloroethene	10.13	130	1174	0.081	ng		89
48) 1,4-Dioxane	10.13	88	1641	0.175	ng		100
49) 2,2,4-Trimethylpentane...	10.14	57	327	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:47:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

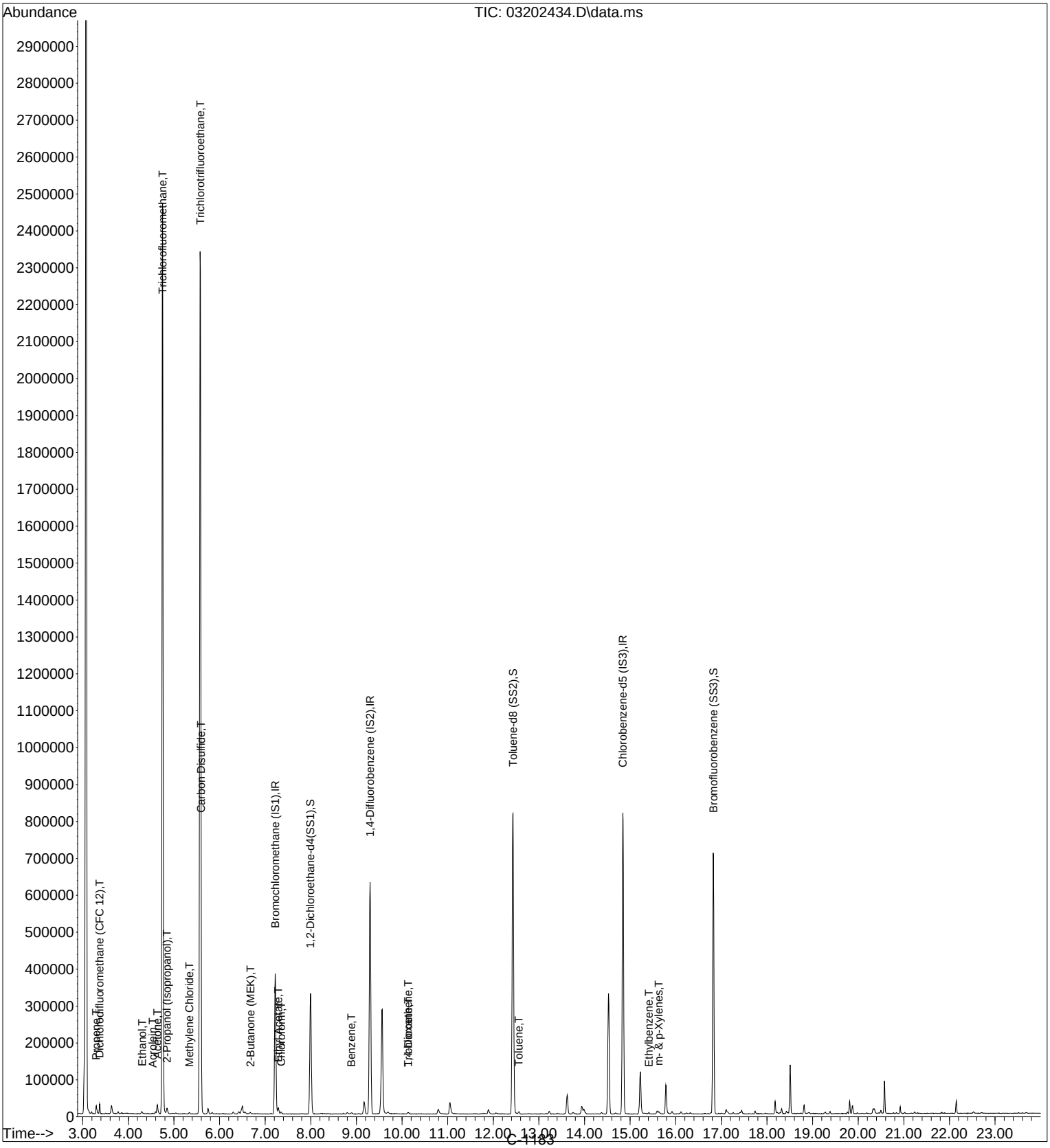
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5785	0.111 ng	100
59) 2-Hexanone	12.92	43	884	N.D.	
60) Dibromochloromethane	13.07	129	272	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	13.93	57	389	N.D.	
64) Tetrachloroethene	14.03	166	483	N.D.	
65) Chlorobenzene	14.89	112	432	N.D.	
66) Ethylbenzene	15.41	91	3044	0.051 ng	93
67) m- & p-Xylenes	15.63	91	4550	0.092 ng	99
68) Bromoform	15.66	173	326	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	1856	N.D.	
71) n-Nonane	16.62	43	674	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	269	N.D.	
74) Cumene	17.03	105	850	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1271	N.D.	
77) 3-Ethyltoluene	17.03	105	850	No Calib #	
78) 4-Ethyltoluene	17.86	105	1084	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	924	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	850	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	2591	N.D.	
83) n-Decane	17.01	58	173	No Calib #	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	426	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	506	N.D.	
87) sec-Butylbenzene	18.74	105	795	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	2273	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	850	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	326	N.D.	
91) d-Limonene	19.09	68	192	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	617	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	488	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1018	N.D.	
100) n-Butylbenzene	19.39	91	899	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:47:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:47:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

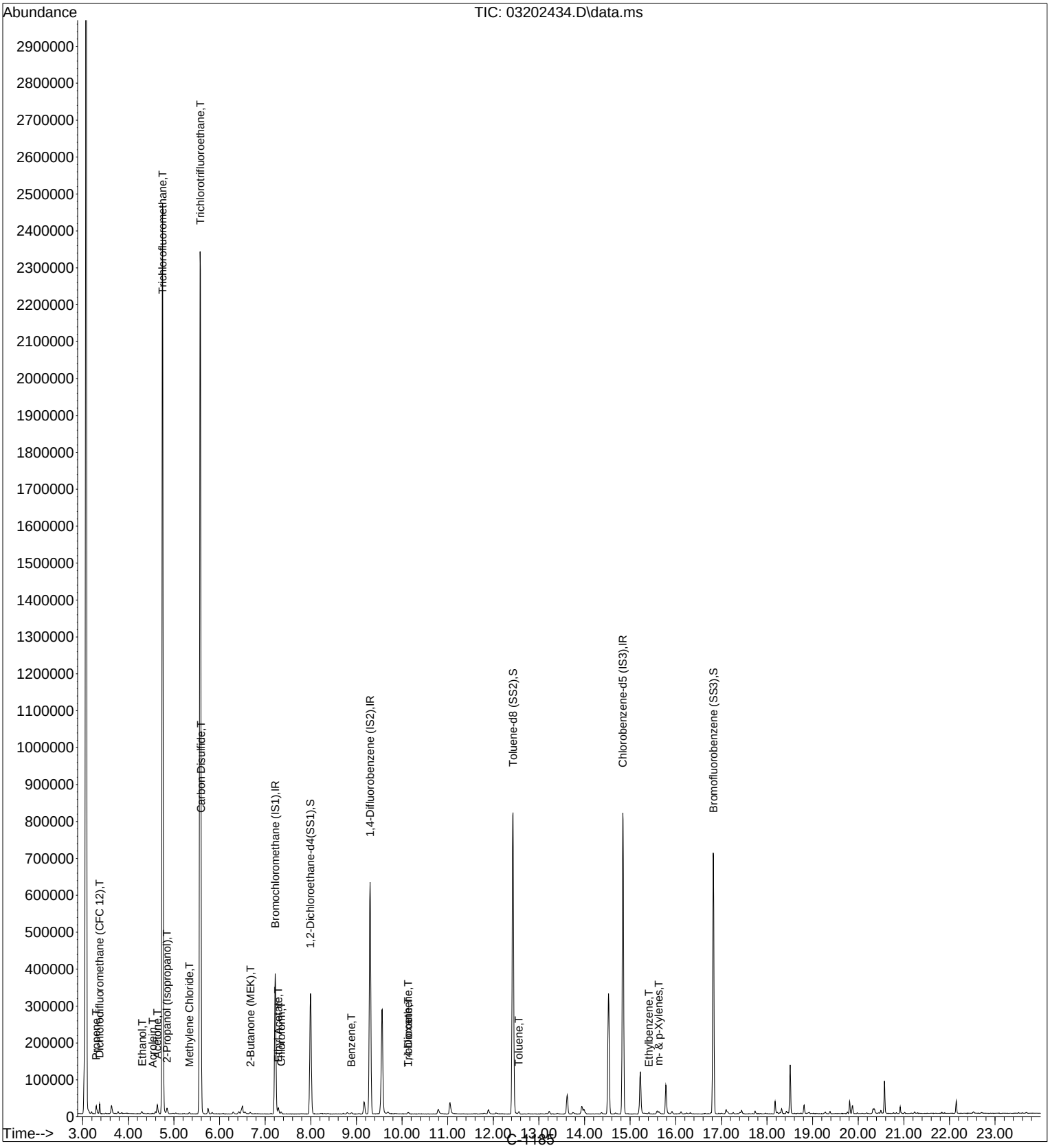
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	138857	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	595532	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	136524	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	291139	12.816	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	12.43	98	677352	12.357	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%				
73) Bromofluorobenzene (SS3)	16.83	174	241251	12.483	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
Target Compounds							Qvalue
2) Propene	3.30	42	2694	0.170	ng	#	81
3) Dichlorodifluoromethan...	3.37	85	16949m	0.595	ng		
10) Ethanol	4.30	45	7920m	0.590	ng		
12) Acrolein	4.53	56	1113	0.116	ng		90
13) Acetone	4.64	58	9017	0.883	ng	#	85
14) Trichlorofluoromethane	4.75	101	1771386	64.259	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	22259	0.547	ng		91
19) Methylene Chloride	5.34	84	857	0.058	ng	#	74
21) Trichlorotrifluoroethane	5.58	151	734427	63.204	ng		99
22) Carbon Disulfide	5.60	76	13703	0.296	ng	#	1
27) 2-Butanone (MEK)	6.68	72	1008	0.121	ng	#	58
30) Ethyl Acetate	7.29	61	2576	0.514	ng		92
32) Chloroform	7.35	83	4098	0.170	ng		97
41) Benzene	8.89	78	3507	0.065	ng		97
47) Trichloroethene	10.13	130	1174	0.081	ng		89
48) 1,4-Dioxane	10.13	88	1641	0.175	ng		100
58) Toluene	12.56	91	5785	0.111	ng		100
66) Ethylbenzene	15.41	91	3044	0.051	ng		93
67) m- & p-Xylenes	15.63	91	4550	0.092	ng		99

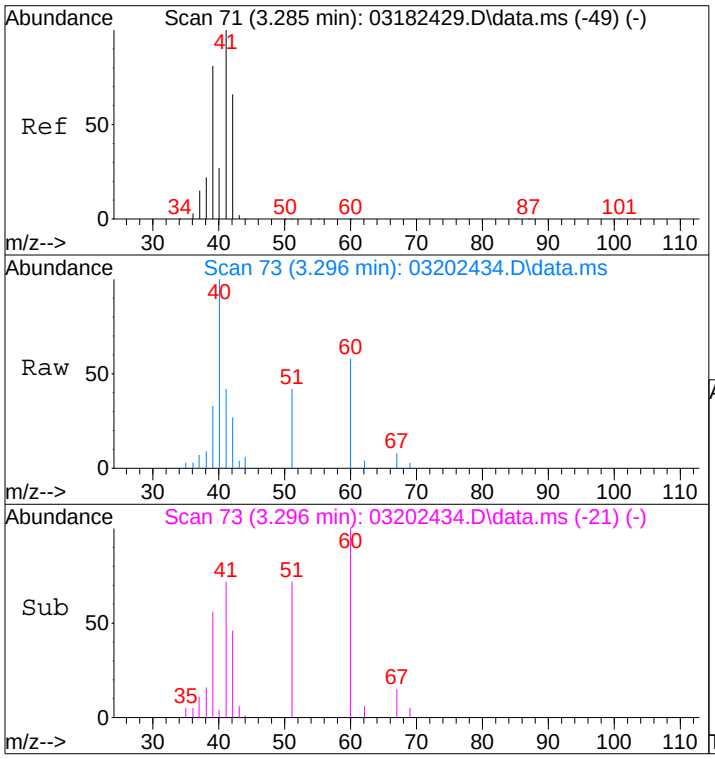
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:47:34 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

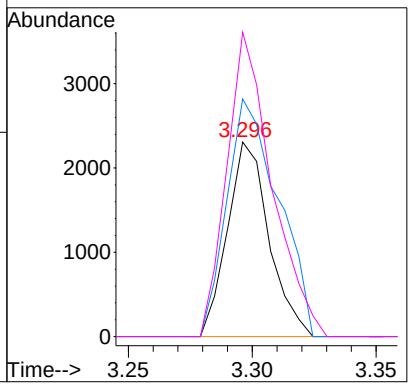


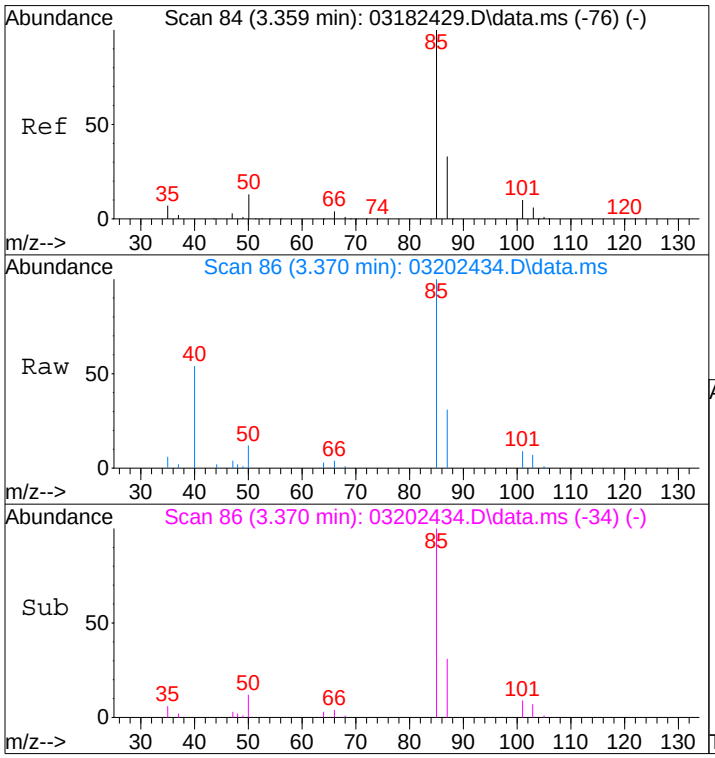


#2
Propene
Concen: 0.17 ng
RT: 3.30 min Scan# 73
Delta R.T. 0.047 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 42 Resp: 2694

Ion	Ratio	Lower	Upper
42	100		
39	151.7	102.3	142.3#
41	170.0	133.8	173.8

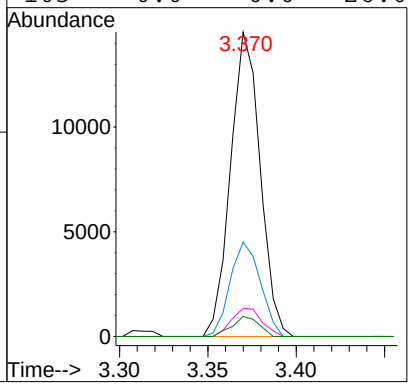


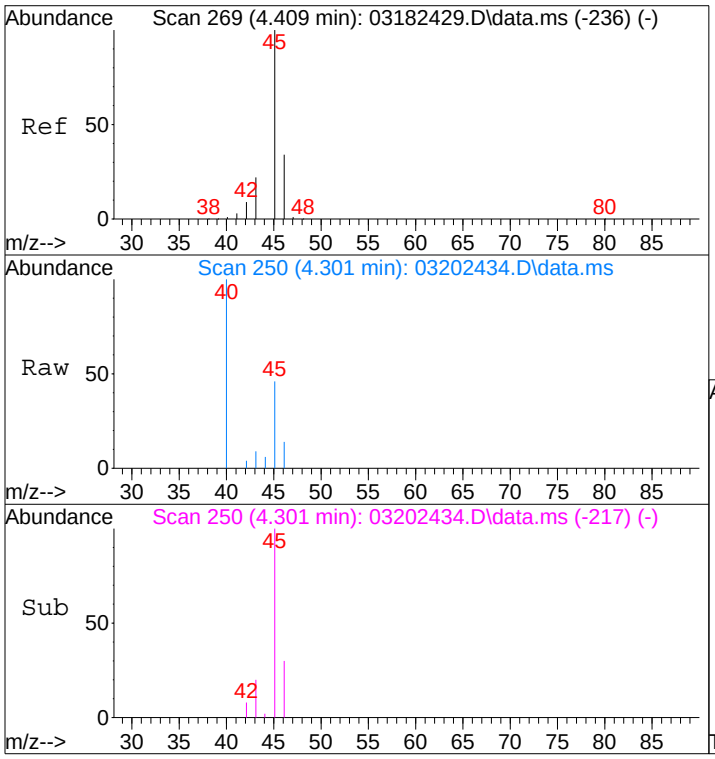


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.048 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 85 Resp: 16949

Ion	Ratio	Lower	Upper
85	100		
87	0.0	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

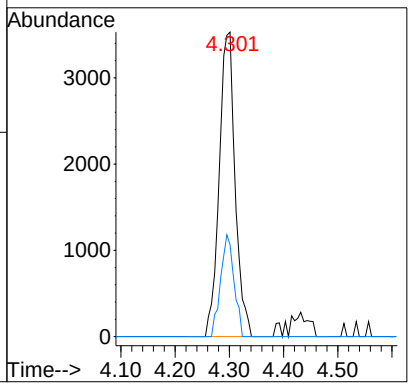


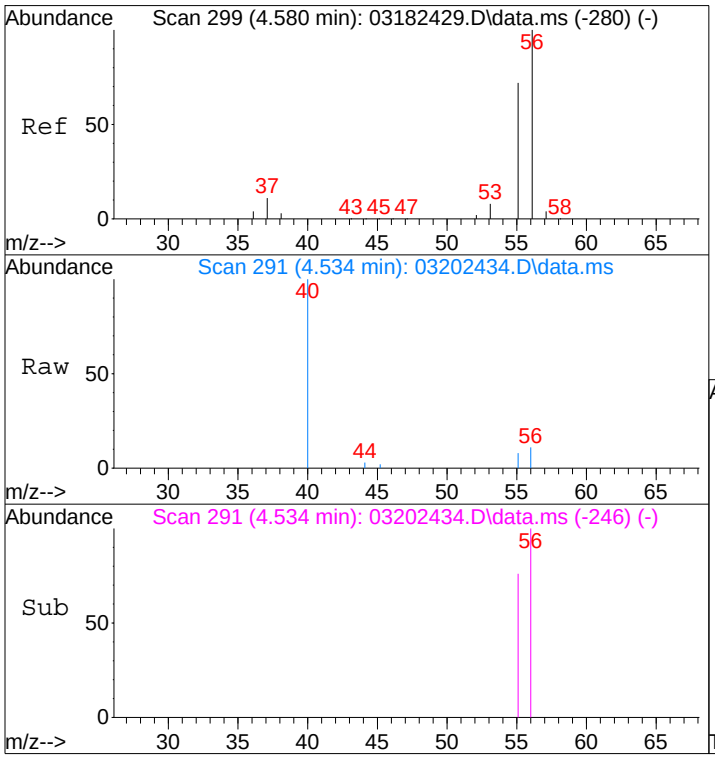


#10
Ethanol
Concen: 0.59 ng m
RT: 4.30 min Scan# 250
Delta R.T. -0.060 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 45 Resp: 7920

Ion	Ratio	Lower	Upper
45	100		
46	0.0	13.3	53.3#

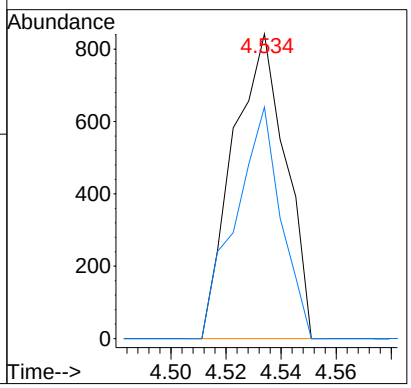


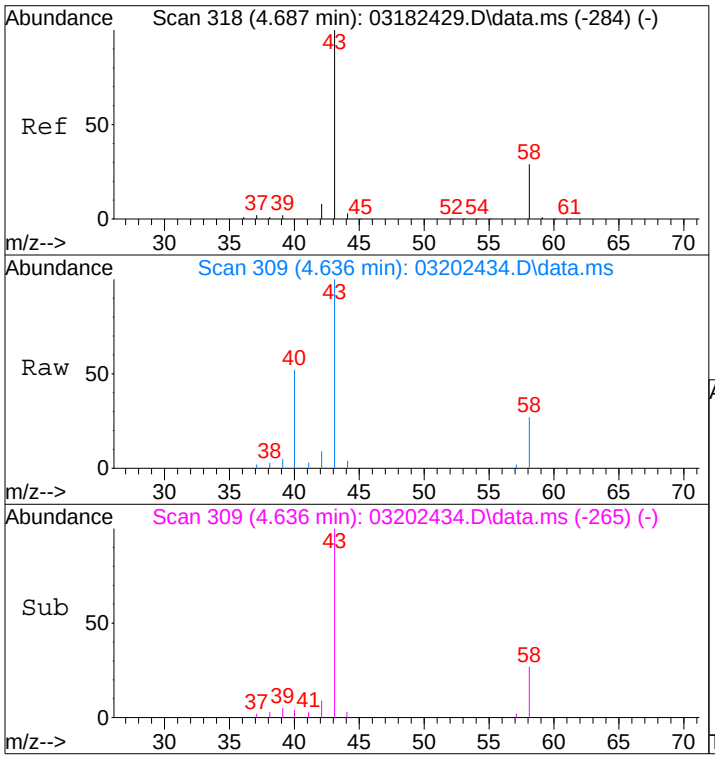


#12
Acrolein
Concen: 0.12 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.004 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 56 Resp: 1113

Ion	Ratio	Lower	Upper
56	100		
55	66.0	54.9	94.9

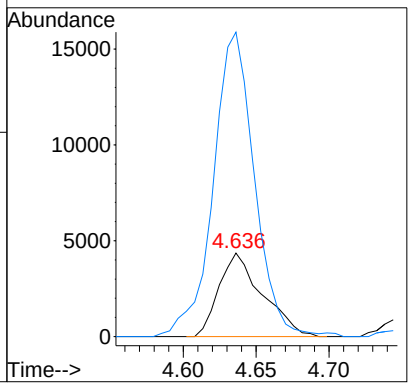


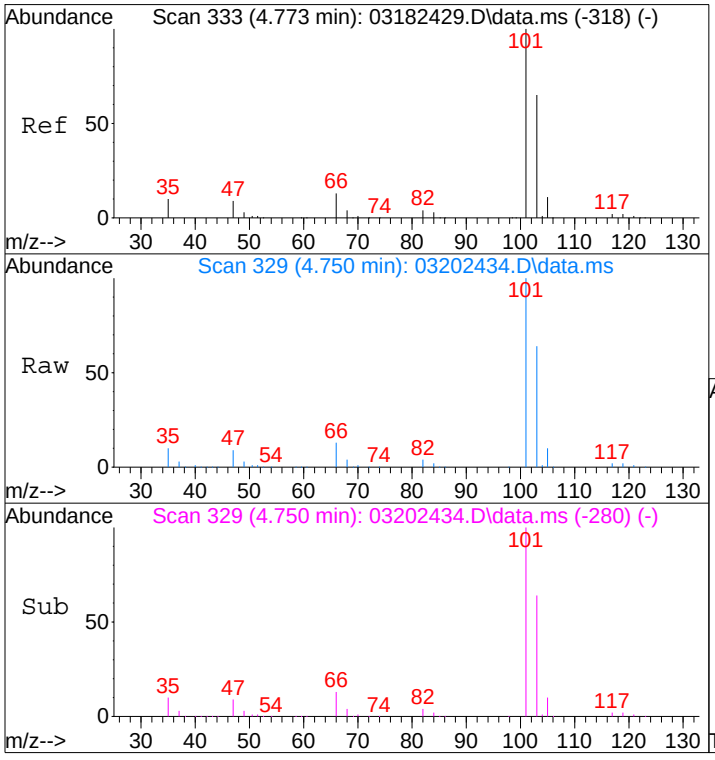


#13
Acetone
Concen: 0.88 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.000 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 58 Resp: 9017

Ion	Ratio	Lower	Upper
58	100		
43	346.7	350.1	410.1#

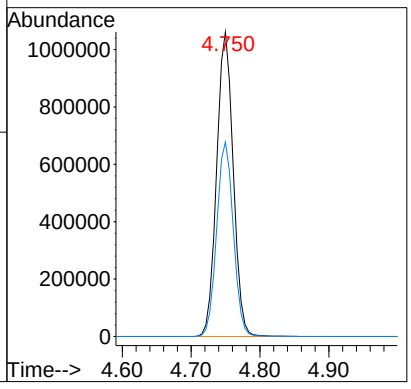


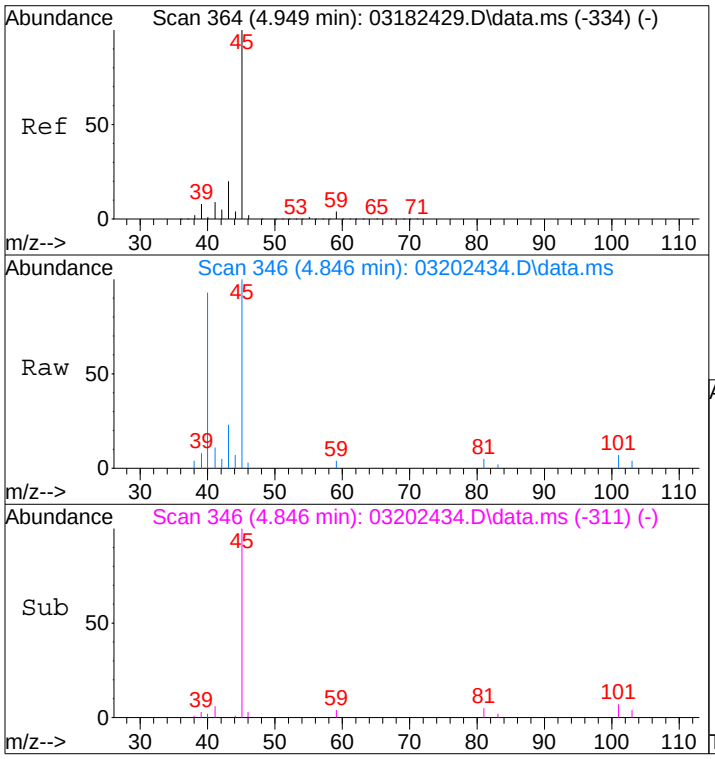


#14
Trichlorofluoromethane
Concen: 64.26 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion:101 Resp: 1771386

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.7	84.7

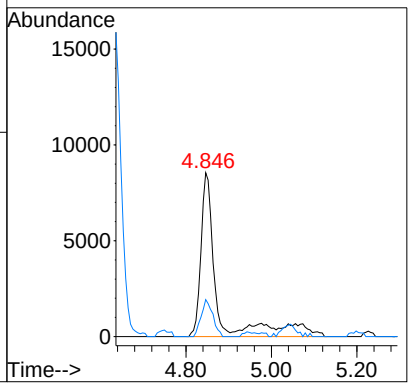


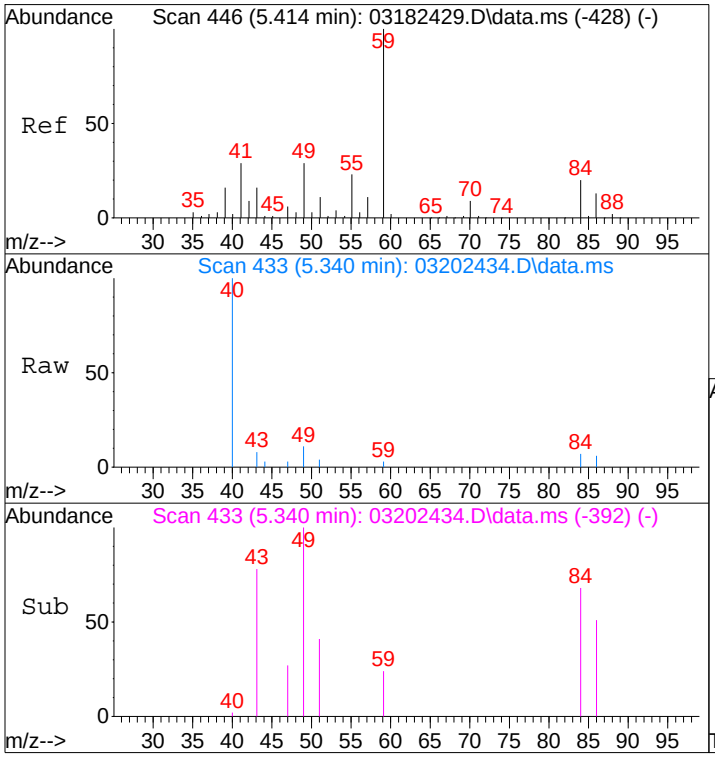


#15
2-Propanol (Isopropanol)
Concen: 0.55 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.049 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 45 Resp: 22259

Ion	Ratio	Lower	Upper
45	100		
43	16.4	0.4	40.4

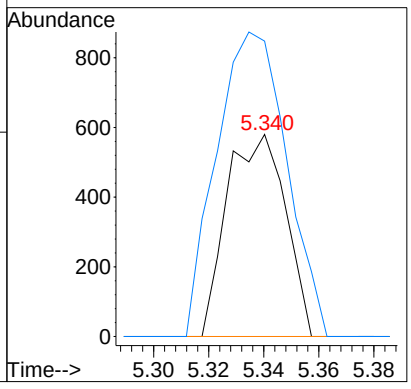


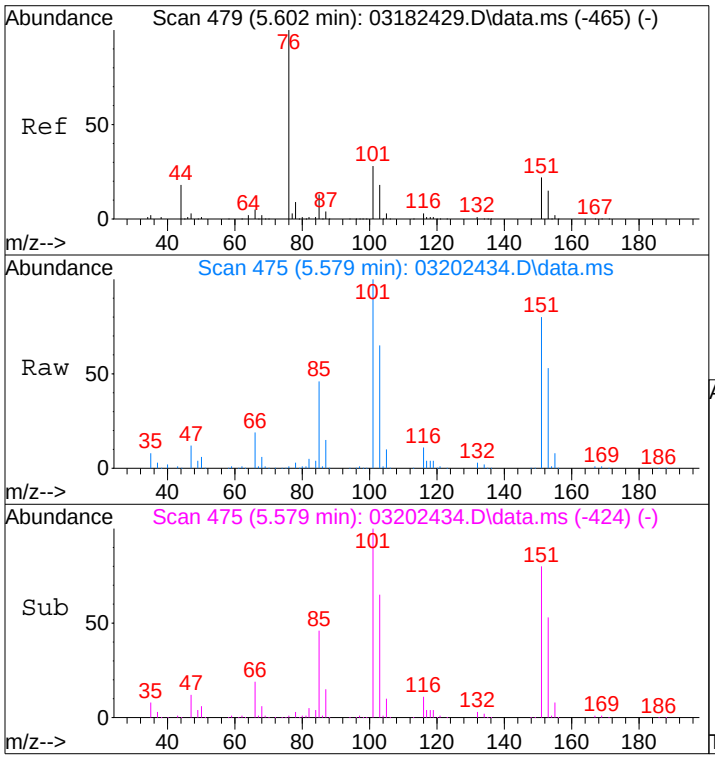


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 84 Resp: 857

Ion	Ratio	Lower	Upper
84	100		
49	180.5	122.9	172.9#

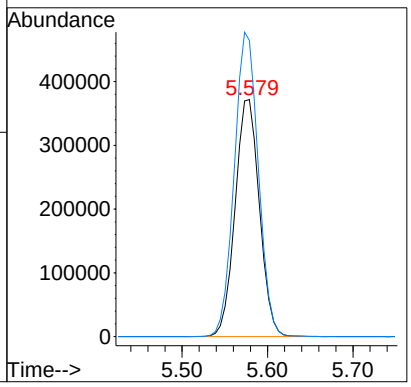


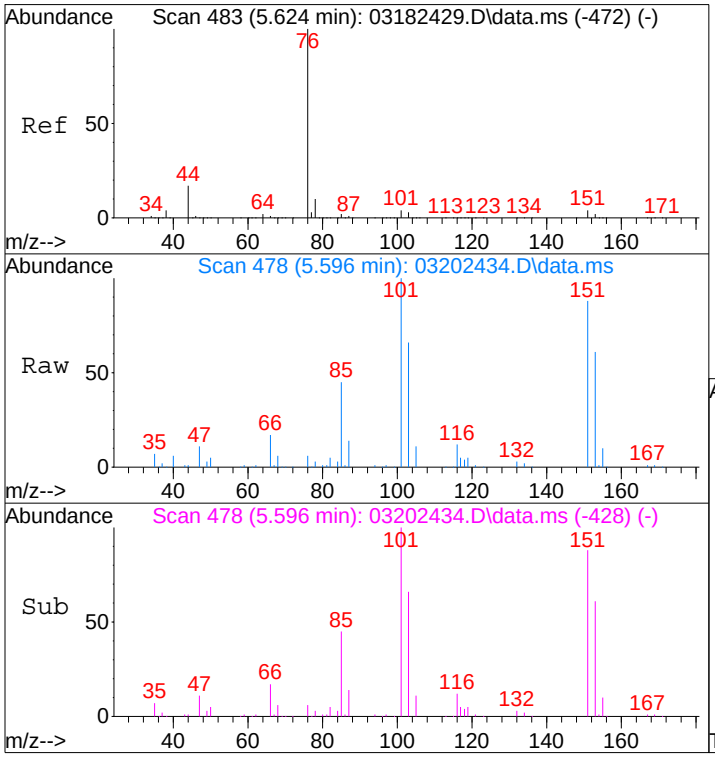


#21
Trichlorotrifluoroethane
Concen: 63.20 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion:151 Resp: 734427

Ion	Ratio	Lower	Upper
151	100		
101	127.3	106.4	146.4

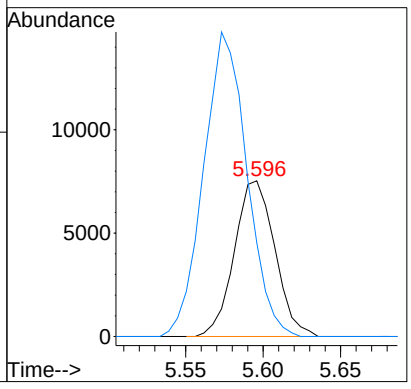


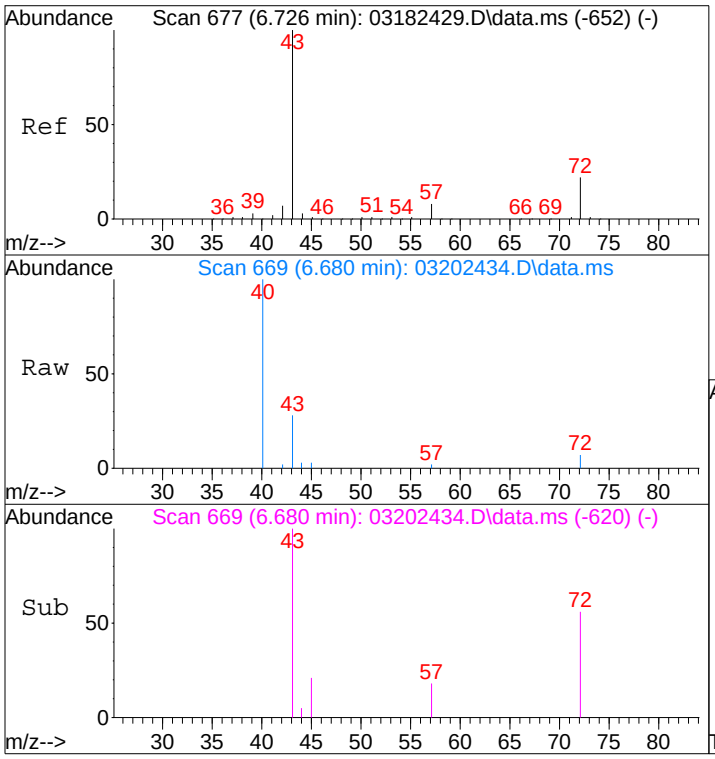


#22
Carbon Disulfide
Concen: 0.30 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 76 Resp: 13703

Ion	Ratio	Lower	Upper
76	100		
78	208.8	0.0	29.8#

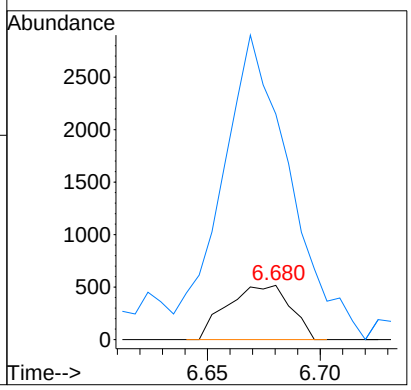


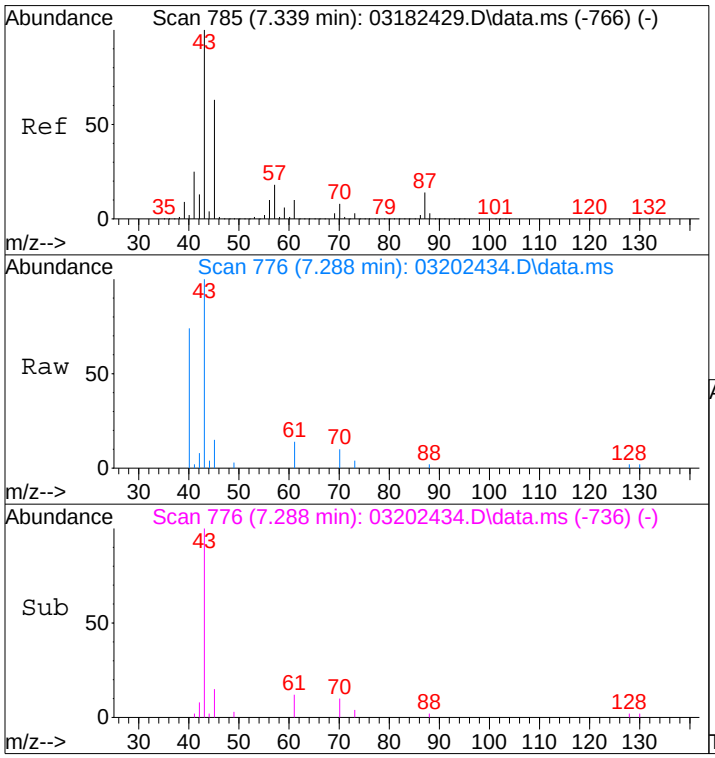


#27
2-Butanone (MEK)
Concen: 0.12 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.027 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 72 Resp: 1008

Ion	Ratio	Lower	Upper
72	100		
43	602.5	468.6	508.6#

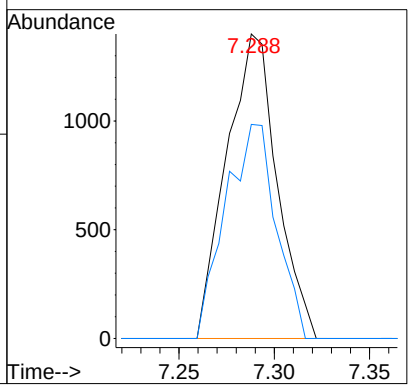


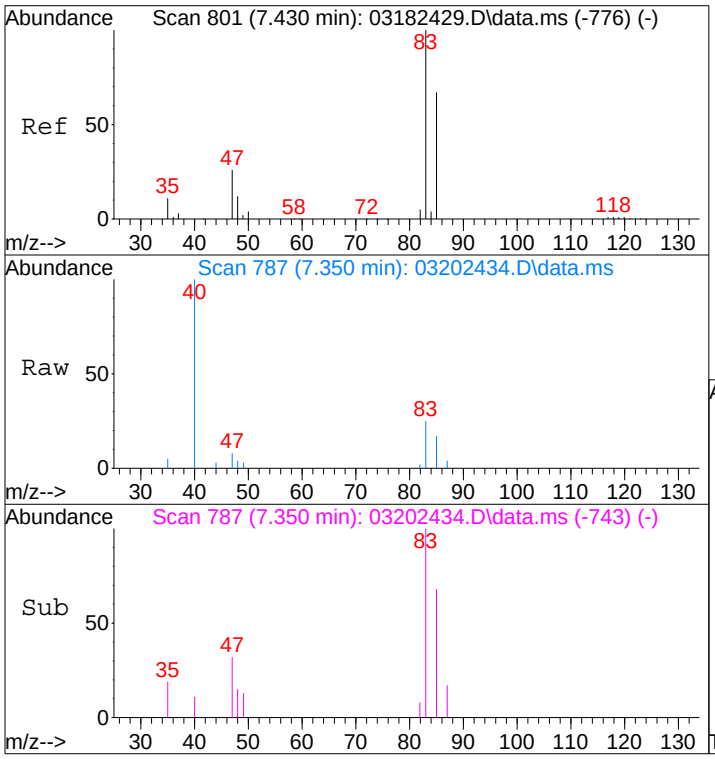


#30
Ethyl Acetate
Concen: 0.51 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.028 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 61 Resp: 2576

Ion	Ratio	Lower	Upper
61	100		
70	70.7	57.3	97.3

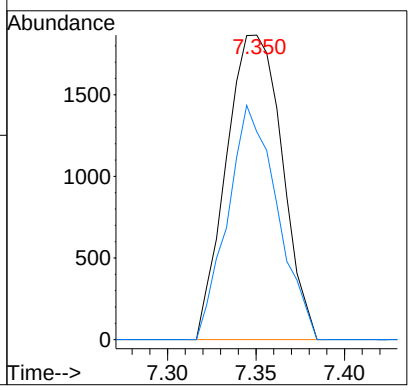


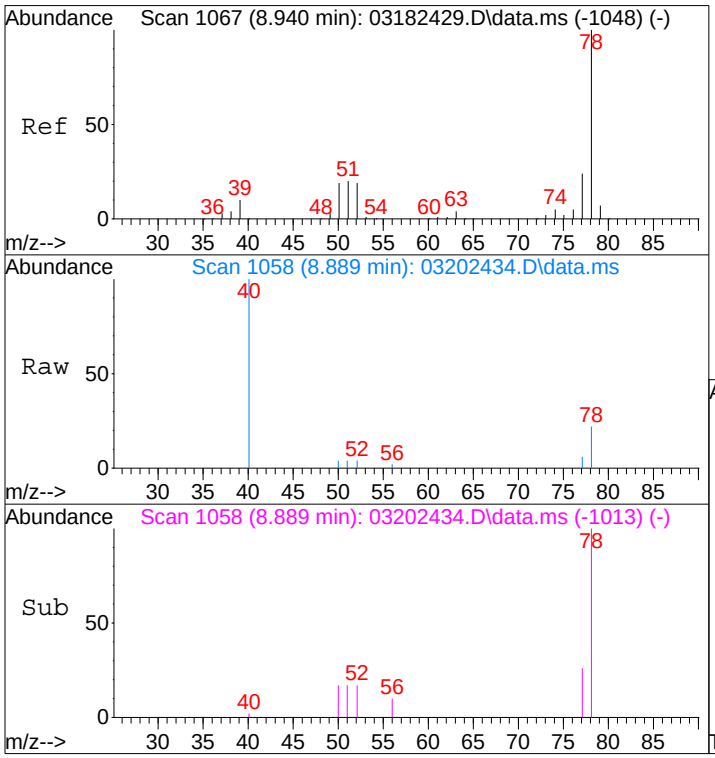


#32
Chloroform
Concen: 0.17 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 83 Resp: 4098

Ion	Ratio	Lower	Upper
83	100		
85	68.4	46.1	86.1

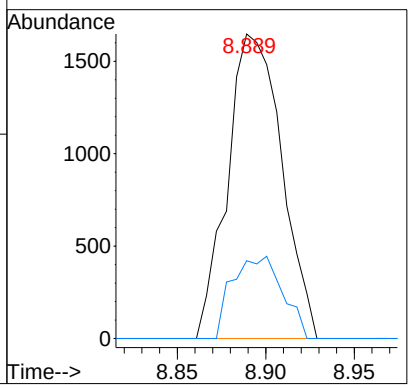


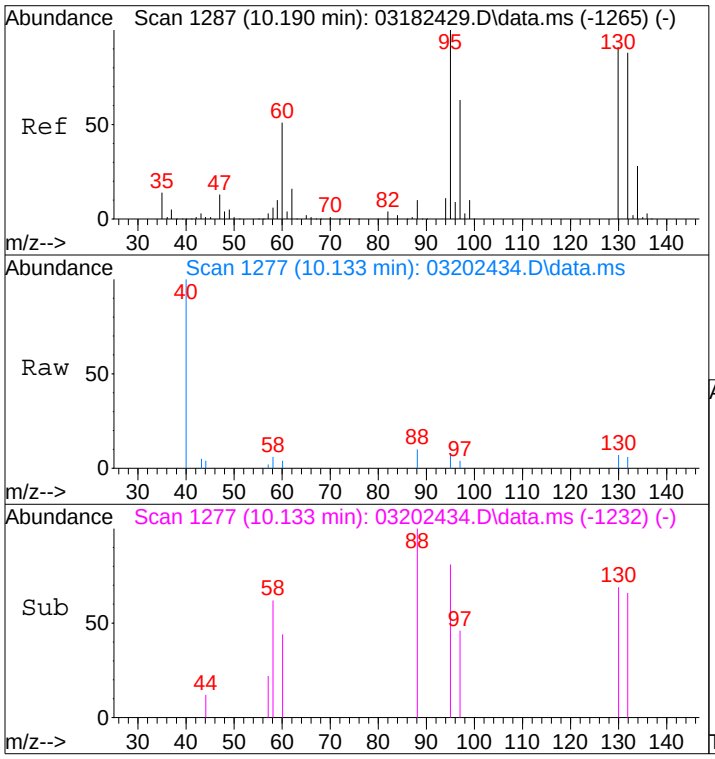


#41
Benzene
Concen: 0.07 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 78 Resp: 3507

Ion	Ratio	Lower	Upper
78	100		
77	25.0	3.6	43.6

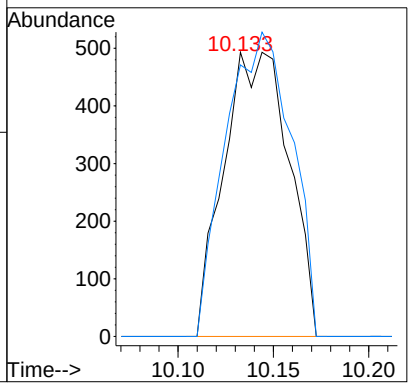


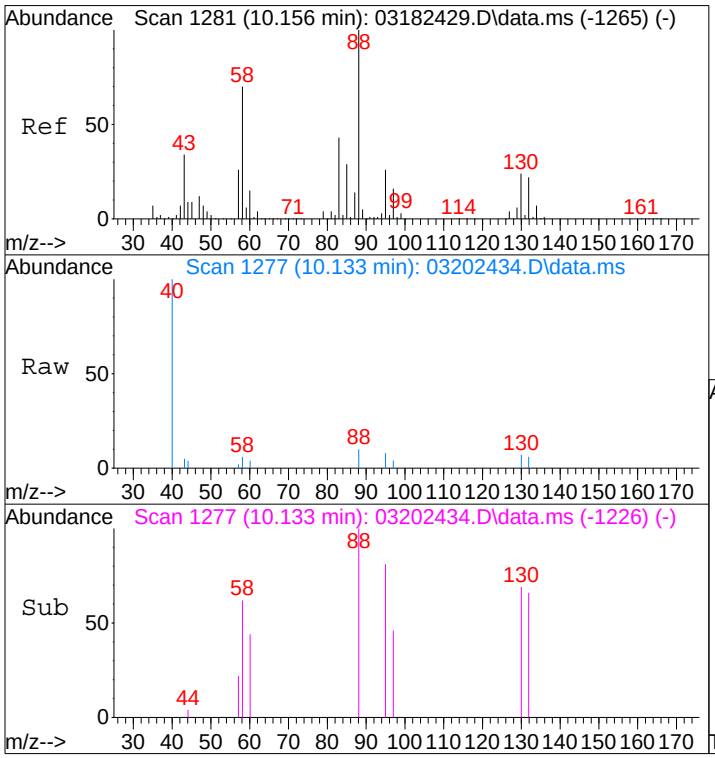


#47
Trichloroethene
Concen: 0.08 ng
RT: 10.13 min Scan# 1277
Delta R.T. 0.005 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion:130 Resp: 1174

Ion	Ratio	Lower	Upper
130	100		
132	108.0	77.5	117.5

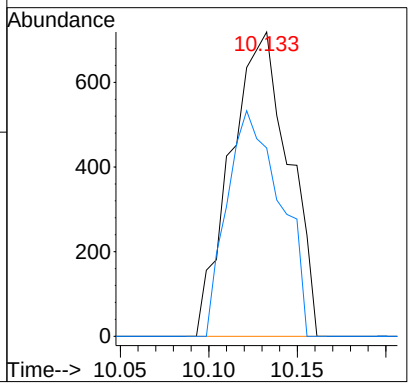


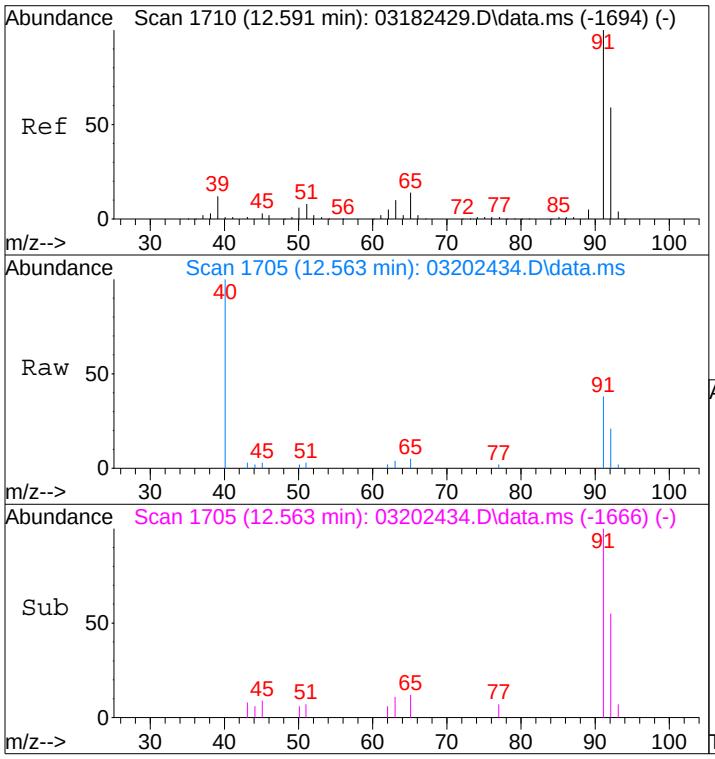


#48
1,4-Dioxane
Concen: 0.18 ng
RT: 10.13 min Scan# 1277
Delta R.T. 0.039 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 88 Resp: 1641

Ion	Ratio	Lower	Upper
88	100		
58	68.3	48.2	88.2

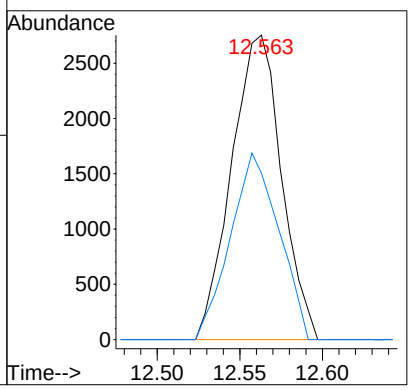


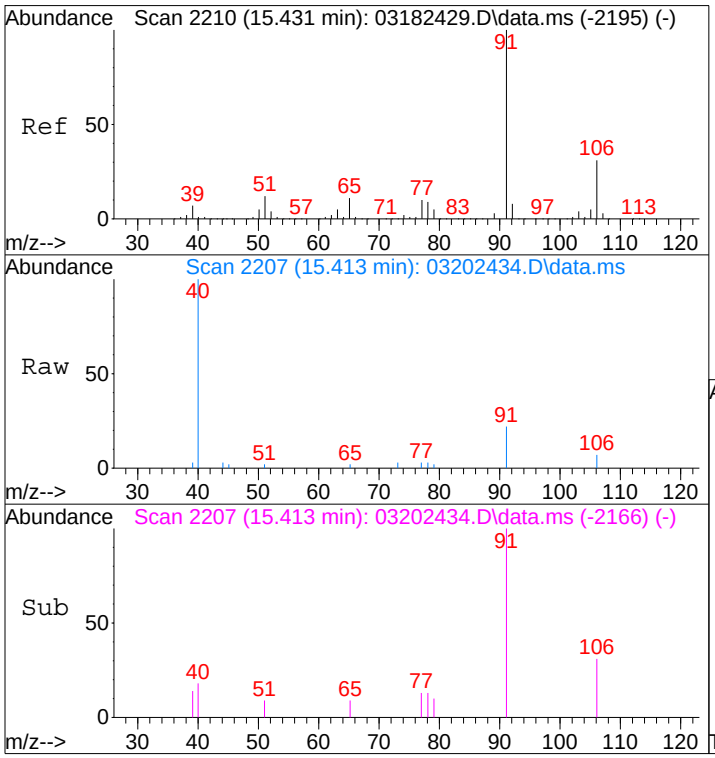


#58
Toluene
Concen: 0.11 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 91 Resp: 5785

Ion	Ratio	Lower	Upper
91	100		
92	59.5	39.2	79.2

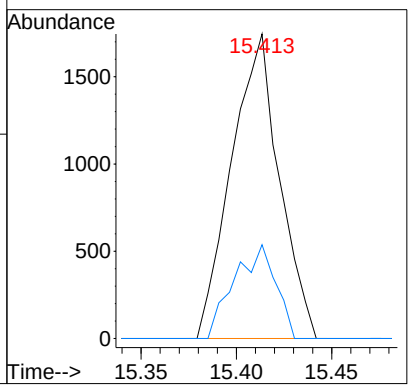


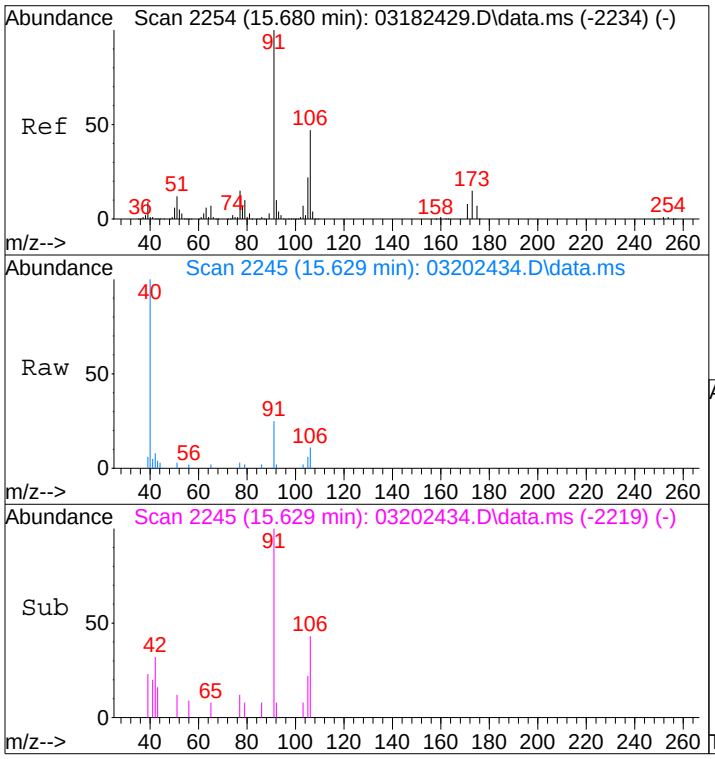


#66
Ethylbenzene
Concen: 0.05 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 91 Resp: 3044

Ion	Ratio	Lower	Upper
91	100		
106	26.8	10.4	50.4

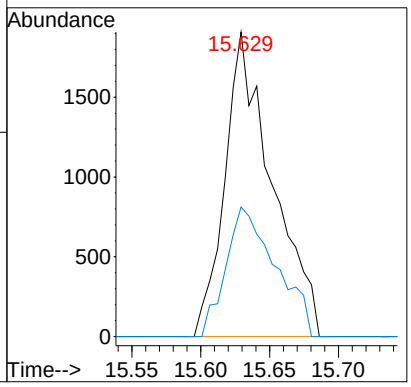




#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03202434.D
Acq: 20 Mar 2024 23:42

Tgt Ion: 91 Resp: 4550

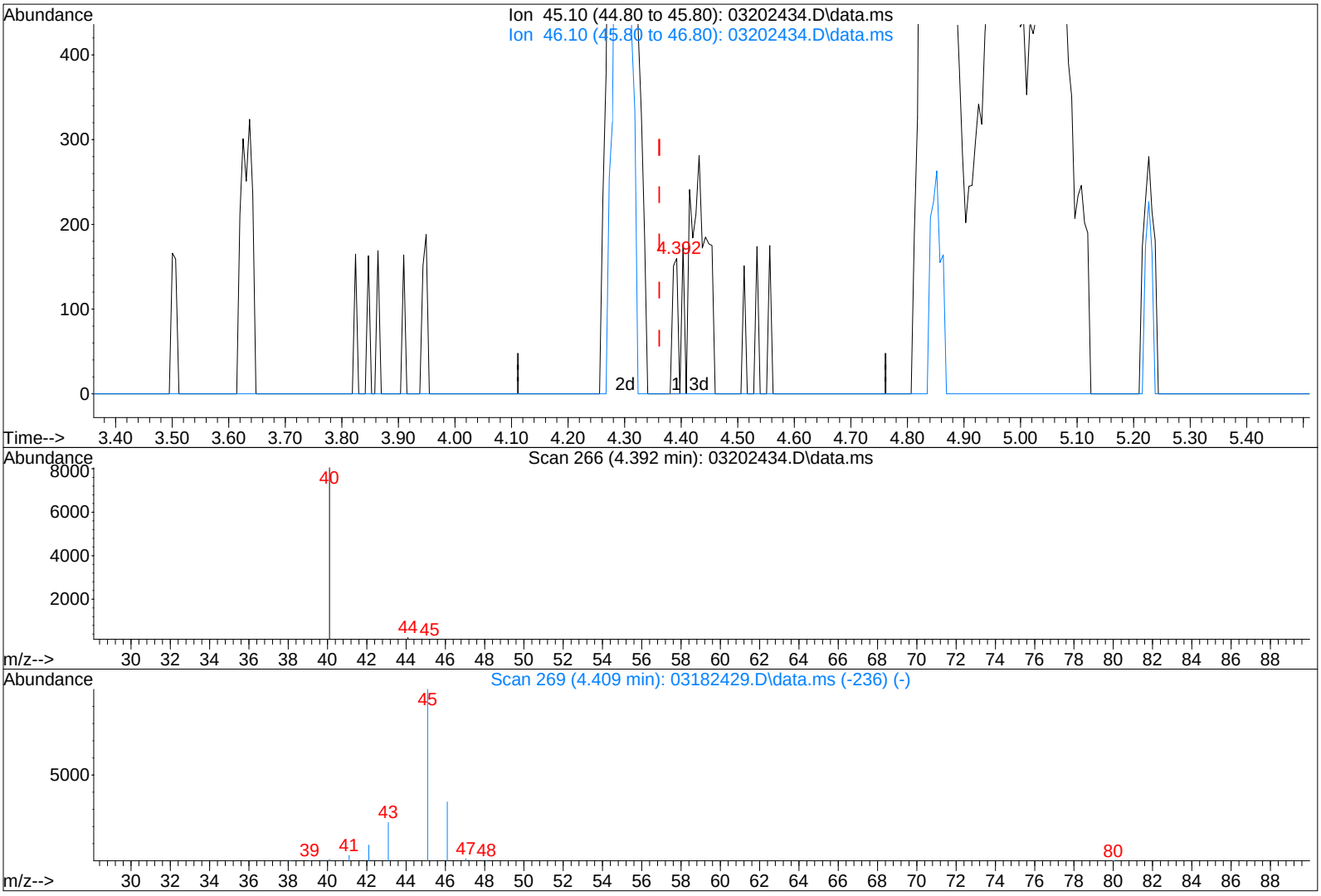
Ion	Ratio	Lower	Upper
91	100		
106	44.9	25.6	65.6



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202434.D\data.ms

(10) Ethanol (T)

4.392min (+0.031) 0.01ng

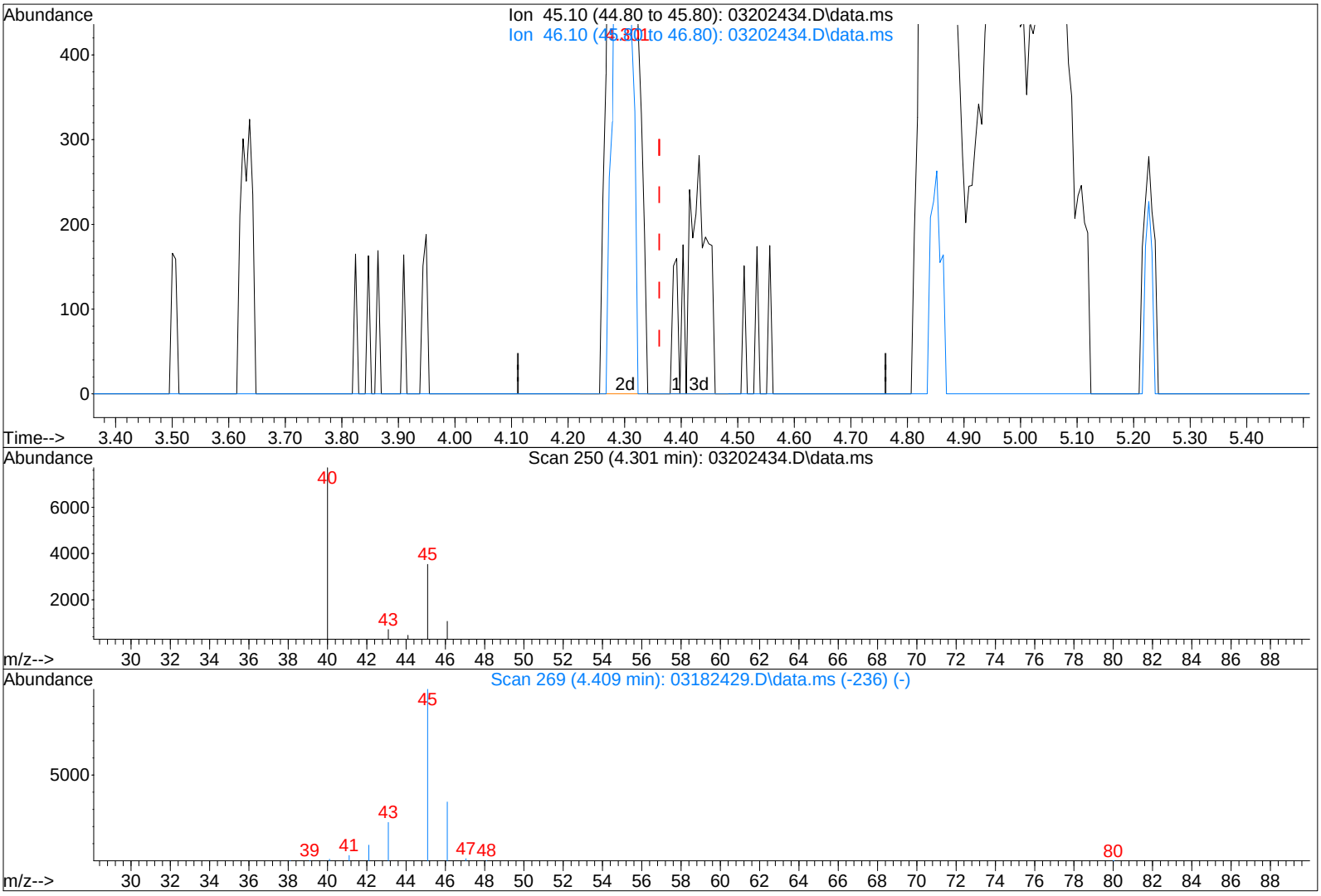
response 106

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202434.D\data.ms

(10) Ethanol (T)

4.301min (-0.060) 0.59ng m

response 7920

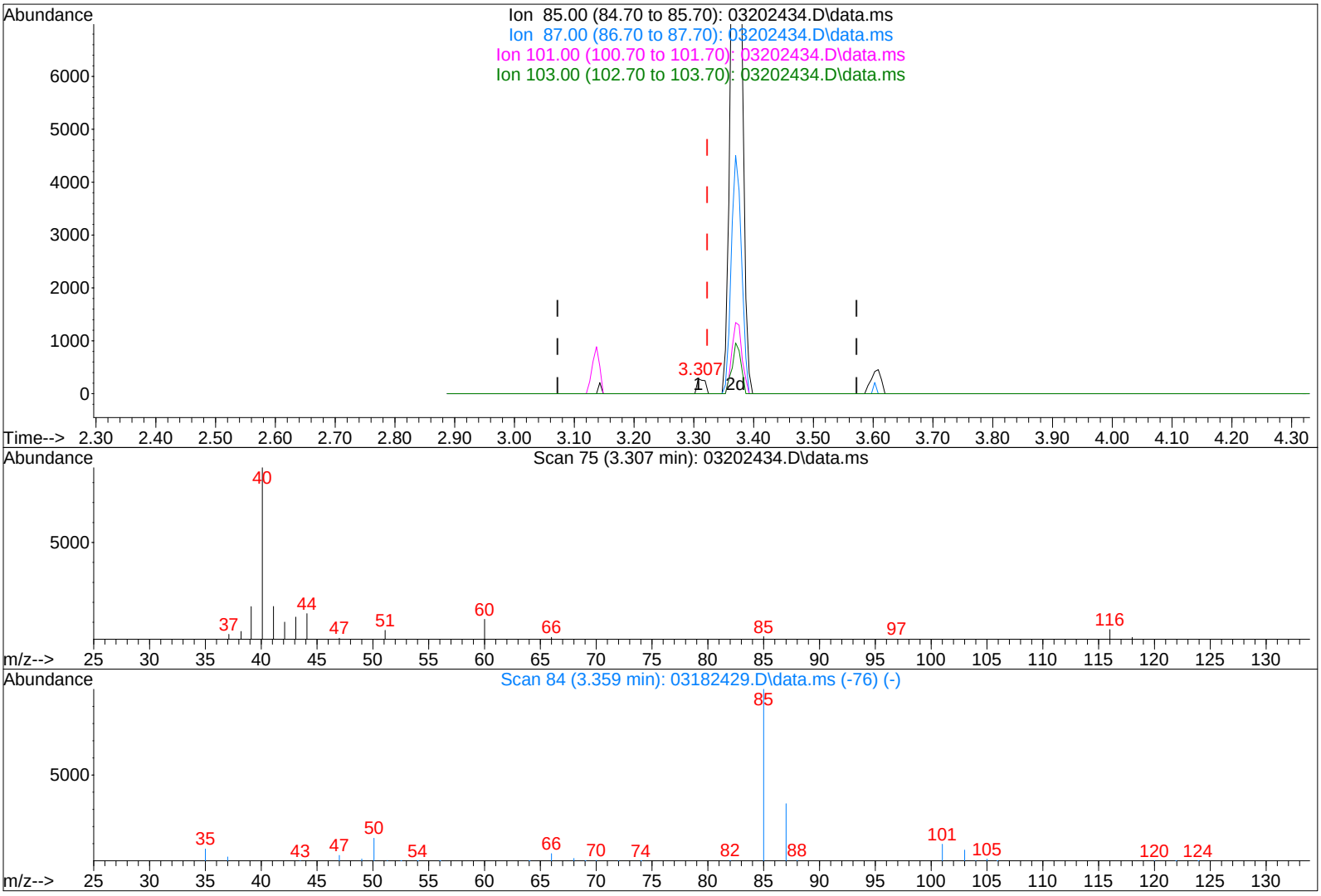
Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP 3/25/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202434.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.015) 0.01ng

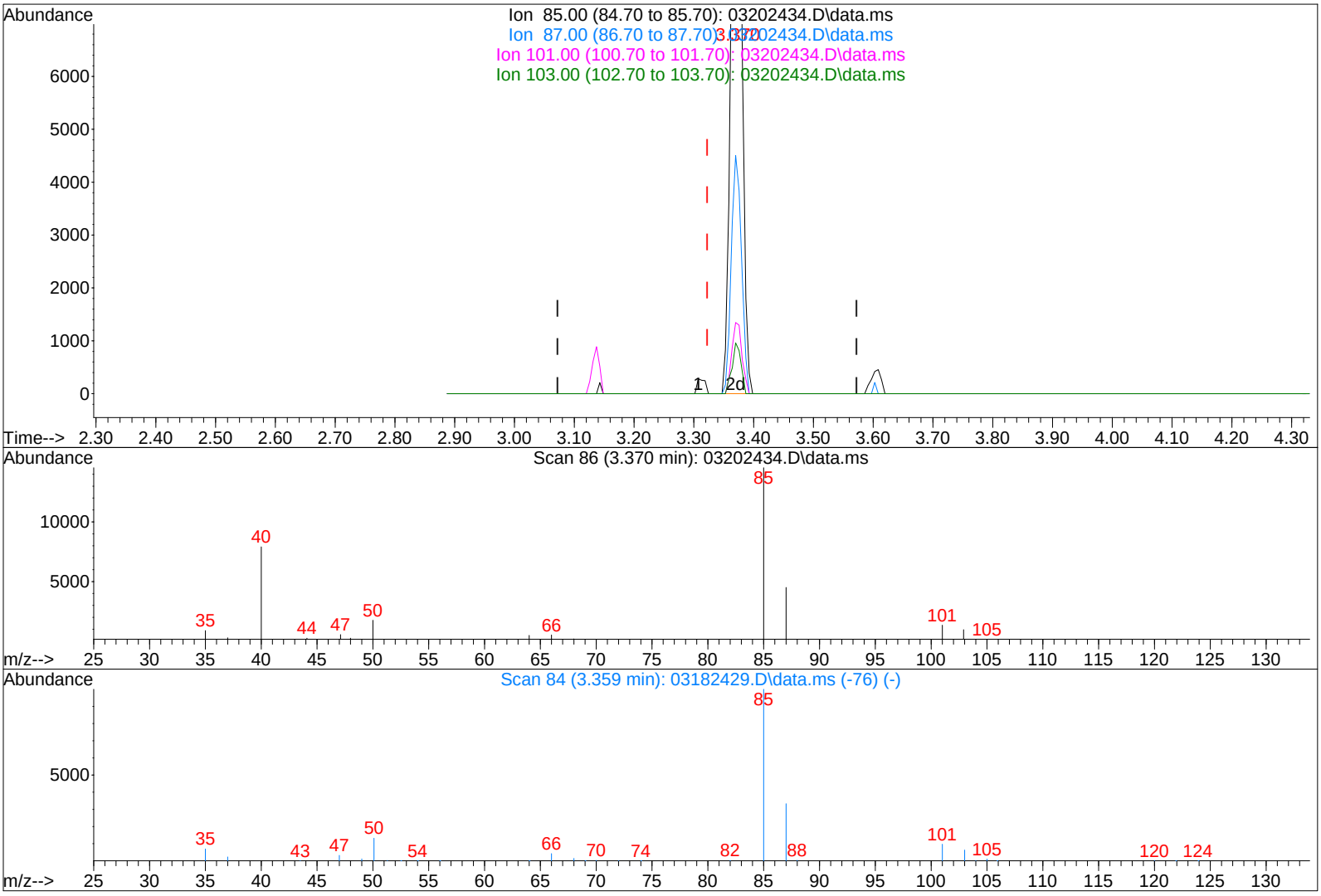
response 267

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:28:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202434.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.048) 0.60ng m

response 16949

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

MP 3/25/24

LH 3/25/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:40:50 2024 3/25/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

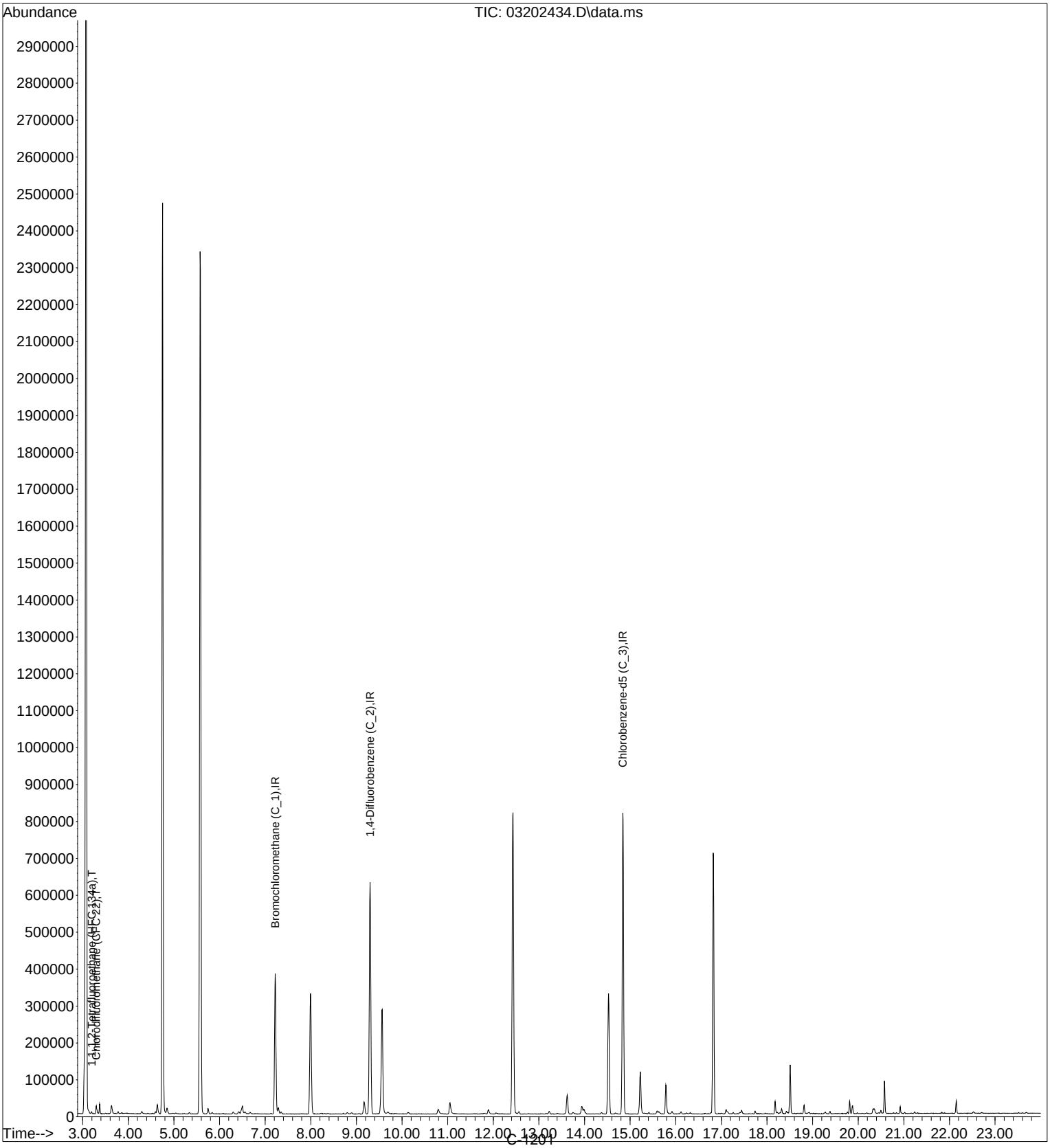
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	138857	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	595532	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	136524	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	72	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1433	0.112	ng	#	1
4) 1,1-Difluoroethane	3.25	65	136	N.D.			
5) Chlorodifluoromethane ...	3.30	67	763	0.187	ng		93
6) 1-Chloro-1,1-Difluoroe...	3.50	65	528	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	53	N.D.			
10) 2-Methylbutane	4.65	57	1074	N.D.			
11) Methyl Acetate	5.33	43	1338	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.56	56	1764	N.D.			
18) Dibromomethane	9.80	174	52	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.	d		
26) 2-Chlorotoluene	17.61	91	600	N.D.			
27) 4-Chlorotoluene	17.68	91	1271	N.D.			
28) Indane	19.12	117	732	N.D.			
29) Indene	19.12	115	67	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	67	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	224	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	332	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202434.D Vial: 7
Acq On : 20 Mar 2024 23:42 Operator: SC
Sample : P2400922-033 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:40:50 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202434.D
Acq On : 20 Mar 2024 23:42
Operator : SC
Sample : P2400922-033 (400mL)
Misc : S37-02202408
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202434.D\data.ms

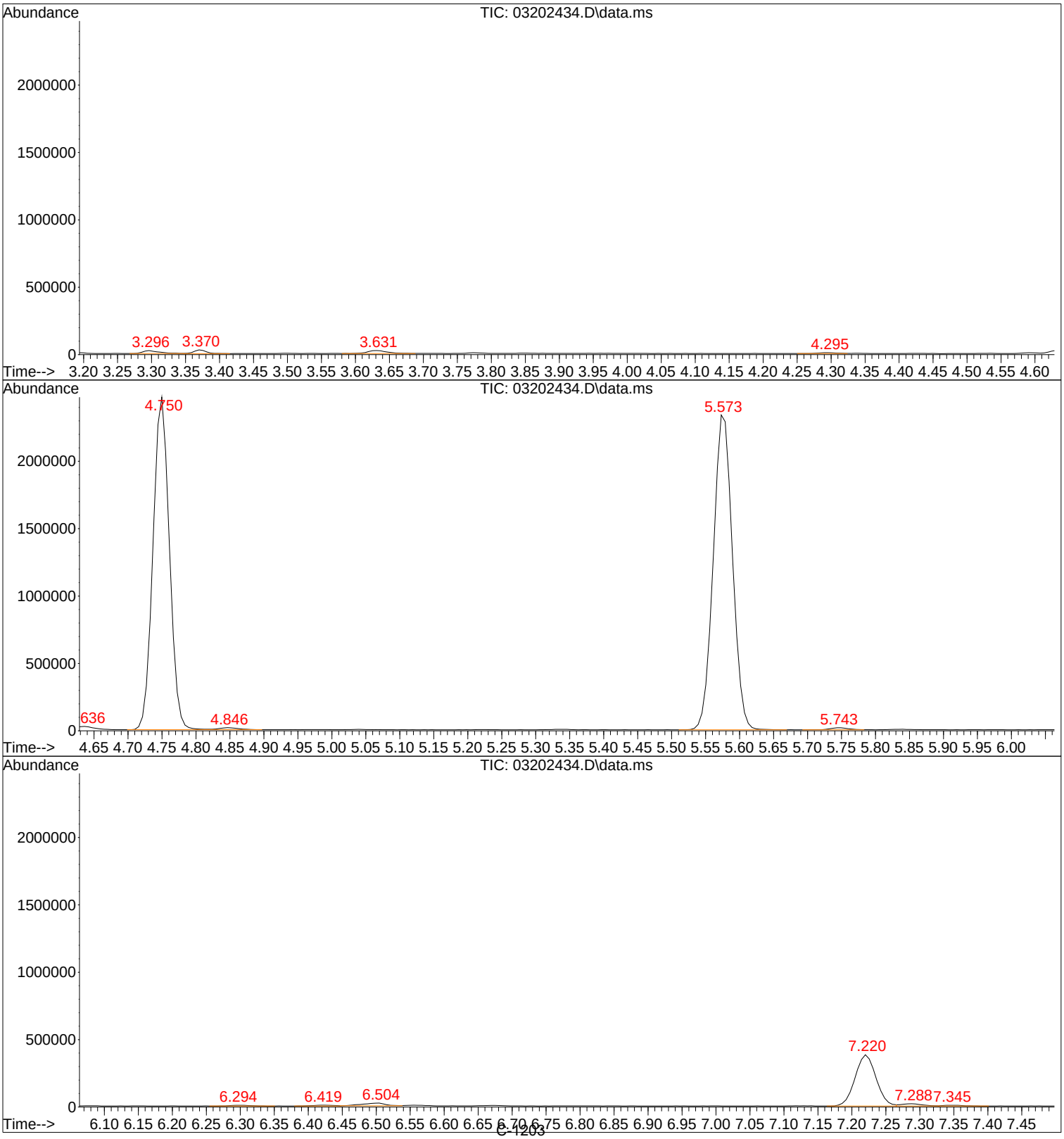
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	68	73	82	rBV4	21647	36879	0.80%	0.373%
2	3.370	82	86	94	rVB	26937	33332	0.73%	0.337%
3	3.631	123	132	142	rBV2	21881	45664	1.00%	0.462%
4	4.295	241	249	254	rBV	5760	11290	0.25%	0.114%
5	4.636	304	309	317	rVB	24850	47000	1.02%	0.476%
6	4.750	320	329	341	rBV	2467590	4128554	90.02%	41.789%
7	4.846	341	346	355	rVB	15034	30483	0.66%	0.309%
8	5.573	463	474	491	rBV	2336087	4586493	100.00%	46.424%
9	5.743	495	504	511	rBV2	15203	28374	0.62%	0.287%
10	6.294	594	601	611	rBV	4952	10387	0.23%	0.105%
11	6.419	616	623	628	rBV4	6082	13729	0.30%	0.139%
12	6.504	628	638	644	rBV	19873	47706	1.04%	0.483%
13	7.220	754	764	772	rBV	380317	813113	17.73%	8.230%
14	7.288	772	776	783	rVV	16996	34773	0.76%	0.352%
15	7.345	783	786	796	rVB3	5559	11856	0.26%	0.120%

Sum of corrected areas: 9879633

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202434.D
Acq On : 20 Mar 2024 23:42
Operator : SC
Sample : P2400922-033 (400mL)
Misc : S37-02202408
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202434.D
Acq On : 20 Mar 2024 23:422
Operator : SCC
Sample : P2400922-033 (400mL))
Misc : S37-022024088
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					|--Internal Standard---|		
TIC Top Hit name	RT	EstConc	Units	Response	# RT Resp Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:50:36 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	136343	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	585186	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	133919	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	288579	12.938	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
57) Toluene-d8 (SS2)	12.43	98	660512	12.284	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
73) Bromofluorobenzene (SS3)	16.83	174	232798	12.280	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	3701m	0.132	ng		
4) Chloromethane	3.51	50	480	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.26	45	12211m	0.927	ng		
11) Acetonitrile	4.43	41	362	N.D.			
12) Acrolein	4.53	56	307	N.D.			
13) Acetone	4.63	58	7885	0.786	ng	#	62
14) Trichlorofluoromethane	4.75	101	2689667	99.370	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	19104	0.478	ng		85
16) Acrylonitrile	4.99	53	405	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.37	59	63	N.D.			
19) Methylene Chloride	5.34	84	1300	0.089	ng		98
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1253412	109.857	ng		98
22) Carbon Disulfide	5.59	76	1213	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	766	0.093	ng	#	63
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	65401	13.294	ng		96
31) n-Hexane	7.30	57	1133	0.053	ng	#	90
32) Chloroform	7.35	83	5629	0.238	ng		98
34) Tetrahydrofuran (THF)	7.76	72	272	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	178	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	352	No Calib			
41) Benzene	8.89	78	4758	0.090	ng		96
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	704	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	736	N.D.			
47) Trichloroethene	10.15	130	1974	0.139	ng		98
48) 1,4-Dioxane	10.13	88	2563	0.279	ng		97
49) 2,2,4-Trimethylpentane...	10.24	57	282	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:50:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

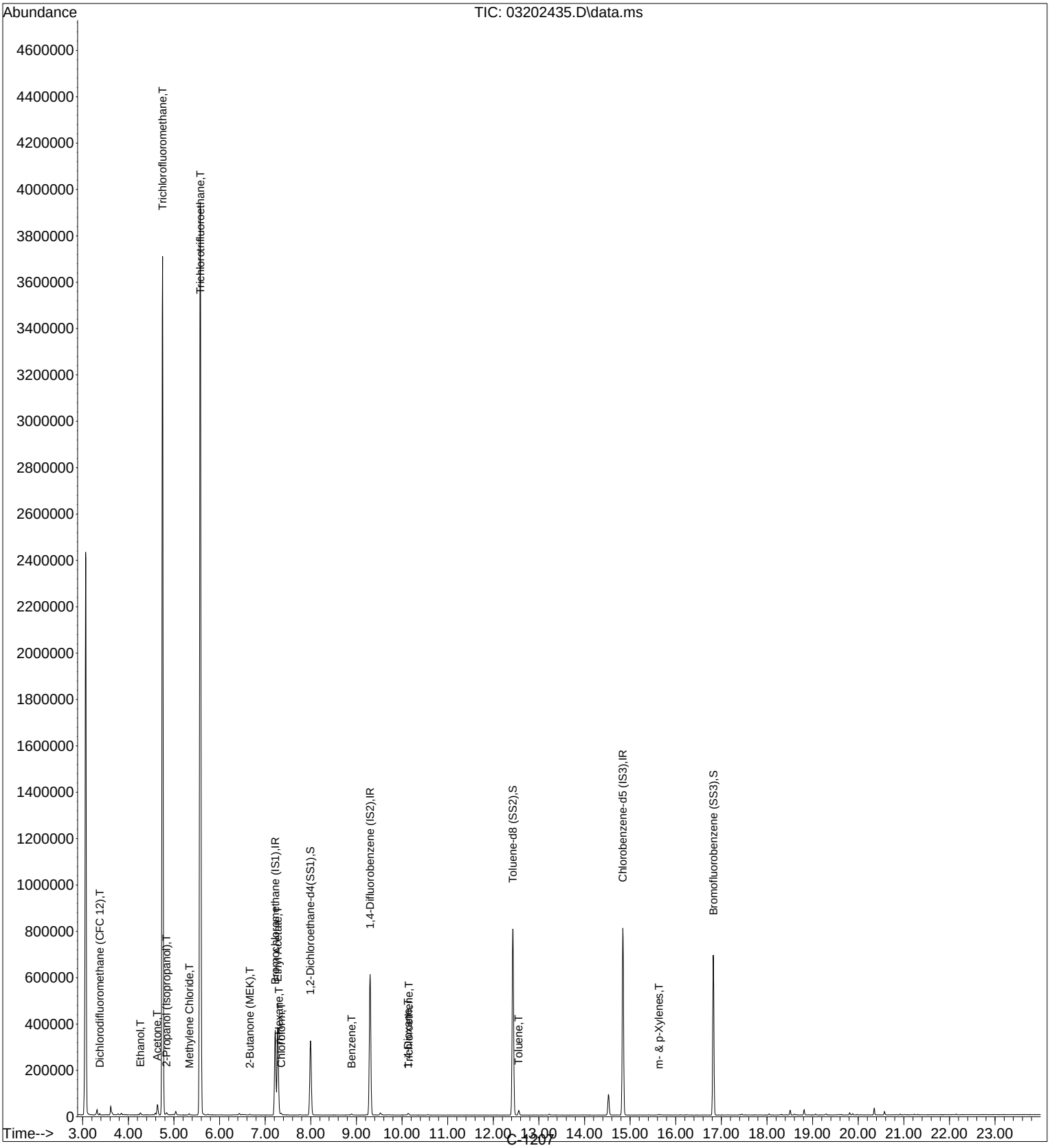
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.56	71	488	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	17239	0.336 ng	100
59) 2-Hexanone	12.93	43	102	N.D.	
60) Dibromochloromethane	13.06	129	272	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	597	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	248	N.D.	
65) Chlorobenzene	14.90	112	444	N.D.	
66) Ethylbenzene	15.41	91	1450	N.D.	
67) m- & p-Xylenes	15.64	91	3038	0.062 ng	93
68) Bromoform	15.67	173	433	N.D.	
69) Styrene	16.09	104	755	N.D.	
70) o-Xylene	16.24	91	1222	N.D.	
71) n-Nonane	16.61	43	229	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	112	N.D.	
74) Cumene	17.04	105	624	N.D.	
75) alpha-Pinene	17.52	93	647	N.D.	
76) n-Propylbenzene	17.68	91	847	N.D.	
77) 3-Ethyltoluene	17.04	105	624	No Calib	#
78) 4-Ethyltoluene	17.86	105	548	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	284	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	624	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	552	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	393	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	396	N.D.	
87) sec-Butylbenzene	18.74	105	672	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	419	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	624	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	332	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	534	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	444	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	550	N.D.	
100) n-Butylbenzene	19.39	91	405	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:50:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:50:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

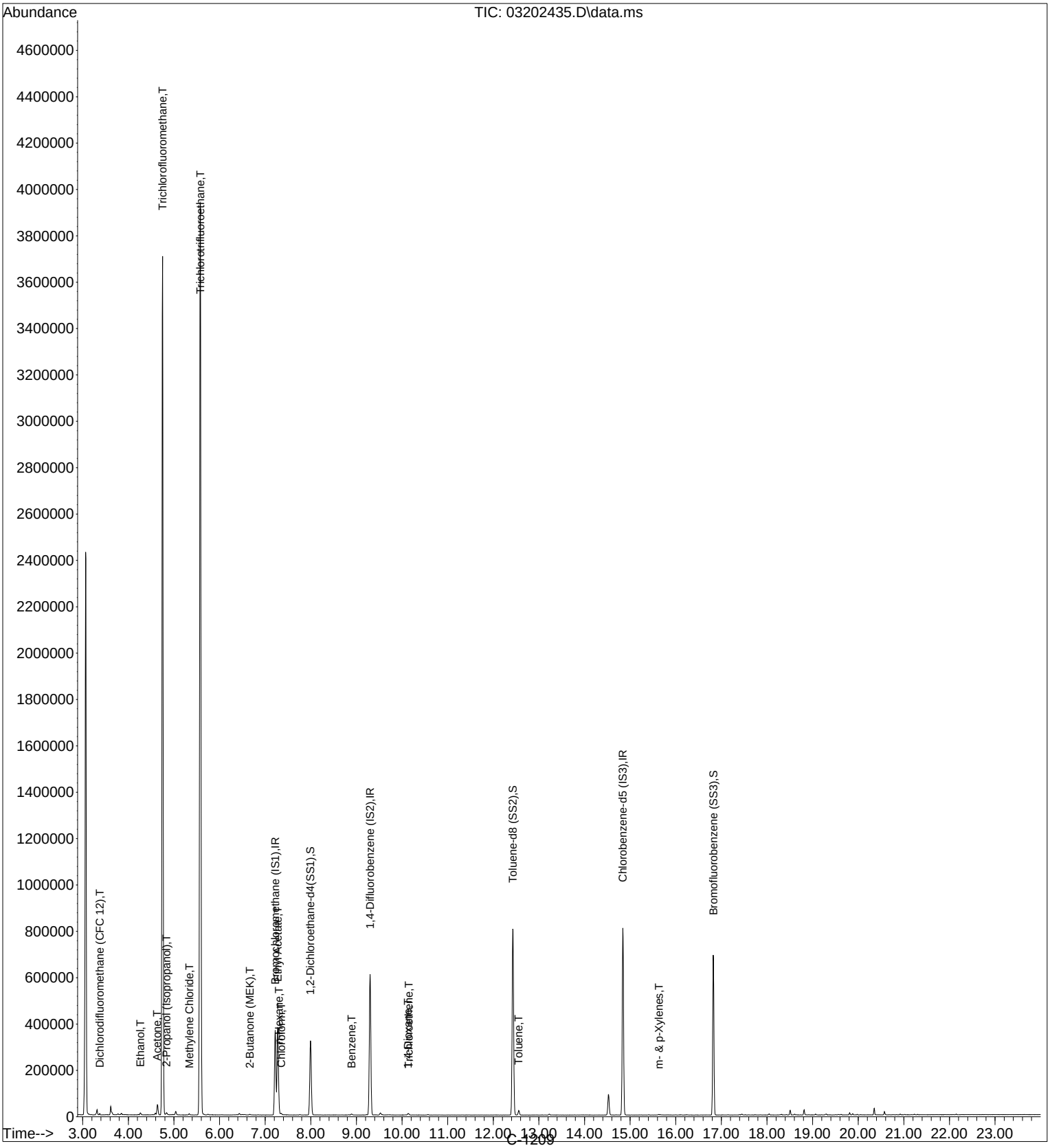
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	136343	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	585186	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	133919	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	288579	12.938	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
57) Toluene-d8 (SS2)	12.43	98	660512	12.284	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
73) Bromofluorobenzene (SS3)	16.83	174	232798	12.280	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	3701m	0.132	ng		
10) Ethanol	4.26	45	12211m	0.927	ng		
13) Acetone	4.63	58	7885	0.786	ng	#	62
14) Trichlorofluoromethane	4.75	101	2689667	99.370	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	19104	0.478	ng		85
19) Methylene Chloride	5.34	84	1300	0.089	ng		98
21) Trichlorotrifluoroethane	5.58	151	1253412	109.857	ng		98
27) 2-Butanone (MEK)	6.66	72	766	0.093	ng	#	63
30) Ethyl Acetate	7.28	61	65401	13.294	ng		96
31) n-Hexane	7.30	57	1133	0.053	ng	#	90
32) Chloroform	7.35	83	5629	0.238	ng		98
41) Benzene	8.89	78	4758	0.090	ng		96
47) Trichloroethene	10.15	130	1974	0.139	ng		98
48) 1,4-Dioxane	10.13	88	2563	0.279	ng		97
58) Toluene	12.56	91	17239	0.336	ng		100
67) m- & p-Xylenes	15.64	91	3038	0.062	ng		93

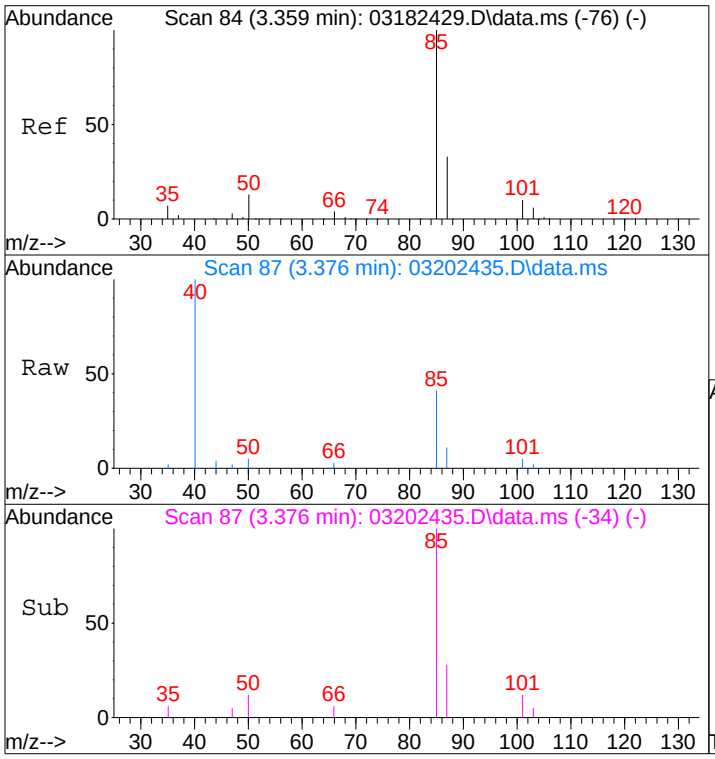
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:50:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

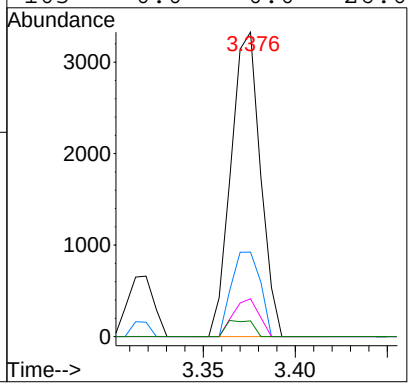


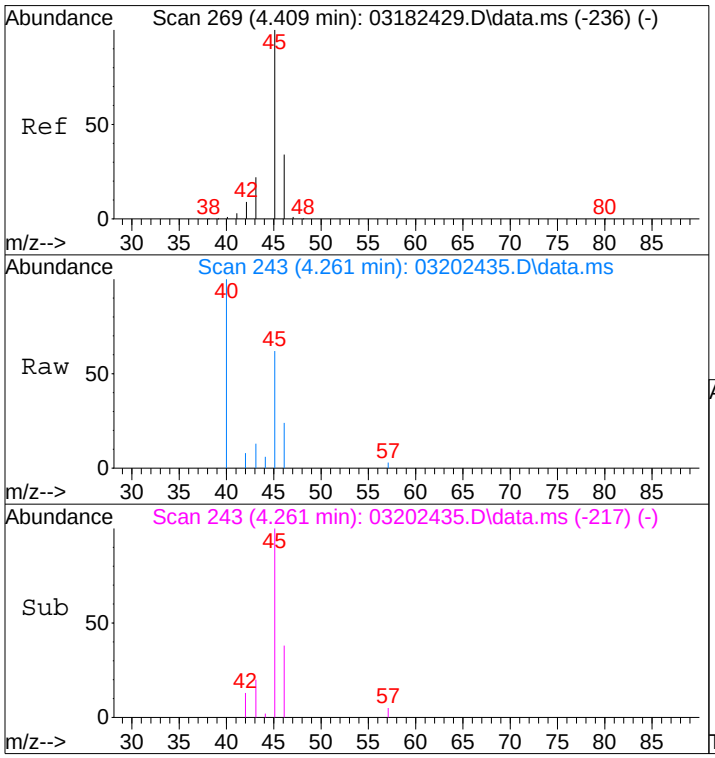


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.13 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.053 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 85 Resp: 3701

Ion	Ratio	Lower	Upper
85	100		
87	2.9	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

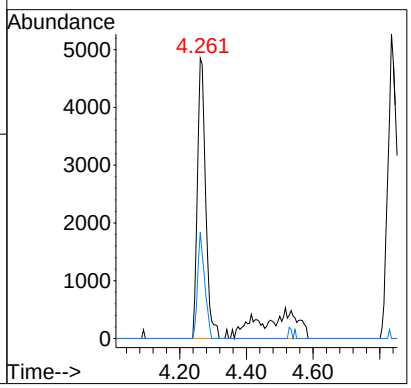


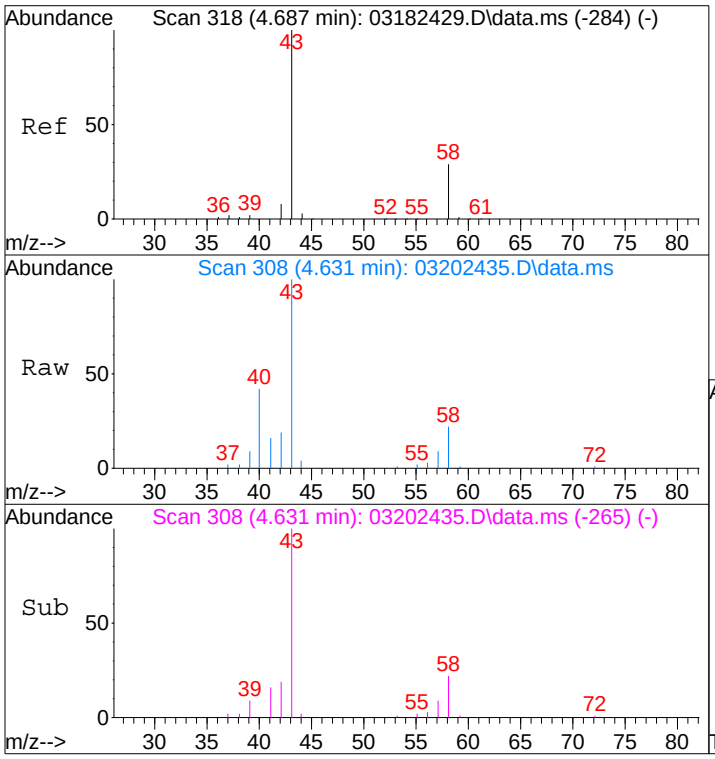


#10
Ethanol
Concen: 0.93 ng m
RT: 4.26 min Scan# 243
Delta R.T. -0.100 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 45 Resp: 12211

Ion	Ratio	Lower	Upper
45	100		
46	0.0	13.3	53.3#

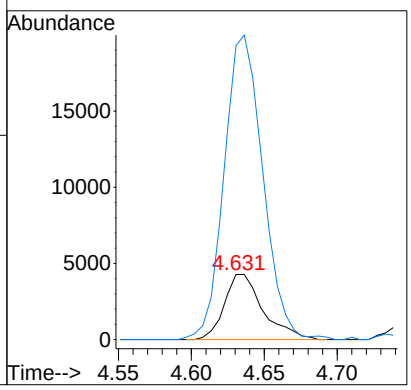


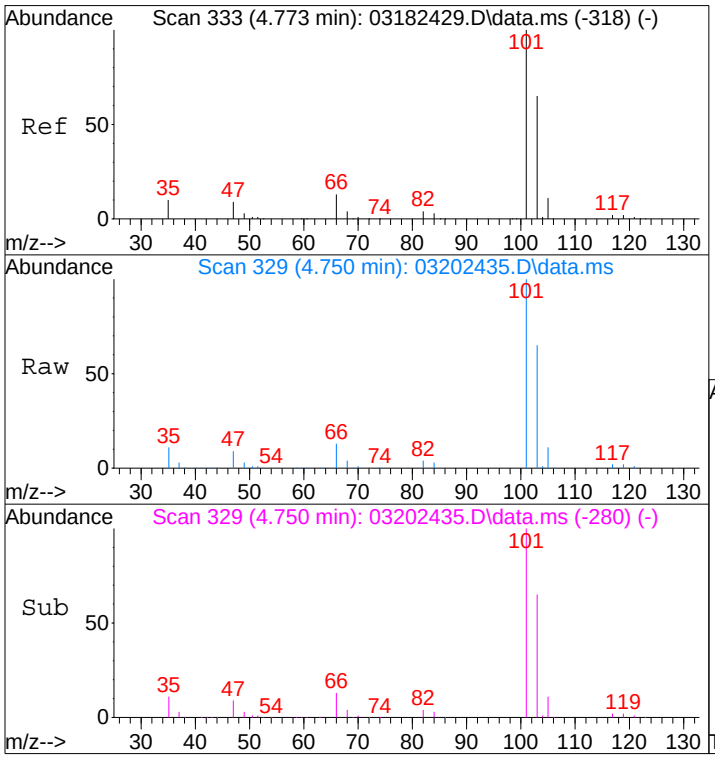


#13
Acetone
Concen: 0.79 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 58 Resp: 7885

Ion	Ratio	Lower	Upper
58	100		
43	467.6	350.1	410.1#

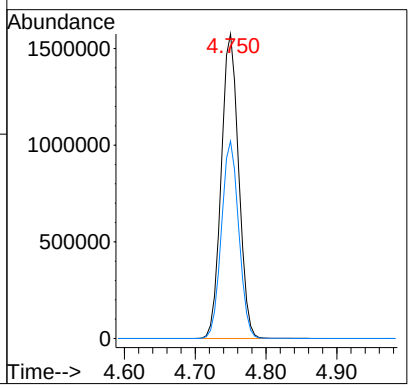


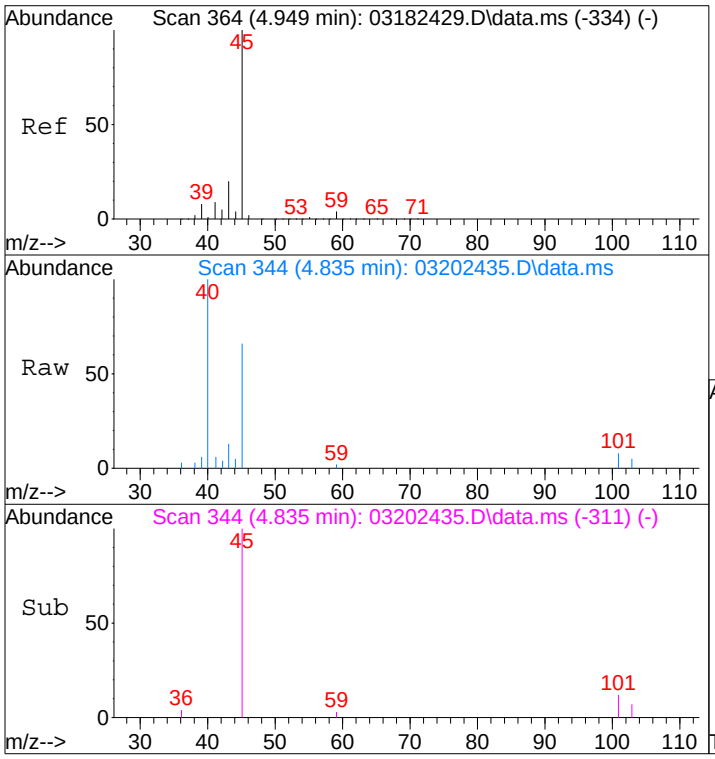


#14
Trichlorofluoromethane
Concen: 99.37 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion:101 Resp: 2689667

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.7	84.7

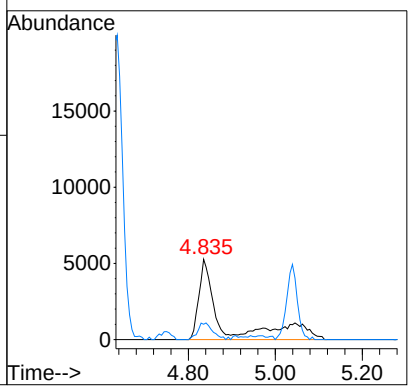


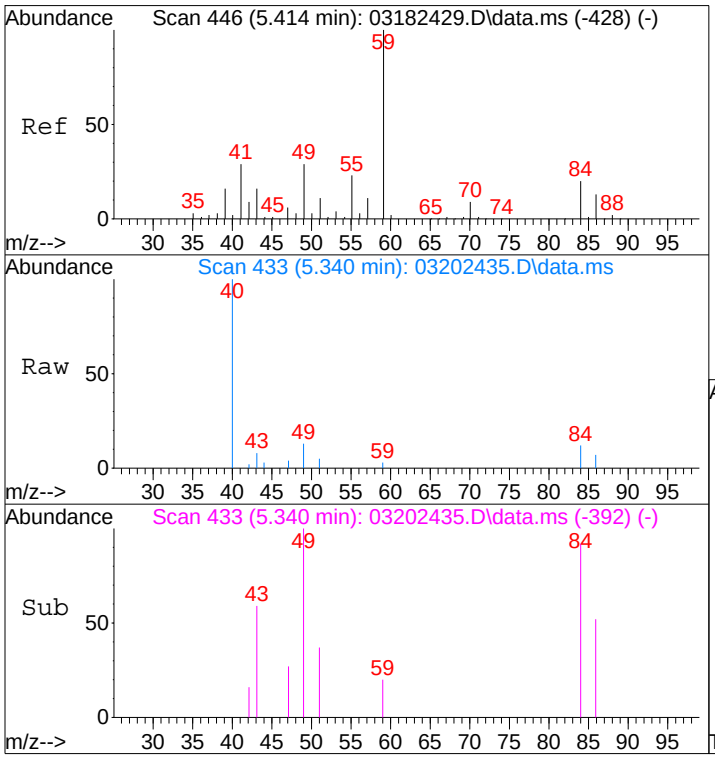


#15
2-Propanol (Isopropanol)
Concen: 0.48 ng
RT: 4.84 min Scan# 344
Delta R.T. -0.060 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 45 Resp: 19104

Ion	Ratio	Lower	Upper
45	100		
43	13.6	0.4	40.4

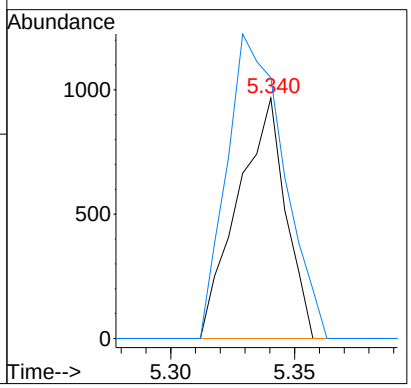


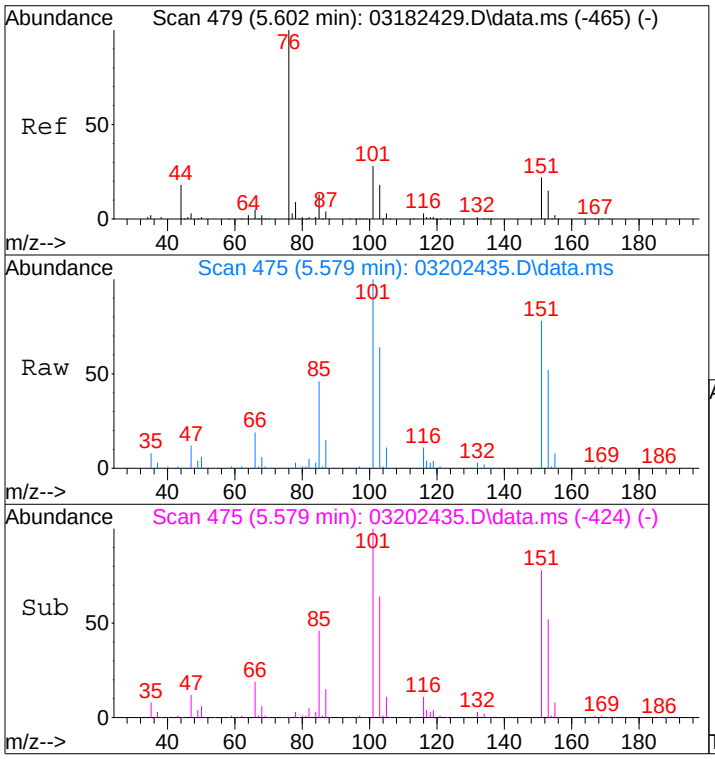


#19
Methylene Chloride
Concen: 0.09 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 84 Resp: 1300

Ion	Ratio	Lower	Upper
84	100		
49	150.2	122.9	172.9

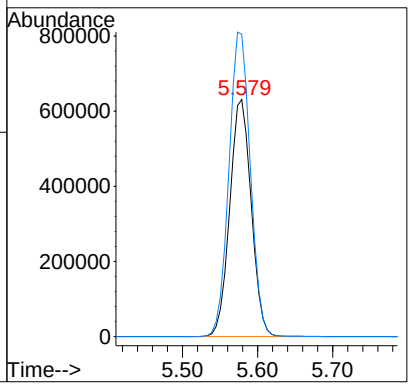


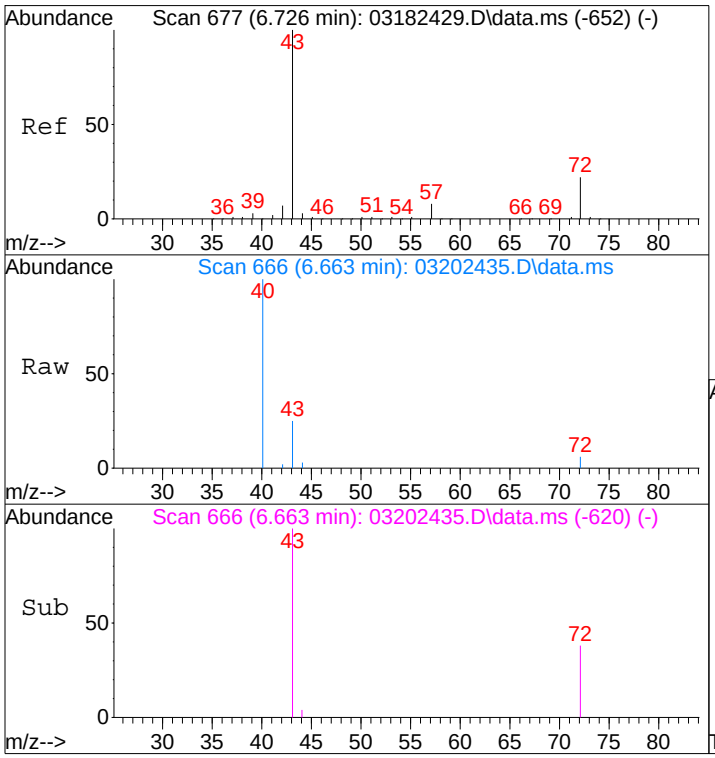


#21
Trichlorotrifluoroethane
Concen: 109.86 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion:151 Resp: 1253412

Ion	Ratio	Lower	Upper
151	100		
101	128.2	106.4	146.4

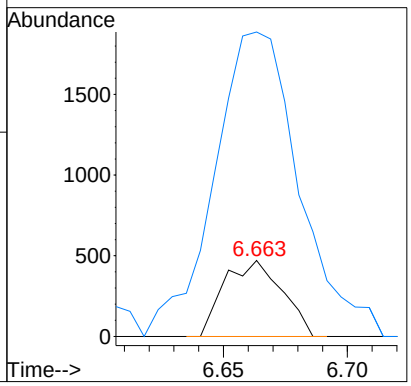


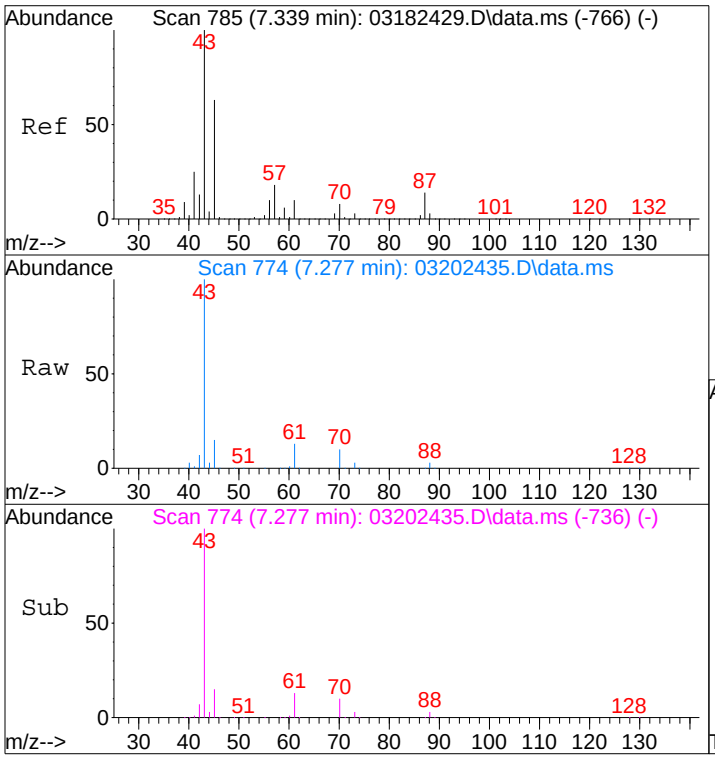


#27
2-Butanone (MEK)
Concen: 0.09 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.011 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 72 Resp: 766

Ion	Ratio	Lower	Upper
72	100		
43	588.3	468.6	508.6#

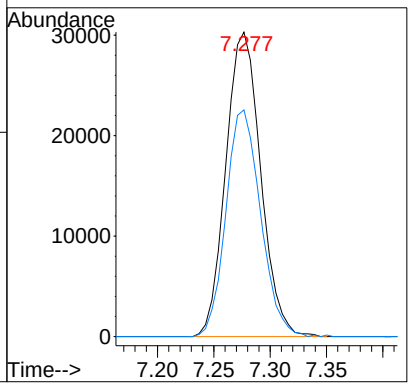


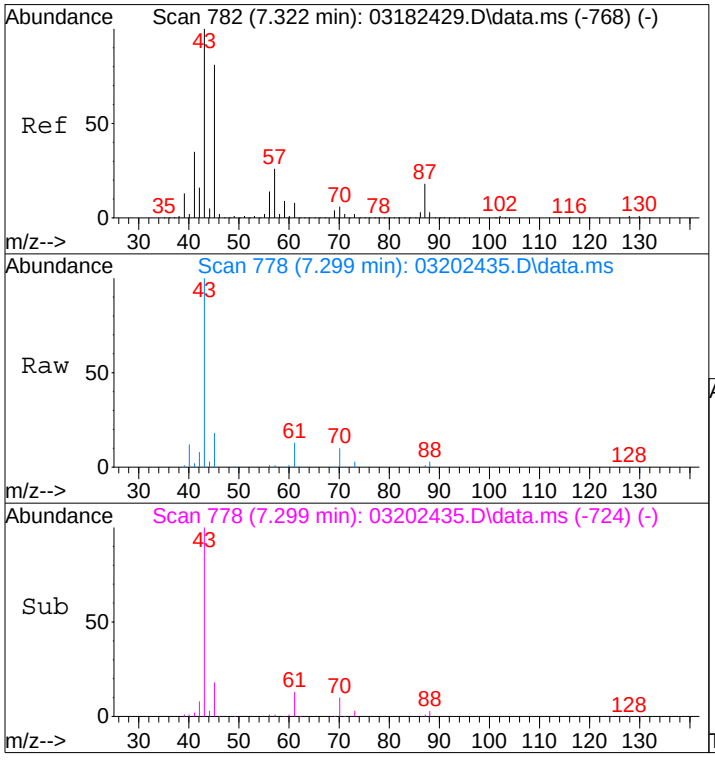


#30
Ethyl Acetate
Concen: 13.29 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.017 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 61 Resp: 65401

Ion	Ratio	Lower	Upper
61	100		
70	74.0	57.3	97.3

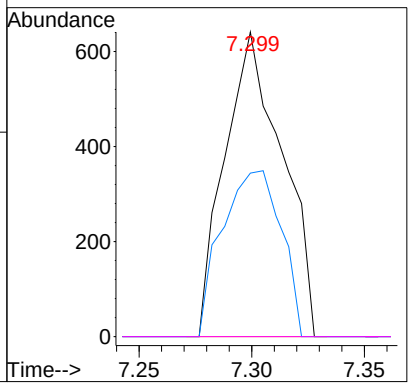


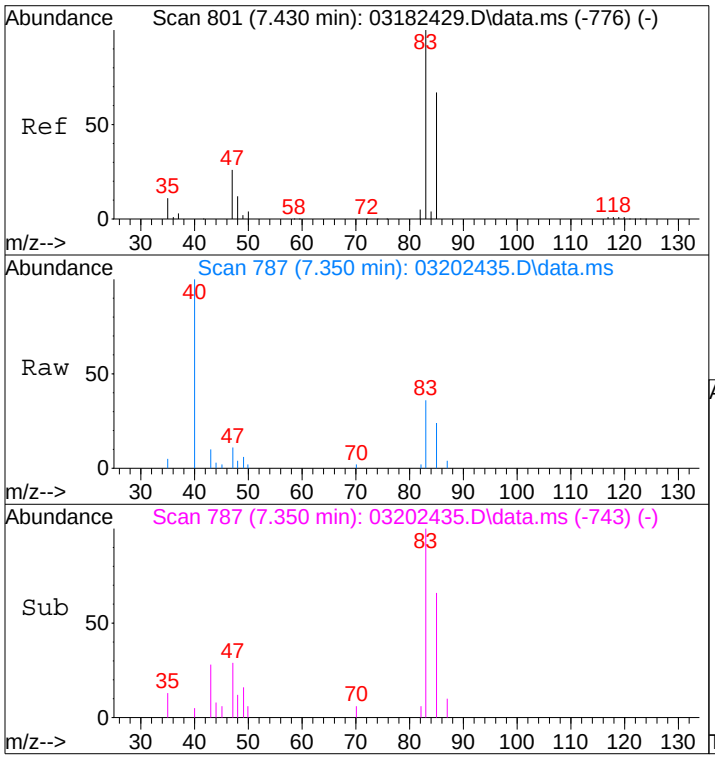


#31
n-Hexane
Concen: 0.05 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 57 Resp: 1133

Ion	Ratio	Lower	Upper
57	100		
56	56.2	42.2	63.4
86	0.0	9.4	14.2#

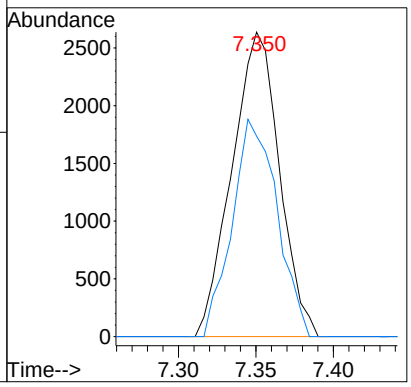


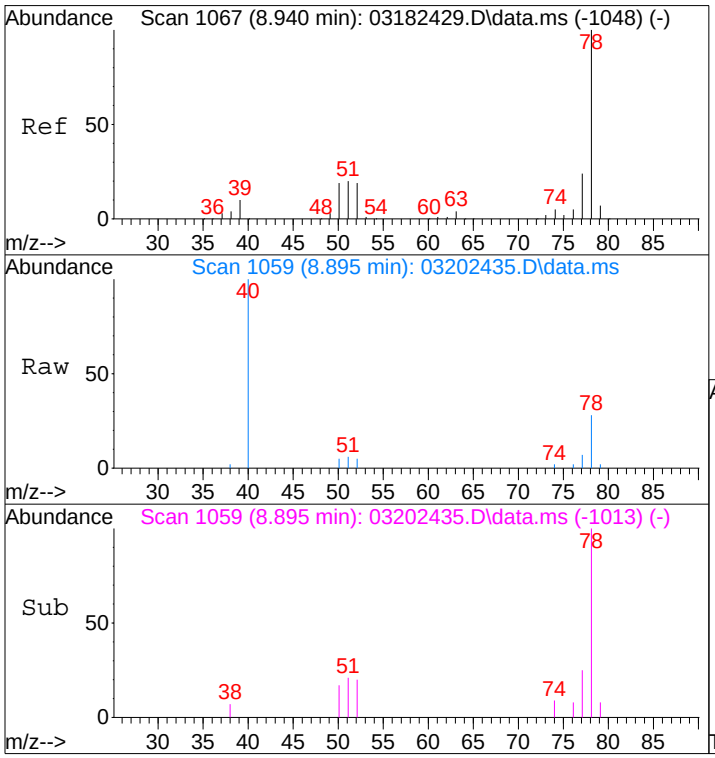


#32
Chloroform
Concen: 0.24 ng
RT: 7.35 min Scan# 787
Delta R.T. 0.001 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 83 Resp: 5629

Ion	Ratio	Lower	Upper
83	100		
85	67.4	46.1	86.1

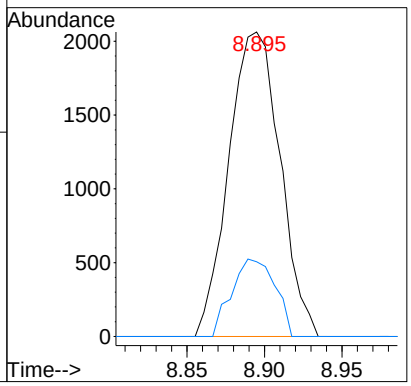


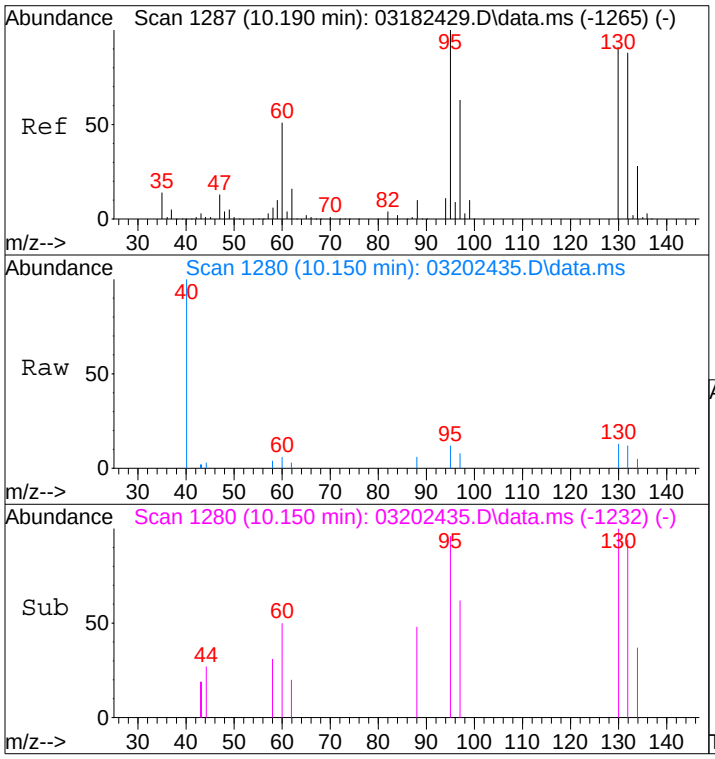


#41
Benzene
Concen: 0.09 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 78 Resp: 4758

Ion	Ratio	Lower	Upper
78	100		
77	21.5	3.6	43.6

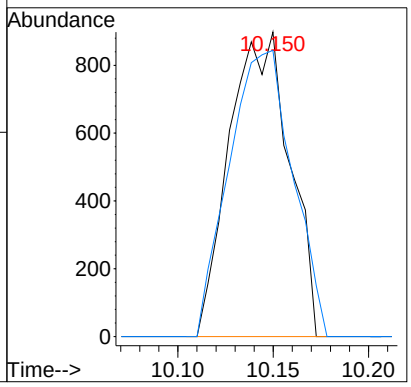


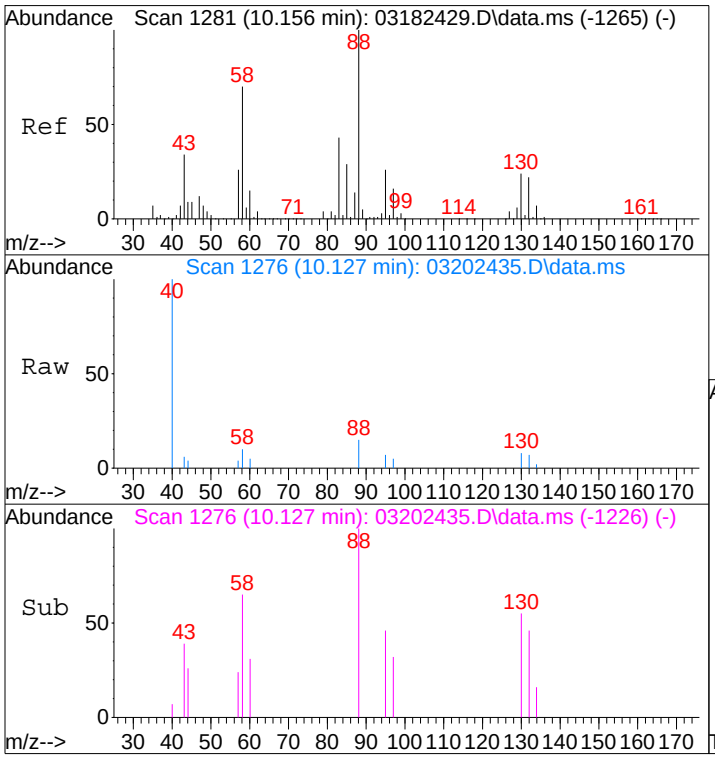


#47
Trichloroethene
Concen: 0.14 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion:130 Resp: 1974

Ion	Ratio	Lower	Upper
130	100		
132	99.4	77.5	117.5

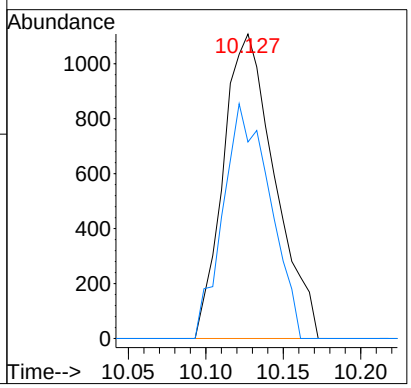


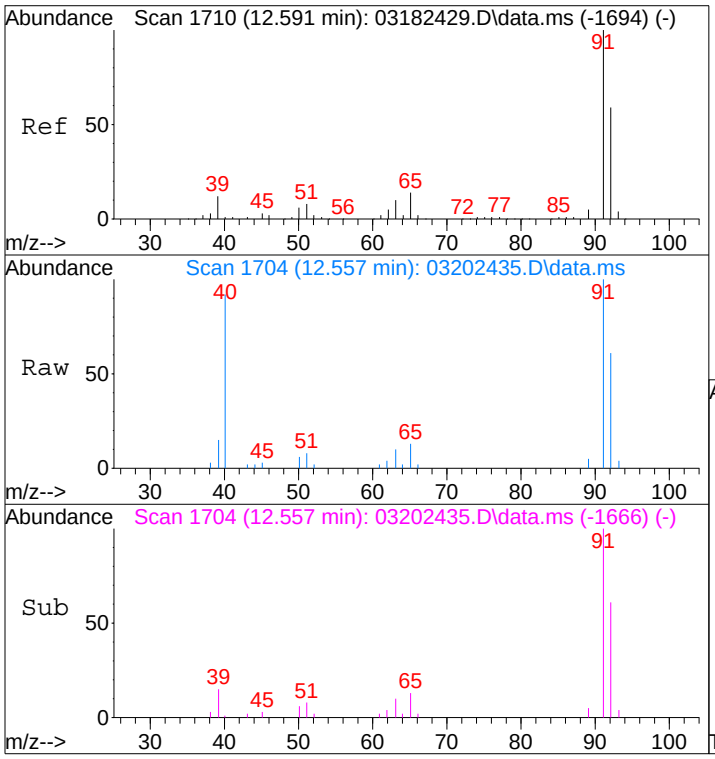


#48
1,4-Dioxane
Concen: 0.28 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.033 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 88 Resp: 2563

Ion	Ratio	Lower	Upper
88	100		
58	70.3	48.2	88.2

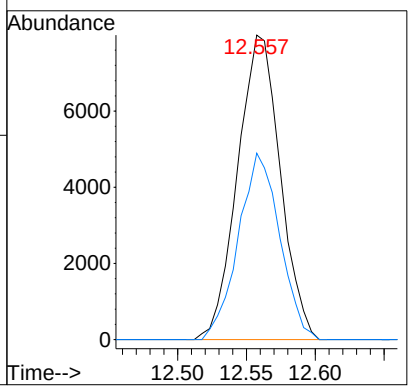


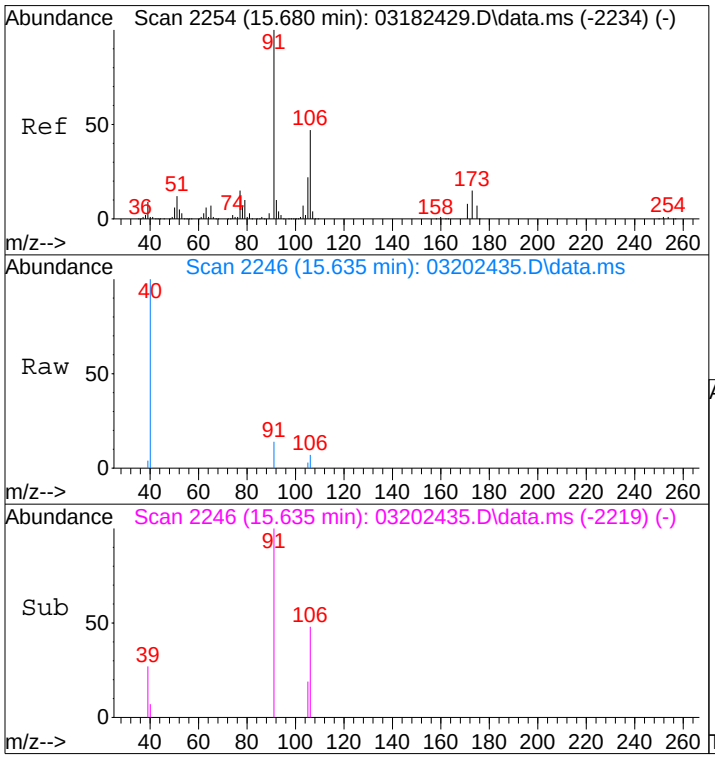


#58
Toluene
Concen: 0.34 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 91 Resp: 17239

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.2	79.2

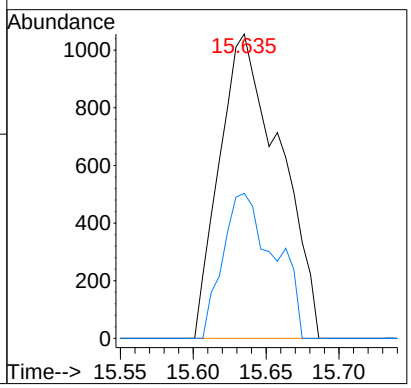




#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.045 min
Lab File: 03202435.D
Acq: 21 Mar 2024 00:15

Tgt Ion: 91 Resp: 3038

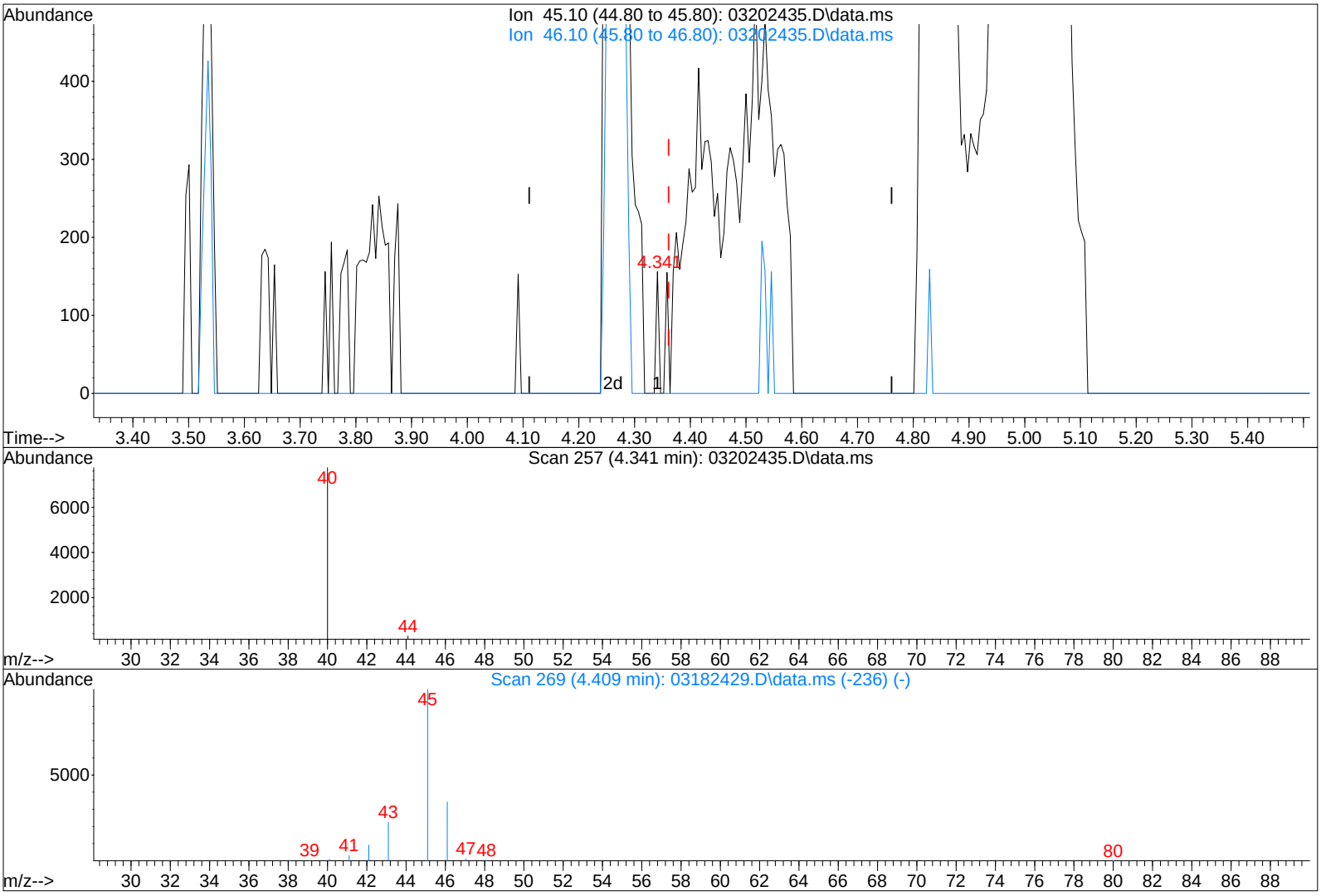
Ion	Ratio	Lower	Upper
91	100		
106	40.7	25.6	65.6



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:29:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202435.D\data.ms

(10) Ethanol (T)

4.341min (-0.020) 0.00ng

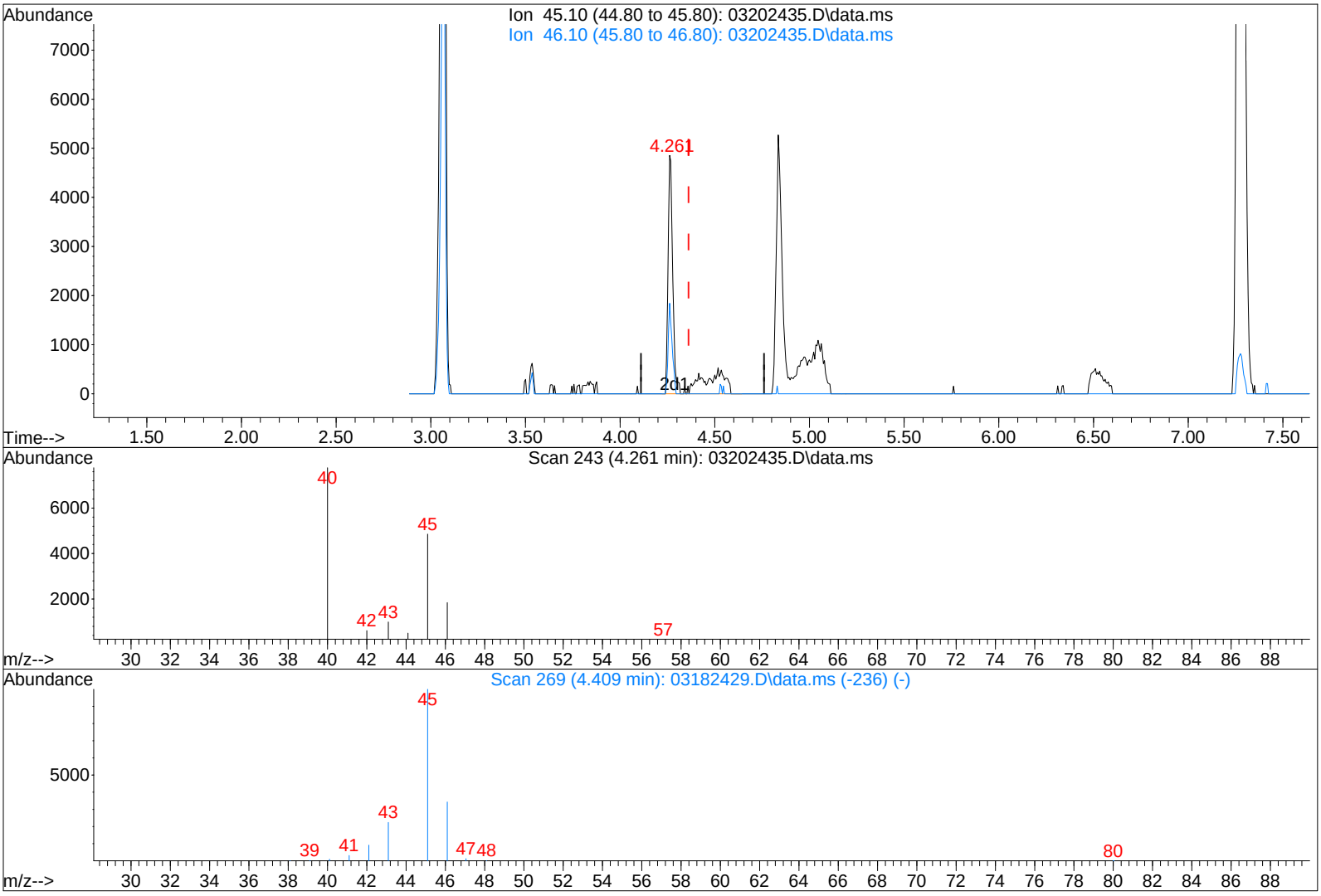
response 53

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:29:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202435.D\data.ms

MP 3/25/24

(10) Ethanol (T)

4.261min (-0.100) 0.93ng m

response 12211

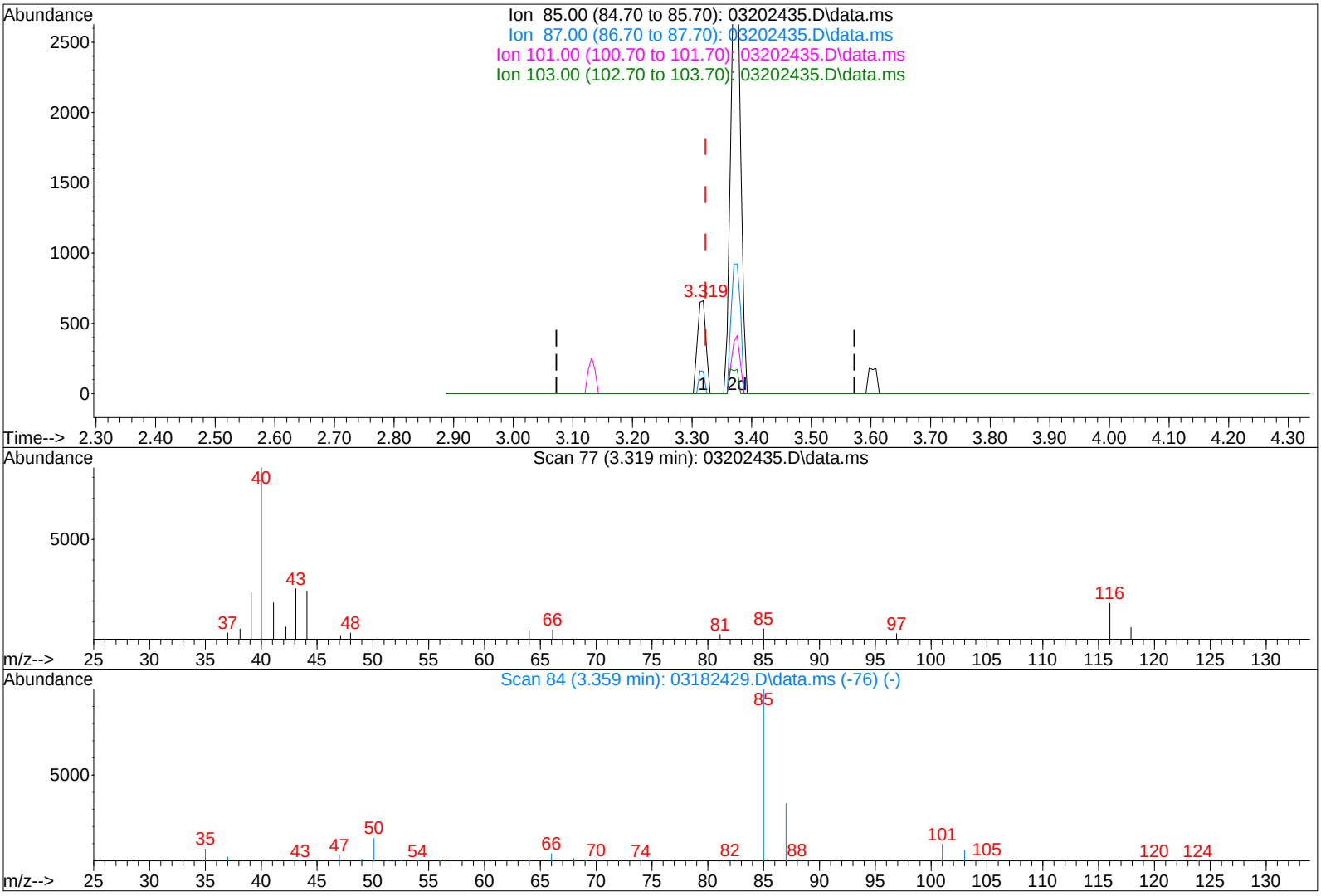
Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

LH 3/25/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:29:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202435.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.003) 0.02ng

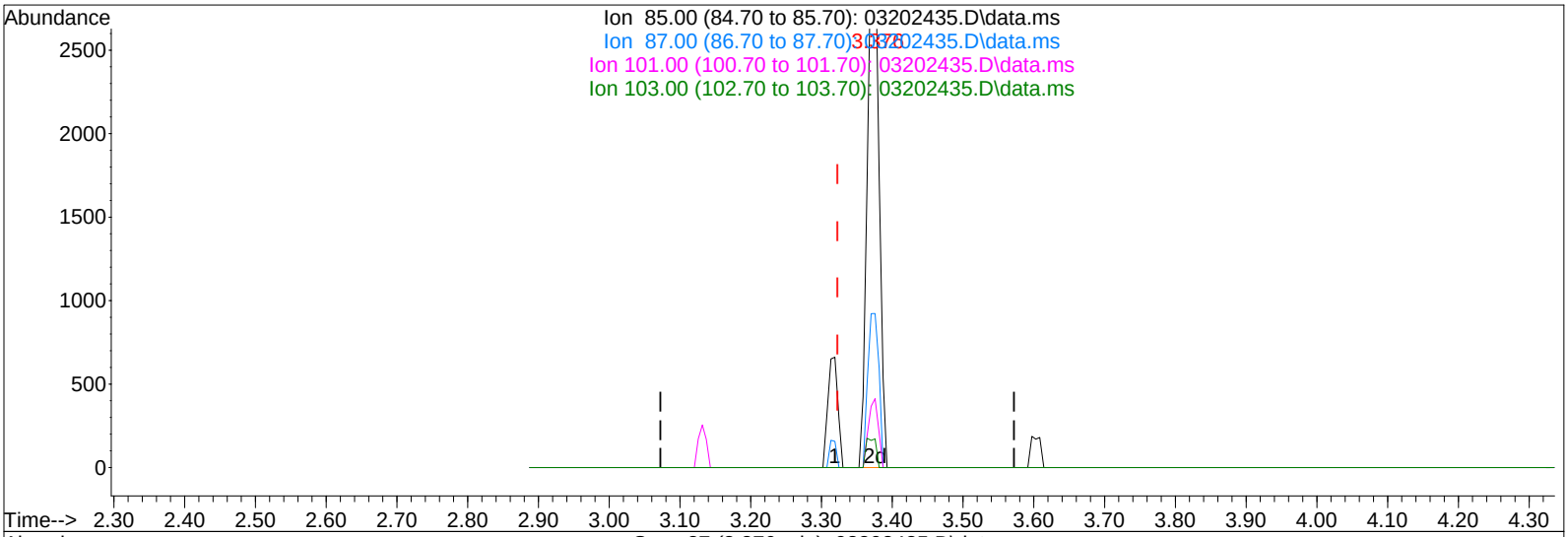
response 654

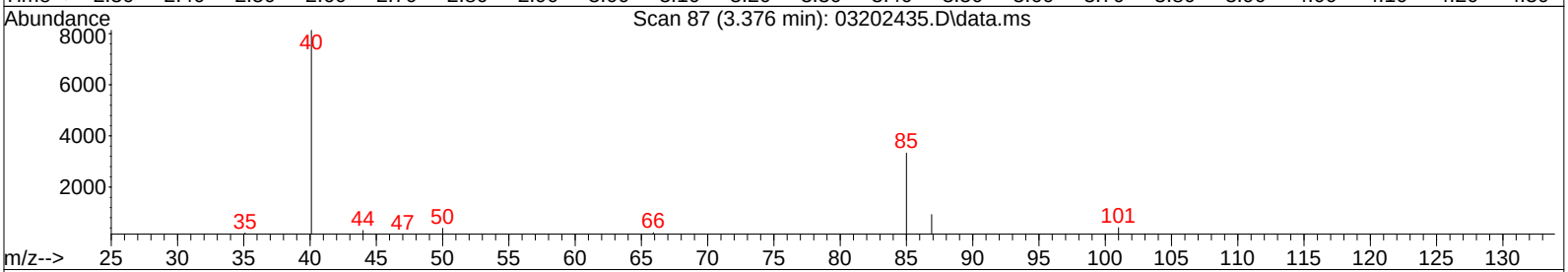
Ion	Exp%	Act%
85.00	100	100
87.00	32.50	16.67
101.00	9.20	0.00
103.00	6.00	0.00

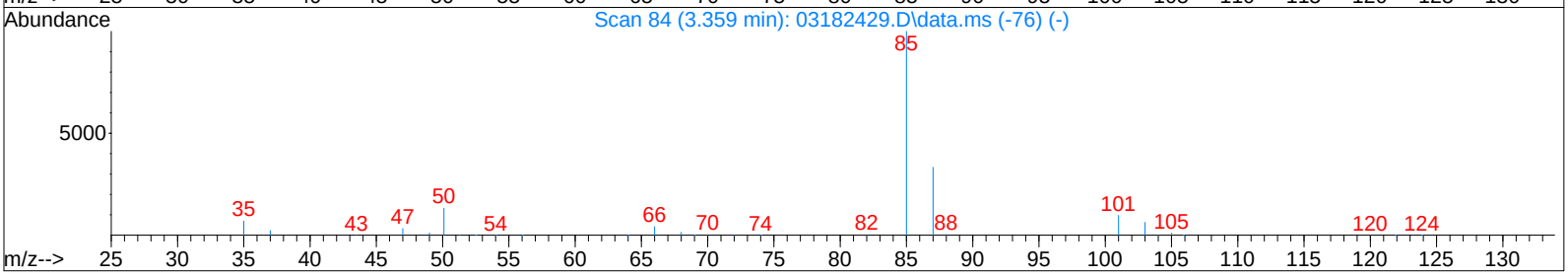
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 21 08:29:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03202435.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.053) 0.13ng m

response 3701

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	2.95#
101.00	9.20	0.00
103.00	6.00	0.00

MP 3/25/24

LH 3/25/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:41:31 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

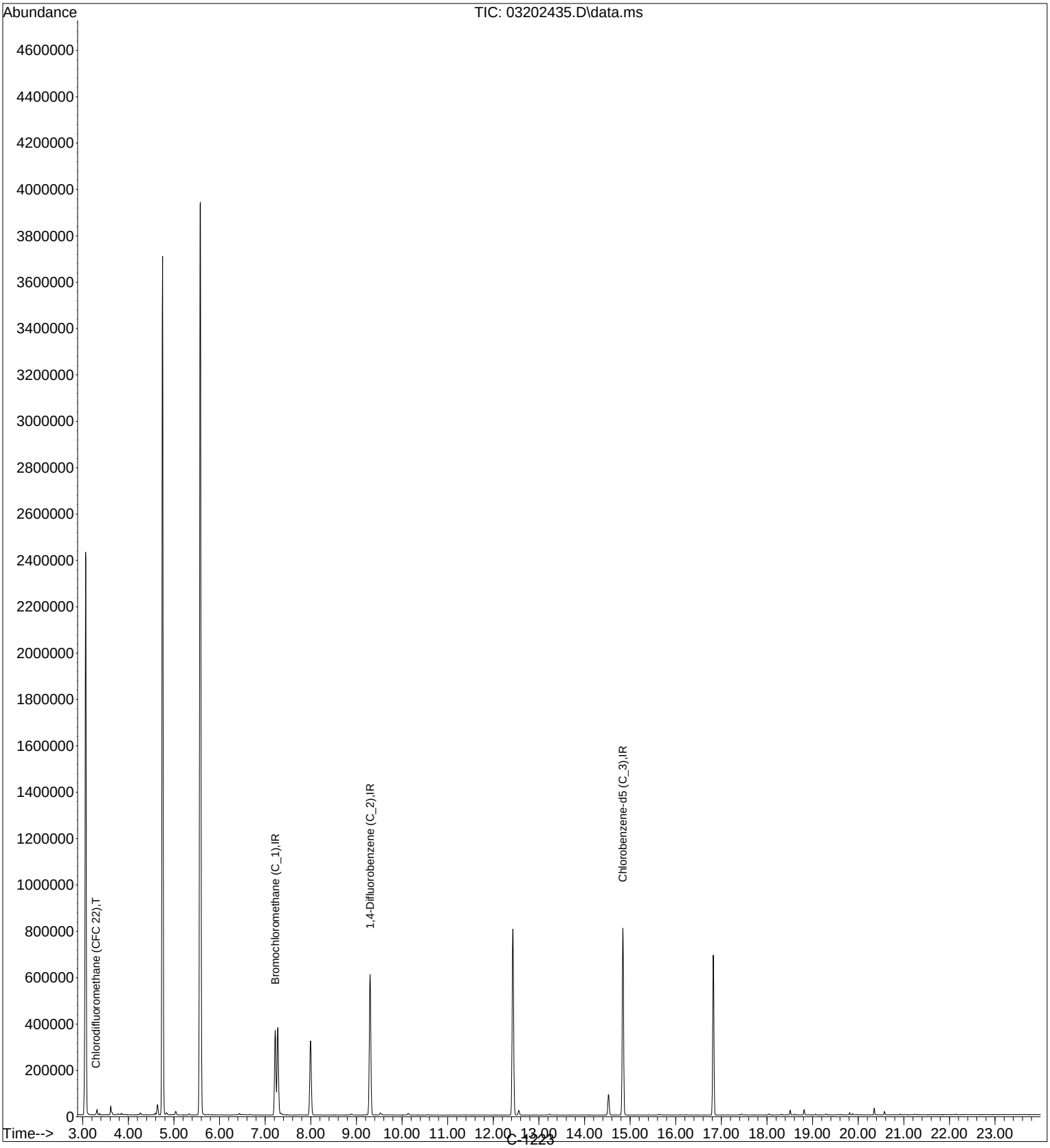
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	136343	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	586077	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	133919	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	310	N.D.			
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.29	67	660	0.165	ng	#	92
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.			
7) Dichlorofluoromethane ...	4.22	67	1856	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.59	83	319	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1638	N.D.			
12) 2-Methylpentane	6.48	71	65	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.53	56	57	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.42	55	221	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	495	N.D.			
27) 4-Chlorotoluene	17.68	91	847	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202435.D Vial: 8
Acq On : 21 Mar 2024 00:15 Operator: SC
Sample : P2400922-034 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 13:41:31 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222428.D Vial: 8
Acq On : 22 Mar 2024 20:47 Operator: SC
Sample : P2400922-034Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:32:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	153944	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	663797	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	148309	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	314187	12.475	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
57) Toluene-d8 (SS2)	12.43	98	766942	12.880	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%				
73) Bromofluorobenzene (SS3)	16.83	174	265554	12.649	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	3.32	42	765	N.D.			
3) Dichlorodifluoromethan...	3.32	85	247	N.D.			
4) Chloromethane	3.52	50	290	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.42	45	183	N.D.			
11) Acetonitrile	4.44	41	133	N.D.			
12) Acrolein	4.53	56	198	N.D.			
13) Acetone	4.64	58	4459	0.394	ng	#	63
14) Trichlorofluoromethane	4.75	101	1305660	42.723	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	10014	0.222	ng		90
16) Acrylonitrile	4.99	53	422	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	105	N.D.			
19) Methylene Chloride	5.34	84	1076	0.065	ng		96
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	619553	48.093	ng		99
22) Carbon Disulfide	5.61	76	746	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	243	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	33372	6.008	ng		96
31) n-Hexane	7.30	57	647	N.D.			
32) Chloroform	7.35	83	2699	0.101	ng		97
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	175	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	2763	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.23	84	318	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	497	N.D.			
47) Trichloroethene	10.14	130	1170	0.073	ng		83
48) 1,4-Dioxane	10.13	88	1251	0.120	ng		95
49) 2,2,4-Trimethylpentane...	10.13	57	189	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222428.D Vial: 8
Acq On : 22 Mar 2024 20:47 Operator: SC
Sample : P2400922-034Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:32:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

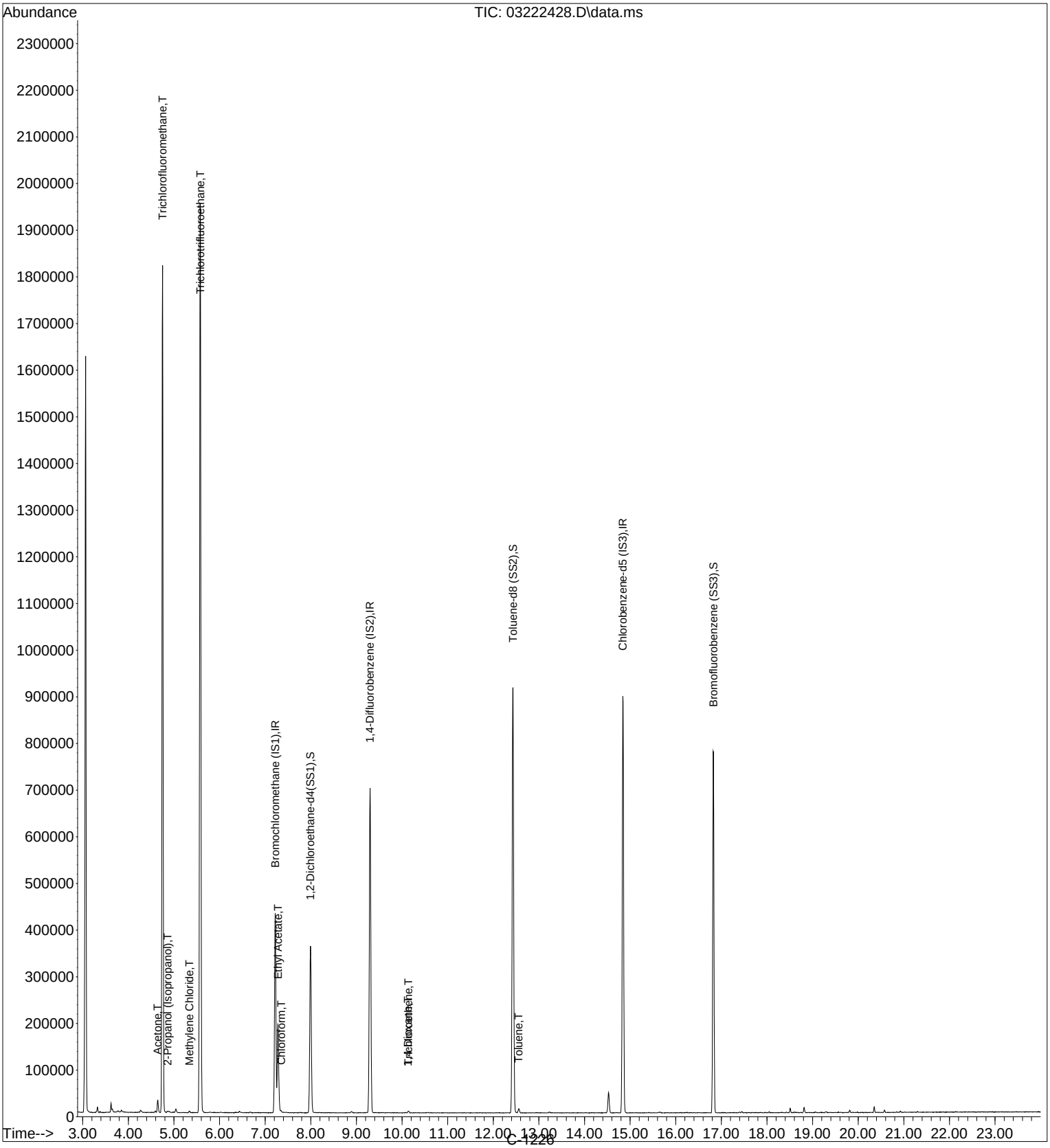
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	9284	0.163 ng	98
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.06	129	313	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	418	N.D.	
65) Chlorobenzene	14.90	112	484	N.D.	
66) Ethylbenzene	15.41	91	1118	N.D.	
67) m- & p-Xylenes	15.63	91	2259	N.D.	
68) Bromoform	15.67	173	392	N.D.	
69) Styrene	16.10	104	287	N.D.	
70) o-Xylene	16.24	91	948	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	297	N.D.	
74) Cumene	17.04	105	658	N.D.	
75) alpha-Pinene	17.52	93	268	N.D.	
76) n-Propylbenzene	17.67	91	901	N.D.	
77) 3-Ethyltoluene	17.04	105	658	No Calib	#
78) 4-Ethyltoluene	17.86	105	615	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	442	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	658	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	493	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	475	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	485	N.D.	
87) sec-Butylbenzene	18.75	105	656	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	447	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	658	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	370	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	518	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	564	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	588	N.D.	
100) n-Butylbenzene	19.39	91	359	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222428.D Vial: 8
Acq On : 22 Mar 2024 20:47 Operator: SC
Sample : P2400922-034Dil (40mL) Inst : MS09
Misc : S37-02202408

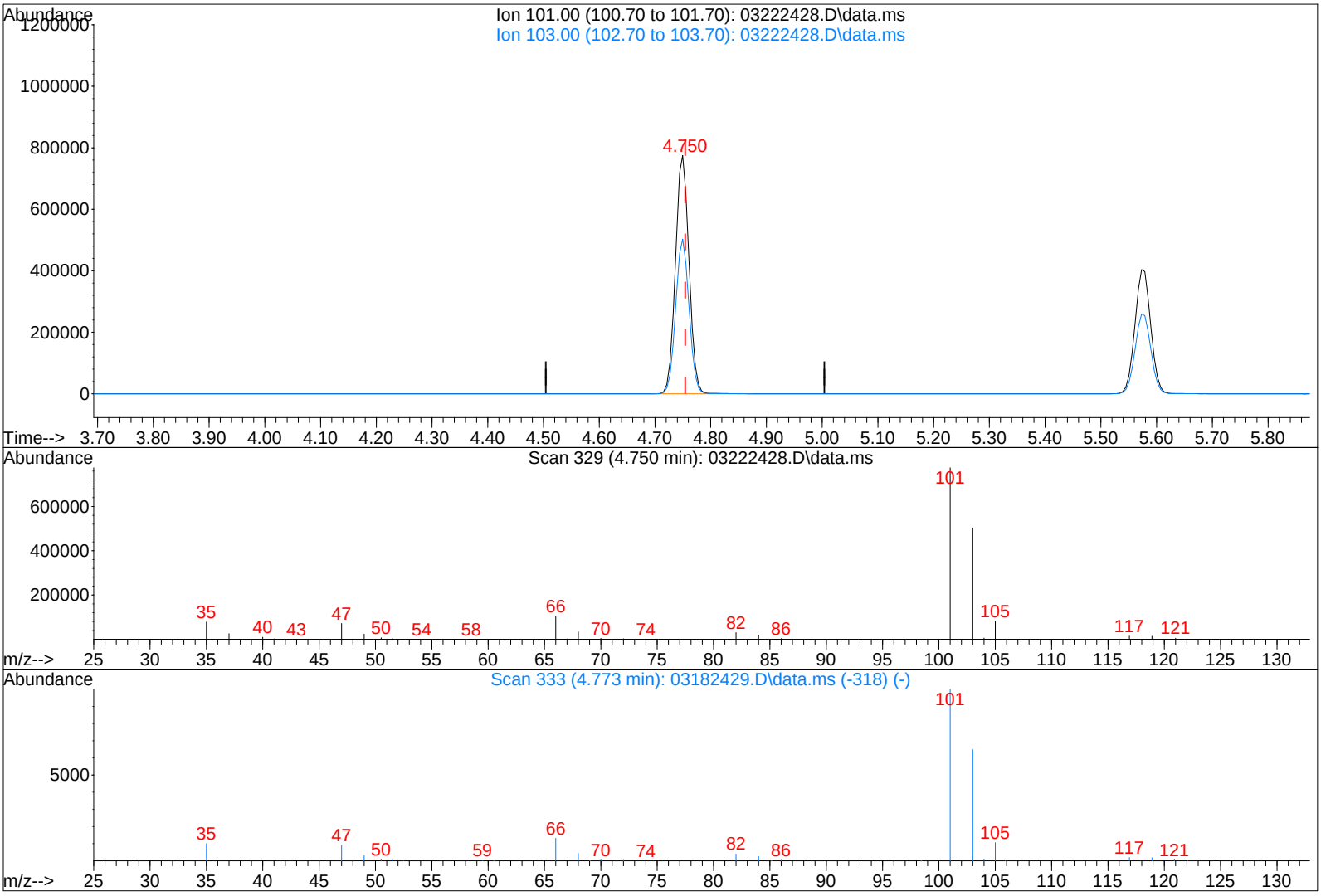
Quant Time: Mar 25 14:32:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222428.D Vial: 8
Acq On : 22 Mar 2024 20:47 Operator: SC
Sample : P2400922-034Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222428.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 42.72ng

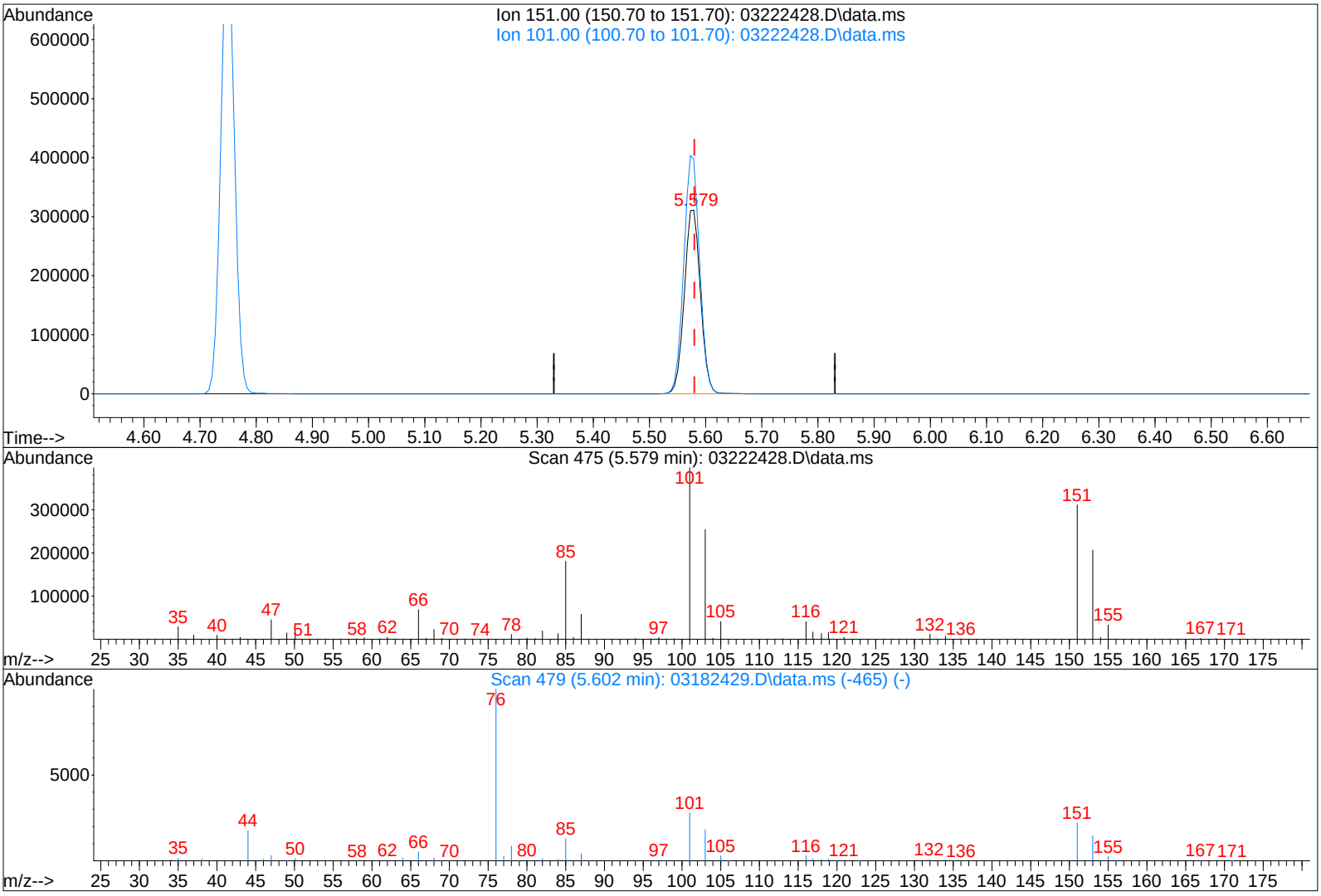
response 1305660

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222428.D Vial: 8
Acq On : 22 Mar 2024 20:47 Operator: SC
Sample : P2400922-034Dil (40mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:18:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222428.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.001) 48.09ng

response 619553

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	128.00
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202435.D
Acq On : 21 Mar 2024 00:15
Operator : SC
Sample : P2400922-034 (80mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202435.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	68	76	83	rBV6	22634	35604	0.45%	0.222%
2	3.614	123	129	143	rBV2	36133	63434	0.81%	0.395%
3	4.261	239	243	250	rBV2	8605	15385	0.20%	0.096%
4	4.591	297	301	304	rBV2	7259	10489	0.13%	0.065%
5	4.636	304	309	320	rVB2	44455	83382	1.06%	0.519%
6	4.750	320	329	339	rBV	3704314	6308625	80.24%	39.271%
7	4.835	339	344	355	rVB	9154	20663	0.26%	0.129%
8	5.039	373	380	390	rVB2	15087	27088	0.34%	0.169%
9	5.579	462	475	494	rBV	3934249	7861887	100.00%	48.940%
10	6.431	619	625	631	rVB	5778	11359	0.14%	0.071%
11	7.220	754	764	769	rBV	365692	804208	10.23%	5.006%
12	7.277	769	774	784	rVV	377747	809396	10.30%	5.038%
13	7.350	784	787	795	rVB2	6966	12721	0.16%	0.079%

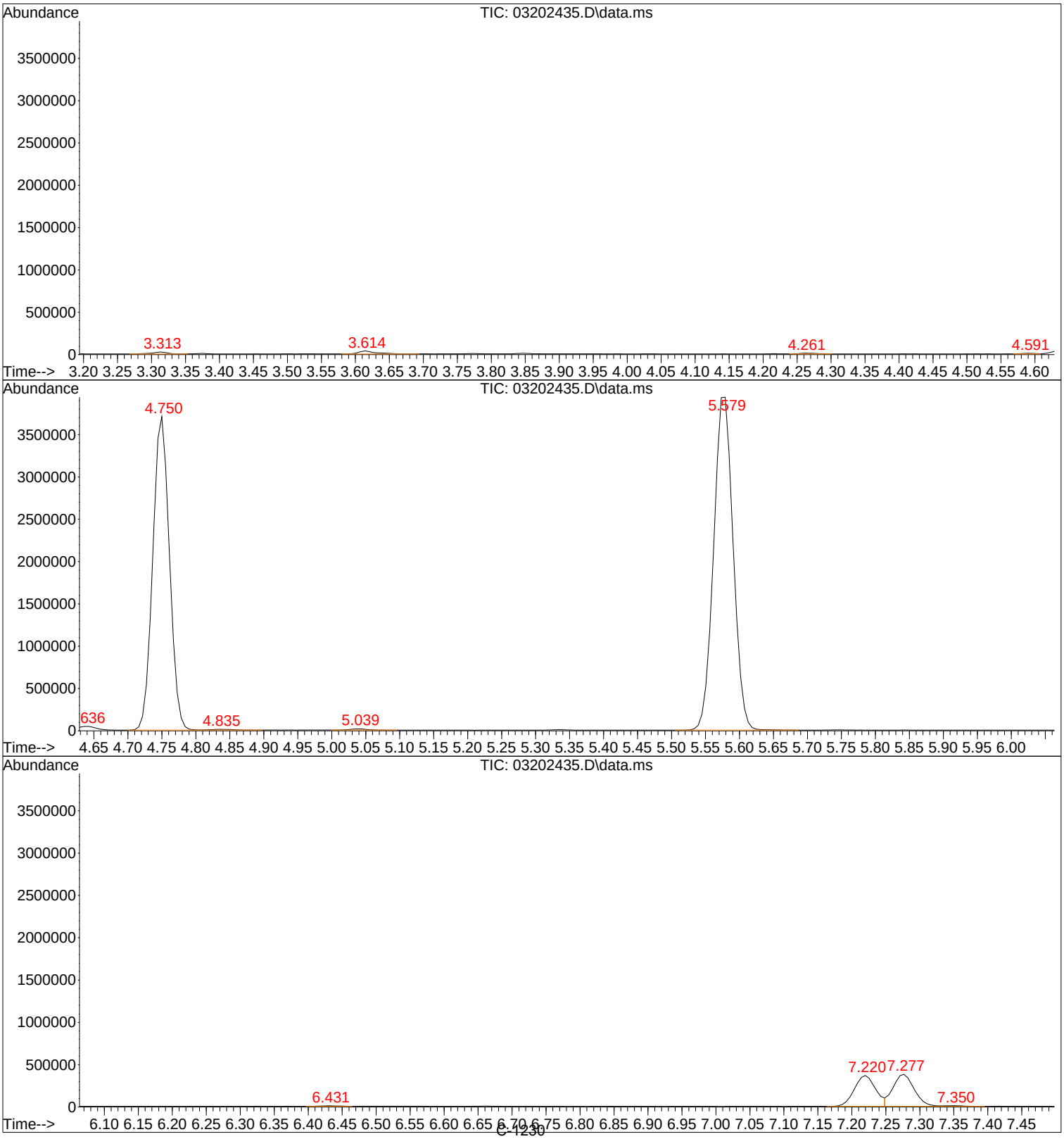
Sum of corrected areas: 16064241

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202435.D
Acq On : 21 Mar 2024 00:15
Operator : SC
Sample : P2400922-034 (80mL)
Misc : S37-02202408
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\20\\
Data File : 03202435.D
Acq On : 21 Mar 2024 00:155
Operator : SCC
Sample : P2400922-034 (80mL))
Misc : S37-022024088
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:06:39 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	183459	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	784815	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	173264	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	364724	12.152	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
57) Toluene-d8 (SS2)	12.43	98	901252	12.955	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%			
73) Bromofluorobenzene (SS3)	16.82	174	310810	12.672	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
Target Compounds						Qvalue
2) Propene	3.32	42	1021	N.D.		
3) Dichlorodifluoromethan...	3.33	85	547	N.D.		
4) Chloromethane	3.39	50	121	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.41	45	54	N.D.		
11) Acetonitrile	4.44	41	241	N.D.		
12) Acrolein	4.55	56	204	N.D.		
13) Acetone	4.66	58	1999	0.148	ng	93
14) Trichlorofluoromethane	4.75	101	2725258	74.827	ng	100
15) 2-Propanol (Isopropanol)	4.91	45	454	N.D.		
16) Acrylonitrile	4.99	53	597	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.34	84	954	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	1510767	98.407	ng	97
22) Carbon Disulfide	5.60	76	2262	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.34	83	4044	0.127	ng	98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.10	62	195	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.83	56	546	No Calib	#	
41) Benzene	8.89	78	2923	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.28	84	665	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	434	N.D.		
47) Trichloroethene	10.14	130	1461	0.077	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:06:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

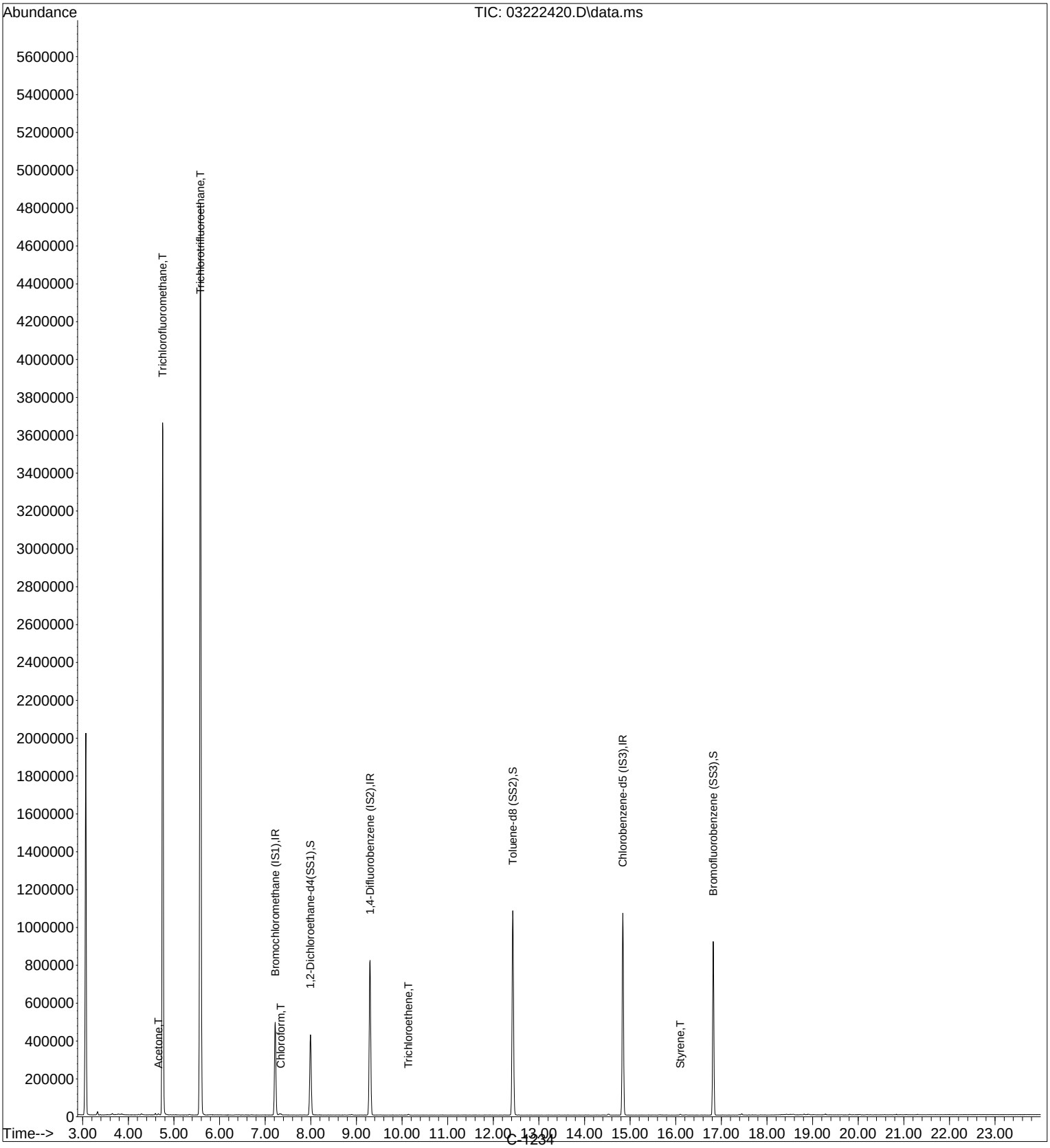
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1125	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.06	129	370	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	326	N.D.	
65) Chlorobenzene	14.90	112	711	N.D.	
66) Ethylbenzene	15.41	91	913	N.D.	
67) m- & p-Xylenes	15.65	91	1583	N.D.	
68) Bromoform	15.67	173	529	N.D.	
69) Styrene	16.10	104	2549	0.059 ng	96
70) o-Xylene	16.25	91	881	N.D.	
71) n-Nonane	16.61	43	123	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	368	N.D.	
74) Cumene	17.03	105	746	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	1162	N.D.	
77) 3-Ethyltoluene	17.03	105	746	No Calib #	
78) 4-Ethyltoluene	17.86	105	728	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	307	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	746	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	564	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	559	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	437	N.D.	
87) sec-Butylbenzene	18.74	105	944	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	575	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	746	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	561	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	616	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	628	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	916	N.D.	
100) n-Butylbenzene	19.39	91	630	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:06:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:06:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

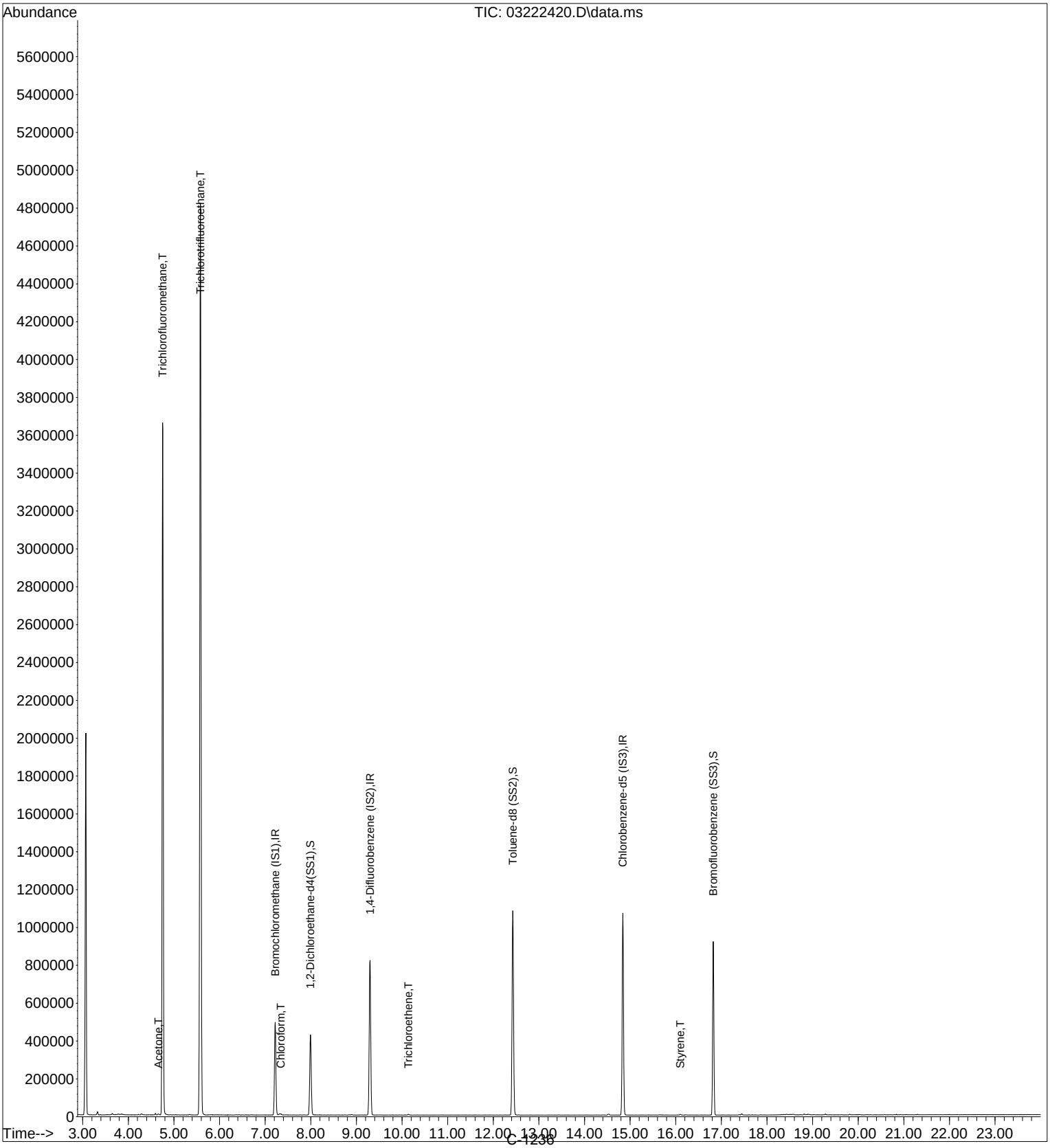
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	183459	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	784815	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	173264	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	364724	12.152	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
57) Toluene-d8 (SS2)	12.43	98	901252	12.955	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%			
73) Bromofluorobenzene (SS3)	16.82	174	310810	12.672	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
Target Compounds						Qvalue
13) Acetone	4.66	58	1999	0.148	ng	93
14) Trichlorofluoromethane	4.75	101	2725258	74.827	ng	100
21) Trichlorotrifluoroethane	5.58	151	1510767	98.407	ng	97
32) Chloroform	7.34	83	4044	0.127	ng	98
47) Trichloroethene	10.14	130	1461	0.077	ng	98
69) Styrene	16.10	104	2549	0.059	ng	96

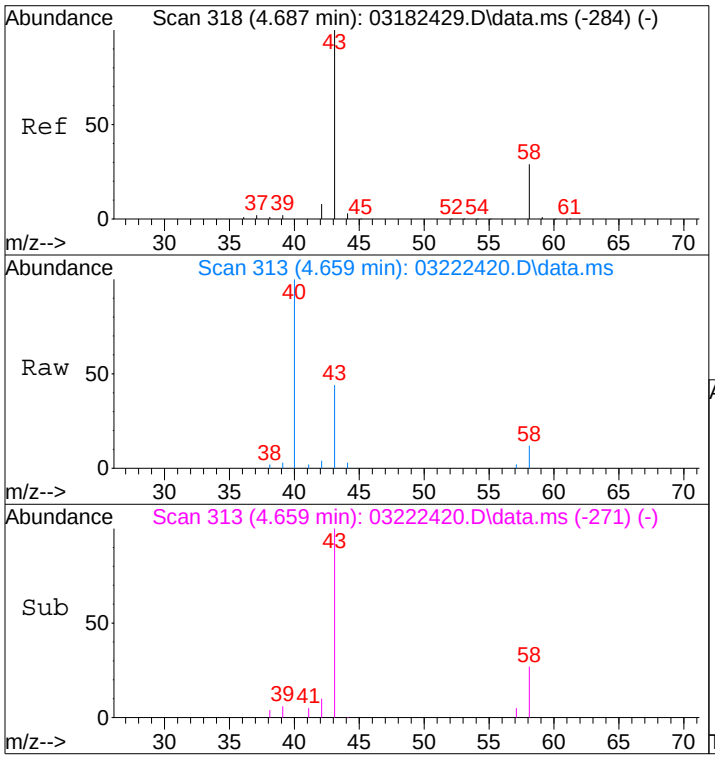
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:06:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

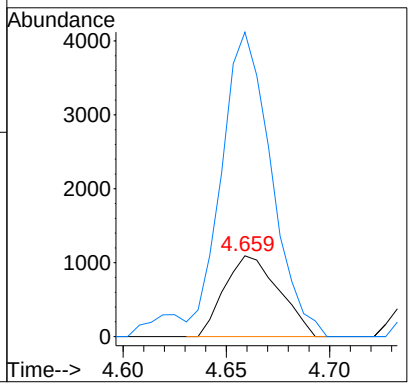


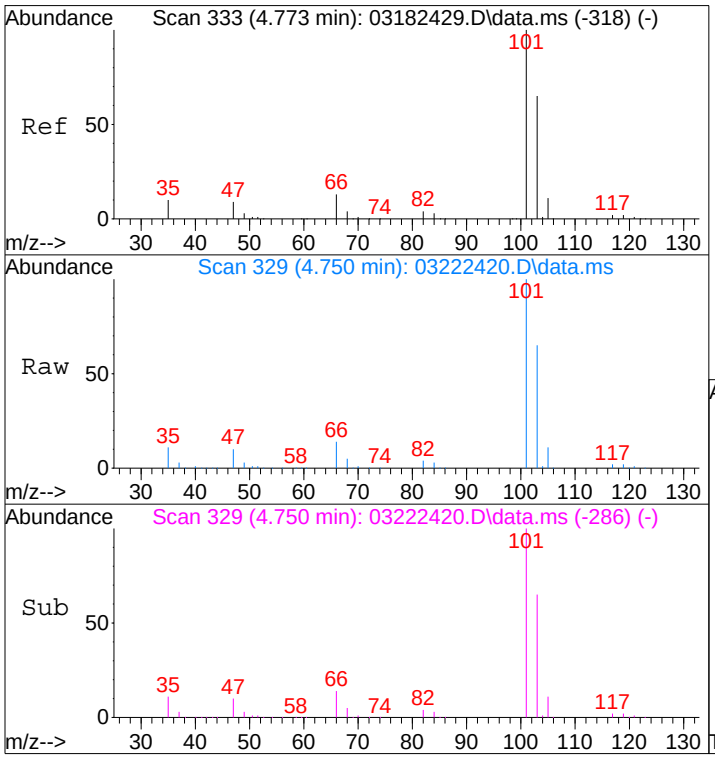


#13
Acetone
Concen: 0.15 ng
RT: 4.66 min Scan# 313
Delta R.T. -0.010 min
Lab File: 03222420.D
Acq: 22 Mar 2024 16:29

Tgt Ion: 58 Resp: 1999

Ion	Ratio	Lower	Upper
58	100		
43	363.8	350.1	410.1

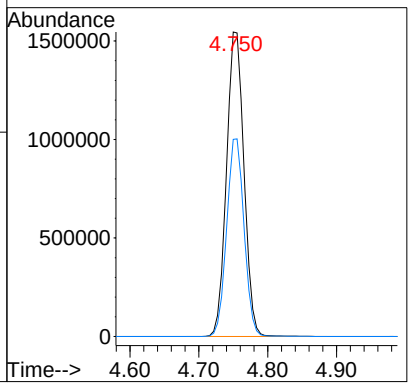


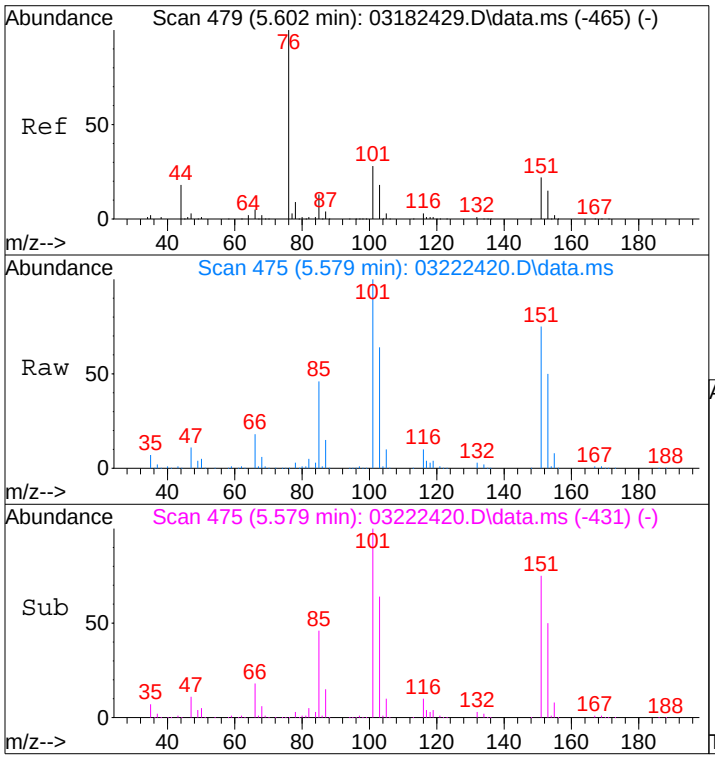


#14
Trichlorofluoromethane
Concen: 74.83 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.004 min
Lab File: 03222420.D
Acq: 22 Mar 2024 16:29

Tgt Ion:101 Resp: 2725258

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

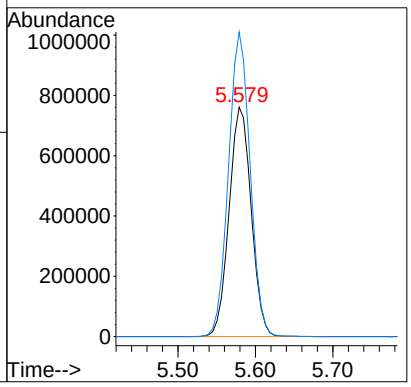


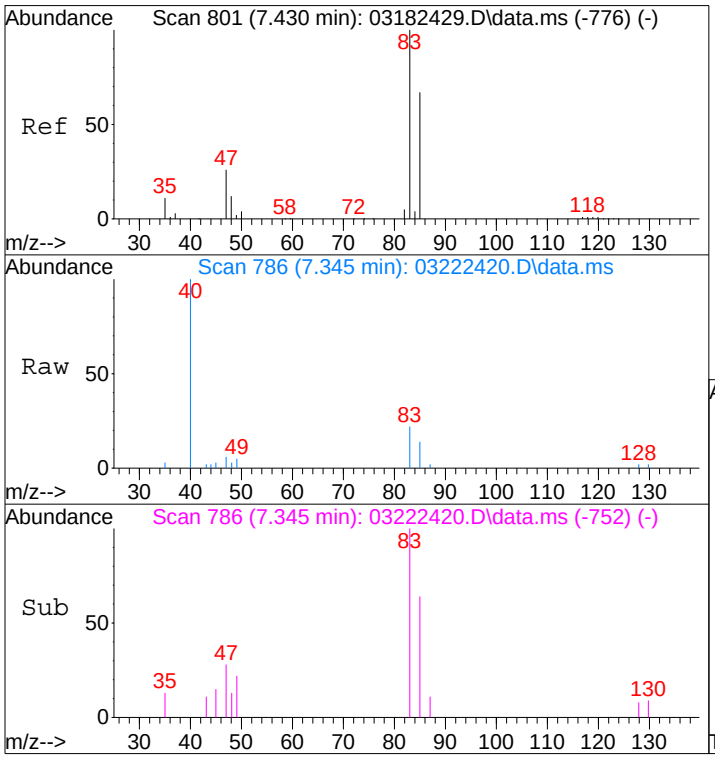


#21
Trichlorotrifluoroethane
Concen: 98.41 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.001 min
Lab File: 03222420.D
Acq: 22 Mar 2024 16:29

Tgt Ion:151 Resp: 1510767

Ion	Ratio	Lower	Upper
151	100		
101	129.9	106.4	146.4

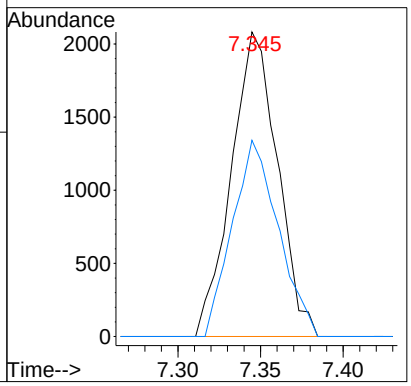


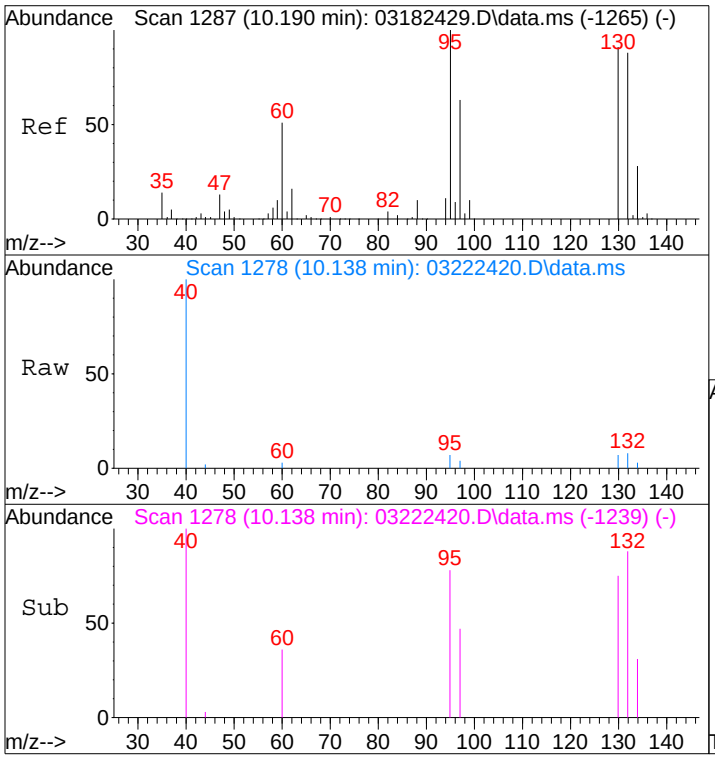


#32
Chloroform
Concen: 0.13 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.057 min
Lab File: 03222420.D
Acq: 22 Mar 2024 16:29

Tgt Ion: 83 Resp: 4044

Ion	Ratio	Lower	Upper
83	100		
85	64.4	46.1	86.1

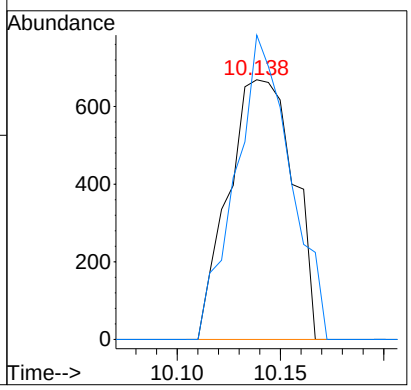


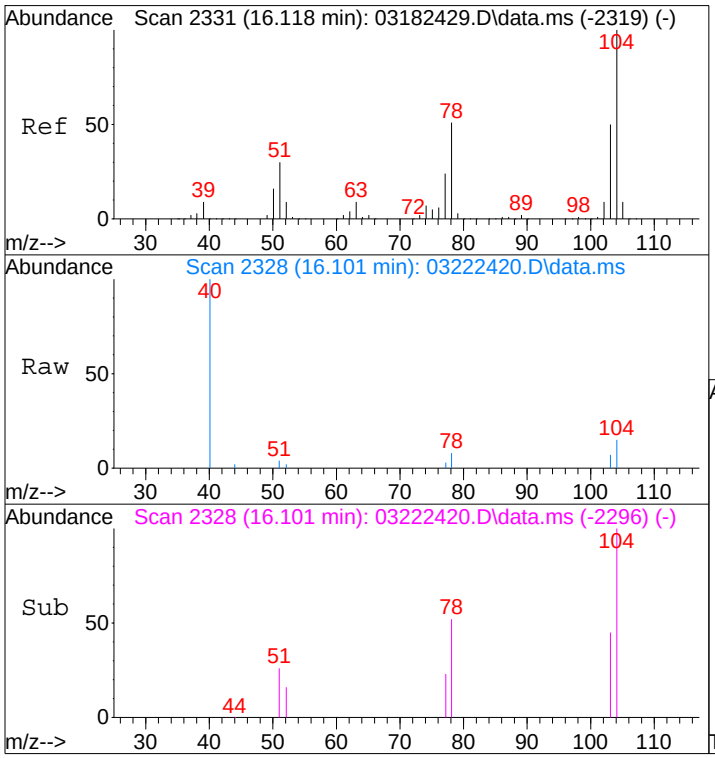


#47
Trichloroethene
Concen: 0.08 ng
RT: 10.14 min Scan# 1278
Delta R.T. -0.026 min
Lab File: 03222420.D
Acq: 22 Mar 2024 16:29

Tgt Ion:130 Resp: 1461

Ion	Ratio	Lower	Upper
130	100		
132	99.2	77.5	117.5

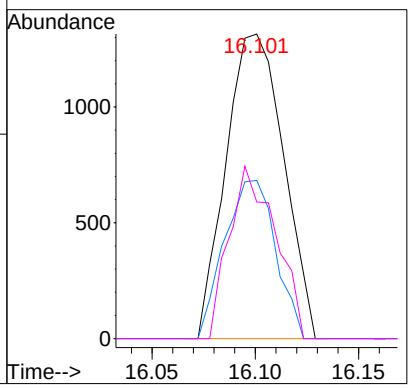




#69
Styrene
Concen: 0.06 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03222420.D
Acq: 22 Mar 2024 16:29

Tgt Ion:104 Resp: 2549

Ion	Ratio	Lower	Upper
104	100		
78	46.1	28.5	68.5
103	45.6	28.4	68.4



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:33:30 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

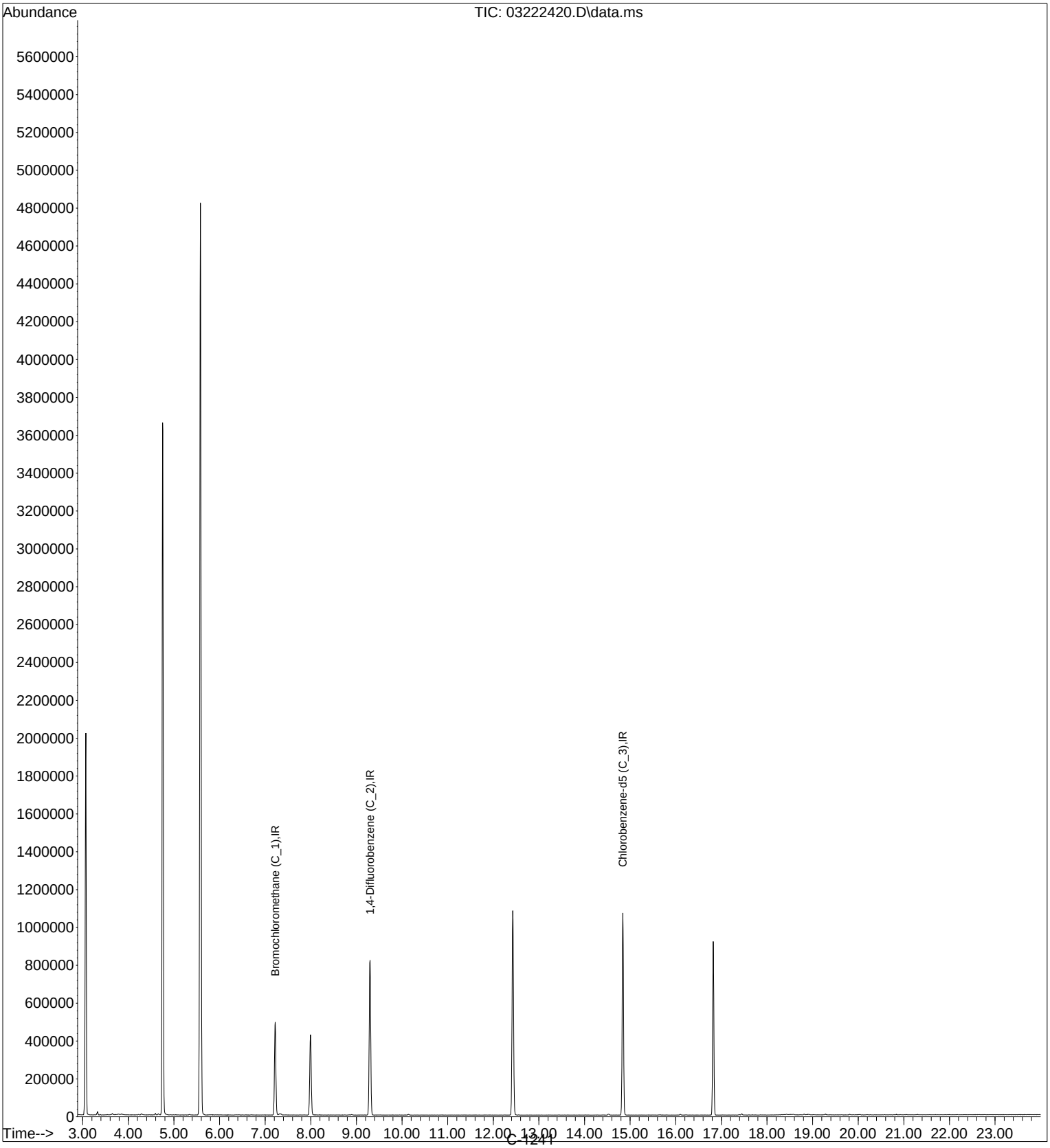
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	183726	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	786030	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	173264	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	1990	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	84	N.D.		
10) 2-Methylbutane	4.66	57	131	N.D.		
11) Methyl Acetate	5.35	43	514	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	312	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	892	N.D.		
27) 4-Chlorotoluene	17.67	91	1162	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222420.D Vial: 13
Acq On : 22 Mar 2024 16:29 Operator: SC
Sample : P2400922-035 (20mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:33:30 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1241

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252412.D Vial: 4
Acq On : 25 Mar 2024 17:41 Operator: SC
Sample : P2400922-035Dil (15mL) Inst : MS09
Misc : S37-03252401

3/26/24

Quant Time: Mar 26 08:46:41 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	134699	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	577280	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	117614	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	267472	12.138	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
57) Toluene-d8 (SS2)	12.43	98	663295	14.046	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%			
73) Bromofluorobenzene (SS3)	16.83	174	217882	13.087	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%			
Target Compounds						Qvalue
2) Propene	3.33	42	323	N.D.		
3) Dichlorodifluoromethan...	3.33	85	199	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.31	45	1986	0.153	ng	94
11) Acetonitrile	4.45	41	303	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.67	58	1109	0.112	ng	88
14) Trichlorofluoromethane	4.76	101	1308400	48.929	ng	100
15) 2-Propanol (Isopropanol)	4.91	45	51	N.D.		
16) Acrylonitrile	4.99	53	478	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	744	0.052	ng	90
20) 3-Chloro-1-propene (Al...	5.45	41	113	N.D.		
21) Trichlorotrifluoroethane	5.58	151	732488	64.983	ng	99
22) Carbon Disulfide	5.60	76	1073	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.36	83	1918	0.082	ng	91
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.84	56	105	No Calib	#	
41) Benzene	8.90	78	1355	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	292	N.D.		
47) Trichloroethene	10.14	130	676	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252412.D Vial: 4
Acq On : 25 Mar 2024 17:41 Operator: SC
Sample : P2400922-035Dil (15mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:46:41 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

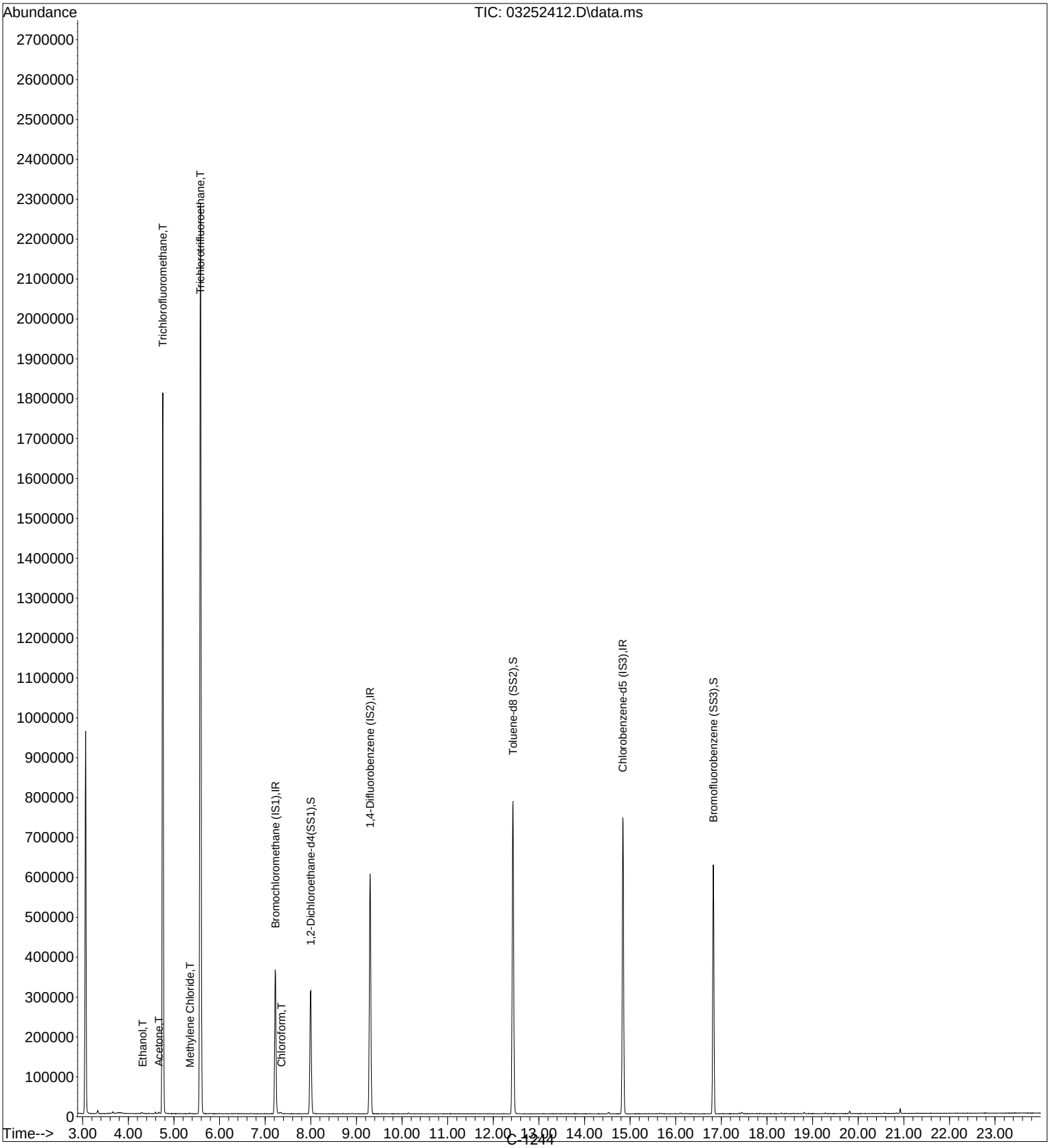
Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	0.00	71	0	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	12.56	91	841	N.D.
59) 2-Hexanone	0.00	43	0	N.D.
60) Dibromochloromethane	13.07	129	295	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	0.00	43	0	N.D.
63) n-Octane	0.00	57	0	N.D.
64) Tetrachloroethene	14.03	166	139	N.D.
65) Chlorobenzene	14.90	112	513	N.D.
66) Ethylbenzene	15.41	91	893	N.D.
67) m- & p-Xylenes	15.64	91	798	N.D.
68) Bromoform	15.68	173	421	N.D.
69) Styrene	16.10	104	1262	N.D.
70) o-Xylene	16.24	91	586	N.D.
71) n-Nonane	0.00	43	0	N.D.
72) 1,1,2,2-Tetrachloroethane	16.21	83	220	N.D.
74) Cumene	17.03	105	700	N.D.
75) alpha-Pinene	0.00	93	0	N.D.
76) n-Propylbenzene	17.68	91	990	N.D.
77) 3-Ethyltoluene	17.03	105	700	No Calib #
78) 4-Ethyltoluene	17.86	105	668	N.D.
79) 1,3,5-Trimethylbenzene	17.95	105	334	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	17.03	105	700	No Calib #
82) 1,2,4-Trimethylbenzene	18.43	105	455	N.D.
83) n-Decane	0.00	58	0	N.D.
84) Benzyl Chloride	0.00	91	0	N.D. d
85) 1,3-Dichlorobenzene	18.58	146	486	N.D.
86) 1,4-Dichlorobenzene	18.66	146	538	N.D.
87) sec-Butylbenzene	18.75	105	595	N.D.
88) 4-Isopropyltoluene (p-...	18.93	119	438	N.D.
89) 1,2,3-Trimethylbenzene	17.03	105	700	No Calib #
90) 1,2-Dichlorobenzene	19.04	146	373	N.D.
91) d-Limonene	0.00	68	0	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	20.84	180	795	N.D.
95) Naphthalene	0.00	128	0	N.D. d
96) n-Dodecane	0.00	58	0	N.D.
97) Hexachlorobutadiene	21.30	225	478	N.D.
98) Cyclohexanone	0.00	55	0	N.D.
99) tert-Butylbenzene	18.43	119	608	N.D.
100) n-Butylbenzene	19.39	91	435	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252412.D Vial: 4
Acq On : 25 Mar 2024 17:41 Operator: SC
Sample : P2400922-035Dil (15mL) Inst : MS09
Misc : S37-03252401

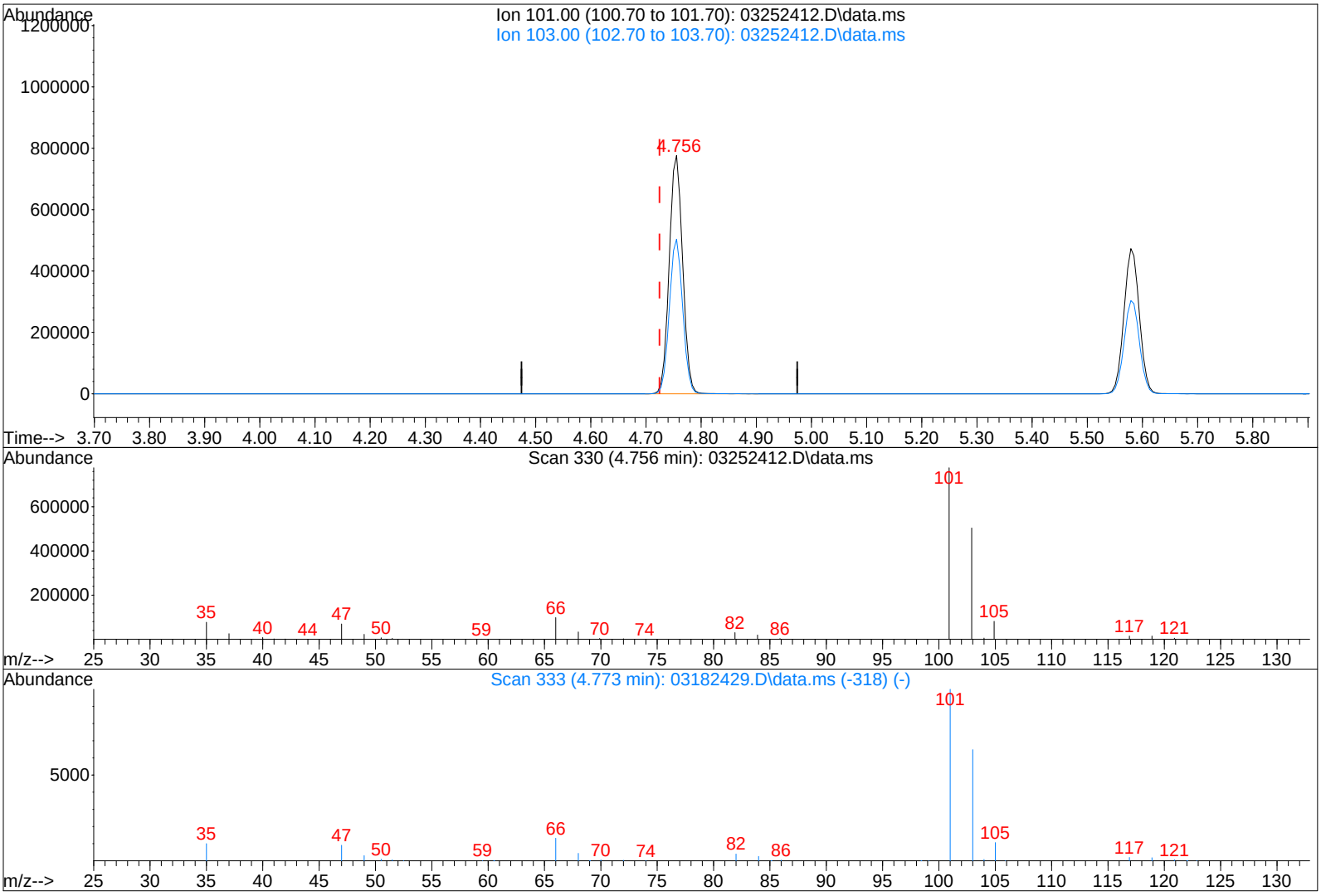
Quant Time: Mar 26 08:46:41 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252412.D Vial: 4
Acq On : 25 Mar 2024 17:41 Operator: SC
Sample : P2400922-035Dil (15mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:23:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252412.D\data.ms

(14) Trichlorofluoromethane (T)

4.756min (+0.031) 48.93ng

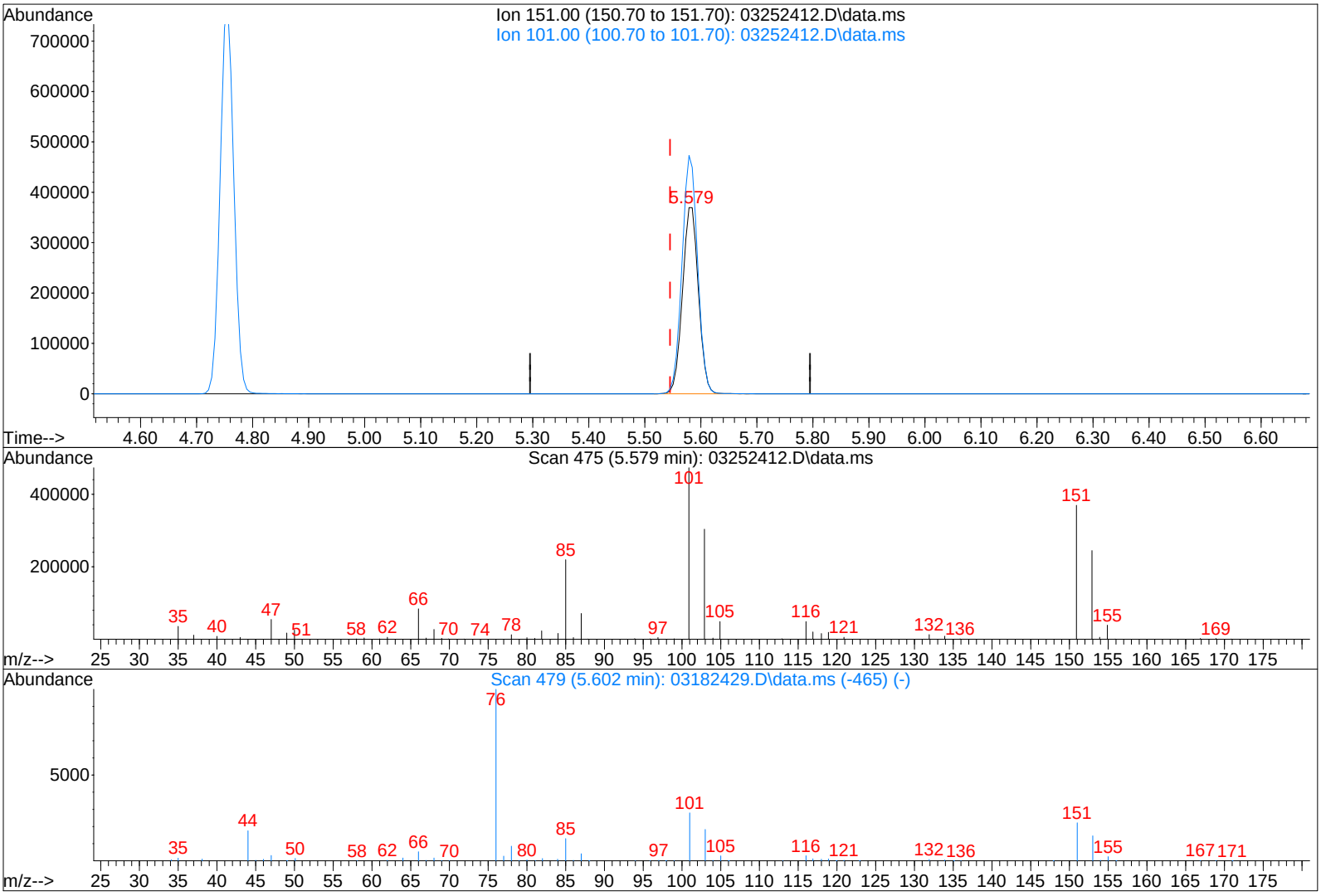
response 1308400

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252412.D Vial: 4
Acq On : 25 Mar 2024 17:41 Operator: SC
Sample : P2400922-035Dil (15mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:23:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252412.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 64.98ng

response 732488

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	124.96
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222420.D
Acq On : 22 Mar 2024 16:29
Operator : SC
Sample : P2400922-035 (20mL)
Misc : S37-02202408
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03222420.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.325	70	78	85	rVB5	17221	28881	0.31%	0.170%
2	4.284	242	247	258	rBV3	6059	12988	0.14%	0.076%
3	4.591	297	301	306	rVB2	8134	11213	0.12%	0.066%
4	4.659	306	313	320	rBV	6356	11455	0.12%	0.067%
5	4.750	320	329	353	rVV	3656860	6404172	67.76%	37.652%
6	5.579	464	475	493	rVB	4818010	9451061	100.00%	55.565%
7	7.220	753	764	775	rBV	491290	1063743	11.26%	6.254%
8	7.316	775	781	784	rVV2	6559	15367	0.16%	0.090%
9	7.345	784	786	794	rVB2	6641	10011	0.11%	0.059%

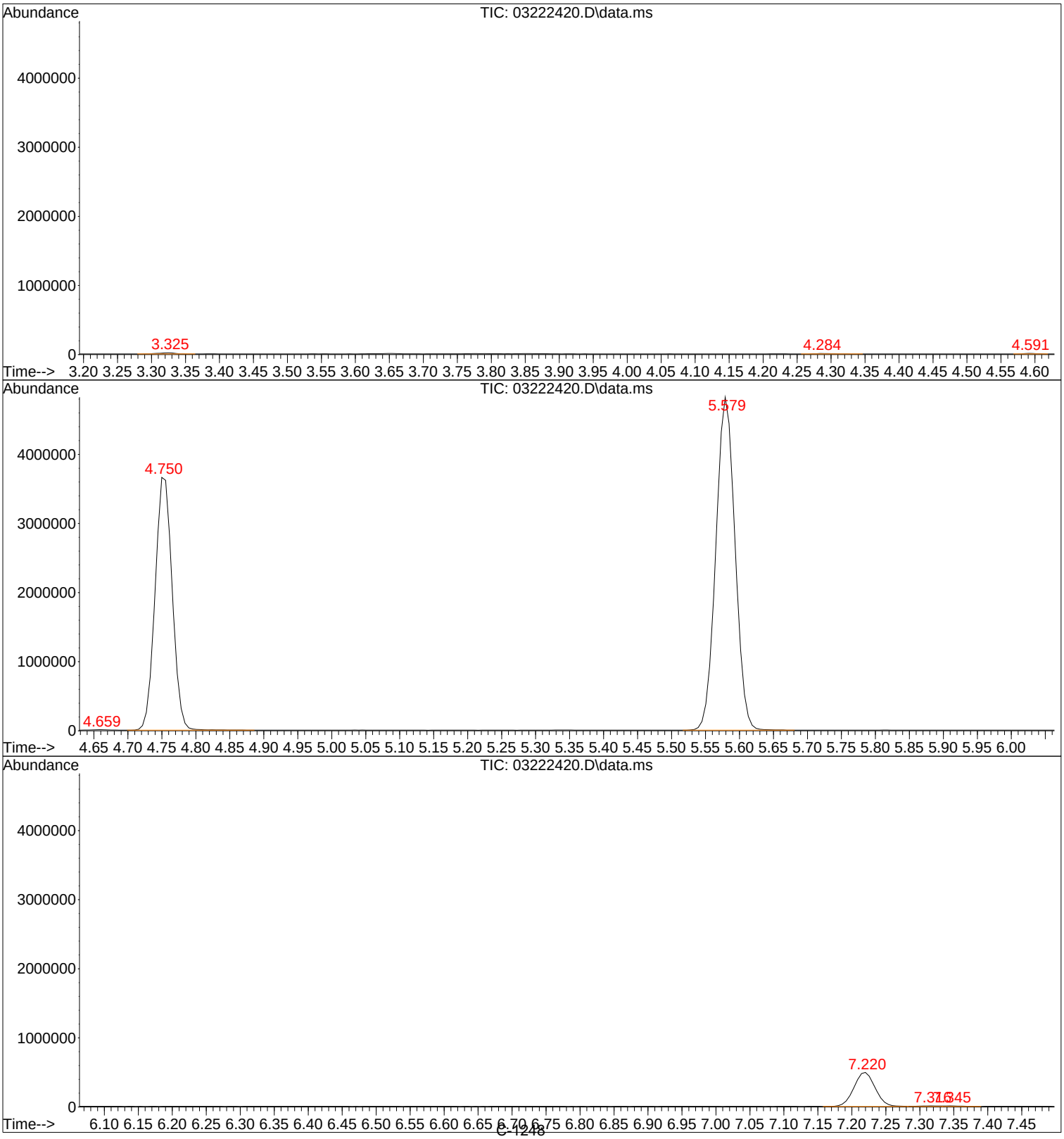
Sum of corrected areas: 17008891

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222420.D
Acq On : 22 Mar 2024 16:29
Operator : SC
Sample : P2400922-035 (20mL)
Misc : S37-02202408
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\22\\
Data File : 03222420.D
Acq On : 22 Mar 2024 16:299
Operator : SCC
Sample : P2400922-035 (20mL))
Misc : S37-022024088
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:09:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	162679	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	698433	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	156428	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	325417	12.227	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	12.43	98	811584	12.922	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
73) Bromofluorobenzene (SS3)	16.83	174	282841	12.773	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	6309m	0.189	ng		
4) Chloromethane	3.51	50	1784	0.072	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	430	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	97212	6.184	ng		99
11) Acetonitrile	4.43	41	1620	N.D.			
12) Acrolein	4.53	56	1119	0.099	ng		99
13) Acetone	4.62	58	48796	4.078	ng	#	33
14) Trichlorofluoromethane	4.75	101	2295127	71.067	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	147462	3.095	ng		95
16) Acrylonitrile	5.04	53	702	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.34	84	8248	0.474	ng		98
20) 3-Chloro-1-propene (Al...	5.45	41	318	N.D.			
21) Trichlorotrifluoroethane	5.58	151	945376	69.445	ng		98
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	6.12	61	296	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	191	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	2771	0.283	ng		93
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	160177	27.288	ng		95
31) n-Hexane	7.30	57	15430	0.610	ng		98
32) Chloroform	7.35	83	2847	0.101	ng		99
34) Tetrahydrofuran (THF)	7.76	72	1960	0.221	ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	525	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.81	56	2223	No Calib		#	
41) Benzene	8.89	78	13959	0.222	ng		98
42) Carbon Tetrachloride	9.08	117	215	N.D.			
43) Cyclohexane	9.22	84	9023	0.454	ng		98
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	117	N.D.			
46) Bromodichloromethane	10.08	83	542	N.D.			
47) Trichloroethene	10.14	130	3272	0.193	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:09:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

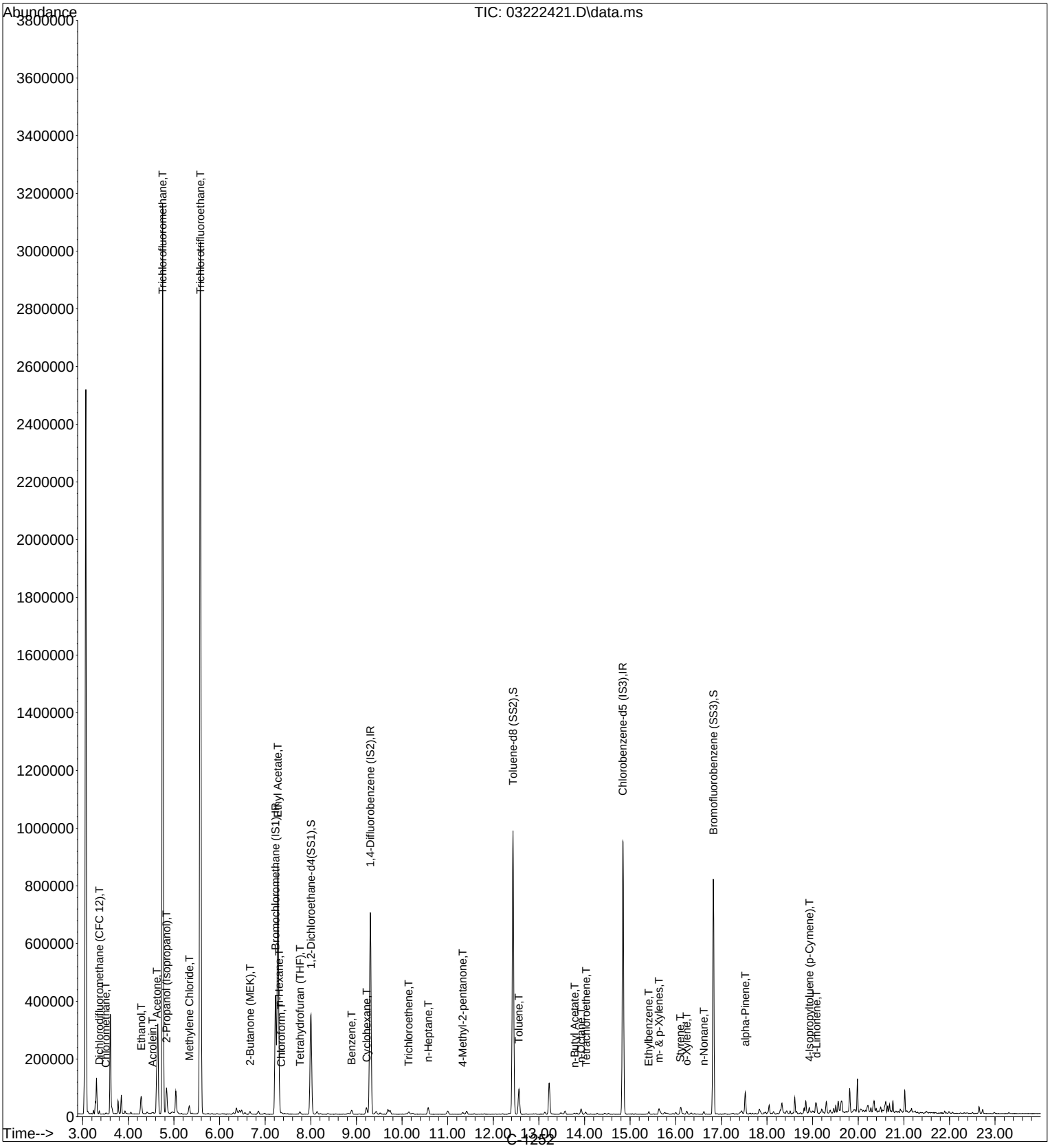
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	6101	0.454 ng	97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	1939	0.144 ng	84
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	76646	1.279 ng	99
59) 2-Hexanone	12.91	43	1596	N.D.	
60) Dibromochloromethane	13.07	129	423	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	3953	0.103 ng	96
63) n-Octane	13.93	57	3715	0.293 ng	97
64) Tetrachloroethene	14.03	166	1556	0.084 ng	97
65) Chlorobenzene	14.90	112	976	N.D.	
66) Ethylbenzene	15.41	91	8497	0.124 ng	98
67) m- & p-Xylenes	15.63	91	17862	0.314 ng	99
68) Bromoform	15.67	173	759	N.D.	
69) Styrene	16.10	104	8412	0.216 ng	99
70) o-Xylene	16.24	91	6900	0.123 ng	99
71) n-Nonane	16.62	43	4256	0.132 ng	96
72) 1,1,2,2-Tetrachloroethane	16.21	83	416	N.D.	
74) Cumene	17.04	105	1182	N.D.	
75) alpha-Pinene	17.53	93	31951	0.941 ng	99
76) n-Propylbenzene	17.68	91	2329	N.D.	
77) 3-Ethyltoluene	17.04	105	1182	No Calib	
78) 4-Ethyltoluene	17.86	105	1675	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	1110	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	1182	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	2908	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	539	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	620	N.D.	
87) sec-Butylbenzene	18.74	105	1075	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	10621	0.161 ng	99
89) 1,2,3-Trimethylbenzene	17.04	105	1182	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	444	N.D.	
91) d-Limonene	19.09	68	6173	0.294 ng	98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	735	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	18.93	58	243	No Calib #	
97) Hexachlorobutadiene	21.31	225	504	N.D.	
98) Cyclohexanone	15.35	55	188	No Calib #	
99) tert-Butylbenzene	18.43	119	1182	N.D.	
100) n-Butylbenzene	19.39	91	2240	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:09:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:09:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

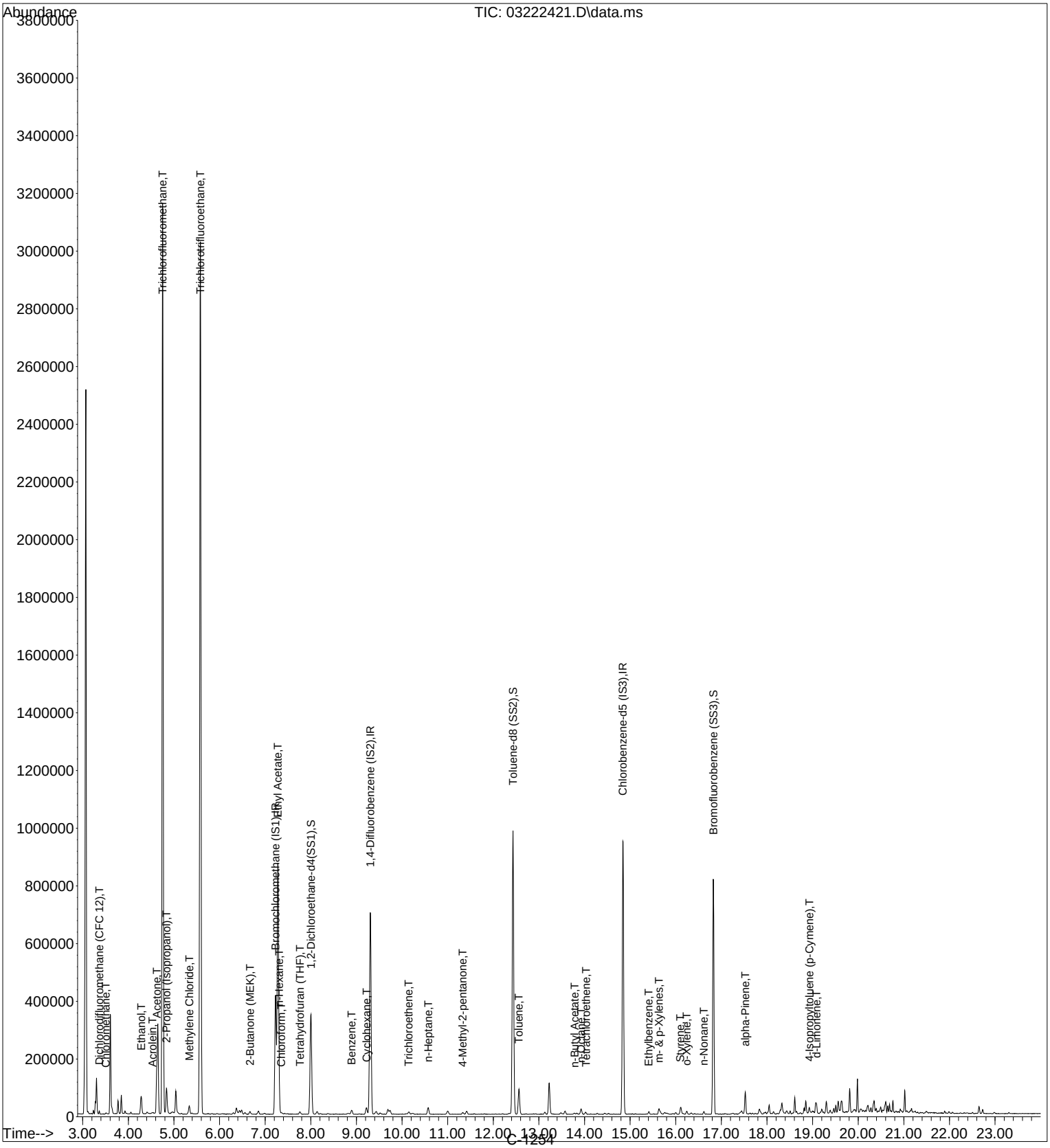
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	162679	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	698433	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	156428	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	325417	12.227	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	12.43	98	811584	12.922	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
73) Bromofluorobenzene (SS3)	16.83	174	282841	12.773	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	6309m	0.189	ng		
4) Chloromethane	3.51	50	1784	0.072	ng		92
10) Ethanol	4.28	45	97212	6.184	ng		99
12) Acrolein	4.53	56	1119	0.099	ng		99
13) Acetone	4.62	58	48796	4.078	ng	#	33
14) Trichlorofluoromethane	4.75	101	2295127	71.067	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	147462	3.095	ng		95
19) Methylene Chloride	5.34	84	8248	0.474	ng		98
21) Trichlorotrifluoroethane	5.58	151	945376	69.445	ng		98
27) 2-Butanone (MEK)	6.67	72	2771	0.283	ng		93
30) Ethyl Acetate	7.28	61	160177	27.288	ng		95
31) n-Hexane	7.30	57	15430	0.610	ng		98
32) Chloroform	7.35	83	2847	0.101	ng		99
34) Tetrahydrofuran (THF)	7.76	72	1960	0.221	ng	#	85
41) Benzene	8.89	78	13959	0.222	ng		98
43) Cyclohexane	9.22	84	9023	0.454	ng		98
47) Trichloroethene	10.14	130	3272	0.193	ng		99
51) n-Heptane	10.58	71	6101	0.454	ng		97
53) 4-Methyl-2-pentanone	11.33	58	1939	0.144	ng		84
58) Toluene	12.56	91	76646	1.279	ng		99
62) n-Butyl Acetate	13.78	43	3953	0.103	ng		96
63) n-Octane	13.93	57	3715	0.293	ng		97
64) Tetrachloroethene	14.03	166	1556	0.084	ng		97
66) Ethylbenzene	15.41	91	8497	0.124	ng		98
67) m- & p-Xylenes	15.63	91	17862	0.314	ng		99
69) Styrene	16.10	104	8412	0.216	ng		99
70) o-Xylene	16.24	91	6900	0.123	ng		99
71) n-Nonane	16.62	43	4256	0.132	ng		96
75) alpha-Pinene	17.53	93	31951	0.941	ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	10621	0.161	ng		99
91) d-Limonene	19.09	68	6173	0.294	ng		98

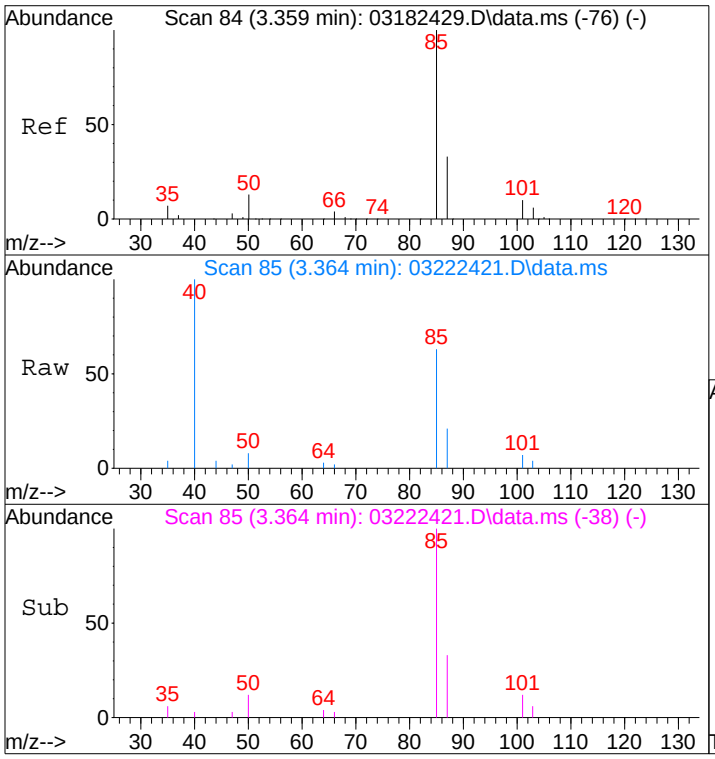
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:09:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

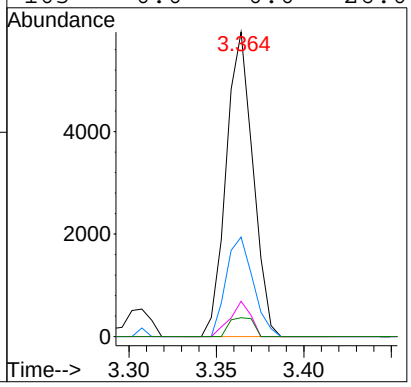


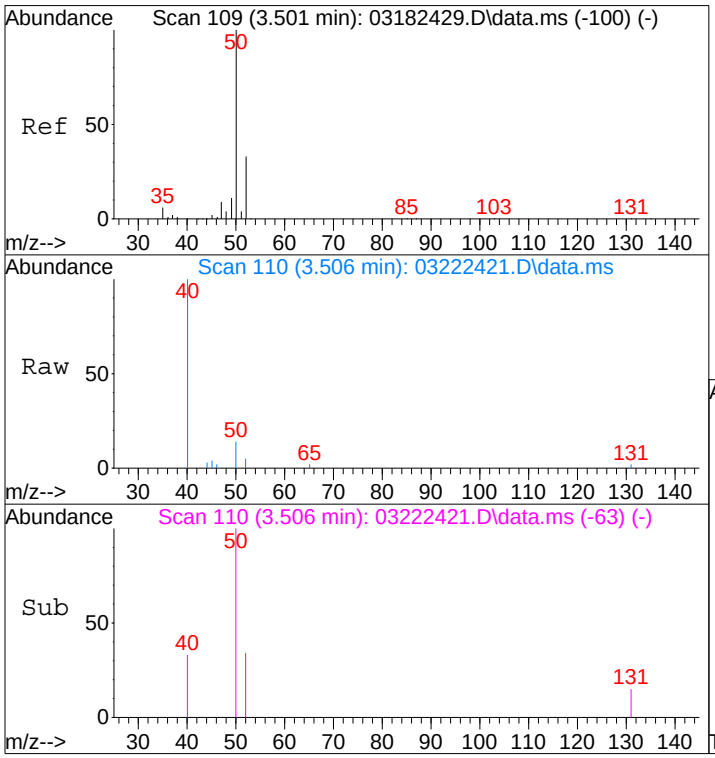


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.19 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.018 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 85 Resp: 6309

Ion	Ratio	Lower	Upper
85	100		
87	0.0	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

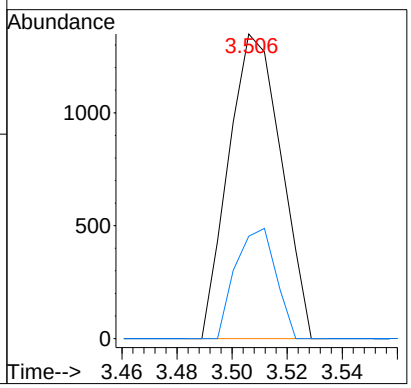


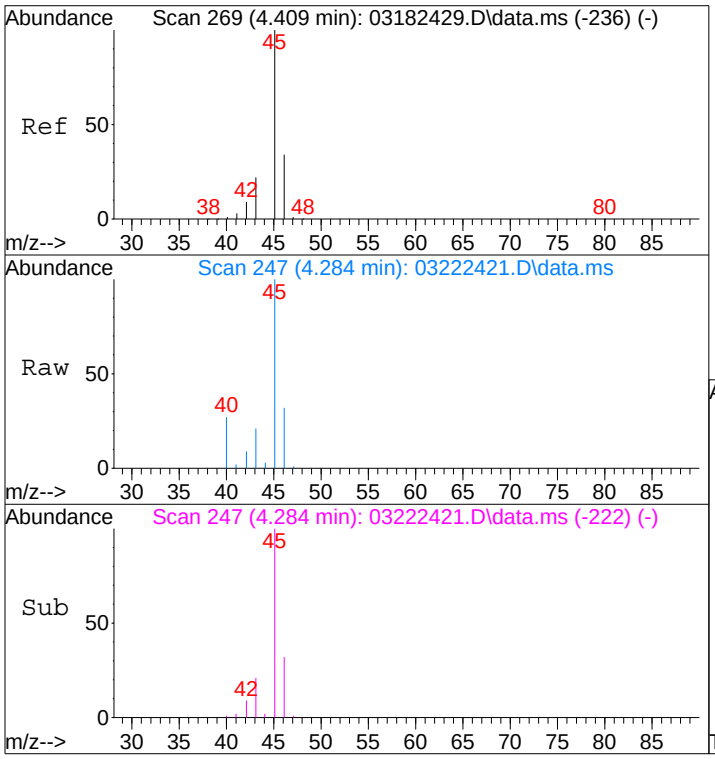


#4
Chloromethane
Concen: 0.07 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.019 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 50 Resp: 1784

Ion	Ratio	Lower	Upper
50	100		
52	27.9	12.3	52.3

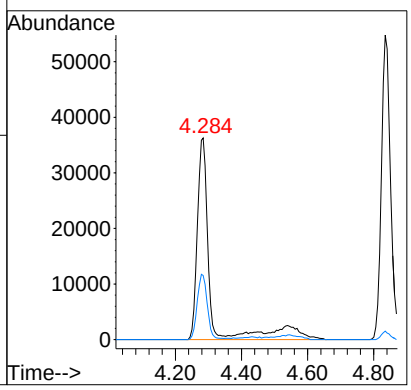


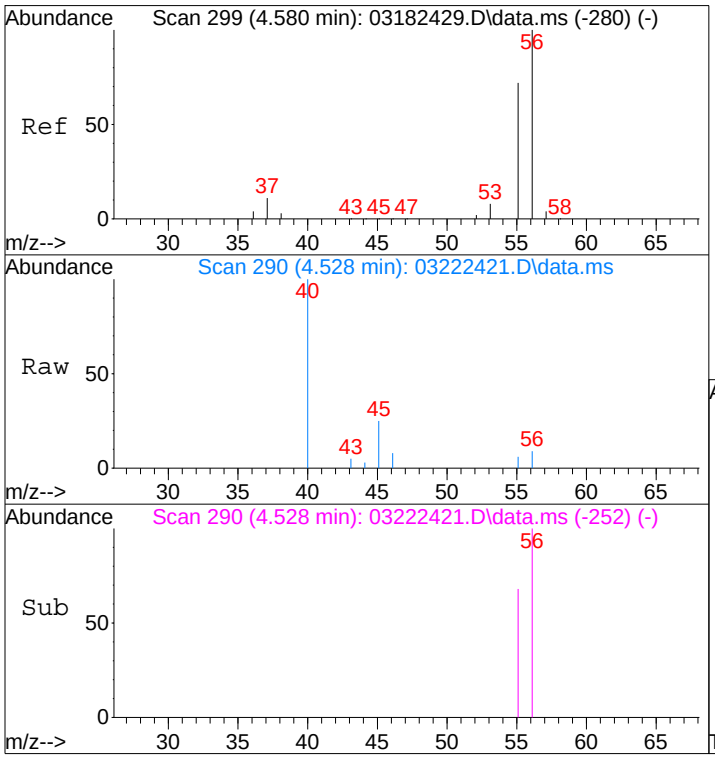


#10
Ethanol
Concen: 6.18 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.108 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 45 Resp: 97212

Ion	Ratio	Lower	Upper
45	100		
46	32.6	13.3	53.3

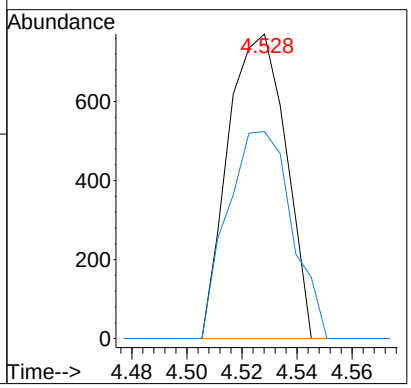


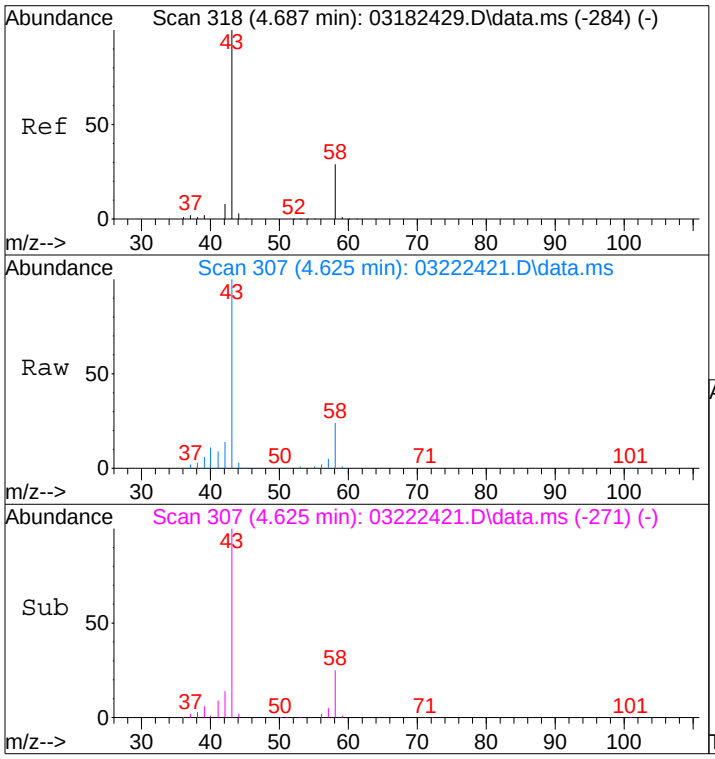


#12
Acrolein
Concen: 0.10 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.034 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 56 Resp: 1119

Ion	Ratio	Lower	Upper
56	100		
55	76.1	54.9	94.9

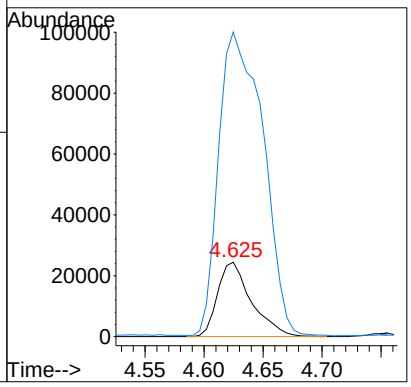


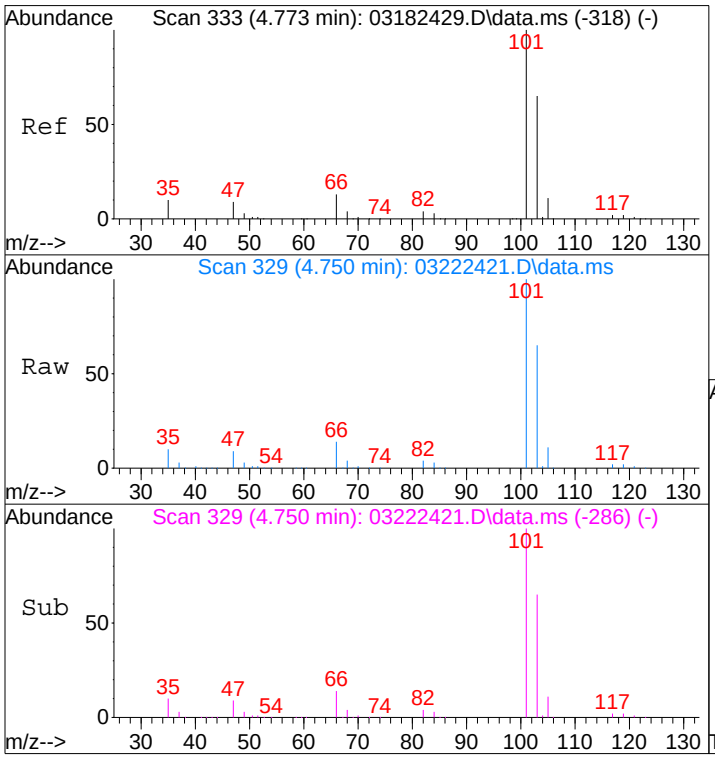


#13
Acetone
Concen: 4.08 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.045 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 58 Resp: 48796

Ion	Ratio	Lower	Upper
58	100		
43	534.0	350.1	410.1#

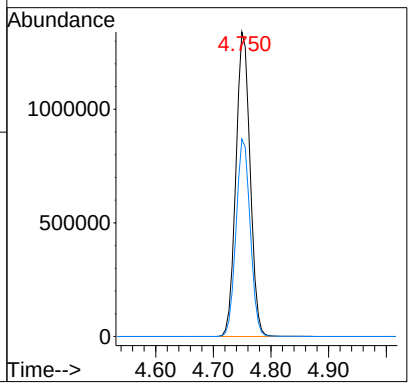


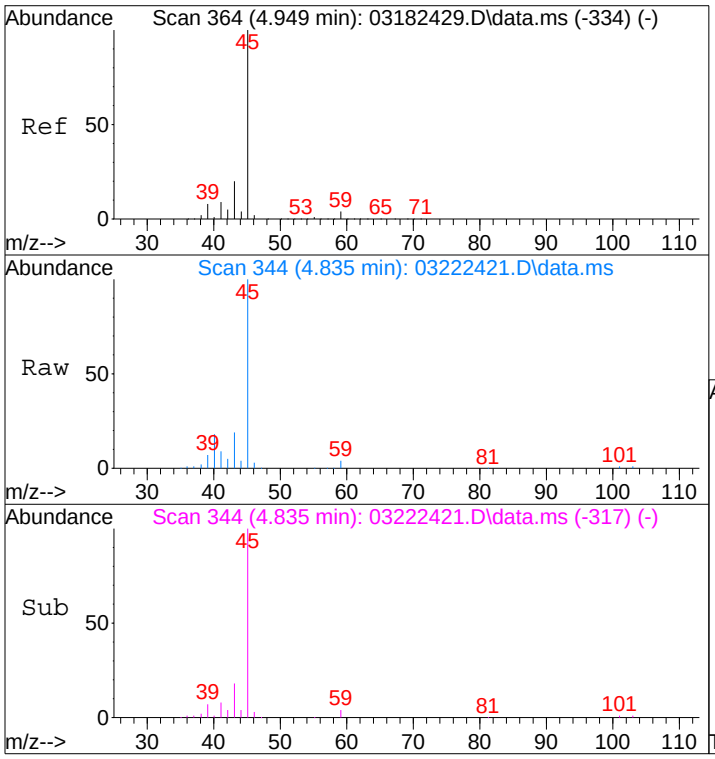


#14
Trichlorofluoromethane
Concen: 71.07 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.005 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion:101 Resp: 2295127

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.7	84.7

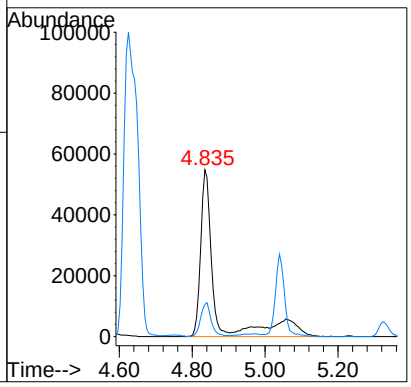


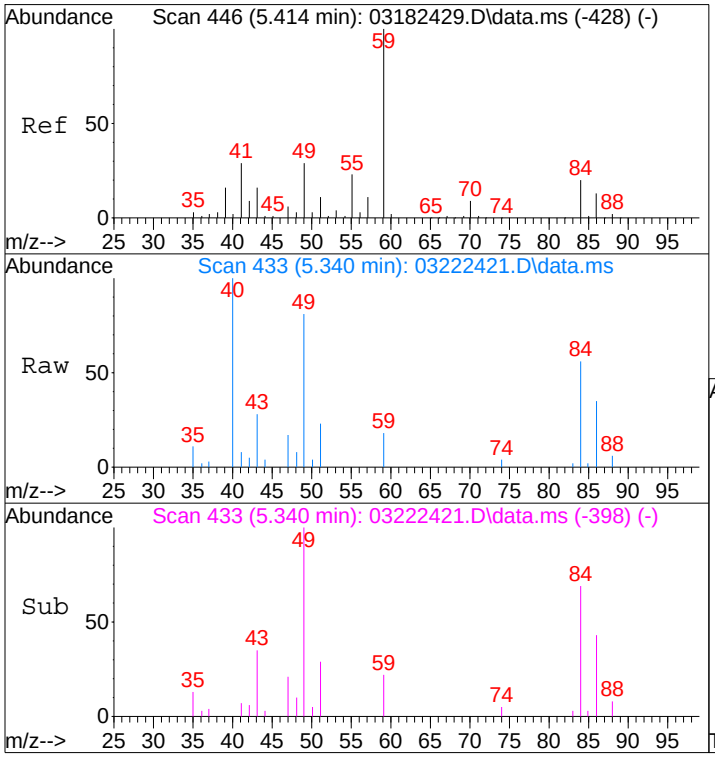


#15
2-Propanol (Isopropanol)
Concen: 3.10 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.095 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 45 Resp: 147462

Ion	Ratio	Lower	Upper
45	100		
43	17.9	0.4	40.4

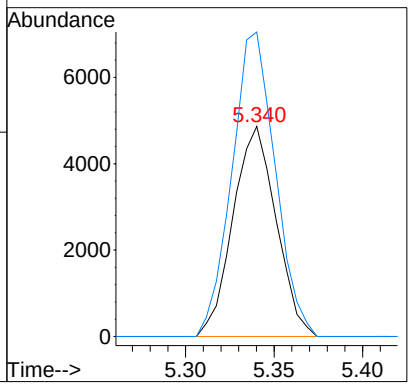


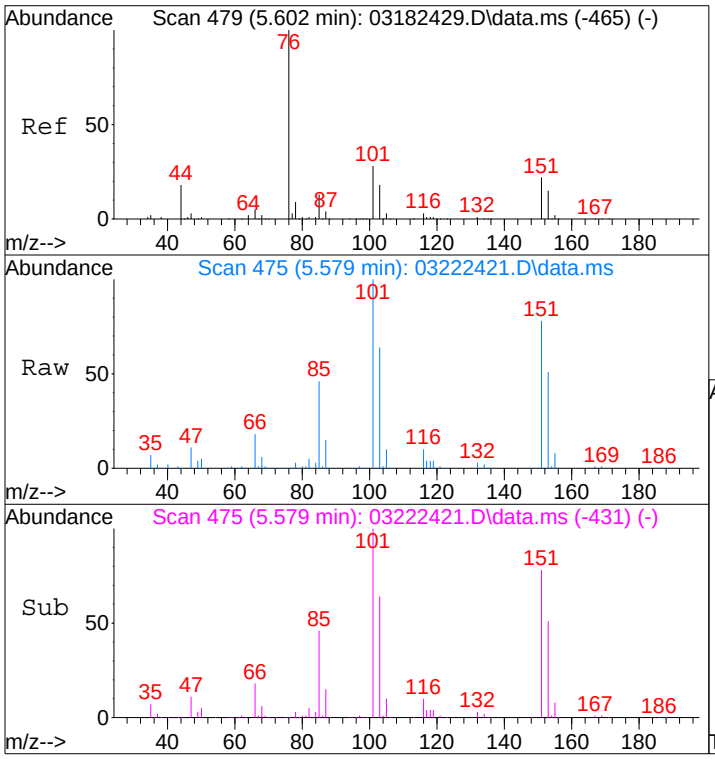


#19
Methylene Chloride
Concen: 0.47 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.053 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 84 Resp: 8248

Ion	Ratio	Lower	Upper
84	100		
49	145.4	122.9	172.9

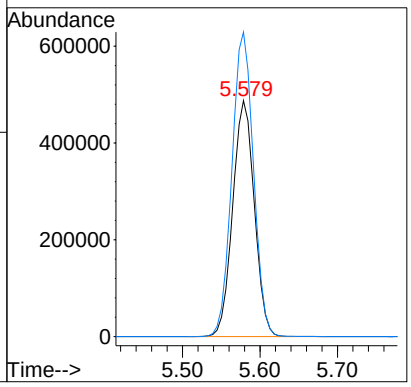


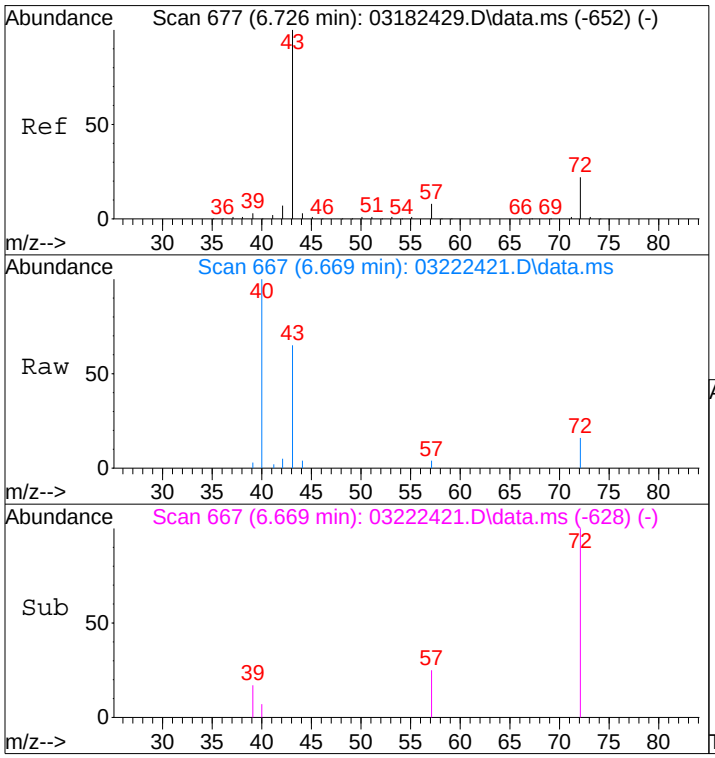


#21
Trichlorotrifluoroethane
Concen: 69.44 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.001 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion:151 Resp: 945376

Ion	Ratio	Lower	Upper
151	100		
101	128.6	106.4	146.4

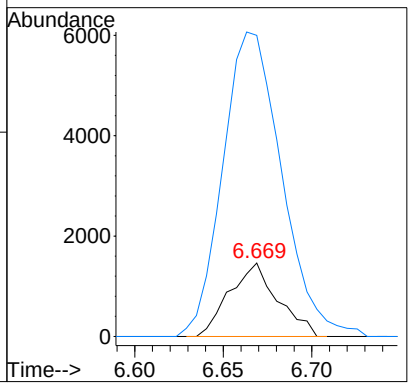


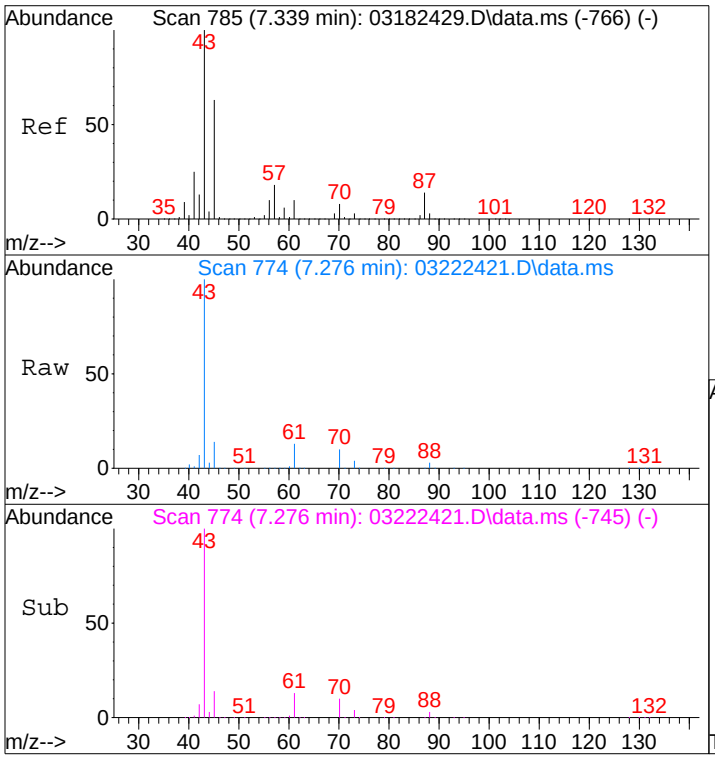


#27
2-Butanone (MEK)
Concen: 0.28 ng
RT: 6.67 min Scan# 667
Delta R.T. -0.031 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 72 Resp: 2771

Ion	Ratio	Lower	Upper
72	100		
43	507.4	468.6	508.6

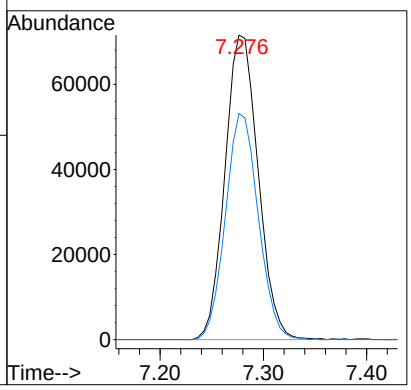


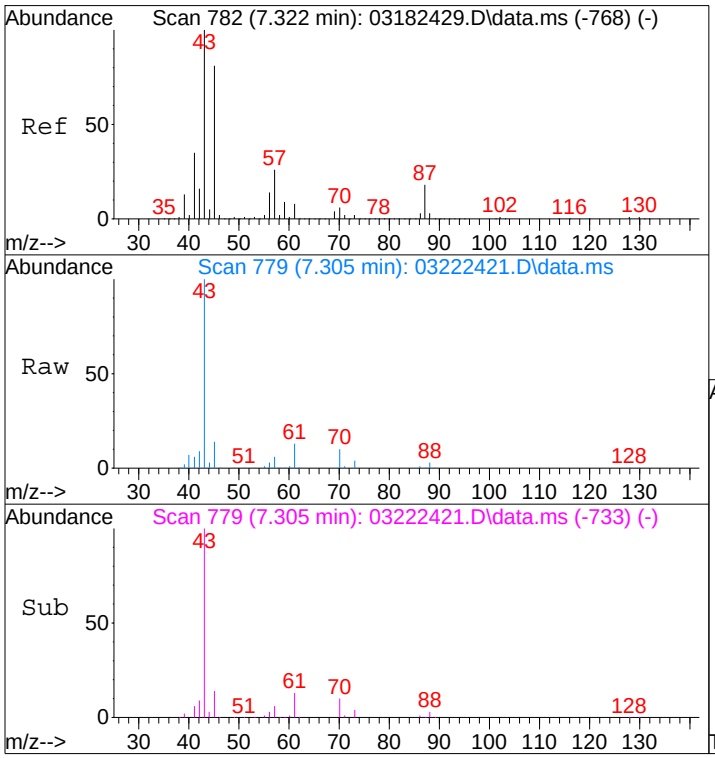


#30
Ethyl Acetate
Concen: 27.29 ng
RT: 7.28 min Scan# 774
Delta R.T. -0.035 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 61 Resp: 160177

Ion	Ratio	Lower	Upper
61	100		
70	73.4	57.3	97.3

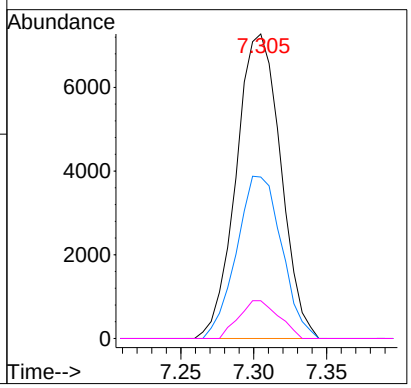


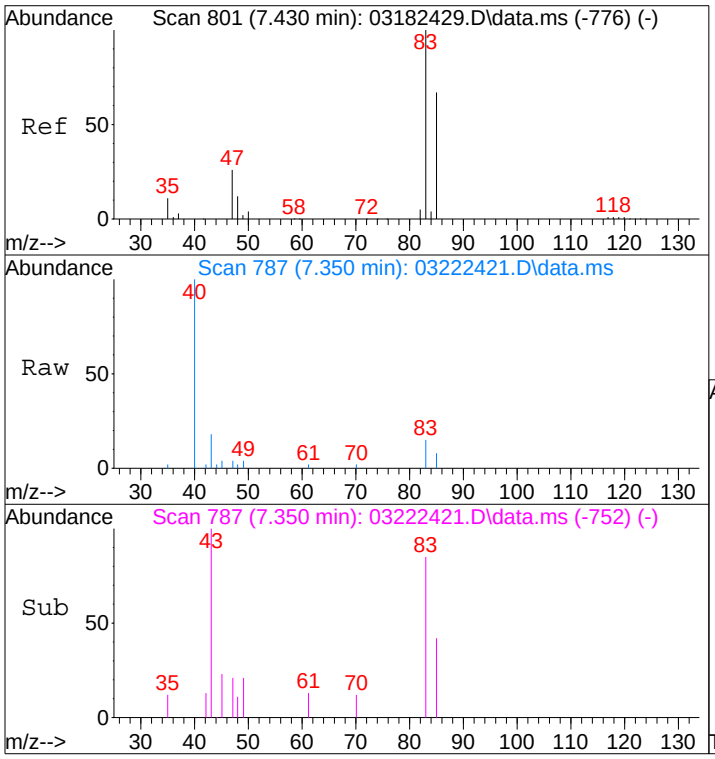


#31
n-Hexane
Concen: 0.61 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.011 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 57 Resp: 15430

Ion	Ratio	Lower	Upper
57	100		
56	53.9	42.2	63.4
86	11.1	9.4	14.2

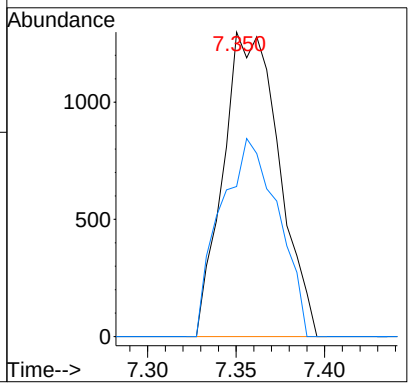


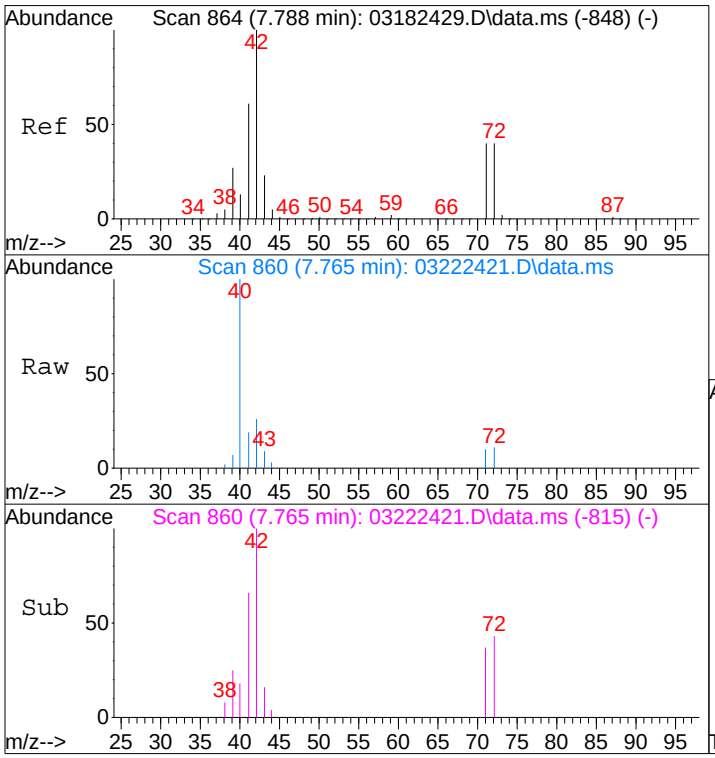


#32
Chloroform
Concen: 0.10 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.051 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 83 Resp: 2847

Ion	Ratio	Lower	Upper
83	100		
85	67.2	46.1	86.1

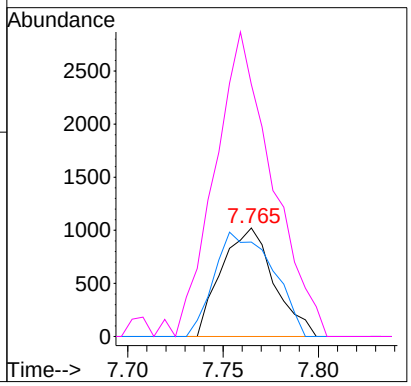


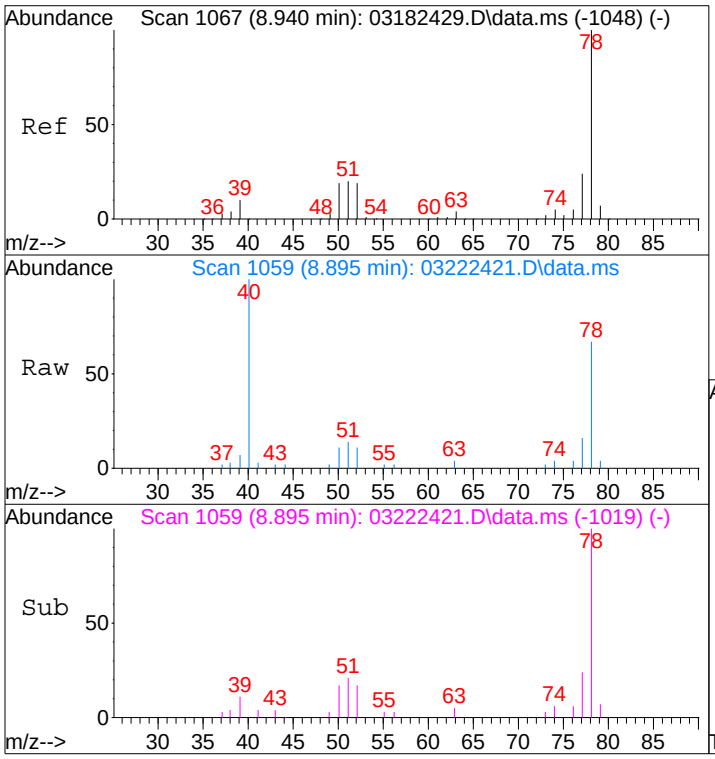


#34
Tetrahydrofuran (THF)
Concen: 0.22 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.007 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 72 Resp: 1960

Ion	Ratio	Lower	Upper
72	100		
71	107.0	80.7	120.7
42	309.8	255.0	295.0#

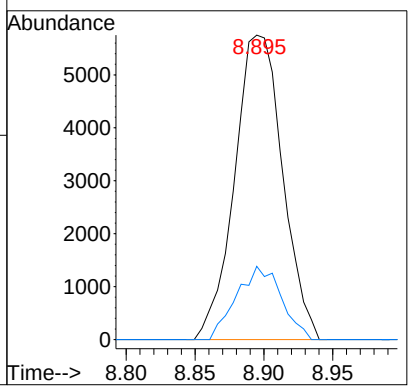


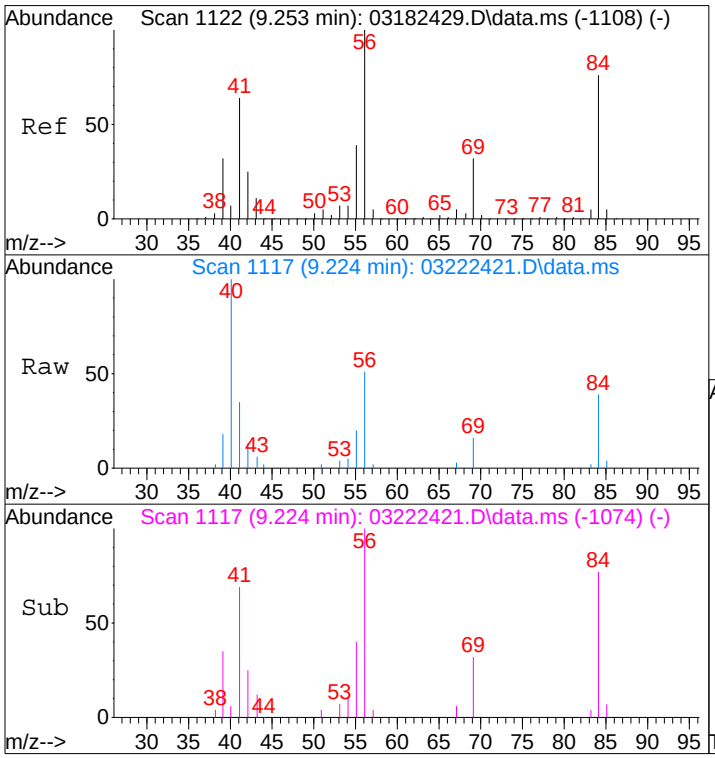


#41
Benzene
Concen: 0.22 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.024 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 78 Resp: 13959

Ion	Ratio	Lower	Upper
78	100		
77	22.4	3.6	43.6

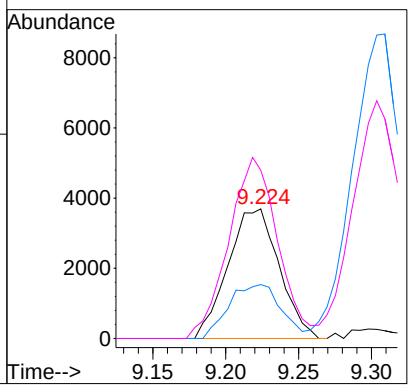


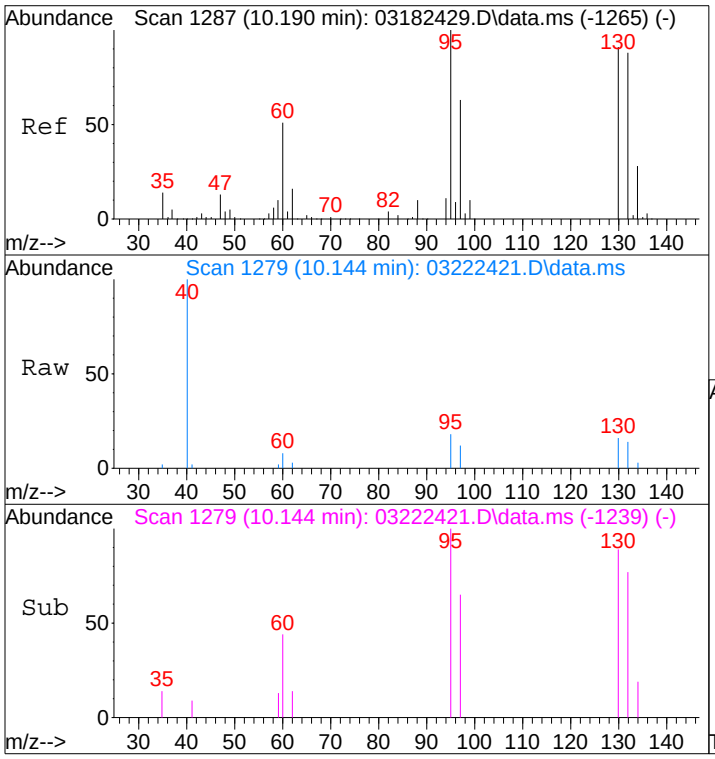


#43
Cyclohexane
Concen: 0.45 ng
RT: 9.22 min Scan# 1117
Delta R.T. -0.006 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 84 Resp: 9023

Ion	Ratio	Lower	Upper
84	100		
69	42.2	21.3	61.3
56	132.9	115.3	155.3

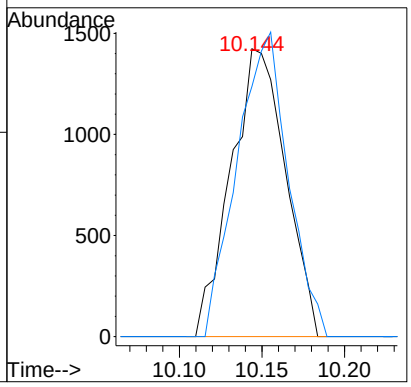


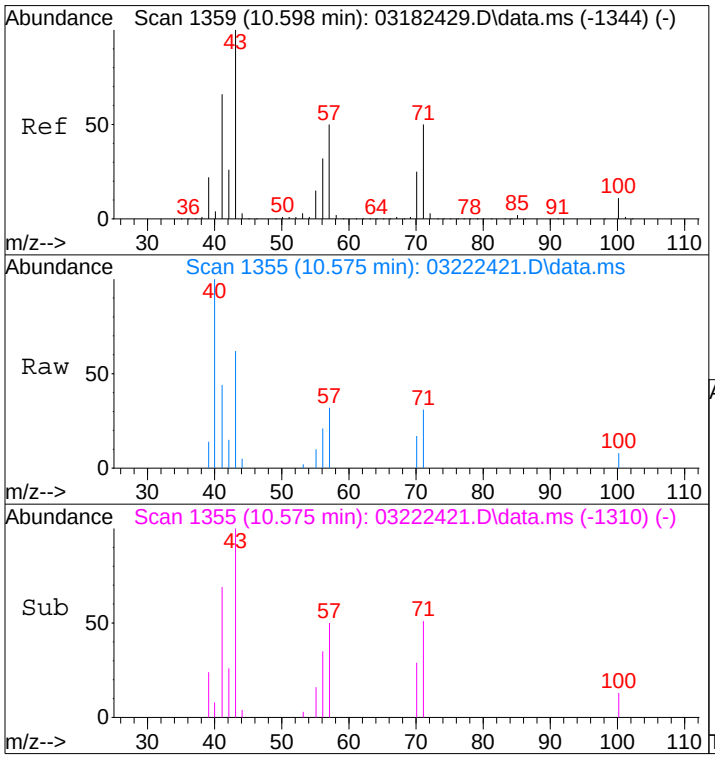


#47
Trichloroethene
Concen: 0.19 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.021 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion:130 Resp: 3272

Ion	Ratio	Lower	Upper
130	100		
132	98.9	77.5	117.5

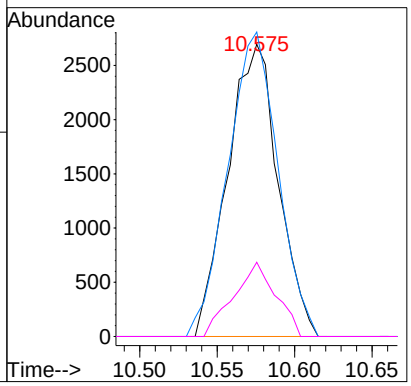


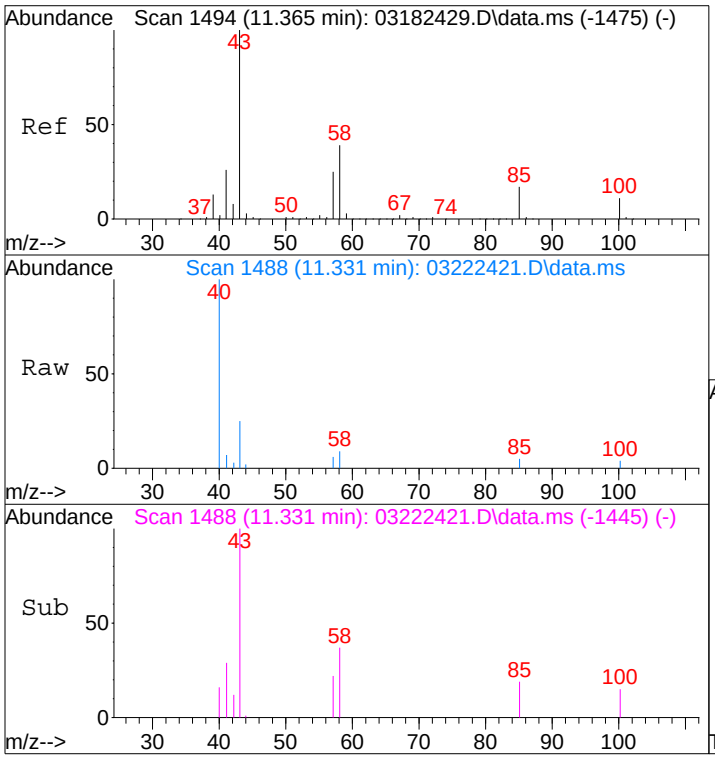


#51
n-Heptane
Concen: 0.45 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.003 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 71 Resp: 6101

Ion	Ratio	Lower	Upper
71	100		
57	103.8	81.2	121.2
100	21.4	4.0	44.0

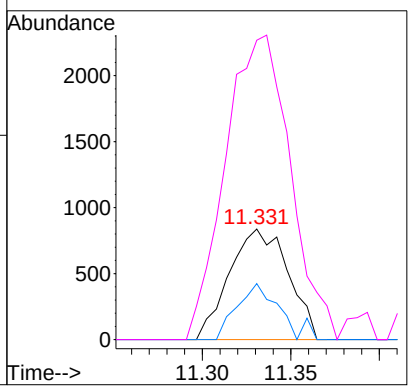


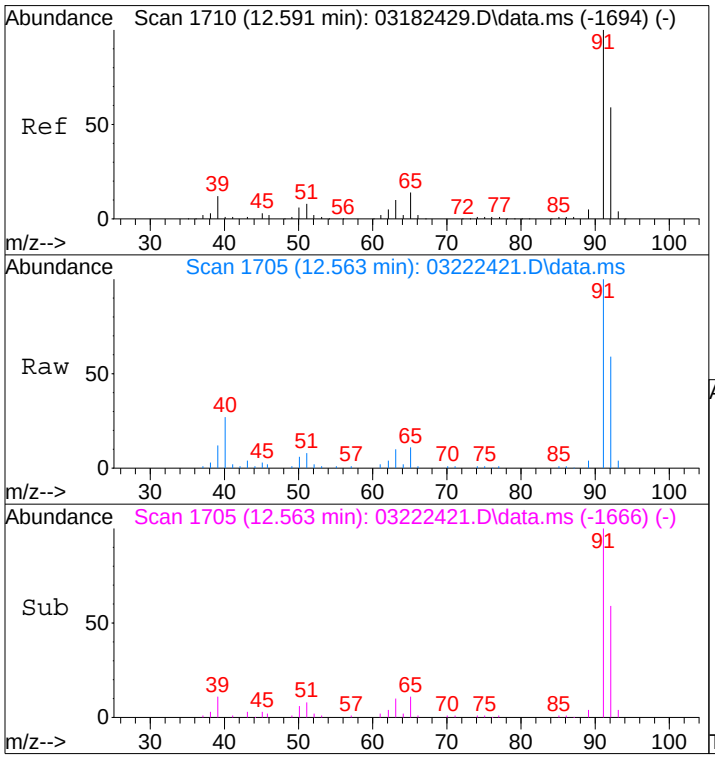


#53
4-Methyl-2-pentanone
Concen: 0.14 ng
RT: 11.33 min Scan# 1488
Delta R.T. -0.007 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 58 Resp: 1939

Ion	Ratio	Lower	Upper
58	100		
85	36.8	34.5	51.7
43	303.6	218.4	327.6

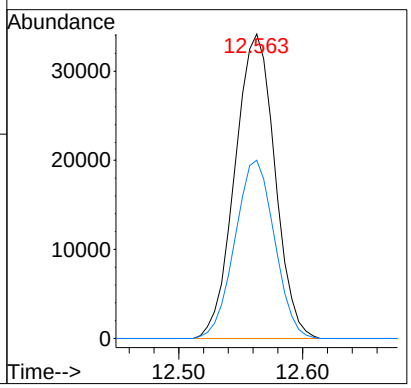


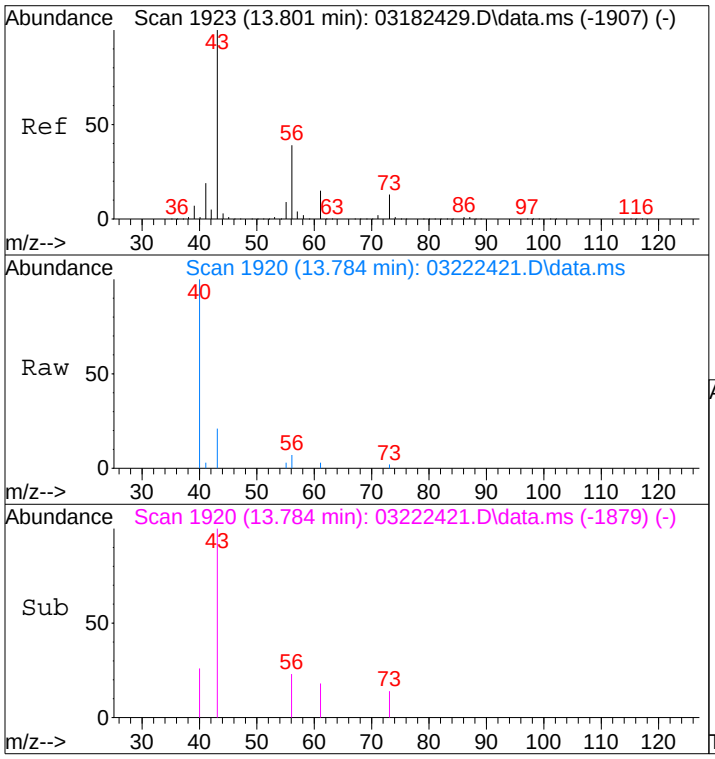


#58
Toluene
Concen: 1.28 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 91 Resp: 76646

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.2	79.2

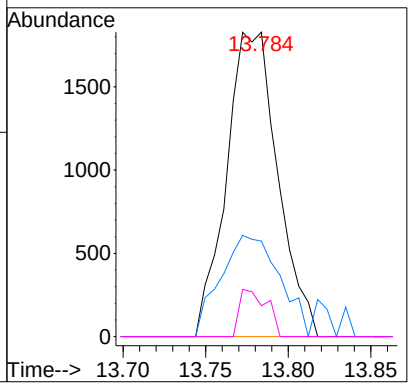


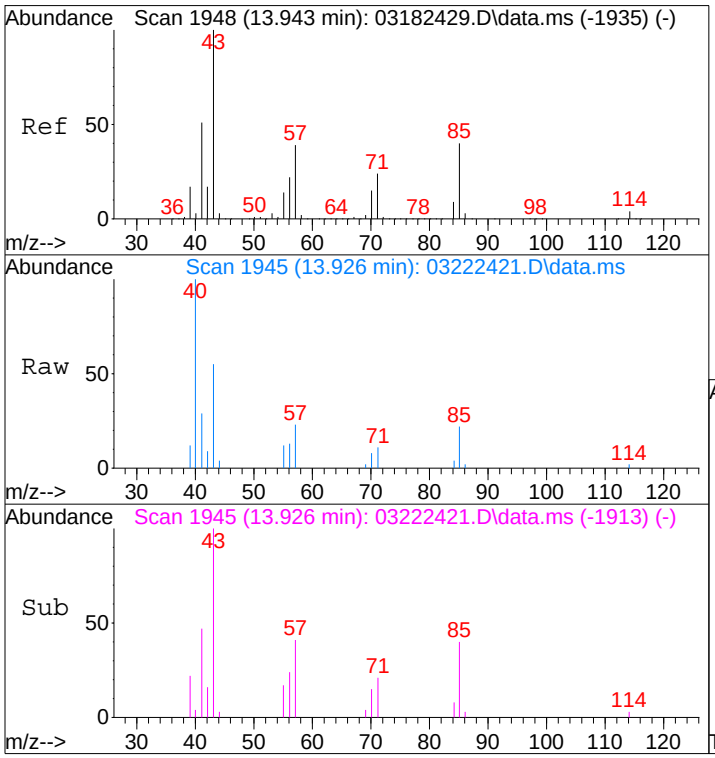


#62
n-Butyl Acetate
Concen: 0.10 ng
RT: 13.78 min Scan# 1920
Delta R.T. -0.017 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 43 Resp: 3953

Ion	Ratio	Lower	Upper
43	100		
56	38.1	16.7	56.7
73	8.2	0.0	31.3

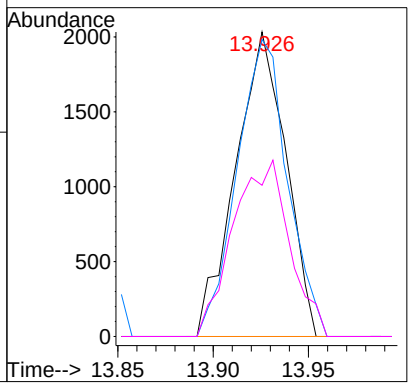


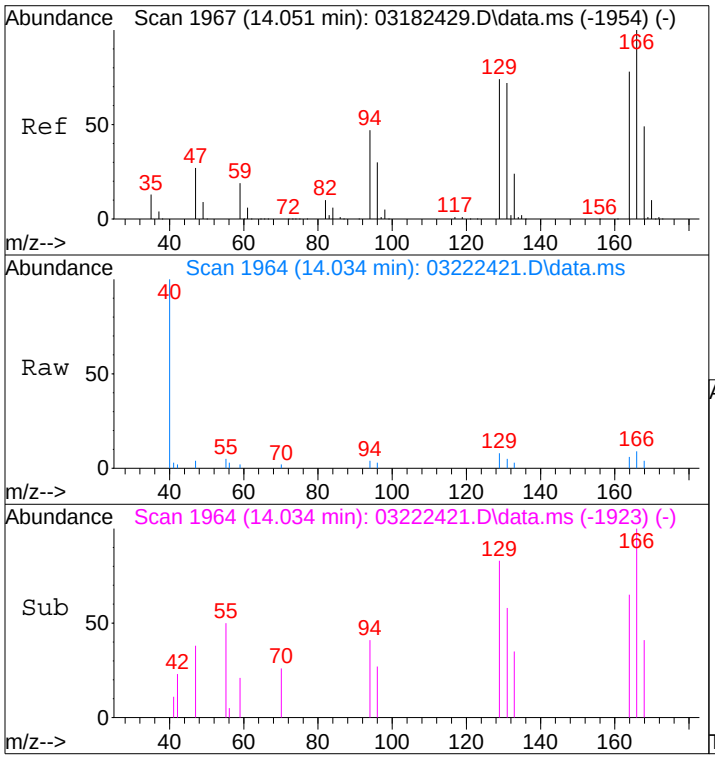


#63
n-Octane
Concen: 0.29 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 57 Resp: 3715

Ion	Ratio	Lower	Upper
57	100		
85	98.5	80.6	121.0
71	65.0	49.3	73.9

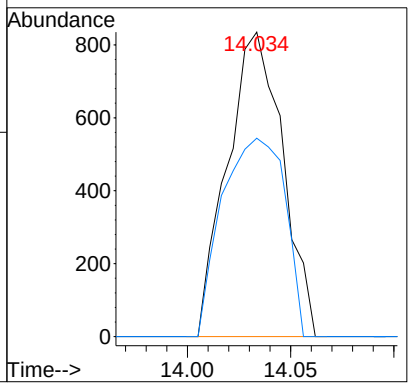


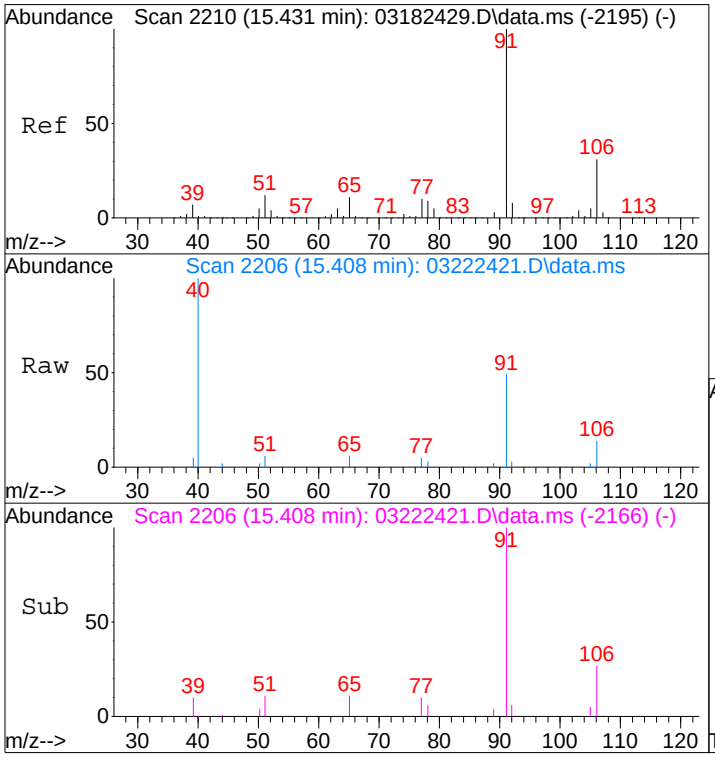


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion:166 Resp: 1556

Ion	Ratio	Lower	Upper
166	100		
164	74.0	56.7	96.7

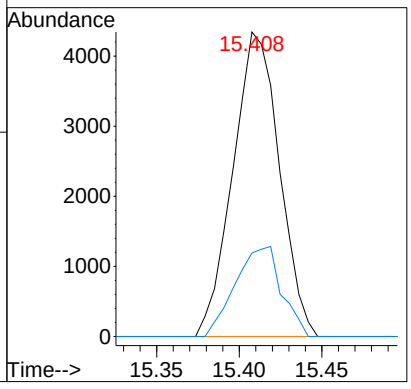


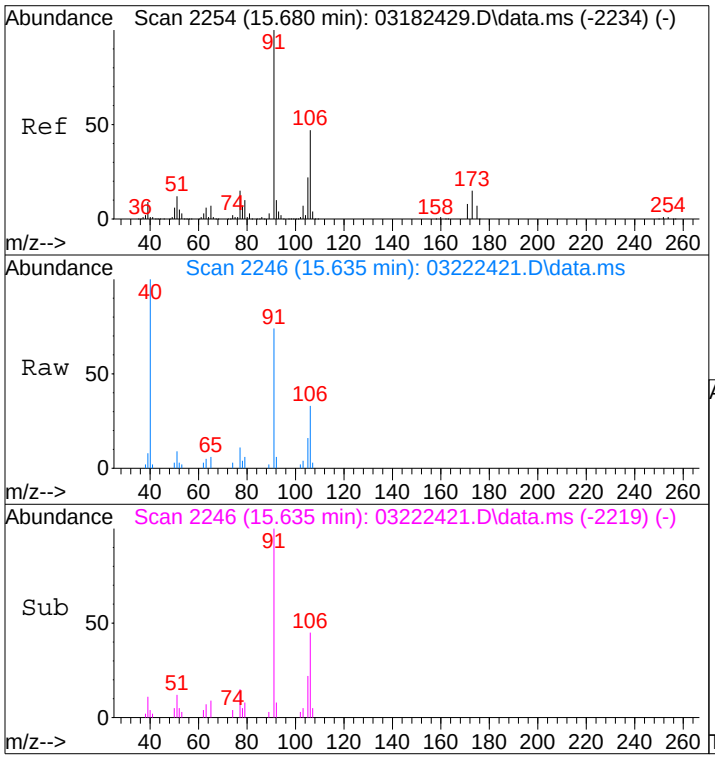


#66
Ethylbenzene
Concen: 0.12 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.023 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 91 Resp: 8497

Ion	Ratio	Lower	Upper
91	100		
106	29.3	10.4	50.4

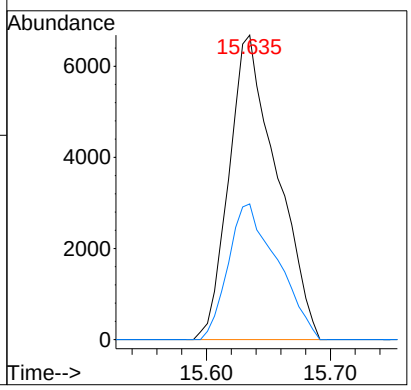


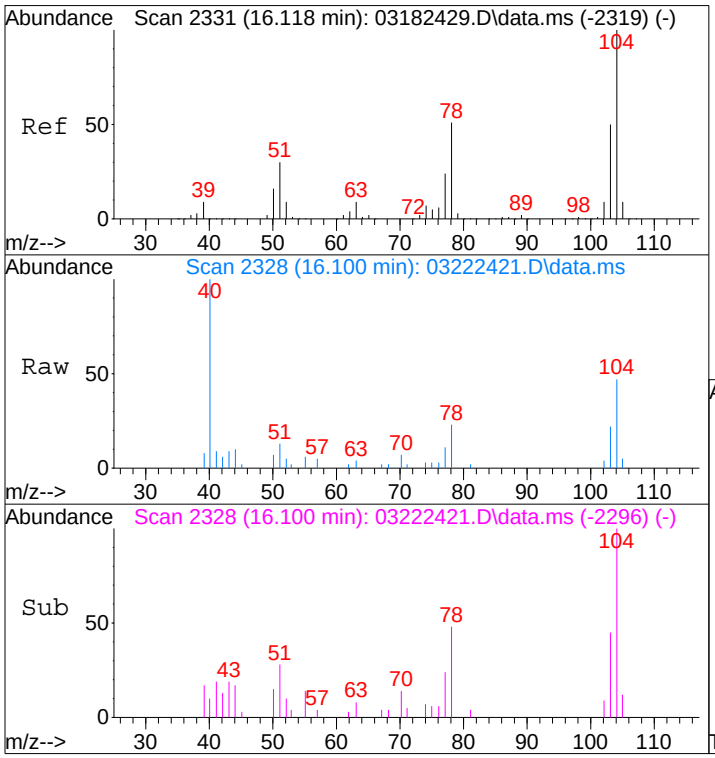


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 91 Resp: 17862

Ion	Ratio	Lower	Upper
91	100		
106	46.0	25.6	65.6

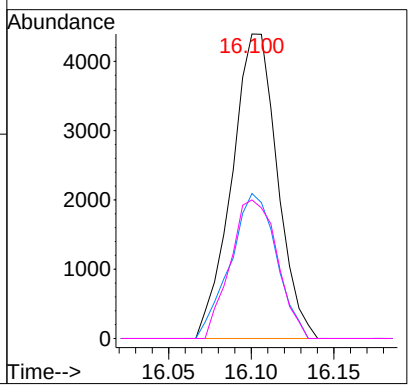


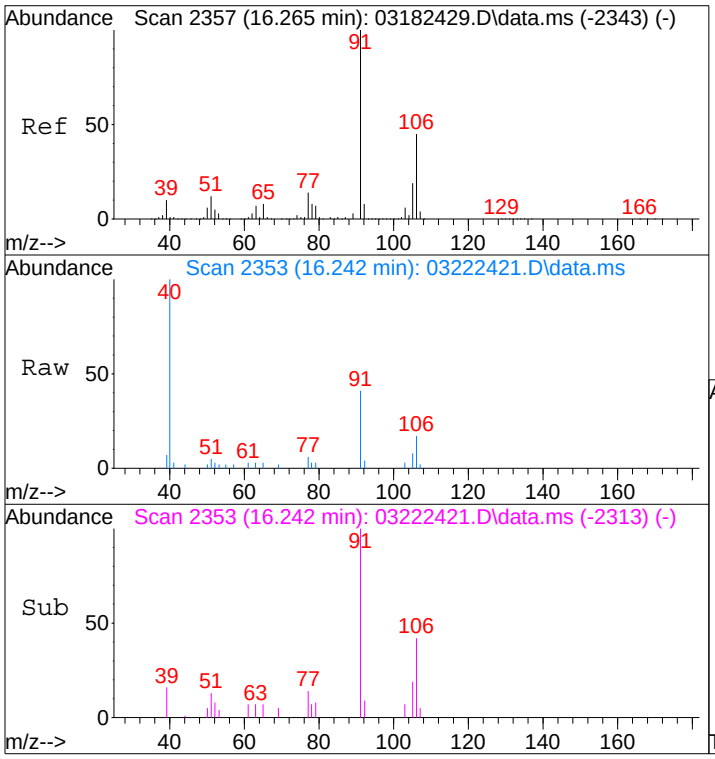


#69
Styrene
Concen: 0.22 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion:104 Resp: 8412

Ion	Ratio	Lower	Upper
104	100		
78	48.2	28.5	68.5
103	46.9	28.4	68.4

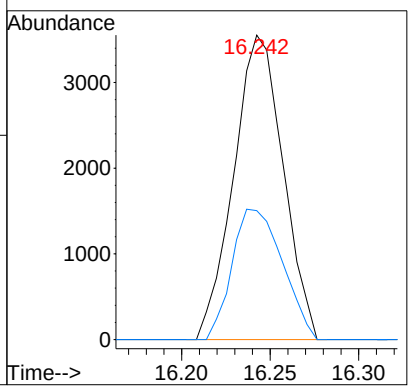


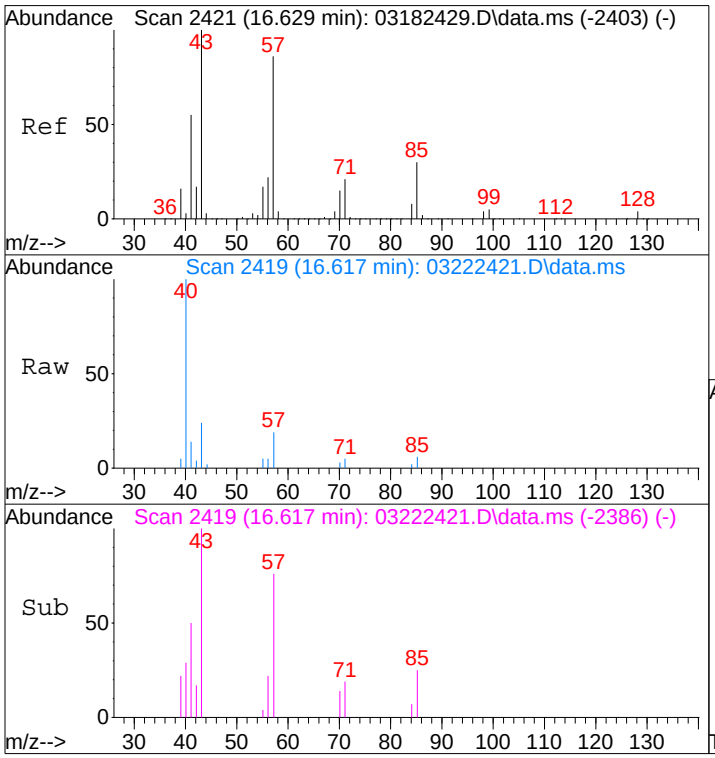


#70
o-Xylene
Concen: 0.12 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 91 Resp: 6900

Ion	Ratio	Lower	Upper
91	100		
106	43.7	24.4	64.4

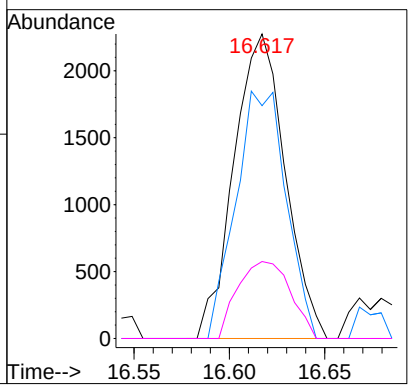


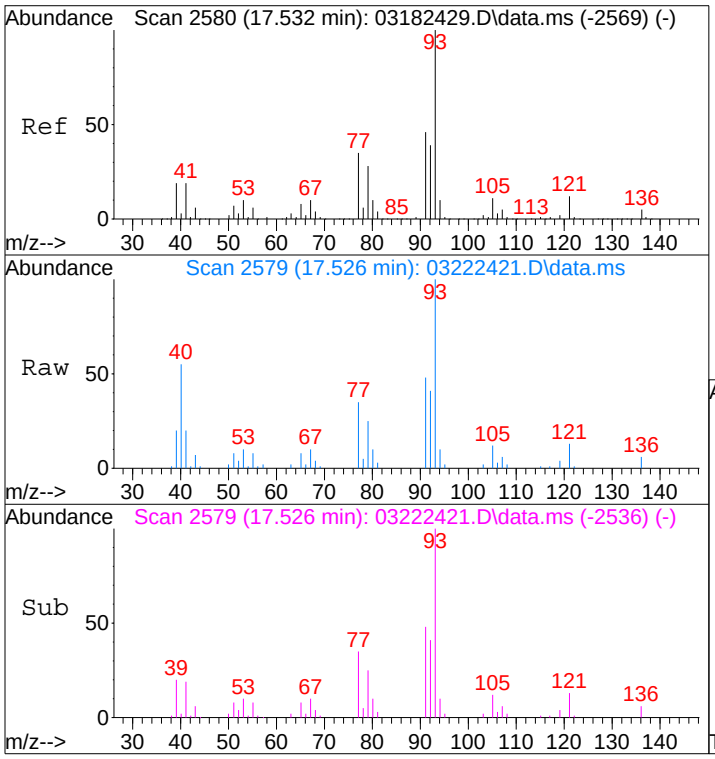


#71
n-Nonane
Concen: 0.13 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.012 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 43 Resp: 4256

Ion	Ratio	Lower	Upper
43	100		
57	79.8	63.3	103.3
85	26.0	7.8	47.8

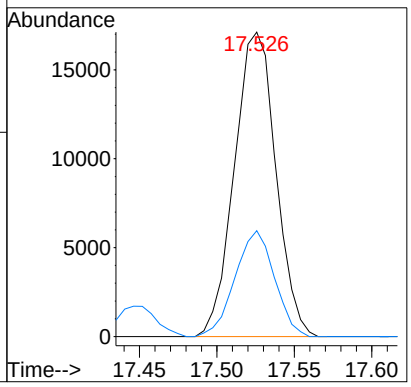


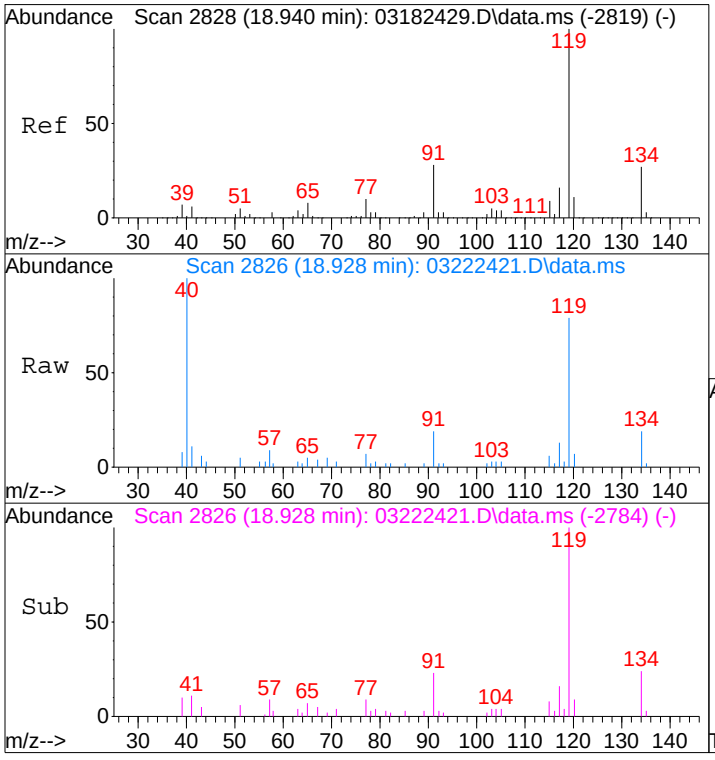


#75
alpha-Pinene
Concen: 0.94 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 93 Resp: 31951

Ion	Ratio	Lower	Upper
93	100		
77	33.1	13.4	53.4

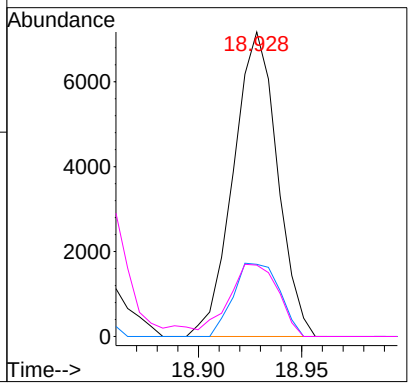


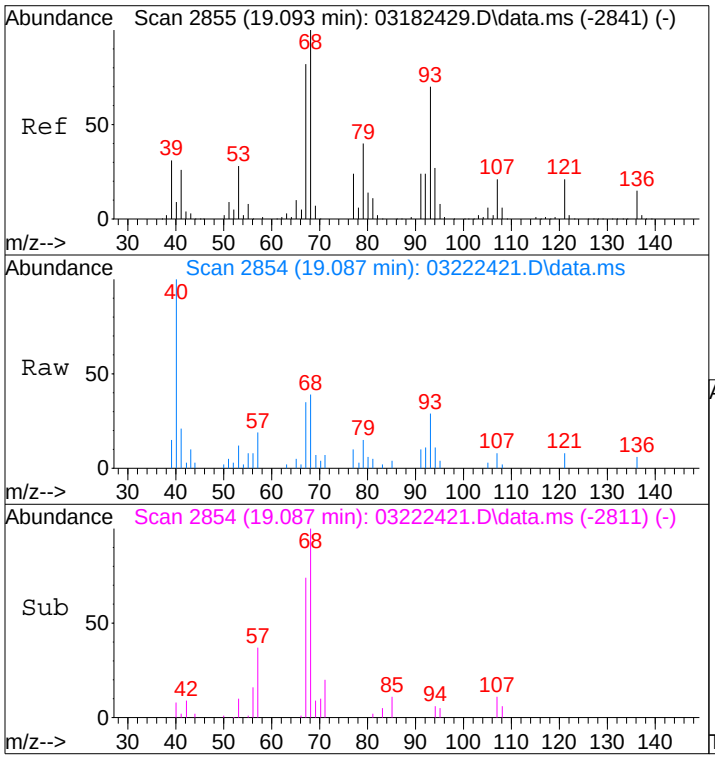


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.16 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.012 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion:119 Resp: 10621

Ion	Ratio	Lower	Upper
119	100		
134	25.3	5.0	45.0
91	26.4	5.8	45.8

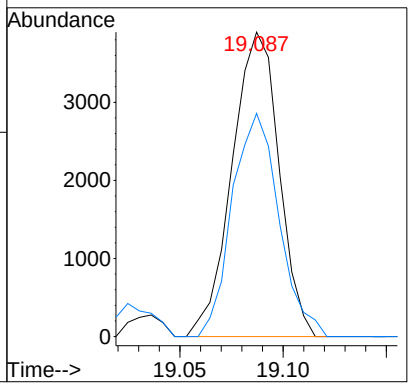




#91
d-Limonene
Concen: 0.29 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03222421.D
Acq: 22 Mar 2024 17:02

Tgt Ion: 68 Resp: 6173

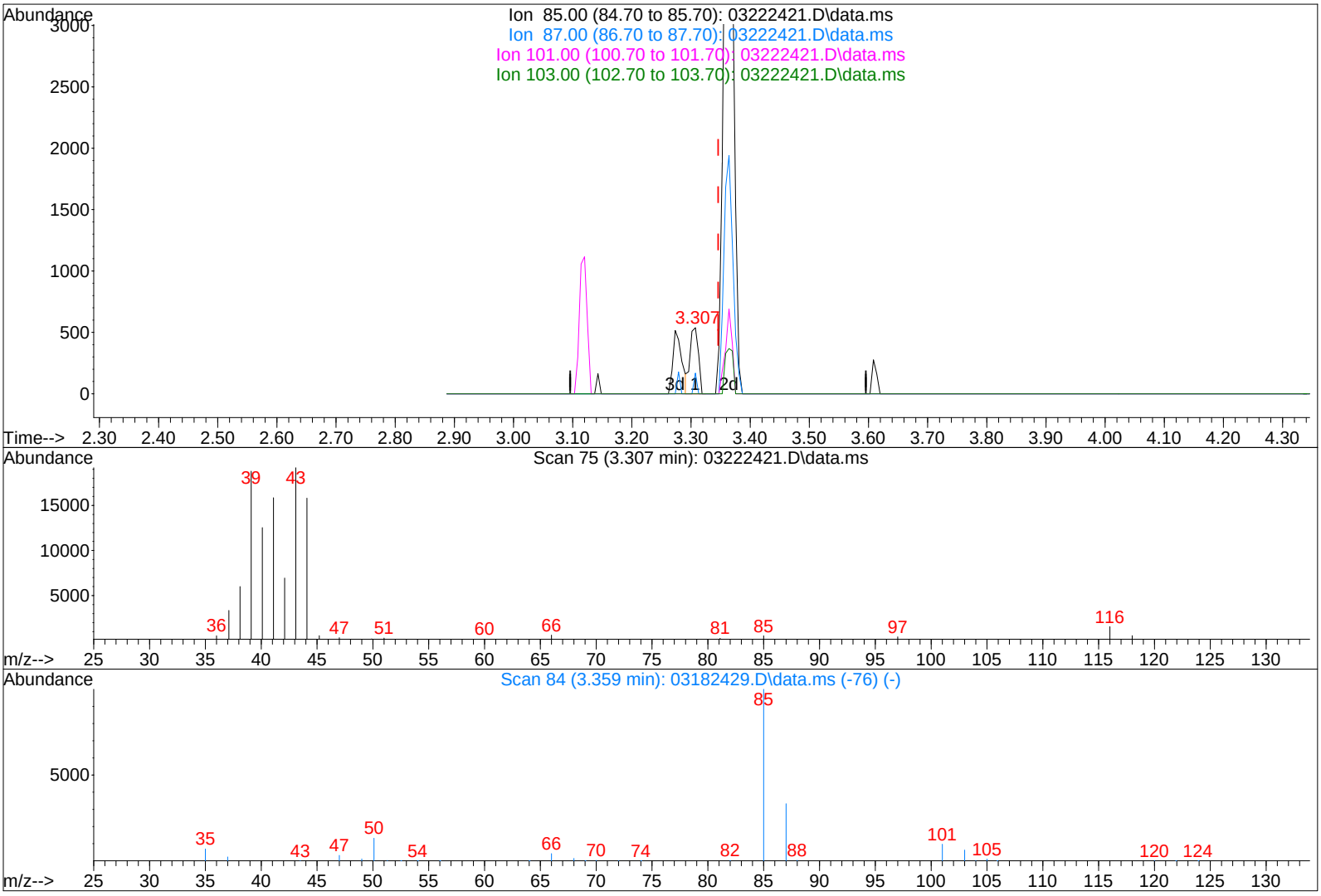
Ion	Ratio	Lower	Upper
68	100		
93	73.0	51.5	91.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:17:49 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222421.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.038) 0.02ng

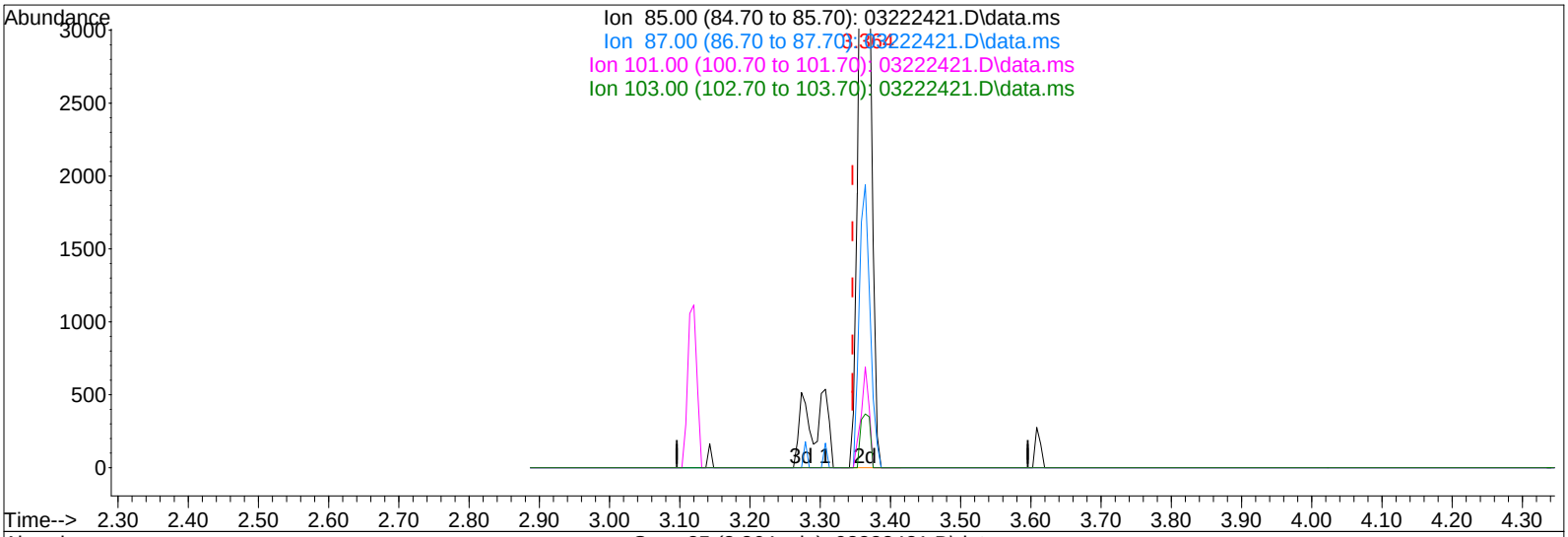
response 527

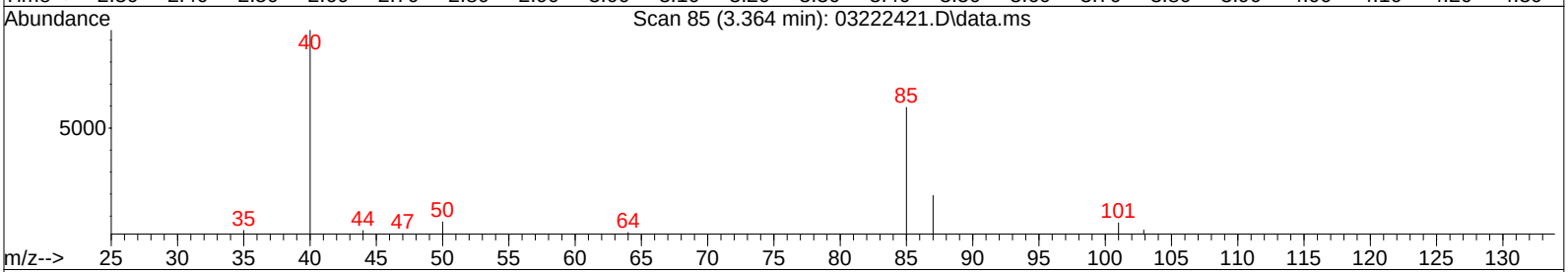
Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

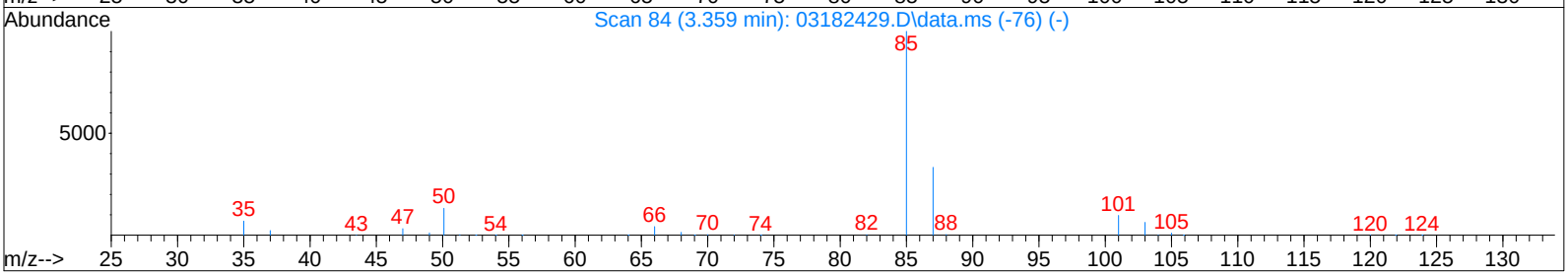
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:17:49 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03222421.D\data.ms

MP 3/25/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.018) 0.19ng m

response 6309

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:34:02 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

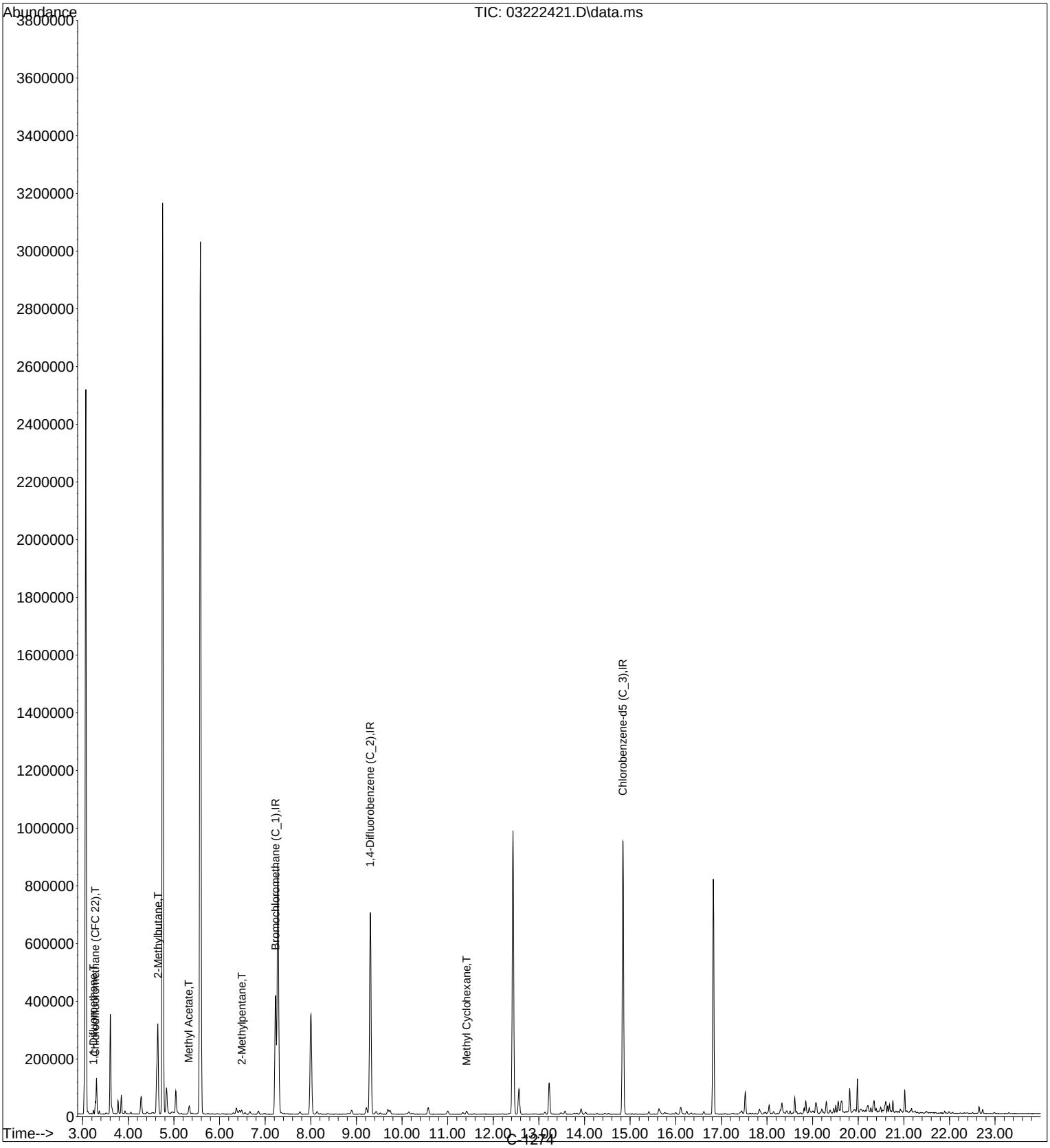
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	162679	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	698433	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	156428	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	56	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	850	N.D.			
4) 1,1-Difluoroethane	3.23	65	3357	0.272	ng	#	60
5) Chlorodifluoromethane ...	3.27	67	6042	1.264	ng		91
6) 1-Chloro-1,1-Difluoroe...	3.50	65	119	N.D.			
7) Dichlorofluoromethane ...	4.23	67	57	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.65	57	68807	4.223	ng	#	77
11) Methyl Acetate	5.32	43	9720	0.232	ng	#	22
12) 2-Methylpentane	6.49	71	2995	0.245	ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.51	56	1978	N.D.			
18) Dibromomethane	9.80	174	223	N.D.			
20) Methyl Cyclohexane	11.42	55	4744	0.193	ng		94
21) 1,3-Dichloropropane	12.56	76	186	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.34	75	51	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	738	N.D.			
27) 4-Chlorotoluene	17.68	91	2329	N.D.			
28) Indane	19.11	117	535	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	309	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	771	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	563	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222421.D Vial: 14
Acq On : 22 Mar 2024 17:02 Operator: SC
Sample : P2400922-036 (120mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:34:02 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1274

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222421.D
Acq On : 22 Mar 2024 17:02
Operator : SC
Sample : P2400922-036 (120mL)
Misc : S37-02202408
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03222421.D\data.ms

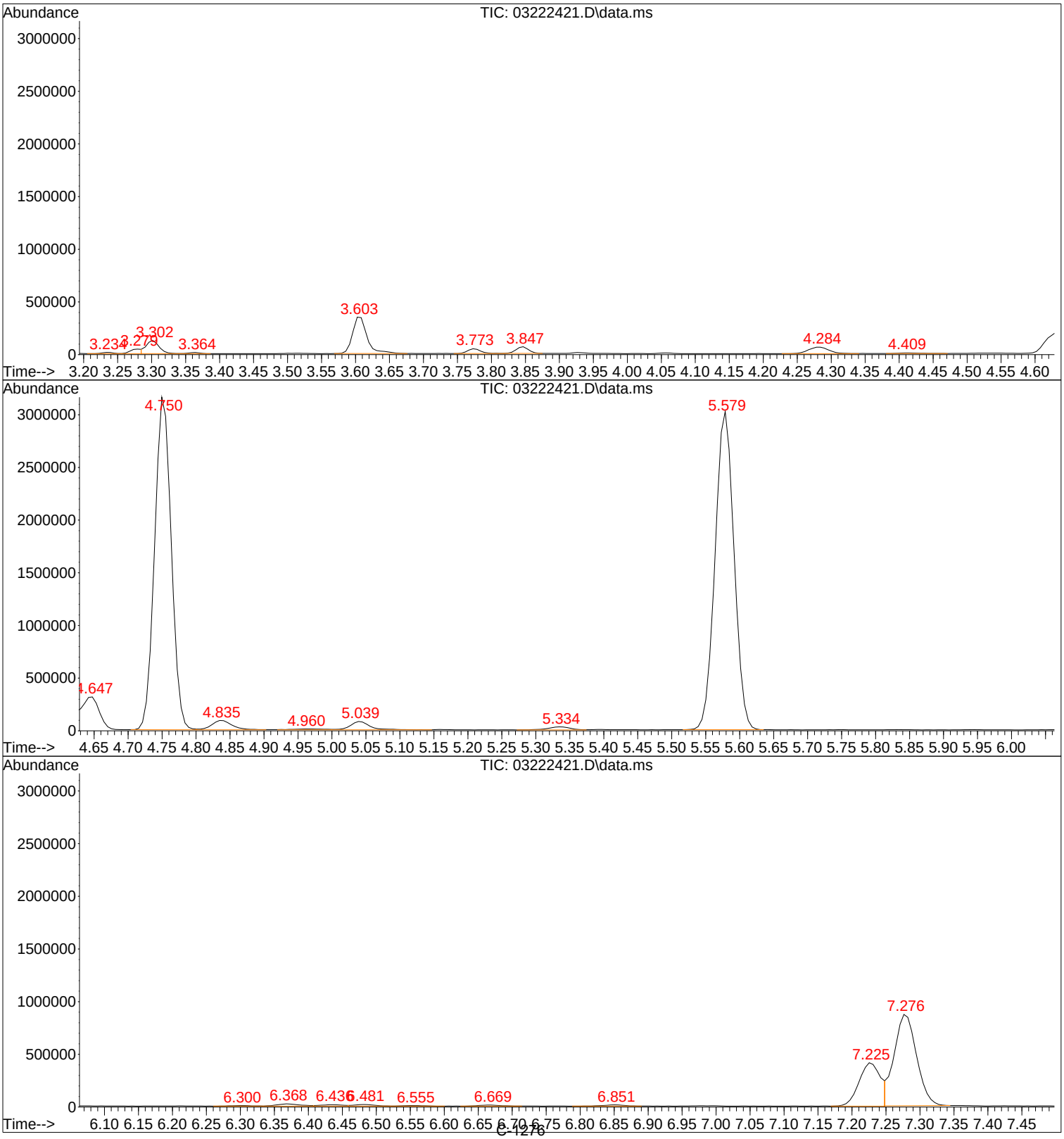
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	57	62	66	rBV	12392	13723	0.23%	0.083%
2	3.279	66	70	71	rVV	43121	51919	0.89%	0.316%
3	3.302	71	74	81	rVV	125603	162347	2.78%	0.987%
4	3.364	81	85	89	rVB	11038	12043	0.21%	0.073%
5	3.603	121	127	140	rBV	345502	512658	8.77%	3.116%
6	3.773	152	157	165	rBV	44993	59438	1.02%	0.361%
7	3.847	165	170	175	rBV	64132	81517	1.39%	0.496%
8	4.284	237	247	257	rBV	61152	129177	2.21%	0.785%
9	4.409	264	269	280	rBV4	5687	11319	0.19%	0.069%
10	4.647	299	311	319	rVB2	311827	715553	12.24%	4.349%
11	4.750	321	329	338	rVV	3156584	5367825	91.80%	32.628%
12	4.835	338	344	356	rVV	88092	182448	3.12%	1.109%
13	4.960	359	366	373	rVV7	6955	23879	0.41%	0.145%
14	5.039	373	380	399	rVB2	79362	155309	2.66%	0.944%
15	5.334	421	432	439	rBV3	28818	64091	1.10%	0.390%
16	5.579	464	475	485	rBV	3021739	5847508	100.00%	35.544%
17	6.300	595	602	608	rBV3	5077	10533	0.18%	0.064%
18	6.368	608	614	621	rVV	21130	47940	0.82%	0.291%
19	6.436	621	626	630	rVV	12651	28518	0.49%	0.173%
20	6.481	630	634	641	rVV3	14262	28317	0.48%	0.172%
21	6.555	641	647	655	rVB3	5621	11662	0.20%	0.071%
22	6.669	659	667	675	rBV	9372	20229	0.35%	0.123%
23	6.851	688	699	706	rBV3	11259	26297	0.45%	0.160%
24	7.225	755	765	769	rBV	411409	923382	15.79%	5.613%
25	7.276	769	774	786	rVB	865829	1963802	33.58%	11.937%

Sum of corrected areas: 16451434

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222421.D
Acq On : 22 Mar 2024 17:02
Operator : SC
Sample : P2400922-036 (120mL)
Misc : S37-02202408
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\22\\
Data File : 03222421.D
Acq On : 22 Mar 2024 17:022
Operator : SCC
Sample : P2400922-036 (120mL))
Misc : S37-022024088
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:13:37 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	160752	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	690067	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	155609	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	323582	12.304	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
57) Toluene-d8 (SS2)	12.43	98	799049	12.789	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	16.83	174	278609	12.648	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	18616m	0.565	ng		
4) Chloromethane	3.49	50	1252	0.051	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	358	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	27243	1.754	ng		81
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	3908	0.351	ng		95
13) Acetone	4.62	58	30254	2.559	ng	#	71
14) Trichlorofluoromethane	4.74	101	653738	20.485	ng		100
15) 2-Propanol (Isopropanol)	4.93	45	67	N.D.			
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.32	59	802	N.D.			
19) Methylene Chloride	5.34	84	911	0.053	ng		86
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	224446	16.685	ng		98
22) Carbon Disulfide	5.58	76	14366	0.268	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	212	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	6152	0.637	ng		96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.34	87	283	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	347	N.D.			
32) Chloroform	7.34	83	4300	0.154	ng		95
34) Tetrahydrofuran (THF)	7.76	72	171	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	194	No Calib		#	
40) 1-Butanol	8.80	56	11476	No Calib		#	
41) Benzene	8.89	78	4643	0.075	ng		98
42) Carbon Tetrachloride	9.06	117	1836	0.075	ng		99
43) Cyclohexane	9.17	84	471	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	650	N.D.			
47) Trichloroethene	10.13	130	1143	0.068	ng		95
48) 1,4-Dioxane	10.13	88	2250	0.208	ng		93
49) 2,2,4-Trimethylpentane...	10.13	57	662	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:13:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

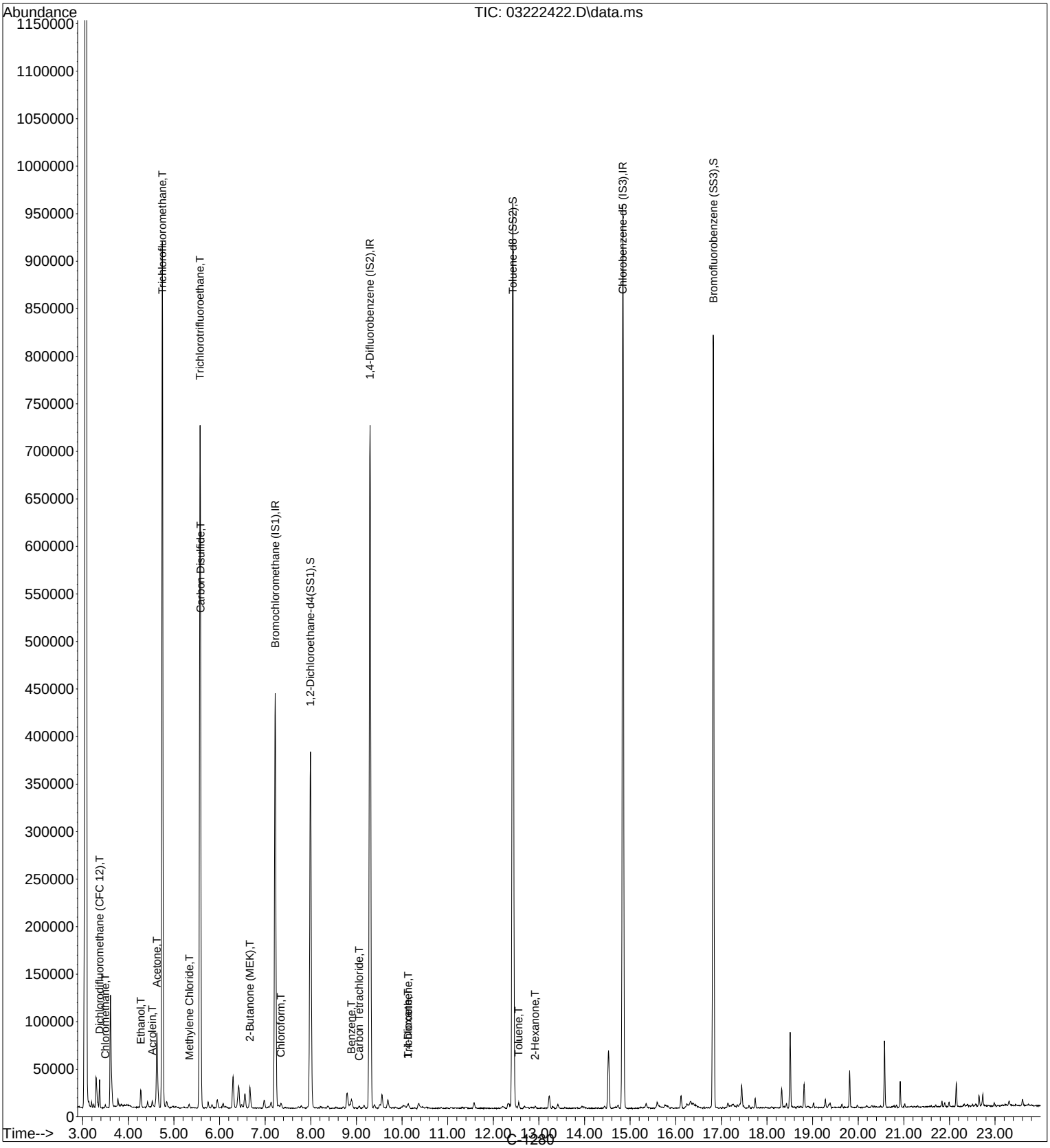
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	109	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5382	0.090 ng	94
59) 2-Hexanone	12.92	43	2711	0.078 ng	88
60) Dibromochloromethane	13.07	129	462	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	517	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	446	N.D.	
65) Chlorobenzene	14.91	112	531	N.D.	
66) Ethylbenzene	15.41	91	1112	N.D.	
67) m- & p-Xylenes	15.63	91	2428	N.D.	
68) Bromoform	15.67	173	489	N.D.	
69) Styrene	16.10	104	305	N.D.	
70) o-Xylene	16.24	91	881	N.D.	
71) n-Nonane	16.61	43	649	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	454	N.D.	
74) Cumene	17.04	105	692	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1079	N.D.	
77) 3-Ethyltoluene	17.04	105	692	No Calib	#
78) 4-Ethyltoluene	17.86	105	687	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	429	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	692	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	655	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	608	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	631	N.D.	
87) sec-Butylbenzene	18.74	105	893	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	813	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	692	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	487	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	815	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	464	N.D.	
98) Cyclohexanone	15.36	55	1626	No Calib	#
99) tert-Butylbenzene	18.42	119	986	N.D.	
100) n-Butylbenzene	19.39	91	791	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:13:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:13:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

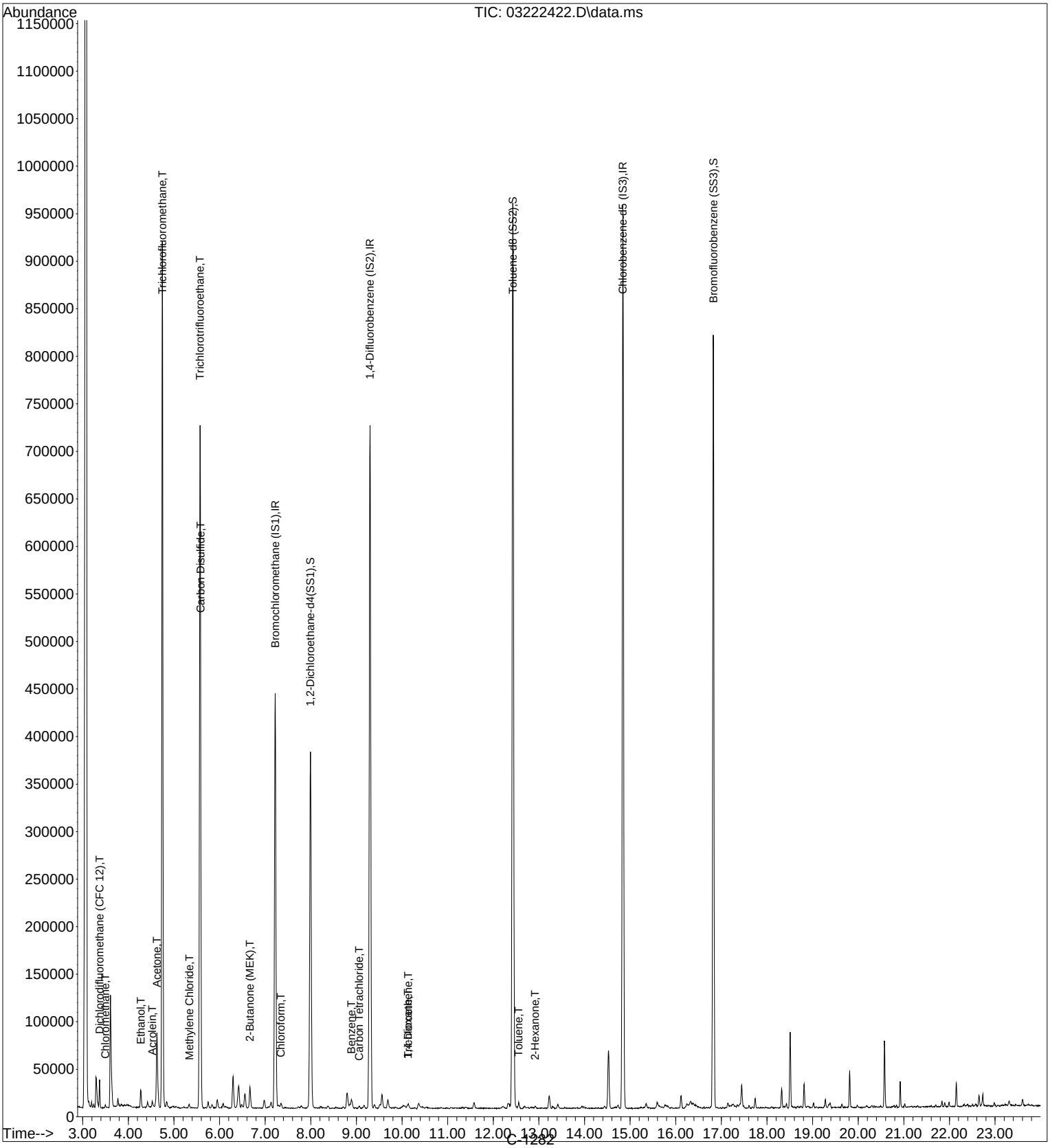
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	160752	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	690067	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	155609	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	323582	12.304	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
57) Toluene-d8 (SS2)	12.43	98	799049	12.789	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	16.83	174	278609	12.648	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	18616m	0.565	ng		
4) Chloromethane	3.49	50	1252	0.051	ng		97
10) Ethanol	4.27	45	27243	1.754	ng		81
12) Acrolein	4.52	56	3908	0.351	ng		95
13) Acetone	4.62	58	30254	2.559	ng	#	71
14) Trichlorofluoromethane	4.74	101	653738	20.485	ng		100
19) Methylene Chloride	5.34	84	911	0.053	ng		86
21) Trichlorotrifluoroethane	5.57	151	224446	16.685	ng		98
22) Carbon Disulfide	5.58	76	14366	0.268	ng	#	1
27) 2-Butanone (MEK)	6.66	72	6152	0.637	ng		96
32) Chloroform	7.34	83	4300	0.154	ng		95
41) Benzene	8.89	78	4643	0.075	ng		98
42) Carbon Tetrachloride	9.06	117	1836	0.075	ng		99
47) Trichloroethene	10.13	130	1143	0.068	ng		95
48) 1,4-Dioxane	10.13	88	2250	0.208	ng		93
58) Toluene	12.56	91	5382	0.090	ng		94
59) 2-Hexanone	12.92	43	2711	0.078	ng		88

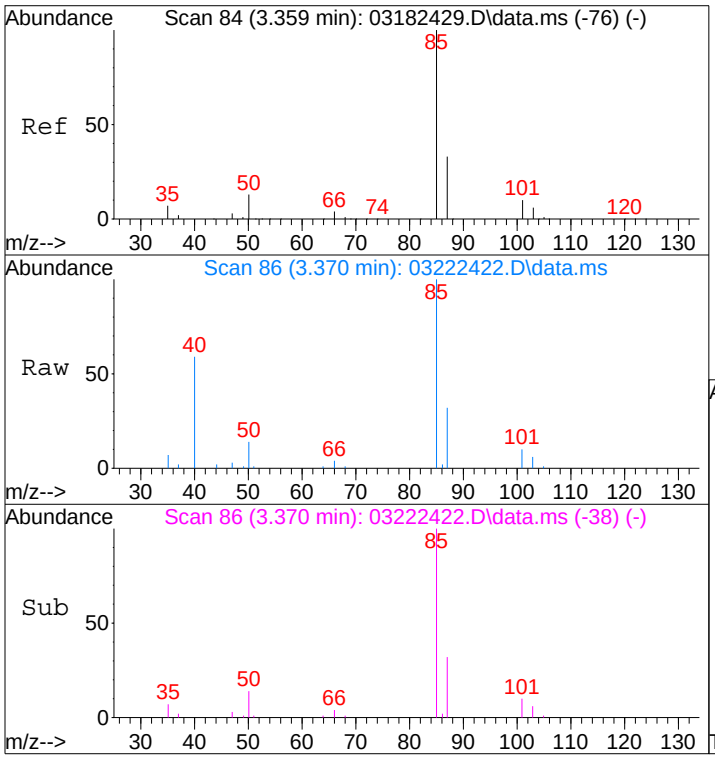
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:13:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

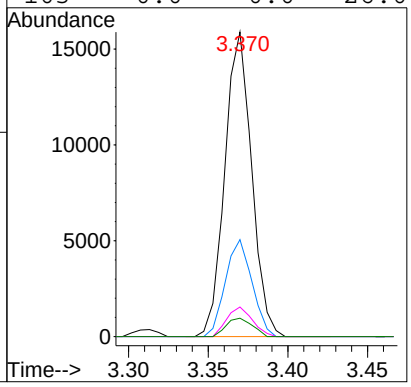


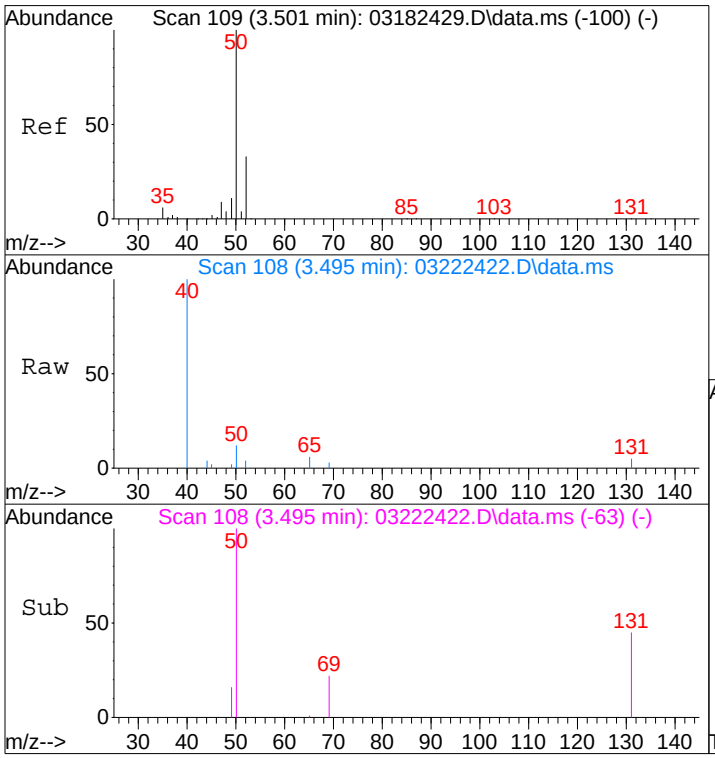


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.56 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.024 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 85 Resp: 18616

Ion	Ratio	Lower	Upper
85	100		
87	0.0	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

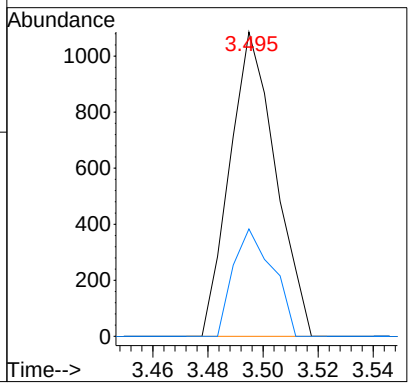


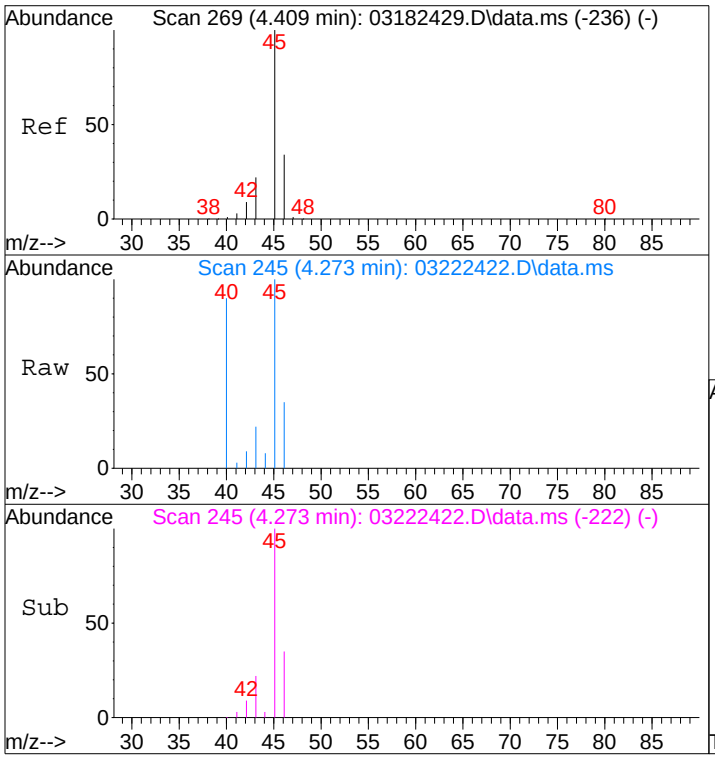


#4
Chloromethane
Concen: 0.05 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.008 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 50 Resp: 1252

Ion	Ratio	Lower	Upper
50	100		
52	30.7	12.3	52.3

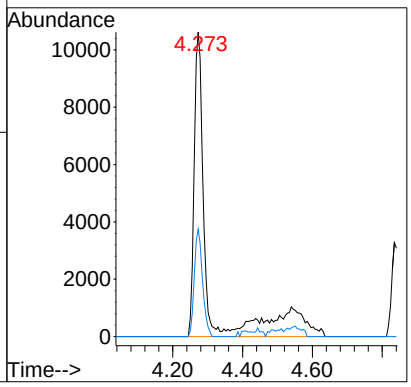


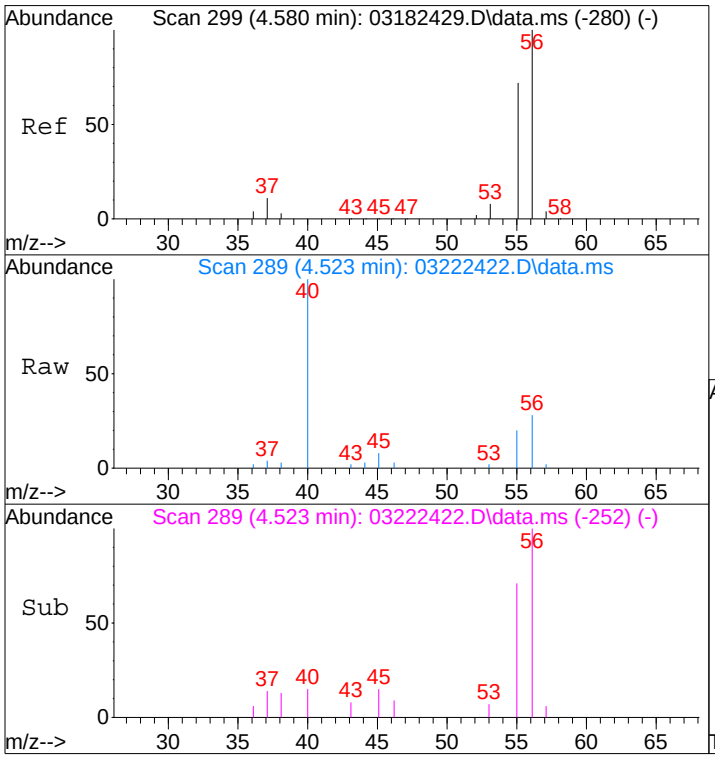


#10
Ethanol
Concen: 1.75 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.119 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 45 Resp: 27243

Ion	Ratio	Lower	Upper
45	100		
46	22.4	13.3	53.3

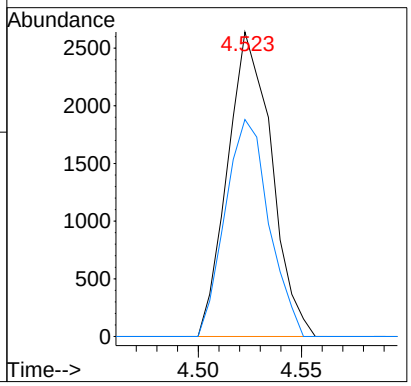


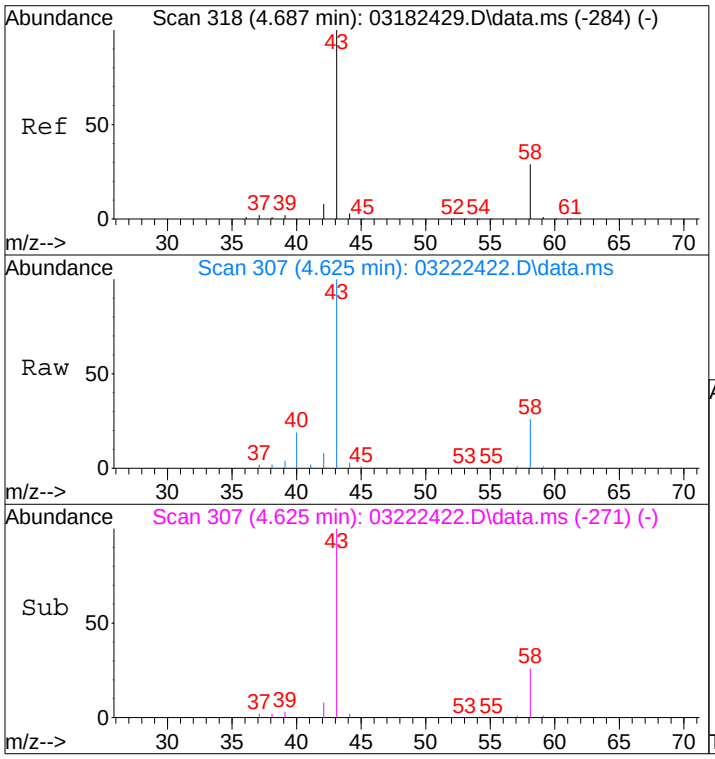


#12
Acrolein
Concen: 0.35 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.039 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 56 Resp: 3908

Ion	Ratio	Lower	Upper
56	100		
55	70.9	54.9	94.9

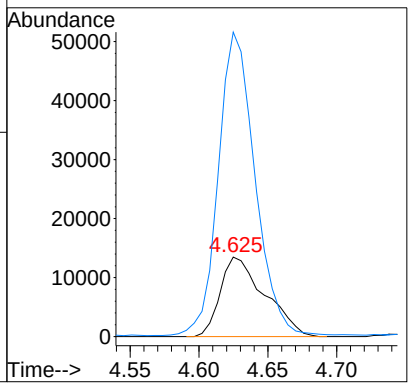


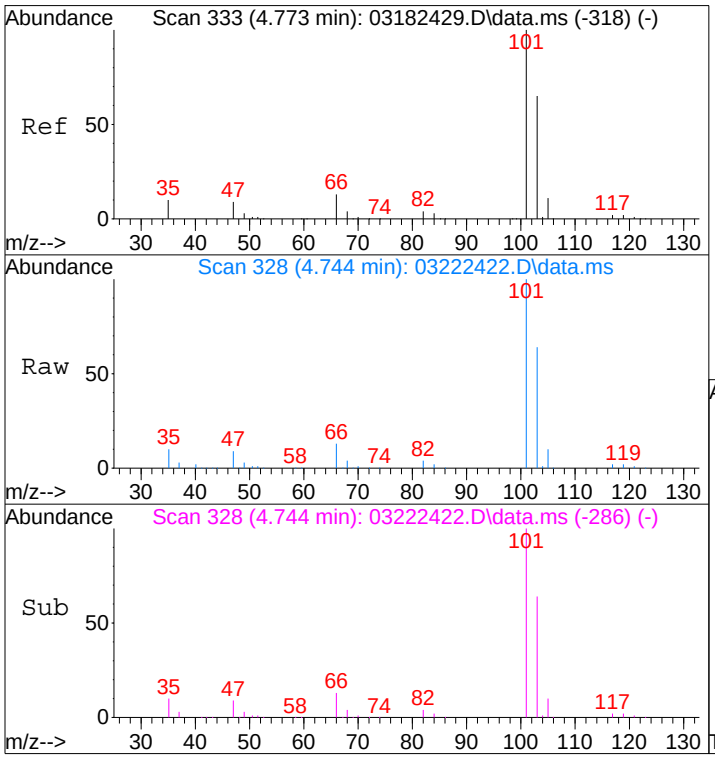


#13
Acetone
Concen: 2.56 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.045 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 58 Resp: 30254

Ion	Ratio	Lower	Upper
58	100		
43	314.8	350.1	410.1#

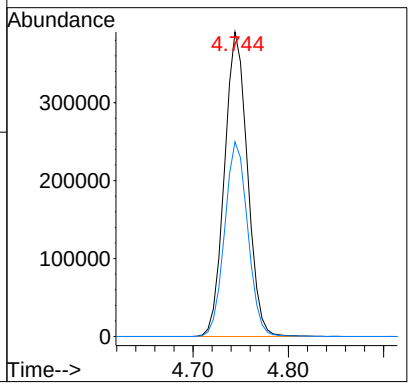


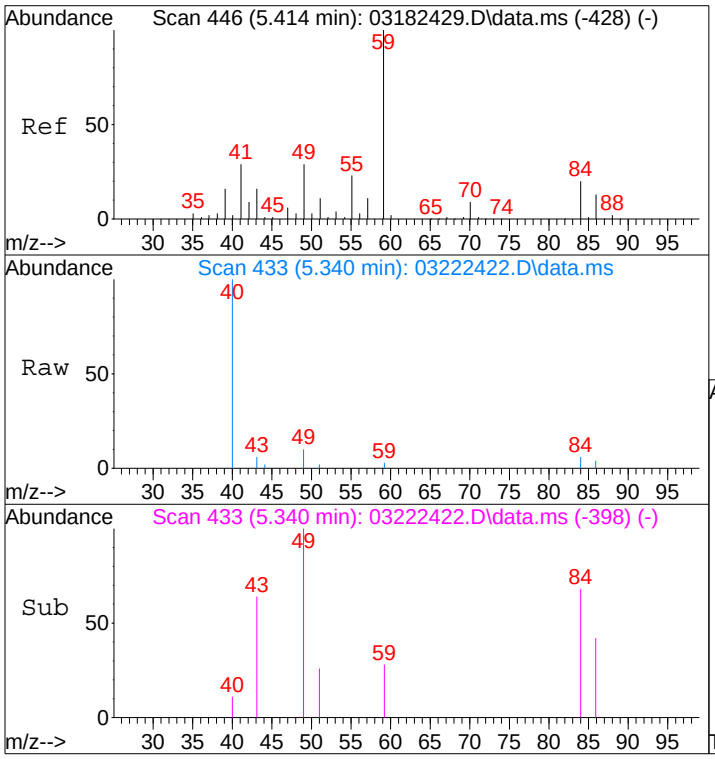


#14
Trichlorofluoromethane
Concen: 20.49 ng
RT: 4.74 min Scan# 328
Delta R.T. -0.010 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion:101 Resp: 653738

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

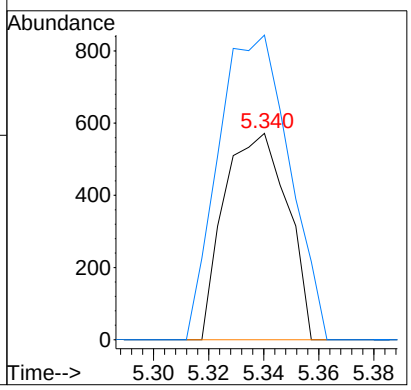


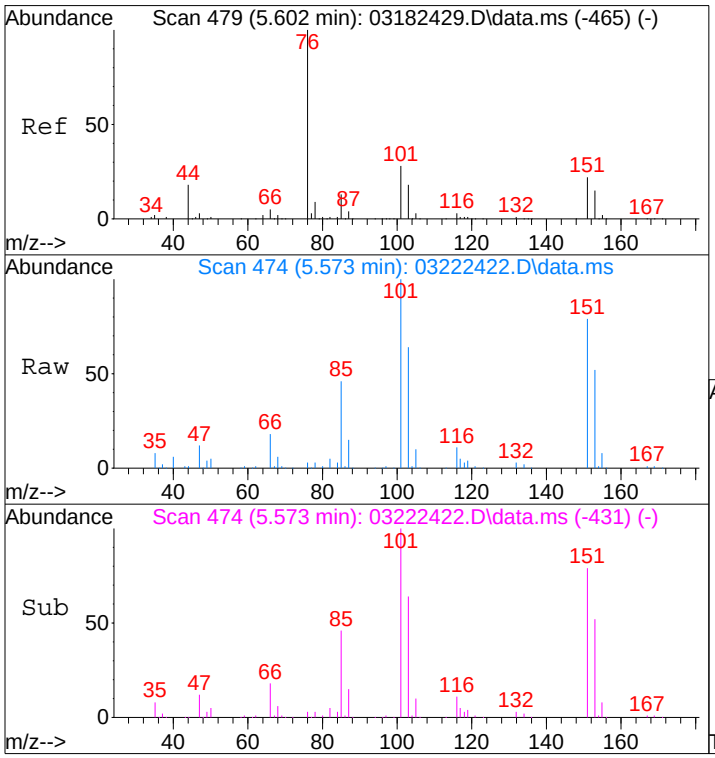


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.053 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 84 Resp: 911

Ion	Ratio	Lower	Upper
84	100		
49	165.5	122.9	172.9

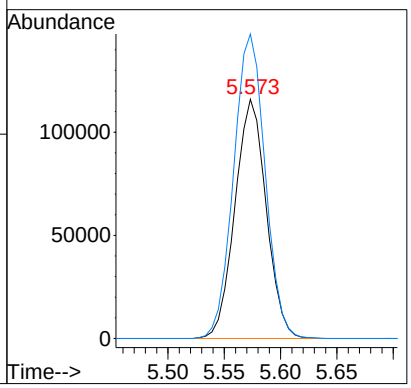


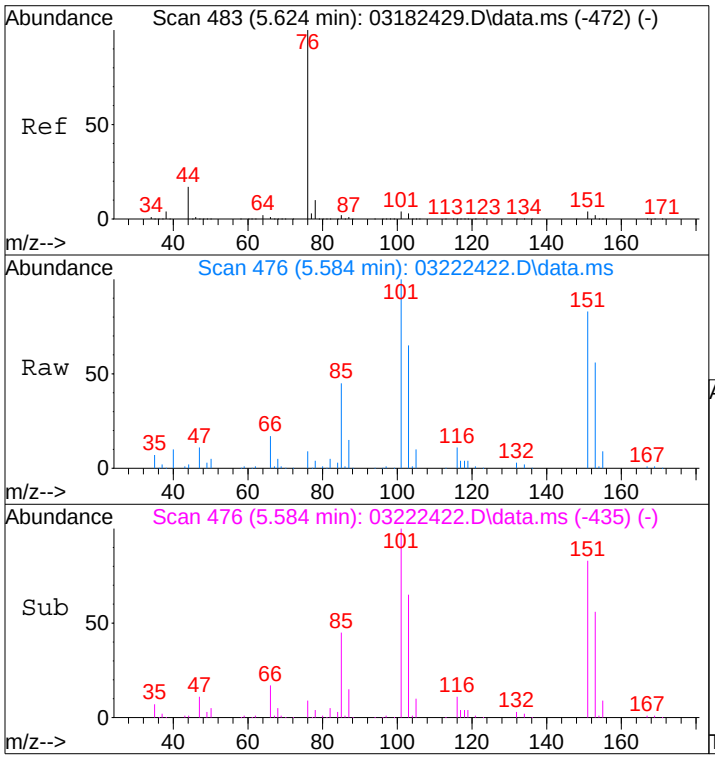


#21
Trichlorotrifluoroethane
Concen: 16.68 ng
RT: 5.57 min Scan# 474
Delta R.T. -0.007 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion:151 Resp: 224446

Ion	Ratio	Lower	Upper
151	100		
101	128.3	106.4	146.4

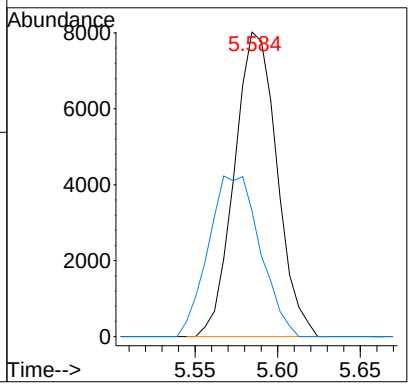


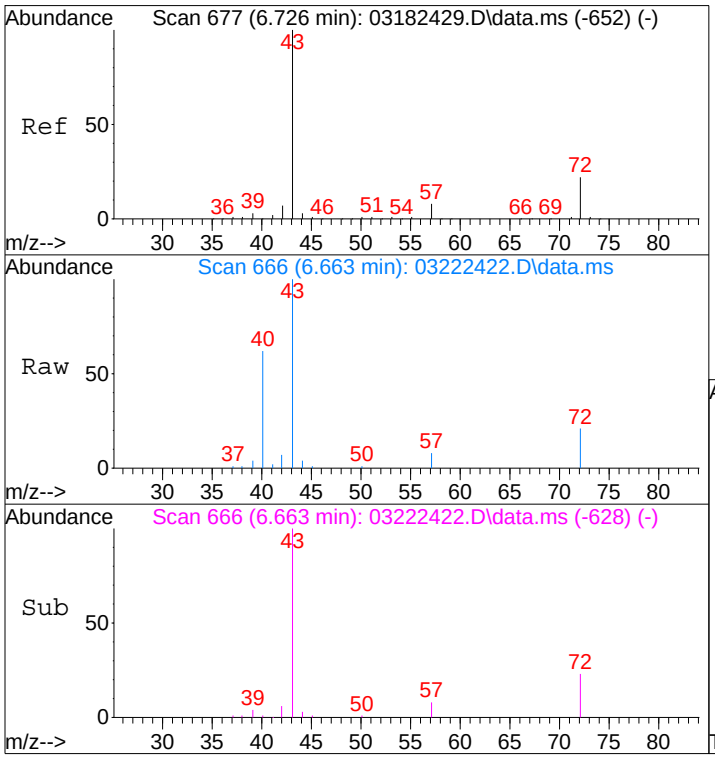


#22
Carbon Disulfide
Concen: 0.27 ng
RT: 5.58 min Scan# 476
Delta R.T. -0.018 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 76 Resp: 14366

Ion	Ratio	Lower	Upper
76	100		
78	64.0	0.0	29.8#

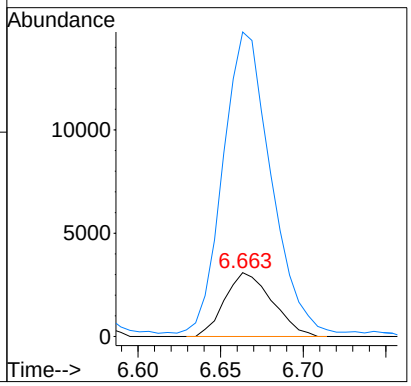


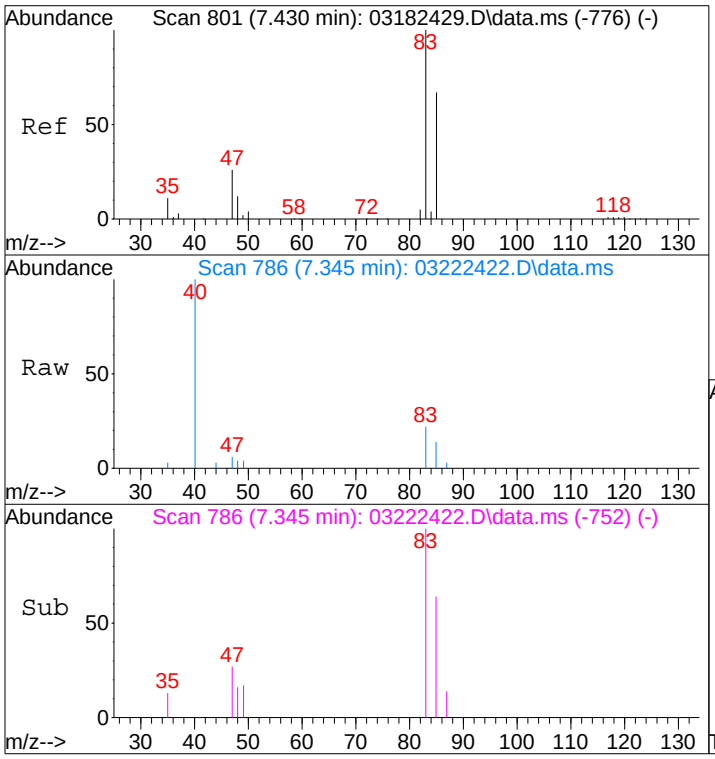


#27
2-Butanone (MEK)
Concen: 0.64 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.037 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 72 Resp: 6152

Ion	Ratio	Lower	Upper
72	100		
43	498.3	468.6	508.6

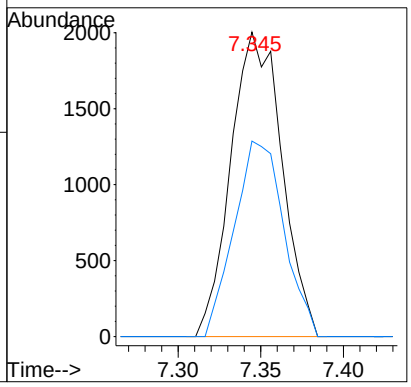


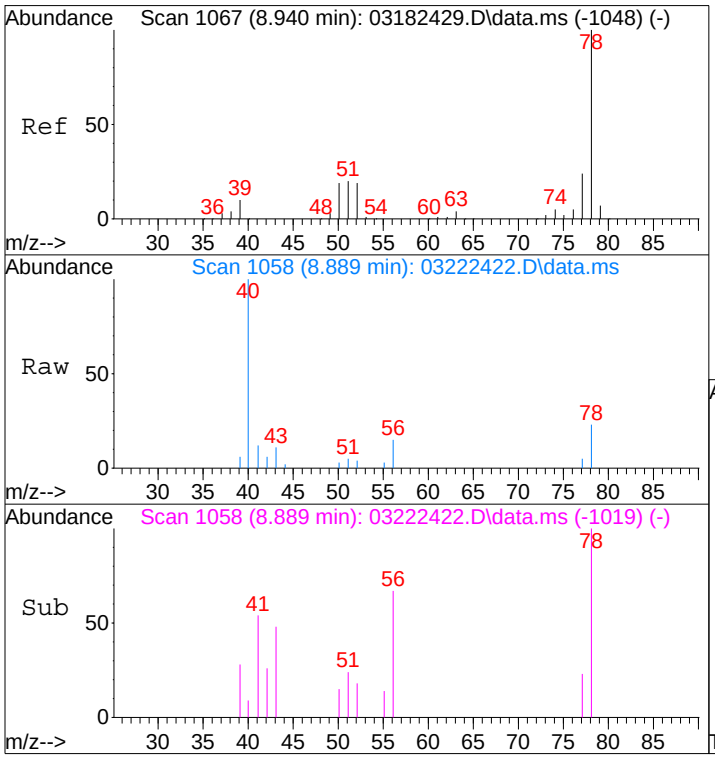


#32
Chloroform
Concen: 0.15 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.057 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 83 Resp: 4300

Ion	Ratio	Lower	Upper
83	100		
85	62.5	46.1	86.1

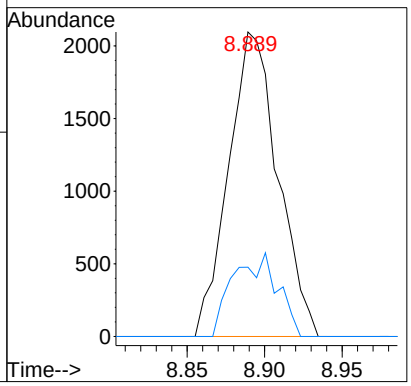


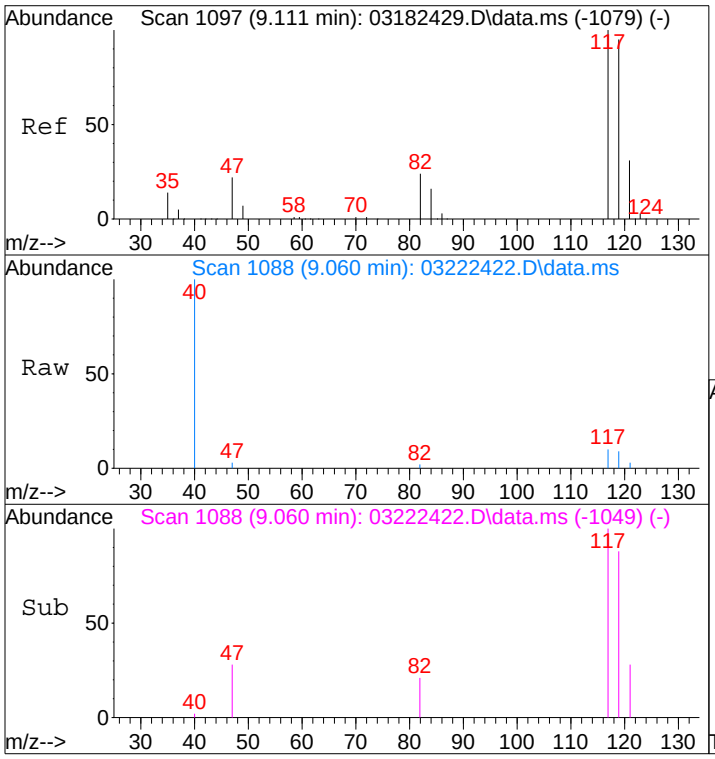


#41
Benzene
Concen: 0.07 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.030 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 78 Resp: 4643

Ion	Ratio	Lower	Upper
78	100		
77	24.7	3.6	43.6

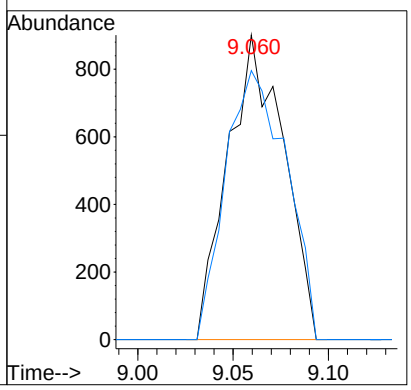


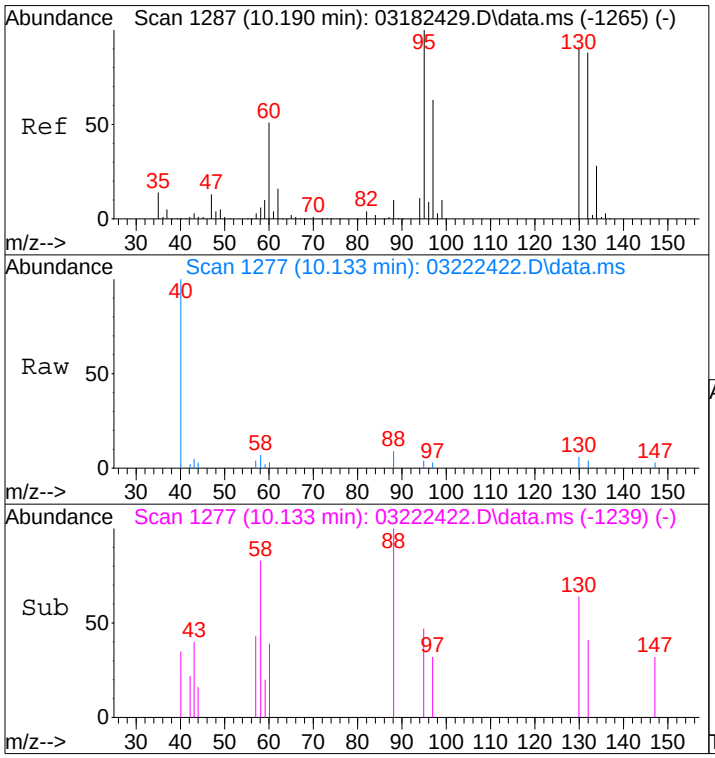


#42
Carbon Tetrachloride
Concen: 0.08 ng
RT: 9.06 min Scan# 1088
Delta R.T. -0.029 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion:117 Resp: 1836

Ion	Ratio	Lower	Upper
117	100		
119	96.5	75.7	115.7

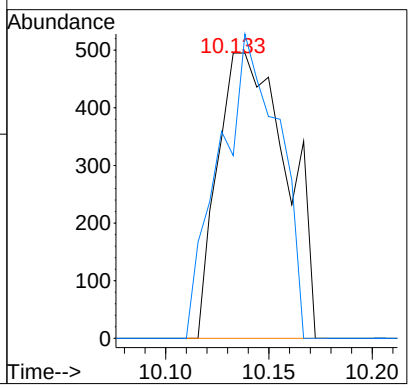


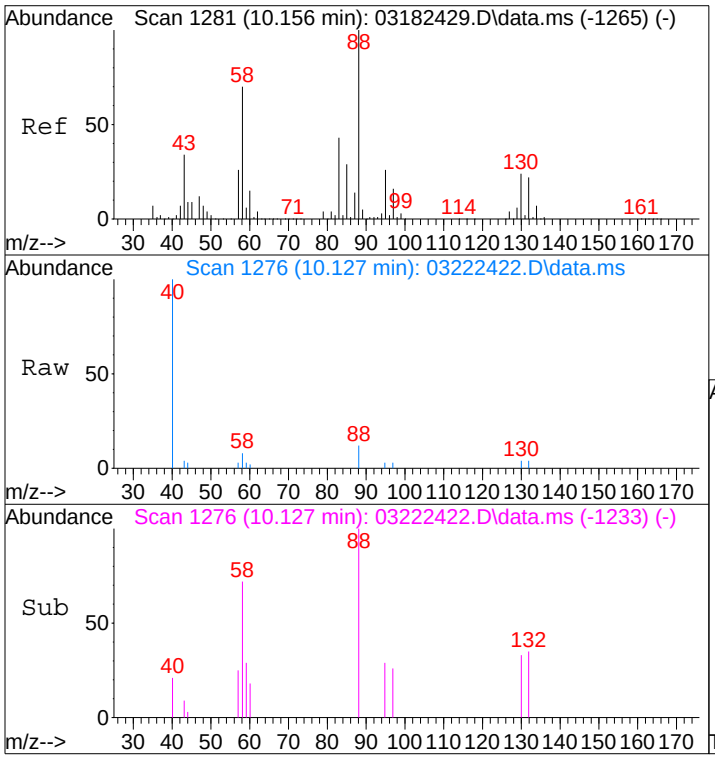


#47
Trichloroethene
Concen: 0.07 ng
RT: 10.13 min Scan# 1277
Delta R.T. -0.032 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion:130 Resp: 1143

Ion	Ratio	Lower	Upper
130	100		
132	92.4	77.5	117.5

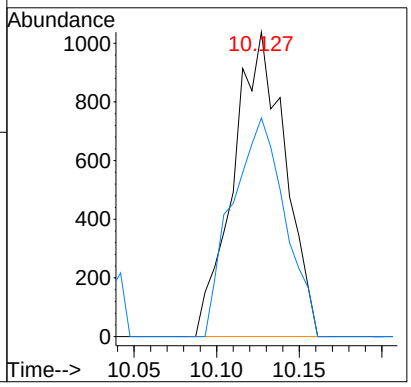


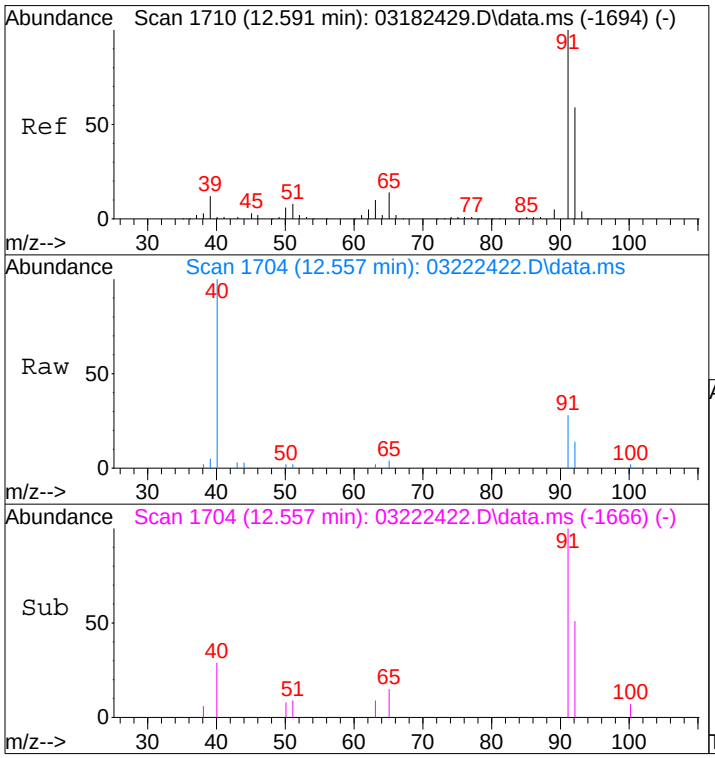


#48
1,4-Dioxane
Concen: 0.21 ng
RT: 10.13 min Scan# 1276
Delta R.T. -0.004 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 88 Resp: 2250

Ion	Ratio	Lower	Upper
88	100		
58	74.0	48.2	88.2

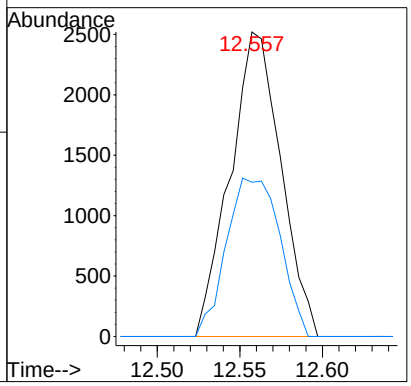


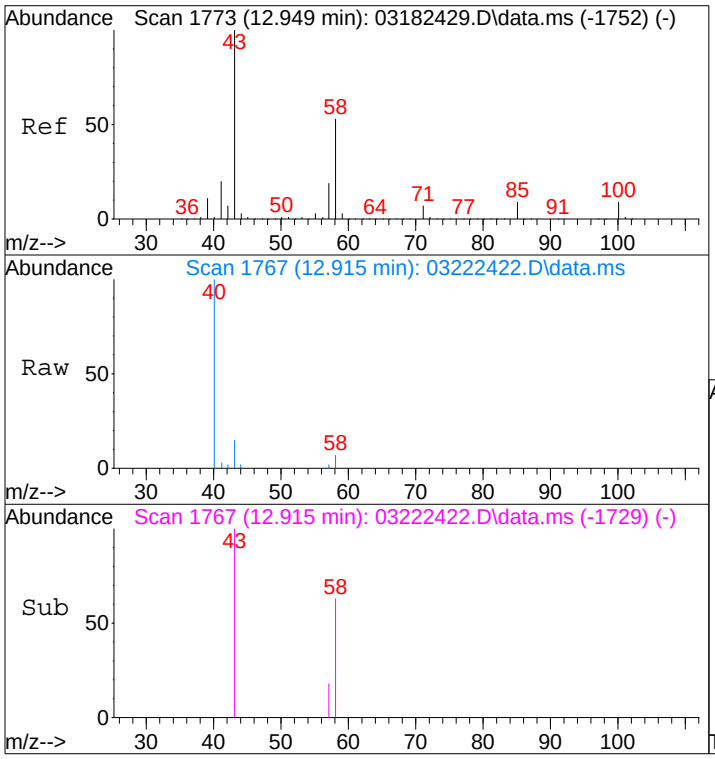


#58
Toluene
Concen: 0.09 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 91 Resp: 5382

Ion	Ratio	Lower	Upper
91	100		
92	54.8	39.2	79.2

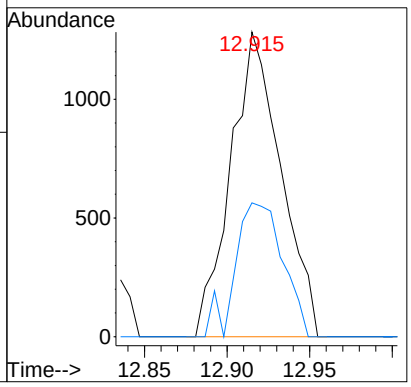




#59
2-Hexanone
Concen: 0.08 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03222422.D
Acq: 22 Mar 2024 17:34

Tgt Ion: 43 Resp: 2711

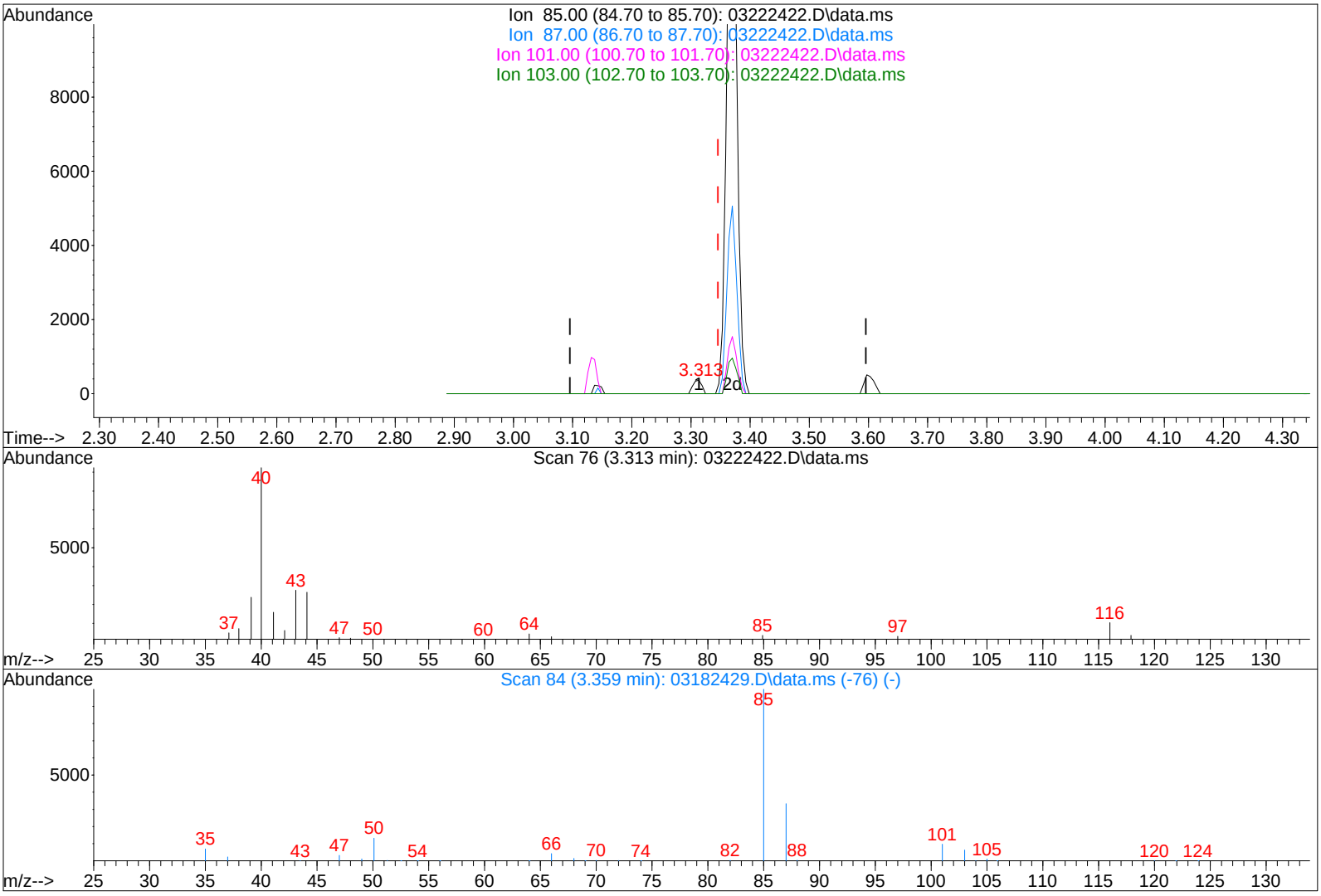
Ion	Ratio	Lower	Upper
43	100		
58	41.6	30.2	70.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:17:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.033) 0.01ng

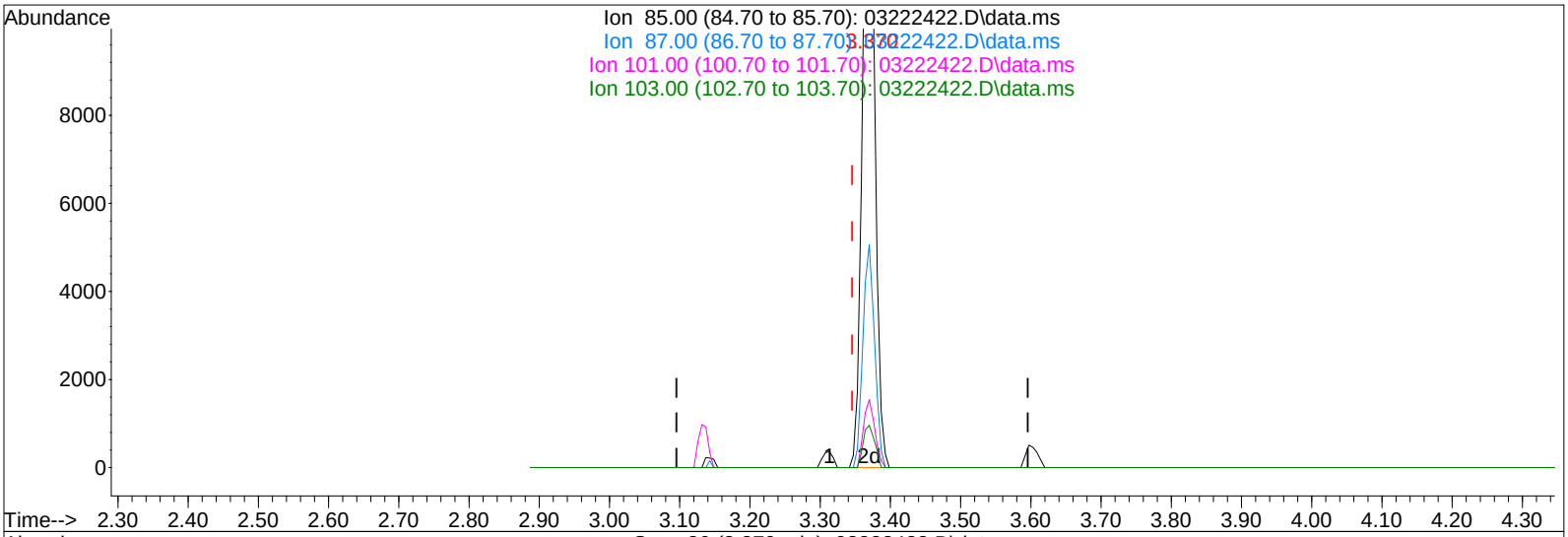
response 379

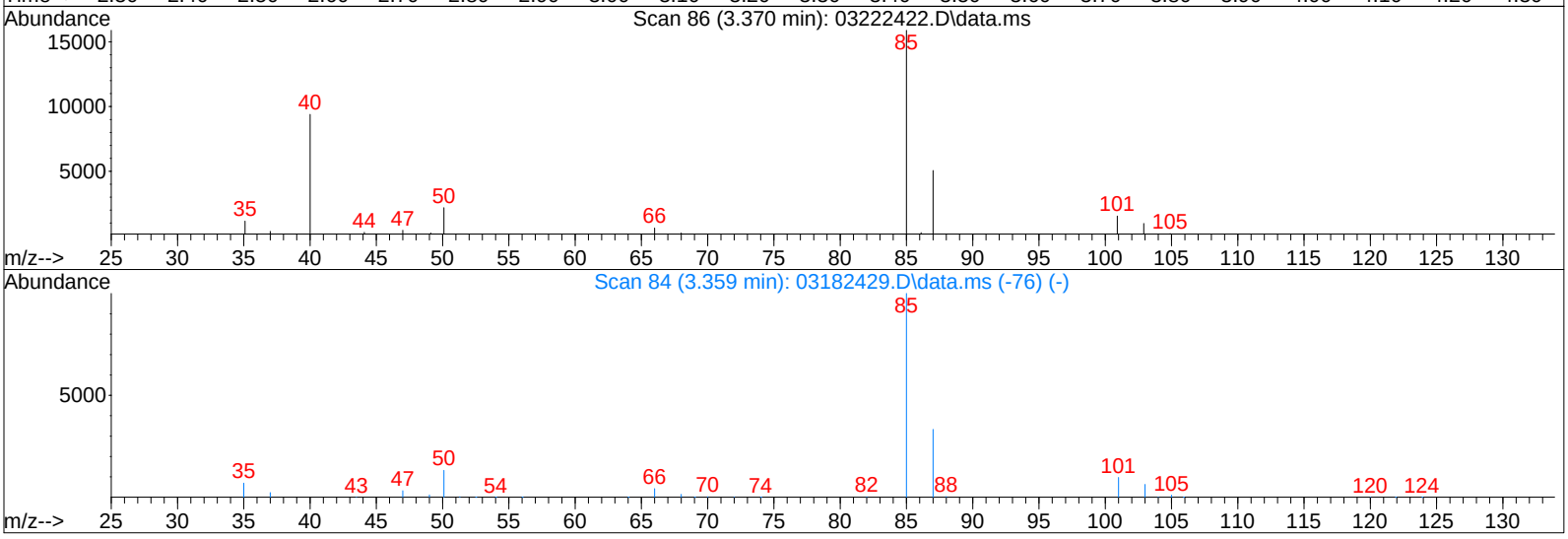
Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:17:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03222422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.024) 0.56ng m

response 18616

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	0.00#
101.00	9.20	0.00
103.00	6.00	0.00

MP 3/25/24

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:35:14 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

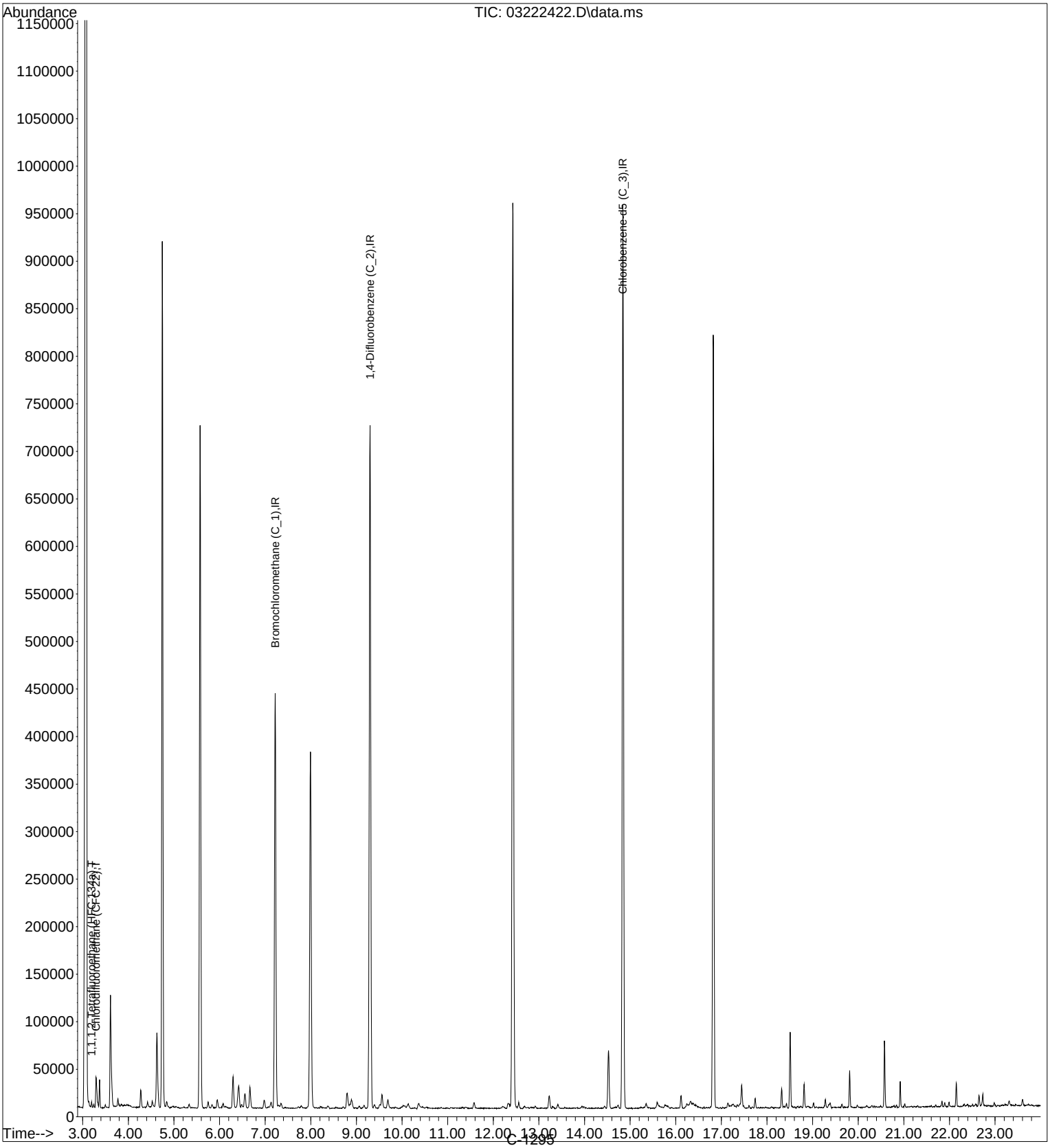
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	160752	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	691125	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	155609	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	217	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1884	0.127	ng	#	44
4) 1,1-Difluoroethane	3.25	65	790	N.D.			
5) Chlorodifluoromethane ...	3.29	67	902	0.191	ng		85
6) 1-Chloro-1,1-Difluoroe...	3.49	65	583	N.D.			
7) Dichlorofluoromethane ...	4.23	67	385	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.32	43	1879	N.D.			
12) 2-Methylpentane	6.56	71	145	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.05	84	57	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.79	174	197	N.D.			
20) Methyl Cyclohexane	11.41	55	134	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.62	91	738	N.D.			
27) 4-Chlorotoluene	17.68	91	1079	N.D.			
28) Indane	19.02	117	221	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	63	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	63	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	234	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222422.D Vial: 15
Acq On : 22 Mar 2024 17:34 Operator: SC
Sample : P2400922-037 (400mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:35:14 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1295

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222422.D
Acq On : 22 Mar 2024 17:34
Operator : SC
Sample : P2400922-037 (400mL)
Misc : S37-02202408
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03222422.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.290	68	72	82	rBV5	31999	62810	4.12%	1.337%
2	3.370	82	86	92	rVB	29868	35130	2.30%	0.748%
3	3.608	122	128	141	rBV	118511	221789	14.54%	4.722%
4	3.773	151	157	161	rBV	7889	10653	0.70%	0.227%
5	4.273	240	245	252	rBV	18429	30719	2.01%	0.654%
6	4.420	265	271	281	rBV	5654	10397	0.68%	0.221%
7	4.523	284	289	298	rVV3	6972	13686	0.90%	0.291%
8	4.625	298	307	318	rVV	78647	162900	10.68%	3.468%
9	4.744	320	328	338	rVV	911693	1524936	100.00%	32.467%
10	4.841	341	345	357	rVB3	7030	16309	1.07%	0.347%
11	5.573	463	474	490	rVB	718360	1408747	92.38%	29.993%
12	5.749	499	505	511	rBV2	6475	11218	0.74%	0.239%
13	5.954	535	541	548	rVB4	8718	17115	1.12%	0.364%
14	6.294	592	601	610	rBV	33059	67893	4.45%	1.445%
15	6.419	613	623	631	rVB2	22681	55232	3.62%	1.176%
16	6.555	641	647	654	rVB3	14447	30453	2.00%	0.648%
17	6.663	657	666	678	rVB	22035	43977	2.88%	0.936%
18	6.976	715	721	728	rBV	8537	18413	1.21%	0.392%
19	7.129	741	748	755	rVB4	5957	12135	0.80%	0.258%
20	7.220	755	764	775	rBV	435961	930157	61.00%	19.804%
21	7.345	781	786	797	rVB3	5451	12242	0.80%	0.261%

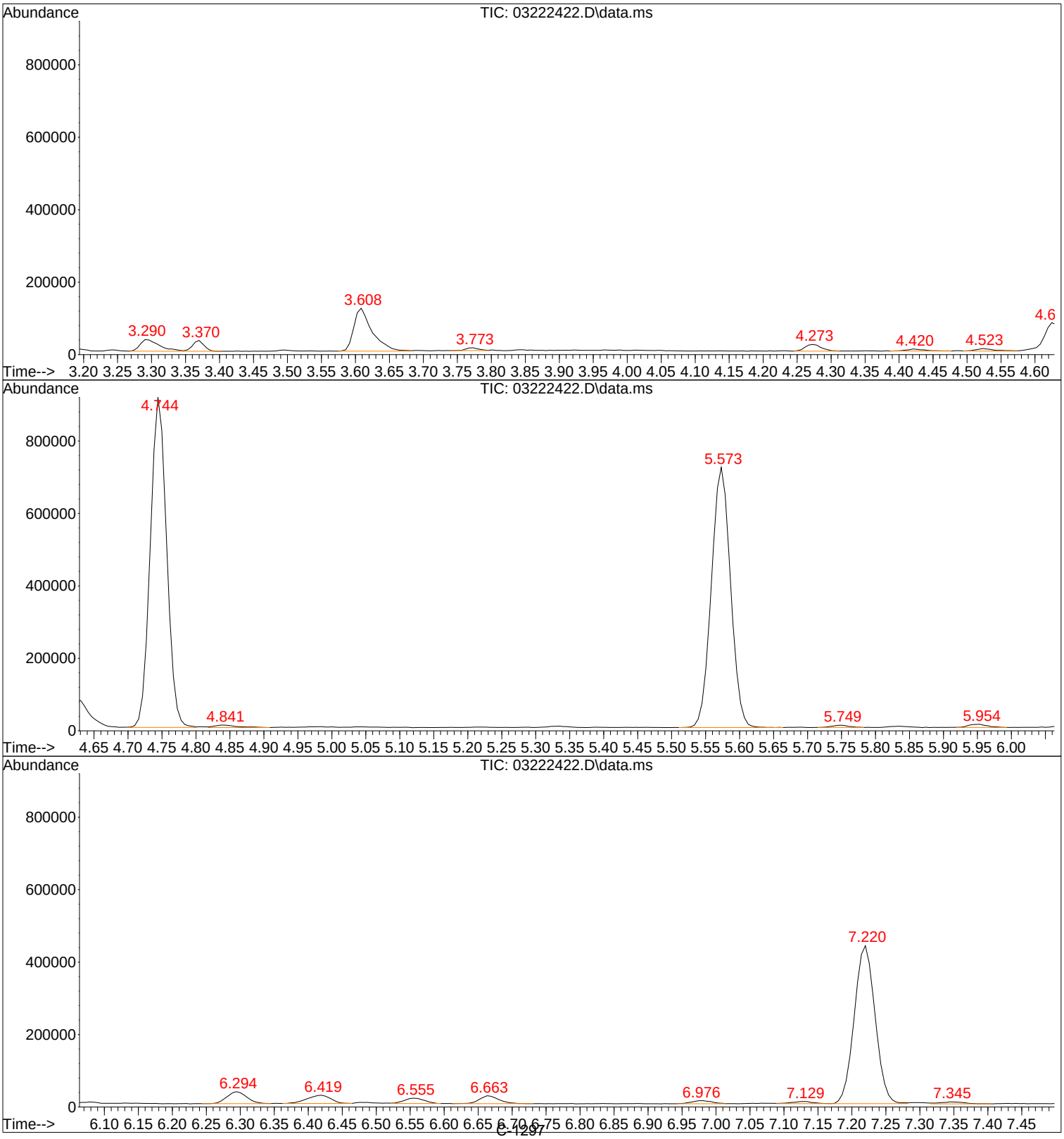
Sum of corrected areas: 4696911

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222422.D
Acq On : 22 Mar 2024 17:34
Operator : SC
Sample : P2400922-037 (400mL)
Misc : S37-02202408
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\22\\
Data File : 03222422.D
Acq On : 22 Mar 2024 17:344
Operator : SCC
Sample : P2400922-037 (400mL))
Misc : S37-022024088
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:17:26 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	161181	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.29	114	693522	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	154731	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	326393	12.378	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	12.43	98	798360	12.851	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	16.83	174	278997	12.738	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.37	85	3881m	0.117	ng		
4) Chloromethane	3.51	50	377	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.34	45	55	N.D.			
11) Acetonitrile	4.43	41	505	N.D.			
12) Acrolein	4.53	56	345	N.D.			
13) Acetone	4.64	58	7579	0.639	ng	#	68
14) Trichlorofluoromethane	4.74	101	2884343	90.141	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	1848	N.D.			
16) Acrylonitrile	4.98	53	560	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.33	84	1024	0.059	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	1433728	106.297	ng		98
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	1667	0.172	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	7256	0.260	ng		96
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	171	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	4789	No Calib		#	
41) Benzene	8.89	78	2035	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	750	N.D.			
47) Trichloroethene	10.14	130	1946	0.116	ng		99
48) 1,4-Dioxane	10.13	88	1270	0.117	ng		97
49) 2,2,4-Trimethylpentane...	10.28	57	107	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:17:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

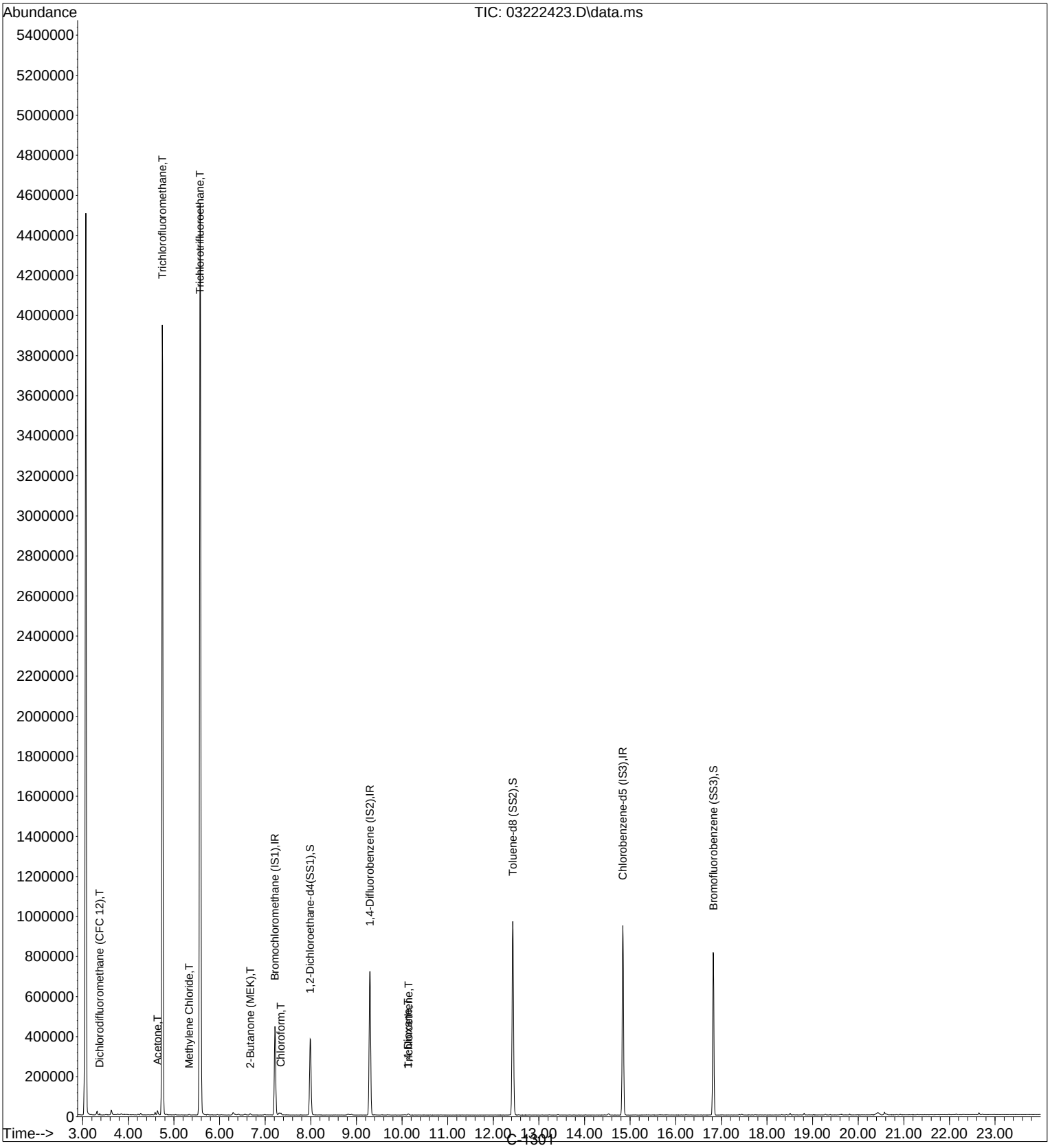
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	1055	N.D.	
59) 2-Hexanone	12.92	43	403	N.D.	
60) Dibromochloromethane	13.07	129	362	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	226	N.D.	
65) Chlorobenzene	14.89	112	484	N.D.	
66) Ethylbenzene	15.41	91	812	N.D.	
67) m- & p-Xylenes	15.66	91	1538	N.D.	
68) Bromoform	15.67	173	417	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	700	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	403	N.D.	
74) Cumene	17.03	105	693	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	924	N.D.	
77) 3-Ethyltoluene	17.03	105	693	No Calib	#
78) 4-Ethyltoluene	17.86	105	483	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	363	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	693	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	486	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	549	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	485	N.D.	
87) sec-Butylbenzene	18.75	105	806	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	504	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	693	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	383	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	649	N.D.	
95) Naphthalene	0.00	128	0	N.D.	d
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	551	N.D.	
98) Cyclohexanone	15.35	55	180	No Calib	#
99) tert-Butylbenzene	18.42	119	684	N.D.	
100) n-Butylbenzene	19.38	91	453	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:17:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

3/25/24

Quant Time: Mar 25 14:17:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

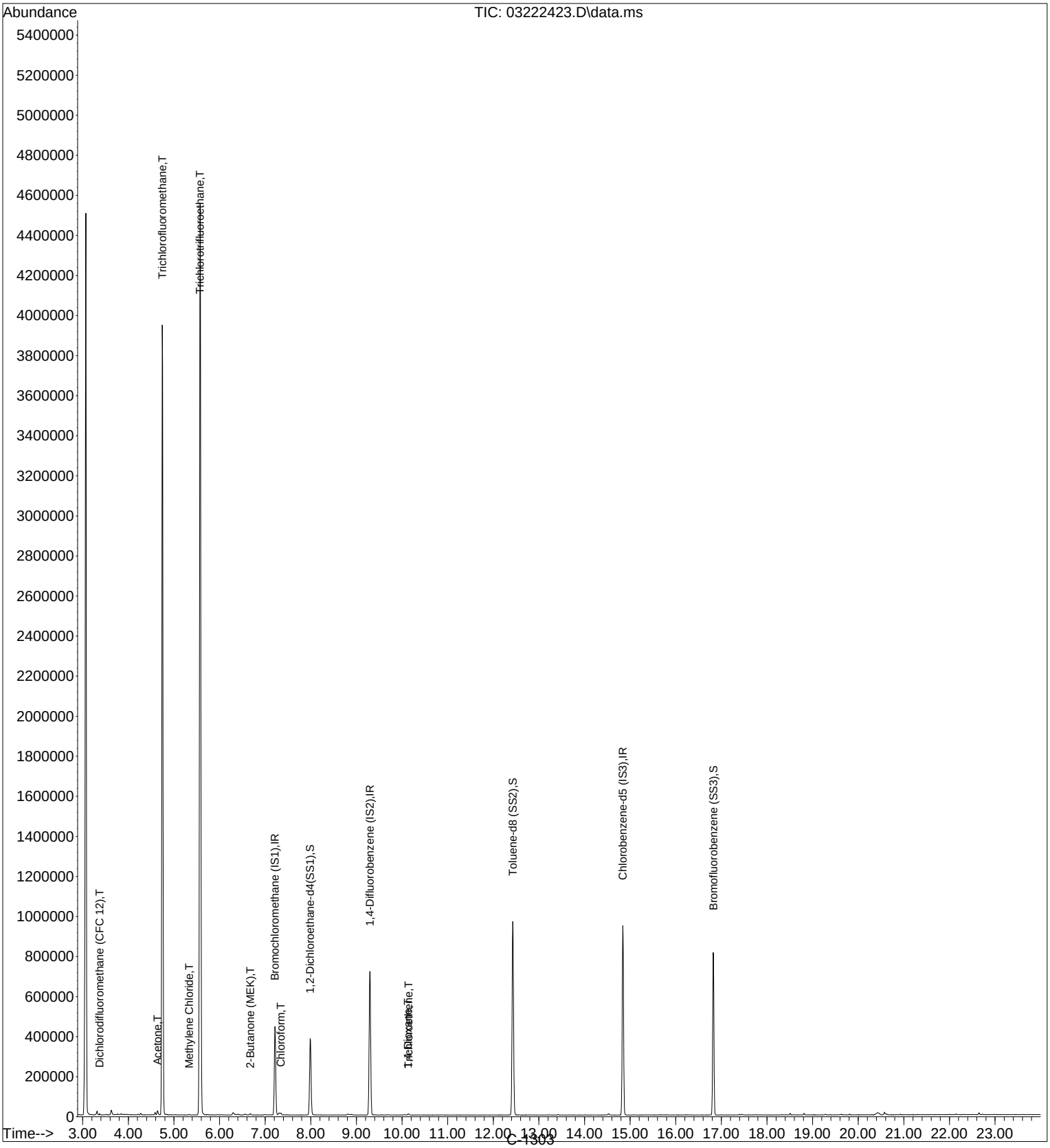
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	161181	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.29	114	693522	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	154731	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	326393	12.378	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%				
57) Toluene-d8 (SS2)	12.43	98	798360	12.851	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	16.83	174	278997	12.738	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	3881m	0.117	ng		
13) Acetone	4.64	58	7579	0.639	ng	#	68
14) Trichlorofluoromethane	4.74	101	2884343	90.141	ng		100
19) Methylene Chloride	5.33	84	1024	0.059	ng		99
21) Trichlorotrifluoroethane	5.57	151	1433728	106.297	ng		98
27) 2-Butanone (MEK)	6.67	72	1667	0.172	ng	#	77
32) Chloroform	7.34	83	7256	0.260	ng		96
47) Trichloroethene	10.14	130	1946	0.116	ng		99
48) 1,4-Dioxane	10.13	88	1270	0.117	ng		97

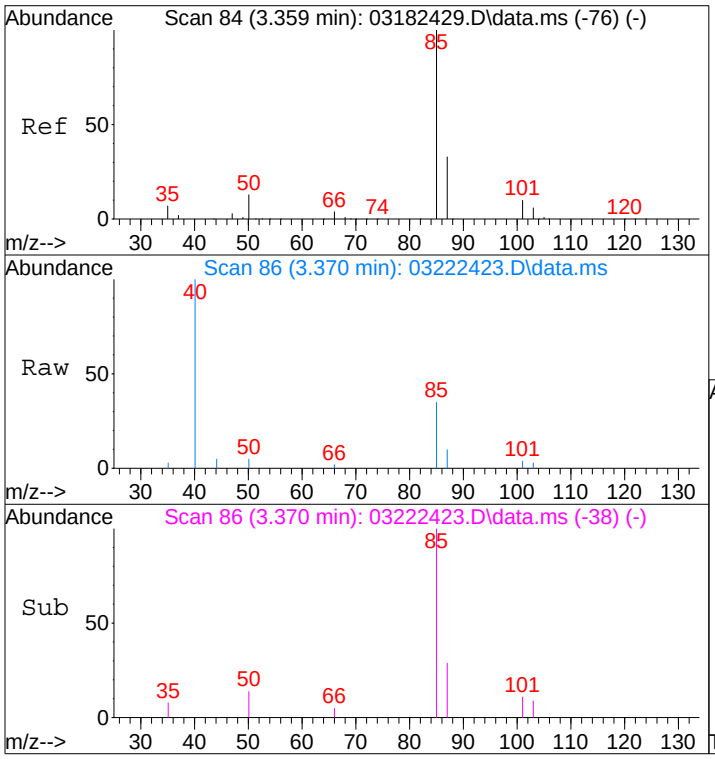
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:17:26 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

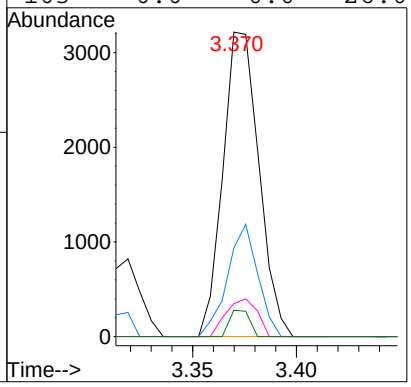


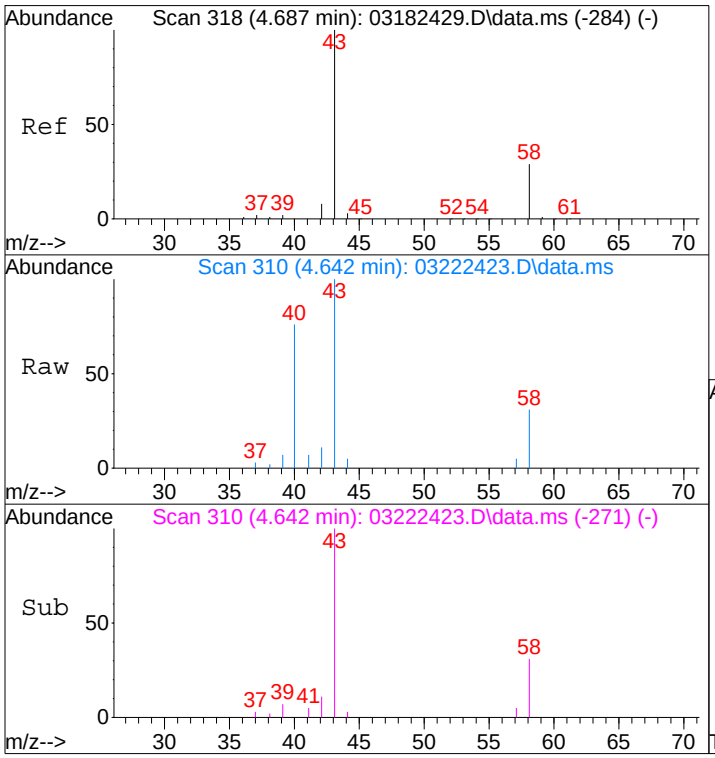


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.12 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.024 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion: 85 Resp: 3881

Ion	Ratio	Lower	Upper
85	100		
87	5.6	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

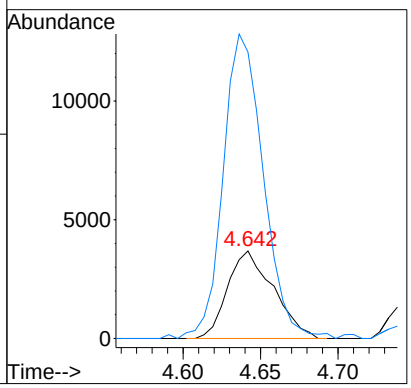


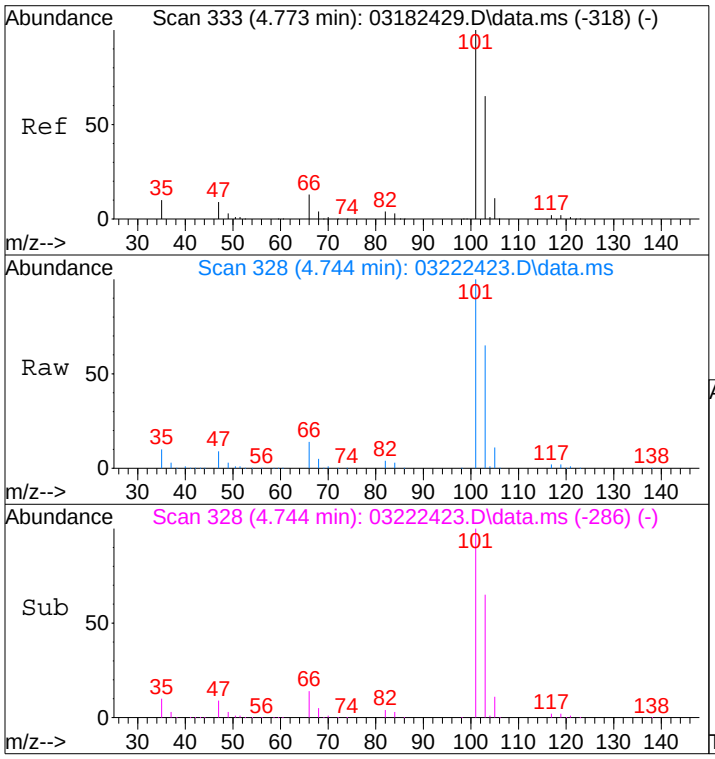


#13
Acetone
Concen: 0.64 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.028 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion: 58 Resp: 7579

Ion	Ratio	Lower	Upper
58	100		
43	306.3	350.1	410.1#

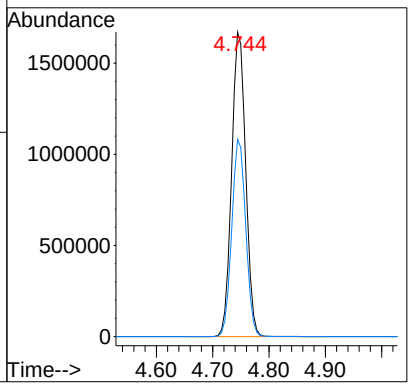


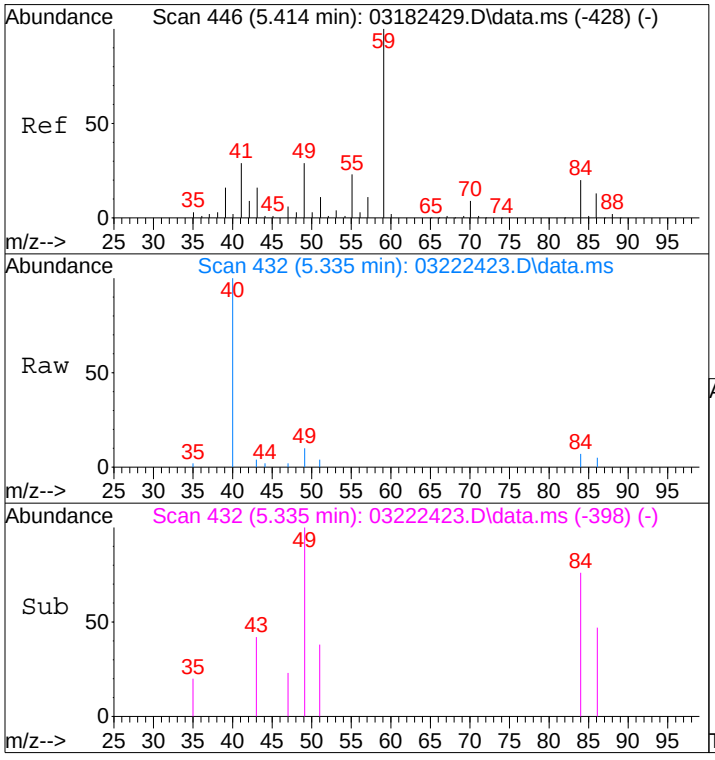


#14
Trichlorofluoromethane
Concen: 90.14 ng
RT: 4.74 min Scan# 328
Delta R.T. -0.010 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion:101 Resp: 2884343

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

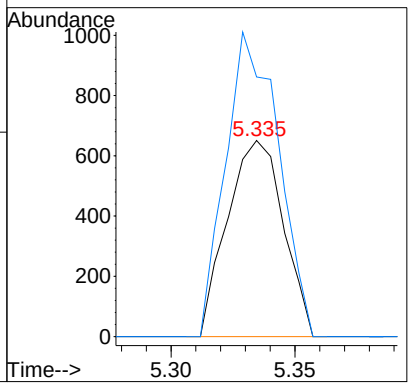


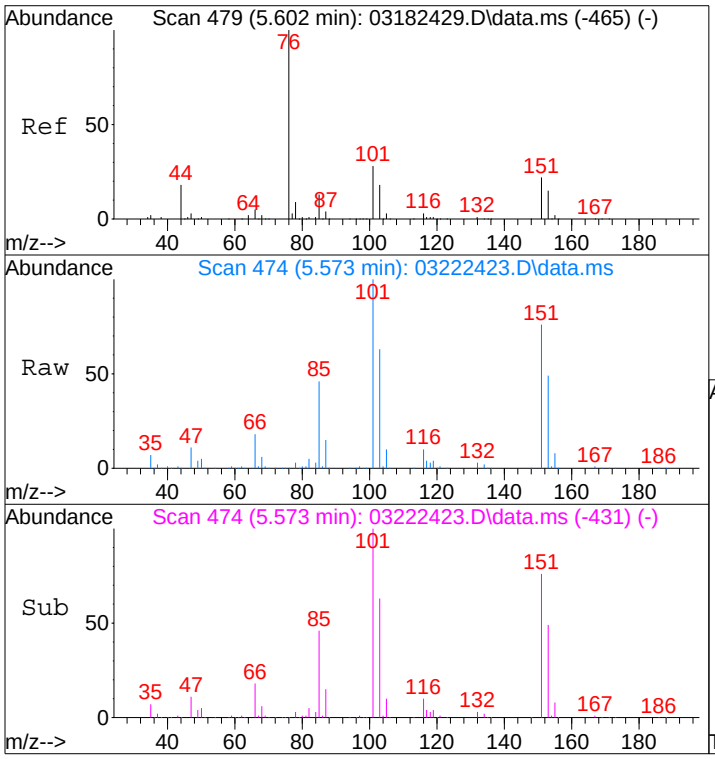


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.059 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion: 84 Resp: 1024

Ion	Ratio	Lower	Upper
84	100		
49	146.6	122.9	172.9

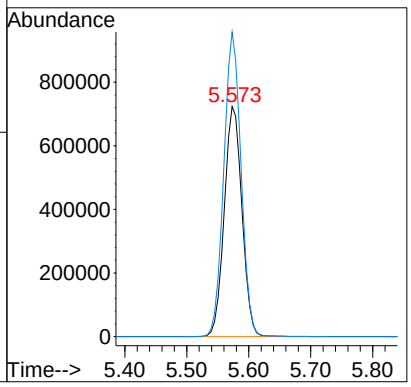


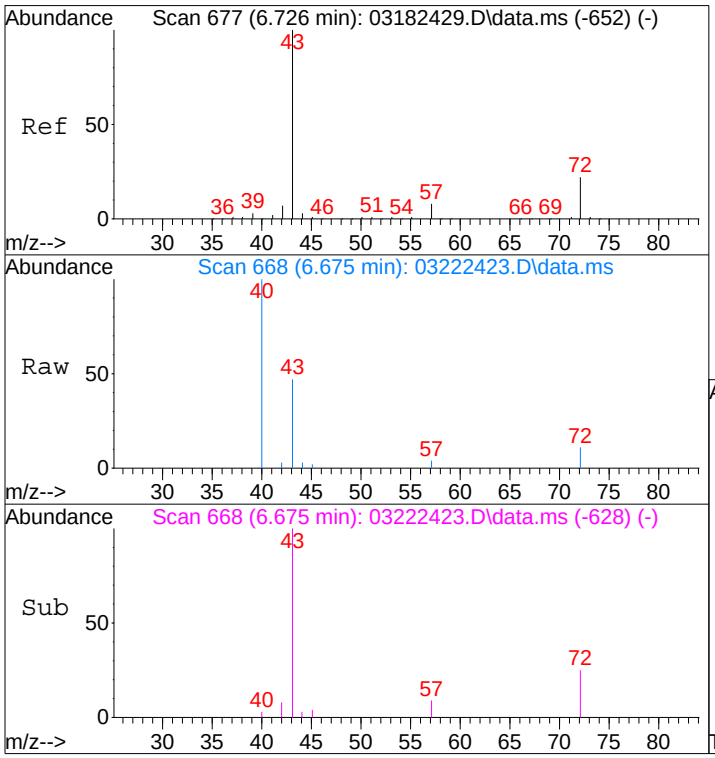


#21
Trichlorotrifluoroethane
Concen: 106.30 ng
RT: 5.57 min Scan# 474
Delta R.T. -0.007 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion:151 Resp: 1433728

Ion	Ratio	Lower	Upper
151	100		
101	129.2	106.4	146.4

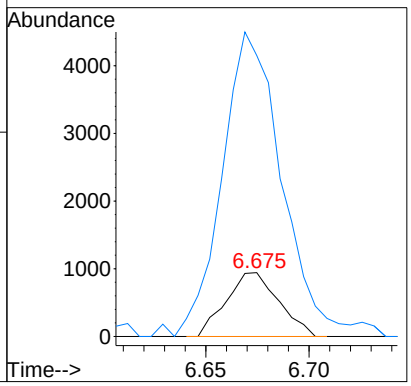


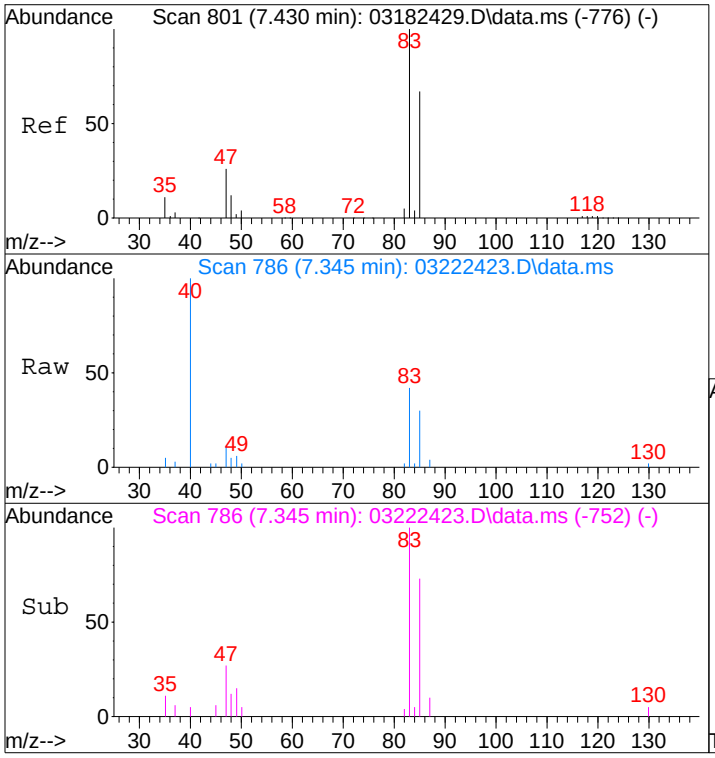


#27
2-Butanone (MEK)
Concen: 0.17 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.025 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion: 72 Resp: 1667

Ion	Ratio	Lower	Upper
72	100		
43	550.0	468.6	508.6#

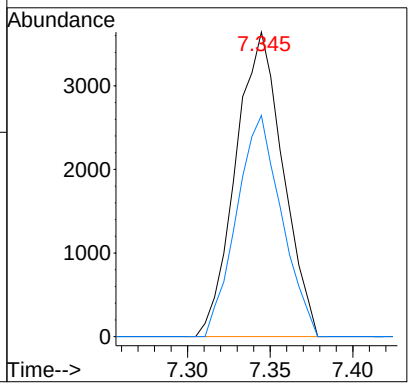


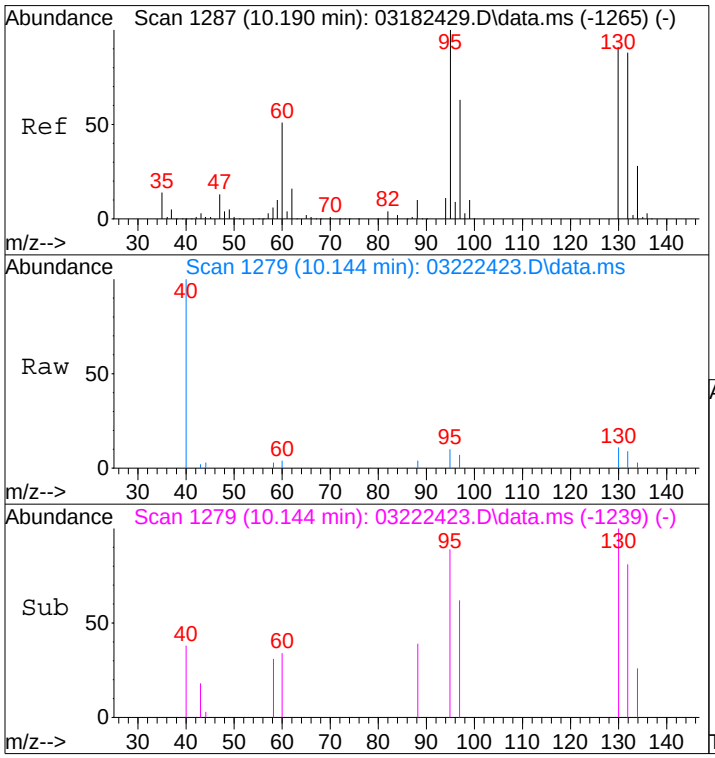


#32
Chloroform
Concen: 0.26 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.057 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion: 83 Resp: 7256

Ion	Ratio	Lower	Upper
83	100		
85	69.1	46.1	86.1

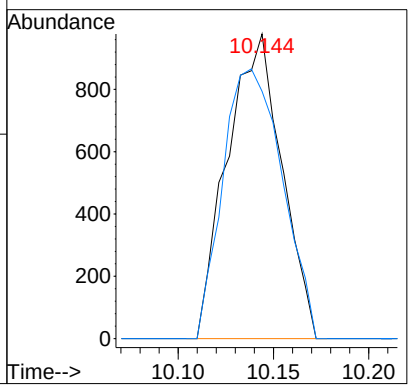


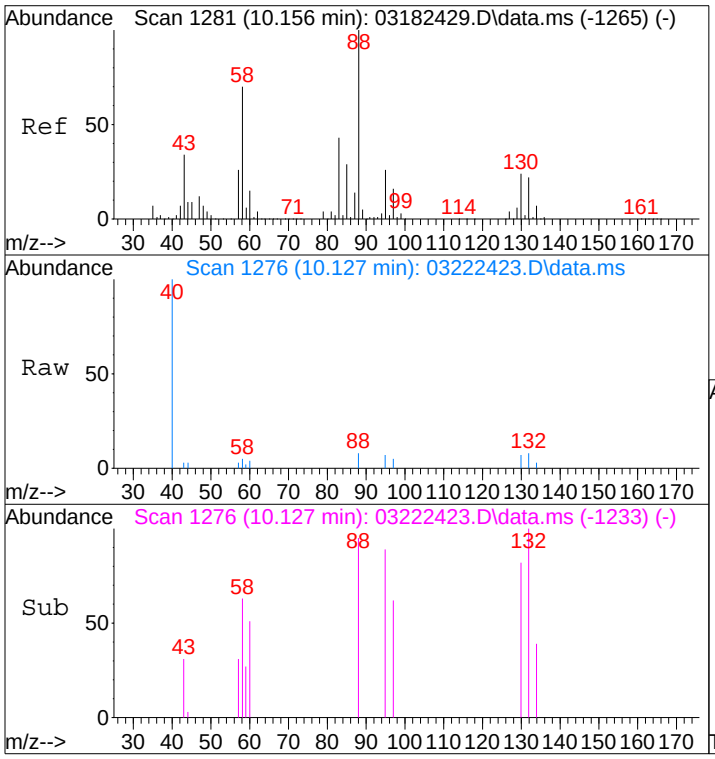


#47
Trichloroethene
Concen: 0.12 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.021 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion:130 Resp: 1946

Ion	Ratio	Lower	Upper
130	100		
132	96.5	77.5	117.5

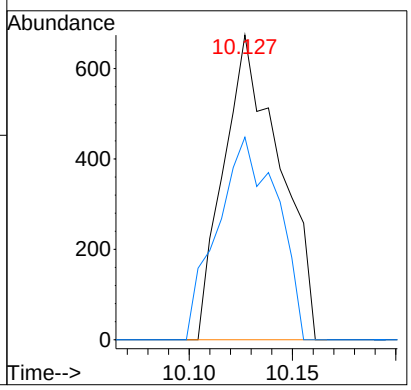




#48
1,4-Dioxane
Concen: 0.12 ng
RT: 10.13 min Scan# 1276
Delta R.T. -0.004 min
Lab File: 03222423.D
Acq: 22 Mar 2024 18:06

Tgt Ion: 88 Resp: 1270

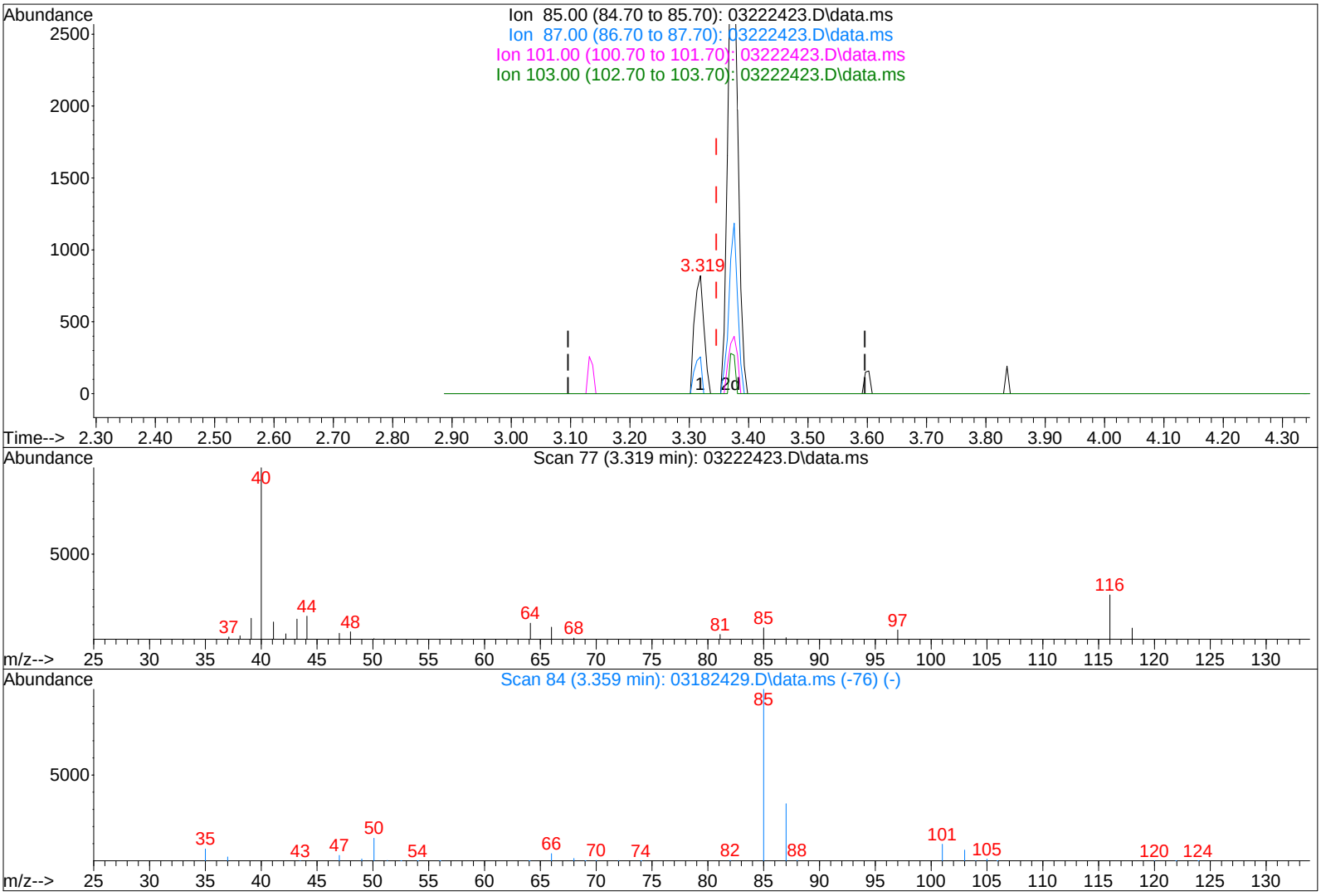
Ion	Ratio	Lower	Upper
88	100		
58	71.0	48.2	88.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:17:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.027) 0.03ng

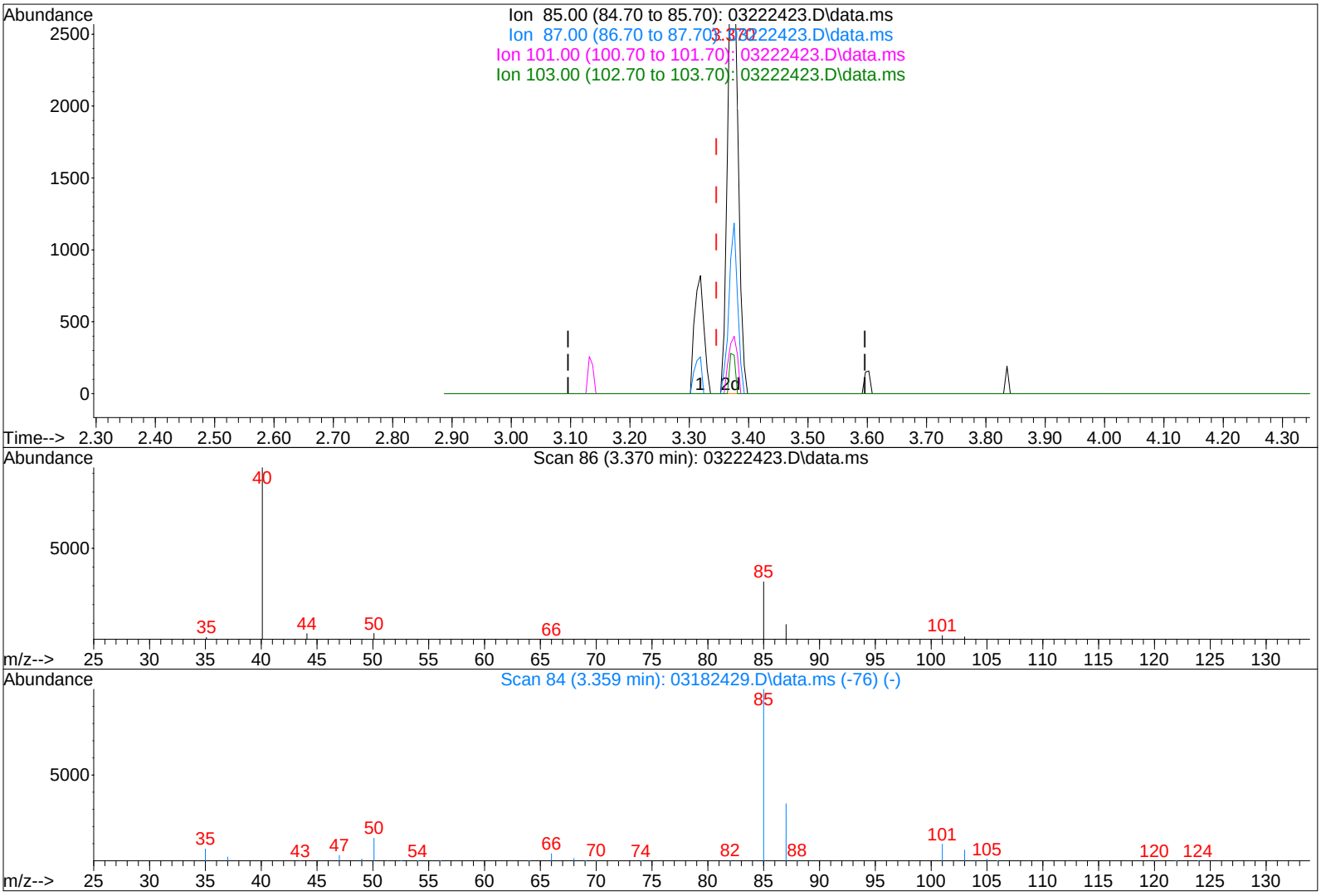
response 907

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	23.93
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 23 08:17:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222423.D\data.ms

MP

3/25/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.024) 0.12ng m

response 3881

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	5.59#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:35:40 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

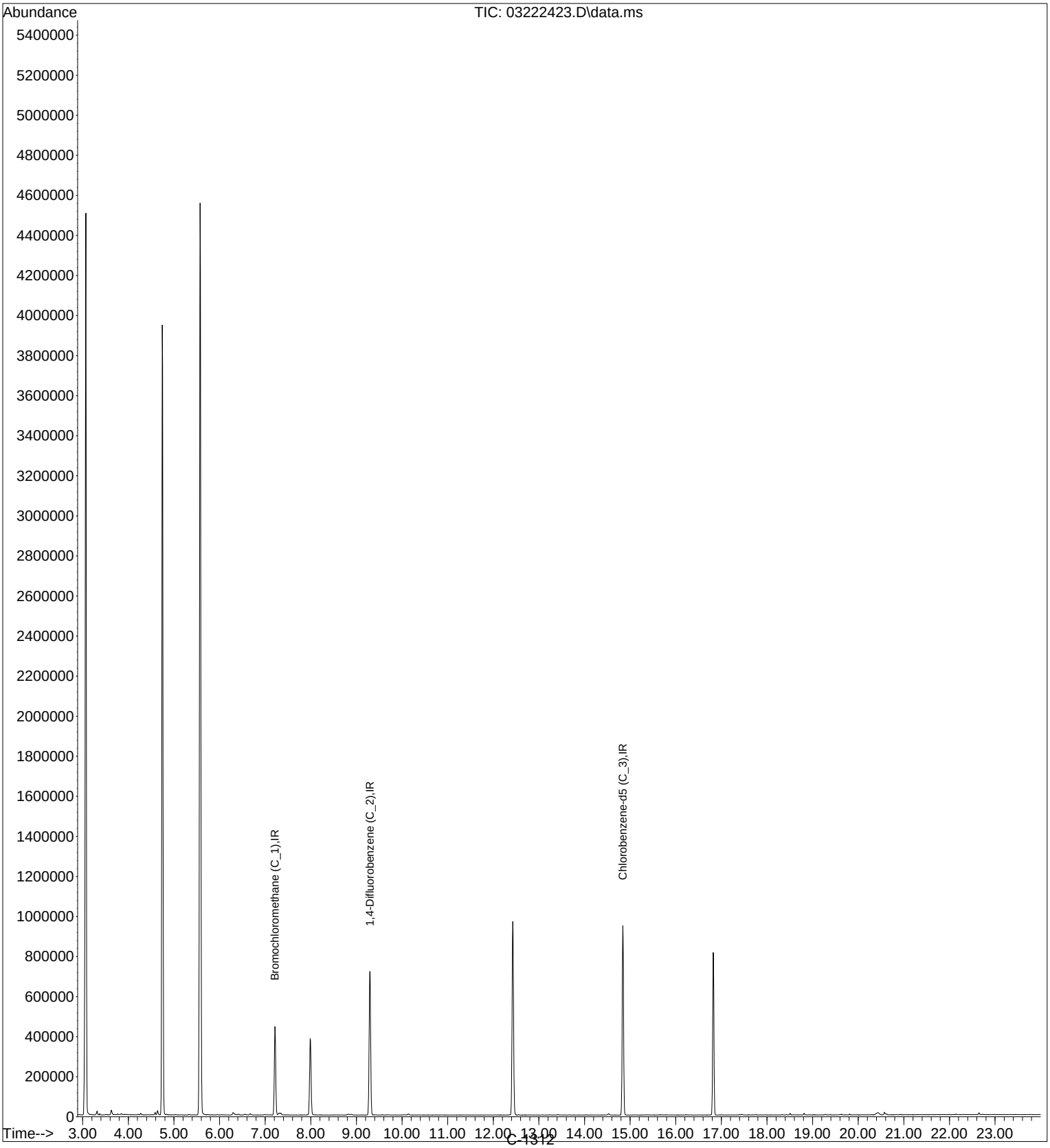
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.21	130	161181	12.500	ng	-0.04
16) 1,4-Difluorobenzene (C 2)	9.29	114	694731	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	154731	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	219	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	3.29	67	64	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.50	65	58	N.D.		
7) Dichlorofluoromethane ...	4.22	67	2946	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	114	N.D.		
10) 2-Methylbutane	4.65	57	1293	N.D.		
11) Methyl Acetate	5.33	43	559	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.79	174	186	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	648	N.D.		
27) 4-Chlorotoluene	17.68	91	924	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222423.D Vial: 16
Acq On : 22 Mar 2024 18:06 Operator: SC
Sample : P2400922-038 (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 14:35:40 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252413.D Vial: 5
Acq On : 25 Mar 2024 18:13 Operator: SC
Sample : P2400922-038Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:47:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	130848	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	563732	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	112861	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	261291	12.206	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.68%				
57) Toluene-d8 (SS2)	12.43	98	645532	14.246	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.00%				
73) Bromofluorobenzene (SS3)	16.83	174	210326	13.165	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	3.33	42	351	N.D.			
3) Dichlorodifluoromethan...	3.34	85	401	N.D.			
4) Chloromethane	3.39	50	124	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	2782	0.220	ng		97
11) Acetonitrile	4.44	41	341	N.D.			
12) Acrolein	4.55	56	54	N.D.			
13) Acetone	4.66	58	3386	0.352	ng	#	67
14) Trichlorofluoromethane	4.76	101	1184890	45.614	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	798	N.D.			
16) Acrylonitrile	4.99	53	408	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.34	84	754	0.054	ng		94
20) 3-Chloro-1-propene (Al...	5.44	41	118	N.D.			
21) Trichlorotrifluoroethane	5.58	151	594962	54.336	ng		98
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	677	0.086	ng	#	77
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	3104	0.137	ng		97
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	1674	No Calib		#	
41) Benzene	8.90	78	937	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	419	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	429	N.D.			
47) Trichloroethene	10.14	130	866	0.063	ng		94
48) 1,4-Dioxane	10.14	88	445	0.050	ng		81
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252413.D Vial: 5
Acq On : 25 Mar 2024 18:13 Operator: SC
Sample : P2400922-038Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:47:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

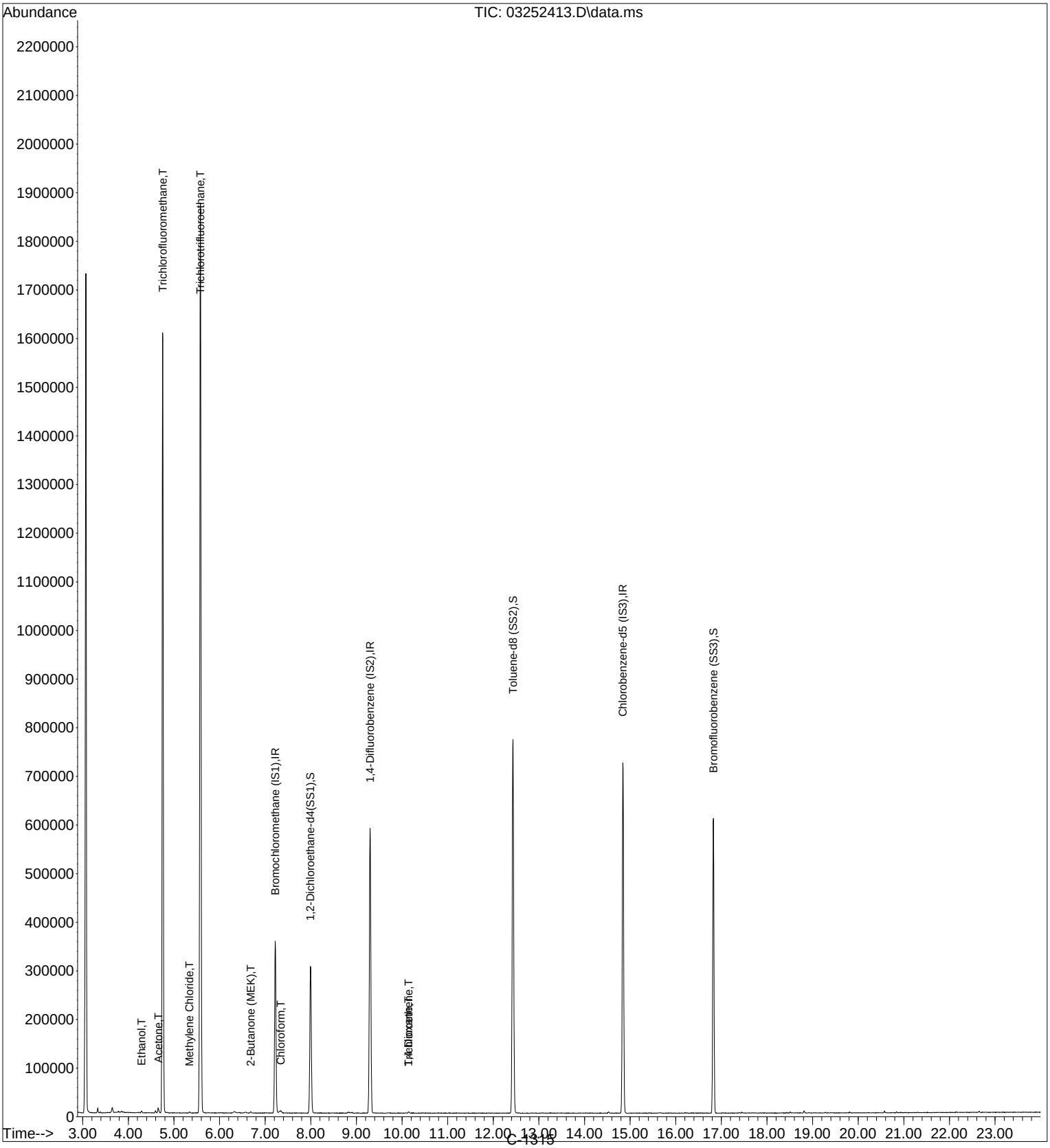
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	896	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.08	129	381	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	190	N.D.	
65) Chlorobenzene	14.89	112	393	N.D.	
66) Ethylbenzene	15.41	91	654	N.D.	
67) m- & p-Xylenes	15.66	91	502	N.D.	
68) Bromoform	15.67	173	379	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	442	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	221	N.D.	
74) Cumene	17.03	105	650	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	850	N.D.	
77) 3-Ethyltoluene	17.03	105	650	No Calib	#
78) 4-Ethyltoluene	17.86	105	472	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	314	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	650	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	385	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	400	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	371	N.D.	
87) sec-Butylbenzene	18.74	105	597	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	465	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	650	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	328	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	774	N.D.	
95) Naphthalene	0.00	128	0	N.D.	d
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	366	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	545	N.D.	
100) n-Butylbenzene	19.39	91	371	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252413.D Vial: 5
Acq On : 25 Mar 2024 18:13 Operator: SC
Sample : P2400922-038Dil (40mL) Inst : MS09
Misc : S37-03252401

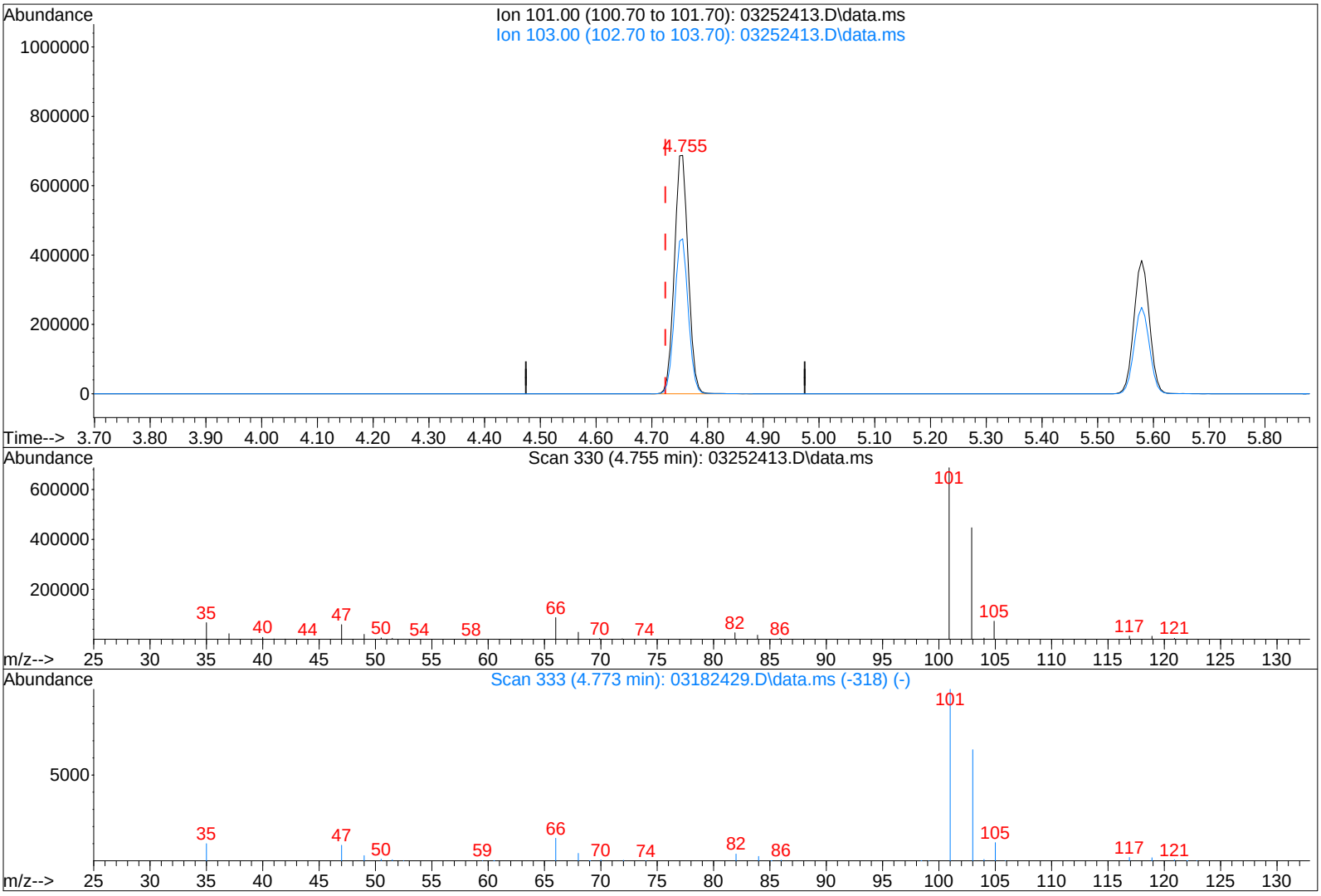
Quant Time: Mar 26 08:47:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252413.D Vial: 5
Acq On : 25 Mar 2024 18:13 Operator: SC
Sample : P2400922-038Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:47:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252413.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.031) 45.61ng

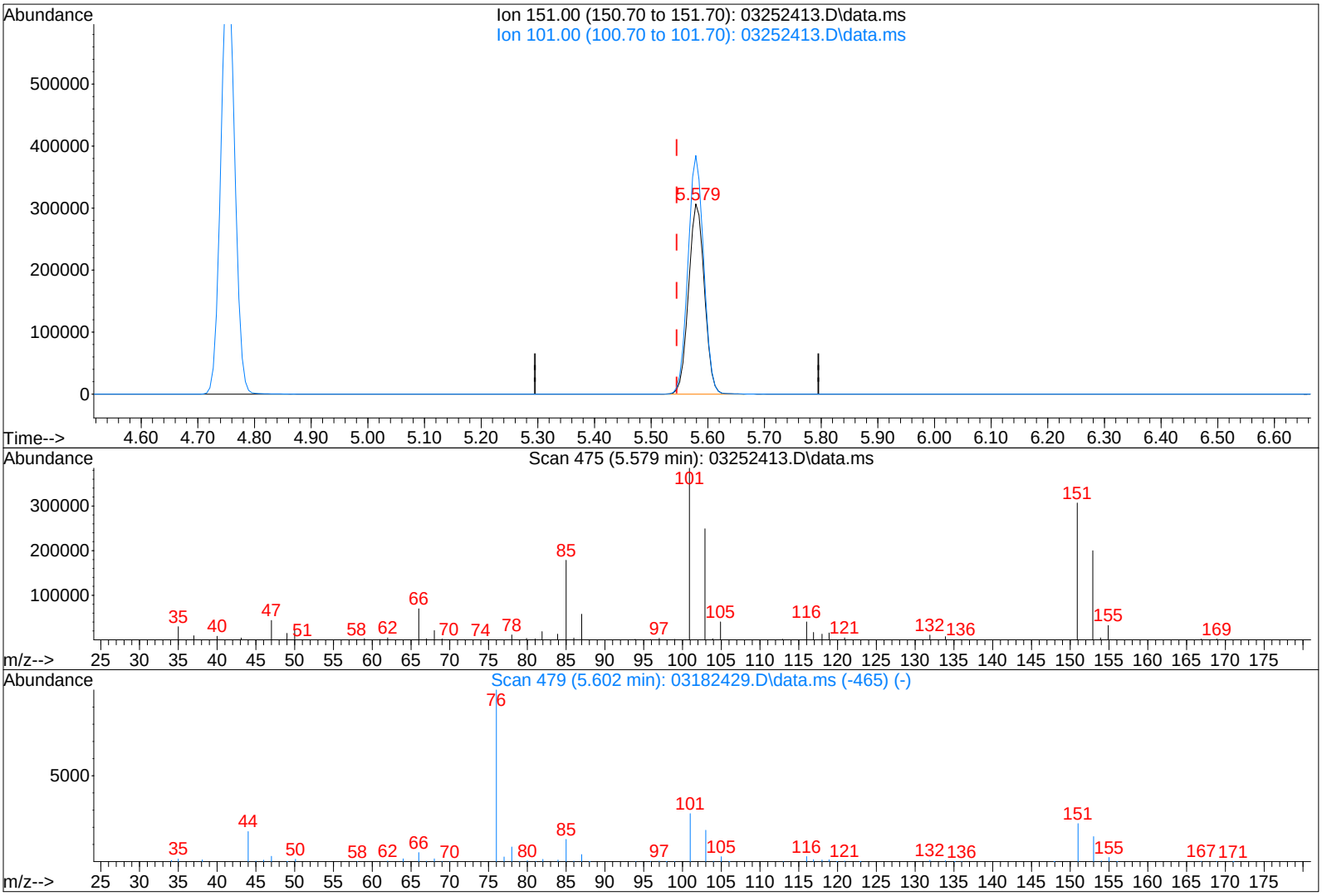
response 1184890

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252413.D Vial: 5
Acq On : 25 Mar 2024 18:13 Operator: SC
Sample : P2400922-038Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:47:51 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252413.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 54.34ng

response 594962

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	124.48
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222423.D
Acq On : 22 Mar 2024 18:06
Operator : SC
Sample : P2400922-038 (80mL)
Misc : S37-02202408
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03222423.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	68	76	84	rBV4	18483	30765	0.34%	0.183%
2	3.625	124	131	140	rBV2	22971	43918	0.49%	0.261%
3	4.273	241	245	250	rVB2	7700	12052	0.13%	0.072%
4	4.585	294	300	305	rBV2	12081	18139	0.20%	0.108%
5	4.636	305	309	316	rVB2	19966	36679	0.41%	0.218%
6	4.744	320	328	340	rBV	3943503	6757320	75.67%	40.090%
7	5.573	463	474	494	rBV	4553015	8929914	100.00%	52.979%
8	6.294	591	601	615	rBV2	12581	36196	0.41%	0.215%
9	6.669	661	667	675	rVB	6355	12522	0.14%	0.074%
10	7.214	754	763	773	rBV	442796	935818	10.48%	5.552%
11	7.305	773	779	783	rVV4	10394	24912	0.28%	0.148%
12	7.345	783	786	794	rVB2	10093	17262	0.19%	0.102%

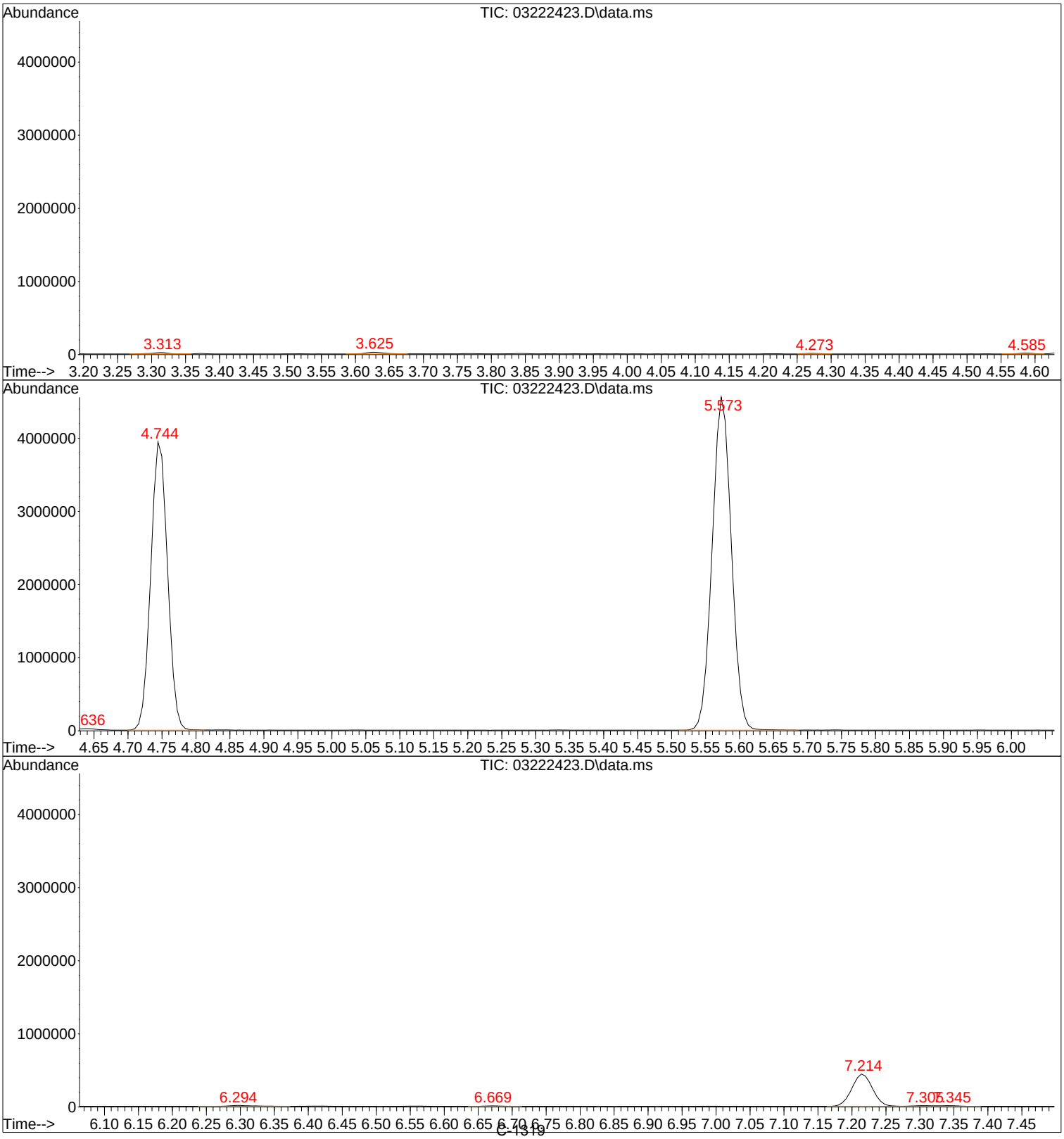
Sum of corrected areas: 16855497

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222423.D
Acq On : 22 Mar 2024 18:06
Operator : SC
Sample : P2400922-038 (80mL)
Misc : S37-02202408
ALS Vial : 16 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\22\\
Data File : 03222423.D
Acq On : 22 Mar 2024 18:066
Operator : SCC
Sample : P2400922-038 (80mL))
Misc : S37-022024088
ALS Vial : 16 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	151646	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	652193	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	130387	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	300031	12.094	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%			
57) Toluene-d8 (SS2)	12.43	98	742523	14.183	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%			
73) Bromofluorobenzene (SS3)	16.83	174	240395	13.025	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.33	85	161	N.D.		
4) Chloromethane	3.52	50	110	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.30	45	1526	0.104	ng	97
11) Acetonitrile	4.45	41	436	N.D.		
12) Acrolein	4.55	56	122	N.D.		
13) Acetone	4.66	58	2866	0.257	ng	89
14) Trichlorofluoromethane	4.76	101	1308294	43.458	ng	100
15) 2-Propanol (Isopropanol)	4.89	45	522	N.D.		
16) Acrylonitrile	5.00	53	572	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.34	84	967	0.060	ng	100
20) 3-Chloro-1-propene (Al...	5.45	41	187	N.D.		
21) Trichlorotrifluoroethane	5.58	151	883222	69.599	ng	99
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.69	72	255	N.D.		
28) cis-1,2-Dichloroethene	7.07	61	323	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	1150	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.83	56	651	No Calib	#	
41) Benzene	8.90	78	1934	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.30	84	569	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.08	83	335	N.D.		
47) Trichloroethene	10.14	130	1789	0.113	ng	94
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.25	57	119	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

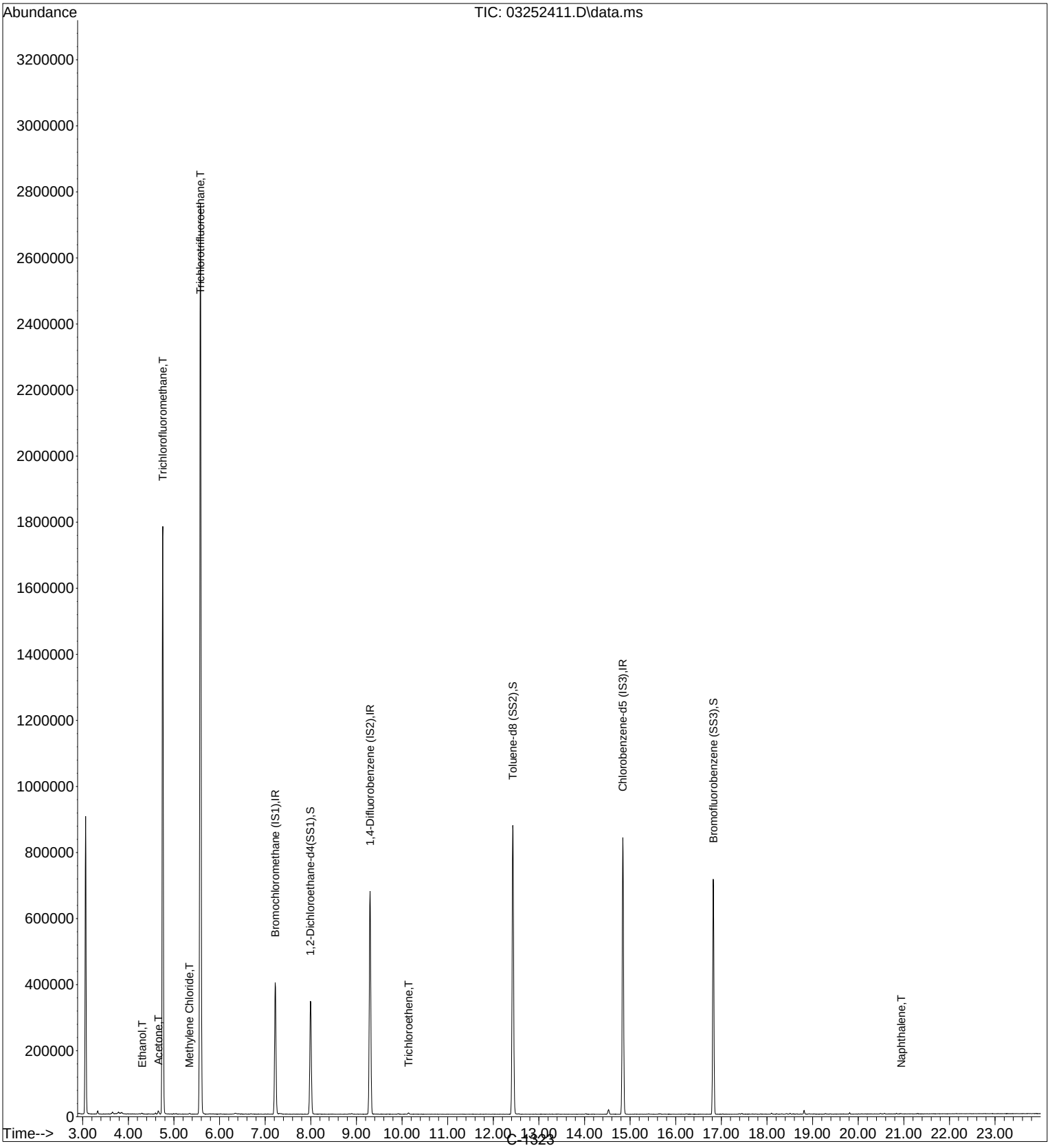
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	1577	N.D.	
59) 2-Hexanone	12.93	43	458	N.D.	
60) Dibromochloromethane	13.07	129	304	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	741	N.D.	
65) Chlorobenzene	14.89	112	525	N.D.	
66) Ethylbenzene	15.41	91	1391	N.D.	
67) m- & p-Xylenes	15.64	91	2028	N.D.	
68) Bromoform	15.67	173	414	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	956	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	360	N.D.	
74) Cumene	17.03	105	1036	N.D.	
75) alpha-Pinene	17.53	93	186	N.D.	
76) n-Propylbenzene	17.67	91	1150	N.D.	
77) 3-Ethyltoluene	17.03	105	1036	No Calib	#
78) 4-Ethyltoluene	17.86	105	771	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	438	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	1036	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	494	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.57	146	520	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	570	N.D.	
87) sec-Butylbenzene	18.74	105	794	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1070	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	1036	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	397	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	826	N.D.	
95) Naphthalene	20.94	128	891	0.369 ng	# 71
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	462	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	742	N.D.	
100) n-Butylbenzene	19.39	91	549	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

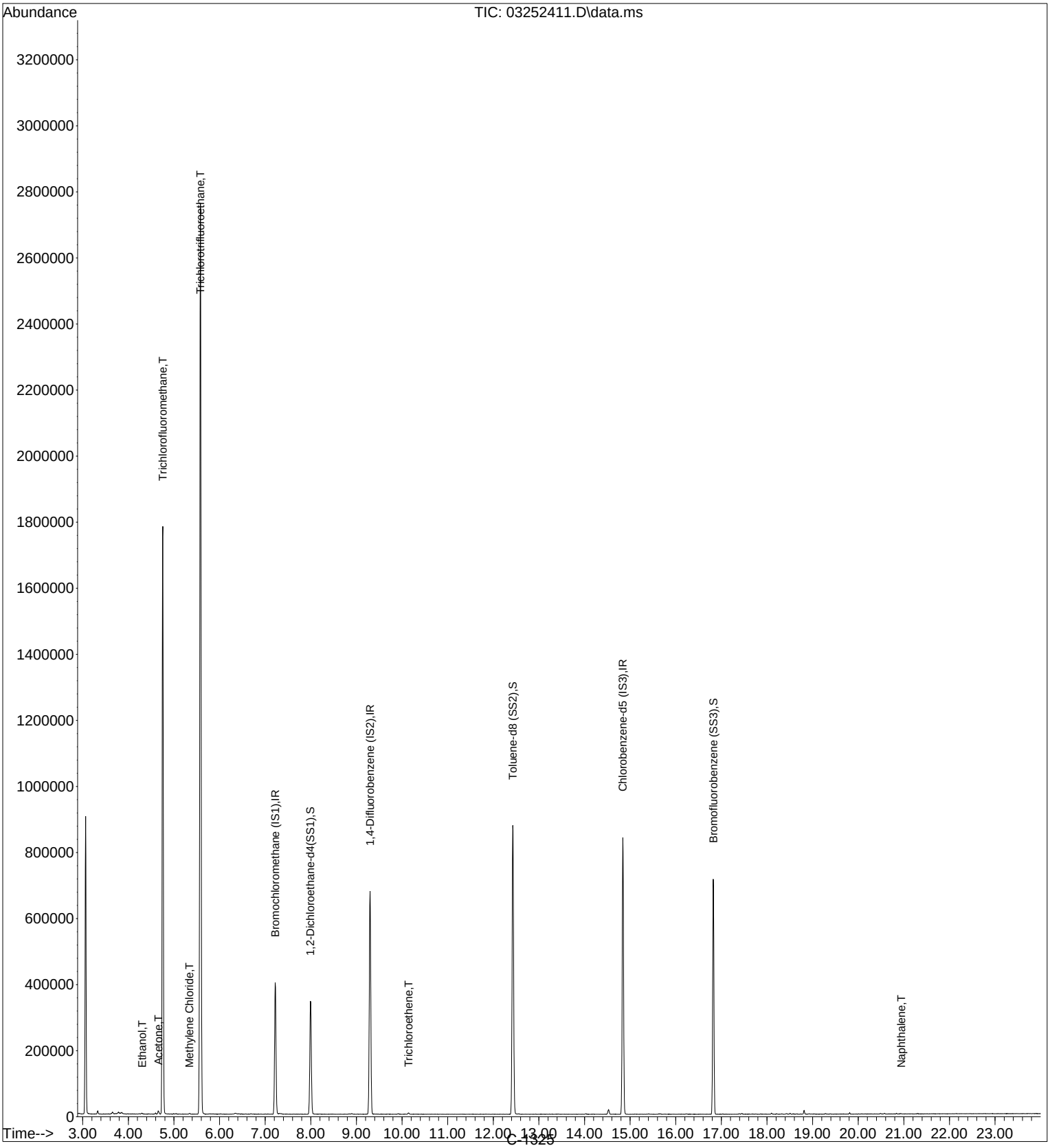
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	151646	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	652193	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	130387	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	300031	12.094	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%				
57) Toluene-d8 (SS2)	12.43	98	742523	14.183	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
73) Bromofluorobenzene (SS3)	16.83	174	240395	13.025	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
10) Ethanol	4.30	45	1526	0.104	ng		97
13) Acetone	4.66	58	2866	0.257	ng		89
14) Trichlorofluoromethane	4.76	101	1308294	43.458	ng		100
19) Methylene Chloride	5.34	84	967	0.060	ng		100
21) Trichlorotrifluoroethane	5.58	151	883222	69.599	ng		99
47) Trichloroethene	10.14	130	1789	0.113	ng		94
95) Naphthalene	20.94	128	891	0.369	ng	#	71

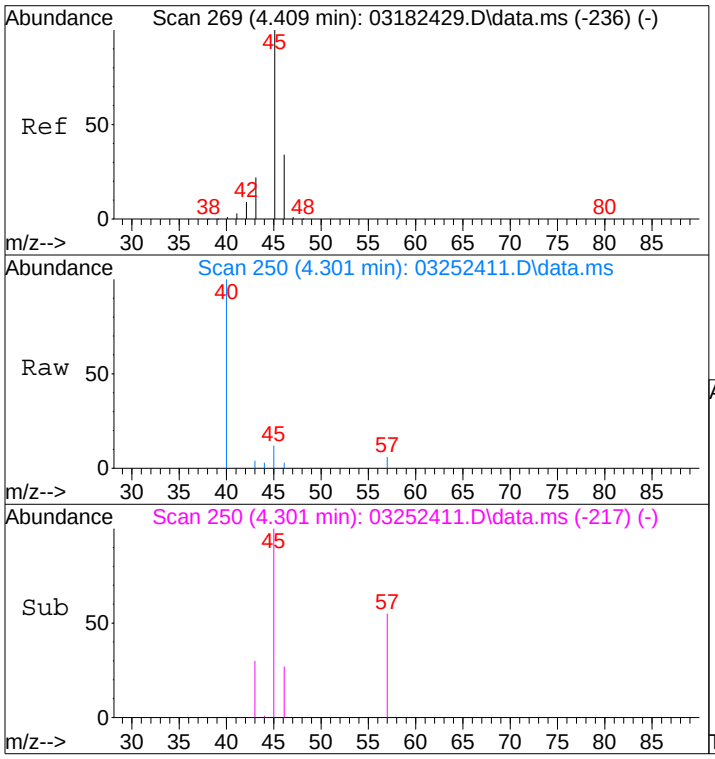
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:44:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

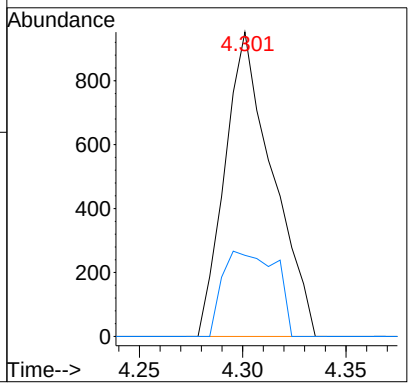


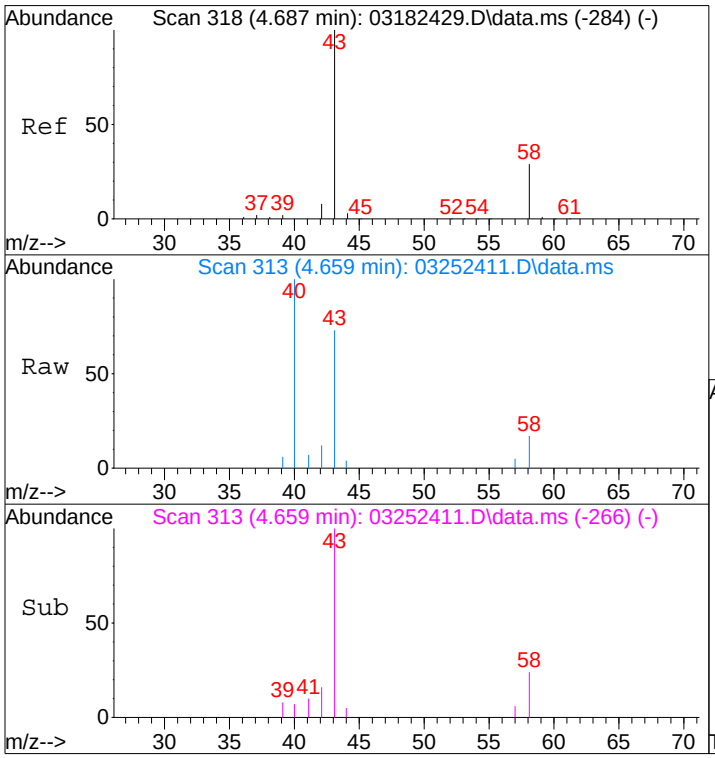


#10
Ethanol
Concen: 0.10 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.064 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion: 45 Resp: 1526

Ion	Ratio	Lower	Upper
45	100		
46	31.5	13.3	53.3

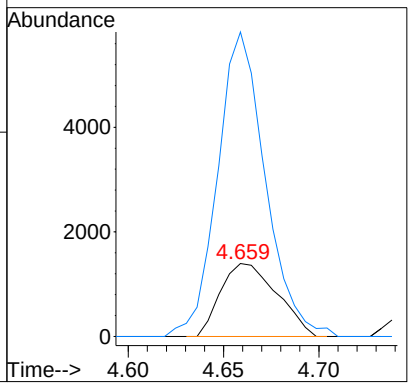


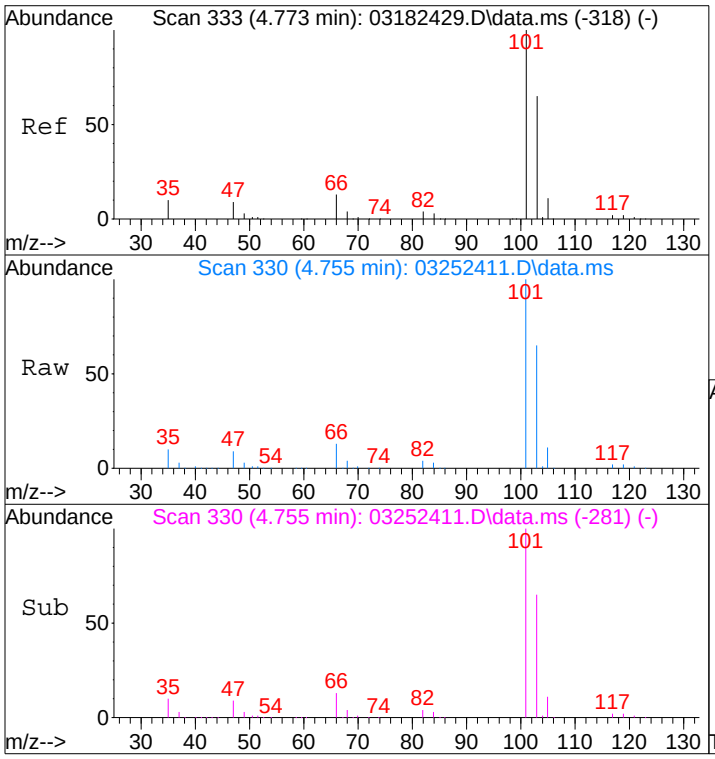


#13
Acetone
Concen: 0.26 ng
RT: 4.66 min Scan# 313
Delta R.T. 0.019 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion: 58 Resp: 2866

Ion	Ratio	Lower	Upper
58	100		
43	354.5	350.1	410.1

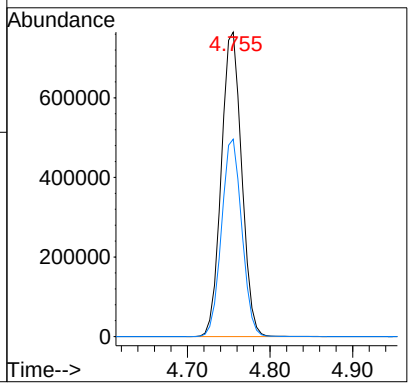


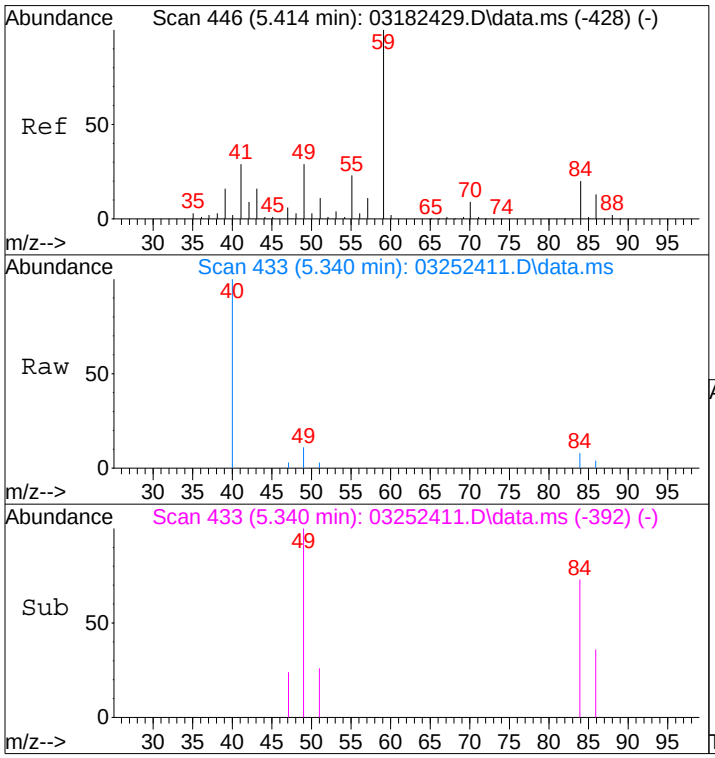


#14
Trichlorofluoromethane
Concen: 43.46 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.031 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion:101 Resp: 1308294

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

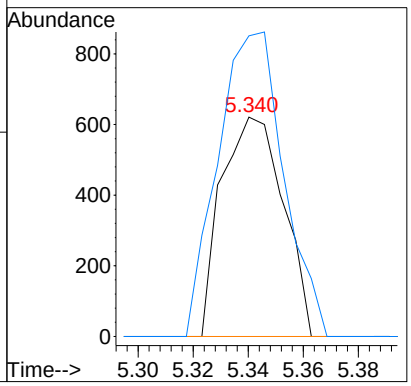


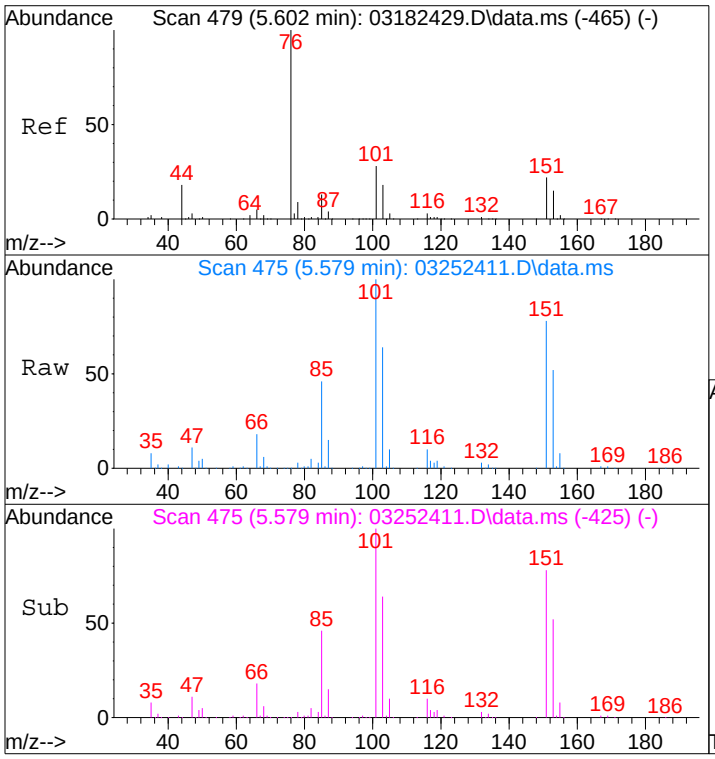


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.019 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion: 84 Resp: 967

Ion	Ratio	Lower	Upper
84	100		
49	148.2	122.9	172.9

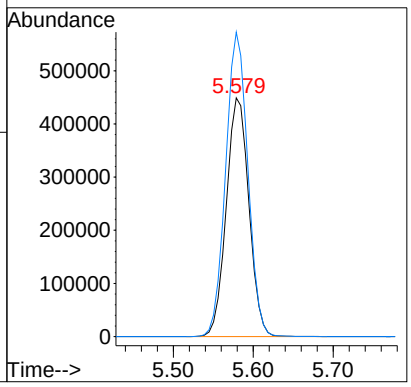


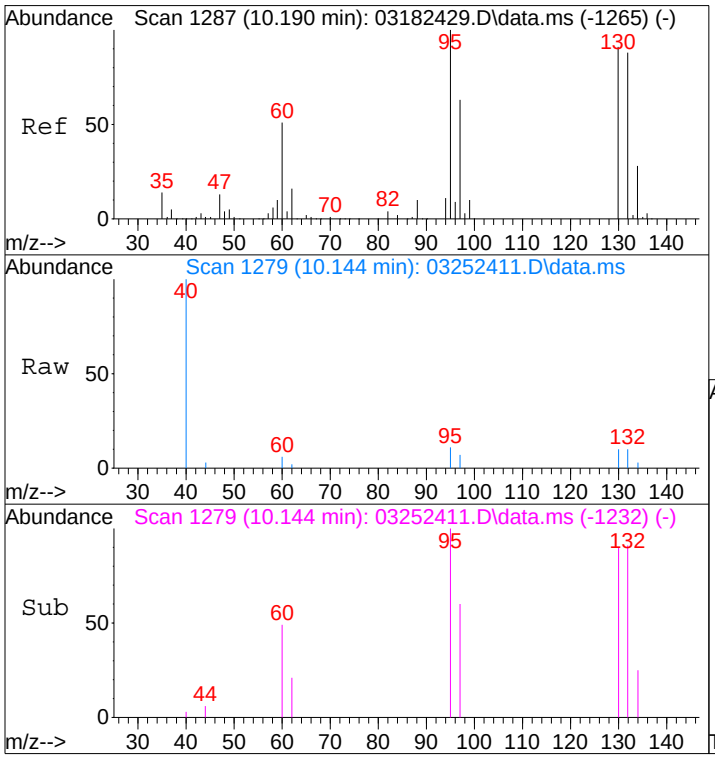


#21
Trichlorotrifluoroethane
Concen: 69.60 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion:151 Resp: 883222

Ion	Ratio	Lower	Upper
151	100		
101	124.9	106.4	146.4

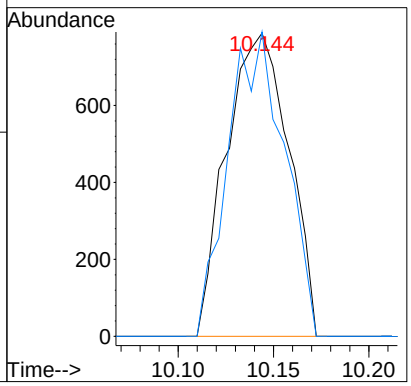


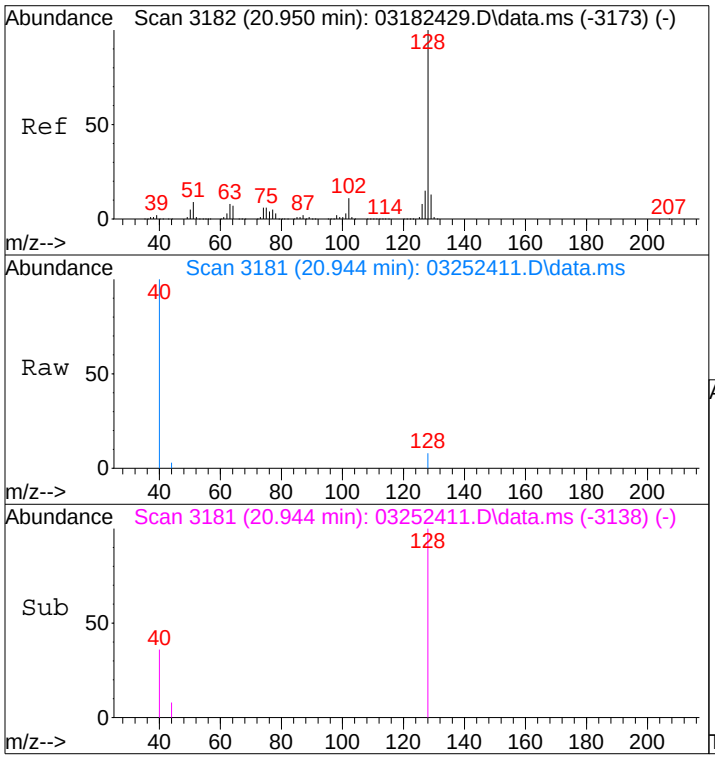


#47
Trichloroethene
Concen: 0.11 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion:130 Resp: 1789

Ion	Ratio	Lower	Upper
130	100		
132	91.4	77.5	117.5

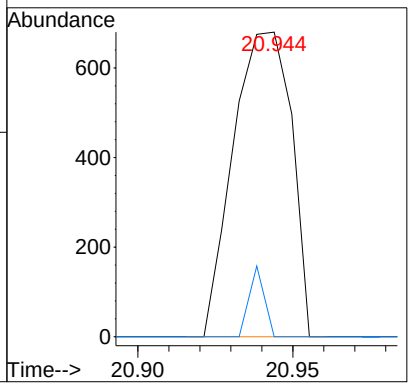




#95
Naphthalene
Concen: 0.37 ng
RT: 20.94 min Scan# 3181
Delta R.T. -0.006 min
Lab File: 03252411.D
Acq: 25 Mar 2024 17:09

Tgt Ion:128 Resp: 891

Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:24:50 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

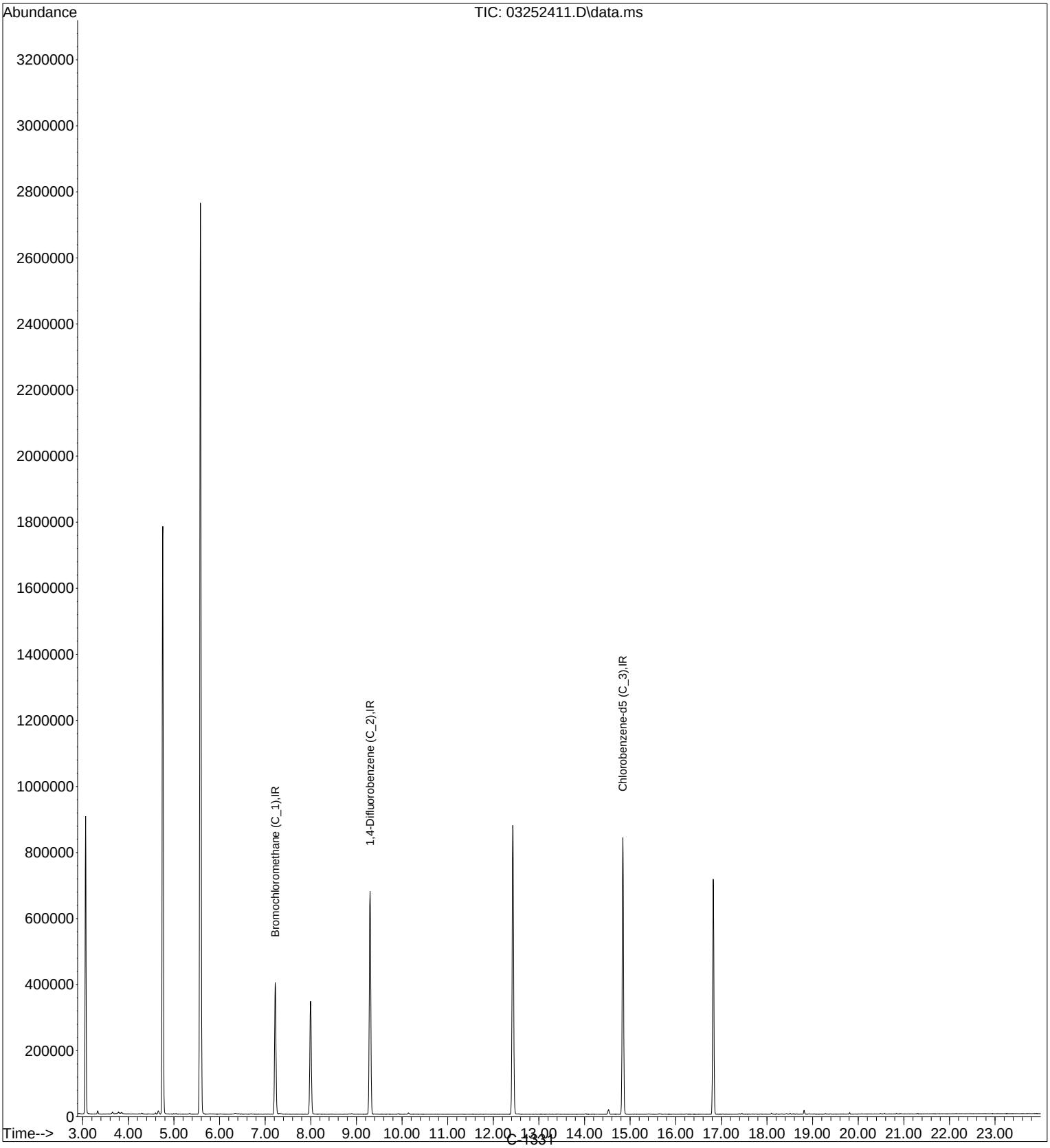
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	151646	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	653101	12.500 ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	130387	12.500 ng	-0.02
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	
4) 1,1-Difluoroethane	0.00	65	0	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.23	67	790	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	
10) 2-Methylbutane	4.65	57	704	N.D.	
11) Methyl Acetate	5.35	43	394	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	9.80	174	105	N.D.	
20) Methyl Cyclohexane	0.00	55	0	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.61	91	745	N.D.	
27) 4-Chlorotoluene	17.67	91	1150	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252411.D Vial: 1
Acq On : 25 Mar 2024 17:09 Operator: SC
Sample : P2400922-039 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:24:50 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252411.D
Acq On : 25 Mar 2024 17:09
Operator : SC
Sample : P2400922-039 (5.0mL)
Misc : S37-03252401
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252411.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.330	73	79	84	rBV4	9635	14881	0.28%	0.160%
2	3.853	166	171	181	rVB4	4538	10253	0.19%	0.110%
3	4.659	306	313	321	rBV	9964	18895	0.35%	0.203%
4	4.755	321	330	348	rBV	1779267	3051301	57.08%	32.825%
5	5.579	464	475	496	rVB	2758780	5345800	100.00%	57.509%
6	7.220	755	764	776	rBV	398049	854537	15.99%	9.193%

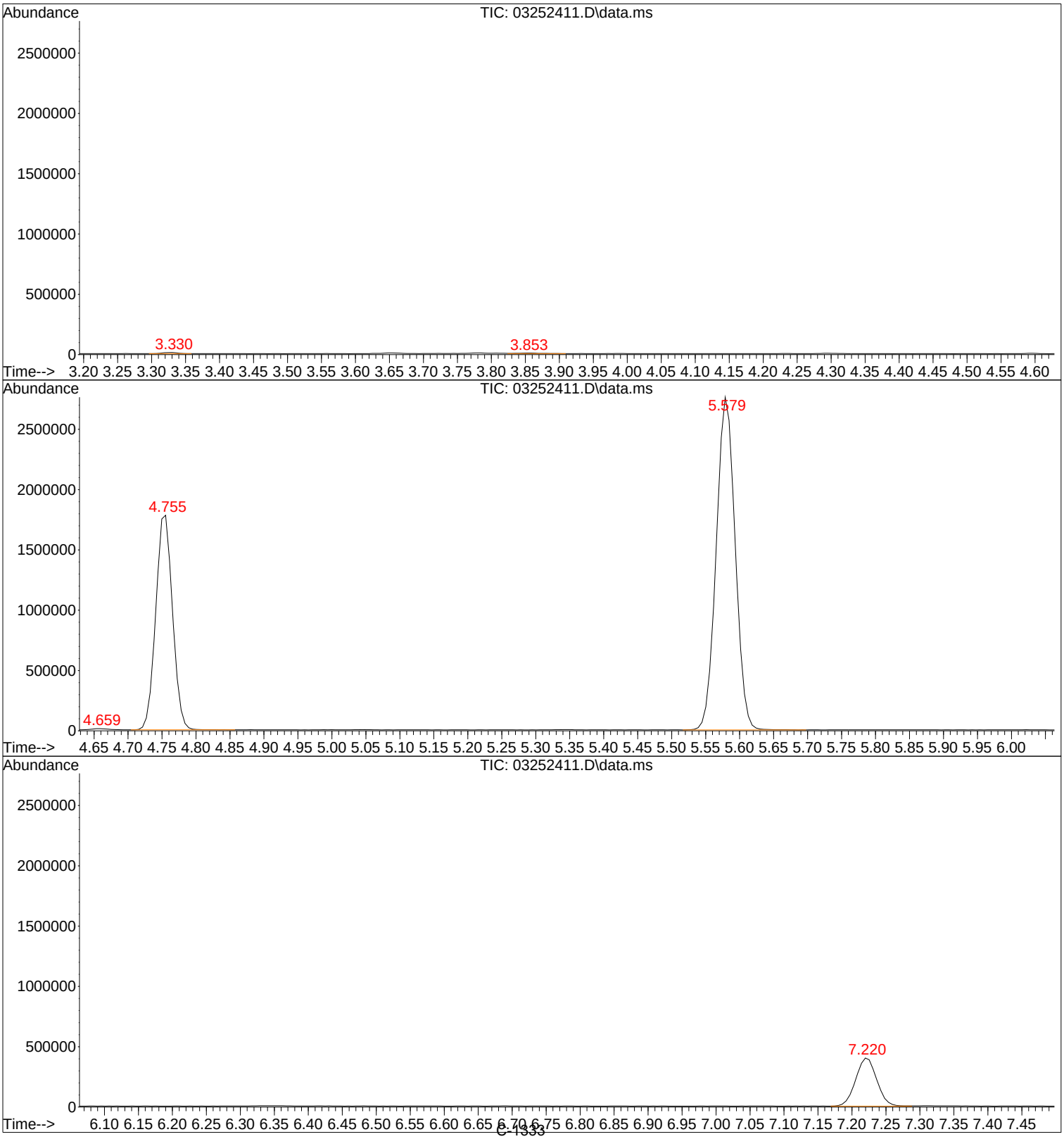
Sum of corrected areas: 9295667

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252411.D
Acq On : 25 Mar 2024 17:09
Operator : SC
Sample : P2400922-039 (5.0mL)
Misc : S37-03252401
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252411.D
Acq On : 25 Mar 2024 17:099
Operator : SCC
Sample : P2400922-039 (5.0mL))
Misc : S37-032524011
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:49:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	129818	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	558342	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	113206	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	259825	12.234	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	12.43	98	641106	14.105	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
73) Bromofluorobenzene (SS3)	16.83	174	208121	12.987	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	12533	0.471	ng		99
4) Chloromethane	3.51	50	4009	0.203	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	215	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.43	45	287	N.D.			
11) Acetonitrile	4.43	41	1368	N.D.			
12) Acrolein	4.53	56	432	N.D.			
13) Acetone	4.64	58	7531	0.789	ng	#	77
14) Trichlorofluoromethane	4.77	101	7507	0.291	ng		94
15) 2-Propanol (Isopropanol)	4.86	45	819	N.D.			
16) Acrylonitrile	4.99	53	512	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	1320	0.095	ng		93
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1760	0.162	ng		93
22) Carbon Disulfide	5.60	76	13957	0.323	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	1391	0.178	ng		99
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.36	83	355	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	314	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	792	No Calib			
41) Benzene	8.91	78	1754	N.D.			
42) Carbon Tetrachloride	9.07	117	1608	0.081	ng		99
43) Cyclohexane	9.28	84	525	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	2005	0.148	ng		97
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:49:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

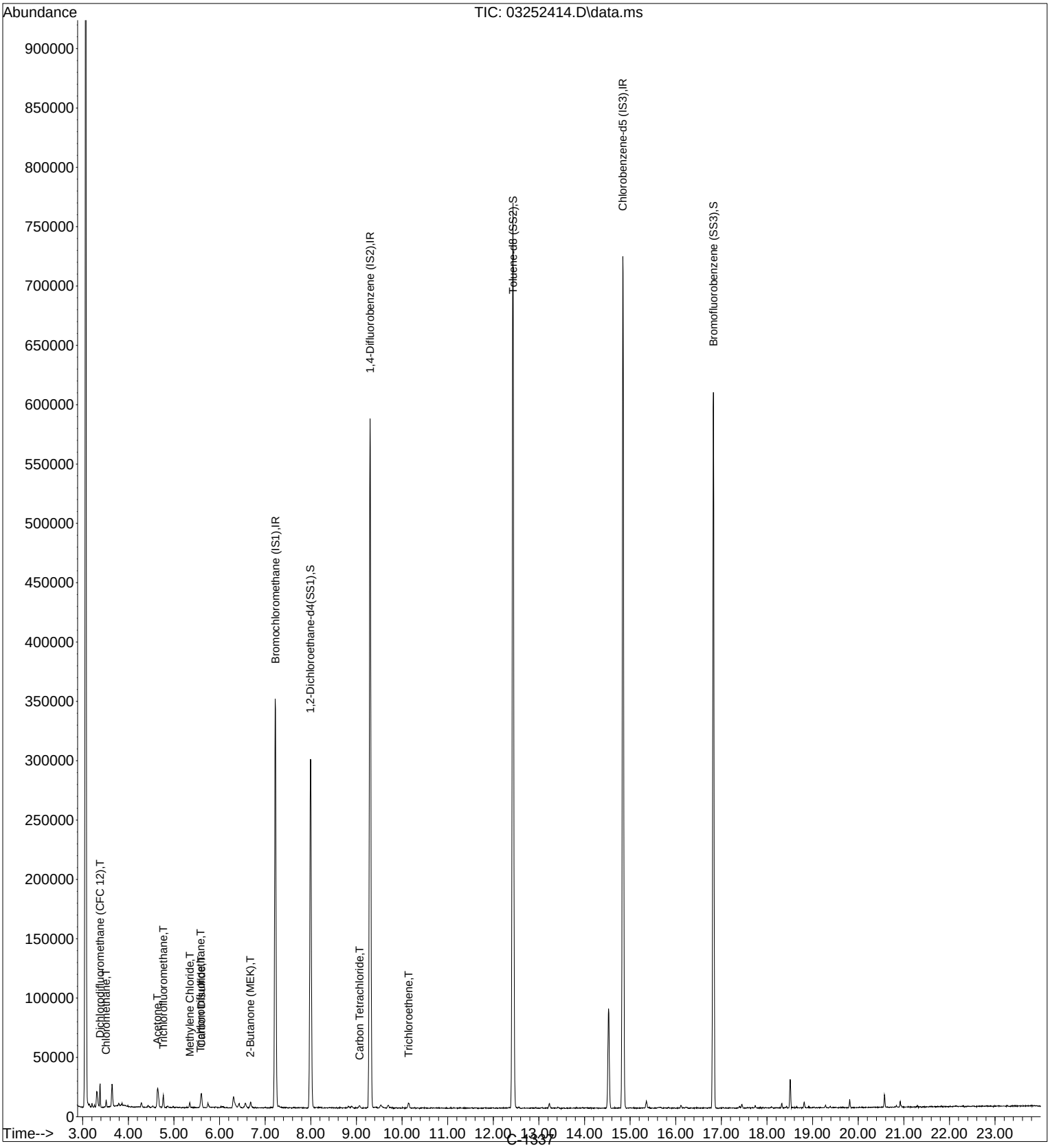
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1122	N.D.	
59) 2-Hexanone	12.92	43	511	N.D.	
60) Dibromochloromethane	13.08	129	256	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	353	N.D.	
65) Chlorobenzene	14.90	112	430	N.D.	
66) Ethylbenzene	15.41	91	1000	N.D.	
67) m- & p-Xylenes	15.63	91	817	N.D.	
68) Bromoform	15.67	173	377	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	492	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	262	N.D.	
74) Cumene	17.03	105	614	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	853	N.D.	
77) 3-Ethyltoluene	17.03	105	614	No Calib	#
78) 4-Ethyltoluene	17.86	105	422	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	321	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	614	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	393	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	452	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	399	N.D.	
87) sec-Butylbenzene	18.75	105	613	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	511	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	614	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	348	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	579	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	443	N.D.	
98) Cyclohexanone	15.36	55	1633	No Calib	#
99) tert-Butylbenzene	18.43	119	575	N.D.	
100) n-Butylbenzene	19.39	91	388	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:49:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

3/26/24

Quant Time: Mar 26 08:49:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

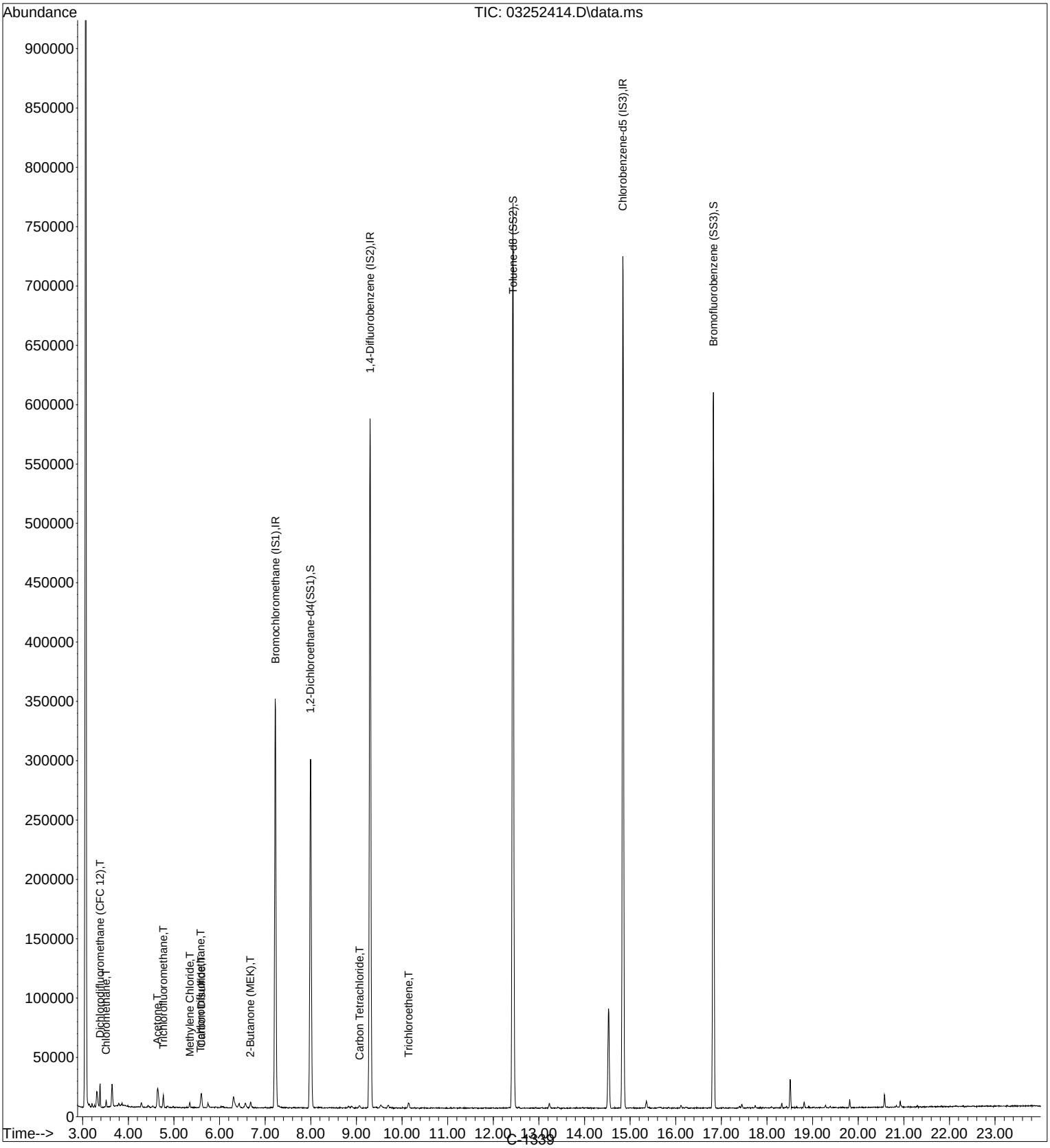
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	129818	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	558342	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	113206	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	259825	12.234	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
57) Toluene-d8 (SS2)	12.43	98	641106	14.105	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.80%				
73) Bromofluorobenzene (SS3)	16.83	174	208121	12.987	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	12533	0.471	ng		99
4) Chloromethane	3.51	50	4009	0.203	ng		99
13) Acetone	4.64	58	7531	0.789	ng	#	77
14) Trichlorofluoromethane	4.77	101	7507	0.291	ng		94
19) Methylene Chloride	5.35	84	1320	0.095	ng		93
21) Trichlorotrifluoroethane	5.58	151	1760	0.162	ng		93
22) Carbon Disulfide	5.60	76	13957	0.323	ng		97
27) 2-Butanone (MEK)	6.67	72	1391	0.178	ng		99
42) Carbon Tetrachloride	9.07	117	1608	0.081	ng		99
47) Trichloroethene	10.14	130	2005	0.148	ng		97

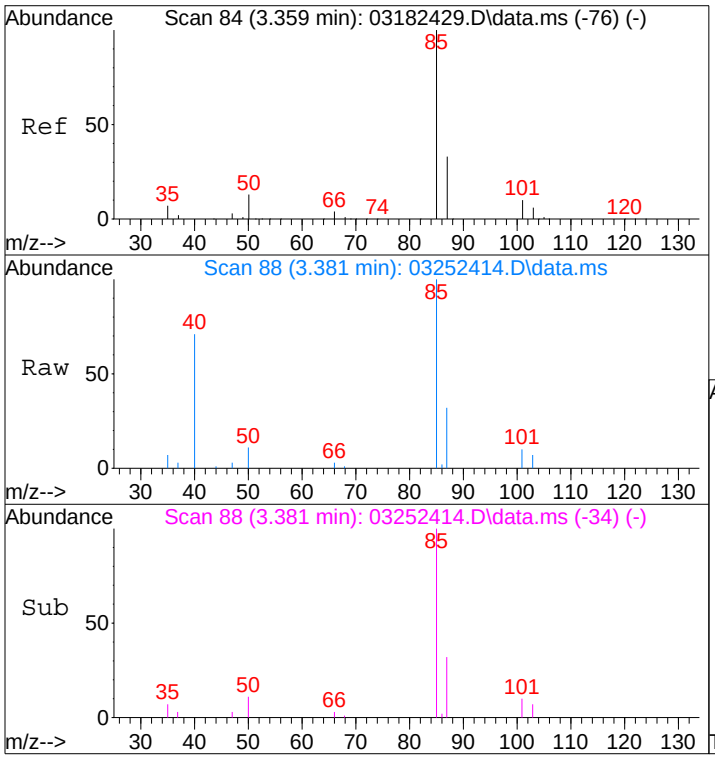
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:49:38 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

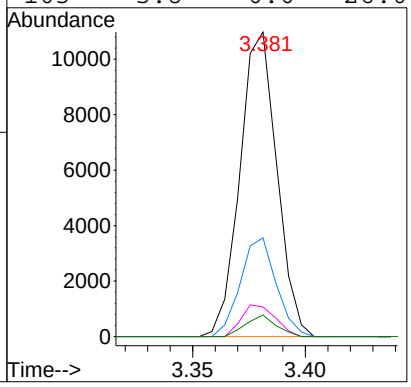


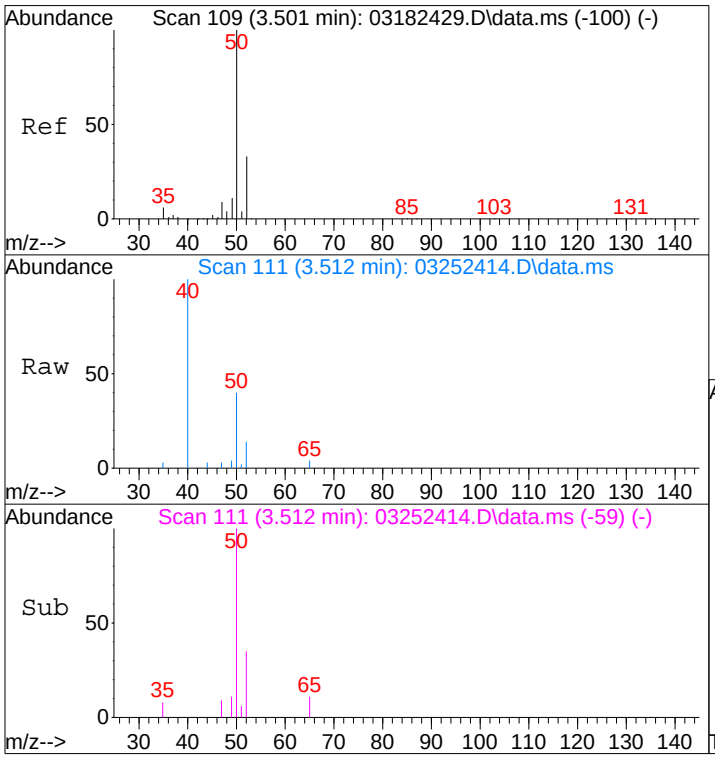


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.47 ng
RT: 3.38 min Scan# 88
Delta R.T. 0.056 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion: 85 Resp: 12533

Ion	Ratio	Lower	Upper
85	100		
87	31.5	12.5	52.5
101	9.6	0.0	29.2
103	5.8	0.0	26.0

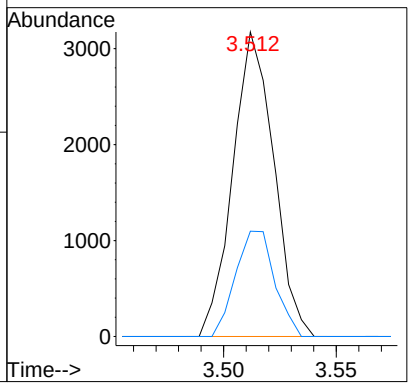


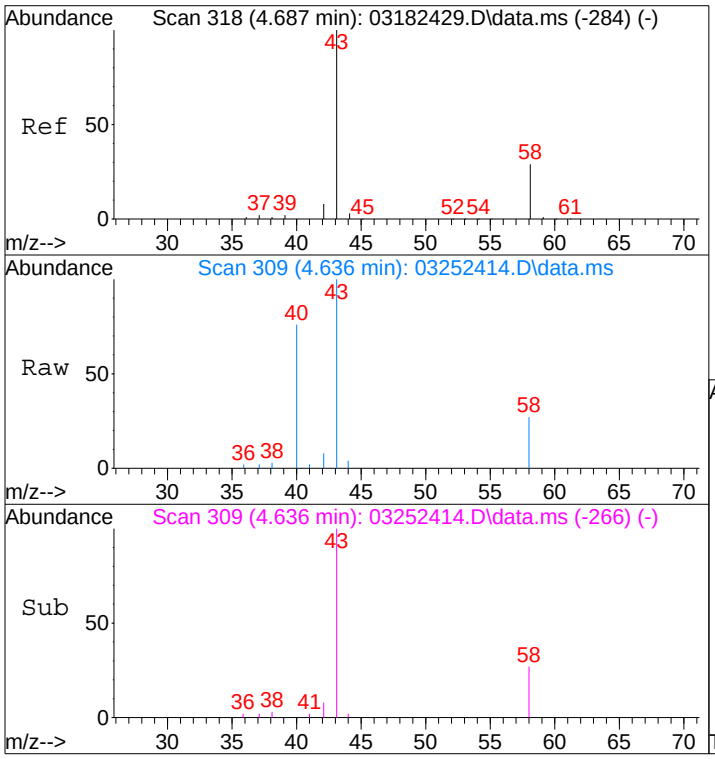


#4
Chloromethane
Concen: 0.20 ng
RT: 3.51 min Scan# 111
Delta R.T. 0.046 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion: 50 Resp: 4009

Ion	Ratio	Lower	Upper
50	100		
52	33.1	12.3	52.3

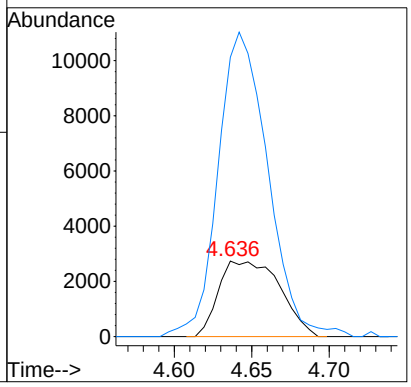


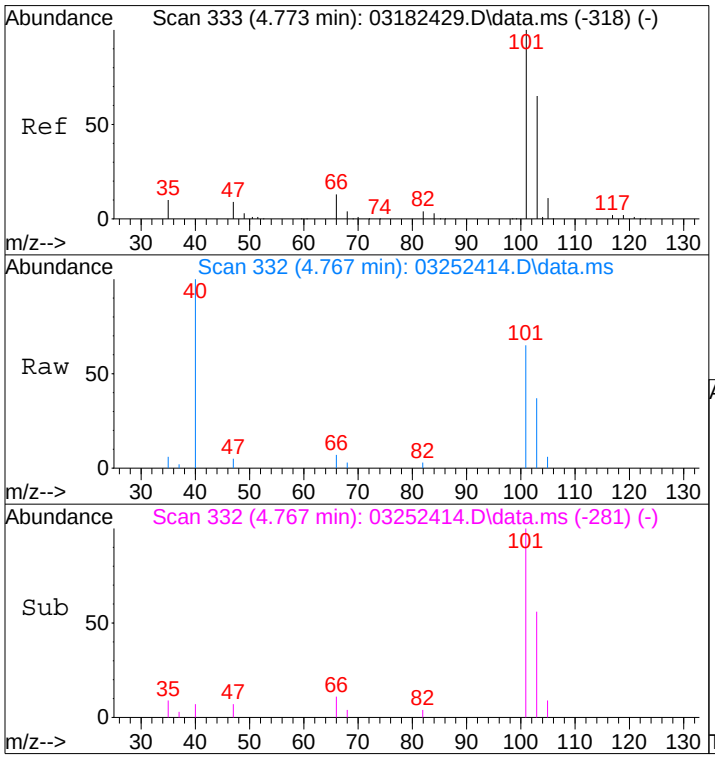


#13
Acetone
Concen: 0.79 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.004 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion: 58 Resp: 7531

Ion	Ratio	Lower	Upper
58	100		
43	327.7	350.1	410.1#

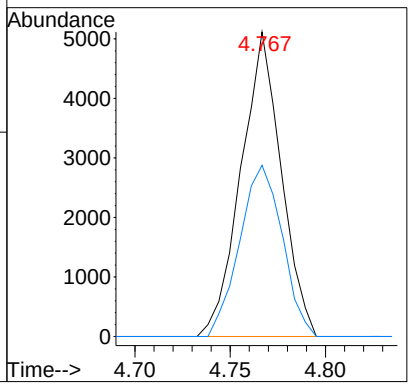


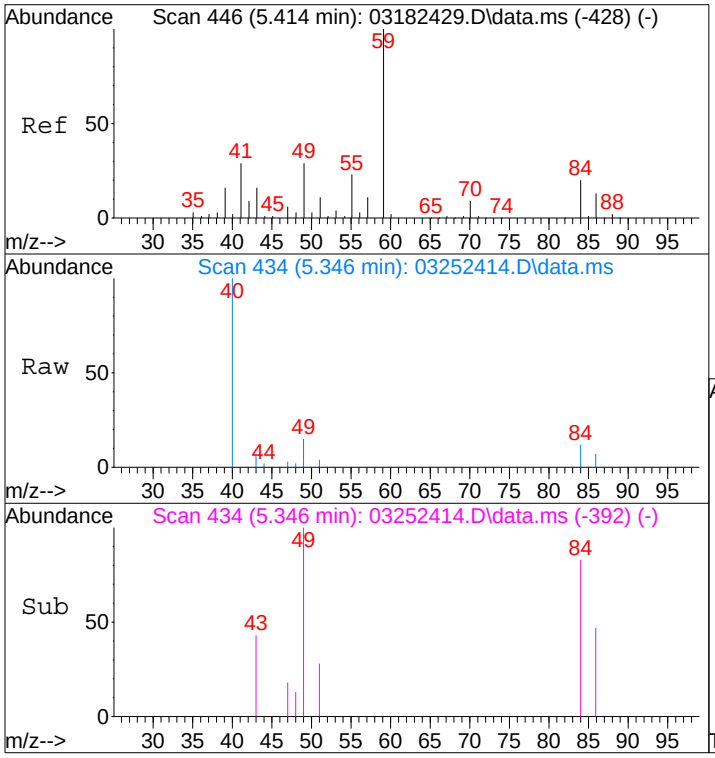


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.042 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion:101 Resp: 7507

Ion	Ratio	Lower	Upper
101	100		
103	59.7	44.7	84.7

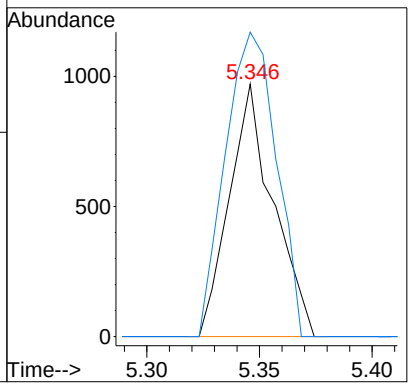


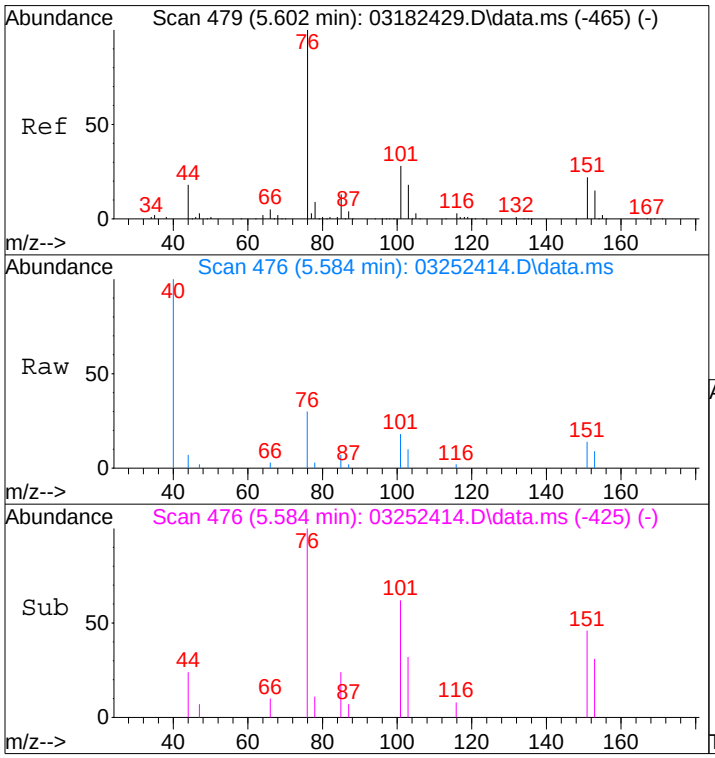


#19
Methylene Chloride
Concen: 0.10 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.014 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion: 84 Resp: 1320

Ion	Ratio	Lower	Upper
84	100		
49	139.6	122.9	172.9

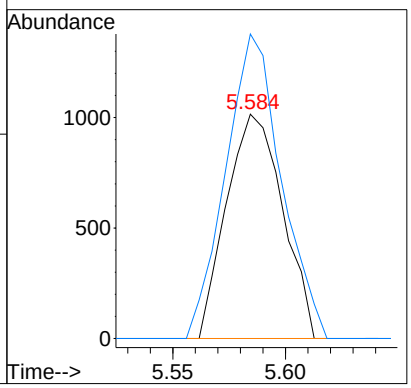


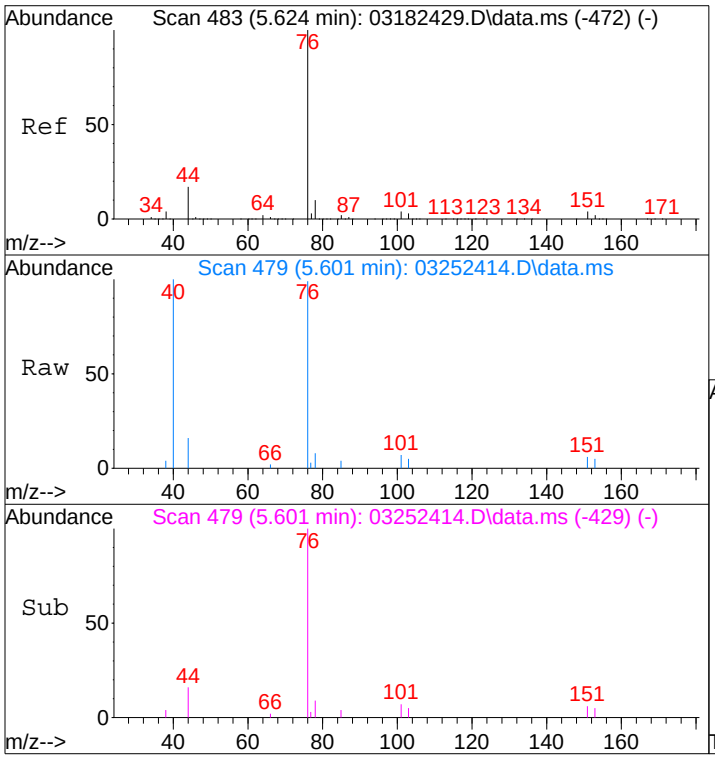


#21
Trichlorotrifluoroethane
Concen: 0.16 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.039 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion:151 Resp: 1760

Ion	Ratio	Lower	Upper
151	100		
101	134.7	106.4	146.4

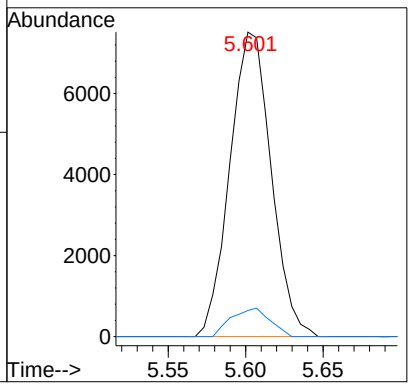


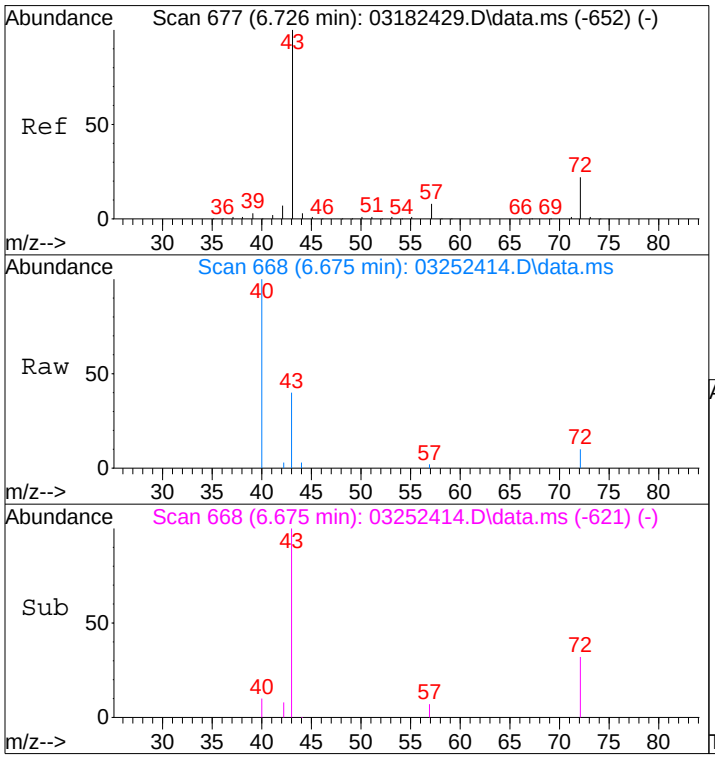


#22
Carbon Disulfide
Concen: 0.32 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.034 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion: 76 Resp: 13957

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.8

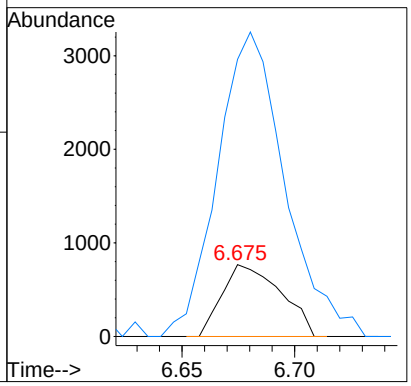


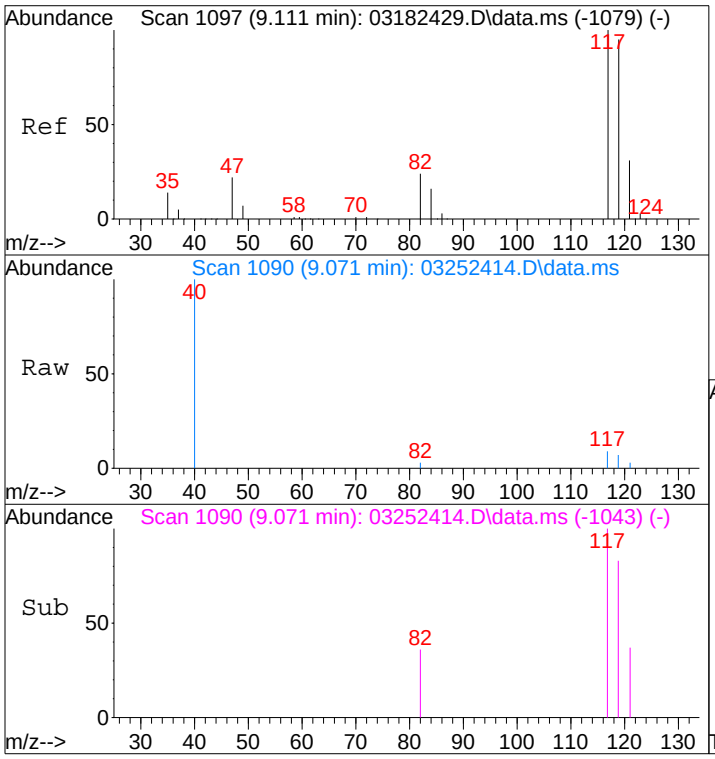


#27
2-Butanone (MEK)
Concen: 0.18 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.017 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion: 72 Resp: 1391

Ion	Ratio	Lower	Upper
72	100		
43	487.0	468.6	508.6

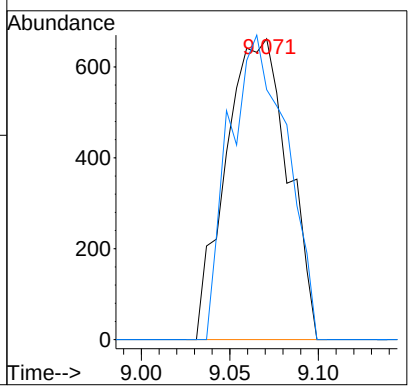


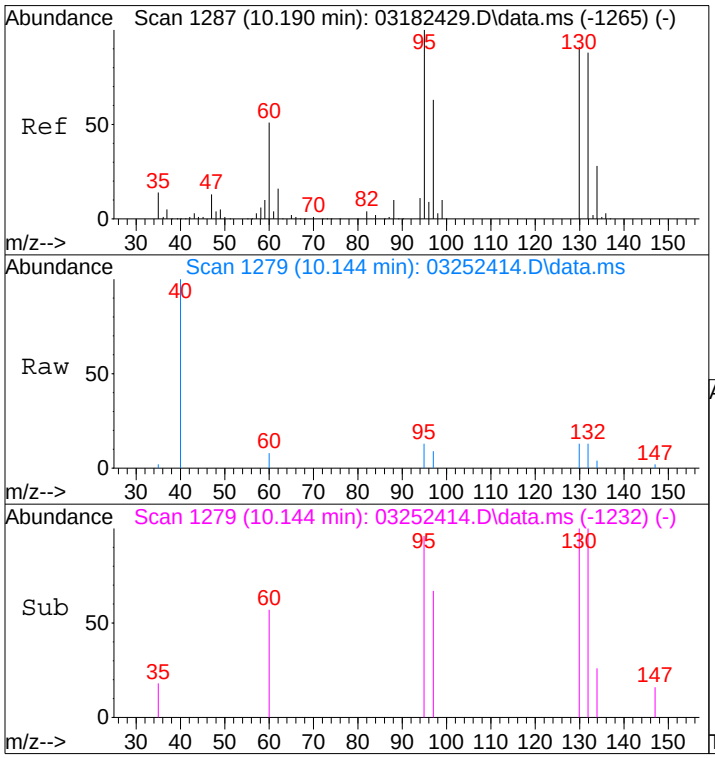


#42
Carbon Tetrachloride
Concen: 0.08 ng
RT: 9.07 min Scan# 1090
Delta R.T. 0.016 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion:117 Resp: 1608

Ion	Ratio	Lower	Upper
117	100		
119	94.6	75.7	115.7

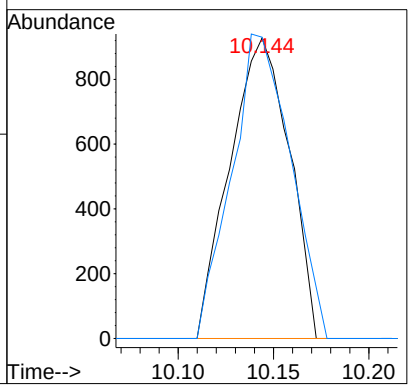




#47
Trichloroethene
Concen: 0.15 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03252414.D
Acq: 25 Mar 2024 18:45

Tgt Ion:130 Resp: 2005

Ion	Ratio	Lower	Upper
130	100		
132	100.8	77.5	117.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:25:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

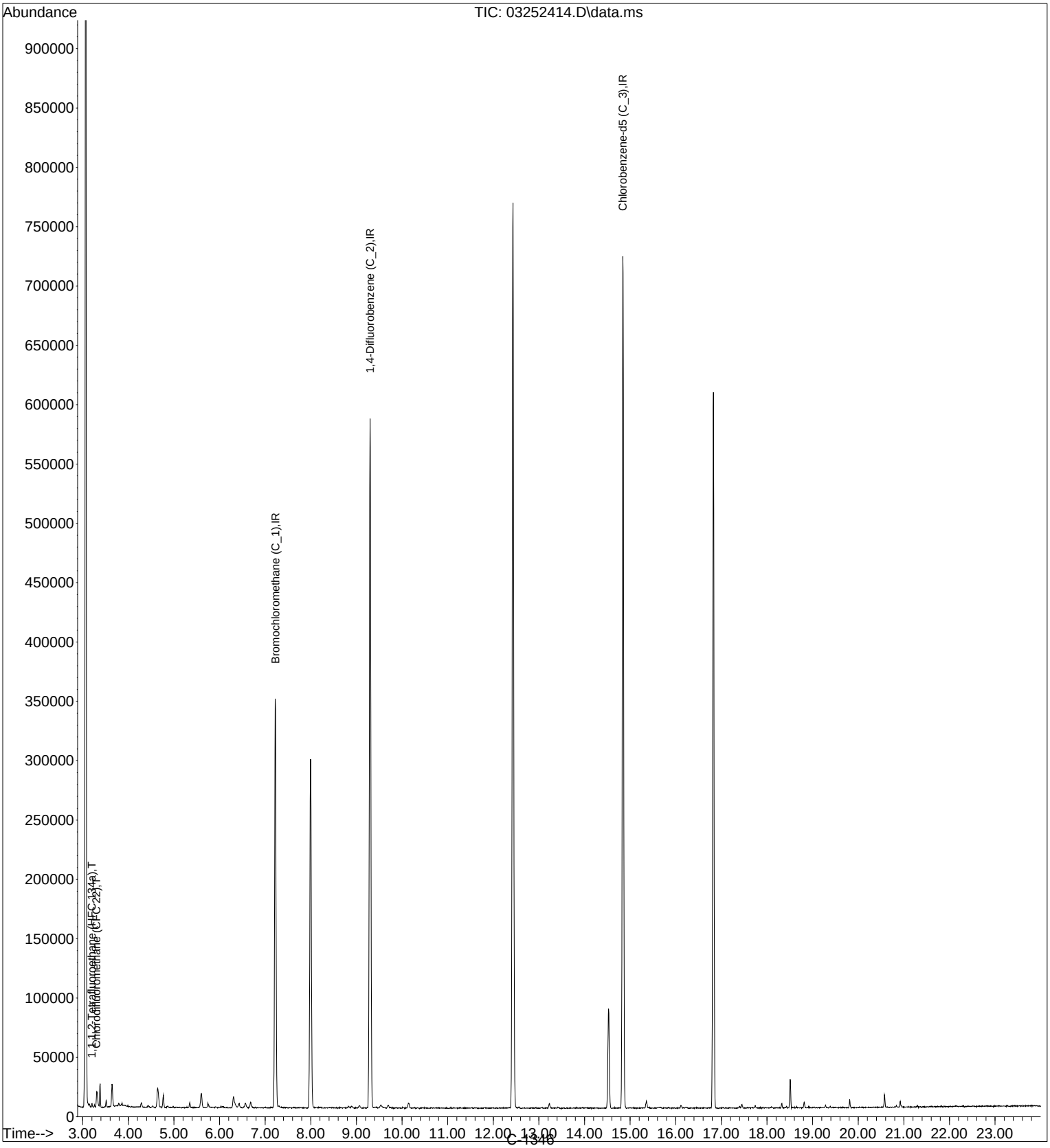
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	129818	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	559441	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	113206	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	75	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1351	0.113	ng	#	81
4) 1,1-Difluoroethane	3.26	65	500	N.D.			
5) Chlorodifluoromethane ...	3.30	67	603	0.158	ng	#	85
6) 1-Chloro-1,1-Difluoroe...	3.52	65	390	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.67	57	578	N.D.			
11) Methyl Acetate	5.35	43	942	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	535	N.D.			
27) 4-Chlorotoluene	17.68	91	853	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252414.D Vial: 6
Acq On : 25 Mar 2024 18:45 Operator: SC
Sample : P2400922-040 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:25:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252414.D
Acq On : 25 Mar 2024 18:45
Operator : SC
Sample : P2400922-040 (400mL)PF2
Misc : S37-03252401
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252414.D\data.ms

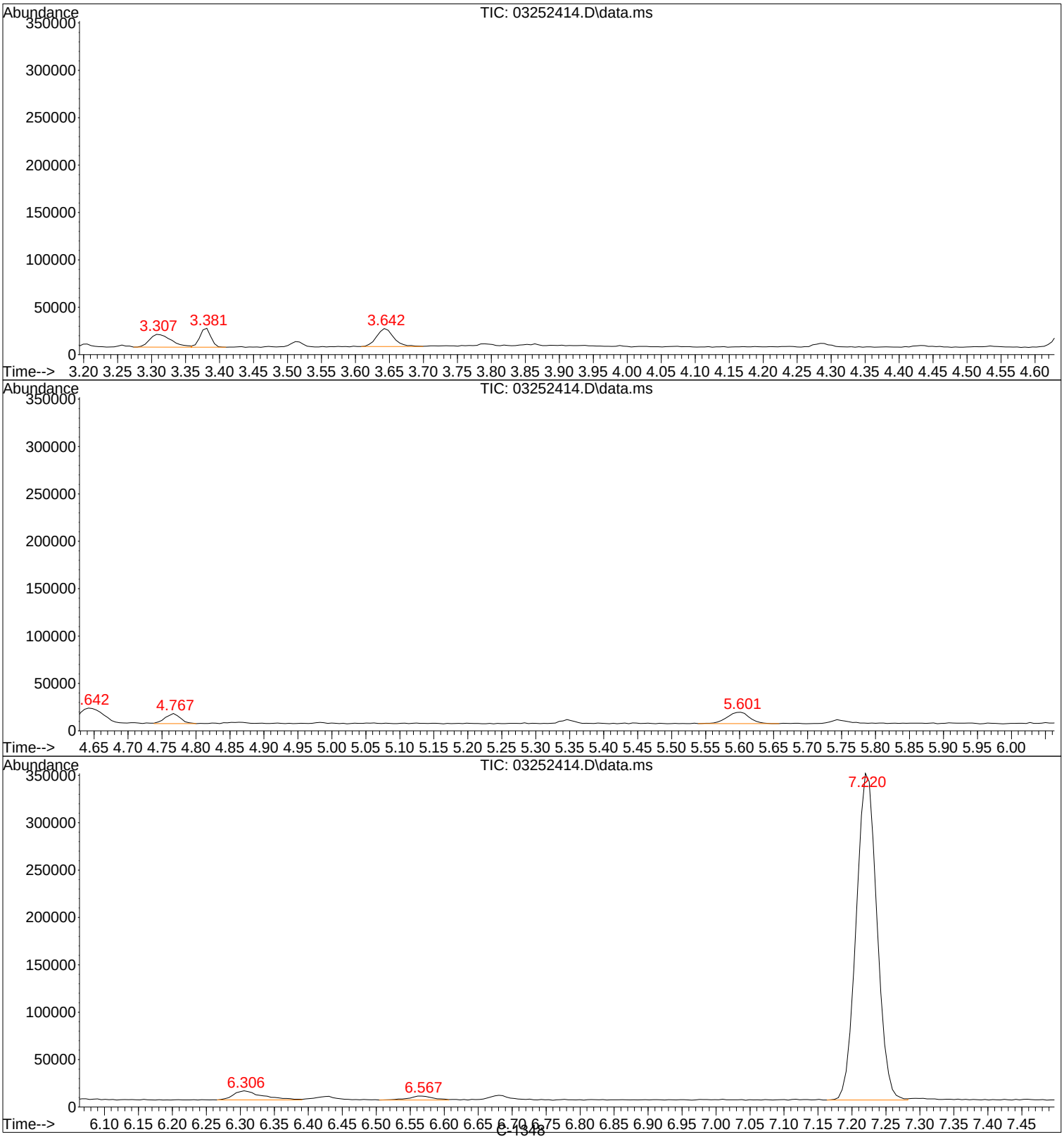
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	69	75	84	rBV5	13432	30317	4.15%	3.223%
2	3.381	84	88	93	rVB	19978	22434	3.07%	2.385%
3	3.642	128	134	144	rBV	19061	33311	4.56%	3.541%
4	4.642	301	310	320	rBV2	16436	40745	5.58%	4.332%
5	4.767	327	332	338	rVB	10735	16428	2.25%	1.746%
6	5.601	468	479	489	rVB3	12037	27999	3.84%	2.977%
7	6.306	596	603	618	rBV2	9680	28622	3.92%	3.043%
8	6.567	638	649	656	rBV4	4189	10796	1.48%	1.148%
9	7.220	754	764	775	rBV	344639	729988	100.00%	77.605%

Sum of corrected areas: 940640

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252414.D
Acq On : 25 Mar 2024 18:45
Operator : SC
Sample : P2400922-040 (400mL)PF2
Misc : S37-03252401
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252414.D
Acq On : 25 Mar 2024 18:455
Operator : SCC
Sample : P2400922-040 (400mL)PF22
Misc : S37-032524011
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:51:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	125457	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	540805	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	109126	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	253354	12.344	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
57) Toluene-d8 (SS2)	12.43	98	618225	14.110	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.88%			
73) Bromofluorobenzene (SS3)	16.83	174	203365	13.165	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.38	85	215	N.D.		
4) Chloromethane	3.52	50	883	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.03	94	353	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	3453	0.285	ng	99
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.53	56	792	0.091	ng	91
13) Acetone	4.63	58	15224	1.650	ng	95
14) Trichlorofluoromethane	4.77	101	671	N.D.		
15) 2-Propanol (Isopropanol)	4.85	45	1392	N.D.		
16) Acrylonitrile	4.99	53	702	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.35	59	361	N.D.		
19) Methylene Chloride	5.35	84	1019	0.076	ng	85
20) 3-Chloro-1-propene (Al...	5.45	41	121	N.D.		
21) Trichlorotrifluoroethane	5.58	151	138	N.D.		
22) Carbon Disulfide	5.60	76	1962	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.67	72	1962	0.260	ng	98
28) cis-1,2-Dichloroethene	7.06	61	194	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.29	61	844	0.186	ng	97
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	185	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.82	56	2651	No Calib	#	
41) Benzene	8.89	78	3209	0.066	ng	96
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.28	84	393	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.07	83	127	N.D.		
47) Trichloroethene	10.15	130	998	0.076	ng	94
48) 1,4-Dioxane	10.13	88	336	N.D.		
49) 2,2,4-Trimethylpentane...	10.27	57	2368	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:51:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

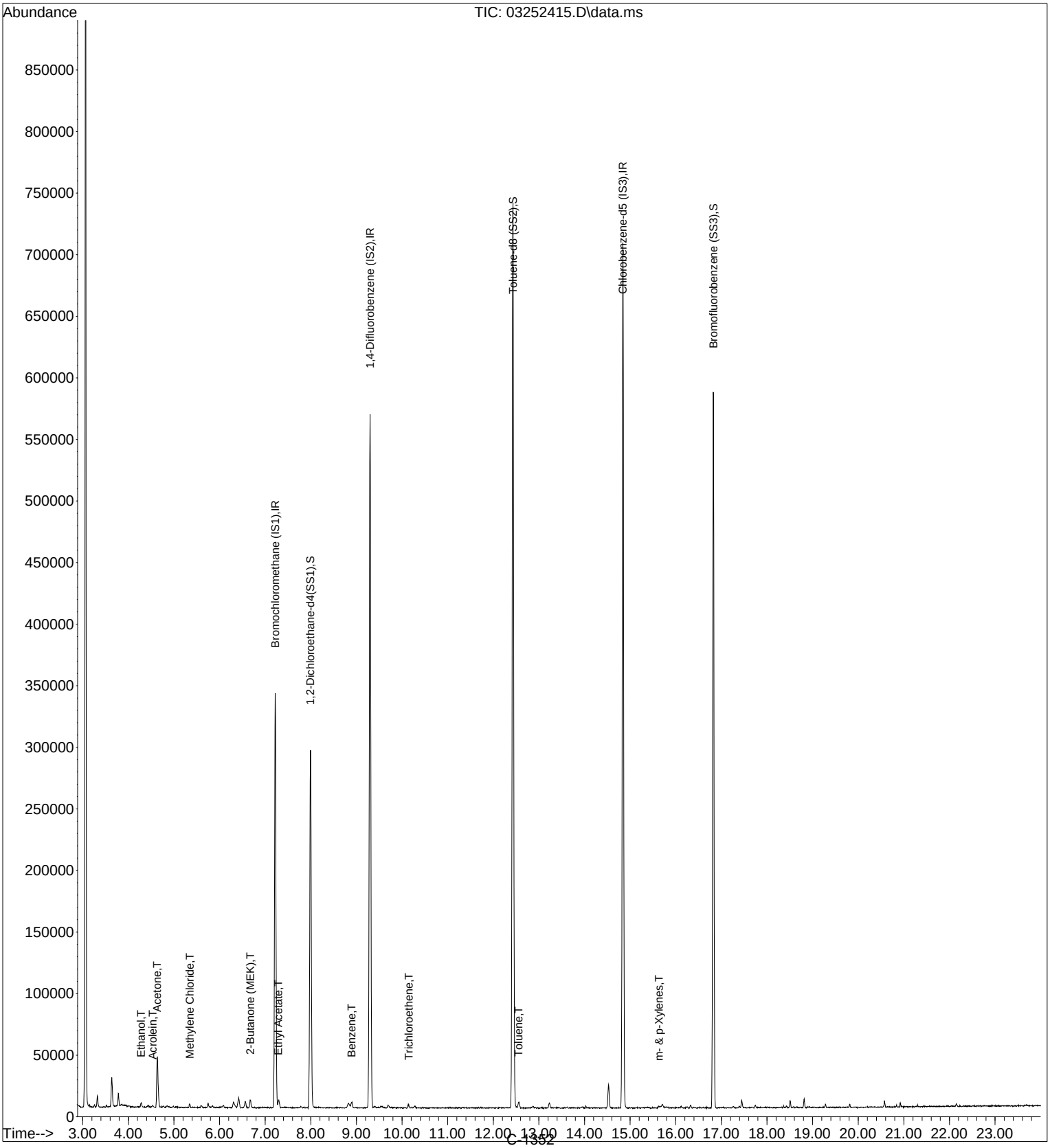
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5262	0.126 ng	99
59) 2-Hexanone	12.93	43	698	N.D.	
60) Dibromochloromethane	13.07	129	175	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	534	N.D.	
65) Chlorobenzene	14.90	112	504	N.D.	
66) Ethylbenzene	15.41	91	1034	N.D.	
67) m- & p-Xylenes	15.63	91	2359	0.059 ng	95
68) Bromoform	15.67	173	306	N.D.	
69) Styrene	16.11	104	227	N.D.	
70) o-Xylene	16.25	91	830	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	165	N.D.	
74) Cumene	17.03	105	488	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	850	N.D.	
77) 3-Ethyltoluene	17.03	105	488	No Calib #	
78) 4-Ethyltoluene	17.86	105	495	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	449	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	488	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	681	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	332	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	423	N.D.	
87) sec-Butylbenzene	18.74	105	568	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	486	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	488	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	331	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	539	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	372	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	510	N.D.	
100) n-Butylbenzene	19.39	91	443	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:51:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:51:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

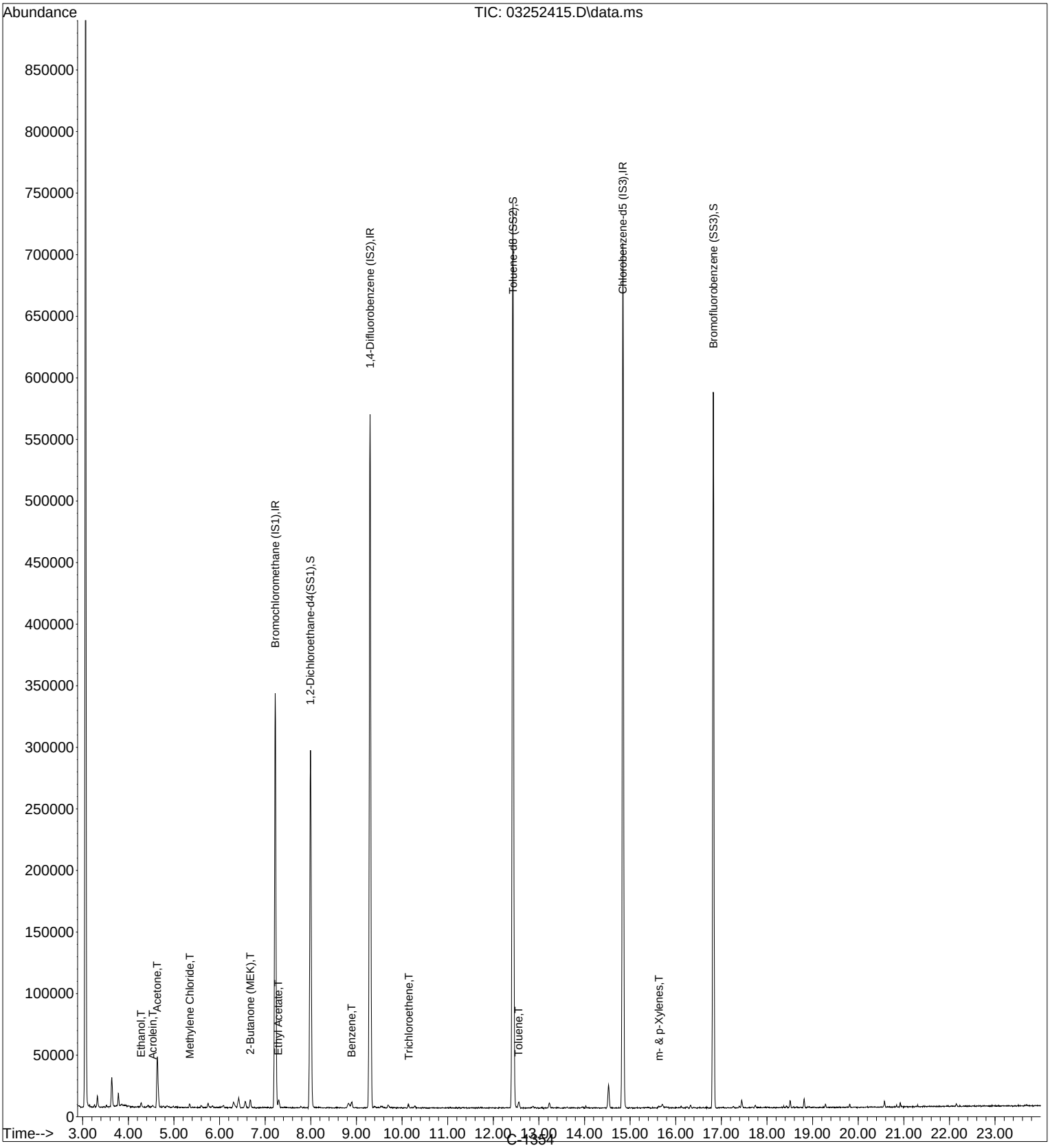
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	125457	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	540805	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	109126	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	253354	12.344	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
57) Toluene-d8 (SS2)	12.43	98	618225	14.110	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.88%			
73) Bromofluorobenzene (SS3)	16.83	174	203365	13.165	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%			
Target Compounds						Qvalue
10) Ethanol	4.28	45	3453	0.285	ng	99
12) Acrolein	4.53	56	792	0.091	ng	91
13) Acetone	4.63	58	15224	1.650	ng	95
19) Methylene Chloride	5.35	84	1019	0.076	ng	85
27) 2-Butanone (MEK)	6.67	72	1962	0.260	ng	98
30) Ethyl Acetate	7.29	61	844	0.186	ng	97
41) Benzene	8.89	78	3209	0.066	ng	96
47) Trichloroethene	10.15	130	998	0.076	ng	94
58) Toluene	12.56	91	5262	0.126	ng	99
67) m- & p-Xylenes	15.63	91	2359	0.059	ng	95

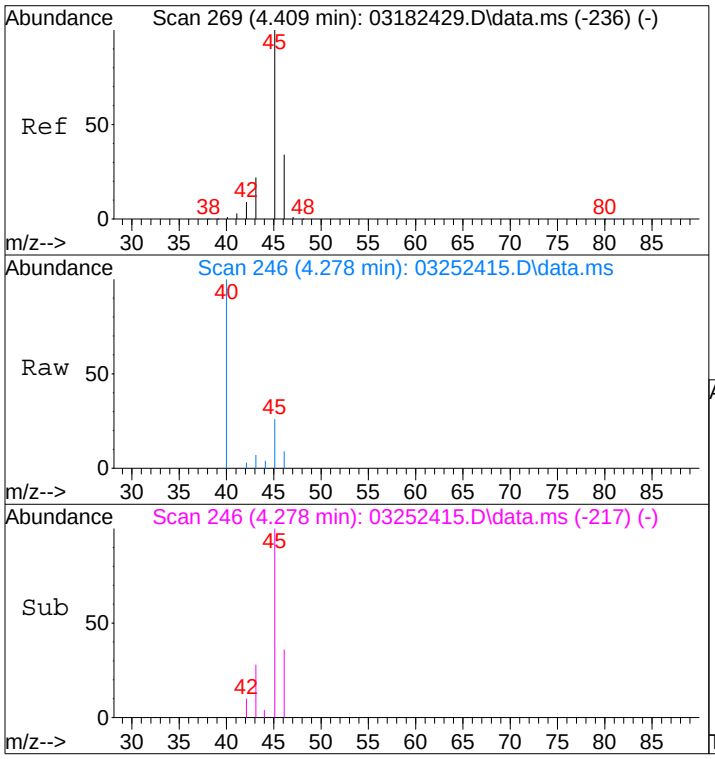
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:51:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

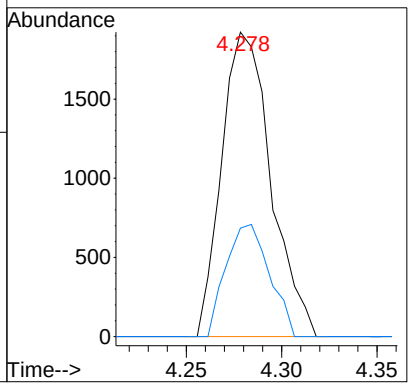


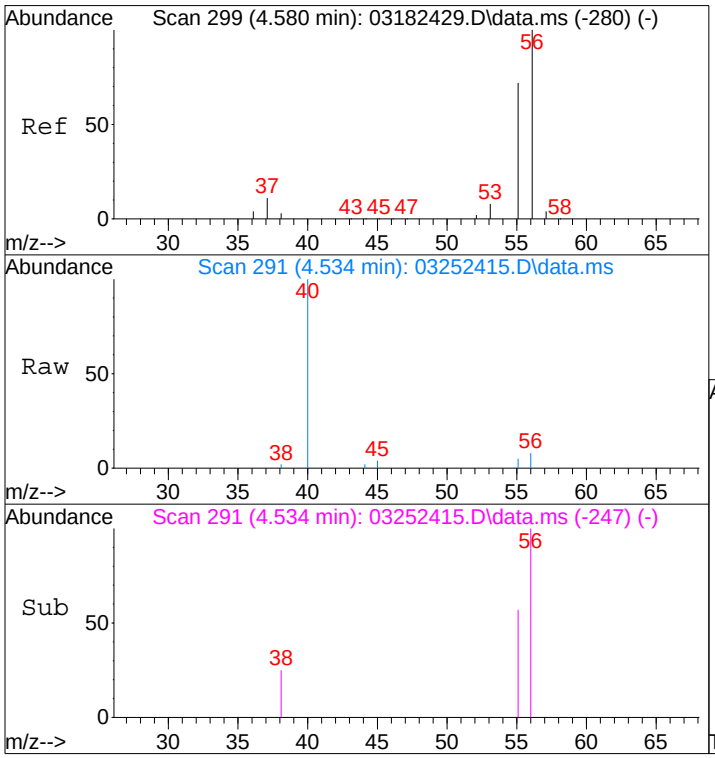


#10
Ethanol
Concen: 0.28 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.086 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 45 Resp: 3453

Ion	Ratio	Lower	Upper
45	100		
46	32.6	13.3	53.3

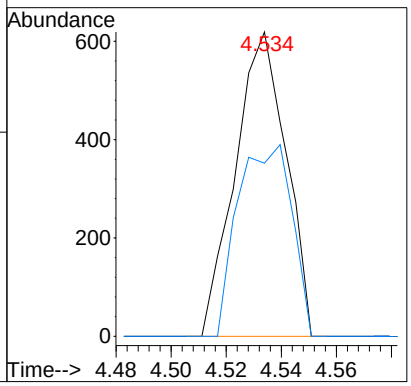


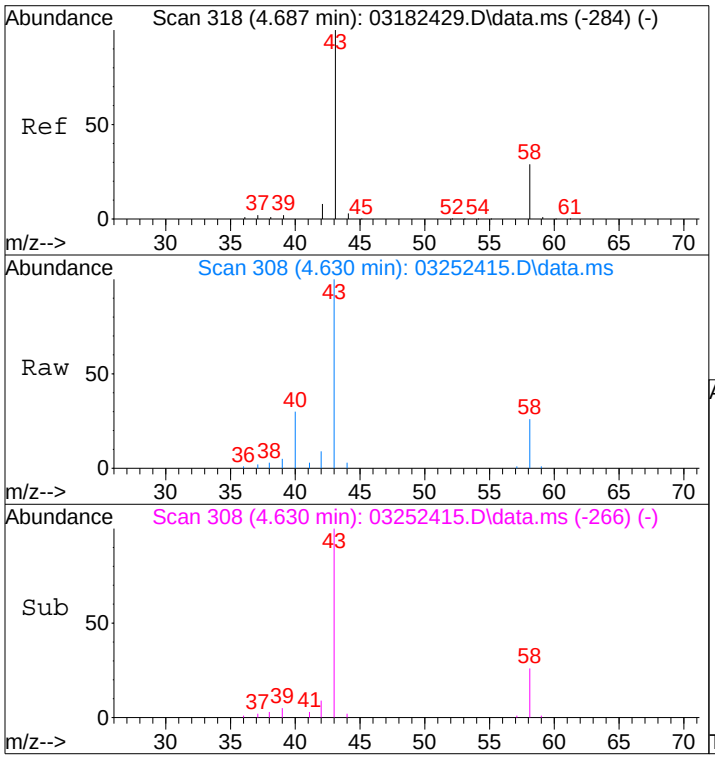


#12
Acrolein
Concen: 0.09 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.001 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 56 Resp: 792

Ion	Ratio	Lower	Upper
56	100		
55	67.2	54.9	94.9

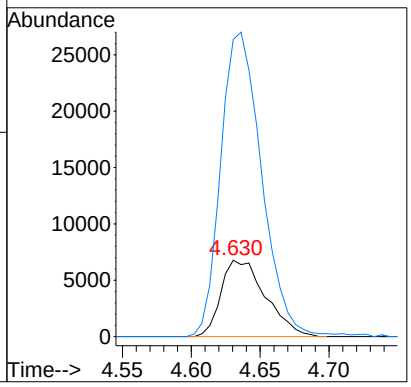


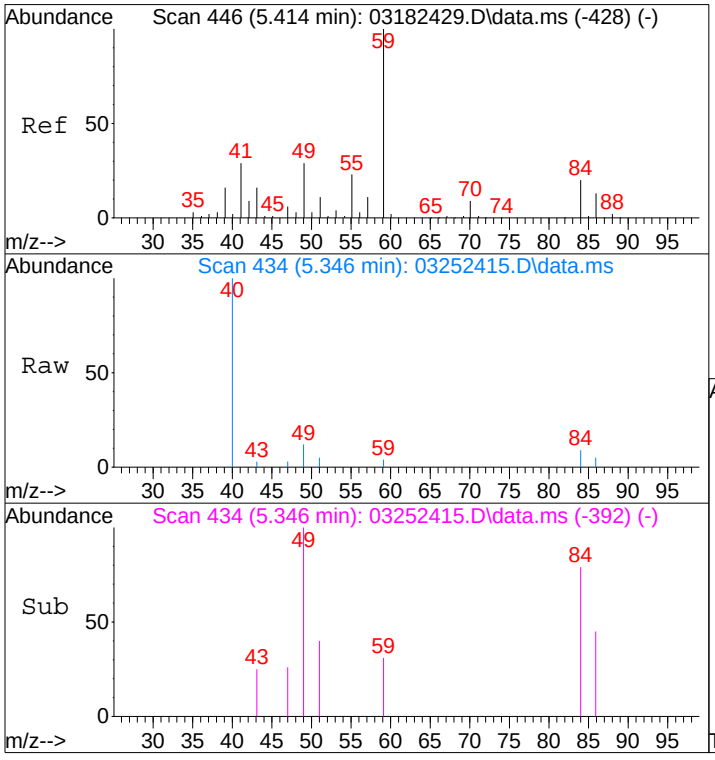


#13
Acetone
Concen: 1.65 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.010 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 58 Resp: 15224

Ion	Ratio	Lower	Upper
58	100		
43	368.1	350.1	410.1

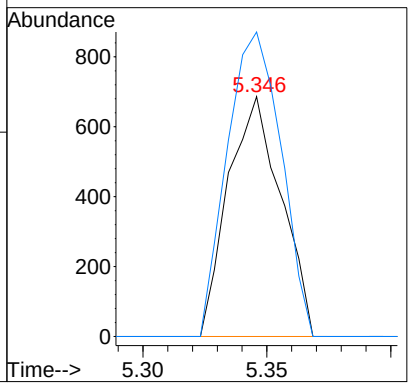


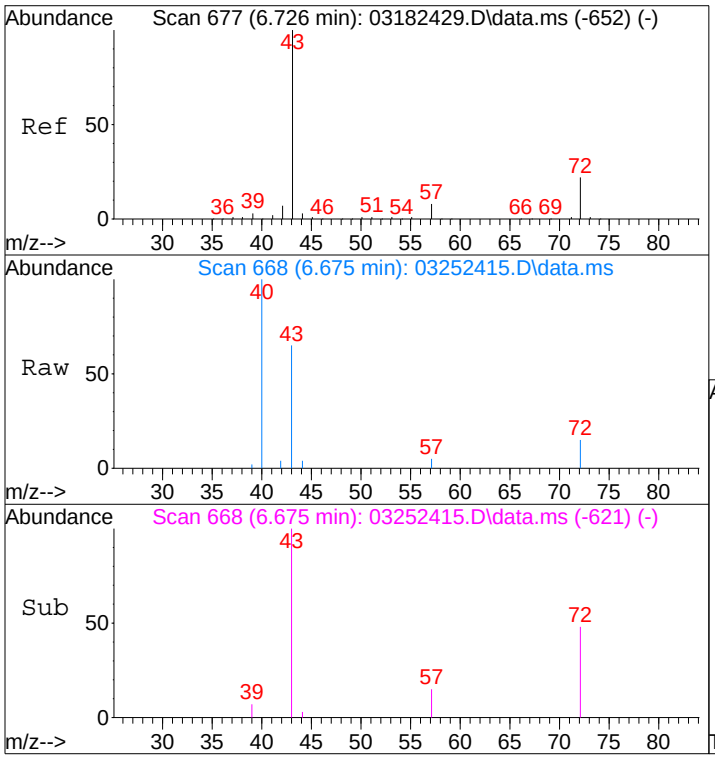


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.014 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 84 Resp: 1019

Ion	Ratio	Lower	Upper
84	100		
49	129.6	122.9	172.9

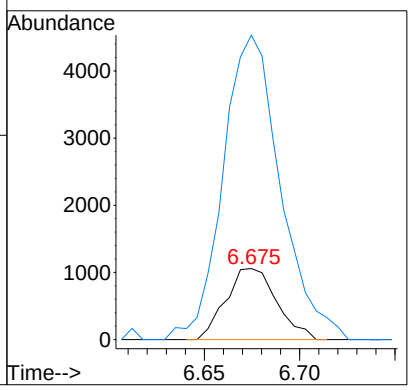


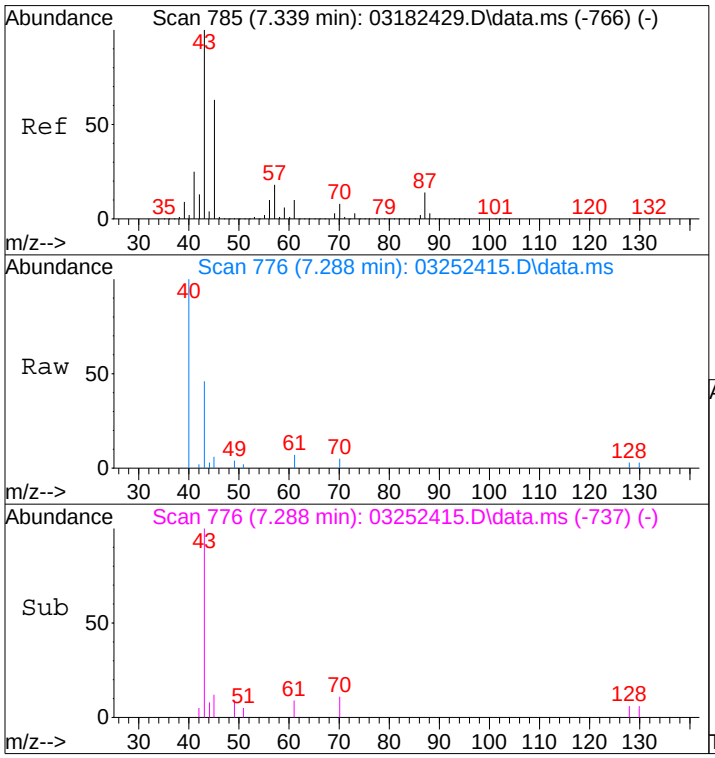


#27
2-Butanone (MEK)
Concen: 0.26 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.017 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 72 Resp: 1962

Ion	Ratio	Lower	Upper
72	100		
43	483.6	468.6	508.6

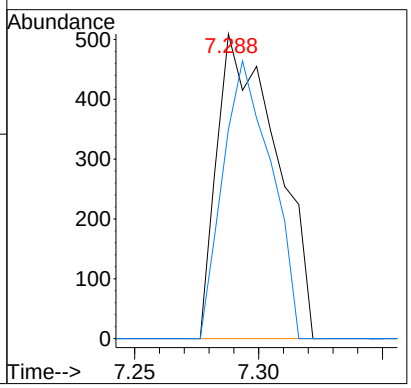


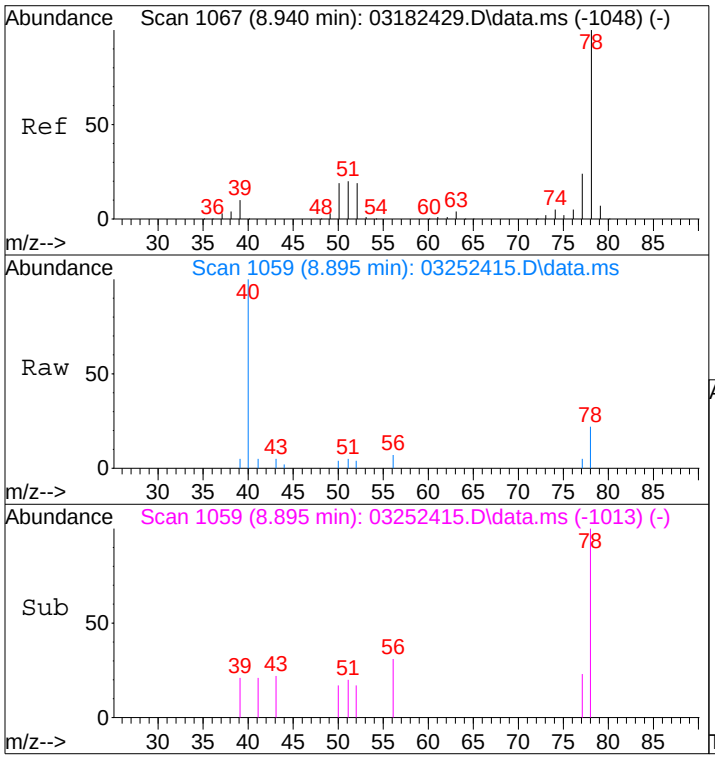


#30
Ethyl Acetate
Concen: 0.19 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 61 Resp: 844

Ion	Ratio	Lower	Upper
61	100		
70	74.4	57.3	97.3

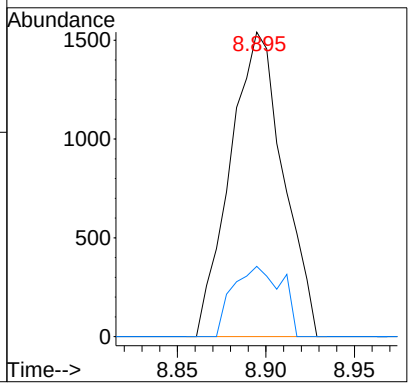


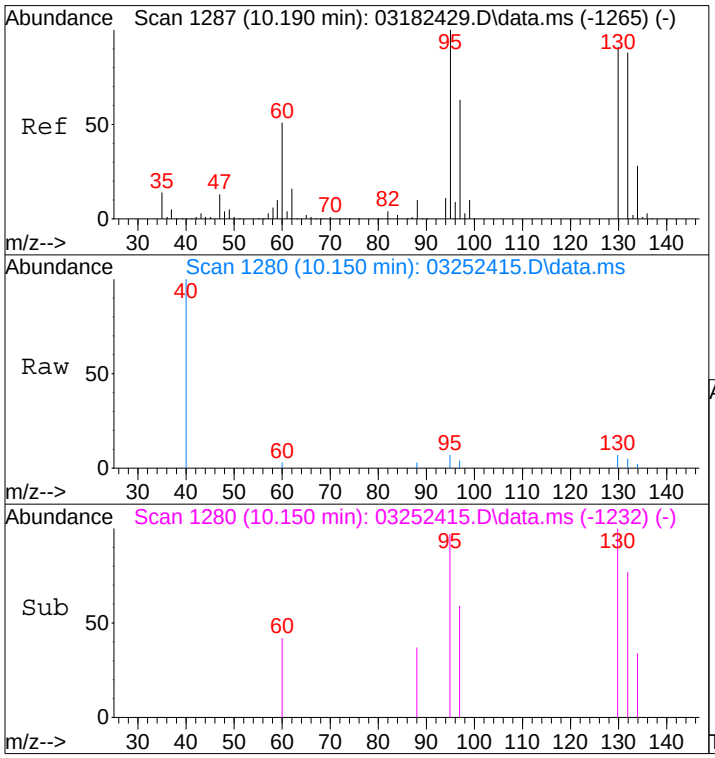


#41
Benzene
Concen: 0.07 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 78 Resp: 3209

Ion	Ratio	Lower	Upper
78	100		
77	21.4	3.6	43.6

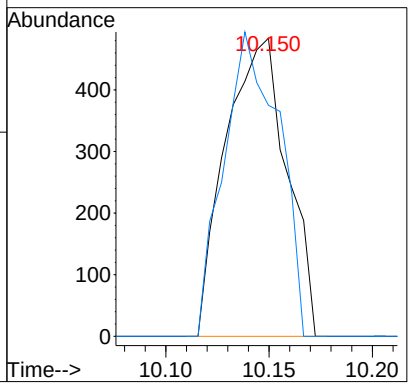


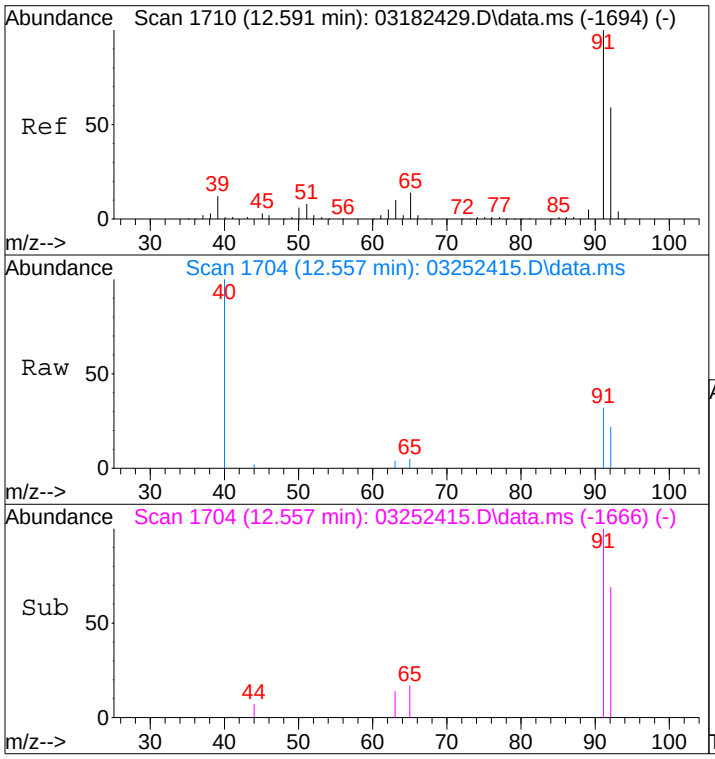


#47
Trichloroethene
Concen: 0.08 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion:130 Resp: 998

Ion	Ratio	Lower	Upper
130	100		
132	92.0	77.5	117.5

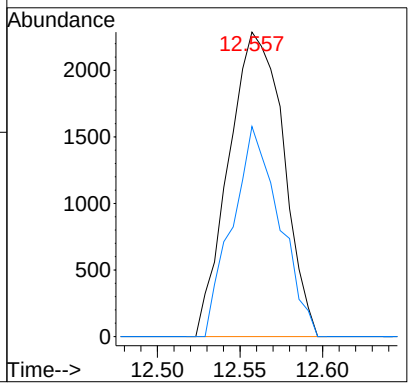


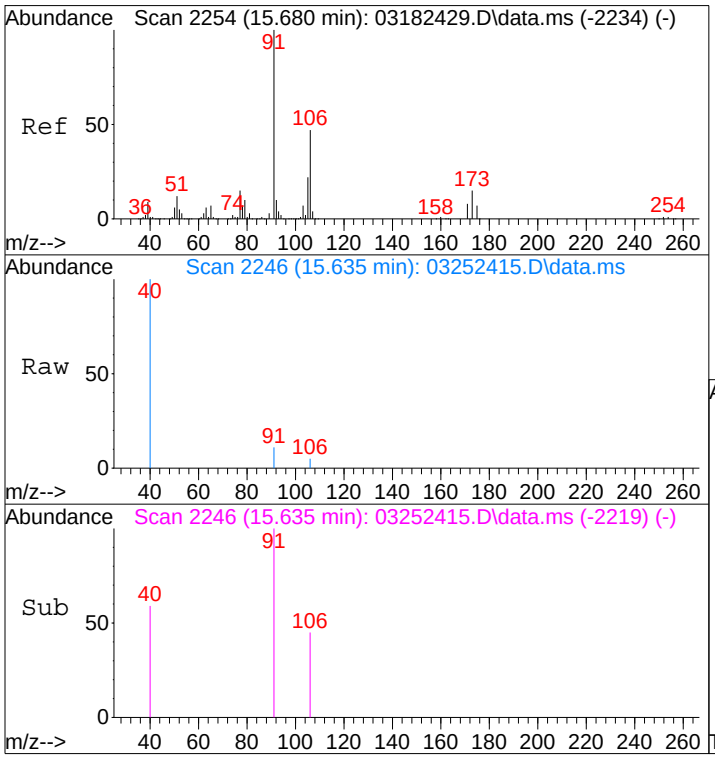


#58
Toluene
Concen: 0.13 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 91 Resp: 5262

Ion	Ratio	Lower	Upper
91	100		
92	59.6	39.2	79.2

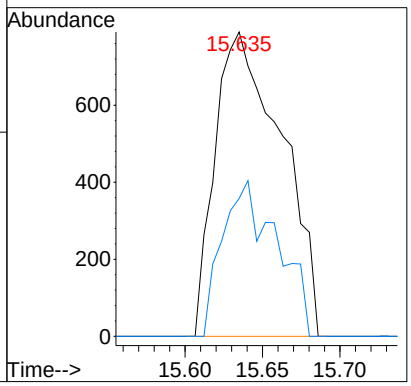




#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03252415.D
Acq: 25 Mar 2024 19:17

Tgt Ion: 91 Resp: 2359

Ion	Ratio	Lower	Upper
91	100		
106	42.2	25.6	65.6



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:31:18 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

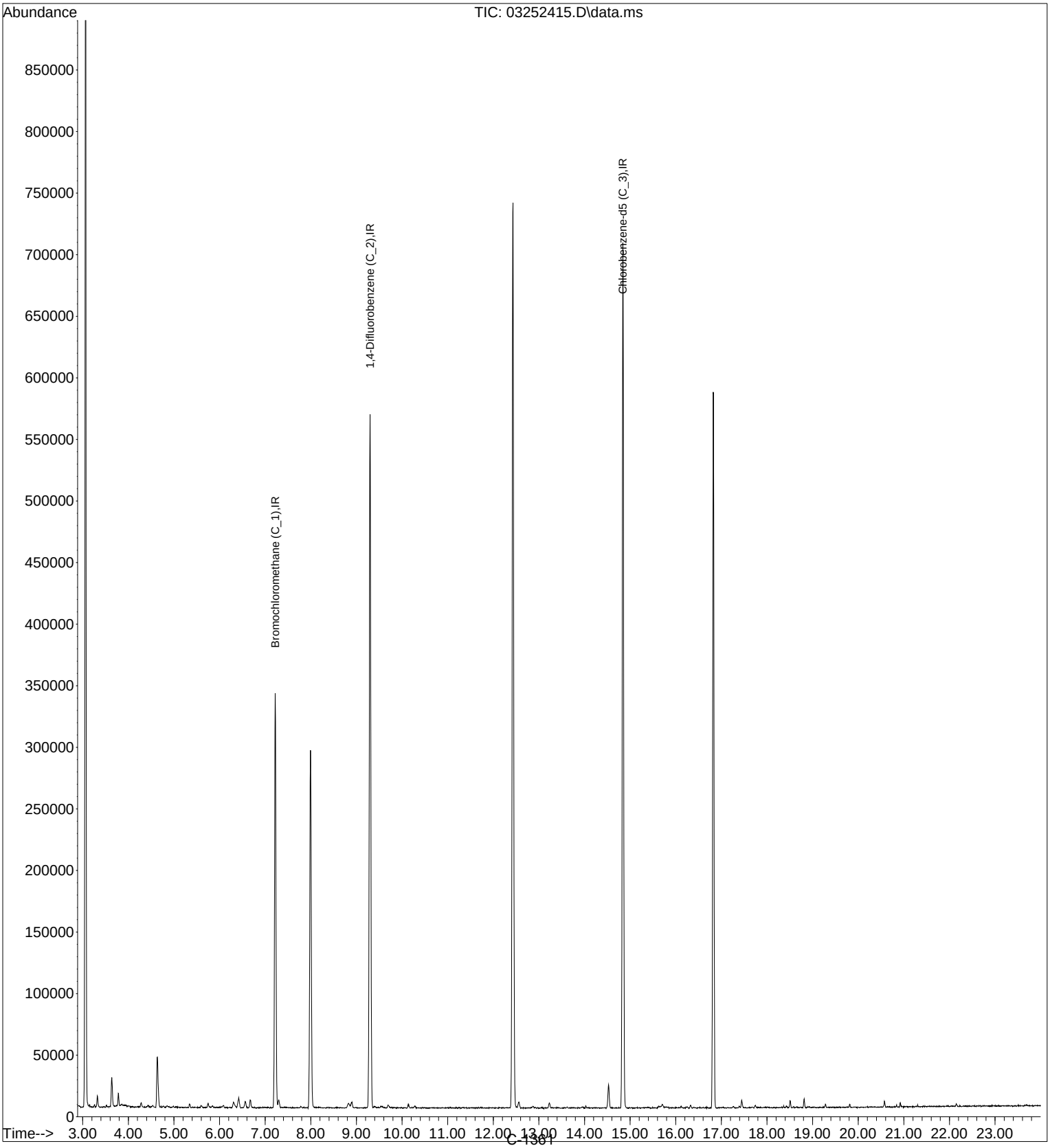
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	125457	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	541483	12.500 ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	109126	12.500 ng	-0.02
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	
4) 1,1-Difluoroethane	3.26	65	504	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	0.00	67	0	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	
10) 2-Methylbutane	4.66	57	1242	N.D.	
11) Methyl Acetate	5.34	43	468	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	9.79	174	113	N.D.	
20) Methyl Cyclohexane	11.31	55	183	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.61	91	480	N.D.	
27) 4-Chlorotoluene	17.68	91	850	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252415.D Vial: 7
Acq On : 25 Mar 2024 19:17 Operator: SC
Sample : P2400922-041 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:31:18 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252415.D
Acq On : 25 Mar 2024 19:17
Operator : SC
Sample : P2400922-041 (400mL)PF2
Misc : S37-03252401
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252415.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	71	77	84	rBV4	9231	14610	2.06%	1.557%
2	3.637	128	133	142	rBV	23440	41754	5.89%	4.449%
3	3.779	154	158	164	rVB2	10041	13529	1.91%	1.442%
4	4.636	303	309	319	rBV	40916	88538	12.49%	9.435%
5	6.306	596	603	615	rBV3	4779	14433	2.04%	1.538%
6	6.419	615	623	631	rVB2	8412	19670	2.78%	2.096%
7	6.561	641	648	656	rBV4	5286	11919	1.68%	1.270%
8	6.669	662	667	675	rBV	6282	12126	1.71%	1.292%
9	7.220	755	764	773	rBV	336531	708828	100.00%	75.535%
10	7.299	773	778	784	rVB3	6236	12997	1.83%	1.385%

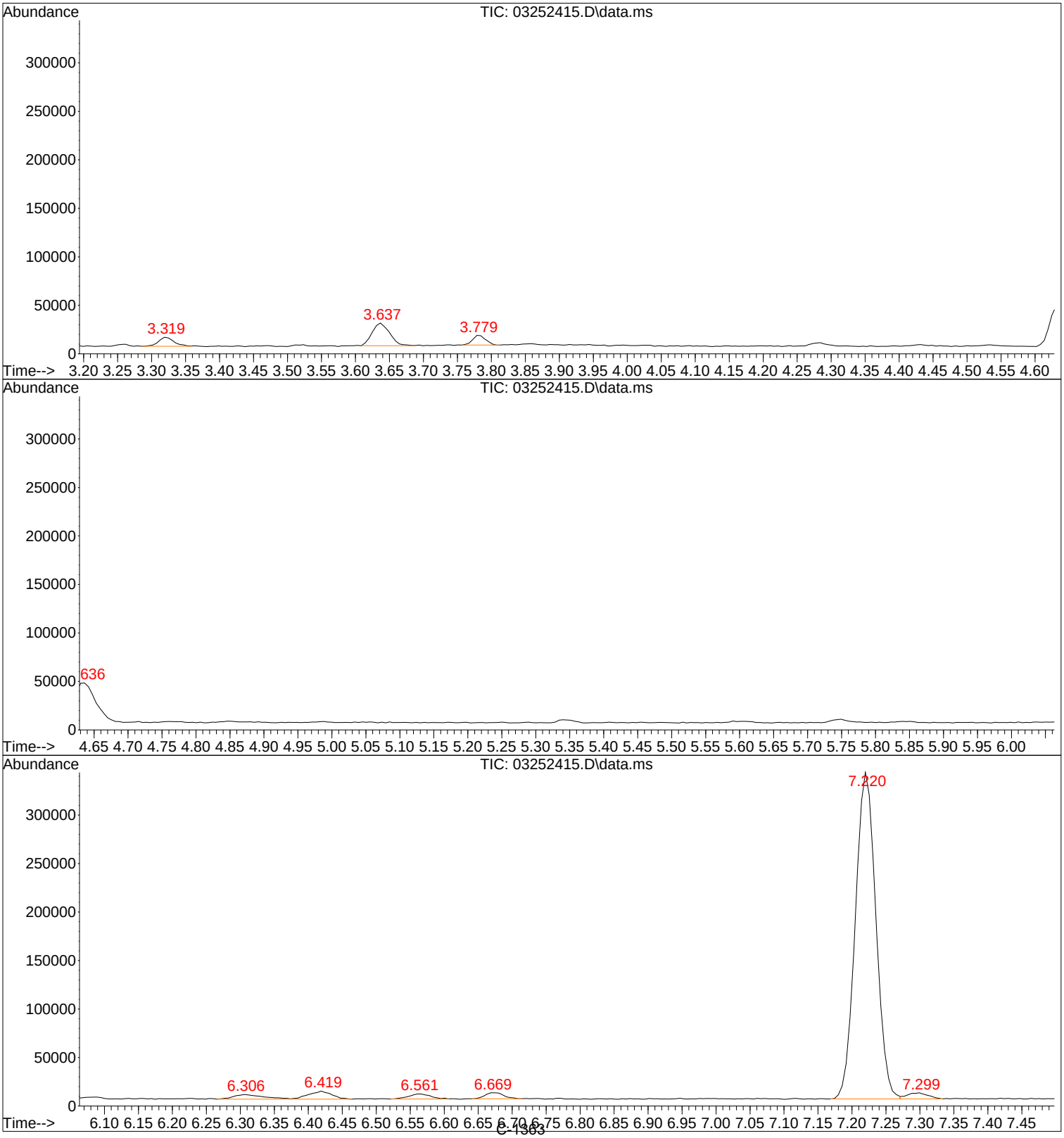
Sum of corrected areas: 938404

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252415.D
Acq On : 25 Mar 2024 19:17
Operator : SC
Sample : P2400922-041 (400mL)PF2
Misc : S37-03252401
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252415.D
Acq On : 25 Mar 2024 19:177
Operator : SCC
Sample : P2400922-041 (400mL)PF22
Misc : S37-032524011
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:53:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122464	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	528125	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107912	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	250266	12.492	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	12.43	98	608673	14.048	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%				
73) Bromofluorobenzene (SS3)	16.83	174	198917	13.022	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	11558m	0.460	ng		
4) Chloromethane	3.51	50	447	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.01	94	105	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	22755	1.923	ng		78
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	1491	0.176	ng		87
13) Acetone	4.62	58	16813	1.867	ng		88
14) Trichlorofluoromethane	4.75	101	1968351	80.963	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	1506	N.D.			
16) Acrylonitrile	4.98	53	570	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	644	N.D.			
19) Methylene Chloride	5.34	84	1002	0.076	ng		100
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	995455	97.136	ng		100
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	3866	0.525	ng		94
28) cis-1,2-Dichloroethene	7.07	61	205	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	190	N.D.			
31) n-Hexane	7.31	57	240	N.D.			
32) Chloroform	7.35	83	5828	0.275	ng		99
34) Tetrahydrofuran (THF)	7.78	72	528	0.079	ng	#	90
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.80	56	2541	No Calib		#	
41) Benzene	8.89	78	2561	0.054	ng		99
42) Carbon Tetrachloride	9.07	117	391	N.D.			
43) Cyclohexane	9.29	84	567	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	425	N.D.			
47) Trichloroethene	10.14	130	3057	0.239	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:53:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

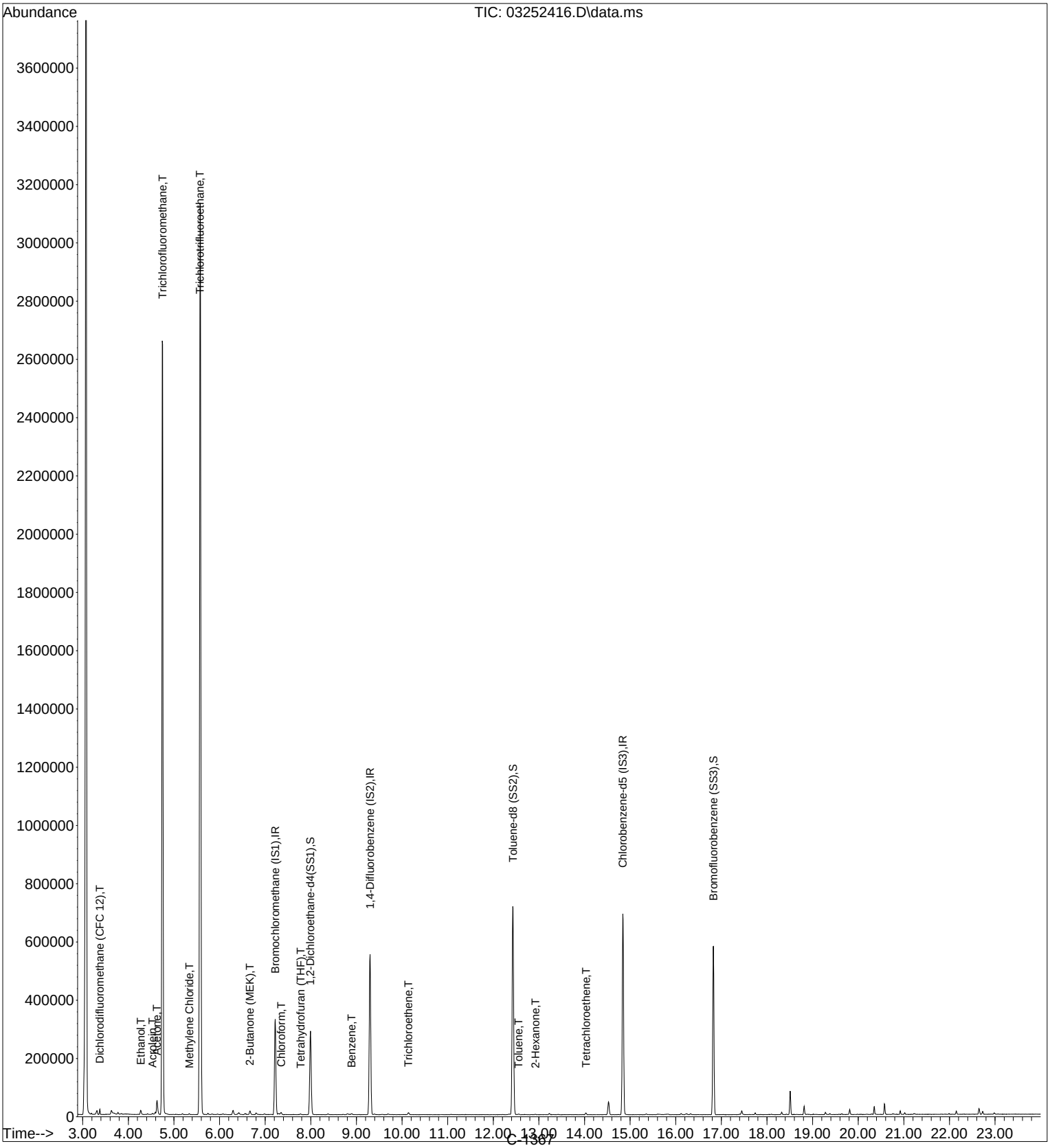
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2853	0.069 ng	95
59) 2-Hexanone	12.93	43	1691	0.070 ng	86
60) Dibromochloromethane	13.07	129	292	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	2227	0.175 ng	99
65) Chlorobenzene	14.90	112	439	N.D.	
66) Ethylbenzene	15.41	91	864	N.D.	
67) m- & p-Xylenes	15.64	91	1840	N.D.	
68) Bromoform	15.67	173	377	N.D.	
69) Styrene	16.10	104	140	N.D.	
70) o-Xylene	16.25	91	795	N.D.	
71) n-Nonane	16.62	43	226	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	232	N.D.	
74) Cumene	17.03	105	661	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	763	N.D.	
77) 3-Ethyltoluene	17.03	105	661	No Calib	#
78) 4-Ethyltoluene	17.86	105	518	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	306	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	661	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	419	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	388	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	323	N.D.	
87) sec-Butylbenzene	18.74	105	605	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	550	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	661	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	357	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	518	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	368	N.D.	
98) Cyclohexanone	15.36	55	836	No Calib	#
99) tert-Butylbenzene	18.43	119	614	N.D.	
100) n-Butylbenzene	19.38	91	579	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:53:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:53:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

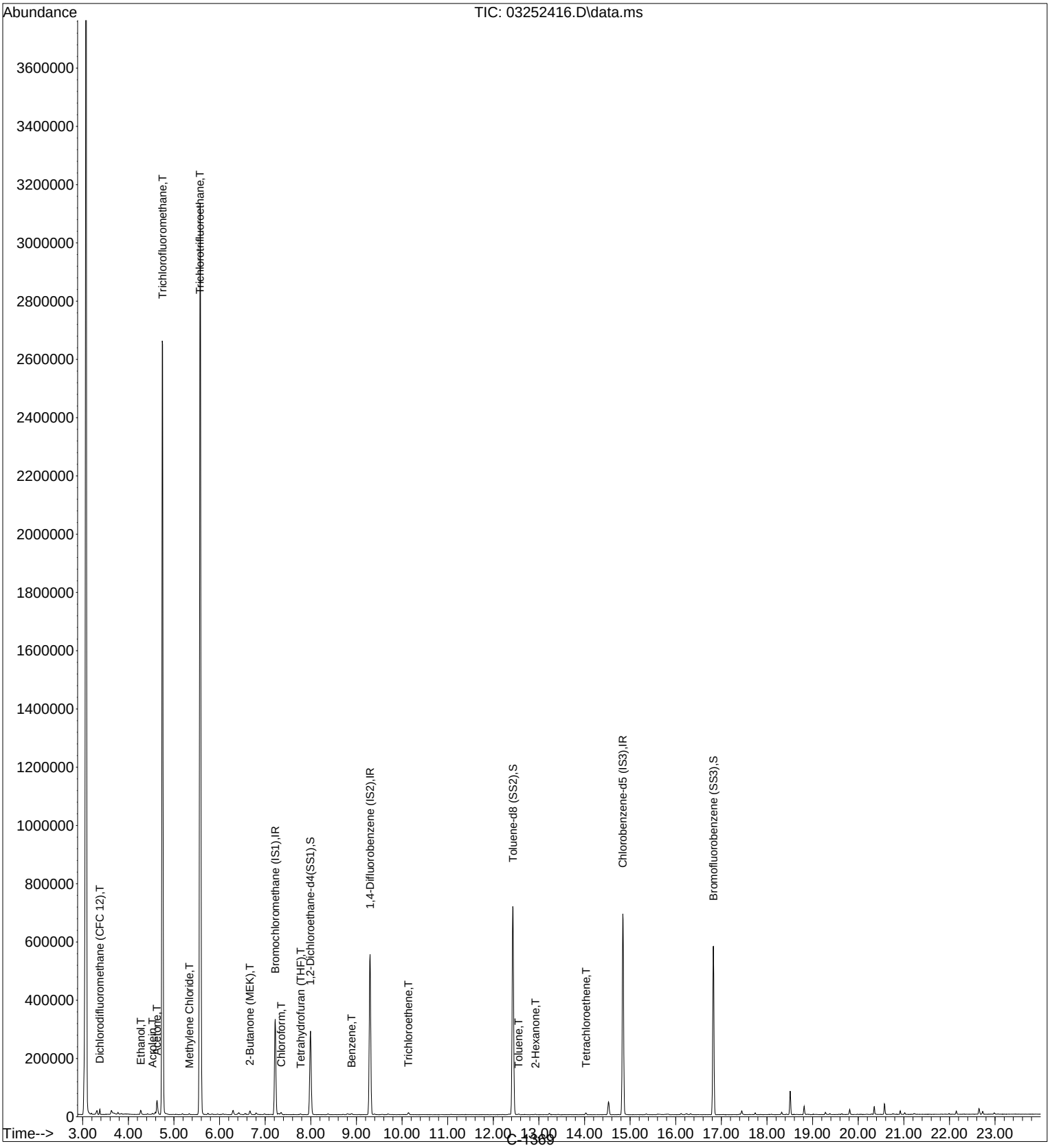
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122464	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	528125	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107912	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	250266	12.492	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	12.43	98	608673	14.048	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.40%				
73) Bromofluorobenzene (SS3)	16.83	174	198917	13.022	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	11558m	0.460	ng		
10) Ethanol	4.27	45	22755	1.923	ng		78
12) Acrolein	4.53	56	1491	0.176	ng		87
13) Acetone	4.62	58	16813	1.867	ng		88
14) Trichlorofluoromethane	4.75	101	1968351	80.963	ng		100
19) Methylene Chloride	5.34	84	1002	0.076	ng		100
21) Trichlorotrifluoroethane	5.57	151	995455	97.136	ng		100
27) 2-Butanone (MEK)	6.66	72	3866	0.525	ng		94
32) Chloroform	7.35	83	5828	0.275	ng		99
34) Tetrahydrofuran (THF)	7.78	72	528	0.079	ng	#	90
41) Benzene	8.89	78	2561	0.054	ng		99
47) Trichloroethene	10.14	130	3057	0.239	ng		98
58) Toluene	12.56	91	2853	0.069	ng		95
59) 2-Hexanone	12.93	43	1691	0.070	ng		86
64) Tetrachloroethene	14.03	166	2227	0.175	ng		99

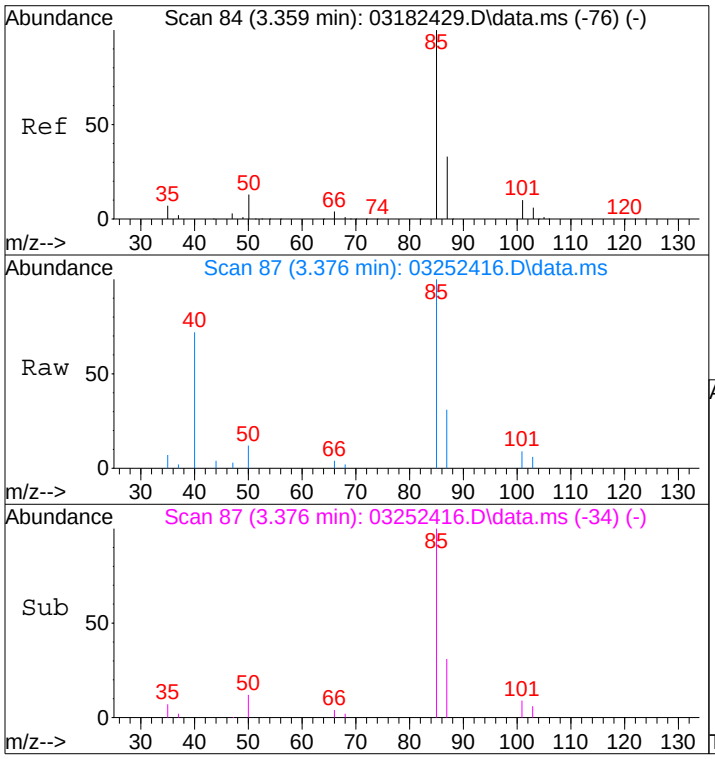
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:53:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

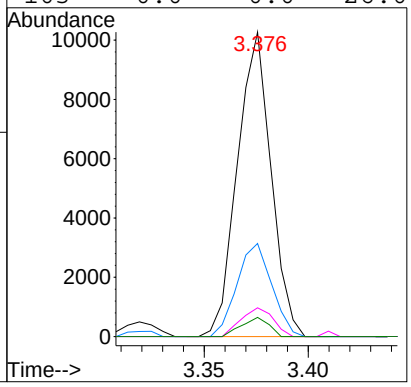


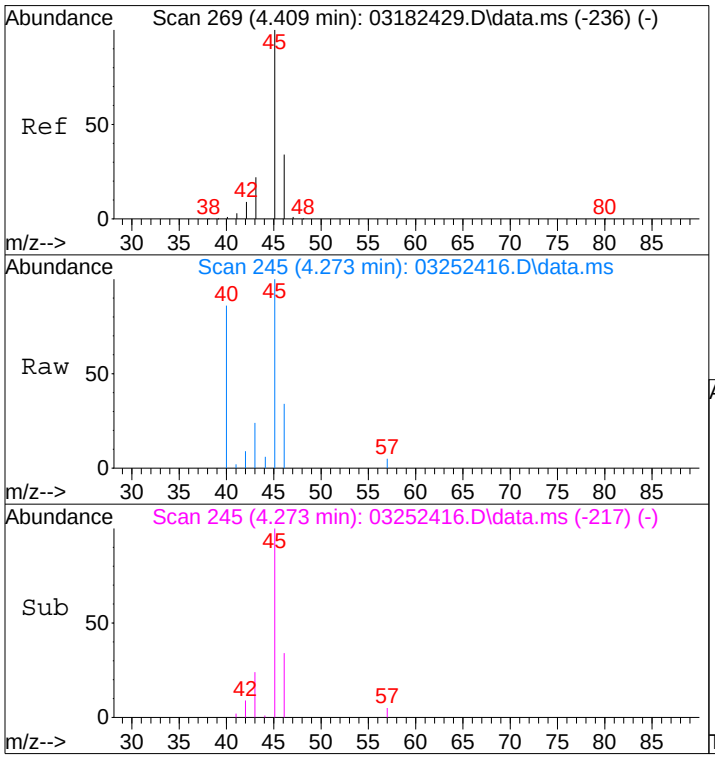


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.051 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 85 Resp: 11558

Ion	Ratio	Lower	Upper
85	100		
87	1.5	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

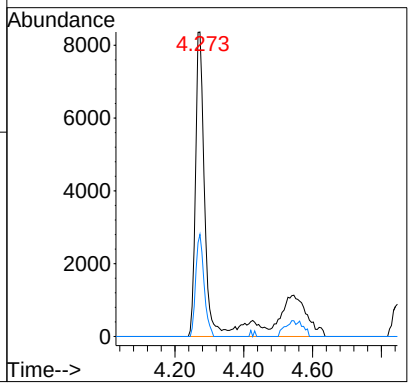


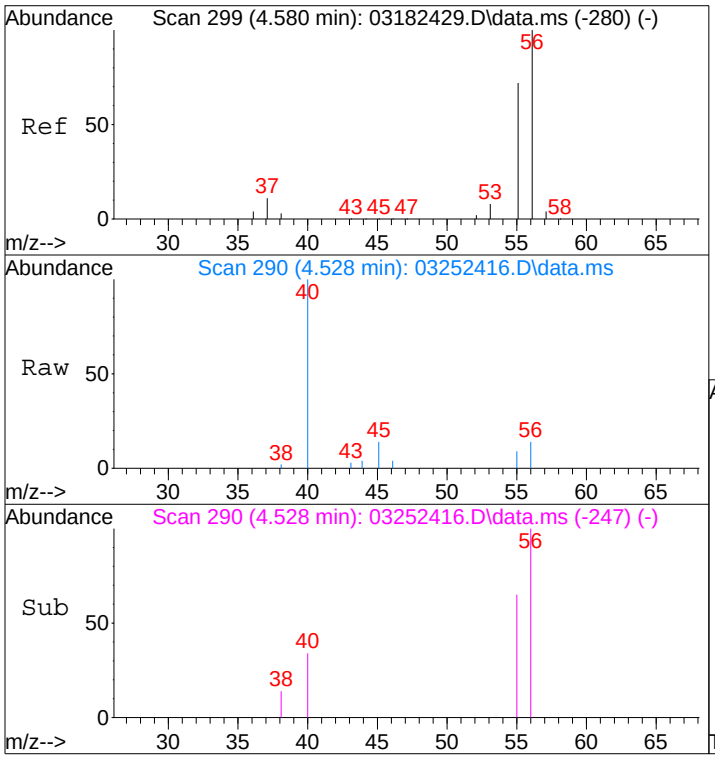


#10
Ethanol
Concen: 1.92 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.092 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 45 Resp: 22755

Ion	Ratio	Lower	Upper
45	100		
46	20.8	13.3	53.3

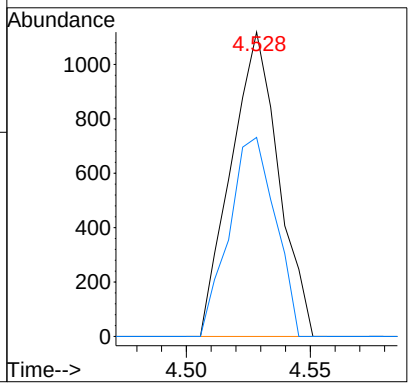


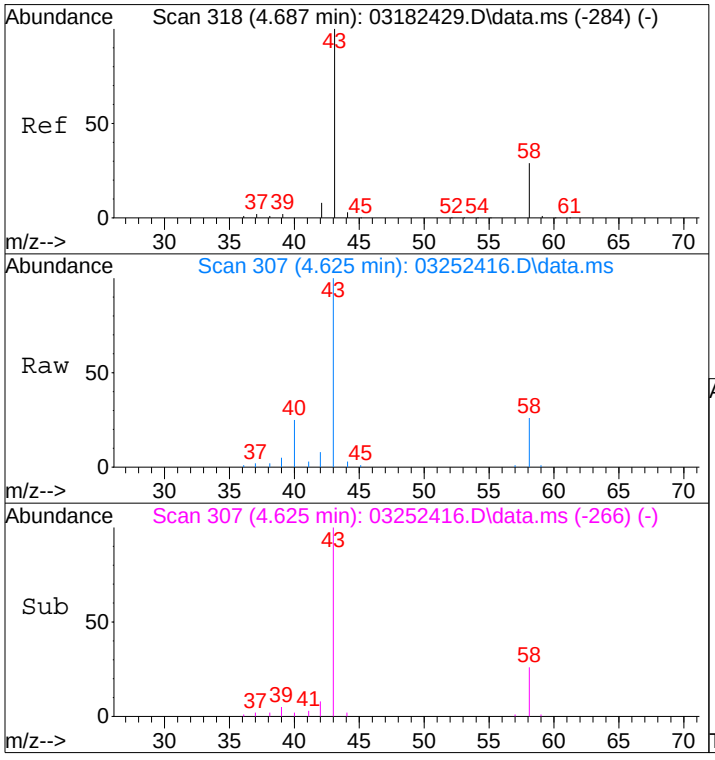


#12
Acrolein
Concen: 0.18 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.005 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 56 Resp: 1491

Ion	Ratio	Lower	Upper
56	100		
55	64.0	54.9	94.9

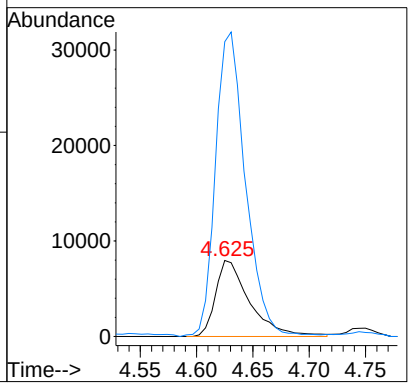


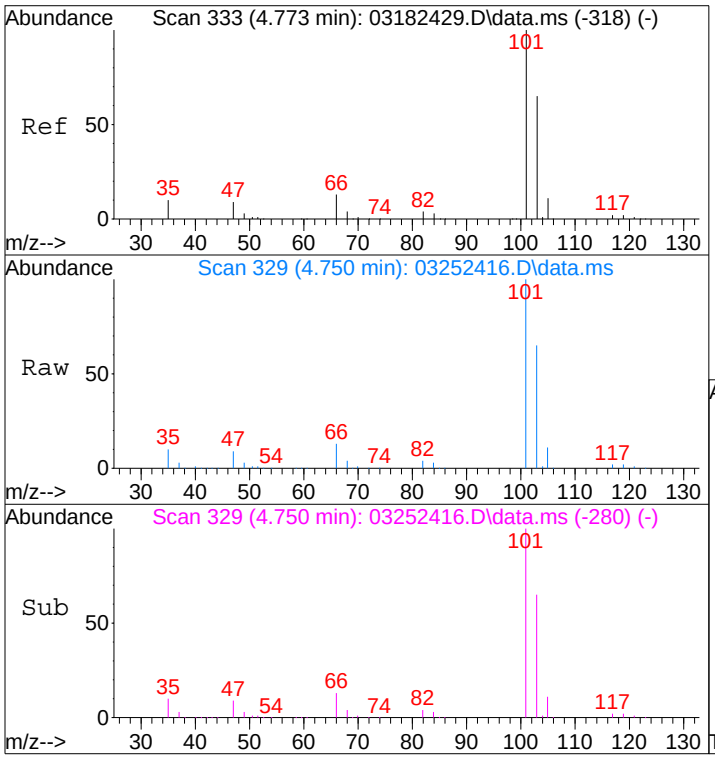


#13
Acetone
Concen: 1.87 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.015 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 58 Resp: 16813

Ion	Ratio	Lower	Upper
58	100		
43	352.5	350.1	410.1

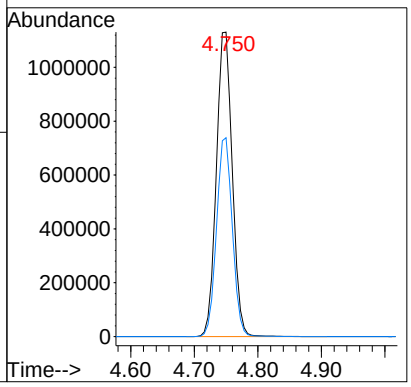


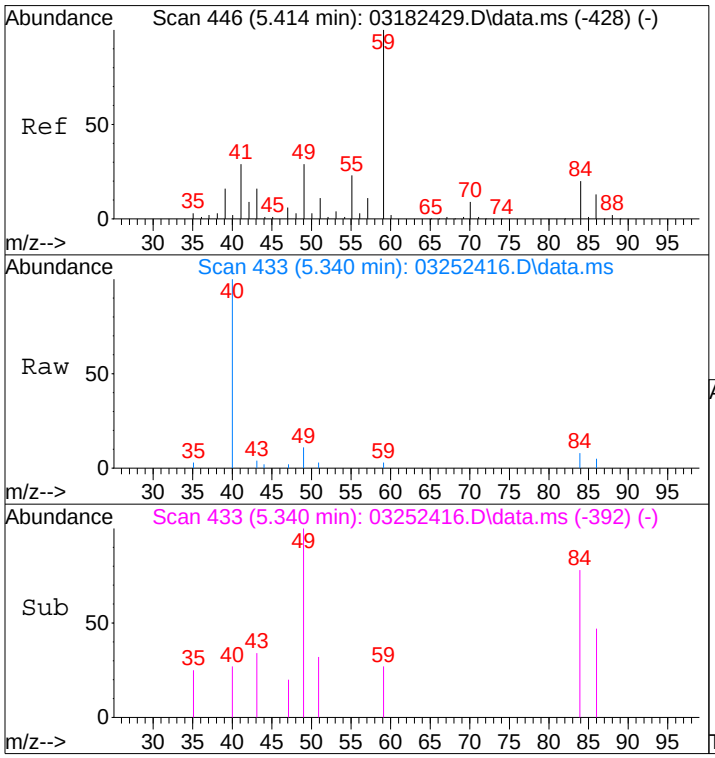


#14
Trichlorofluoromethane
Concen: 80.96 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion:101 Resp: 1968351

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.7	84.7

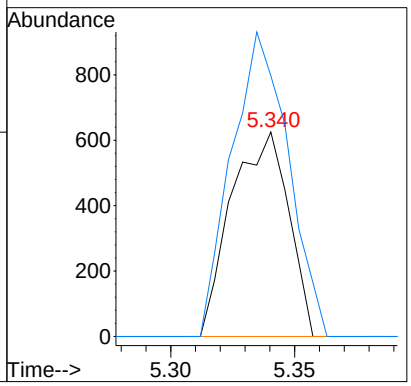


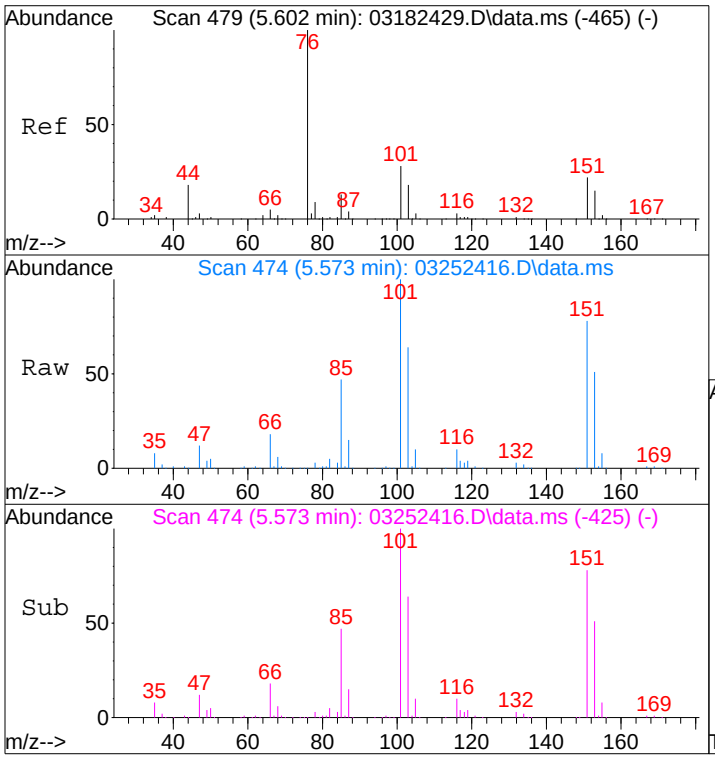


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.019 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 84 Resp: 1002

Ion	Ratio	Lower	Upper
84	100		
49	147.9	122.9	172.9

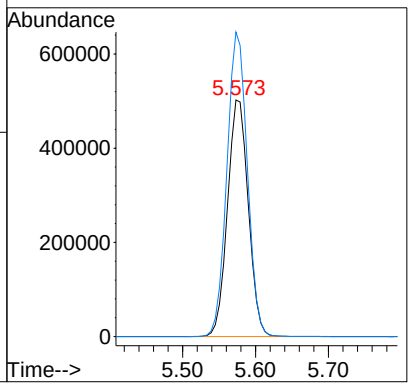


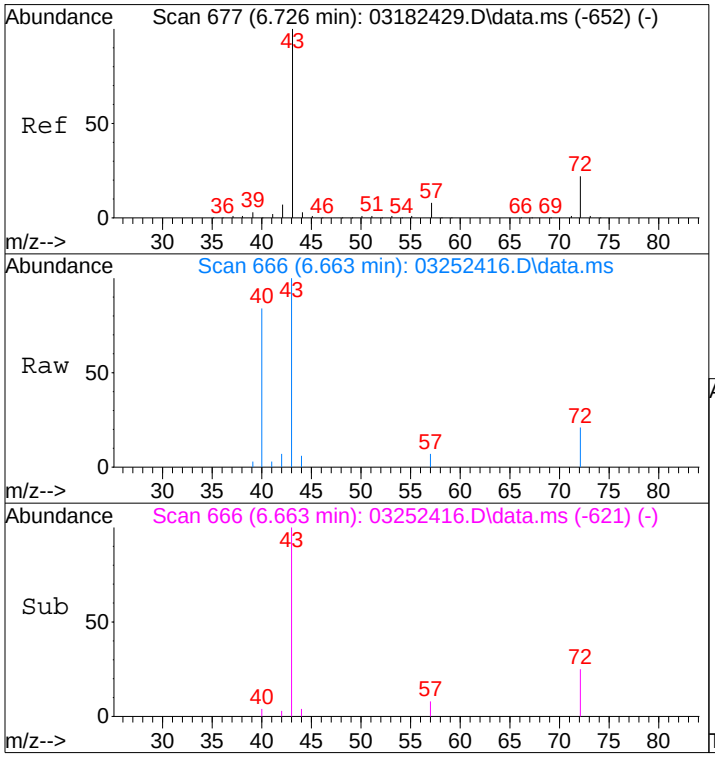


#21
Trichlorotrifluoroethane
Concen: 97.14 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.028 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion:151 Resp: 995455

Ion	Ratio	Lower	Upper
151	100		
101	126.4	106.4	146.4

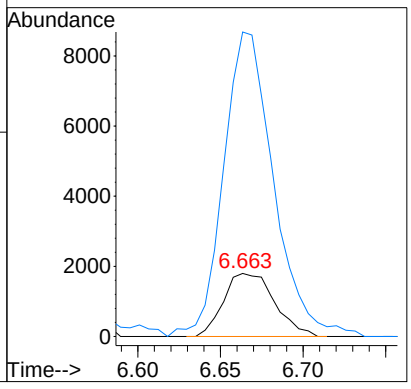


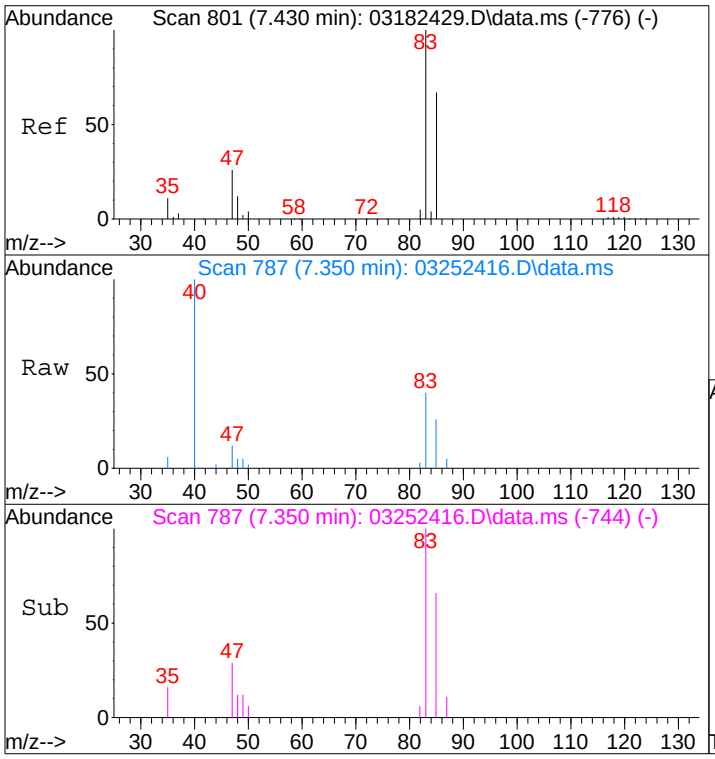


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 72 Resp: 3866

Ion	Ratio	Lower	Upper
72	100		
43	473.0	468.6	508.6

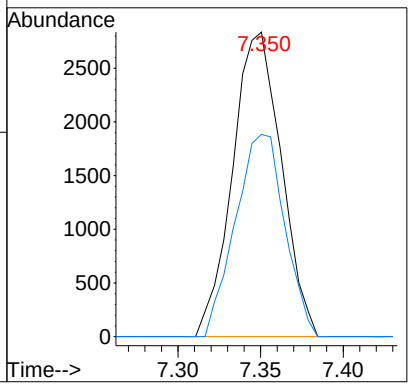


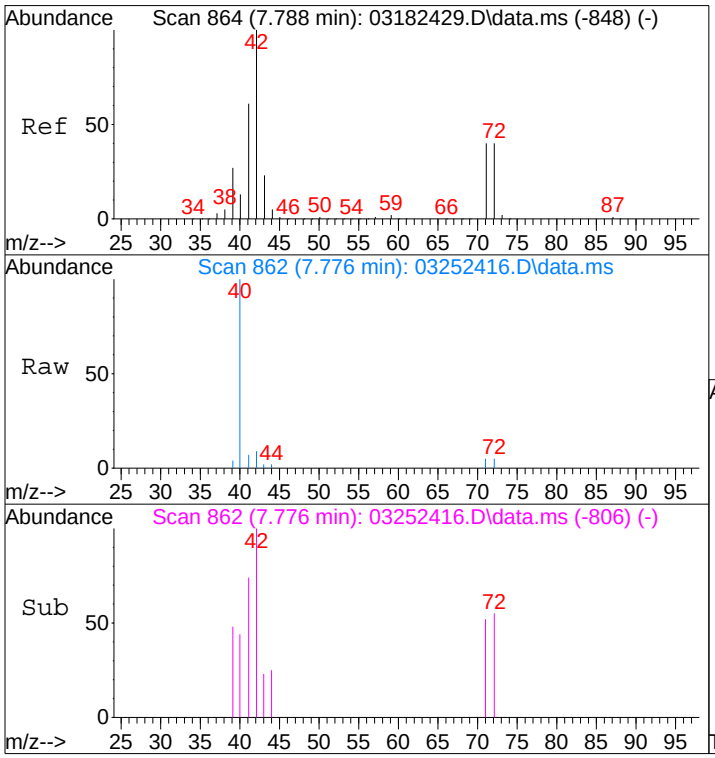


#32
Chloroform
Concen: 0.27 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.005 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 83 Resp: 5828

Ion	Ratio	Lower	Upper
83	100		
85	67.2	46.1	86.1

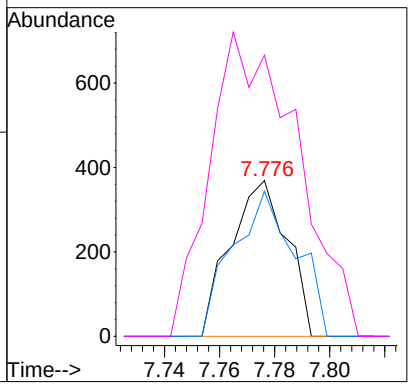


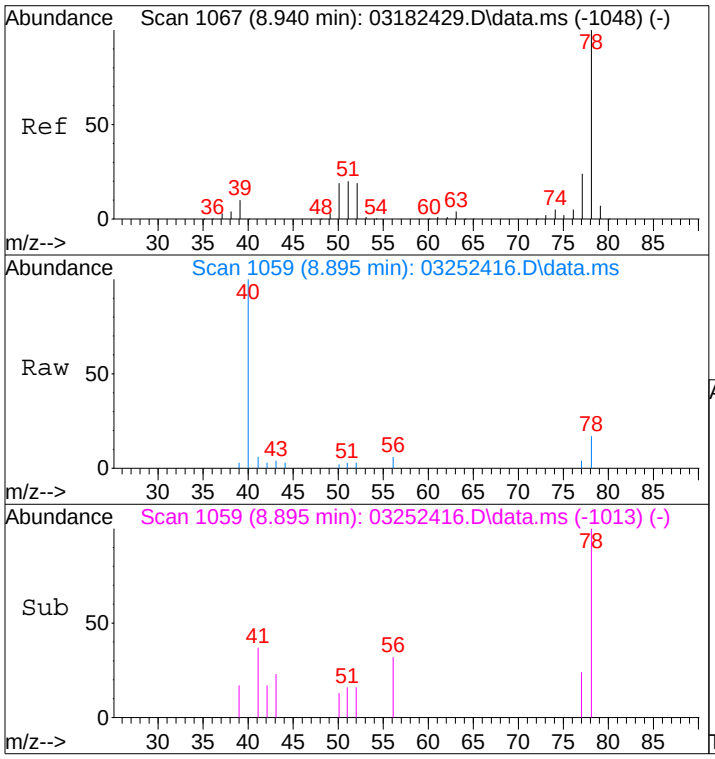


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.067 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 72 Resp: 528

Ion	Ratio	Lower	Upper
72	100		
71	103.0	80.7	120.7
42	299.8	255.0	295.0#

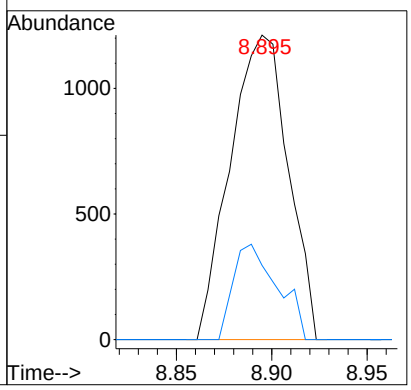


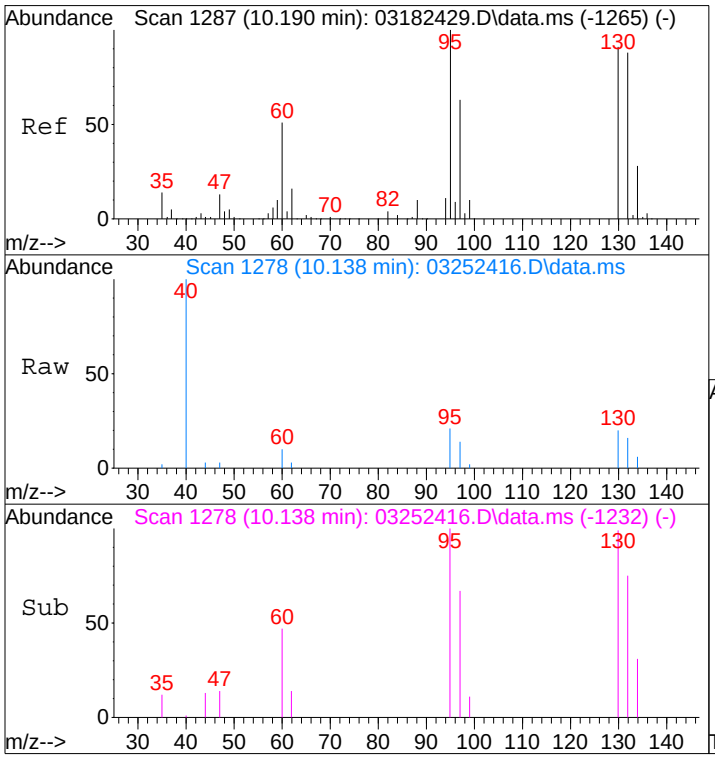


#41
Benzene
Concen: 0.05 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 78 Resp: 2561

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.6	43.6

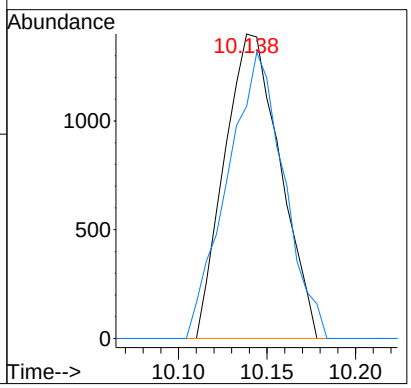


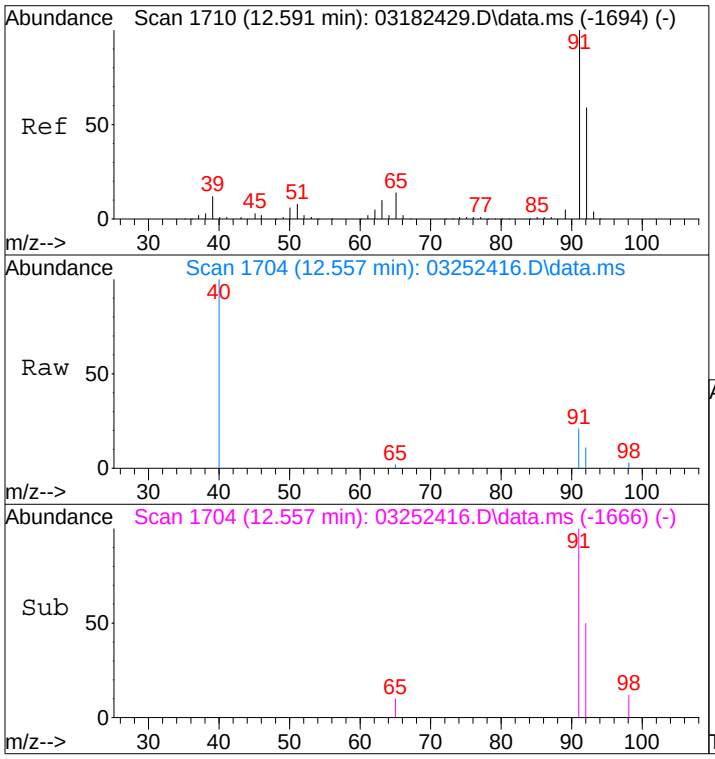


#47
Trichloroethene
Concen: 0.24 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion:130 Resp: 3057

Ion	Ratio	Lower	Upper
130	100		
132	95.8	77.5	117.5

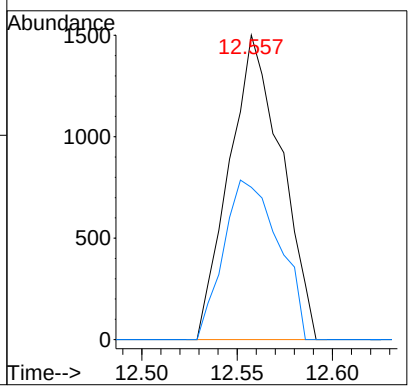


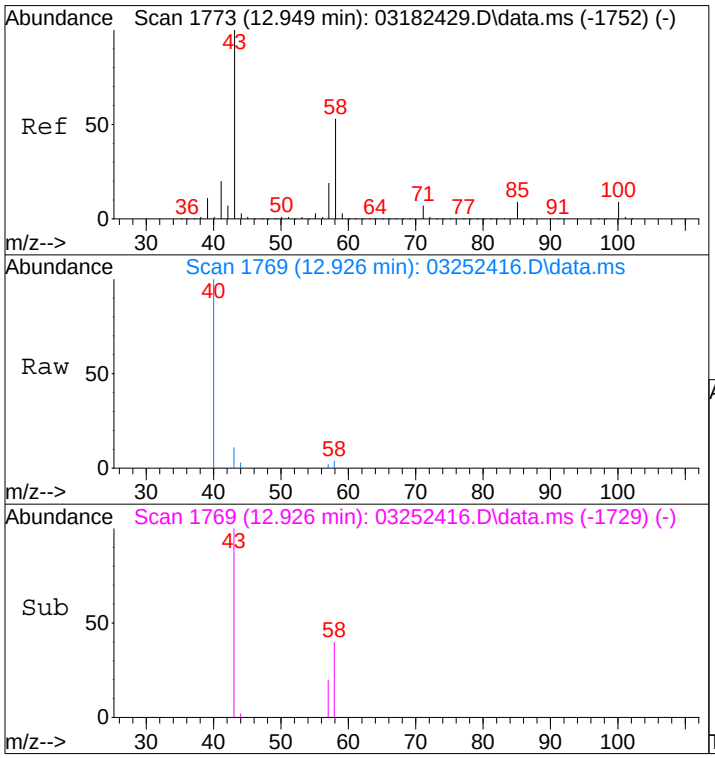


#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 91 Resp: 2853

Ion	Ratio	Lower	Upper
91	100		
92	55.5	39.2	79.2

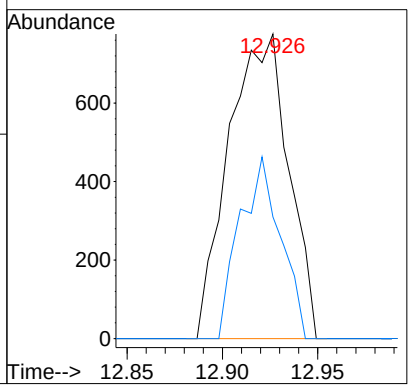


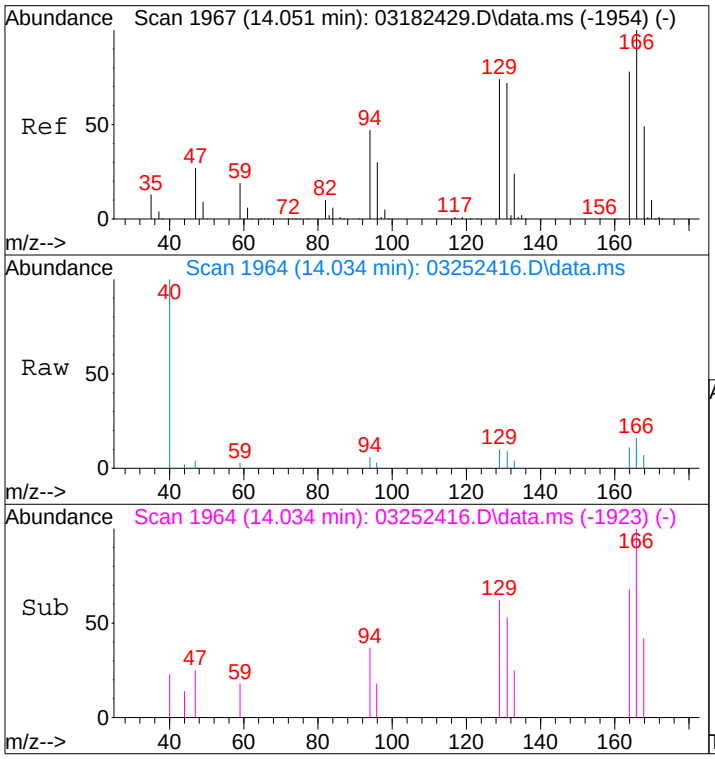


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion: 43 Resp: 1691

Ion	Ratio	Lower	Upper
43	100		
58	40.6	30.2	70.2

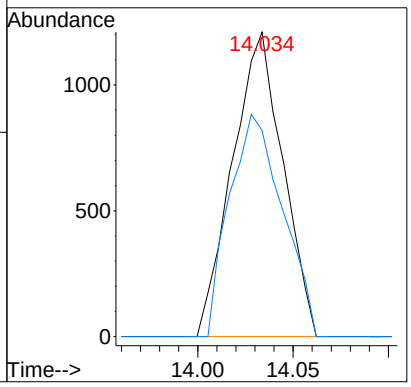




#64
Tetrachloroethene
Concen: 0.18 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03252416.D
Acq: 25 Mar 2024 19:49

Tgt Ion:166 Resp: 2227

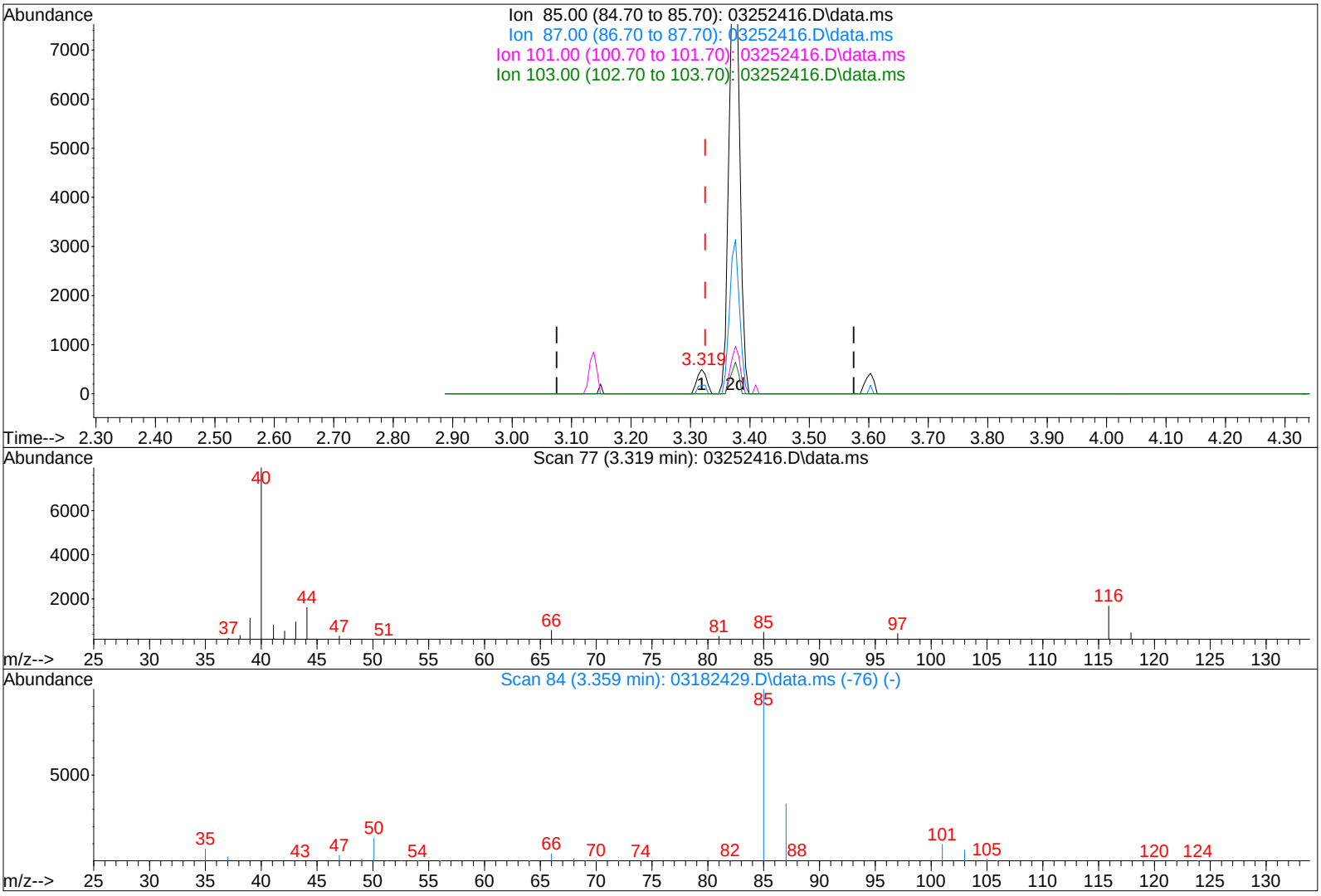
Ion	Ratio	Lower	Upper
166	100		
164	77.1	56.7	96.7



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252416.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.006) 0.02ng

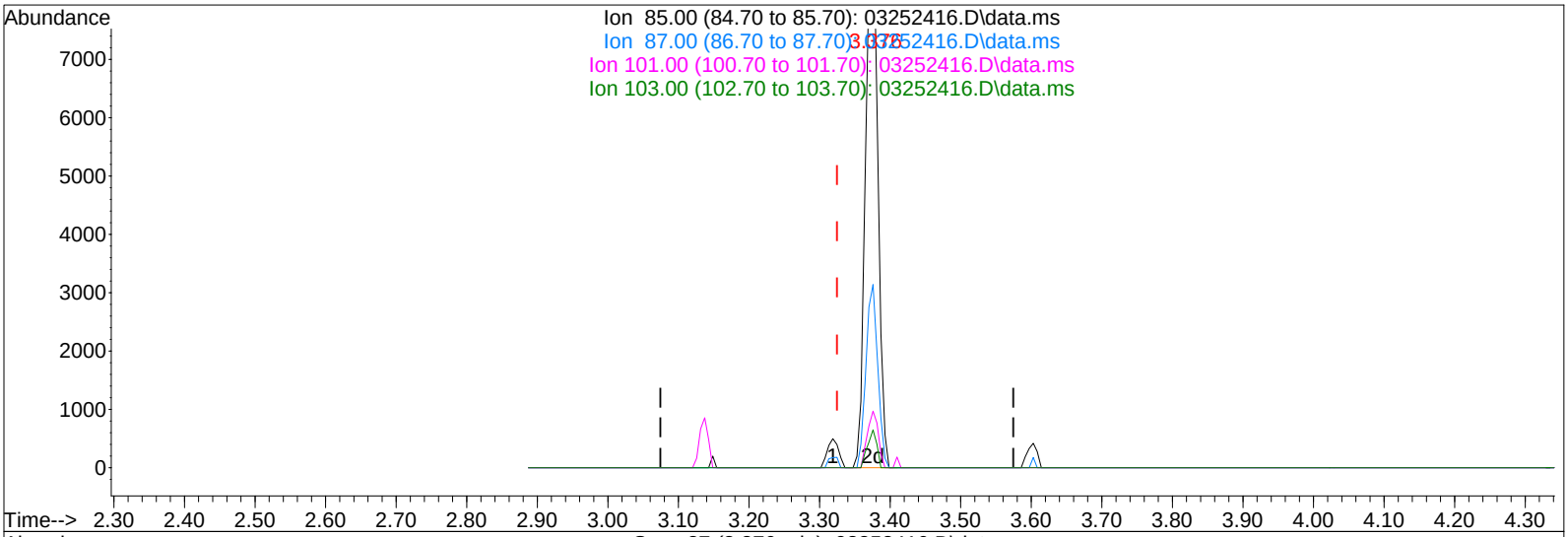
response 547

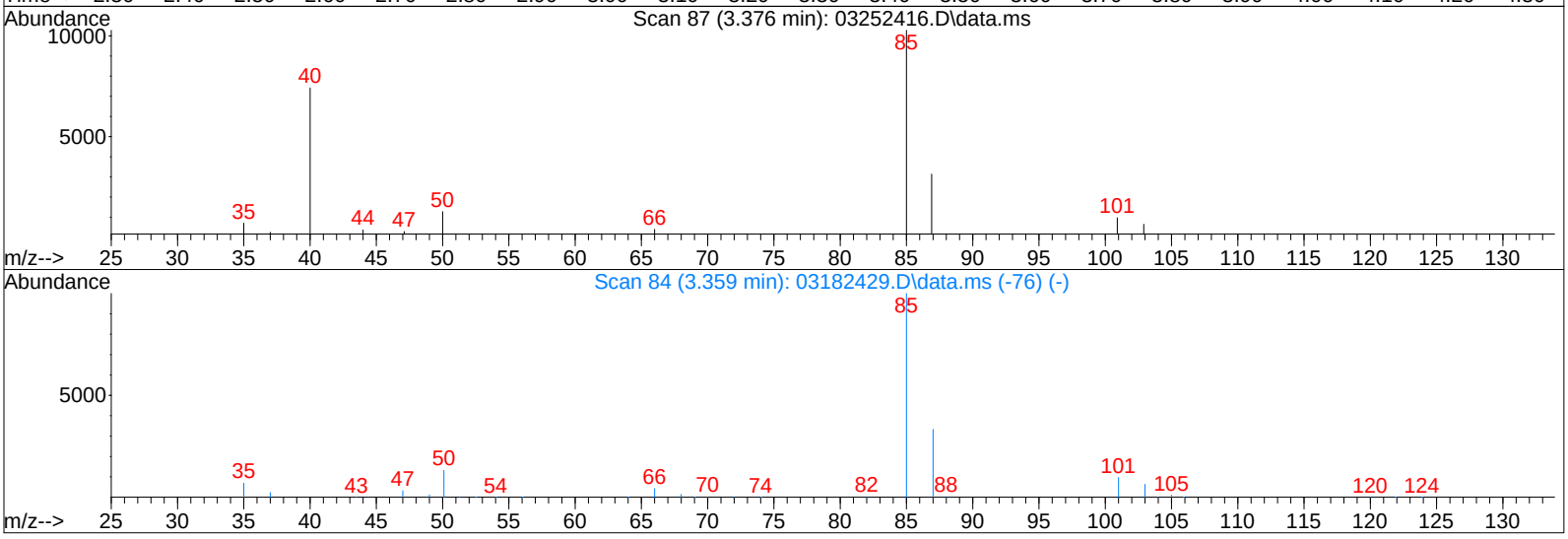
Ion	Exp%	Act%
85.00	100	100
87.00	32.50	31.26
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03252416.D\data.ms

MP

3/26/24

LH 3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.051) 0.46ng m

response 11558

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	1.48#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:31:58 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

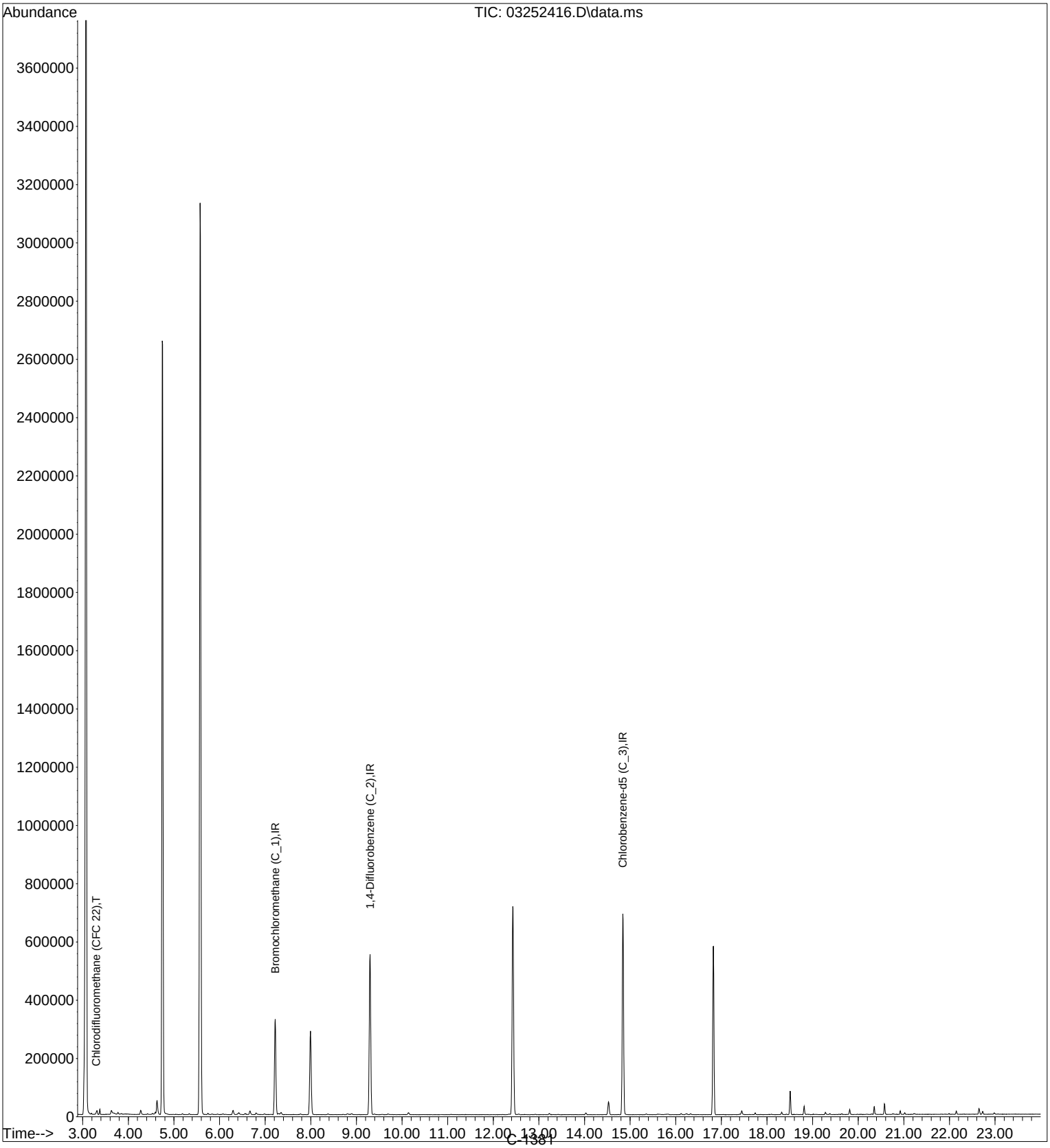
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	122464	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	528125	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	107912	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	67	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1005	N.D.			
4) 1,1-Difluoroethane	0.00	65	0	N.D.			
5) Chlorodifluoromethane ...	3.30	67	446	0.124	ng	#	79
6) 1-Chloro-1,1-Difluoroe...	3.49	65	333	N.D.			
7) Dichlorofluoromethane ...	4.22	67	1048	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	111	N.D.			
10) 2-Methylbutane	4.63	57	484	N.D.			
11) Methyl Acetate	5.33	43	559	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.62	91	447	N.D.			
27) 4-Chlorotoluene	17.68	91	763	N.D.			
28) Indane	19.02	117	62	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252416.D Vial: 8
Acq On : 25 Mar 2024 19:49 Operator: SC
Sample : P2400922-042 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:31:58 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252426.D Vial: 8
Acq On : 26 Mar 2024 9:15 Operator: SC
Sample : P2400922-042Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

3/26/24

Quant Time: Mar 26 09:39:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	119072	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	509469	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	101256	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	247097	12.685	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
57) Toluene-d8 (SS2)	12.43	98	578341	14.226	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
73) Bromofluorobenzene (SS3)	16.83	174	183151	12.778	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	3.39	85	943	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.30	45	2032	0.177	ng	77
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.65	58	2004	0.229	ng	88
14) Trichlorofluoromethane	4.76	101	167261	7.076	ng	99
15) 2-Propanol (Isopropanol)	4.90	45	51	N.D.		
16) Acrylonitrile	4.99	53	244	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	531	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	80943	8.123	ng	97
22) Carbon Disulfide	5.60	76	572	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.68	72	197	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.34	83	592	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.89	78	971	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	552	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	160	N.D.		
47) Trichloroethene	10.14	130	433	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252426.D Vial: 8
Acq On : 26 Mar 2024 9:15 Operator: SC
Sample : P2400922-042Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:39:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

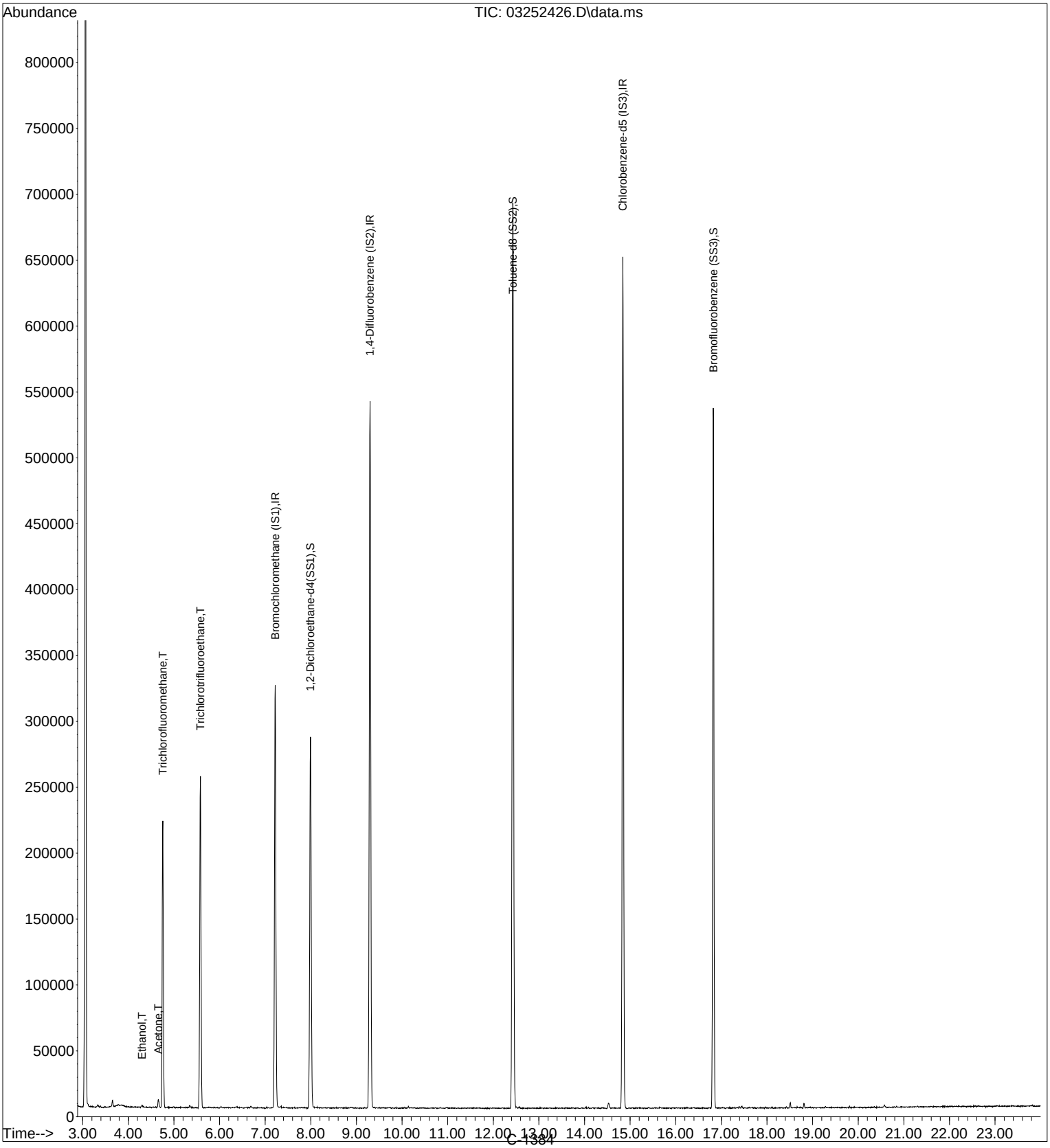
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	679	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	13.07	129	200	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.04	166	205	N.D.		
65) Chlorobenzene	14.89	112	297	N.D.		
66) Ethylbenzene	15.41	91	510	N.D.		
67) m- & p-Xylenes	15.66	91	1005	N.D.		
68) Bromoform	15.67	173	339	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	312	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	538	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	552	N.D.		
77) 3-Ethyltoluene	17.04	105	538	No Calib		#
78) 4-Ethyltoluene	17.86	105	347	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	203	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	538	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	172	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	246	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	273	N.D.		
87) sec-Butylbenzene	18.74	105	525	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	237	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	538	No Calib		#
90) 1,2-Dichlorobenzene	19.03	146	178	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	247	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	308	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	421	N.D.		
100) n-Butylbenzene	19.39	91	163	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252426.D Vial: 8
Acq On : 26 Mar 2024 9:15 Operator: SC
Sample : P2400922-042Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

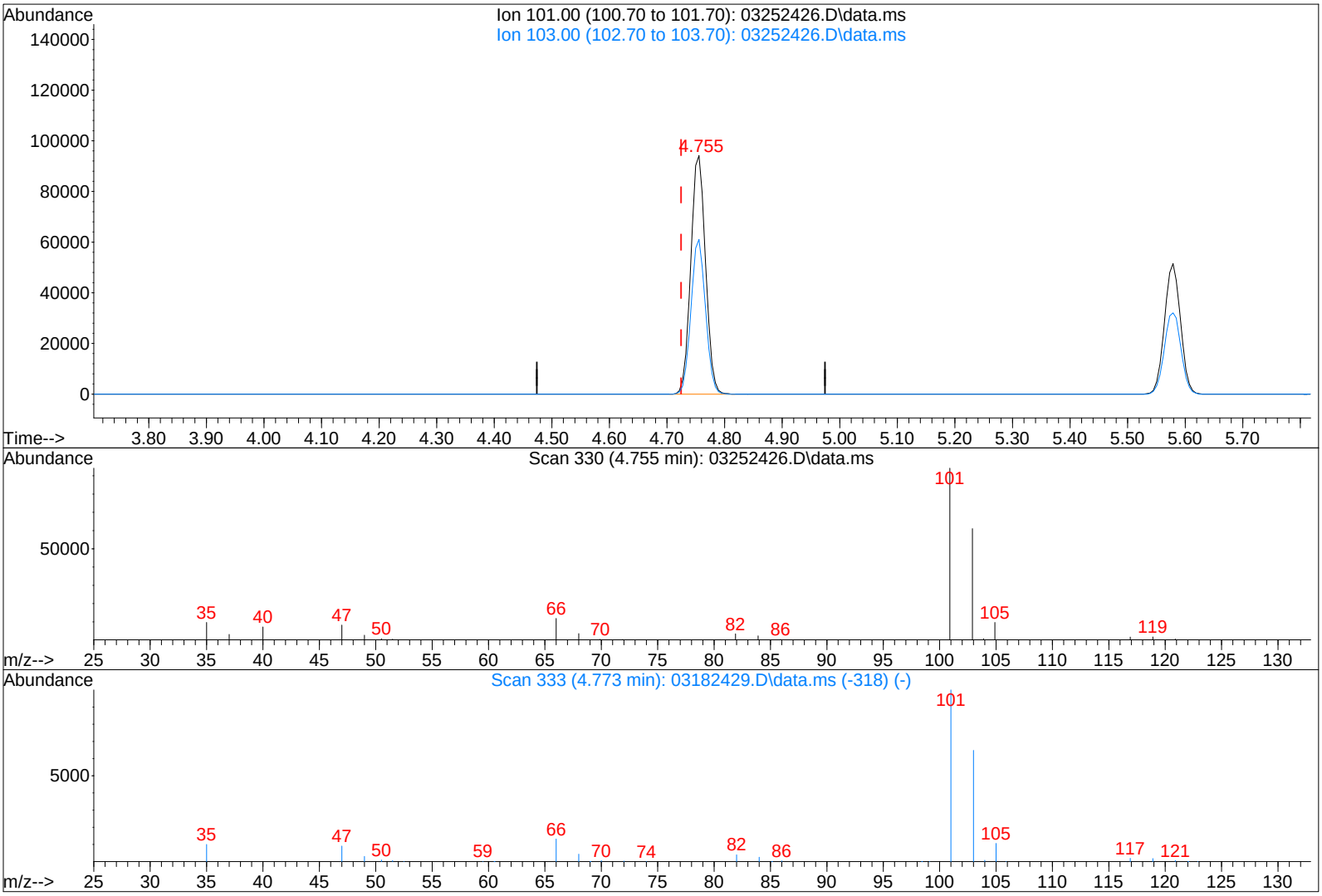
Quant Time: Mar 26 09:39:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252426.D Vial: 8
Acq On : 26 Mar 2024 9:15 Operator: SC
Sample : P2400922-042Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:39:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252426.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.031) 7.08ng

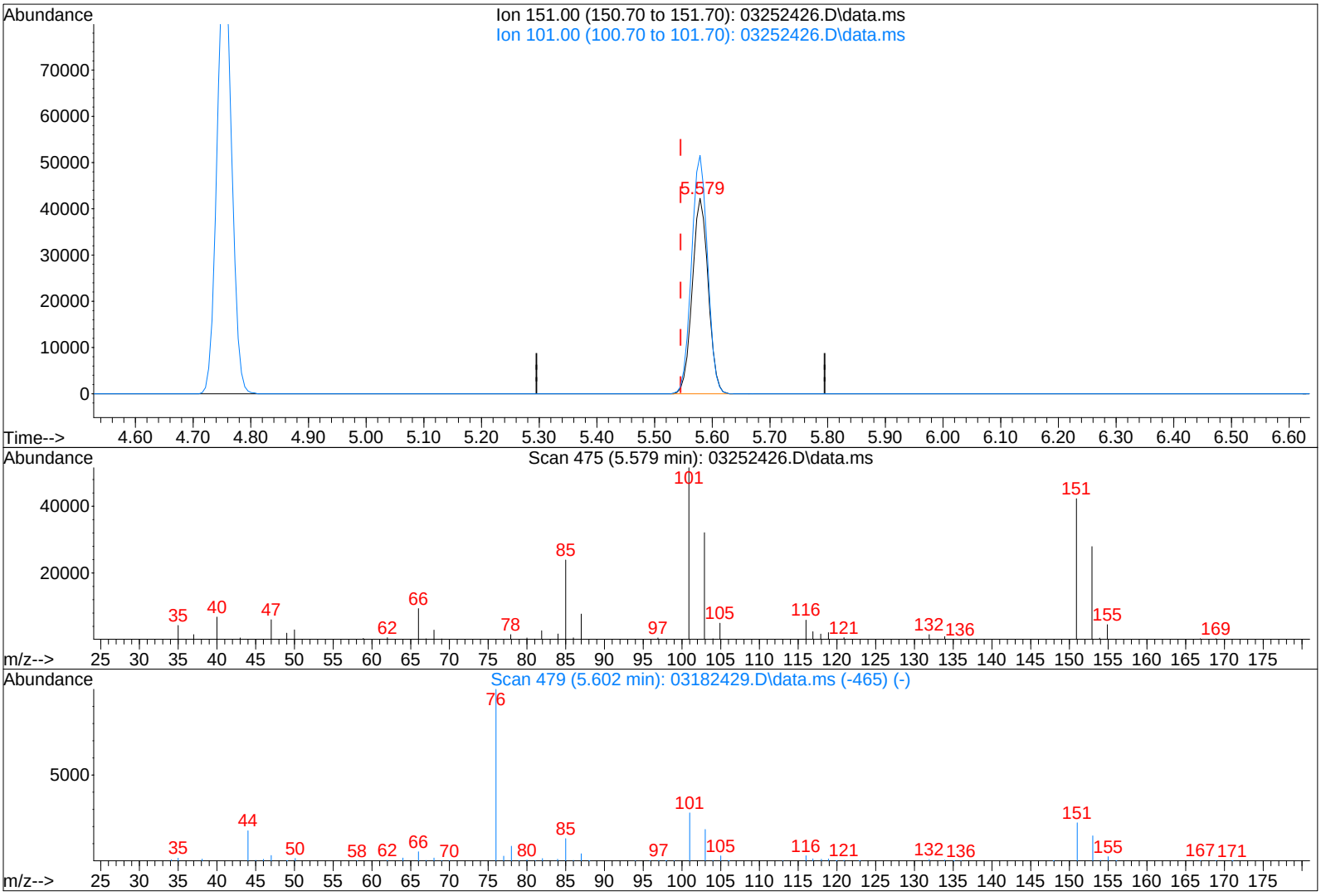
response 167261

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.08
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252426.D Vial: 8
Acq On : 26 Mar 2024 9:15 Operator: SC
Sample : P2400922-042Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:39:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252426.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 8.12ng

response 80943

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	123.00
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252416.D
Acq On : 25 Mar 2024 19:49
Operator : SC
Sample : P2400922-042 (400mL)PF2
Misc : S37-03252401
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252416.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	67	76	81	rVB3	13222	25595	0.42%	0.219%
2	3.376	83	87	91	rVB	18013	19884	0.33%	0.170%
3	3.631	123	132	139	rBV3	13450	32808	0.54%	0.280%
4	4.273	239	245	252	rBV	14414	25270	0.41%	0.216%
5	4.631	303	308	320	rVB	47312	89605	1.47%	0.766%
6	4.744	320	328	352	rVB	2656063	4608248	75.36%	39.387%
7	5.573	463	474	490	rBV	3129953	6115002	100.00%	52.265%
8	6.294	593	601	612	rBV	14870	31173	0.51%	0.266%
9	6.663	658	666	675	rBV	12551	25864	0.42%	0.221%
10	6.800	685	690	696	rBV2	6111	11562	0.19%	0.099%
11	7.220	755	764	773	rBV	327954	700739	11.46%	5.989%
12	7.345	781	786	793	rVB3	7085	14272	0.23%	0.122%

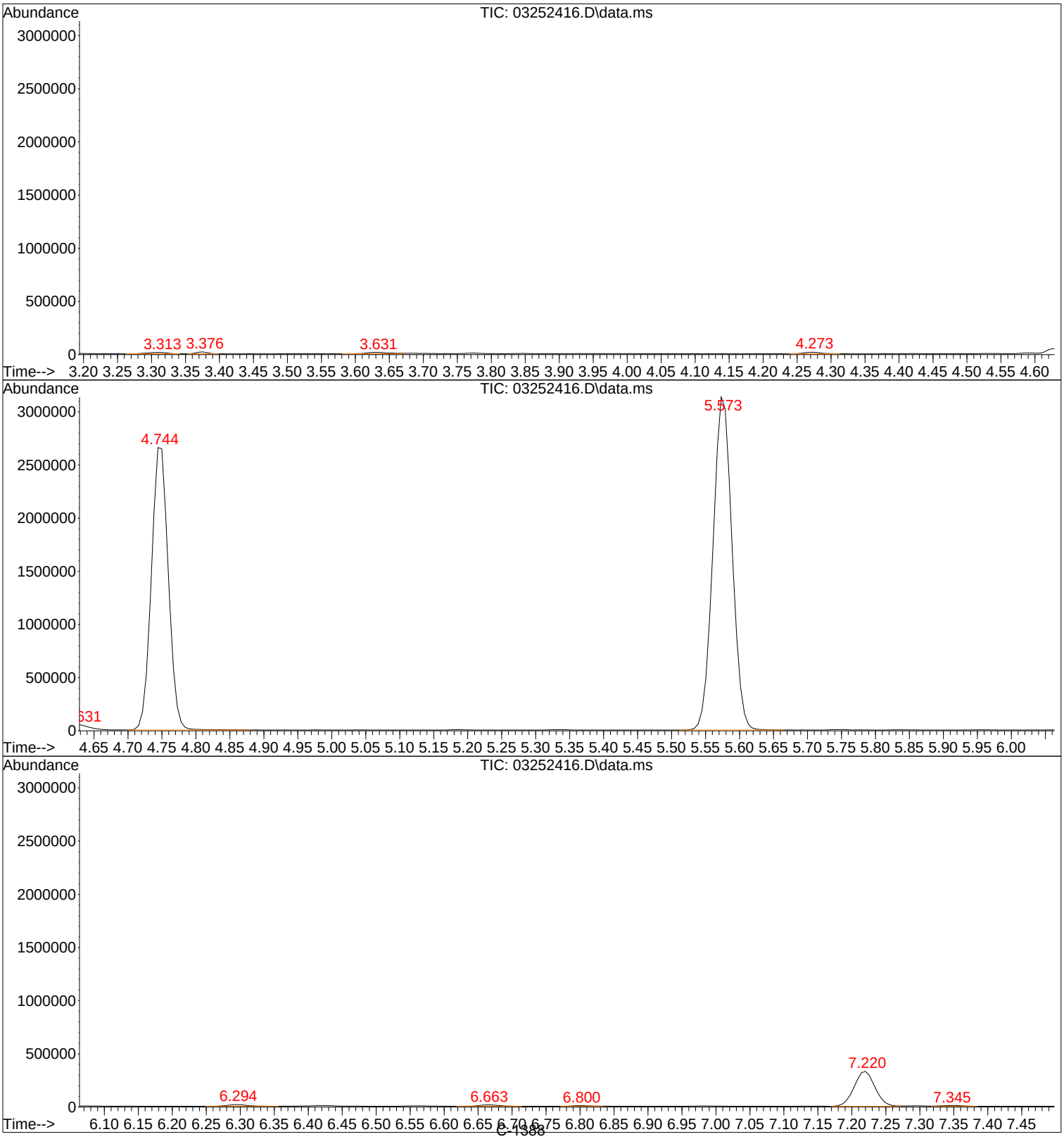
Sum of corrected areas: 11700022

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252416.D
Acq On : 25 Mar 2024 19:49
Operator : SC
Sample : P2400922-042 (400mL)PF2
Misc : S37-03252401
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252416.D
Acq On : 25 Mar 2024 19:499
Operator : SCC
Sample : P2400922-042 (400mL)PF22
Misc : S37-032524011
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:57:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122613	12.500 ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	529147	12.500 ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	108259	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	7.99	65	249566	12.442 ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%		
57) Toluene-d8 (SS2)	12.43	98	605595	13.932 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%		
73) Bromofluorobenzene (SS3)	16.83	174	198333	12.942 ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.38	85	3126m	0.124 ng	
4) Chloromethane	3.50	50	934	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	4.01	94	741	0.073 ng	87
9) Chloroethane	0.00	64	0	N.D.	
10) Ethanol	4.27	45	8064m	0.681 ng	
11) Acetonitrile	4.43	41	966	N.D.	
12) Acrolein	4.52	56	1800	0.212 ng	95
13) Acetone	4.63	58	14459m	1.603 ng	
14) Trichlorofluoromethane	4.75	101	1951600	80.176 ng	100
15) 2-Propanol (Isopropanol)	4.95	45	52	N.D.	
16) Acrylonitrile	4.98	53	462	N.D.	
17) 1,1-Dichloroethene	0.00	96	0	N.D.	
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d	
19) Methylene Chloride	5.34	84	826	0.063 ng	86
20) 3-Chloro-1-propene (Al...	5.44	41	248	N.D.	
21) Trichlorotrifluoroethane	5.58	151	951529	92.737 ng	99
22) Carbon Disulfide	0.00	76	0	N.D. d	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.	
24) 1,1-Dichloroethane	0.00	63	0	N.D.	
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D. d	
27) 2-Butanone (MEK)	6.66	72	3627	0.492 ng	96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D. d	
30) Ethyl Acetate	7.29	61	3982	0.900 ng	96
31) n-Hexane	7.30	57	140	N.D.	
32) Chloroform	7.35	83	5264	0.248 ng	99
34) Tetrahydrofuran (THF)	7.77	72	1230	0.184 ng	93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	0.00	62	0	N.D.	
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.	
39) Isopropyl Acetate	0.00	61	0	N.D.	
40) 1-Butanol	8.80	56	4517	No Calib #	
41) Benzene	8.90	78	4849	0.102 ng	99
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	9.29	84	467	N.D.	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	
45) 1,2-Dichloropropane	0.00	63	0	N.D.	
46) Bromodichloromethane	10.08	83	337	N.D.	
47) Trichloroethene	10.14	130	992	0.077 ng	91
48) 1,4-Dioxane	10.11	88	78787	9.478 ng	94
49) 2,2,4-Trimethylpentane...	10.23	57	1775	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:57:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

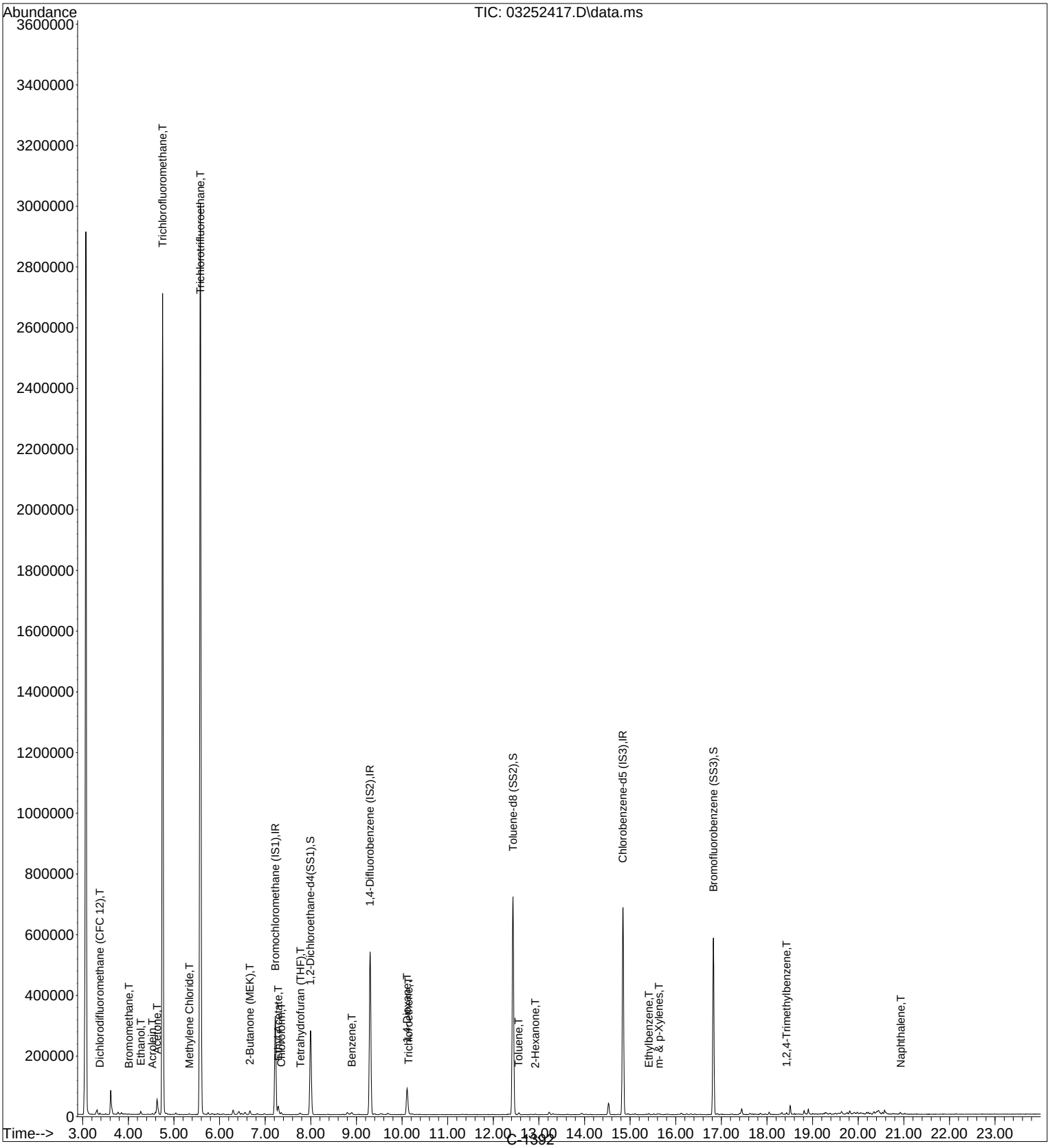
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.33	58	127	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	5642	0.136	ng		98
59) 2-Hexanone	12.92	43	2146	0.089	ng		82
60) Dibromochloromethane	13.07	129	208	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	0.00	43	0	N.D.			
63) n-Octane	0.00	57	0	N.D.			
64) Tetrachloroethene	14.03	166	541	N.D.			
65) Chlorobenzene	14.90	112	480	N.D.			
66) Ethylbenzene	15.41	91	3891	0.082	ng		97
67) m- & p-Xylenes	15.63	91	2375	0.060	ng		97
68) Bromoform	15.67	173	380	N.D.			
69) Styrene	0.00	104	0	N.D.			
70) o-Xylene	16.25	91	1097	N.D.			
71) n-Nonane	16.62	43	450	N.D.			
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.03	105	1023	N.D.			
75) alpha-Pinene	0.00	93	0	N.D.			
76) n-Propylbenzene	17.68	91	2293	N.D.			
77) 3-Ethyltoluene	17.03	105	1023	No Calib			
78) 4-Ethyltoluene	17.86	105	1309	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	1970	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	1023	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	2374	0.057	ng		89
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	0.00	91	0	N.D.			
85) 1,3-Dichlorobenzene	18.58	146	290	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	263	N.D.			
87) sec-Butylbenzene	18.74	105	820	N.D.			
88) 4-Isopropyltoluene (p-...	18.91	119	1600	N.D.			
89) 1,2,3-Trimethylbenzene	17.03	105	1023	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	253	N.D.			
91) d-Limonene	0.00	68	0	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	20.84	180	487	N.D.			
95) Naphthalene	20.94	128	1406	0.379	ng	#	71
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	21.31	225	396	N.D.			
98) Cyclohexanone	15.41	55	247	No Calib		#	
99) tert-Butylbenzene	18.43	119	825	N.D.			
100) n-Butylbenzene	19.39	91	1073	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:57:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

3/26/24

Quant Time: Mar 26 08:57:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122613	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	529147	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	108259	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	249566	12.442	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
57) Toluene-d8 (SS2)	12.43	98	605595	13.932	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
73) Bromofluorobenzene (SS3)	16.83	174	198333	12.942	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	3126m	0.124	ng		
8) Bromomethane	4.01	94	741	0.073	ng		87
10) Ethanol	4.27	45	8064m	0.681	ng		
12) Acrolein	4.52	56	1800	0.212	ng		95
13) Acetone	4.63	58	14459m	1.603	ng		
14) Trichlorofluoromethane	4.75	101	1951600	80.176	ng		100
19) Methylene Chloride	5.34	84	826	0.063	ng		86
21) Trichlorotrifluoroethane	5.58	151	951529	92.737	ng		99
27) 2-Butanone (MEK)	6.66	72	3627	0.492	ng		96
30) Ethyl Acetate	7.29	61	3982	0.900	ng		96
32) Chloroform	7.35	83	5264	0.248	ng		99
34) Tetrahydrofuran (THF)	7.77	72	1230	0.184	ng		93
41) Benzene	8.90	78	4849	0.102	ng		99
47) Trichloroethene	10.14	130	992	0.077	ng		91
48) 1,4-Dioxane	10.11	88	78787	9.478	ng		94
58) Toluene	12.56	91	5642	0.136	ng		98
59) 2-Hexanone	12.92	43	2146	0.089	ng		82
66) Ethylbenzene	15.41	91	3891	0.082	ng		97
67) m- & p-Xylenes	15.63	91	2375	0.060	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	2374	0.057	ng		89
95) Naphthalene	20.94	128	1406	0.379	ng	#	71

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:57:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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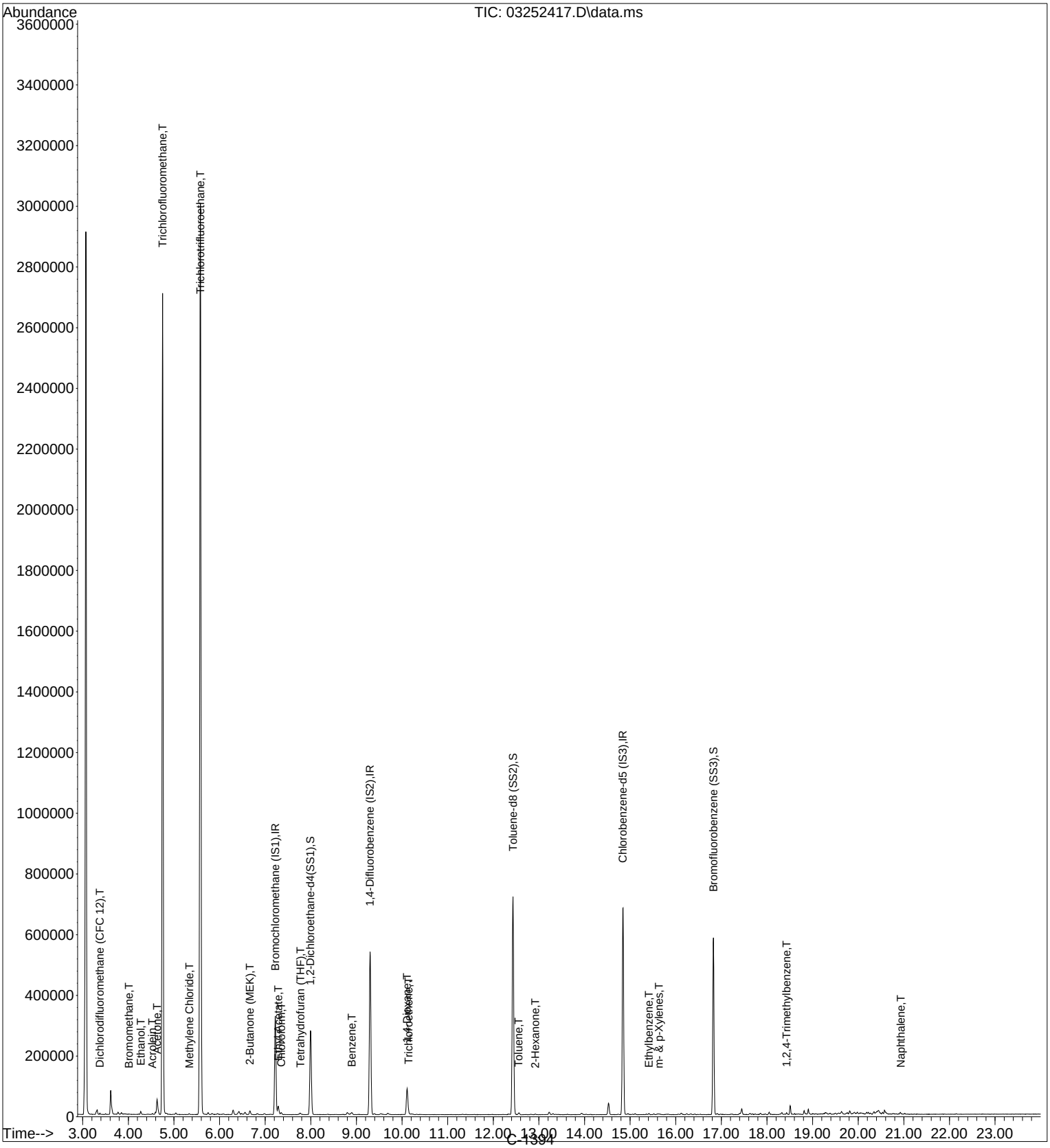
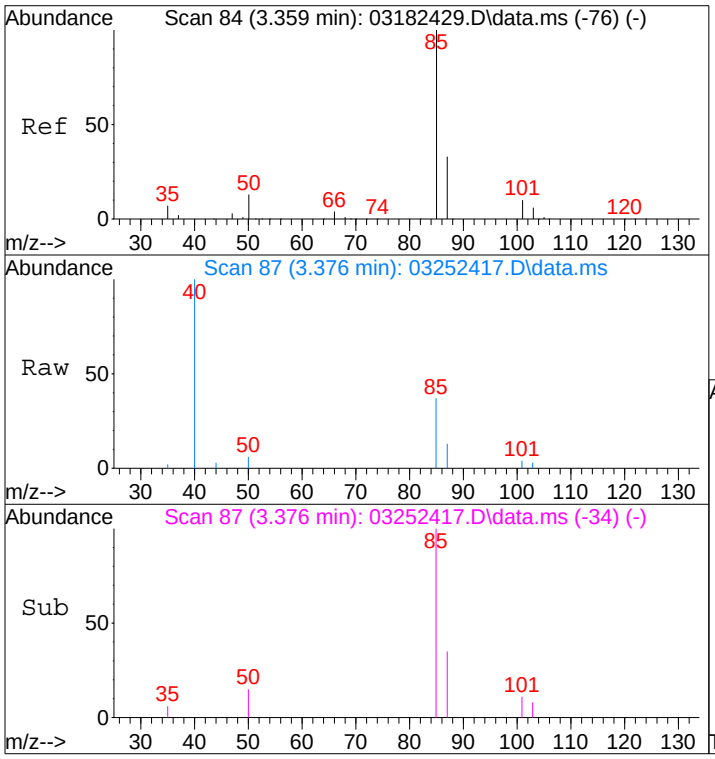
Response via : Initial Calibration
DataAcq Meth:TO15.M

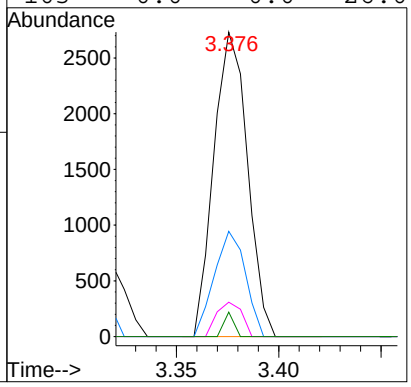


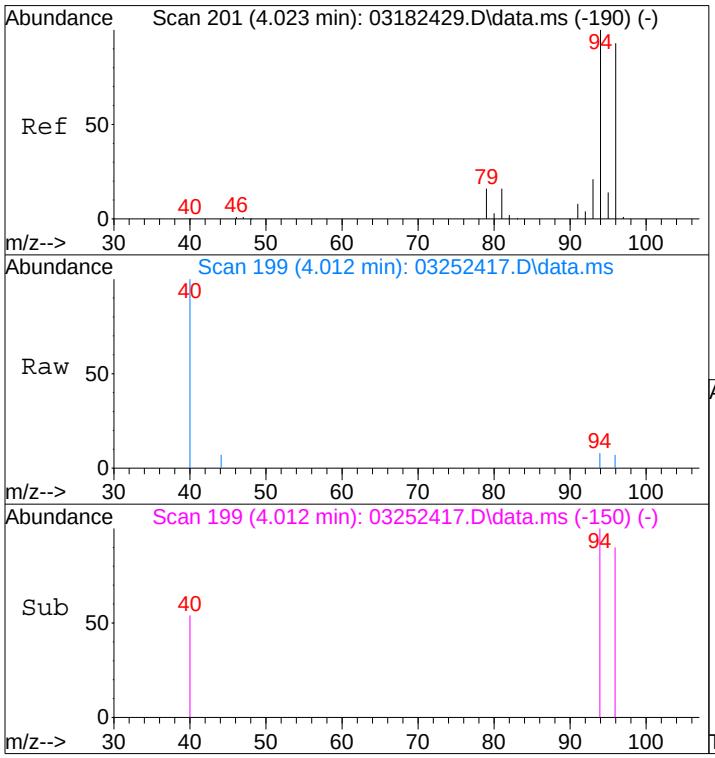


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.12 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.051 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 85 Resp: 3126

Ion	Ratio	Lower	Upper
85	100		
87	5.3	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

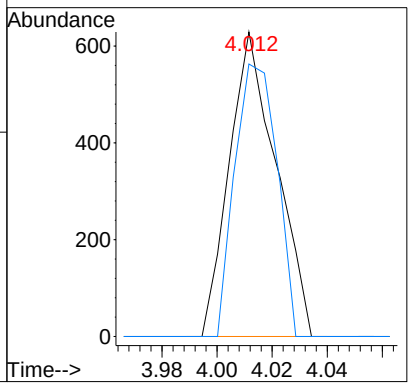


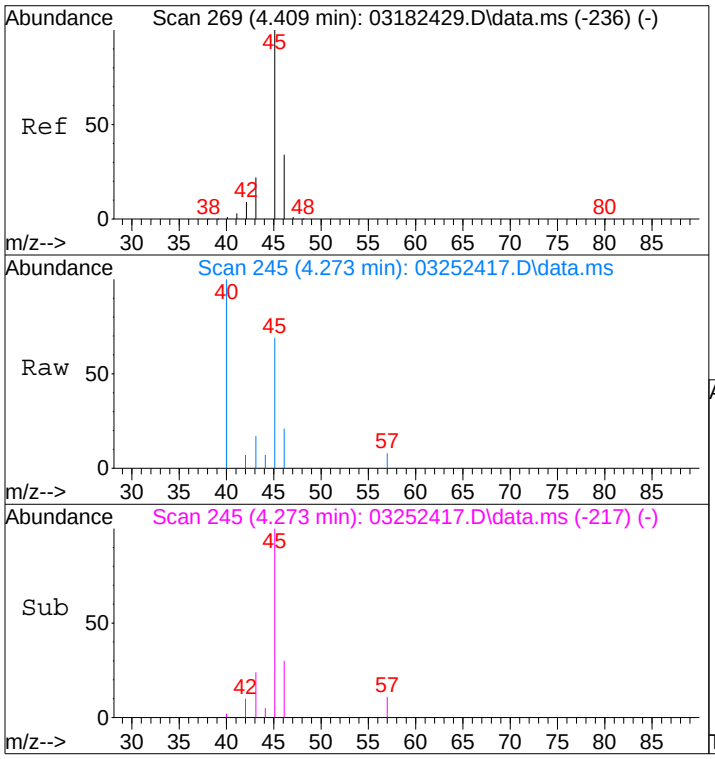


#8
Bromomethane
Concen: 0.07 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.029 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 94 Resp: 741

Ion	Ratio	Lower	Upper
94	100		
96	80.6	72.7	112.7

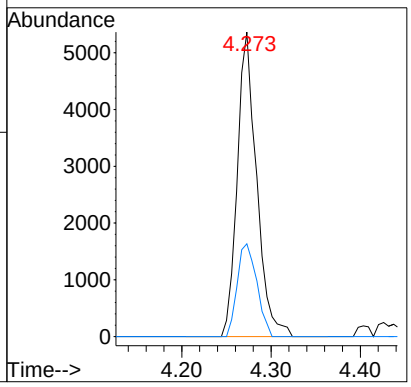


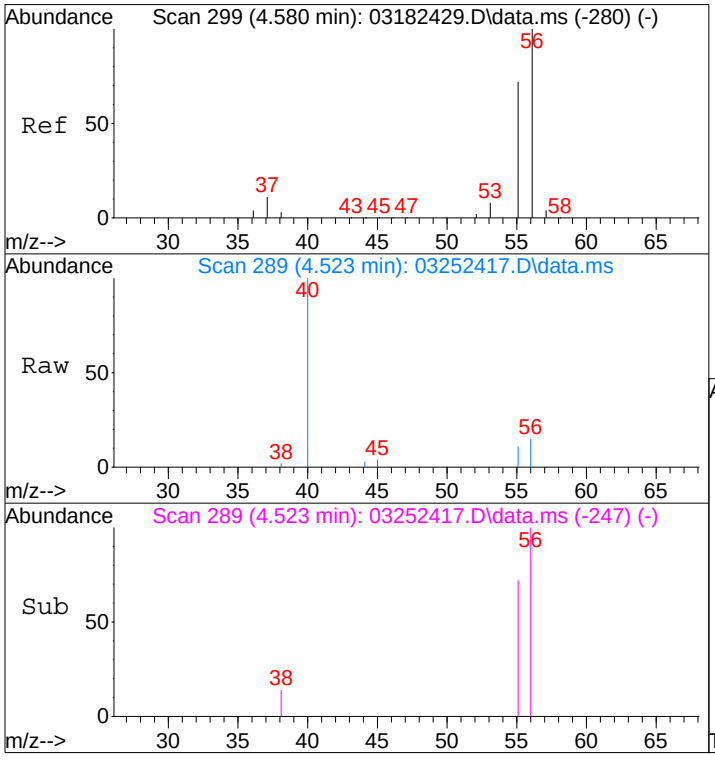


#10
Ethanol
Concen: 0.68 ng m
RT: 4.27 min Scan# 245
Delta R.T. -0.092 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 45 Resp: 8064

Ion	Ratio	Lower	Upper
45	100		
46	0.0	13.3	53.3#

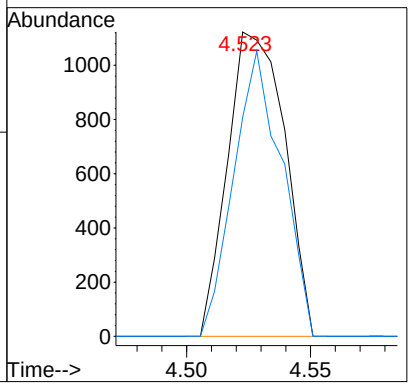


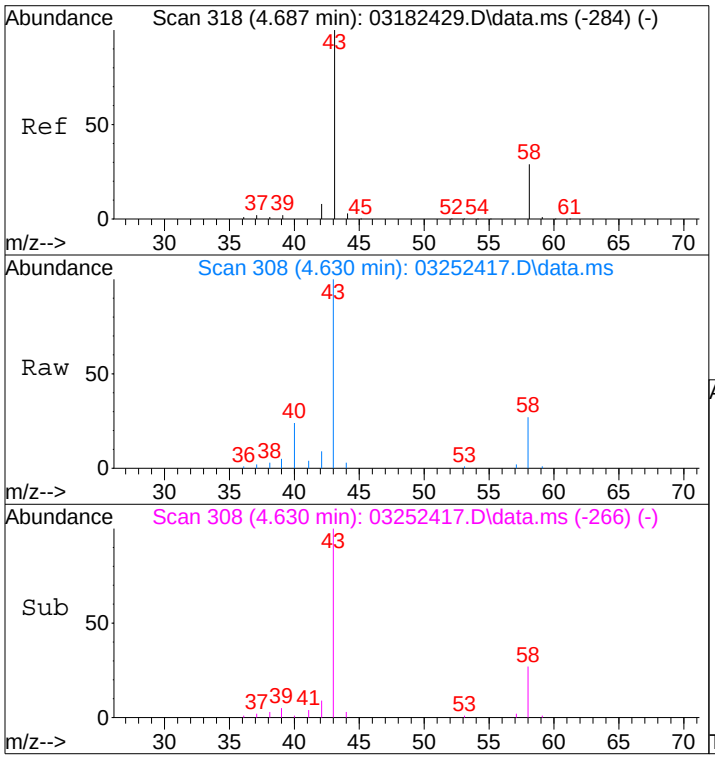


#12
Acrolein
Concen: 0.21 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.011 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 56 Resp: 1800

Ion	Ratio	Lower	Upper
56	100		
55	79.0	54.9	94.9

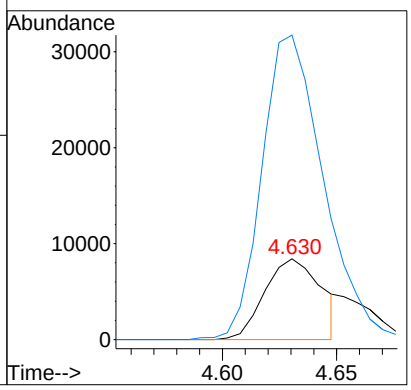


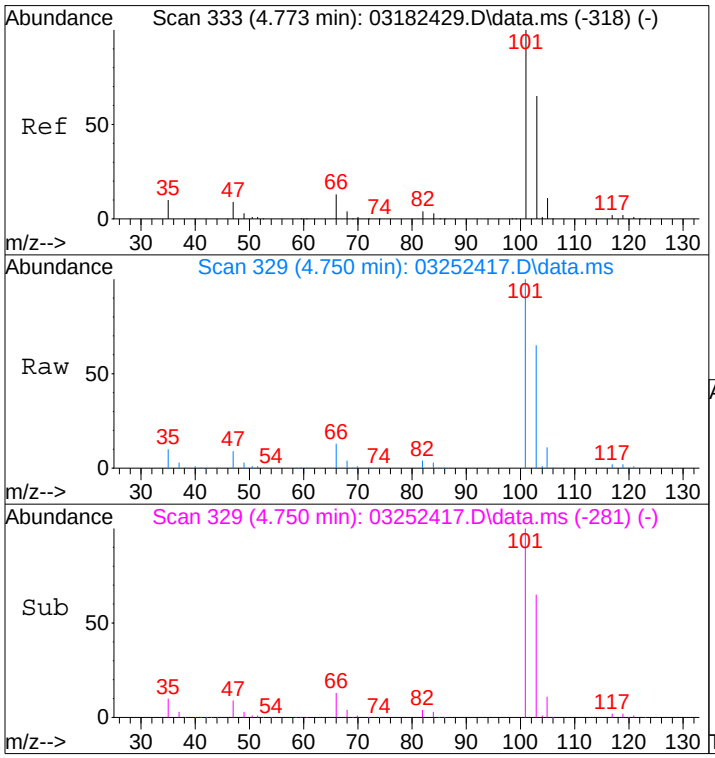


#13
Acetone
Concen: 1.60 ng m
RT: 4.63 min Scan# 308
Delta R.T. -0.010 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 58 Resp: 14459

Ion	Ratio	Lower	Upper
58	100		
43	414.6	350.1	410.1#

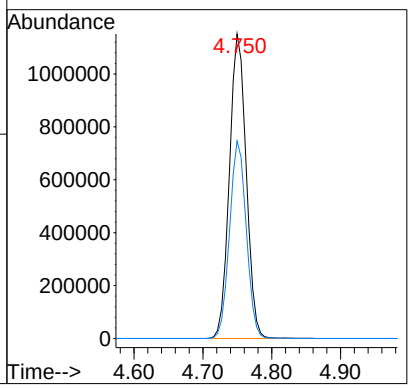


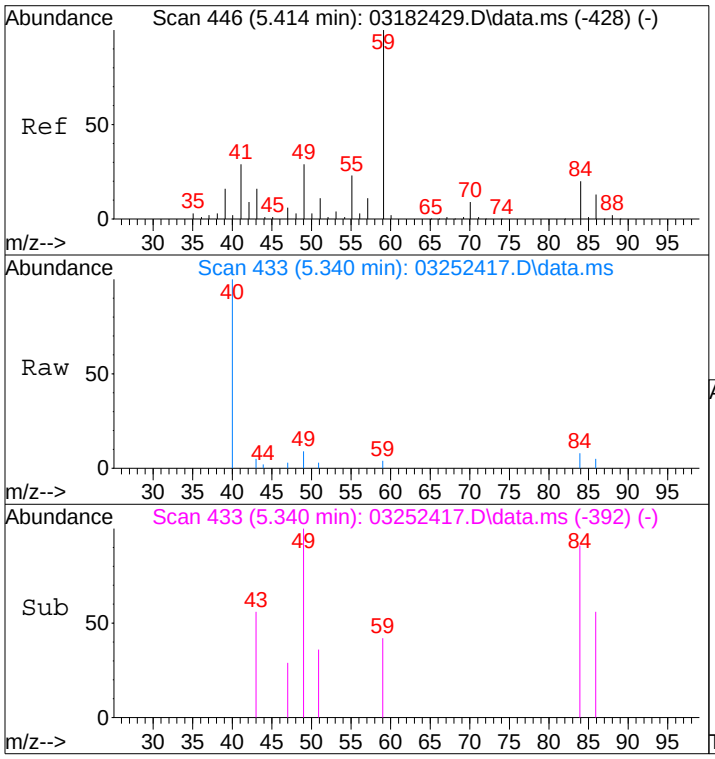


#14
Trichlorofluoromethane
Concen: 80.18 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion:101 Resp: 1951600

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.7	84.7

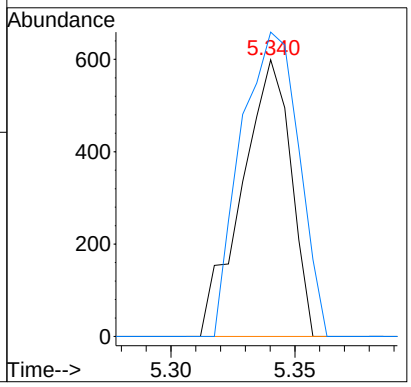


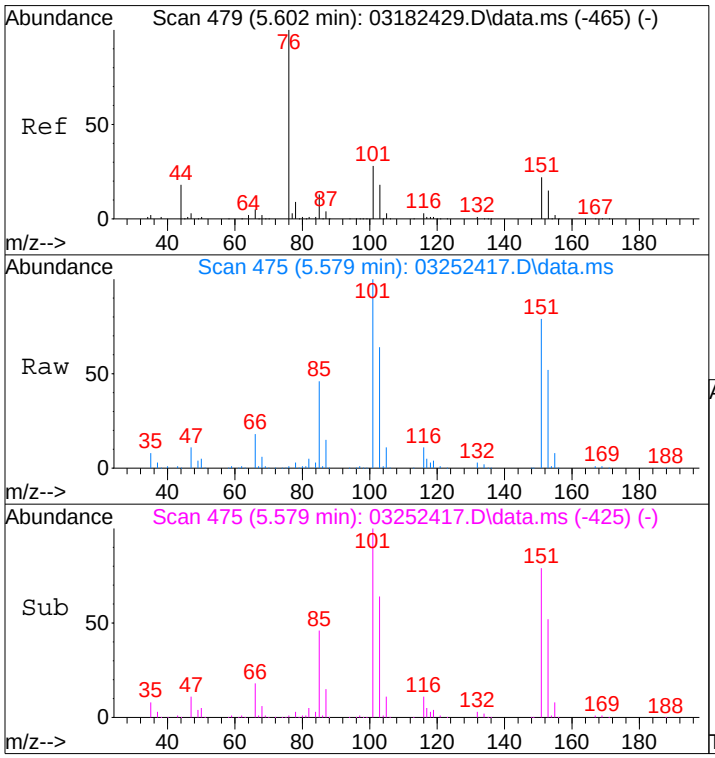


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.019 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 84 Resp: 826

Ion	Ratio	Lower	Upper
84	100		
49	129.8	122.9	172.9

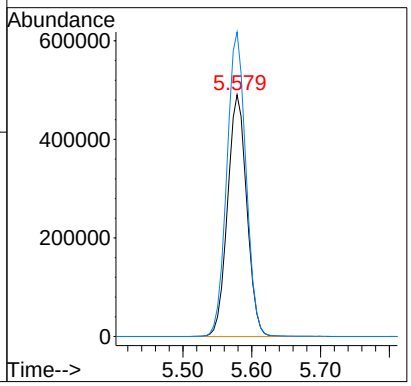


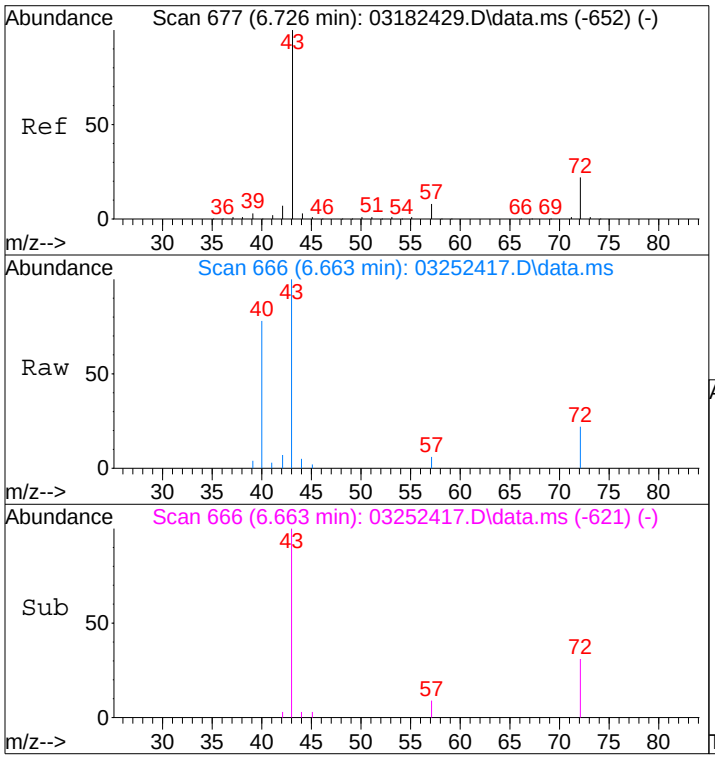


#21
Trichlorotrifluoroethane
Concen: 92.74 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion:151 Resp: 951529

Ion	Ratio	Lower	Upper
151	100		
101	125.4	106.4	146.4

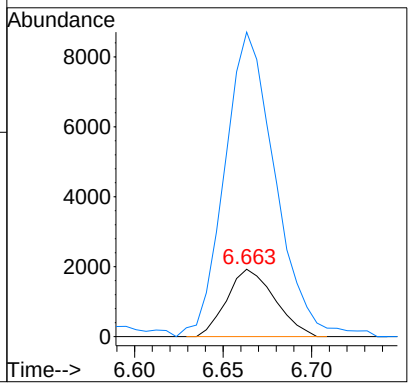


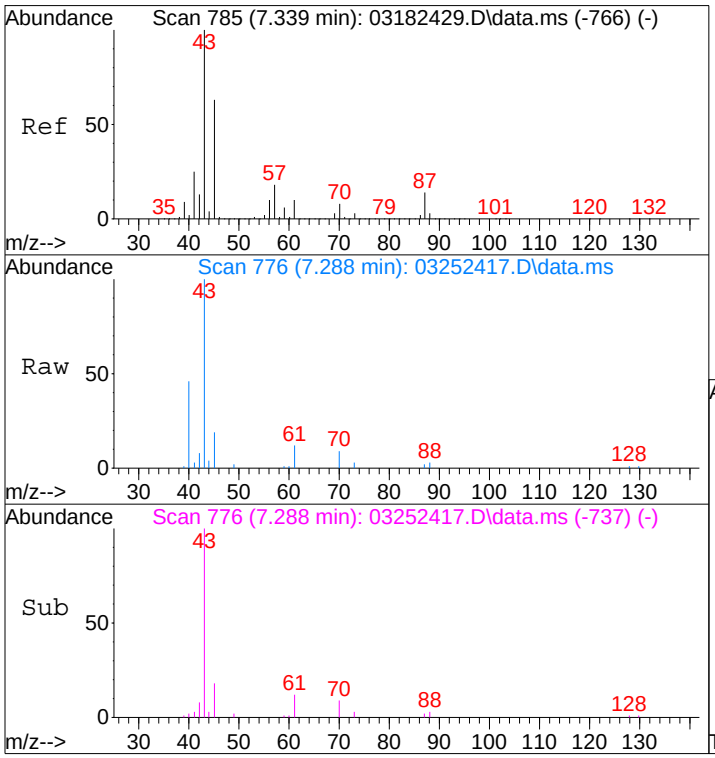


#27
2-Butanone (MEK)
Concen: 0.49 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 72 Resp: 3627

Ion	Ratio	Lower	Upper
72	100		
43	478.8	468.6	508.6

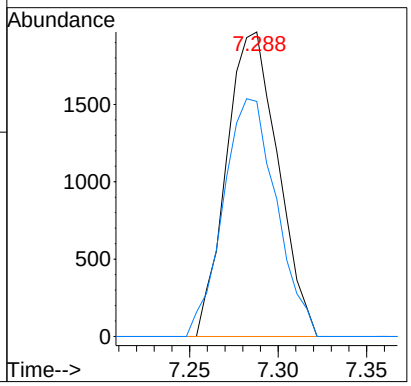


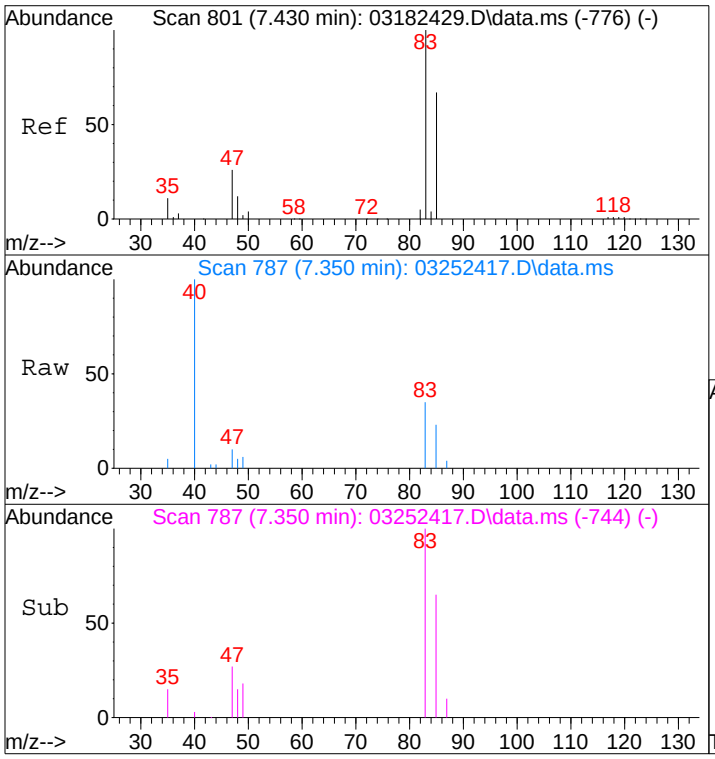


#30
Ethyl Acetate
Concen: 0.90 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 61 Resp: 3982

Ion	Ratio	Lower	Upper
61	100		
70	80.5	57.3	97.3

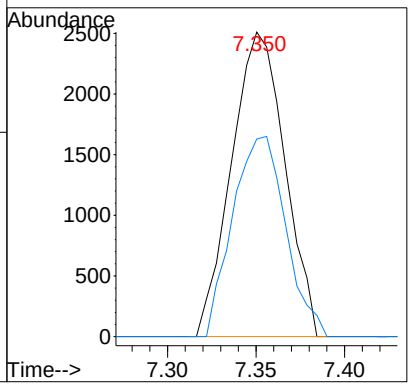


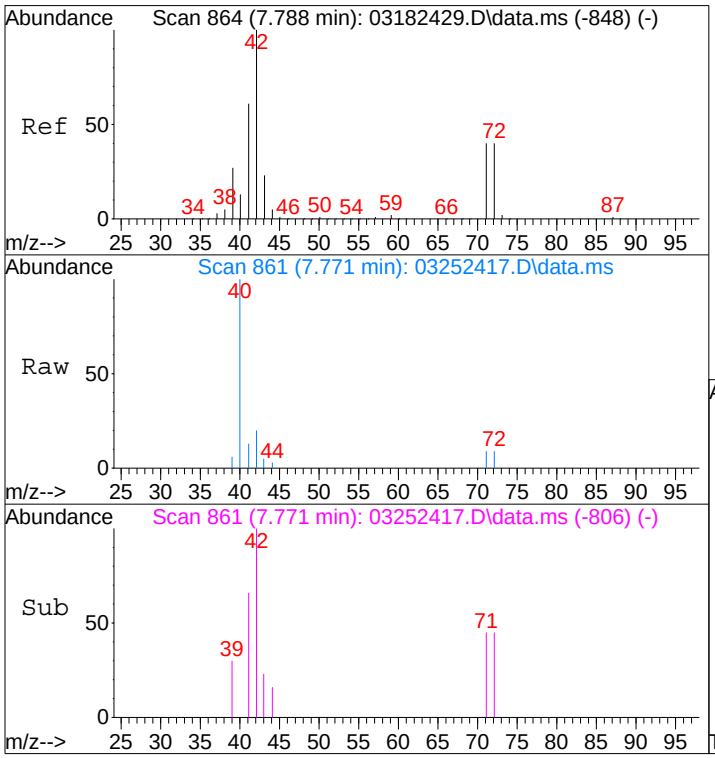


#32
Chloroform
Concen: 0.25 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.005 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 83 Resp: 5264

Ion	Ratio	Lower	Upper
83	100		
85	65.3	46.1	86.1

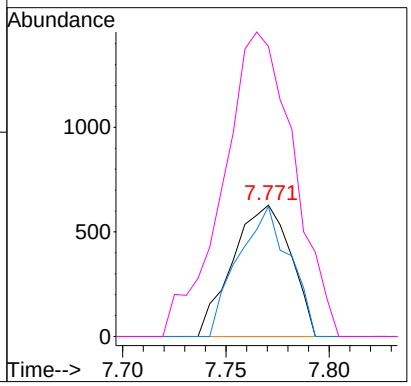


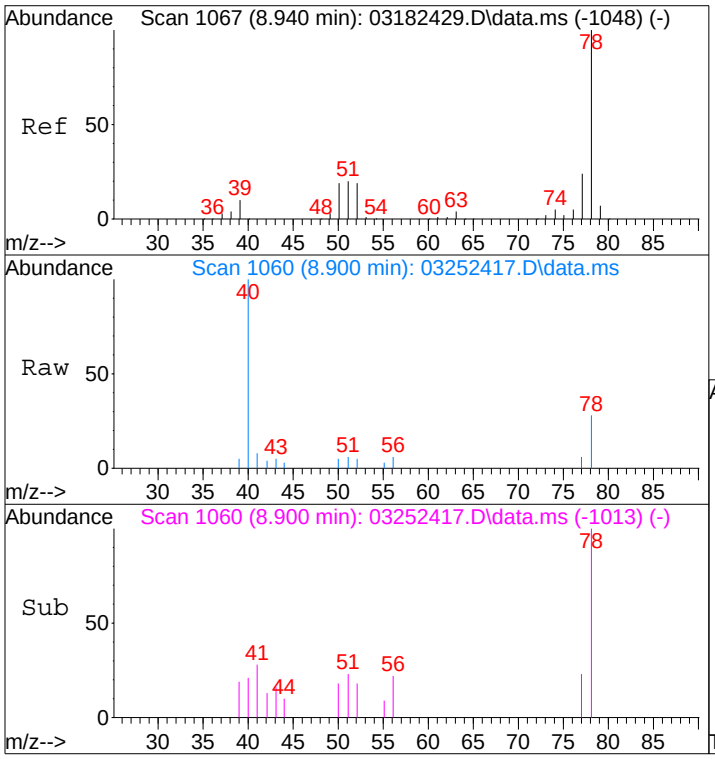


#34
Tetrahydrofuran (THF)
Concen: 0.18 ng
RT: 7.77 min Scan# 861
Delta R.T. 0.061 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 72 Resp: 1230

Ion	Ratio	Lower	Upper
72	100		
71	87.4	80.7	120.7
42	282.7	255.0	295.0

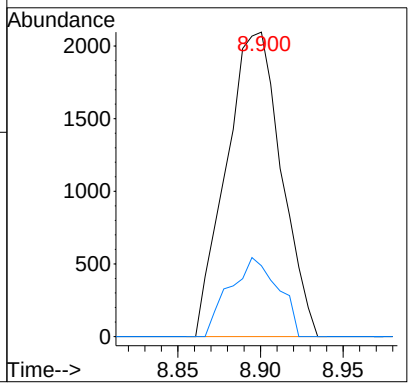


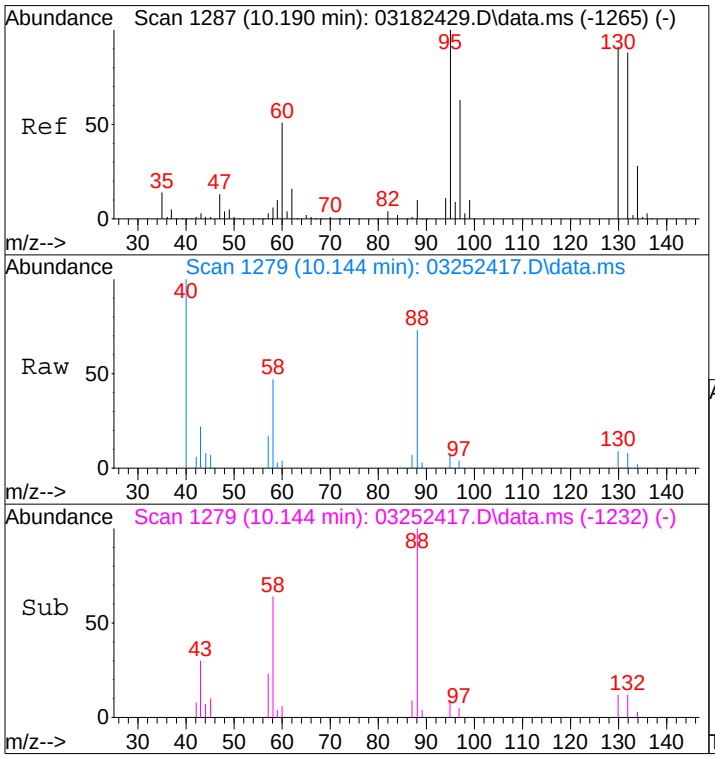


#41
Benzene
Concen: 0.10 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.015 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 78 Resp: 4849

Ion	Ratio	Lower	Upper
78	100		
77	22.9	3.6	43.6

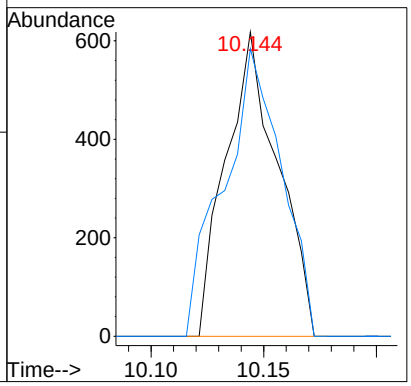


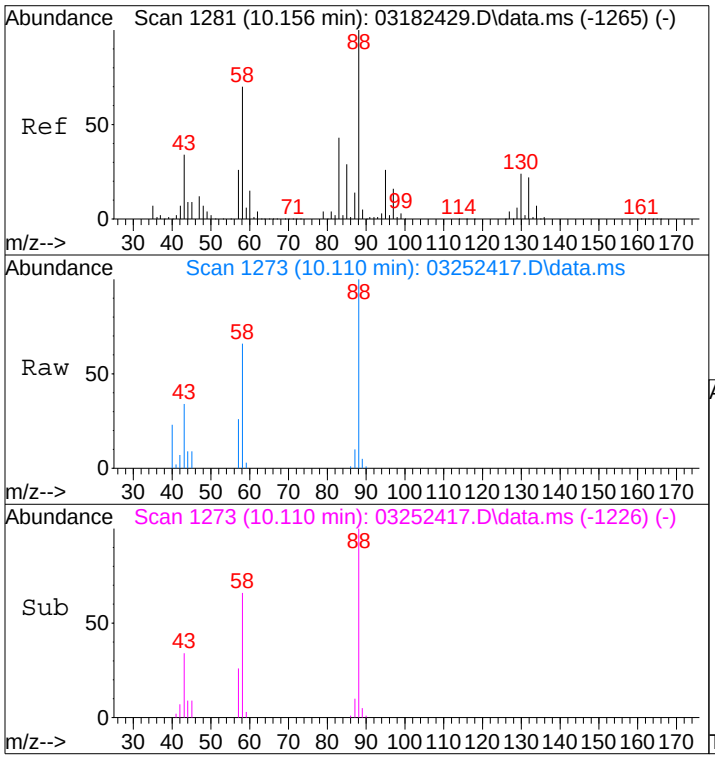


#47
Trichloroethene
Concen: 0.08 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion:130 Resp: 992

Ion	Ratio	Lower	Upper
130	100		
132	105.9	77.5	117.5

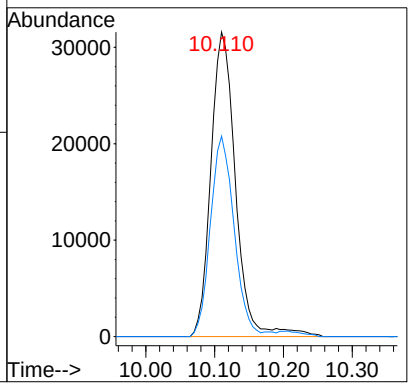


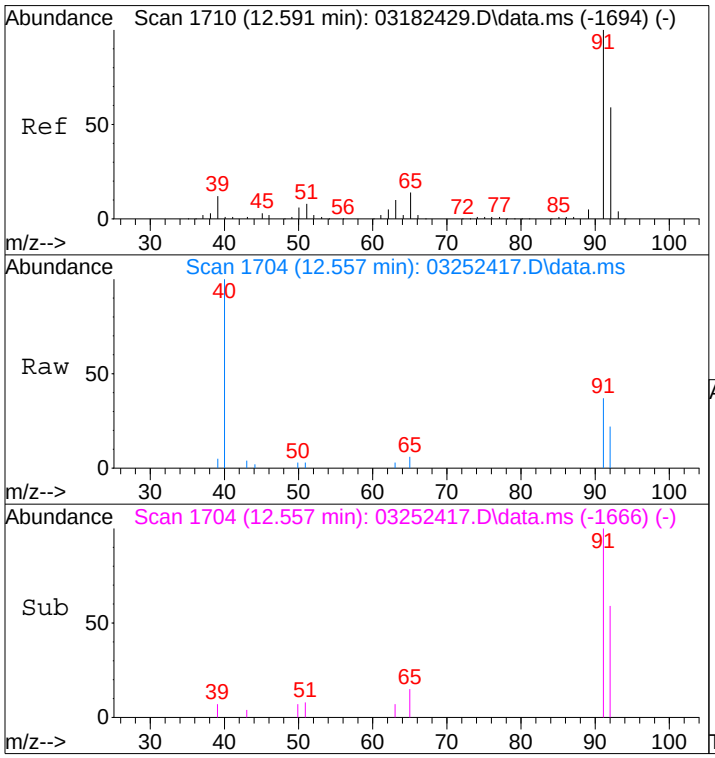


#48
1,4-Dioxane
Concen: 9.48 ng
RT: 10.11 min Scan# 1273
Delta R.T. 0.016 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 88 Resp: 78787

Ion	Ratio	Lower	Upper
88	100		
58	63.7	48.2	88.2

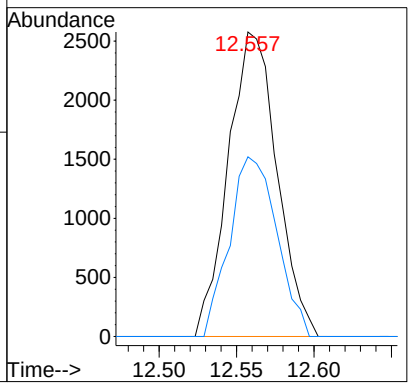


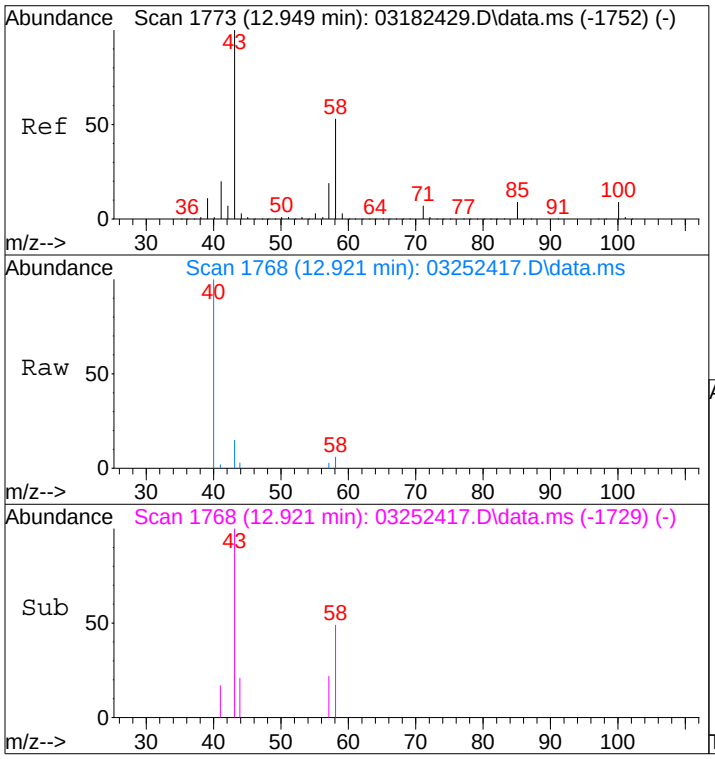


#58
Toluene
Concen: 0.14 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 91 Resp: 5642

Ion	Ratio	Lower	Upper
91	100		
92	57.6	39.2	79.2

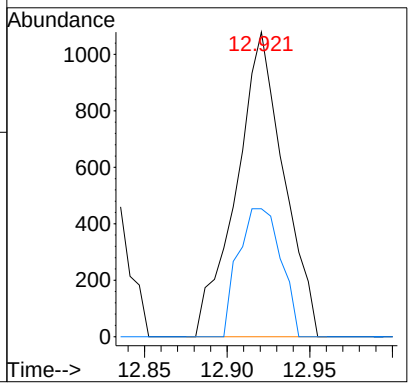


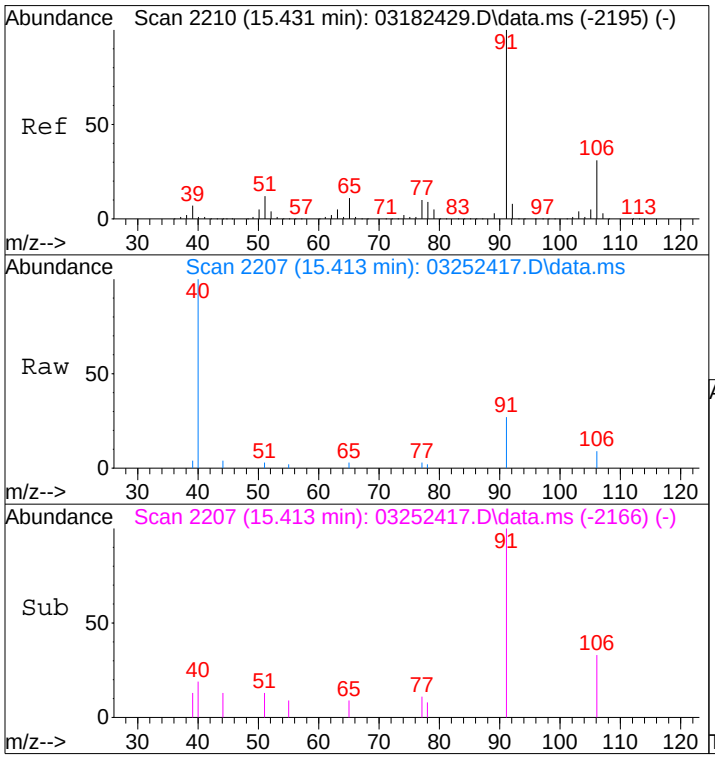


#59
2-Hexanone
Concen: 0.09 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.029 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 43 Resp: 2146

Ion	Ratio	Lower	Upper
43	100		
58	37.9	30.2	70.2

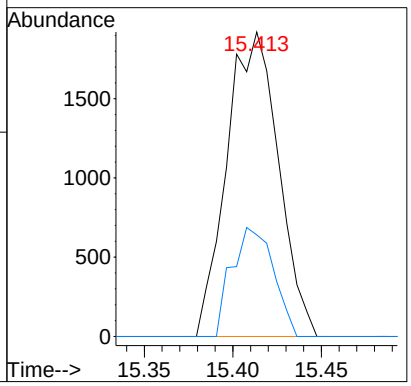


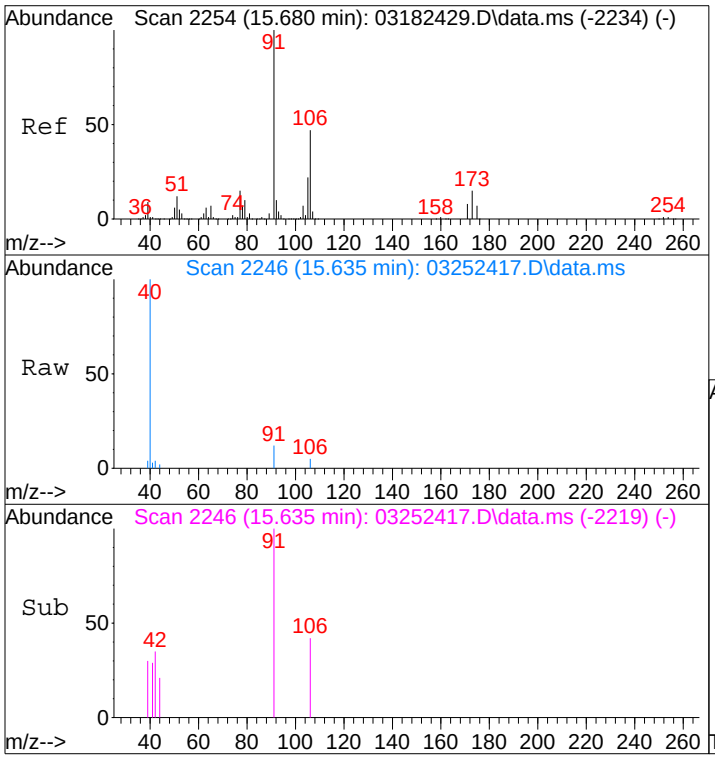


#66
Ethylbenzene
Concen: 0.08 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 91 Resp: 3891

Ion	Ratio	Lower	Upper
91	100		
106	28.9	10.4	50.4

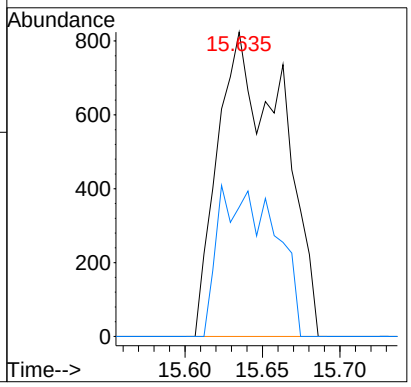


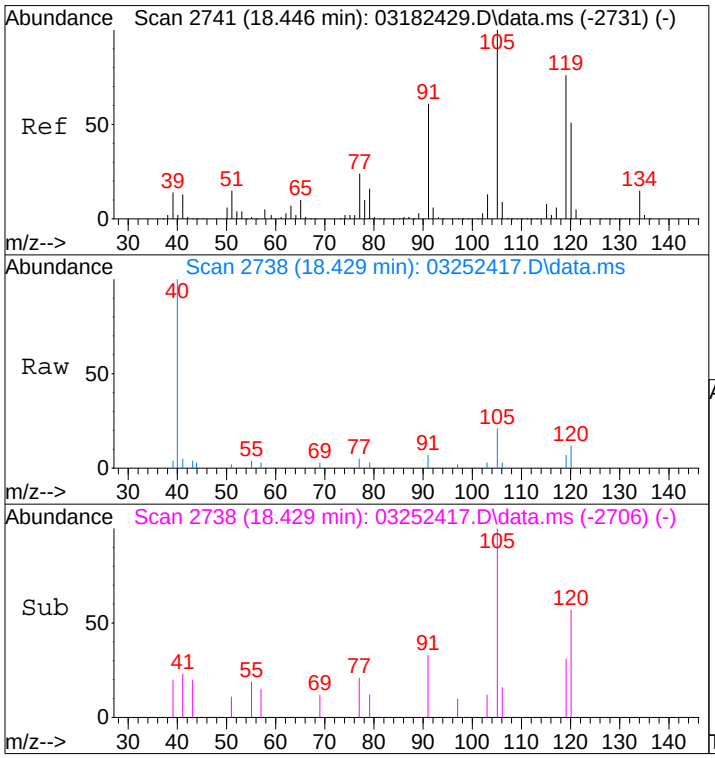


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion: 91 Resp: 2375

Ion	Ratio	Lower	Upper
91	100		
106	43.6	25.6	65.6

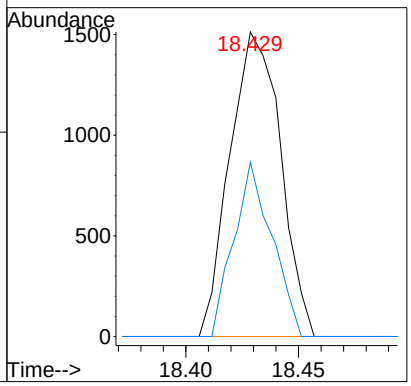


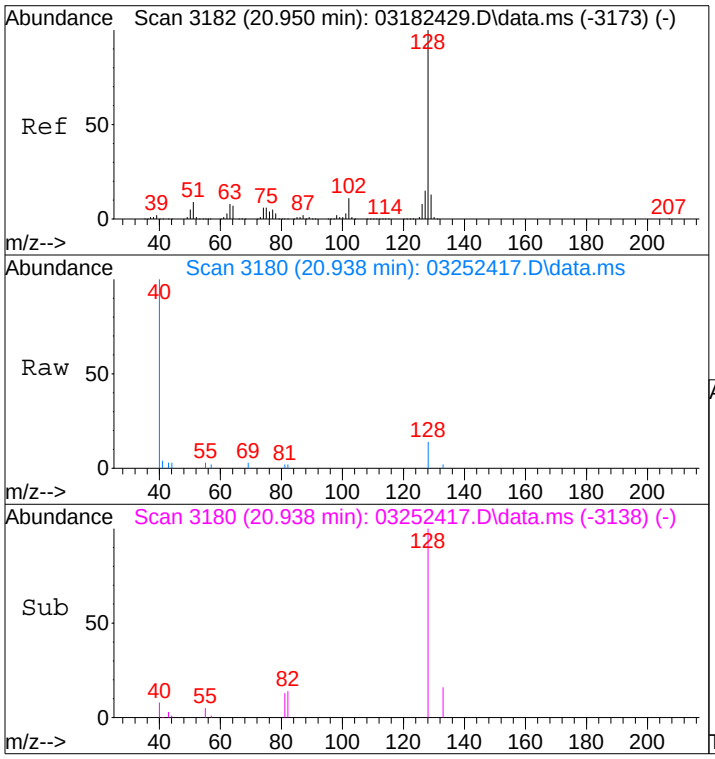


#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion:105 Resp: 2374

Ion	Ratio	Lower	Upper
105	100		
120	43.1	31.1	71.1

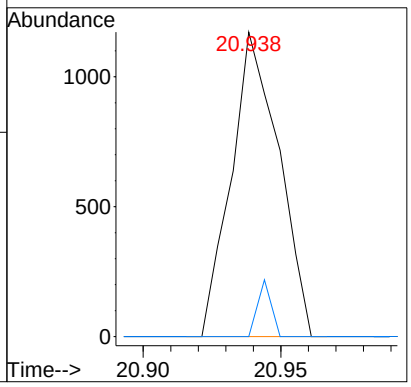




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.012 min
Lab File: 03252417.D
Acq: 25 Mar 2024 20:21

Tgt Ion:128 Resp: 1406

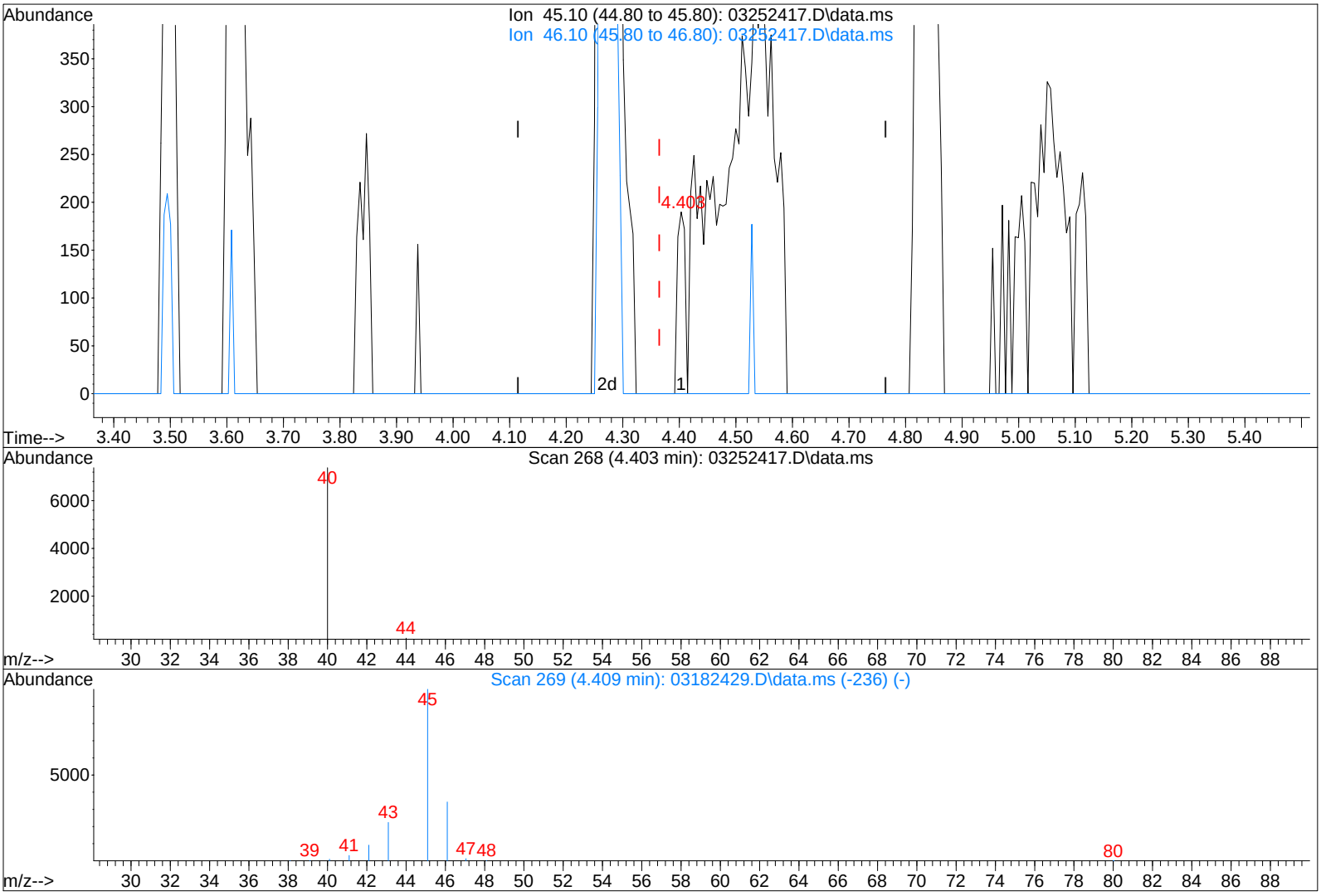
Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252417.D\data.ms

(10) Ethanol (T)

4.403min (+0.039) 0.02ng

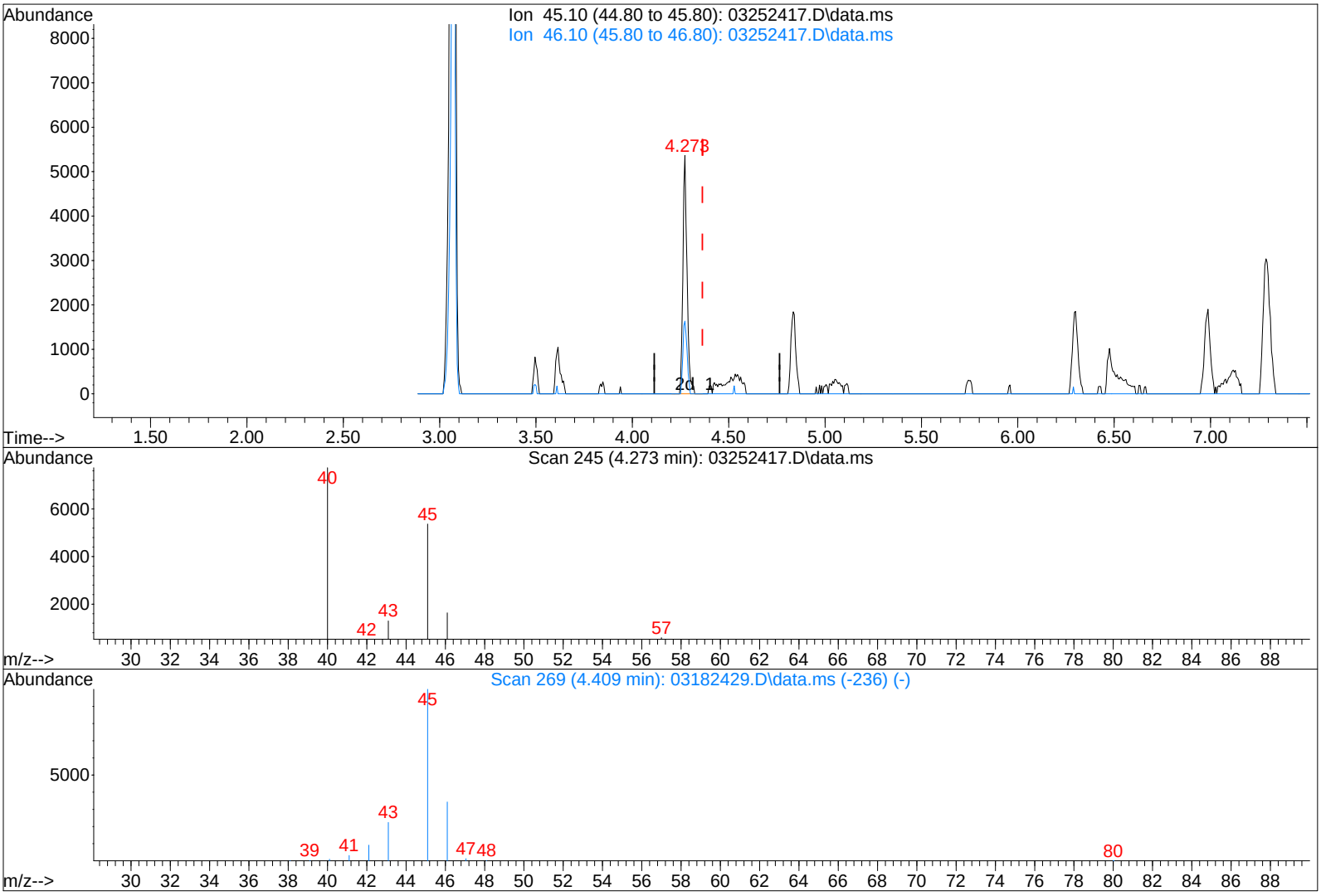
response 179

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252417.D\data.ms

(10) Ethanol (T)

4.273min (-0.092) 0.68ng m

response 8064

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

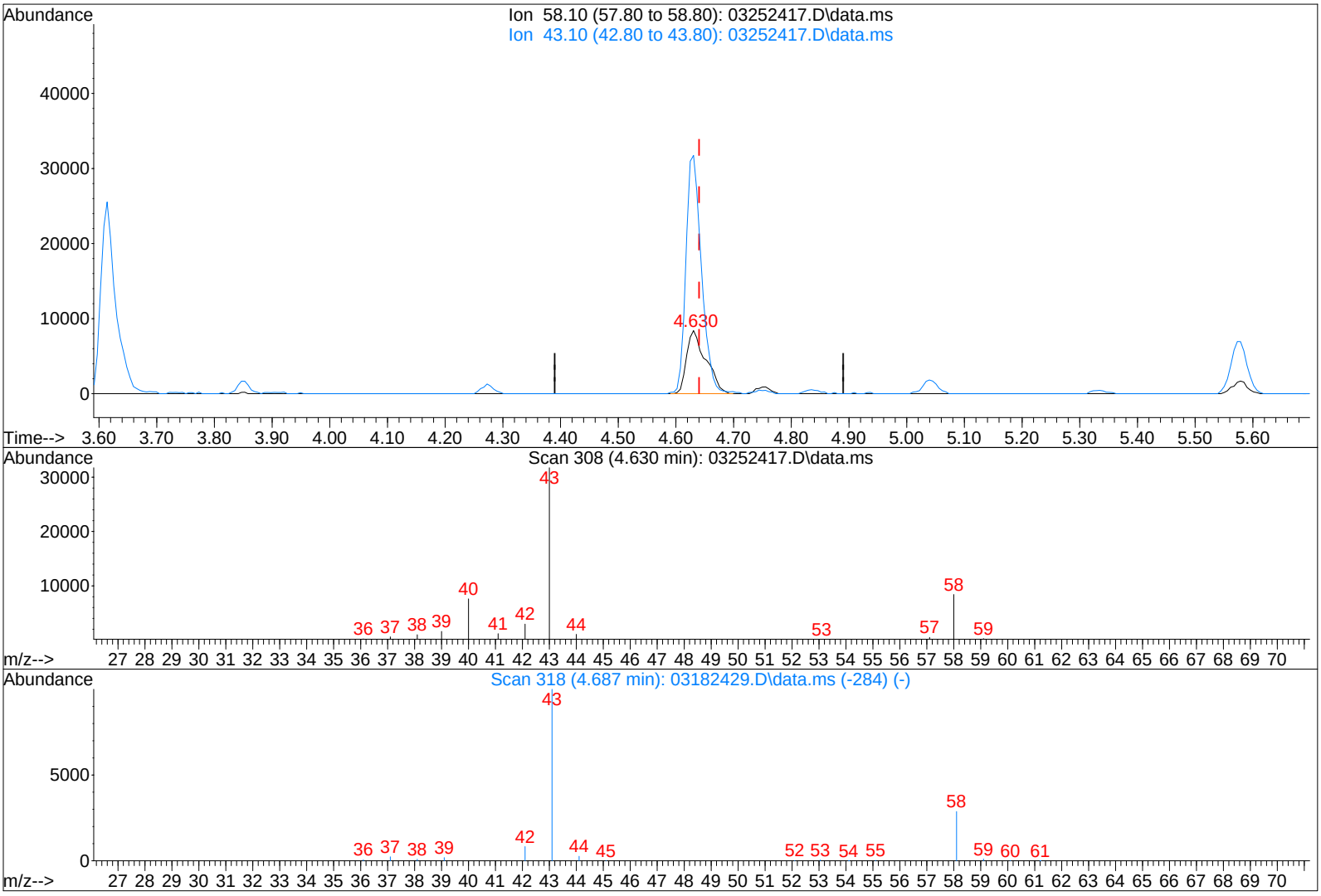
MP 3/26/24

LH 3/26/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252417.D\data.ms

(13) Acetone (T)

4.630min (-0.010) 2.17ng

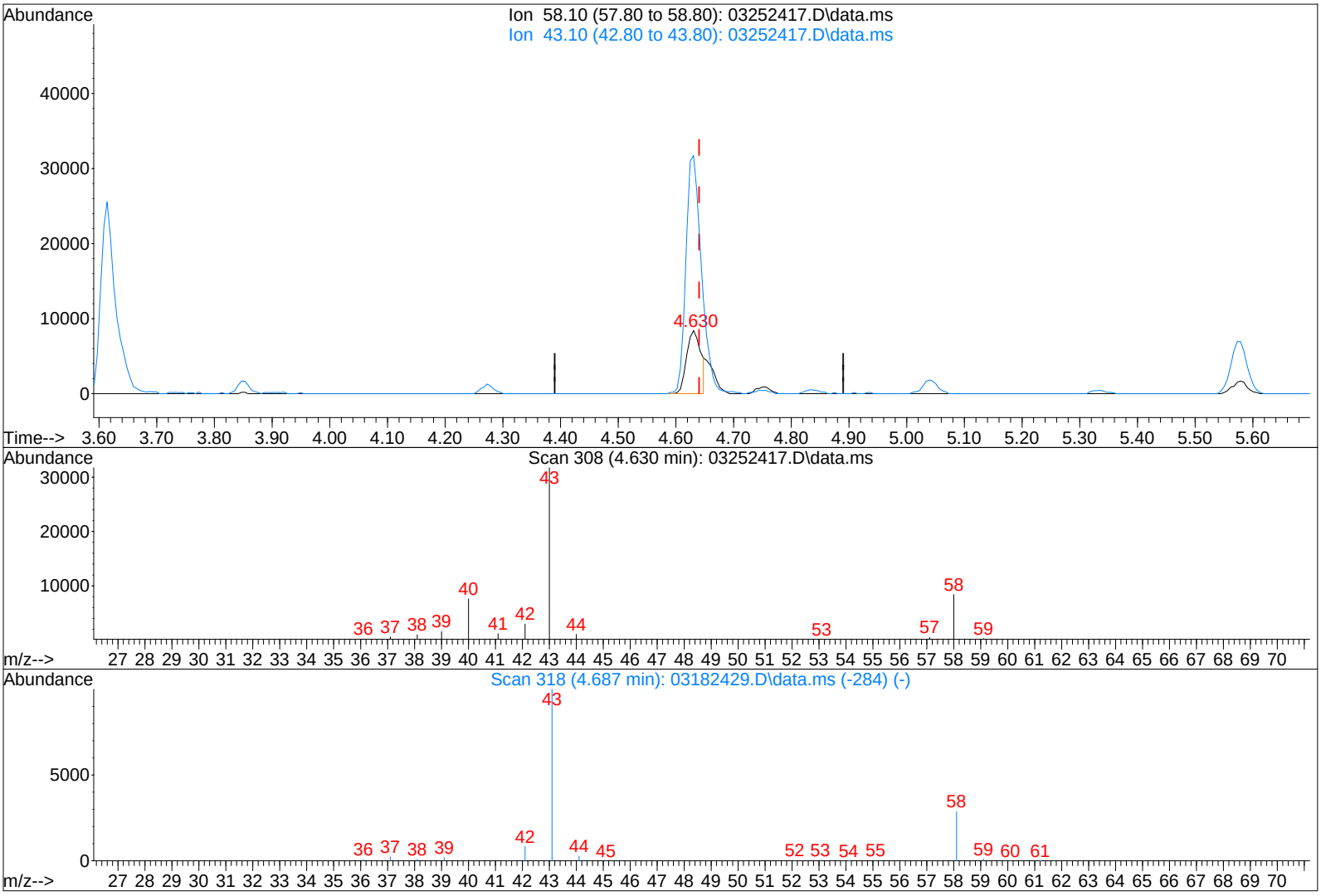
response 19559

Ion	Exp%	Act%
58.10	100	100
43.10	380.10	306.52#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252417.D\data.ms

IPC 3/26/24

(13) Acetone (T)

4.630min (-0.010) 1.60ng m

response 14459

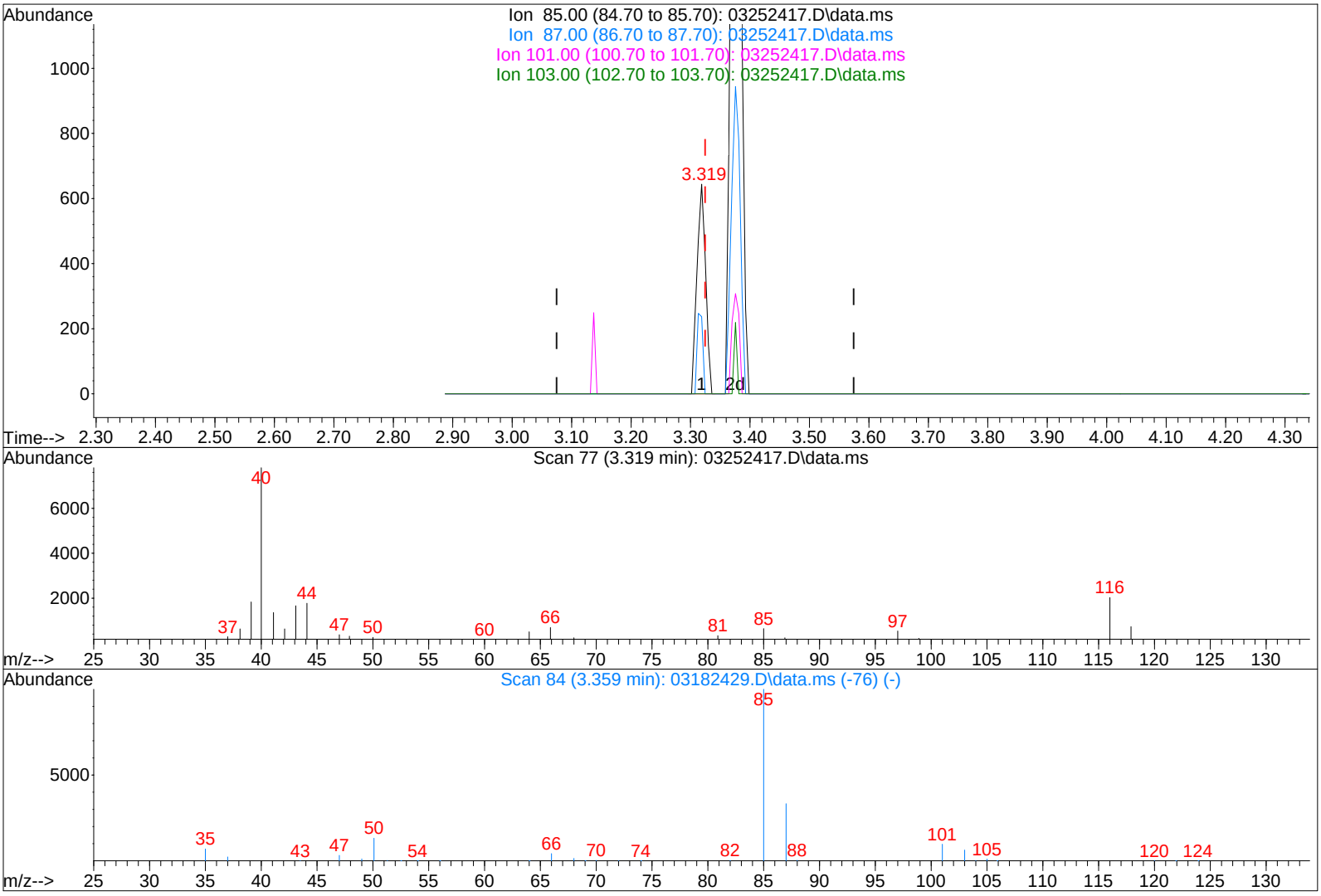
Ion	Exp%	Act%
58.10	100	100
43.10	380.10	414.63#
0.00	0.00	0.00
0.00	0.00	0.00

LH 3/26/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252417.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.006) 0.03ng

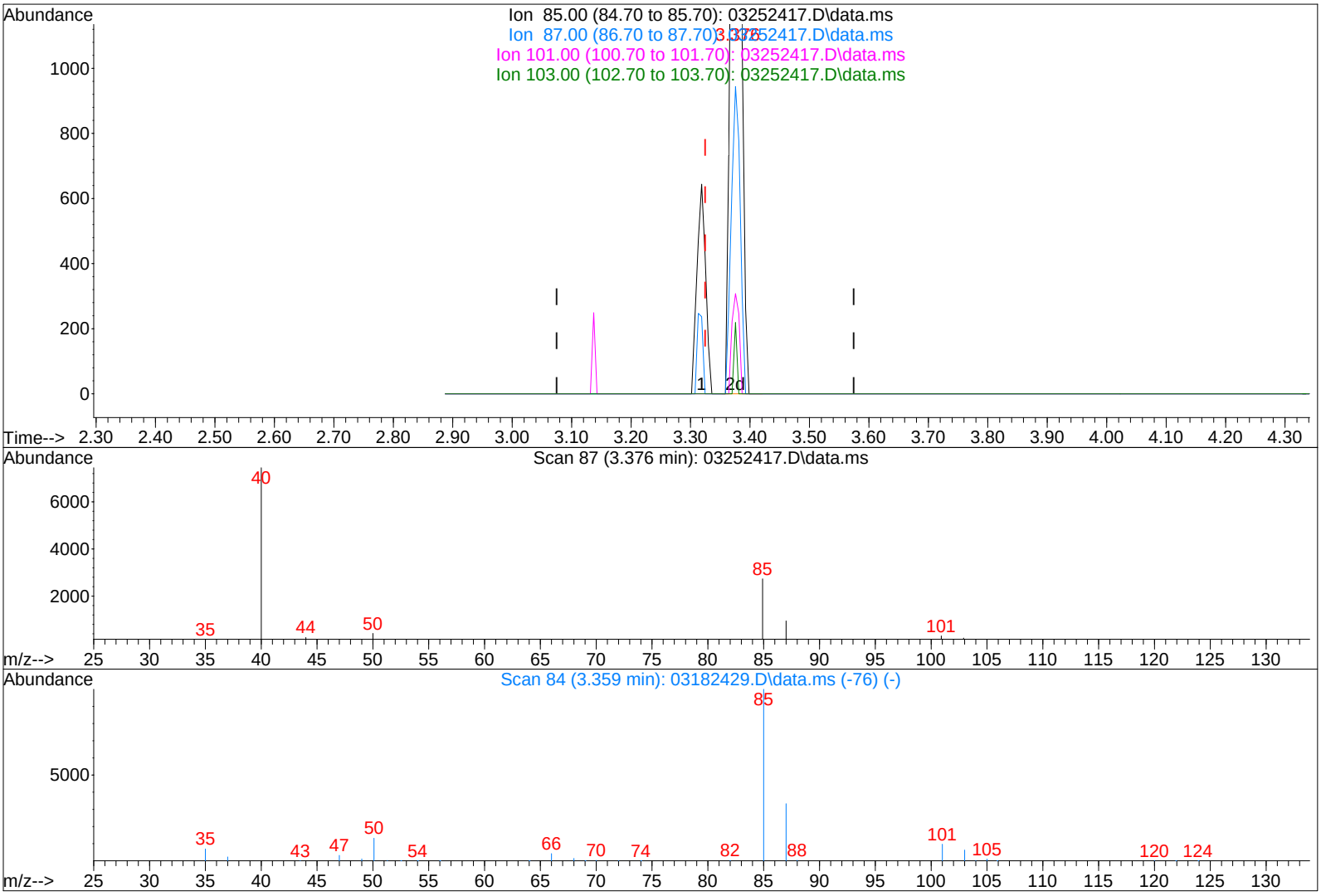
response 658

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	25.08
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:24:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252417.D\data.ms

WP

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.051) 0.12ng m

response 3126

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	5.28#
101.00	9.20	0.00
103.00	6.00	0.00

3/26/24

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:32:41 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

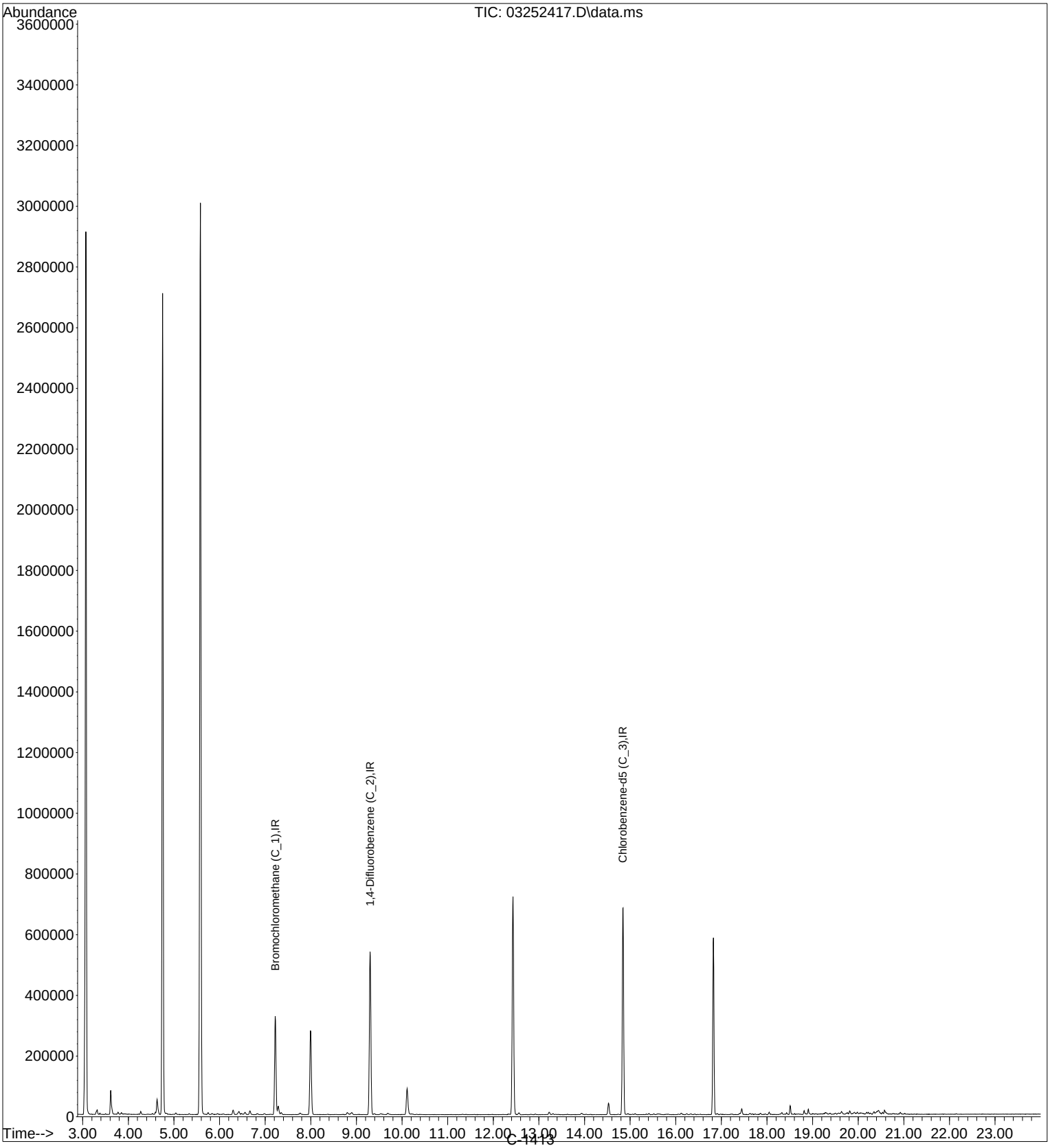
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	122613	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	529147	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	108259	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	186	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	3.29	67	117	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	1780	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.59	83	134	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.33	43	829	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.53	56	437	N.D.		
18) Dibromomethane	9.80	174	51	N.D.		
20) Methyl Cyclohexane	11.41	55	322	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	532	N.D.		
27) 4-Chlorotoluene	17.68	91	2293	N.D.		
28) Indane	19.12	117	629	N.D.		
29) Indene	19.11	115	167	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	1945	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	2228	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	1505	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252417.D Vial: 9
Acq On : 25 Mar 2024 20:21 Operator: SC
Sample : P2400922-043 (80mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:32:41 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1413

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252427.D Vial: 9
Acq On : 26 Mar 2024 9:47 Operator: SC
Sample : P2400922-043Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:15:21 2024 3/26/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	117762	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	503787	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	100914	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	243469	12.638	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.43	98	570310	14.076	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.64%				
73) Bromofluorobenzene (SS3)	16.83	174	184749	12.933	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.44%				
Target Compounds							Qvalue
2) Propene	3.31	42	610	N.D.			
3) Dichlorodifluoromethan...	3.32	85	284	N.D.			
4) Chloromethane	3.51	50	449	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.02	94	198	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	3621	0.318	ng		99
11) Acetonitrile	4.44	41	293	N.D.			
12) Acrolein	4.54	56	702	0.086	ng		96
13) Acetone	4.64	58	8381	0.968	ng	#	76
14) Trichlorofluoromethane	4.75	101	855414	36.590	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	1360	N.D.			
16) Acrylonitrile	4.99	53	143	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	201	N.D.			
19) Methylene Chloride	5.35	84	628	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	407606	41.362	ng		97
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	1547	0.218	ng		96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	1532	0.361	ng		89
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	2214	0.108	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	1944	No Calib			
41) Benzene	8.89	78	2637	0.058	ng		86
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	574	N.D.			
48) 1,4-Dioxane	10.12	88	32476	4.104	ng		94
49) 2,2,4-Trimethylpentane...	10.21	57	183	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252427.D Vial: 9
Acq On : 26 Mar 2024 9:47 Operator: SC
Sample : P2400922-043Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:15:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

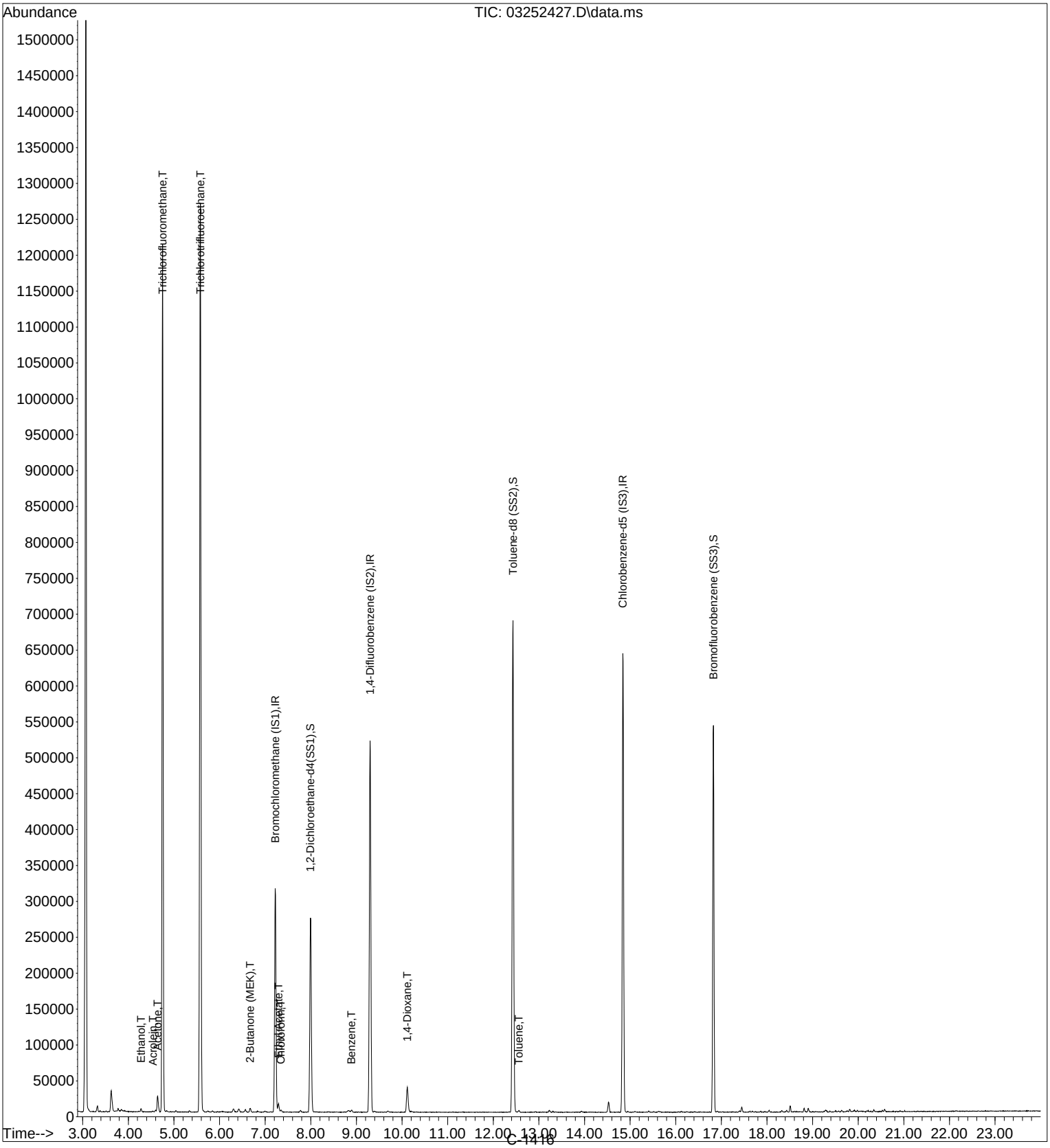
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2739	0.071 ng	91
59) 2-Hexanone	12.92	43	617	N.D.	
60) Dibromochloromethane	13.06	129	222	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	310	N.D.	
65) Chlorobenzene	14.90	112	439	N.D.	
66) Ethylbenzene	15.41	91	1902	N.D.	
67) m- & p-Xylenes	15.63	91	723	N.D.	
68) Bromoform	15.67	173	140	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.23	91	674	N.D.	
71) n-Nonane	16.54	43	328	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	643	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1232	N.D.	
77) 3-Ethyltoluene	17.03	105	643	No Calib	
78) 4-Ethyltoluene	17.86	105	741	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	900	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	643	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1205	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	228	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	233	N.D.	
87) sec-Butylbenzene	18.74	105	586	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	809	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	643	No Calib	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	338	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	333	N.D.	
98) Cyclohexanone	15.52	55	268	No Calib #	
99) tert-Butylbenzene	18.43	119	479	N.D.	
100) n-Butylbenzene	19.39	91	555	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252427.D Vial: 9
Acq On : 26 Mar 2024 9:47 Operator: SC
Sample : P2400922-043Dil (40mL) Inst : MS09
Misc : S37-03252401

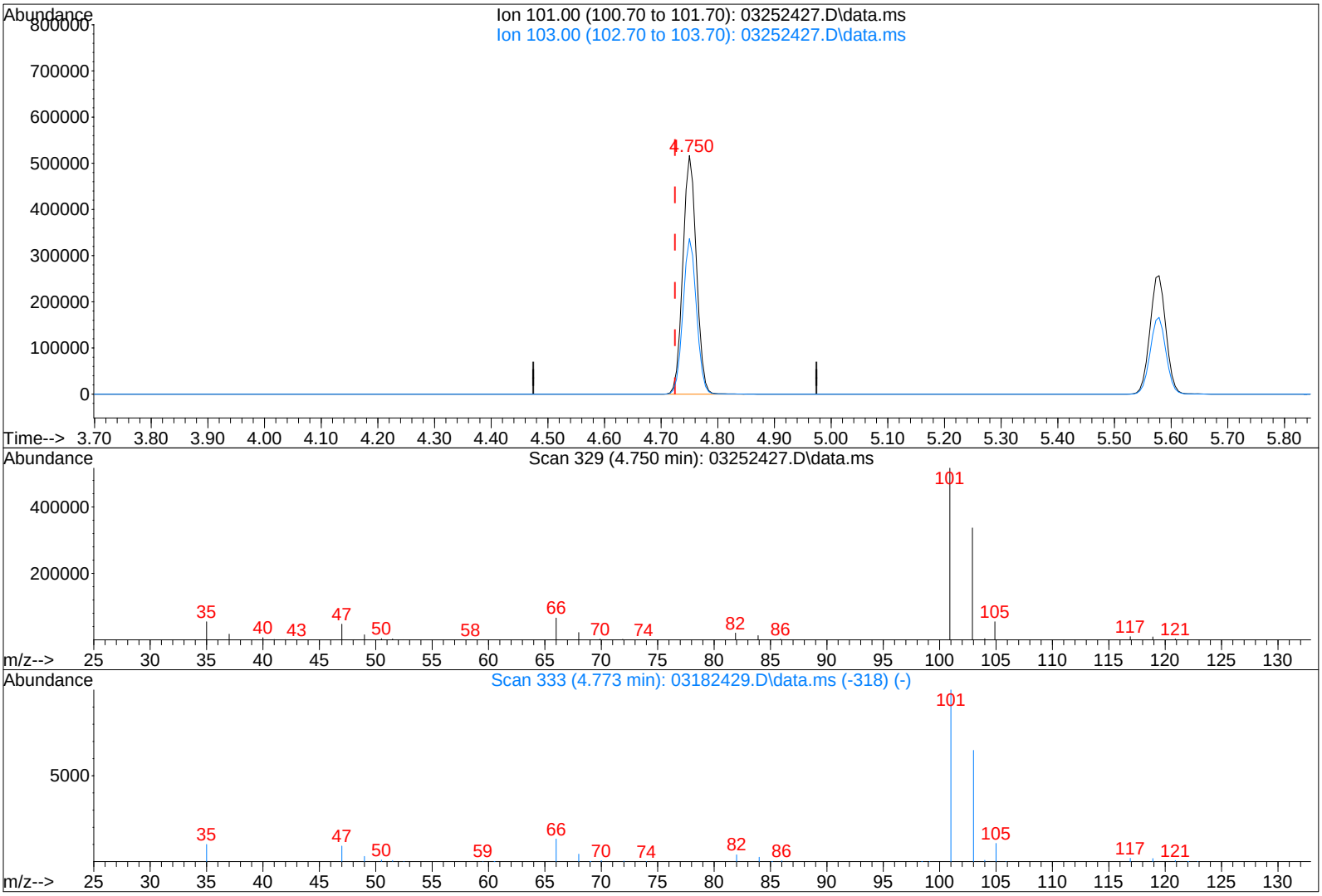
Quant Time: Mar 26 10:15:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252427.D Vial: 9
Acq On : 26 Mar 2024 9:47 Operator: SC
Sample : P2400922-043Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:14:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252427.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.025) 36.59ng

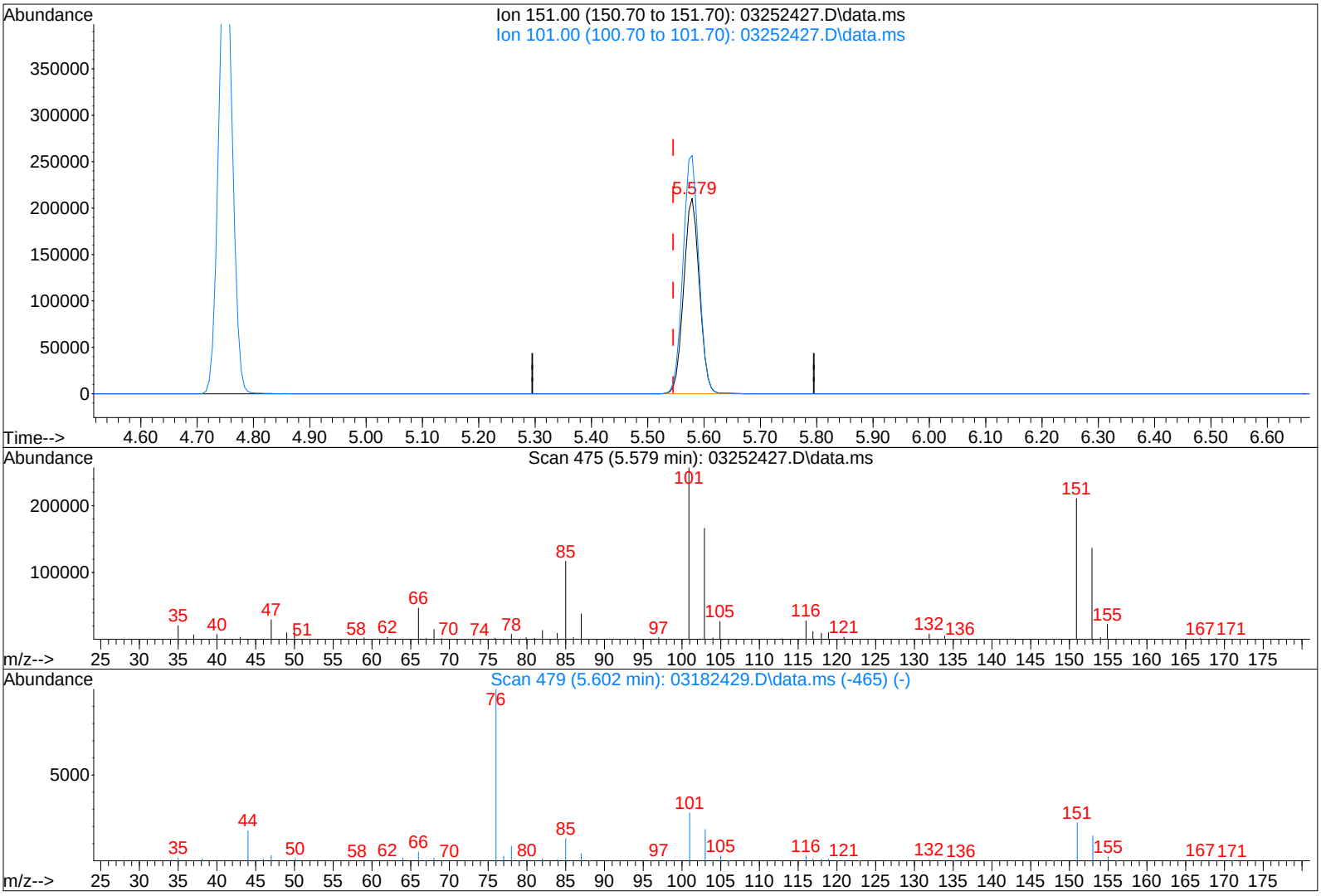
response 855414

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.85
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252427.D Vial: 9
Acq On : 26 Mar 2024 9:47 Operator: SC
Sample : P2400922-043Dil (40mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:14:16 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252427.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 41.36ng

response 407606

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	123.14
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252417.D
Acq On : 25 Mar 2024 20:21
Operator : SC
Sample : P2400922-043 (80mL)
Misc : S37-03252401
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252417.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	69	77	84	rVB4	15615	31561	0.54%	0.273%
2	3.614	123	129	141	rBV	78968	145920	2.50%	1.261%
3	4.273	241	245	252	rVB	9914	14330	0.25%	0.124%
4	4.630	303	308	320	rVB	49719	101058	1.73%	0.873%
5	4.750	320	329	342	rBV	2705819	4559616	78.03%	39.396%
6	5.579	463	475	494	rBV	3003856	5843538	100.00%	50.489%
7	5.749	499	505	513	rVB	6536	11696	0.20%	0.101%
8	6.294	595	601	609	rVB	15144	29606	0.51%	0.256%
9	6.425	613	624	630	rVV4	9952	24002	0.41%	0.207%
10	6.561	642	648	653	rVB3	6895	14119	0.24%	0.122%
11	6.663	658	666	681	rVB	13005	28765	0.49%	0.249%
12	7.220	755	764	772	rBV	324030	700187	11.98%	6.050%
13	7.288	772	776	783	rVV2	27695	56432	0.97%	0.488%
14	7.350	783	787	795	rVB2	6523	13110	0.22%	0.113%

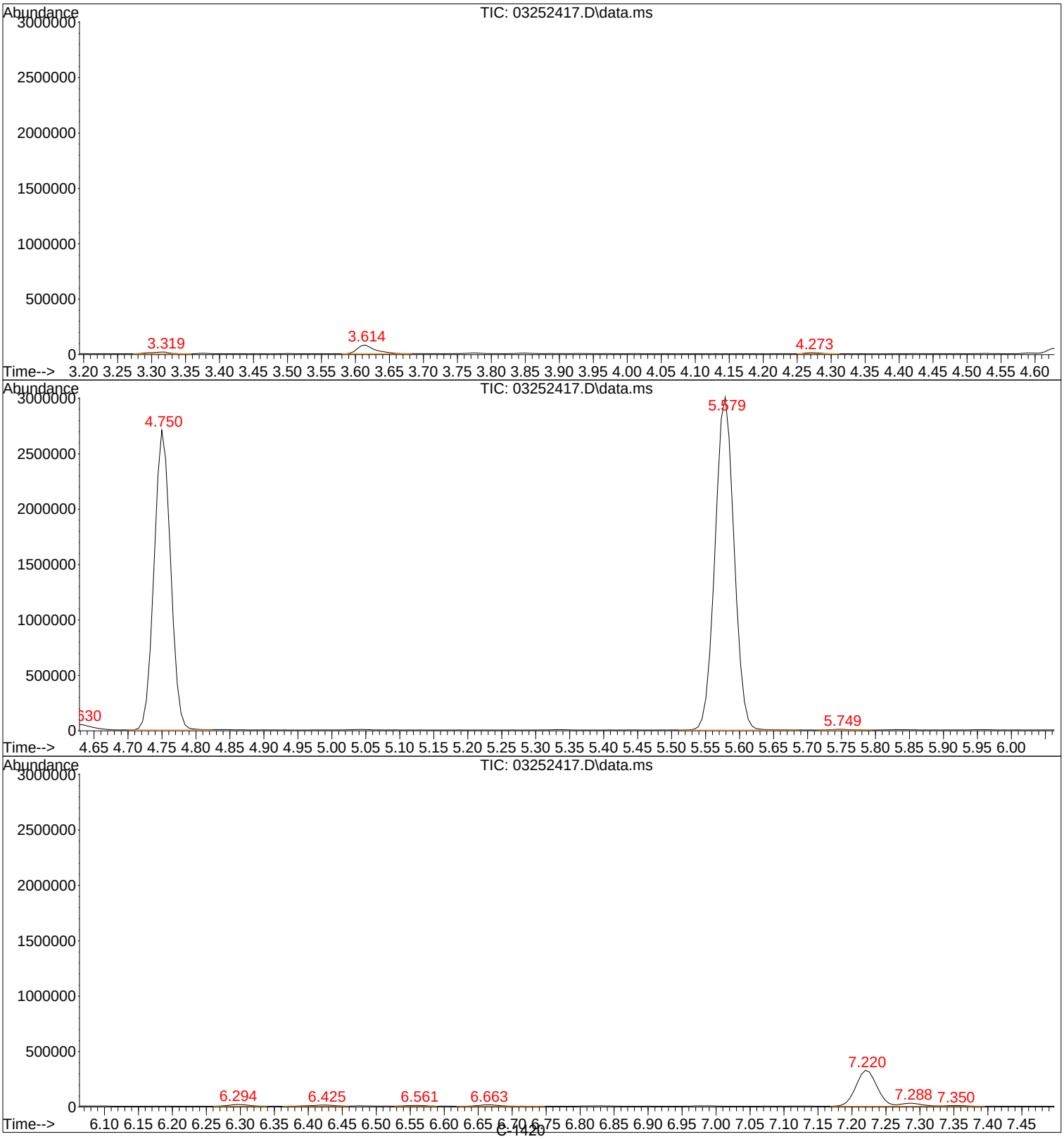
Sum of corrected areas: 11573940

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252417.D
Acq On : 25 Mar 2024 20:21
Operator : SC
Sample : P2400922-043 (80mL)
Misc : S37-03252401
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252417.D
Acq On : 25 Mar 2024 20:211
Operator : SCC
Sample : P2400922-043 (80mL))
Misc : S37-032524011
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

3/26/24

Quant Time: Mar 26 09:17:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	130899	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	556335	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	109207	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	267730	12.502	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
57) Toluene-d8 (SS2)	12.43	98	612267	13.964	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
73) Bromofluorobenzene (SS3)	16.82	174	193857	12.540	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.32	85	138	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	1815	0.143	ng		90
11) Acetonitrile	4.44	41	744	N.D.			
12) Acrolein	4.54	56	412	N.D.			
13) Acetone	4.65	58	5090	0.529	ng		97
14) Trichlorofluoromethane	4.75	101	1618784	62.294	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	512	N.D.			
16) Acrylonitrile	4.98	53	458	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.33	84	1033	0.074	ng		92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	921747	84.148	ng		99
22) Carbon Disulfide	5.60	76	1796	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.68	72	434	0.055	ng	#	35
28) cis-1,2-Dichloroethene	7.06	61	161	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	1062	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	1166	0.164	ng	#	89
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	743	No Calib		#	
41) Benzene	8.89	78	2062	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	564	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	120	N.D.			
47) Trichloroethene	10.14	130	1497	0.111	ng		93
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:17:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

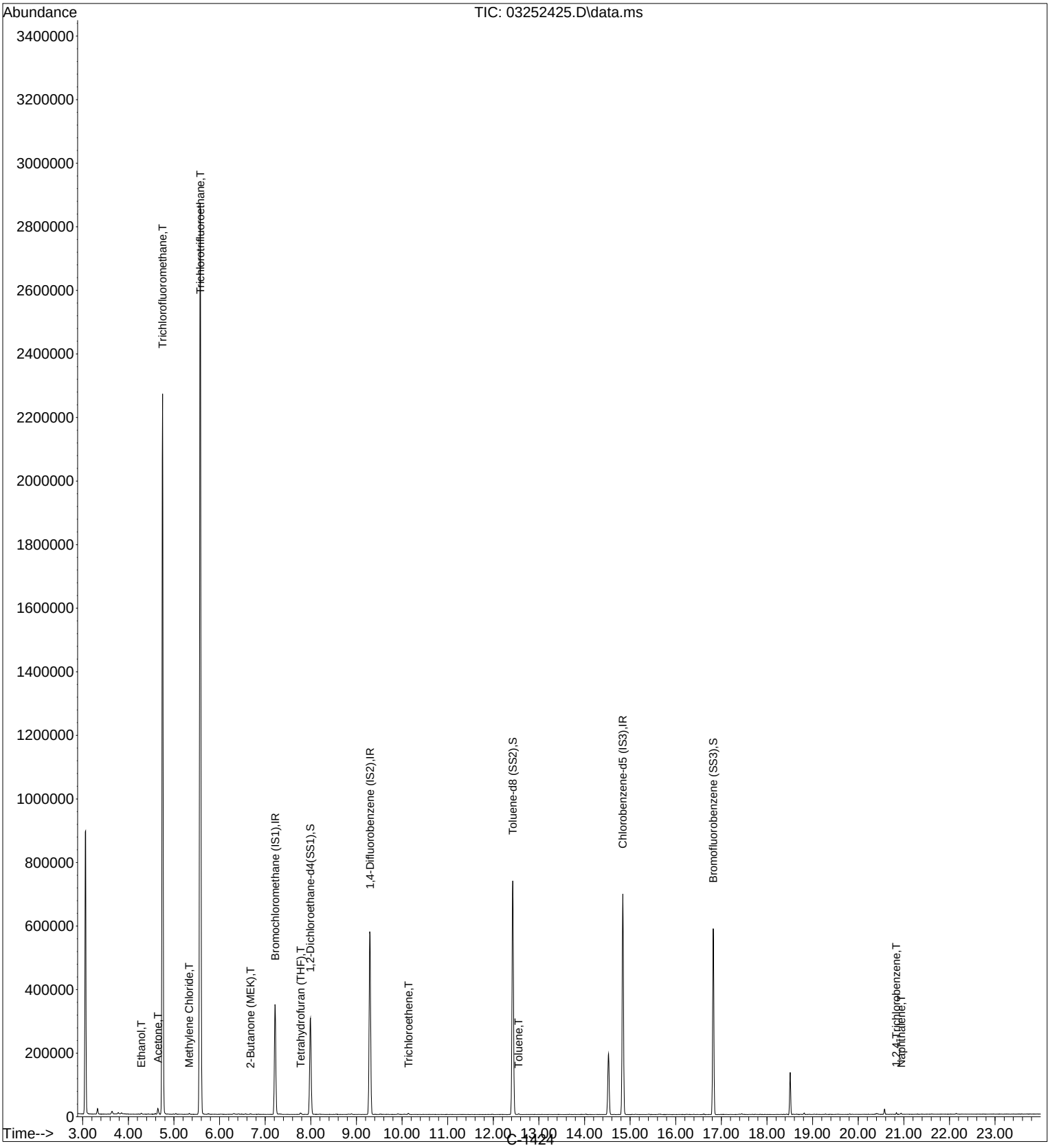
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2544	0.061 ng	95
59) 2-Hexanone	12.92	43	129	N.D.	
60) Dibromochloromethane	13.07	129	204	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	489	N.D.	
65) Chlorobenzene	14.89	112	438	N.D.	
66) Ethylbenzene	15.41	91	1138	N.D.	
67) m- & p-Xylenes	15.66	91	1869	N.D.	
68) Bromoform	15.67	173	289	N.D.	
69) Styrene	16.10	104	111	N.D.	
70) o-Xylene	16.24	91	696	N.D.	
71) n-Nonane	16.62	43	840	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	125	N.D.	
74) Cumene	17.03	105	694	N.D.	
75) alpha-Pinene	17.52	93	119	N.D.	
76) n-Propylbenzene	17.68	91	961	N.D.	
77) 3-Ethyltoluene	17.03	105	694	No Calib	#
78) 4-Ethyltoluene	17.86	105	553	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	351	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	694	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	542	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	620	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	791	N.D.	
87) sec-Butylbenzene	18.74	105	711	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	586	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	694	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	570	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1599	0.088 ng	100
95) Naphthalene	20.94	128	2881	0.402 ng	88
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	382	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	608	N.D.	
100) n-Butylbenzene	19.39	91	563	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:17:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:17:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

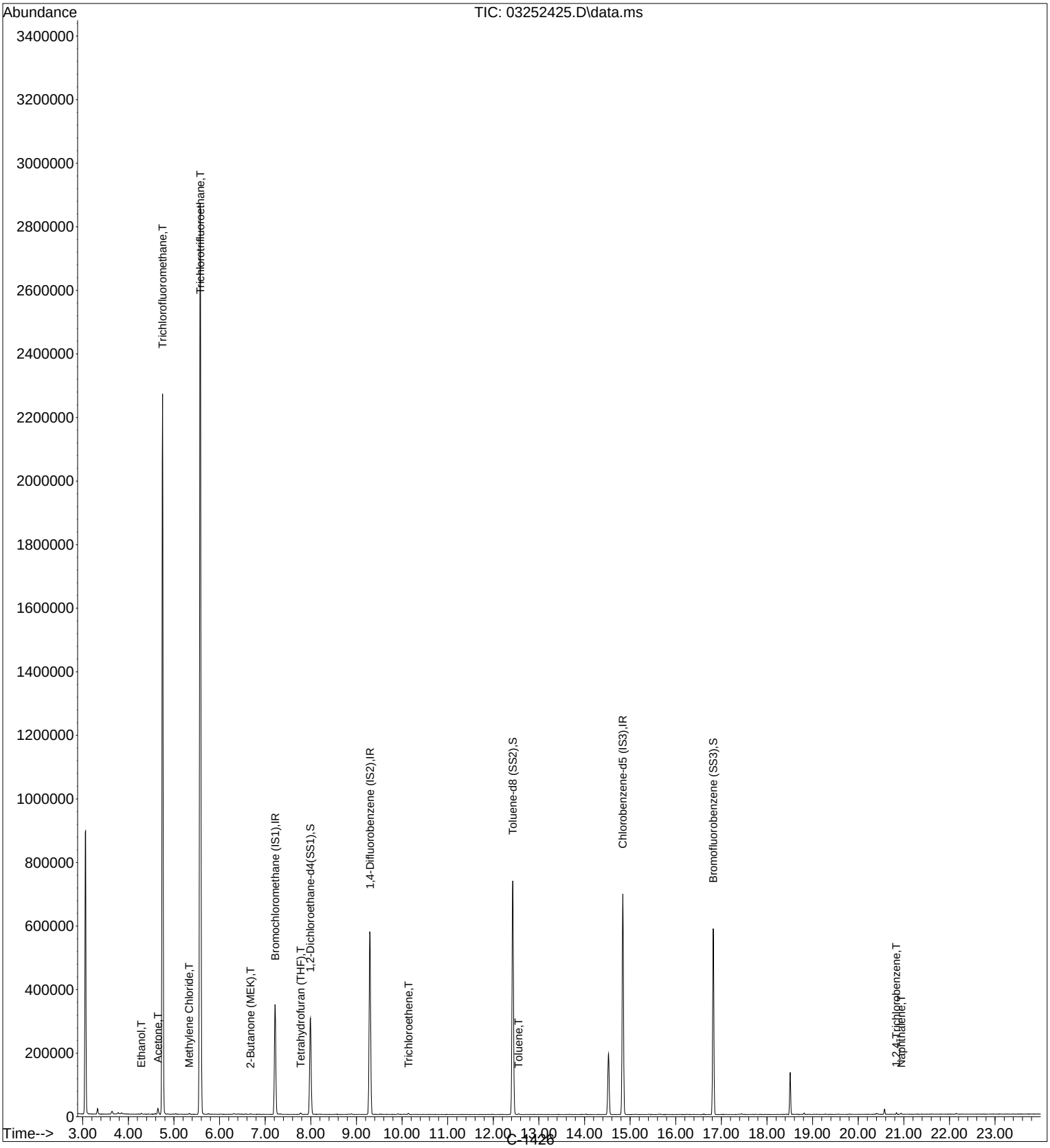
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	130899	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	556335	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	109207	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	267730	12.502	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
57) Toluene-d8 (SS2)	12.43	98	612267	13.964	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
73) Bromofluorobenzene (SS3)	16.82	174	193857	12.540	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
Target Compounds							Qvalue
10) Ethanol	4.28	45	1815	0.143	ng		90
13) Acetone	4.65	58	5090	0.529	ng		97
14) Trichlorofluoromethane	4.75	101	1618784	62.294	ng		100
19) Methylene Chloride	5.33	84	1033	0.074	ng		92
21) Trichlorotrifluoroethane	5.58	151	921747	84.148	ng		99
27) 2-Butanone (MEK)	6.68	72	434	0.055	ng	#	35
34) Tetrahydrofuran (THF)	7.78	72	1166	0.164	ng	#	89
47) Trichloroethene	10.14	130	1497	0.111	ng		93
58) Toluene	12.56	91	2544	0.061	ng		95
94) 1,2,4-Trichlorobenzene	20.84	180	1599	0.088	ng		100
95) Naphthalene	20.94	128	2881	0.402	ng		88

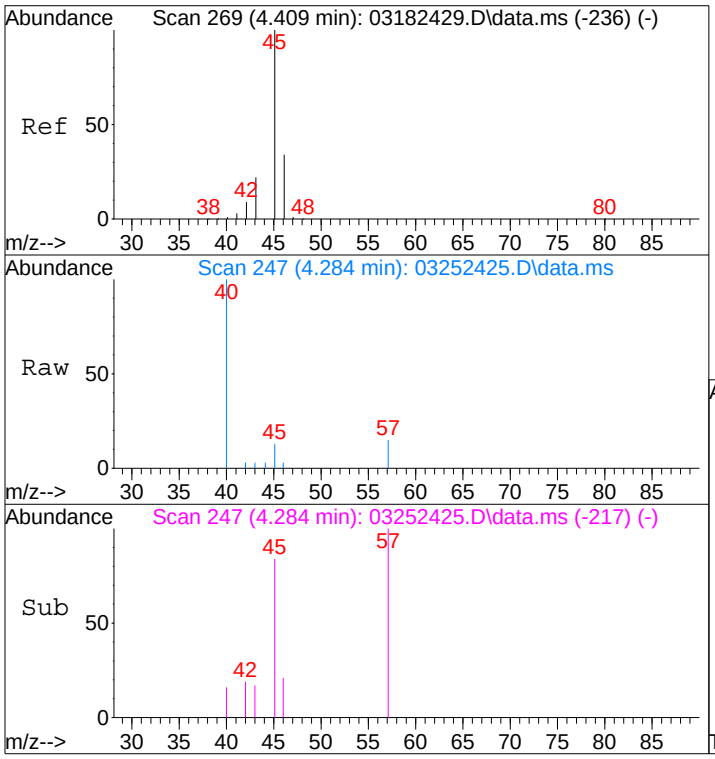
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:17:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

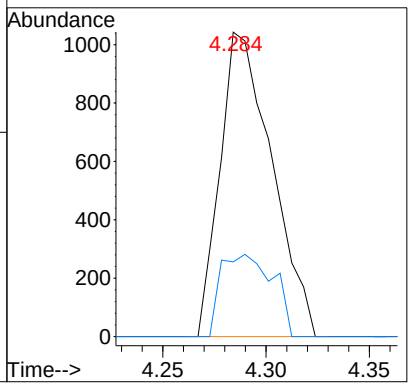


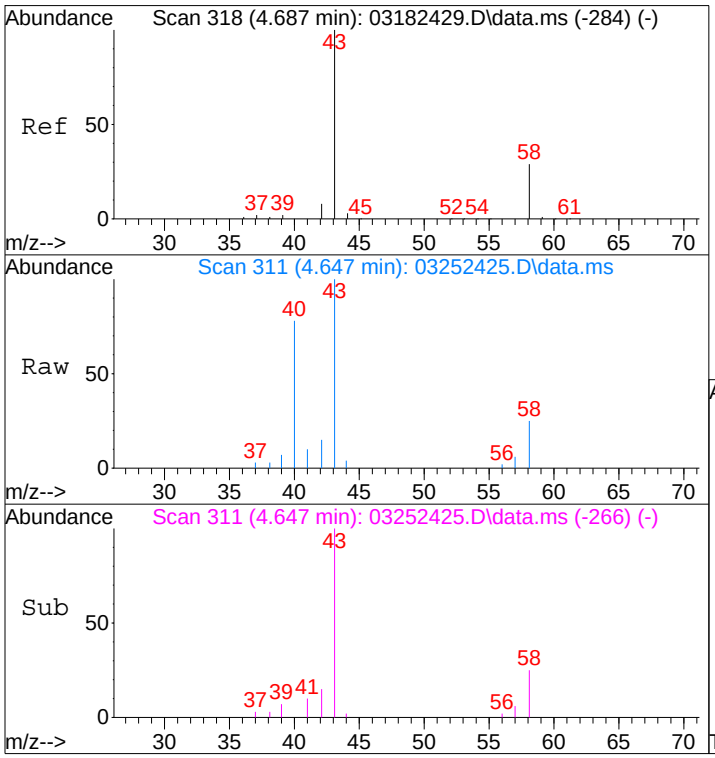


#10
Ethanol
Concen: 0.14 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.081 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion: 45 Resp: 1815

Ion	Ratio	Lower	Upper
45	100		
46	27.4	13.3	53.3

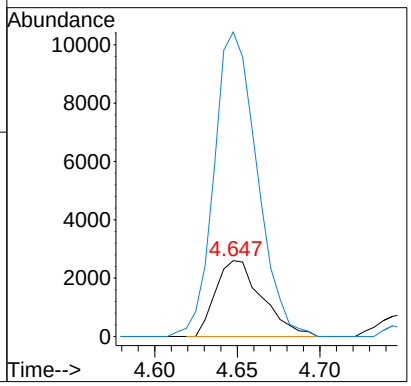


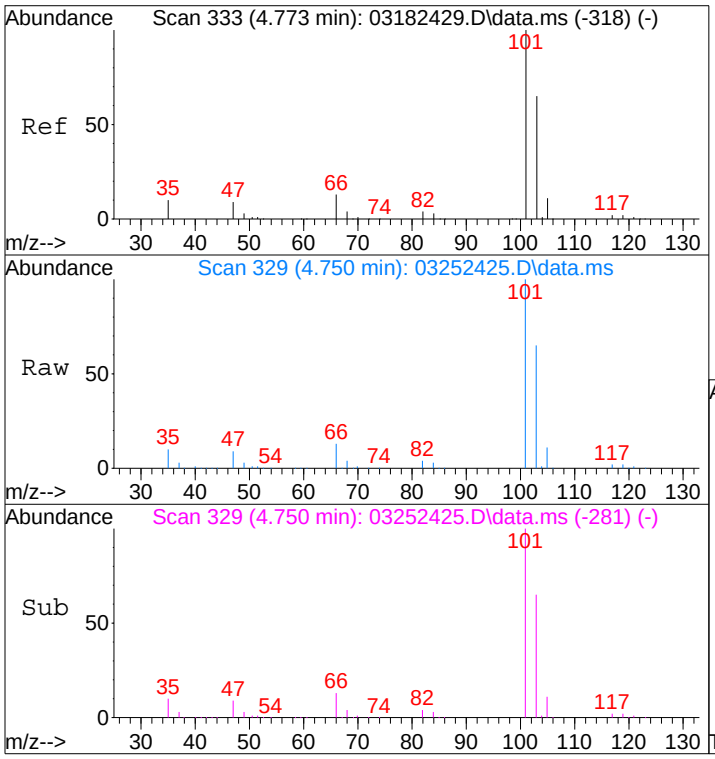


#13
Acetone
Concen: 0.53 ng
RT: 4.65 min Scan# 311
Delta R.T. 0.007 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion: 58 Resp: 5090

Ion	Ratio	Lower	Upper
58	100		
43	372.1	350.1	410.1

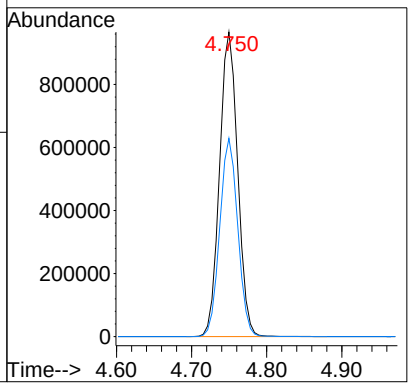


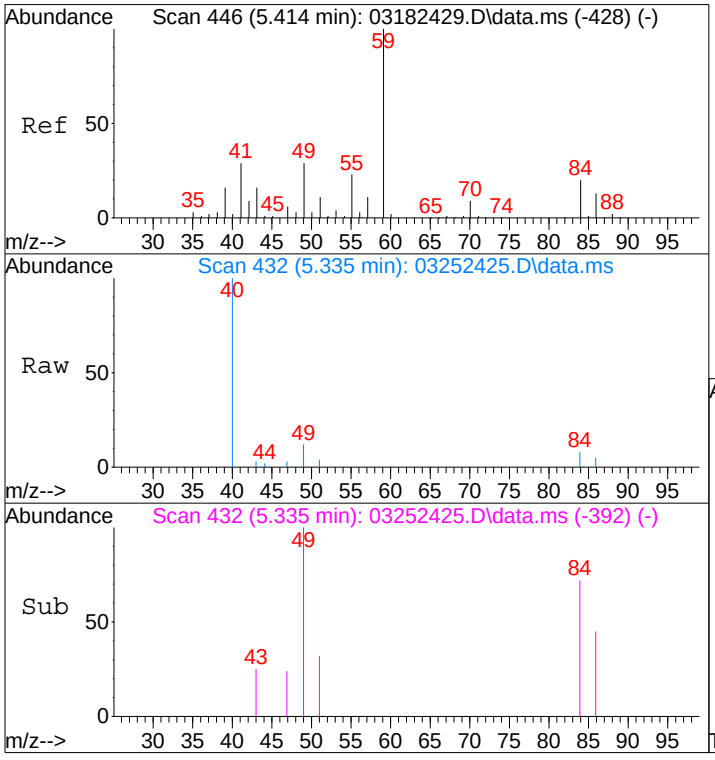


#14
Trichlorofluoromethane
Concen: 62.29 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion:101 Resp: 1618784

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.7	84.7

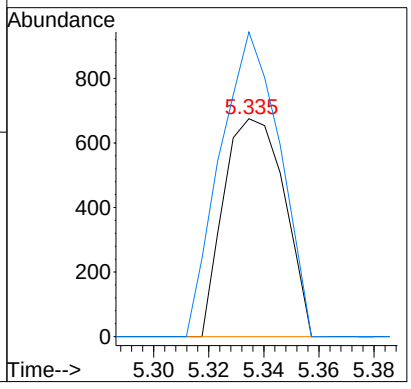


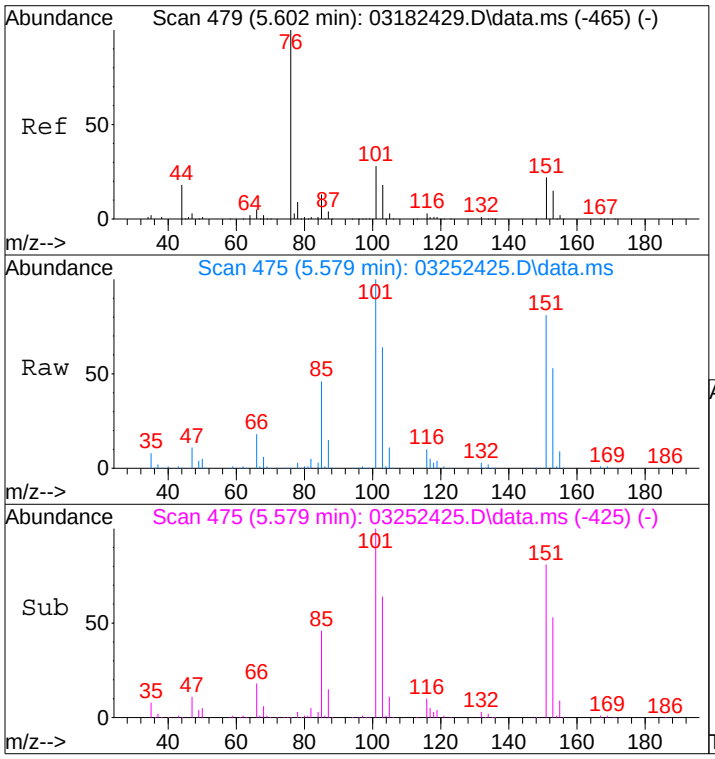


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.025 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion: 84 Resp: 1033

Ion	Ratio	Lower	Upper
84	100		
49	137.8	122.9	172.9

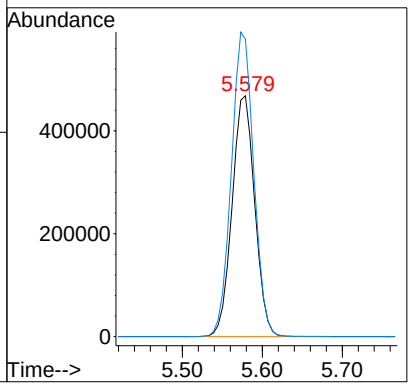


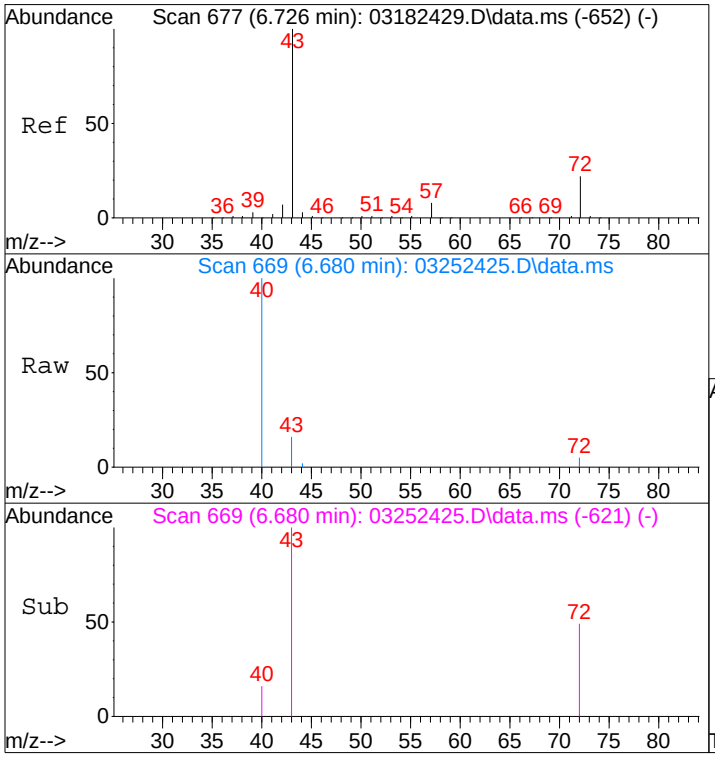


#21
Trichlorotrifluoroethane
Concen: 84.15 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion:151 Resp: 921747

Ion	Ratio	Lower	Upper
151	100		
101	125.1	106.4	146.4

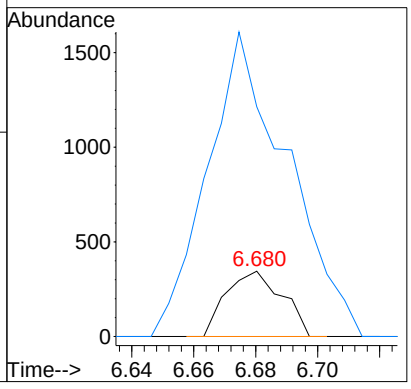


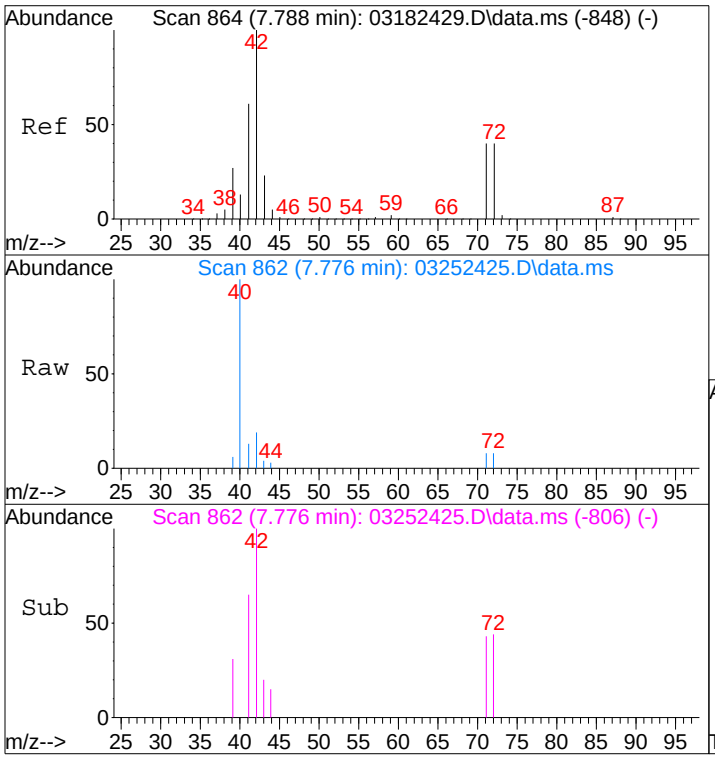


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.022 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion: 72 Resp: 434

Ion	Ratio	Lower	Upper
72	100		
43	665.9	468.6	508.6#

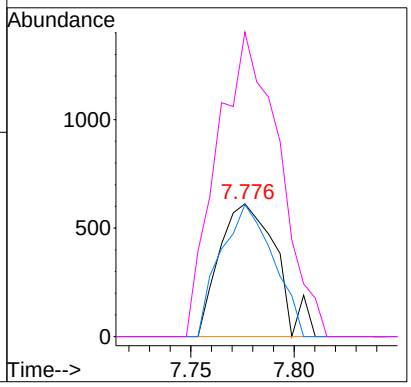


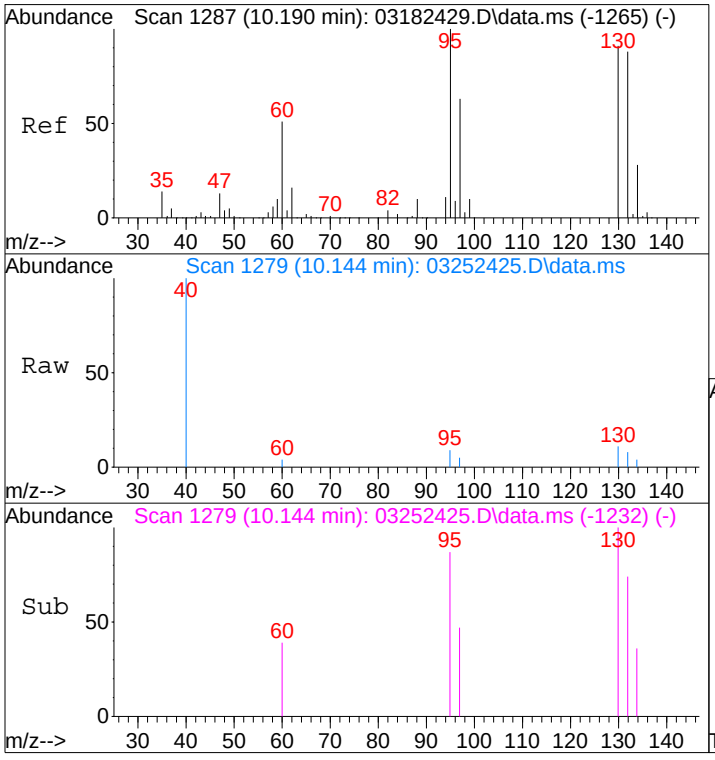


#34
Tetrahydrofuran (THF)
Concen: 0.16 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.067 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion: 72 Resp: 1166

Ion	Ratio	Lower	Upper
72	100		
71	92.7	80.7	120.7
42	251.9	255.0	295.0#

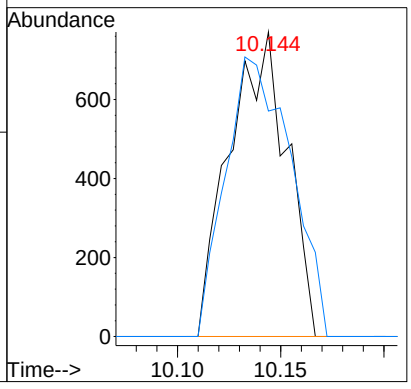


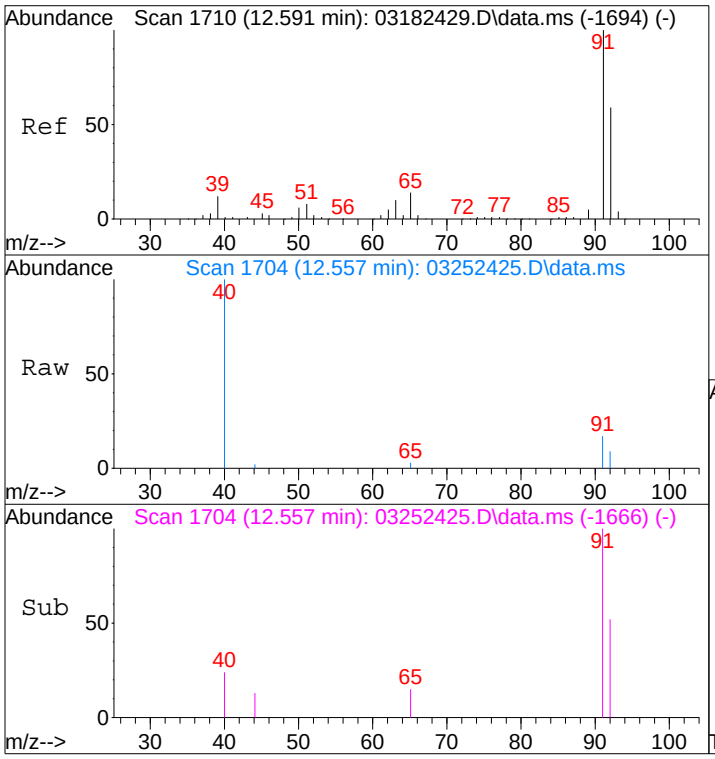


#47
Trichloroethene
Concen: 0.11 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.017 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion:130 Resp: 1497

Ion	Ratio	Lower	Upper
130	100		
132	103.9	77.5	117.5

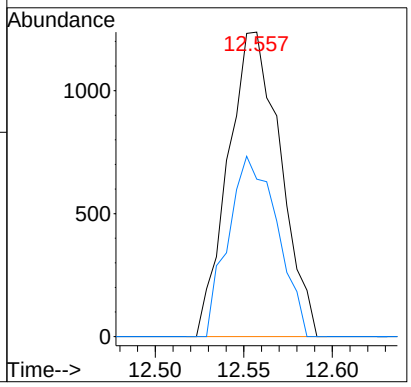


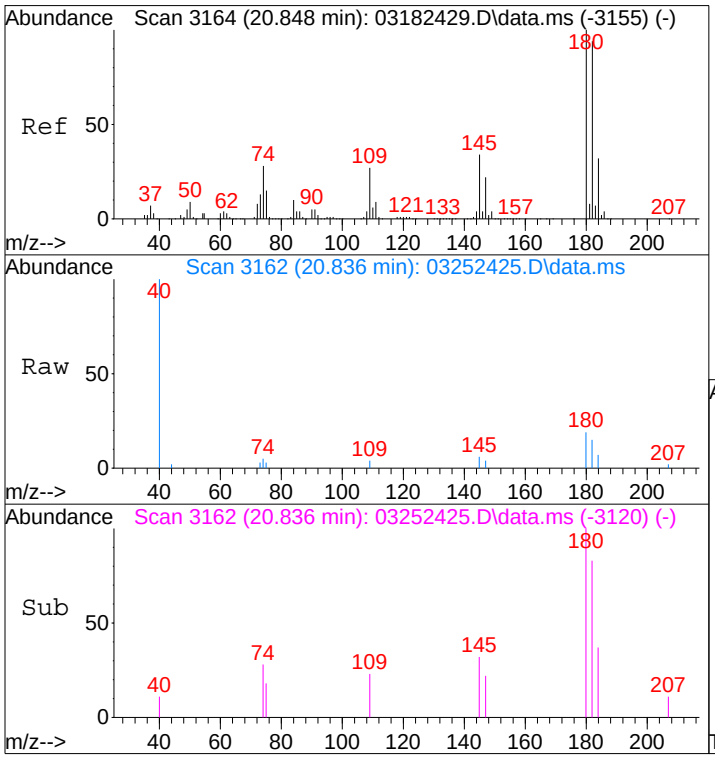


#58
Toluene
Concen: 0.06 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion: 91 Resp: 2544

Ion	Ratio	Lower	Upper
91	100		
92	55.5	39.2	79.2

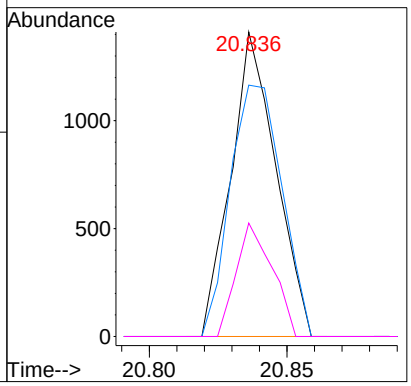


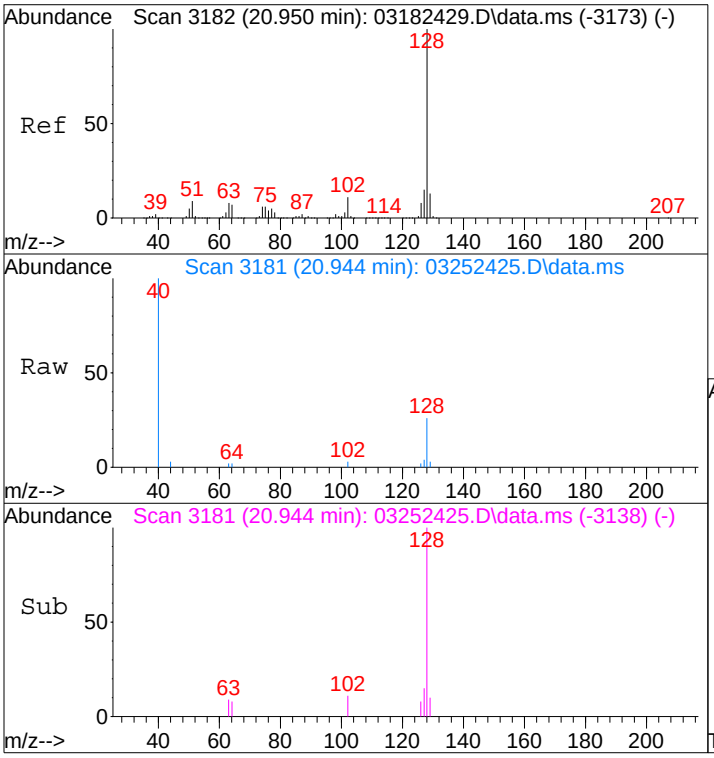


#94
1,2,4-Trichlorobenzene
Concen: 0.09 ng
RT: 20.84 min Scan# 3162
Delta R.T. -0.012 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion:180 Resp: 1599

Ion	Ratio	Lower	Upper
180	100		
182	95.2	76.1	114.1
184	30.0	24.5	36.7

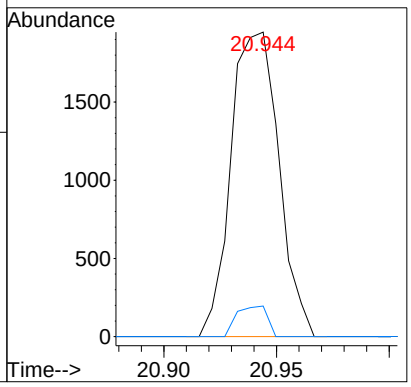




#95
Naphthalene
Concen: 0.40 ng
RT: 20.94 min Scan# 3181
Delta R.T. -0.006 min
Lab File: 03252425.D
Acq: 26 Mar 2024 8:42

Tgt Ion:128 Resp: 2881

Ion	Ratio	Lower	Upper
128	100		
129	6.4	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 11:38:47 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

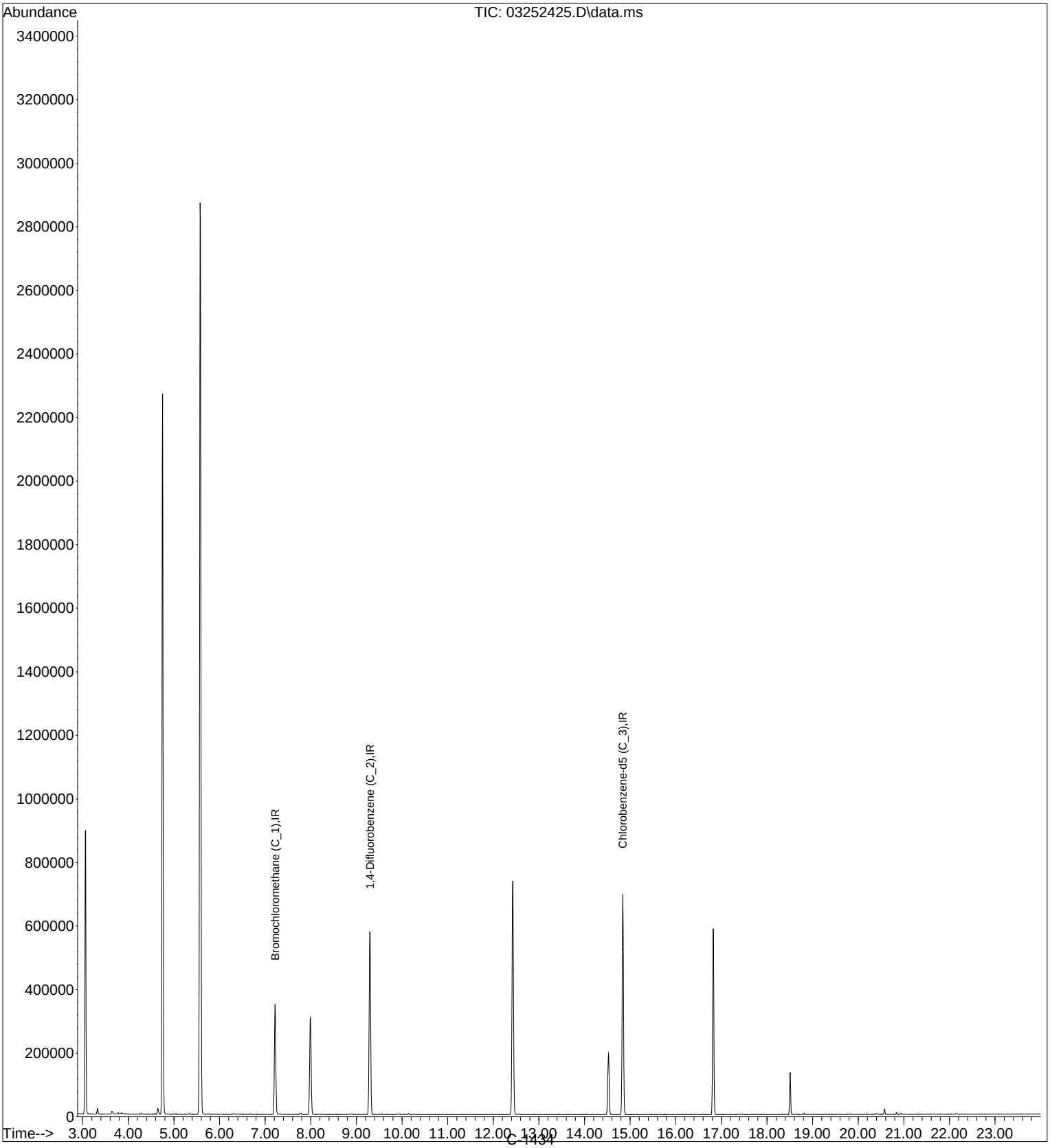
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	130899	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	556335	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	109207	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.26	65	62	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	719	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.65	57	1050	N.D.		
11) Methyl Acetate	5.35	43	446	N.D.		
12) 2-Methylpentane	6.46	71	53	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	480	N.D.		
27) 4-Chlorotoluene	17.68	91	961	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	69	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252425.D Vial: 1
Acq On : 26 Mar 2024 8:42 Operator: SC
Sample : P2400922-044 (5.0mL) Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 11:38:47 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252425.D
Acq On : 26 Mar 2024 8:42
Operator : SC
Sample : P2400922-044 (5.0mL)
Misc : S37-03252401
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252425.D\data.ms

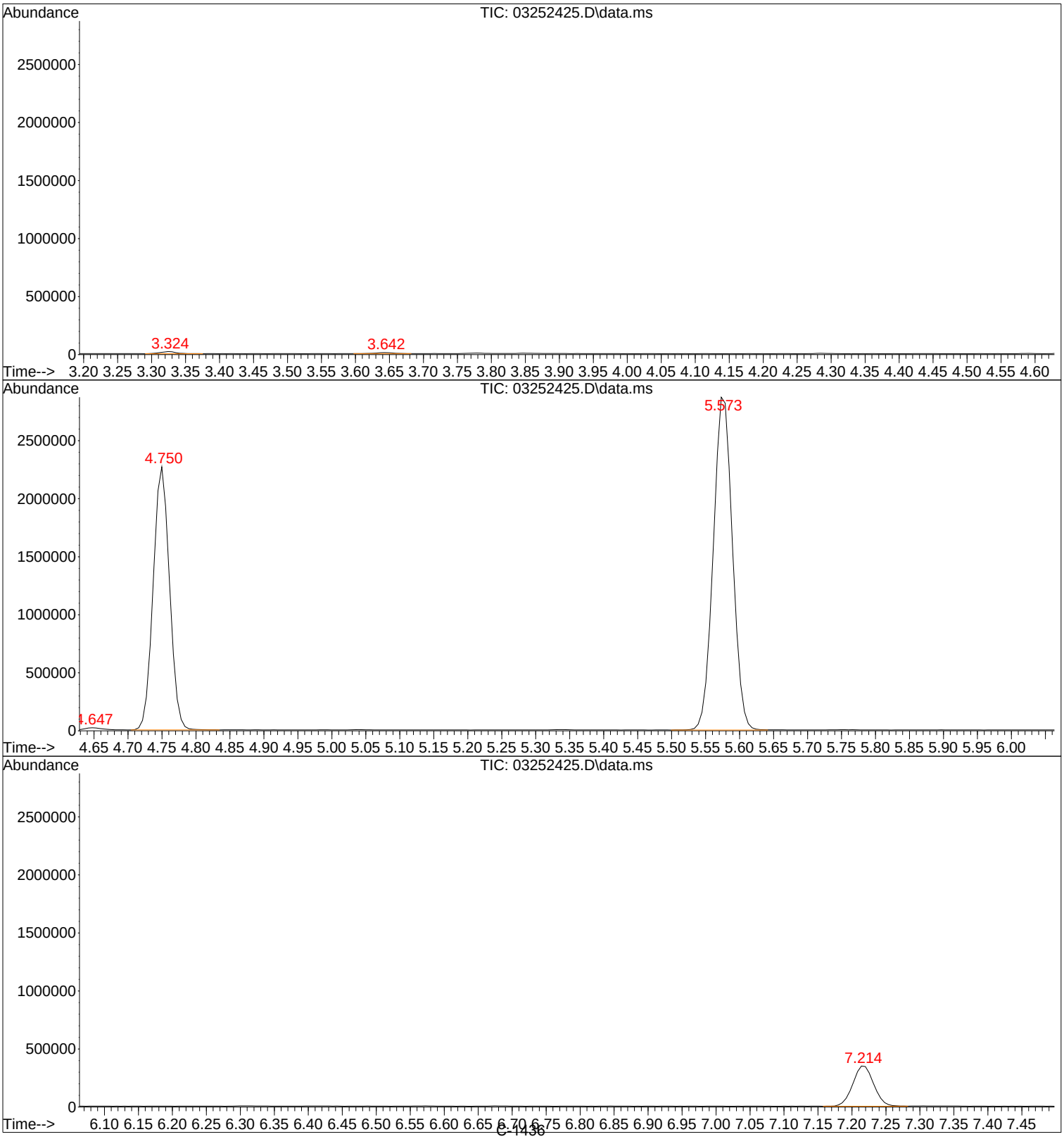
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.324	72	78	87	rVB4	17806	28678	0.51%	0.280%
2	3.642	126	134	141	rBV3	9002	18284	0.32%	0.179%
3	4.647	305	311	318	rBV	18448	32429	0.58%	0.317%
4	4.750	321	329	344	rVV	2266384	3783299	67.23%	36.975%
5	5.573	461	474	486	rBV	2867693	5627053	100.00%	54.995%
6	7.214	753	763	775	rBV	345834	742200	13.19%	7.254%

Sum of corrected areas: 10231943

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252425.D
Acq On : 26 Mar 2024 8:42
Operator : SC
Sample : P2400922-044 (5.0mL)
Misc : S37-03252401
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252425.D
Acq On : 26 Mar 2024 8:422
Operator : SCC
Sample : P2400922-044 (5.0mL))
Misc : S37-032524011
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:59:12 2024 3/26/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122020	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	527305	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107298	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	249412	12.494	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	12.43	98	601615	13.965	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
73) Bromofluorobenzene (SS3)	16.83	174	197952	13.033	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
Target Compounds							Qvalue
2) Propene	3.33	42	298	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	2072	0.176	ng		90
11) Acetonitrile	4.44	41	331	N.D.			
12) Acrolein	4.55	56	55	N.D.			
13) Acetone	4.66	58	3223	0.359	ng	#	78
14) Trichlorofluoromethane	4.77	101	431	N.D.			
15) 2-Propanol (Isopropanol)	4.87	45	246	N.D.			
16) Acrylonitrile	4.99	53	381	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	659	0.050	ng		83
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.61	76	1123	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	472	0.064	ng	#	61
28) cis-1,2-Dichloroethene	7.07	61	246	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	736	No Calib		#	
41) Benzene	8.89	78	981	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.13	130	546	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:59:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

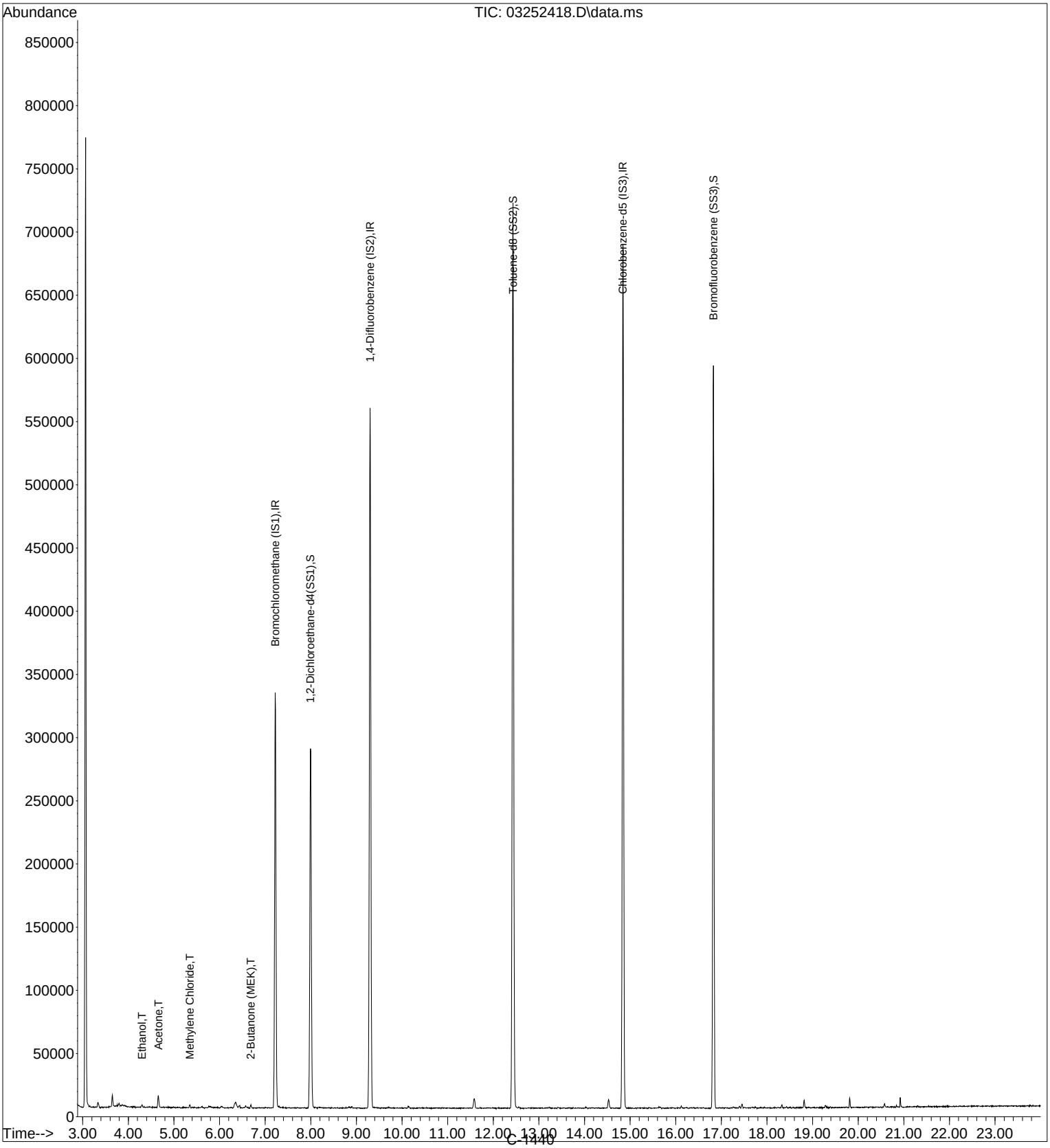
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	787	N.D.	
59) 2-Hexanone	12.93	43	129	N.D.	
60) Dibromochloromethane	13.07	129	298	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	506	N.D.	
65) Chlorobenzene	14.90	112	417	N.D.	
66) Ethylbenzene	15.41	91	485	N.D.	
67) m- & p-Xylenes	15.67	91	928	N.D.	
68) Bromoform	15.67	173	189	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	342	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	468	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	712	N.D.	
77) 3-Ethyltoluene	17.03	105	468	No Calib	#
78) 4-Ethyltoluene	17.87	105	450	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	280	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	468	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	326	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	372	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	318	N.D.	
87) sec-Butylbenzene	18.74	105	557	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	324	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	468	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	333	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	498	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	384	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	560	N.D.	
100) n-Butylbenzene	19.39	91	359	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:59:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:59:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

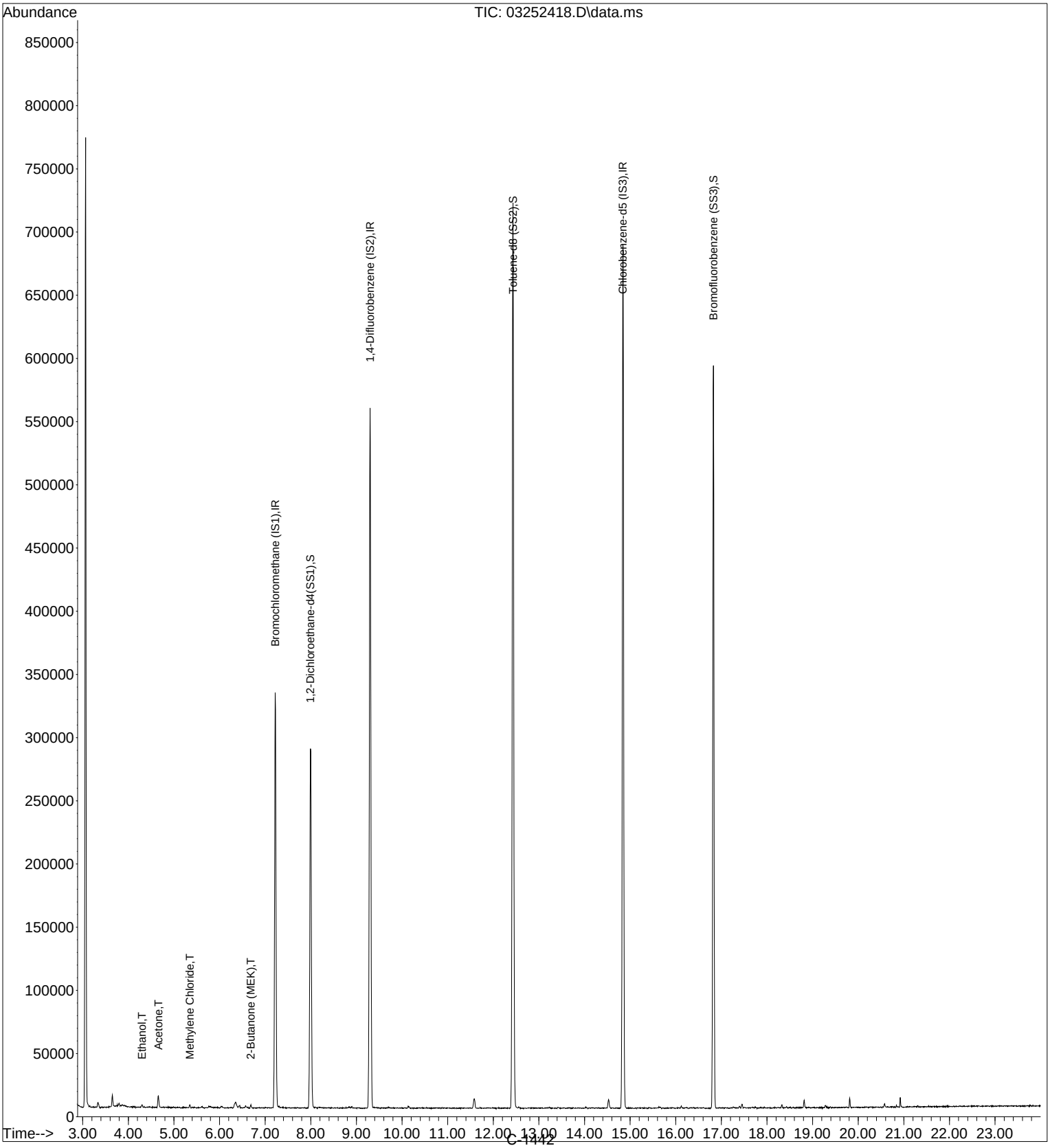
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122020	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	527305	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107298	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	249412	12.494	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
57) Toluene-d8 (SS2)	12.43	98	601615	13.965	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
73) Bromofluorobenzene (SS3)	16.83	174	197952	13.033	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
Target Compounds							Qvalue
10) Ethanol	4.30	45	2072	0.176	ng		90
13) Acetone	4.66	58	3223	0.359	ng	#	78
19) Methylene Chloride	5.35	84	659	0.050	ng		83
27) 2-Butanone (MEK)	6.69	72	472	0.064	ng	#	61

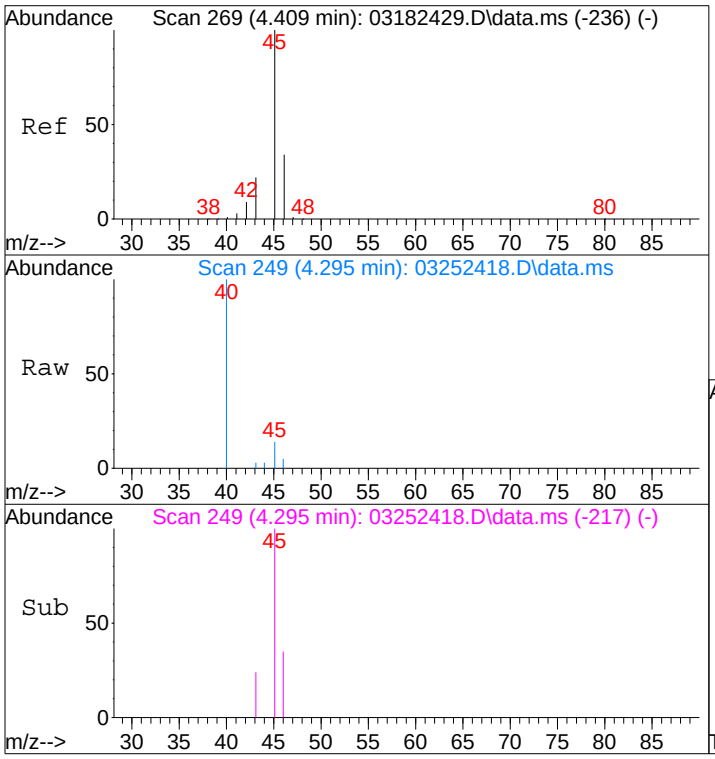
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:59:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

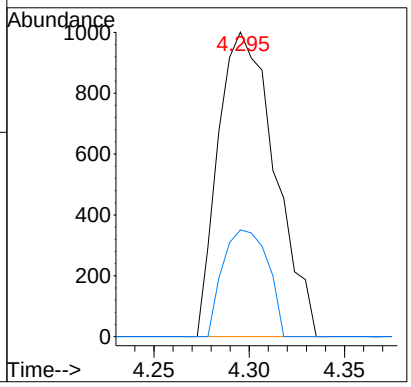


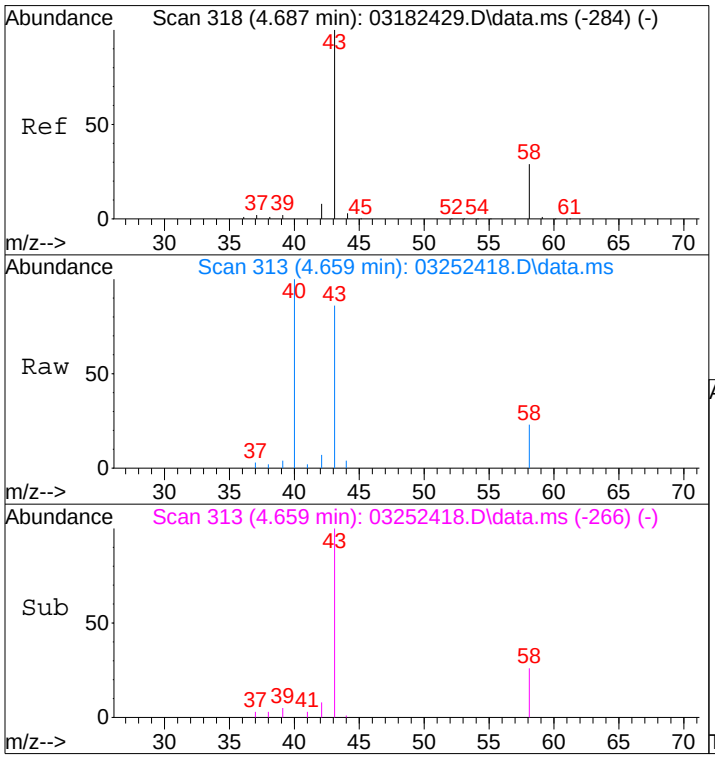


#10
Ethanol
Concen: 0.18 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.069 min
Lab File: 03252418.D
Acq: 25 Mar 2024 20:54

Tgt Ion: 45 Resp: 2072

Ion	Ratio	Lower	Upper
45	100		
46	27.8	13.3	53.3

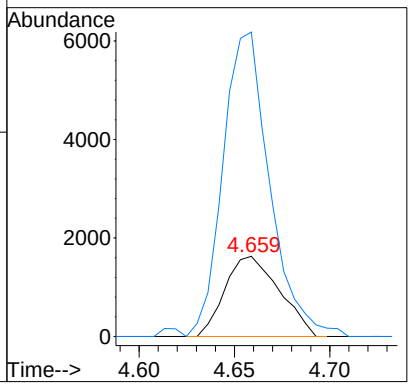


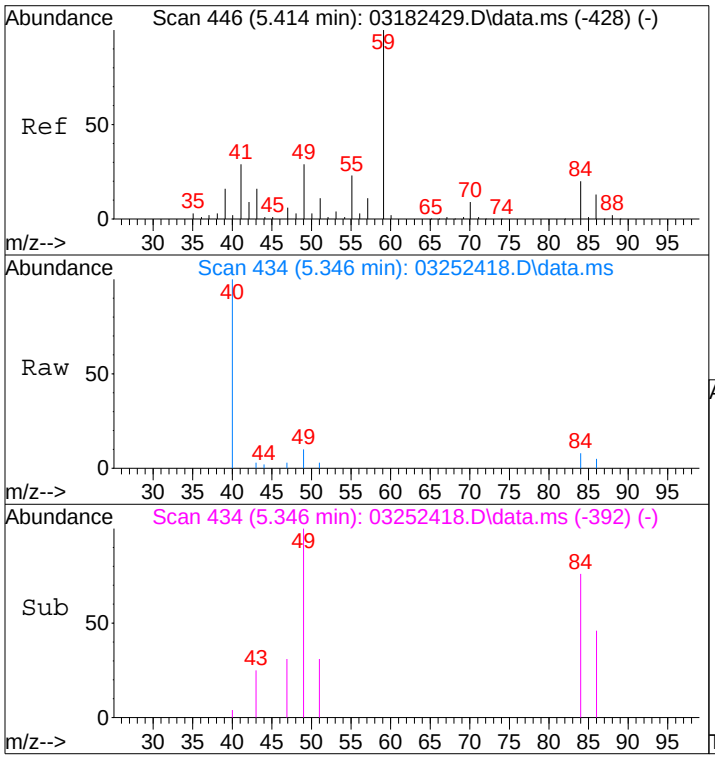


#13
Acetone
Concen: 0.36 ng
RT: 4.66 min Scan# 313
Delta R.T. 0.019 min
Lab File: 03252418.D
Acq: 25 Mar 2024 20:54

Tgt Ion: 58 Resp: 3223

Ion	Ratio	Lower	Upper
58	100		
43	330.8	350.1	410.1#

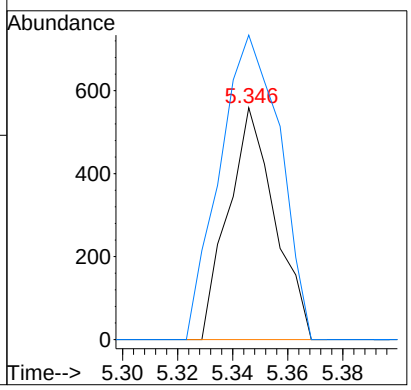


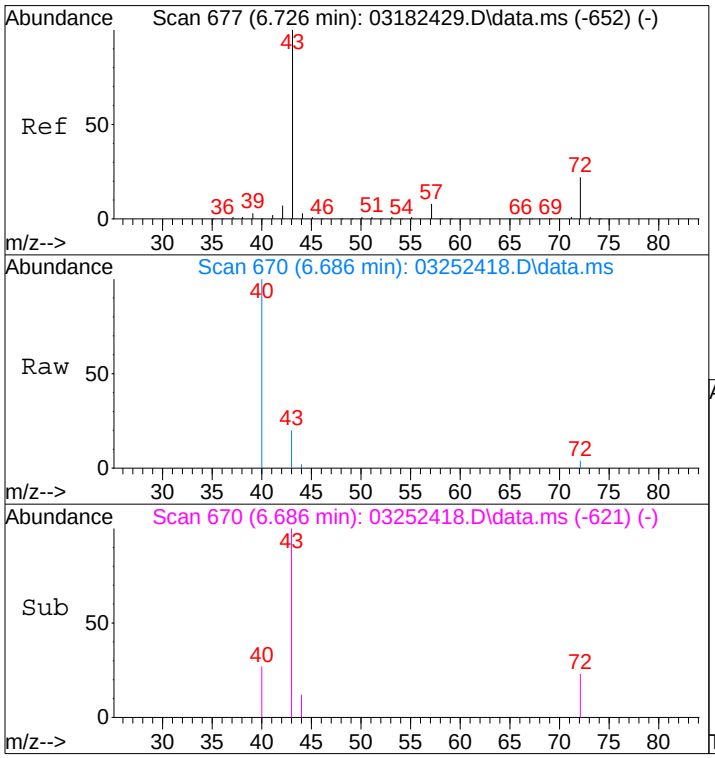


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.014 min
Lab File: 03252418.D
Acq: 25 Mar 2024 20:54

Tgt Ion: 84 Resp: 659

Ion	Ratio	Lower	Upper
84	100		
49	169.7	122.9	172.9

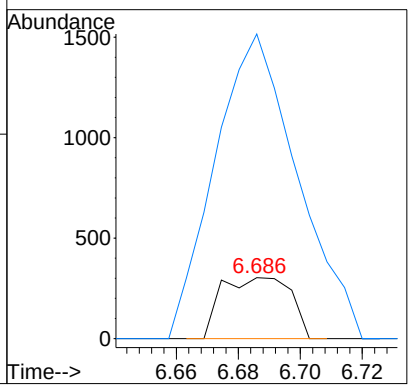




#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 6.69 min Scan# 670
Delta R.T. 0.028 min
Lab File: 03252418.D
Acq: 25 Mar 2024 20:54

Tgt Ion: 72 Resp: 472

Ion	Ratio	Lower	Upper
72	100		
43	594.9	468.6	508.6#



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:33:06 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

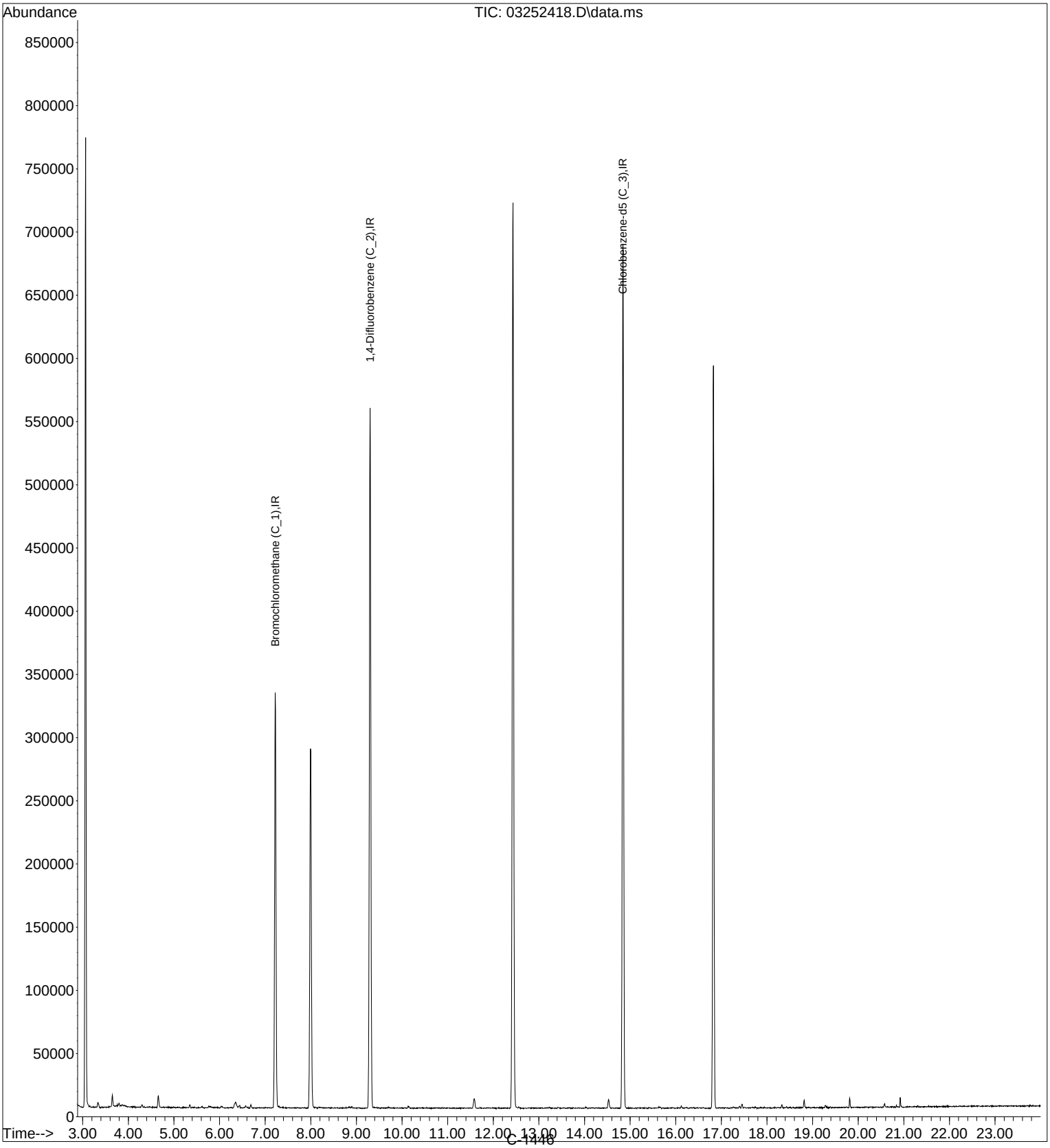
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	122020	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	527305	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	107298	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.67	57	288	N.D.		
11) Methyl Acetate	5.35	43	213	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	408	N.D.		
27) 4-Chlorotoluene	17.68	91	712	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252418.D Vial: 10
Acq On : 25 Mar 2024 20:54 Operator: SC
Sample : P2400922-045 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:33:06 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252418.D
Acq On : 25 Mar 2024 20:54
Operator : SC
Sample : P2400922-045 (400mL)PF2
Misc : S37-03252401
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252418.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.648	130	135	147	rBV	9105	13968	2.02%	1.887%
2	4.659	307	313	326	rBV	9591	18381	2.66%	2.483%
3	6.351	599	611	620	rBV3	4993	16996	2.46%	2.296%
4	7.220	755	764	775	rBV	328647	690905	100.00%	93.334%

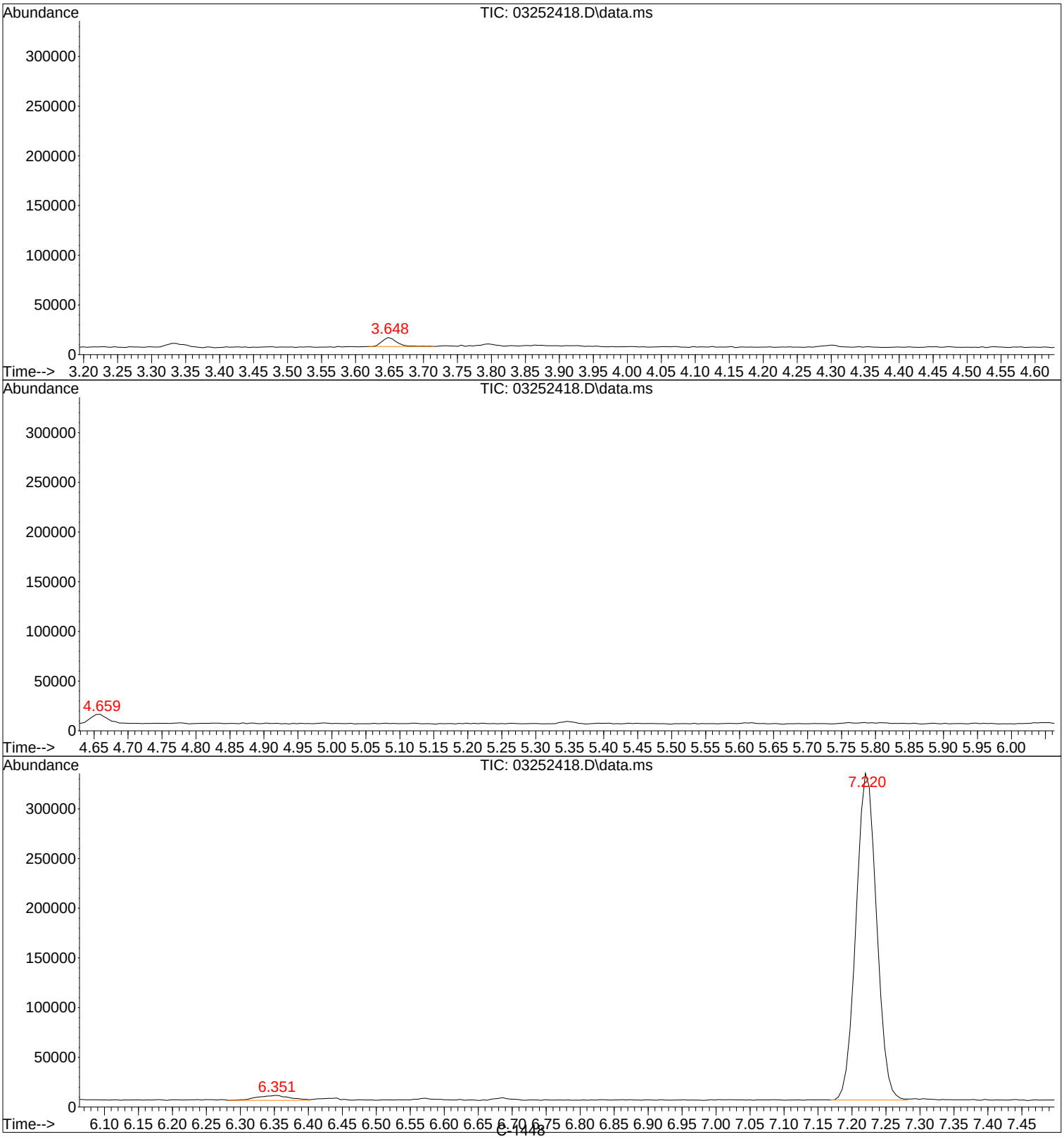
Sum of corrected areas: 740250

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252418.D
Acq On : 25 Mar 2024 20:54
Operator : SC
Sample : P2400922-045 (400mL)PF2
Misc : S37-03252401
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252418.D
Acq On : 25 Mar 2024 20:544
Operator : SCC
Sample : P2400922-045 (400mL)PF22
Misc : S37-032524011
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:01:29 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122259	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	527302	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107934	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	249698	12.484	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
57) Toluene-d8 (SS2)	12.43	98	604269	13.944	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.52%				
73) Bromofluorobenzene (SS3)	16.83	174	198546	12.995	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	7815m	0.312	ng		
4) Chloromethane	3.50	50	1886	0.101	ng		88
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	6998	0.592	ng		97
11) Acetonitrile	4.43	41	1246	N.D.			
12) Acrolein	4.53	56	468	0.055	ng		84
13) Acetone	4.64	58	8127	0.904	ng	#	82
14) Trichlorofluoromethane	4.75	101	142710	5.880	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	4031	0.113	ng		80
16) Acrylonitrile	4.98	53	763	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.33	84	1861	0.142	ng		91
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	140960	13.778	ng		98
22) Carbon Disulfide	5.60	76	12209	0.300	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	820	0.112	ng	#	72
28) cis-1,2-Dichloroethene	7.06	61	379	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	11545	2.617	ng		96
31) n-Hexane	7.31	57	517	N.D.			
32) Chloroform	7.35	83	1673	0.079	ng		91
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	298	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	521	No Calib		#	
41) Benzene	8.89	78	20610	0.434	ng		99
42) Carbon Tetrachloride	9.06	117	659	N.D.			
43) Cyclohexane	9.22	84	337	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	198	N.D.			
47) Trichloroethene	10.14	130	1047	0.082	ng		99
48) 1,4-Dioxane	10.13	88	807	0.097	ng		86
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:01:29 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

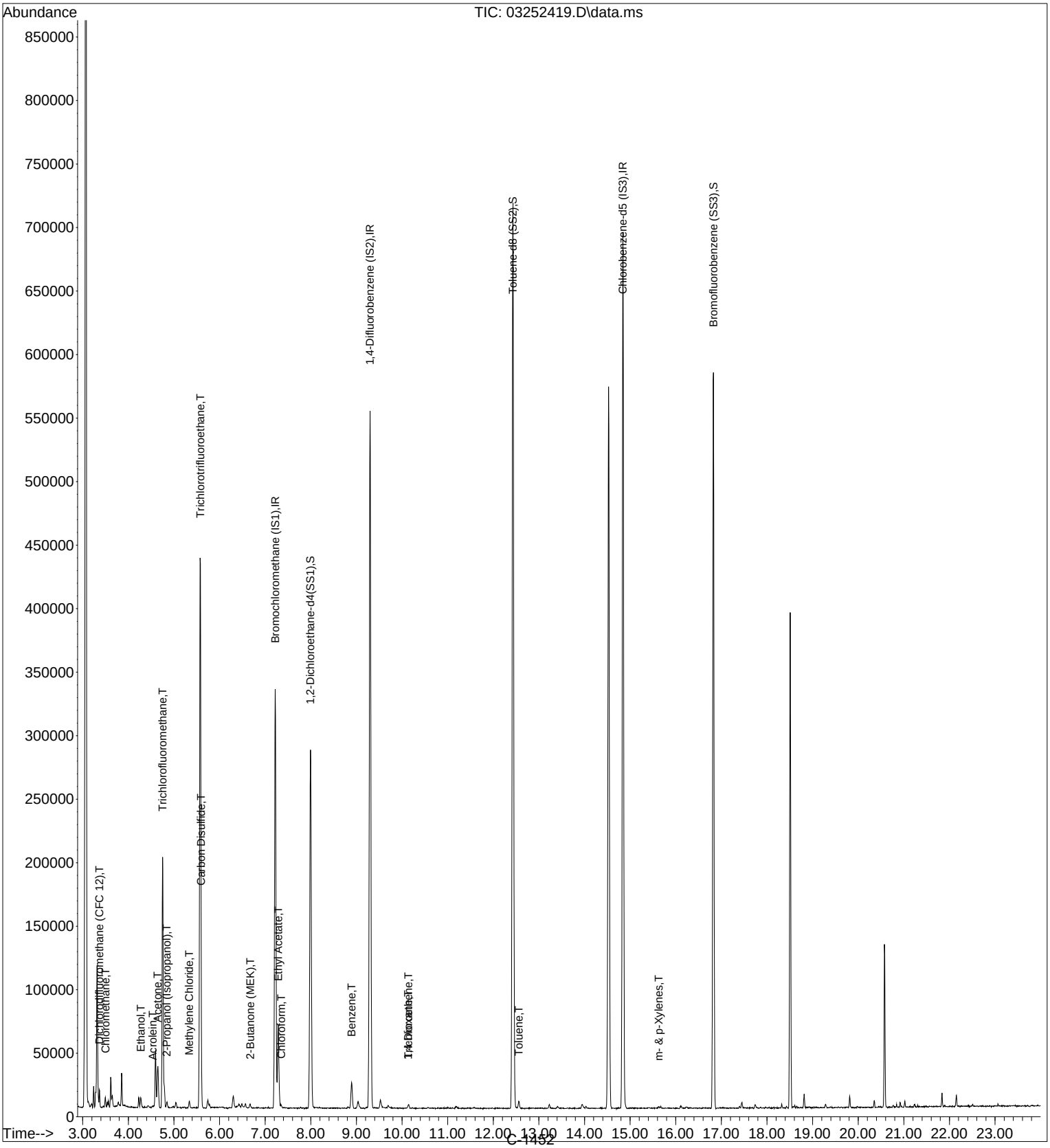
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5451	0.132 ng	100
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	270	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.04	166	579	N.D.	
65) Chlorobenzene	14.90	112	1150	N.D.	
66) Ethylbenzene	15.41	91	1134	N.D.	
67) m- & p-Xylenes	15.63	91	2102	0.053 ng	82
68) Bromoform	15.67	173	319	N.D.	
69) Styrene	16.09	104	400	N.D.	
70) o-Xylene	16.25	91	876	N.D.	
71) n-Nonane	16.61	43	327	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	111	N.D.	
74) Cumene	17.03	105	496	N.D.	
75) alpha-Pinene	17.52	93	179	N.D.	
76) n-Propylbenzene	17.68	91	750	N.D.	
77) 3-Ethyltoluene	17.03	105	496	No Calib #	
78) 4-Ethyltoluene	17.87	105	555	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	367	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	496	No Calib #	
82) 1,2,4-Trimethylbenzene	18.42	105	479	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D. d	
85) 1,3-Dichlorobenzene	18.58	146	482	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	513	N.D.	
87) sec-Butylbenzene	18.74	105	690	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	751	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	496	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	383	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	648	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	348	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	463	N.D.	
100) n-Butylbenzene	19.39	91	341	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:01:29 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:01:29 2024 3/26/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

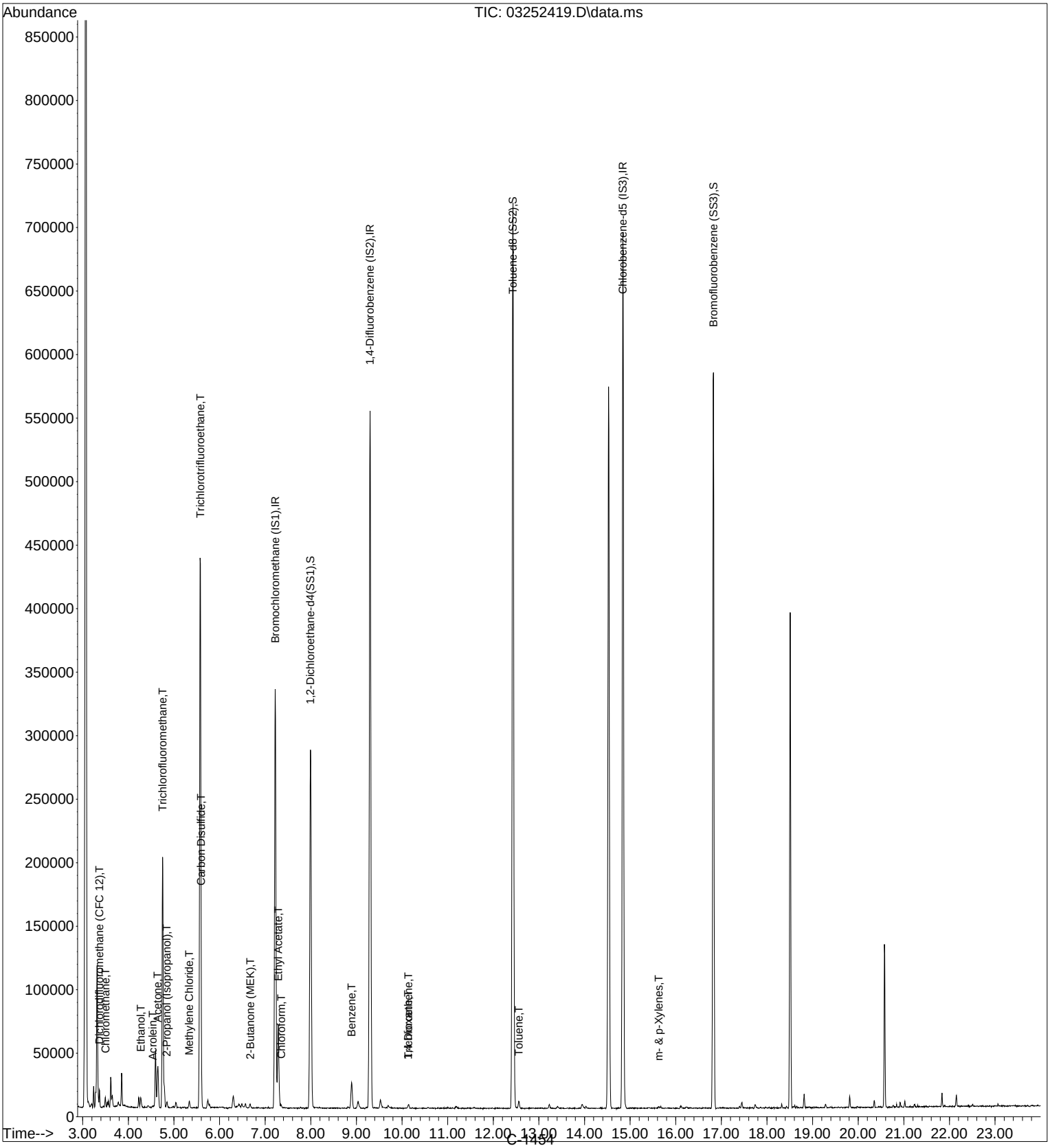
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	122259	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	527302	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107934	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	249698	12.484	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
57) Toluene-d8 (SS2)	12.43	98	604269	13.944	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.52%				
73) Bromofluorobenzene (SS3)	16.83	174	198546	12.995	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	7815m	0.312	ng		
4) Chloromethane	3.50	50	1886	0.101	ng		88
10) Ethanol	4.27	45	6998	0.592	ng		97
12) Acrolein	4.53	56	468	0.055	ng		84
13) Acetone	4.64	58	8127	0.904	ng	#	82
14) Trichlorofluoromethane	4.75	101	142710	5.880	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	4031	0.113	ng		80
19) Methylene Chloride	5.33	84	1861	0.142	ng		91
21) Trichlorotrifluoroethane	5.58	151	140960	13.778	ng		98
22) Carbon Disulfide	5.60	76	12209	0.300	ng	#	1
27) 2-Butanone (MEK)	6.67	72	820	0.112	ng	#	72
30) Ethyl Acetate	7.29	61	11545	2.617	ng		96
32) Chloroform	7.35	83	1673	0.079	ng		91
41) Benzene	8.89	78	20610	0.434	ng		99
47) Trichloroethene	10.14	130	1047	0.082	ng		99
48) 1,4-Dioxane	10.13	88	807	0.097	ng		86
58) Toluene	12.56	91	5451	0.132	ng		100
67) m- & p-Xylenes	15.63	91	2102	0.053	ng		82

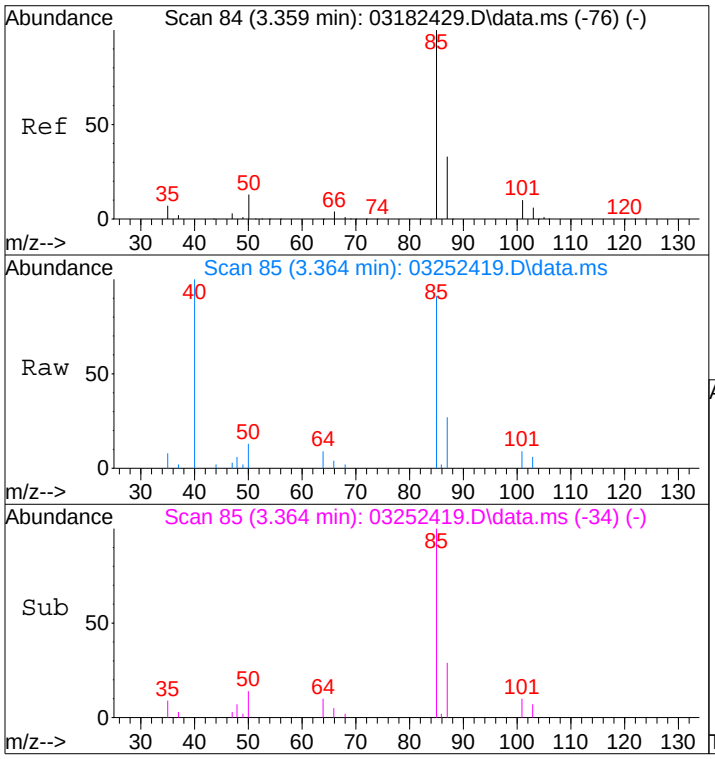
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:01:29 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

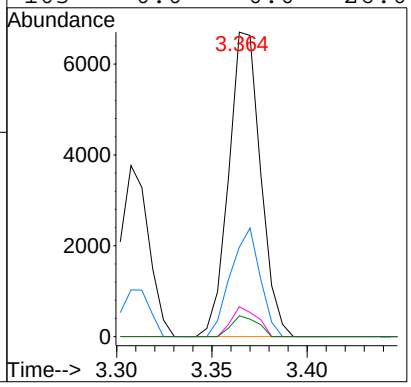


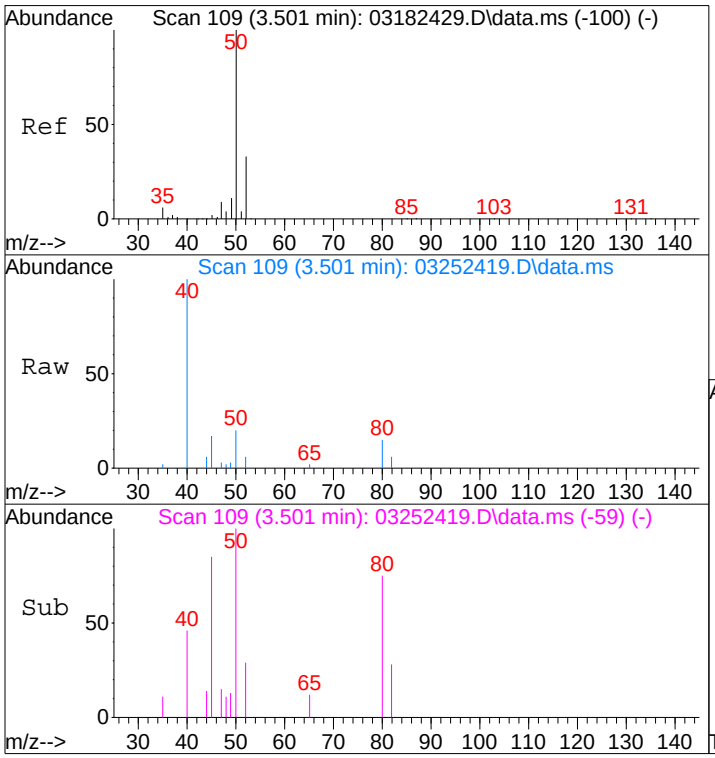


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.31 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.040 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 85 Resp: 7815

Ion	Ratio	Lower	Upper
85	100		
87	14.2	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

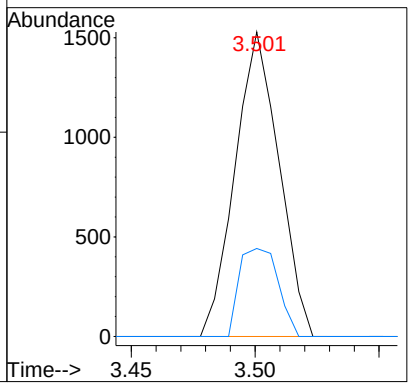


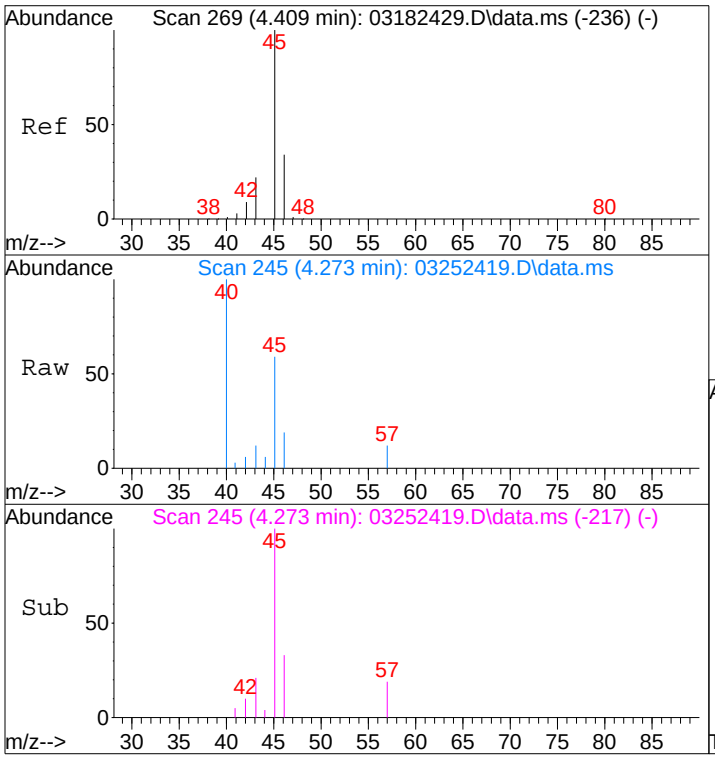


#4
Chloromethane
Concen: 0.10 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.035 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 50 Resp: 1886

Ion	Ratio	Lower	Upper
50	100		
52	25.7	12.3	52.3

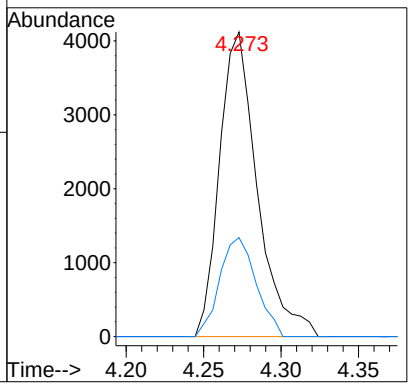


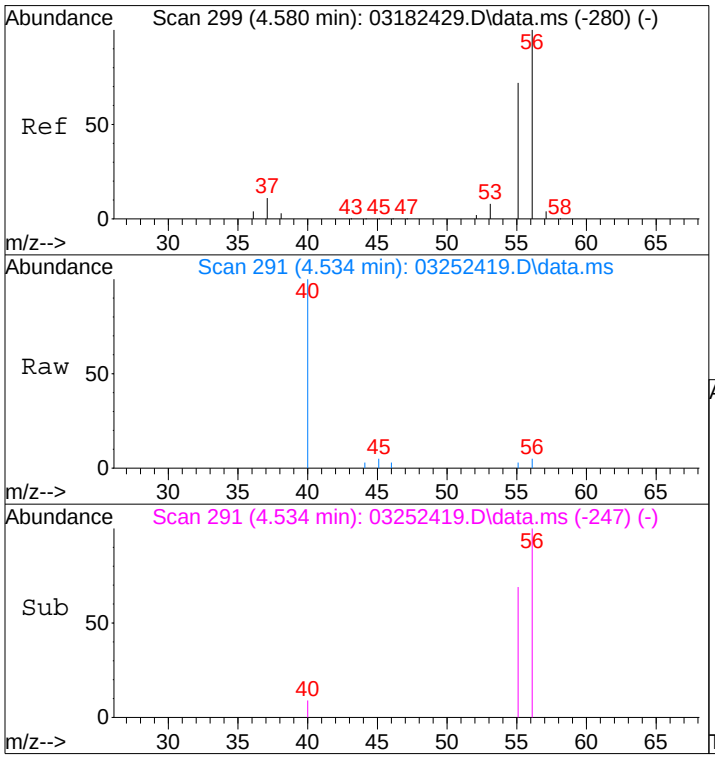


#10
Ethanol
Concen: 0.59 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.092 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 45 Resp: 6998

Ion	Ratio	Lower	Upper
45	100		
46	31.4	13.3	53.3

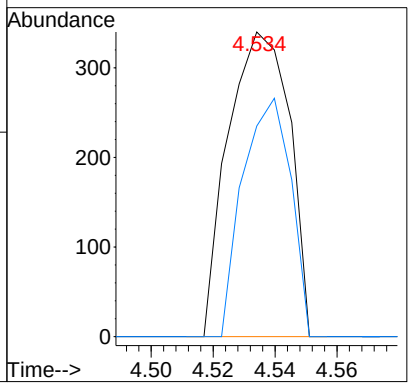


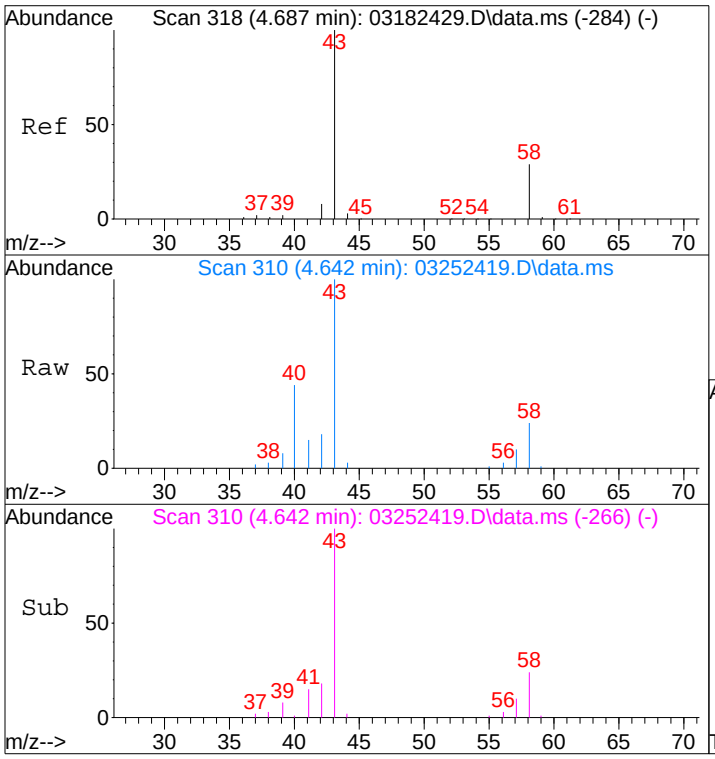


#12
Acrolein
Concen: 0.06 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.001 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 56 Resp: 468

Ion	Ratio	Lower	Upper
56	100		
55	61.3	54.9	94.9

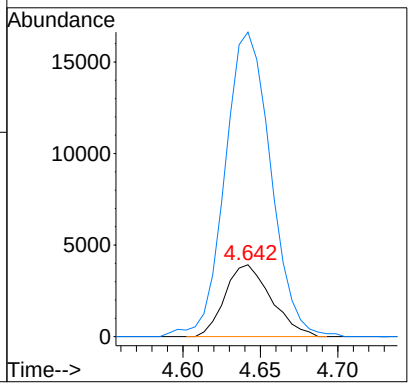


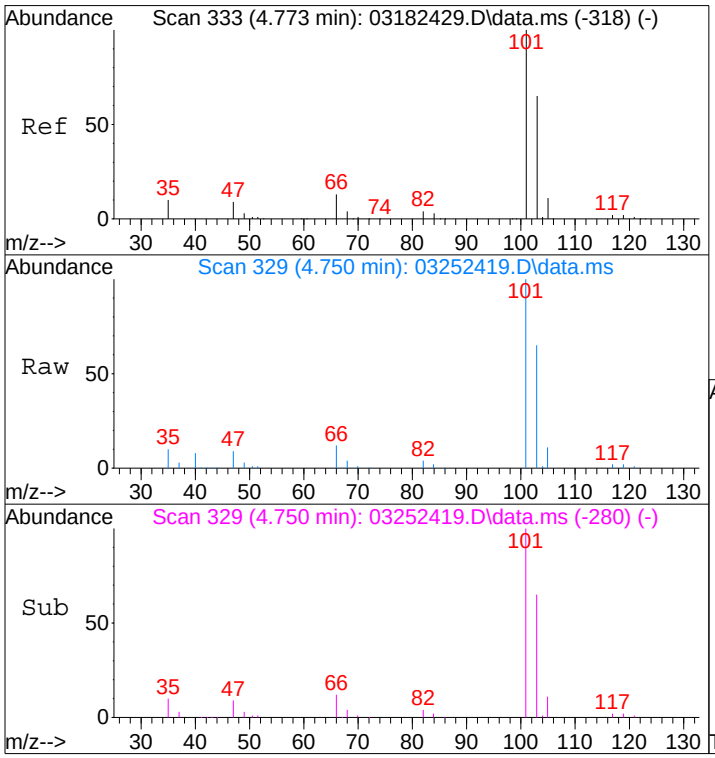


#13
Acetone
Concen: 0.90 ng
RT: 4.64 min Scan# 310
Delta R.T. 0.002 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 58 Resp: 8127

Ion	Ratio	Lower	Upper
58	100		
43	421.4	350.1	410.1#

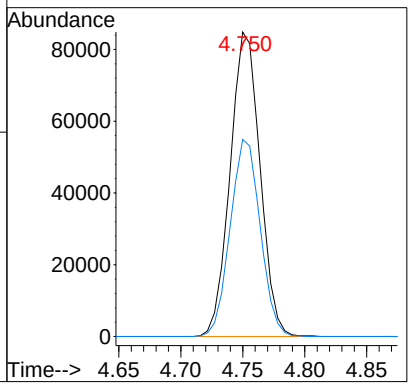


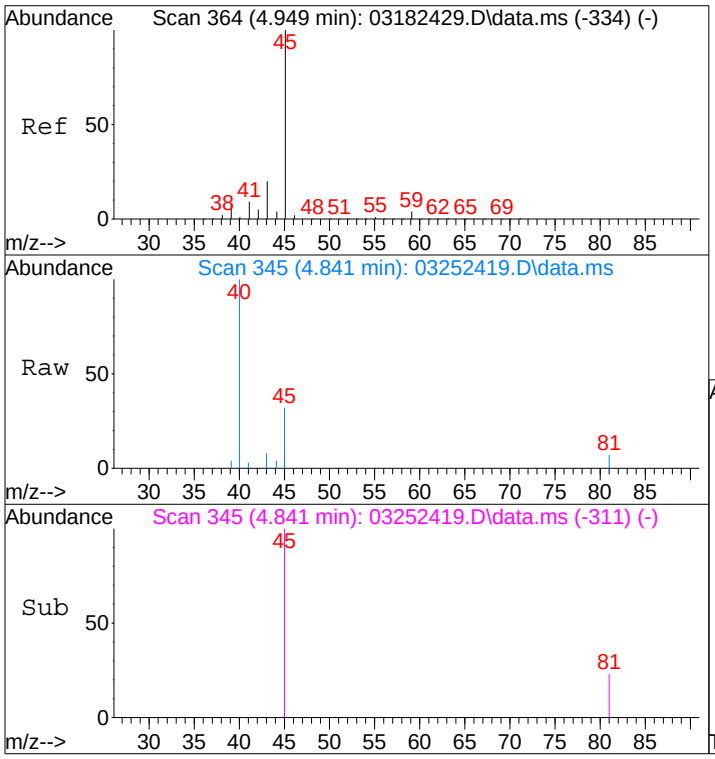


#14
Trichlorofluoromethane
Concen: 5.88 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion:101 Resp: 142710

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.7	84.7

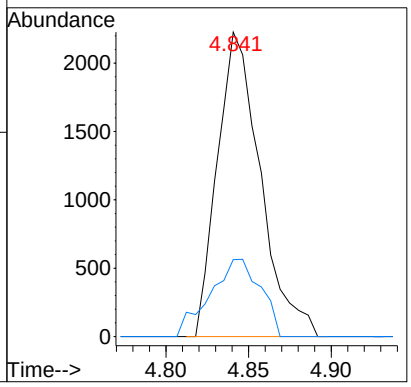


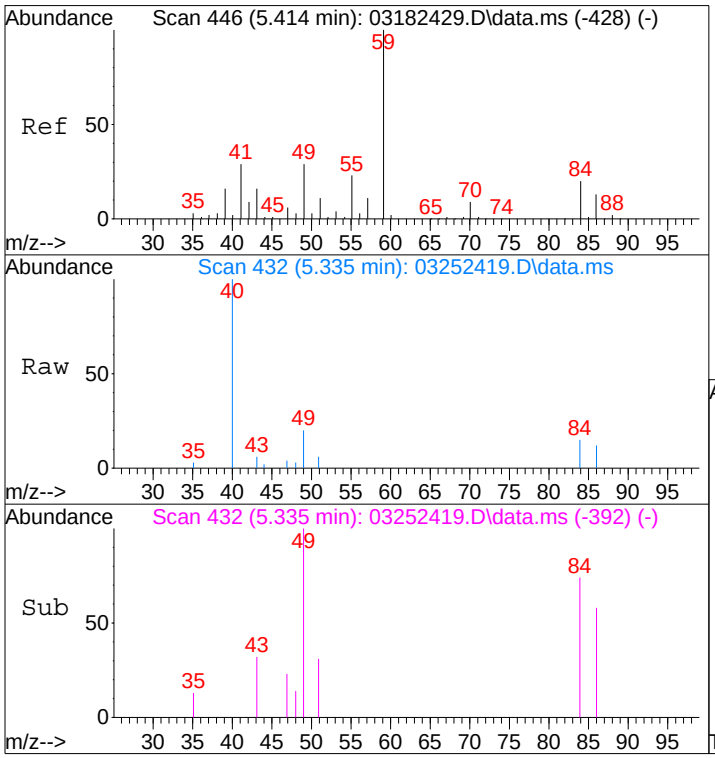


#15
2-Propanol (Isopropanol)
Concen: 0.11 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.058 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 45 Resp: 4031

Ion	Ratio	Lower	Upper
45	100		
43	29.7	0.4	40.4

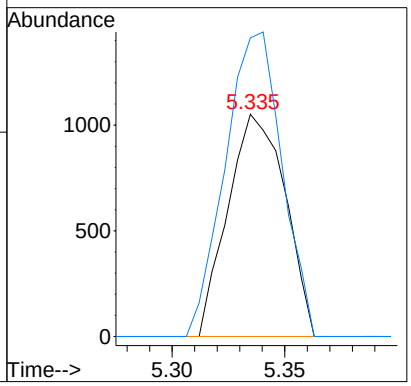


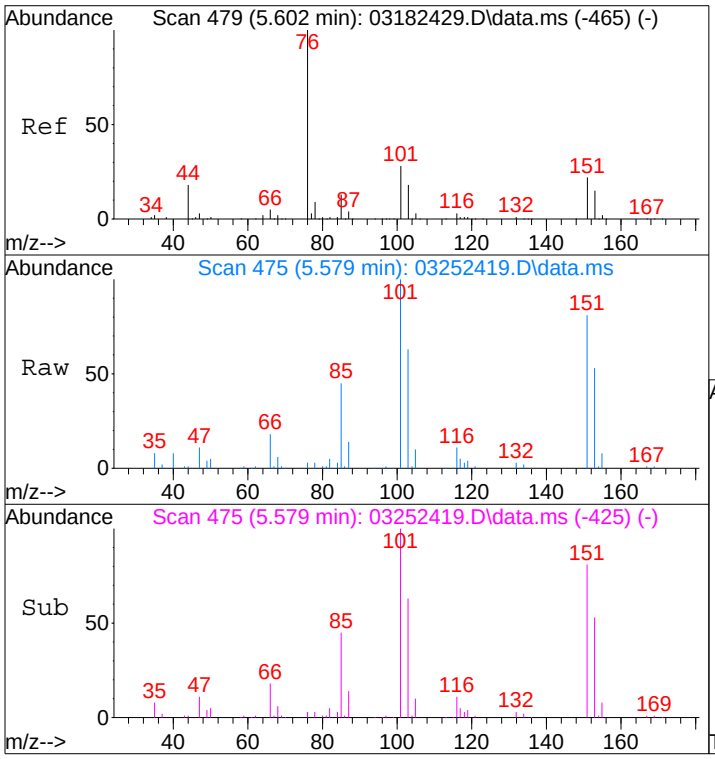


#19
Methylene Chloride
Concen: 0.14 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.025 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 84 Resp: 1861

Ion	Ratio	Lower	Upper
84	100		
49	136.0	122.9	172.9

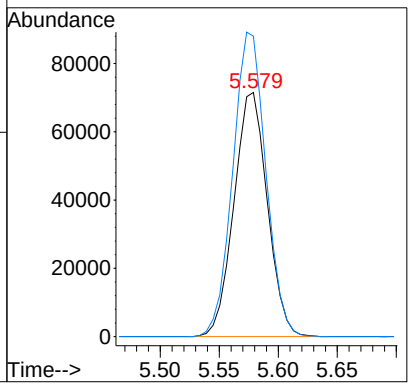


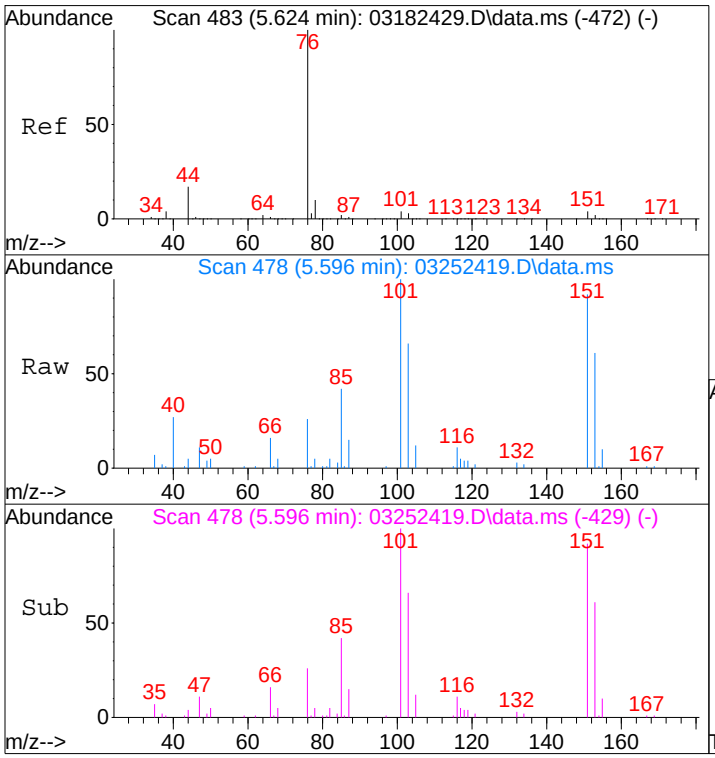


#21
Trichlorotrifluoroethane
Concen: 13.78 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion:151 Resp: 140960

Ion	Ratio	Lower	Upper
151	100		
101	123.6	106.4	146.4

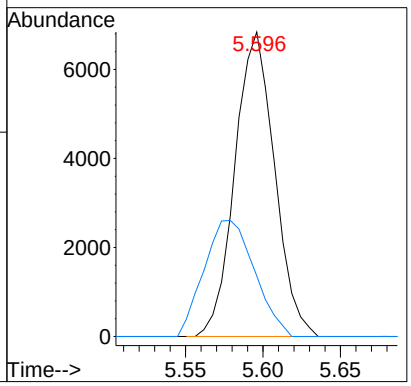


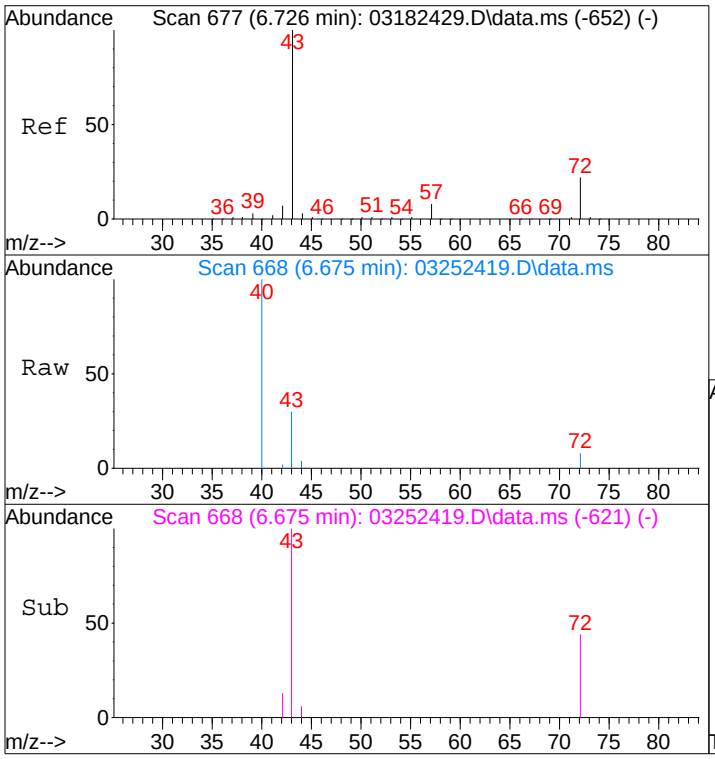


#22
Carbon Disulfide
Concen: 0.30 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.028 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 76 Resp: 12209

Ion	Ratio	Lower	Upper
76	100		
78	48.4	0.0	29.8#

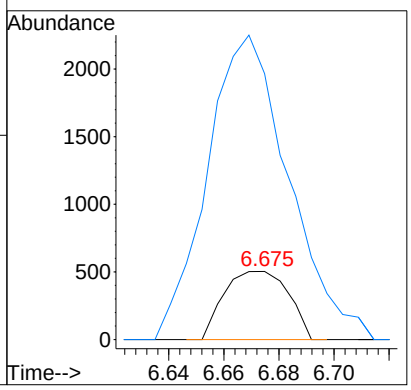


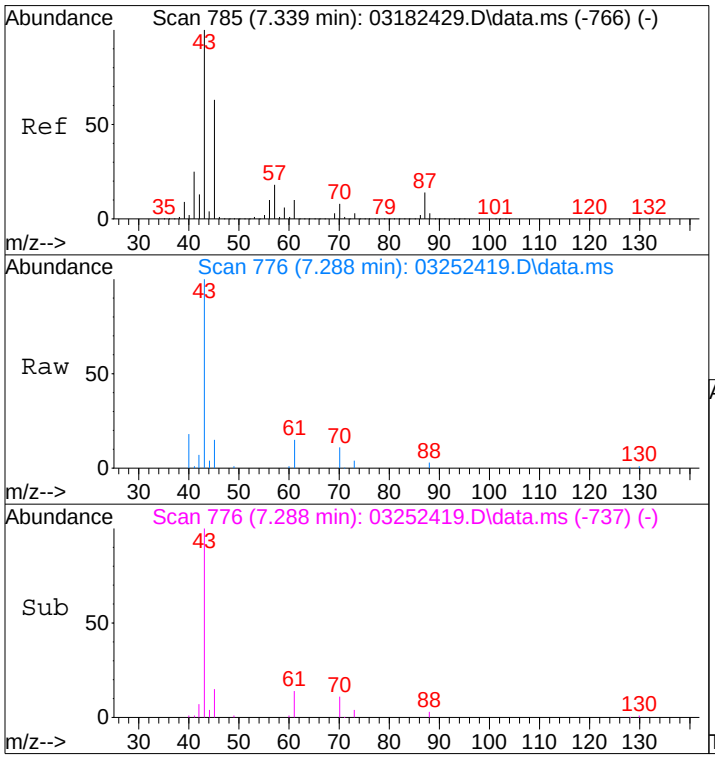


#27
2-Butanone (MEK)
Concen: 0.11 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.017 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 72 Resp: 820

Ion	Ratio	Lower	Upper
72	100		
43	564.4	468.6	508.6#

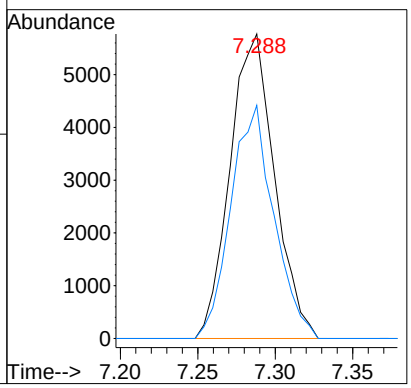


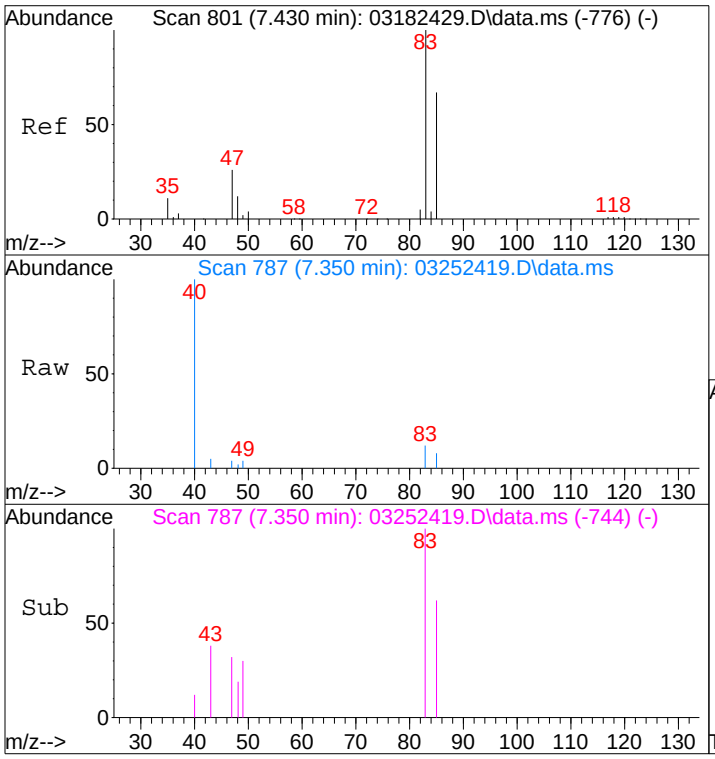


#30
Ethyl Acetate
Concen: 2.62 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 61 Resp: 11545

Ion	Ratio	Lower	Upper
61	100		
70	74.0	57.3	97.3

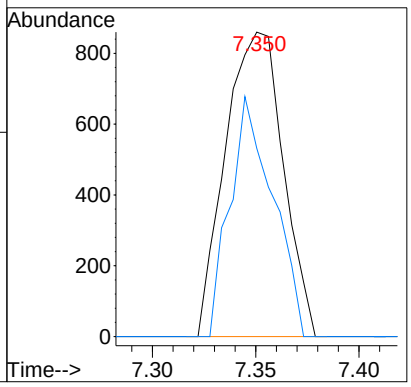


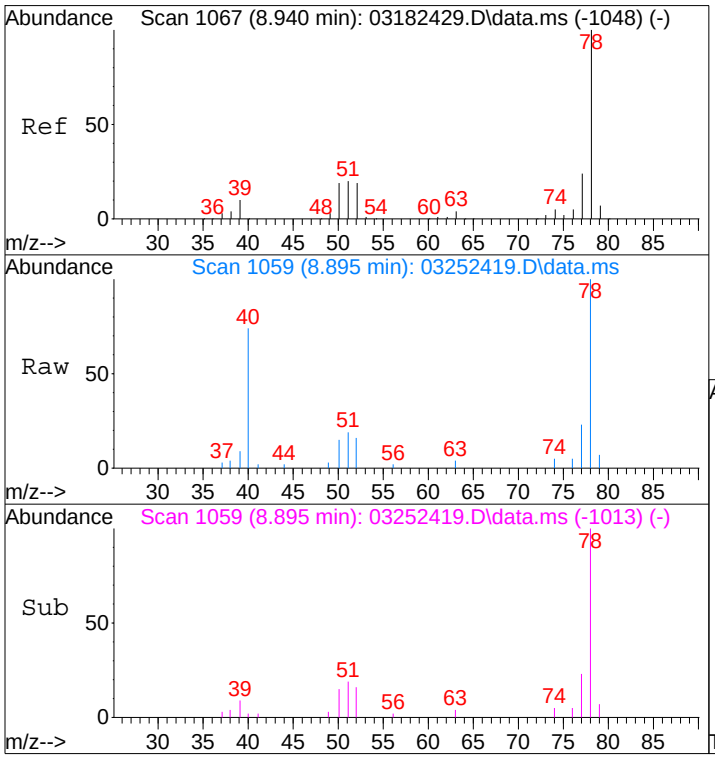


#32
Chloroform
Concen: 0.08 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.005 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 83 Resp: 1673

Ion	Ratio	Lower	Upper
83	100		
85	58.6	46.1	86.1

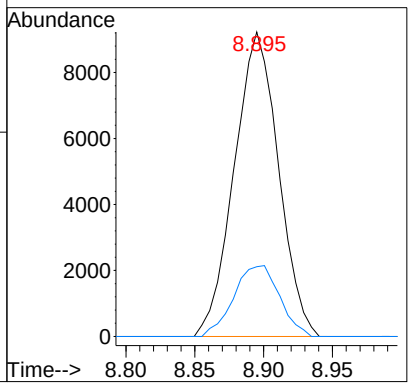


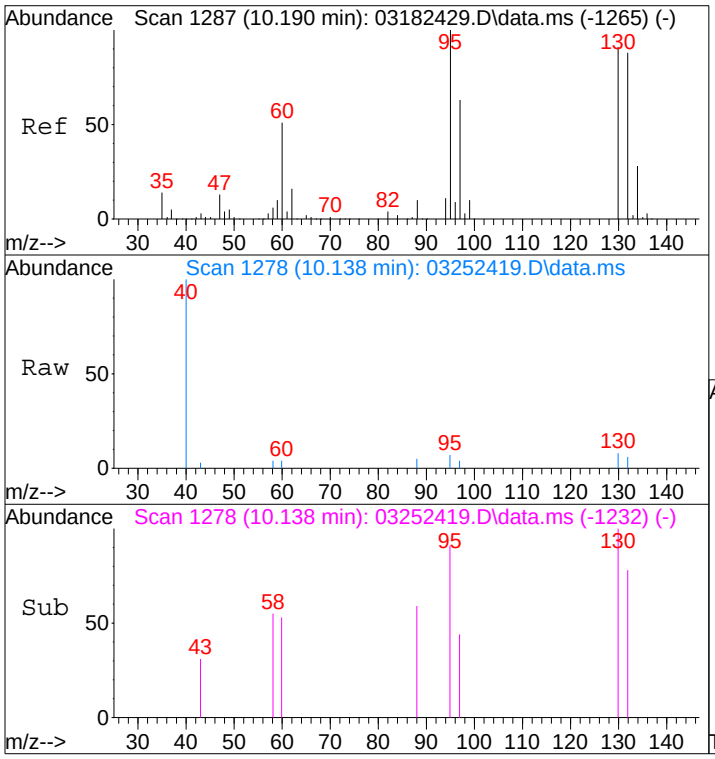


#41
Benzene
Concen: 0.43 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 78 Resp: 20610

Ion	Ratio	Lower	Upper
78	100		
77	24.1	3.6	43.6

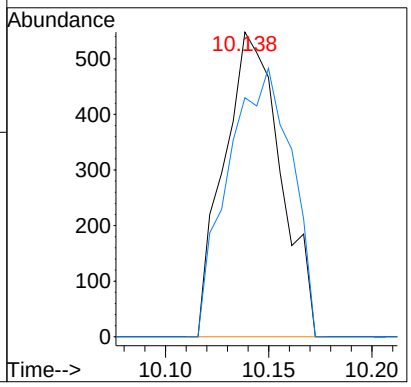


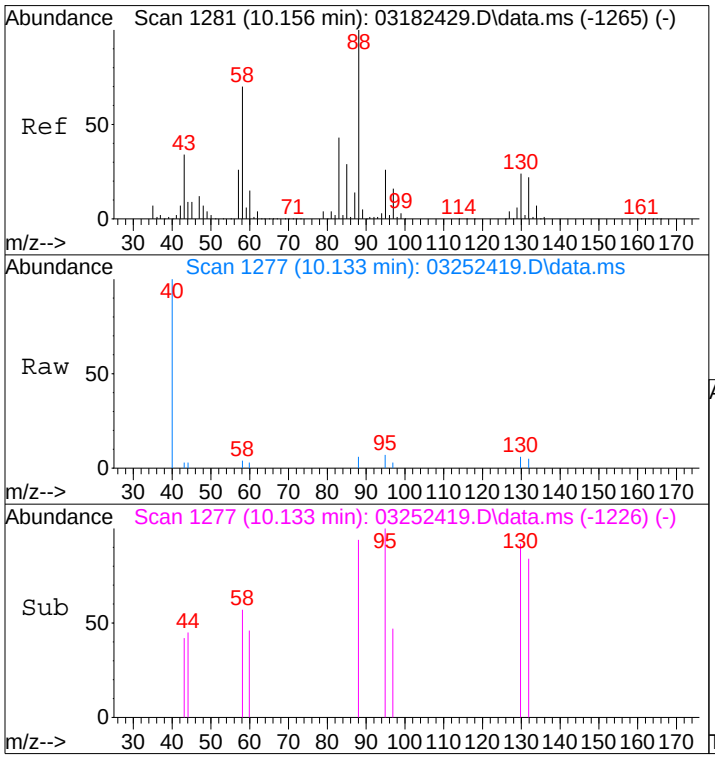


#47
Trichloroethene
Concen: 0.08 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion:130 Resp: 1047

Ion	Ratio	Lower	Upper
130	100		
132	98.6	77.5	117.5

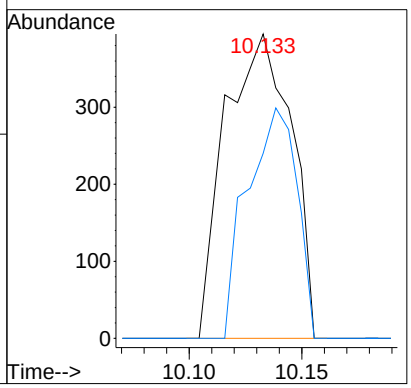


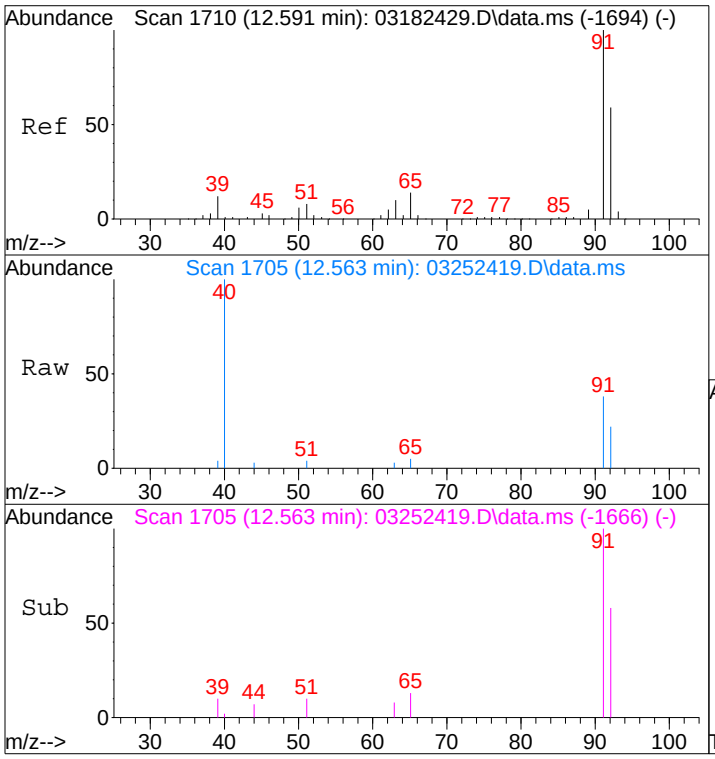


#48
1,4-Dioxane
Concen: 0.10 ng
RT: 10.13 min Scan# 1277
Delta R.T. 0.039 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 88 Resp: 807

Ion	Ratio	Lower	Upper
88	100		
58	57.0	48.2	88.2

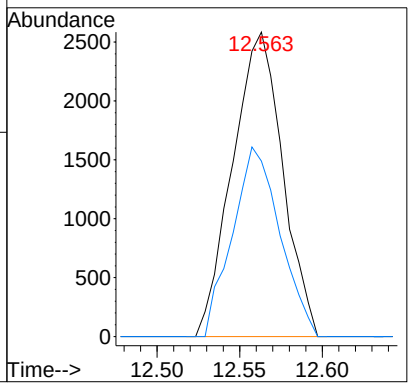


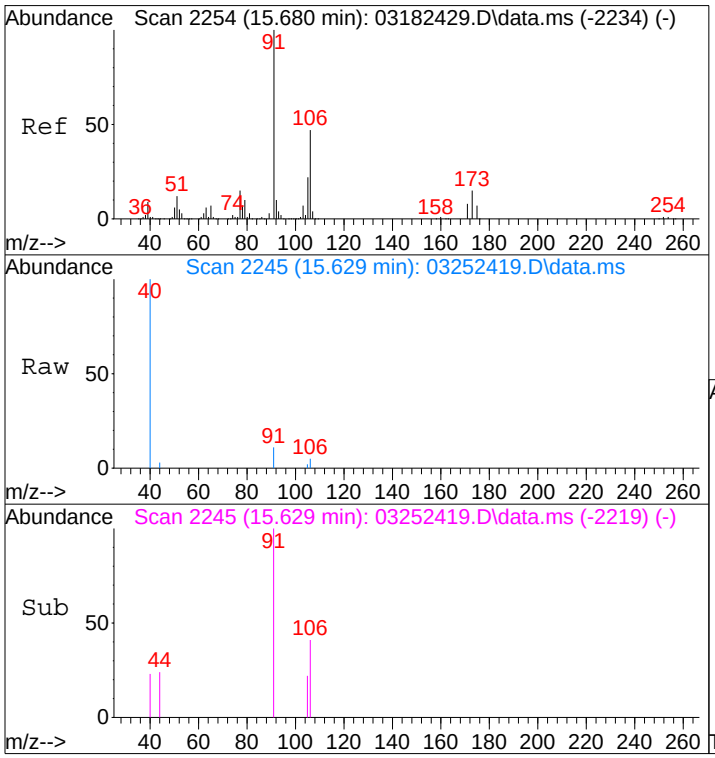


#58
Toluene
Concen: 0.13 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 91 Resp: 5451

Ion	Ratio	Lower	Upper
91	100		
92	59.1	39.2	79.2

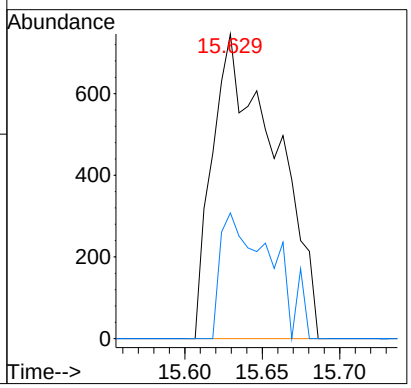




#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03252419.D
Acq: 25 Mar 2024 21:26

Tgt Ion: 91 Resp: 2102

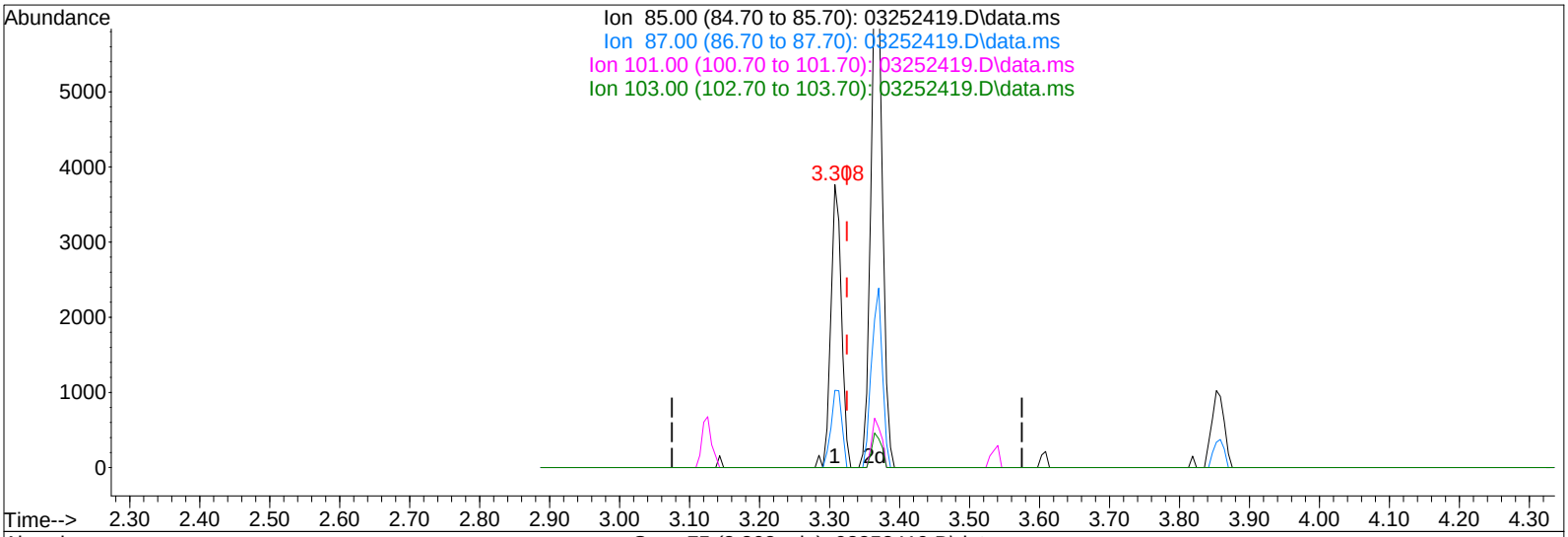
Ion	Ratio	Lower	Upper
91	100		
106	33.5	25.6	65.6

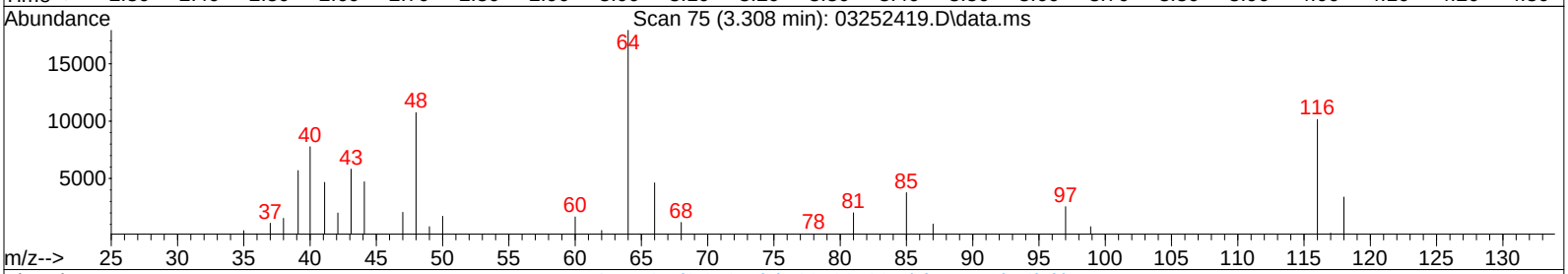


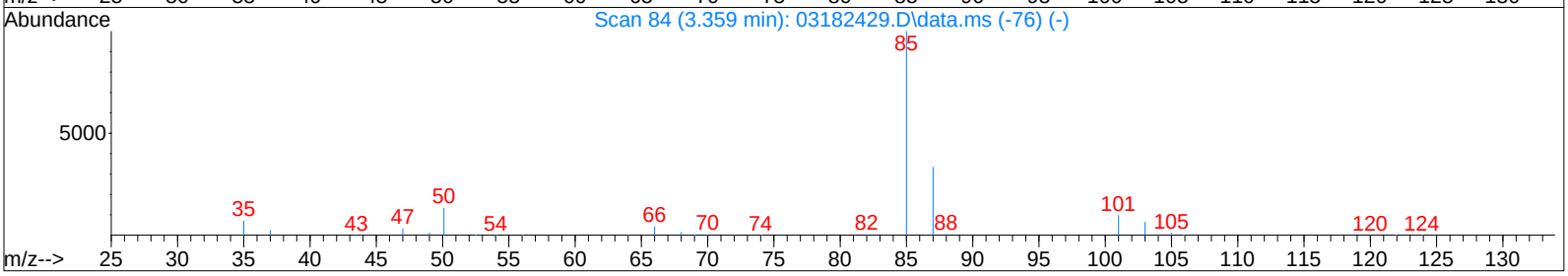
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03252419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.017) 0.16ng

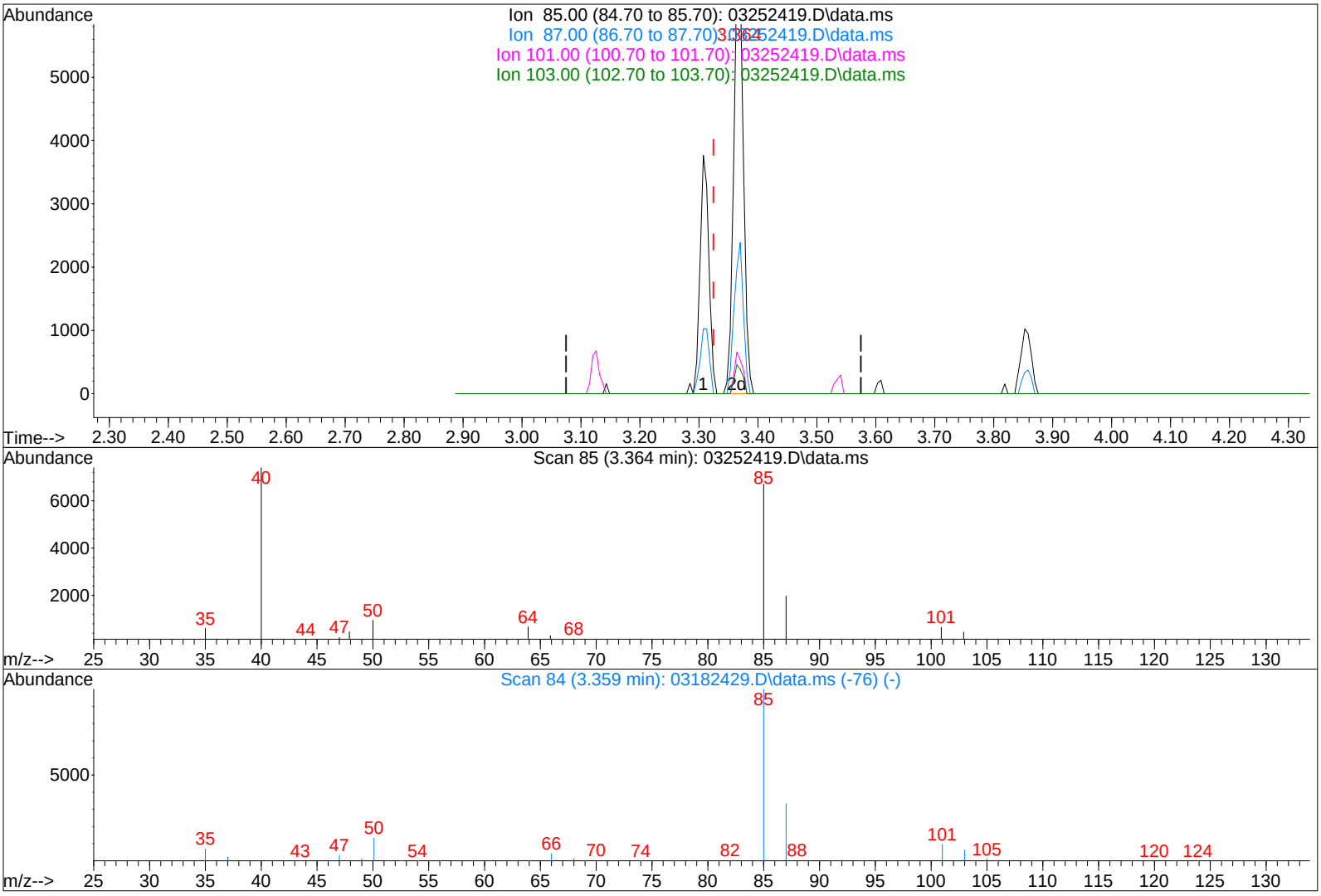
response 3975

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.95
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252419.D\data.ms

WP 3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.040) 0.31ng m

response 7815

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	14.22
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:34:00 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

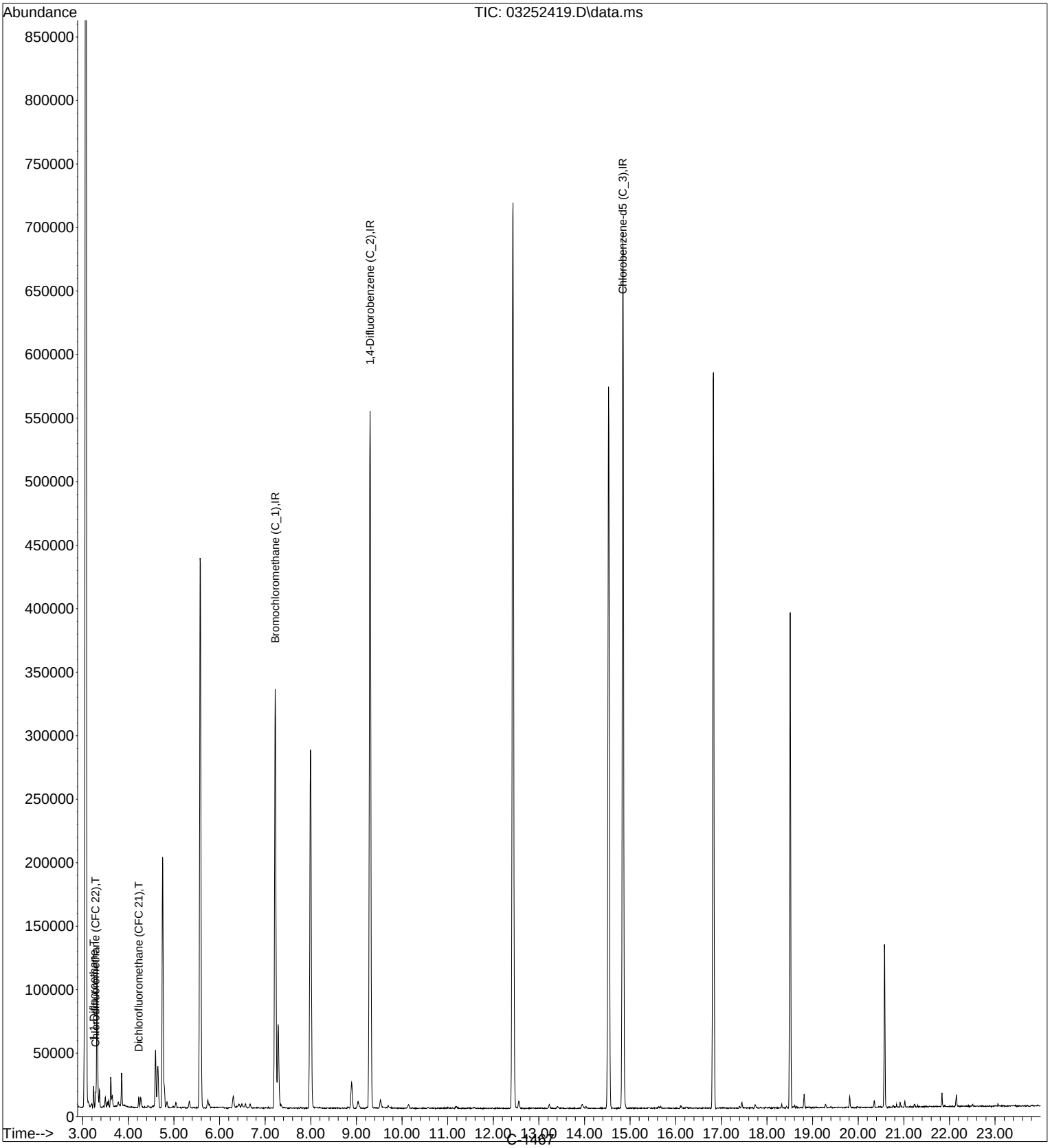
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	122259	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	527636	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	107934	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	53	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	959	N.D.			
4) 1,1-Difluoroethane	3.24	65	4213	0.455	ng	#	65
5) Chlorodifluoromethane ...	3.28	67	1452	0.404	ng		98
6) 1-Chloro-1,1-Difluoroe...	3.51	65	165	N.D.			
7) Dichlorofluoromethane ...	4.23	67	6201	0.260	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	662	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.34	43	790	N.D.			
12) 2-Methylpentane	6.49	71	418	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	55	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.80	174	118	N.D.			
20) Methyl Cyclohexane	0.00	55	0	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	472	N.D.			
27) 4-Chlorotoluene	17.68	91	750	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	428	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

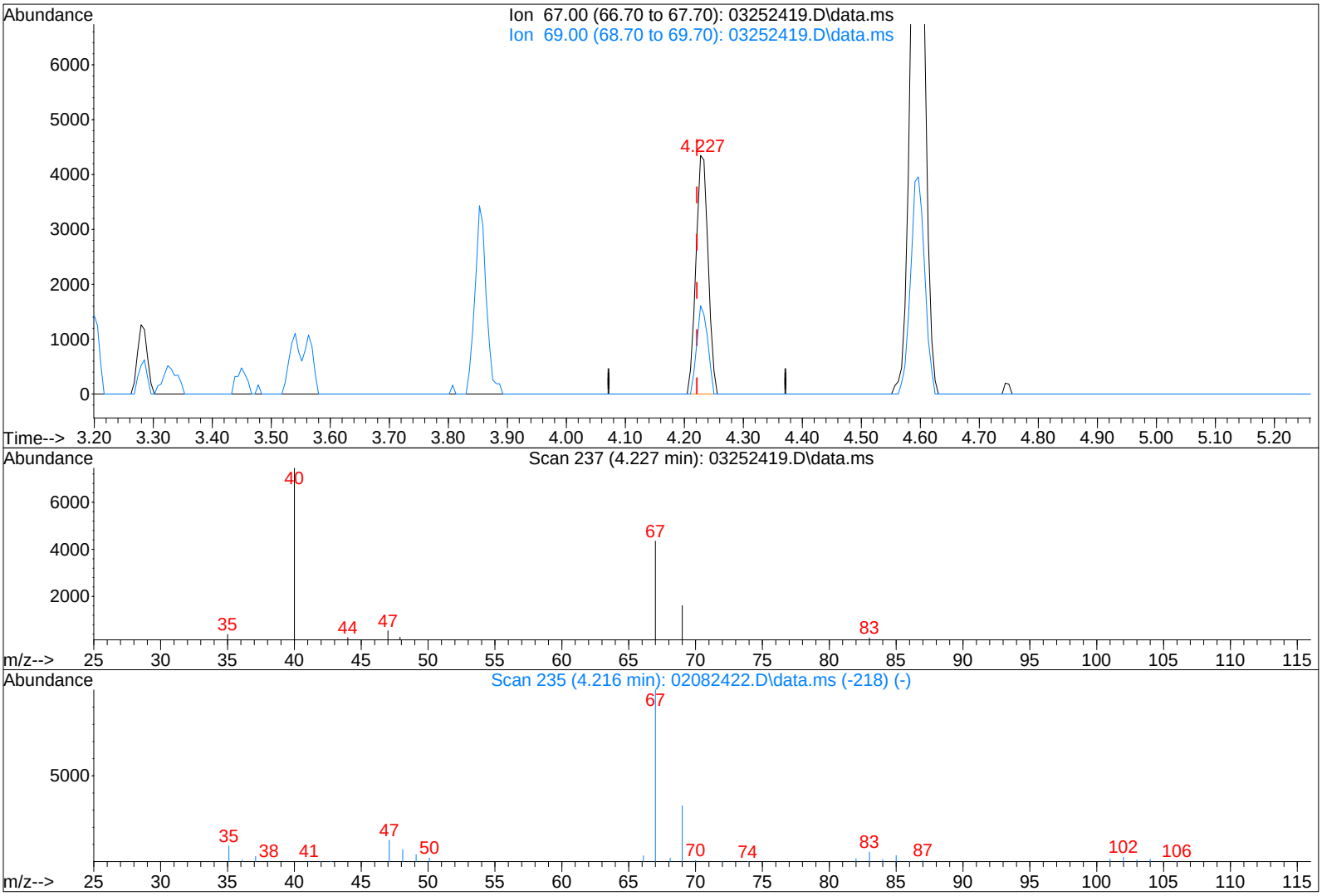
Quant Time: Mar 26 09:34:00 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252419.D Vial: 11
Acq On : 25 Mar 2024 21:26 Operator: SC
Sample : P2400922-046 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:33:38 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252419.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.26ng

response 6201

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.90
0.00	0.00	0.00
0.00	0.00	0.00

Library Search Compound Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252419.D
Acq On : 25 Mar 2024 21:26
Operator : SC
Sample : P2400922-046 (400mL)PF2
Misc : S37-03252401
ALS Vial : 11 Sample Multiplier: 1

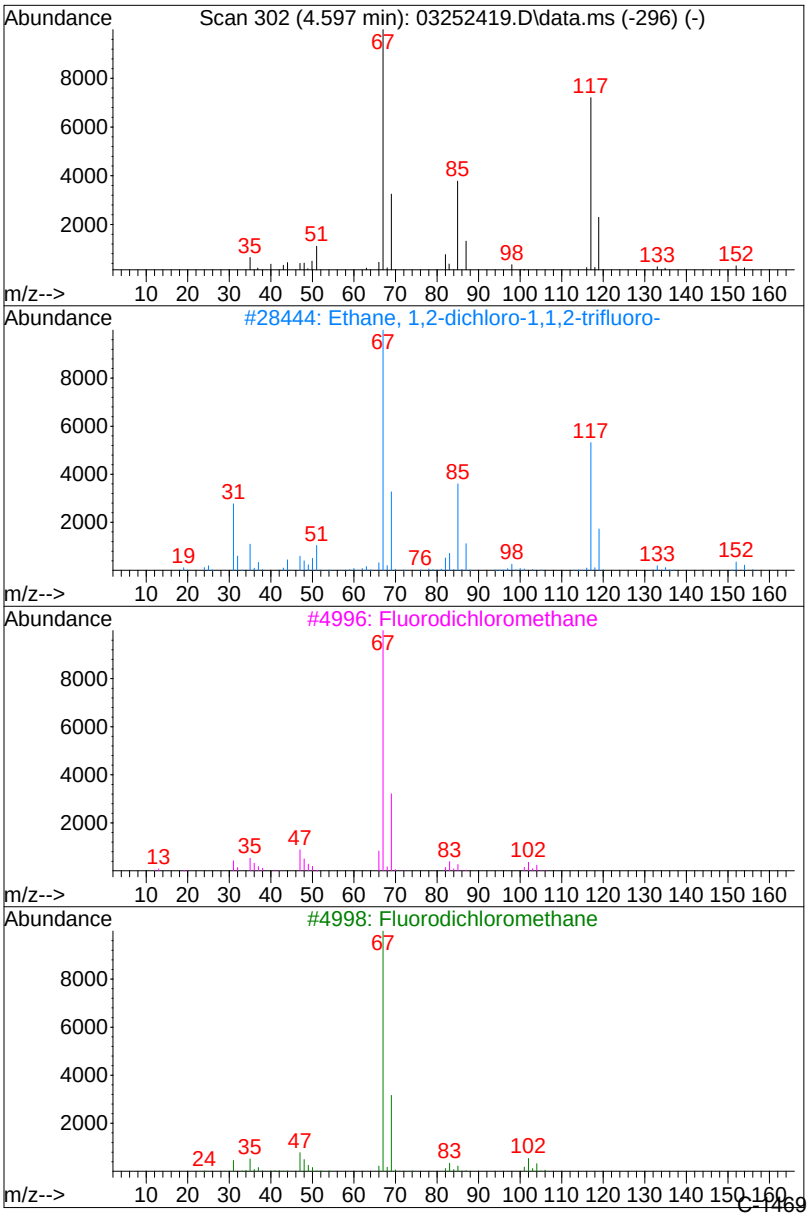
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

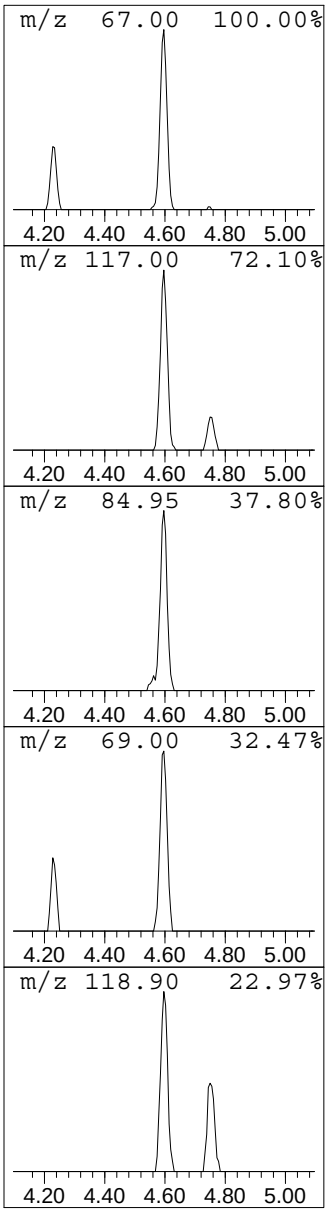
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.597	1.24 ng	69044	Bromochloromethane (IS1)	7.220

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	9





C-1469

Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_03\25\
Data File : 03252419.D
Acq On : 25 Mar 2024 21:26
Operator : SC
Sample : P2400922-046 (400mL)PF2
Misc : S37-03252401
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.597	1.2	ng	69044	1	7.220	694865	12.5

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:04:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	118112	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	511393	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107101	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	244281	12.642	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.43	98	584762	13.598	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	16.83	174	194111	12.803	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	9590m	0.396	ng		
4) Chloromethane	3.50	50	4089	0.227	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	294	N.D.			
8) Bromomethane	4.01	94	214	N.D.			
9) Chloroethane	0.00	64	0	N.D. d			
10) Ethanol	4.28	45	21487m	1.883	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	2579	0.315	ng		95
13) Acetone	4.62	58	61021	7.025	ng		97
14) Trichlorofluoromethane	4.75	101	358991	15.310	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	27029	0.781	ng		88
16) Acrylonitrile	5.04	53	205	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.34	84	2420	0.192	ng		93
20) 3-Chloro-1-propene (Al...	5.44	41	458	N.D.			
21) Trichlorotrifluoroethane	5.58	151	267455	27.060	ng		98
22) Carbon Disulfide	5.59	76	99044	2.517	ng		75
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	956	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	10673	1.503	ng	#	92
28) cis-1,2-Dichloroethene	7.07	61	452	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	33964	7.969	ng		95
31) n-Hexane	7.30	57	4011	0.218	ng	#	97
32) Chloroform	7.36	83	13324	0.651	ng		99
34) Tetrahydrofuran (THF)	7.78	72	525	0.082	ng	#	66
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	551	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.54	61	2293	No Calib		#	
40) 1-Butanol	8.80	56	5857	No Calib		#	
41) Benzene	8.89	78	7378	0.160	ng		97
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	2408	0.165	ng		95
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	533	N.D.			
47) Trichloroethene	10.15	130	4800	0.387	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	491	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:04:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

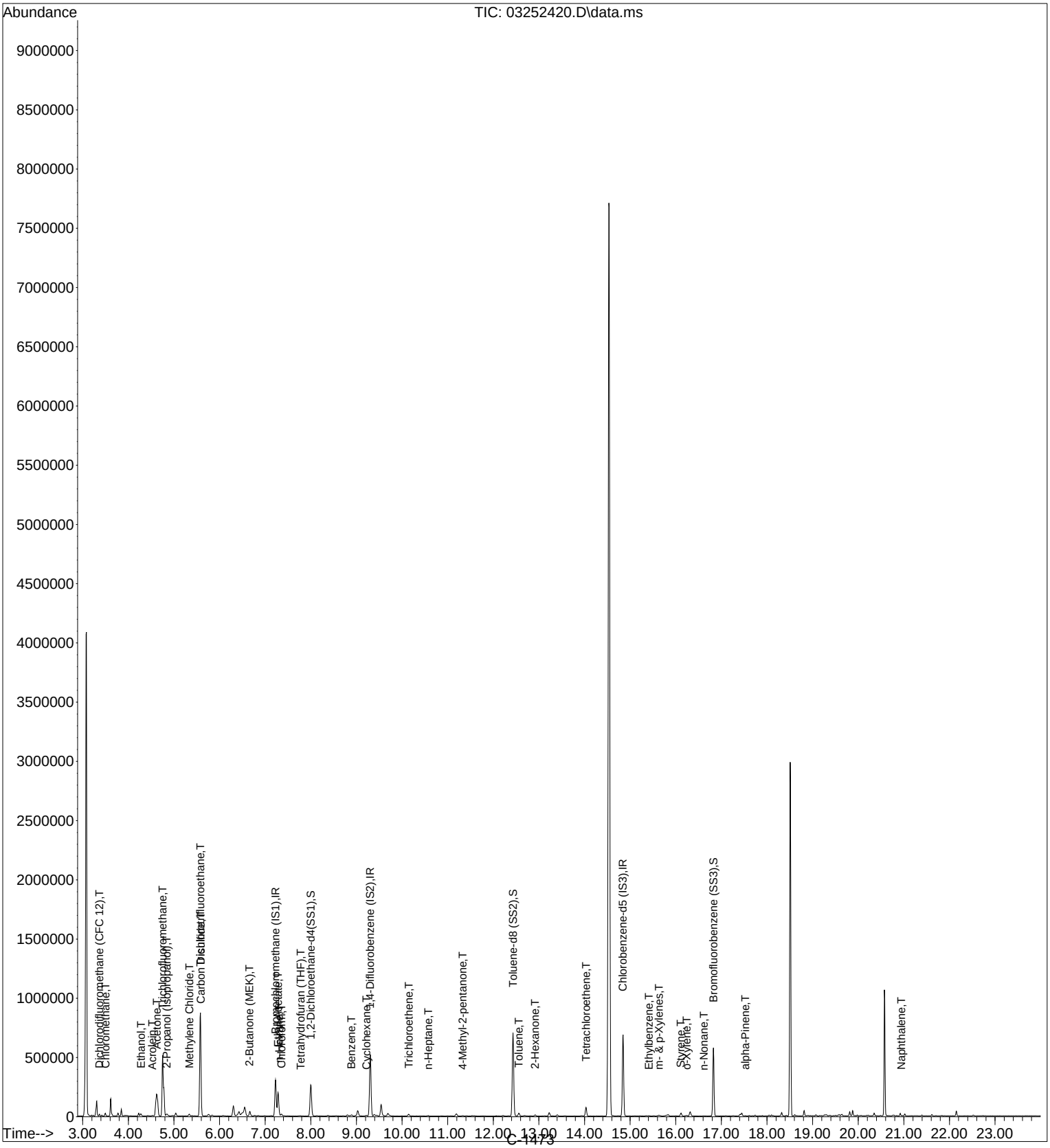
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	1068	0.109 ng	#	81
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	938	0.095 ng	#	38
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	21742	0.530 ng		99
59) 2-Hexanone	12.91	43	8612	0.361 ng		94
60) Dibromochloromethane	13.07	129	450	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	1226	N.D.		
63) n-Octane	13.93	57	418	N.D.		
64) Tetrachloroethene	14.03	166	26115	2.070 ng		100
65) Chlorobenzene	14.90	112	665	N.D.		
66) Ethylbenzene	15.41	91	3228	0.069 ng		92
67) m- & p-Xylenes	15.63	91	6339	0.163 ng		99
68) Bromoform	15.67	173	474	N.D.		
69) Styrene	16.11	104	2012	0.075 ng		94
70) o-Xylene	16.24	91	2659	0.069 ng		87
71) n-Nonane	16.62	43	1146	0.052 ng	#	76
72) 1,1,2,2-Tetrachloroethane	16.20	83	272	N.D.		
74) Cumene	17.04	105	867	N.D.		
75) alpha-Pinene	17.53	93	1344	0.058 ng		91
76) n-Propylbenzene	17.68	91	1429	N.D.		
77) 3-Ethyltoluene	17.04	105	867	No Calib	#	
78) 4-Ethyltoluene	17.86	105	881	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	713	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	867	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1685	N.D.		
83) n-Decane	17.09	58	284	No Calib	#	
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	599	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	559	N.D.		
87) sec-Butylbenzene	18.74	105	776	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1028	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	867	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	405	N.D.		
91) d-Limonene	19.08	68	565	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	716	N.D.		
95) Naphthalene	20.94	128	1181	0.376 ng	#	71
96) n-Dodecane	18.88	58	302	No Calib	#	
97) Hexachlorobutadiene	21.30	225	434	N.D.		
98) Cyclohexanone	15.52	55	860	No Calib	#	
99) tert-Butylbenzene	18.42	119	723	N.D.		
100) n-Butylbenzene	19.39	91	906	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:04:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:04:50 2024 3/26/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

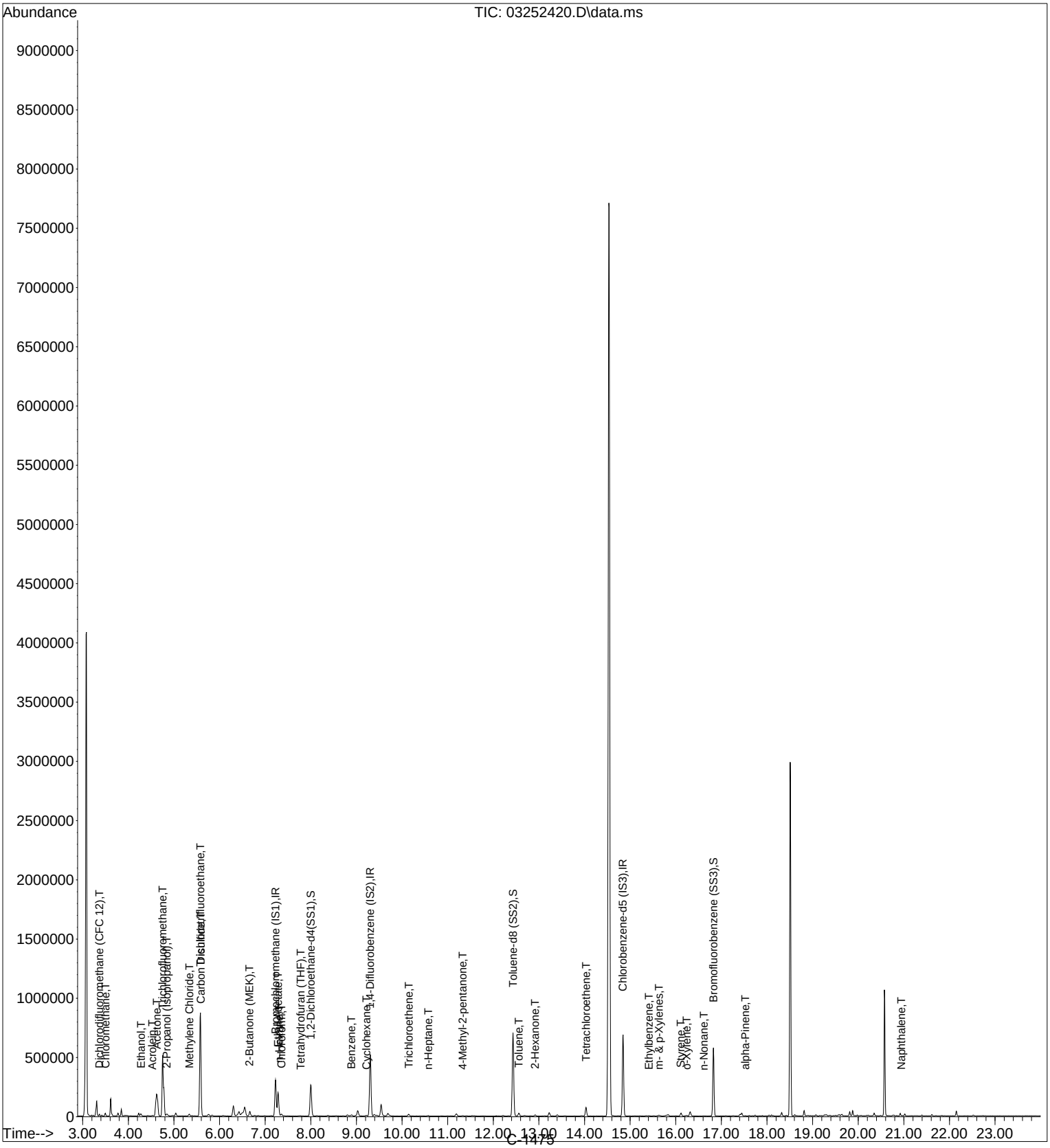
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	118112	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	511393	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	107101	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	244281	12.642	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.12%				
57) Toluene-d8 (SS2)	12.43	98	584762	13.598	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
73) Bromofluorobenzene (SS3)	16.83	174	194111	12.803	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	9590m	0.396	ng		
4) Chloromethane	3.50	50	4089	0.227	ng		94
10) Ethanol	4.28	45	21487m	1.883	ng		
12) Acrolein	4.52	56	2579	0.315	ng		95
13) Acetone	4.62	58	61021	7.025	ng		97
14) Trichlorofluoromethane	4.75	101	358991	15.310	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	27029	0.781	ng		88
19) Methylene Chloride	5.34	84	2420	0.192	ng		93
21) Trichlorotrifluoroethane	5.58	151	267455	27.060	ng		98
22) Carbon Disulfide	5.59	76	99044	2.517	ng		75
27) 2-Butanone (MEK)	6.66	72	10673	1.503	ng	#	92
30) Ethyl Acetate	7.28	61	33964	7.969	ng		95
31) n-Hexane	7.30	57	4011	0.218	ng	#	97
32) Chloroform	7.36	83	13324	0.651	ng		99
34) Tetrahydrofuran (THF)	7.78	72	525	0.082	ng	#	66
41) Benzene	8.89	78	7378	0.160	ng		97
43) Cyclohexane	9.22	84	2408	0.165	ng		95
47) Trichloroethene	10.15	130	4800	0.387	ng		98
51) n-Heptane	10.58	71	1068	0.109	ng	#	81
53) 4-Methyl-2-pentanone	11.33	58	938	0.095	ng	#	38
58) Toluene	12.56	91	21742	0.530	ng		99
59) 2-Hexanone	12.91	43	8612	0.361	ng		94
64) Tetrachloroethene	14.03	166	26115	2.070	ng		100
66) Ethylbenzene	15.41	91	3228	0.069	ng		92
67) m- & p-Xylenes	15.63	91	6339	0.163	ng		99
69) Styrene	16.11	104	2012	0.075	ng		94
70) o-Xylene	16.24	91	2659	0.069	ng		87
71) n-Nonane	16.62	43	1146	0.052	ng	#	76
75) alpha-Pinene	17.53	93	1344	0.058	ng		91
95) Naphthalene	20.94	128	1181	0.376	ng	#	71

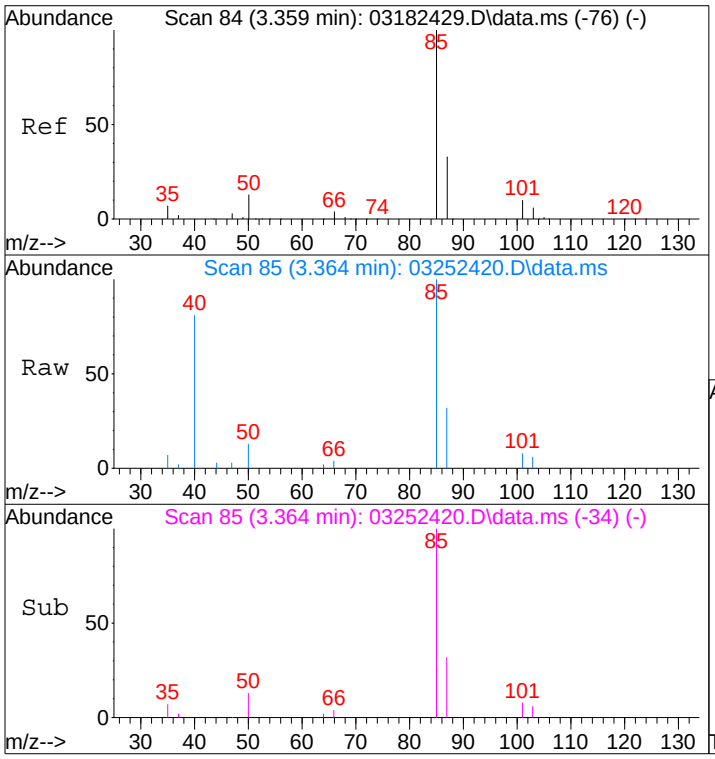
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:04:50 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

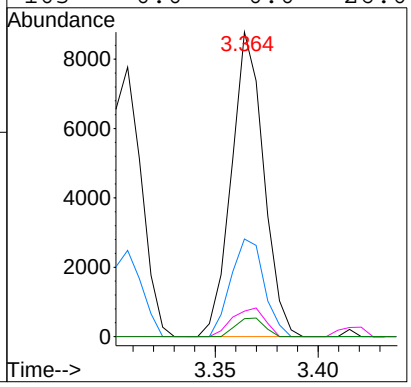


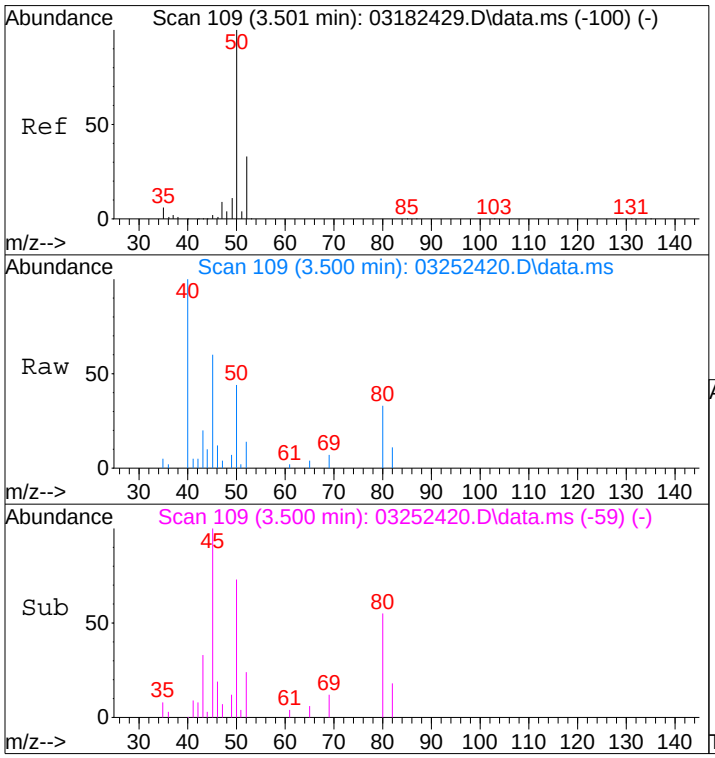


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.40 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.039 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 85 Resp: 9590

Ion	Ratio	Lower	Upper
85	100		
87	27.9	12.5	52.5
101	0.0	0.0	29.2
103	0.0	0.0	26.0

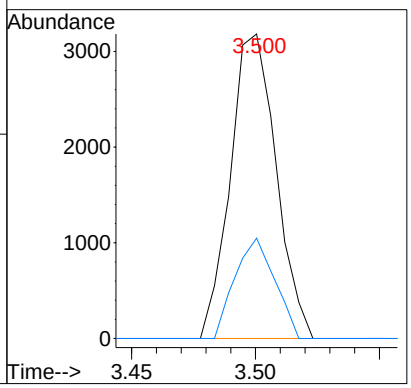


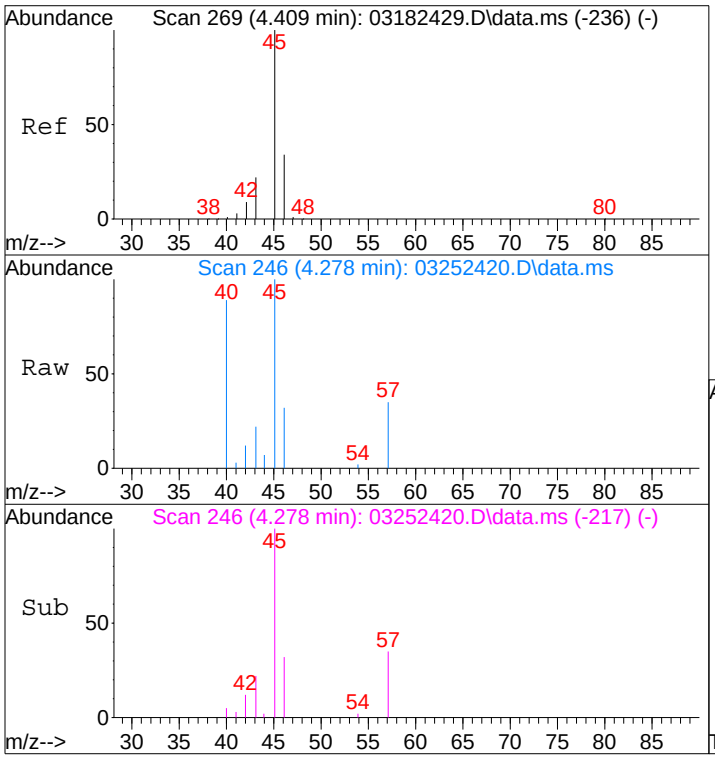


#4
Chloromethane
Concen: 0.23 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.035 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 50 Resp: 4089

Ion	Ratio	Lower	Upper
50	100		
52	28.8	12.3	52.3

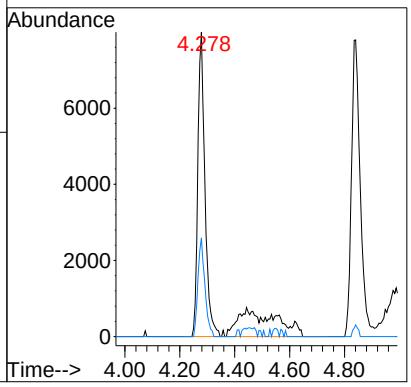


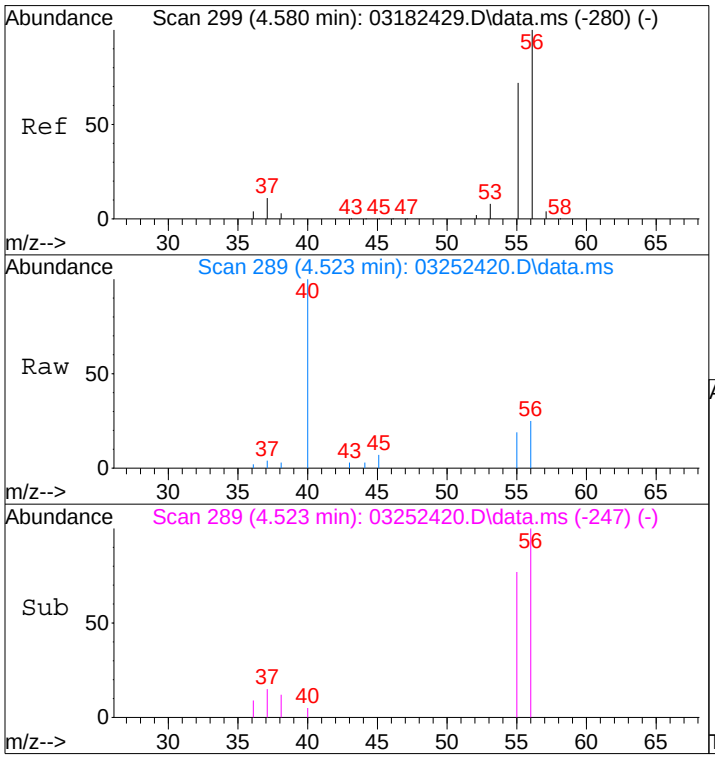


#10
Ethanol
Concen: 1.88 ng m
RT: 4.28 min Scan# 246
Delta R.T. -0.086 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 45 Resp: 21487

Ion	Ratio	Lower	Upper
45	100		
46	0.6	13.3	53.3#

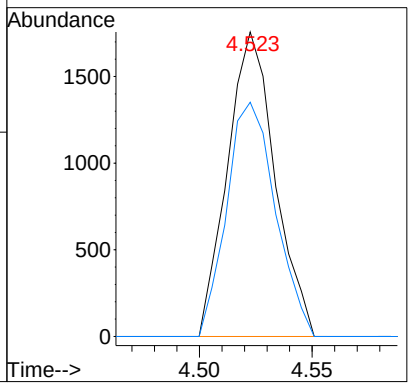


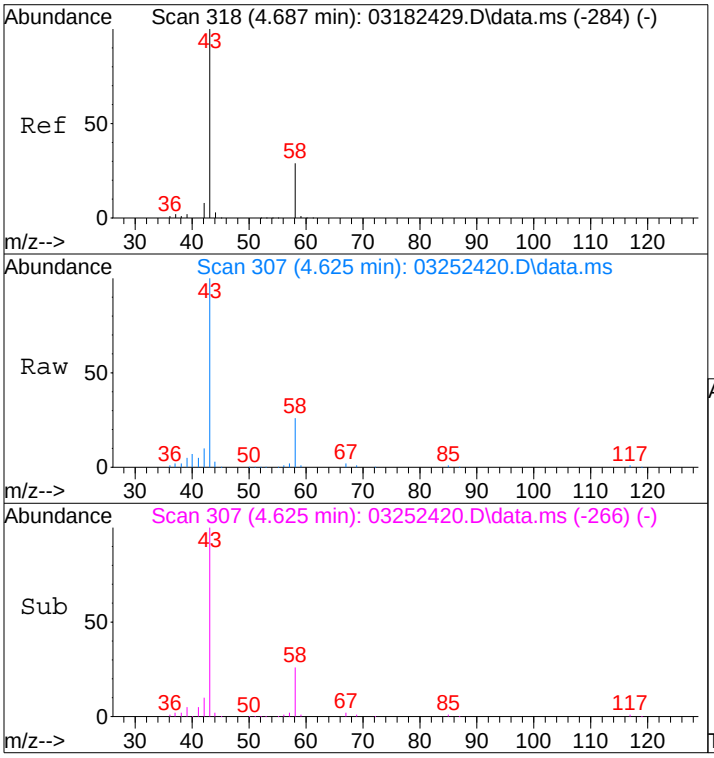


#12
Acrolein
Concen: 0.32 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.011 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 56 Resp: 2579

Ion	Ratio	Lower	Upper
56	100		
55	78.8	54.9	94.9

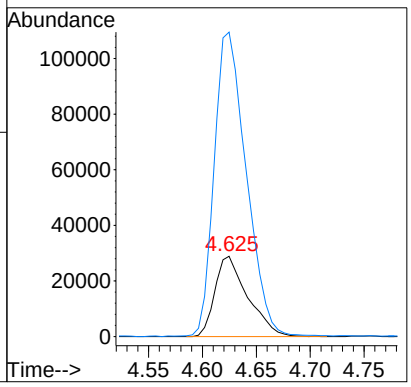


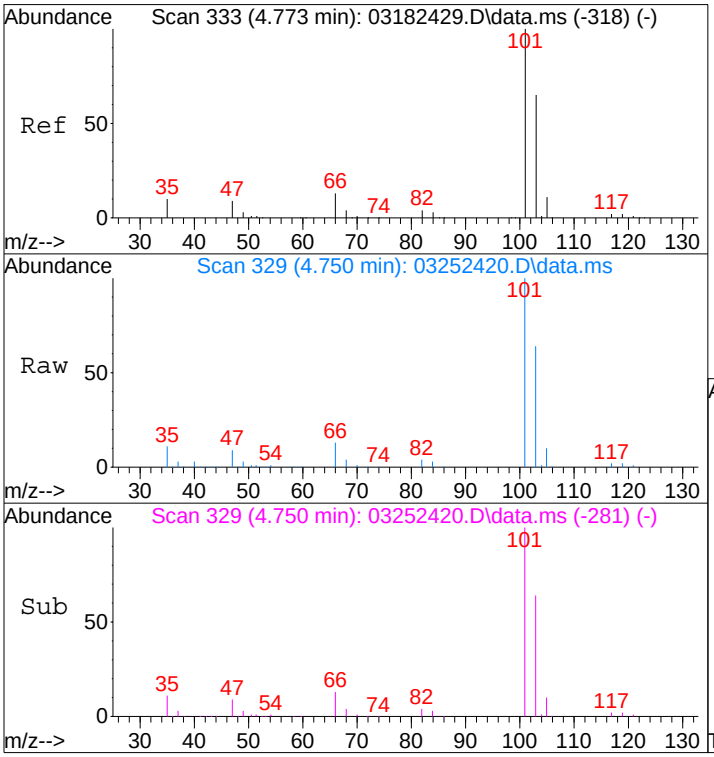


#13
Acetone
Concen: 7.02 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.015 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 58 Resp: 61021

Ion	Ratio	Lower	Upper
58	100		
43	372.8	350.1	410.1

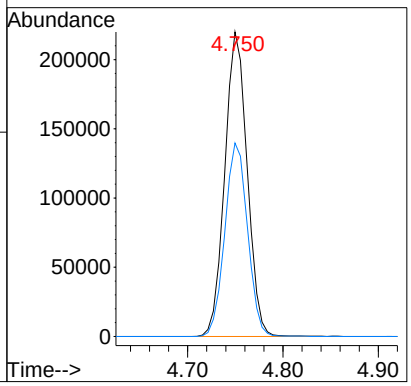


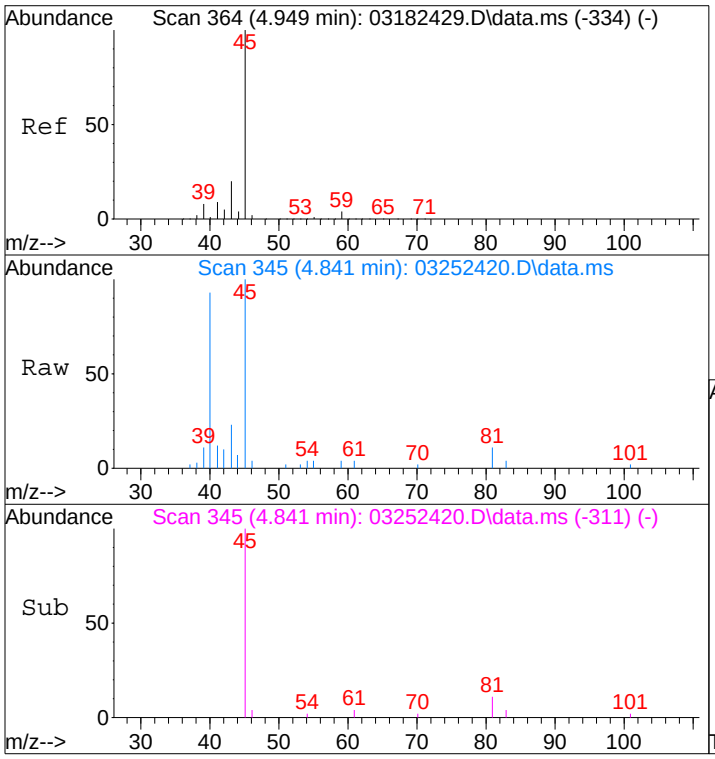


#14
Trichlorofluoromethane
Concen: 15.31 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion:101 Resp: 358991

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.7	84.7

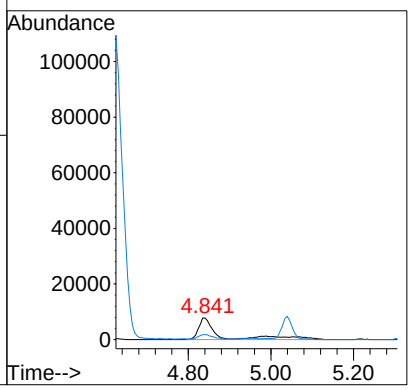


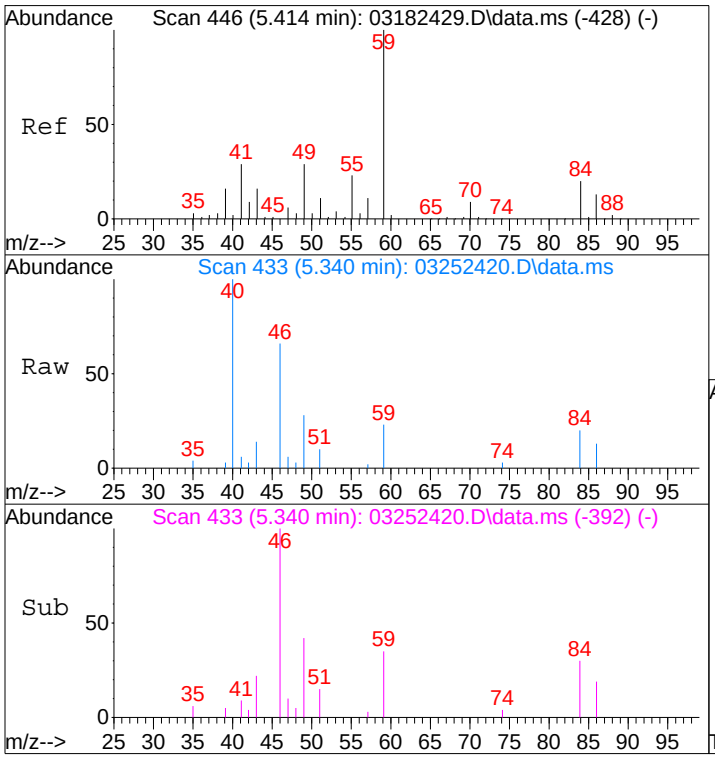


#15
2-Propanol (Isopropanol)
Concen: 0.78 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.058 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 45 Resp: 27029

Ion	Ratio	Lower	Upper
45	100		
43	15.0	0.4	40.4

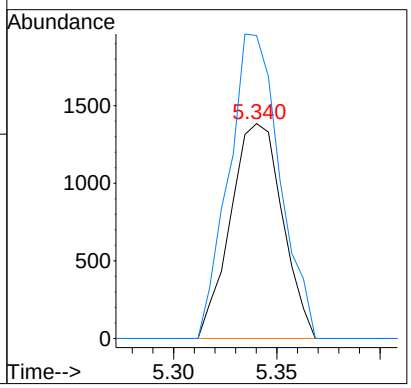


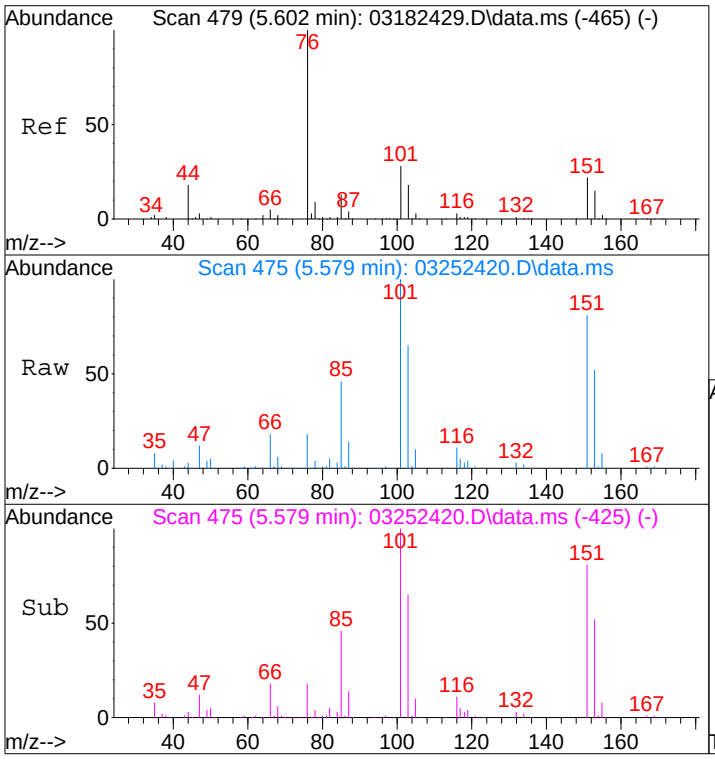


#19
Methylene Chloride
Concen: 0.19 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.019 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 84 Resp: 2420

Ion	Ratio	Lower	Upper
84	100		
49	139.4	122.9	172.9

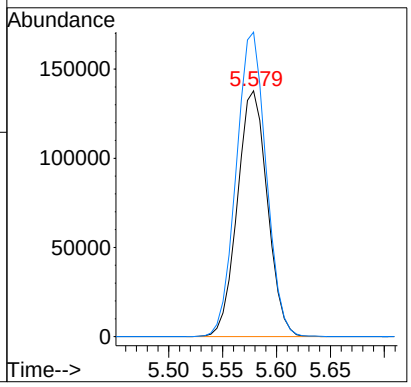


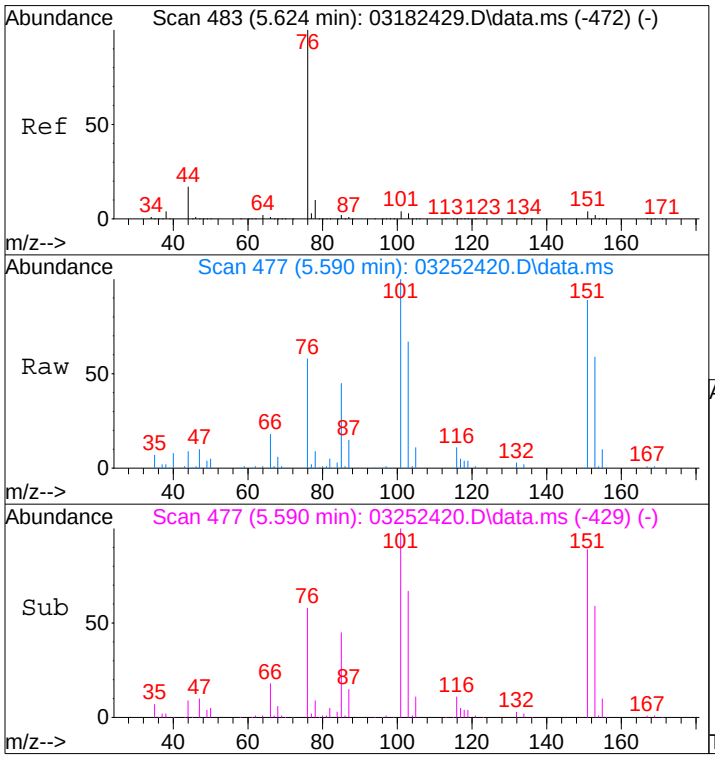


#21
Trichlorotrifluoroethane
Concen: 27.06 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion:151 Resp: 267455

Ion	Ratio	Lower	Upper
151	100		
101	123.6	106.4	146.4

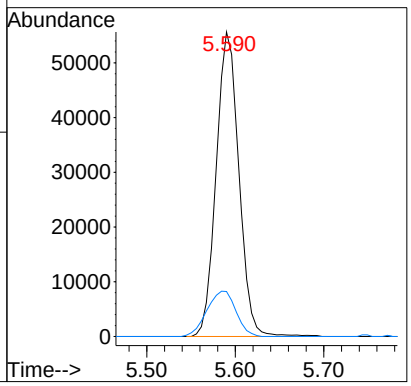


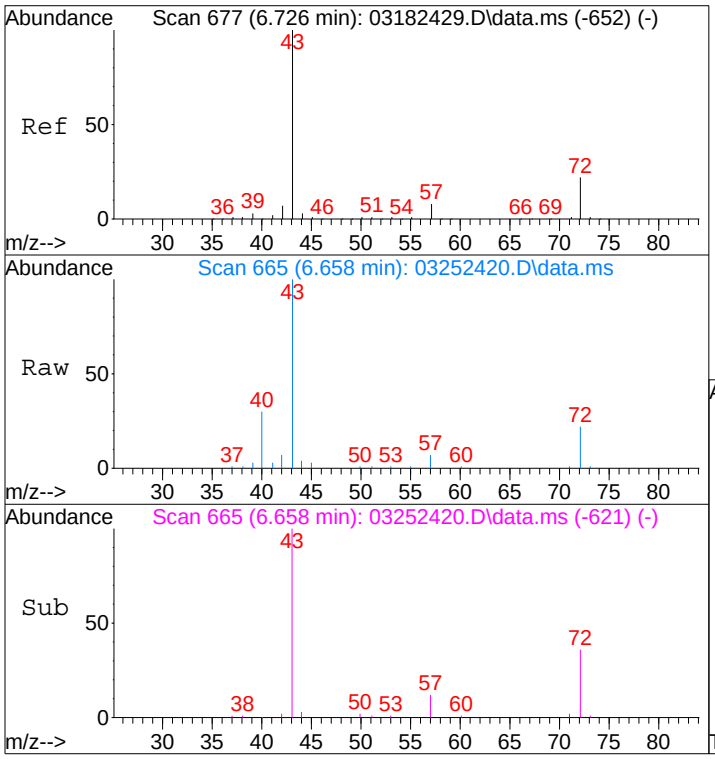


#22
Carbon Disulfide
Concen: 2.52 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.022 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 76 Resp: 99044

Ion	Ratio	Lower	Upper
76	100		
78	19.0	0.0	29.8

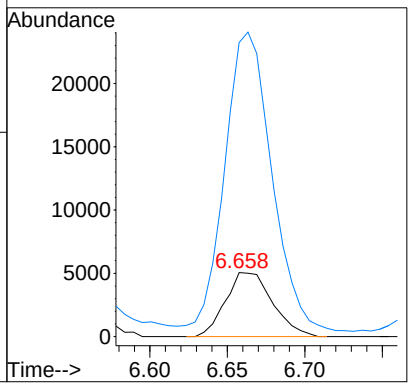


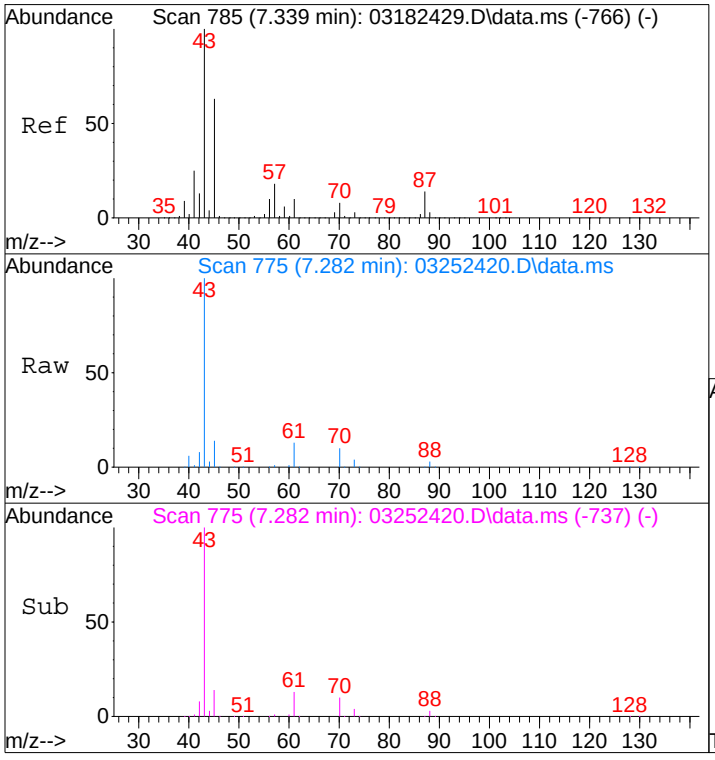


#27
2-Butanone (MEK)
Concen: 1.50 ng
RT: 6.66 min Scan# 665
Delta R.T. -0.000 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 72 Resp: 10673

Ion	Ratio	Lower	Upper
72	100		
43	468.2	468.6	508.6#

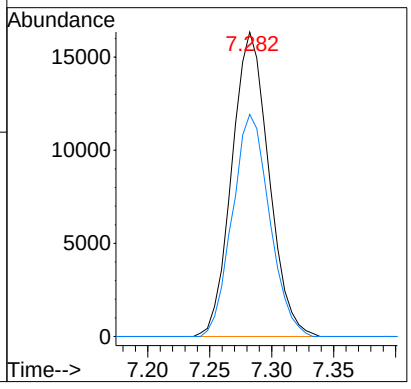


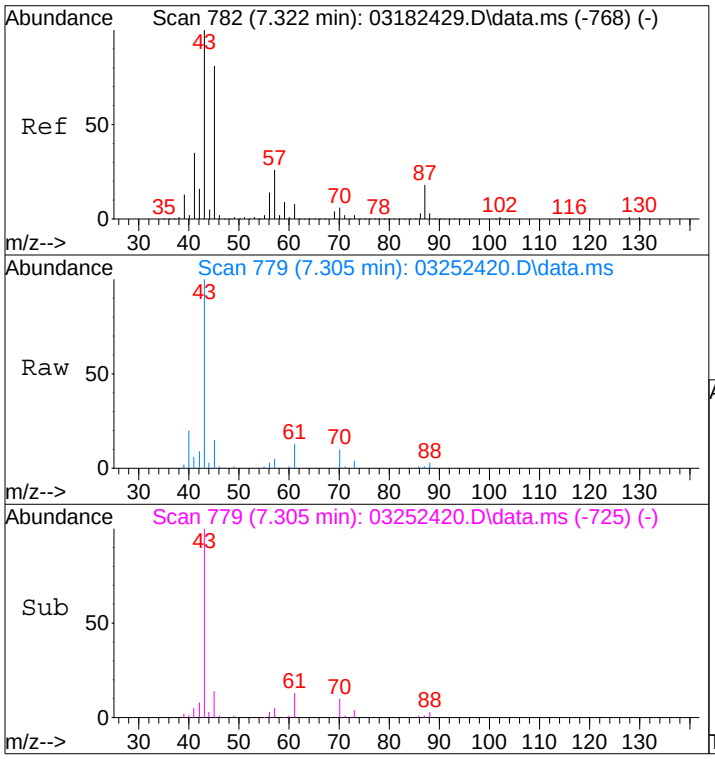


#30
Ethyl Acetate
Concen: 7.97 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 61 Resp: 33964

Ion	Ratio	Lower	Upper
61	100		
70	73.3	57.3	97.3

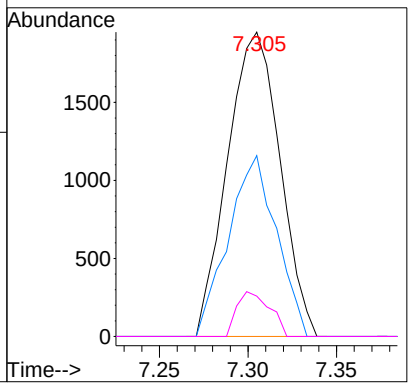


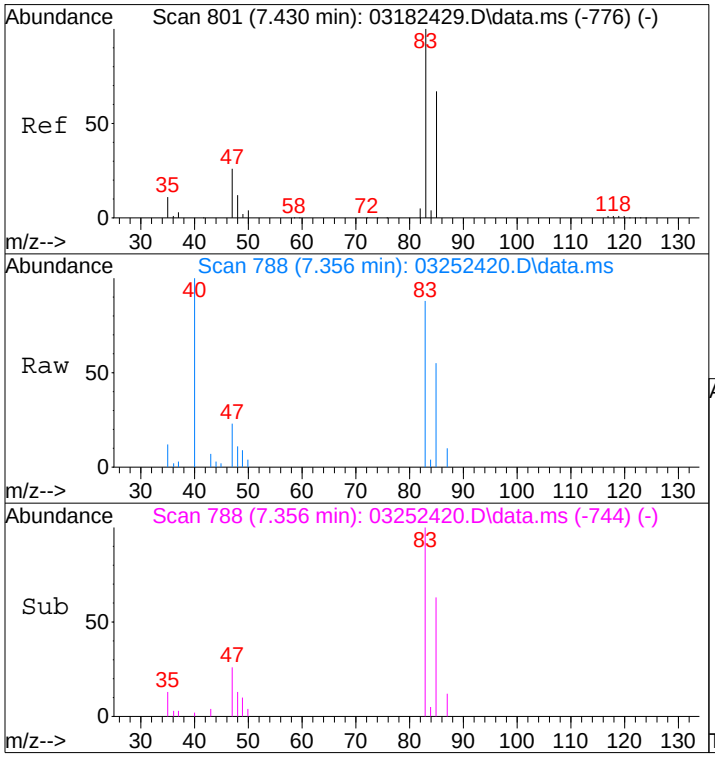


#31
n-Hexane
Concen: 0.22 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 57 Resp: 4011

Ion	Ratio	Lower	Upper
57	100		
56	54.6	42.2	63.4
86	9.2	9.4	14.2#

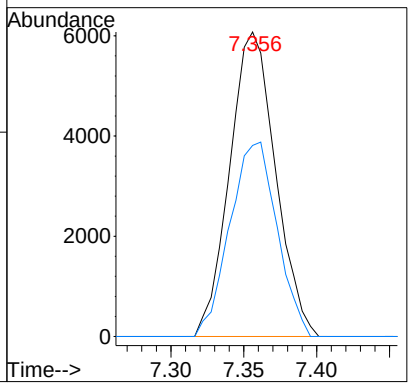


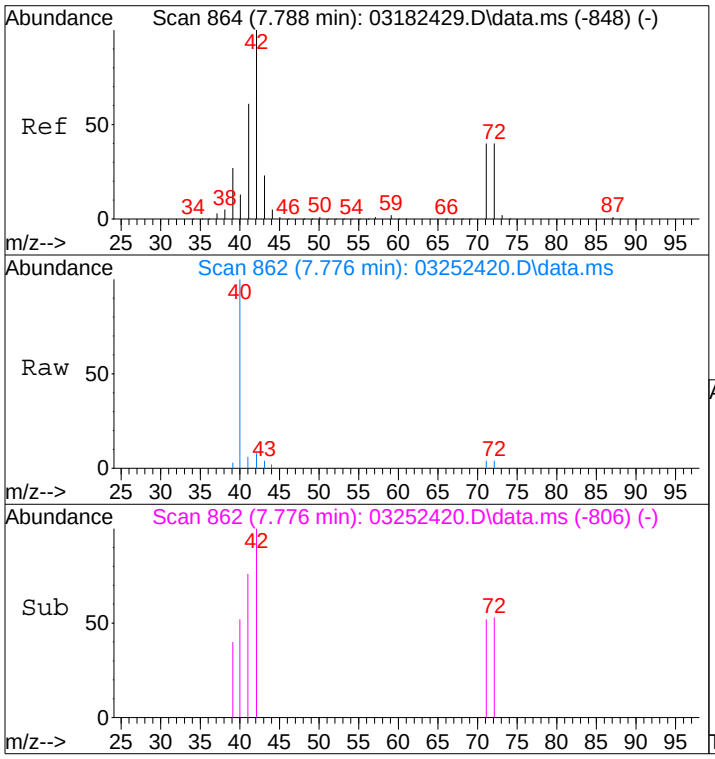


#32
Chloroform
Concen: 0.65 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.001 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 83 Resp: 13324

Ion	Ratio	Lower	Upper
83	100		
85	65.6	46.1	86.1

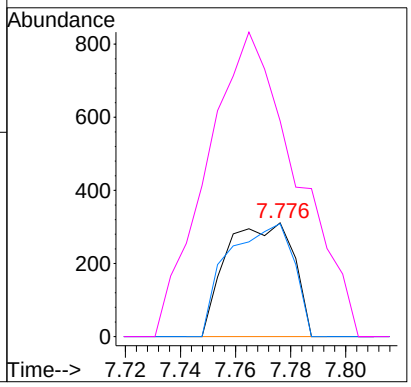


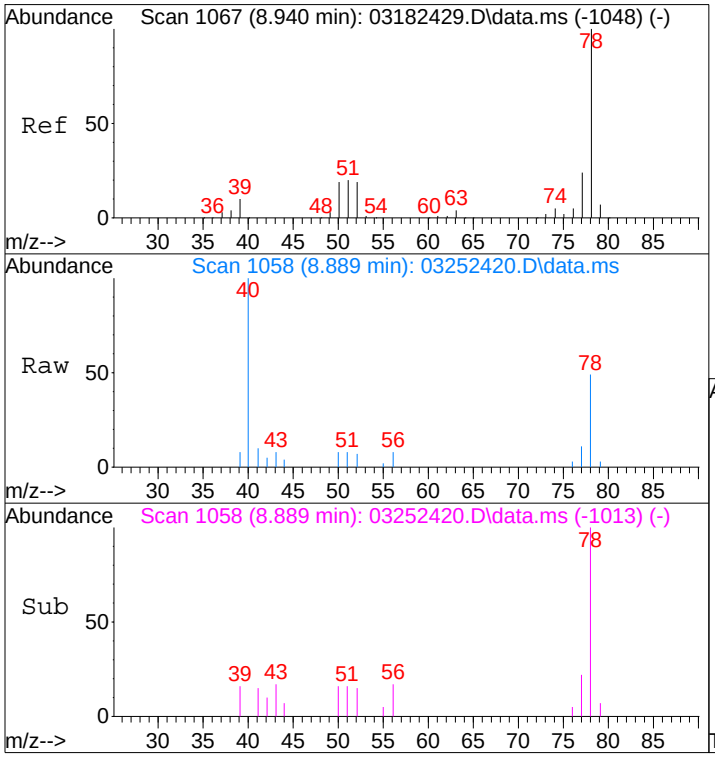


#34
Tetrahydrofuran (THF)
Concen: 0.08 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.067 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 72 Resp: 525

Ion	Ratio	Lower	Upper
72	100		
71	97.1	80.7	120.7
42	359.8	255.0	295.0#

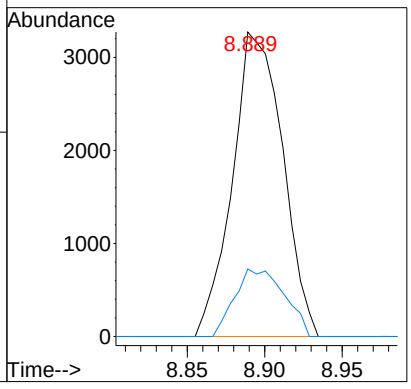


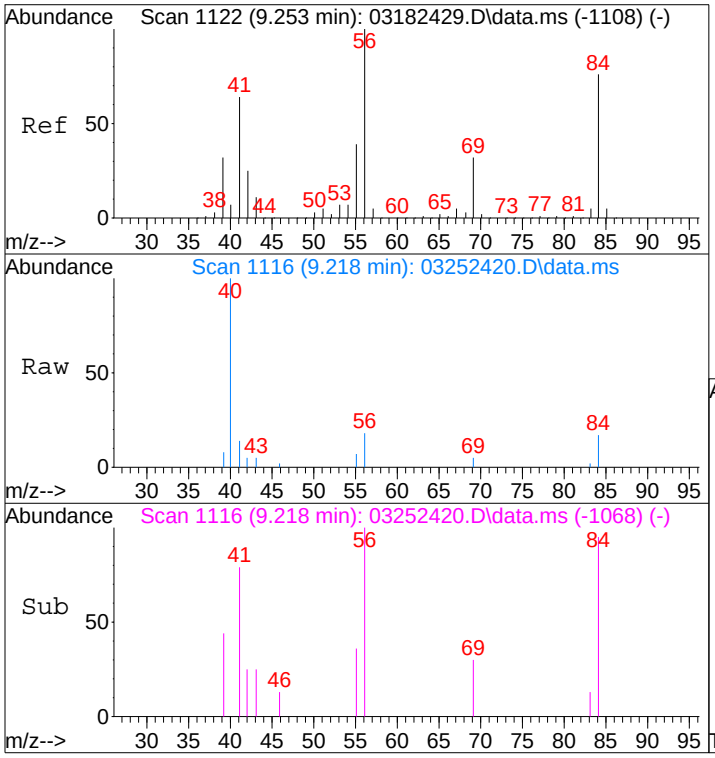


#41
Benzene
Concen: 0.16 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 78 Resp: 7378

Ion	Ratio	Lower	Upper
78	100		
77	21.9	3.6	43.6

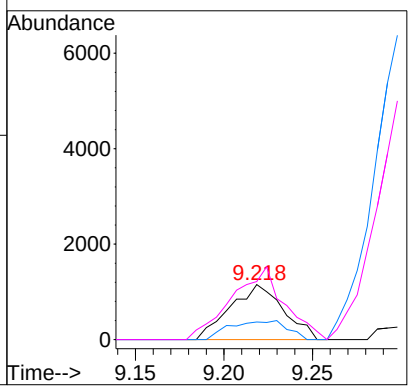


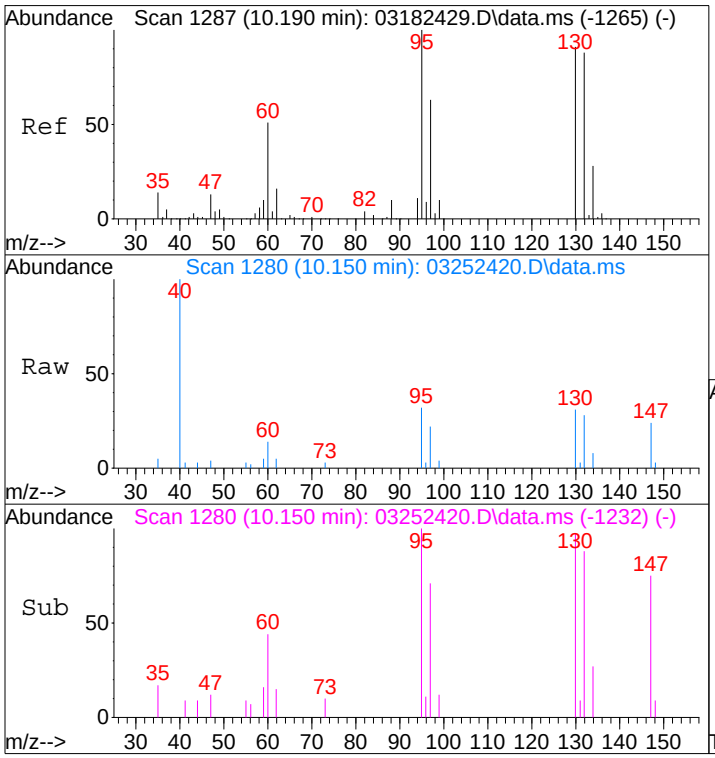


#43
Cyclohexane
Concen: 0.17 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 84 Resp: 2408

Ion	Ratio	Lower	Upper
84	100		
69	36.5	21.3	61.3
56	130.7	115.3	155.3

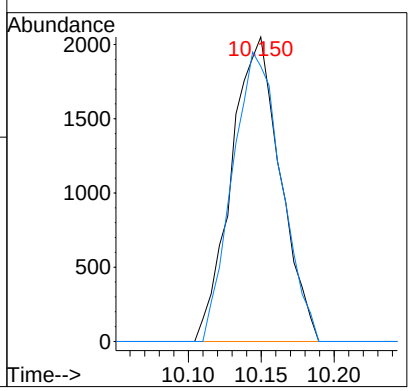


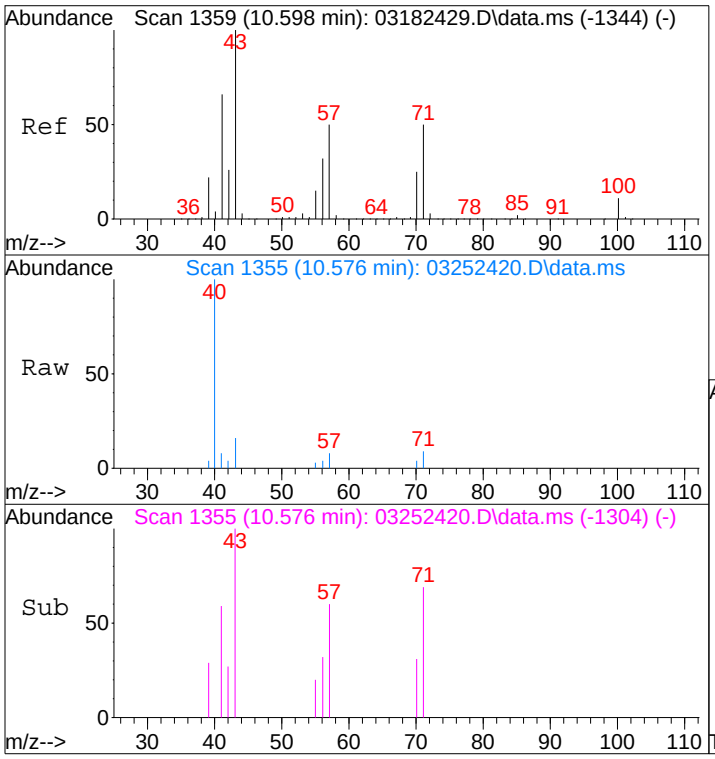


#47
Trichloroethene
Concen: 0.39 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.022 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion:130 Resp: 4800

Ion	Ratio	Lower	Upper
130	100		
132	95.3	77.5	117.5

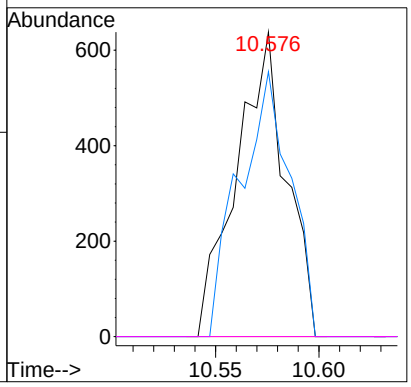


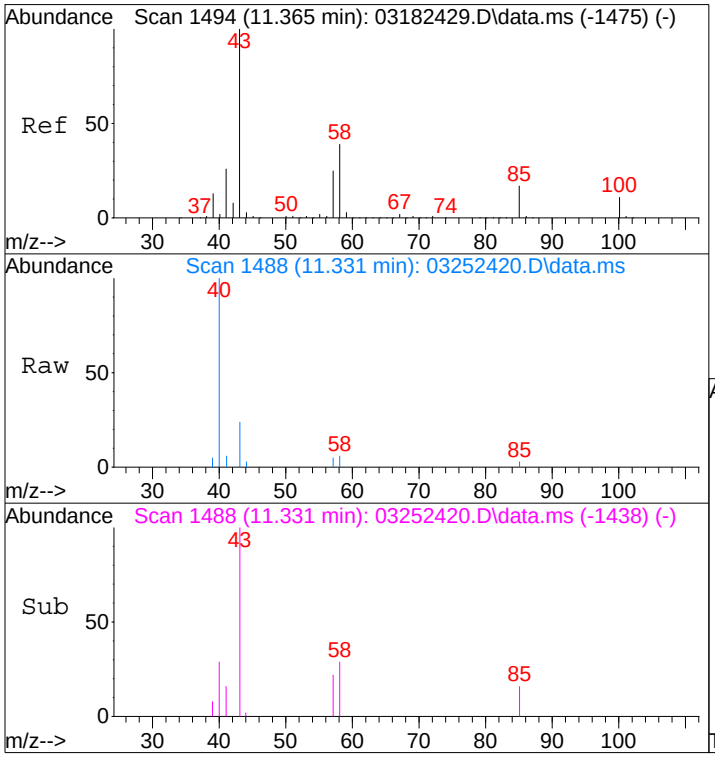


#51
n-Heptane
Concen: 0.11 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.042 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 71 Resp: 1068

Ion	Ratio	Lower	Upper
71	100		
57	89.0	81.2	121.2
100	0.0	4.0	44.0#

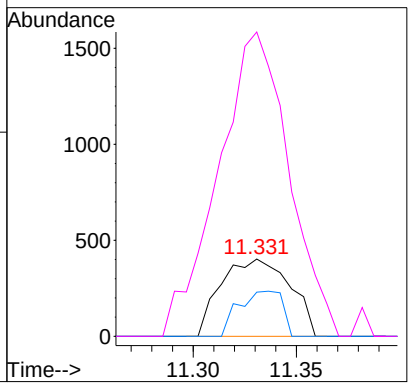


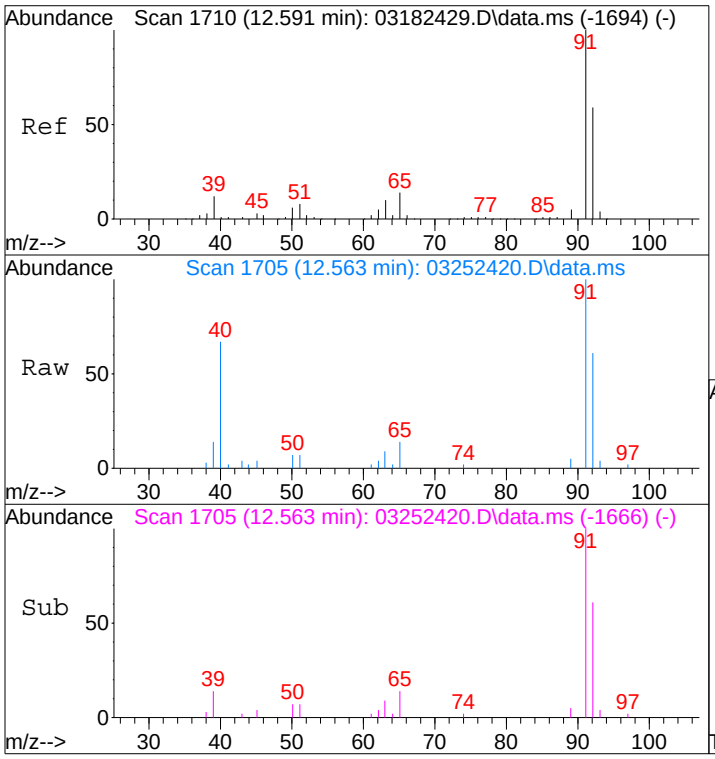


#53
4-Methyl-2-pentanone
Concen: 0.10 ng
RT: 11.33 min Scan# 1488
Delta R.T. 0.035 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 58 Resp: 938

Ion	Ratio	Lower	Upper
58	100		
85	37.0	34.5	51.7
43	403.0	218.4	327.6#

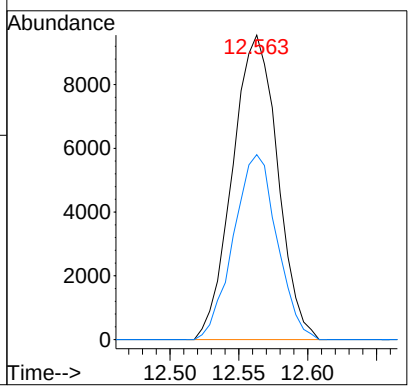


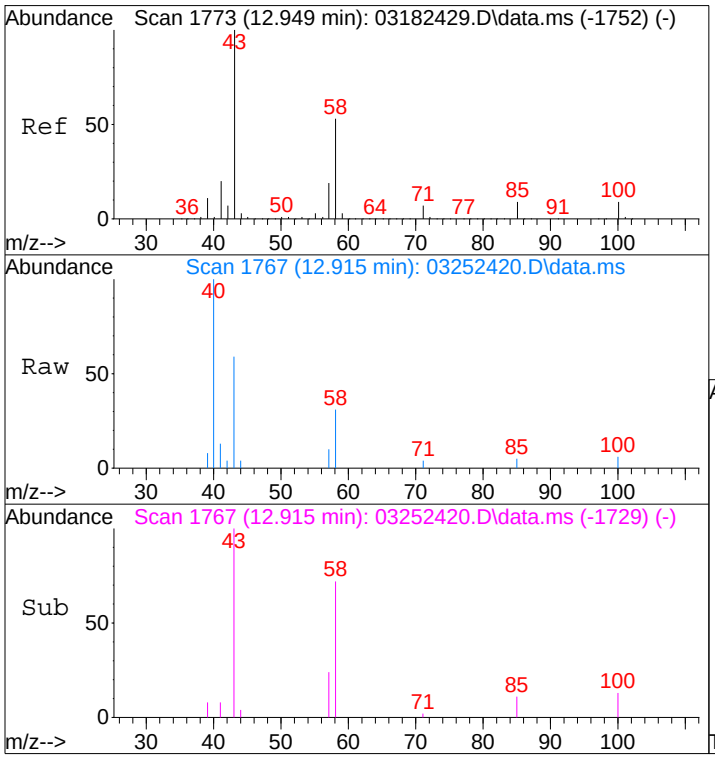


#58
Toluene
Concen: 0.53 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 91 Resp: 21742

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.2	79.2

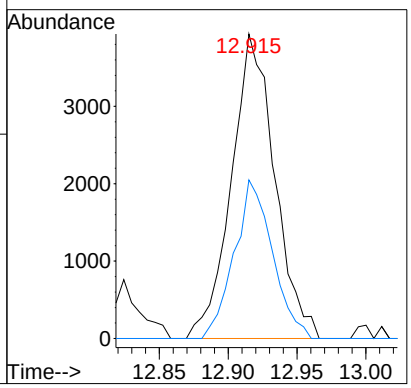


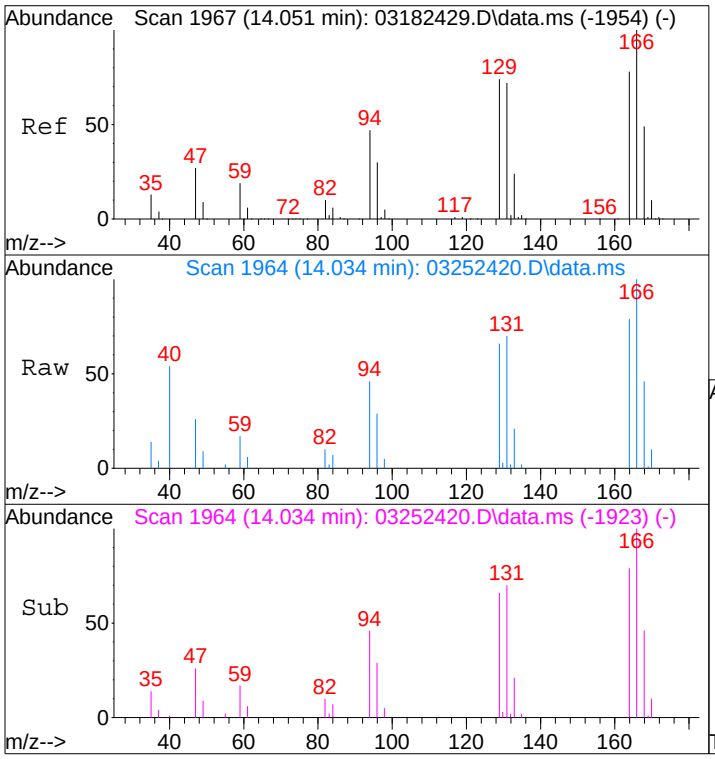


#59
2-Hexanone
Concen: 0.36 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 43 Resp: 8612

Ion	Ratio	Lower	Upper
43	100		
58	45.9	30.2	70.2

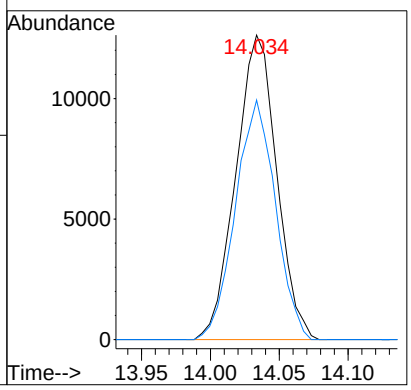


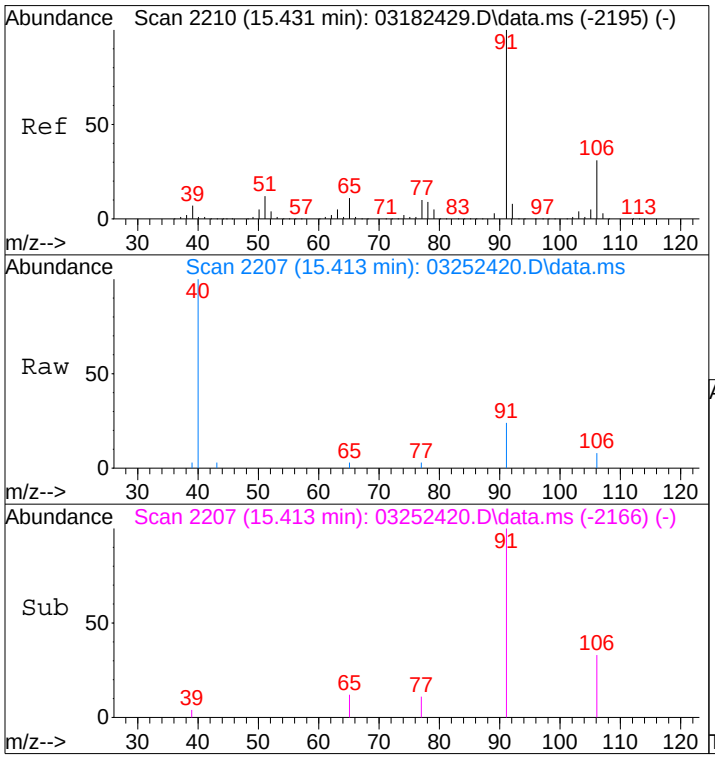


#64
Tetrachloroethene
Concen: 2.07 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion:166 Resp: 26115

Ion	Ratio	Lower	Upper
166	100		
164	77.0	56.7	96.7

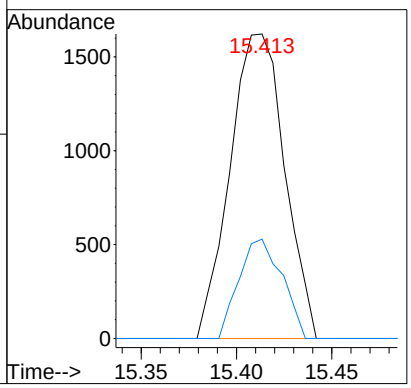


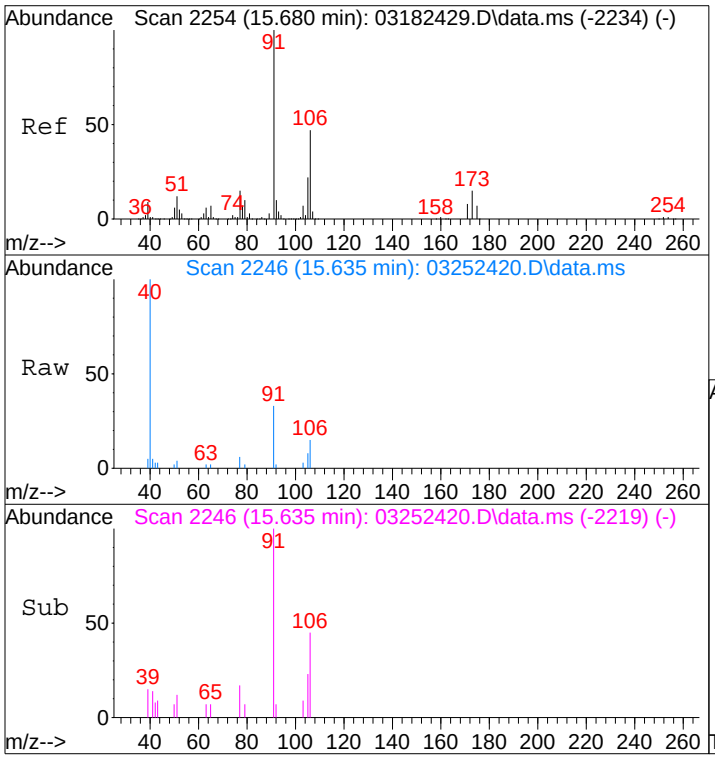


#66
Ethylbenzene
Concen: 0.07 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 91 Resp: 3228

Ion	Ratio	Lower	Upper
91	100		
106	25.8	10.4	50.4

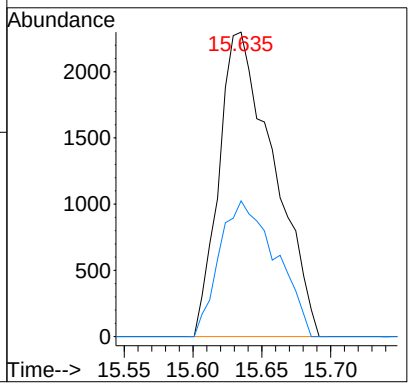


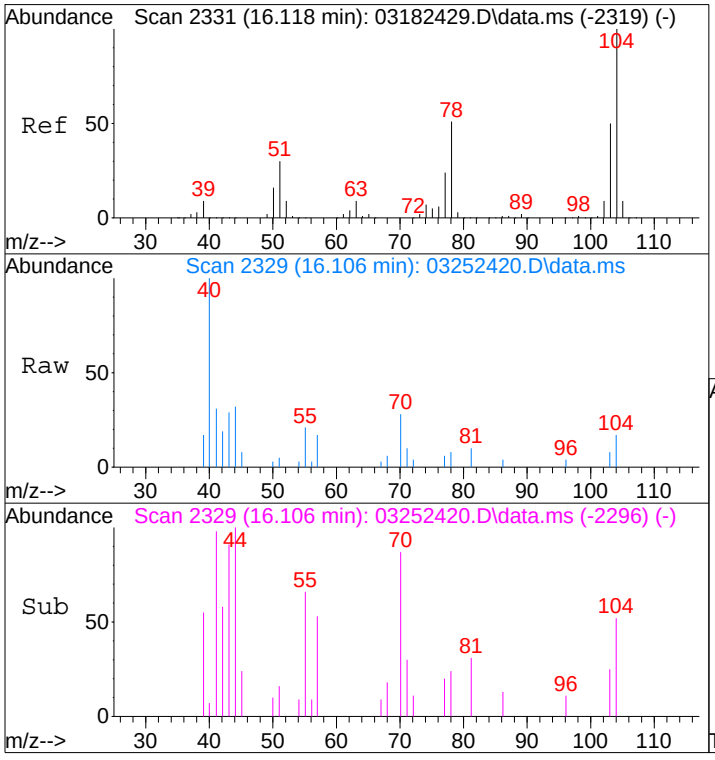


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 91 Resp: 6339

Ion	Ratio	Lower	Upper
91	100		
106	46.1	25.6	65.6

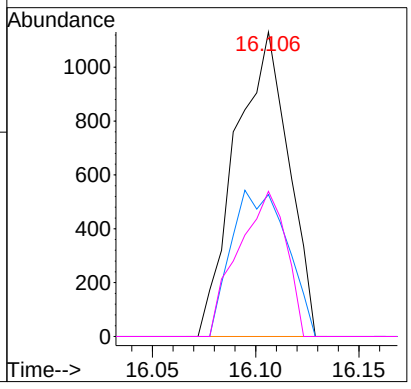


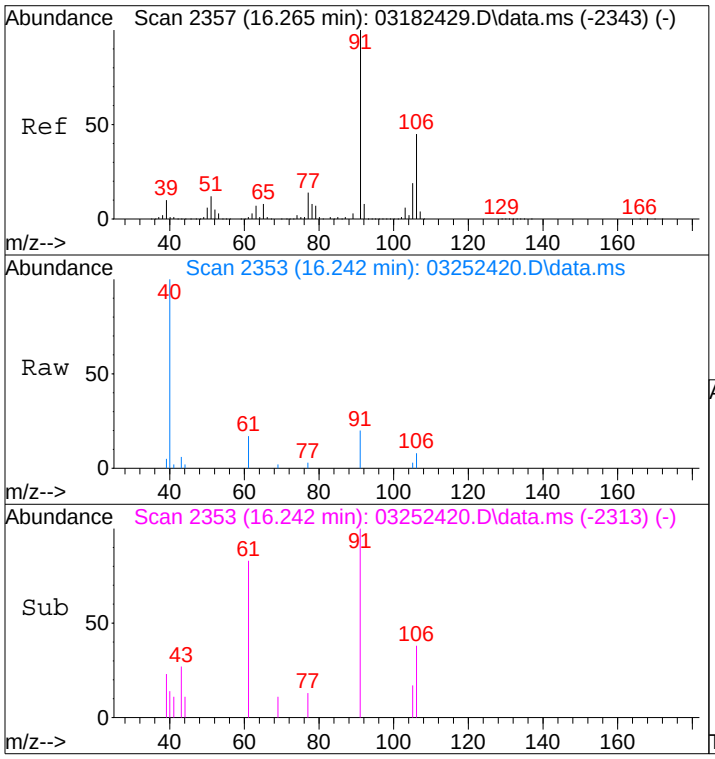


#69
Styrene
Concen: 0.08 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.012 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion:104 Resp: 2012

Ion	Ratio	Lower	Upper
104	100		
78	50.8	28.5	68.5
103	43.2	28.4	68.4

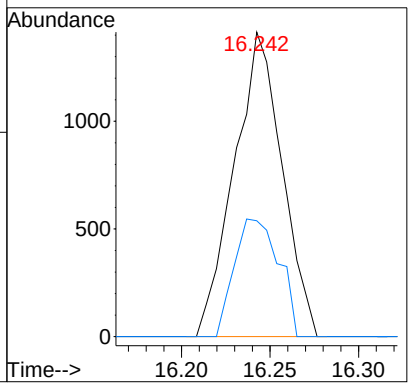


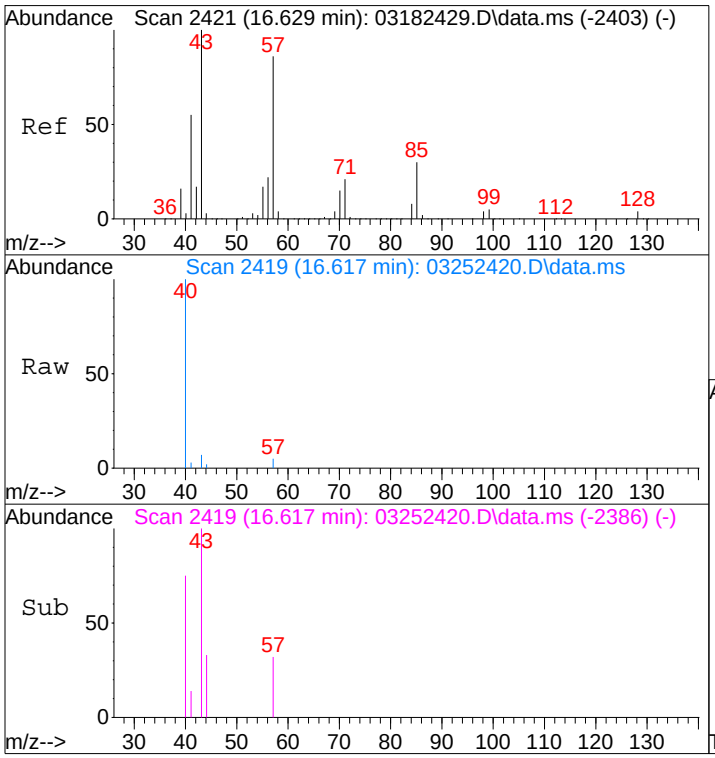


#70
o-Xylene
Concen: 0.07 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 91 Resp: 2659

Ion	Ratio	Lower	Upper
91	100		
106	36.0	24.4	64.4

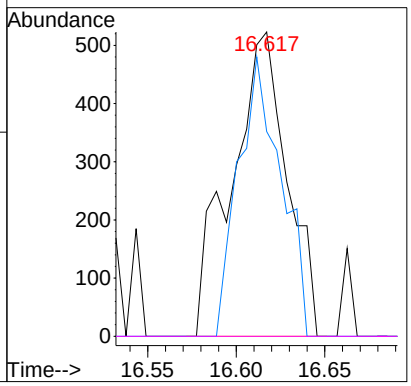


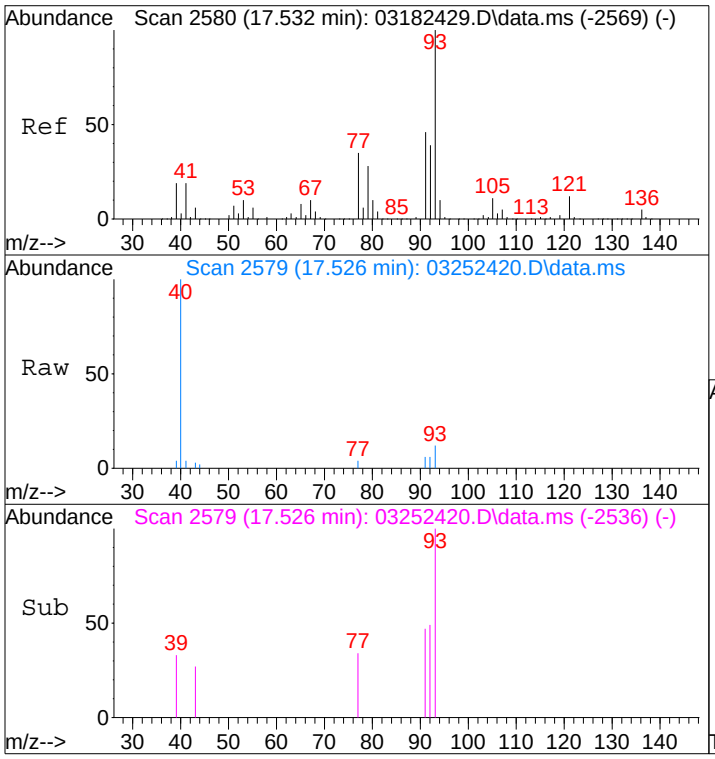


#71
n-Nonane
Concen: 0.05 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.012 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 43 Resp: 1146

Ion	Ratio	Lower	Upper
43	100		
57	70.1	63.3	103.3
85	0.0	7.8	47.8#

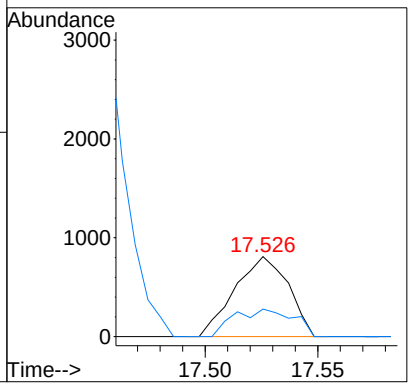


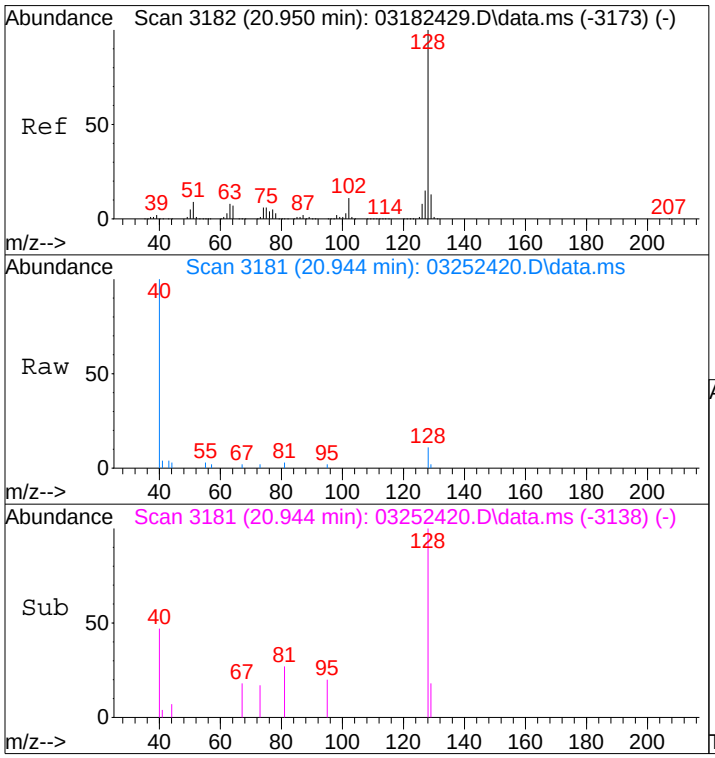


#75
alpha-Pinene
Concen: 0.06 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion: 93 Resp: 1344

Ion	Ratio	Lower	Upper
93	100		
77	38.2	13.4	53.4

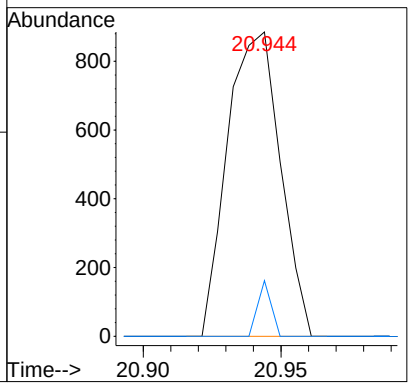




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3181
Delta R.T. -0.006 min
Lab File: 03252420.D
Acq: 25 Mar 2024 21:58

Tgt Ion:128 Resp: 1181

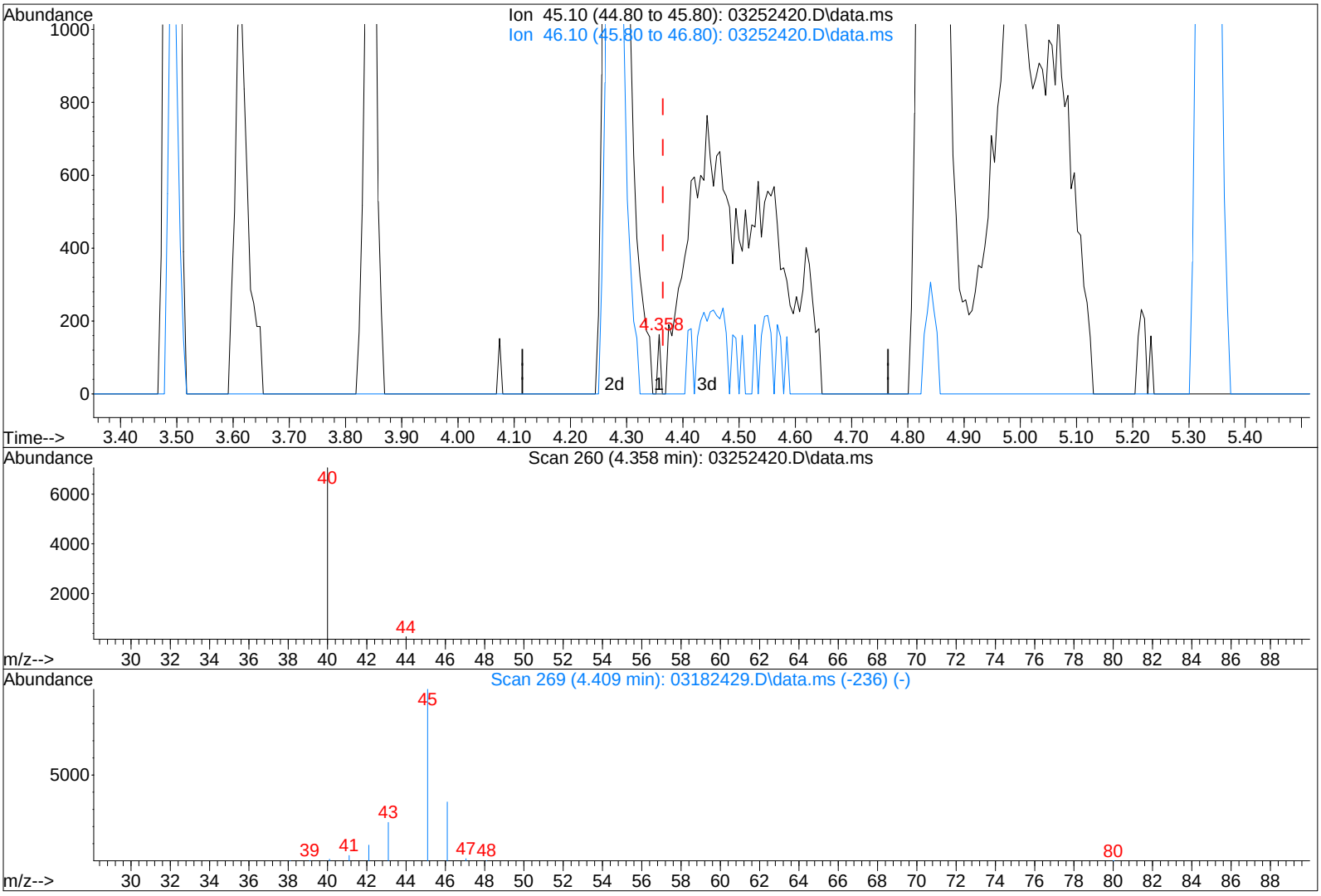
Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252420.D\data.ms

(10) Ethanol (T)

4.358min (-0.007) 0.00ng

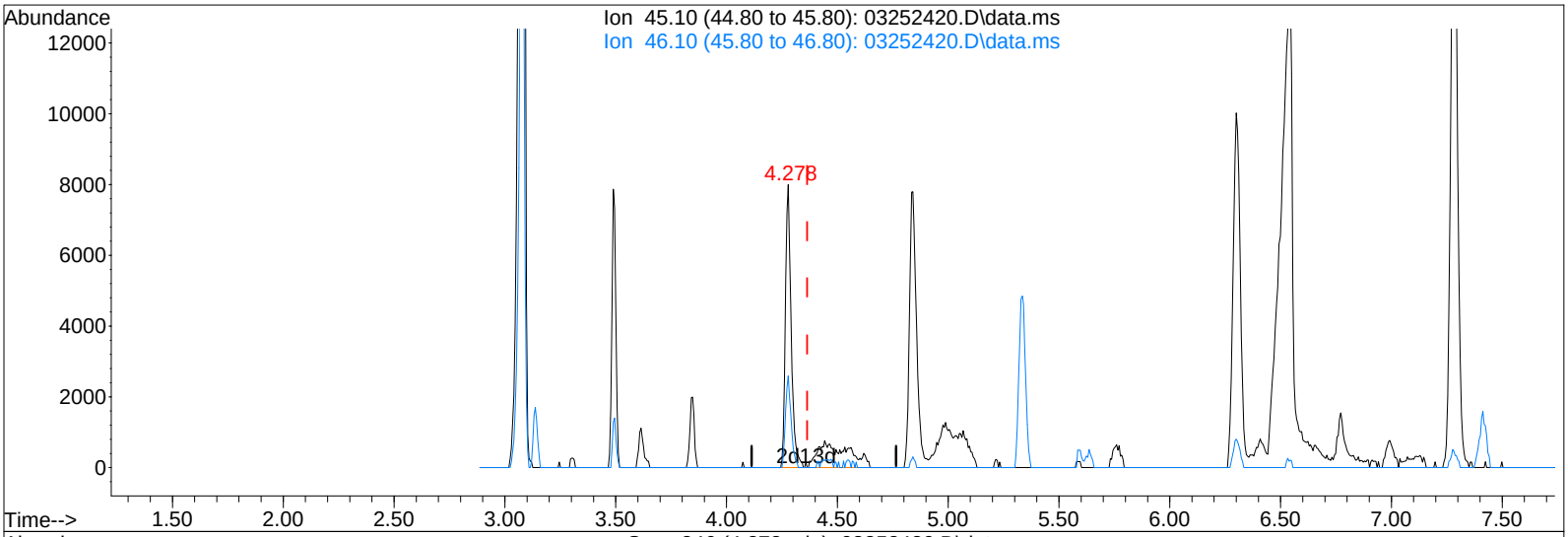
response 56

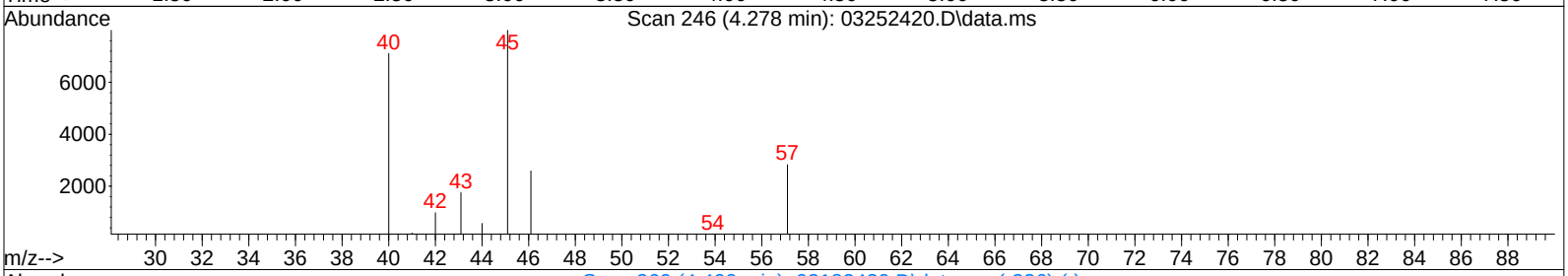
Ion	Exp%	Act%
45.10	100	100
46.10	33.30	214.29#
0.00	0.00	0.00
0.00	0.00	0.00

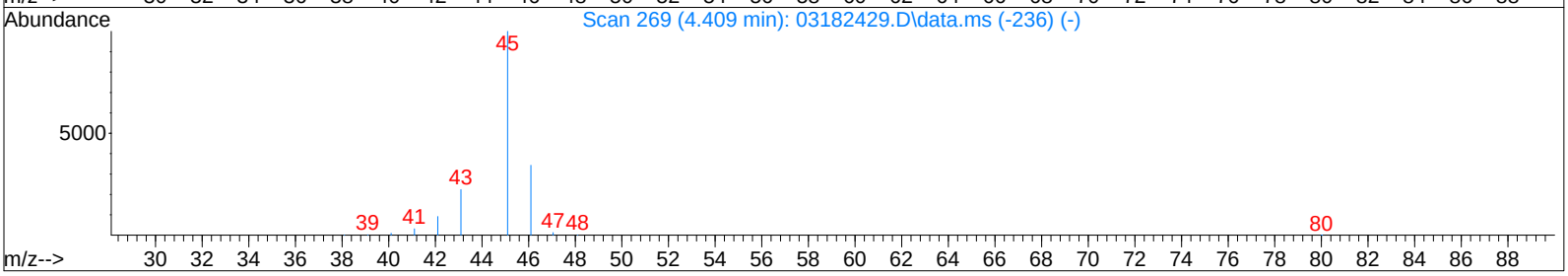
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03252420.D\data.ms

MP 3/26/24

LH 3/26/24

(10) Ethanol (T)

4.278min (-0.086) 1.88ng m

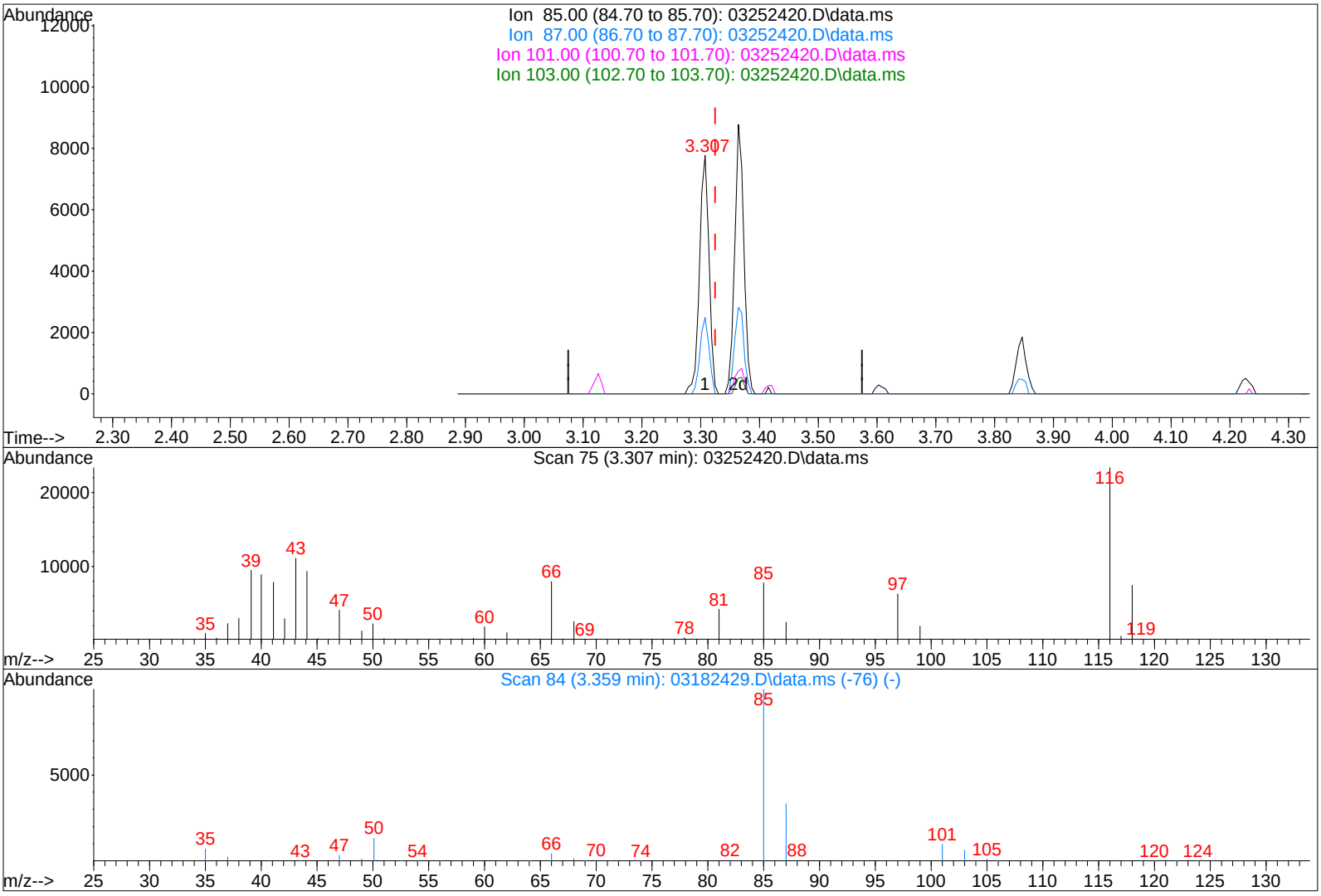
response 21487

Ion	Exp%	Act%
45.10	100	100
46.10	33.30	0.56#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.017) 0.36ng

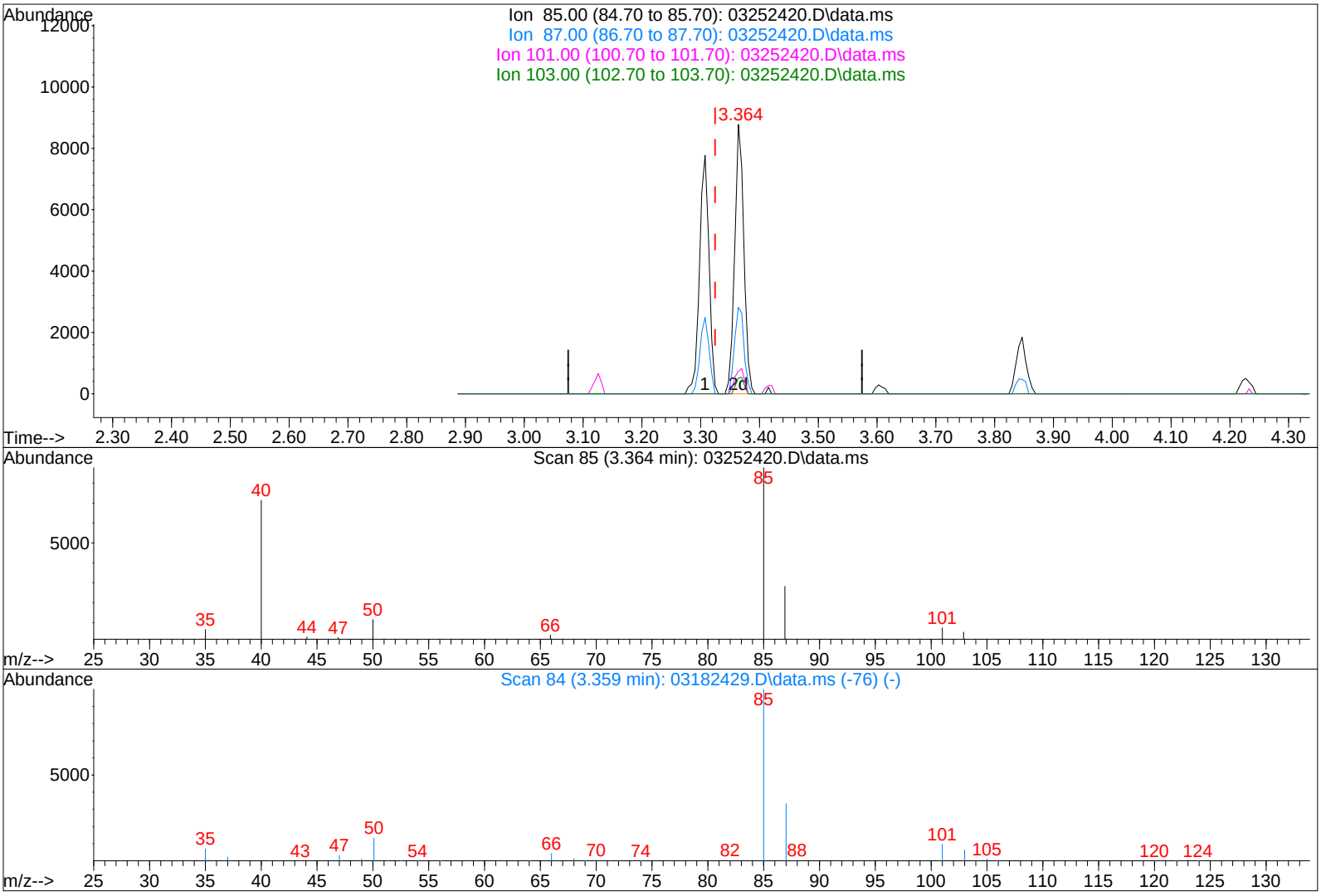
response 8776

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	30.47
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252420.D\data.ms

WP 3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.039) 0.40ng m

response 9590

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.88
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:35:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

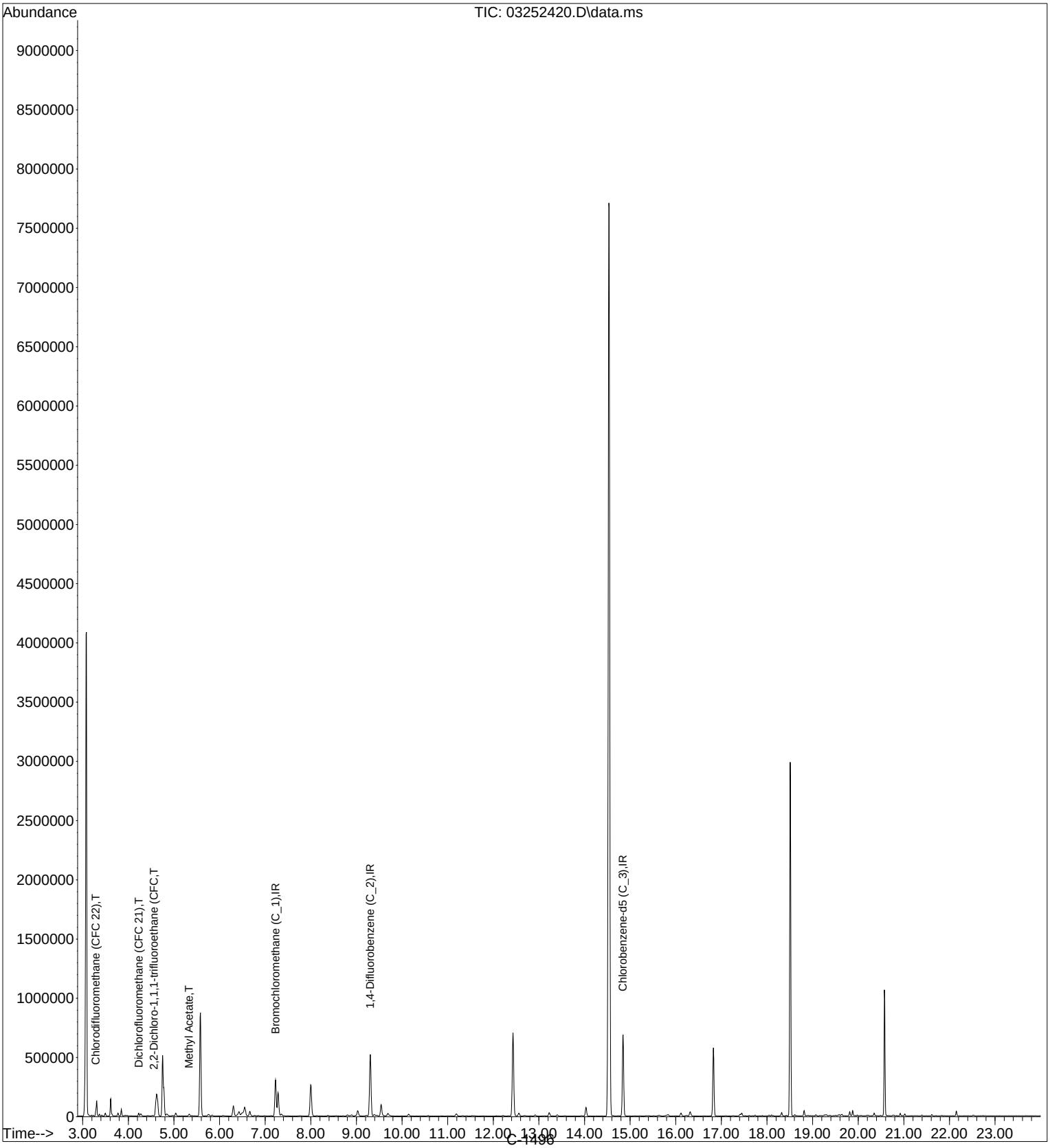
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	118112	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	511393	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	107101	12.500 ng		-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	943	N.D.		
4) 1,1-Difluoroethane	3.24	65	391	N.D.		
5) Chlorodifluoromethane ...	3.28	67	2765	0.797 ng		82
6) 1-Chloro-1,1-Difluoroe...	3.50	65	213	N.D.		
7) Dichlorofluoromethane ...	4.23	67	17765	0.771 ng		100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1588	0.110 ng	#	17
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.33	43	3320	0.109 ng	#	1
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.54	56	817	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	1207	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D. d		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	361	N.D.		
27) 4-Chlorotoluene	17.68	91	1429	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	51	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	322	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D. d		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:35:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

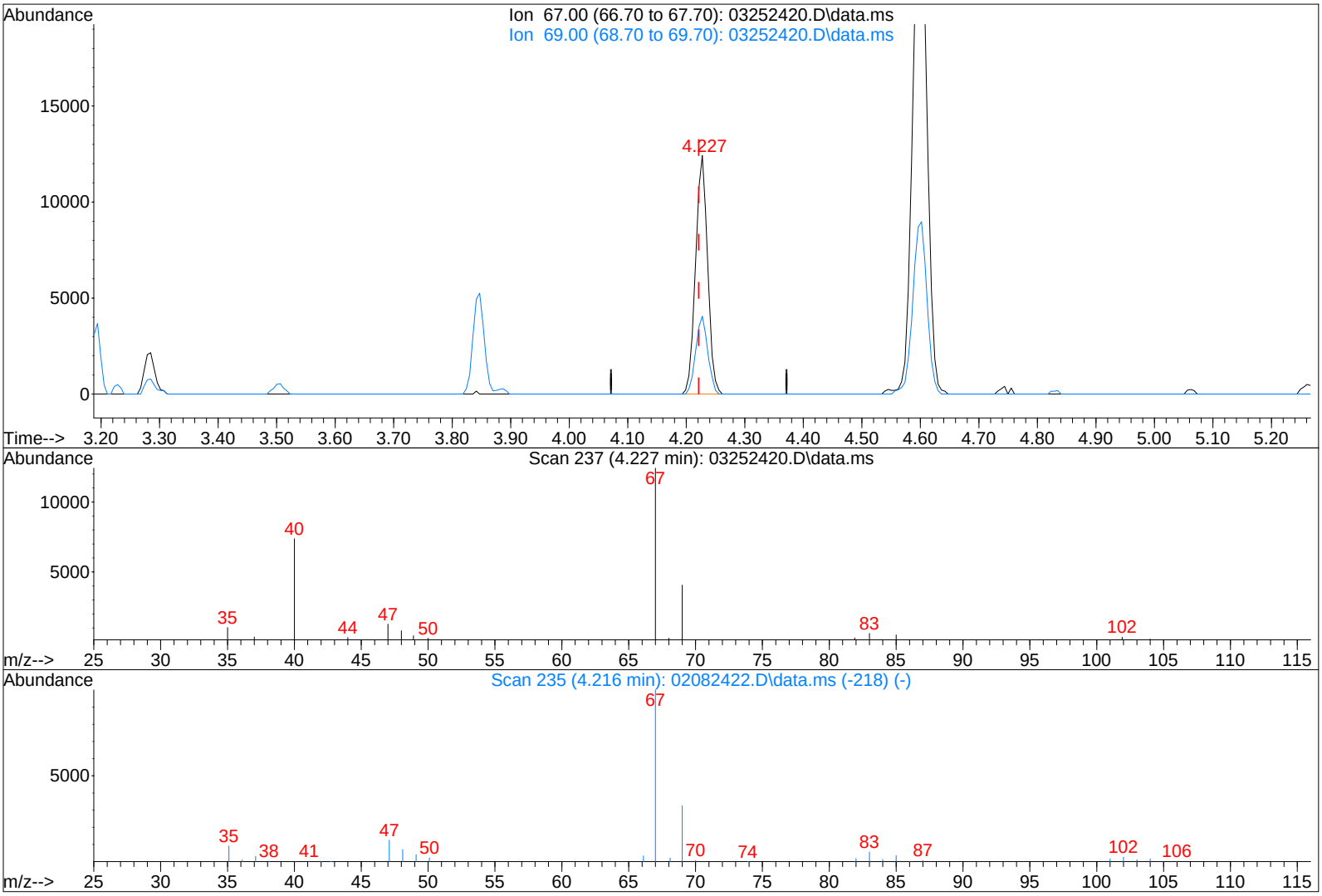


C-1496

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:34:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252420.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.77ng

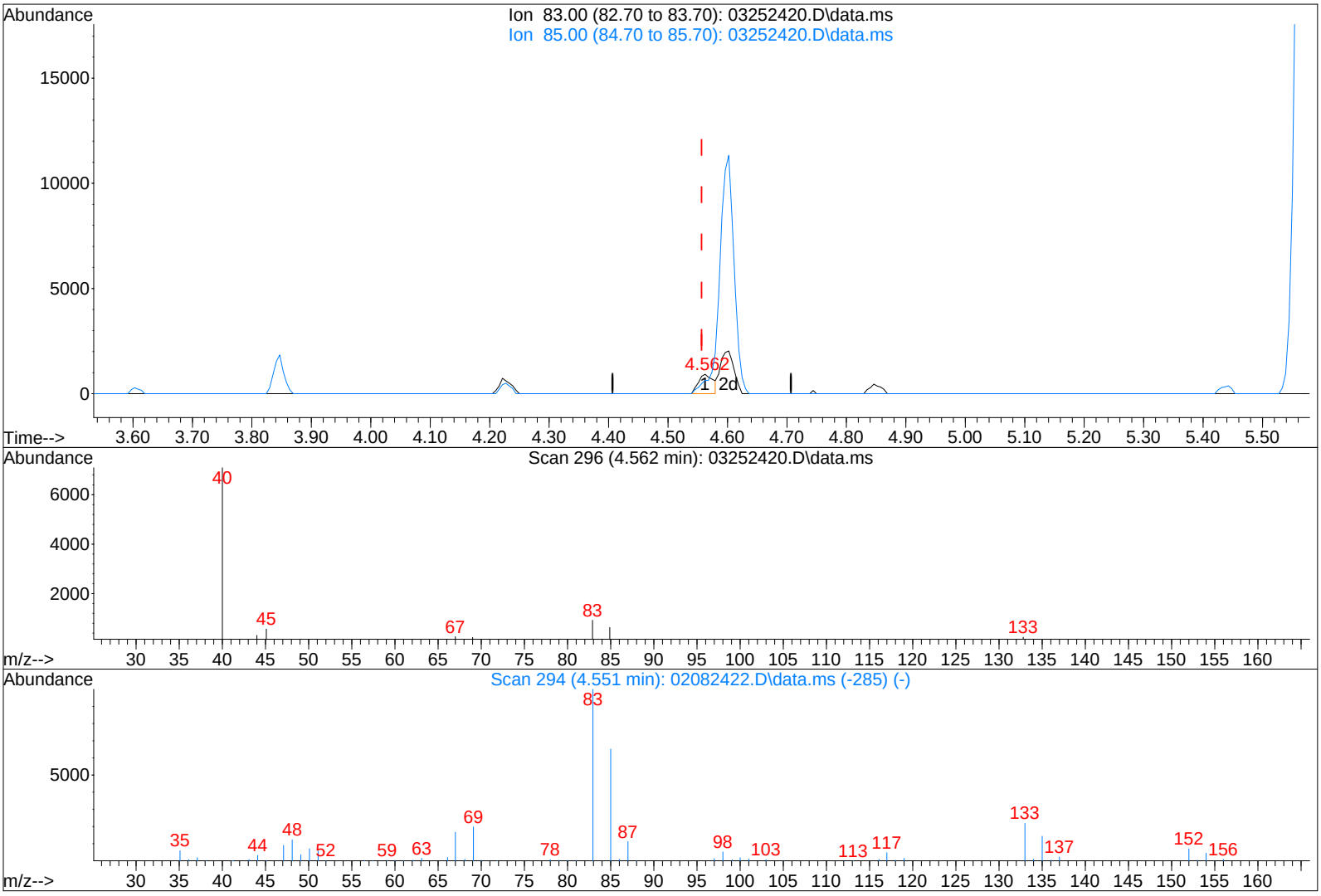
response 17765

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.58
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252420.D Vial: 12
Acq On : 25 Mar 2024 21:58 Operator: SC
Sample : P2400922-047 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:34:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252420.D\data.ms

(9) 2,2-Dichloro-1,1,1-trifluoroethane (CFC (T)

4.562min (+0.006) 0.11ng

response 1588

Ion	Exp%	Act%
83.00	100	100
85.00	65.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252420.D
Acq On : 25 Mar 2024 21:58
Operator : SC
Sample : P2400922-047 (400mL)PF2
Misc : S37-03252401
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252420.D\data.ms

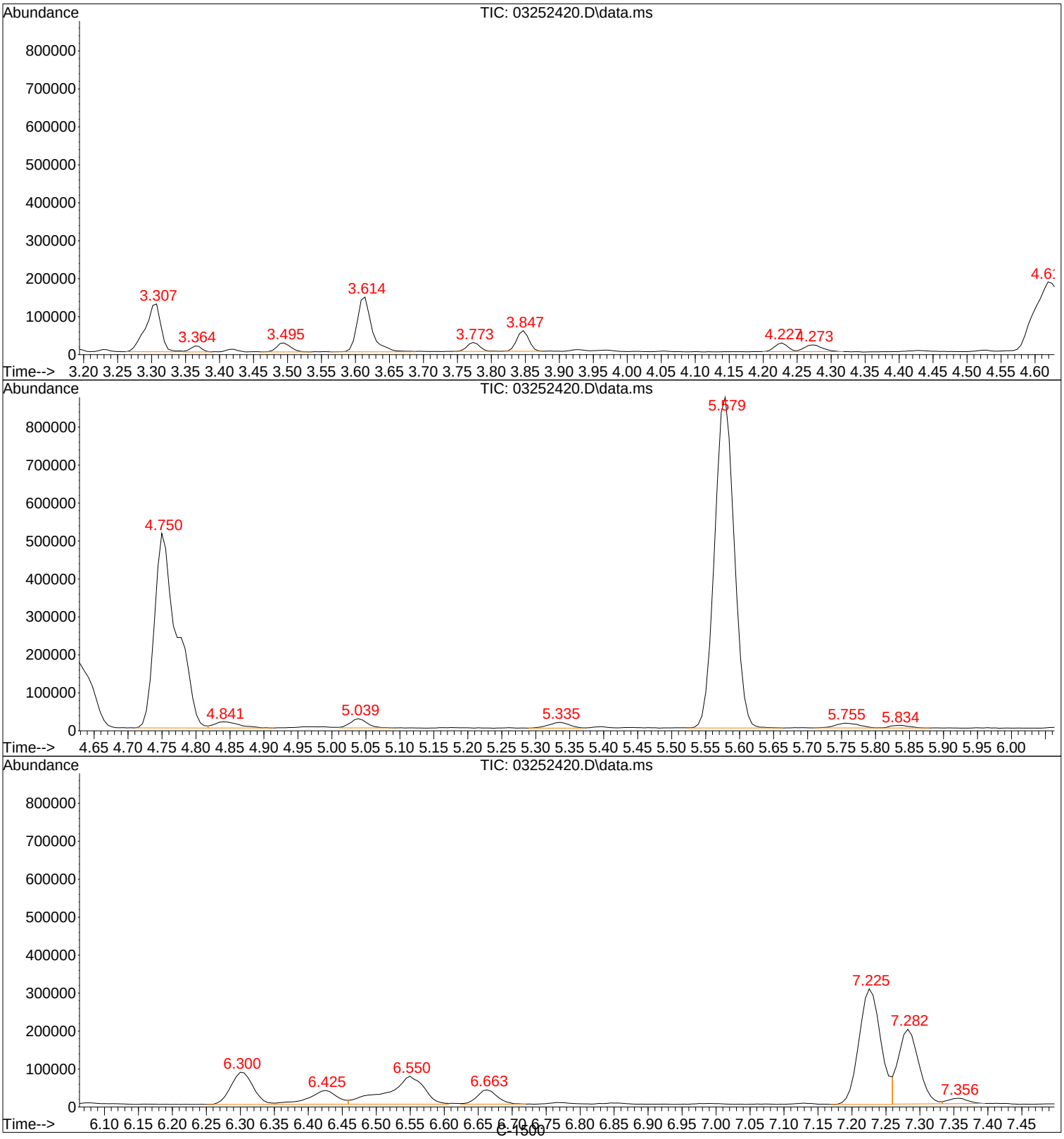
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	67	75	82	rBV4	126012	202511	11.59%	3.323%
2	3.364	82	85	89	rVB	15757	17654	1.01%	0.290%
3	3.495	102	108	115	rVB2	23354	33601	1.92%	0.551%
4	3.614	120	129	142	rBV	144099	216347	12.39%	3.551%
5	3.773	152	157	164	rBV	23667	31731	1.82%	0.521%
6	3.847	165	170	175	rVB	54339	67336	3.85%	1.105%
7	4.227	232	237	241	rBV	22941	31362	1.80%	0.515%
8	4.273	241	245	253	rVB3	17522	32135	1.84%	0.527%
9	4.619	293	306	318	rVB3	183250	591865	33.88%	9.713%
10	4.750	322	329	341	rVV2	512505	1178241	67.45%	19.337%
11	4.841	341	345	358	rVB3	16352	41687	2.39%	0.684%
12	5.039	375	380	389	rVB	24114	41272	2.36%	0.677%
13	5.335	424	432	438	rBV3	15195	32700	1.87%	0.537%
14	5.579	465	475	490	rVB2	871302	1746818	100.00%	28.668%
15	5.755	498	506	514	rBV	12651	30893	1.77%	0.507%
16	5.834	514	520	528	rVB3	7009	13936	0.80%	0.229%
17	6.300	593	602	611	rBV	84730	194071	11.11%	3.185%
18	6.425	611	624	630	rVV2	36513	108944	6.24%	1.788%
19	6.550	630	646	656	rVV3	73458	276518	15.83%	4.538%
20	6.663	659	666	676	rVV	37596	77607	4.44%	1.274%
21	7.225	755	765	771	rBV	304539	694333	39.75%	11.395%
22	7.282	771	775	784	rVV	196555	403762	23.11%	6.626%
23	7.356	784	788	795	rVB	13921	27988	1.60%	0.459%

Sum of corrected areas: 6093312

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252420.D
Acq On : 25 Mar 2024 21:58
Operator : SC
Sample : P2400922-047 (400mL)PF2
Misc : S37-03252401
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252420.D
Acq On : 25 Mar 2024 21:588
Operator : SCC
Sample : P2400922-047 (400mL)PF22
Misc : S37-032524011
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:06:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	119805	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	518857	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	104627	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	248368	12.672	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	588918	14.019	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.16%				
73) Bromofluorobenzene (SS3)	16.83	174	191771	12.948	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	2998m	0.122	ng		
4) Chloromethane	3.51	50	667	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	195	N.D.			
10) Ethanol	4.28	45	1800	0.155	ng		90
11) Acetonitrile	4.43	41	1314	N.D.			
12) Acrolein	4.52	56	1249	0.151	ng		90
13) Acetone	4.63	58	16686	1.894	ng	#	68
14) Trichlorofluoromethane	4.75	101	2603013	109.444	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	1784	0.051	ng		78
16) Acrylonitrile	4.98	53	447	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.34	84	693	0.054	ng		85
20) 3-Chloro-1-propene (Al...	5.44	41	281	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1163871	116.090	ng		100
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	3426	0.476	ng		95
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	165	N.D.			
32) Chloroform	7.34	83	12452	0.600	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.80	56	775	No Calib		#	
41) Benzene	8.89	78	2569	0.055	ng		87
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	490	N.D.			
47) Trichloroethene	10.14	130	42321	3.363	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:06:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

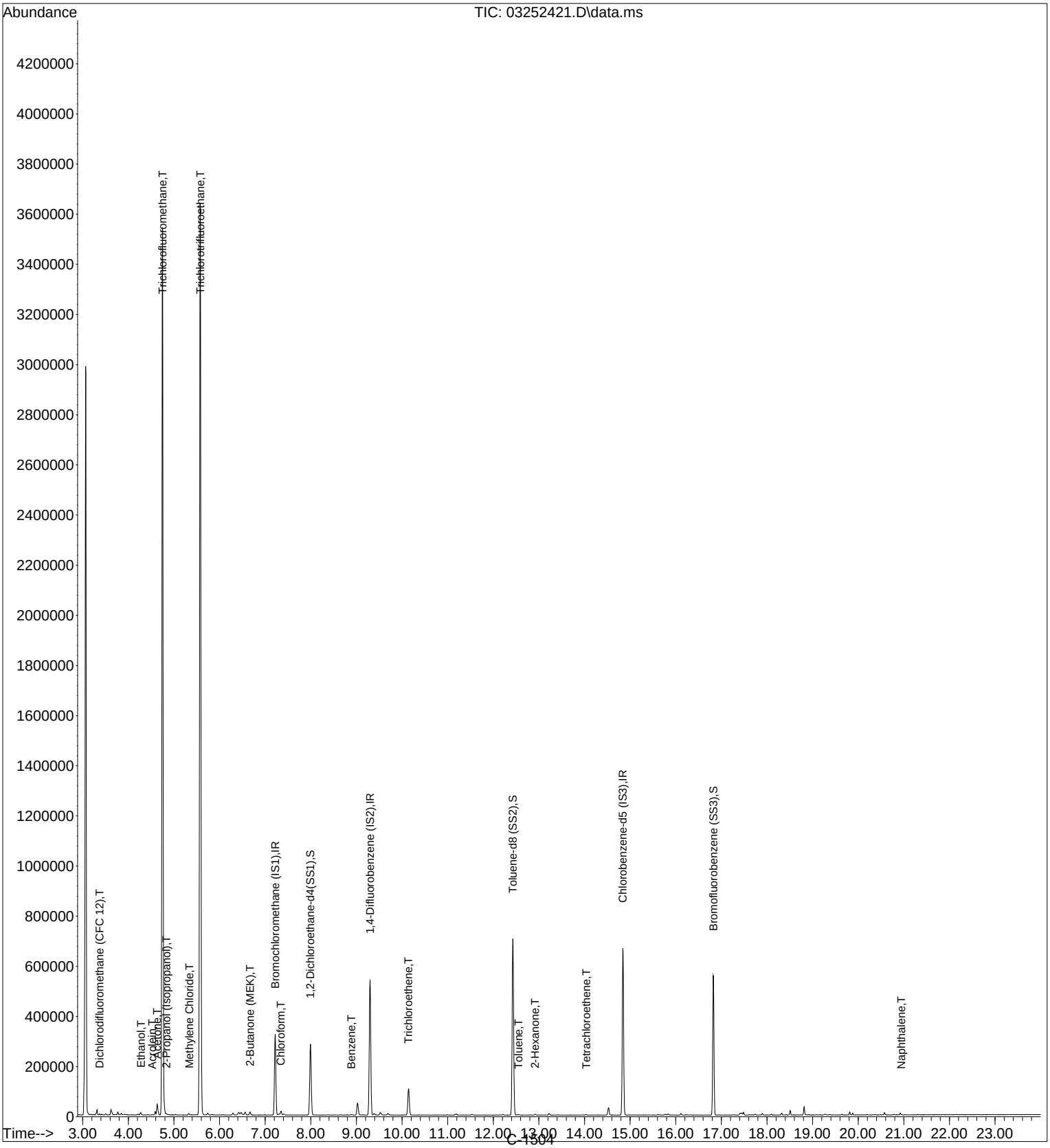
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2015	0.050 ng	96
59) 2-Hexanone	12.92	43	3396	0.146 ng	90
60) Dibromochloromethane	13.07	129	196	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.79	43	113	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.04	166	790	0.064 ng	90
65) Chlorobenzene	14.90	112	423	N.D.	
66) Ethylbenzene	15.41	91	905	N.D.	
67) m- & p-Xylenes	15.63	91	1774	N.D.	
68) Bromoform	15.66	173	215	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	752	N.D.	
71) n-Nonane	16.61	43	122	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	284	N.D.	
74) Cumene	17.03	105	545	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	853	N.D.	
77) 3-Ethyltoluene	17.03	105	545	No Calib #	
78) 4-Ethyltoluene	17.86	105	554	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	254	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	545	No Calib #	
82) 1,2,4-Trimethylbenzene	18.44	105	440	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	489	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	381	N.D.	
87) sec-Butylbenzene	18.75	105	614	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	505	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	545	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	224	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	468	N.D.	
95) Naphthalene	20.94	128	1696	0.385 ng	90
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	358	N.D.	
98) Cyclohexanone	15.51	55	140	No Calib #	
99) tert-Butylbenzene	18.42	119	469	N.D.	
100) n-Butylbenzene	19.39	91	573	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:06:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:06:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

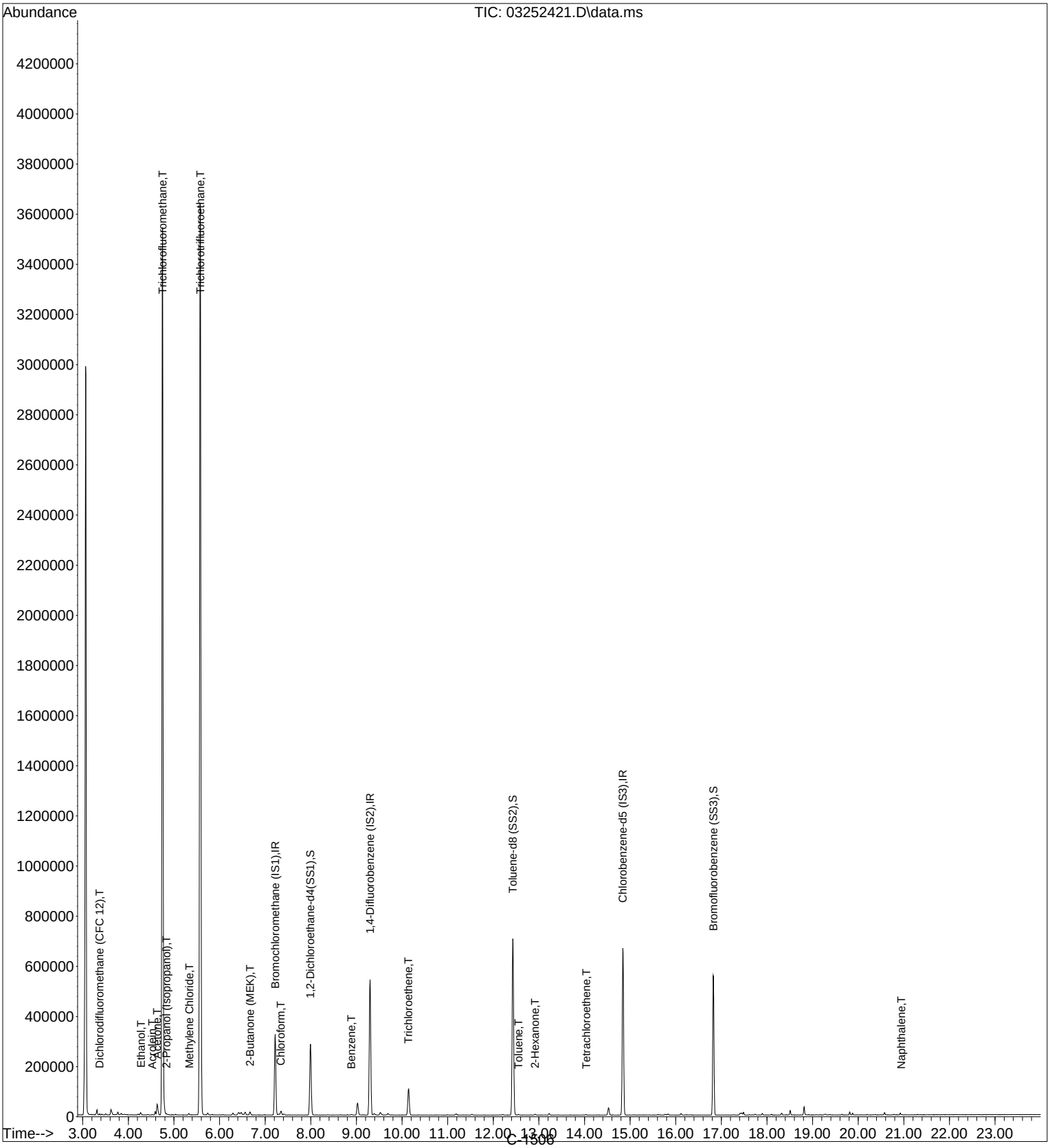
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	119805	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	518857	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	104627	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	248368	12.672	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	588918	14.019	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.16%				
73) Bromofluorobenzene (SS3)	16.83	174	191771	12.948	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	2998m	0.122	ng		
10) Ethanol	4.28	45	1800	0.155	ng		90
12) Acrolein	4.52	56	1249	0.151	ng		90
13) Acetone	4.63	58	16686	1.894	ng	#	68
14) Trichlorofluoromethane	4.75	101	2603013	109.444	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	1784	0.051	ng		78
19) Methylene Chloride	5.34	84	693	0.054	ng		85
21) Trichlorotrifluoroethane	5.58	151	1163871	116.090	ng		100
27) 2-Butanone (MEK)	6.67	72	3426	0.476	ng		95
32) Chloroform	7.34	83	12452	0.600	ng		99
41) Benzene	8.89	78	2569	0.055	ng		87
47) Trichloroethene	10.14	130	42321	3.363	ng		100
58) Toluene	12.56	91	2015	0.050	ng		96
59) 2-Hexanone	12.92	43	3396	0.146	ng		90
64) Tetrachloroethene	14.04	166	790	0.064	ng		90
95) Naphthalene	20.94	128	1696	0.385	ng		90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

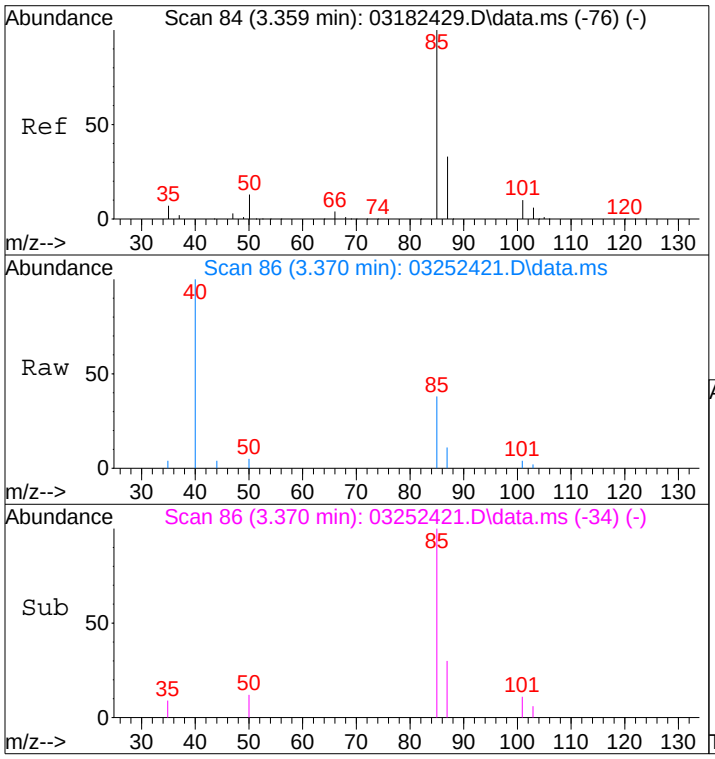
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:06:59 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



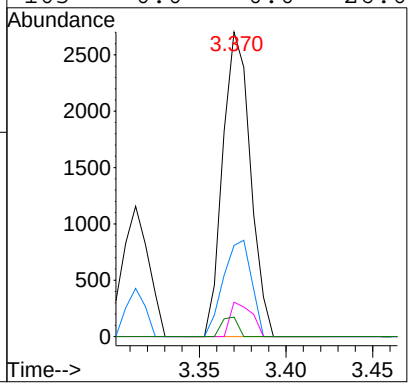
C-1500

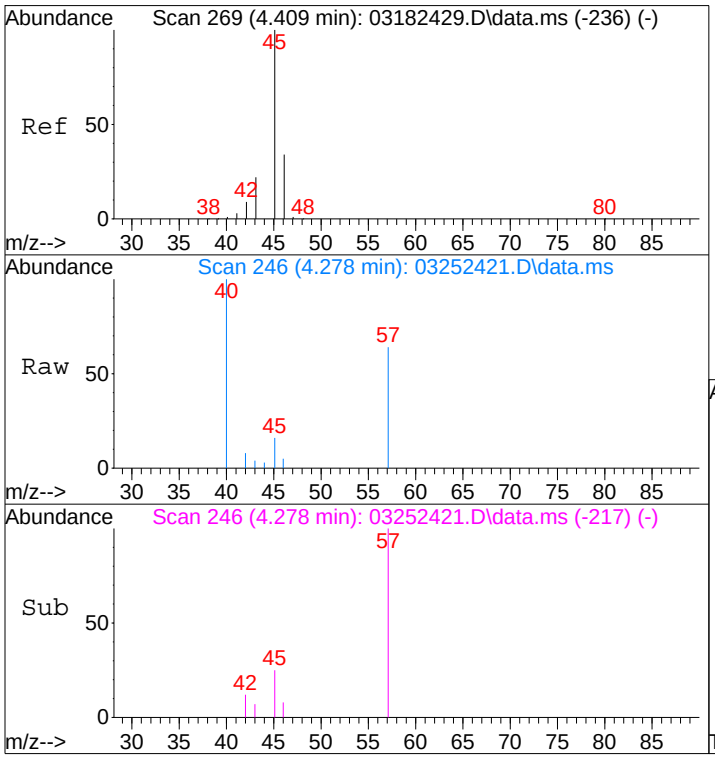


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.12 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.045 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 85 Resp: 2998

Ion	Ratio	Lower	Upper
85	100		
87	10.8	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

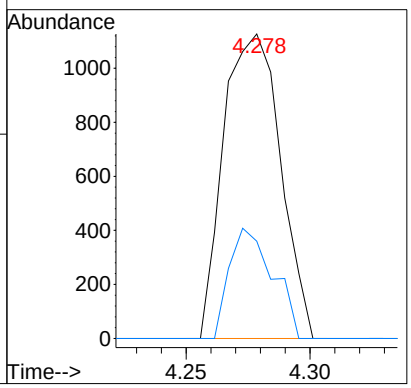


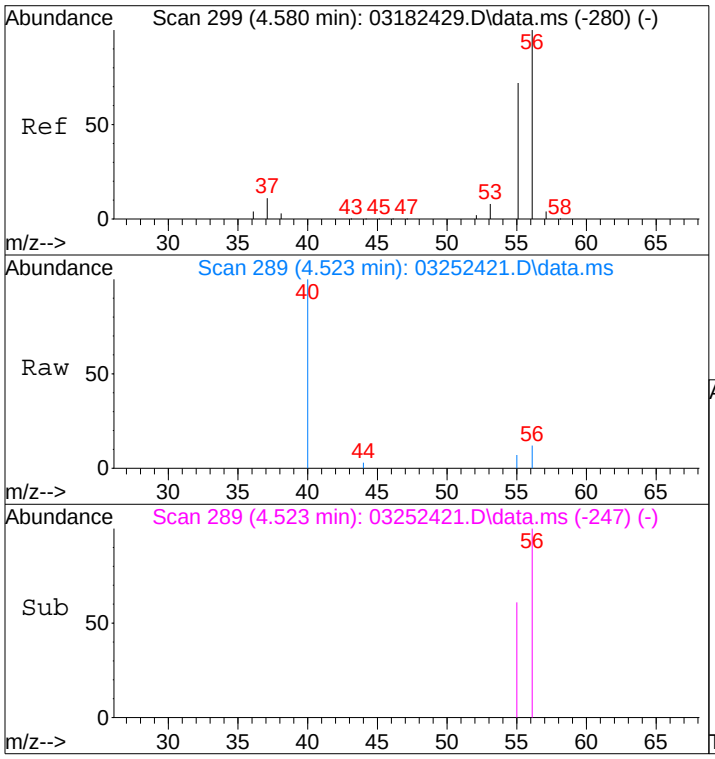


#10
Ethanol
Concen: 0.16 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.086 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 45 Resp: 1800

Ion	Ratio	Lower	Upper
45	100		
46	27.8	13.3	53.3

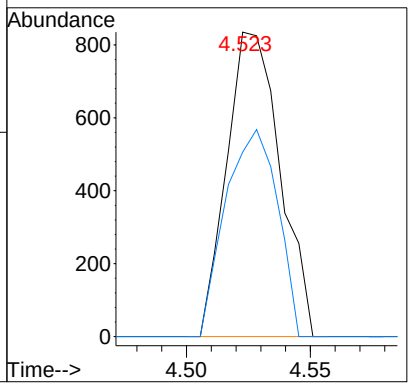


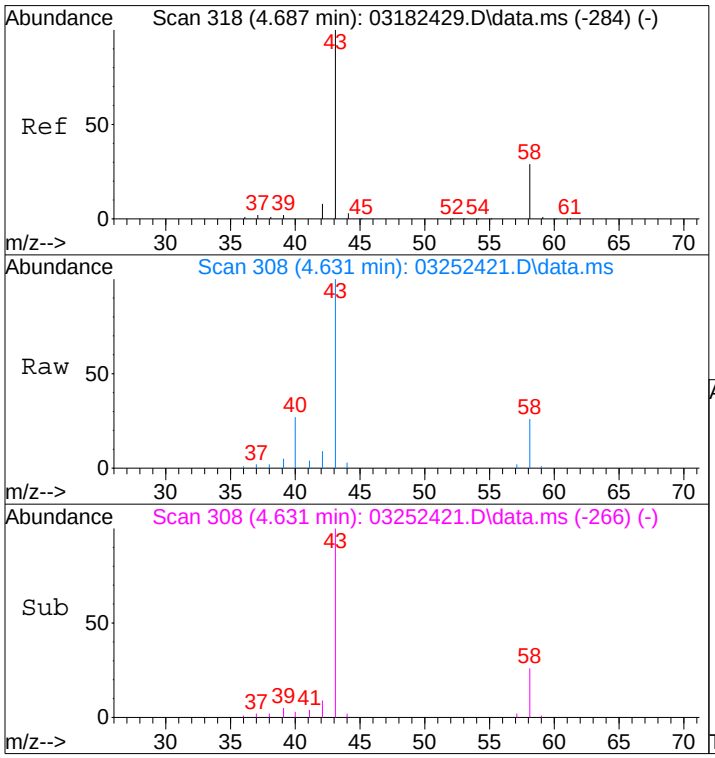


#12
Acrolein
Concen: 0.15 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.011 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 56 Resp: 1249

Ion	Ratio	Lower	Upper
56	100		
55	66.5	54.9	94.9

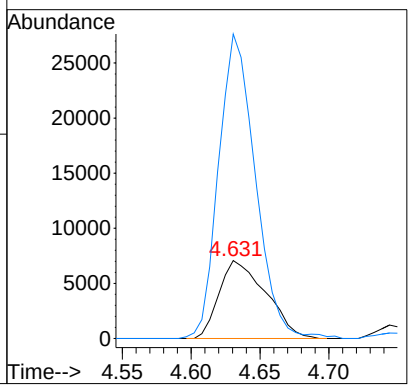


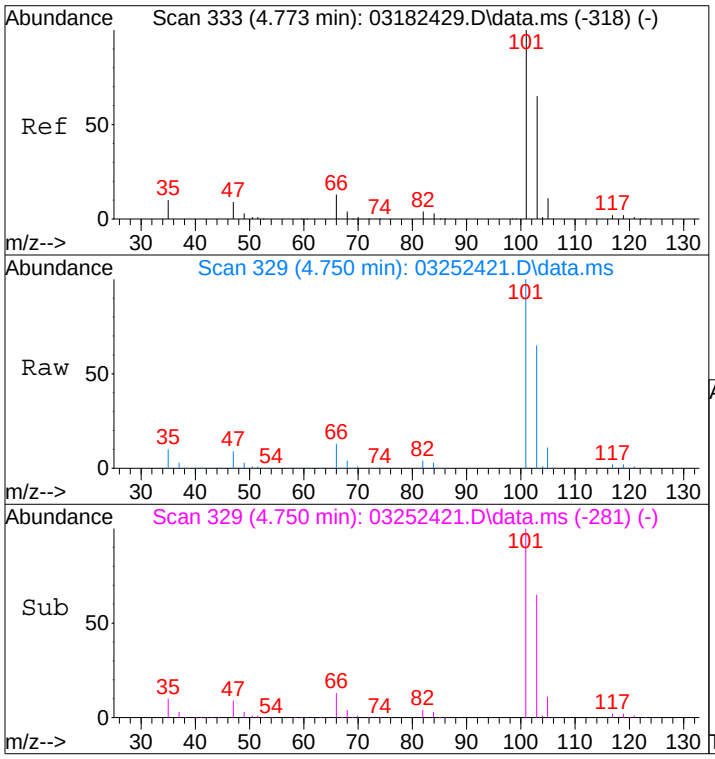


#13
Acetone
Concen: 1.89 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.010 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 58 Resp: 16686

Ion	Ratio	Lower	Upper
58	100		
43	306.9	350.1	410.1#

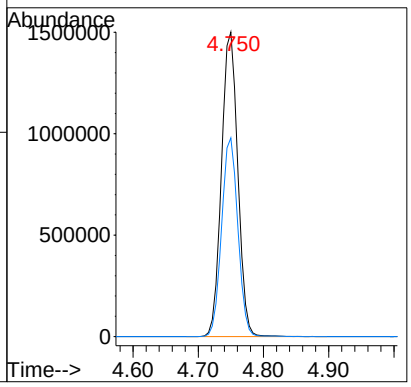


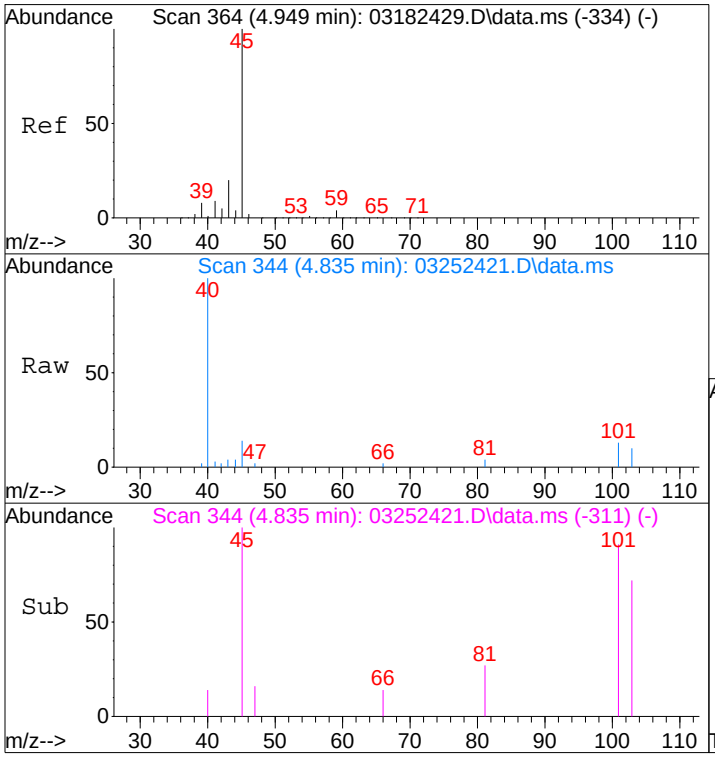


#14
Trichlorofluoromethane
Concen: 109.44 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion:101 Resp: 2603013

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.7	84.7

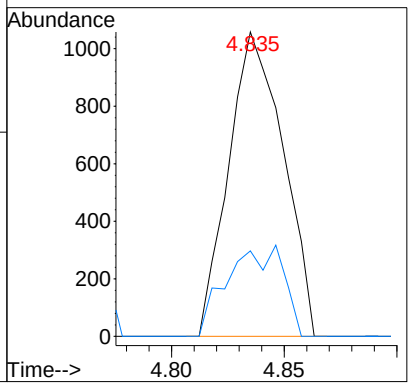


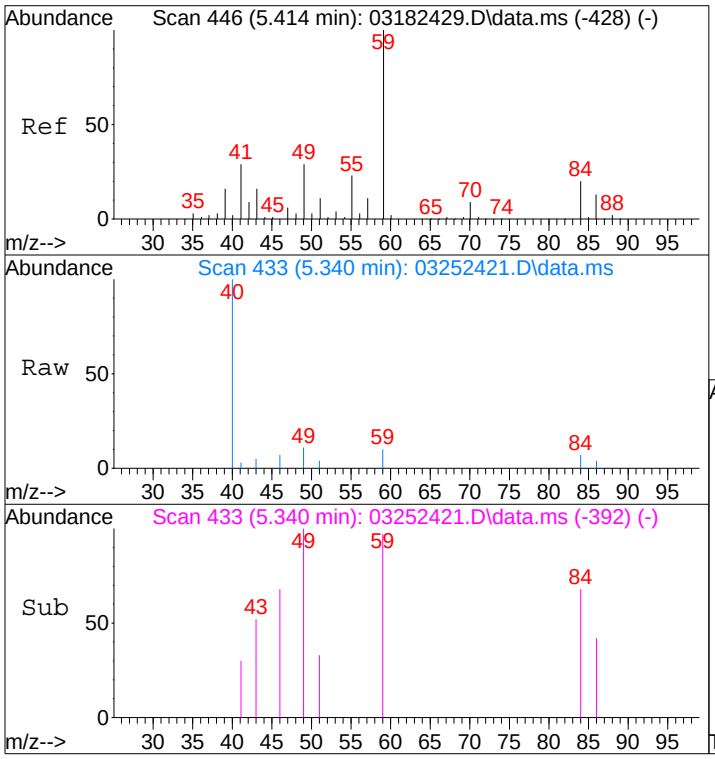


#15
2-Propanol (Isopropanol)
Concen: 0.05 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.064 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 45 Resp: 1784

Ion	Ratio	Lower	Upper
45	100		
43	30.7	0.4	40.4

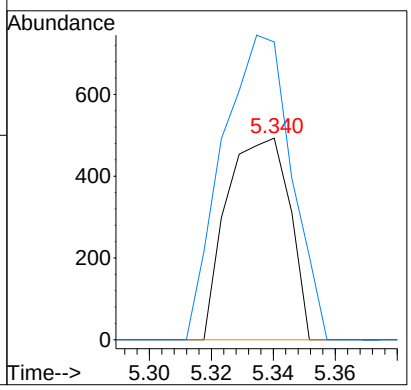


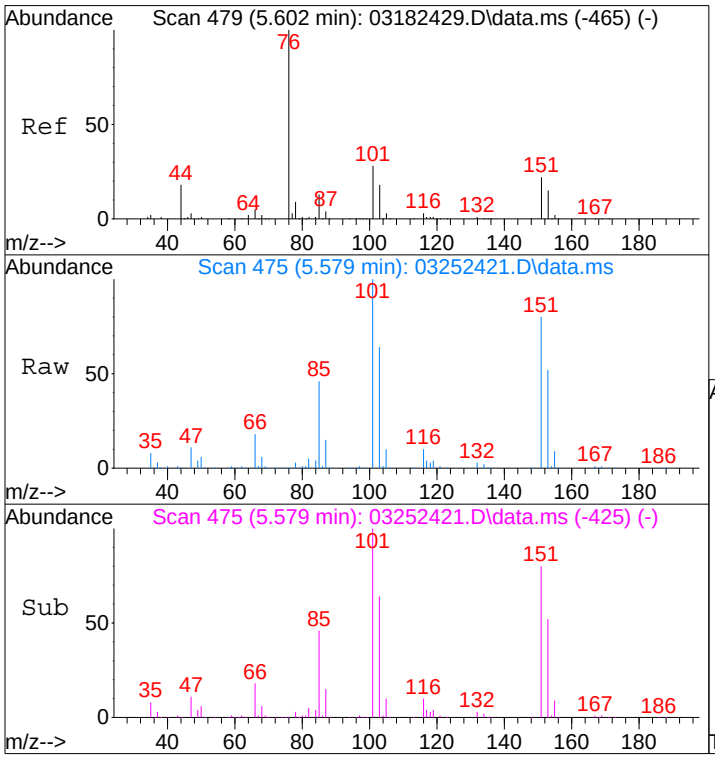


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.019 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 84 Resp: 693

Ion	Ratio	Lower	Upper
84	100		
49	166.7	122.9	172.9

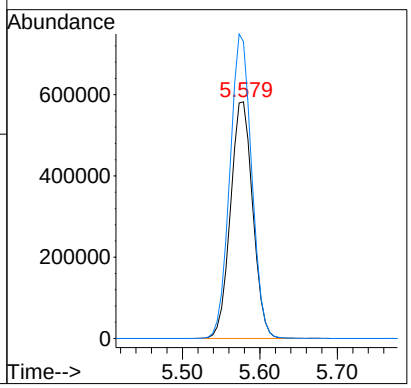


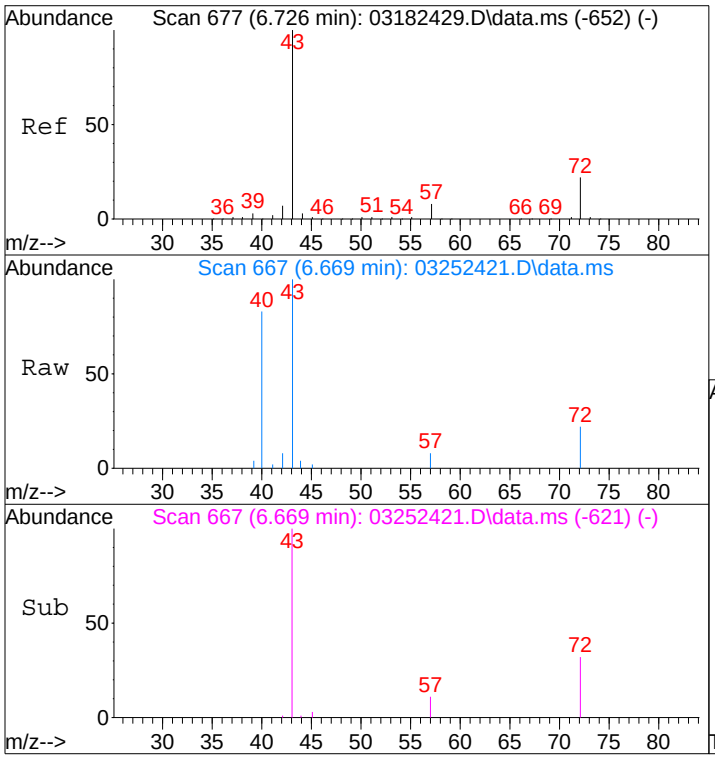


#21
Trichlorotrifluoroethane
Concen: 116.09 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion:151 Resp: 1163871

Ion	Ratio	Lower	Upper
151	100		
101	125.9	106.4	146.4

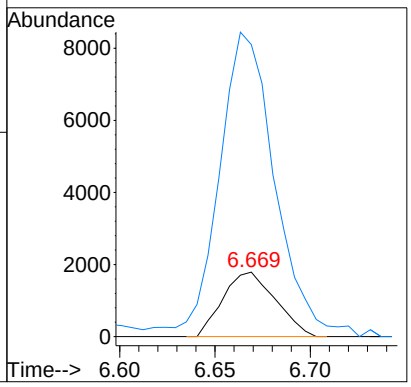


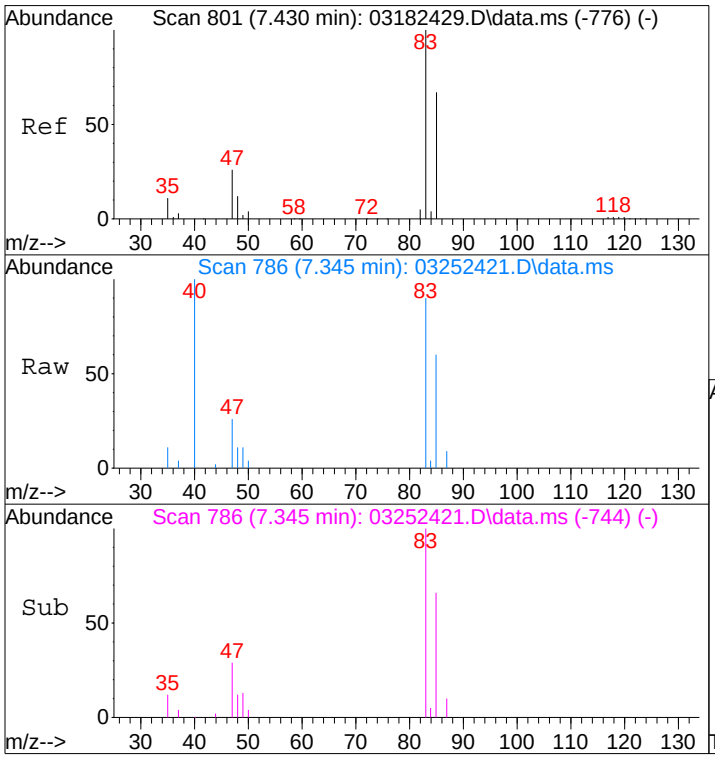


#27
2-Butanone (MEK)
Concen: 0.48 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 72 Resp: 3426

Ion	Ratio	Lower	Upper
72	100		
43	502.8	468.6	508.6

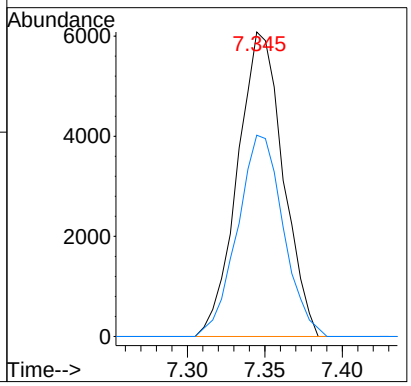


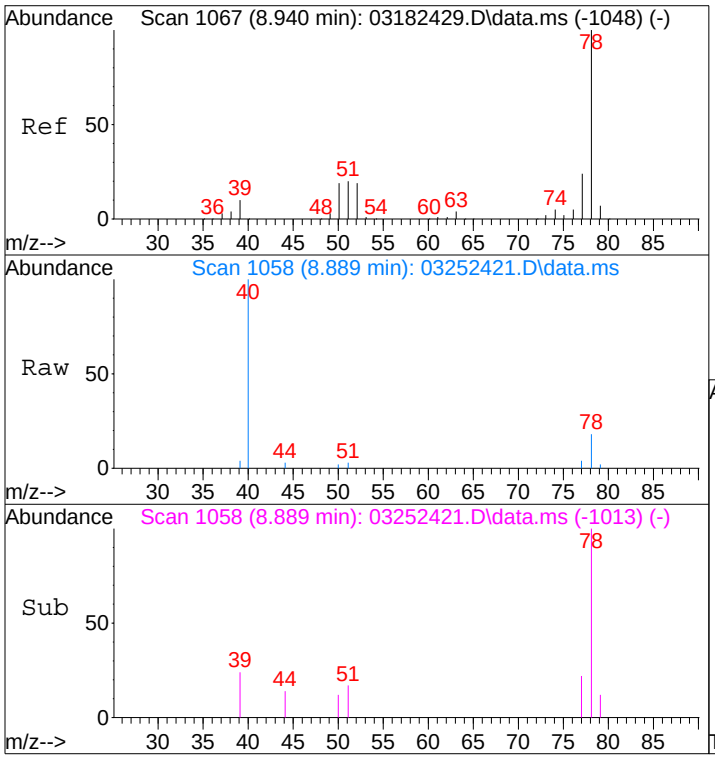


#32
Chloroform
Concen: 0.60 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.010 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 83 Resp: 12452

Ion	Ratio	Lower	Upper
83	100		
85	66.7	46.1	86.1

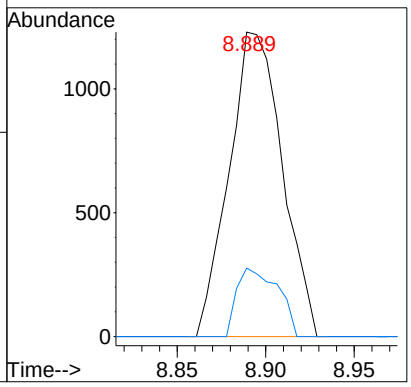


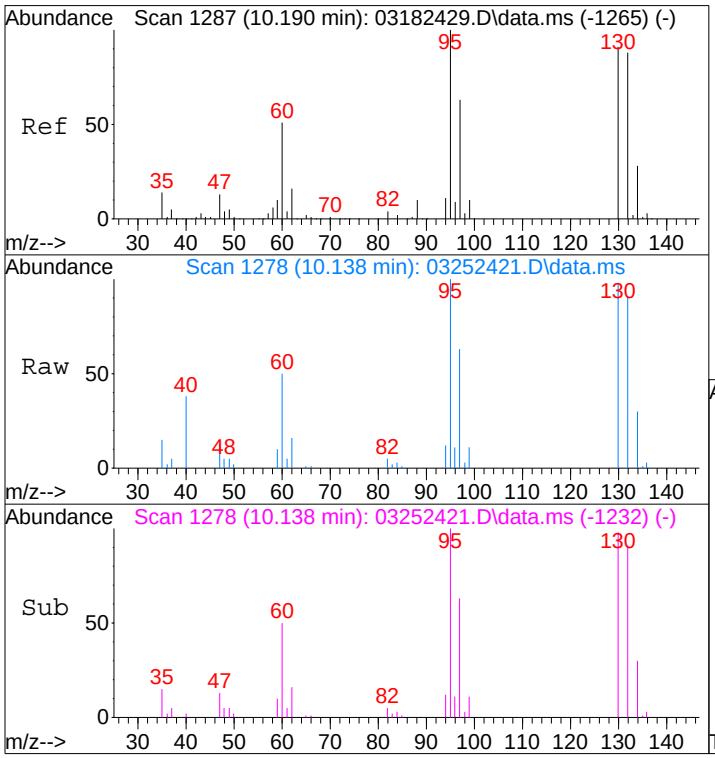


#41
Benzene
Concen: 0.06 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 78 Resp: 2569

Ion	Ratio	Lower	Upper
78	100		
77	17.4	3.6	43.6

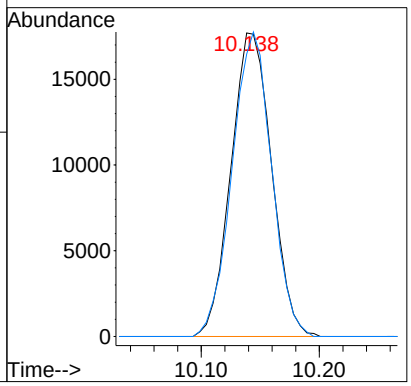


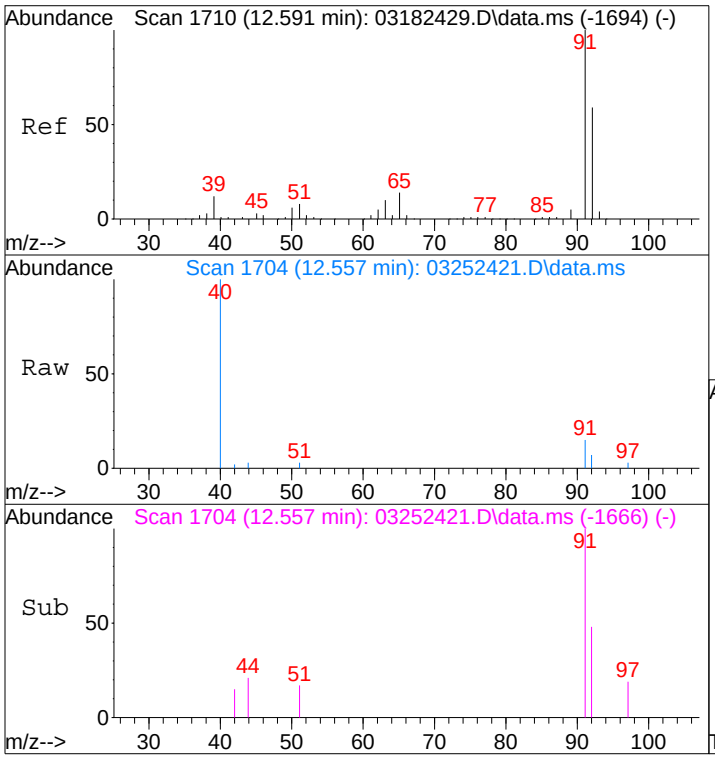


#47
Trichloroethene
Concen: 3.36 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion:130 Resp: 42321

Ion	Ratio	Lower	Upper
130	100		
132	97.1	77.5	117.5

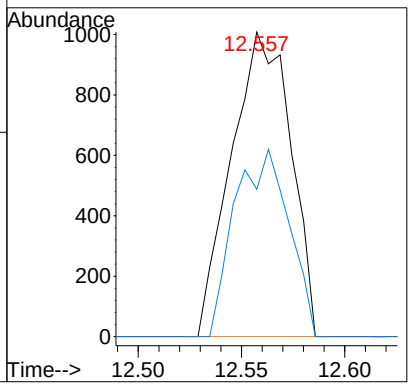


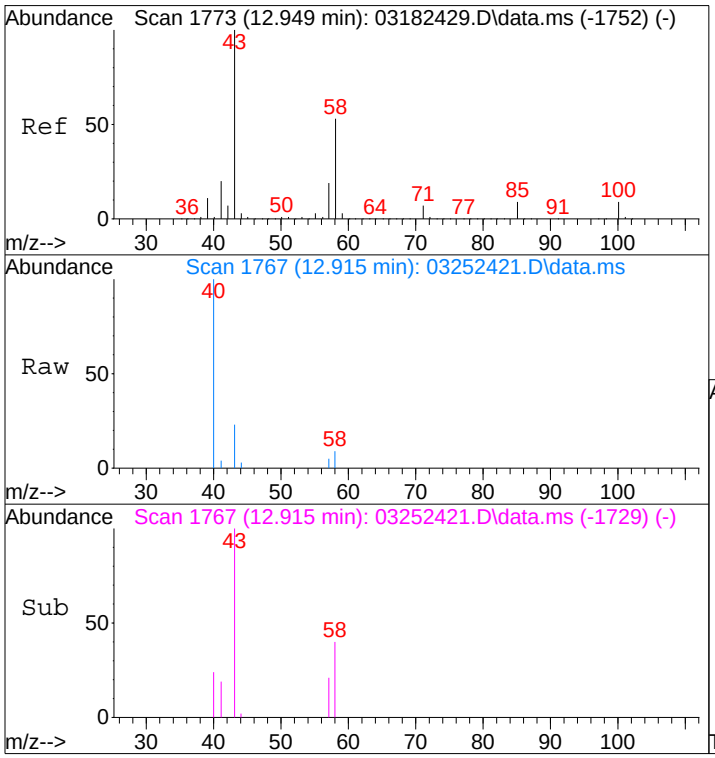


#58
Toluene
Concen: 0.05 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 91 Resp: 2015

Ion	Ratio	Lower	Upper
91	100		
92	56.3	39.2	79.2

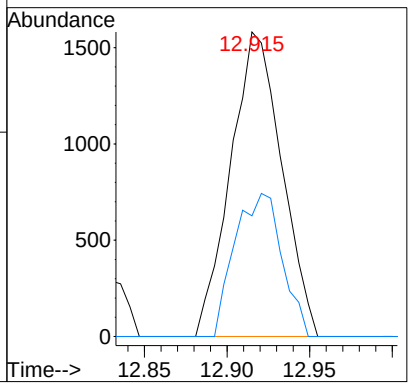


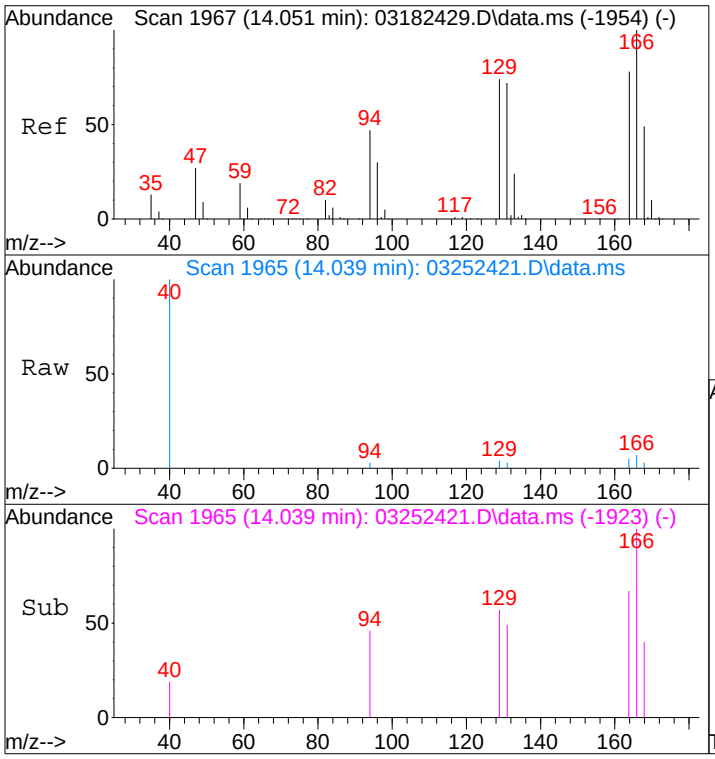


#59
2-Hexanone
Concen: 0.15 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion: 43 Resp: 3396

Ion	Ratio	Lower	Upper
43	100		
58	43.5	30.2	70.2

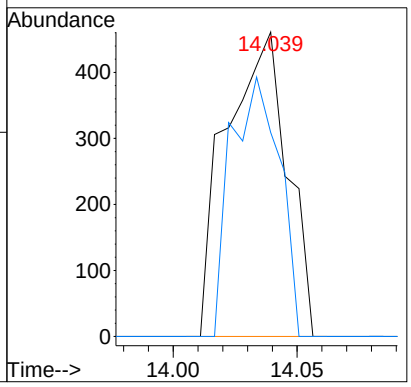


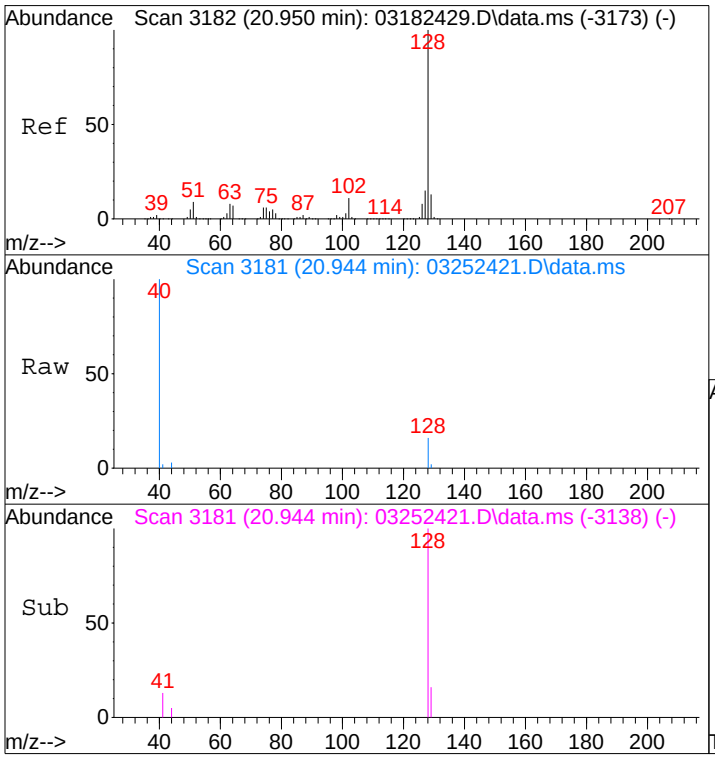


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion:166 Resp: 790

Ion	Ratio	Lower	Upper
166	100		
164	67.7	56.7	96.7

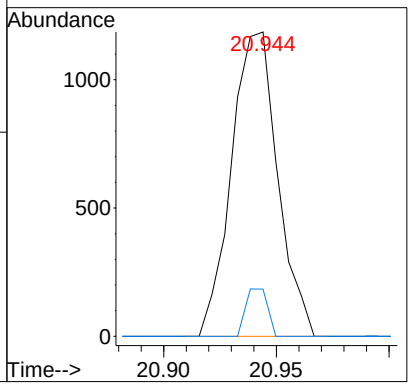




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3181
Delta R.T. -0.006 min
Lab File: 03252421.D
Acq: 25 Mar 2024 22:30

Tgt Ion:128 Resp: 1696

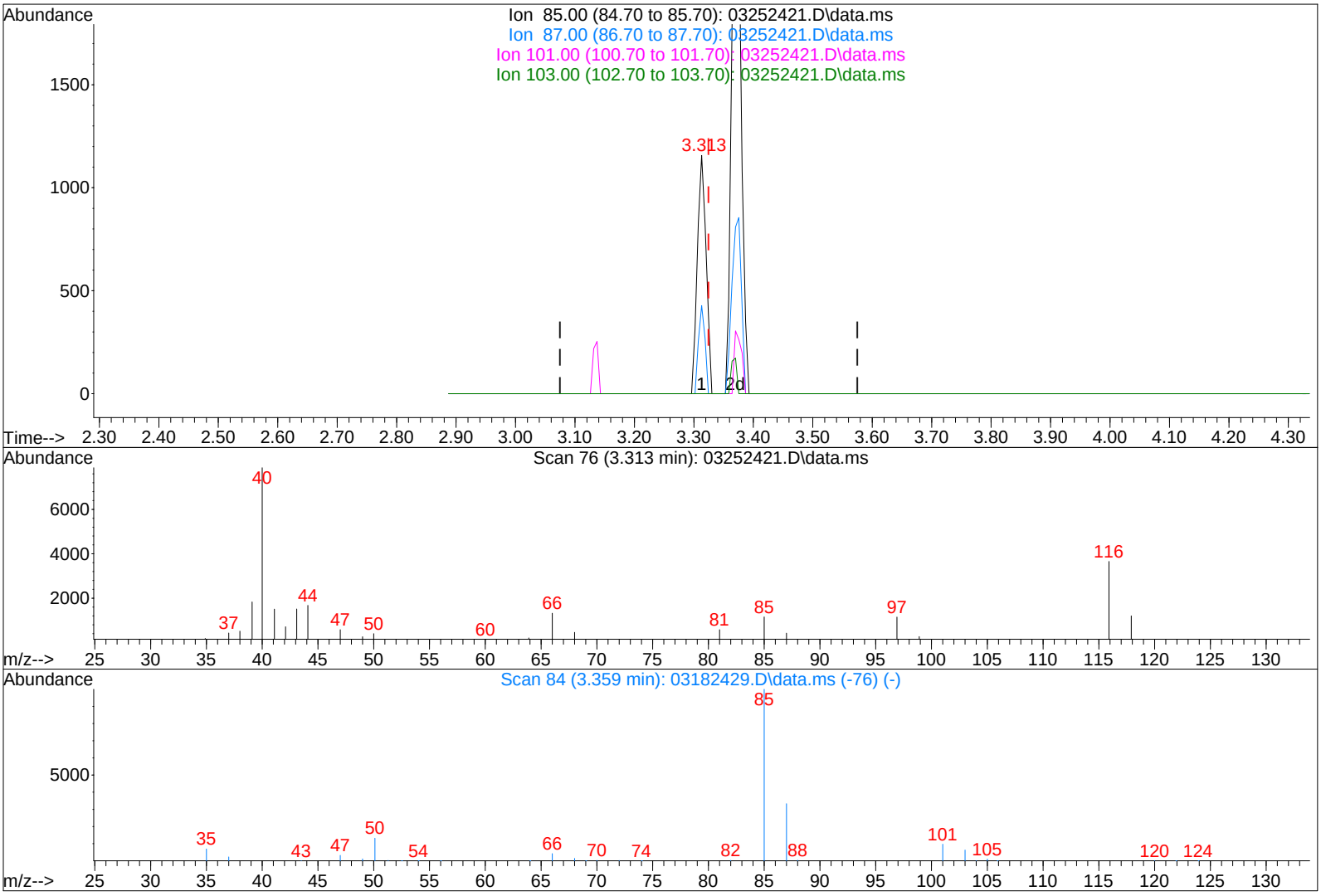
Ion	Ratio	Lower	Upper
128	100		
129	7.4	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252421.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.012) 0.05ng

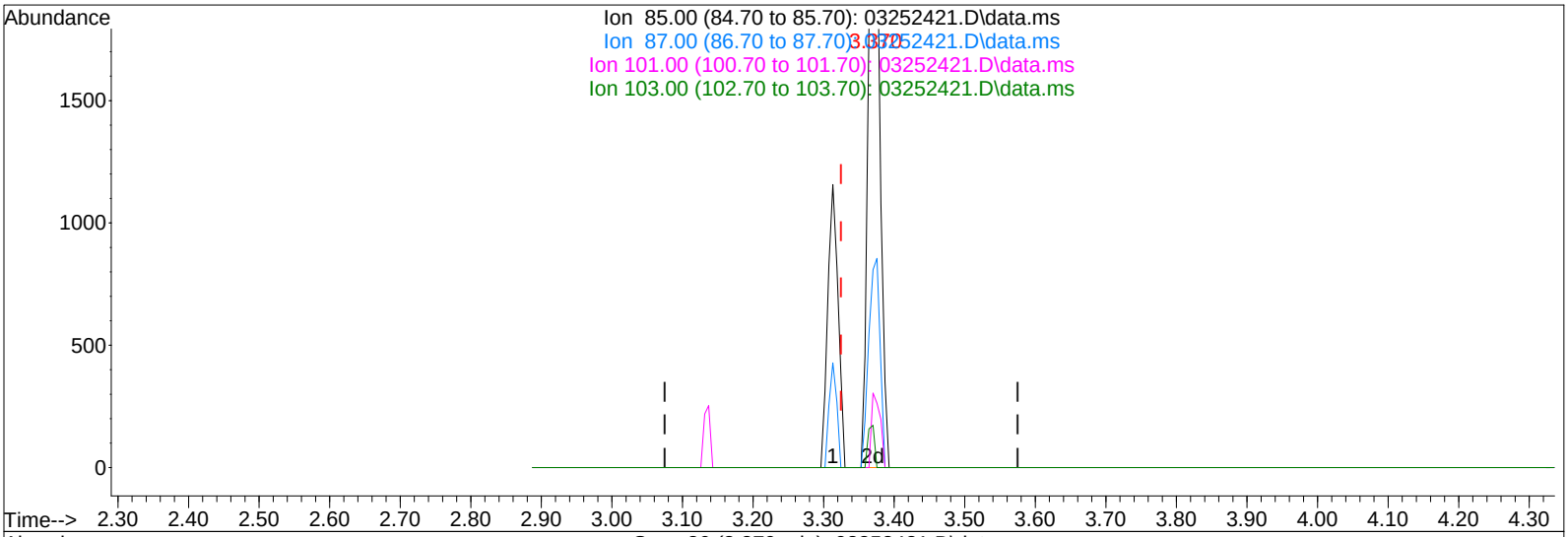
response 1192

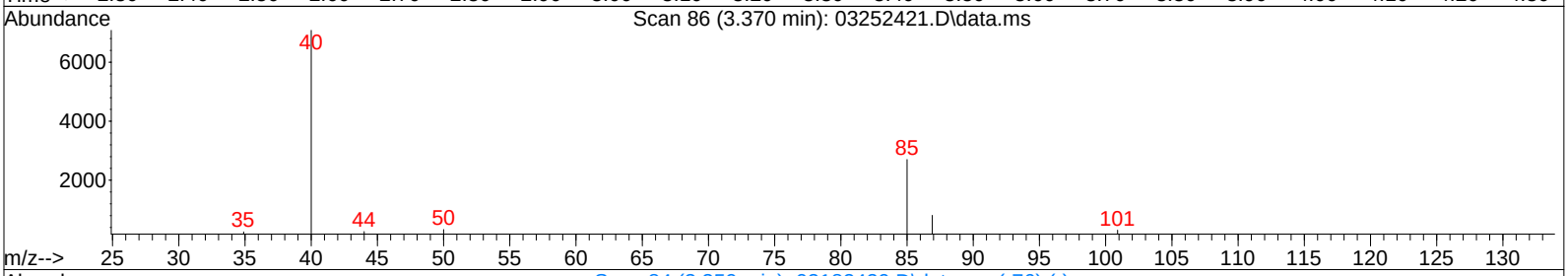
Ion	Exp%	Act%
85.00	100	100
87.00	32.50	27.18
101.00	9.20	0.00
103.00	6.00	0.00

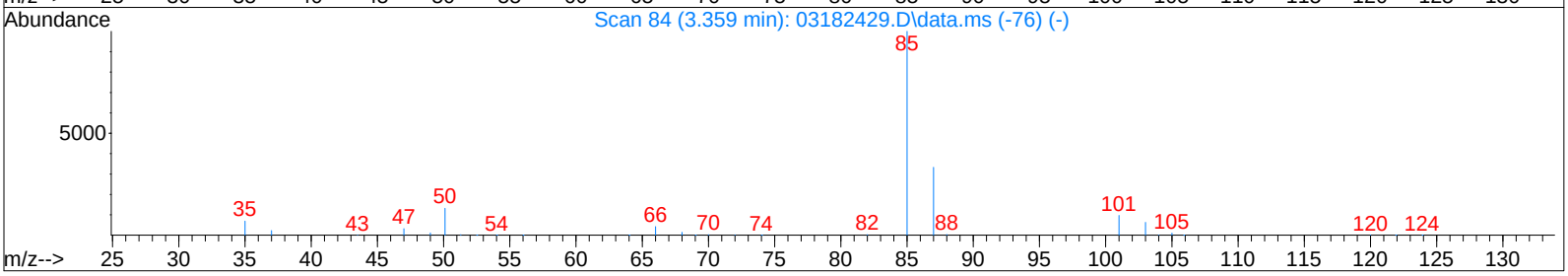
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:25:54 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03252421.D\data.ms

WP

3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.045) 0.12ng m

response 2998

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	10.81#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:36:19 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

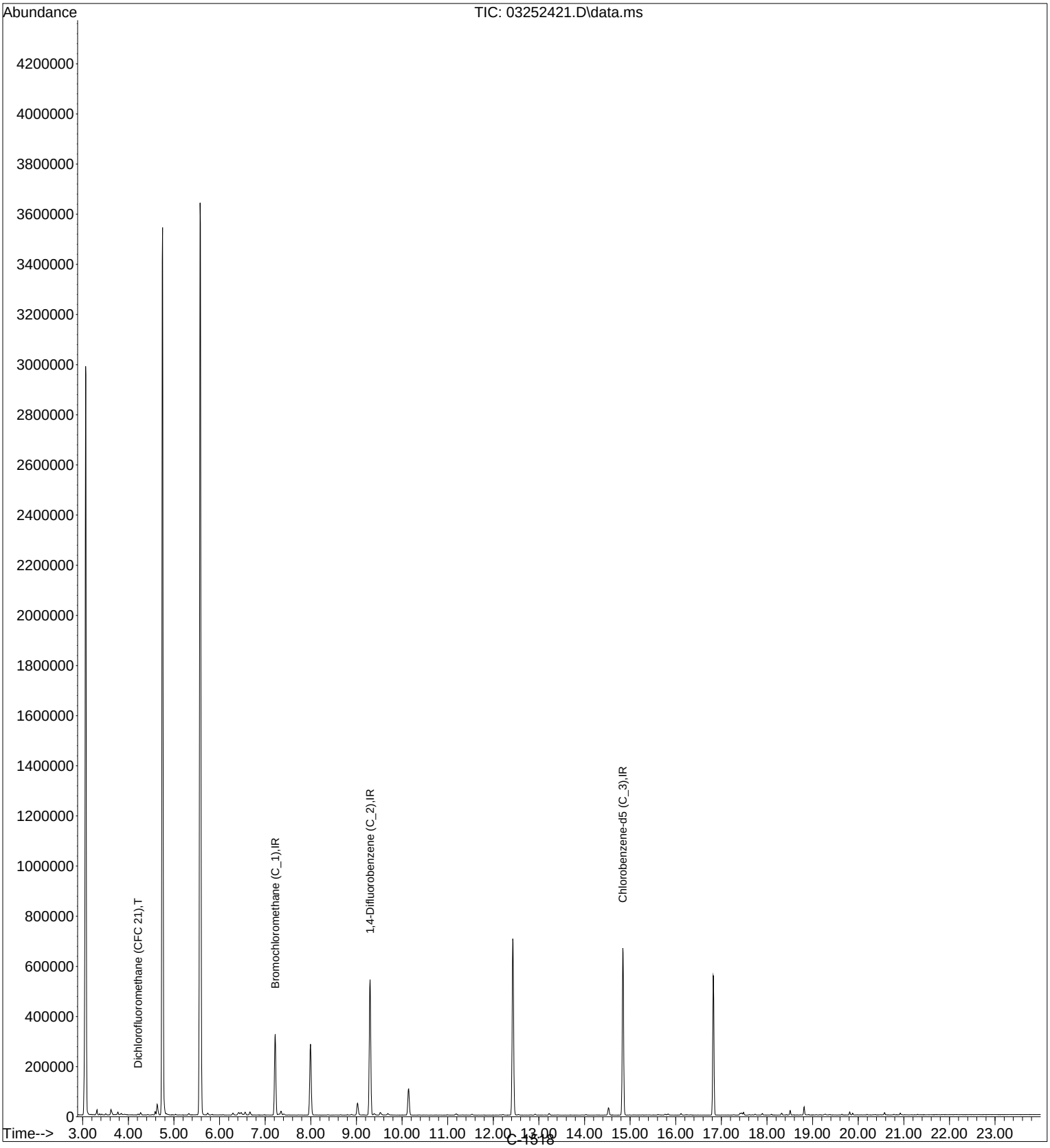
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	119805	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	519253	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	104627	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	204	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	3.29	67	189	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	3153	0.135	ng	93
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	52	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.33	43	1017	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.79	174	56	N.D.		
20) Methyl Cyclohexane	11.54	55	577	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	361	N.D.		
27) 4-Chlorotoluene	17.67	91	853	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

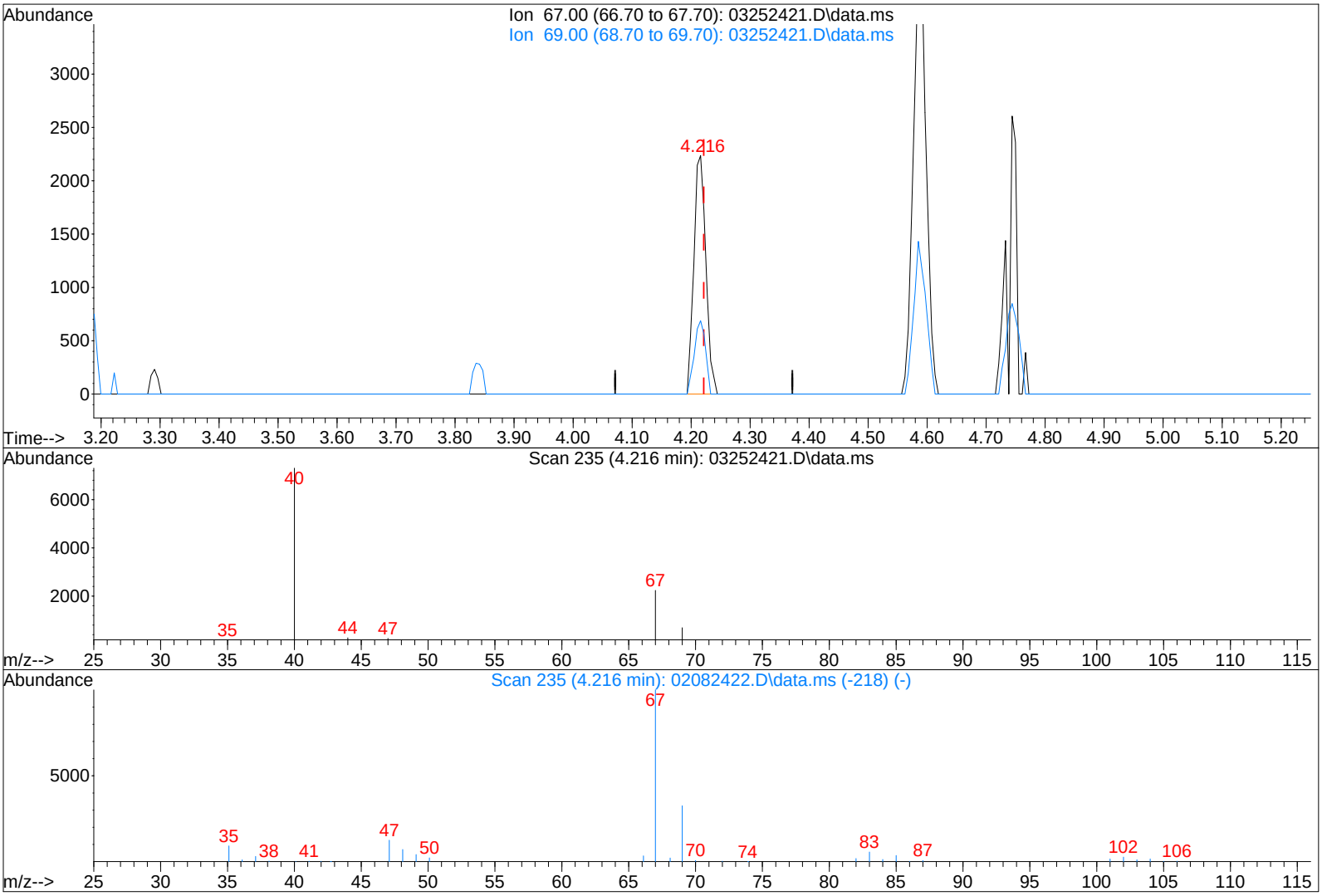
Quant Time: Mar 26 09:36:19 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252421.D Vial: 13
Acq On : 25 Mar 2024 22:30 Operator: SC
Sample : P2400922-048 (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:35:58 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252421.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 0.13ng

response 3153

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	28.70
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252428.D Vial: 13
Acq On : 26 Mar 2024 10:19 Operator: SC
Sample : P2400922-048Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:41:28 2024 3/26/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	116979	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	499825	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	101451	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	242008	12.646	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
57) Toluene-d8 (SS2)	12.43	98	567491	13.932	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
73) Bromofluorobenzene (SS3)	16.83	174	183593	12.784	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	3.32	42	497	N.D.			
3) Dichlorodifluoromethan...	3.32	85	547	N.D.			
4) Chloromethane	3.52	50	266	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	1089	0.096	ng		97
11) Acetonitrile	4.43	41	455	N.D.			
12) Acrolein	4.54	56	454	0.056	ng		83
13) Acetone	4.64	58	7615	0.885	ng	#	71
14) Trichlorofluoromethane	4.75	101	1155096	49.739	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	855	N.D.			
16) Acrylonitrile	4.99	53	261	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.34	84	606	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	505419	51.631	ng		98
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	1415	0.201	ng	#	78
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	5435	0.268	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	218	No Calib		#	
41) Benzene	8.90	78	1270	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	631	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	257	N.D.			
47) Trichloroethene	10.14	130	17888	1.476	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252428.D Vial: 13
Acq On : 26 Mar 2024 10:19 Operator: SC
Sample : P2400922-048Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:41:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

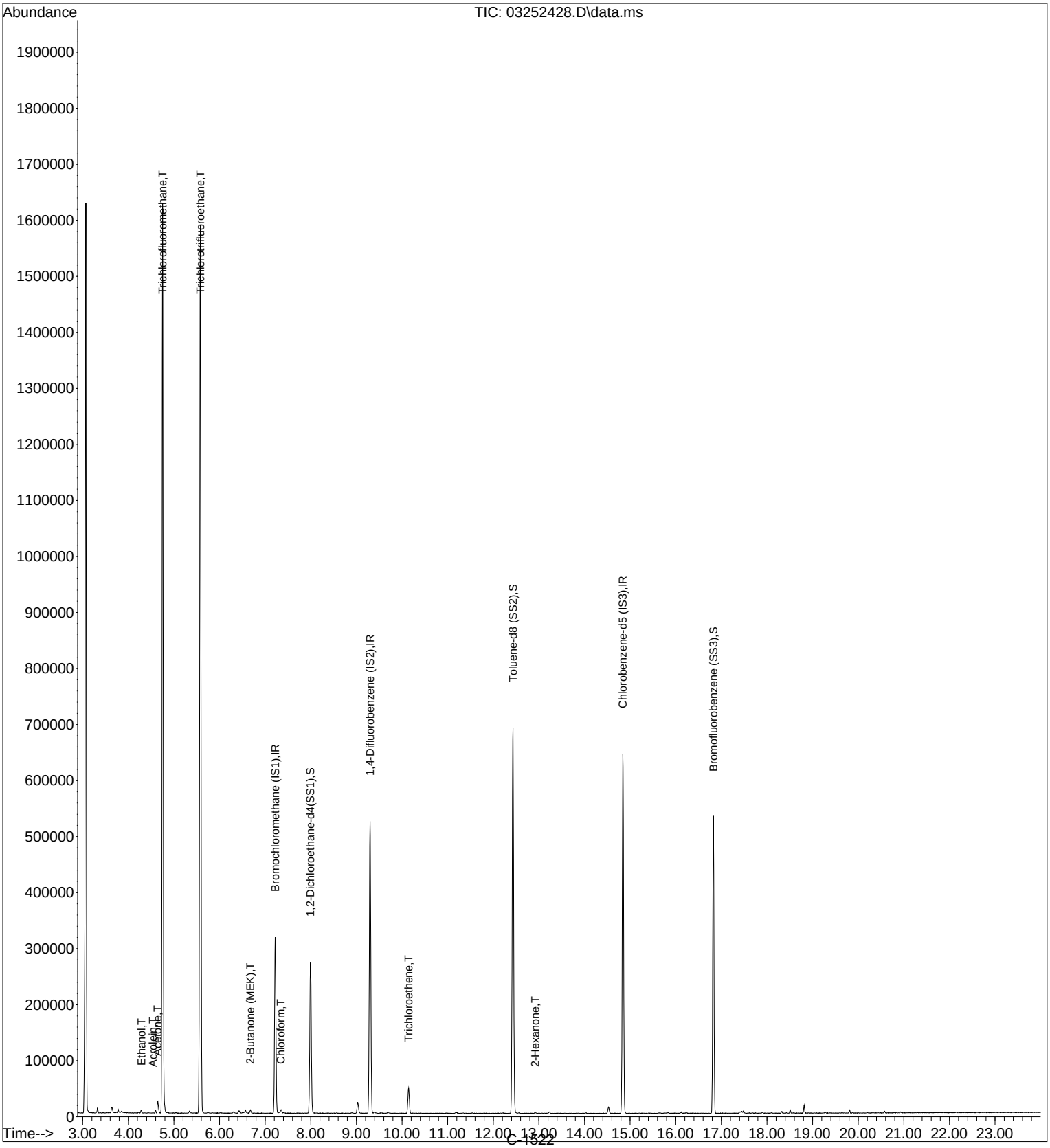
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1016	N.D.	
59) 2-Hexanone	12.92	43	1464	0.065 ng	85
60) Dibromochloromethane	13.07	129	248	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	442	N.D.	
65) Chlorobenzene	14.90	112	325	N.D.	
66) Ethylbenzene	15.41	91	617	N.D.	
67) m- & p-Xylenes	15.64	91	1152	N.D.	
68) Bromoform	15.67	173	195	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	489	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	108	N.D.	
74) Cumene	17.03	105	464	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	745	N.D.	
77) 3-Ethyltoluene	17.03	105	464	No Calib	#
78) 4-Ethyltoluene	17.85	105	394	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	208	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	464	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	316	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	348	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	281	N.D.	
87) sec-Butylbenzene	18.74	105	512	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	421	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	464	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	273	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	353	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	267	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	407	N.D.	
100) n-Butylbenzene	19.39	91	405	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252428.D Vial: 13
Acq On : 26 Mar 2024 10:19 Operator: SC
Sample : P2400922-048Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

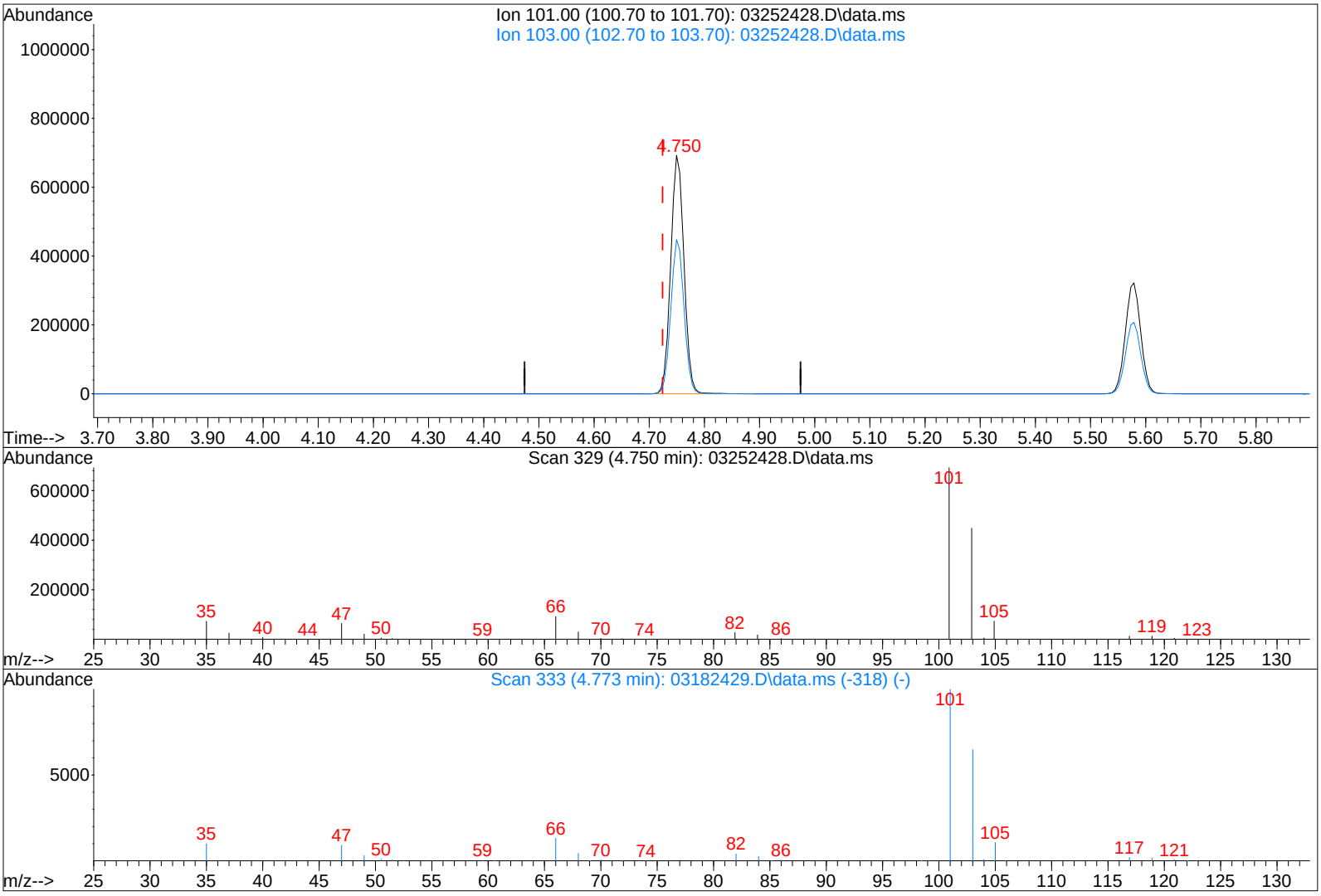
Quant Time: Mar 26 10:41:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252428.D Vial: 13
Acq On : 26 Mar 2024 10:19 Operator: SC
Sample : P2400922-048Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:40:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252428.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.025) 49.74ng

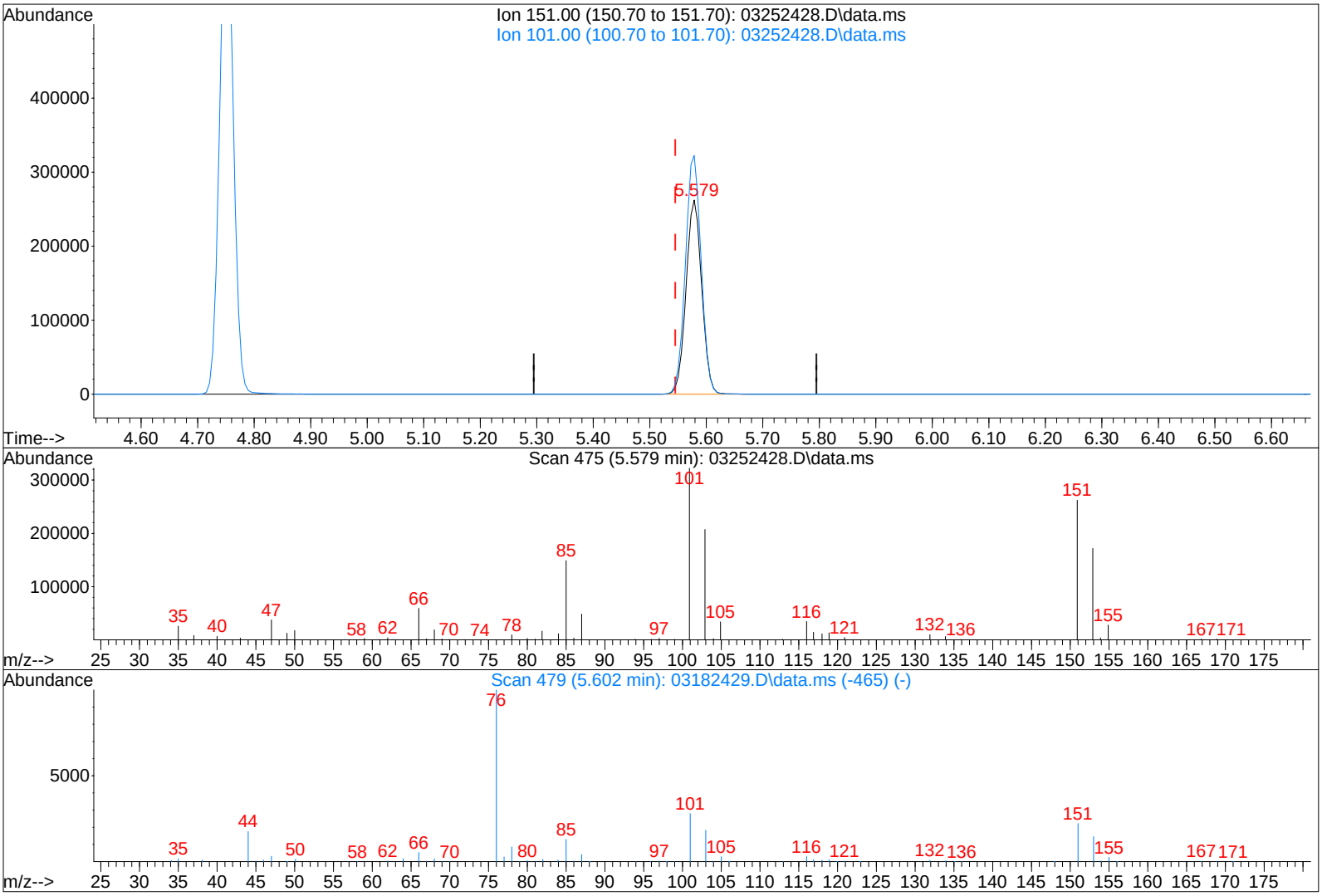
response 1155096

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.64
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252428.D Vial: 13
Acq On : 26 Mar 2024 10:19 Operator: SC
Sample : P2400922-048Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 10:40:36 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252428.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 51.63ng

response 505419

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	123.65
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252421.D
Acq On : 25 Mar 2024 22:30
Operator : SC
Sample : P2400922-048 (80mL)PF2
Misc : S37-03252401
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252421.D\data.ms

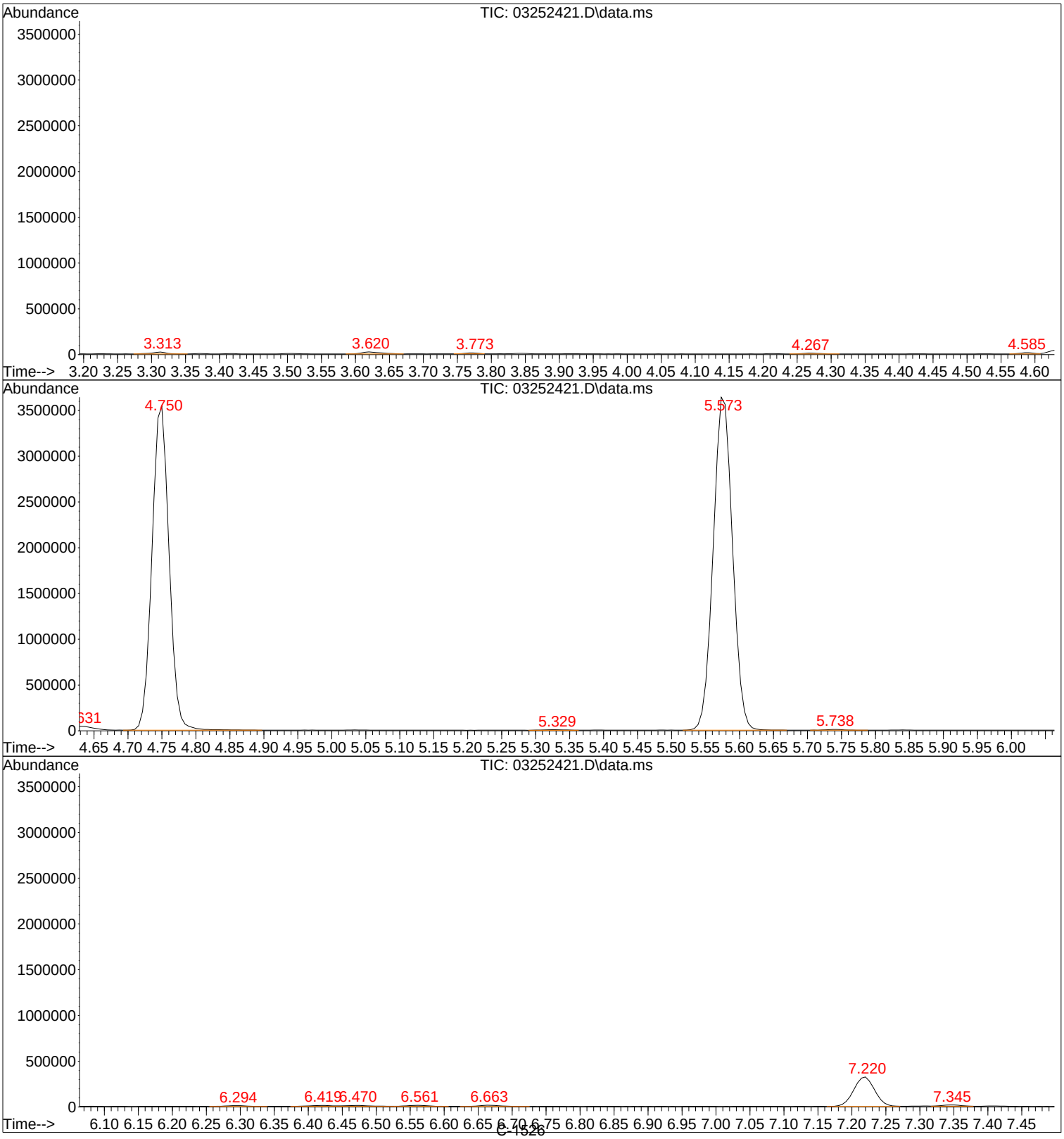
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	69	76	83	rVB4	20639	30831	0.43%	0.214%
2	3.620	124	130	139	rBV	21858	42541	0.59%	0.295%
3	3.773	152	157	160	rBV2	10199	13706	0.19%	0.095%
4	4.267	239	244	252	rBV2	9702	16426	0.23%	0.114%
5	4.585	296	300	304	rBV	13755	20860	0.29%	0.145%
6	4.631	304	308	319	rVV	42794	84922	1.18%	0.589%
7	4.750	319	329	355	rVV	3540080	6172179	86.05%	42.806%
8	5.329	424	431	437	rBV3	6510	14241	0.20%	0.099%
9	5.573	464	474	491	rVB	3637476	7172678	100.00%	49.744%
10	5.738	497	503	512	rBV	8134	14758	0.21%	0.102%
11	6.294	594	601	609	rBV	8703	17881	0.25%	0.124%
12	6.419	615	623	627	rBV4	10307	24484	0.34%	0.170%
13	6.470	627	632	642	rVV2	10273	27078	0.38%	0.188%
14	6.561	642	648	656	rVV3	11687	24486	0.34%	0.170%
15	6.663	659	666	677	rVB	12781	26036	0.36%	0.181%
16	7.220	754	764	773	rBV	322213	688161	9.59%	4.773%
17	7.345	781	786	792	rVB2	14226	27801	0.39%	0.193%

Sum of corrected areas: 14419069

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252421.D
Acq On : 25 Mar 2024 22:30
Operator : SC
Sample : P2400922-048 (80mL)PF2
Misc : S37-03252401
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252421.D
Acq On : 25 Mar 2024 22:300
Operator : SCC
Sample : P2400922-048 (80mL)PF22
Misc : S37-032524011
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					|--Internal Standard---|		
TIC Top Hit name	RT	EstConc	Units	Response	# RT Resp Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:12:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	116986	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	496530	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	101207	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	238570	12.465	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
57) Toluene-d8 (SS2)	12.43	98	568595	13.993	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%				
73) Bromofluorobenzene (SS3)	16.83	174	183759	12.827	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	10488m	0.437	ng		
4) Chloromethane	3.50	50	511	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	130	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	432	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	20610	1.823	ng		80
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	4136	0.510	ng		94
13) Acetone	4.62	58	54089	6.287	ng		89
14) Trichlorofluoromethane	4.75	101	806872	34.743	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	25946	0.757	ng		91
16) Acrylonitrile	4.98	53	336	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.34	84	1466	0.117	ng		97
20) 3-Chloro-1-propene (Al...	5.44	41	318	N.D.			
21) Trichlorotrifluoroethane	5.58	151	323264	33.021	ng		97
22) Carbon Disulfide	5.60	76	769267	19.735	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D. d			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	52109	7.408	ng	#	89
28) cis-1,2-Dichloroethene	7.08	61	280	N.D.			
29) Diisopropyl Ether	7.35	87	316	N.D.			
30) Ethyl Acetate	7.28	61	646	0.153	ng		93
31) n-Hexane	7.30	57	1210	0.067	ng	#	66
32) Chloroform	7.35	83	4561	0.225	ng		96
34) Tetrahydrofuran (THF)	7.76	72	6175	0.969	ng		99
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	834	No Calib		#	
40) 1-Butanol	8.82	56	28650	No Calib		#	
41) Benzene	8.89	78	2482	0.056	ng		86
42) Carbon Tetrachloride	9.06	117	351	N.D.			
43) Cyclohexane	9.30	84	558	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	401	N.D.			
47) Trichloroethene	10.14	130	1637	0.136	ng	#	1
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:12:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

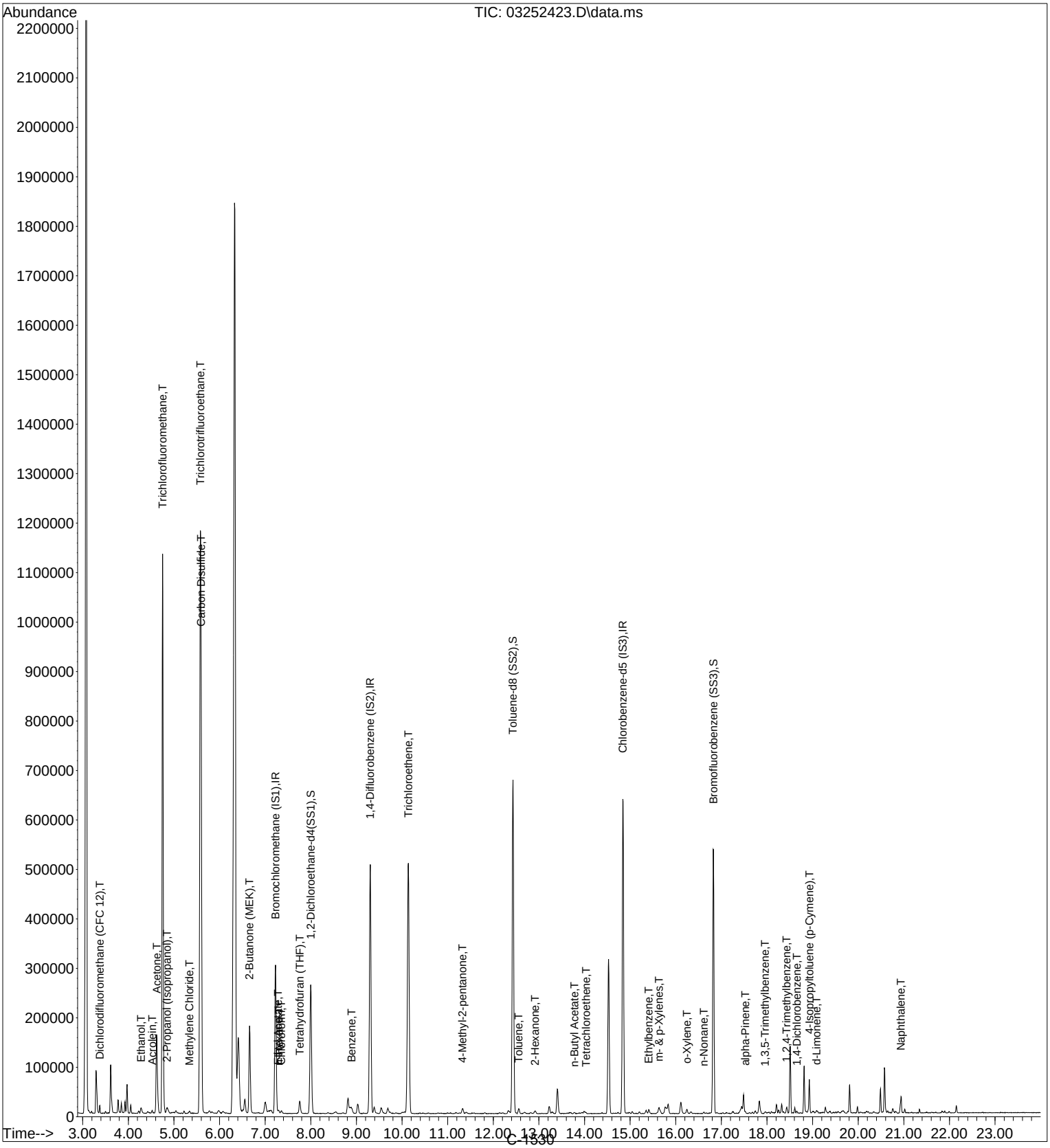
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	3365	0.351 ng		81
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	9263	0.239 ng		100
59) 2-Hexanone	12.91	43	5111	0.227 ng		94
60) Dibromochloromethane	13.07	129	200	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	2444	0.098 ng	#	87
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	660	0.055 ng		93
65) Chlorobenzene	14.90	112	356	N.D.		
66) Ethylbenzene	15.41	91	7154	0.161 ng		98
67) m- & p-Xylenes	15.63	91	11704	0.318 ng		98
68) Bromoform	15.67	173	362	N.D.		
69) Styrene	16.09	104	1261	N.D.		
70) o-Xylene	16.25	91	4880	0.134 ng		95
71) n-Nonane	16.62	43	1516	0.072 ng		77
72) 1,1,2,2-Tetrachloroethane	16.21	83	197	N.D.		
74) Cumene	17.03	105	1520	N.D.		
75) alpha-Pinene	17.53	93	1972	0.090 ng		94
76) n-Propylbenzene	17.68	91	2184	N.D.		
77) 3-Ethyltoluene	17.03	105	1520	No Calib		
78) 4-Ethyltoluene	17.86	105	2086	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1881	0.051 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1520	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5854	0.151 ng		91
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	335	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1537	0.065 ng		94
87) sec-Butylbenzene	18.74	105	792	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	35361	0.828 ng		100
89) 1,2,3-Trimethylbenzene	17.03	105	1520	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	376	N.D.		
91) d-Limonene	19.09	68	918	0.068 ng	#	71
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	448	N.D.		
95) Naphthalene	20.94	128	20897	0.705 ng		100
96) n-Dodecane	18.92	58	950	No Calib	#	
97) Hexachlorobutadiene	21.30	225	342	N.D.		
98) Cyclohexanone	15.49	55	135	No Calib	#	
99) tert-Butylbenzene	18.43	119	1215	N.D.		
100) n-Butylbenzene	19.39	91	843	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:12:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1530

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:12:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

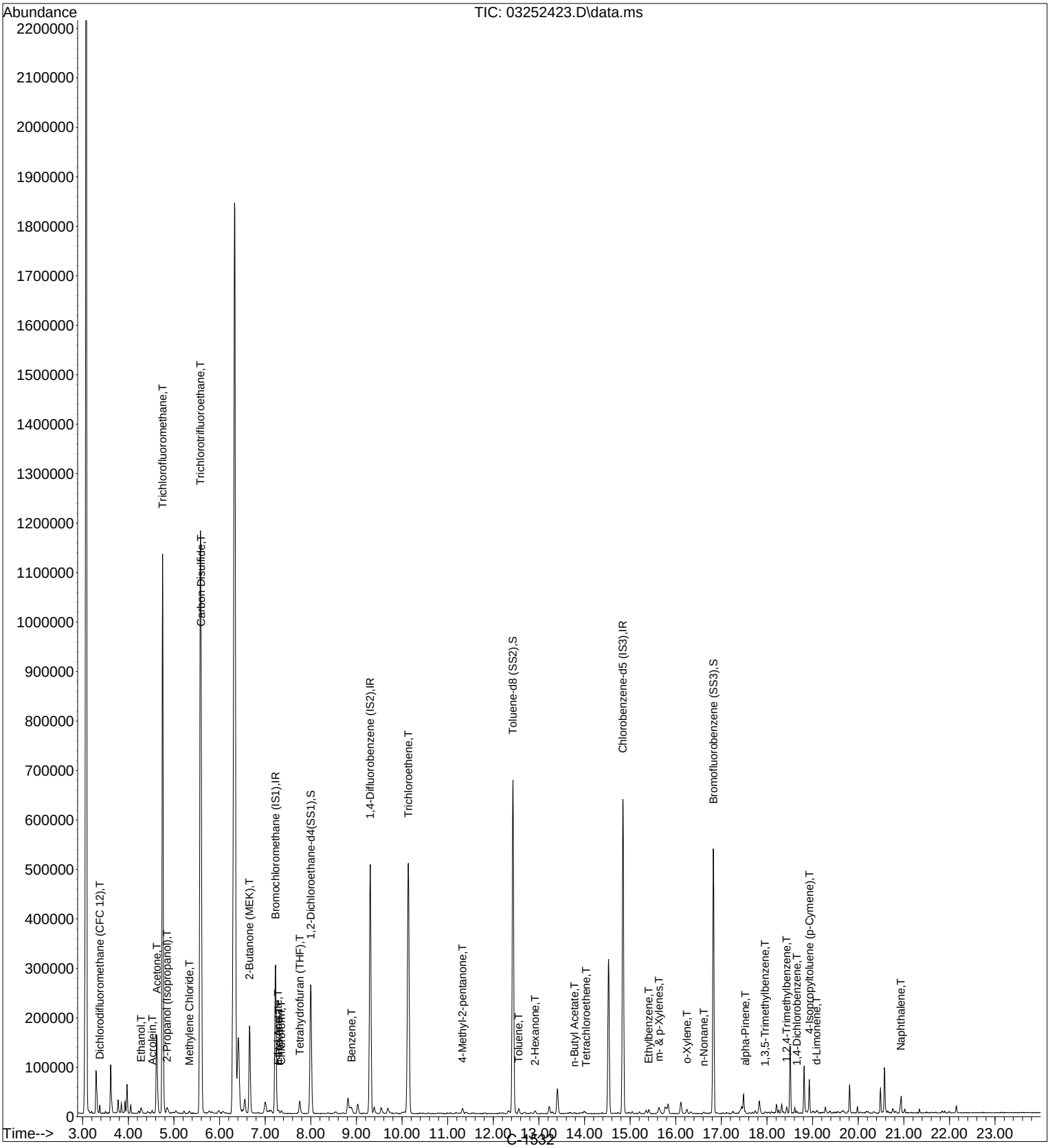
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	116986	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	496530	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	101207	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	238570	12.465	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
57) Toluene-d8 (SS2)	12.43	98	568595	13.993	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%				
73) Bromofluorobenzene (SS3)	16.83	174	183759	12.827	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	10488m	0.437	ng		
10) Ethanol	4.28	45	20610	1.823	ng		80
12) Acrolein	4.52	56	4136	0.510	ng		94
13) Acetone	4.62	58	54089	6.287	ng		89
14) Trichlorofluoromethane	4.75	101	806872	34.743	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	25946	0.757	ng		91
19) Methylene Chloride	5.34	84	1466	0.117	ng		97
21) Trichlorotrifluoroethane	5.58	151	323264	33.021	ng		97
22) Carbon Disulfide	5.60	76	769267	19.735	ng		97
27) 2-Butanone (MEK)	6.66	72	52109	7.408	ng	#	89
30) Ethyl Acetate	7.28	61	646	0.153	ng		93
31) n-Hexane	7.30	57	1210	0.067	ng	#	66
32) Chloroform	7.35	83	4561	0.225	ng		96
34) Tetrahydrofuran (THF)	7.76	72	6175	0.969	ng		99
41) Benzene	8.89	78	2482	0.056	ng		86
47) Trichloroethene	10.14	130	1637	0.136	ng	#	1
53) 4-Methyl-2-pentanone	11.33	58	3365	0.351	ng		81
58) Toluene	12.56	91	9263	0.239	ng		100
59) 2-Hexanone	12.91	43	5111	0.227	ng		94
62) n-Butyl Acetate	13.78	43	2444	0.098	ng	#	87
64) Tetrachloroethene	14.03	166	660	0.055	ng		93
66) Ethylbenzene	15.41	91	7154	0.161	ng		98
67) m- & p-Xylenes	15.63	91	11704	0.318	ng		98
70) o-Xylene	16.25	91	4880	0.134	ng		95
71) n-Nonane	16.62	43	1516	0.072	ng		77
75) alpha-Pinene	17.53	93	1972	0.090	ng		94
79) 1,3,5-Trimethylbenzene	17.96	105	1881	0.051	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	5854	0.151	ng		91
86) 1,4-Dichlorobenzene	18.66	146	1537	0.065	ng		94
88) 4-Isopropyltoluene (p-...	18.93	119	35361	0.828	ng		100
91) d-Limonene	19.09	68	918	0.068	ng	#	71
95) Naphthalene	20.94	128	20897	0.705	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

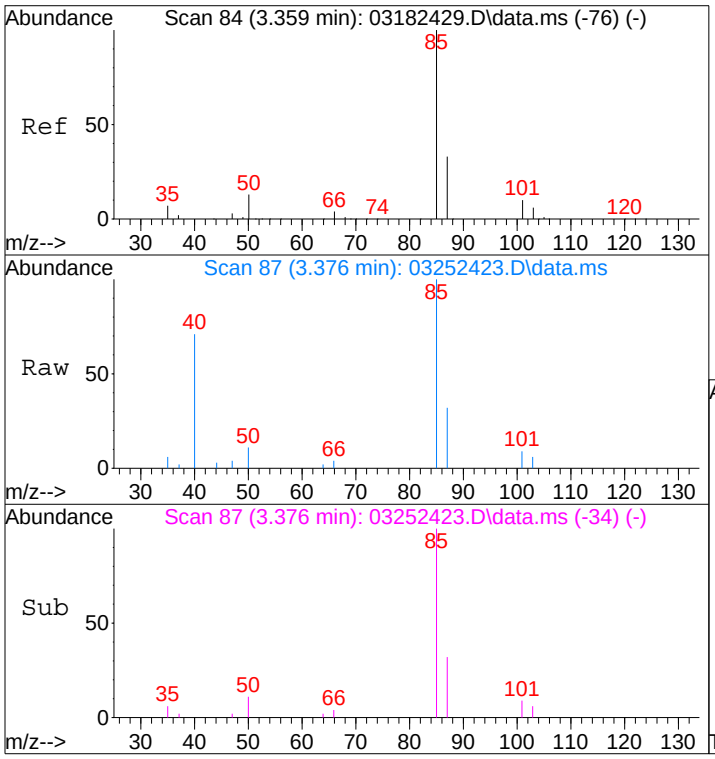
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:12:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



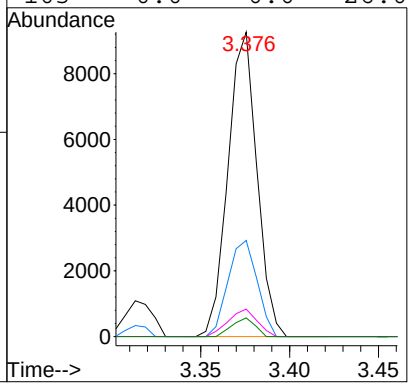
C-1532

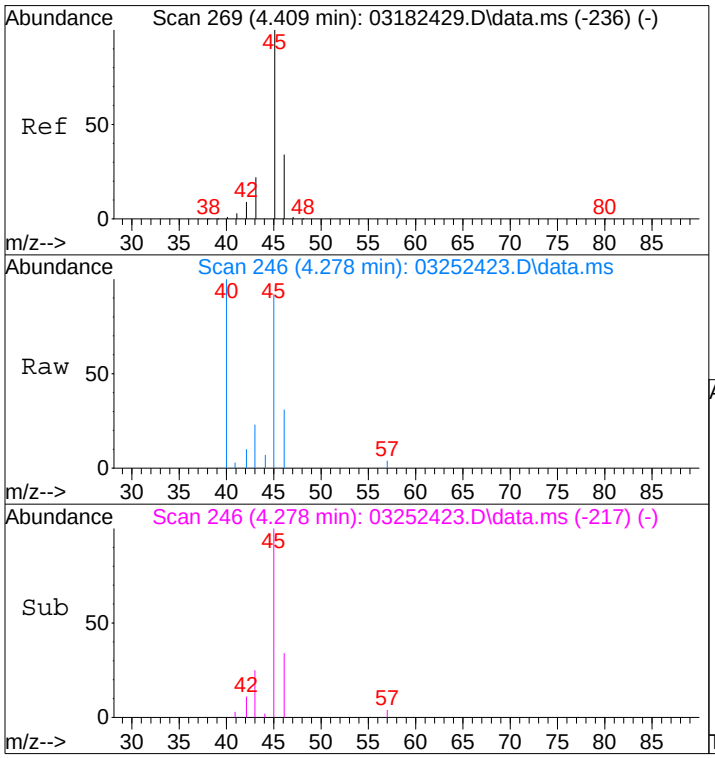


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.051 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 85 Resp: 10488

Ion	Ratio	Lower	Upper
85	100		
87	2.7	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

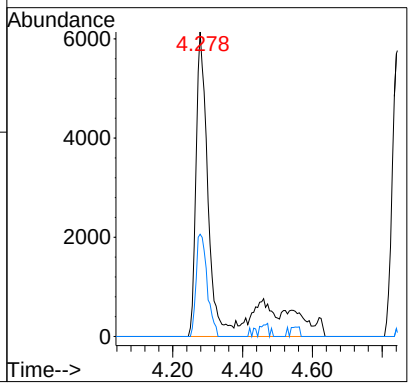


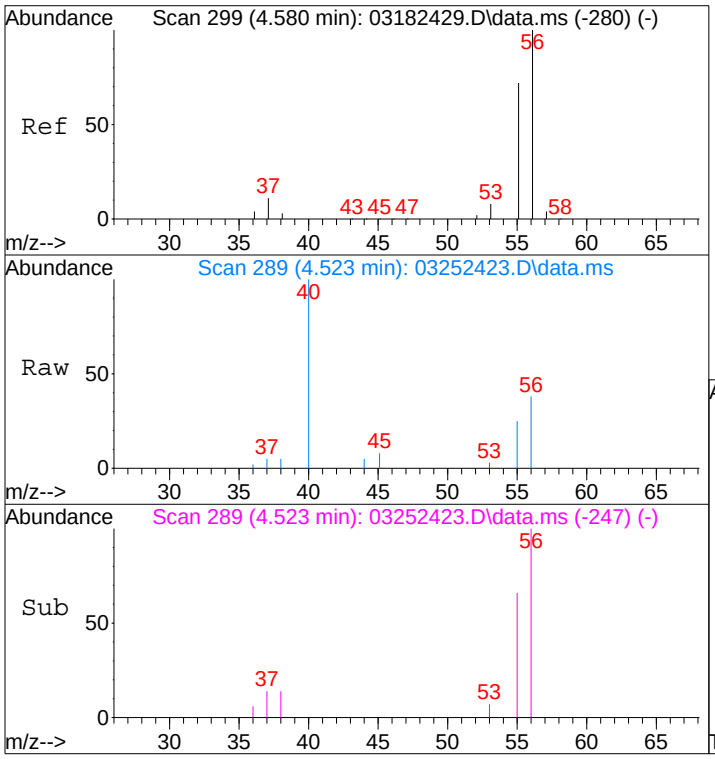


#10
Ethanol
Concen: 1.82 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.086 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 45 Resp: 20610

Ion	Ratio	Lower	Upper
45	100		
46	22.0	13.3	53.3

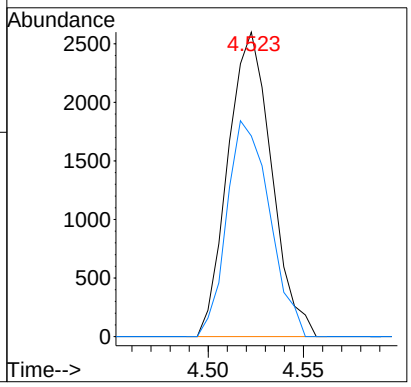


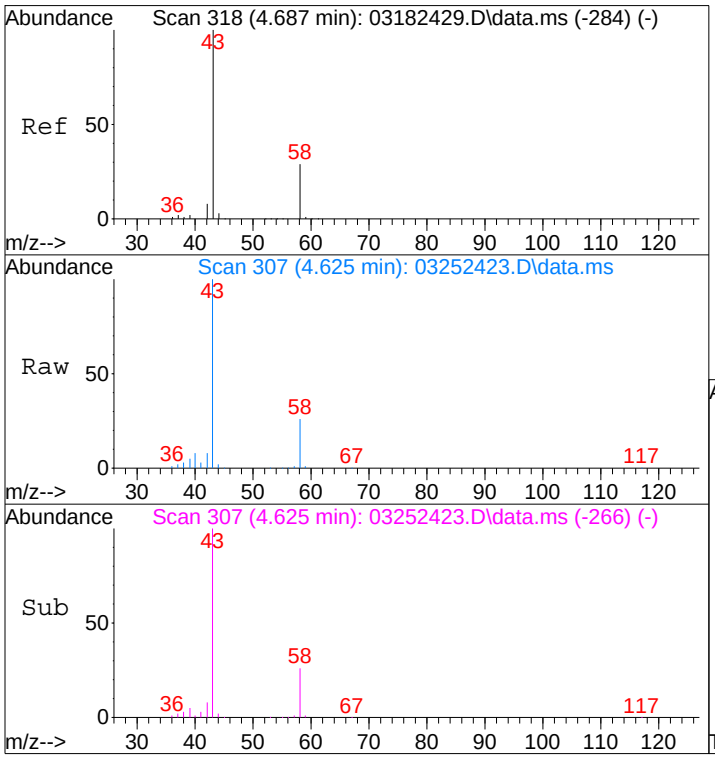


#12
Acrolein
Concen: 0.51 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.011 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 56 Resp: 4136

Ion	Ratio	Lower	Upper
56	100		
55	69.6	54.9	94.9

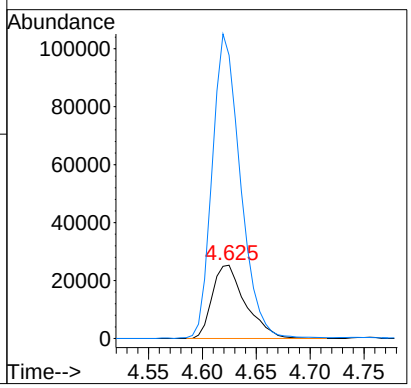


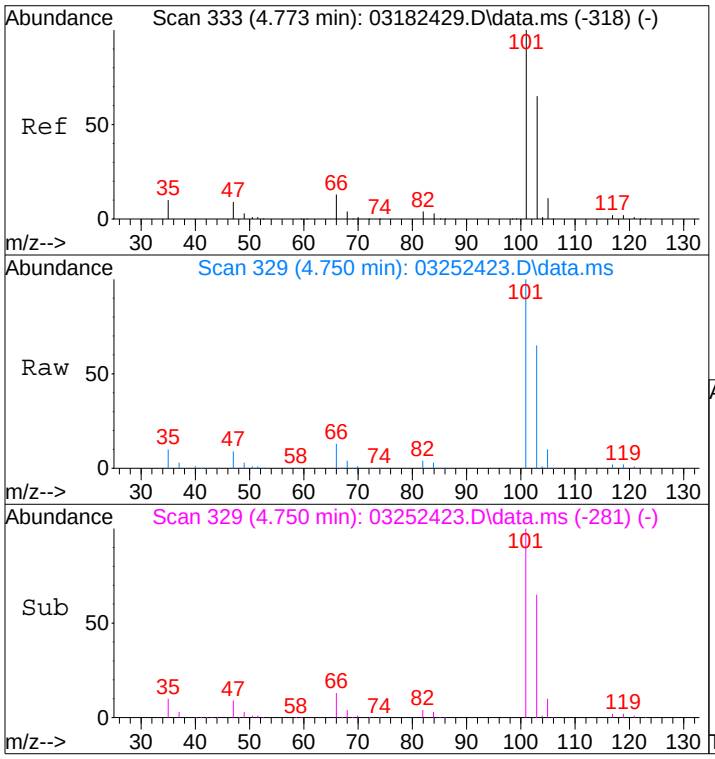


#13
Acetone
Concen: 6.29 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.015 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 58 Resp: 54089

Ion	Ratio	Lower	Upper
58	100		
43	355.2	350.1	410.1

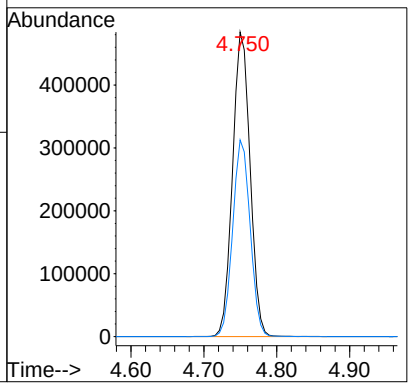


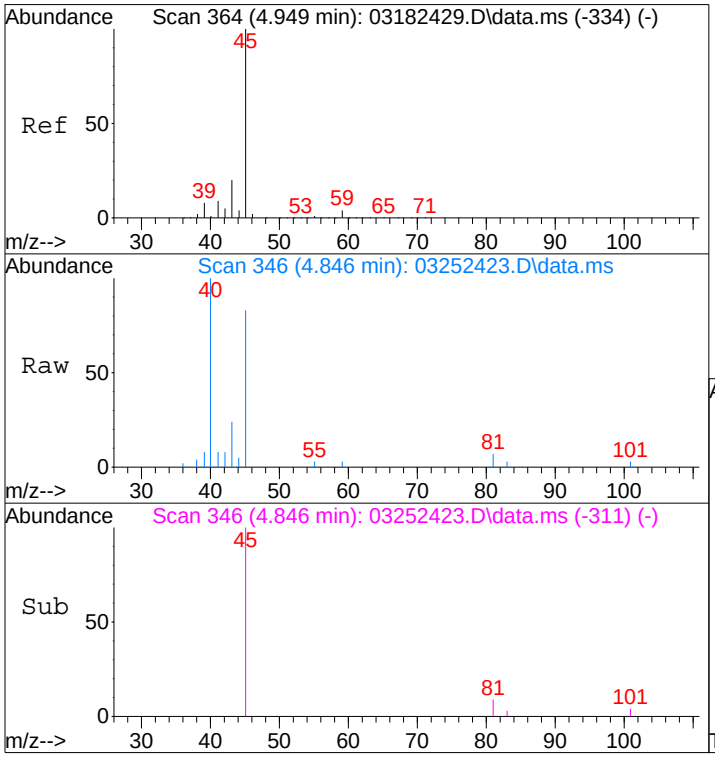


#14
Trichlorofluoromethane
Concen: 34.74 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:101 Resp: 806872

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.7	84.7

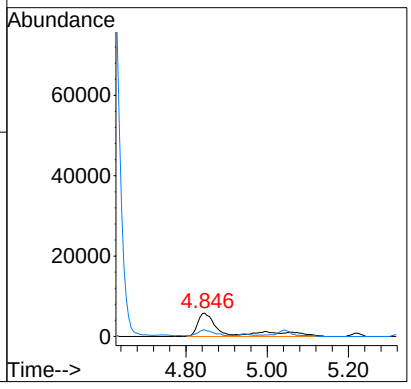


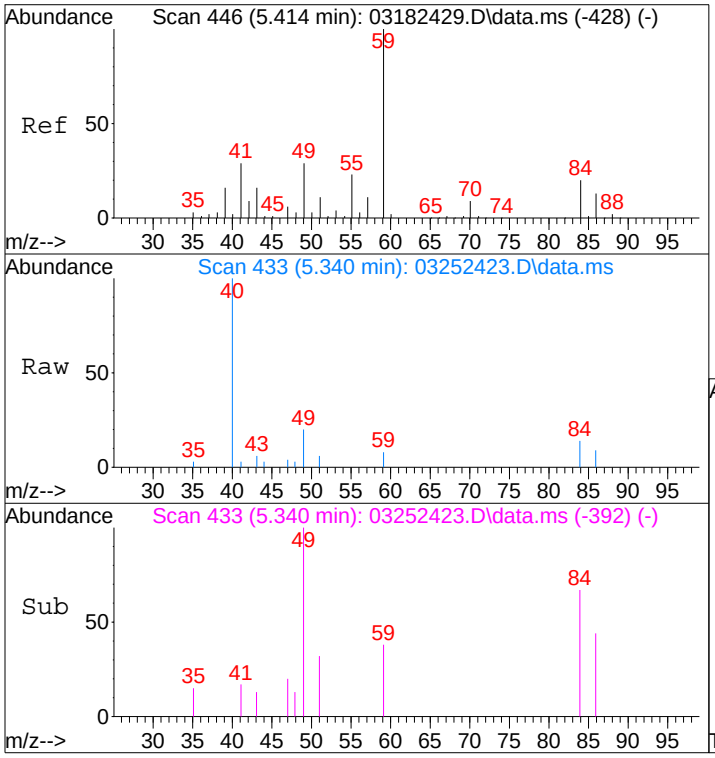


#15
2-Propanol (Isopropanol)
Concen: 0.76 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.052 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 45 Resp: 25946

Ion	Ratio	Lower	Upper
45	100		
43	16.4	0.4	40.4

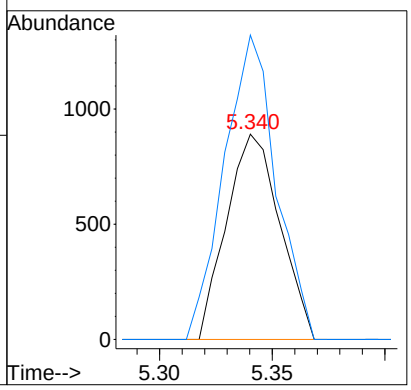


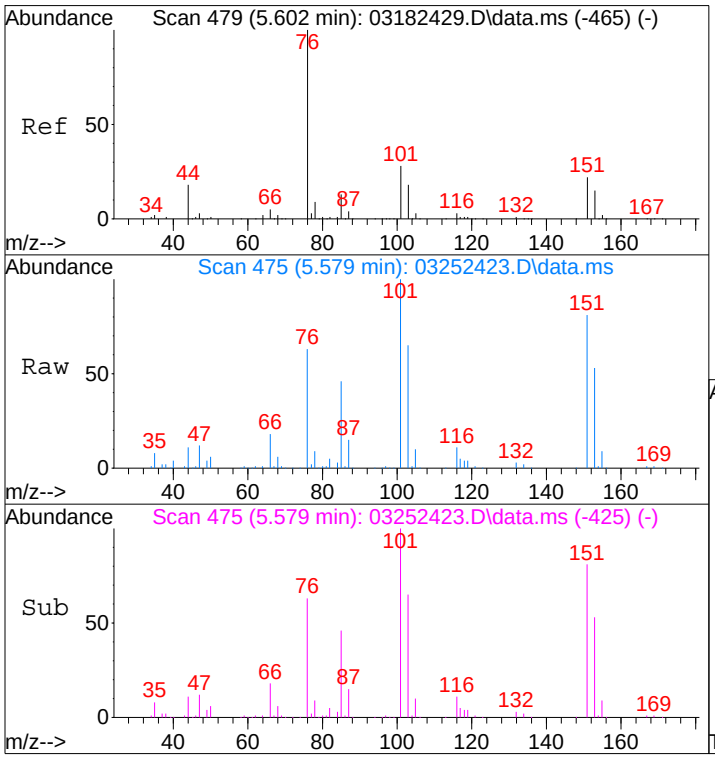


#19
Methylene Chloride
Concen: 0.12 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.019 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 84 Resp: 1466

Ion	Ratio	Lower	Upper
84	100		
49	144.4	122.9	172.9

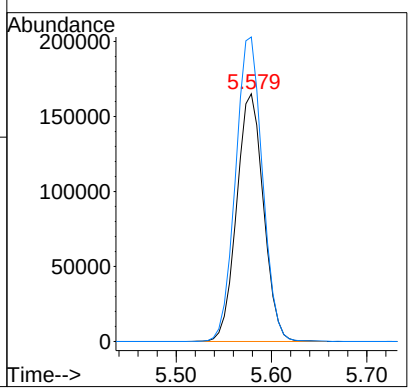


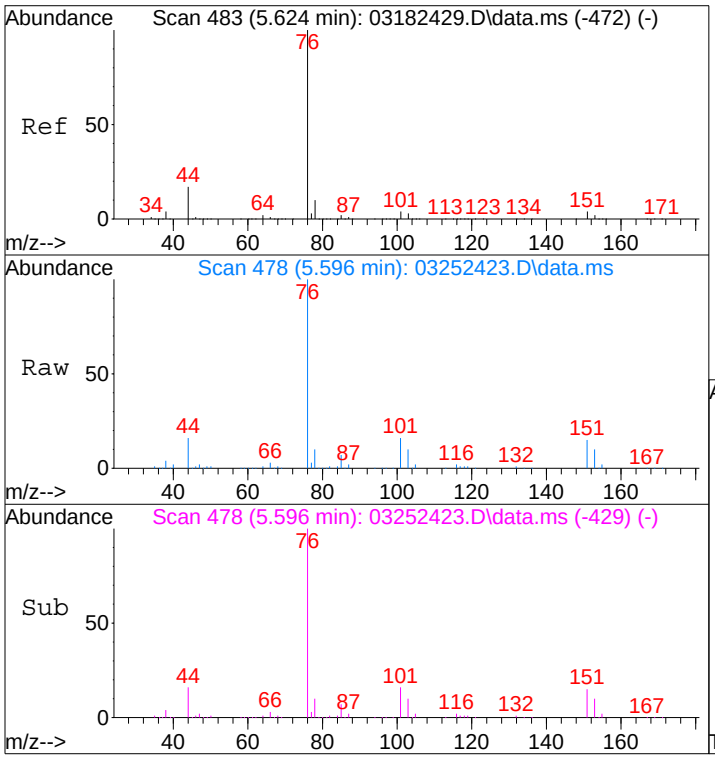


#21
Trichlorotrifluoroethane
Concen: 33.02 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:151 Resp: 323264

Ion	Ratio	Lower	Upper
151	100		
101	123.3	106.4	146.4

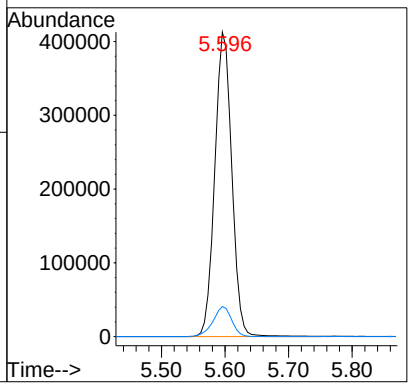


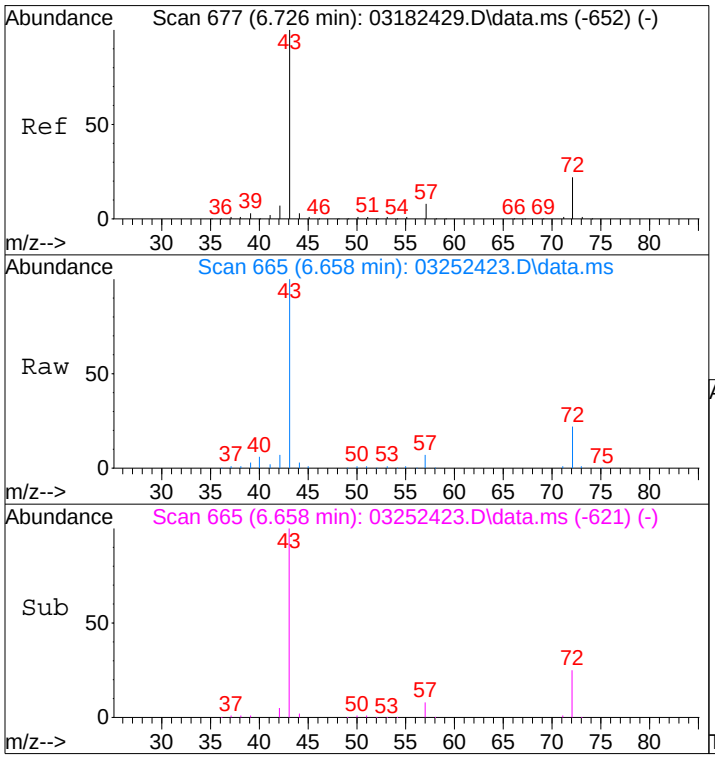


#22
Carbon Disulfide
Concen: 19.73 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.028 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 76 Resp: 769267

Ion	Ratio	Lower	Upper
76	100		
78	10.8	0.0	29.8

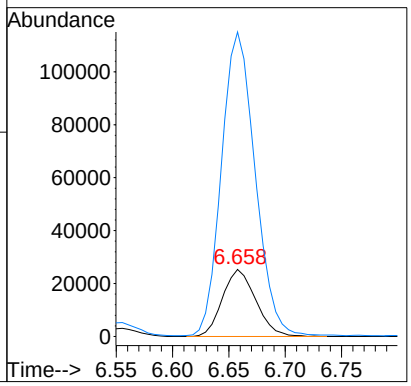


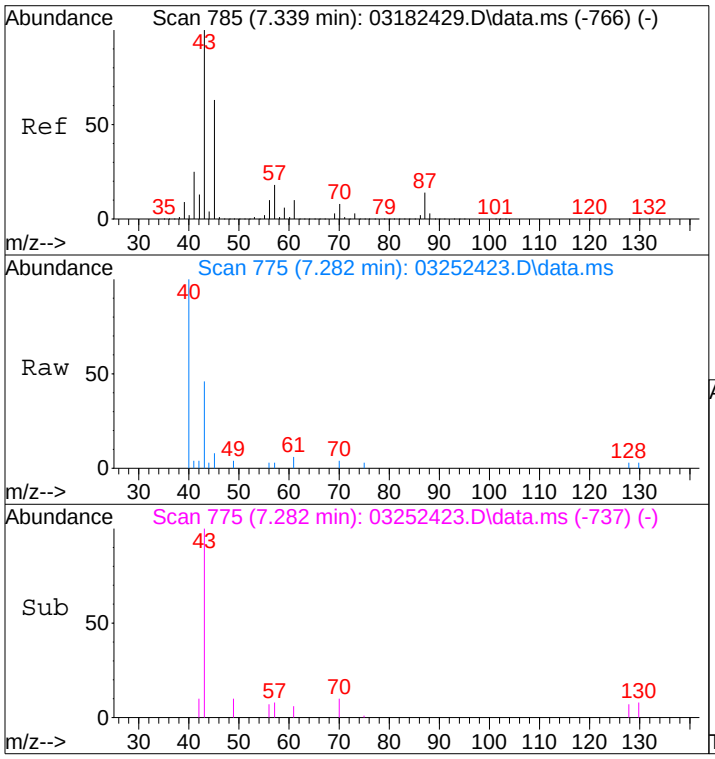


#27
2-Butanone (MEK)
Concen: 7.41 ng
RT: 6.66 min Scan# 665
Delta R.T. -0.000 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 72 Resp: 52109

Ion	Ratio	Lower	Upper
72	100		
43	457.7	468.6	508.6#

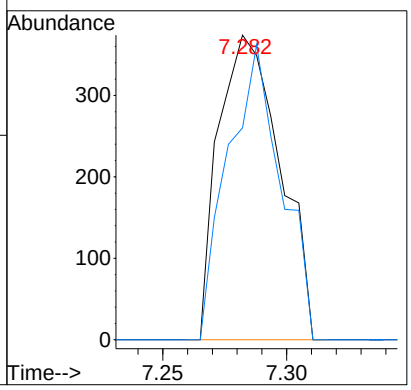


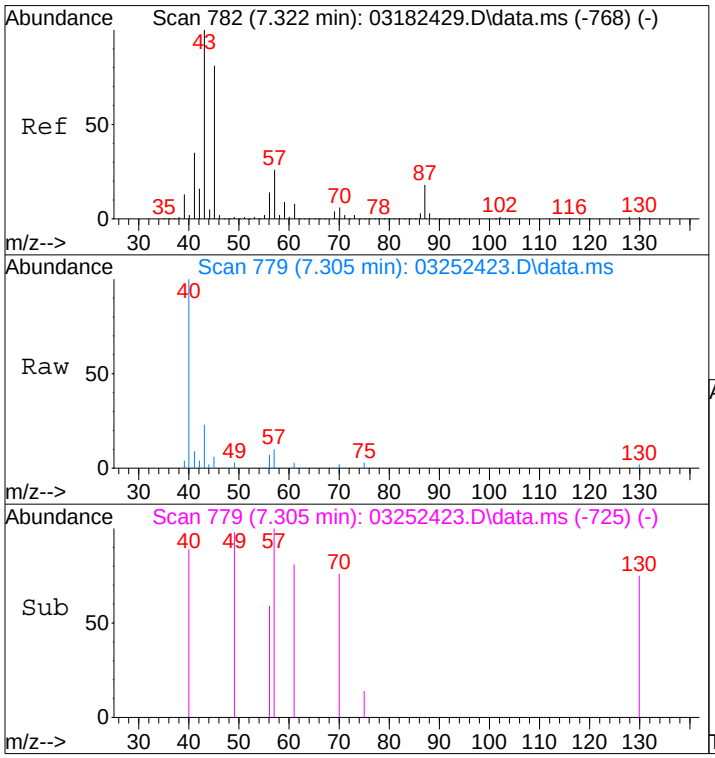


#30
Ethyl Acetate
Concen: 0.15 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 61 Resp: 646

Ion	Ratio	Lower	Upper
61	100		
70	83.4	57.3	97.3

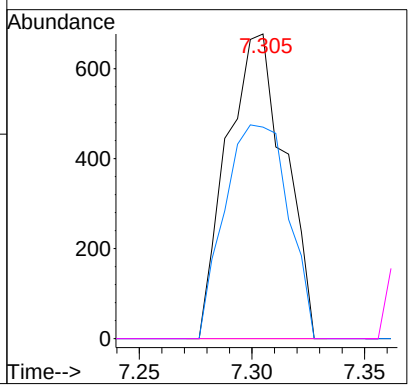


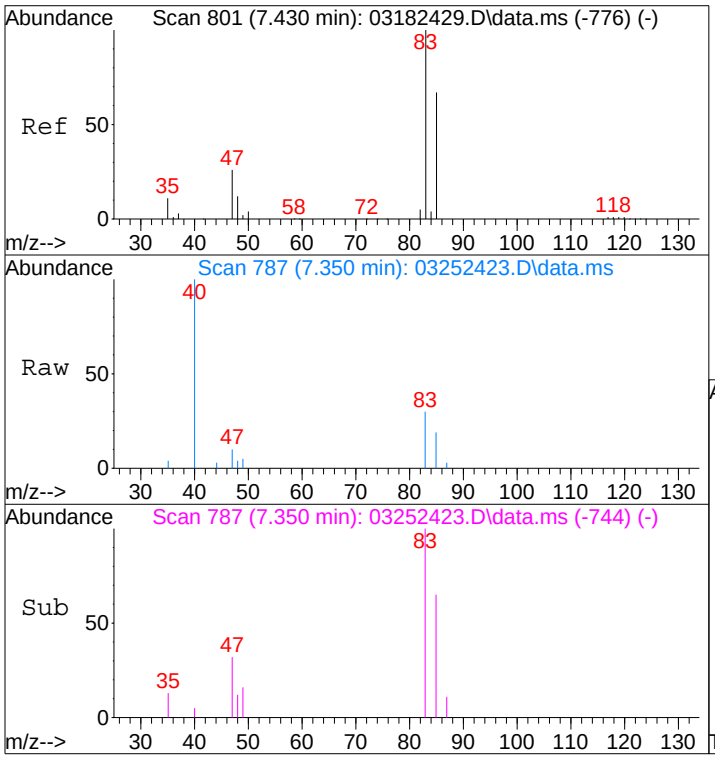


#31
n-Hexane
Concen: 0.07 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 57 Resp: 1210

Ion	Ratio	Lower	Upper
57	100		
56	77.3	42.2	63.4#
86	0.0	9.4	14.2#

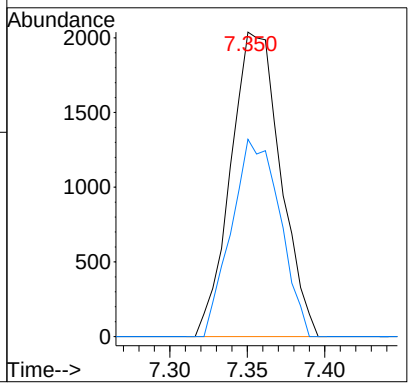


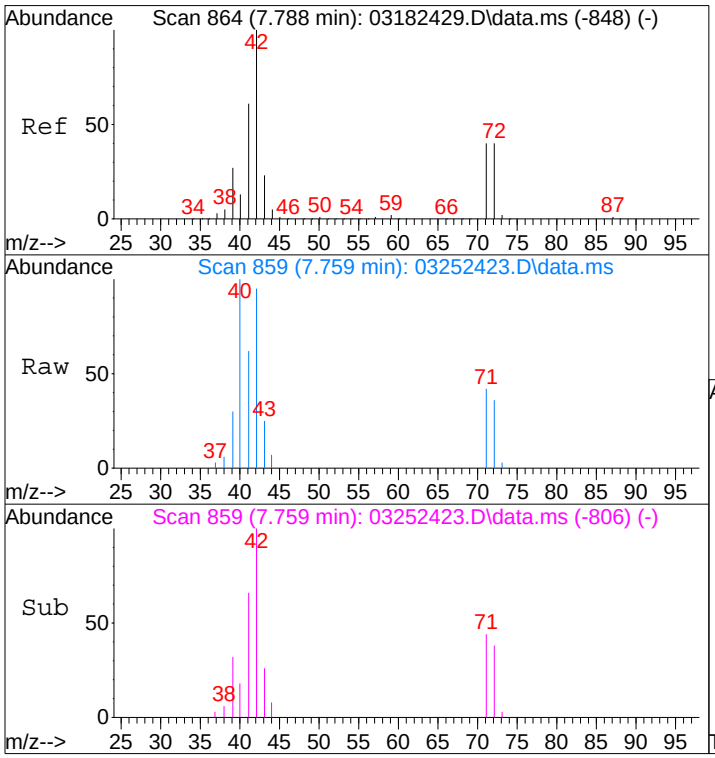


#32
Chloroform
Concen: 0.22 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.005 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 83 Resp: 4561

Ion	Ratio	Lower	Upper
83	100		
85	63.1	46.1	86.1

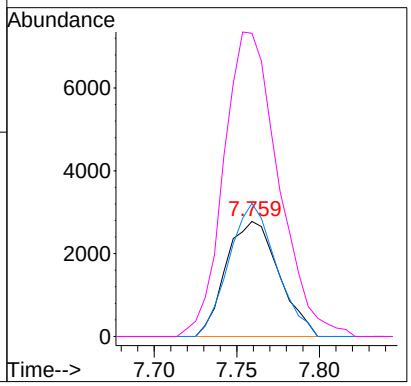


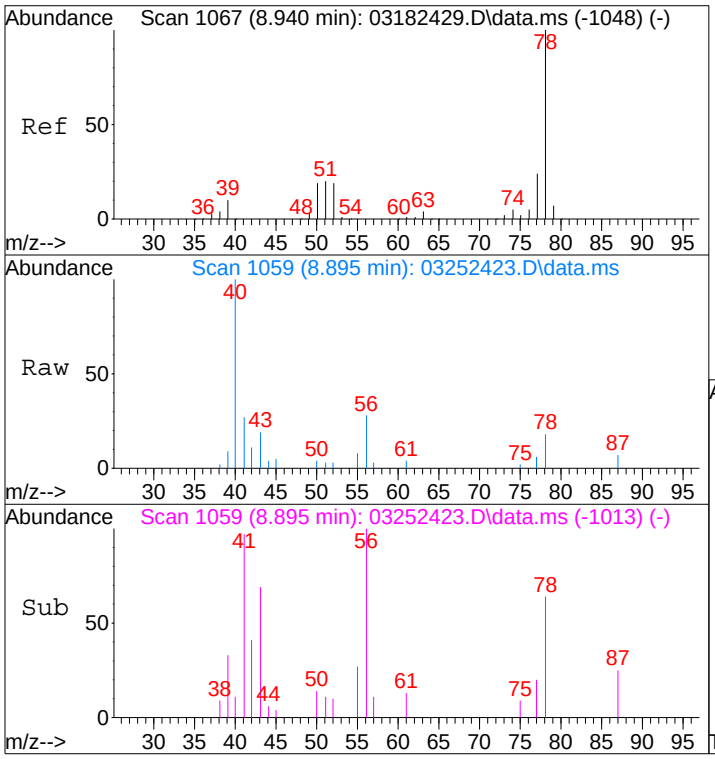


#34
Tetrahydrofuran (THF)
Concen: 0.97 ng
RT: 7.76 min Scan# 859
Delta R.T. 0.050 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 72 Resp: 6175

Ion	Ratio	Lower	Upper
72	100		
71	103.7	80.7	120.7
42	273.8	255.0	295.0

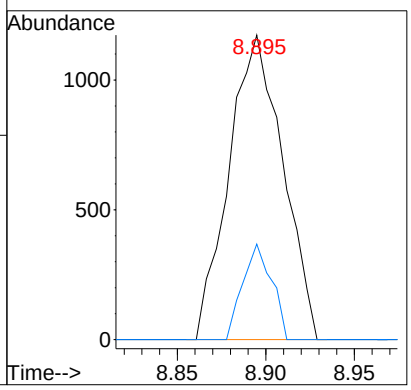


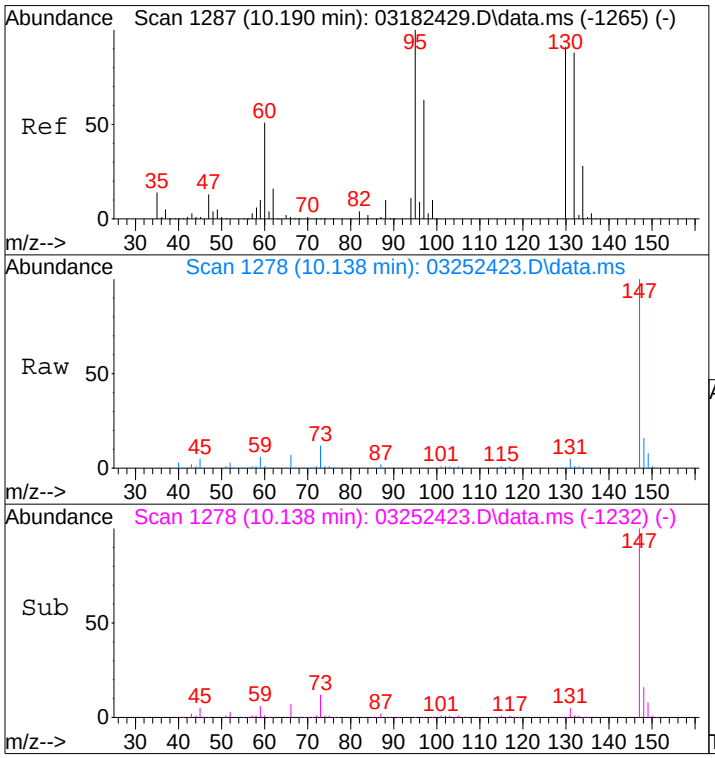


#41
Benzene
Concen: 0.06 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 78 Resp: 2482

Ion	Ratio	Lower	Upper
78	100		
77	16.9	3.6	43.6

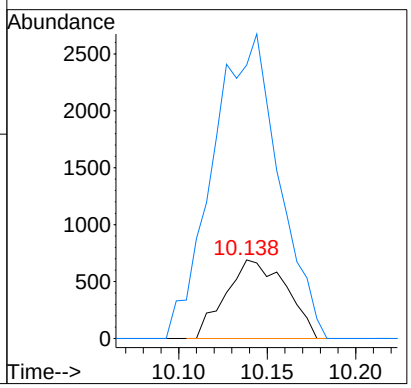


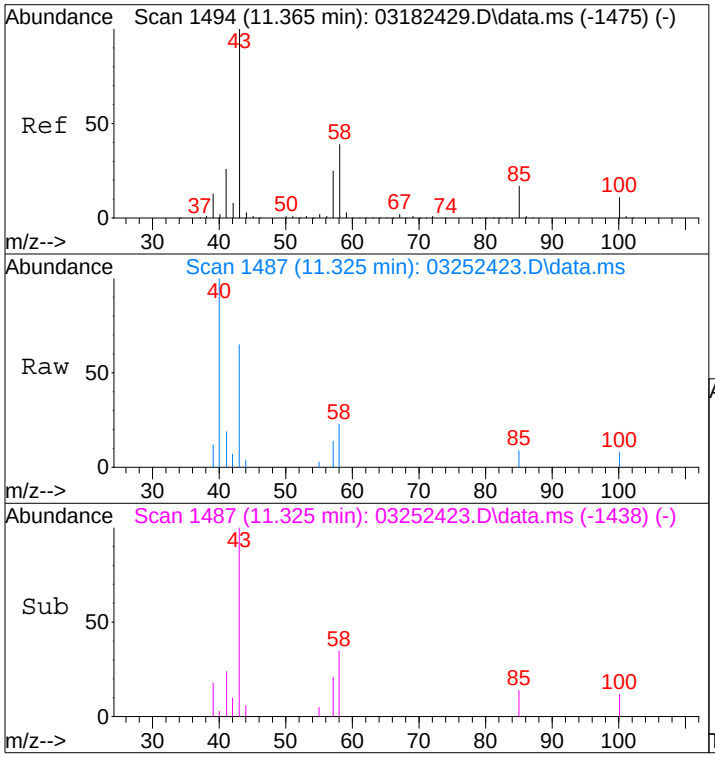


#47
Trichloroethene
Concen: 0.14 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.011 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:130 Resp: 1637

Ion	Ratio	Lower	Upper
130	100		
132	422.5	77.5	117.5#

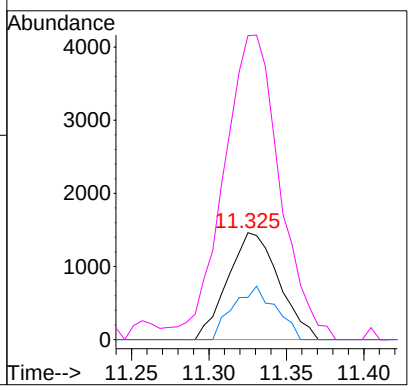


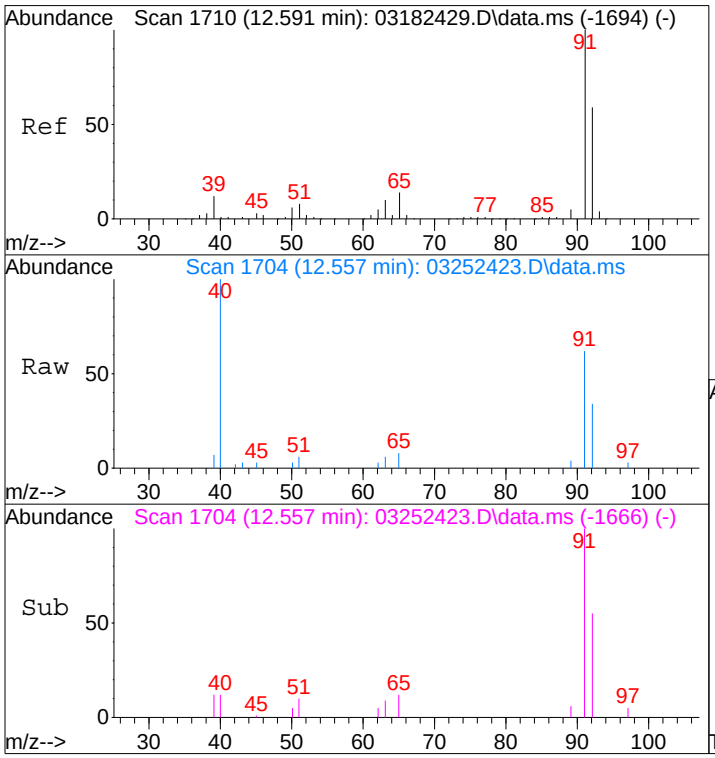


#53
4-Methyl-2-pentanone
Concen: 0.35 ng
RT: 11.33 min Scan# 1487
Delta R.T. 0.029 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 58 Resp: 3365

Ion	Ratio	Lower	Upper
58	100		
85	41.6	34.5	51.7
43	312.6	218.4	327.6

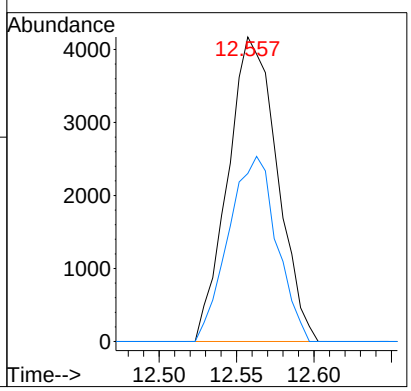


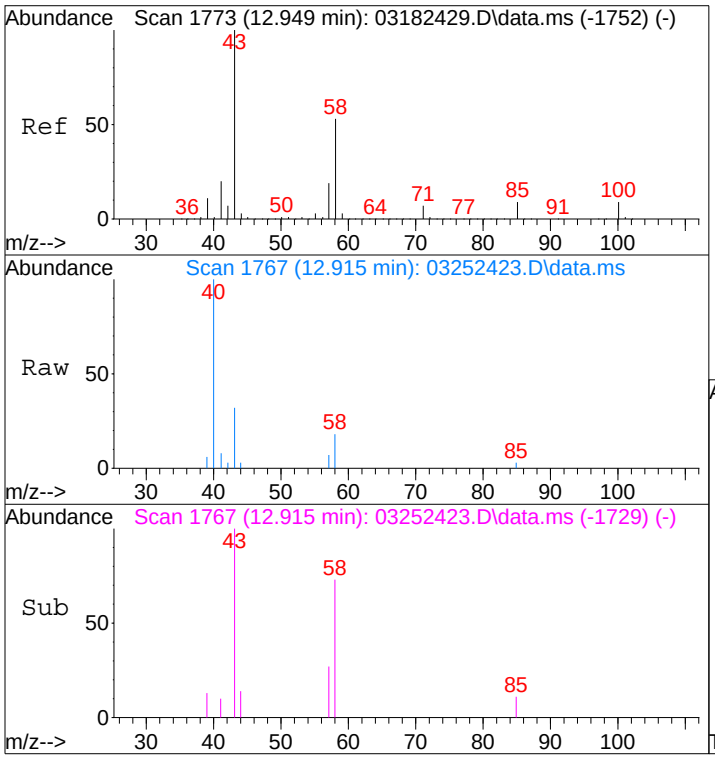


#58
Toluene
Concen: 0.24 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 91 Resp: 9263

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.2	79.2

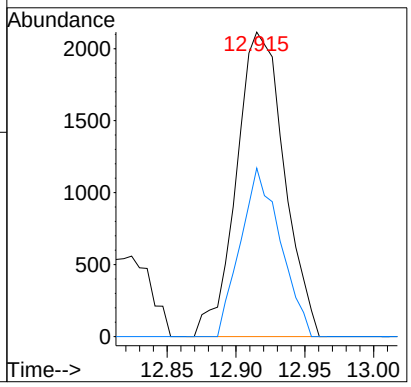


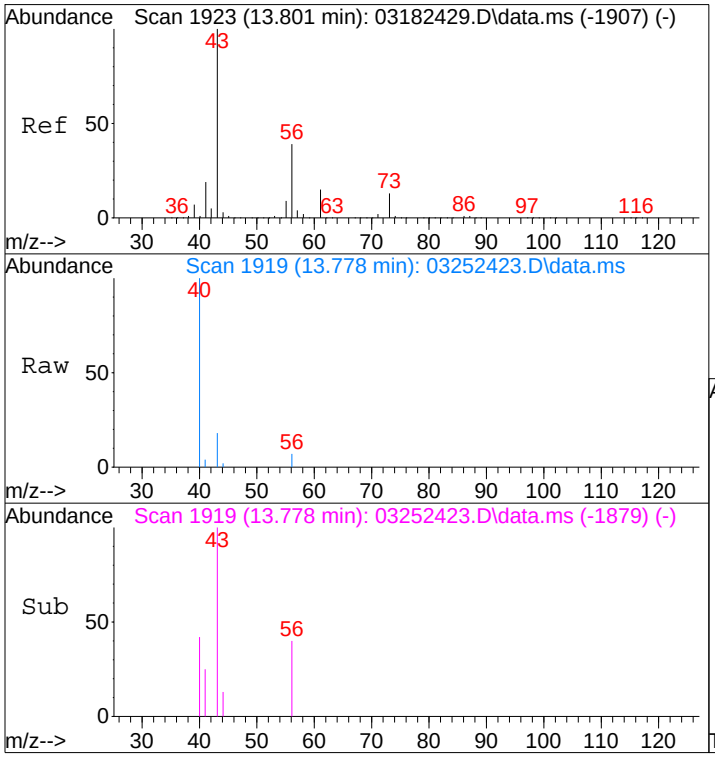


#59
2-Hexanone
Concen: 0.23 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 43 Resp: 5111

Ion	Ratio	Lower	Upper
43	100		
58	46.2	30.2	70.2

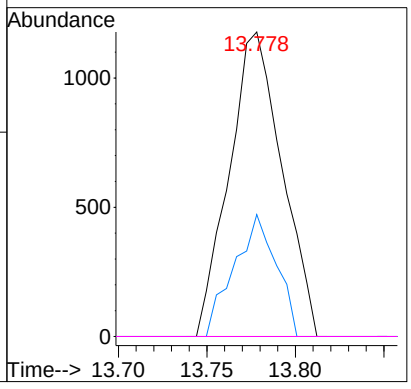


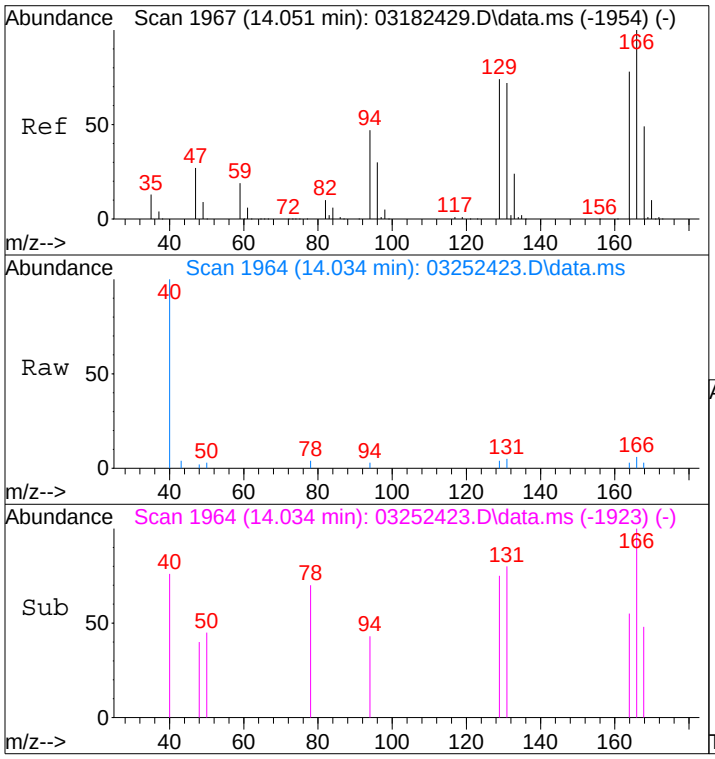


#62
n-Butyl Acetate
Concen: 0.10 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 43 Resp: 2444

Ion	Ratio	Lower	Upper
43	100		
56	32.0	16.7	56.7
73	0.0	0.0	31.3

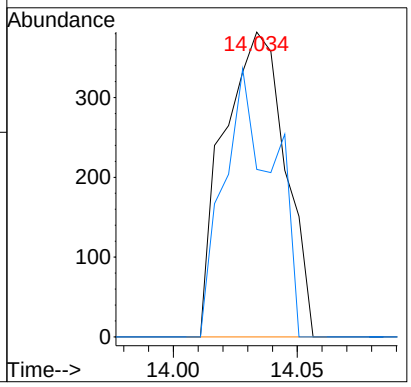


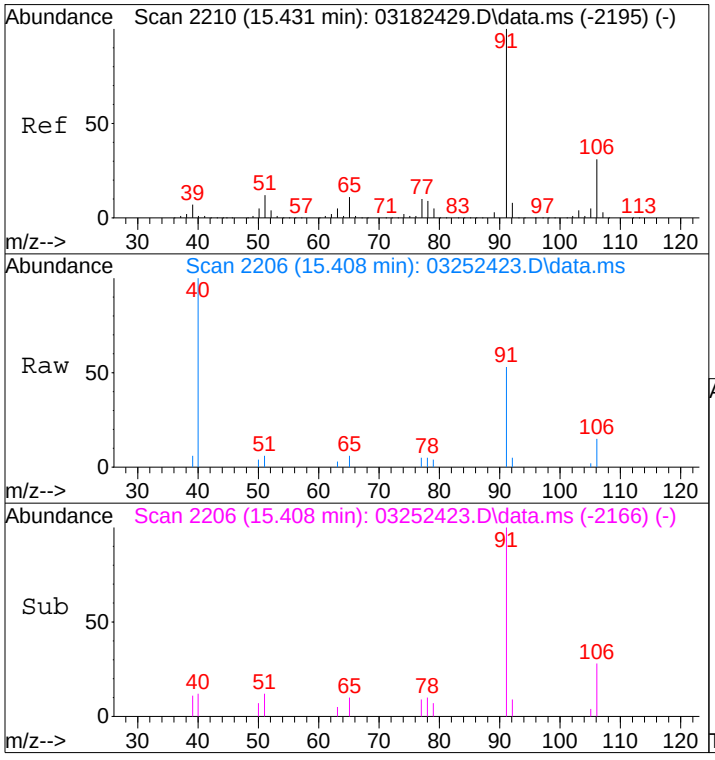


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:166 Resp: 660

Ion	Ratio	Lower	Upper
166	100		
164	71.1	56.7	96.7

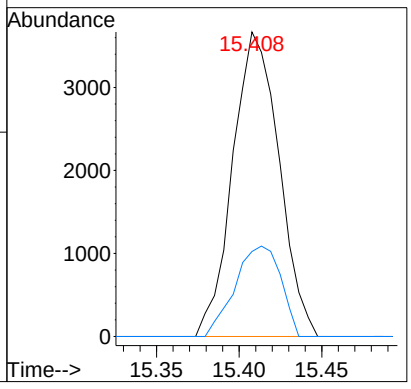


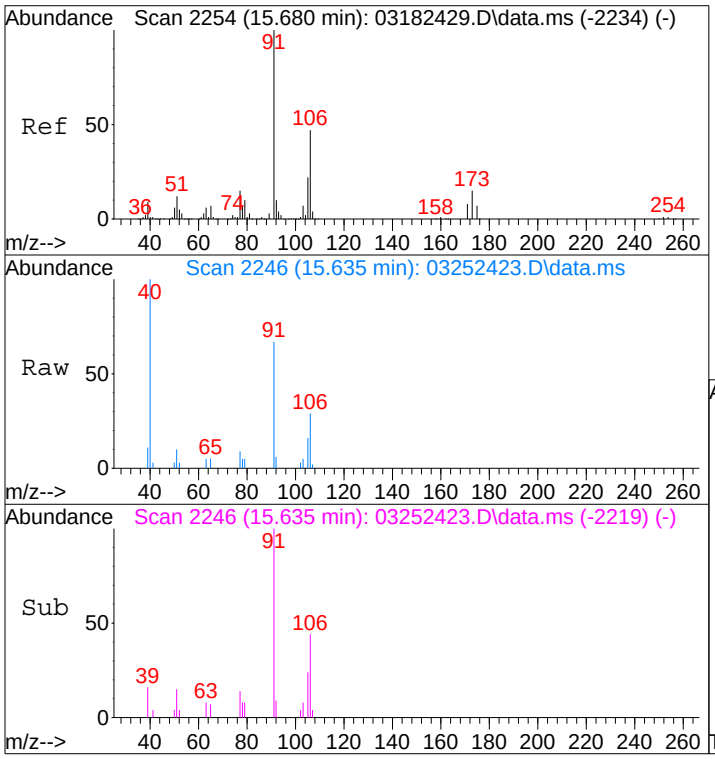


#66
Ethylbenzene
Concen: 0.16 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.023 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 91 Resp: 7154

Ion	Ratio	Lower	Upper
91	100		
106	29.3	10.4	50.4

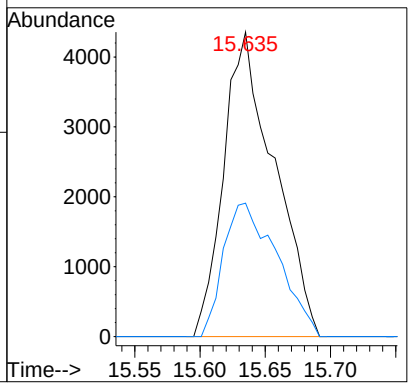


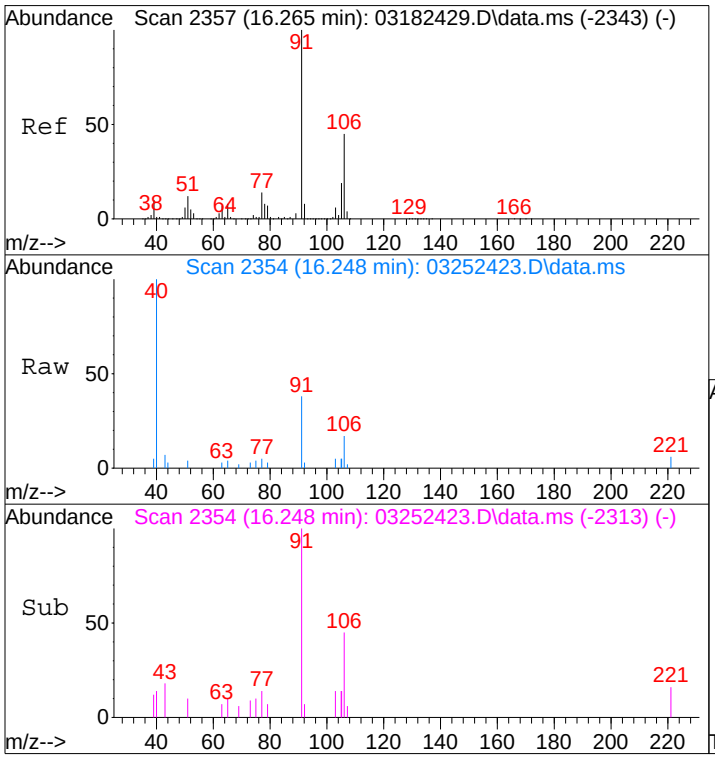


#67
m- & p-Xylenes
Concen: 0.32 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.046 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 91 Resp: 11704

Ion	Ratio	Lower	Upper
91	100		
106	46.6	25.6	65.6

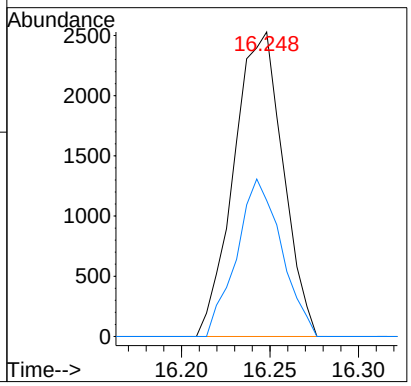


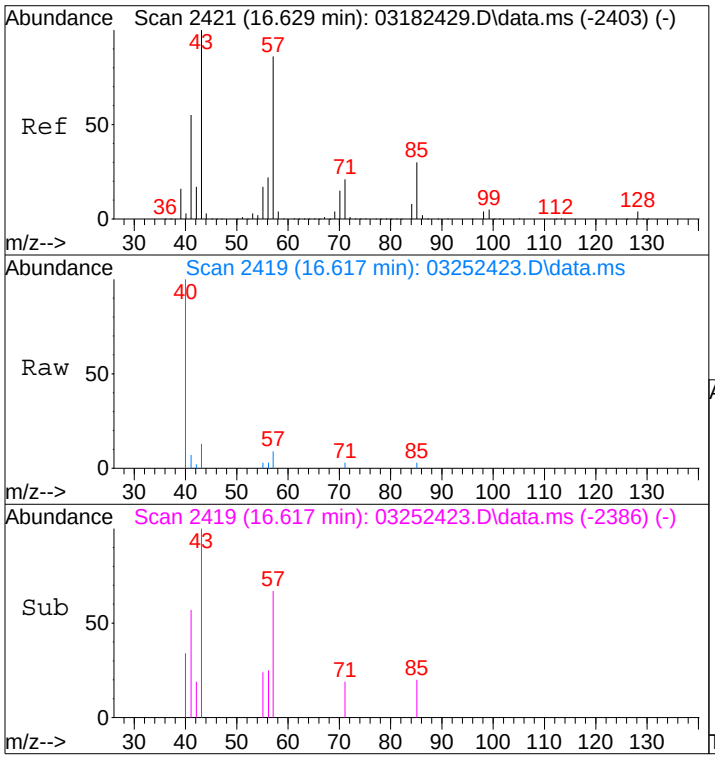


#70
o-Xylene
Concen: 0.13 ng
RT: 16.25 min Scan# 2354
Delta R.T. -0.017 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 91 Resp: 4880

Ion	Ratio	Lower	Upper
91	100		
106	47.4	24.4	64.4

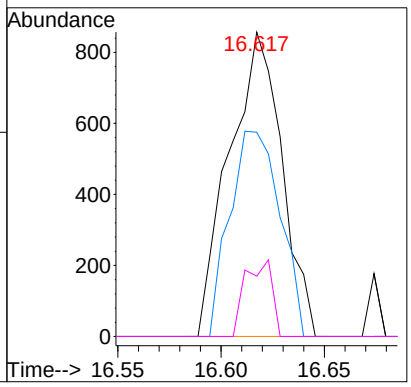


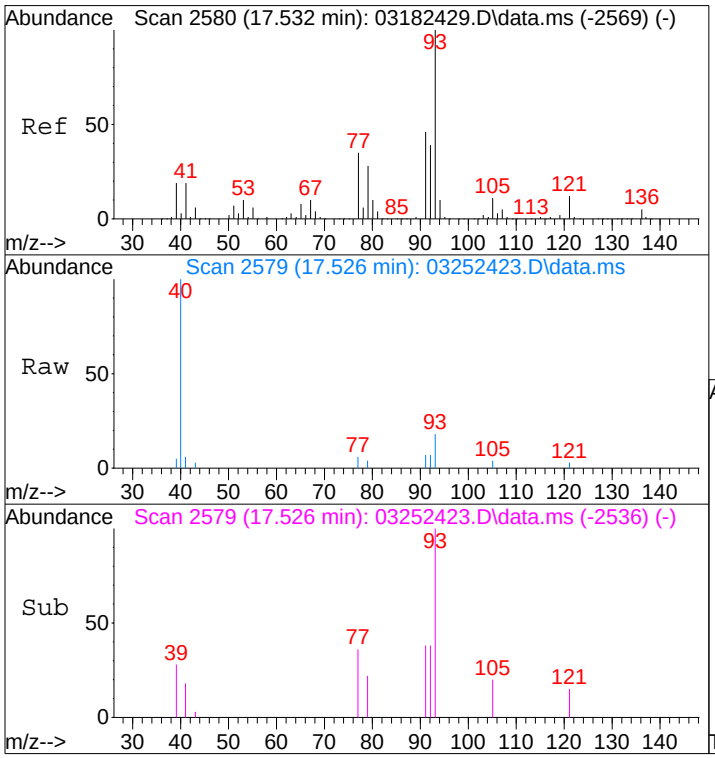


#71
n-Nonane
Concen: 0.07 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.011 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 43 Resp: 1516

Ion	Ratio	Lower	Upper
43	100		
57	64.7	63.3	103.3
85	12.9	7.8	47.8

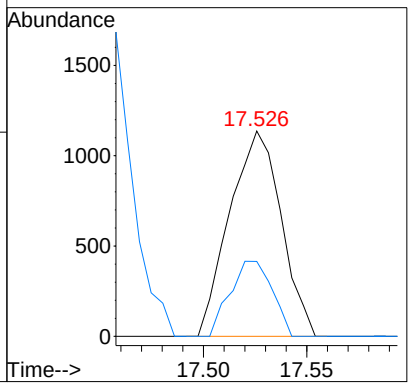


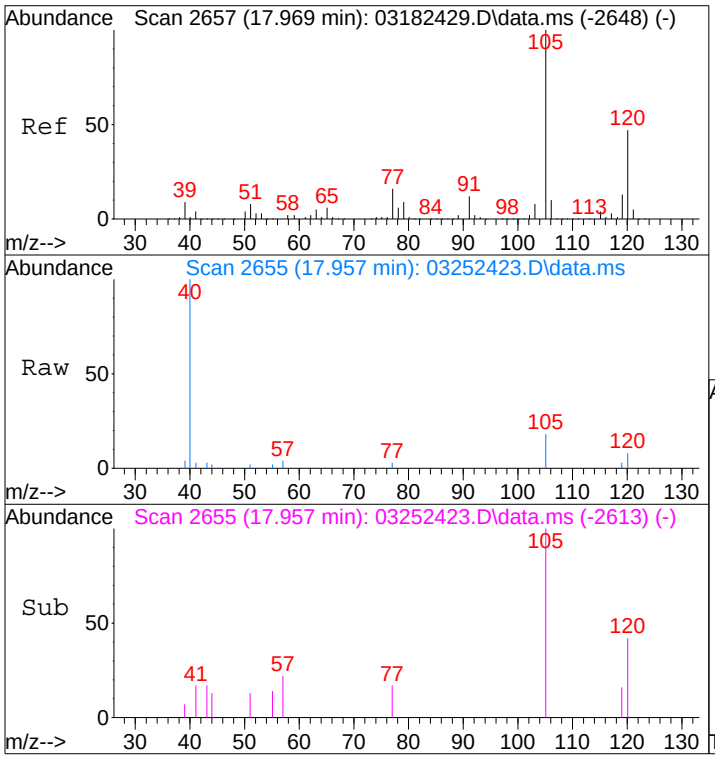


#75
alpha-Pinene
Concen: 0.09 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 93 Resp: 1972

Ion	Ratio	Lower	Upper
93	100		
77	30.0	13.4	53.4

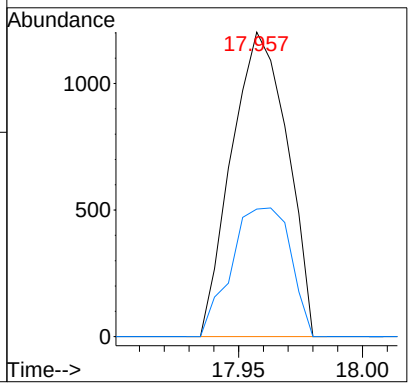


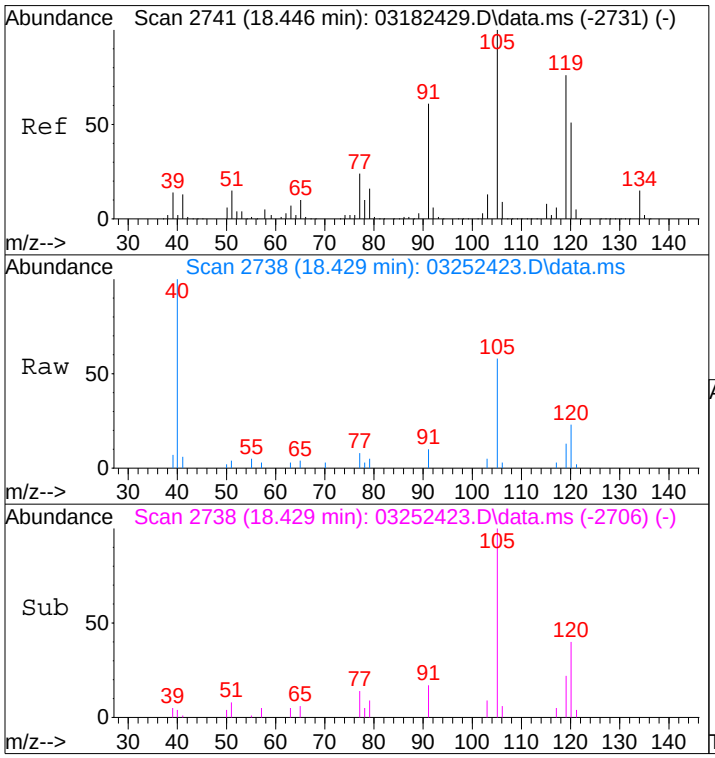


#79
1,3,5-Trimethylbenzene
Concen: 0.05 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.012 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:105 Resp: 1881

Ion	Ratio	Lower	Upper
105	100		
120	44.9	26.9	66.9

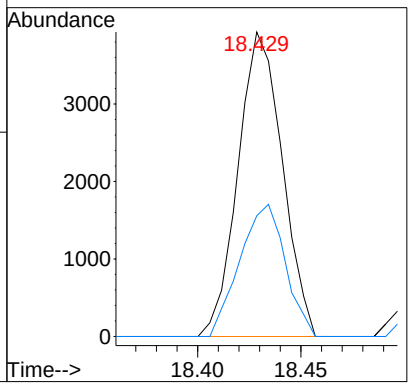


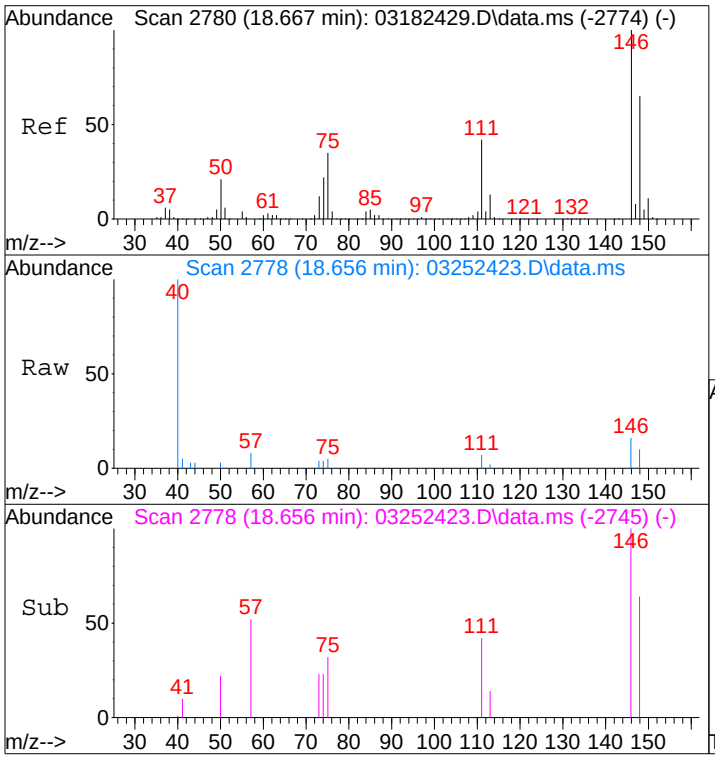


#82
1,2,4-Trimethylbenzene
Concen: 0.15 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:105 Resp: 5854

Ion	Ratio	Lower	Upper
105	100		
120	44.6	31.1	71.1

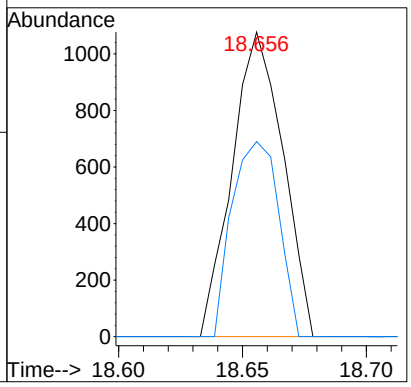


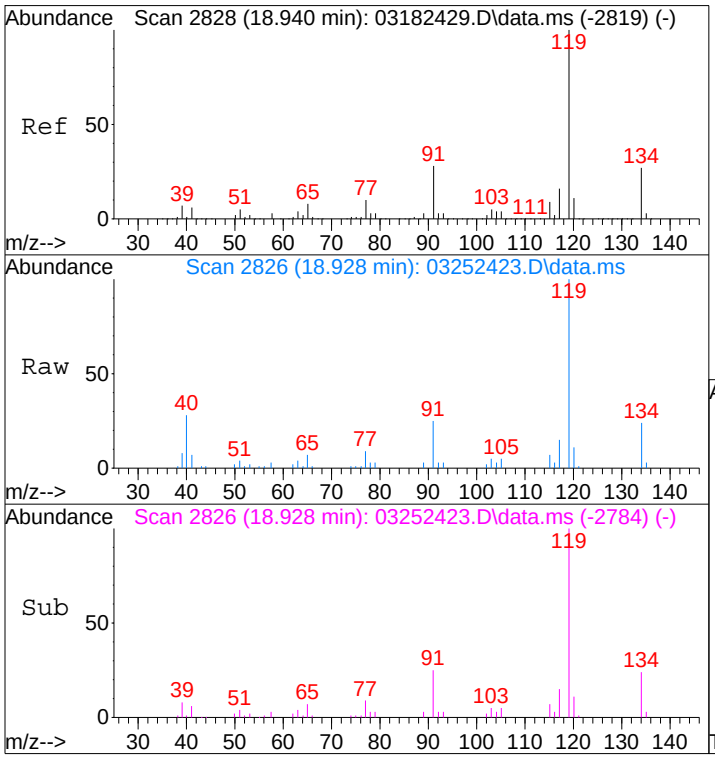


#86
1,4-Dichlorobenzene
Concen: 0.07 ng
RT: 18.66 min Scan# 2778
Delta R.T. -0.012 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:146 Resp: 1537

Ion	Ratio	Lower	Upper
146	100		
148	59.1	44.0	84.0

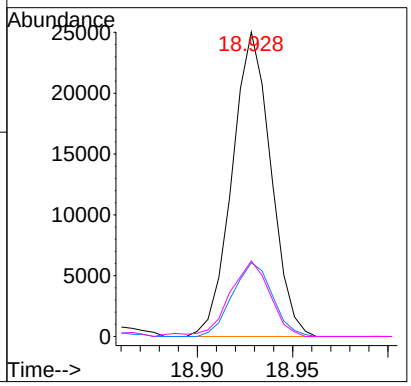


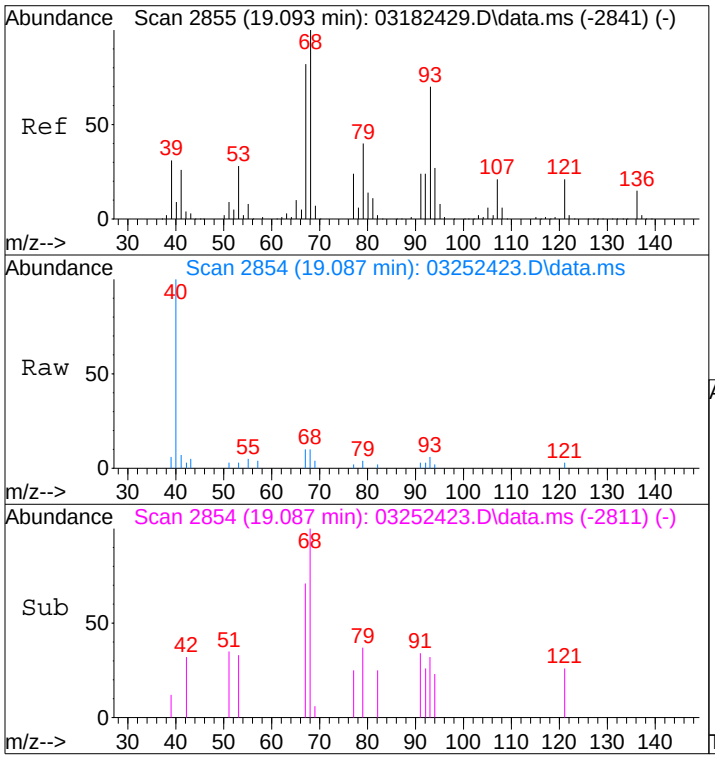


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.83 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.012 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:119 Resp: 35361

Ion	Ratio	Lower	Upper
119	100		
134	24.9	5.0	45.0
91	25.9	5.8	45.8

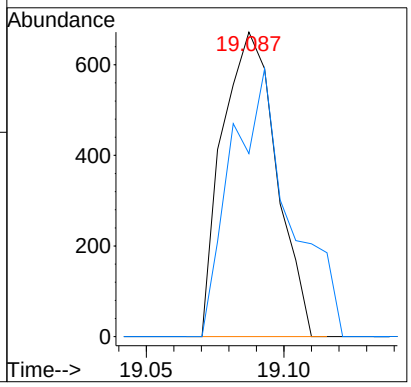


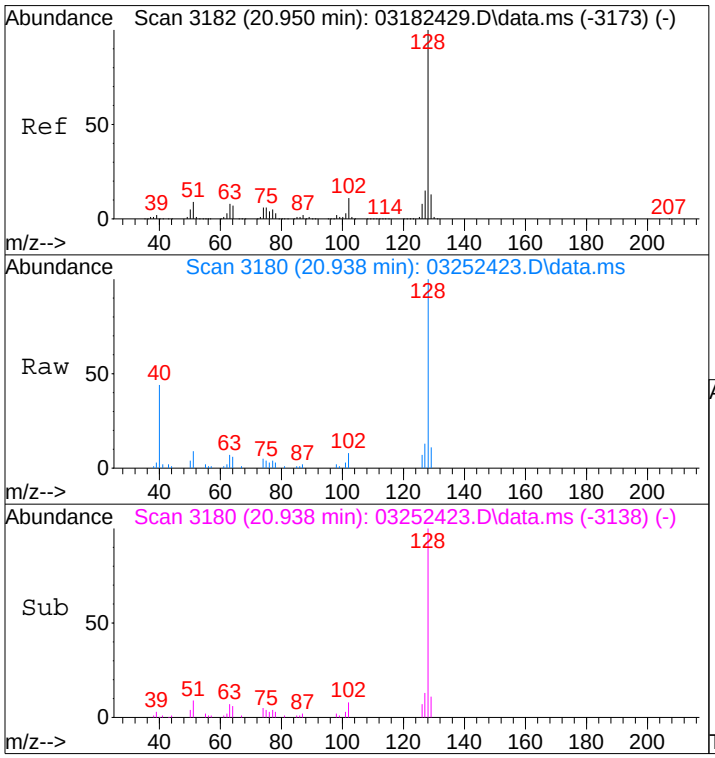


#91
d-Limonene
Concen: 0.07 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion: 68 Resp: 918

Ion	Ratio	Lower	Upper
68	100		
93	95.8	51.5	91.5#

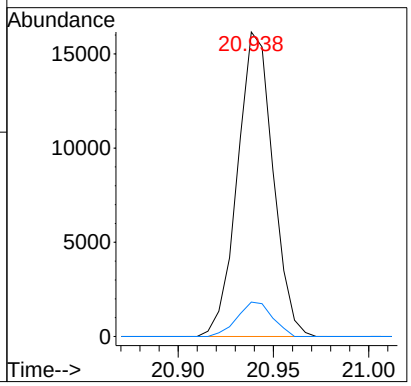




#95
Naphthalene
Concen: 0.71 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.012 min
Lab File: 03252423.D
Acq: 25 Mar 2024 23:34

Tgt Ion:128 Resp: 20897

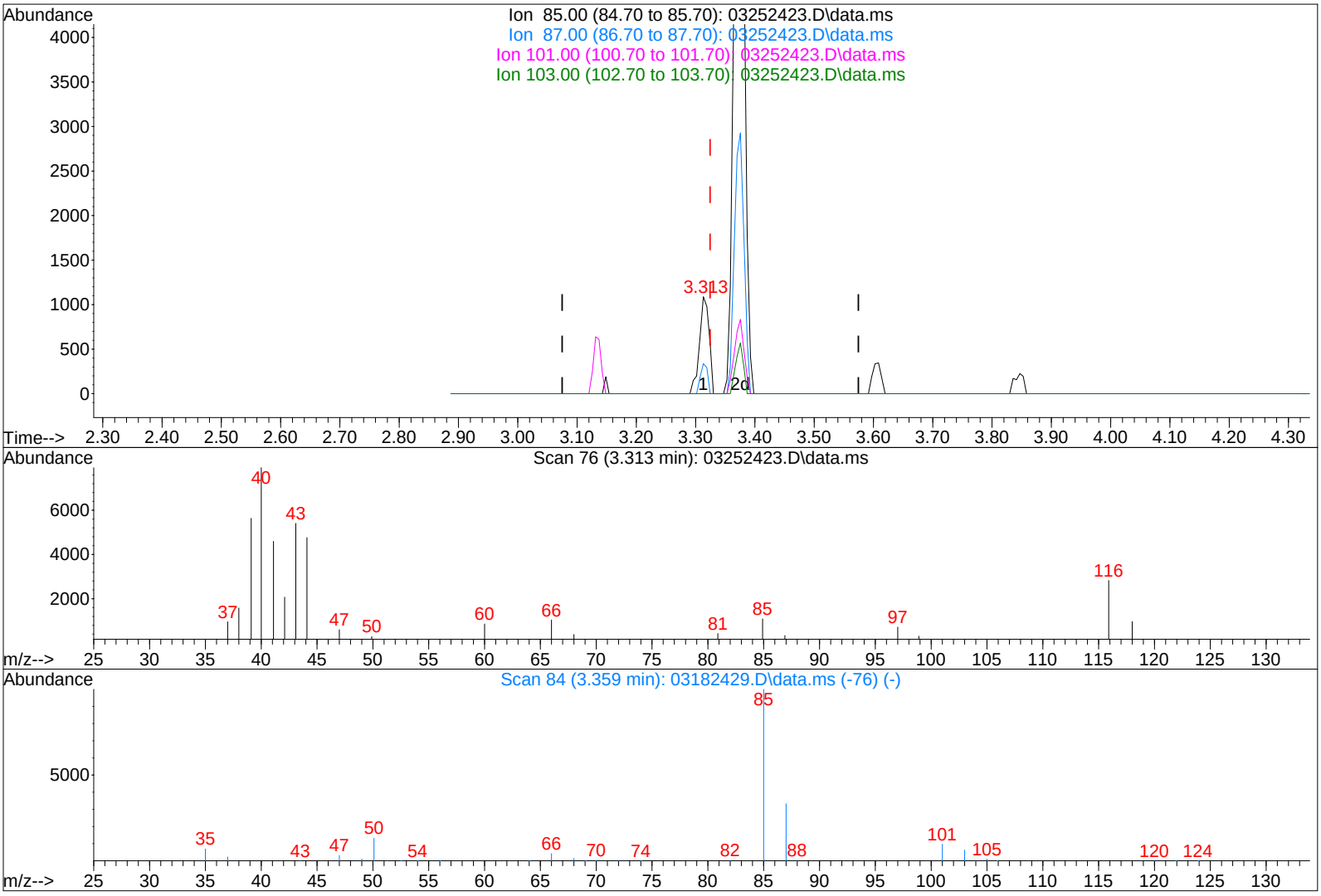
Ion	Ratio	Lower	Upper
128	100		
129	11.3	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:26:33 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.012) 0.05ng

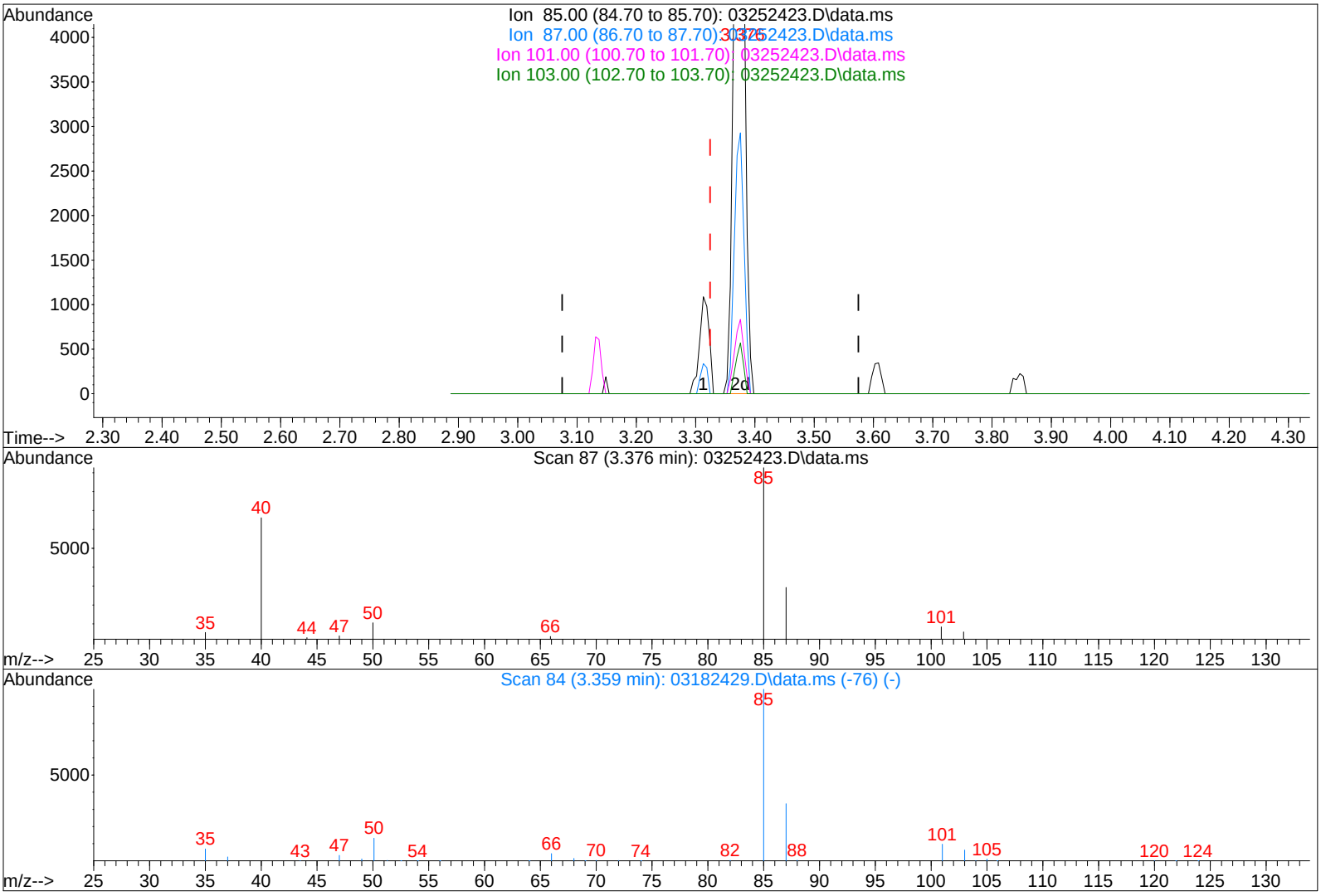
response 1233

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	22.55
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:26:33 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252423.D\data.ms

WP 3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.051) 0.44ng m

response 10488

LH 3/26/24

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	2.65#
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:38:00 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

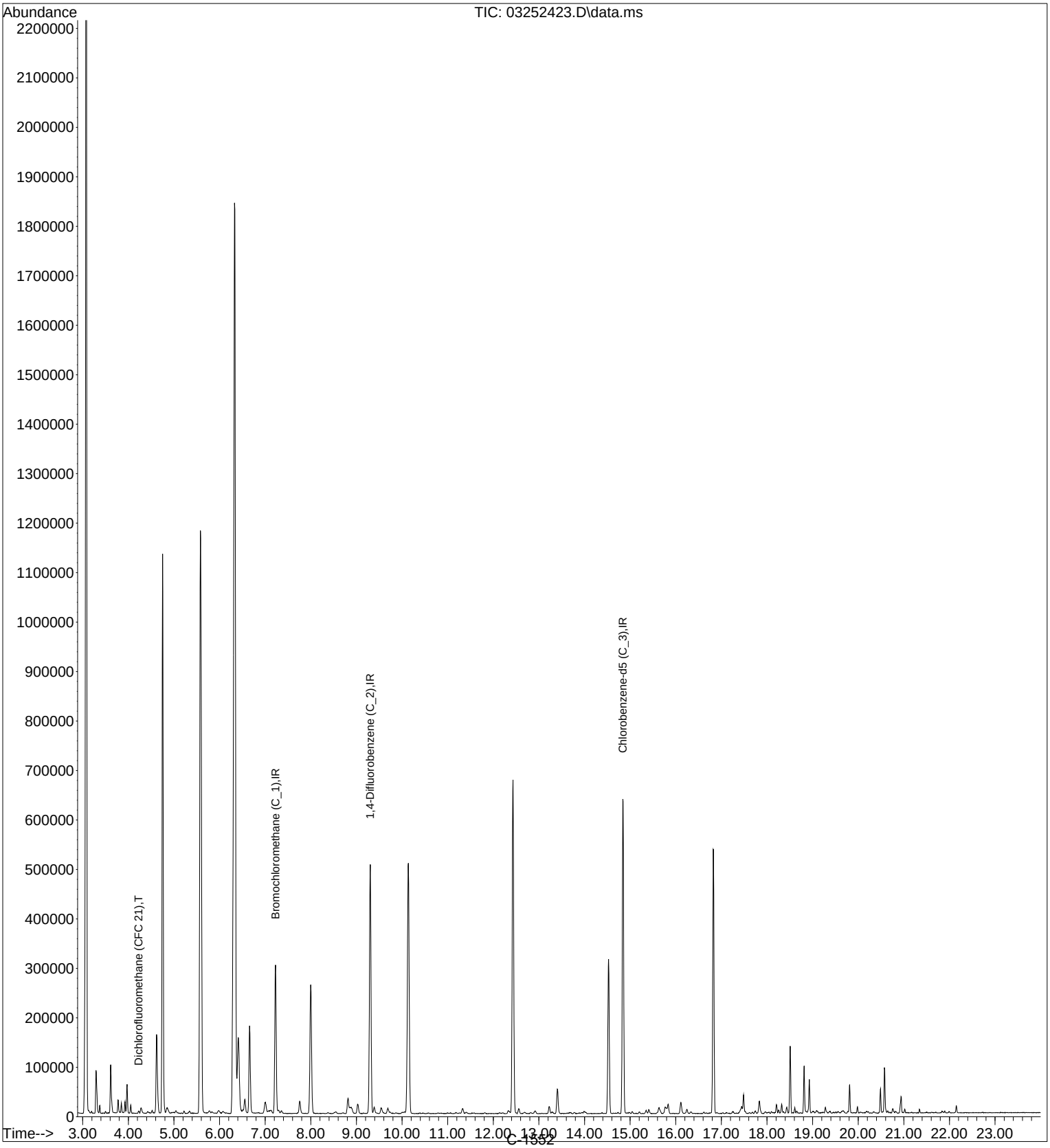
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	116986	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	496530	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	101207	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	64	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	999	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	259	N.D.		
7) Dichlorofluoromethane ...	4.22	67	4509	0.198	ng	98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	65	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.33	43	1399	N.D.		
12) 2-Methylpentane	6.48	71	337	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.03	84	1721	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	66	N.D.		
20) Methyl Cyclohexane	11.42	55	525	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.34	75	666	N.D.		
25) Bromobenzene	17.04	77	58	N.D.		
26) 2-Chlorotoluene	17.61	91	557	N.D.		
27) 4-Chlorotoluene	17.68	91	2184	N.D.		
28) Indane	19.12	117	601	N.D.		
29) Indene	19.11	115	57	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	1076	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1076	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	1722	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

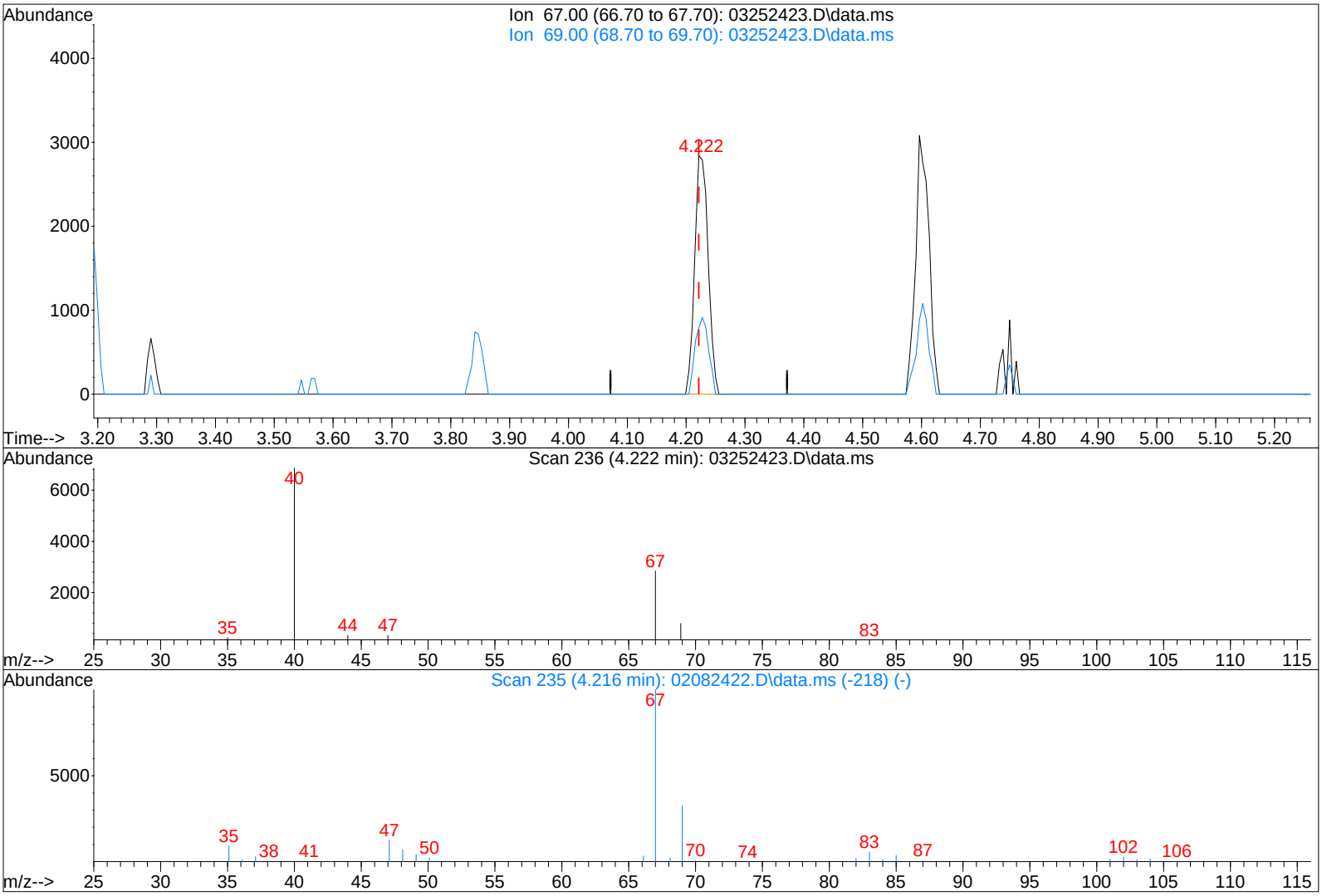
Quant Time: Mar 26 09:38:00 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252423.D Vial: 14
Acq On : 25 Mar 2024 23:34 Operator: SC
Sample : P2400922-049 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:37:34 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252423.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 0.20ng

response 4509

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	31.65
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252423.D
Acq On : 25 Mar 2024 23:34
Operator : SC
Sample : P2400922-049 (400mL)PF2
Misc : S37-03252401
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252423.D\data.ms

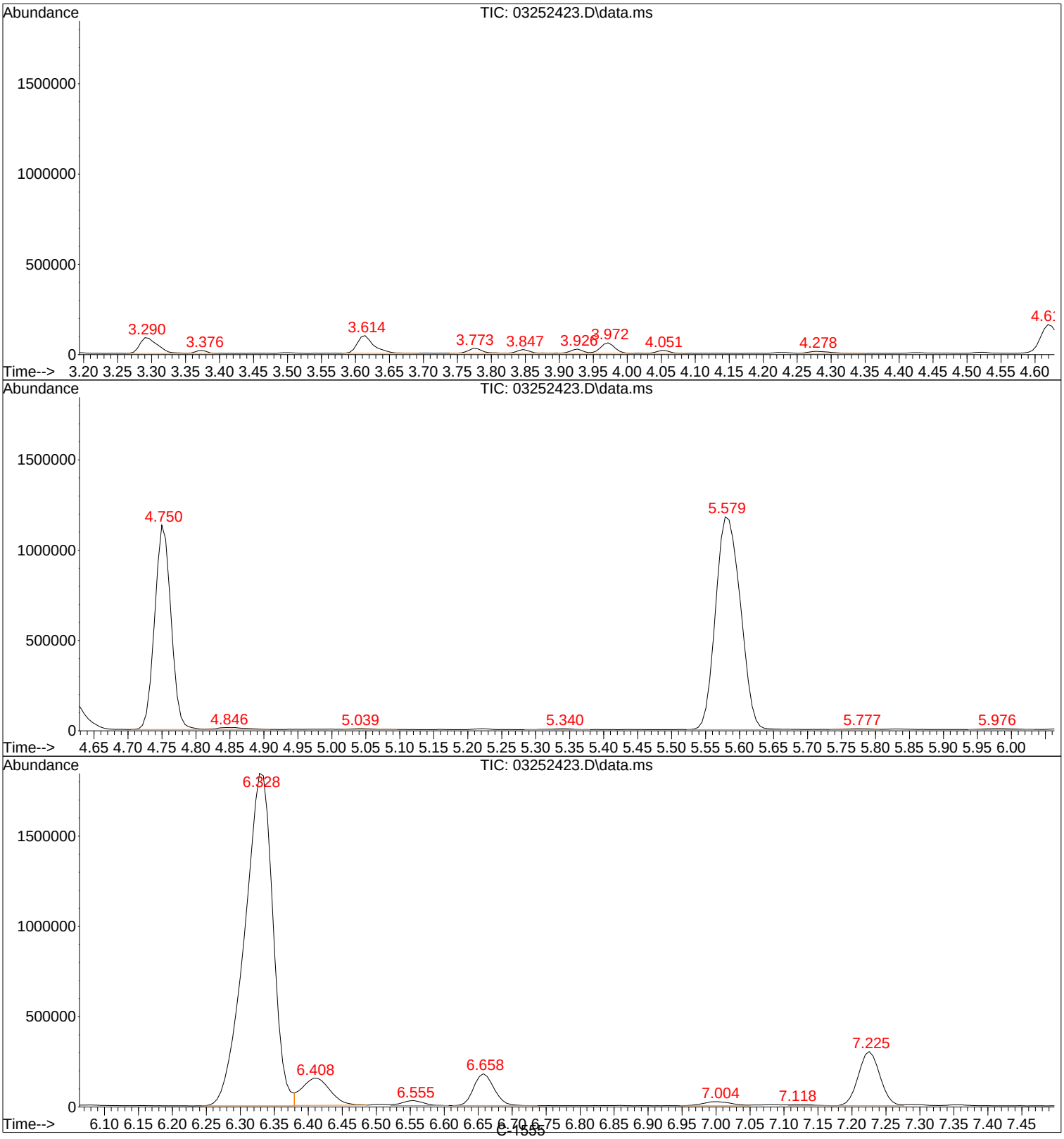
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.290	67	72	83	rBV4	87040	157250	2.94%	1.230%
2	3.376	83	87	91	rVB	15882	18295	0.34%	0.143%
3	3.614	123	129	143	rBV	97928	166555	3.12%	1.303%
4	3.773	151	157	166	rBV	26393	38801	0.73%	0.304%
5	3.847	166	170	178	rVV	20085	26741	0.50%	0.209%
6	3.926	179	184	187	rVV	22884	29198	0.55%	0.228%
7	3.972	187	192	199	rVB	58356	83889	1.57%	0.656%
8	4.051	201	206	212	rVB	16698	21629	0.40%	0.169%
9	4.278	241	246	259	rVB	10744	23869	0.45%	0.187%
10	4.619	298	306	317	rBV	158913	322353	6.03%	2.521%
11	4.750	321	329	340	rVV	1130305	1887926	35.32%	14.768%
12	4.846	340	346	357	rVB4	10713	30471	0.57%	0.238%
13	5.039	376	380	390	rVB3	4936	10318	0.19%	0.081%
14	5.340	423	433	440	rBV3	4946	10670	0.20%	0.083%
15	5.579	465	475	492	rBV2	1177601	2991172	55.95%	23.397%
16	5.777	502	510	515	rBV2	4336	10474	0.20%	0.082%
17	5.976	538	545	555	rBV3	5639	16845	0.32%	0.132%
18	6.328	592	607	616	rBV	1840557	5345828	100.00%	41.816%
19	6.408	616	621	635	rVB2	149479	424882	7.95%	3.323%
20	6.555	641	647	656	rVB	27474	58745	1.10%	0.460%
21	6.658	657	665	679	rVB	176419	366218	6.85%	2.865%
22	7.004	716	726	734	rBV2	22469	66223	1.24%	0.518%
23	7.118	744	746	756	rVB4	5962	13600	0.25%	0.106%
24	7.225	756	765	774	rBV2	299545	662246	12.39%	5.180%

Sum of corrected areas: 12784198

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252423.D
Acq On : 25 Mar 2024 23:34
Operator : SC
Sample : P2400922-049 (400mL)PF2
Misc : S37-03252401
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252423.D
Acq On : 25 Mar 2024 23:344
Operator : SCC
Sample : P2400922-049 (400mL)PF22
Misc : S37-032524011
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:16:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) 3/26/24
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	118153	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	507448	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	103136	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	244662	12.657	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	12.43	98	575720	13.903	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
73) Bromofluorobenzene (SS3)	16.83	174	187410	12.837	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	9414m	0.388	ng		
4) Chloromethane	3.49	50	985	0.055	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	39833	3.489	ng		83
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.52	56	1805	0.221	ng		91
13) Acetone	4.62	58	24292	2.796	ng	#	74
14) Trichlorofluoromethane	4.74	101	2557518	109.035	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	35010	1.012	ng		97
16) Acrylonitrile	4.98	53	591	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.33	84	3480	0.275	ng		88
20) 3-Chloro-1-propene (Al...	5.44	41	177	N.D.			
21) Trichlorotrifluoroethane	5.57	151	1179630	119.307	ng		99
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	6.12	61	268	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	3645	0.513	ng		94
28) cis-1,2-Dichloroethene	7.06	61	456	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	57913	13.584	ng		97
31) n-Hexane	7.30	57	2716	0.148	ng		97
32) Chloroform	7.35	83	12294	0.600	ng		100
34) Tetrahydrofuran (THF)	7.76	72	951	0.148	ng		91
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	262	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.54	61	982	No Calib		#	
40) 1-Butanol	8.79	56	7112	No Calib		#	
41) Benzene	8.89	78	7549	0.165	ng		98
42) Carbon Tetrachloride	9.07	117	290	N.D.			
43) Cyclohexane	9.22	84	2054	0.142	ng		92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	667	N.D.			
47) Trichloroethene	10.14	130	4352	0.354	ng		97
48) 1,4-Dioxane	10.12	88	6856	0.860	ng		97
49) 2,2,4-Trimethylpentane...	10.23	57	854	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:16:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

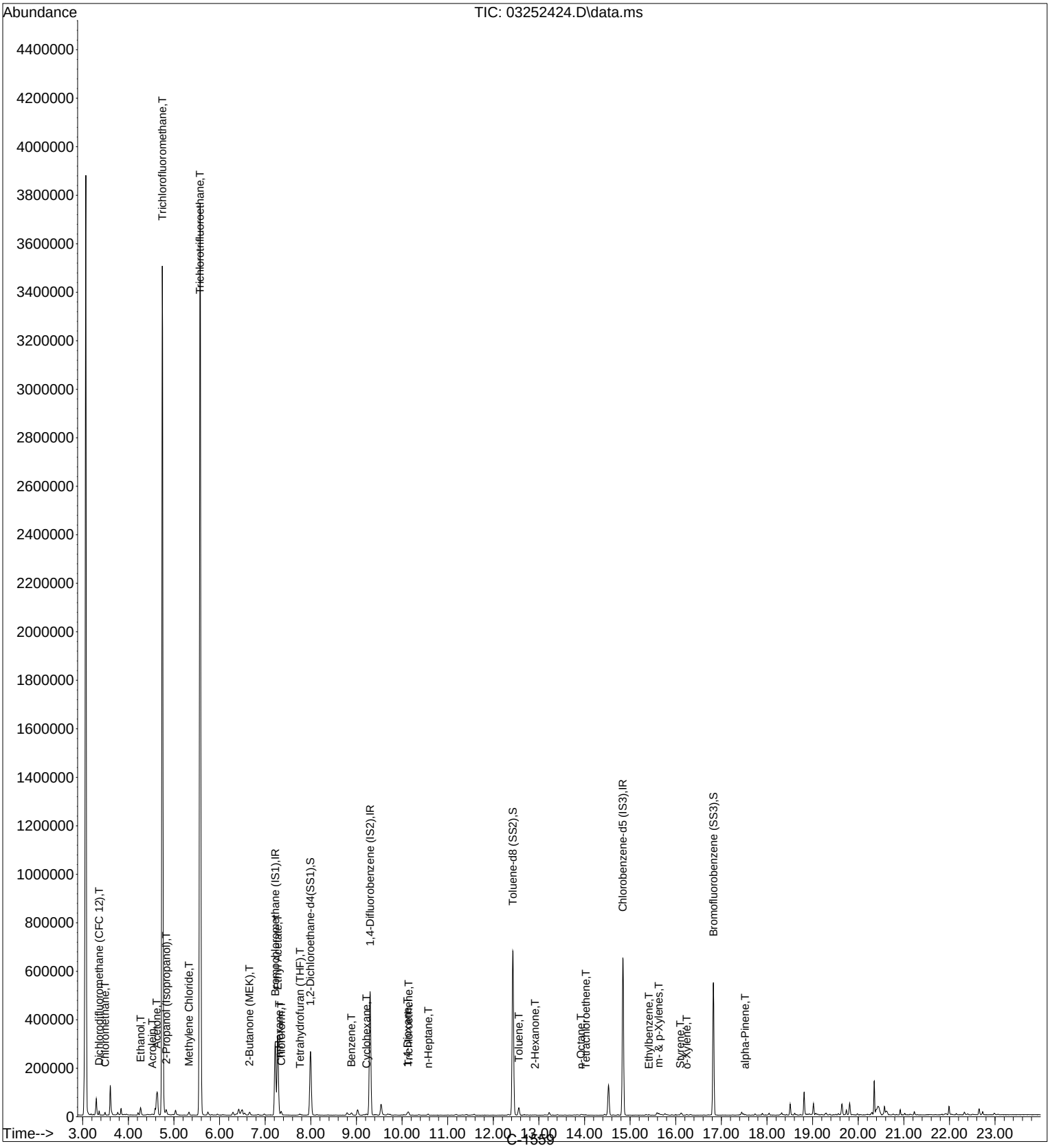
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	1042	0.107 ng	#	87
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	479	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	27422	0.694 ng		99
59) 2-Hexanone	12.91	43	1621	0.071 ng		75
60) Dibromochloromethane	13.07	129	334	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.92	57	443	0.053 ng	#	80
64) Tetrachloroethene	14.03	166	708	0.058 ng		95
65) Chlorobenzene	14.89	112	595	N.D.		
66) Ethylbenzene	15.41	91	2775	0.061 ng		87
67) m- & p-Xylenes	15.63	91	5870	0.156 ng		96
68) Bromoform	15.67	173	330	N.D.		
69) Styrene	16.10	104	1819	0.071 ng		96
70) o-Xylene	16.24	91	2377	0.064 ng		88
71) n-Nonane	16.61	43	574	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	128	N.D.		
74) Cumene	17.04	105	748	N.D.		
75) alpha-Pinene	17.52	93	1592	0.071 ng		95
76) n-Propylbenzene	17.68	91	999	N.D.		
77) 3-Ethyltoluene	17.04	105	748	No Calib	#	
78) 4-Ethyltoluene	17.85	105	670	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	536	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	748	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1089	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	446	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	456	N.D.		
87) sec-Butylbenzene	18.74	105	696	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	2025	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	748	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	498	N.D.		
91) d-Limonene	19.09	68	405	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	541	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	350	N.D.		
98) Cyclohexanone	15.35	55	834	No Calib	#	
99) tert-Butylbenzene	18.51	119	957	N.D.		
100) n-Butylbenzene	19.39	91	523	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:16:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:16:28 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	118153	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	507448	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	103136	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	244662	12.657	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	12.43	98	575720	13.903	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
73) Bromofluorobenzene (SS3)	16.83	174	187410	12.837	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	9414m	0.388	ng		
4) Chloromethane	3.49	50	985	0.055	ng		98
10) Ethanol	4.27	45	39833	3.489	ng		83
12) Acrolein	4.52	56	1805	0.221	ng		91
13) Acetone	4.62	58	24292	2.796	ng	#	74
14) Trichlorofluoromethane	4.74	101	2557518	109.035	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	35010	1.012	ng		97
19) Methylene Chloride	5.33	84	3480	0.275	ng		88
21) Trichlorotrifluoroethane	5.57	151	1179630	119.307	ng		99
27) 2-Butanone (MEK)	6.66	72	3645	0.513	ng		94
30) Ethyl Acetate	7.28	61	57913	13.584	ng		97
31) n-Hexane	7.30	57	2716	0.148	ng		97
32) Chloroform	7.35	83	12294	0.600	ng		100
34) Tetrahydrofuran (THF)	7.76	72	951	0.148	ng		91
41) Benzene	8.89	78	7549	0.165	ng		98
43) Cyclohexane	9.22	84	2054	0.142	ng		92
47) Trichloroethene	10.14	130	4352	0.354	ng		97
48) 1,4-Dioxane	10.12	88	6856	0.860	ng		97
51) n-Heptane	10.58	71	1042	0.107	ng	#	87
58) Toluene	12.56	91	27422	0.694	ng		99
59) 2-Hexanone	12.91	43	1621	0.071	ng		75
63) n-Octane	13.92	57	443	0.053	ng	#	80
64) Tetrachloroethene	14.03	166	708	0.058	ng		95
66) Ethylbenzene	15.41	91	2775	0.061	ng		87
67) m- & p-Xylenes	15.63	91	5870	0.156	ng		96
69) Styrene	16.10	104	1819	0.071	ng		96
70) o-Xylene	16.24	91	2377	0.064	ng		88
75) alpha-Pinene	17.52	93	1592	0.071	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
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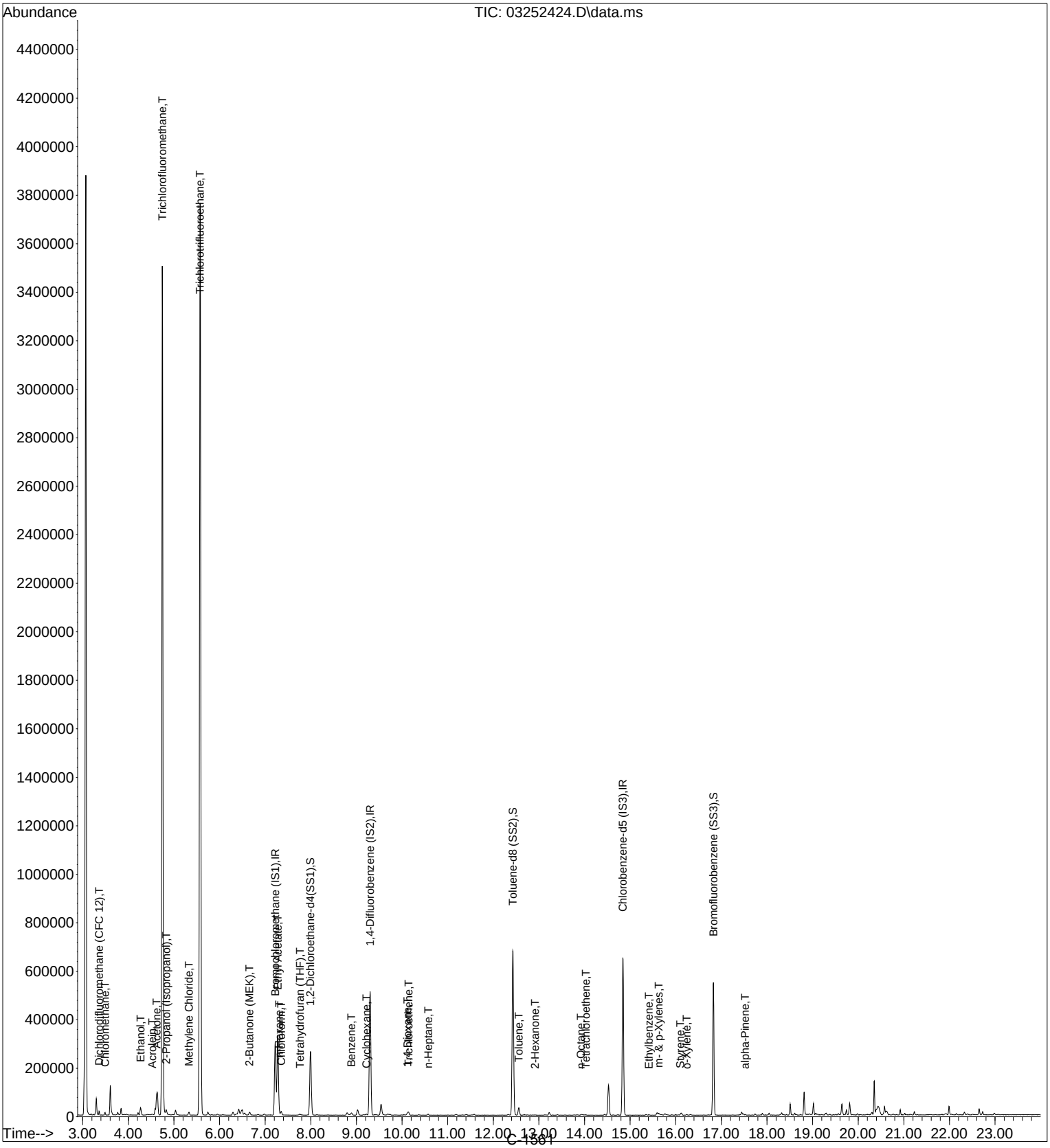
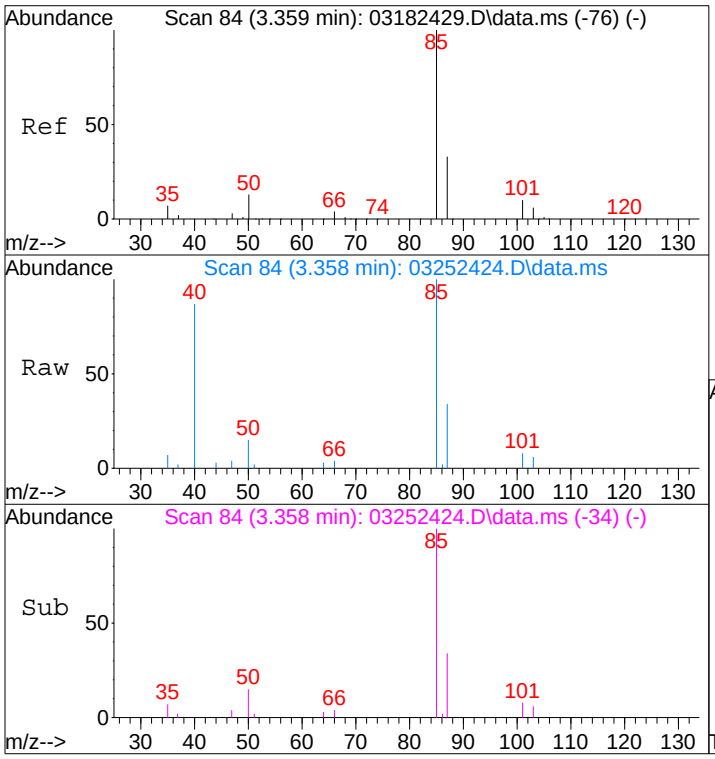
DataAcq Meth:TO15.M



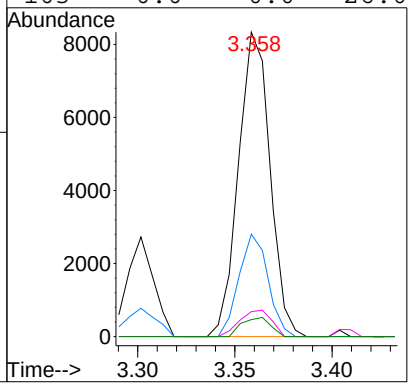
C-1501

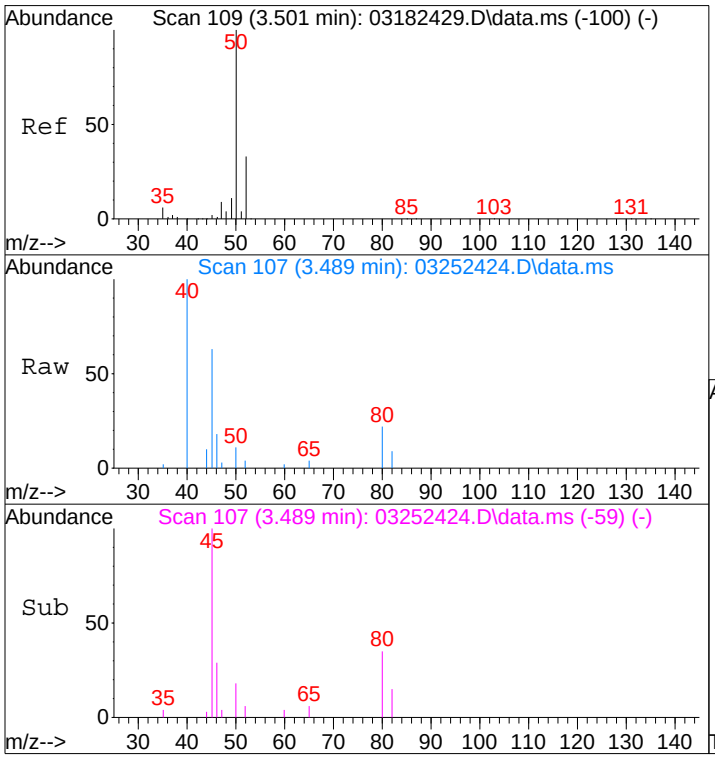


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.39 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.034 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 85 Resp: 9414

Ion	Ratio	Lower	Upper
85	100		
87	9.0	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

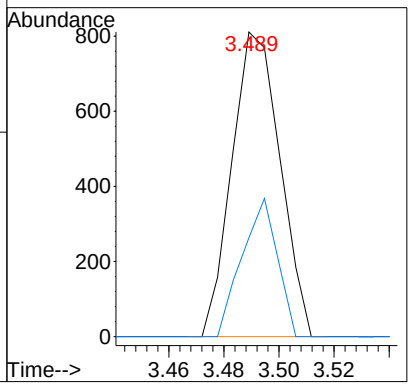


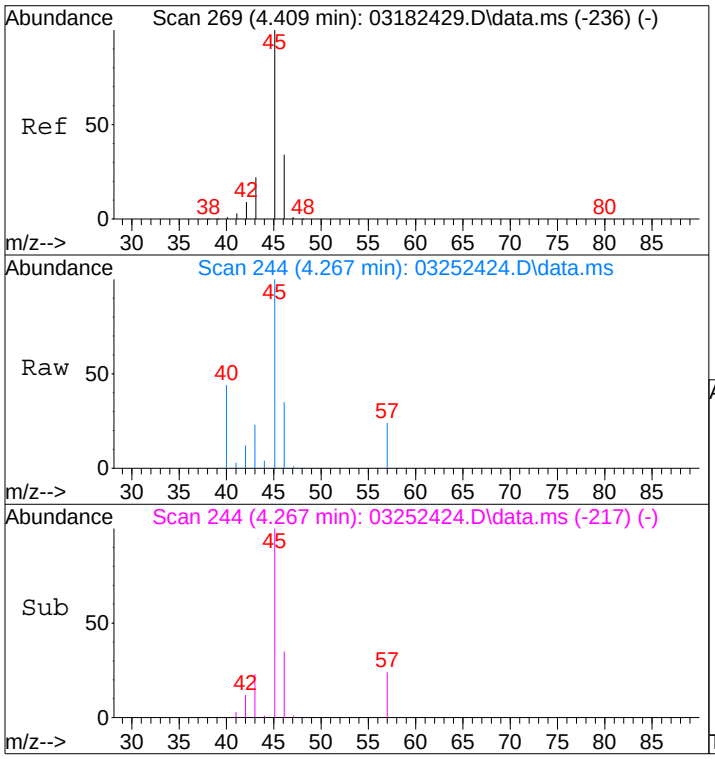


#4
Chloromethane
Concen: 0.05 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.024 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 50 Resp: 985

Ion	Ratio	Lower	Upper
50	100		
52	33.3	12.3	52.3

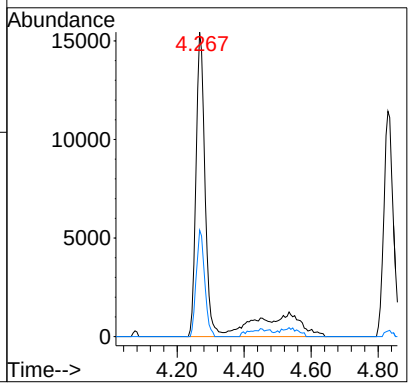


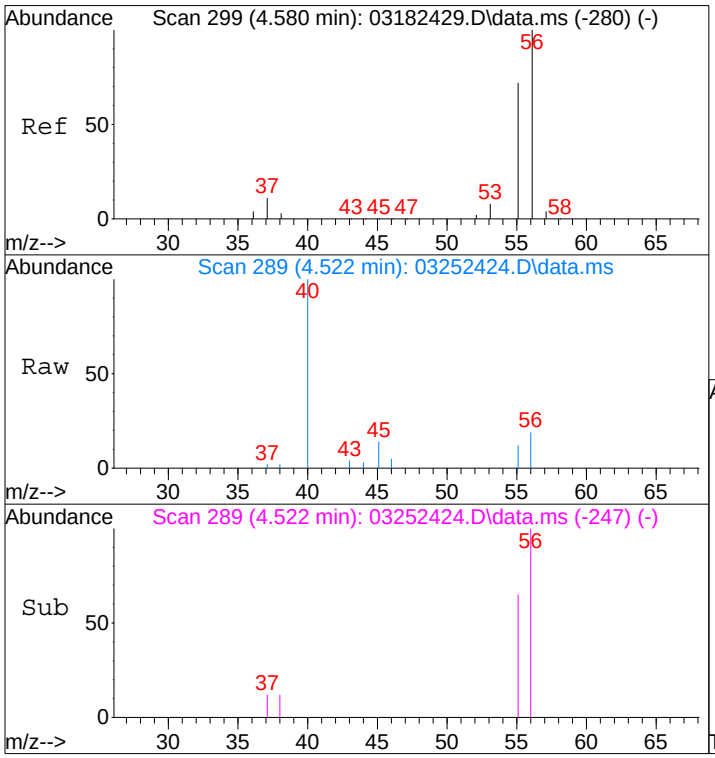


#10
Ethanol
Concen: 3.49 ng
RT: 4.27 min Scan# 244
Delta R.T. -0.098 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 45 Resp: 39833

Ion	Ratio	Lower	Upper
45	100		
46	23.7	13.3	53.3

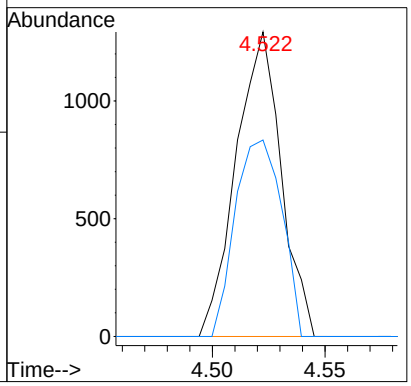


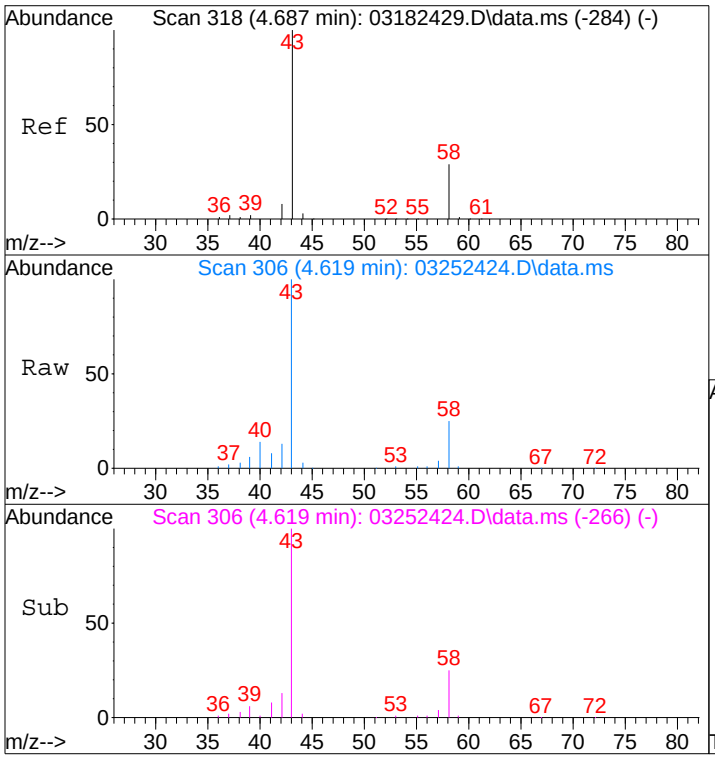


#12
Acrolein
Concen: 0.22 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.011 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 56 Resp: 1805

Ion	Ratio	Lower	Upper
56	100		
55	66.9	54.9	94.9

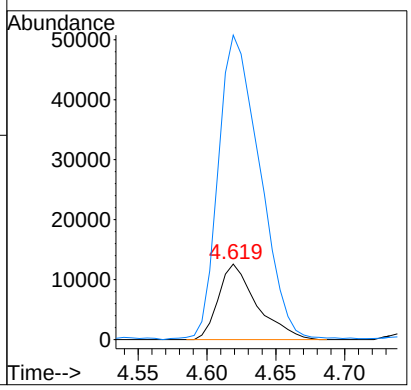


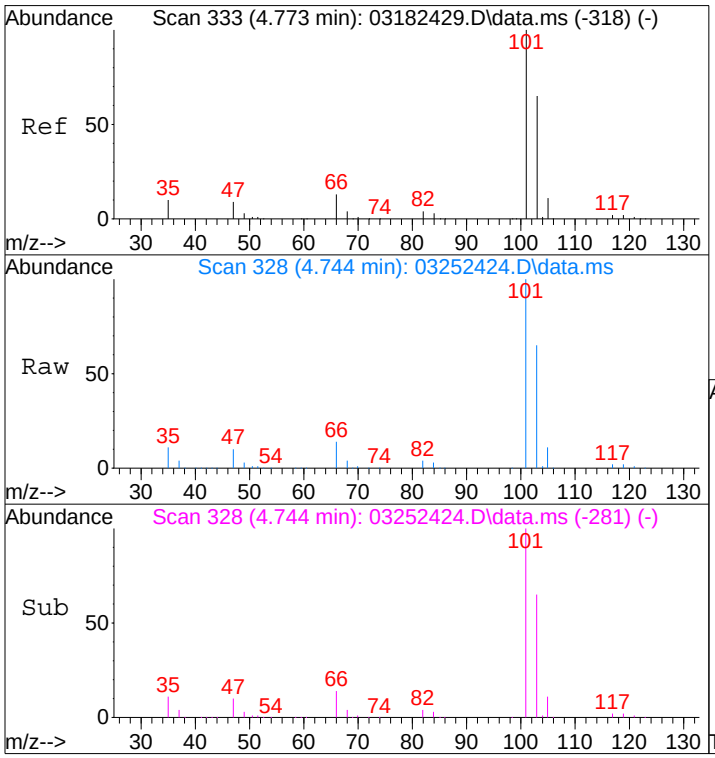


#13
Acetone
Concen: 2.80 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.021 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 58 Resp: 24292

Ion	Ratio	Lower	Upper
58	100		
43	440.2	350.1	410.1#

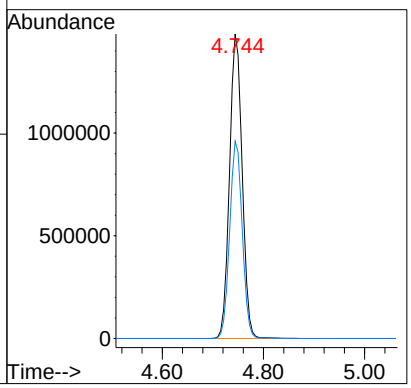


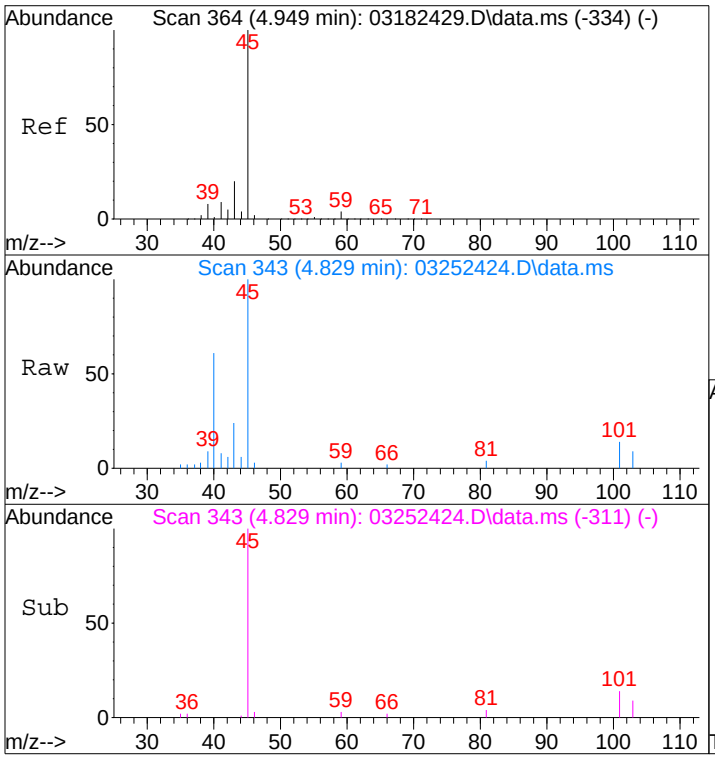


#14
Trichlorofluoromethane
Concen: 109.03 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.020 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion:101 Resp: 2557518

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.7	84.7

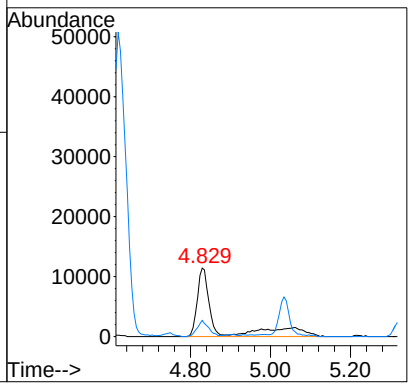


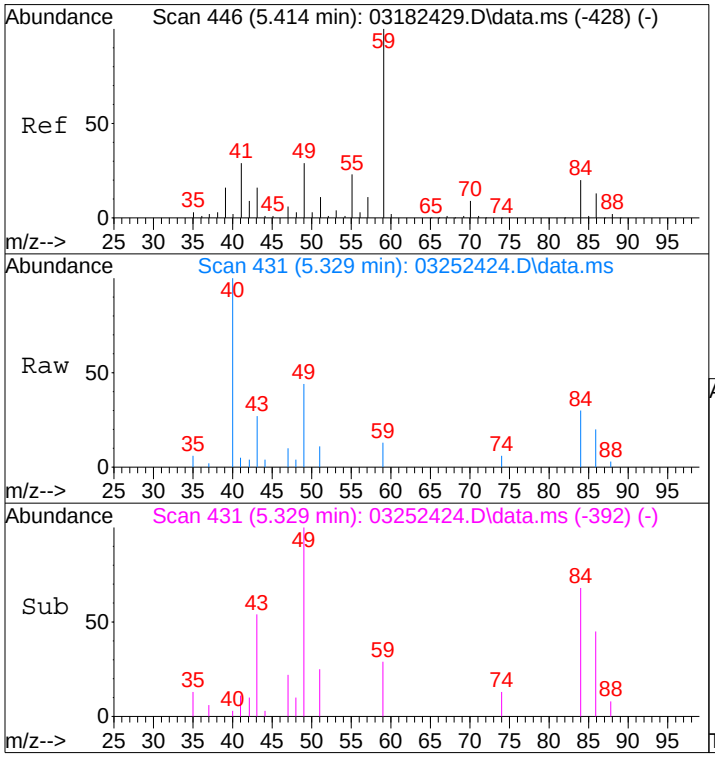


#15
2-Propanol (Isopropanol)
Concen: 1.01 ng
RT: 4.83 min Scan# 343
Delta R.T. -0.070 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 45 Resp: 35010

Ion	Ratio	Lower	Upper
45	100		
43	21.6	0.4	40.4

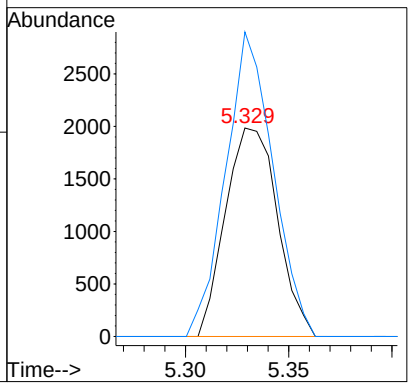


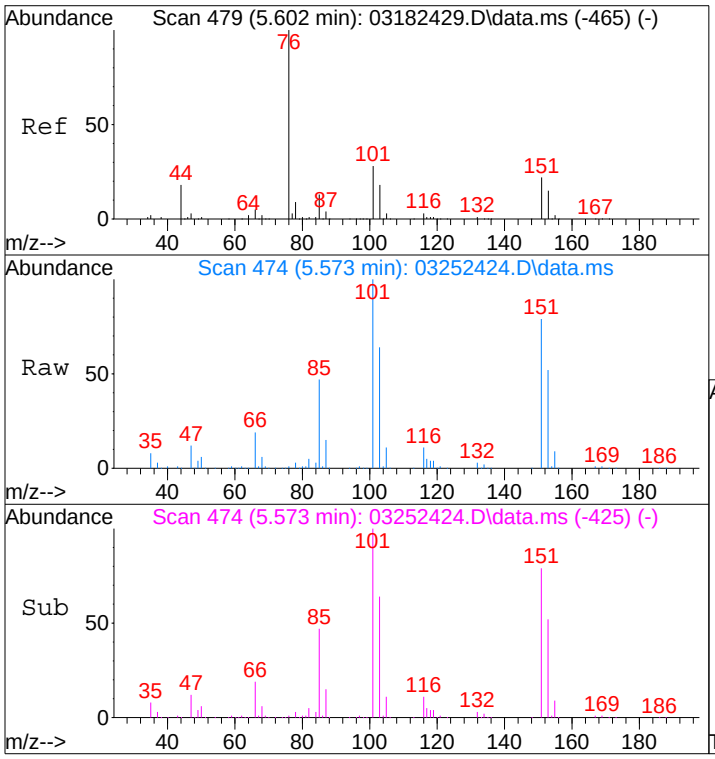


#19
Methylene Chloride
Concen: 0.28 ng
RT: 5.33 min Scan# 431
Delta R.T. -0.031 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 84 Resp: 3480

Ion	Ratio	Lower	Upper
84	100		
49	132.8	122.9	172.9

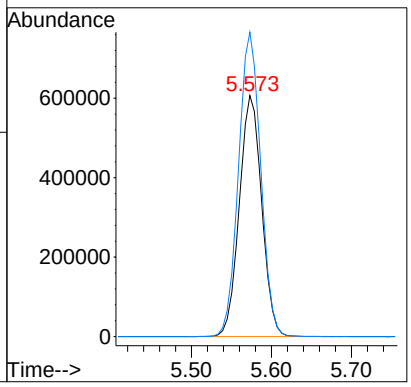


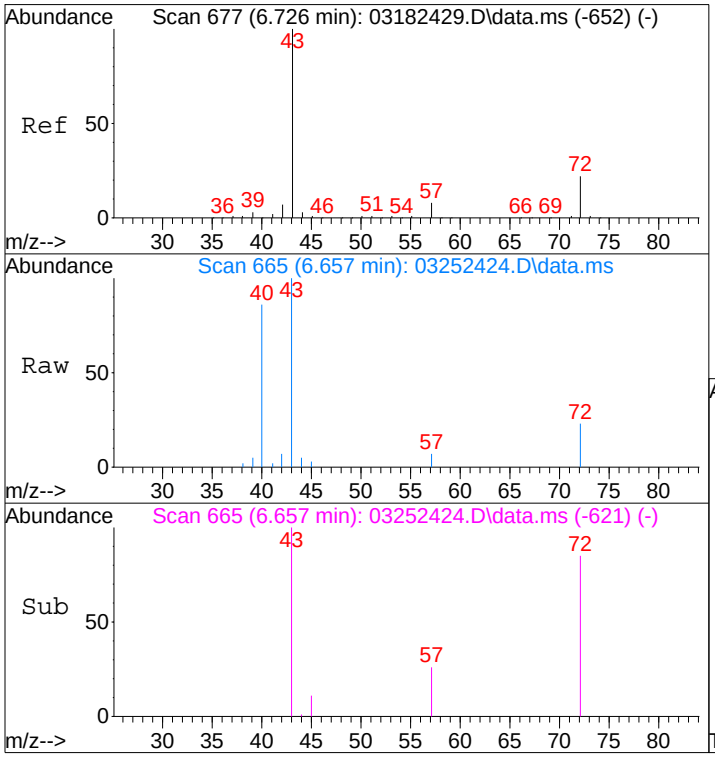


#21
Trichlorotrifluoroethane
Concen: 119.31 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.028 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion:151 Resp: 1179630

Ion	Ratio	Lower	Upper
151	100		
101	125.5	106.4	146.4

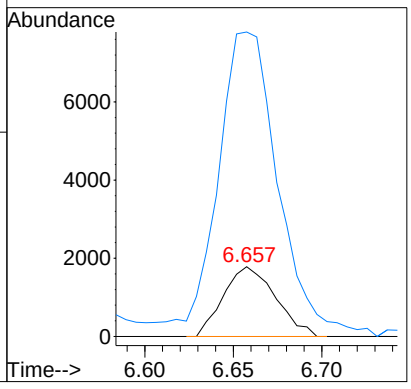


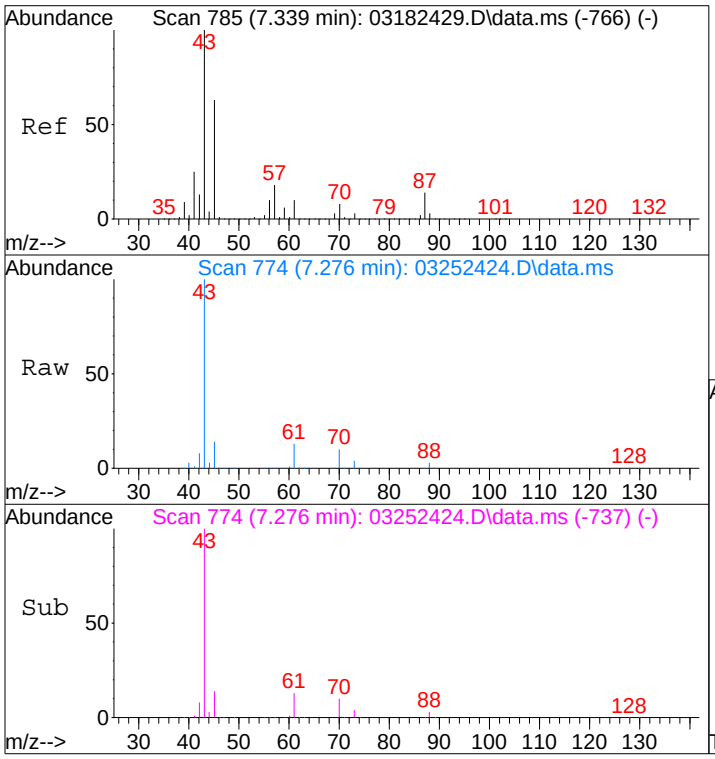


#27
2-Butanone (MEK)
Concen: 0.51 ng
RT: 6.66 min Scan# 665
Delta R.T. -0.001 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 72 Resp: 3645

Ion	Ratio	Lower	Upper
72	100		
43	505.4	468.6	508.6

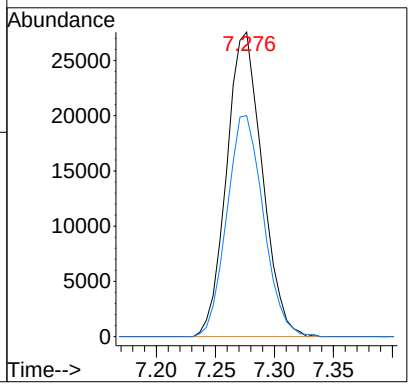


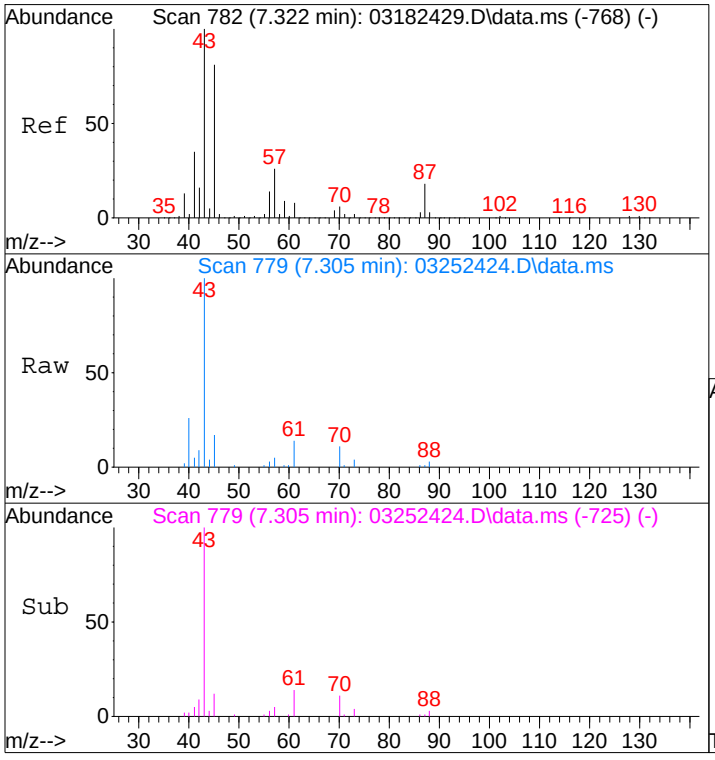


#30
Ethyl Acetate
Concen: 13.58 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.011 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 61 Resp: 57913

Ion	Ratio	Lower	Upper
61	100		
70	74.5	57.3	97.3

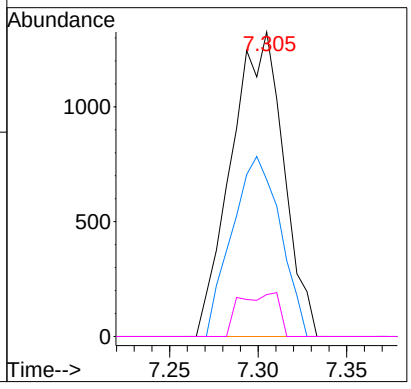


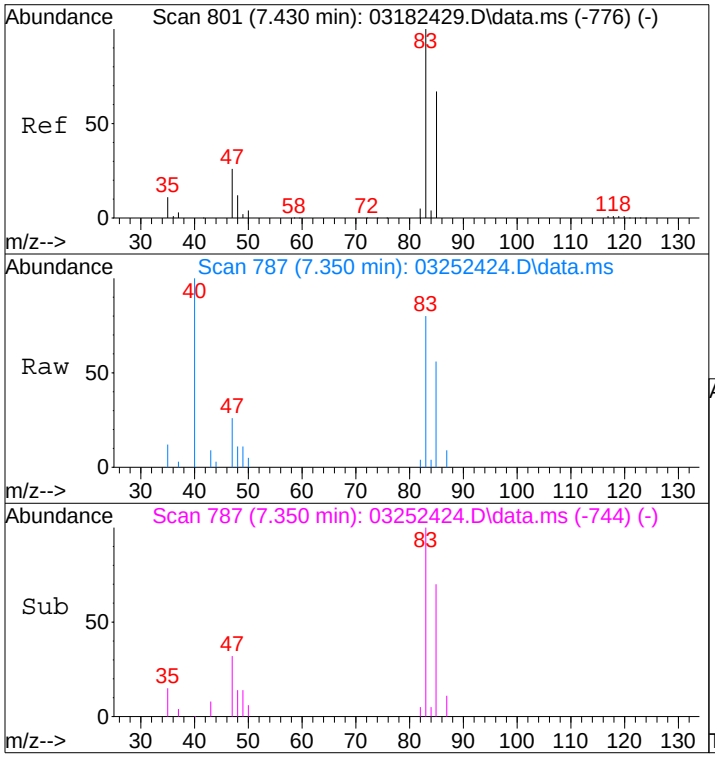


#31
n-Hexane
Concen: 0.15 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 57 Resp: 2716

Ion	Ratio	Lower	Upper
57	100		
56	54.8	42.2	63.4
86	10.8	9.4	14.2

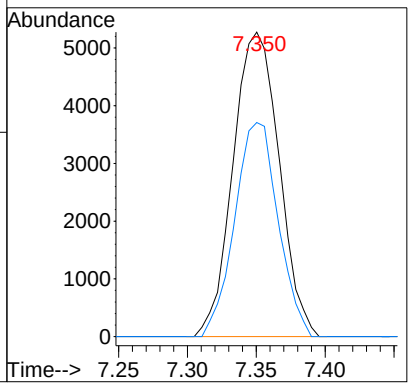


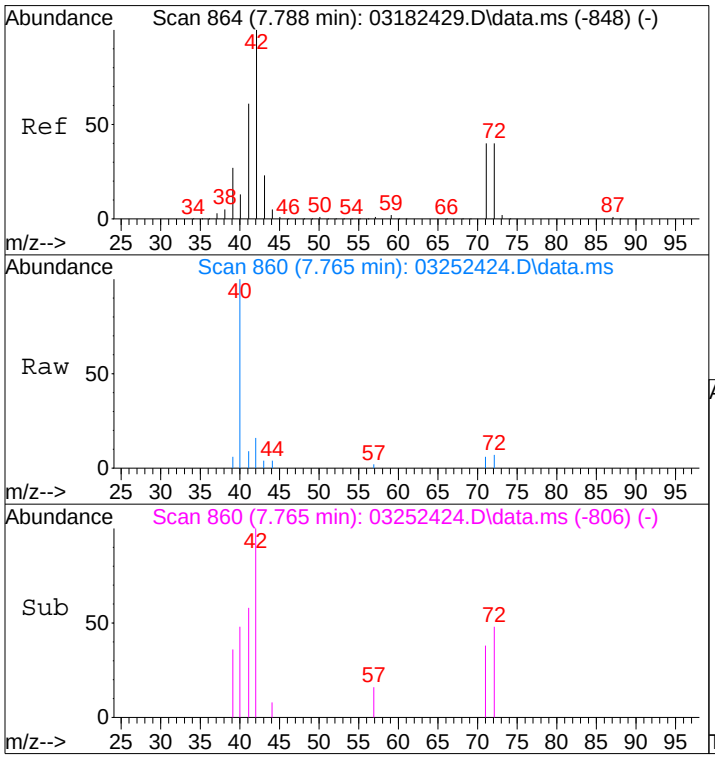


#32
Chloroform
Concen: 0.60 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.005 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 83 Resp: 12294

Ion	Ratio	Lower	Upper
83	100		
85	66.2	46.1	86.1

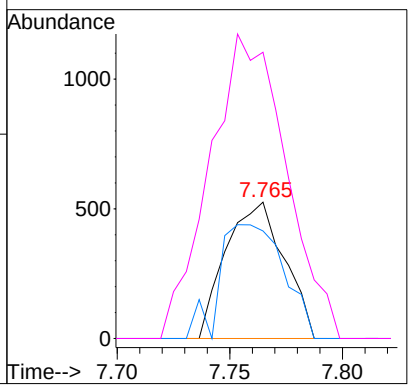


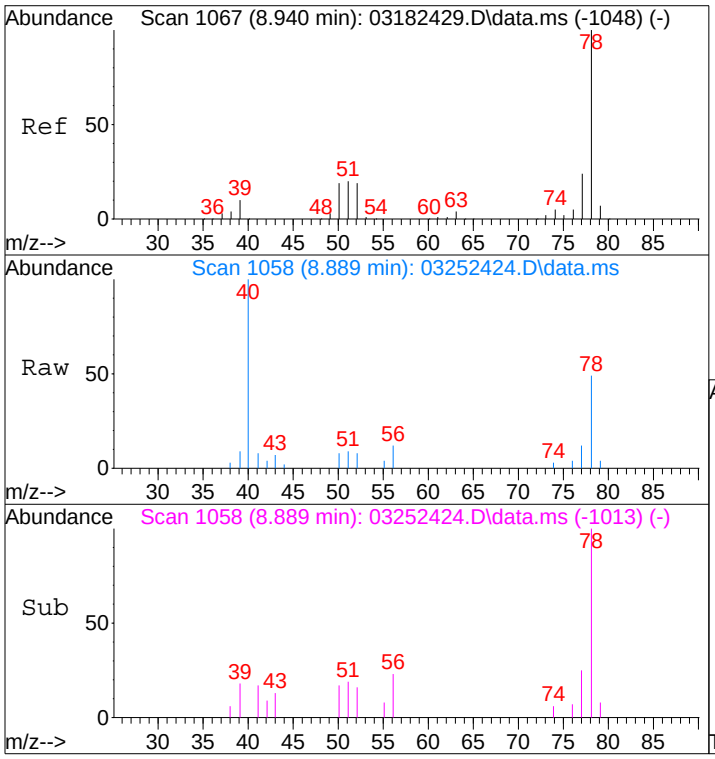


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.056 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 72 Resp: 951

Ion	Ratio	Lower	Upper
72	100		
71	92.0	80.7	120.7
42	291.4	255.0	295.0

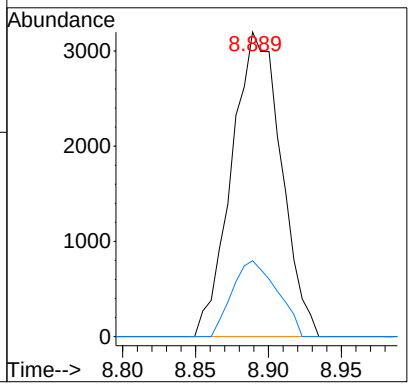


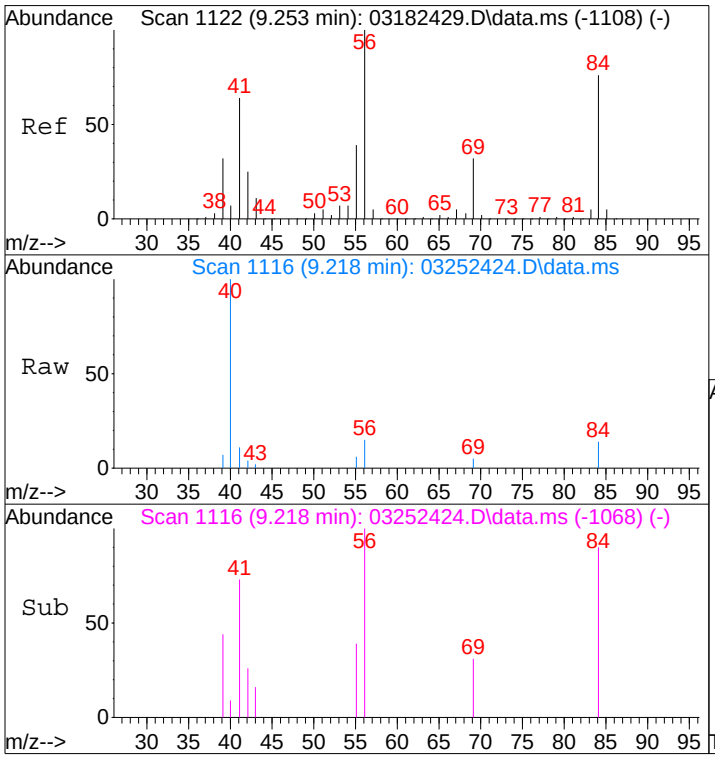


#41
Benzene
Concen: 0.17 ng
RT: 8.89 min Scan# 1058
Delta R.T. 0.003 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 78 Resp: 7549

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.6	43.6

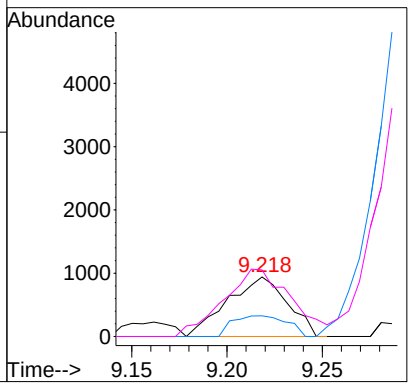


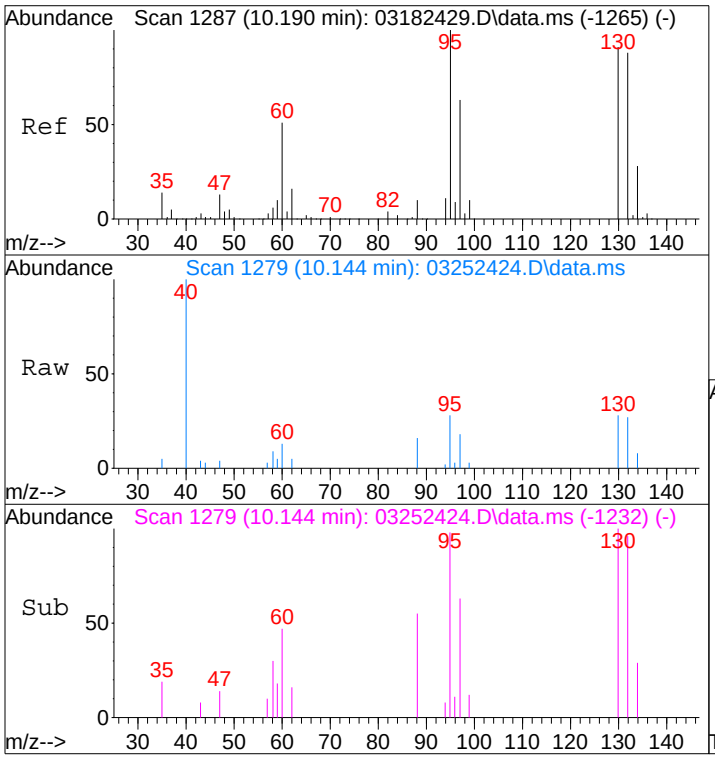


#43
Cyclohexane
Concen: 0.14 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 84 Resp: 2054

Ion	Ratio	Lower	Upper
84	100		
69	31.7	21.3	61.3
56	127.8	115.3	155.3

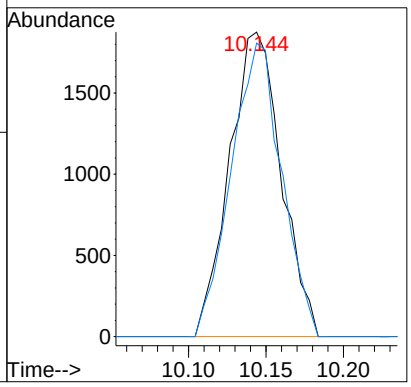


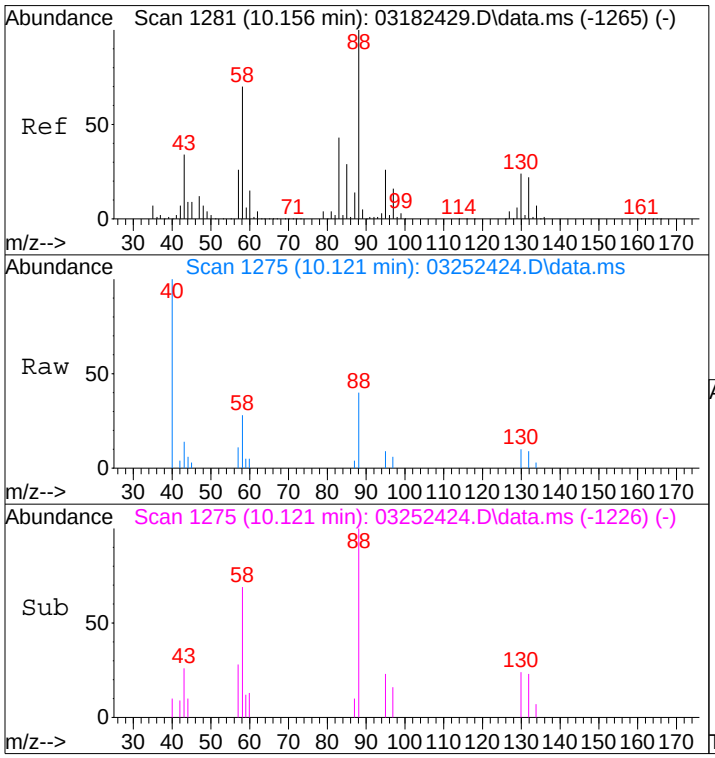


#47
Trichloroethene
Concen: 0.35 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion:130 Resp: 4352

Ion	Ratio	Lower	Upper
130	100		
132	94.2	77.5	117.5

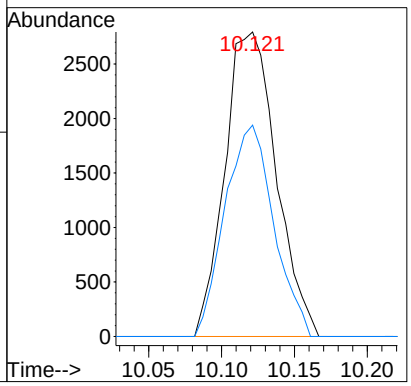


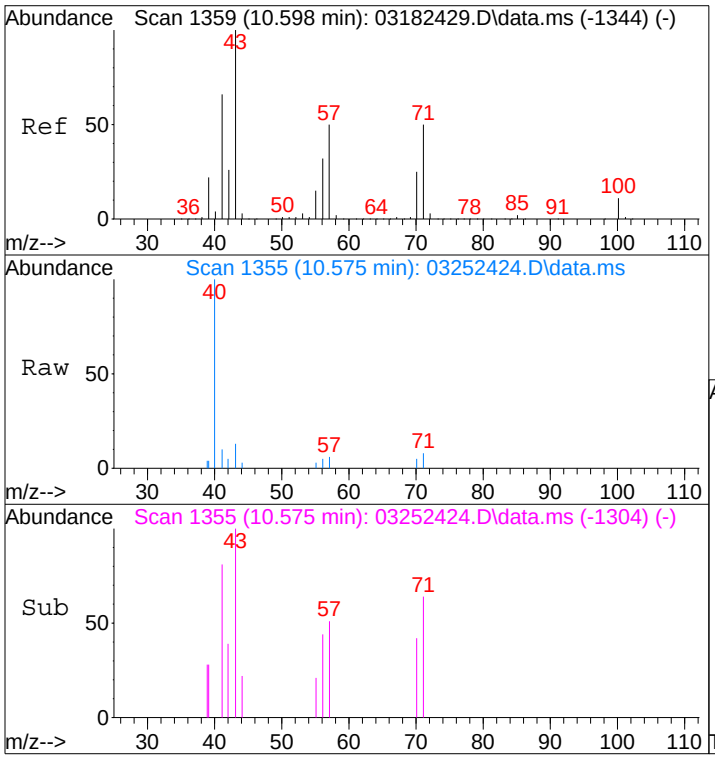


#48
1,4-Dioxane
Concen: 0.86 ng
RT: 10.12 min Scan# 1275
Delta R.T. 0.028 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 88 Resp: 6856

Ion	Ratio	Lower	Upper
88	100		
58	65.9	48.2	88.2

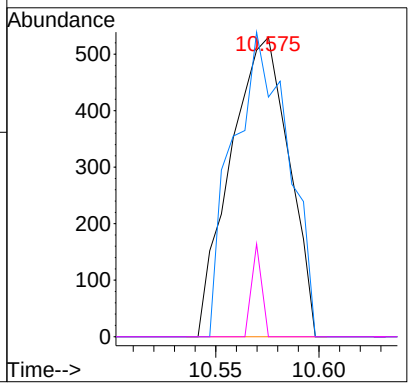


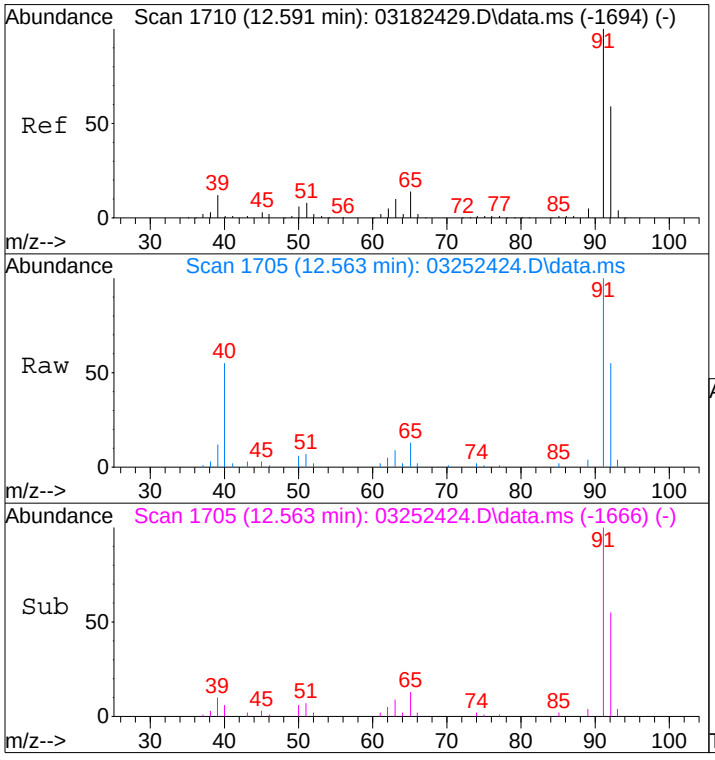


#51
n-Heptane
Concen: 0.11 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.042 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 71 Resp: 1042

Ion	Ratio	Lower	Upper
71	100		
57	96.1	81.2	121.2
100	0.0	4.0	44.0#

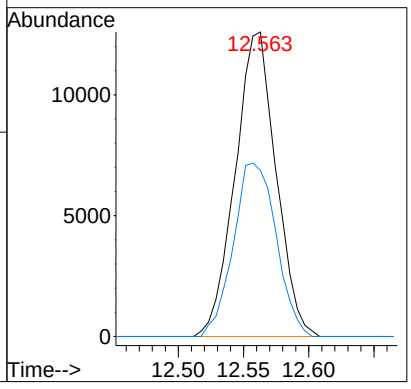


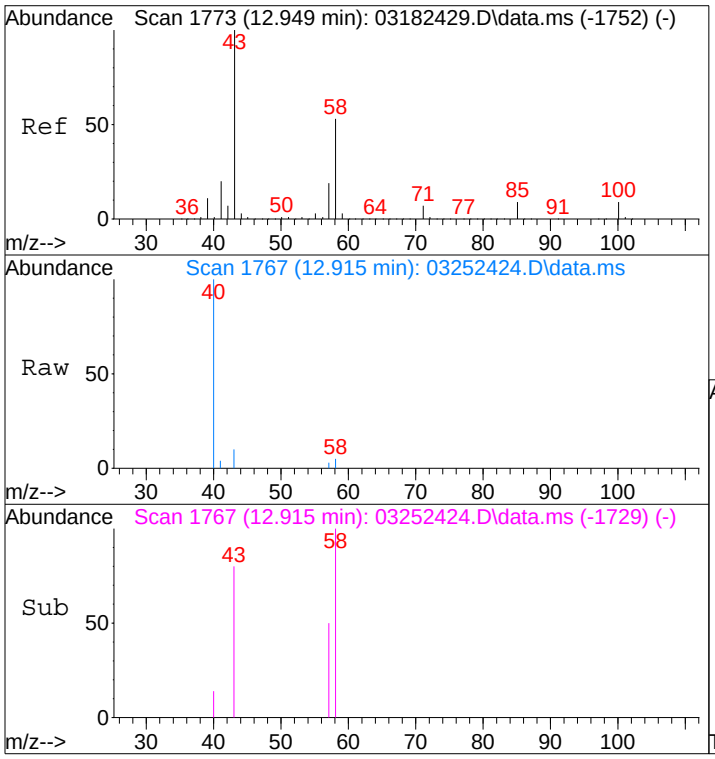


#58
Toluene
Concen: 0.69 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 91 Resp: 27422

Ion	Ratio	Lower	Upper
91	100		
92	59.8	39.2	79.2

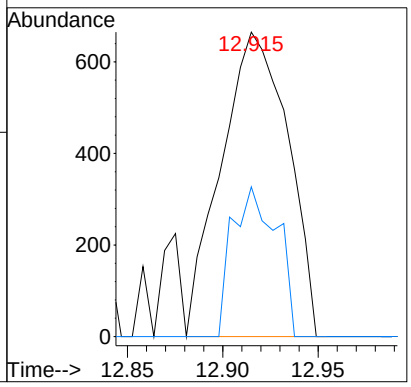


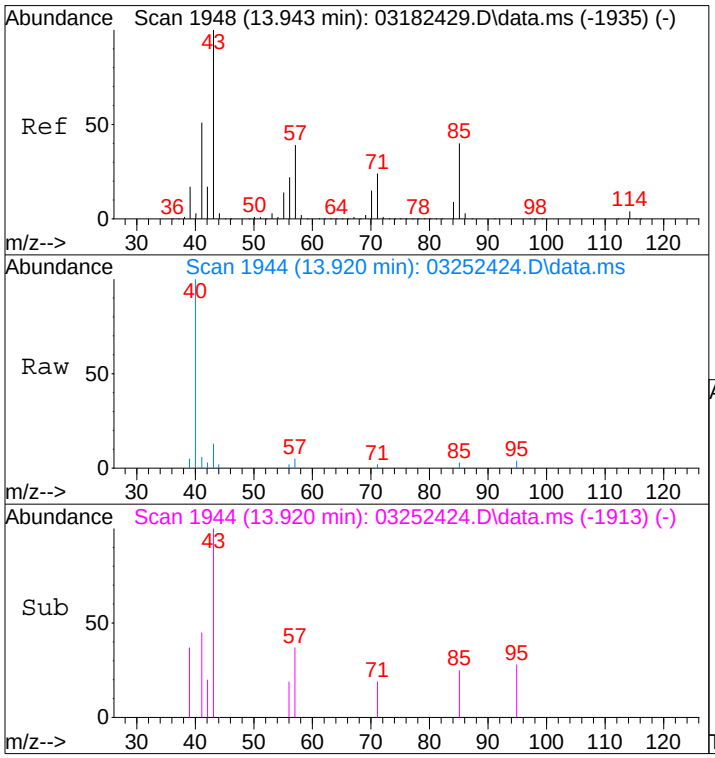


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 43 Resp: 1621

Ion	Ratio	Lower	Upper
43	100		
58	32.8	30.2	70.2

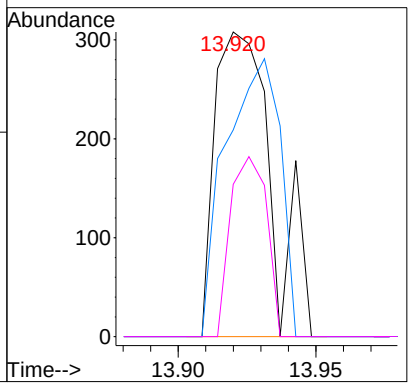


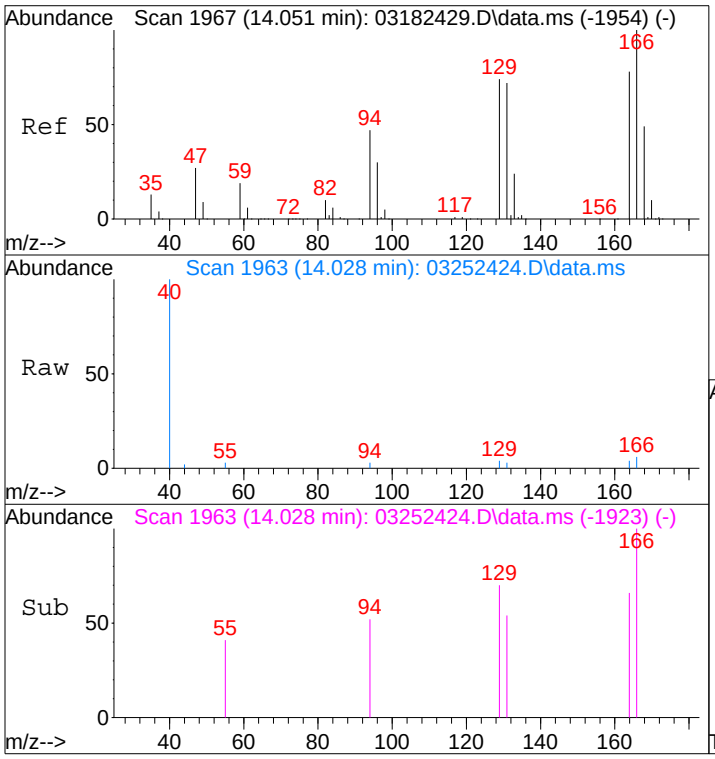


#63
n-Octane
Concen: 0.05 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 57 Resp: 443

Ion	Ratio	Lower	Upper
57	100		
85	87.1	80.6	121.0
71	37.7	49.3	73.9#

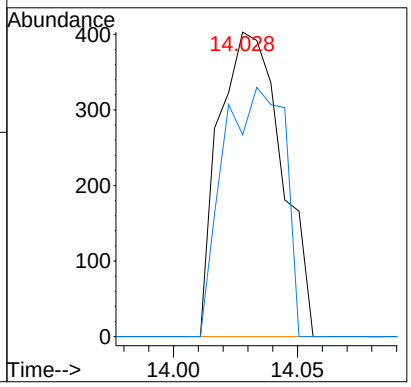


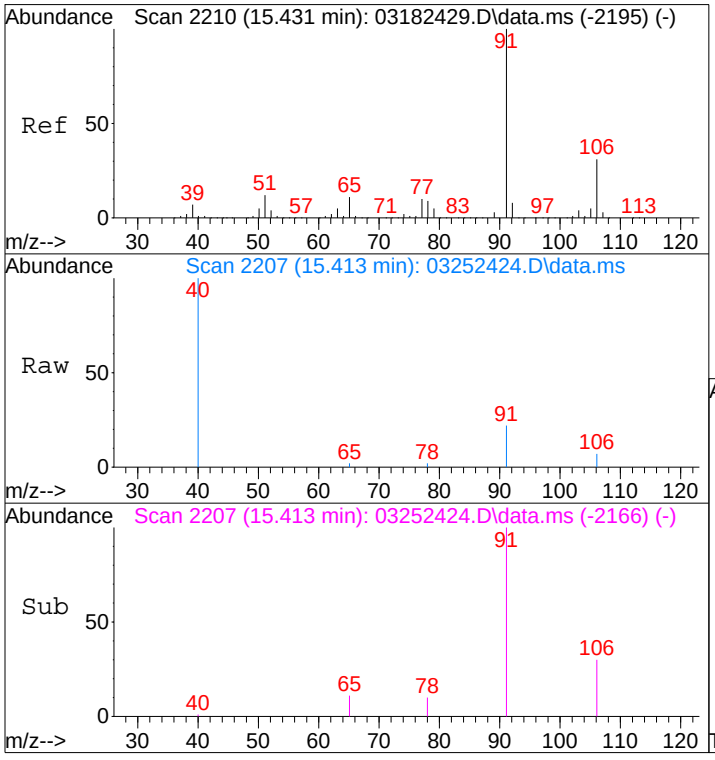


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion:166 Resp: 708

Ion	Ratio	Lower	Upper
166	100		
164	80.6	56.7	96.7

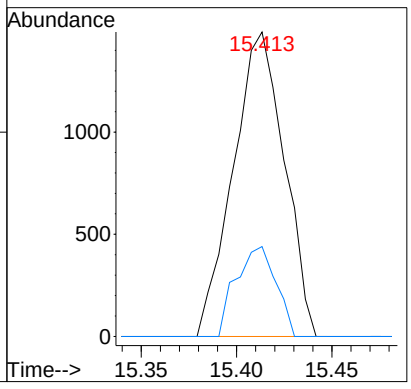


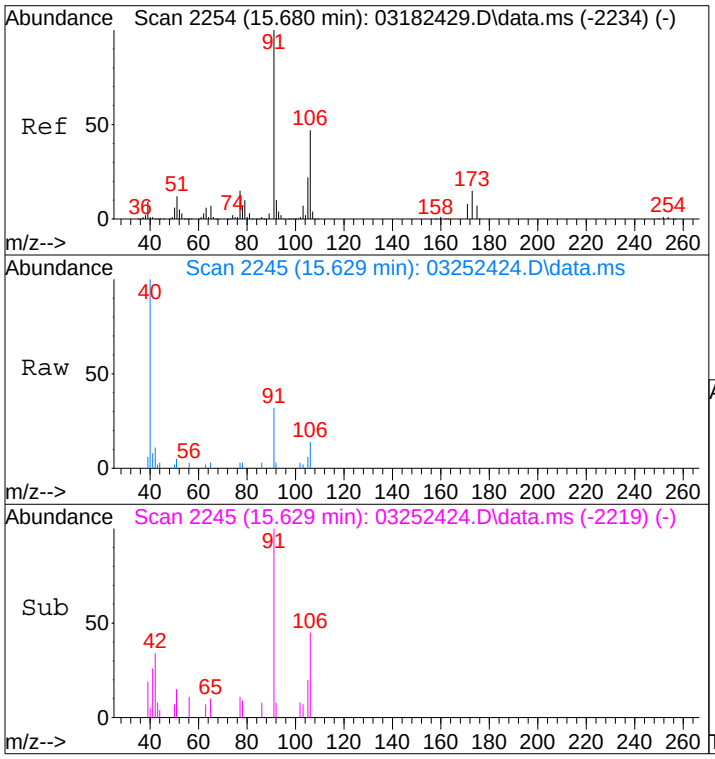


#66
Ethylbenzene
Concen: 0.06 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.017 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 91 Resp: 2775

Ion	Ratio	Lower	Upper
91	100		
106	23.1	10.4	50.4

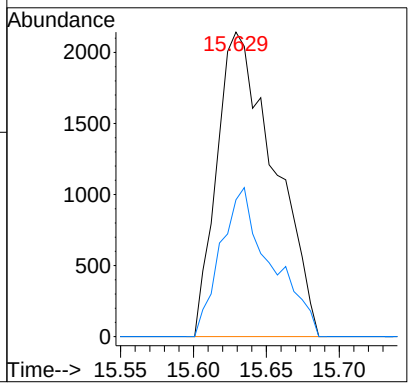


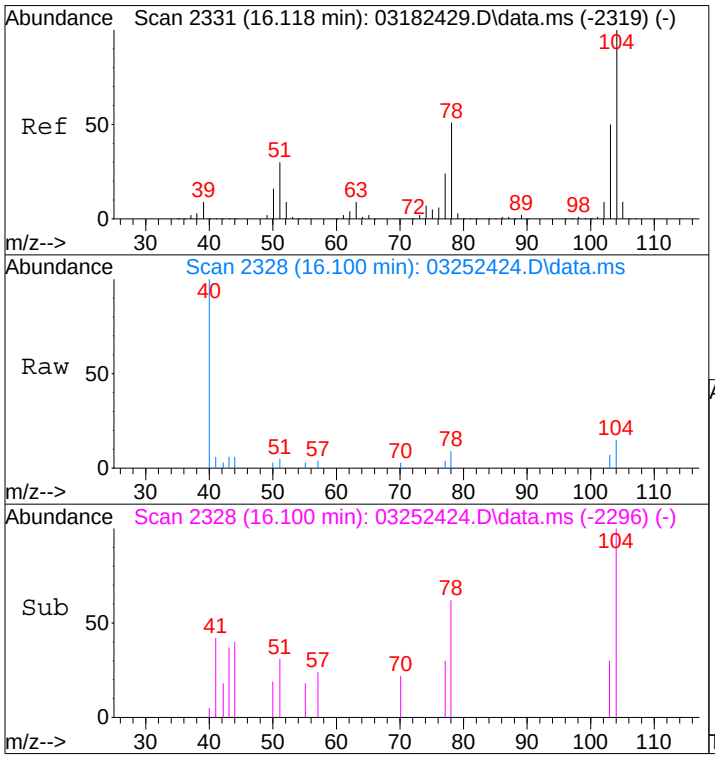


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 91 Resp: 5870

Ion	Ratio	Lower	Upper
91	100		
106	42.9	25.6	65.6

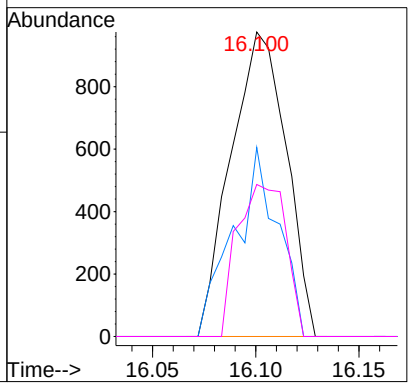


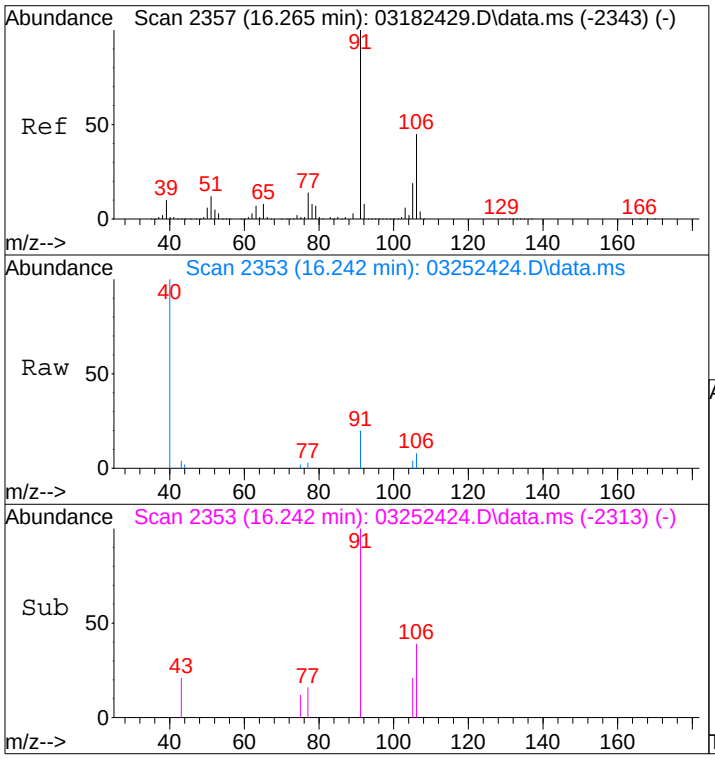


#69
Styrene
Concen: 0.07 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion:104 Resp: 1819

Ion	Ratio	Lower	Upper
104	100		
78	49.8	28.5	68.5
103	44.0	28.4	68.4

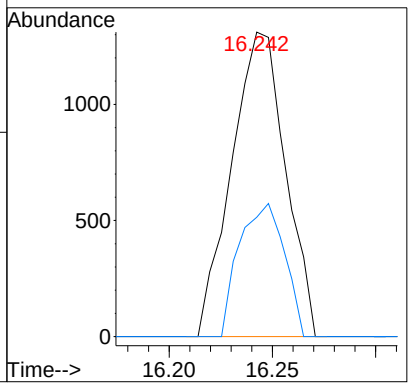


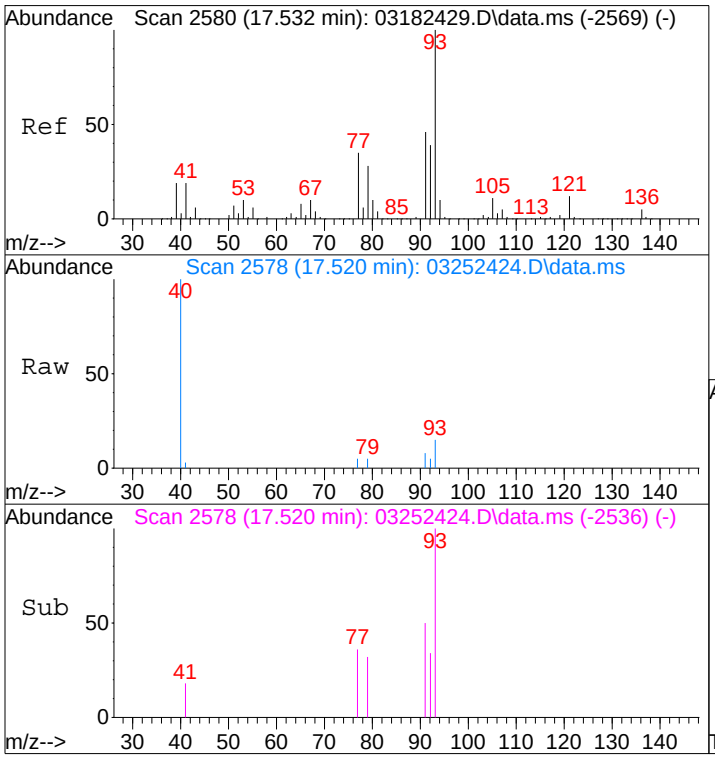


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 91 Resp: 2377

Ion	Ratio	Lower	Upper
91	100		
106	36.7	24.4	64.4

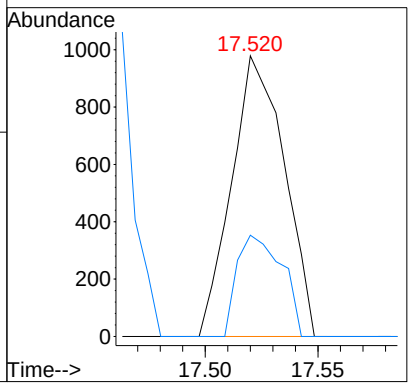




#75
alpha-Pinene
Concen: 0.07 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.012 min
Lab File: 03252424.D
Acq: 26 Mar 2024 00:06

Tgt Ion: 93 Resp: 1592

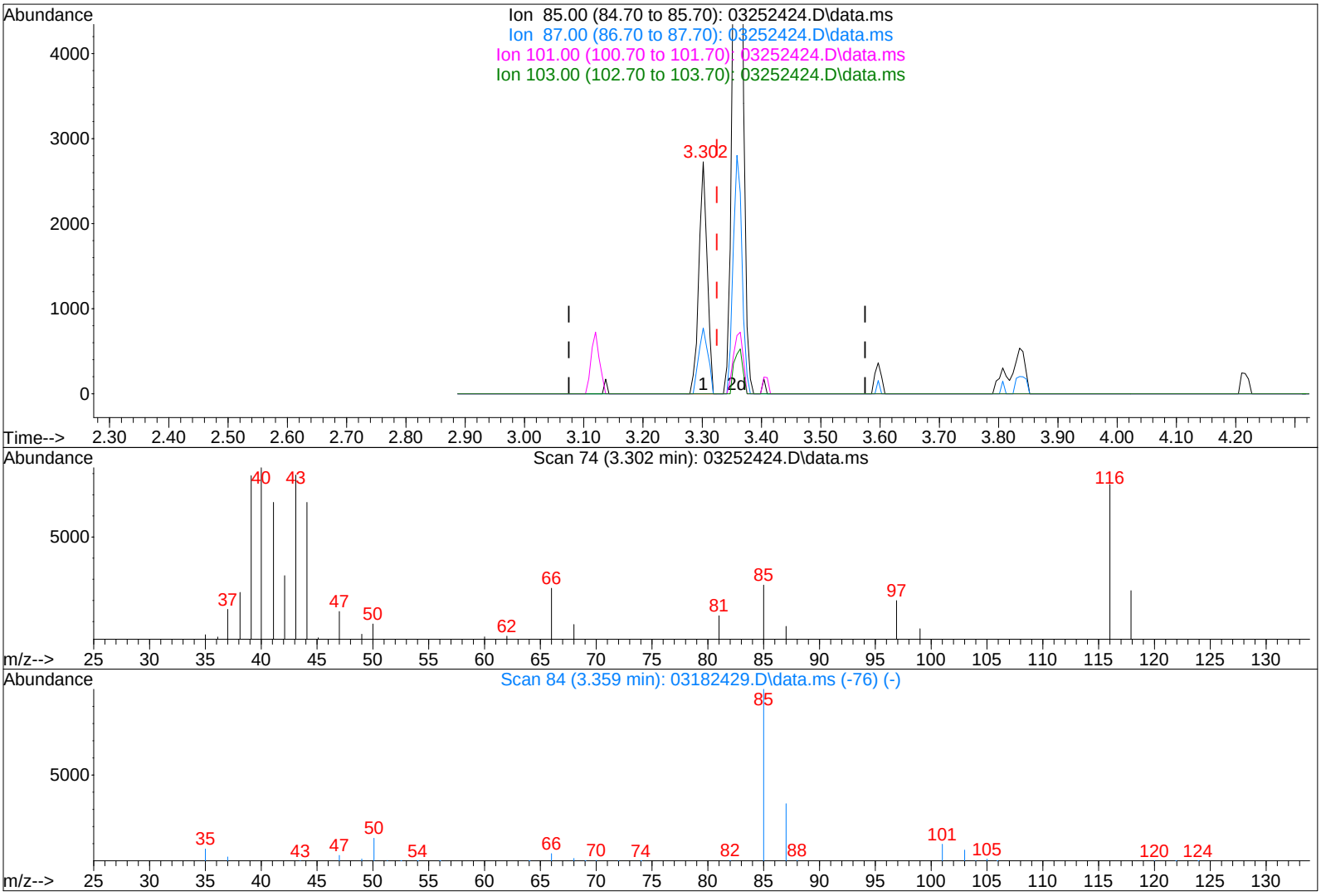
Ion	Ratio	Lower	Upper
93	100		
77	30.8	13.4	53.4



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:26:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252424.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.023) 0.11ng

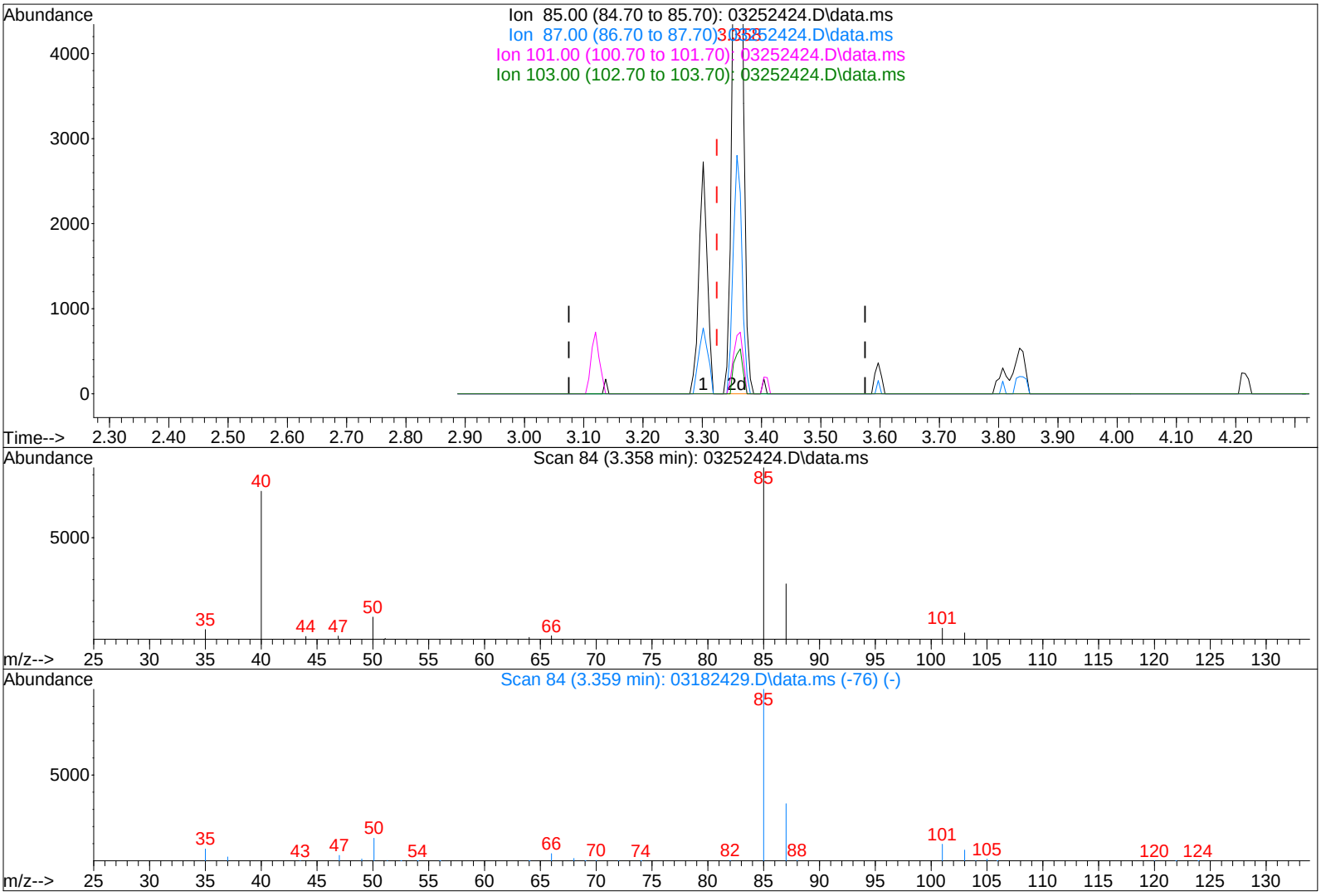
response 2649

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	31.82
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:26:47 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252424.D\data.ms

WP 3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.358min (+0.034) 0.39ng m

response 9414

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	8.95#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:38:48 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

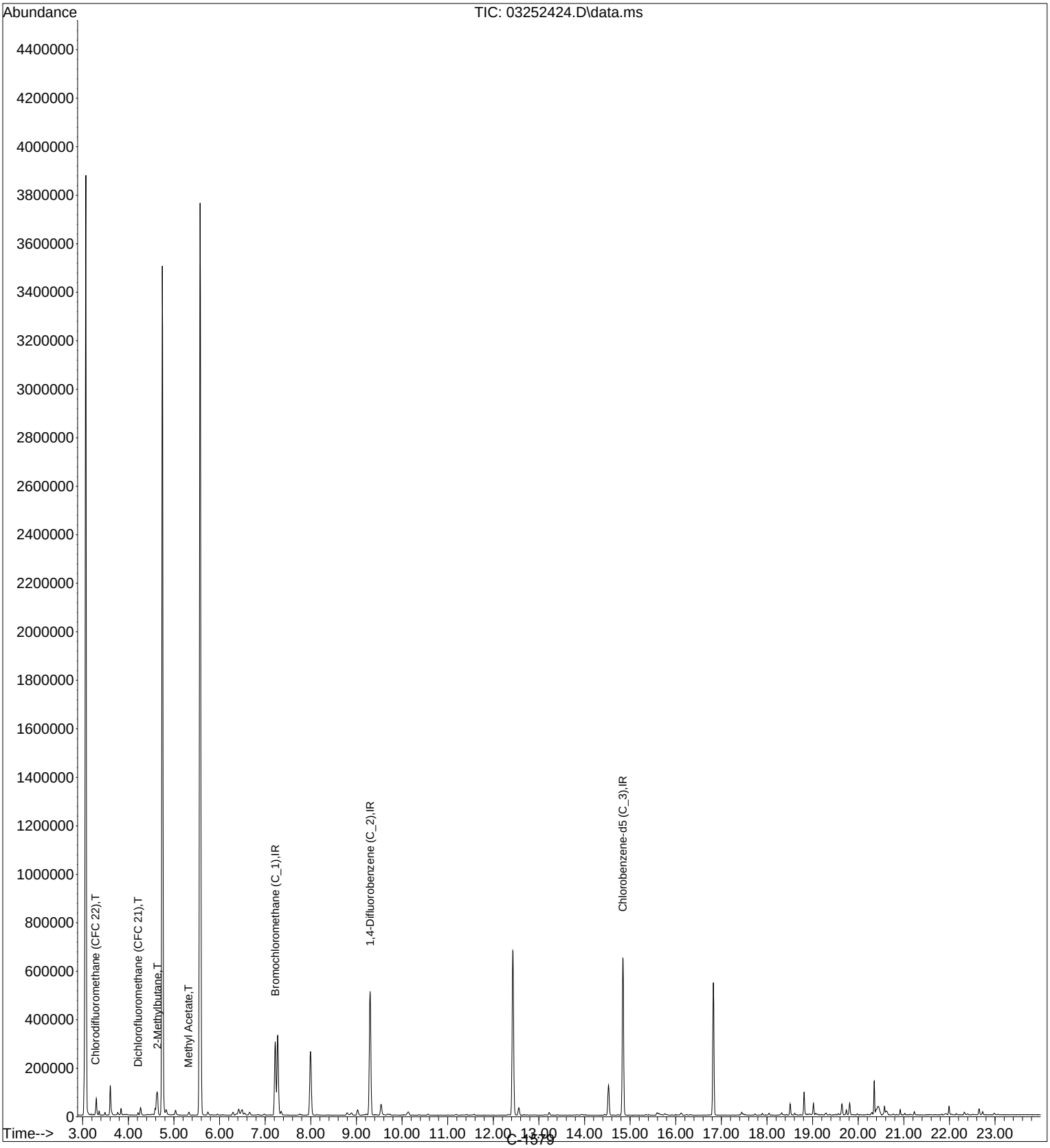
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	118153	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	507448	12.500	ng		-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	103136	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	59	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	921	N.D.			
4) 1,1-Difluoroethane	3.23	65	722	N.D.			
5) Chlorodifluoromethane ...	3.28	67	1476	0.425	ng		98
6) 1-Chloro-1,1-Difluoroe...	3.49	65	314	N.D.			
7) Dichlorofluoromethane ...	4.22	67	8012	0.348	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	322	N.D.			
10) 2-Methylbutane	4.64	57	16957	1.433	ng	#	82
11) Methyl Acetate	5.32	43	4159	0.137	ng	#	56
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	1065	N.D.			
17) 2,3-Dimethylpentane	9.52	56	509	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.42	55	1225	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.33	75	59	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	504	N.D.			
27) 4-Chlorotoluene	17.68	91	999	N.D.			
28) Indane	19.11	117	371	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	272	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

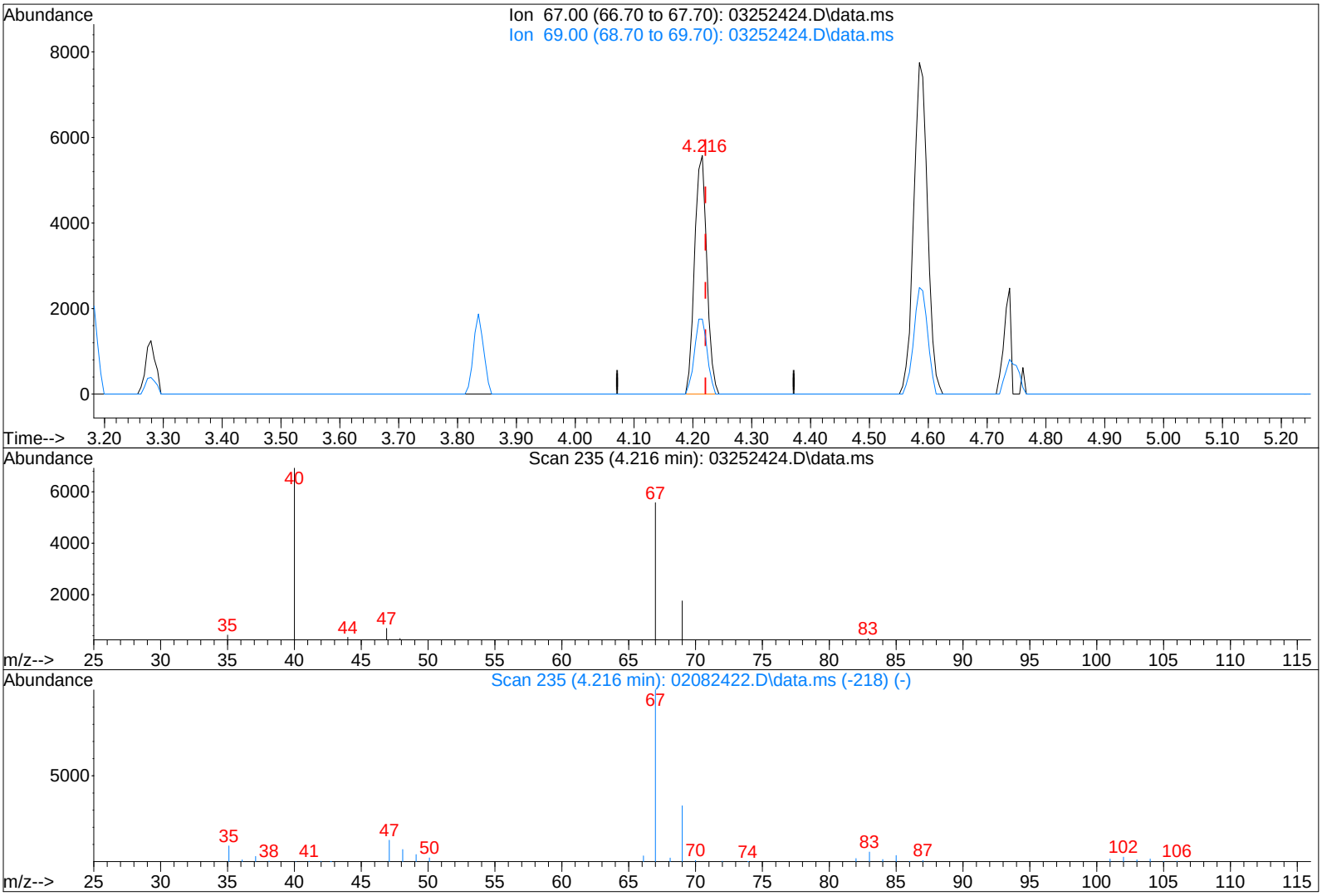
Quant Time: Mar 26 09:38:48 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252424.D Vial: 15
Acq On : 26 Mar 2024 00:06 Operator: SC
Sample : P2400922-050 (400mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:38:26 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252424.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 0.35ng

response 8012

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.79
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252431.D Vial: 15
Acq On : 26 Mar 2024 12:05 Operator: SC
Sample : P2400922-050Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 12:33:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

V 3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	127724	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	545696	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	113648	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	264777	12.672	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
57) Toluene-d8 (SS2)	12.43	98	628416	13.772	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
73) Bromofluorobenzene (SS3)	16.83	174	212706	13.222	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%				
Target Compounds							Qvalue
2) Propene	3.32	42	307	N.D.			
3) Dichlorodifluoromethan...	3.39	85	811	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	2859	0.232	ng		90
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.65	58	2439	0.260	ng	#	82
14) Trichlorofluoromethane	4.76	101	205556	8.107	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	2207	0.059	ng		79
16) Acrylonitrile	4.99	53	244	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	839	0.061	ng		93
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	91684	8.578	ng		96
22) Carbon Disulfide	5.60	76	2910	0.068	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.68	72	189	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	3959	0.859	ng		99
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.35	83	1022	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	290	No Calib		#	
41) Benzene	8.90	78	1790	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	187	N.D.			
47) Trichloroethene	10.14	130	499	N.D.			
48) 1,4-Dioxane	10.14	88	508	0.059	ng	#	47
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252431.D Vial: 15
Acq On : 26 Mar 2024 12:05 Operator: SC
Sample : P2400922-050Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 12:33:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

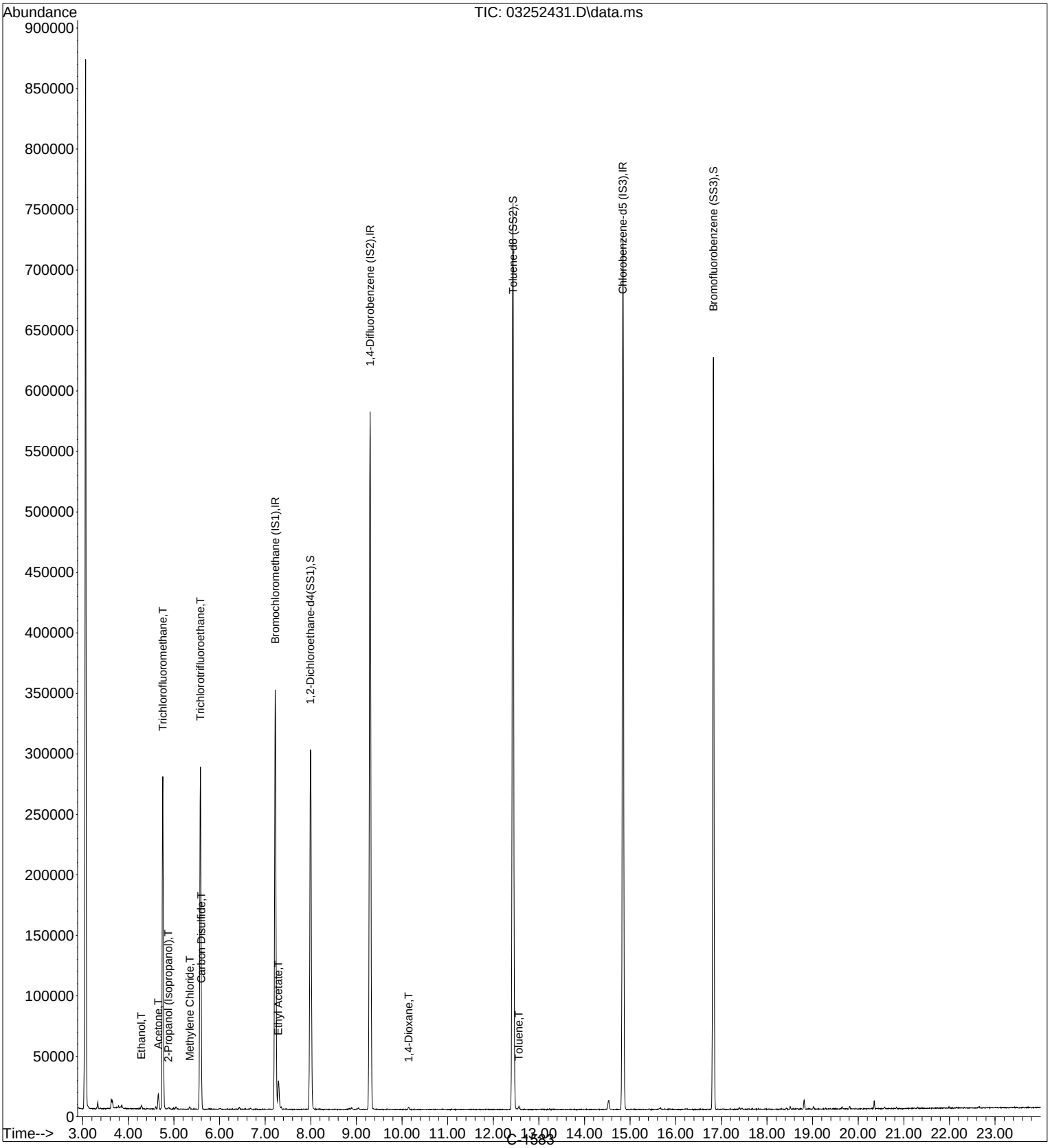
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2665	0.061 ng	97
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	115	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	188	N.D.	
65) Chlorobenzene	14.90	112	387	N.D.	
66) Ethylbenzene	15.41	91	722	N.D.	
67) m- & p-Xylenes	15.64	91	877	N.D.	
68) Bromoform	15.67	173	392	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	541	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	229	N.D.	
74) Cumene	17.03	105	538	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	611	N.D.	
77) 3-Ethyltoluene	17.03	105	538	No Calib	#
78) 4-Ethyltoluene	17.86	105	455	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	238	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	538	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	318	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	348	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	336	N.D.	
87) sec-Butylbenzene	18.74	105	711	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	492	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	538	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	336	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	427	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	360	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	505	N.D.	
100) n-Butylbenzene	19.39	91	305	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252431.D Vial: 15
Acq On : 26 Mar 2024 12:05 Operator: SC
Sample : P2400922-050Dil (40mL)PF2 Inst : MS09
Misc : S37-03252401

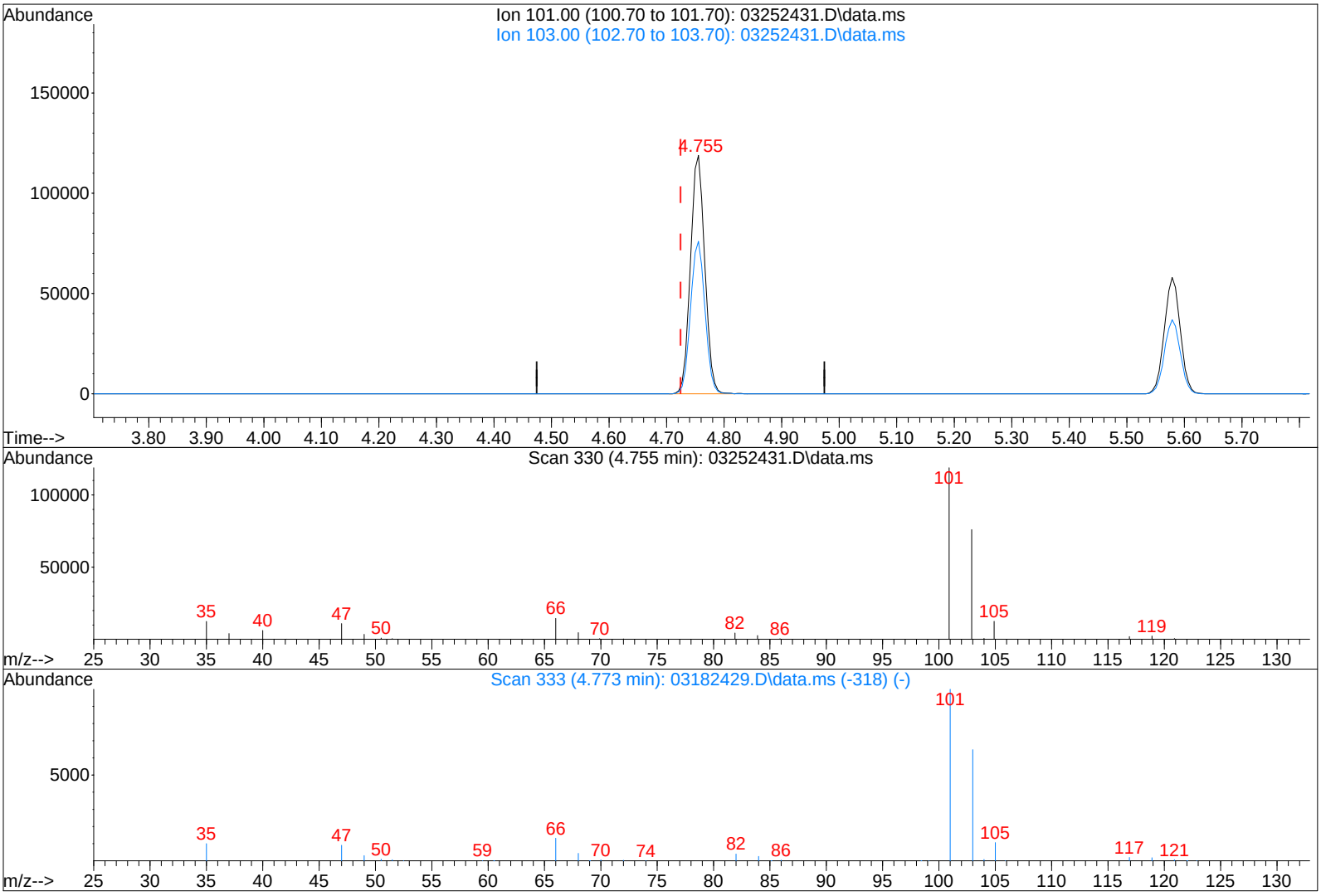
Quant Time: Mar 26 12:33:37 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252431.D Vial: 15
Acq On : 26 Mar 2024 12:05 Operator: SC
Sample : P2400922-050Dil (40mL)PF3 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 12:32:48 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252431.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.031) 8.11ng

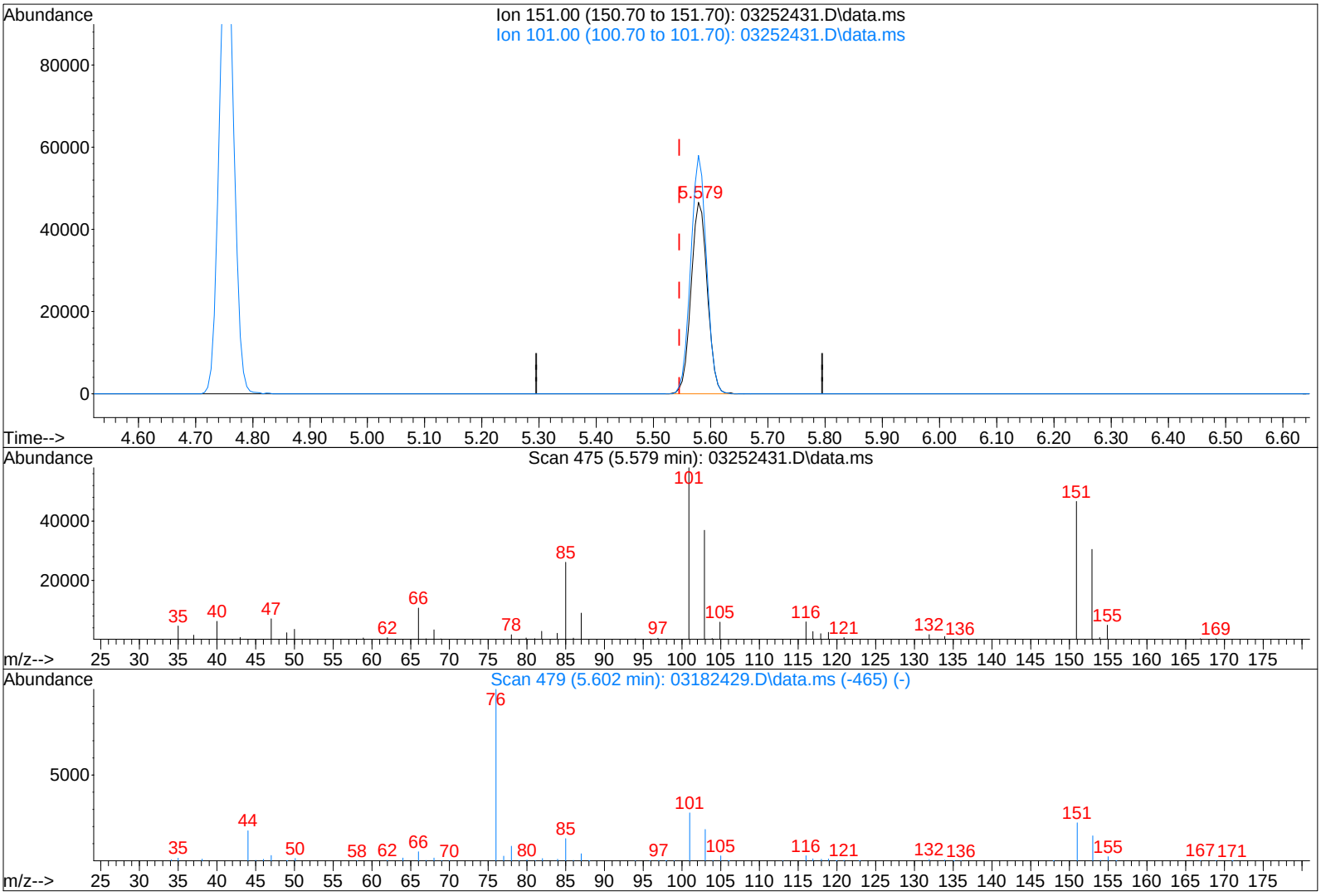
response 205556

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252431.D Vial: 15
Acq On : 26 Mar 2024 12:05 Operator: SC
Sample : P2400922-050Dil (40mL)PF3 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 12:32:48 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252431.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 8.58ng

response 91684

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	121.51
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252424.D
Acq On : 26 Mar 2024 00:06
Operator : SC
Sample : P2400922-050 (400mL)PF2
Misc : S37-03252401
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03252424.D\data.ms

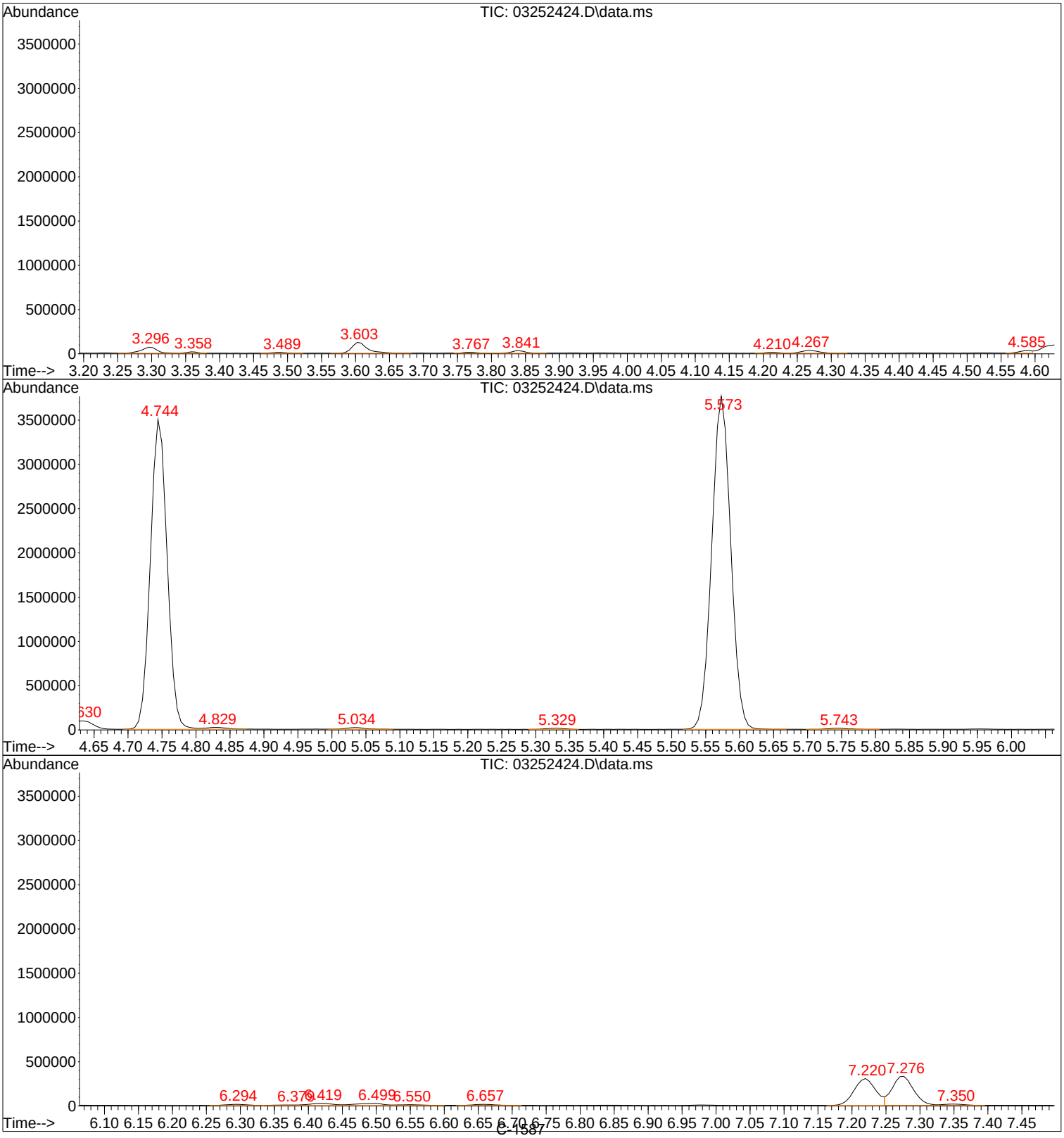
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	65	73	81	rBV5	68106	108704	1.49%	0.689%
2	3.358	81	84	88	rVB	15587	16167	0.22%	0.102%
3	3.489	102	107	113	rVB2	11092	14263	0.20%	0.090%
4	3.603	120	127	141	rBV2	122479	192637	2.64%	1.221%
5	3.767	152	156	164	rBV	9915	13999	0.19%	0.089%
6	3.841	164	169	176	rVB2	25895	34777	0.48%	0.220%
7	4.210	230	234	239	rBV	9764	13710	0.19%	0.087%
8	4.267	239	244	254	rVB2	30814	55383	0.76%	0.351%
9	4.585	295	300	302	rBV	26172	36837	0.50%	0.234%
10	4.630	302	308	319	rVB2	94234	240594	3.30%	1.525%
11	4.744	319	328	339	rBV	3500624	6004114	82.27%	38.061%
12	4.829	339	343	351	rVB	20177	39151	0.54%	0.248%
13	5.034	372	379	389	rVB	18972	34437	0.47%	0.218%
14	5.329	424	431	437	rBV3	12274	22750	0.31%	0.144%
15	5.573	464	474	491	rVB	3760864	7298199	100.00%	46.265%
16	5.743	496	504	515	rBV	12620	25774	0.35%	0.163%
17	6.294	594	601	608	rBV2	12750	26459	0.36%	0.168%
18	6.379	608	616	617	rVV3	5231	11818	0.16%	0.075%
19	6.419	617	623	628	rVV2	24843	56694	0.78%	0.359%
20	6.499	628	637	642	rVV2	22388	65129	0.89%	0.413%
21	6.550	642	646	655	rVV4	8546	18063	0.25%	0.115%
22	6.658	658	665	675	rVB	11415	25428	0.35%	0.161%
23	7.220	754	764	769	rBV	303119	683413	9.36%	4.332%
24	7.276	769	774	783	rVV	328353	706542	9.68%	4.479%
25	7.350	783	787	795	rVB	14690	29789	0.41%	0.189%

Sum of corrected areas: 15774831

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252424.D
Acq On : 26 Mar 2024 00:06
Operator : SC
Sample : P2400922-050 (400mL)PF2
Misc : S37-03252401
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 03\25\\
Data File : 03252424.D
Acq On : 26 Mar 2024 00:066
Operator : SCC
Sample : P2400922-050 (400mL)PF22
Misc : S37-032524011
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09031824.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

3/26/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:38:44 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	210262	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	957511	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	207136	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	421107	11.891	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	15.94	98	1075059	13.291	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
73) Bromofluorobenzene (SS3)	19.15	174	350421	12.864	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
Target Compounds							Qvalue
2) Propene	4.14	42	409	N.D.			
3) Dichlorodifluoromethan...	4.26	85	2395	0.051	ng	#	90
4) Chloromethane	4.61	50	160	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	144	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.79	94	111	N.D.			
9) Chloroethane	6.15	64	475	N.D.			
10) Ethanol	6.62	45	5768	0.306	ng		95
11) Acetonitrile	6.86	41	1759	N.D.			
12) Acrolein	7.03	56	2945	0.215	ng	#	75
13) Acetone	7.31	58	4571	0.299	ng	#	43
14) Trichlorofluoromethane	7.45	101	2725492	64.894	ng		99
15) 2-Propanol (Isopropanol)	7.78	45	75	N.D.			
16) Acrylonitrile	7.96	53	51	N.D.			
17) 1,1-Dichloroethene	8.33	96	250	N.D.			
18) 2-Methyl-2-Propanol (t...	8.69	59	164	N.D.			
19) Methylene Chloride	8.65	84	1684	0.076	ng		84
20) 3-Chloro-1-propene (Al...	8.82	41	364	N.D.			
21) Trichlorotrifluoroethane	9.08	151	1578187	86.275	ng		100
22) Carbon Disulfide	8.91	76	935	N.D.			
23) trans-1,2-Dichloroethene	9.93	61	115	N.D.			
24) 1,1-Dichloroethane	10.18	63	242	N.D.			
25) Methyl tert-Butyl Ether	10.39	73	133	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.76	72	288	N.D.			
28) cis-1,2-Dichloroethene	11.21	61	412	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D. d			
31) n-Hexane	11.49	57	277	N.D.			
32) Chloroform	11.55	83	9989	0.281	ng		97
34) Tetrahydrofuran (THF)	11.90	72	126	N.D.			
35) Ethyl tert-Butyl Ether	12.06	87	131	N.D.			
36) 1,2-Dichloroethane	12.35	62	434	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.89	61	180	No Calib		#	
40) 1-Butanol	12.67	56	104	No Calib		#	
41) Benzene	13.10	78	11743	0.129	ng		98
42) Carbon Tetrachloride	13.26	117	187	N.D.			
43) Cyclohexane	13.31	84	1009	N.D.			
44) tert-Amyl Methyl Ether	13.75	73	982	N.D.			
45) 1,2-Dichloropropane	13.96	63	260	N.D.			
46) Bromodichloromethane	14.15	83	823	N.D.			
47) Trichloroethene	14.20	130	1384	0.060	ng		88
48) 1,4-Dioxane	14.23	88	122	N.D.			

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 20 14:38:44 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

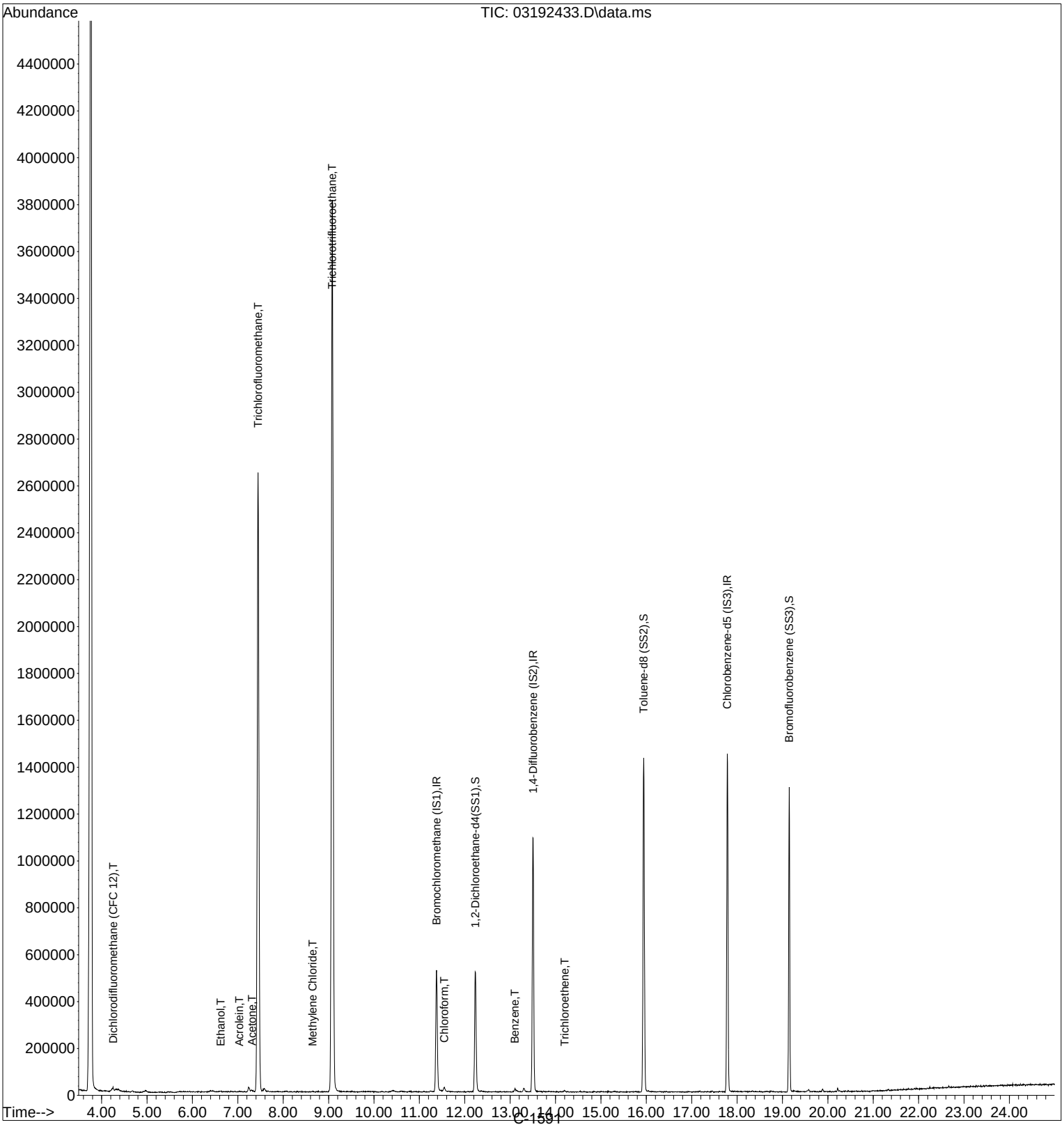
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	625	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	14.54	71	190	N.D.	
52) cis-1,3-Dichloropropene	15.02	75	122	N.D.	
53) 4-Methyl-2-pentanone	15.07	58	110	N.D.	
54) trans-1,3-Dichloropropene	15.55	75	235	N.D.	
55) 1,1,2-Trichloroethane	15.75	97	336	N.D.	
58) Toluene	16.05	91	2833	N.D.	
59) 2-Hexanone	16.32	43	894	N.D.	
60) Dibromochloromethane	16.45	129	347	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.94	43	380	N.D.	
63) n-Octane	17.04	57	200	N.D.	
64) Tetrachloroethene	17.16	166	667	N.D.	
65) Chlorobenzene	17.83	112	1011	N.D.	
66) Ethylbenzene	18.17	91	1821	N.D.	
67) m- & p-Xylenes	18.35	91	2013	N.D.	
68) Bromoform	18.39	173	602	N.D.	
69) Styrene	18.66	104	1025	N.D.	
70) o-Xylene	18.76	91	1135	N.D.	
71) n-Nonane	18.94	43	994	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.75	83	605	N.D.	
74) Cumene	19.28	105	1309	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.68	91	792	N.D.	
77) 3-Ethyltoluene	20.26	105	408	No Calib	#
78) 4-Ethyltoluene	19.84	105	915	N.D.	
79) 1,3,5-Trimethylbenzene	19.84	105	915	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.26	105	408	No Calib	#
82) 1,2,4-Trimethylbenzene	20.26	105	408	N.D.	
83) n-Decane	20.37	58	139	No Calib	#
84) Benzyl Chloride	20.36	91	244	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	709	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	950	N.D.	
87) sec-Butylbenzene	20.50	105	1046	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	590	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	408	No Calib	#
90) 1,2-Dichlorobenzene	20.75	146	593	N.D.	
91) d-Limonene	20.73	68	132	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	111	N.D.	
93) n-Undecane	21.52	58	167	No Calib	#
94) 1,2,4-Trichlorobenzene	22.24	180	934	N.D.	
95) Naphthalene	22.37	128	807	N.D.	
96) n-Dodecane	22.75	57	175	No Calib	#
97) Hexachlorobutadiene	22.67	225	858	N.D.	
98) Cyclohexanone	18.23	55	359	No Calib	#
99) tert-Butylbenzene	20.26	119	934	N.D.	
100) n-Butylbenzene	21.00	91	468	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 20 14:38:44 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:38:44 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

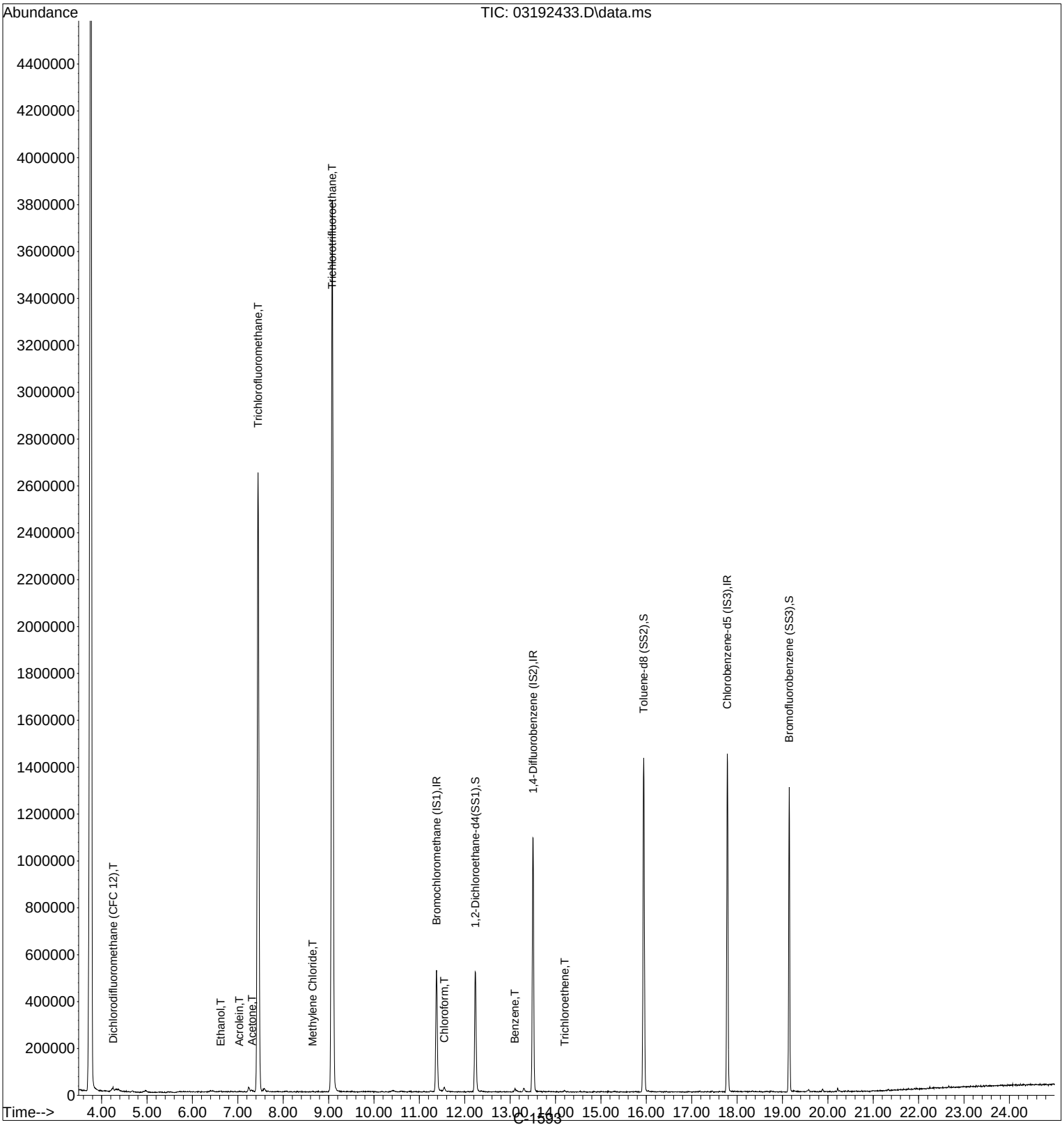
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	210262	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	957511	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	207136	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	421107	11.891	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	15.94	98	1075059	13.291	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
73) Bromofluorobenzene (SS3)	19.15	174	350421	12.864	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.26	85	2395	0.051	ng	#	90
10) Ethanol	6.62	45	5768	0.306	ng		95
12) Acrolein	7.03	56	2945	0.215	ng	#	75
13) Acetone	7.31	58	4571	0.299	ng	#	43
14) Trichlorofluoromethane	7.45	101	2725492	64.894	ng		99
19) Methylene Chloride	8.65	84	1684	0.076	ng		84
21) Trichlorotrifluoroethane	9.08	151	1578187	86.275	ng		100
32) Chloroform	11.55	83	9989	0.281	ng		97
41) Benzene	13.10	78	11743	0.129	ng		98
47) Trichloroethene	14.20	130	1384	0.060	ng		88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

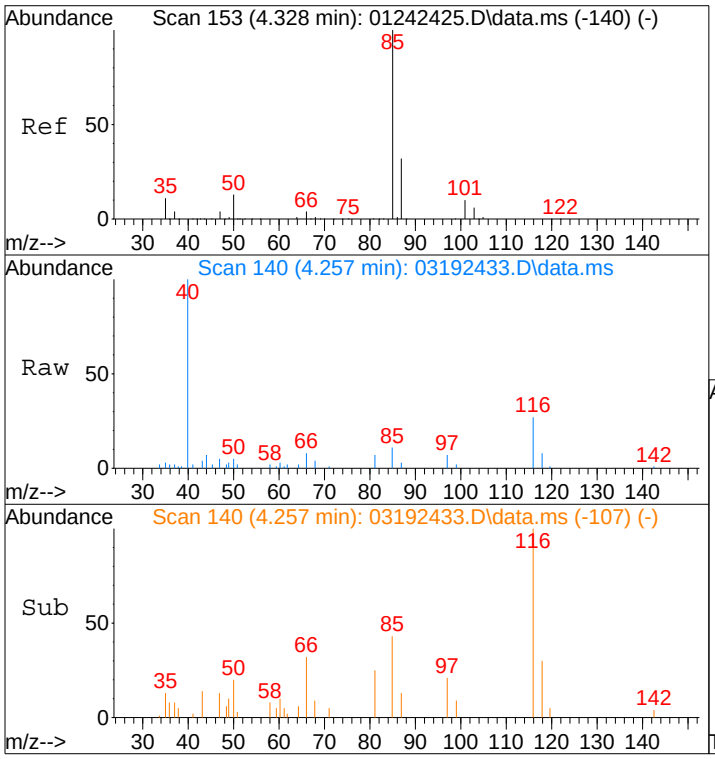
Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 20 14:38:44 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



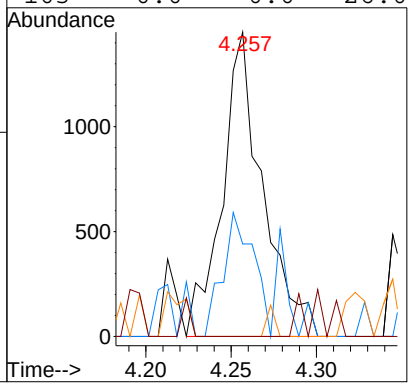
C-1593

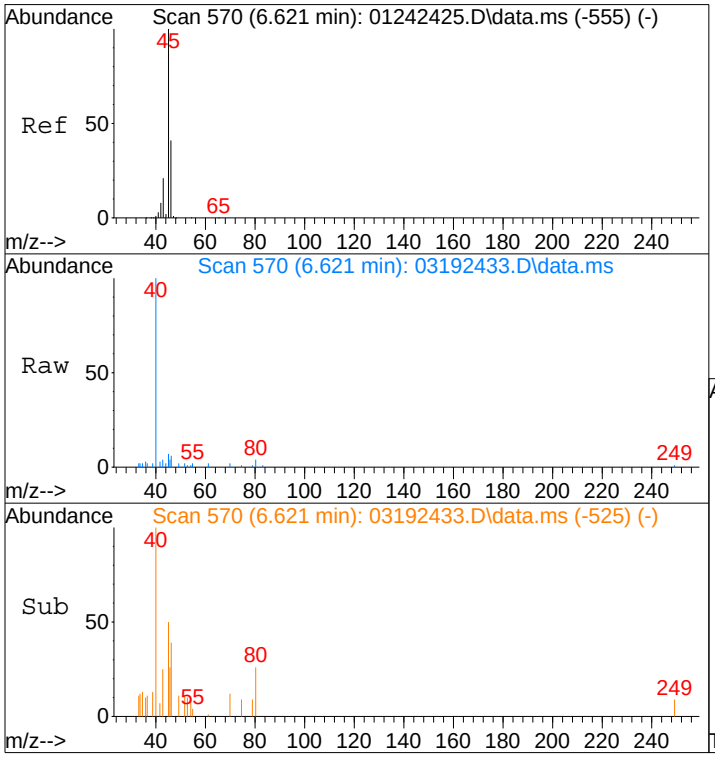


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.05 ng
RT: 4.26 min Scan# 140
Delta R.T. -0.066 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 85 Resp: 2395

Ion	Ratio	Lower	Upper
85	100		
87	31.2	13.1	53.1
101	0.0	0.0	29.5
103	0.0	0.0	26.0

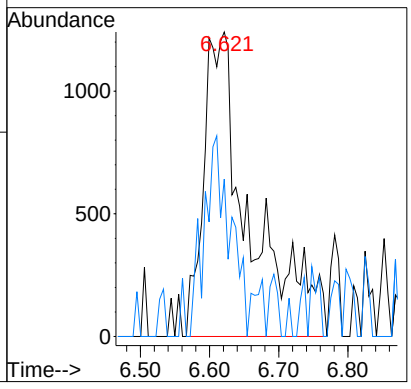


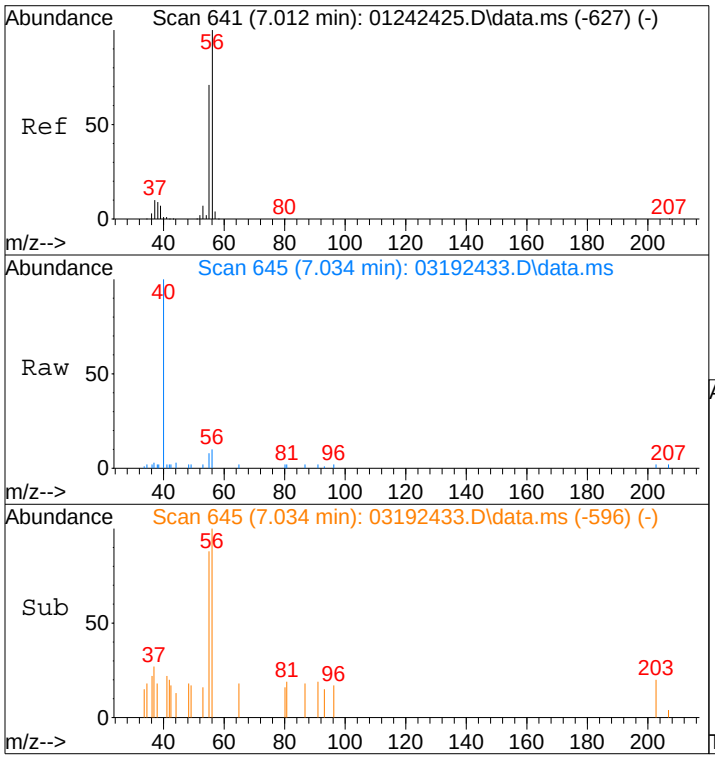


#10
Ethanol
Concen: 0.31 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.000 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 45 Resp: 5768

Ion	Ratio	Lower	Upper
45	100		
46	36.8	19.6	59.6

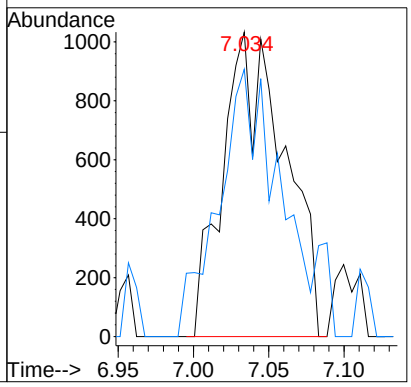


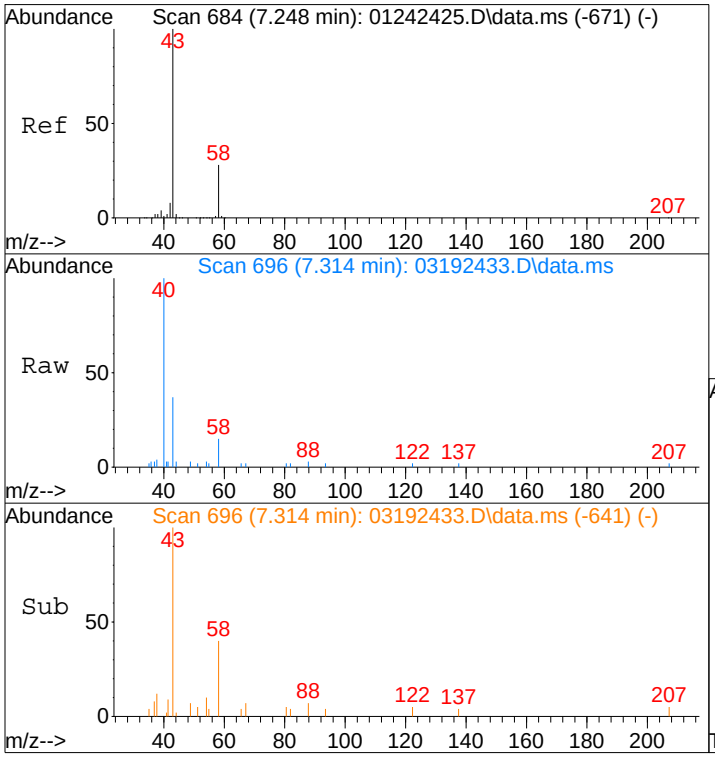


#12
Acrolein
Concen: 0.22 ng
RT: 7.03 min Scan# 645
Delta R.T. 0.022 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 56 Resp: 2945

Ion	Ratio	Lower	Upper
56	100		
55	91.7	51.4	91.4#

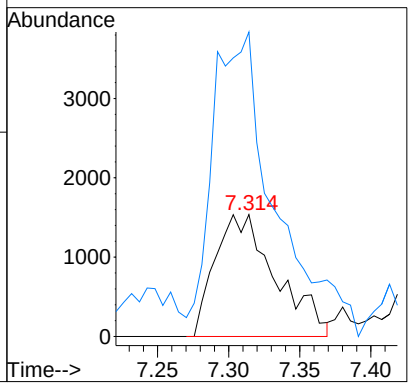


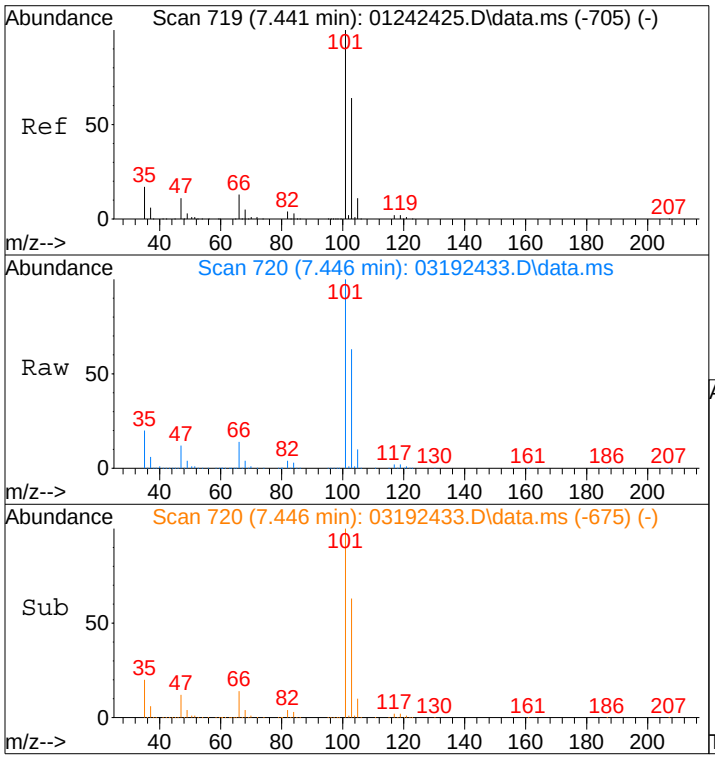


#13
Acetone
Concen: 0.30 ng
RT: 7.31 min Scan# 696
Delta R.T. 0.051 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 58 Resp: 4571

Ion	Ratio	Lower	Upper
58	100		
43	255.2	357.4	417.4#

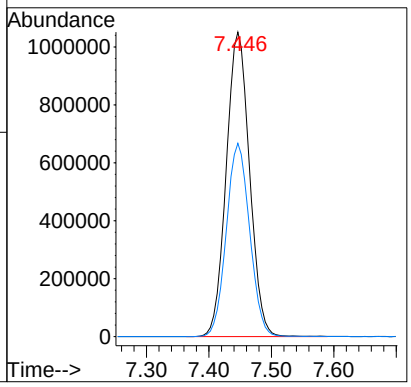


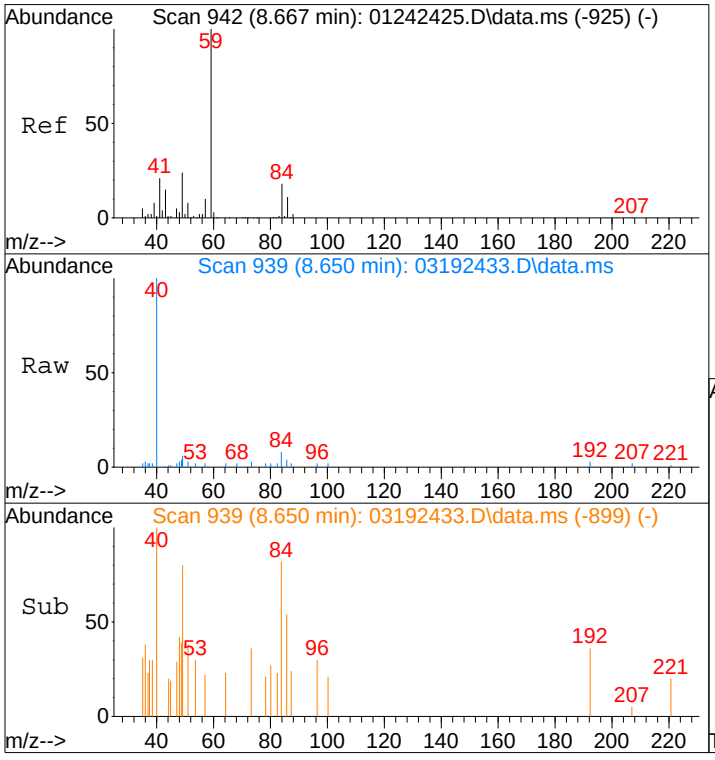


#14
Trichlorofluoromethane
Concen: 64.89 ng
RT: 7.45 min Scan# 720
Delta R.T. -0.000 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion:101 Resp: 2725492

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.1	84.1

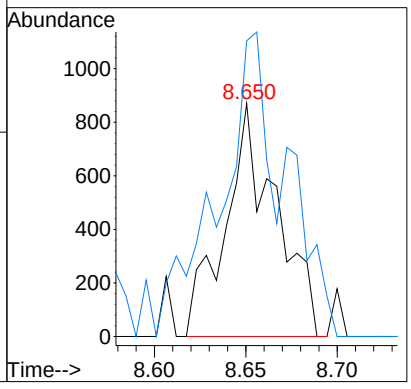


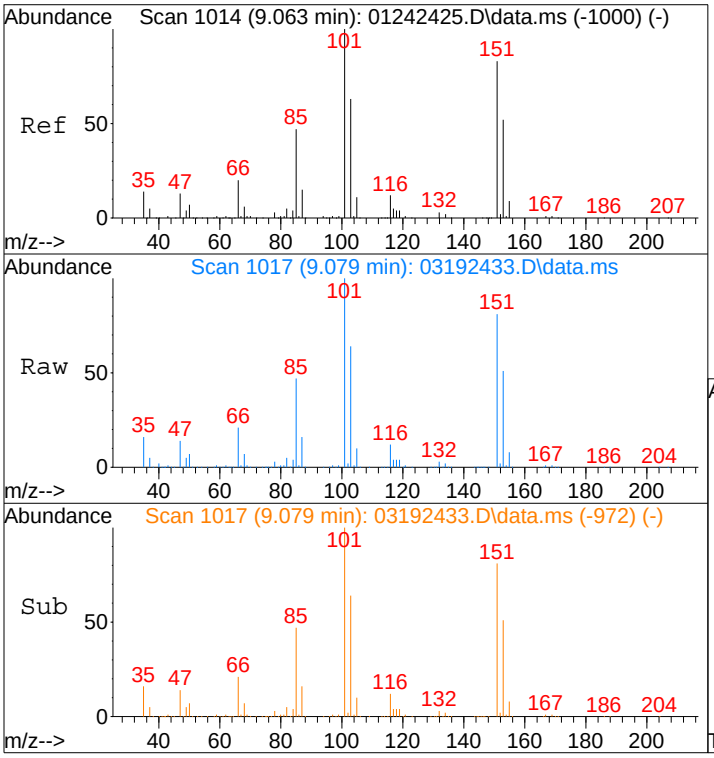


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.65 min Scan# 939
Delta R.T. -0.028 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 84 Resp: 1684

Ion	Ratio	Lower	Upper
84	100		
49	131.2	126.4	176.4

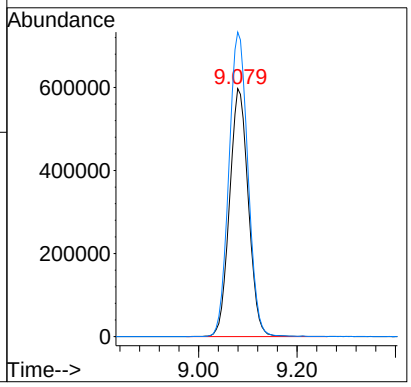


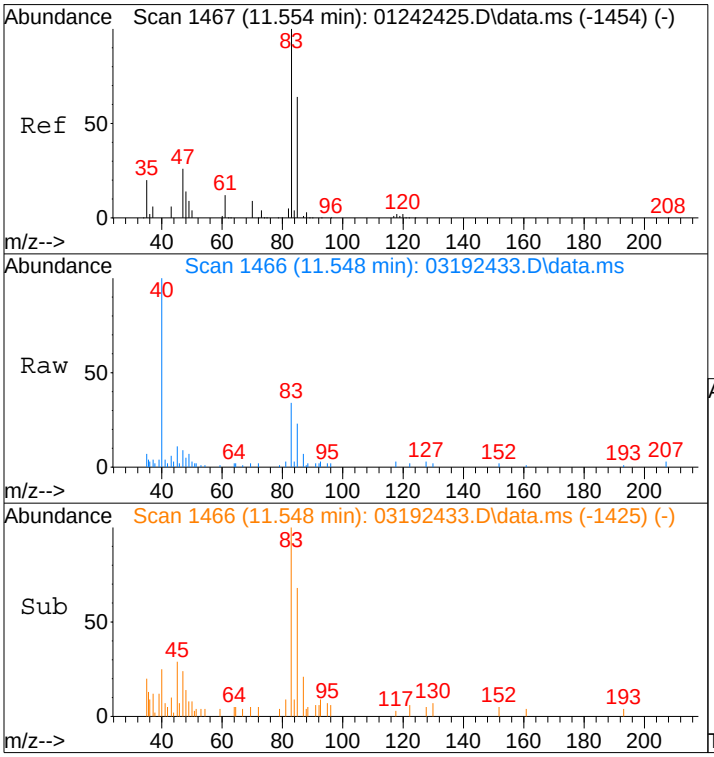


#21
Trichlorotrifluoroethane
Concen: 86.27 ng
RT: 9.08 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion:151 Resp: 1578187

Ion	Ratio	Lower	Upper
151	100		
101	124.6	104.2	144.2

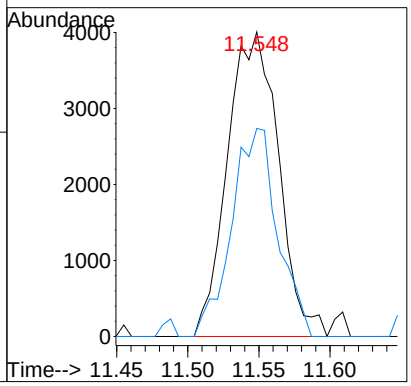


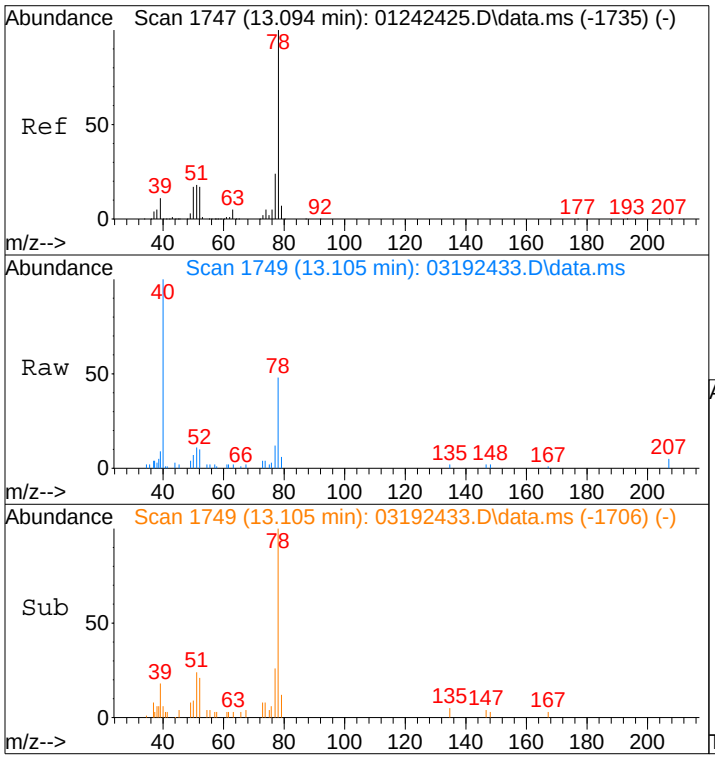


#32
Chloroform
Concen: 0.28 ng
RT: 11.55 min Scan# 1466
Delta R.T. -0.022 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 83 Resp: 9989

Ion	Ratio	Lower	Upper
83	100		
85	61.9	44.3	84.3

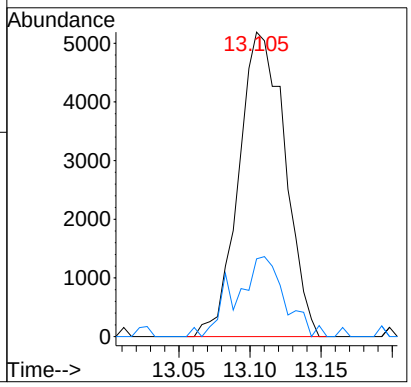


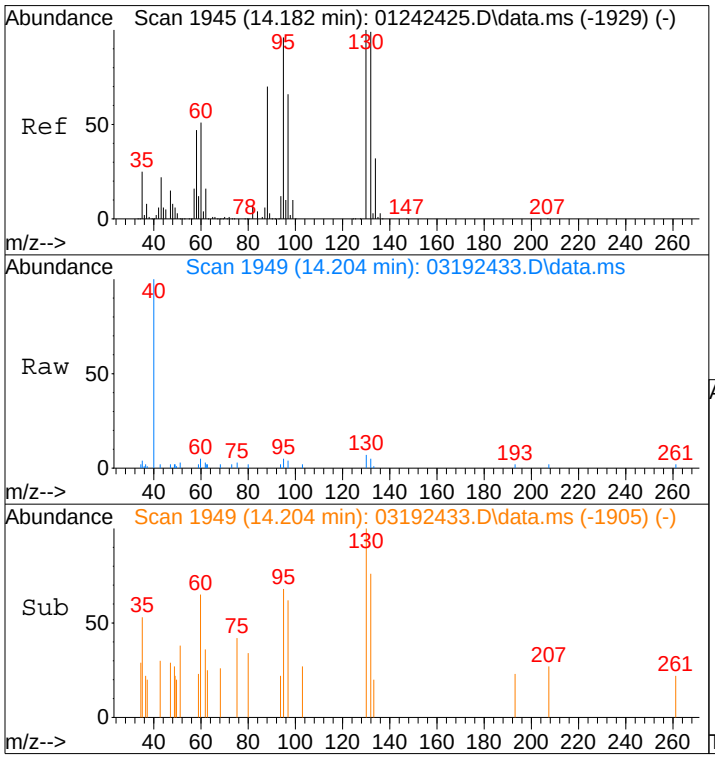


#41
Benzene
Concen: 0.13 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 78 Resp: 11743

Ion	Ratio	Lower	Upper
78	100		
77	21.9	2.6	42.6

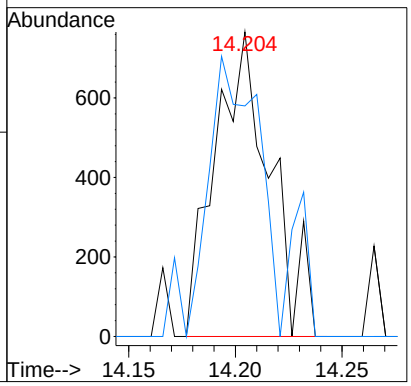




#47
Trichloroethene
Concen: 0.06 ng
RT: 14.20 min Scan# 1949
Delta R.T. -0.006 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion:130 Resp: 1384

Ion	Ratio	Lower	Upper
130	100		
132	86.2	78.3	118.3



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

CI 3/21/24

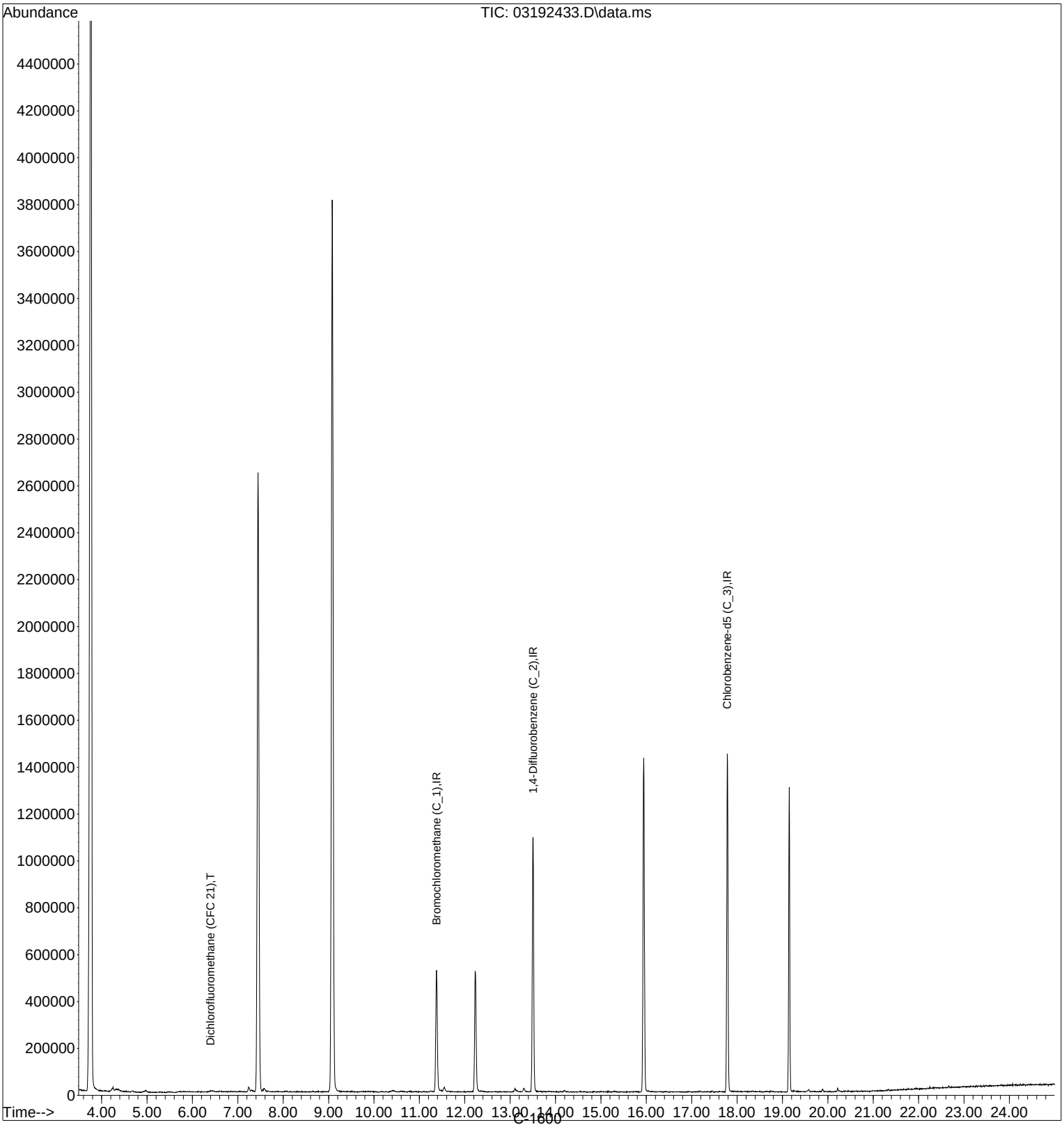
Quant Time: Mar 21 14:14:21 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	211427	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	958851	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	207136	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.83	85	51	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	4.00	83	435	N.D.		
4) 1,1-Difluoroethane	4.08	65	64	N.D.		
5) Chlorodifluoromethane ...	4.16	67	138	N.D.		
6) 1-Chloro-1,1-Difluoroe...	4.66	65	57	N.D.		
7) Dichlorofluoromethane ...	6.40	67	5978	0.140	ng	96
8) Vinylbromide	6.71	108	71	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	453	N.D.		
10) 2-Methylbutane	7.23	57	868	N.D.		
11) Methyl Acetate	8.72	43	278	N.D.		
12) 2-Methylpentane	10.45	71	536	N.D.		
13) 2,2-Dichloropropane	11.61	77	57	N.D.		
14) 1,1-Dichloropropene	12.97	75	110	N.D.		
15) Thiophene	13.27	84	78	N.D.		
17) 2,3-Dimethylpentane	13.68	56	257	N.D.		
18) Dibromomethane	13.91	174	598	N.D.		
20) Methyl Cyclohexane	15.19	55	232	N.D.		
21) 1,3-Dichloropropane	16.05	76	144	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	17.98	91	56	N.D.		
24) 1,2,3-Trichloropropane	18.86	75	225	N.D.		
25) Bromobenzene	19.36	77	128	N.D.		
26) 2-Chlorotoluene	19.71	91	2161	N.D.		
27) 4-Chlorotoluene	19.71	91	2161	N.D.		
28) Indane	20.82	117	264	N.D.		
29) Indene	20.86	115	73	N.D.		
30) 1,2,4,5-Tetramethylben...	21.65	119	108	N.D.		
31) 1,2,3,4-Tetramethylben...	21.65	119	108	N.D.		
32) 1,2,3,5-Tetramethylben...	22.04	119	320	N.D.		
33) 1,2,3-Trichlorobenzene	22.59	180	62	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 21 14:14:21 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:14:21 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

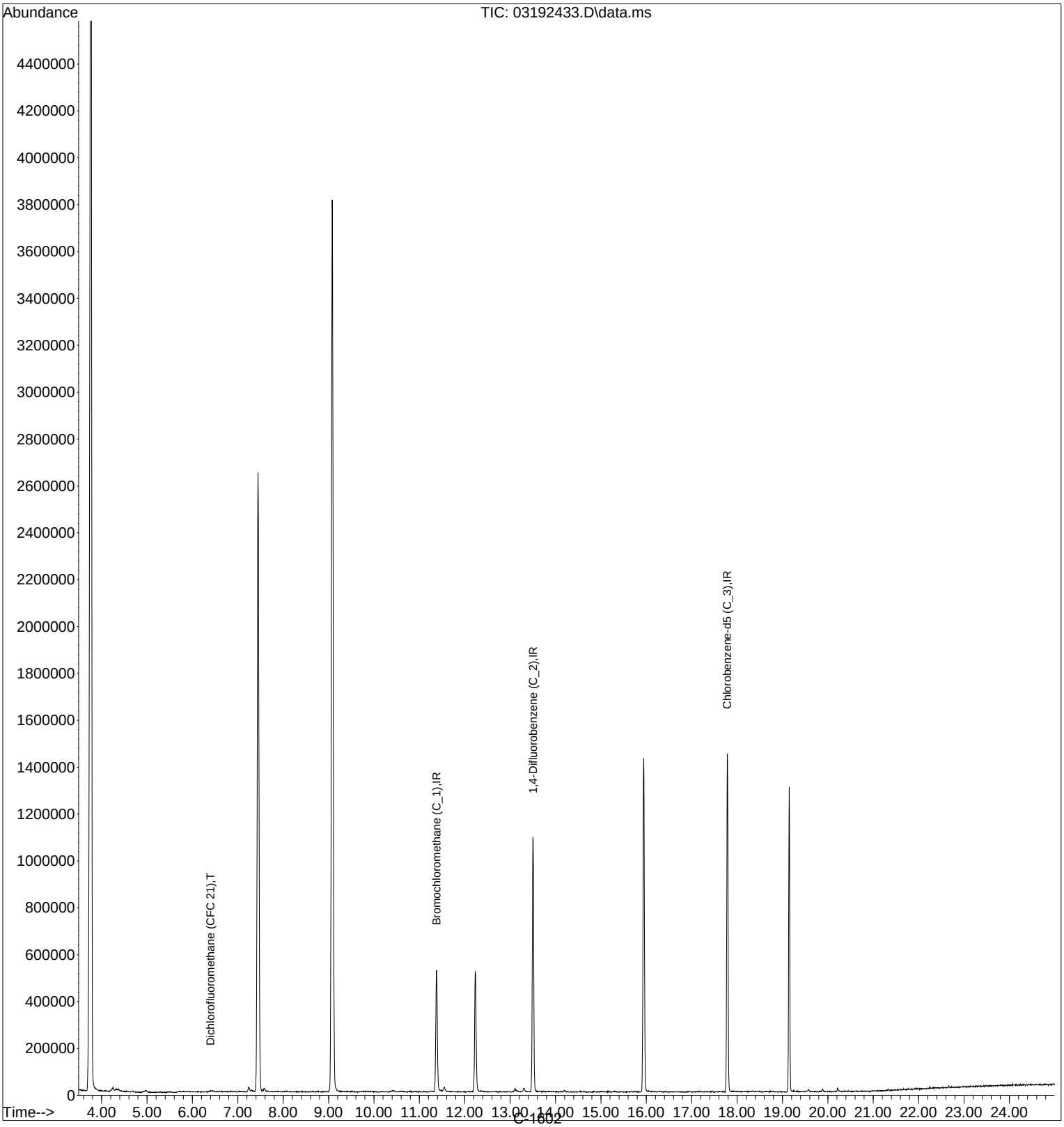
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	211427	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	958851	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	207136	12.500	ng	0.00
Target Compounds						Qvalue
7) Dichlorofluoromethane ...	6.40	67	5978	0.140	ng	96

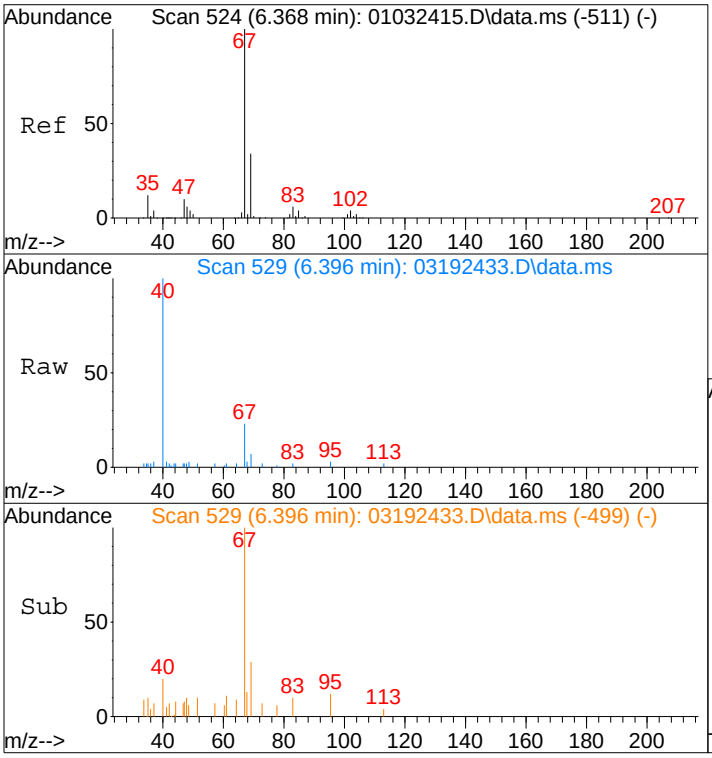
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 21 14:14:21 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

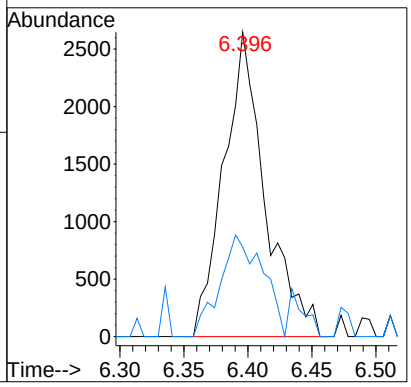




#7
Dichlorofluoromethane (CFC 21)
Concen: 0.14 ng
RT: 6.40 min Scan# 529
Delta R.T. 0.017 min
Lab File: 03192433.D
Acq: 19 Mar 2024 17:44

Tgt Ion: 67 Resp: 5978

Ion	Ratio	Lower	Upper
67	100		
69	34.5	25.6	38.4



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192433.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.213	126	132	133	rBV4	6630	11399	0.11%	0.062%
2	4.251	136	139	145	rVB5	15718	23077	0.23%	0.125%
3	4.367	159	160	167	rVB5	7961	10121	0.10%	0.055%
4	4.961	263	268	278	rVB3	7330	19448	0.19%	0.106%
5	6.396	523	529	533	rBV5	6367	11803	0.12%	0.064%
6	7.237	676	682	689	rBV5	18628	41932	0.41%	0.228%
7	7.446	707	720	735	rBV	2641259	6835173	67.26%	37.160%
8	7.584	741	745	751	rVB7	10230	20012	0.20%	0.109%
9	9.079	1002	1017	1037	rBV	3804914	10162107	100.00%	55.247%
10	11.378	1425	1435	1450	rBV2	518800	1258788	12.39%	6.844%

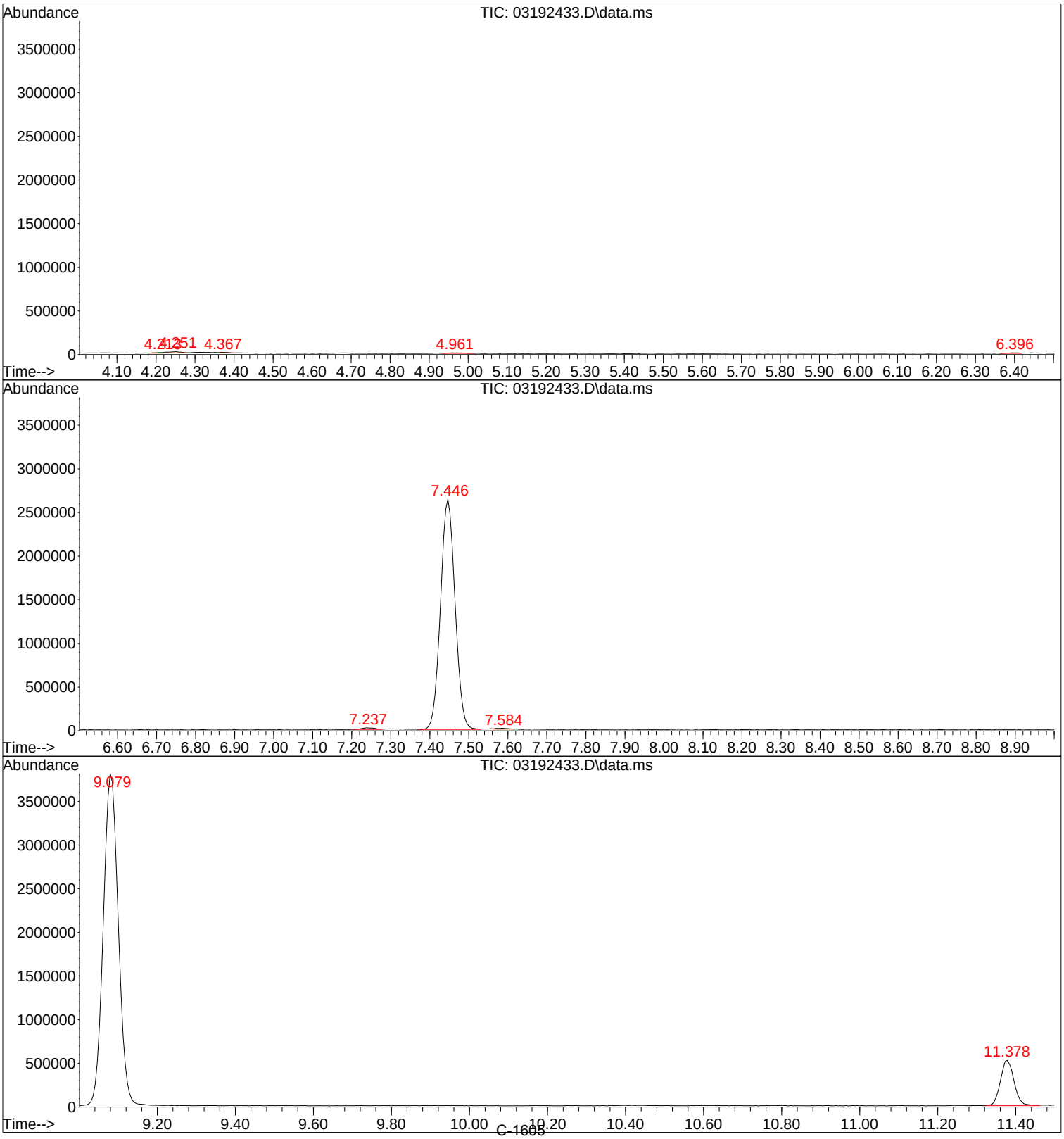
Sum of corrected areas: 18393860

LSC Report - Integrated Chromatogram

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:44
Operator : CI
Sample : P2400922-051 (50mL)
Misc : S37-01032403/
ALS Vial : 3 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192433.D
Acq On : 19 Mar 2024 17:444
Operator : CII
Sample : P2400922-051 (50mL))
Misc : S37-01032403//
ALS Vial : 3 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CI 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:42:00 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	204261	12.500 ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	965696	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	209877	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	418091	12.153 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
57) Toluene-d8 (SS2)	15.94	98	1074849	13.114 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%			
73) Bromofluorobenzene (SS3)	19.15	174	356602	12.920 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
Target Compounds						Qvalue
2) Propene	4.19	42	9673m	0.336 ng		
3) Dichlorodifluoromethan...	4.34	85	25179	0.554 ng		97
4) Chloromethane	4.66	50	1064	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	512	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.26	54	102	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.15	64	372	N.D.		
10) Ethanol	6.56	45	65585	3.581 ng		98
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	7.01	56	2072	0.156 ng		82
13) Acetone	7.25	58	31700	2.135 ng	#	37
14) Trichlorofluoromethane	7.44	101	127772	3.132 ng		99
15) 2-Propanol (Isopropanol)	7.78	45	44904	0.812 ng		86
16) Acrylonitrile	7.98	53	71	N.D.		
17) 1,1-Dichloroethene	8.44	96	101	N.D.		
18) 2-Methyl-2-Propanol (t...	8.65	59	229	N.D.		
19) Methylene Chloride	8.64	84	3871	0.180 ng		91
20) 3-Chloro-1-propene (Al...	8.81	41	948	N.D.		
21) Trichlorotrifluoroethane	9.07	151	65508	3.686 ng		99
22) Carbon Disulfide	8.91	76	114841	1.882 ng		98
23) trans-1,2-Dichloroethene	9.94	61	436	N.D.		
24) 1,1-Dichloroethane	10.17	63	140	N.D.		
25) Methyl tert-Butyl Ether	10.38	73	645	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.74	72	5205	0.401 ng	#	78
28) cis-1,2-Dichloroethene	11.19	61	726	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	11.54	61	102548	13.856 ng		89
31) n-Hexane	11.49	57	5852	0.173 ng	#	86
32) Chloroform	11.54	83	9076	0.263 ng		100
34) Tetrahydrofuran (THF)	12.03	72	1906	0.152 ng	#	85
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.35	62	1929	0.056 ng		94
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	13.79	61	147	No Calib	#	
40) 1-Butanol	12.65	56	110	No Calib	#	
41) Benzene	13.11	78	15975	0.174 ng		89
42) Carbon Tetrachloride	13.26	117	974	N.D.		
43) Cyclohexane	13.39	84	4579	0.153 ng		94
44) tert-Amyl Methyl Ether	13.80	73	359	N.D.		
45) 1,2-Dichloropropane	13.96	63	729	N.D.		
46) Bromodichloromethane	14.15	83	946	N.D.		
47) Trichloroethene	14.19	130	1642	0.070 ng		89
48) 1,4-Dioxane	14.22	88	603	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 20 14:42:00 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

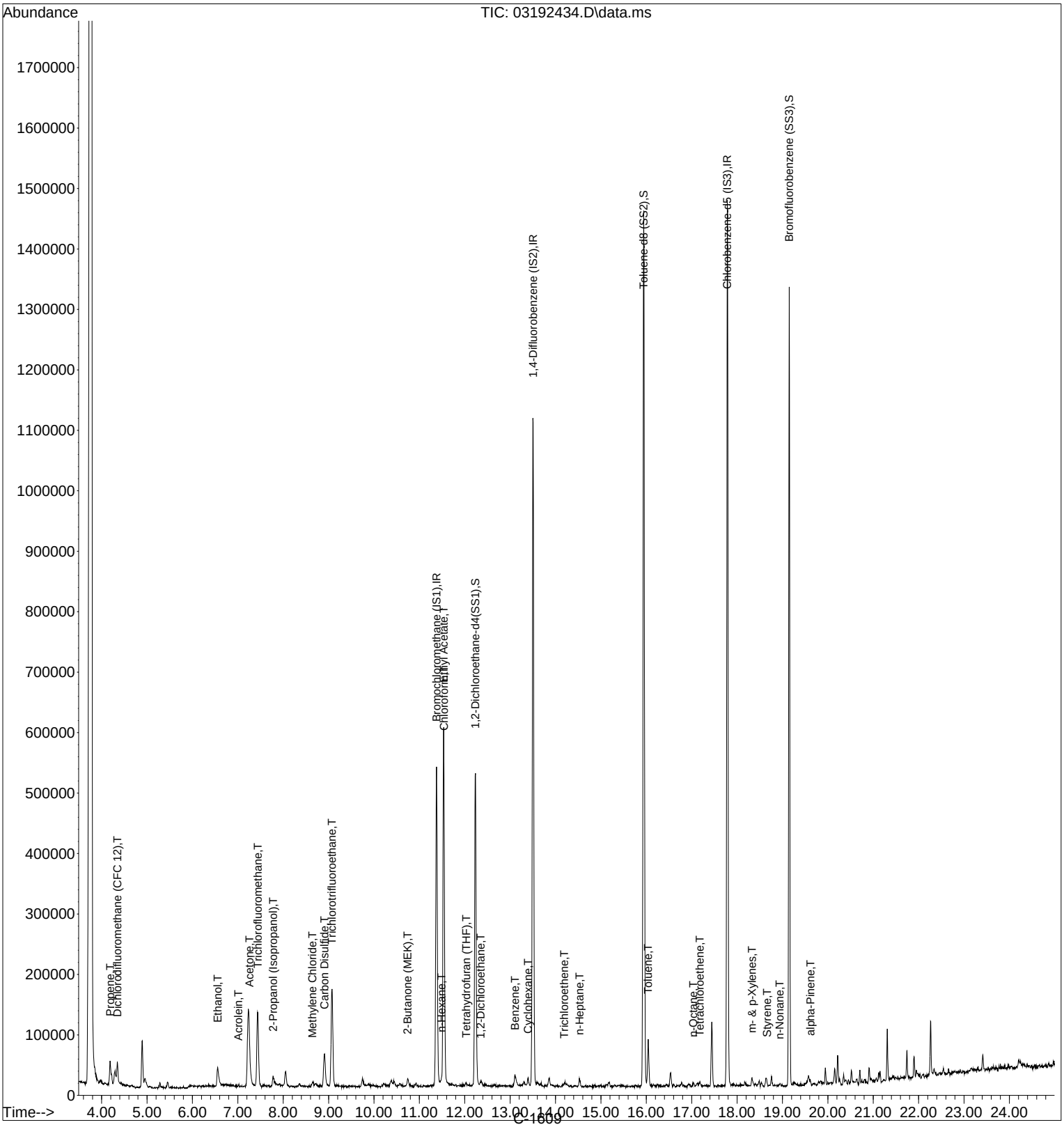
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	1889	N.D.		
50) Methyl Methacrylate	14.43	100	180	N.D.		
51) n-Heptane	14.53	71	3237	0.146 ng		94
52) cis-1,3-Dichloropropene	14.95	75	227	N.D.		
53) 4-Methyl-2-pentanone	15.13	58	683	N.D.		
54) trans-1,3-Dichloropropene	15.49	75	219	N.D.		
55) 1,1,2-Trichloroethane	15.75	97	248	N.D.		
58) Toluene	16.04	91	53689	0.698 ng		94
59) 2-Hexanone	16.26	43	912	N.D.		
60) Dibromochloromethane	16.46	129	639	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	17.04	57	1129	0.064 ng		98
64) Tetrachloroethene	17.18	166	1364	0.061 ng		97
65) Chlorobenzene	17.83	112	1718	N.D.		
66) Ethylbenzene	18.17	91	4347	N.D.		
67) m- & p-Xylenes	18.33	91	7988	0.111 ng		93
68) Bromoform	18.41	173	533	N.D.		
69) Styrene	18.66	104	2540	0.051 ng		94
70) o-Xylene	18.76	91	3556	N.D.		
71) n-Nonane	18.94	43	2733	0.060 ng	#	77
72) 1,1,2,2-Tetrachloroethane	18.74	83	275	N.D.		
74) Cumene	19.27	105	1263	N.D.		
75) alpha-Pinene	19.62	93	2960	0.072 ng	#	41
76) n-Propylbenzene	19.71	91	2136	N.D.		
77) 3-Ethyltoluene	20.26	105	1471	No Calib		
78) 4-Ethyltoluene	19.84	105	1307	N.D.		
79) 1,3,5-Trimethylbenzene	19.90	105	1008	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.26	105	1471	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	1471	N.D.		
83) n-Decane	20.34	58	354	No Calib	#	
84) Benzyl Chloride	20.37	91	554	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	838	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	965	N.D.		
87) sec-Butylbenzene	20.50	105	1321	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	1657	N.D.		
89) 1,2,3-Trimethylbenzene	20.26	105	1471	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	847	N.D.		
91) d-Limonene	20.75	68	953	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.12	157	151	N.D.		
93) n-Undecane	21.55	58	317	No Calib	#	
94) 1,2,4-Trichlorobenzene	0.00	180	0	N.D. d		
95) Naphthalene	22.36	128	1633	N.D.		
96) n-Dodecane	22.79	57	1098	No Calib	#	
97) Hexachlorobutadiene	22.66	225	814	N.D.		
98) Cyclohexanone	18.24	55	344	No Calib	#	
99) tert-Butylbenzene	20.26	119	1736	N.D.		
100) n-Butylbenzene	20.97	91	1822	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 20 14:42:00 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
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CI 3/20/24

Quant Time: Mar 20 14:42:00 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	204261	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	965696	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	209877	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	418091	12.153	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
57) Toluene-d8 (SS2)	15.94	98	1074849	13.114	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
73) Bromofluorobenzene (SS3)	19.15	174	356602	12.920	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
Target Compounds							Qvalue
2) Propene	4.19	42	9673m	0.336	ng		
3) Dichlorodifluoromethan...	4.34	85	25179	0.554	ng		97
10) Ethanol	6.56	45	65585	3.581	ng		98
12) Acrolein	7.01	56	2072	0.156	ng		82
13) Acetone	7.25	58	31700	2.135	ng	#	37
14) Trichlorofluoromethane	7.44	101	127772	3.132	ng		99
15) 2-Propanol (Isopropanol)	7.78	45	44904	0.812	ng		86
19) Methylene Chloride	8.64	84	3871	0.180	ng		91
21) Trichlorotrifluoroethane	9.07	151	65508	3.686	ng		99
22) Carbon Disulfide	8.91	76	114841	1.882	ng		98
27) 2-Butanone (MEK)	10.74	72	5205	0.401	ng	#	78
30) Ethyl Acetate	11.54	61	102548	13.856	ng		89
31) n-Hexane	11.49	57	5852	0.173	ng	#	86
32) Chloroform	11.54	83	9076	0.263	ng		100
34) Tetrahydrofuran (THF)	12.03	72	1906	0.152	ng	#	85
36) 1,2-Dichloroethane	12.35	62	1929	0.056	ng		94
41) Benzene	13.11	78	15975	0.174	ng		89
43) Cyclohexane	13.39	84	4579	0.153	ng		94
47) Trichloroethene	14.19	130	1642	0.070	ng		89
51) n-Heptane	14.53	71	3237	0.146	ng		94
58) Toluene	16.04	91	53689	0.698	ng		94
63) n-Octane	17.04	57	1129	0.064	ng		98
64) Tetrachloroethene	17.18	166	1364	0.061	ng		97
67) m- & p-Xylenes	18.33	91	7988	0.111	ng		93
69) Styrene	18.66	104	2540	0.051	ng		94
71) n-Nonane	18.94	43	2733	0.060	ng	#	77
75) alpha-Pinene	19.62	93	2960	0.072	ng	#	41

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
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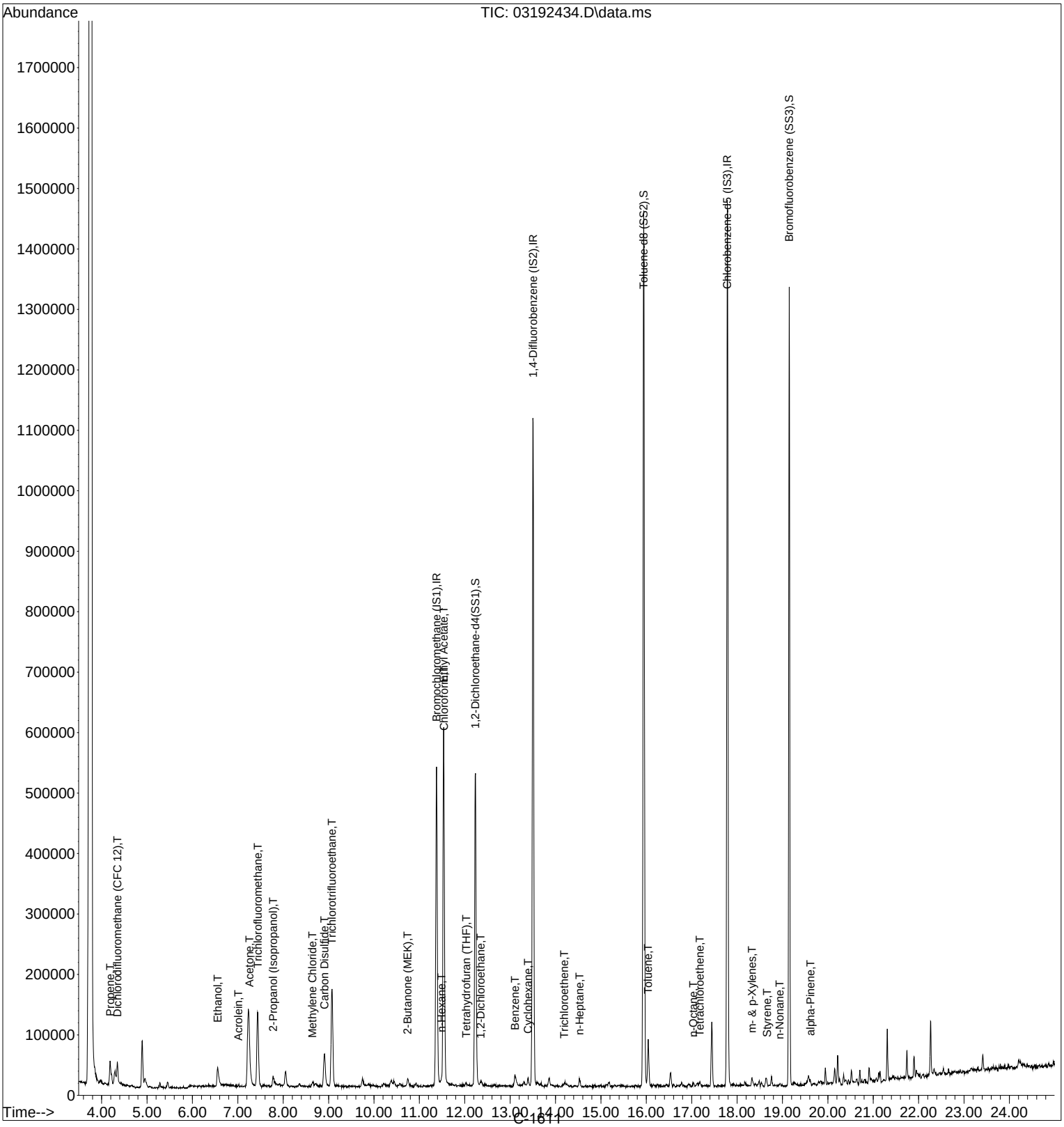
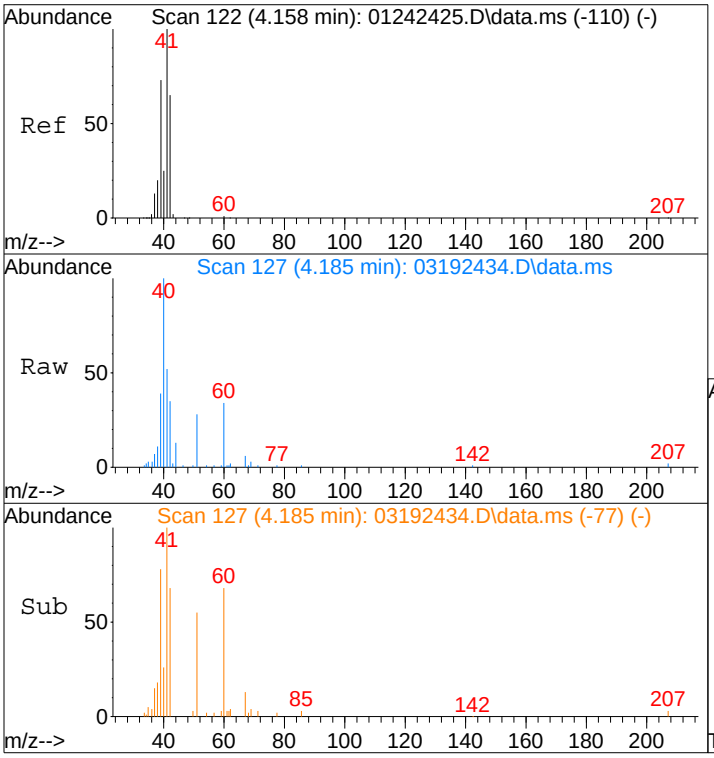
Quant Time: Mar 20 14:42:00 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

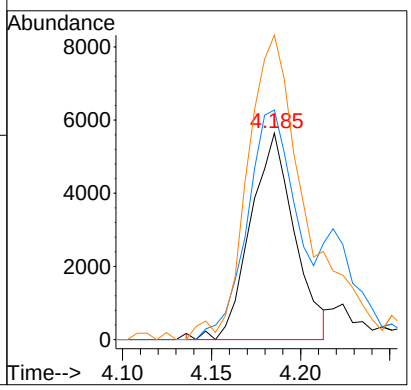


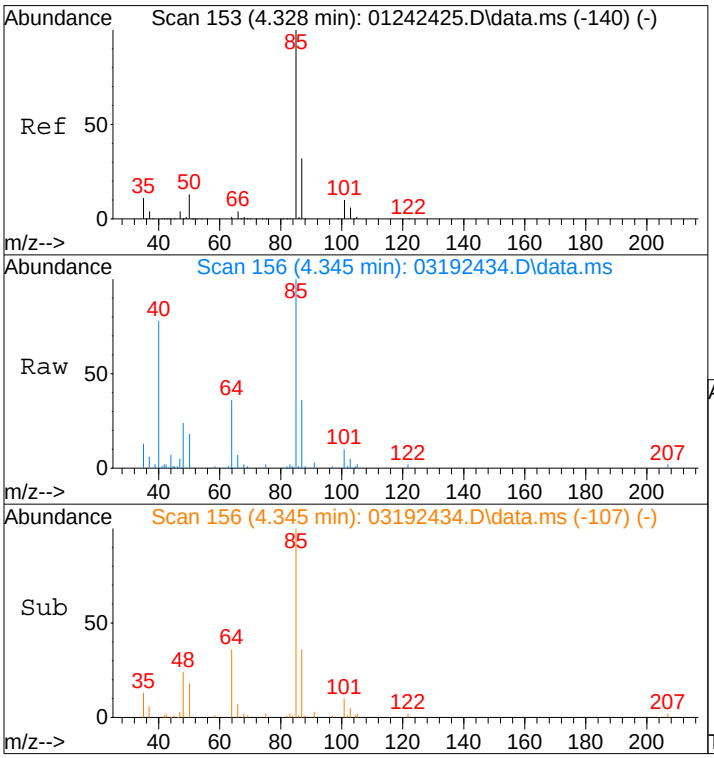


#2
Propene
Concen: 0.34 ng m
RT: 4.19 min Scan# 127
Delta R.T. 0.027 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 42 Resp: 9673

Ion	Ratio	Lower	Upper
42	100		
39	124.0	98.6	138.6
41	164.4	132.4	172.4

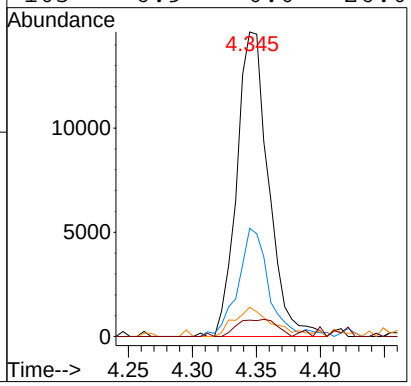


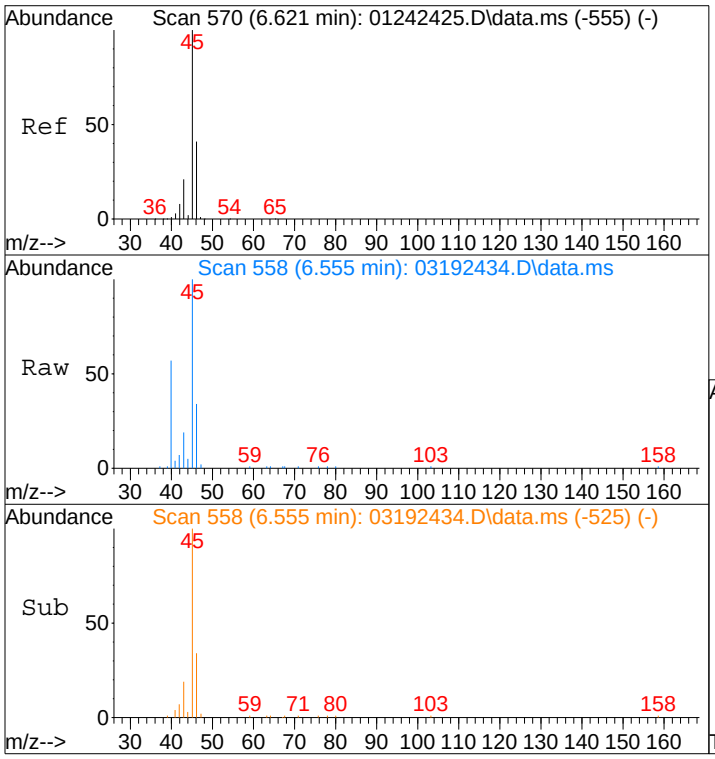


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 4.34 min Scan# 156
Delta R.T. 0.022 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 85 Resp: 25179

Ion	Ratio	Lower	Upper
85	100		
87	34.7	13.1	53.1
101	11.5	0.0	29.5
103	6.9	0.0	26.0

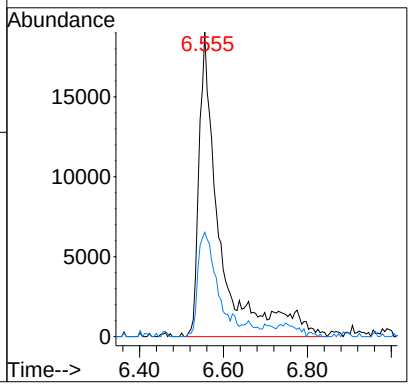


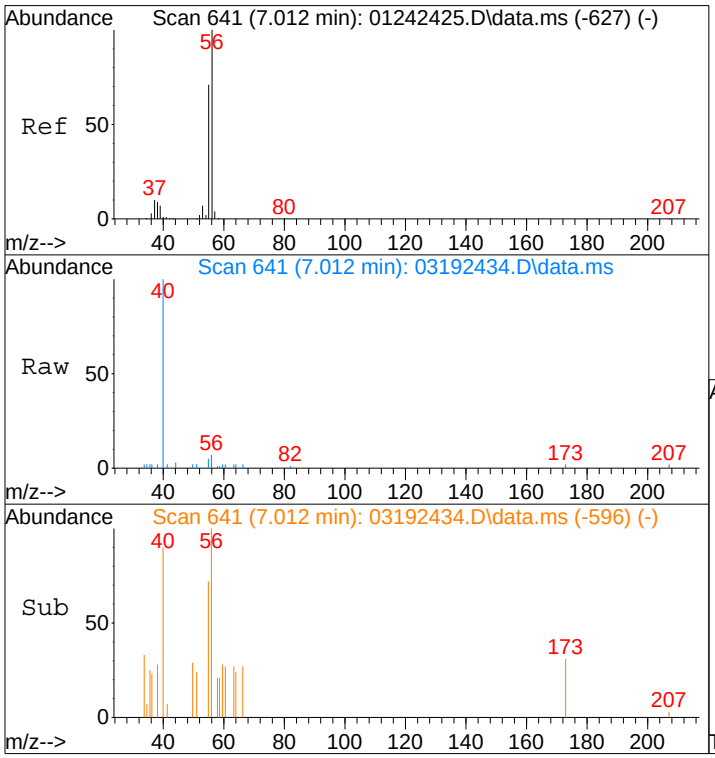


#10
Ethanol
Concen: 3.58 ng
RT: 6.56 min Scan# 558
Delta R.T. -0.066 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 45 Resp: 65585

Ion	Ratio	Lower	Upper
45	100		
46	41.0	19.6	59.6

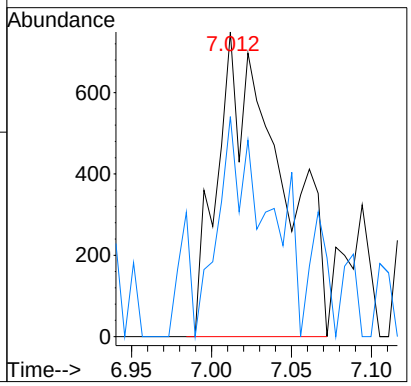


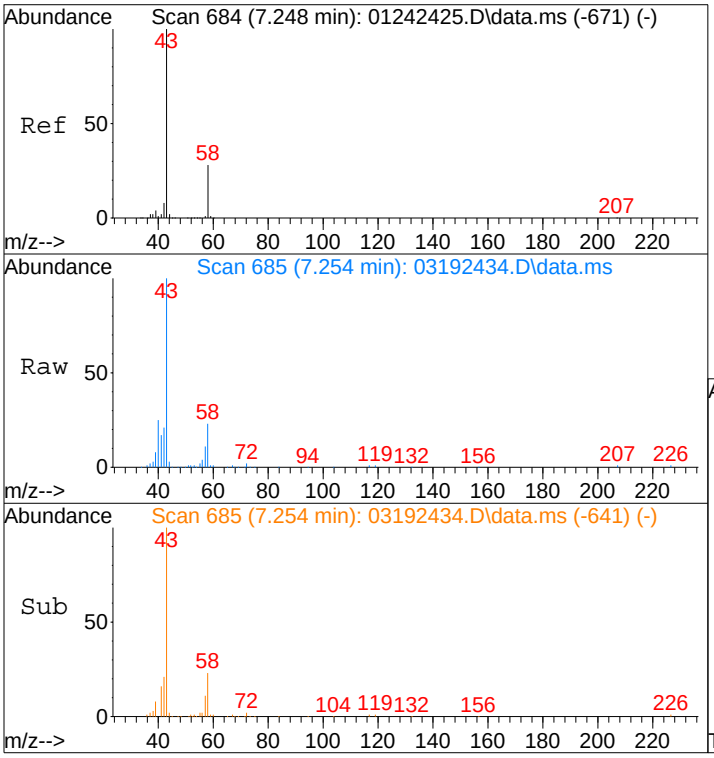


#12
Acrolein
Concen: 0.16 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.000 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 56 Resp: 2072

Ion	Ratio	Lower	Upper
56	100		
55	56.1	51.4	91.4

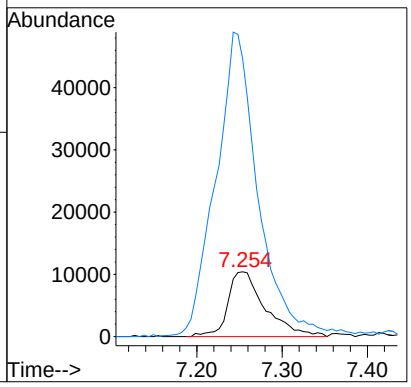


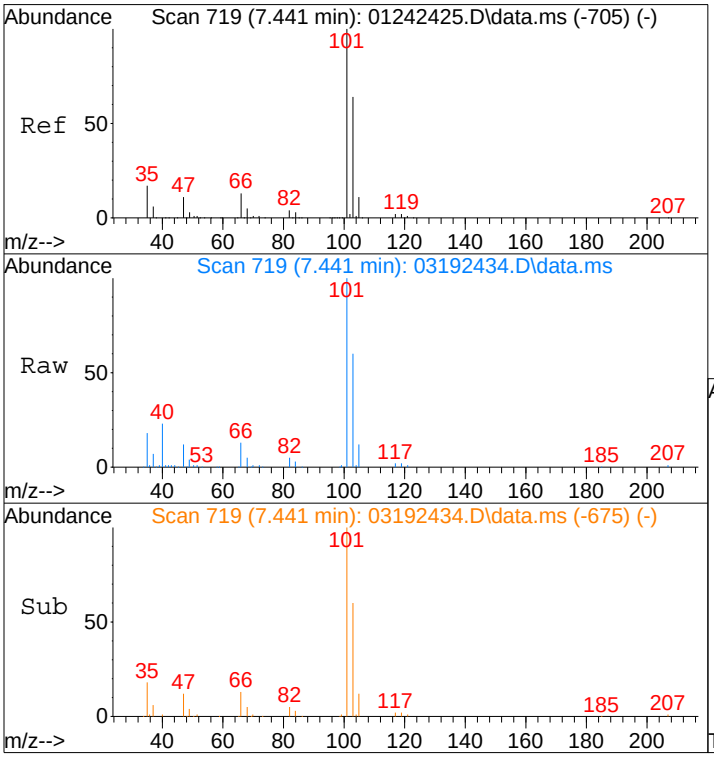


#13
Acetone
Concen: 2.13 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.009 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 58 Resp: 31700

Ion	Ratio	Lower	Upper
58	100		
43	533.3	357.4	417.4#

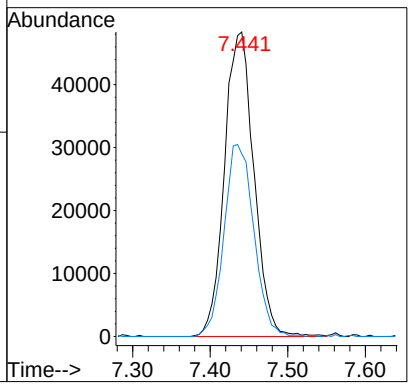


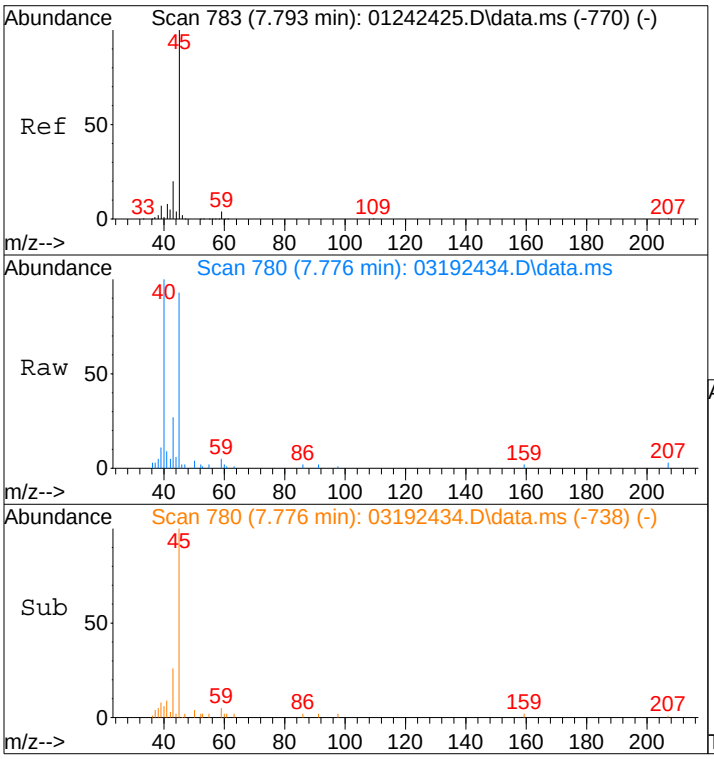


#14
Trichlorofluoromethane
Concen: 3.13 ng
RT: 7.44 min Scan# 719
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion:101 Resp: 127772

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.1	84.1

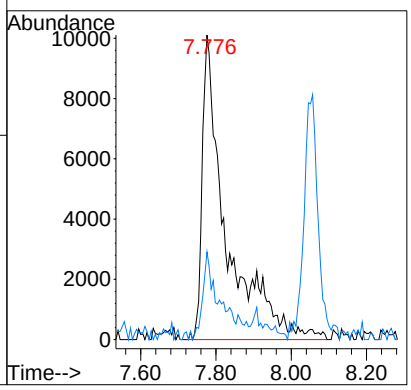


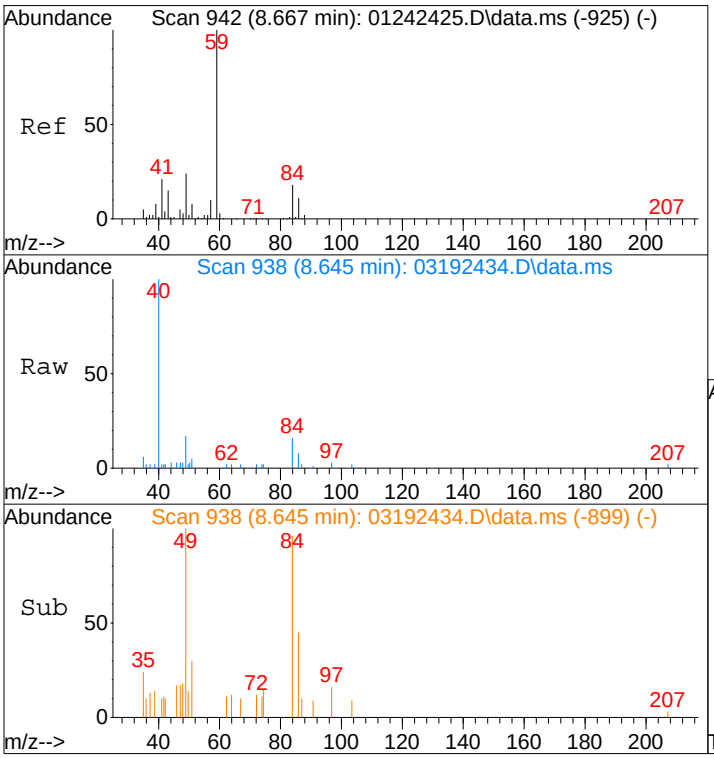


#15
2-Propanol (Isopropanol)
Concen: 0.81 ng
RT: 7.78 min Scan# 780
Delta R.T. -0.017 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 45 Resp: 44904

Ion	Ratio	Lower	Upper
45	100		
43	27.2	0.7	40.7

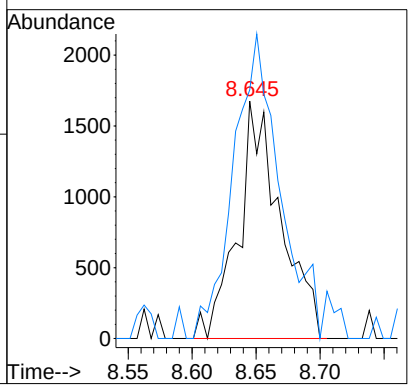


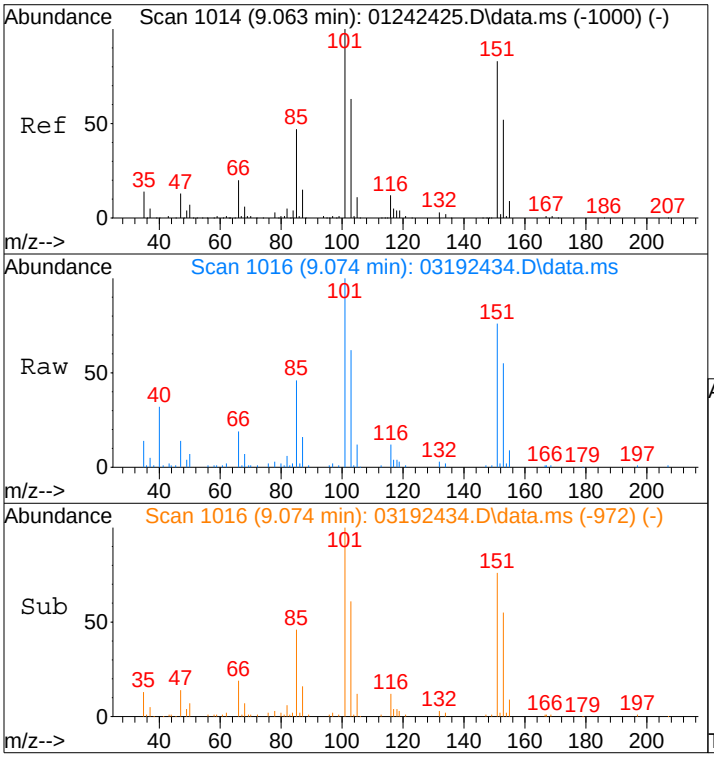


#19
Methylene Chloride
Concen: 0.18 ng
RT: 8.64 min Scan# 938
Delta R.T. -0.033 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 84 Resp: 3871

Ion	Ratio	Lower	Upper
84	100		
49	139.4	126.4	176.4

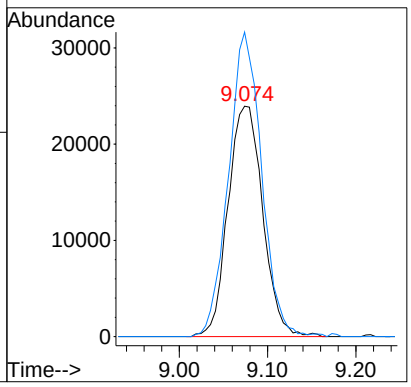


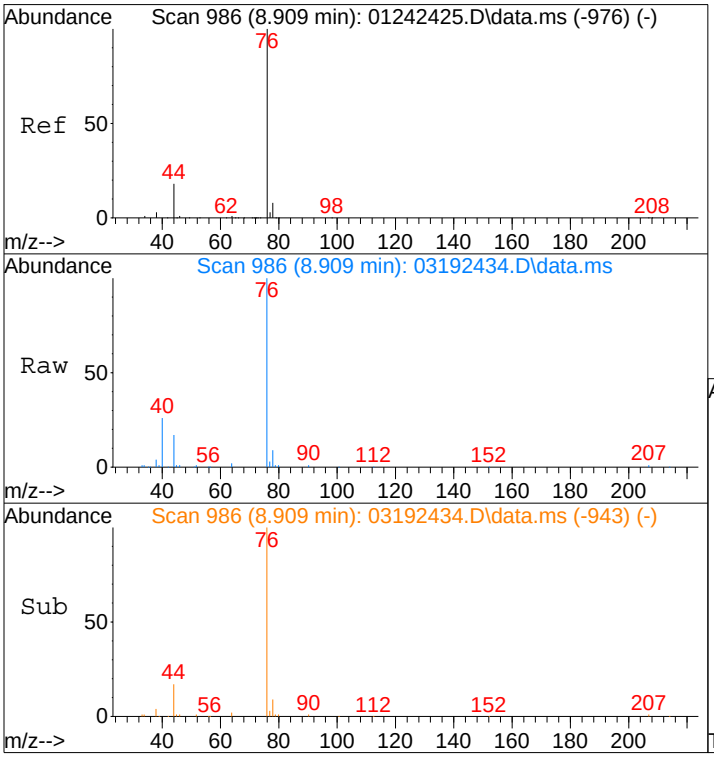


#21
Trichlorotrifluoroethane
Concen: 3.69 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion:151 Resp: 65508

Ion	Ratio	Lower	Upper
151	100		
101	125.7	104.2	144.2

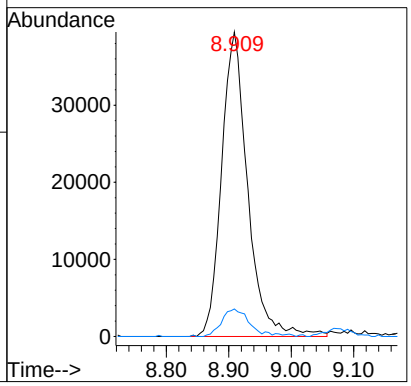


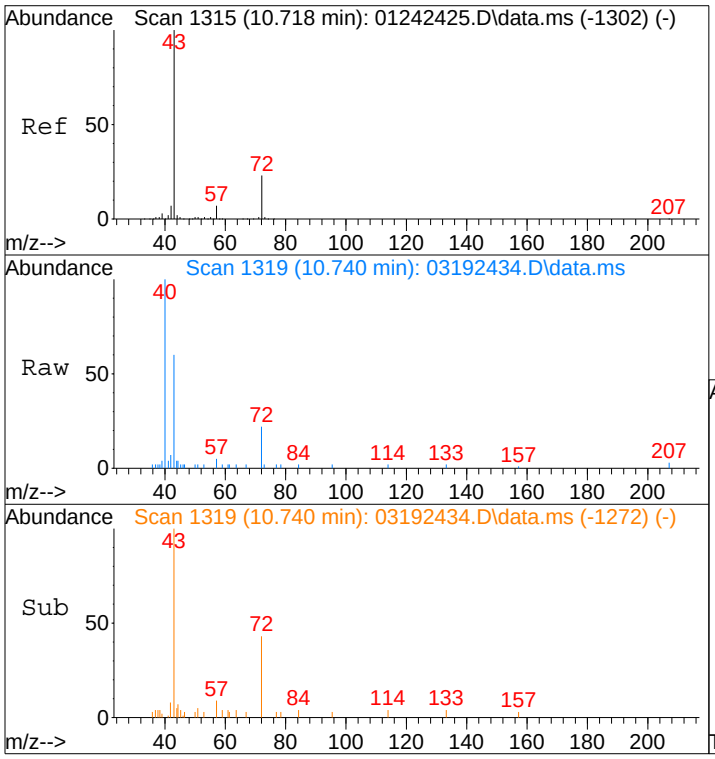


#22
Carbon Disulfide
Concen: 1.88 ng
RT: 8.91 min Scan# 986
Delta R.T. -0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 76 Resp: 114841

Ion	Ratio	Lower	Upper
76	100		
78	9.8	0.0	29.3

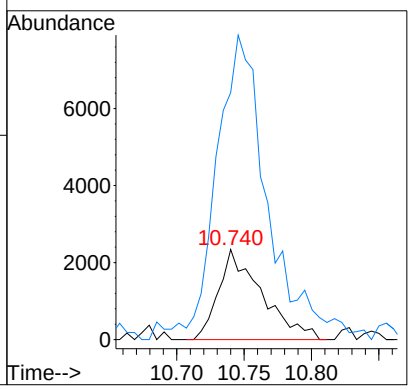


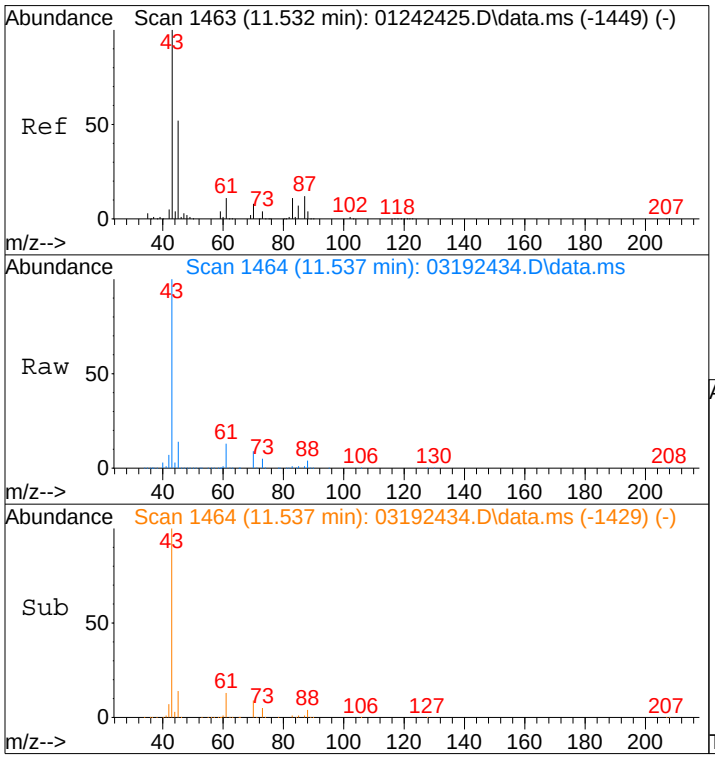


#27
2-Butanone (MEK)
Concen: 0.40 ng
RT: 10.74 min Scan# 1319
Delta R.T. 0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 72 Resp: 5205

Ion	Ratio	Lower	Upper
72	100		
43	400.8	437.9	477.9#

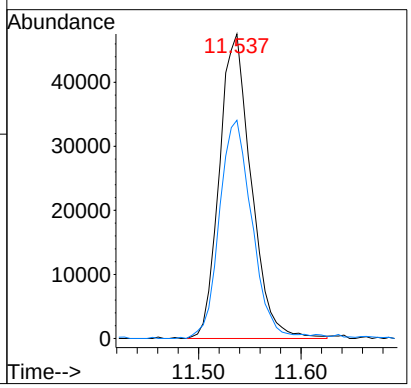


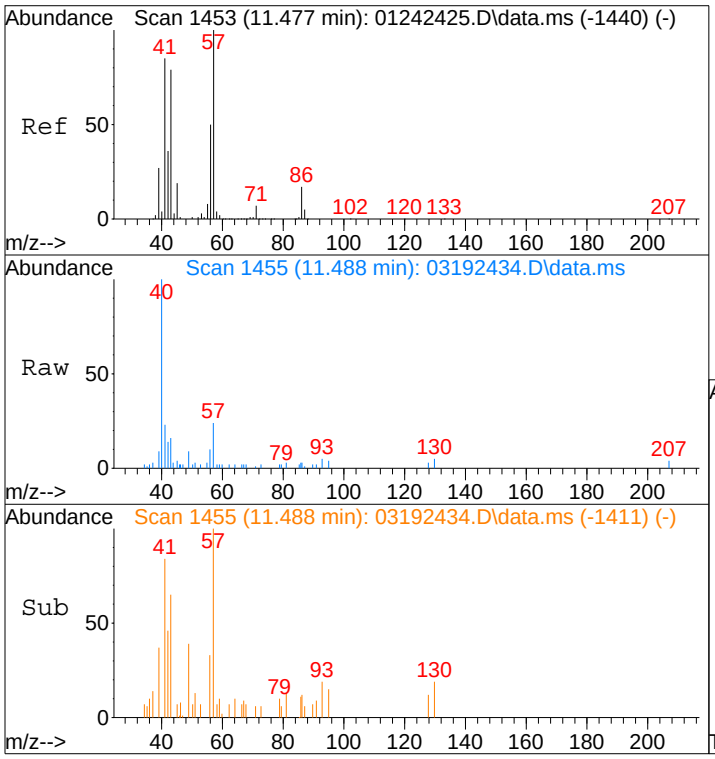


#30
Ethyl Acetate
Concen: 13.86 ng
RT: 11.54 min Scan# 1464
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 61 Resp: 102548

Ion	Ratio	Lower	Upper
61	100		
70	74.5	64.5	104.5

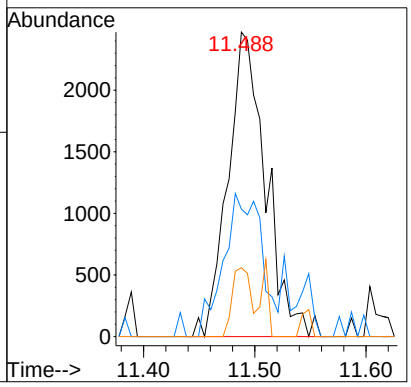


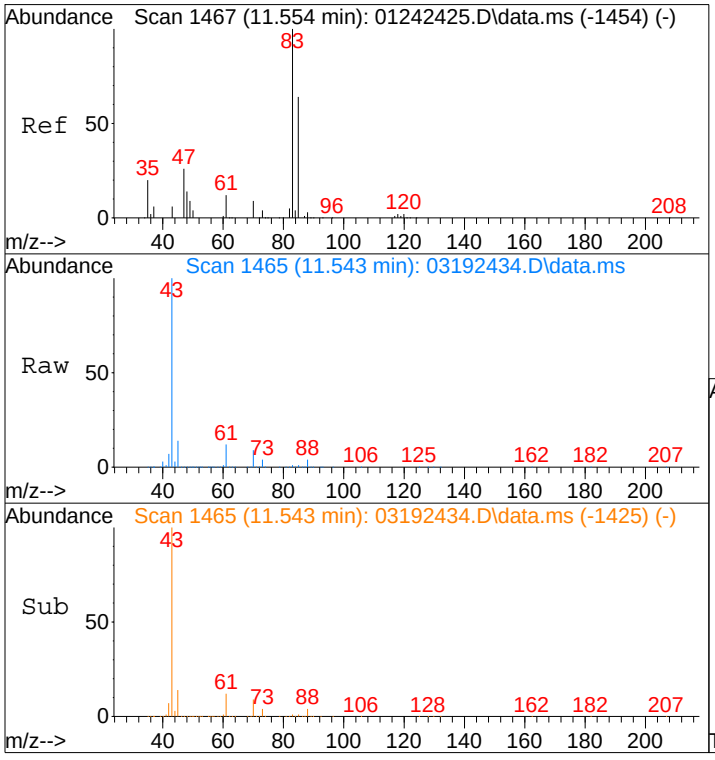


#31
n-Hexane
Concen: 0.17 ng
RT: 11.49 min Scan# 1455
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 57 Resp: 5852

Ion	Ratio	Lower	Upper
57	100		
56	47.2	40.7	61.1
86	0.0	13.4	20.2#

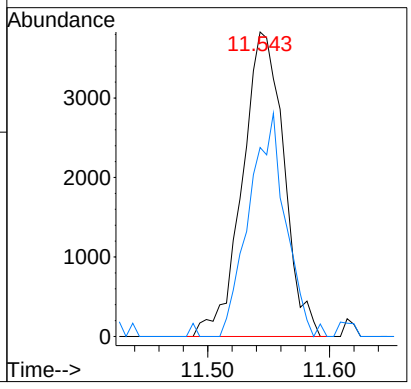


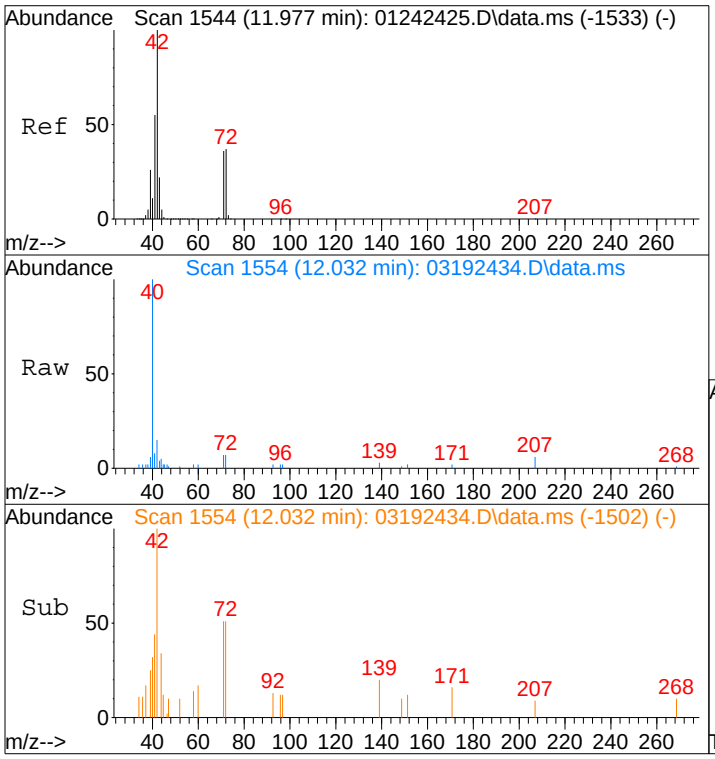


#32
Chloroform
Concen: 0.26 ng
RT: 11.54 min Scan# 1465
Delta R.T. -0.028 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 83 Resp: 9076

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.3	84.3

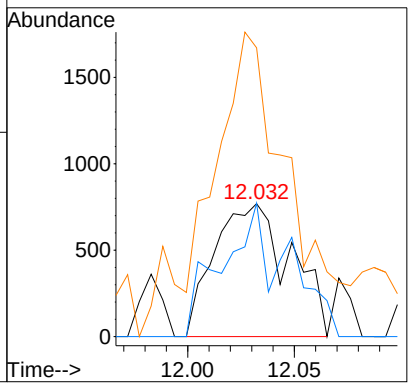


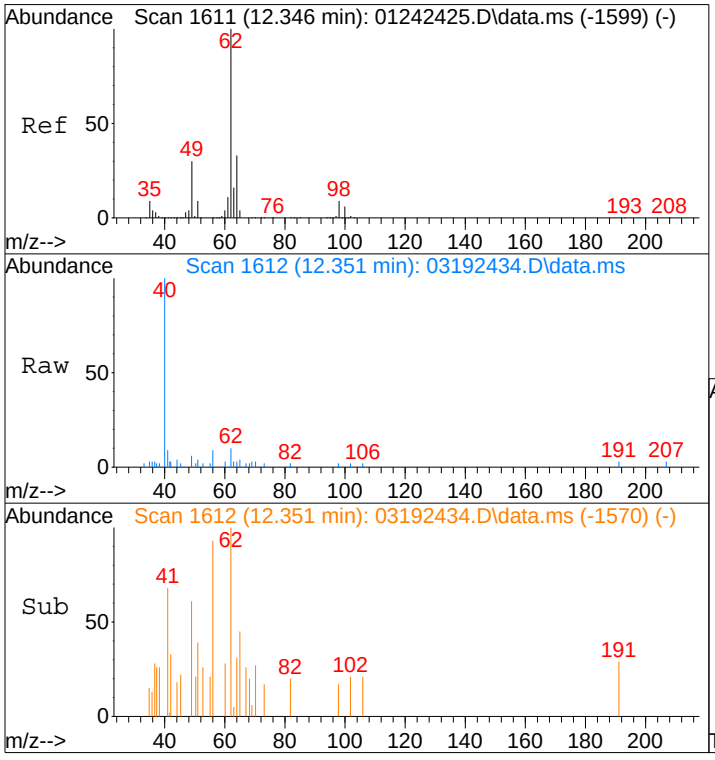


#34
Tetrahydrofuran (THF)
Concen: 0.15 ng
RT: 12.03 min Scan# 1554
Delta R.T. 0.038 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 72 Resp: 1906

Ion	Ratio	Lower	Upper
72	100		
71	86.7	76.1	116.1
42	239.8	250.1	290.1#

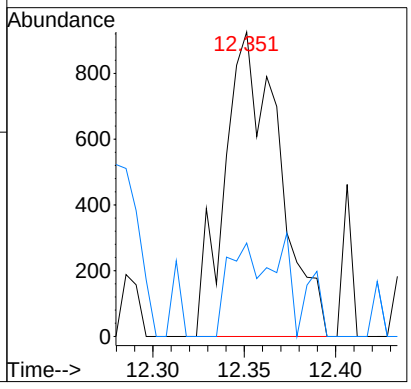


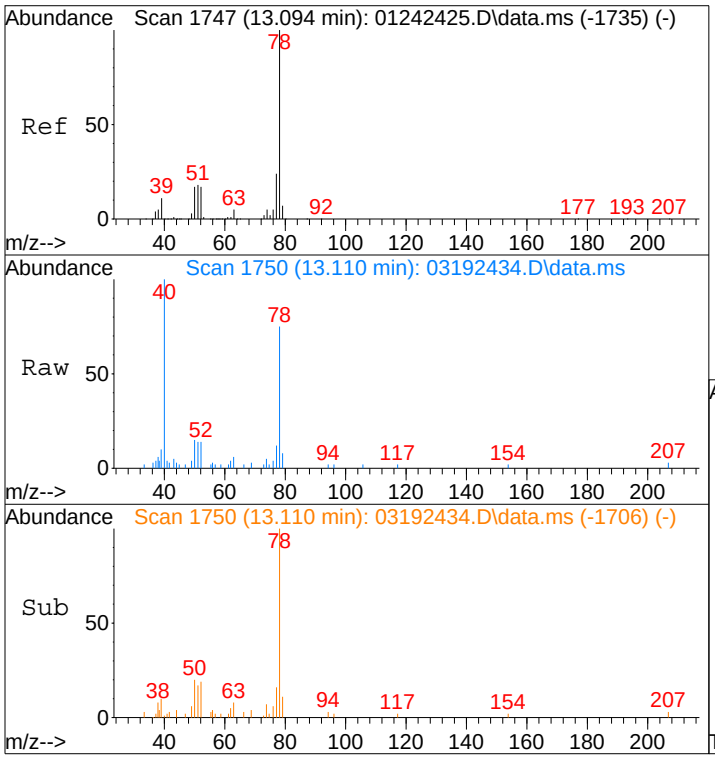


#36
1,2-Dichloroethane
Concen: 0.06 ng
RT: 12.35 min Scan# 1612
Delta R.T. -0.017 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 62 Resp: 1929

Ion	Ratio	Lower	Upper
62	100		
64	28.2	11.7	51.7

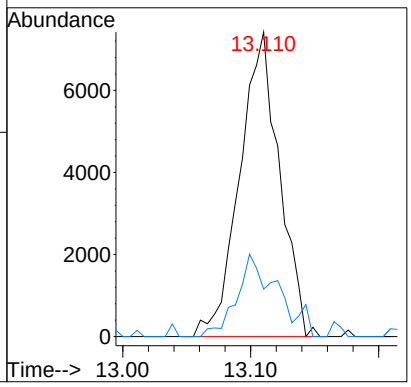


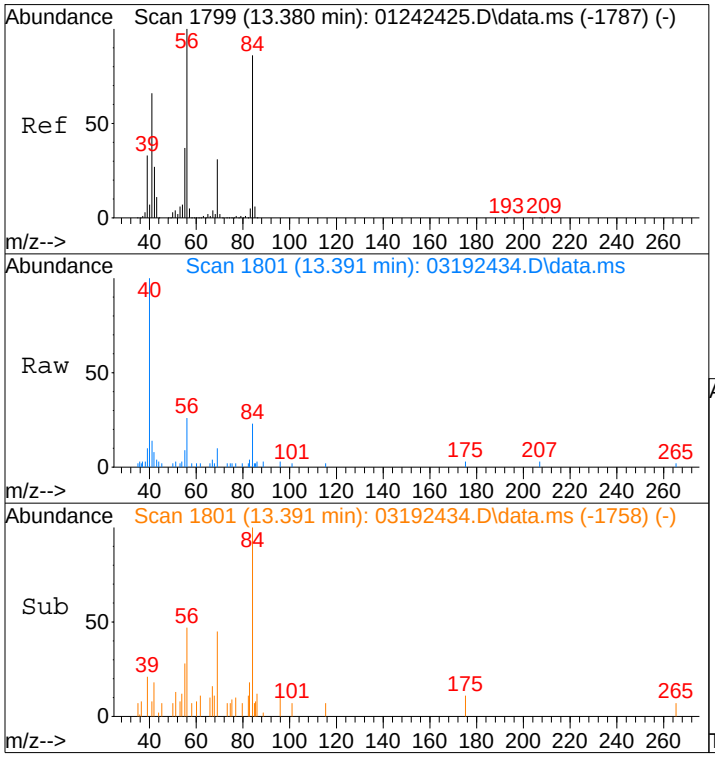


#41
Benzene
Concen: 0.17 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 78 Resp: 15975

Ion	Ratio	Lower	Upper
78	100		
77	27.8	2.6	42.6

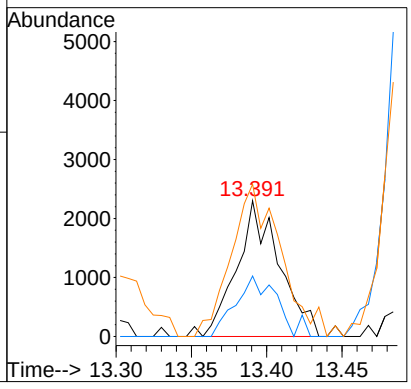


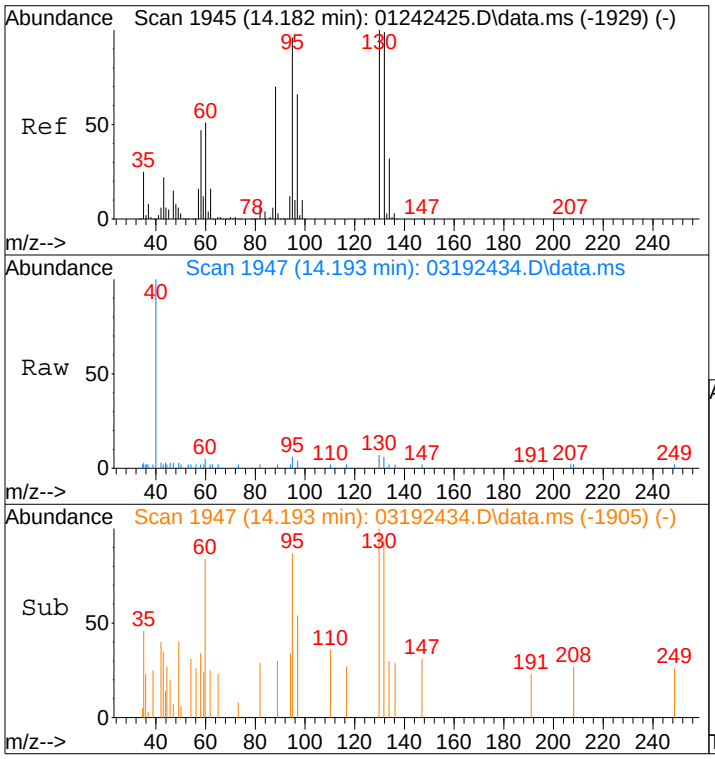


#43
Cyclohexane
Concen: 0.15 ng
RT: 13.39 min Scan# 1801
Delta R.T. -0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 84 Resp: 4579

Ion	Ratio	Lower	Upper
84	100		
69	40.3	17.1	57.1
56	129.2	101.6	141.6

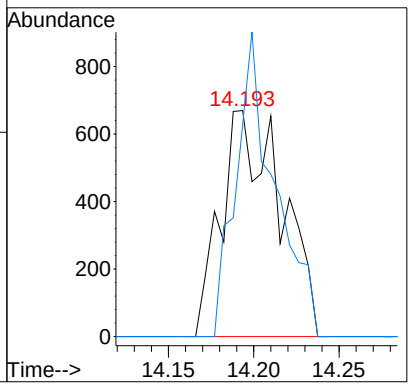


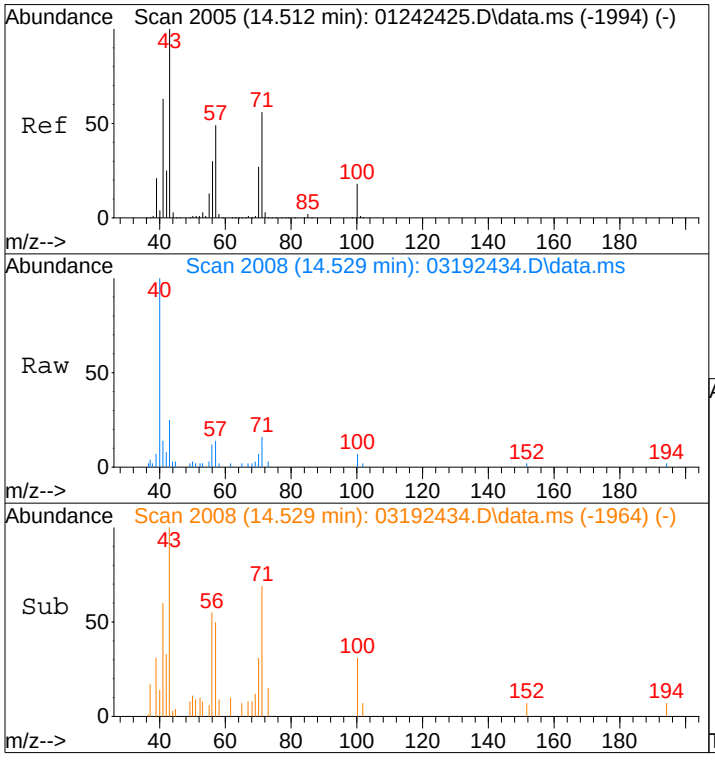


#47
Trichloroethene
Concen: 0.07 ng
RT: 14.19 min Scan# 1947
Delta R.T. -0.017 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion:130 Resp: 1642

Ion	Ratio	Lower	Upper
130	100		
132	87.0	78.3	118.3

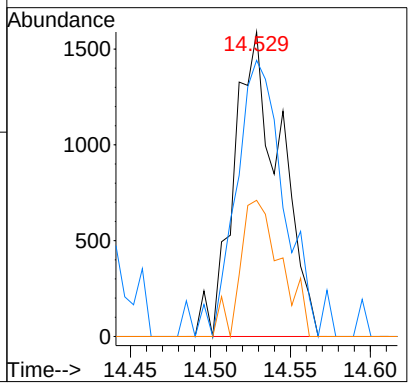


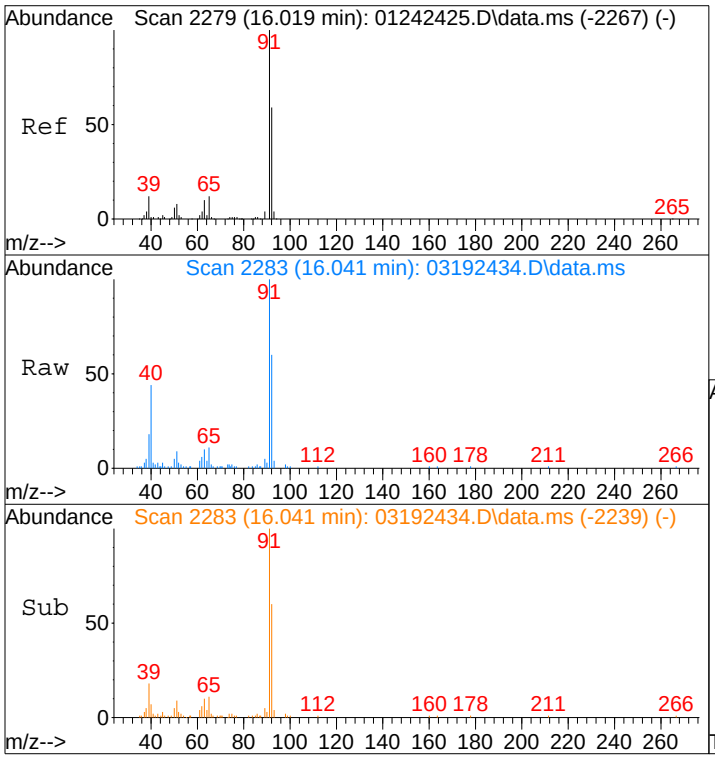


#51
n-Heptane
Concen: 0.15 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 71 Resp: 3237

Ion	Ratio	Lower	Upper
71	100		
57	91.5	69.1	109.1
100	39.0	10.7	50.7

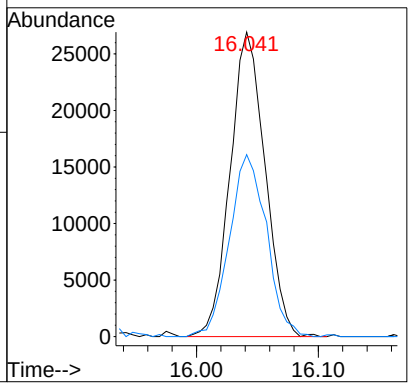


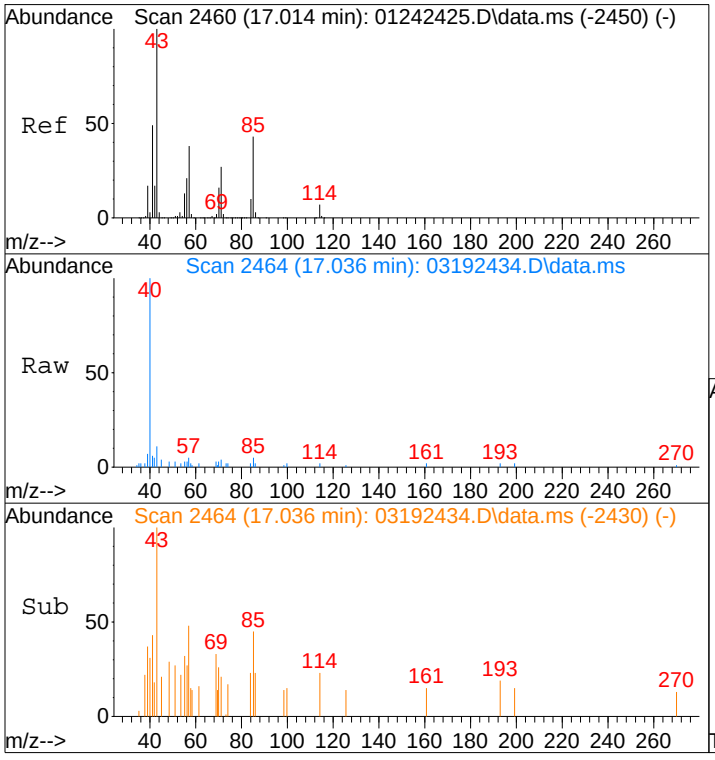


#58
Toluene
Concen: 0.70 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 91 Resp: 53689

Ion	Ratio	Lower	Upper
91	100		
92	63.3	39.1	79.1

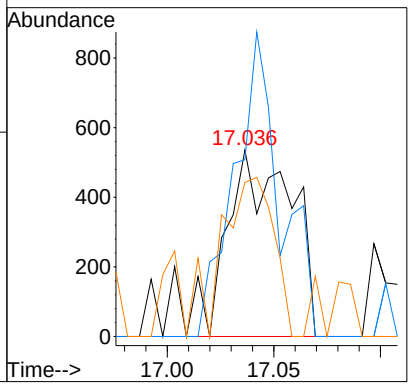


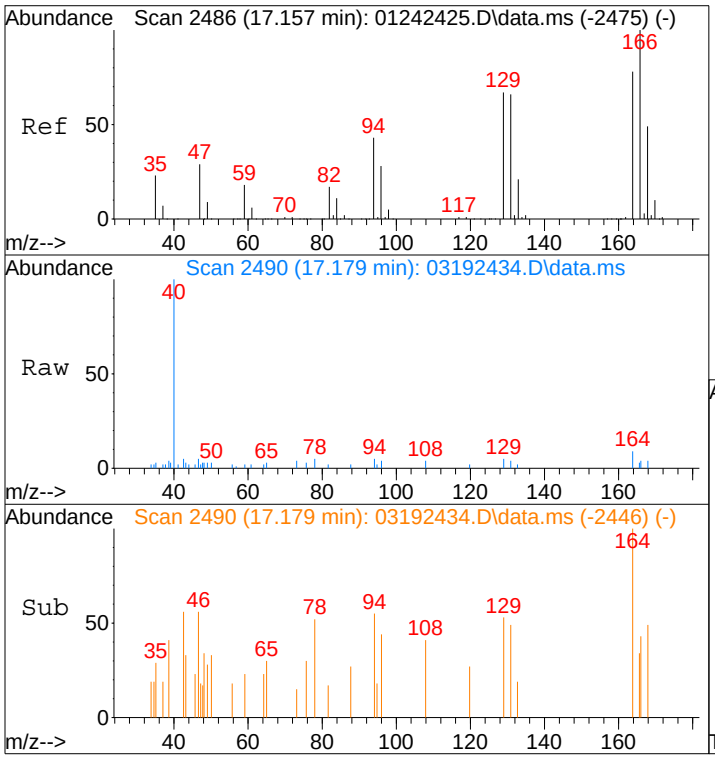


#63
n-Octane
Concen: 0.06 ng
RT: 17.04 min Scan# 2464
Delta R.T. -0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 57 Resp: 1129

Ion	Ratio	Lower	Upper
57	100		
85	115.6	90.2	135.2
71	69.7	57.1	85.7

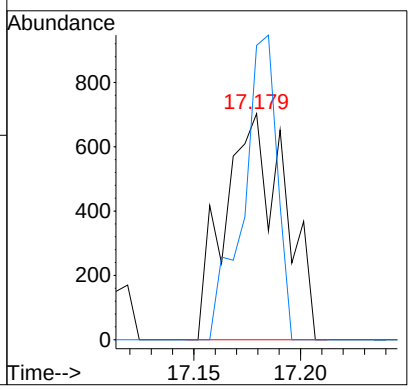


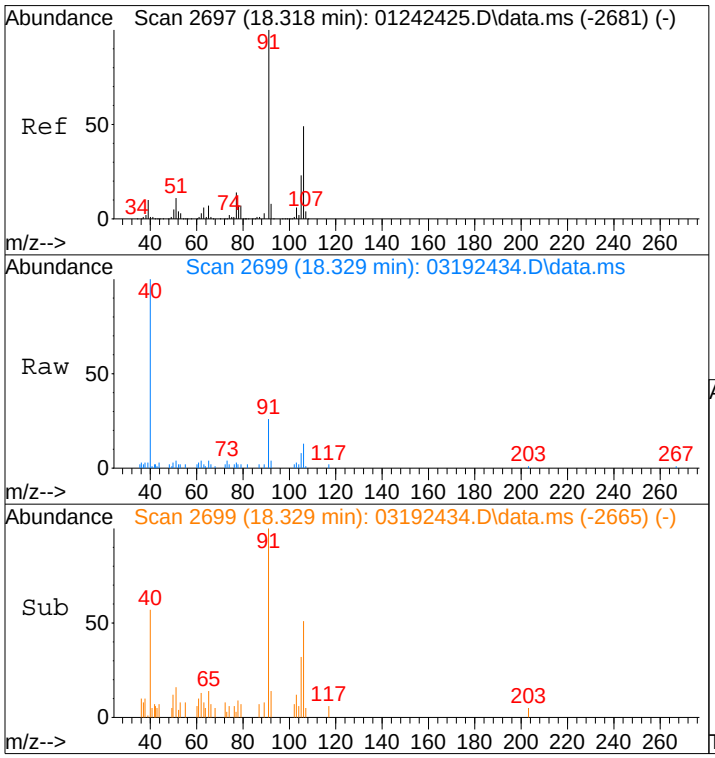


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 17.18 min Scan# 2490
Delta R.T. -0.006 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion:166 Resp: 1364

Ion	Ratio	Lower	Upper
166	100		
164	76.5	59.3	99.3

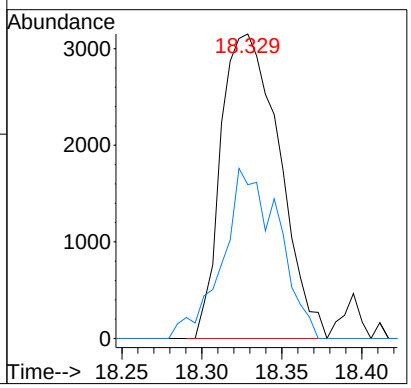


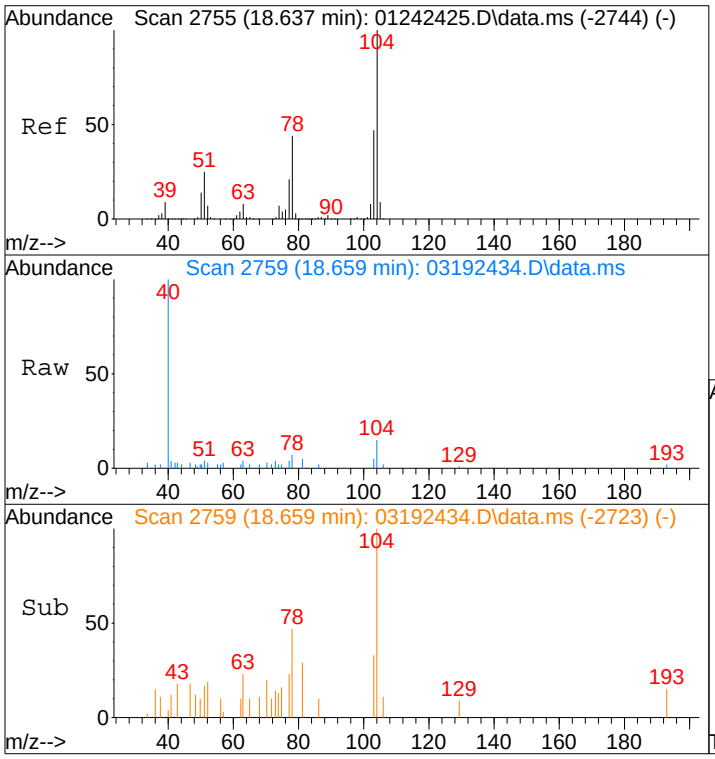


#67
m- & p-Xylenes
Concen: 0.11 ng
RT: 18.33 min Scan# 2699
Delta R.T. -0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 91 Resp: 7988

Ion	Ratio	Lower	Upper
91	100		
106	53.6	28.7	68.7

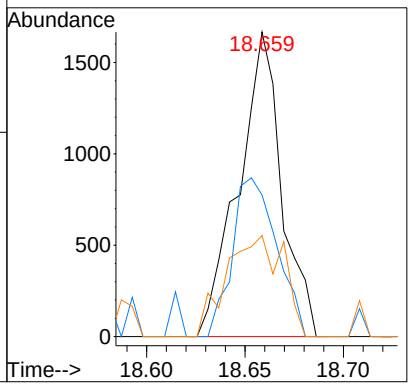


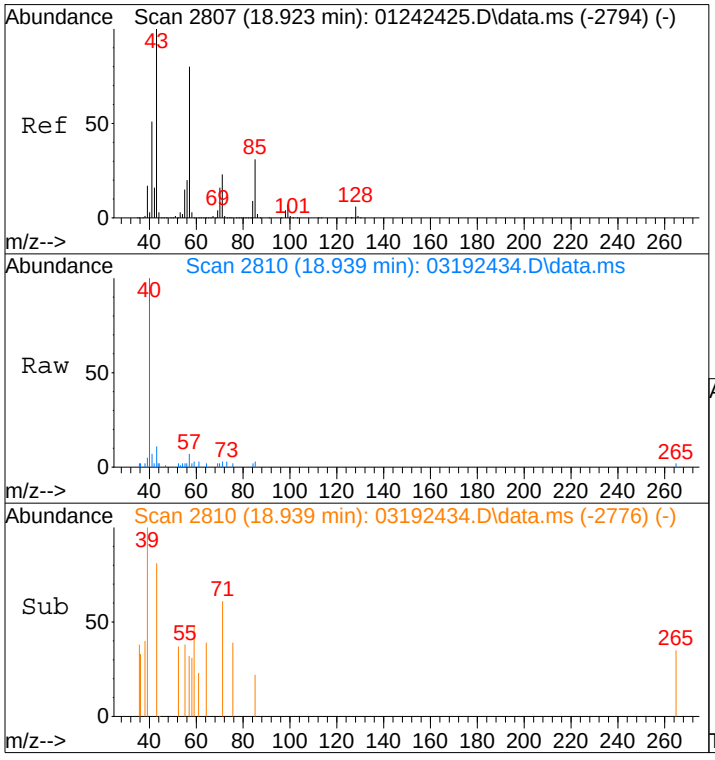


#69
Styrene
Concen: 0.05 ng
RT: 18.66 min Scan# 2759
Delta R.T. -0.000 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion:104 Resp: 2540

Ion	Ratio	Lower	Upper
104	100		
78	53.8	28.8	68.8
103	43.8	27.6	67.6

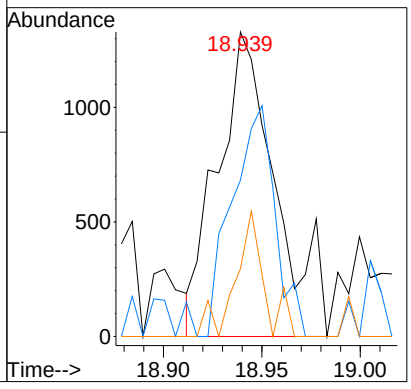


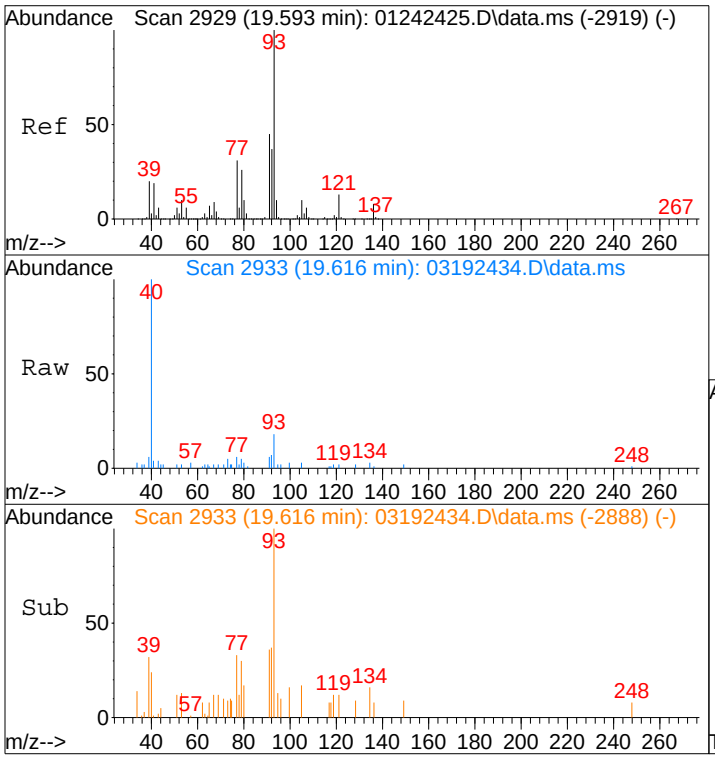


#71
n-Nonane
Concen: 0.06 ng
RT: 18.94 min Scan# 2810
Delta R.T. -0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 43 Resp: 2733

Ion	Ratio	Lower	Upper
43	100		
57	56.2	57.4	97.4#
85	20.1	10.1	50.1

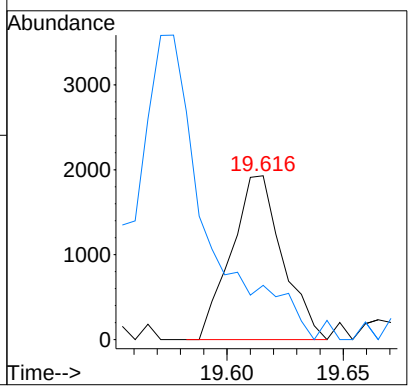




#75
alpha-Pinene
Concen: 0.07 ng
RT: 19.62 min Scan# 2933
Delta R.T. -0.000 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 93 Resp: 2960

Ion	Ratio	Lower	Upper
93	100		
77	0.0	13.6	53.6#



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:16:06 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

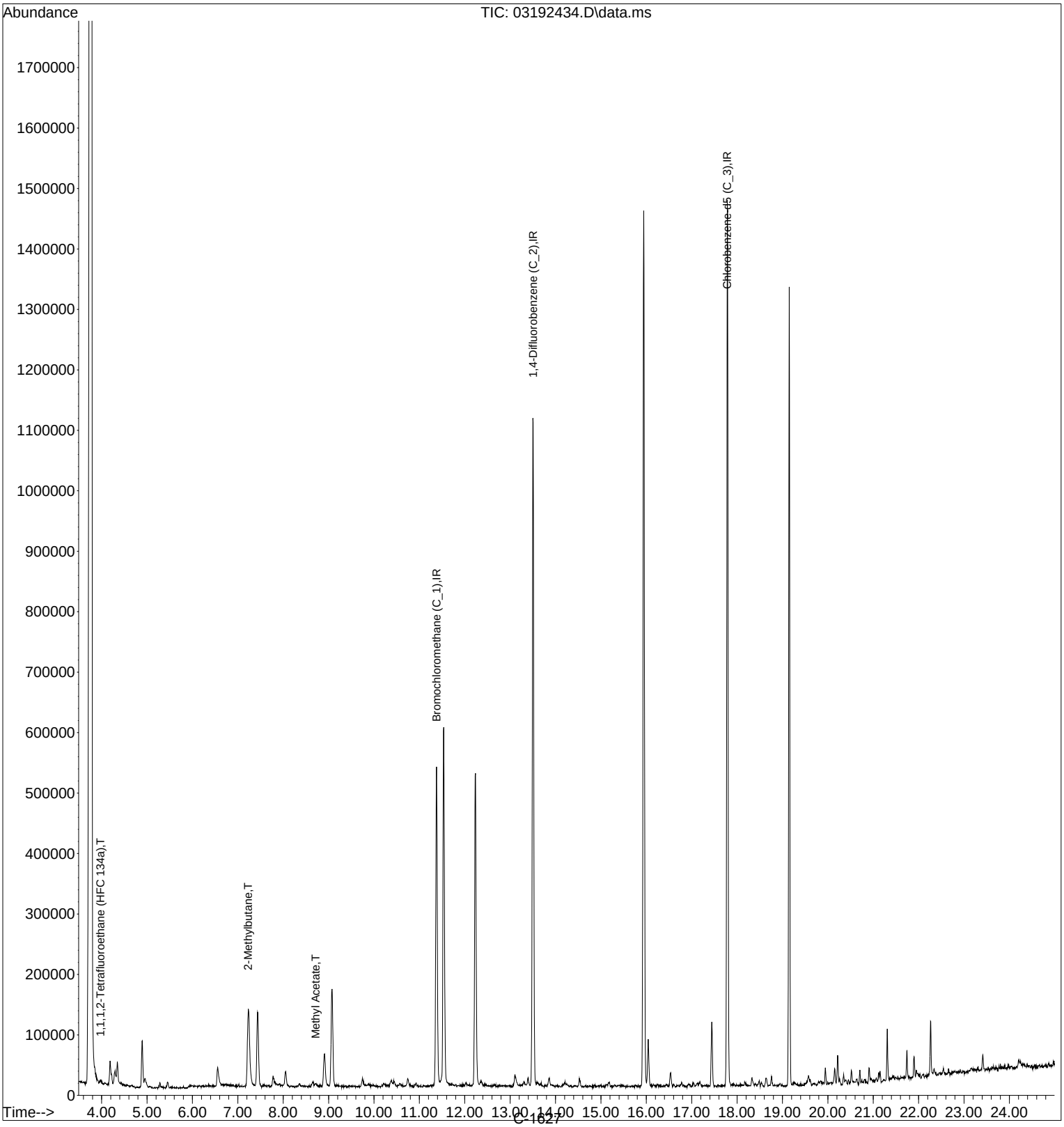
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	207754	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	967489	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	209877	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.87	85	715	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3142	0.152	ng	#	75
4) 1,1-Difluoroethane	4.08	65	1285	N.D.			
5) Chlorodifluoromethane ...	4.13	67	53	N.D.			
6) 1-Chloro-1,1-Difluoroe...	4.67	65	943	N.D.			
7) Dichlorofluoromethane ...	6.38	67	514	N.D.			
8) Vinylbromide	6.70	108	53	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	203	N.D.			
10) 2-Methylbutane	7.23	57	43039	2.068	ng	#	83
11) Methyl Acetate	8.72	43	5935	0.126	ng	#	86
12) 2-Methylpentane	10.44	71	1308	N.D.			
13) 2,2-Dichloropropane	11.55	77	55	N.D.			
14) 1,1-Dichloropropene	12.98	75	220	N.D.			
15) Thiophene	13.22	84	138	N.D.			
17) 2,3-Dimethylpentane	13.68	56	1386	N.D.			
18) Dibromomethane	13.91	174	609	N.D.			
20) Methyl Cyclohexane	15.17	55	2553	N.D.			
21) 1,3-Dichloropropane	16.04	76	546	N.D.			
22) 1,1,1,2-Tetrachloroethane	17.92	131	115	N.D.			
23) 1-Chlorohexane	17.99	91	121	N.D.			
24) 1,2,3-Trichloropropane	18.85	75	413	N.D.			
25) Bromobenzene	19.34	77	205	N.D.			
26) 2-Chlorotoluene	19.68	91	1318	N.D.			
27) 4-Chlorotoluene	19.71	91	1719	N.D.			
28) Indane	20.81	117	224	N.D.			
29) Indene	20.81	115	61	N.D.			
30) 1,2,4,5-Tetramethylben...	21.74	119	339	N.D.			
31) 1,2,3,4-Tetramethylben...	21.74	119	339	N.D.			
32) 1,2,3,5-Tetramethylben...	21.95	119	129	N.D.			
33) 1,2,3-Trichlorobenzene	22.58	180	134	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 14:16:06 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-1627

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:16:06 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

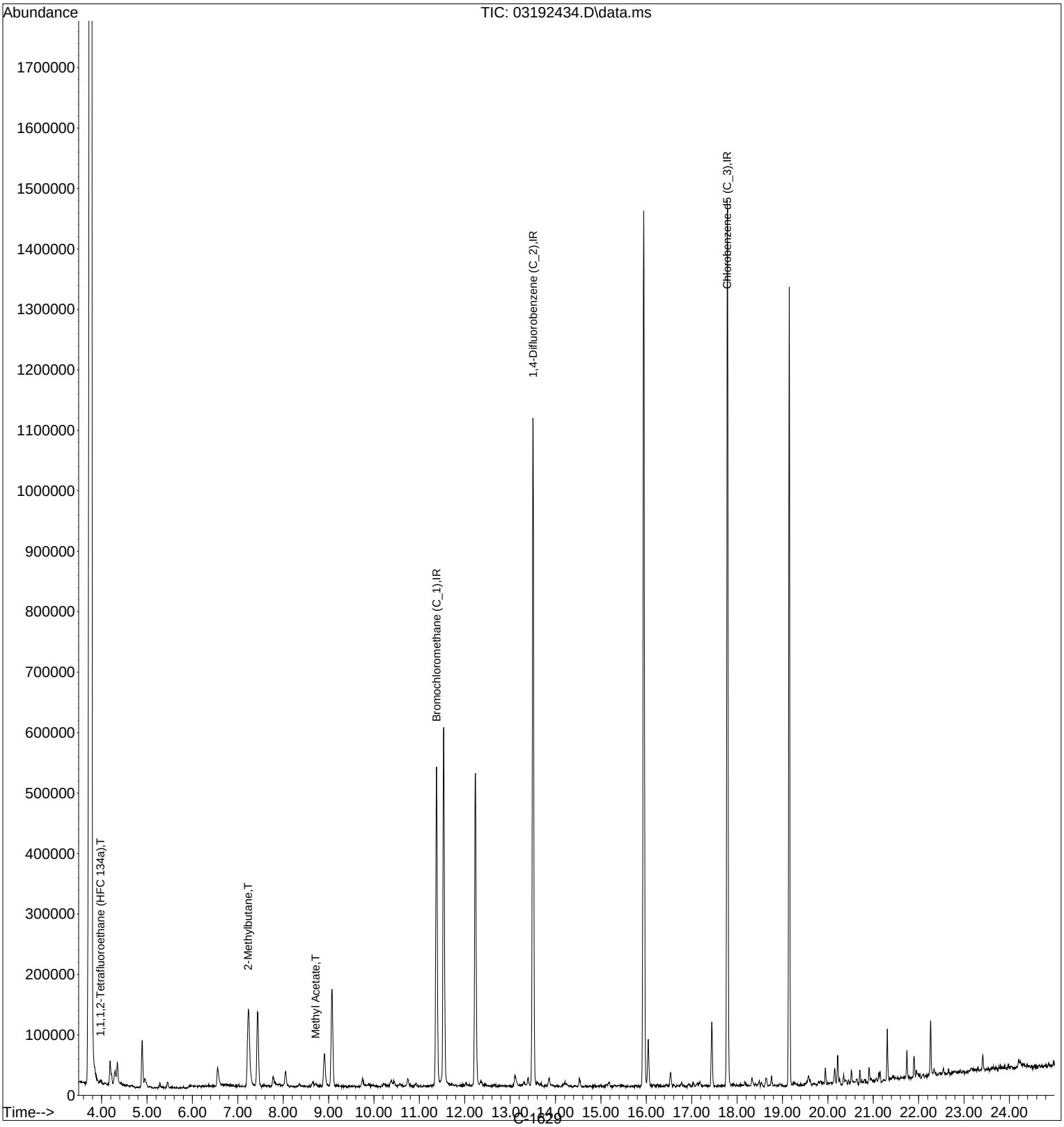
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	207754	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	967489	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	209877	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3142	0.152	ng	#	75
10) 2-Methylbutane	7.23	57	43039	2.068	ng	#	83
11) Methyl Acetate	8.72	43	5935	0.126	ng	#	86

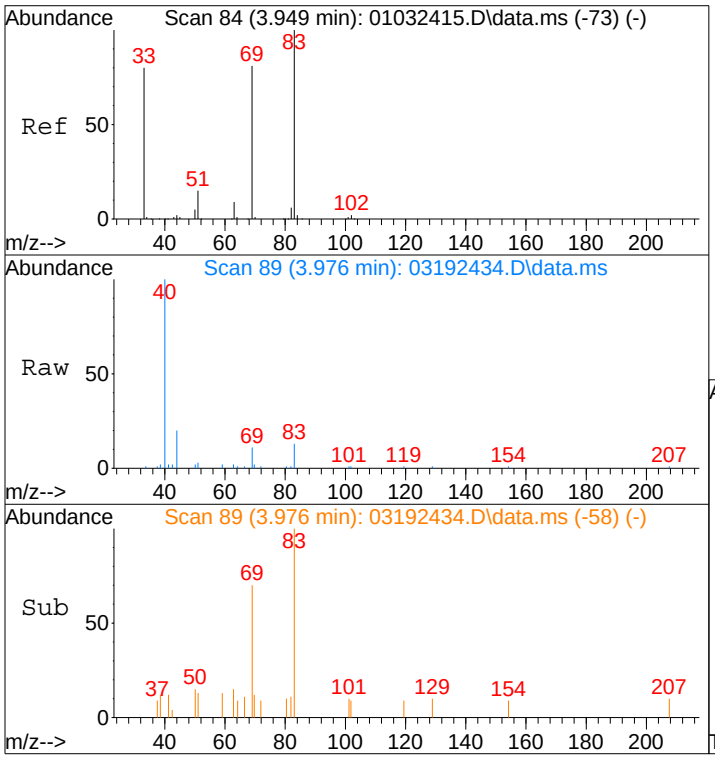
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 21 14:16:06 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

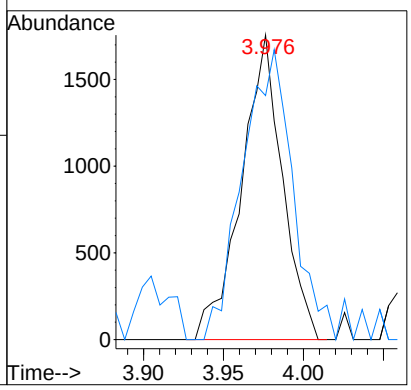


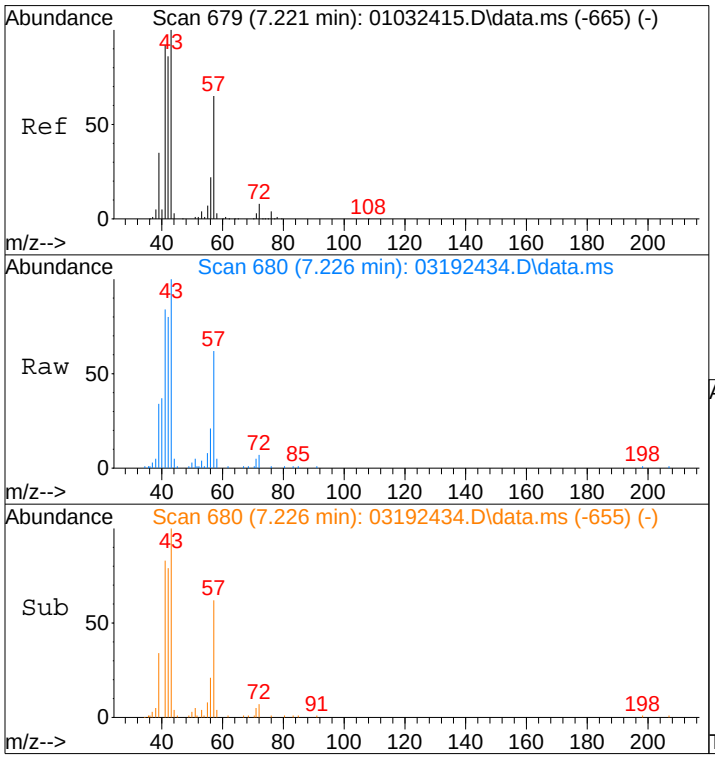


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.15 ng
RT: 3.98 min Scan# 89
Delta R.T. 0.022 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 83 Resp: 3142

Ion	Ratio	Lower	Upper
83	100		
69	116.3	74.0	111.0#

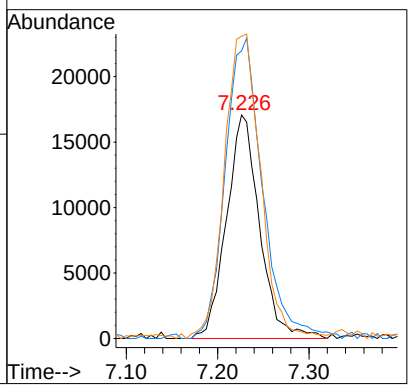


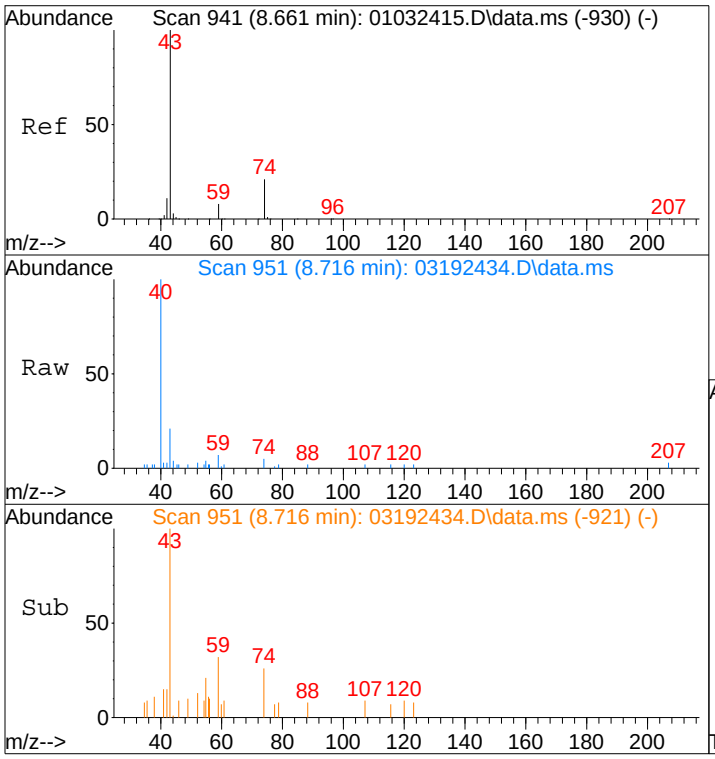


#10
2-Methylbutane
Concen: 2.07 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.011 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 57 Resp: 43039

Ion	Ratio	Lower	Upper
57	100		
42	150.9	115.0	172.4
41	148.6	149.4	224.2#

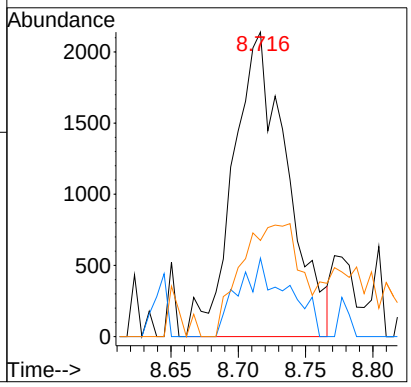




#11
Methyl Acetate
Concen: 0.13 ng
RT: 8.72 min Scan# 951
Delta R.T. 0.016 min
Lab File: 03192434.D
Acq: 19 Mar 2024 18:17

Tgt Ion: 43 Resp: 5935

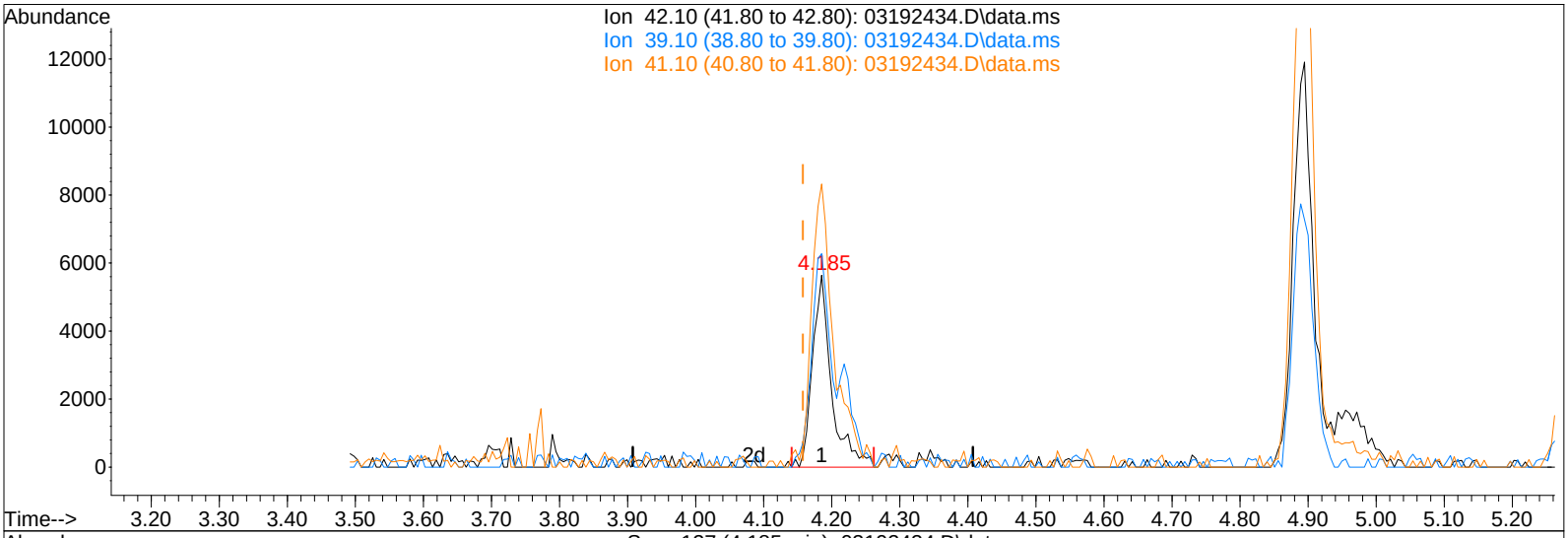
Ion	Ratio	Lower	Upper
43	100		
74	23.3	14.9	22.3#
59	0.0	6.0	9.0#

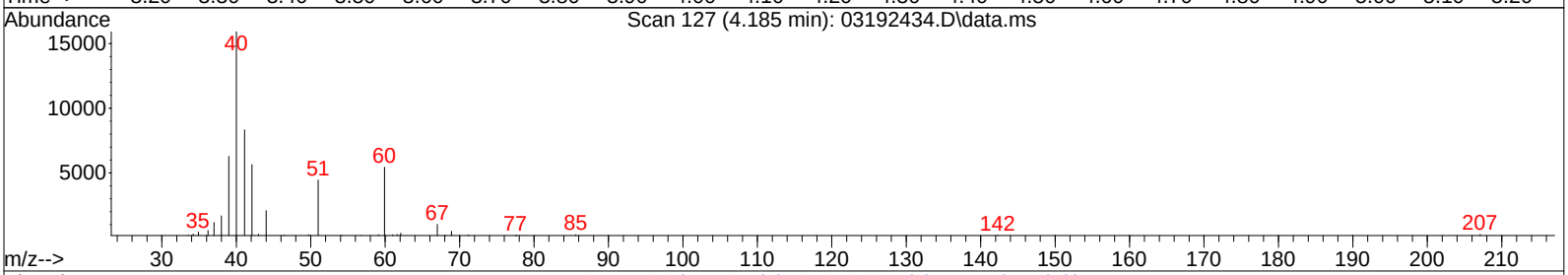


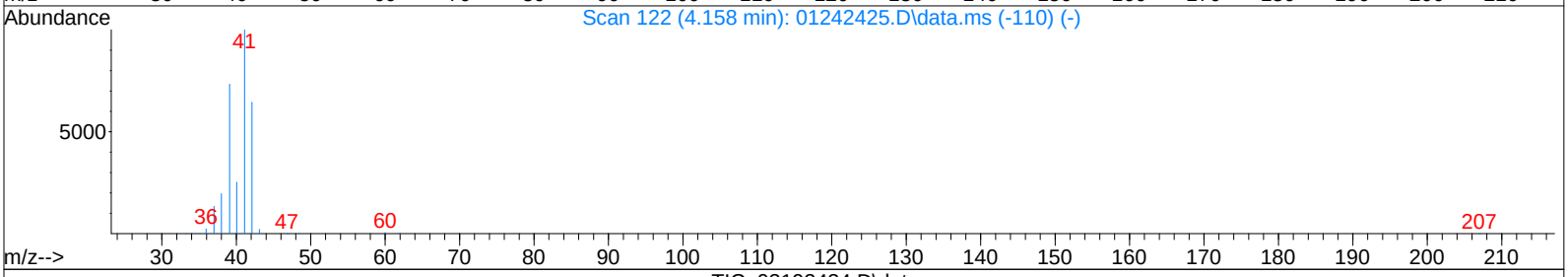
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 20 08:34:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192434.D\data.ms

(2) Propene (T)

4.185min (+0.027) 0.38ng

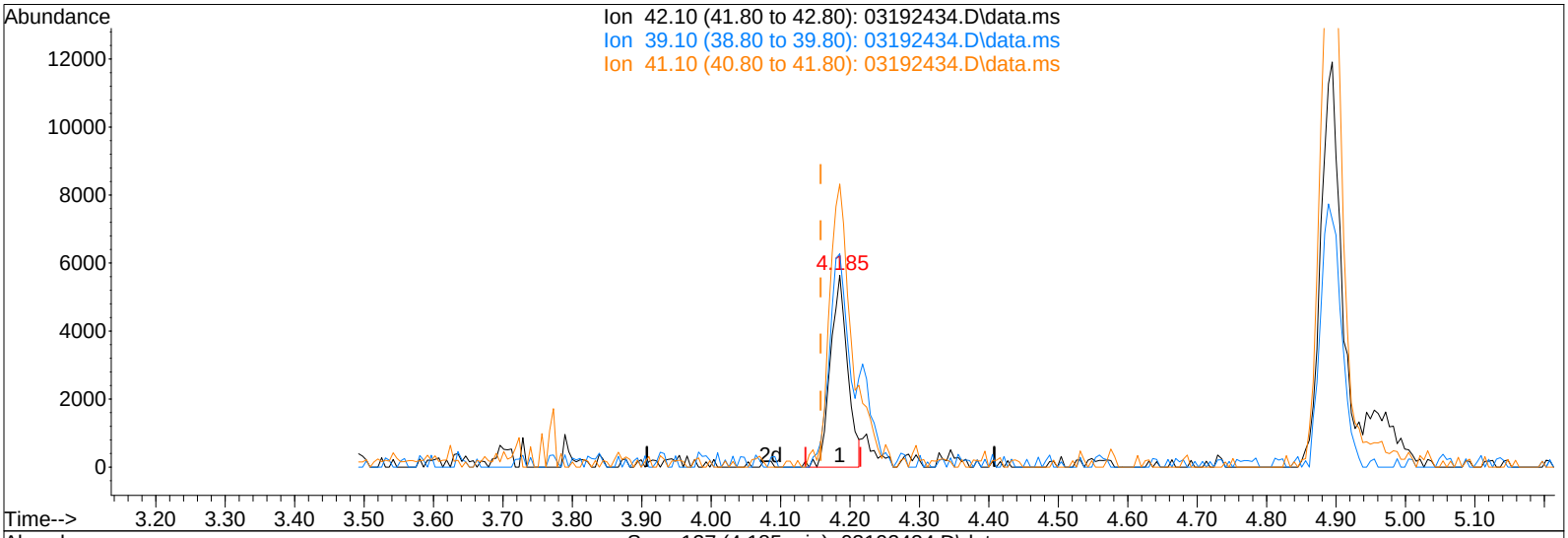
response 10974

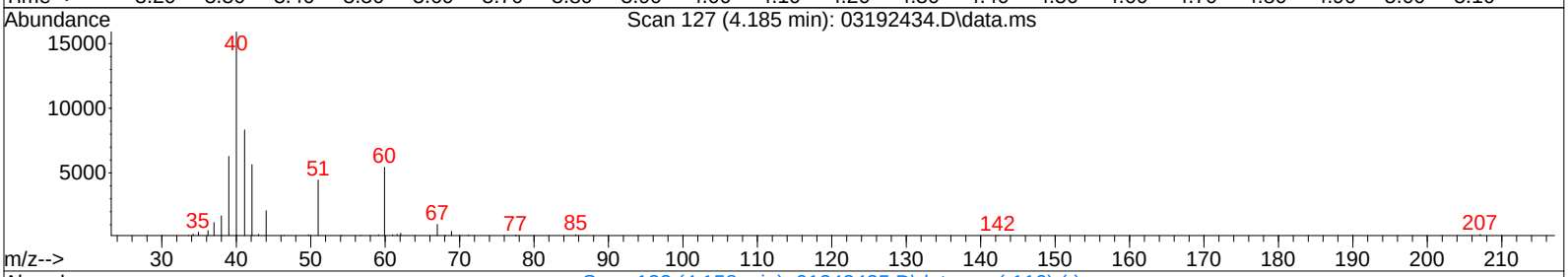
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	109.29
41.10	152.40	175.80#
0.00	0.00	0.00

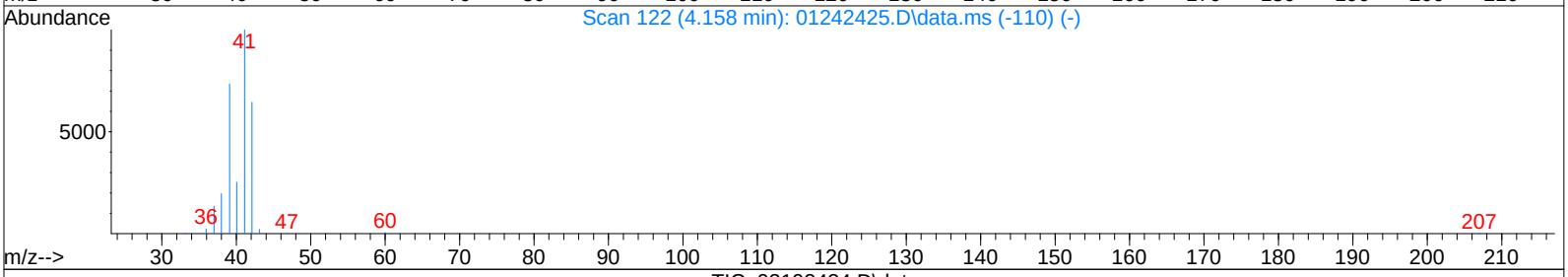
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 20 08:34:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192434.D\data.ms

(2) Propene (T)

4.185min (+0.027) 0.34ng m

response 9673

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	123.99
41.10	152.40	164.35
0.00	0.00	0.00

CI 3/20/24

IPC

LH 3/24/24

C-1633

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192434.D\data.ms

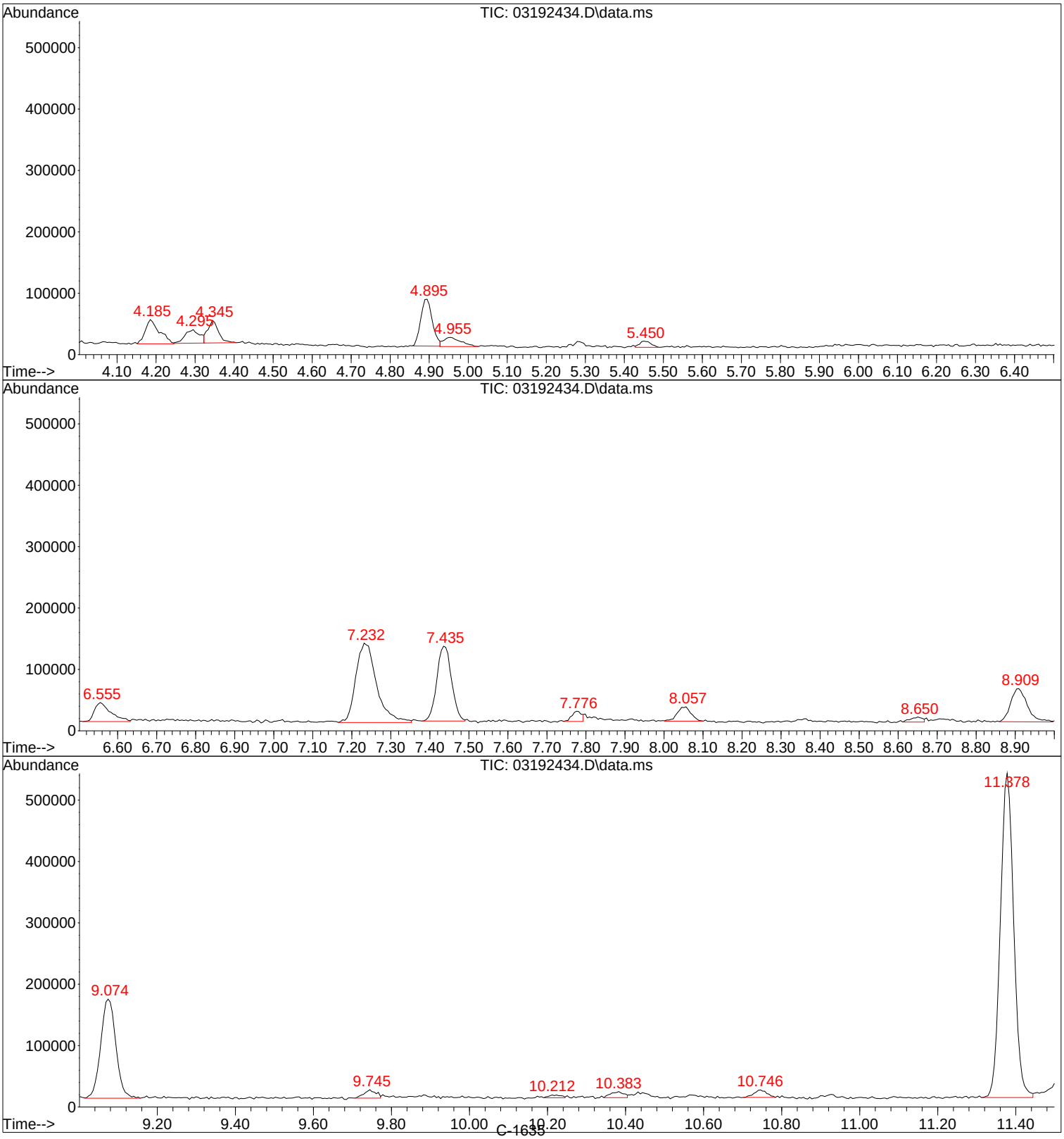
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.185	121	127	138	rBV4	39494	100273	8.02%	2.964%
2	4.295	138	147	152	rVV2	22188	59203	4.74%	1.750%
3	4.345	152	156	167	rVB2	36350	68220	5.46%	2.017%
4	4.895	249	256	262	rBV	76339	158633	12.69%	4.689%
5	4.955	262	267	280	rVB2	14839	45226	3.62%	1.337%
6	5.450	353	357	364	rVB2	10097	20061	1.60%	0.593%
7	6.555	550	558	572	rBV2	31107	90842	7.27%	2.685%
8	7.232	669	681	703	rBV3	129420	478532	38.28%	14.145%
9	7.435	708	718	728	rBV2	121803	318932	25.51%	9.428%
10	7.776	774	780	783	rBV	16666	30023	2.40%	0.887%
11	8.057	821	831	839	rVB4	23358	56951	4.56%	1.683%
12	8.650	932	939	942	rBV7	8280	17533	1.40%	0.518%
13	8.909	977	986	1002	rBV2	54008	159679	12.77%	4.720%
14	9.074	1005	1016	1031	rVB2	161587	437426	34.99%	12.930%
15	9.745	1131	1138	1143	rBV2	13803	29307	2.34%	0.866%
16	10.212	1219	1223	1229	rBV6	4670	10218	0.82%	0.302%
17	10.383	1247	1254	1258	rBV3	9907	23416	1.87%	0.692%
18	10.746	1312	1320	1327	rBV4	12303	28327	2.27%	0.837%
19	11.378	1423	1435	1447	rBV	528154	1250184	100.00%	36.955%

Sum of corrected areas: 3382986

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:17
Operator : CI
Sample : P2400922-052 (400mL)
Misc : S37-01032403/
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192434.D
Acq On : 19 Mar 2024 18:177
Operator : CII
Sample : P2400922-052 (400mL))
Misc : S37-01032403//
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CJ 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:45:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	209692	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	942323	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	203148	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	422314	11.957	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	15.94	98	1061240	13.377	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
73) Bromofluorobenzene (SS3)	19.15	174	346985	12.988	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
2) Propene	4.15	42	269	N.D.			
3) Dichlorodifluoromethan...	4.35	85	26471	0.567	ng		99
4) Chloromethane	4.65	50	5603	0.182	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.94	135	484	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.81	94	190	N.D.			
9) Chloroethane	6.16	64	218	N.D.			
10) Ethanol	6.55	45	39620	2.107	ng		98
11) Acetonitrile	6.78	41	227	N.D.			
12) Acrolein	7.00	56	143	N.D.			
13) Acetone	7.25	58	33013	2.165	ng		93
14) Trichlorofluoromethane	7.45	101	10998	0.263	ng		98
15) 2-Propanol (Isopropanol)	7.78	45	68642	1.208	ng		98
16) Acrylonitrile	8.01	53	603	N.D.			
17) 1,1-Dichloroethene	8.44	96	123	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.64	84	3240	0.147	ng		93
20) 3-Chloro-1-propene (Al...	8.80	41	376	N.D.			
21) Trichlorotrifluoroethane	9.08	151	3897	0.214	ng		86
22) Carbon Disulfide	8.92	76	14337	0.229	ng		96
23) trans-1,2-Dichloroethene	9.93	61	772	N.D.			
24) 1,1-Dichloroethane	10.18	63	170	N.D.			
25) Methyl tert-Butyl Ether	10.38	73	1314	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.75	72	6043	0.453	ng	#	84
28) cis-1,2-Dichloroethene	11.20	61	513	N.D.			
29) Diisopropyl Ether	11.51	87	210	N.D.			
30) Ethyl Acetate	11.53	61	94563	12.446	ng		92
31) n-Hexane	11.49	57	5438	0.156	ng	#	91
32) Chloroform	11.55	83	1290	N.D.			
34) Tetrahydrofuran (THF)	12.03	72	3293	0.256	ng	#	76
35) Ethyl tert-Butyl Ether	12.19	87	123	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.64	97	137	N.D.			
39) Isopropyl Acetate	13.71	61	378	No Calib		#	
40) 1-Butanol	12.66	56	208	No Calib		#	
41) Benzene	13.11	78	14797	0.165	ng		94
42) Carbon Tetrachloride	13.27	117	2101	0.076	ng		85
43) Cyclohexane	13.40	84	3818	0.130	ng		92
44) tert-Amyl Methyl Ether	13.80	73	396	N.D.			
45) 1,2-Dichloropropane	13.97	63	974	N.D.			
46) Bromodichloromethane	14.15	83	442	N.D.			
47) Trichloroethene	14.20	130	1551	0.068	ng		90
48) 1,4-Dioxane	0.00	88	0	N.D.	d		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 20 14:45:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

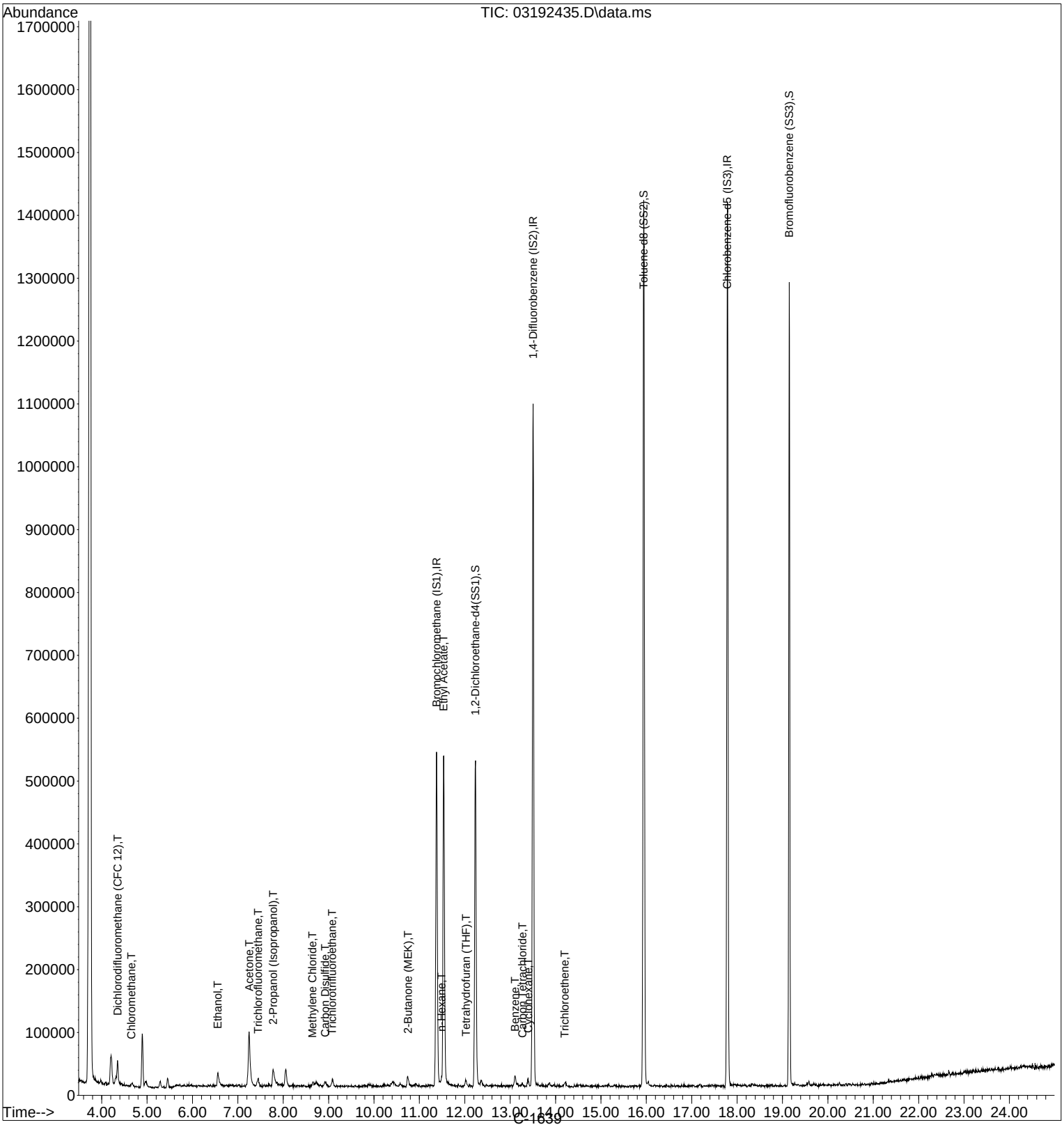
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.25	57	632	N.D.	
50) Methyl Methacrylate	14.41	100	126	N.D.	
51) n-Heptane	14.52	71	424	N.D.	
52) cis-1,3-Dichloropropene	15.07	75	222	N.D.	
53) 4-Methyl-2-pentanone	15.13	58	114	N.D.	
54) trans-1,3-Dichloropropene	15.47	75	208	N.D.	
55) 1,1,2-Trichloroethane	15.74	97	135	N.D.	
58) Toluene	16.04	91	3198	N.D.	
59) 2-Hexanone	16.30	43	564	N.D.	
60) Dibromochloromethane	16.46	129	544	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.92	43	413	N.D.	
63) n-Octane	17.04	57	275	N.D.	
64) Tetrachloroethene	17.18	166	462	N.D.	
65) Chlorobenzene	17.84	112	673	N.D.	
66) Ethylbenzene	18.19	91	1178	N.D.	
67) m- & p-Xylenes	18.34	91	1596	N.D.	
68) Bromoform	18.40	173	421	N.D.	
69) Styrene	18.67	104	467	N.D.	
70) o-Xylene	18.76	91	905	N.D.	
71) n-Nonane	18.95	43	215	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.74	83	685	N.D.	
74) Cumene	19.28	105	991	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.69	91	1708	N.D.	
77) 3-Ethyltoluene	20.25	105	507	No Calib	
78) 4-Ethyltoluene	19.85	105	705	N.D.	
79) 1,3,5-Trimethylbenzene	19.96	105	130	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.25	105	507	No Calib	
82) 1,2,4-Trimethylbenzene	20.25	105	507	N.D.	
83) n-Decane	20.29	58	125	No Calib	#
84) Benzyl Chloride	20.47	91	113	N.D.	
85) 1,3-Dichlorobenzene	20.38	146	859	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	637	N.D.	
87) sec-Butylbenzene	20.51	105	958	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	224	N.D.	
89) 1,2,3-Trimethylbenzene	20.25	105	507	No Calib	
90) 1,2-Dichlorobenzene	20.75	146	672	N.D.	
91) d-Limonene	20.74	68	185	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.44	58	242	No Calib	#
94) 1,2,4-Trichlorobenzene	22.25	180	929	N.D.	
95) Naphthalene	22.37	128	754	N.D.	
96) n-Dodecane	22.77	57	370	No Calib	#
97) Hexachlorobutadiene	22.67	225	772	N.D.	
98) Cyclohexanone	18.23	55	107	No Calib	#
99) tert-Butylbenzene	20.26	119	1219	N.D.	
100) n-Butylbenzene	21.00	91	514	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 20 14:45:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:45:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

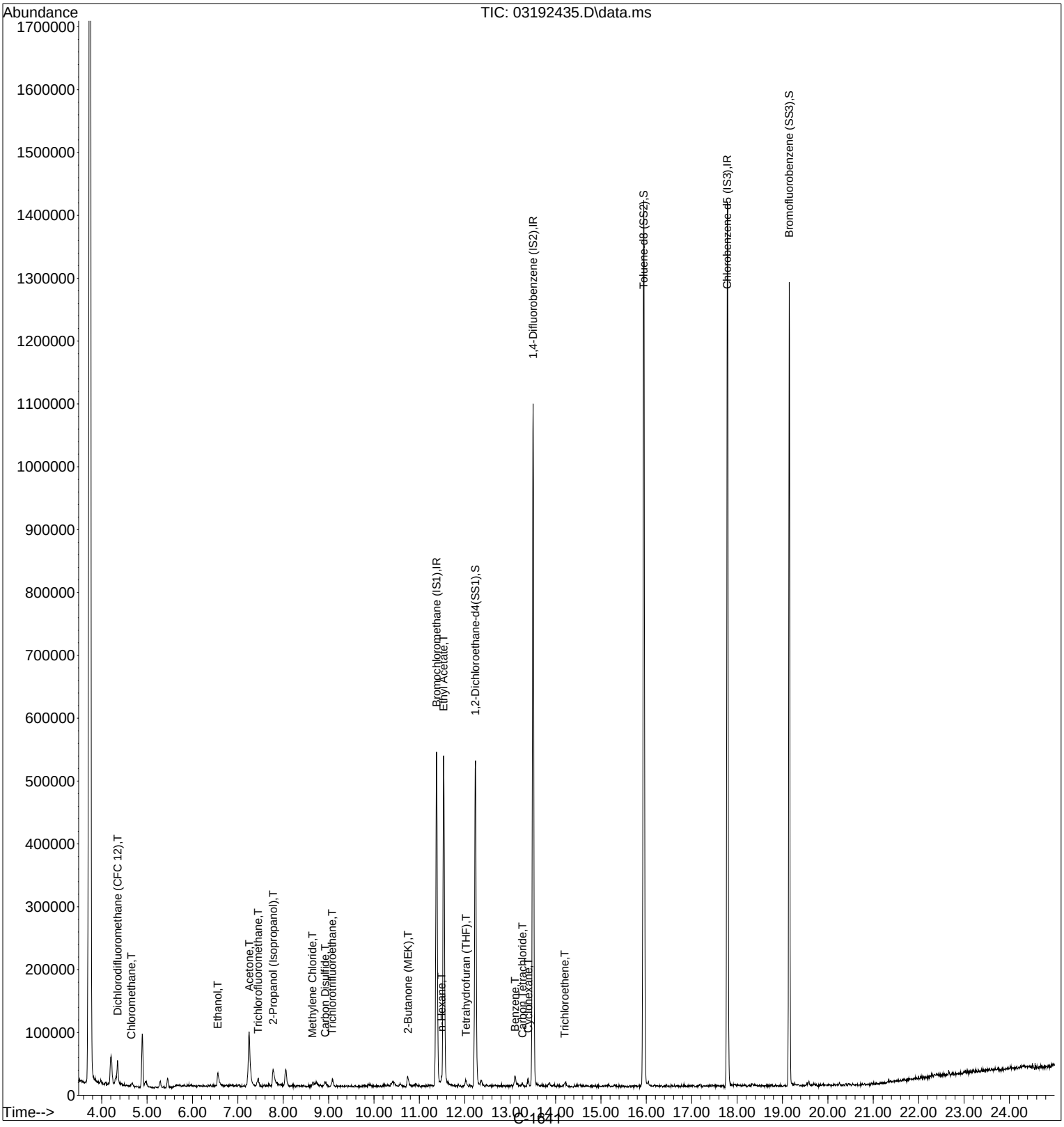
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	209692	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	942323	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	203148	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	422314	11.957	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%				
57) Toluene-d8 (SS2)	15.94	98	1061240	13.377	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
73) Bromofluorobenzene (SS3)	19.15	174	346985	12.988	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.35	85	26471	0.567	ng		99
4) Chloromethane	4.65	50	5603	0.182	ng		99
10) Ethanol	6.55	45	39620	2.107	ng		98
13) Acetone	7.25	58	33013	2.165	ng		93
14) Trichlorofluoromethane	7.45	101	10998	0.263	ng		98
15) 2-Propanol (Isopropanol)	7.78	45	68642	1.208	ng		98
19) Methylene Chloride	8.64	84	3240	0.147	ng		93
21) Trichlorotrifluoroethane	9.08	151	3897	0.214	ng		86
22) Carbon Disulfide	8.92	76	14337	0.229	ng		96
27) 2-Butanone (MEK)	10.75	72	6043	0.453	ng	#	84
30) Ethyl Acetate	11.53	61	94563	12.446	ng		92
31) n-Hexane	11.49	57	5438	0.156	ng	#	91
34) Tetrahydrofuran (THF)	12.03	72	3293	0.256	ng	#	76
41) Benzene	13.11	78	14797	0.165	ng		94
42) Carbon Tetrachloride	13.27	117	2101	0.076	ng		85
43) Cyclohexane	13.40	84	3818	0.130	ng		92
47) Trichloroethene	14.20	130	1551	0.068	ng		90

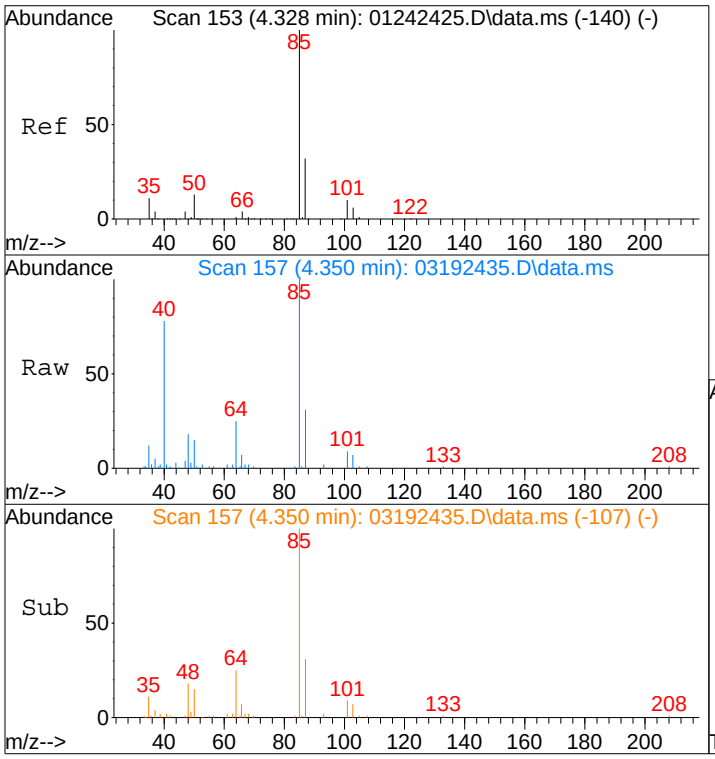
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 20 14:45:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

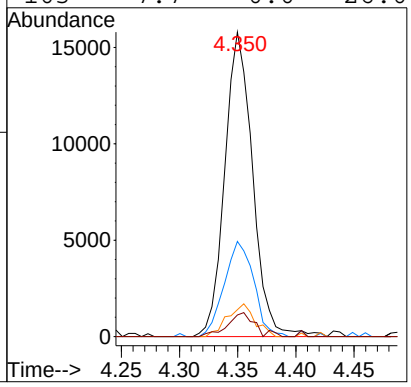


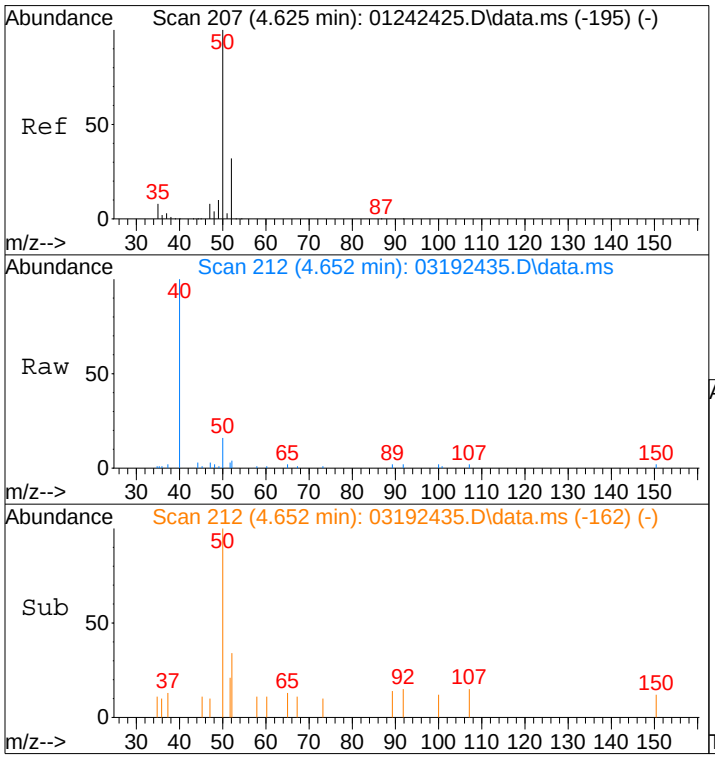


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.57 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.027 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 85 Resp: 26471

Ion	Ratio	Lower	Upper
85	100		
87	32.9	13.1	53.1
101	10.5	0.0	29.5
103	7.7	0.0	26.0

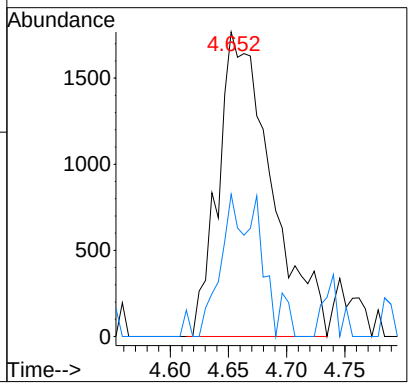


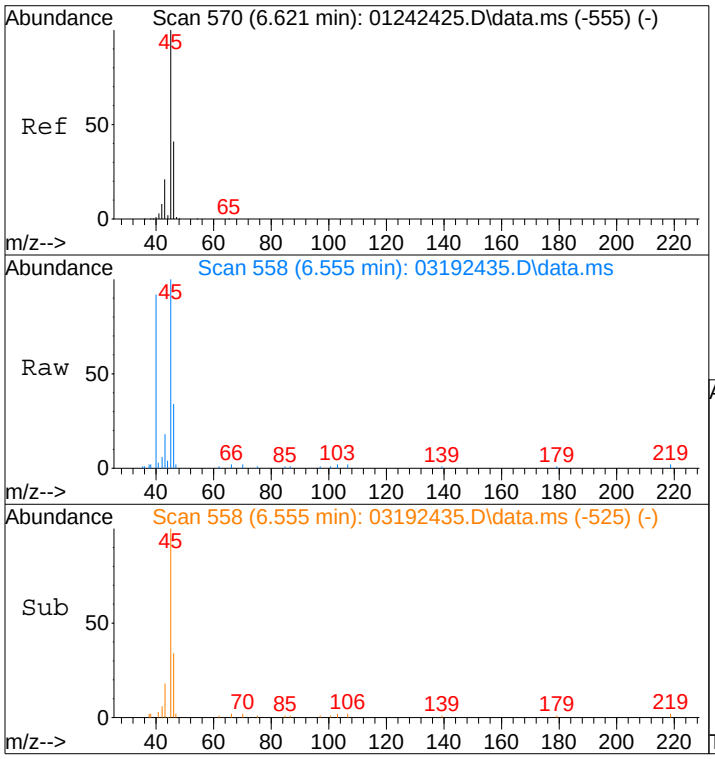


#4
Chloromethane
Concen: 0.18 ng
RT: 4.65 min Scan# 212
Delta R.T. 0.027 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 50 Resp: 5603

Ion	Ratio	Lower	Upper
50	100		
52	32.2	12.8	52.8

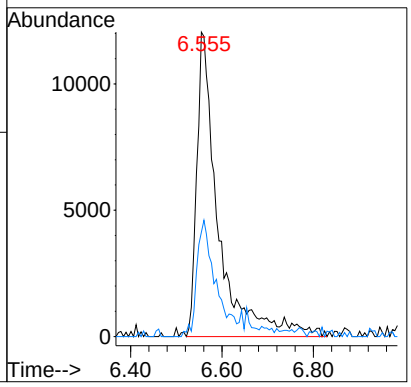


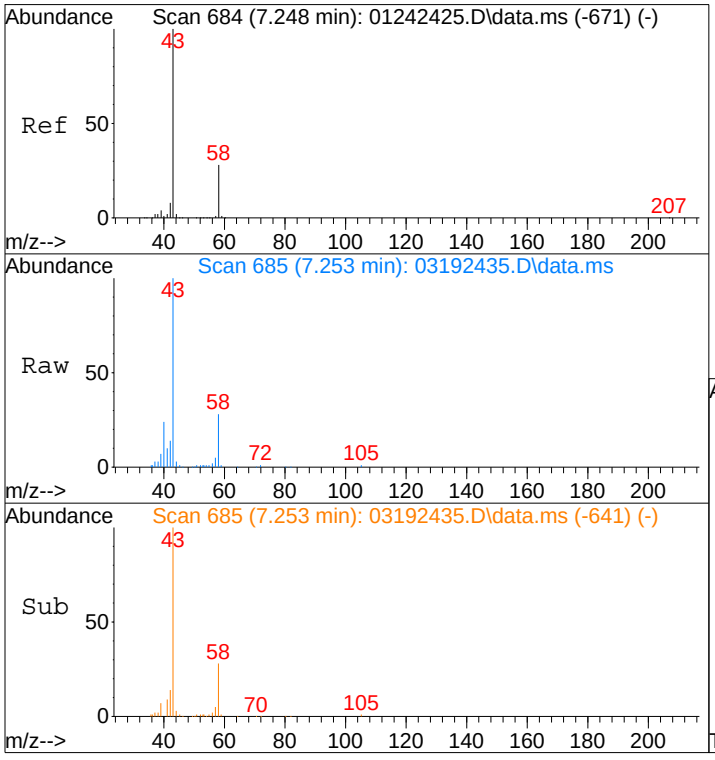


#10
Ethanol
Concen: 2.11 ng
RT: 6.55 min Scan# 558
Delta R.T. -0.066 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 45 Resp: 39620

Ion	Ratio	Lower	Upper
45	100		
46	40.9	19.6	59.6

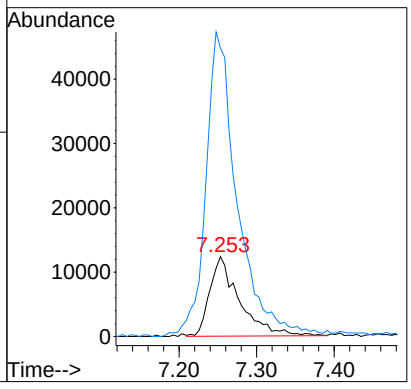


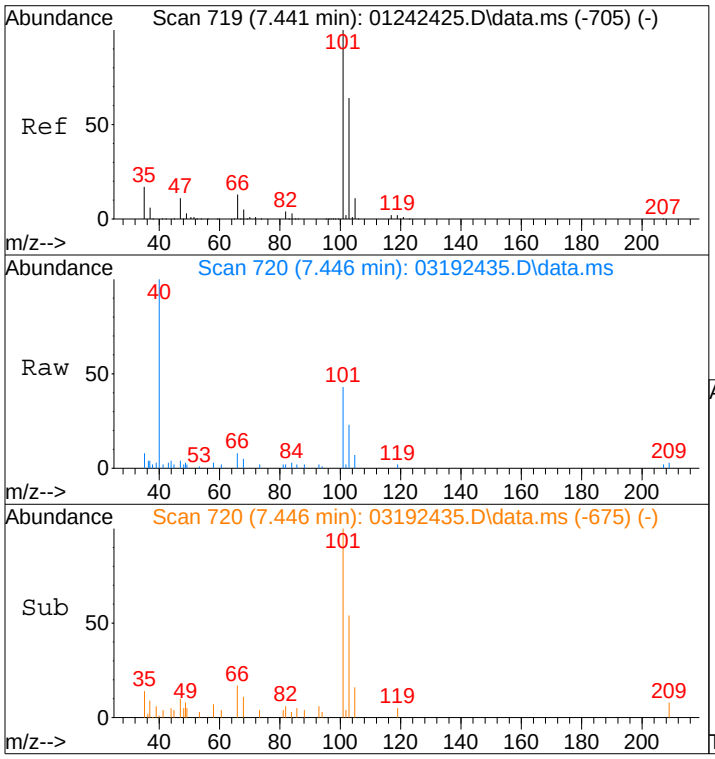


#13
Acetone
Concen: 2.17 ng
RT: 7.25 min Scan# 685
Delta R.T. -0.010 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 58 Resp: 33013

Ion	Ratio	Lower	Upper
58	100		
43	404.2	357.4	417.4

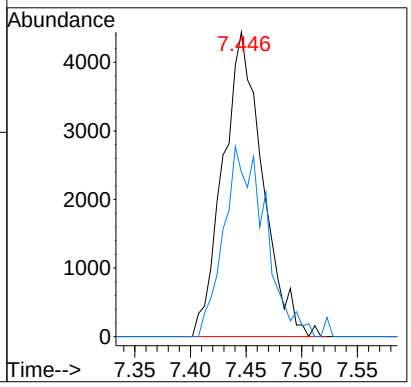


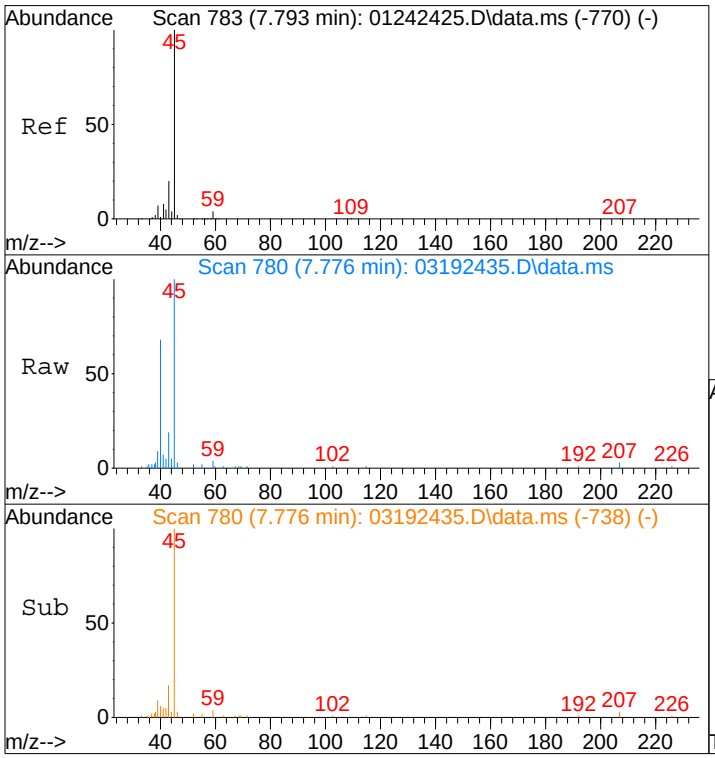


#14
Trichlorofluoromethane
Concen: 0.26 ng
RT: 7.45 min Scan# 720
Delta R.T. -0.000 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion:101 Resp: 10998

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.1	84.1

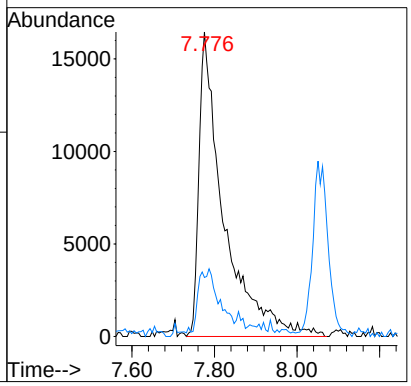


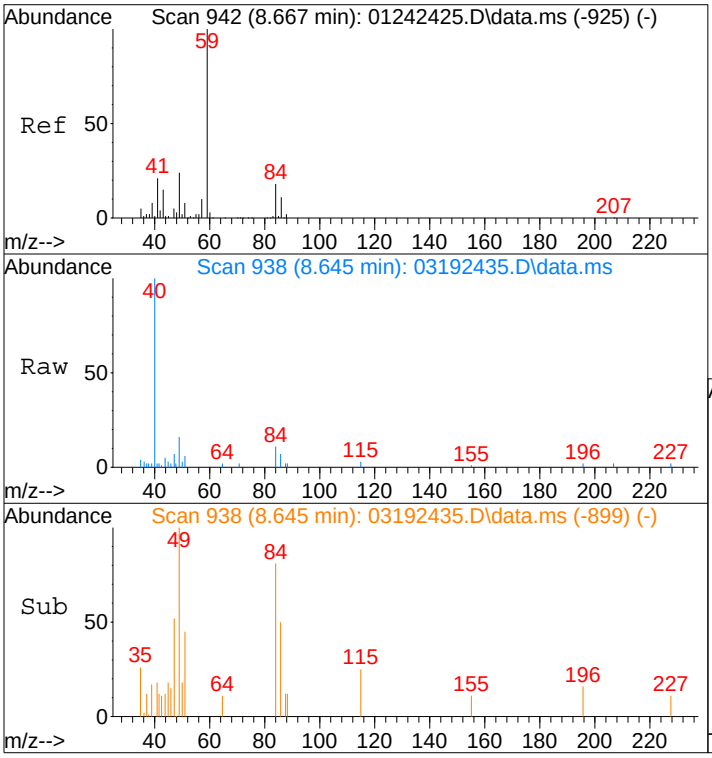


#15
2-Propanol (Isopropanol)
Concen: 1.21 ng
RT: 7.78 min Scan# 780
Delta R.T. -0.017 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 45 Resp: 68642

Ion	Ratio	Lower	Upper
45	100		
43	21.6	0.7	40.7

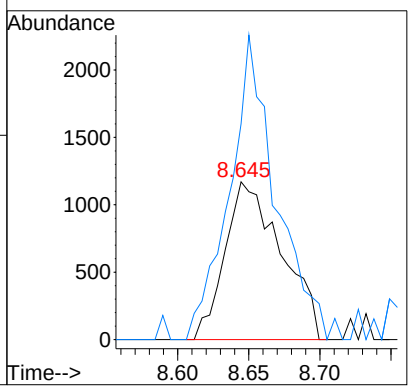


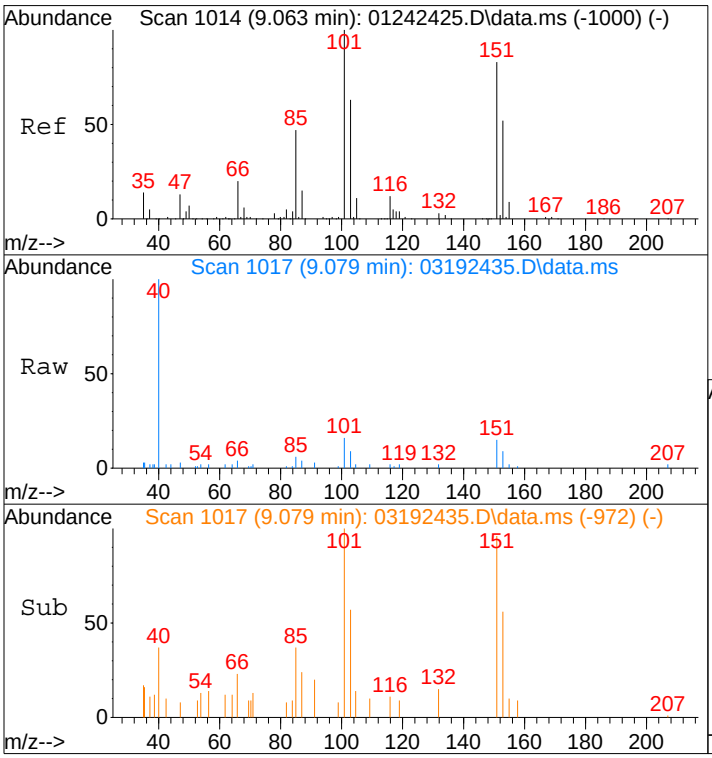


#19
Methylene Chloride
Concen: 0.15 ng
RT: 8.64 min Scan# 938
Delta R.T. -0.033 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 84 Resp: 3240

Ion	Ratio	Lower	Upper
84	100		
49	159.8	126.4	176.4

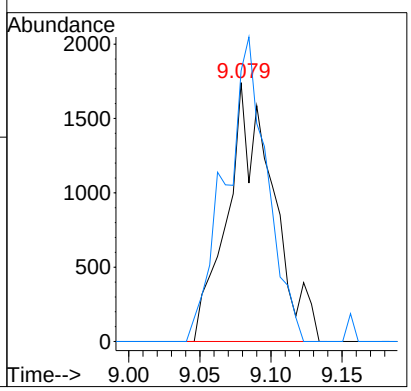


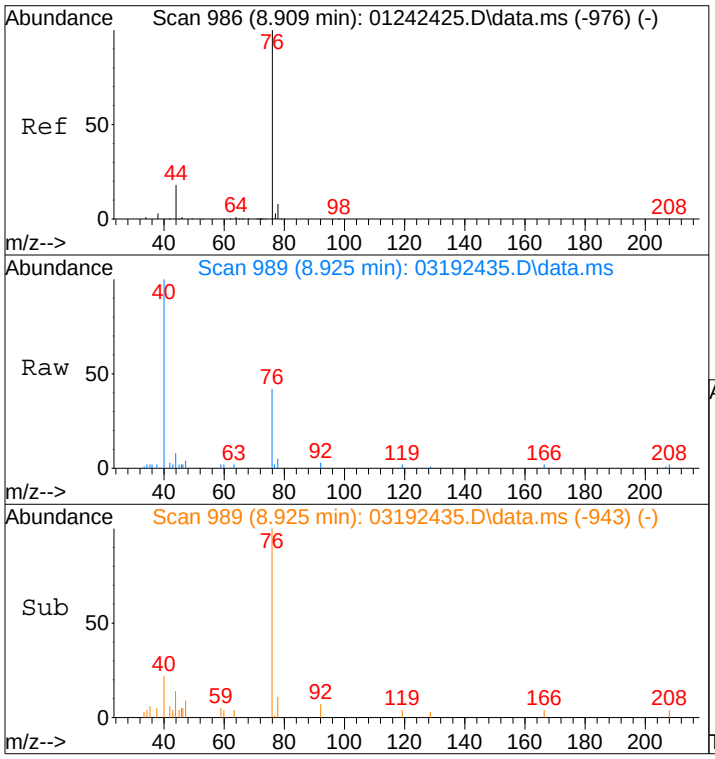


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 9.08 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion:151 Resp: 3897

Ion	Ratio	Lower	Upper
151	100		
101	107.8	104.2	144.2

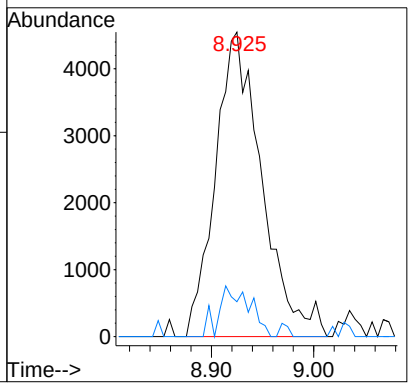


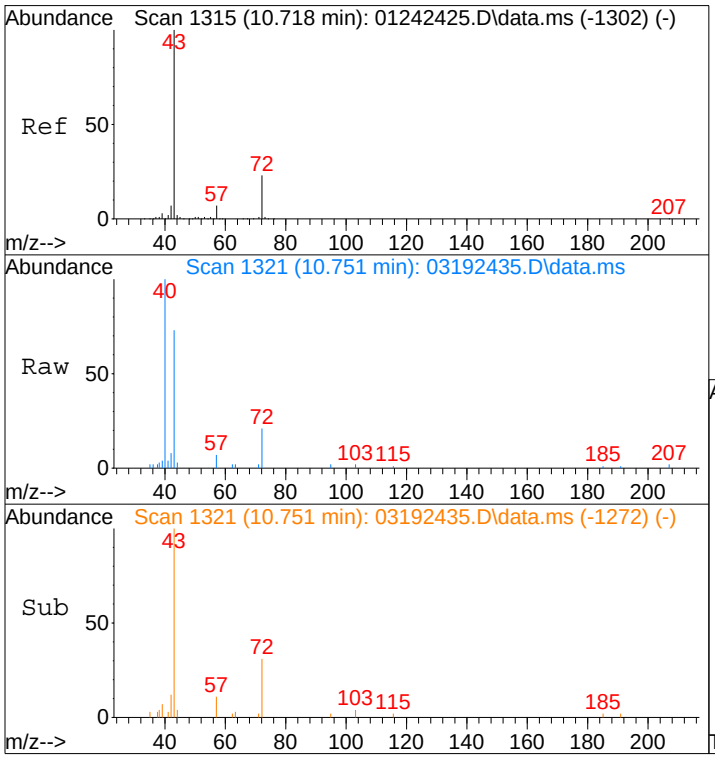


#22
Carbon Disulfide
Concen: 0.23 ng
RT: 8.92 min Scan# 989
Delta R.T. 0.005 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 76 Resp: 14337

Ion	Ratio	Lower	Upper
76	100		
78	10.9	0.0	29.3

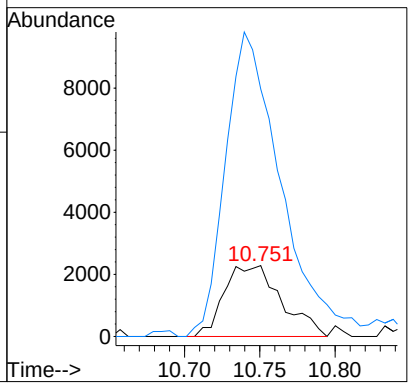


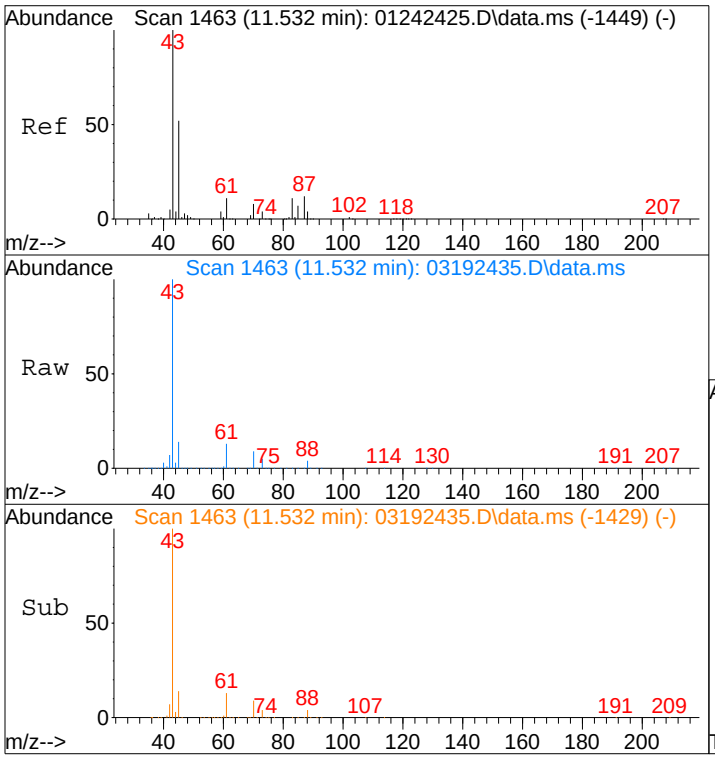


#27
2-Butanone (MEK)
Concen: 0.45 ng
RT: 10.75 min Scan# 1321
Delta R.T. 0.022 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 72 Resp: 6043

Ion	Ratio	Lower	Upper
72	100		
43	417.1	437.9	477.9#

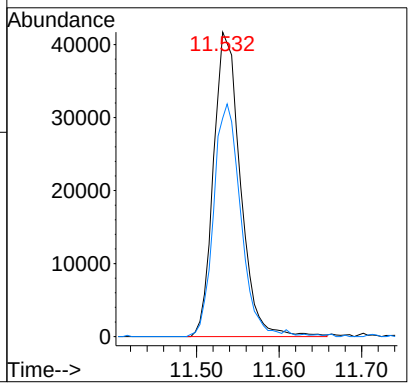


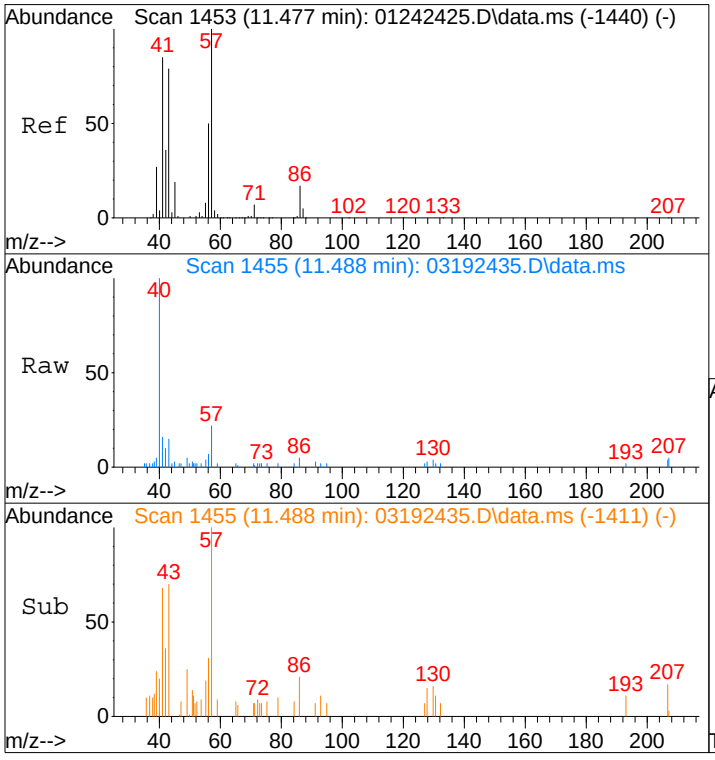


#30
Ethyl Acetate
Concen: 12.45 ng
RT: 11.53 min Scan# 1463
Delta R.T. -0.011 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 61 Resp: 94563

Ion	Ratio	Lower	Upper
61	100		
70	77.6	64.5	104.5

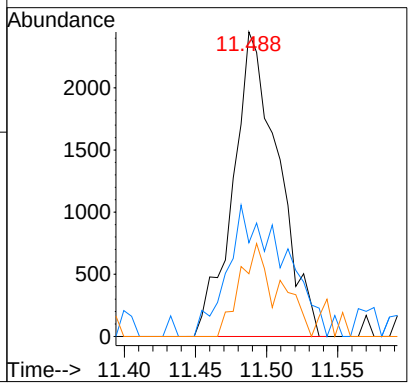


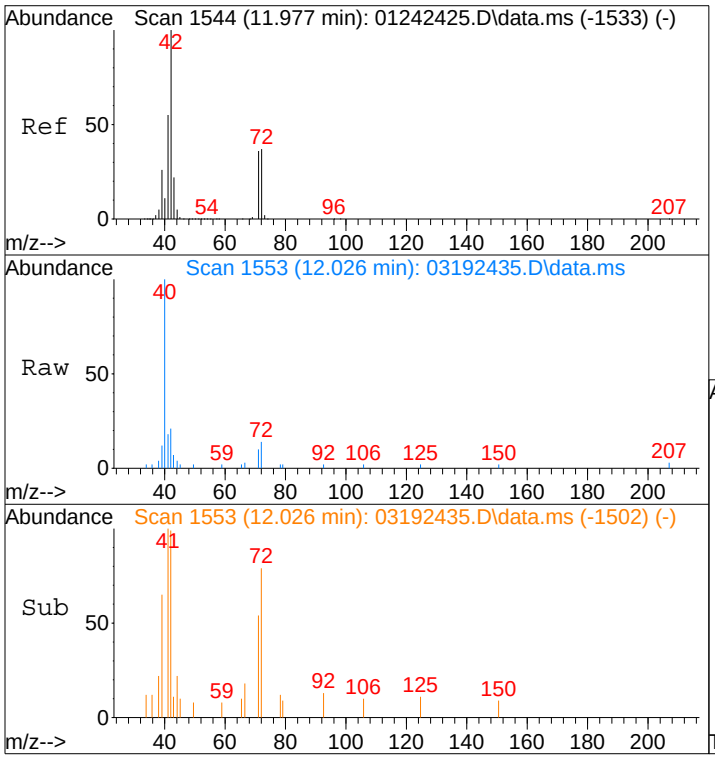


#31
n-Hexane
Concen: 0.16 ng
RT: 11.49 min Scan# 1455
Delta R.T. -0.006 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 57 Resp: 5438

Ion	Ratio	Lower	Upper
57	100		
56	54.4	40.7	61.1
86	26.1	13.4	20.2#

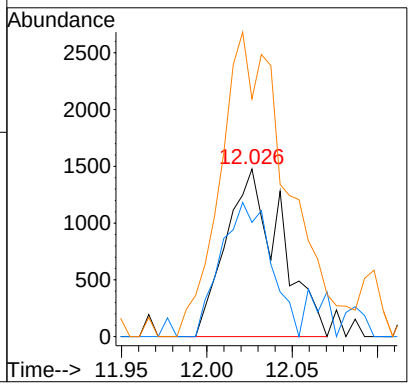


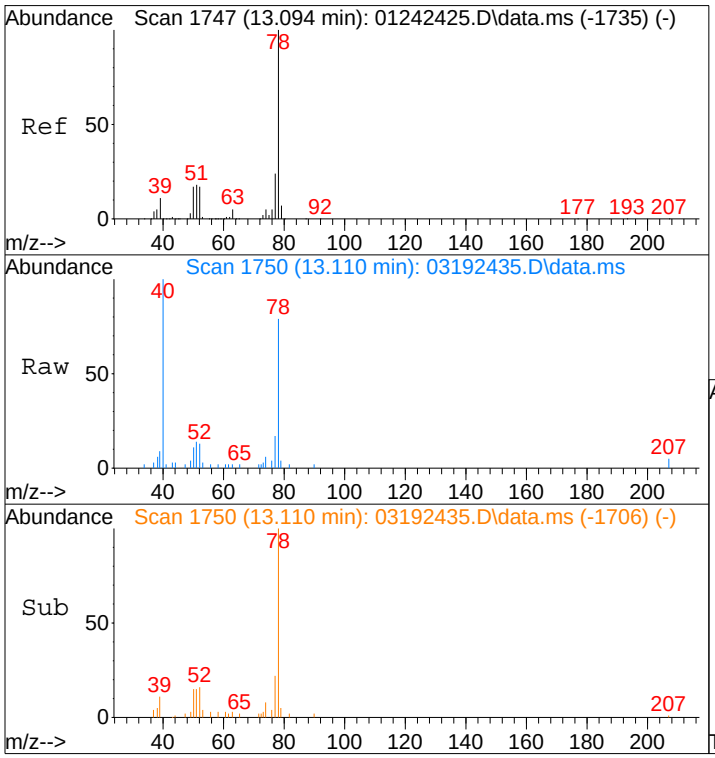


#34
Tetrahydrofuran (THF)
Concen: 0.26 ng
RT: 12.03 min Scan# 1553
Delta R.T. 0.033 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 72 Resp: 3293

Ion	Ratio	Lower	Upper
72	100		
71	72.9	76.1	116.1#
42	224.7	250.1	290.1#

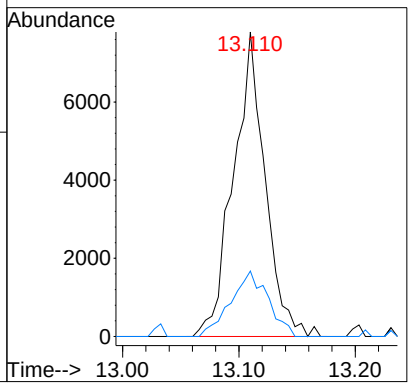


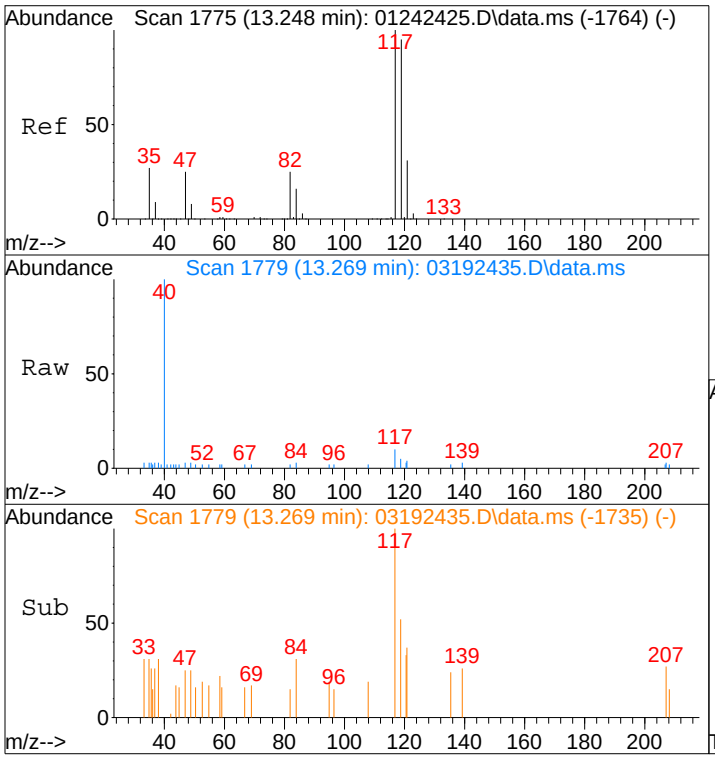


#41
Benzene
Concen: 0.17 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 78 Resp: 14797

Ion	Ratio	Lower	Upper
78	100		
77	25.3	2.6	42.6

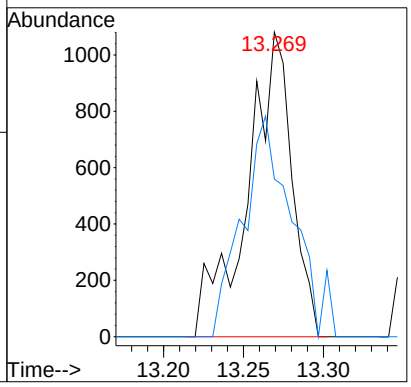


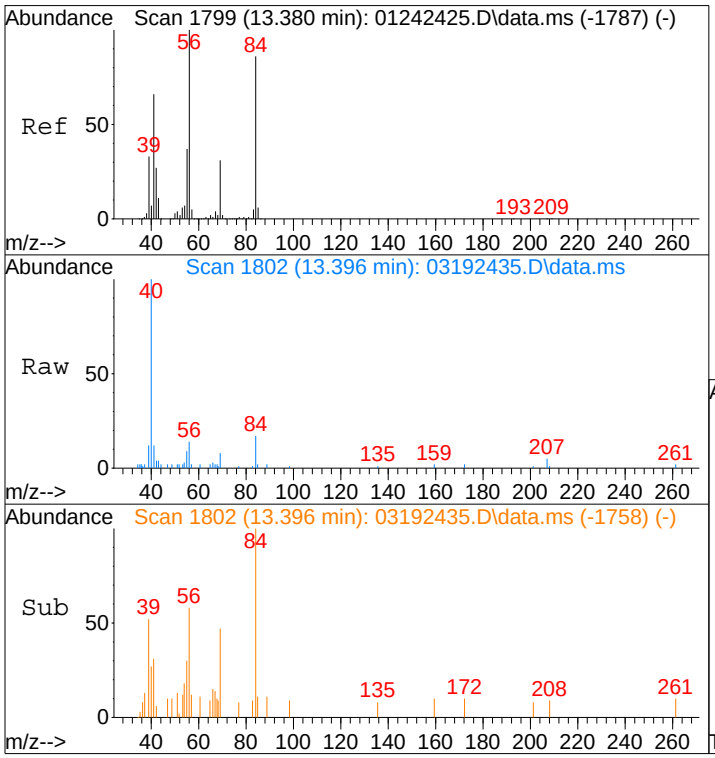


#42
Carbon Tetrachloride
Concen: 0.08 ng
RT: 13.27 min Scan# 1779
Delta R.T. -0.006 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion:117 Resp: 2101

Ion	Ratio	Lower	Upper
117	100		
119	80.8	75.2	115.2

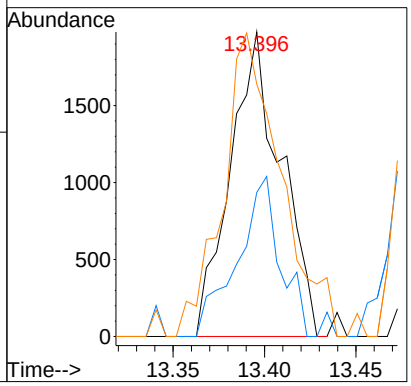


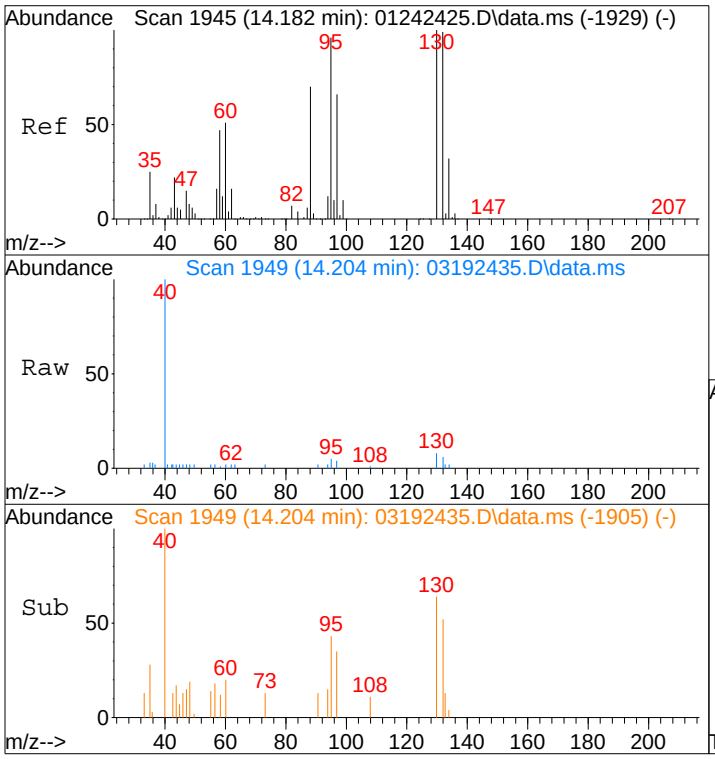


#43
Cyclohexane
Concen: 0.13 ng
RT: 13.40 min Scan# 1802
Delta R.T. -0.006 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 84 Resp: 3818

Ion	Ratio	Lower	Upper
84	100		
69	44.4	17.1	57.1
56	113.7	101.6	141.6

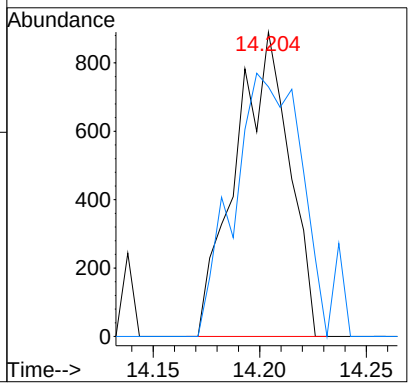




#47
Trichloroethene
Concen: 0.07 ng
RT: 14.20 min Scan# 1949
Delta R.T. -0.006 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion:130 Resp: 1551

Ion	Ratio	Lower	Upper
130	100		
132	108.0	78.3	118.3



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:17:43 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

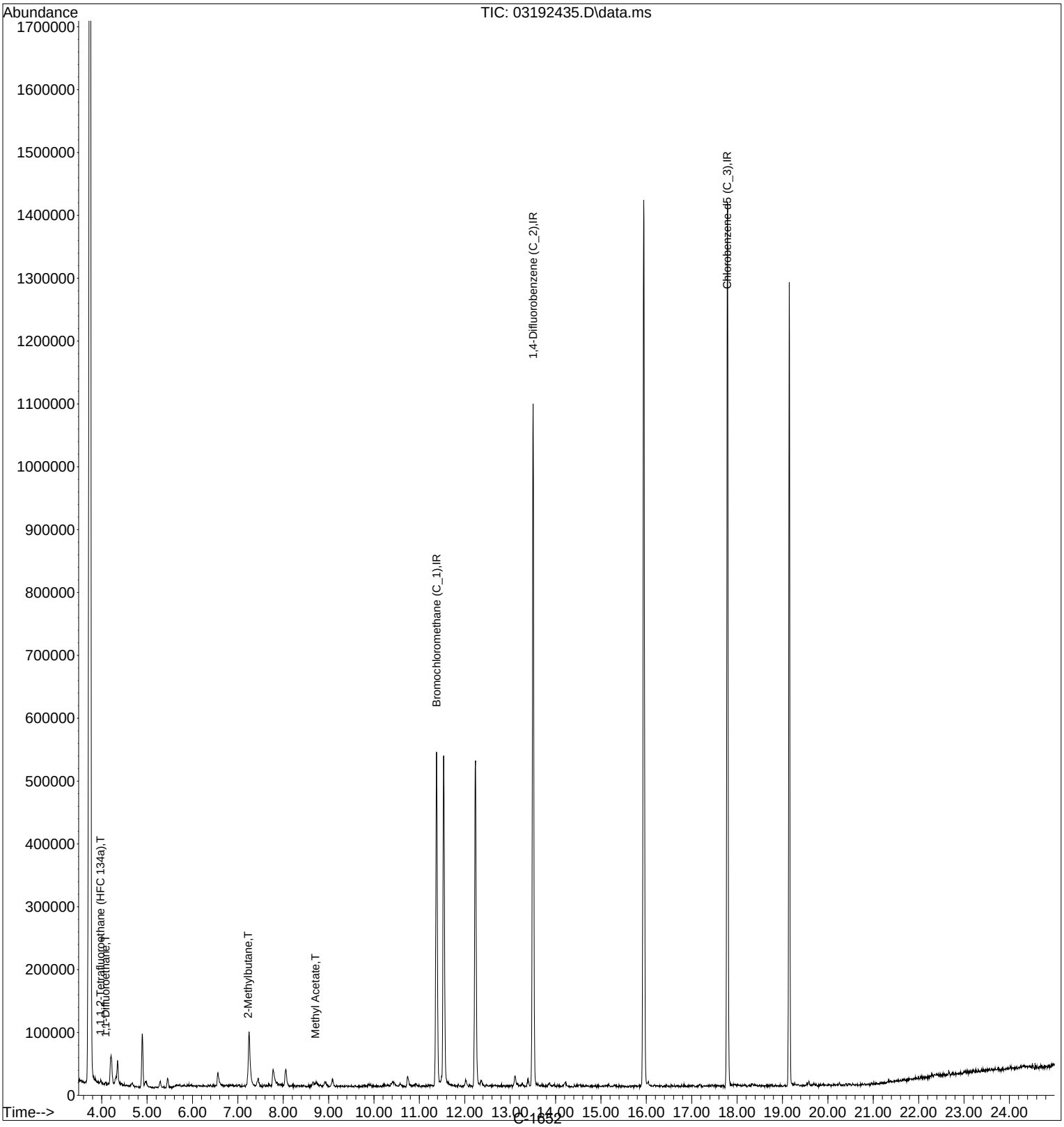
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	211600	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	945023	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	203148	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.87	85	773	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3597	0.171	ng		96
4) 1,1-Difluoroethane	4.09	65	1822	0.100	ng		92
5) Chlorodifluoromethane ...	4.13	67	124	N.D.			
6) 1-Chloro-1,1-Difluoroe...	4.66	65	1288	N.D.			
7) Dichlorofluoromethane ...	6.37	67	180	N.D.			
8) Vinylbromide	6.65	108	58	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.03	83	102	N.D.			
10) 2-Methylbutane	7.23	57	13858	0.654	ng	#	69
11) Methyl Acetate	8.71	43	9999	0.208	ng	#	91
12) 2-Methylpentane	10.44	71	1199	N.D.			
13) 2,2-Dichloropropane	11.57	77	60	N.D.			
14) 1,1-Dichloropropene	12.96	75	91	N.D.			
15) Thiophene	13.26	84	563	N.D.			
17) 2,3-Dimethylpentane	13.68	56	125	N.D.			
18) Dibromomethane	13.91	174	384	N.D.			
20) Methyl Cyclohexane	15.17	55	838	N.D.			
21) 1,3-Dichloropropane	16.10	76	50	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	18.09	91	50	N.D.			
24) 1,2,3-Trichloropropane	18.86	75	305	N.D.			
25) Bromobenzene	19.36	77	216	N.D.			
26) 2-Chlorotoluene	19.69	91	2329	N.D.			
27) 4-Chlorotoluene	19.69	91	2329	N.D.			
28) Indane	20.80	117	178	N.D.			
29) Indene	20.83	115	65	N.D.			
30) 1,2,4,5-Tetramethylben...	21.59	119	108	N.D.			
31) 1,2,3,4-Tetramethylben...	21.74	119	181	N.D.			
32) 1,2,3,5-Tetramethylben...	22.02	119	161	N.D.			
33) 1,2,3-Trichlorobenzene	22.52	180	52	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 14:17:43 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-1652

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:17:43 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

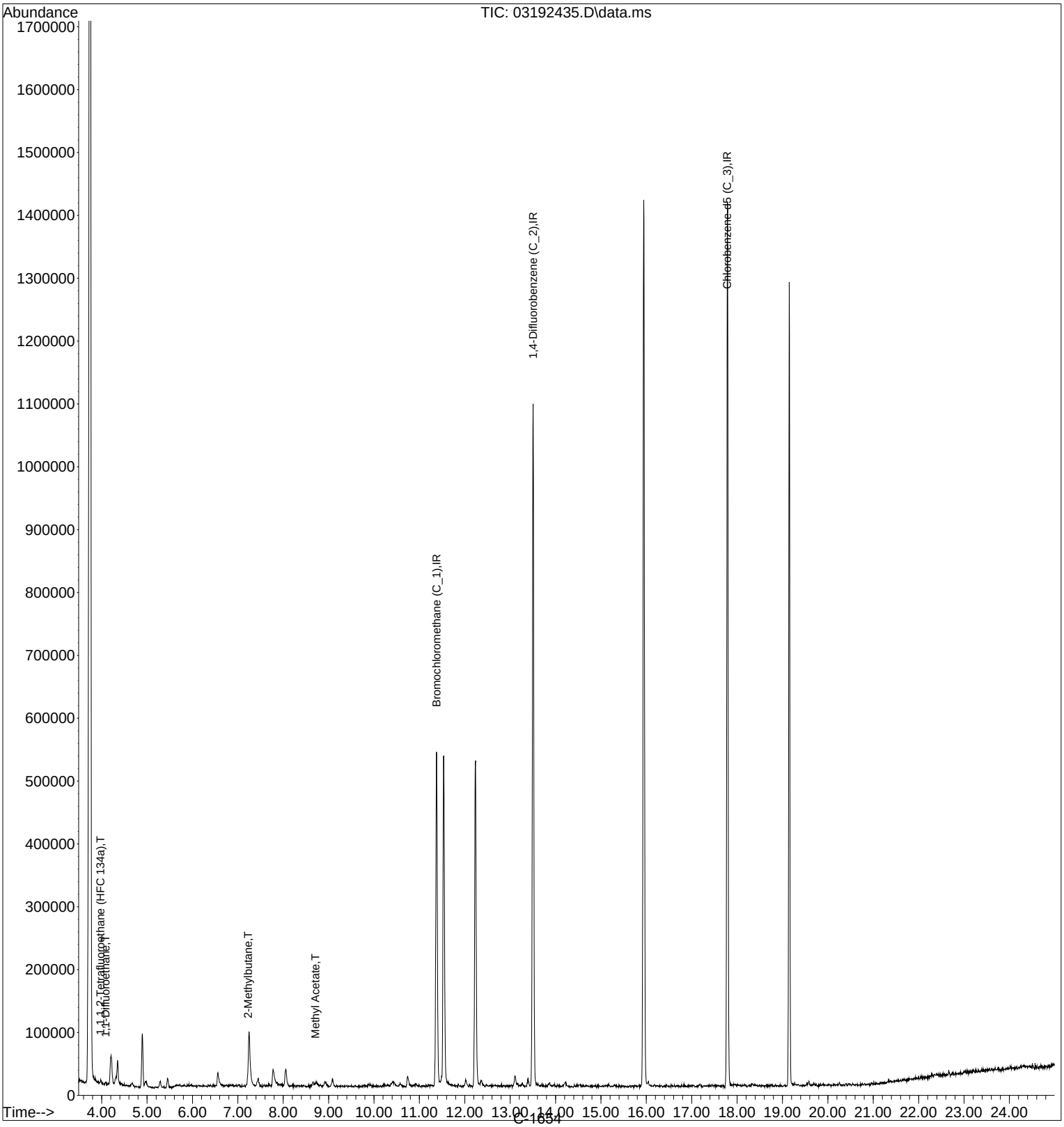
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	211600	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	945023	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	203148	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3597	0.171	ng		96
4) 1,1-Difluoroethane	4.09	65	1822	0.100	ng		92
10) 2-Methylbutane	7.23	57	13858	0.654	ng	#	69
11) Methyl Acetate	8.71	43	9999	0.208	ng	#	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

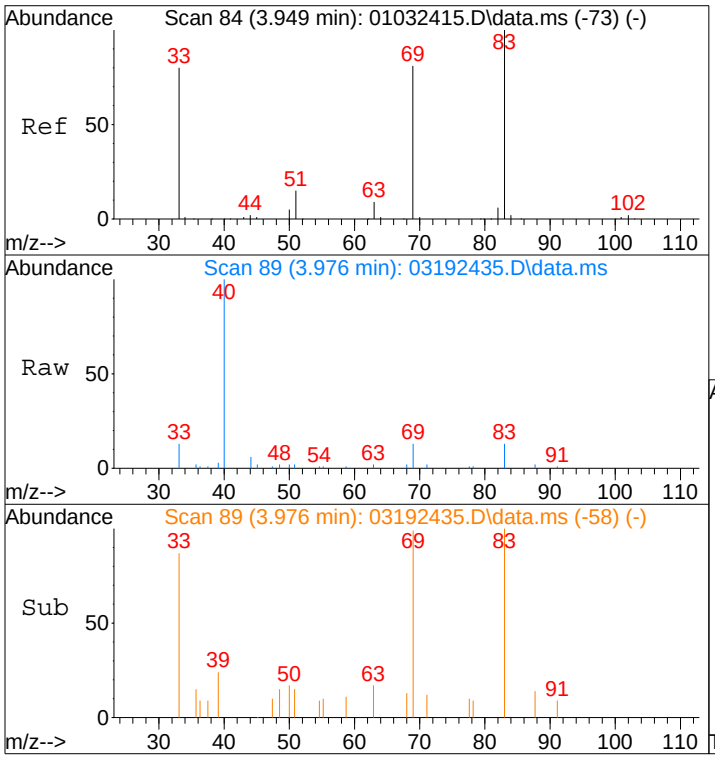
Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 21 14:17:43 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



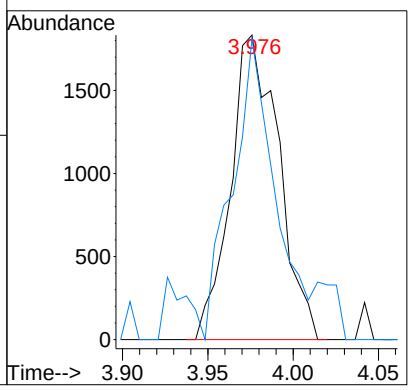
C-1654

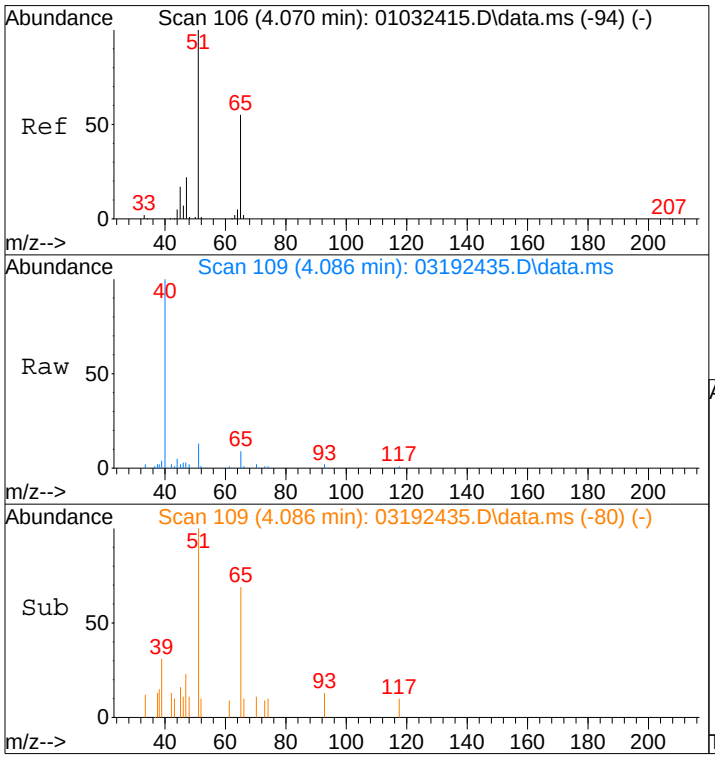


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.17 ng
RT: 3.98 min Scan# 89
Delta R.T. 0.022 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 83 Resp: 3597

Ion	Ratio	Lower	Upper
83	100		
69	96.7	74.0	111.0

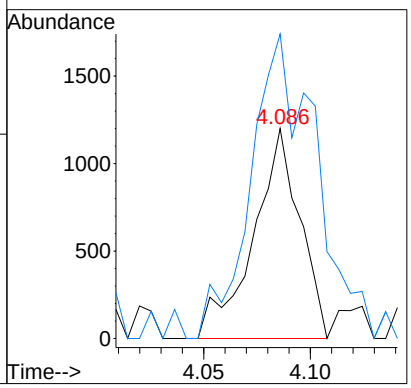


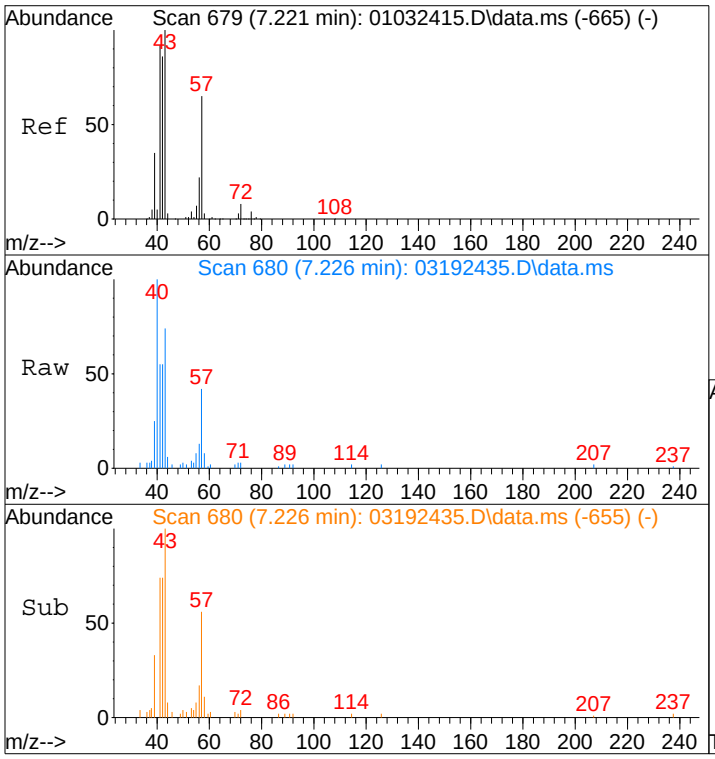


#4
1,1-Difluoroethane
Concen: 0.10 ng
RT: 4.09 min Scan# 109
Delta R.T. 0.011 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 65 Resp: 1822

Ion	Ratio	Lower	Upper
65	100		
51	206.2	155.8	233.6

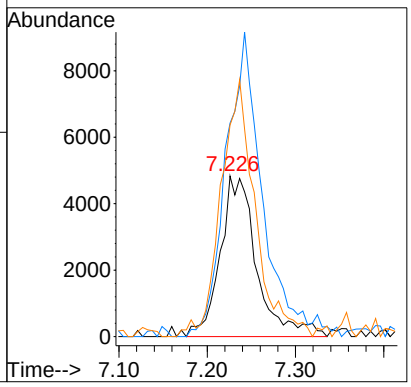


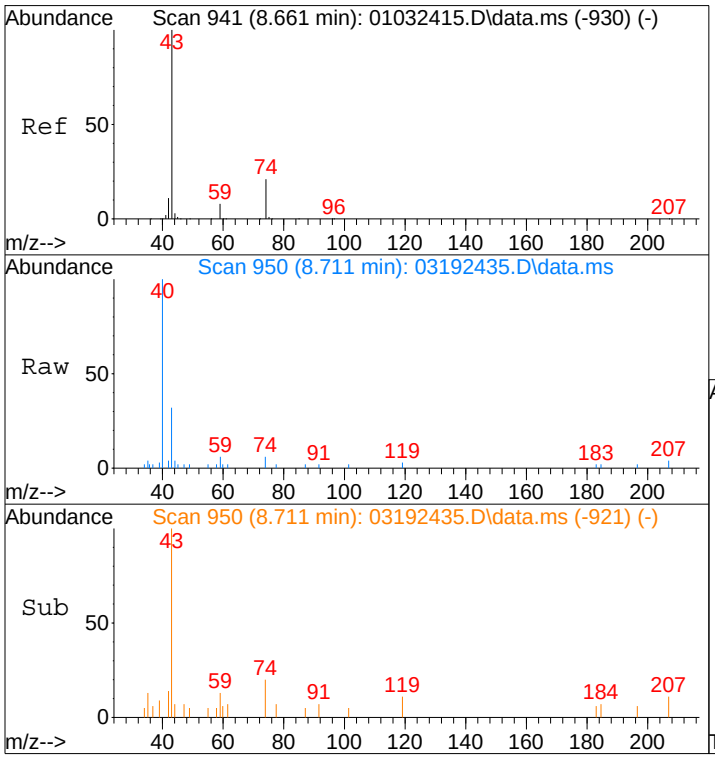


#10
2-Methylbutane
Concen: 0.65 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.011 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 57 Resp: 13858

Ion	Ratio	Lower	Upper
57	100		
42	190.8	115.0	172.4#
41	150.6	149.4	224.2

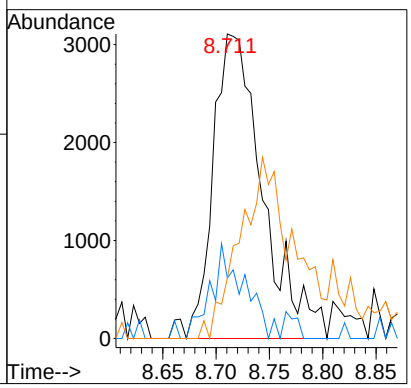




#11
Methyl Acetate
Concen: 0.21 ng
RT: 8.71 min Scan# 950
Delta R.T. 0.011 min
Lab File: 03192435.D
Acq: 19 Mar 2024 18:51

Tgt Ion: 43 Resp: 9999

Ion	Ratio	Lower	Upper
43	100		
74	20.4	14.9	22.3
59	0.0	6.0	9.0#



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192435.D\data.ms

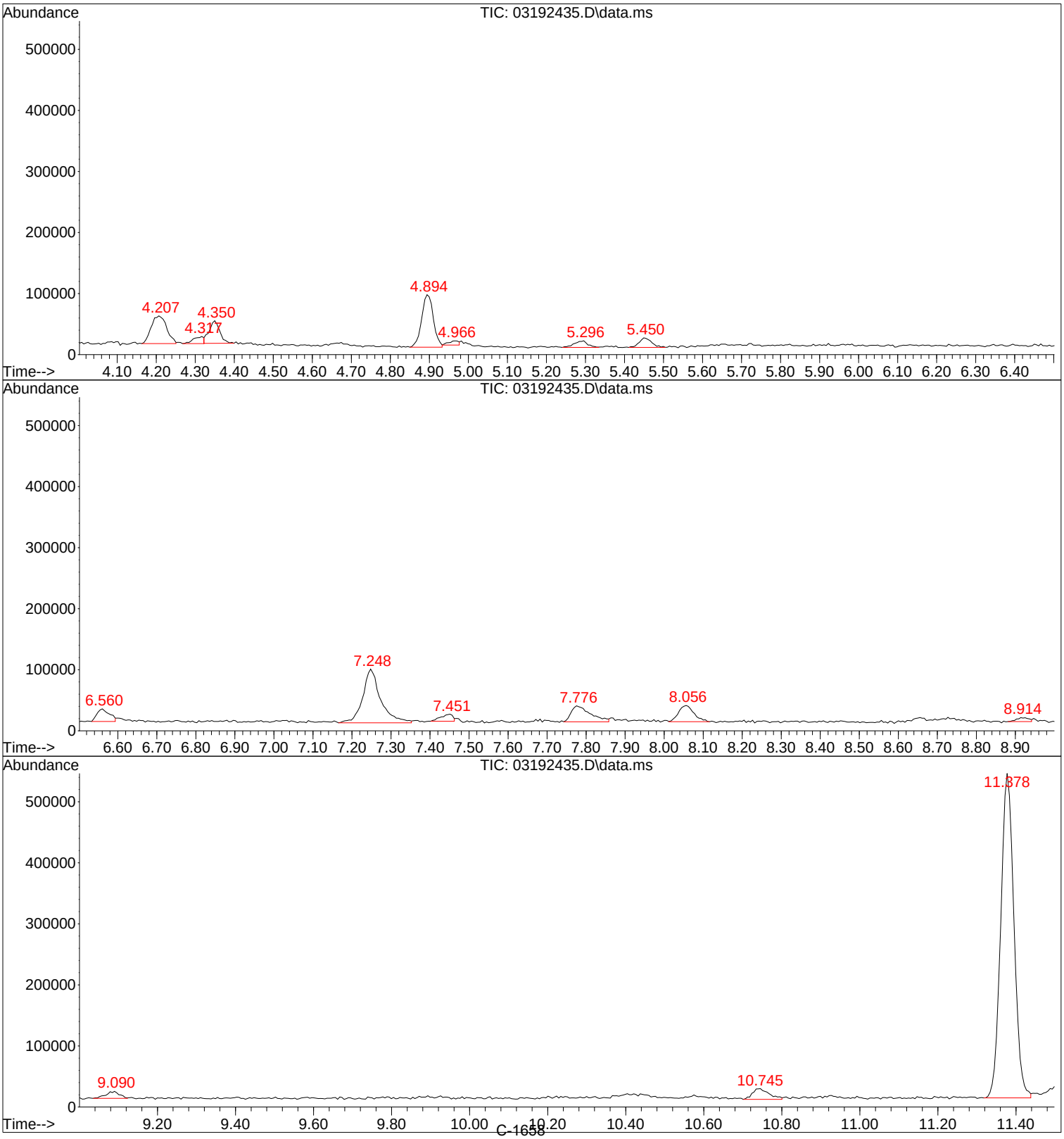
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.207	123	131	139	rBV6	45394	124908	10.00%	5.373%
2	4.317	142	151	152	rBV2	11596	21423	1.72%	0.922%
3	4.350	152	157	166	rVB2	36870	69178	5.54%	2.976%
4	4.894	248	256	263	rBV	85890	178885	14.33%	7.695%
5	4.966	263	269	271	rBV4	6775	12713	1.02%	0.547%
6	5.296	319	329	336	rBV2	10950	26031	2.08%	1.120%
7	5.450	350	357	367	rBV3	15682	34977	2.80%	1.505%
8	6.560	554	559	565	rBV3	20610	46291	3.71%	1.991%
9	7.248	669	684	703	rBV4	88079	280778	22.49%	12.078%
10	7.451	712	721	723	rBV7	11689	25274	2.02%	1.087%
11	7.776	774	780	795	rBV2	26121	89468	7.17%	3.849%
12	8.056	823	831	842	rVB4	26516	72619	5.82%	3.124%
13	8.914	981	987	992	rBV5	6411	14031	1.12%	0.604%
14	9.090	1009	1019	1025	rBV8	11455	27426	2.20%	1.180%
15	10.745	1312	1320	1330	rBV2	17536	51986	4.16%	2.236%
16	11.378	1424	1435	1446	rBV	531469	1248653	100.00%	53.714%

Sum of corrected areas: 2324641

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:51
Operator : CI
Sample : P2400922-053 (400mL)
Misc : S37-01032403/
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192435.D
Acq On : 19 Mar 2024 18:511
Operator : CII
Sample : P2400922-053 (400mL))
Misc : S37-01032403//
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CI 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:48:16 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	209187	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	962947	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	212569	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	419476	11.906	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	15.94	98	1076536	12.969	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	19.15	174	357436	12.786	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	4.18	42	13310m	0.451	ng		
3) Dichlorodifluoromethan...	4.35	85	26024	0.559	ng		98
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	535	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.29	54	152	N.D.			
8) Bromomethane	5.81	94	651	N.D.			
9) Chloroethane	6.13	64	361	N.D.			
10) Ethanol	6.55	45	73238	3.905	ng		98
11) Acetonitrile	6.84	41	2228	N.D.			
12) Acrolein	7.01	56	5016	0.368	ng		91
13) Acetone	7.24	58	78090	5.134	ng	#	59
14) Trichlorofluoromethane	7.44	101	659301	15.779	ng		100
15) 2-Propanol (Isopropanol)	7.77	45	42591	0.752	ng		83
16) Acrylonitrile	7.99	53	401	N.D.			
17) 1,1-Dichloroethene	8.38	96	180	N.D.			
18) 2-Methyl-2-Propanol (t...	8.71	59	212	N.D.			
19) Methylene Chloride	8.65	84	7440	0.338	ng		99
20) 3-Chloro-1-propene (Al...	8.78	41	373	N.D.			
21) Trichlorotrifluoroethane	9.07	151	261117	14.348	ng		99
22) Carbon Disulfide	8.91	76	12120	0.194	ng		92
23) trans-1,2-Dichloroethene	9.94	61	638	N.D.			
24) 1,1-Dichloroethane	10.19	63	249	N.D.			
25) Methyl tert-Butyl Ether	10.36	73	295	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.73	72	10829	0.814	ng		93
28) cis-1,2-Dichloroethene	11.20	61	381	N.D.			
29) Diisopropyl Ether	11.38	87	164	N.D.			
30) Ethyl Acetate	11.54	61	8460	1.116	ng		95
31) n-Hexane	11.49	57	5855	0.169	ng		97
32) Chloroform	11.54	83	22427	0.634	ng		98
34) Tetrahydrofuran (THF)	11.88	72	218	N.D.			
35) Ethyl tert-Butyl Ether	12.14	87	160	N.D.			
36) 1,2-Dichloroethane	12.35	62	1378	N.D.			
38) 1,1,1-Trichloroethane	12.62	97	140	N.D.			
39) Isopropyl Acetate	13.74	61	205	No Calib		#	
40) 1-Butanol	12.64	56	128	No Calib		#	
41) Benzene	13.10	78	18590	0.203	ng		95
42) Carbon Tetrachloride	13.26	117	436	N.D.			
43) Cyclohexane	13.40	84	6755	0.226	ng		92
44) tert-Amyl Methyl Ether	13.80	73	392	N.D.			
45) 1,2-Dichloropropane	13.96	63	676	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.20	130	3012	0.129	ng		98
48) 1,4-Dioxane	14.24	88	638	N.D.			

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 20 14:48:16 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

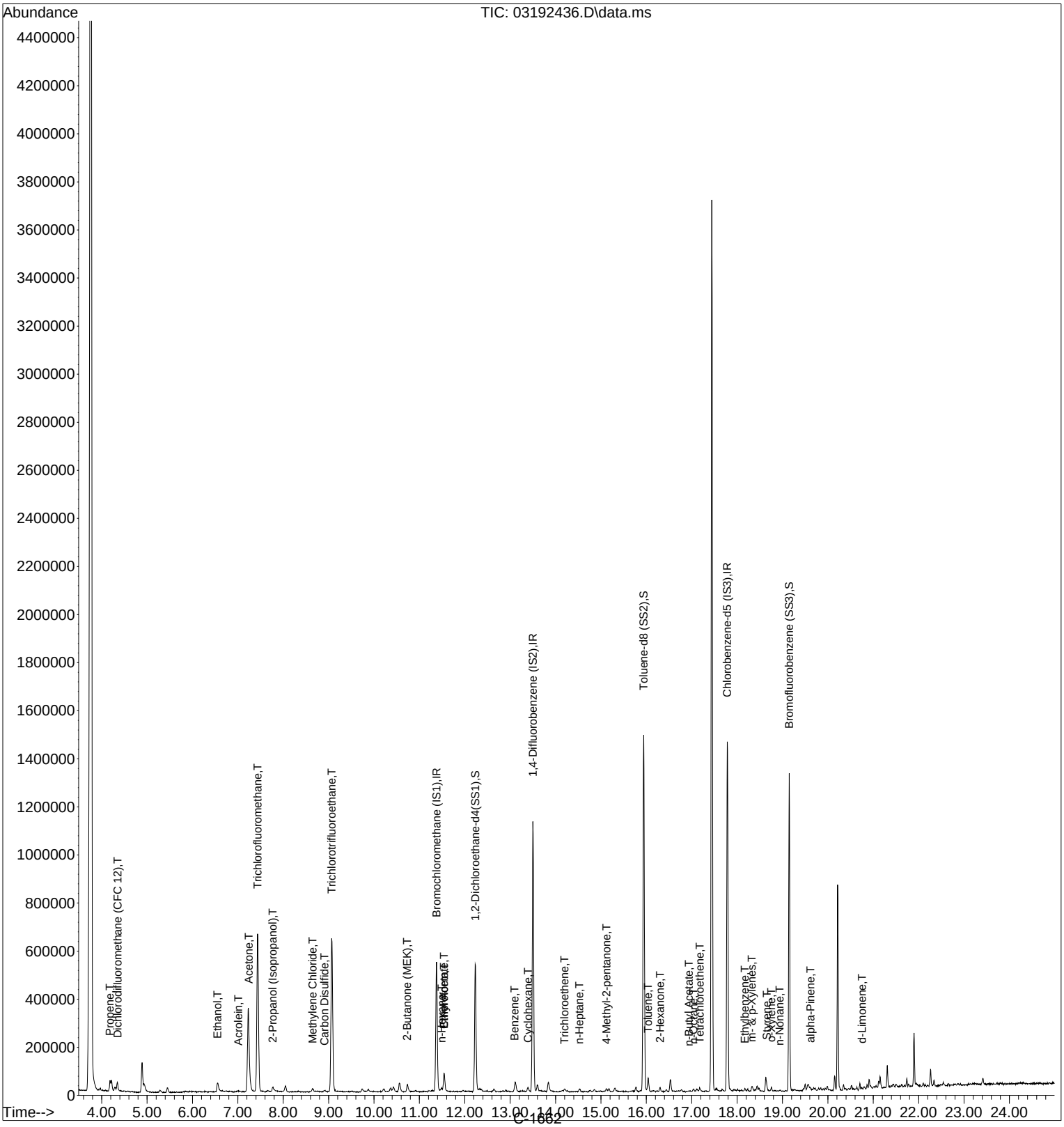
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	1596	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	14.52	71	3153	0.143 ng		89
52) cis-1,3-Dichloropropene	14.99	75	121	N.D.		
53) 4-Methyl-2-pentanone	15.12	58	2937	0.164 ng		99
54) trans-1,3-Dichloropropene	15.50	75	207	N.D.		
55) 1,1,2-Trichloroethane	15.76	97	216	N.D.		
58) Toluene	16.04	91	38955	0.500 ng		100
59) 2-Hexanone	16.30	43	12855	0.260 ng		97
60) Dibromochloromethane	16.46	129	526	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.94	43	3548	0.065 ng		83
63) n-Octane	17.04	57	2545	0.142 ng	#	69
64) Tetrachloroethene	17.18	166	4213	0.185 ng		89
65) Chlorobenzene	17.83	112	1213	N.D.		
66) Ethylbenzene	18.17	91	7410	0.082 ng		93
67) m- & p-Xylenes	18.32	91	14013	0.193 ng		96
68) Bromoform	18.41	173	661	N.D.		
69) Styrene	18.65	104	7893	0.157 ng		94
70) o-Xylene	18.75	91	5349	0.073 ng		99
71) n-Nonane	18.94	43	2332	0.051 ng		98
72) 1,1,2,2-Tetrachloroethane	18.75	83	936	N.D.		
74) Cumene	19.27	105	1662	N.D.		
75) alpha-Pinene	19.62	93	4235	0.101 ng	#	51
76) n-Propylbenzene	19.70	91	3747	N.D.		
77) 3-Ethyltoluene	20.26	105	1663	No Calib		
78) 4-Ethyltoluene	19.84	105	1182	N.D.		
79) 1,3,5-Trimethylbenzene	19.91	105	844	N.D.		
80) alpha-Methylstyrene	20.61	118	115	No Calib	#	
81) 2-Ethyltoluene	20.26	105	1663	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	1663	N.D.		
83) n-Decane	20.27	58	426	No Calib	#	
84) Benzyl Chloride	20.37	91	475	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	869	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	900	N.D.		
87) sec-Butylbenzene	20.50	105	1265	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	1552	N.D.		
89) 1,2,3-Trimethylbenzene	20.26	105	1663	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	723	N.D.		
91) d-Limonene	20.75	68	1424	0.054 ng		93
92) 1,2-Dibromo-3-Chloropr...	21.12	157	191	N.D.		
93) n-Undecane	21.56	58	569	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1149	N.D.		
95) Naphthalene	22.35	128	1541	N.D.		
96) n-Dodecane	22.79	57	1245	No Calib	#	
97) Hexachlorobutadiene	22.66	225	683	N.D.		
98) Cyclohexanone	18.22	55	2675	No Calib	#	
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	20.98	91	2735	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 20 14:48:16 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:48:16 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

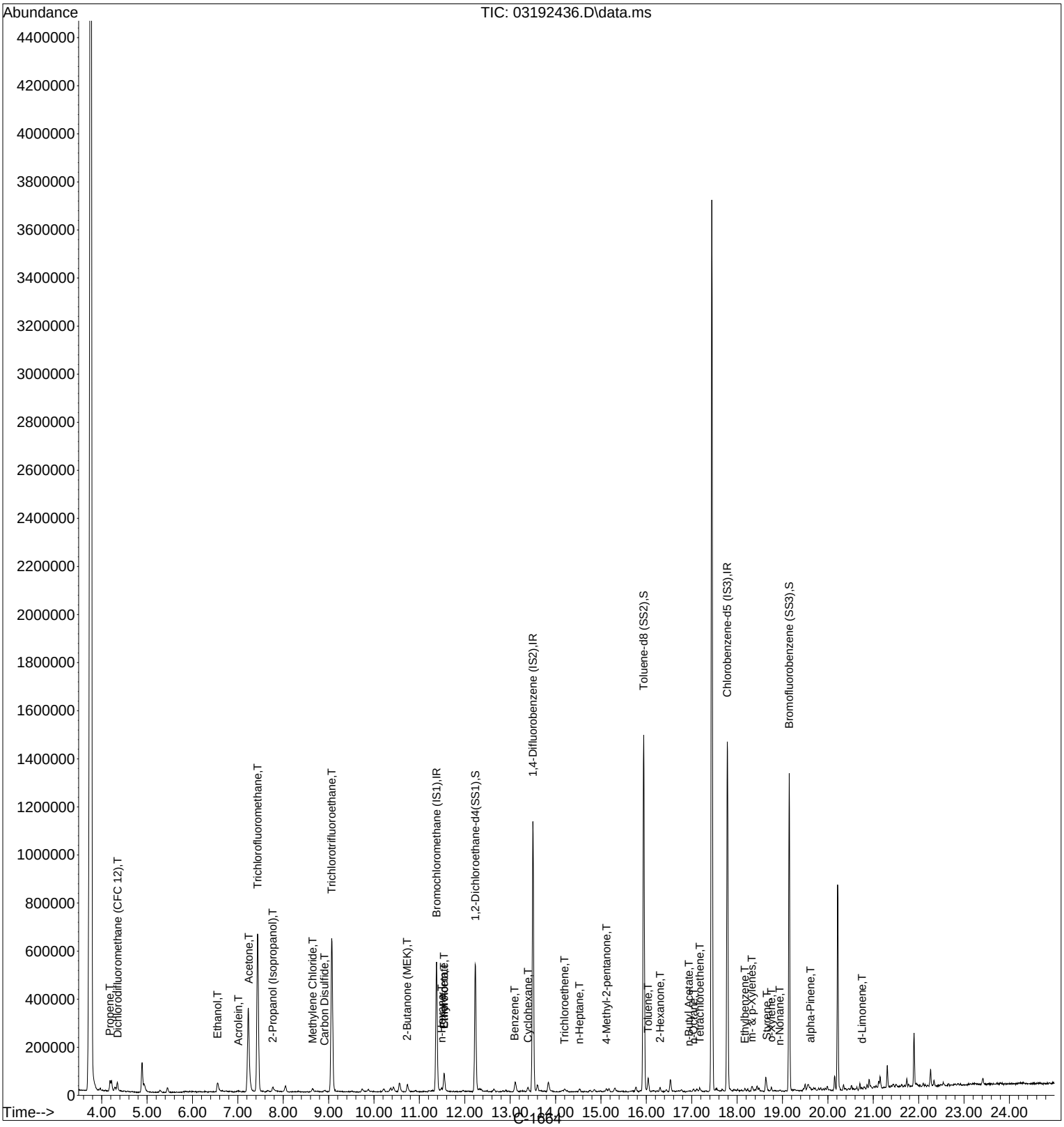
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	209187	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	962947	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	212569	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	419476	11.906	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	15.94	98	1076536	12.969	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
73) Bromofluorobenzene (SS3)	19.15	174	357436	12.786	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	4.18	42	13310m	0.451	ng		
3) Dichlorodifluoromethan...	4.35	85	26024	0.559	ng		98
10) Ethanol	6.55	45	73238	3.905	ng		98
12) Acrolein	7.01	56	5016	0.368	ng		91
13) Acetone	7.24	58	78090	5.134	ng	#	59
14) Trichlorofluoromethane	7.44	101	659301	15.779	ng		100
15) 2-Propanol (Isopropanol)	7.77	45	42591	0.752	ng		83
19) Methylene Chloride	8.65	84	7440	0.338	ng		99
21) Trichlorotrifluoroethane	9.07	151	261117	14.348	ng		99
22) Carbon Disulfide	8.91	76	12120	0.194	ng		92
27) 2-Butanone (MEK)	10.73	72	10829	0.814	ng		93
30) Ethyl Acetate	11.54	61	8460	1.116	ng		95
31) n-Hexane	11.49	57	5855	0.169	ng		97
32) Chloroform	11.54	83	22427	0.634	ng		98
41) Benzene	13.10	78	18590	0.203	ng		95
43) Cyclohexane	13.40	84	6755	0.226	ng		92
47) Trichloroethene	14.20	130	3012	0.129	ng		98
51) n-Heptane	14.52	71	3153	0.143	ng		89
53) 4-Methyl-2-pentanone	15.12	58	2937	0.164	ng		99
58) Toluene	16.04	91	38955	0.500	ng		100
59) 2-Hexanone	16.30	43	12855	0.260	ng		97
62) n-Butyl Acetate	16.94	43	3548	0.065	ng		83
63) n-Octane	17.04	57	2545	0.142	ng	#	69
64) Tetrachloroethene	17.18	166	4213	0.185	ng		89
66) Ethylbenzene	18.17	91	7410	0.082	ng		93
67) m- & p-Xylenes	18.32	91	14013	0.193	ng		96
69) Styrene	18.65	104	7893	0.157	ng		94
70) o-Xylene	18.75	91	5349	0.073	ng		99
71) n-Nonane	18.94	43	2332	0.051	ng		98
75) alpha-Pinene	19.62	93	4235	0.101	ng	#	51
91) d-Limonene	20.75	68	1424	0.054	ng		93

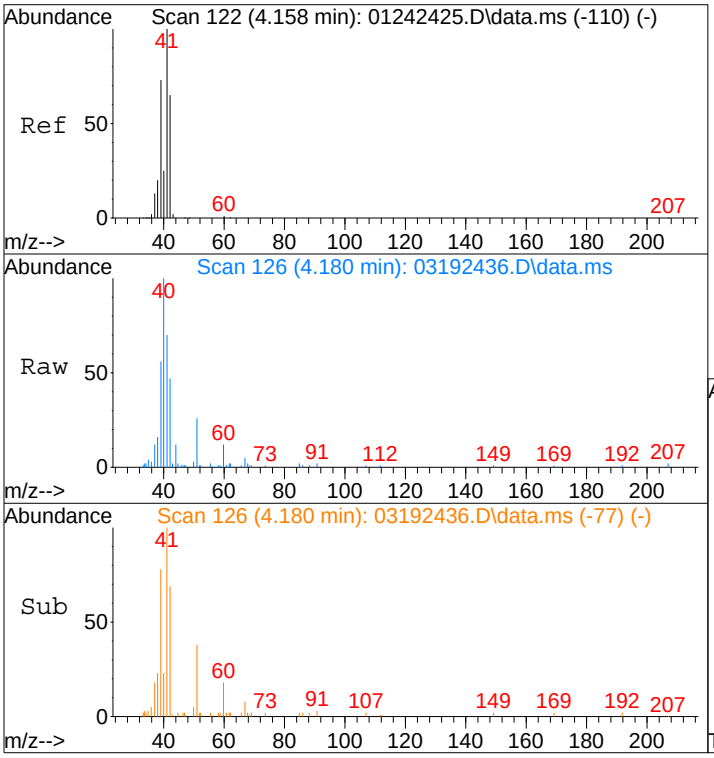
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 20 14:48:16 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

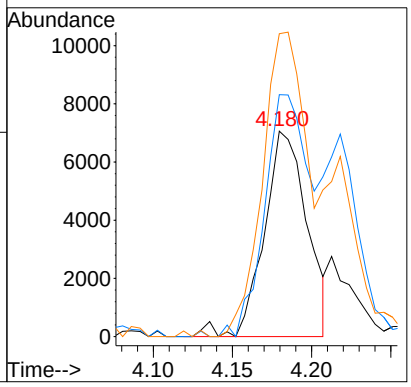


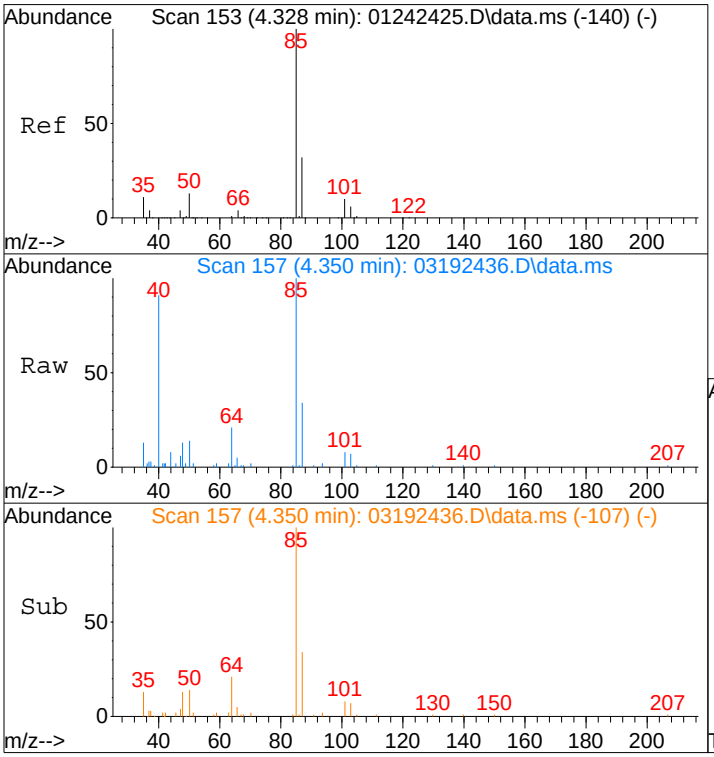


#2
Propene
Concen: 0.45 ng m
RT: 4.18 min Scan# 126
Delta R.T. 0.022 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 42 Resp: 13310

Ion	Ratio	Lower	Upper
42	100		
39	119.4	98.6	138.6
41	161.8	132.4	172.4

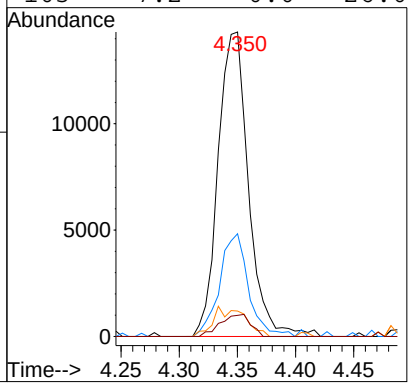


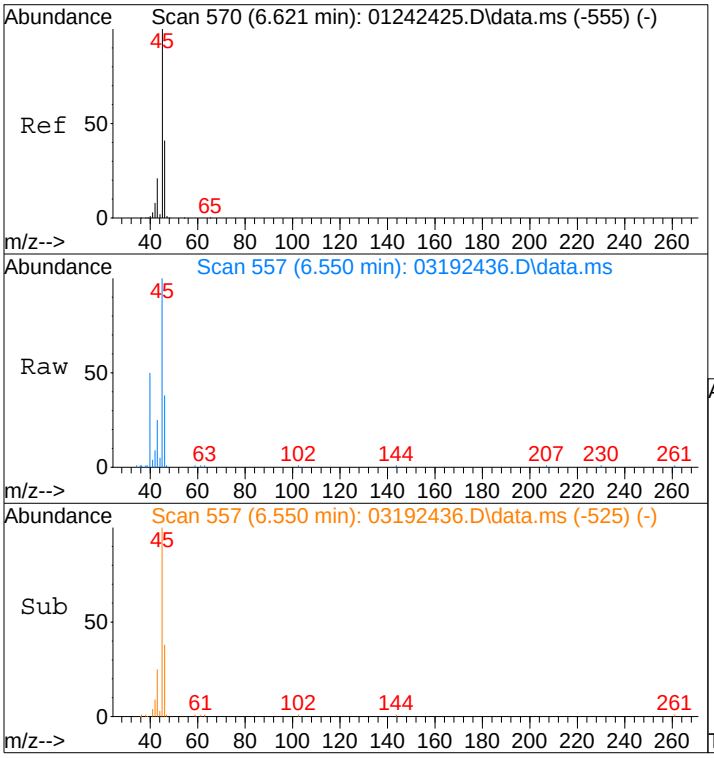


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.56 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.027 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 85 Resp: 26024

Ion	Ratio	Lower	Upper
85	100		
87	31.9	13.1	53.1
101	10.1	0.0	29.5
103	7.2	0.0	26.0

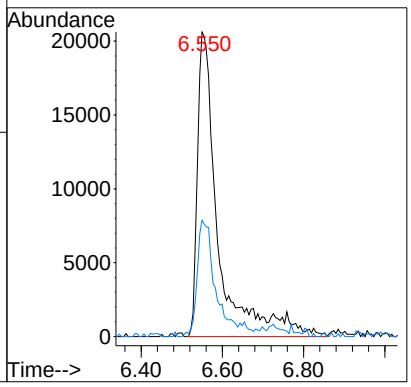


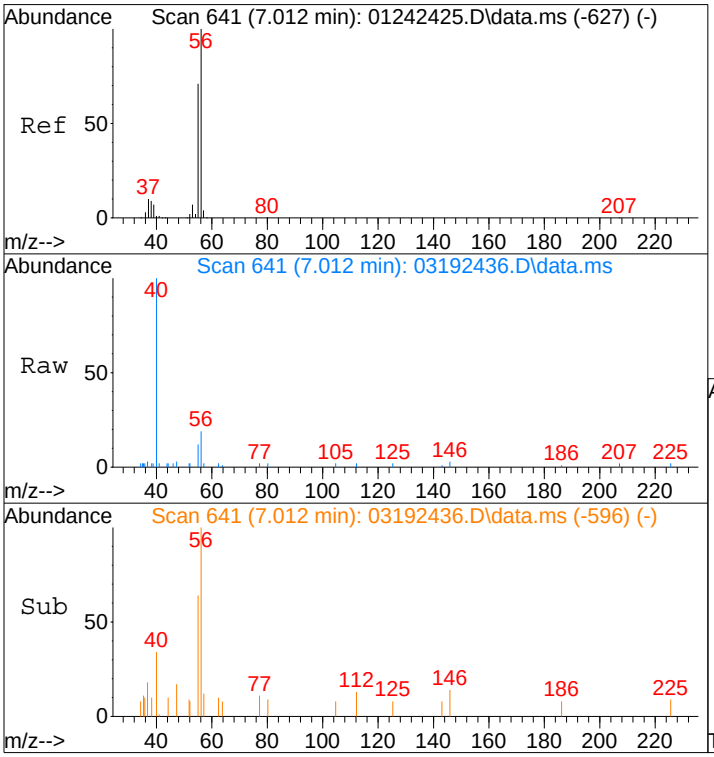


#10
Ethanol
Concen: 3.91 ng
RT: 6.55 min Scan# 557
Delta R.T. -0.072 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 45 Resp: 73238

Ion	Ratio	Lower	Upper
45	100		
46	38.5	19.6	59.6

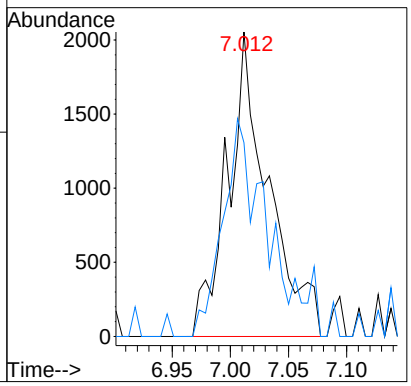


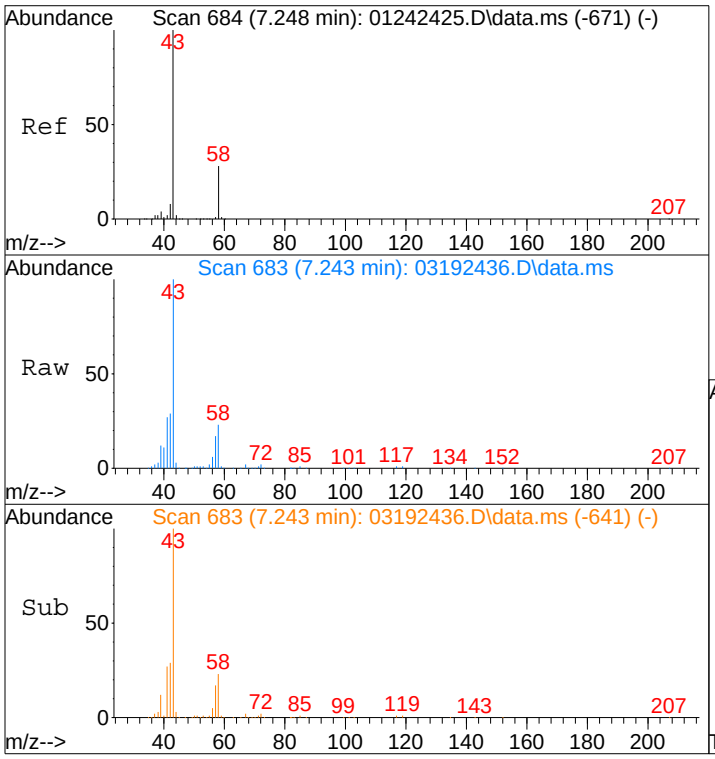


#12
Acrolein
Concen: 0.37 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.000 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 56 Resp: 5016

Ion	Ratio	Lower	Upper
56	100		
55	79.1	51.4	91.4

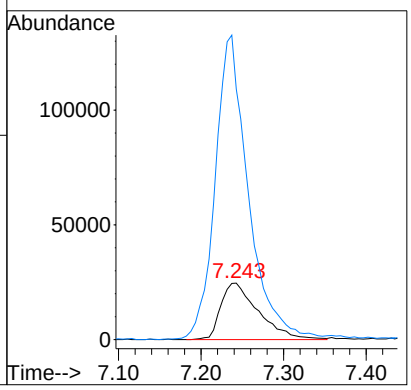


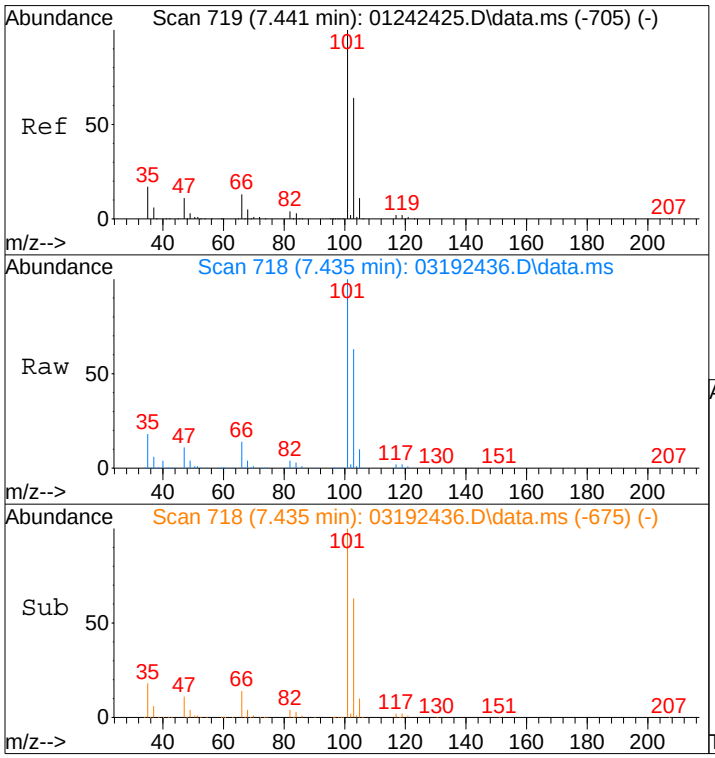


#13
Acetone
Concen: 5.13 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.020 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 58 Resp: 78090

Ion	Ratio	Lower	Upper
58	100		
43	482.5	357.4	417.4#

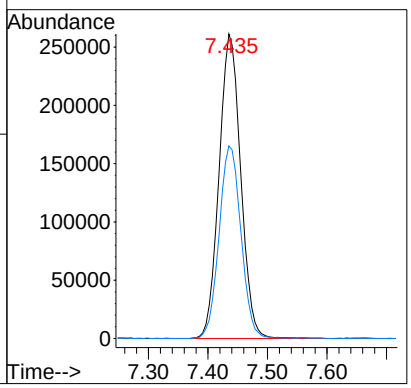


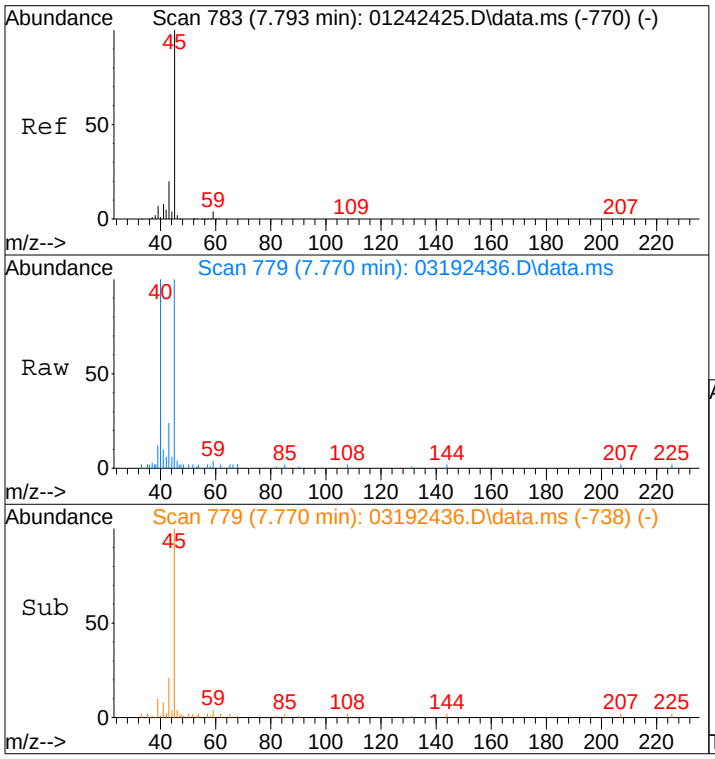


#14
Trichlorofluoromethane
Concen: 15.78 ng
RT: 7.44 min Scan# 718
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion:101 Resp: 659301

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.1	84.1

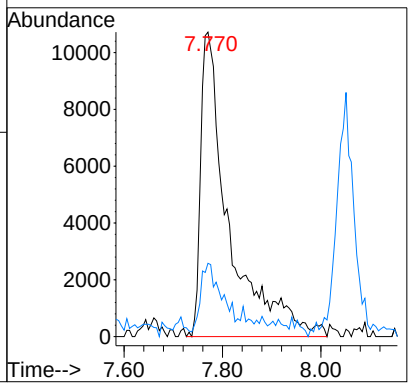


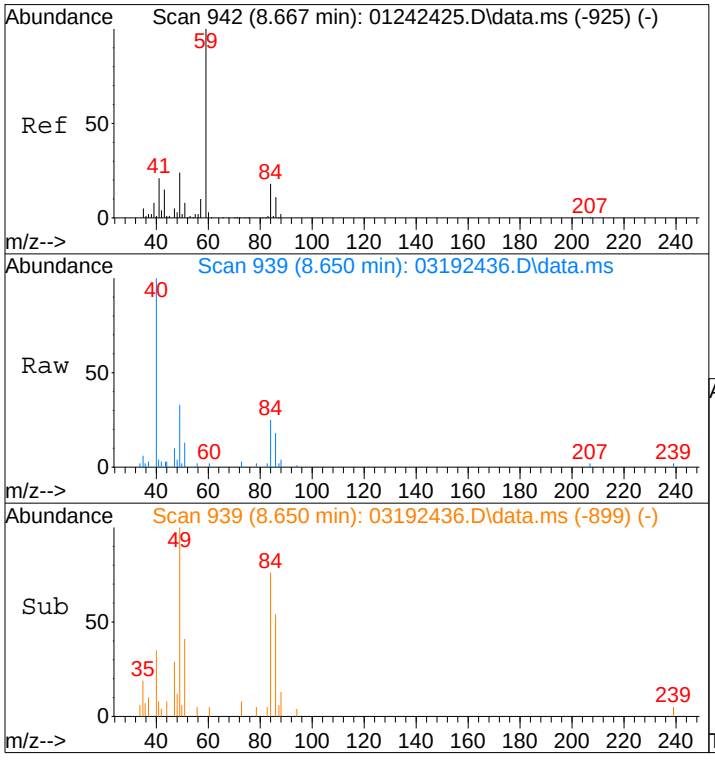


#15
2-Propanol (Isopropanol)
Concen: 0.75 ng
RT: 7.77 min Scan# 779
Delta R.T. -0.022 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 45 Resp: 42591

Ion	Ratio	Lower	Upper
45	100		
43	28.4	0.7	40.7

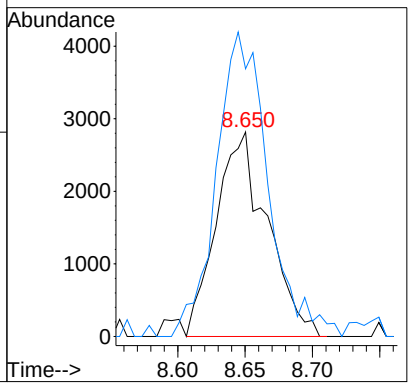


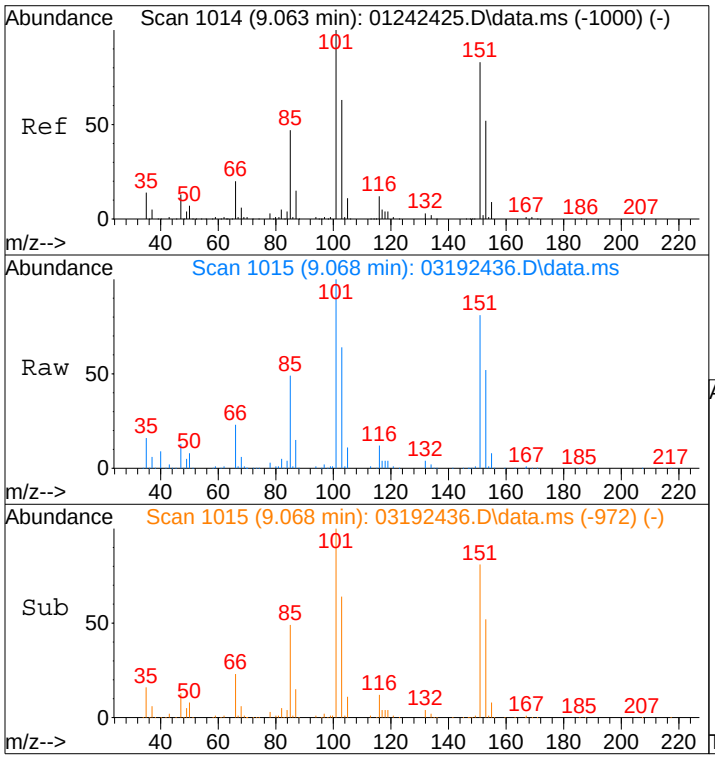


#19
Methylene Chloride
Concen: 0.34 ng
RT: 8.65 min Scan# 939
Delta R.T. -0.028 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 84 Resp: 7440

Ion	Ratio	Lower	Upper
84	100		
49	150.1	126.4	176.4

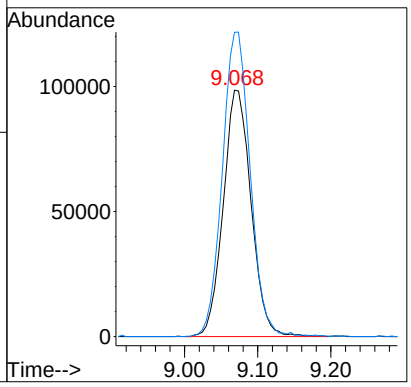


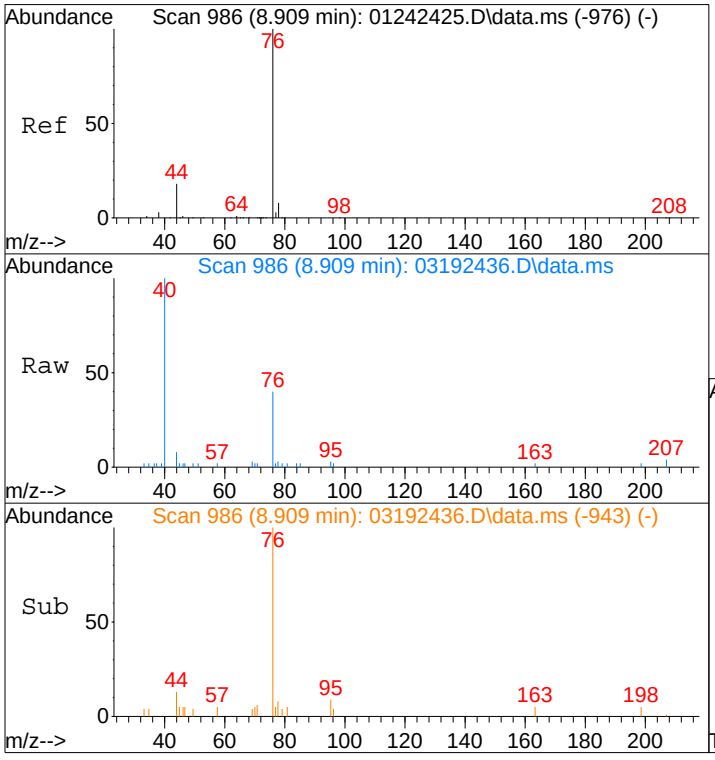


#21
Trichlorotrifluoroethane
Concen: 14.35 ng
RT: 9.07 min Scan# 1015
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion:151 Resp: 261117

Ion	Ratio	Lower	Upper
151	100		
101	123.6	104.2	144.2

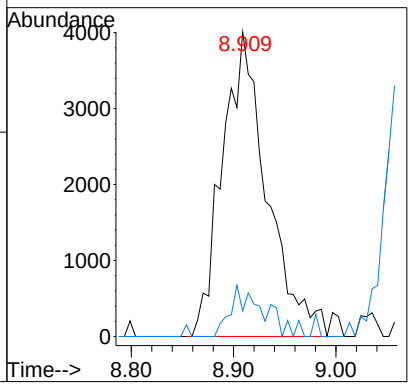


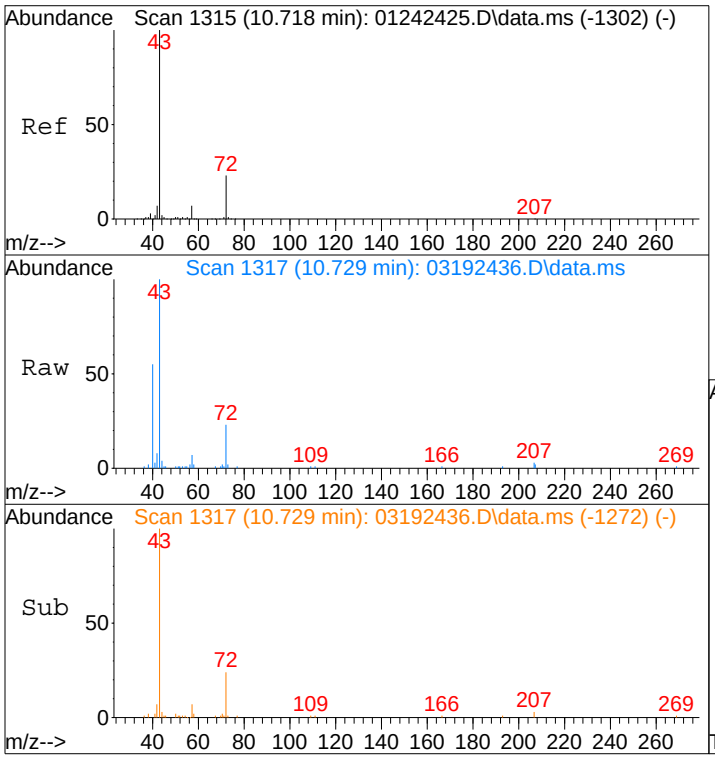


#22
Carbon Disulfide
Concen: 0.19 ng
RT: 8.91 min Scan# 986
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 76 Resp: 12120

Ion	Ratio	Lower	Upper
76	100		
78	12.4	0.0	29.3

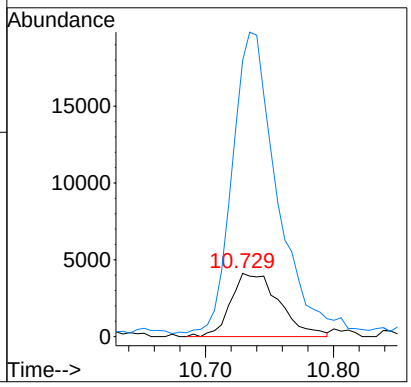


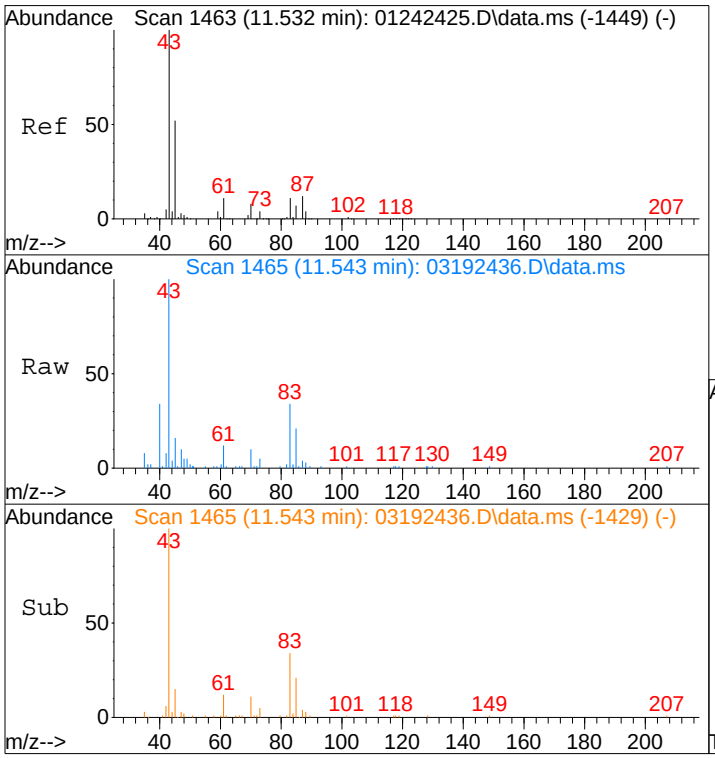


#27
2-Butanone (MEK)
Concen: 0.81 ng
RT: 10.73 min Scan# 1317
Delta R.T. -0.000 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 72 Resp: 10829

Ion	Ratio	Lower	Upper
72	100		
43	438.6	437.9	477.9

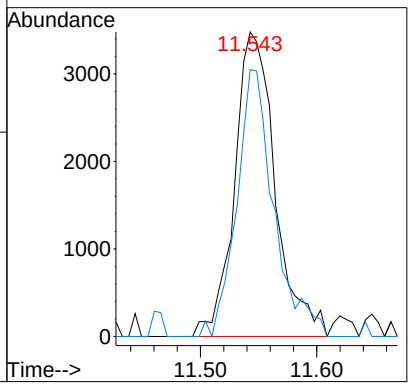


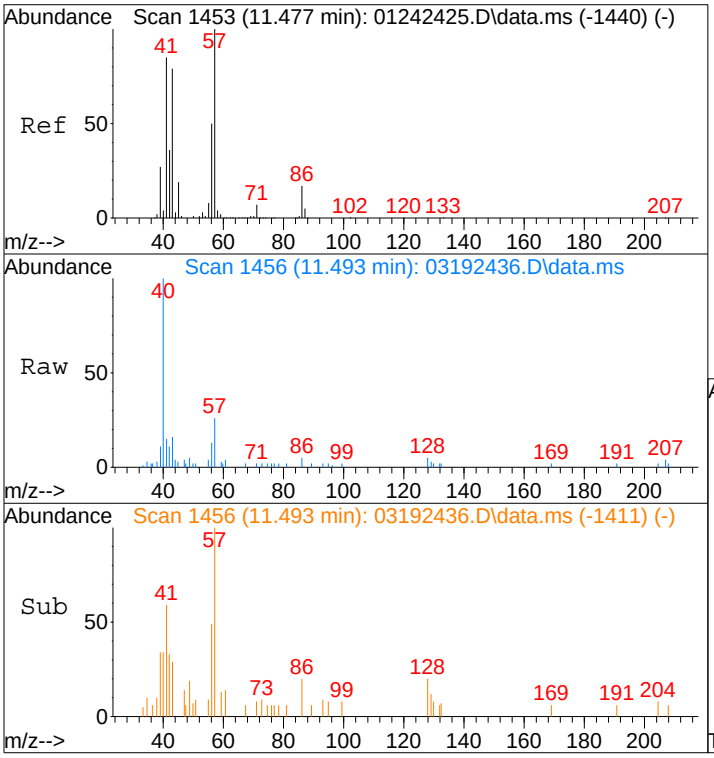


#30
Ethyl Acetate
Concen: 1.12 ng
RT: 11.54 min Scan# 1465
Delta R.T. -0.000 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 61 Resp: 8460

Ion	Ratio	Lower	Upper
61	100		
70	80.1	64.5	104.5

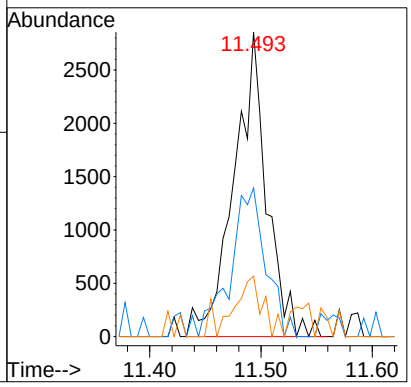


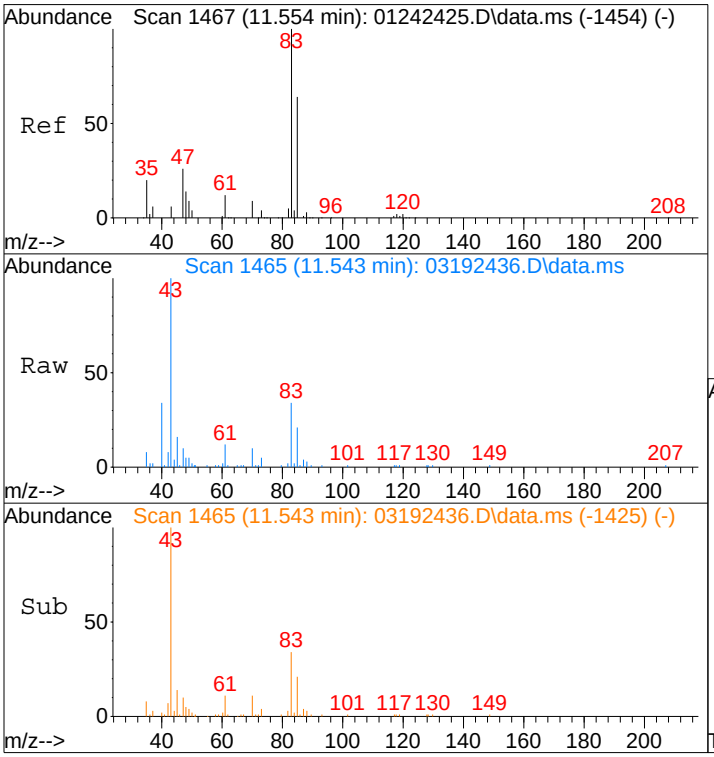


#31
n-Hexane
Concen: 0.17 ng
RT: 11.49 min Scan# 1456
Delta R.T. -0.000 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 57 Resp: 5855

Ion	Ratio	Lower	Upper
57	100		
56	53.3	40.7	61.1
86	16.3	13.4	20.2

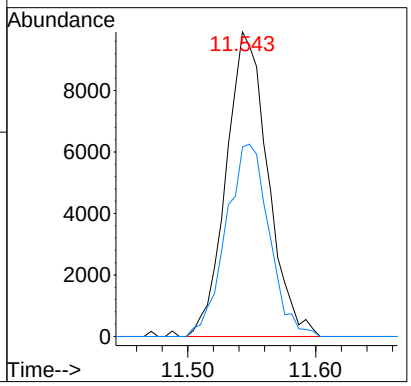


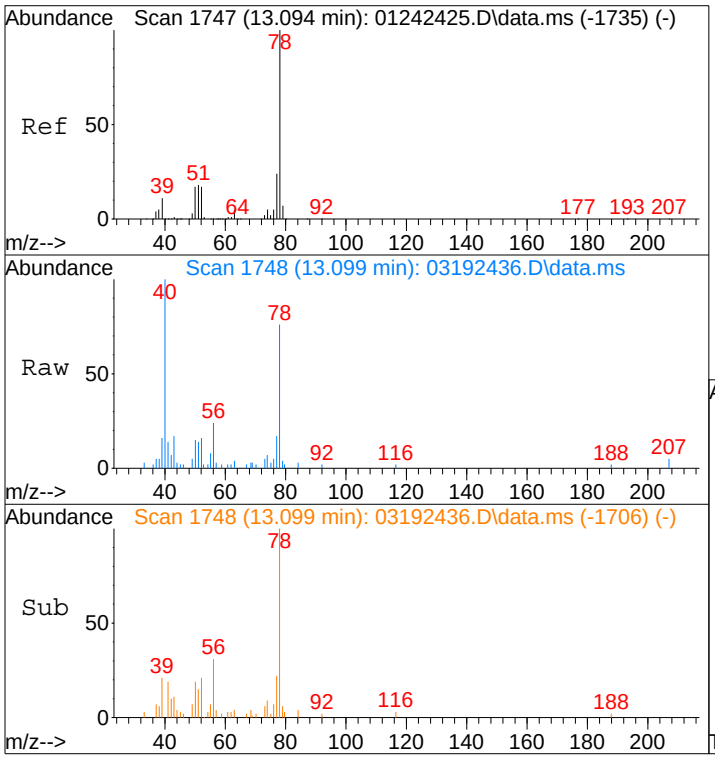


#32
Chloroform
Concen: 0.63 ng
RT: 11.54 min Scan# 1465
Delta R.T. -0.028 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 83 Resp: 22427

Ion	Ratio	Lower	Upper
83	100		
85	65.5	44.3	84.3

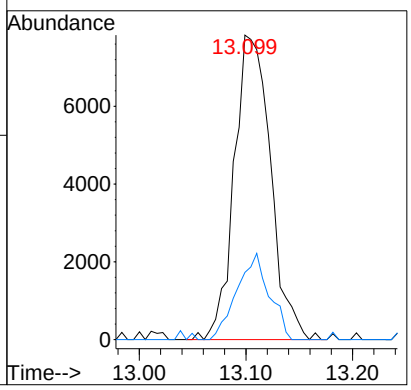


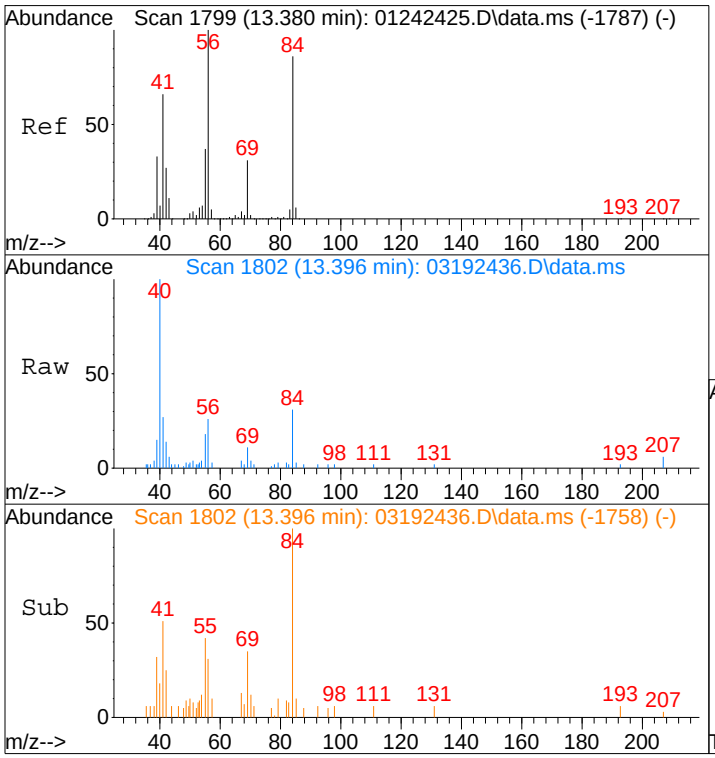


#41
Benzene
Concen: 0.20 ng
RT: 13.10 min Scan# 1748
Delta R.T. -0.017 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 78 Resp: 18590

Ion	Ratio	Lower	Upper
78	100		
77	25.2	2.6	42.6

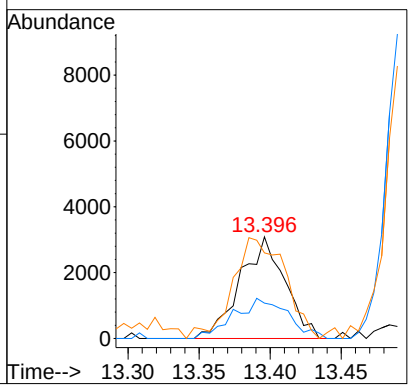


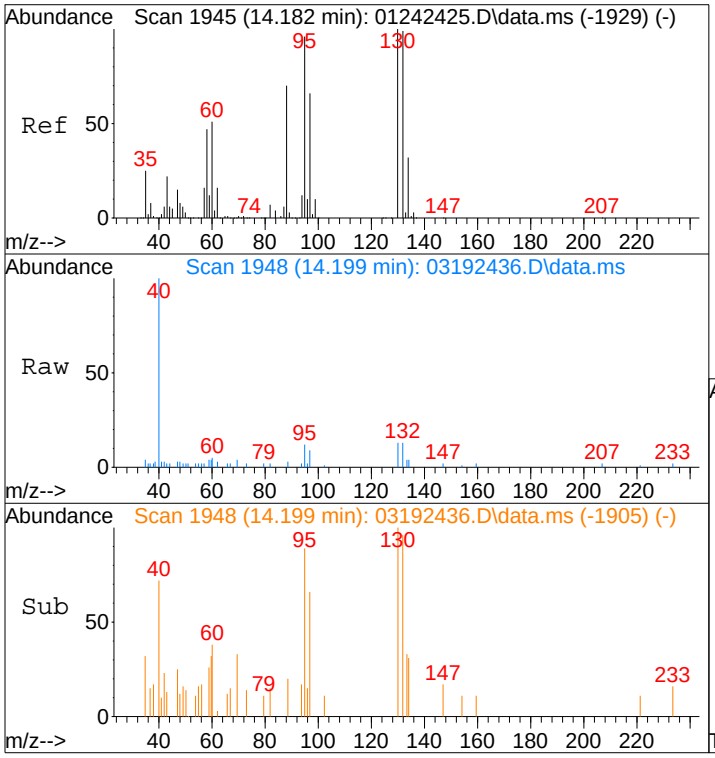


#43
Cyclohexane
Concen: 0.23 ng
RT: 13.40 min Scan# 1802
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 84 Resp: 6755

Ion	Ratio	Lower	Upper
84	100		
69	47.4	17.1	57.1
56	115.4	101.6	141.6

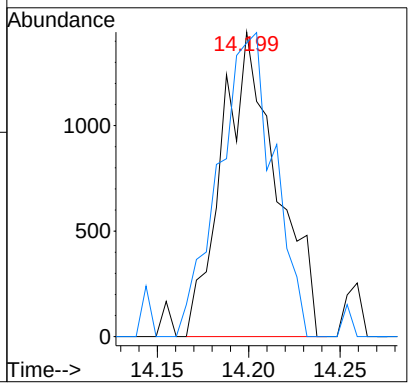


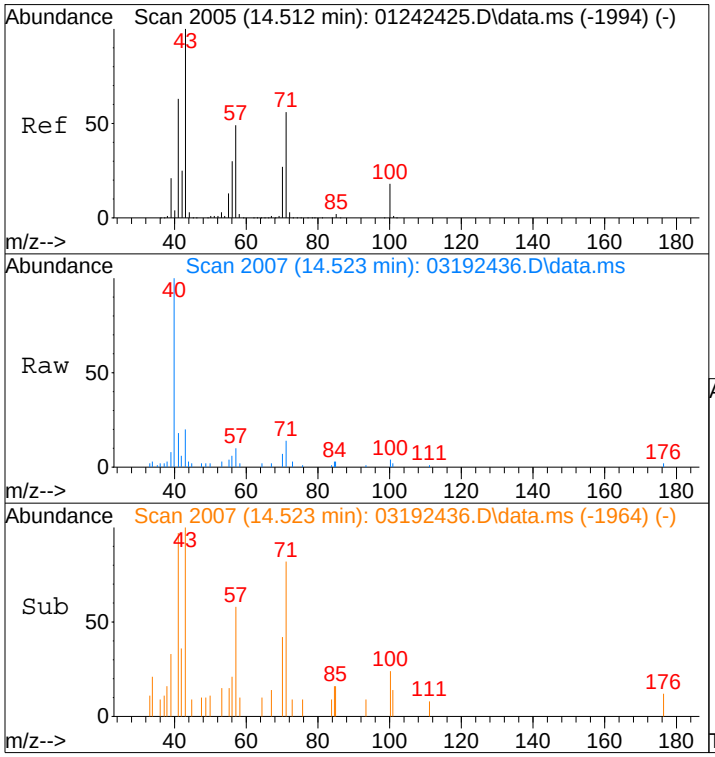


#47
Trichloroethene
Concen: 0.13 ng
RT: 14.20 min Scan# 1948
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion:130 Resp: 3012

Ion	Ratio	Lower	Upper
130	100		
132	100.2	78.3	118.3

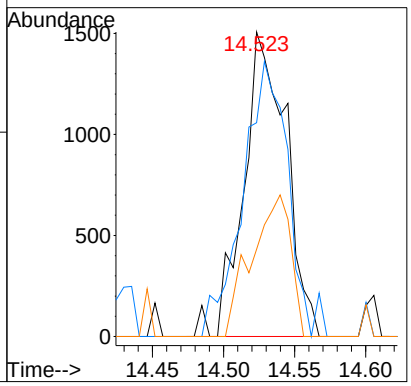


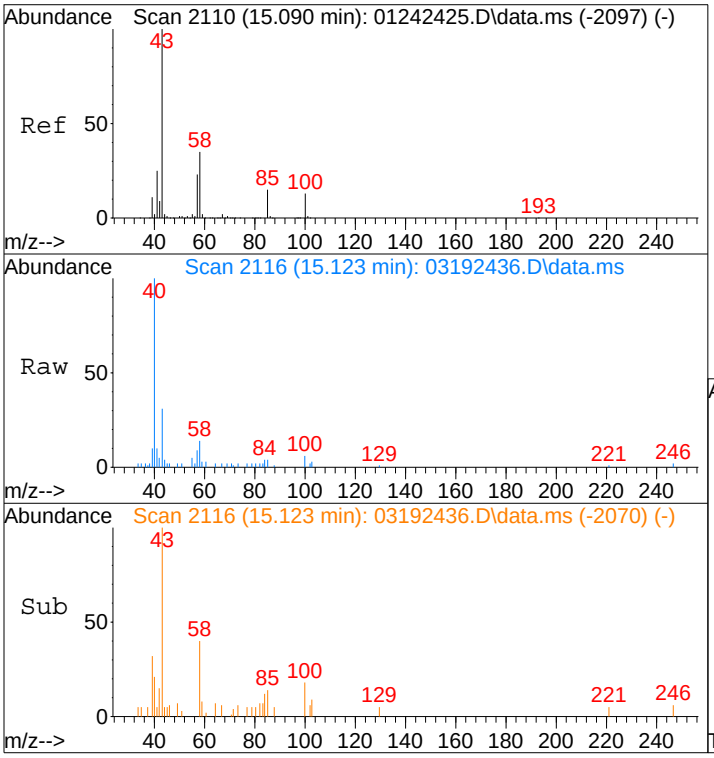


#51
n-Heptane
Concen: 0.14 ng
RT: 14.52 min Scan# 2007
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 71 Resp: 3153

Ion	Ratio	Lower	Upper
71	100		
57	95.5	69.1	109.1
100	42.6	10.7	50.7

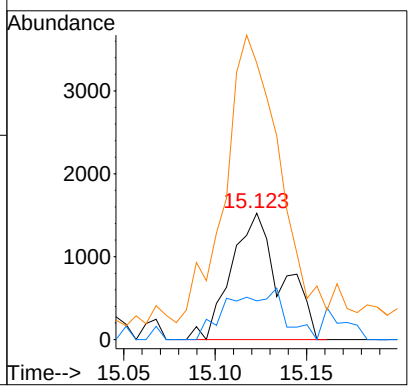


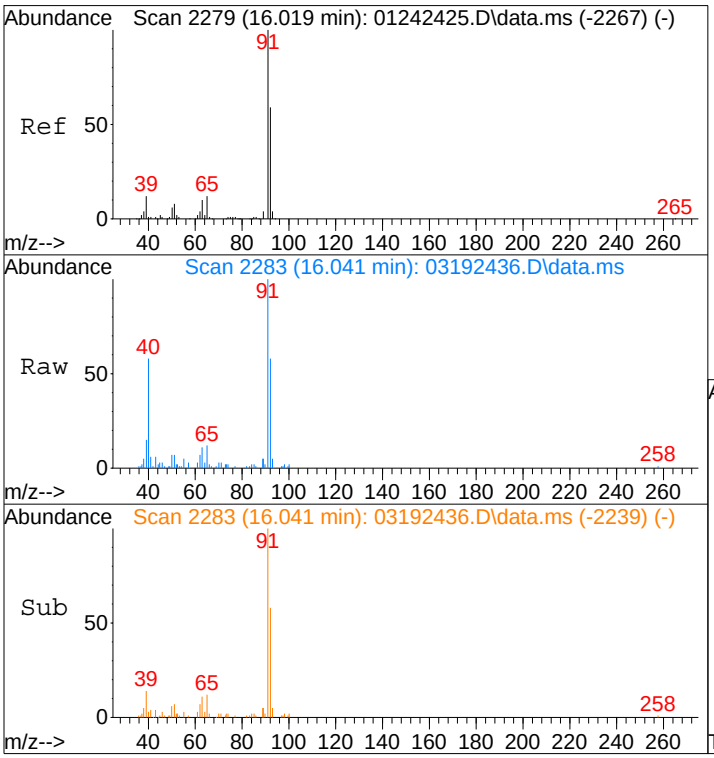


#53
4-Methyl-2-pentanone
Concen: 0.16 ng
RT: 15.12 min Scan# 2116
Delta R.T. 0.005 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 58 Resp: 2937

Ion	Ratio	Lower	Upper
58	100		
85	44.4	36.2	54.2
43	296.0	238.2	357.2

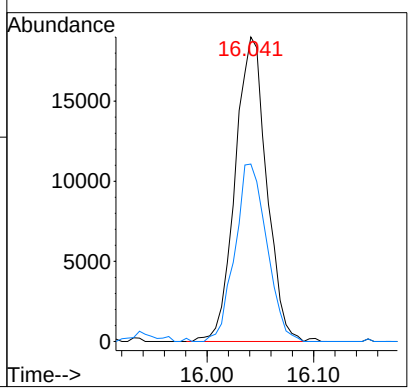


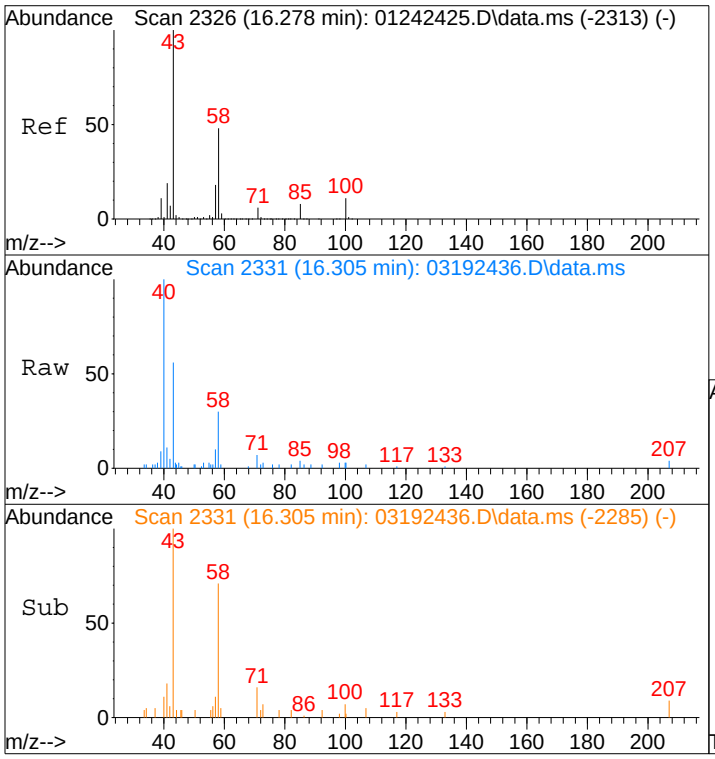


#58
Toluene
Concen: 0.50 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 91 Resp: 38955

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.1	79.1

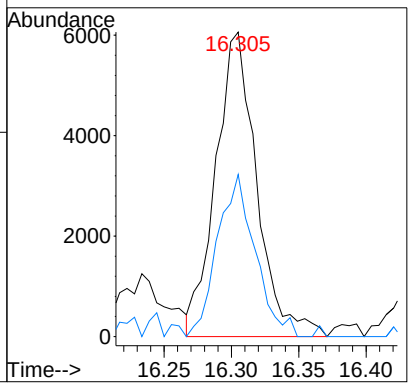


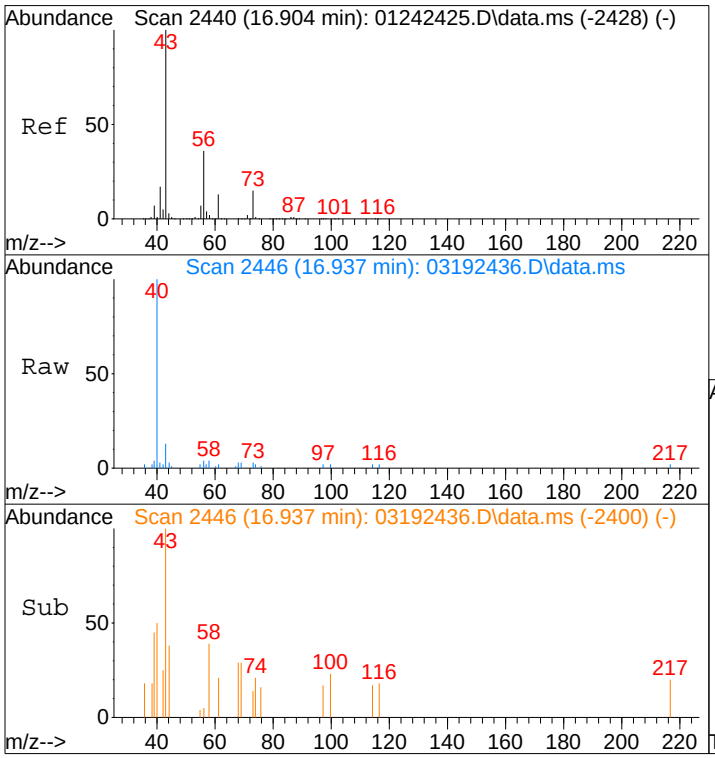


#59
2-Hexanone
Concen: 0.26 ng
RT: 16.30 min Scan# 2331
Delta R.T. 0.005 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 43 Resp: 12855

Ion	Ratio	Lower	Upper
43	100		
58	48.7	26.4	66.4

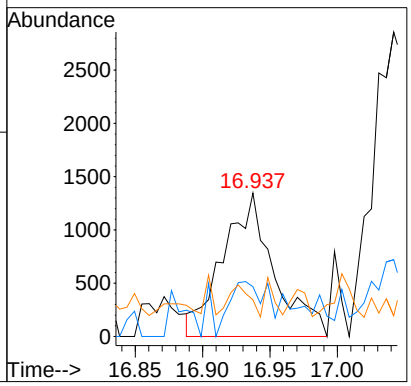


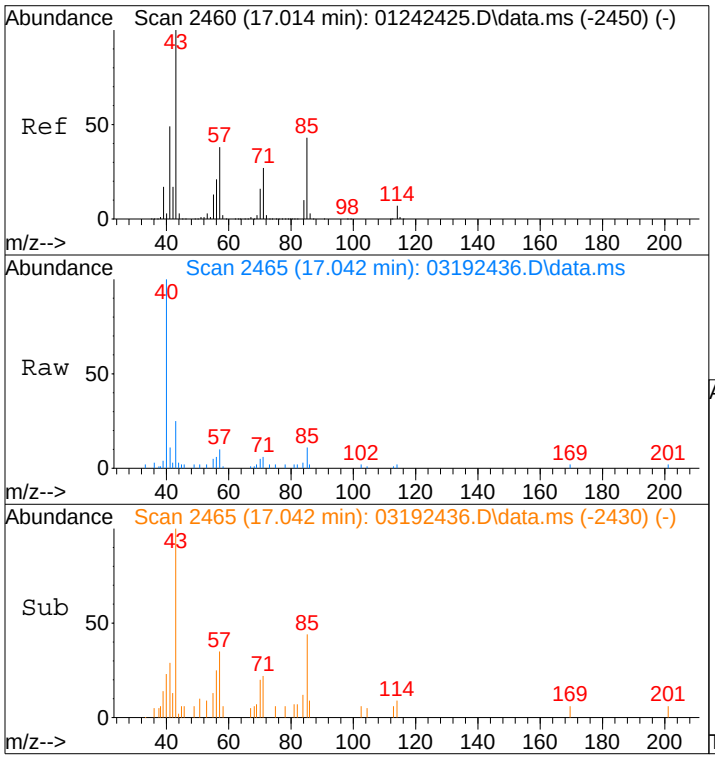


#62
n-Butyl Acetate
Concen: 0.06 ng
RT: 16.94 min Scan# 2446
Delta R.T. 0.005 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 43 Resp: 3548

Ion	Ratio	Lower	Upper
43	100		
56	47.9	16.1	56.1
73	10.9	0.0	34.6

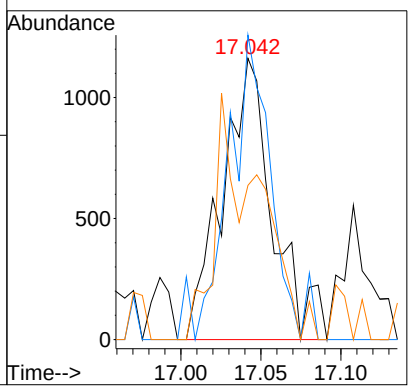


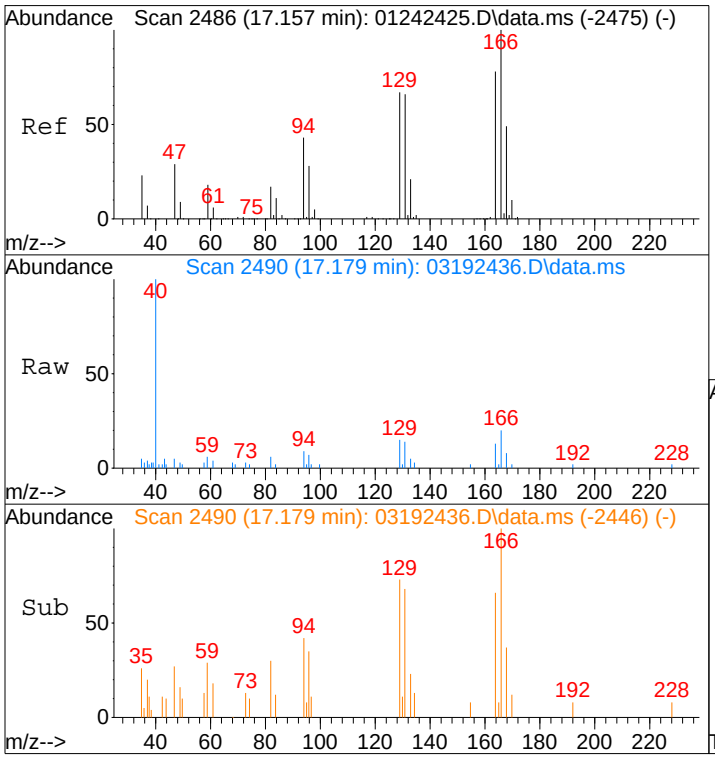


#63
n-Octane
Concen: 0.14 ng
RT: 17.04 min Scan# 2465
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 57 Resp: 2545

Ion	Ratio	Lower	Upper
57	100		
85	87.0	90.2	135.2#
71	36.2	57.1	85.7#

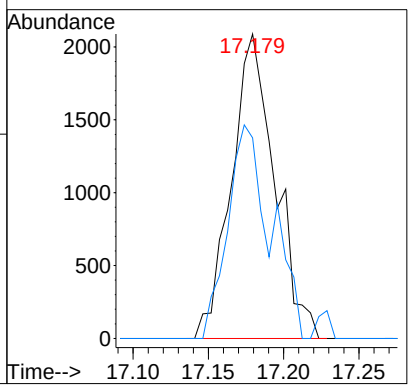


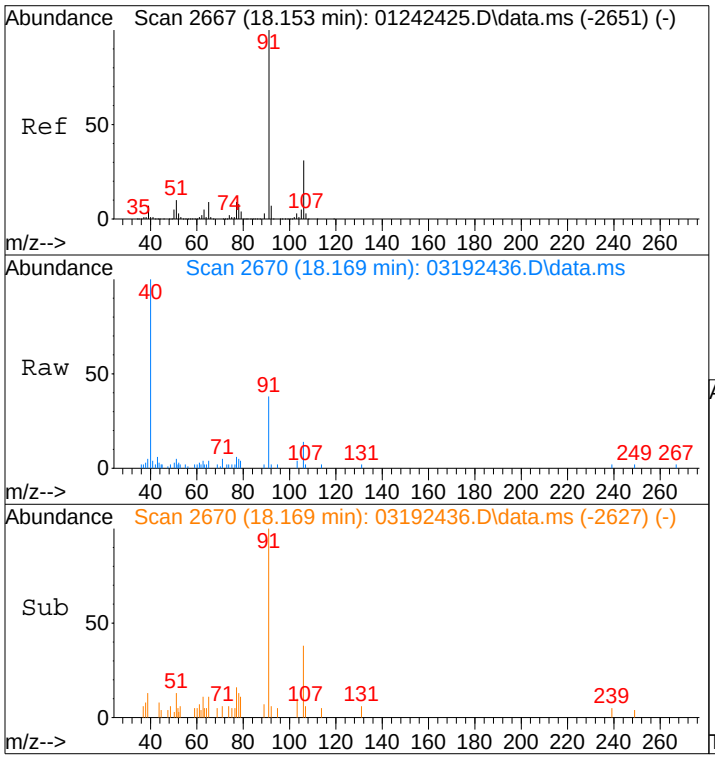


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 17.18 min Scan# 2490
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion:166 Resp: 4213

Ion	Ratio	Lower	Upper
166	100		
164	69.3	59.3	99.3

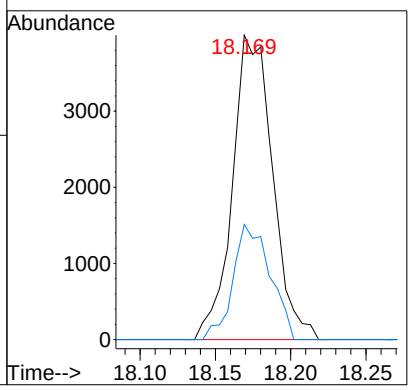


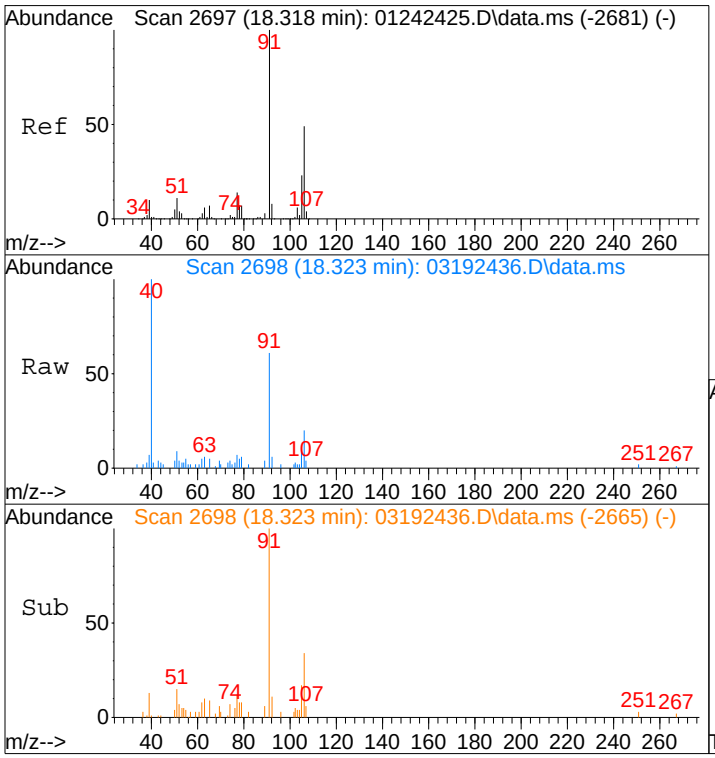


#66
Ethylbenzene
Concen: 0.08 ng
RT: 18.17 min Scan# 2670
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 91 Resp: 7410

Ion	Ratio	Lower	Upper
91	100		
106	35.0	10.9	50.9

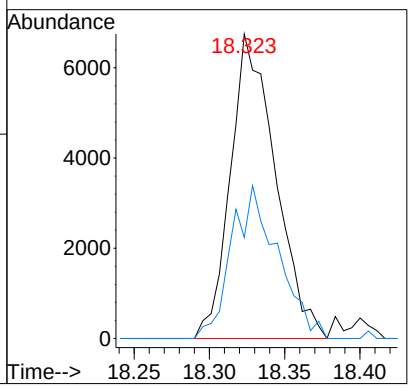


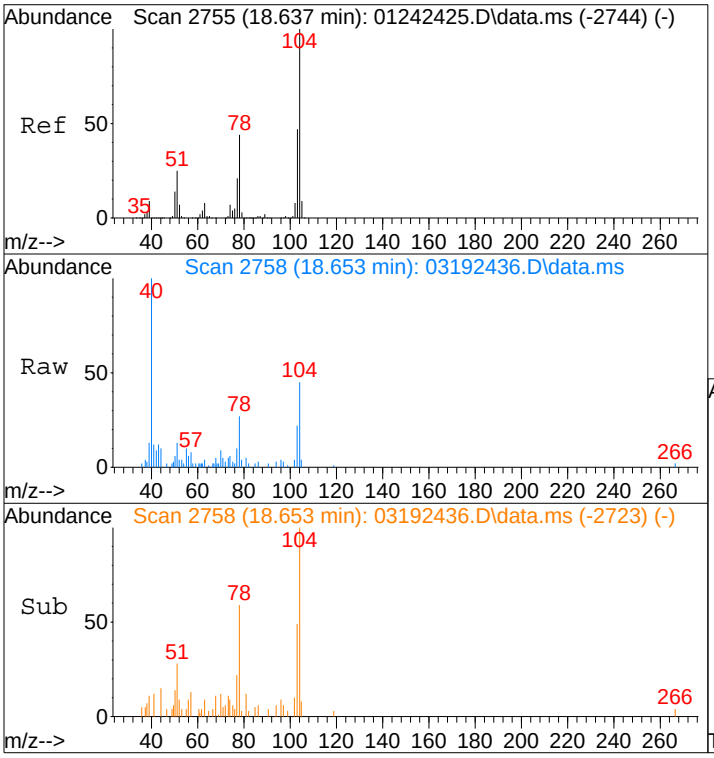


#67
m- & p-Xylenes
Concen: 0.19 ng
RT: 18.32 min Scan# 2698
Delta R.T. -0.017 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 91 Resp: 14013

Ion	Ratio	Lower	Upper
91	100		
106	51.7	28.7	68.7

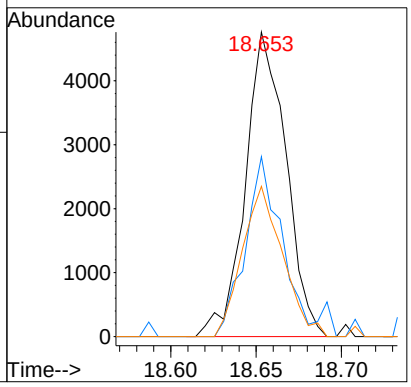


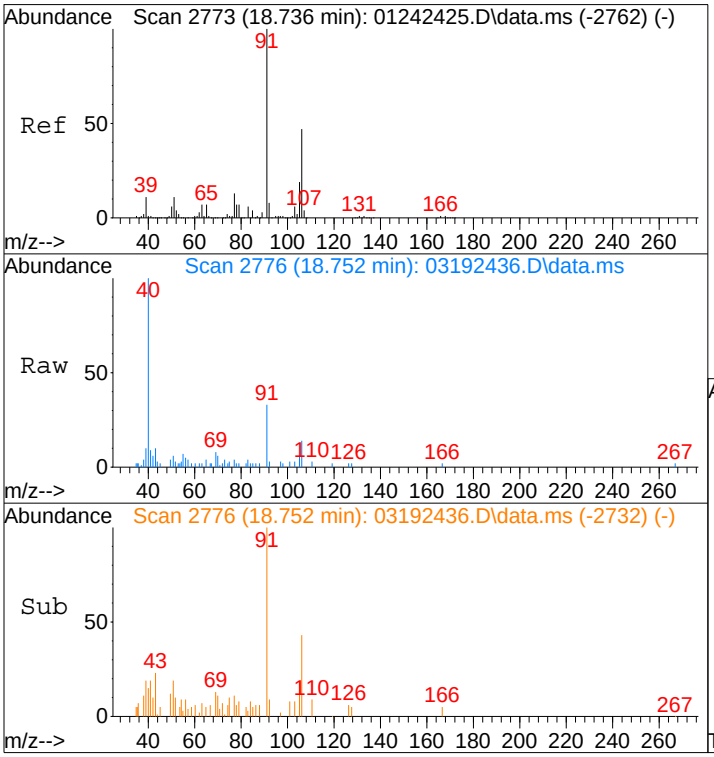


#69
Styrene
Concen: 0.16 ng
RT: 18.65 min Scan# 2758
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion:104 Resp: 7893

Ion	Ratio	Lower	Upper
104	100		
78	55.4	28.8	68.8
103	49.0	27.6	67.6

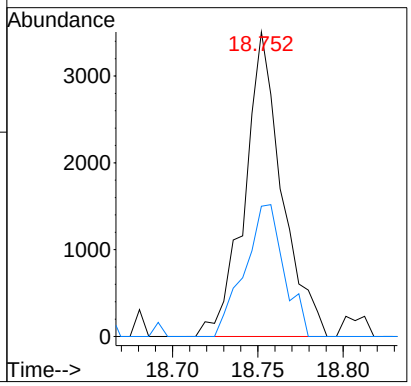


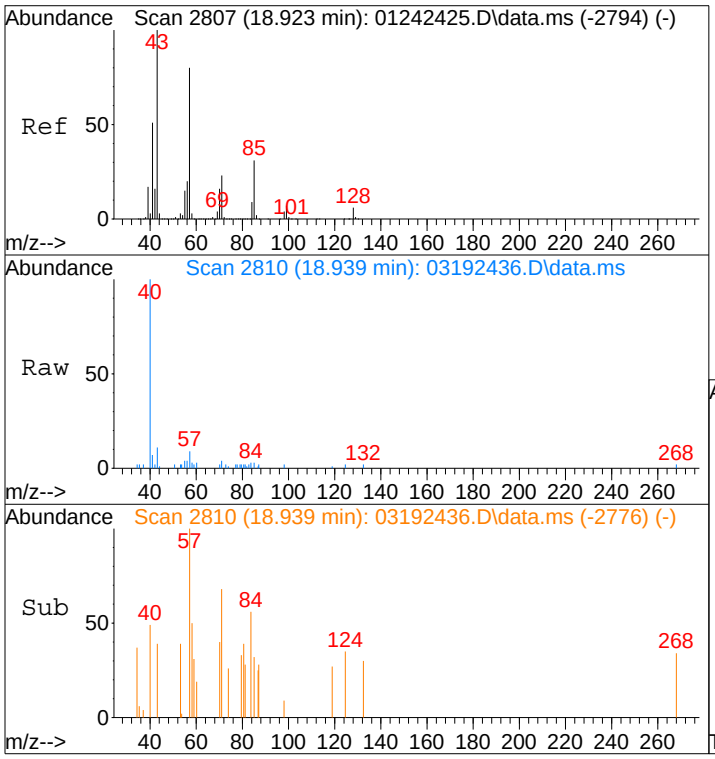


#70
o-Xylene
Concen: 0.07 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 91 Resp: 5349

Ion	Ratio	Lower	Upper
91	100		
106	45.4	26.0	66.0

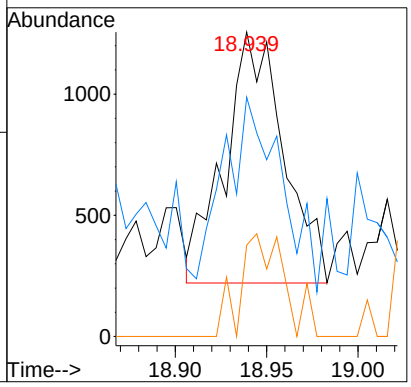


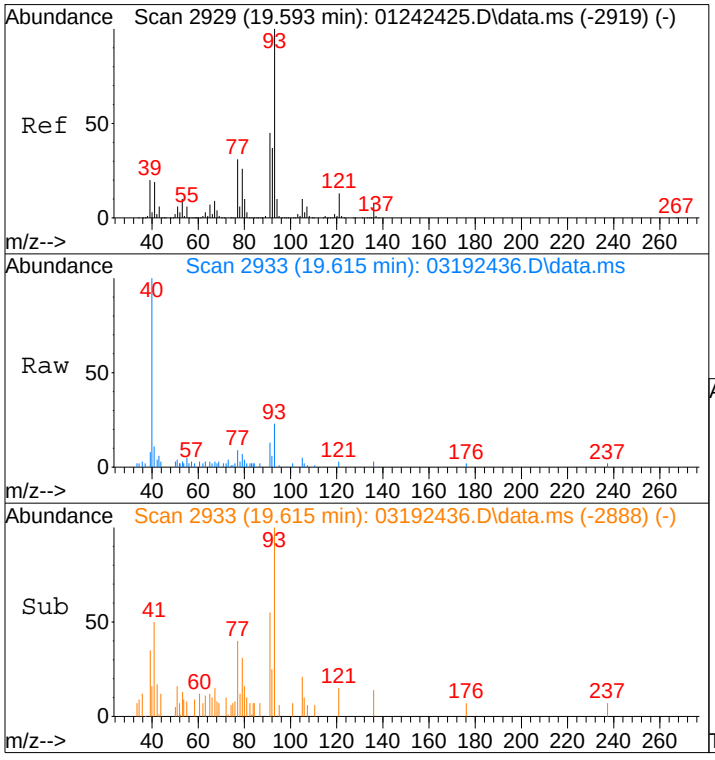


#71
n-Nonane
Concen: 0.05 ng
RT: 18.94 min Scan# 2810
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 43 Resp: 2332

Ion	Ratio	Lower	Upper
43	100		
57	74.7	57.4	97.4
85	30.5	10.1	50.1

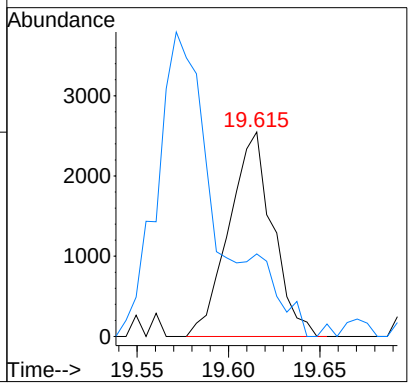


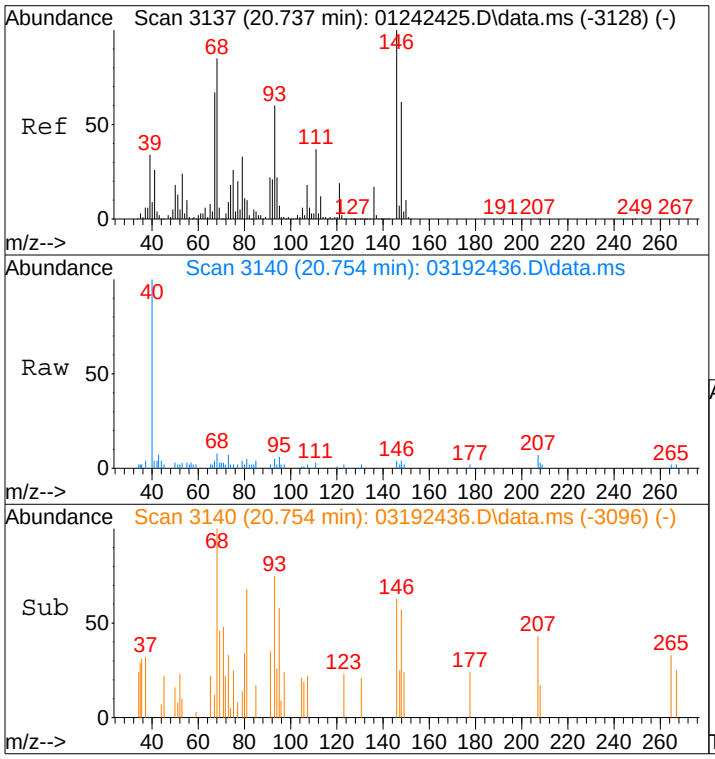


#75
alpha-Pinene
Concen: 0.10 ng
RT: 19.62 min Scan# 2933
Delta R.T. -0.000 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 93 Resp: 4235

Ion	Ratio	Lower	Upper
93	100		
77	5.5	13.6	53.6#

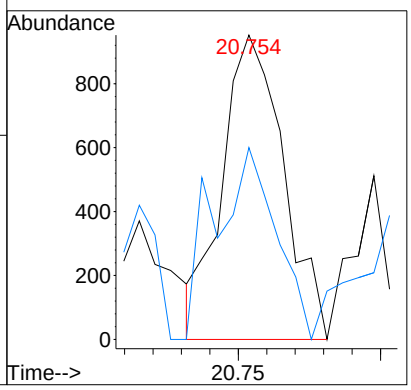




#91
d-Limonene
Concen: 0.05 ng
RT: 20.75 min Scan# 3140
Delta R.T. -0.006 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 68 Resp: 1424

Ion	Ratio	Lower	Upper
68	100		
93	63.8	49.7	89.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:20:26 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

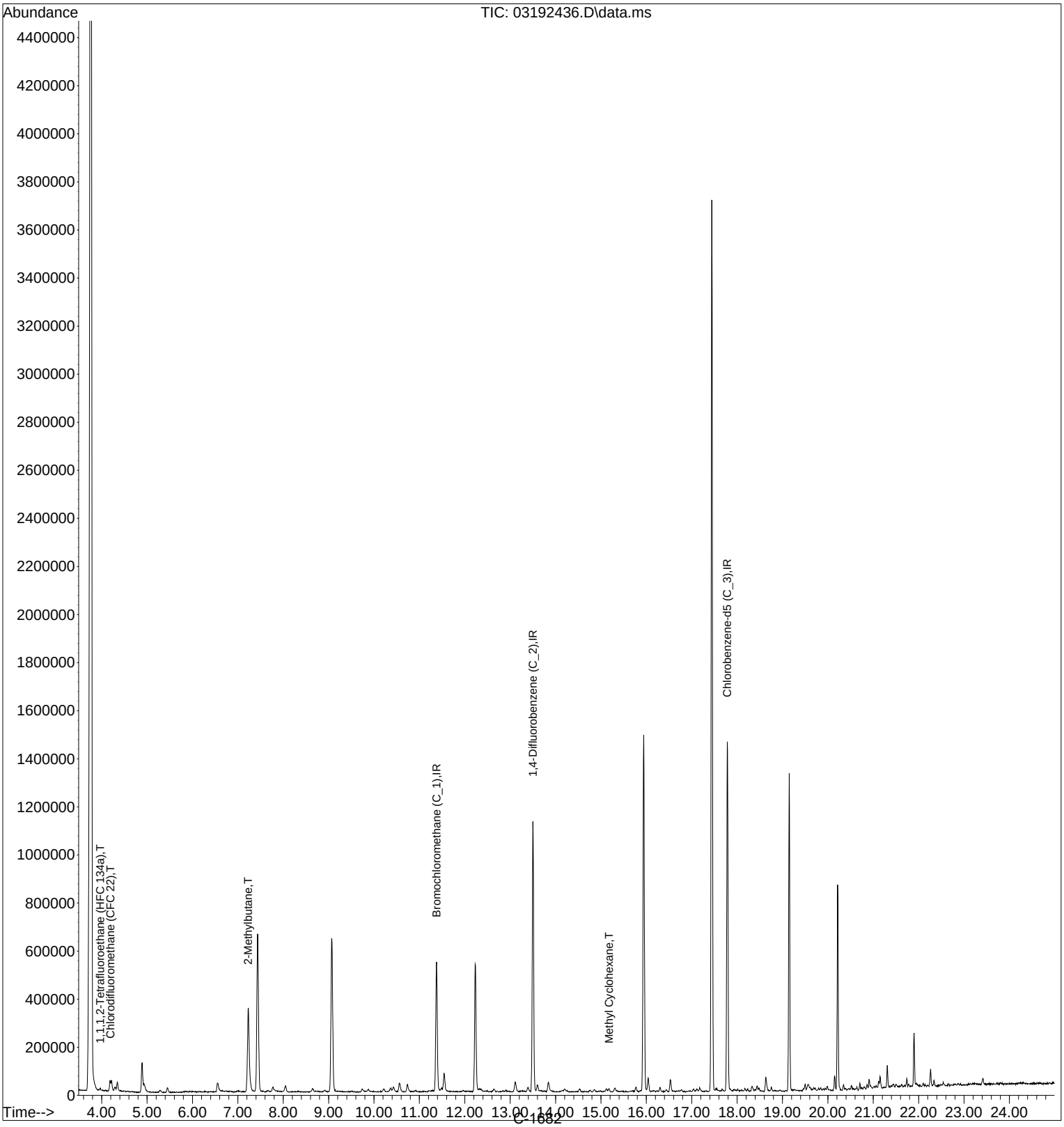
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	209956	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	963518	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	212569	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.86	85	957	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	2697	0.129	ng	#	1
4) 1,1-Difluoroethane	4.08	65	1171	N.D.			
5) Chlorodifluoromethane ...	4.20	67	3396	0.505	ng	#	44
6) 1-Chloro-1,1-Difluoroe...	4.66	65	1083	N.D.			
7) Dichlorofluoromethane ...	6.38	67	843	N.D.			
8) Vinylbromide	6.80	108	75	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	367	N.D.			
10) 2-Methylbutane	7.23	57	85583	4.069	ng		82
11) Methyl Acetate	8.72	43	4204	N.D.			
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	11.55	77	52	N.D.			
14) 1,1-Dichloropropene	12.99	75	184	N.D.			
15) Thiophene	13.23	84	426	N.D.			
17) 2,3-Dimethylpentane	13.69	56	935	N.D.			
18) Dibromomethane	13.92	174	430	N.D.			
20) Methyl Cyclohexane	15.18	55	3856	0.129	ng	#	93
21) 1,3-Dichloropropane	16.05	76	247	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	17.99	91	408	N.D.			
24) 1,2,3-Trichloropropane	18.85	75	398	N.D.			
25) Bromobenzene	19.35	77	143	N.D.			
26) 2-Chlorotoluene	19.70	91	3747	N.D.			
27) 4-Chlorotoluene	19.75	91	56	N.D.			
28) Indane	20.81	117	316	N.D.			
29) Indene	20.77	115	54	N.D.			
30) 1,2,4,5-Tetramethylben...	21.66	119	515	N.D.			
31) 1,2,3,4-Tetramethylben...	21.66	119	515	N.D.			
32) 1,2,3,5-Tetramethylben...	22.00	119	883	N.D.			
33) 1,2,3-Trichlorobenzene	22.49	180	73	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 14:20:26 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:20:26 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

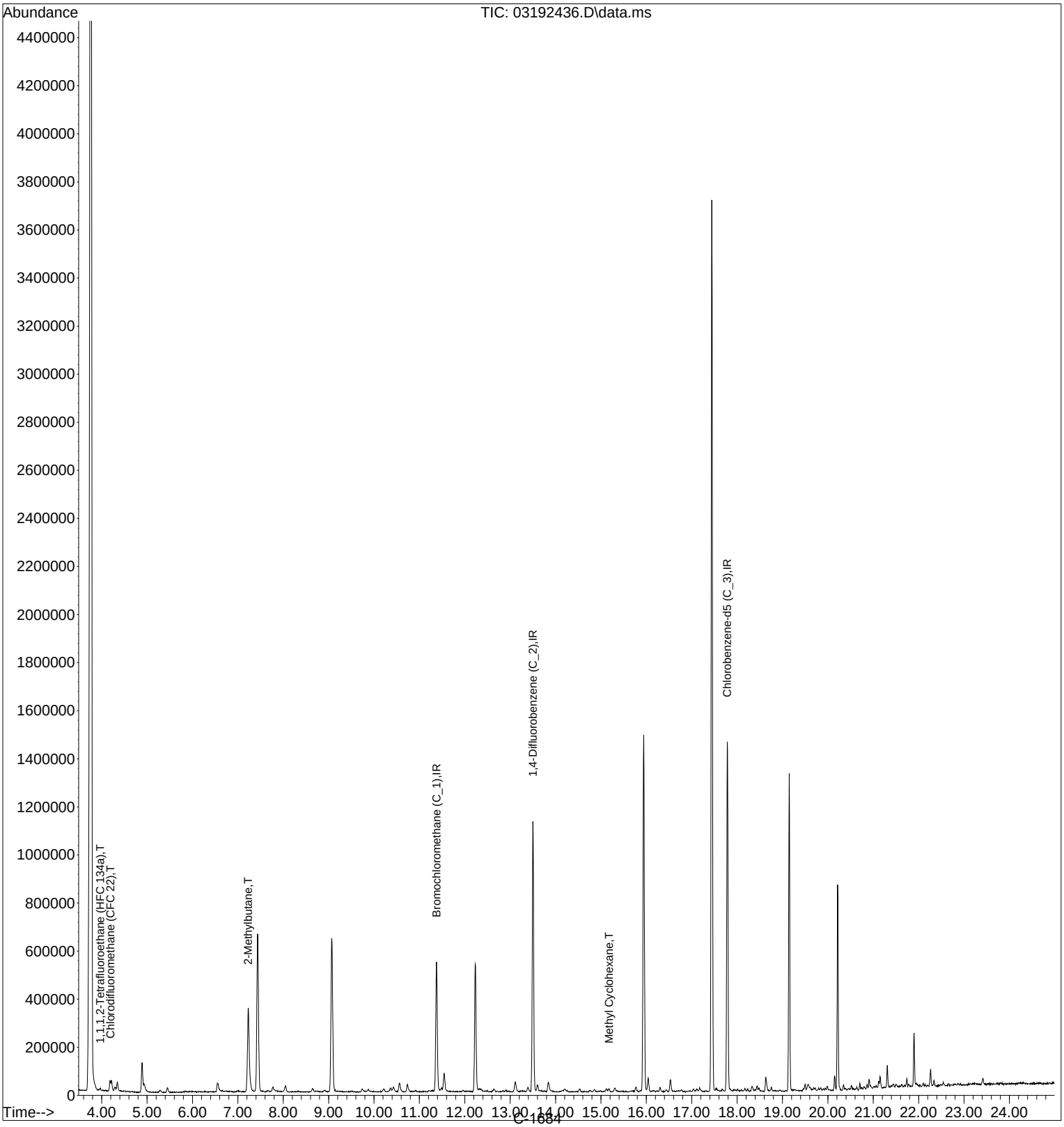
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	209956	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	963518	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	212569	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	2697	0.129	ng	#	1
5) Chlorodifluoromethane ...	4.20	67	3396	0.505	ng	#	44
10) 2-Methylbutane	7.23	57	85583	4.069	ng		82
20) Methyl Cyclohexane	15.18	55	3856	0.129	ng	#	93

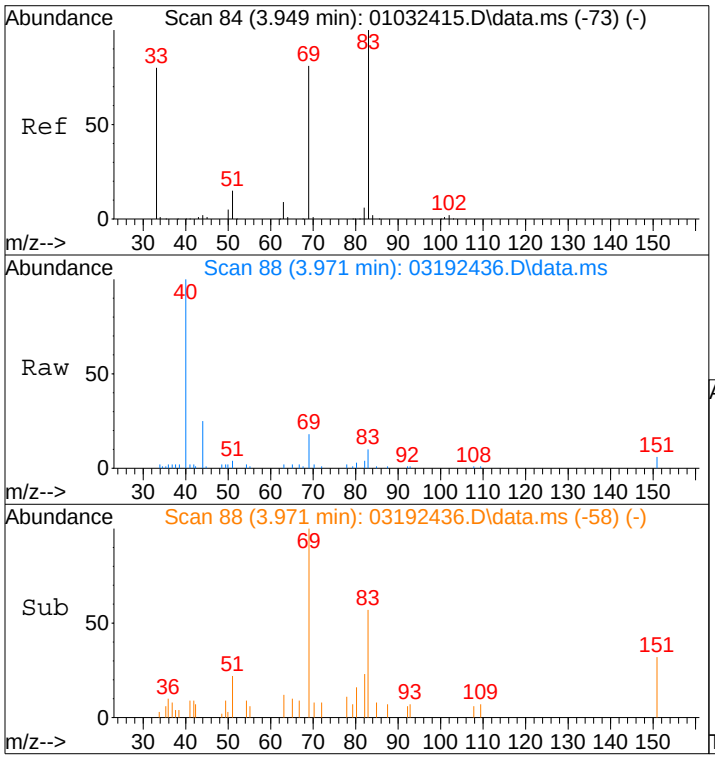
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 21 14:20:26 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

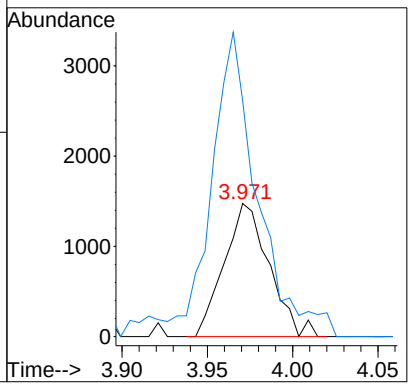


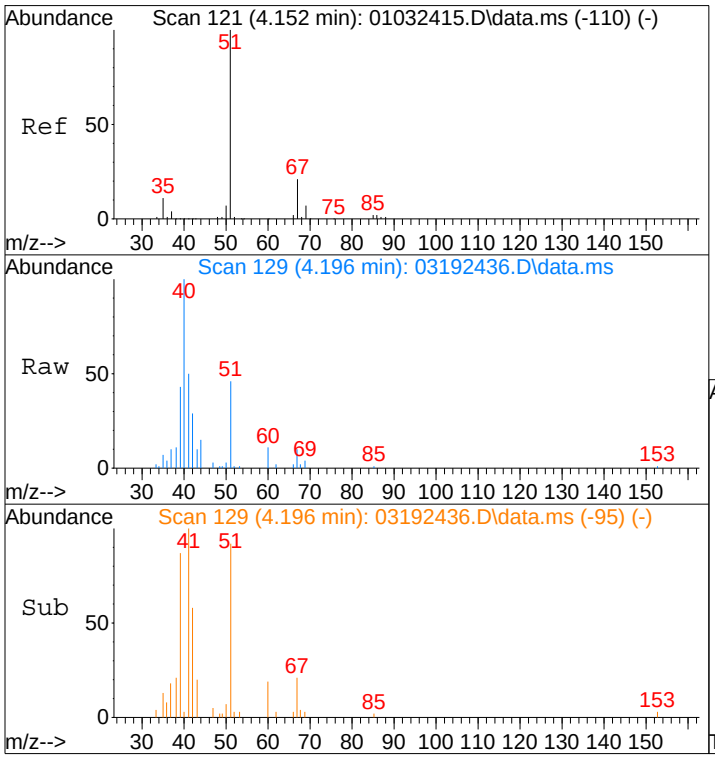


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.13 ng
RT: 3.97 min Scan# 88
Delta R.T. 0.016 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 83 Resp: 2697

Ion	Ratio	Lower	Upper
83	100		
69	232.5	74.0	111.0#

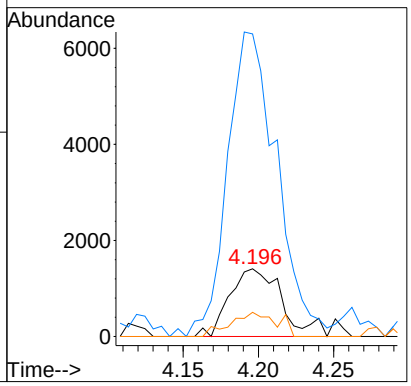


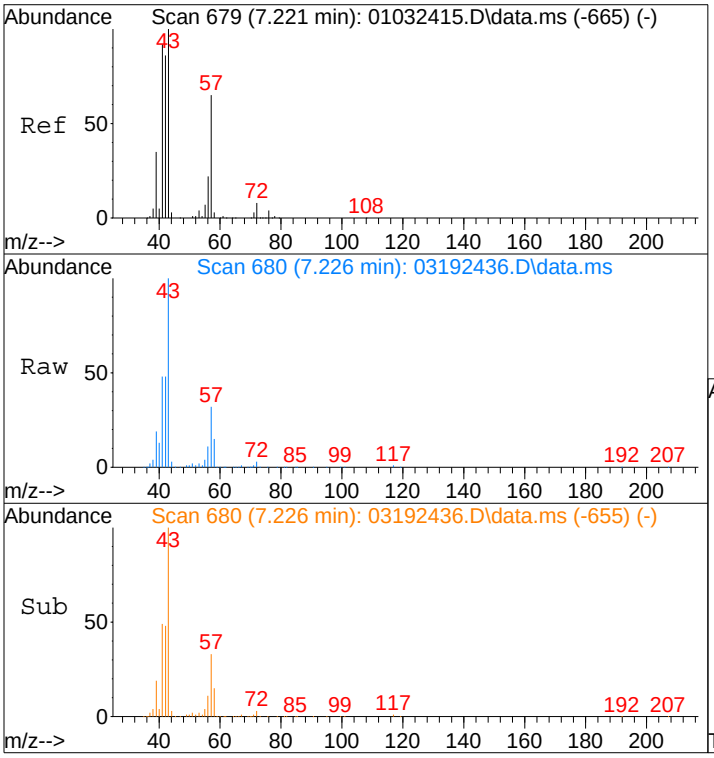


#5
Chlorodifluoromethane (CFC 22)
Concen: 0.50 ng
RT: 4.20 min Scan# 129
Delta R.T. 0.038 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 67 Resp: 3396

Ion	Ratio	Lower	Upper
67	100		
51	424.6	487.5	731.3#
69	31.8	27.5	41.3

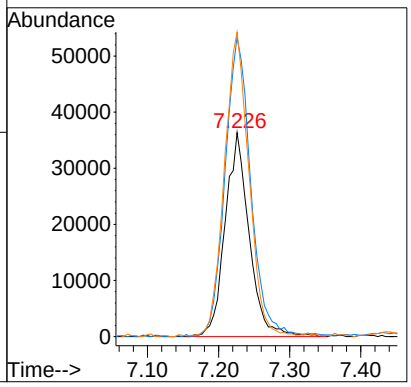


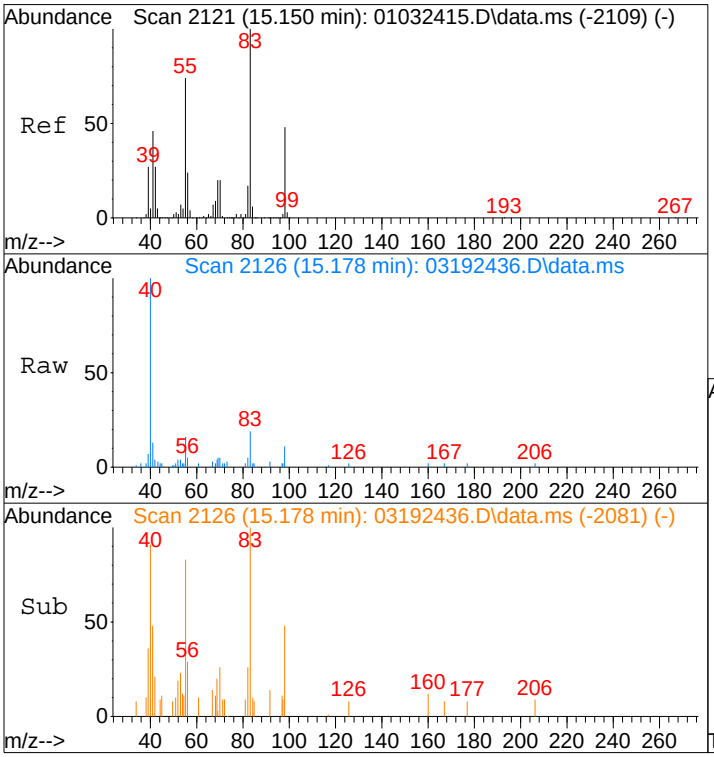


#10
2-Methylbutane
Concen: 4.07 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.011 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 57 Resp: 85583

Ion	Ratio	Lower	Upper
57	100		
42	156.7	115.0	172.4
41	151.1	149.4	224.2

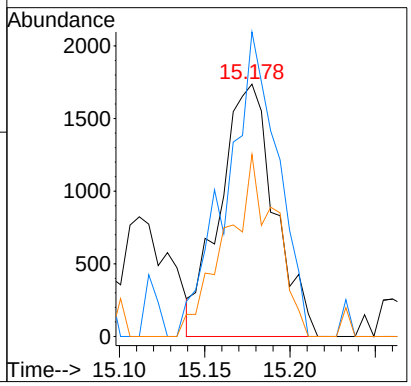




#20
Methyl Cyclohexane
Concen: 0.13 ng
RT: 15.18 min Scan# 2126
Delta R.T. -0.000 min
Lab File: 03192436.D
Acq: 19 Mar 2024 19:24

Tgt Ion: 55 Resp: 3856

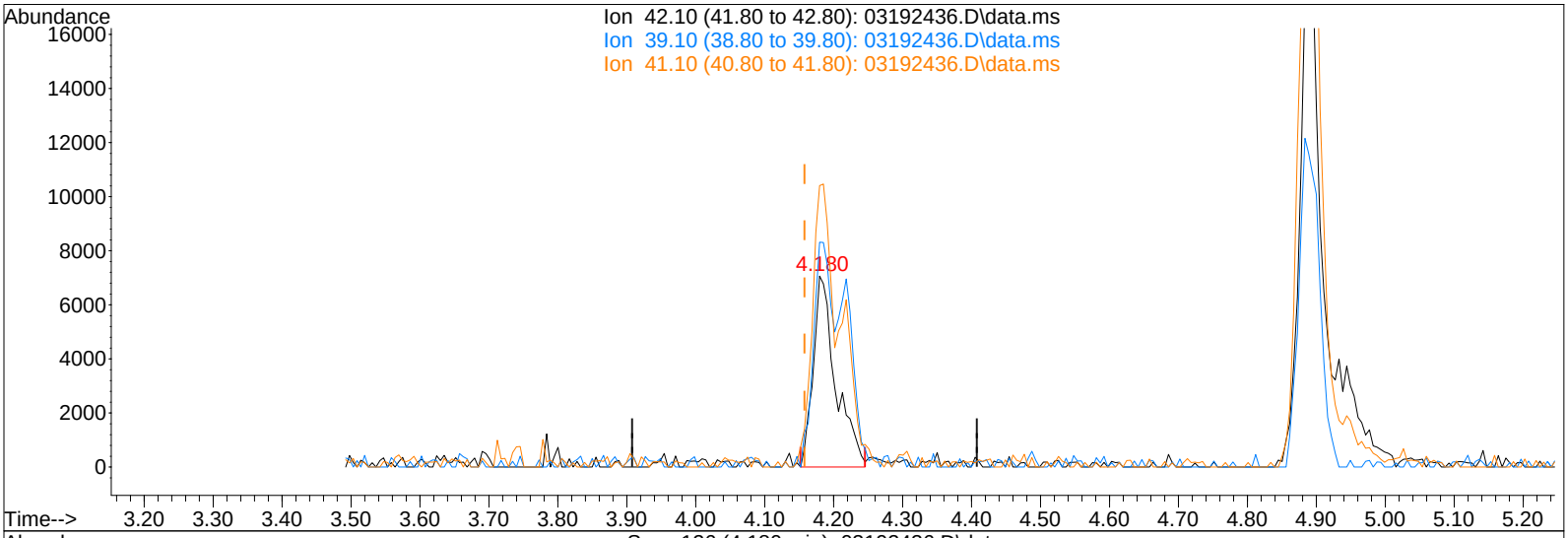
Ion	Ratio	Lower	Upper
55	100		
83	113.4	89.5	134.3
98	65.5	41.6	62.4#

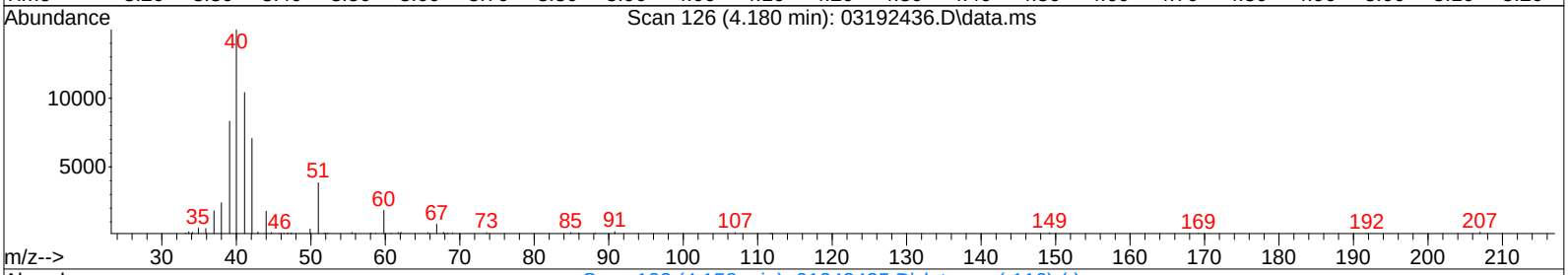


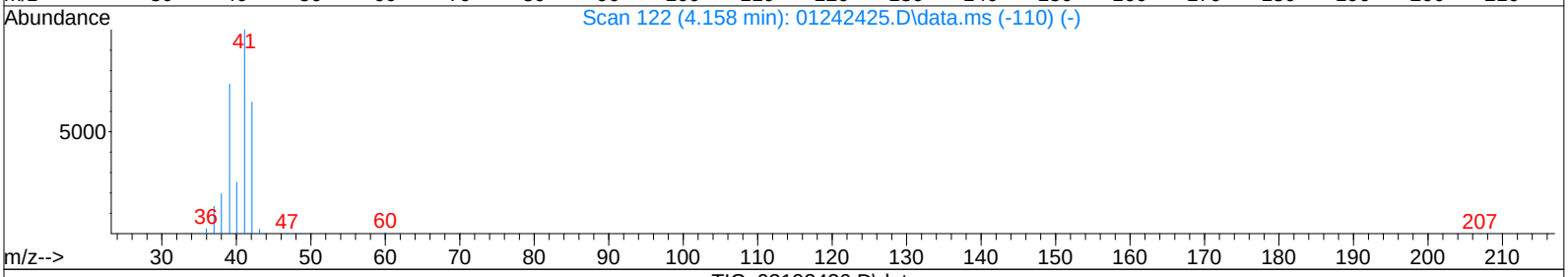
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 20 08:34:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192436.D\data.ms

(2) Propene (T)

4.180min (+0.022) 0.54ng

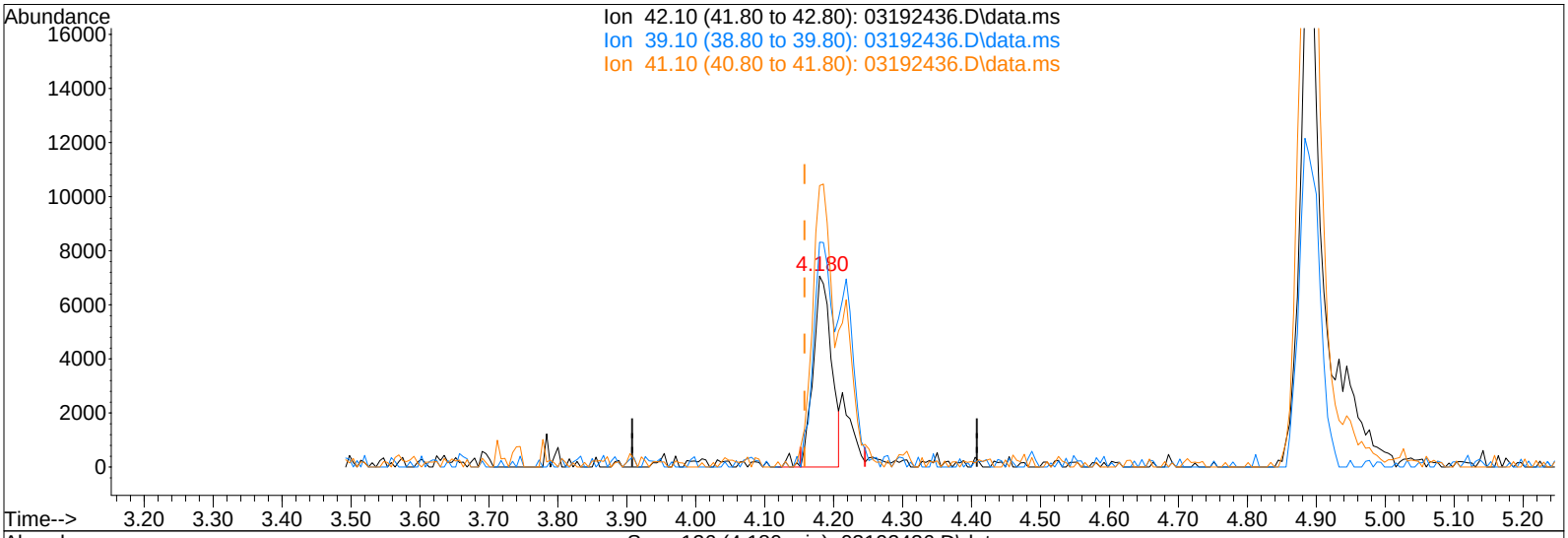
response 16062

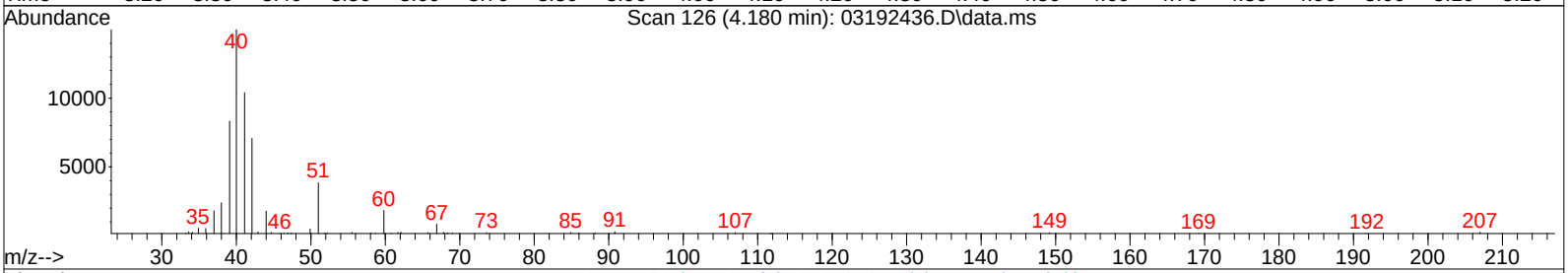
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	98.94
41.10	152.40	134.04
0.00	0.00	0.00

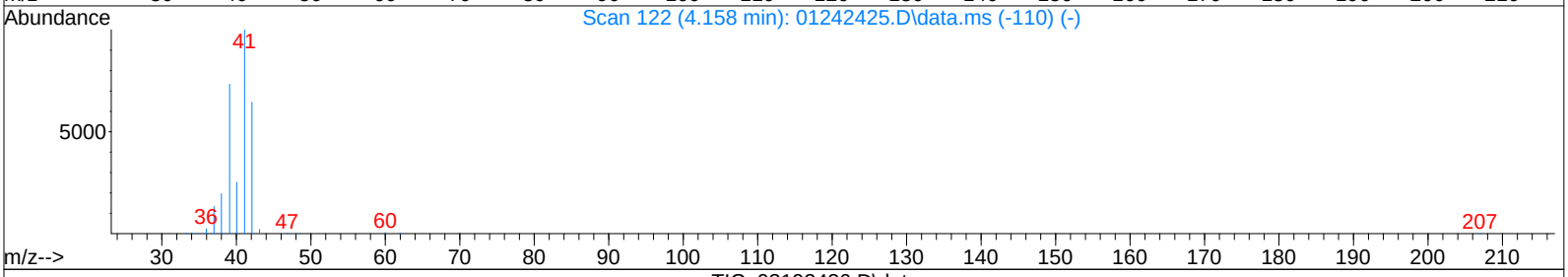
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 20 08:34:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192436.D\data.ms

(2) Propene (T)

4.180min (+0.022) 0.45ng m

response 13310

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	119.39
41.10	152.40	161.75
0.00	0.00	0.00

CI 3/20/24

IPC

LH 3/24/24

C-1688

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192436.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.185	120	127	130	rBV3	44055	85511	5.09%	1.250%
2	4.218	130	133	141	rVV4	43924	74719	4.45%	1.093%
3	4.290	141	146	151	rVV2	15986	38183	2.27%	0.558%
4	4.345	151	156	166	rVB	36013	70618	4.20%	1.033%
5	4.889	248	255	261	rBV2	122817	266920	15.89%	3.903%
6	4.927	261	262	273	rVB3	30705	63336	3.77%	0.926%
7	5.285	319	327	338	rVB2	10517	29489	1.76%	0.431%
8	5.444	351	356	364	rBV3	19078	40707	2.42%	0.595%
9	6.555	552	558	568	rBV	36742	102358	6.09%	1.497%
10	7.232	670	681	698	rBV3	348198	984546	58.61%	14.396%
11	7.435	708	718	731	rVB2	654877	1641673	97.74%	24.005%
12	7.776	772	780	789	rBV3	18088	47411	2.82%	0.693%
13	8.051	820	830	840	rVB2	25815	67111	4.00%	0.981%
14	8.645	929	938	947	rBV4	14282	37791	2.25%	0.553%
15	8.914	980	987	993	rBV5	6373	17605	1.05%	0.257%
16	9.068	1004	1015	1033	rBV2	637403	1679695	100.00%	24.561%
17	9.734	1129	1136	1145	rBV2	12998	35990	2.14%	0.526%
18	9.877	1156	1162	1169	rVB6	10102	22348	1.33%	0.327%
19	10.207	1215	1222	1224	rBV3	11474	20014	1.19%	0.293%
20	10.355	1241	1249	1250	rBV7	12126	16641	0.99%	0.243%
21	10.427	1255	1262	1272	rVB3	18370	47565	2.83%	0.695%
22	10.558	1279	1286	1297	rBV3	36633	96957	5.77%	1.418%
23	10.740	1309	1319	1329	rBV2	32020	83821	4.99%	1.226%
24	11.378	1424	1435	1448	rBV	538431	1267997	75.49%	18.541%

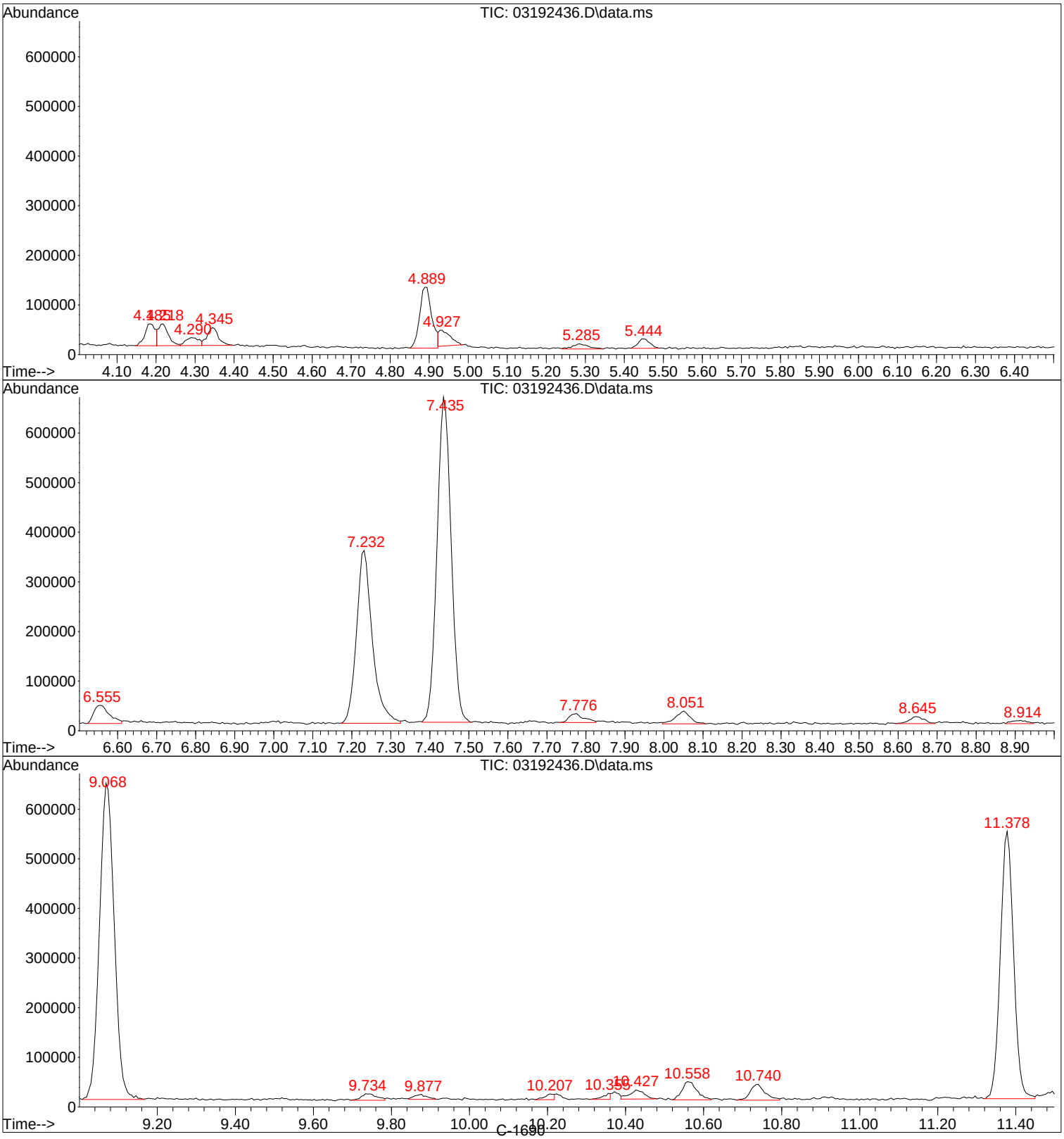
Sum of corrected areas: 6839006

LSC Report - Integrated Chromatogram

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:24
Operator : CI
Sample : P2400922-054 (400mL)
Misc : S37-01032403/
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192436.D
Acq On : 19 Mar 2024 19:244
Operator : CII
Sample : P2400922-054 (400mL))
Misc : S37-01032403//
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

CJ 3/22/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:50:57 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	215364	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	964917	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	215480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	422805	11.656	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	15.94	98	1090027	12.954	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	19.15	174	369552	13.041	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
Target Compounds							Qvalue
2) Propene	4.19	42	11977m	0.394	ng		
3) Dichlorodifluoromethan...	4.27	85	108	N.D.			
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	633	N.D.			
6) Vinyl Chloride	4.99	62	115	N.D.			
7) 1,3-Butadiene	5.36	54	392	N.D.			
8) Bromomethane	0.00	94	0	N.D.	d		
9) Chloroethane	6.13	64	805	N.D.			
10) Ethanol	6.56	45	24633	1.276	ng		91
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	7.00	56	14028	1.001	ng		99
13) Acetone	7.23	58	161927	10.341	ng	#	77
14) Trichlorofluoromethane	7.44	101	826150	19.205	ng		100
15) 2-Propanol (Isopropanol)	7.78	45	20888	0.358	ng		86
16) Acrylonitrile	8.00	53	2406	0.086	ng		87
17) 1,1-Dichloroethene	8.42	96	263	N.D.			
18) 2-Methyl-2-Propanol (t...	8.67	59	56	N.D.			
19) Methylene Chloride	8.64	84	1737	0.077	ng		81
20) 3-Chloro-1-propene (Al...	8.79	41	726	N.D.			
21) Trichlorotrifluoroethane	9.07	151	326366	17.419	ng		99
22) Carbon Disulfide	8.91	76	933854	14.511	ng		100
23) trans-1,2-Dichloroethene	9.94	61	270	N.D.			
24) 1,1-Dichloroethane	10.18	63	589	N.D.			
25) Methyl tert-Butyl Ether	10.36	73	1381	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.72	72	28990	2.117	ng	#	88
28) cis-1,2-Dichloroethene	11.19	61	297	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.54	61	2723	0.349	ng	#	78
31) n-Hexane	11.44	57	244	N.D.			
32) Chloroform	11.55	83	28515	0.782	ng		98
34) Tetrahydrofuran (THF)	12.02	72	4005	0.303	ng		96
35) Ethyl tert-Butyl Ether	12.11	87	174	N.D.			
36) 1,2-Dichloroethane	12.35	62	747	N.D.			
38) 1,1,1-Trichloroethane	12.62	97	503	N.D.			
39) Isopropyl Acetate	13.80	61	198	No Calib	#		
40) 1-Butanol	12.65	56	282	No Calib	#		
41) Benzene	13.10	78	17473	0.190	ng		95
42) Carbon Tetrachloride	13.27	117	385	N.D.			
43) Cyclohexane	13.48	84	934	N.D.			
44) tert-Amyl Methyl Ether	13.71	73	533	N.D.			
45) 1,2-Dichloropropane	13.94	63	325	N.D.			
46) Bromodichloromethane	14.14	83	1643	0.055	ng		97
47) Trichloroethene	14.20	130	12153	0.520	ng		99
48) 1,4-Dioxane	14.20	88	13085	0.791	ng		97

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 20 14:50:57 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

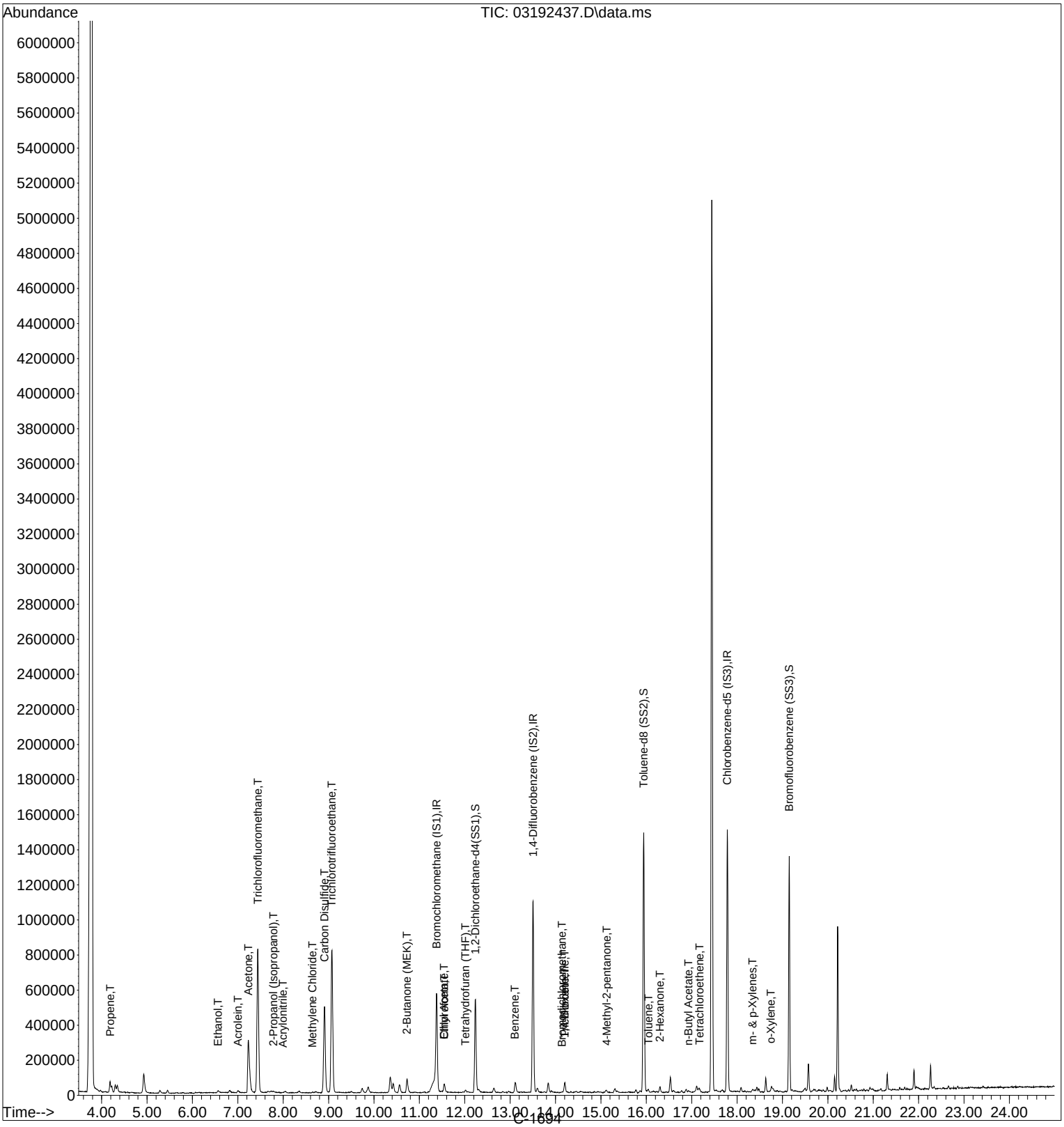
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	960	N.D.	
50) Methyl Methacrylate	14.42	100	118	N.D.	
51) n-Heptane	14.53	71	701	N.D.	
52) cis-1,3-Dichloropropene	15.02	75	194	N.D.	
53) 4-Methyl-2-pentanone	15.13	58	2890	0.161 ng	85
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.77	97	403	N.D.	
58) Toluene	16.05	91	9443	0.120 ng	94
59) 2-Hexanone	16.30	43	25018	0.499 ng	96
60) Dibromochloromethane	16.45	129	481	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.93	43	8744	0.158 ng	79
63) n-Octane	0.00	57	0	N.D. d	
64) Tetrachloroethene	17.17	166	1760	0.076 ng	92
65) Chlorobenzene	17.82	112	993	N.D.	
66) Ethylbenzene	18.17	91	4099	N.D.	
67) m- & p-Xylenes	18.34	91	6710	0.091 ng	92
68) Bromoform	18.39	173	780	N.D.	
69) Styrene	18.66	104	1794	N.D.	
70) o-Xylene	18.75	91	3701	0.050 ng	77
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	18.73	83	767	N.D.	
74) Cumene	19.27	105	1231	N.D.	
75) alpha-Pinene	19.61	93	710	N.D.	
76) n-Propylbenzene	19.71	91	4249	N.D.	
77) 3-Ethyltoluene	20.26	105	3765	No Calib	
78) 4-Ethyltoluene	19.84	105	2517	N.D.	
79) 1,3,5-Trimethylbenzene	19.91	105	1300	N.D.	
80) alpha-Methylstyrene	20.58	118	125	No Calib #	
81) 2-Ethyltoluene	20.26	105	3765	No Calib	
82) 1,2,4-Trimethylbenzene	20.26	105	3765	N.D.	
83) n-Decane	20.50	58	1043	No Calib #	
84) Benzyl Chloride	20.36	91	1802	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	1683	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	1216	N.D.	
87) sec-Butylbenzene	20.50	105	1470	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	3404	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	3765	No Calib	
90) 1,2-Dichlorobenzene	20.75	146	985	N.D.	
91) d-Limonene	20.75	68	1312	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	338	N.D.	
93) n-Undecane	21.55	58	555	No Calib #	
94) 1,2,4-Trichlorobenzene	22.24	180	1185	N.D.	
95) Naphthalene	22.35	128	1724	N.D.	
96) n-Dodecane	22.71	57	580	No Calib #	
97) Hexachlorobutadiene	22.67	225	1167	N.D.	
98) Cyclohexanone	18.22	55	1684	No Calib #	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	0.00	91	0	N.D. d	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 20 14:50:57 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:50:57 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

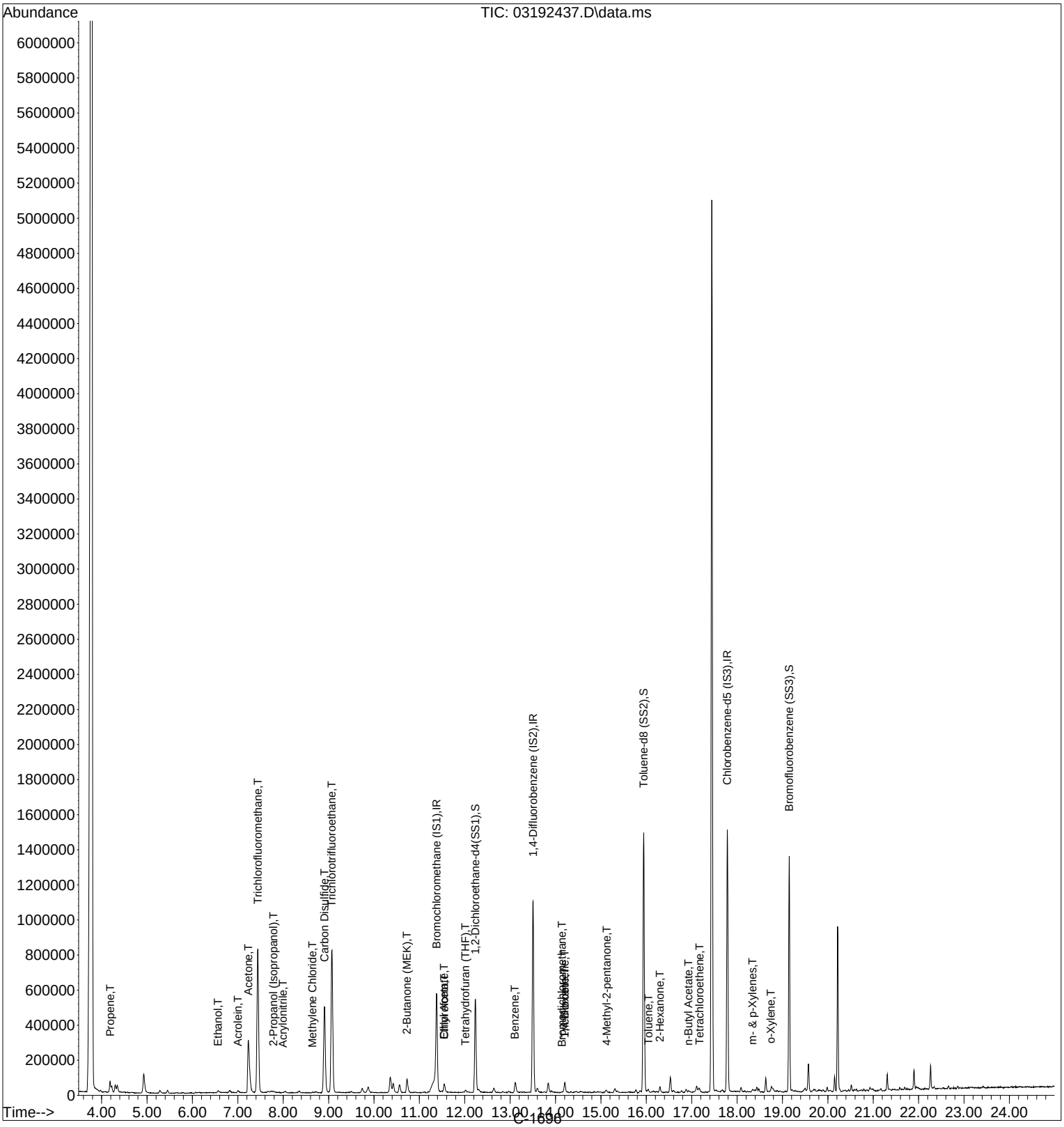
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	215364	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	964917	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	215480	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	422805	11.656	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.28%				
57) Toluene-d8 (SS2)	15.94	98	1090027	12.954	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	19.15	174	369552	13.041	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
Target Compounds							Qvalue
2) Propene	4.19	42	11977m	0.394	ng		
10) Ethanol	6.56	45	24633	1.276	ng		91
12) Acrolein	7.00	56	14028	1.001	ng		99
13) Acetone	7.23	58	161927	10.341	ng	#	77
14) Trichlorofluoromethane	7.44	101	826150	19.205	ng		100
15) 2-Propanol (Isopropanol)	7.78	45	20888	0.358	ng		86
16) Acrylonitrile	8.00	53	2406	0.086	ng		87
19) Methylene Chloride	8.64	84	1737	0.077	ng		81
21) Trichlorotrifluoroethane	9.07	151	326366	17.419	ng		99
22) Carbon Disulfide	8.91	76	933854	14.511	ng		100
27) 2-Butanone (MEK)	10.72	72	28990	2.117	ng	#	88
30) Ethyl Acetate	11.54	61	2723	0.349	ng	#	78
32) Chloroform	11.55	83	28515	0.782	ng		98
34) Tetrahydrofuran (THF)	12.02	72	4005	0.303	ng		96
41) Benzene	13.10	78	17473	0.190	ng		95
46) Bromodichloromethane	14.14	83	1643	0.055	ng		97
47) Trichloroethene	14.20	130	12153	0.520	ng		99
48) 1,4-Dioxane	14.20	88	13085	0.791	ng		97
53) 4-Methyl-2-pentanone	15.13	58	2890	0.161	ng		85
58) Toluene	16.05	91	9443	0.120	ng		94
59) 2-Hexanone	16.30	43	25018	0.499	ng		96
62) n-Butyl Acetate	16.93	43	8744	0.158	ng		79
64) Tetrachloroethene	17.17	166	1760	0.076	ng		92
67) m- & p-Xylenes	18.34	91	6710	0.091	ng		92
70) o-Xylene	18.75	91	3701	0.050	ng		77

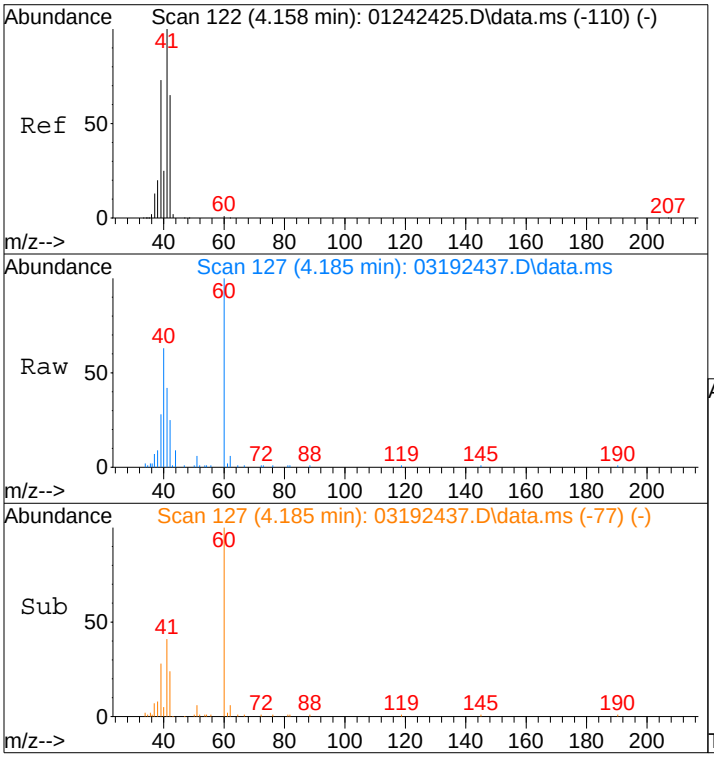
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 20 14:50:57 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

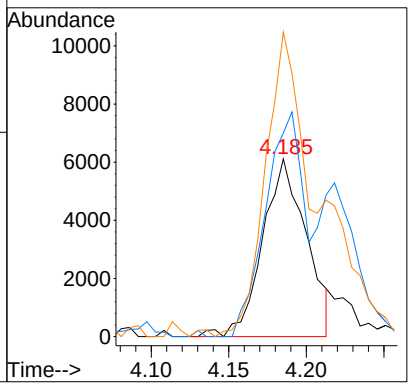


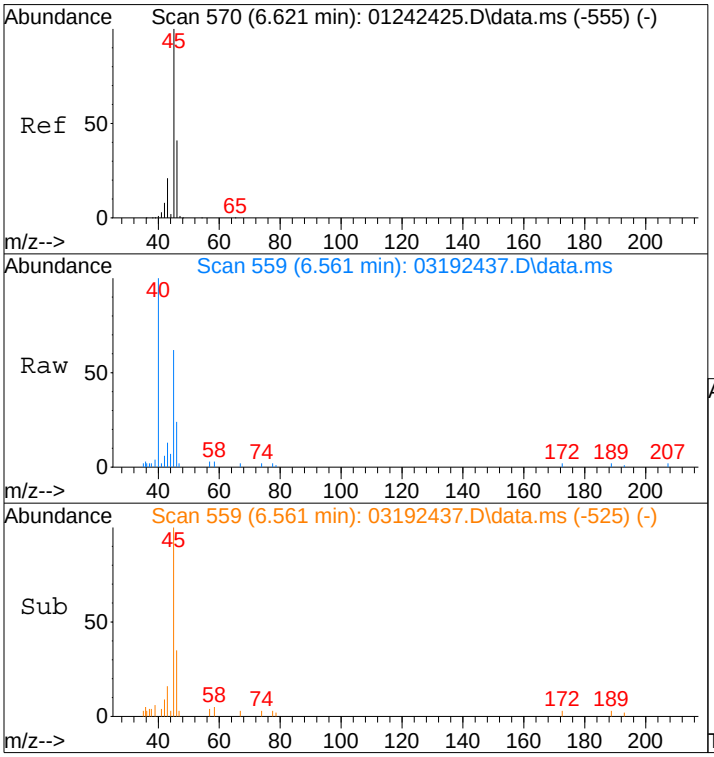


#2
Propene
Concen: 0.39 ng m
RT: 4.19 min Scan# 127
Delta R.T. 0.027 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 42 Resp: 11977

Ion	Ratio	Lower	Upper
42	100		
39	119.7	98.6	138.6
41	152.8	132.4	172.4

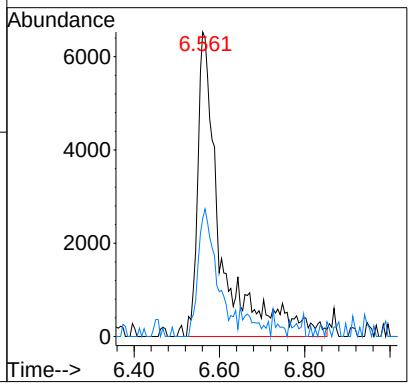


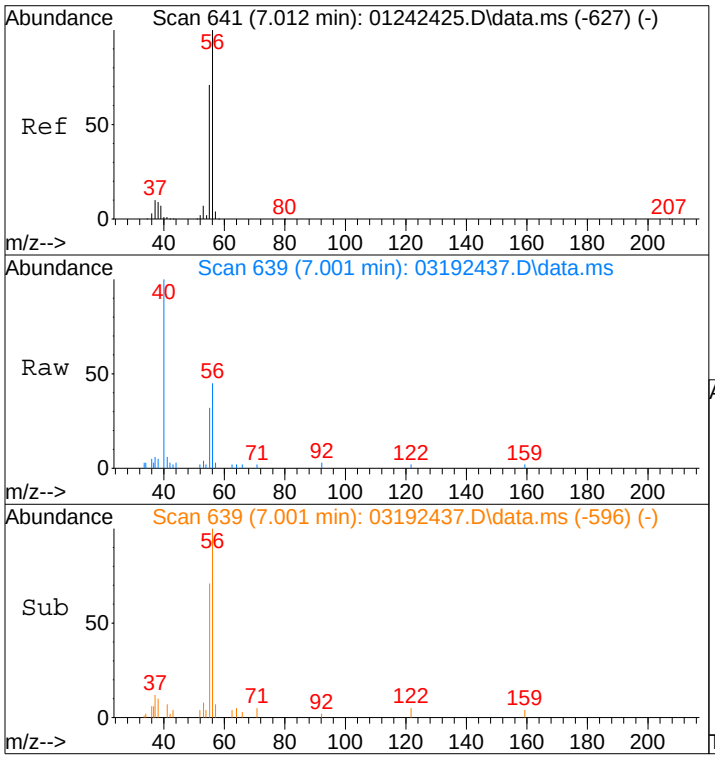


#10
Ethanol
Concen: 1.28 ng
RT: 6.56 min Scan# 559
Delta R.T. -0.061 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 45 Resp: 24633

Ion	Ratio	Lower	Upper
45	100		
46	33.9	19.6	59.6

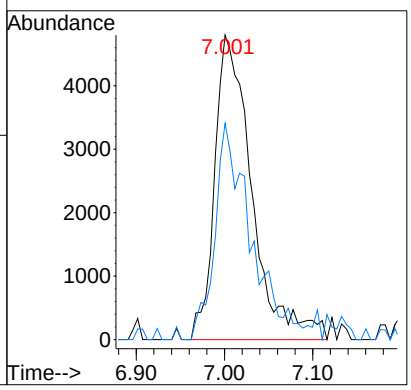


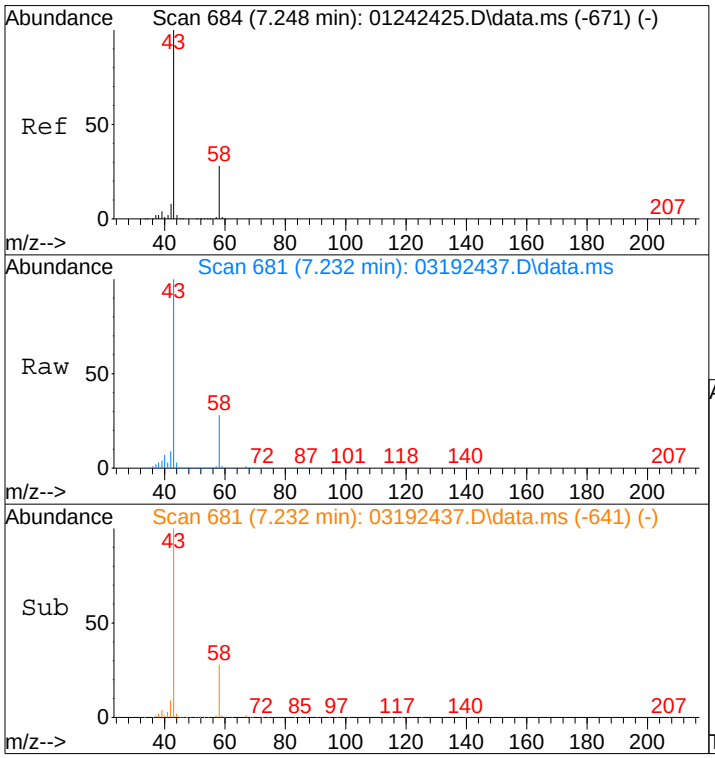


#12
Acrolein
Concen: 1.00 ng
RT: 7.00 min Scan# 639
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 56 Resp: 14028

Ion	Ratio	Lower	Upper
56	100		
55	70.7	51.4	91.4

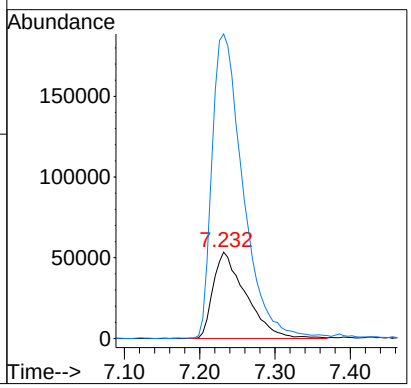


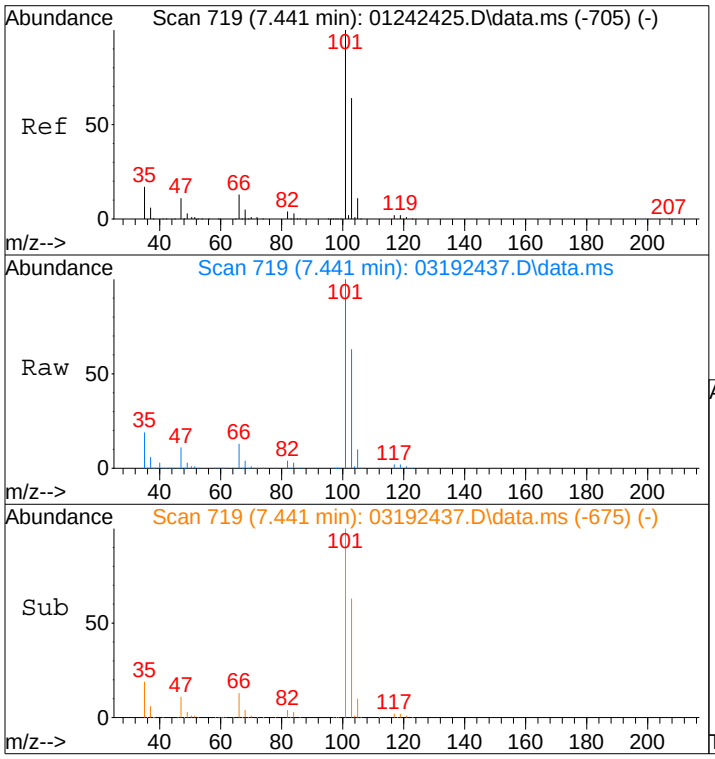


#13
Acetone
Concen: 10.34 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.031 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 58 Resp: 161927

Ion	Ratio	Lower	Upper
58	100		
43	334.2	357.4	417.4#

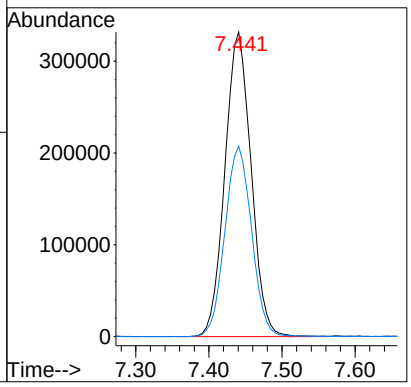


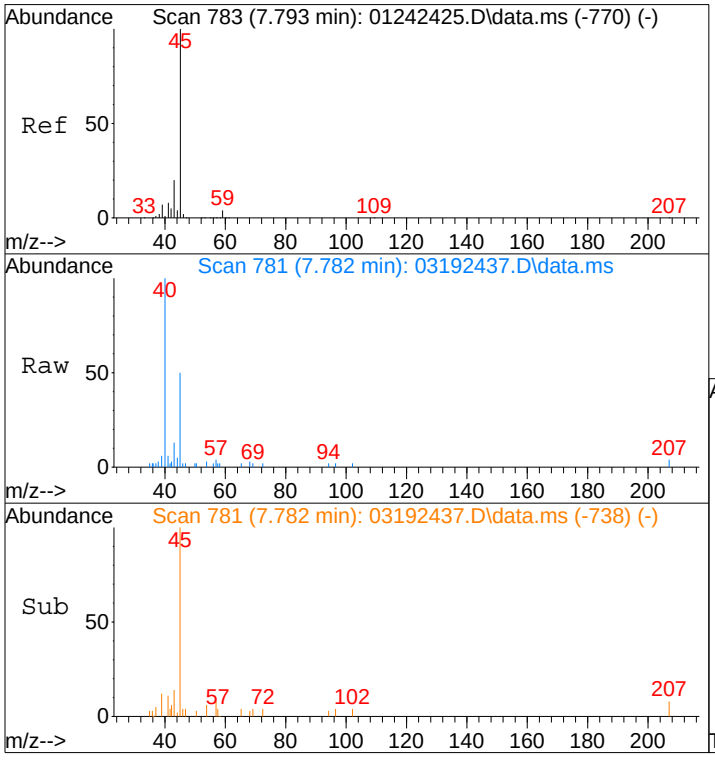


#14
Trichlorofluoromethane
Concen: 19.20 ng
RT: 7.44 min Scan# 719
Delta R.T. -0.006 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion:101 Resp: 826150

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.1	84.1

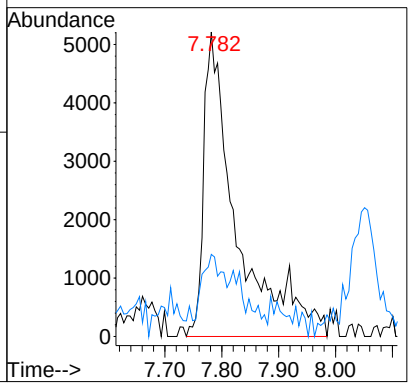


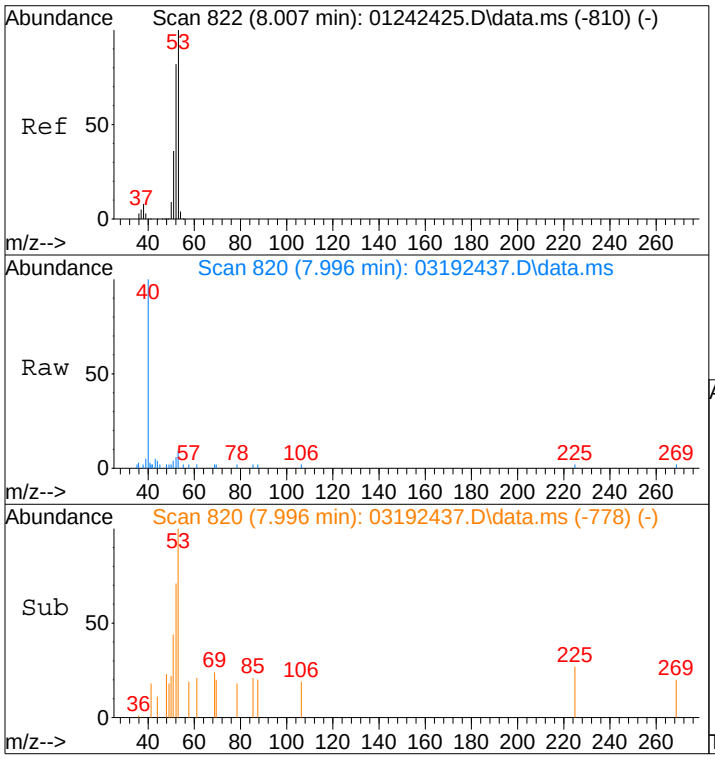


#15
2-Propanol (Isopropanol)
Concen: 0.36 ng
RT: 7.78 min Scan# 781
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 45 Resp: 20888

Ion	Ratio	Lower	Upper
45	100		
43	27.4	0.7	40.7

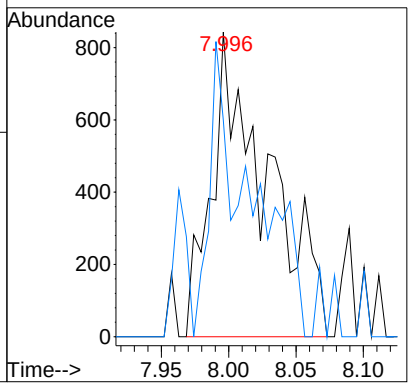


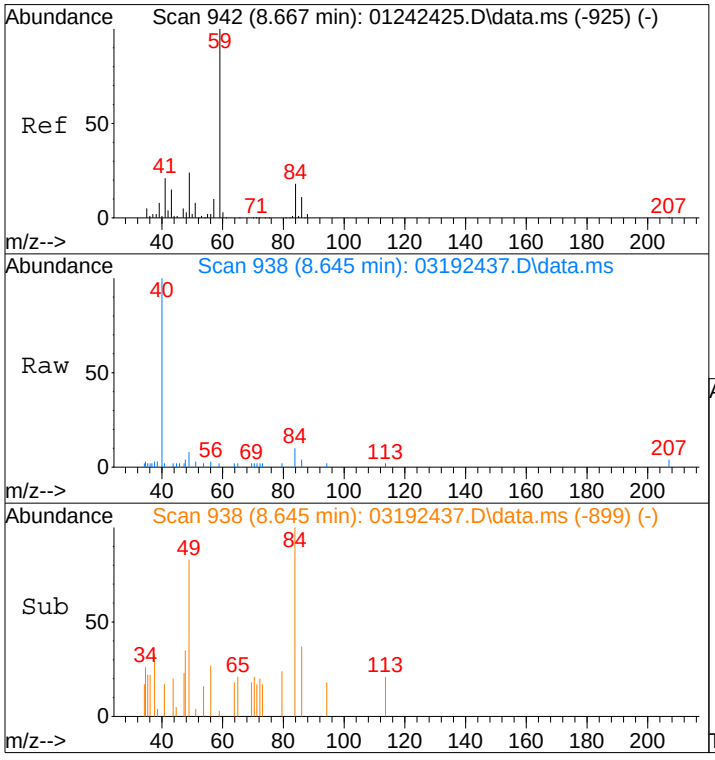


#16
Acrylonitrile
Concen: 0.09 ng
RT: 8.00 min Scan# 820
Delta R.T. -0.017 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 53 Resp: 2406

Ion	Ratio	Lower	Upper
53	100		
52	73.1	64.8	104.8

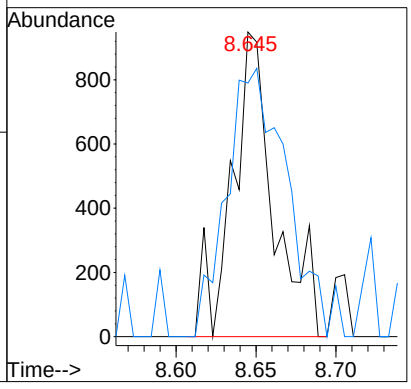


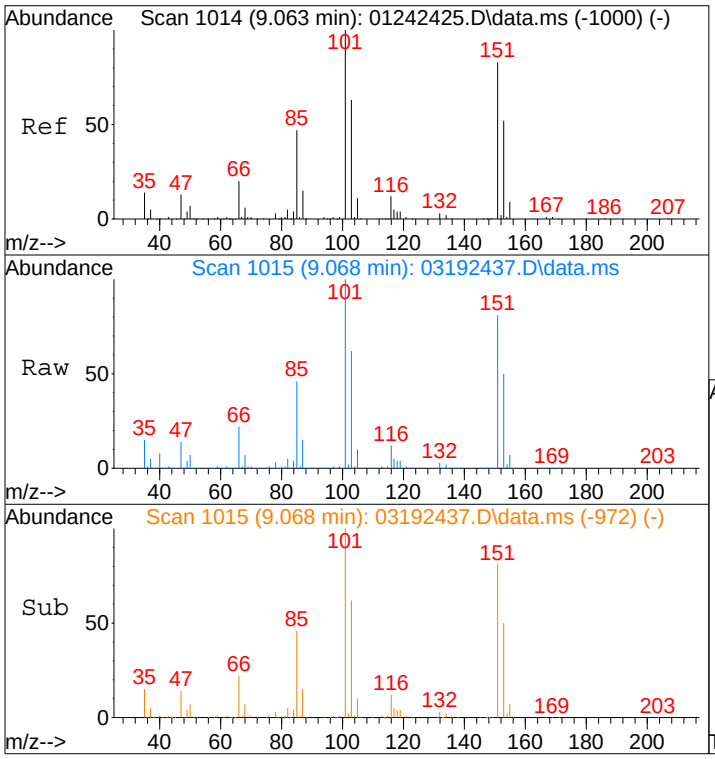


#19
Methylene Chloride
Concen: 0.08 ng
RT: 8.64 min Scan# 938
Delta R.T. -0.033 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 84 Resp: 1737

Ion	Ratio	Lower	Upper
84	100		
49	127.6	126.4	176.4

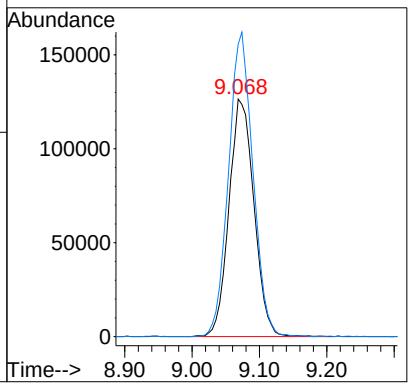


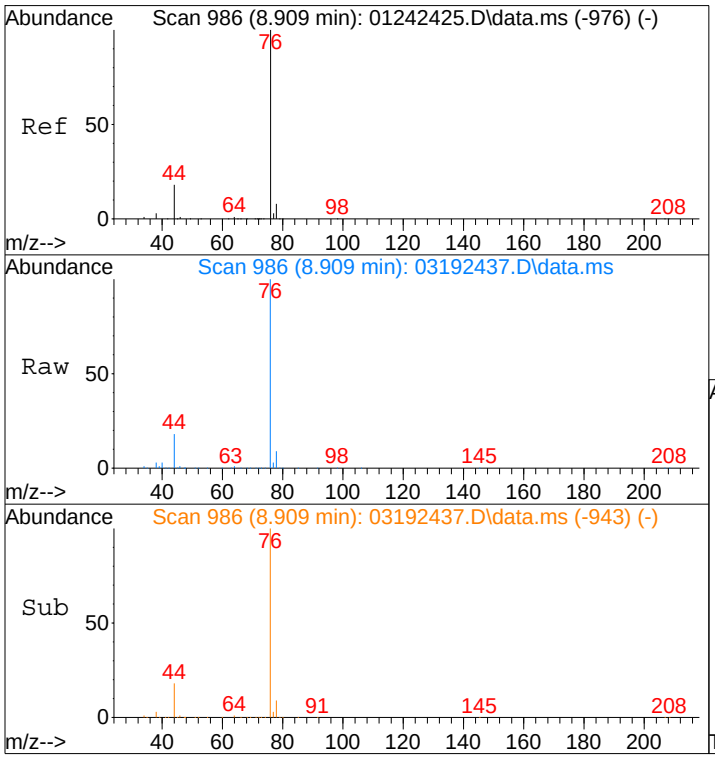


#21
Trichlorotrifluoroethane
Concen: 17.42 ng
RT: 9.07 min Scan# 1015
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion:151 Resp: 326366

Ion	Ratio	Lower	Upper
151	100		
101	125.2	104.2	144.2

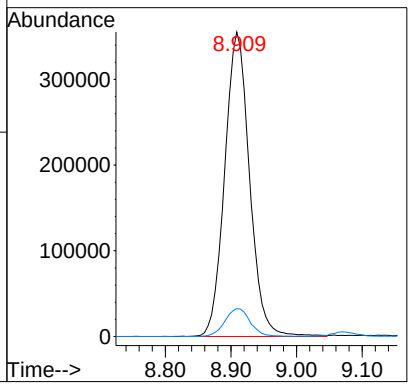


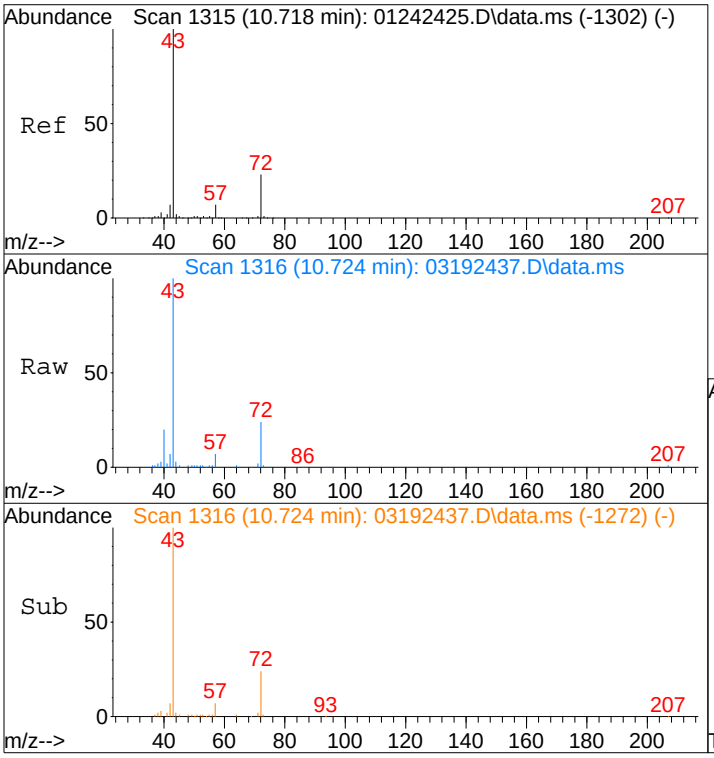


#22
Carbon Disulfide
Concen: 14.51 ng
RT: 8.91 min Scan# 986
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 76 Resp: 933854

Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	29.3

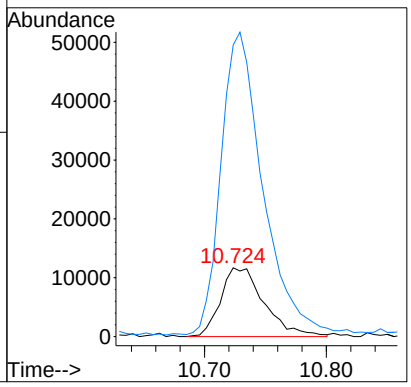


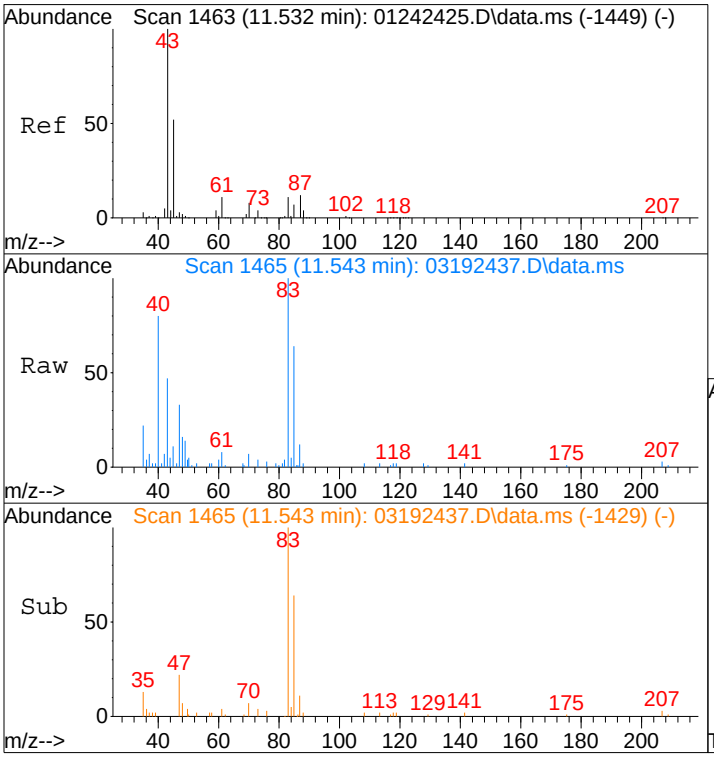


#27
2-Butanone (MEK)
Concen: 2.12 ng
RT: 10.72 min Scan# 1316
Delta R.T. -0.006 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 72 Resp: 28990

Ion	Ratio	Lower	Upper
72	100		
43	427.1	437.9	477.9#

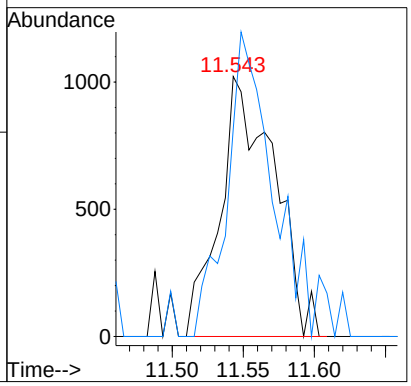


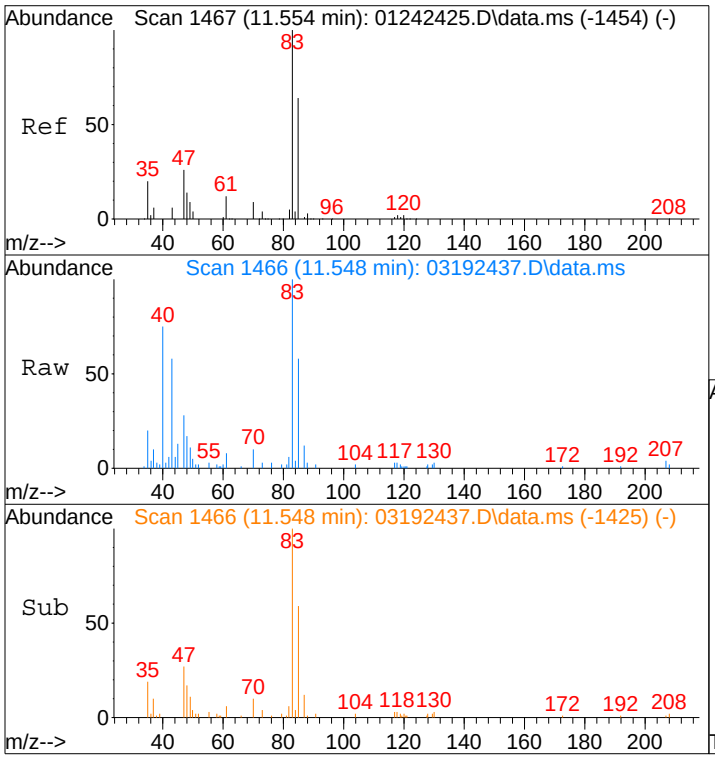


#30
Ethyl Acetate
Concen: 0.35 ng
RT: 11.54 min Scan# 1465
Delta R.T. -0.000 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 61 Resp: 2723

Ion	Ratio	Lower	Upper
61	100		
70	104.6	64.5	104.5#

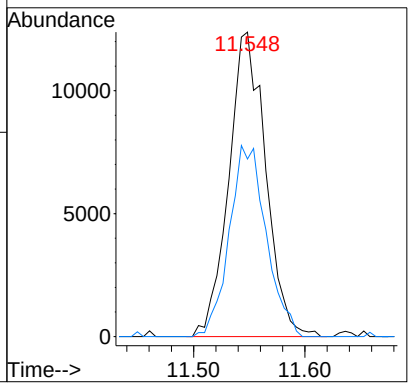


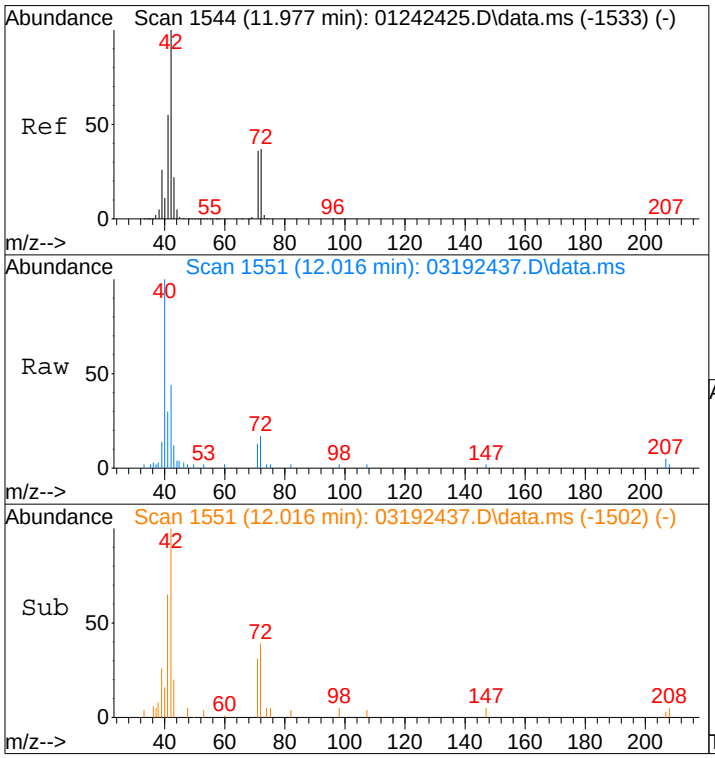


#32
Chloroform
Concen: 0.78 ng
RT: 11.55 min Scan# 1466
Delta R.T. -0.022 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 83 Resp: 28515

Ion	Ratio	Lower	Upper
83	100		
85	62.7	44.3	84.3

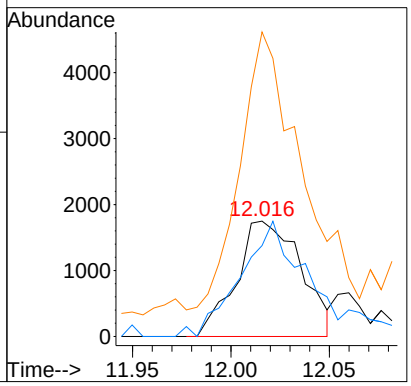


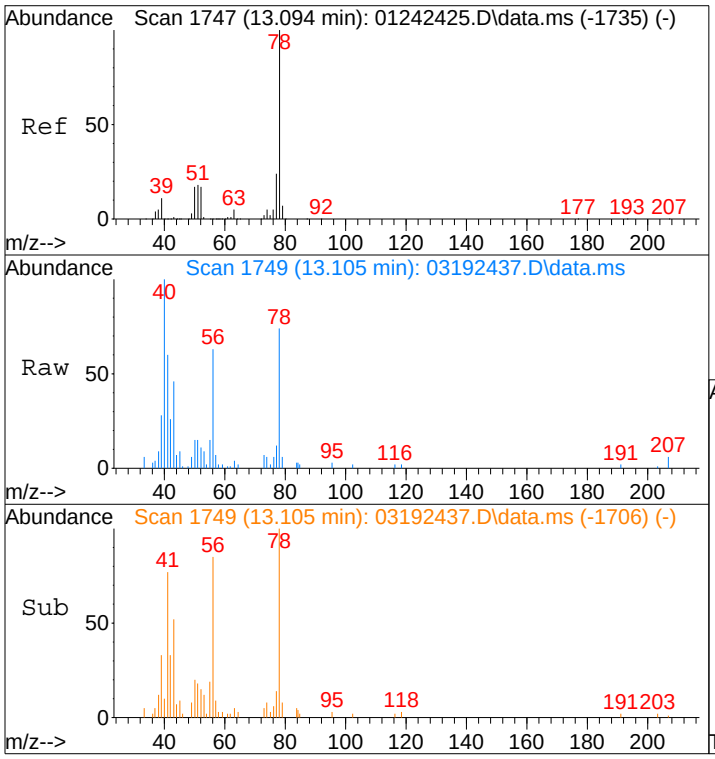


#34
Tetrahydrofuran (THF)
Concen: 0.30 ng
RT: 12.02 min Scan# 1551
Delta R.T. 0.022 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 72 Resp: 4005

Ion	Ratio	Lower	Upper
72	100		
71	109.7	76.1	116.1
42	270.5	250.1	290.1

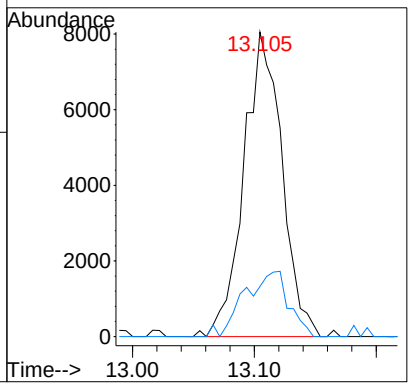


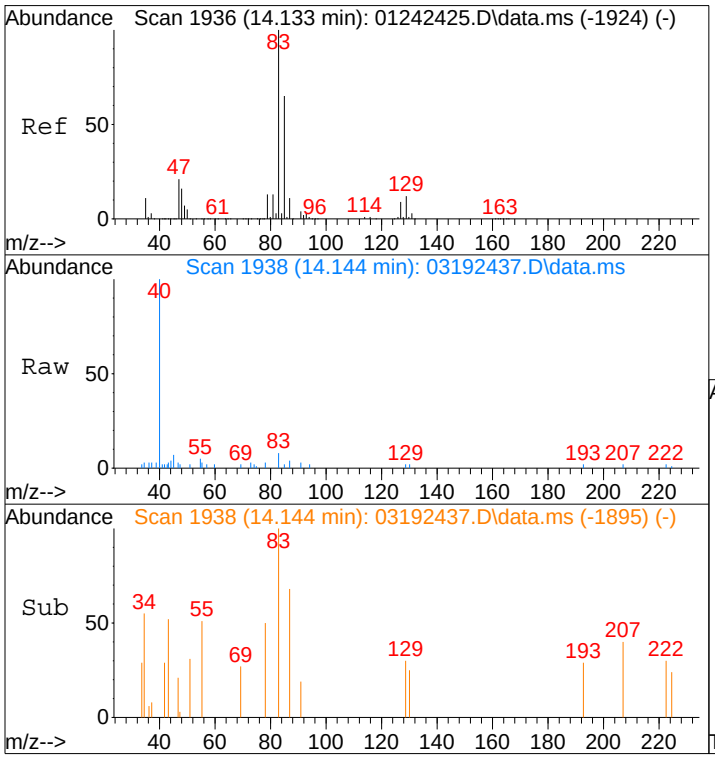


#41
Benzene
Concen: 0.19 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 78 Resp: 17473

Ion	Ratio	Lower	Upper
78	100		
77	25.0	2.6	42.6

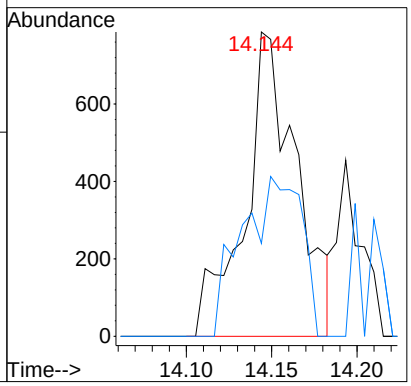


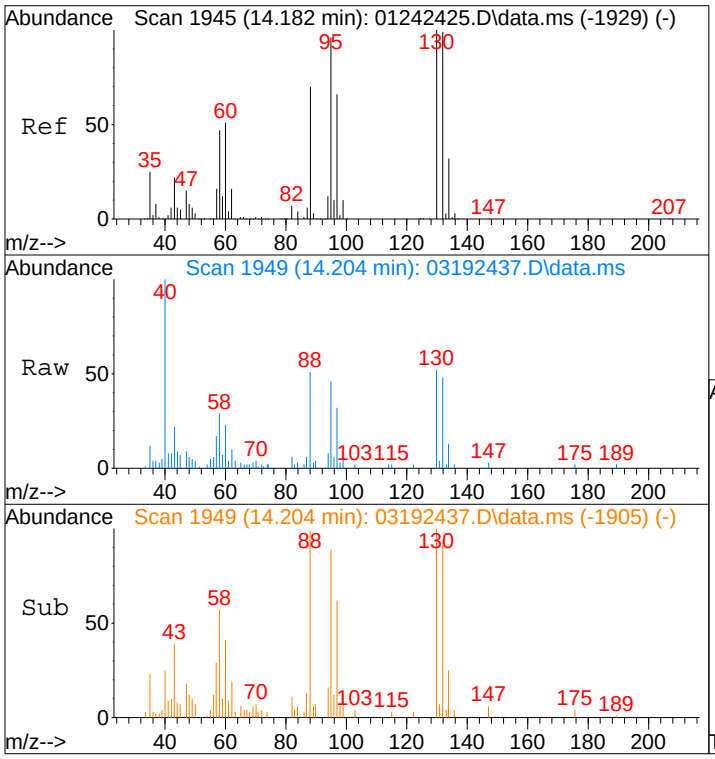


#46
Bromodichloromethane
Concen: 0.06 ng
RT: 14.14 min Scan# 1938
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 83 Resp: 1643

Ion	Ratio	Lower	Upper
83	100		
85	61.4	43.9	83.9

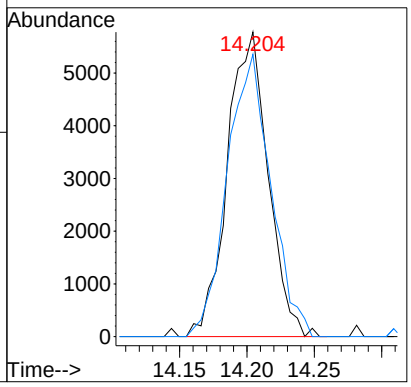


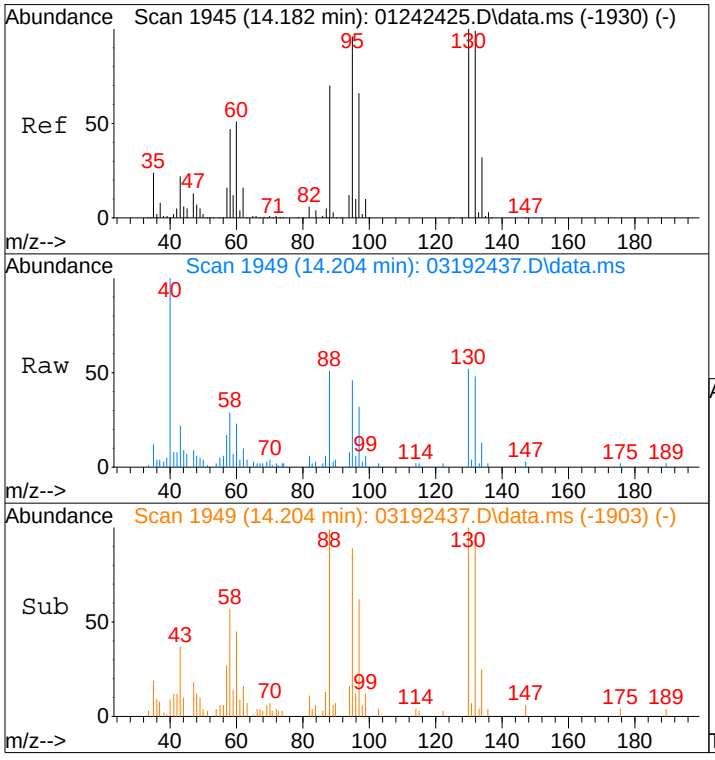


#47
Trichloroethene
Concen: 0.52 ng
RT: 14.20 min Scan# 1949
Delta R.T. -0.006 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion:130 Resp: 12153

Ion	Ratio	Lower	Upper
130	100		
132	98.9	78.3	118.3

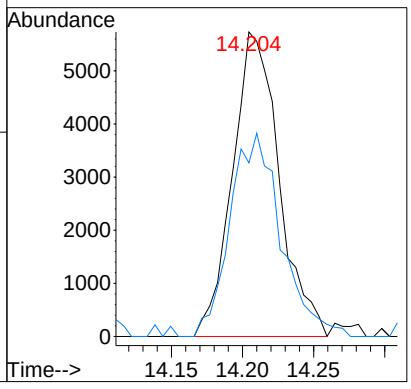


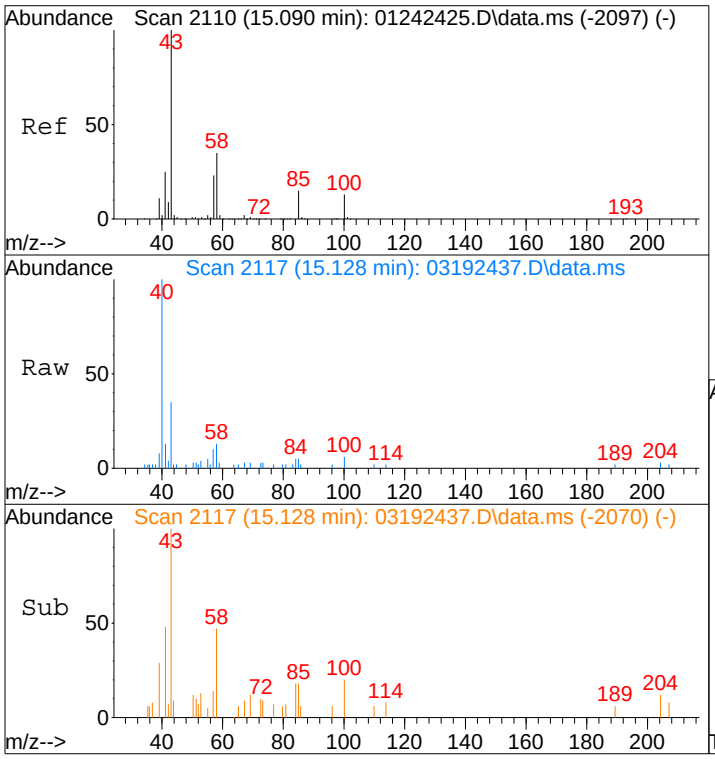


#48
1,4-Dioxane
Concen: 0.79 ng
RT: 14.20 min Scan# 1949
Delta R.T. 0.005 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 88 Resp: 13085

Ion	Ratio	Lower	Upper
88	100		
58	72.9	50.6	90.6

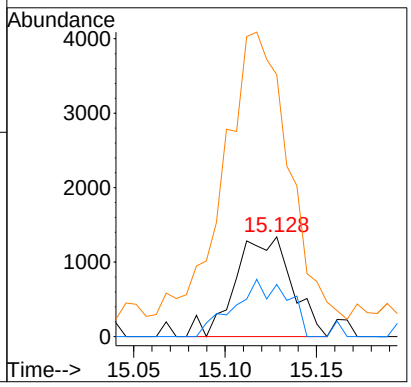


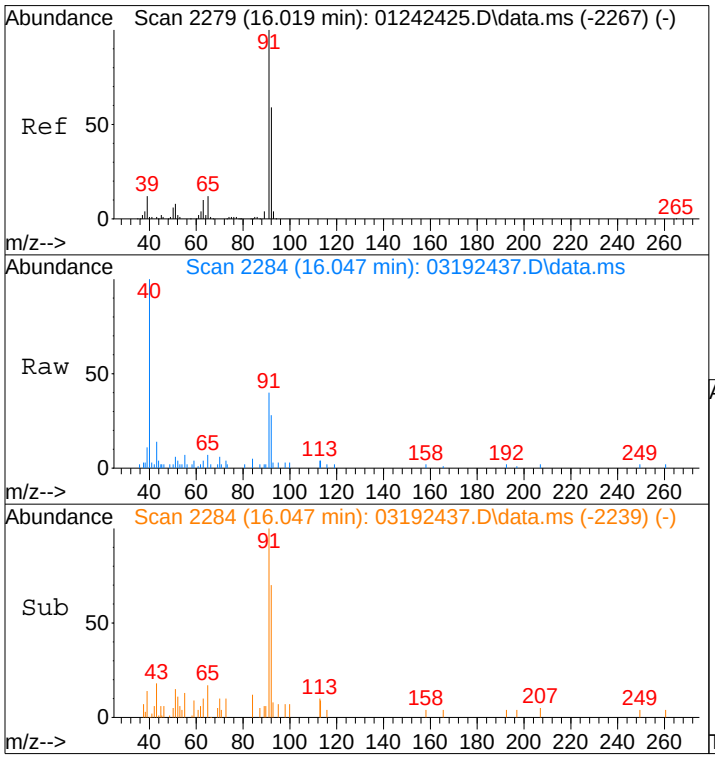


#53
4-Methyl-2-pentanone
Concen: 0.16 ng
RT: 15.13 min Scan# 2117
Delta R.T. 0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 58 Resp: 2890

Ion	Ratio	Lower	Upper
58	100		
85	53.8	36.2	54.2
43	327.2	238.2	357.2

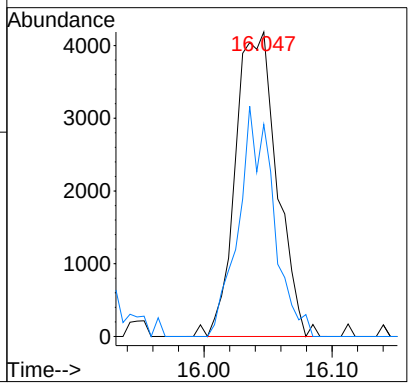


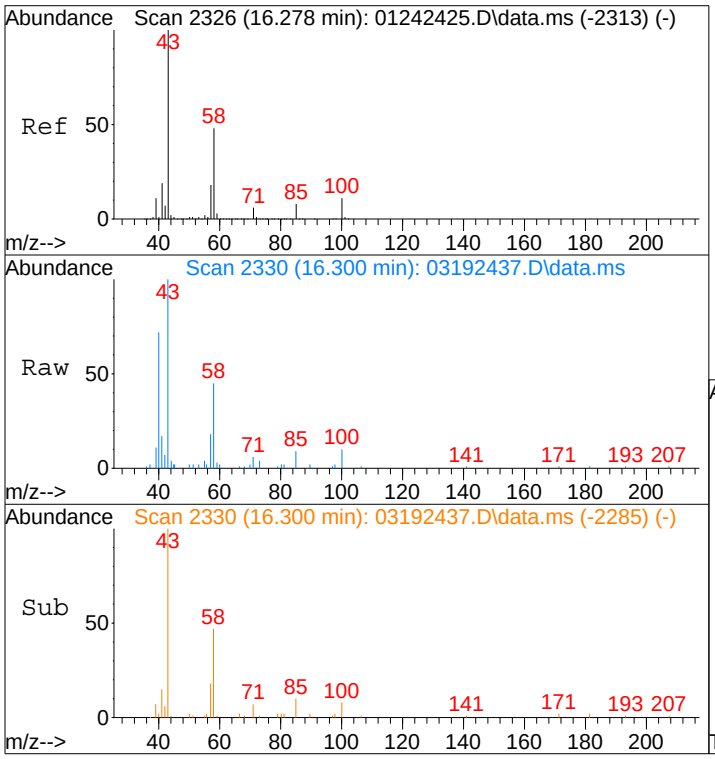


#58
Toluene
Concen: 0.12 ng
RT: 16.05 min Scan# 2284
Delta R.T. -0.000 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 91 Resp: 9443

Ion	Ratio	Lower	Upper
91	100		
92	63.4	39.1	79.1

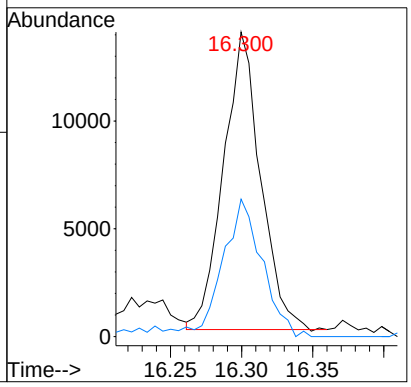


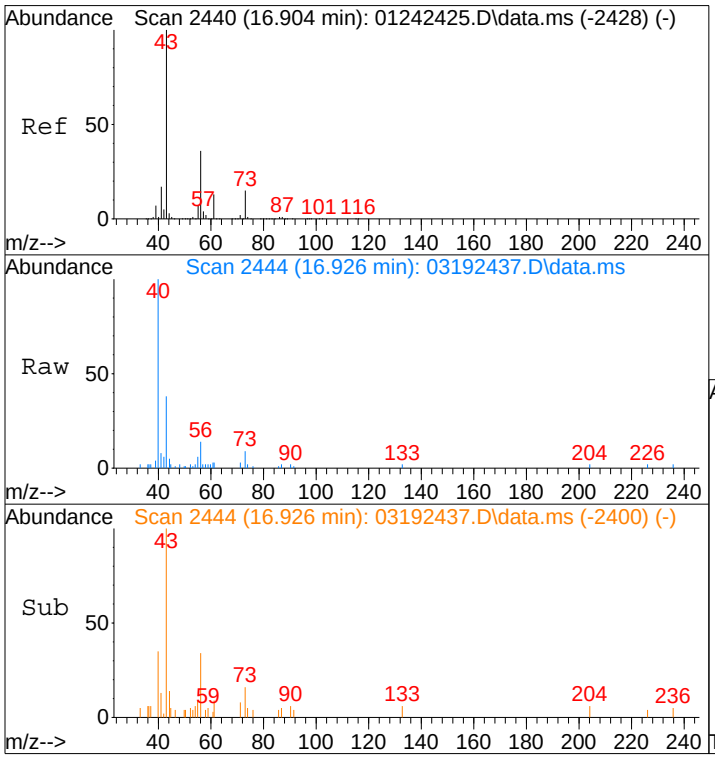


#59
2-Hexanone
Concen: 0.50 ng
RT: 16.30 min Scan# 2330
Delta R.T. -0.000 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 43 Resp: 25018

Ion	Ratio	Lower	Upper
43	100		
58	48.9	26.4	66.4

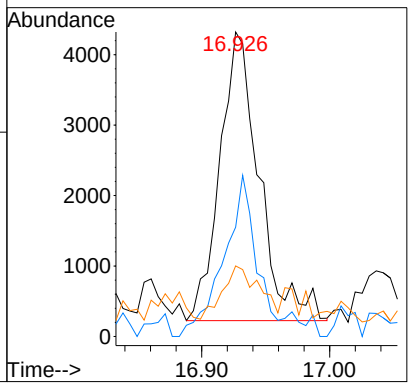


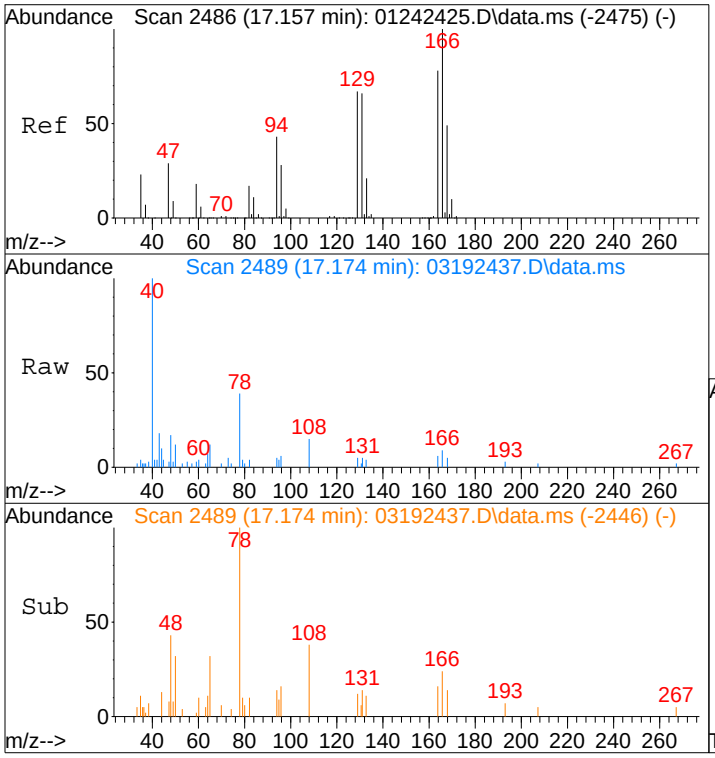


#62
n-Butyl Acetate
Concen: 0.16 ng
RT: 16.93 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 43 Resp: 8744

Ion	Ratio	Lower	Upper
43	100		
56	50.7	16.1	56.1
73	19.0	0.0	34.6

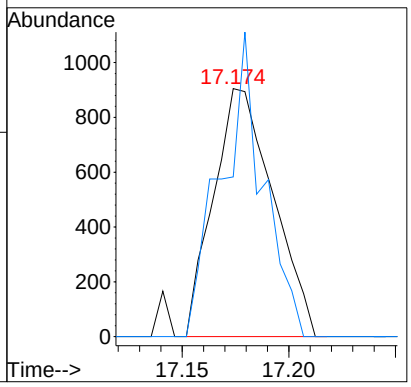


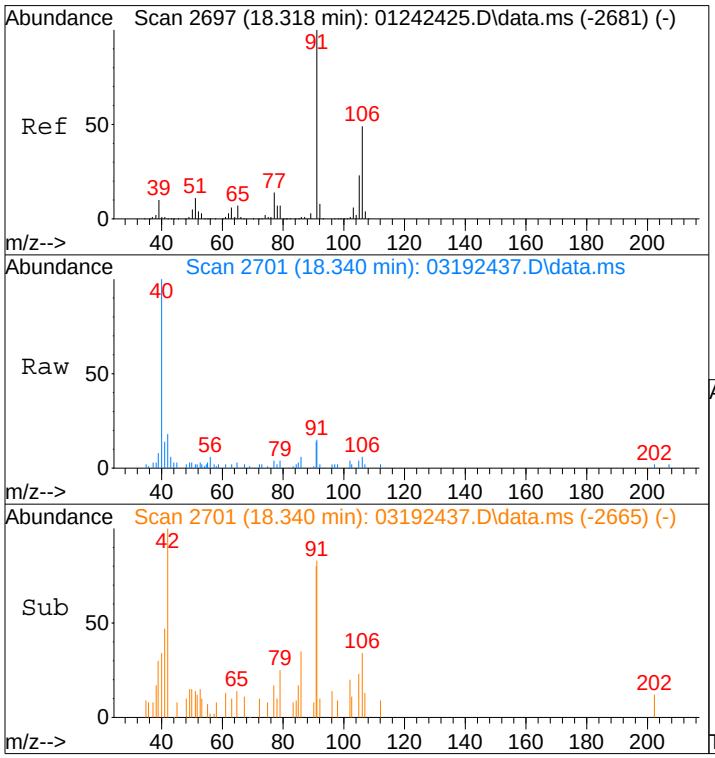


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 17.17 min Scan# 2489
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion:166 Resp: 1760

Ion	Ratio	Lower	Upper
166	100		
164	86.5	59.3	99.3

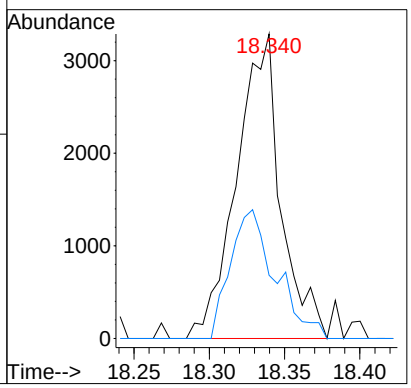


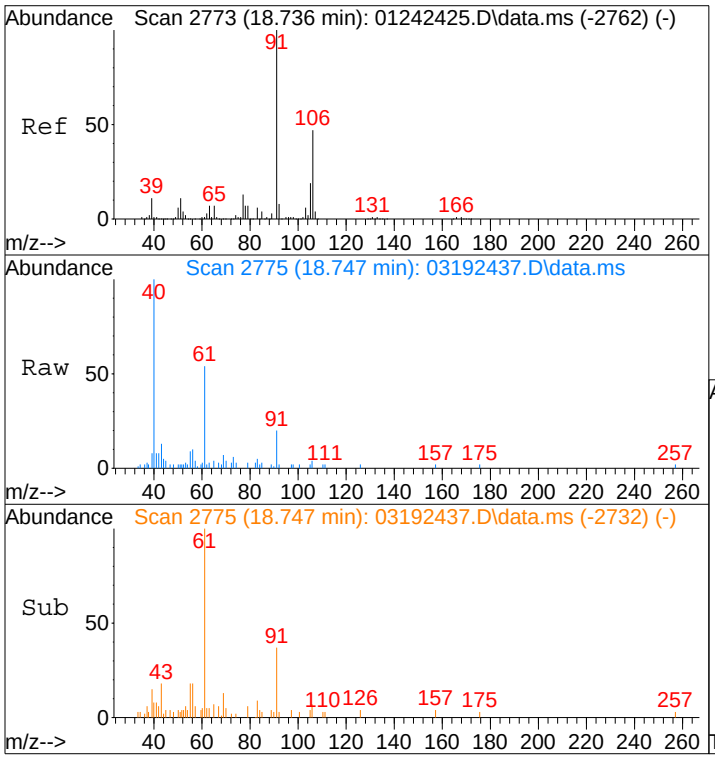


#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 18.34 min Scan# 2701
Delta R.T. -0.000 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 91 Resp: 6710

Ion	Ratio	Lower	Upper
91	100		
106	43.2	28.7	68.7

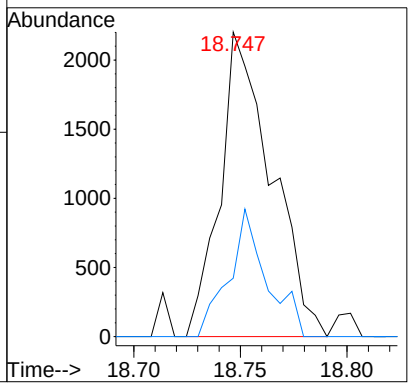




#70
o-Xylene
Concen: 0.05 ng
RT: 18.75 min Scan# 2775
Delta R.T. -0.011 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 91 Resp: 3701

Ion	Ratio	Lower	Upper
91	100		
106	30.6	26.0	66.0



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:22:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

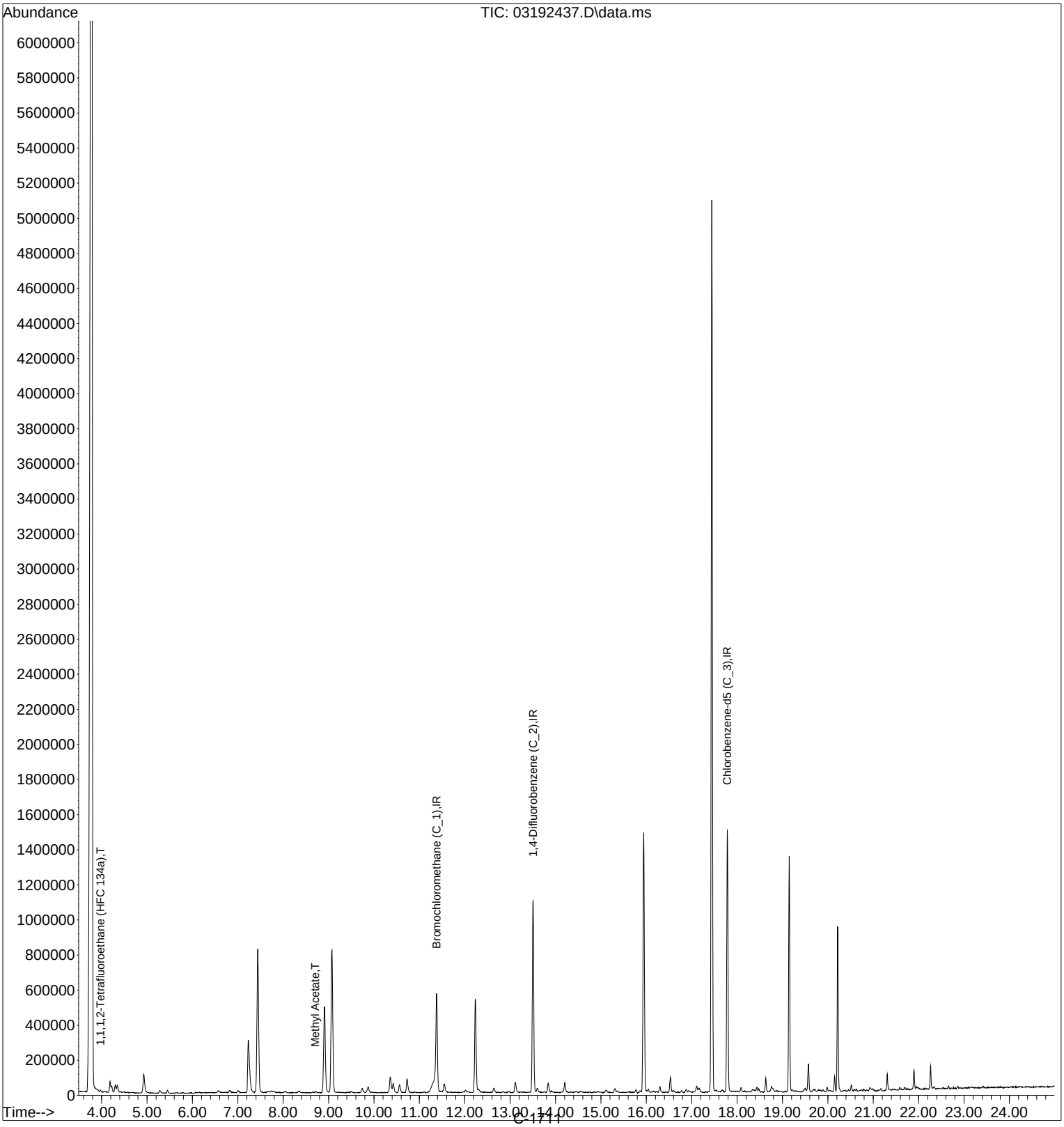
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	215825	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	967228	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	215972	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.87	85	622	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	2701	0.126	ng	#	1
4) 1,1-Difluoroethane	4.08	65	845	N.D.			
5) Chlorodifluoromethane ...	4.13	67	120	N.D.			
6) 1-Chloro-1,1-Difluoroe...	4.66	65	987	N.D.			
7) Dichlorofluoromethane ...	6.40	67	1075	N.D.			
8) Vinylbromide	6.72	108	54	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.11	83	174	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	8.71	43	7932	0.162	ng	#	89
12) 2-Methylpentane	10.44	71	619	N.D.			
13) 2,2-Dichloropropane	11.59	77	158	N.D.			
14) 1,1-Dichloropropene	12.96	75	252	N.D.			
15) Thiophene	13.24	84	1643	N.D.			
17) 2,3-Dimethylpentane	13.69	56	398	N.D.			
18) Dibromomethane	13.92	174	667	N.D.			
20) Methyl Cyclohexane	15.18	55	748	N.D.			
21) 1,3-Dichloropropane	16.06	76	61	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	18.00	91	493	N.D.			
24) 1,2,3-Trichloropropane	18.86	75	57	N.D.			
25) Bromobenzene	19.36	77	52	N.D.			
26) 2-Chlorotoluene	19.71	91	4249	N.D.			
27) 4-Chlorotoluene	19.71	91	4249	N.D.			
28) Indane	20.80	117	933	N.D.			
29) Indene	20.88	115	61	N.D.			
30) 1,2,4,5-Tetramethylben...	21.63	119	627	N.D.			
31) 1,2,3,4-Tetramethylben...	21.71	119	345	N.D.			
32) 1,2,3,5-Tetramethylben...	22.00	119	1684	N.D.			
33) 1,2,3-Trichlorobenzene	22.62	180	56	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 14:22:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-1711

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:22:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

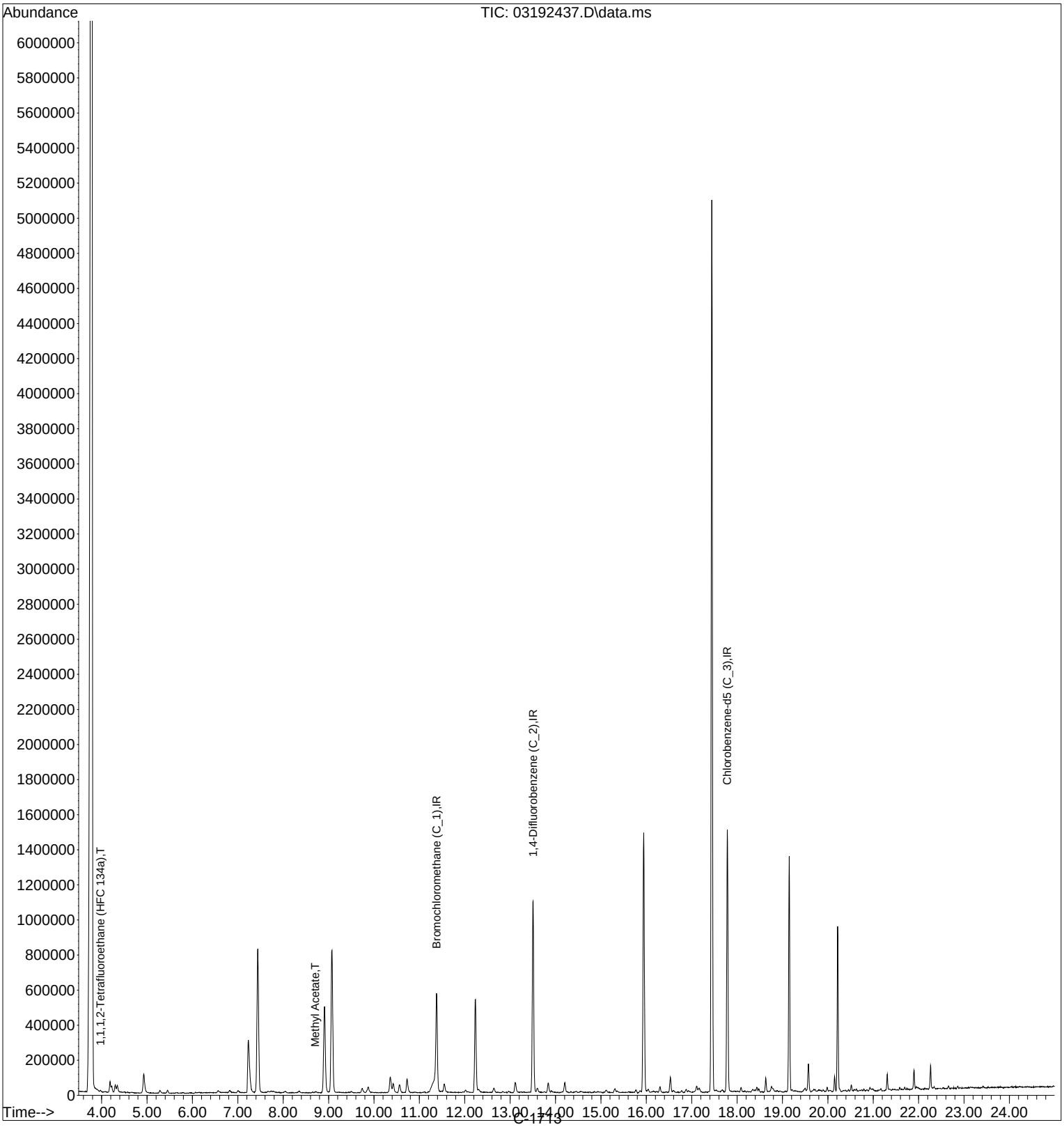
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	215825	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	967228	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	215972	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	2701	0.126	ng	#	1
11) Methyl Acetate	8.71	43	7932	0.162	ng	#	89

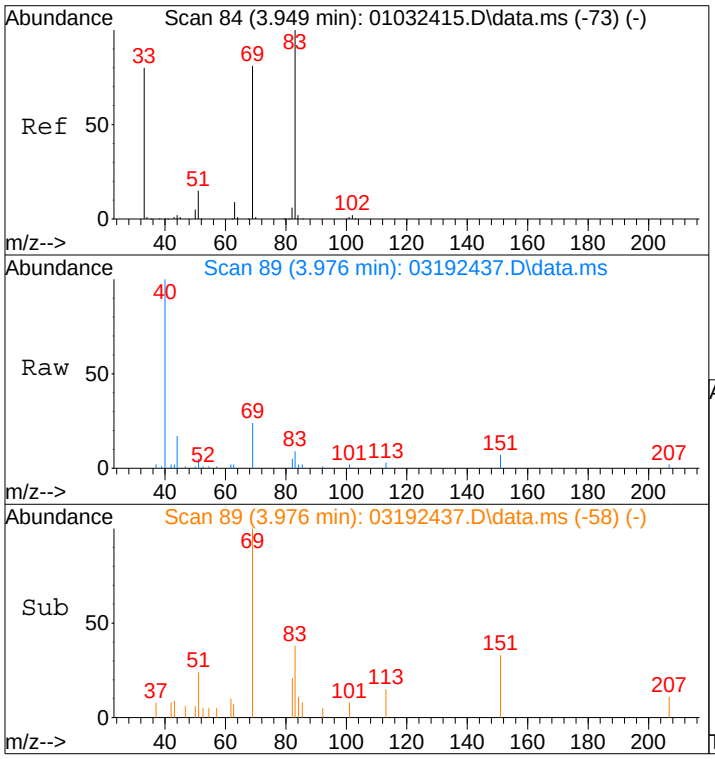
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 21 14:22:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

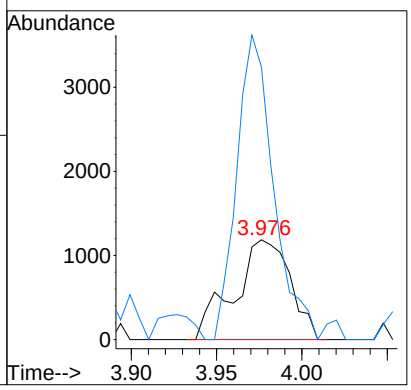


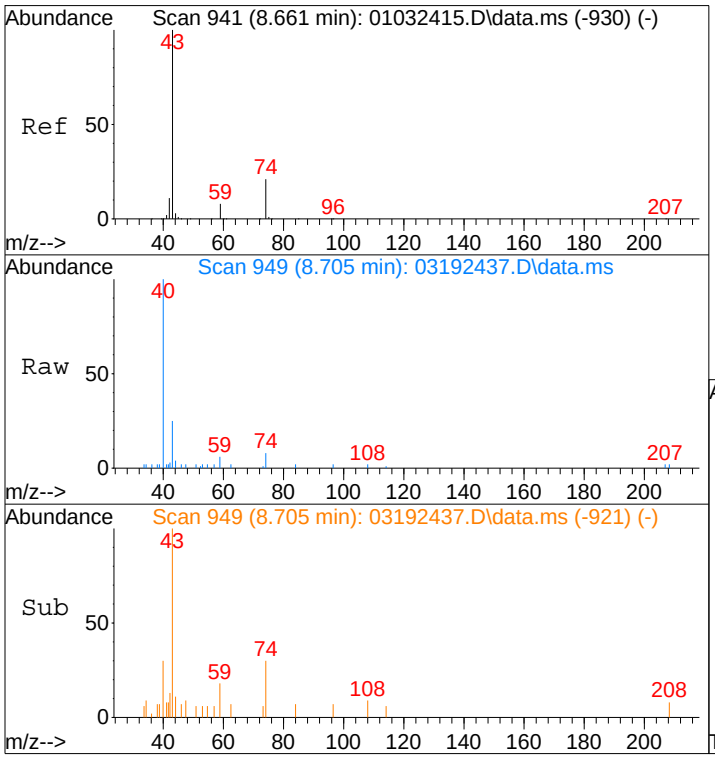


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.13 ng
RT: 3.98 min Scan# 89
Delta R.T. 0.022 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 83 Resp: 2701

Ion	Ratio	Lower	Upper
83	100		
69	201.9	74.0	111.0#

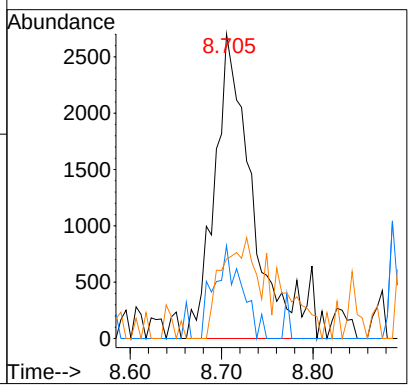




#11
Methyl Acetate
Concen: 0.16 ng
RT: 8.71 min Scan# 949
Delta R.T. 0.005 min
Lab File: 03192437.D
Acq: 19 Mar 2024 19:58

Tgt Ion: 43 Resp: 7932

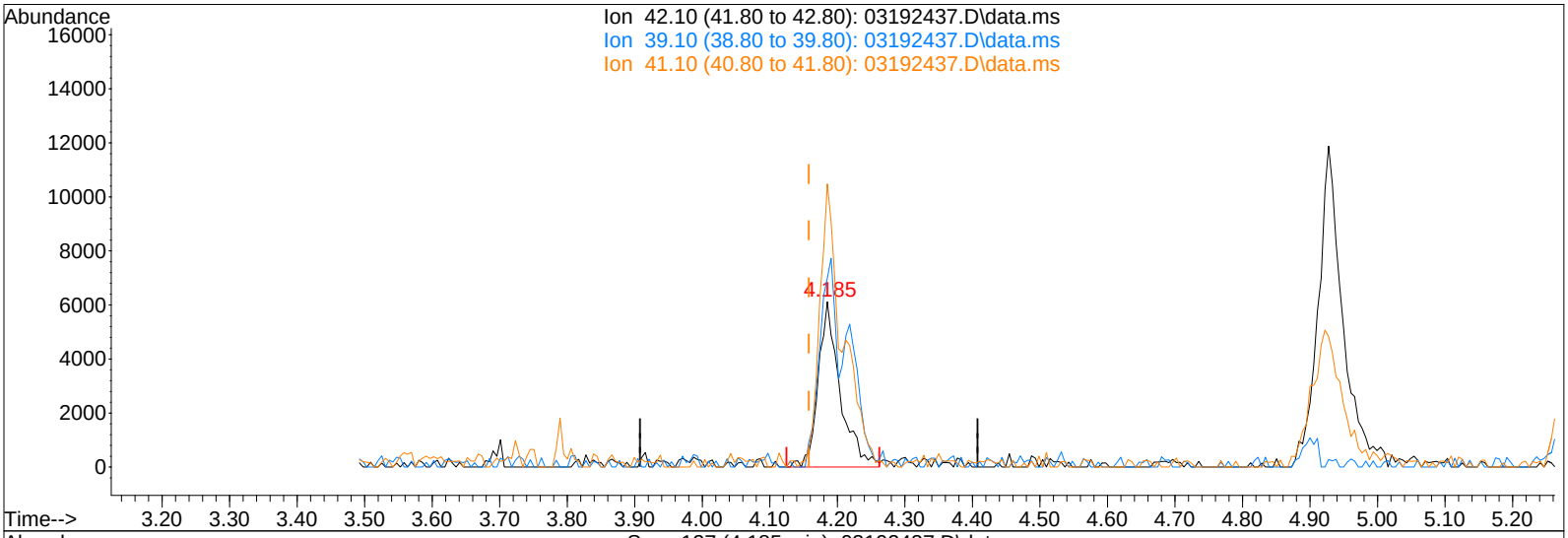
Ion	Ratio	Lower	Upper
43	100		
74	21.6	14.9	22.3
59	0.0	6.0	9.0#

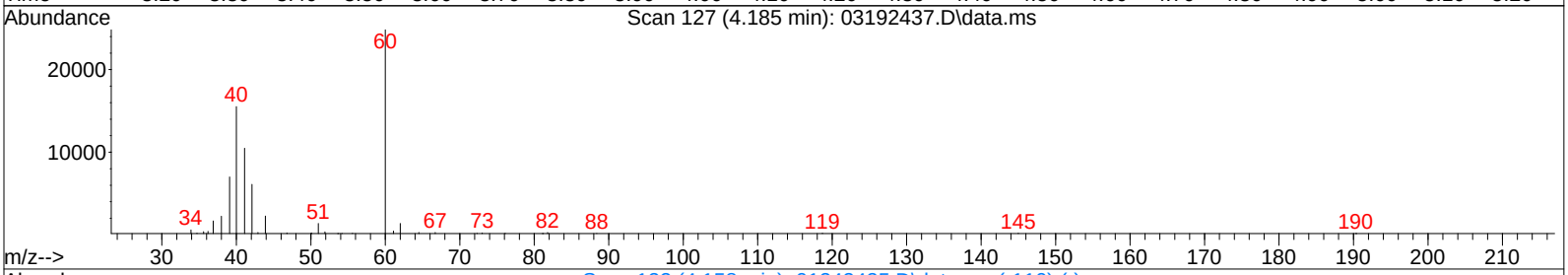


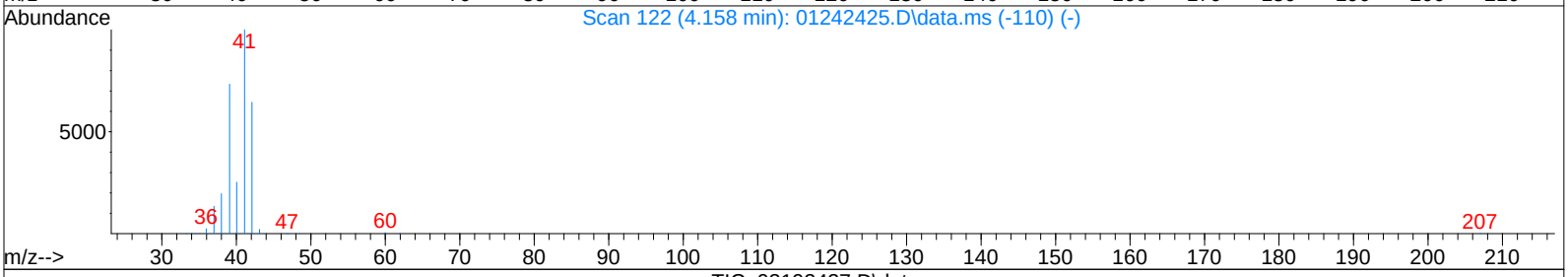
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 20 08:34:18 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192437.D\data.ms

(2) Propene (T)

4.185min (+0.027) 0.45ng

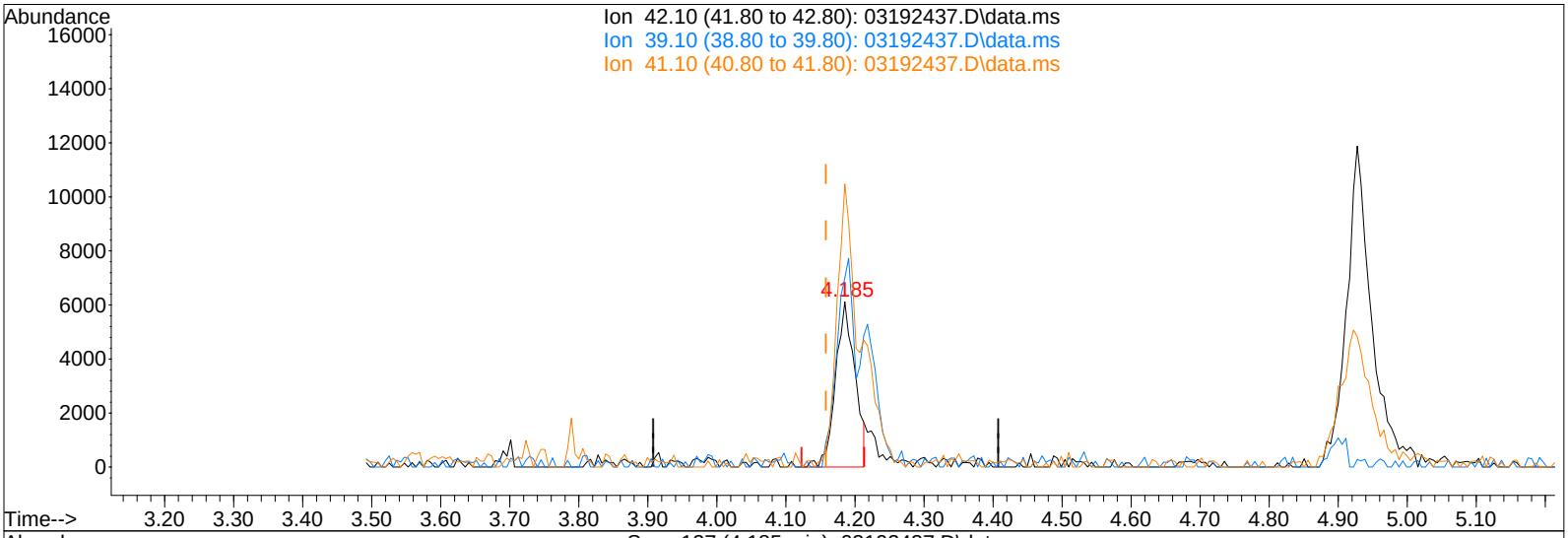
response 13819

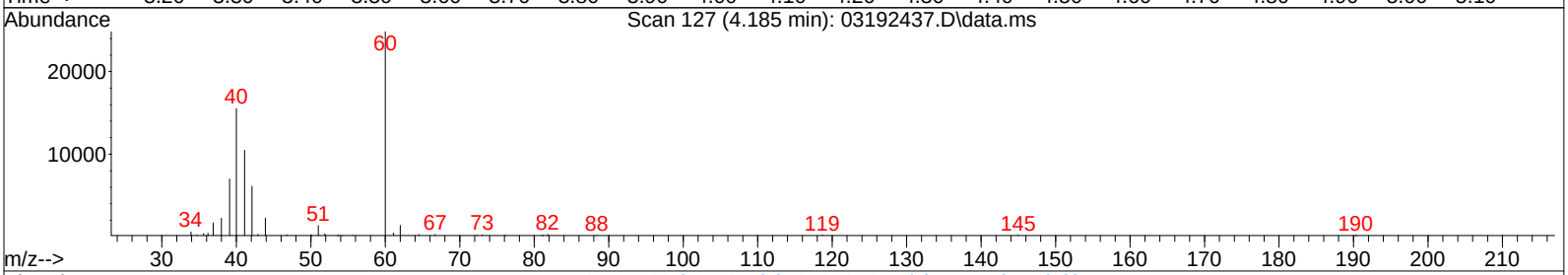
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	103.72
41.10	152.40	181.98#
0.00	0.00	0.00

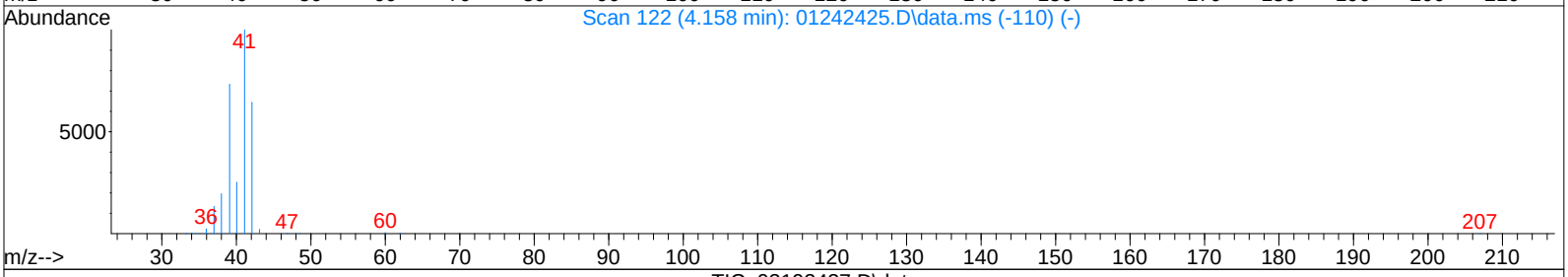
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 20 08:34:18 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192437.D\data.ms

(2) Propene (T)

4.185min (+0.027) 0.39ng m

response 11977

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	119.67
41.10	152.40	152.78
0.00	0.00	0.00

CI 3/20/24

IPC

LH 3/24/24

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192437.D\data.ms

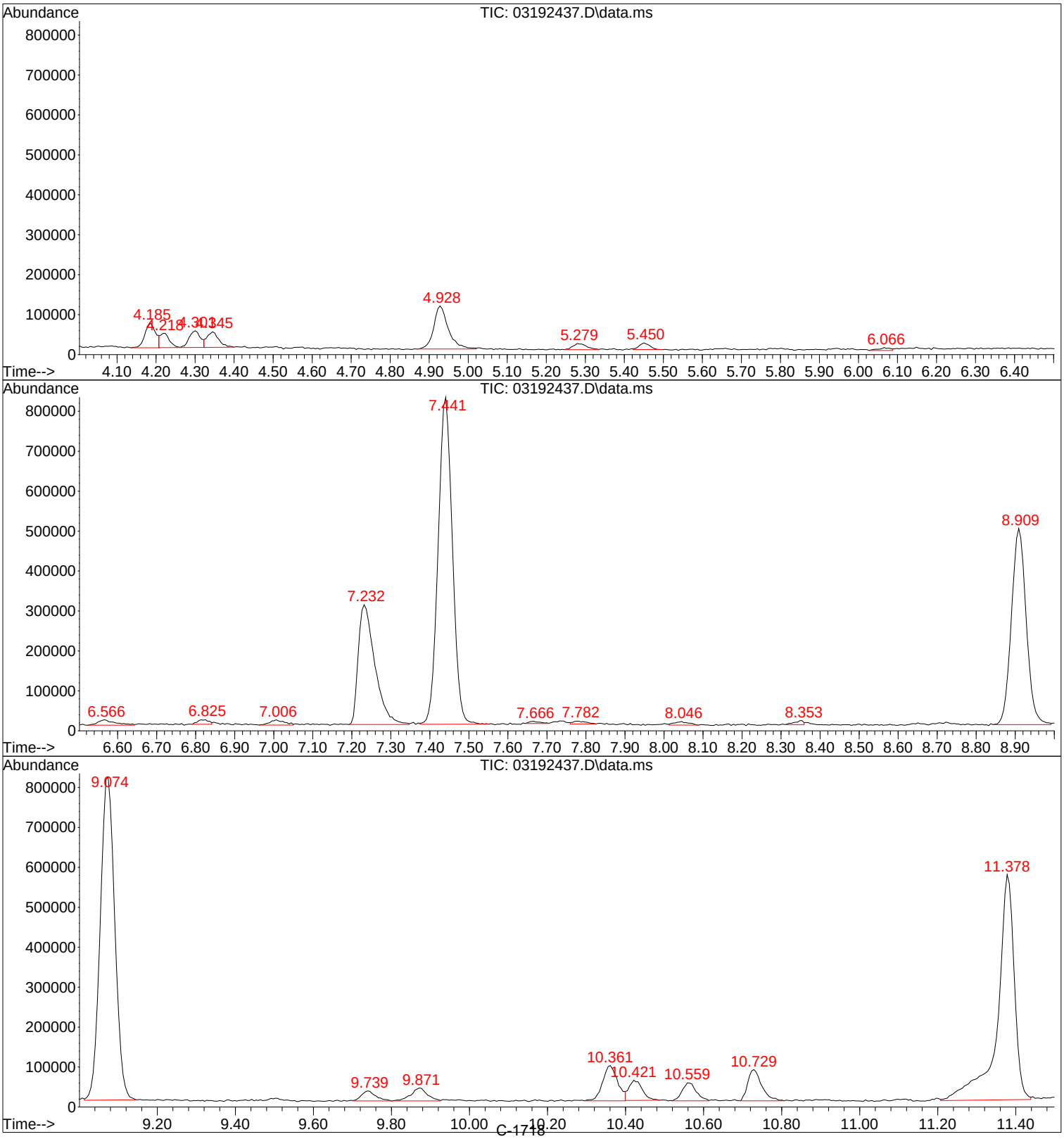
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.185	118	127	131	rBV2	61651	120429	5.72%	1.235%
2	4.218	131	133	141	rVV5	35678	56080	2.66%	0.575%
3	4.301	141	148	152	rVV	41741	86121	4.09%	0.883%
4	4.345	152	156	166	rVB3	38698	78466	3.73%	0.805%
5	4.928	251	262	279	rBV	107611	280126	13.31%	2.873%
6	5.279	320	326	336	rBV5	15657	38076	1.81%	0.390%
7	5.450	352	357	366	rVB2	16662	31040	1.47%	0.318%
8	6.066	462	469	473	rBV2	7322	14743	0.70%	0.151%
9	6.566	552	560	574	rBV2	13644	41396	1.97%	0.425%
10	6.825	601	607	610	rBV3	11680	23387	1.11%	0.240%
11	7.006	632	640	648	rBV4	13284	34868	1.66%	0.358%
12	7.232	674	681	702	rBV	299768	883539	41.98%	9.061%
13	7.441	707	719	739	rVB	818629	2076147	98.65%	21.292%
14	7.666	756	760	767	rBV8	5659	11252	0.53%	0.115%
15	7.782	777	781	789	rVB4	6958	15572	0.74%	0.160%
16	8.046	823	829	837	rVB6	8889	21018	1.00%	0.216%
17	8.353	877	885	886	rBV6	10230	16260	0.77%	0.167%
18	8.909	974	986	1001	rBV	491351	1295301	61.55%	13.284%
19	9.074	1005	1016	1029	rVB	808431	2104535	100.00%	21.583%
20	9.739	1130	1137	1148	rVB	25112	64093	3.05%	0.657%
21	9.871	1148	1161	1171	rBV3	32565	95146	4.52%	0.976%
22	10.361	1238	1250	1257	rBV	88387	237931	11.31%	2.440%
23	10.421	1257	1261	1273	rVB	50350	117714	5.59%	1.207%
24	10.559	1279	1286	1296	rBV2	45153	113437	5.39%	1.163%
25	10.729	1310	1317	1331	rVB	77955	193160	9.18%	1.981%
26	11.378	1404	1435	1446	rVV4	563450	1700984	80.82%	17.445%

Sum of corrected areas: 9750821

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:58
Operator : CI
Sample : P2400922-055 (400mL)
Misc : S37-01032403/
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192437.D
Acq On : 19 Mar 2024 19:588
Operator : CII
Sample : P2400922-055 (400mL))
Misc : S37-01032403//
ALS Vial : 7 Sample Multiplier: 11

CI 3/22/24

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:55:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.40	130	217325	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	985026	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	214585	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.25	65	441449	12.060	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.94	98	1079785	12.886	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	19.15	174	371052	13.148	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Propene	4.15	42	267492	8.724	ng		99
3) Dichlorodifluoromethan...	4.33	85	31869	0.659	ng		95
4) Chloromethane	4.61	50	10260	0.321	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	461	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.36	54	1642	0.075	ng	#	83
8) Bromomethane	5.80	94	519	N.D.			
9) Chloroethane	0.00	64	0	N.D.	d		
10) Ethanol	6.60	45	840432	43.134	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	7.01	56	9687	0.685	ng		99
13) Acetone	7.22	58	664892	42.080	ng	#	43
14) Trichlorofluoromethane	7.44	101	104426	2.406	ng		100
15) 2-Propanol (Isopropanol)	7.78	45	1765823	29.997	ng		99
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	8.44	96	170	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.66	84	48572	2.123	ng		96
20) 3-Chloro-1-propene (Al...	8.84	41	292	N.D.			
21) Trichlorotrifluoroethane	9.07	151	52739	2.789	ng		100
22) Carbon Disulfide	8.91	76	16605	0.256	ng		89
23) trans-1,2-Dichloroethene	9.93	61	7924	0.251	ng		100
24) 1,1-Dichloroethane	10.22	63	1124	N.D.			
25) Methyl tert-Butyl Ether	10.34	73	7531	0.132	ng		94
26) Vinyl Acetate	10.48	86	23608	8.401	ng	#	57
27) 2-Butanone (MEK)	10.74	72	53145	3.846	ng	#	92
28) cis-1,2-Dichloroethene	11.21	61	970	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.56	61	3279969	416.534	ng		94
31) n-Hexane	11.49	57	189915	5.265	ng		100
32) Chloroform	0.00	83	0	N.D.	d		
34) Tetrahydrofuran (THF)	12.00	72	51201	3.838	ng		99
35) Ethyl tert-Butyl Ether	12.13	87	1909	0.077	ng		99
36) 1,2-Dichloroethane	12.37	62	15669	0.430	ng		93
38) 1,1,1-Trichloroethane	12.63	97	157	N.D.			
39) Isopropyl Acetate	13.73	61	222	No Calib		#	
40) 1-Butanol	12.65	56	1240	No Calib		#	
41) Benzene	13.11	78	328662	3.510	ng		99
42) Carbon Tetrachloride	13.27	117	2406	0.084	ng		99
43) Cyclohexane	13.40	84	100817	3.296	ng		97
44) tert-Amyl Methyl Ether	13.76	73	609	N.D.			
45) 1,2-Dichloropropane	13.97	63	4887	0.226	ng		94
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.21	130	385829	16.159	ng		99
48) 1,4-Dioxane	14.22	88	479	N.D.			

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 20 14:55:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

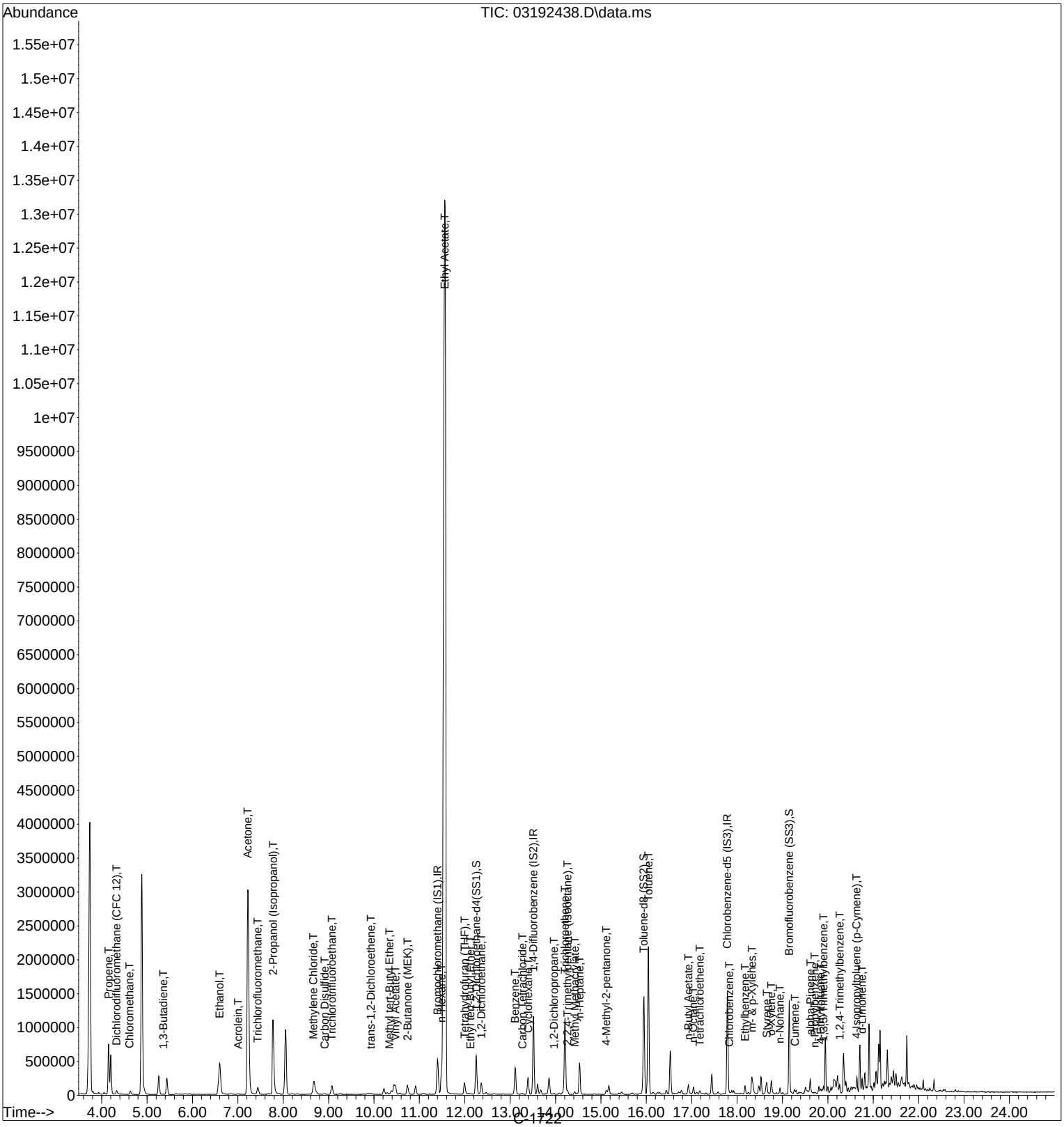
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	48488	0.556 ng		72
50) Methyl Methacrylate	14.42	100	3643	0.443 ng		99
51) n-Heptane	14.53	71	118094	5.219 ng		99
52) cis-1,3-Dichloropropene	15.10	75	207	N.D.		
53) 4-Methyl-2-pentanone	15.12	58	14203	0.777 ng		88
54) trans-1,3-Dichloropropene	15.52	75	117	N.D.		
55) 1,1,2-Trichloroethane	15.76	97	289	N.D.		
58) Toluene	16.05	91	1758021	22.370 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.45	129	594	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.93	43	108326	1.964 ng		95
63) n-Octane	17.04	57	18733	1.033 ng		95
64) Tetrachloroethene	17.18	166	13993	0.607 ng		95
65) Chlorobenzene	17.83	112	6343	0.119 ng		99
66) Ethylbenzene	18.17	91	84563	0.927 ng		99
67) m- & p-Xylenes	18.33	91	190391	2.599 ng		100
68) Bromoform	18.41	173	685	N.D.		
69) Styrene	18.65	104	61967	1.219 ng		99
70) o-Xylene	18.75	91	82350	1.118 ng		97
71) n-Nonane	18.94	43	31387	0.678 ng		96
72) 1,1,2,2-Tetrachloroethane	18.68	83	860	N.D.		
74) Cumene	19.27	105	10221	0.108 ng		96
75) alpha-Pinene	19.62	93	71814	1.701 ng		97
76) n-Propylbenzene	19.71	91	15697	0.136 ng		98
77) 3-Ethyltoluene	20.26	105	36755	No Calib		
78) 4-Ethyltoluene	19.84	105	11550	0.125 ng		98
79) 1,3,5-Trimethylbenzene	19.90	105	13517	0.174 ng		99
80) alpha-Methylstyrene	20.63	118	928	No Calib	#	
81) 2-Ethyltoluene	20.26	105	36755	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	36755	0.469 ng		87
83) n-Decane	20.35	58	9611	No Calib	#	
84) Benzyl Chloride	20.36	91	1069	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	1088	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1510	N.D.		
87) sec-Butylbenzene	20.49	105	3345	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	17437	0.192 ng		92
89) 1,2,3-Trimethylbenzene	20.26	105	36755	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1061	N.D.		
91) d-Limonene	20.75	68	39865	1.507 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.12	157	160	N.D.		
93) n-Undecane	21.49	58	3368	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1560	N.D.		
95) Naphthalene	22.35	128	2542	N.D.		
96) n-Dodecane	22.78	57	2682	No Calib	#	
97) Hexachlorobutadiene	22.67	225	847	N.D.		
98) Cyclohexanone	18.25	55	4543	No Calib	#	
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	17.89	131	489	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 20 14:55:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 14:55:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.40	130	217325	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	985026	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	214585	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.25	65	441449	12.060	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.48%				
57) Toluene-d8 (SS2)	15.94	98	1079785	12.886	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	19.15	174	371052	13.148	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
Target Compounds							Qvalue
2) Propene	4.15	42	267492	8.724	ng		99
3) Dichlorodifluoromethan...	4.33	85	31869	0.659	ng		95
4) Chloromethane	4.61	50	10260	0.321	ng		92
7) 1,3-Butadiene	5.36	54	1642	0.075	ng	#	83
10) Ethanol	6.60	45	840432	43.134	ng		99
12) Acrolein	7.01	56	9687	0.685	ng		99
13) Acetone	7.22	58	664892	42.080	ng	#	43
14) Trichlorofluoromethane	7.44	101	104426	2.406	ng		100
15) 2-Propanol (Isopropanol)	7.78	45	1765823	29.997	ng		99
19) Methylene Chloride	8.66	84	48572	2.123	ng		96
21) Trichlorotrifluoroethane	9.07	151	52739	2.789	ng		100
22) Carbon Disulfide	8.91	76	16605	0.256	ng		89
23) trans-1,2-Dichloroethene	9.93	61	7924	0.251	ng		100
25) Methyl tert-Butyl Ether	10.34	73	7531	0.132	ng		94
26) Vinyl Acetate	10.48	86	23608	8.401	ng	#	57
27) 2-Butanone (MEK)	10.74	72	53145	3.846	ng	#	92
30) Ethyl Acetate	11.56	61	3279969	416.534	ng		94
31) n-Hexane	11.49	57	189915	5.265	ng		100
34) Tetrahydrofuran (THF)	12.00	72	51201	3.838	ng		99
35) Ethyl tert-Butyl Ether	12.13	87	1909	0.077	ng		99
36) 1,2-Dichloroethane	12.37	62	15669	0.430	ng		93
41) Benzene	13.11	78	328662	3.510	ng		99
42) Carbon Tetrachloride	13.27	117	2406	0.084	ng		99
43) Cyclohexane	13.40	84	100817	3.296	ng		97
45) 1,2-Dichloropropane	13.97	63	4887	0.226	ng		94
47) Trichloroethene	14.21	130	385829	16.159	ng		99
49) 2,2,4-Trimethylpentane...	14.26	57	48488	0.556	ng		72
50) Methyl Methacrylate	14.42	100	3643	0.443	ng		99
51) n-Heptane	14.53	71	118094	5.219	ng		99
53) 4-Methyl-2-pentanone	15.12	58	14203	0.777	ng		88
58) Toluene	16.05	91	1758021	22.370	ng		100
62) n-Butyl Acetate	16.93	43	108326	1.964	ng		95
63) n-Octane	17.04	57	18733	1.033	ng		95
64) Tetrachloroethene	17.18	166	13993	0.607	ng		95
65) Chlorobenzene	17.83	112	6343	0.119	ng		99
66) Ethylbenzene	18.17	91	84563	0.927	ng		99
67) m- & p-Xylenes	18.33	91	190391	2.599	ng		100
69) Styrene	18.65	104	61967	1.219	ng		99
70) o-Xylene	18.75	91	82350	1.118	ng		97
71) n-Nonane	18.94	43	31387	0.678	ng		96
74) Cumene	19.27	105	10221	0.108	ng		96
75) alpha-Pinene	19.62	93	71814	1.701	ng		97
76) n-Propylbenzene	19.71	91	15697	0.136	ng		98
78) 4-Ethyltoluene	19.84	105	11550	0.125	ng		98
79) 1,3,5-Trimethylbenzene	19.90	105	13517	0.174	ng		99

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 20 14:55:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

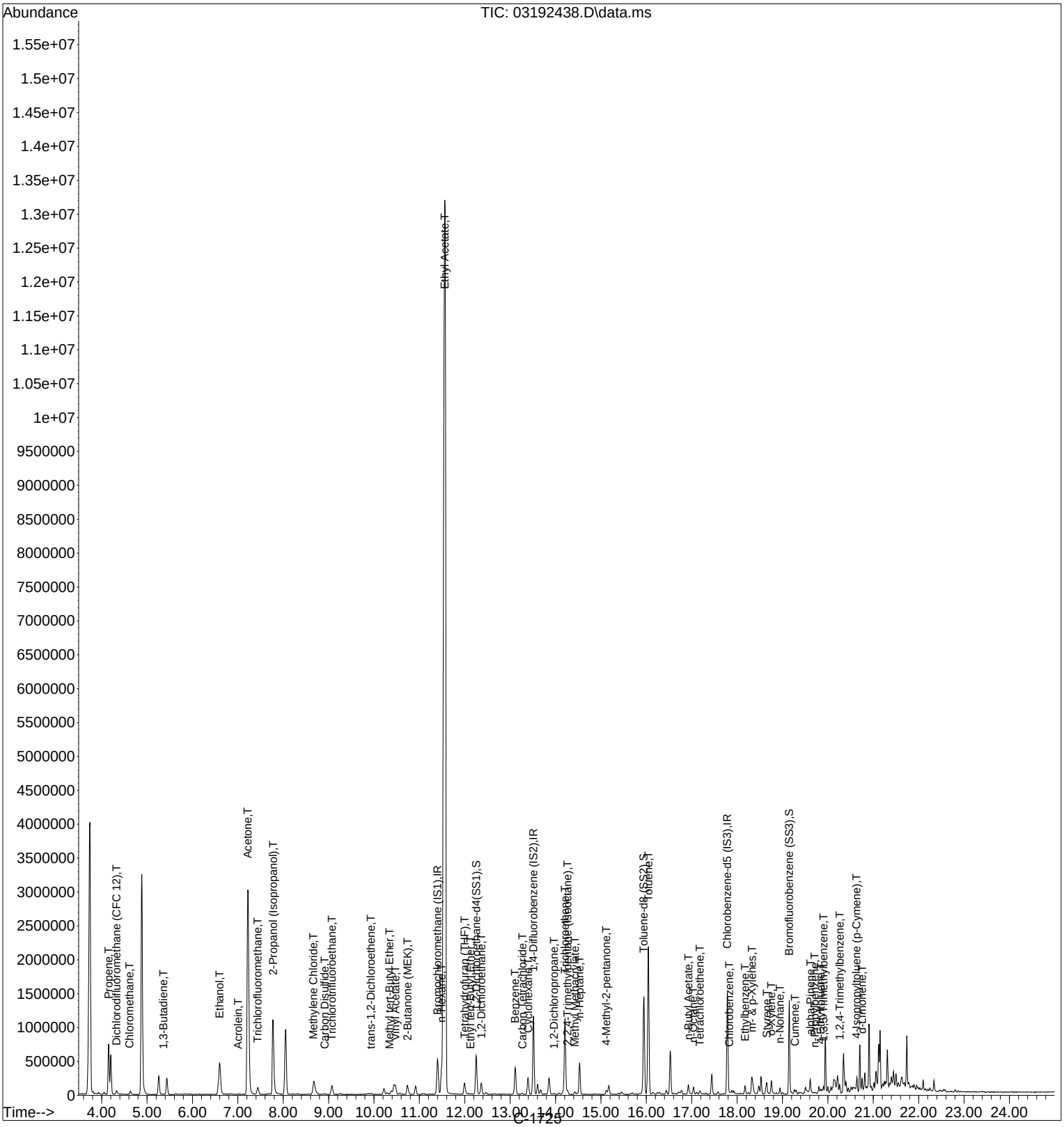
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
82) 1,2,4-Trimethylbenzene	20.26	105	36755	0.469	ng	87
88) 4-Isopropyltoluene (p-...	20.63	119	17437	0.192	ng	92
91) d-Limonene	20.75	68	39865	1.507	ng	94

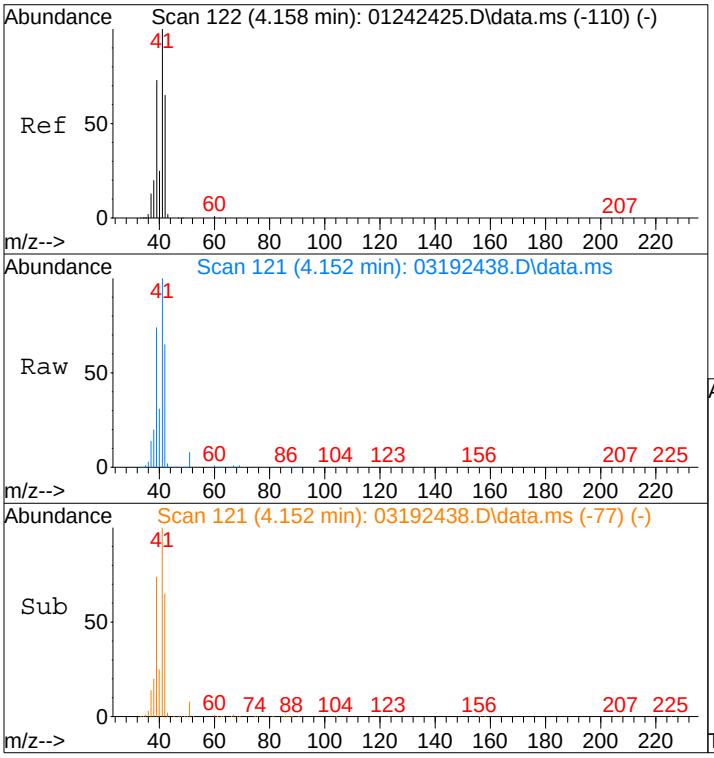
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 20 14:55:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

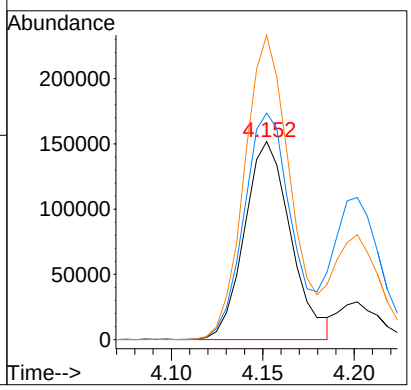


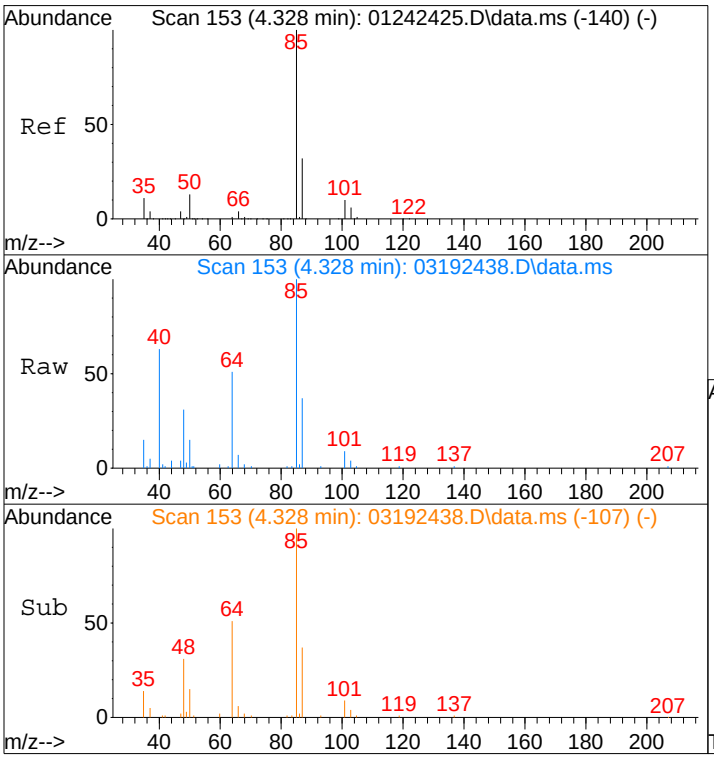


#2
Propene
Concen: 8.72 ng
RT: 4.15 min Scan# 121
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 42 Resp: 267492

Ion	Ratio	Lower	Upper
42	100		
39	117.9	98.6	138.6
41	150.2	132.4	172.4

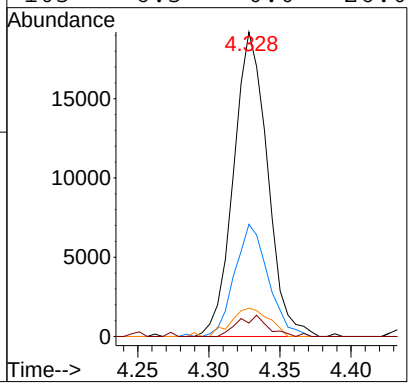


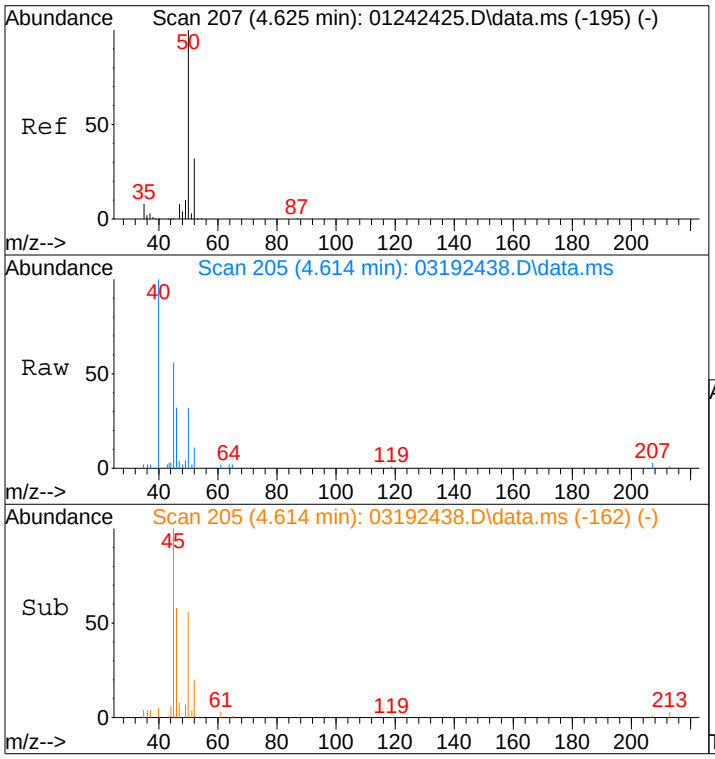


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.66 ng
RT: 4.33 min Scan# 153
Delta R.T. 0.005 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 85 Resp: 31869

Ion	Ratio	Lower	Upper
85	100		
87	36.5	13.1	53.1
101	10.6	0.0	29.5
103	6.3	0.0	26.0

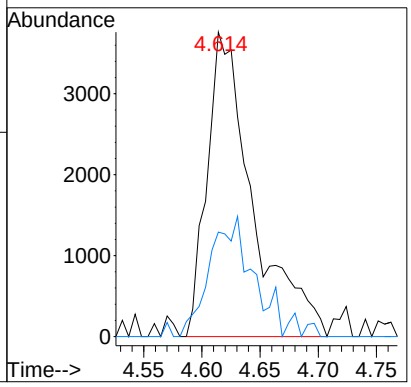


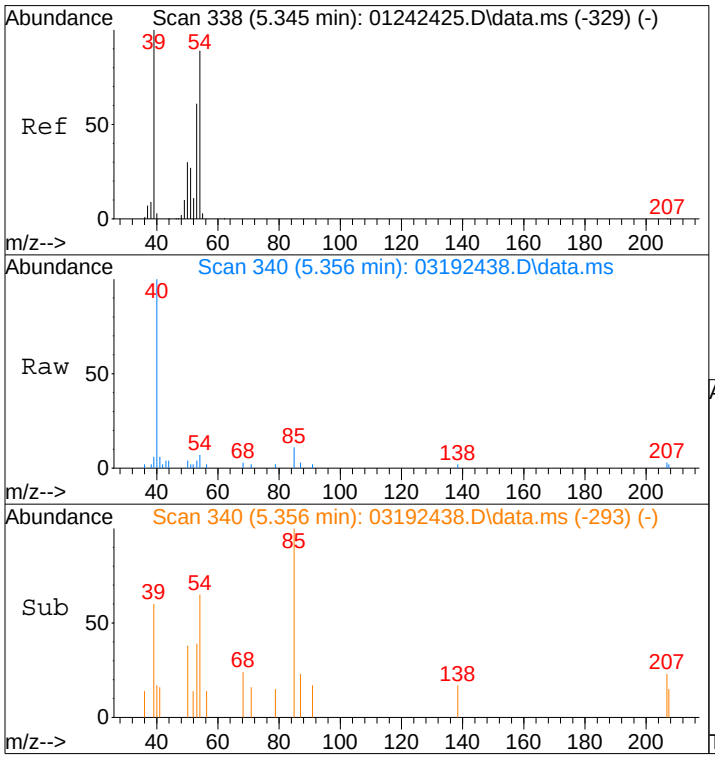


#4
Chloromethane
Concen: 0.32 ng
RT: 4.61 min Scan# 205
Delta R.T. -0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 50 Resp: 10260

Ion	Ratio	Lower	Upper
50	100		
52	37.3	12.8	52.8

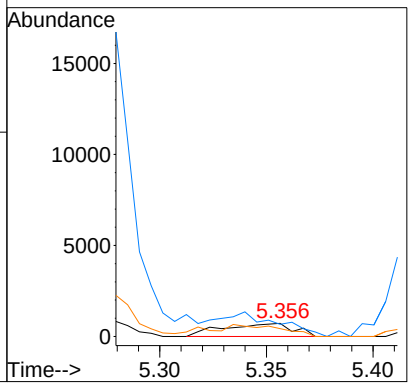


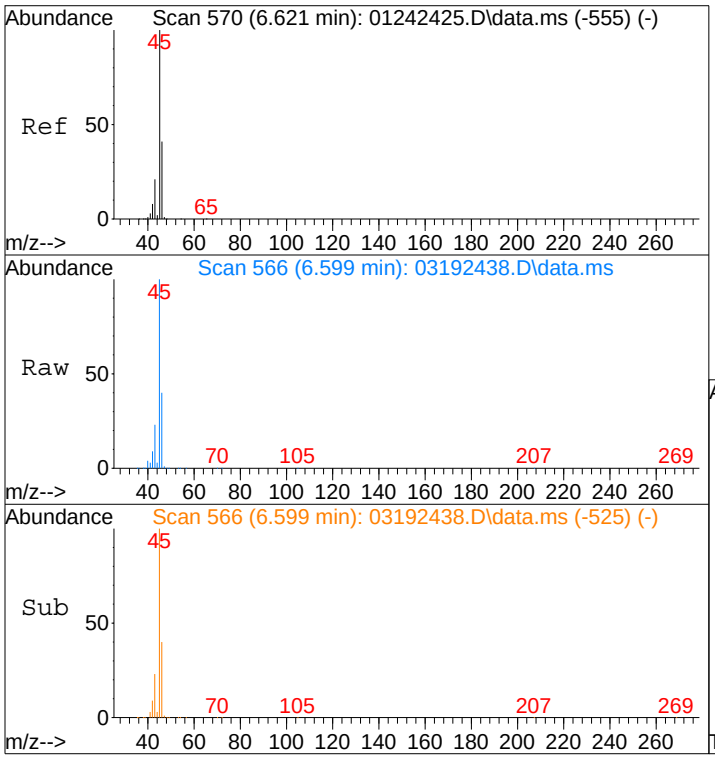


#7
1,3-Butadiene
Concen: 0.07 ng
RT: 5.36 min Scan# 340
Delta R.T. 0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 54 Resp: 1642

Ion	Ratio	Lower	Upper
54	100		
39	145.3	99.3	139.3#
53	65.6	50.5	90.5

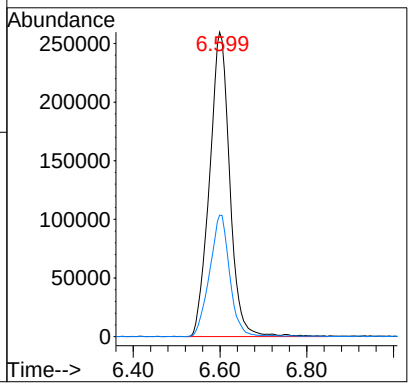


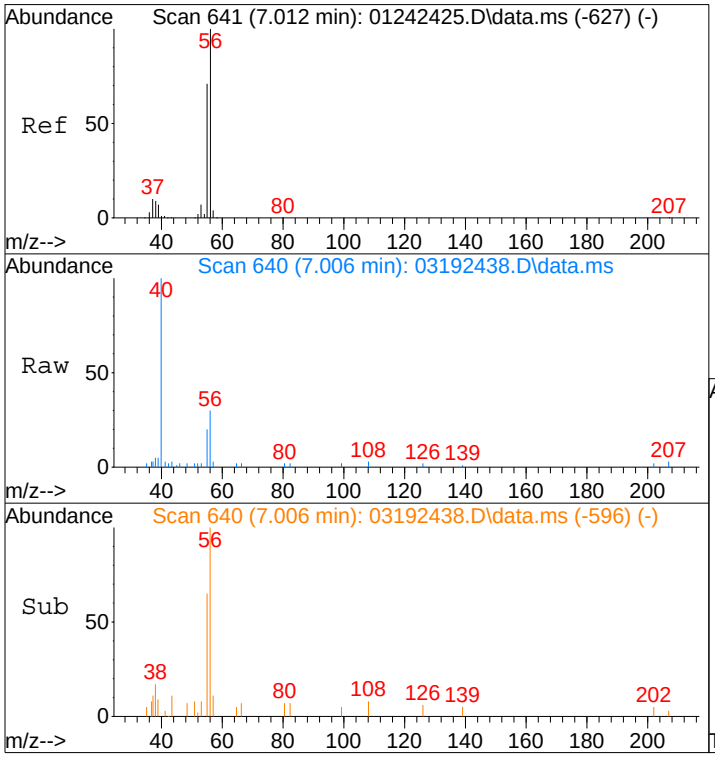


#10
Ethanol
Concen: 43.13 ng
RT: 6.60 min Scan# 566
Delta R.T. -0.022 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 45 Resp: 840432

Ion	Ratio	Lower	Upper
45	100		
46	40.0	19.6	59.6

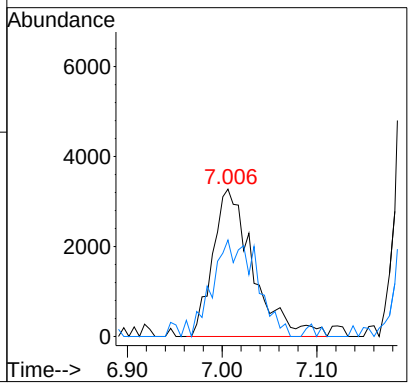


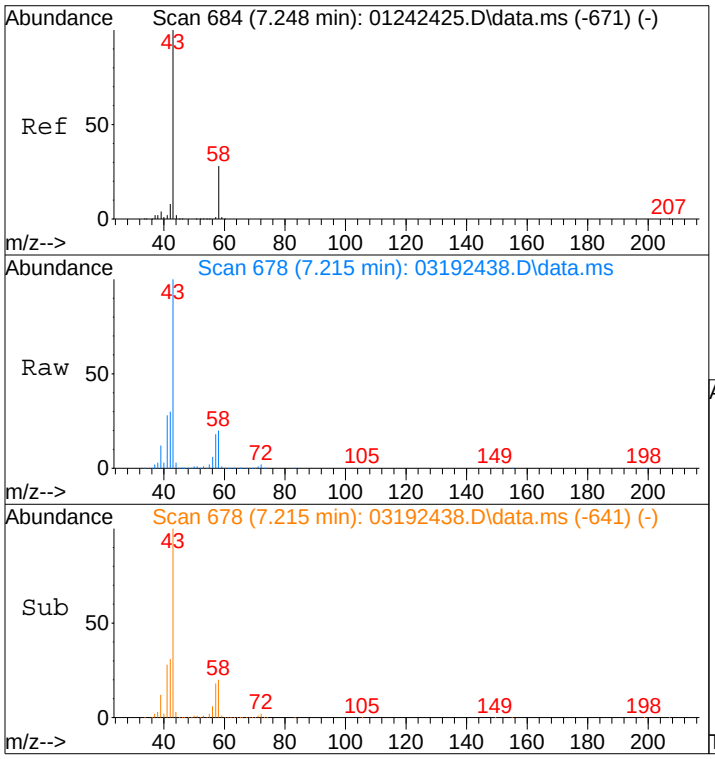


#12
Acrolein
Concen: 0.68 ng
RT: 7.01 min Scan# 640
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 56 Resp: 9687

Ion	Ratio	Lower	Upper
56	100		
55	72.5	51.4	91.4

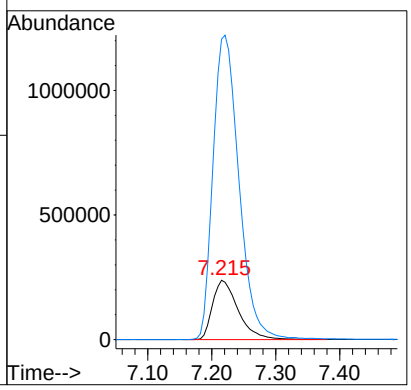


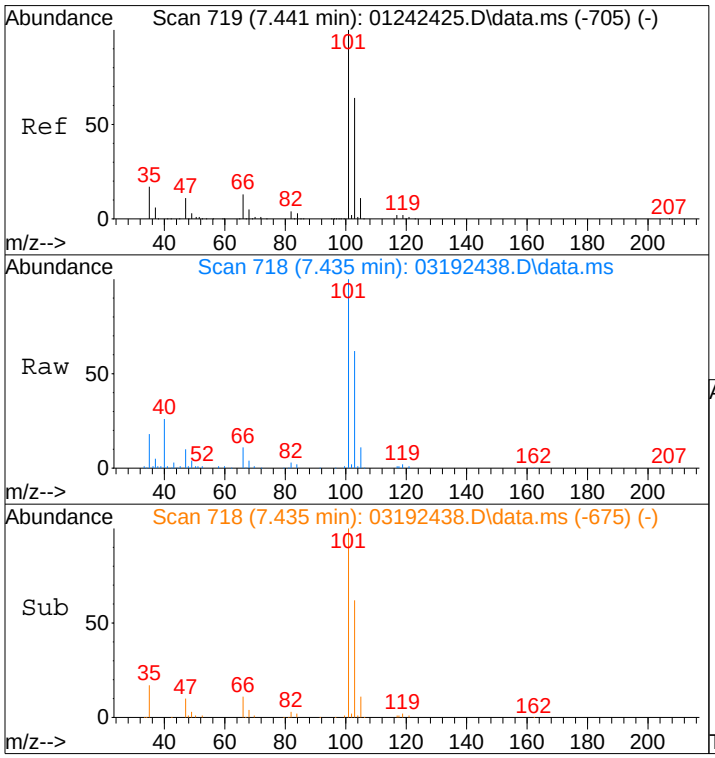


#13
Acetone
Concen: 42.08 ng
RT: 7.22 min Scan# 678
Delta R.T. -0.048 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 58 Resp: 664892

Ion	Ratio	Lower	Upper
58	100		
43	519.0	357.4	417.4#

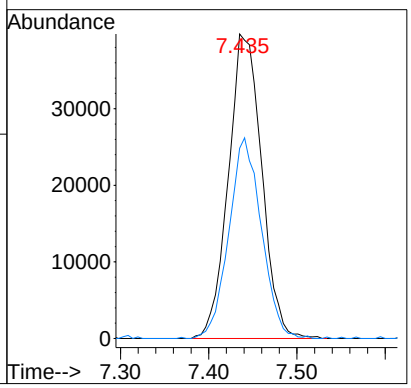


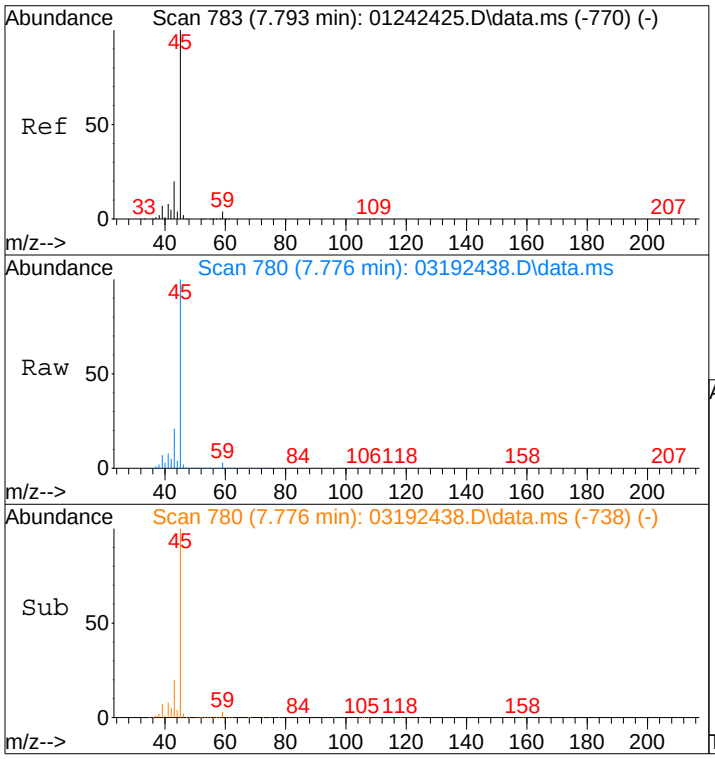


#14
Trichlorofluoromethane
Concen: 2.41 ng
RT: 7.44 min Scan# 718
Delta R.T. -0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:101 Resp: 104426

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.1	84.1

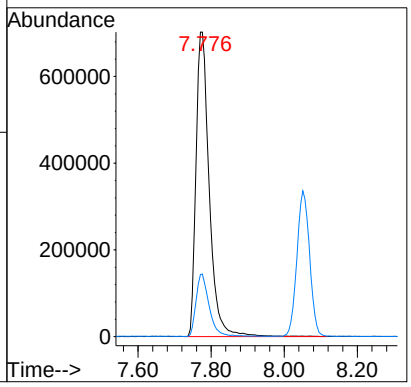


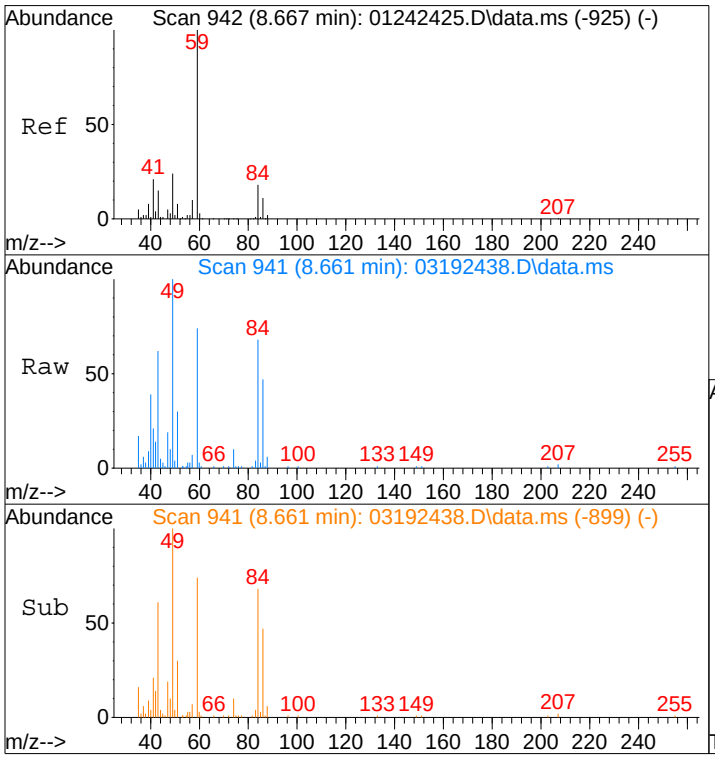


#15
2-Propanol (Isopropanol)
Concen: 30.00 ng
RT: 7.78 min Scan# 780
Delta R.T. -0.017 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 45 Resp: 1765823

Ion	Ratio	Lower	Upper
45	100		
43	20.2	0.7	40.7

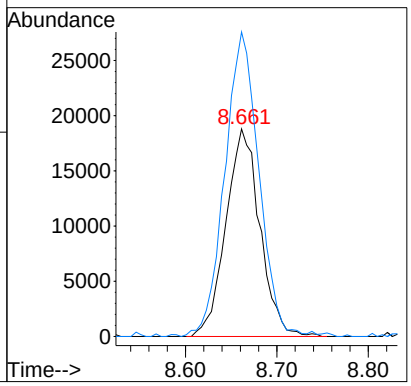


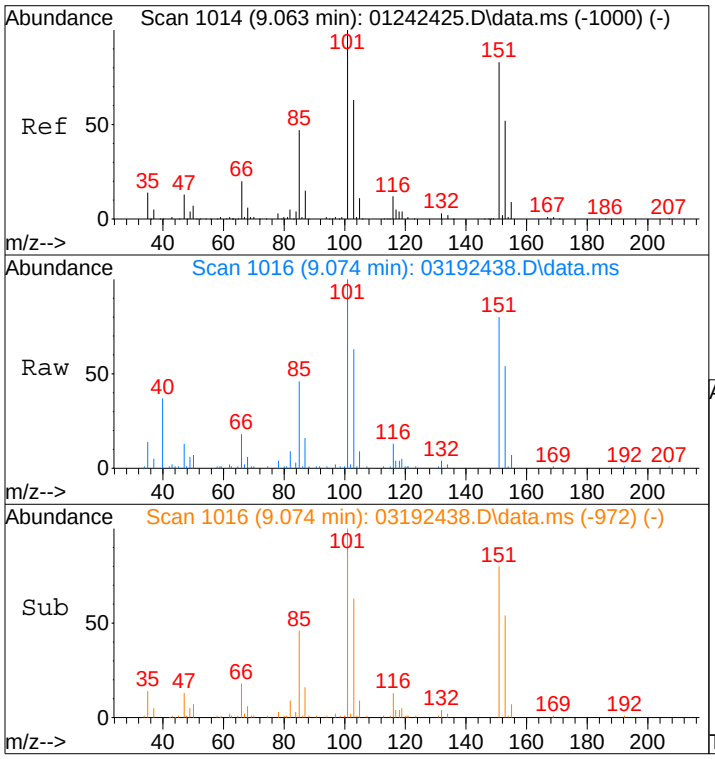


#19
Methylene Chloride
Concen: 2.12 ng
RT: 8.66 min Scan# 941
Delta R.T. -0.017 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 84 Resp: 48572

Ion	Ratio	Lower	Upper
84	100		
49	146.7	126.4	176.4

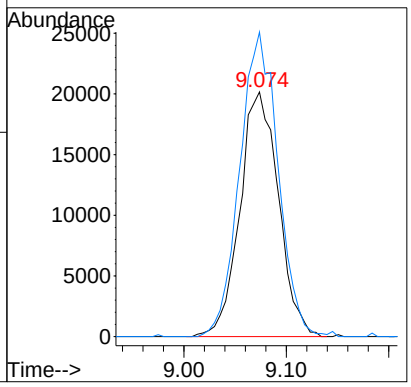


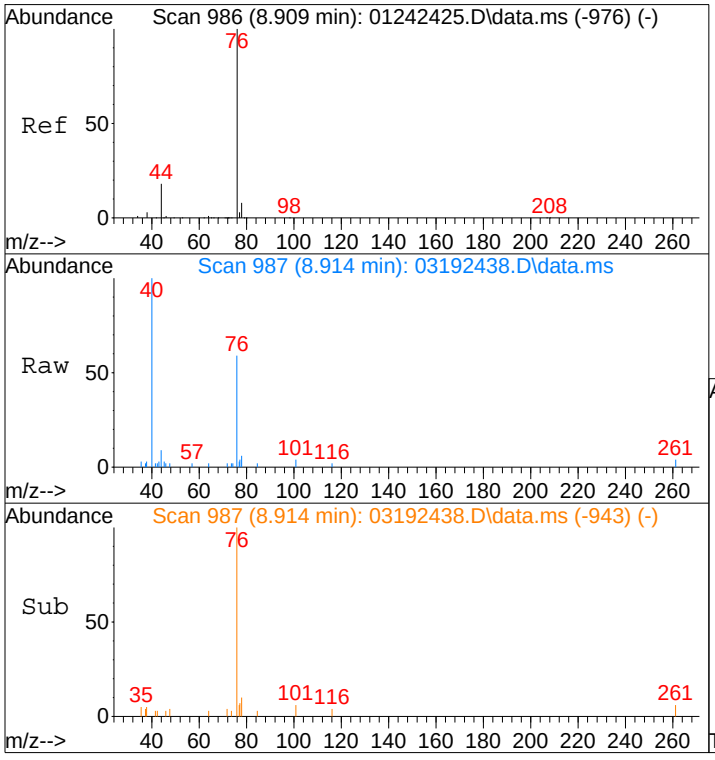


#21
Trichlorotrifluoroethane
Concen: 2.79 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:151 Resp: 52739

Ion	Ratio	Lower	Upper
151	100		
101	123.9	104.2	144.2

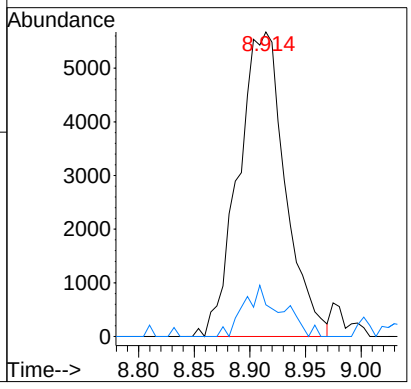


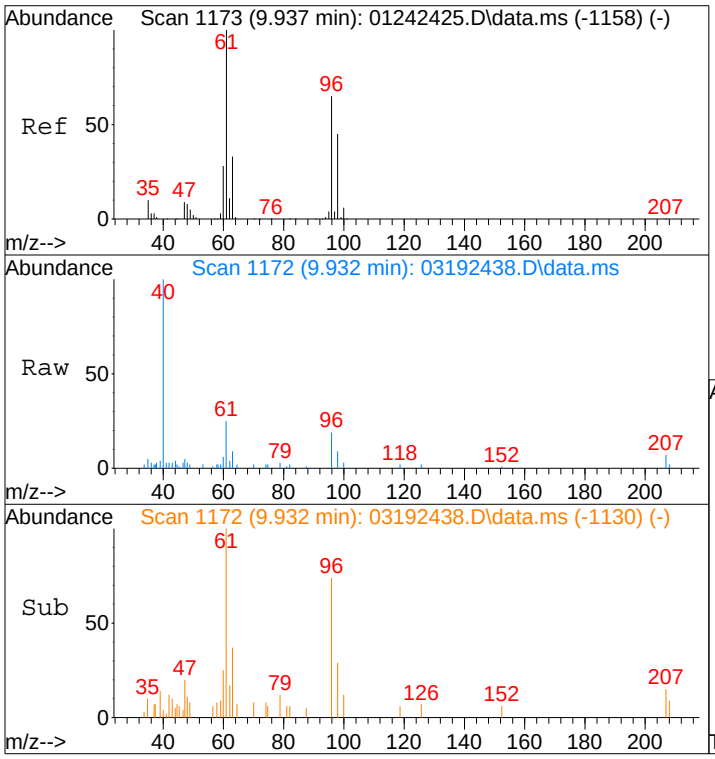


#22
Carbon Disulfide
Concen: 0.26 ng
RT: 8.91 min Scan# 987
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 76 Resp: 16605

Ion	Ratio	Lower	Upper
76	100		
78	13.3	0.0	29.3

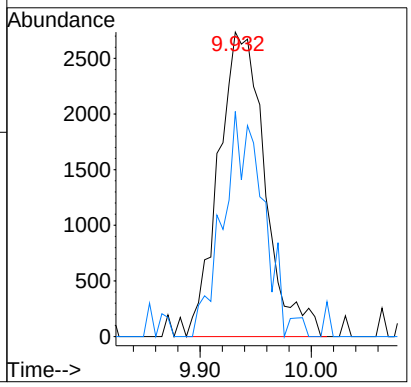


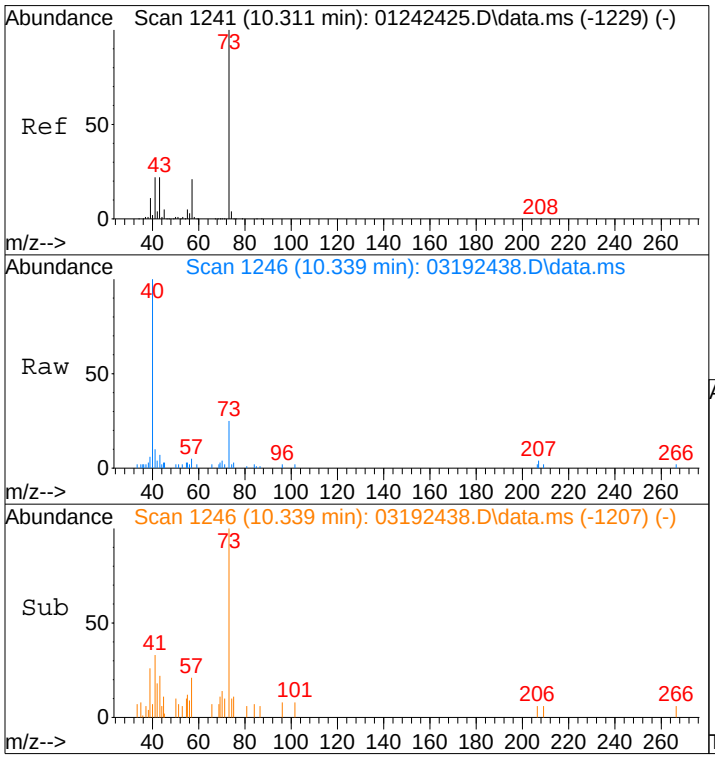


#23
trans-1,2-Dichloroethene
Concen: 0.25 ng
RT: 9.93 min Scan# 1172
Delta R.T. -0.017 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 61 Resp: 7924

Ion	Ratio	Lower	Upper
61	100		
96	63.2	43.3	83.3

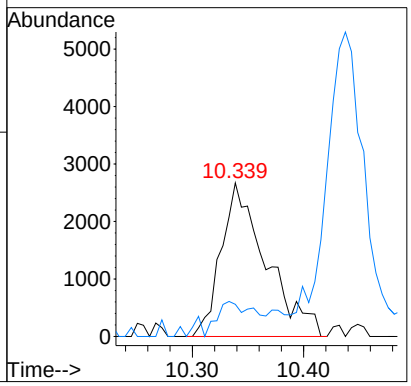


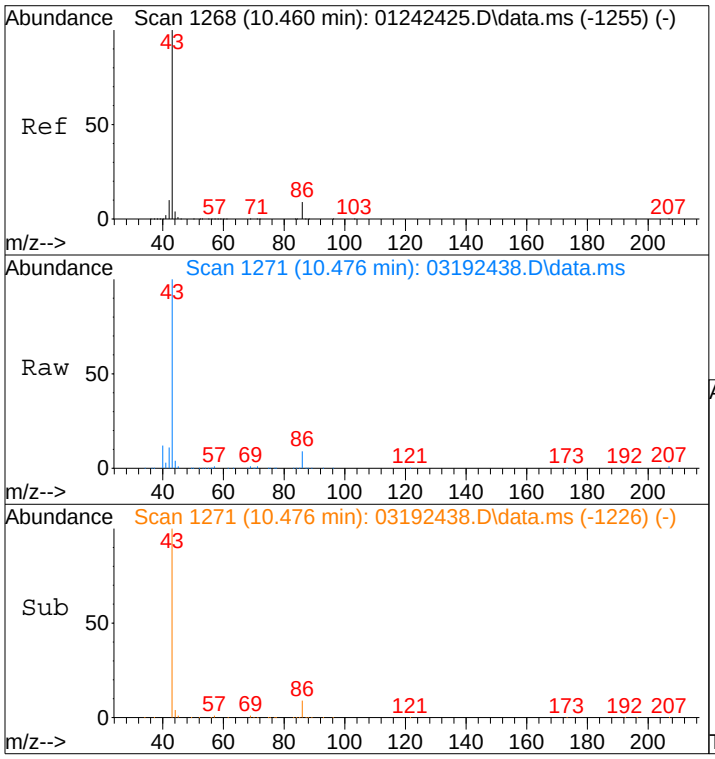


#25
Methyl tert-Butyl Ether
Concen: 0.13 ng
RT: 10.34 min Scan# 1246
Delta R.T. -0.033 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 73 Resp: 7531

Ion	Ratio	Lower	Upper
73	100		
57	19.2	1.9	41.9

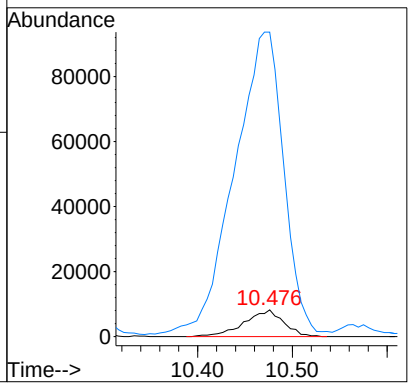


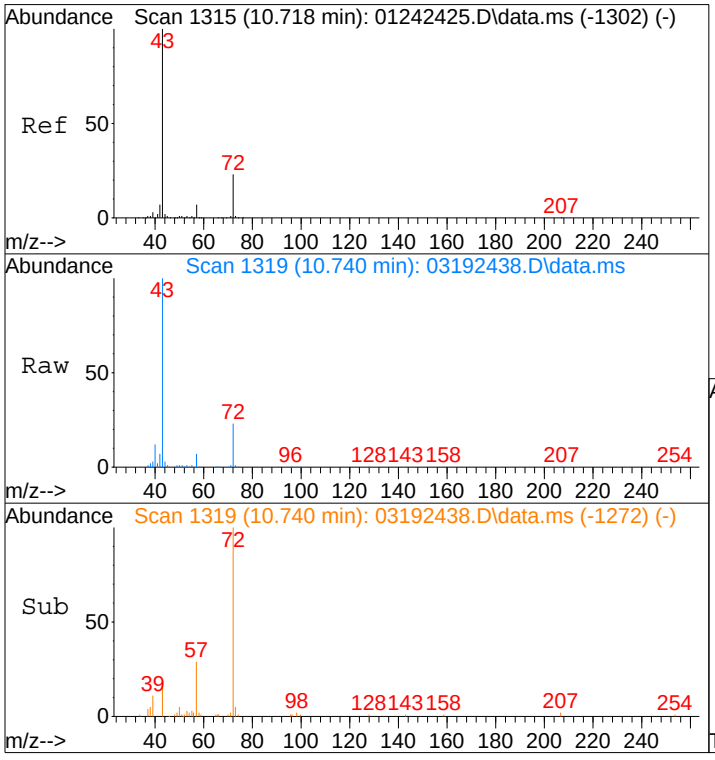


#26
Vinyl Acetate
Concen: 8.40 ng
RT: 10.48 min Scan# 1271
Delta R.T. 0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 86 Resp: 23608

Ion	Ratio	Lower	Upper
86	100		
43	1444.8	1203.6	1243.6#

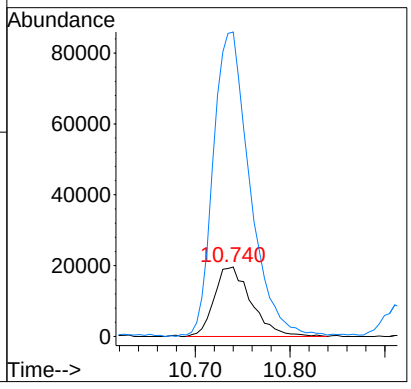


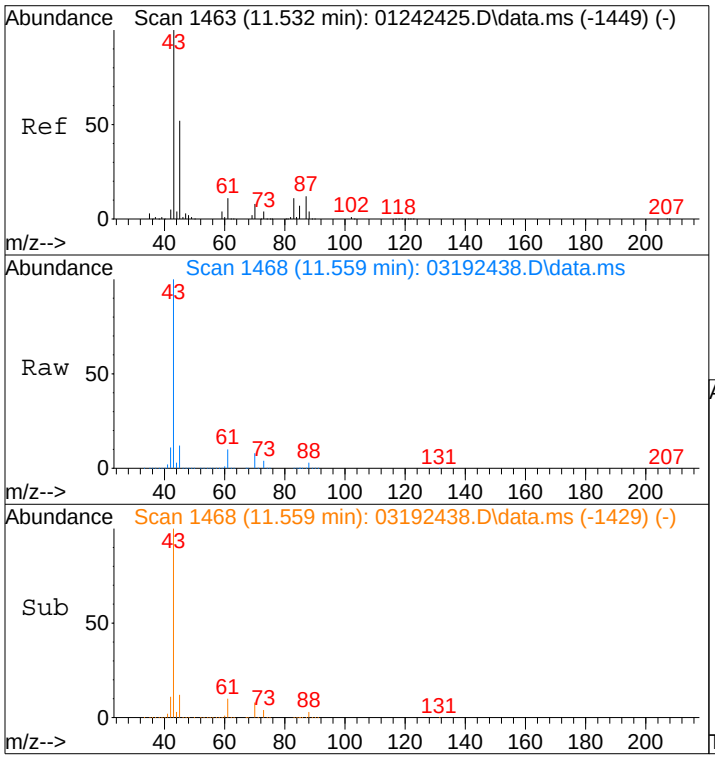


#27
2-Butanone (MEK)
Concen: 3.85 ng
RT: 10.74 min Scan# 1319
Delta R.T. 0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 72 Resp: 53145

Ion	Ratio	Lower	Upper
72	100		
43	436.8	437.9	477.9#

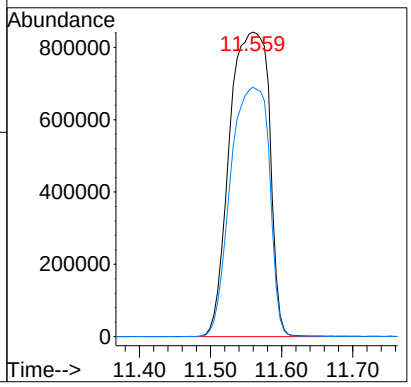


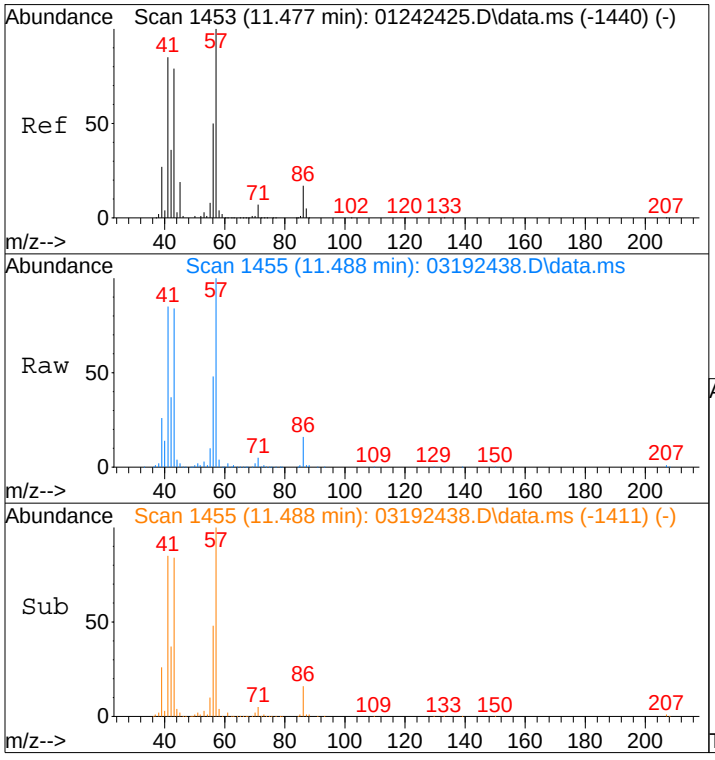


#30
Ethyl Acetate
Concen: 416.53 ng
RT: 11.56 min Scan# 1468
Delta R.T. 0.016 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 61 Resp: 3279969

Ion	Ratio	Lower	Upper
61	100		
70	79.5	64.5	104.5

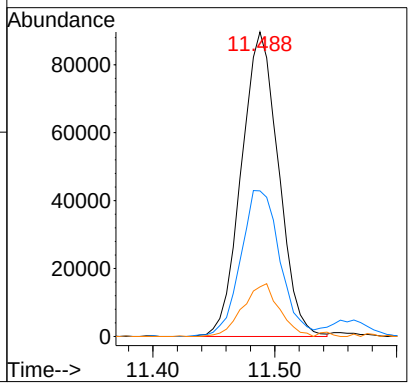


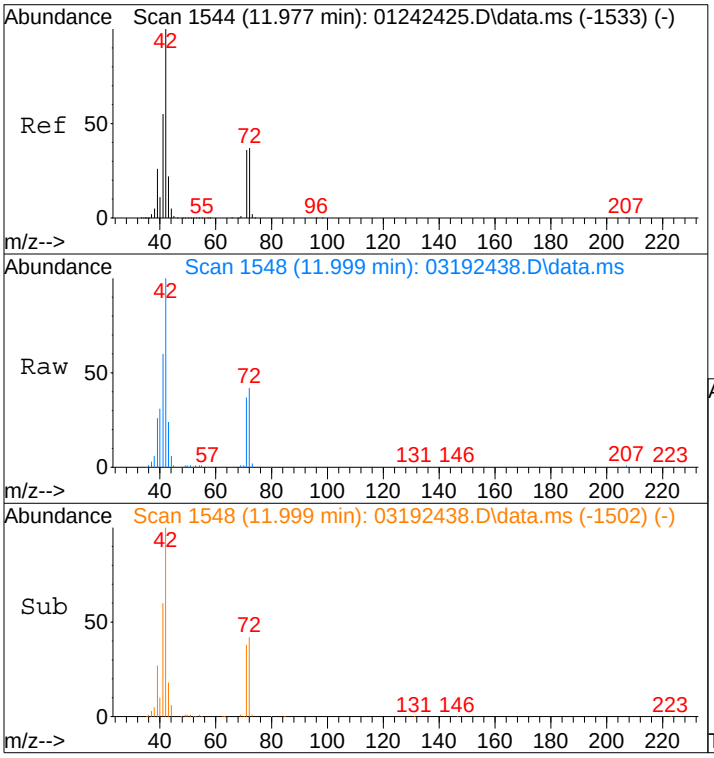


#31
n-Hexane
Concen: 5.27 ng
RT: 11.49 min Scan# 1455
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 57 Resp: 189915

Ion	Ratio	Lower	Upper
57	100		
56	50.8	40.7	61.1
86	17.0	13.4	20.2

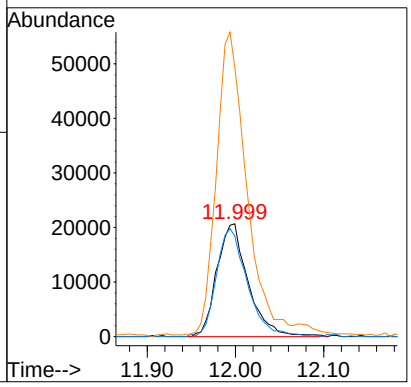


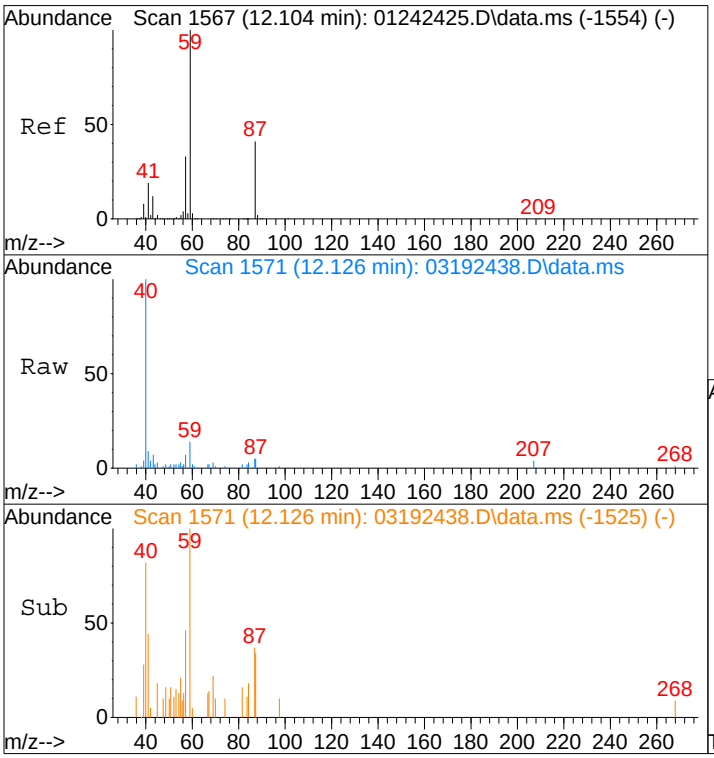


#34
Tetrahydrofuran (THF)
Concen: 3.84 ng
RT: 12.00 min Scan# 1548
Delta R.T. 0.005 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 72 Resp: 51201

Ion	Ratio	Lower	Upper
72	100		
71	94.2	76.1	116.1
42	269.9	250.1	290.1

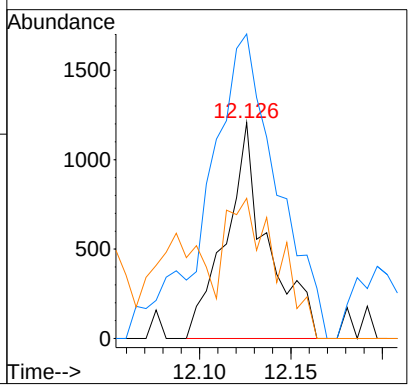


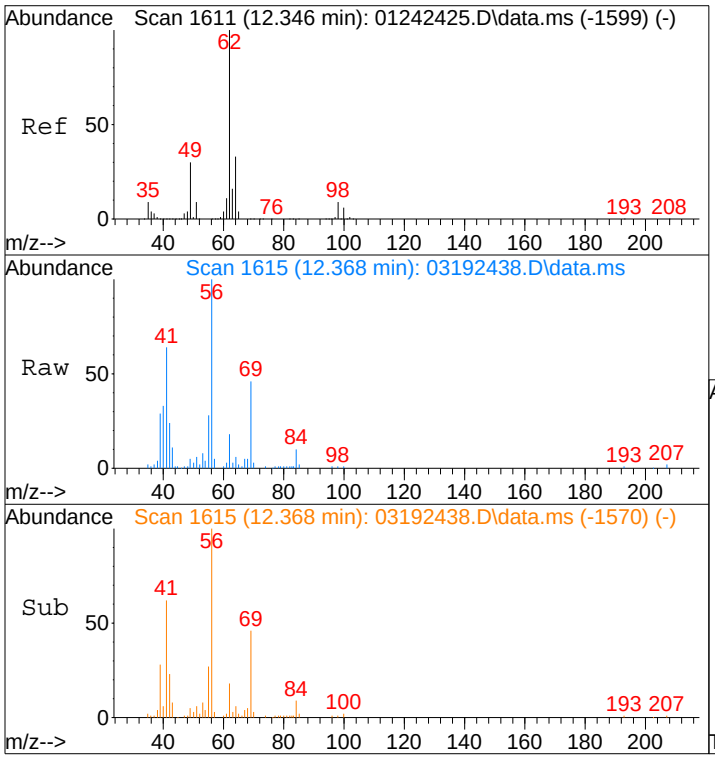


#35
Ethyl tert-Butyl Ether
Concen: 0.08 ng
RT: 12.13 min Scan# 1571
Delta R.T. 0.005 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 87 Resp: 1909

Ion	Ratio	Lower	Upper
87	100		
59	238.0	219.7	259.7
57	79.8	57.3	97.3

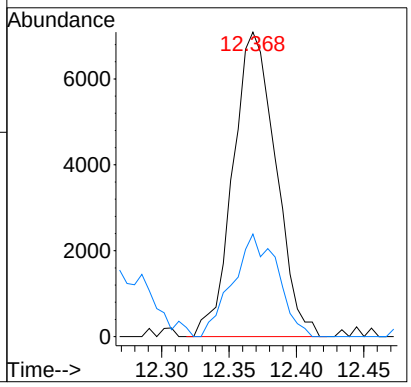


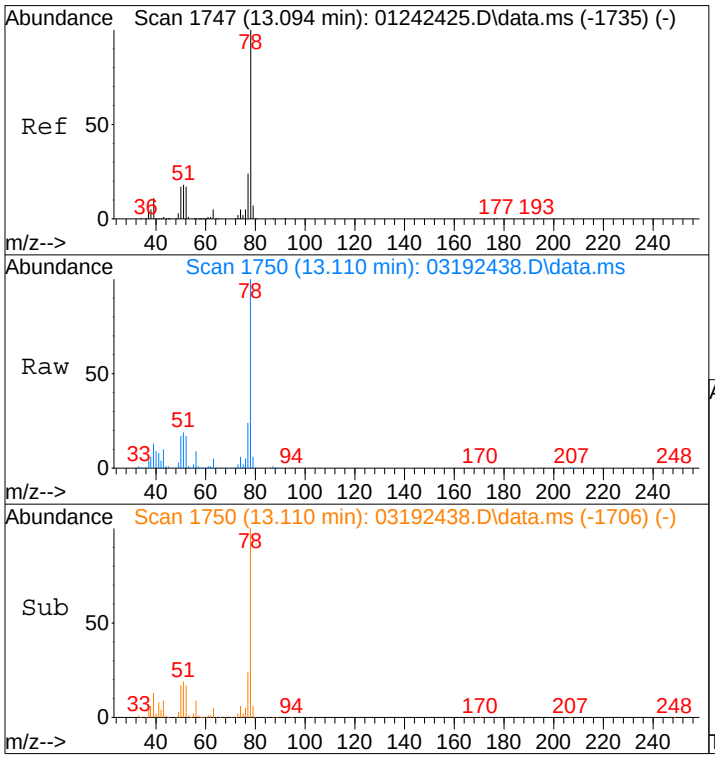


#36
1,2-Dichloroethane
Concen: 0.43 ng
RT: 12.37 min Scan# 1615
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 62 Resp: 15669

Ion	Ratio	Lower	Upper
62	100		
64	35.4	11.7	51.7

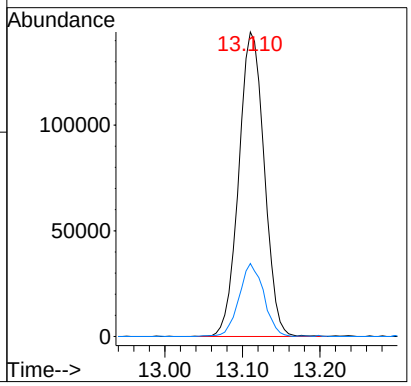


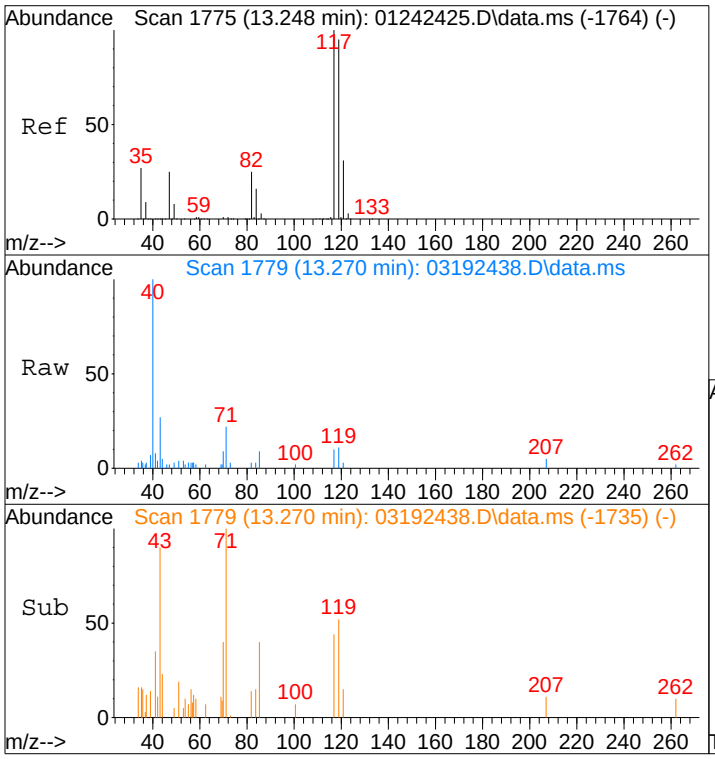


#41
Benzene
Concen: 3.51 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 78 Resp: 328662

Ion	Ratio	Lower	Upper
78	100		
77	23.3	2.6	42.6

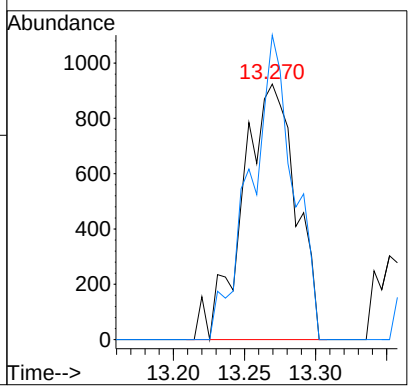


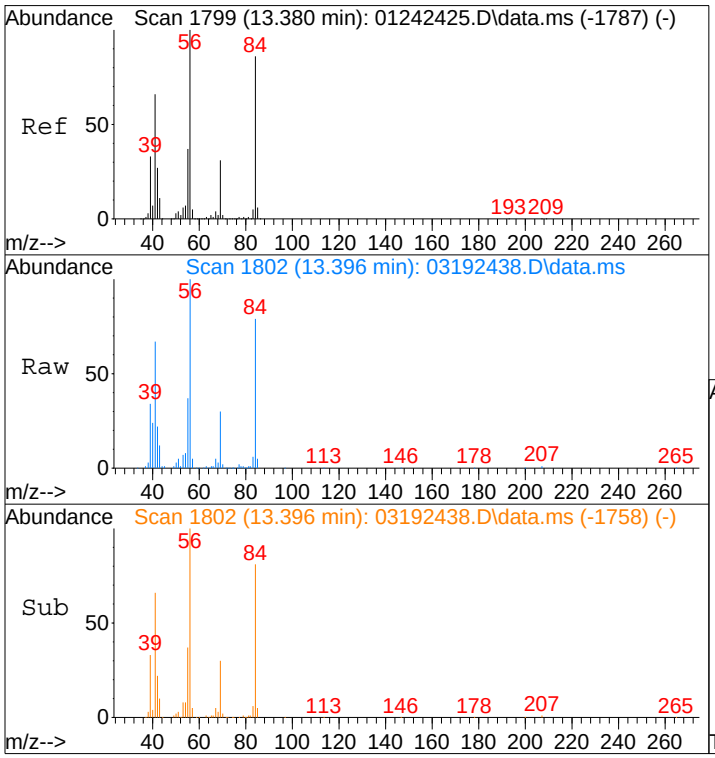


#42
Carbon Tetrachloride
Concen: 0.08 ng
RT: 13.27 min Scan# 1779
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:117 Resp: 2406

Ion	Ratio	Lower	Upper
117	100		
119	96.3	75.2	115.2

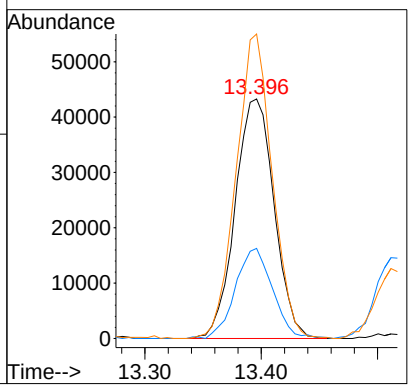


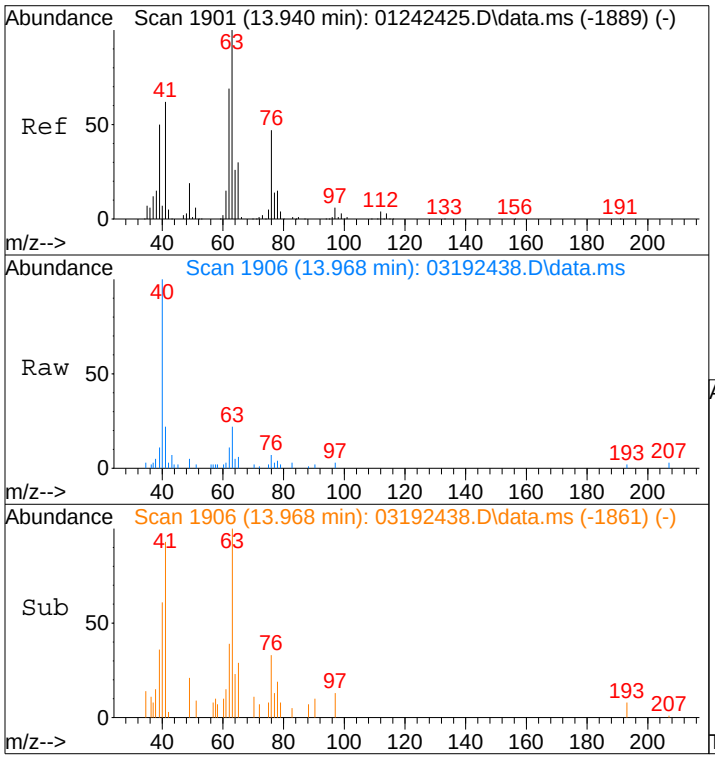


#43
Cyclohexane
Concen: 3.30 ng
RT: 13.40 min Scan# 1802
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 84 Resp: 100817

Ion	Ratio	Lower	Upper
84	100		
69	36.0	17.1	57.1
56	117.6	101.6	141.6

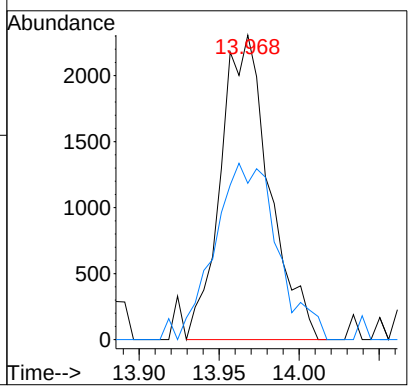


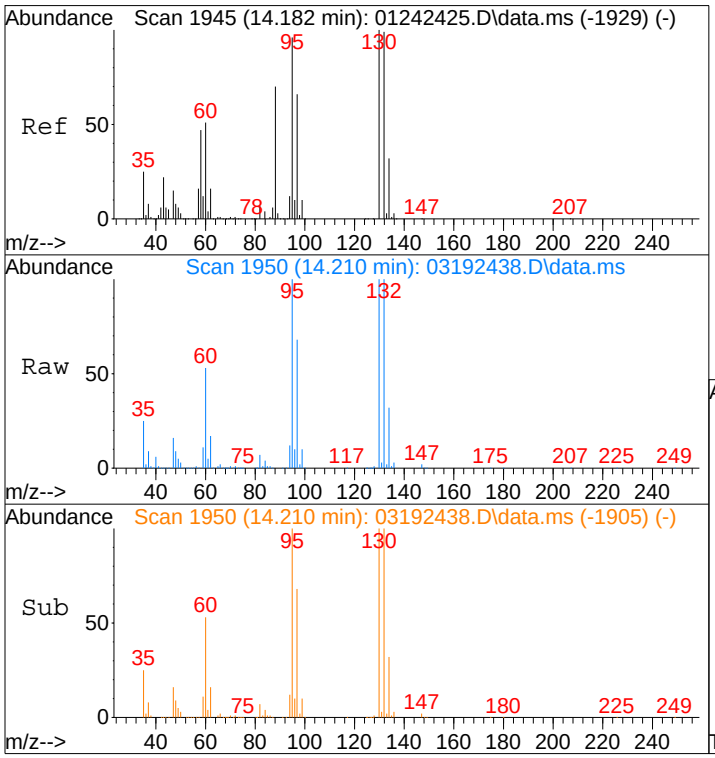


#45
1,2-Dichloropropane
Concen: 0.23 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 63 Resp: 4887

Ion	Ratio	Lower	Upper
63	100		
62	75.2	50.4	90.4

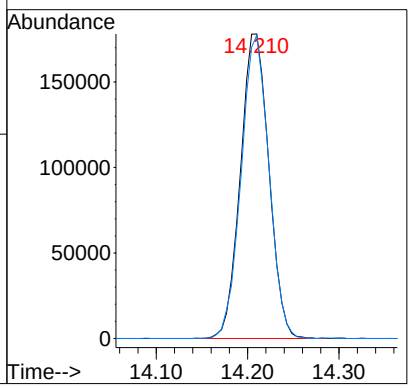


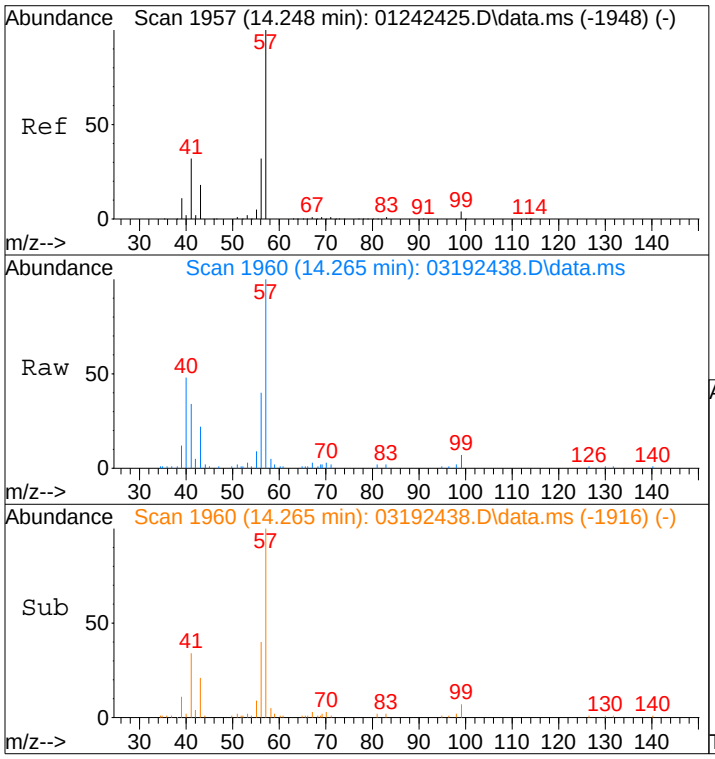


#47
Trichloroethene
Concen: 16.16 ng
RT: 14.21 min Scan# 1950
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:130 Resp: 385829

Ion	Ratio	Lower	Upper
130	100		
132	97.2	78.3	118.3

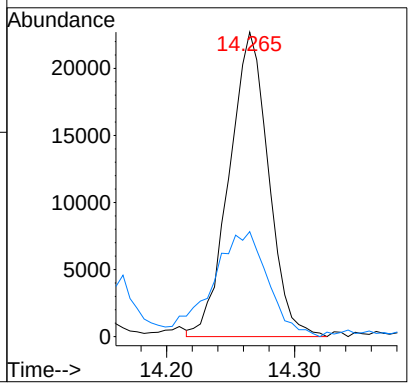


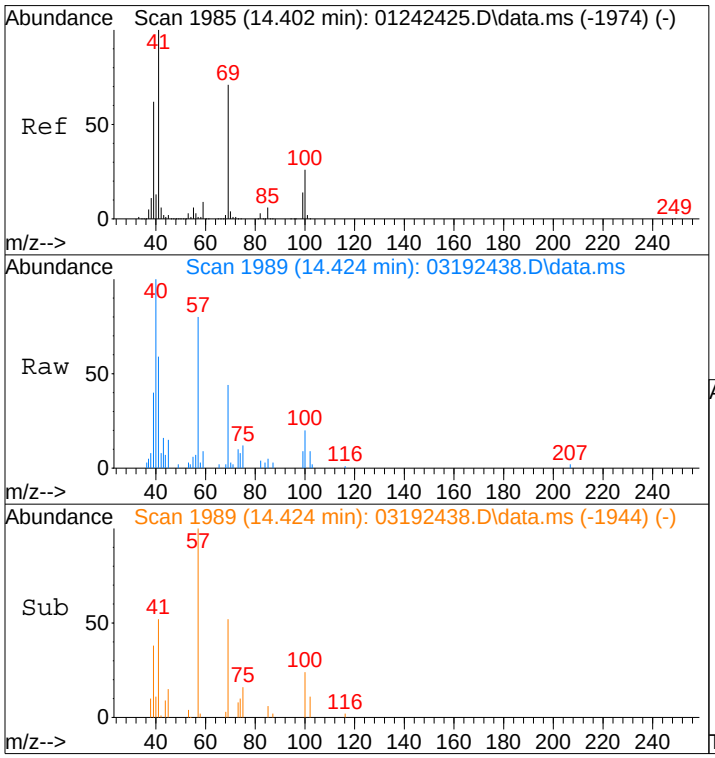


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.56 ng
RT: 14.26 min Scan# 1960
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 57 Resp: 48488

Ion	Ratio	Lower	Upper
57	100		
41	48.8	13.2	53.2

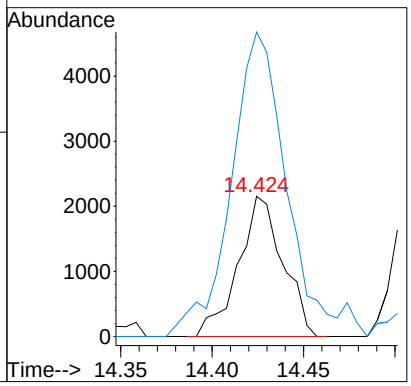


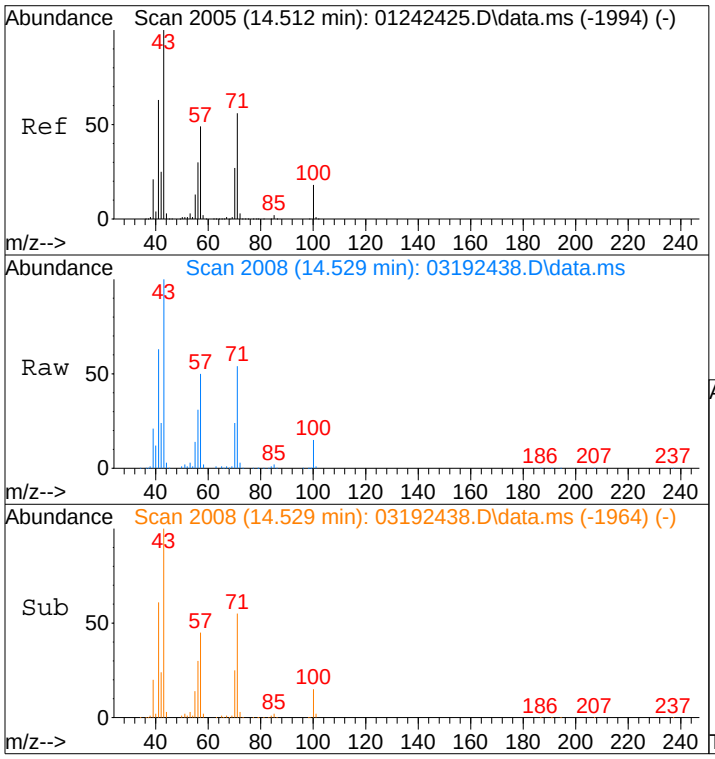


#50
Methyl Methacrylate
Concen: 0.44 ng
RT: 14.42 min Scan# 1989
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:100 Resp: 3643

Ion	Ratio	Lower	Upper
100	100		
69	272.9	251.7	291.7

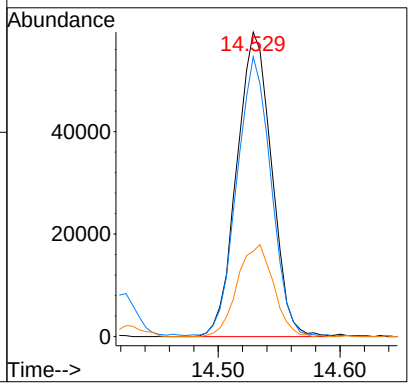


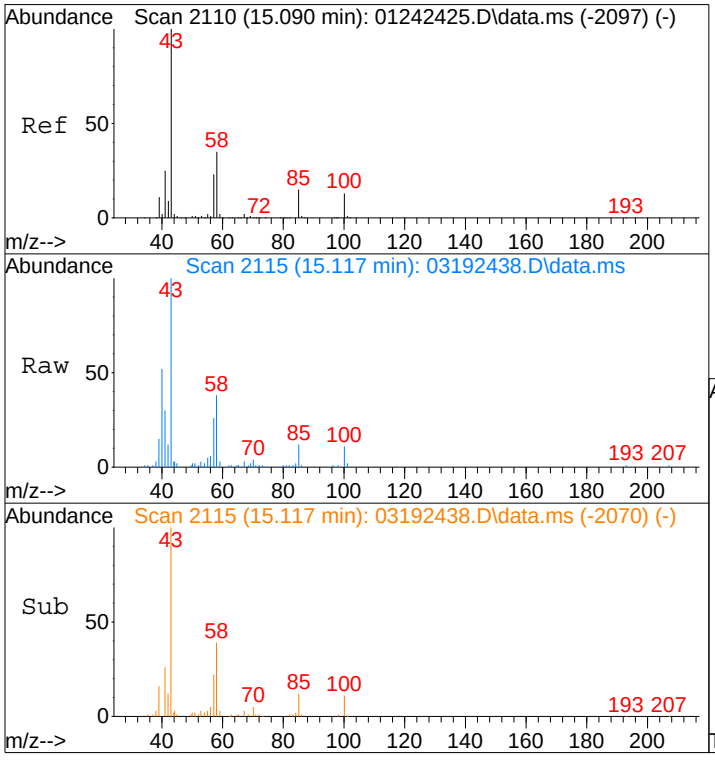


#51
n-Heptane
Concen: 5.22 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 71 Resp: 118094

Ion	Ratio	Lower	Upper
71	100		
57	90.3	69.1	109.1
100	31.4	10.7	50.7

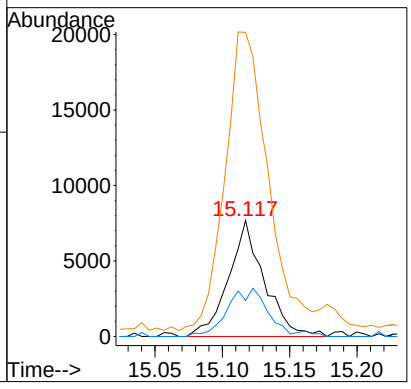


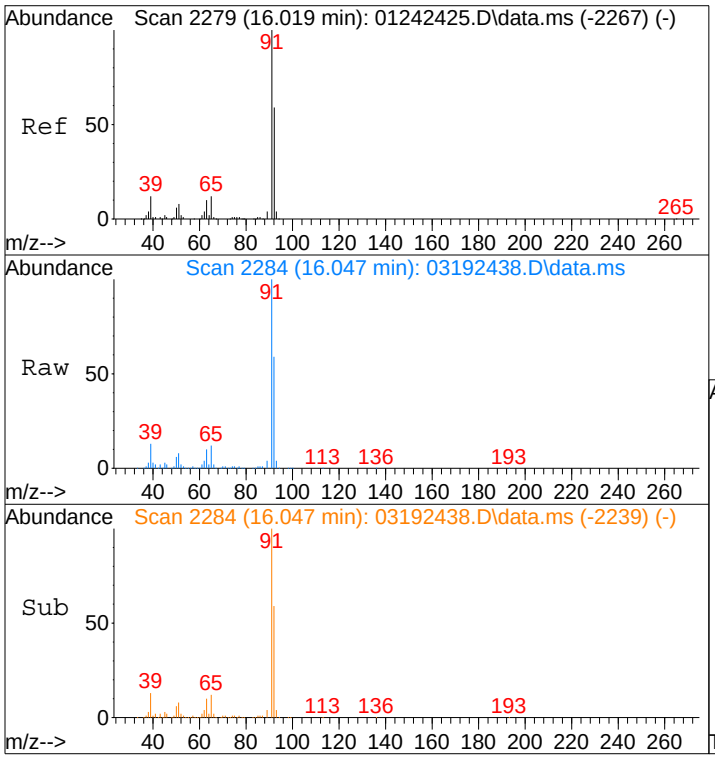


#53
4-Methyl-2-pentanone
Concen: 0.78 ng
RT: 15.12 min Scan# 2115
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 58 Resp: 14203

Ion	Ratio	Lower	Upper
58	100		
85	47.7	36.2	54.2
43	323.7	238.2	357.2

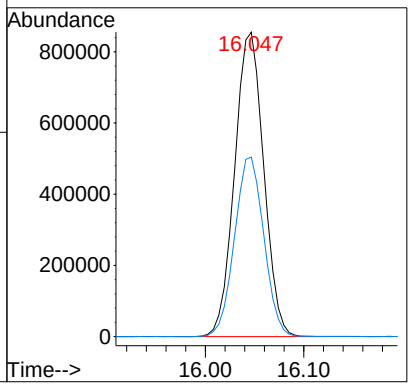


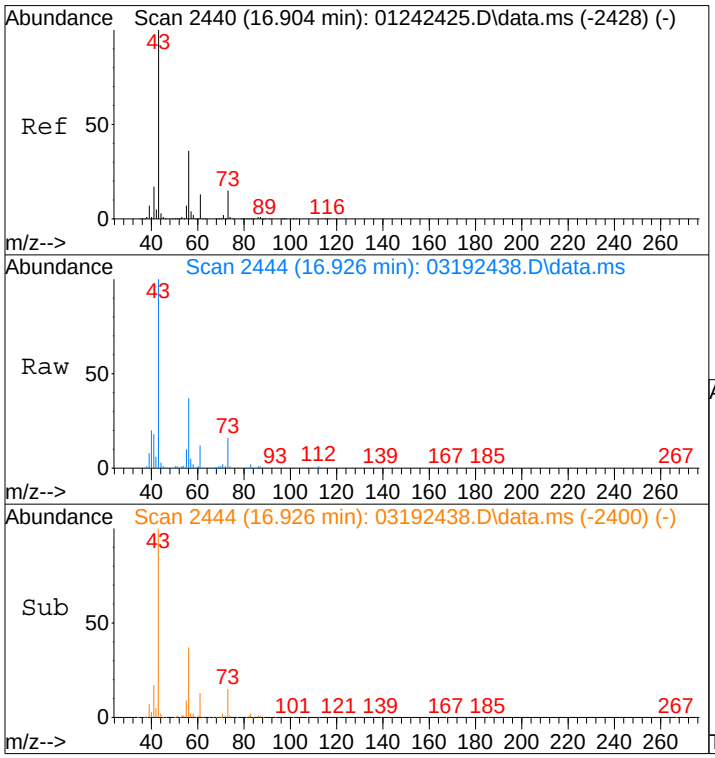


#58
Toluene
Concen: 22.37 ng
RT: 16.05 min Scan# 2284
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 91 Resp: 1758021

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.1	79.1

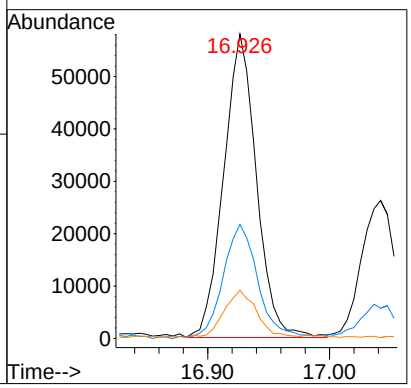


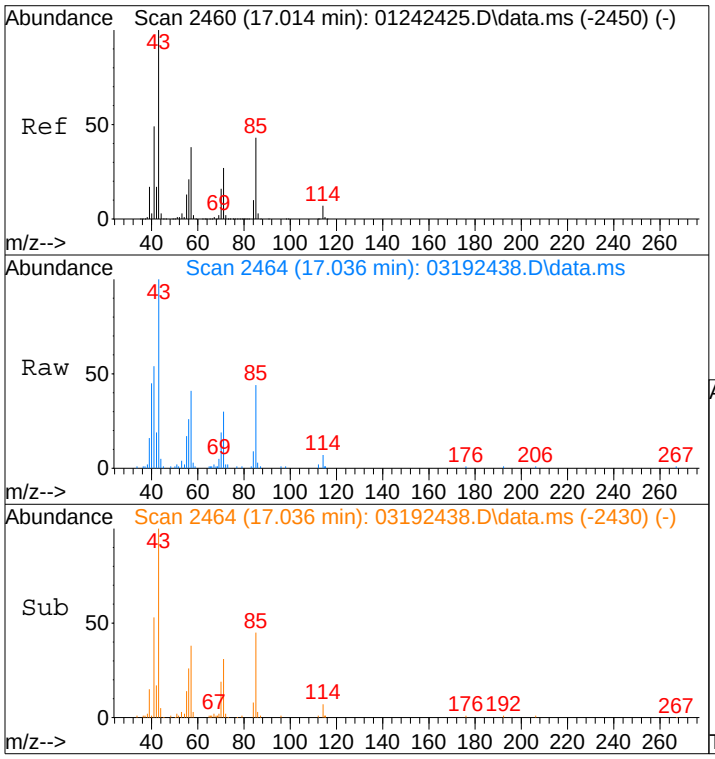


#62
n-Butyl Acetate
Concen: 1.96 ng
RT: 16.93 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 43 Resp: 108326

Ion	Ratio	Lower	Upper
43	100		
56	40.1	16.1	56.1
73	15.5	0.0	34.6

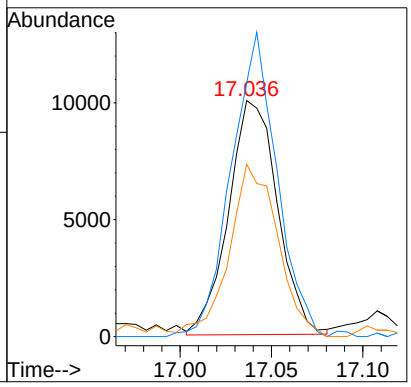


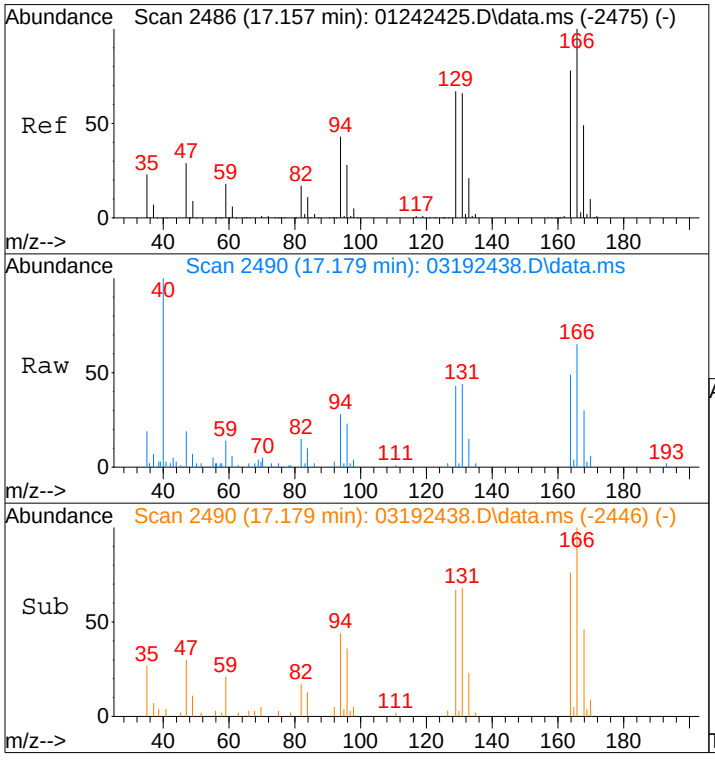


#63
n-Octane
Concen: 1.03 ng
RT: 17.04 min Scan# 2464
Delta R.T. -0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 57 Resp: 18733

Ion	Ratio	Lower	Upper
57	100		
85	120.6	90.2	135.2
71	72.8	57.1	85.7

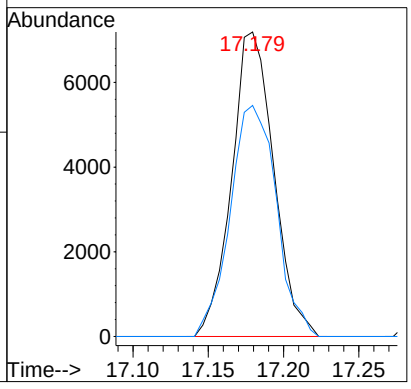


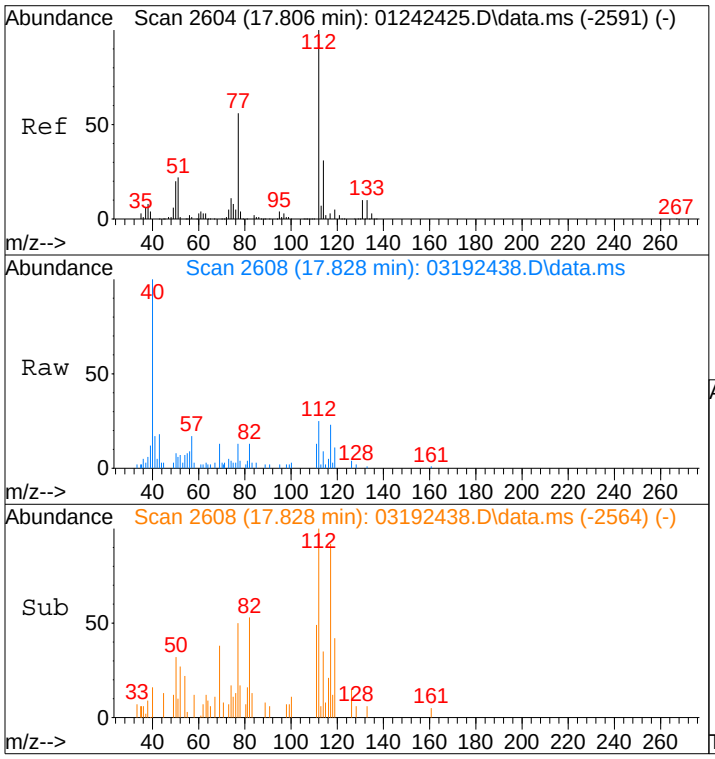


#64
Tetrachloroethene
Concen: 0.61 ng
RT: 17.18 min Scan# 2490
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:166 Resp: 13993

Ion	Ratio	Lower	Upper
166	100		
164	83.3	59.3	99.3

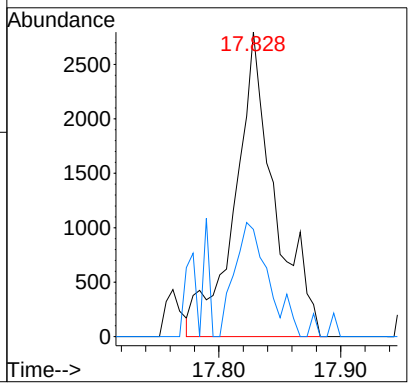


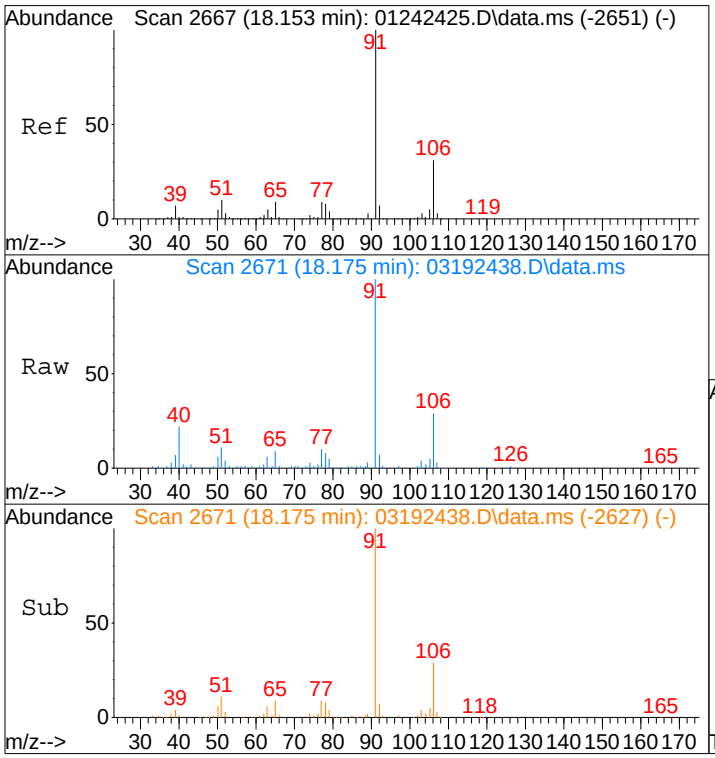


#65
Chlorobenzene
Concen: 0.12 ng
RT: 17.83 min Scan# 2608
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:112 Resp: 6343

Ion	Ratio	Lower	Upper
112	100		
114	32.4	13.0	53.0

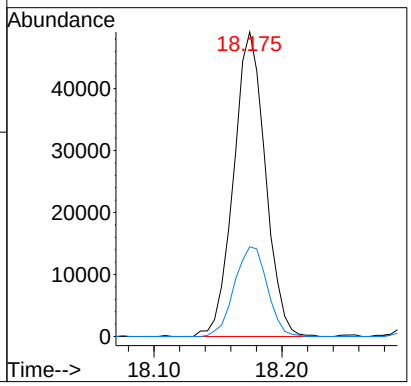


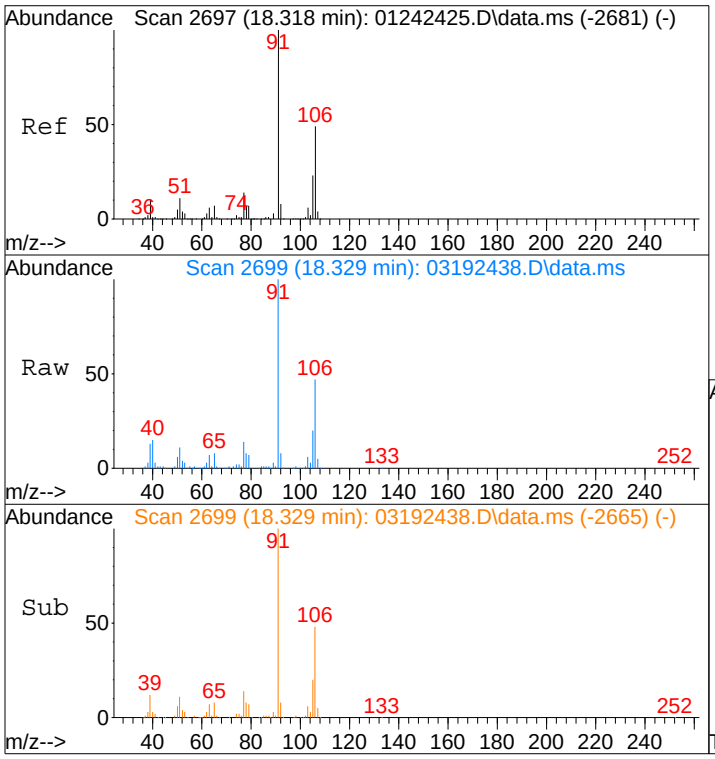


#66
Ethylbenzene
Concen: 0.93 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 91 Resp: 84563

Ion	Ratio	Lower	Upper
91	100		
106	30.5	10.9	50.9

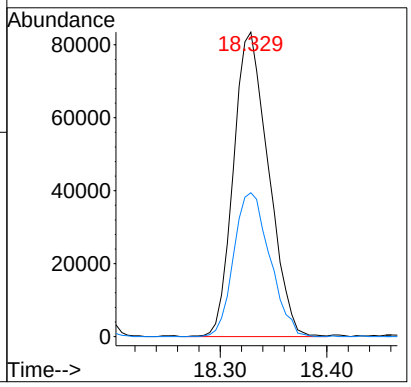


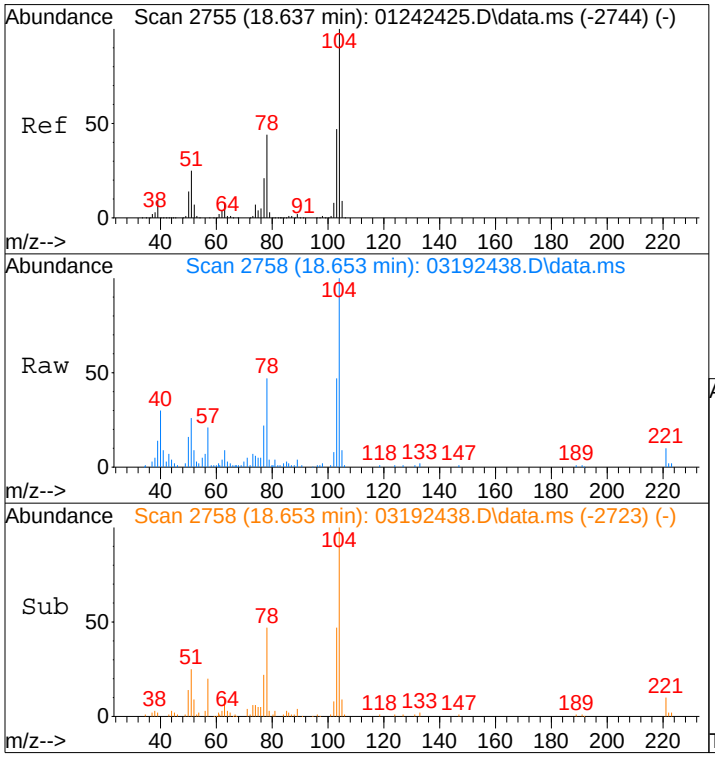


#67
m- & p-Xylenes
Concen: 2.60 ng
RT: 18.33 min Scan# 2699
Delta R.T. -0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 91 Resp: 190391

Ion	Ratio	Lower	Upper
91	100		
106	48.8	28.7	68.7

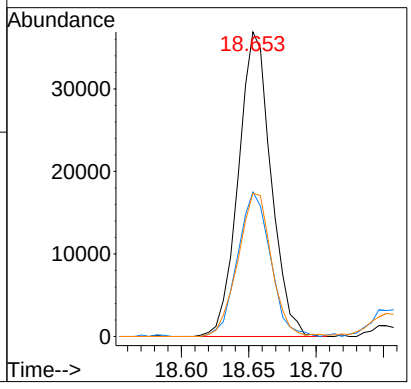


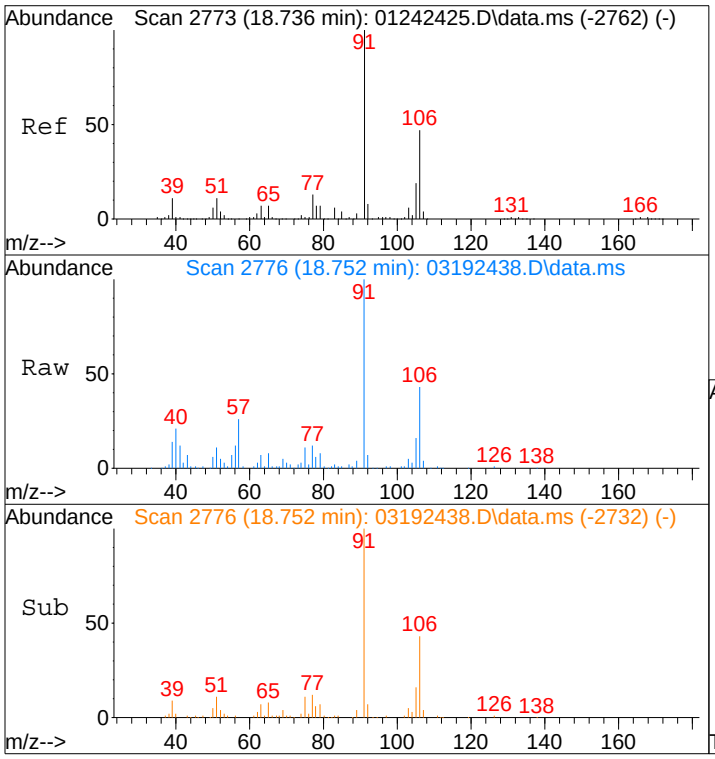


#69
Styrene
Concen: 1.22 ng
RT: 18.65 min Scan# 2758
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:104 Resp: 61967

Ion	Ratio	Lower	Upper
104	100		
78	47.7	28.8	68.8
103	48.4	27.6	67.6

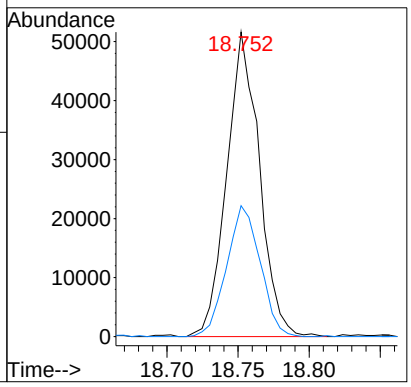


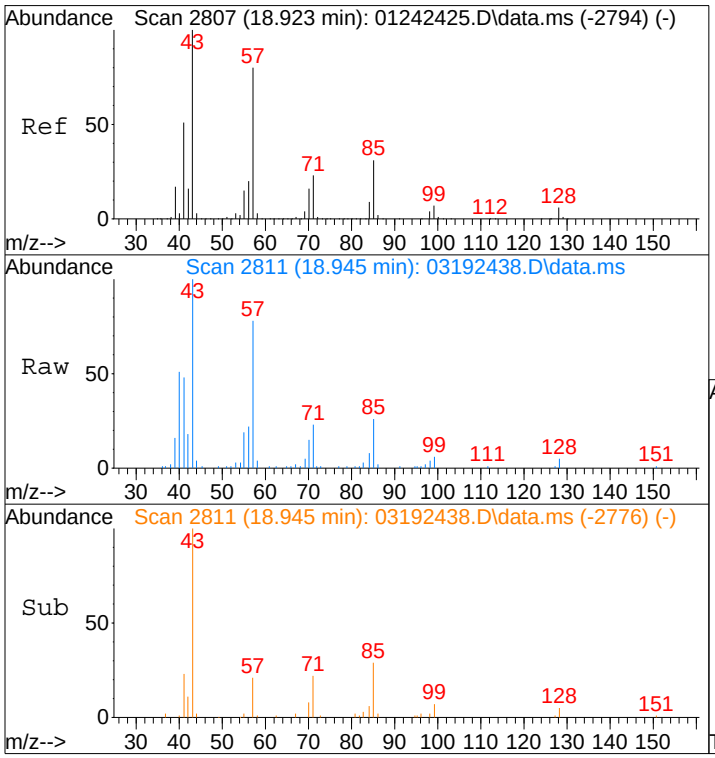


#70
o-Xylene
Concen: 1.12 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 91 Resp: 82350

Ion	Ratio	Lower	Upper
91	100		
106	44.1	26.0	66.0

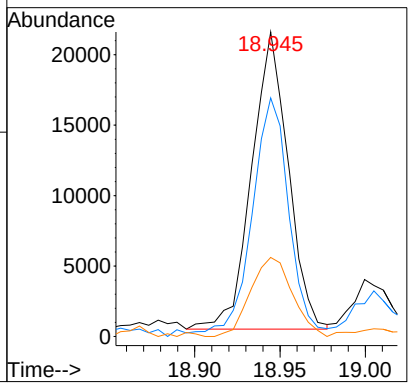


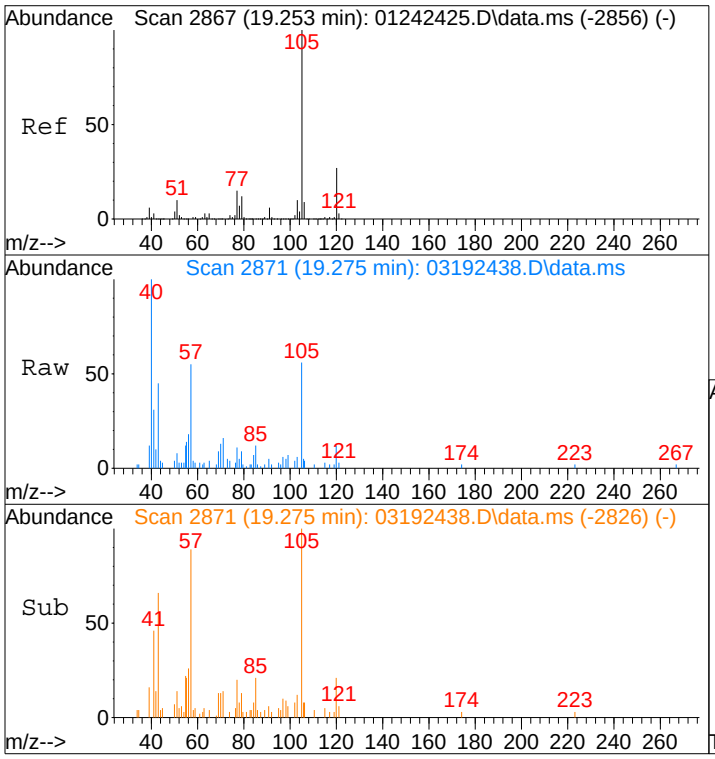


#71
n-Nonane
Concen: 0.68 ng
RT: 18.94 min Scan# 2811
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 43 Resp: 31387

Ion	Ratio	Lower	Upper
43	100		
57	82.0	57.4	97.4
85	30.3	10.1	50.1

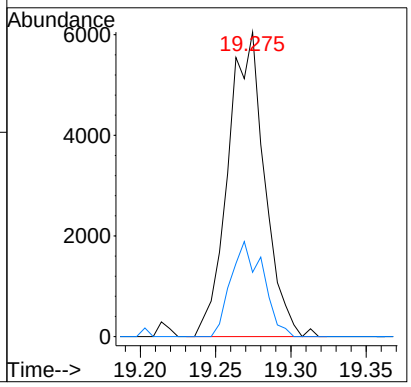


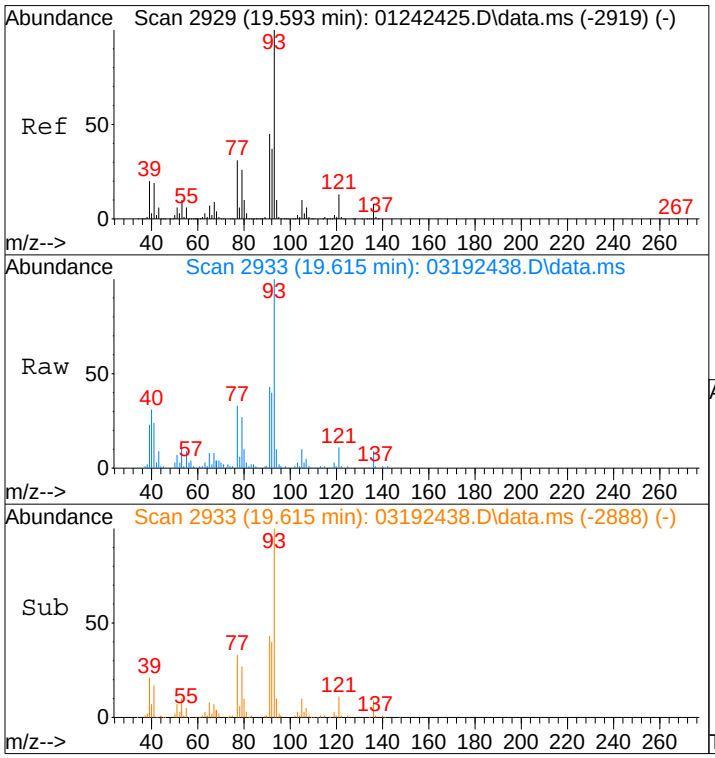


#74
Cumene
Concen: 0.11 ng
RT: 19.27 min Scan# 2871
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:105 Resp: 10221

Ion	Ratio	Lower	Upper
105	100		
120	27.7	5.7	45.7

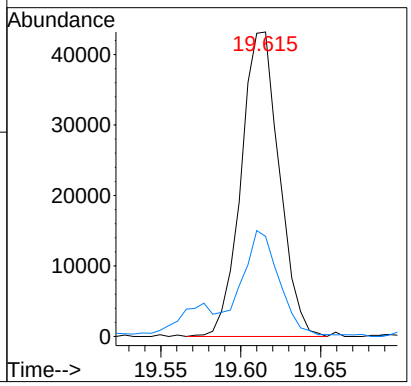


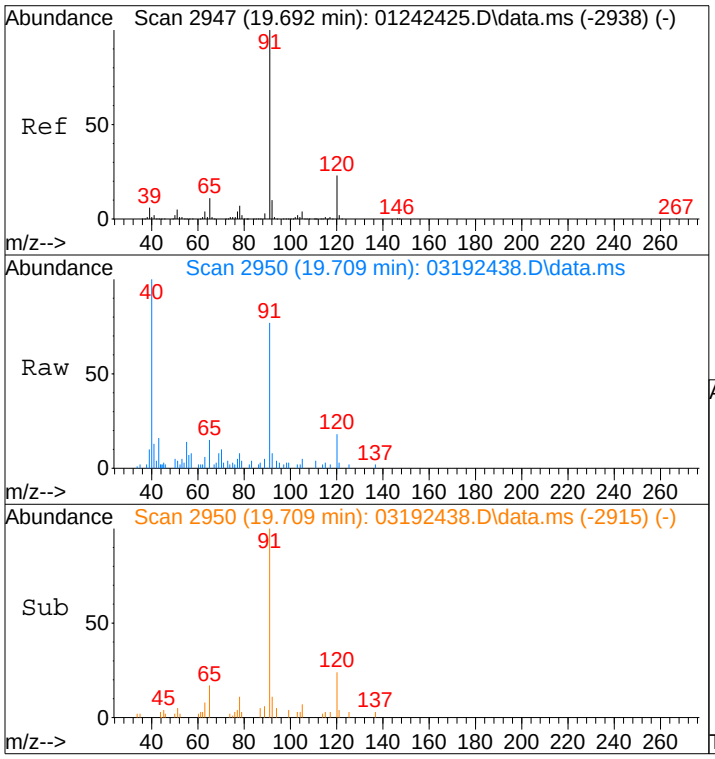


#75
alpha-Pinene
Concen: 1.70 ng
RT: 19.62 min Scan# 2933
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 93 Resp: 71814

Ion	Ratio	Lower	Upper
93	100		
77	35.5	13.6	53.6

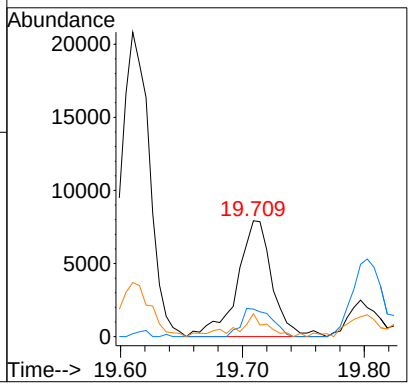


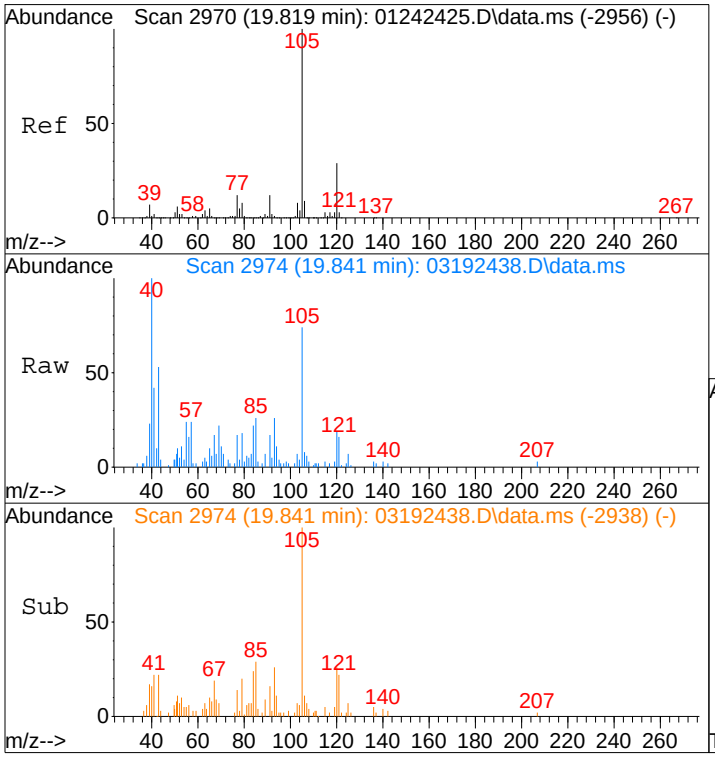


#76
n-Propylbenzene
Concen: 0.14 ng
RT: 19.71 min Scan# 2950
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 91 Resp: 15697

Ion	Ratio	Lower	Upper
91	100		
120	21.2	2.5	42.5
65	12.5	0.0	31.9

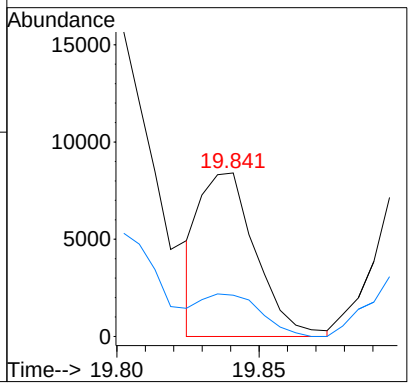


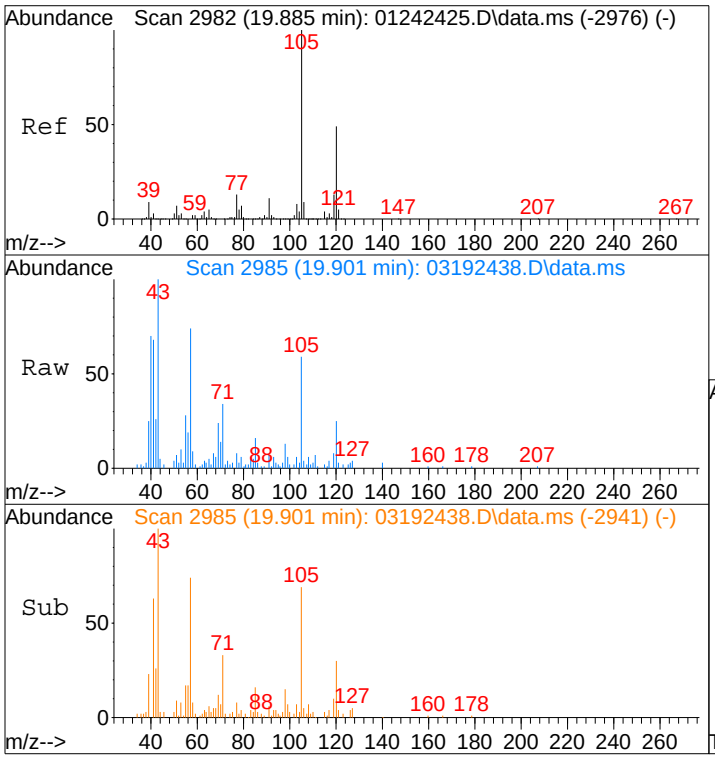


#78
4-Ethyltoluene
Concen: 0.13 ng
RT: 19.84 min Scan# 2974
Delta R.T. -0.000 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:105 Resp: 11550

Ion	Ratio	Lower	Upper
105	100		
120	28.1	8.9	48.9

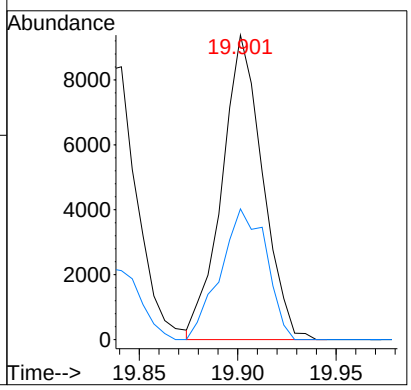


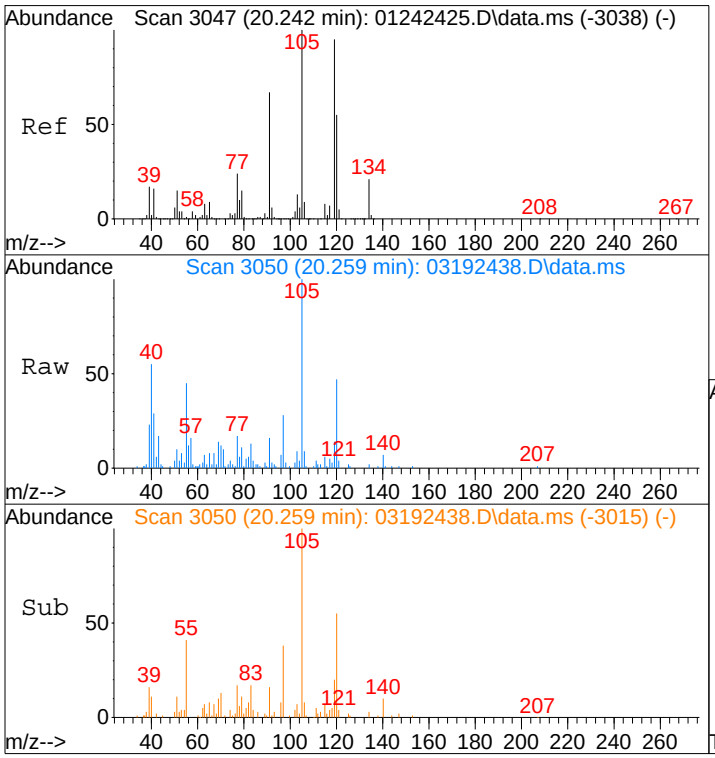


#79
1,3,5-Trimethylbenzene
Concen: 0.17 ng
RT: 19.90 min Scan# 2985
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:105 Resp: 13517

Ion	Ratio	Lower	Upper
105	100		
120	48.2	27.4	67.4

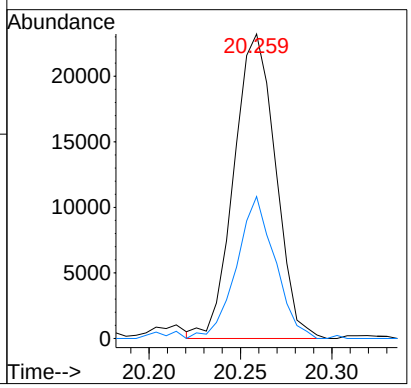


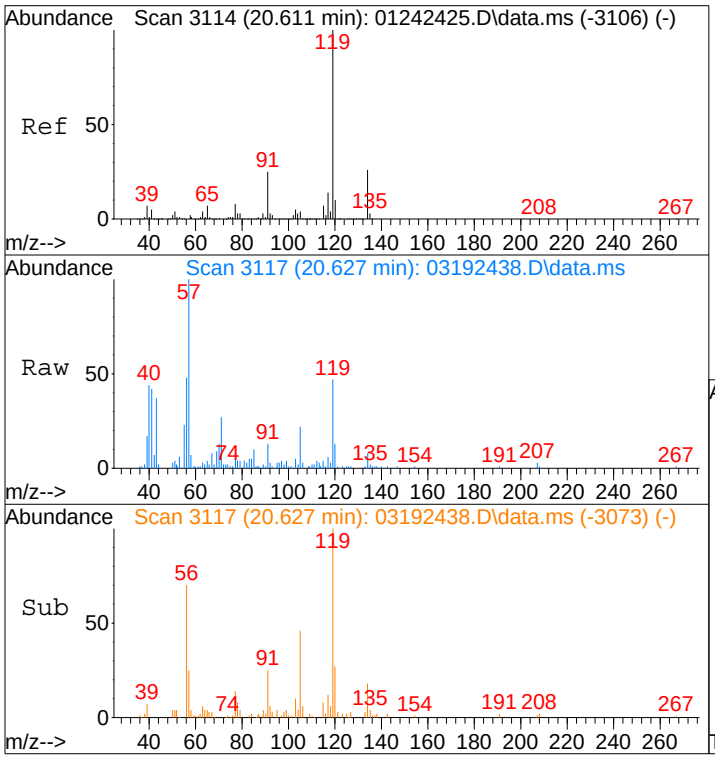


#82
1,2,4-Trimethylbenzene
Concen: 0.47 ng
RT: 20.26 min Scan# 3050
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:105 Resp: 36755

Ion	Ratio	Lower	Upper
105	100		
120	43.1	32.1	72.1

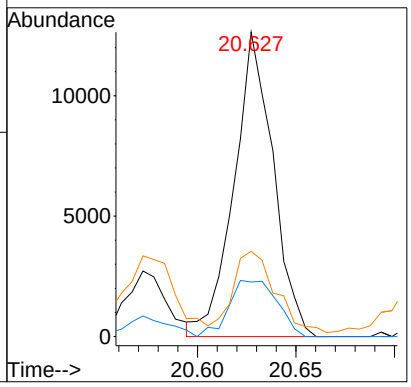


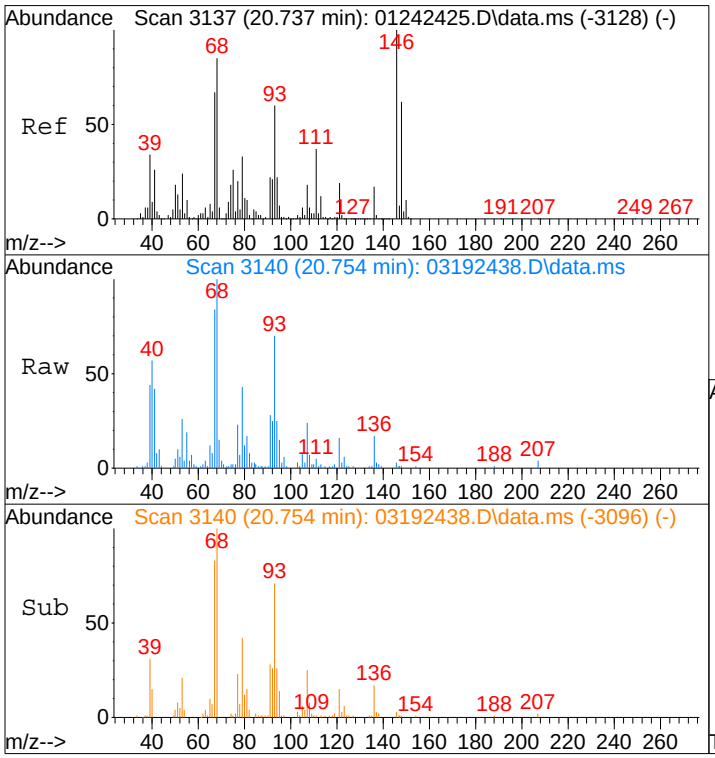


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.19 ng
RT: 20.63 min Scan# 3117
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion:119 Resp: 17437

Ion	Ratio	Lower	Upper
119	100		
134	22.8	6.8	46.8
91	29.9	5.8	45.8

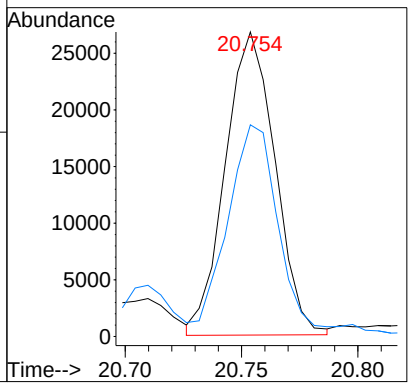




#91
d-Limonene
Concen: 1.51 ng
RT: 20.75 min Scan# 3140
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 68 Resp: 39865

Ion	Ratio	Lower	Upper
68	100		
93	75.0	49.7	89.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:24:10 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

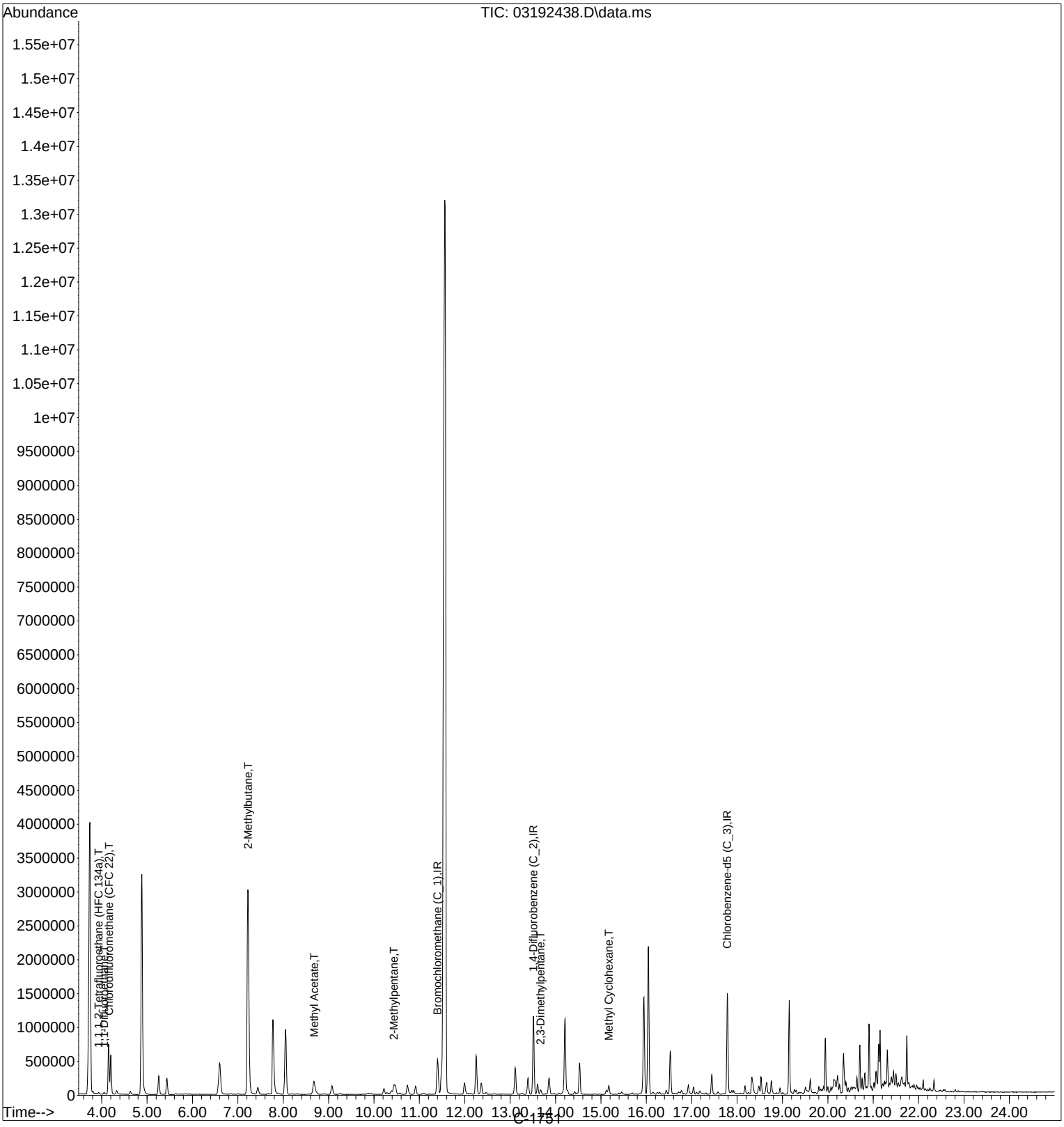
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.40	130	217325	12.500	ng		0.02
16) 1,4-Difluorobenzene (C_2)	13.51	114	985817	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	215100	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.82	85	802	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.93	83	13160	0.610	ng		98
4) 1,1-Difluoroethane	4.05	65	10918	0.584	ng		80
5) Chlorodifluoromethane ...	4.16	67	11384	1.634	ng		81
6) 1-Chloro-1,1-Difluoroe...	4.62	65	1652	N.D.			
7) Dichlorofluoromethane ...	6.41	67	475	N.D.			
8) Vinylbromide	6.65	108	98	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	55	N.D.			
10) 2-Methylbutane	7.23	57	690043	31.694	ng		80
11) Methyl Acetate	8.68	43	198320	4.017	ng	#	66
12) 2-Methylpentane	10.44	71	33030	1.659	ng	#	1
13) 2,2-Dichloropropane	11.59	77	52	N.D.			
14) 1,1-Dichloropropene	13.01	75	166	N.D.			
15) Thiophene	13.25	84	737	N.D.			
17) 2,3-Dimethylpentane	13.67	56	28504	0.704	ng		97
18) Dibromomethane	13.91	174	220	N.D.			
20) Methyl Cyclohexane	15.17	55	48178	1.598	ng		98
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	17.81	131	57	N.D.			
23) 1-Chlorohexane	18.00	91	715	N.D.			
24) 1,2,3-Trichloropropane	18.85	75	217	N.D.			
25) Bromobenzene	19.36	77	317	N.D.			
26) 2-Chlorotoluene	0.00	91	0	N.D.	d		
27) 4-Chlorotoluene	0.00	91	0	N.D.	d		
28) Indane	20.80	117	4200	N.D.			
29) Indene	20.88	115	3583	N.D.			
30) 1,2,4,5-Tetramethylben...	21.67	119	4820	N.D.			
31) 1,2,3,4-Tetramethylben...	21.67	119	4820	N.D.			
32) 1,2,3,5-Tetramethylben...	22.00	119	3337	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:24:10 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:24:10 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

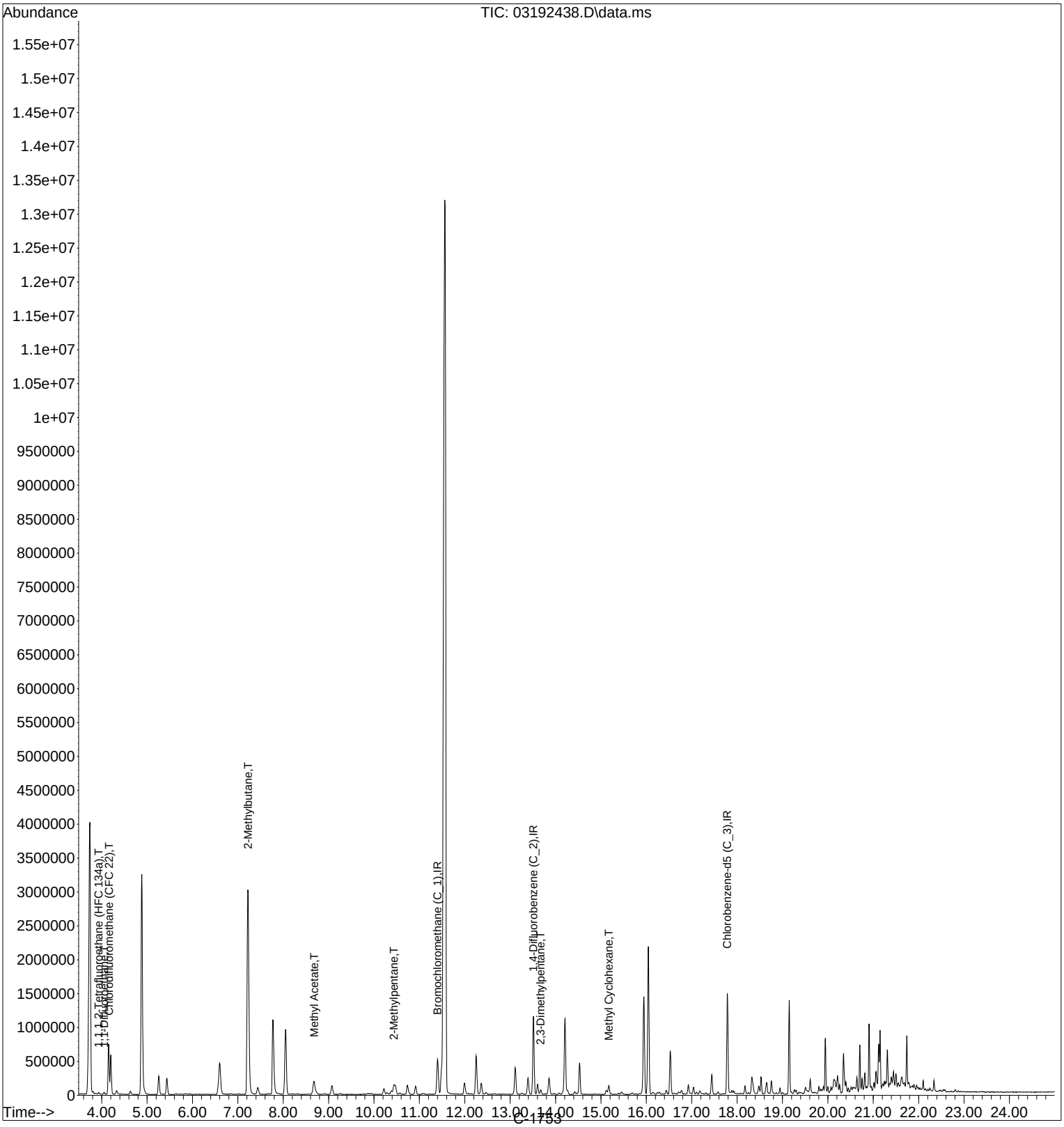
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.40	130	217325	12.500	ng		0.02
16) 1,4-Difluorobenzene (C_2)	13.51	114	985817	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	215100	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.93	83	13160	0.610	ng		98
4) 1,1-Difluoroethane	4.05	65	10918	0.584	ng		80
5) Chlorodifluoromethane ...	4.16	67	11384	1.634	ng		81
10) 2-Methylbutane	7.23	57	690043	31.694	ng		80
11) Methyl Acetate	8.68	43	198320	4.017	ng	#	66
12) 2-Methylpentane	10.44	71	33030	1.659	ng	#	1
17) 2,3-Dimethylpentane	13.67	56	28504	0.704	ng		97
20) Methyl Cyclohexane	15.17	55	48178	1.598	ng		98

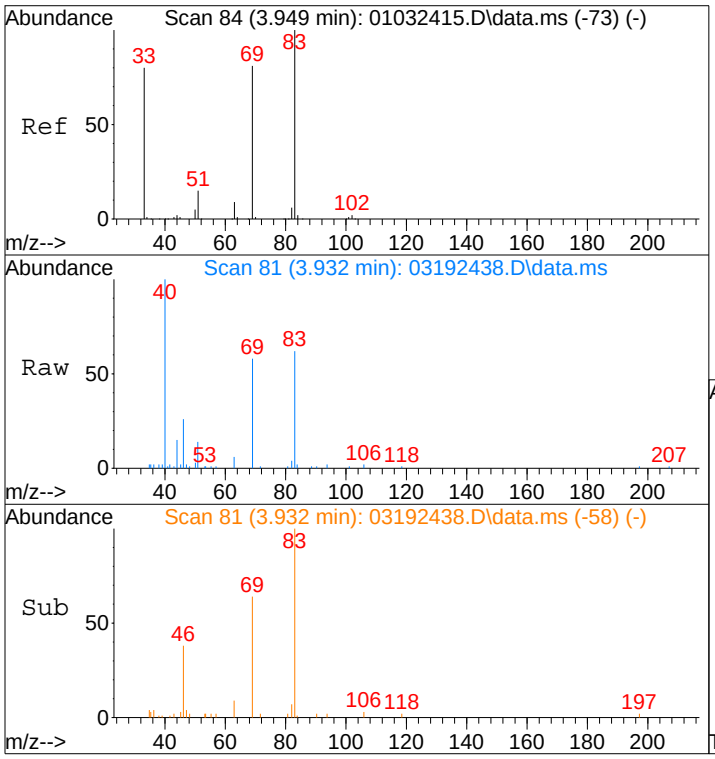
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:24:10 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

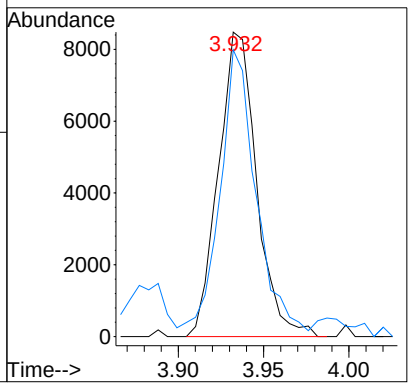


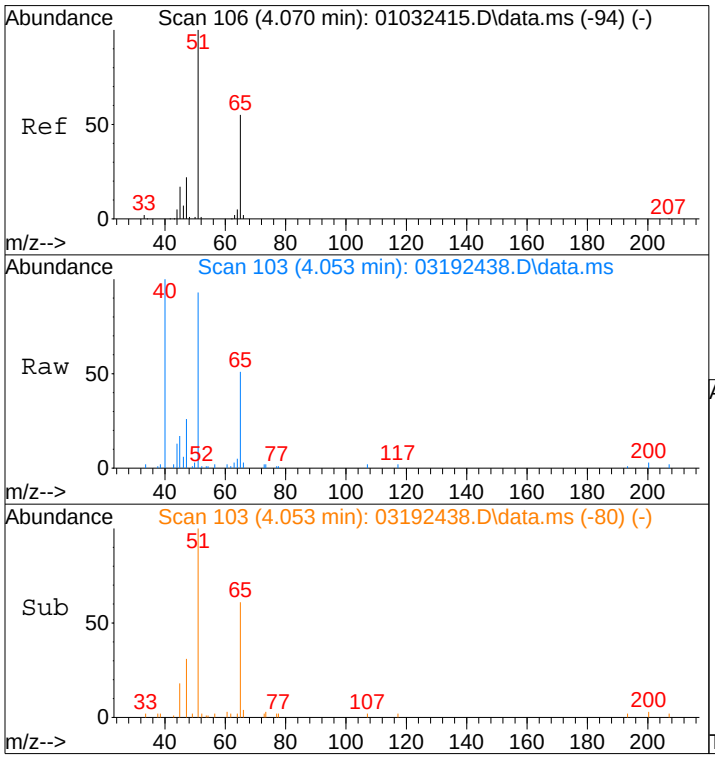


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.61 ng
RT: 3.93 min Scan# 81
Delta R.T. -0.022 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 83 Resp: 13160

Ion	Ratio	Lower	Upper
83	100		
69	91.0	74.0	111.0

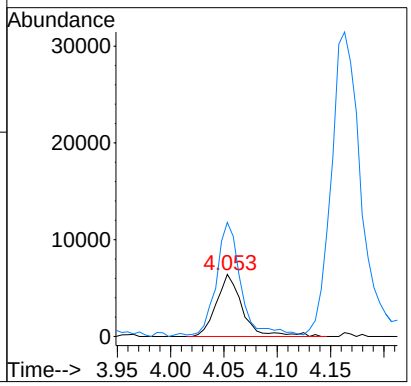


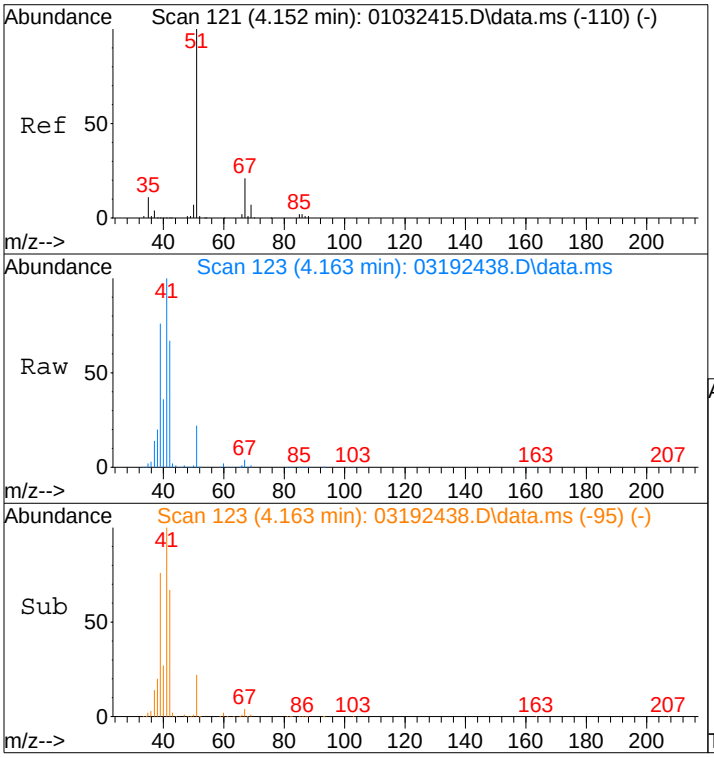


#4
1,1-Difluoroethane
Concen: 0.58 ng
RT: 4.05 min Scan# 103
Delta R.T. -0.022 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 65 Resp: 10918

Ion	Ratio	Lower	Upper
65	100		
51	165.5	155.8	233.6

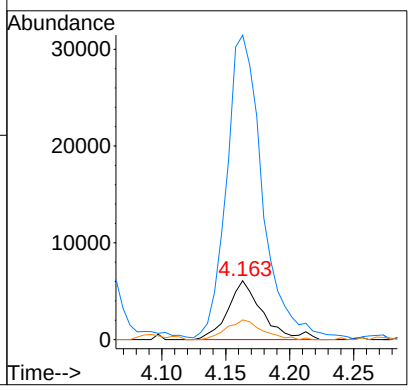


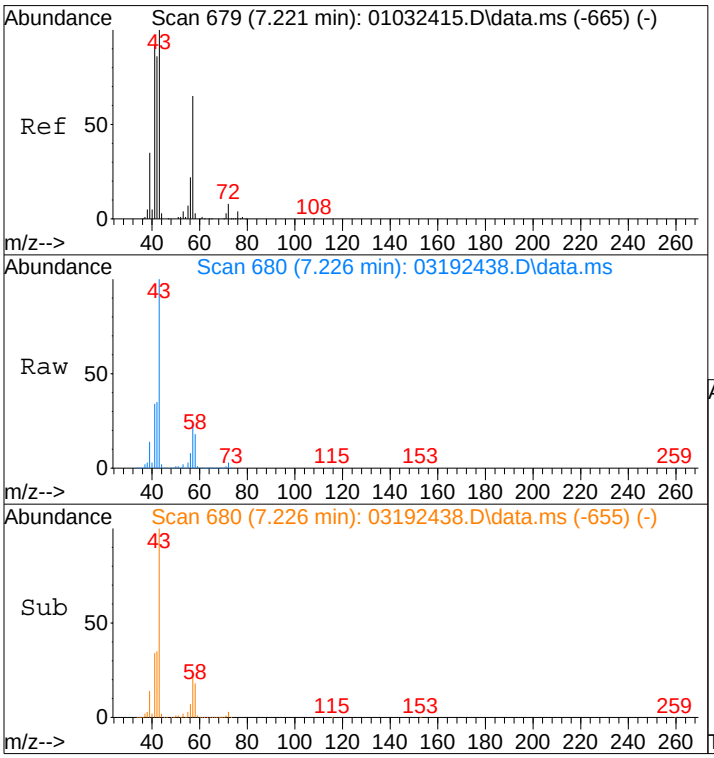


#5
Chlorodifluoromethane (CFC 22)
Concen: 1.63 ng
RT: 4.16 min Scan# 123
Delta R.T. 0.005 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 67 Resp: 11384

Ion	Ratio	Lower	Upper
67	100		
51	544.6	487.5	731.3
69	34.7	27.5	41.3

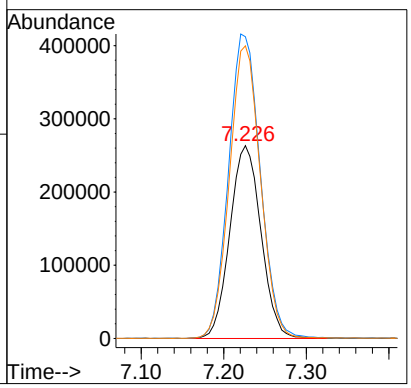


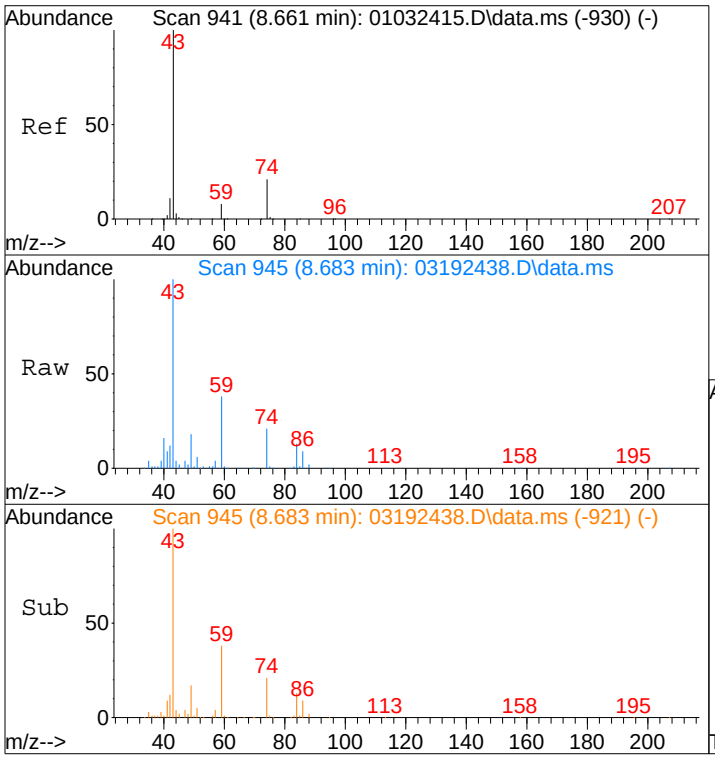


#10
2-Methylbutane
Concen: 31.69 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 57 Resp: 690043

Ion	Ratio	Lower	Upper
57	100		
42	161.7	115.0	172.4
41	152.0	149.4	224.2

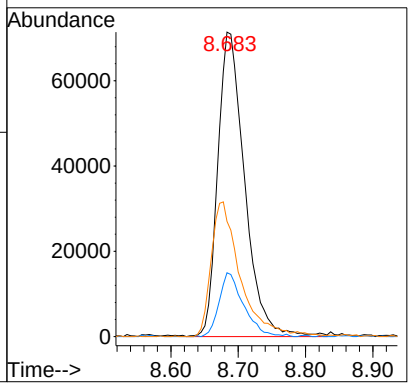


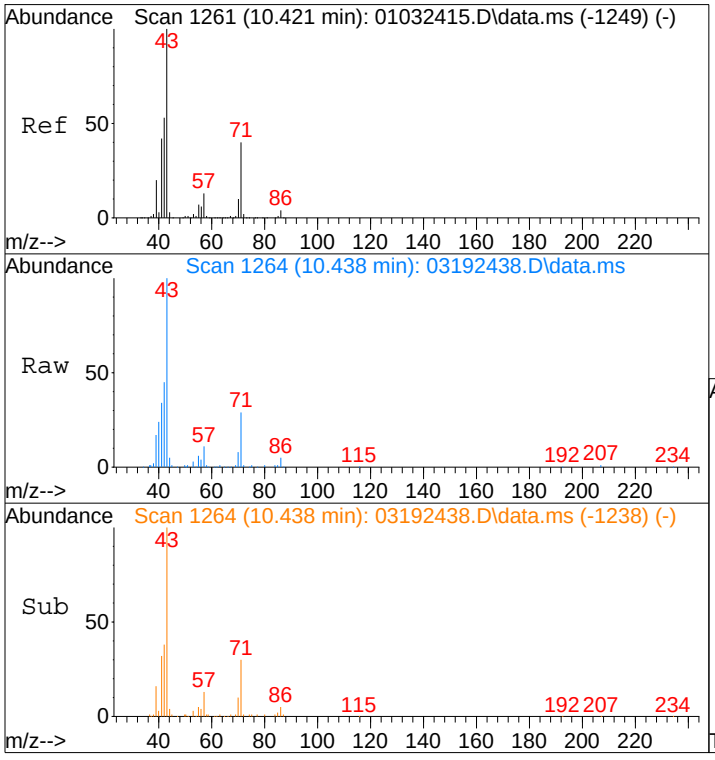


#11
Methyl Acetate
Concen: 4.02 ng
RT: 8.68 min Scan# 945
Delta R.T. -0.017 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 43 Resp: 198320

Ion	Ratio	Lower	Upper
43	100		
74	19.1	14.9	22.3
59	48.0	6.0	9.0#

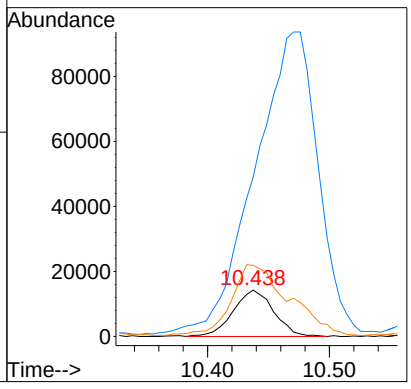


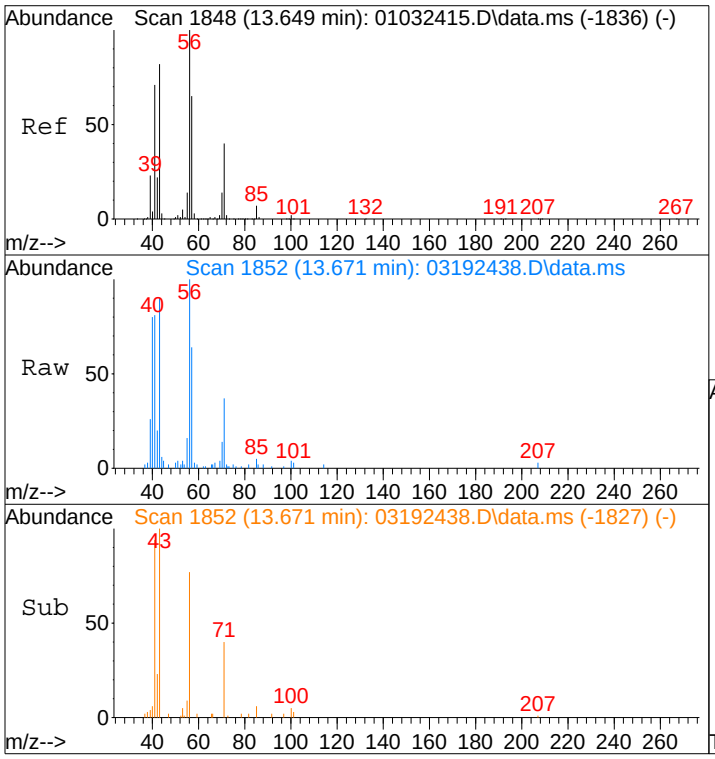


#12
2-Methylpentane
Concen: 1.66 ng
RT: 10.44 min Scan# 1264
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 71 Resp: 33030

Ion	Ratio	Lower	Upper
71	100		
43	0.0	241.7	362.5#
42	217.4	129.1	193.7#

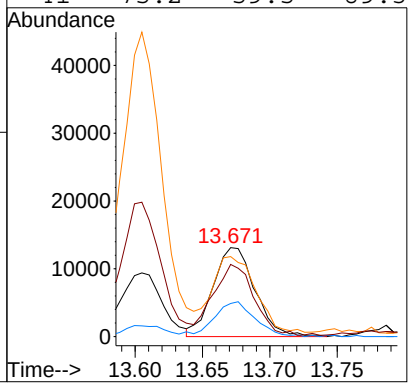


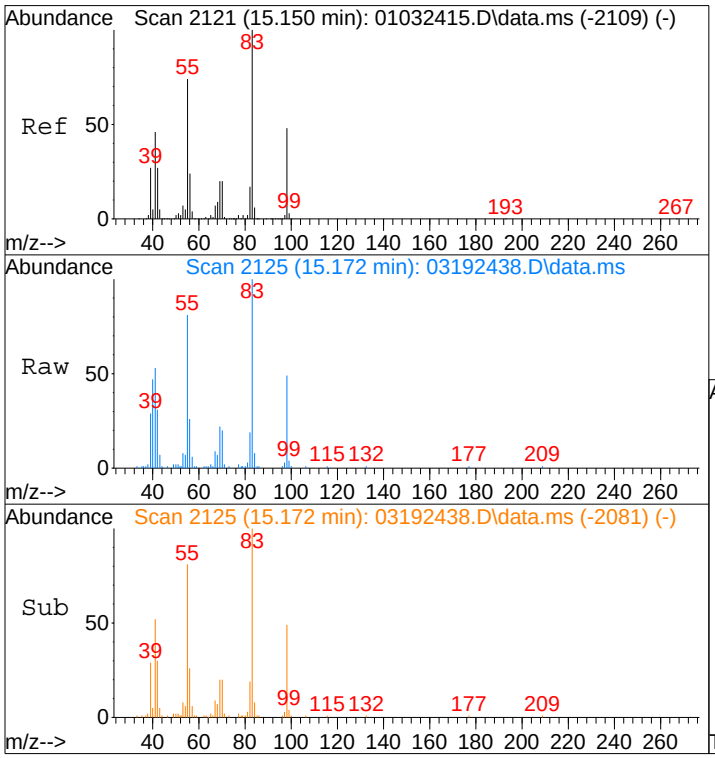


#17
2,3-Dimethylpentane
Concen: 0.70 ng
RT: 13.67 min Scan# 1852
Delta R.T. -0.011 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 56 Resp: 28504

Ion	Ratio	Lower	Upper
56	100		
71	37.0	28.2	42.4
43	90.4	69.4	104.0
41	75.2	59.5	89.3

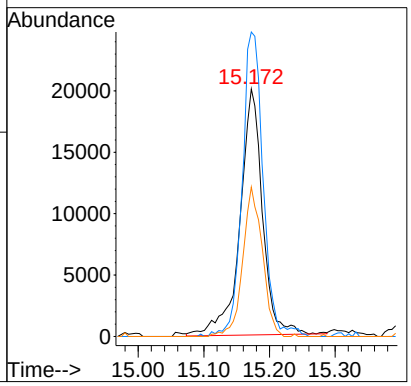




#20
Methyl Cyclohexane
Concen: 1.60 ng
RT: 15.17 min Scan# 2125
Delta R.T. -0.006 min
Lab File: 03192438.D
Acq: 19 Mar 2024 20:32

Tgt Ion: 55 Resp: 48178

Ion	Ratio	Lower	Upper
55	100		
83	114.8	89.5	134.3
98	52.5	41.6	62.4



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192438.D\data.ms

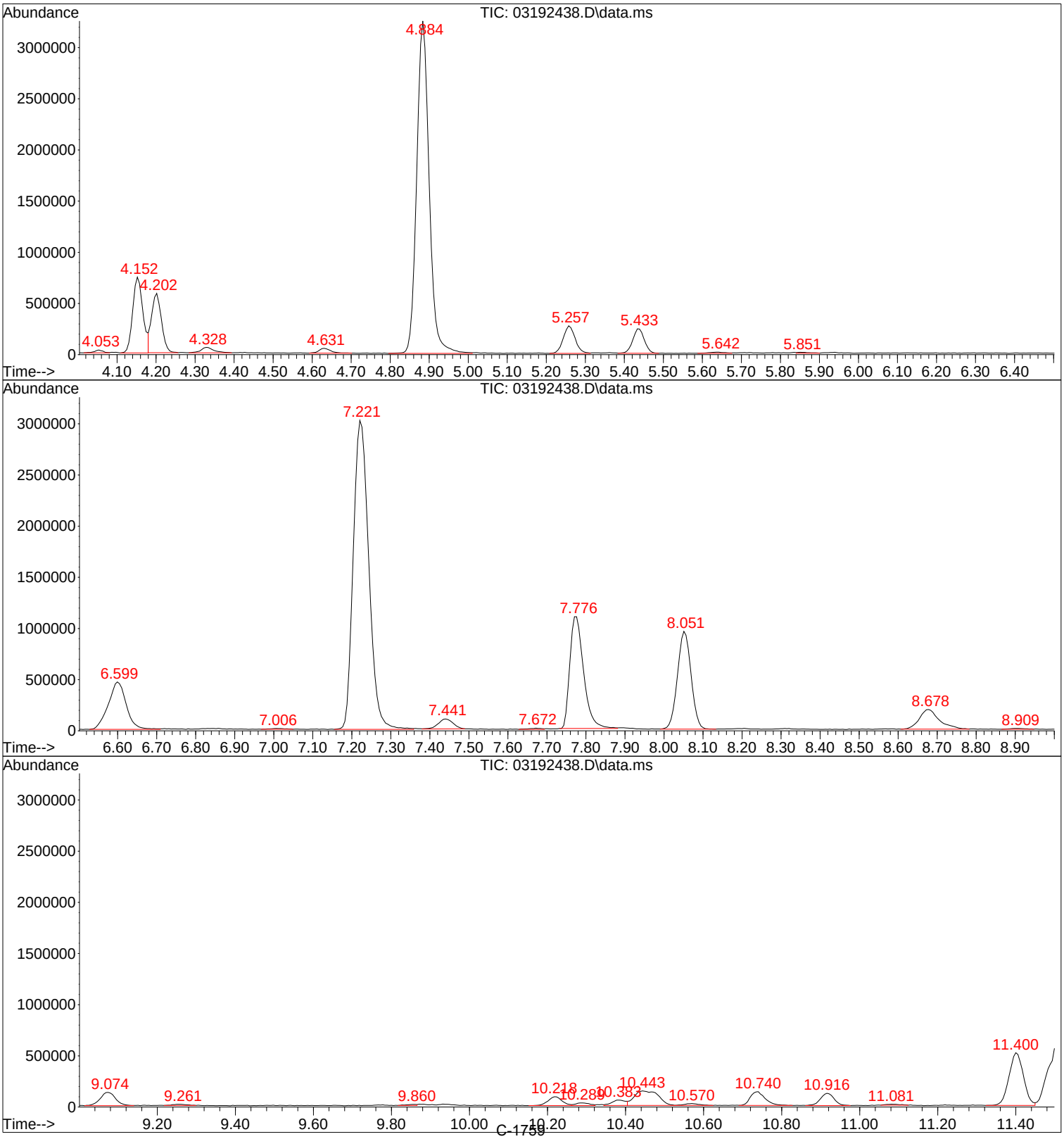
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.053	96	103	108	rBV2	27295	42434	0.51%	0.140%
2	4.152	113	121	126	rBV	740925	1364792	16.34%	4.509%
3	4.202	126	130	140	rVB	579616	1007229	12.06%	3.327%
4	4.328	145	153	165	rVB	53262	123774	1.48%	0.409%
5	4.631	201	208	221	rBV2	47696	101835	1.22%	0.336%
6	4.884	238	254	277	rBV	3247508	7198912	86.18%	23.781%
7	5.257	313	322	332	rBV2	269112	567530	6.79%	1.875%
8	5.433	345	354	364	rVB	238591	491980	5.89%	1.625%
9	5.642	382	392	398	rBV6	11347	32364	0.39%	0.107%
10	5.851	428	430	439	rVB7	8509	16730	0.20%	0.055%
11	6.599	553	566	586	rBV	464100	1488618	17.82%	4.918%
12	7.006	633	640	648	rBV7	7899	21530	0.26%	0.071%
13	7.221	667	679	704	rBV2	3019043	8352913	100.00%	27.594%
14	7.441	708	719	728	rVB	96954	256612	3.07%	0.848%
15	7.672	753	761	765	rBV7	12622	27136	0.32%	0.090%
16	7.776	772	780	799	rBV	1092565	2683847	32.13%	8.866%
17	8.051	819	830	845	rVB	954687	2312336	27.68%	7.639%
18	8.678	931	944	963	rBV3	192268	685194	8.20%	2.264%
19	8.909	978	986	993	rBV3	8658	24599	0.29%	0.081%
20	9.074	1005	1016	1028	rBV2	129915	355257	4.25%	1.174%
21	9.261	1042	1050	1057	rVB7	11047	27469	0.33%	0.091%
22	9.860	1151	1159	1160	rBV7	10339	19537	0.23%	0.065%
23	10.218	1212	1224	1232	rBV2	86639	217745	2.61%	0.719%
24	10.289	1232	1237	1243	rVV2	25794	62749	0.75%	0.207%
25	10.383	1247	1254	1258	rVV2	52651	134101	1.61%	0.443%
26	10.443	1258	1265	1280	rVV2	142023	606138	7.26%	2.002%
27	10.570	1280	1288	1298	rVB3	17984	46917	0.56%	0.155%
28	10.740	1310	1319	1335	rVB	134724	356725	4.27%	1.178%
29	10.916	1341	1351	1362	rVB2	120104	290493	3.48%	0.960%
30	11.081	1376	1381	1389	rBV6	10574	26571	0.32%	0.088%
31	11.400	1425	1439	1448	rBV2	515204	1327239	15.89%	4.384%

Sum of corrected areas: 30271306

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:32
Operator : CI
Sample : P2400922-056 (400mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192438.D
Acq On : 19 Mar 2024 20:322
Operator : CII
Sample : P2400922-056 (400mL))
Misc : S37-01032403//
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

CJ 3/22/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 16:07:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	222827	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	998716	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	222933	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	444590	11.846	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.94	98	1119084	12.854	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	19.15	174	386562	13.185	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
Target Compounds							Qvalue
2) Propene	4.19	42	6643m	0.211	ng		
3) Dichlorodifluoromethan...	4.35	85	27068	0.546	ng		99
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	725	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.36	54	179	N.D.			
8) Bromomethane	5.80	94	859	N.D.			
9) Chloroethane	6.14	64	2900	0.171	ng		81
10) Ethanol	6.56	45	22060	1.104	ng		96
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	7.01	56	9275	0.640	ng		88
13) Acetone	7.24	58	90267	5.572	ng	#	81
14) Trichlorofluoromethane	7.44	101	46755	1.050	ng		97
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	d		
16) Acrylonitrile	8.01	53	1152	N.D.			
17) 1,1-Dichloroethene	8.42	96	177	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	8.64	84	2013	0.086	ng		95
20) 3-Chloro-1-propene (Al...	8.78	41	559	N.D.			
21) Trichlorotrifluoroethane	9.07	151	10039	0.518	ng		97
22) Carbon Disulfide	8.90	76	43147	0.648	ng		97
23) trans-1,2-Dichloroethene	9.94	61	510	N.D.			
24) 1,1-Dichloroethane	10.19	63	458	N.D.			
25) Methyl tert-Butyl Ether	10.36	73	476	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.74	72	9469	0.668	ng	#	91
28) cis-1,2-Dichloroethene	11.20	61	568	N.D.			
29) Diisopropyl Ether	11.53	87	523	N.D.			
30) Ethyl Acetate	11.55	61	4460	0.552	ng		91
31) n-Hexane	11.47	57	1064	N.D.			
32) Chloroform	11.55	83	16449	0.436	ng		98
34) Tetrahydrofuran (THF)	12.05	72	430	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.34	62	610	N.D.			
38) 1,1,1-Trichloroethane	12.65	97	125	N.D.			
39) Isopropyl Acetate	13.75	61	158	No Calib		#	
40) 1-Butanol	12.65	56	332	No Calib		#	
41) Benzene	13.11	78	14599	0.154	ng		86
42) Carbon Tetrachloride	13.26	117	1676	0.057	ng		95
43) Cyclohexane	13.40	84	686	N.D.			
44) tert-Amyl Methyl Ether	13.73	73	927	N.D.			
45) 1,2-Dichloropropane	13.96	63	175	N.D.			
46) Bromodichloromethane	14.14	83	2159	0.070	ng		82
47) Trichloroethene	14.19	130	1390	0.057	ng		100
48) 1,4-Dioxane	14.20	88	415	N.D.			

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 20 16:07:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

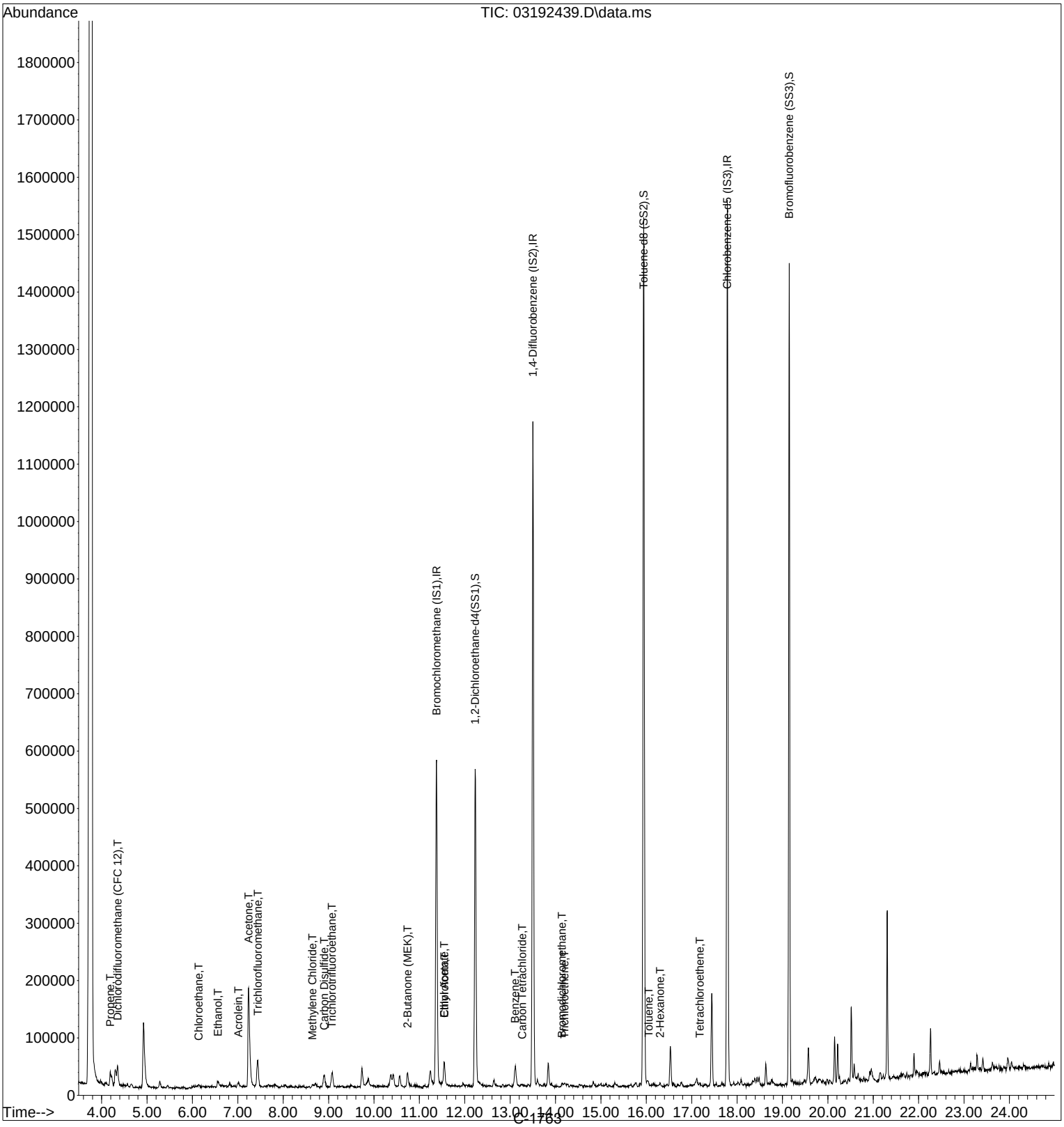
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.25	57	906	N.D.	
50) Methyl Methacrylate	14.35	100	115	N.D.	
51) n-Heptane	14.53	71	675	N.D.	
52) cis-1,3-Dichloropropene	15.08	75	333	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	15.61	75	193	N.D.	
55) 1,1,2-Trichloroethane	15.74	97	166	N.D.	
58) Toluene	16.05	91	5774	0.071 ng	97
59) 2-Hexanone	16.31	43	4847	0.093 ng	78
60) Dibromochloromethane	16.44	129	800	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.93	43	755	N.D.	
63) n-Octane	17.04	57	851	N.D.	
64) Tetrachloroethene	17.18	166	1510	0.063 ng	95
65) Chlorobenzene	17.82	112	1904	N.D.	
66) Ethylbenzene	18.18	91	1647	N.D.	
67) m- & p-Xylenes	18.33	91	2693	N.D.	
68) Bromoform	18.40	173	728	N.D.	
69) Styrene	18.65	104	1026	N.D.	
70) o-Xylene	18.76	91	1716	N.D.	
71) n-Nonane	18.94	43	746	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.73	83	1098	N.D.	
74) Cumene	19.26	105	1267	N.D.	
75) alpha-Pinene	19.66	93	107	N.D.	
76) n-Propylbenzene	19.70	91	2645	N.D.	
77) 3-Ethyltoluene	20.25	105	786	No Calib	
78) 4-Ethyltoluene	19.84	105	910	N.D.	
79) 1,3,5-Trimethylbenzene	19.91	105	509	N.D.	
80) alpha-Methylstyrene	20.62	118	117	No Calib	#
81) 2-Ethyltoluene	20.25	105	786	No Calib	
82) 1,2,4-Trimethylbenzene	20.25	105	786	N.D.	
83) n-Decane	20.41	58	241	No Calib	#
84) Benzyl Chloride	20.37	91	1488	N.D.	
85) 1,3-Dichlorobenzene	20.40	146	932	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	1078	N.D.	
87) sec-Butylbenzene	20.48	105	1287	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	1585	N.D.	
89) 1,2,3-Trimethylbenzene	20.25	105	786	No Calib	
90) 1,2-Dichlorobenzene	20.75	146	910	N.D.	
91) d-Limonene	20.79	68	354	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	322	N.D.	
93) n-Undecane	21.58	58	295	No Calib	#
94) 1,2,4-Trichlorobenzene	22.24	180	1380	N.D.	
95) Naphthalene	22.35	128	1677	N.D.	
96) n-Dodecane	22.78	57	524	No Calib	#
97) Hexachlorobutadiene	22.66	225	1124	N.D.	
98) Cyclohexanone	18.25	55	1002	No Calib	#
99) tert-Butylbenzene	20.26	119	1292	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	
101) 1,1,1,2-Tetrachloroethane	17.73	131	113	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 20 16:07:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



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CI 3/20/24

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1) Bromochloromethane (IS1)	11.38	130	222827	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	998716	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	222933	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	444590	11.846	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.80%				
57) Toluene-d8 (SS2)	15.94	98	1119084	12.854	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	19.15	174	386562	13.185	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
Target Compounds							Qvalue
2) Propene	4.19	42	6643m	0.211	ng		
3) Dichlorodifluoromethan...	4.35	85	27068	0.546	ng		99
9) Chloroethane	6.14	64	2900	0.171	ng		81
10) Ethanol	6.56	45	22060	1.104	ng		96
12) Acrolein	7.01	56	9275	0.640	ng		88
13) Acetone	7.24	58	90267	5.572	ng	#	81
14) Trichlorofluoromethane	7.44	101	46755	1.050	ng		97
19) Methylene Chloride	8.64	84	2013	0.086	ng		95
21) Trichlorotrifluoroethane	9.07	151	10039	0.518	ng		97
22) Carbon Disulfide	8.90	76	43147	0.648	ng		97
27) 2-Butanone (MEK)	10.74	72	9469	0.668	ng	#	91
30) Ethyl Acetate	11.55	61	4460	0.552	ng		91
32) Chloroform	11.55	83	16449	0.436	ng		98
41) Benzene	13.11	78	14599	0.154	ng		86
42) Carbon Tetrachloride	13.26	117	1676	0.057	ng		95
46) Bromodichloromethane	14.14	83	2159	0.070	ng		82
47) Trichloroethene	14.19	130	1390	0.057	ng		100
58) Toluene	16.05	91	5774	0.071	ng		97
59) 2-Hexanone	16.31	43	4847	0.093	ng		78
64) Tetrachloroethene	17.18	166	1510	0.063	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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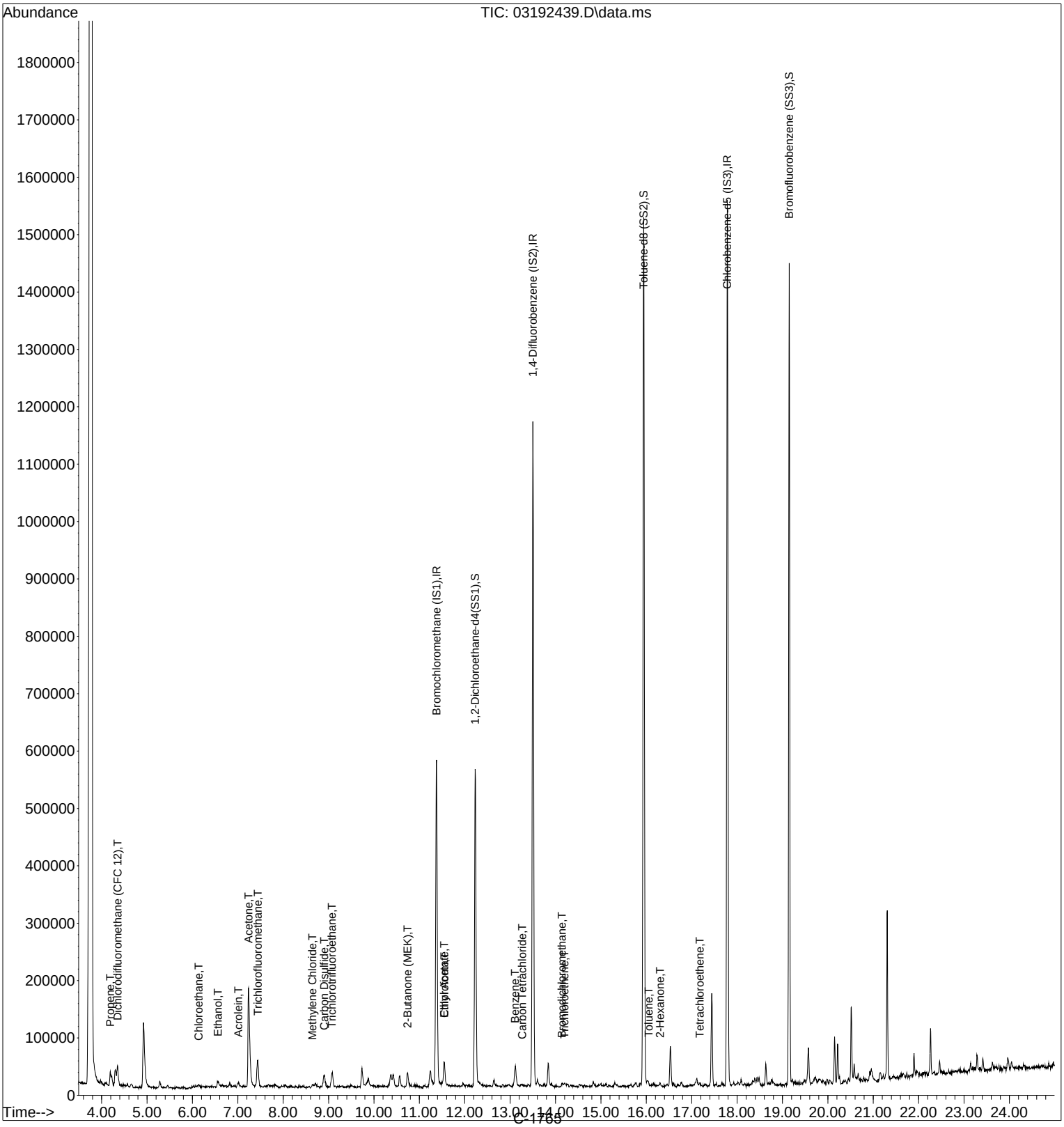
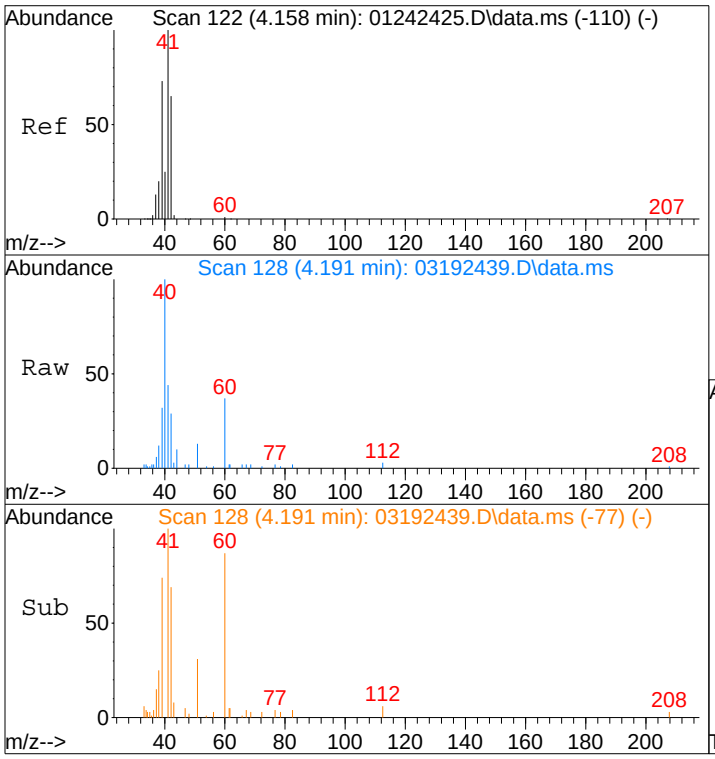
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 20 16:07:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

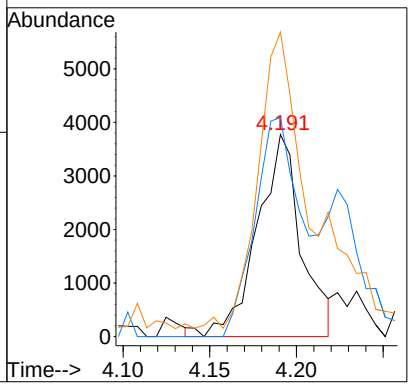


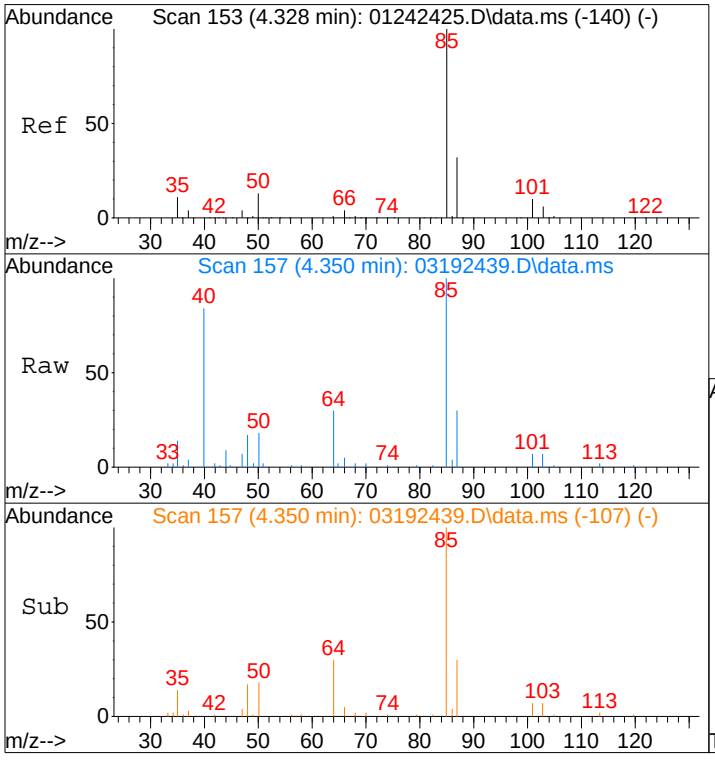


#2
Propene
Concen: 0.21 ng m
RT: 4.19 min Scan# 128
Delta R.T. 0.033 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 42 Resp: 6643

Ion	Ratio	Lower	Upper
42	100		
39	117.2	98.6	138.6
41	144.3	132.4	172.4

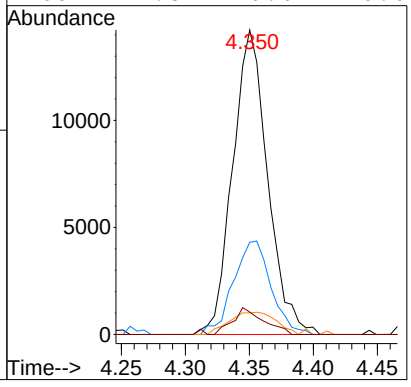


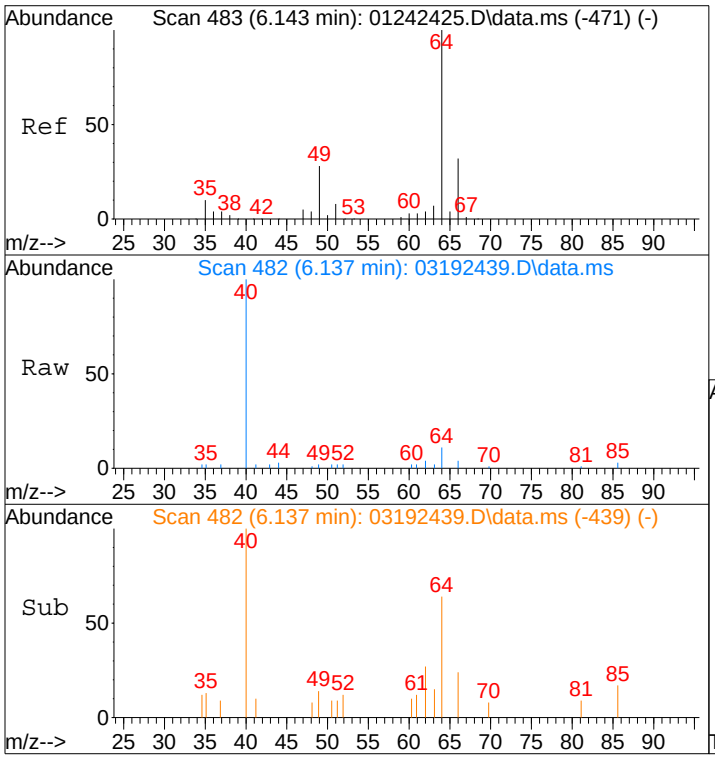


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.027 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 85 Resp: 27068

Ion	Ratio	Lower	Upper
85	100		
87	33.0	13.1	53.1
101	9.8	0.0	29.5
103	7.8	0.0	26.0

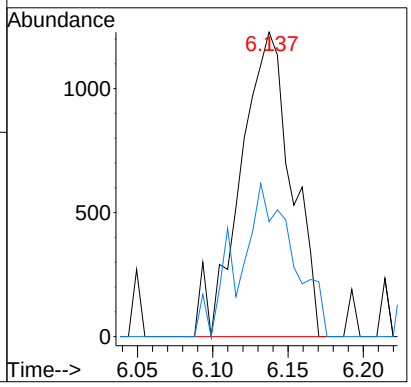


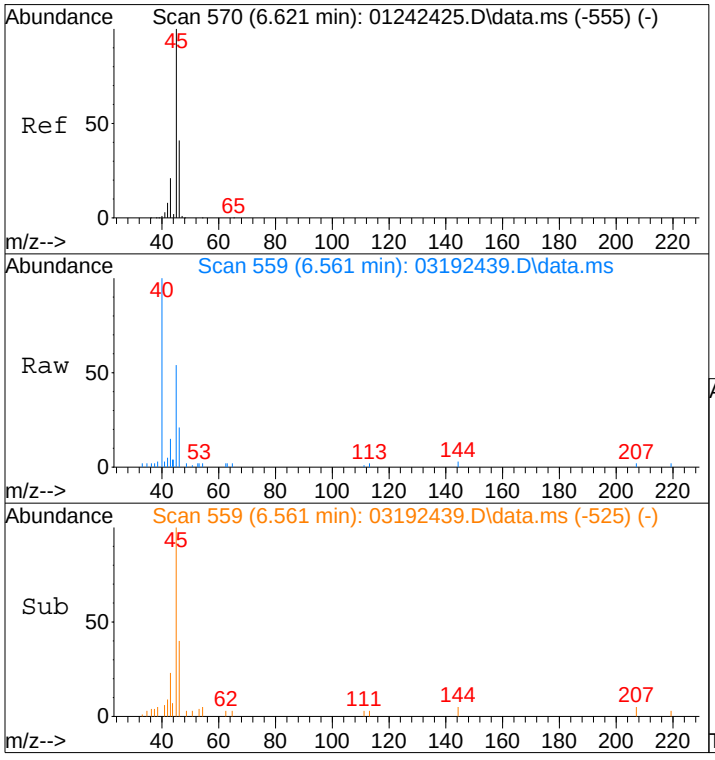


#9
Chloroethane
Concen: 0.17 ng
RT: 6.14 min Scan# 482
Delta R.T. -0.011 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 64 Resp: 2900

Ion	Ratio	Lower	Upper
64	100		
66	42.4	12.1	52.1

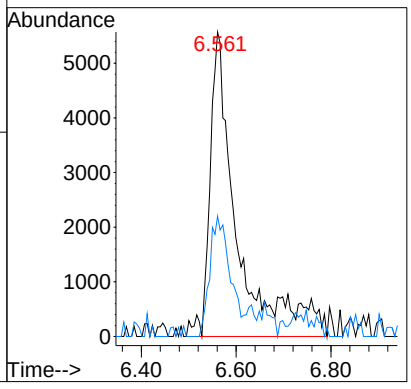


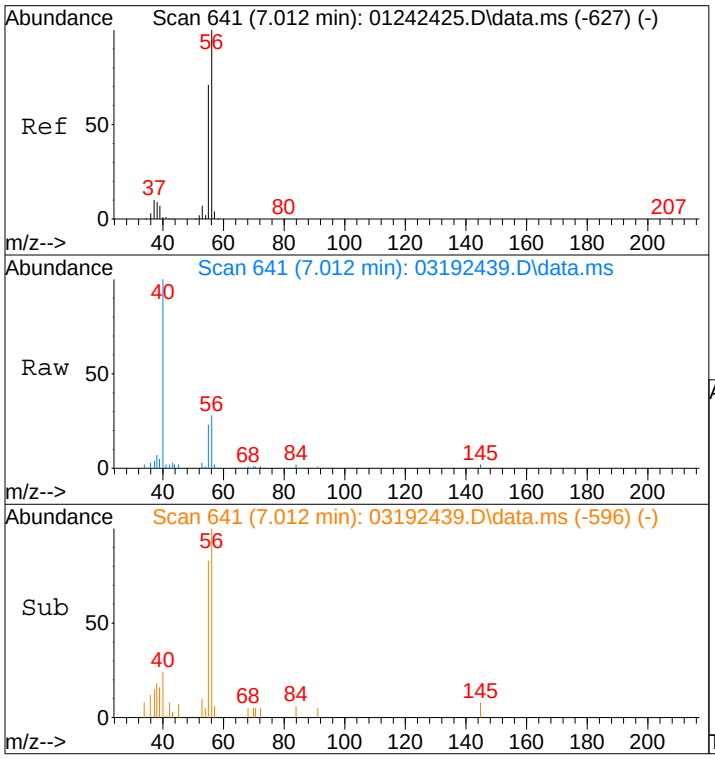


#10
Ethanol
Concen: 1.10 ng
RT: 6.56 min Scan# 559
Delta R.T. -0.061 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 45 Resp: 22060

Ion	Ratio	Lower	Upper
45	100		
46	37.3	19.6	59.6

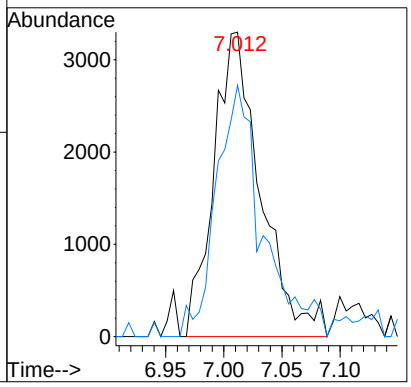


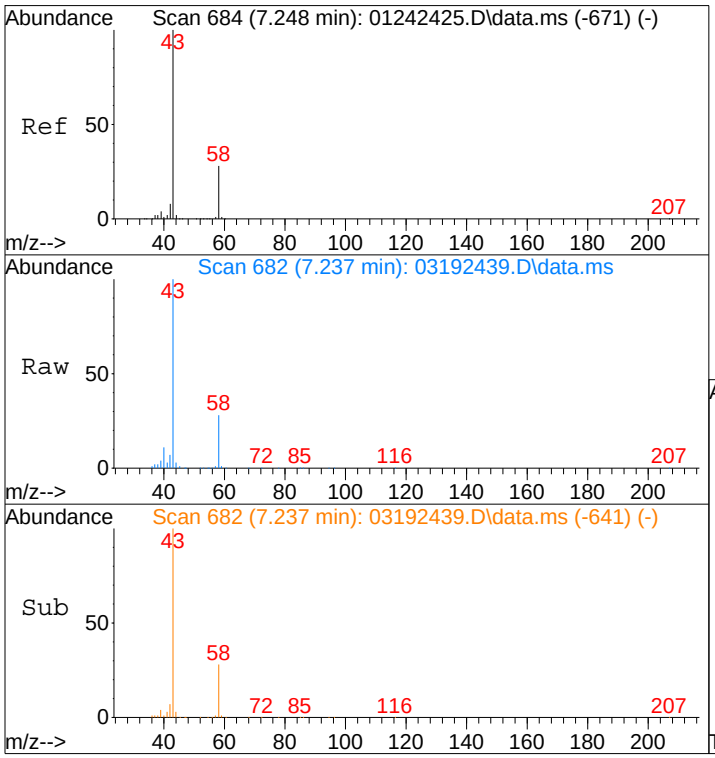


#12
Acrolein
Concen: 0.64 ng
RT: 7.01 min Scan# 641
Delta R.T. -0.000 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 56 Resp: 9275

Ion	Ratio	Lower	Upper
56	100		
55	81.2	51.4	91.4

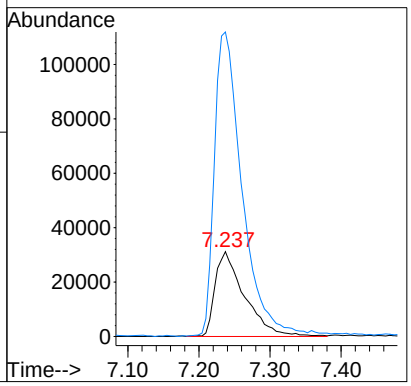


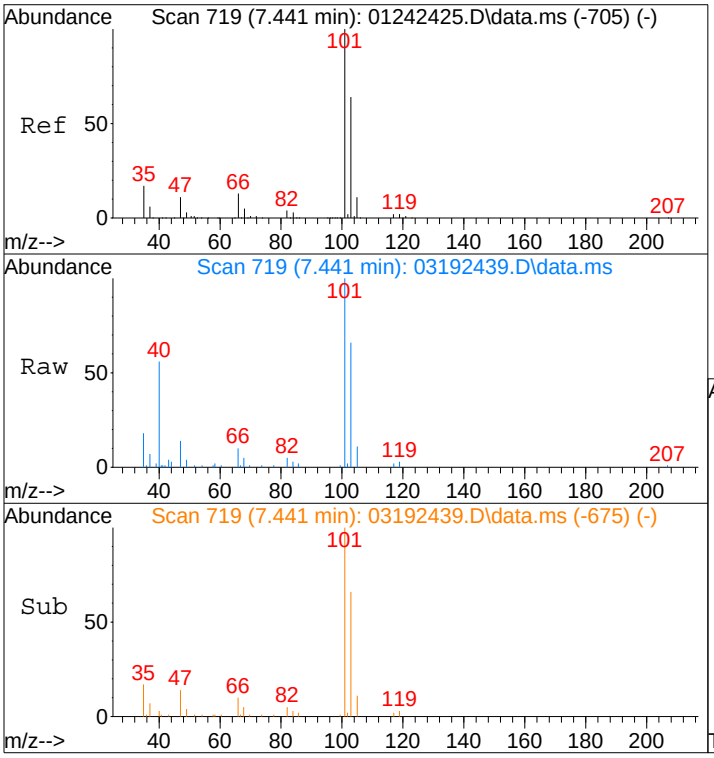


#13
Acetone
Concen: 5.57 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.026 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 58 Resp: 90267

Ion	Ratio	Lower	Upper
58	100		
43	343.2	357.4	417.4#

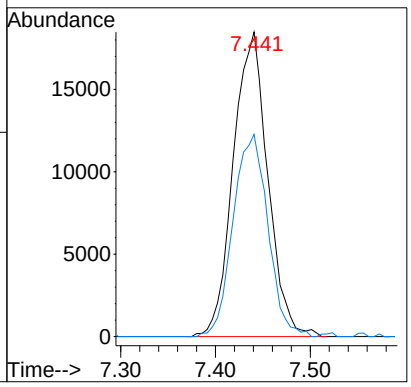


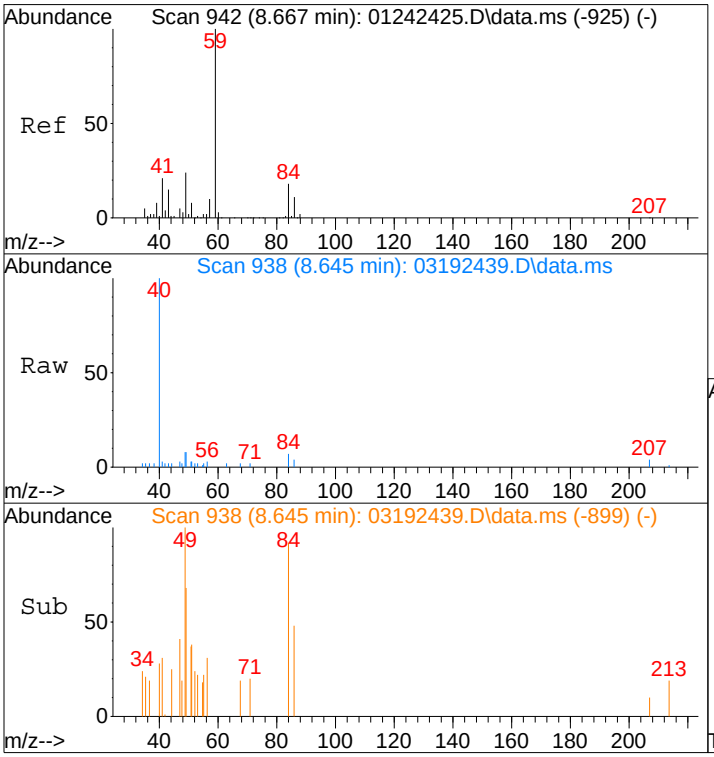


#14
Trichlorofluoromethane
Concen: 1.05 ng
RT: 7.44 min Scan# 719
Delta R.T. -0.006 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion:101 Resp: 46755

Ion	Ratio	Lower	Upper
101	100		
103	66.8	44.1	84.1

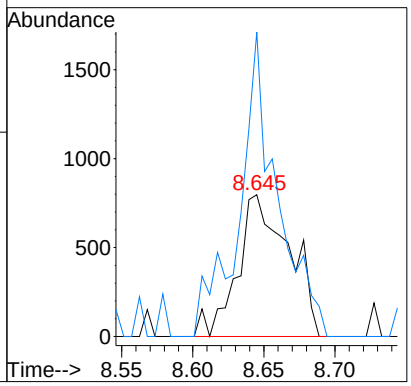


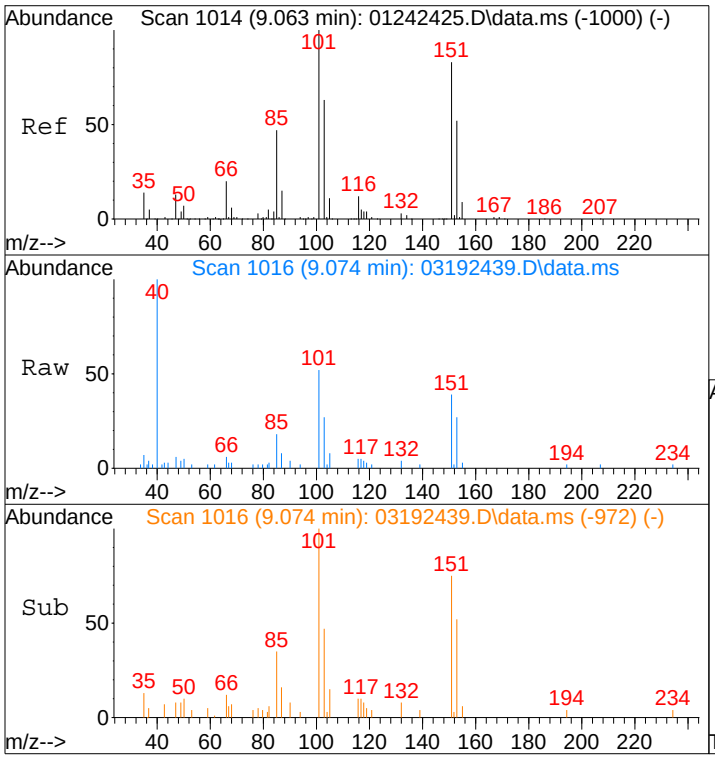


#19
Methylene Chloride
Concen: 0.09 ng
RT: 8.64 min Scan# 938
Delta R.T. -0.033 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 84 Resp: 2013

Ion	Ratio	Lower	Upper
84	100		
49	158.2	126.4	176.4

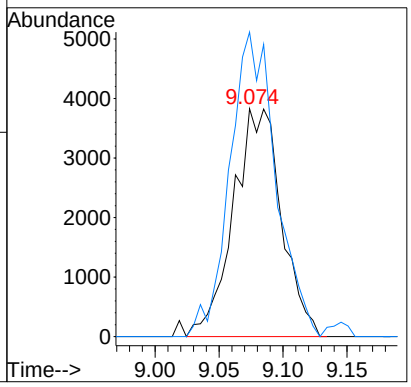


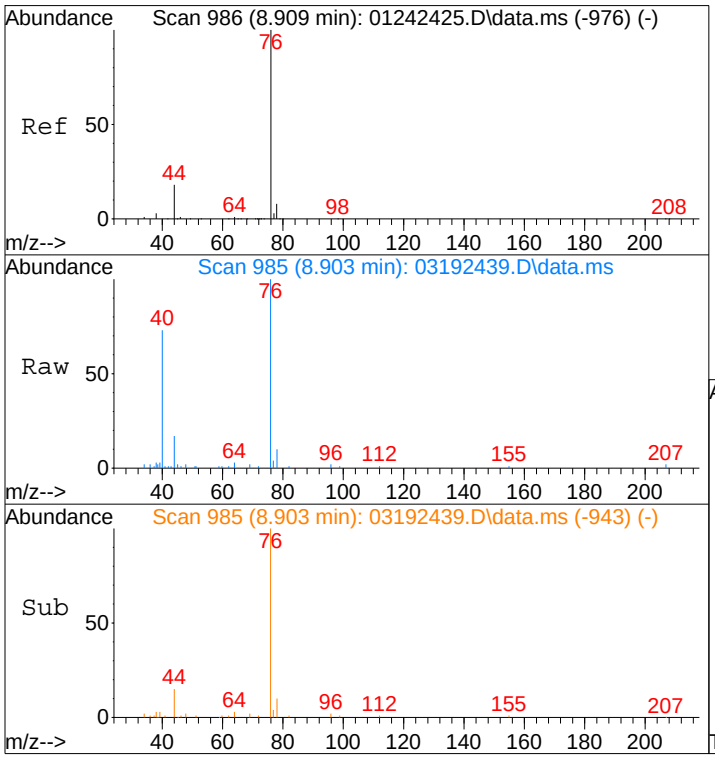


#21
Trichlorotrifluoroethane
Concen: 0.52 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.006 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion:151 Resp: 10039

Ion	Ratio	Lower	Upper
151	100		
101	127.8	104.2	144.2

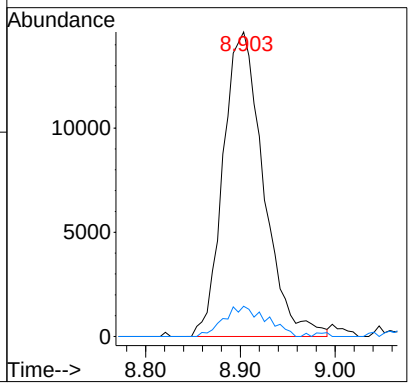


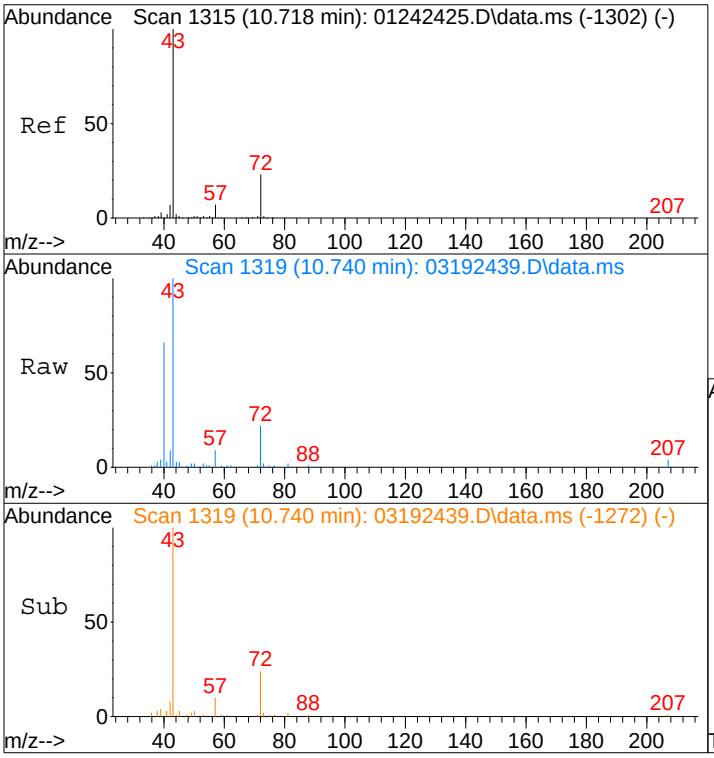


#22
Carbon Disulfide
Concen: 0.65 ng
RT: 8.90 min Scan# 985
Delta R.T. -0.017 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 76 Resp: 43147

Ion	Ratio	Lower	Upper
76	100		
78	10.5	0.0	29.3

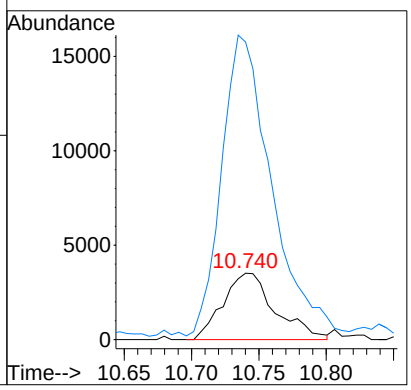


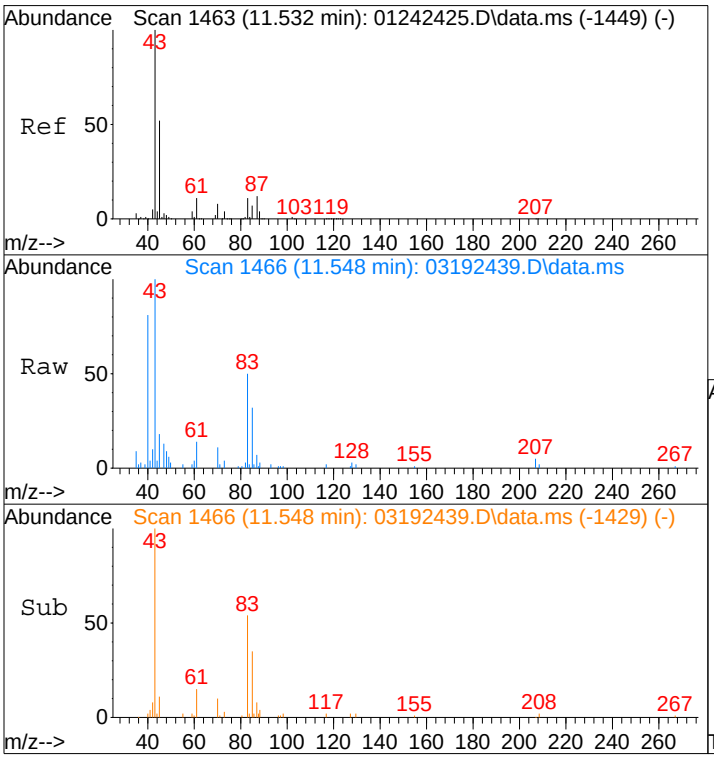


#27
2-Butanone (MEK)
Concen: 0.67 ng
RT: 10.74 min Scan# 1319
Delta R.T. 0.011 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 72 Resp: 9469

Ion	Ratio	Lower	Upper
72	100		
43	433.4	437.9	477.9#

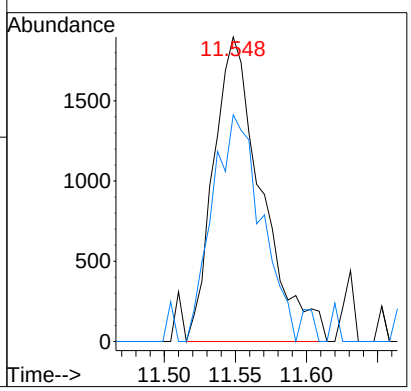


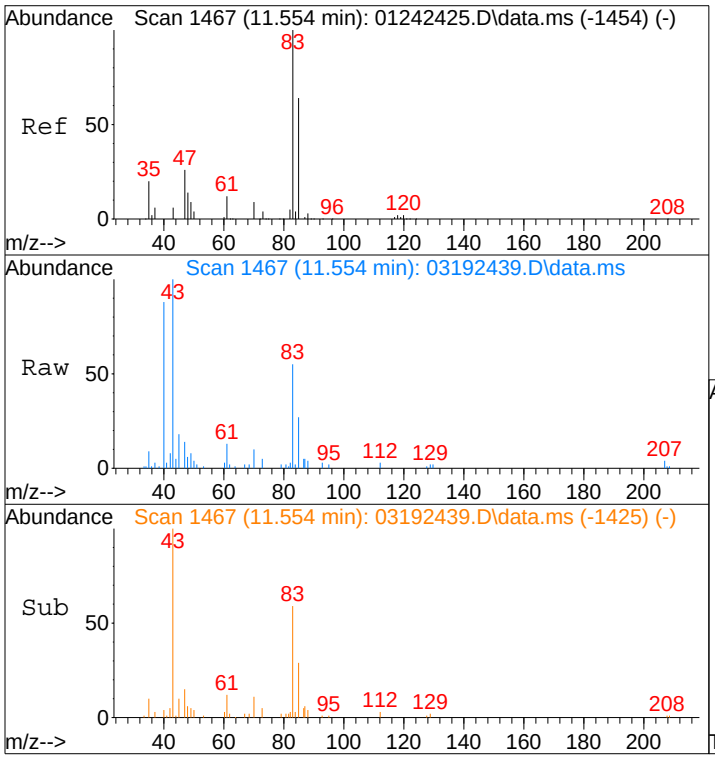


#30
Ethyl Acetate
Concen: 0.55 ng
RT: 11.55 min Scan# 1466
Delta R.T. 0.005 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 61 Resp: 4460

Ion	Ratio	Lower	Upper
61	100		
70	75.9	64.5	104.5

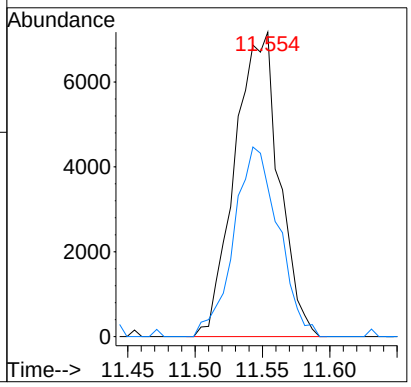


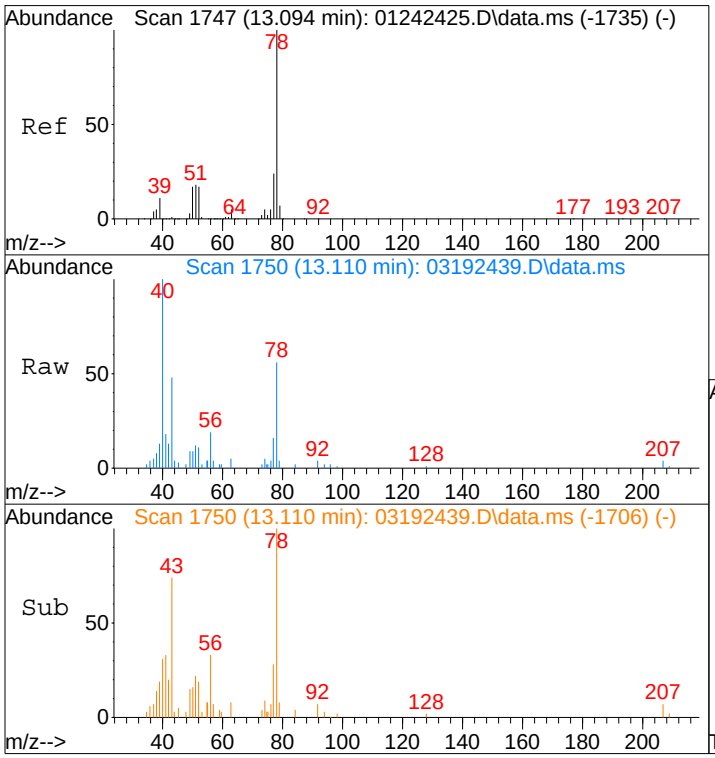


#32
Chloroform
Concen: 0.44 ng
RT: 11.55 min Scan# 1467
Delta R.T. -0.017 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 83 Resp: 16449

Ion	Ratio	Lower	Upper
83	100		
85	62.7	44.3	84.3

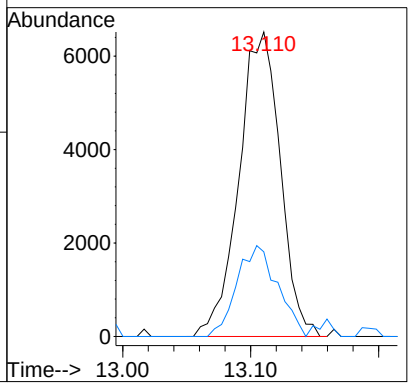


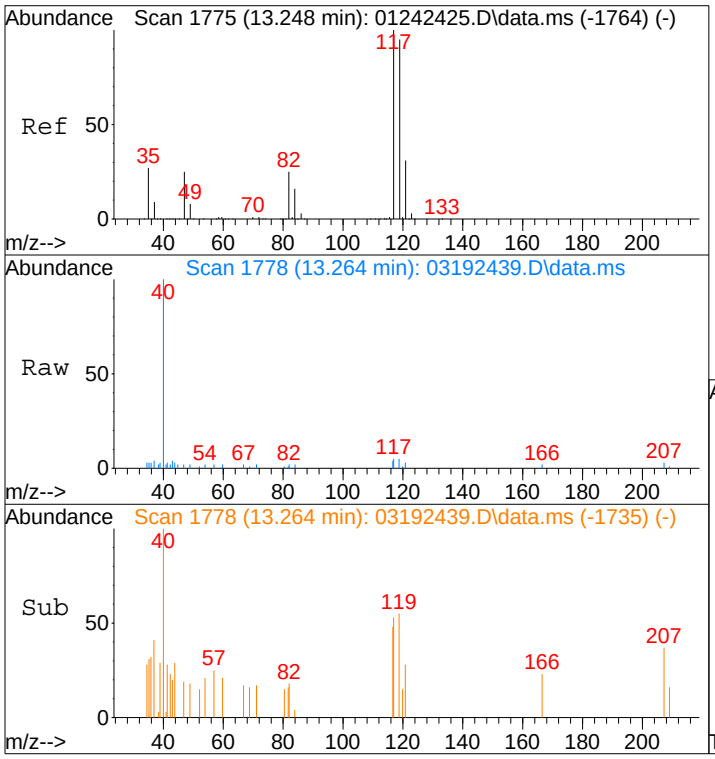


#41
Benzene
Concen: 0.15 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 78 Resp: 14599

Ion	Ratio	Lower	Upper
78	100		
77	29.4	2.6	42.6

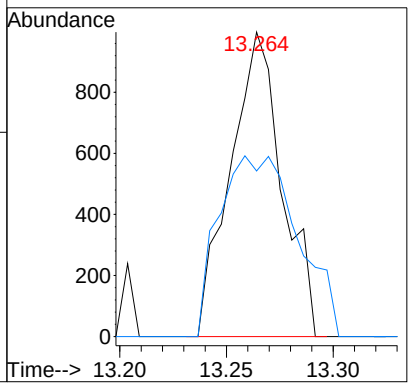


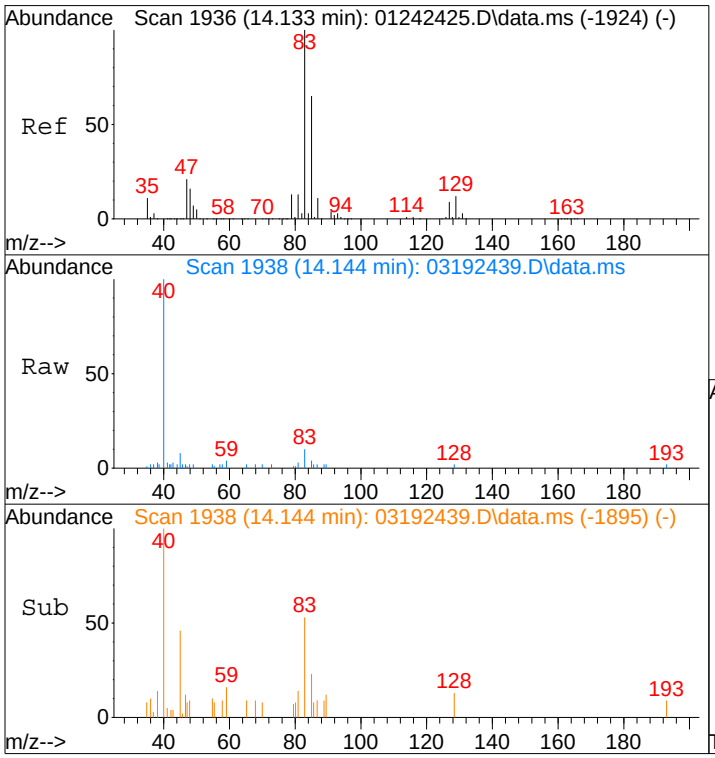


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 13.26 min Scan# 1778
Delta R.T. -0.011 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion:117 Resp: 1676

Ion	Ratio	Lower	Upper
117	100		
119	90.8	75.2	115.2

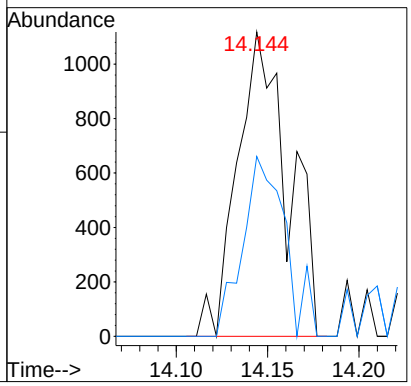


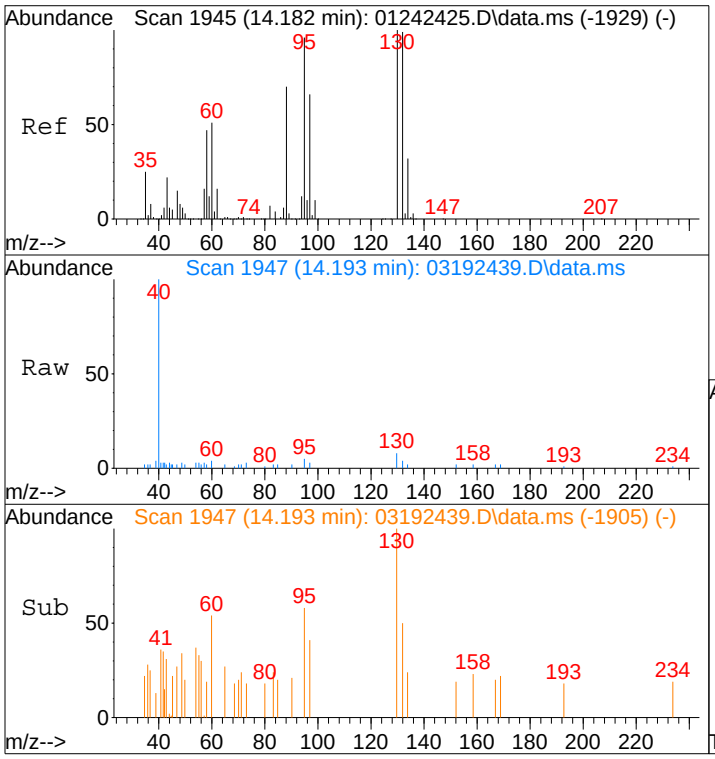


#46
Bromodichloromethane
Concen: 0.07 ng
RT: 14.14 min Scan# 1938
Delta R.T. -0.011 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 83 Resp: 2159

Ion	Ratio	Lower	Upper
83	100		
85	49.5	43.9	83.9

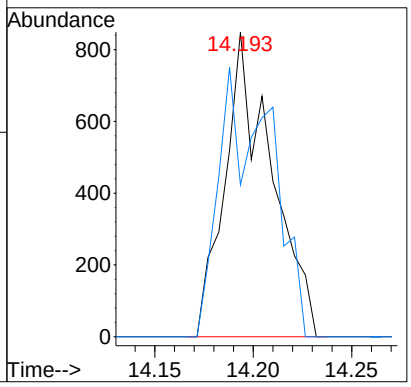


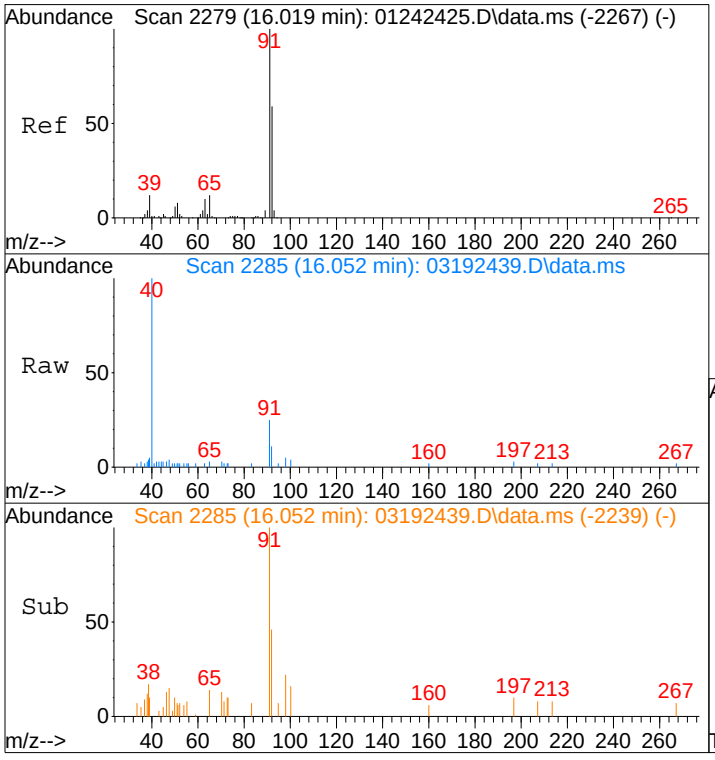


#47
Trichloroethene
Concen: 0.06 ng
RT: 14.19 min Scan# 1947
Delta R.T. -0.017 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion:130 Resp: 1390

Ion	Ratio	Lower	Upper
130	100		
132	98.8	78.3	118.3

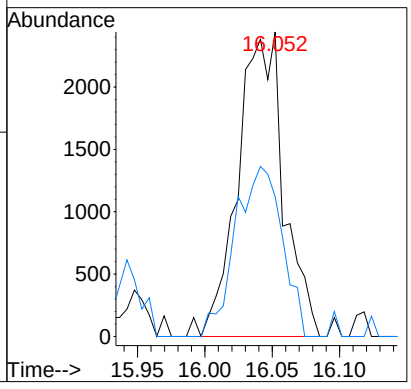


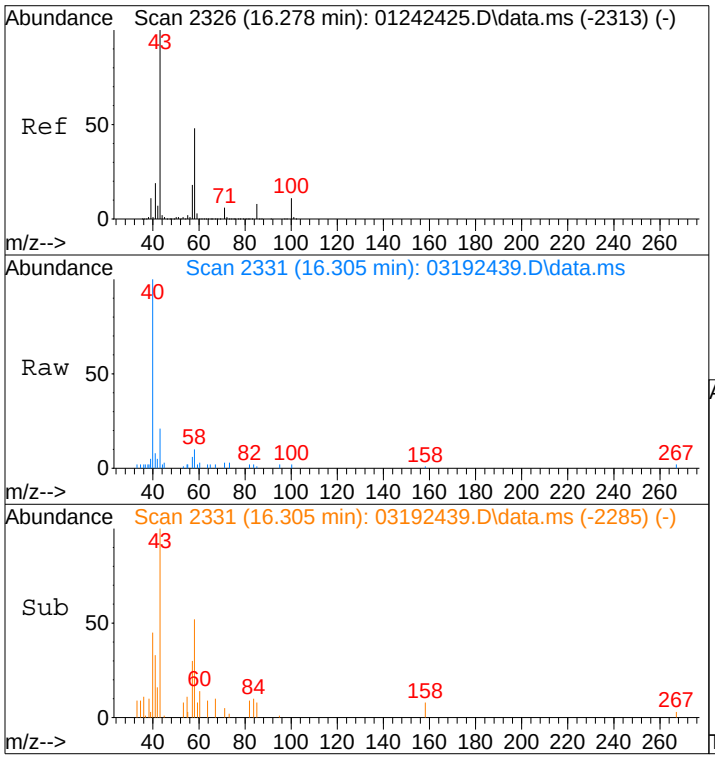


#58
Toluene
Concen: 0.07 ng
RT: 16.05 min Scan# 2285
Delta R.T. 0.005 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 91 Resp: 5774

Ion	Ratio	Lower	Upper
91	100		
92	57.0	39.1	79.1

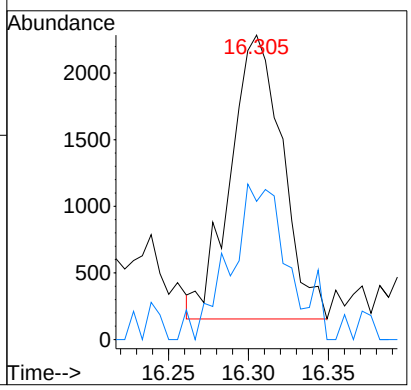


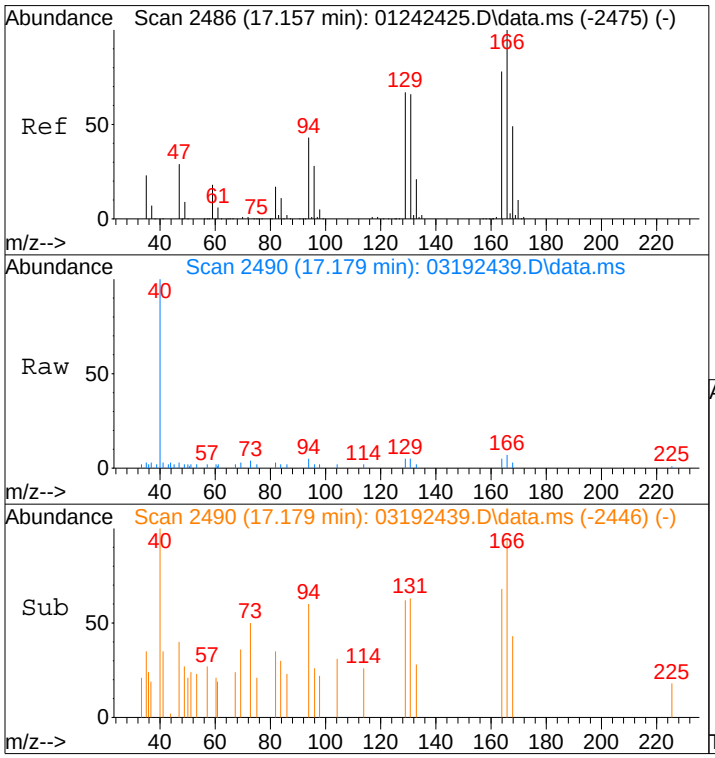


#59
2-Hexanone
Concen: 0.09 ng
RT: 16.31 min Scan# 2331
Delta R.T. 0.005 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 43 Resp: 4847

Ion	Ratio	Lower	Upper
43	100		
58	61.0	26.4	66.4

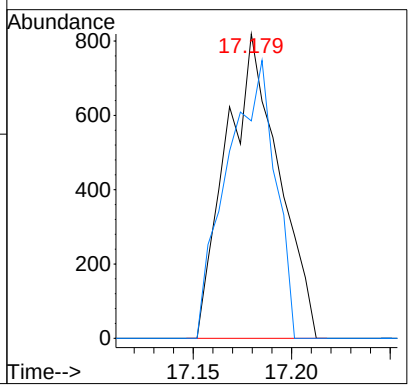




#64
Tetrachloroethene
Concen: 0.06 ng
RT: 17.18 min Scan# 2490
Delta R.T. -0.006 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion:166 Resp: 1510

Ion	Ratio	Lower	Upper
166	100		
164	83.6	59.3	99.3



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:25:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

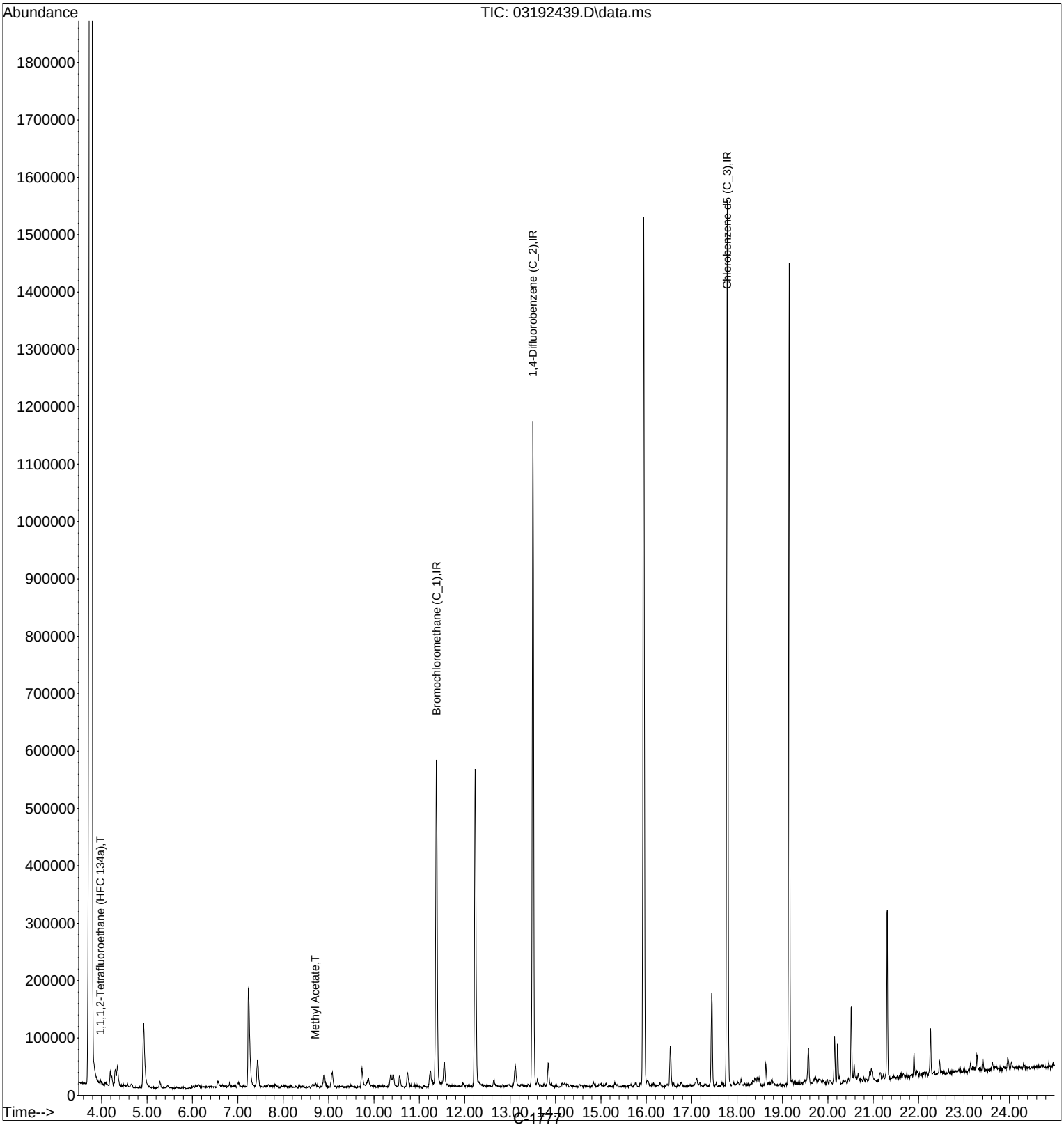
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	222827	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	1000089	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	222933	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.87	85	501	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3681	0.166	ng	#	72
4) 1,1-Difluoroethane	4.09	65	1109	N.D.			
5) Chlorodifluoromethane ...	4.17	67	116	N.D.			
6) 1-Chloro-1,1-Difluoroe...	4.66	65	1282	N.D.			
7) Dichlorofluoromethane ...	6.36	67	67	N.D.			
8) Vinylbromide	6.72	108	52	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.03	83	133	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	8.71	43	7471	0.148	ng	#	61
12) 2-Methylpentane	10.44	71	83	N.D.			
13) 2,2-Dichloropropane	11.65	77	134	N.D.			
14) 1,1-Dichloropropene	12.99	75	55	N.D.			
15) Thiophene	13.26	84	659	N.D.			
17) 2,3-Dimethylpentane	13.66	56	321	N.D.			
18) Dibromomethane	13.92	174	170	N.D.			
20) Methyl Cyclohexane	15.18	55	393	N.D.			
21) 1,3-Dichloropropane	16.01	76	55	N.D.			
22) 1,1,1,2-Tetrachloroethane	17.75	131	64	N.D.			
23) 1-Chlorohexane	18.01	91	928	N.D.			
24) 1,2,3-Trichloropropane	18.85	75	51	N.D.			
25) Bromobenzene	19.34	77	323	N.D.			
26) 2-Chlorotoluene	19.67	91	815	N.D.			
27) 4-Chlorotoluene	19.76	91	51	N.D.			
28) Indane	20.81	117	113	N.D.			
29) Indene	20.87	115	121	N.D.			
30) 1,2,4,5-Tetramethylben...	21.66	119	676	N.D.			
31) 1,2,3,4-Tetramethylben...	21.66	119	676	N.D.			
32) 1,2,3,5-Tetramethylben...	22.03	119	400	N.D.			
33) 1,2,3-Trichlorobenzene	22.51	180	59	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 21 14:25:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:25:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

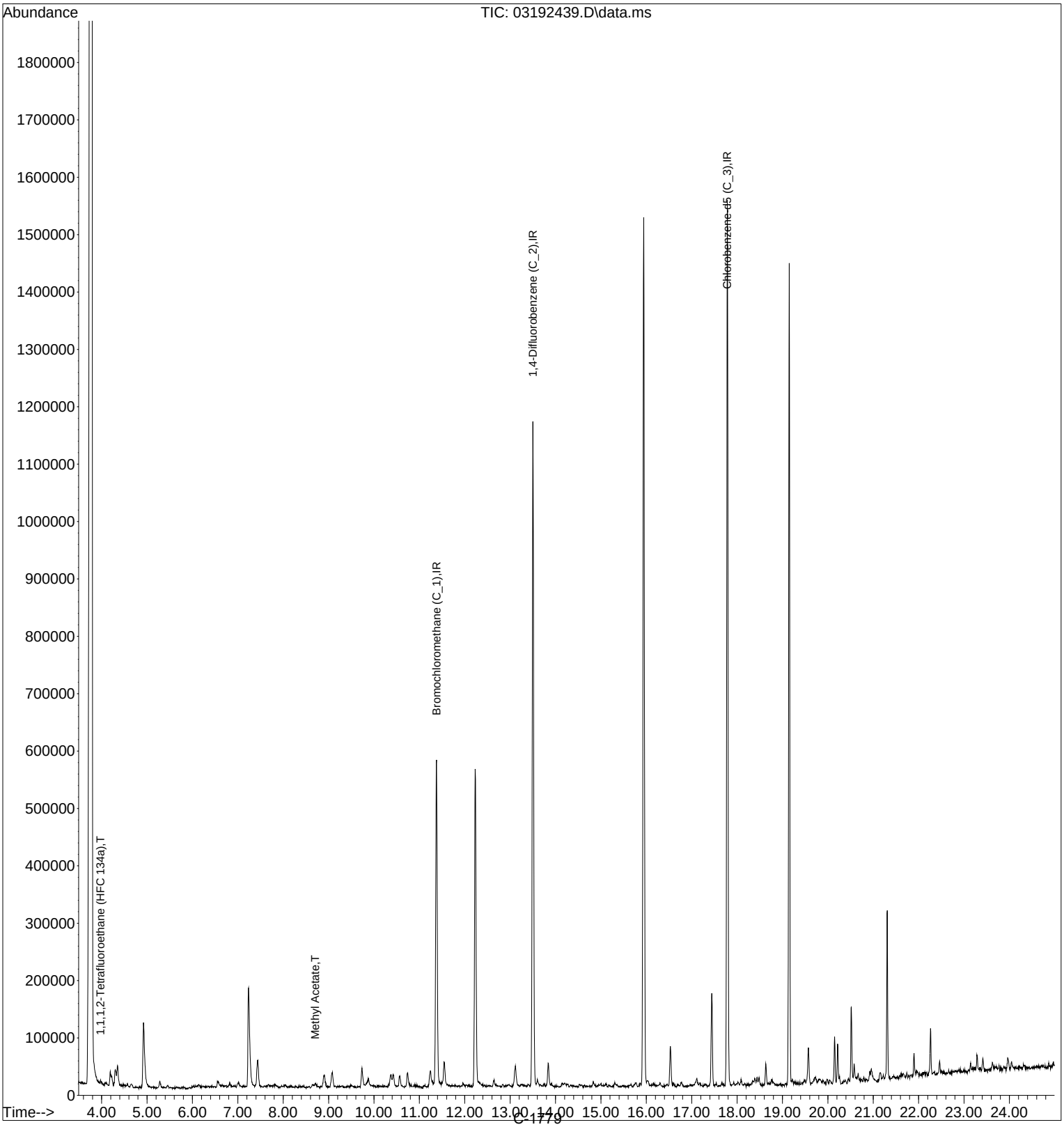
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	222827	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	1000089	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	222933	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3681	0.166	ng	#	72
11) Methyl Acetate	8.71	43	7471	0.148	ng	#	61

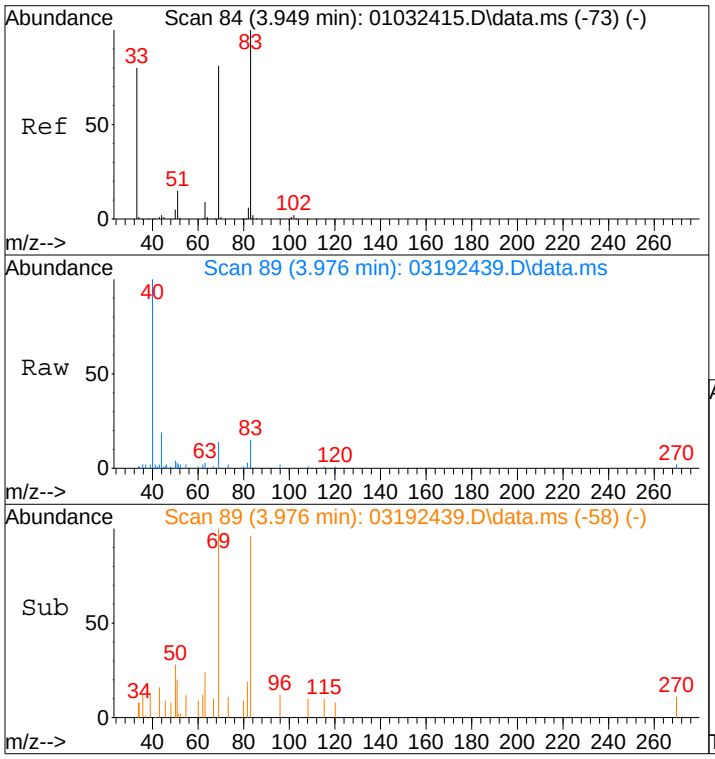
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 21 14:25:14 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

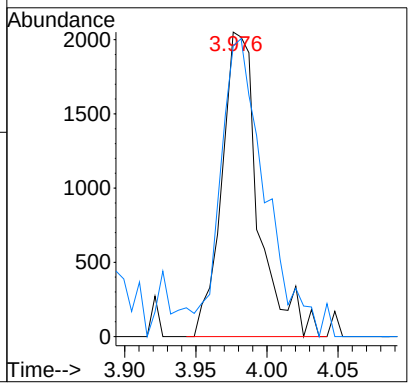


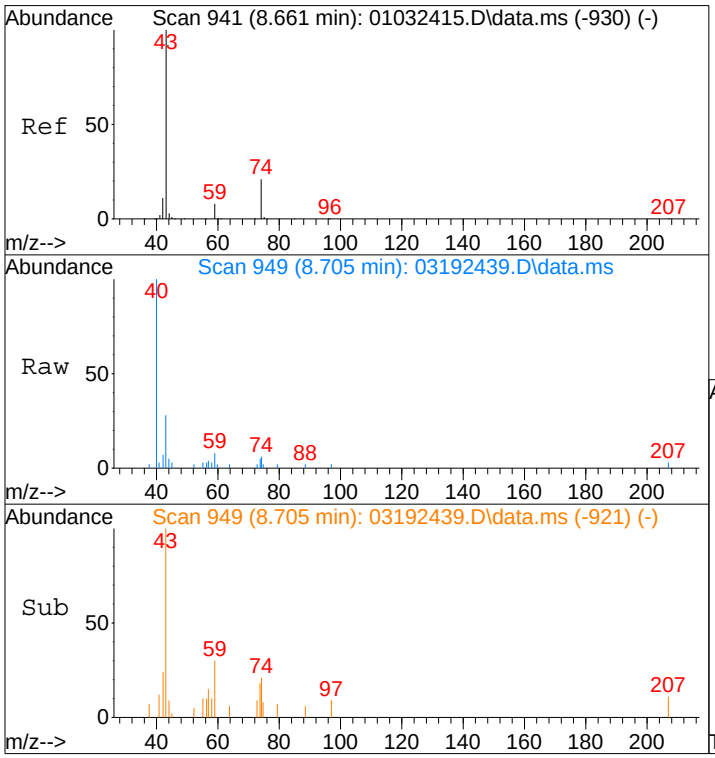


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.17 ng
RT: 3.98 min Scan# 89
Delta R.T. 0.022 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

Tgt Ion: 83 Resp: 3681

Ion	Ratio	Lower	Upper
83	100		
69	119.7	74.0	111.0#

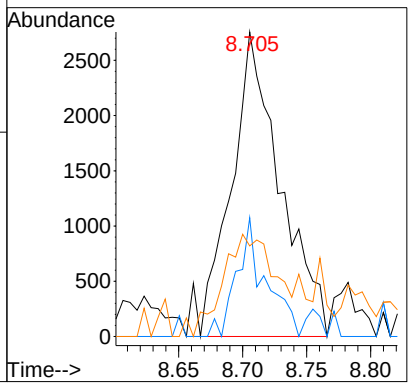




#11
Methyl Acetate
Concen: 0.15 ng
RT: 8.71 min Scan# 949
Delta R.T. 0.005 min
Lab File: 03192439.D
Acq: 19 Mar 2024 21:05

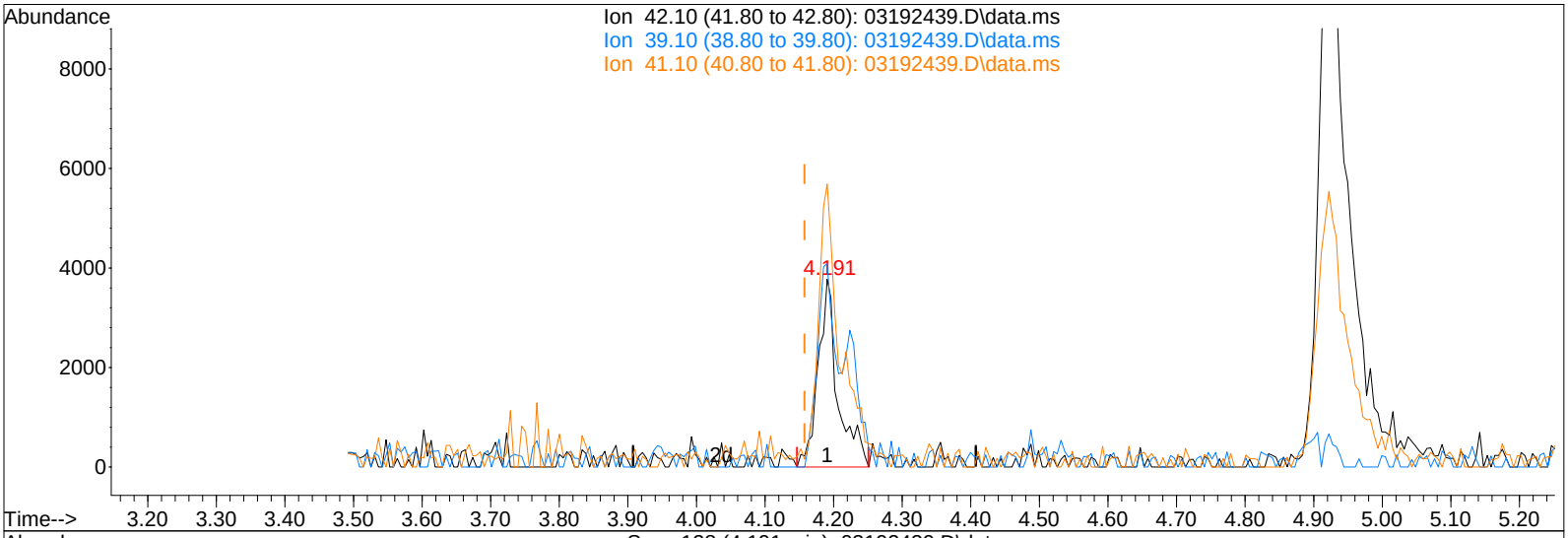
Tgt Ion: 43 Resp: 7471

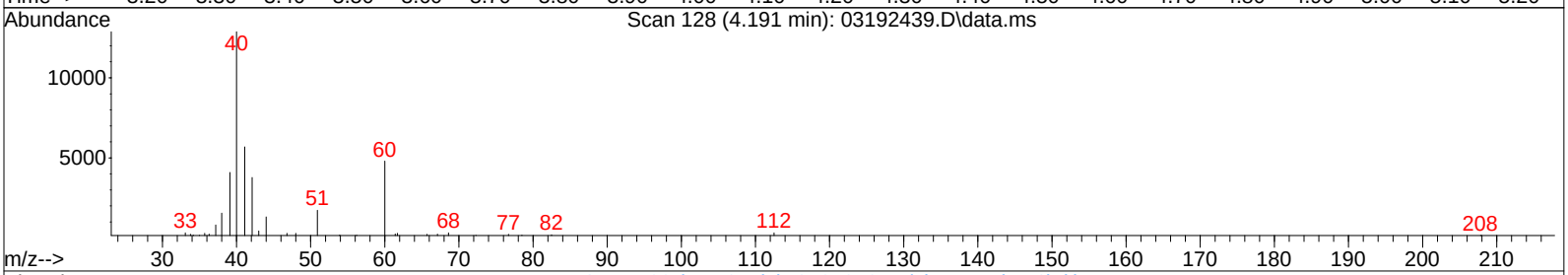
Ion	Ratio	Lower	Upper
43	100		
74	22.6	14.9	22.3#
59	46.5	6.0	9.0#

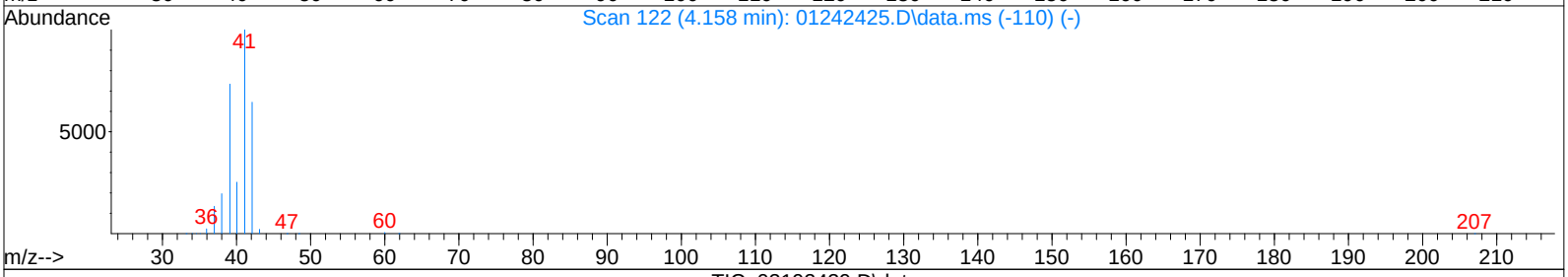


Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 20 08:34:29 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192439.D\data.ms

(2) Propene (T)

4.191min (+0.033) 0.24ng

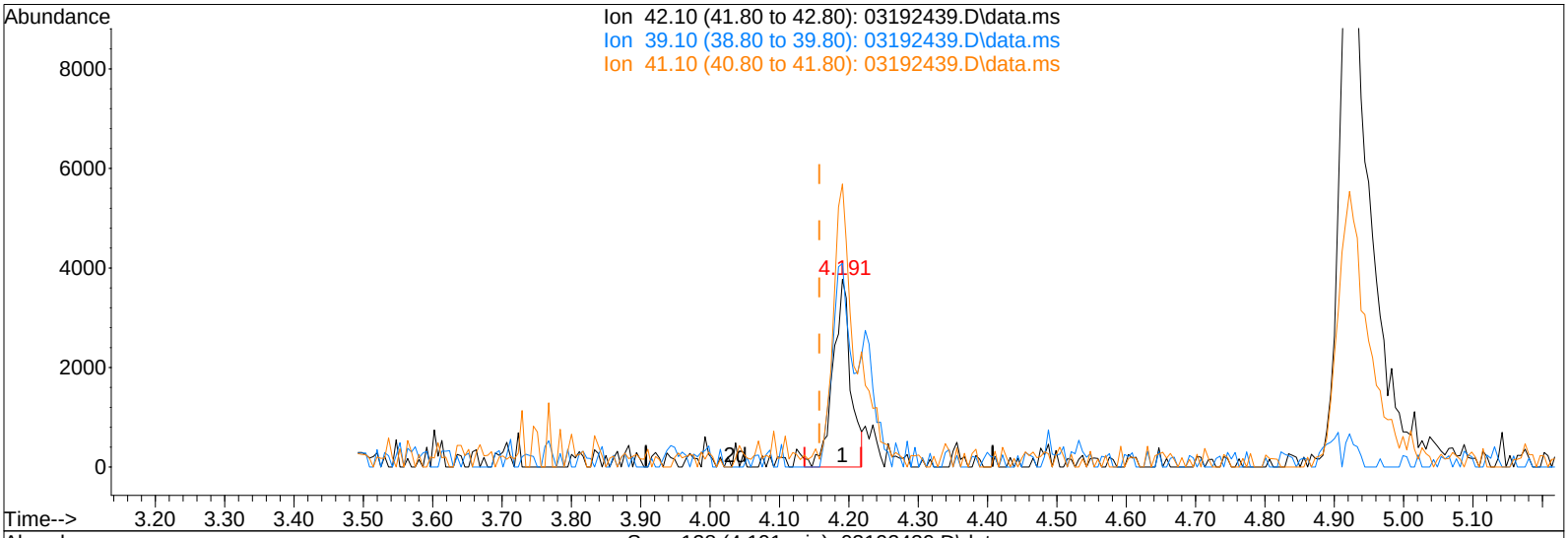
response 7568

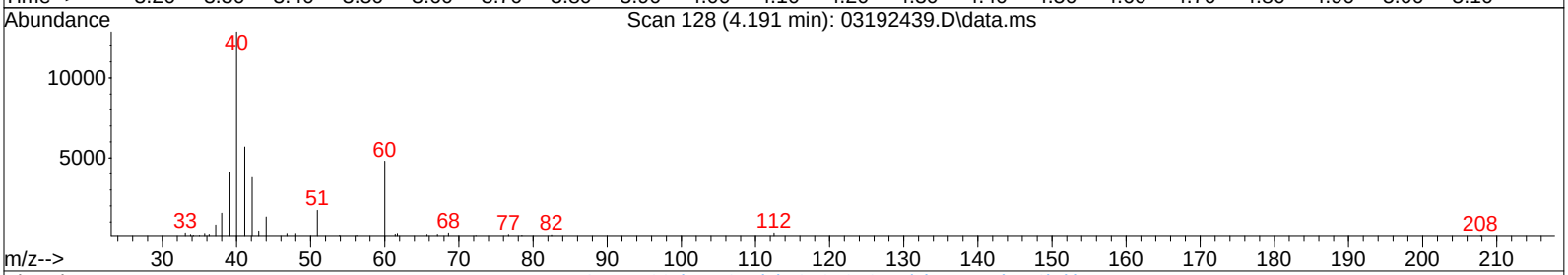
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	102.85
41.10	152.40	176.81#
0.00	0.00	0.00

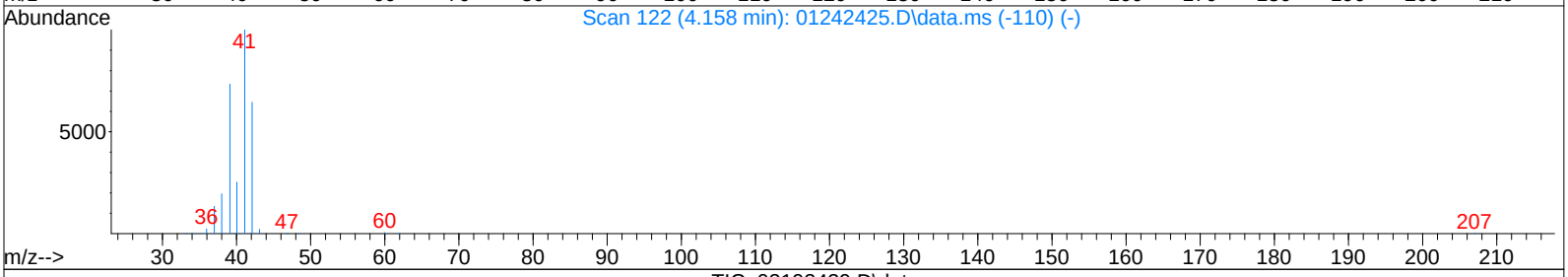
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 20 08:34:29 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192439.D\data.ms

(2) Propene (T)

4.191min (+0.033) 0.21ng m

response 6643

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	117.18
41.10	152.40	144.27
0.00	0.00	0.00

CI 3/20/24

IPC

LH 3/24/24

C-1782

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192439.D\data.ms

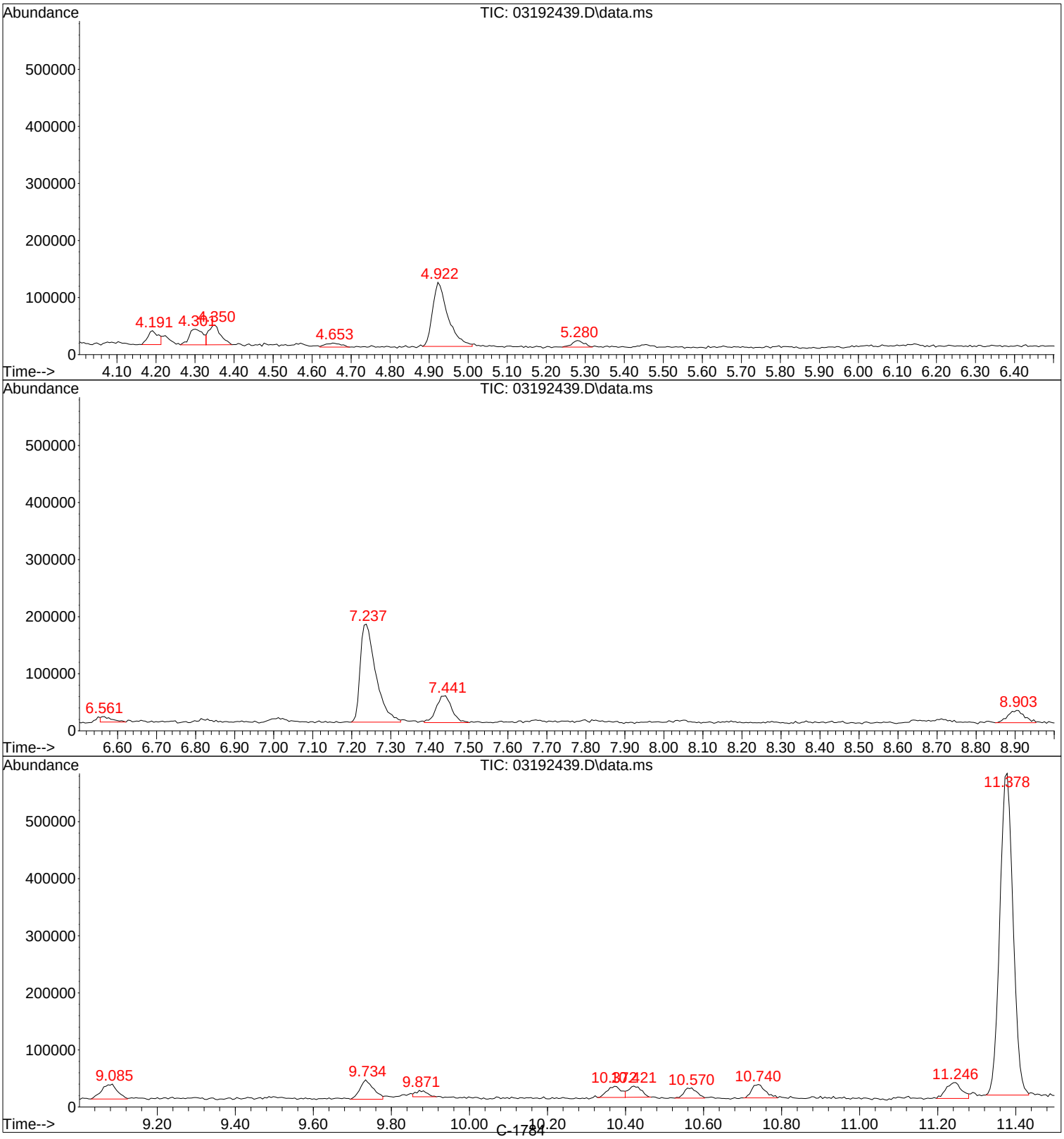
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.191	123	128	132	rBV5	24471	46936	3.55%	1.567%
2	4.301	141	148	153	rBV2	27451	69909	5.28%	2.333%
3	4.350	153	157	165	rVB2	34639	71106	5.38%	2.373%
4	4.653	206	212	220	rVB7	7061	18886	1.43%	0.630%
5	4.922	254	261	277	rBV	112387	307373	23.23%	10.260%
6	5.280	319	326	333	rBV3	11410	24483	1.85%	0.817%
7	6.561	558	559	570	rVB5	9527	17539	1.33%	0.585%
8	7.237	675	682	698	rBV	171795	476643	36.03%	15.910%
9	7.441	709	719	730	rVB3	46879	128577	9.72%	4.292%
10	8.903	975	985	994	rBV2	21449	63713	4.82%	2.127%
11	9.085	1008	1018	1025	rBV6	26118	73365	5.55%	2.449%
12	9.734	1129	1136	1144	rBV	33953	82136	6.21%	2.742%
13	9.871	1158	1161	1169	rVB4	11333	21177	1.60%	0.707%
14	10.372	1244	1252	1257	rBV5	19579	50454	3.81%	1.684%
15	10.421	1257	1261	1269	rVB2	19464	43783	3.31%	1.461%
16	10.570	1280	1288	1294	rBV4	17958	40982	3.10%	1.368%
17	10.740	1312	1319	1328	rBV2	23540	57172	4.32%	1.908%
18	11.246	1402	1411	1417	rBV2	27846	78795	5.96%	2.630%
19	11.378	1425	1435	1445	rBV	563647	1322892	100.00%	44.156%

Sum of corrected areas: 2995921

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:05
Operator : CI
Sample : P2400922-057 (400mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192439.D
Acq On : 19 Mar 2024 21:055
Operator : CII
Sample : P2400922-057 (400mL))
Misc : S37-01032403//
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

CJ 3/22/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 16:09:47 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.37	130	220649	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.51	114	997561	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	222510	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	448964	12.081	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
57) Toluene-d8 (SS2)	15.94	98	1131561	13.023	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%			
73) Bromofluorobenzene (SS3)	19.15	174	376619	12.870	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
Target Compounds						Qvalue
2) Propene	4.19	42	10443m	0.335	ng	
3) Dichlorodifluoromethan...	4.35	85	27900	0.568	ng	98
4) Chloromethane	0.00	50	0	N.D.	d	
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	745	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.13	64	139	N.D.		
10) Ethanol	6.56	45	29560	1.494	ng	91
11) Acetonitrile	0.00	41	0	N.D.	d	
12) Acrolein	7.03	56	2851	0.199	ng	93
13) Acetone	7.26	58	29256	1.824	ng	99
14) Trichlorofluoromethane	7.43	101	232355	5.272	ng	99
15) 2-Propanol (Isopropanol)	7.78	45	40183	0.672	ng	92
16) Acrylonitrile	0.00	53	0	N.D.	d	
17) 1,1-Dichloroethene	8.42	96	104	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d	
19) Methylene Chloride	0.00	84	0	N.D.	d	
20) 3-Chloro-1-propene (Al...	8.84	41	336	N.D.		
21) Trichlorotrifluoroethane	9.07	151	99286	5.172	ng	99
22) Carbon Disulfide	8.92	76	16294	0.247	ng	89
23) trans-1,2-Dichloroethene	9.90	61	207	N.D.		
24) 1,1-Dichloroethane	10.17	63	213	N.D.		
25) Methyl tert-Butyl Ether	10.39	73	1142	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.73	72	7497	0.534	ng	99
28) cis-1,2-Dichloroethene	11.20	61	178	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.54	61	117027	14.638	ng	93
31) n-Hexane	11.49	57	5058	0.138	ng	98
32) Chloroform	11.54	83	54877	1.470	ng	96
34) Tetrahydrofuran (THF)	12.02	72	2273	0.168	ng	93
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	12.64	97	187	N.D.		
39) Isopropyl Acetate	13.76	61	126	No Calib	#	
40) 1-Butanol	12.64	56	212	No Calib	#	
41) Benzene	13.10	78	21086	0.222	ng	92
42) Carbon Tetrachloride	13.24	117	446	N.D.		
43) Cyclohexane	13.40	84	2818	0.091	ng	96
44) tert-Amyl Methyl Ether	13.78	73	357	N.D.		
45) 1,2-Dichloropropane	13.95	63	532	N.D.		
46) Bromodichloromethane	14.14	83	1201	N.D.		
47) Trichloroethene	14.19	130	1534	0.063	ng	92
48) 1,4-Dioxane	14.23	88	247	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 20 16:09:47 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

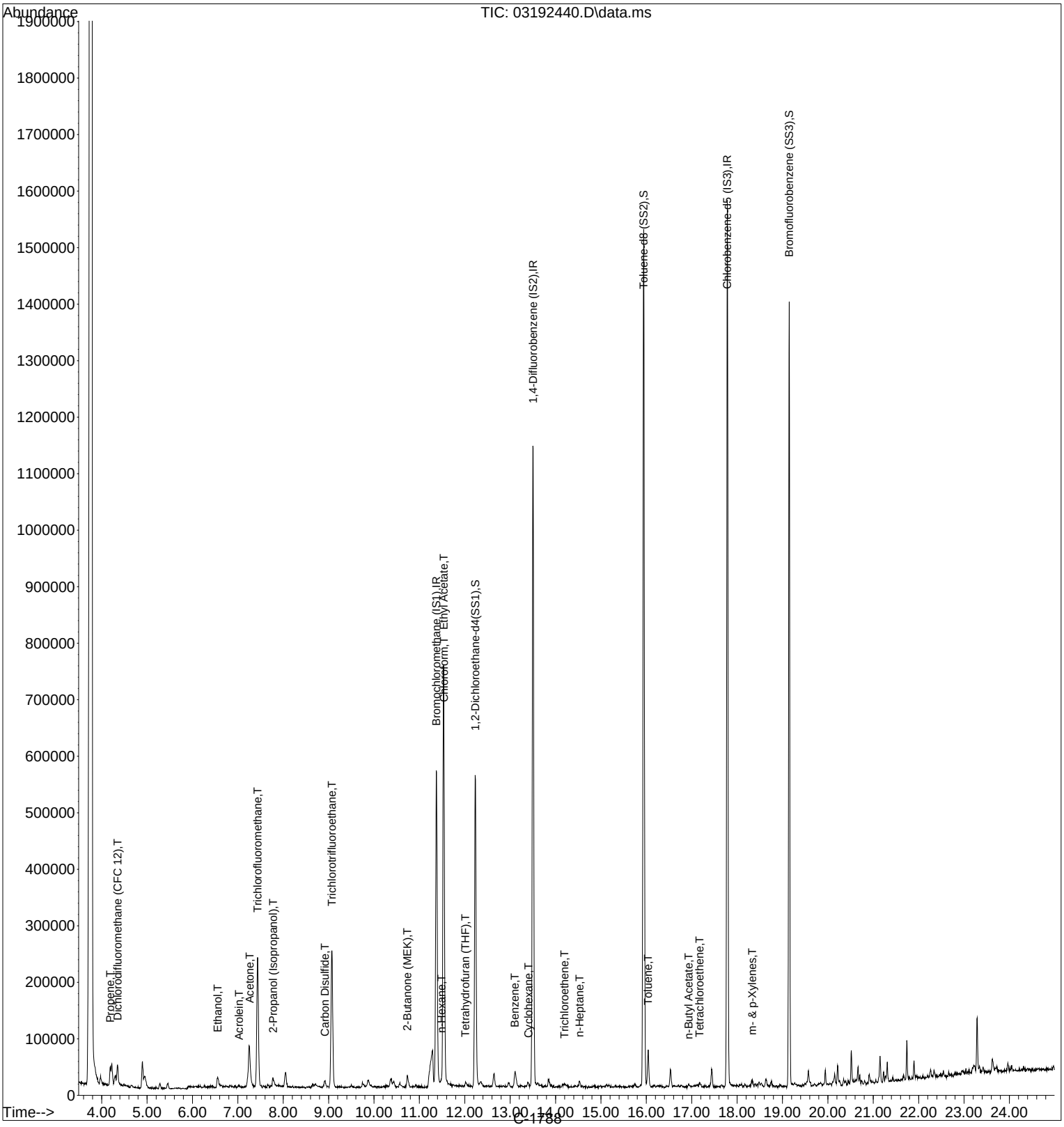
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	2360	N.D.	
50) Methyl Methacrylate	14.42	100	244	N.D.	
51) n-Heptane	14.53	71	3001	0.131 ng	85
52) cis-1,3-Dichloropropene	15.07	75	189	N.D.	
53) 4-Methyl-2-pentanone	15.13	58	390	N.D.	
54) trans-1,3-Dichloropropene	15.57	75	198	N.D.	
55) 1,1,2-Trichloroethane	15.76	97	263	N.D.	
58) Toluene	16.04	91	49397	0.606 ng	99
59) 2-Hexanone	16.31	43	1224	N.D.	
60) Dibromochloromethane	16.46	129	321	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.93	43	4465	0.078 ng	94
63) n-Octane	17.05	57	485	N.D.	
64) Tetrachloroethene	17.17	166	1885	0.079 ng	91
65) Chlorobenzene	17.83	112	1300	N.D.	
66) Ethylbenzene	18.17	91	3396	N.D.	
67) m- & p-Xylenes	18.33	91	5916	0.078 ng	96
68) Bromoform	18.40	173	612	N.D.	
69) Styrene	18.65	104	1557	N.D.	
70) o-Xylene	18.75	91	2812	N.D.	
71) n-Nonane	18.94	43	1544	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.73	83	1074	N.D.	
74) Cumene	19.27	105	1605	N.D.	
75) alpha-Pinene	19.61	93	2071	N.D.	
76) n-Propylbenzene	19.71	91	3163	N.D.	
77) 3-Ethyltoluene	20.25	105	1846	No Calib	
78) 4-Ethyltoluene	19.84	105	1345	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	856	N.D.	
80) alpha-Methylstyrene	20.67	118	726	No Calib	#
81) 2-Ethyltoluene	20.25	105	1846	No Calib	
82) 1,2,4-Trimethylbenzene	20.25	105	1846	N.D.	
83) n-Decane	20.35	58	389	No Calib	#
84) Benzyl Chloride	20.37	91	585	N.D.	
85) 1,3-Dichlorobenzene	20.40	146	671	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	995	N.D.	
87) sec-Butylbenzene	20.49	105	1498	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	1798	N.D.	
89) 1,2,3-Trimethylbenzene	20.25	105	1846	No Calib	
90) 1,2-Dichlorobenzene	20.75	146	597	N.D.	
91) d-Limonene	20.74	68	1056	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	324	N.D.	
93) n-Undecane	21.53	58	233	No Calib	#
94) 1,2,4-Trichlorobenzene	22.25	180	1335	N.D.	
95) Naphthalene	22.34	128	1073	N.D.	
96) n-Dodecane	22.81	57	819	No Calib	#
97) Hexachlorobutadiene	22.66	225	793	N.D.	
98) Cyclohexanone	18.22	55	493	No Calib	#
99) tert-Butylbenzene	20.26	119	1503	N.D.	
100) n-Butylbenzene	20.99	91	1112	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 20 16:09:47 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 16:09:47 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

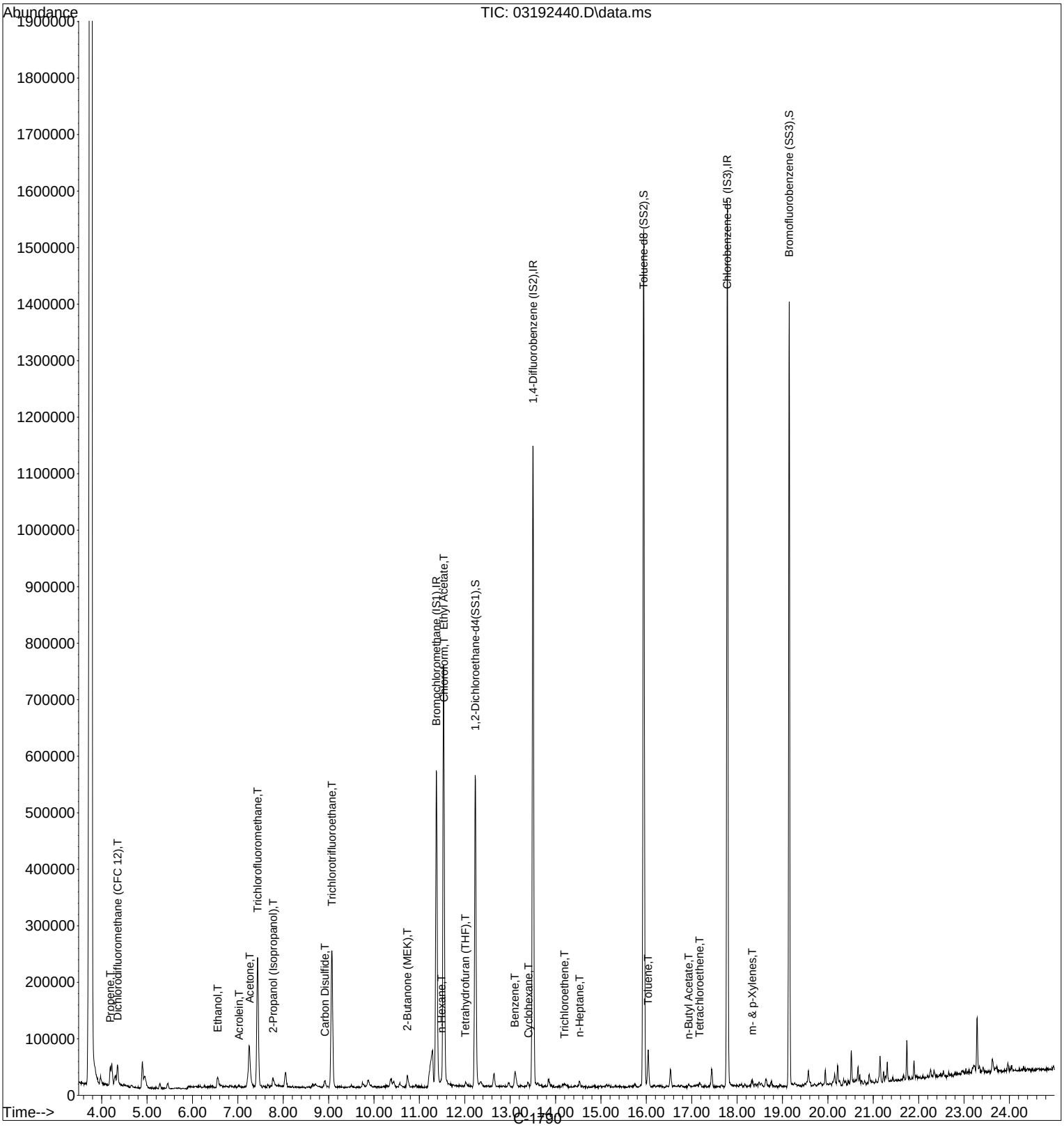
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.37	130	220649	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	13.51	114	997561	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	222510	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	448964	12.081	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%			
57) Toluene-d8 (SS2)	15.94	98	1131561	13.023	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%			
73) Bromofluorobenzene (SS3)	19.15	174	376619	12.870	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
Target Compounds						Qvalue
2) Propene	4.19	42	10443m	0.335	ng	
3) Dichlorodifluoromethan...	4.35	85	27900	0.568	ng	98
10) Ethanol	6.56	45	29560	1.494	ng	91
12) Acrolein	7.03	56	2851	0.199	ng	93
13) Acetone	7.26	58	29256	1.824	ng	99
14) Trichlorofluoromethane	7.43	101	232355	5.272	ng	99
15) 2-Propanol (Isopropanol)	7.78	45	40183	0.672	ng	92
21) Trichlorotrifluoroethane	9.07	151	99286	5.172	ng	99
22) Carbon Disulfide	8.92	76	16294	0.247	ng	89
27) 2-Butanone (MEK)	10.73	72	7497	0.534	ng	99
30) Ethyl Acetate	11.54	61	117027	14.638	ng	93
31) n-Hexane	11.49	57	5058	0.138	ng	98
32) Chloroform	11.54	83	54877	1.470	ng	96
34) Tetrahydrofuran (THF)	12.02	72	2273	0.168	ng	93
41) Benzene	13.10	78	21086	0.222	ng	92
43) Cyclohexane	13.40	84	2818	0.091	ng	96
47) Trichloroethene	14.19	130	1534	0.063	ng	92
51) n-Heptane	14.53	71	3001	0.131	ng	85
58) Toluene	16.04	91	49397	0.606	ng	99
62) n-Butyl Acetate	16.93	43	4465	0.078	ng	94
64) Tetrachloroethene	17.17	166	1885	0.079	ng	91
67) m- & p-Xylenes	18.33	91	5916	0.078	ng	96

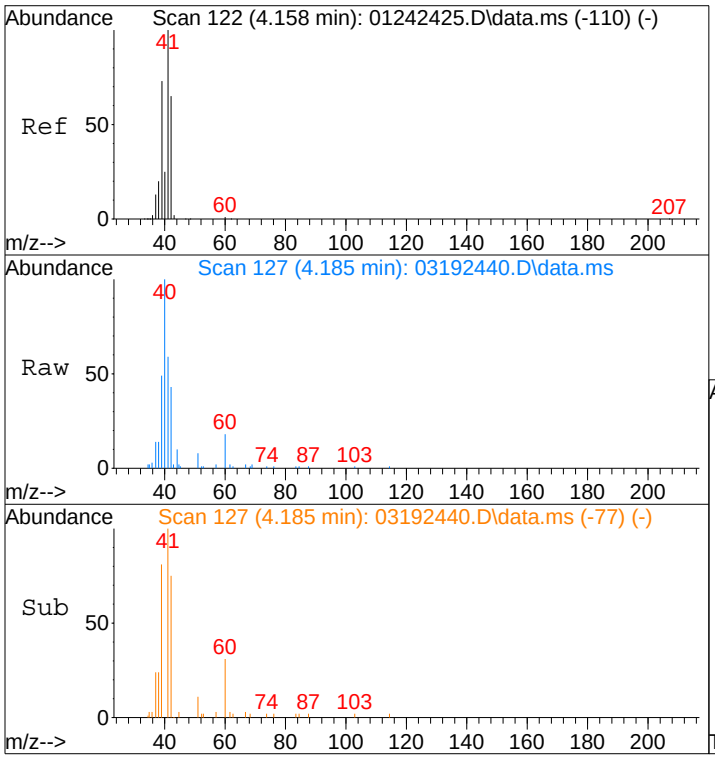
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 20 16:09:47 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

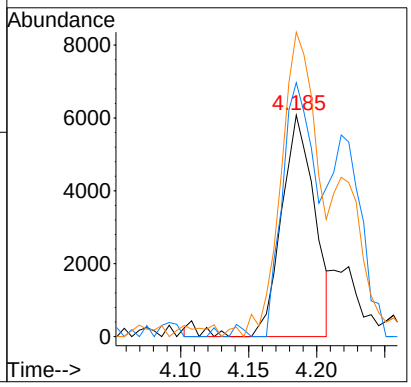


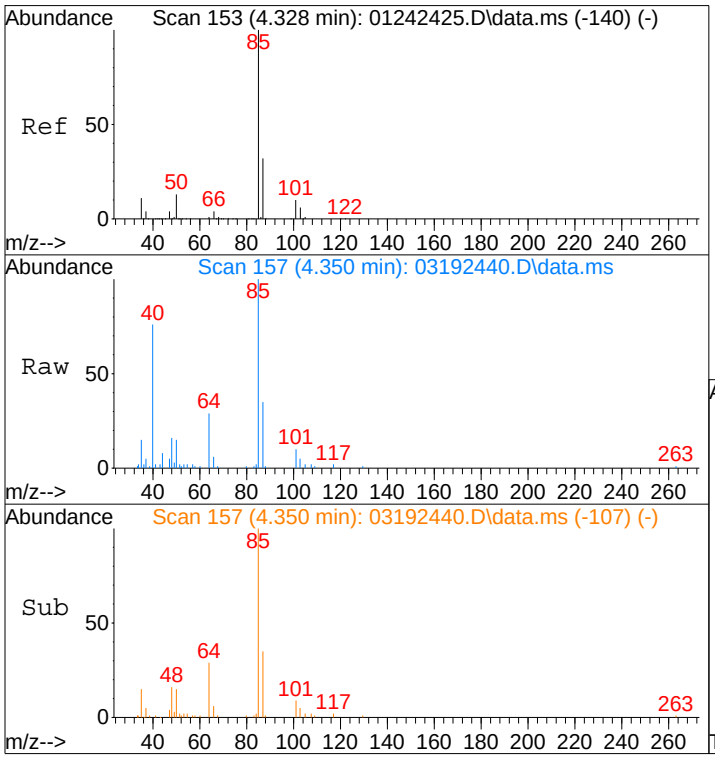


#2
Propene
Concen: 0.34 ng m
RT: 4.19 min Scan# 127
Delta R.T. 0.027 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 42 Resp: 10443

Ion	Ratio	Lower	Upper
42	100		
39	119.7	98.6	138.6
41	138.6	132.4	172.4

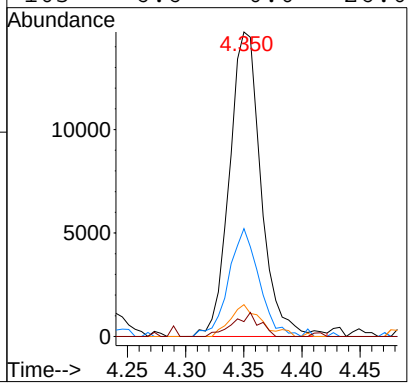


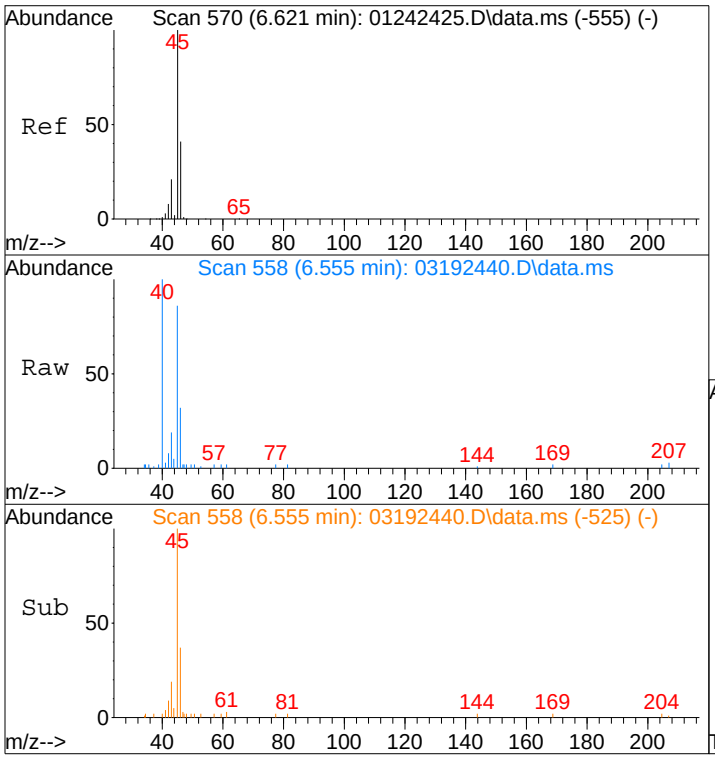


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.57 ng
RT: 4.35 min Scan# 157
Delta R.T. 0.027 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 85 Resp: 27900

Ion	Ratio	Lower	Upper
85	100		
87	34.1	13.1	53.1
101	10.2	0.0	29.5
103	6.6	0.0	26.0

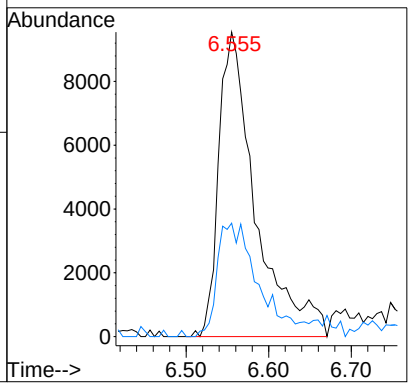


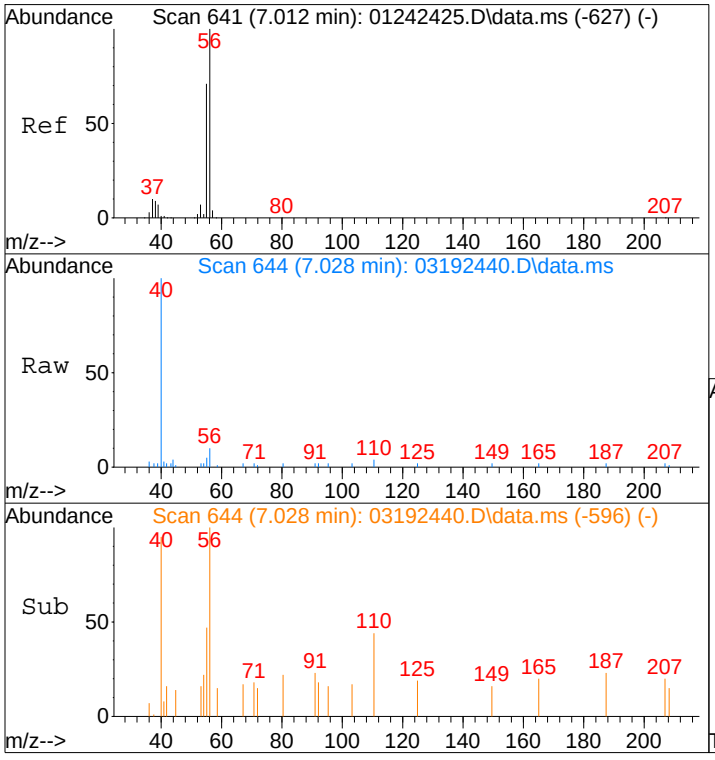


#10
Ethanol
Concen: 1.49 ng
RT: 6.56 min Scan# 558
Delta R.T. -0.066 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 45 Resp: 29560

Ion	Ratio	Lower	Upper
45	100		
46	45.2	19.6	59.6

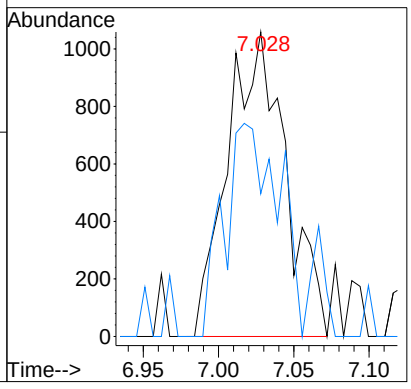


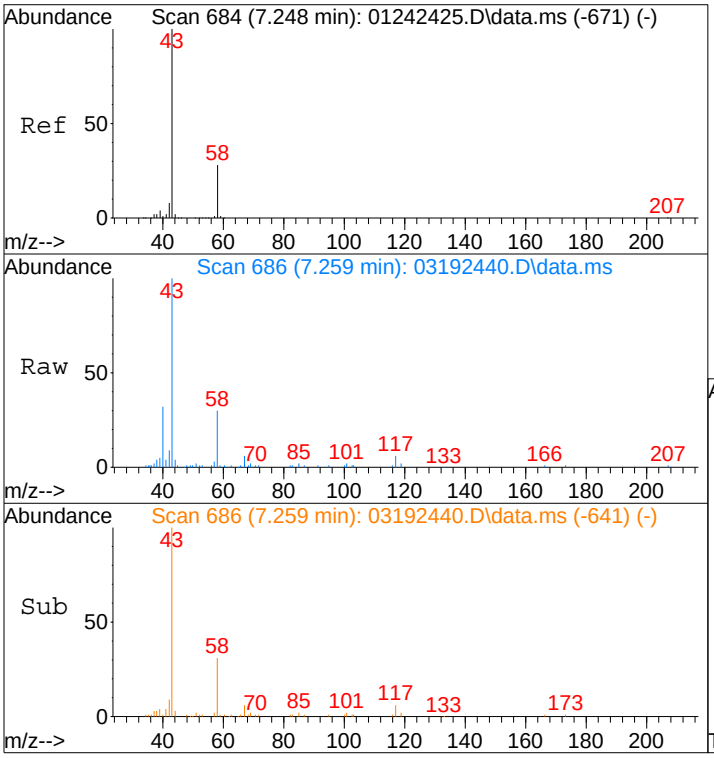


#12
Acrolein
Concen: 0.20 ng
RT: 7.03 min Scan# 644
Delta R.T. 0.016 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 56 Resp: 2851

Ion	Ratio	Lower	Upper
56	100		
55	65.8	51.4	91.4

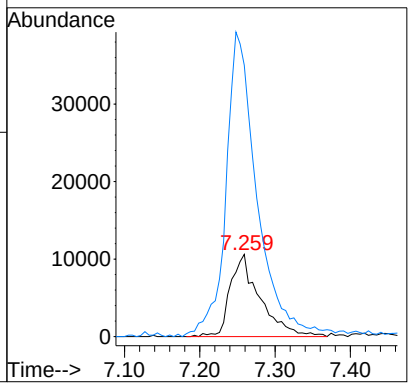


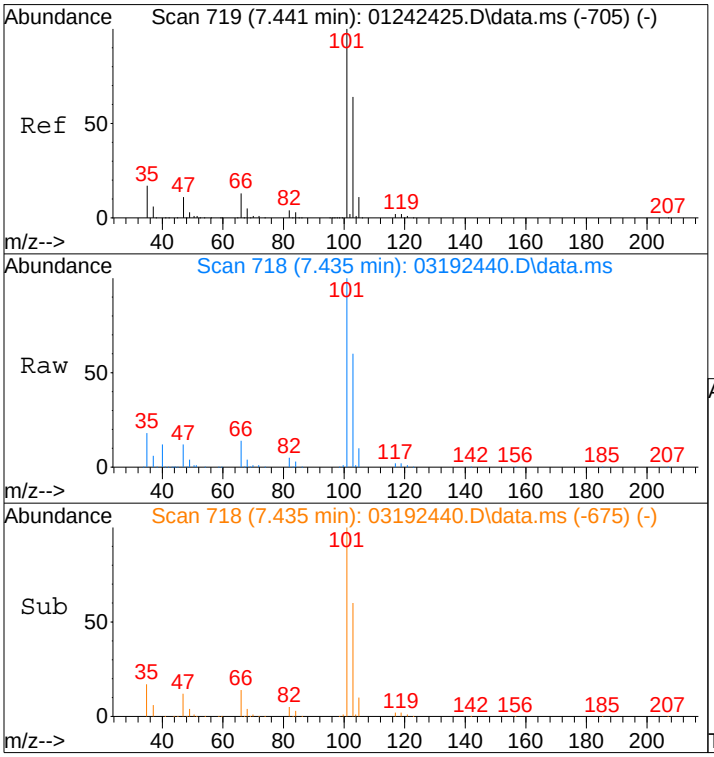


#13
Acetone
Concen: 1.82 ng
RT: 7.26 min Scan# 686
Delta R.T. -0.004 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 58 Resp: 29256

Ion	Ratio	Lower	Upper
58	100		
43	388.8	357.4	417.4

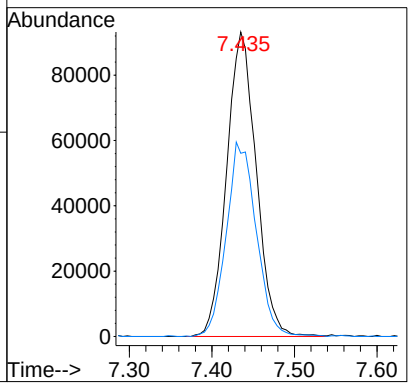


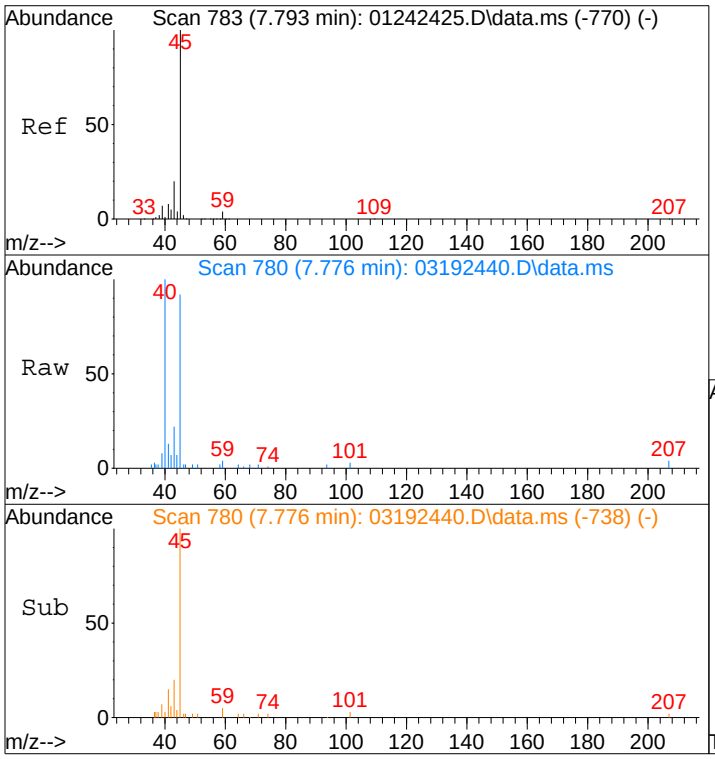


#14
Trichlorofluoromethane
Concen: 5.27 ng
RT: 7.43 min Scan# 718
Delta R.T. -0.011 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion:101 Resp: 232355

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.1	84.1

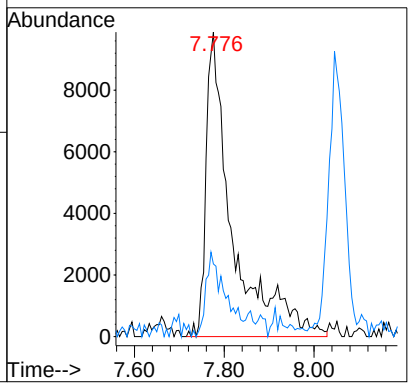


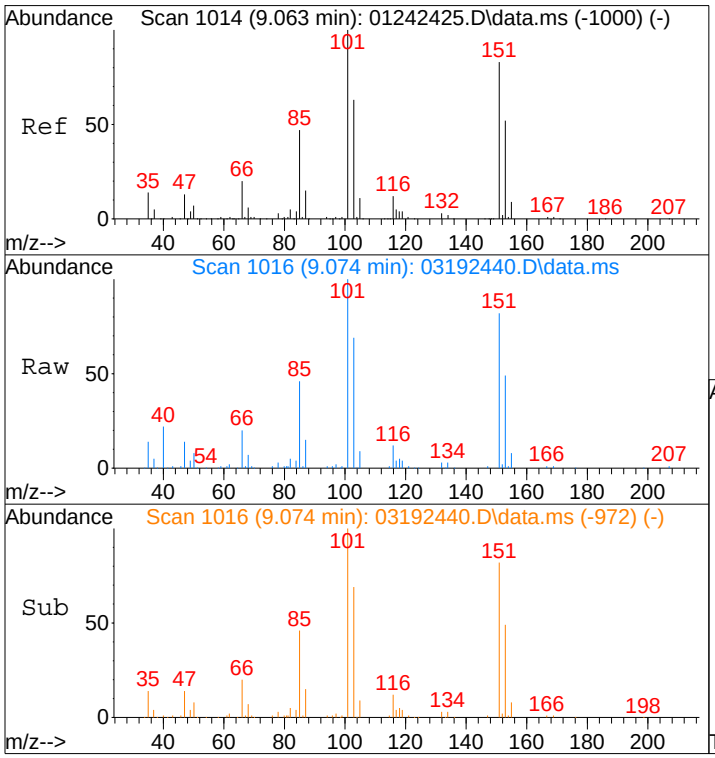


#15
2-Propanol (Isopropanol)
Concen: 0.67 ng
RT: 7.78 min Scan# 780
Delta R.T. -0.017 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 45 Resp: 40183

Ion	Ratio	Lower	Upper
45	100		
43	24.5	0.7	40.7

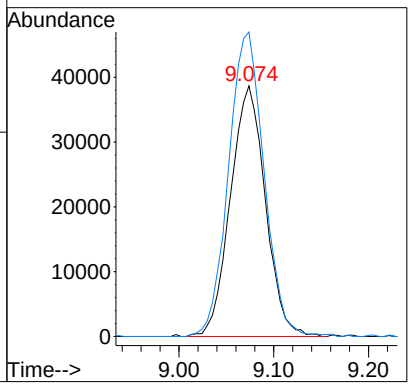


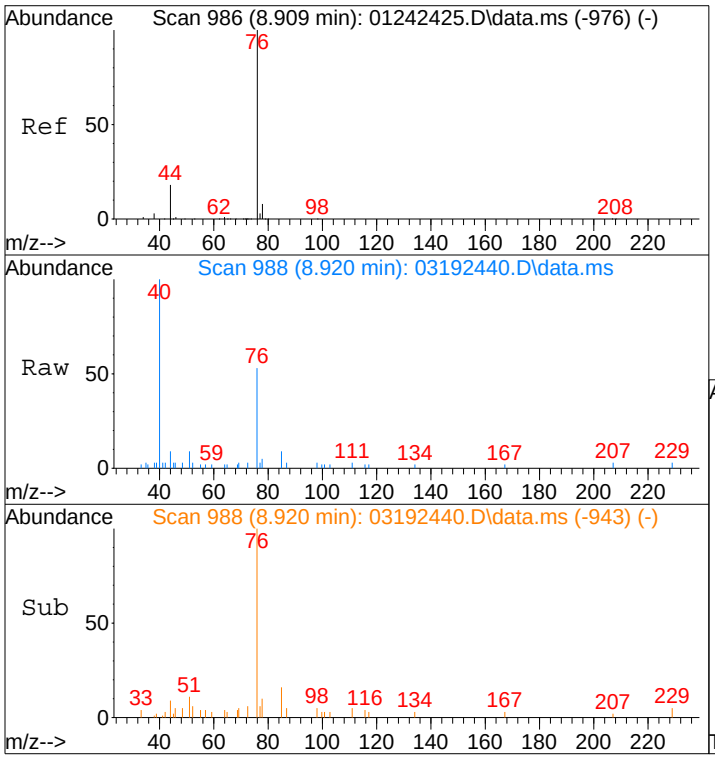


#21
Trichlorotrifluoroethane
Concen: 5.17 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.006 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion:151 Resp: 99286

Ion	Ratio	Lower	Upper
151	100		
101	123.5	104.2	144.2

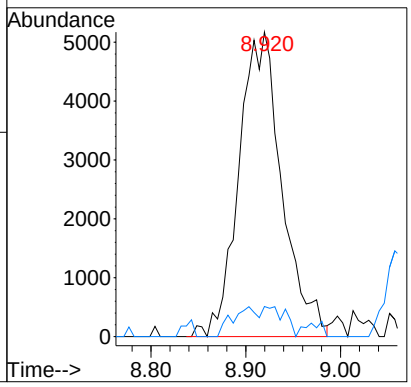


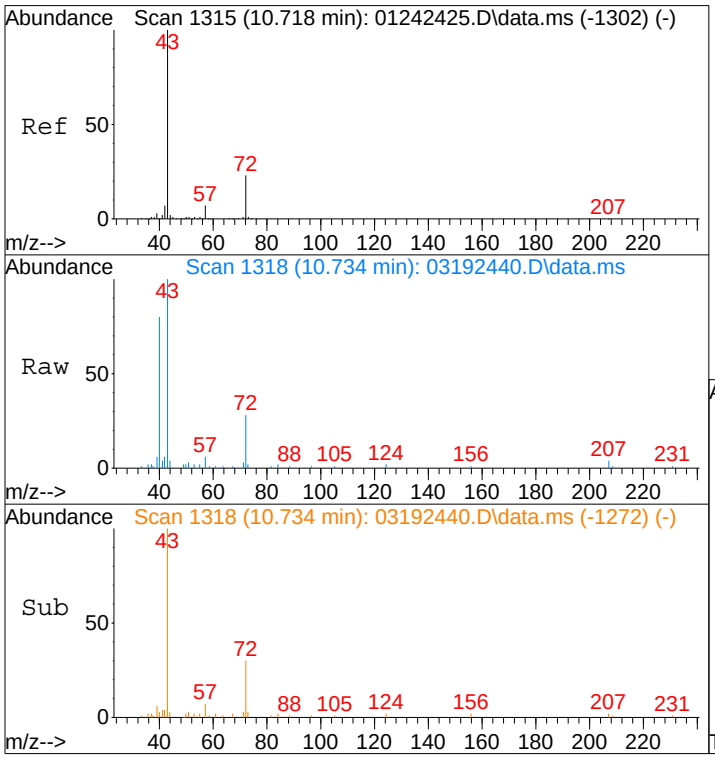


#22
Carbon Disulfide
Concen: 0.25 ng
RT: 8.92 min Scan# 988
Delta R.T. -0.000 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 76 Resp: 16294

Ion	Ratio	Lower	Upper
76	100		
78	5.1	0.0	29.3

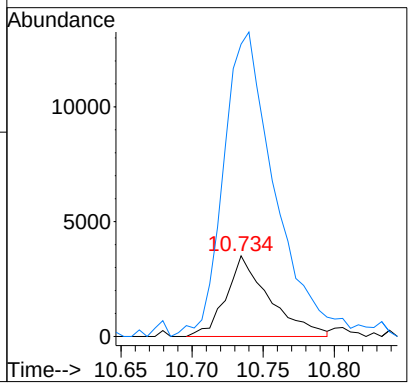


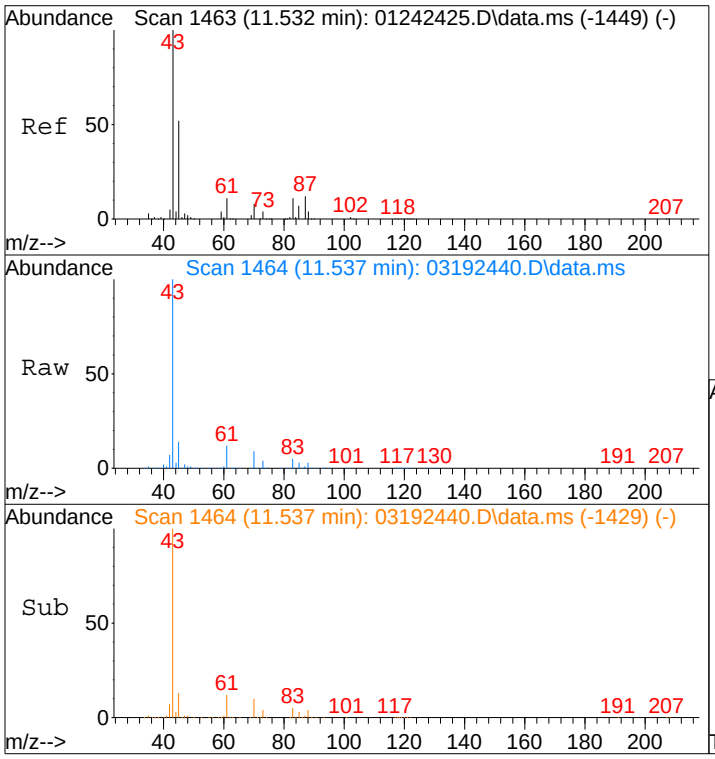


#27
2-Butanone (MEK)
Concen: 0.53 ng
RT: 10.73 min Scan# 1318
Delta R.T. 0.005 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 72 Resp: 7497

Ion	Ratio	Lower	Upper
72	100		
43	454.4	437.9	477.9

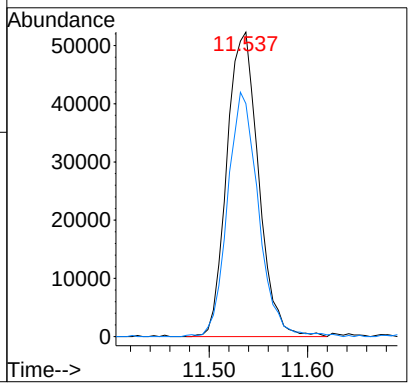


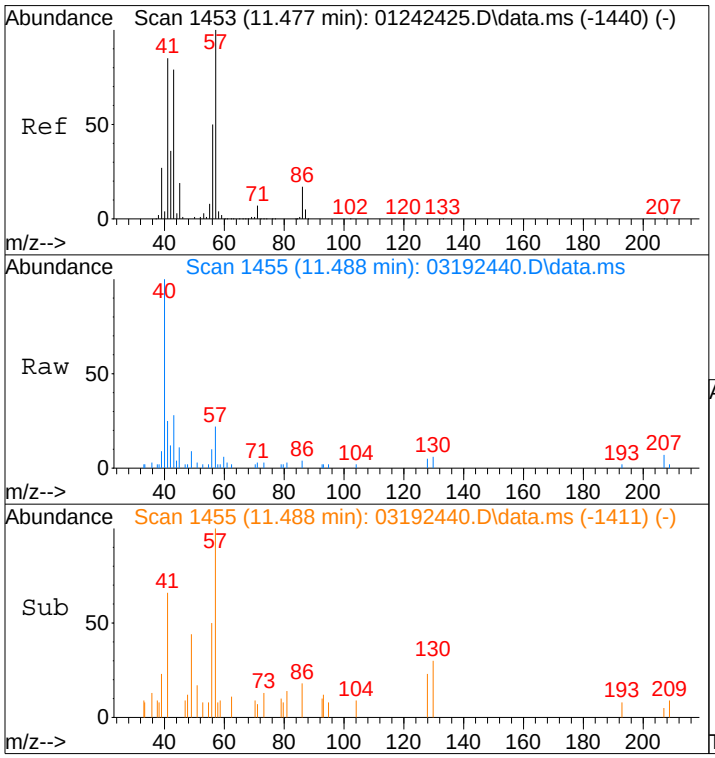


#30
Ethyl Acetate
Concen: 14.64 ng
RT: 11.54 min Scan# 1464
Delta R.T. -0.006 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 61 Resp: 117027

Ion	Ratio	Lower	Upper
61	100		
70	78.5	64.5	104.5

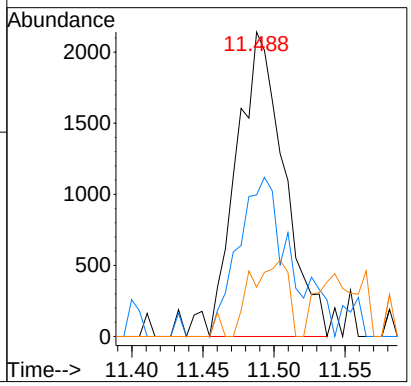


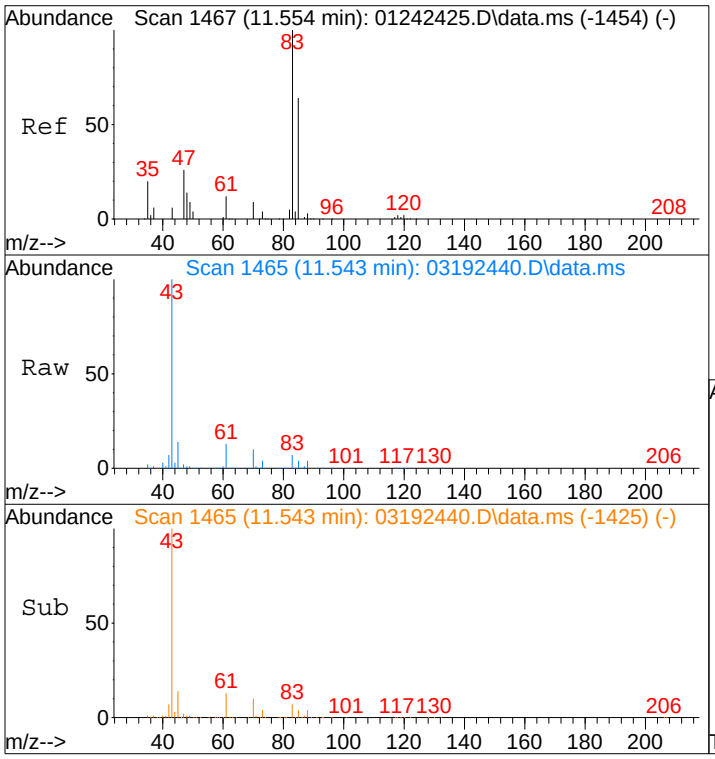


#31
n-Hexane
Concen: 0.14 ng
RT: 11.49 min Scan# 1455
Delta R.T. -0.006 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 57 Resp: 5058

Ion	Ratio	Lower	Upper
57	100		
56	50.2	40.7	61.1
86	18.9	13.4	20.2

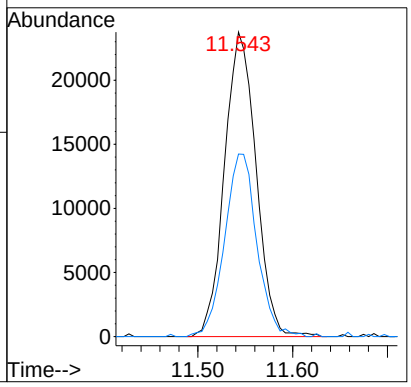


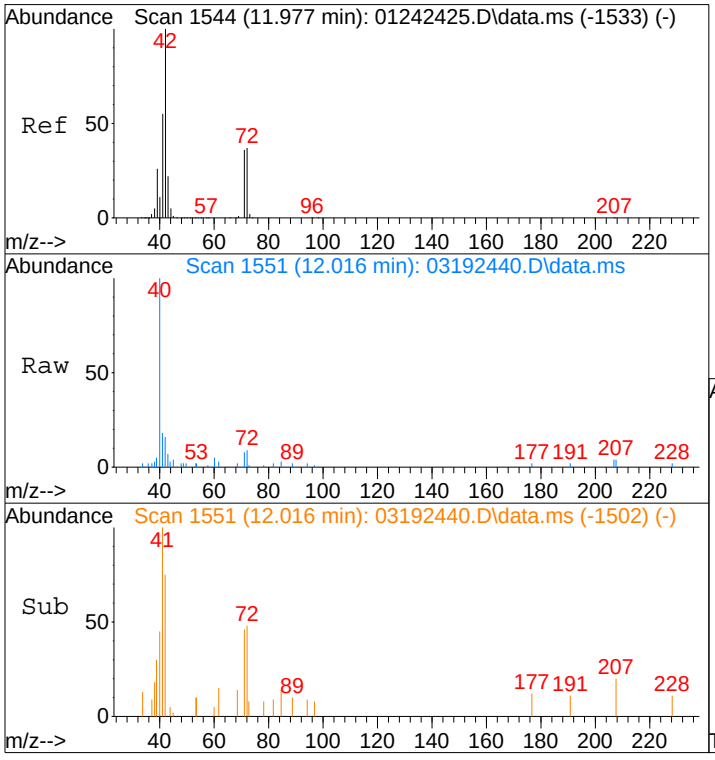


#32
Chloroform
Concen: 1.47 ng
RT: 11.54 min Scan# 1465
Delta R.T. -0.028 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 83 Resp: 54877

Ion	Ratio	Lower	Upper
83	100		
85	61.3	44.3	84.3

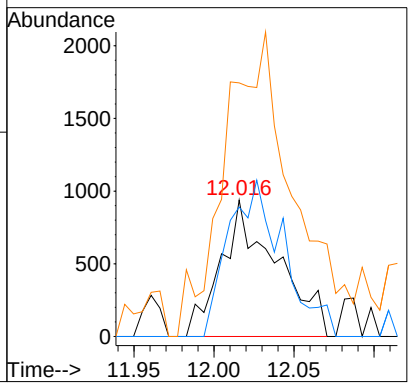


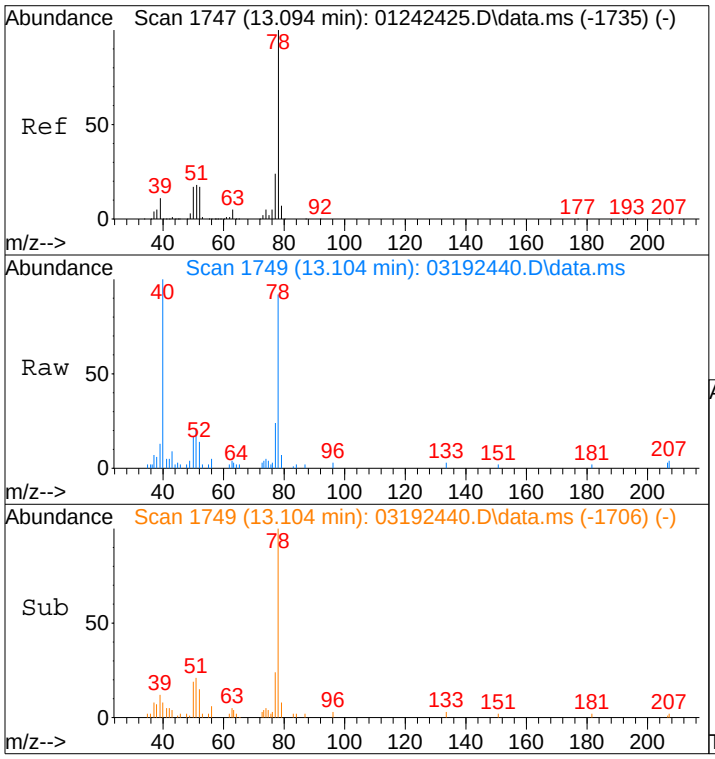


#34
Tetrahydrofuran (THF)
Concen: 0.17 ng
RT: 12.02 min Scan# 1551
Delta R.T. 0.022 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 72 Resp: 2273

Ion	Ratio	Lower	Upper
72	100		
71	113.3	76.1	116.1
42	276.6	250.1	290.1

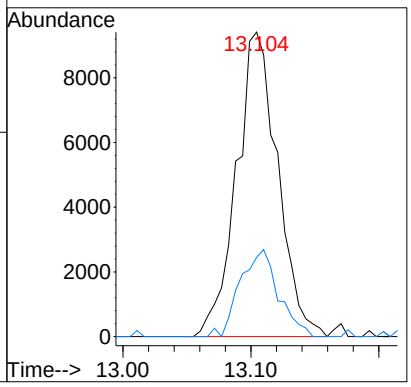


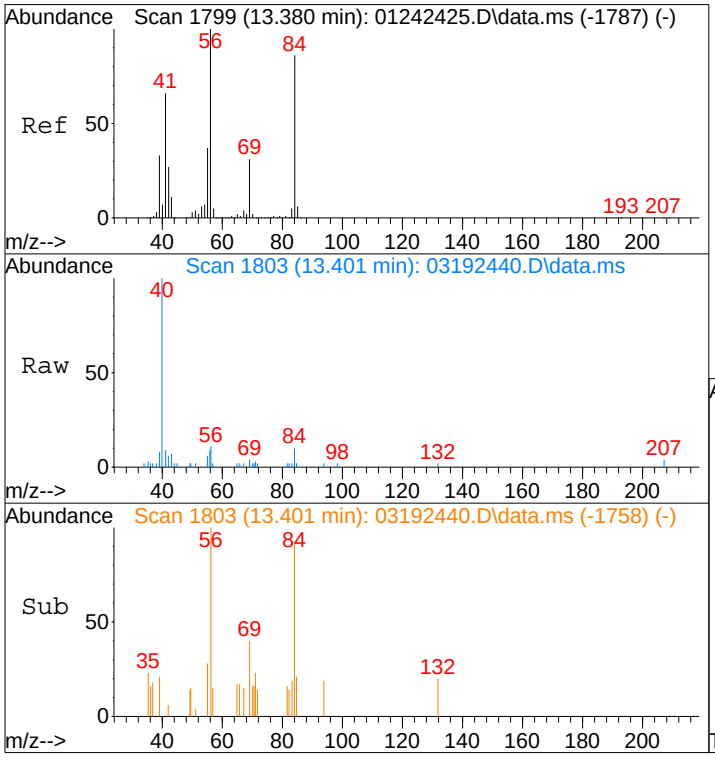


#41
Benzene
Concen: 0.22 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.012 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 78 Resp: 21086

Ion	Ratio	Lower	Upper
78	100		
77	26.6	2.6	42.6

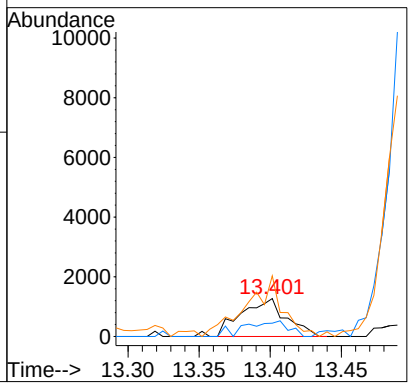


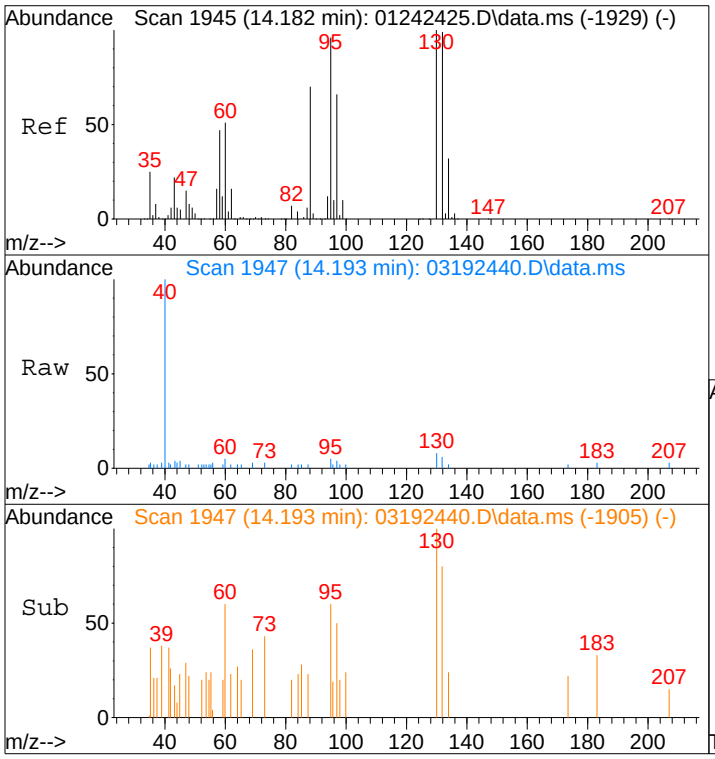


#43
Cyclohexane
Concen: 0.09 ng
RT: 13.40 min Scan# 1803
Delta R.T. -0.000 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 84 Resp: 2818

Ion	Ratio	Lower	Upper
84	100		
69	39.3	17.1	57.1
56	125.9	101.6	141.6

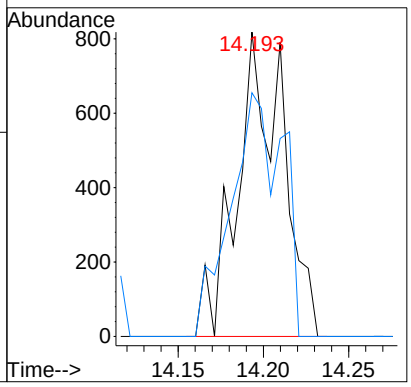


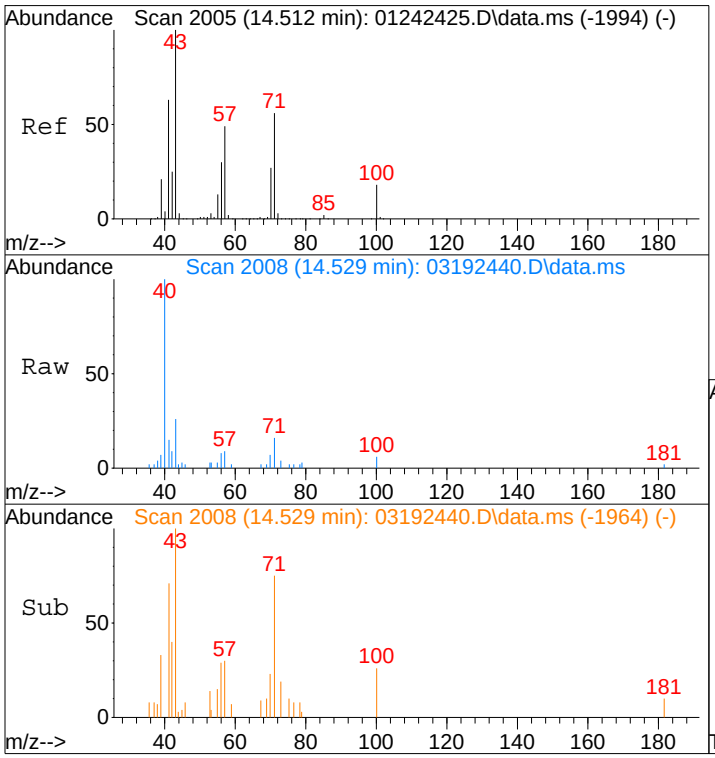


#47
Trichloroethene
Concen: 0.06 ng
RT: 14.19 min Scan# 1947
Delta R.T. -0.017 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion:130 Resp: 1534

Ion	Ratio	Lower	Upper
130	100		
132	90.2	78.3	118.3

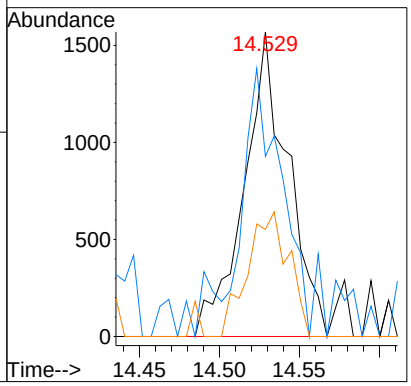


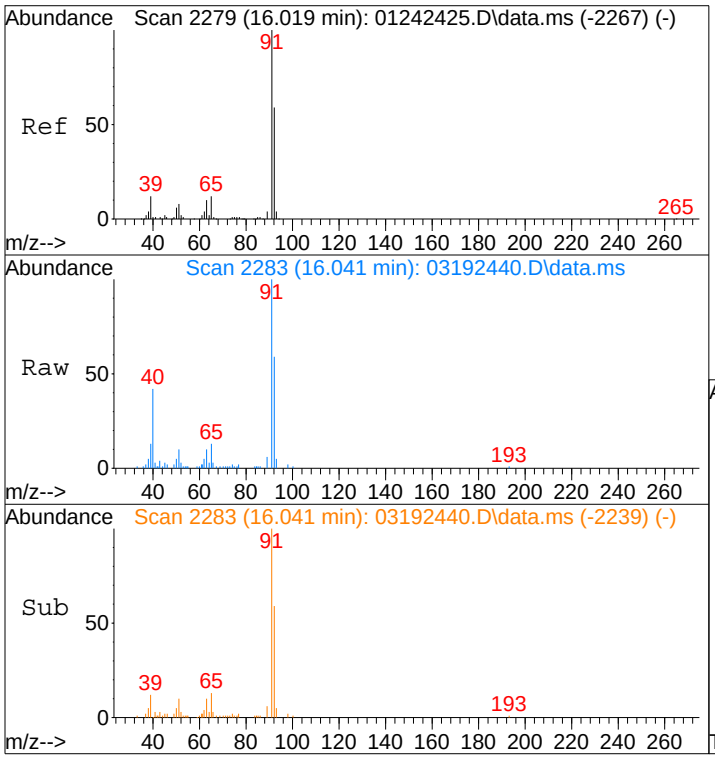


#51
n-Heptane
Concen: 0.13 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.006 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 71 Resp: 3001

Ion	Ratio	Lower	Upper
71	100		
57	75.0	69.1	109.1
100	38.5	10.7	50.7

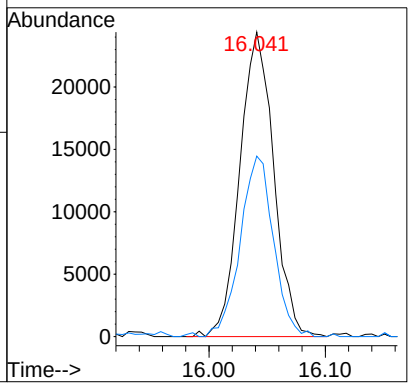


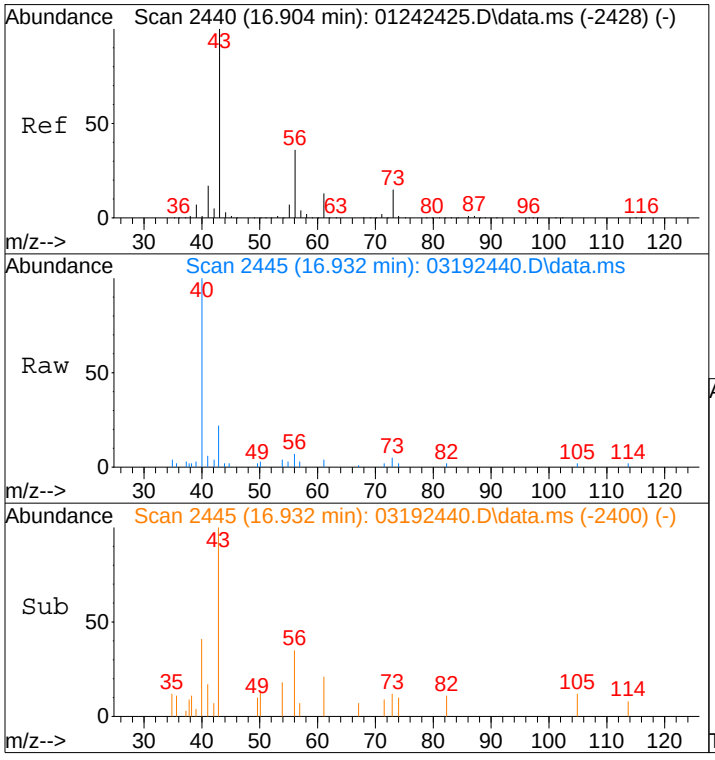


#58
Toluene
Concen: 0.61 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 91 Resp: 49397

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.1	79.1

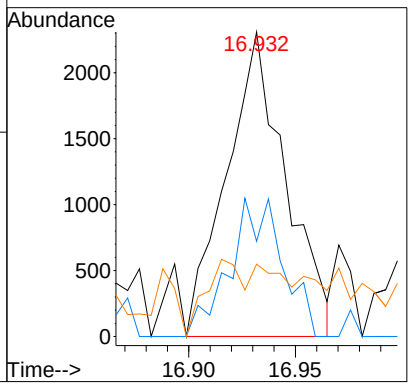


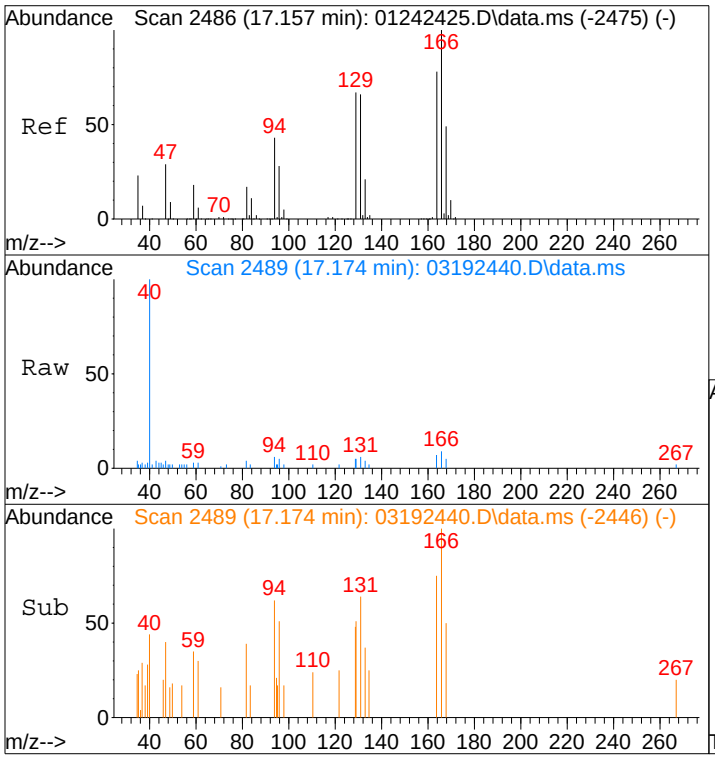


#62
n-Butyl Acetate
Concen: 0.08 ng
RT: 16.93 min Scan# 2445
Delta R.T. -0.000 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 43 Resp: 4465

Ion	Ratio	Lower	Upper
43	100		
56	40.2	16.1	56.1
73	15.7	0.0	34.6

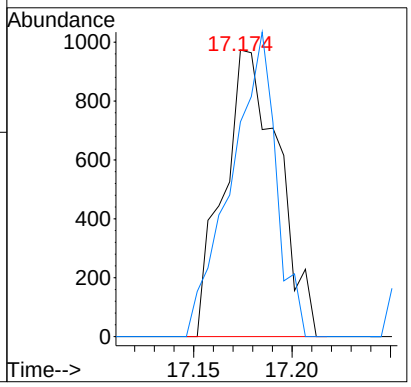


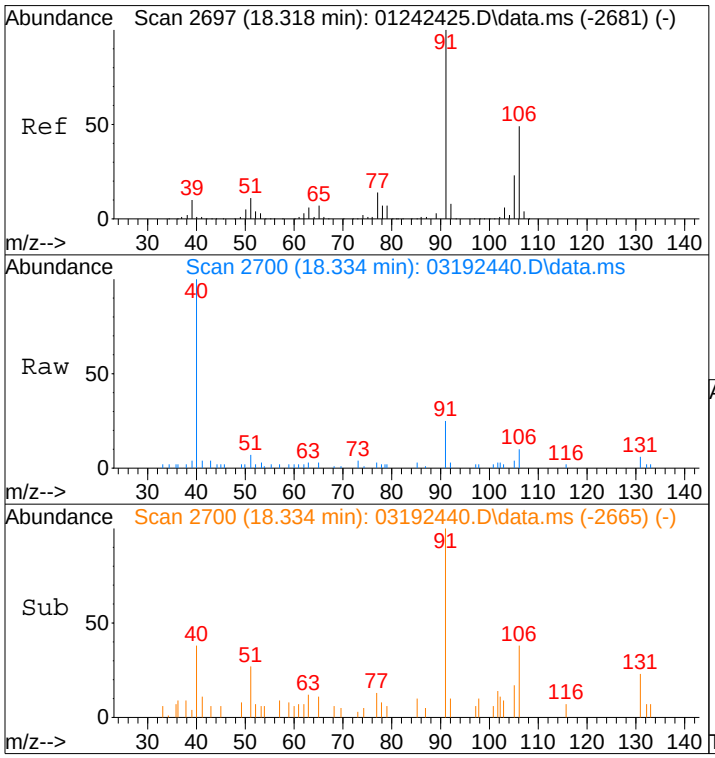


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 17.17 min Scan# 2489
Delta R.T. -0.011 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion:166 Resp: 1885

Ion	Ratio	Lower	Upper
166	100		
164	87.3	59.3	99.3

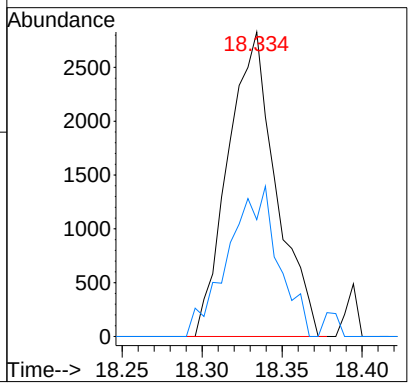




#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 18.33 min Scan# 2700
Delta R.T. -0.006 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 91 Resp: 5916

Ion	Ratio	Lower	Upper
91	100		
106	51.2	28.7	68.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

CI 3/21/24

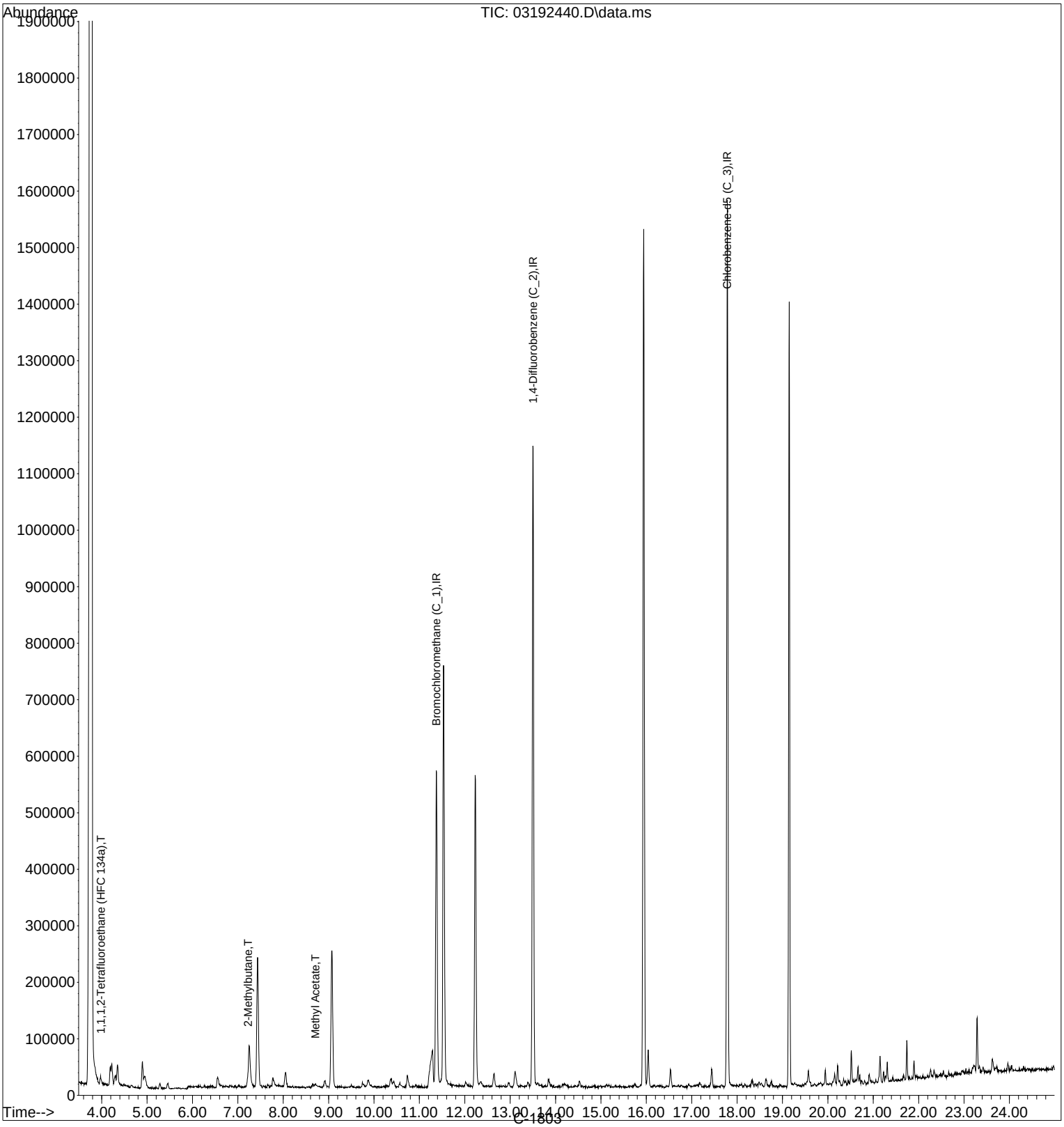
Quant Time: Mar 21 14:26:11 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.37	130	223140	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C_2)	13.51	114	997561	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	222510	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.87	85	483	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3752	0.169	ng	#	1
4) 1,1-Difluoroethane	4.09	65	1400	N.D.			
5) Chlorodifluoromethane ...	4.16	67	166	N.D.			
6) 1-Chloro-1,1-Difluoroe...	4.63	65	162	N.D.			
7) Dichlorofluoromethane ...	6.35	67	68	N.D.			
8) Vinylbromide	6.73	108	52	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	302	N.D.			
10) 2-Methylbutane	7.23	57	7559	0.338	ng	#	58
11) Methyl Acetate	8.71	43	6130	0.121	ng	#	30
12) 2-Methylpentane	10.44	71	780	N.D.			
13) 2,2-Dichloropropane	11.58	77	56	N.D.			
14) 1,1-Dichloropropene	12.98	75	132	N.D.			
15) Thiophene	13.23	84	63	N.D.			
17) 2,3-Dimethylpentane	13.67	56	811	N.D.			
18) Dibromomethane	13.92	174	296	N.D.			
20) Methyl Cyclohexane	15.17	55	1149	N.D.			
21) 1,3-Dichloropropane	16.05	76	492	N.D.			
22) 1,1,1,2-Tetrachloroethane	17.80	131	69	N.D.			
23) 1-Chlorohexane	18.00	91	162	N.D.			
24) 1,2,3-Trichloropropane	18.86	75	55	N.D.			
25) Bromobenzene	19.36	77	130	N.D.			
26) 2-Chlorotoluene	19.71	91	3163	N.D.			
27) 4-Chlorotoluene	19.76	91	114	N.D.			
28) Indane	20.80	117	307	N.D.			
29) Indene	20.83	115	64	N.D.			
30) 1,2,4,5-Tetramethylben...	21.75	119	133	N.D.			
31) 1,2,3,4-Tetramethylben...	21.66	119	602	N.D.			
32) 1,2,3,5-Tetramethylben...	21.94	119	264	N.D.			
33) 1,2,3-Trichlorobenzene	22.59	180	82	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 21 14:26:11 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-1803

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

CI 3/21/24

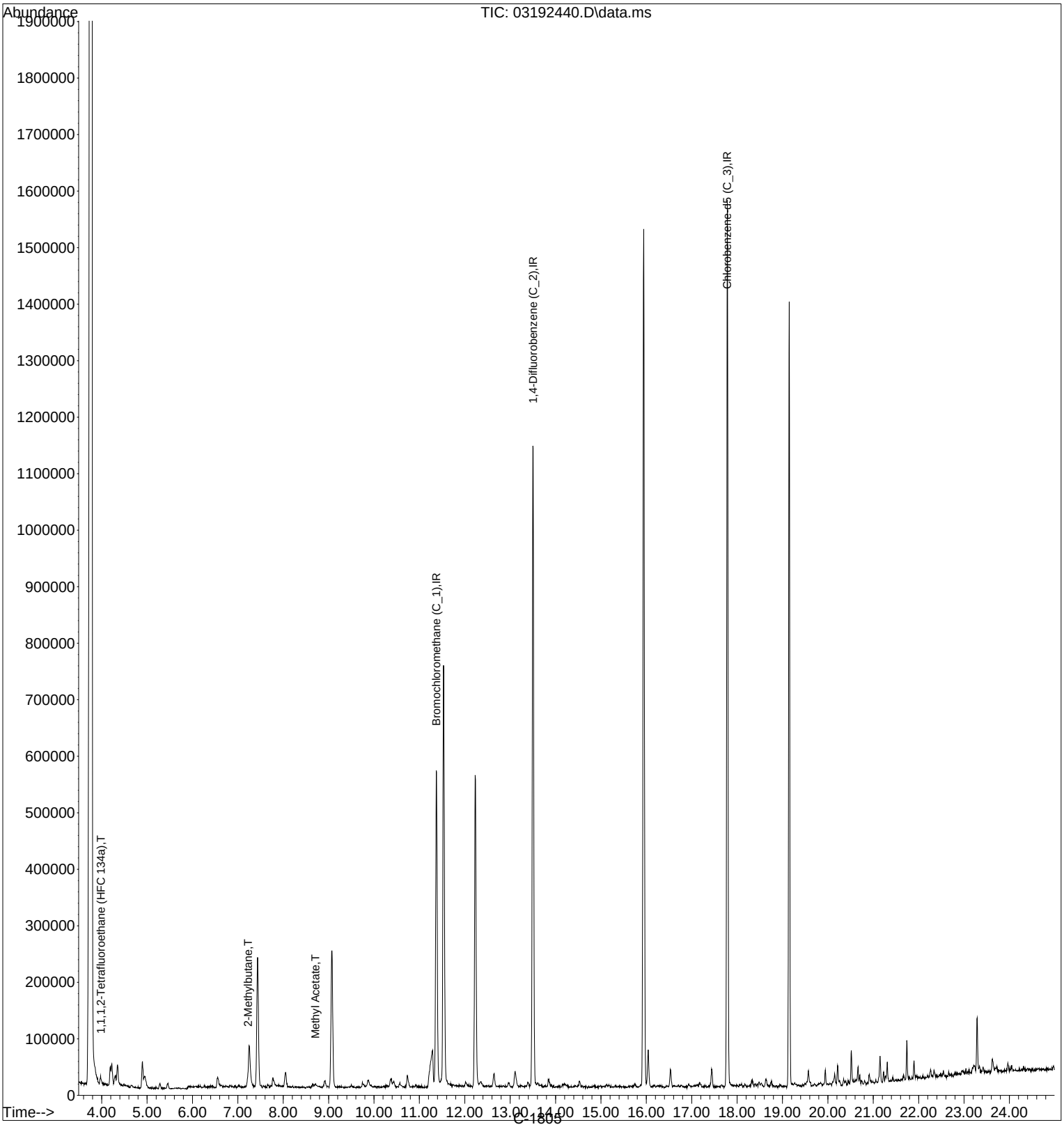
Quant Time: Mar 21 14:26:11 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.37	130	223140	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C_2)	13.51	114	997561	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	222510	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	3752	0.169	ng	#	1
10) 2-Methylbutane	7.23	57	7559	0.338	ng	#	58
11) Methyl Acetate	8.71	43	6130	0.121	ng	#	30

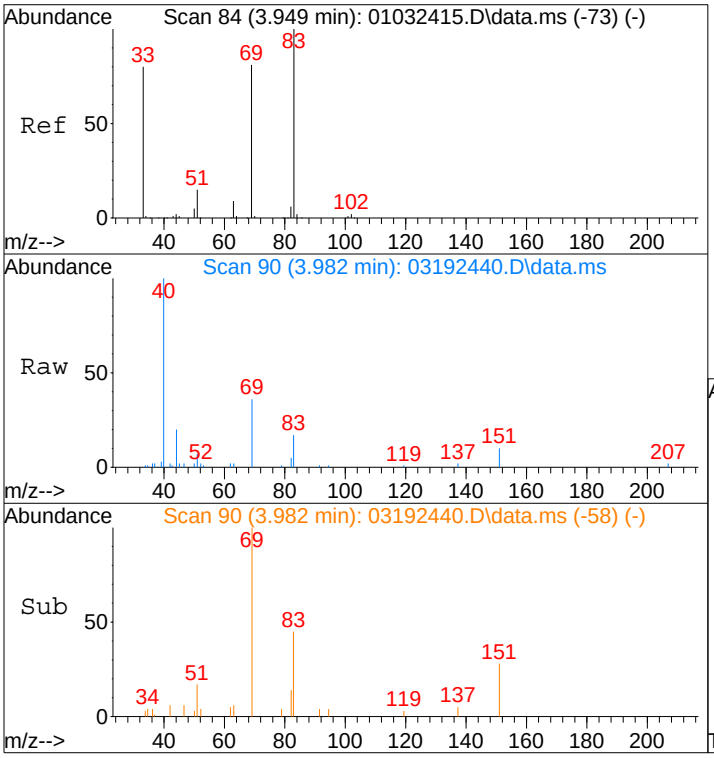
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 21 14:26:11 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



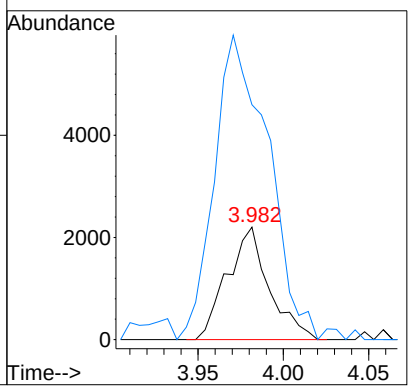
C-1809

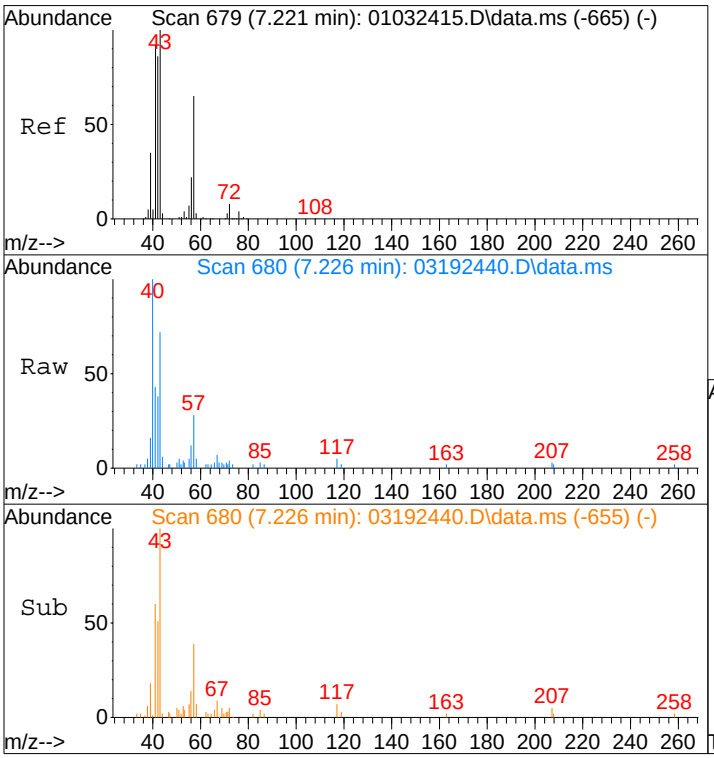


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.17 ng
RT: 3.98 min Scan# 90
Delta R.T. 0.027 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 83 Resp: 3752

Ion	Ratio	Lower	Upper
83	100		
69	352.7	74.0	111.0#

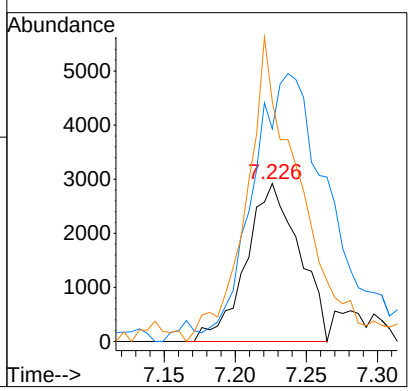


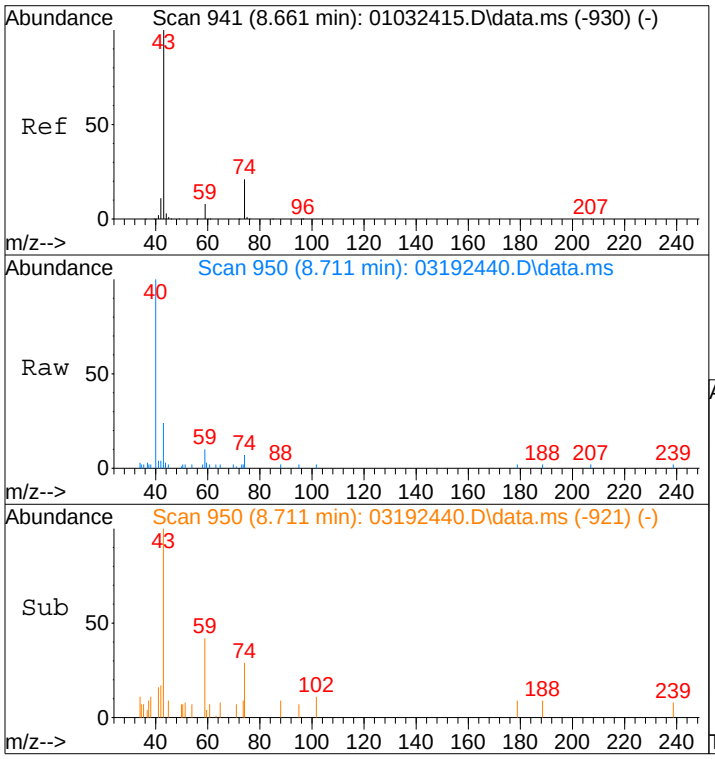


#10
2-Methylbutane
Concen: 0.34 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.011 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

Tgt Ion: 57 Resp: 7559

Ion	Ratio	Lower	Upper
57	100		
42	248.4	115.0	172.4#
41	201.1	149.4	224.2

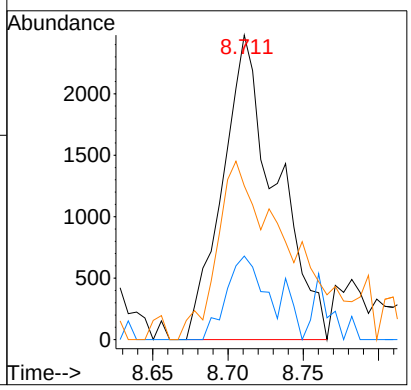




#11
Methyl Acetate
Concen: 0.12 ng
RT: 8.71 min Scan# 950
Delta R.T. 0.011 min
Lab File: 03192440.D
Acq: 19 Mar 2024 21:39

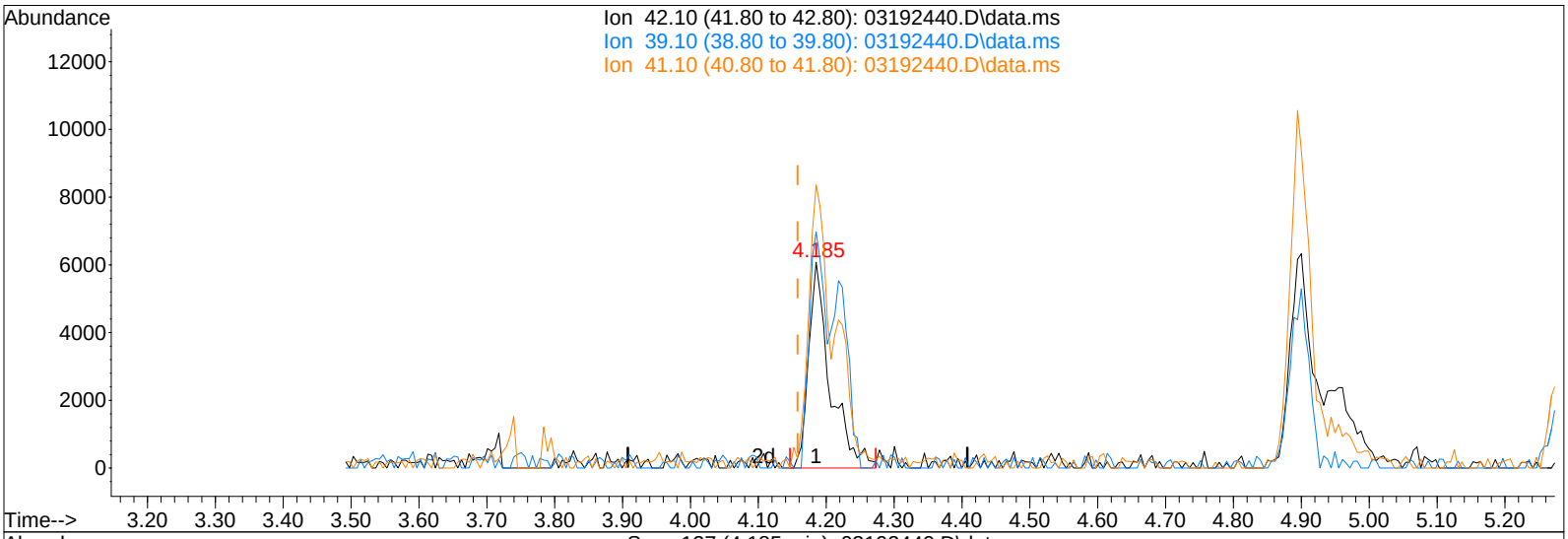
Tgt Ion: 43 Resp: 6130

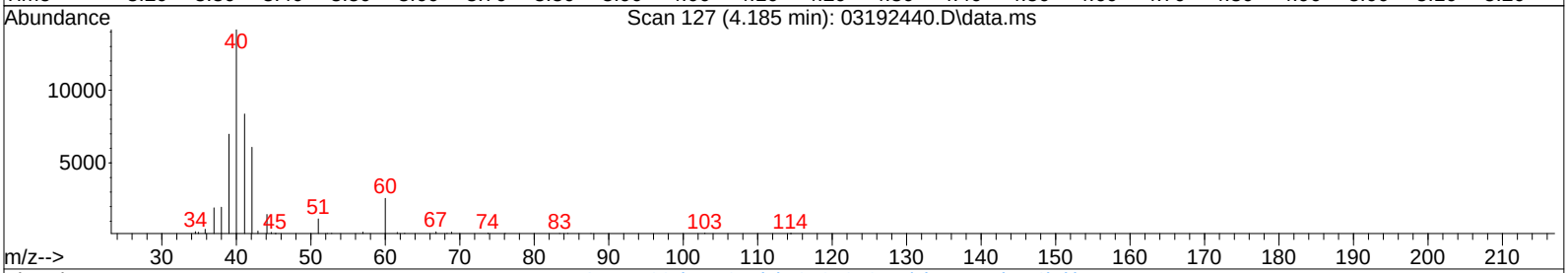
Ion	Ratio	Lower	Upper
43	100		
74	23.4	14.9	22.3#
59	83.2	6.0	9.0#

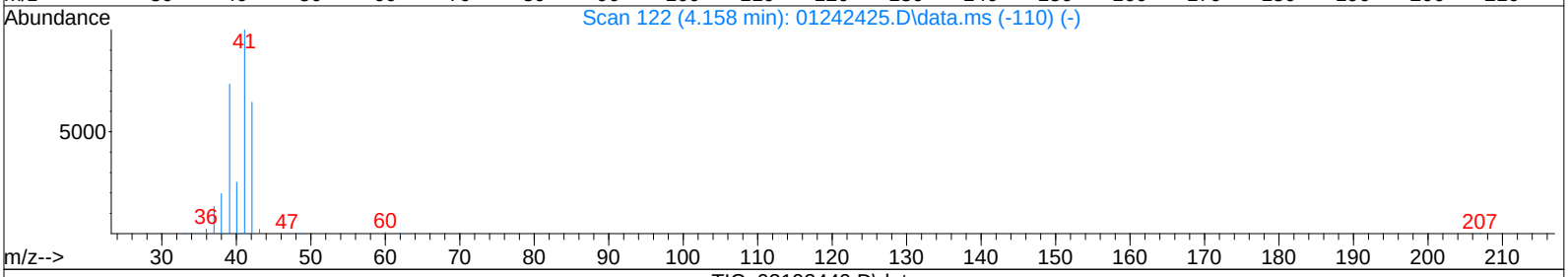


Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 20 08:34:34 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192440.D\data.ms

(2) Propene (T)

4.185min (+0.027) 0.43ng

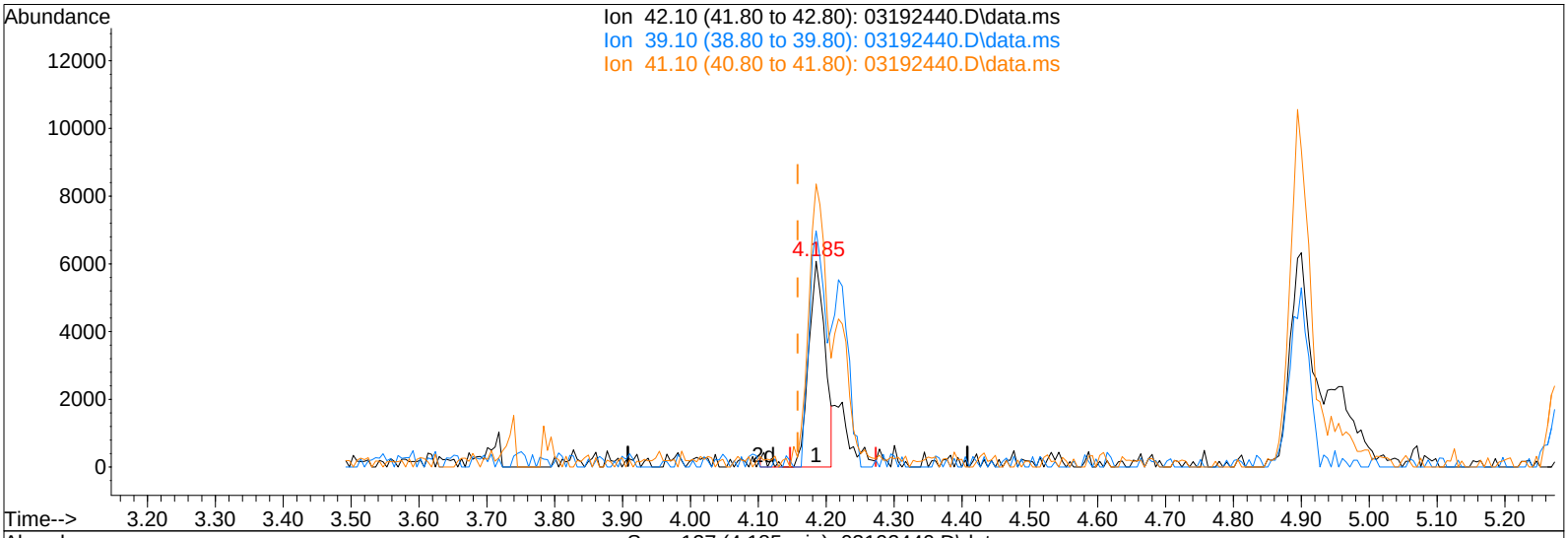
response 13369

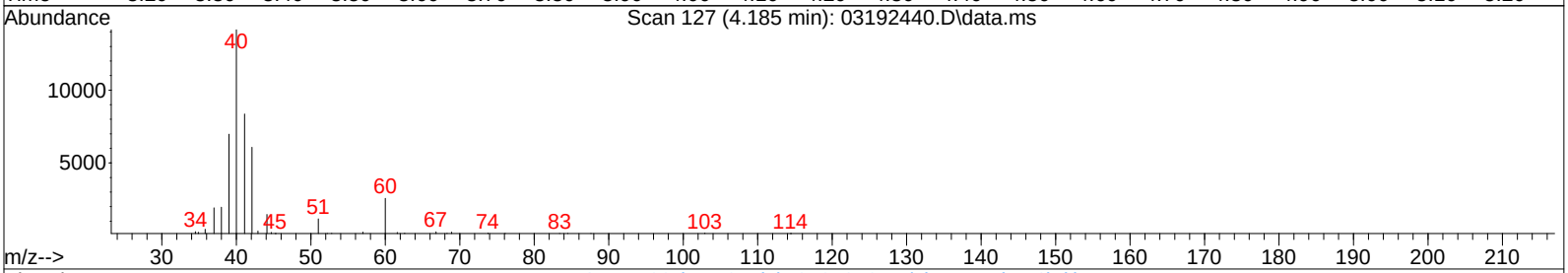
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	93.49#
41.10	152.40	108.30#
0.00	0.00	0.00

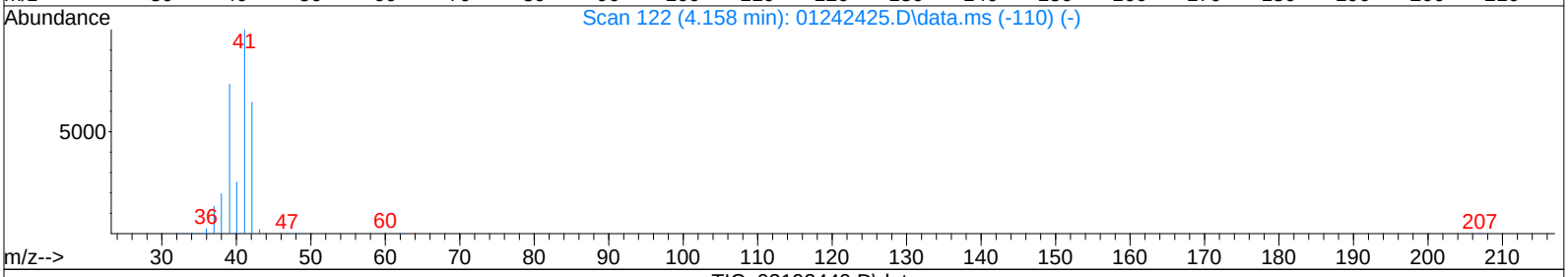
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 20 08:34:34 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192440.D\data.ms

(2) Propene (T)

4.185min (+0.027) 0.34ng m

response 10443

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	119.69
41.10	152.40	138.64
0.00	0.00	0.00

CI 3/20/24

IPC

LH 3/24/24

C-1809

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192440.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.191	121	128	130	rBV3	32268	54728	4.13%	1.426%
2	4.224	130	134	141	rVV6	36501	73433	5.55%	1.913%
3	4.306	141	149	151	rVV3	14545	32182	2.43%	0.838%
4	4.350	151	157	164	rVB2	32238	65513	4.95%	1.707%
5	4.900	249	257	261	rBV	46372	96713	7.31%	2.520%
6	4.944	261	265	274	rVB3	17099	51329	3.88%	1.337%
7	5.285	321	327	332	rBV5	9733	20011	1.51%	0.521%
8	5.450	352	357	358	rBV3	7933	10483	0.79%	0.273%
9	6.555	552	558	566	rBV3	18103	47902	3.62%	1.248%
10	7.248	672	684	699	rBV3	72629	231513	17.49%	6.031%
11	7.435	708	718	731	rBV	228406	581100	43.90%	15.139%
12	7.770	774	779	788	rBV4	14793	37154	2.81%	0.968%
13	8.051	822	830	836	rBV4	24966	60390	4.56%	1.573%
14	8.909	977	986	987	rBV2	12377	19307	1.46%	0.503%
15	9.068	1004	1015	1028	rBV2	242326	655567	49.52%	17.079%
16	9.882	1151	1163	1169	rBV5	11716	35575	2.69%	0.927%
17	10.283	1231	1236	1240	rBV7	5016	10042	0.76%	0.262%
18	10.377	1244	1253	1258	rVV3	14936	40781	3.08%	1.062%
19	10.437	1258	1264	1269	rVB3	8991	21499	1.62%	0.560%
20	10.569	1283	1288	1301	rVB8	8210	21203	1.60%	0.552%
21	10.734	1312	1318	1328	rBV	21176	53143	4.01%	1.384%
22	11.290	1398	1419	1424	rBV3	65738	295255	22.30%	7.692%
23	11.372	1424	1434	1448	rVB	552652	1323717	100.00%	34.485%

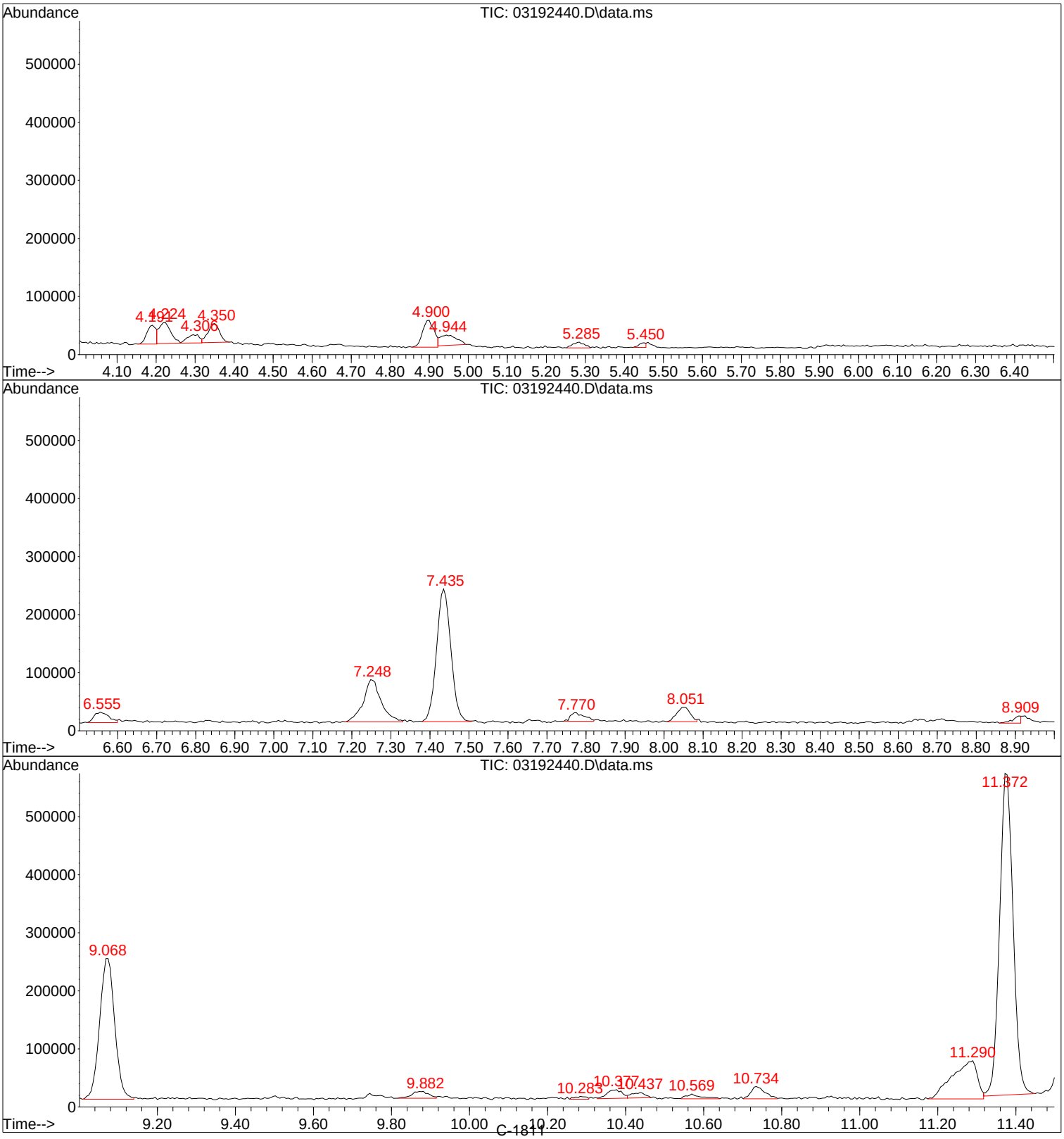
Sum of corrected areas: 3838540

LSC Report - Integrated Chromatogram

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:39
Operator : CI
Sample : P2400922-058 (400mL)
Misc : S37-01032403/
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192440.D
Acq On : 19 Mar 2024 21:399
Operator : CII
Sample : P2400922-058 (400mL))
Misc : S37-01032403//
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

CJ 3/22/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 10:23:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	212119	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	967868	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	212937	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	425764	11.917	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%			
57) Toluene-d8 (SS2)	15.94	98	1066763	12.829	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%			
73) Bromofluorobenzene (SS3)	19.15	174	355719	12.703	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
Target Compounds						Qvalue
2) Propene	4.11	42	592	N.D.		
3) Dichlorodifluoromethan...	4.25	85	455	N.D.		
4) Chloromethane	4.66	50	132	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.09	62	176	N.D.		
7) 1,3-Butadiene	5.28	54	167	N.D.		
8) Bromomethane	5.84	94	126	N.D.		
9) Chloroethane	6.13	64	124	N.D.		
10) Ethanol	0.00	45	0	N.D. d		
11) Acetonitrile	6.84	41	436	N.D.		
12) Acrolein	7.00	56	255	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.45	101	3612828	85.268	ng	100
15) 2-Propanol (Isopropanol)	7.76	45	52	N.D.		
16) Acrylonitrile	7.99	53	95	N.D.		
17) 1,1-Dichloroethene	8.41	96	137	N.D.		
18) 2-Methyl-2-Propanol (t...	8.69	59	105	N.D.		
19) Methylene Chloride	8.63	84	611	N.D.		
20) 3-Chloro-1-propene (Al...	8.79	41	750	N.D.		
21) Trichlorotrifluoroethane	9.07	151	686315	37.190	ng	99
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	9.94	61	424	N.D.		
24) 1,1-Dichloroethane	10.18	63	219	N.D.		
25) Methyl tert-Butyl Ether	10.38	73	180	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.76	72	4172	0.309	ng	95
28) cis-1,2-Dichloroethene	11.19	61	779	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	11.49	57	85298	2.423	ng	96
32) Chloroform	11.54	83	613	N.D.		
34) Tetrahydrofuran (THF)	12.01	72	137	N.D.		
35) Ethyl tert-Butyl Ether	12.10	87	127	N.D.		
36) 1,2-Dichloroethane	12.34	62	423	N.D.		
38) 1,1,1-Trichloroethane	12.54	97	139	N.D.		
39) Isopropyl Acetate	13.70	61	137	No Calib	#	
40) 1-Butanol	12.66	56	1657	No Calib	#	
41) Benzene	13.10	78	38534	0.419	ng	97
42) Carbon Tetrachloride	13.27	117	288	N.D.		
43) Cyclohexane	13.40	84	40223	1.339	ng	96
44) tert-Amyl Methyl Ether	13.84	73	486	N.D.		
45) 1,2-Dichloropropane	13.96	63	404	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	0.00	130	0	N.D. d		
48) 1,4-Dioxane	0.00	88	0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 10:23:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

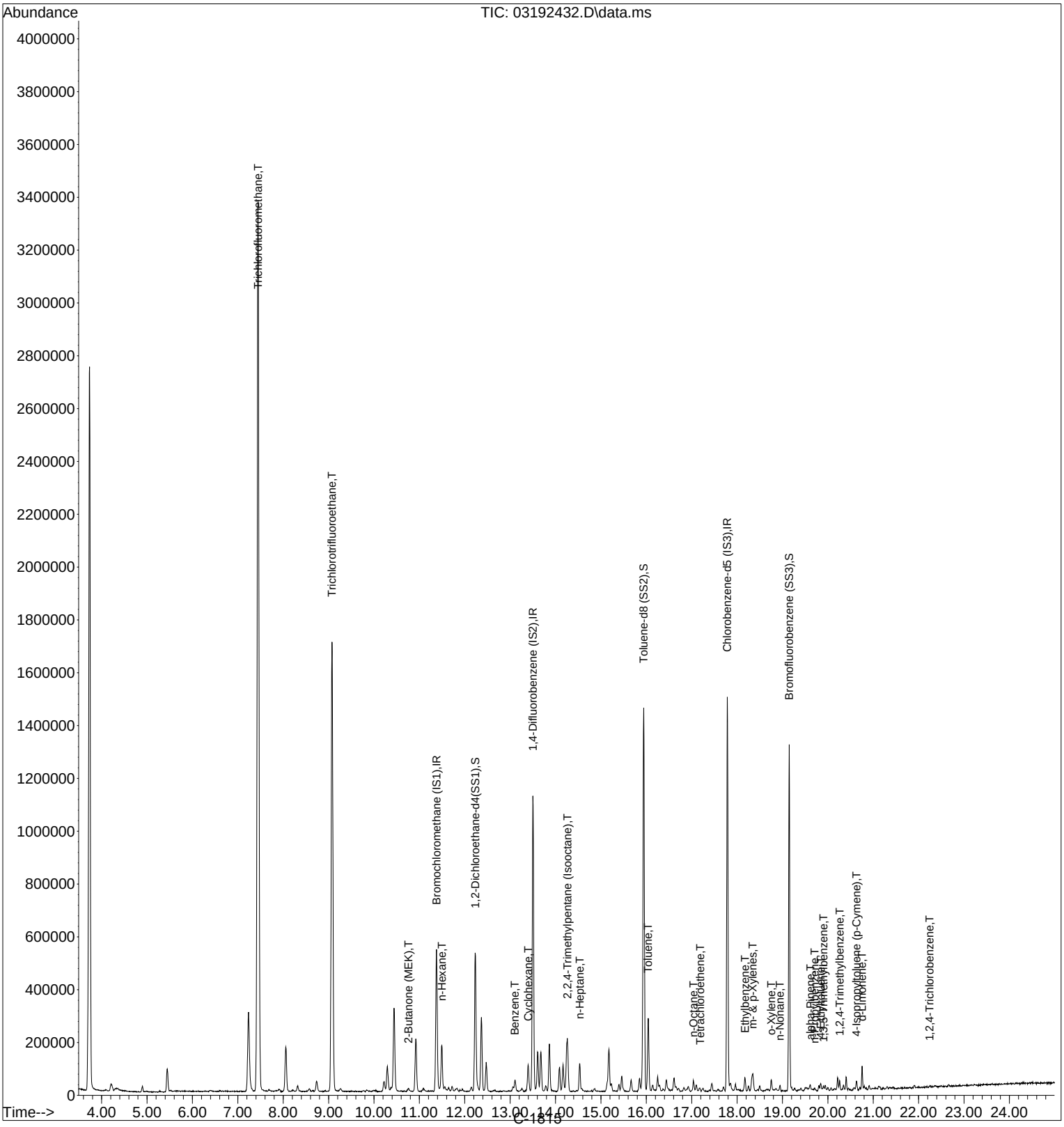
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	144129	1.681 ng	#	61
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	14.53	71	25168	1.132 ng		97
52) cis-1,3-Dichloropropene	15.02	75	123	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.56	75	187	N.D.		
55) 1,1,2-Trichloroethane	15.77	97	174	N.D.		
58) Toluene	16.04	91	196545	2.520 ng		98
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.46	129	281	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.93	43	1925	N.D.		
63) n-Octane	17.04	57	7256	0.403 ng		99
64) Tetrachloroethene	17.19	166	1217	0.053 ng		88
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.17	91	33062	0.365 ng		97
67) m- & p-Xylenes	18.35	91	49447	0.680 ng		96
68) Bromoform	18.40	173	764	N.D.		
69) Styrene	18.66	104	525	N.D.		
70) o-Xylene	18.75	91	23821	0.326 ng		99
71) n-Nonane	18.94	43	7891	0.172 ng		97
72) 1,1,2,2-Tetrachloroethane	18.74	83	976	N.D.		
74) Cumene	19.27	105	2651	N.D.		
75) alpha-Pinene	19.62	93	6804	0.162 ng		99
76) n-Propylbenzene	19.71	91	7263	0.063 ng		96
77) 3-Ethyltoluene	20.26	105	12553	No Calib		
78) 4-Ethyltoluene	19.84	105	5823	0.064 ng		93
79) 1,3,5-Trimethylbenzene	19.91	105	4748	0.062 ng		94
80) alpha-Methylstyrene	20.63	118	695	No Calib	#	
81) 2-Ethyltoluene	20.26	105	12553	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	12553	0.161 ng		94
83) n-Decane	20.40	58	1773	No Calib	#	
84) Benzyl Chloride	20.38	91	255	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	1302	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1404	N.D.		
87) sec-Butylbenzene	20.49	105	1677	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	13656	0.152 ng		92
89) 1,2,3-Trimethylbenzene	20.26	105	12553	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	1053	N.D.		
91) d-Limonene	20.75	68	18902	0.720 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.13	157	428	N.D.		
93) n-Undecane	21.51	58	120	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1876	0.060 ng	#	79
95) Naphthalene	22.35	128	2858	N.D.		
96) n-Dodecane	22.73	57	207	No Calib	#	
97) Hexachlorobutadiene	22.67	225	698	N.D.		
98) Cyclohexanone	18.25	55	3091	No Calib	#	
99) tert-Butylbenzene	20.26	119	2484	N.D.		
100) n-Butylbenzene	20.99	91	1788	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 10:23:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 10:23:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

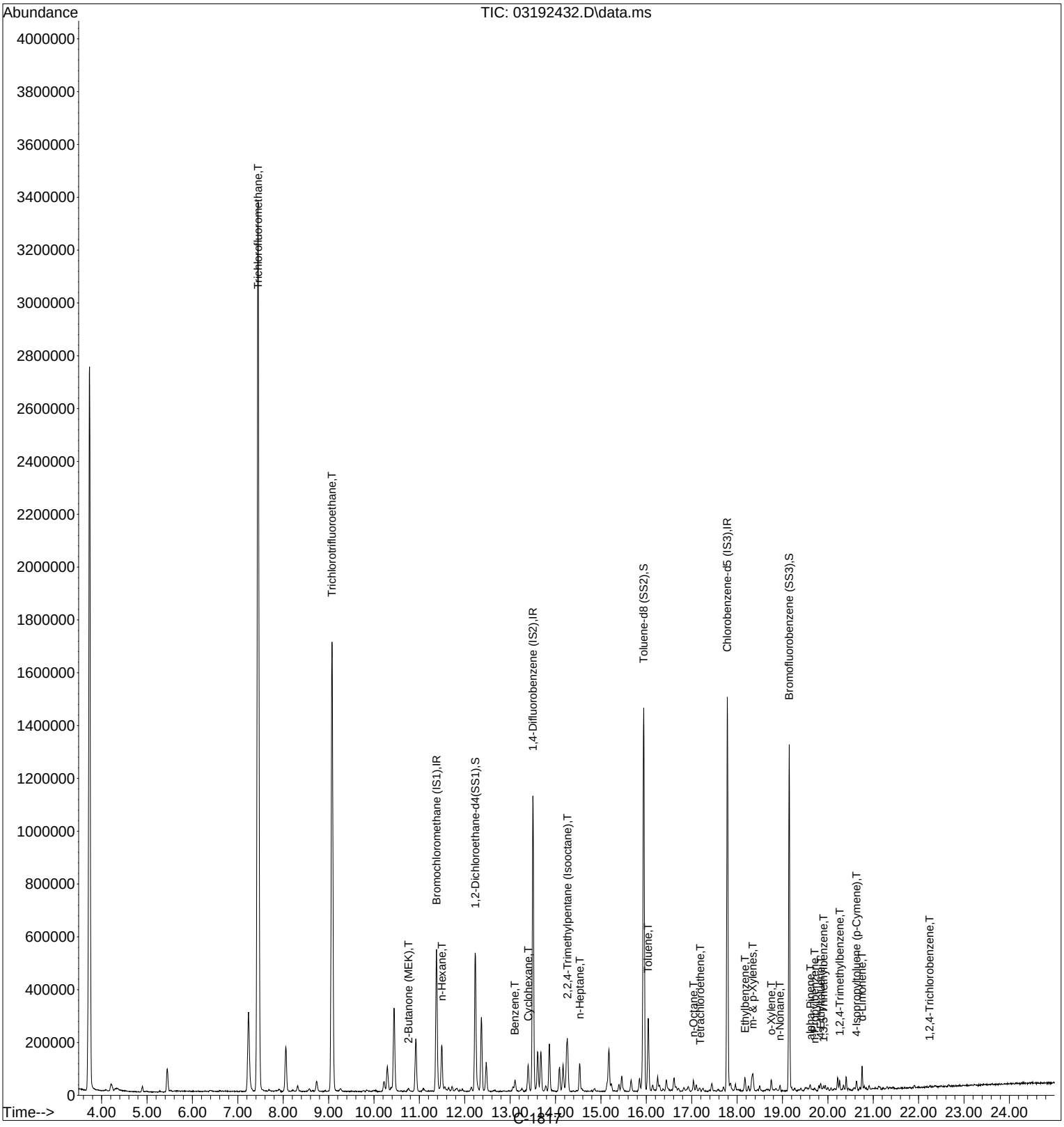
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	212119	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	967868	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	212937	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	425764	11.917	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	15.94	98	1066763	12.829	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
73) Bromofluorobenzene (SS3)	19.15	174	355719	12.703	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
Target Compounds							Qvalue
14) Trichlorofluoromethane	7.45	101	3612828	85.268	ng		100
21) Trichlorotrifluoroethane	9.07	151	686315	37.190	ng		99
27) 2-Butanone (MEK)	10.76	72	4172	0.309	ng		95
31) n-Hexane	11.49	57	85298	2.423	ng		96
41) Benzene	13.10	78	38534	0.419	ng		97
43) Cyclohexane	13.40	84	40223	1.339	ng		96
49) 2,2,4-Trimethylpentane...	14.27	57	144129	1.681	ng	#	61
51) n-Heptane	14.53	71	25168	1.132	ng		97
58) Toluene	16.04	91	196545	2.520	ng		98
63) n-Octane	17.04	57	7256	0.403	ng		99
64) Tetrachloroethene	17.19	166	1217	0.053	ng		88
66) Ethylbenzene	18.17	91	33062	0.365	ng		97
67) m- & p-Xylenes	18.35	91	49447	0.680	ng		96
70) o-Xylene	18.75	91	23821	0.326	ng		99
71) n-Nonane	18.94	43	7891	0.172	ng		97
75) alpha-Pinene	19.62	93	6804	0.162	ng		99
76) n-Propylbenzene	19.71	91	7263	0.063	ng		96
78) 4-Ethyltoluene	19.84	105	5823	0.064	ng		93
79) 1,3,5-Trimethylbenzene	19.91	105	4748	0.062	ng		94
82) 1,2,4-Trimethylbenzene	20.26	105	12553	0.161	ng		94
88) 4-Isopropyltoluene (p-...	20.63	119	13656	0.152	ng		92
91) d-Limonene	20.75	68	18902	0.720	ng		94
94) 1,2,4-Trichlorobenzene	22.24	180	1876	0.060	ng	#	79

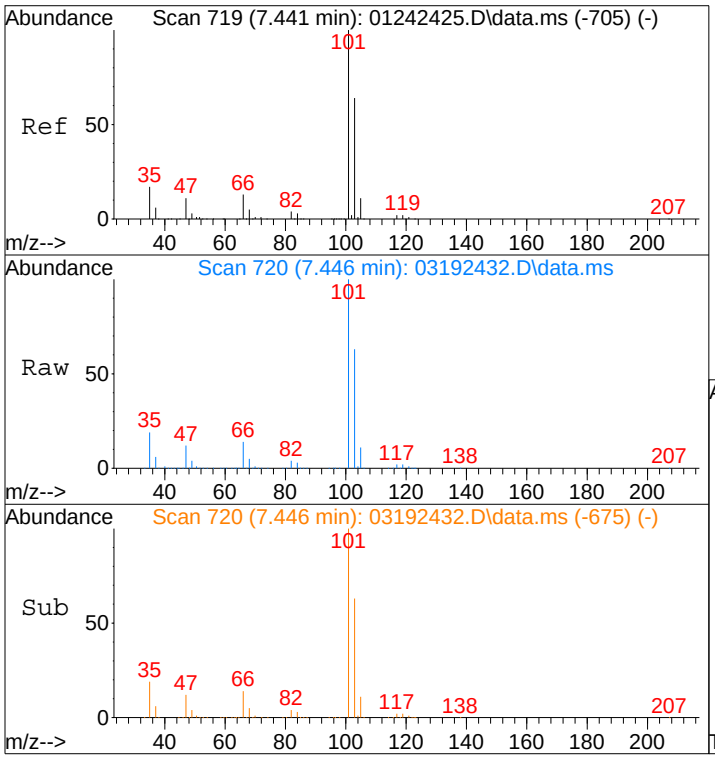
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 10:23:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

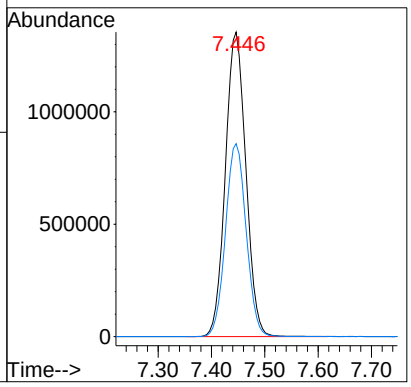


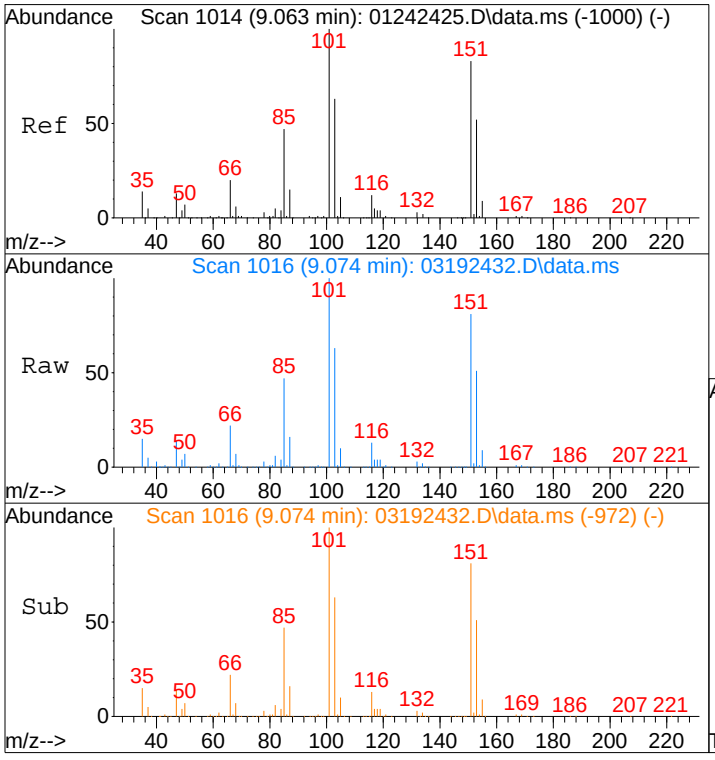


#14
Trichlorofluoromethane
Concen: 85.27 ng
RT: 7.45 min Scan# 720
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:101 Resp: 3612828

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.1	84.1

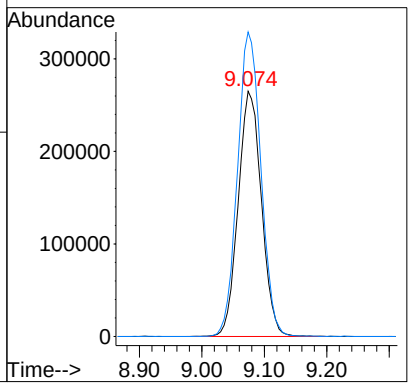


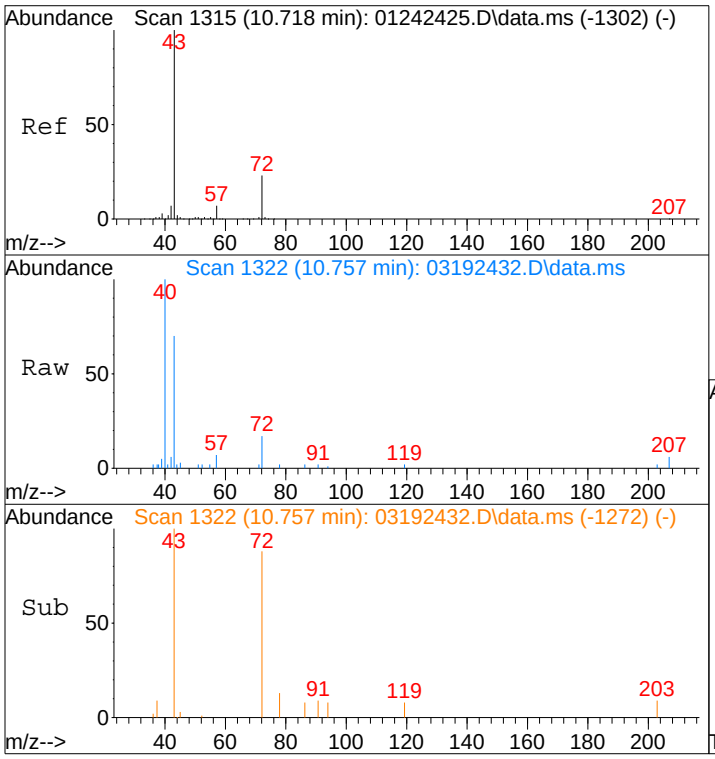


#21
Trichlorotrifluoroethane
Concen: 37.19 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:151 Resp: 686315

Ion	Ratio	Lower	Upper
151	100		
101	125.1	104.2	144.2

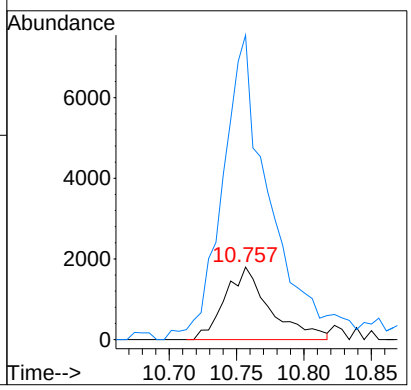


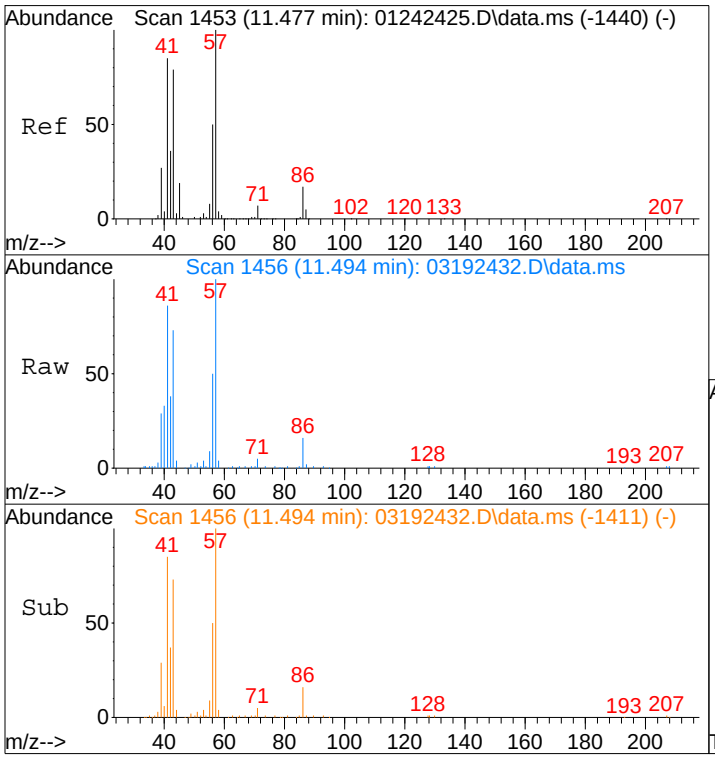


#27
2-Butanone (MEK)
Concen: 0.31 ng
RT: 10.76 min Scan# 1322
Delta R.T. 0.028 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 72 Resp: 4172

Ion	Ratio	Lower	Upper
72	100		
43	445.8	437.9	477.9

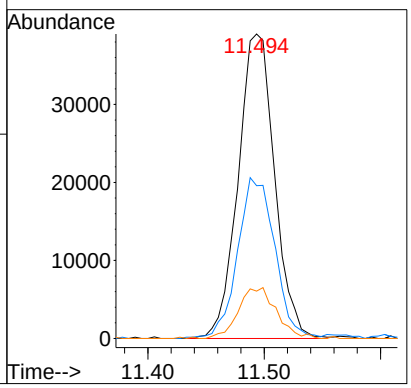


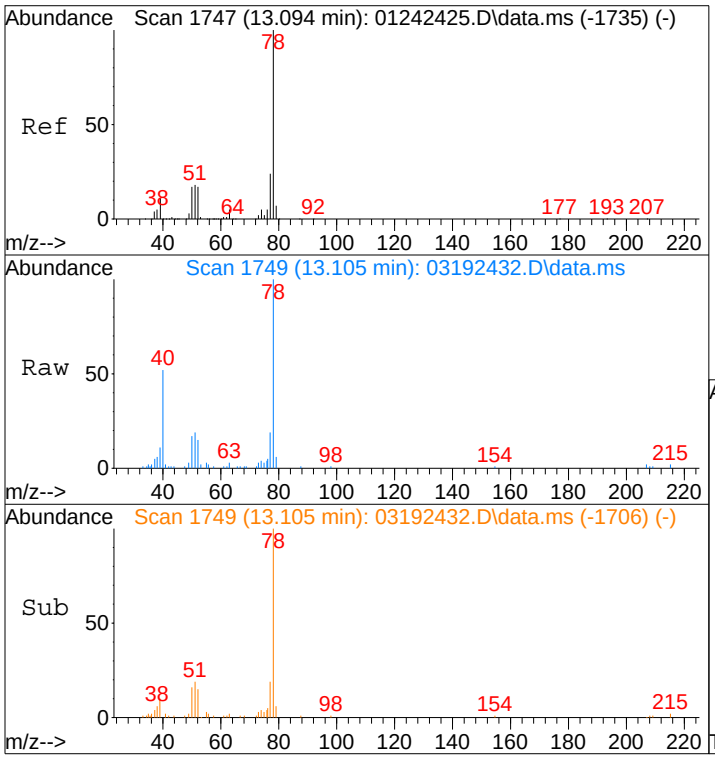


#31
n-Hexane
Concen: 2.42 ng
RT: 11.49 min Scan# 1456
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 57 Resp: 85298

Ion	Ratio	Lower	Upper
57	100		
56	53.9	40.7	61.1
86	17.4	13.4	20.2

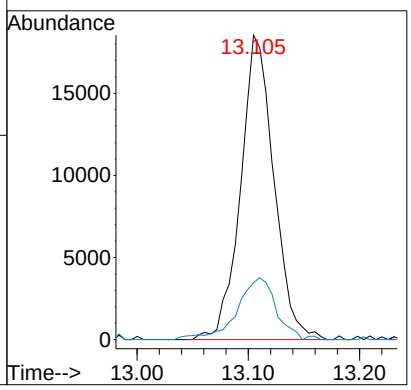


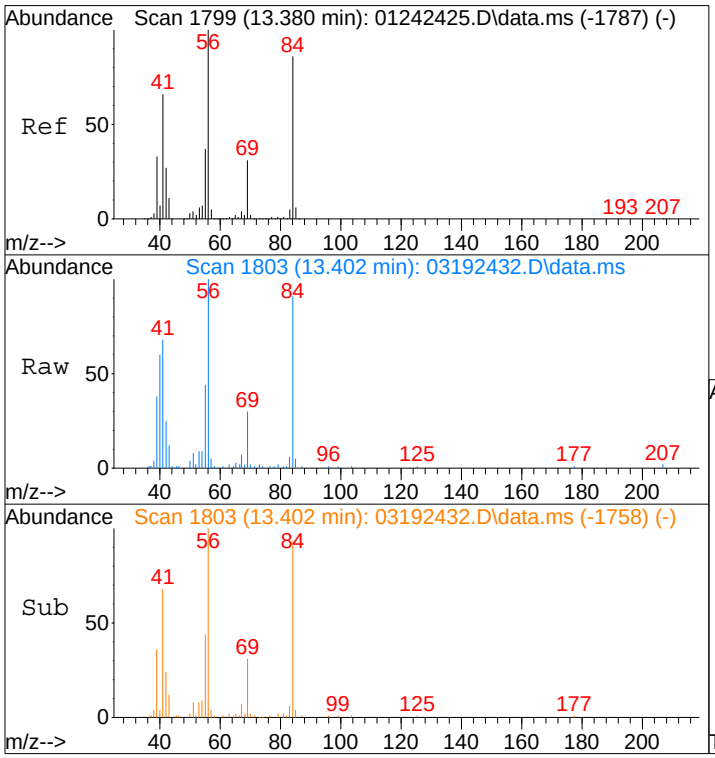


#41
Benzene
Concen: 0.42 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 78 Resp: 38534

Ion	Ratio	Lower	Upper
78	100		
77	24.0	2.6	42.6

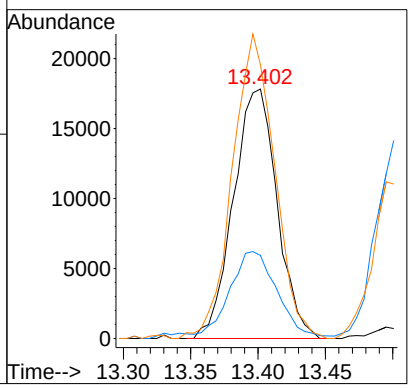


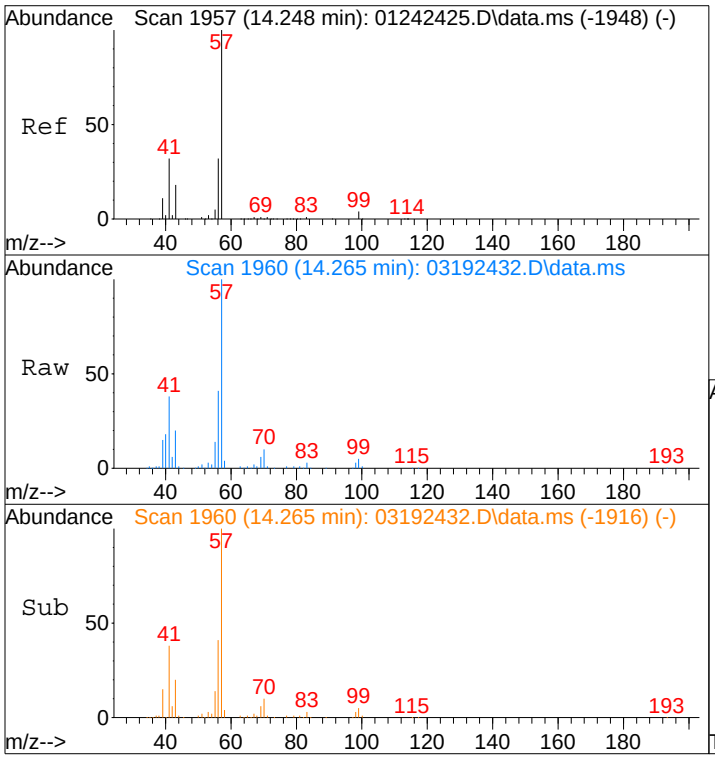


#43
Cyclohexane
Concen: 1.34 ng
RT: 13.40 min Scan# 1803
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 84 Resp: 40223

Ion	Ratio	Lower	Upper
84	100		
69	39.5	17.1	57.1
56	117.5	101.6	141.6

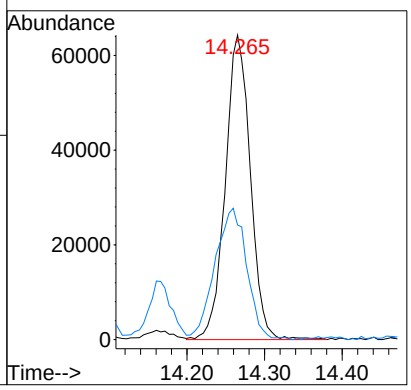


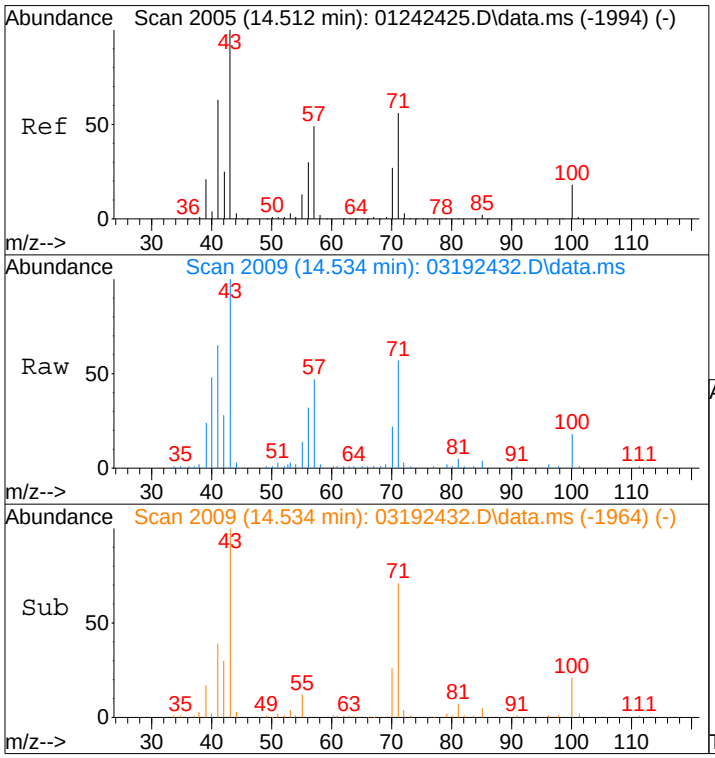


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 1.68 ng
RT: 14.27 min Scan# 1960
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 57 Resp: 144129

Ion	Ratio	Lower	Upper
57	100		
41	55.1	13.2	53.2#

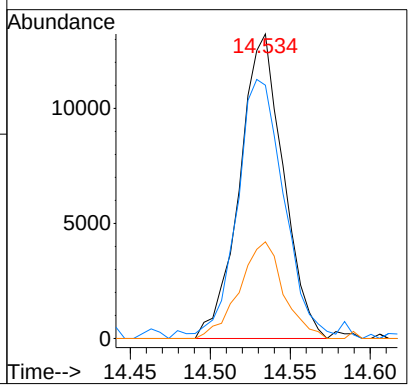


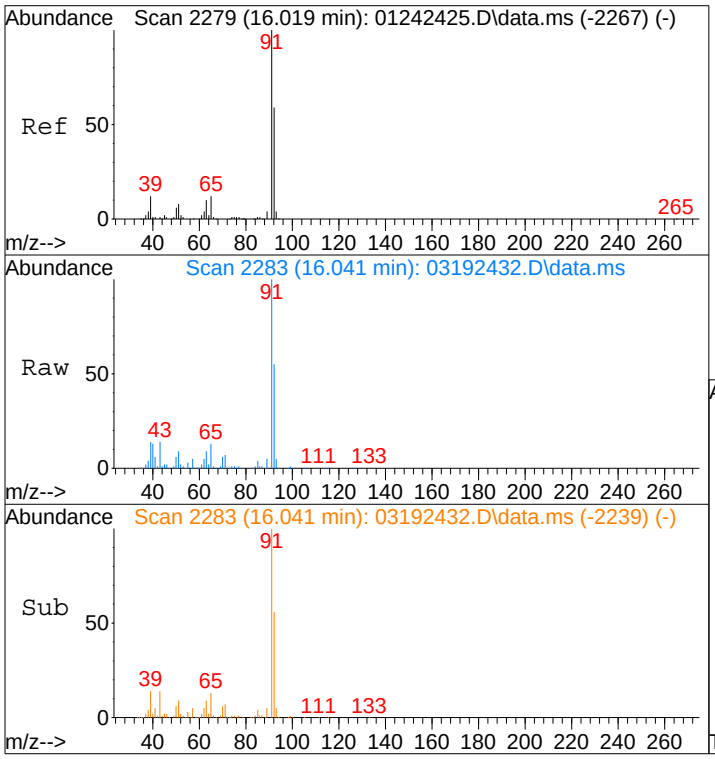


#51
n-Heptane
Concen: 1.13 ng
RT: 14.53 min Scan# 2009
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 71 Resp: 25168

Ion	Ratio	Lower	Upper
71	100		
57	91.7	69.1	109.1
100	32.1	10.7	50.7

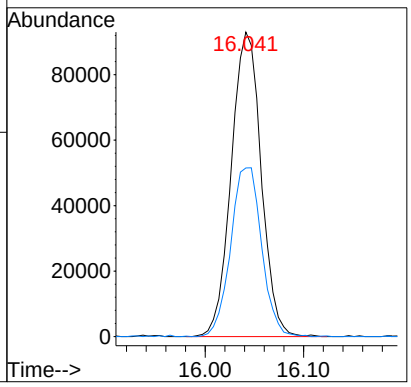


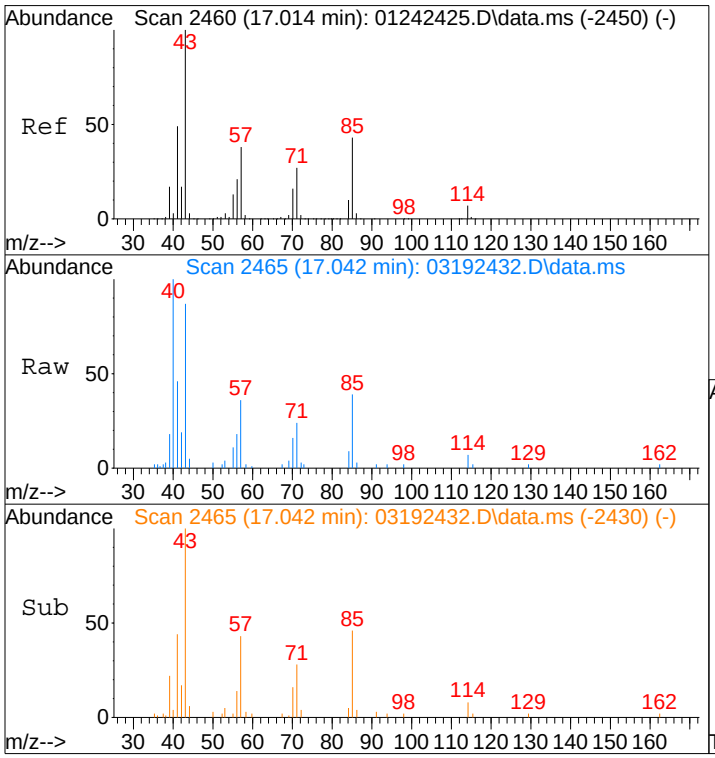


#58
Toluene
Concen: 2.52 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 91 Resp: 196545

Ion	Ratio	Lower	Upper
91	100		
92	57.3	39.1	79.1

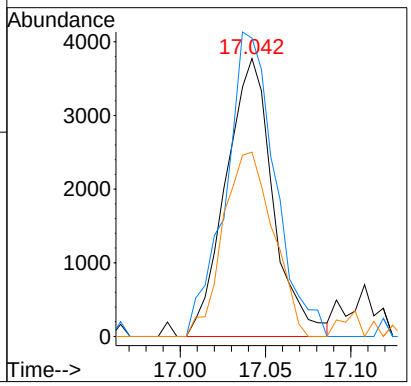


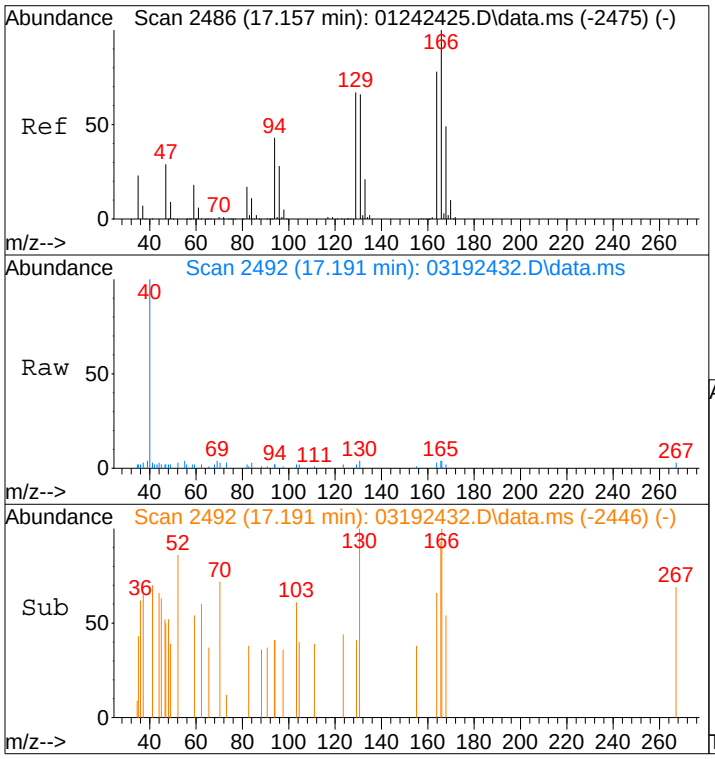


#63
n-Octane
Concen: 0.40 ng
RT: 17.04 min Scan# 2465
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 57 Resp: 7256

Ion	Ratio	Lower	Upper
57	100		
85	114.1	90.2	135.2
71	70.5	57.1	85.7

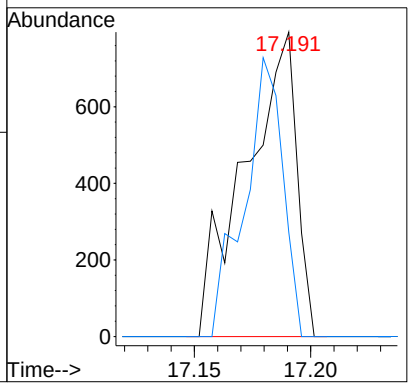


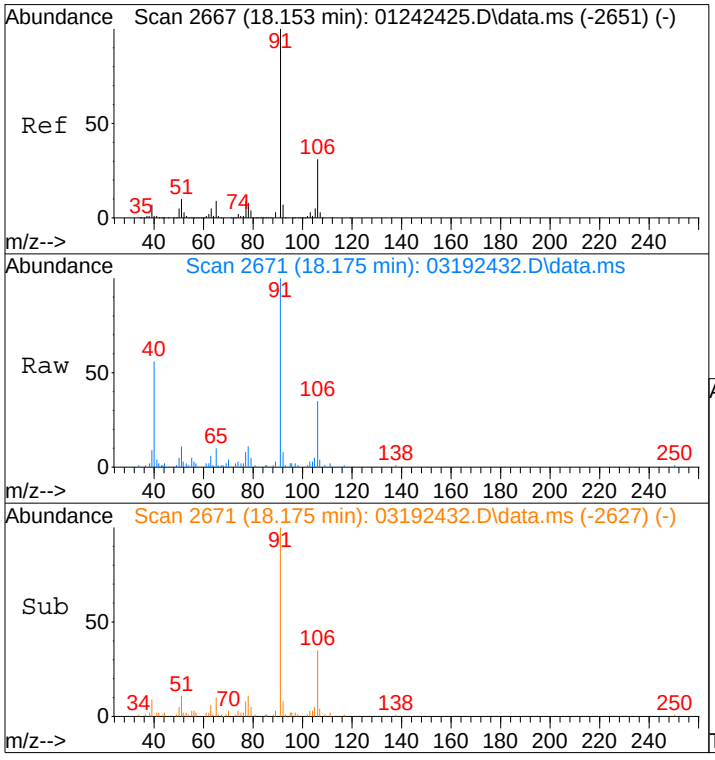


#64
Tetrachloroethene
Concen: 0.05 ng
RT: 17.19 min Scan# 2492
Delta R.T. 0.006 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:166 Resp: 1217

Ion	Ratio	Lower	Upper
166	100		
164	68.6	59.3	99.3

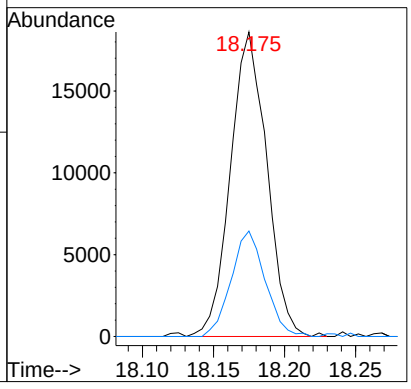


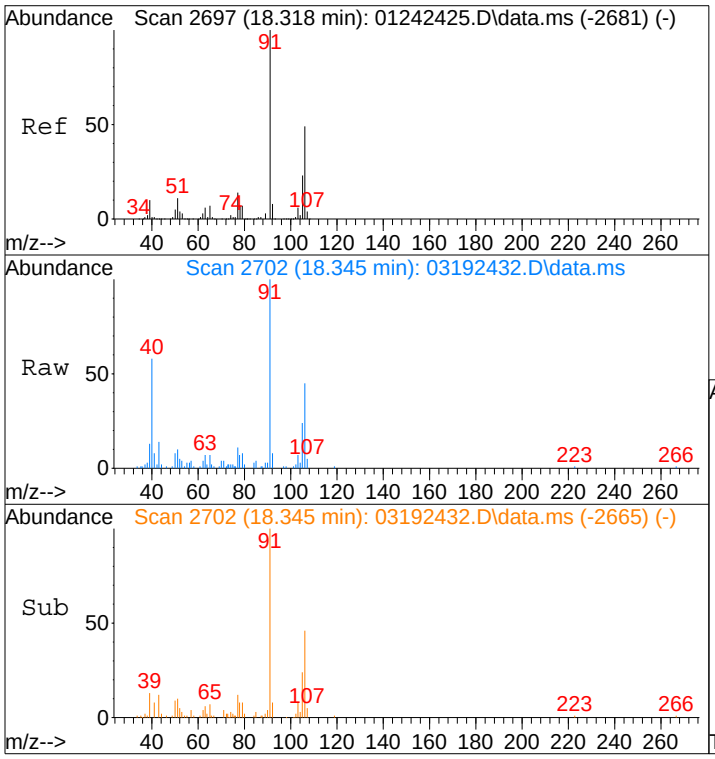


#66
Ethylbenzene
Concen: 0.37 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 91 Resp: 33062

Ion	Ratio	Lower	Upper
91	100		
106	32.5	10.9	50.9

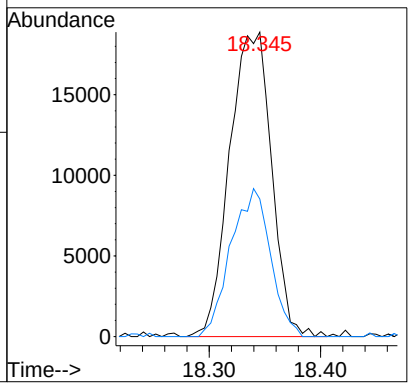


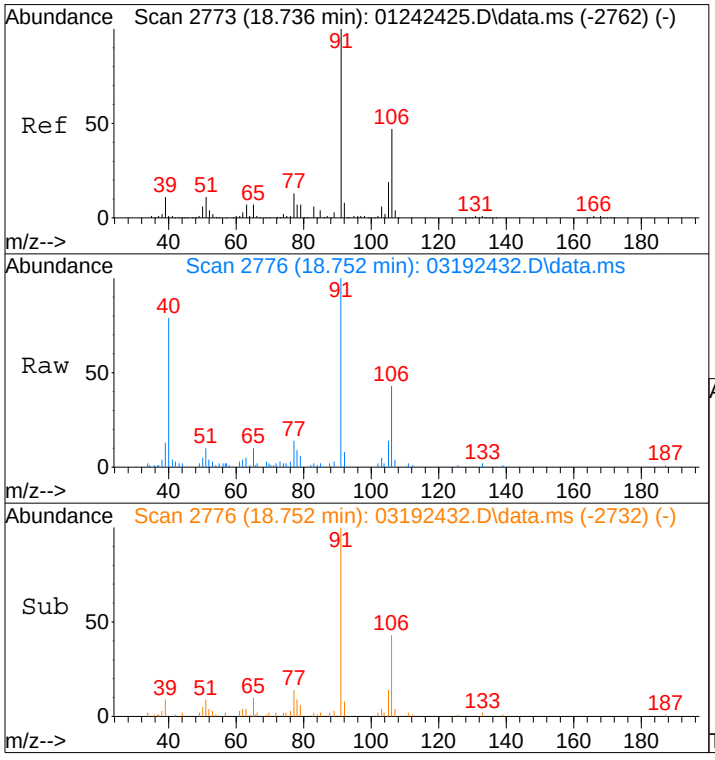


#67
m- & p-Xylenes
Concen: 0.68 ng
RT: 18.35 min Scan# 2702
Delta R.T. 0.006 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 91 Resp: 49447

Ion	Ratio	Lower	Upper
91	100		
106	45.9	28.7	68.7

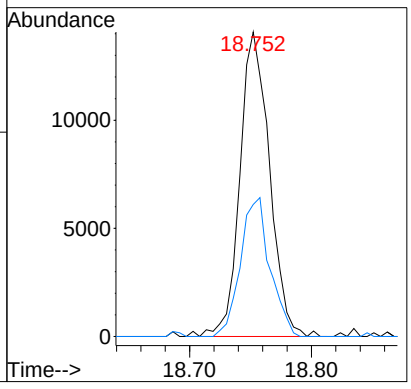


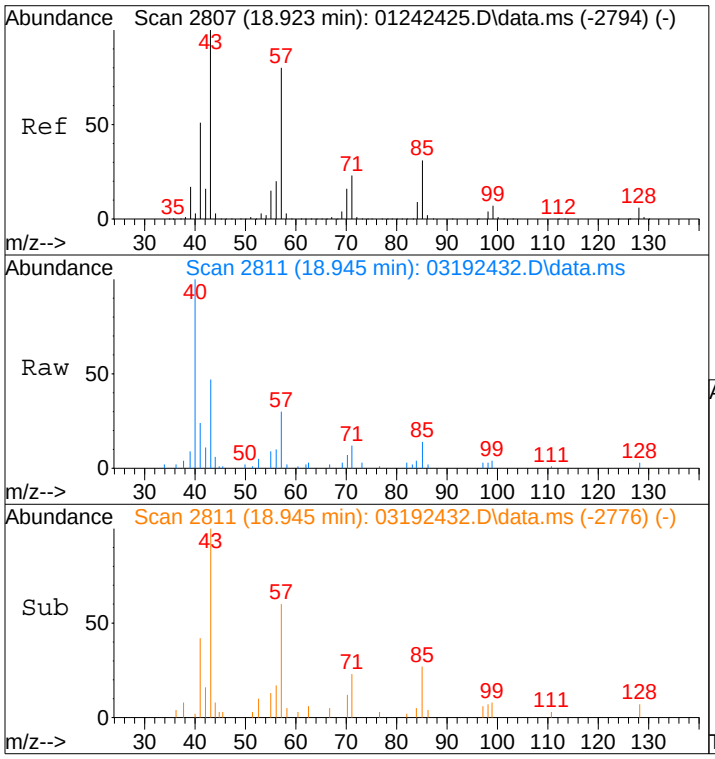


#70
o-Xylene
Concen: 0.33 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 91 Resp: 23821

Ion	Ratio	Lower	Upper
91	100		
106	45.4	26.0	66.0

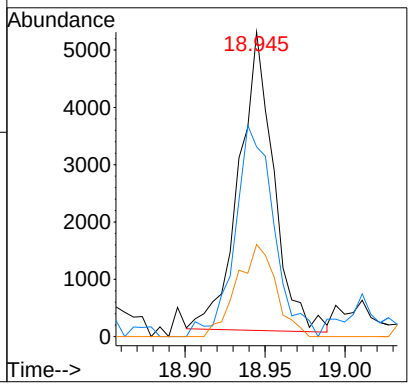


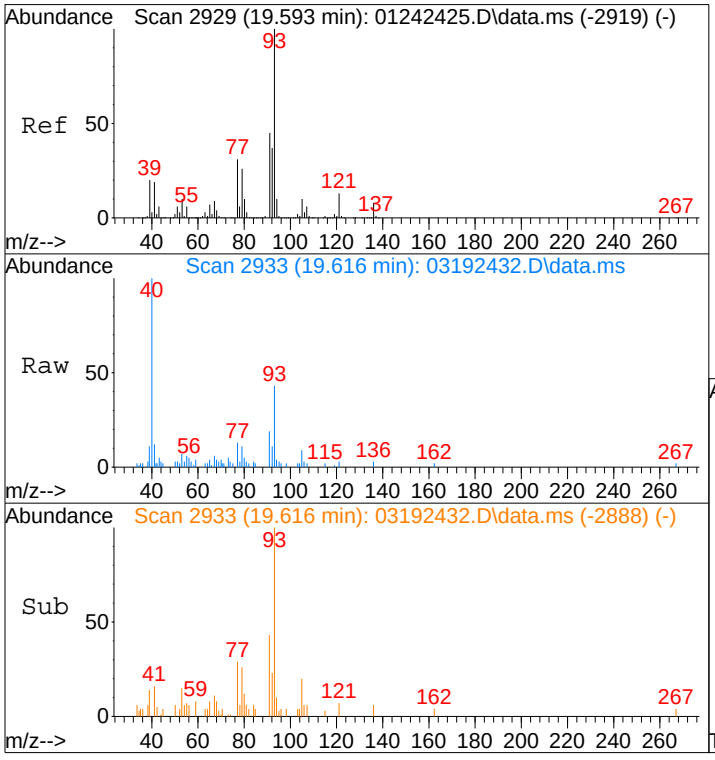


#71
n-Nonane
Concen: 0.17 ng
RT: 18.94 min Scan# 2811
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 43 Resp: 7891

Ion	Ratio	Lower	Upper
43	100		
57	78.7	57.4	97.4
85	34.5	10.1	50.1

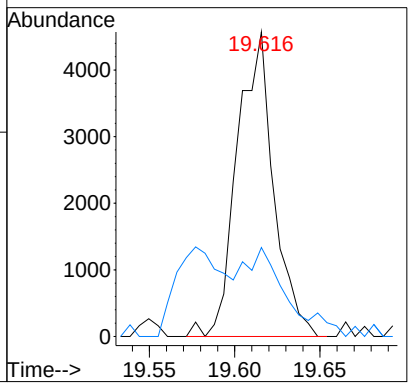


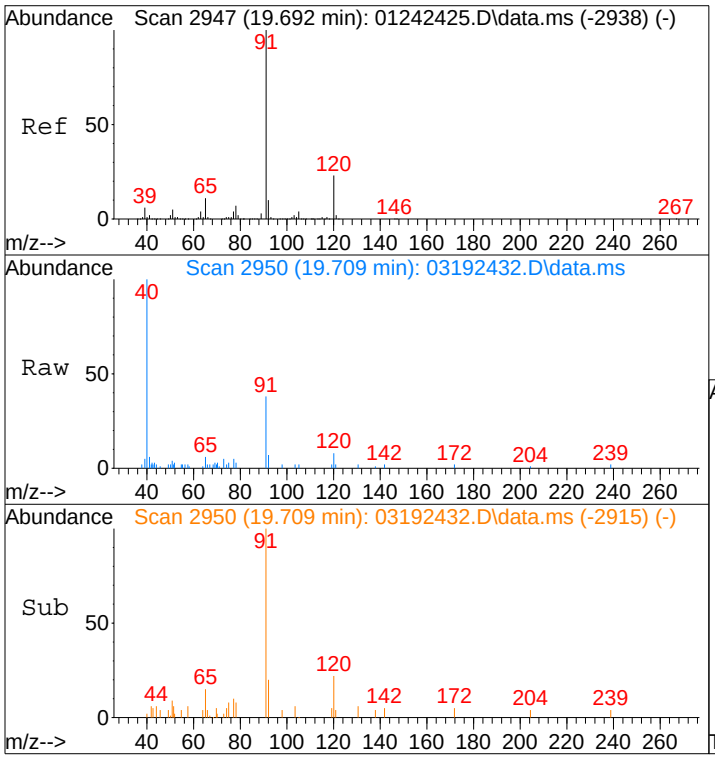


#75
alpha-Pinene
Concen: 0.16 ng
RT: 19.62 min Scan# 2933
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 93 Resp: 6804

Ion	Ratio	Lower	Upper
93	100		
77	34.4	13.6	53.6

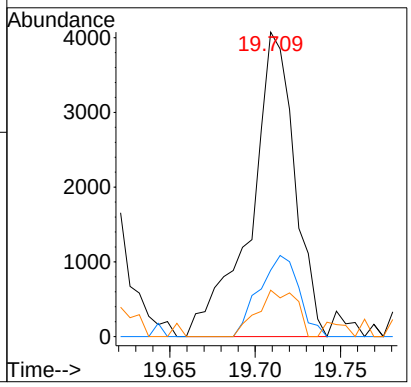


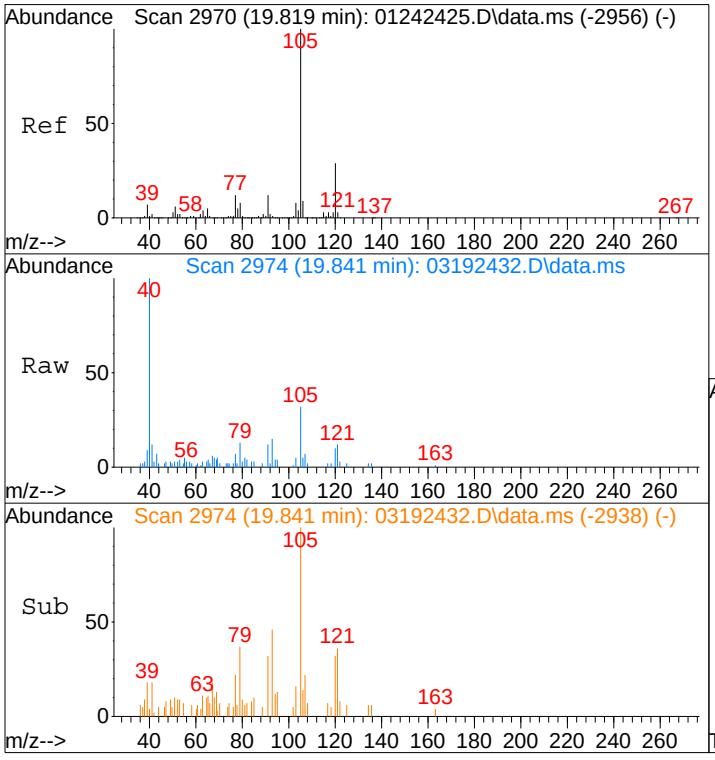


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.71 min Scan# 2950
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 91 Resp: 7263

Ion	Ratio	Lower	Upper
91	100		
120	24.3	2.5	42.5
65	13.6	0.0	31.9

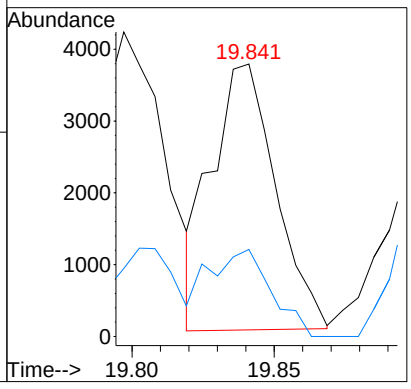


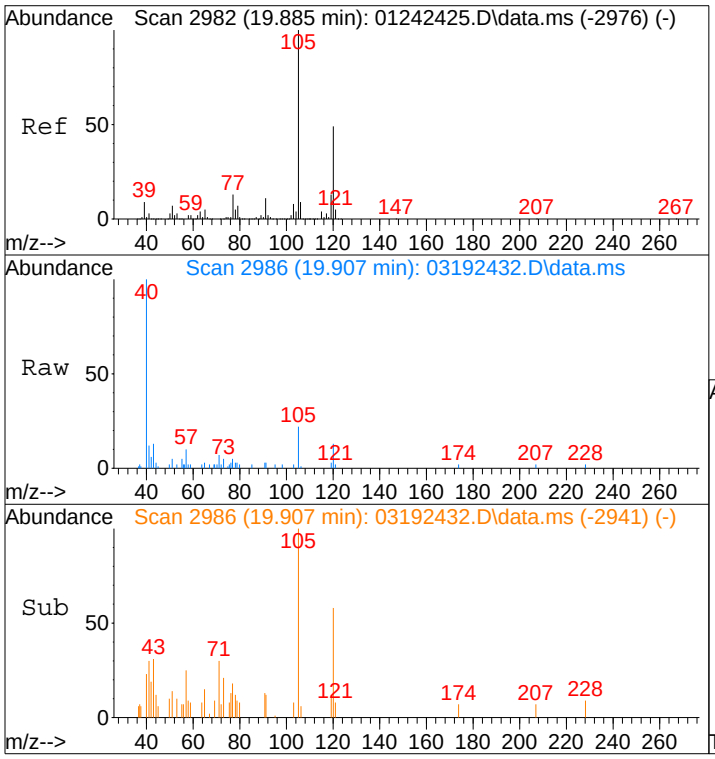


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.84 min Scan# 2974
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:105 Resp: 5823

Ion	Ratio	Lower	Upper
105	100		
120	32.4	8.9	48.9

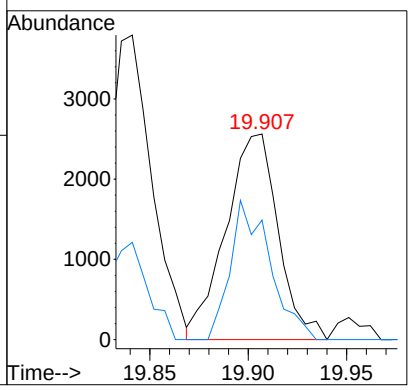


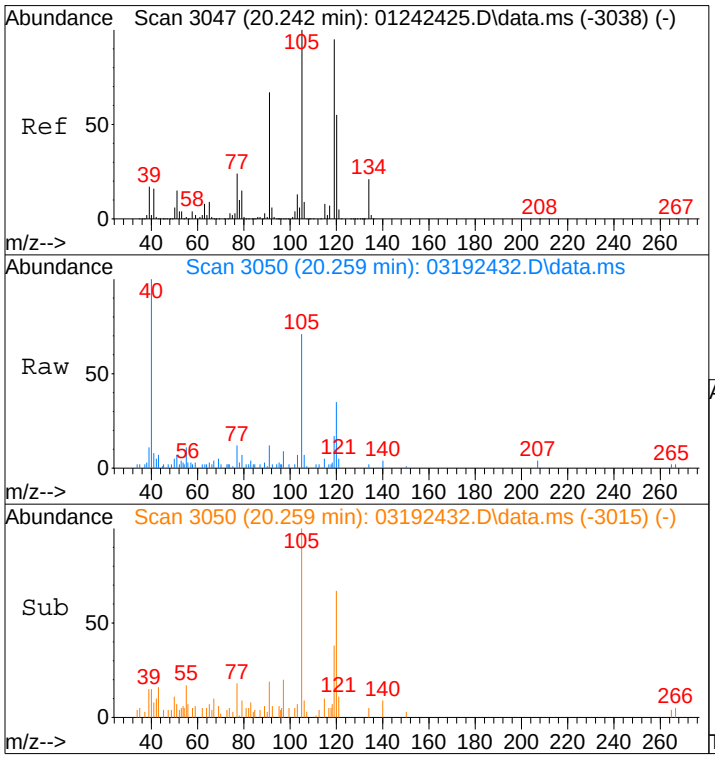


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 19.91 min Scan# 2986
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:105 Resp: 4748

Ion	Ratio	Lower	Upper
105	100		
120	51.3	27.4	67.4

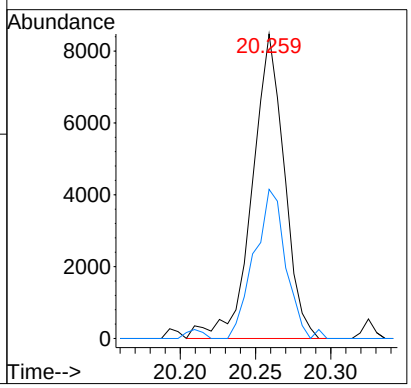


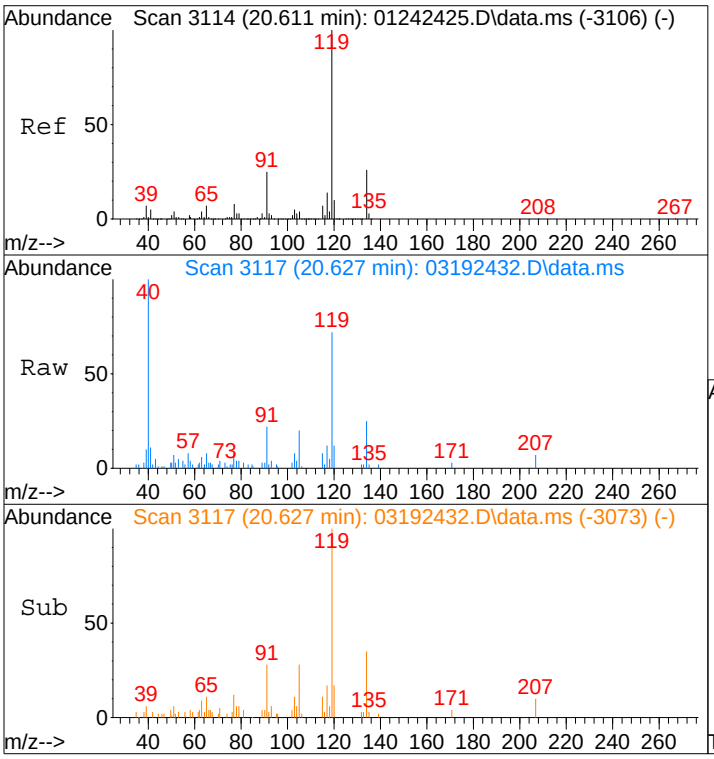


#82
1,2,4-Trimethylbenzene
Concen: 0.16 ng
RT: 20.26 min Scan# 3050
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:105 Resp: 12553

Ion	Ratio	Lower	Upper
105	100		
120	48.2	32.1	72.1

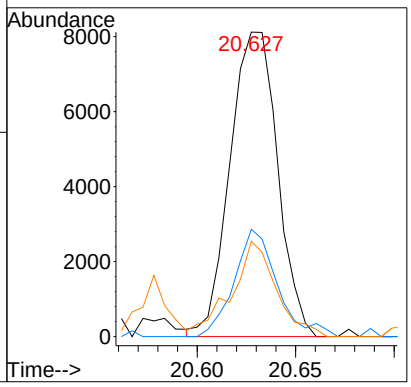


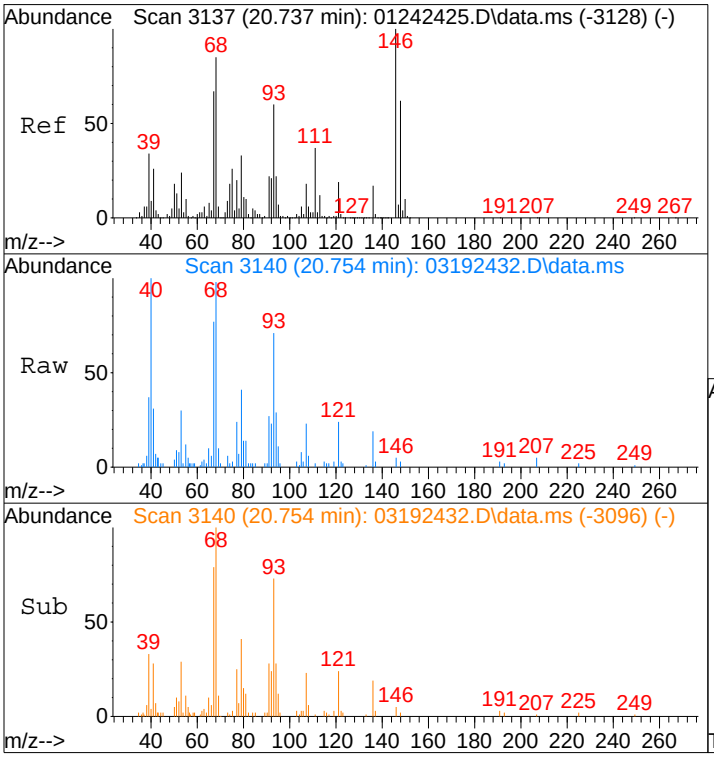


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.15 ng
RT: 20.63 min Scan# 3117
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:119 Resp: 13656

Ion	Ratio	Lower	Upper
119	100		
134	31.8	6.8	46.8
91	29.5	5.8	45.8

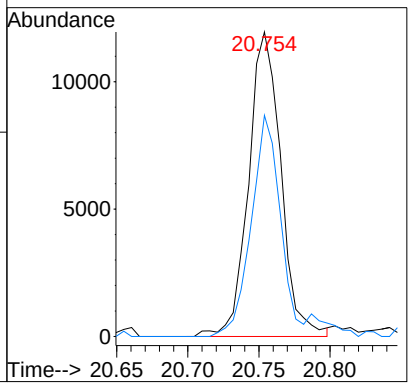


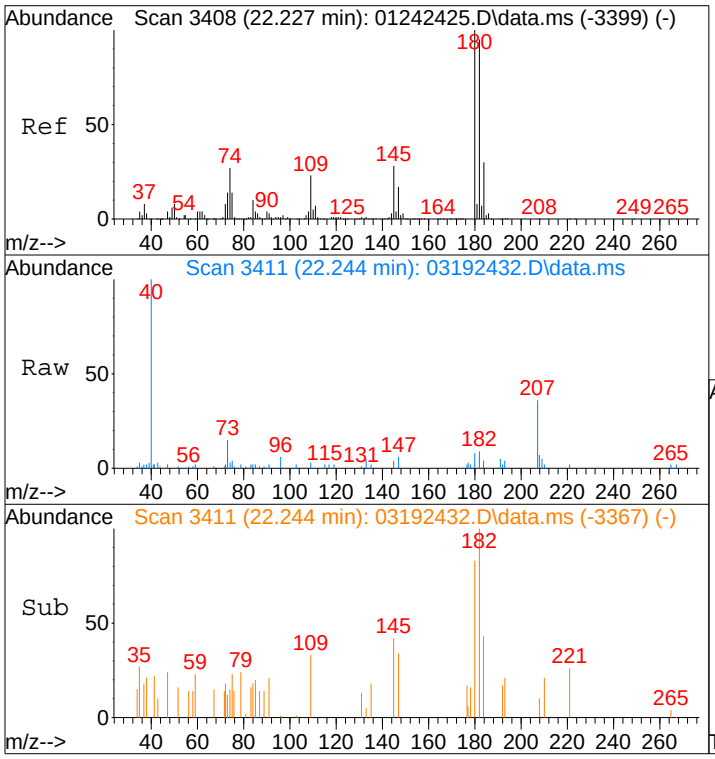


#91
d-Limonene
Concen: 0.72 ng
RT: 20.75 min Scan# 3140
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 68 Resp: 18902

Ion	Ratio	Lower	Upper
68	100		
93	65.1	49.7	89.7

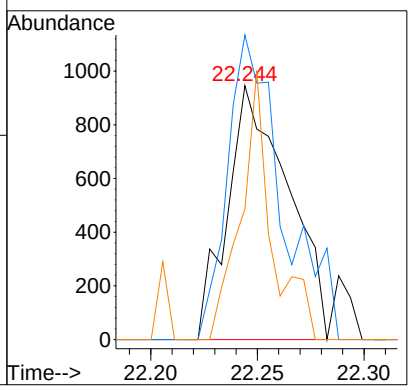




#94
1,2,4-Trichlorobenzene
Concen: 0.06 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion:180 Resp: 1876

Ion	Ratio	Lower	Upper
180	100		
182	108.6	75.8	113.8
184	53.7	25.0	37.4#



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:29:22 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

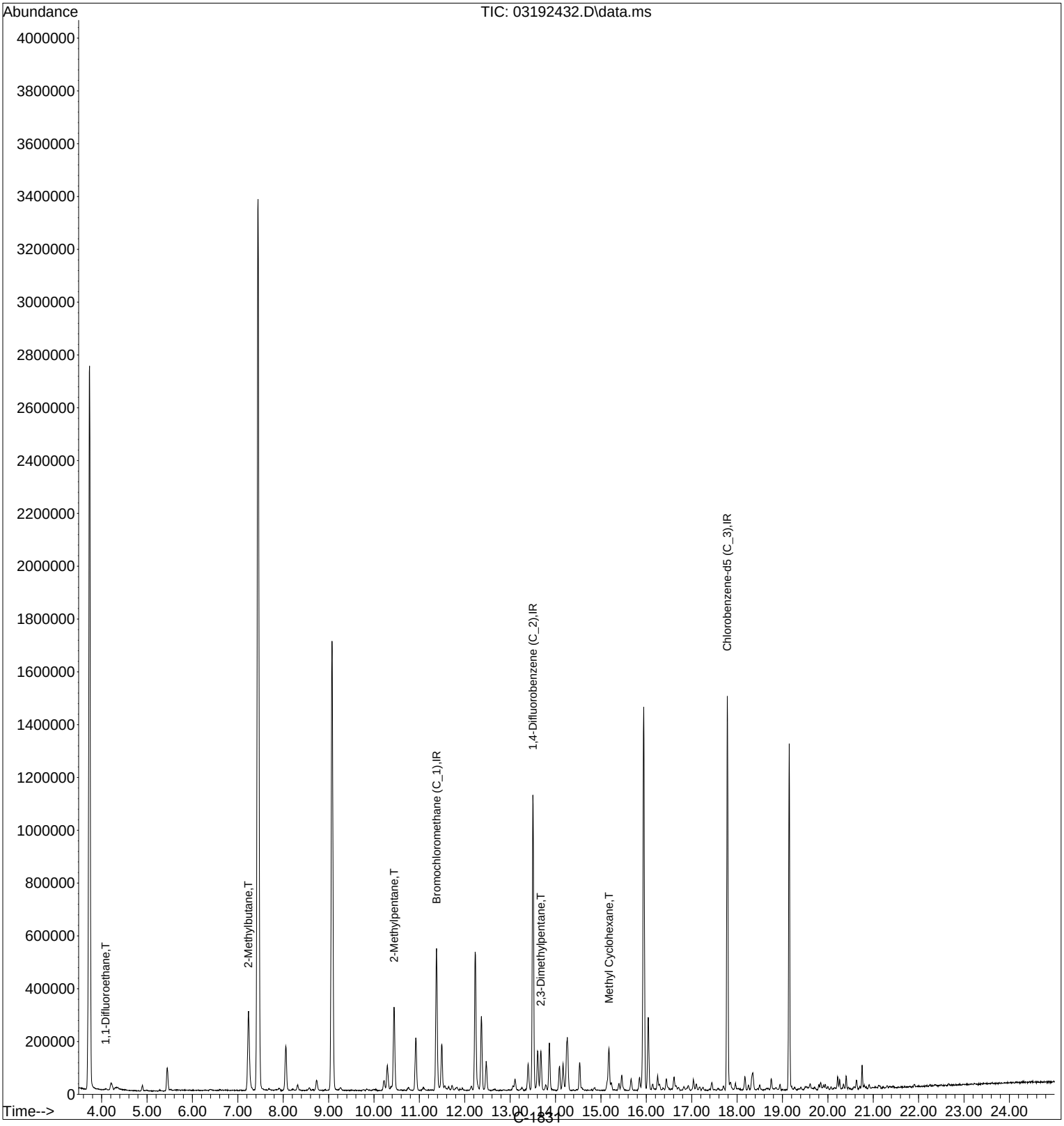
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	214001	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	967868	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	214065	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.84	85	49	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.99	83	85	N.D.		
4) 1,1-Difluoroethane	4.09	65	2293	0.125	ng	92
5) Chlorodifluoromethane ...	4.16	67	58	N.D.		
6) 1-Chloro-1,1-Difluoroe...	4.55	65	114	N.D.		
7) Dichlorofluoromethane ...	6.40	67	4323	N.D.		
8) Vinylbromide	6.73	108	65	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	181	N.D.		
10) 2-Methylbutane	7.23	57	106773	4.980	ng	86
11) Methyl Acetate	8.67	43	161	N.D.		
12) 2-Methylpentane	10.44	71	85948	4.383	ng	88
13) 2,2-Dichloropropane	11.60	77	255	N.D.		
14) 1,1-Dichloropropene	12.96	75	55	N.D.		
15) Thiophene	13.23	84	112	N.D.		
17) 2,3-Dimethylpentane	13.68	56	67644	1.702	ng	98
18) Dibromomethane	13.92	174	781	N.D.		
20) Methyl Cyclohexane	15.18	55	70139	2.338	ng	92
21) 1,3-Dichloropropane	16.06	76	1365	N.D.		
22) 1,1,1,2-Tetrachloroethane	17.71	131	59	N.D.		
23) 1-Chlorohexane	18.01	91	107	N.D.		
24) 1,2,3-Trichloropropane	18.85	75	154	N.D.		
25) Bromobenzene	19.35	77	199	N.D.		
26) 2-Chlorotoluene	0.00	91	0	N.D.	d	
27) 4-Chlorotoluene	19.75	91	231	N.D.		
28) Indane	20.80	117	1344	N.D.		
29) Indene	20.87	115	74	N.D.		
30) 1,2,4,5-Tetramethylben...	21.64	119	958	N.D.		
31) 1,2,3,4-Tetramethylben...	21.67	119	575	N.D.		
32) 1,2,3,5-Tetramethylben...	22.05	119	150	N.D.		
33) 1,2,3-Trichlorobenzene	22.60	180	144	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:29:22 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-1831

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:29:22 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

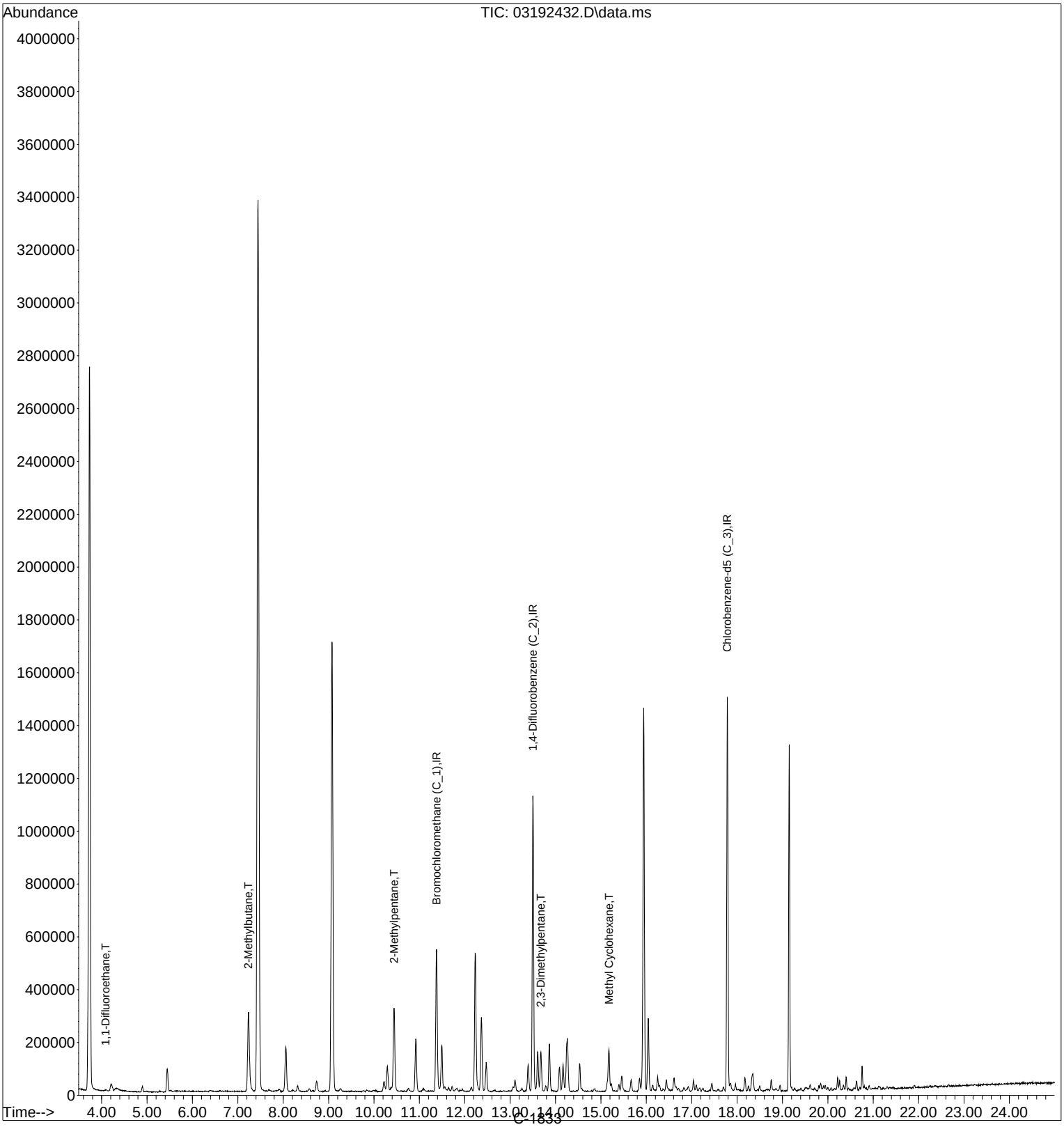
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	214001	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	967868	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	214065	12.500	ng	0.00
Target Compounds						Qvalue
4) 1,1-Difluoroethane	4.09	65	2293	0.125	ng	92
10) 2-Methylbutane	7.23	57	106773	4.980	ng	86
12) 2-Methylpentane	10.44	71	85948	4.383	ng	88
17) 2,3-Dimethylpentane	13.68	56	67644	1.702	ng	98
20) Methyl Cyclohexane	15.18	55	70139	2.338	ng	92

(#) = qualifier out of range (m) = manual integration (+) = signals summed

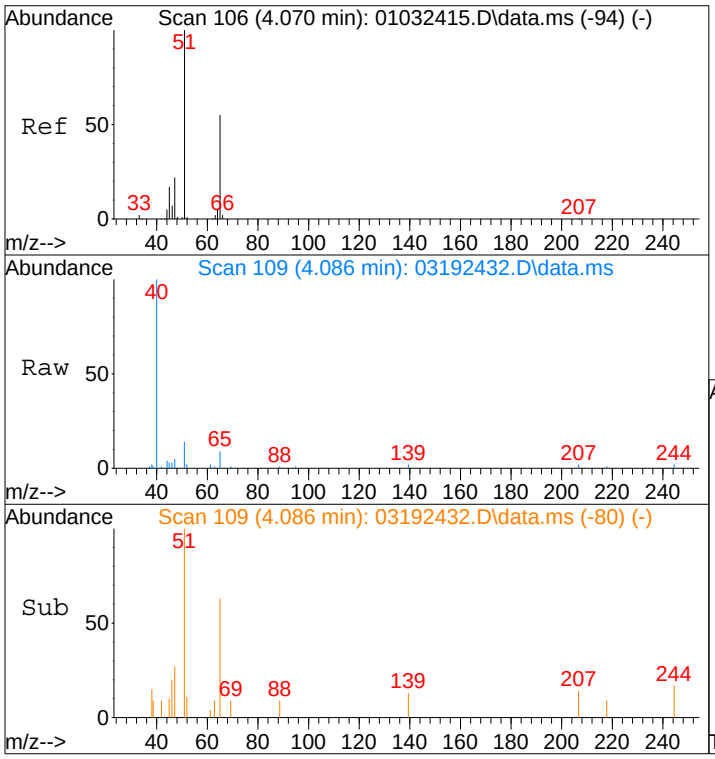
Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:29:22 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



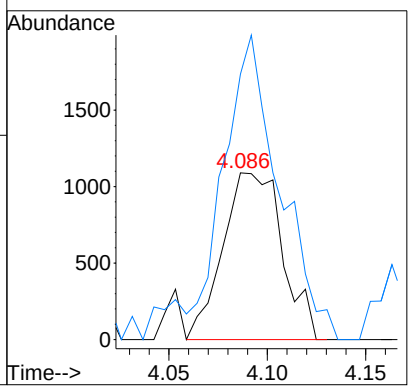
C-1833

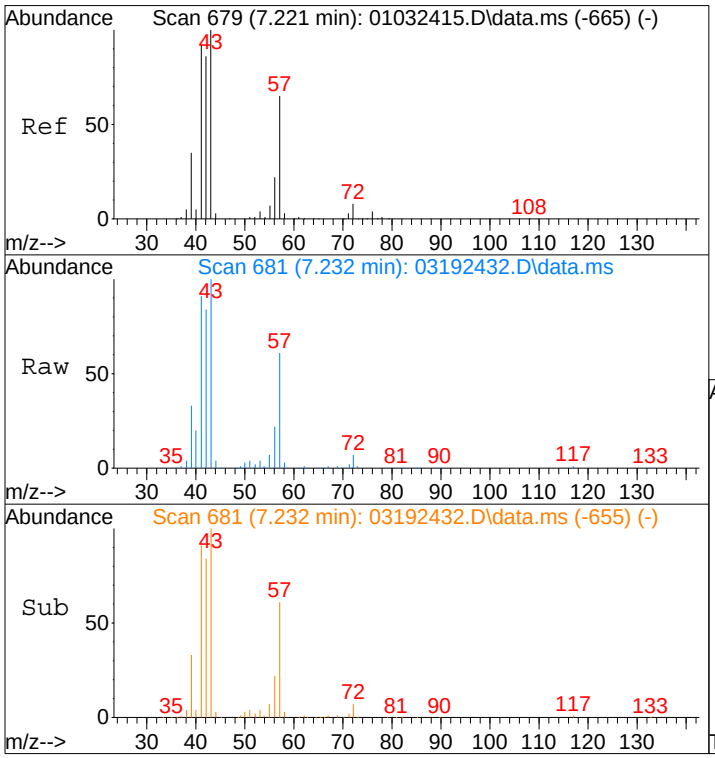


#4
1,1-Difluoroethane
Concen: 0.12 ng
RT: 4.09 min Scan# 109
Delta R.T. 0.011 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 65 Resp: 2293

Ion	Ratio	Lower	Upper
65	100		
51	182.9	155.8	233.6

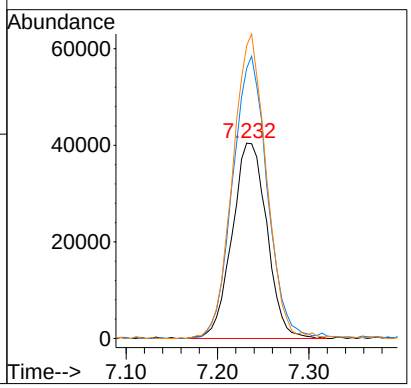


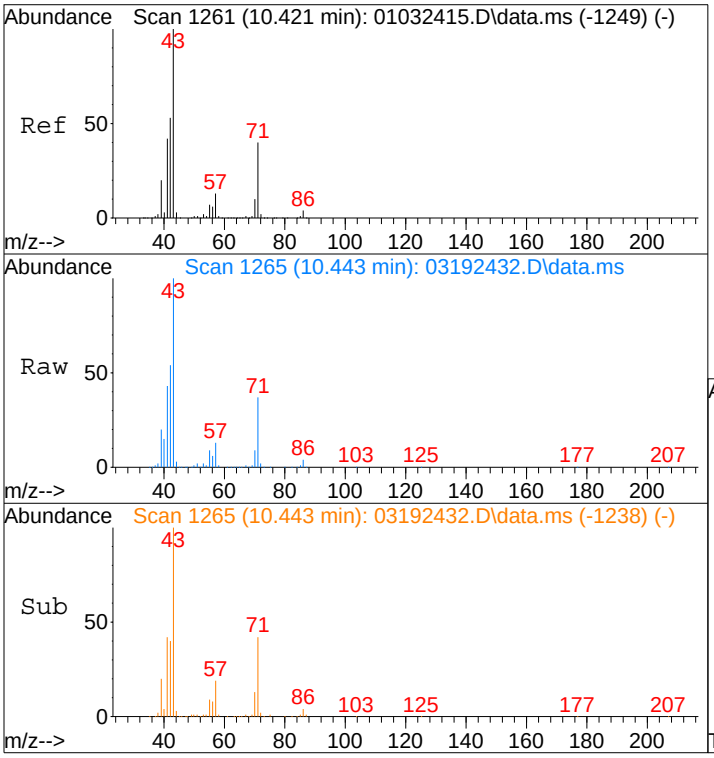


#10
2-Methylbutane
Concen: 4.98 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 57 Resp: 106773

Ion	Ratio	Lower	Upper
57	100		
42	144.8	115.0	172.4
41	151.9	149.4	224.2

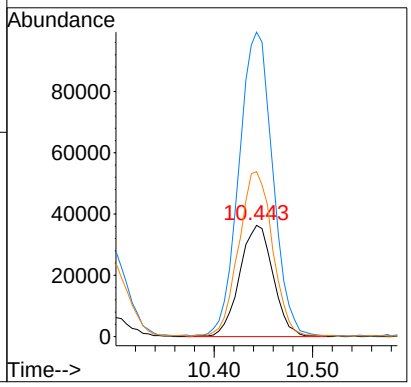


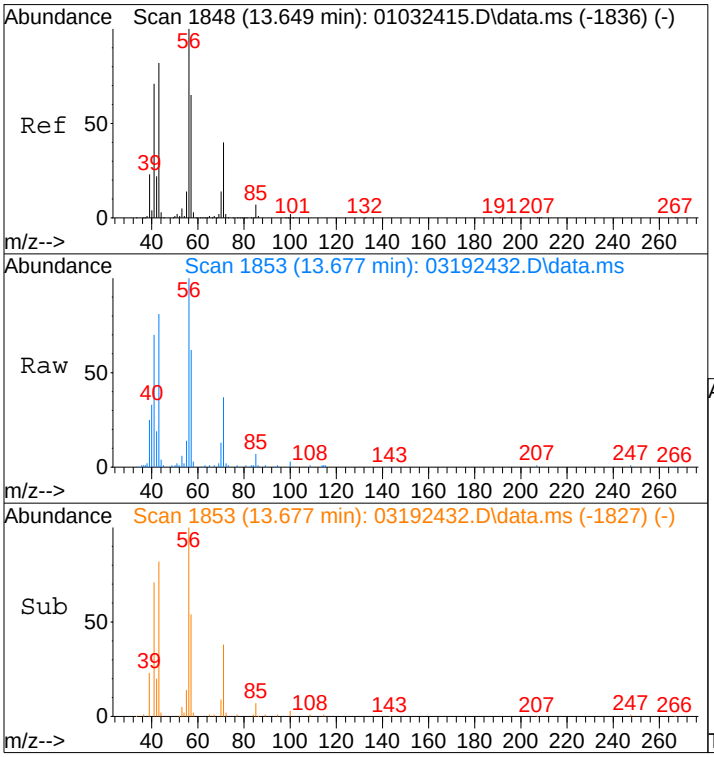


#12
2-Methylpentane
Concen: 4.38 ng
RT: 10.44 min Scan# 1265
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 71 Resp: 85948

Ion	Ratio	Lower	Upper
71	100		
43	274.9	241.7	362.5
42	148.9	129.1	193.7

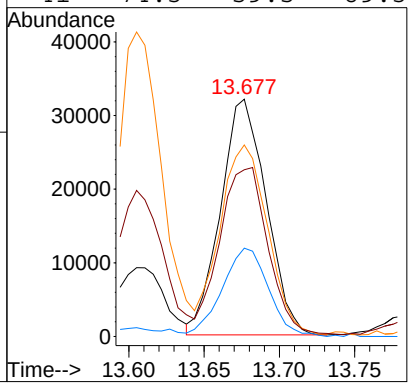


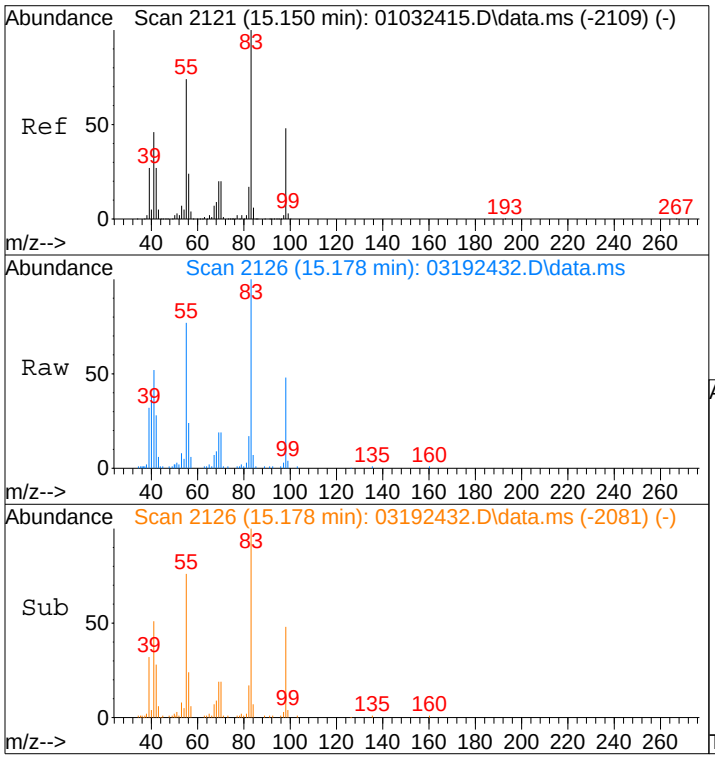


#17
2,3-Dimethylpentane
Concen: 1.70 ng
RT: 13.68 min Scan# 1853
Delta R.T. -0.005 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 56 Resp: 67644

Ion	Ratio	Lower	Upper
56	100		
71	37.8	28.2	42.4
43	84.0	69.4	104.0
41	74.3	59.5	89.3

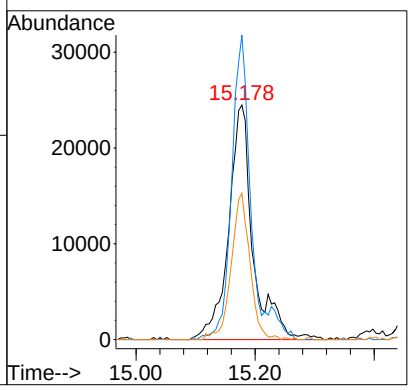




#20
Methyl Cyclohexane
Concen: 2.34 ng
RT: 15.18 min Scan# 2126
Delta R.T. 0.000 min
Lab File: 03192432.D
Acq: 19 Mar 2024 17:10

Tgt Ion: 55 Resp: 70139

Ion	Ratio	Lower	Upper
55	100		
83	102.8	89.5	134.3
98	47.6	41.6	62.4



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192432.D\data.ms

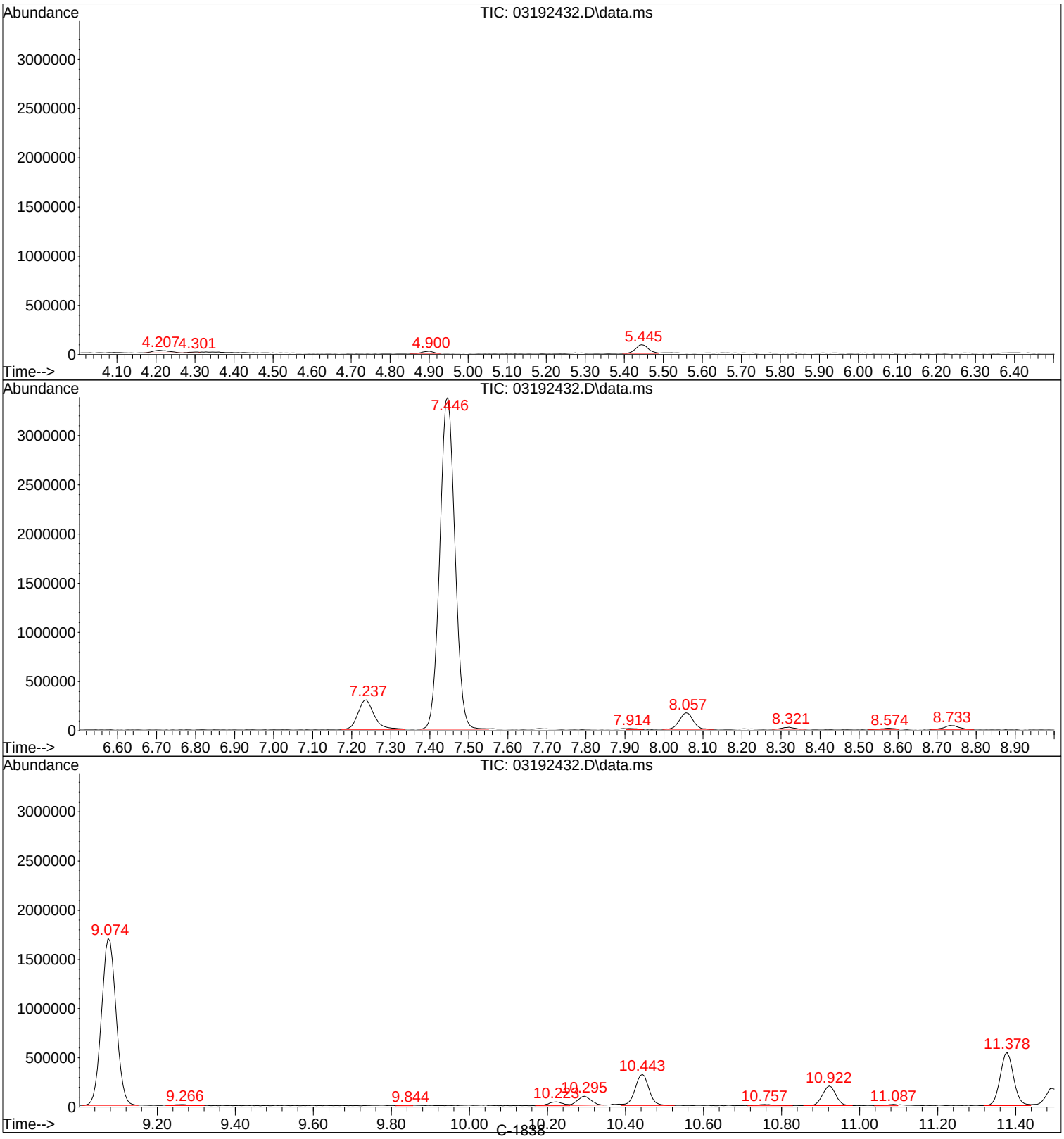
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.207	124	131	142	rVB4	26301	76096	0.84%	0.417%
2	4.301	142	148	150	rBV4	8378	16172	0.18%	0.089%
3	4.900	248	257	262	rBV2	22977	42710	0.47%	0.234%
4	5.445	347	356	364	rBV2	88003	200949	2.21%	1.100%
5	7.237	670	682	700	rBV2	300813	858560	9.45%	4.702%
6	7.446	707	720	739	rBV	3374389	9084908	100.00%	49.750%
7	7.914	803	805	811	rVB6	10488	16844	0.19%	0.092%
8	8.057	820	831	844	rBV	168107	411464	4.53%	2.253%
9	8.321	871	879	887	rBV3	20439	43827	0.48%	0.240%
10	8.574	916	925	930	rBV4	11195	26810	0.30%	0.147%
11	8.733	945	954	965	rBV2	39612	102793	1.13%	0.563%
12	9.074	1004	1016	1030	rBV	1699559	4427853	48.74%	24.248%
13	9.266	1043	1051	1061	rVB7	10629	28733	0.32%	0.157%
14	9.844	1150	1156	1158	rBV4	6746	12671	0.14%	0.069%
15	10.223	1215	1225	1231	rBV2	38193	100853	1.11%	0.552%
16	10.295	1231	1238	1247	rVB	90142	214757	2.36%	1.176%
17	10.443	1255	1265	1280	rVB	314226	771719	8.49%	4.226%
18	10.757	1314	1322	1335	rBV2	11958	36162	0.40%	0.198%
19	10.922	1340	1352	1363	rBV2	199383	474321	5.22%	2.597%
20	11.087	1373	1382	1384	rBV8	14120	27740	0.31%	0.152%
21	11.378	1424	1435	1446	rBV	537971	1285029	14.14%	7.037%

Sum of corrected areas: 18260971

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:10
Operator : CI
Sample : P2400922-059 (2.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192432.D
Acq On : 19 Mar 2024 17:100
Operator : CII
Sample : P2400922-059 (2.5mL))
Misc : S37-01032403//
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CJ 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:07:04 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	216215	12.500 ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	994169	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	223446	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	442636	12.155 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%			
57) Toluene-d8 (SS2)	15.94	98	1110935	12.732 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%			
73) Bromofluorobenzene (SS3)	19.15	174	375561	12.780 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%			
Target Compounds						Qvalue
2) Propene	4.18	42	35160m	1.153 ng		
3) Dichlorodifluoromethan...	4.34	85	11457	0.238 ng		92
4) Chloromethane	4.65	50	5033	0.159 ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	309	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.36	54	131	N.D.		
8) Bromomethane	5.80	94	214	N.D.		
9) Chloroethane	6.13	64	337	N.D.		
10) Ethanol	6.56	45	226932	11.707 ng		99
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	7.02	56	4085	0.290 ng	#	69
13) Acetone	7.22	58	256249	16.301 ng	#	56
14) Trichlorofluoromethane	7.44	101	464373	10.752 ng		100
15) 2-Propanol (Isopropanol)	7.75	45	397900	6.794 ng		99
16) Acrylonitrile	7.99	53	967	N.D.		
17) 1,1-Dichloroethene	8.40	96	161	N.D.		
18) 2-Methyl-2-Propanol (t...	8.66	59	39476	0.751 ng	#	35
19) Methylene Chloride	8.65	84	16171	0.710 ng		100
20) 3-Chloro-1-propene (Al...	8.82	41	289	N.D.		
21) Trichlorotrifluoroethane	9.07	151	1395110	74.166 ng		100
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D. d		
24) 1,1-Dichloroethane	10.20	63	397	N.D.		
25) Methyl tert-Butyl Ether	10.36	73	2236	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.73	72	14683	1.068 ng		97
28) cis-1,2-Dichloroethene	11.21	61	472	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	11.53	61	614343	78.418 ng		91
31) n-Hexane	11.49	57	31418	0.875 ng		92
32) Chloroform	11.55	83	28760	0.786 ng		100
34) Tetrahydrofuran (THF)	12.00	72	8422	0.635 ng	#	87
35) Ethyl tert-Butyl Ether	12.14	87	171	N.D.		
36) 1,2-Dichloroethane	12.35	62	4604	0.127 ng		87
38) 1,1,1-Trichloroethane	12.64	97	174	N.D.		
39) Isopropyl Acetate	13.68	61	249	No Calib	#	
40) 1-Butanol	12.62	56	205	No Calib	#	
41) Benzene	13.11	78	52791	0.559 ng		98
42) Carbon Tetrachloride	13.26	117	235	N.D.		
43) Cyclohexane	13.40	84	27076	0.877 ng		99
44) tert-Amyl Methyl Ether	13.76	73	360	N.D.		
45) 1,2-Dichloropropane	13.97	63	1794	0.082 ng		87
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.21	130	5787	0.240 ng		100
48) 1,4-Dioxane	14.23	88	434	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 11:07:04 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

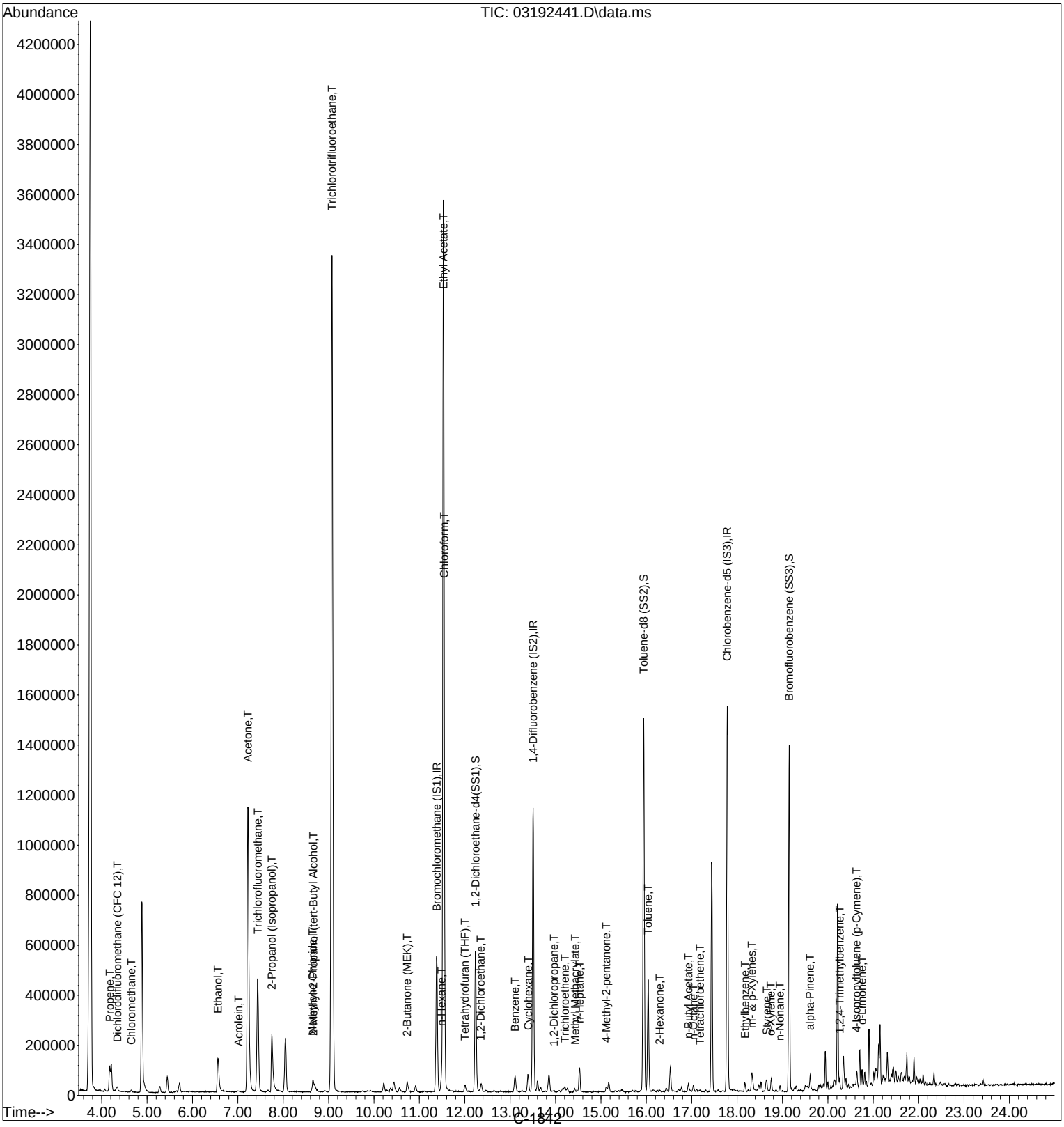
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d		
50) Methyl Methacrylate	14.43	100	1729	0.208 ng	#	87
51) n-Heptane	14.53	71	23967	1.049 ng		97
52) cis-1,3-Dichloropropene	15.05	75	216	N.D.		
53) 4-Methyl-2-pentanone	15.12	58	5362	0.291 ng		91
54) trans-1,3-Dichloropropene	15.56	75	147	N.D.		
55) 1,1,2-Trichloroethane	15.76	97	500	N.D.		
58) Toluene	16.04	91	349486	4.271 ng		100
59) 2-Hexanone	16.29	43	4382	0.084 ng		96
60) Dibromochloromethane	16.45	129	1033	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.93	43	24089	0.419 ng		84
63) n-Octane	17.04	57	5361	0.284 ng		98
64) Tetrachloroethene	17.18	166	2109	0.088 ng		97
65) Chlorobenzene	17.82	112	2227	N.D.		
66) Ethylbenzene	18.17	91	25481	0.268 ng		98
67) m- & p-Xylenes	18.32	91	56485	0.740 ng		98
68) Bromoform	18.39	173	939	N.D.		
69) Styrene	18.65	104	17560	0.332 ng		98
70) o-Xylene	18.75	91	23866	0.311 ng		97
71) n-Nonane	18.94	43	8619	0.179 ng		98
72) 1,1,2,2-Tetrachloroethane	18.73	83	511	N.D.		
74) Cumene	19.27	105	4155	N.D.		
75) alpha-Pinene	19.61	93	21834	0.497 ng		95
76) n-Propylbenzene	19.71	91	4730	N.D.		
77) 3-Ethyltoluene	20.26	105	9623	No Calib		
78) 4-Ethyltoluene	19.83	105	3945	N.D.		
79) 1,3,5-Trimethylbenzene	19.90	105	3761	N.D.		
80) alpha-Methylstyrene	20.62	118	429	No Calib	#	
81) 2-Ethyltoluene	20.26	105	9623	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	9623	0.118 ng		86
83) n-Decane	20.35	58	2755	No Calib	#	
84) Benzyl Chloride	20.46	91	613	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	809	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1218	N.D.		
87) sec-Butylbenzene	20.49	105	2425	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	9168	0.097 ng		90
89) 1,2,3-Trimethylbenzene	20.26	105	9623	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1163	N.D.		
91) d-Limonene	20.75	68	13719	0.498 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.12	157	232	N.D.		
93) n-Undecane	21.50	58	858	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1132	N.D.		
95) Naphthalene	22.35	128	1112	N.D.		
96) n-Dodecane	22.71	57	1691	No Calib	#	
97) Hexachlorobutadiene	22.67	225	830	N.D.		
98) Cyclohexanone	18.25	55	631	No Calib	#	
99) tert-Butylbenzene	20.26	119	2373	N.D.		
100) n-Butylbenzene	20.99	91	2870	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 11:07:04 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:07:04 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

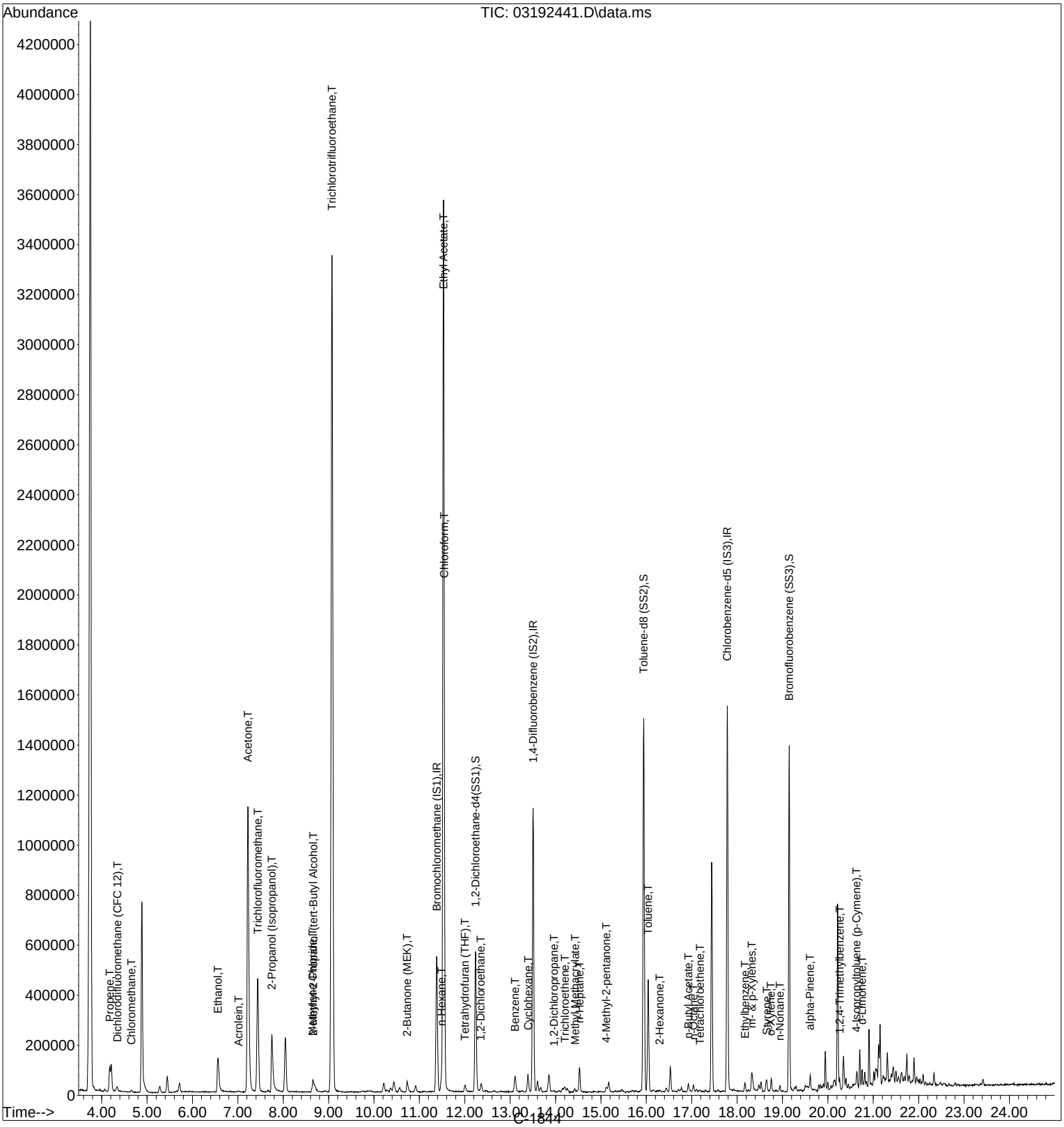
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	216215	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	994169	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	223446	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	442636	12.155	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.20%				
57) Toluene-d8 (SS2)	15.94	98	1110935	12.732	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
73) Bromofluorobenzene (SS3)	19.15	174	375561	12.780	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
Target Compounds							Qvalue
2) Propene	4.18	42	35160m	1.153	ng		
3) Dichlorodifluoromethan...	4.34	85	11457	0.238	ng		92
4) Chloromethane	4.65	50	5033	0.159	ng		98
10) Ethanol	6.56	45	226932	11.707	ng		99
12) Acrolein	7.02	56	4085	0.290	ng	#	69
13) Acetone	7.22	58	256249	16.301	ng	#	56
14) Trichlorofluoromethane	7.44	101	464373	10.752	ng		100
15) 2-Propanol (Isopropanol)	7.75	45	397900	6.794	ng		99
18) 2-Methyl-2-Propanol (t...	8.66	59	39476	0.751	ng	#	35
19) Methylene Chloride	8.65	84	16171	0.710	ng		100
21) Trichlorotrifluoroethane	9.07	151	1395110	74.166	ng		100
27) 2-Butanone (MEK)	10.73	72	14683	1.068	ng		97
30) Ethyl Acetate	11.53	61	614343	78.418	ng		91
31) n-Hexane	11.49	57	31418	0.875	ng		92
32) Chloroform	11.55	83	28760	0.786	ng		100
34) Tetrahydrofuran (THF)	12.00	72	8422	0.635	ng	#	87
36) 1,2-Dichloroethane	12.35	62	4604	0.127	ng		87
41) Benzene	13.11	78	52791	0.559	ng		98
43) Cyclohexane	13.40	84	27076	0.877	ng		99
45) 1,2-Dichloropropane	13.97	63	1794	0.082	ng		87
47) Trichloroethene	14.21	130	5787	0.240	ng		100
50) Methyl Methacrylate	14.43	100	1729	0.208	ng	#	87
51) n-Heptane	14.53	71	23967	1.049	ng		97
53) 4-Methyl-2-pentanone	15.12	58	5362	0.291	ng		91
58) Toluene	16.04	91	349486	4.271	ng		100
59) 2-Hexanone	16.29	43	4382	0.084	ng		96
62) n-Butyl Acetate	16.93	43	24089	0.419	ng		84
63) n-Octane	17.04	57	5361	0.284	ng		98
64) Tetrachloroethene	17.18	166	2109	0.088	ng		97
66) Ethylbenzene	18.17	91	25481	0.268	ng		98
67) m- & p-Xylenes	18.32	91	56485	0.740	ng		98
69) Styrene	18.65	104	17560	0.332	ng		98
70) o-Xylene	18.75	91	23866	0.311	ng		97
71) n-Nonane	18.94	43	8619	0.179	ng		98
75) alpha-Pinene	19.61	93	21834	0.497	ng		95
82) 1,2,4-Trimethylbenzene	20.26	105	9623	0.118	ng		86
88) 4-Isopropyltoluene (p-...	20.63	119	9168	0.097	ng		90
91) d-Limonene	20.75	68	13719	0.498	ng		97

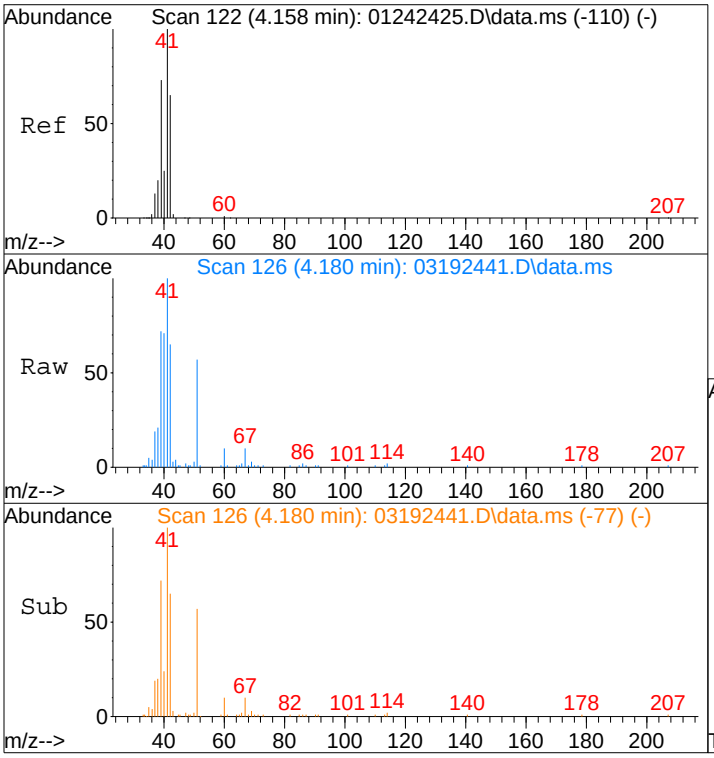
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 11:07:04 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

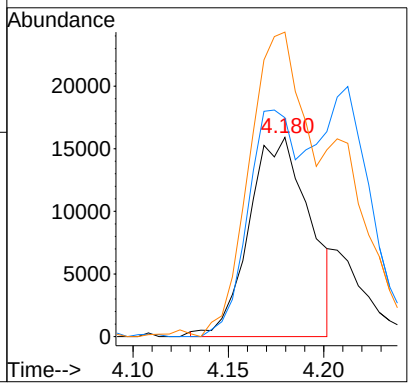


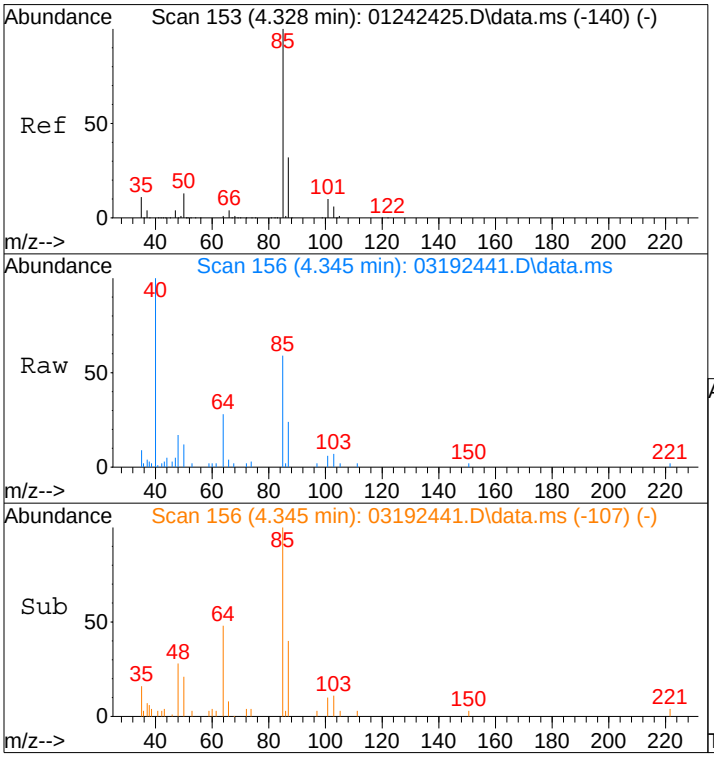


#2
Propene
Concen: 1.15 ng m
RT: 4.18 min Scan# 126
Delta R.T. 0.022 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 42 Resp: 35160

Ion	Ratio	Lower	Upper
42	100		
39	101.3	98.6	138.6
41	145.3	132.4	172.4

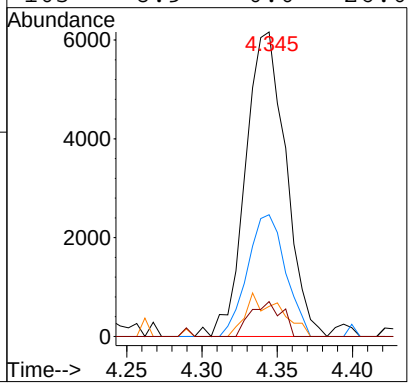


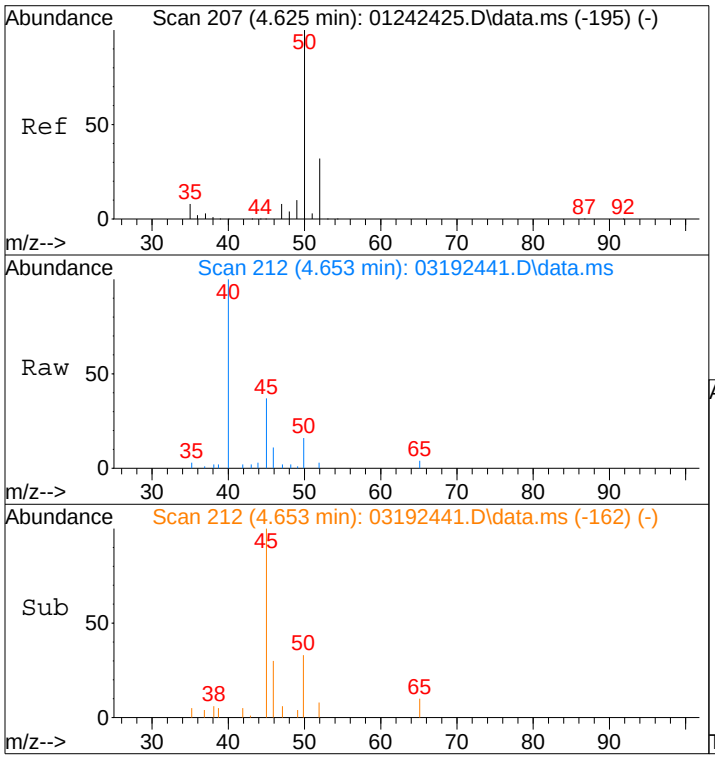


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.24 ng
RT: 4.34 min Scan# 156
Delta R.T. 0.022 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 85 Resp: 11457

Ion	Ratio	Lower	Upper
85	100		
87	37.7	13.1	53.1
101	12.1	0.0	29.5
103	8.9	0.0	26.0

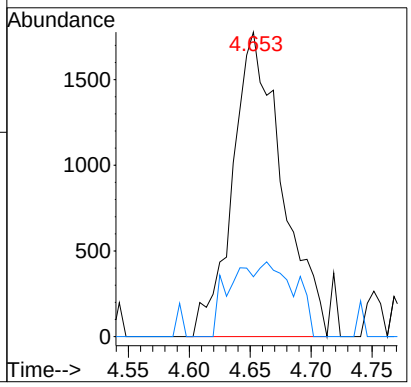


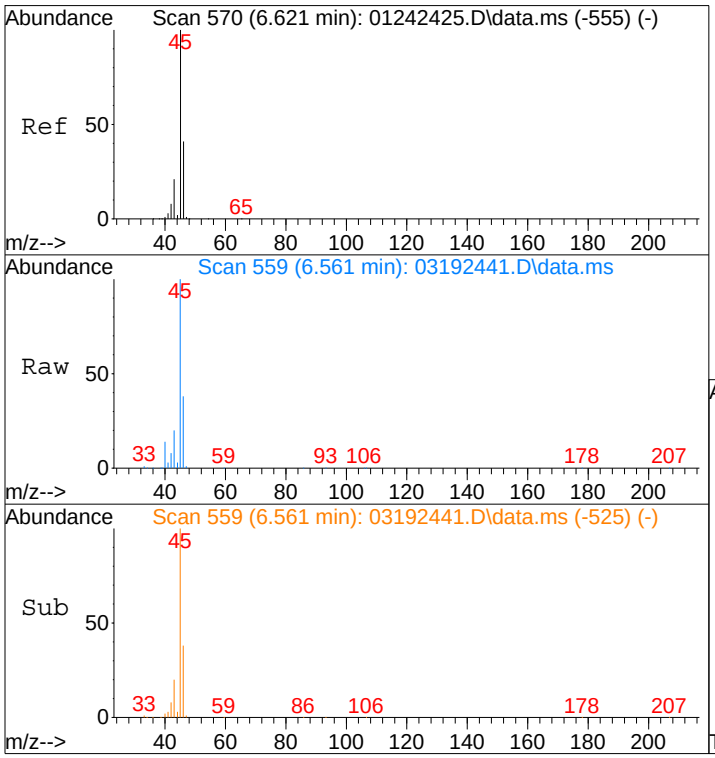


#4
Chloromethane
Concen: 0.16 ng
RT: 4.65 min Scan# 212
Delta R.T. 0.027 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 50 Resp: 5033

Ion	Ratio	Lower	Upper
50	100		
52	31.6	12.8	52.8

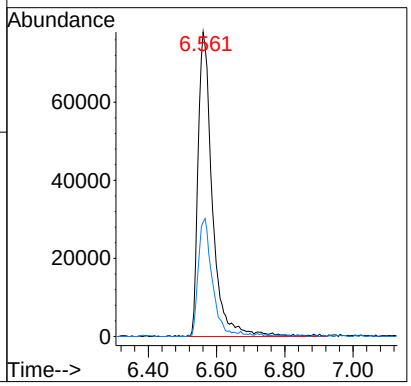


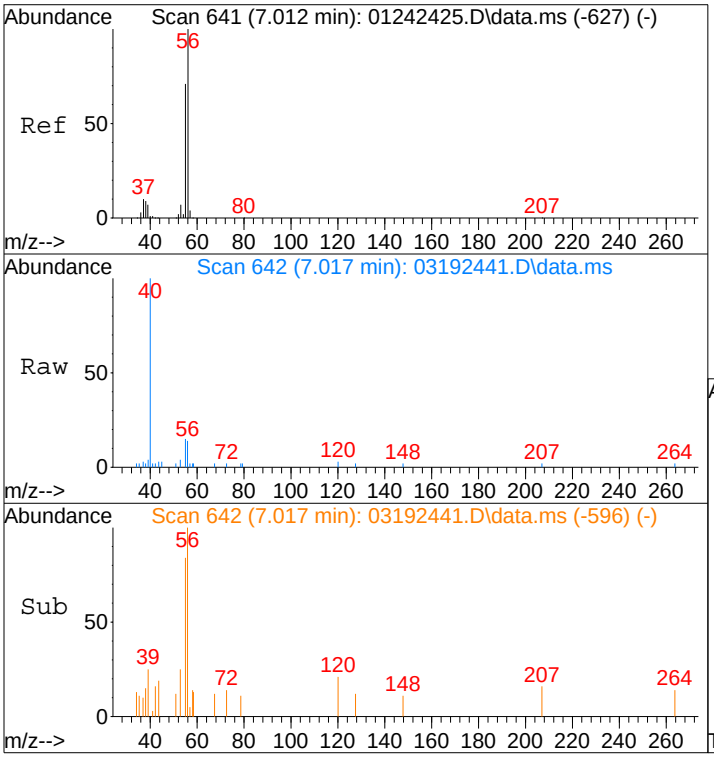


#10
Ethanol
Concen: 11.71 ng
RT: 6.56 min Scan# 559
Delta R.T. -0.061 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 45 Resp: 226932

Ion	Ratio	Lower	Upper
45	100		
46	39.2	19.6	59.6

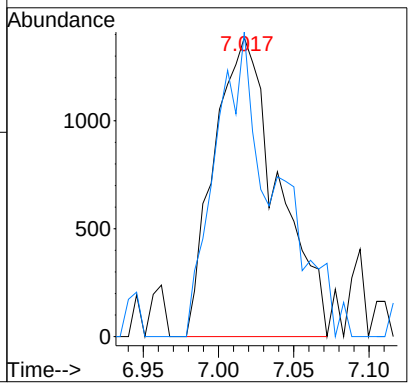


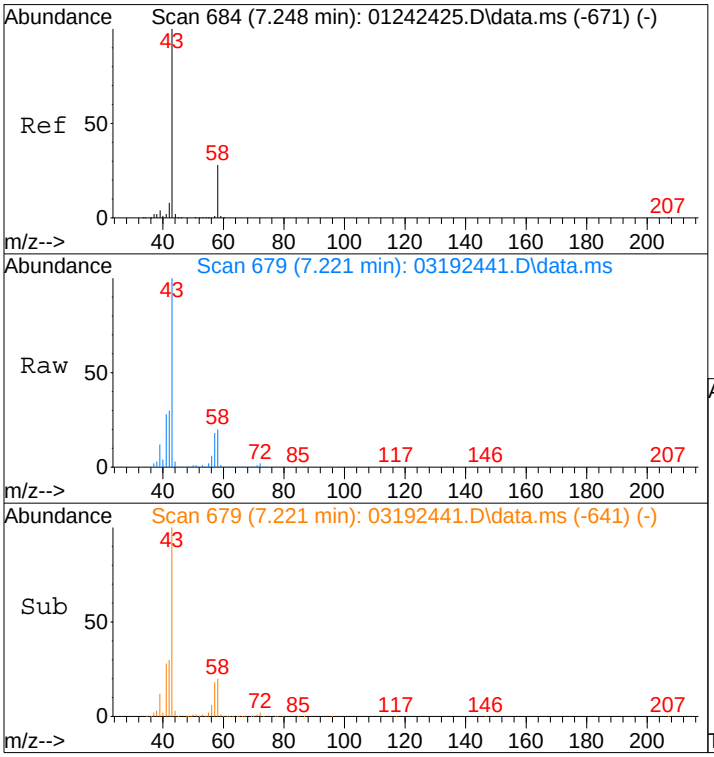


#12
Acrolein
Concen: 0.29 ng
RT: 7.02 min Scan# 642
Delta R.T. 0.005 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 56 Resp: 4085

Ion	Ratio	Lower	Upper
56	100		
55	97.1	51.4	91.4#

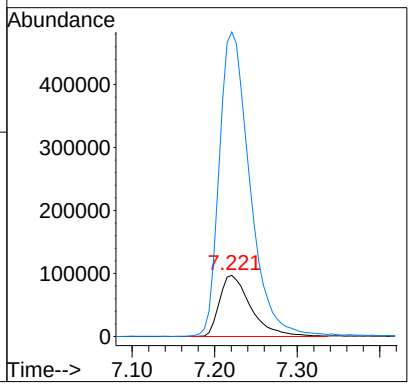


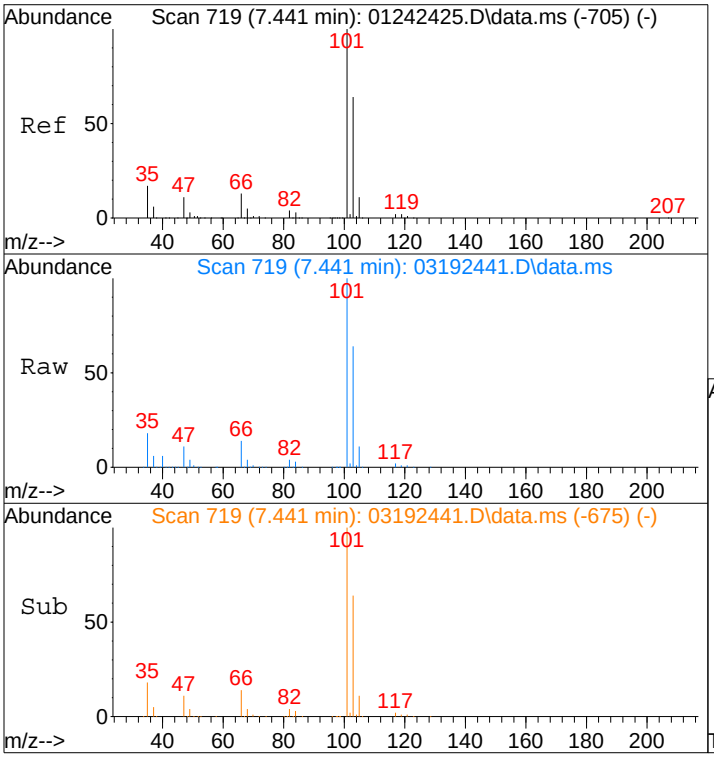


#13
Acetone
Concen: 16.30 ng
RT: 7.22 min Scan# 679
Delta R.T. -0.042 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 58 Resp: 256249

Ion	Ratio	Lower	Upper
58	100		
43	490.2	357.4	417.4#

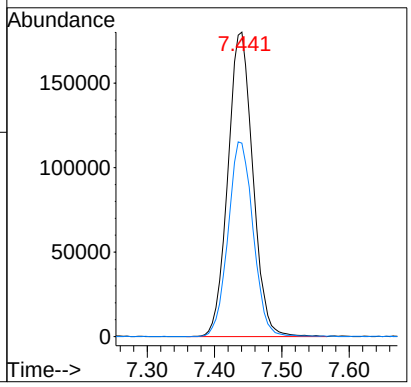


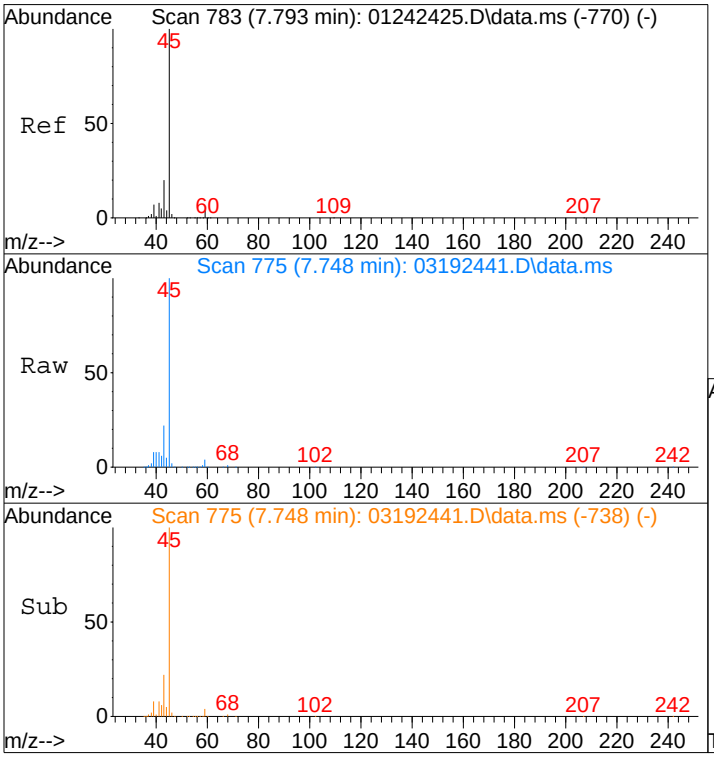


#14
Trichlorofluoromethane
Concen: 10.75 ng
RT: 7.44 min Scan# 719
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:101 Resp: 464373

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.1	84.1

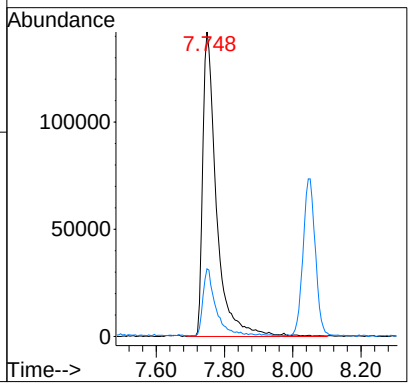


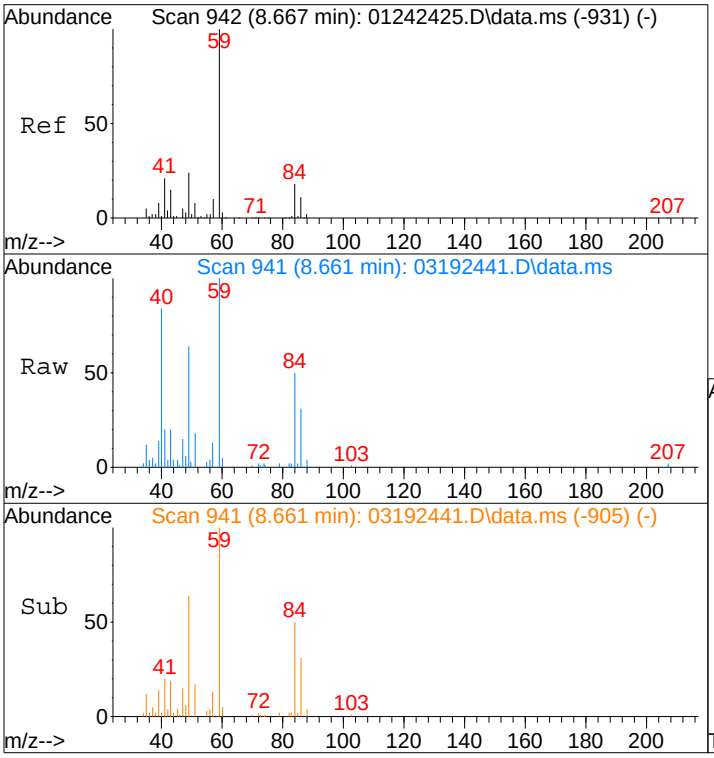


#15
2-Propanol (Isopropanol)
Concen: 6.79 ng
RT: 7.75 min Scan# 775
Delta R.T. -0.044 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 45 Resp: 397900

Ion	Ratio	Lower	Upper
45	100		
43	21.2	0.7	40.7

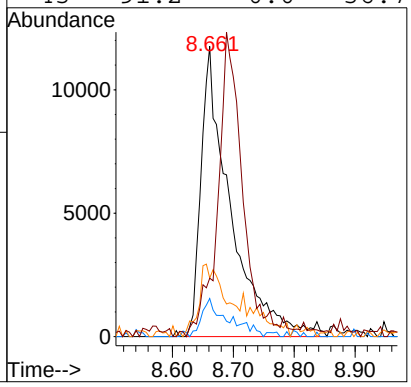


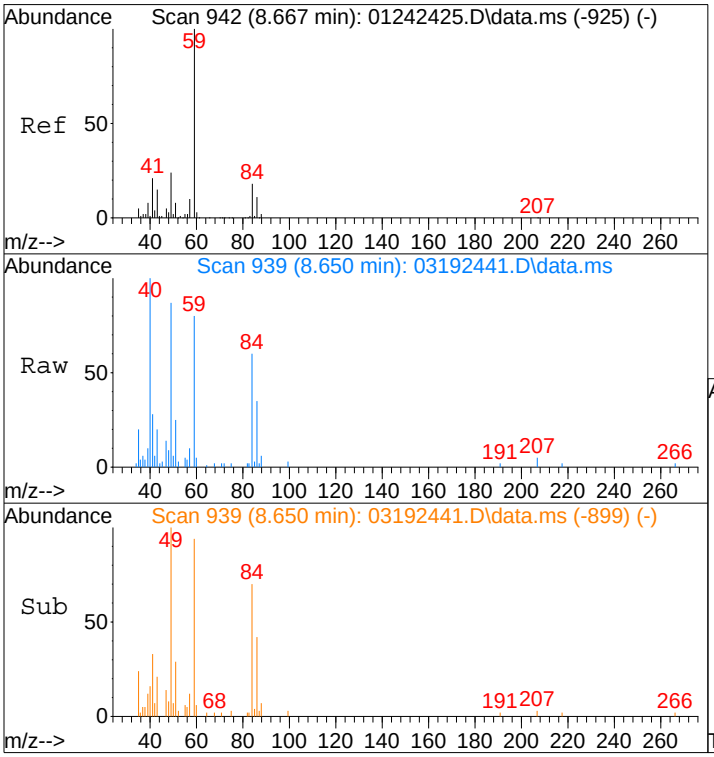


#18
2-Methyl-2-Propanol (tert-Butyl Alcohol
Concen: 0.75 ng
RT: 8.66 min Scan# 941
Delta R.T. -0.051 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 59 Resp: 39476

Ion	Ratio	Lower	Upper
59	100		
57	11.5	0.0	30.9
41	31.8	3.2	43.2
43	91.2	0.0	36.7#

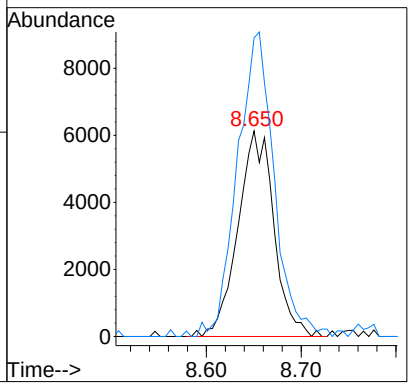


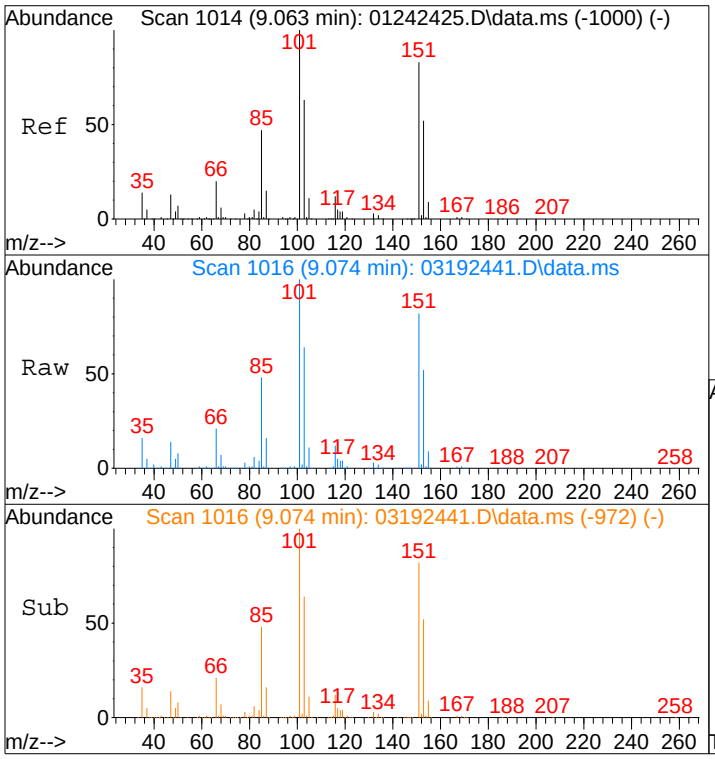


#19
Methylene Chloride
Concen: 0.71 ng
RT: 8.65 min Scan# 939
Delta R.T. -0.028 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 84 Resp: 16171

Ion	Ratio	Lower	Upper
84	100		
49	151.8	126.4	176.4

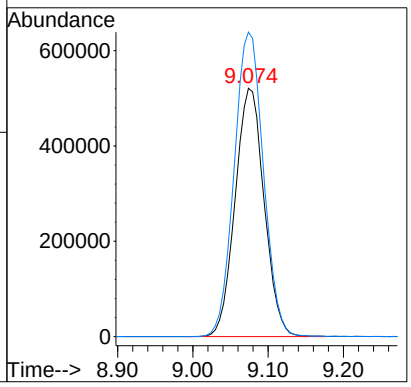


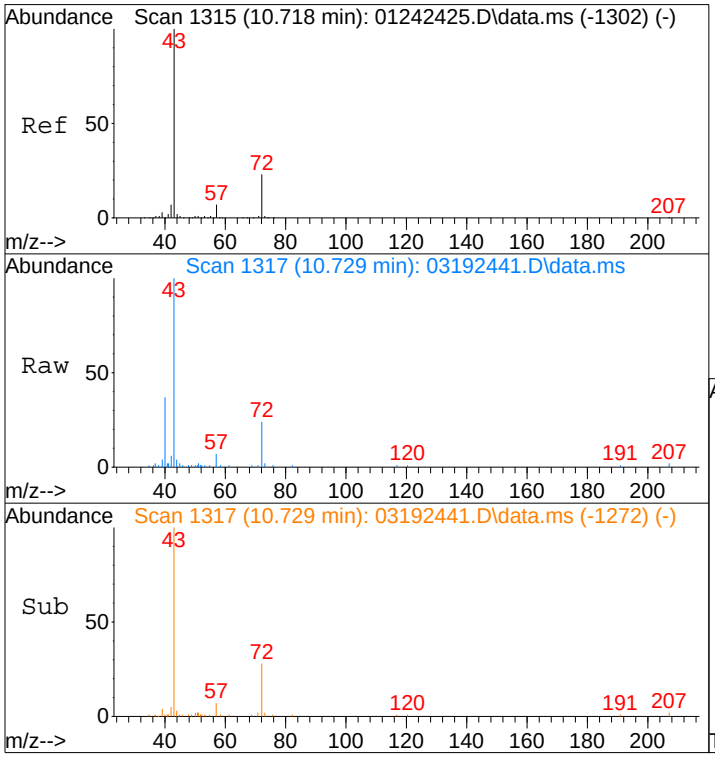


#21
Trichlorotrifluoroethane
Concen: 74.17 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:151 Resp: 1395110

Ion	Ratio	Lower	Upper
151	100		
101	123.8	104.2	144.2

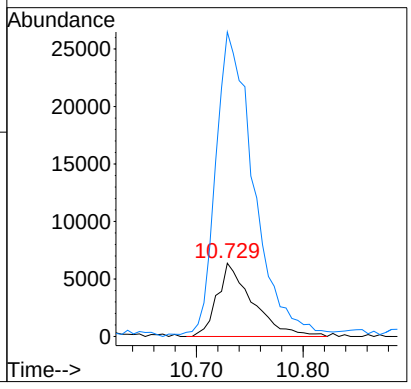


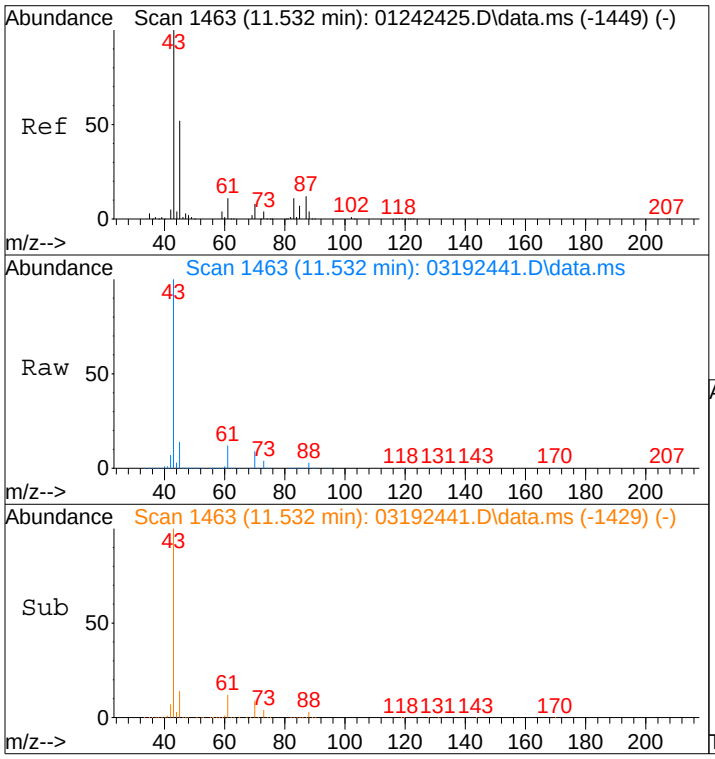


#27
2-Butanone (MEK)
Concen: 1.07 ng
RT: 10.73 min Scan# 1317
Delta R.T. -0.000 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 72 Resp: 14683

Ion	Ratio	Lower	Upper
72	100		
43	450.9	437.9	477.9

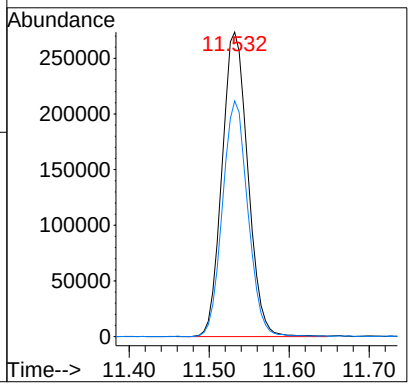


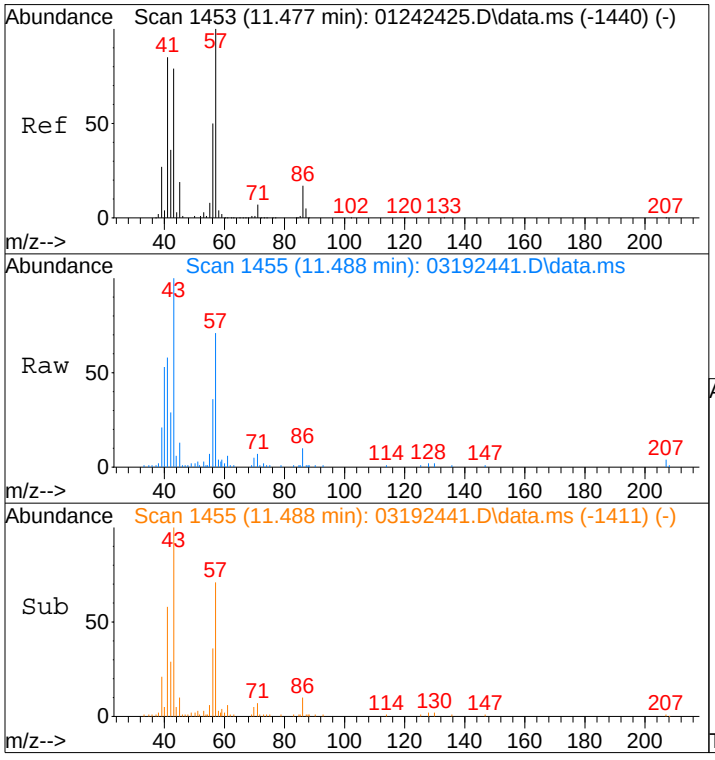


#30
Ethyl Acetate
Concen: 78.42 ng
RT: 11.53 min Scan# 1463
Delta R.T. -0.011 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 61 Resp: 614343

Ion	Ratio	Lower	Upper
61	100		
70	76.1	64.5	104.5

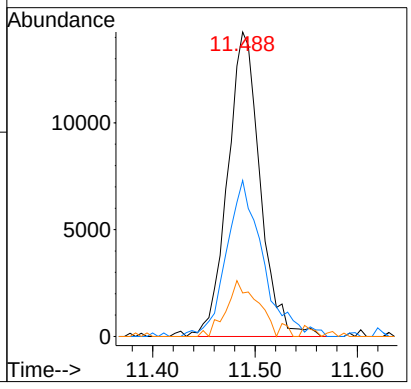


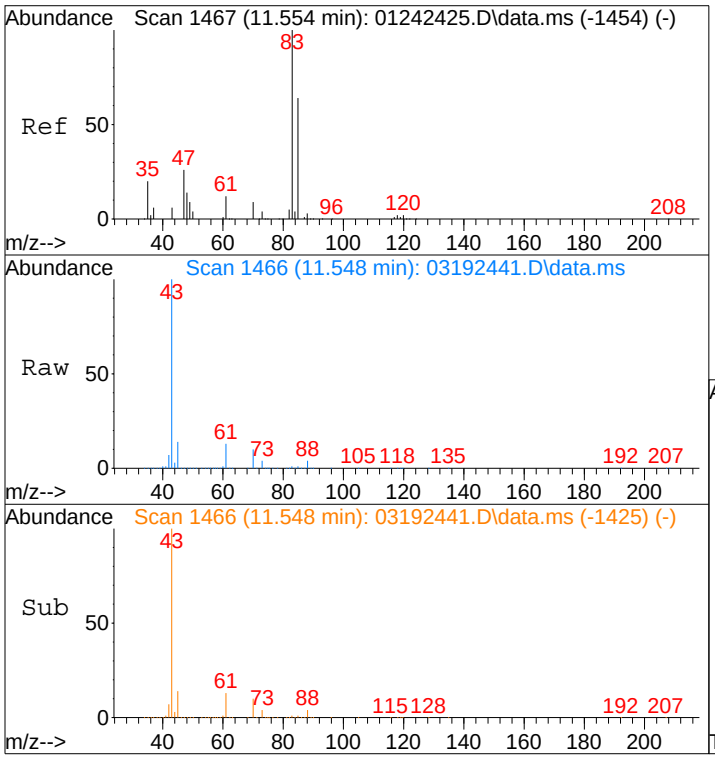


#31
n-Hexane
Concen: 0.88 ng
RT: 11.49 min Scan# 1455
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 57 Resp: 31418

Ion	Ratio	Lower	Upper
57	100		
56	57.7	40.7	61.1
86	17.5	13.4	20.2

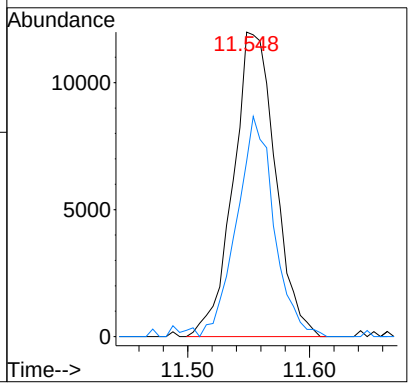


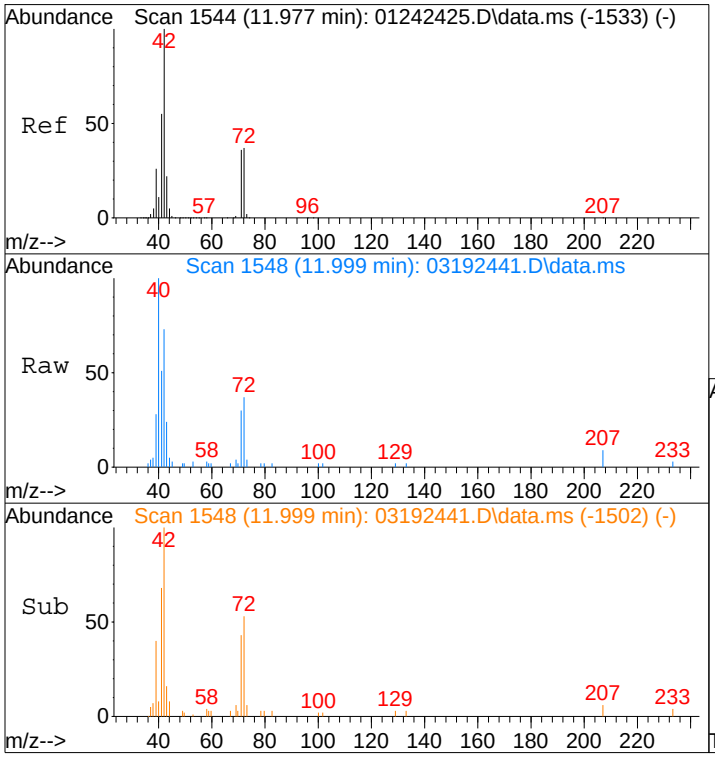


#32
Chloroform
Concen: 0.79 ng
RT: 11.55 min Scan# 1466
Delta R.T. -0.022 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 83 Resp: 28760

Ion	Ratio	Lower	Upper
83	100		
85	64.2	44.3	84.3

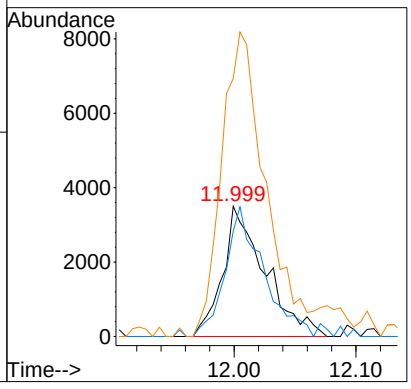


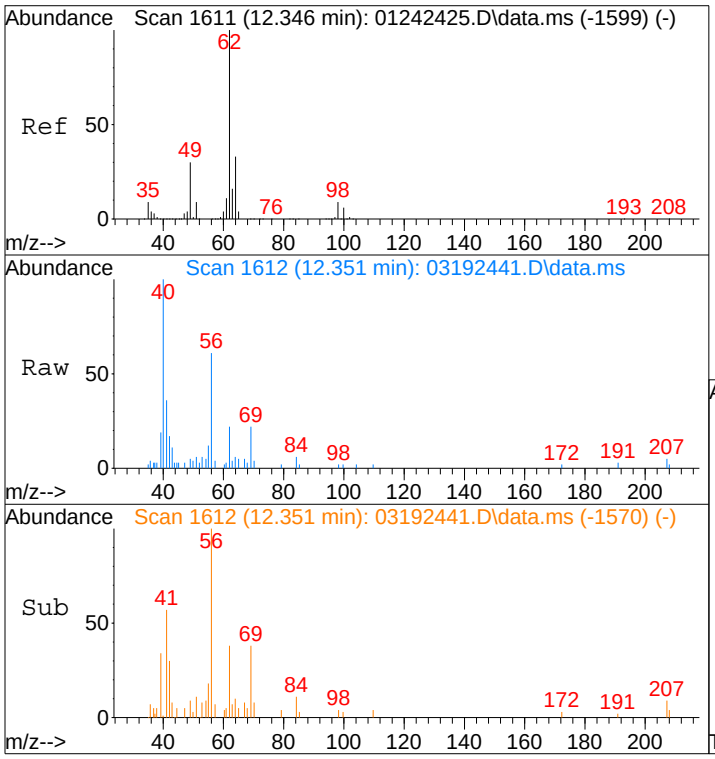


#34
Tetrahydrofuran (THF)
Concen: 0.63 ng
RT: 12.00 min Scan# 1548
Delta R.T. 0.005 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 72 Resp: 8422

Ion	Ratio	Lower	Upper
72	100		
71	89.8	76.1	116.1
42	242.8	250.1	290.1#

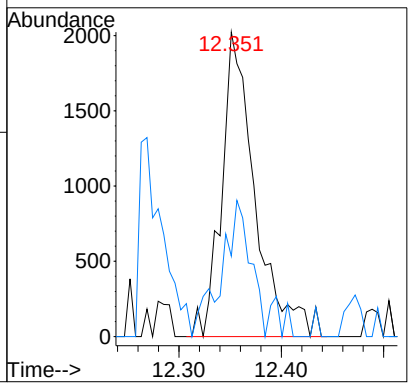


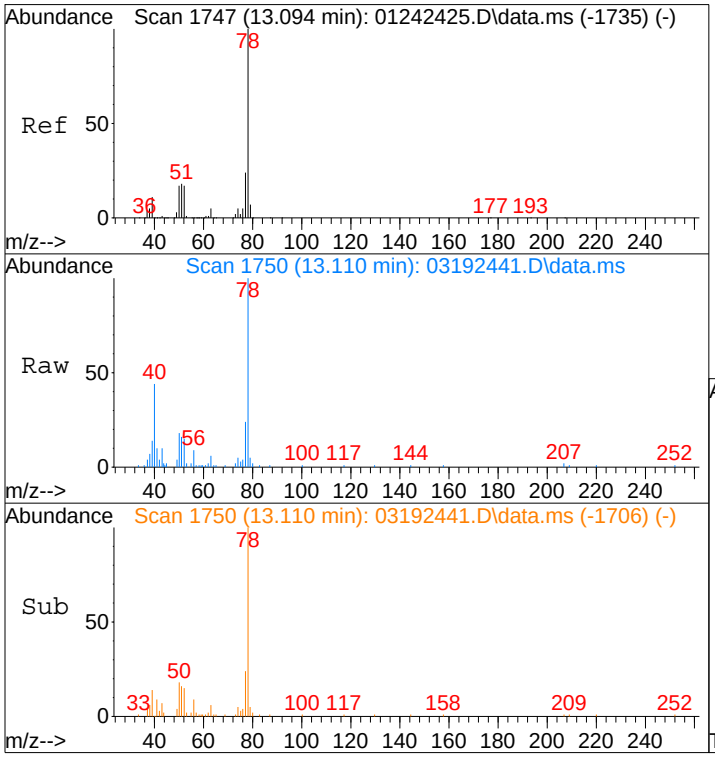


#36
1,2-Dichloroethane
Concen: 0.13 ng
RT: 12.35 min Scan# 1612
Delta R.T. -0.017 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 62 Resp: 4604

Ion	Ratio	Lower	Upper
62	100		
64	38.9	11.7	51.7

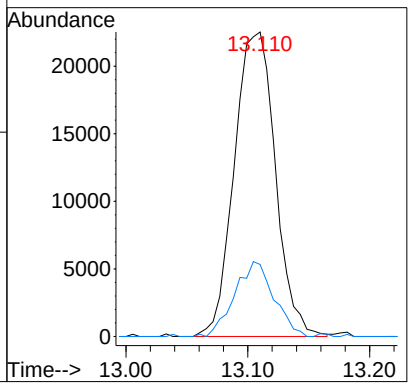


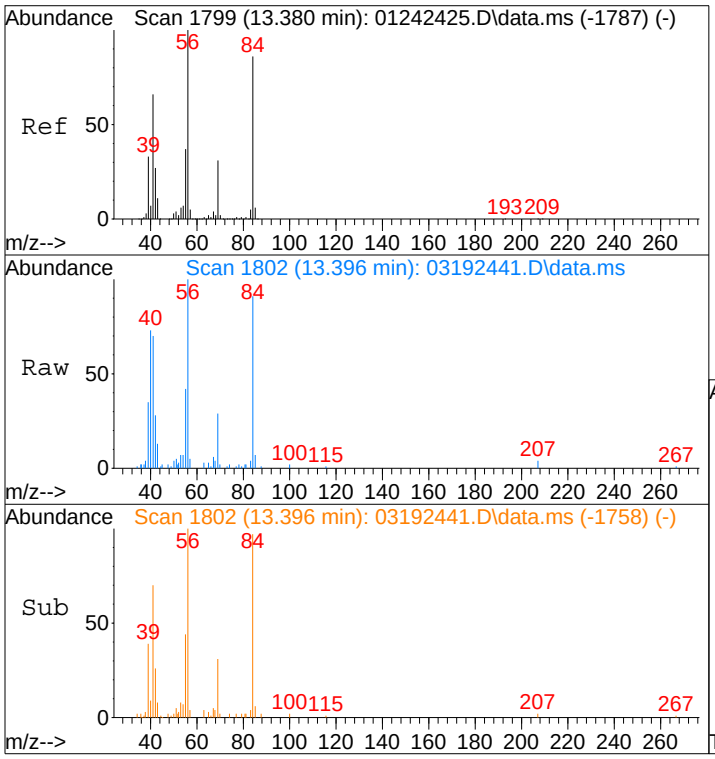


#41
Benzene
Concen: 0.56 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 78 Resp: 52791

Ion	Ratio	Lower	Upper
78	100		
77	23.4	2.6	42.6

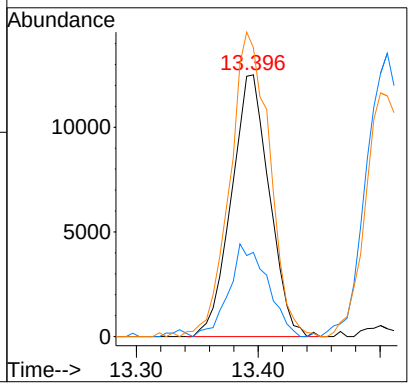


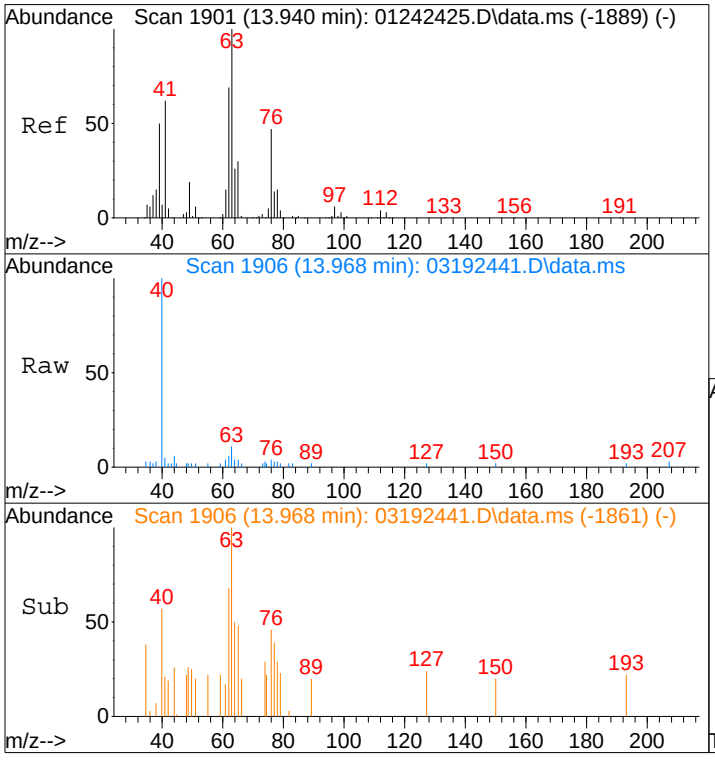


#43
Cyclohexane
Concen: 0.88 ng
RT: 13.40 min Scan# 1802
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 84 Resp: 27076

Ion	Ratio	Lower	Upper
84	100		
69	35.6	17.1	57.1
56	121.8	101.6	141.6

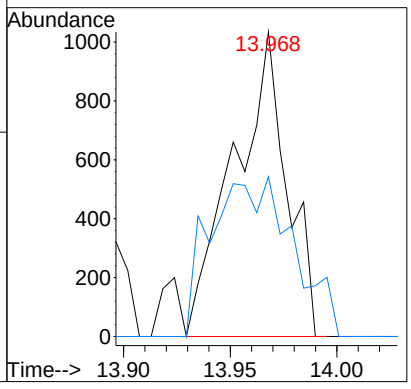


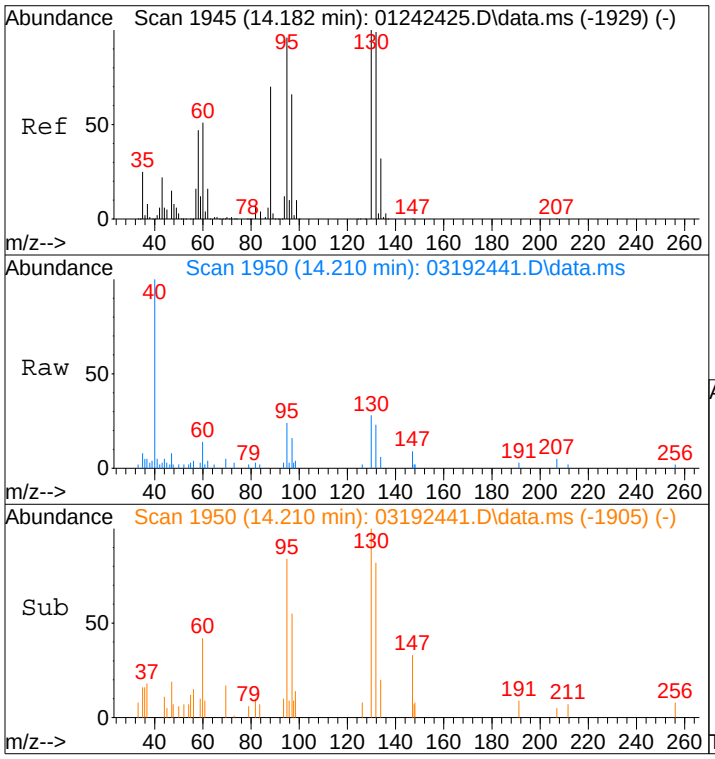


#45
1,2-Dichloropropane
Concen: 0.08 ng
RT: 13.97 min Scan# 1906
Delta R.T. -0.000 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 63 Resp: 1794

Ion	Ratio	Lower	Upper
63	100		
62	80.8	50.4	90.4

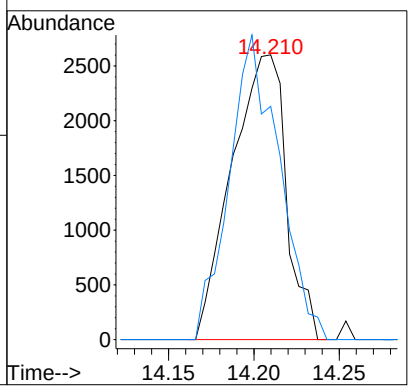


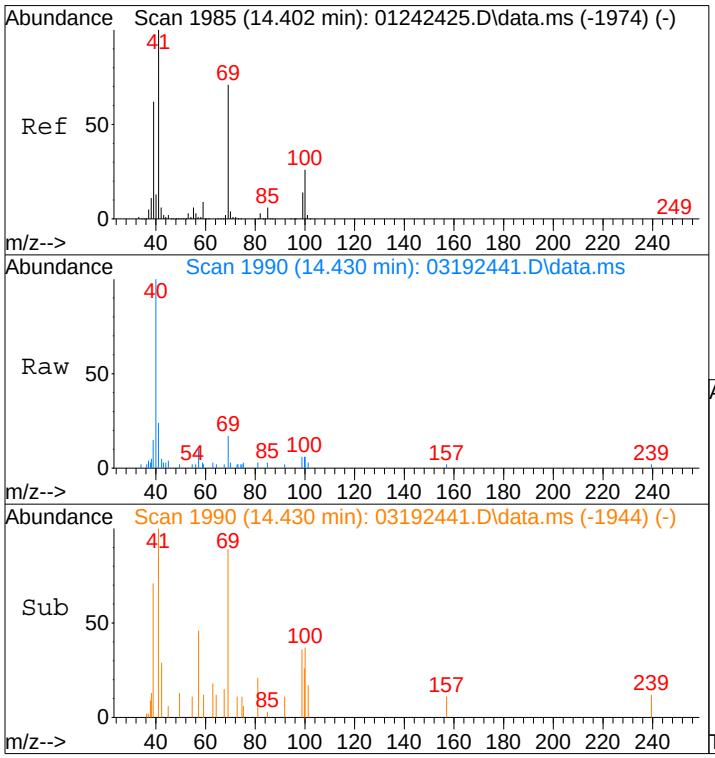


#47
Trichloroethene
Concen: 0.24 ng
RT: 14.21 min Scan# 1950
Delta R.T. -0.000 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:130 Resp: 5787

Ion	Ratio	Lower	Upper
130	100		
132	97.8	78.3	118.3

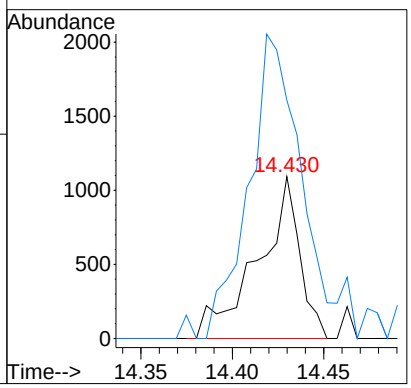


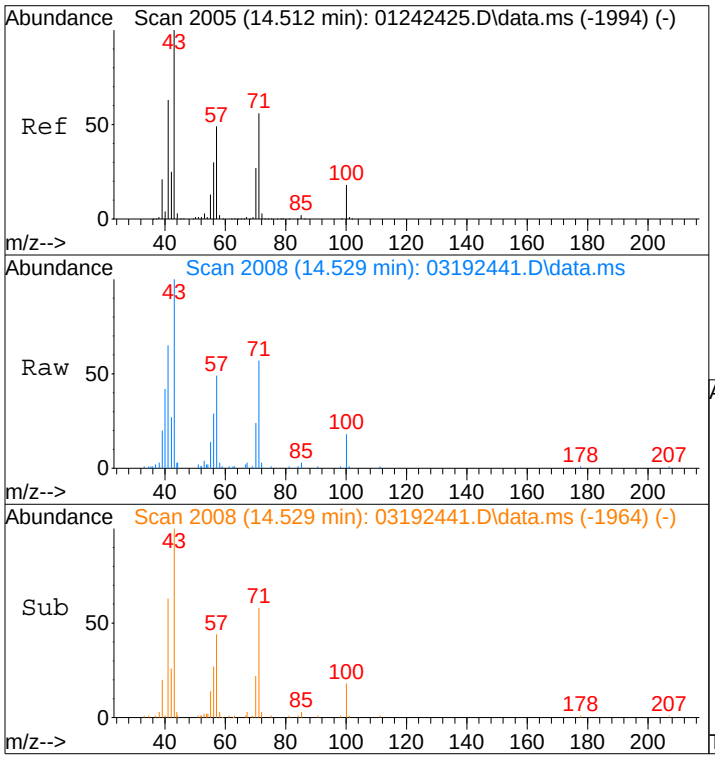


#50
Methyl Methacrylate
Concen: 0.21 ng
RT: 14.43 min Scan# 1990
Delta R.T. 0.005 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:100 Resp: 1729

Ion	Ratio	Lower	Upper
100	100		
69	248.5	251.7	291.7#

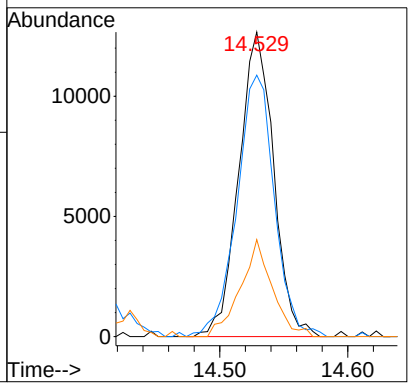


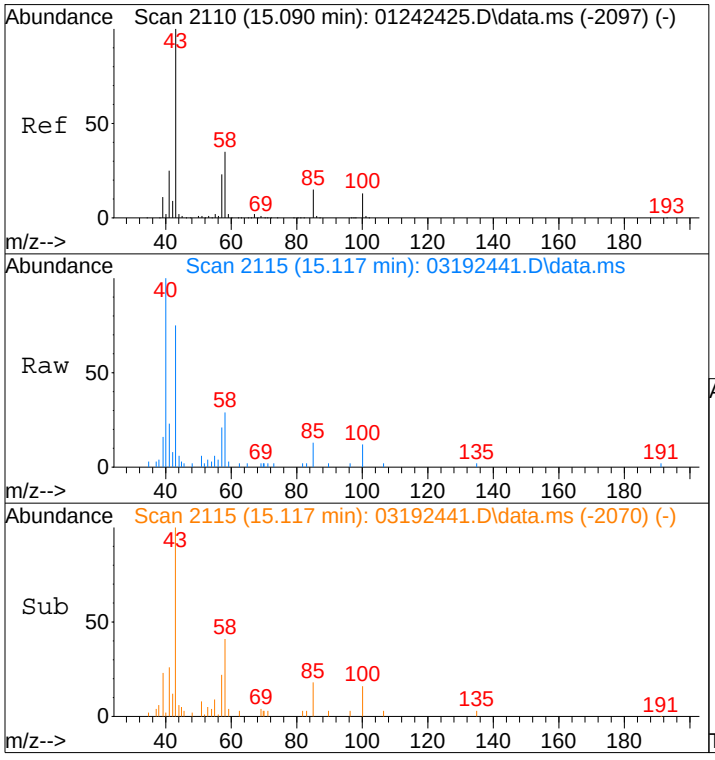


#51
n-Heptane
Concen: 1.05 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 71 Resp: 23967

Ion	Ratio	Lower	Upper
71	100		
57	92.6	69.1	109.1
100	29.2	10.7	50.7

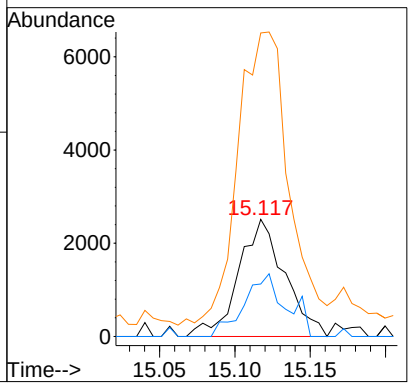


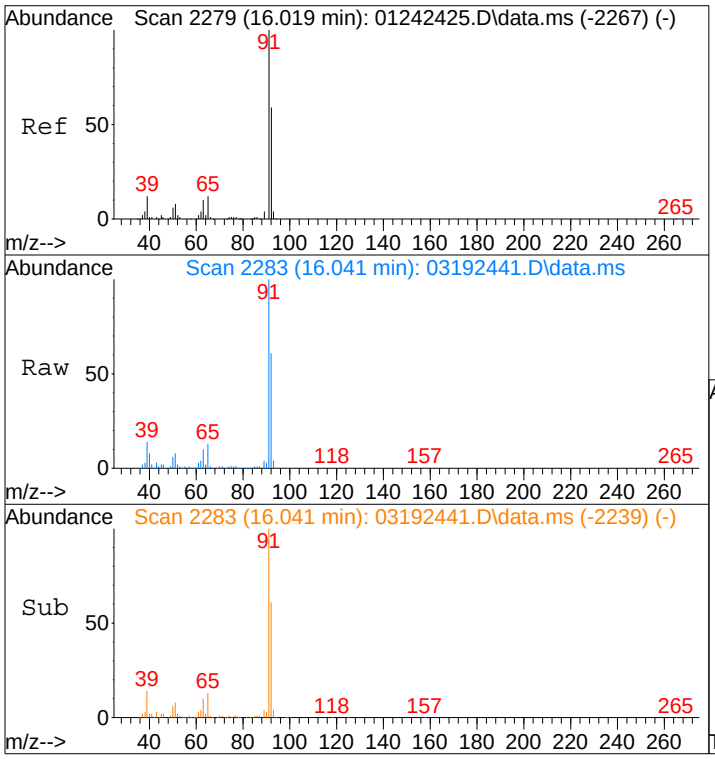


#53
4-Methyl-2-pentanone
Concen: 0.29 ng
RT: 15.12 min Scan# 2115
Delta R.T. -0.000 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 58 Resp: 5362

Ion	Ratio	Lower	Upper
58	100		
85	48.4	36.2	54.2
43	279.1	238.2	357.2

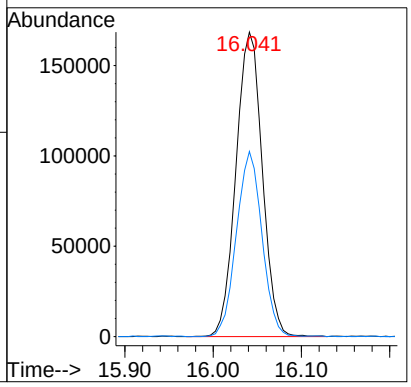


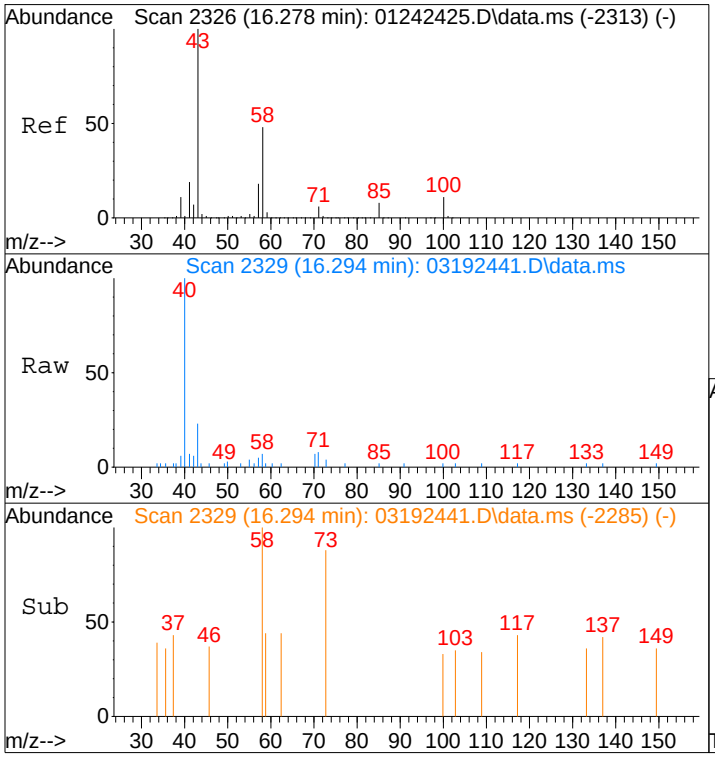


#58
Toluene
Concen: 4.27 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 91 Resp: 349486

Ion	Ratio	Lower	Upper
91	100		
92	59.0	39.1	79.1

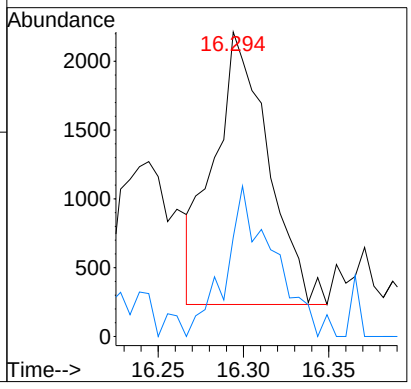


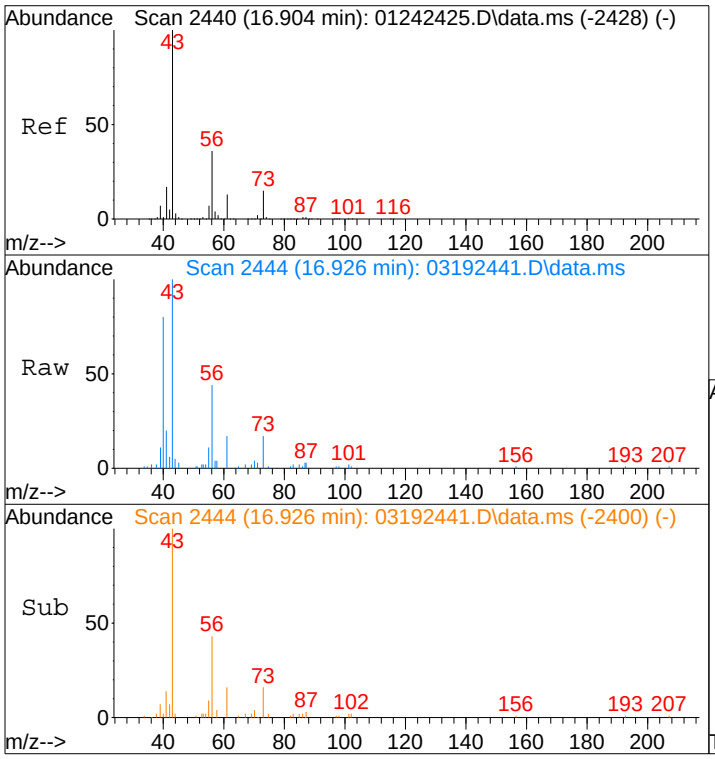


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.29 min Scan# 2329
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 43 Resp: 4382

Ion	Ratio	Lower	Upper
43	100		
58	49.0	26.4	66.4

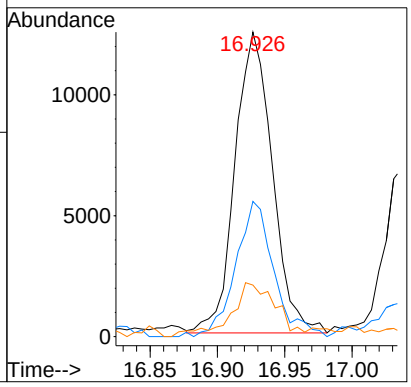


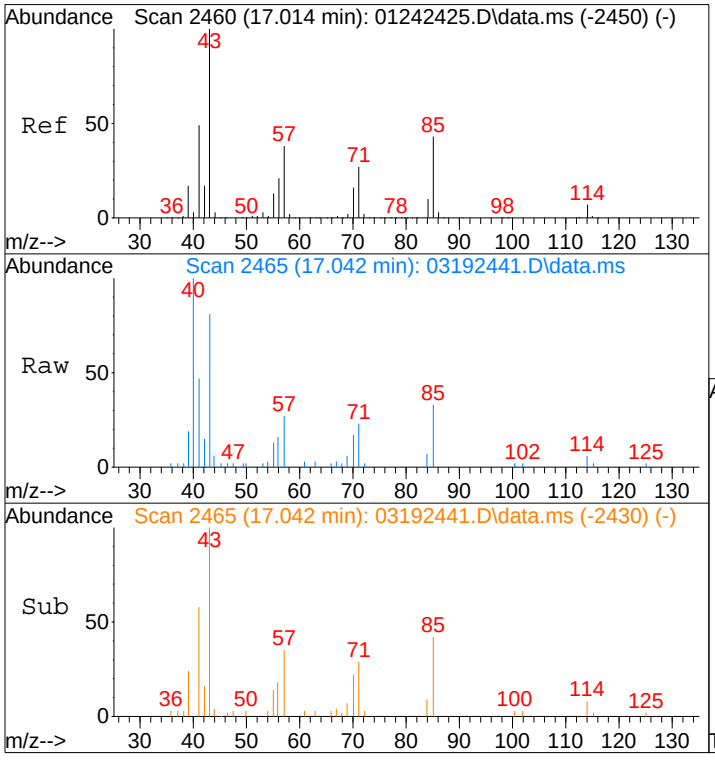


#62
n-Butyl Acetate
Concen: 0.42 ng
RT: 16.93 min Scan# 2444
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 43 Resp: 24089

Ion	Ratio	Lower	Upper
43	100		
56	45.6	16.1	56.1
73	21.2	0.0	34.6

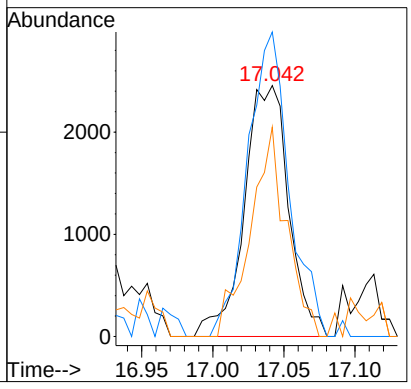


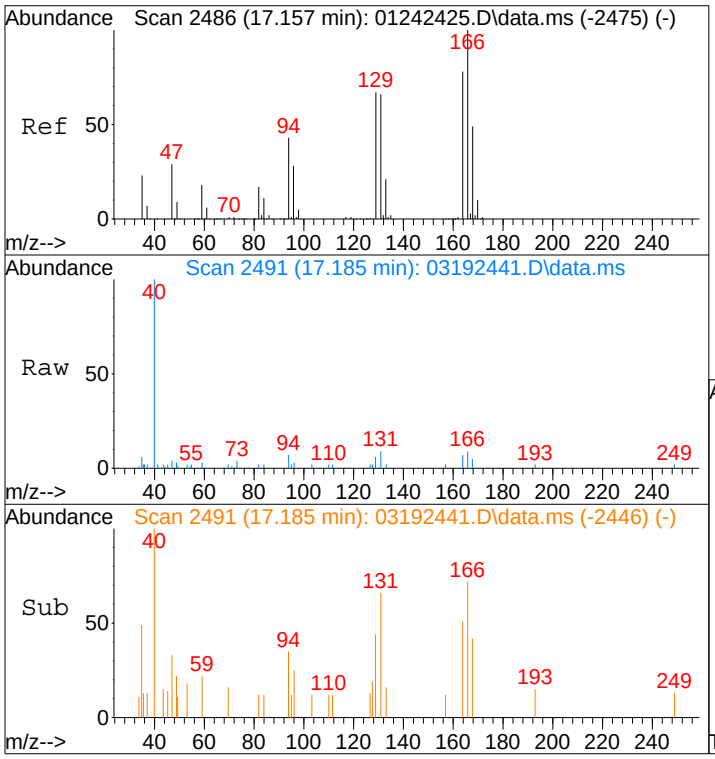


#63
n-Octane
Concen: 0.28 ng
RT: 17.04 min Scan# 2465
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 57 Resp: 5361

Ion	Ratio	Lower	Upper
57	100		
85	113.1	90.2	135.2
71	67.2	57.1	85.7

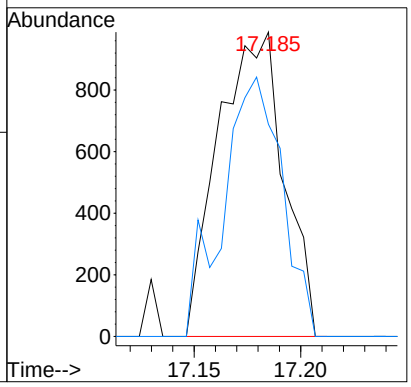


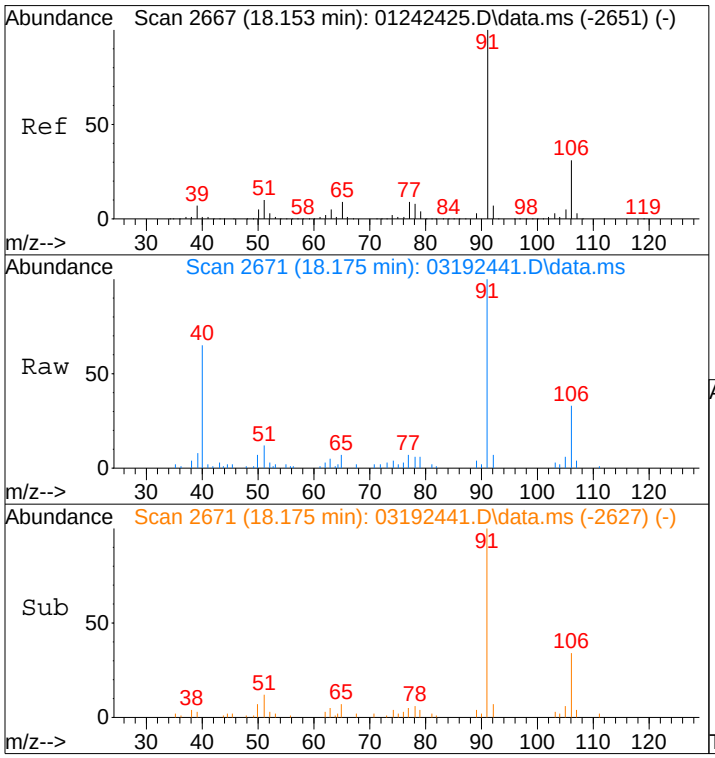


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 17.18 min Scan# 2491
Delta R.T. -0.000 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:166 Resp: 2109

Ion	Ratio	Lower	Upper
166	100		
164	77.0	59.3	99.3

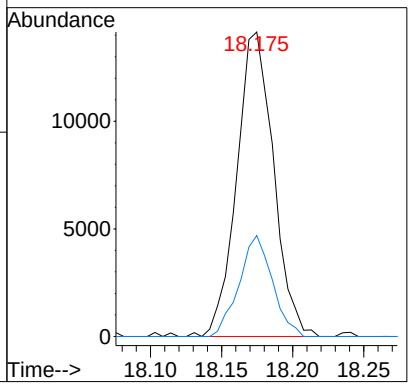


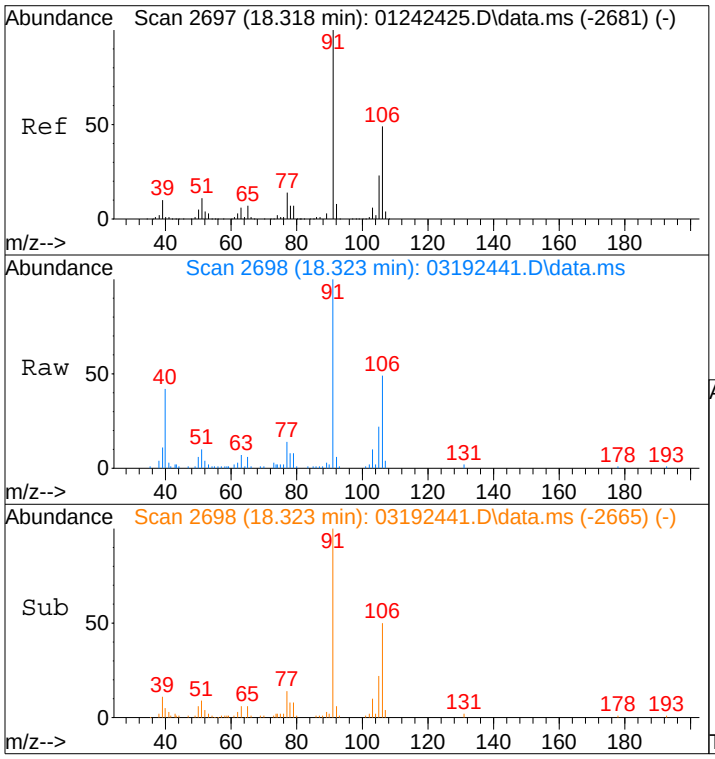


#66
Ethylbenzene
Concen: 0.27 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 91 Resp: 25481

Ion	Ratio	Lower	Upper
91	100		
106	30.0	10.9	50.9

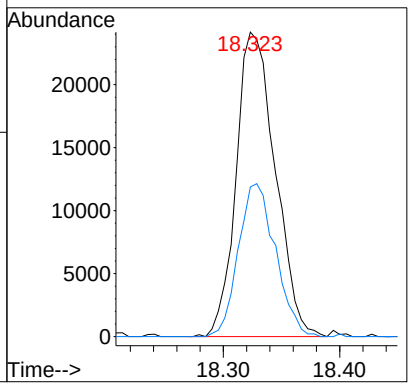


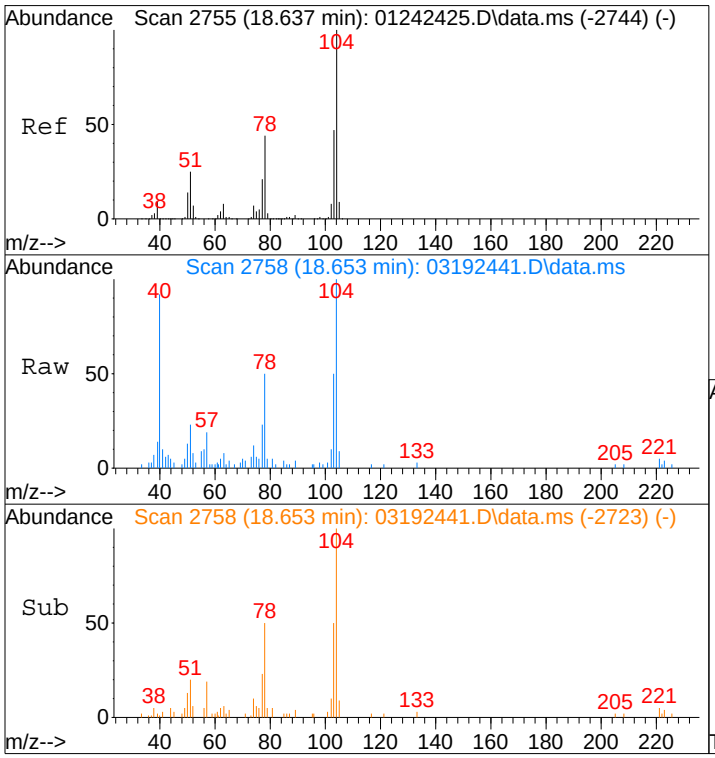


#67
m- & p-Xylenes
Concen: 0.74 ng
RT: 18.32 min Scan# 2698
Delta R.T. -0.017 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 91 Resp: 56485

Ion	Ratio	Lower	Upper
91	100		
106	47.7	28.7	68.7

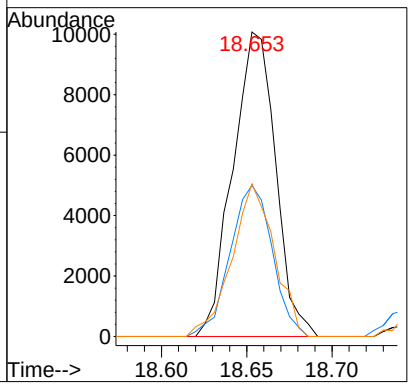


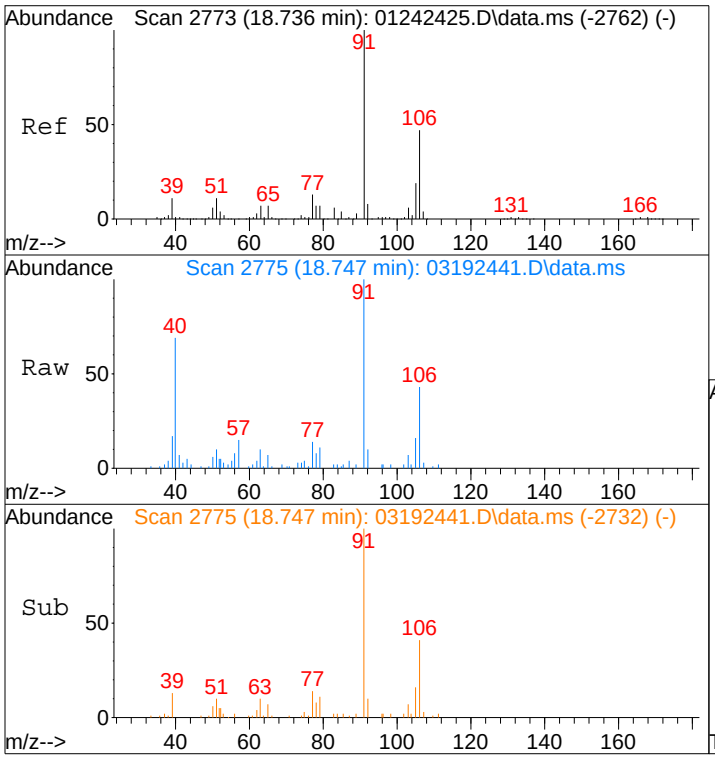


#69
Styrene
Concen: 0.33 ng
RT: 18.65 min Scan# 2758
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:104 Resp: 17560

Ion	Ratio	Lower	Upper
104	100		
78	48.9	28.8	68.8
103	49.8	27.6	67.6

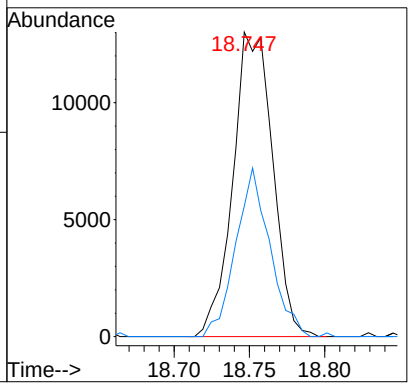


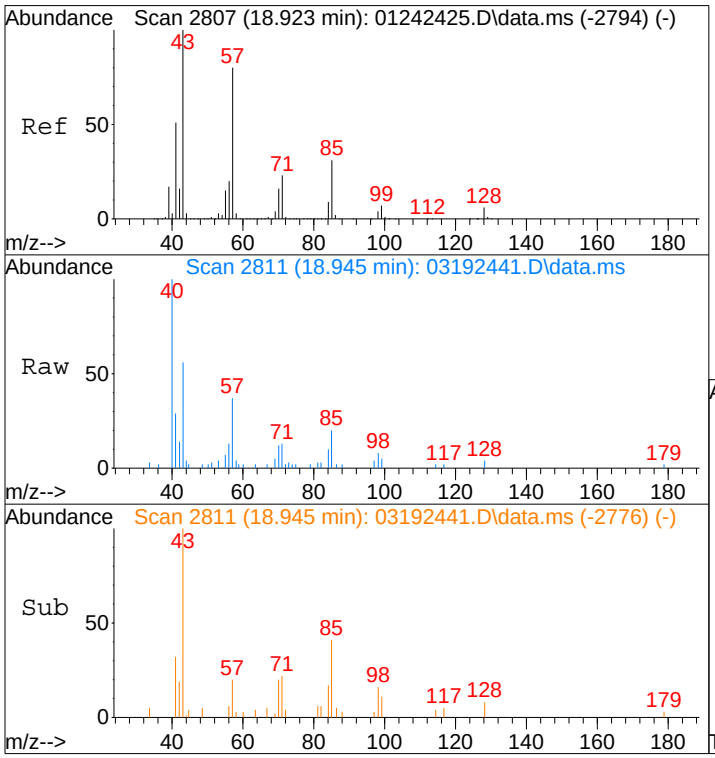


#70
o-Xylene
Concen: 0.31 ng
RT: 18.75 min Scan# 2775
Delta R.T. -0.011 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 91 Resp: 23866

Ion	Ratio	Lower	Upper
91	100		
106	47.7	26.0	66.0

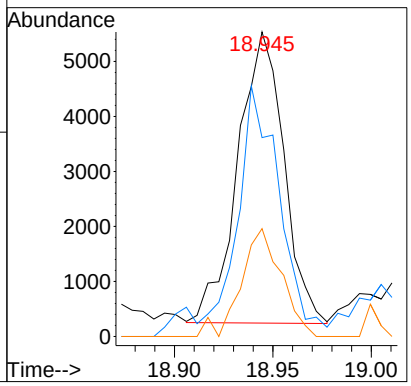


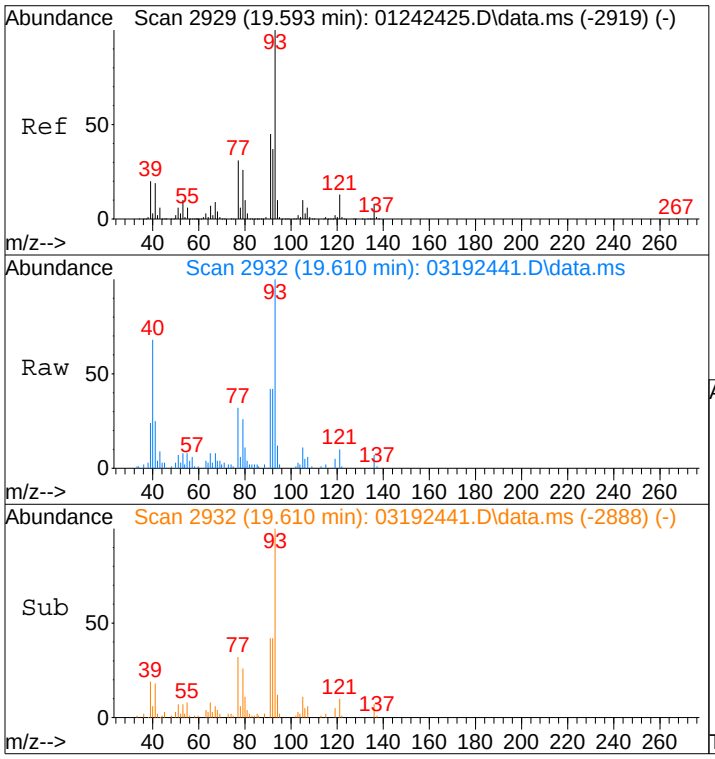


#71
n-Nonane
Concen: 0.18 ng
RT: 18.94 min Scan# 2811
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 43 Resp: 8619

Ion	Ratio	Lower	Upper
43	100		
57	78.0	57.4	97.4
85	32.4	10.1	50.1

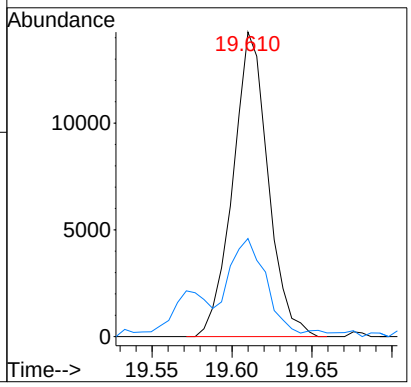


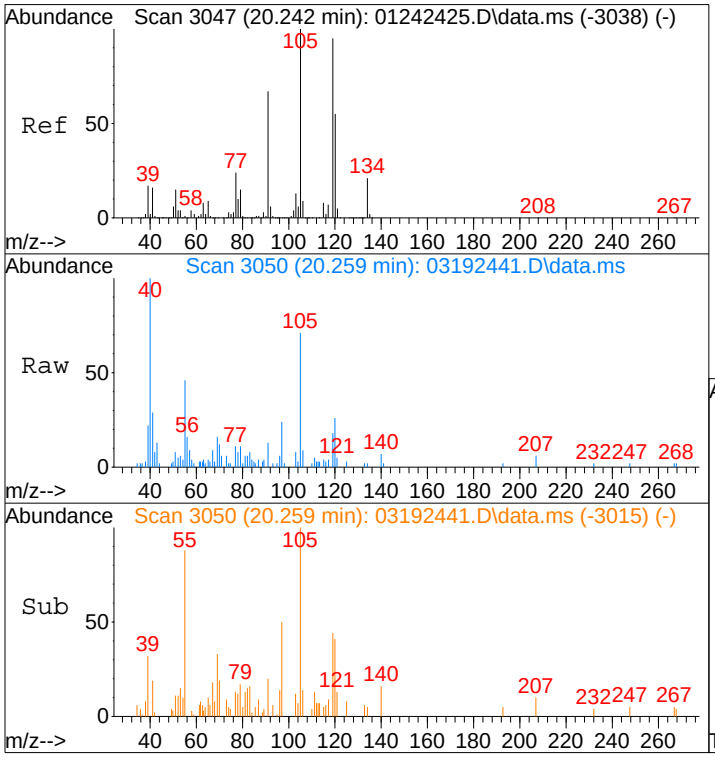


#75
alpha-Pinene
Concen: 0.50 ng
RT: 19.61 min Scan# 2932
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 93 Resp: 21834

Ion	Ratio	Lower	Upper
93	100		
77	36.5	13.6	53.6

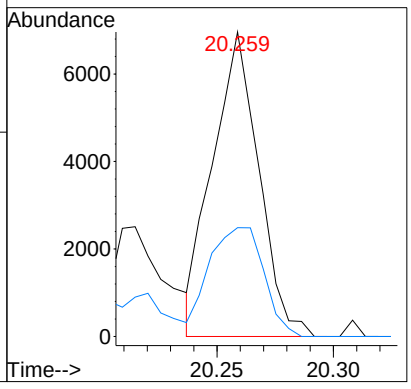


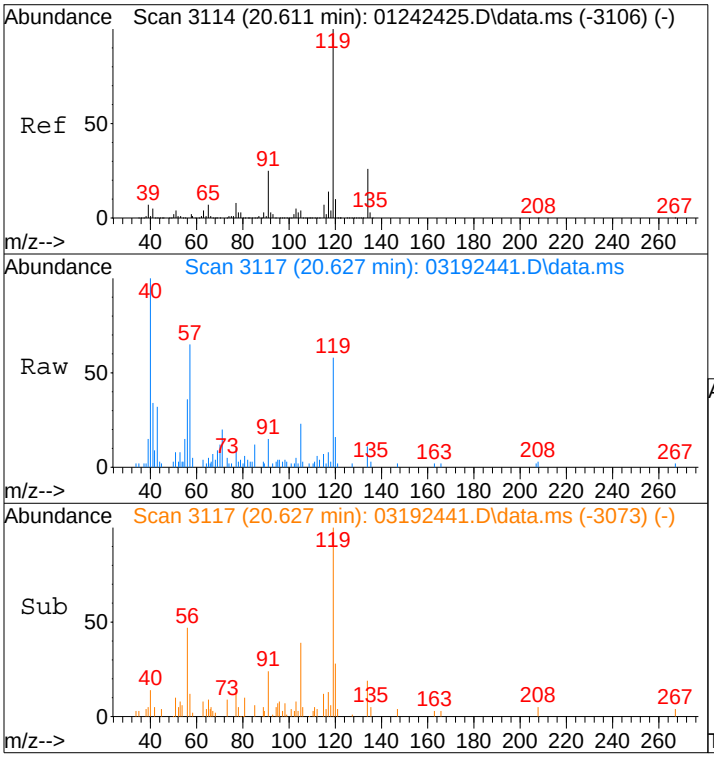


#82
1,2,4-Trimethylbenzene
Concen: 0.12 ng
RT: 20.26 min Scan# 3050
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:105 Resp: 9623

Ion	Ratio	Lower	Upper
105	100		
120	42.3	32.1	72.1

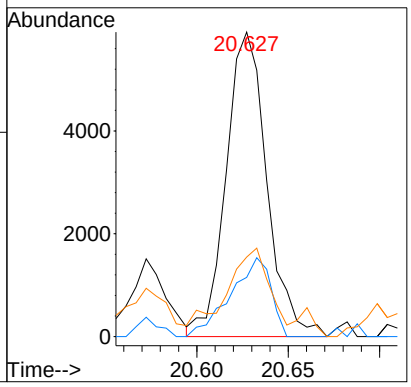


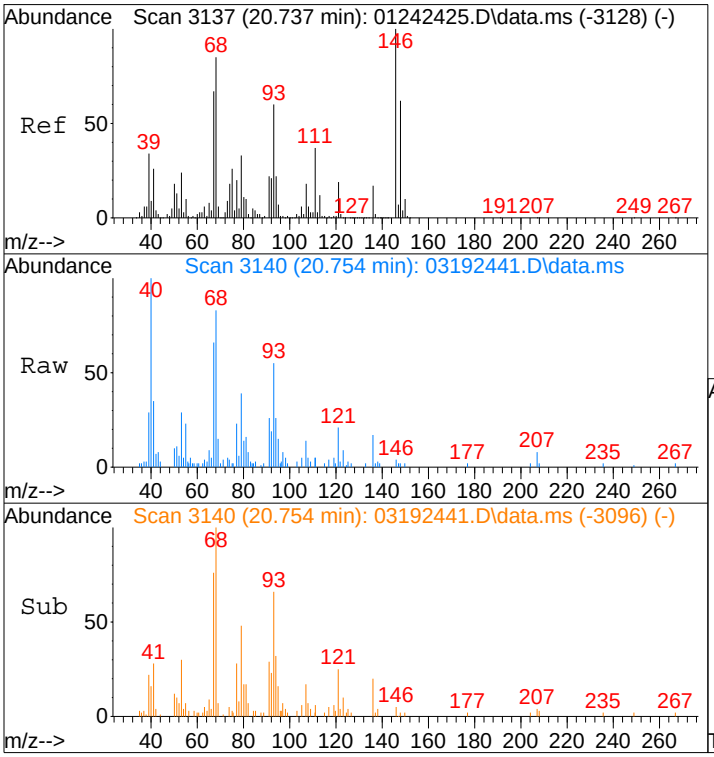


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.10 ng
RT: 20.63 min Scan# 3117
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion:119 Resp: 9168

Ion	Ratio	Lower	Upper
119	100		
134	25.7	6.8	46.8
91	35.4	5.8	45.8

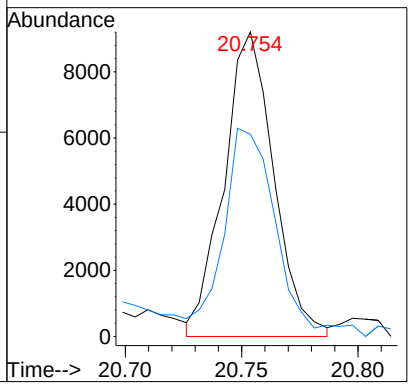




#91
d-Limonene
Concen: 0.50 ng
RT: 20.75 min Scan# 3140
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 68 Resp: 13719

Ion	Ratio	Lower	Upper
68	100		
93	72.0	49.7	89.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:27:30 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

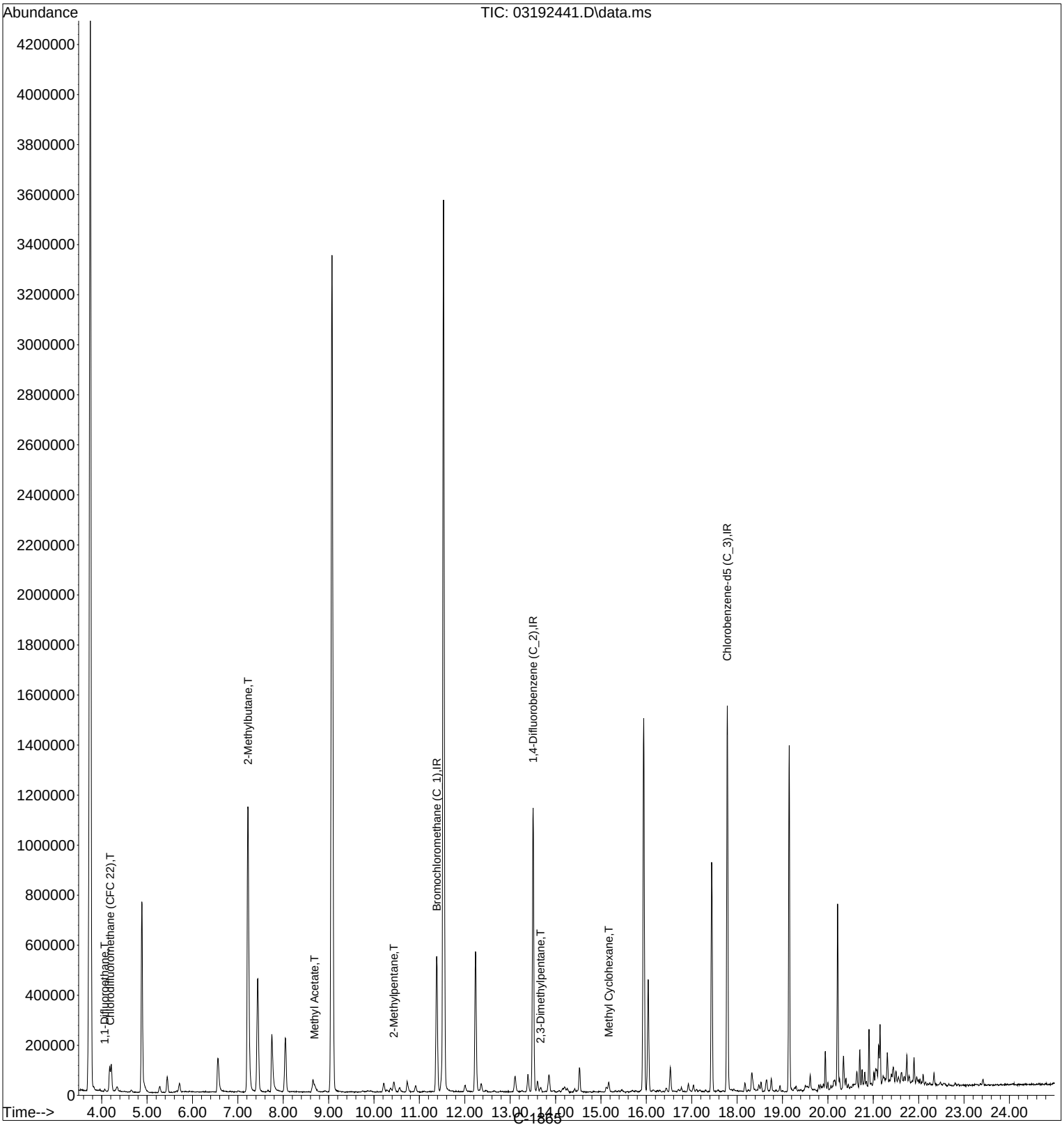
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	216708	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	994320	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	223446	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.83	85	50	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	4.03	83	67	N.D.			
4) 1,1-Difluoroethane	4.06	65	4006	0.215	ng		96
5) Chlorodifluoromethane ...	4.19	67	6765	0.974	ng	#	68
6) 1-Chloro-1,1-Difluoroe...	4.65	65	352	N.D.			
7) Dichlorofluoromethane ...	6.37	67	489	N.D.			
8) Vinylbromide	6.76	108	83	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	51	N.D.			
10) 2-Methylbutane	7.23	57	232093	10.691	ng		79
11) Methyl Acetate	8.69	43	35987	0.731	ng	#	88
12) 2-Methylpentane	10.44	71	8774	0.442	ng	#	24
13) 2,2-Dichloropropane	11.57	77	66	N.D.			
14) 1,1-Dichloropropene	12.95	75	51	N.D.			
15) Thiophene	13.25	84	222	N.D.			
17) 2,3-Dimethylpentane	13.67	56	7572	0.185	ng	#	96
18) Dibromomethane	13.92	174	745	N.D.			
20) Methyl Cyclohexane	15.17	55	14109	0.451	ng		98
21) 1,3-Dichloropropane	16.05	76	2456	N.D.			
22) 1,1,1,2-Tetrachloroethane	17.83	131	55	N.D.			
23) 1-Chlorohexane	17.99	91	112	N.D.			
24) 1,2,3-Trichloropropane	18.85	75	64	N.D.			
25) Bromobenzene	19.36	77	54	N.D.			
26) 2-Chlorotoluene	19.68	91	989	N.D.			
27) 4-Chlorotoluene	19.71	91	4730	N.D.			
28) Indane	20.80	117	1478	N.D.			
29) Indene	20.88	115	551	N.D.			
30) 1,2,4,5-Tetramethylben...	21.67	119	2044	N.D.			
31) 1,2,3,4-Tetramethylben...	21.67	119	2044	N.D.			
32) 1,2,3,5-Tetramethylben...	22.01	119	2325	N.D.			
33) 1,2,3-Trichlorobenzene	22.54	180	67	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 14:27:30 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

CI 3/21/24

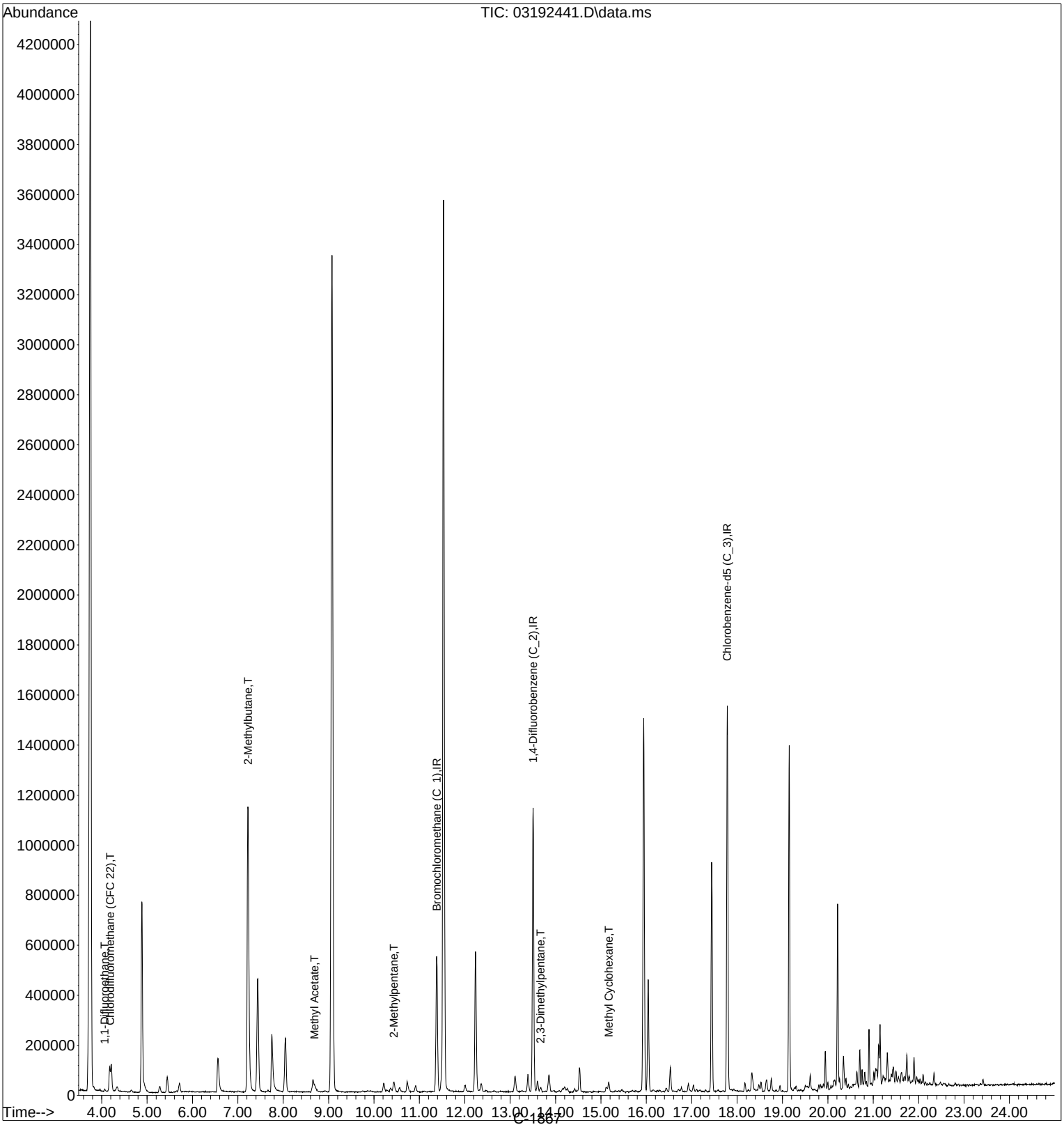
Quant Time: Mar 21 14:27:30 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

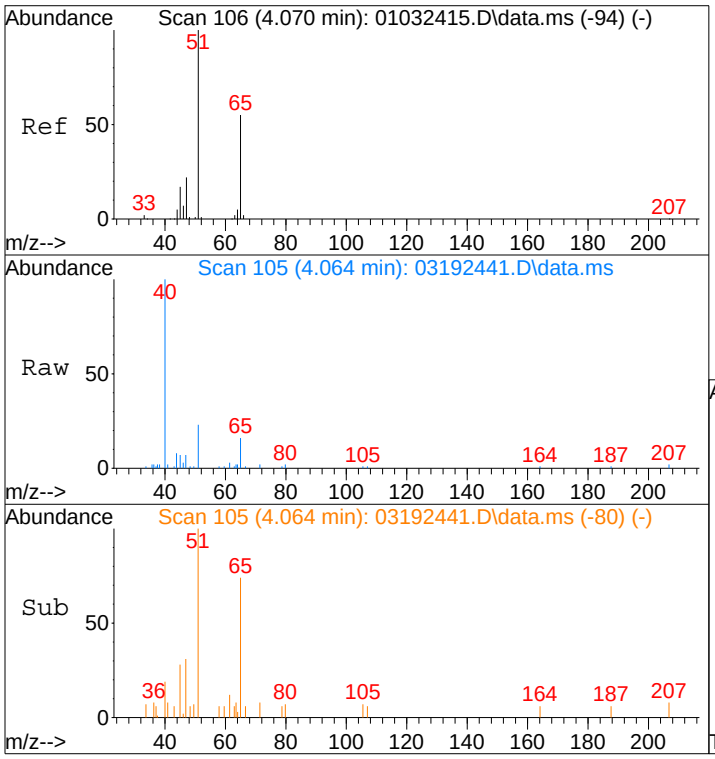
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	216708	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	994320	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	223446	12.500	ng		0.00
Target Compounds							Qvalue
4) 1,1-Difluoroethane	4.06	65	4006	0.215	ng		96
5) Chlorodifluoromethane ...	4.19	67	6765	0.974	ng	#	68
10) 2-Methylbutane	7.23	57	232093	10.691	ng		79
11) Methyl Acetate	8.69	43	35987	0.731	ng	#	88
12) 2-Methylpentane	10.44	71	8774	0.442	ng	#	24
17) 2,3-Dimethylpentane	13.67	56	7572	0.185	ng	#	96
20) Methyl Cyclohexane	15.17	55	14109	0.451	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 21 14:27:30 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

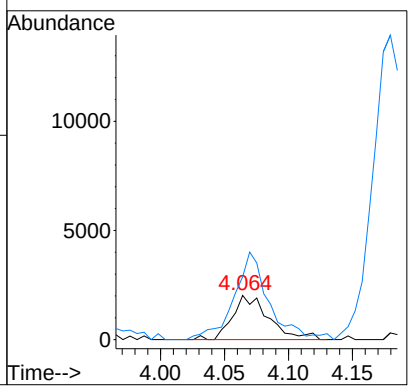


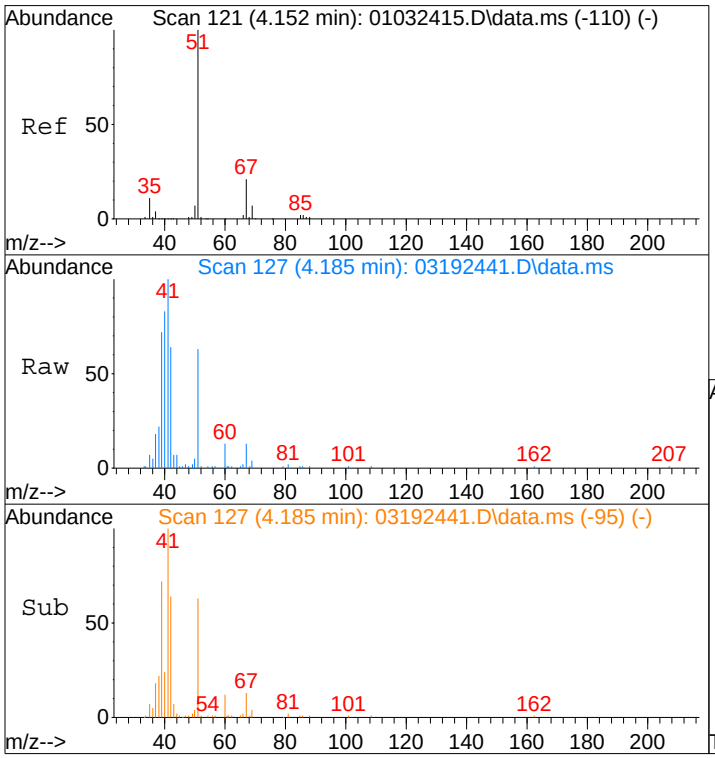


#4
1,1-Difluoroethane
Concen: 0.21 ng
RT: 4.06 min Scan# 105
Delta R.T. -0.011 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 65 Resp: 4006

Ion	Ratio	Lower	Upper
65	100		
51	189.1	155.8	233.6

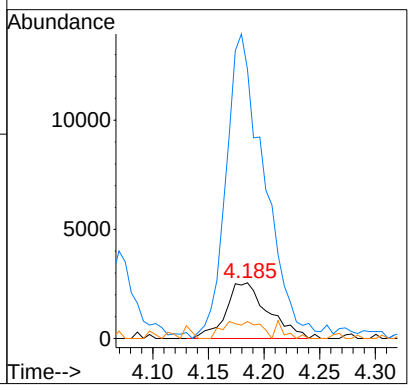


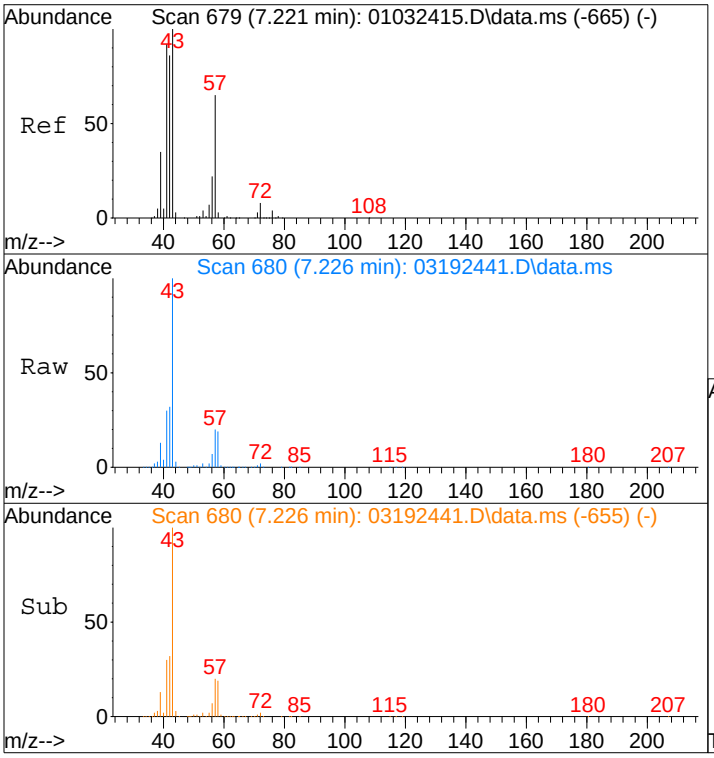


#5
Chlorodifluoromethane (CFC 22)
Concen: 0.97 ng
RT: 4.19 min Scan# 127
Delta R.T. 0.027 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 67 Resp: 6765

Ion	Ratio	Lower	Upper
67	100		
51	506.1	487.5	731.3
69	26.3	27.5	41.3#

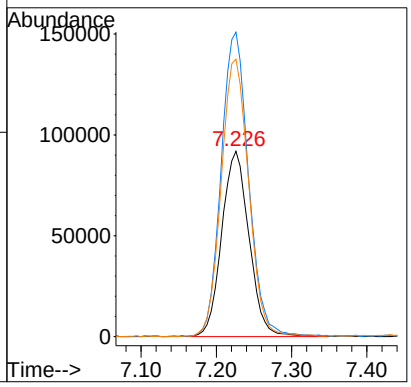


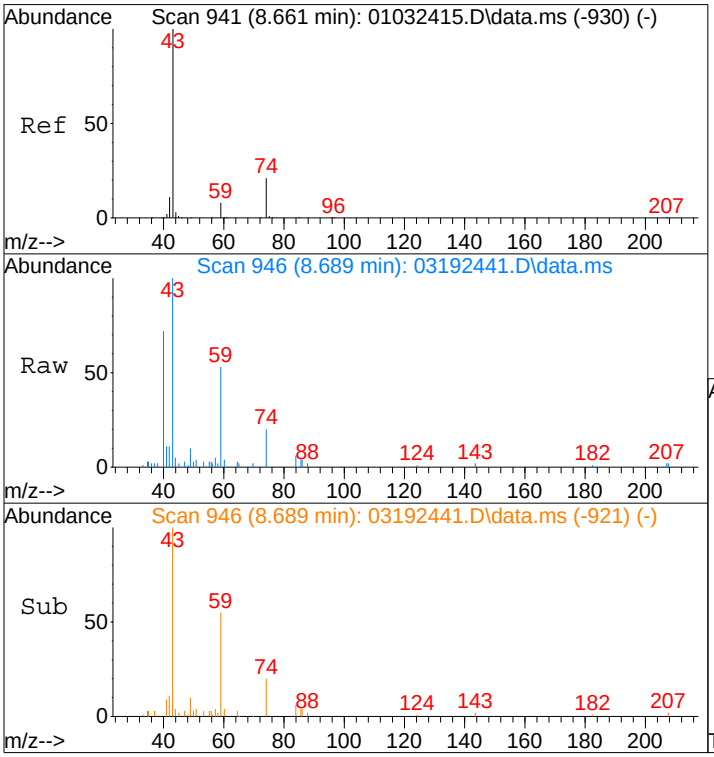


#10
2-Methylbutane
Concen: 10.69 ng
RT: 7.23 min Scan# 680
Delta R.T. -0.011 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 57 Resp: 232093

Ion	Ratio	Lower	Upper
57	100		
42	164.9	115.0	172.4
41	151.5	149.4	224.2

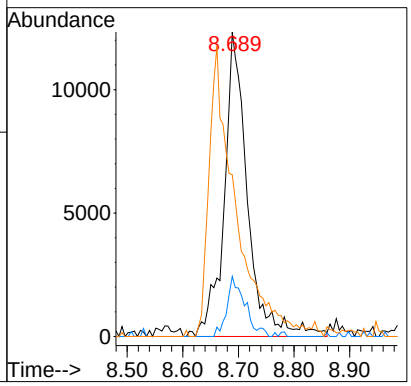


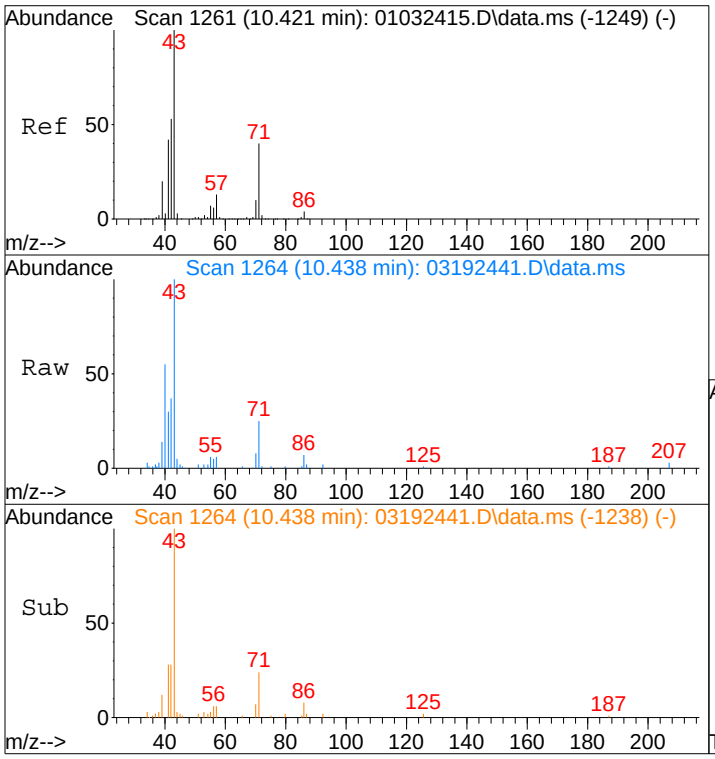


#11
Methyl Acetate
Concen: 0.73 ng
RT: 8.69 min Scan# 946
Delta R.T. -0.011 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 43 Resp: 35987

Ion	Ratio	Lower	Upper
43	100		
74	15.2	14.9	22.3
59	0.0	6.0	9.0#

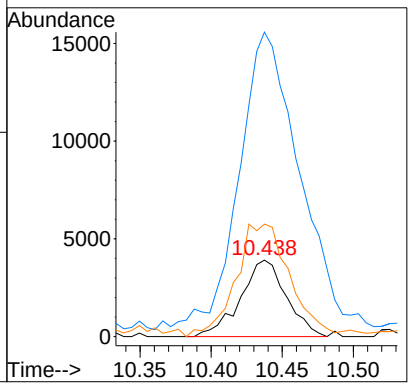


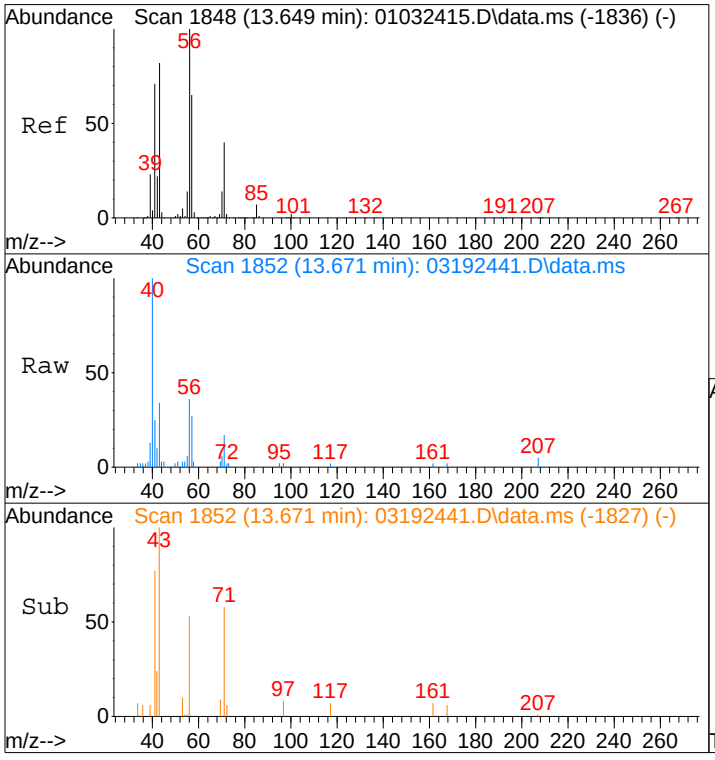


#12
2-Methylpentane
Concen: 0.44 ng
RT: 10.44 min Scan# 1264
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 71 Resp: 8774

Ion	Ratio	Lower	Upper
71	100		
43	518.3	241.7	362.5#
42	178.9	129.1	193.7

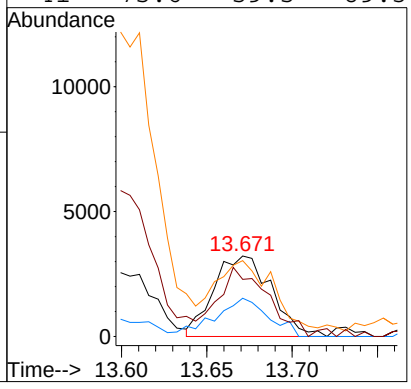


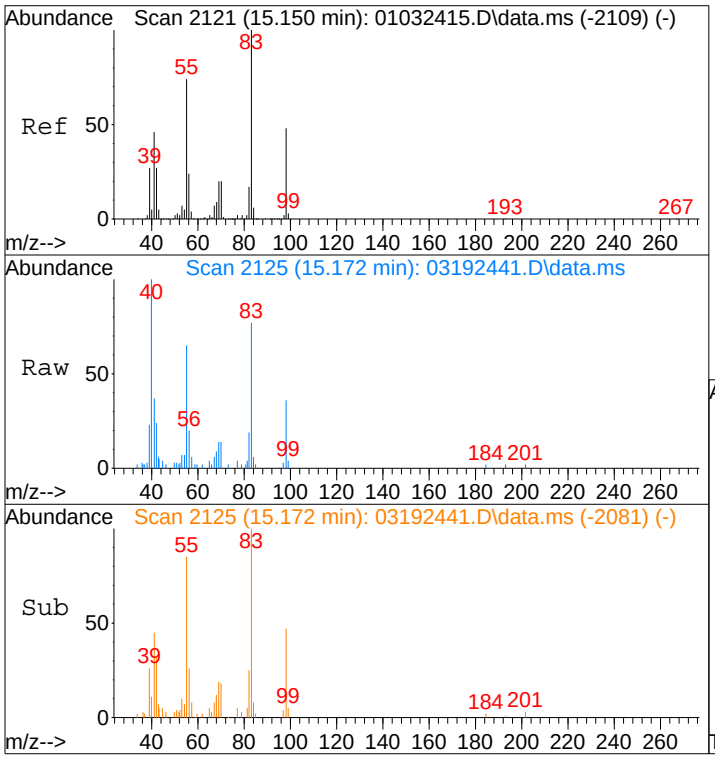


#17
2,3-Dimethylpentane
Concen: 0.19 ng
RT: 13.67 min Scan# 1852
Delta R.T. -0.011 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 56 Resp: 7572

Ion	Ratio	Lower	Upper
56	100		
71	43.4	28.2	42.4#
43	88.2	69.4	104.0
41	75.6	59.5	89.3

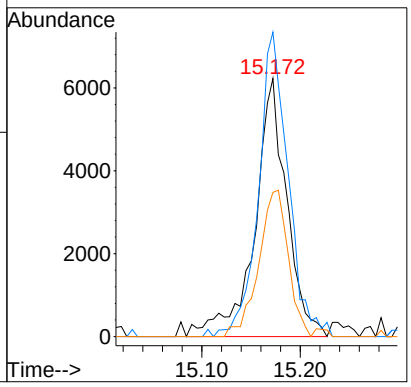




#20
Methyl Cyclohexane
Concen: 0.45 ng
RT: 15.17 min Scan# 2125
Delta R.T. -0.006 min
Lab File: 03192441.D
Acq: 19 Mar 2024 22:13

Tgt Ion: 55 Resp: 14109

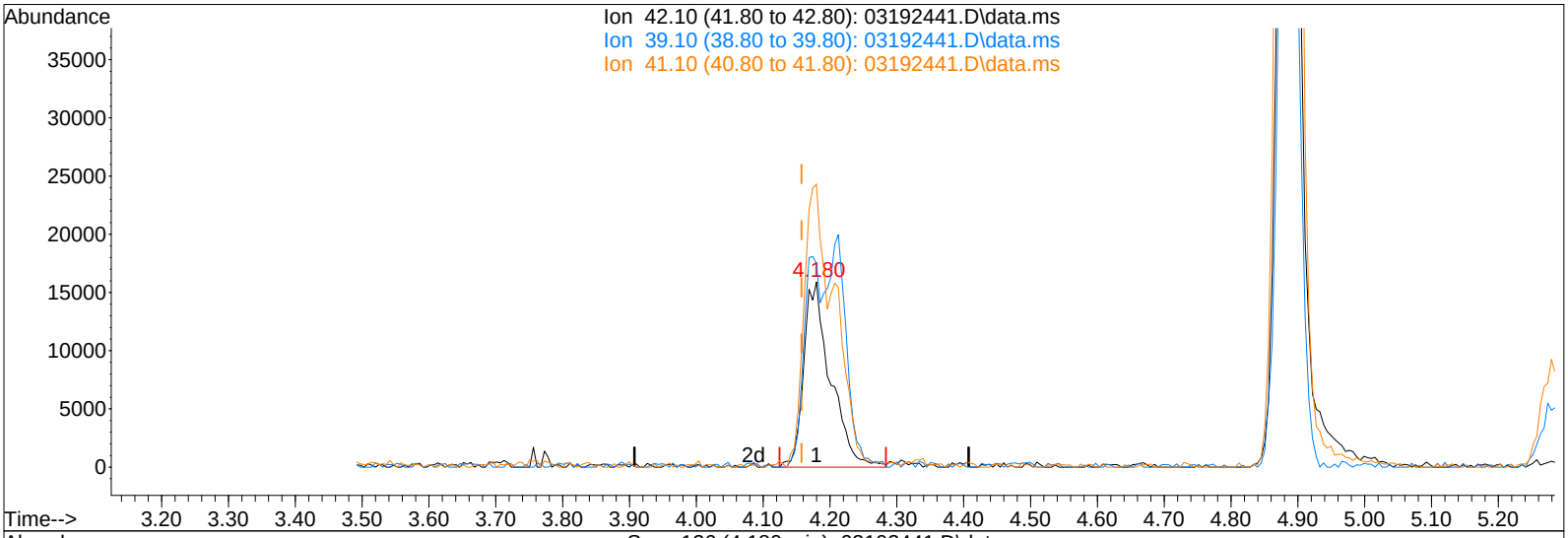
Ion	Ratio	Lower	Upper
55	100		
83	109.1	89.5	134.3
98	52.1	41.6	62.4

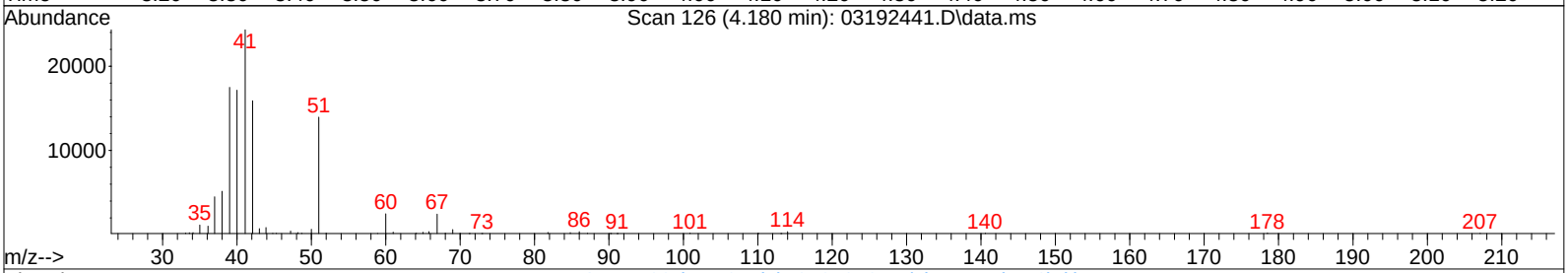


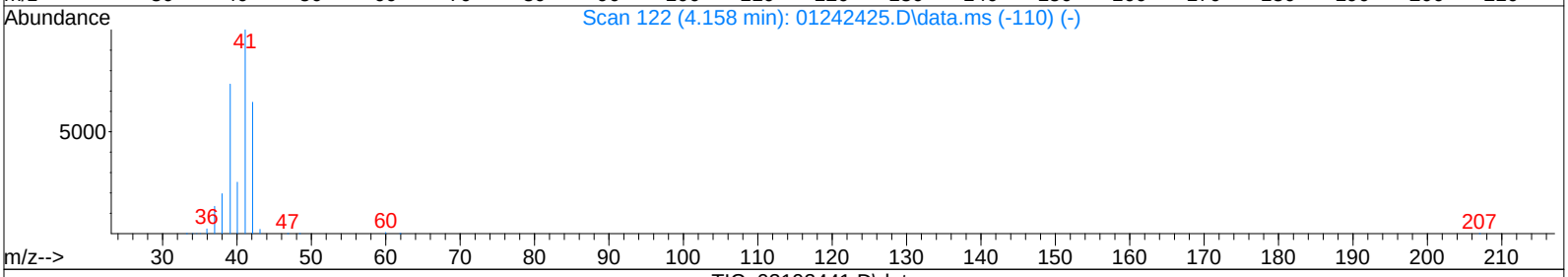
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 20 08:34:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192441.D\data.ms

(2) Propene (T)

4.180min (+0.022) 1.45ng

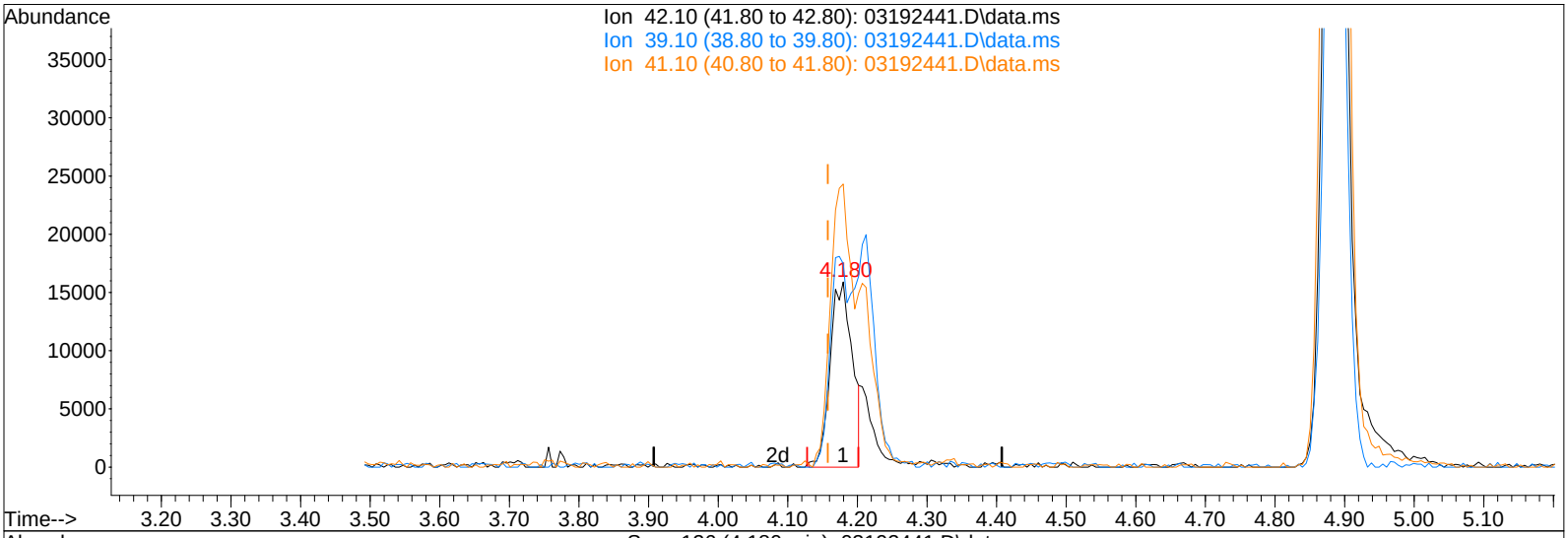
response 44384

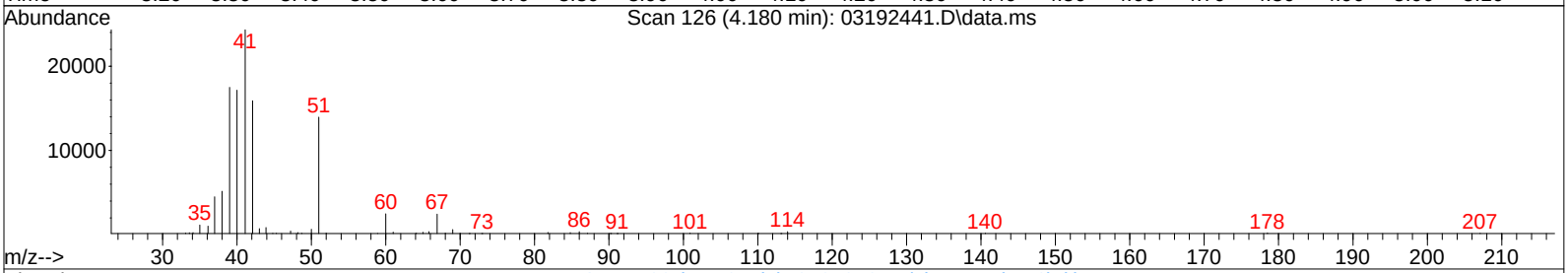
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	80.23#
41.10	152.40	175.33#
0.00	0.00	0.00

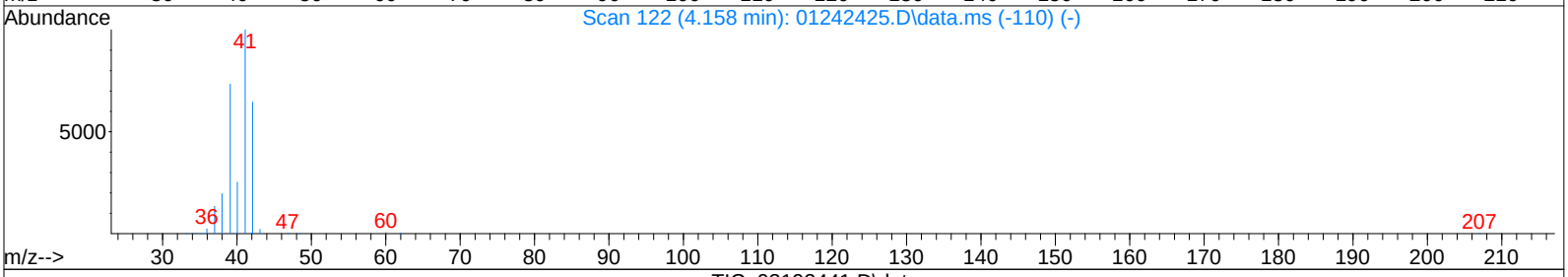
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 20 08:34:40 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192441.D\data.ms

(2) Propene (T)

4.180min (+0.022) 1.15ng m

response 35160

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	101.28
41.10	152.40	145.35
0.00	0.00	0.00

CI 3/21/24

IPC

LH 3/24/24

C-1873

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192441.D\data.ms

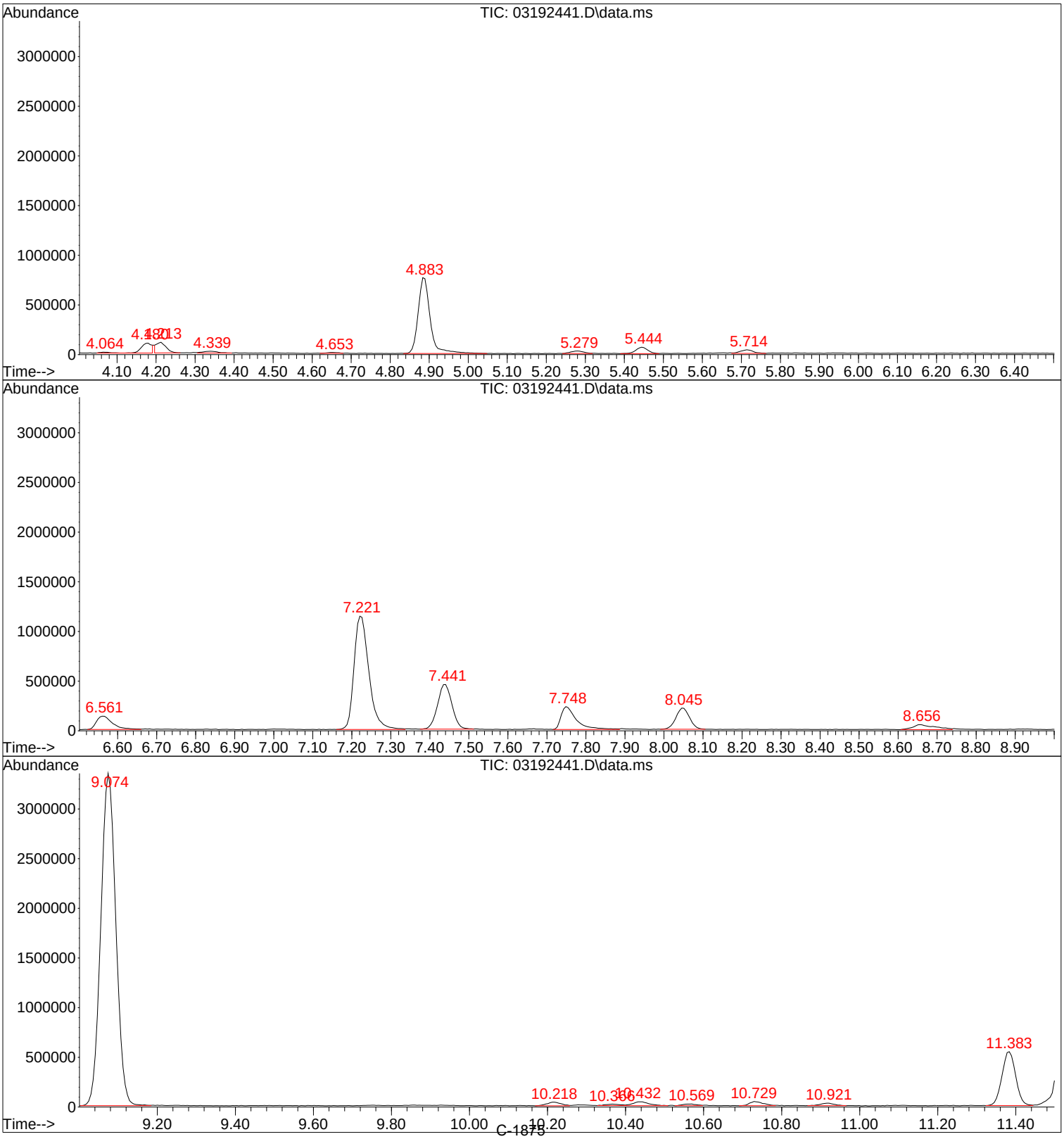
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.064	102	105	115	rVB5	9690	17129	0.19%	0.090%
2	4.180	115	126	128	rBV2	100161	190419	2.13%	1.003%
3	4.213	129	132	141	rVB4	107343	179736	2.01%	0.947%
4	4.339	149	155	165	rVB4	18391	47639	0.53%	0.251%
5	4.653	206	212	217	rBV2	8204	15775	0.18%	0.083%
6	4.883	245	254	284	rVB	762056	1627869	18.18%	8.579%
7	5.279	319	326	333	rBV3	24930	60984	0.68%	0.321%
8	5.444	346	356	364	rBV	63688	135199	1.51%	0.712%
9	5.714	398	405	414	rVB	35878	83101	0.93%	0.438%
10	6.561	552	559	577	rBV	134268	384417	4.29%	2.026%
11	7.221	668	679	700	rBV2	1140119	3018181	33.71%	15.905%
12	7.441	707	719	732	rBV	449509	1154381	12.89%	6.083%
13	7.748	769	775	800	rBV	230175	627548	7.01%	3.307%
14	8.045	819	829	840	rVB	213379	518794	5.79%	2.734%
15	8.656	931	940	955	rBV6	50426	195335	2.18%	1.029%
16	9.074	1003	1016	1036	rBV	3343936	8953881	100.00%	47.186%
17	10.218	1215	1224	1231	rBV3	35778	91002	1.02%	0.480%
18	10.366	1244	1251	1257	rBV3	14876	37573	0.42%	0.198%
19	10.432	1257	1263	1277	rVB2	38720	111546	1.25%	0.588%
20	10.569	1280	1288	1293	rBV3	17268	41552	0.46%	0.219%
21	10.729	1310	1317	1327	rBV	42723	102988	1.15%	0.543%
22	10.921	1342	1352	1360	rVB3	24887	60852	0.68%	0.321%
23	11.383	1425	1436	1447	rBV	541785	1319856	14.74%	6.955%

Sum of corrected areas: 18975757

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:13
Operator : CI
Sample : P2400922-060 (140mL)
Misc : S37-01032403/
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192441.D
Acq On : 19 Mar 2024 22:133
Operator : CII
Sample : P2400922-060 (140mL))
Misc : S37-01032403//
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CI 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:13:24 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	217196	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	986296	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	224336	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	439768	12.021	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
57) Toluene-d8 (SS2)	15.94	98	1110663	12.678	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%			
73) Bromofluorobenzene (SS3)	19.15	174	373860	12.672	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	4.36	85	737	N.D.		
4) Chloromethane	4.59	50	124	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.14	64	137	N.D.		
10) Ethanol	0.00	45	0	N.D. d		
11) Acetonitrile	6.80	41	591	N.D.		
12) Acrolein	7.02	56	220	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.44	101	1336990	30.817	ng	100
15) 2-Propanol (Isopropanol)	7.78	45	91	N.D.		
16) Acrylonitrile	7.99	53	56	N.D.		
17) 1,1-Dichloroethene	8.44	96	139	N.D.		
18) 2-Methyl-2-Propanol (t...	8.69	59	99	N.D.		
19) Methylene Chloride	0.00	84	0	N.D. d		
20) 3-Chloro-1-propene (Al...	8.82	41	351	N.D.		
21) Trichlorotrifluoroethane	9.08	151	1511830	80.009	ng	99
22) Carbon Disulfide	8.93	76	2959	N.D.		
23) trans-1,2-Dichloroethene	9.94	61	633	N.D.		
24) 1,1-Dichloroethane	10.18	63	351	N.D.		
25) Methyl tert-Butyl Ether	10.39	73	426	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.68	72	164	N.D.		
28) cis-1,2-Dichloroethene	11.20	61	452	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	11.50	61	196	N.D.		
31) n-Hexane	11.49	57	85343	2.367	ng	99
32) Chloroform	11.54	83	615	N.D.		
34) Tetrahydrofuran (THF)	12.03	72	162	N.D.		
35) Ethyl tert-Butyl Ether	12.13	87	124	N.D.		
36) 1,2-Dichloroethane	12.37	62	1399	N.D.		
38) 1,1,1-Trichloroethane	12.63	97	121	N.D.		
39) Isopropyl Acetate	13.73	61	118	No Calib	#	
40) 1-Butanol	12.64	56	1730	No Calib	#	
41) Benzene	13.11	78	43584	0.465	ng	95
42) Carbon Tetrachloride	13.27	117	248	N.D.		
43) Cyclohexane	13.40	84	40332	1.317	ng	98
44) tert-Amyl Methyl Ether	13.77	73	463	N.D.		
45) 1,2-Dichloropropane	13.96	63	468	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.19	130	739	N.D.		
48) 1,4-Dioxane	14.28	88	108	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:13:24 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

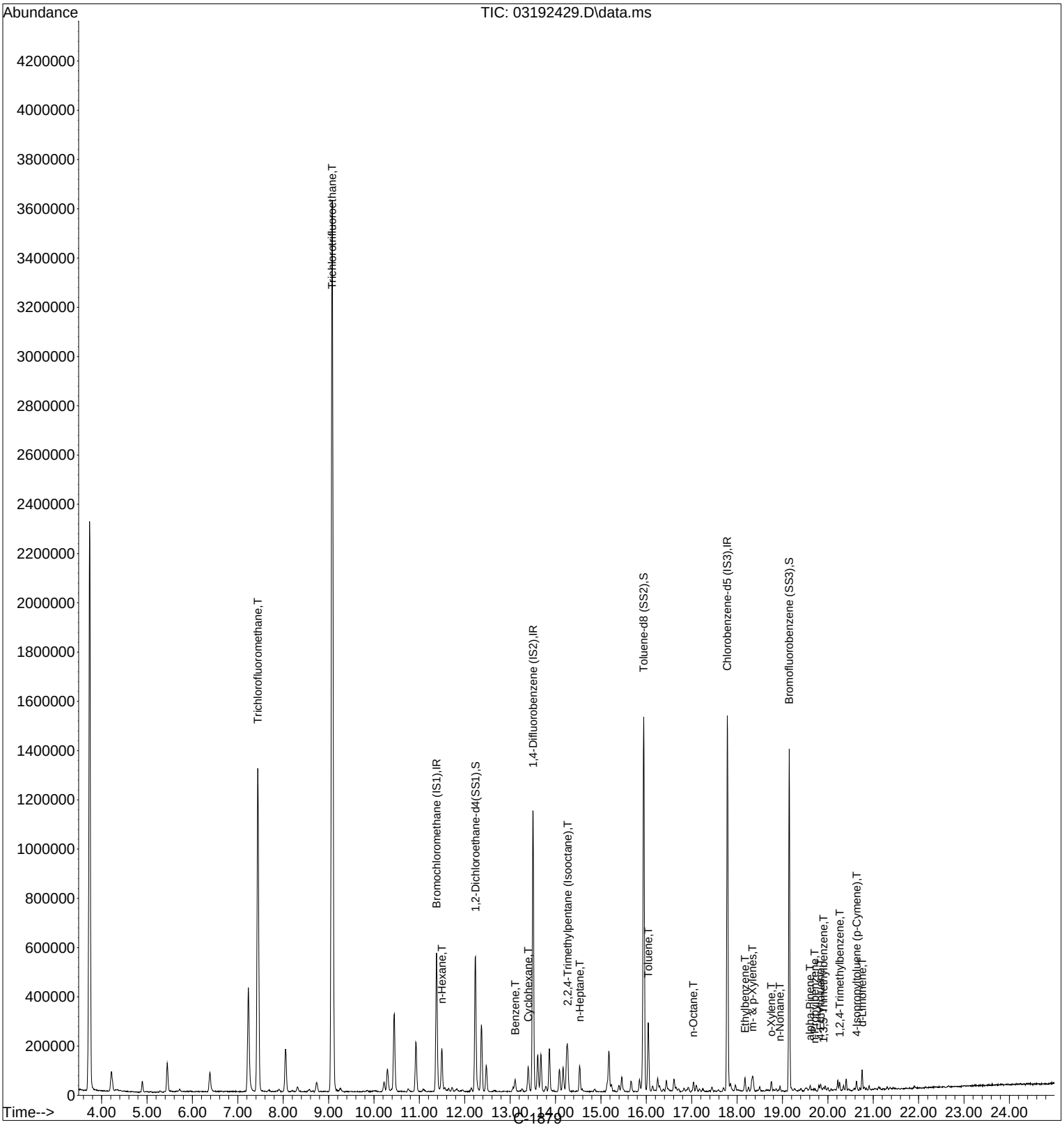
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	138341	1.583 ng	#	58
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	14.53	71	26154	1.154 ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.12	58	850	N.D.		
54) trans-1,3-Dichloropropene	15.65	75	149	N.D.		
55) 1,1,2-Trichloroethane	15.73	97	204	N.D.		
58) Toluene	16.04	91	194296	2.365 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.45	129	345	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.92	43	1536	N.D.		
63) n-Octane	17.04	57	7370	0.389 ng		97
64) Tetrachloroethene	17.20	166	694	N.D.		
65) Chlorobenzene	17.82	112	789	N.D.		
66) Ethylbenzene	18.17	91	33073	0.347 ng		98
67) m- & p-Xylenes	18.34	91	46625	0.609 ng		99
68) Bromoform	18.40	173	684	N.D.		
69) Styrene	18.66	104	243	N.D.		
70) o-Xylene	18.75	91	22759	0.295 ng		98
71) n-Nonane	18.94	43	7888	0.163 ng		97
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	19.27	105	3540	N.D.		
75) alpha-Pinene	19.61	93	6171	0.140 ng		70
76) n-Propylbenzene	19.71	91	7215	0.060 ng		92
77) 3-Ethyltoluene	20.26	105	13443	No Calib		
78) 4-Ethyltoluene	19.84	105	5910	0.061 ng		93
79) 1,3,5-Trimethylbenzene	19.90	105	5215	0.064 ng		92
80) alpha-Methylstyrene	20.63	118	709	No Calib	#	
81) 2-Ethyltoluene	20.26	105	13443	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	13443	0.164 ng		89
83) n-Decane	20.34	58	459	No Calib	#	
84) Benzyl Chloride	20.42	91	391	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	824	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	962	N.D.		
87) sec-Butylbenzene	20.50	105	1323	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	14116	0.149 ng		97
89) 1,2,3-Trimethylbenzene	20.26	105	13443	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	860	N.D.		
91) d-Limonene	20.76	68	18189	0.658 ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.51	58	271	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.26	180	950	N.D.		
95) Naphthalene	22.38	128	842	N.D.		
96) n-Dodecane	22.68	57	302	No Calib	#	
97) Hexachlorobutadiene	22.67	225	851	N.D.		
98) Cyclohexanone	18.25	55	3009	No Calib	#	
99) tert-Butylbenzene	20.26	119	2559	N.D.		
100) n-Butylbenzene	20.99	91	726	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:13:24 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

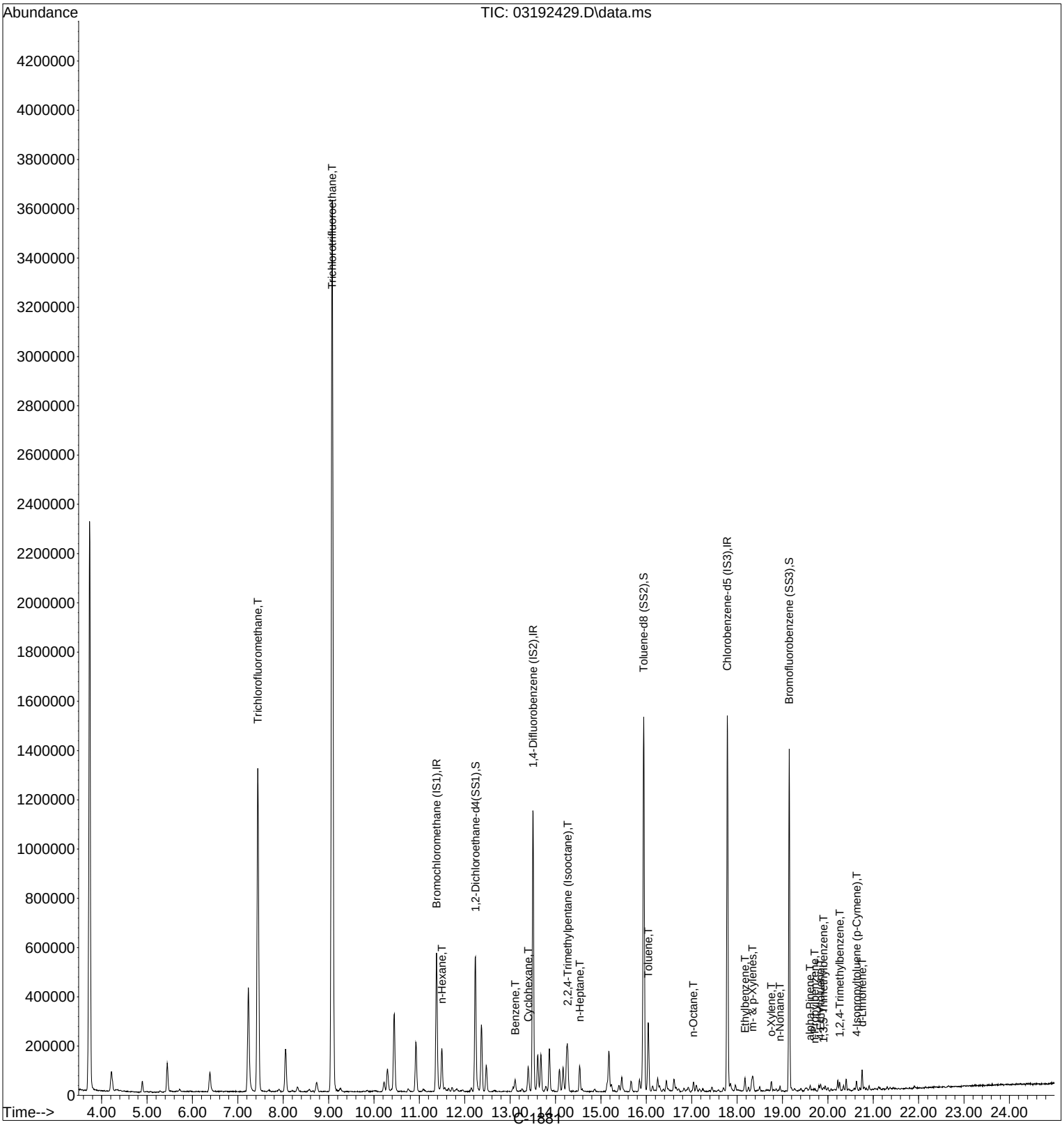
Quant Time: Mar 21 11:13:24 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

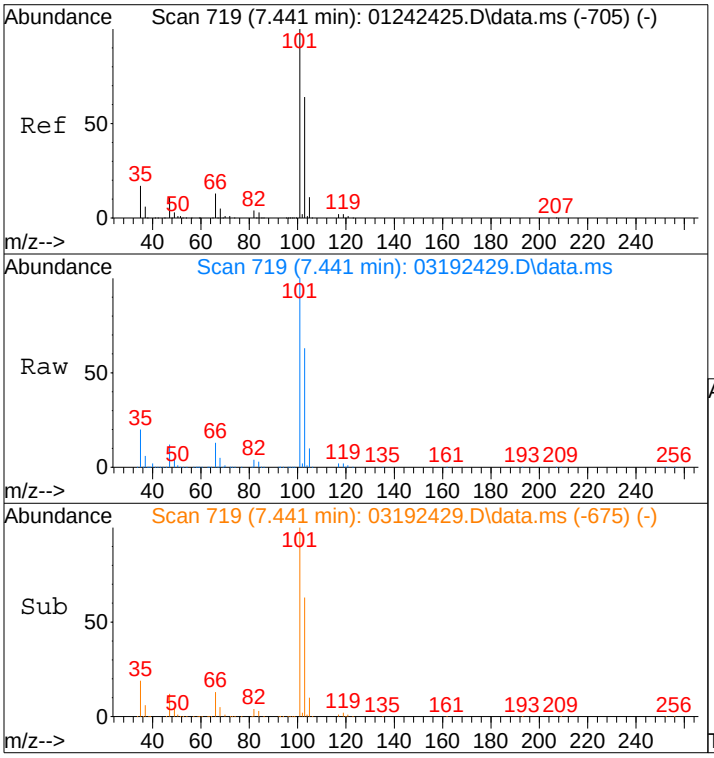
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	217196	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	986296	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	224336	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	439768	12.021	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	15.94	98	1110663	12.678	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.44%				
73) Bromofluorobenzene (SS3)	19.15	174	373860	12.672	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%				
Target Compounds							Qvalue
14) Trichlorofluoromethane	7.44	101	1336990	30.817	ng		100
21) Trichlorotrifluoroethane	9.08	151	1511830	80.009	ng		99
31) n-Hexane	11.49	57	85343	2.367	ng		99
41) Benzene	13.11	78	43584	0.465	ng		95
43) Cyclohexane	13.40	84	40332	1.317	ng		98
49) 2,2,4-Trimethylpentane...	14.27	57	138341	1.583	ng	#	58
51) n-Heptane	14.53	71	26154	1.154	ng		97
58) Toluene	16.04	91	194296	2.365	ng		100
63) n-Octane	17.04	57	7370	0.389	ng		97
66) Ethylbenzene	18.17	91	33073	0.347	ng		98
67) m- & p-Xylenes	18.34	91	46625	0.609	ng		99
70) o-Xylene	18.75	91	22759	0.295	ng		98
71) n-Nonane	18.94	43	7888	0.163	ng		97
75) alpha-Pinene	19.61	93	6171	0.140	ng		70
76) n-Propylbenzene	19.71	91	7215	0.060	ng		92
78) 4-Ethyltoluene	19.84	105	5910	0.061	ng		93
79) 1,3,5-Trimethylbenzene	19.90	105	5215	0.064	ng		92
82) 1,2,4-Trimethylbenzene	20.26	105	13443	0.164	ng		89
88) 4-Isopropyltoluene (p-...	20.63	119	14116	0.149	ng		97
91) d-Limonene	20.76	68	18189	0.658	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:13:24 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

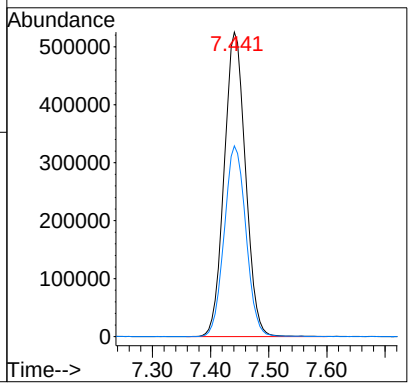


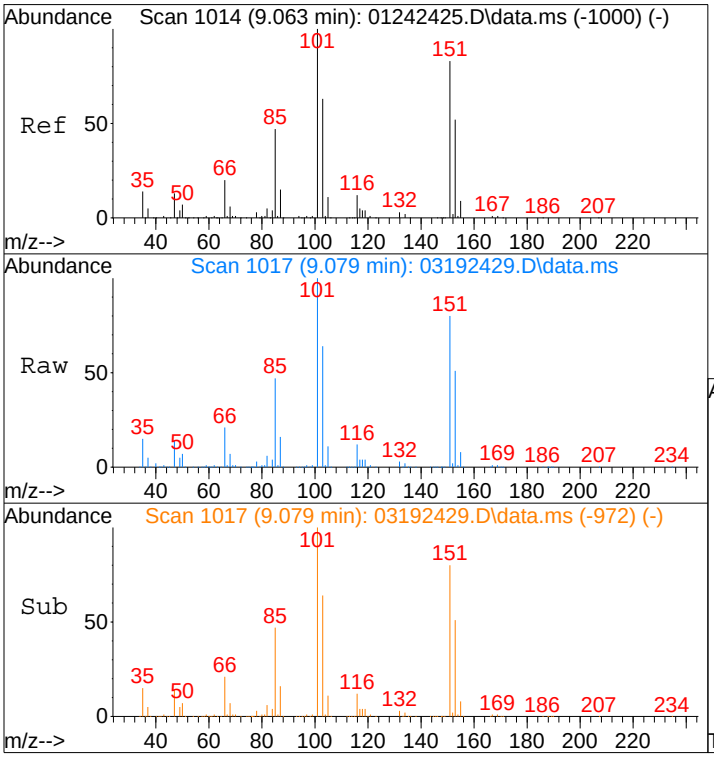


#14
Trichlorofluoromethane
Concen: 30.82 ng
RT: 7.44 min Scan# 719
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion:101 Resp: 1336990

Ion	Ratio	Lower	Upper
101	100		
103	63.8	44.1	84.1

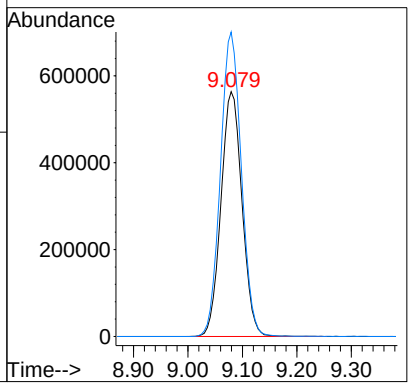


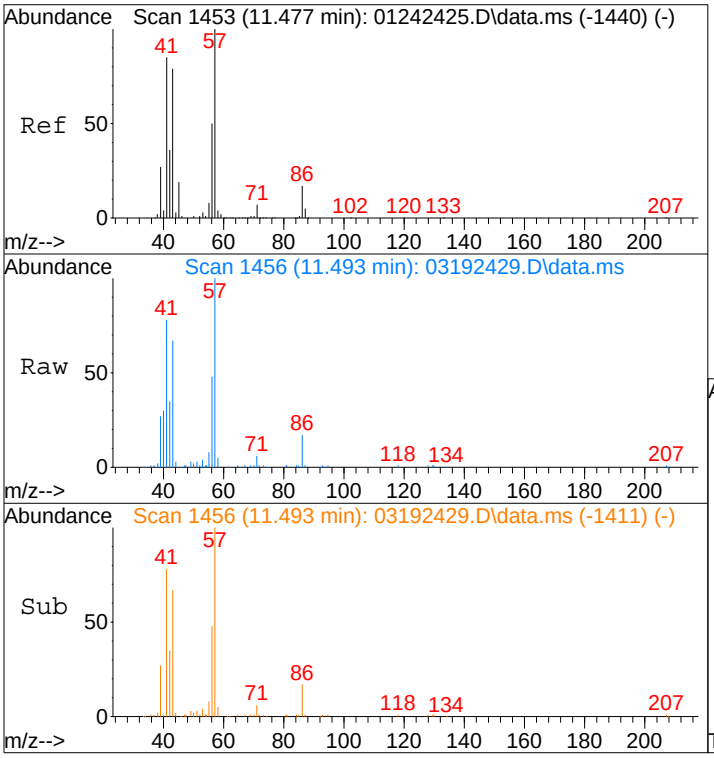


#21
Trichlorotrifluoroethane
Concen: 80.01 ng
RT: 9.08 min Scan# 1017
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion:151 Resp: 1511830

Ion	Ratio	Lower	Upper
151	100		
101	123.6	104.2	144.2

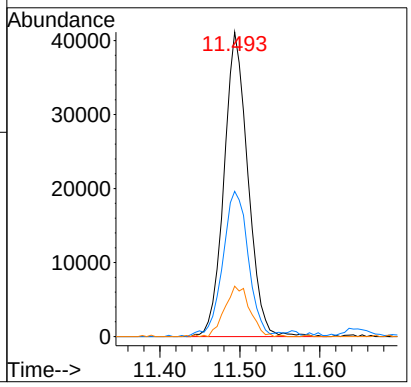


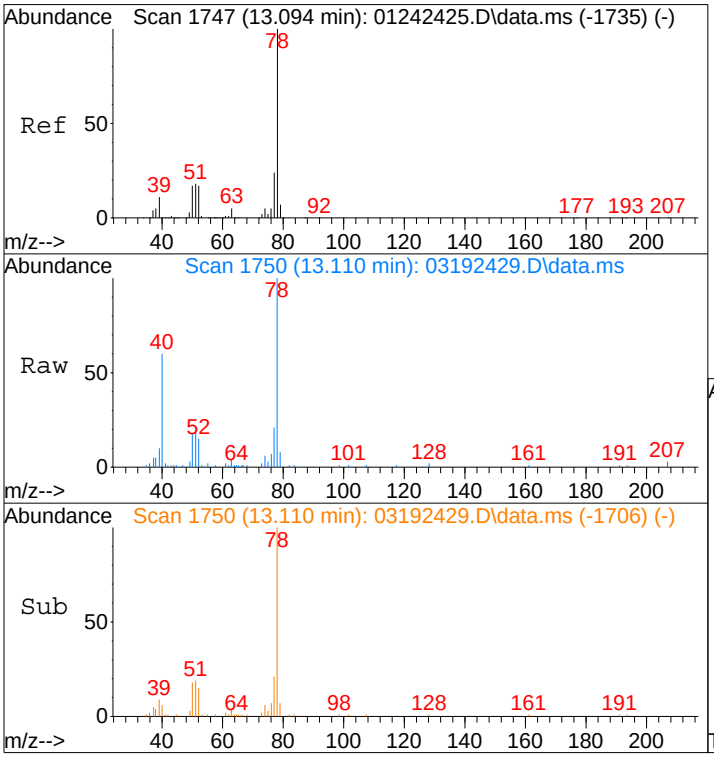


#31
n-Hexane
Concen: 2.37 ng
RT: 11.49 min Scan# 1456
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 57 Resp: 85343

Ion	Ratio	Lower	Upper
57	100		
56	51.2	40.7	61.1
86	17.5	13.4	20.2

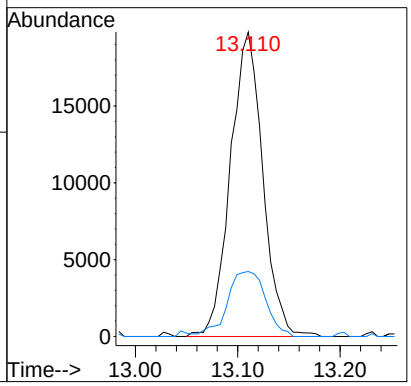


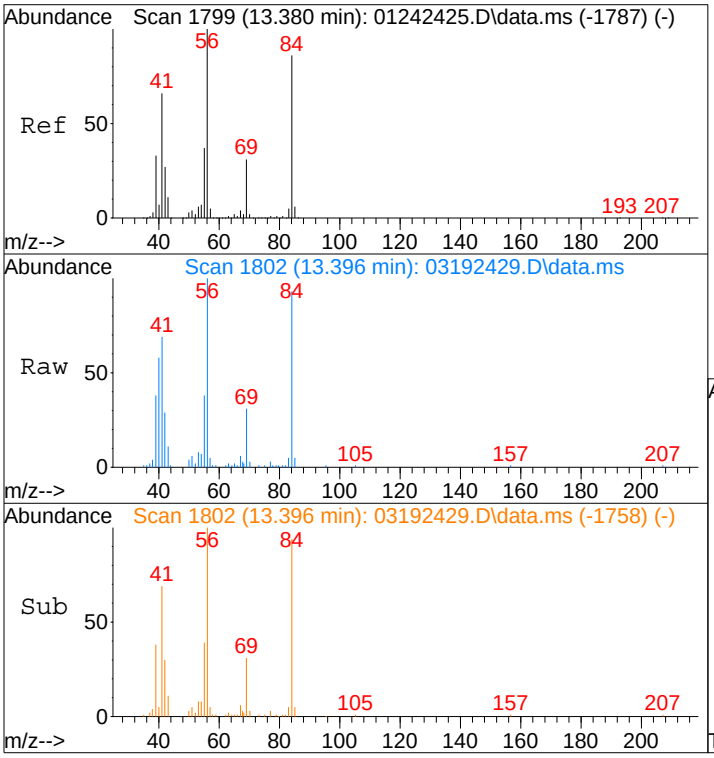


#41
Benzene
Concen: 0.46 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 78 Resp: 43584

Ion	Ratio	Lower	Upper
78	100		
77	25.1	2.6	42.6

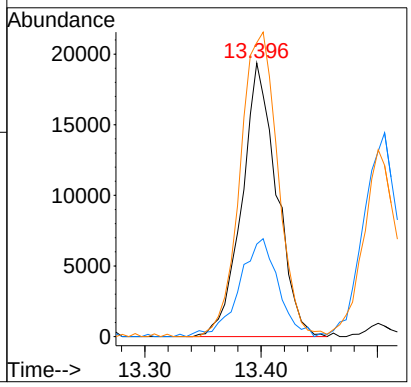


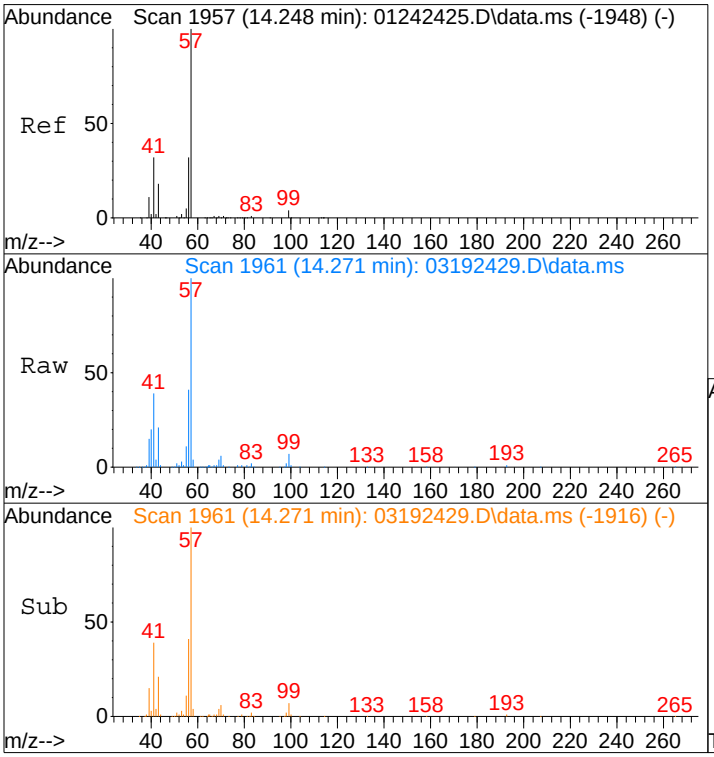


#43
Cyclohexane
Concen: 1.32 ng
RT: 13.40 min Scan# 1802
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 84 Resp: 40332

Ion	Ratio	Lower	Upper
84	100		
69	40.4	17.1	57.1
56	121.2	101.6	141.6

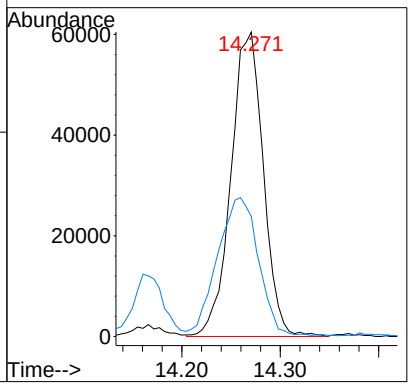


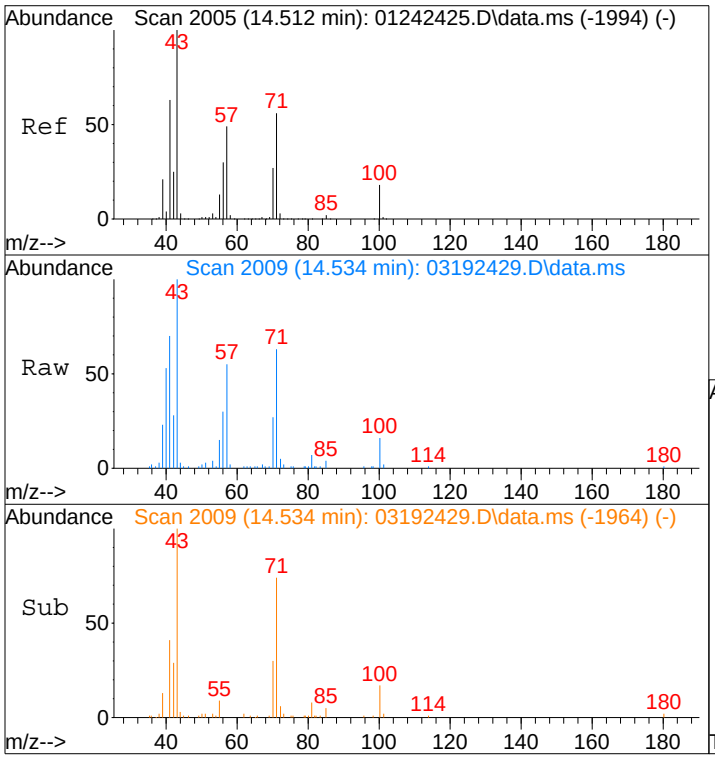


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 1.58 ng
RT: 14.27 min Scan# 1961
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 57 Resp: 138341

Ion	Ratio	Lower	Upper
57	100		
41	57.0	13.2	53.2#

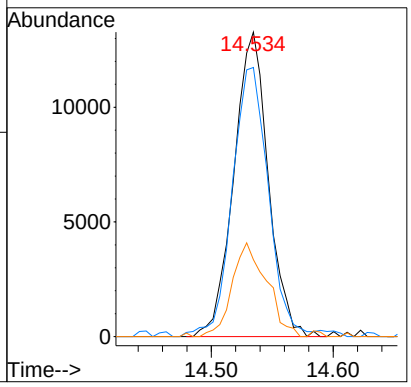


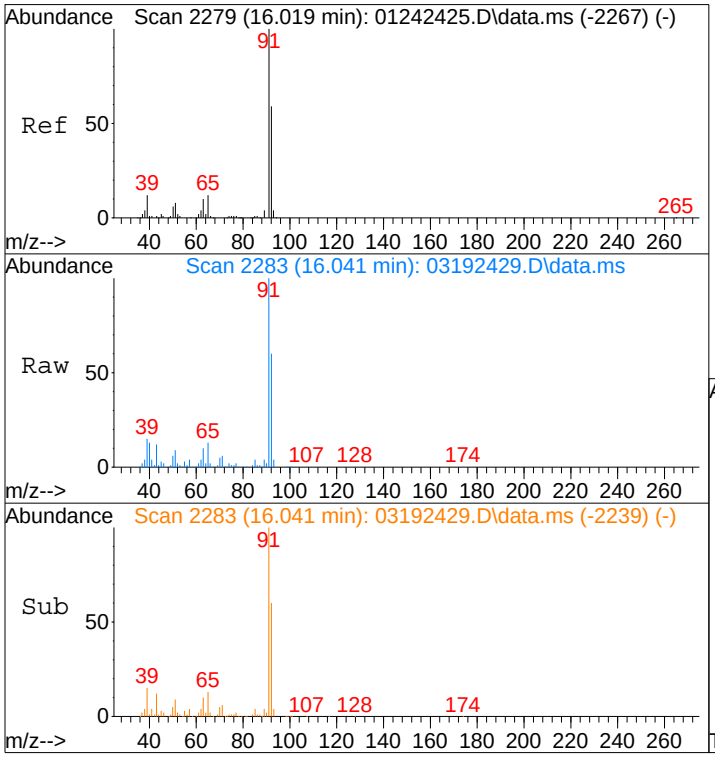


#51
n-Heptane
Concen: 1.15 ng
RT: 14.53 min Scan# 2009
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 71 Resp: 26154

Ion	Ratio	Lower	Upper
71	100		
57	92.4	69.1	109.1
100	30.8	10.7	50.7

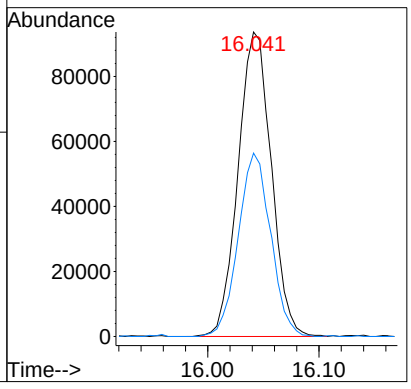


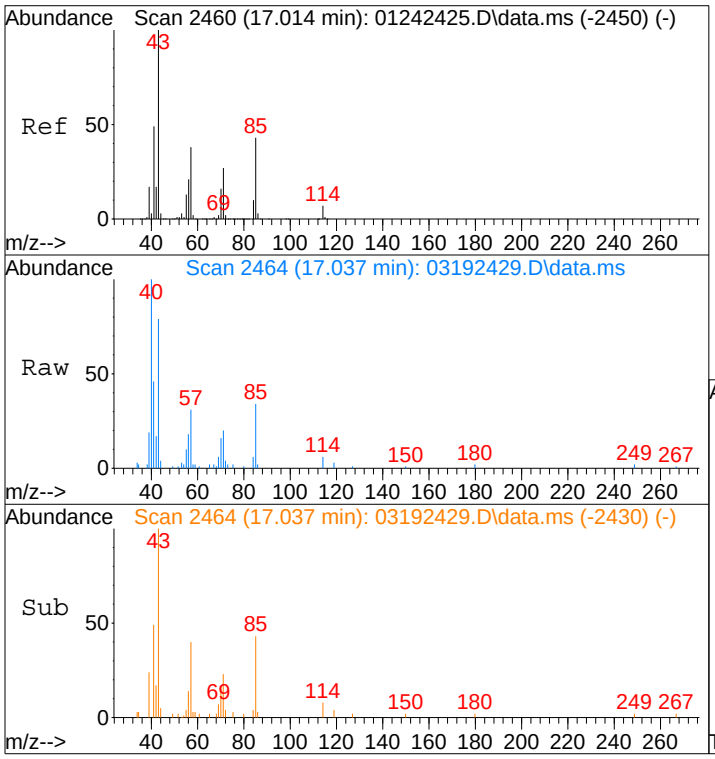


#58
Toluene
Concen: 2.36 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 91 Resp: 194296

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.1	79.1

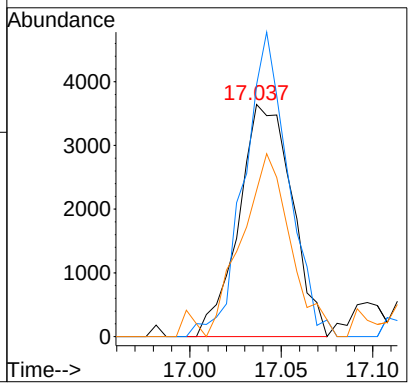


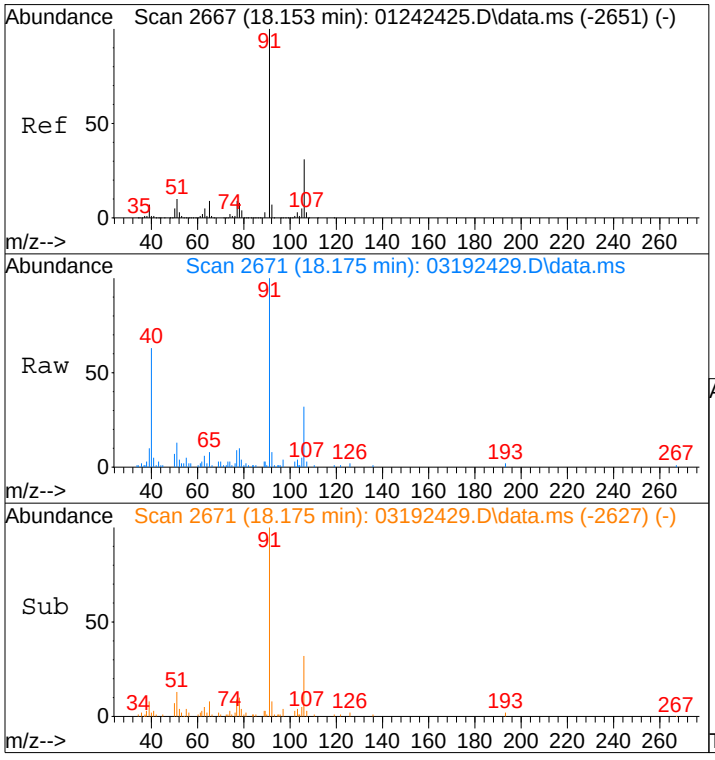


#63
n-Octane
Concen: 0.39 ng
RT: 17.04 min Scan# 2464
Delta R.T. -0.011 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 57 Resp: 7370

Ion	Ratio	Lower	Upper
57	100		
85	108.4	90.2	135.2
71	72.1	57.1	85.7

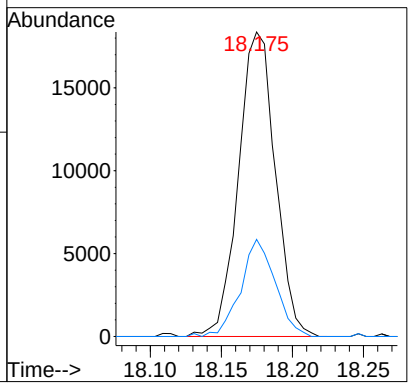


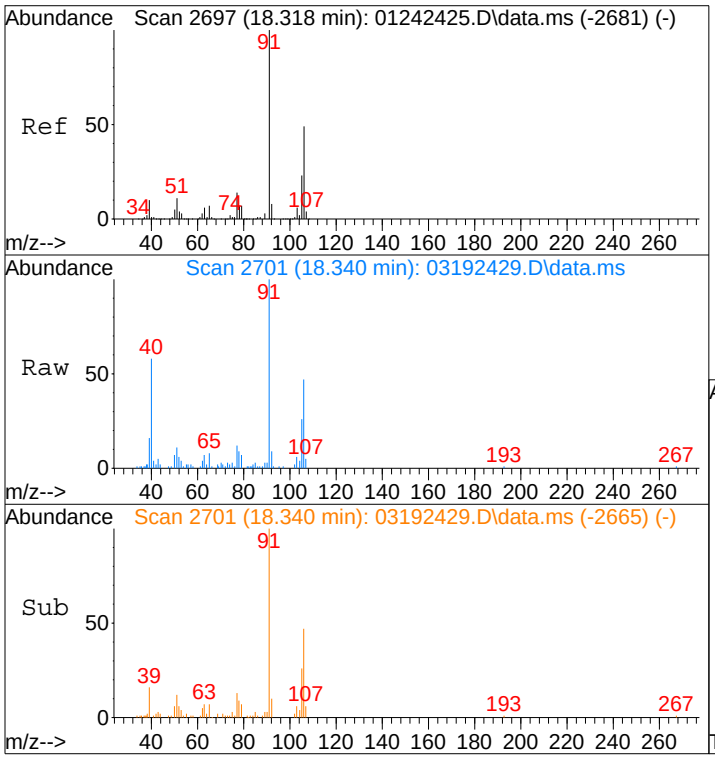


#66
Ethylbenzene
Concen: 0.35 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 91 Resp: 33073

Ion	Ratio	Lower	Upper
91	100		
106	30.0	10.9	50.9

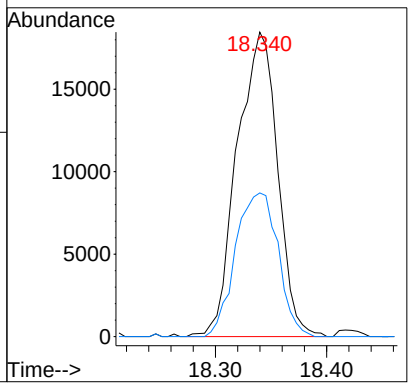


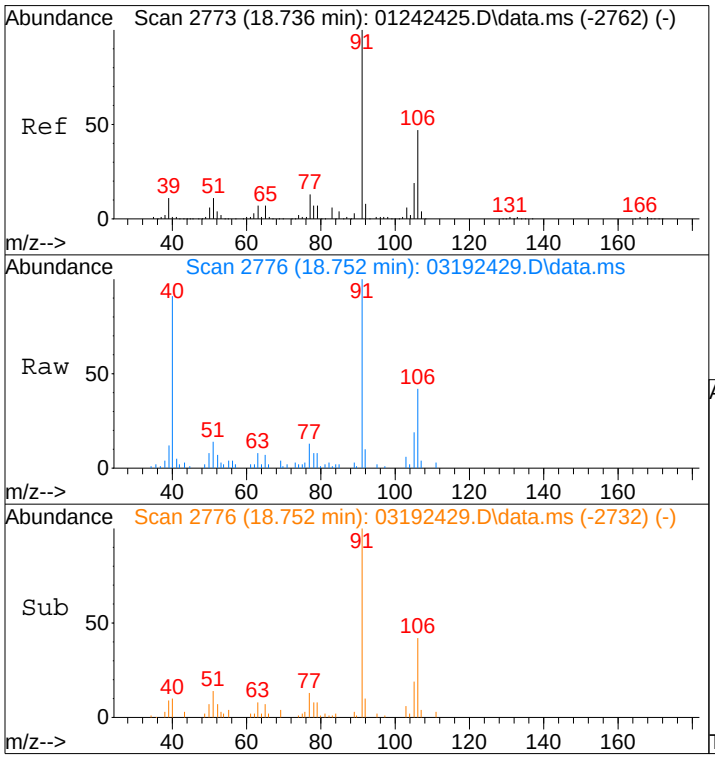


#67
m- & p-Xylenes
Concen: 0.61 ng
RT: 18.34 min Scan# 2701
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 91 Resp: 46625

Ion	Ratio	Lower	Upper
91	100		
106	49.6	28.7	68.7

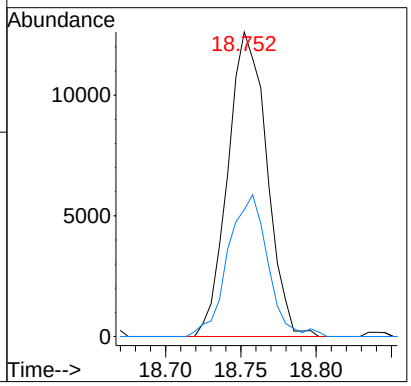


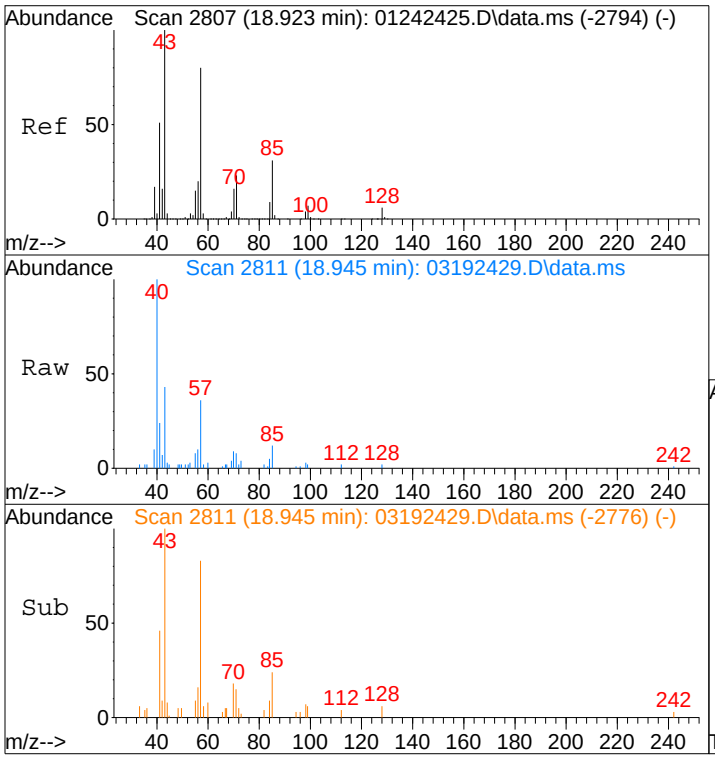


#70
o-Xylene
Concen: 0.30 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 91 Resp: 22759

Ion	Ratio	Lower	Upper
91	100		
106	47.4	26.0	66.0

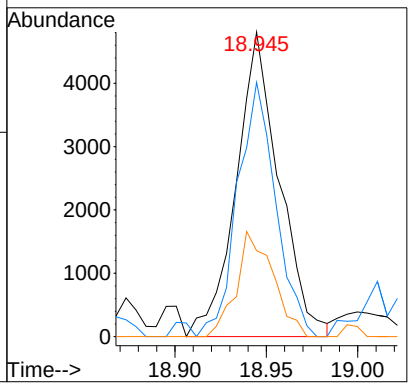


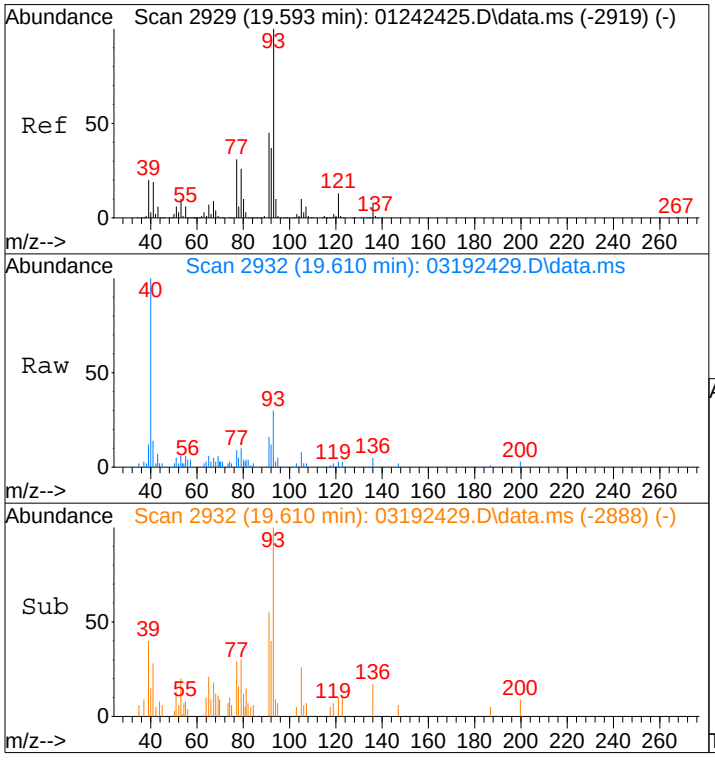


#71
n-Nonane
Concen: 0.16 ng
RT: 18.94 min Scan# 2811
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 43 Resp: 7888

Ion	Ratio	Lower	Upper
43	100		
57	73.8	57.4	97.4
85	29.3	10.1	50.1

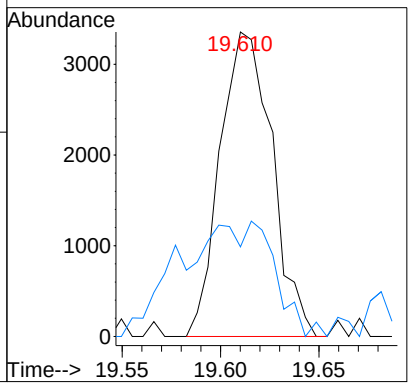


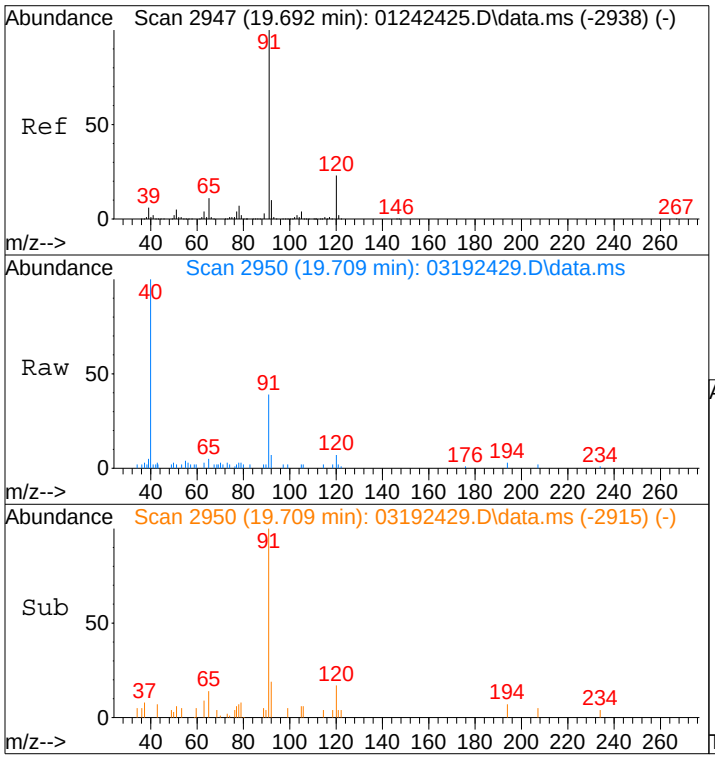


#75
alpha-Pinene
Concen: 0.14 ng
RT: 19.61 min Scan# 2932
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 93 Resp: 6171

Ion	Ratio	Lower	Upper
93	100		
77	50.6	13.6	53.6

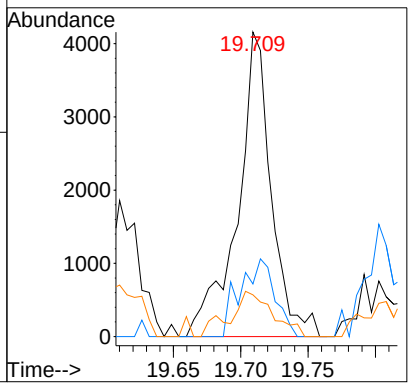


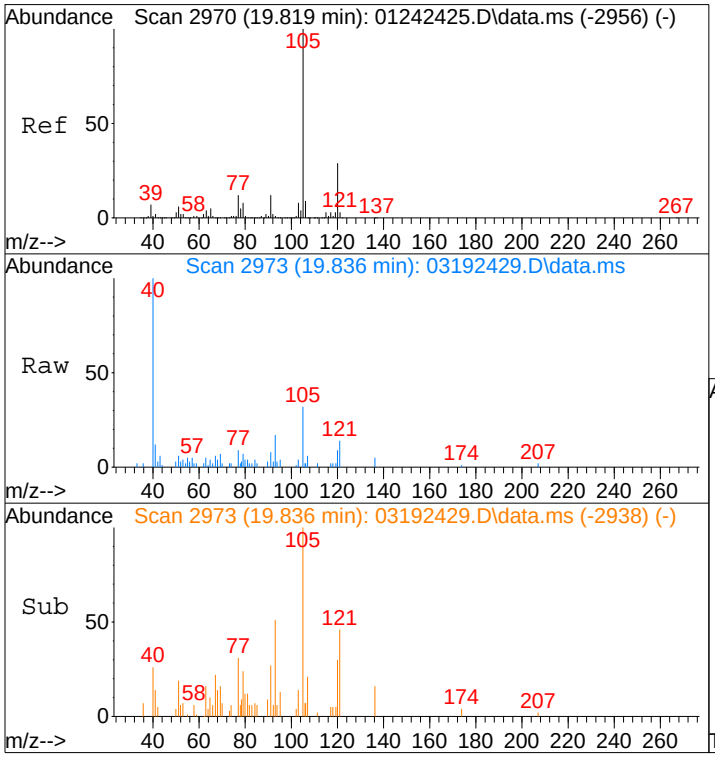


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 19.71 min Scan# 2950
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 91 Resp: 7215

Ion	Ratio	Lower	Upper
91	100		
120	26.5	2.5	42.5
65	14.7	0.0	31.9

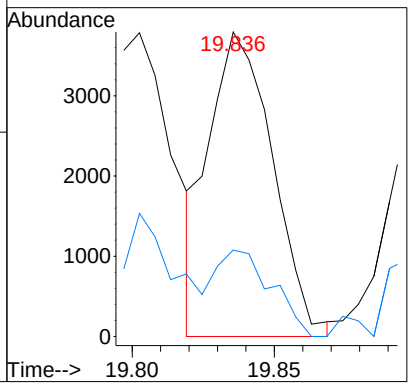


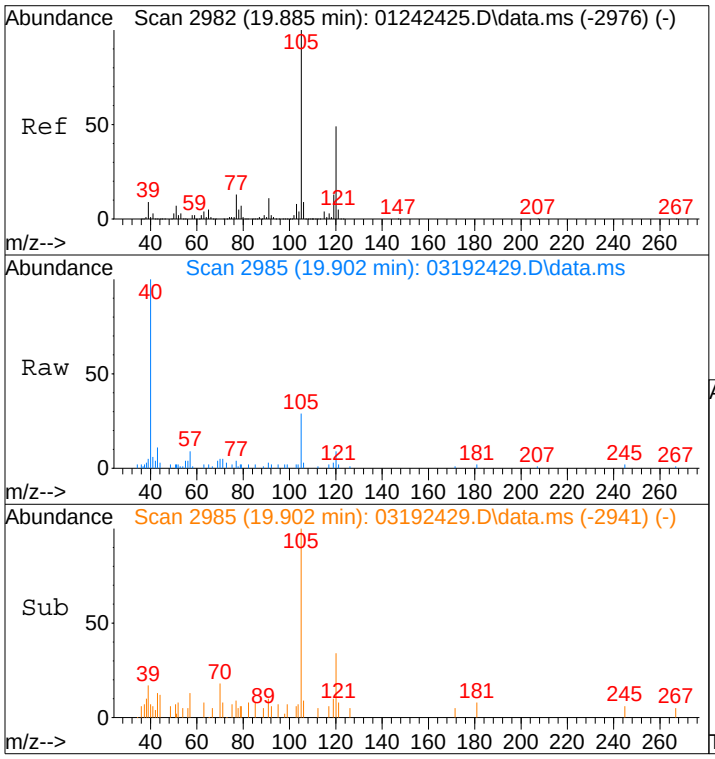


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.84 min Scan# 2973
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion:105 Resp: 5910

Ion	Ratio	Lower	Upper
105	100		
120	24.9	8.9	48.9

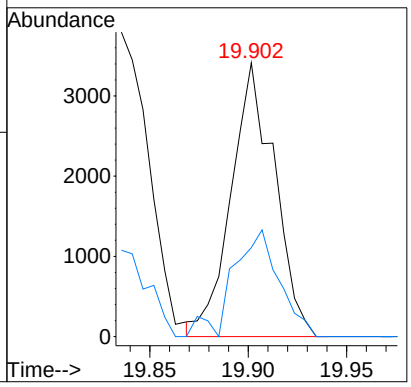


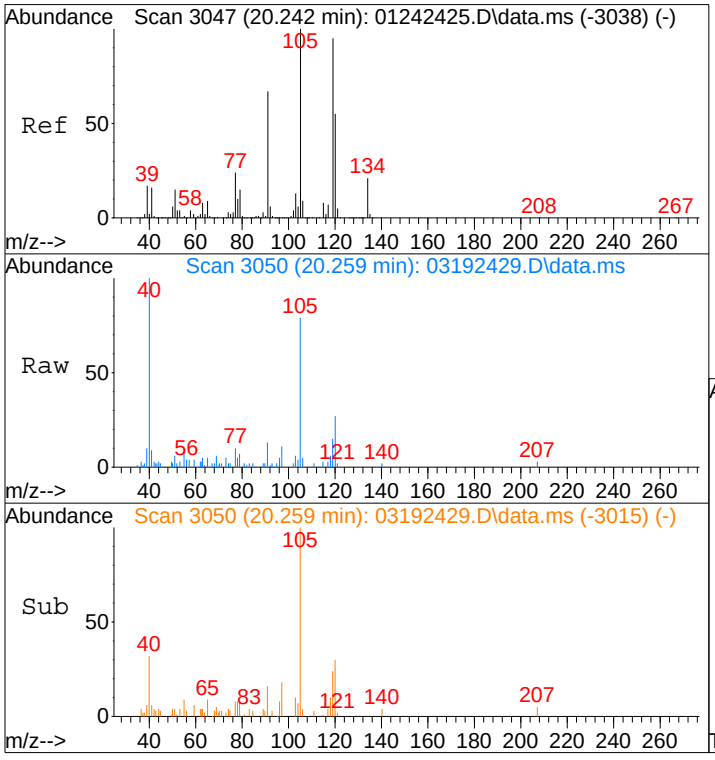


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 19.90 min Scan# 2985
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion:105 Resp: 5215

Ion	Ratio	Lower	Upper
105	100		
120	41.8	27.4	67.4

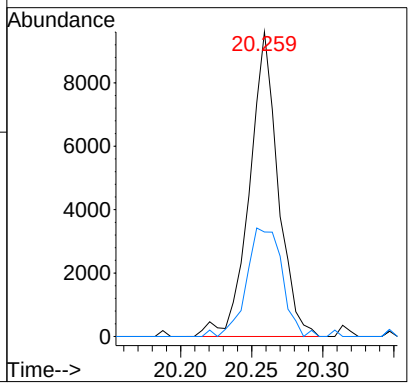


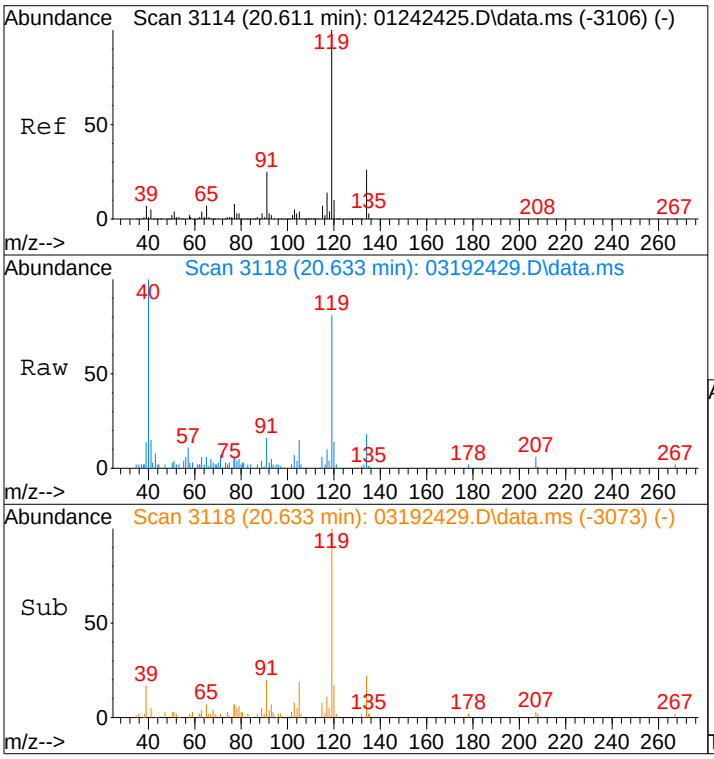


#82
1,2,4-Trimethylbenzene
Concen: 0.16 ng
RT: 20.26 min Scan# 3050
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion:105 Resp: 13443

Ion	Ratio	Lower	Upper
105	100		
120	44.2	32.1	72.1

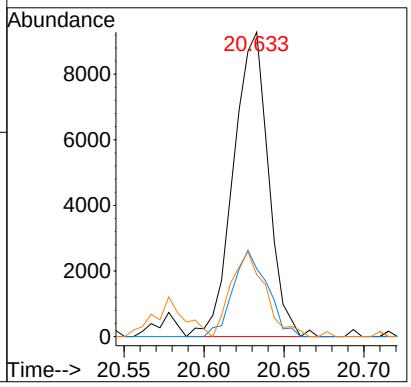


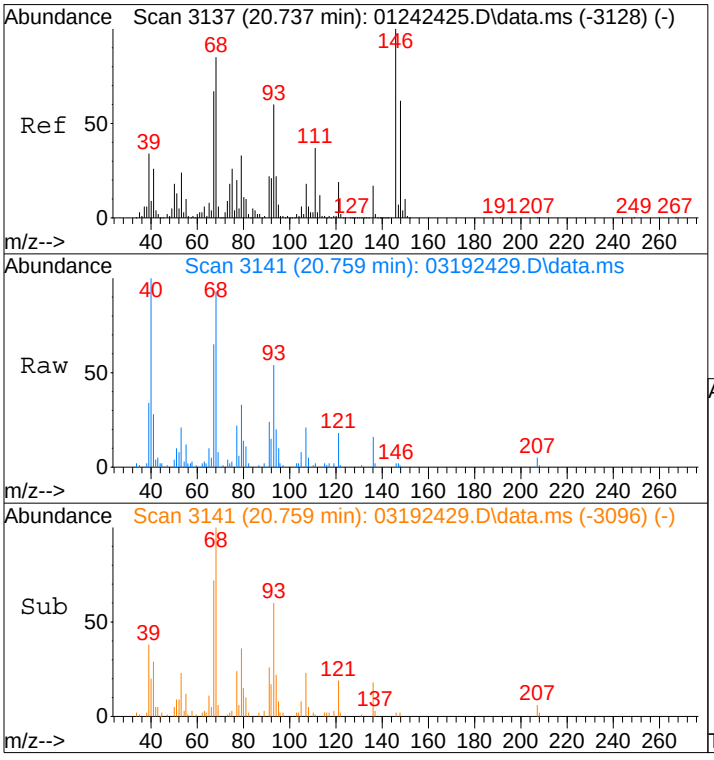


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.15 ng
RT: 20.63 min Scan# 3118
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion:119 Resp: 14116

Ion	Ratio	Lower	Upper
119	100		
134	27.8	6.8	46.8
91	27.5	5.8	45.8

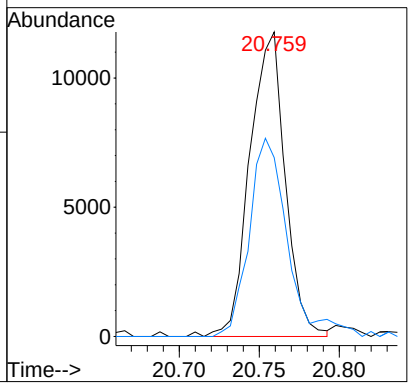




#91
d-Limonene
Concen: 0.66 ng
RT: 20.76 min Scan# 3141
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 68 Resp: 18189

Ion	Ratio	Lower	Upper
68	100		
93	71.0	49.7	89.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:30:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

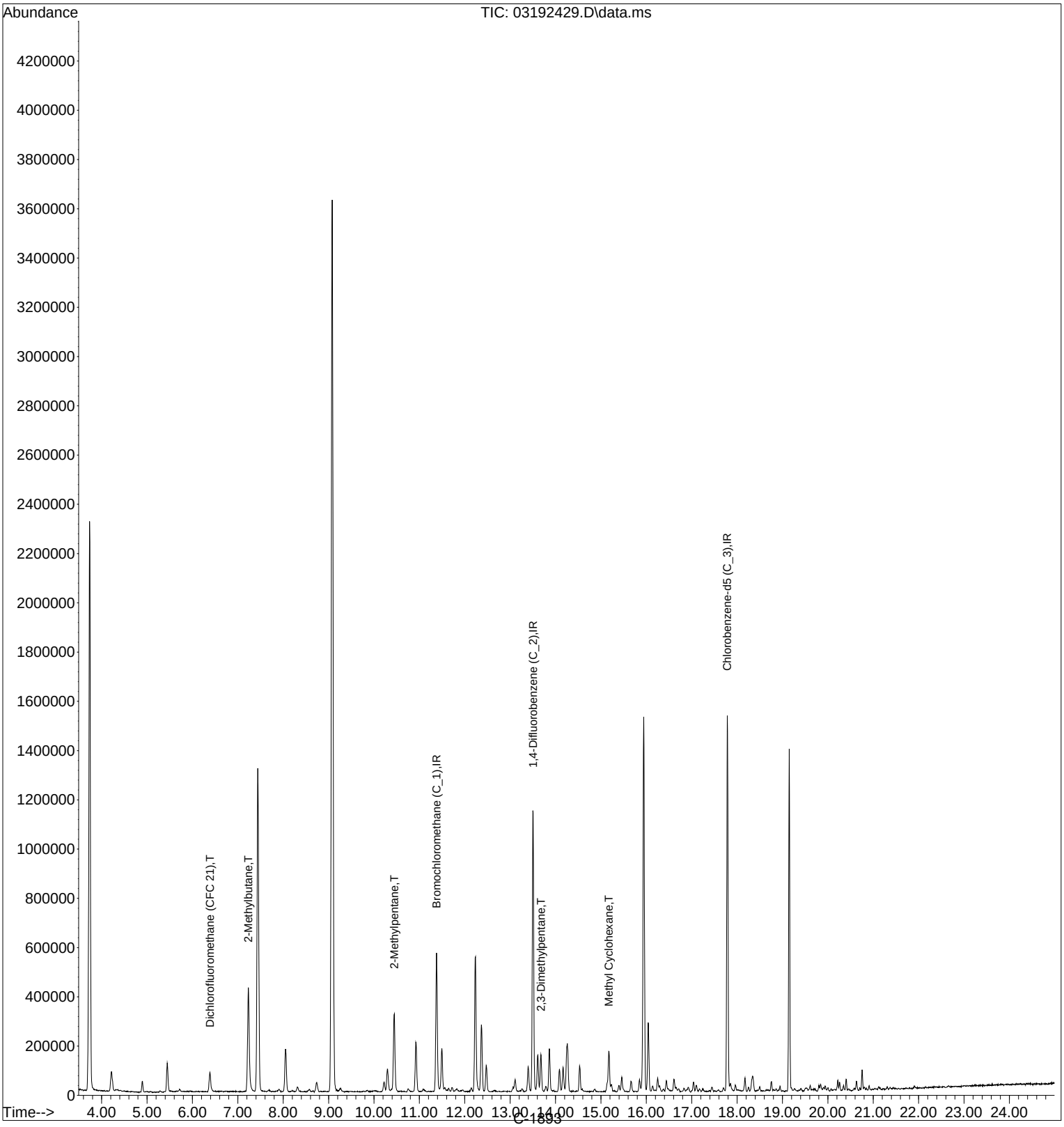
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	217196	12.500 ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	987974	12.500 ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	226030	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.86	85	114	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	62	N.D.	
4) 1,1-Difluoroethane	4.07	65	120	N.D.	
5) Chlorodifluoromethane ...	4.20	67	254	N.D.	
6) 1-Chloro-1,1-Difluoroe...	4.63	65	124	N.D.	
7) Dichlorofluoromethane ...	6.38	67	97803	2.228 ng	98
8) Vinylbromide	6.73	108	52	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	7.13	83	124	N.D.	
10) 2-Methylbutane	7.23	57	112327	5.162 ng	85
11) Methyl Acetate	8.69	43	56	N.D.	
12) 2-Methylpentane	10.45	71	84823	4.262 ng	91
13) 2,2-Dichloropropane	11.60	77	68	N.D.	
14) 1,1-Dichloropropene	12.95	75	113	N.D.	
15) Thiophene	13.25	84	142	N.D.	
17) 2,3-Dimethylpentane	13.68	56	66845	1.648 ng	99
18) Dibromomethane	13.92	174	230	N.D.	
20) Methyl Cyclohexane	15.17	55	71413	2.254 ng	91
21) 1,3-Dichloropropane	16.04	76	1326	N.D.	
22) 1,1,1,2-Tetrachloroethane	17.84	131	64	N.D.	
23) 1-Chlorohexane	18.01	91	191	N.D.	
24) 1,2,3-Trichloropropane	18.86	75	54	N.D.	
25) Bromobenzene	19.35	77	205	N.D.	
26) 2-Chlorotoluene	0.00	91	0	N.D. d	
27) 4-Chlorotoluene	0.00	91	0	N.D. d	
28) Indane	20.80	117	1475	N.D.	
29) Indene	20.99	115	76	N.D.	
30) 1,2,4,5-Tetramethylben...	21.75	119	171	N.D.	
31) 1,2,3,4-Tetramethylben...	21.75	119	171	N.D.	
32) 1,2,3,5-Tetramethylben...	22.01	119	358	N.D.	
33) 1,2,3-Trichlorobenzene	22.64	180	51	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:30:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:30:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

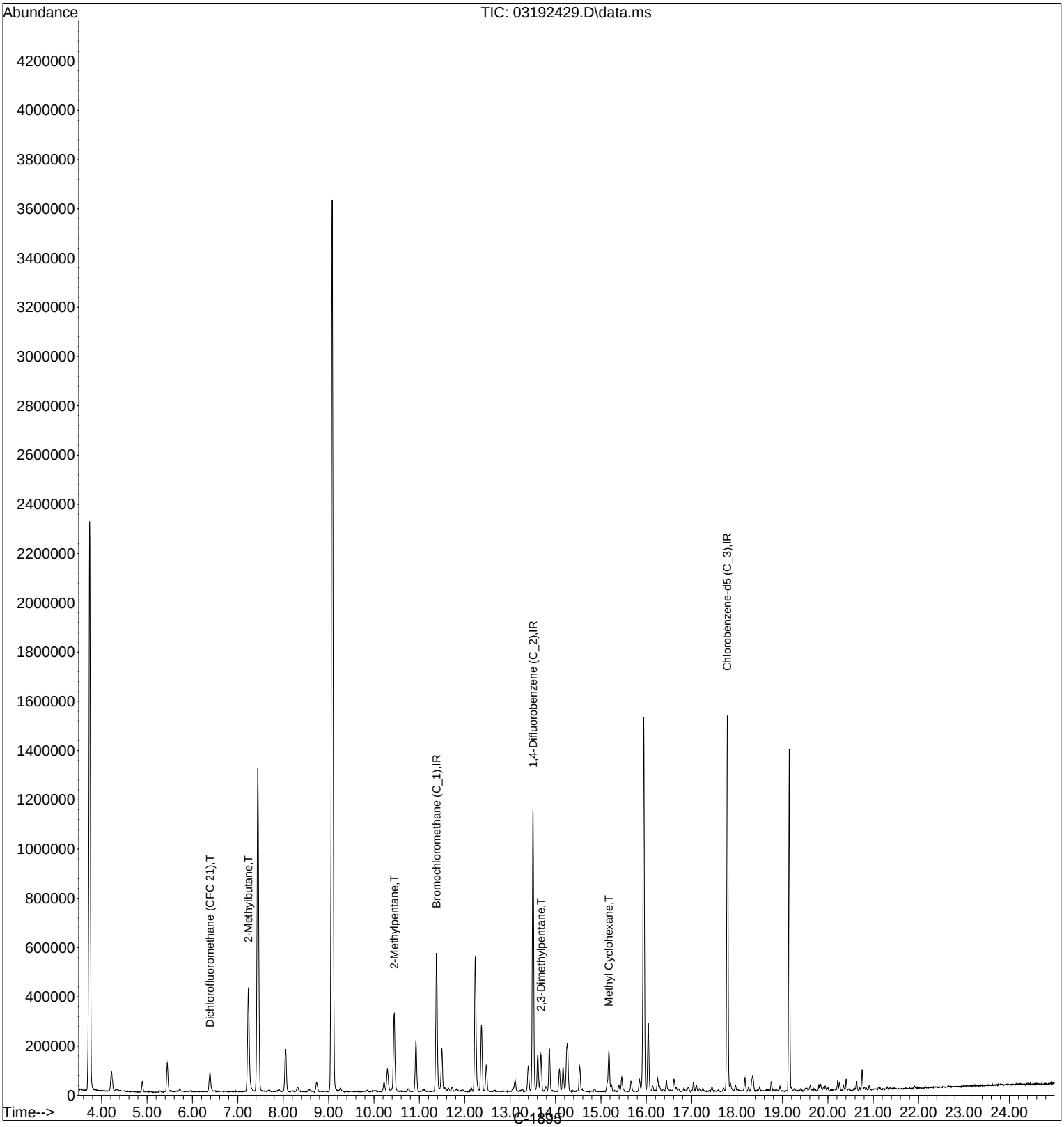
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	217196	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	987974	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	226030	12.500	ng	0.00
Target Compounds						Qvalue
7) Dichlorofluoromethane ...	6.38	67	97803	2.228	ng	98
10) 2-Methylbutane	7.23	57	112327	5.162	ng	85
12) 2-Methylpentane	10.45	71	84823	4.262	ng	91
17) 2,3-Dimethylpentane	13.68	56	66845	1.648	ng	99
20) Methyl Cyclohexane	15.17	55	71413	2.254	ng	91

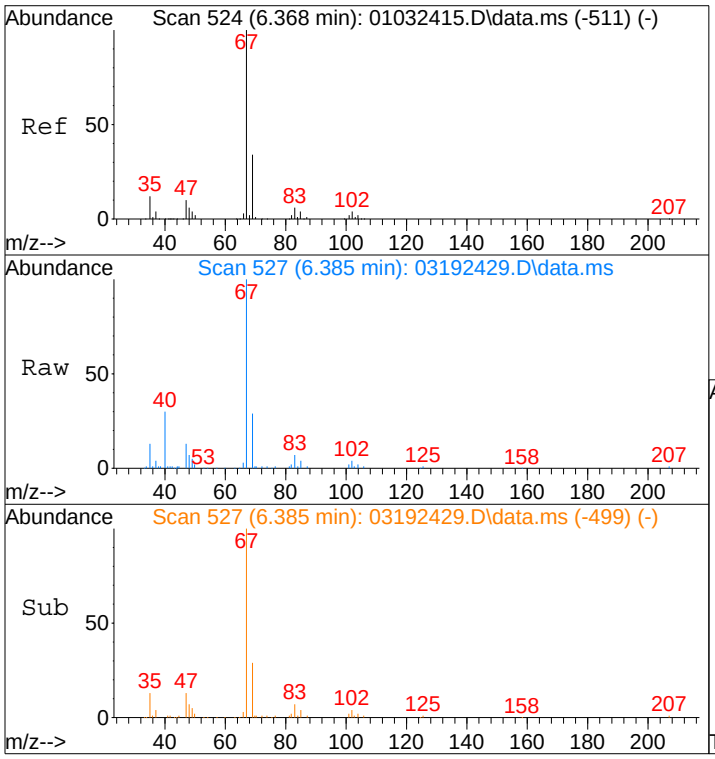
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:30:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

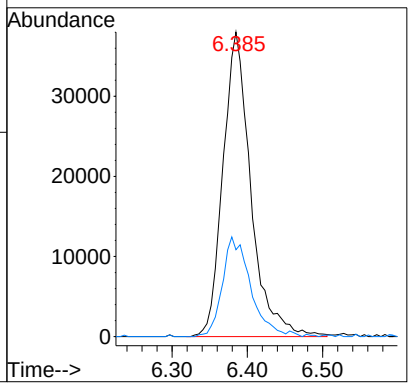


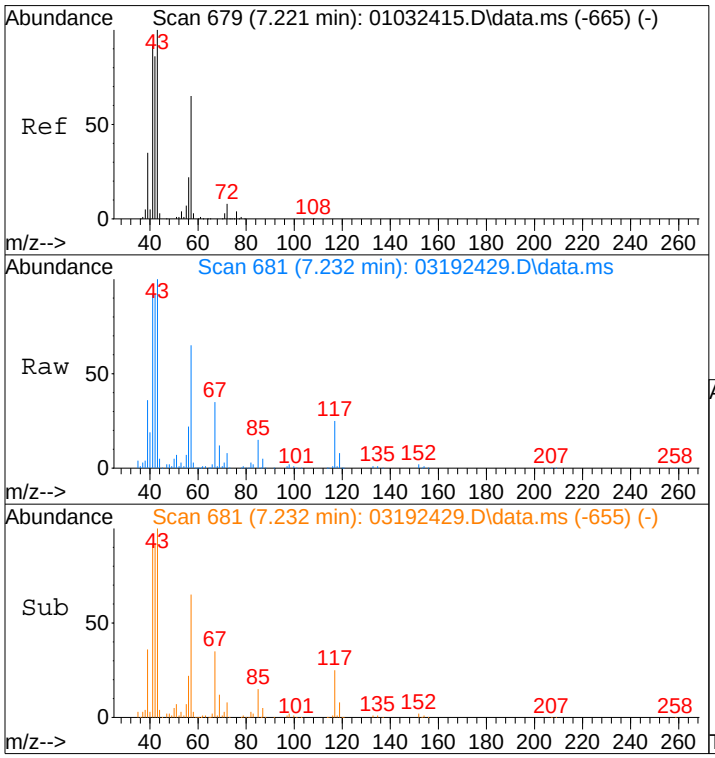


#7
Dichlorofluoromethane (CFC 21)
Concen: 2.23 ng
RT: 6.38 min Scan# 527
Delta R.T. 0.006 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 67 Resp: 97803

Ion	Ratio	Lower	Upper
67	100		
69	33.2	25.6	38.4

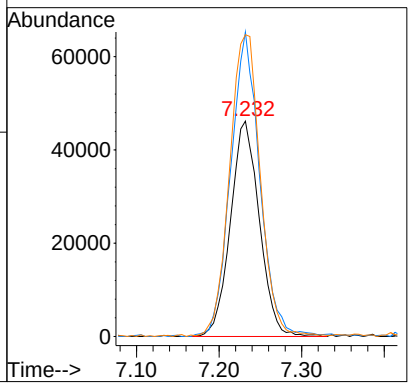


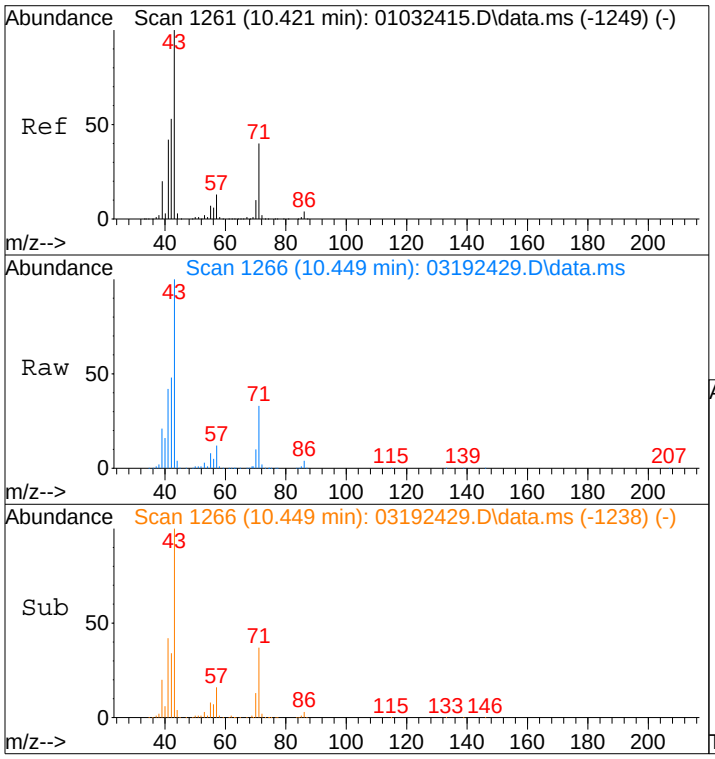


#10
2-Methylbutane
Concen: 5.16 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 57 Resp: 112327

Ion	Ratio	Lower	Upper
57	100		
42	143.0	115.0	172.4
41	149.6	149.4	224.2

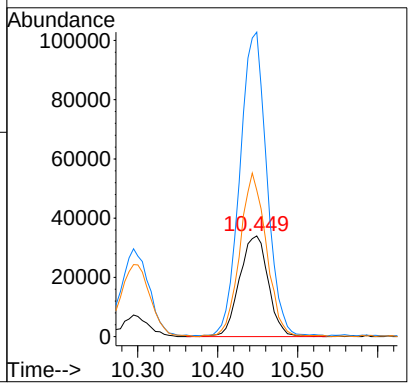


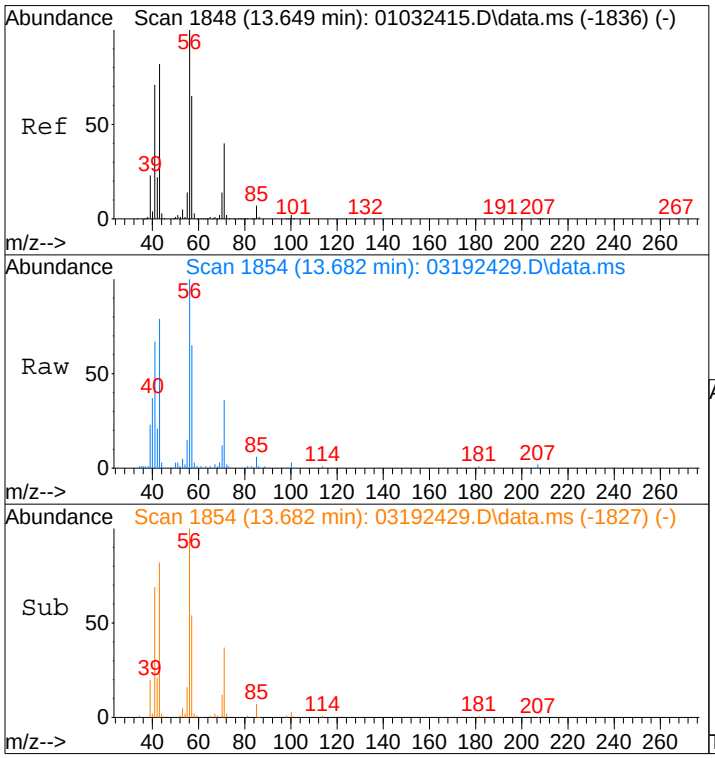


#12
2-Methylpentane
Concen: 4.26 ng
RT: 10.45 min Scan# 1266
Delta R.T. 0.006 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 71 Resp: 84823

Ion	Ratio	Lower	Upper
71	100		
43	283.4	241.7	362.5
42	150.3	129.1	193.7

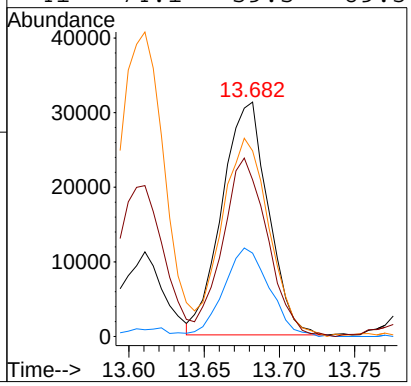


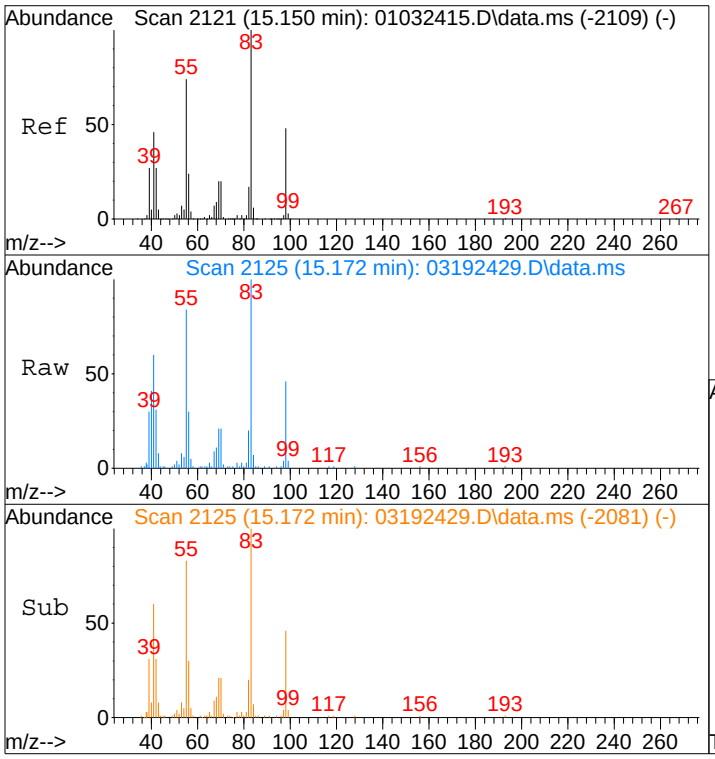


#17
2,3-Dimethylpentane
Concen: 1.65 ng
RT: 13.68 min Scan# 1854
Delta R.T. 0.000 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 56 Resp: 66845

Ion	Ratio	Lower	Upper
56	100		
71	37.4	28.2	42.4
43	87.2	69.4	104.0
41	74.1	59.5	89.3

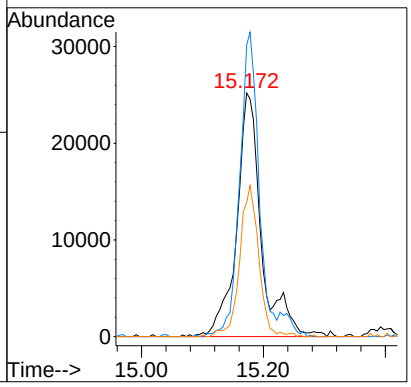




#20
Methyl Cyclohexane
Concen: 2.25 ng
RT: 15.17 min Scan# 2125
Delta R.T. -0.005 min
Lab File: 03192429.D
Acq: 19 Mar 2024 15:28

Tgt Ion: 55 Resp: 71413

Ion	Ratio	Lower	Upper
55	100		
83	100.9	89.5	134.3
98	47.7	41.6	62.4



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192429.D\data.ms

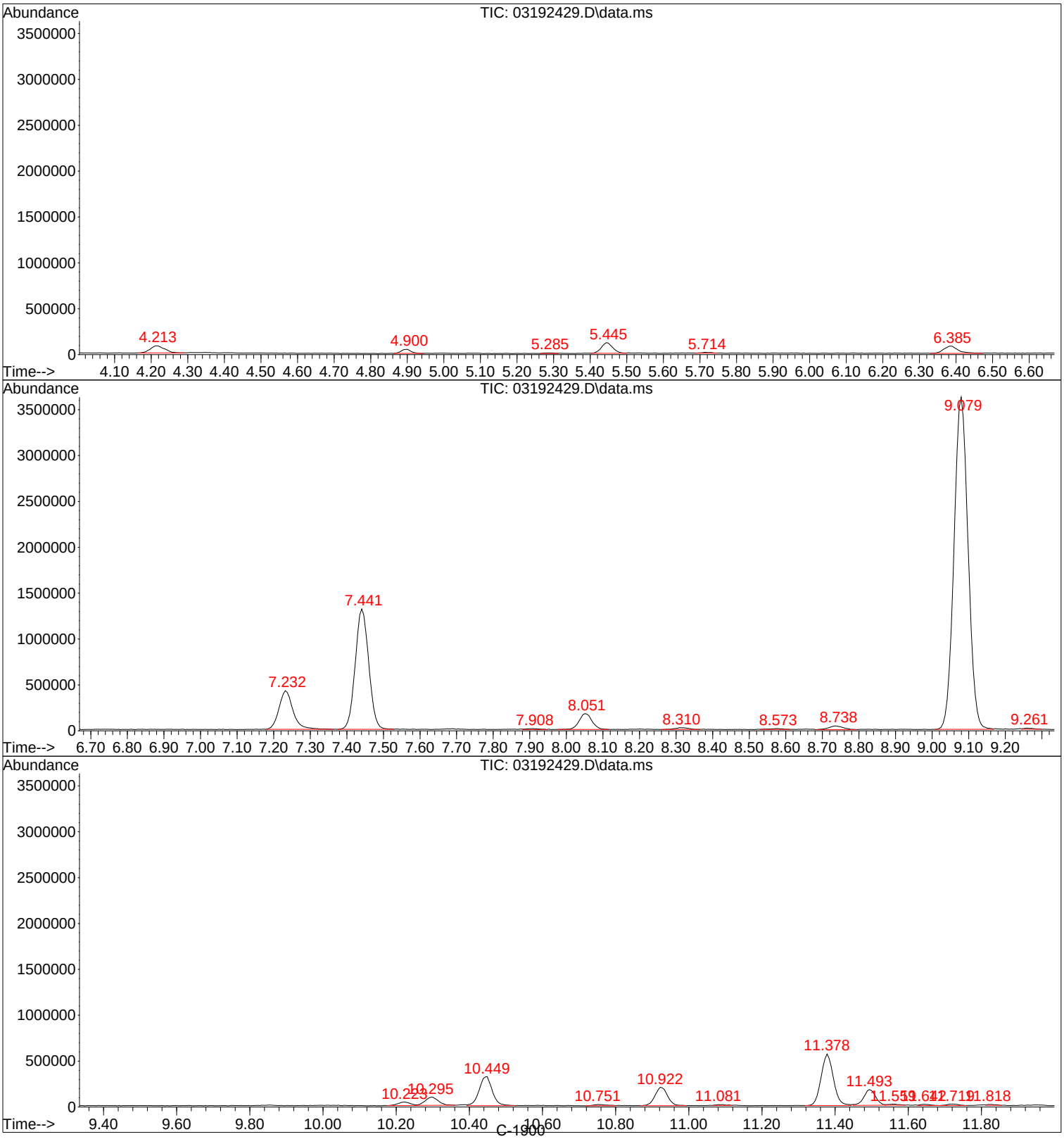
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.213	123	132	146	rBV5	77198	211510	2.18%	1.112%
2	4.900	250	257	265	rBV	43708	81850	0.85%	0.430%
3	5.285	323	327	332	rBV5	6135	10925	0.11%	0.057%
4	5.445	348	356	366	rBV	115727	247086	2.55%	1.299%
5	5.714	400	405	411	rBV3	9176	15958	0.16%	0.084%
6	6.385	517	527	543	rBV2	79854	219526	2.27%	1.154%
7	7.232	671	681	705	rBV2	421350	1121669	11.58%	5.895%
8	7.441	707	719	735	rBV	1311819	3351890	34.61%	17.617%
9	7.908	799	804	811	rVB4	10769	24066	0.25%	0.126%
10	8.051	816	830	842	rBV2	173805	428994	4.43%	2.255%
11	8.310	868	877	887	rBV4	19331	50289	0.52%	0.264%
12	8.574	917	925	932	rVB8	9986	24766	0.26%	0.130%
13	8.738	945	955	965	rBV4	40350	114602	1.18%	0.602%
14	9.079	1004	1017	1033	rBV	3619587	9684582	100.00%	50.902%
15	9.261	1047	1050	1057	rVB3	13181	22823	0.24%	0.120%
16	10.223	1216	1225	1231	rBV3	38397	91204	0.94%	0.479%
17	10.295	1231	1238	1250	rVB	88241	222917	2.30%	1.172%
18	10.449	1256	1266	1280	rVB	316468	782052	8.08%	4.110%
19	10.751	1315	1321	1330	rBV2	13154	34851	0.36%	0.183%
20	10.922	1342	1352	1365	rVB	200798	476550	4.92%	2.505%
21	11.081	1378	1381	1388	rBV6	8570	16533	0.17%	0.087%
22	11.378	1424	1435	1447	rBV	563202	1309737	13.52%	6.884%
23	11.494	1448	1456	1464	rVV	171321	385060	3.98%	2.024%
24	11.559	1464	1468	1474	rVB6	11535	23165	0.24%	0.122%
25	11.642	1480	1483	1491	rVB4	12727	23276	0.24%	0.122%
26	11.719	1491	1497	1504	rVB4	15911	35726	0.37%	0.188%
27	11.818	1514	1515	1522	rVB5	9161	14355	0.15%	0.075%

Sum of corrected areas: 19025962

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:28
Operator : CI
Sample : P2400922-061 (2mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192429.D
Acq On : 19 Mar 2024 15:288
Operator : CII
Sample : P2400922-061 (2mL))
Misc : S37-01032403//
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

CJ 3/22/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:16:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	217002	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	984503	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	218259	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	434189	11.880	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%			
57) Toluene-d8 (SS2)	15.94	98	1089880	12.787	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
73) Bromofluorobenzene (SS3)	19.15	174	365825	12.745	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	4.36	85	2253	N.D.		
4) Chloromethane	4.66	50	910	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.09	62	361	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.82	94	134	N.D.		
9) Chloroethane	6.14	64	188	N.D.		
10) Ethanol	6.57	45	22469	1.155	ng	92
11) Acetonitrile	0.00	41	0	N.D.	d	
12) Acrolein	7.04	56	1734	0.123	ng	94
13) Acetone	0.00	58	0	N.D.	d	
14) Trichlorofluoromethane	7.45	101	1779382	41.051	ng	99
15) 2-Propanol (Isopropanol)	7.74	45	157	N.D.		
16) Acrylonitrile	8.01	53	1362	N.D.		
17) 1,1-Dichloroethene	8.43	96	664	N.D.		
18) 2-Methyl-2-Propanol (t...	8.67	59	68	N.D.		
19) Methylene Chloride	8.66	84	2866	0.125	ng	100
20) 3-Chloro-1-propene (Al...	8.82	41	593	N.D.		
21) Trichlorotrifluoroethane	9.08	151	1847846	97.878	ng	100
22) Carbon Disulfide	8.93	76	7307	0.113	ng	96
23) trans-1,2-Dichloroethene	9.94	61	998	N.D.		
24) 1,1-Dichloroethane	10.18	63	497	N.D.		
25) Methyl tert-Butyl Ether	10.36	73	169	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.	d	
27) 2-Butanone (MEK)	10.75	72	5063	0.367	ng	96
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d	
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	11.54	61	15741	2.002	ng	90
31) n-Hexane	11.50	57	90380	2.509	ng	97
32) Chloroform	11.55	83	1096	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d	
38) 1,1,1-Trichloroethane	12.64	97	380	N.D.		
39) Isopropyl Acetate	13.75	61	279	No Calib	#	
40) 1-Butanol	12.66	56	1807	No Calib	#	
41) Benzene	13.11	78	39997	0.427	ng	98
42) Carbon Tetrachloride	13.27	117	291	N.D.		
43) Cyclohexane	13.40	84	42715	1.397	ng	98
44) tert-Amyl Methyl Ether	13.82	73	490	N.D.		
45) 1,2-Dichloropropane	13.97	63	256	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.	d	
47) Trichloroethene	14.20	130	6195	0.260	ng	90
48) 1,4-Dioxane	14.13	88	108	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:16:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

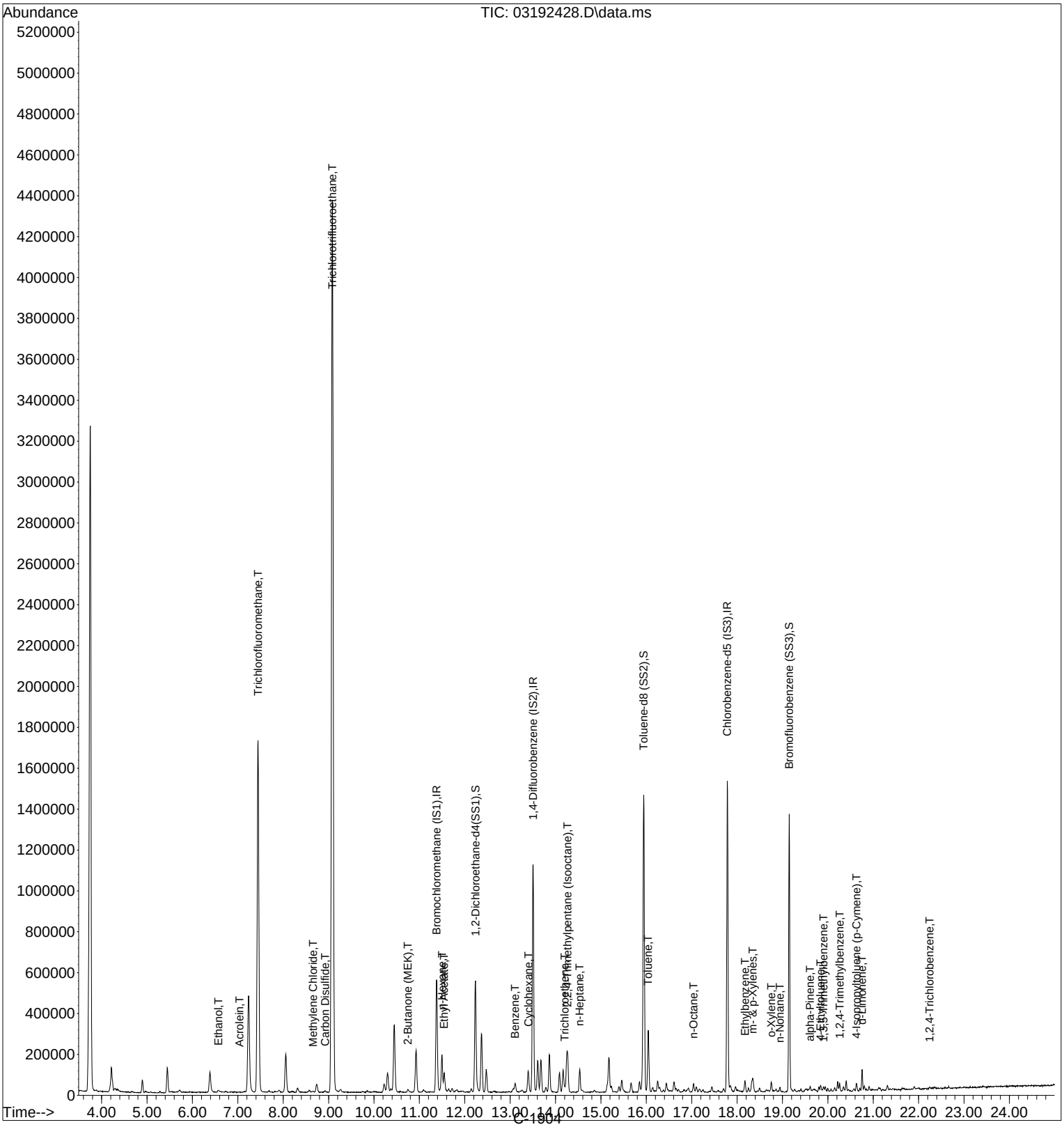
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	144151	1.653 ng	#	60
50) Methyl Methacrylate	14.44	100	176	N.D.		
51) n-Heptane	14.53	71	26674	1.179 ng		99
52) cis-1,3-Dichloropropene	15.06	75	431	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.57	75	111	N.D.		
55) 1,1,2-Trichloroethane	15.75	97	623	N.D.		
58) Toluene	16.04	91	208338	2.606 ng		98
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.46	129	459	N.D.		
61) 1,2-Dibromoethane	16.70	107	142	N.D.		
62) n-Butyl Acetate	16.94	43	2277	N.D.		
63) n-Octane	17.04	57	7709	0.418 ng		97
64) Tetrachloroethene	17.19	166	867	N.D.		
65) Chlorobenzene	17.82	112	1826	N.D.		
66) Ethylbenzene	18.17	91	35899	0.387 ng		97
67) m- & p-Xylenes	18.35	91	50965	0.684 ng		97
68) Bromoform	18.39	173	899	N.D.		
69) Styrene	18.65	104	2007	N.D.		
70) o-Xylene	18.75	91	24614	0.328 ng		99
71) n-Nonane	18.94	43	9021	0.192 ng		93
72) 1,1,2,2-Tetrachloroethane	18.74	83	947	N.D.		
74) Cumene	19.27	105	3908	N.D.		
75) alpha-Pinene	19.61	93	7315	0.170 ng	#	61
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	20.26	105	14216	No Calib		
78) 4-Ethyltoluene	19.84	105	5997	0.064 ng	#	46
79) 1,3,5-Trimethylbenzene	19.90	105	5027	0.064 ng		96
80) alpha-Methylstyrene	20.63	118	326	No Calib	#	
81) 2-Ethyltoluene	20.26	105	14216	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	14216	0.178 ng		92
83) n-Decane	20.34	58	729	No Calib	#	
84) Benzyl Chloride	20.38	91	1013	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	1414	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1667	N.D.		
87) sec-Butylbenzene	20.50	105	1938	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	14311	0.155 ng		95
89) 1,2,3-Trimethylbenzene	20.26	105	14216	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	1392	N.D.		
91) d-Limonene	20.75	68	21094	0.784 ng		93
92) 1,2-Dibromo-3-Chloropr...	21.12	157	508	N.D.		
93) n-Undecane	21.45	58	320	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	2585	0.081 ng		95
95) Naphthalene	22.35	128	3336	N.D.		
96) n-Dodecane	22.70	57	219	No Calib	#	
97) Hexachlorobutadiene	22.66	225	882	N.D.		
98) Cyclohexanone	18.25	55	3210	No Calib	#	
99) tert-Butylbenzene	20.26	119	3014	N.D.		
100) n-Butylbenzene	20.99	91	2104	N.D.		
101) 1,1,1,2-Tetrachloroethane	17.82	131	685	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:16:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

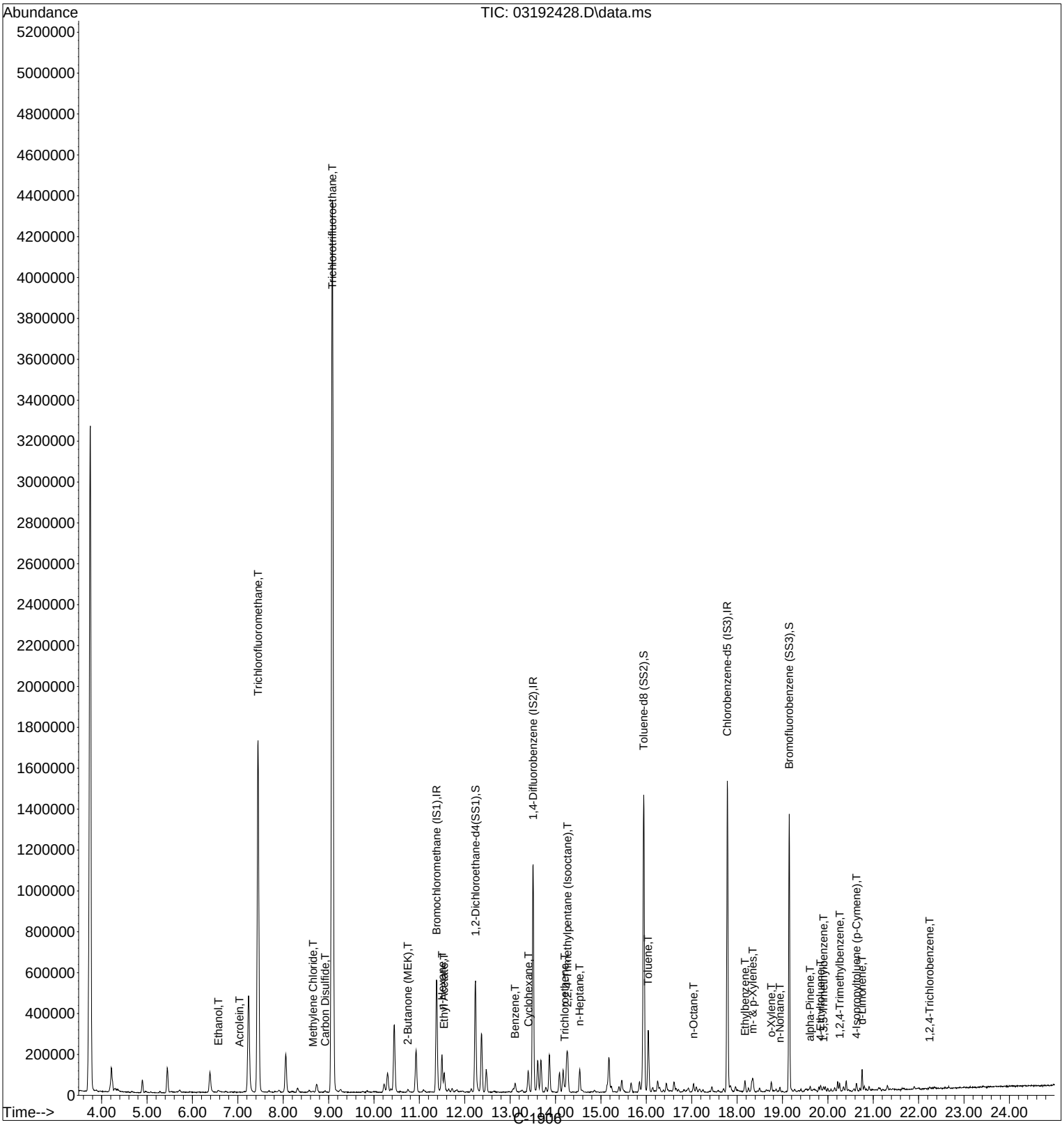
Quant Time: Mar 21 11:16:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

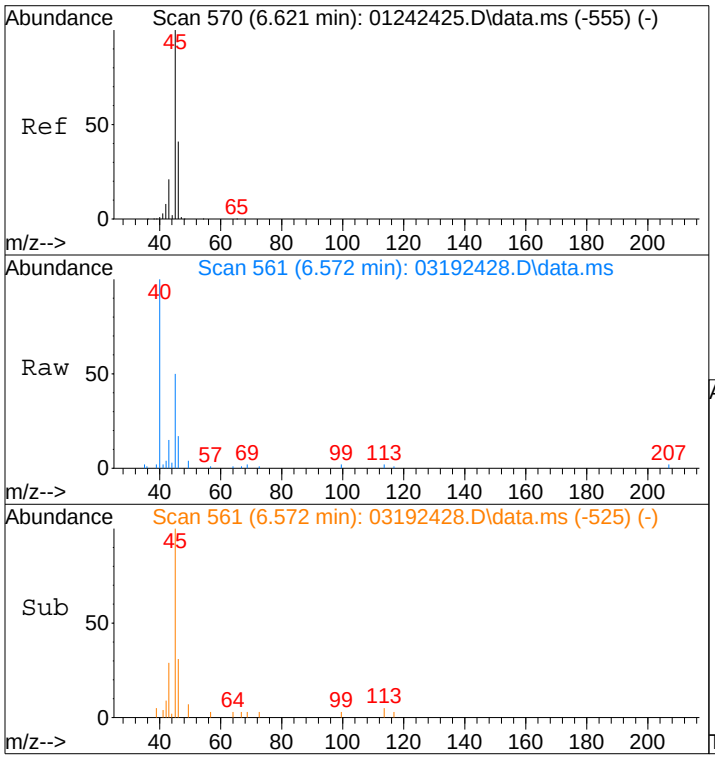
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	217002	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	984503	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	218259	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	434189	11.880	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.94	98	1089880	12.787	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
73) Bromofluorobenzene (SS3)	19.15	174	365825	12.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
10) Ethanol	6.57	45	22469	1.155	ng		92
12) Acrolein	7.04	56	1734	0.123	ng		94
14) Trichlorofluoromethane	7.45	101	1779382	41.051	ng		99
19) Methylene Chloride	8.66	84	2866	0.125	ng		100
21) Trichlorotrifluoroethane	9.08	151	1847846	97.878	ng		100
22) Carbon Disulfide	8.93	76	7307	0.113	ng		96
27) 2-Butanone (MEK)	10.75	72	5063	0.367	ng		96
30) Ethyl Acetate	11.54	61	15741	2.002	ng		90
31) n-Hexane	11.50	57	90380	2.509	ng		97
41) Benzene	13.11	78	39997	0.427	ng		98
43) Cyclohexane	13.40	84	42715	1.397	ng		98
47) Trichloroethene	14.20	130	6195	0.260	ng		90
49) 2,2,4-Trimethylpentane...	14.27	57	144151	1.653	ng	#	60
51) n-Heptane	14.53	71	26674	1.179	ng		99
58) Toluene	16.04	91	208338	2.606	ng		98
63) n-Octane	17.04	57	7709	0.418	ng		97
66) Ethylbenzene	18.17	91	35899	0.387	ng		97
67) m- & p-Xylenes	18.35	91	50965	0.684	ng		97
70) o-Xylene	18.75	91	24614	0.328	ng		99
71) n-Nonane	18.94	43	9021	0.192	ng		93
75) alpha-Pinene	19.61	93	7315	0.170	ng	#	61
78) 4-Ethyltoluene	19.84	105	5997	0.064	ng	#	46
79) 1,3,5-Trimethylbenzene	19.90	105	5027	0.064	ng		96
82) 1,2,4-Trimethylbenzene	20.26	105	14216	0.178	ng		92
88) 4-Isopropyltoluene (p-...	20.63	119	14311	0.155	ng		95
91) d-Limonene	20.75	68	21094	0.784	ng		93
94) 1,2,4-Trichlorobenzene	22.24	180	2585	0.081	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:16:13 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

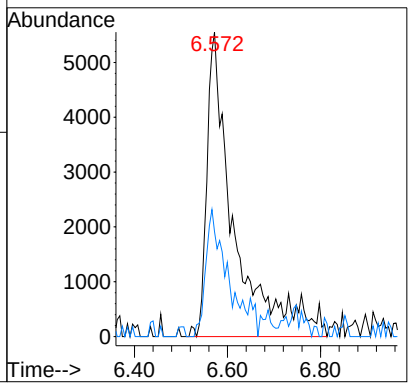


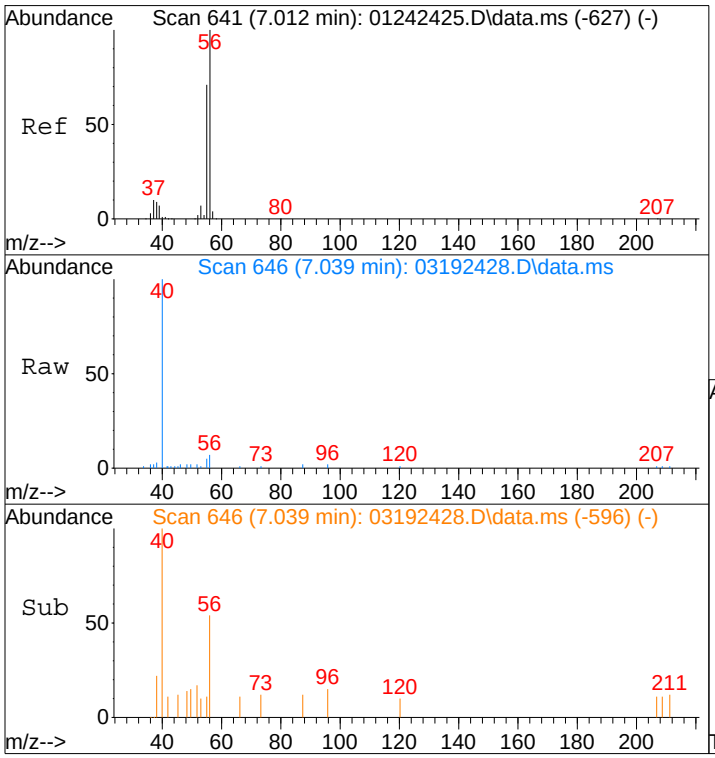


#10
Ethanol
Concen: 1.15 ng
RT: 6.57 min Scan# 561
Delta R.T. -0.049 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 45 Resp: 22469

Ion	Ratio	Lower	Upper
45	100		
46	34.8	19.6	59.6

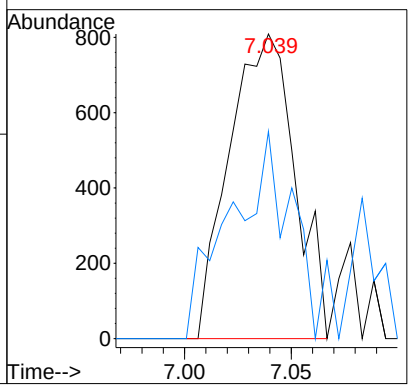


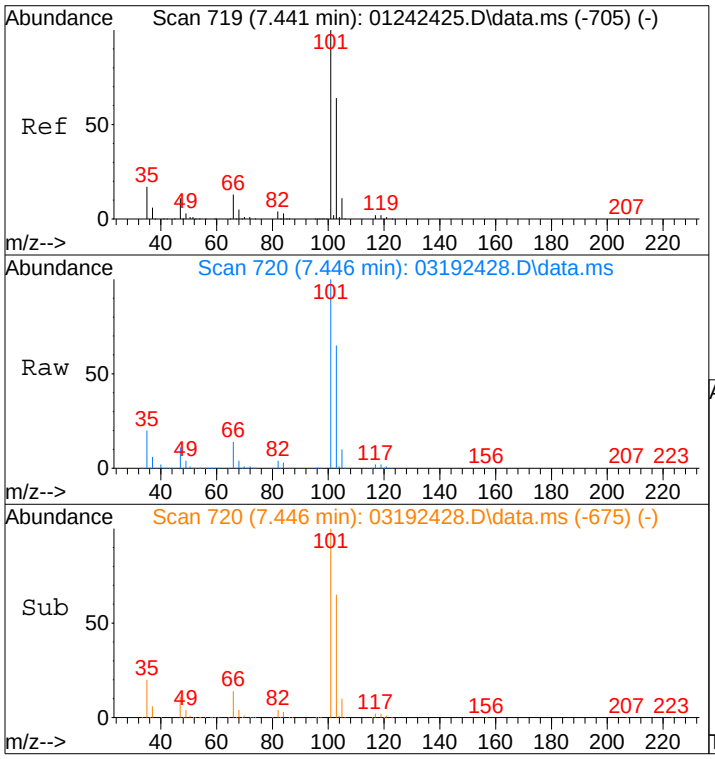


#12
Acrolein
Concen: 0.12 ng
RT: 7.04 min Scan# 646
Delta R.T. 0.028 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 56 Resp: 1734

Ion	Ratio	Lower	Upper
56	100		
55	66.1	51.4	91.4

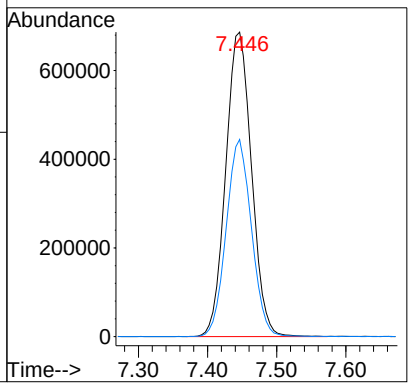


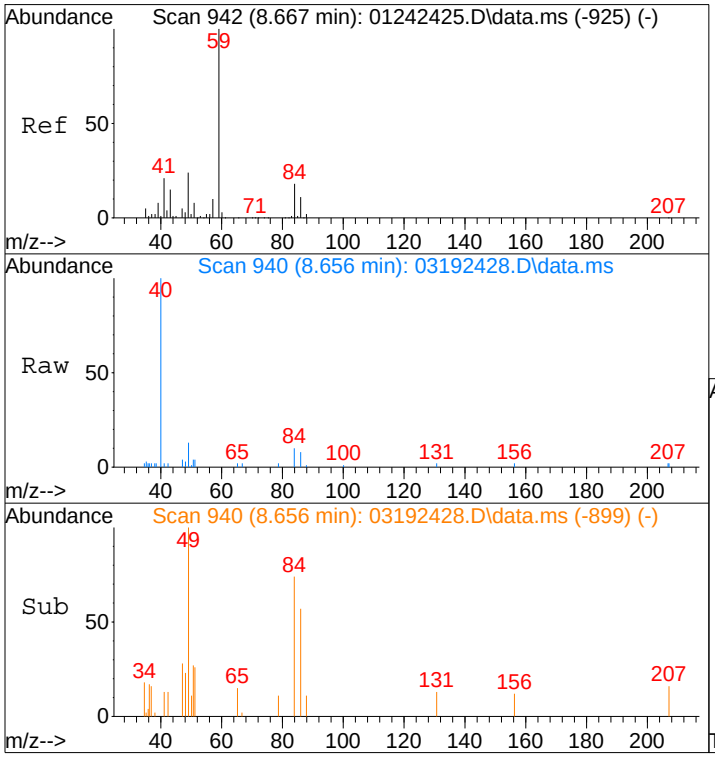


#14
Trichlorofluoromethane
Concen: 41.05 ng
RT: 7.45 min Scan# 720
Delta R.T. 0.000 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:101 Resp: 1779382

Ion	Ratio	Lower	Upper
101	100		
103	63.4	44.1	84.1

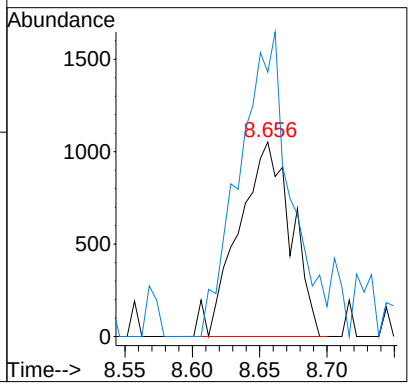


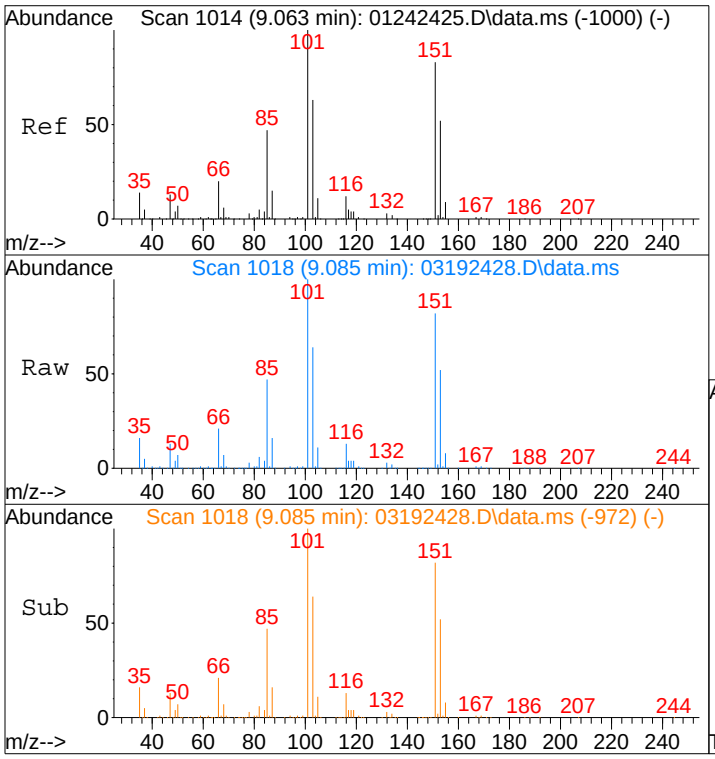


#19
Methylene Chloride
Concen: 0.13 ng
RT: 8.66 min Scan# 940
Delta R.T. -0.022 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 84 Resp: 2866

Ion	Ratio	Lower	Upper
84	100		
49	152.0	126.4	176.4

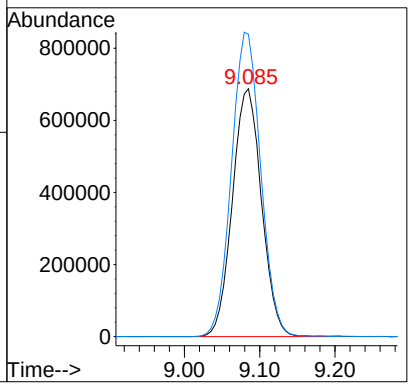


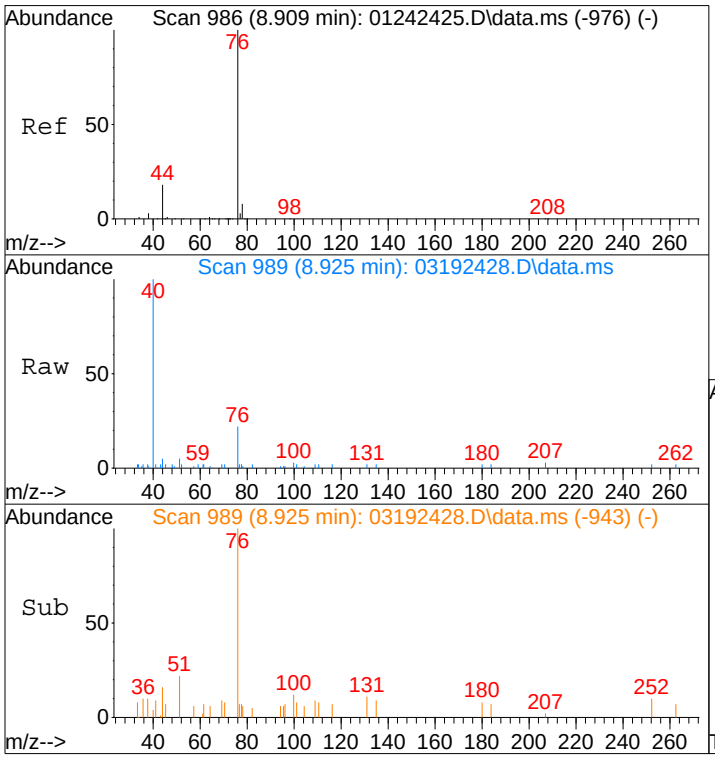


#21
Trichlorotrifluoroethane
Concen: 97.88 ng
RT: 9.08 min Scan# 1018
Delta R.T. 0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:151 Resp: 1847846

Ion	Ratio	Lower	Upper
151	100		
101	123.7	104.2	144.2

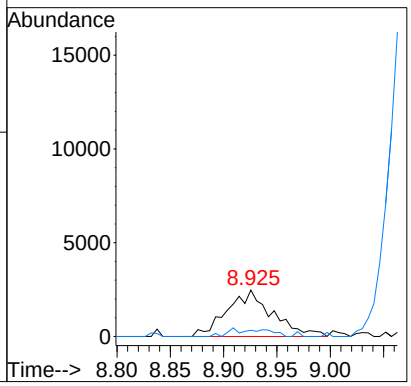


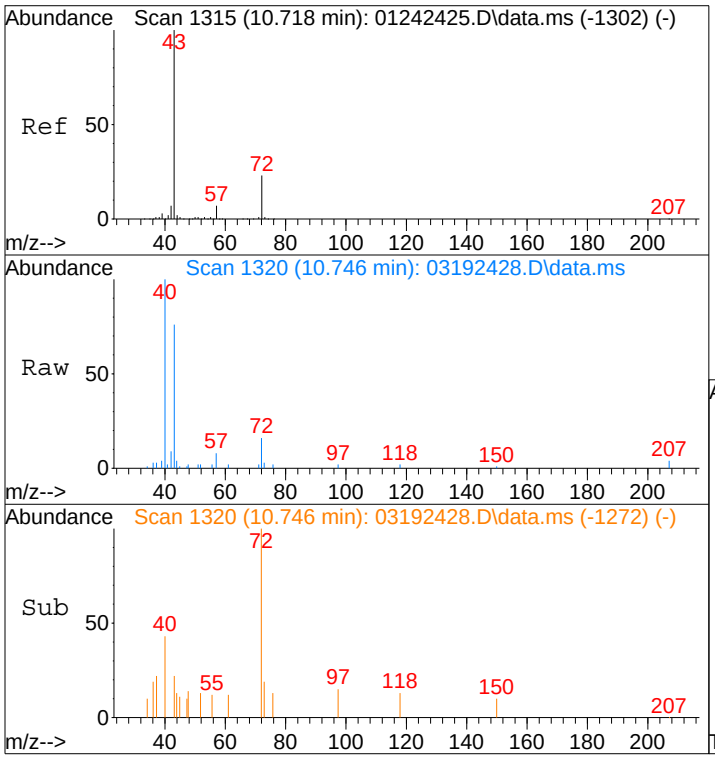


#22
Carbon Disulfide
Concen: 0.11 ng
RT: 8.93 min Scan# 989
Delta R.T. 0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 76 Resp: 7307

Ion	Ratio	Lower	Upper
76	100		
78	7.8	0.0	29.3

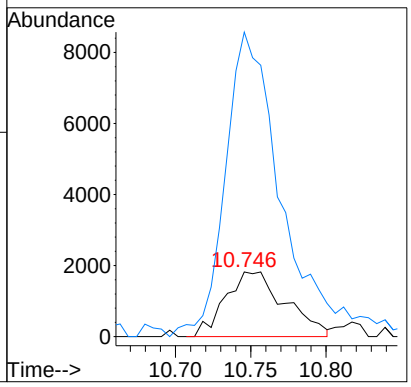


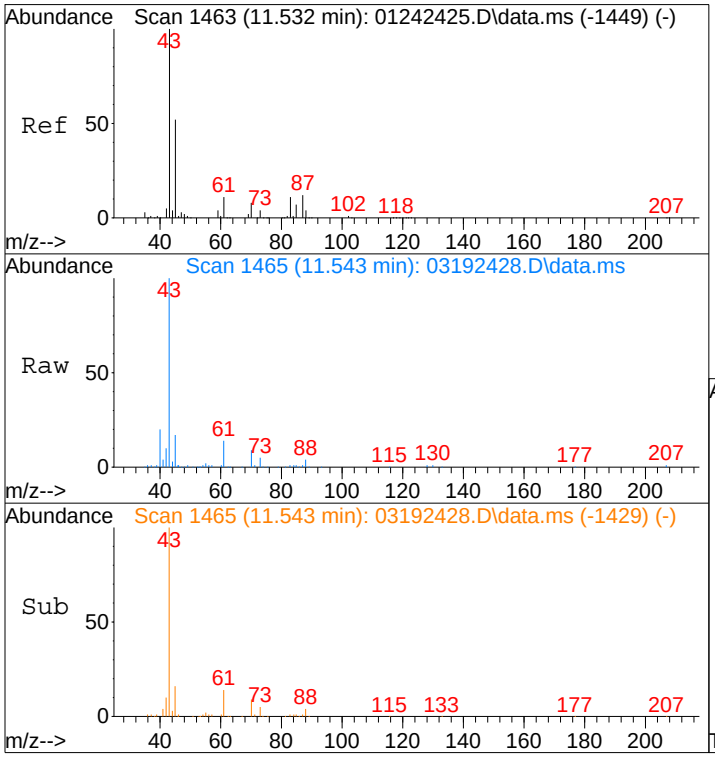


#27
2-Butanone (MEK)
Concen: 0.37 ng
RT: 10.75 min Scan# 1320
Delta R.T. 0.017 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 72 Resp: 5063

Ion	Ratio	Lower	Upper
72	100		
43	447.3	437.9	477.9

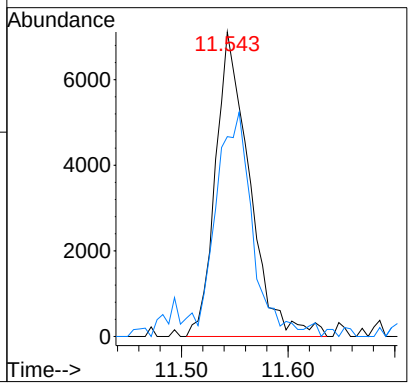


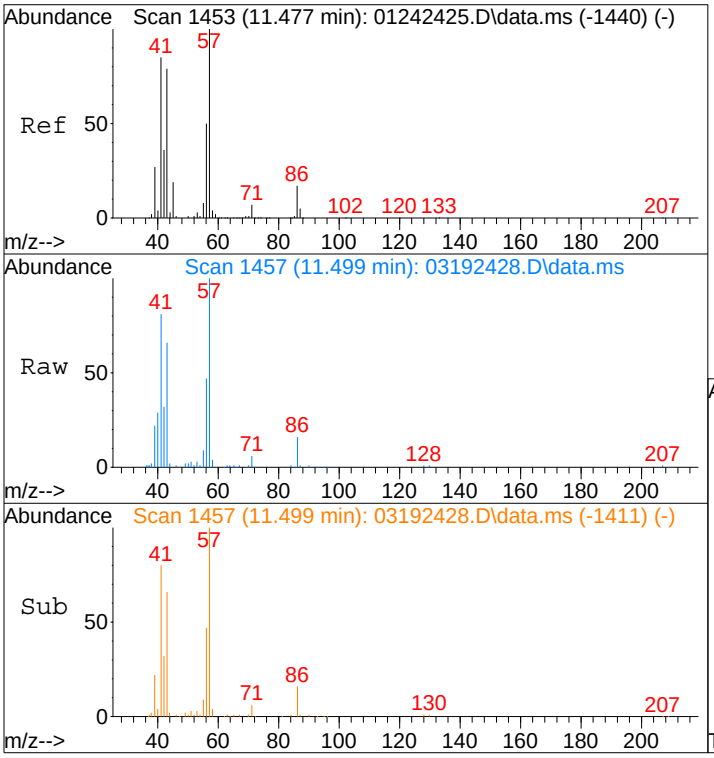


#30
Ethyl Acetate
Concen: 2.00 ng
RT: 11.54 min Scan# 1465
Delta R.T. 0.000 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 61 Resp: 15741

Ion	Ratio	Lower	Upper
61	100		
70	75.8	64.5	104.5

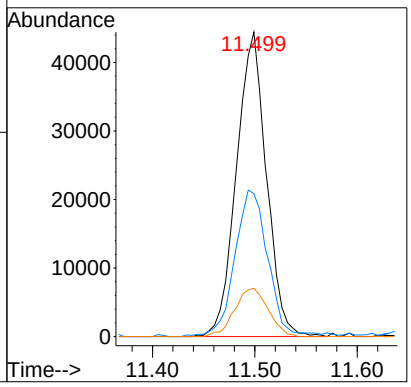


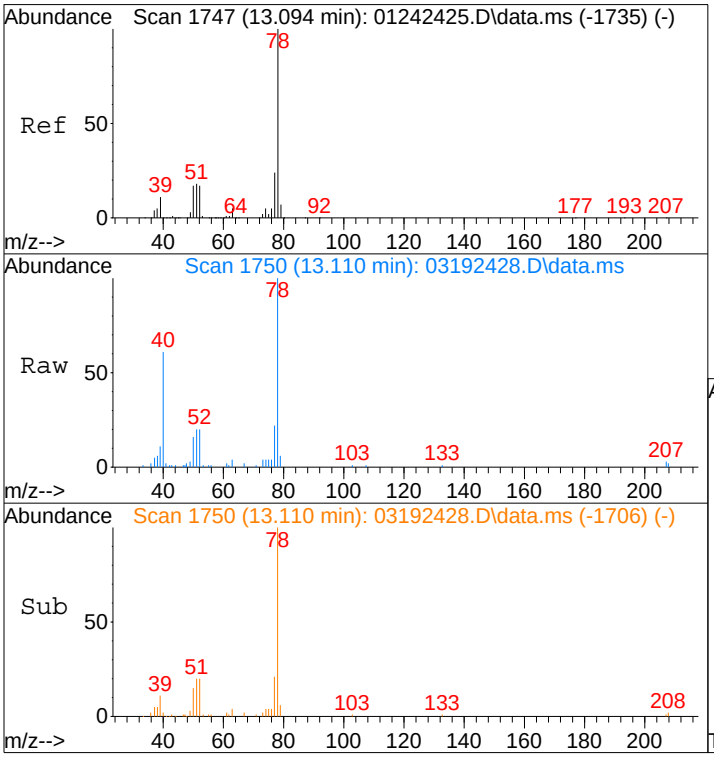


#31
n-Hexane
Concen: 2.51 ng
RT: 11.50 min Scan# 1457
Delta R.T. 0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 57 Resp: 90380

Ion	Ratio	Lower	Upper
57	100		
56	53.4	40.7	61.1
86	17.7	13.4	20.2

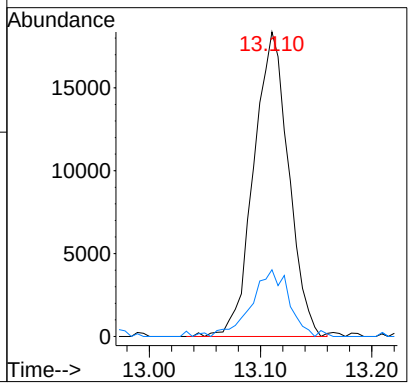


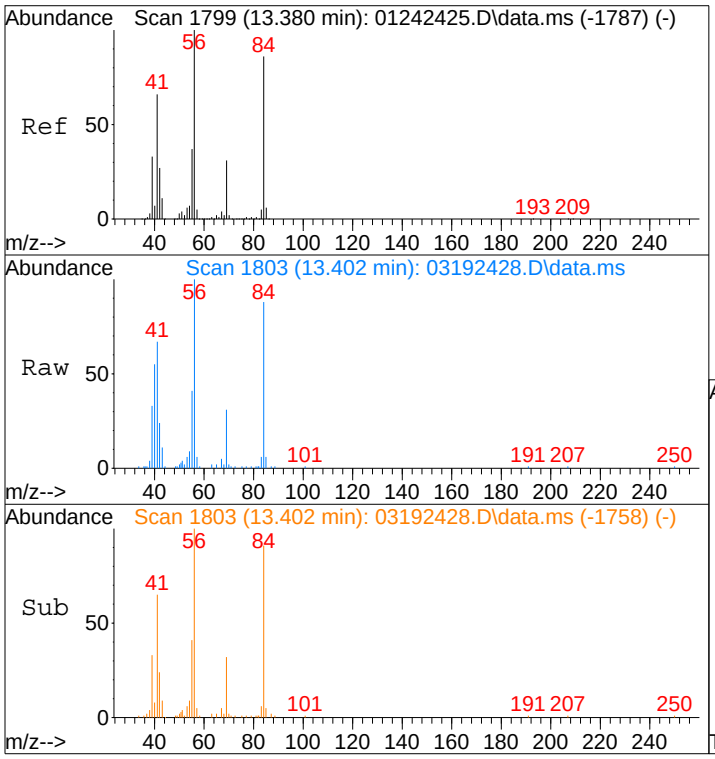


#41
Benzene
Concen: 0.43 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 78 Resp: 39997

Ion	Ratio	Lower	Upper
78	100		
77	23.4	2.6	42.6

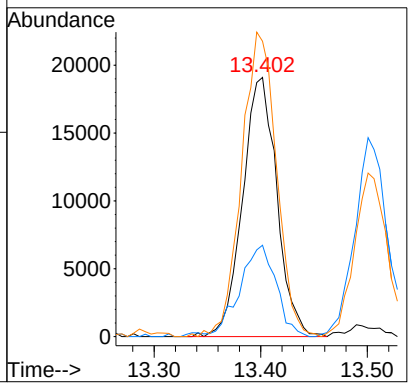


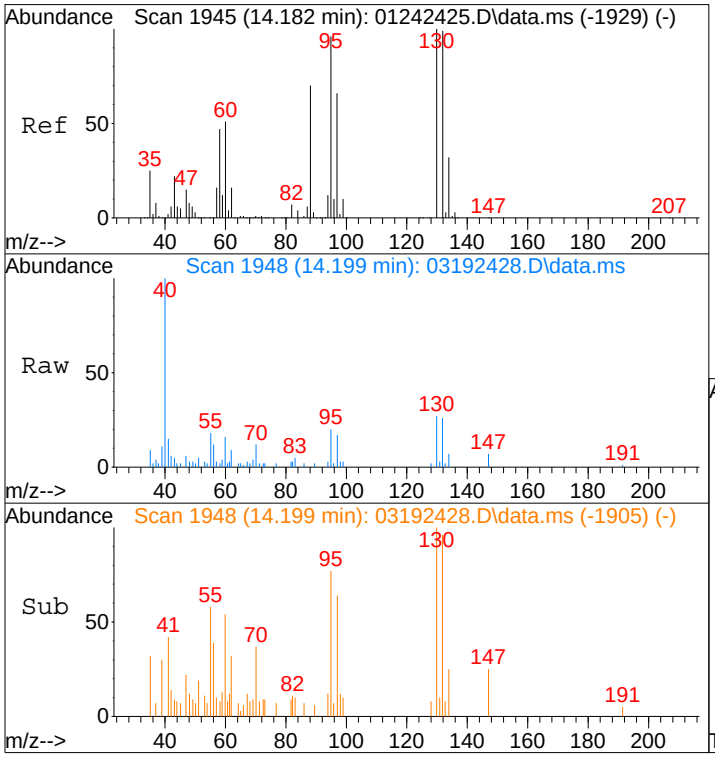


#43
Cyclohexane
Concen: 1.40 ng
RT: 13.40 min Scan# 1803
Delta R.T. 0.000 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 84 Resp: 42715

Ion	Ratio	Lower	Upper
84	100		
69	37.3	17.1	57.1
56	119.4	101.6	141.6

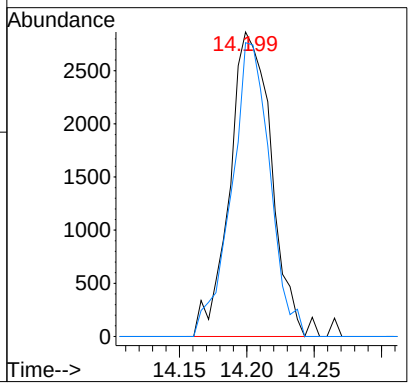


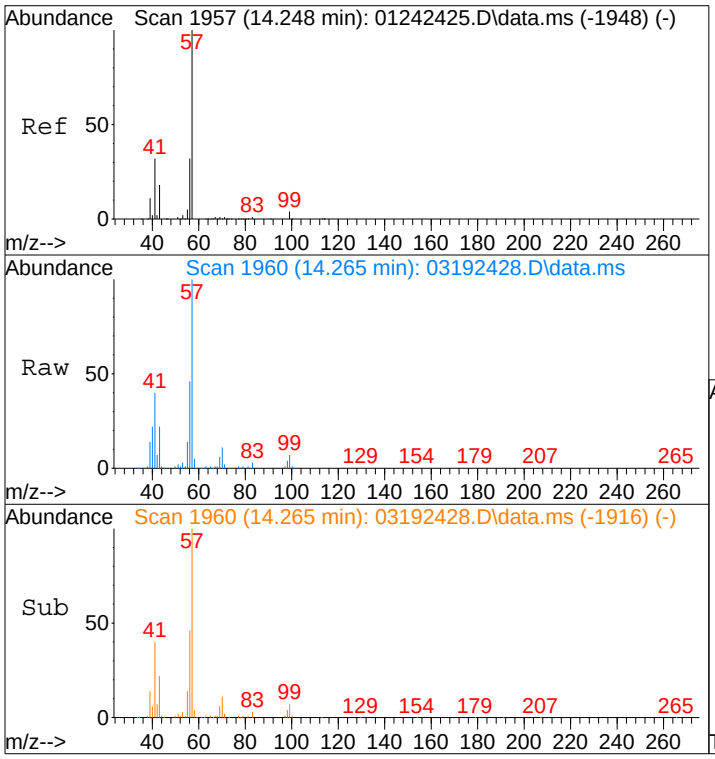


#47
Trichloroethene
Concen: 0.26 ng
RT: 14.20 min Scan# 1948
Delta R.T. -0.011 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:130 Resp: 6195

Ion	Ratio	Lower	Upper
130	100		
132	88.7	78.3	118.3

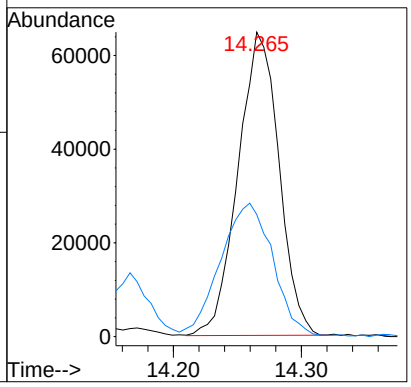


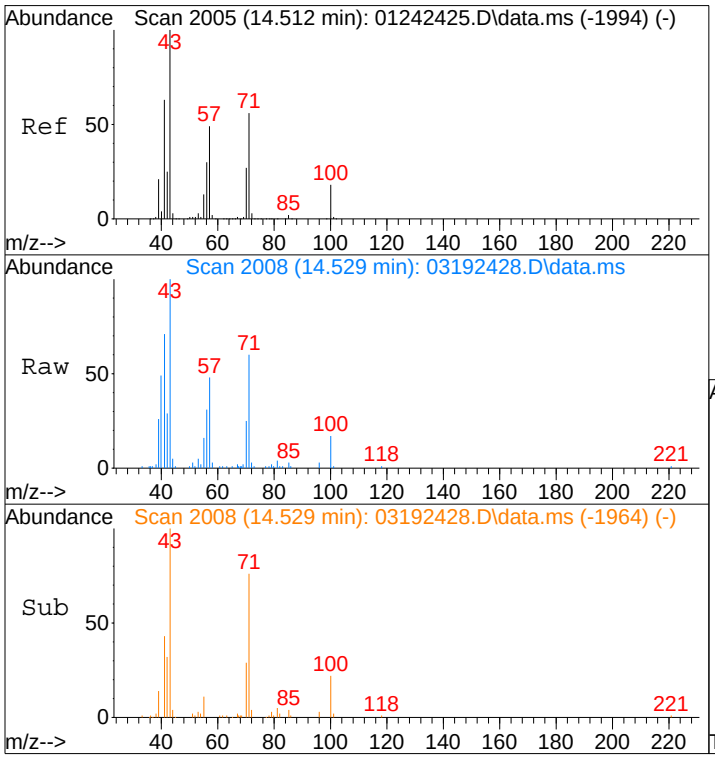


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 1.65 ng
RT: 14.27 min Scan# 1960
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 57 Resp: 144151

Ion	Ratio	Lower	Upper
57	100		
41	55.8	13.2	53.2#

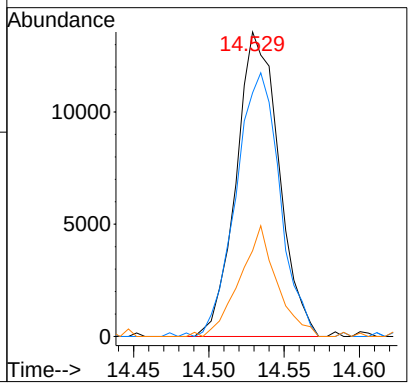


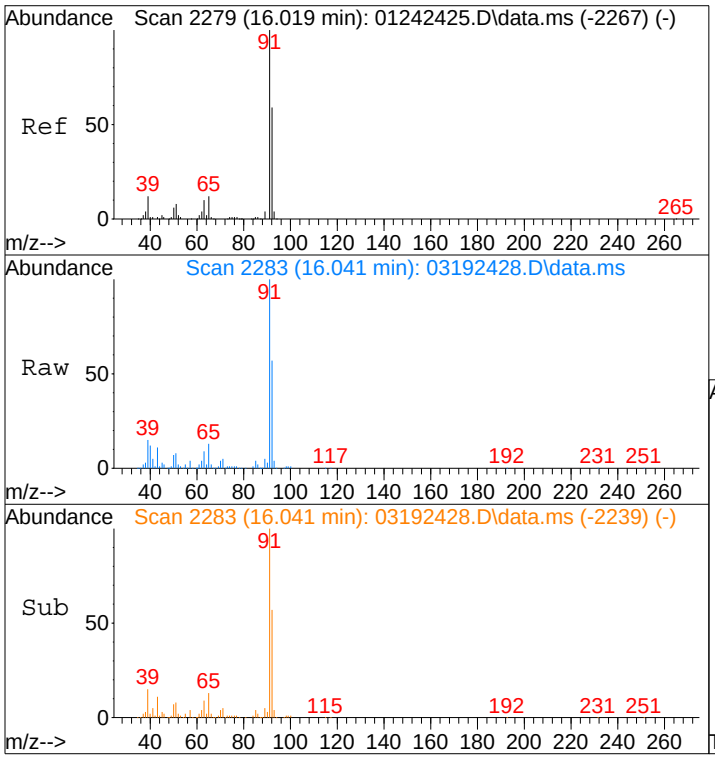


#51
n-Heptane
Concen: 1.18 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 71 Resp: 26674

Ion	Ratio	Lower	Upper
71	100		
57	89.3	69.1	109.1
100	31.7	10.7	50.7

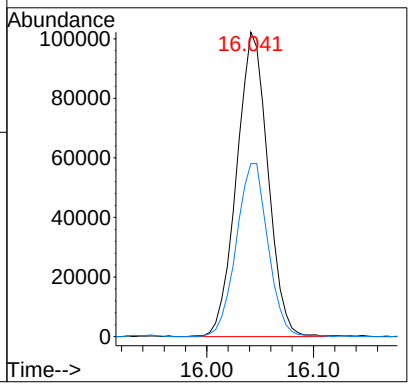


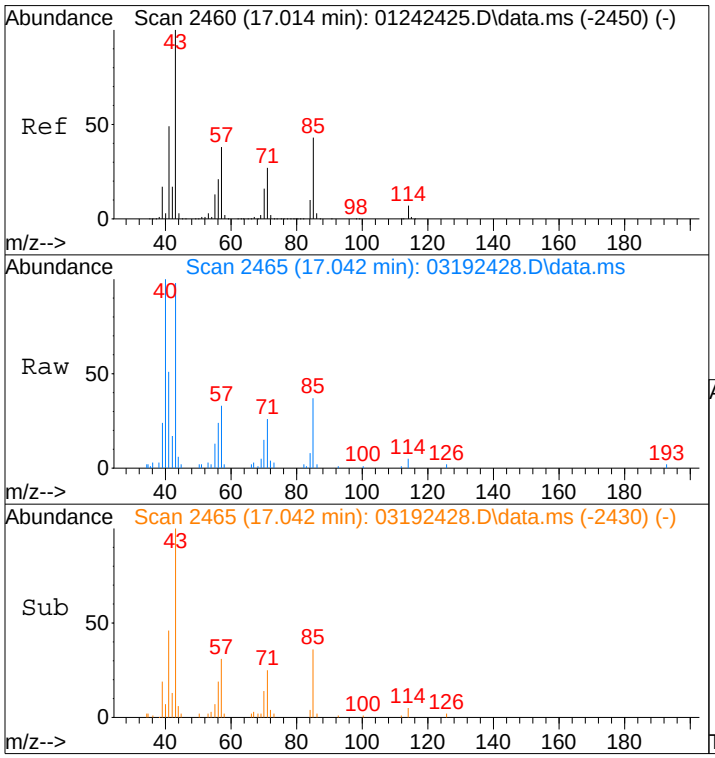


#58
Toluene
Concen: 2.61 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 91 Resp: 208338

Ion	Ratio	Lower	Upper
91	100		
92	57.6	39.1	79.1

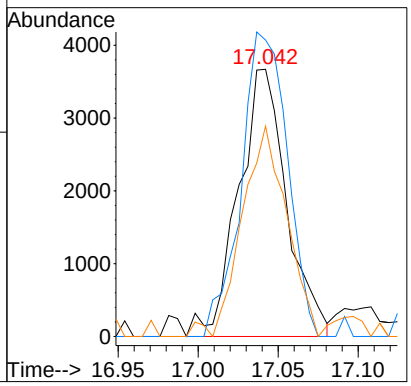


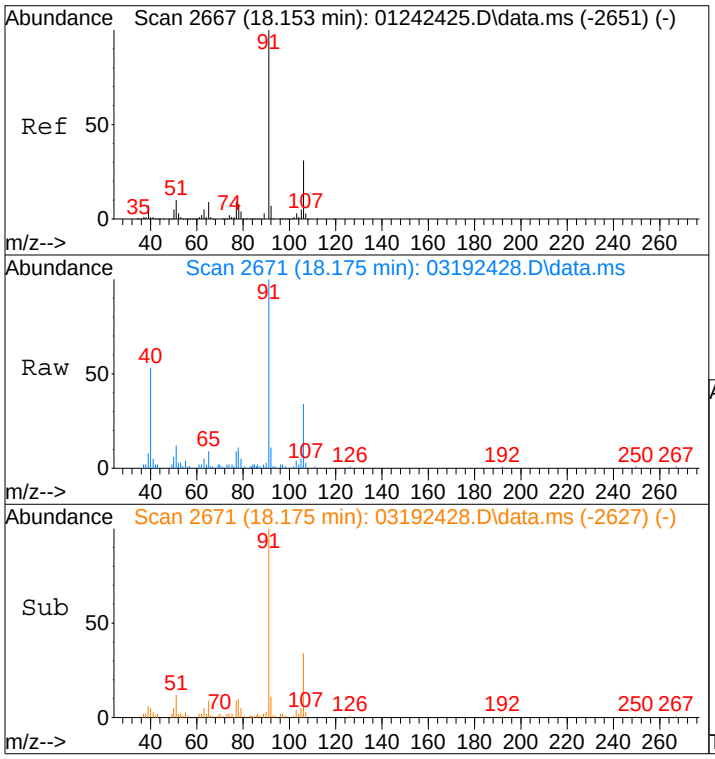


#63
n-Octane
Concen: 0.42 ng
RT: 17.04 min Scan# 2465
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 57 Resp: 7709

Ion	Ratio	Lower	Upper
57	100		
85	109.1	90.2	135.2
71	73.3	57.1	85.7

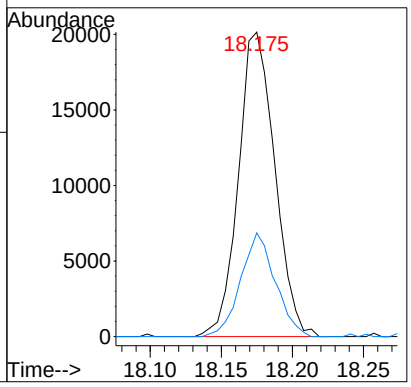


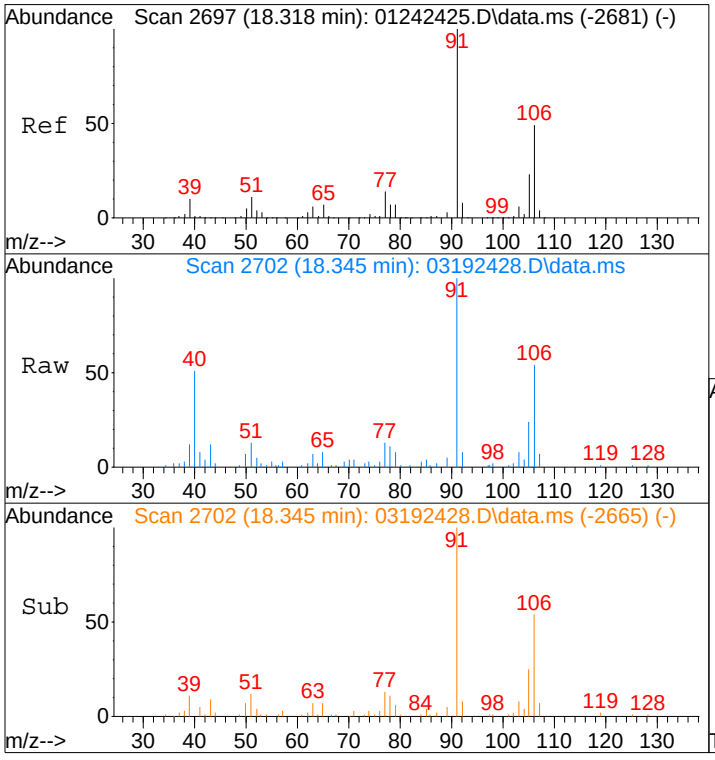


#66
Ethylbenzene
Concen: 0.39 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 91 Resp: 35899

Ion	Ratio	Lower	Upper
91	100		
106	32.3	10.9	50.9

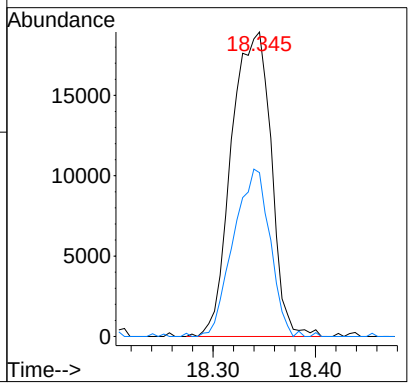


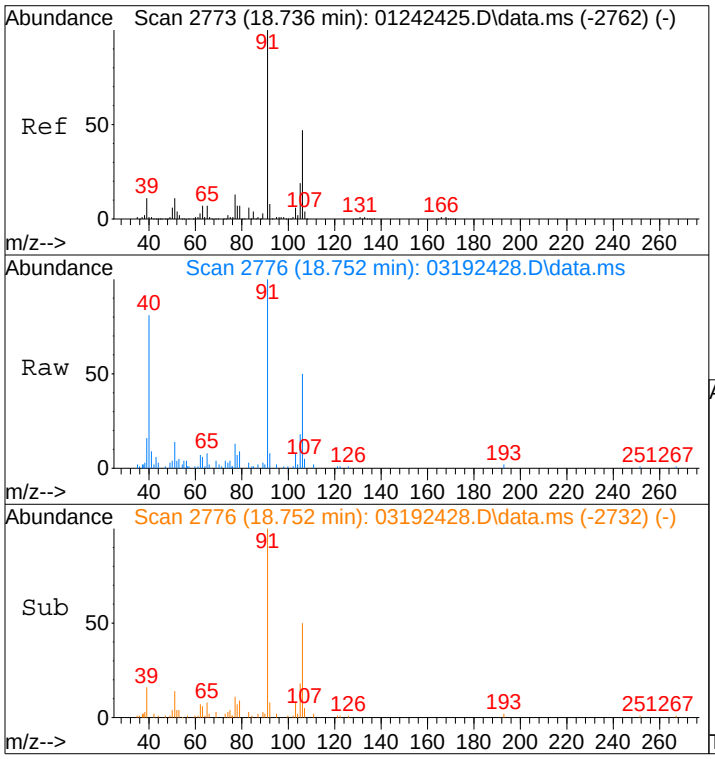


#67
m- & p-Xylenes
Concen: 0.68 ng
RT: 18.35 min Scan# 2702
Delta R.T. 0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 91 Resp: 50965

Ion	Ratio	Lower	Upper
91	100		
106	50.5	28.7	68.7

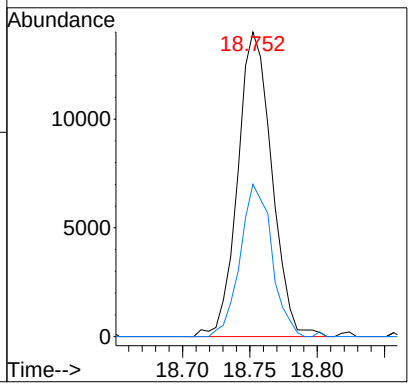


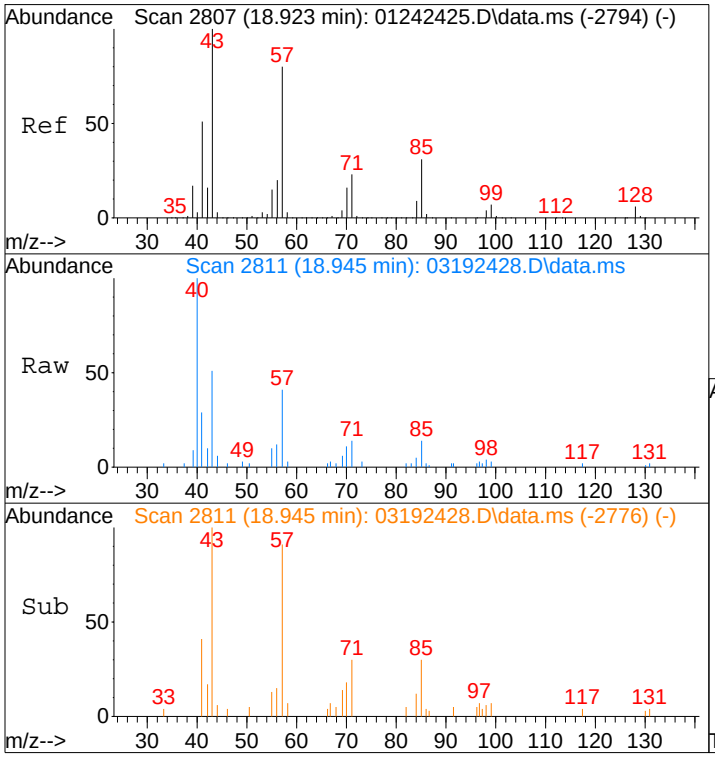


#70
o-Xylene
Concen: 0.33 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 91 Resp: 24614

Ion	Ratio	Lower	Upper
91	100		
106	46.4	26.0	66.0

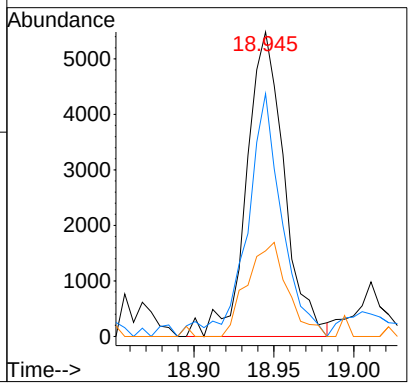


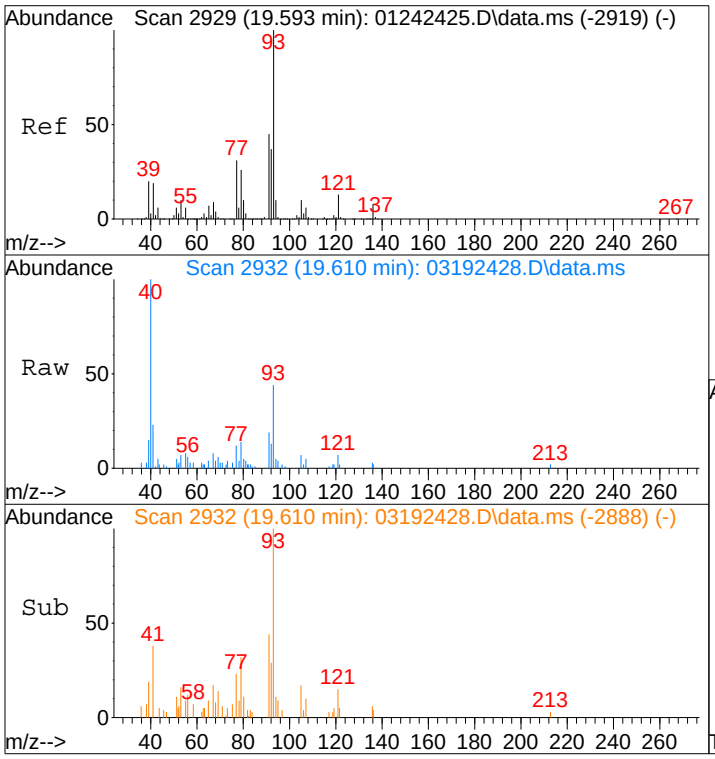


#71
n-Nonane
Concen: 0.19 ng
RT: 18.94 min Scan# 2811
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 43 Resp: 9021

Ion	Ratio	Lower	Upper
43	100		
57	70.9	57.4	97.4
85	33.1	10.1	50.1

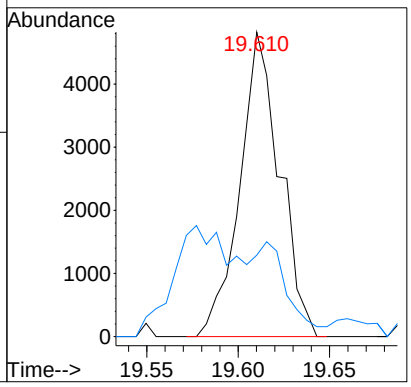


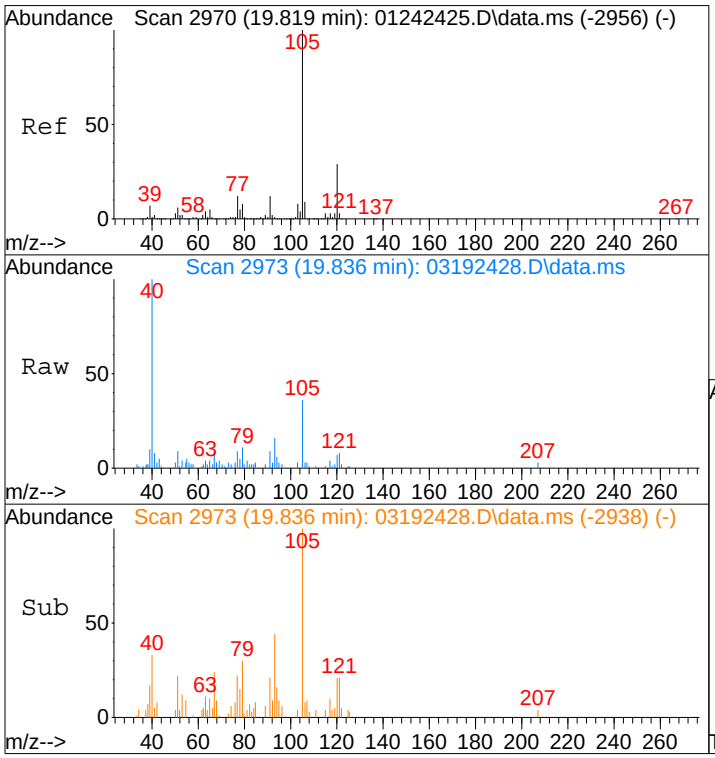


#75
alpha-Pinene
Concen: 0.17 ng
RT: 19.61 min Scan# 2932
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 93 Resp: 7315

Ion	Ratio	Lower	Upper
93	100		
77	55.8	13.6	53.6#

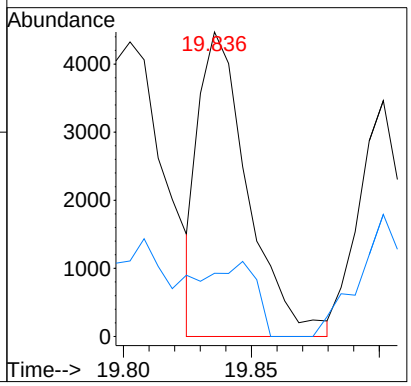


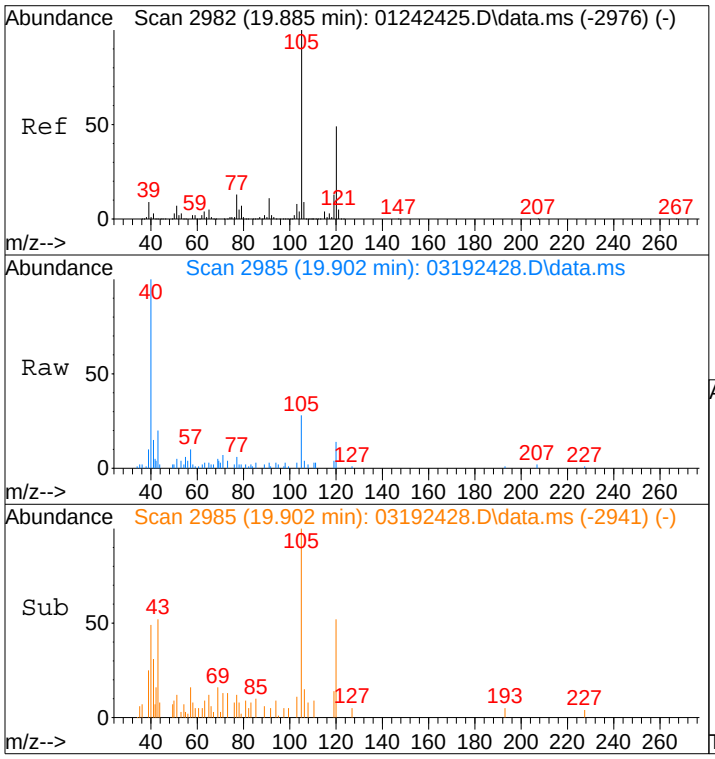


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 19.84 min Scan# 2973
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:105 Resp: 5997

Ion	Ratio	Lower	Upper
105	100		
120	0.0	8.9	48.9#

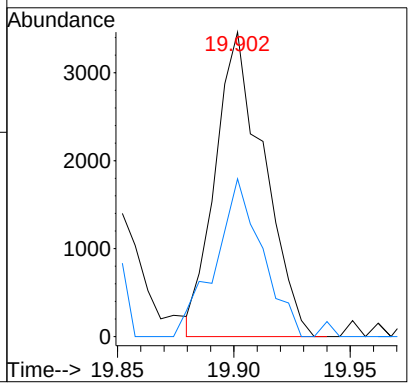


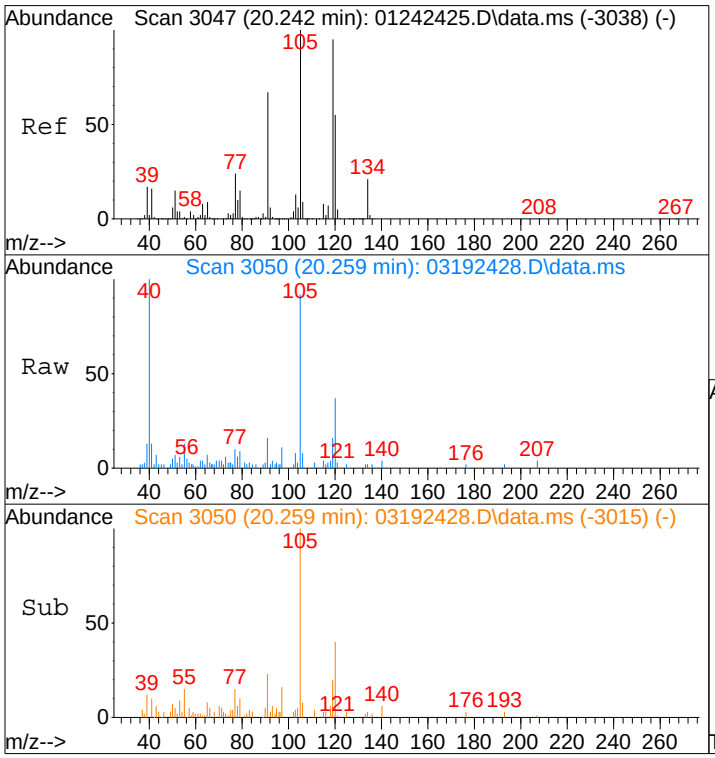


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 19.90 min Scan# 2985
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:105 Resp: 5027

Ion	Ratio	Lower	Upper
105	100		
120	50.0	27.4	67.4

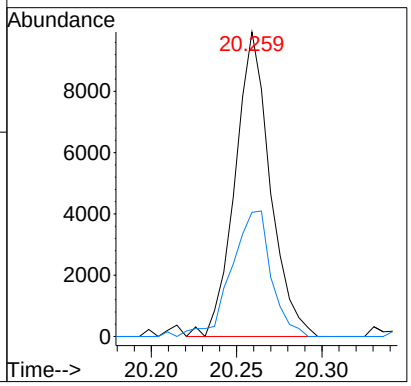


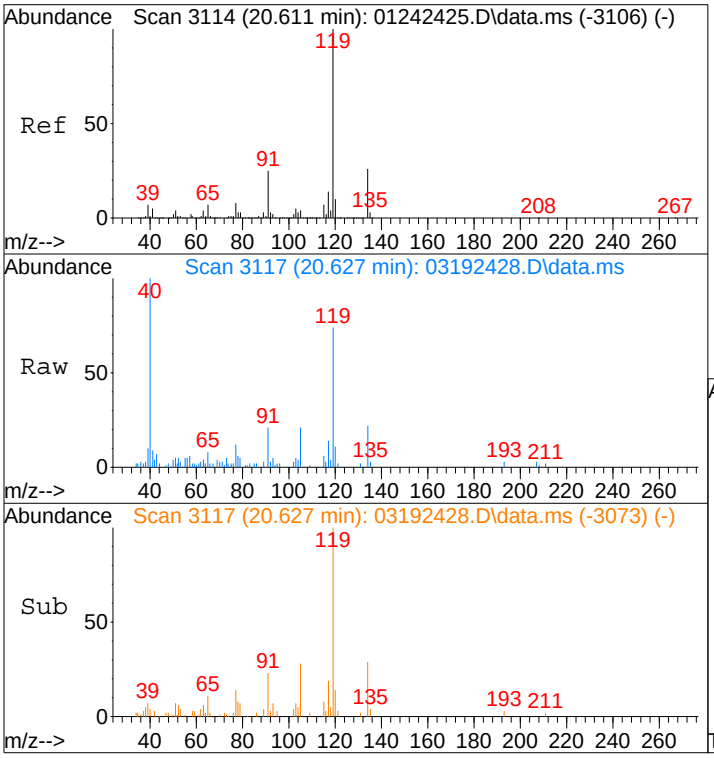


#82
1,2,4-Trimethylbenzene
Concen: 0.18 ng
RT: 20.26 min Scan# 3050
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:105 Resp: 14216

Ion	Ratio	Lower	Upper
105	100		
120	46.8	32.1	72.1

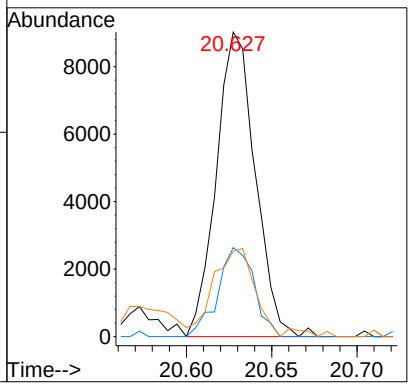


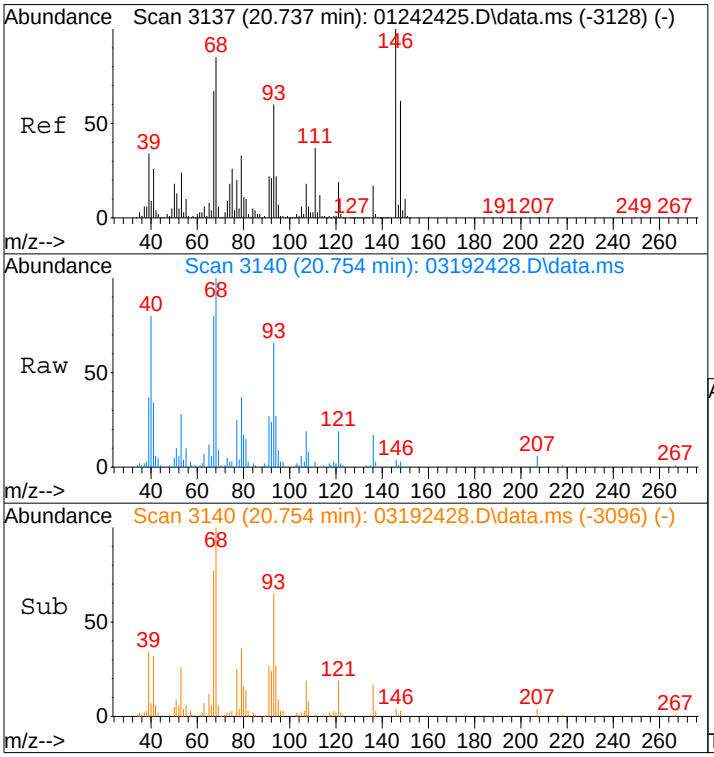


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.15 ng
RT: 20.63 min Scan# 3117
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:119 Resp: 14311

Ion	Ratio	Lower	Upper
119	100		
134	27.2	6.8	46.8
91	30.3	5.8	45.8

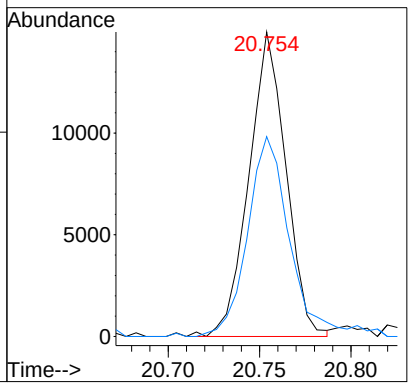


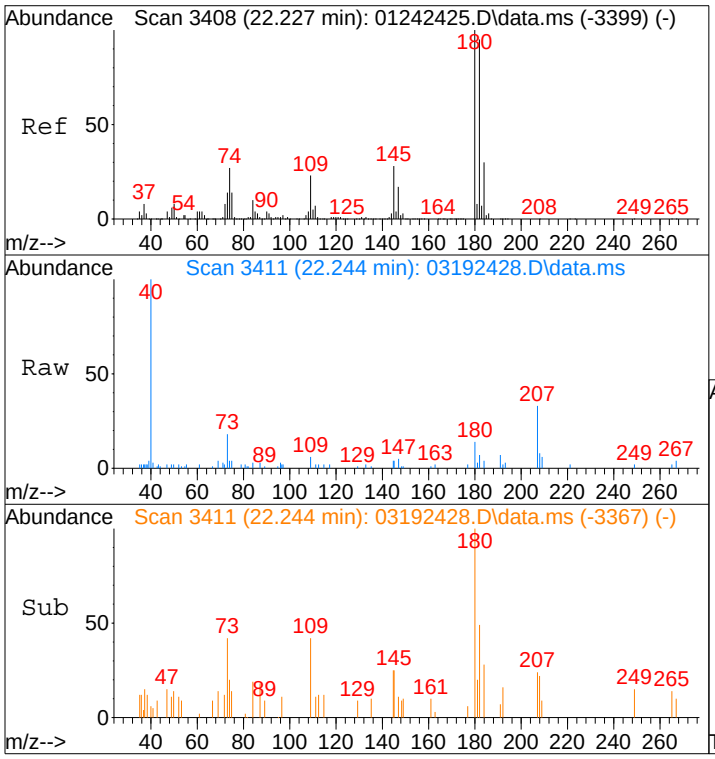


#91
d-Limonene
Concen: 0.78 ng
RT: 20.75 min Scan# 3140
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 68 Resp: 21094

Ion	Ratio	Lower	Upper
68	100		
93	75.4	49.7	89.7

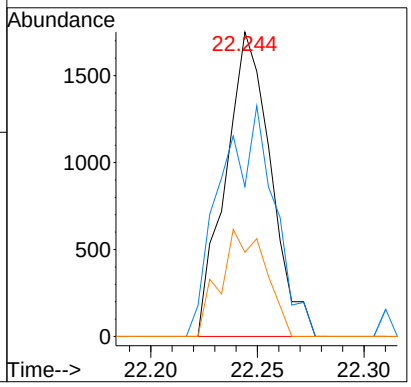




#94
1,2,4-Trichlorobenzene
Concen: 0.08 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion:180 Resp: 2585

Ion	Ratio	Lower	Upper
180	100		
182	90.1	75.8	113.8
184	35.2	25.0	37.4



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:31:58 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

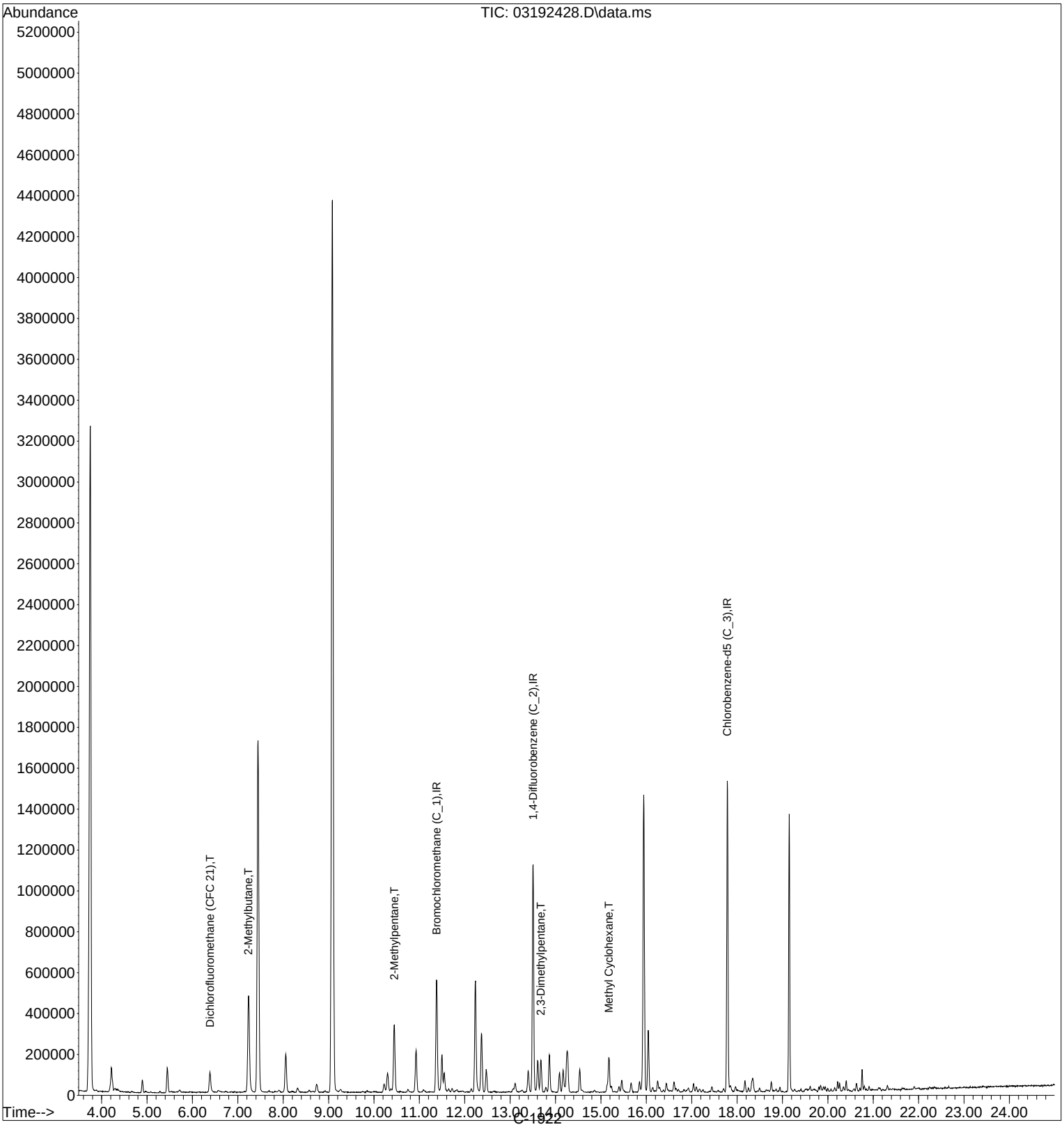
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	218799	12.500 ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	985154	12.500 ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	218259	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.88	85	1929	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	1982	N.D.	
4) 1,1-Difluoroethane	4.04	65	51	N.D.	
5) Chlorodifluoromethane ...	4.16	67	60	N.D.	
6) 1-Chloro-1,1-Difluoroe...	4.66	65	2325	N.D.	
7) Dichlorofluoromethane ...	6.38	67	119018	2.692 ng	96
8) Vinylbromide	6.73	108	749	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	7.16	83	2486	N.D.	
10) 2-Methylbutane	7.23	57	122042	5.568 ng	86
11) Methyl Acetate	8.68	43	263	N.D.	
12) 2-Methylpentane	10.45	71	89964	4.487 ng	89
13) 2,2-Dichloropropane	11.55	77	117	N.D.	
14) 1,1-Dichloropropene	12.97	75	1759	N.D.	
15) Thiophene	13.24	84	2638	N.D.	
17) 2,3-Dimethylpentane	13.68	56	71098	1.758 ng	98
18) Dibromomethane	13.92	174	956	N.D.	
20) Methyl Cyclohexane	15.17	55	74100	2.423 ng	95
21) 1,3-Dichloropropane	0.00	76	0	N.D. d	
22) 1,1,1,2-Tetrachloroethane	17.82	131	685	N.D.	
23) 1-Chlorohexane	17.99	91	1318	N.D.	
24) 1,2,3-Trichloropropane	18.86	75	2230	N.D.	
25) Bromobenzene	19.35	77	1509	N.D.	
26) 2-Chlorotoluene	19.68	91	4830	N.D.	
27) 4-Chlorotoluene	19.68	91	4830	N.D.	
28) Indane	20.81	117	4520	N.D.	
29) Indene	20.88	115	1024	N.D.	
30) 1,2,4,5-Tetramethylben...	21.63	119	3243	N.D.	
31) 1,2,3,4-Tetramethylben...	21.63	119	3243	N.D.	
32) 1,2,3,5-Tetramethylben...	22.01	119	3697	N.D.	
33) 1,2,3-Trichlorobenzene	22.59	180	1342	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:31:58 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:31:58 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

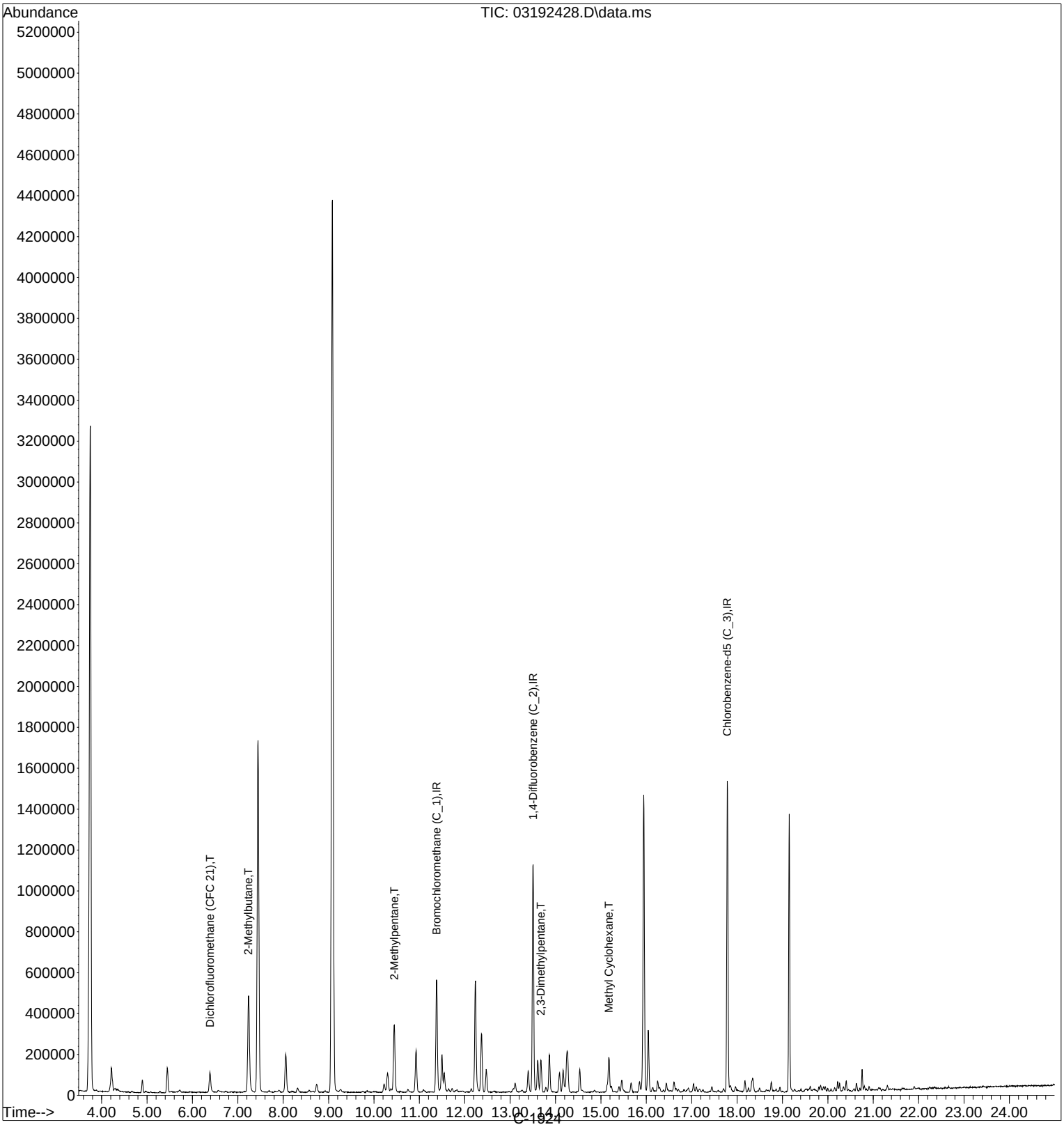
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	218799	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	985154	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	218259	12.500	ng	0.00
Target Compounds						Qvalue
7) Dichlorofluoromethane ...	6.38	67	119018	2.692	ng	96
10) 2-Methylbutane	7.23	57	122042	5.568	ng	86
12) 2-Methylpentane	10.45	71	89964	4.487	ng	89
17) 2,3-Dimethylpentane	13.68	56	71098	1.758	ng	98
20) Methyl Cyclohexane	15.17	55	74100	2.423	ng	95

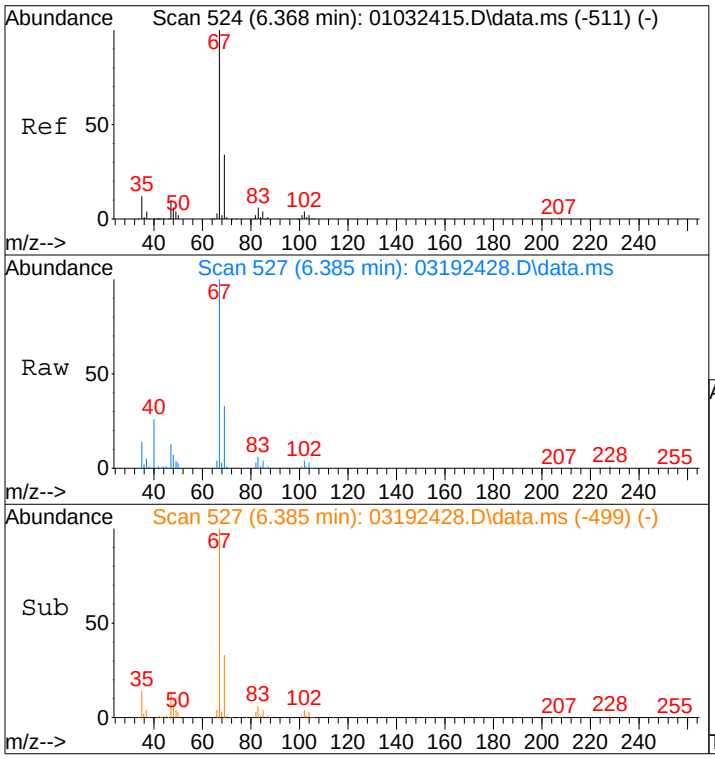
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:31:58 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

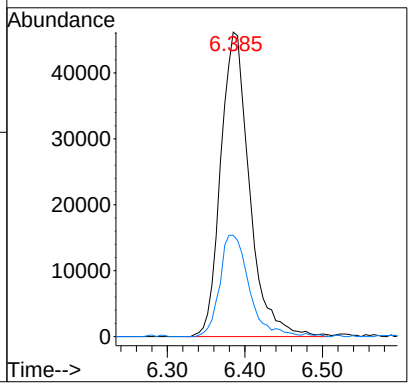


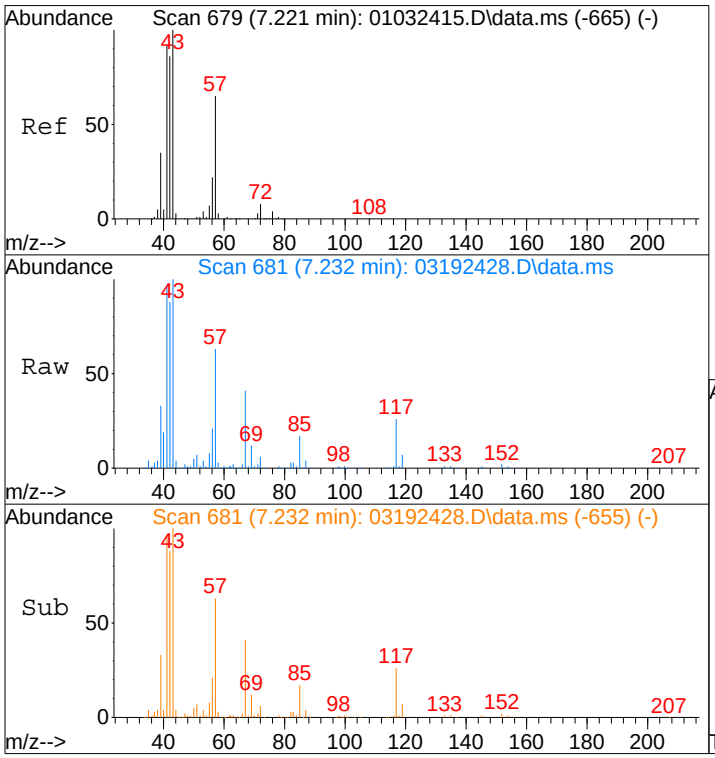


#7
Dichlorofluoromethane (CFC 21)
Concen: 2.69 ng
RT: 6.38 min Scan# 527
Delta R.T. 0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 67 Resp: 119018

Ion	Ratio	Lower	Upper
67	100		
69	34.4	25.6	38.4

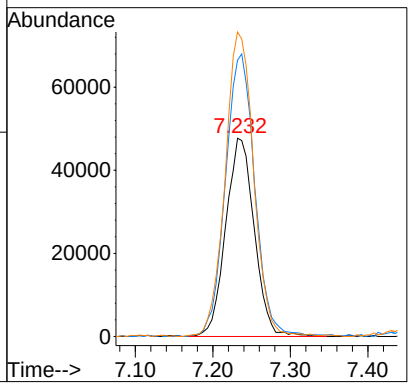


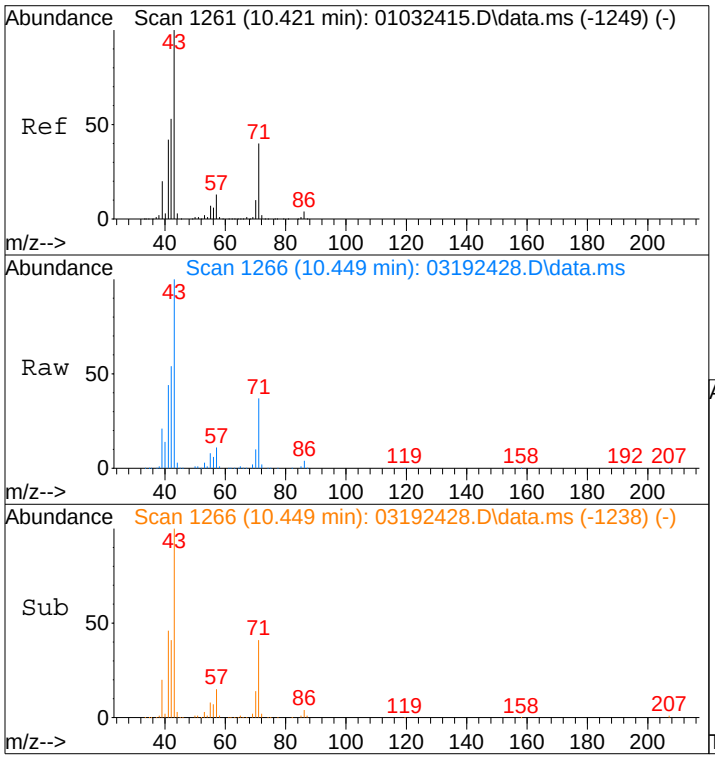


#10
2-Methylbutane
Concen: 5.57 ng
RT: 7.23 min Scan# 681
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 57 Resp: 122042

Ion	Ratio	Lower	Upper
57	100		
42	147.0	115.0	172.4
41	154.1	149.4	224.2

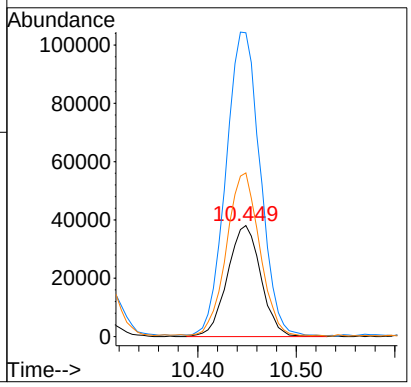


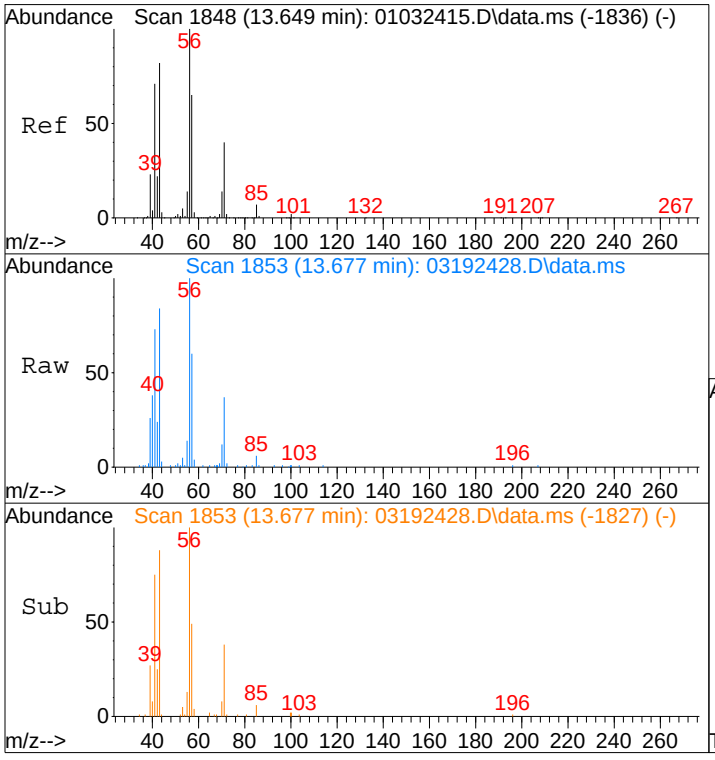


#12
2-Methylpentane
Concen: 4.49 ng
RT: 10.45 min Scan# 1266
Delta R.T. 0.006 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 71 Resp: 89964

Ion	Ratio	Lower	Upper
71	100		
43	281.0	241.7	362.5
42	146.1	129.1	193.7

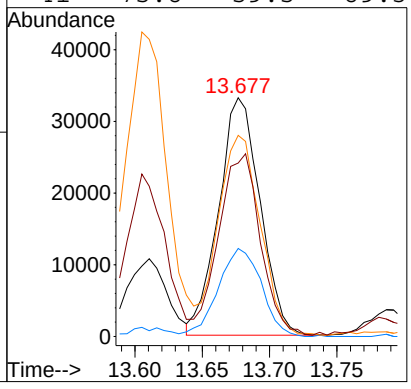


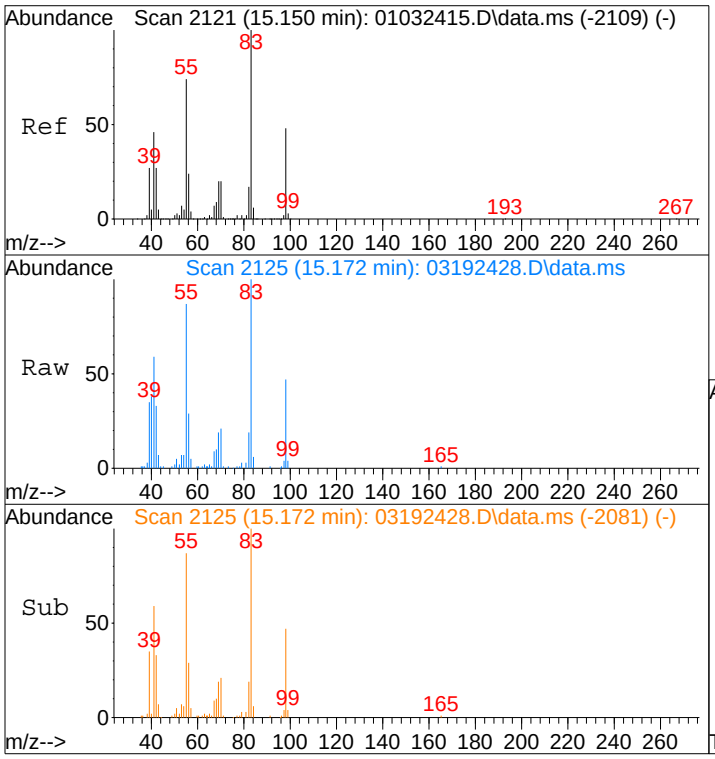


#17
2,3-Dimethylpentane
Concen: 1.76 ng
RT: 13.68 min Scan# 1853
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 56 Resp: 71098

Ion	Ratio	Lower	Upper
56	100		
71	38.5	28.2	42.4
43	85.7	69.4	104.0
41	75.8	59.5	89.3

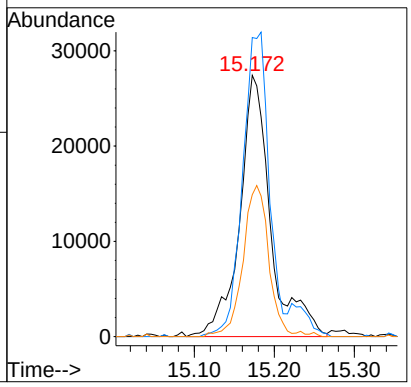




#20
Methyl Cyclohexane
Concen: 2.42 ng
RT: 15.17 min Scan# 2125
Delta R.T. -0.005 min
Lab File: 03192428.D
Acq: 19 Mar 2024 14:54

Tgt Ion: 55 Resp: 74100

Ion	Ratio	Lower	Upper
55	100		
83	106.1	89.5	134.3
98	48.5	41.6	62.4



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202408.D
Acq On : 20 Mar 2024 9:05
Operator : CI
Sample : P2400922-062dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:19:17 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	221526	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	1058820	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	226249	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	443337	11.882	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.04%				
57) Toluene-d8 (SS2)	15.94	98	1140601	12.910	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
73) Bromofluorobenzene (SS3)	19.15	174	375186	12.609	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%				
Target Compounds							Qvalue
2) Propene	4.14	42	385	N.D.			
3) Dichlorodifluoromethan...	4.35	85	904	N.D.			
4) Chloromethane	4.69	50	102	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	205	N.D.			
6) Vinyl Chloride	5.15	62	106	N.D.			
7) 1,3-Butadiene	5.29	54	170	N.D.			
8) Bromomethane	5.81	94	135	N.D.			
9) Chloroethane	6.12	64	216	N.D.			
10) Ethanol	6.59	45	8512	0.429	ng		98
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	6.98	56	53	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.44	101	1147001	25.921	ng		100
15) 2-Propanol (Isopropanol)	7.78	45	109	N.D.			
16) Acrylonitrile	7.97	53	163	N.D.			
17) 1,1-Dichloroethene	8.44	96	107	N.D.			
18) 2-Methyl-2-Propanol (t...	8.66	59	130	N.D.			
19) Methylene Chloride	8.66	84	1658	0.071	ng		93
20) 3-Chloro-1-propene (Al...	8.80	41	503	N.D.			
21) Trichlorotrifluoroethane	9.08	151	1304415	67.682	ng		99
22) Carbon Disulfide	8.92	76	5329	0.081	ng		98
23) trans-1,2-Dichloroethene	9.93	61	435	N.D.			
24) 1,1-Dichloroethane	10.18	63	553	N.D.			
25) Methyl tert-Butyl Ether	10.38	73	626	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.75	72	5381	0.382	ng	#	75
28) cis-1,2-Dichloroethene	11.21	61	1096	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.50	61	112	N.D.			
31) n-Hexane	11.49	57	88336	2.403	ng		96
32) Chloroform	11.54	83	912	N.D.			
34) Tetrahydrofuran (THF)	12.05	72	1118	0.082	ng	#	68
35) Ethyl tert-Butyl Ether	12.10	87	160	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.63	97	391	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.65	56	2009	No Calib		#	
41) Benzene	13.11	78	39492	0.392	ng		100
42) Carbon Tetrachloride	13.26	117	131	N.D.			
43) Cyclohexane	13.40	84	41437	1.260	ng		96
44) tert-Amyl Methyl Ether	13.78	73	432	N.D.			
45) 1,2-Dichloropropane	13.94	63	808	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.20	130	1136	N.D.			
48) 1,4-Dioxane	14.23	88	229	N.D.			

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202408.D
Acq On : 20 Mar 2024 9:05
Operator : CI
Sample : P2400922-062dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:19:17 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

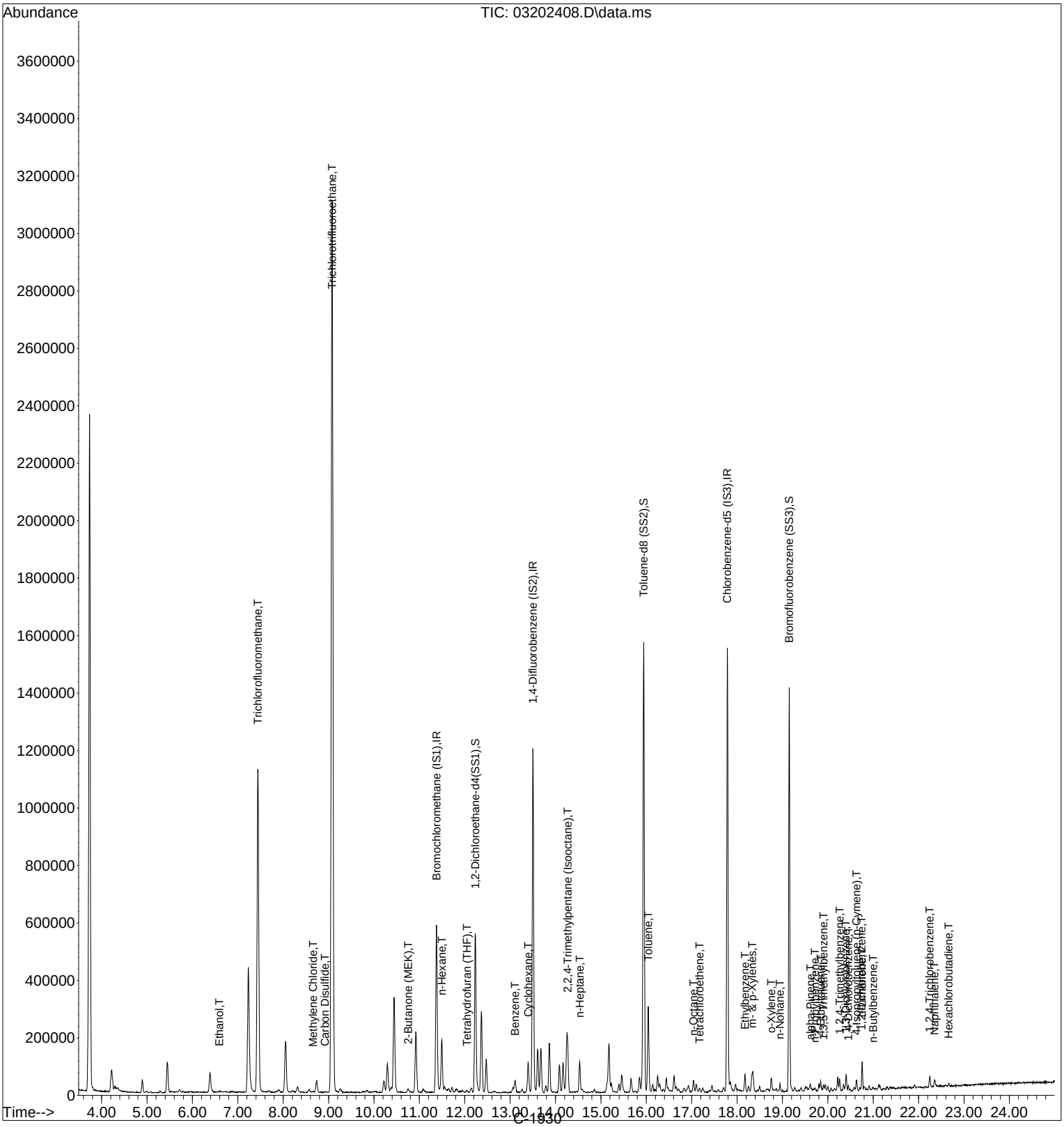
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	147281	1.570 ng	#	62
50) Methyl Methacrylate	14.43	100	192	N.D.		
51) n-Heptane	14.53	71	26524	1.090 ng		98
52) cis-1,3-Dichloropropene	15.06	75	295	N.D.		
53) 4-Methyl-2-pentanone	15.08	58	199	N.D.		
54) trans-1,3-Dichloropropene	15.59	75	214	N.D.		
55) 1,1,2-Trichloroethane	15.77	97	431	N.D.		
58) Toluene	16.04	91	201421	2.431 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.45	129	775	N.D.		
61) 1,2-Dibromoethane	16.70	107	468	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	17.04	57	7481	0.391 ng		95
64) Tetrachloroethene	17.17	166	1257	0.052 ng		93
65) Chlorobenzene	17.83	112	2429	N.D.		
66) Ethylbenzene	18.17	91	36640	0.381 ng		100
67) m- & p-Xylenes	18.33	91	53822	0.697 ng		97
68) Bromoform	18.39	173	739	N.D.		
69) Styrene	18.65	104	2232	N.D.		
70) o-Xylene	18.75	91	26703	0.344 ng		99
71) n-Nonane	18.94	43	8453	0.173 ng		93
72) 1,1,2,2-Tetrachloroethane	18.74	83	1357	N.D.		
74) Cumene	19.27	105	4553	N.D.		
75) alpha-Pinene	19.62	93	6742	0.151 ng		86
76) n-Propylbenzene	19.71	91	10719	0.088 ng		93
77) 3-Ethyltoluene	20.26	105	15477	No Calib		
78) 4-Ethyltoluene	19.84	105	8264	0.085 ng		95
79) 1,3,5-Trimethylbenzene	19.90	105	6779	0.083 ng		98
80) alpha-Methylstyrene	20.64	118	360	No Calib	#	
81) 2-Ethyltoluene	20.26	105	15477	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	15477	0.187 ng		89
83) n-Decane	20.35	58	425	No Calib	#	
84) Benzyl Chloride	20.37	91	2845	N.D.		
85) 1,3-Dichlorobenzene	20.40	146	3853	0.081 ng		86
86) 1,4-Dichlorobenzene	20.45	146	5109	0.110 ng		86
87) sec-Butylbenzene	20.50	105	3135	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	14583	0.152 ng		94
89) 1,2,3-Trimethylbenzene	20.26	105	15477	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	3530	0.077 ng		99
91) d-Limonene	20.75	68	19734	0.707 ng		96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D. d		
93) n-Undecane	21.51	58	112	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	11356	0.342 ng		95
95) Naphthalene	22.35	128	22497	0.242 ng		96
96) n-Dodecane	22.84	57	410	No Calib	#	
97) Hexachlorobutadiene	22.66	225	1740	0.067 ng		95
98) Cyclohexanone	18.26	55	3739	No Calib	#	
99) tert-Butylbenzene	20.26	119	3653	N.D.		
100) n-Butylbenzene	21.00	91	4641	0.052 ng	#	92
101) 1,1,1,2-Tetrachloroethane	17.81	131	113	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202408.D
Acq On : 20 Mar 2024 9:05
Operator : CI
Sample : P2400922-062dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

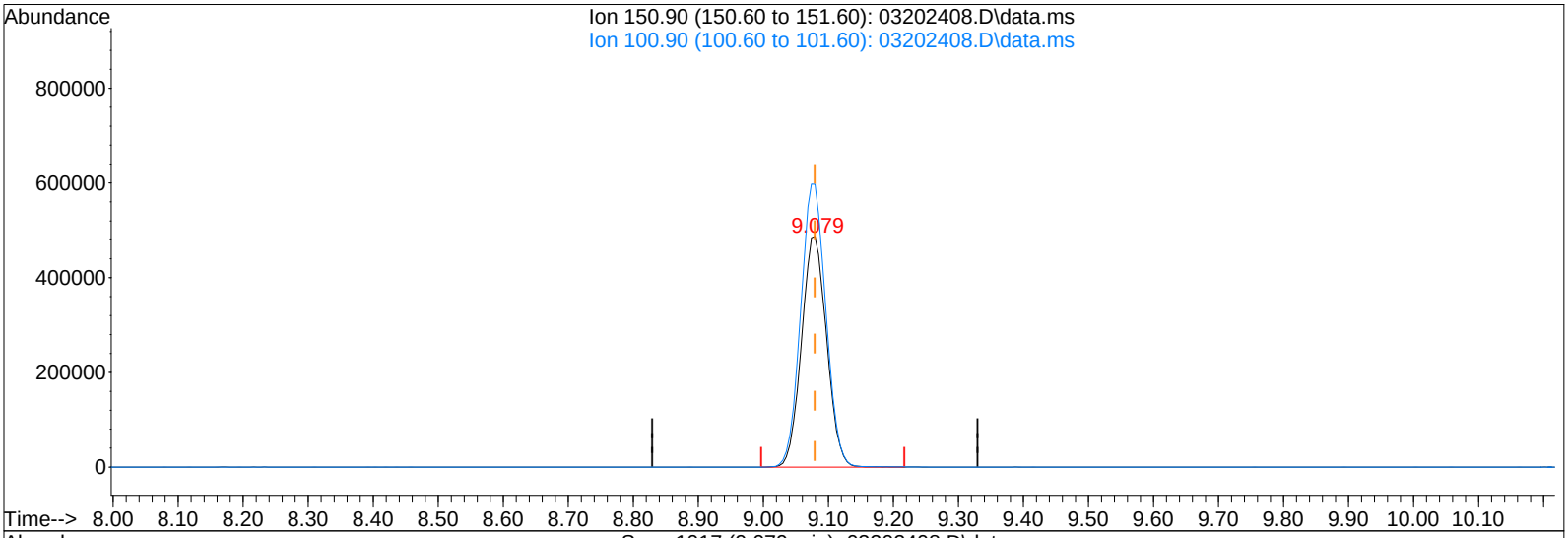
Quant Time: Mar 21 11:19:17 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

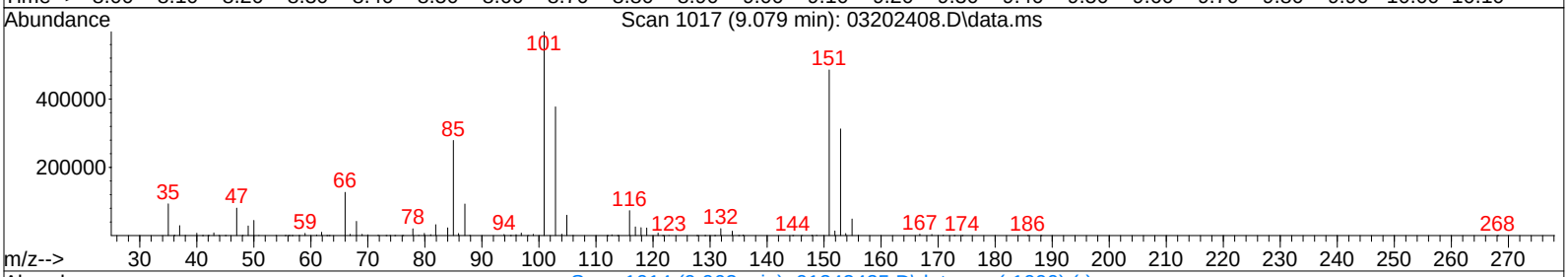


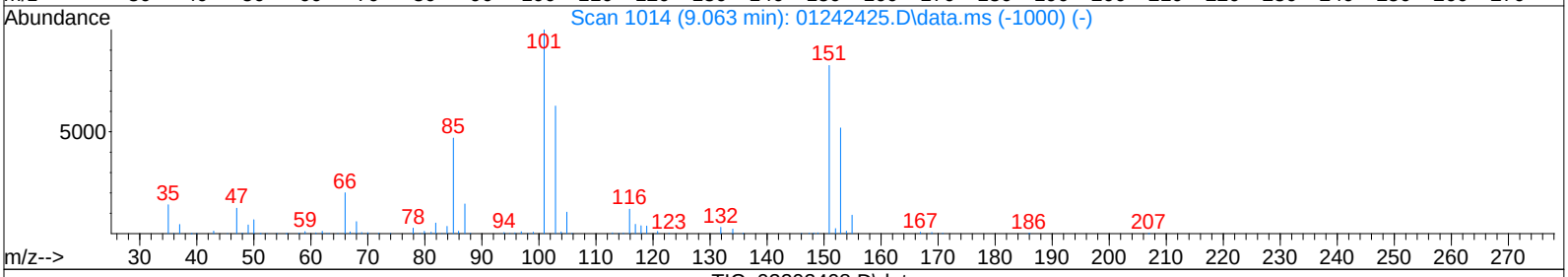
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202408.D
Acq On : 20 Mar 2024 9:05
Operator : CI
Sample : P2400922-062dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 20 10:10:03 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03202408.D\data.ms

(21) Trichlorotrifluoroethane (T)

9.079min (+0.000) 67.68ng

response 1304415

Ion	Exp%	Act%
150.90	100	100
100.90	124.20	123.52
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192428.D\data.ms

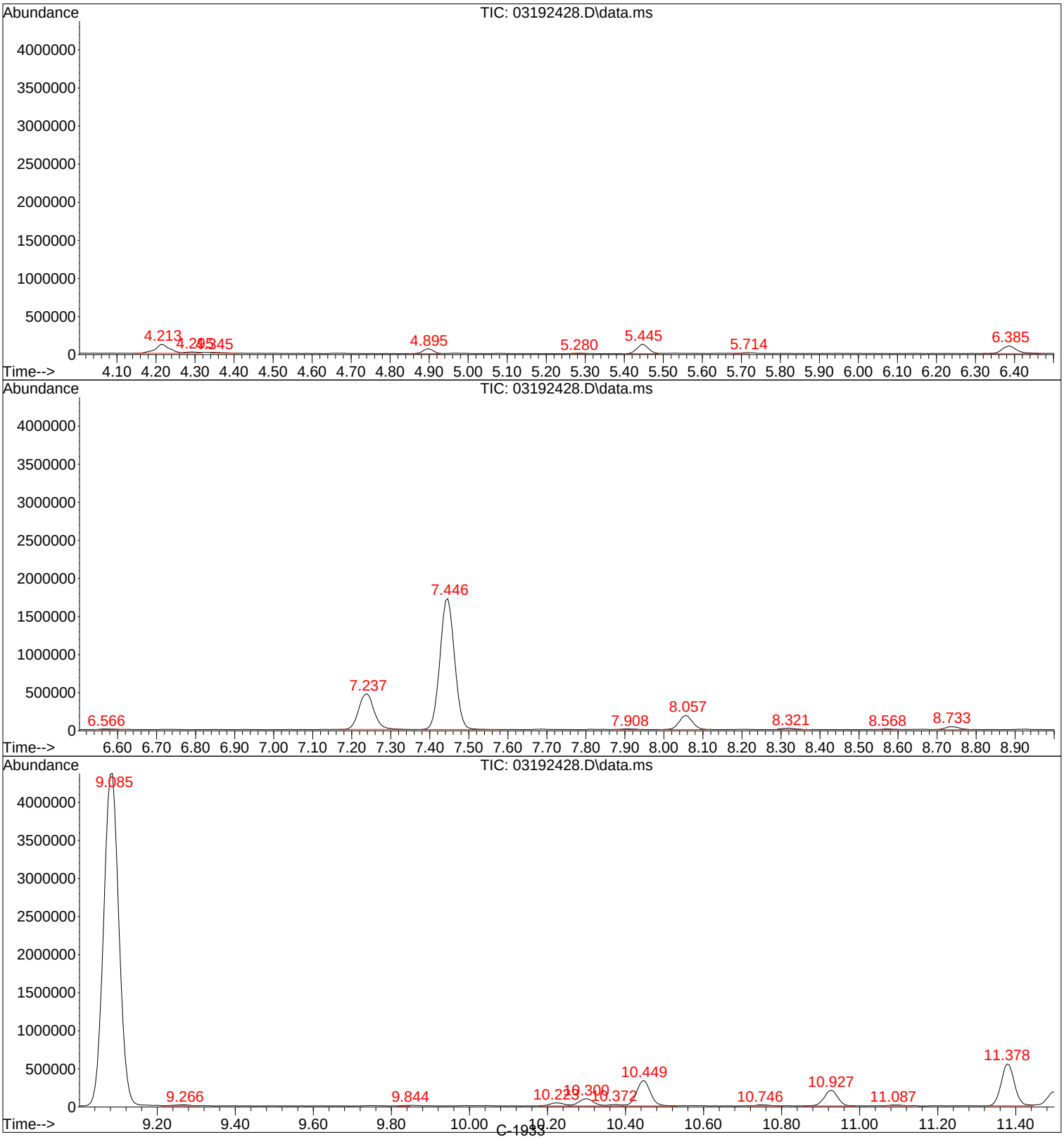
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.213	120	132	141	rBV3	117688	301185	2.53%	1.338%
2	4.295	141	147	151	rVV2	16277	41466	0.35%	0.184%
3	4.345	155	156	168	rVB6	12318	26331	0.22%	0.117%
4	4.895	248	256	263	rBV	62184	120944	1.01%	0.537%
5	5.280	323	326	331	rBV2	7020	11704	0.10%	0.052%
6	5.445	347	356	364	rBV	123182	257782	2.16%	1.145%
7	5.714	399	405	406	rBV5	8284	11854	0.10%	0.053%
8	6.385	514	527	542	rBV	100094	262659	2.20%	1.167%
9	6.566	555	560	569	rBV3	9081	25577	0.21%	0.114%
10	7.237	669	682	701	rBV2	470150	1300954	10.91%	5.780%
11	7.446	706	720	744	rBV	1720767	4468092	37.47%	19.850%
12	7.908	796	804	810	rVB4	9236	22817	0.19%	0.101%
13	8.057	819	831	841	rBV	186050	452144	3.79%	2.009%
14	8.321	873	879	889	rVB3	20263	50763	0.43%	0.226%
15	8.568	921	924	932	rVB6	8790	17144	0.14%	0.076%
16	8.733	946	954	964	rVB4	38955	101166	0.85%	0.449%
17	9.085	1002	1018	1037	rBV	4366403	11925715	100.00%	52.982%
18	9.266	1041	1051	1058	rVB7	12763	38586	0.32%	0.171%
19	9.844	1151	1156	1157	rBV3	9208	12419	0.10%	0.055%
20	10.223	1217	1225	1231	rBV3	40346	101934	0.85%	0.453%
21	10.300	1231	1239	1248	rVV2	93937	248695	2.09%	1.105%
22	10.372	1248	1252	1256	rVV2	17603	36025	0.30%	0.160%
23	10.449	1256	1266	1281	rVB	329319	816400	6.85%	3.627%
24	10.746	1314	1320	1331	rBV	13054	30558	0.26%	0.136%
25	10.927	1340	1353	1364	rBV	204979	496480	4.16%	2.206%
26	11.087	1377	1382	1391	rBV8	11197	27726	0.23%	0.123%
27	11.378	1426	1435	1447	rBV	549575	1301772	10.92%	5.783%

Sum of corrected areas: 22508892

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:54
Operator : CI
Sample : P2400922-062 (0.8mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192428.D
Acq On : 19 Mar 2024 14:544
Operator : CII
Sample : P2400922-062 (0.8mL))
Misc : S37-01032403//
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					|--Internal Standard---|		
TIC Top Hit name	RT	EstConc	Units	Response	# RT Resp Conc

CI 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:52:50 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	219752	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	1010017	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	222973	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	456588	12.336	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%				
57) Toluene-d8 (SS2)	15.94	98	1130798	12.987	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	19.15	174	379870	12.954	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
Target Compounds							Qvalue
2) Propene	4.18	42	8795	0.284	ng	#	1
3) Dichlorodifluoromethan...	4.36	85	22069	0.451	ng		99
4) Chloromethane	4.66	50	426	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	569	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.81	94	353	N.D.			
9) Chloroethane	6.15	64	238	N.D.			
10) Ethanol	6.56	45	212313	10.776	ng		99
11) Acetonitrile	6.81	41	18312	0.364	ng		99
12) Acrolein	7.02	56	6748	0.472	ng		99
13) Acetone	7.24	58	67095	4.199	ng		97
14) Trichlorofluoromethane	7.44	101	627917	14.305	ng		99
15) 2-Propanol (Isopropanol)	7.75	45	73	N.D.			
16) Acrylonitrile	8.00	53	3247	0.114	ng		96
17) 1,1-Dichloroethene	8.42	96	125	N.D.			
18) 2-Methyl-2-Propanol (t...	8.69	59	122	N.D.			
19) Methylene Chloride	8.66	84	2108	0.091	ng		90
20) 3-Chloro-1-propene (Al...	8.82	41	288	N.D.			
21) Trichlorotrifluoroethane	9.07	151	94219	4.928	ng		98
22) Carbon Disulfide	8.91	76	9173	0.140	ng		99
23) trans-1,2-Dichloroethene	9.90	61	184	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	10.38	73	597	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.73	72	23497	1.682	ng		95
28) cis-1,2-Dichloroethene	11.20	61	777	N.D.			
29) Diisopropyl Ether	11.55	87	328	N.D.			
30) Ethyl Acetate	11.55	61	5879	0.738	ng		93
31) n-Hexane	11.49	57	1360	N.D.			
32) Chloroform	11.54	83	2035	0.055	ng		90
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.37	62	640	N.D.			
38) 1,1,1-Trichloroethane	12.63	97	290	N.D.			
39) Isopropyl Acetate	13.73	61	121	No Calib		#	
40) 1-Butanol	12.62	56	439	No Calib		#	
41) Benzene	13.10	78	11897	0.124	ng		95
42) Carbon Tetrachloride	13.26	117	1193	N.D.			
43) Cyclohexane	13.39	84	947	N.D.			
44) tert-Amyl Methyl Ether	13.74	73	469	N.D.			
45) 1,2-Dichloropropane	13.95	63	462	N.D.			
46) Bromodichloromethane	14.15	83	795	N.D.			
47) Trichloroethene	14.20	130	2382	0.097	ng		85
48) 1,4-Dioxane	14.24	88	326	N.D.			

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 11:52:50 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

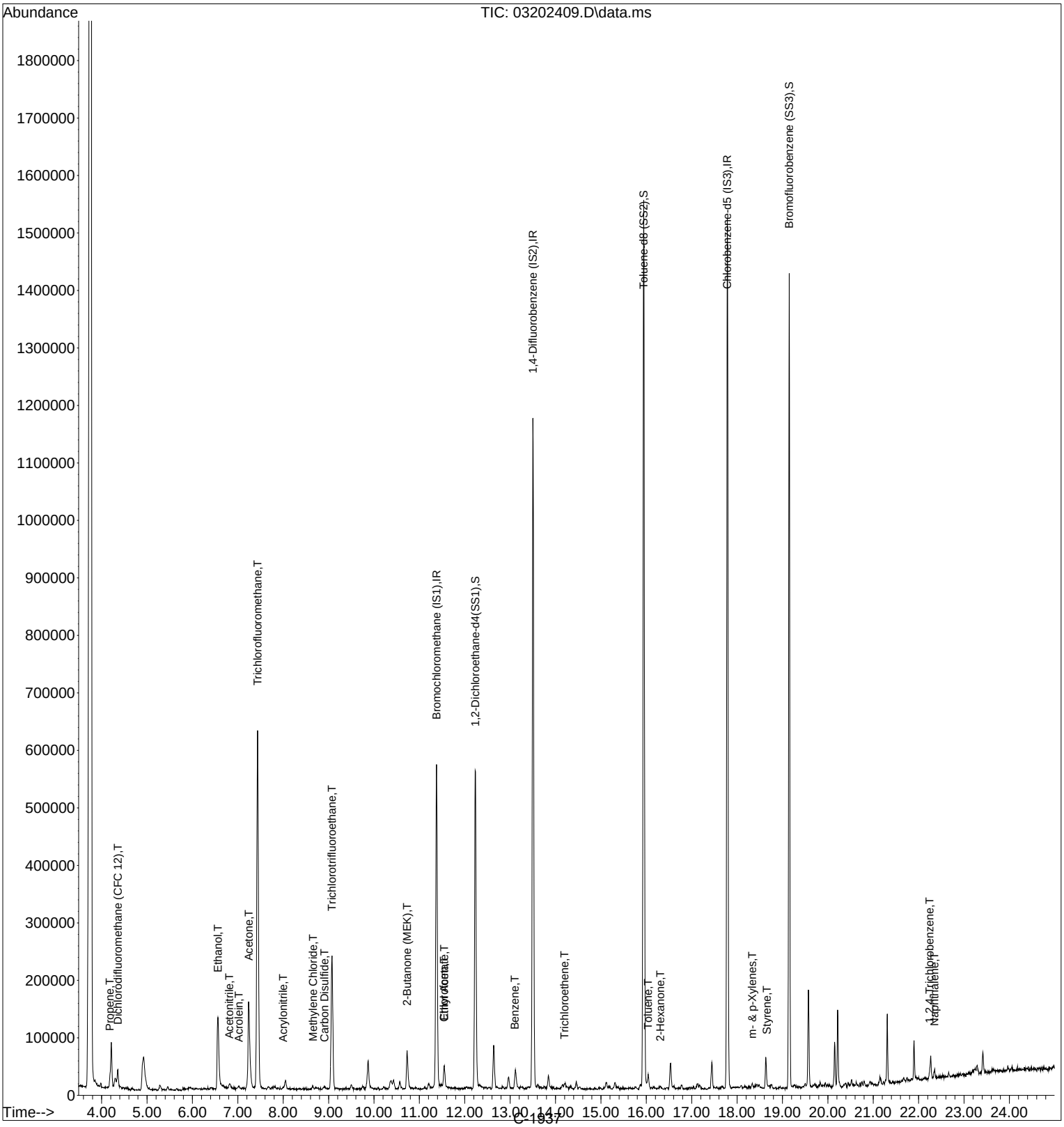
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	998	N.D.		
50) Methyl Methacrylate	14.42	100	122	N.D.		
51) n-Heptane	14.53	71	804	N.D.		
52) cis-1,3-Dichloropropene	15.05	75	235	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.58	75	204	N.D.		
55) 1,1,2-Trichloroethane	15.76	97	268	N.D.		
58) Toluene	16.04	91	16521	0.202 ng		96
59) 2-Hexanone	16.31	43	4254	0.082 ng		99
60) Dibromochloromethane	16.46	129	483	N.D.		
61) 1,2-Dibromoethane	16.69	107	113	N.D.		
62) n-Butyl Acetate	16.93	43	1850	N.D.		
63) n-Octane	17.05	57	829	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D. d		
65) Chlorobenzene	17.83	112	1635	N.D.		
66) Ethylbenzene	18.17	91	2682	N.D.		
67) m- & p-Xylenes	18.33	91	4508	0.059 ng		95
68) Bromoform	18.39	173	601	N.D.		
69) Styrene	18.65	104	2761	0.052 ng		90
70) o-Xylene	18.76	91	2051	N.D.		
71) n-Nonane	18.96	43	714	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.74	83	1405	N.D.		
74) Cumene	19.28	105	1669	N.D.		
75) alpha-Pinene	19.62	93	631	N.D.		
76) n-Propylbenzene	19.70	91	3825	N.D.		
77) 3-Ethyltoluene	20.25	105	1259	No Calib		
78) 4-Ethyltoluene	19.84	105	1540	N.D.		
79) 1,3,5-Trimethylbenzene	19.90	105	858	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	20.25	105	1259	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	1259	N.D.		
83) n-Decane	20.41	58	187	No Calib	#	
84) Benzyl Chloride	20.37	91	1874	N.D.		
85) 1,3-Dichlorobenzene	20.40	146	1045	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1452	N.D.		
87) sec-Butylbenzene	20.49	105	1407	N.D.		
88) 4-Isopropyltoluene (p-...	20.62	119	1865	N.D.		
89) 1,2,3-Trimethylbenzene	20.25	105	1259	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	931	N.D.		
91) d-Limonene	0.00	68	0	N.D. d		
92) 1,2-Dibromo-3-Chloropr...	21.12	157	534	N.D.		
93) n-Undecane	21.57	58	248	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	2381	0.073 ng		85
95) Naphthalene	22.35	128	8069	0.088 ng		87
96) n-Dodecane	22.74	57	318	No Calib	#	
97) Hexachlorobutadiene	0.00	225	0	N.D. d		
98) Cyclohexanone	18.24	55	367	No Calib	#	
99) tert-Butylbenzene	20.26	119	1469	N.D.		
100) n-Butylbenzene	21.00	91	2514	N.D.		
101) 1,1,1,2-Tetrachloroethane	17.79	131	164	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 11:52:50 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:52:50 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

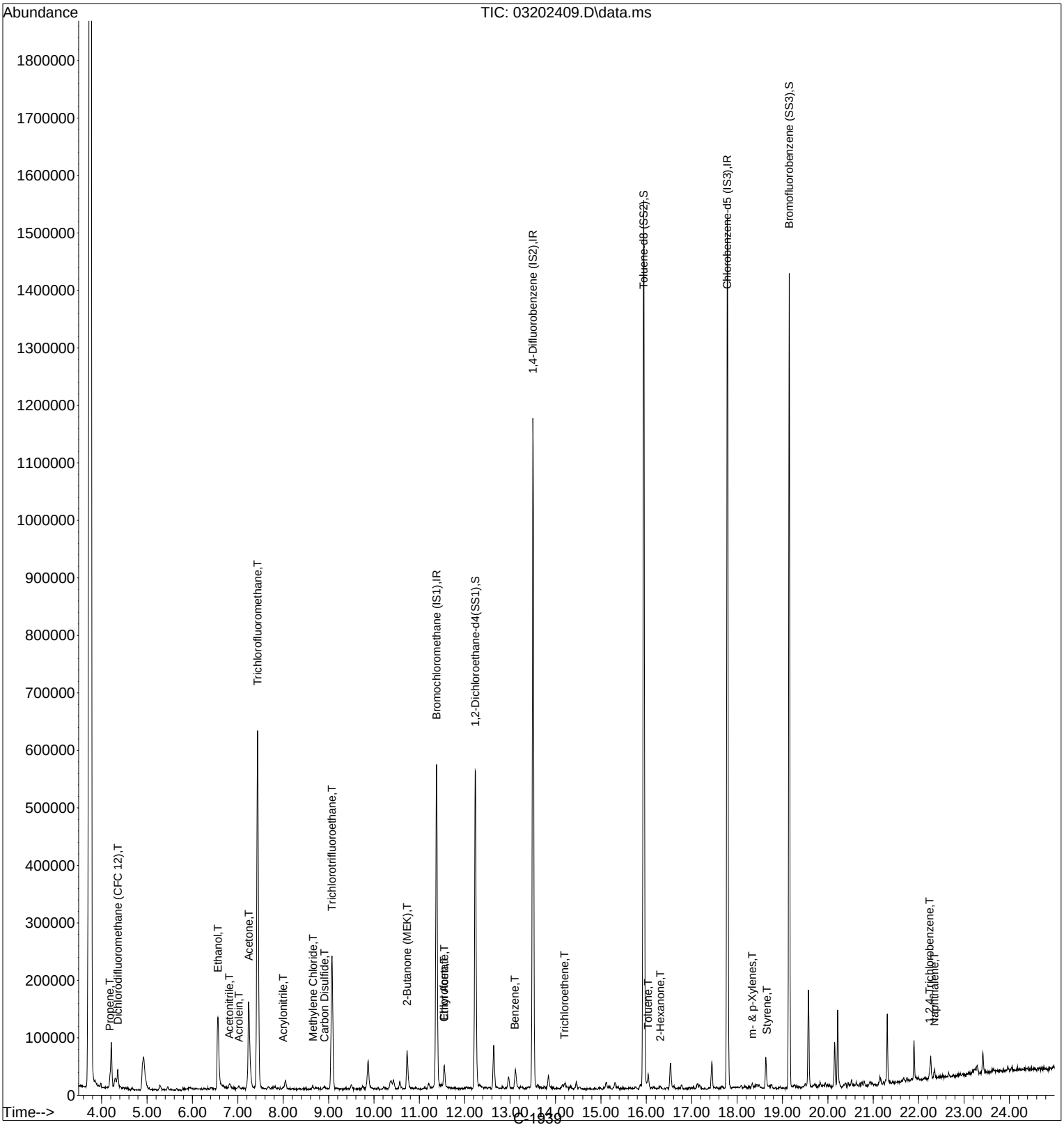
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	219752	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	1010017	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	222973	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	456588	12.336	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.72%			
57) Toluene-d8 (SS2)	15.94	98	1130798	12.987	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
73) Bromofluorobenzene (SS3)	19.15	174	379870	12.954	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
Target Compounds						Qvalue
2) Propene	4.18	42	8795	0.284	ng	# 1
3) Dichlorodifluoromethan...	4.36	85	22069	0.451	ng	99
10) Ethanol	6.56	45	212313	10.776	ng	99
11) Acetonitrile	6.81	41	18312	0.364	ng	99
12) Acrolein	7.02	56	6748	0.472	ng	99
13) Acetone	7.24	58	67095	4.199	ng	97
14) Trichlorofluoromethane	7.44	101	627917	14.305	ng	99
16) Acrylonitrile	8.00	53	3247	0.114	ng	96
19) Methylene Chloride	8.66	84	2108	0.091	ng	90
21) Trichlorotrifluoroethane	9.07	151	94219	4.928	ng	98
22) Carbon Disulfide	8.91	76	9173	0.140	ng	99
27) 2-Butanone (MEK)	10.73	72	23497	1.682	ng	95
30) Ethyl Acetate	11.55	61	5879	0.738	ng	93
32) Chloroform	11.54	83	2035	0.055	ng	90
41) Benzene	13.10	78	11897	0.124	ng	95
47) Trichloroethene	14.20	130	2382	0.097	ng	85
58) Toluene	16.04	91	16521	0.202	ng	96
59) 2-Hexanone	16.31	43	4254	0.082	ng	99
67) m- & p-Xylenes	18.33	91	4508	0.059	ng	95
69) Styrene	18.65	104	2761	0.052	ng	90
94) 1,2,4-Trichlorobenzene	22.24	180	2381	0.073	ng	85
95) Naphthalene	22.35	128	8069	0.088	ng	87

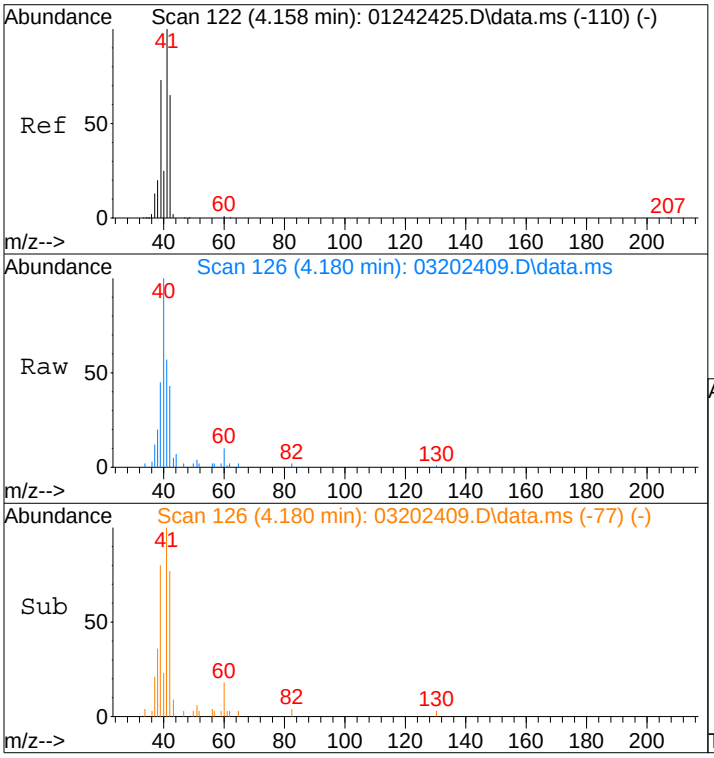
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 11:52:50 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

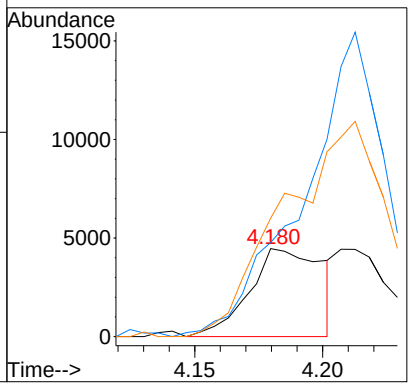


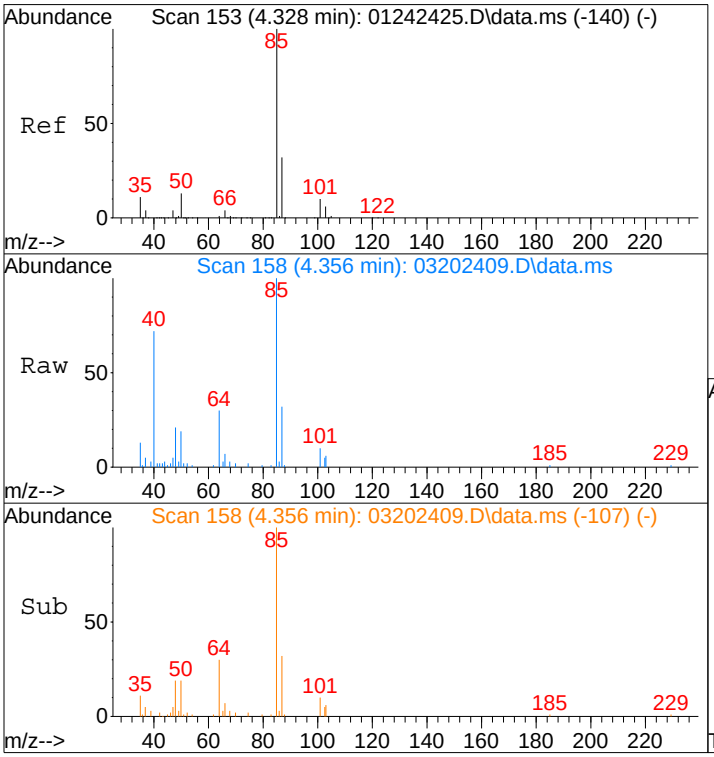


#2
Propene
Concen: 0.28 ng
RT: 4.18 min Scan# 126
Delta R.T. 0.022 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 42 Resp: 8795

Ion	Ratio	Lower	Upper
42	100		
39	400.8	98.6	138.6#
41	357.7	132.4	172.4#

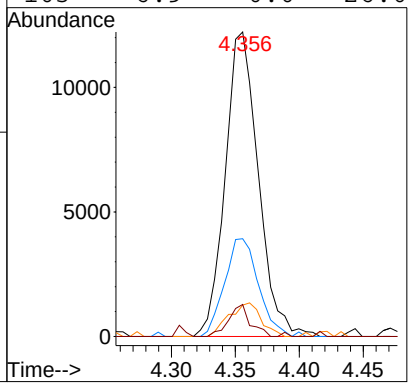


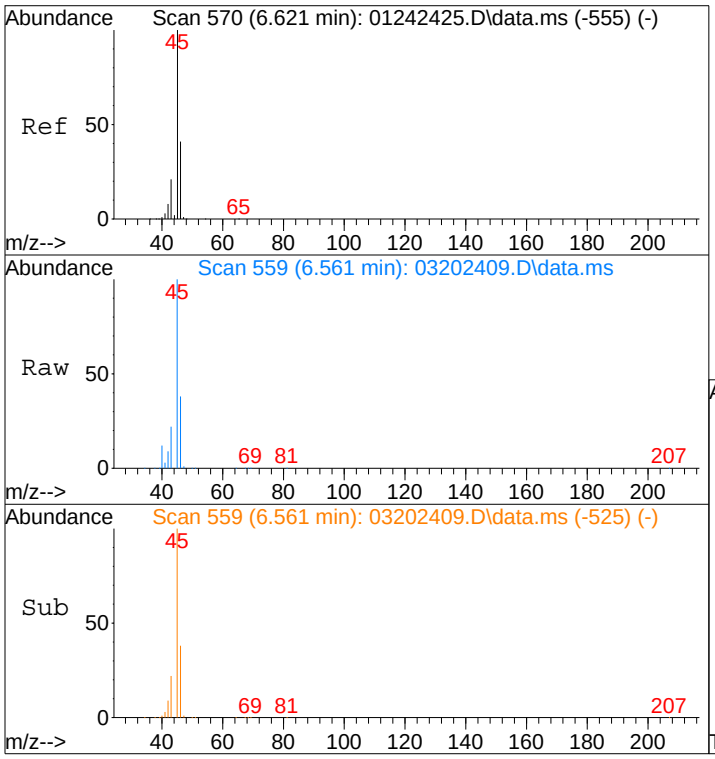


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.45 ng
RT: 4.36 min Scan# 158
Delta R.T. 0.033 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 85 Resp: 22069

Ion	Ratio	Lower	Upper
85	100		
87	33.0	13.1	53.1
101	10.7	0.0	29.5
103	6.9	0.0	26.0

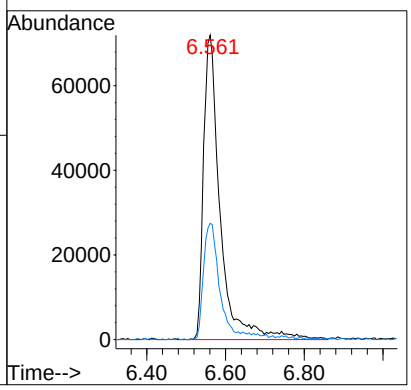


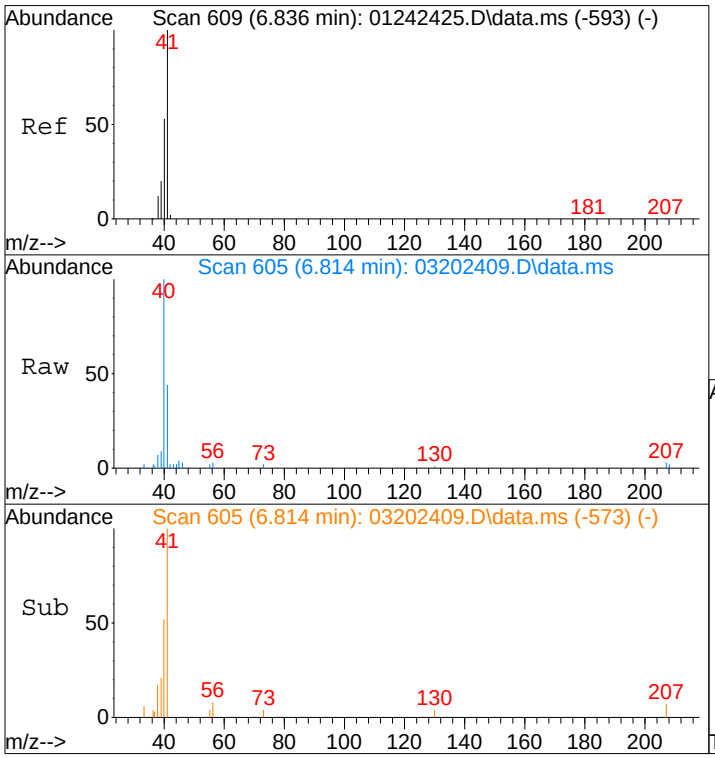


#10
Ethanol
Concen: 10.78 ng
RT: 6.56 min Scan# 559
Delta R.T. -0.061 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 45 Resp: 212313

Ion	Ratio	Lower	Upper
45	100		
46	40.0	19.6	59.6

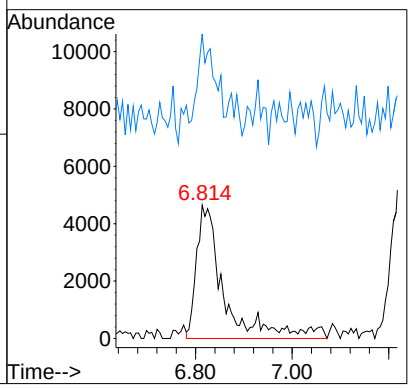


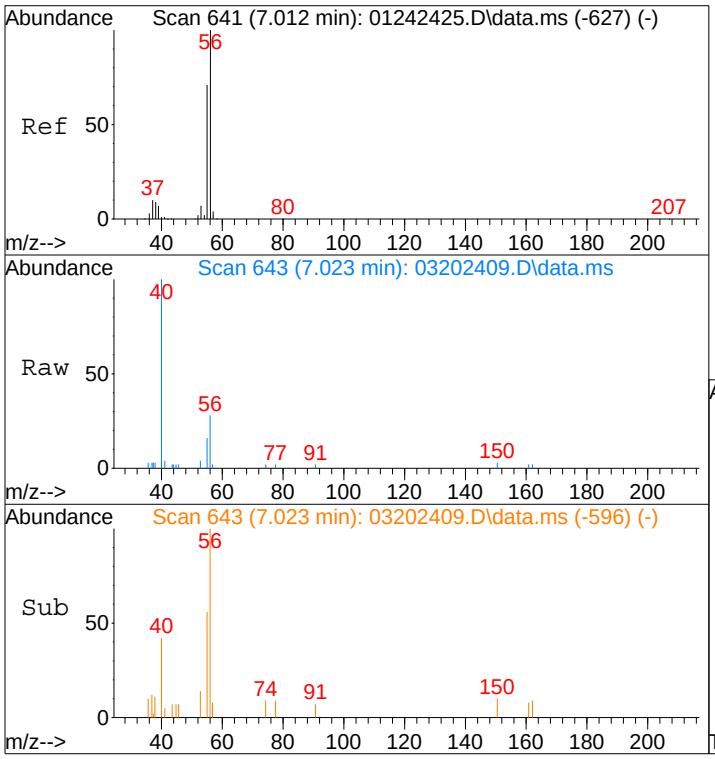


#11
Acetonitrile
Concen: 0.36 ng
RT: 6.81 min Scan# 605
Delta R.T. -0.022 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 41 Resp: 18312

Ion	Ratio	Lower	Upper
41	100		
40	57.1	36.1	76.1

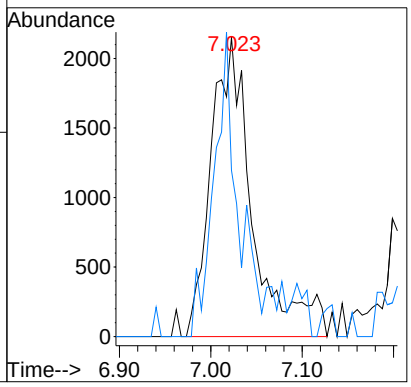


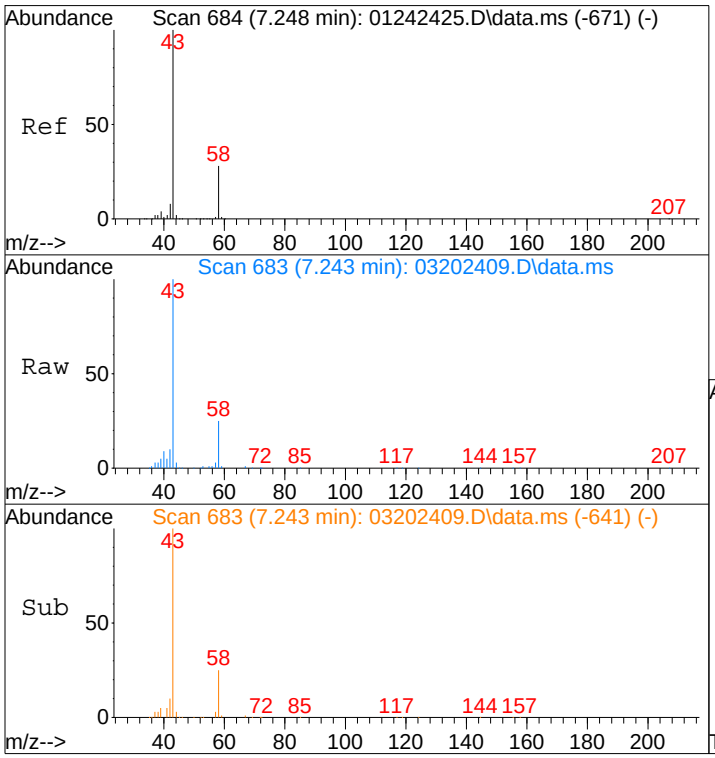


#12
Acrolein
Concen: 0.47 ng
RT: 7.02 min Scan# 643
Delta R.T. 0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 56 Resp: 6748

Ion	Ratio	Lower	Upper
56	100		
55	72.1	51.4	91.4

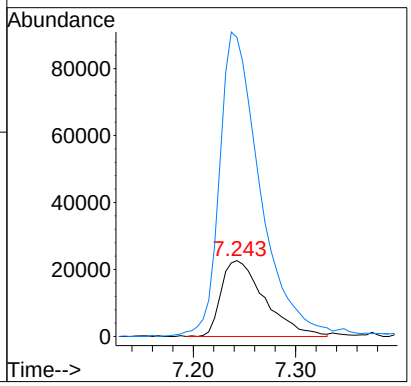


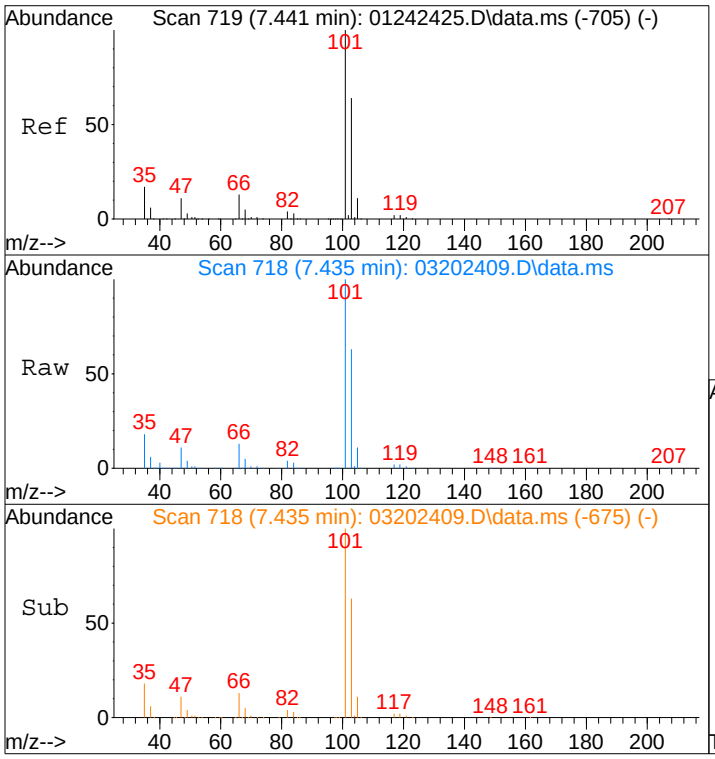


#13
Acetone
Concen: 4.20 ng
RT: 7.24 min Scan# 683
Delta R.T. -0.020 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 58 Resp: 67095

Ion	Ratio	Lower	Upper
58	100		
43	380.6	357.4	417.4

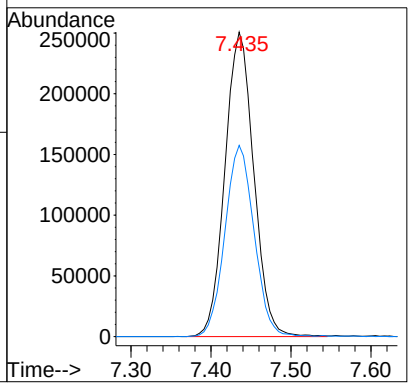


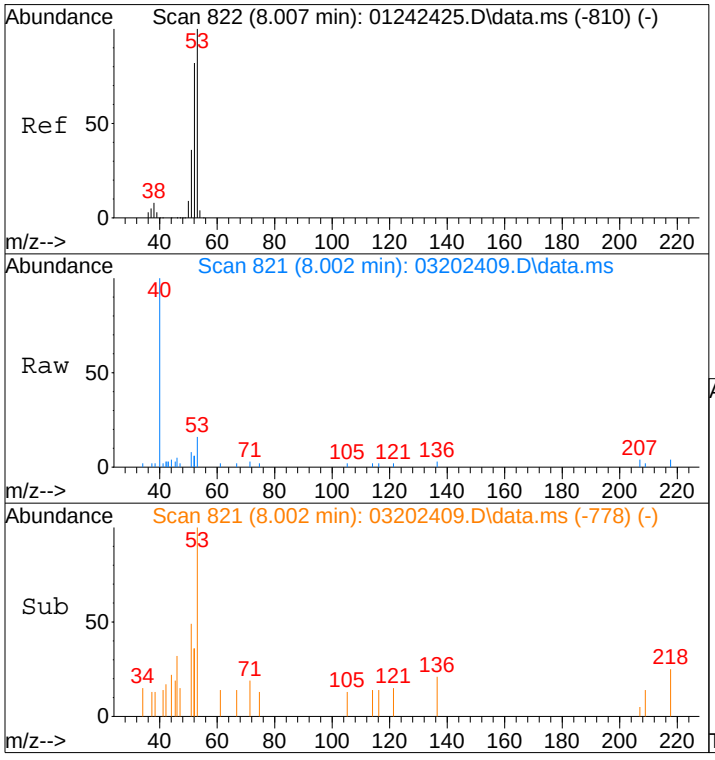


#14
Trichlorofluoromethane
Concen: 14.31 ng
RT: 7.44 min Scan# 718
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion:101 Resp: 627917

Ion	Ratio	Lower	Upper
101	100		
103	63.5	44.1	84.1

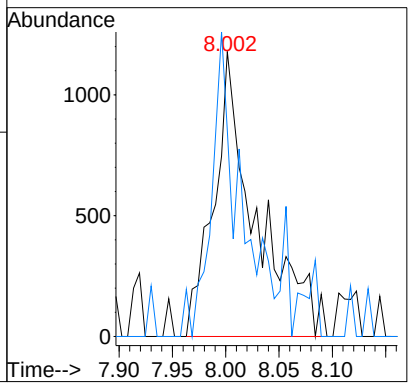


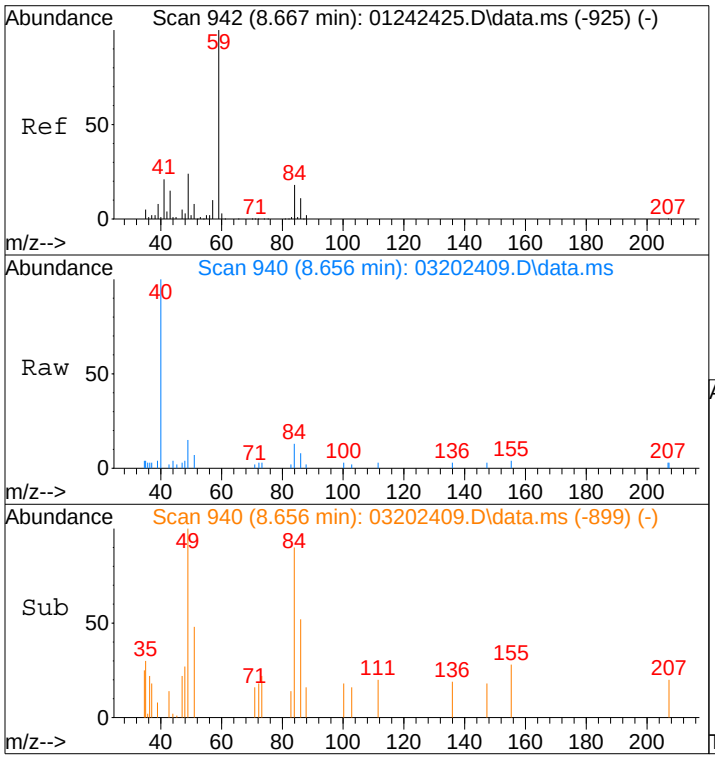


#16
Acrylonitrile
Concen: 0.11 ng
RT: 8.00 min Scan# 821
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 53 Resp: 3247

Ion	Ratio	Lower	Upper
53	100		
52	88.4	64.8	104.8

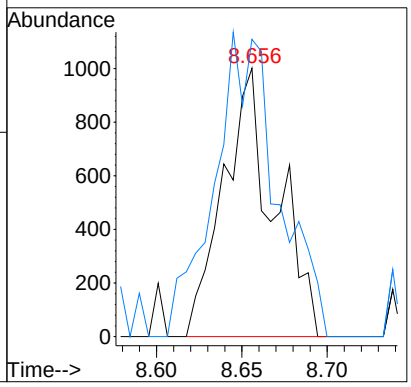


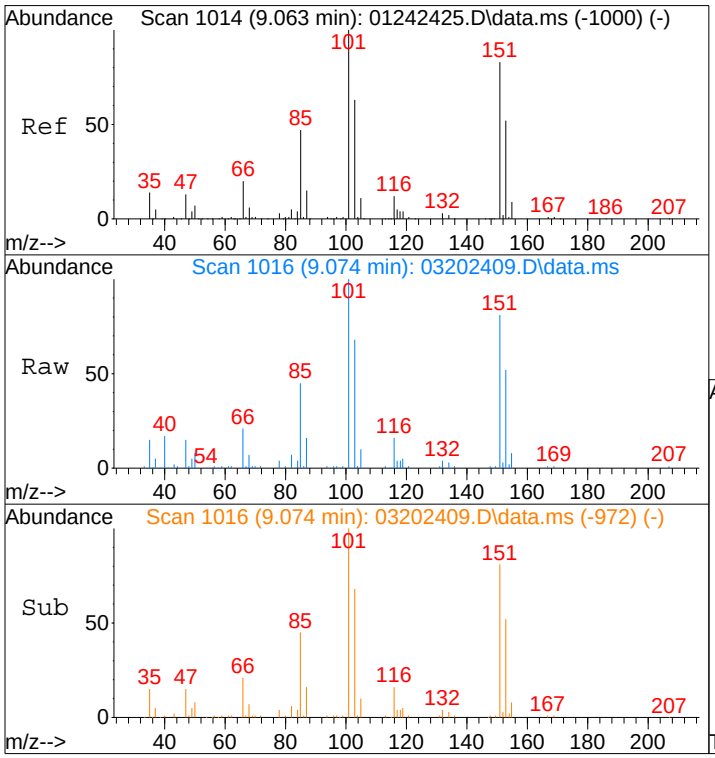


#19
Methylene Chloride
Concen: 0.09 ng
RT: 8.66 min Scan# 940
Delta R.T. -0.022 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 84 Resp: 2108

Ion	Ratio	Lower	Upper
84	100		
49	138.9	126.4	176.4

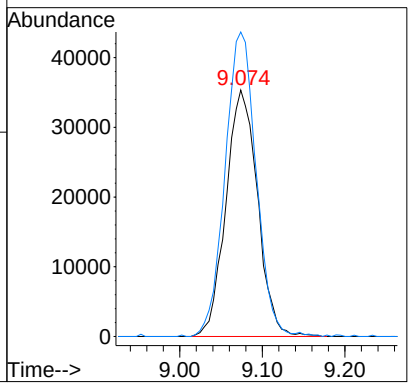


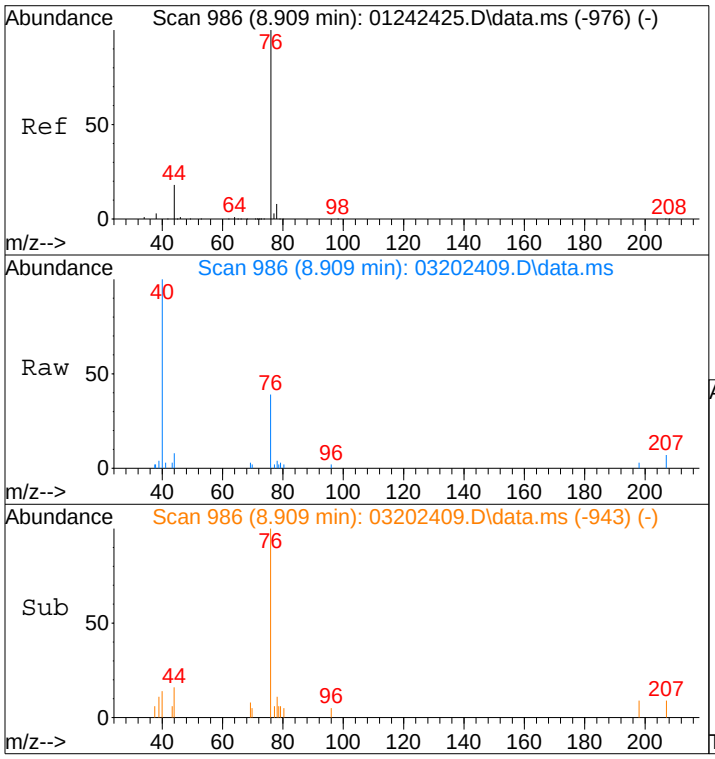


#21
Trichlorotrifluoroethane
Concen: 4.93 ng
RT: 9.07 min Scan# 1016
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion:151 Resp: 94219

Ion	Ratio	Lower	Upper
151	100		
101	121.7	104.2	144.2

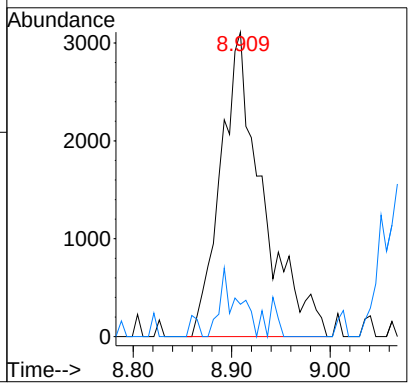


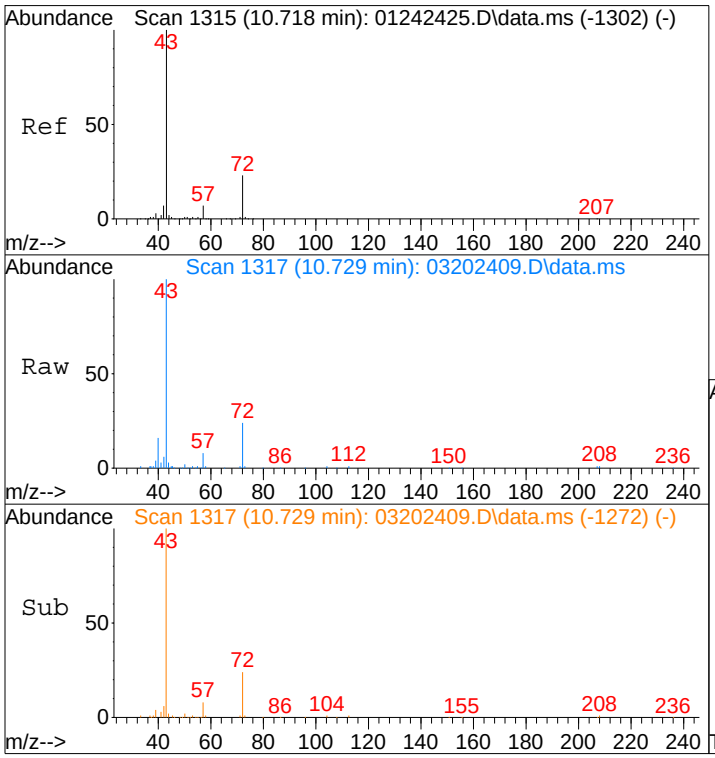


#22
Carbon Disulfide
Concen: 0.14 ng
RT: 8.91 min Scan# 986
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 76 Resp: 9173

Ion	Ratio	Lower	Upper
76	100		
78	9.7	0.0	29.3

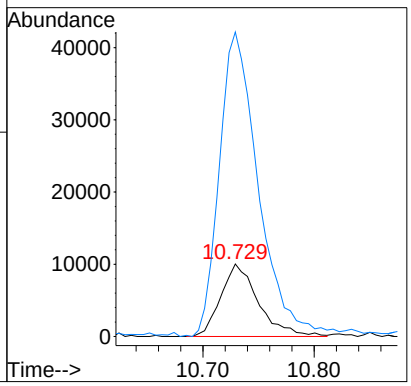


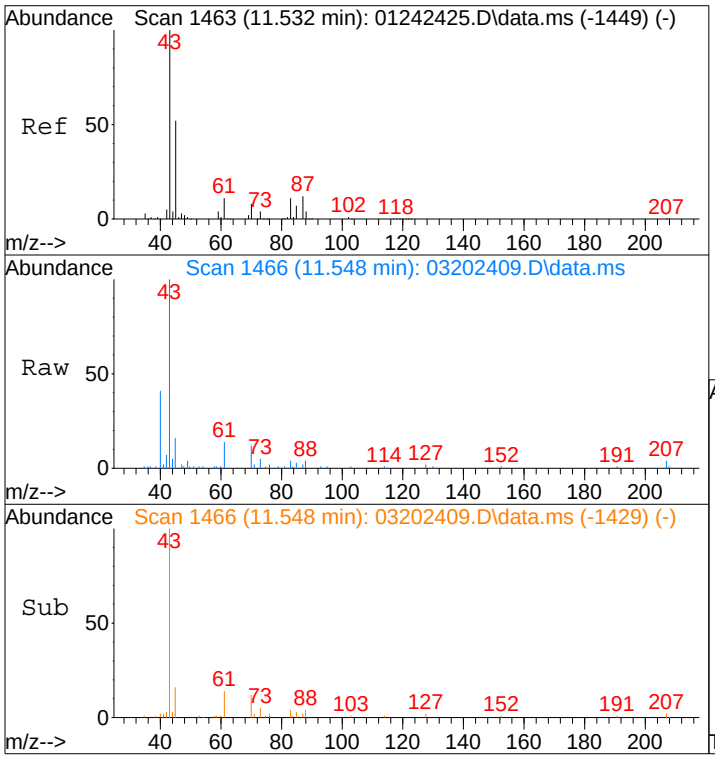


#27
2-Butanone (MEK)
Concen: 1.68 ng
RT: 10.73 min Scan# 1317
Delta R.T. -0.000 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 72 Resp: 23497

Ion	Ratio	Lower	Upper
72	100		
43	445.1	437.9	477.9

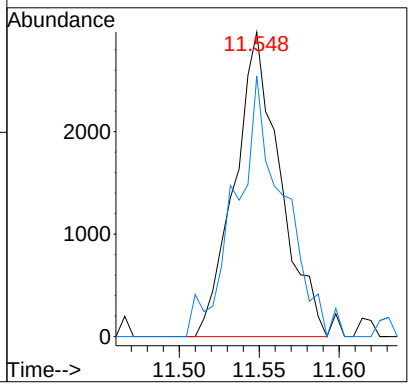


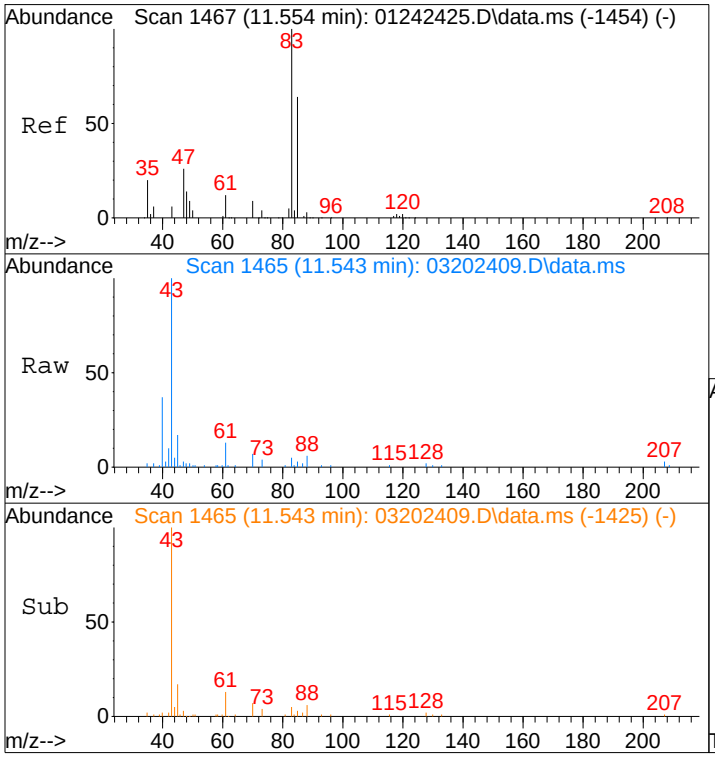


#30
Ethyl Acetate
Concen: 0.74 ng
RT: 11.55 min Scan# 1466
Delta R.T. 0.005 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 61 Resp: 5879

Ion	Ratio	Lower	Upper
61	100		
70	90.8	64.5	104.5

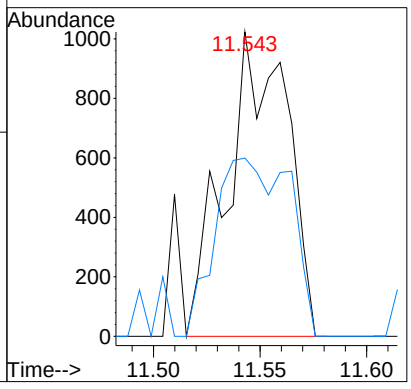


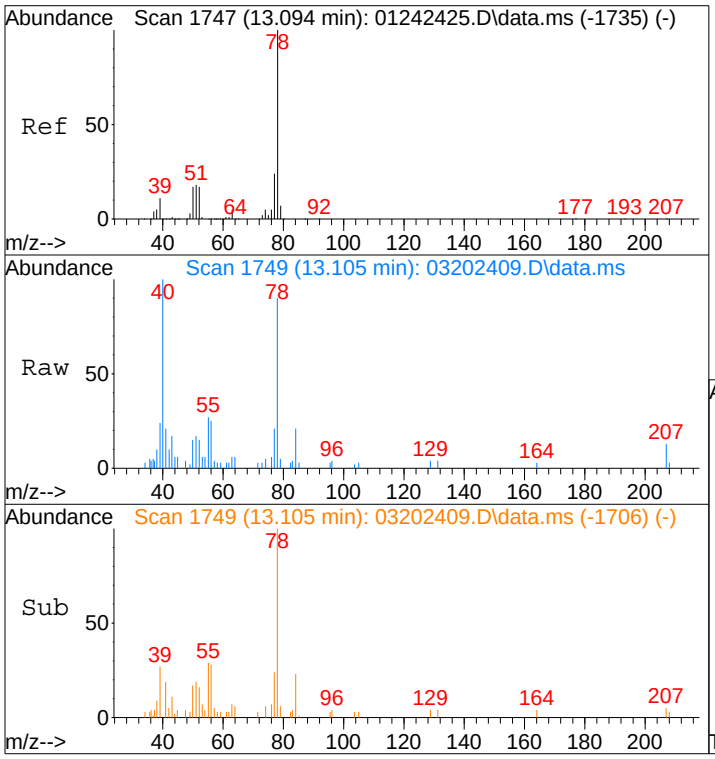


#32
Chloroform
Concen: 0.05 ng
RT: 11.54 min Scan# 1465
Delta R.T. -0.028 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 83 Resp: 2035

Ion	Ratio	Lower	Upper
83	100		
85	72.2	44.3	84.3

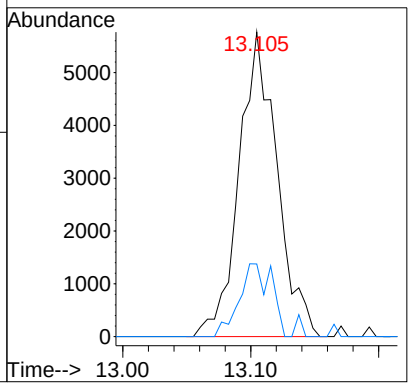


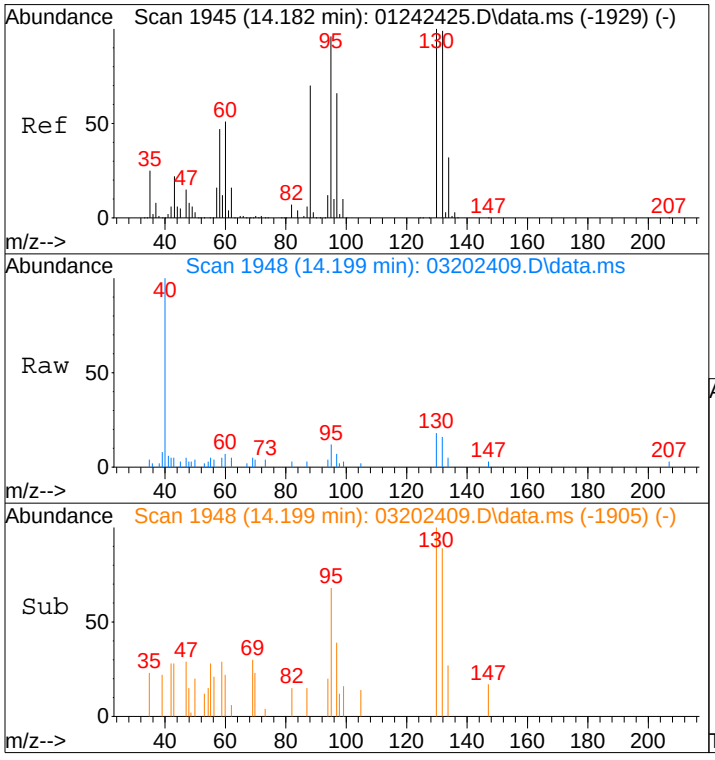


#41
Benzene
Concen: 0.12 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 78 Resp: 11897

Ion	Ratio	Lower	Upper
78	100		
77	20.4	2.6	42.6

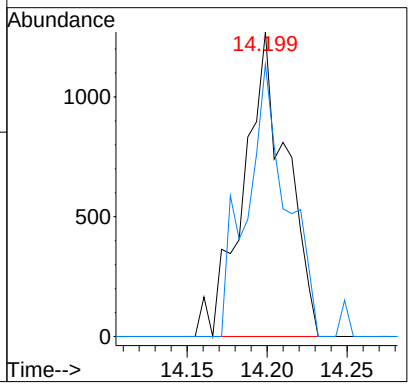


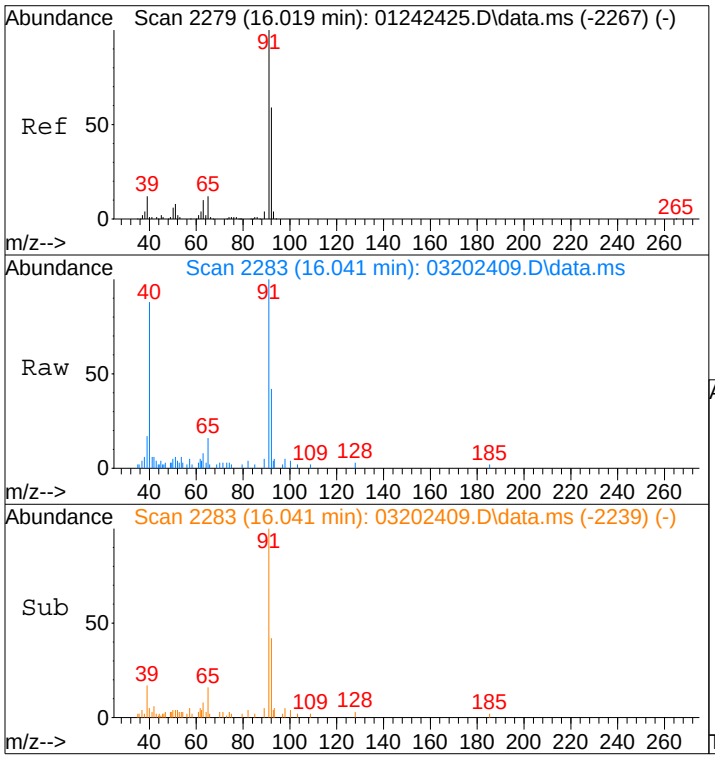


#47
Trichloroethene
Concen: 0.10 ng
RT: 14.20 min Scan# 1948
Delta R.T. -0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion:130 Resp: 2382

Ion	Ratio	Lower	Upper
130	100		
132	83.4	78.3	118.3

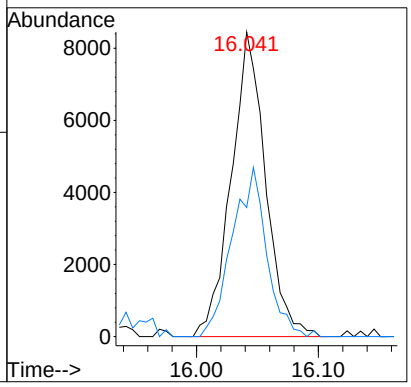


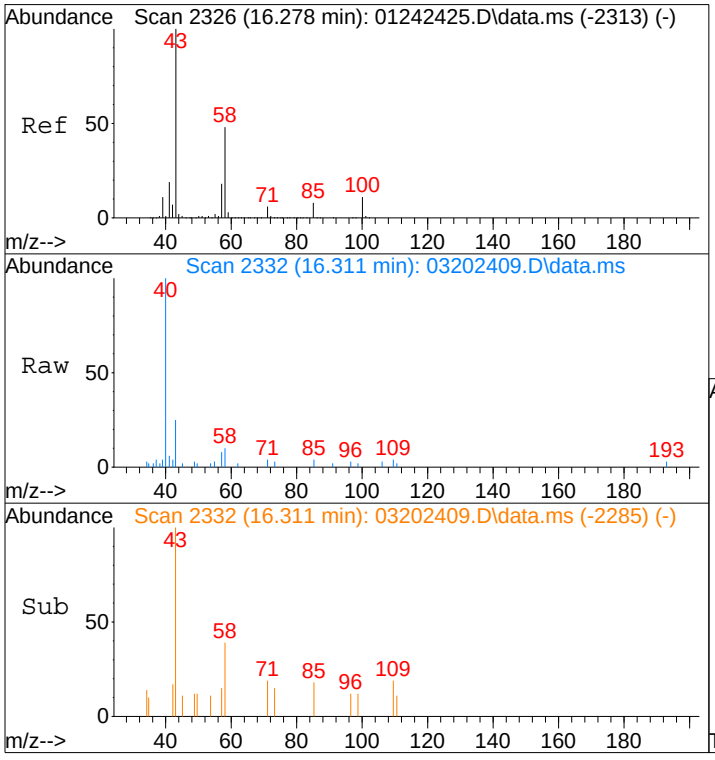


#58
Toluene
Concen: 0.20 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 91 Resp: 16521

Ion	Ratio	Lower	Upper
91	100		
92	55.8	39.1	79.1

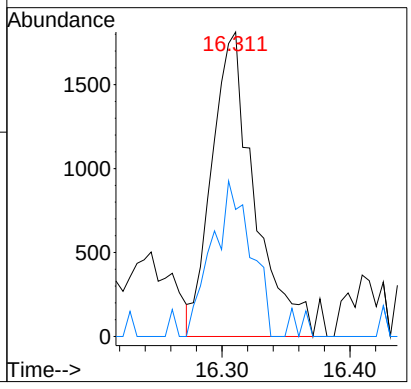


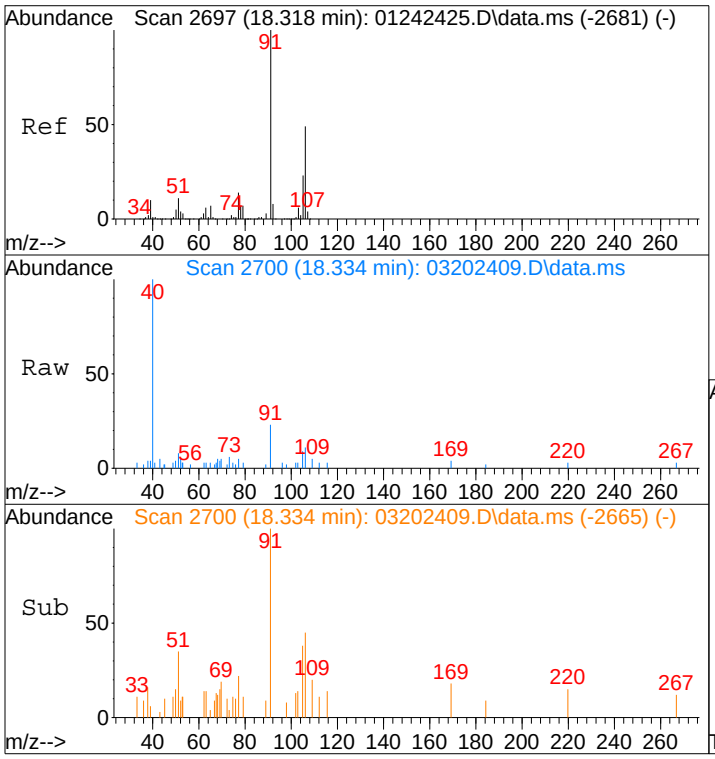


#59
2-Hexanone
Concen: 0.08 ng
RT: 16.31 min Scan# 2332
Delta R.T. 0.011 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 43 Resp: 4254

Ion	Ratio	Lower	Upper
43	100		
58	46.0	26.4	66.4

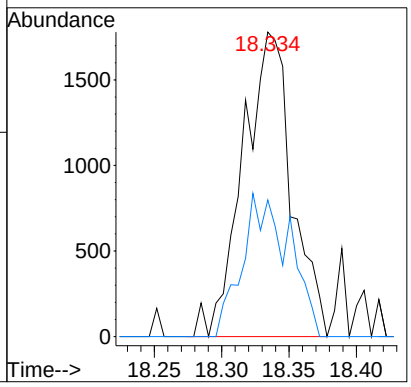


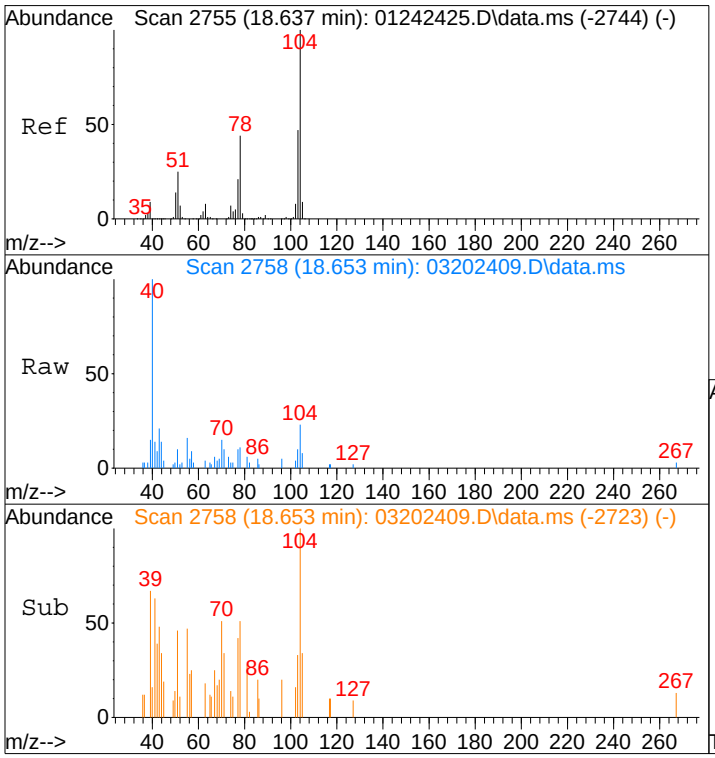


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 18.33 min Scan# 2700
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 91 Resp: 4508

Ion	Ratio	Lower	Upper
91	100		
106	45.1	28.7	68.7

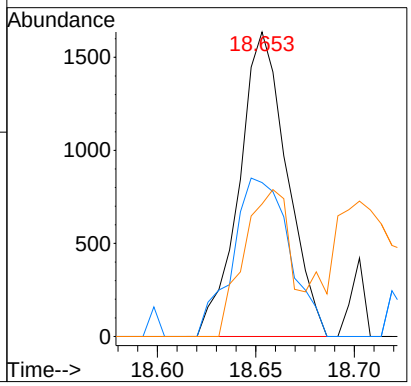


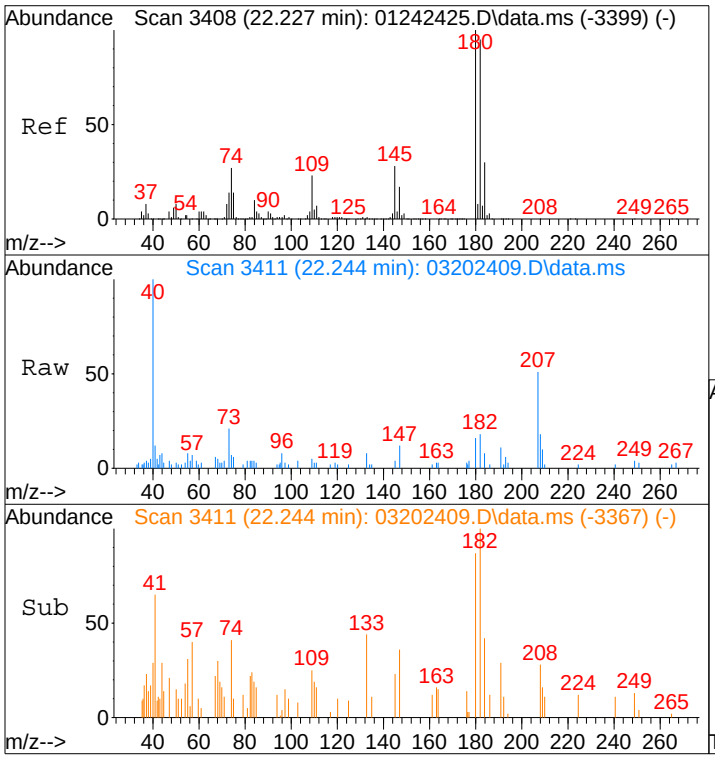


#69
Styrene
Concen: 0.05 ng
RT: 18.65 min Scan# 2758
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion:104 Resp: 2761

Ion	Ratio	Lower	Upper
104	100		
78	62.1	28.8	68.8
103	47.9	27.6	67.6

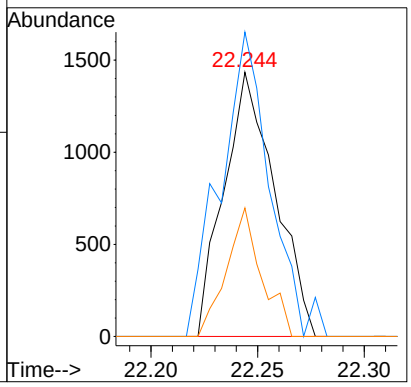


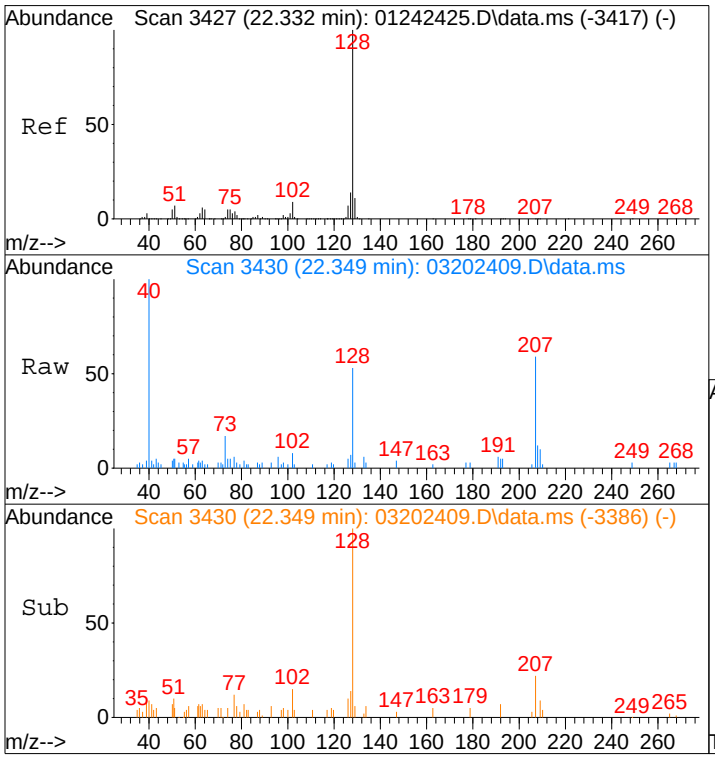


#94
1,2,4-Trichlorobenzene
Concen: 0.07 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion:180 Resp: 2381

Ion	Ratio	Lower	Upper
180	100		
182	112.1	75.8	113.8
184	33.7	25.0	37.4

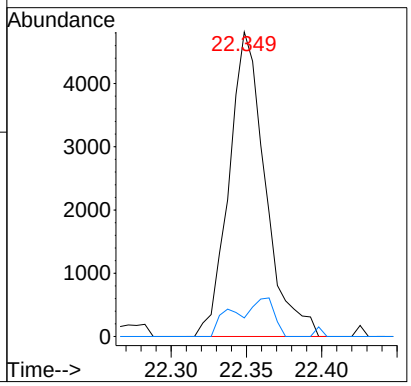




#95
Naphthalene
Concen: 0.09 ng
RT: 22.35 min Scan# 3430
Delta R.T. -0.006 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion:128 Resp: 8069

Ion	Ratio	Lower	Upper
128	100		
129	5.9	0.0	30.9



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

CI 3/22/24

Quant Time: Mar 21 14:37:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

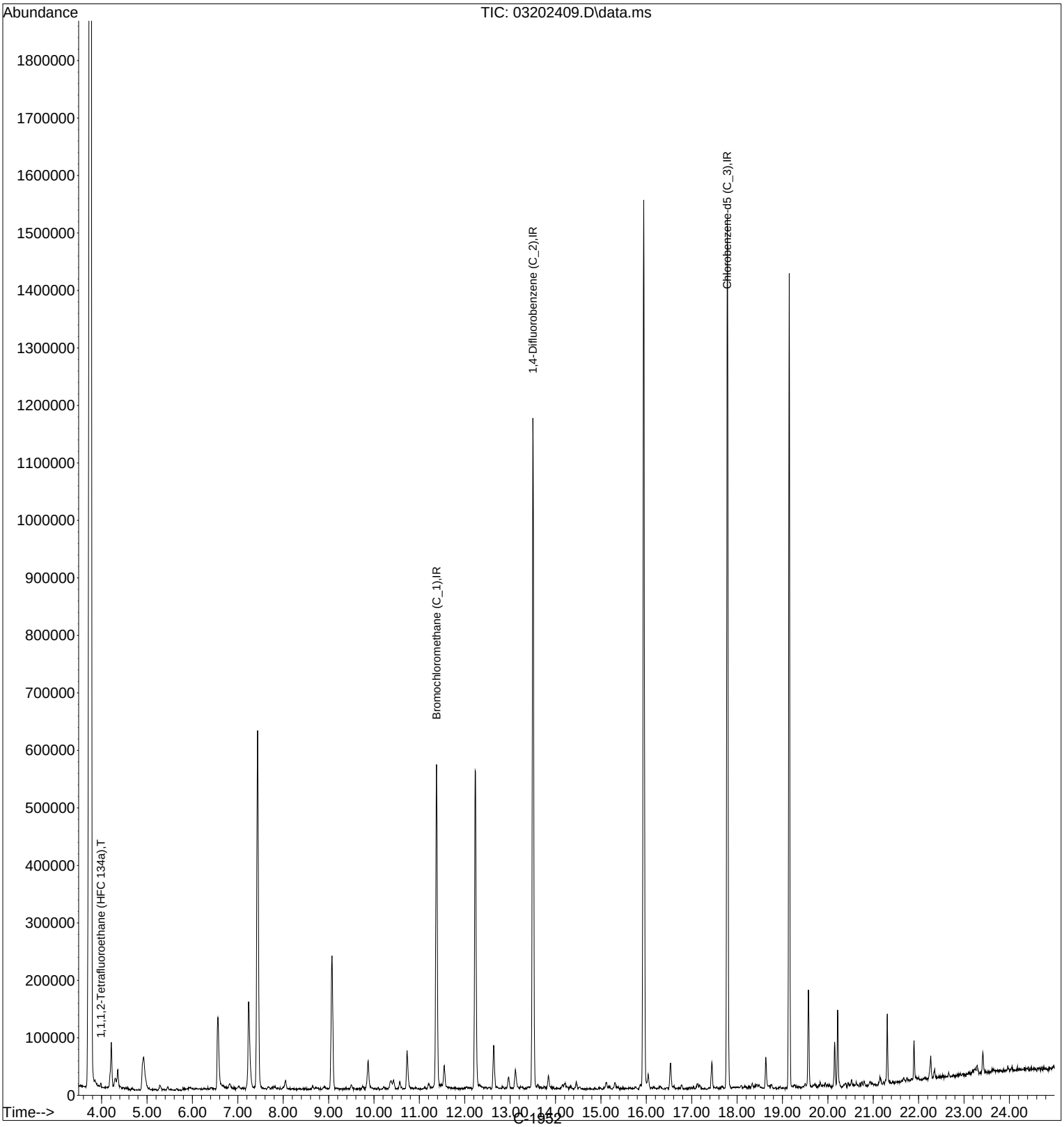
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	220771	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	1012009	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	222973	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.88	85	705	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	4146	0.189	ng	86
4) 1,1-Difluoroethane	4.07	65	107	N.D.		
5) Chlorodifluoromethane ...	4.16	67	199	N.D.		
6) 1-Chloro-1,1-Difluoroe...	4.67	65	830	N.D.		
7) Dichlorofluoromethane ...	6.40	67	2920	N.D.		
8) Vinylbromide	6.73	108	67	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	7.17	83	67	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	8.72	43	4584	N.D.		
12) 2-Methylpentane	10.44	71	420	N.D.		
13) 2,2-Dichloropropane	11.56	77	55	N.D.		
14) 1,1-Dichloropropene	12.96	75	51	N.D.		
15) Thiophene	13.24	84	383	N.D.		
17) 2,3-Dimethylpentane	13.68	56	426	N.D.		
18) Dibromomethane	13.92	174	395	N.D.		
20) Methyl Cyclohexane	15.17	55	1609	N.D.		
21) 1,3-Dichloropropane	16.07	76	51	N.D.		
22) 1,1,1,2-Tetrachloroethane	17.79	131	164	N.D.		
23) 1-Chlorohexane	18.01	91	65	N.D.		
24) 1,2,3-Trichloropropane	18.87	75	86	N.D.		
25) Bromobenzene	19.34	77	316	N.D.		
26) 2-Chlorotoluene	19.70	91	3825	N.D.		
27) 4-Chlorotoluene	19.78	91	204	N.D.		
28) Indane	20.80	117	488	N.D.		
29) Indene	20.89	115	296	N.D.		
30) 1,2,4,5-Tetramethylben...	21.63	119	630	N.D.		
31) 1,2,3,4-Tetramethylben...	21.67	119	668	N.D.		
32) 1,2,3,5-Tetramethylben...	21.97	119	131	N.D.		
33) 1,2,3-Trichlorobenzene	22.58	180	82	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 14:37:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

CI 3/22/24

Quant Time: Mar 21 14:37:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

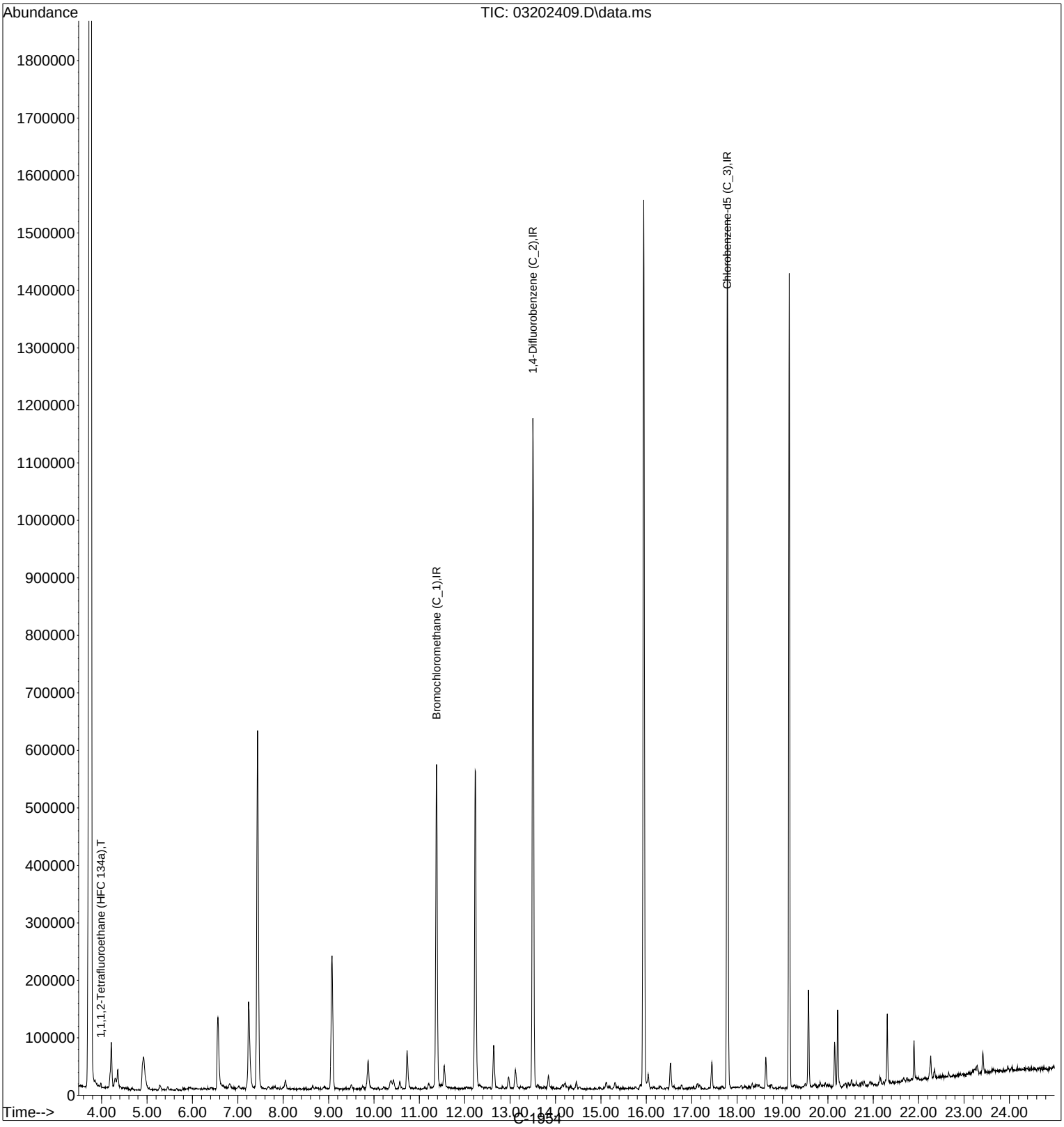
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	220771	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	1012009	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	222973	12.500	ng	0.00
Target Compounds						Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.98	83	4146	0.189	ng	86

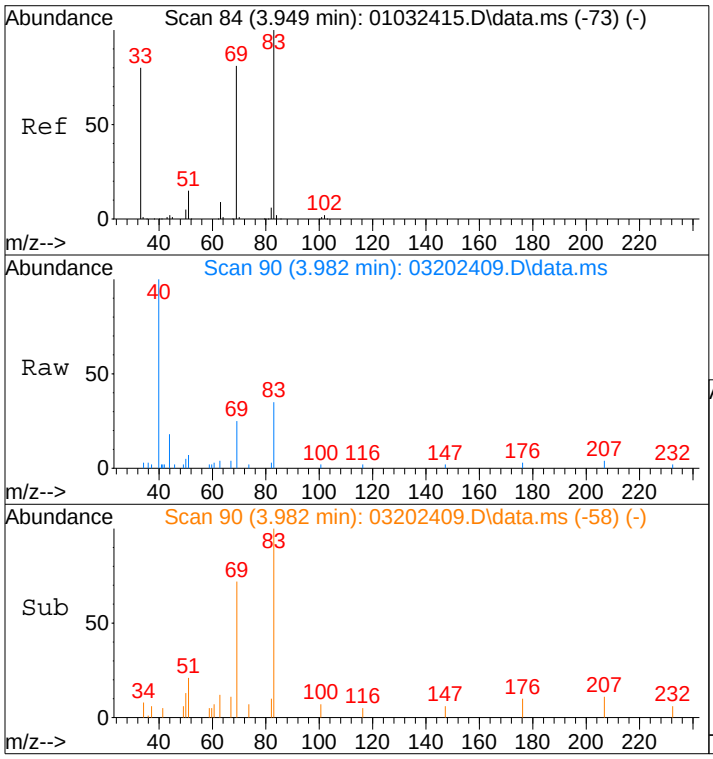
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 21 14:37:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

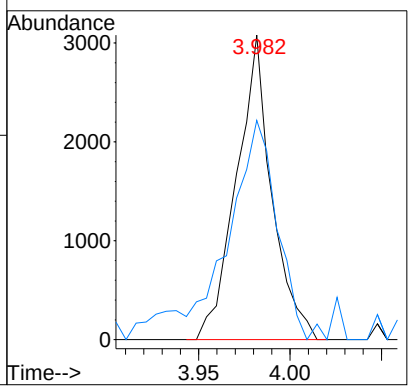




#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.19 ng
RT: 3.98 min Scan# 90
Delta R.T. 0.028 min
Lab File: 03202409.D
Acq: 20 Mar 2024 9:38

Tgt Ion: 83 Resp: 4146

Ion	Ratio	Lower	Upper
83	100		
69	105.9	74.0	111.0



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202409.D\data.ms

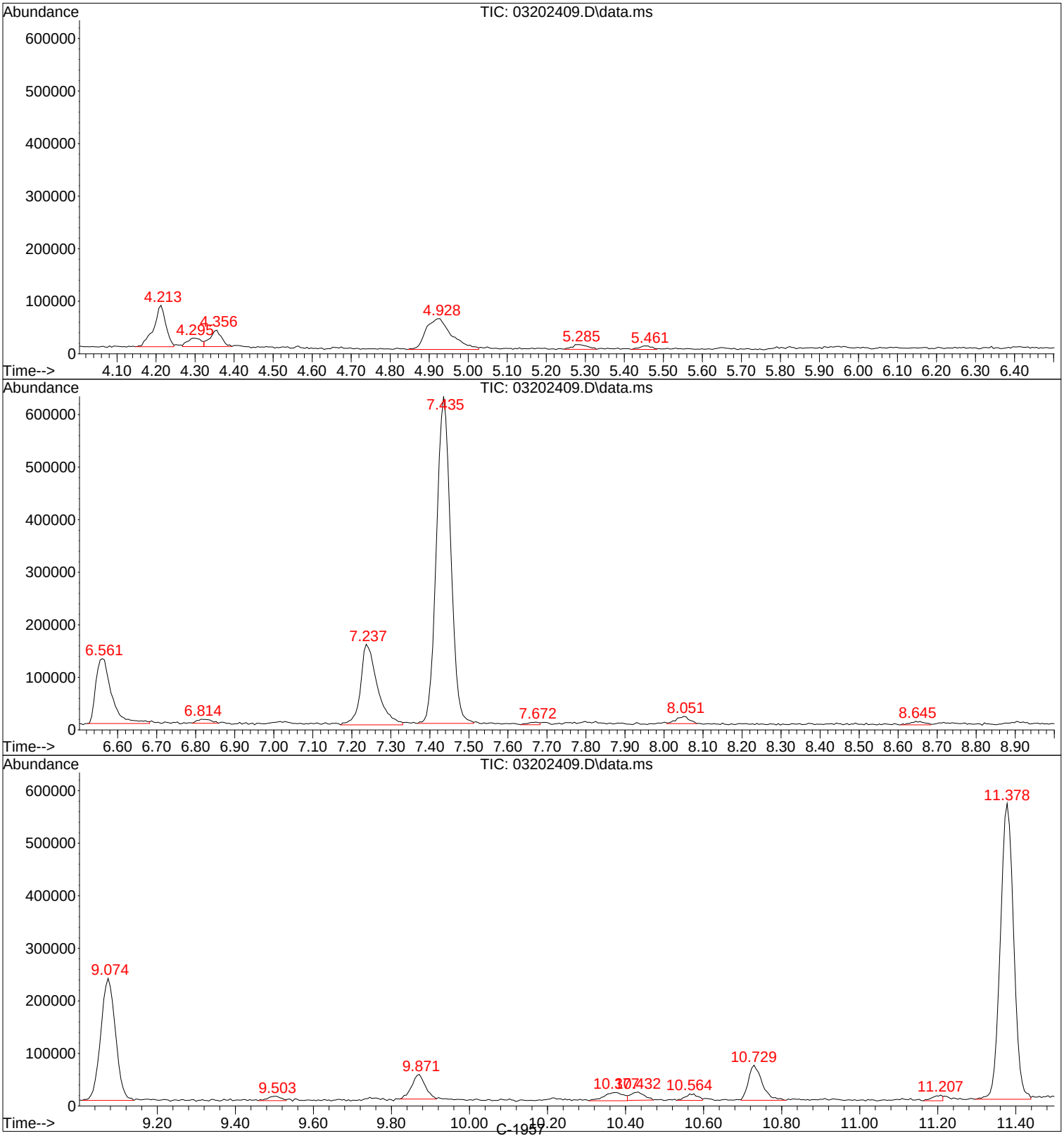
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.213	120	132	138	rBV3	78799	171056	10.88%	3.155%
2	4.295	142	147	152	rVV4	16146	40786	2.59%	0.752%
3	4.356	152	158	165	rVB2	31115	63112	4.02%	1.164%
4	4.928	247	262	280	rBV3	58551	266932	16.98%	4.923%
5	5.285	320	327	335	rVB5	9127	25651	1.63%	0.473%
6	5.461	351	359	363	rBV3	6637	14939	0.95%	0.276%
7	6.561	552	559	581	rBV2	123482	348006	22.14%	6.418%
8	6.814	601	605	613	rVB3	7533	19200	1.22%	0.354%
9	7.237	670	682	699	rBV	153407	458232	29.15%	8.451%
10	7.435	706	718	732	rBV	622203	1571758	100.00%	28.987%
11	7.672	754	761	763	rBV6	5142	10235	0.65%	0.189%
12	8.051	822	830	836	rVB2	13933	32034	2.04%	0.591%
13	8.645	931	938	945	rBV8	6760	16771	1.07%	0.309%
14	9.074	1004	1016	1028	rVB2	232141	611723	38.92%	11.282%
15	9.503	1086	1094	1099	rBV7	8471	19971	1.27%	0.368%
16	9.871	1152	1161	1169	rBV2	47028	113665	7.23%	2.096%
17	10.377	1240	1253	1258	rBV4	15627	55625	3.54%	1.026%
18	10.432	1258	1263	1270	rVB	15675	37266	2.37%	0.687%
19	10.564	1281	1287	1293	rBV4	12407	27186	1.73%	0.501%
20	10.729	1311	1317	1332	rVB	66723	161858	10.30%	2.985%
21	11.207	1396	1404	1405	rBV5	10609	18988	1.21%	0.350%
22	11.378	1420	1435	1446	rBV2	562566	1337230	85.08%	24.662%

Sum of corrected areas: 5422224

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:38
Operator : CI
Sample : P2400922-063 (400mL)
Misc : S37-01032403/
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\20\\
Data File : 03202409.D
Acq On : 20 Mar 2024 9:388
Operator : CII
Sample : P2400922-063 (400mL))
Misc : S37-01032403//
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

CI 3/22/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:55:12 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	219744	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	1004534	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	220293	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	447894	12.102	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.94	98	1109002	12.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	19.15	174	368603	12.723	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	4.34	85	22458	0.459	ng		95
4) Chloromethane	4.65	50	2398	0.074	ng		83
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	413	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.79	94	456	N.D.			
9) Chloroethane	6.13	64	208	N.D.			
10) Ethanol	6.62	45	3415491	173.364	ng		100
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	7.02	56	3729	0.261	ng		95
13) Acetone	0.00	58	0	N.D. d			
14) Trichlorofluoromethane	7.44	101	405773	9.245	ng		99
15) 2-Propanol (Isopropanol)	7.76	45	388	N.D.			
16) Acrylonitrile	8.05	53	6487	0.227	ng	#	61
17) 1,1-Dichloroethene	8.42	96	148	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	8.65	84	4414	0.191	ng		98
20) 3-Chloro-1-propene (Al...	8.84	41	332	N.D.			
21) Trichlorotrifluoroethane	9.08	151	45096	2.359	ng		100
22) Carbon Disulfide	8.90	76	21338	0.325	ng		97
23) trans-1,2-Dichloroethene	9.94	61	424	N.D.			
24) 1,1-Dichloroethane	10.18	63	315	N.D.			
25) Methyl tert-Butyl Ether	10.38	73	635	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.74	72	7150	0.512	ng	#	87
28) cis-1,2-Dichloroethene	11.19	61	510	N.D.			
29) Diisopropyl Ether	11.49	87	161	N.D.			
30) Ethyl Acetate	11.53	61	181026	22.736	ng		93
31) n-Hexane	11.49	57	9037	0.248	ng	#	84
32) Chloroform	11.55	83	1007	N.D.			
34) Tetrahydrofuran (THF)	12.02	72	2219	0.165	ng	#	78
35) Ethyl tert-Butyl Ether	12.13	87	167	N.D.			
36) 1,2-Dichloroethane	12.36	62	830	N.D.			
38) 1,1,1-Trichloroethane	12.64	97	123	N.D.			
39) Isopropyl Acetate	13.87	61	154	No Calib		#	
40) 1-Butanol	12.60	56	121	No Calib		#	
41) Benzene	13.10	78	24248	0.254	ng		91
42) Carbon Tetrachloride	13.25	117	1517	0.052	ng		96
43) Cyclohexane	13.40	84	3030	0.097	ng		86
44) tert-Amyl Methyl Ether	13.71	73	357	N.D.			
45) 1,2-Dichloropropane	13.96	63	734	N.D.			
46) Bromodichloromethane	14.15	83	569	N.D.			
47) Trichloroethene	0.00	130	0	N.D. d			
48) 1,4-Dioxane	14.22	88	309	N.D.			

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 11:55:12 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

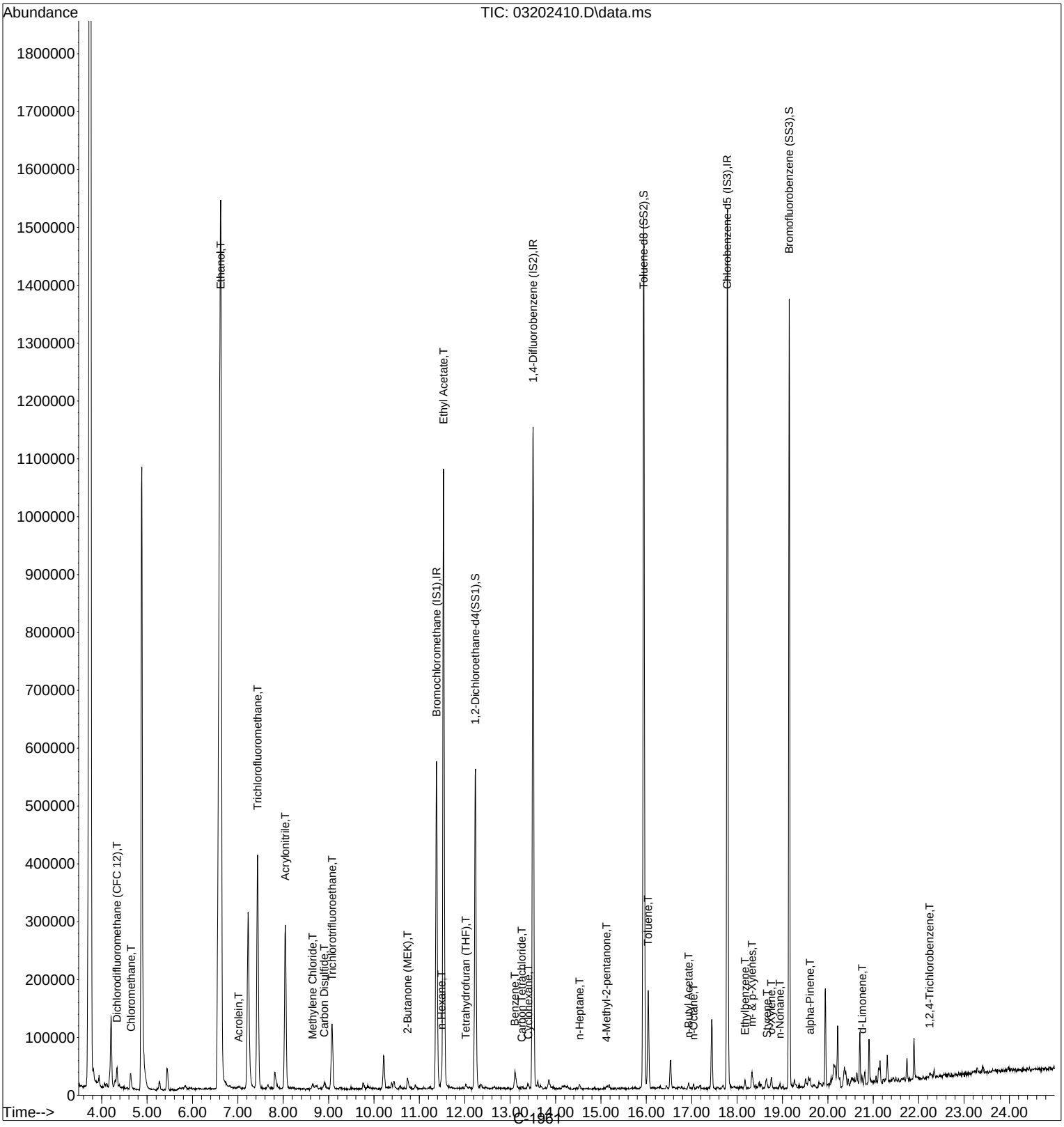
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	3969	N.D.		
50) Methyl Methacrylate	14.44	100	202	N.D.		
51) n-Heptane	14.53	71	2312	0.100 ng		91
52) cis-1,3-Dichloropropene	15.14	75	115	N.D.		
53) 4-Methyl-2-pentanone	15.12	58	1480	0.079 ng	#	72
54) trans-1,3-Dichloropropene	15.58	75	149	N.D.		
55) 1,1,2-Trichloroethane	15.75	97	421	N.D.		
58) Toluene	16.04	91	134036	1.661 ng		100
59) 2-Hexanone	16.30	43	1868	N.D.		
60) Dibromochloromethane	16.45	129	717	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.93	43	6746	0.119 ng		92
63) n-Octane	17.04	57	1458	0.078 ng		87
64) Tetrachloroethene	17.18	166	1045	N.D.		
65) Chlorobenzene	17.82	112	1266	N.D.		
66) Ethylbenzene	18.17	91	9217	0.098 ng		92
67) m- & p-Xylenes	18.33	91	18939	0.252 ng		97
68) Bromoform	18.39	173	893	N.D.		
69) Styrene	18.66	104	4126	0.079 ng		95
70) o-Xylene	18.75	91	7534	0.100 ng		89
71) n-Nonane	18.94	43	3243	0.068 ng		88
72) 1,1,2,2-Tetrachloroethane	18.73	83	975	N.D.		
74) Cumene	19.27	105	2491	N.D.		
75) alpha-Pinene	19.61	93	4658	0.107 ng		99
76) n-Propylbenzene	19.72	91	4037	N.D.		
77) 3-Ethyltoluene	20.25	105	2336	No Calib		
78) 4-Ethyltoluene	19.84	105	1680	N.D.		
79) 1,3,5-Trimethylbenzene	19.91	105	1202	N.D.		
80) alpha-Methylstyrene	20.52	118	123	No Calib	#	
81) 2-Ethyltoluene	20.25	105	2336	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	2336	N.D.		
83) n-Decane	20.36	58	517	No Calib	#	
84) Benzyl Chloride	20.37	91	822	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	1084	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1449	N.D.		
87) sec-Butylbenzene	20.49	105	1434	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	2362	N.D.		
89) 1,2,3-Trimethylbenzene	20.25	105	2336	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1075	N.D.		
91) d-Limonene	20.76	68	3341	0.123 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.13	157	333	N.D.		
93) n-Undecane	21.49	58	262	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1809	0.056 ng		97
95) Naphthalene	22.35	128	3314	N.D.		
96) n-Dodecane	22.77	57	716	No Calib	#	
97) Hexachlorobutadiene	22.67	225	772	N.D.		
98) Cyclohexanone	18.24	55	441	No Calib	#	
99) tert-Butylbenzene	20.26	119	1890	N.D.		
100) n-Butylbenzene	20.98	91	1706	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 11:55:12 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

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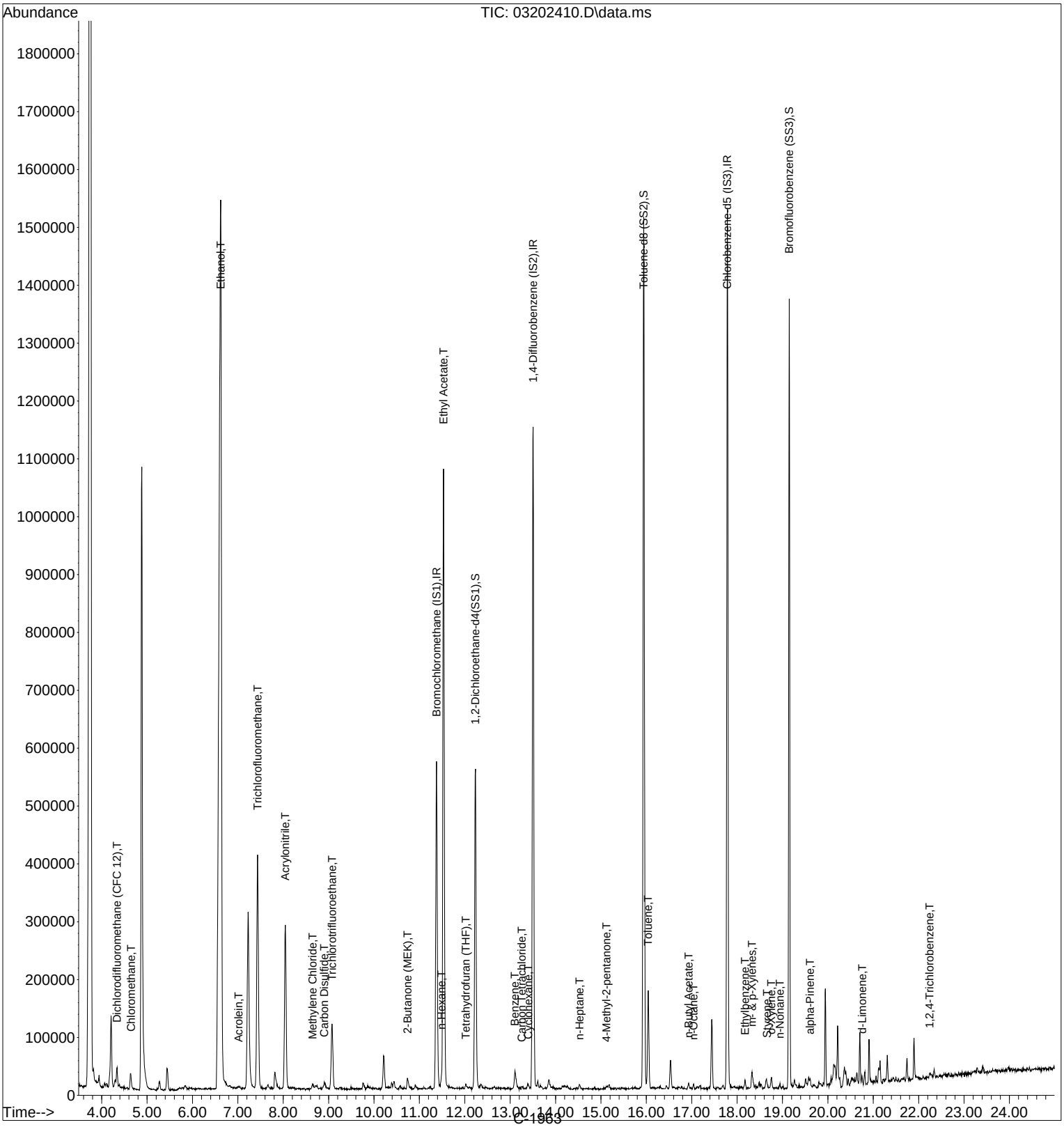
1) Bromochloromethane (IS1)	11.38	130	219744	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	1004534	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	220293	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	447894	12.102	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%				
57) Toluene-d8 (SS2)	15.94	98	1109002	12.891	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
73) Bromofluorobenzene (SS3)	19.15	174	368603	12.723	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	4.34	85	22458	0.459	ng		95
4) Chloromethane	4.65	50	2398	0.074	ng		83
10) Ethanol	6.62	45	3415491	173.364	ng		100
12) Acrolein	7.02	56	3729	0.261	ng		95
14) Trichlorofluoromethane	7.44	101	405773	9.245	ng		99
16) Acrylonitrile	8.05	53	6487	0.227	ng	#	61
19) Methylene Chloride	8.65	84	4414	0.191	ng		98
21) Trichlorotrifluoroethane	9.08	151	45096	2.359	ng		100
22) Carbon Disulfide	8.90	76	21338	0.325	ng		97
27) 2-Butanone (MEK)	10.74	72	7150	0.512	ng	#	87
30) Ethyl Acetate	11.53	61	181026	22.736	ng		93
31) n-Hexane	11.49	57	9037	0.248	ng	#	84
34) Tetrahydrofuran (THF)	12.02	72	2219	0.165	ng	#	78
41) Benzene	13.10	78	24248	0.254	ng		91
42) Carbon Tetrachloride	13.25	117	1517	0.052	ng		96
43) Cyclohexane	13.40	84	3030	0.097	ng		86
51) n-Heptane	14.53	71	2312	0.100	ng		91
53) 4-Methyl-2-pentanone	15.12	58	1480	0.079	ng	#	72
58) Toluene	16.04	91	134036	1.661	ng		100
62) n-Butyl Acetate	16.93	43	6746	0.119	ng		92
63) n-Octane	17.04	57	1458	0.078	ng		87
66) Ethylbenzene	18.17	91	9217	0.098	ng		92
67) m- & p-Xylenes	18.33	91	18939	0.252	ng		97
69) Styrene	18.66	104	4126	0.079	ng		95
70) o-Xylene	18.75	91	7534	0.100	ng		89
71) n-Nonane	18.94	43	3243	0.068	ng		88
75) alpha-Pinene	19.61	93	4658	0.107	ng		99
91) d-Limonene	20.76	68	3341	0.123	ng		96
94) 1,2,4-Trichlorobenzene	22.24	180	1809	0.056	ng		97

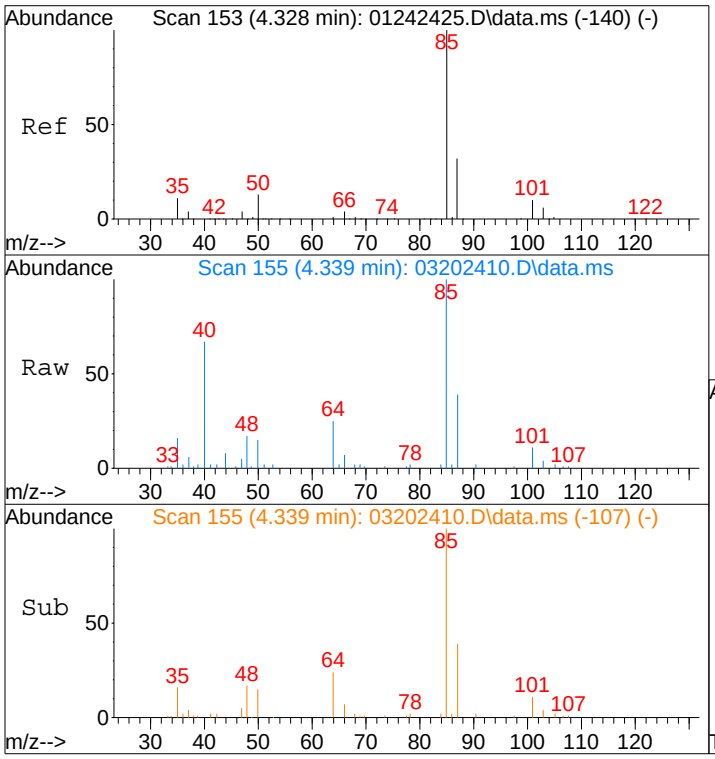
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 11:55:12 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

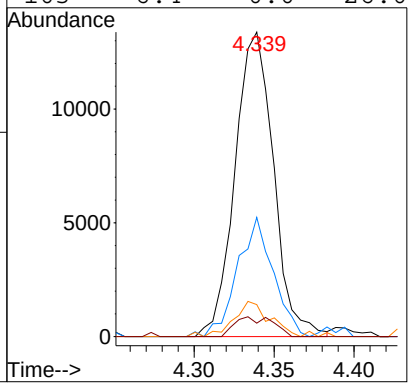


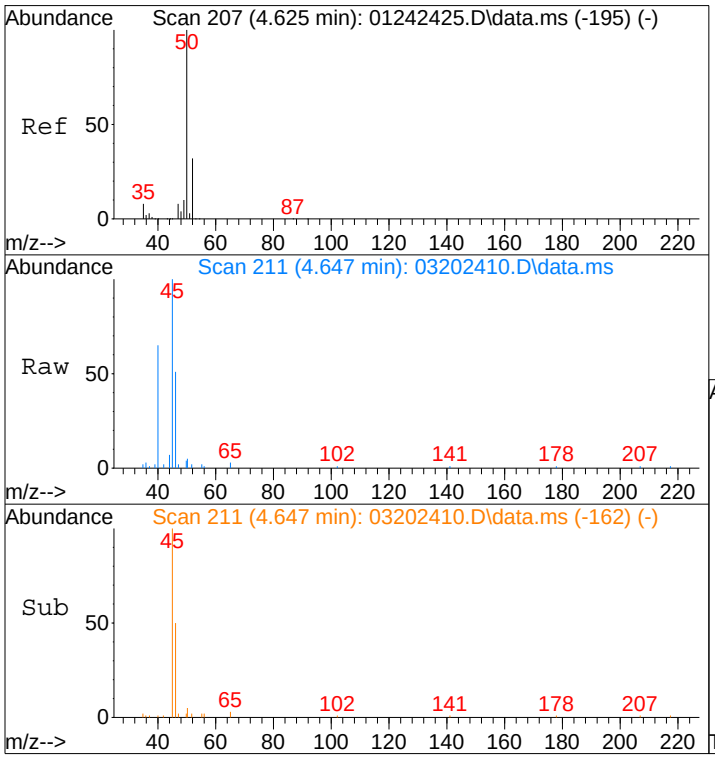


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.46 ng
RT: 4.34 min Scan# 155
Delta R.T. 0.016 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 85 Resp: 22458

Ion	Ratio	Lower	Upper
85	100		
87	36.4	13.1	53.1
101	10.7	0.0	29.5
103	6.4	0.0	26.0

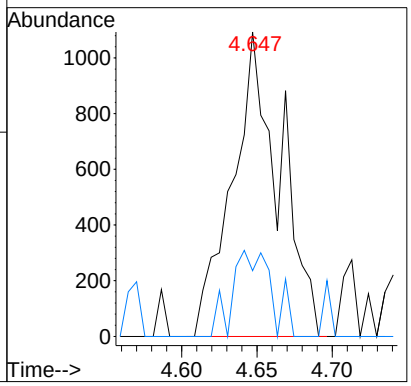


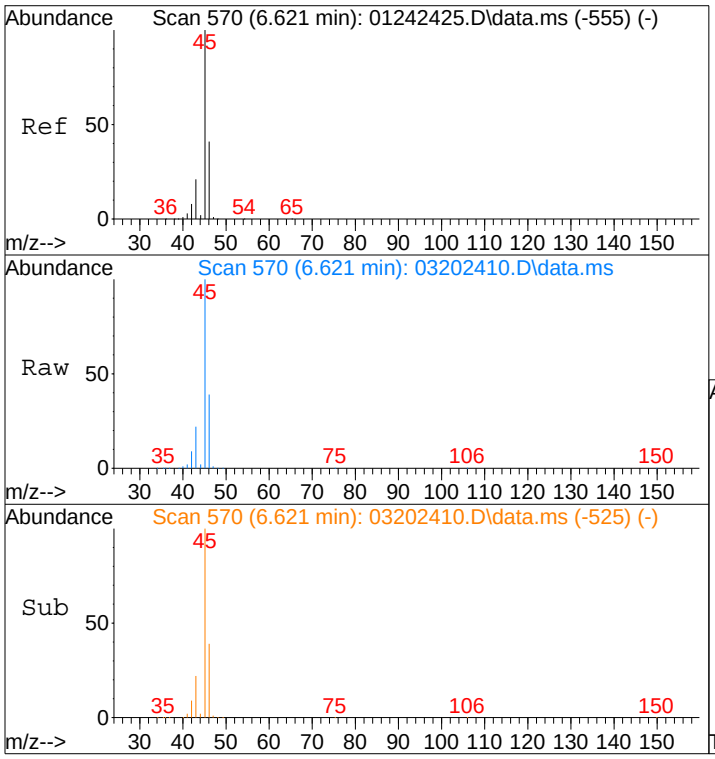


#4
Chloromethane
Concen: 0.07 ng
RT: 4.65 min Scan# 211
Delta R.T. 0.022 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 50 Resp: 2398

Ion	Ratio	Lower	Upper
50	100		
52	23.4	12.8	52.8

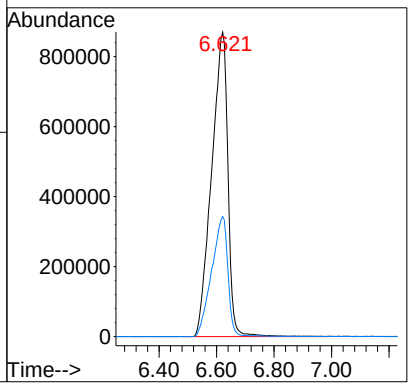


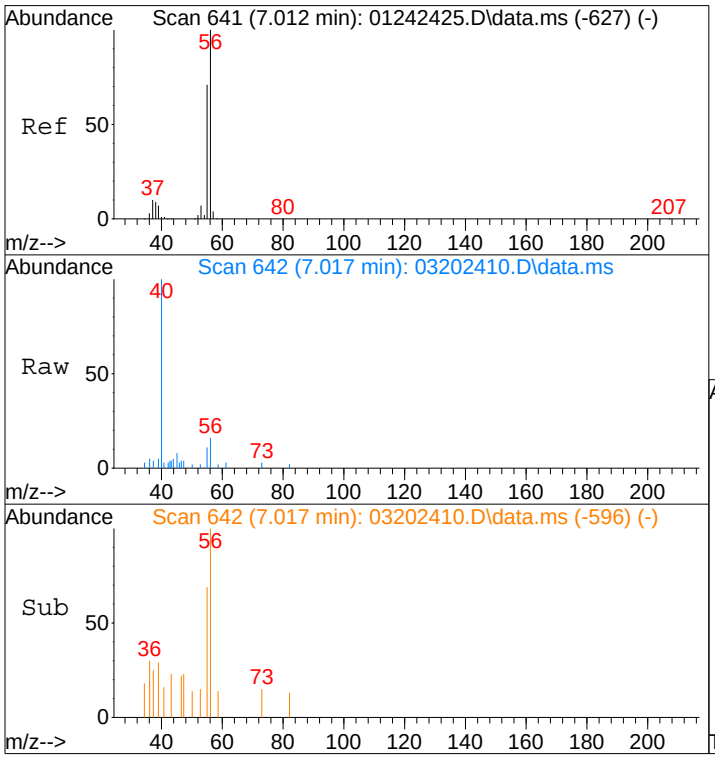


#10
Ethanol
Concen: 173.36 ng
RT: 6.62 min Scan# 570
Delta R.T. -0.000 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 45 Resp: 3415491

Ion	Ratio	Lower	Upper
45	100		
46	39.6	19.6	59.6

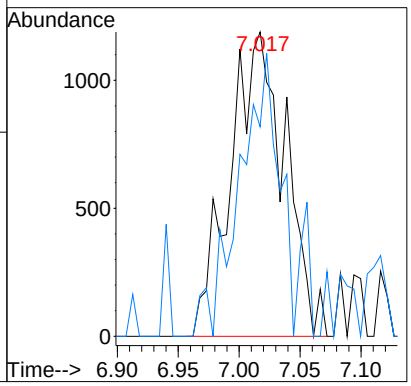


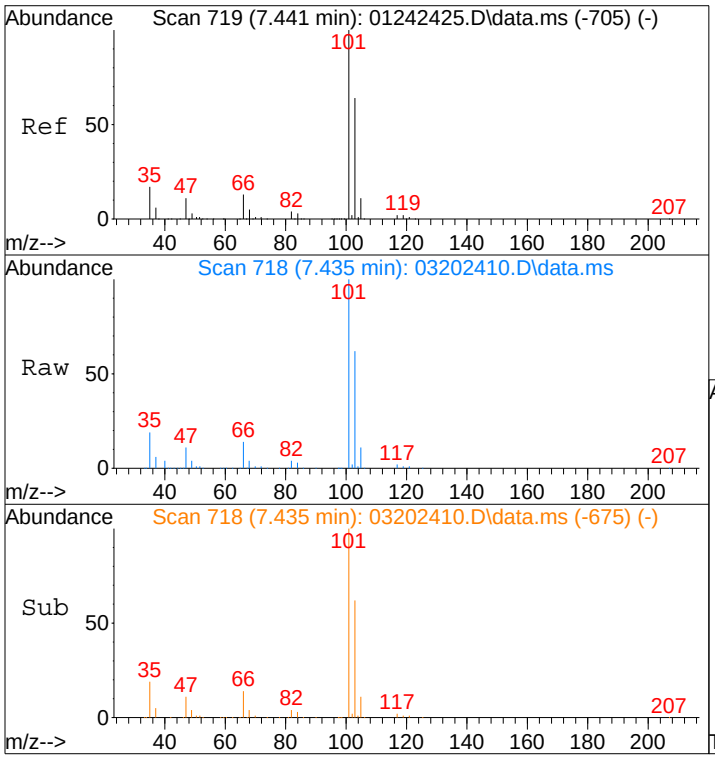


#12
Acrolein
Concen: 0.26 ng
RT: 7.02 min Scan# 642
Delta R.T. 0.005 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 56 Resp: 3729

Ion	Ratio	Lower	Upper
56	100		
55	67.0	51.4	91.4

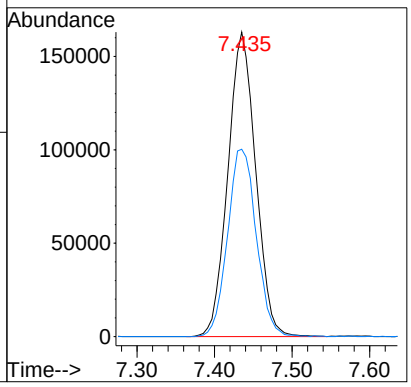


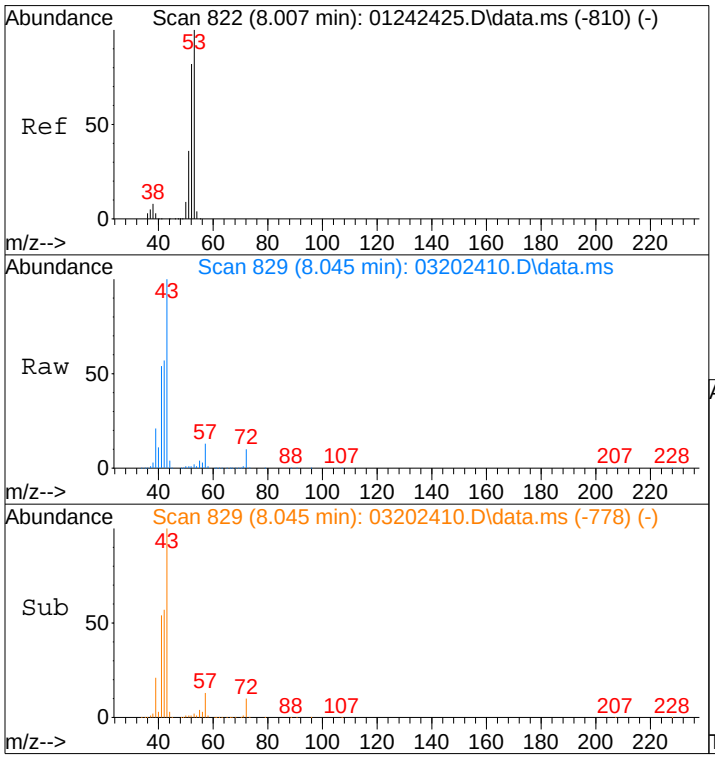


#14
Trichlorofluoromethane
Concen: 9.24 ng
RT: 7.44 min Scan# 718
Delta R.T. -0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion:101 Resp: 405773

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.1	84.1

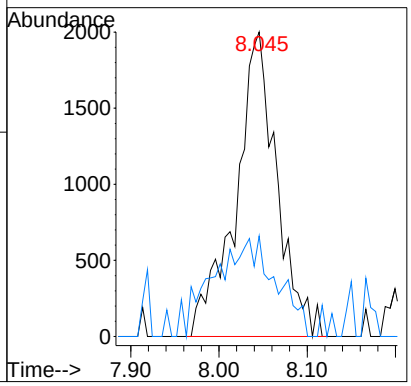


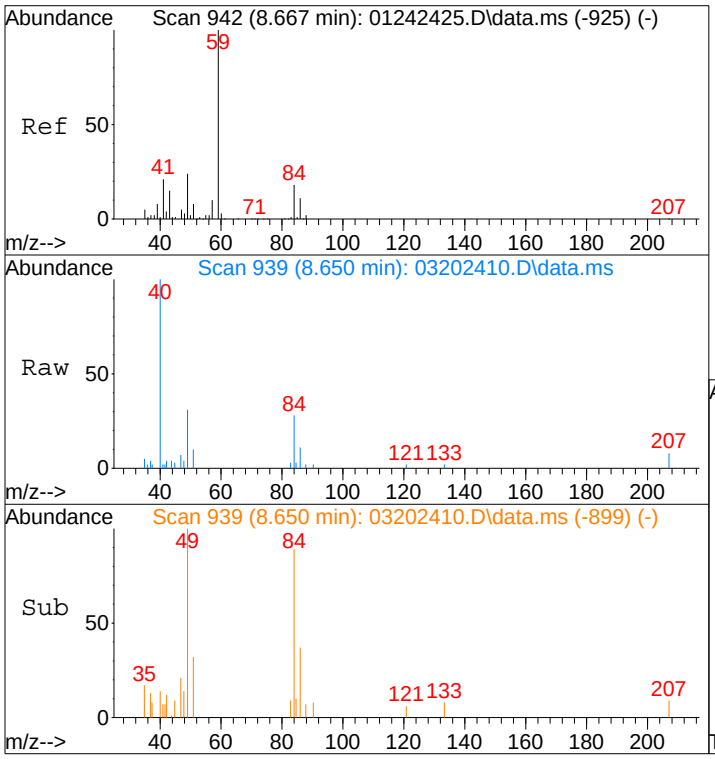


#16
Acrylonitrile
Concen: 0.23 ng
RT: 8.05 min Scan# 829
Delta R.T. 0.033 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 53 Resp: 6487

Ion	Ratio	Lower	Upper
53	100		
52	49.7	64.8	104.8#

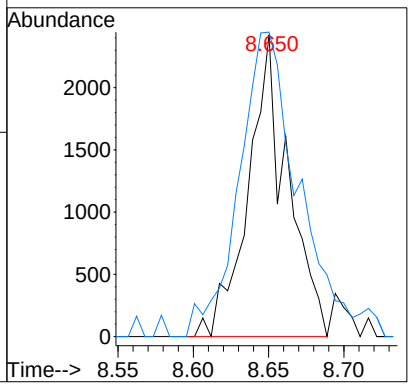


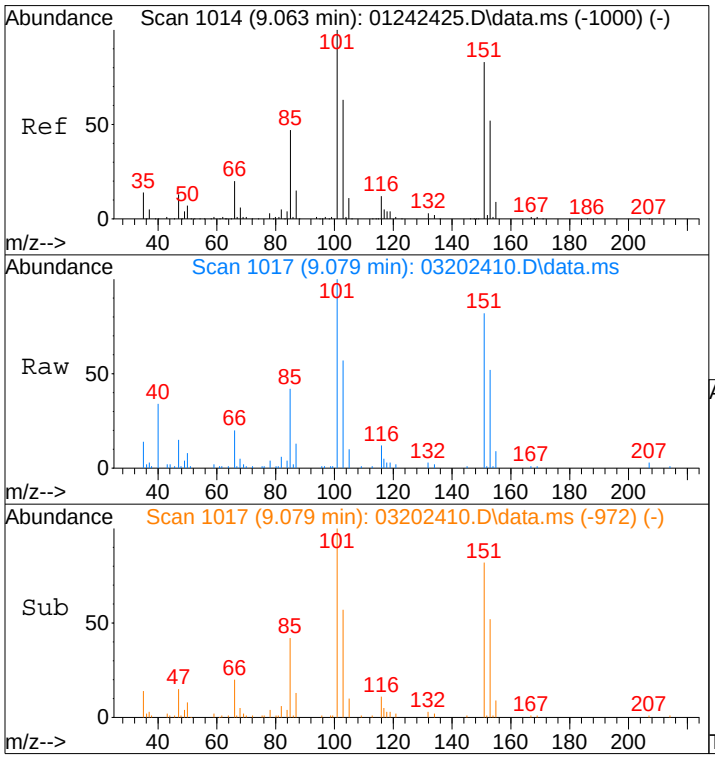


#19
Methylene Chloride
Concen: 0.19 ng
RT: 8.65 min Scan# 939
Delta R.T. -0.028 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 84 Resp: 4414

Ion	Ratio	Lower	Upper
84	100		
49	154.1	126.4	176.4

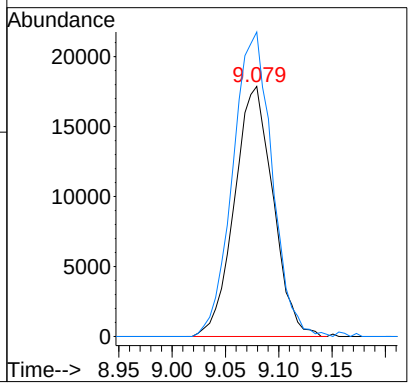


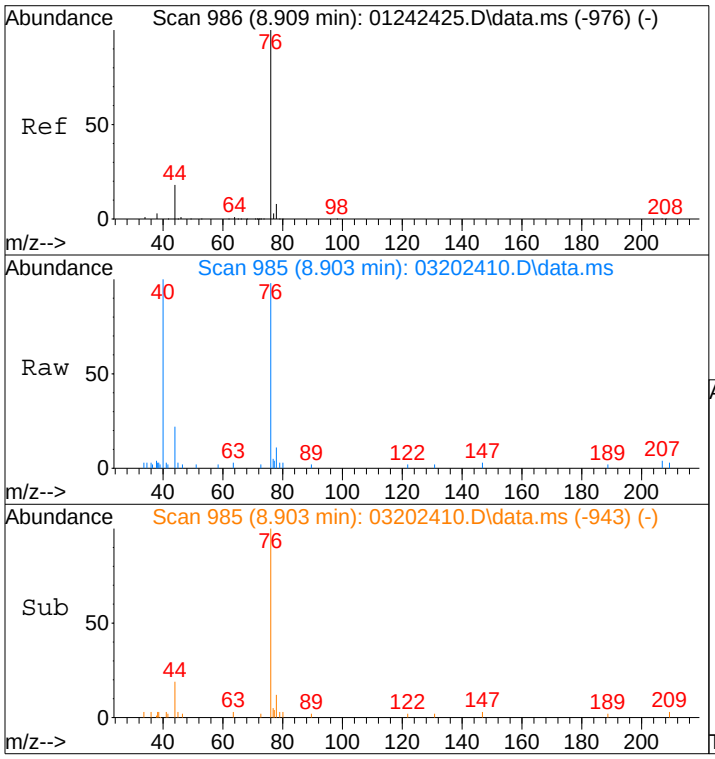


#21
Trichlorotrifluoroethane
Concen: 2.36 ng
RT: 9.08 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion:151 Resp: 45096

Ion	Ratio	Lower	Upper
151	100		
101	123.9	104.2	144.2

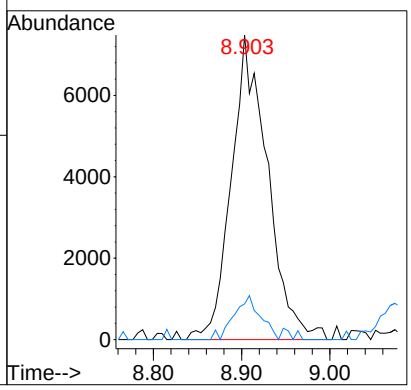


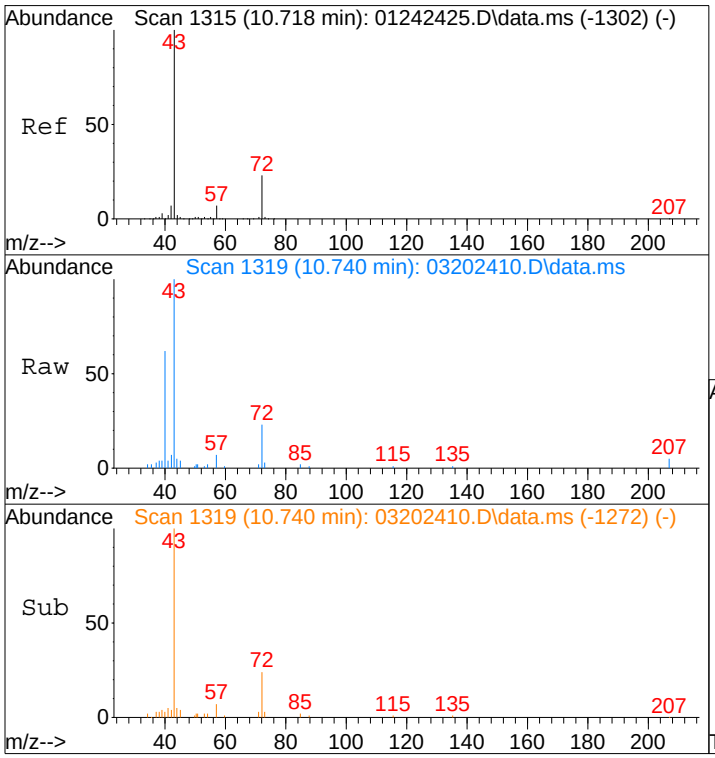


#22
Carbon Disulfide
Concen: 0.32 ng
RT: 8.90 min Scan# 985
Delta R.T. -0.017 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 76 Resp: 21338

Ion	Ratio	Lower	Upper
76	100		
78	10.5	0.0	29.3

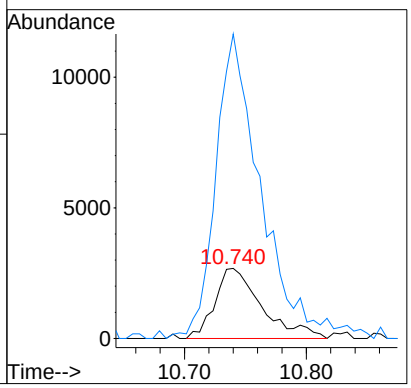


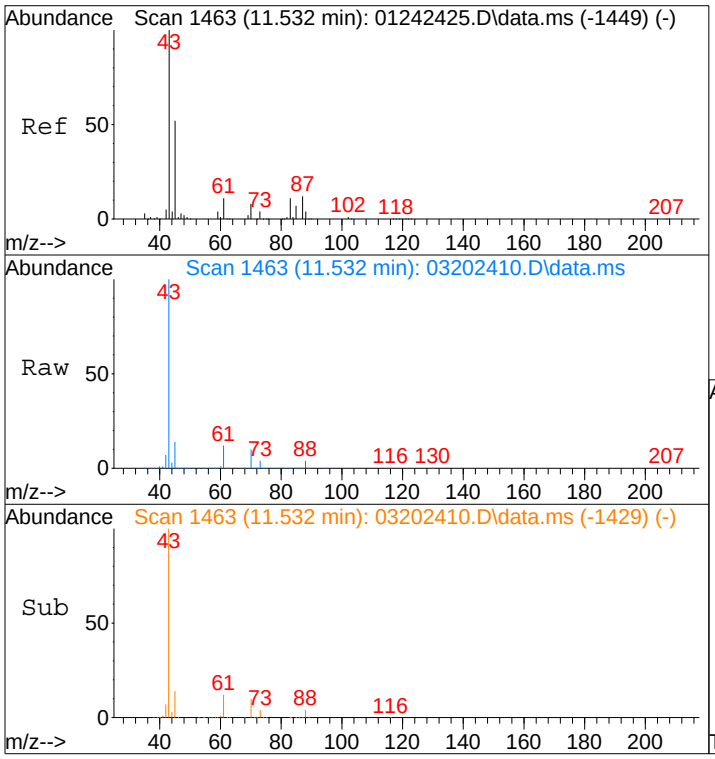


#27
2-Butanone (MEK)
Concen: 0.51 ng
RT: 10.74 min Scan# 1319
Delta R.T. 0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 72 Resp: 7150

Ion	Ratio	Lower	Upper
72	100		
43	423.3	437.9	477.9#

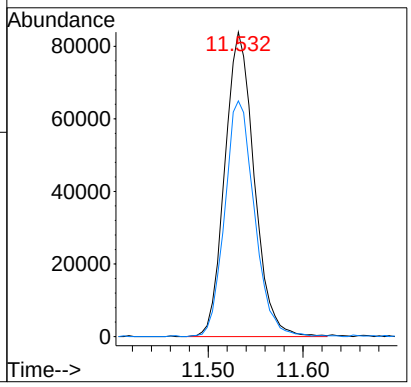


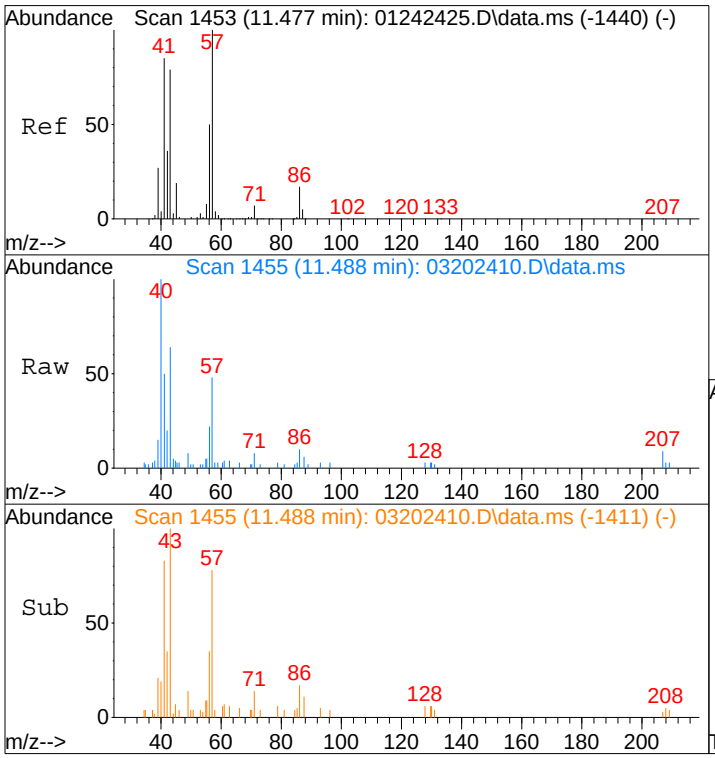


#30
Ethyl Acetate
Concen: 22.74 ng
RT: 11.53 min Scan# 1463
Delta R.T. -0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 61 Resp: 181026

Ion	Ratio	Lower	Upper
61	100		
70	78.3	64.5	104.5

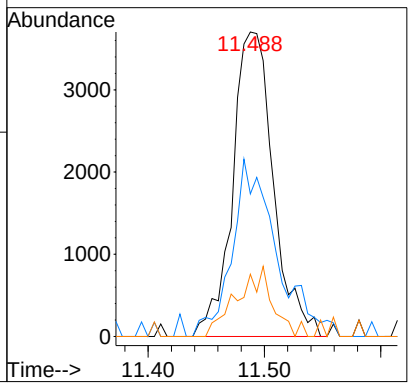


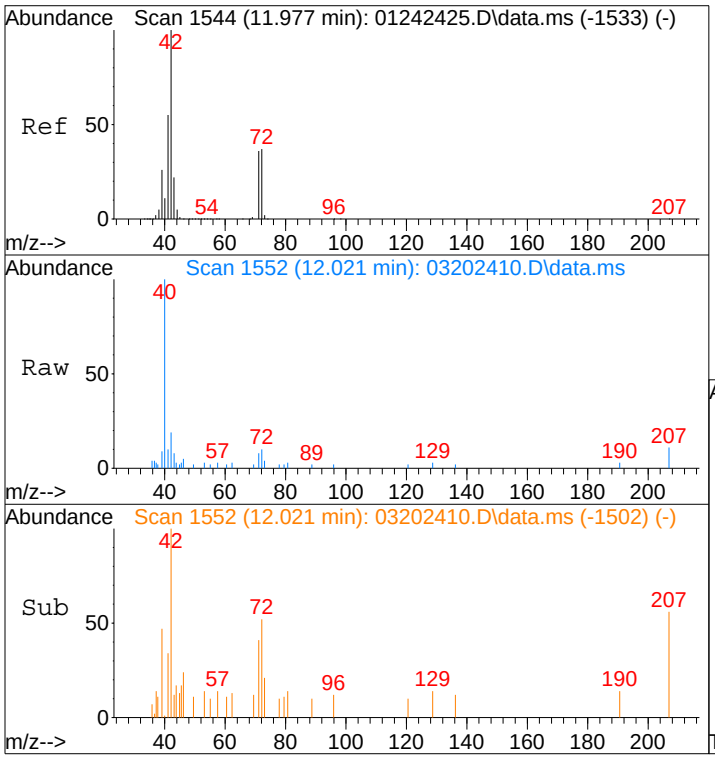


#31
n-Hexane
Concen: 0.25 ng
RT: 11.49 min Scan# 1455
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 57 Resp: 9037

Ion	Ratio	Lower	Upper
57	100		
56	63.4	40.7	61.1#
86	20.3	13.4	20.2#

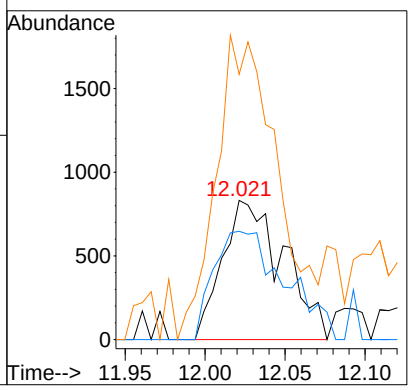


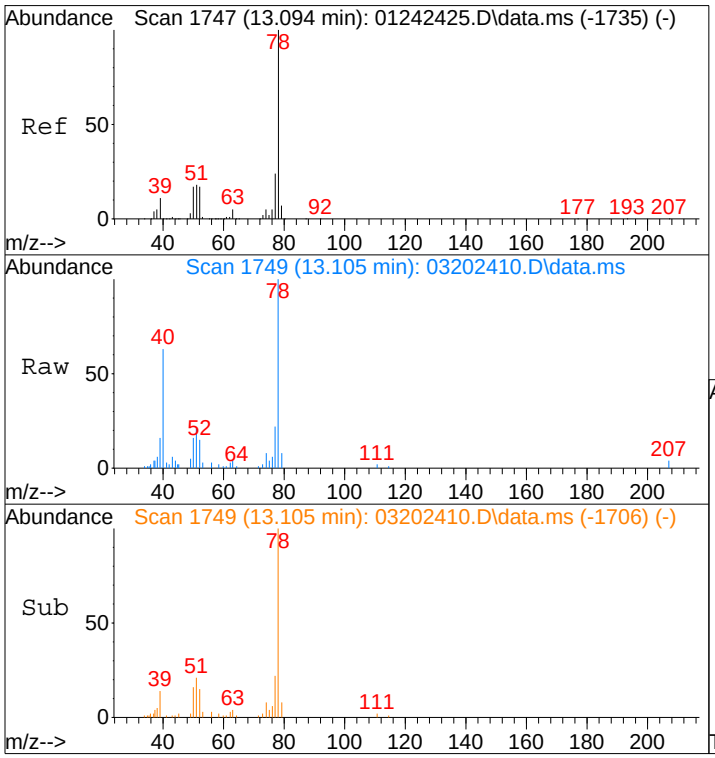


#34
Tetrahydrofuran (THF)
Concen: 0.16 ng
RT: 12.02 min Scan# 1552
Delta R.T. 0.027 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 72 Resp: 2219

Ion	Ratio	Lower	Upper
72	100		
71	90.5	76.1	116.1
42	219.1	250.1	290.1#

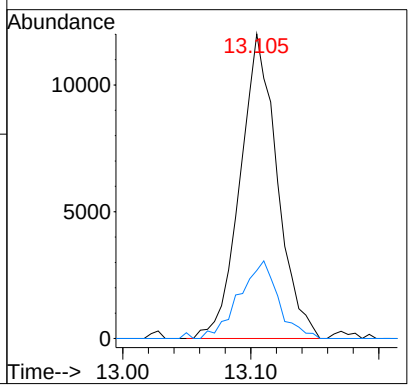


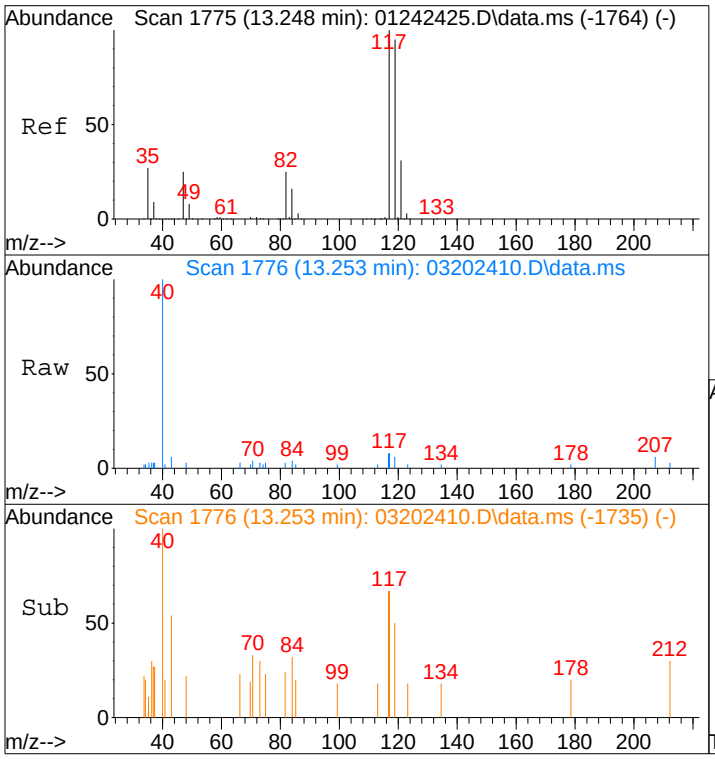


#41
Benzene
Concen: 0.25 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 78 Resp: 24248

Ion	Ratio	Lower	Upper
78	100		
77	26.8	2.6	42.6

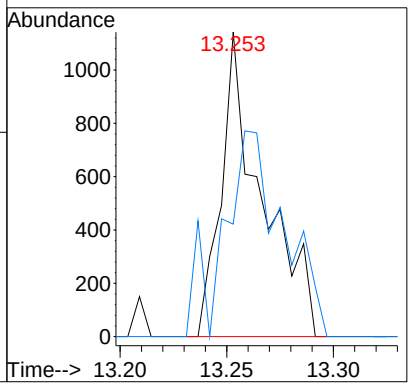


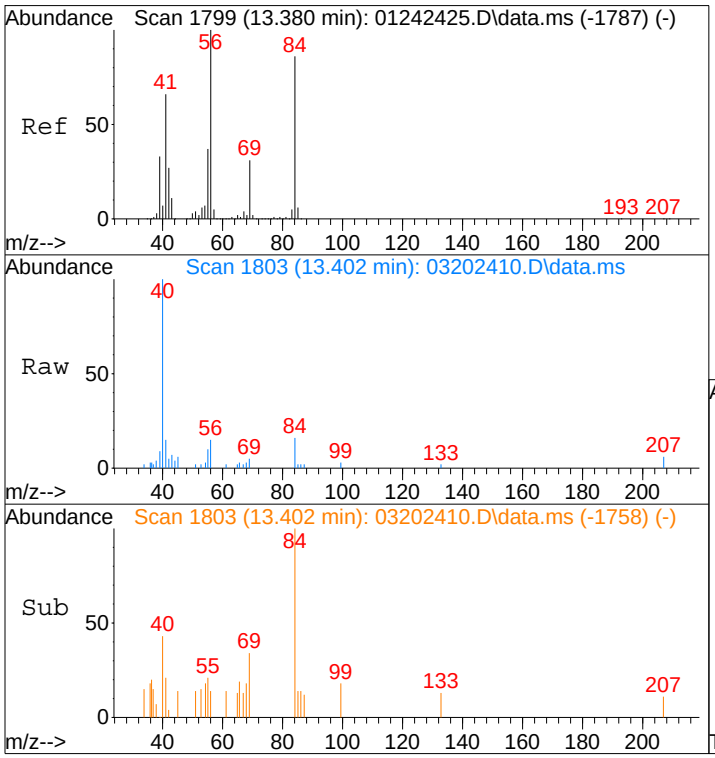


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 13.25 min Scan# 1776
Delta R.T. -0.022 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion:117 Resp: 1517

Ion	Ratio	Lower	Upper
117	100		
119	99.1	75.2	115.2

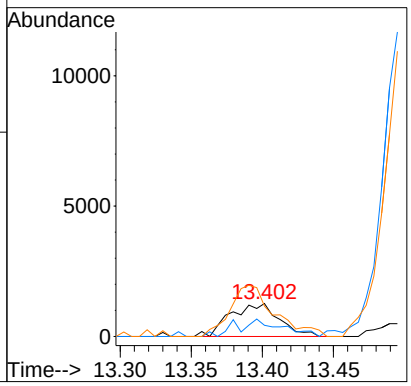


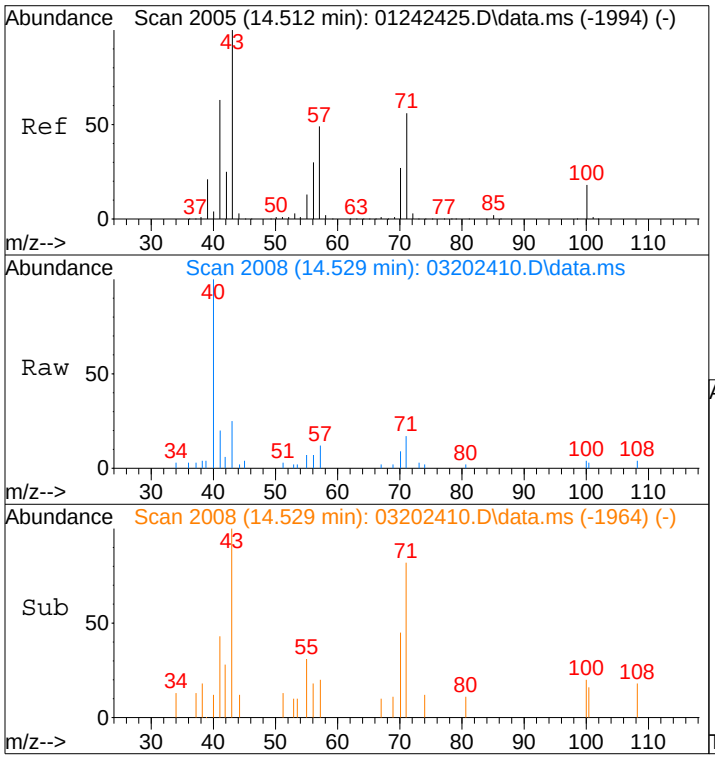


#43
Cyclohexane
Concen: 0.10 ng
RT: 13.40 min Scan# 1803
Delta R.T. -0.000 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 84 Resp: 3030

Ion	Ratio	Lower	Upper
84	100		
69	35.3	17.1	57.1
56	140.9	101.6	141.6

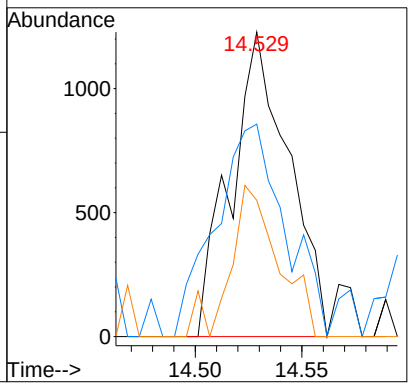


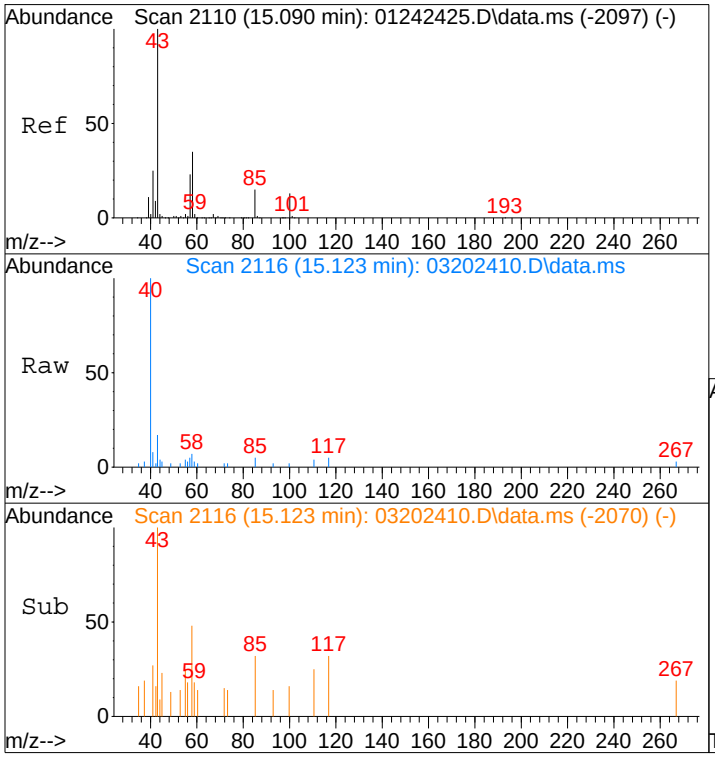


#51
n-Heptane
Concen: 0.10 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 71 Resp: 2312

Ion	Ratio	Lower	Upper
71	100		
57	84.2	69.1	109.1
100	41.5	10.7	50.7

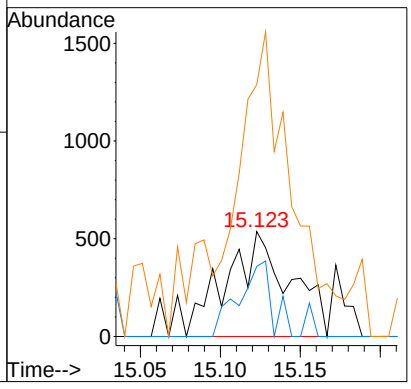


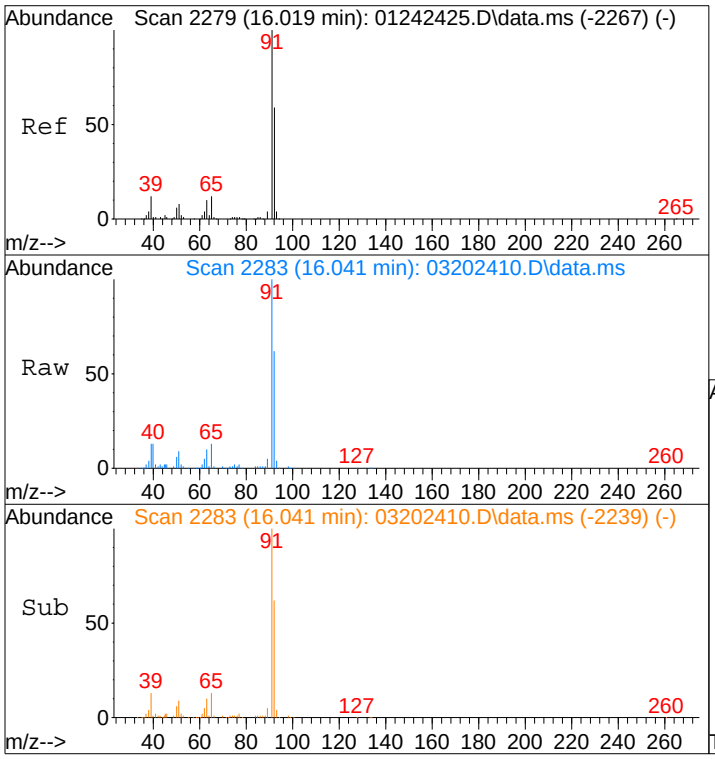


#53
4-Methyl-2-pentanone
Concen: 0.08 ng
RT: 15.12 min Scan# 2116
Delta R.T. 0.005 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 58 Resp: 1480

Ion	Ratio	Lower	Upper
58	100		
85	37.8	36.2	54.2
43	237.0	238.2	357.2#

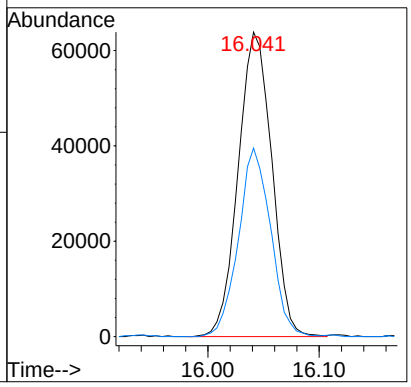


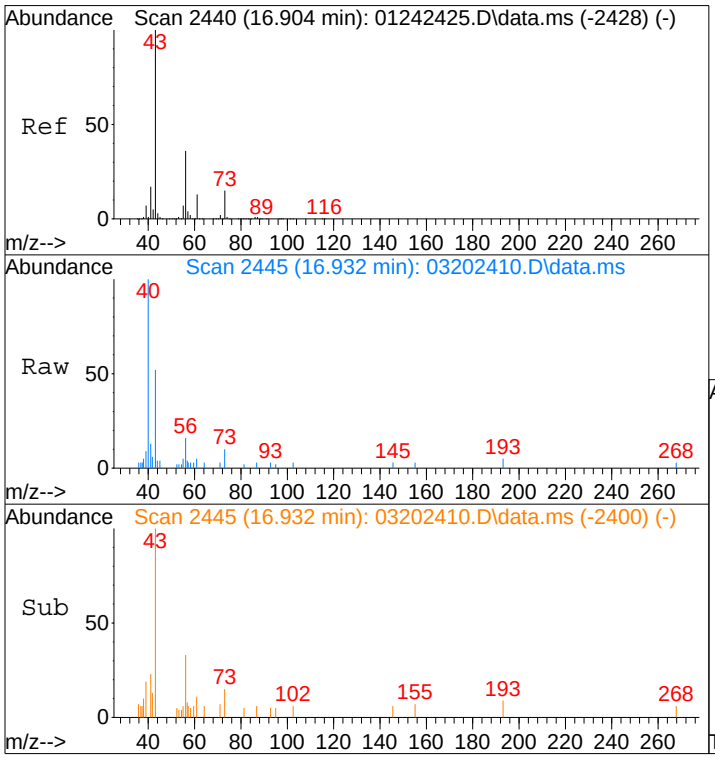


#58
Toluene
Concen: 1.66 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 91 Resp: 134036

Ion	Ratio	Lower	Upper
91	100		
92	59.4	39.1	79.1

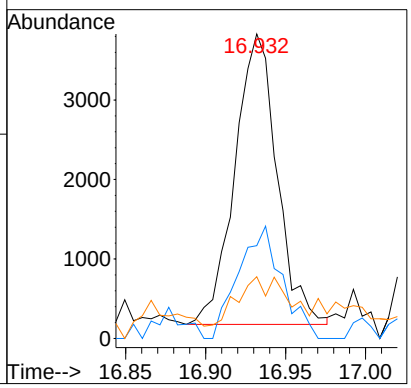


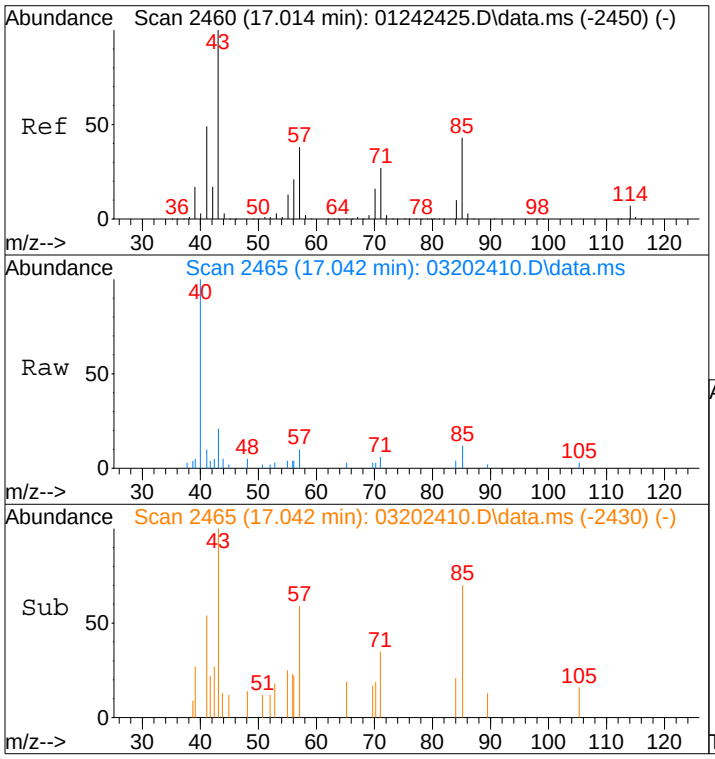


#62
n-Butyl Acetate
Concen: 0.12 ng
RT: 16.93 min Scan# 2445
Delta R.T. -0.000 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 43 Resp: 6746

Ion	Ratio	Lower	Upper
43	100		
56	39.7	16.1	56.1
73	19.6	0.0	34.6

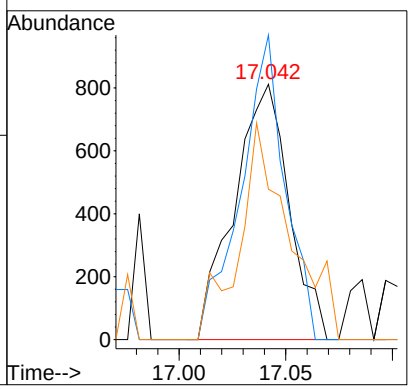


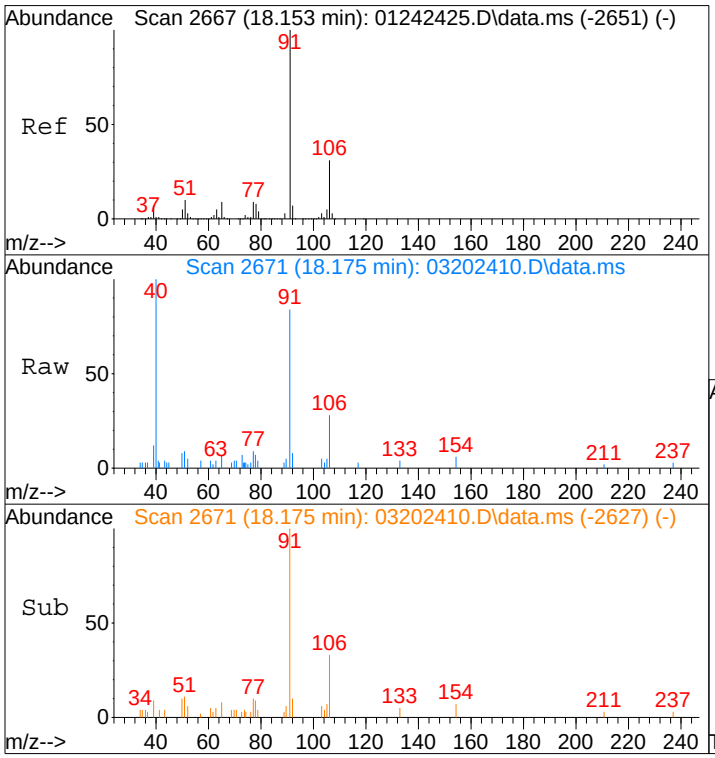


#63
n-Octane
Concen: 0.08 ng
RT: 17.04 min Scan# 2465
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 57 Resp: 1458

Ion	Ratio	Lower	Upper
57	100		
85	95.5	90.2	135.2
71	78.5	57.1	85.7

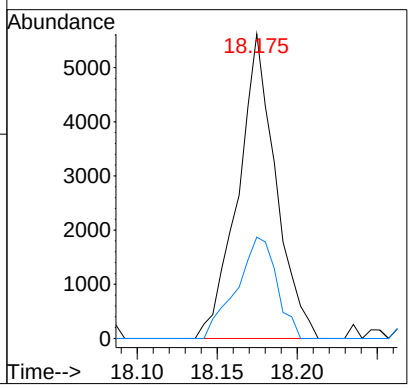


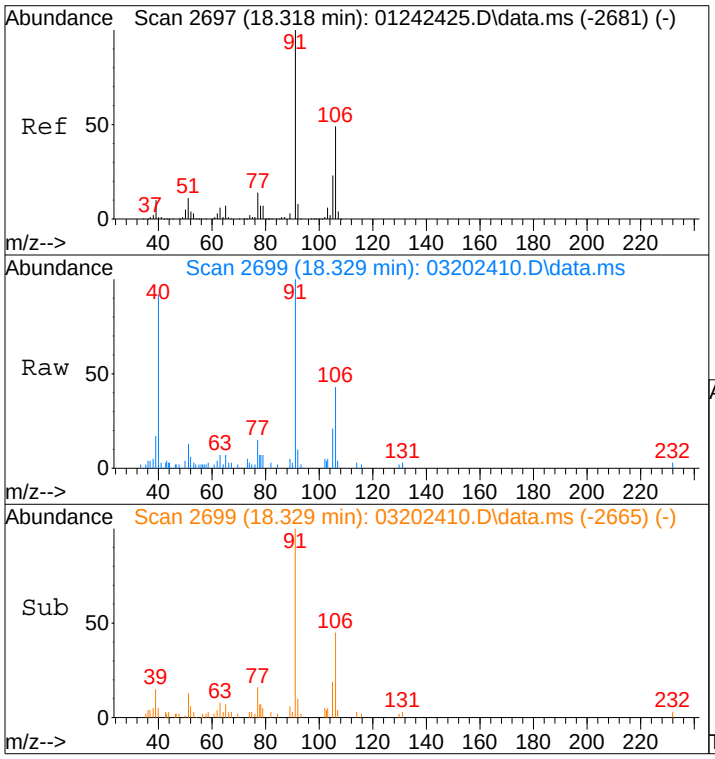


#66
Ethylbenzene
Concen: 0.10 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 91 Resp: 9217

Ion	Ratio	Lower	Upper
91	100		
106	35.4	10.9	50.9

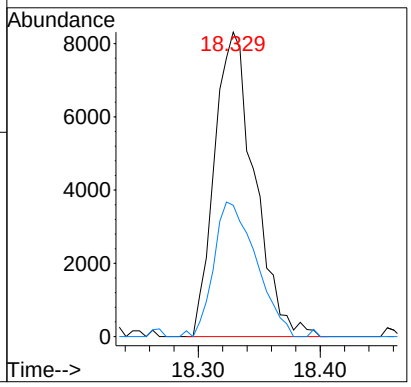


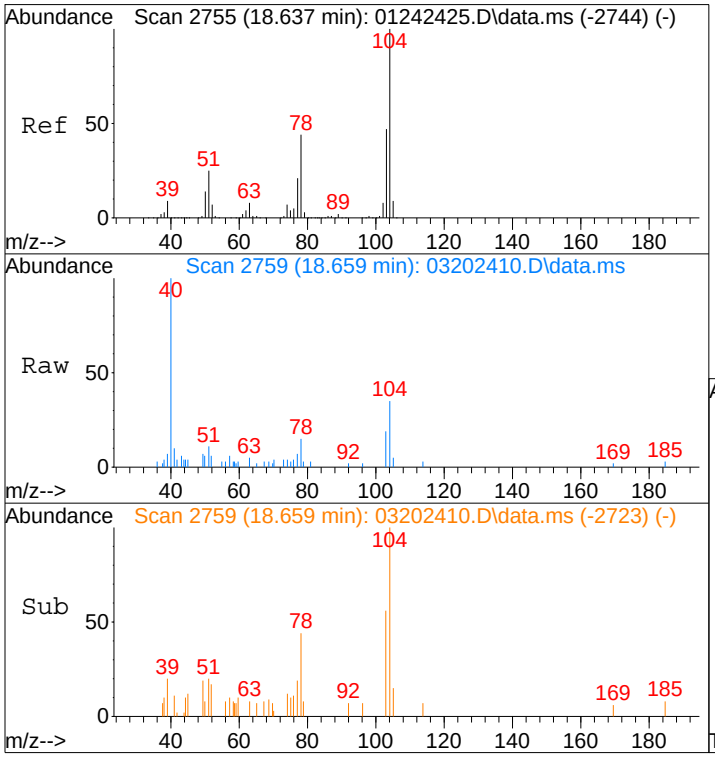


#67
m- & p-Xylenes
Concen: 0.25 ng
RT: 18.33 min Scan# 2699
Delta R.T. -0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 91 Resp: 18939

Ion	Ratio	Lower	Upper
91	100		
106	46.8	28.7	68.7

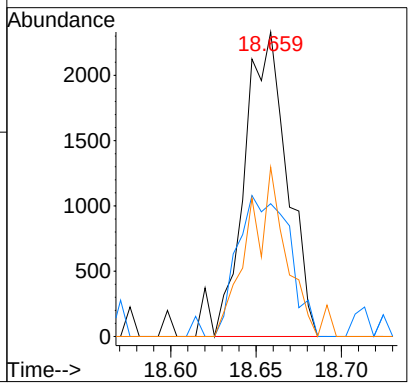


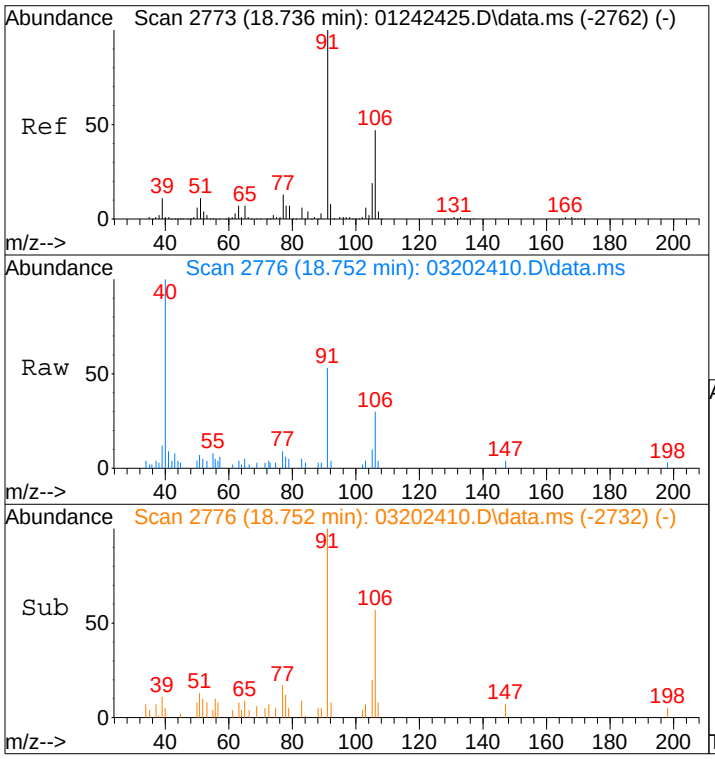


#69
Styrene
Concen: 0.08 ng
RT: 18.66 min Scan# 2759
Delta R.T. -0.000 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion:104 Resp: 4126

Ion	Ratio	Lower	Upper
104	100		
78	55.2	28.8	68.8
103	47.6	27.6	67.6

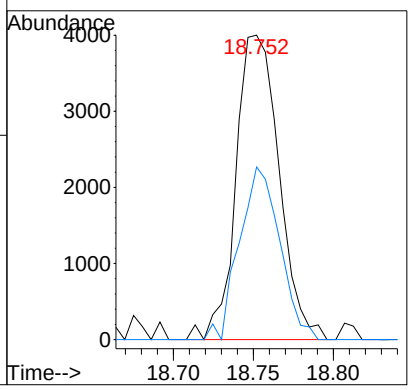


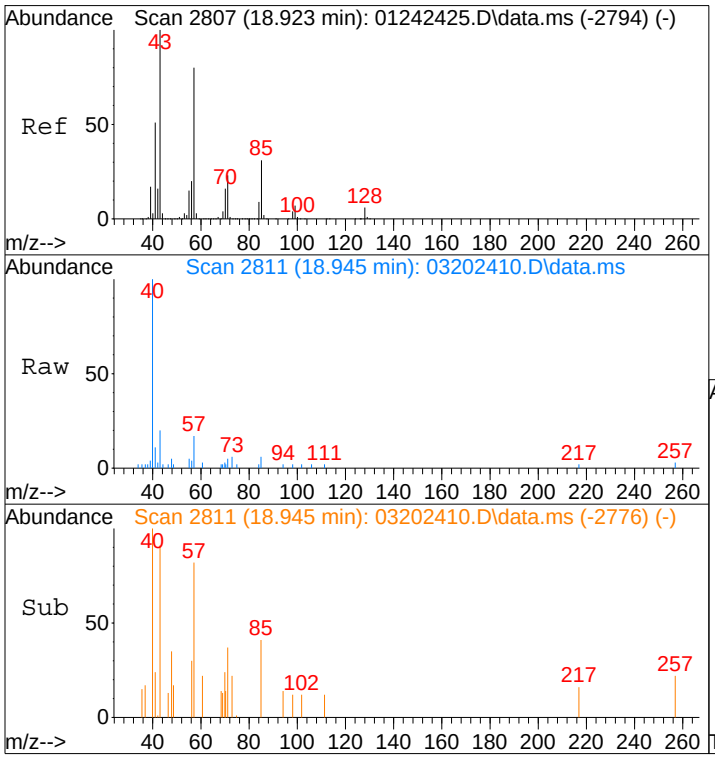


#70
o-Xylene
Concen: 0.10 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 91 Resp: 7534

Ion	Ratio	Lower	Upper
91	100		
106	53.1	26.0	66.0

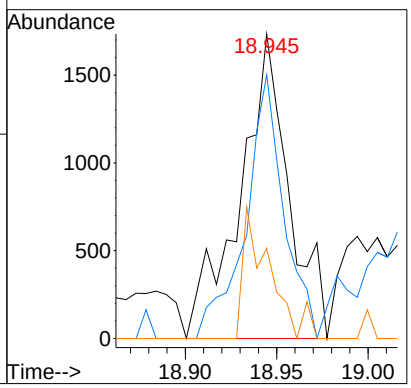


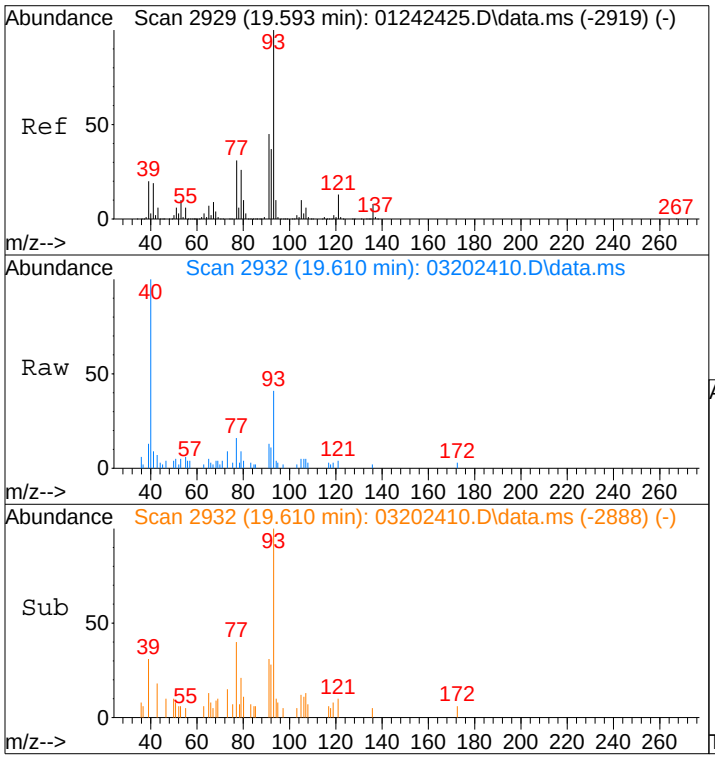


#71
n-Nonane
Concen: 0.07 ng
RT: 18.94 min Scan# 2811
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 43 Resp: 3243

Ion	Ratio	Lower	Upper
43	100		
57	67.2	57.4	97.4
85	23.8	10.1	50.1

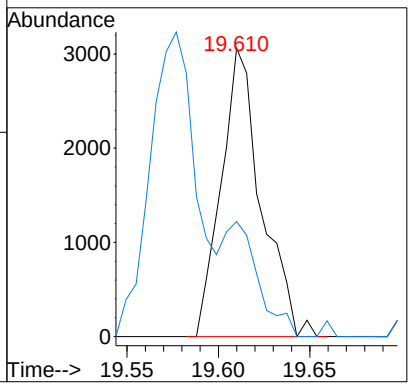


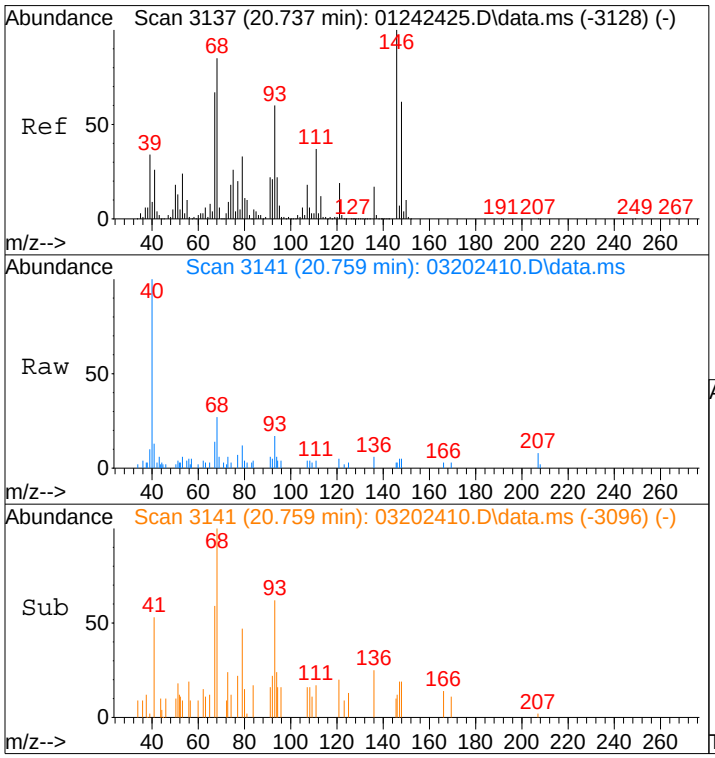


#75
alpha-Pinene
Concen: 0.11 ng
RT: 19.61 min Scan# 2932
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 93 Resp: 4658

Ion	Ratio	Lower	Upper
93	100		
77	34.2	13.6	53.6

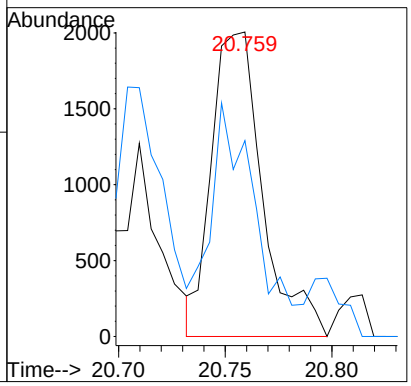


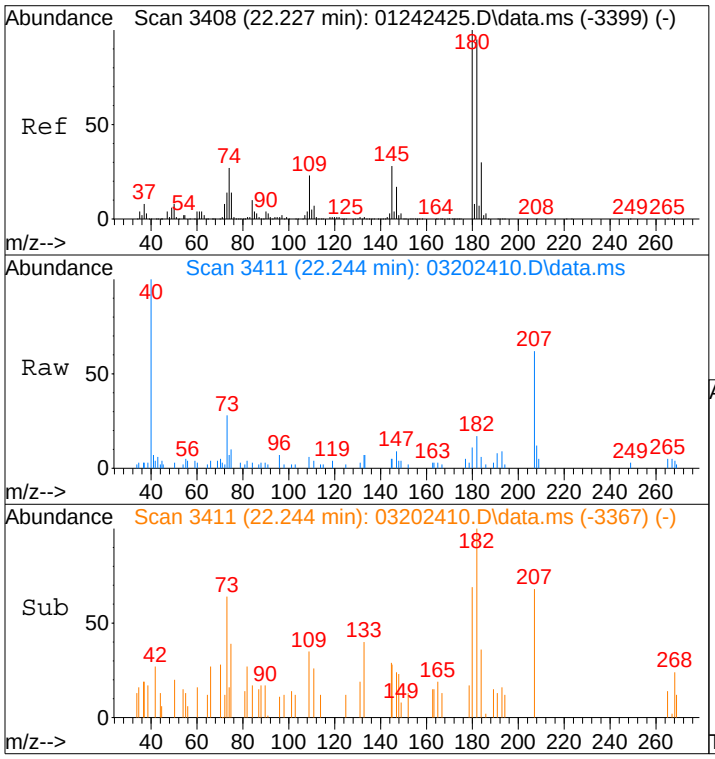


#91
d-Limonene
Concen: 0.12 ng
RT: 20.76 min Scan# 3141
Delta R.T. -0.000 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 68 Resp: 3341

Ion	Ratio	Lower	Upper
68	100		
93	66.4	49.7	89.7

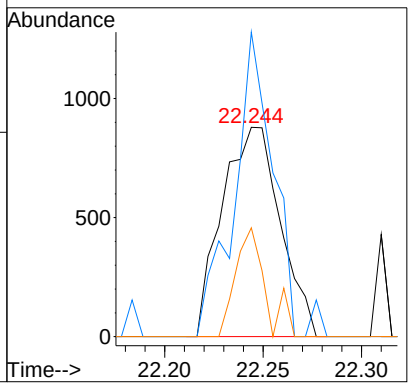




#94
1,2,4-Trichlorobenzene
Concen: 0.06 ng
RT: 22.24 min Scan# 3411
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion:180 Resp: 1809

Ion	Ratio	Lower	Upper
180	100		
182	96.0	75.8	113.8
184	26.5	25.0	37.4



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:38:46 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

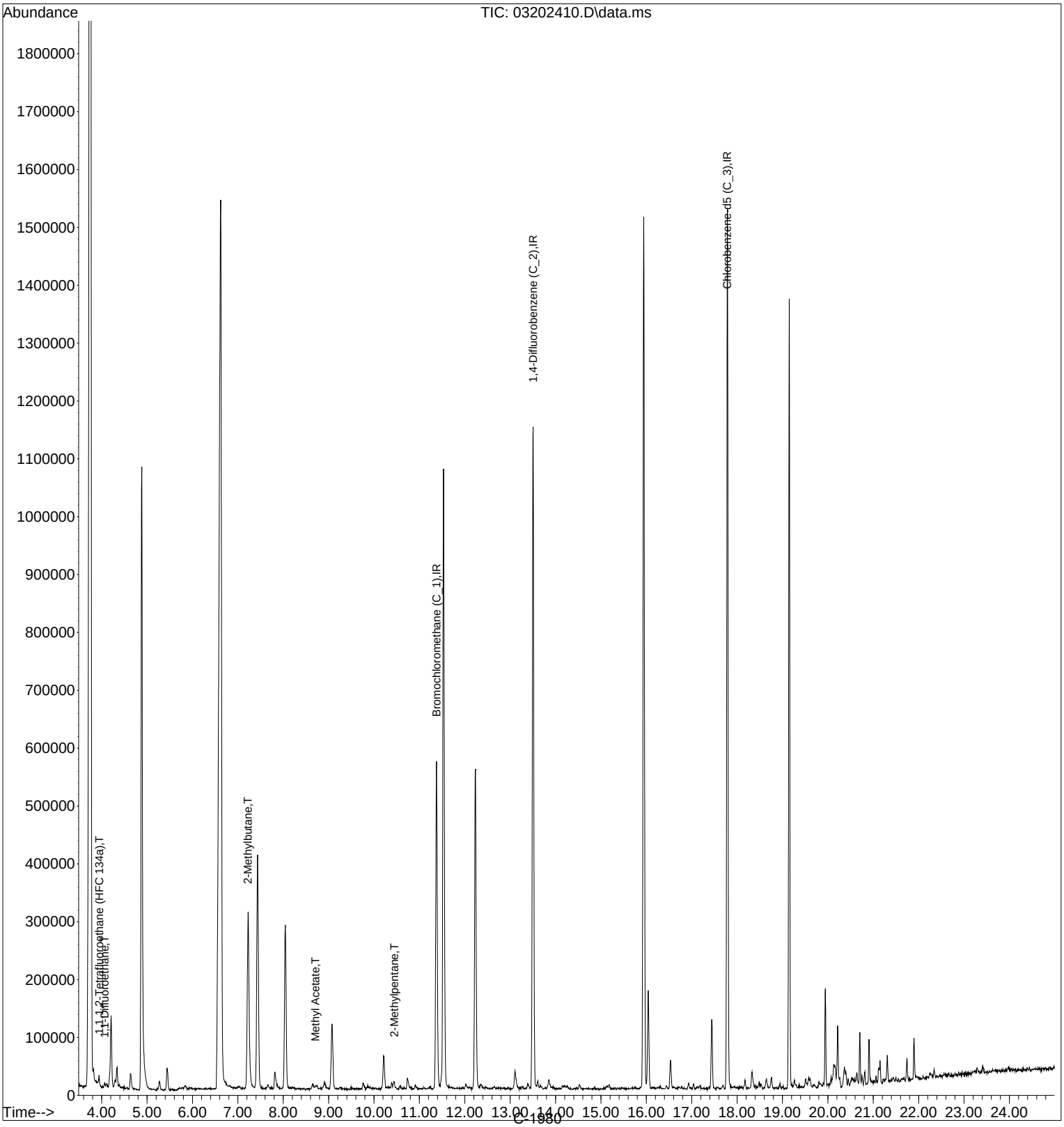
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	219744	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	1005752	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	220293	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.86	85	667	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.95	83	9072	0.416	ng	#	50
4) 1,1-Difluoroethane	4.06	65	3330	0.176	ng		84
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d		
6) 1-Chloro-1,1-Difluoroe...	4.66	65	846	N.D.			
7) Dichlorofluoromethane ...	6.37	67	68	N.D.			
8) Vinylbromide	6.69	108	55	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	7.13	83	51	N.D.			
10) 2-Methylbutane	7.22	57	89563	4.068	ng	#	84
11) Methyl Acetate	8.71	43	6307	0.126	ng	#	40
12) 2-Methylpentane	10.45	71	3053	0.152	ng		81
13) 2,2-Dichloropropane	11.56	77	60	N.D.			
14) 1,1-Dichloropropene	12.97	75	182	N.D.			
15) Thiophene	13.24	84	105	N.D.			
17) 2,3-Dimethylpentane	13.68	56	1979	N.D.			
18) Dibromomethane	13.92	174	491	N.D.			
20) Methyl Cyclohexane	15.18	55	2960	N.D.			
21) 1,3-Dichloropropane	16.05	76	993	N.D.			
22) 1,1,1,2-Tetrachloroethane	17.81	131	53	N.D.			
23) 1-Chlorohexane	18.09	91	82	N.D.			
24) 1,2,3-Trichloropropane	18.85	75	52	N.D.			
25) Bromobenzene	19.36	77	95	N.D.			
26) 2-Chlorotoluene	19.72	91	4037	N.D.			
27) 4-Chlorotoluene	19.72	91	4037	N.D.			
28) Indane	20.81	117	592	N.D.			
29) Indene	20.87	115	224	N.D.			
30) 1,2,4,5-Tetramethylben...	21.67	119	934	N.D.			
31) 1,2,3,4-Tetramethylben...	21.67	119	934	N.D.			
32) 1,2,3,5-Tetramethylben...	22.01	119	1099	N.D.			
33) 1,2,3-Trichlorobenzene	22.60	180	196	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 14:38:46 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:38:46 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

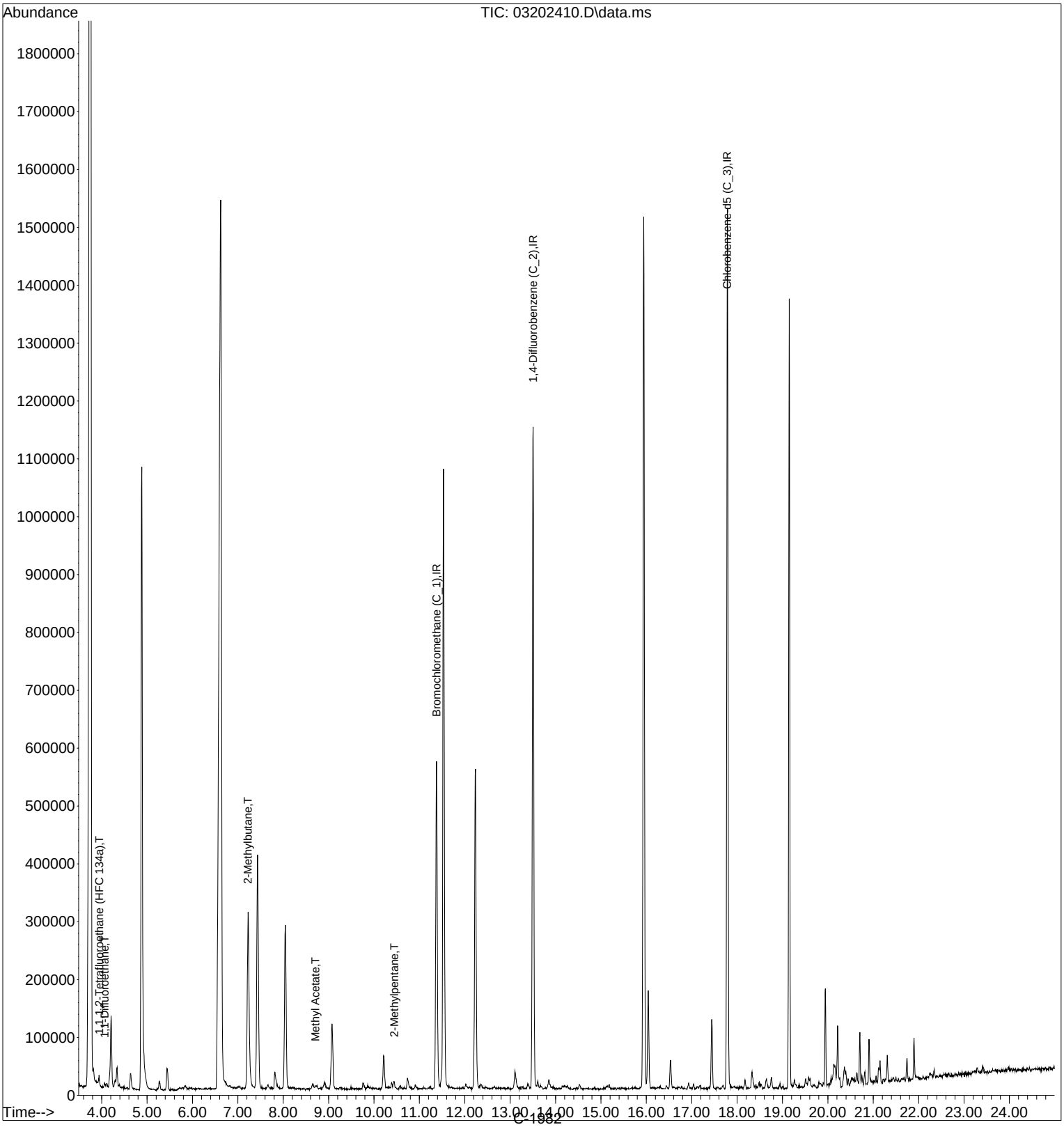
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	219744	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	1005752	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	220293	12.500	ng		0.00
Target Compounds							Qvalue
3) 1,1,1,2-Tetrafluoroeth...	3.95	83	9072	0.416	ng	#	50
4) 1,1-Difluoroethane	4.06	65	3330	0.176	ng		84
10) 2-Methylbutane	7.22	57	89563	4.068	ng	#	84
11) Methyl Acetate	8.71	43	6307	0.126	ng	#	40
12) 2-Methylpentane	10.45	71	3053	0.152	ng		81

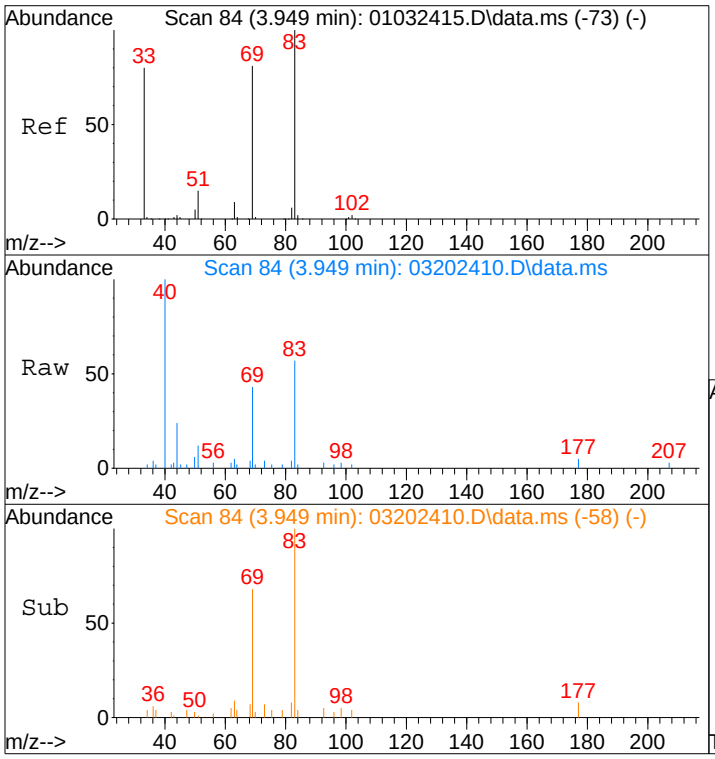
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 21 14:38:46 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

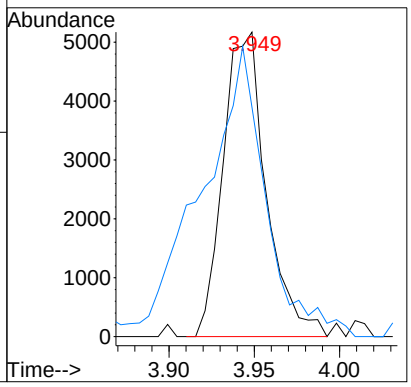


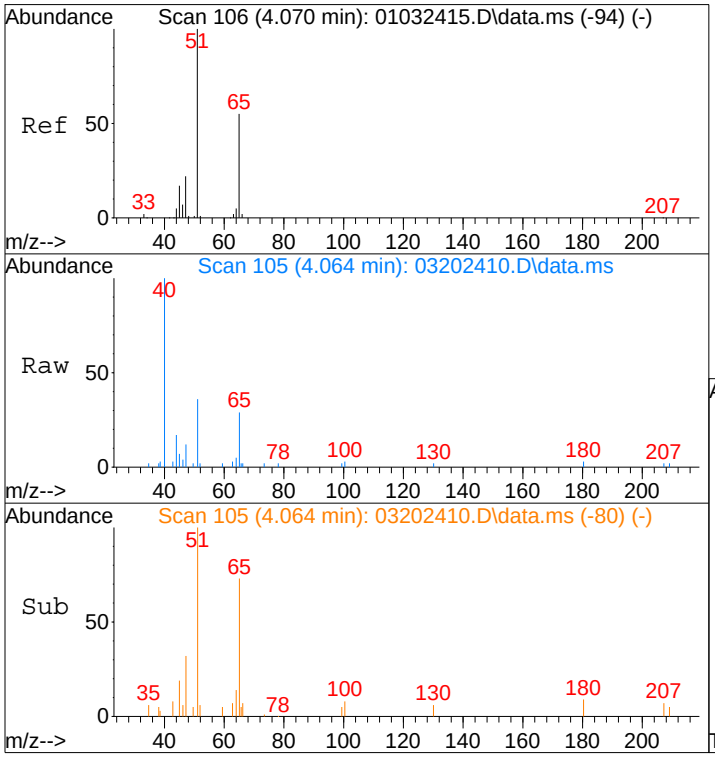


#3
1,1,1,2-Tetrafluoroethane (HFC 134a)
Concen: 0.42 ng
RT: 3.95 min Scan# 84
Delta R.T. -0.006 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 83 Resp: 9072

Ion	Ratio	Lower	Upper
83	100		
69	140.4	74.0	111.0#

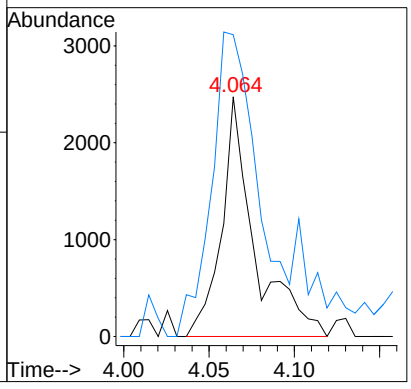


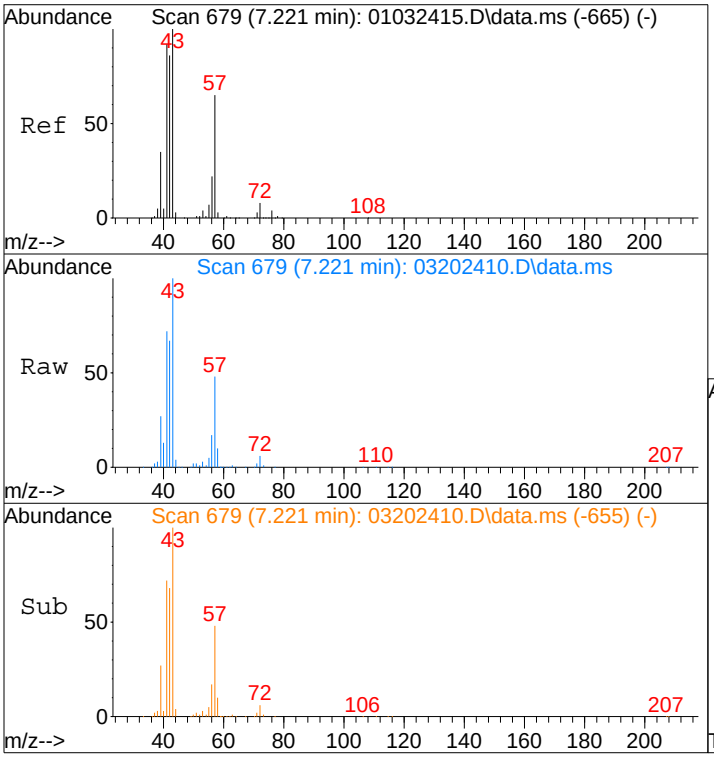


#4
1,1-Difluoroethane
Concen: 0.18 ng
RT: 4.06 min Scan# 105
Delta R.T. -0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 65 Resp: 3330

Ion	Ratio	Lower	Upper
65	100		
51	218.8	155.8	233.6

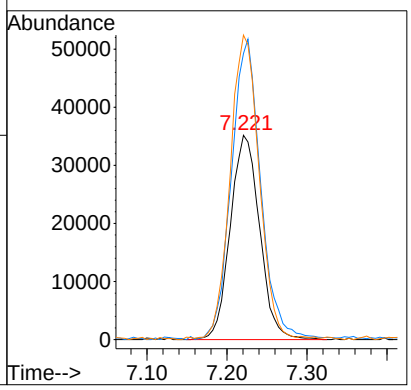


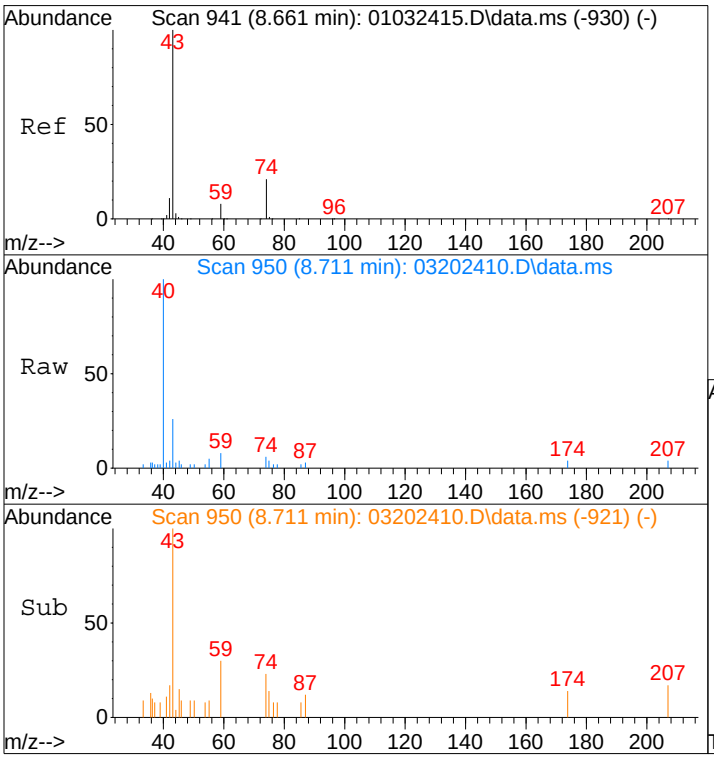


#10
2-Methylbutane
Concen: 4.07 ng
RT: 7.22 min Scan# 679
Delta R.T. -0.017 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 57 Resp: 89563

Ion	Ratio	Lower	Upper
57	100		
42	148.5	115.0	172.4
41	148.9	149.4	224.2#

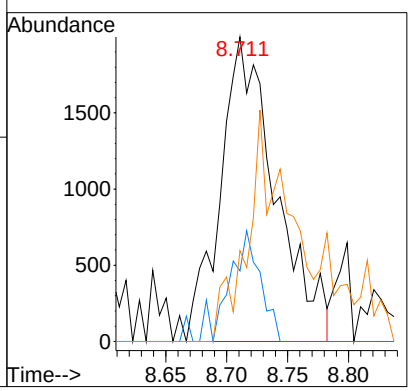


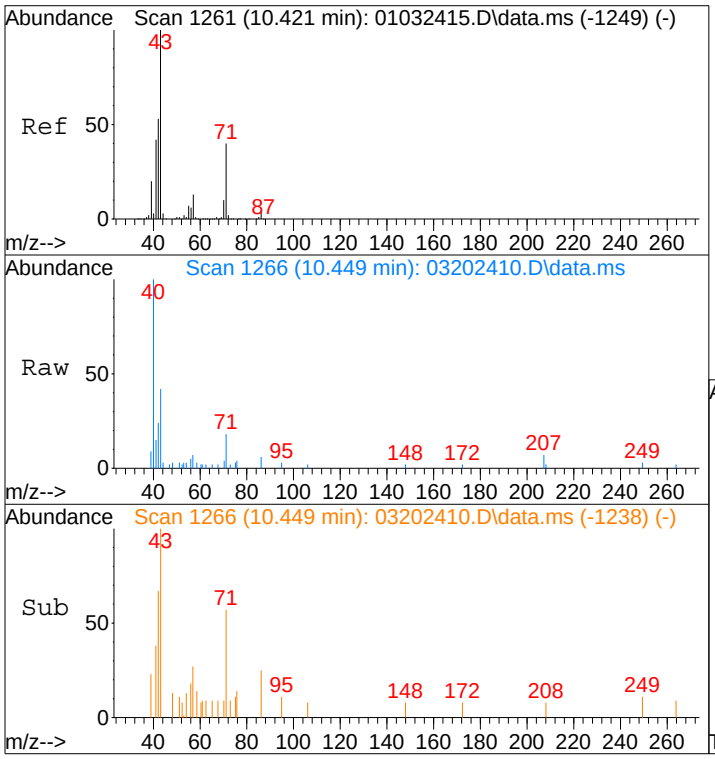


#11
Methyl Acetate
Concen: 0.13 ng
RT: 8.71 min Scan# 950
Delta R.T. 0.011 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 43 Resp: 6307

Ion	Ratio	Lower	Upper
43	100		
74	20.5	14.9	22.3
59	76.0	6.0	9.0#

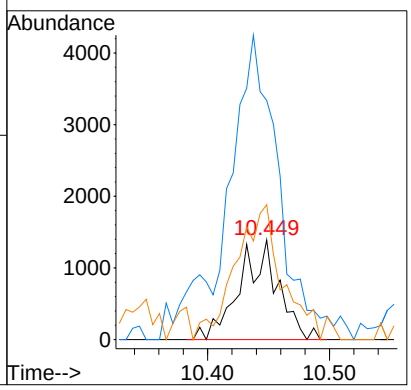




#12
2-Methylpentane
Concen: 0.15 ng
RT: 10.45 min Scan# 1266
Delta R.T. 0.005 min
Lab File: 03202410.D
Acq: 20 Mar 2024 10:11

Tgt Ion: 71 Resp: 3053

Ion	Ratio	Lower	Upper
71	100		
43	359.3	241.7	362.5
42	162.2	129.1	193.7



LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03202410.D\data.ms

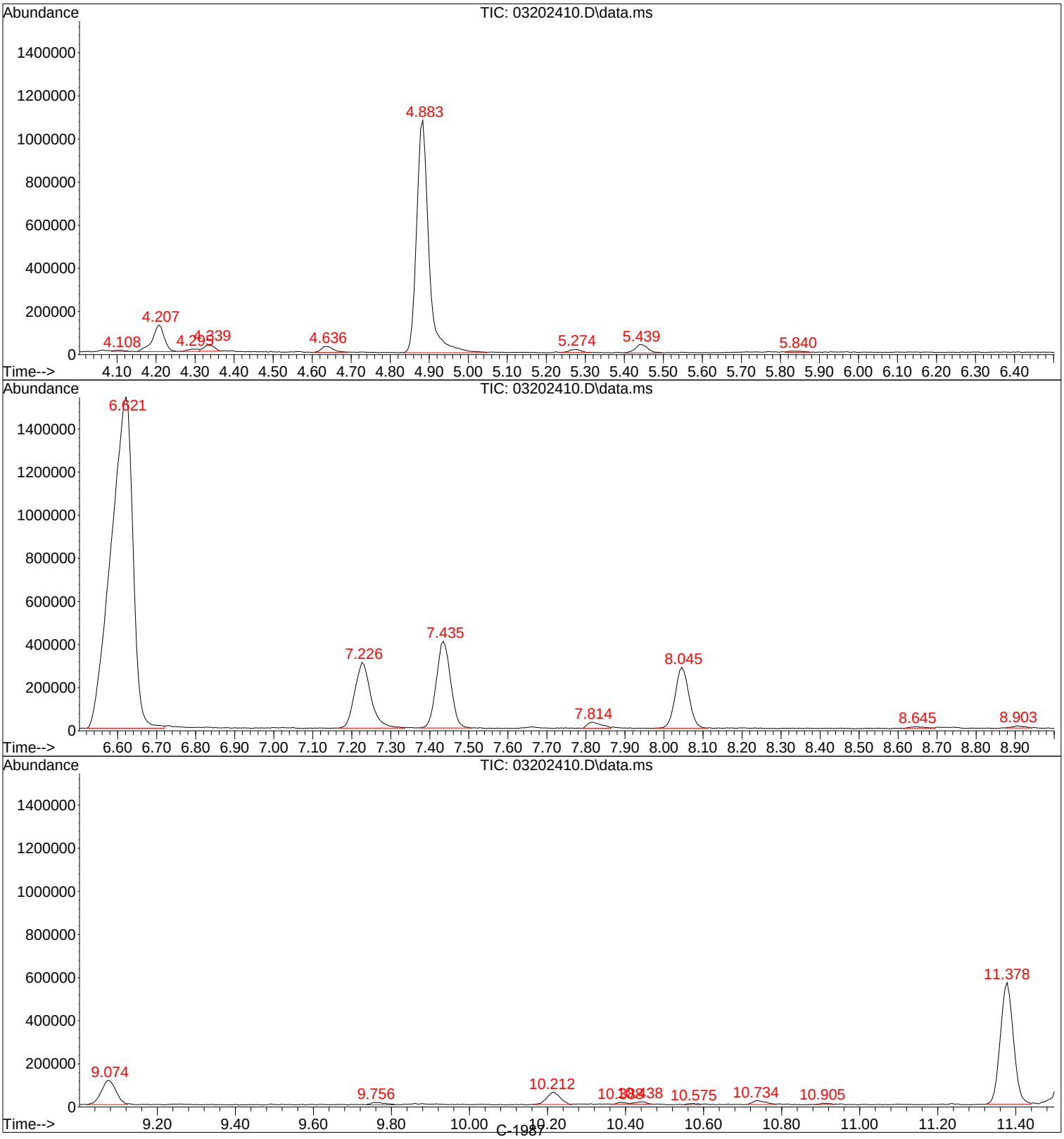
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.108	109	113	118	rVB6	5706	10600	0.18%	0.079%
2	4.207	120	131	139	rBV2	123323	261799	4.38%	1.946%
3	4.295	141	147	150	rBV2	11355	22395	0.37%	0.166%
4	4.339	150	155	160	rVB	32125	54387	0.91%	0.404%
5	4.636	203	209	219	rBV2	27846	61717	1.03%	0.459%
6	4.883	245	254	284	rBV	1077055	2344437	39.18%	17.427%
7	5.274	318	325	332	rVB3	14205	28757	0.48%	0.214%
8	5.439	348	355	367	rVB	38693	88687	1.48%	0.659%
9	5.840	423	428	435	rVB5	5879	15412	0.26%	0.115%
10	6.621	551	570	588	rBV	1535756	5983723	100.00%	44.479%
11	7.226	669	680	700	rBV2	304201	874201	14.61%	6.498%
12	7.435	707	718	731	rVB	402624	1015984	16.98%	7.552%
13	7.814	782	787	796	rBV	27745	68682	1.15%	0.511%
14	8.045	816	829	841	rBV2	282826	694427	11.61%	5.162%
15	8.645	932	938	947	rBV8	8799	22771	0.38%	0.169%
16	8.903	980	985	992	rVB2	10274	20224	0.34%	0.150%
17	9.074	1006	1016	1025	rBV4	112760	298163	4.98%	2.216%
18	9.756	1136	1140	1150	rVB2	11113	28118	0.47%	0.209%
19	10.212	1214	1223	1232	rBV2	56837	136698	2.28%	1.016%
20	10.388	1251	1255	1259	rBV6	9341	14416	0.24%	0.107%
21	10.438	1259	1264	1270	rVB4	10963	23050	0.39%	0.171%
22	10.575	1284	1289	1292	rBV4	6421	11558	0.19%	0.086%
23	10.734	1314	1318	1327	rBV	18147	43116	0.72%	0.320%
24	10.905	1345	1349	1354	rBV7	6237	10779	0.18%	0.080%
25	11.378	1425	1435	1446	rBV	564441	1318934	22.04%	9.804%

Sum of corrected areas: 13453035

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:11
Operator : CI
Sample : P2400922-064 (400mL)
Misc : S37-01032403/
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\20\\
Data File : 03202410.D
Acq On : 20 Mar 2024 10:111
Operator : CII
Sample : P2400922-064 (400mL))
Misc : S37-01032403//
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

CI 3/22/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:20:25 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	209212	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	969568	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	214020	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	432618	12.277	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
57) Toluene-d8 (SS2)	15.94	98	1082038	12.947	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	19.15	174	355565	12.633	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
2) Propene	4.11	42	413	N.D.			
3) Dichlorodifluoromethan...	4.28	85	136	N.D.			
4) Chloromethane	4.58	50	191	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	5.11	62	133	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	5.84	94	116	N.D.			
9) Chloroethane	6.13	64	123	N.D.			
10) Ethanol	6.59	45	7706	0.411	ng		96
11) Acetonitrile	6.81	41	170	N.D.			
12) Acrolein	7.00	56	62	N.D.			
13) Acetone	7.29	58	10157	0.668	ng	#	32
14) Trichlorofluoromethane	7.45	101	4932138	118.024	ng		99
15) 2-Propanol (Isopropanol)	7.79	45	128	N.D.			
16) Acrylonitrile	7.98	53	465	N.D.			
17) 1,1-Dichloroethene	8.44	96	116	N.D.			
18) 2-Methyl-2-Propanol (t...	8.67	59	178	N.D.			
19) Methylene Chloride	8.64	84	861	N.D.			
20) 3-Chloro-1-propene (Al...	8.79	41	429	N.D.			
21) Trichlorotrifluoroethane	9.08	151	724361	39.797	ng		100
22) Carbon Disulfide	8.92	76	8821	0.141	ng		98
23) trans-1,2-Dichloroethene	9.92	61	222	N.D.			
24) 1,1-Dichloroethane	10.20	63	139	N.D.			
25) Methyl tert-Butyl Ether	10.39	73	177	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	10.69	72	177	N.D.			
28) cis-1,2-Dichloroethene	11.20	61	289	N.D.			
29) Diisopropyl Ether	11.55	87	660	N.D.			
30) Ethyl Acetate	11.57	61	154	N.D.			
31) n-Hexane	11.48	57	301	N.D.			
32) Chloroform	11.54	83	4580	0.129	ng		98
34) Tetrahydrofuran (THF)	12.07	72	145	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.36	62	535	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	13.74	61	165	No Calib		#	
40) 1-Butanol	12.63	56	143	No Calib		#	
41) Benzene	13.10	78	13266	0.144	ng		96
42) Carbon Tetrachloride	13.17	117	106	N.D.			
43) Cyclohexane	13.41	84	377	N.D.			
44) tert-Amyl Methyl Ether	13.72	73	329	N.D.			
45) 1,2-Dichloropropane	13.96	63	337	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	14.20	130	1557	0.066	ng	#	80
48) 1,4-Dioxane	14.18	88	120	N.D.			

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 11:20:25 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

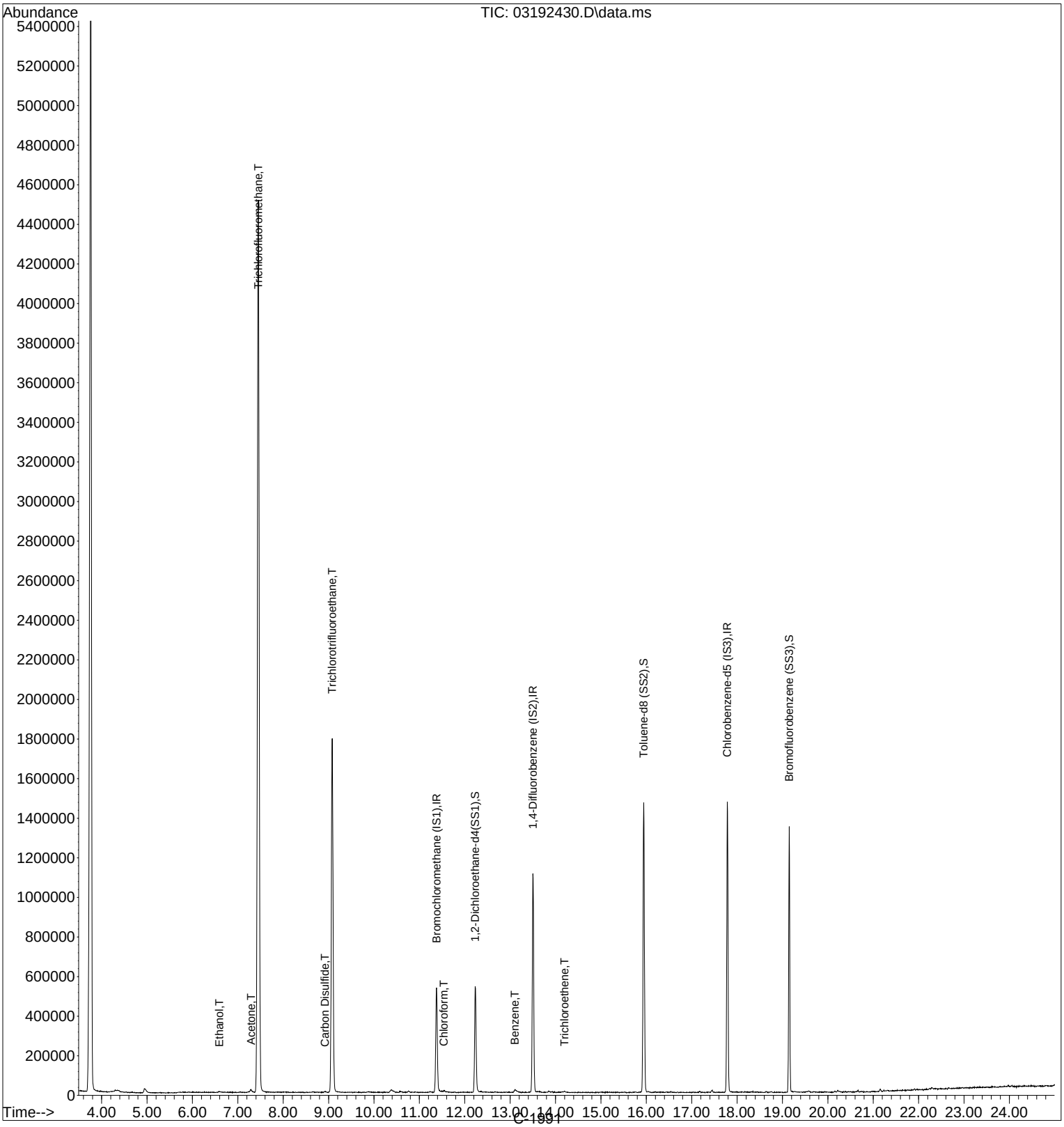
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.28	57	1007	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	14.52	71	112	N.D.		
52) cis-1,3-Dichloropropene	15.03	75	207	N.D.		
53) 4-Methyl-2-pentanone	15.09	58	163	N.D.		
54) trans-1,3-Dichloropropene	15.56	75	206	N.D.		
55) 1,1,2-Trichloroethane	15.75	97	258	N.D.		
58) Toluene	16.05	91	2063	N.D.		
59) 2-Hexanone	16.31	43	690	N.D.		
60) Dibromochloromethane	16.44	129	392	N.D.		
61) 1,2-Dibromoethane	16.71	107	127	N.D.		
62) n-Butyl Acetate	16.97	43	336	N.D.		
63) n-Octane	17.05	57	295	N.D.		
64) Tetrachloroethene	17.18	166	1149	N.D.		
65) Chlorobenzene	17.83	112	1007	N.D.		
66) Ethylbenzene	18.18	91	1560	N.D.		
67) m- & p-Xylenes	18.33	91	2087	N.D.		
68) Bromoform	18.40	173	702	N.D.		
69) Styrene	18.66	104	380	N.D.		
70) o-Xylene	18.75	91	1266	N.D.		
71) n-Nonane	18.93	43	949	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.74	83	809	N.D.		
74) Cumene	19.27	105	1265	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	19.71	91	1266	N.D.		
77) 3-Ethyltoluene	20.26	105	587	No Calib		
78) 4-Ethyltoluene	19.84	105	597	N.D.		
79) 1,3,5-Trimethylbenzene	19.92	105	163	N.D.		
80) alpha-Methylstyrene	20.67	118	119	No Calib		#
81) 2-Ethyltoluene	20.26	105	587	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	587	N.D.		
83) n-Decane	20.45	58	136	No Calib		#
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	20.40	146	665	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	989	N.D.		
87) sec-Butylbenzene	20.50	105	1015	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	622	N.D.		
89) 1,2,3-Trimethylbenzene	20.26	105	587	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	788	N.D.		
91) d-Limonene	20.76	68	268	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.57	58	141	No Calib		#
94) 1,2,4-Trichlorobenzene	22.24	180	987	N.D.		
95) Naphthalene	22.36	128	709	N.D.		
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	666	N.D.		
98) Cyclohexanone	18.24	55	367	No Calib		#
99) tert-Butylbenzene	20.26	119	1454	N.D.		
100) n-Butylbenzene	20.99	91	754	N.D.		
101) 1,1,1,2-Tetrachloroethane	17.77	131	118	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 11:20:25 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:20:25 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

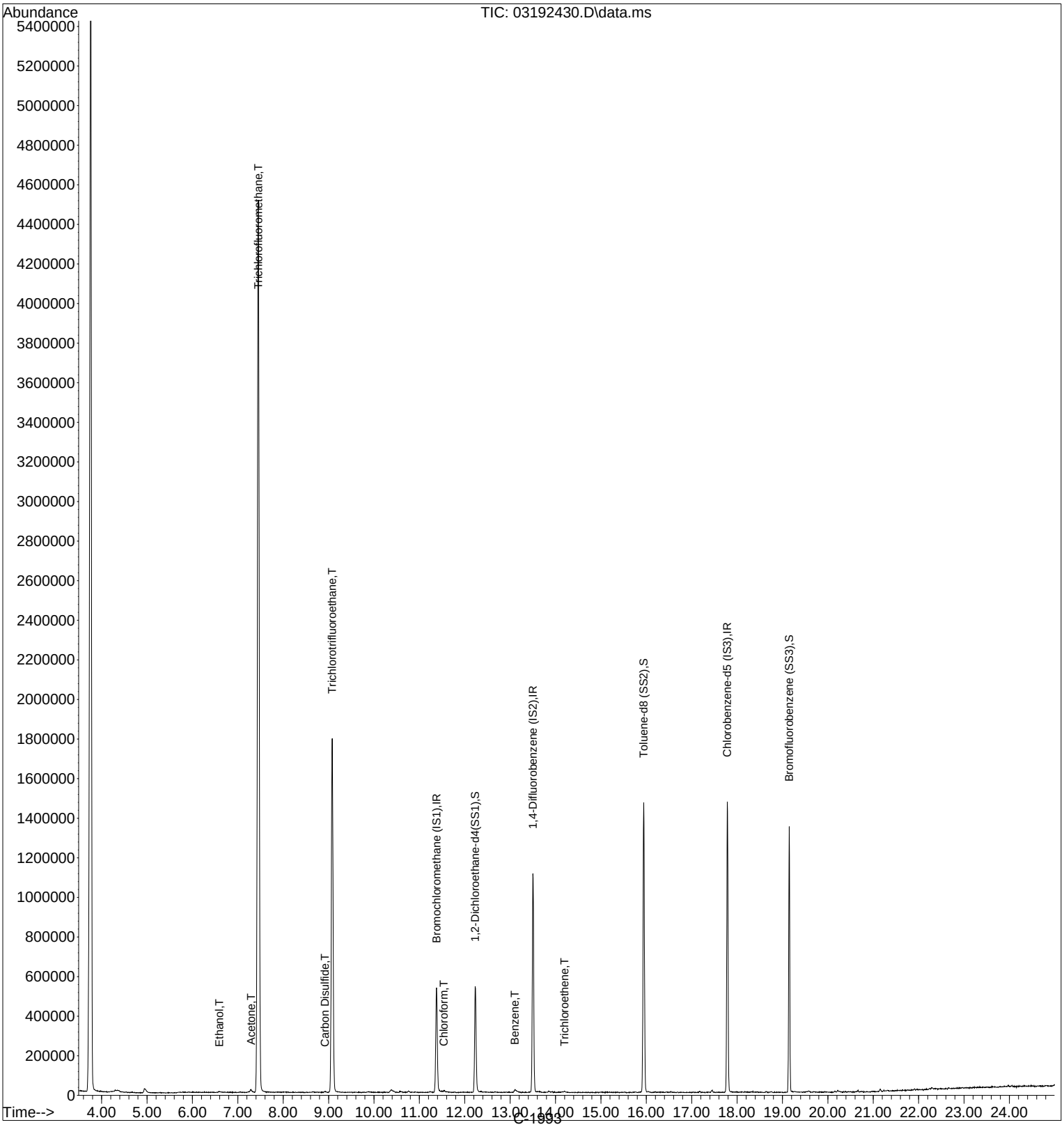
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	209212	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	969568	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	214020	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	432618	12.277	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%				
57) Toluene-d8 (SS2)	15.94	98	1082038	12.947	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
73) Bromofluorobenzene (SS3)	19.15	174	355565	12.633	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
10) Ethanol	6.59	45	7706	0.411	ng		96
13) Acetone	7.29	58	10157	0.668	ng	#	32
14) Trichlorofluoromethane	7.45	101	4932138	118.024	ng		99
21) Trichlorotrifluoroethane	9.08	151	724361	39.797	ng		100
22) Carbon Disulfide	8.92	76	8821	0.141	ng		98
32) Chloroform	11.54	83	4580	0.129	ng		98
41) Benzene	13.10	78	13266	0.144	ng		96
47) Trichloroethene	14.20	130	1557	0.066	ng	#	80

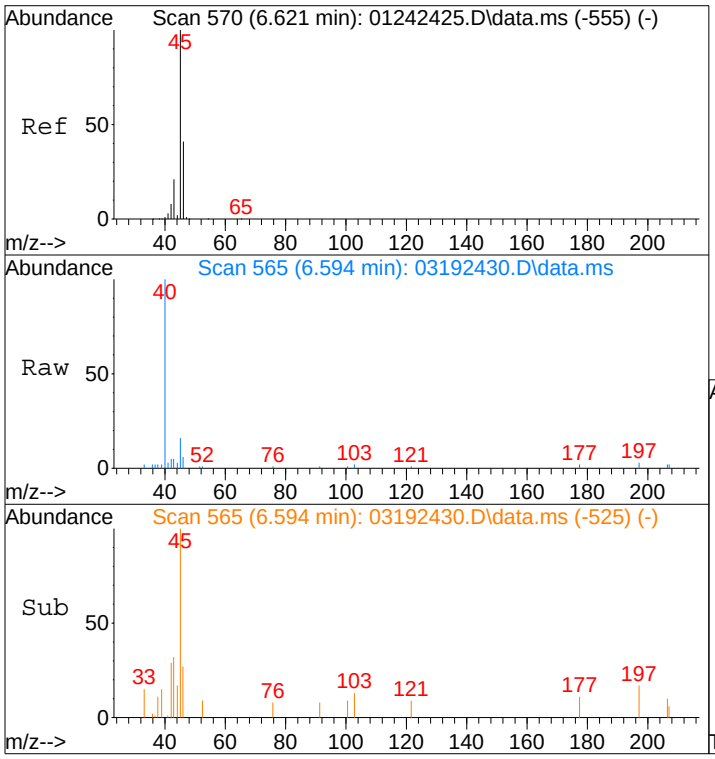
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 11:20:25 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

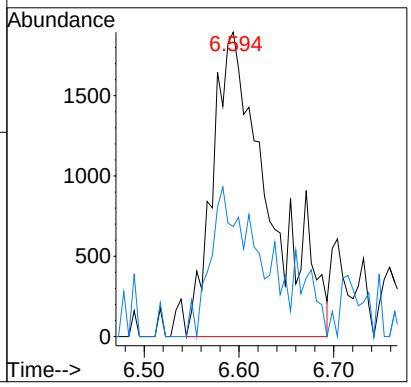


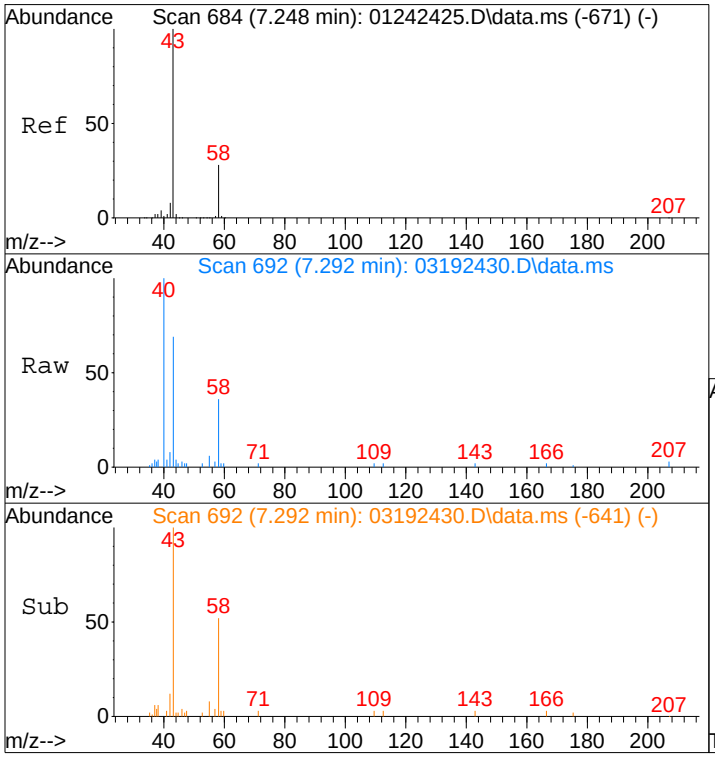


#10
Ethanol
Concen: 0.41 ng
RT: 6.59 min Scan# 565
Delta R.T. -0.027 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion: 45 Resp: 7706

Ion	Ratio	Lower	Upper
45	100		
46	42.1	19.6	59.6

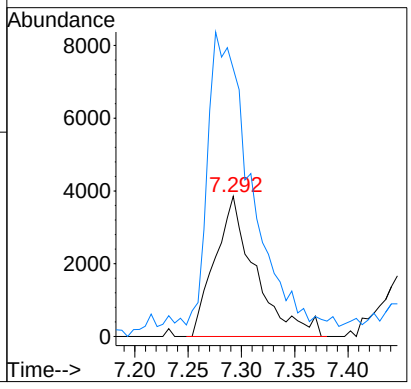


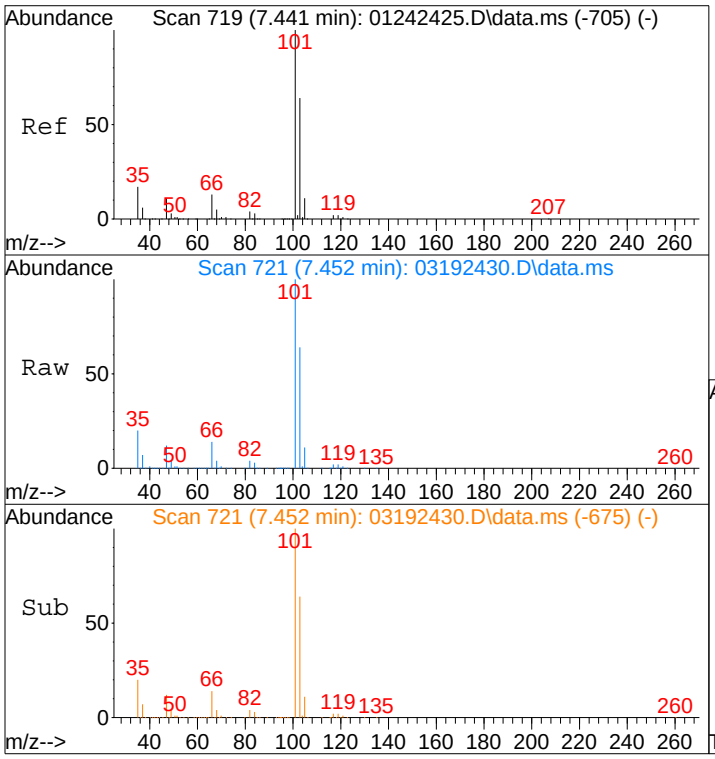


#13
Acetone
Concen: 0.67 ng
RT: 7.29 min Scan# 692
Delta R.T. 0.029 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion: 58 Resp: 10157

Ion	Ratio	Lower	Upper
58	100		
43	229.2	357.4	417.4#

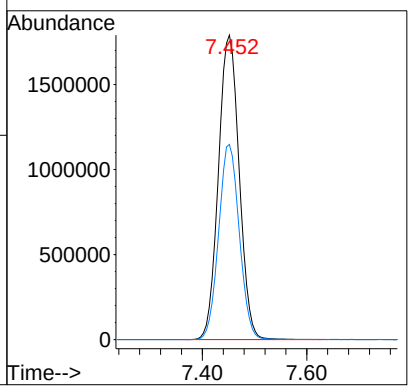


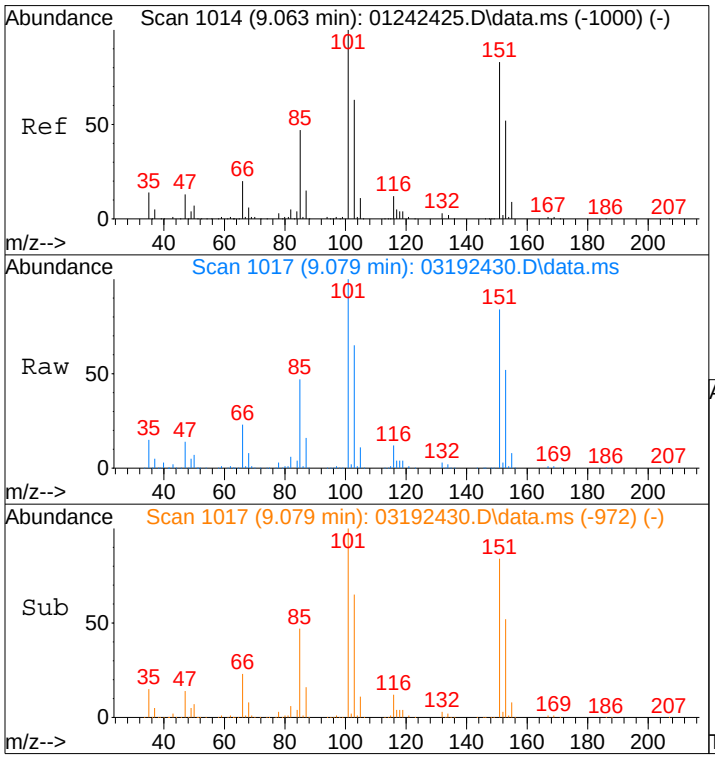


#14
Trichlorofluoromethane
Concen: 118.02 ng
RT: 7.45 min Scan# 721
Delta R.T. 0.006 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion:101 Resp: 4932138

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.1	84.1

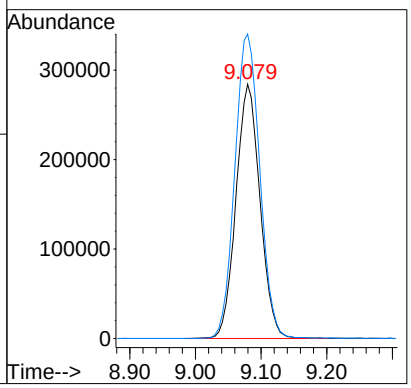


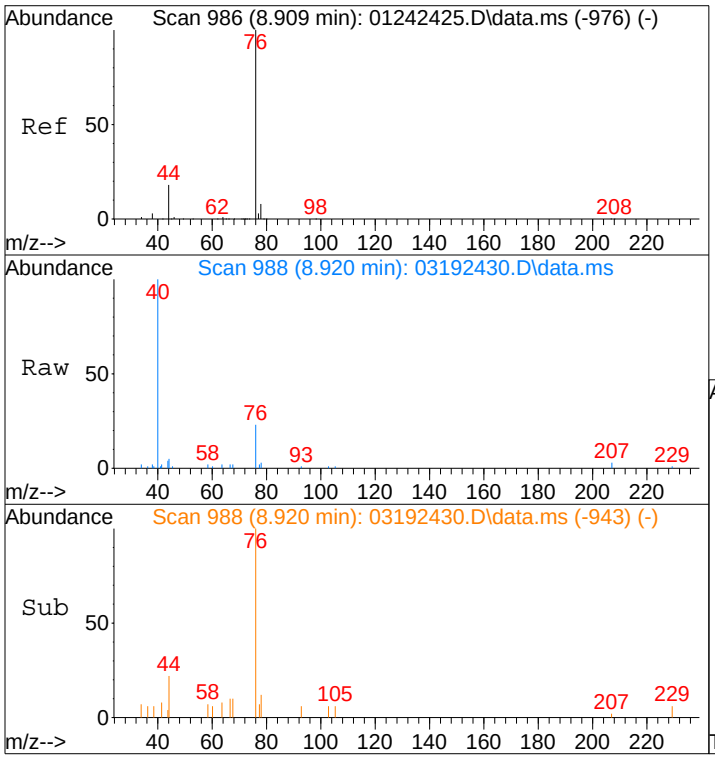


#21
Trichlorotrifluoroethane
Concen: 39.80 ng
RT: 9.08 min Scan# 1017
Delta R.T. 0.000 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion:151 Resp: 724361

Ion	Ratio	Lower	Upper
151	100		
101	124.2	104.2	144.2

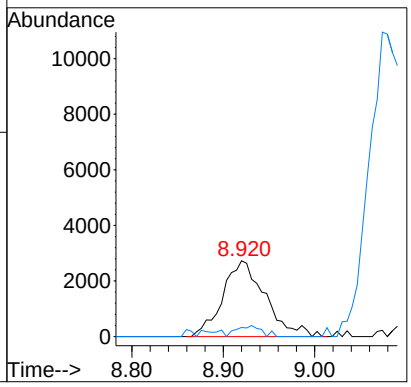


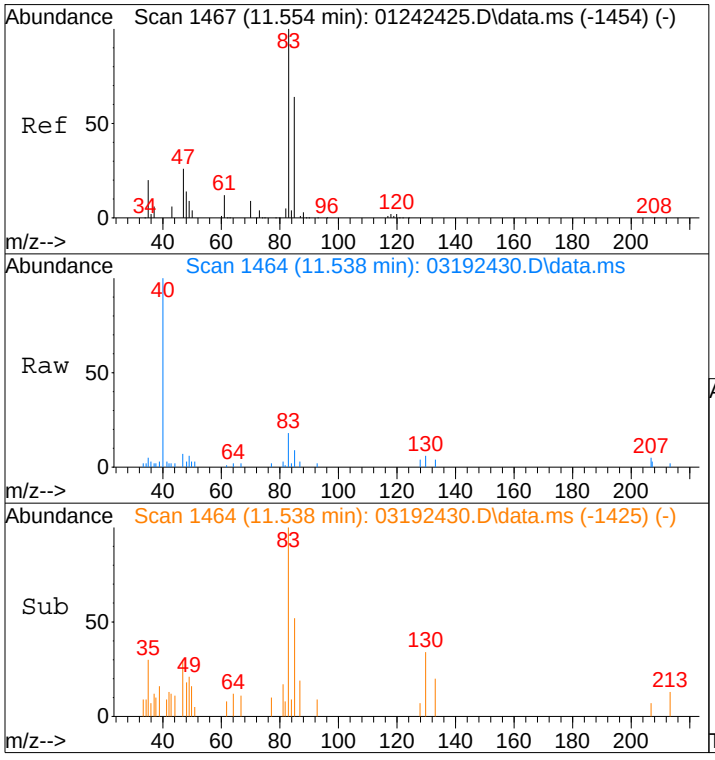


#22
Carbon Disulfide
Concen: 0.14 ng
RT: 8.92 min Scan# 988
Delta R.T. 0.000 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion: 76 Resp: 8821

Ion	Ratio	Lower	Upper
76	100		
78	8.4	0.0	29.3

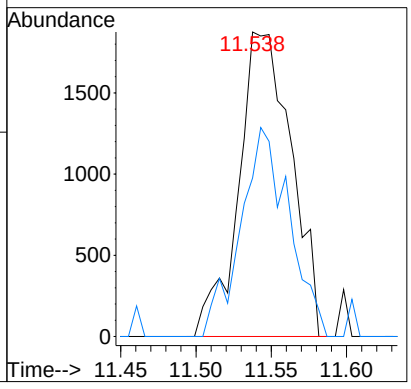


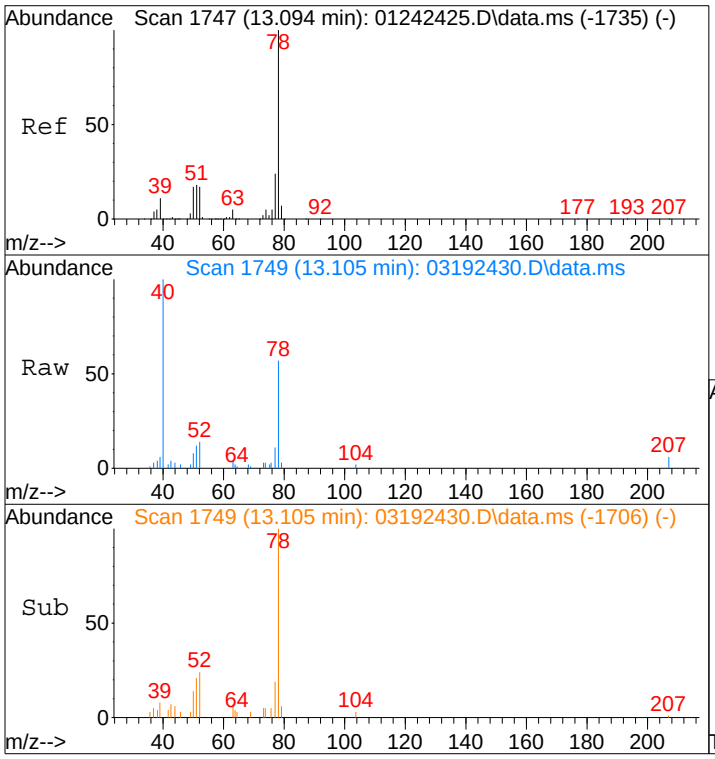


#32
Chloroform
Concen: 0.13 ng
RT: 11.54 min Scan# 1464
Delta R.T. -0.033 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion: 83 Resp: 4580

Ion	Ratio	Lower	Upper
83	100		
85	63.0	44.3	84.3

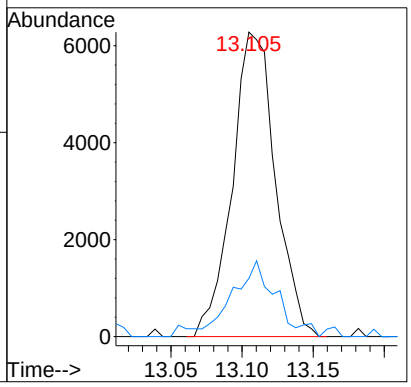


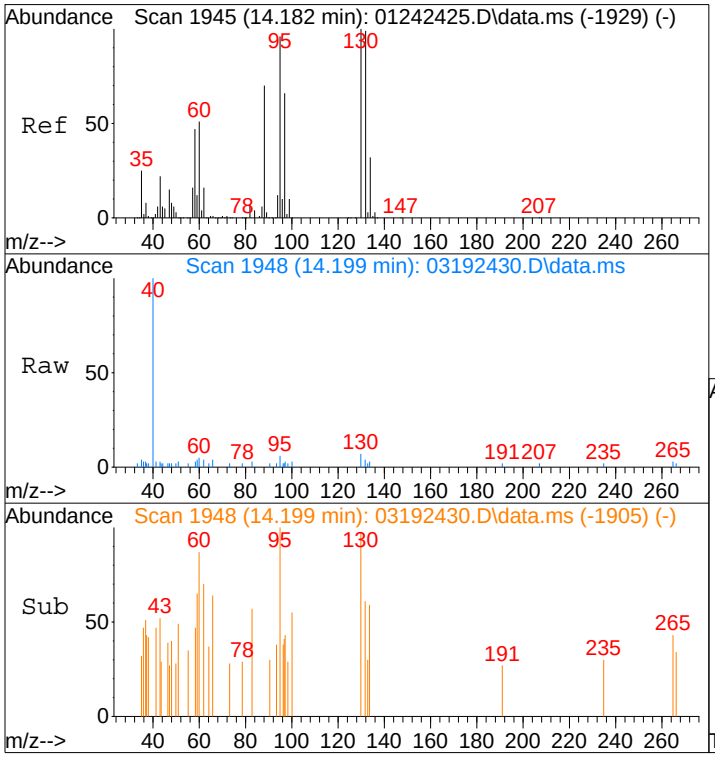


#41
Benzene
Concen: 0.14 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion: 78 Resp: 13266

Ion	Ratio	Lower	Upper
78	100		
77	24.6	2.6	42.6

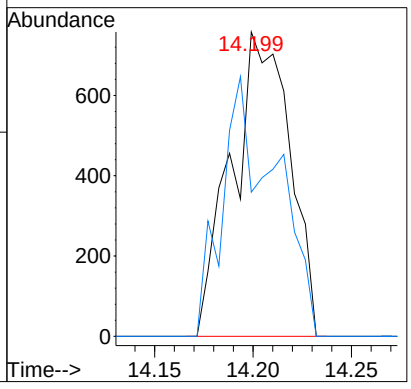




#47
Trichloroethene
Concen: 0.07 ng
RT: 14.20 min Scan# 1948
Delta R.T. -0.011 min
Lab File: 03192430.D
Acq: 19 Mar 2024 16:01

Tgt Ion:130 Resp: 1557

Ion	Ratio	Lower	Upper
130	100		
132	78.3	78.3	118.3#



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 14:32:33 2024 CI 3/21/24
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

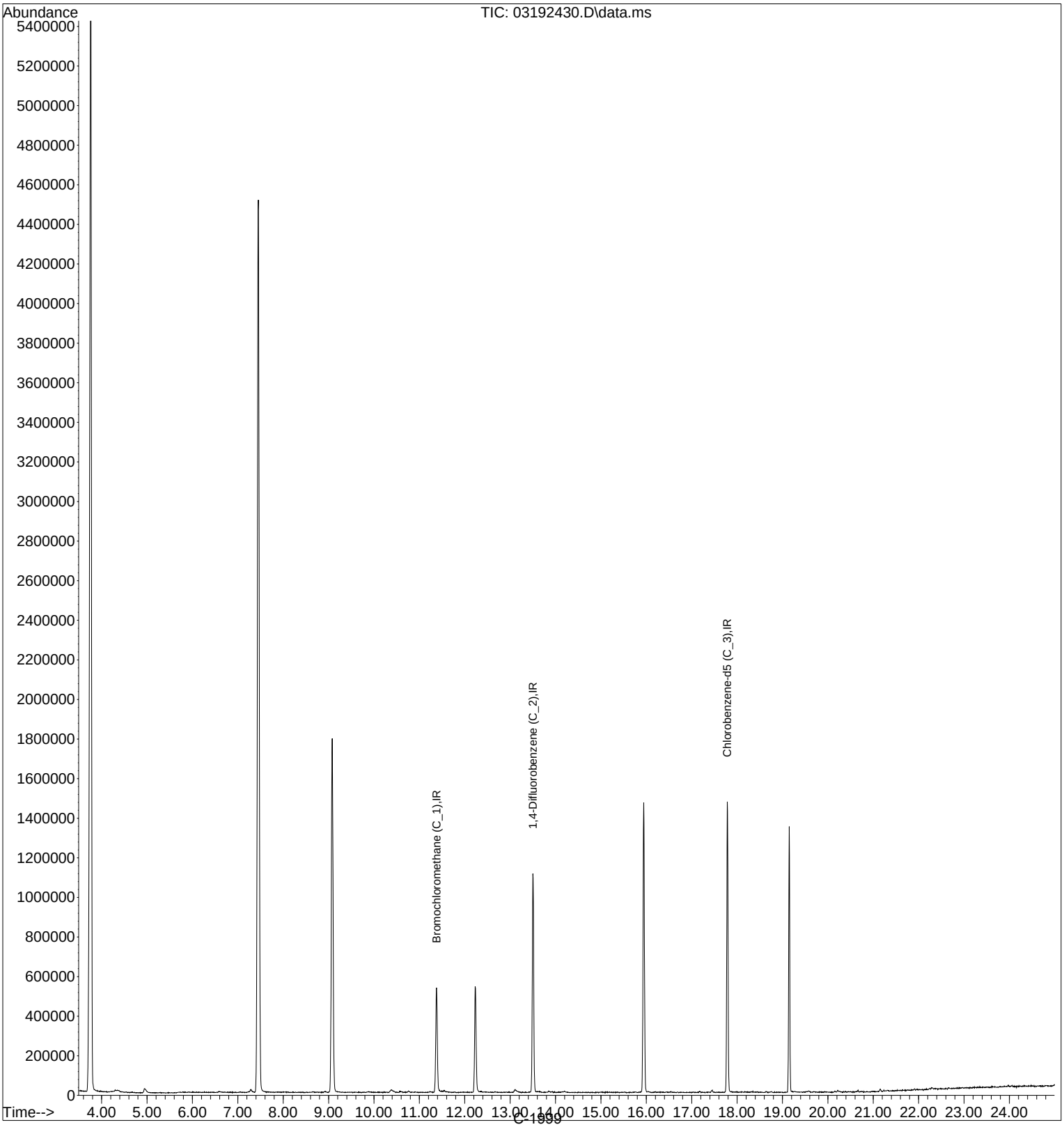
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	209212	12.500 ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	971271	12.500 ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	214020	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.82	85	113	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.93	83	62	N.D.	
4) 1,1-Difluoroethane	4.04	65	103	N.D.	
5) Chlorodifluoromethane ...	4.16	67	125	N.D.	
6) 1-Chloro-1,1-Difluoroe...	4.64	65	62	N.D.	
7) Dichlorofluoromethane ...	6.39	67	353	N.D.	
8) Vinylbromide	6.74	108	105	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	70	N.D.	
10) 2-Methylbutane	7.23	57	507	N.D.	
11) Methyl Acetate	8.71	43	433	N.D.	
12) 2-Methylpentane	10.43	71	90	N.D.	
13) 2,2-Dichloropropane	11.58	77	51	N.D.	
14) 1,1-Dichloropropene	12.98	75	363	N.D.	
15) Thiophene	13.13	84	91	N.D.	
17) 2,3-Dimethylpentane	13.69	56	177	N.D.	
18) Dibromomethane	13.92	174	491	N.D.	
20) Methyl Cyclohexane	15.18	55	246	N.D.	
21) 1,3-Dichloropropane	16.09	76	130	N.D.	
22) 1,1,1,2-Tetrachloroethane	17.77	131	118	N.D.	
23) 1-Chlorohexane	18.05	91	64	N.D.	
24) 1,2,3-Trichloropropane	18.83	75	59	N.D.	
25) Bromobenzene	19.34	77	50	N.D.	
26) 2-Chlorotoluene	19.68	91	2429	N.D.	
27) 4-Chlorotoluene	19.76	91	111	N.D.	
28) Indane	20.83	117	130	N.D.	
29) Indene	20.85	115	51	N.D.	
30) 1,2,4,5-Tetramethylben...	21.63	119	140	N.D.	
31) 1,2,3,4-Tetramethylben...	21.66	119	190	N.D.	
32) 1,2,3,5-Tetramethylben...	21.90	119	469	N.D.	
33) 1,2,3-Trichlorobenzene	22.59	180	67	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 14:32:33 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:32:33 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	209212	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	971271	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	214020	12.500	ng	0.00

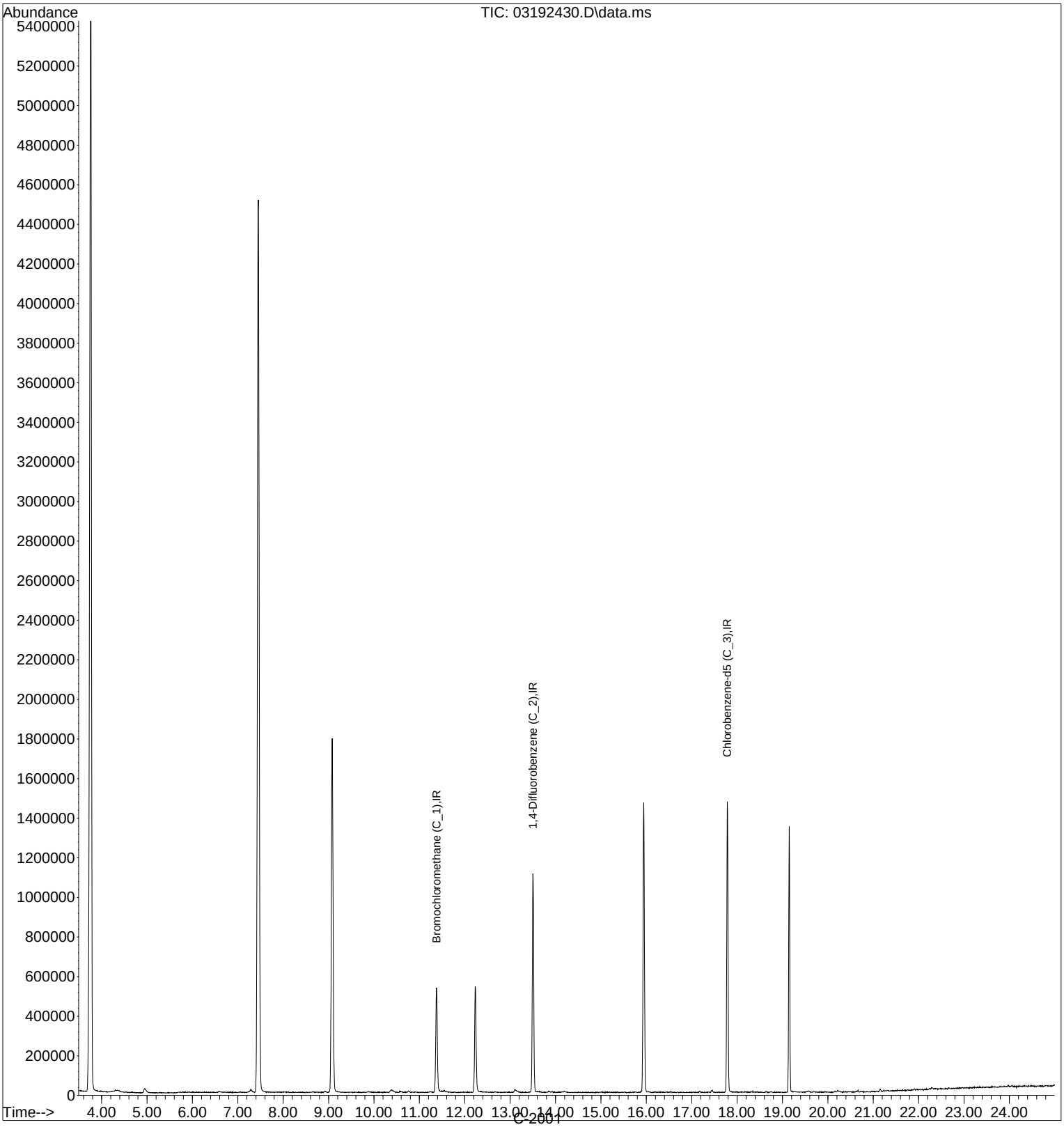
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 21 14:32:33 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212417.D
Acq On : 21 Mar 2024 13:08
Operator : CI
Sample : P2400922-065dil (15mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:07:38 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	220089	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	1019317	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	217778	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	447697	12.077	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	15.94	98	1128904	13.274	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
73) Bromofluorobenzene (SS3)	19.15	174	383702	13.397	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.20%				
Target Compounds							Qvalue
2) Propene	4.09	42	256	N.D.			
3) Dichlorodifluoromethan...	4.38	85	1407	N.D.			
4) Chloromethane	4.69	50	257	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	0.00	45	0	N.D. d			
11) Acetonitrile	6.84	41	107	N.D.			
12) Acrolein	7.00	56	54	N.D.			
13) Acetone	7.30	58	3935	0.246	ng	#	58
14) Trichlorofluoromethane	7.44	101	1502220	34.171	ng		99
15) 2-Propanol (Isopropanol)	7.76	45	58	N.D.			
16) Acrylonitrile	7.98	53	55	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	8.66	59	65	N.D.			
19) Methylene Chloride	8.64	84	1679	0.072	ng	#	75
20) 3-Chloro-1-propene (Al...	8.83	41	443	N.D.			
21) Trichlorotrifluoroethane	9.07	151	215790	11.270	ng		99
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	9.93	61	203	N.D.			
24) 1,1-Dichloroethane	10.19	63	492	N.D.			
25) Methyl tert-Butyl Ether	10.27	73	149	N.D.			
26) Vinyl Acetate	10.45	86	105	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D. d			
28) cis-1,2-Dichloroethene	11.21	61	334	N.D.			
29) Diisopropyl Ether	11.57	87	241	N.D.			
30) Ethyl Acetate	11.52	61	121	N.D.			
31) n-Hexane	11.51	57	198	N.D.			
32) Chloroform	11.55	83	1999	0.054	ng		87
34) Tetrahydrofuran (THF)	12.07	72	280	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	12.36	62	832	N.D.			
38) 1,1,1-Trichloroethane	12.63	97	209	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	12.53	56	121	No Calib		#	
41) Benzene	13.10	78	13101	0.135	ng		93
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	13.76	73	514	N.D.			
45) 1,2-Dichloropropane	13.95	63	340	N.D.			
46) Bromodichloromethane	14.15	83	837	N.D.			
47) Trichloroethene	14.19	130	2049	0.083	ng		92
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212417.D
Acq On : 21 Mar 2024 13:08
Operator : CI
Sample : P2400922-065dil (15mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:07:38 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

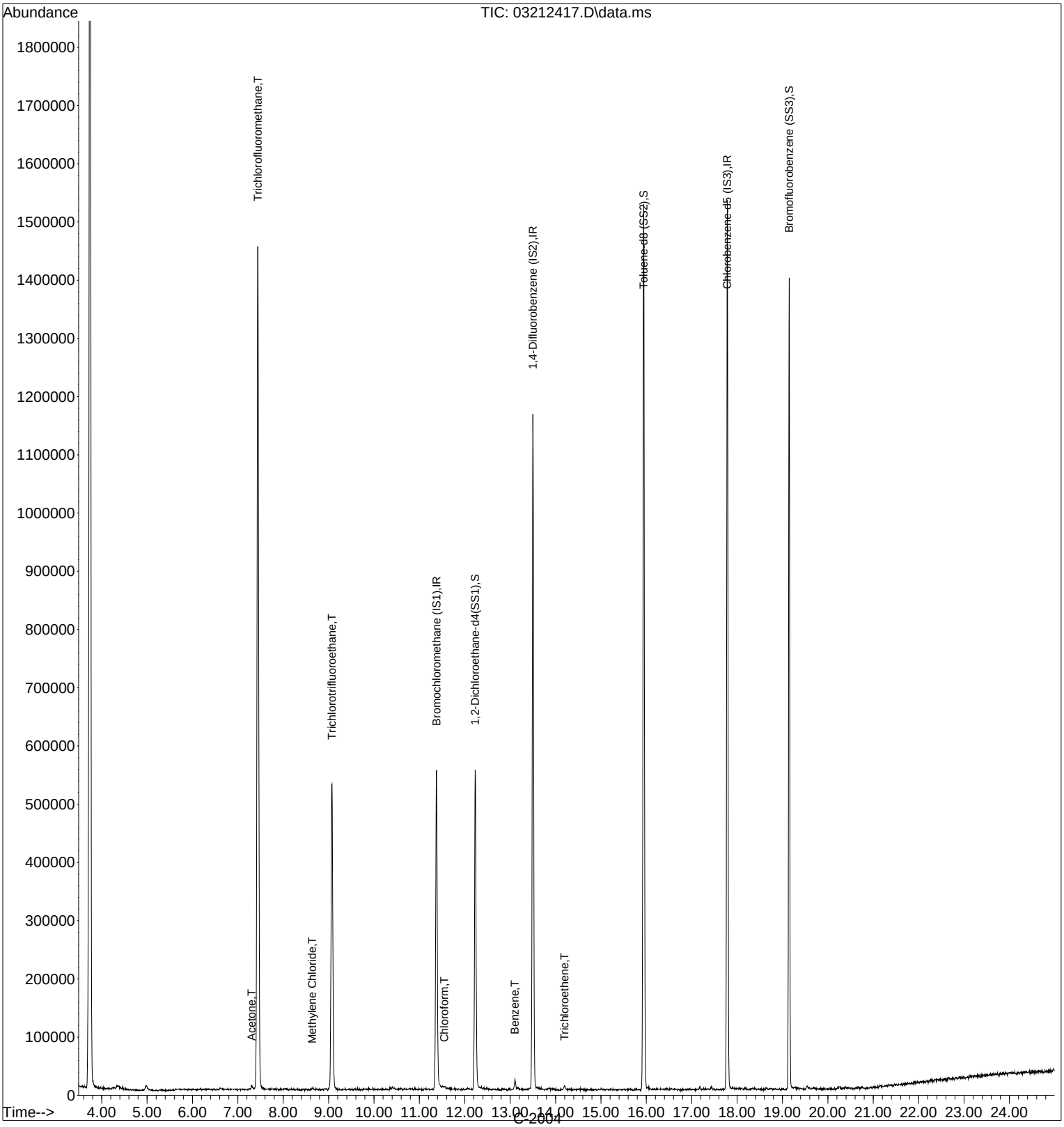
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.25	57	316	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	14.53	71	200	N.D.	
52) cis-1,3-Dichloropropene	15.01	75	125	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	15.58	75	127	N.D.	
55) 1,1,2-Trichloroethane	15.76	97	482	N.D.	
58) Toluene	16.05	91	1795	N.D.	
59) 2-Hexanone	16.35	43	821	N.D.	
60) Dibromochloromethane	16.45	129	720	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.95	43	729	N.D.	
63) n-Octane	17.02	57	166	N.D.	
64) Tetrachloroethene	17.17	166	1022	N.D.	
65) Chlorobenzene	17.82	112	1015	N.D.	
66) Ethylbenzene	18.17	91	1021	N.D.	
67) m- & p-Xylenes	18.33	91	1944	N.D.	
68) Bromoform	18.39	173	523	N.D.	
69) Styrene	18.65	104	410	N.D.	
70) o-Xylene	18.75	91	1156	N.D.	
71) n-Nonane	18.94	43	359	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.73	83	654	N.D.	
74) Cumene	19.26	105	1418	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.71	91	2237	N.D.	
77) 3-Ethyltoluene	20.27	105	433	No Calib	#
78) 4-Ethyltoluene	19.84	105	660	N.D.	
79) 1,3,5-Trimethylbenzene	19.91	105	175	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.27	105	433	No Calib	#
82) 1,2,4-Trimethylbenzene	20.27	105	433	N.D.	
83) n-Decane	20.40	58	139	No Calib	#
84) Benzyl Chloride	20.38	91	201	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	748	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	824	N.D.	
87) sec-Butylbenzene	20.50	105	796	N.D.	
88) 4-Isopropyltoluene (p-...	20.62	119	801	N.D.	
89) 1,2,3-Trimethylbenzene	20.27	105	433	No Calib	#
90) 1,2-Dichlorobenzene	20.75	146	738	N.D.	
91) d-Limonene	20.82	68	161	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	146	N.D.	
93) n-Undecane	21.52	58	142	No Calib	#
94) 1,2,4-Trichlorobenzene	22.26	180	1123	N.D.	
95) Naphthalene	22.37	128	277	N.D.	
96) n-Dodecane	22.77	57	203	No Calib	#
97) Hexachlorobutadiene	22.67	225	857	N.D.	
98) Cyclohexanone	18.25	55	192	No Calib	#
99) tert-Butylbenzene	20.25	119	1294	N.D.	
100) n-Butylbenzene	20.99	91	276	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212417.D
Acq On : 21 Mar 2024 13:08
Operator : CI
Sample : P2400922-065dil (15mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

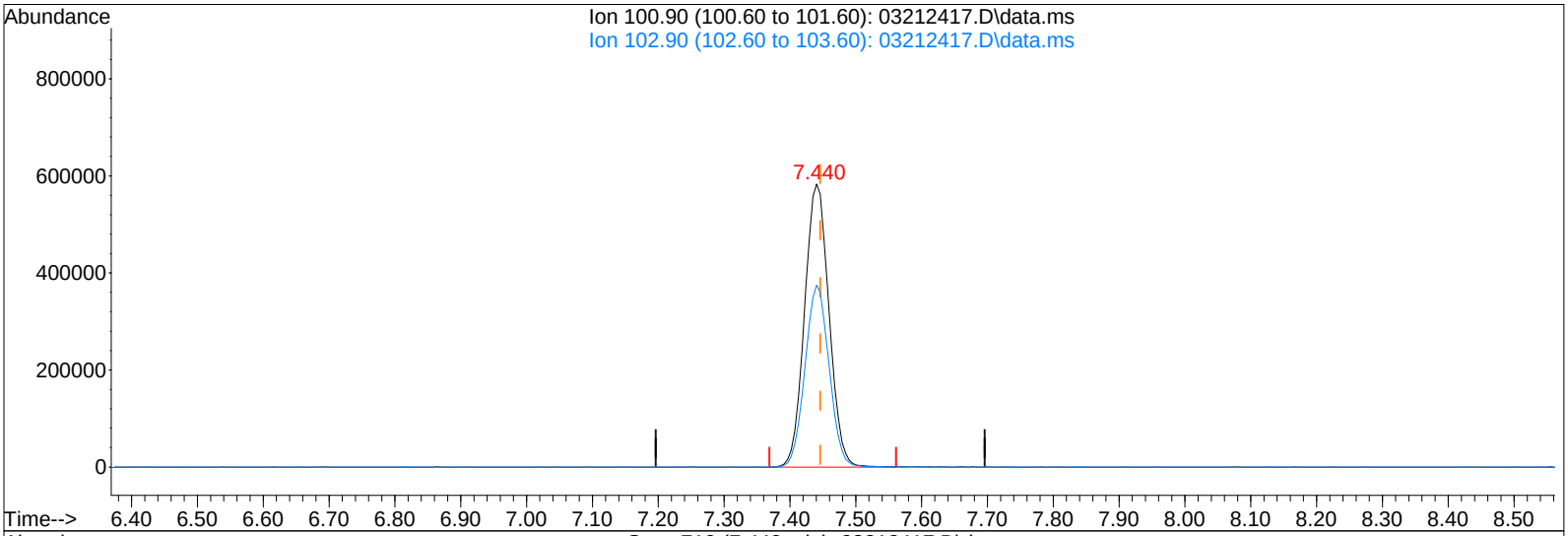
Quant Time: Mar 21 14:07:38 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

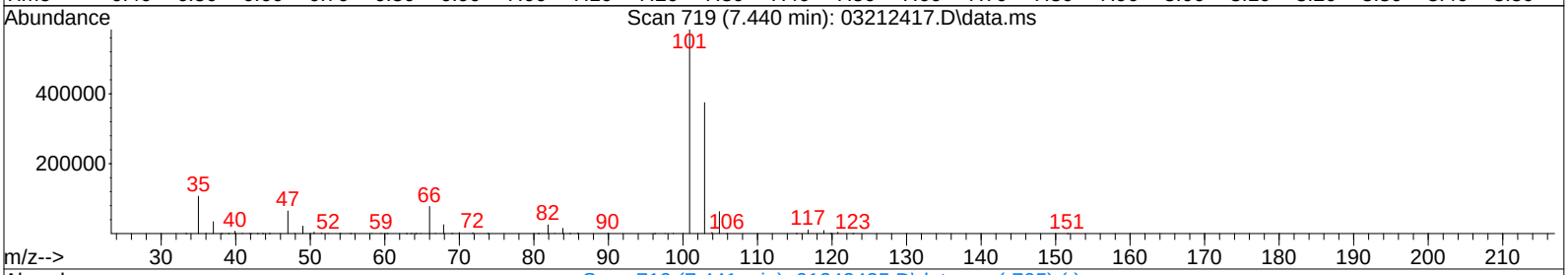


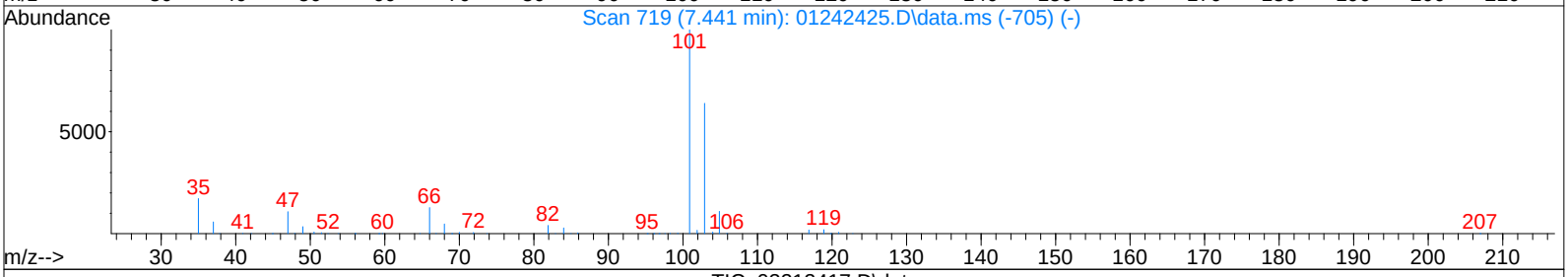
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212417.D
Acq On : 21 Mar 2024 13:08
Operator : CI
Sample : P2400922-065dil (15mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 21 14:05:22 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03212417.D\data.ms

(14) Trichlorofluoromethane (T)

7.440min (-0.006) 34.17ng

response 1502220

Ion	Exp%	Act%
100.90	100	100
102.90	64.10	63.53
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192430.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.950	257	266	281	rBV4	21664	80751	0.65%	0.436%
2	7.287	684	691	696	rBV3	12955	29778	0.24%	0.161%
3	7.452	707	721	743	rBV	4509007	12404855	100.00%	66.986%
4	9.079	1005	1017	1035	rBV	1785922	4643039	37.43%	25.072%
5	10.377	1244	1253	1261	rBV3	13855	49365	0.40%	0.267%
6	10.432	1261	1263	1271	rVB6	7902	14301	0.12%	0.077%
7	10.762	1315	1323	1332	rVB4	8262	19336	0.16%	0.104%
8	11.378	1424	1435	1446	rBV2	528682	1277229	10.30%	6.897%

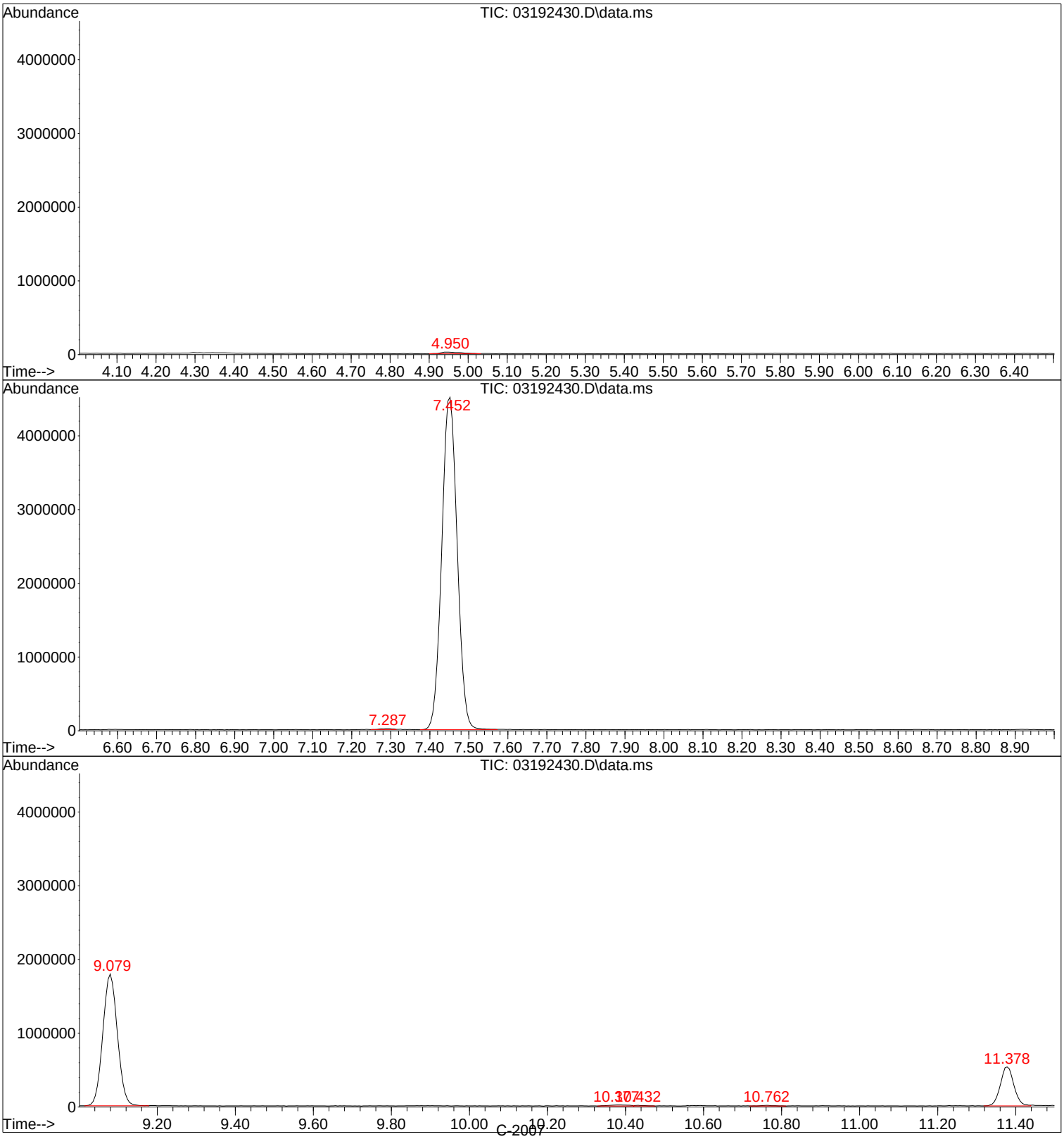
Sum of corrected areas: 18518654

LSC Report - Integrated Chromatogram

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:01
Operator : CI
Sample : P2400922-065 (45mL)
Misc : S37-01032403/
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192430.D
Acq On : 19 Mar 2024 16:011
Operator : CII
Sample : P2400922-065 (45mL))
Misc : S37-01032403//
ALS Vial : 11 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

CI 3/22/24

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

CI 3/22/24

Quant Time: Mar 21 11:46:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	210615	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	979490	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	222859	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	438671	12.366	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	15.94	98	1102256	12.665	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
73) Bromofluorobenzene (SS3)	19.15	174	372233	12.701	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
Target Compounds						Qvalue
2) Propene	4.18	42	283	N.D.		
3) Dichlorodifluoromethan...	4.32	85	139	N.D.		
4) Chloromethane	4.71	50	170	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	106	N.D.		
6) Vinyl Chloride	5.06	62	123	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.85	94	284	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.57	45	19593	1.038	ng	94
11) Acetonitrile	6.82	41	55	N.D.		
12) Acrolein	7.03	56	292	N.D.		
13) Acetone	7.25	58	110	N.D.		
14) Trichlorofluoromethane	7.45	101	4490451	106.739	ng	99
15) 2-Propanol (Isopropanol)	7.79	45	249	N.D.		
16) Acrylonitrile	8.03	53	693	N.D.		
17) 1,1-Dichloroethene	8.44	96	124	N.D.		
18) 2-Methyl-2-Propanol (t...	8.68	59	122	N.D.		
19) Methylene Chloride	8.66	84	1273	0.057	ng	85
20) 3-Chloro-1-propene (Al...	8.83	41	327	N.D.		
21) Trichlorotrifluoroethane	9.08	151	906788	49.488	ng	99
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	9.94	61	351	N.D.		
24) 1,1-Dichloroethane	10.17	63	370	N.D.		
25) Methyl tert-Butyl Ether	10.38	73	150	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	10.78	72	129	N.D.		
28) cis-1,2-Dichloroethene	11.21	61	657	N.D.		
29) Diisopropyl Ether	11.54	87	636	N.D.		
30) Ethyl Acetate	11.54	61	115	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	11.54	83	1340	N.D.		
34) Tetrahydrofuran (THF)	12.02	72	196	N.D.		
35) Ethyl tert-Butyl Ether	12.08	87	117	N.D.		
36) 1,2-Dichloroethane	12.35	62	452	N.D.		
38) 1,1,1-Trichloroethane	12.62	97	258	N.D.		
39) Isopropyl Acetate	13.75	61	150	No Calib	#	
40) 1-Butanol	12.60	56	123	No Calib	#	
41) Benzene	13.10	78	9422	0.101	ng	90
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.39	84	115	N.D.		
44) tert-Amyl Methyl Ether	13.79	73	584	N.D.		
45) 1,2-Dichloropropane	13.97	63	251	N.D.		
46) Bromodichloromethane	14.15	83	1074	N.D.		
47) Trichloroethene	0.00	130	0	N.D.	d	
48) 1,4-Dioxane	14.29	88	135	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 21 11:46:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

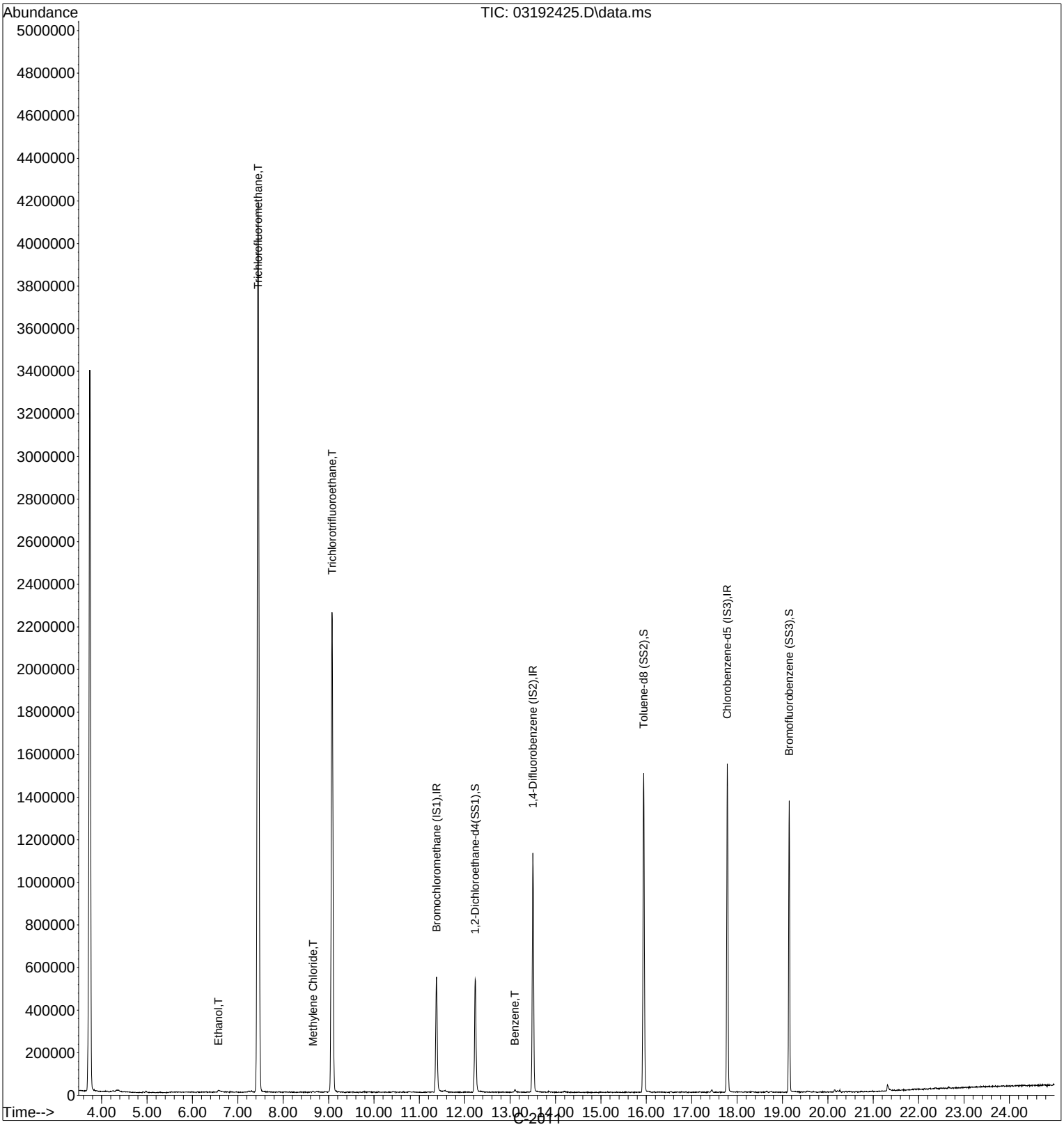
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.28	57	212	N.D.	
50) Methyl Methacrylate	14.45	100	133	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	15.07	75	124	N.D.	
53) 4-Methyl-2-pentanone	15.14	58	203	N.D.	
54) trans-1,3-Dichloropropene	15.56	75	101	N.D.	
55) 1,1,2-Trichloroethane	15.75	97	148	N.D.	
58) Toluene	16.04	91	2084	N.D.	
59) 2-Hexanone	16.31	43	1008	N.D.	
60) Dibromochloromethane	16.45	129	539	N.D.	
61) 1,2-Dibromoethane	16.74	107	108	N.D.	
62) n-Butyl Acetate	16.94	43	367	N.D.	
63) n-Octane	17.05	57	296	N.D.	
64) Tetrachloroethene	17.17	166	402	N.D.	
65) Chlorobenzene	17.82	112	1319	N.D.	
66) Ethylbenzene	18.18	91	1575	N.D.	
67) m- & p-Xylenes	18.34	91	1439	N.D.	
68) Bromoform	18.39	173	562	N.D.	
69) Styrene	18.66	104	463	N.D.	
70) o-Xylene	18.76	91	1338	N.D.	
71) n-Nonane	18.95	43	451	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.74	83	1011	N.D.	
74) Cumene	19.26	105	850	N.D.	
75) alpha-Pinene	19.69	93	118	N.D.	
76) n-Propylbenzene	19.71	91	1348	N.D.	
77) 3-Ethyltoluene	20.26	105	573	No Calib	#
78) 4-Ethyltoluene	19.83	105	957	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	249	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.26	105	573	No Calib	#
82) 1,2,4-Trimethylbenzene	20.26	105	573	N.D.	
83) n-Decane	20.36	58	180	No Calib	#
84) Benzyl Chloride	20.35	91	106	N.D.	
85) 1,3-Dichlorobenzene	20.40	146	791	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	881	N.D.	
87) sec-Butylbenzene	20.50	105	831	N.D.	
88) 4-Isopropyltoluene (p-...	20.62	119	641	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	573	No Calib	#
90) 1,2-Dichlorobenzene	20.74	146	343	N.D.	
91) d-Limonene	20.76	68	377	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.55	58	285	No Calib	#
94) 1,2,4-Trichlorobenzene	22.26	180	1258	N.D.	
95) Naphthalene	22.36	128	1165	N.D.	
96) n-Dodecane	0.00	57	0	N.D.	
97) Hexachlorobutadiene	22.66	225	1017	N.D.	
98) Cyclohexanone	18.30	55	283	No Calib	#
99) tert-Butylbenzene	20.25	119	742	N.D.	
100) n-Butylbenzene	20.99	91	1129	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 21 11:46:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:46:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

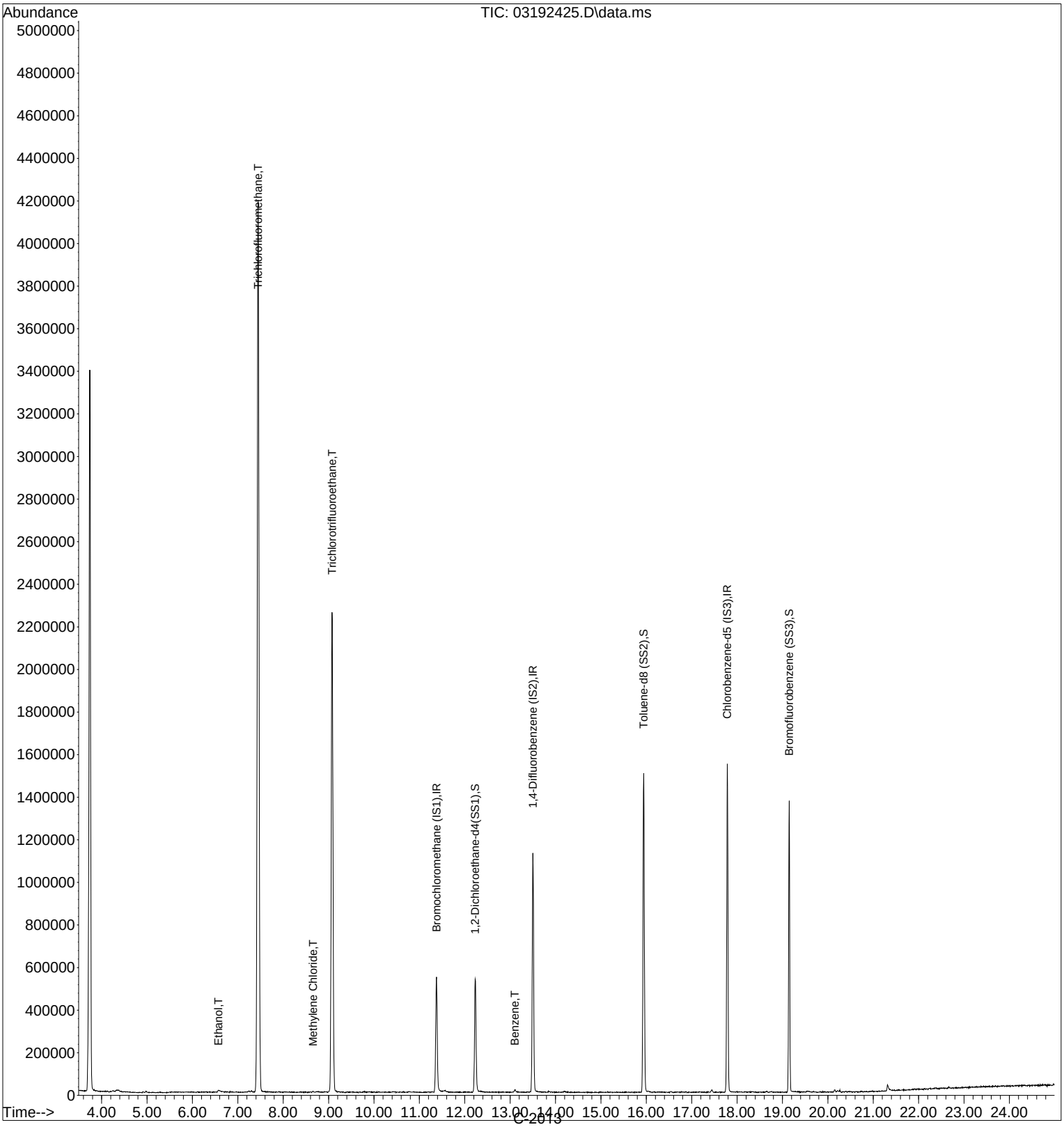
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	210615	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	979490	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	222859	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	438671	12.366	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%			
57) Toluene-d8 (SS2)	15.94	98	1102256	12.665	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
73) Bromofluorobenzene (SS3)	19.15	174	372233	12.701	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%			
Target Compounds						Qvalue
10) Ethanol	6.57	45	19593	1.038	ng	94
14) Trichlorofluoromethane	7.45	101	4490451	106.739	ng	99
19) Methylene Chloride	8.66	84	1273	0.057	ng	85
21) Trichlorotrifluoroethane	9.08	151	906788	49.488	ng	99
41) Benzene	13.10	78	9422	0.101	ng	90

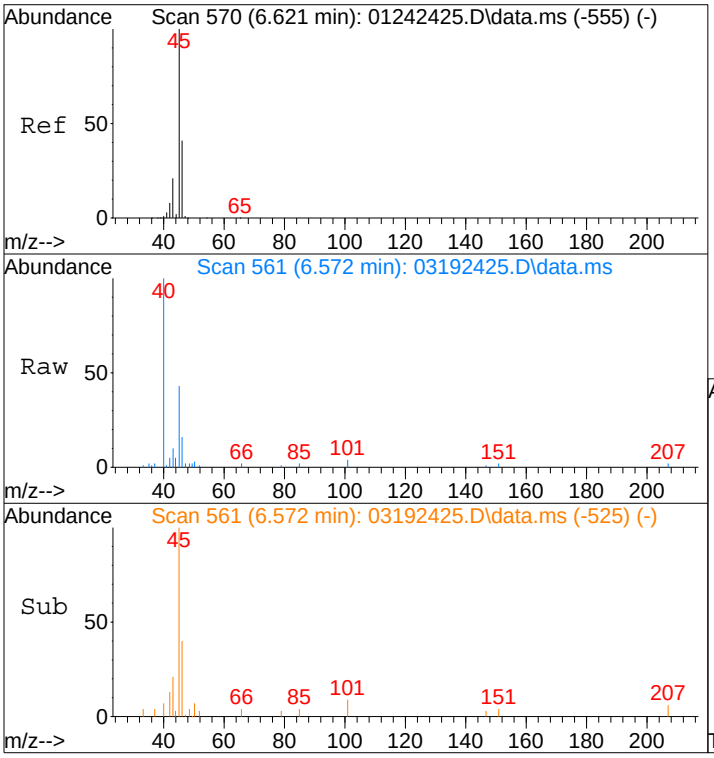
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 21 11:46:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

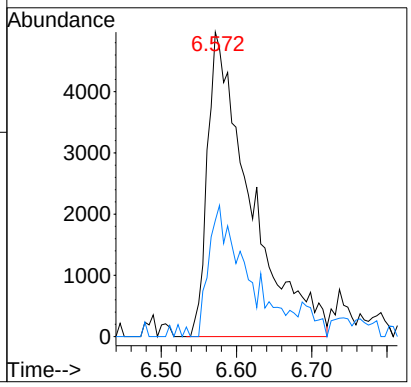


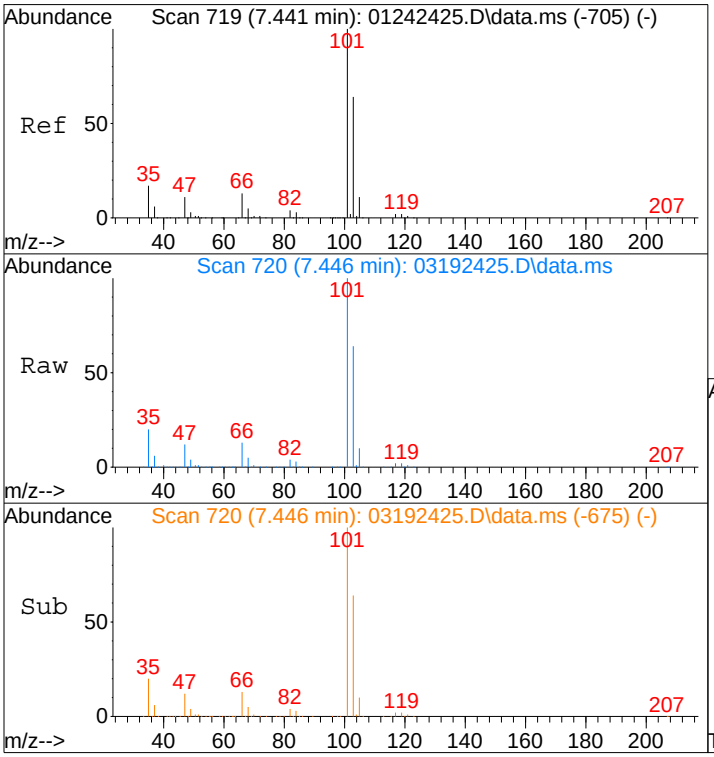


#10
Ethanol
Concen: 1.04 ng
RT: 6.57 min Scan# 561
Delta R.T. -0.050 min
Lab File: 03192425.D
Acq: 19 Mar 2024 13:11

Tgt Ion: 45 Resp: 19593

Ion	Ratio	Lower	Upper
45	100		
46	43.1	19.6	59.6

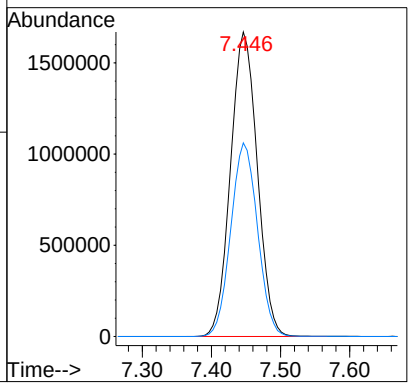


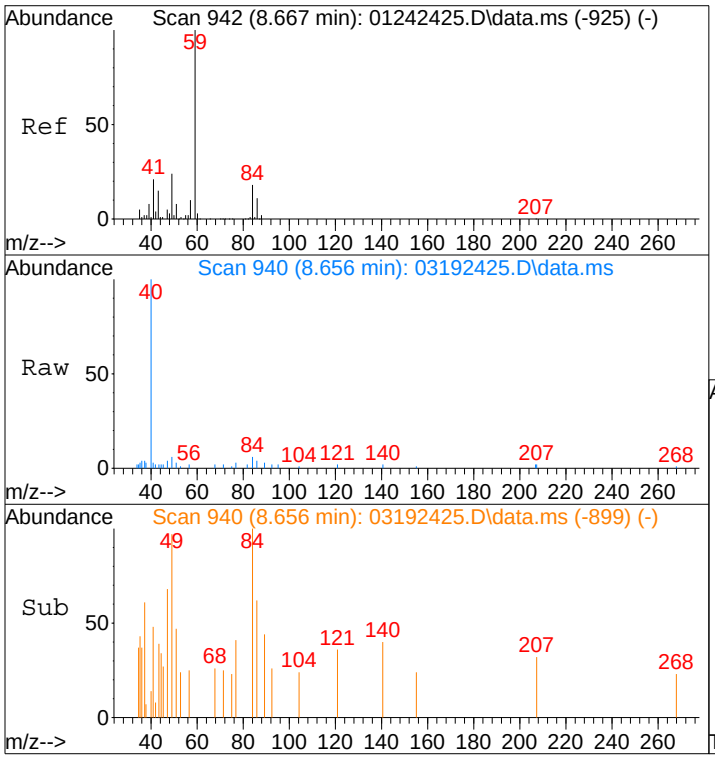


#14
Trichlorofluoromethane
Concen: 106.74 ng
RT: 7.45 min Scan# 720
Delta R.T. -0.000 min
Lab File: 03192425.D
Acq: 19 Mar 2024 13:11

Tgt Ion:101 Resp: 4490451

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.1	84.1

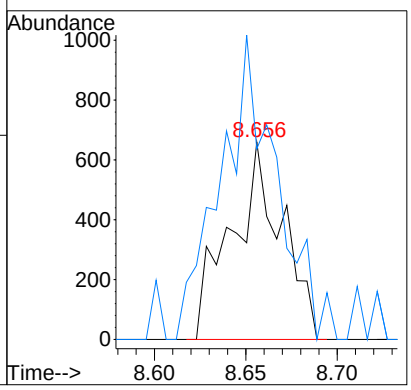


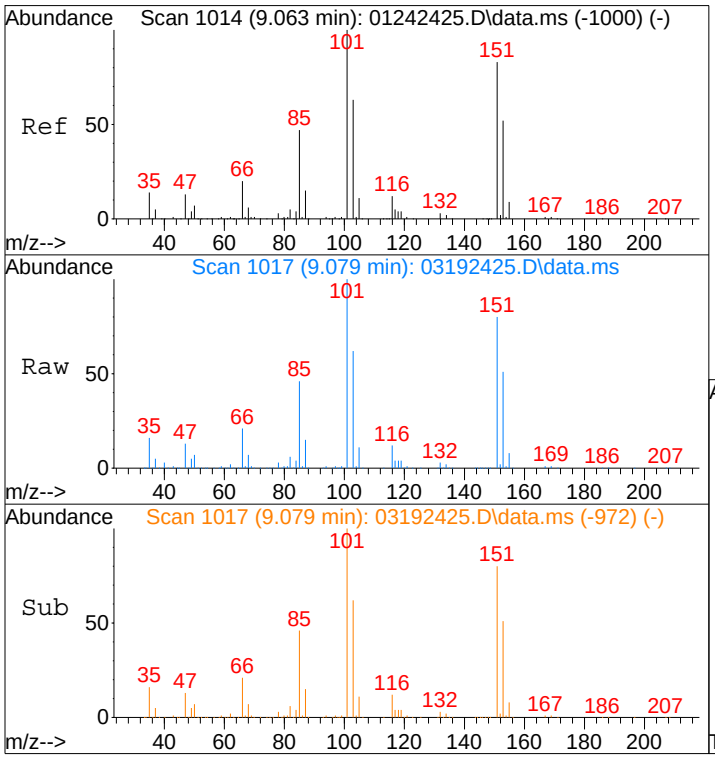


#19
Methylene Chloride
Concen: 0.06 ng
RT: 8.66 min Scan# 940
Delta R.T. -0.022 min
Lab File: 03192425.D
Acq: 19 Mar 2024 13:11

Tgt Ion: 84 Resp: 1273

Ion	Ratio	Lower	Upper
84	100		
49	170.9	126.4	176.4

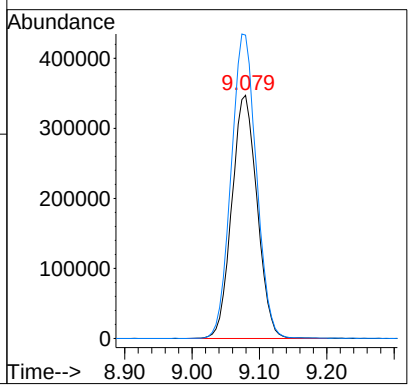


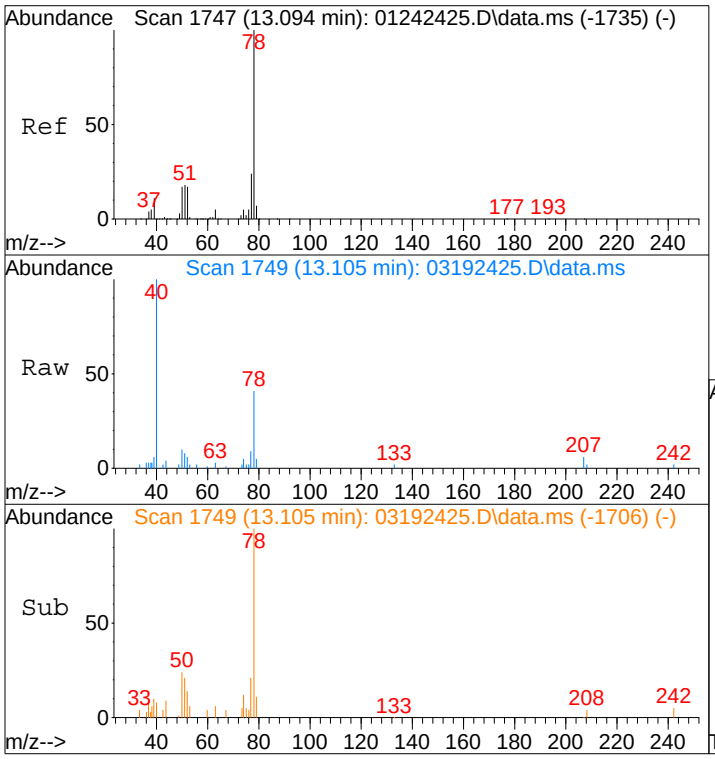


#21
Trichlorotrifluoroethane
Concen: 49.49 ng
RT: 9.08 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 03192425.D
Acq: 19 Mar 2024 13:11

Tgt Ion:151 Resp: 906788

Ion	Ratio	Lower	Upper
151	100		
101	125.2	104.2	144.2

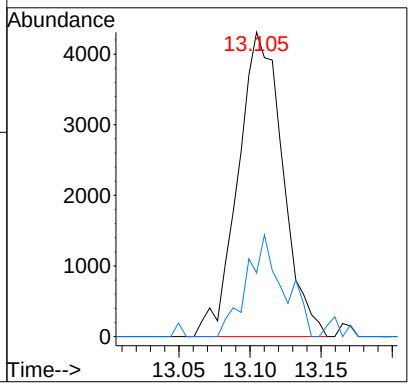




#41
Benzene
Concen: 0.10 ng
RT: 13.10 min Scan# 1749
Delta R.T. -0.011 min
Lab File: 03192425.D
Acq: 19 Mar 2024 13:11

Tgt Ion: 78 Resp: 9422

Ion	Ratio	Lower	Upper
78	100		
77	27.5	2.6	42.6



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

CI 3/22/24

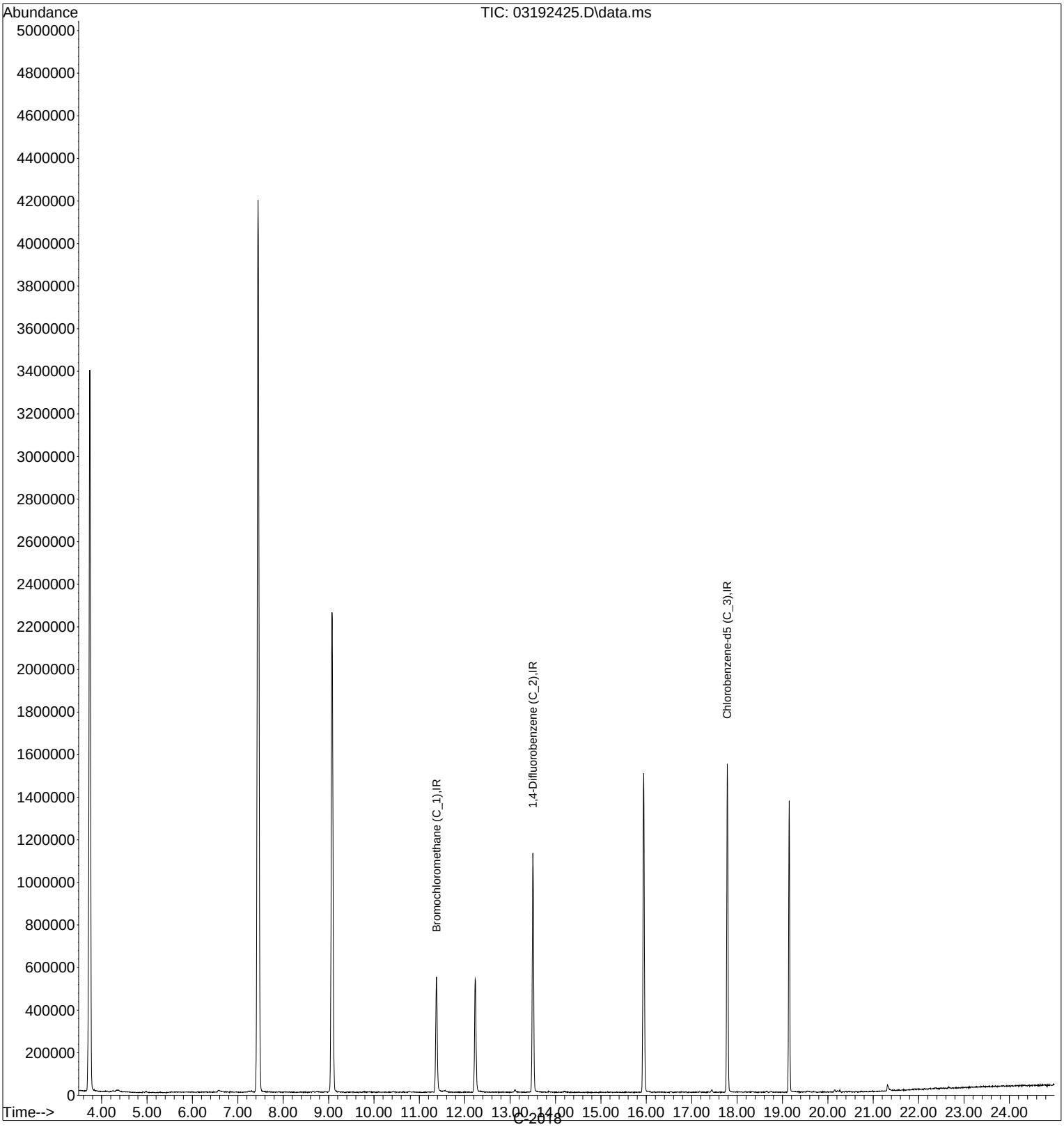
Quant Time: Mar 22 14:18:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	213991	12.500 ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	979490	12.500 ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	223173	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.83	85	114	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.94	83	56	N.D.	
4) 1,1-Difluoroethane	4.01	65	52	N.D.	
5) Chlorodifluoromethane ...	4.17	67	58	N.D.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	6.38	67	140	N.D.	
8) Vinylbromide	6.74	108	62	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	442	N.D.	
10) 2-Methylbutane	7.22	57	804	N.D.	
11) Methyl Acetate	8.71	43	307	N.D.	
12) 2-Methylpentane	10.42	71	125	N.D.	
13) 2,2-Dichloropropane	11.58	77	106	N.D.	
14) 1,1-Dichloropropene	12.93	75	52	N.D.	
15) Thiophene	13.23	84	103	N.D.	
17) 2,3-Dimethylpentane	13.68	56	250	N.D.	
18) Dibromomethane	13.92	174	512	N.D.	
20) Methyl Cyclohexane	15.17	55	257	N.D.	
21) 1,3-Dichloropropane	16.05	76	69	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	18.01	91	111	N.D.	
24) 1,2,3-Trichloropropane	18.85	75	59	N.D.	
25) Bromobenzene	19.36	77	227	N.D.	
26) 2-Chlorotoluene	19.71	91	2654	N.D.	
27) 4-Chlorotoluene	19.71	91	2654	N.D.	
28) Indane	20.80	117	128	N.D.	
29) Indene	20.90	115	183	N.D.	
30) 1,2,4,5-Tetramethylben...	21.58	119	192	N.D.	
31) 1,2,3,4-Tetramethylben...	21.58	119	192	N.D.	
32) 1,2,3,5-Tetramethylben...	21.90	119	184	N.D.	
33) 1,2,3-Trichlorobenzene	22.59	180	82	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 22 14:18:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 22 14:18:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	213991	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	979490	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	223173	12.500	ng	0.00

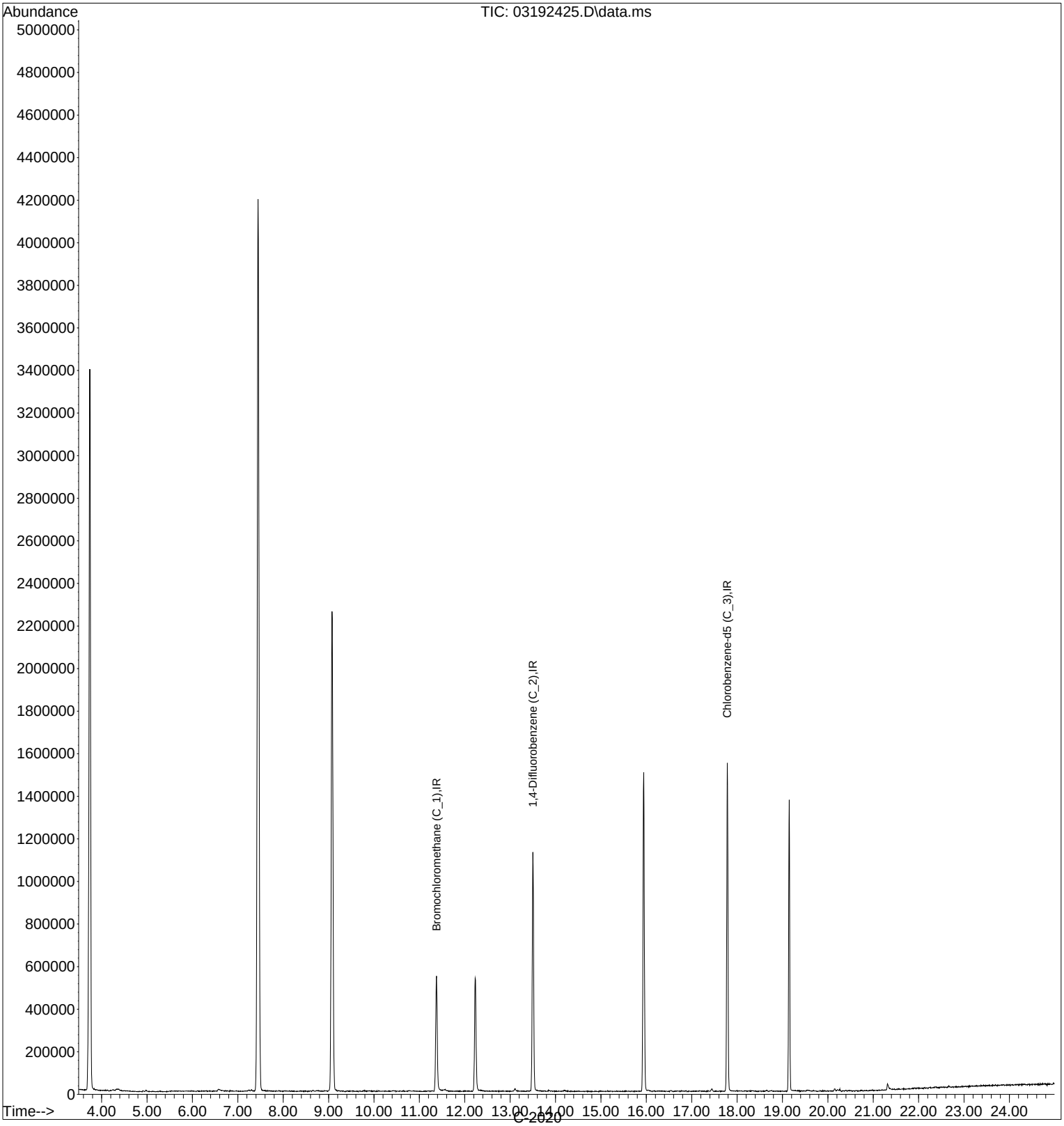
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

CI 3/22/24

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Mar 22 14:18:32 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-2020

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212416.D
Acq On : 21 Mar 2024 12:34
Operator : CI
Sample : P2400922-066dil (5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 13:15:29 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	225849	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	1016553	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	219179	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	399085	10.491	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.92%			
57) Toluene-d8 (SS2)	15.94	98	1134136	13.250	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%			
73) Bromofluorobenzene (SS3)	19.15	174	385229	13.365	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.88%			
Target Compounds						Qvalue
2) Propene	4.11	42	438	N.D.		
3) Dichlorodifluoromethan...	4.26	85	235	N.D.		
4) Chloromethane	4.61	50	273	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.60	45	6834	0.338	ng	95
11) Acetonitrile	6.83	41	55	N.D.		
12) Acrolein	7.04	56	219	N.D.		
13) Acetone	7.25	58	179	N.D.		
14) Trichlorofluoromethane	7.44	101	981683	21.761	ng	99
15) 2-Propanol (Isopropanol)	7.79	45	68	N.D.		
16) Acrylonitrile	7.99	53	71	N.D.		
17) 1,1-Dichloroethene	8.42	96	121	N.D.		
18) 2-Methyl-2-Propanol (t...	8.72	59	182	N.D.		
19) Methylene Chloride	0.00	84	0	N.D. d		
20) 3-Chloro-1-propene (Al...	8.83	41	261	N.D.		
21) Trichlorotrifluoroethane	9.07	151	220683	11.231	ng	95
22) Carbon Disulfide	8.92	76	2561	N.D.		
23) trans-1,2-Dichloroethene	9.93	61	1183	N.D.		
24) 1,1-Dichloroethane	10.18	63	253	N.D.		
25) Methyl tert-Butyl Ether	10.39	73	702	N.D.		
26) Vinyl Acetate	10.45	86	135	N.D.		
27) 2-Butanone (MEK)	10.77	72	526	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d		
29) Diisopropyl Ether	11.53	87	158	N.D.		
30) Ethyl Acetate	11.56	61	115	N.D.		
31) n-Hexane	11.48	57	1814	N.D.		
32) Chloroform	11.55	83	812	N.D.		
34) Tetrahydrofuran (THF)	12.05	72	254	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.35	62	862	N.D.		
38) 1,1,1-Trichloroethane	12.65	97	176	N.D.		
39) Isopropyl Acetate	13.77	61	117	No Calib	#	
40) 1-Butanol	12.63	56	303	No Calib	#	
41) Benzene	13.11	78	16444	0.170	ng	96
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.39	84	1523	N.D.		
44) tert-Amyl Methyl Ether	13.81	73	358	N.D.		
45) 1,2-Dichloropropane	13.95	63	261	N.D.		
46) Bromodichloromethane	14.15	83	1133	N.D.		
47) Trichloroethene	14.20	130	29324	1.190	ng	98
48) 1,4-Dioxane	14.26	88	208	N.D.		

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212416.D
Acq On : 21 Mar 2024 12:34
Operator : CI
Sample : P2400922-066dil (5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 13:15:29 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

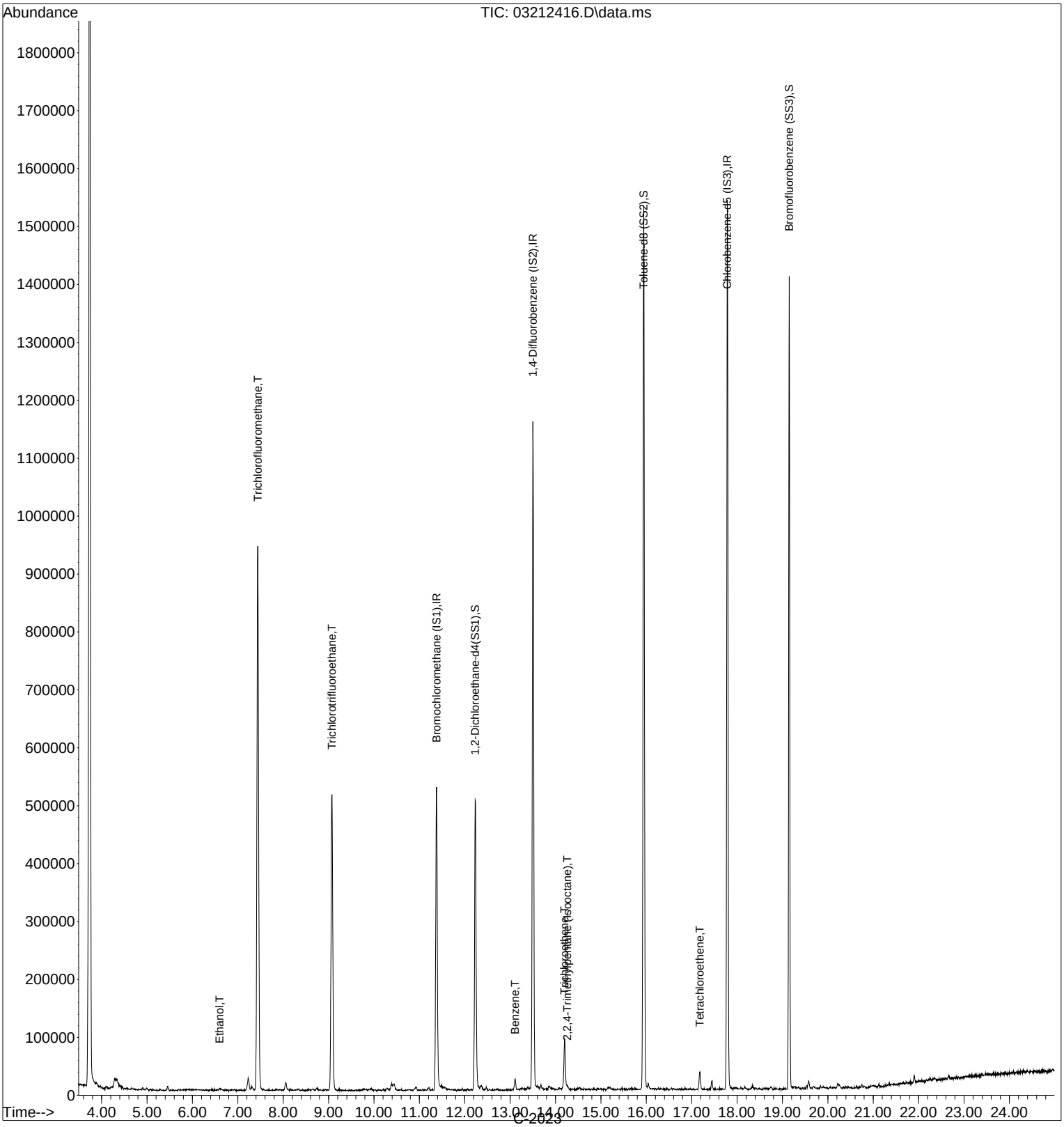
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	5900	0.066 ng	80
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	14.55	71	628	N.D.	
52) cis-1,3-Dichloropropene	15.03	75	149	N.D.	
53) 4-Methyl-2-pentanone	15.13	58	144	N.D.	
54) trans-1,3-Dichloropropene	15.63	75	183	N.D.	
55) 1,1,2-Trichloroethane	15.75	97	226	N.D.	
58) Toluene	16.04	91	3473	N.D.	
59) 2-Hexanone	16.32	43	1477	N.D.	
60) Dibromochloromethane	16.46	129	382	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.94	43	1182	N.D.	
63) n-Octane	17.04	57	369	N.D.	
64) Tetrachloroethene	17.18	166	9421	0.400 ng	95
65) Chlorobenzene	17.83	112	1511	N.D.	
66) Ethylbenzene	18.17	91	2161	N.D.	
67) m- & p-Xylenes	18.33	91	1867	N.D.	
68) Bromoform	18.39	173	767	N.D.	
69) Styrene	18.65	104	772	N.D.	
70) o-Xylene	18.75	91	1571	N.D.	
71) n-Nonane	18.95	43	909	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.75	83	723	N.D.	
74) Cumene	19.27	105	1530	N.D.	
75) alpha-Pinene	19.62	93	128	N.D.	
76) n-Propylbenzene	19.74	91	956	N.D.	
77) 3-Ethyltoluene	20.26	105	836	No Calib	#
78) 4-Ethyltoluene	19.84	105	1126	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	539	N.D.	
80) alpha-Methylstyrene	20.57	118	116	No Calib	#
81) 2-Ethyltoluene	20.26	105	836	No Calib	#
82) 1,2,4-Trimethylbenzene	20.26	105	836	N.D.	
83) n-Decane	20.41	58	168	No Calib	#
84) Benzyl Chloride	20.37	91	184	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	876	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	1324	N.D.	
87) sec-Butylbenzene	20.49	105	1192	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	1128	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	836	No Calib	#
90) 1,2-Dichlorobenzene	20.75	146	1045	N.D.	
91) d-Limonene	20.75	68	665	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	400	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.25	180	1512	N.D.	
95) Naphthalene	22.36	128	2529	N.D.	
96) n-Dodecane	22.73	57	339	No Calib	#
97) Hexachlorobutadiene	22.67	225	887	N.D.	
98) Cyclohexanone	18.24	55	263	No Calib	#
99) tert-Butylbenzene	20.25	119	1429	N.D.	
100) n-Butylbenzene	20.99	91	1229	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.80	131	253	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212416.D
Acq On : 21 Mar 2024 12:34
Operator : CI
Sample : P2400922-066dil (5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

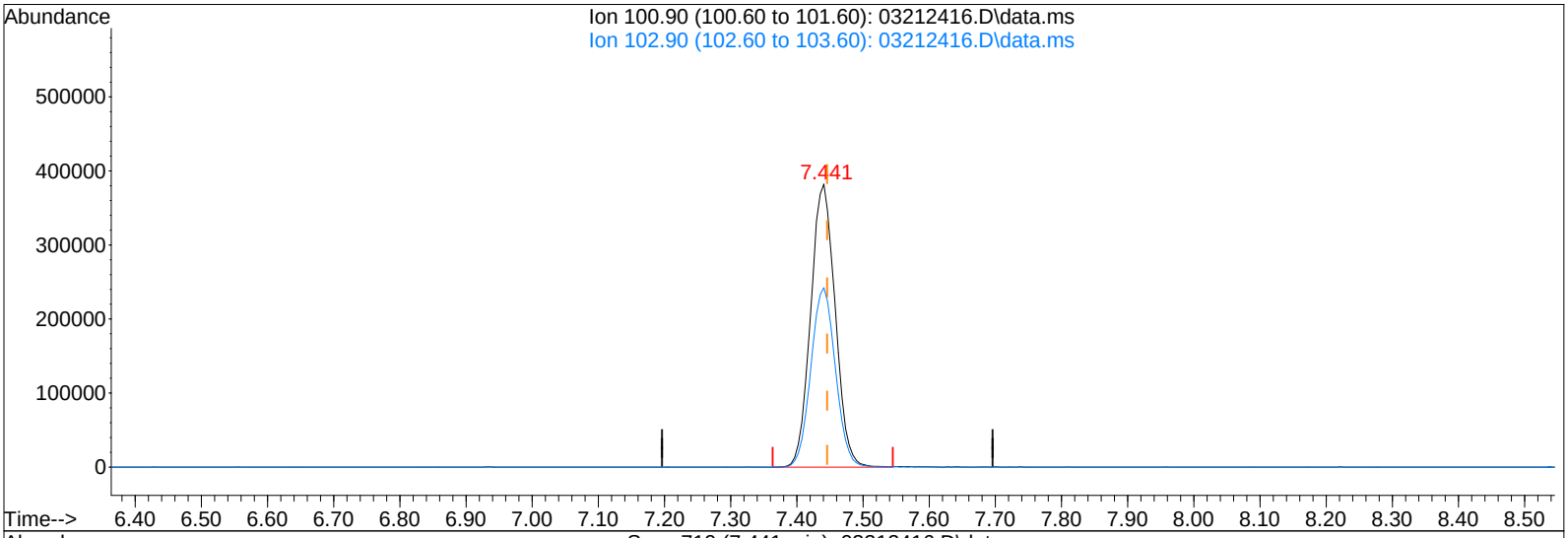
Quant Time: Mar 21 13:15:29 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

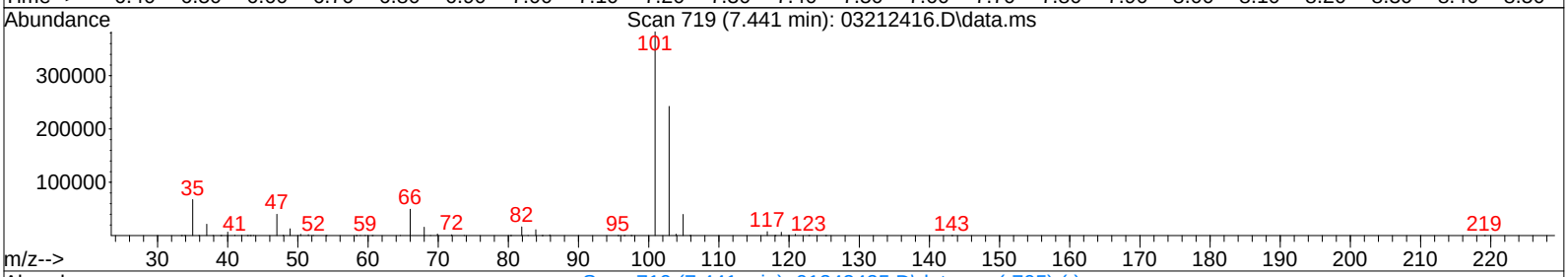


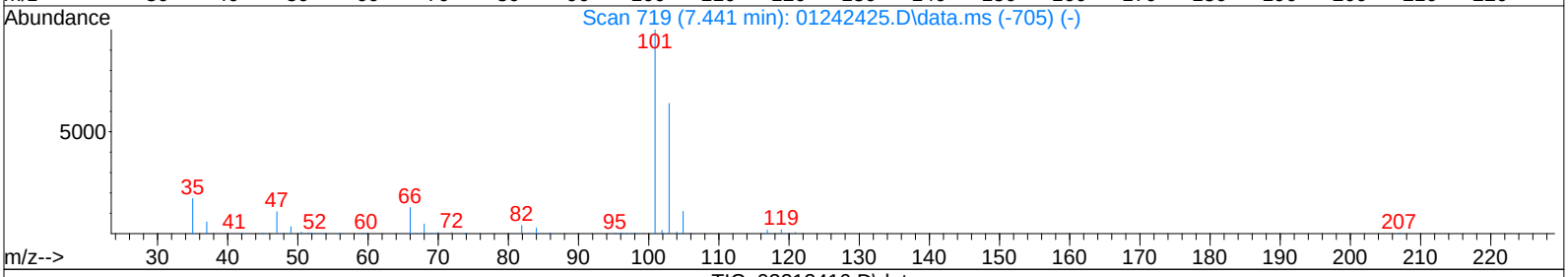
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212416.D
Acq On : 21 Mar 2024 12:34
Operator : CI
Sample : P2400922-066dil (5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 13:13:50 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03212416.D\data.ms

(14) Trichlorofluoromethane (T)

7.441min (-0.006) 21.76ng

response 981683

Ion	Exp%	Act%
100.90	100	100
102.90	64.10	63.62
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192425.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.251	130	139	143	rBV8	6028	15330	0.14%	0.083%
2	4.977	265	271	279	rVB3	6221	12497	0.11%	0.067%
3	6.572	556	561	565	rBV2	9771	20928	0.19%	0.113%
4	7.446	706	720	736	rBV	4189865	11297179	100.00%	60.842%
5	9.074	999	1016	1032	rBV	2253994	5918291	52.39%	31.874%
6	11.378	1425	1435	1449	rBV	541488	1303787	11.54%	7.022%

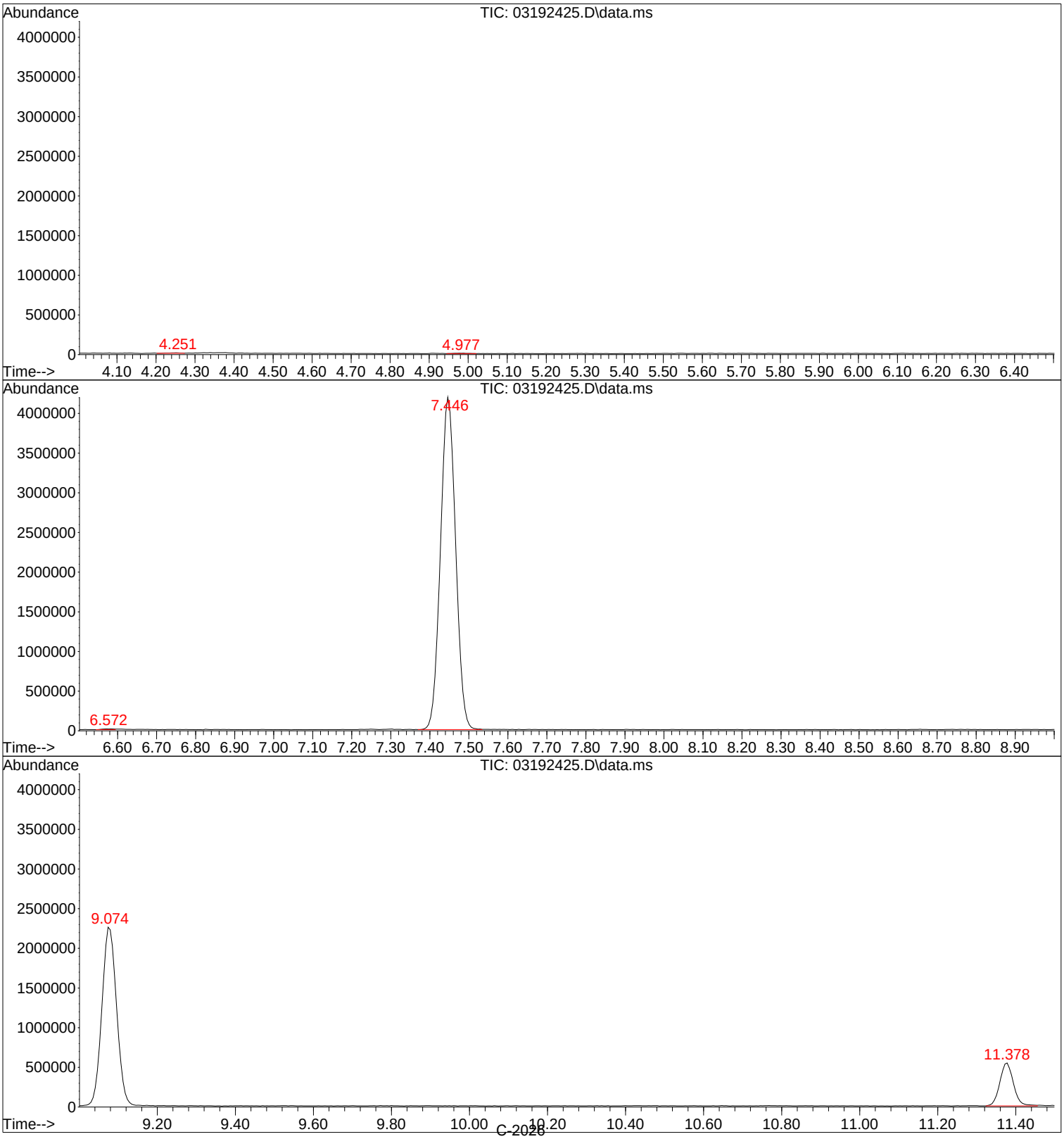
Sum of corrected areas: 18568012

LSC Report - Integrated Chromatogram

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:11
Operator : CI
Sample : P2400922-066 (15mL)
Misc : S37-01032403/
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192425.D
Acq On : 19 Mar 2024 13:111
Operator : CII
Sample : P2400922-066 (15mL))
Misc : S37-01032403//
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

CI 3/22/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:48:46 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.37	130	216952	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.50	114	994161	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	230224	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	454935	12.450	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.94	98	1126013	12.524	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	19.15	174	368917	12.185	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	4.30	85	216	N.D.			
4) Chloromethane	4.62	50	174	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	5.27	54	208	N.D.			
8) Bromomethane	5.81	94	224	N.D.			
9) Chloroethane	6.15	64	232	N.D.			
10) Ethanol	6.57	45	27810	1.430	ng		97
11) Acetonitrile	6.81	41	341	N.D.			
12) Acrolein	6.98	56	62	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	7.45	101	5397873	124.560	ng		100
15) 2-Propanol (Isopropanol)	7.77	45	308	N.D.			
16) Acrylonitrile	8.01	53	1351	N.D.			
17) 1,1-Dichloroethene	8.42	96	643	N.D.			
18) 2-Methyl-2-Propanol (t...	8.71	59	167	N.D.			
19) Methylene Chloride	8.64	84	2031	0.089	ng		96
20) 3-Chloro-1-propene (Al...	8.83	41	689	N.D.			
21) Trichlorotrifluoroethane	9.08	151	2198230	116.465	ng		100
22) Carbon Disulfide	8.92	76	5707	0.088	ng		97
23) trans-1,2-Dichloroethene	9.94	61	998	N.D.			
24) 1,1-Dichloroethane	10.21	63	1155	N.D.			
25) Methyl tert-Butyl Ether	10.37	73	982	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	10.75	72	4930	0.357	ng		96
28) cis-1,2-Dichloroethene	11.19	61	321	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	11.55	61	2570	0.327	ng	#	75
31) n-Hexane	11.49	57	90337	2.509	ng		96
32) Chloroform	11.55	83	387	N.D.			
34) Tetrahydrofuran (THF)	12.00	72	156	N.D.			
35) Ethyl tert-Butyl Ether	12.15	87	293	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	12.62	97	249	N.D.			
39) Isopropyl Acetate	13.78	61	141	No Calib		#	
40) 1-Butanol	12.65	56	2031	No Calib		#	
41) Benzene	13.11	78	38981	0.412	ng		92
42) Carbon Tetrachloride	13.25	117	928	N.D.			
43) Cyclohexane	13.40	84	41133	1.333	ng		96
44) tert-Amyl Methyl Ether	13.80	73	979	N.D.			
45) 1,2-Dichloropropane	13.98	63	345	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	14.19	130	2008	0.083	ng		94
48) 1,4-Dioxane	14.23	88	476	N.D.			

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

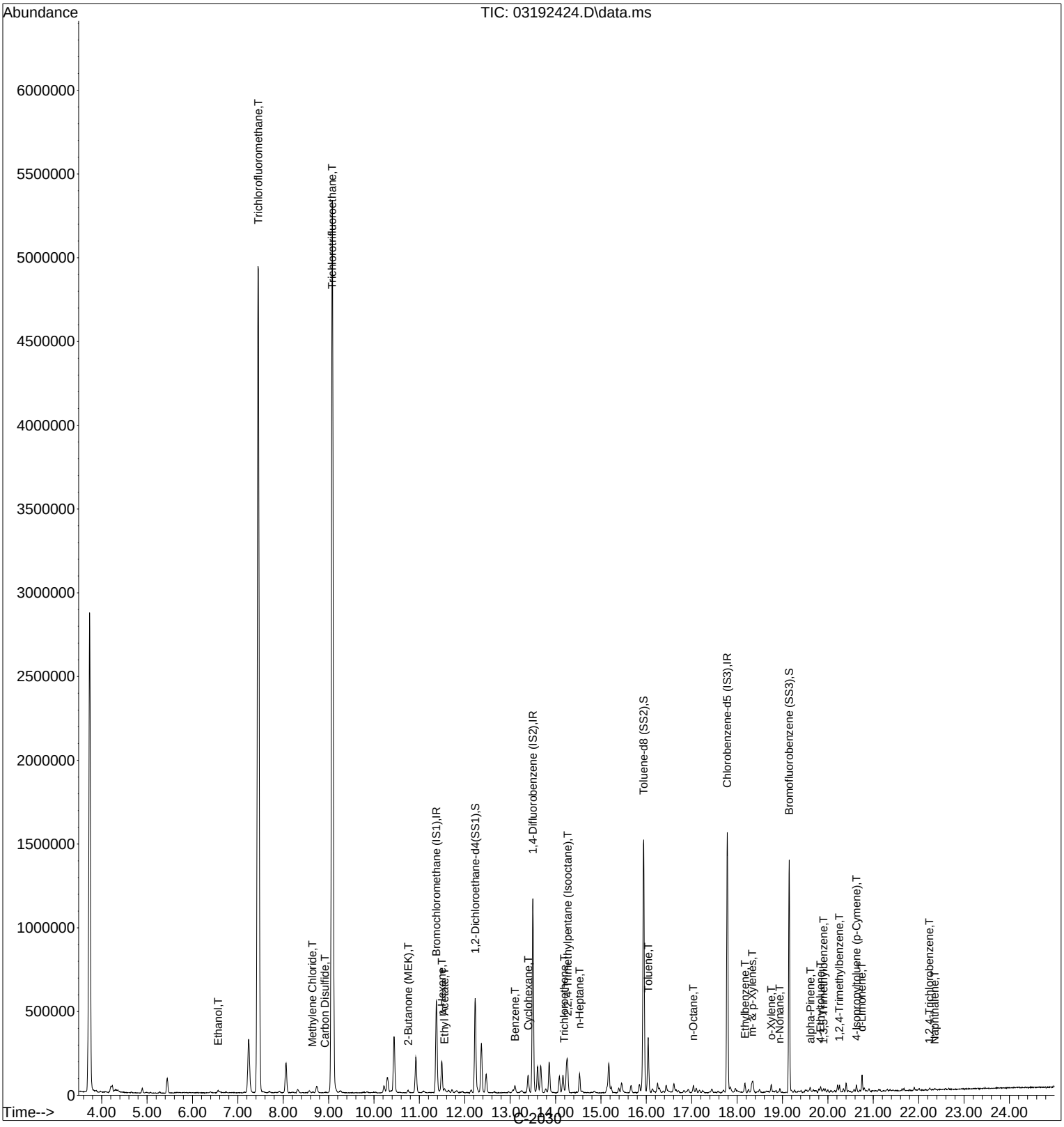
Quant Time: Mar 21 11:48:46 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	146916	1.668 ng	#	60
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	14.53	71	26983	1.181 ng		99
52) cis-1,3-Dichloropropene	15.08	75	173	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.57	75	181	N.D.		
55) 1,1,2-Trichloroethane	15.74	97	547	N.D.		
58) Toluene	16.04	91	221047	2.622 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.45	129	675	N.D.		
61) 1,2-Dibromoethane	16.71	107	136	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	17.04	57	8689	0.447 ng		89
64) Tetrachloroethene	17.18	166	975	N.D.		
65) Chlorobenzene	0.00	112	0	N.D. d		
66) Ethylbenzene	18.17	91	35503	0.363 ng		98
67) m- & p-Xylenes	18.33	91	53434	0.680 ng		97
68) Bromoform	18.39	173	709	N.D.		
69) Styrene	18.65	104	2002	N.D.		
70) o-Xylene	18.75	91	24993	0.316 ng		99
71) n-Nonane	18.94	43	8261	0.166 ng		95
72) 1,1,2,2-Tetrachloroethane	18.73	83	1107	N.D.		
74) Cumene	19.27	105	3688	N.D.		
75) alpha-Pinene	19.62	93	8506	0.188 ng		93
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	20.25	105	14066	No Calib		
78) 4-Ethyltoluene	19.84	105	6508	0.066 ng		95
79) 1,3,5-Trimethylbenzene	19.90	105	5820	0.070 ng		92
80) alpha-Methylstyrene	20.63	118	729	No Calib	#	
81) 2-Ethyltoluene	20.25	105	14066	No Calib		
82) 1,2,4-Trimethylbenzene	20.25	105	14066	0.167 ng		90
83) n-Decane	20.36	58	164	No Calib	#	
84) Benzyl Chloride	20.37	91	621	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	1668	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	1918	N.D.		
87) sec-Butylbenzene	20.49	105	2262	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	13847	0.142 ng		89
89) 1,2,3-Trimethylbenzene	20.25	105	14066	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	1699	N.D.		
91) d-Limonene	20.75	68	20801	0.733 ng		94
92) 1,2-Dibromo-3-Chloropr...	21.12	157	433	N.D.		
93) n-Undecane	21.48	58	221	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	2880	0.085 ng		87
95) Naphthalene	22.35	128	4827	0.051 ng		91
96) n-Dodecane	22.74	57	237	No Calib	#	
97) Hexachlorobutadiene	22.66	225	994	N.D.		
98) Cyclohexanone	18.26	55	2713	No Calib	#	
99) tert-Butylbenzene	20.26	119	3693	N.D.		
100) n-Butylbenzene	20.98	91	2325	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D. d		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:48:46 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:48:46 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

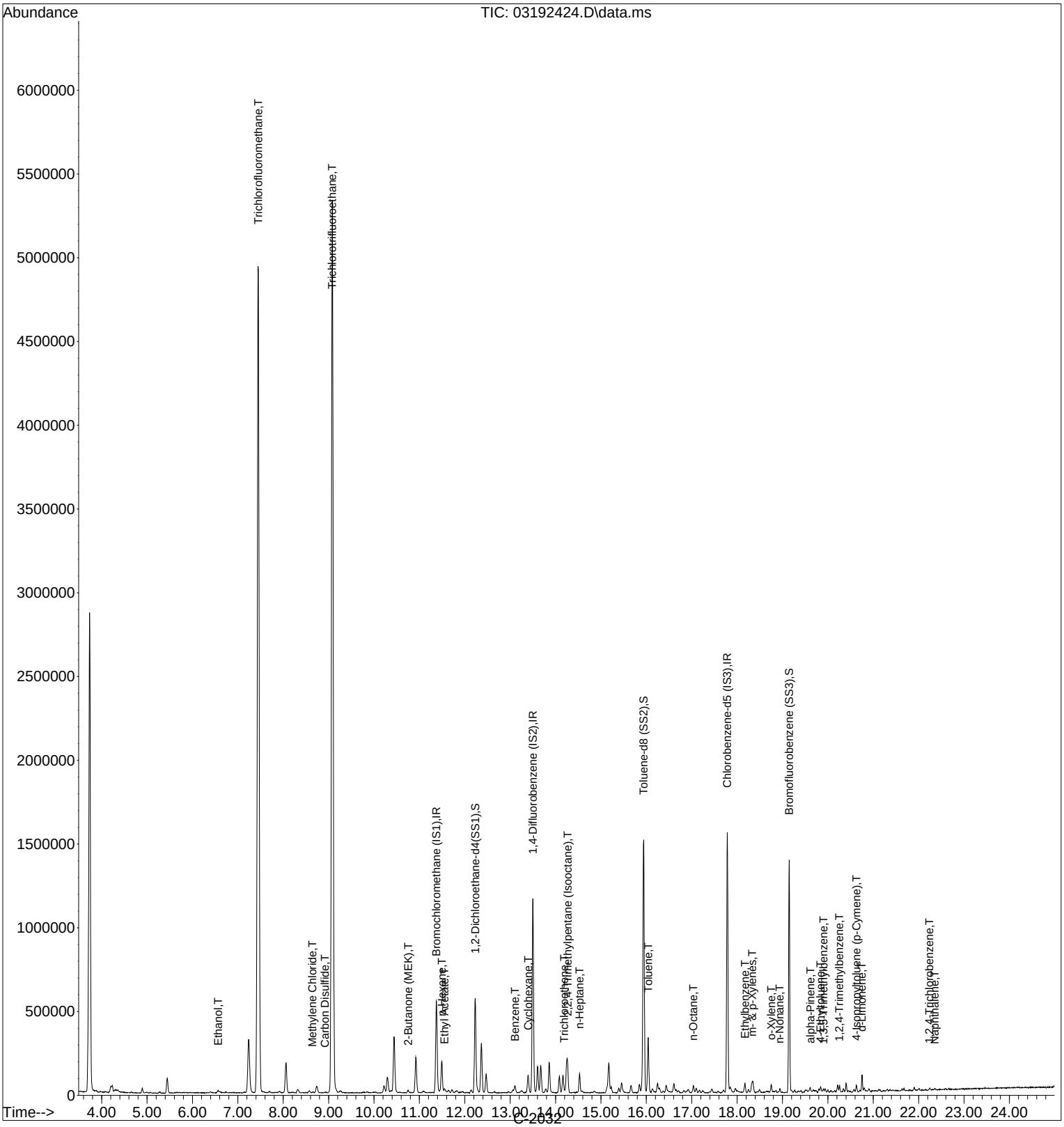
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.37	130	216952	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.50	114	994161	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	230224	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	454935	12.450	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.60%				
57) Toluene-d8 (SS2)	15.94	98	1126013	12.524	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
73) Bromofluorobenzene (SS3)	19.15	174	368917	12.185	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.44%				
Target Compounds							Qvalue
10) Ethanol	6.57	45	27810	1.430	ng		97
14) Trichlorofluoromethane	7.45	101	5397873	124.560	ng		100
19) Methylene Chloride	8.64	84	2031	0.089	ng		96
21) Trichlorotrifluoroethane	9.08	151	2198230	116.465	ng		100
22) Carbon Disulfide	8.92	76	5707	0.088	ng		97
27) 2-Butanone (MEK)	10.75	72	4930	0.357	ng		96
30) Ethyl Acetate	11.55	61	2570	0.327	ng	#	75
31) n-Hexane	11.49	57	90337	2.509	ng		96
41) Benzene	13.11	78	38981	0.412	ng		92
43) Cyclohexane	13.40	84	41133	1.333	ng		96
47) Trichloroethene	14.19	130	2008	0.083	ng		94
49) 2,2,4-Trimethylpentane...	14.26	57	146916	1.668	ng	#	60
51) n-Heptane	14.53	71	26983	1.181	ng		99
58) Toluene	16.04	91	221047	2.622	ng		100
63) n-Octane	17.04	57	8689	0.447	ng		89
66) Ethylbenzene	18.17	91	35503	0.363	ng		98
67) m- & p-Xylenes	18.33	91	53434	0.680	ng		97
70) o-Xylene	18.75	91	24993	0.316	ng		99
71) n-Nonane	18.94	43	8261	0.166	ng		95
75) alpha-Pinene	19.62	93	8506	0.188	ng		93
78) 4-Ethyltoluene	19.84	105	6508	0.066	ng		95
79) 1,3,5-Trimethylbenzene	19.90	105	5820	0.070	ng		92
82) 1,2,4-Trimethylbenzene	20.25	105	14066	0.167	ng		90
88) 4-Isopropyltoluene (p-...	20.63	119	13847	0.142	ng		89
91) d-Limonene	20.75	68	20801	0.733	ng		94
94) 1,2,4-Trichlorobenzene	22.24	180	2880	0.085	ng		87
95) Naphthalene	22.35	128	4827	0.051	ng		91

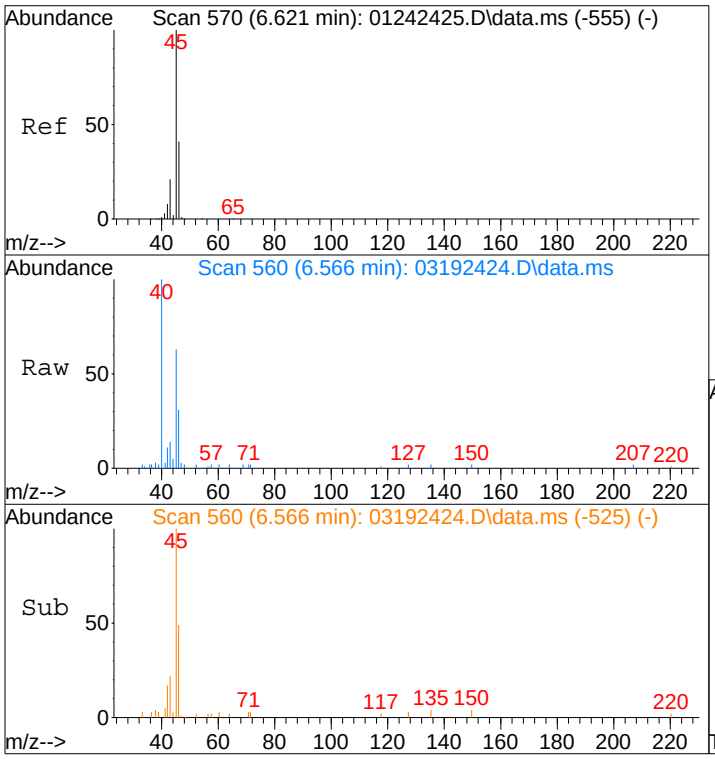
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:48:46 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

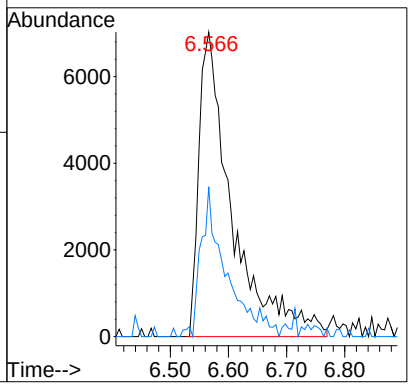


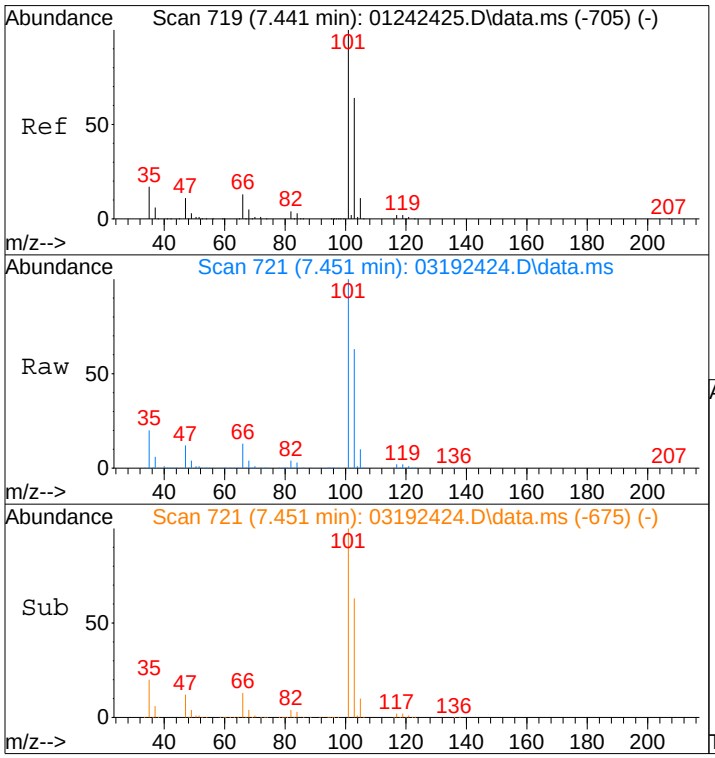


#10
Ethanol
Concen: 1.43 ng
RT: 6.57 min Scan# 560
Delta R.T. -0.055 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 45 Resp: 27810

Ion	Ratio	Lower	Upper
45	100		
46	37.6	19.6	59.6

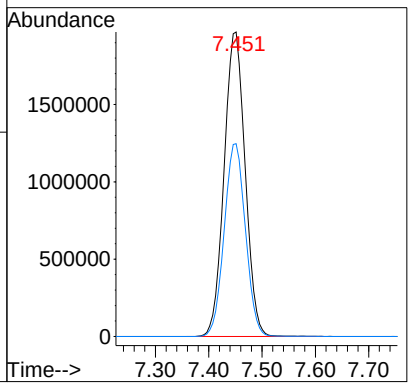


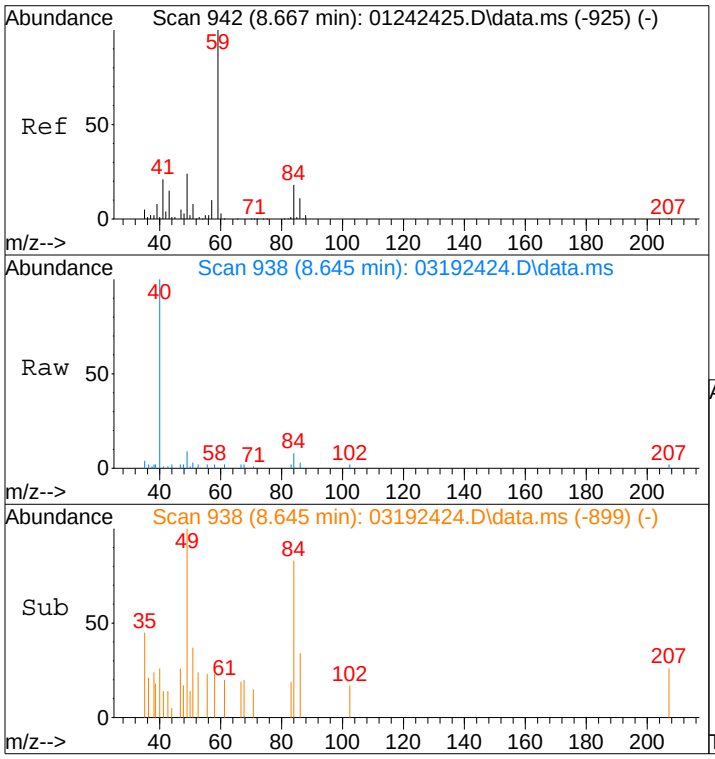


#14
Trichlorofluoromethane
Concen: 124.56 ng
RT: 7.45 min Scan# 721
Delta R.T. 0.005 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:101 Resp: 5397873

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.1	84.1

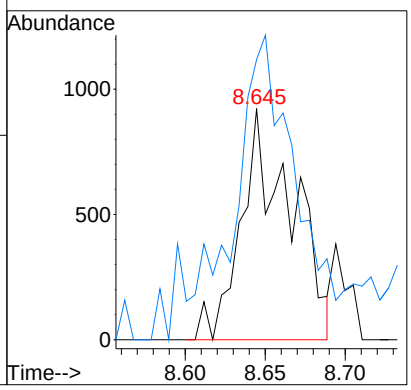


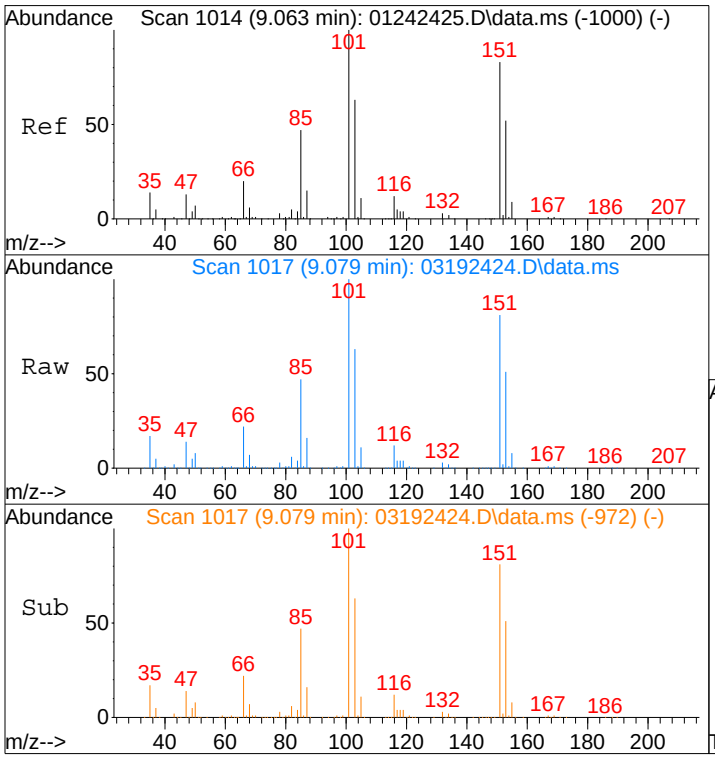


#19
Methylene Chloride
Concen: 0.09 ng
RT: 8.64 min Scan# 938
Delta R.T. -0.033 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 84 Resp: 2031

Ion	Ratio	Lower	Upper
84	100		
49	156.1	126.4	176.4

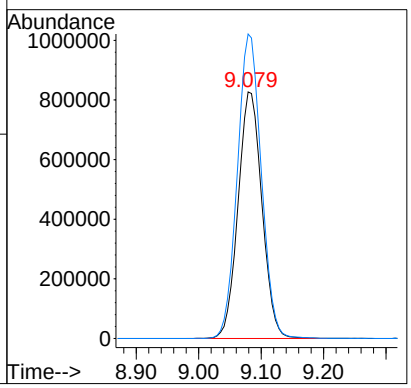


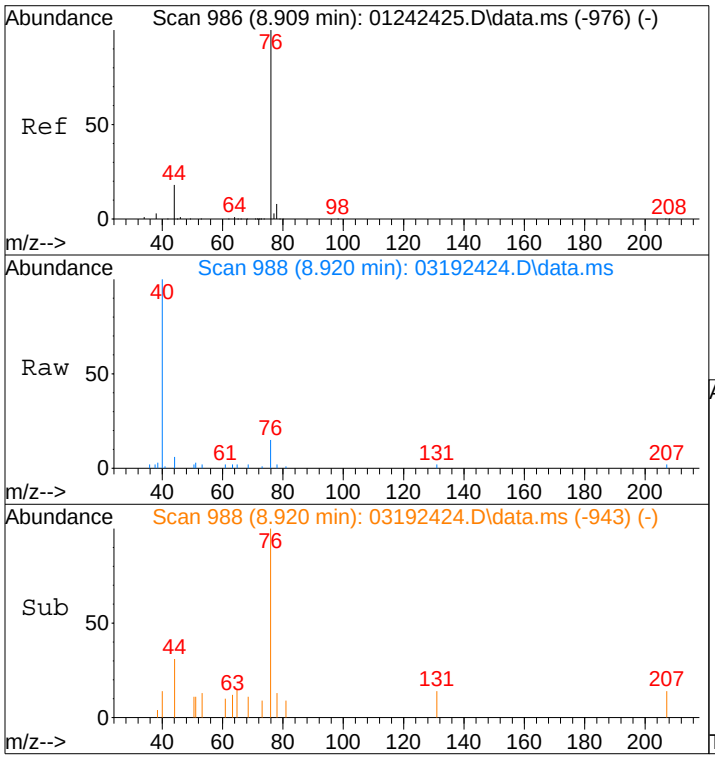


#21
Trichlorotrifluoroethane
Concen: 116.46 ng
RT: 9.08 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:151 Resp: 2198230

Ion	Ratio	Lower	Upper
151	100		
101	124.0	104.2	144.2

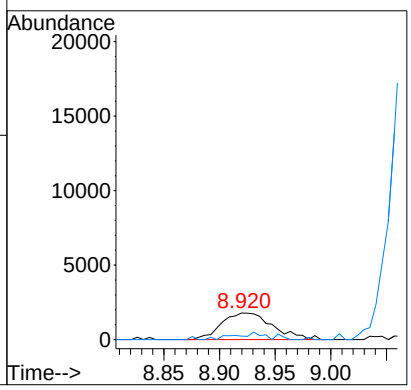


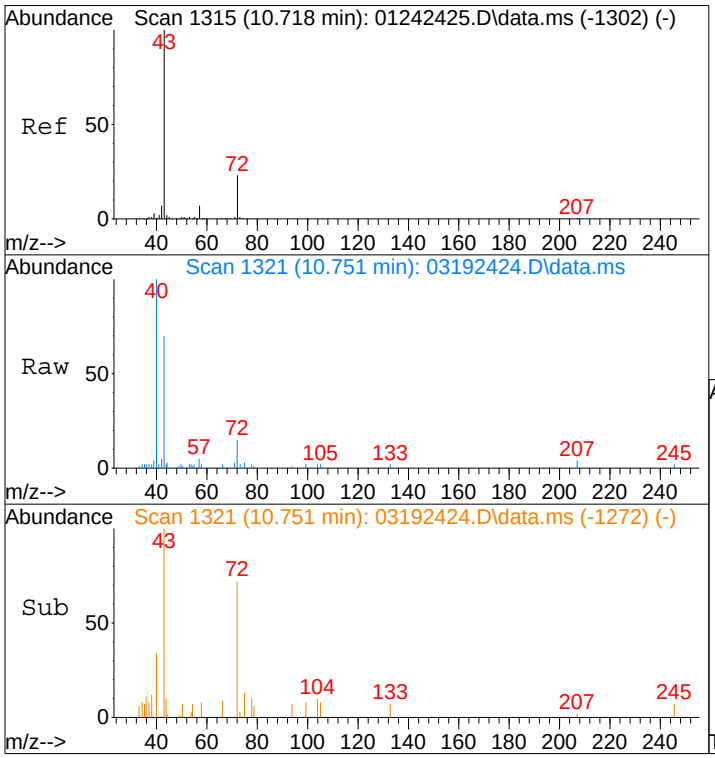


#22
Carbon Disulfide
Concen: 0.09 ng
RT: 8.92 min Scan# 988
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 76 Resp: 5707

Ion	Ratio	Lower	Upper
76	100		
78	8.2	0.0	29.3

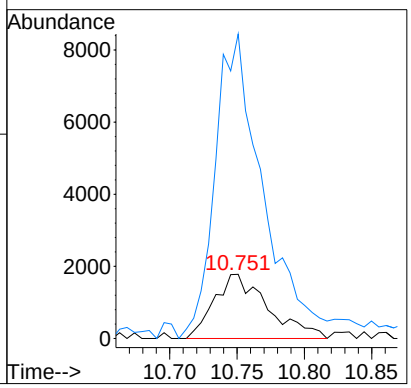


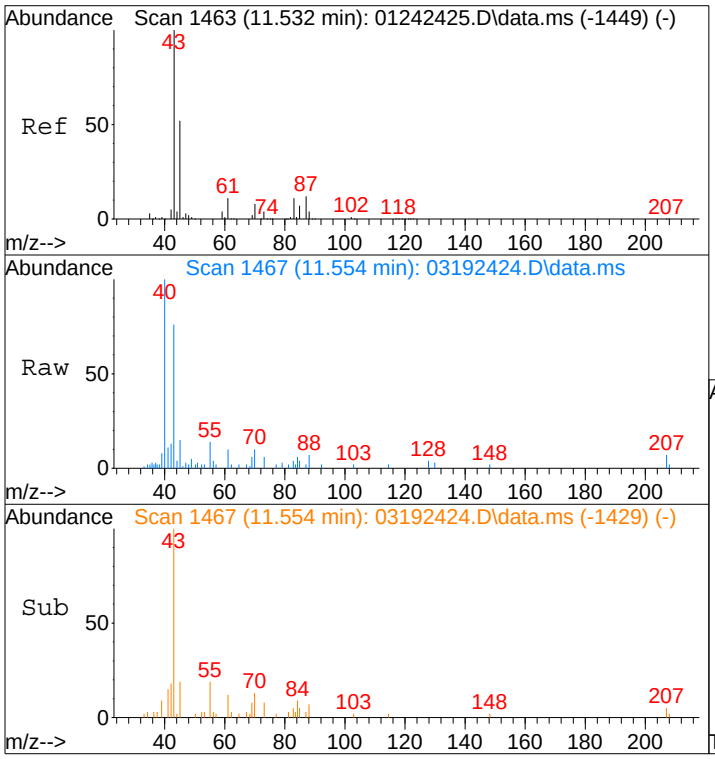


#27
2-Butanone (MEK)
Concen: 0.36 ng
RT: 10.75 min Scan# 1321
Delta R.T. 0.022 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 72 Resp: 4930

Ion	Ratio	Lower	Upper
72	100		
43	447.4	437.9	477.9

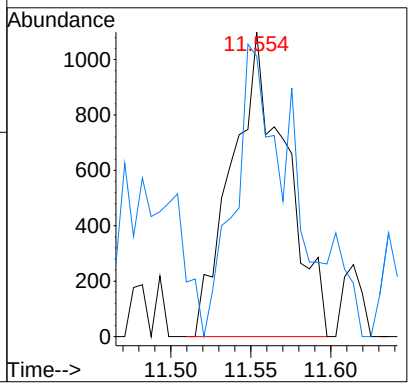


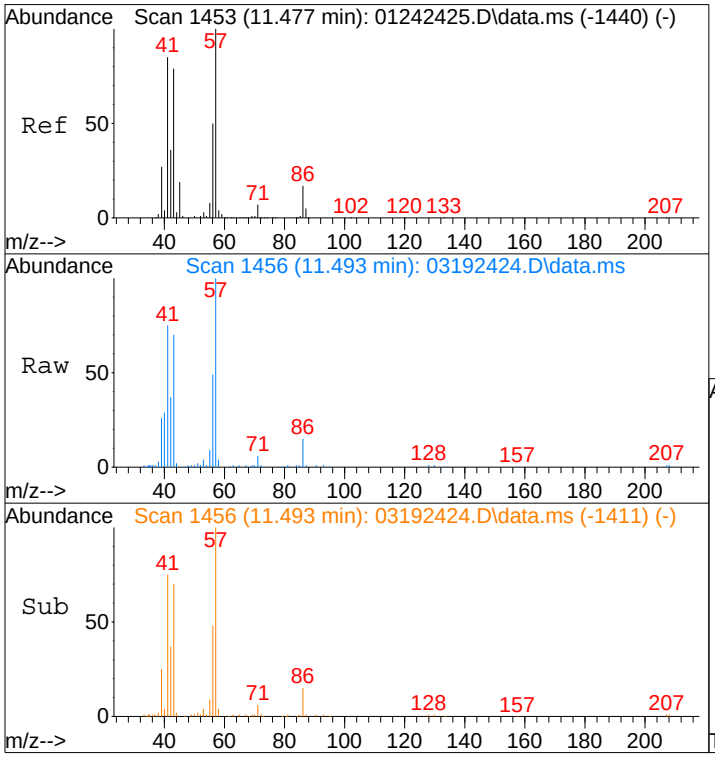


#30
Ethyl Acetate
Concen: 0.33 ng
RT: 11.55 min Scan# 1467
Delta R.T. 0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 61 Resp: 2570

Ion	Ratio	Lower	Upper
61	100		
70	107.2	64.5	104.5#

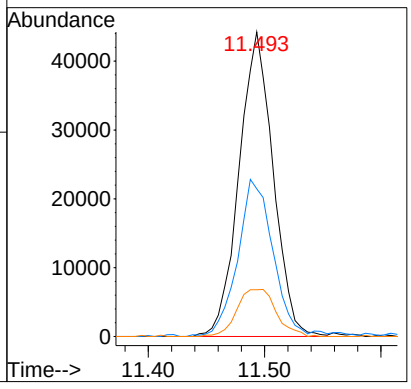


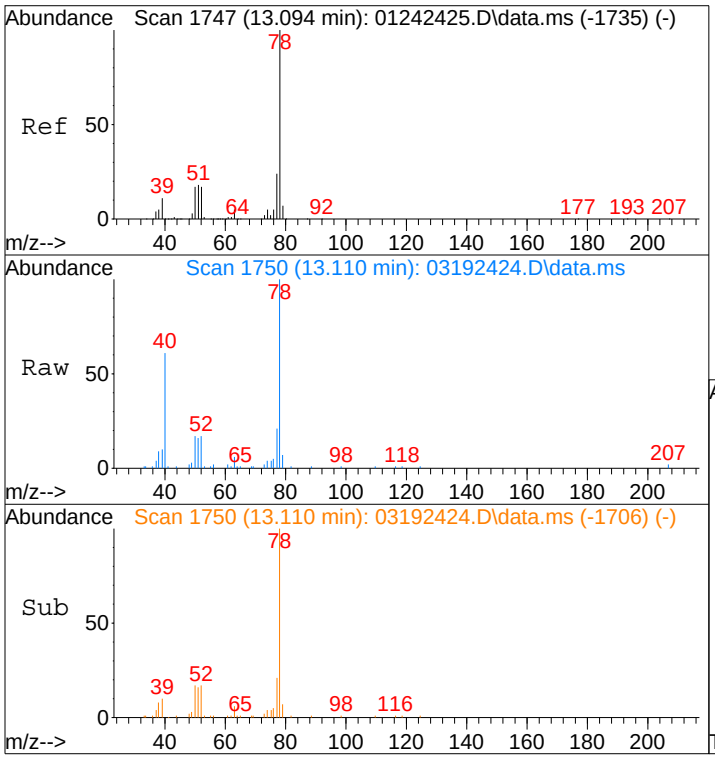


#31
n-Hexane
Concen: 2.51 ng
RT: 11.49 min Scan# 1456
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 57 Resp: 90337

Ion	Ratio	Lower	Upper
57	100		
56	54.5	40.7	61.1
86	17.8	13.4	20.2

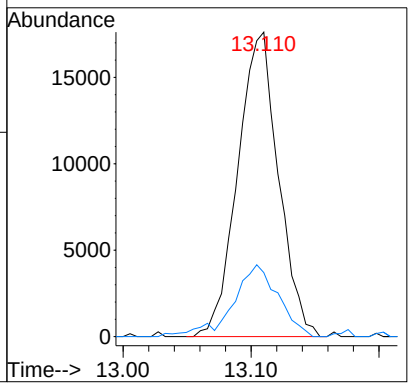


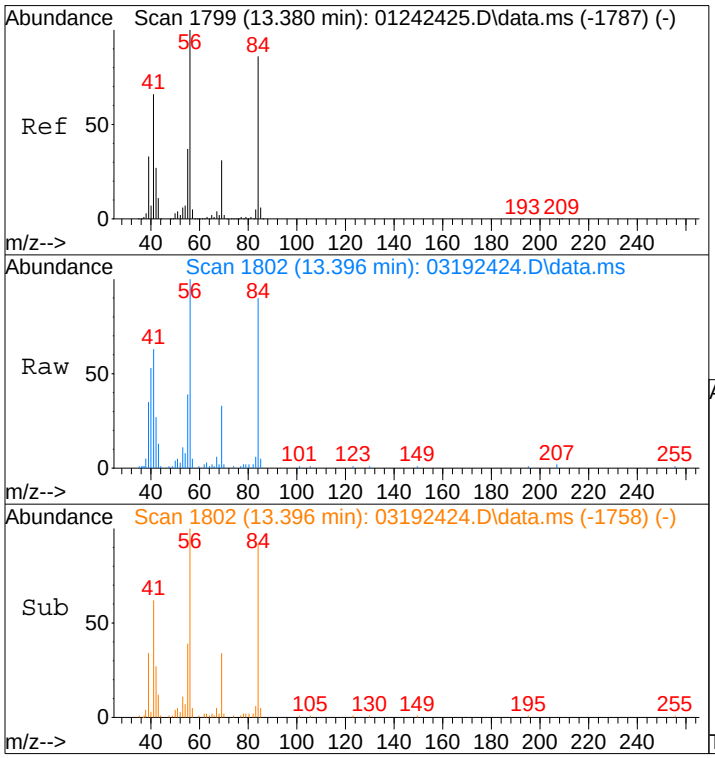


#41
Benzene
Concen: 0.41 ng
RT: 13.11 min Scan# 1750
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 78 Resp: 38981

Ion	Ratio	Lower	Upper
78	100		
77	26.3	2.6	42.6

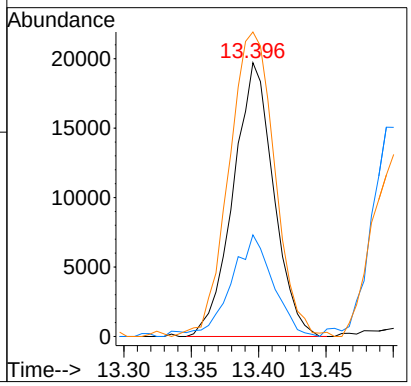


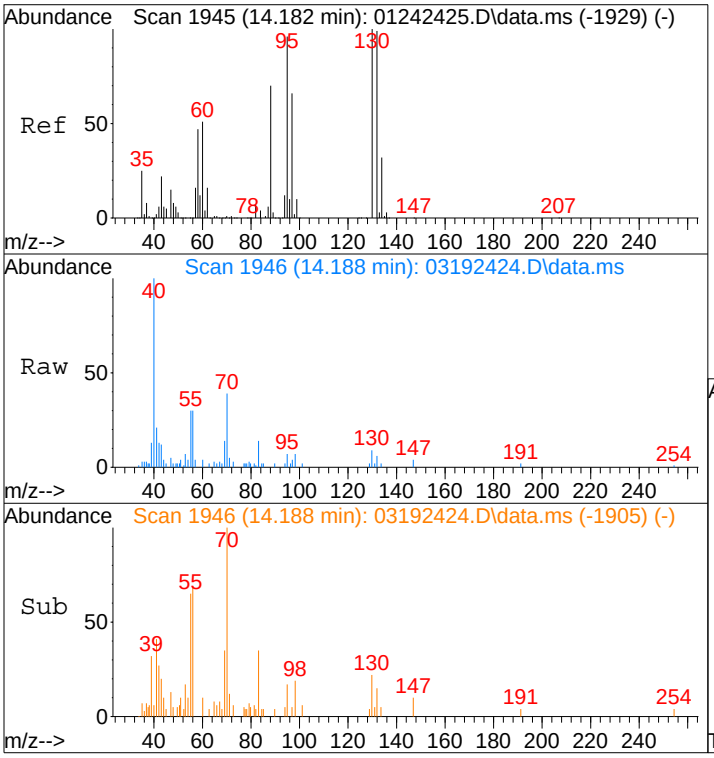


#43
Cyclohexane
Concen: 1.33 ng
RT: 13.40 min Scan# 1802
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 84 Resp: 41133

Ion	Ratio	Lower	Upper
84	100		
69	39.0	17.1	57.1
56	126.1	101.6	141.6

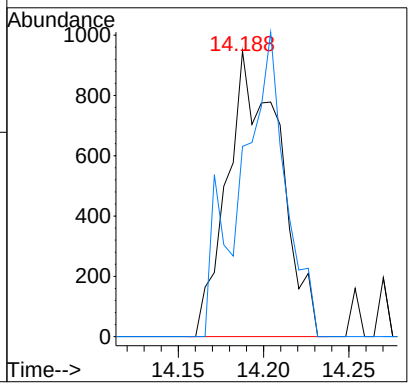


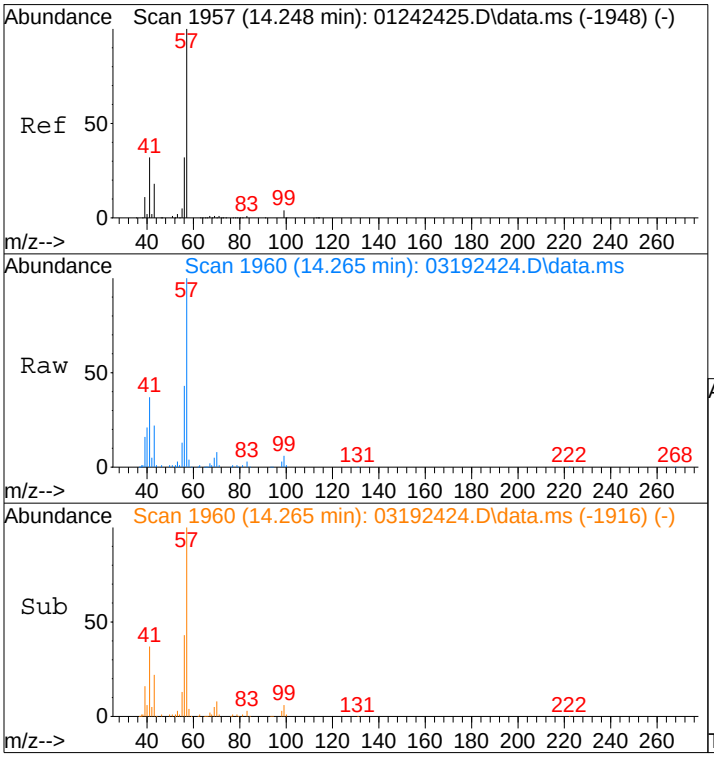


#47
Trichloroethene
Concen: 0.08 ng
RT: 14.19 min Scan# 1946
Delta R.T. -0.022 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:130 Resp: 2008

Ion	Ratio	Lower	Upper
130	100		
132	92.5	78.3	118.3

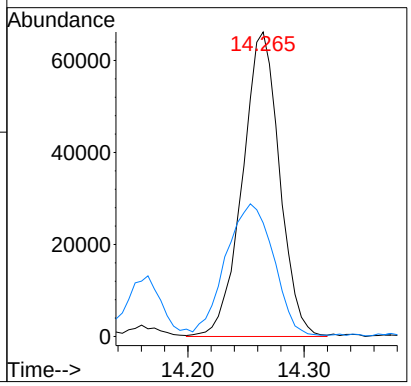


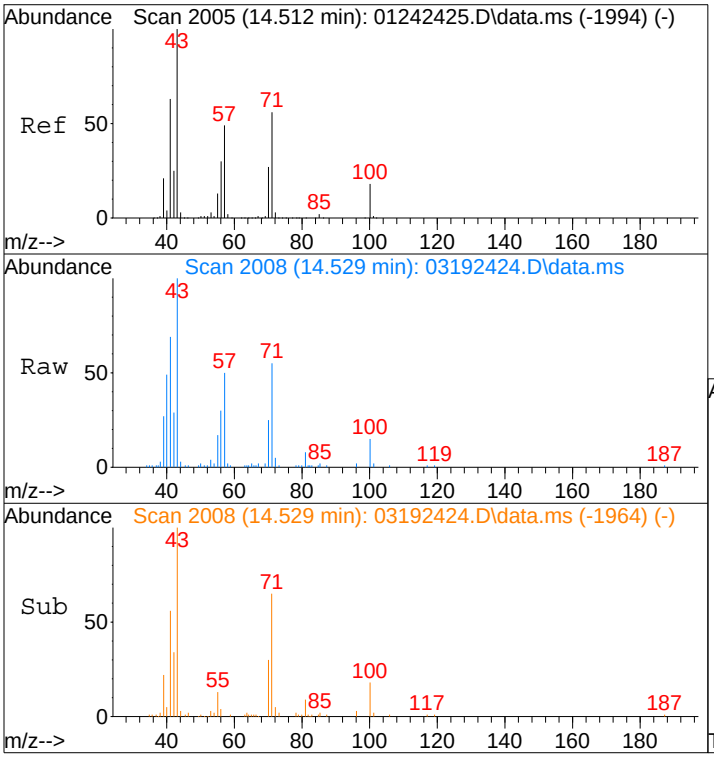


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 1.67 ng
RT: 14.26 min Scan# 1960
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 57 Resp: 146916

Ion	Ratio	Lower	Upper
57	100		
41	55.8	13.2	53.2#

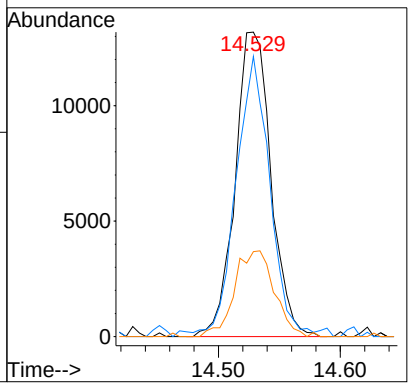


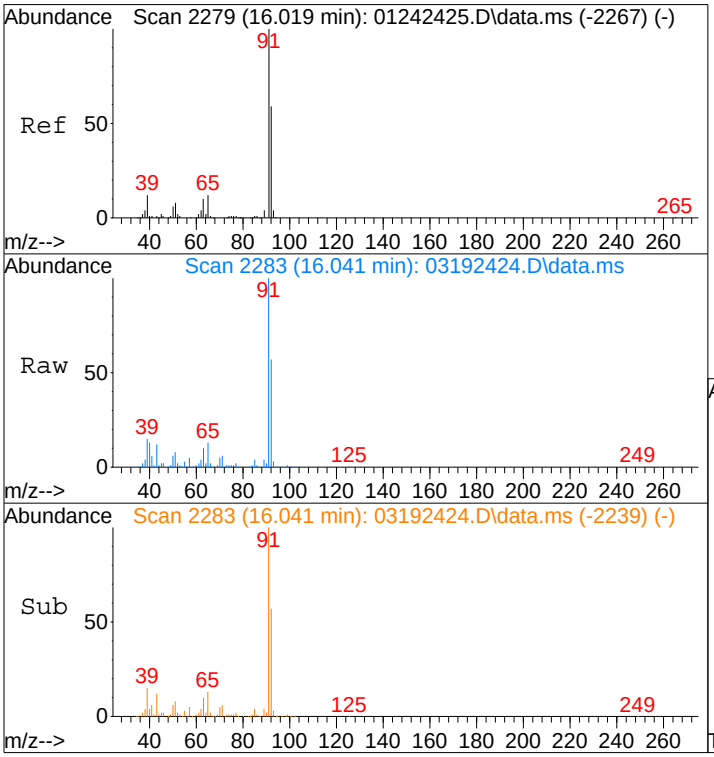


#51
n-Heptane
Concen: 1.18 ng
RT: 14.53 min Scan# 2008
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 71 Resp: 26983

Ion	Ratio	Lower	Upper
71	100		
57	88.0	69.1	109.1
100	31.4	10.7	50.7

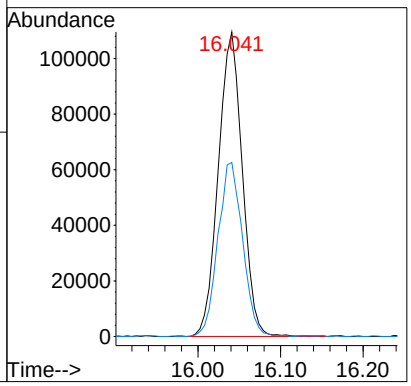


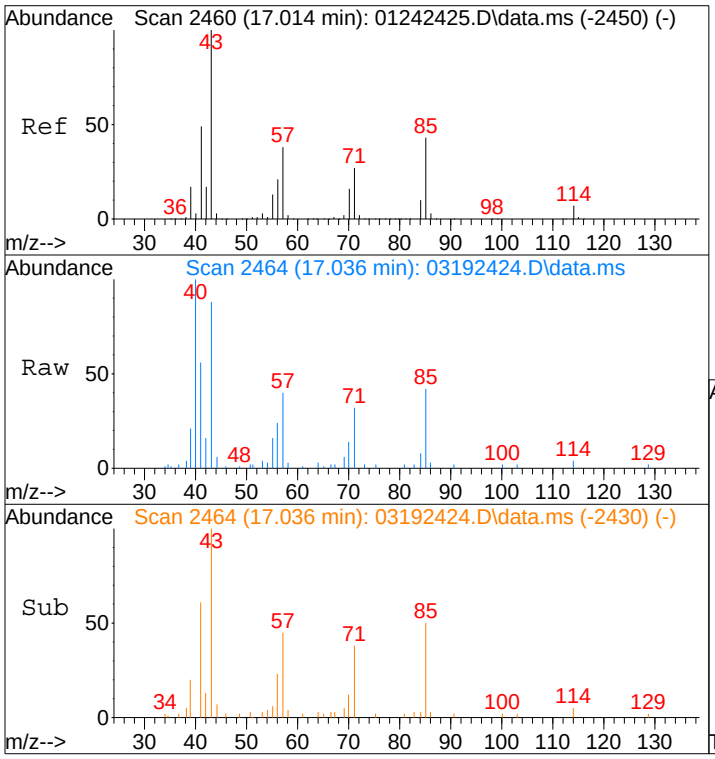


#58
Toluene
Concen: 2.62 ng
RT: 16.04 min Scan# 2283
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 91 Resp: 221047

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.1	79.1

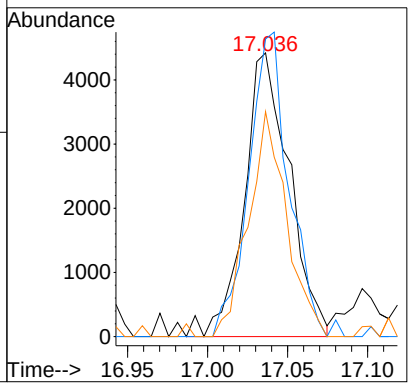


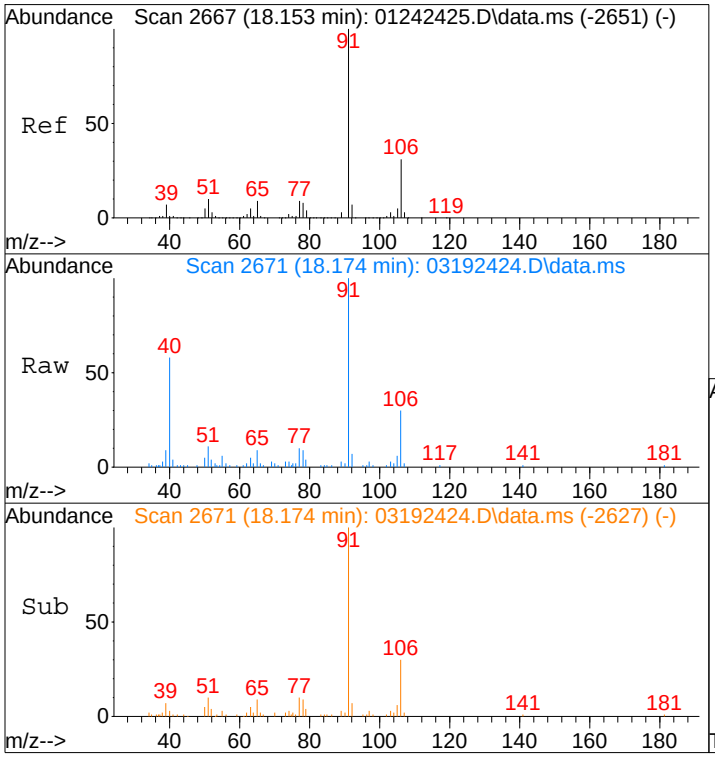


#63
n-Octane
Concen: 0.45 ng
RT: 17.04 min Scan# 2464
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 57 Resp: 8689

Ion	Ratio	Lower	Upper
57	100		
85	96.2	90.2	135.2
71	67.3	57.1	85.7

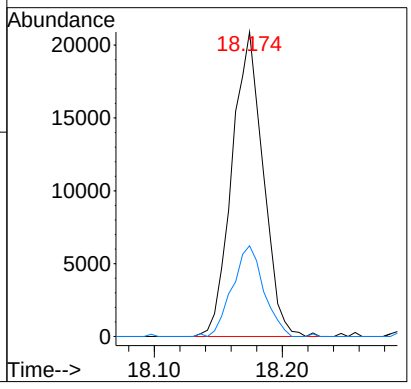


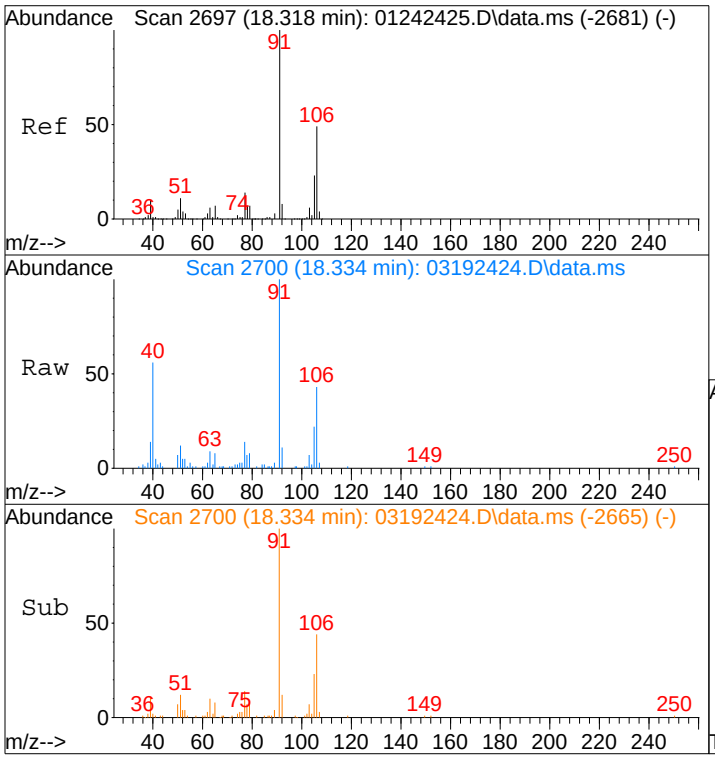


#66
Ethylbenzene
Concen: 0.36 ng
RT: 18.17 min Scan# 2671
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 91 Resp: 35503

Ion	Ratio	Lower	Upper
91	100		
106	30.0	10.9	50.9

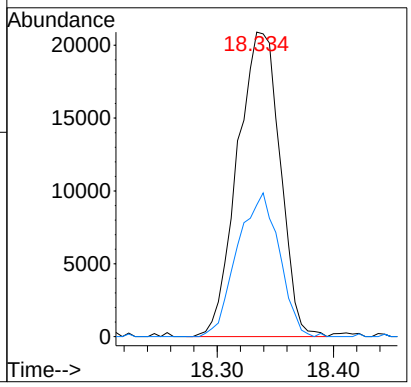


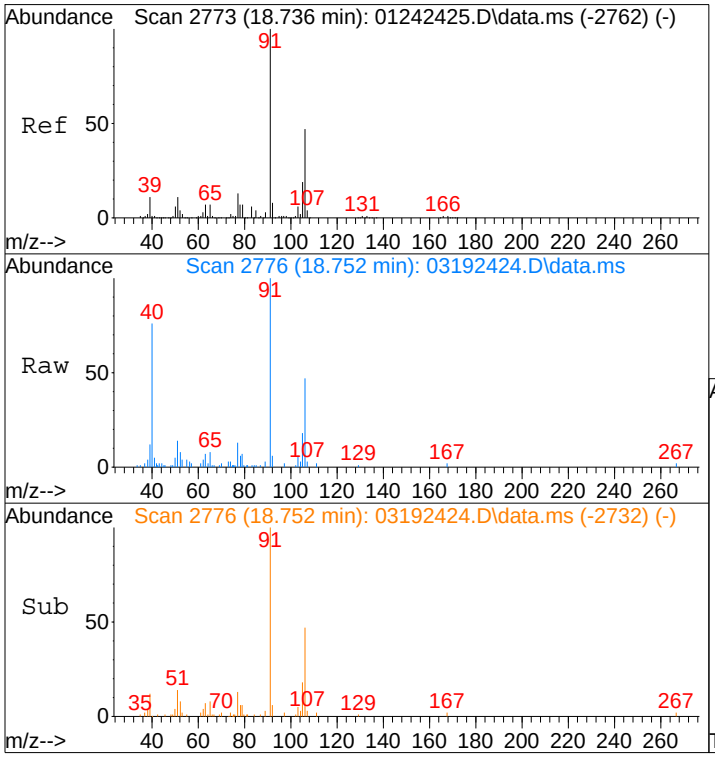


#67
m- & p-Xylenes
Concen: 0.68 ng
RT: 18.33 min Scan# 2700
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 91 Resp: 53434

Ion	Ratio	Lower	Upper
91	100		
106	46.4	28.7	68.7

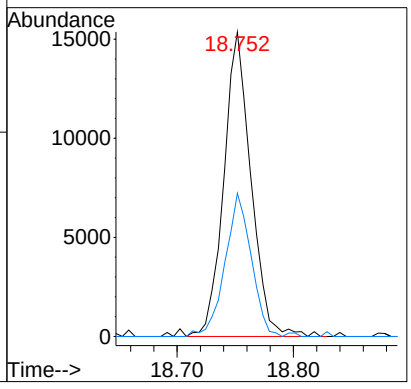


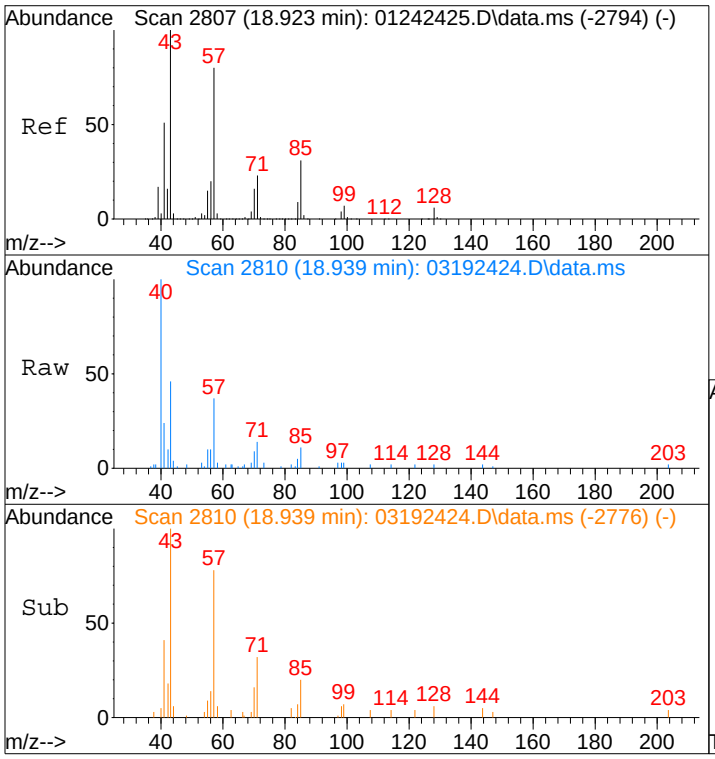


#70
o-Xylene
Concen: 0.32 ng
RT: 18.75 min Scan# 2776
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 91 Resp: 24993

Ion	Ratio	Lower	Upper
91	100		
106	45.2	26.0	66.0

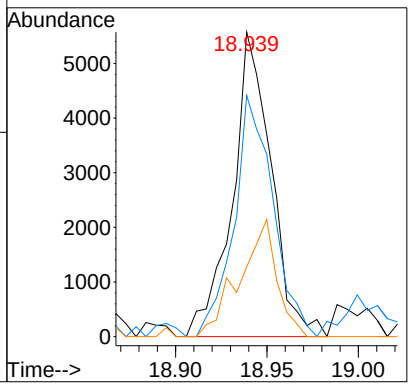


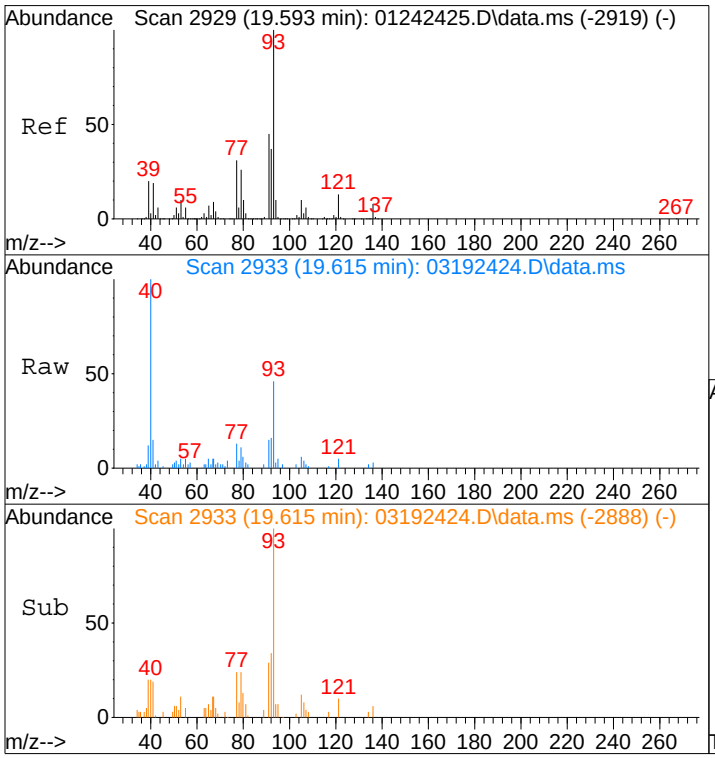


#71
n-Nonane
Concen: 0.17 ng
RT: 18.94 min Scan# 2810
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 43 Resp: 8261

Ion	Ratio	Lower	Upper
43	100		
57	79.3	57.4	97.4
85	36.8	10.1	50.1

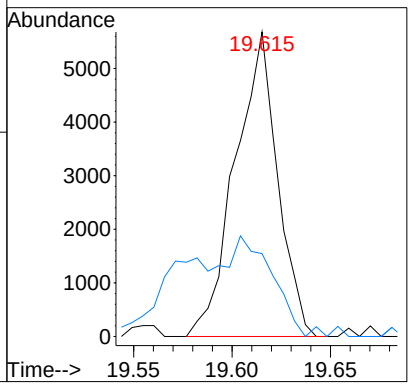


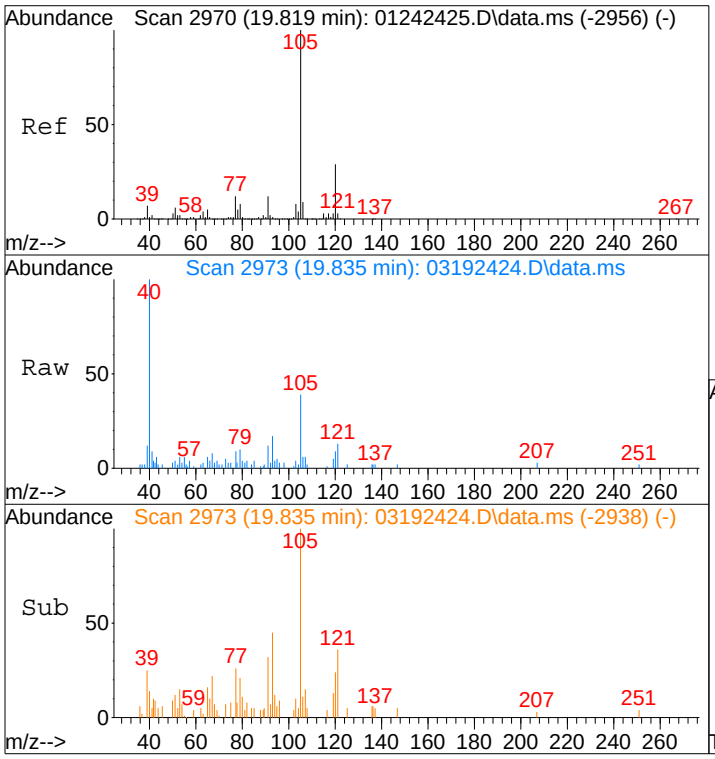


#75
alpha-Pinene
Concen: 0.19 ng
RT: 19.62 min Scan# 2933
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 93 Resp: 8506

Ion	Ratio	Lower	Upper
93	100		
77	29.4	13.6	53.6

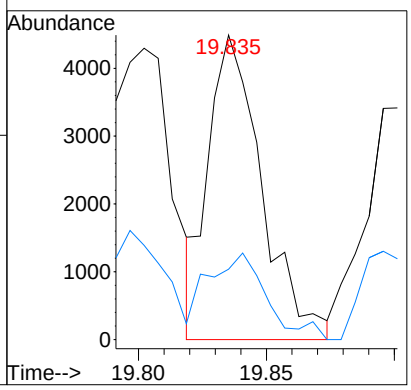


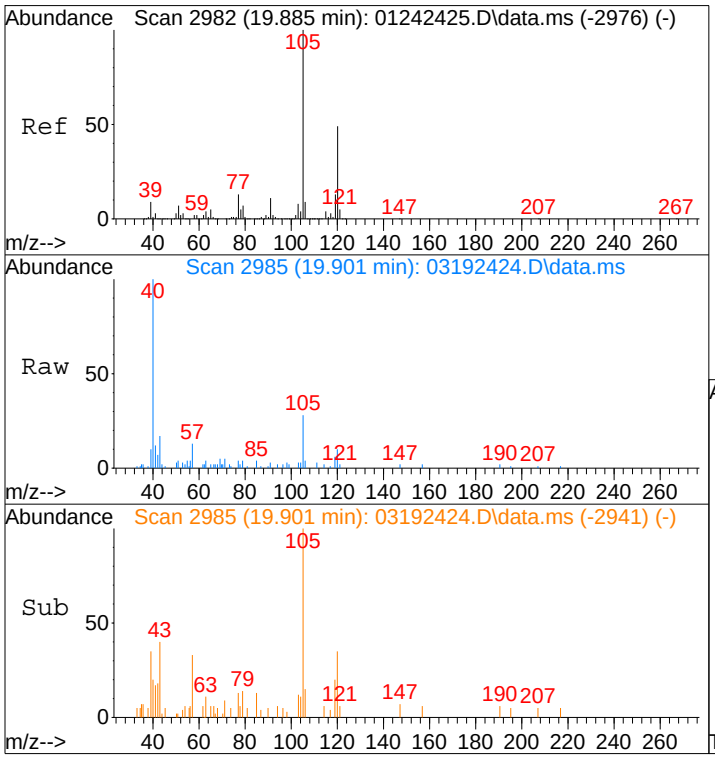


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 19.84 min Scan# 2973
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:105 Resp: 6508

Ion	Ratio	Lower	Upper
105	100		
120	31.6	8.9	48.9

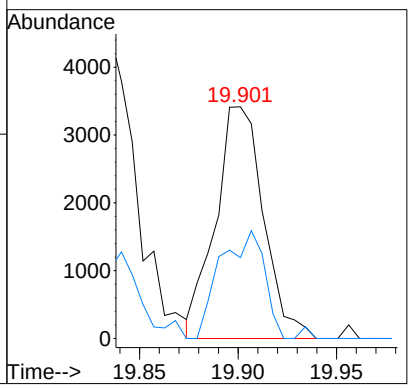


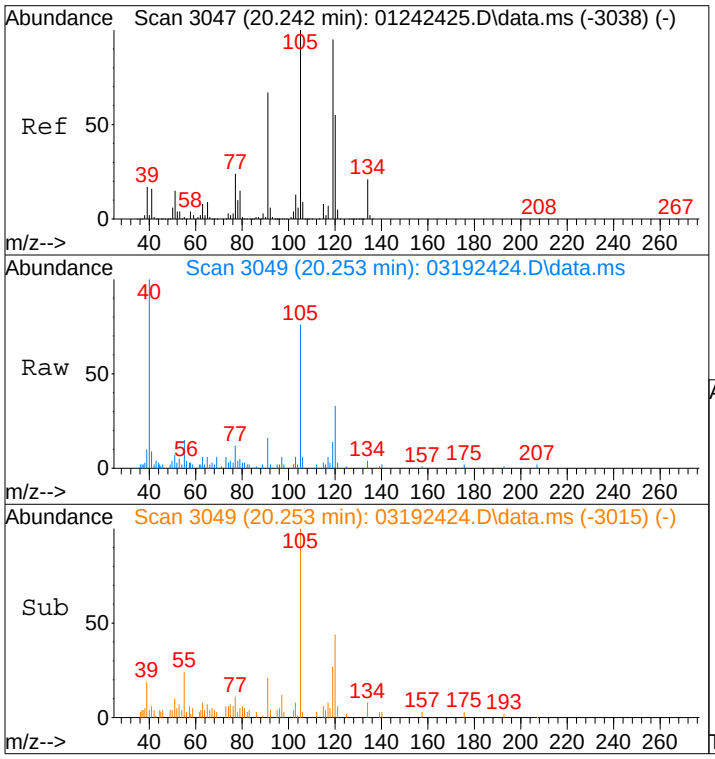


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 19.90 min Scan# 2985
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:105 Resp: 5820

Ion	Ratio	Lower	Upper
105	100		
120	42.3	27.4	67.4

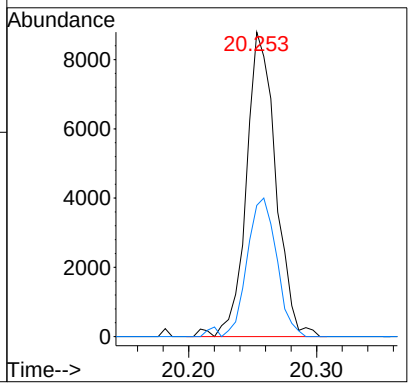


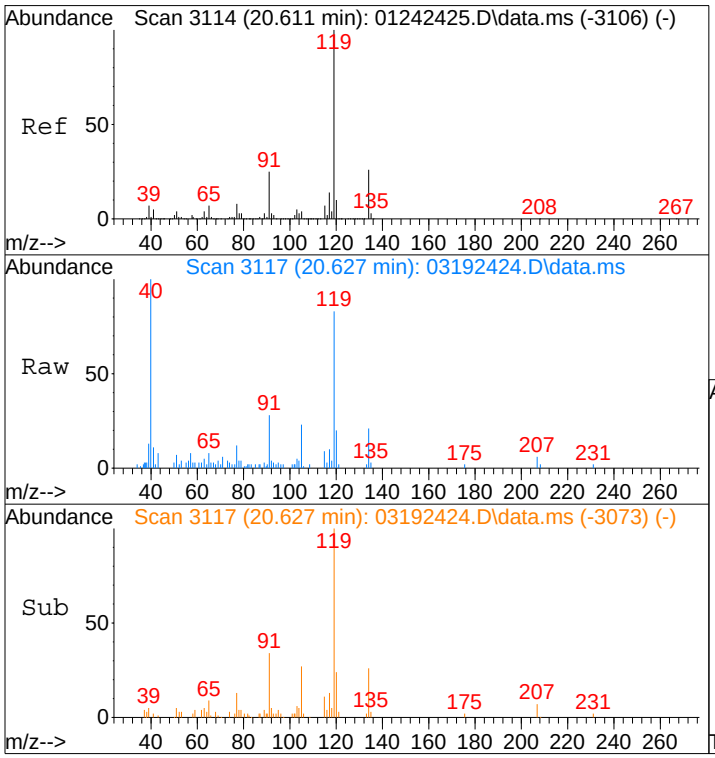


#82
1,2,4-Trimethylbenzene
Concen: 0.17 ng
RT: 20.25 min Scan# 3049
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:105 Resp: 14066

Ion	Ratio	Lower	Upper
105	100		
120	45.4	32.1	72.1

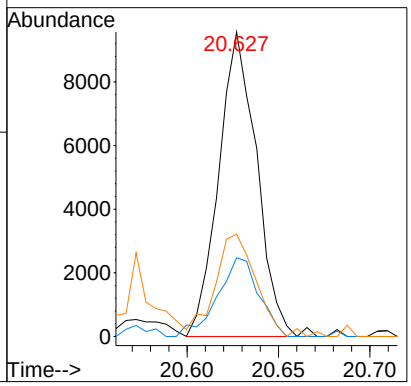


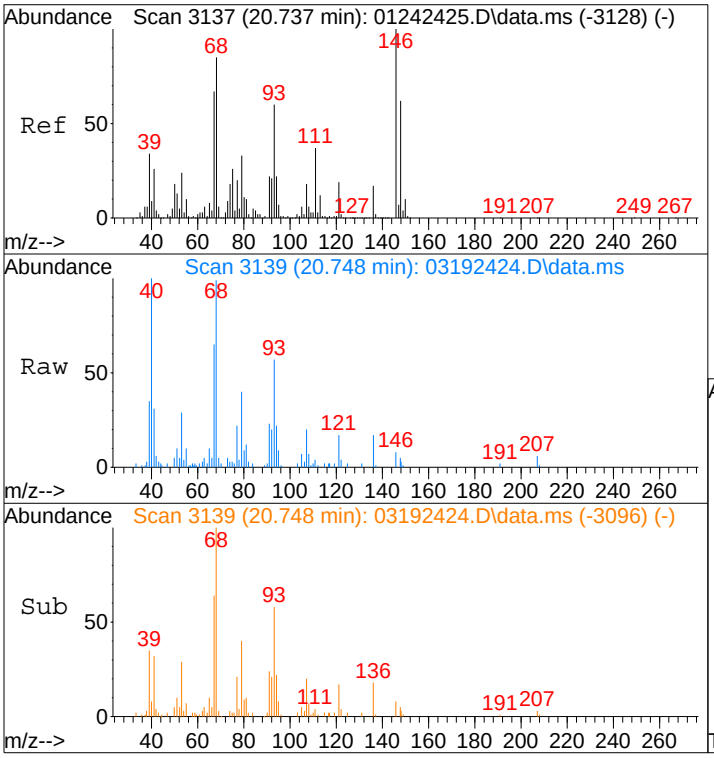


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.14 ng
RT: 20.63 min Scan# 3117
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:119 Resp: 13847

Ion	Ratio	Lower	Upper
119	100		
134	27.9	6.8	46.8
91	36.4	5.8	45.8

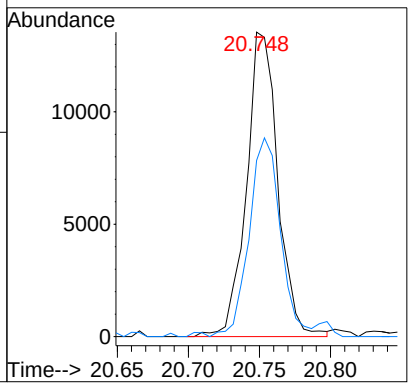


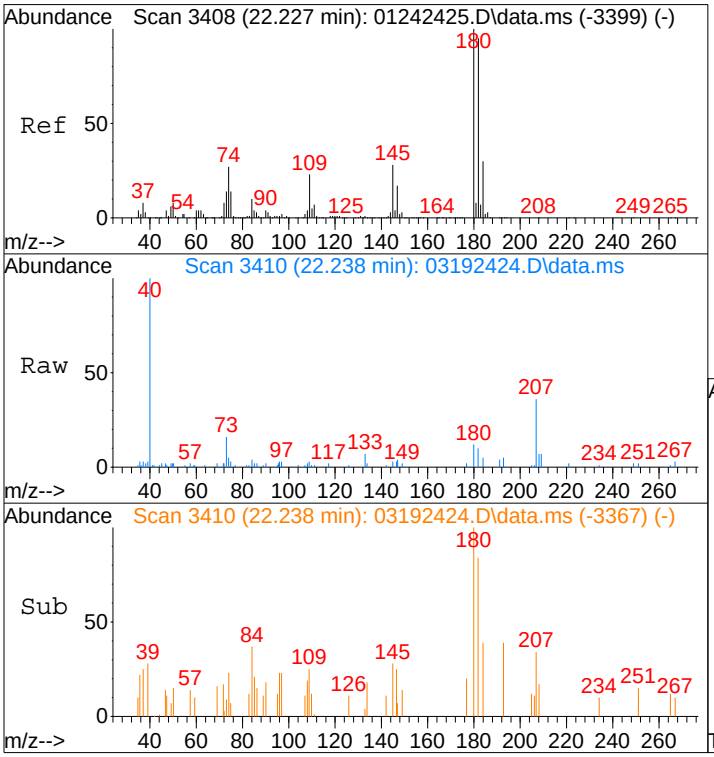


#91
d-Limonene
Concen: 0.73 ng
RT: 20.75 min Scan# 3139
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 68 Resp: 20801

Ion	Ratio	Lower	Upper
68	100		
93	65.0	49.7	89.7

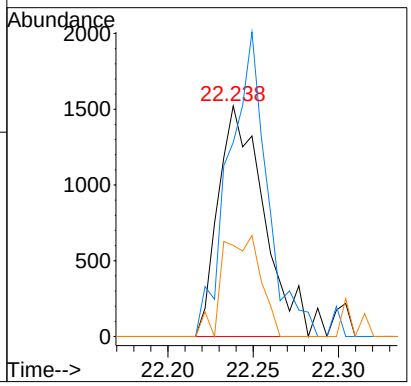


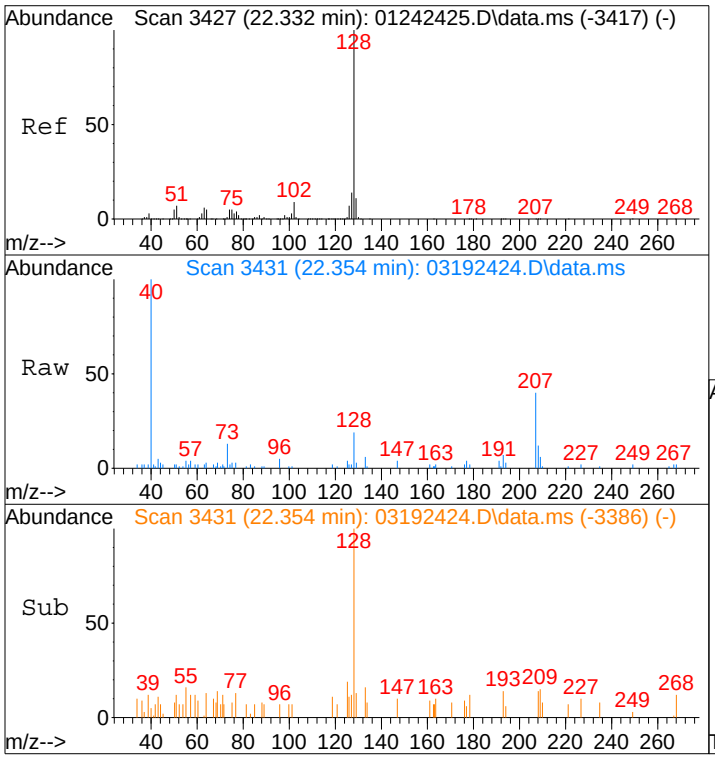


#94
1,2,4-Trichlorobenzene
Concen: 0.09 ng
RT: 22.24 min Scan# 3410
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:180 Resp: 2880

Ion	Ratio	Lower	Upper
180	100		
182	109.0	75.8	113.8
184	36.5	25.0	37.4

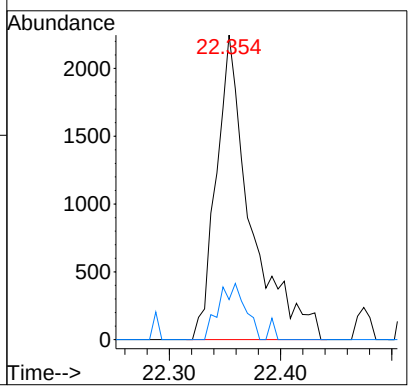




#95
Naphthalene
Concen: 0.05 ng
RT: 22.35 min Scan# 3431
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion:128 Resp: 4827

Ion	Ratio	Lower	Upper
128	100		
129	14.3	0.0	30.9



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:35:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

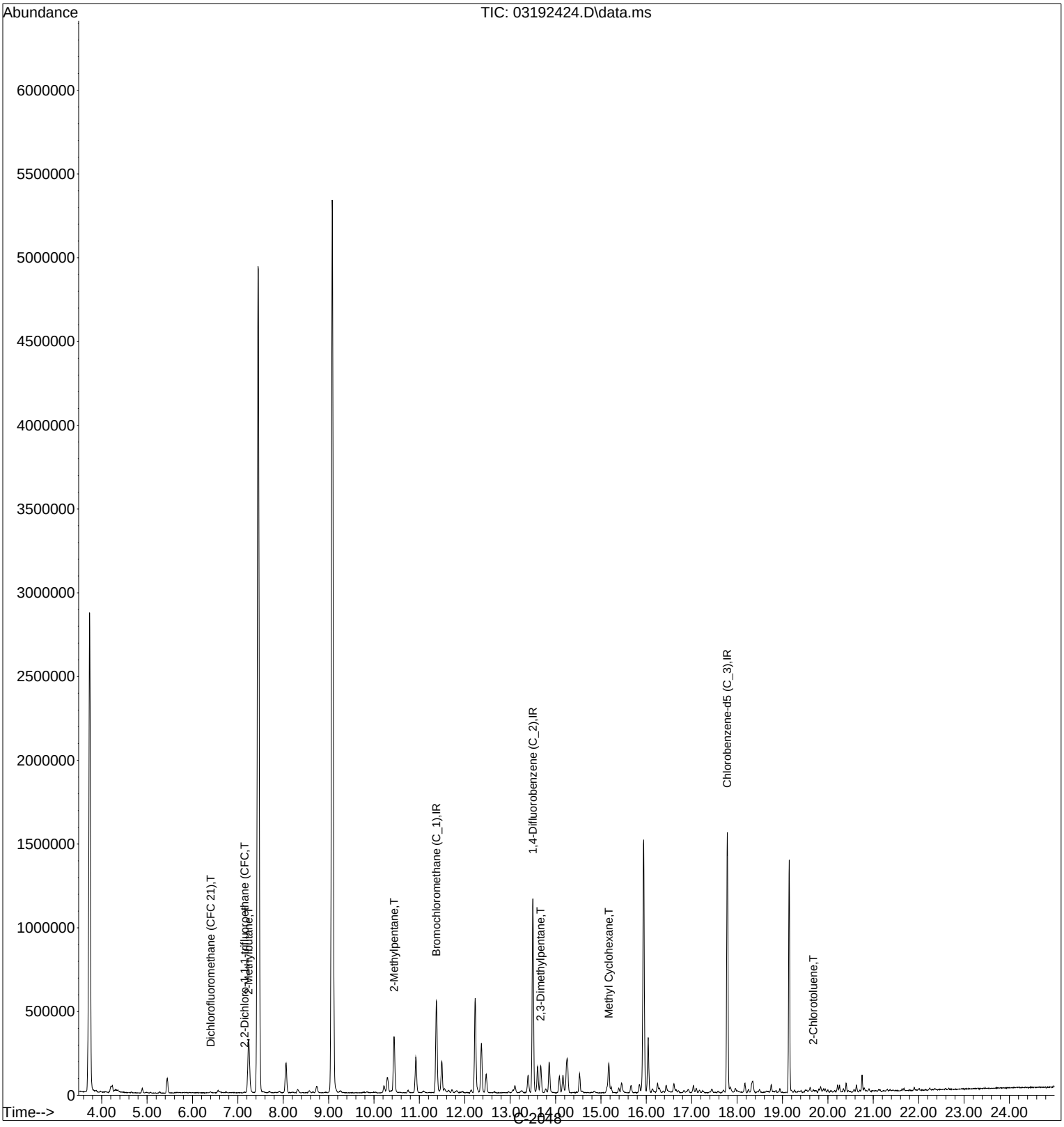
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.37	130	217085	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C_2)	13.50	114	995329	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	230224	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.83	85	51	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	1945	N.D.		
4) 1,1-Difluoroethane	4.09	65	1690	N.D.		
5) Chlorodifluoromethane ...	4.14	67	68	N.D.		
6) 1-Chloro-1,1-Difluoroe...	4.66	65	3834	N.D.		
7) Dichlorofluoromethane ...	6.40	67	7042	0.161	ng	93
8) Vinylbromide	0.00	108	0	N.D.	d	
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	2680	0.105	ng	85
10) 2-Methylbutane	7.24	57	115001	5.288	ng	86
11) Methyl Acetate	8.67	43	123	N.D.		
12) 2-Methylpentane	10.44	71	90519	4.551	ng	88
13) 2,2-Dichloropropane	11.57	77	167	N.D.		
14) 1,1-Dichloropropene	12.96	75	2057	N.D.		
15) Thiophene	13.24	84	3269	N.D.		
17) 2,3-Dimethylpentane	13.67	56	70309	1.720	ng	98
18) Dibromomethane	0.00	174	0	N.D.	d	
20) Methyl Cyclohexane	15.17	55	76825	2.381	ng	92
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d	
22) 1,1,1,2-Tetrachloroethane	17.81	131	1219	N.D.		
23) 1-Chlorohexane	18.00	91	2232	N.D.		
24) 1,2,3-Trichloropropane	18.85	75	2317	N.D.		
25) Bromobenzene	19.35	77	2841	N.D.		
26) 2-Chlorotoluene	19.68	91	6428	0.106	ng	96
27) 4-Chlorotoluene	19.75	91	3784	N.D.		
28) Indane	20.80	117	6268	N.D.		
29) Indene	20.89	115	2523	N.D.		
30) 1,2,4,5-Tetramethylben...	21.64	119	5699	N.D.		
31) 1,2,3,4-Tetramethylben...	21.67	119	5088	N.D.		
32) 1,2,3,5-Tetramethylben...	22.01	119	4656	N.D.		
33) 1,2,3-Trichlorobenzene	22.59	180	1556	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:35:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



C-2048

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 14:35:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

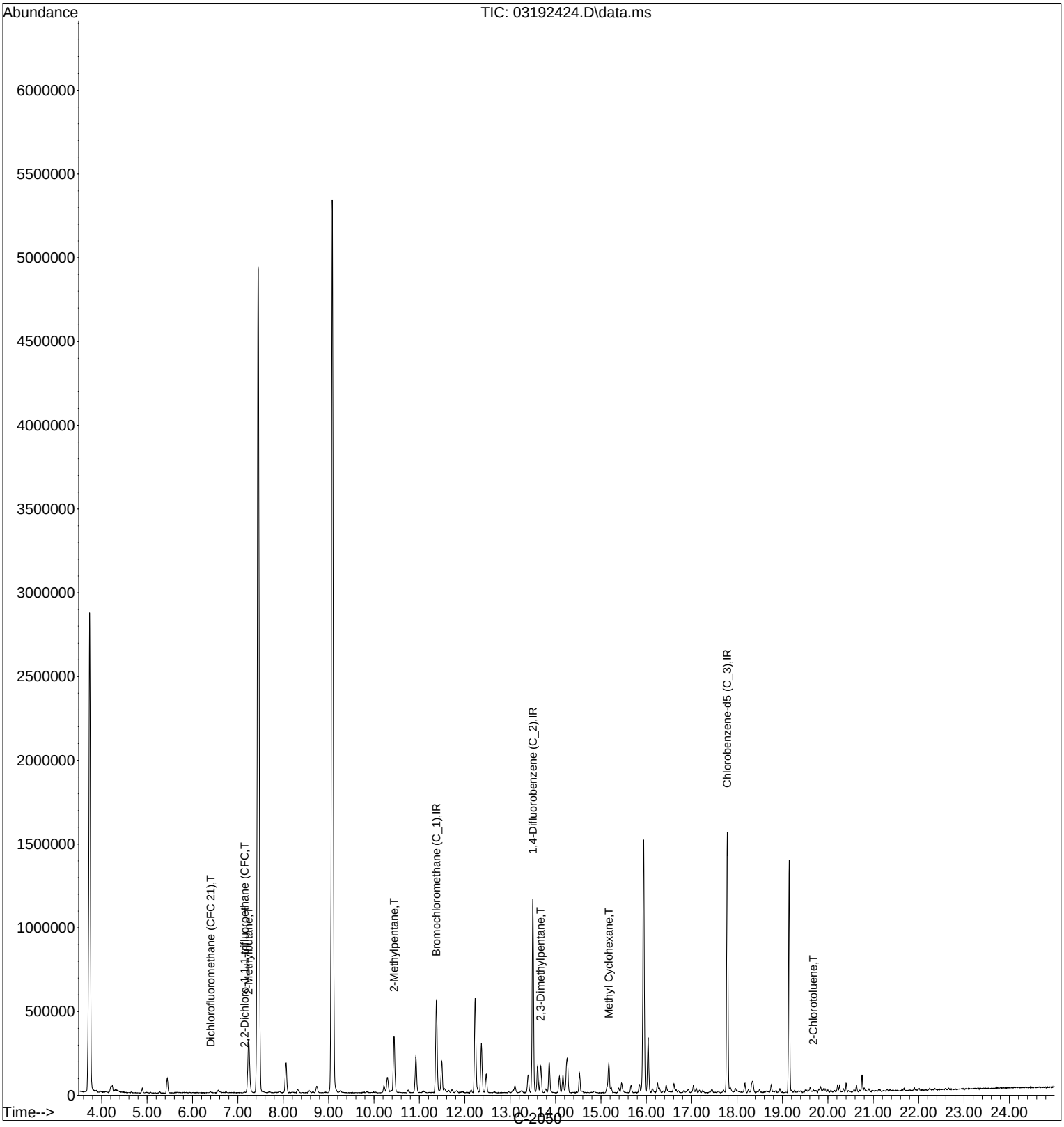
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.37	130	217085	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C_2)	13.50	114	995329	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	230224	12.500	ng	0.00
Target Compounds						Qvalue
7) Dichlorofluoromethane ...	6.40	67	7042	0.161	ng	93
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	2680	0.105	ng	85
10) 2-Methylbutane	7.24	57	115001	5.288	ng	86
12) 2-Methylpentane	10.44	71	90519	4.551	ng	88
17) 2,3-Dimethylpentane	13.67	56	70309	1.720	ng	98
20) Methyl Cyclohexane	15.17	55	76825	2.381	ng	92
26) 2-Chlorotoluene	19.68	91	6428	0.106	ng	96

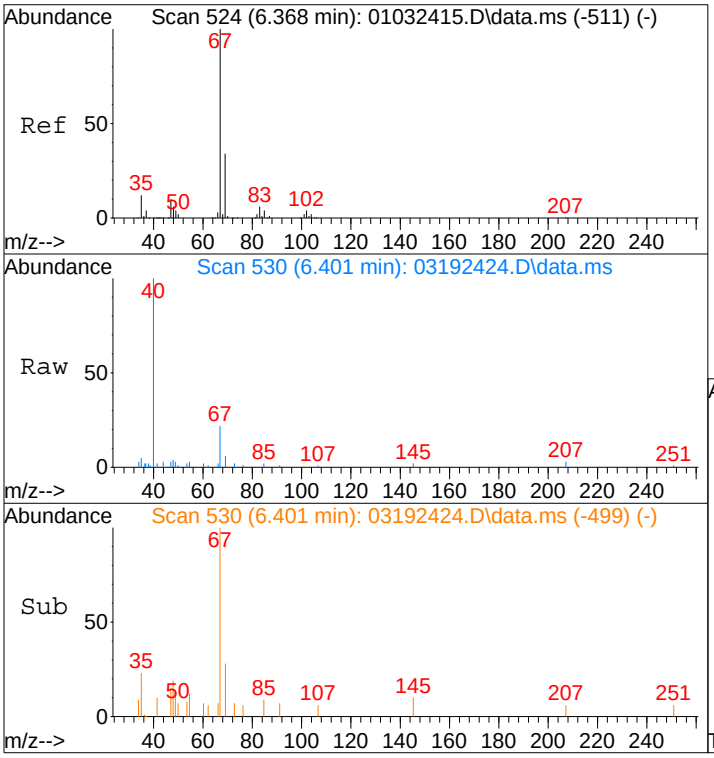
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:35:49 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

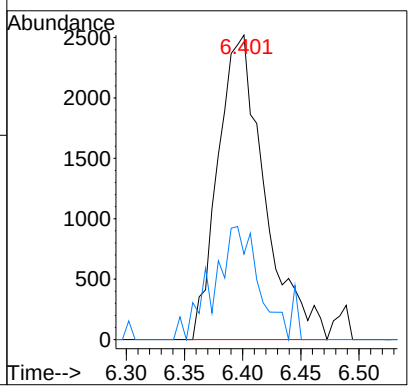


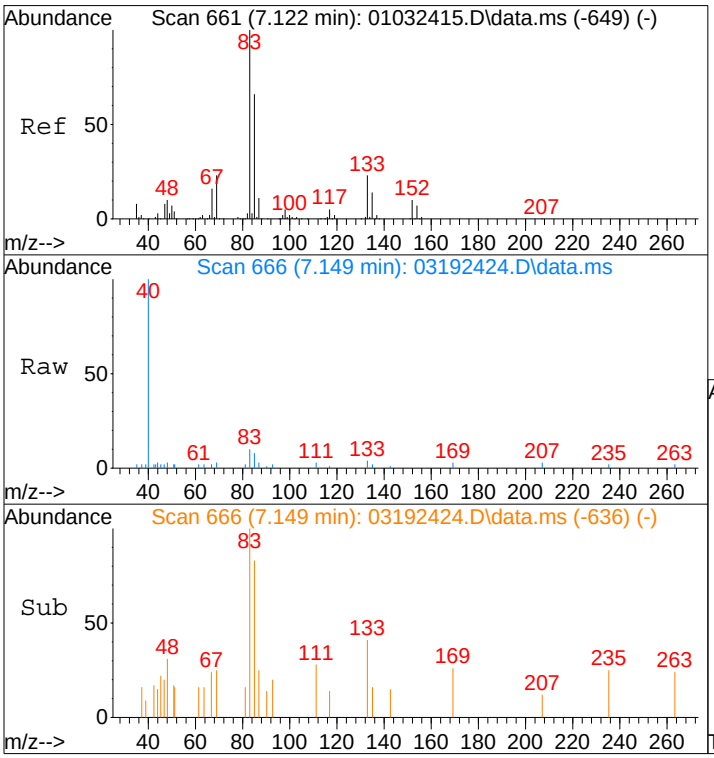


#7
Dichlorofluoromethane (CFC 21)
Concen: 0.16 ng
RT: 6.40 min Scan# 530
Delta R.T. 0.022 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 67 Resp: 7042

Ion	Ratio	Lower	Upper
67	100		
69	35.7	25.6	38.4

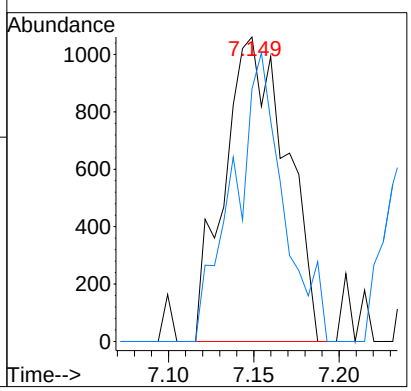


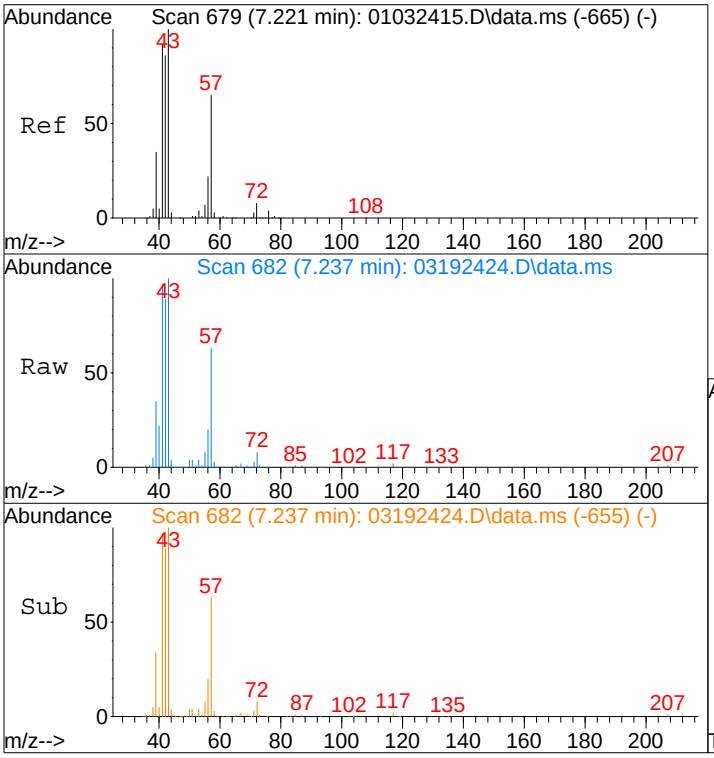


#9
2,2-Dichloro-1,1,1-trifluoroethane (CFC
Concen: 0.10 ng
RT: 7.15 min Scan# 666
Delta R.T. 0.016 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 83 Resp: 2680

Ion	Ratio	Lower	Upper
83	100		
85	76.5	51.9	77.9

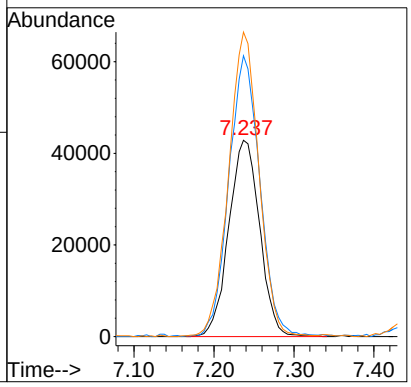


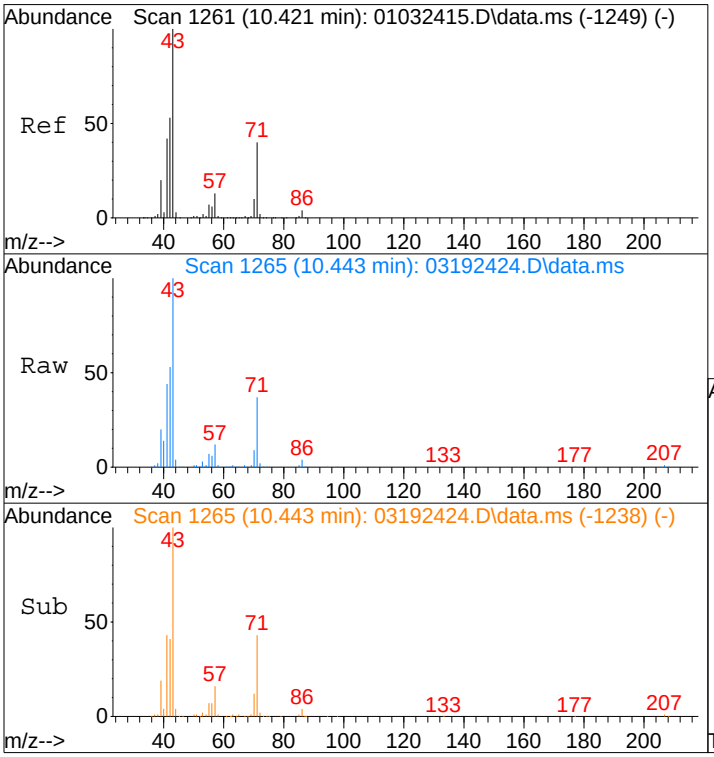


#10
2-Methylbutane
Concen: 5.29 ng
RT: 7.24 min Scan# 682
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 57 Resp: 115001

Ion	Ratio	Lower	Upper
57	100		
42	144.4	115.0	172.4
41	152.2	149.4	224.2

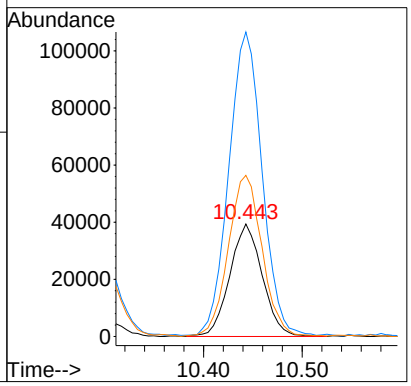


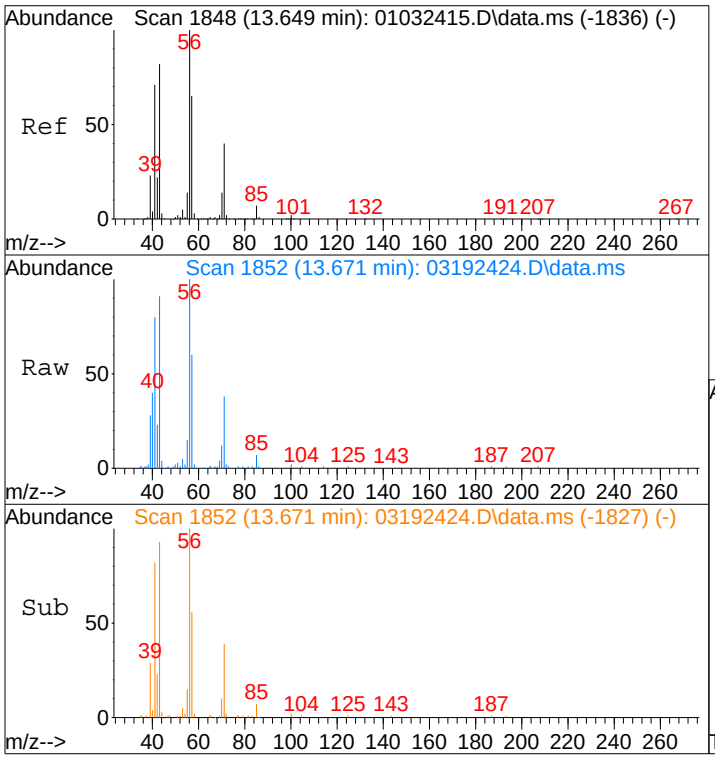


#12
2-Methylpentane
Concen: 4.55 ng
RT: 10.44 min Scan# 1265
Delta R.T. -0.000 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 71 Resp: 90519

Ion	Ratio	Lower	Upper
71	100		
43	277.0	241.7	362.5
42	149.1	129.1	193.7

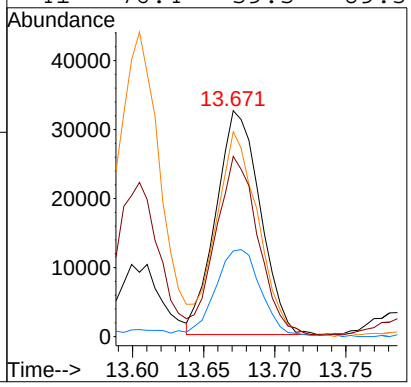


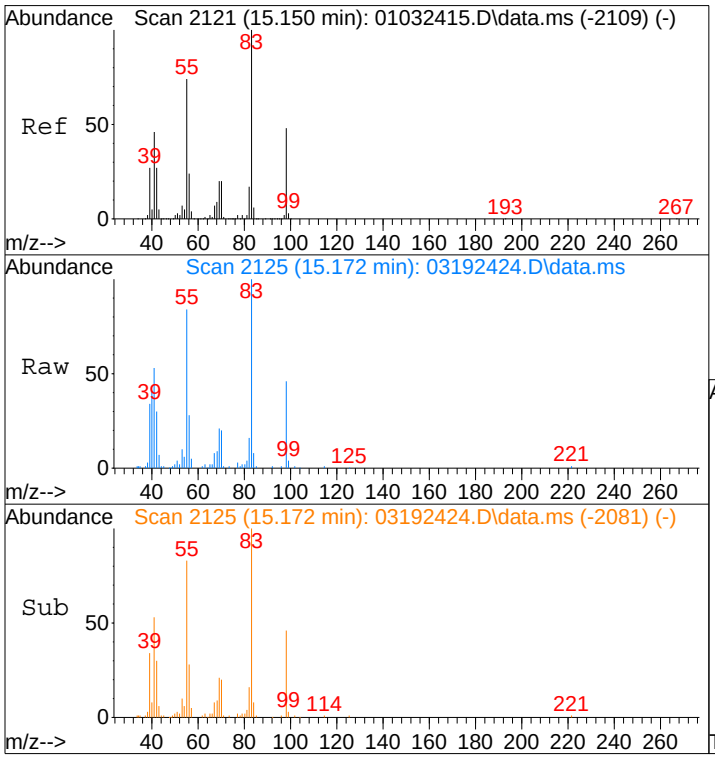


#17
2,3-Dimethylpentane
Concen: 1.72 ng
RT: 13.67 min Scan# 1852
Delta R.T. -0.011 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 56 Resp: 70309

Ion	Ratio	Lower	Upper
56	100		
71	40.3	28.2	42.4
43	86.6	69.4	104.0
41	76.4	59.5	89.3

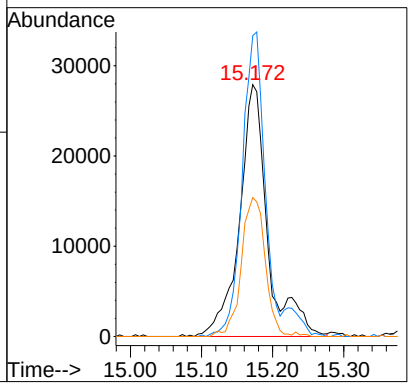


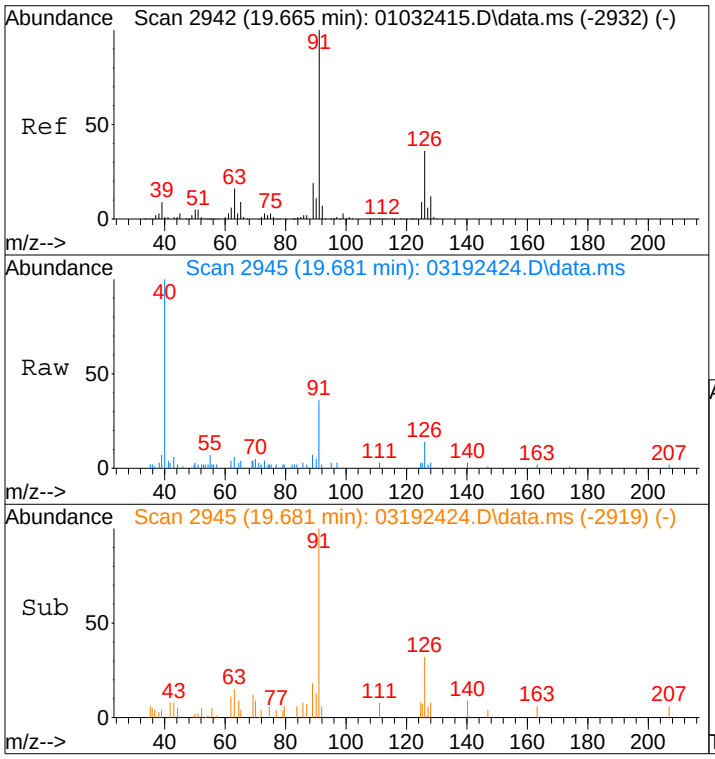


#20
Methyl Cyclohexane
Concen: 2.38 ng
RT: 15.17 min Scan# 2125
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 55 Resp: 76825

Ion	Ratio	Lower	Upper
55	100		
83	103.0	89.5	134.3
98	46.6	41.6	62.4

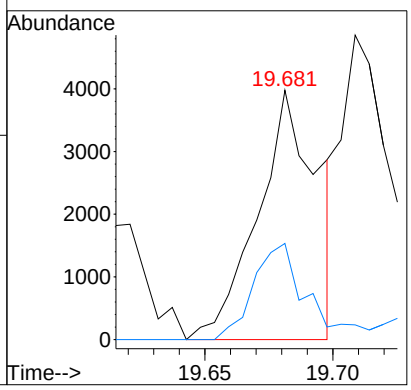




#26
2-Chlorotoluene
Concen: 0.11 ng
RT: 19.68 min Scan# 2945
Delta R.T. -0.006 min
Lab File: 03192424.D
Acq: 19 Mar 2024 12:38

Tgt Ion: 91 Resp: 6428

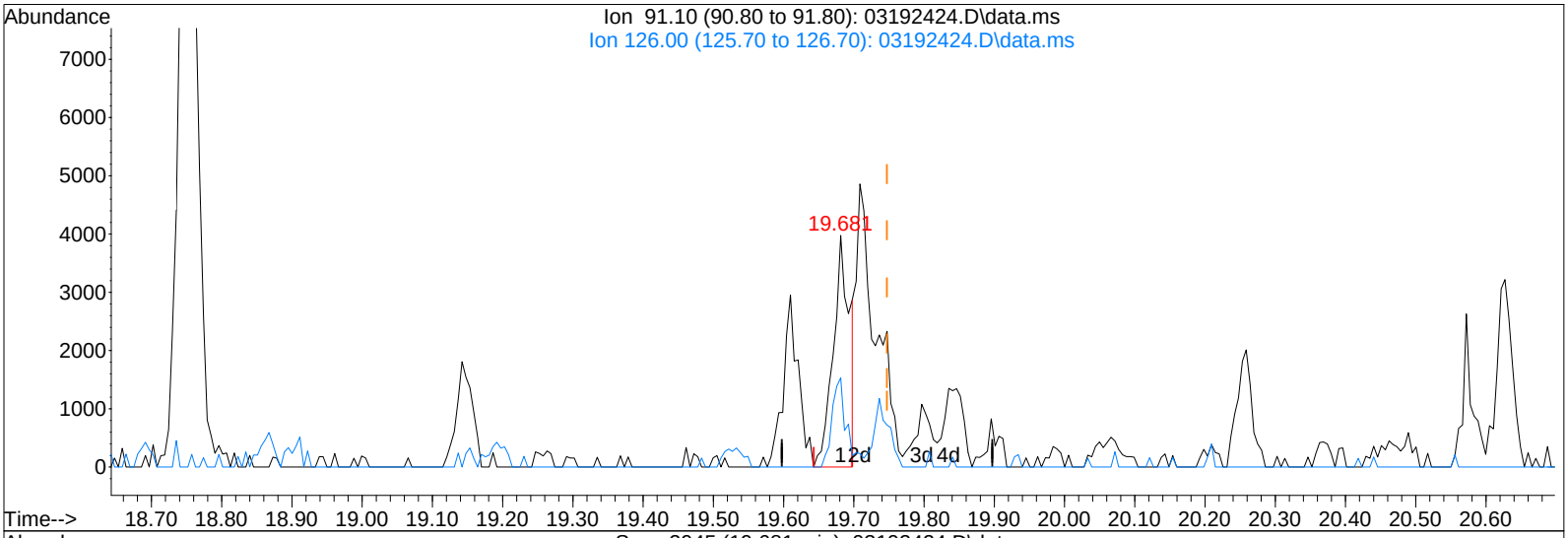
Ion	Ratio	Lower	Upper
91	100		
126	34.6	26.0	39.0

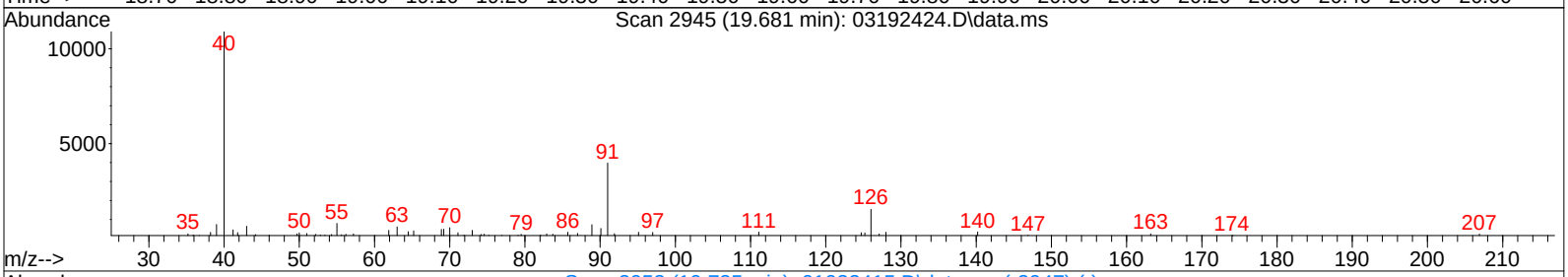


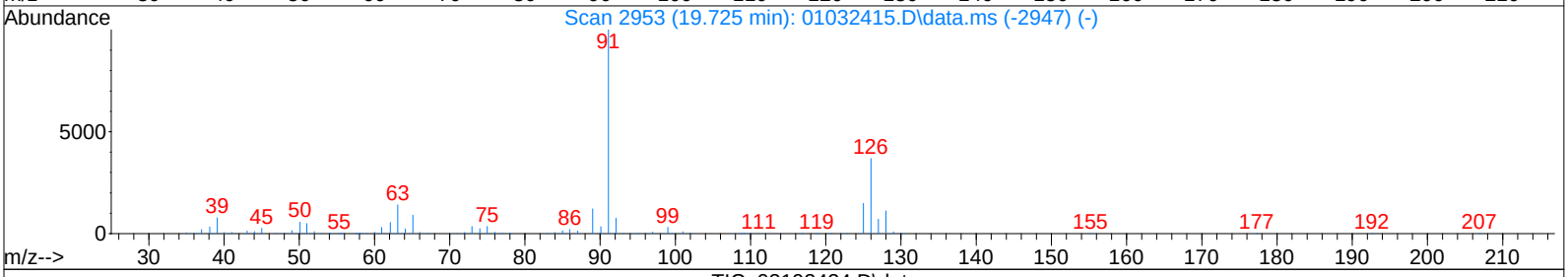
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:34:48 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration







TIC: 03192424.D\data.ms

(27) 4-Chlorotoluene (T)

19.681min (-0.066) 0.11ng

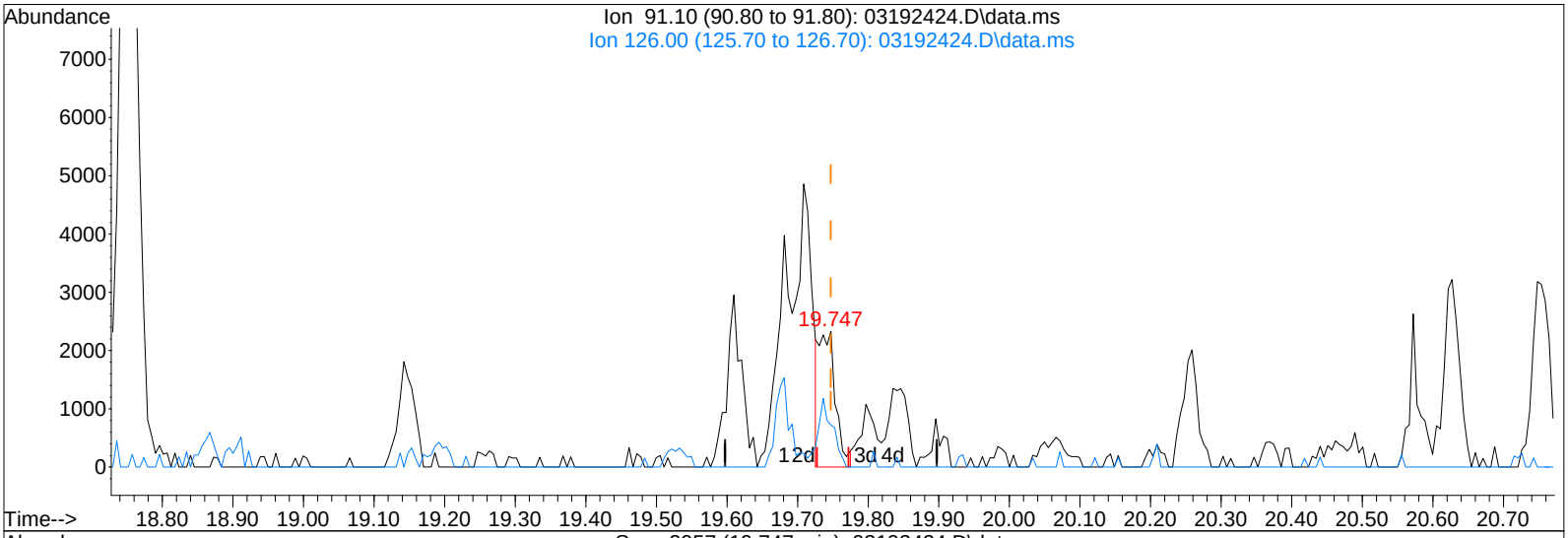
response 6428

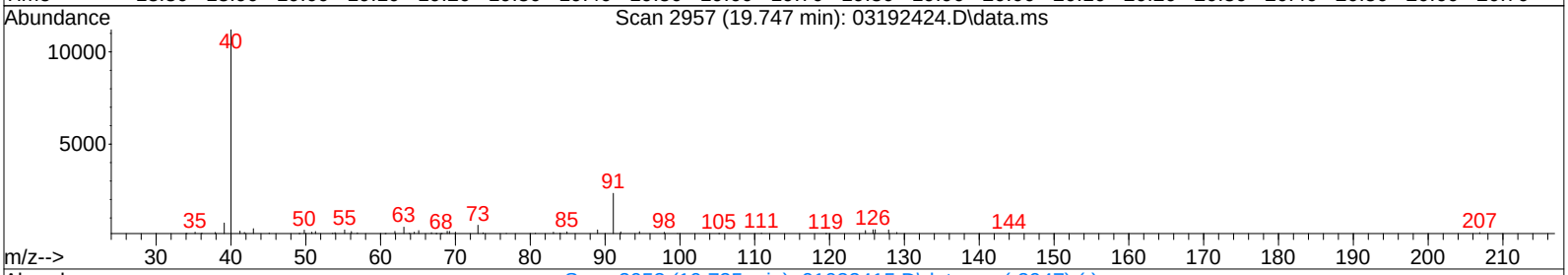
Ion	Exp%	Act%
91.10	100	100
126.00	32.10	34.63
0.00	0.00	0.00
0.00	0.00	0.00

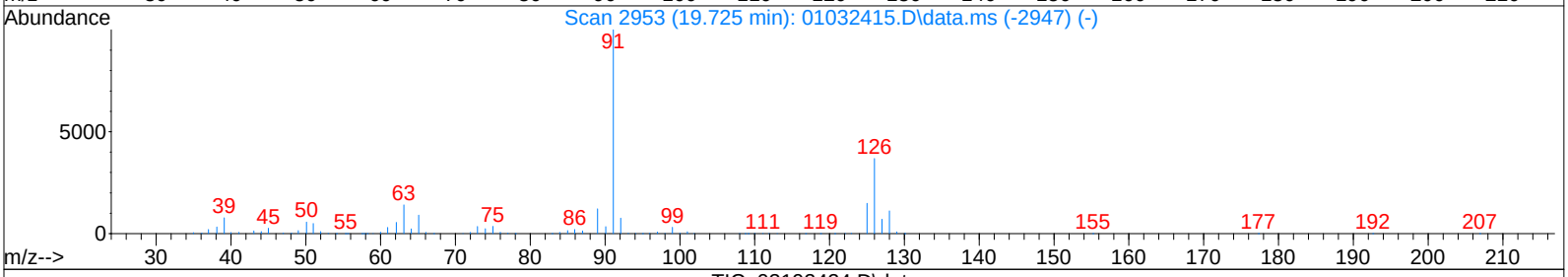
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 14:34:48 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration







TIC: 03192424.D\data.ms

(27) 4-Chlorotoluene (T)

19.747min (-0.000) 0.07ng m

response 3784

CI 3/21/24

IPC

Ion	Exp%	Act%
91.10	100	100
126.00	32.10	38.87#
0.00	0.00	0.00
0.00	0.00	0.00

LH 3/24/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192426.D
Acq On : 19 Mar 2024 13:45
Operator : CI
Sample : P2400922-067dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:50:48 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	215977	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	987217	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	219023	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	436371	11.996	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%			
57) Toluene-d8 (SS2)	15.94	98	1100444	12.866	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%			
73) Bromofluorobenzene (SS3)	19.15	174	364958	12.670	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	4.25	85	2024	N.D.		
4) Chloromethane	4.58	50	188	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.21	64	114	N.D.		
10) Ethanol	6.57	45	32503	1.679	ng	96
11) Acetonitrile	6.82	41	366	N.D.		
12) Acrolein	7.00	56	113	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.45	101	2502051	57.998	ng	100
15) 2-Propanol (Isopropanol)	7.78	45	111	N.D.		
16) Acrylonitrile	8.00	53	127	N.D.		
17) 1,1-Dichloroethene	8.41	96	169	N.D.		
18) 2-Methyl-2-Propanol (t...	8.72	59	64	N.D.		
19) Methylene Chloride	0.00	84	0	N.D. d		
20) 3-Chloro-1-propene (Al...	8.81	41	350	N.D.		
21) Trichlorotrifluoroethane	9.08	151	1019077	54.236	ng	99
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	9.92	61	230	N.D.		
24) 1,1-Dichloroethane	10.18	63	388	N.D.		
25) Methyl tert-Butyl Ether	10.38	73	139	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.75	72	4231	0.308	ng	98
28) cis-1,2-Dichloroethene	11.21	61	168	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	11.49	57	89842	2.506	ng	96
32) Chloroform	11.54	83	764	N.D.		
34) Tetrahydrofuran (THF)	12.00	72	181	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.36	62	658	N.D.		
38) 1,1,1-Trichloroethane	12.64	97	117	N.D.		
39) Isopropyl Acetate	13.65	61	143	No Calib	#	
40) 1-Butanol	12.64	56	883	No Calib	#	
41) Benzene	13.11	78	35440	0.378	ng	96
42) Carbon Tetrachloride	13.26	117	604	N.D.		
43) Cyclohexane	13.40	84	40621	1.325	ng	95
44) tert-Amyl Methyl Ether	13.81	73	574	N.D.		
45) 1,2-Dichloropropane	13.87	63	526	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.20	130	1079	N.D.		
48) 1,4-Dioxane	14.26	88	127	N.D.		

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192426.D
Acq On : 19 Mar 2024 13:45
Operator : CI
Sample : P2400922-067dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 21 11:50:48 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

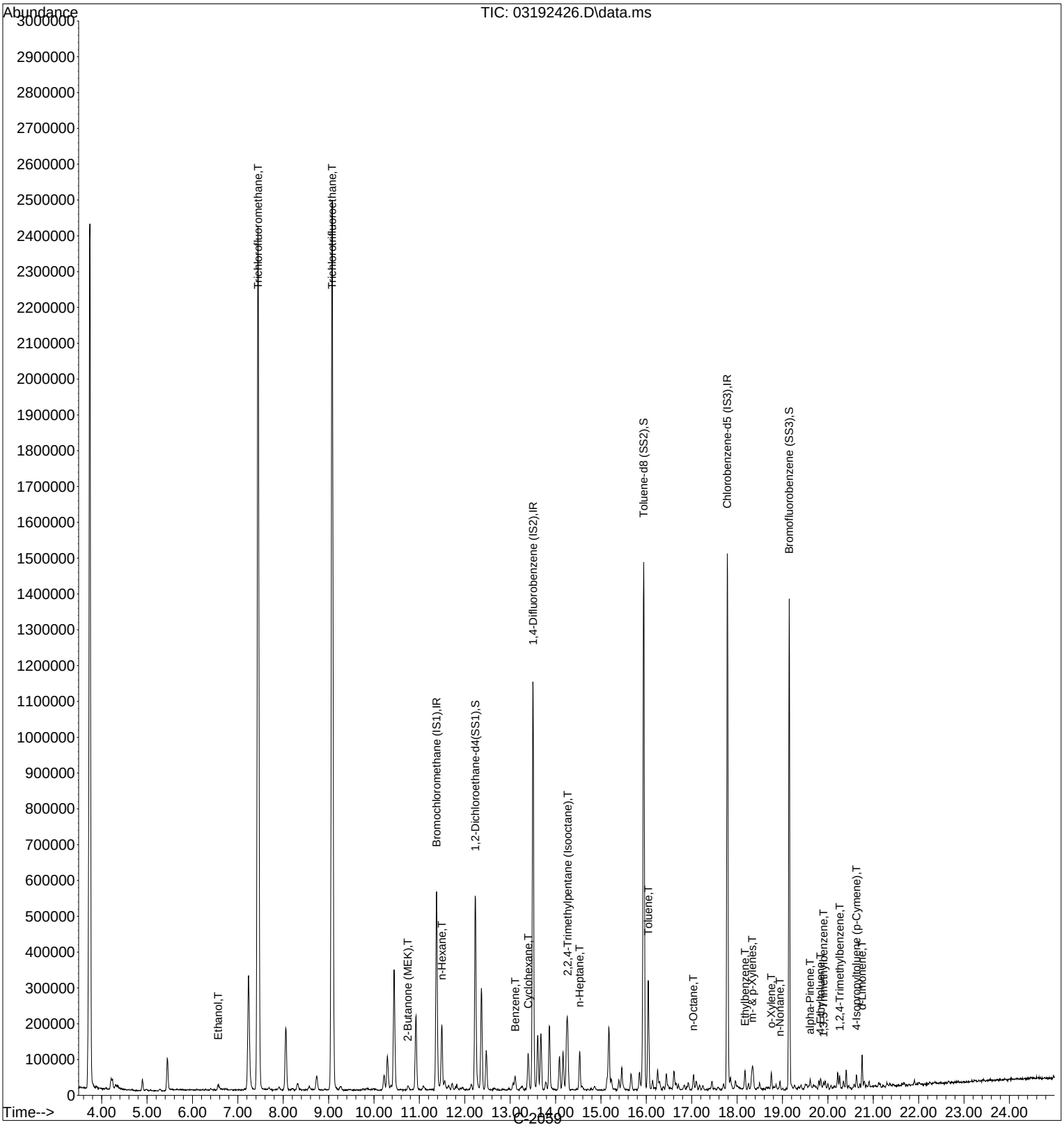
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	143502	1.641 ng	#	57
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	14.53	71	26202	1.155 ng		95
52) cis-1,3-Dichloropropene	14.99	75	120	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	15.51	75	125	N.D.		
55) 1,1,2-Trichloroethane	15.75	97	210	N.D.		
58) Toluene	16.04	91	204451	2.549 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	16.45	129	765	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.94	43	1554	N.D.		
63) n-Octane	17.04	57	7821	0.423 ng		92
64) Tetrachloroethene	17.18	166	722	N.D.		
65) Chlorobenzene	17.80	112	1256	N.D.		
66) Ethylbenzene	18.17	91	33912	0.364 ng		99
67) m- & p-Xylenes	18.33	91	48557	0.649 ng		98
68) Bromoform	18.39	173	496	N.D.		
69) Styrene	18.66	104	902	N.D.		
70) o-Xylene	18.75	91	23218	0.309 ng		94
71) n-Nonane	18.94	43	7836	0.166 ng		93
72) 1,1,2,2-Tetrachloroethane	18.74	83	864	N.D.		
74) Cumene	19.27	105	3519	N.D.		
75) alpha-Pinene	19.61	93	7440	0.173 ng		98
76) n-Propylbenzene	0.00	91	0	N.D. d		
77) 3-Ethyltoluene	20.26	105	13660	No Calib		
78) 4-Ethyltoluene	19.84	105	5780	0.061 ng		95
79) 1,3,5-Trimethylbenzene	19.90	105	5059	0.064 ng		89
80) alpha-Methylstyrene	20.63	118	797	No Calib	#	
81) 2-Ethyltoluene	20.26	105	13660	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	13660	0.171 ng		88
83) n-Decane	20.34	58	568	No Calib	#	
84) Benzyl Chloride	20.46	91	530	N.D.		
85) 1,3-Dichlorobenzene	20.39	146	1014	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	980	N.D.		
87) sec-Butylbenzene	20.50	105	1442	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	14104	0.152 ng		95
89) 1,2,3-Trimethylbenzene	20.26	105	13660	No Calib		
90) 1,2-Dichlorobenzene	20.74	146	984	N.D.		
91) d-Limonene	20.75	68	19720	0.730 ng		95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	21.46	58	114	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1486	N.D.		
95) Naphthalene	22.36	128	1789	N.D.		
96) n-Dodecane	22.80	57	591	No Calib	#	
97) Hexachlorobutadiene	22.67	225	1024	N.D.		
98) Cyclohexanone	18.26	55	3213	No Calib	#	
99) tert-Butylbenzene	20.26	119	2515	N.D.		
100) n-Butylbenzene	21.00	91	1415	N.D.		
101) 1,1,1,2-Tetrachloroethane	17.82	131	646	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192426.D
Acq On : 19 Mar 2024 13:45
Operator : CI
Sample : P2400922-067dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

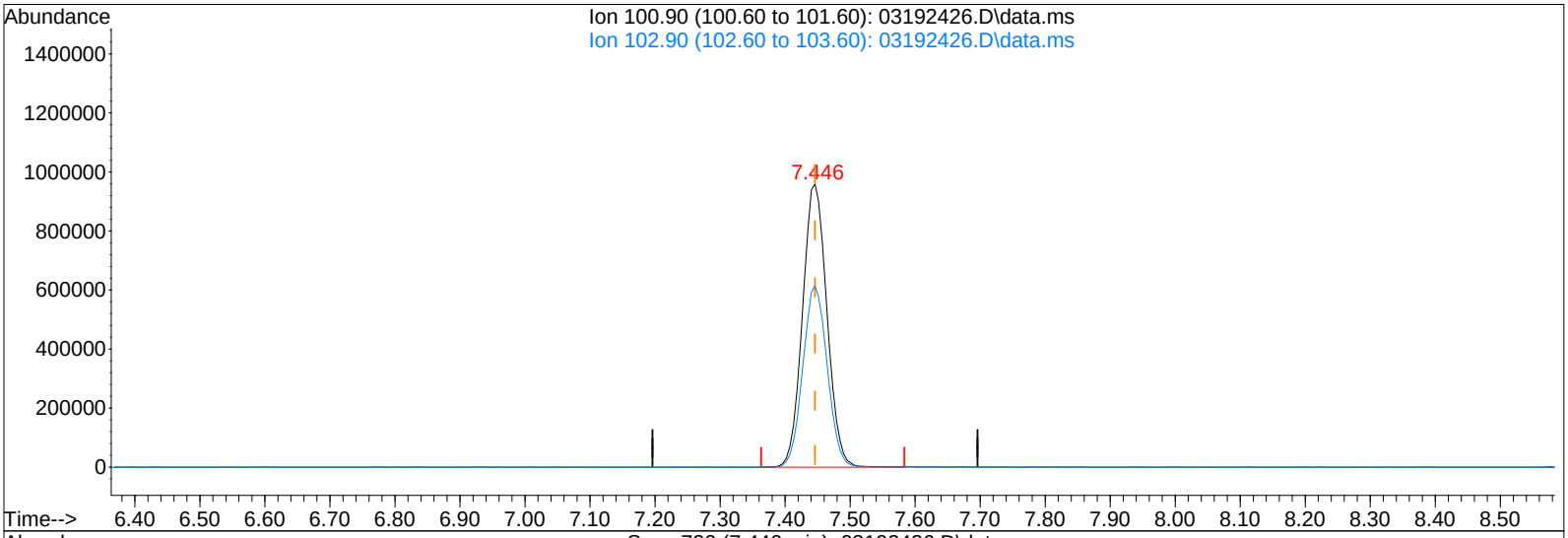
Quant Time: Mar 21 11:50:48 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

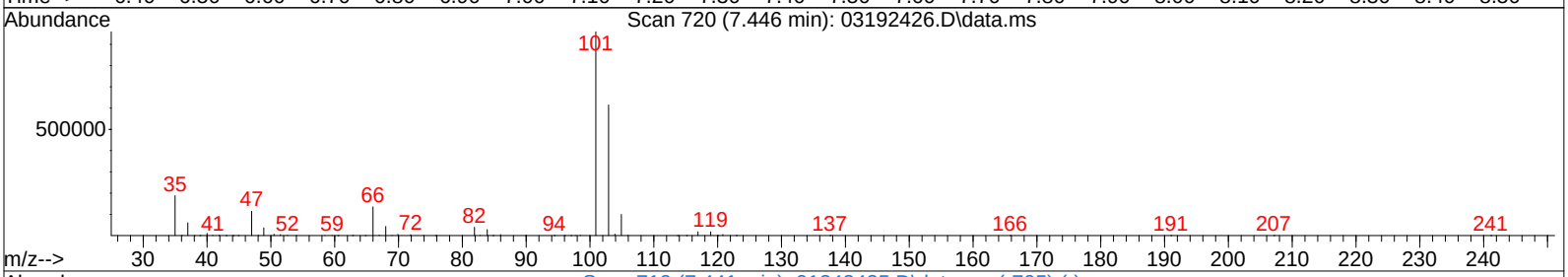


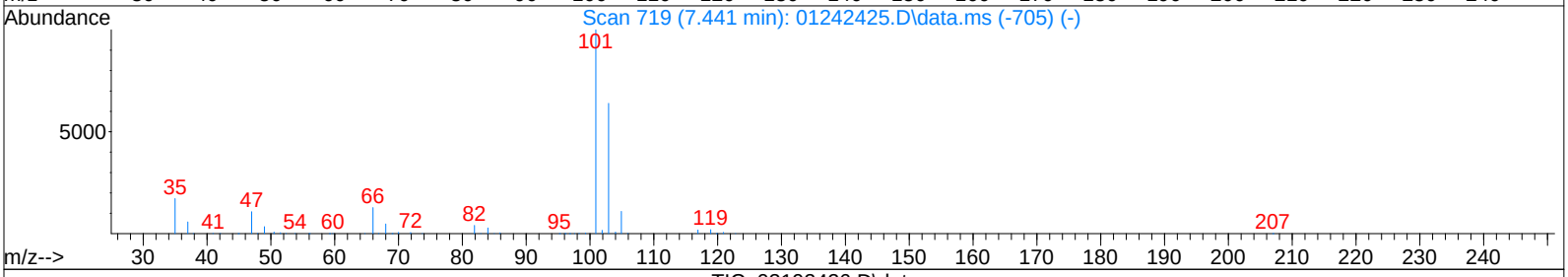
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192426.D
Acq On : 19 Mar 2024 13:45
Operator : CI
Sample : P2400922-067dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 20 08:32:53 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192426.D\data.ms

(14) Trichlorofluoromethane (T)

7.446min (-0.000) 58.00ng

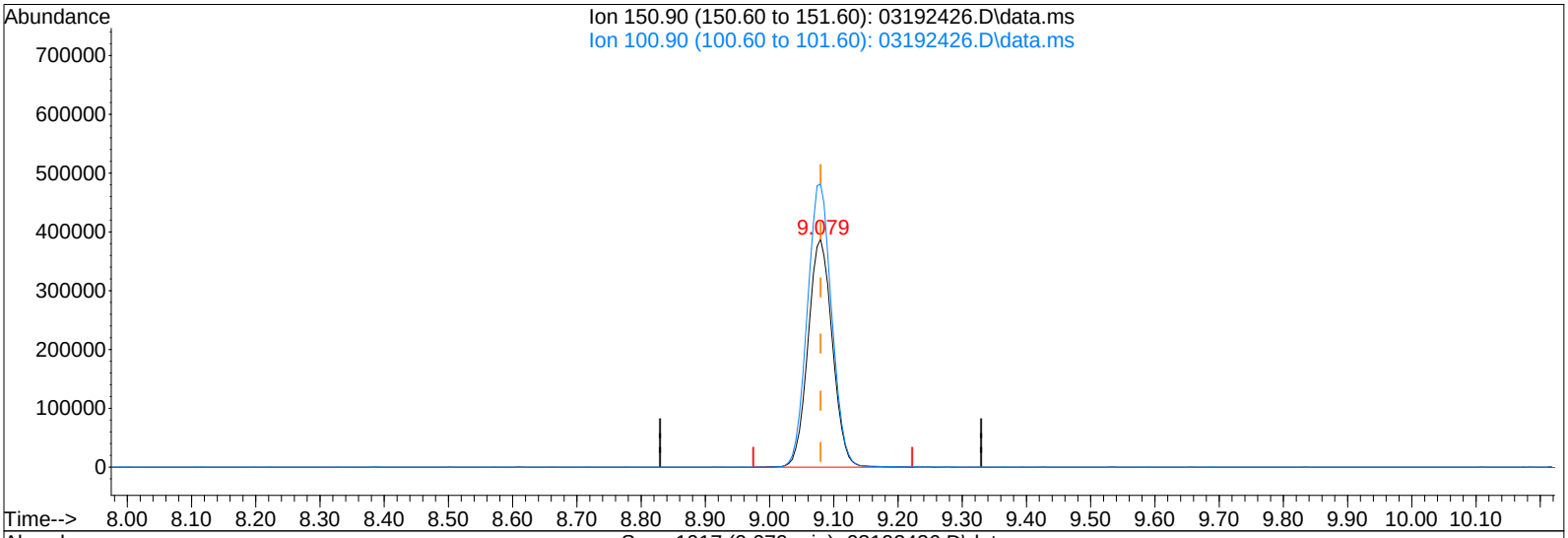
response 2502051

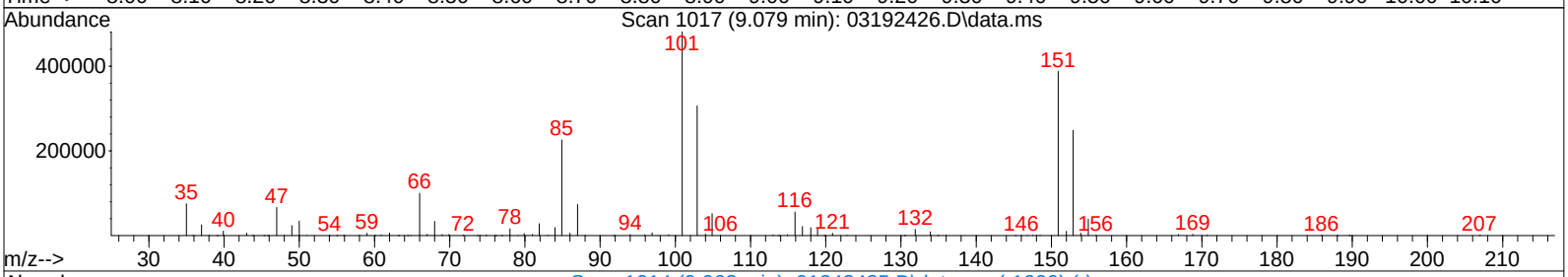
Ion	Exp%	Act%
100.90	100	100
102.90	64.10	64.17
0.00	0.00	0.00
0.00	0.00	0.00

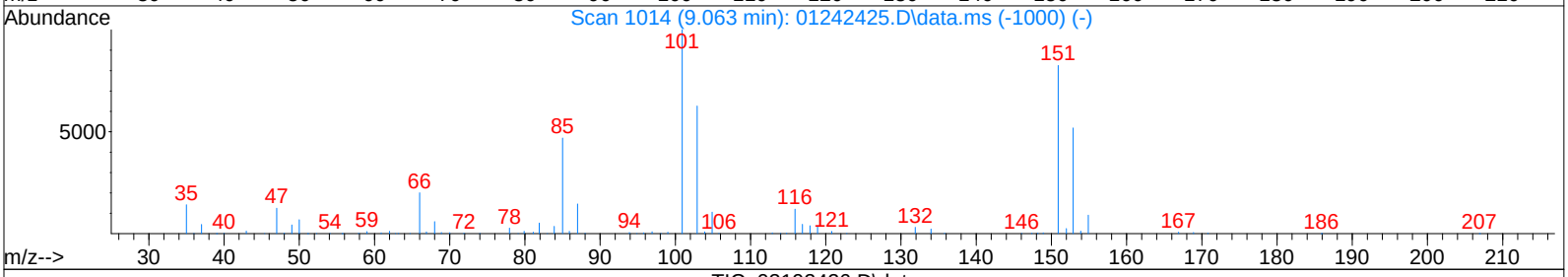
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192426.D
Acq On : 19 Mar 2024 13:45
Operator : CI
Sample : P2400922-067dil (0.5mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 20 08:32:53 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration







TIC: 03192426.D\data.ms

(21) Trichlorotrifluoroethane (T)

9.079min (-0.000) 54.24ng

response 1019077

Ion	Exp%	Act%
150.90	100	100
100.90	124.20	124.91
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03192424.D\data.ms

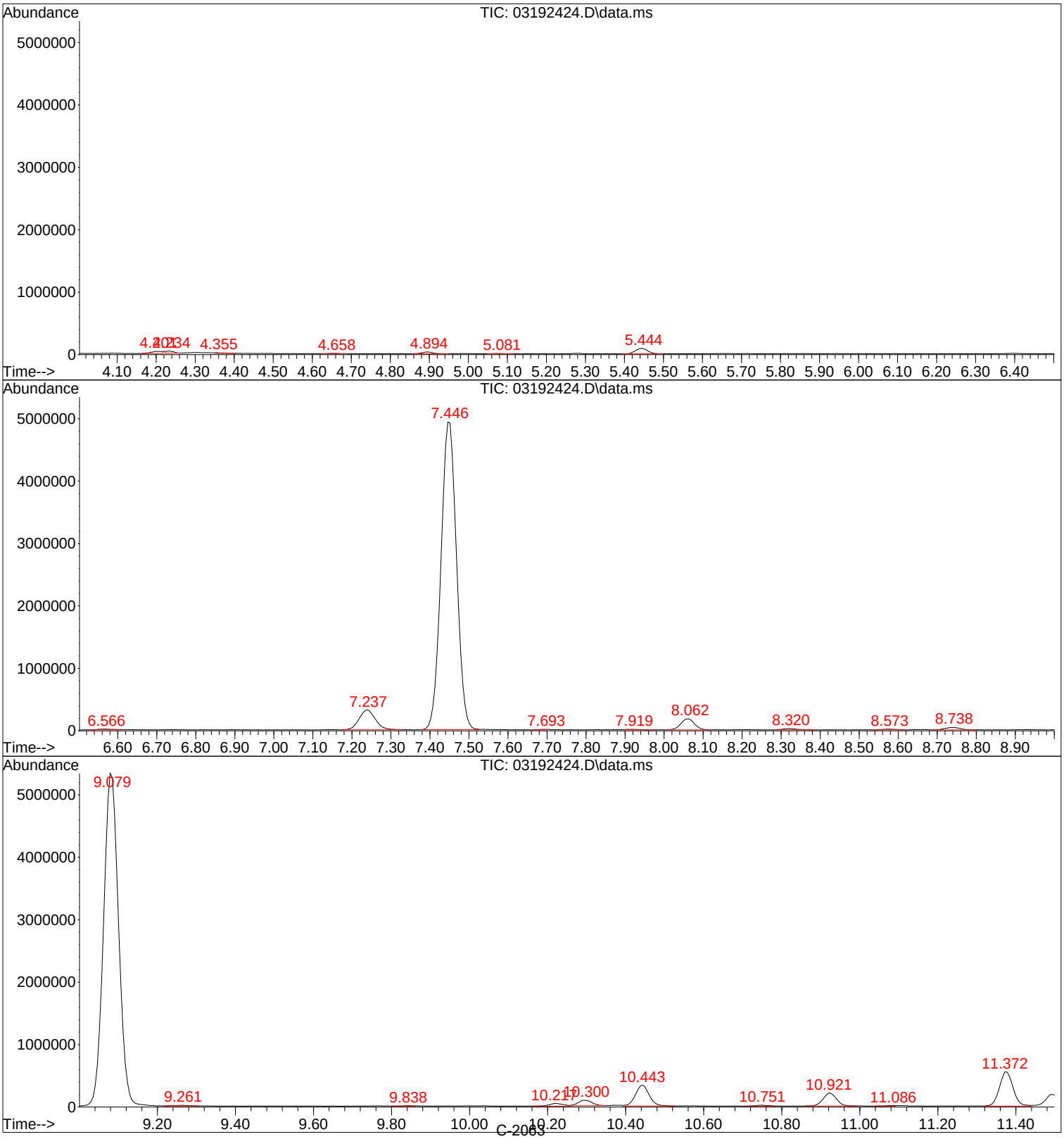
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.201	123	130	133	rBV4	35522	73188	0.51%	0.222%
2	4.234	134	136	141	rVB3	35399	43036	0.30%	0.131%
3	4.355	157	158	167	rVB4	12423	15851	0.11%	0.048%
4	4.658	207	213	219	rVB5	6821	13050	0.09%	0.040%
5	4.894	249	256	266	rBV2	30193	56328	0.39%	0.171%
6	5.081	284	290	296	rVB6	5917	10771	0.08%	0.033%
7	5.444	347	356	366	rBV	88066	193527	1.36%	0.587%
8	6.566	552	560	568	rBV2	15865	45339	0.32%	0.138%
9	7.237	670	682	699	rVB3	316374	918832	6.43%	2.787%
10	7.446	707	720	735	rBV	4931568	13597004	95.22%	41.245%
11	7.693	759	765	766	rBV5	8053	12389	0.09%	0.038%
12	7.919	802	806	816	rVB7	9639	22636	0.16%	0.069%
13	8.062	822	832	842	rVB	178512	439618	3.08%	1.334%
14	8.320	873	879	891	rBV6	21188	56302	0.39%	0.171%
15	8.573	918	925	933	rBV4	13496	30950	0.22%	0.094%
16	8.738	946	955	966	rBV3	39224	105393	0.74%	0.320%
17	9.079	1000	1017	1038	rBV	5330284	14279150	100.00%	43.314%
18	9.261	1042	1050	1058	rVB10	10585	28191	0.20%	0.086%
19	9.838	1148	1155	1159	rBV6	6624	13619	0.10%	0.041%
20	10.217	1214	1224	1231	rBV2	41903	102807	0.72%	0.312%
21	10.300	1231	1239	1248	rVB3	87226	225316	1.58%	0.683%
22	10.443	1256	1265	1280	rVB2	333516	808650	5.66%	2.453%
23	10.751	1313	1321	1327	rBV2	16858	34876	0.24%	0.106%
24	10.921	1341	1352	1365	rBV	210646	495522	3.47%	1.503%
25	11.086	1373	1382	1383	rBV4	10144	17826	0.12%	0.054%
26	11.372	1424	1434	1446	rBV	548825	1326206	9.29%	4.023%

Sum of corrected areas: 32966377

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:38
Operator : CI
Sample : P2400922-067 (1mL)
Misc : S37-01032403/
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS16\DATA\2024 03\19\\
Data File : 03192424.D
Acq On : 19 Mar 2024 12:388
Operator : CII
Sample : P2400922-067 (1mL))
Misc : S37-01032403//
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS16\METHODS\R16031924.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

CI 3/22/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192405.D Vial: 2
Acq On : 19 Mar 2024 11:41 Operator: SC
Sample : MB R09031924 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 19 12:31:09 2024 3/19/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:30:33 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	162340	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	705758	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	152209	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	322321	12.136	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%			
57) Toluene-d8 (SS2)	12.43	98	801378	13.113	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%			
73) Bromofluorobenzene (SS3)	16.83	174	274010	12.717	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.31	45	2332	0.149	ng	84
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.55	56	344	N.D.		
13) Acetone	4.66	58	4769	0.399	ng	87
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.93	45	286	N.D.		
16) Acrylonitrile	4.99	53	1026	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	815	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.61	76	526	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.07	61	240	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.34	83	155	N.D.		
34) Tetrahydrofuran (THF)	7.79	72	117	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.89	78	1632	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	458	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.08	83	242	N.D.		
47) Trichloroethene	10.14	130	285	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192405.D Vial: 2
Acq On : 19 Mar 2024 11:41 Operator: SC
Sample : MB R09031924 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 19 12:31:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:30:33 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

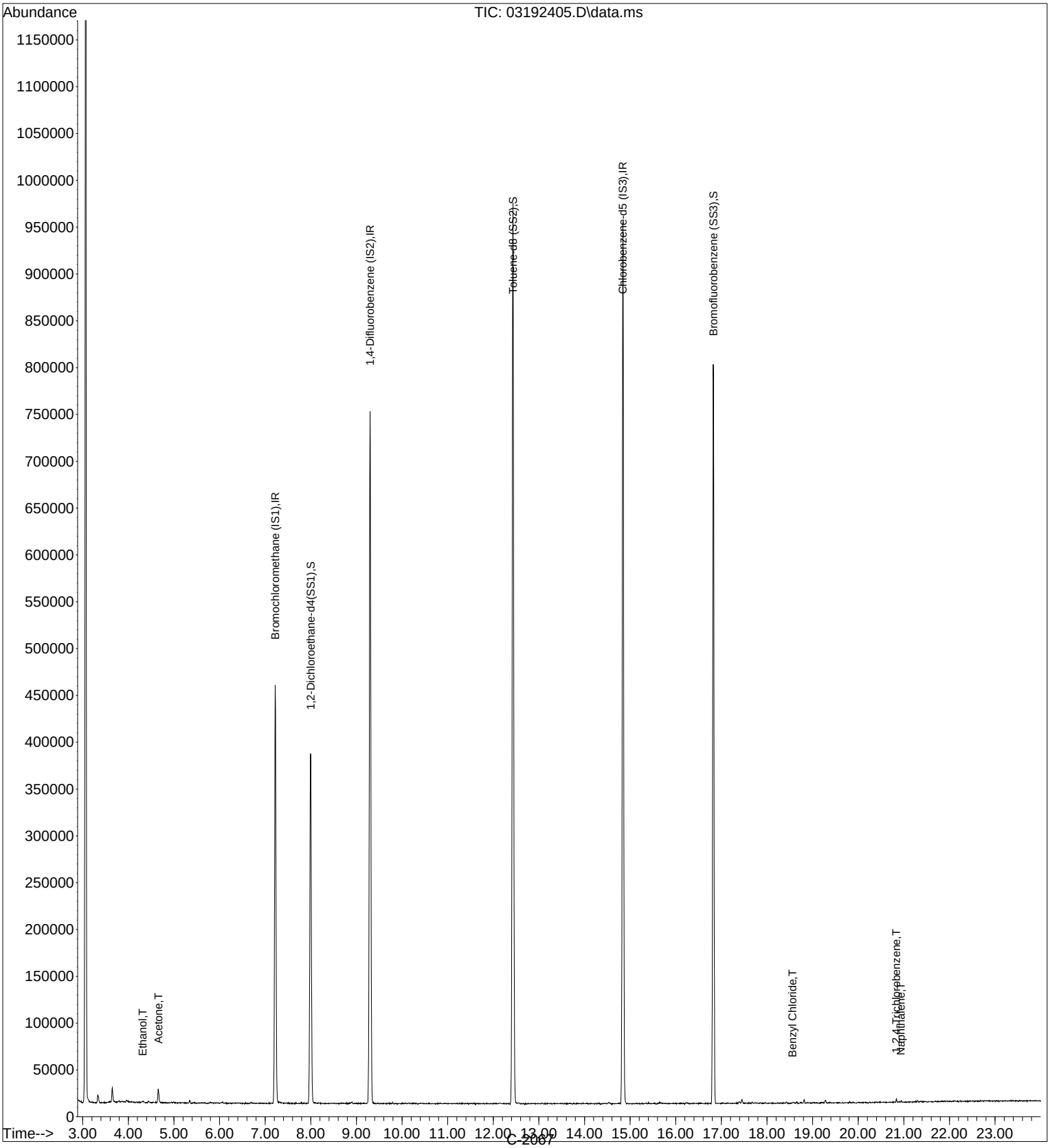
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	894	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	407	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	615	N.D.	
66) Ethylbenzene	15.41	91	891	N.D.	
67) m- & p-Xylenes	15.66	91	1759	N.D.	
68) Bromoform	15.67	173	465	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	717	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	324	N.D.	
74) Cumene	17.03	105	845	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	1195	N.D.	
77) 3-Ethyltoluene	17.03	105	845	No Calib #	
78) 4-Ethyltoluene	17.86	105	718	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	399	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	845	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	485	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	371	0.598 ng #	57
85) 1,3-Dichlorobenzene	18.58	146	688	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	816	N.D.	
87) sec-Butylbenzene	18.74	105	890	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	479	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	845	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	571	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1307	0.052 ng #	92
95) Naphthalene	20.94	128	1726	0.377 ng	90
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	537	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	763	N.D.	
100) n-Butylbenzene	19.39	91	616	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192405.D Vial: 2
Acq On : 19 Mar 2024 11:41 Operator: SC
Sample : MB R09031924 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 19 12:31:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:30:33 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192405.D Vial: 2
Acq On : 19 Mar 2024 11:41 Operator: SC
Sample : MB R09031924 1000mL Inst : MS09
Misc : S37-02202408/AC00880

3/20/24

Quant Time: Mar 20 09:00:08 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

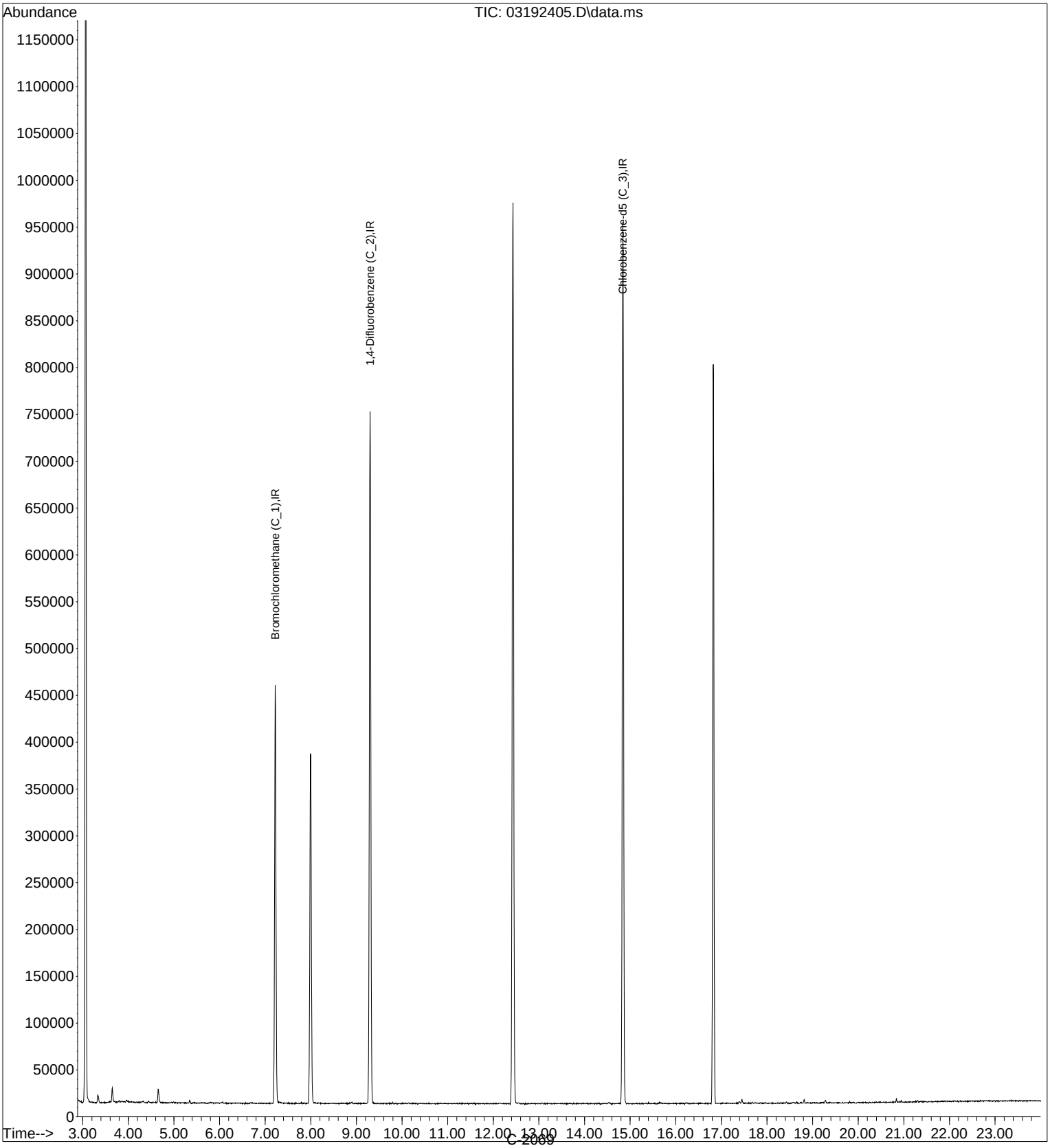
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	162340	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	706471	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	152209	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.66	57	267	N.D.		
11) Methyl Acetate	5.36	43	399	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	381	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	809	N.D.		
27) 4-Chlorotoluene	17.67	91	1195	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	19.21	115	60	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	62	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192405.D Vial: 2
Acq On : 19 Mar 2024 11:41 Operator: SC
Sample : MB R09031924 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 20 09:00:08 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192418.D
Acq On : 19 Mar 2024 8:55
Operator : CI
Sample : MB R16031924 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 11:08:32 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	167842	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	804030	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	198815	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	363553	12.860	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%			
57) Toluene-d8 (SS2)	15.94	98	968710	12.477	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
73) Bromofluorobenzene (SS3)	19.15	174	314203	12.017	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%			
Target Compounds						Qvalue
2) Propene	4.08	42	184	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	5.28	54	127	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	6.08	64	115	N.D.		
10) Ethanol	0.00	45	0	N.D. d		
11) Acetonitrile	6.82	41	129	N.D.		
12) Acrolein	6.96	56	160	N.D.		
13) Acetone	0.00	58	0	N.D.		
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	7.77	45	62	N.D.		
16) Acrylonitrile	7.97	53	55	N.D.		
17) 1,1-Dichloroethene	8.48	96	202	N.D.		
18) 2-Methyl-2-Propanol (t...	8.69	59	57	N.D.		
19) Methylene Chloride	8.67	84	1098	0.062	ng	95
20) 3-Chloro-1-propene (Al...	8.84	41	447	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.91	76	134	N.D.		
23) trans-1,2-Dichloroethene	10.03	61	143	N.D.		
24) 1,1-Dichloroethane	10.21	63	166	N.D.		
25) Methyl tert-Butyl Ether	10.32	73	152	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	10.67	72	111	N.D.		
28) cis-1,2-Dichloroethene	11.20	61	156	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.62	61	126	N.D.		
31) n-Hexane	11.41	57	139	N.D.		
32) Chloroform	11.54	83	122	N.D.		
34) Tetrahydrofuran (THF)	12.00	72	108	N.D.		
35) Ethyl tert-Butyl Ether	12.02	87	201	N.D.		
36) 1,2-Dichloroethane	12.33	62	401	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	13.66	61	126	No Calib	#	
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	13.10	78	7162	0.094	ng	85
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	13.73	73	325	N.D.		
45) 1,2-Dichloropropane	13.97	63	260	N.D.		
46) Bromodichloromethane	14.15	83	377	N.D.		
47) Trichloroethene	14.21	130	415	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192418.D
Acq On : 19 Mar 2024 8:55
Operator : CI
Sample : MB R16031924 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:08:32 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

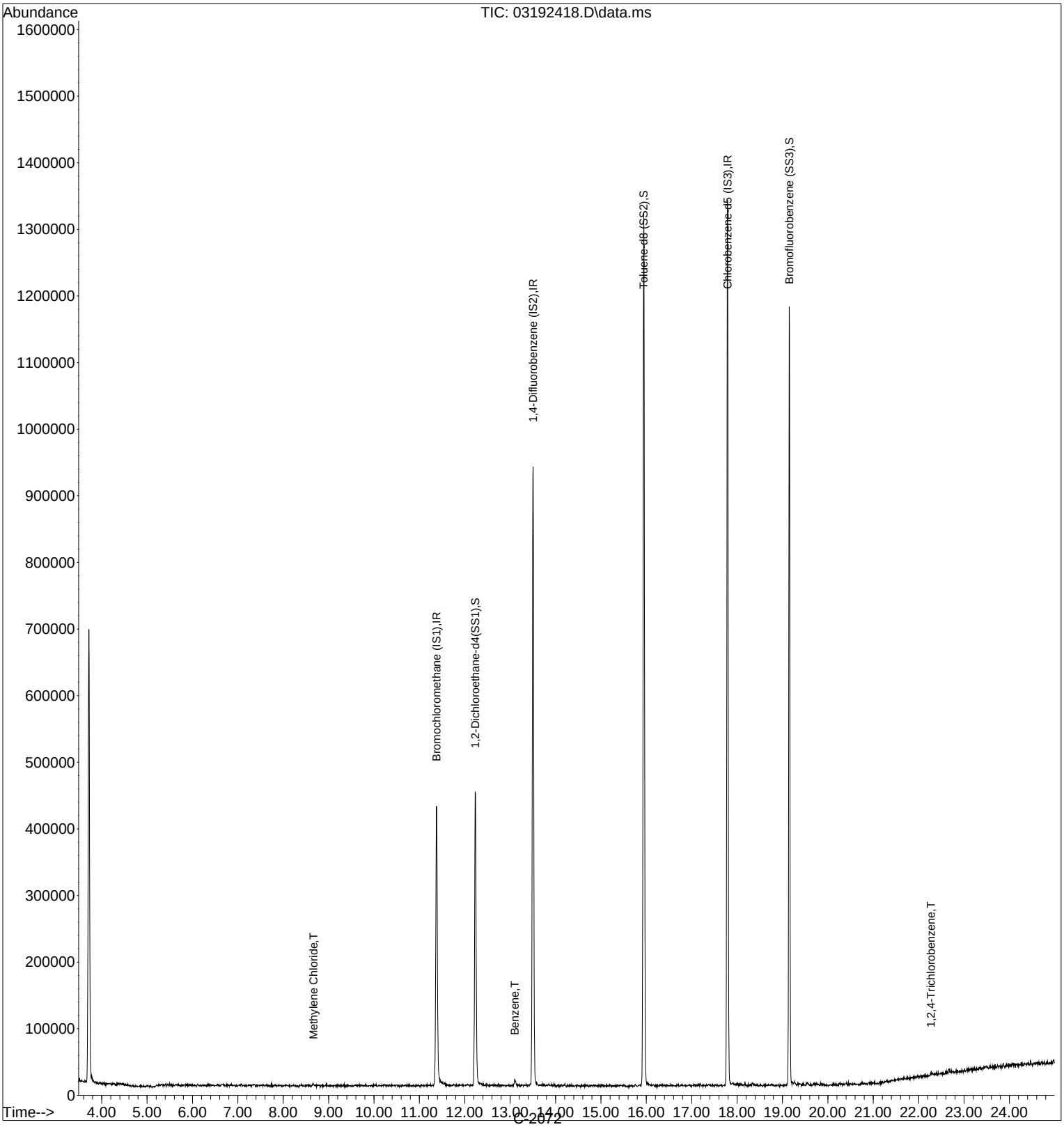
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.28	57	115	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	14.46	71	140	N.D.	
52) cis-1,3-Dichloropropene	15.07	75	109	N.D.	
53) 4-Methyl-2-pentanone	15.16	58	115	N.D.	
54) trans-1,3-Dichloropropene	15.59	75	148	N.D.	
55) 1,1,2-Trichloroethane	15.76	97	148	N.D.	
58) Toluene	16.05	91	1649	N.D.	
59) 2-Hexanone	16.33	43	887	N.D.	
60) Dibromochloromethane	16.47	129	220	N.D.	
61) 1,2-Dibromoethane	16.72	107	120	N.D.	
62) n-Butyl Acetate	16.95	43	380	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.18	166	546	N.D.	
65) Chlorobenzene	17.83	112	976	N.D.	
66) Ethylbenzene	18.19	91	1608	N.D.	
67) m- & p-Xylenes	18.33	91	2528	N.D.	
68) Bromoform	18.39	173	574	N.D.	
69) Styrene	18.66	104	284	N.D.	
70) o-Xylene	18.76	91	1340	N.D.	
71) n-Nonane	18.97	43	628	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.74	83	692	N.D.	
74) Cumene	19.27	105	1313	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.72	91	1748	N.D.	
77) 3-Ethyltoluene	20.27	105	523	No Calib	#
78) 4-Ethyltoluene	19.85	105	673	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	420	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.27	105	523	No Calib	#
82) 1,2,4-Trimethylbenzene	20.27	105	523	N.D.	
83) n-Decane	20.34	58	128	No Calib	#
84) Benzyl Chloride	20.38	91	722	N.D.	
85) 1,3-Dichlorobenzene	20.40	146	924	N.D.	
86) 1,4-Dichlorobenzene	20.46	146	876	N.D.	
87) sec-Butylbenzene	20.50	105	907	N.D.	
88) 4-Isopropyltoluene (p-...	20.65	119	552	N.D.	
89) 1,2,3-Trimethylbenzene	20.27	105	523	No Calib	#
90) 1,2-Dichlorobenzene	20.75	146	584	N.D.	
91) d-Limonene	20.76	68	175	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.43	58	165	No Calib	#
94) 1,2,4-Trichlorobenzene	22.27	180	1505	0.052 ng	# 81
95) Naphthalene	22.40	128	1138	N.D.	
96) n-Dodecane	22.73	57	108	No Calib	#
97) Hexachlorobutadiene	22.66	225	663	N.D.	
98) Cyclohexanone	18.30	55	172	No Calib	#
99) tert-Butylbenzene	20.27	119	1049	N.D.	
100) n-Butylbenzene	21.01	91	178	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192418.D
Acq On : 19 Mar 2024 8:55
Operator : CI
Sample : MB R16031924 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:08:32 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202405.D Vial: 2
Acq On : 20 Mar 2024 3:22 Operator: SC
Sample : MB R09032024 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 20 08:32:44 2024 3/20/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	141069	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	611929	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	133833	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	294809	12.774	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	12.43	98	689826	12.838	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.72%				
73) Bromofluorobenzene (SS3)	16.83	174	238362	12.582	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
2) Propene	3.33	42	397	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.32	45	1294	0.095	ng	#	57
11) Acetonitrile	4.45	41	543	N.D.			
12) Acrolein	4.55	56	204	N.D.			
13) Acetone	4.65	58	3747	0.361	ng		100
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.93	45	60	N.D.			
16) Acrylonitrile	4.99	53	649	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	688	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.61	76	307	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	113	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	127	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	1274	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	181	N.D.			
47) Trichloroethene	10.14	130	186	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202405.D Vial: 2
Acq On : 20 Mar 2024 3:22 Operator: SC
Sample : MB R09032024 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 20 08:32:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

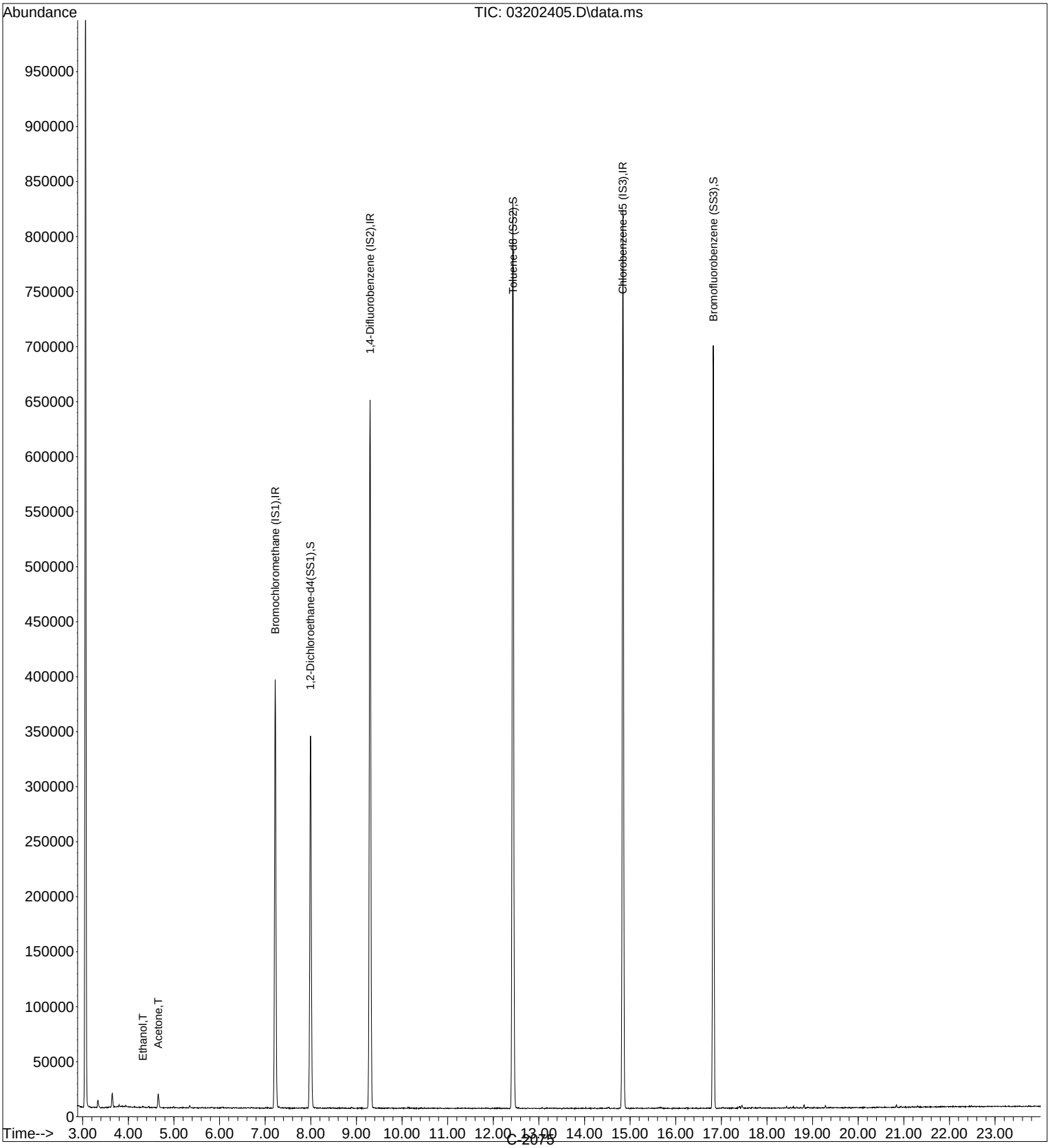
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	693	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	216	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	124	N.D.	
65) Chlorobenzene	14.90	112	502	N.D.	
66) Ethylbenzene	15.41	91	786	N.D.	
67) m- & p-Xylenes	15.66	91	1335	N.D.	
68) Bromoform	15.67	173	323	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	705	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	194	N.D.	
74) Cumene	17.04	105	689	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	964	N.D.	
77) 3-Ethyltoluene	17.04	105	689	No Calib	#
78) 4-Ethyltoluene	17.86	105	503	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	288	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	689	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	330	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	469	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	478	N.D.	
87) sec-Butylbenzene	18.75	105	541	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	362	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	689	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	438	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	962	N.D.	
95) Naphthalene	0.00	128	0	N.D.	d
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	405	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	618	N.D.	
100) n-Butylbenzene	19.39	91	333	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202405.D Vial: 2
Acq On : 20 Mar 2024 3:22 Operator: SC
Sample : MB R09032024 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 20 08:32:44 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202405.D Vial: 2
Acq On : 20 Mar 2024 3:22 Operator: SC
Sample : MB R09032024 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 20 09:02:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

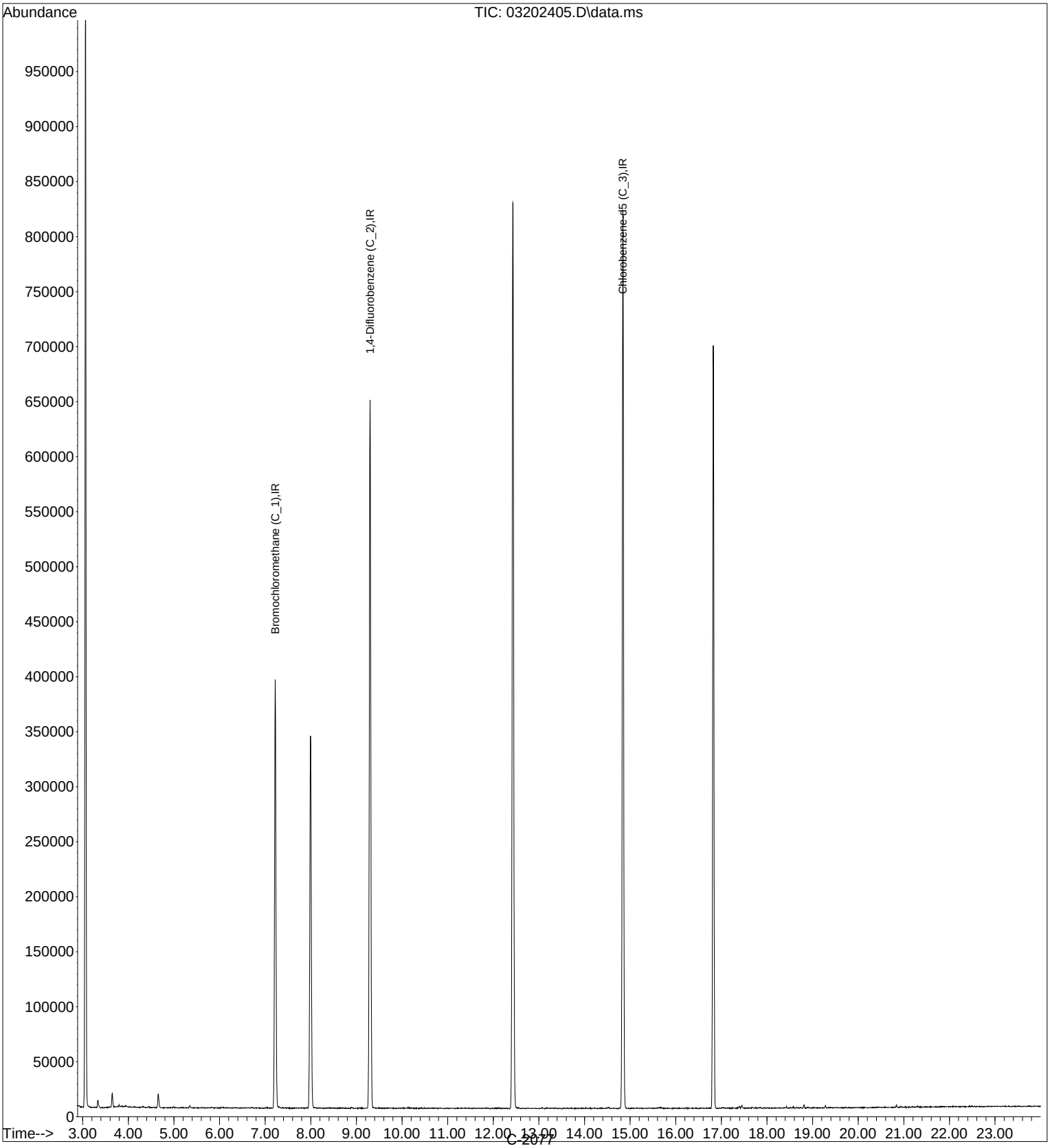
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	141069	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	613129	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	133833	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.66	57	116	N.D.		
11) Methyl Acetate	5.35	43	300	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.79	174	127	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	697	N.D.		
27) 4-Chlorotoluene	17.67	91	964	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	60	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202405.D Vial: 2
Acq On : 20 Mar 2024 3:22 Operator: SC
Sample : MB R09032024 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 20 09:02:29 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202404.D
Acq On : 20 Mar 2024 4:56
Operator : CI
Sample : MB R16032024 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 08:35:56 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	160522	12.500 ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.50	114	783582	12.500 ng	-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	188911	12.500 ng	0.00
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	12.23	65	335360	12.404 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%		
57) Toluene-d8 (SS2)	15.94	98	940802	12.753 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%		
73) Bromofluorobenzene (SS3)	19.15	174	300501	12.096 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.80%		

Target Compounds					Qvalue
2) Propene	4.24	42	242	N.D.	
3) Dichlorodifluoromethan...	4.38	85	202	N.D.	
4) Chloromethane	4.60	50	179	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	127	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	5.33	54	125	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	6.19	64	106	N.D.	
10) Ethanol	6.58	45	224	N.D.	
11) Acetonitrile	6.83	41	55	N.D.	
12) Acrolein	7.03	56	51	N.D.	
13) Acetone	7.29	58	120	N.D.	
14) Trichlorofluoromethane	7.47	101	189	N.D.	
15) 2-Propanol (Isopropanol)	7.79	45	187	N.D.	
16) Acrylonitrile	8.02	53	90	N.D.	
17) 1,1-Dichloroethene	8.48	96	126	N.D.	
18) 2-Methyl-2-Propanol (t...	8.68	59	251	N.D.	
19) Methylene Chloride	8.66	84	856	N.D.	
20) 3-Chloro-1-propene (Al...	8.83	41	261	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.92	76	762	N.D.	
23) trans-1,2-Dichloroethene	9.93	61	165	N.D.	
24) 1,1-Dichloroethane	10.16	63	181	N.D.	
25) Methyl tert-Butyl Ether	10.36	73	126	N.D.	
26) Vinyl Acetate	10.48	86	139	N.D.	
27) 2-Butanone (MEK)	10.66	72	133	N.D.	
28) cis-1,2-Dichloroethene	11.20	61	246	N.D.	
29) Diisopropyl Ether	0.00	87	0	N.D.	
30) Ethyl Acetate	11.52	61	175	N.D.	
31) n-Hexane	11.60	57	124	N.D.	
32) Chloroform	11.55	83	290	N.D.	
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	
35) Ethyl tert-Butyl Ether	12.17	87	113	N.D.	
36) 1,2-Dichloroethane	12.32	62	111	N.D.	
38) 1,1,1-Trichloroethane	12.64	97	396	N.D.	
39) Isopropyl Acetate	13.76	61	135	No Calib	#
40) 1-Butanol	12.65	56	131	No Calib	#
41) Benzene	13.10	78	11148	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	13.39	84	146	N.D.	
44) tert-Amyl Methyl Ether	13.69	73	235	N.D.	
45) 1,2-Dichloropropane	13.96	63	350	N.D.	
46) Bromodichloromethane	14.14	83	528	N.D.	
47) Trichloroethene	14.19	130	372	N.D.	
48) 1,4-Dioxane	0.00	88	0	N.D.	

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202404.D
Acq On : 20 Mar 2024 4:56
Operator : CI
Sample : MB R16032024 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:35:56 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

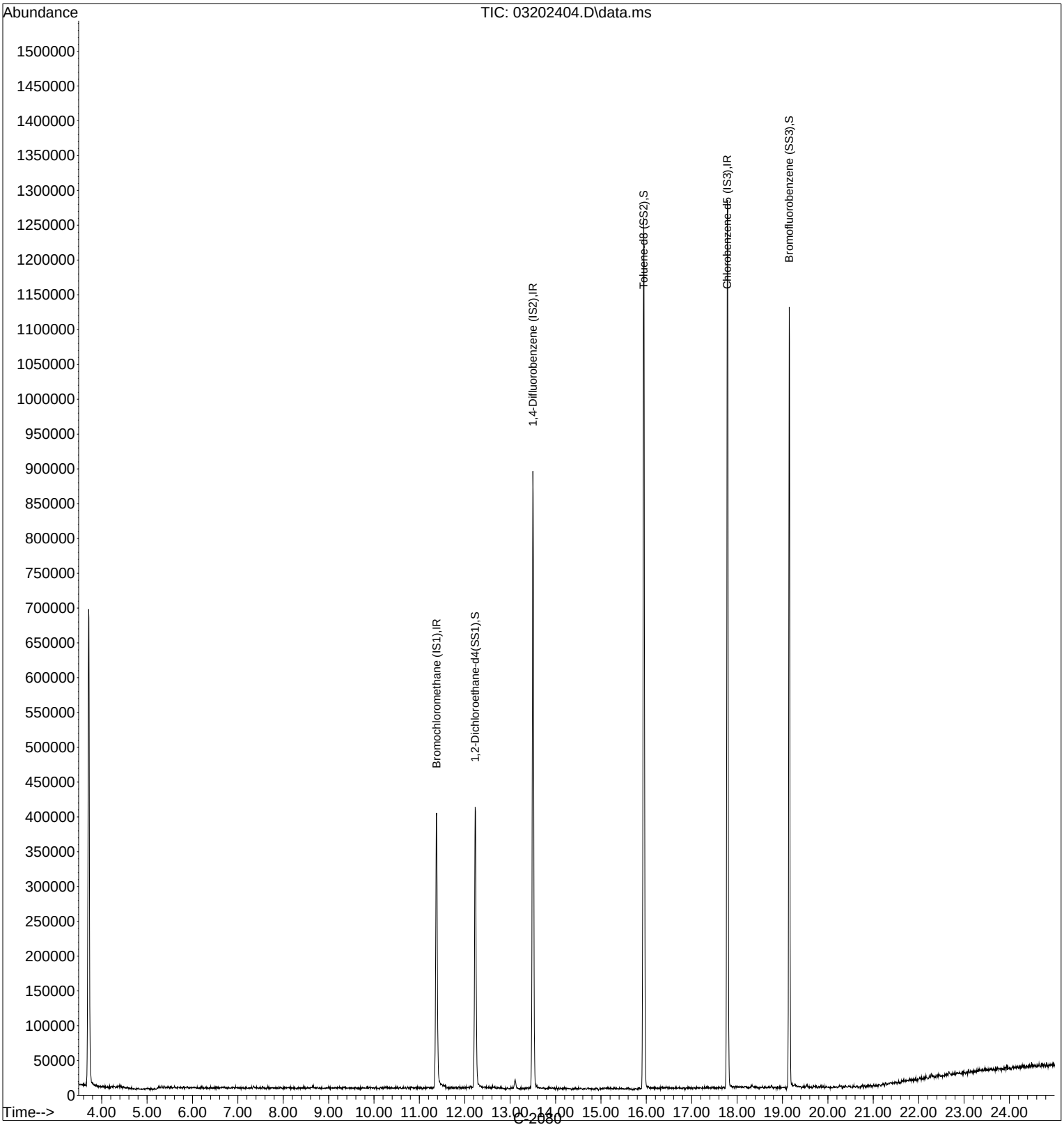
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	214	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	15.06	75	167	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.74	97	187	N.D.	
58) Toluene	16.05	91	950	N.D.	
59) 2-Hexanone	16.29	43	286	N.D.	
60) Dibromochloromethane	16.45	129	608	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.98	43	476	N.D.	
63) n-Octane	17.05	57	129	N.D.	
64) Tetrachloroethene	17.19	166	175	N.D.	
65) Chlorobenzene	17.84	112	424	N.D.	
66) Ethylbenzene	18.19	91	2208	N.D.	
67) m- & p-Xylenes	18.33	91	1595	N.D.	
68) Bromoform	18.39	173	163	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	18.76	91	933	N.D.	
71) n-Nonane	18.96	43	497	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.75	83	760	N.D.	
74) Cumene	19.27	105	987	N.D.	
75) alpha-Pinene	19.54	93	125	N.D.	
76) n-Propylbenzene	19.71	91	1734	N.D.	
77) 3-Ethyltoluene	20.25	105	215	No Calib	#
78) 4-Ethyltoluene	19.85	105	805	N.D.	
79) 1,3,5-Trimethylbenzene	19.91	105	455	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.25	105	215	No Calib	#
82) 1,2,4-Trimethylbenzene	20.25	105	215	N.D.	
83) n-Decane	20.27	58	119	No Calib	#
84) Benzyl Chloride	20.38	91	207	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	773	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	879	N.D.	
87) sec-Butylbenzene	20.50	105	940	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	605	N.D.	
89) 1,2,3-Trimethylbenzene	20.25	105	215	No Calib	#
90) 1,2-Dichlorobenzene	20.75	146	644	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.58	58	209	No Calib	#
94) 1,2,4-Trichlorobenzene	22.25	180	204	N.D.	
95) Naphthalene	22.40	128	923	N.D.	
96) n-Dodecane	22.73	57	130	No Calib	#
97) Hexachlorobutadiene	22.67	225	715	N.D.	
98) Cyclohexanone	18.26	55	102	No Calib	#
99) tert-Butylbenzene	20.26	119	1290	N.D.	
100) n-Butylbenzene	21.02	91	156	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202404.D
Acq On : 20 Mar 2024 4:56
Operator : CI
Sample : MB R16032024 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:35:56 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202404.D
Acq On : 20 Mar 2024 4:56
Operator : CI
Sample : MB R16032024 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 09:32:17 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

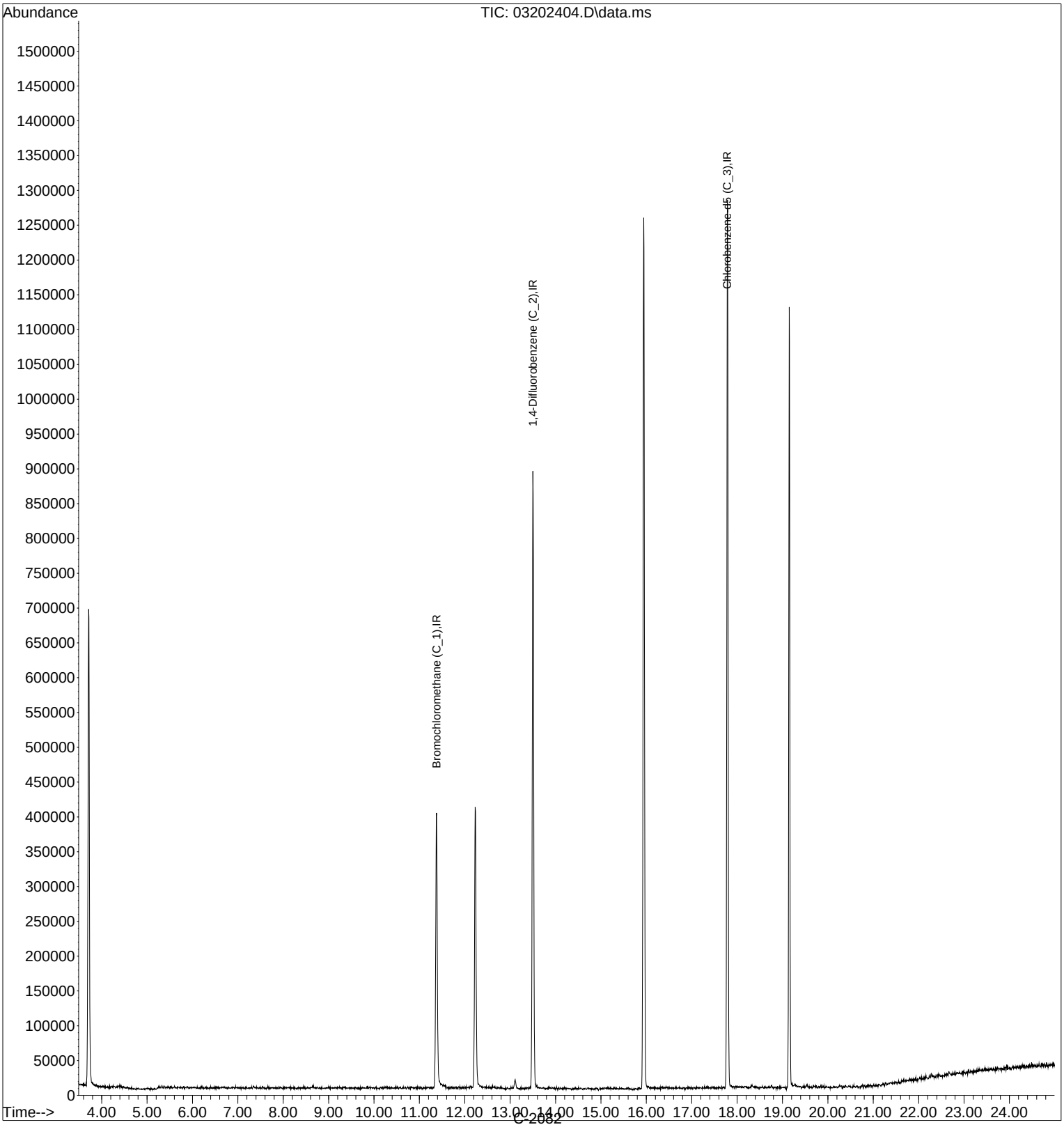
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	160522	12.500 ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	783582	12.500 ng	0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	188911	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.84	85	53	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.96	83	92	N.D.	
4) 1,1-Difluoroethane	4.03	65	108	N.D.	
5) Chlorodifluoromethane ...	4.15	67	72	N.D.	
6) 1-Chloro-1,1-Difluoroe...	4.65	65	55	N.D.	
7) Dichlorofluoromethane ...	6.36	67	68	N.D.	
8) Vinylbromide	6.68	108	106	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	7.13	83	127	N.D.	
10) 2-Methylbutane	7.26	57	121	N.D.	
11) Methyl Acetate	8.72	43	294	N.D.	
12) 2-Methylpentane	10.47	71	312	N.D.	
13) 2,2-Dichloropropane	11.59	77	74	N.D.	
14) 1,1-Dichloropropene	12.96	75	86	N.D.	
15) Thiophene	13.23	84	54	N.D.	
17) 2,3-Dimethylpentane	13.65	56	58	N.D.	
18) Dibromomethane	13.93	174	297	N.D.	
20) Methyl Cyclohexane	15.18	55	173	N.D.	
21) 1,3-Dichloropropane	16.06	76	60	N.D.	
22) 1,1,1,2-Tetrachloroethane	17.87	131	59	N.D.	
23) 1-Chlorohexane	17.99	91	50	N.D.	
24) 1,2,3-Trichloropropane	18.85	75	74	N.D.	
25) Bromobenzene	19.35	77	405	N.D.	
26) 2-Chlorotoluene	19.71	91	3036	N.D.	
27) 4-Chlorotoluene	19.71	91	3036	N.D.	
28) Indane	20.80	117	373	N.D.	
29) Indene	20.86	115	84	N.D.	
30) 1,2,4,5-Tetramethylben...	21.69	119	1797	N.D.	
31) 1,2,3,4-Tetramethylben...	21.69	119	1797	N.D.	
32) 1,2,3,5-Tetramethylben...	22.03	119	952	N.D.	
33) 1,2,3-Trichlorobenzene	22.61	180	247	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202404.D
Acq On : 20 Mar 2024 4:56
Operator : CI
Sample : MB R16032024 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 09:32:17 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212411.D
Acq On : 21 Mar 2024 9:47
Operator : CI
Sample : MB R16032124 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 10:51:52 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	205550	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	966600	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	206837	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	427779	12.356	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.88%			
57) Toluene-d8 (SS2)	15.95	98	1073972	13.296	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.40%			
73) Bromofluorobenzene (SS3)	19.15	174	357299	13.135	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%			

Target Compounds					Qvalue
2) Propene	4.15	42	448	N.D.	
3) Dichlorodifluoromethan...	4.36	85	231	N.D.	
4) Chloromethane	4.70	50	124	N.D.	
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.	
6) Vinyl Chloride	0.00	62	0	N.D.	
7) 1,3-Butadiene	0.00	54	0	N.D.	
8) Bromomethane	0.00	94	0	N.D.	
9) Chloroethane	6.18	64	328	N.D.	
10) Ethanol	6.62	45	5998	N.D.	
11) Acetonitrile	6.78	41	68	N.D.	
12) Acrolein	7.00	56	93	N.D.	
13) Acetone	7.31	58	3871	N.D.	
14) Trichlorofluoromethane	7.46	101	204	N.D.	
15) 2-Propanol (Isopropanol)	7.78	45	139	N.D.	
16) Acrylonitrile	7.99	53	135	N.D.	
17) 1,1-Dichloroethene	8.48	96	120	N.D.	
18) 2-Methyl-2-Propanol (t...	8.69	59	106	N.D.	
19) Methylene Chloride	8.64	84	1712	N.D.	
20) 3-Chloro-1-propene (Al...	8.84	41	529	N.D.	
21) Trichlorotrifluoroethane	0.00	151	0	N.D.	
22) Carbon Disulfide	8.94	76	2471	N.D.	
23) trans-1,2-Dichloroethene	9.93	61	361	N.D.	
24) 1,1-Dichloroethane	10.17	63	235	N.D.	
25) Methyl tert-Butyl Ether	10.26	73	169	N.D.	
26) Vinyl Acetate	0.00	86	0	N.D.	
27) 2-Butanone (MEK)	0.00	72	0	N.D.	
28) cis-1,2-Dichloroethene	11.21	61	804	N.D.	
29) Diisopropyl Ether	11.56	87	297	N.D.	
30) Ethyl Acetate	11.57	61	146	N.D.	
31) n-Hexane	11.49	57	358	N.D.	
32) Chloroform	11.54	83	650	N.D.	
34) Tetrahydrofuran (THF)	12.05	72	930	N.D.	
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	
36) 1,2-Dichloroethane	12.35	62	614	N.D.	
38) 1,1,1-Trichloroethane	12.63	97	190	N.D.	
39) Isopropyl Acetate	13.69	61	115	No Calib	#
40) 1-Butanol	12.63	56	119	No Calib	#
41) Benzene	13.11	78	13757	N.D.	
42) Carbon Tetrachloride	13.30	117	111	N.D.	
43) Cyclohexane	13.39	84	581	N.D.	
44) tert-Amyl Methyl Ether	13.77	73	261	N.D.	
45) 1,2-Dichloropropane	13.98	63	343	N.D.	
46) Bromodichloromethane	14.15	83	721	N.D.	
47) Trichloroethene	14.20	130	3337	N.D.	
48) 1,4-Dioxane	14.24	88	673	N.D.	

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212411.D
Acq On : 21 Mar 2024 9:47
Operator : CI
Sample : MB R16032124 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 10:51:52 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

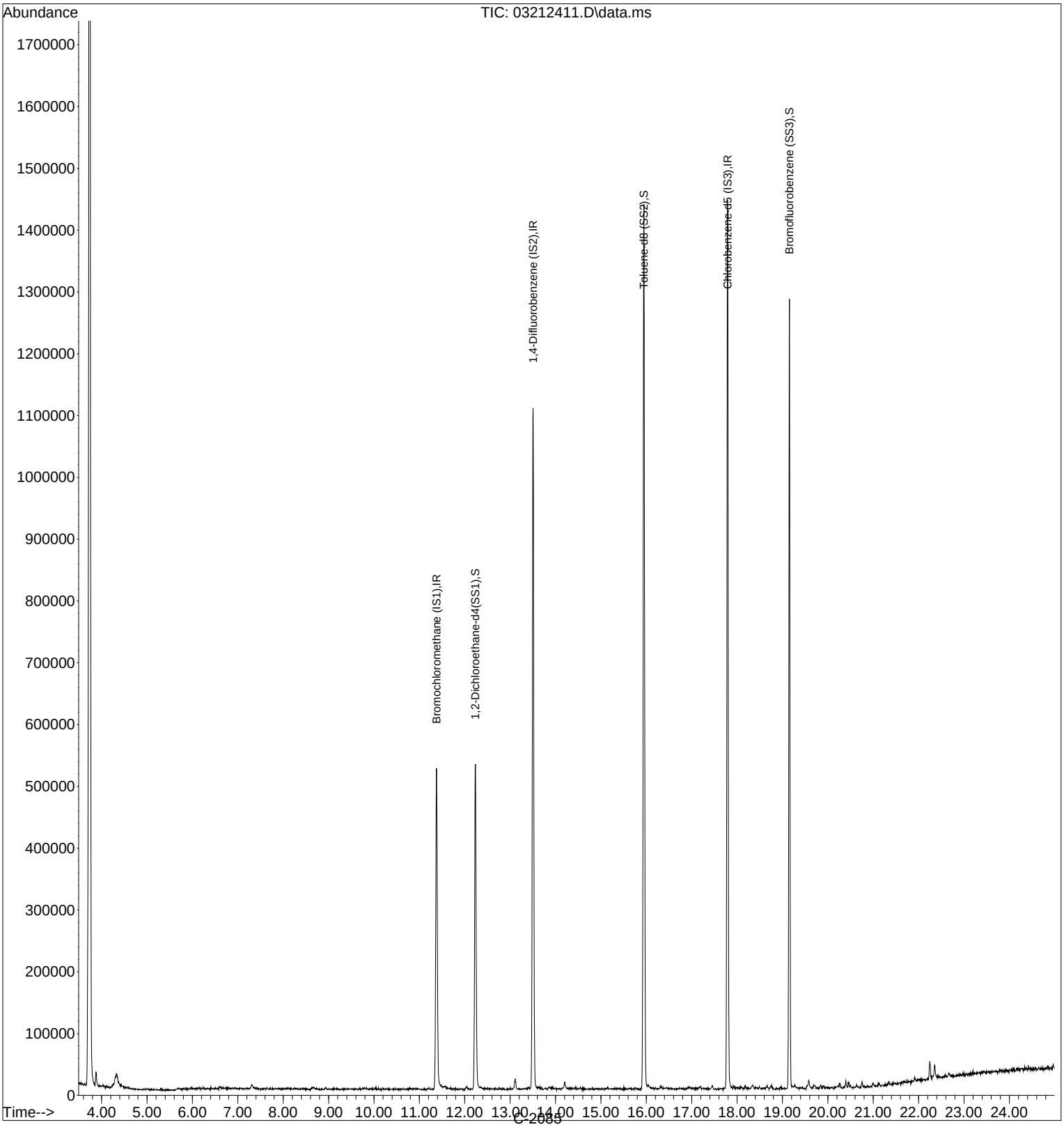
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	975	N.D.	
50) Methyl Methacrylate	14.41	100	143	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	15.15	58	658	N.D.	
54) trans-1,3-Dichloropropene	15.60	75	287	N.D.	
55) 1,1,2-Trichloroethane	15.76	97	678	N.D.	
58) Toluene	16.05	91	2876	N.D.	
59) 2-Hexanone	16.33	43	3075	N.D.	
60) Dibromochloromethane	16.45	129	426	N.D.	
61) 1,2-Dibromoethane	16.71	107	161	N.D.	
62) n-Butyl Acetate	16.94	43	1643	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	17.18	166	1028	N.D.	
65) Chlorobenzene	17.83	112	2163	N.D.	
66) Ethylbenzene	18.18	91	2464	N.D.	
67) m- & p-Xylenes	18.35	91	3751	N.D.	
68) Bromoform	18.41	173	616	N.D.	
69) Styrene	18.66	104	1445	N.D.	
70) o-Xylene	18.76	91	2229	N.D.	
71) n-Nonane	18.95	43	784	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.73	83	1186	N.D.	
74) Cumene	19.28	105	1908	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	19.71	91	2844	N.D.	
77) 3-Ethyltoluene	20.26	105	1908	No Calib	
78) 4-Ethyltoluene	19.85	105	2354	N.D.	
79) 1,3,5-Trimethylbenzene	19.91	105	1231	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.26	105	1908	No Calib	
82) 1,2,4-Trimethylbenzene	20.26	105	1908	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	20.38	91	1190	N.D.	
85) 1,3-Dichlorobenzene	20.40	146	2673	N.D.	
86) 1,4-Dichlorobenzene	20.46	146	3156	N.D.	
87) sec-Butylbenzene	20.50	105	1941	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	1545	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	1908	No Calib	
90) 1,2-Dichlorobenzene	20.75	146	2274	N.D.	
91) d-Limonene	20.76	68	307	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.14	157	941	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.24	180	9364	N.D.	
95) Naphthalene	22.35	128	18158	N.D.	
96) n-Dodecane	22.71	57	202	No Calib	#
97) Hexachlorobutadiene	22.68	225	920	N.D.	
98) Cyclohexanone	18.31	55	245	No Calib	#
99) tert-Butylbenzene	20.27	119	1737	N.D.	
100) n-Butylbenzene	21.00	91	2362	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212411.D
Acq On : 21 Mar 2024 9:47
Operator : CI
Sample : MB R16032124 1000ng
Misc : S37-01032403/AS01319
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 10:51:52 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222405.D Vial: 2
Acq On : 22 Mar 2024 1:43 Operator: SC
Sample : MB R09032224 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 22 08:33:57 2024 3/22/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	153650	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	668962	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	145559	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	311721	12.401	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%			
57) Toluene-d8 (SS2)	12.43	98	759081	12.988	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%			
73) Bromofluorobenzene (SS3)	16.83	174	257693	12.506	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
Target Compounds						Qvalue
2) Propene	3.32	42	448	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.31	45	1928	0.130	ng	74
11) Acetonitrile	4.44	41	757	N.D.		
12) Acrolein	4.54	56	216	N.D.		
13) Acetone	4.65	58	4372	0.387	ng	89
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.91	45	66	N.D.		
16) Acrylonitrile	4.98	53	688	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.34	84	747	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.61	76	322	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	168	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.89	78	1348	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.30	84	591	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.07	83	186	N.D.		
47) Trichloroethene	10.15	130	133	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222405.D Vial: 2
Acq On : 22 Mar 2024 1:43 Operator: SC
Sample : MB R09032224 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 22 08:33:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

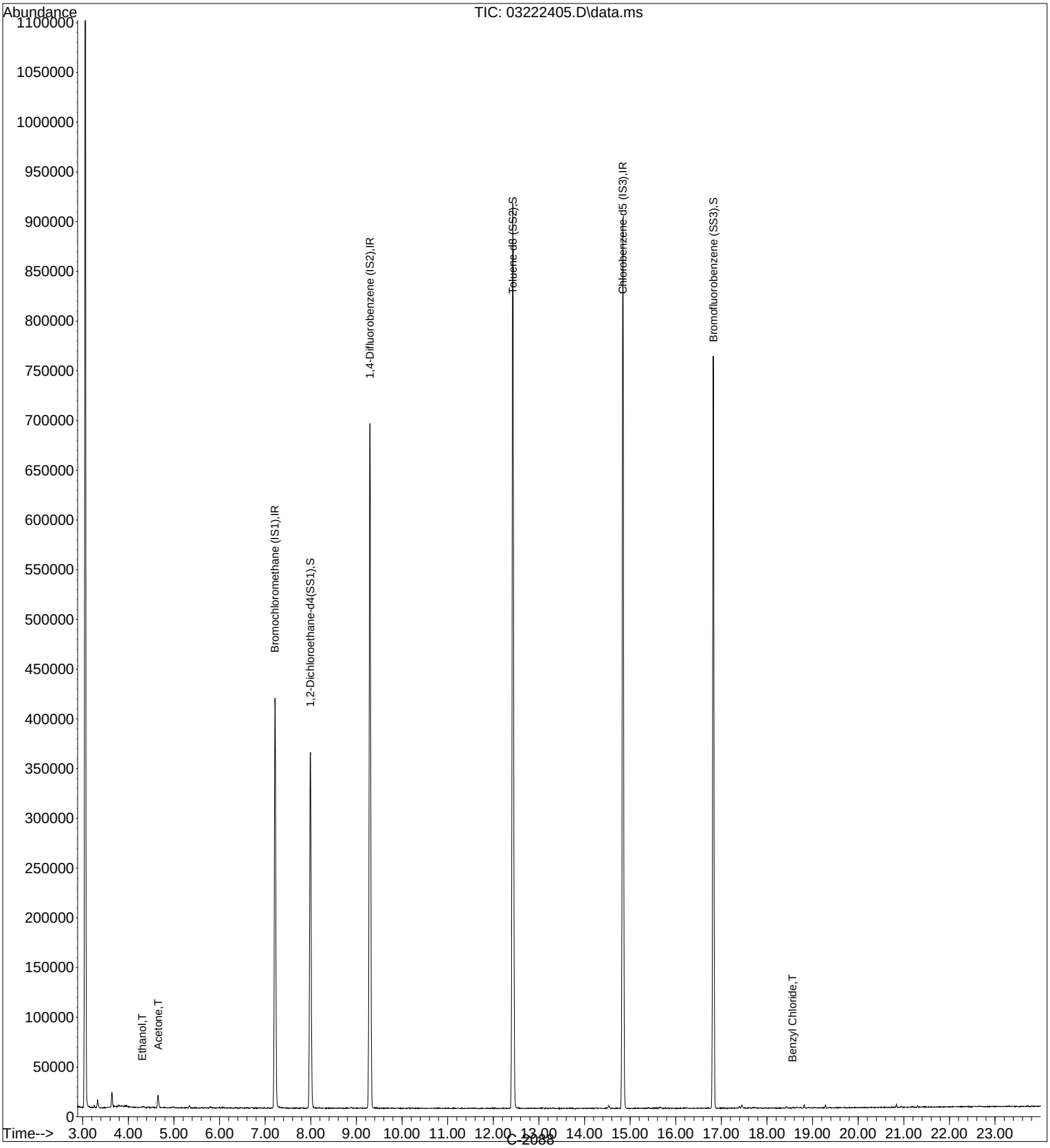
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	717	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	414	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	472	N.D.	
66) Ethylbenzene	15.41	91	908	N.D.	
67) m- & p-Xylenes	15.66	91	1533	N.D.	
68) Bromoform	15.67	173	335	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	594	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	210	N.D.	
74) Cumene	17.03	105	749	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	1321	N.D.	
77) 3-Ethyltoluene	17.03	105	749	No Calib	#
78) 4-Ethyltoluene	17.86	105	486	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	336	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	749	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	409	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	171	0.595 ng	# 57
85) 1,3-Dichlorobenzene	18.58	146	629	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	635	N.D.	
87) sec-Butylbenzene	18.75	105	649	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	501	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	749	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	466	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1010	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	449	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	692	N.D.	
100) n-Butylbenzene	19.39	91	337	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222405.D Vial: 2
Acq On : 22 Mar 2024 1:43 Operator: SC
Sample : MB R09032224 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 22 08:33:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222405.D Vial: 2
Acq On : 22 Mar 2024 1:43 Operator: SC
Sample : MB R09032224 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 22 08:45:11 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/22/24

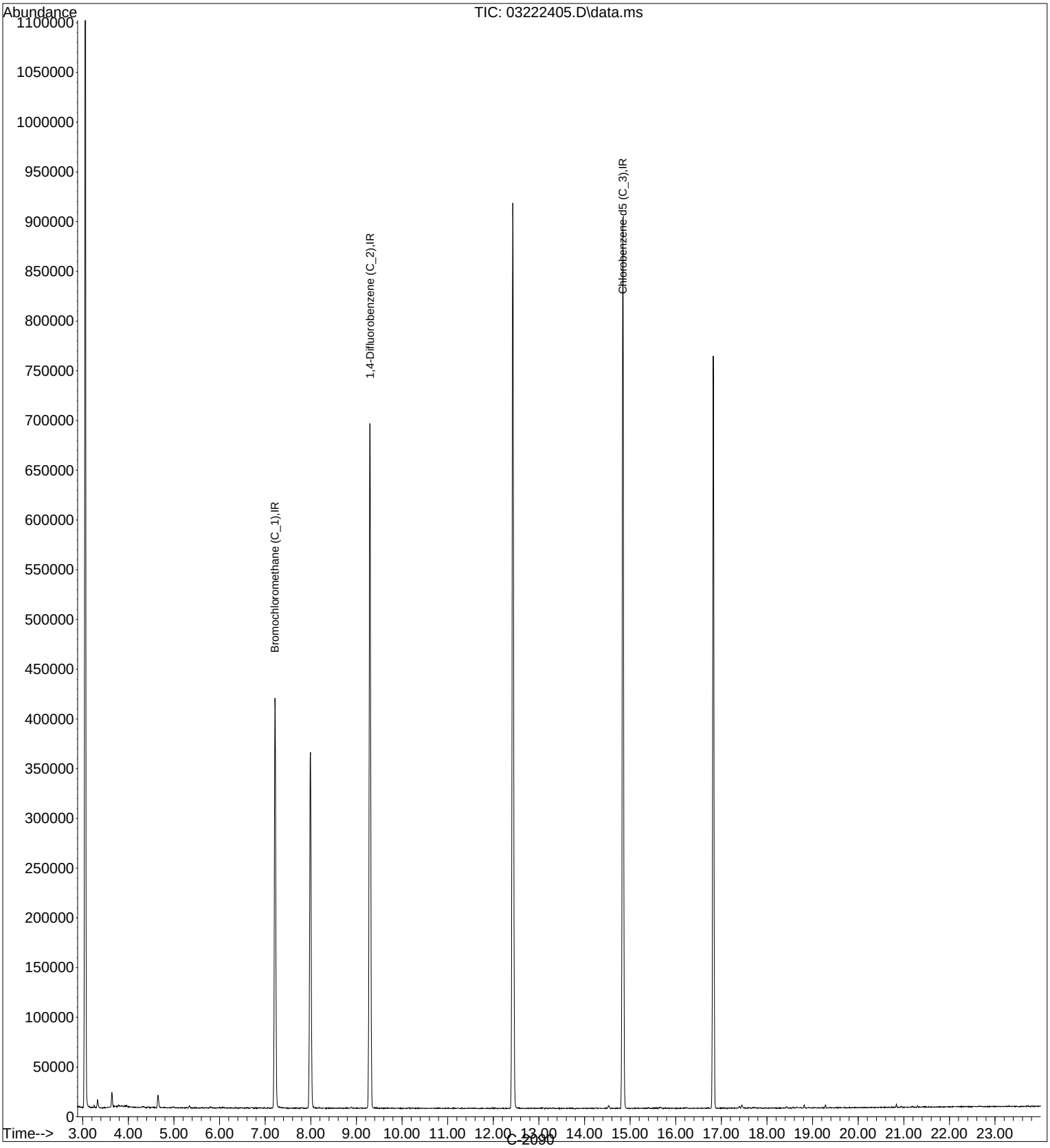
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.21	130	153650	12.500 ng	-0.04
16) 1,4-Difluorobenzene (C 2)	9.30	114	668962	12.500 ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	145559	12.500 ng	-0.02
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.15	85	54	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	
4) 1,1-Difluoroethane	3.25	65	563	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.24	67	52	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	
10) 2-Methylbutane	4.66	57	365	N.D.	
11) Methyl Acetate	5.35	43	420	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	9.80	174	266	N.D.	
20) Methyl Cyclohexane	0.00	55	0	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	17.09	77	60	N.D.	
26) 2-Chlorotoluene	17.61	91	959	N.D.	
27) 4-Chlorotoluene	17.68	91	1321	N.D.	
28) Indane	19.12	117	241	N.D.	
29) Indene	19.21	115	321	N.D.	
30) 1,2,4,5-Tetramethylben...	20.18	119	284	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	267	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	288	N.D.	
33) 1,2,3-Trichlorobenzene	21.19	180	431	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222405.D Vial: 2
Acq On : 22 Mar 2024 1:43 Operator: SC
Sample : MB R09032224 1000mL Inst : MS09
Misc : S37-02202408/AC00880

Quant Time: Mar 22 08:45:11 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252408.D Vial: 2
Acq On : 25 Mar 2024 15:11 Operator: SC
Sample : MB R09032524 1000mL Inst : MS09
Misc : S37-03252401/AC00880

Quant Time: Mar 25 15:34:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	145061	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	630668	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	125752	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	289998	12.220	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.76%			
57) Toluene-d8 (SS2)	12.43	98	718517	14.231	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.84%			
73) Bromofluorobenzene (SS3)	16.83	174	235279	13.217	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%			
Target Compounds						Qvalue
2) Propene	3.33	42	413	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.31	45	997	0.071	ng #	51
11) Acetonitrile	4.45	41	283	N.D.		
12) Acrolein	4.55	56	269	N.D.		
13) Acetone	4.65	58	4312	0.404	ng	97
14) Trichlorofluoromethane	4.77	101	146	N.D.		
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.		
16) Acrylonitrile	4.99	53	496	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	889	0.057	ng	84
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.61	76	424	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.07	61	121	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.90	78	995	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	604	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.08	83	164	N.D.		
47) Trichloroethene	10.14	130	134	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252408.D Vial: 2
Acq On : 25 Mar 2024 15:11 Operator: SC
Sample : MB R09032524 1000mL Inst : MS09
Misc : S37-03252401/AC00880

Quant Time: Mar 25 15:34:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

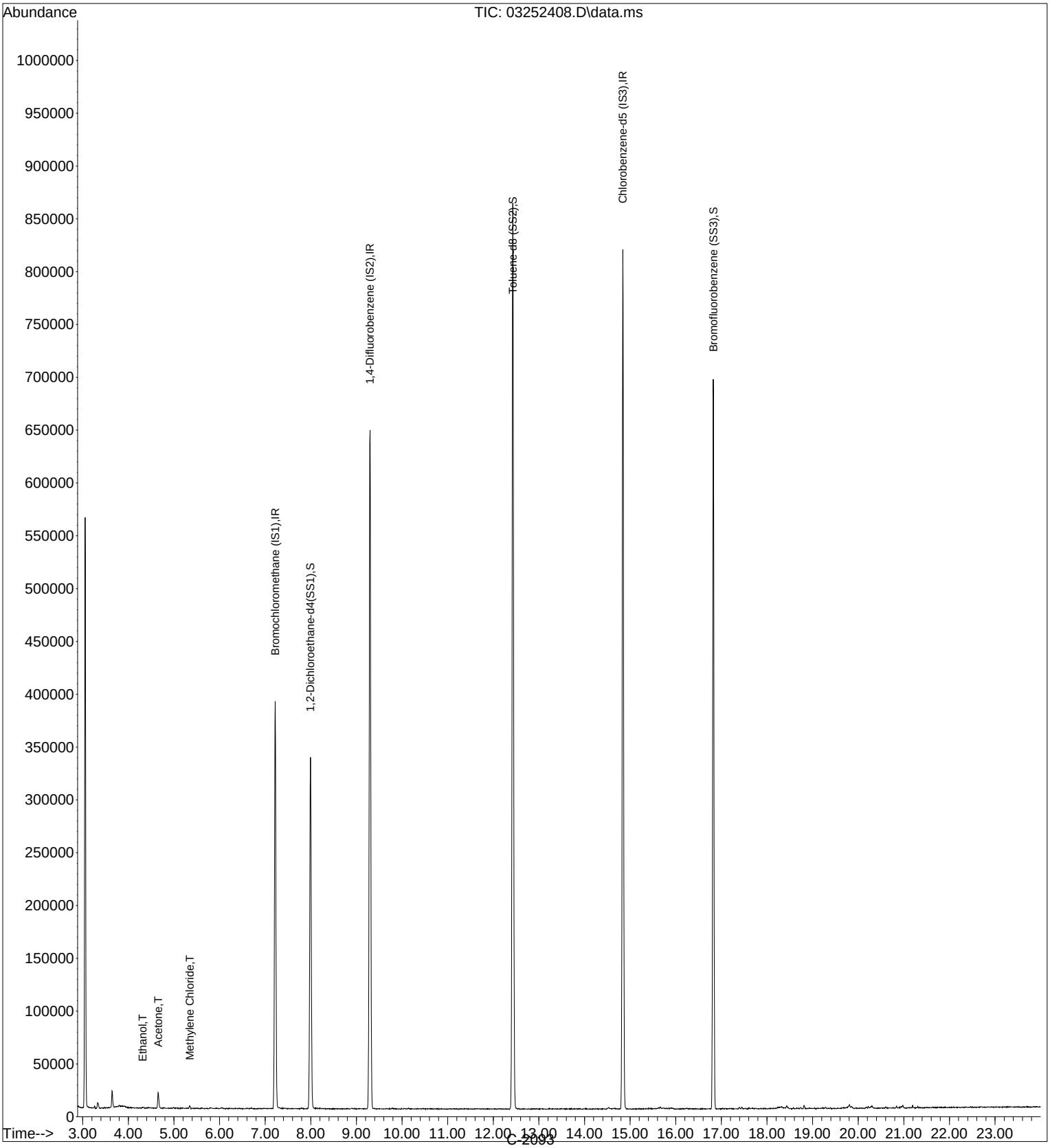
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	617	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	13.07	129	133	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	143	N.D.	
65) Chlorobenzene	14.90	112	510	N.D.	
66) Ethylbenzene	15.40	91	1625	N.D.	
67) m- & p-Xylenes	15.66	91	1737	N.D.	
68) Bromoform	15.66	173	362	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	508	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	273	N.D.	
74) Cumene	17.03	105	670	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.69	91	1397	N.D.	
77) 3-Ethyltoluene	17.03	105	670	No Calib	#
78) 4-Ethyltoluene	17.86	105	606	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	224	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	670	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	359	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	493	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	373	N.D.	
87) sec-Butylbenzene	18.74	105	726	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	542	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	670	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	276	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	747	N.D.	
95) Naphthalene	0.00	128	0	N.D.	d
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	380	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	560	N.D.	
100) n-Butylbenzene	19.39	91	395	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252408.D Vial: 2
Acq On : 25 Mar 2024 15:11 Operator: SC
Sample : MB R09032524 1000mL Inst : MS09
Misc : S37-03252401/AC00880

Quant Time: Mar 25 15:34:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252408.D Vial: 2
Acq On : 25 Mar 2024 15:11 Operator: SC
Sample : MB R09032524 1000mL Inst : MS09
Misc : S37-03252401/AC00880

Quant Time: Mar 25 17:01:37 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

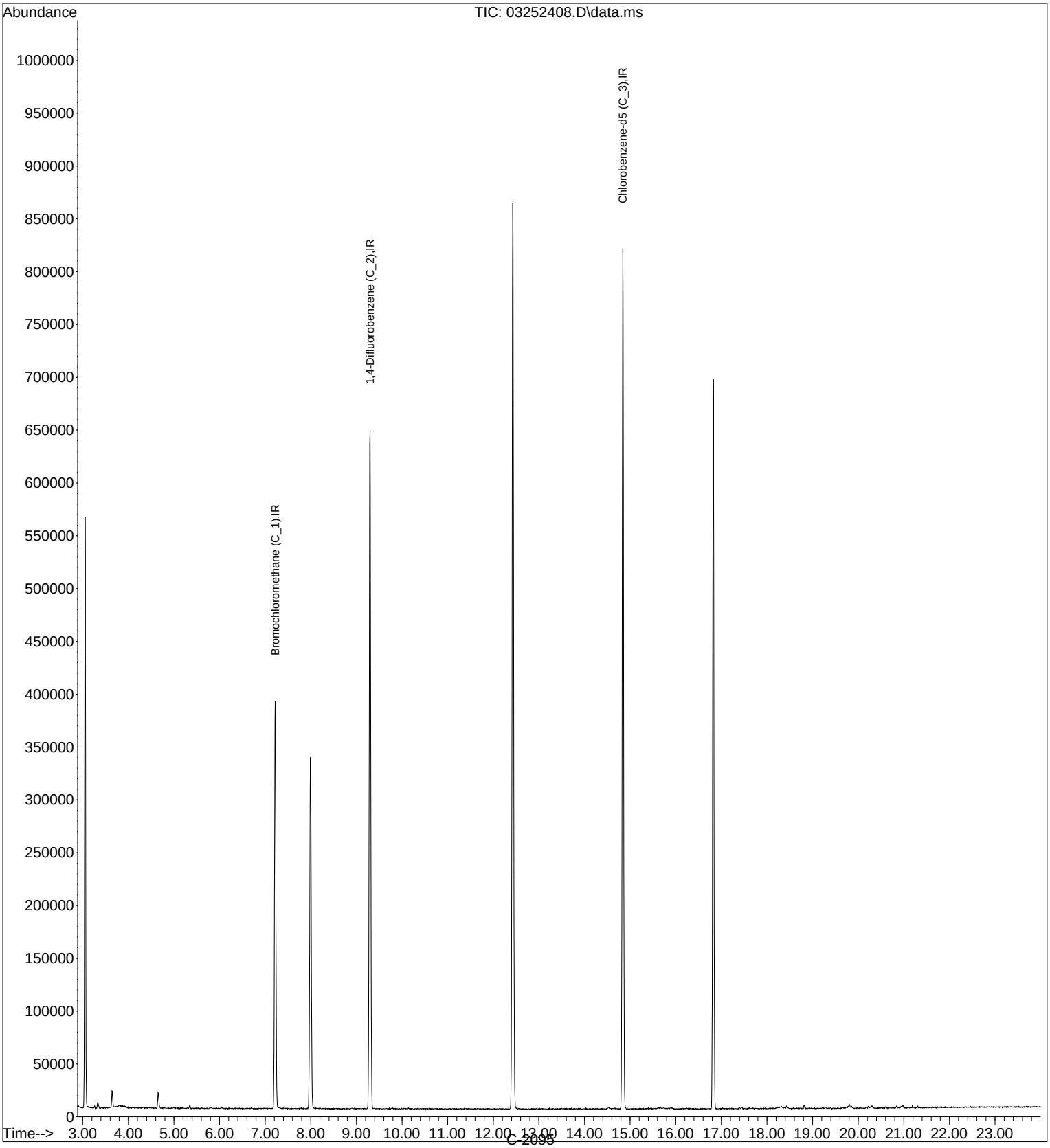
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	145222	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	631149	12.500 ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	125752	12.500 ng	-0.02
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	
4) 1,1-Difluoroethane	3.26	65	497	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	0.00	67	0	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	
10) 2-Methylbutane	4.66	57	336	N.D.	
11) Methyl Acetate	5.35	43	518	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	9.79	174	312	N.D.	
20) Methyl Cyclohexane	0.00	55	0	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	15.19	91	51	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	17.09	77	256	N.D.	
26) 2-Chlorotoluene	17.61	91	1048	N.D.	
27) 4-Chlorotoluene	17.69	91	1397	N.D.	
28) Indane	19.12	117	378	N.D.	
29) Indene	19.21	115	525	N.D.	
30) 1,2,4,5-Tetramethylben...	20.22	119	822	N.D.	
31) 1,2,3,4-Tetramethylben...	20.31	119	2995	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	781	N.D.	
33) 1,2,3-Trichlorobenzene	21.19	180	697	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252408.D Vial: 2
Acq On : 25 Mar 2024 15:11 Operator: SC
Sample : MB R09032524 1000mL Inst : MS09
Misc : S37-03252401/AC00880

Quant Time: Mar 25 17:01:37 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192406.D Vial: 2
Acq On : 19 Mar 2024 12:14 Operator: SC
Sample : LCS R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 12:37:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	172893	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	736809	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	162150	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	338780	11.978	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.84%				
57) Toluene-d8 (SS2)	12.44	98	834654	12.820	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
73) Bromofluorobenzene (SS3)	16.83	174	293589	12.791	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
Target Compounds							Qvalue
2) Propene	3.28	42	469392	23.839	ng		99
3) Dichlorodifluoromethan...	3.35	85	843751	23.794	ng		100
4) Chloromethane	3.49	50	657692	24.944	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	409875	26.286	ng		100
6) Vinyl Chloride	3.68	62	631259	25.628	ng		100
7) 1,3-Butadiene	3.80	54	508233m	26.319	ng		
8) Bromomethane	4.01	94	371053	25.751	ng		100
9) Chloroethane	4.15	64	276194	25.559	ng		99
10) Ethanol	4.36	45	1972320	118.047	ng		100
11) Acetonitrile	4.48	41	866771	22.605	ng		100
12) Acrolein	4.55	56	620070	51.786	ng		100
13) Acetone	4.65	58	1575419	123.897	ng		96
14) Trichlorofluoromethane	4.76	101	817987	23.832	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	2463533	48.654	ng		99
16) Acrylonitrile	5.03	53	1220694	49.575	ng		100
17) 1,1-Dichloroethene	5.27	96	390913	26.130	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	1413213	46.718	ng		99
19) Methylene Chloride	5.39	84	415340	22.460	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	709504	25.918	ng		99
21) Trichlorotrifluoroethane	5.59	151	368791	25.490	ng		100
22) Carbon Disulfide	5.61	76	3055999	53.047	ng		100
23) trans-1,2-Dichloroethene	6.16	61	672455	26.388	ng		100
24) 1,1-Dichloroethane	6.35	63	787778	26.087	ng		99
25) Methyl tert-Butyl Ether	6.38	73	876465	28.432	ng		99
26) Vinyl Acetate	6.48	86	431194	152.428	ng	#	95
27) 2-Butanone (MEK)	6.69	72	535098	51.475	ng		96
28) cis-1,2-Dichloroethene	7.11	61	630551	25.577	ng		99
29) Diisopropyl Ether	7.31	87	642139	52.647	ng		97
30) Ethyl Acetate	7.31	61	323990	51.935	ng		100
31) n-Hexane	7.31	57	716148	26.634	ng		100
32) Chloroform	7.40	83	789057	26.329	ng		100
34) Tetrahydrofuran (THF)	7.76	72	477343	50.703	ng		99
35) Ethyl tert-Butyl Ether	7.84	87	647882	56.000	ng		99
36) 1,2-Dichloroethane	8.15	62	669212	23.907	ng		99
38) 1,1,1-Trichloroethane	8.42	97	740121	25.305	ng		100
39) Isopropyl Acetate	9.62	61	775	No Calib		#	
40) 1-Butanol	8.83	56	5780	No Calib		#	
41) Benzene	8.92	78	1610941	24.294	ng		100
42) Carbon Tetrachloride	9.09	117	667700	25.610	ng		100
43) Cyclohexane	9.24	84	1138671	54.287	ng		100
44) tert-Amyl Methyl Ether	9.62	73	1601152	54.362	ng		99
45) 1,2-Dichloropropane	9.88	63	421665	26.126	ng		100
46) Bromodichloromethane	10.10	83	646561	26.446	ng		100
47) Trichloroethene	10.17	130	428271	23.967	ng		99
48) 1,4-Dioxane	10.13	88	322657	27.877	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	1762299	26.605	ng		98
50) Methyl Methacrylate	10.42	100	315118	57.960	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192406.D Vial: 2
Acq On : 19 Mar 2024 12:14 Operator: SC
Sample : LCS R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 12:37:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

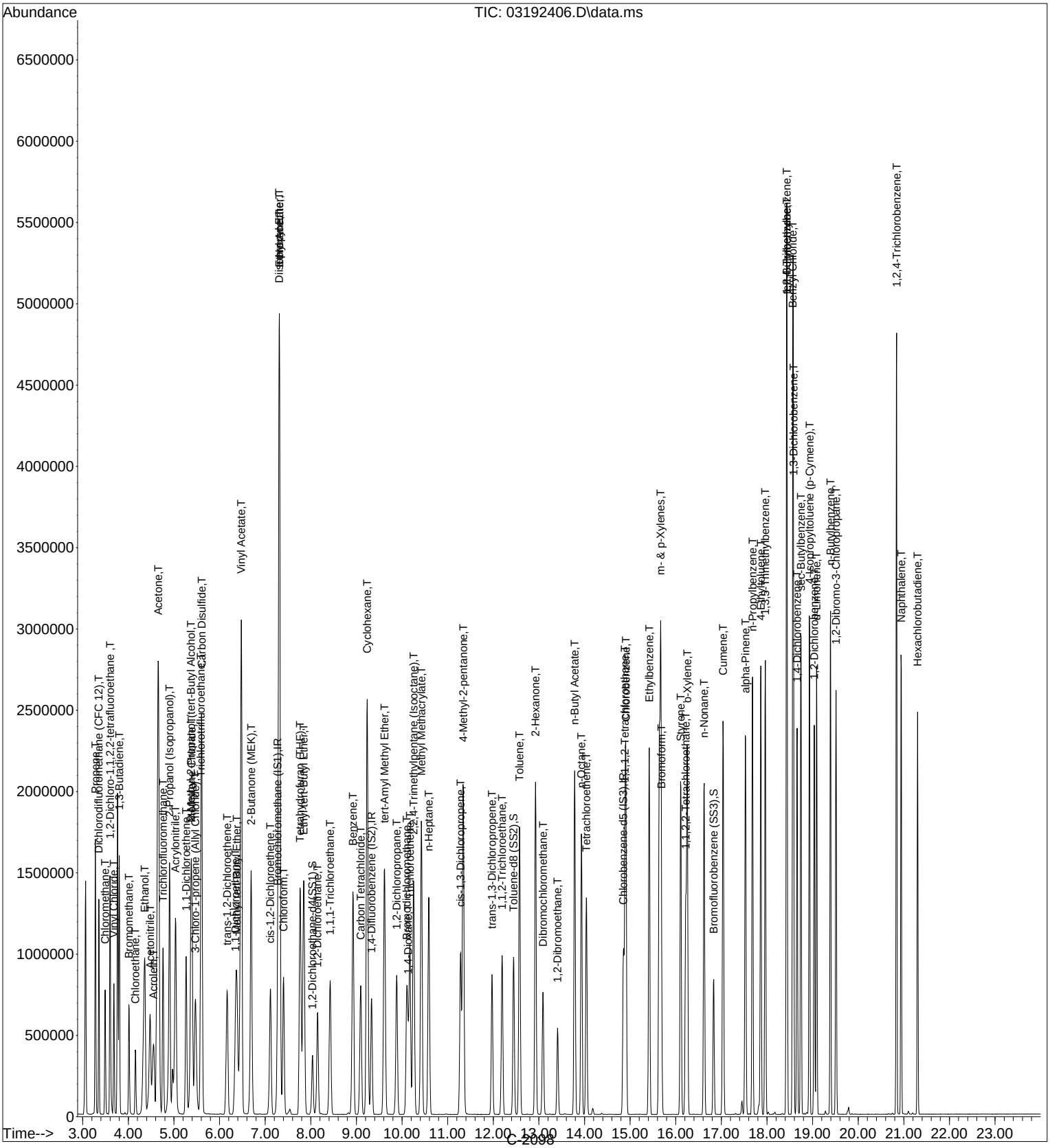
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	386955	27.295	ng		100
52) cis-1,3-Dichloropropene	11.29	75	735848	27.354	ng		100
53) 4-Methyl-2-pentanone	11.34	58	748458	52.643	ng		99
54) trans-1,3-Dichloropropene	11.97	75	607627	26.284	ng		100
55) 1,1,2-Trichloroethane	12.19	97	403036	26.717	ng		100
58) Toluene	12.57	91	1629188	26.218	ng		100
59) 2-Hexanone	12.93	43	1812591	50.200	ng		99
60) Dibromochloromethane	13.09	129	527694	26.360	ng		99
61) 1,2-Dibromoethane	13.41	107	462058	26.488	ng		100
62) n-Butyl Acetate	13.78	43	1971702	49.335	ng		99
63) n-Octane	13.93	57	369074	28.122	ng		100
64) Tetrachloroethene	14.04	166	494074	25.865	ng		99
65) Chlorobenzene	14.91	112	1088602	25.987	ng		100
66) Ethylbenzene	15.42	91	1927331	27.114	ng		100
67) m- & p-Xylenes	15.67	91	3151825	53.395	ng		100
68) Bromoform	15.69	173	488218	28.845	ng		100
69) Styrene	16.11	104	1139379	28.188	ng		100
70) o-Xylene	16.25	91	1556310	26.739	ng		100
71) n-Nonane	16.62	43	909683	27.129	ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	708905	25.757	ng		100
74) Cumene	17.04	105	1852040	25.980	ng		100
75) alpha-Pinene	17.53	93	1004873	28.551	ng		99
76) n-Propylbenzene	17.68	91	2250893	26.040	ng		100
77) 3-Ethyltoluene	17.04	105	1852040	No Calib			
78) 4-Ethyltoluene	17.87	105	1820653	26.437	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1580368	26.489	ng		100
80) alpha-Methylstyrene	17.04	118	3490	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1852040	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1596726	25.719	ng		99
83) n-Decane	17.04	58	15430	No Calib			
84) Benzyl Chloride	18.56	91	2765453	45.209	ng		100
85) 1,3-Dichlorobenzene	18.58	146	938620	24.473	ng		100
86) 1,4-Dichlorobenzene	18.66	146	923967	24.493	ng		100
87) sec-Butylbenzene	18.75	105	1978080	24.820	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1670821	24.429	ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1852040	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	898210	24.383	ng		100
91) d-Limonene	19.09	68	582824	26.812	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	626447	49.217	ng		98
93) n-Undecane	17.86	58	29905	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1291858	47.916	ng		100
95) Naphthalene	20.94	128	1785686	19.520	ng		100
96) n-Dodecane	18.93	58	41636	No Calib		#	
97) Hexachlorobutadiene	21.30	225	423636	19.222	ng		100
98) Cyclohexanone	15.42	55	531	No Calib		#	
99) tert-Butylbenzene	18.43	119	1469783	25.205	ng		100
100) n-Butylbenzene	19.39	91	1569364	23.860	ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	429164	28.365	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192406.D Vial: 2
Acq On : 19 Mar 2024 12:14 Operator: SC
Sample : LCS R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

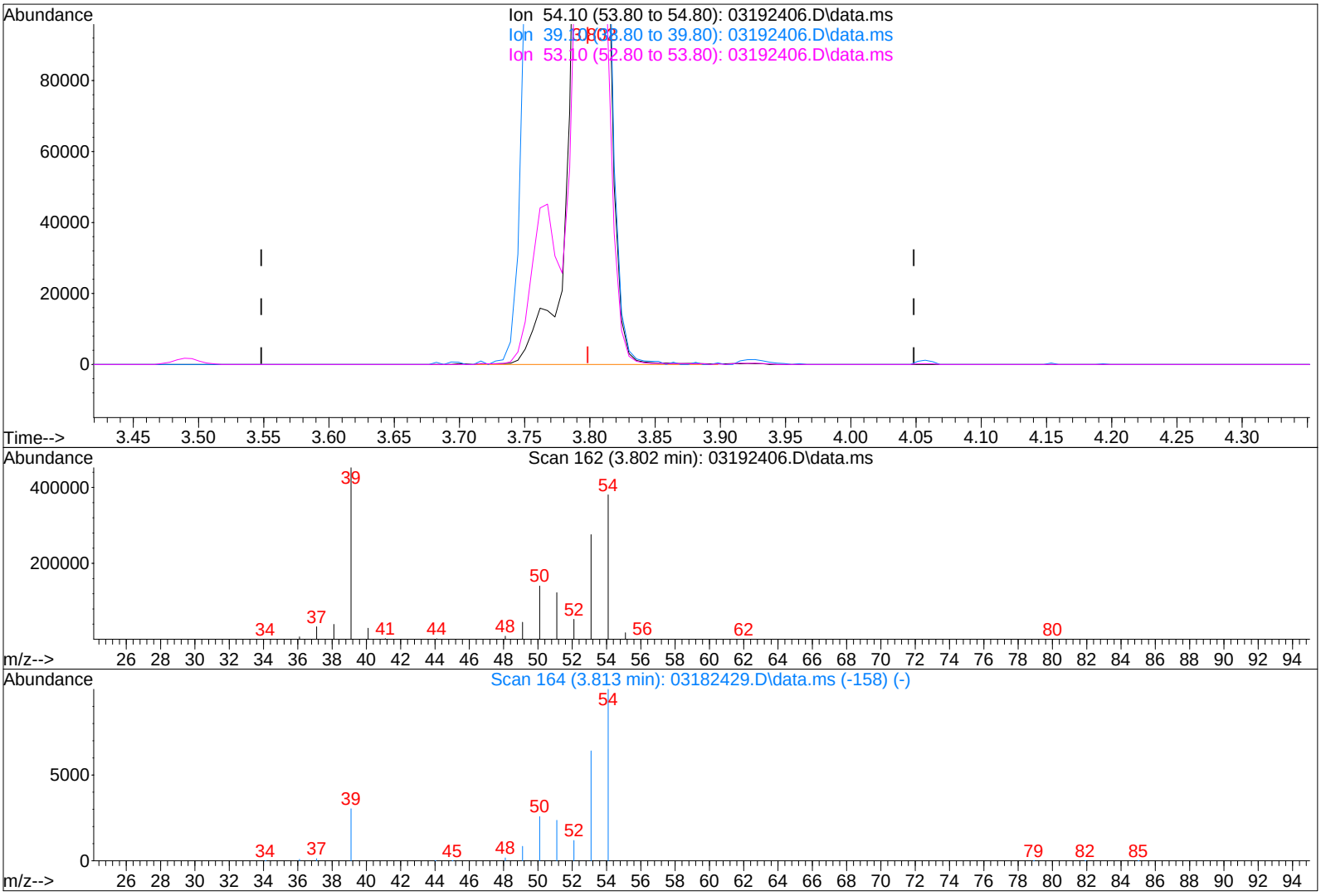
Quant Time: Mar 19 12:37:12 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192406.D Vial: 2
Acq On : 19 Mar 2024 12:14 Operator: SC
Sample : LCS R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 12:36:45 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192406.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.003) 27.42ng

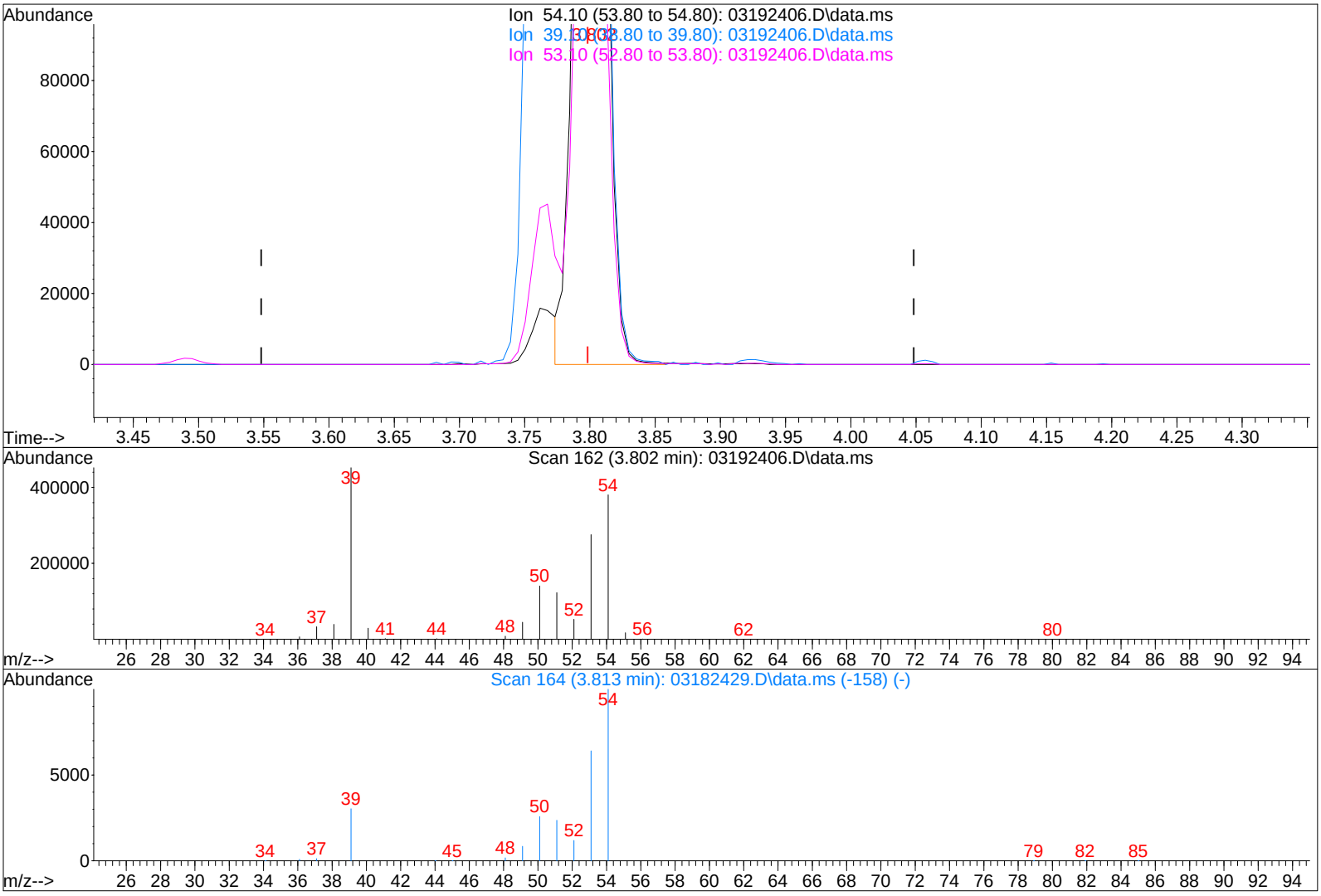
response 529516

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	107.67
53.10	67.90	68.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192406.D Vial: 2
Acq On : 19 Mar 2024 12:14 Operator: SC
Sample : LCS R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 12:36:45 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192406.D\data.ms

IPC

3/19/24

(7) 1,3-Butadiene (T)

3.802min (+0.003) 26.32ng m

response 508233

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	112.18
53.10	67.90	71.74
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192407.D Vial: 2
Acq On : 19 Mar 2024 12:46 Operator: SC
Sample : LCSD R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

3/19/24

Quant Time: Mar 19 13:41:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	175281	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	749893	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	165120	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	343997	11.996	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.00%				
57) Toluene-d8 (SS2)	12.44	98	852555	12.860	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
73) Bromofluorobenzene (SS3)	16.83	174	299507	12.814	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
Target Compounds							Qvalue
2) Propene	3.27	42	464811	23.284	ng		99
3) Dichlorodifluoromethan...	3.35	85	835132	23.230	ng		100
4) Chloromethane	3.49	50	655543	24.524	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	401039	25.369	ng		100
6) Vinyl Chloride	3.68	62	621643	24.894	ng		100
7) 1,3-Butadiene	3.80	54	503786m	25.733	ng		
8) Bromomethane	4.01	94	363745	24.900	ng		100
9) Chloroethane	4.15	64	274238	25.032	ng		99
10) Ethanol	4.36	45	1982817	117.058	ng		100
11) Acetonitrile	4.48	41	874837	22.504	ng		100
12) Acrolein	4.55	56	622236	51.259	ng		100
13) Acetone	4.65	58	1575690	122.230	ng		96
14) Trichlorofluoromethane	4.76	101	822126	23.626	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	2478230	48.277	ng		99
16) Acrylonitrile	5.03	53	1222024	48.953	ng		99
17) 1,1-Dichloroethene	5.27	96	393717	25.959	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	1384495	45.145	ng		98
19) Methylene Chloride	5.39	84	414250	22.096	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	707795	25.503	ng		98
21) Trichlorotrifluoroethane	5.58	151	368892	25.150	ng		99
22) Carbon Disulfide	5.61	76	3069585	52.557	ng		100
23) trans-1,2-Dichloroethene	6.16	61	674036	26.090	ng		100
24) 1,1-Dichloroethane	6.35	63	791884	25.865	ng		100
25) Methyl tert-Butyl Ether	6.38	73	862698	27.604	ng		100
26) Vinyl Acetate	6.48	86	432448	150.789	ng	#	93
27) 2-Butanone (MEK)	6.69	72	534317	50.700	ng		96
28) cis-1,2-Dichloroethene	7.11	61	632403	25.303	ng		99
29) Diisopropyl Ether	7.30	87	643542	52.043	ng		97
30) Ethyl Acetate	7.31	61	325425	51.454	ng		100
31) n-Hexane	7.31	57	720048	26.414	ng		100
32) Chloroform	7.40	83	786197	25.876	ng		100
34) Tetrahydrofuran (THF)	7.77	72	481035	50.399	ng		98
35) Ethyl tert-Butyl Ether	7.84	87	635805	54.208	ng		100
36) 1,2-Dichloroethane	8.15	62	672840	23.709	ng		100
38) 1,1,1-Trichloroethane	8.42	97	741340	24.904	ng		100
39) Isopropyl Acetate	9.62	61	983	No Calib		#	
40) 1-Butanol	8.83	56	5910	No Calib			
41) Benzene	8.92	78	1614521	23.923	ng		100
42) Carbon Tetrachloride	9.09	117	670653	25.274	ng		100
43) Cyclohexane	9.24	84	1143768	53.578	ng		100
44) tert-Amyl Methyl Ether	9.62	73	1589391	53.021	ng		99
45) 1,2-Dichloropropane	9.88	63	423273	25.768	ng		99
46) Bromodichloromethane	10.10	83	648664	26.069	ng		100
47) Trichloroethene	10.17	130	430055	23.647	ng		99
48) 1,4-Dioxane	10.13	88	324491	27.546	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	1766753	26.207	ng		98
50) Methyl Methacrylate	10.42	100	318670	57.590	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192407.D Vial: 2
Acq On : 19 Mar 2024 12:46 Operator: SC
Sample : LCSD R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 13:41:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

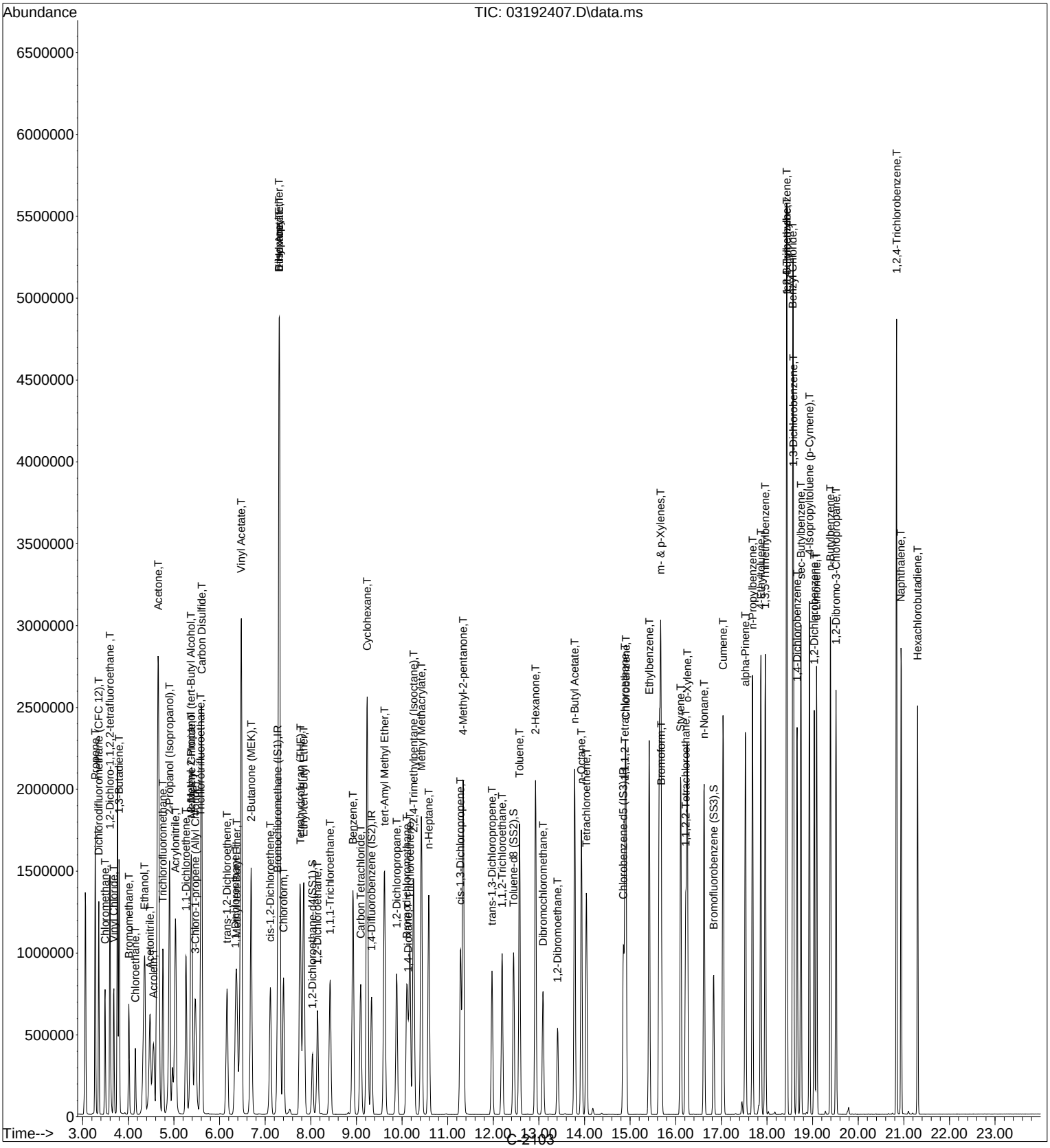
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	389137	26.970	ng		100
52) cis-1,3-Dichloropropene	11.28	75	747137	27.289	ng		100
53) 4-Methyl-2-pentanone	11.34	58	750606	51.873	ng		99
54) trans-1,3-Dichloropropene	11.97	75	614070	26.100	ng		100
55) 1,1,2-Trichloroethane	12.19	97	404620	26.354	ng		100
58) Toluene	12.57	91	1636616	25.863	ng		100
59) 2-Hexanone	12.93	43	1818575	49.460	ng		99
60) Dibromochloromethane	13.09	129	526830	25.843	ng		100
61) 1,2-Dibromoethane	13.41	107	466261	26.248	ng		100
62) n-Butyl Acetate	13.78	43	1976235	48.559	ng		100
63) n-Octane	13.93	57	370521	27.724	ng		99
64) Tetrachloroethene	14.04	166	496275	25.513	ng		100
65) Chlorobenzene	14.91	112	1094258	25.653	ng		100
66) Ethylbenzene	15.42	91	1935334	26.737	ng		100
67) m- & p-Xylenes	15.67	91	3171435	52.761	ng		100
68) Bromoform	15.69	173	488347	28.334	ng		100
69) Styrene	16.11	104	1146115	27.845	ng		100
70) o-Xylene	16.25	91	1555663	26.247	ng		100
71) n-Nonane	16.62	43	912382	26.720	ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	712771	25.432	ng		99
74) Cumene	17.04	105	1861552	25.644	ng		100
75) alpha-Pinene	17.53	93	1007068	28.099	ng		99
76) n-Propylbenzene	17.68	91	2251957	25.583	ng		100
77) 3-Ethyltoluene	17.04	105	1861552	No Calib			
78) 4-Ethyltoluene	17.87	105	1827787	26.063	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1580933	26.021	ng		100
80) alpha-Methylstyrene	17.04	118	3299	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1861552	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1593179	25.201	ng		99
83) n-Decane	17.05	58	16452	No Calib			
84) Benzyl Chloride	18.56	91	2759489	44.273	ng		100
85) 1,3-Dichlorobenzene	18.58	146	937887	24.014	ng		100
86) 1,4-Dichlorobenzene	18.66	146	925978	24.105	ng		100
87) sec-Butylbenzene	18.75	105	1982170	24.424	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1666695	23.930	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1861552	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	897888	23.935	ng		100
91) d-Limonene	19.09	68	580210	26.212	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	624619	48.191	ng		98
93) n-Undecane	17.86	58	29719	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1292744	47.087	ng		100
95) Naphthalene	20.94	128	1795617	19.272	ng		100
96) n-Dodecane	18.93	58	42170	No Calib		#	
97) Hexachlorobutadiene	21.30	225	424719	18.924	ng		100
98) Cyclohexanone	15.42	55	535	No Calib		#	
99) tert-Butylbenzene	18.43	119	1469988	24.755	ng		100
100) n-Butylbenzene	19.39	91	1560321	23.296	ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	429257	27.861	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192407.D Vial: 2
Acq On : 19 Mar 2024 12:46 Operator: SC
Sample : LCSD R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

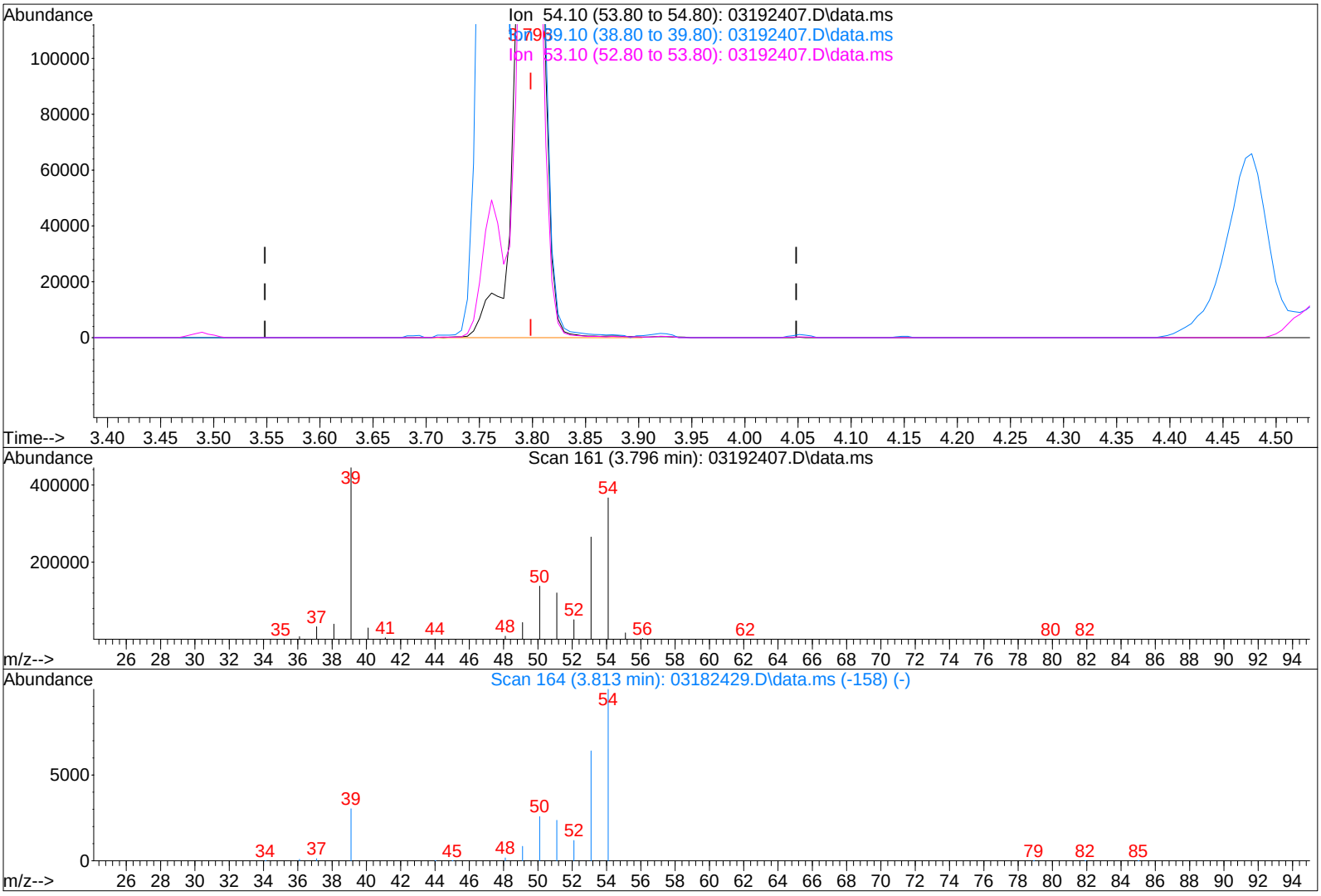
Quant Time: Mar 19 13:41:06 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192407.D Vial: 2
Acq On : 19 Mar 2024 12:46 Operator: SC
Sample : LCSD R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 13:14:07 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192407.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (-0.003) 26.94ng

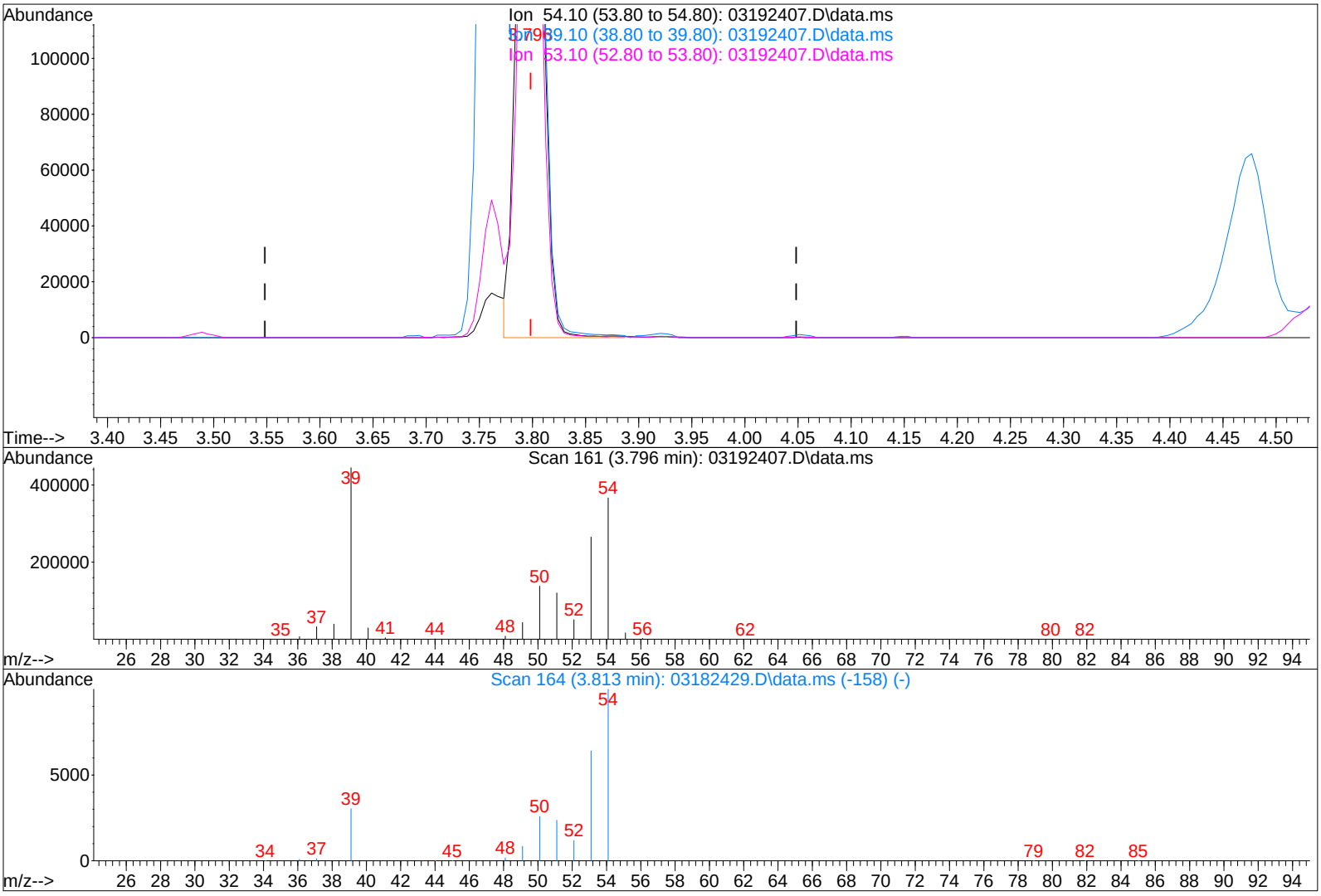
response 527504

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	113.30
53.10	67.90	69.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192407.D Vial: 2
Acq On : 19 Mar 2024 12:46 Operator: SC
Sample : LCSD R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 13:14:07 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 12:36:32 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192407.D\data.ms

IPC

3/19/24

(7) 1,3-Butadiene (T)

3.796min (-0.003) 25.73ng m

response 503786

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	118.64
53.10	67.90	73.03
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 10:02
Operator : CI
Sample : LCS R16031924 5ng
Misc : S37-01032403/S37-03052402 (4/4)
ALS Vial : 2 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 11:06:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.39	130	233406	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.51	114	1042185	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	234921	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	483531	12.300	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.40%				
57) Toluene-d8 (SS2)	15.95	98	1170153	12.755	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
73) Bromofluorobenzene (SS3)	19.15	174	386862	12.522	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%				
Target Compounds							Qvalue
2) Propene	4.17	42	120994	3.674	ng		98
3) Dichlorodifluoromethan...	4.34	85	217275	4.183	ng		100
4) Chloromethane	4.63	50	148046	4.319	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	94689	4.504	ng		100
6) Vinyl Chloride	5.07	62	134108	4.332	ng		98
7) 1,3-Butadiene	5.35	54	107653	4.578	ng		99
8) Bromomethane	5.80	94	74395	4.081	ng		98
9) Chloroethane	6.14	64	69426	3.915	ng		99
10) Ethanol	6.57	45	400180	19.123	ng		99
11) Acetonitrile	6.82	41	198262	3.714	ng		94
12) Acrolein	7.00	56	130669	8.602	ng		100
13) Acetone	7.23	58	354518	20.891	ng		99
14) Trichlorofluoromethane	7.45	101	187312	4.018	ng		100
15) 2-Propanol (Isopropanol)	7.76	45	575459	9.102	ng		100
16) Acrylonitrile	8.00	53	251764	8.304	ng		99
17) 1,1-Dichloroethene	8.42	96	87804	4.088	ng		96
18) 2-Methyl-2-Propanol (t...	8.64	59	531087	9.358	ng		99
19) Methylene Chloride	8.66	84	89108	3.626	ng		98
20) 3-Chloro-1-propene (Al...	8.82	41	126433	3.984	ng		100
21) Trichlorotrifluoroethane	9.08	151	79964	3.938	ng		99
22) Carbon Disulfide	8.91	76	615168	8.820	ng		100
23) trans-1,2-Dichloroethene	9.94	61	139586	4.125	ng		98
24) 1,1-Dichloroethane	10.20	63	168222	4.163	ng		99
25) Methyl tert-Butyl Ether	10.32	73	301328	4.907	ng		99
26) Vinyl Acetate	10.47	86	70136	23.240	ng	#	93
27) 2-Butanone (MEK)	10.72	72	129236	8.709	ng		93
28) cis-1,2-Dichloroethene	11.21	61	134739	4.169	ng		99
29) Diisopropyl Ether	11.53	87	173492	8.677	ng		98
30) Ethyl Acetate	11.54	61	65875	7.789	ng		98
31) n-Hexane	11.49	57	164975	4.259	ng		99
32) Chloroform	11.56	83	171219	4.335	ng		99
34) Tetrahydrofuran (THF)	11.99	72	110984	7.746	ng		98
35) Ethyl tert-Butyl Ether	12.11	87	236166	8.907	ng		99
36) 1,2-Dichloroethane	12.36	62	152109	3.884	ng		100
38) 1,1,1-Trichloroethane	12.63	97	163881	4.214	ng		100
39) Isopropyl Acetate	13.76	61	635	No Calib		#	
40) 1-Butanol	12.63	56	277	No Calib		#	
41) Benzene	13.11	78	362006	3.654	ng		98
42) Carbon Tetrachloride	13.27	117	136065	4.466	ng		100
43) Cyclohexane	13.40	84	288231	8.908	ng		100
44) tert-Amyl Methyl Ether	13.76	73	544144	9.055	ng		99
45) 1,2-Dichloropropane	13.96	63	94429	4.125	ng		99
46) Bromodichloromethane	14.15	83	139896	4.339	ng		98
47) Trichloroethene	14.20	130	96565	3.822	ng		100
48) 1,4-Dioxane	14.20	88	76766	4.298	ng		99

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 10:02
Operator : CI
Sample : LCS R16031924 5ng
Misc : S37-01032403/S37-03052402 (4/4)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:06:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

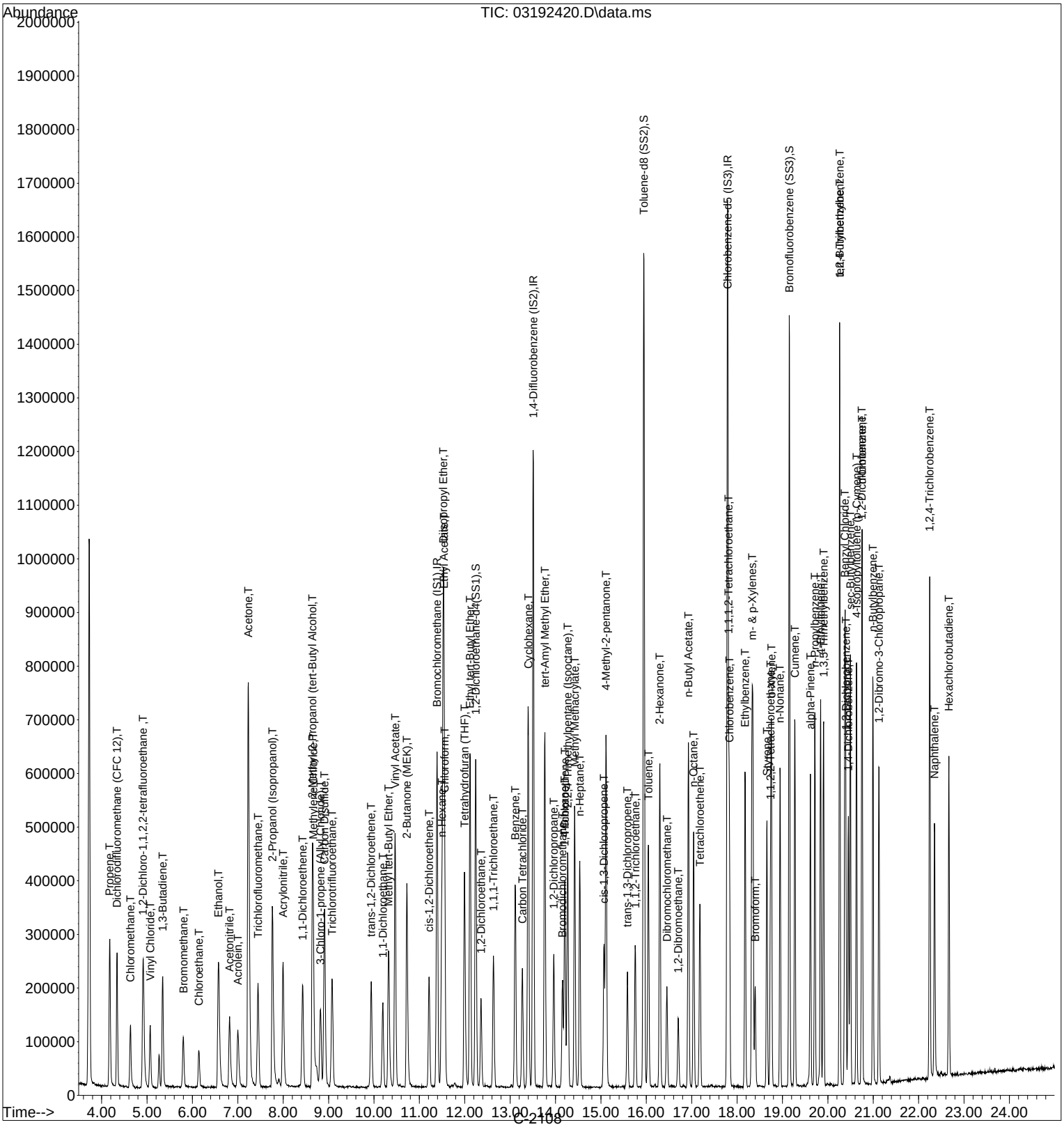
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	402193	4.356	ng		100
50) Methyl Methacrylate	14.42	100	75455	8.679	ng		100
51) n-Heptane	14.53	71	103275	4.314	ng		99
52) cis-1,3-Dichloropropene	15.06	75	159693	4.303	ng		100
53) 4-Methyl-2-pentanone	15.11	58	175413	9.066	ng		99
54) trans-1,3-Dichloropropene	15.58	75	124494	3.993	ng		98
55) 1,1,2-Trichloroethane	15.76	97	87712	4.221	ng		98
58) Toluene	16.05	91	362092	4.209	ng		100
59) 2-Hexanone	16.29	43	487258	8.915	ng		100
60) Dibromochloromethane	16.45	129	104222	4.169	ng		99
61) 1,2-Dibromoethane	16.70	107	95588	3.987	ng		99
62) n-Butyl Acetate	16.93	43	542617	8.985	ng		99
63) n-Octane	17.04	57	86922	4.380	ng		99
64) Tetrachloroethene	17.18	166	102038	4.045	ng		100
65) Chlorobenzene	17.83	112	236659	4.046	ng		99
66) Ethylbenzene	18.17	91	436583	4.372	ng		100
67) m- & p-Xylenes	18.33	91	676128	8.431	ng		99
68) Bromoform	18.40	173	86217	4.239	ng		99
69) Styrene	18.66	104	231954	4.168	ng		100
70) o-Xylene	18.76	91	343606	4.259	ng		100
71) n-Nonane	18.94	43	221262	4.365	ng		99
72) 1,1,2,2-Tetrachloroethane	18.74	83	153698	4.236	ng		99
74) Cumene	19.27	105	438644	4.229	ng		100
75) alpha-Pinene	19.62	93	206075	4.459	ng		97
76) n-Propylbenzene	19.71	91	528487	4.181	ng		100
77) 3-Ethyltoluene	20.26	105	370031	No Calib			
78) 4-Ethyltoluene	19.84	105	435483	4.309	ng		99
79) 1,3,5-Trimethylbenzene	19.91	105	365342	4.295	ng		98
80) alpha-Methylstyrene	20.63	118	12055	No Calib		#	
81) 2-Ethyltoluene	20.26	105	370031	No Calib			
82) 1,2,4-Trimethylbenzene	20.26	105	370031	4.309	ng		100
83) n-Decane	20.37	58	228	No Calib		#	
84) Benzyl Chloride	20.37	91	495838	8.266	ng		100
85) 1,3-Dichlorobenzene	20.40	146	191133	3.863	ng		99
86) 1,4-Dichlorobenzene	20.45	146	179349	3.722	ng		98
87) sec-Butylbenzene	20.50	105	492397	4.233	ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	411602	4.139	ng		99
89) 1,2,3-Trimethylbenzene	20.26	105	370031	No Calib			
90) 1,2-Dichlorobenzene	20.75	146	191727	4.024	ng		98
91) d-Limonene	20.75	68	127906	4.415	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.13	157	140685	9.118	ng		97
93) n-Undecane	21.51	58	107	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.24	180	273070	7.928	ng		99
95) Naphthalene	22.35	128	380571	3.938	ng		99
96) n-Dodecane	22.83	57	112	No Calib		#	
97) Hexachlorobutadiene	22.67	225	105048	3.893	ng		99
98) Cyclohexanone	18.21	55	220	No Calib		#	
99) tert-Butylbenzene	20.26	119	358929	4.345	ng		100
100) n-Butylbenzene	20.99	91	391120	4.229	ng		100
101) 1,1,1,2-Tetrachloroethane	17.81	131	88658	4.346	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192420.D
Acq On : 19 Mar 2024 10:02
Operator : CI
Sample : LCS R16031924 5ng
Misc : S37-01032403/S37-03052402 (4/4)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:06:49 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202406.D Vial: 2
Acq On : 20 Mar 2024 3:54 Operator: SC
Sample : LCS R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:33:31 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	147080	12.500	ng		0.06
37) 1,4-Difluorobenzene (IS2)	9.33	114	627085	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	139748	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	301666	12.537	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.32%				
57) Toluene-d8 (SS2)	12.44	98	702094	12.513	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	16.83	174	250512	12.664	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
Target Compounds							Qvalue
2) Propene	3.28	42	397244	23.715	ng		99
3) Dichlorodifluoromethan...	3.36	85	763427	25.307	ng		100
4) Chloromethane	3.49	50	553605	24.682	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	361405	27.245	ng		100
6) Vinyl Chloride	3.68	62	532626	25.419	ng		99
7) 1,3-Butadiene	3.80	54	433051m	26.361	ng		
8) Bromomethane	4.02	94	311570	25.418	ng		99
9) Chloroethane	4.16	64	230927	25.120	ng		99
10) Ethanol	4.36	45	1640322	115.407	ng		100
11) Acetonitrile	4.48	41	720897	22.100	ng		100
12) Acrolein	4.55	56	518506	50.903	ng		99
13) Acetone	4.66	58	1330302	122.981	ng		99
14) Trichlorofluoromethane	4.76	101	746576	25.569	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	2091173	48.548	ng		99
16) Acrylonitrile	5.03	53	1034727	49.398	ng		100
17) 1,1-Dichloroethene	5.27	96	339077	26.643	ng		99
18) 2-Methyl-2-Propanol (t...	5.37	59	1247270	48.469	ng		99
19) Methylene Chloride	5.39	84	351995	22.375	ng		100
20) 3-Chloro-1-propene (Al...	5.47	41	603722	25.924	ng		99
21) Trichlorotrifluoroethane	5.59	151	325998	26.487	ng		100
22) Carbon Disulfide	5.61	76	2642195	53.914	ng		100
23) trans-1,2-Dichloroethene	6.17	61	578364	26.679	ng		100
24) 1,1-Dichloroethane	6.35	63	683298	26.598	ng		100
25) Methyl tert-Butyl Ether	6.39	73	788155	30.055	ng		100
26) Vinyl Acetate	6.48	86	365314	151.804	ng	#	96
27) 2-Butanone (MEK)	6.69	72	457285	51.710	ng		97
28) cis-1,2-Dichloroethene	7.12	61	548350	26.146	ng		100
29) Diisopropyl Ether	7.30	87	555768	53.563	ng		97
30) Ethyl Acetate	7.31	61	275616	51.934	ng		100
31) n-Hexane	7.32	57	617865	27.011	ng		100
32) Chloroform	7.40	83	696091	27.303	ng		100
34) Tetrahydrofuran (THF)	7.76	72	409228	51.096	ng		98
35) Ethyl tert-Butyl Ether	7.84	87	572265	58.146	ng		98
36) 1,2-Dichloroethane	8.15	62	608357	25.547	ng		100
38) 1,1,1-Trichloroethane	8.42	97	664436	26.692	ng		100
39) Isopropyl Acetate	9.62	61	743	No Calib		#	
40) 1-Butanol	8.83	56	5777	No Calib		#	
41) Benzene	8.92	78	1385877	24.557	ng		100
42) Carbon Tetrachloride	9.09	117	609475	27.467	ng		100
43) Cyclohexane	9.24	84	979971	54.895	ng		99
44) tert-Amyl Methyl Ether	9.62	73	1395837	55.683	ng		100
45) 1,2-Dichloropropane	9.88	63	355985	25.916	ng		99
46) Bromodichloromethane	10.10	83	573271	27.551	ng		100
47) Trichloroethene	10.17	130	375592	24.696	ng		99
48) 1,4-Dioxane	10.13	88	278287	28.250	ng		99
49) 2,2,4-Trimethylpentane...	10.25	57	1492216	26.469	ng		99
50) Methyl Methacrylate	10.43	100	271709	58.720	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202406.D Vial: 2
Acq On : 20 Mar 2024 3:54 Operator: SC
Sample : LCS R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:33:31 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

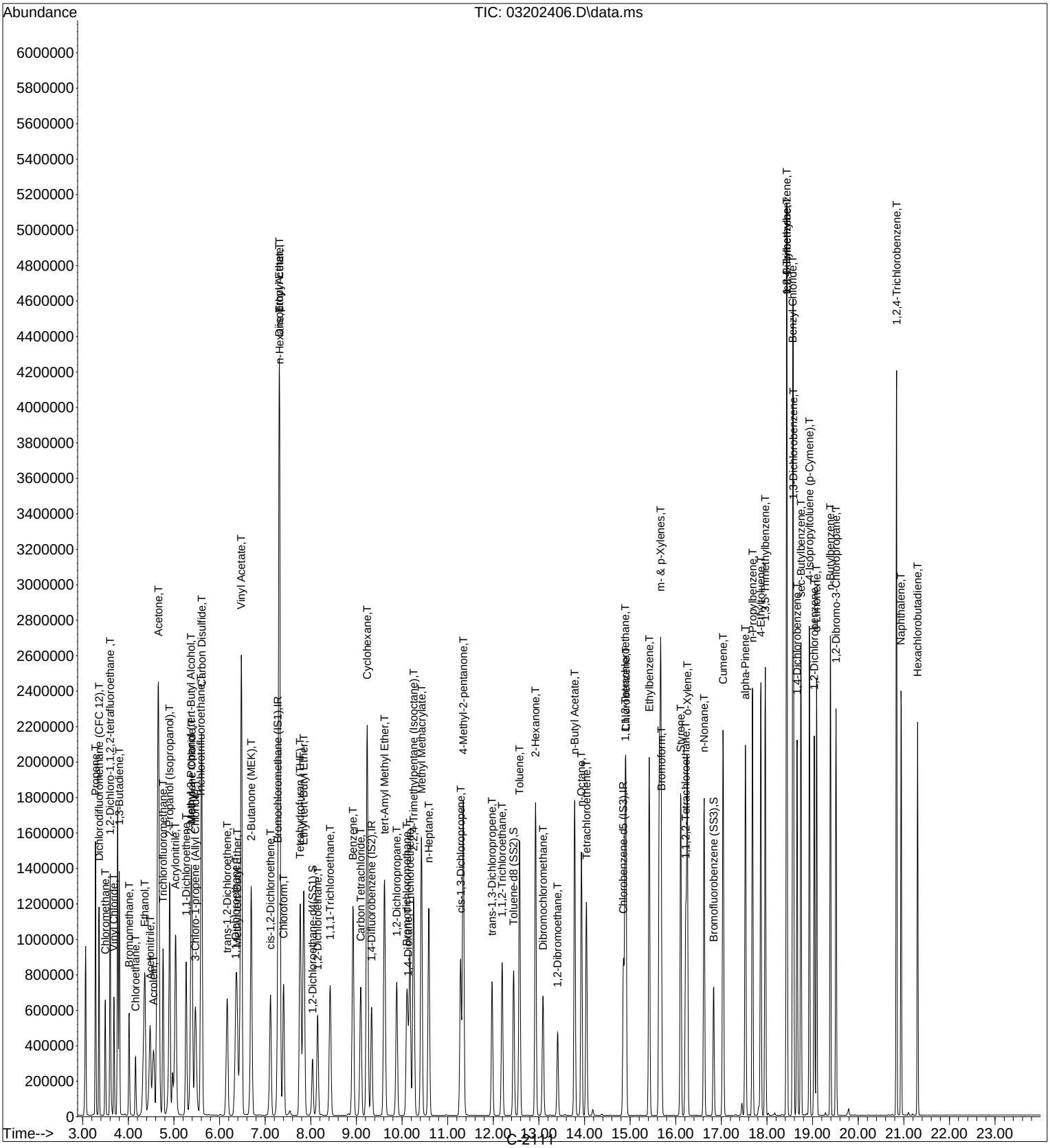
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	332390	27.548	ng		100
52) cis-1,3-Dichloropropene	11.29	75	633478	27.669	ng		100
53) 4-Methyl-2-pentanone	11.34	58	636689	52.618	ng		99
54) trans-1,3-Dichloropropene	11.97	75	521646	26.513	ng		100
55) 1,1,2-Trichloroethane	12.19	97	348918	27.177	ng		100
58) Toluene	12.57	91	1416223	26.444	ng		100
59) 2-Hexanone	12.93	43	1551395	49.854	ng		100
60) Dibromochloromethane	13.09	129	469146	27.192	ng		100
61) 1,2-Dibromoethane	13.41	107	402575	26.777	ng		100
62) n-Butyl Acetate	13.78	43	1666110	48.371	ng		100
63) n-Octane	13.93	57	317119	28.037	ng		99
64) Tetrachloroethene	14.05	166	439705	26.708	ng		100
65) Chlorobenzene	14.91	112	953862	26.421	ng		100
66) Ethylbenzene	15.42	91	1693494	27.644	ng		100
67) m- & p-Xylenes	15.67	91	2788367	54.810	ng		100
68) Bromoform	15.69	173	437685	30.005	ng		100
69) Styrene	16.11	104	997487	28.634	ng		100
70) o-Xylene	16.25	91	1376001	27.431	ng		100
71) n-Nonane	16.62	43	785930	27.195	ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	615548	25.950	ng		100
74) Cumene	17.04	105	1637017	26.645	ng		100
75) alpha-Pinene	17.53	93	886760	29.234	ng		100
76) n-Propylbenzene	17.68	91	1992014	26.739	ng		100
77) 3-Ethyltoluene	17.04	105	1637017	No Calib			
78) 4-Ethyltoluene	17.87	105	1617023	27.244	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1396983	27.168	ng		100
80) alpha-Methylstyrene	17.04	118	3109	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1637017	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1420605	26.551	ng		99
83) n-Decane	17.04	58	13475	No Calib			
84) Benzyl Chloride	18.56	91	2378537	45.114	ng		100
85) 1,3-Dichlorobenzene	18.58	146	839931	25.411	ng		100
86) 1,4-Dichlorobenzene	18.66	146	817266	25.137	ng		100
87) sec-Butylbenzene	18.75	105	1760531	25.632	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1484368	25.182	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1637017	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	794159	25.014	ng		100
91) d-Limonene	19.09	68	506726	27.048	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	547645	49.924	ng		99
93) n-Undecane	17.87	58	24768	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1115635	48.013	ng		100
95) Naphthalene	20.94	128	1510175	19.149	ng		100
96) n-Dodecane	18.93	58	35399	No Calib		#	
97) Hexachlorobutadiene	21.30	225	372266	19.598	ng		99
98) Cyclohexanone	15.41	55	432	No Calib		#	
99) tert-Butylbenzene	18.43	119	1314729	26.161	ng		100
100) n-Butylbenzene	19.39	91	1386200	24.454	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	382844	29.360	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202406.D Vial: 2
Acq On : 20 Mar 2024 3:54 Operator: SC
Sample : LCS R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

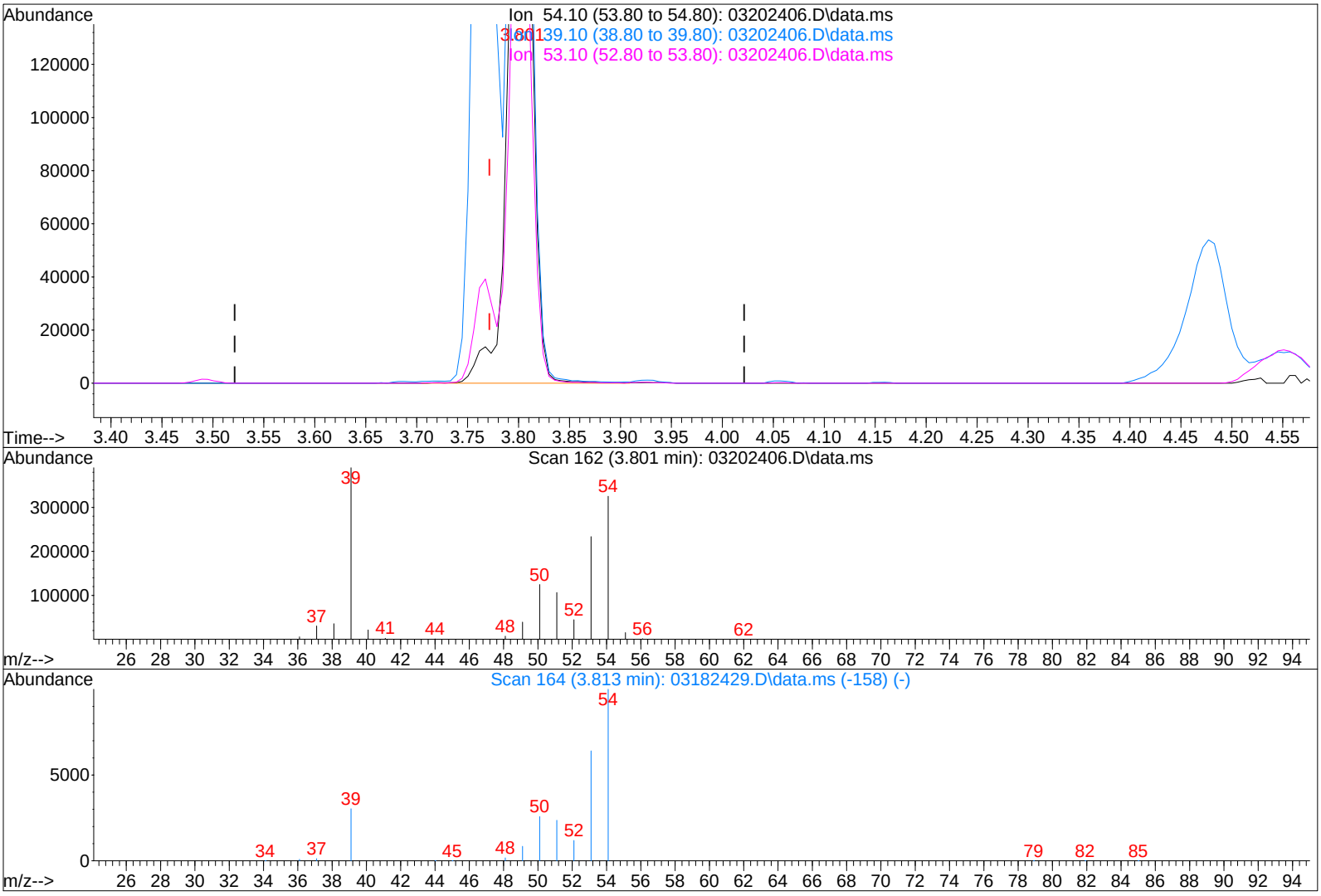
Quant Time: Mar 20 08:33:31 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202406.D Vial: 2
Acq On : 20 Mar 2024 3:54 Operator: SC
Sample : LCS R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:33:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202406.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (+0.030) 27.40ng

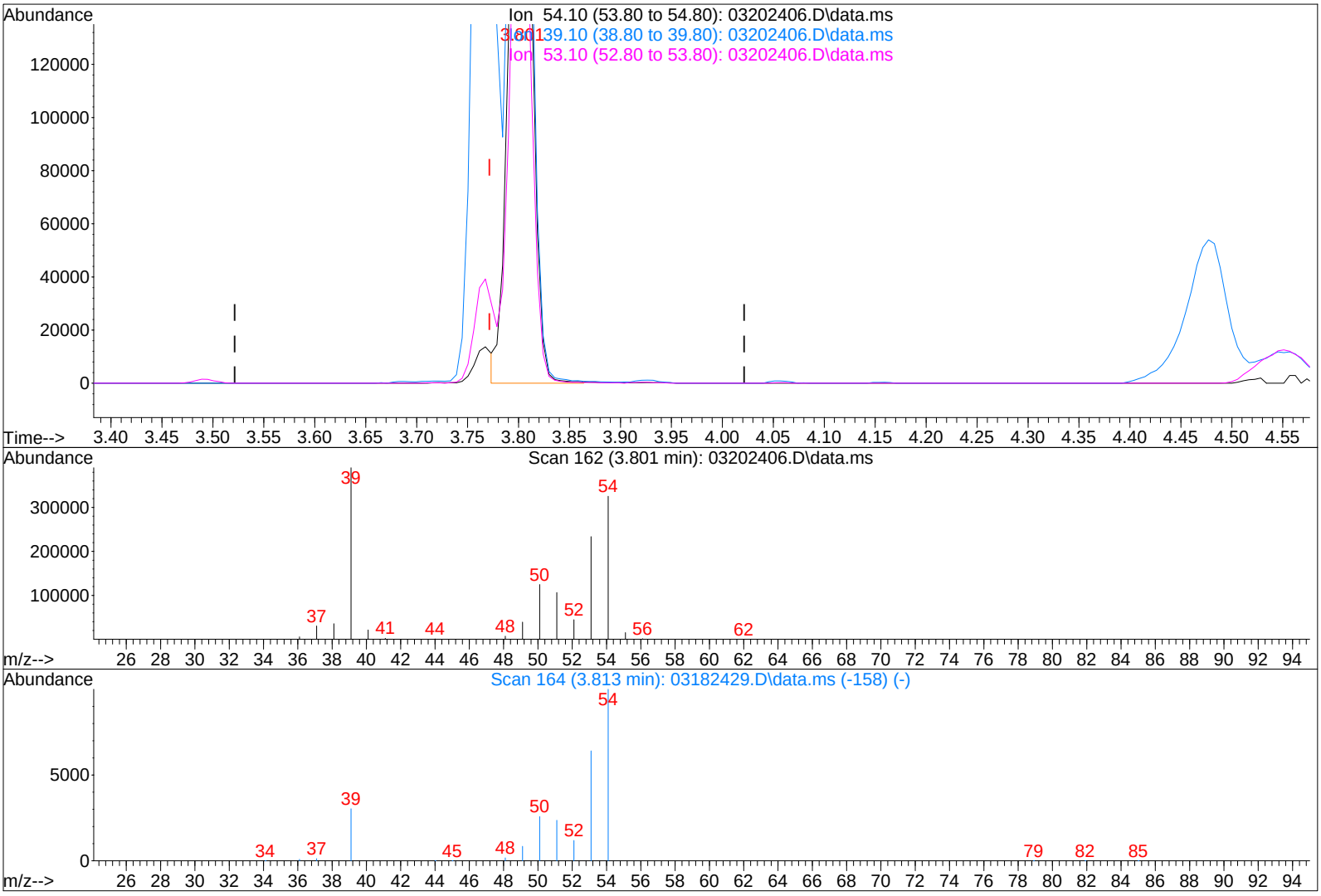
response 450116

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	110.86
53.10	67.90	69.05
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202406.D Vial: 2
Acq On : 20 Mar 2024 3:54 Operator: SC
Sample : LCS R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:33:09 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202406.D\data.ms

IPC

3/20/24

(7) 1,3-Butadiene (T)

3.801min (+0.030) 26.36ng m

response 433051

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.23
53.10	67.90	71.78
0.00	0.00	0.00

3/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202407.D Vial: 2
Acq On : 20 Mar 2024 4:26 Operator: SC
Sample : LCSD R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:36:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	150255	12.500	ng	0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	644139	12.500	ng	0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	140941	12.500	ng	0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.04	65	305368	12.423	ng	0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.36%			
57) Toluene-d8 (SS2)	12.44	98	721610	12.752	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.00%			
73) Bromofluorobenzene (SS3)	16.83	174	252714	12.667	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.36%			
Target Compounds						Qvalue
2) Propene	3.27	42	417278	24.385	ng	100
3) Dichlorodifluoromethan...	3.35	85	787074	25.540	ng	100
4) Chloromethane	3.48	50	579419	25.287	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	367220	27.099	ng	100
6) Vinyl Chloride	3.68	62	546968	25.552	ng	100
7) 1,3-Butadiene	3.80	54	452768m	26.979	ng	
8) Bromomethane	4.01	94	322730	25.772	ng	100
9) Chloroethane	4.15	64	239920	25.547	ng	100
10) Ethanol	4.36	45	1716282	118.199	ng	100
11) Acetonitrile	4.47	41	758449	22.760	ng	100
12) Acrolein	4.55	56	545412	52.413	ng	100
13) Acetone	4.65	58	1382423	125.099	ng	99
14) Trichlorofluoromethane	4.76	101	763401	25.593	ng	99
15) 2-Propanol (Isopropanol)	4.90	45	2181860	49.583	ng	100
16) Acrylonitrile	5.03	53	1071433	50.069	ng	99
17) 1,1-Dichloroethene	5.26	96	350668	26.972	ng	99
18) 2-Methyl-2-Propanol (t...	5.37	59	1299910	49.447	ng	99
19) Methylene Chloride	5.39	84	367066	22.840	ng	99
20) 3-Chloro-1-propene (Al...	5.47	41	632649	26.592	ng	100
21) Trichlorotrifluoroethane	5.58	151	336486	26.761	ng	100
22) Carbon Disulfide	5.61	76	2728045	54.489	ng	100
23) trans-1,2-Dichloroethene	6.16	61	601592	27.164	ng	100
24) 1,1-Dichloroethane	6.35	63	702941	26.784	ng	100
25) Methyl tert-Butyl Ether	6.38	73	821620	30.669	ng	100
26) Vinyl Acetate	6.48	86	376399	153.105	ng	98
27) 2-Butanone (MEK)	6.69	72	472378	52.288	ng	97
28) cis-1,2-Dichloroethene	7.11	61	563739	26.312	ng	99
29) Diisopropyl Ether	7.30	87	570432	53.814	ng	98
30) Ethyl Acetate	7.31	61	285226	52.610	ng	99
31) n-Hexane	7.31	57	643375	27.532	ng	100
32) Chloroform	7.40	83	715954	27.489	ng	100
34) Tetrahydrofuran (THF)	7.76	72	423406	51.749	ng	98
35) Ethyl tert-Butyl Ether	7.84	87	596489	59.326	ng	99
36) 1,2-Dichloroethane	8.15	62	618786	25.436	ng	100
38) 1,1,1-Trichloroethane	8.42	97	678238	26.525	ng	100
39) Isopropyl Acetate	9.61	61	818	No Calib	#	
40) 1-Butanol	8.83	56	5498	No Calib	#	
41) Benzene	8.92	78	1435426	24.762	ng	100
42) Carbon Tetrachloride	9.09	117	620819	27.237	ng	100
43) Cyclohexane	9.24	84	1015877	55.400	ng	99
44) tert-Amyl Methyl Ether	9.62	73	1461518	56.760	ng	100
45) 1,2-Dichloropropane	9.88	63	372999	26.436	ng	100
46) Bromodichloromethane	10.10	83	588702	27.543	ng	100
47) Trichloroethene	10.17	130	387467	24.803	ng	99
48) 1,4-Dioxane	10.13	88	289043	28.565	ng	100
49) 2,2,4-Trimethylpentane...	10.25	57	1552461	26.809	ng	100
50) Methyl Methacrylate	10.43	100	282062	59.344	ng	98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202407.D Vial: 2
Acq On : 20 Mar 2024 4:26 Operator: SC
Sample : LCSD R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:36:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

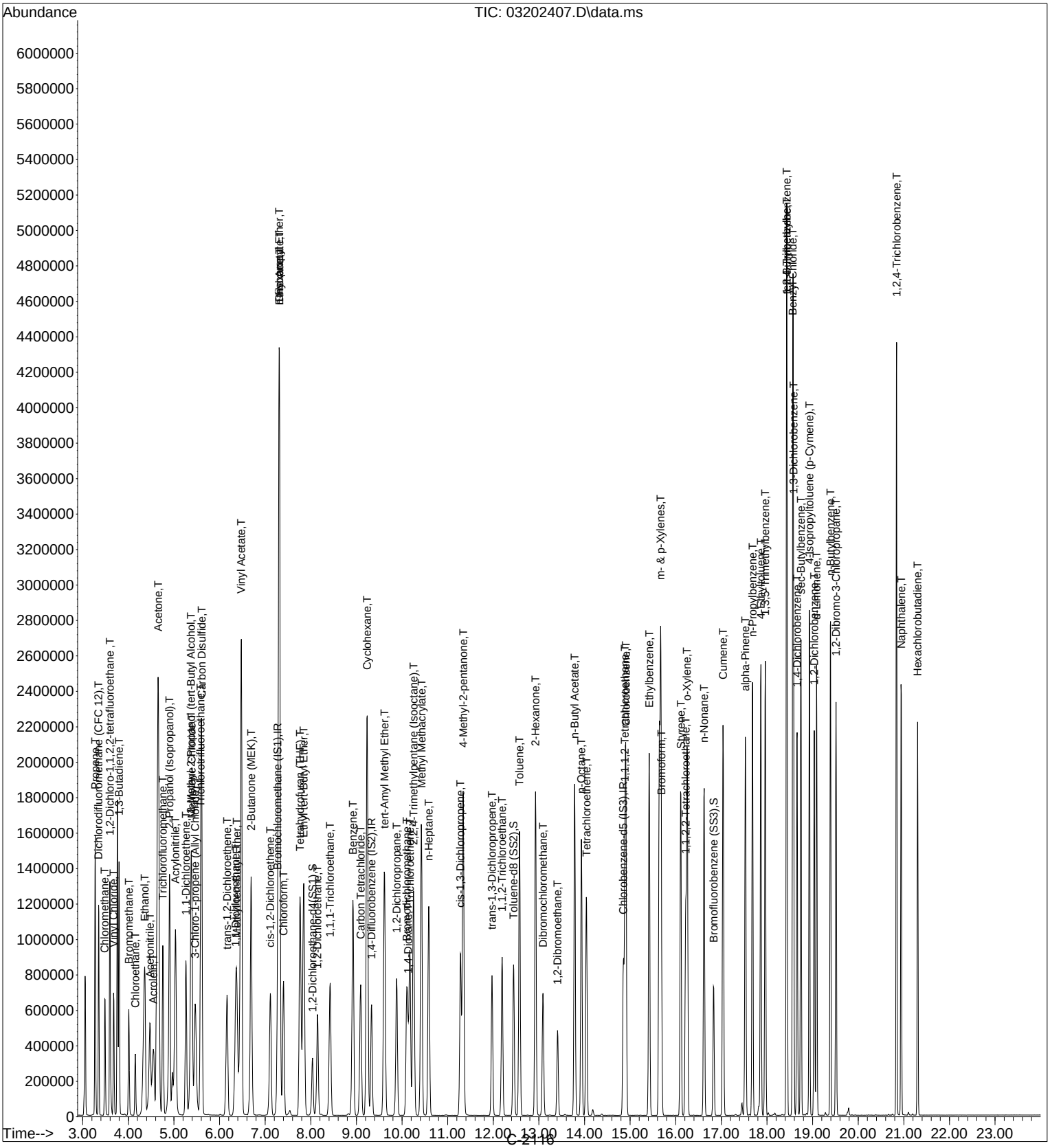
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	344404	27.788	ng		100
52) cis-1,3-Dichloropropene	11.28	75	660589	28.089	ng		100
53) 4-Methyl-2-pentanone	11.34	58	662079	53.267	ng		99
54) trans-1,3-Dichloropropene	11.97	75	544818	26.958	ng		100
55) 1,1,2-Trichloroethane	12.19	97	361274	27.394	ng		99
58) Toluene	12.57	91	1468477	27.187	ng		100
59) 2-Hexanone	12.93	43	1602309	51.054	ng		100
60) Dibromochloromethane	13.09	129	480390	27.608	ng		100
61) 1,2-Dibromoethane	13.41	107	418106	27.575	ng		100
62) n-Butyl Acetate	13.78	43	1733581	49.904	ng		100
63) n-Octane	13.93	57	328234	28.774	ng		99
64) Tetrachloroethene	14.04	166	450607	27.139	ng		100
65) Chlorobenzene	14.91	112	979500	26.902	ng		100
66) Ethylbenzene	15.42	91	1745898	28.258	ng		99
67) m- & p-Xylenes	15.67	91	2868322	55.904	ng		100
68) Bromoform	15.69	173	447614	30.426	ng		100
69) Styrene	16.11	104	1025679	29.194	ng		100
70) o-Xylene	16.25	91	1405437	27.781	ng		100
71) n-Nonane	16.62	43	814590	27.948	ng		100
72) 1,1,2,2-Tetrachloroethane	16.22	83	634660	26.530	ng		100
74) Cumene	17.04	105	1681018	27.130	ng		100
75) alpha-Pinene	17.53	93	911754	29.804	ng		100
76) n-Propylbenzene	17.68	91	2038359	27.130	ng		100
77) 3-Ethyltoluene	17.04	105	1681018	No Calib			
78) 4-Ethyltoluene	17.87	105	1647839	27.528	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1433193	27.637	ng		100
80) alpha-Methylstyrene	17.04	118	3313	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1681018	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1455092	26.965	ng		100
83) n-Decane	17.04	58	12953	No Calib			
84) Benzyl Chloride	18.56	91	2465841	46.413	ng		100
85) 1,3-Dichlorobenzene	18.58	146	854697	25.639	ng		100
86) 1,4-Dichlorobenzene	18.66	146	842163	25.684	ng		100
87) sec-Butylbenzene	18.75	105	1798087	25.957	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1511449	25.424	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1681018	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	813898	25.419	ng		100
91) d-Limonene	19.09	68	517967	27.414	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	558755	50.505	ng		99
93) n-Undecane	17.86	58	26817	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1143059	48.777	ng		100
95) Naphthalene	20.94	128	1558376	19.600	ng		100
96) n-Dodecane	18.93	58	37471	No Calib		#	
97) Hexachlorobutadiene	21.30	225	384196	20.055	ng		100
98) Cyclohexanone	15.40	55	326	No Calib		#	
99) tert-Butylbenzene	18.43	119	1338627	26.411	ng		100
100) n-Butylbenzene	19.39	91	1414084	24.735	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	393350	29.911	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202407.D Vial: 2
Acq On : 20 Mar 2024 4:26 Operator: SC
Sample : LCSD R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

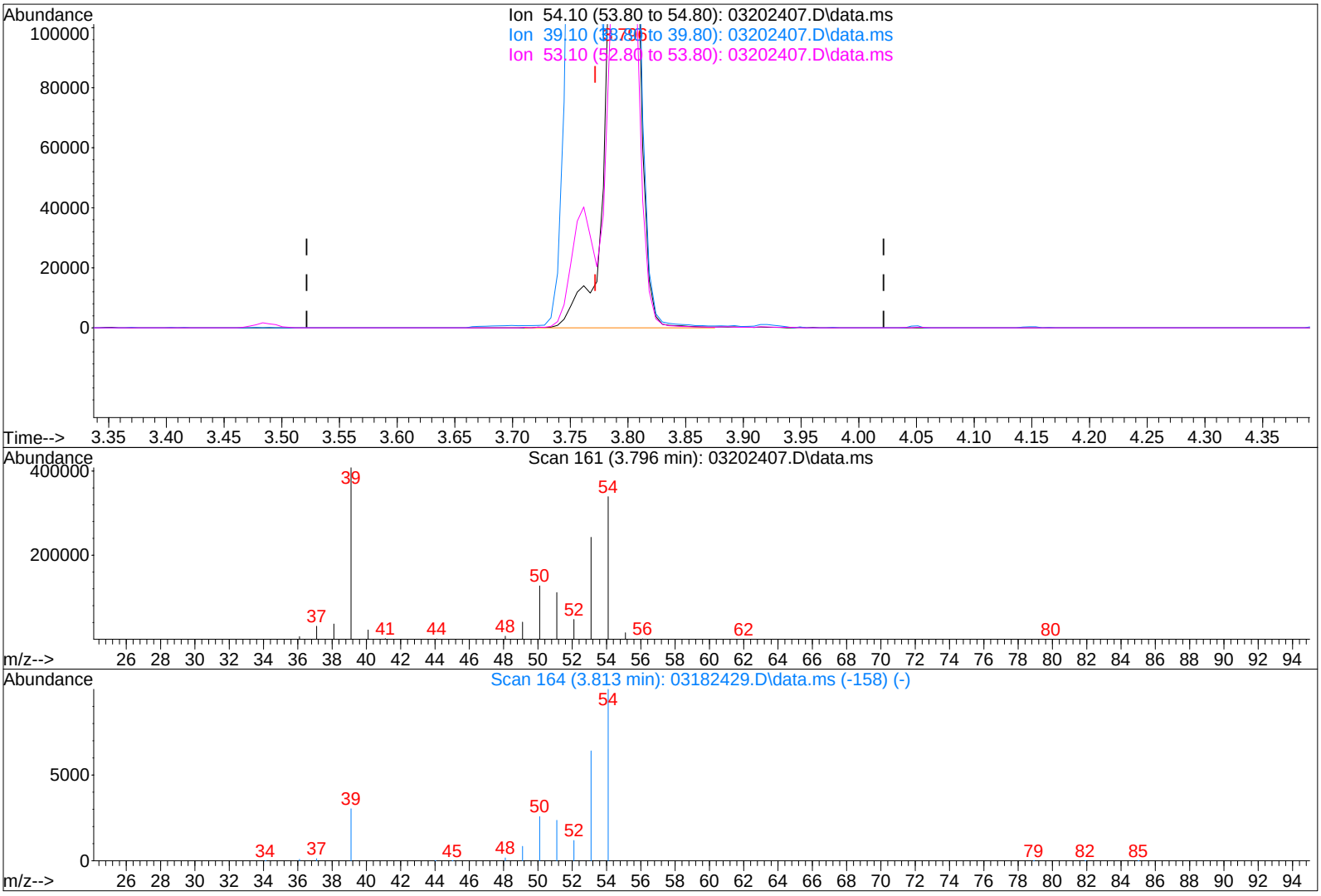
Quant Time: Mar 20 08:36:04 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202407.D Vial: 2
Acq On : 20 Mar 2024 4:26 Operator: SC
Sample : LCSD R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:35:42 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202407.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (+0.024) 27.99ng

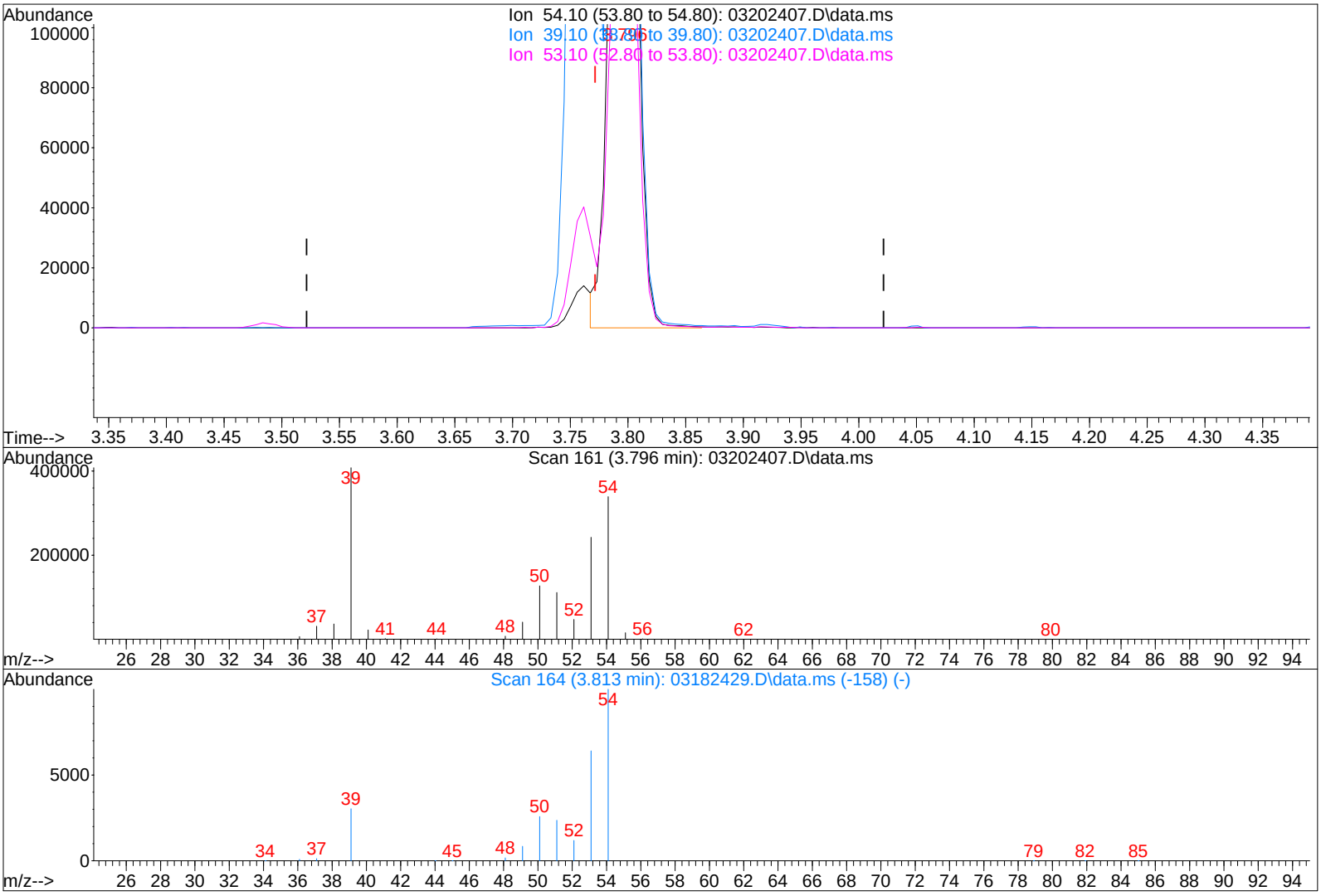
response 469669

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	111.43
53.10	67.90	69.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202407.D Vial: 2
Acq On : 20 Mar 2024 4:26 Operator: SC
Sample : LCSD R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 20 08:35:42 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202407.D\data.ms

IPC

3/20/24

3/21/24

(7) 1,3-Butadiene (T)

3.796min (+0.024) 26.98ng m

response 452768

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.59
53.10	67.90	71.58
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202405.D
Acq On : 20 Mar 2024 5:30
Operator : CI
Sample : LCS R16032024 25ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 08:36:01 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.41	130	228171	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1057705	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	228436	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.25	65	451286	11.743	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	15.95	98	1165298	13.063	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
73) Bromofluorobenzene (SS3)	19.15	174	382151	12.721	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%				
Target Compounds							Qvalue
2) Propene	4.16	42	880569	27.354	ng		100
3) Dichlorodifluoromethan...	4.33	85	1274767	25.105	ng		100
4) Chloromethane	4.63	50	839851	25.065	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	544512	26.495	ng		99
6) Vinyl Chloride	5.07	62	789963	26.103	ng		99
7) 1,3-Butadiene	5.35	54	616476	26.818	ng		99
8) Bromomethane	5.80	94	435045	24.414	ng		99
9) Chloroethane	6.15	64	397695	22.944	ng		99
10) Ethanol	6.63	45	2288885	111.889	ng		100
11) Acetonitrile	6.84	41	1130083	21.654	ng		96
12) Acrolein	7.01	56	761206	51.262	ng		99
13) Acetone	7.25	58	1947453	117.393	ng		99
14) Trichlorofluoromethane	7.45	101	1093005	23.982	ng		100
15) 2-Propanol (Isopropanol)	7.80	45	2846025	46.049	ng		99
16) Acrylonitrile	8.02	53	1450825	48.953	ng		99
17) 1,1-Dichloroethene	8.44	96	506485	24.120	ng		99
18) 2-Methyl-2-Propanol (t...	8.67	59	2653194	47.823	ng		100
19) Methylene Chloride	8.68	84	506459	21.081	ng		99
20) 3-Chloro-1-propene (Al...	8.83	41	797524	25.705	ng		100
21) Trichlorotrifluoroethane	9.08	151	472833	23.819	ng		100
22) Carbon Disulfide	8.92	76	3625817	53.179	ng		100
23) trans-1,2-Dichloroethene	9.95	61	833487	25.196	ng		99
24) 1,1-Dichloroethane	10.21	63	988616	25.027	ng		100
25) Methyl tert-Butyl Ether	10.32	73	1614182	26.891	ng		99
26) Vinyl Acetate	10.48	86	500252	169.563	ng		98
27) 2-Butanone (MEK)	10.73	72	739081	50.949	ng		96
28) cis-1,2-Dichloroethene	11.22	61	793815	25.126	ng		100
29) Diisopropyl Ether	11.53	87	1005206	51.430	ng	#	92
30) Ethyl Acetate	11.55	61	381072	46.093	ng		99
31) n-Hexane	11.49	57	943963	24.926	ng		100
32) Chloroform	11.57	83	961444	24.899	ng		100
34) Tetrahydrofuran (THF)	11.99	72	648458	46.298	ng		93
35) Ethyl tert-Butyl Ether	12.12	87	1386839	53.503	ng		96
36) 1,2-Dichloroethane	12.37	62	851313	22.237	ng		99
38) 1,1,1-Trichloroethane	12.64	97	956983	24.249	ng		98
39) Isopropyl Acetate	13.76	61	2245	No Calib		#	
40) 1-Butanol	12.63	56	203	No Calib		#	
41) Benzene	13.12	78	2124184	21.127	ng		100
42) Carbon Tetrachloride	13.28	117	847938	27.426	ng		99
43) Cyclohexane	13.40	84	1717657	52.304	ng		97
44) tert-Amyl Methyl Ether	13.76	73	3200373	52.474	ng		98
45) 1,2-Dichloropropane	13.96	63	553746	23.834	ng		99
46) Bromodichloromethane	14.15	83	821087	25.092	ng		99
47) Trichloroethene	14.21	130	586110	22.860	ng		100
48) 1,4-Dioxane	14.20	88	444693	24.530	ng		97

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202405.D
Acq On : 20 Mar 2024 5:30
Operator : CI
Sample : LCS R16032024 25ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:36:01 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

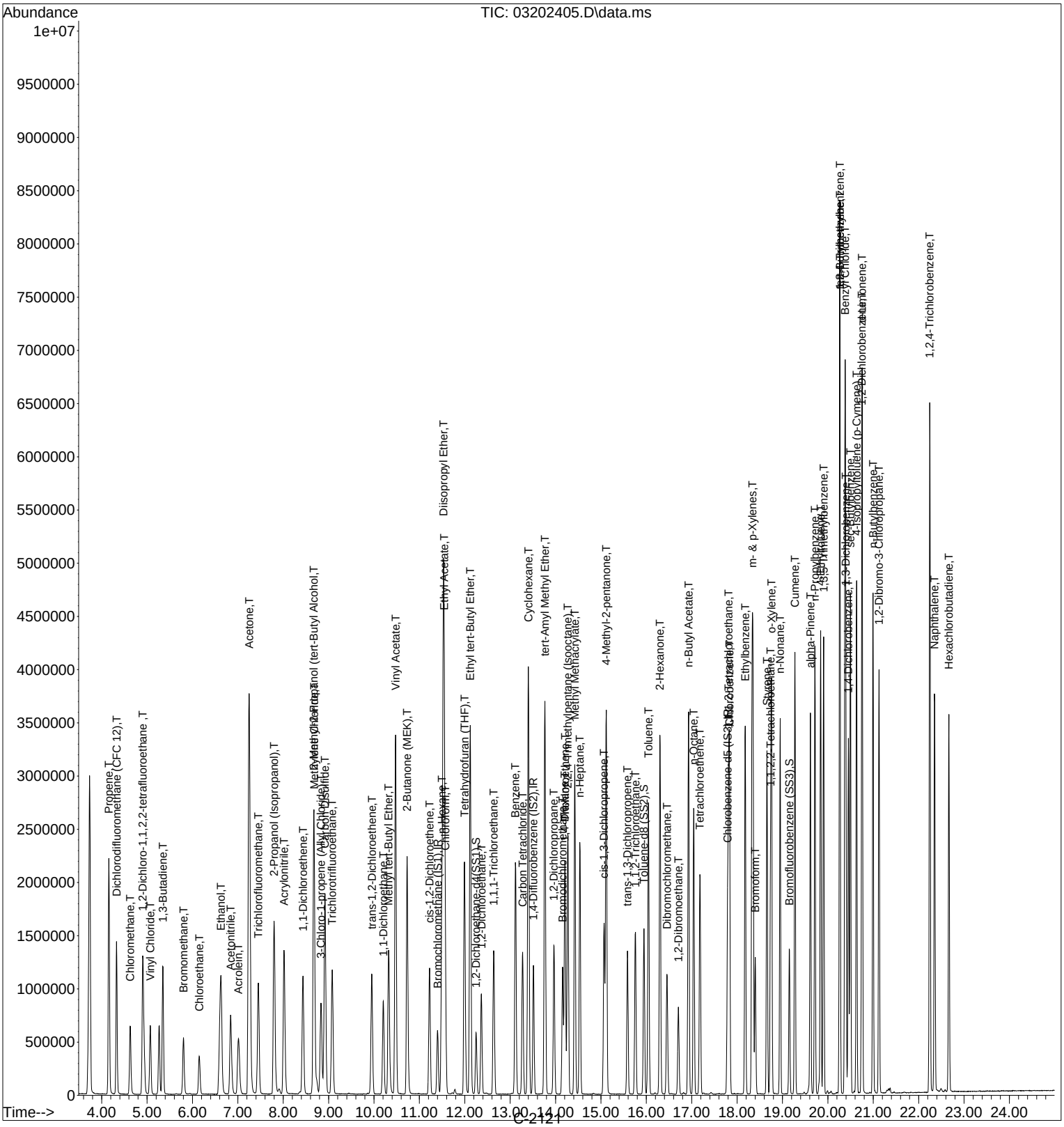
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	2359862	25.182 ng		95
50) Methyl Methacrylate	14.42	100	473462	53.661 ng		95
51) n-Heptane	14.53	71	622535	25.621 ng		98
52) cis-1,3-Dichloropropene	15.07	75	991132	26.313 ng		100
53) 4-Methyl-2-pentanone	15.12	58	999892	50.921 ng		95
54) trans-1,3-Dichloropropene	15.58	75	814570	25.742 ng		100
55) 1,1,2-Trichloroethane	15.76	97	529785	25.122 ng		99
58) Toluene	16.05	91	2203261	26.335 ng		99
59) 2-Hexanone	16.30	43	2732552	51.414 ng		97
60) Dibromochloromethane	16.45	129	676414	27.827 ng		100
61) 1,2-Dibromoethane	16.71	107	620897	26.636 ng		99
62) n-Butyl Acetate	16.93	43	3066301	52.216 ng		98
63) n-Octane	17.05	57	500834	25.953 ng		96
64) Tetrachloroethene	17.18	166	632330	25.777 ng		100
65) Chlorobenzene	17.83	112	1444789	25.399 ng		100
66) Ethylbenzene	18.18	91	2604099	26.819 ng		100
67) m- & p-Xylenes	18.34	91	4052226	51.963 ng		100
68) Bromoform	18.40	173	585954	29.626 ng		99
69) Styrene	18.66	104	1526928	28.217 ng		99
70) o-Xylene	18.76	91	2063975	26.311 ng		100
71) n-Nonane	18.95	43	1291411	26.199 ng		98
72) 1,1,2,2-Tetrachloroethane	18.74	83	935366	26.511 ng		100
74) Cumene	19.27	105	2641608	26.191 ng		100
75) alpha-Pinene	19.62	93	1311386	29.183 ng		99
76) n-Propylbenzene	19.71	91	3145998	25.597 ng		100
77) 3-Ethyltoluene	20.26	105	2254355	No Calib		
78) 4-Ethyltoluene	19.84	105	2653160	26.997 ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	2221150	26.851 ng		99
80) alpha-Methylstyrene	20.63	118	62456	No Calib	#	
81) 2-Ethyltoluene	20.26	105	2254355	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	2254355	26.995 ng		99
83) n-Decane	20.37	58	587	No Calib	#	
84) Benzyl Chloride	20.38	91	3899695	66.858 ng		100
85) 1,3-Dichlorobenzene	20.40	146	1216413	25.282 ng		100
86) 1,4-Dichlorobenzene	20.45	146	1220455	26.046 ng		100
87) sec-Butylbenzene	20.50	105	2982961	26.371 ng		100
88) 4-Isopropyltoluene (p-...	20.63	119	2557539	26.450 ng		99
89) 1,2,3-Trimethylbenzene	20.26	105	2254355	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1175801	25.379 ng		99
91) d-Limonene	20.75	68	846387	30.047 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.13	157	934054	62.256 ng		98
93) n-Undecane	21.42	58	120	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1910997	57.059 ng		100
95) Naphthalene	22.35	128	2831512	30.131 ng		100
96) n-Dodecane	22.78	57	174	No Calib	#	
97) Hexachlorobutadiene	22.67	225	652604	24.869 ng		99
98) Cyclohexanone	18.26	55	213	No Calib	#	
99) tert-Butylbenzene	20.26	119	2173278	27.057 ng		100
100) n-Butylbenzene	21.00	91	2384577	26.513 ng		99
101) 1,1,1,2-Tetrachloroethane	17.81	131	554074	27.935 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202405.D
Acq On : 20 Mar 2024 5:30
Operator : CI
Sample : LCS R16032024 25ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:36:01 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202406.D
Acq On : 20 Mar 2024 6:03
Operator : CI
Sample : LCSD R16032024 25ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 08:36:07 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.41	130	231240	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1039178	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	219594	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.25	65	474588	12.185	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.52%			
57) Toluene-d8 (SS2)	15.95	98	1161655	13.546	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%			
73) Bromofluorobenzene (SS3)	19.15	174	399085	13.819	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%			
Target Compounds						Qvalue
2) Propene	4.17	42	878989	26.942	ng	99
3) Dichlorodifluoromethan...	4.34	85	1253009	24.349	ng	100
4) Chloromethane	4.64	50	817262	24.067	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	547320	26.278	ng	100
6) Vinyl Chloride	5.08	62	789438	25.740	ng	99
7) 1,3-Butadiene	5.36	54	626848	26.907	ng	99
8) Bromomethane	5.81	94	440372	24.385	ng	99
9) Chloroethane	6.15	64	403690	22.980	ng	99
10) Ethanol	6.63	45	2322677	112.034	ng	100
11) Acetonitrile	6.85	41	1161699	21.964	ng	98
12) Acrolein	7.02	56	778823	51.752	ng	99
13) Acetone	7.25	58	1986605	118.163	ng	99
14) Trichlorofluoromethane	7.46	101	1120803	24.265	ng	100
15) 2-Propanol (Isopropanol)	7.80	45	2822060	45.055	ng	99
16) Acrylonitrile	8.02	53	1483579	49.394	ng	99
17) 1,1-Dichloroethene	8.44	96	514962	24.199	ng	99
18) 2-Methyl-2-Propanol (t...	8.68	59	2458953	43.734	ng	100
19) Methylene Chloride	8.68	84	513911	21.107	ng	98
20) 3-Chloro-1-propene (Al...	8.84	41	810044	25.762	ng	99
21) Trichlorotrifluoroethane	9.08	151	484363	24.076	ng	98
22) Carbon Disulfide	8.93	76	3689452	53.394	ng	100
23) trans-1,2-Dichloroethene	9.95	61	840756	25.079	ng	100
24) 1,1-Dichloroethane	10.21	63	997232	24.910	ng	100
25) Methyl tert-Butyl Ether	10.32	73	1663395	27.343	ng	100
26) Vinyl Acetate	10.48	86	528012	176.597	ng	98
27) 2-Butanone (MEK)	10.73	72	753098	51.226	ng	96
28) cis-1,2-Dichloroethene	11.22	61	807157	25.209	ng	100
29) Diisopropyl Ether	11.53	87	1026472	51.821	ng	97
30) Ethyl Acetate	11.55	61	392287	46.820	ng	100
31) n-Hexane	11.50	57	963715	25.110	ng	100
32) Chloroform	11.57	83	991233	25.330	ng	100
34) Tetrahydrofuran (THF)	11.99	72	653567	46.043	ng	97
35) Ethyl tert-Butyl Ether	12.12	87	1415394	53.880	ng	99
36) 1,2-Dichloroethane	12.37	62	902924	23.272	ng	99
38) 1,1,1-Trichloroethane	12.64	97	989550	25.521	ng	99
39) Isopropyl Acetate	13.76	61	2205	No Calib	#	
40) 1-Butanol	12.64	56	551	No Calib	#	
41) Benzene	13.12	78	2109083	21.350	ng	100
42) Carbon Tetrachloride	13.27	117	881309	29.014	ng	100
43) Cyclohexane	13.40	84	1708747	52.961	ng	99
44) tert-Amyl Methyl Ether	13.76	73	3280295	54.743	ng	99
45) 1,2-Dichloropropane	13.97	63	553433	24.245	ng	99
46) Bromodichloromethane	14.15	83	848788	26.401	ng	100
47) Trichloroethene	14.21	130	582632	23.130	ng	100
48) 1,4-Dioxane	14.20	88	442897	24.873	ng	97

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202406.D
Acq On : 20 Mar 2024 6:03
Operator : CI
Sample : LCSD R16032024 25ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:36:07 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

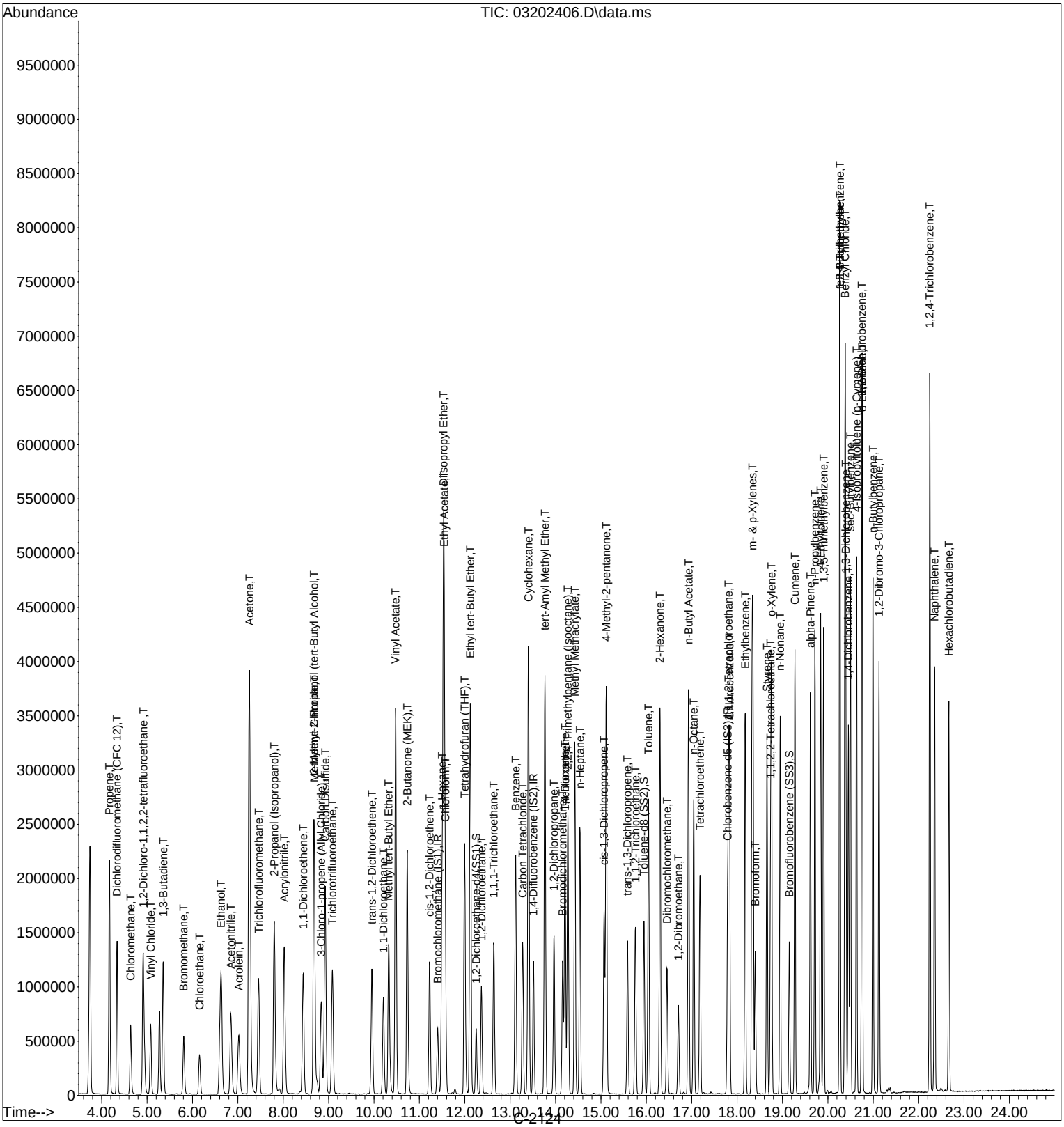
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	2432592	26.421 ng		99
50) Methyl Methacrylate	14.42	100	471229	54.360 ng		98
51) n-Heptane	14.54	71	618600	25.913 ng		99
52) cis-1,3-Dichloropropene	15.07	75	1003988	27.129 ng		99
53) 4-Methyl-2-pentanone	15.12	58	1016238	52.676 ng		100
54) trans-1,3-Dichloropropene	15.58	75	838731	26.978 ng		99
55) 1,1,2-Trichloroethane	15.76	97	527559	25.462 ng		100
58) Toluene	16.05	91	2198062	27.331 ng		100
59) 2-Hexanone	16.30	43	2855686	55.894 ng		99
60) Dibromochloromethane	16.45	129	673637	28.829 ng		99
61) 1,2-Dibromoethane	16.71	107	607521	27.111 ng		100
62) n-Butyl Acetate	16.93	43	3226532	57.156 ng		99
63) n-Octane	17.05	57	505339	27.241 ng		98
64) Tetrachloroethene	17.18	166	623767	26.451 ng		99
65) Chlorobenzene	17.83	112	1496415	27.366 ng		99
66) Ethylbenzene	18.18	91	2673137	28.638 ng		98
67) m- & p-Xylenes	18.34	91	4134982	55.159 ng		98
68) Bromoform	18.40	173	605989	31.873 ng		99
69) Styrene	18.66	104	1622253	31.185 ng		98
70) o-Xylene	18.76	91	2116099	28.062 ng		98
71) n-Nonane	18.95	43	1253782	26.459 ng		95
72) 1,1,2,2-Tetrachloroethane	18.74	83	960253	28.312 ng		100
74) Cumene	19.27	105	2698258	27.830 ng		98
75) alpha-Pinene	19.62	93	1369224	31.697 ng		97
76) n-Propylbenzene	19.71	91	3273592	27.707 ng		98
77) 3-Ethyltoluene	20.26	105	2294915	No Calib		
78) 4-Ethyltoluene	19.84	105	2756593	29.179 ng		99
79) 1,3,5-Trimethylbenzene	19.91	105	2326304	29.254 ng		99
80) alpha-Methylstyrene	20.61	118	1556	No Calib	#	
81) 2-Ethyltoluene	20.26	105	2294915	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	2295030	28.588 ng		98
83) n-Decane	20.37	58	689	No Calib	#	
84) Benzyl Chloride	20.38	91	3965011	70.715 ng		98
85) 1,3-Dichlorobenzene	20.40	146	1273056	27.524 ng		100
86) 1,4-Dichlorobenzene	20.45	146	1294515	28.739 ng		99
87) sec-Butylbenzene	20.50	105	3106955	28.574 ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	2641548	28.419 ng		99
89) 1,2,3-Trimethylbenzene	20.26	105	2294915	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1230838	27.637 ng		98
91) d-Limonene	20.76	68	854818	31.569 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.13	157	985828	68.352 ng		91
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	2007530	62.355 ng		100
95) Naphthalene	22.35	128	3050199	33.765 ng		100
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	669482	26.539 ng		99
98) Cyclohexanone	18.25	55	273	No Calib	#	
99) tert-Butylbenzene	20.26	119	2218558	28.733 ng		99
100) n-Butylbenzene	21.00	91	2468825	28.555 ng		99
101) 1,1,1,2-Tetrachloroethane	17.81	131	560795	29.412 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202406.D
Acq On : 20 Mar 2024 6:03
Operator : CI
Sample : LCSD R16032024 25ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:36:07 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212412.D
Acq On : 21 Mar 2024 10:20
Operator : CI
Sample : LCS R16032124 5ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 11:02:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.39	130	224813	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1019308	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	214582	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	452657	11.955	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	15.94	98	1137743	13.577	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
73) Bromofluorobenzene (SS3)	19.15	174	383718	13.597	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.17	42	152360	4.804	ng		99
3) Dichlorodifluoromethan...	4.34	85	278523	5.567	ng		99
4) Chloromethane	4.63	50	183647	5.563	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	120091	5.931	ng		99
6) Vinyl Chloride	5.07	62	169144	5.673	ng		98
7) 1,3-Butadiene	5.34	54	121995	5.386	ng		92
8) Bromomethane	5.80	94	95735	5.453	ng		99
9) Chloroethane	6.14	64	85948	5.033	ng		99
10) Ethanol	6.58	45	497911	24.703	ng		100
11) Acetonitrile	6.82	41	242069	4.708	ng		99
12) Acrolein	7.00	56	160161	10.947	ng		98
13) Acetone	7.23	58	438429	26.823	ng		97
14) Trichlorofluoromethane	7.45	101	237210	5.282	ng		100
15) 2-Propanol (Isopropanol)	7.76	45	706640	11.604	ng		99
16) Acrylonitrile	8.00	53	308497	10.565	ng		100
17) 1,1-Dichloroethene	8.42	96	113188	5.471	ng		93
18) 2-Methyl-2-Propanol (t...	8.64	59	631622	11.555	ng		100
19) Methylene Chloride	8.67	84	112758	4.764	ng		95
20) 3-Chloro-1-propene (Al...	8.82	41	158797	5.195	ng		98
21) Trichlorotrifluoroethane	9.08	151	104726	5.354	ng		98
22) Carbon Disulfide	8.91	76	778477	11.588	ng		99
23) trans-1,2-Dichloroethene	9.94	61	175854	5.395	ng		96
24) 1,1-Dichloroethane	10.20	63	212082	5.449	ng		100
25) Methyl tert-Butyl Ether	10.32	73	363953	6.154	ng		99
26) Vinyl Acetate	10.47	86	89590	30.821	ng	#	93
27) 2-Butanone (MEK)	10.72	72	158852	11.114	ng	#	91
28) cis-1,2-Dichloroethene	11.21	61	168222	5.404	ng		96
29) Diisopropyl Ether	11.53	87	223010	11.580	ng		95
30) Ethyl Acetate	11.54	61	83679	10.273	ng		98
31) n-Hexane	11.49	57	207723	5.567	ng		100
32) Chloroform	11.56	83	215817	5.673	ng		98
34) Tetrahydrofuran (THF)	11.99	72	138627	10.045	ng		97
35) Ethyl tert-Butyl Ether	12.11	87	287771	11.268	ng		98
36) 1,2-Dichloroethane	12.36	62	188204	4.990	ng		98
38) 1,1,1-Trichloroethane	12.64	97	204906	5.388	ng		98
39) Isopropyl Acetate	13.75	61	675	No Calib		#	
40) 1-Butanol	12.62	56	218	No Calib		#	
41) Benzene	13.11	78	461627	4.764	ng		98
42) Carbon Tetrachloride	13.27	117	173912	5.837	ng		98
43) Cyclohexane	13.40	84	370349	11.702	ng		98
44) tert-Amyl Methyl Ether	13.76	73	662726	11.276	ng		98
45) 1,2-Dichloropropane	13.96	63	117917	5.267	ng		100
46) Bromodichloromethane	14.15	83	173970	5.517	ng		99
47) Trichloroethene	14.20	130	127964	5.179	ng		99
48) 1,4-Dioxane	14.20	88	95591	5.472	ng		94

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212412.D
Acq On : 21 Mar 2024 10:20
Operator : CI
Sample : LCS R16032124 5ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 11:02:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

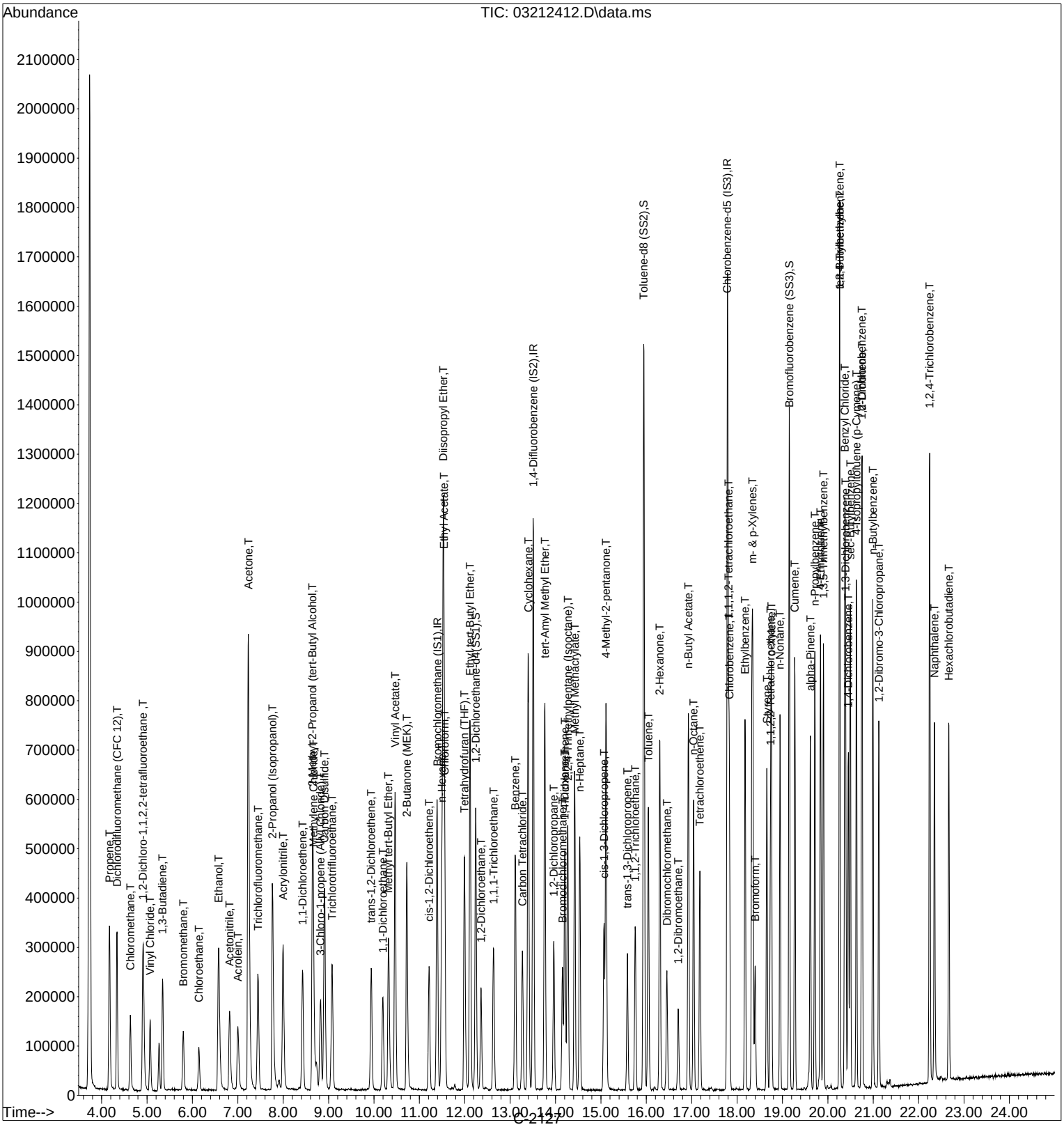
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	510348	5.651 ng		98
50) Methyl Methacrylate	14.42	100	96798	11.384 ng		97
51) n-Heptane	14.53	71	131248	5.605 ng		99
52) cis-1,3-Dichloropropene	15.07	75	204107	5.623 ng		99
53) 4-Methyl-2-pentanone	15.11	58	216530	11.442 ng		95
54) trans-1,3-Dichloropropene	15.58	75	163640	5.366 ng		98
55) 1,1,2-Trichloroethane	15.76	97	114843	5.651 ng		99
58) Toluene	16.05	91	464989	5.917 ng		99
59) 2-Hexanone	16.29	43	577502	11.567 ng		98
60) Dibromochloromethane	16.45	129	136738	5.989 ng		99
61) 1,2-Dibromoethane	16.70	107	126821	5.792 ng		100
62) n-Butyl Acetate	16.93	43	646528	11.720 ng		98
63) n-Octane	17.04	57	107520	5.931 ng		97
64) Tetrachloroethene	17.18	166	133461	5.792 ng		98
65) Chlorobenzene	17.83	112	313742	5.872 ng		99
66) Ethylbenzene	18.17	91	557582	6.113 ng		99
67) m- & p-Xylenes	18.34	91	874791	11.942 ng		100
68) Bromoform	18.40	173	117117	6.304 ng		97
69) Styrene	18.66	104	317710	6.250 ng		99
70) o-Xylene	18.76	91	443029	6.012 ng		99
71) n-Nonane	18.94	43	273483	5.906 ng		98
72) 1,1,2,2-Tetrachloroethane	18.74	83	201332	6.075 ng		100
74) Cumene	19.27	105	568270	5.998 ng		100
75) alpha-Pinene	19.62	93	270105	6.399 ng		97
76) n-Propylbenzene	19.71	91	676818	5.862 ng		99
77) 3-Ethyltoluene	20.26	105	475535	No Calib		
78) 4-Ethyltoluene	19.84	105	556212	6.025 ng		98
79) 1,3,5-Trimethylbenzene	19.90	105	471362	6.066 ng		100
80) alpha-Methylstyrene	20.62	118	2364	No Calib	#	
81) 2-Ethyltoluene	20.26	105	475535	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	475535	6.062 ng		98
83) n-Decane	20.40	58	262	No Calib	#	
84) Benzyl Chloride	20.37	91	679192	12.396 ng		99
85) 1,3-Dichlorobenzene	20.39	146	259421	5.740 ng		100
86) 1,4-Dichlorobenzene	20.45	146	252468	5.736 ng		98
87) sec-Butylbenzene	20.50	105	624009	5.873 ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	538820	5.932 ng		99
89) 1,2,3-Trimethylbenzene	20.26	105	475535	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	252097	5.793 ng		100
91) d-Limonene	20.75	68	161183	6.092 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.13	157	188874	13.401 ng		89
93) n-Undecane	21.52	58	111	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	398840	12.677 ng		100
95) Naphthalene	22.35	128	560455	6.349 ng		100
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	136843	5.551 ng		98
98) Cyclohexanone	18.26	55	222	No Calib	#	
99) tert-Butylbenzene	20.26	119	461926	6.122 ng		99
100) n-Butylbenzene	20.99	91	499526	5.913 ng		98
101) 1,1,1,2-Tetrachloroethane	17.81	131	118127	6.340 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212412.D
Acq On : 21 Mar 2024 10:20
Operator : CI
Sample : LCS R16032124 5ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 11:02:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212413.D
Acq On : 21 Mar 2024 10:54
Operator : CI
Sample : LCSD R16032124 5ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 12:18:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.39	130	224296	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.51	114	1017708	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	212882	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	452913	11.989	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
57) Toluene-d8 (SS2)	15.95	98	1126708	13.553	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.40%				
73) Bromofluorobenzene (SS3)	19.15	174	382531	13.664	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
Target Compounds							Qvalue
2) Propene	4.17	42	156670	4.951	ng		99
3) Dichlorodifluoromethan...	4.33	85	279663	5.603	ng		99
4) Chloromethane	4.63	50	186323	5.657	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	123795	6.128	ng		99
6) Vinyl Chloride	5.07	62	172366	5.794	ng		99
7) 1,3-Butadiene	5.34	54	124236	5.498	ng		95
8) Bromomethane	5.80	94	95302	5.441	ng		98
9) Chloroethane	6.14	64	88746	5.208	ng		99
10) Ethanol	6.58	45	507489	25.236	ng		100
11) Acetonitrile	6.82	41	243726	4.751	ng		98
12) Acrolein	7.00	56	165671	11.350	ng		98
13) Acetone	7.23	58	440950	27.040	ng		98
14) Trichlorofluoromethane	7.44	101	244144	5.449	ng		99
15) 2-Propanol (Isopropanol)	7.76	45	711556	11.712	ng		99
16) Acrylonitrile	8.00	53	309497	10.623	ng		99
17) 1,1-Dichloroethene	8.42	96	112319	5.441	ng		95
18) 2-Methyl-2-Propanol (t...	8.64	59	638908	11.715	ng		100
19) Methylene Chloride	8.66	84	113315	4.798	ng		95
20) 3-Chloro-1-propene (Al...	8.82	41	160309	5.256	ng		100
21) Trichlorotrifluoroethane	9.07	151	104680	5.364	ng		100
22) Carbon Disulfide	8.91	76	792968	11.831	ng		100
23) trans-1,2-Dichloroethene	9.94	61	178530	5.490	ng		95
24) 1,1-Dichloroethane	10.19	63	216049	5.564	ng		100
25) Methyl tert-Butyl Ether	10.32	73	371942	6.303	ng		99
26) Vinyl Acetate	10.46	86	93502	32.241	ng	#	90
27) 2-Butanone (MEK)	10.72	72	160947	11.287	ng		94
28) cis-1,2-Dichloroethene	11.21	61	171668	5.528	ng		96
29) Diisopropyl Ether	11.53	87	227334	11.832	ng	#	93
30) Ethyl Acetate	11.54	61	83631	10.290	ng		99
31) n-Hexane	11.49	57	211949	5.693	ng		100
32) Chloroform	11.56	83	218358	5.753	ng		99
34) Tetrahydrofuran (THF)	11.99	72	140241	10.186	ng		97
35) Ethyl tert-Butyl Ether	12.11	87	290438	11.399	ng		98
36) 1,2-Dichloroethane	12.36	62	190018	5.049	ng		98
38) 1,1,1-Trichloroethane	12.63	97	211161	5.561	ng		98
39) Isopropyl Acetate	13.76	61	359	No Calib		#	
40) 1-Butanol	12.72	56	191	No Calib		#	
41) Benzene	13.11	78	466540	4.822	ng		99
42) Carbon Tetrachloride	13.27	117	180496	6.067	ng		98
43) Cyclohexane	13.40	84	378161	11.968	ng		97
44) tert-Amyl Methyl Ether	13.76	73	674549	11.495	ng		98
45) 1,2-Dichloropropane	13.96	63	120328	5.383	ng		100
46) Bromodichloromethane	14.15	83	179711	5.708	ng		99
47) Trichloroethene	14.20	130	128331	5.202	ng		99
48) 1,4-Dioxane	14.20	88	94381	5.411	ng		96

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212413.D
Acq On : 21 Mar 2024 10:54
Operator : CI
Sample : LCSD R16032124 5ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 12:18:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

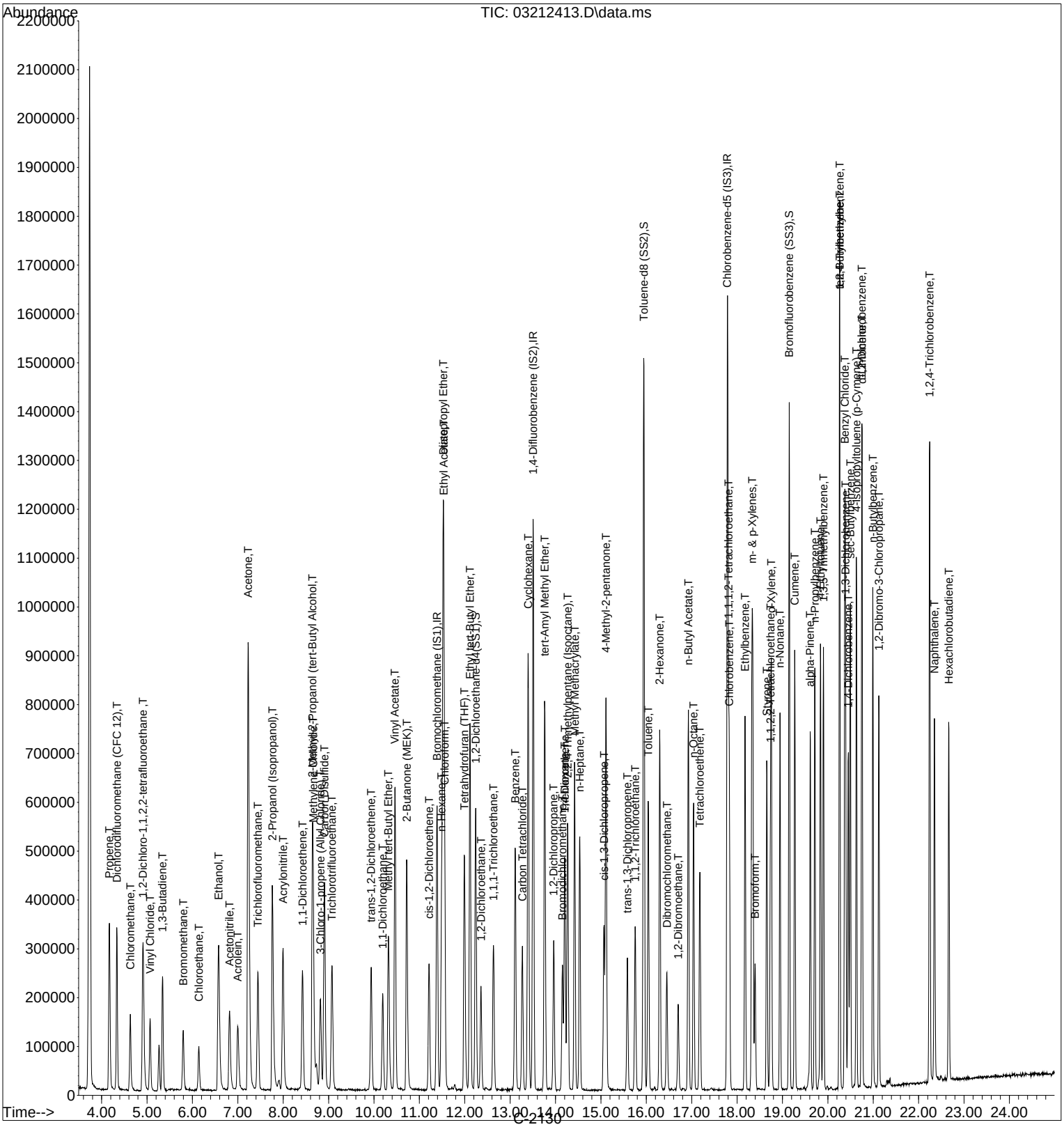
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	518993	5.756 ng		97
50) Methyl Methacrylate	14.42	100	98556	11.609 ng		96
51) n-Heptane	14.53	71	132985	5.688 ng		100
52) cis-1,3-Dichloropropene	15.07	75	208900	5.764 ng		100
53) 4-Methyl-2-pentanone	15.11	58	215048	11.382 ng		99
54) trans-1,3-Dichloropropene	15.58	75	167914	5.515 ng		100
55) 1,1,2-Trichloroethane	15.76	97	113140	5.576 ng		99
58) Toluene	16.04	91	474296	6.083 ng		99
59) 2-Hexanone	16.29	43	589719	11.907 ng		98
60) Dibromochloromethane	16.45	129	140673	6.210 ng		98
61) 1,2-Dibromoethane	16.70	107	131996	6.076 ng		98
62) n-Butyl Acetate	16.93	43	658863	12.039 ng		99
63) n-Octane	17.04	57	108996	6.061 ng		98
64) Tetrachloroethene	17.18	166	135422	5.924 ng		98
65) Chlorobenzene	17.83	112	316682	5.974 ng		100
66) Ethylbenzene	18.17	91	569211	6.290 ng		99
67) m- & p-Xylenes	18.33	91	882753	12.147 ng		100
68) Bromoform	18.39	173	118949	6.453 ng		99
69) Styrene	18.65	104	322800	6.401 ng		99
70) o-Xylene	18.75	91	448594	6.136 ng		99
71) n-Nonane	18.94	43	278273	6.058 ng		98
72) 1,1,2,2-Tetrachloroethane	18.74	83	198538	6.038 ng		97
74) Cumene	19.27	105	575023	6.118 ng		99
75) alpha-Pinene	19.61	93	273214	6.524 ng		97
76) n-Propylbenzene	19.71	91	675716	5.900 ng		99
77) 3-Ethyltoluene	20.26	105	475579	No Calib		
78) 4-Ethyltoluene	19.84	105	563045	6.148 ng		98
79) 1,3,5-Trimethylbenzene	19.90	105	475443	6.167 ng		98
80) alpha-Methylstyrene	20.63	118	16521	No Calib	#	
81) 2-Ethyltoluene	20.26	105	475579	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	475579	6.111 ng		97
83) n-Decane	20.35	58	243	No Calib	#	
84) Benzyl Chloride	20.37	91	716116	13.174 ng		98
85) 1,3-Dichlorobenzene	20.39	146	273633	6.103 ng		98
86) 1,4-Dichlorobenzene	20.45	146	264462	6.056 ng		97
87) sec-Butylbenzene	20.50	105	642356	6.094 ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	567289	6.296 ng		99
89) 1,2,3-Trimethylbenzene	20.26	105	475579	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	261852	6.065 ng		98
91) d-Limonene	20.75	68	165856	6.318 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.12	157	193021	13.805 ng		96
93) n-Undecane	21.53	58	160	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	402267	12.889 ng		100
95) Naphthalene	22.35	128	574803	6.564 ng		99
96) n-Dodecane	0.00	57	0	N.D.		
97) Hexachlorobutadiene	22.67	225	136573	5.585 ng		99
98) Cyclohexanone	18.33	55	1243	No Calib	#	
99) tert-Butylbenzene	20.26	119	470899	6.291 ng		99
100) n-Butylbenzene	20.99	91	508231	6.064 ng		100
101) 1,1,1,2-Tetrachloroethane	17.81	131	119623	6.472 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212413.D
Acq On : 21 Mar 2024 10:54
Operator : CI
Sample : LCSD R16032124 5ng
Misc : S37-01032403/S37-03192403 (4/18)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 12:18:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222406.D Vial: 2
Acq On : 22 Mar 2024 2:15 Operator: SC
Sample : LCS R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:35:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/22/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	166789	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	712252	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	155275	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	331319	12.142	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.12%				
57) Toluene-d8 (SS2)	12.44	98	806936	12.943	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%				
73) Bromofluorobenzene (SS3)	16.83	174	279830	12.731	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	439184	23.121	ng		100
3) Dichlorodifluoromethan...	3.35	85	799167	23.361	ng		100
4) Chloromethane	3.49	50	614797	24.171	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	385973	25.659	ng		100
6) Vinyl Chloride	3.68	62	596432	25.100	ng		100
7) 1,3-Butadiene	3.80	54	480725m	25.805	ng		
8) Bromomethane	4.01	94	345287	24.840	ng		100
9) Chloroethane	4.15	64	257597	24.710	ng		100
10) Ethanol	4.36	45	1828985	113.474	ng		100
11) Acetonitrile	4.48	41	802380	21.691	ng		100
12) Acrolein	4.55	56	573864	49.681	ng		99
13) Acetone	4.66	58	1474973	120.243	ng		97
14) Trichlorofluoromethane	4.76	101	776056	23.438	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	2290627	46.894	ng		100
16) Acrylonitrile	5.03	53	1137102	47.871	ng		99
17) 1,1-Dichloroethene	5.27	96	368664	25.545	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	1391454	47.682	ng		99
19) Methylene Chloride	5.39	84	388513	21.778	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	675143	25.565	ng		100
21) Trichlorotrifluoroethane	5.59	151	346561	24.830	ng		99
22) Carbon Disulfide	5.61	76	2888831	51.981	ng		100
23) trans-1,2-Dichloroethene	6.16	61	629125	25.591	ng		100
24) 1,1-Dichloroethane	6.35	63	741008	25.436	ng		99
25) Methyl tert-Butyl Ether	6.39	73	889868	29.923	ng		100
26) Vinyl Acetate	6.48	86	394718	144.640	ng	#	94
27) 2-Butanone (MEK)	6.69	72	500057	49.865	ng		96
28) cis-1,2-Dichloroethene	7.11	61	595035	25.020	ng		100
29) Diisopropyl Ether	7.31	87	603434	51.284	ng		97
30) Ethyl Acetate	7.31	61	302483	50.262	ng		99
31) n-Hexane	7.31	57	672819	25.938	ng		99
32) Chloroform	7.40	83	741120	25.634	ng		100
34) Tetrahydrofuran (THF)	7.76	72	448981	49.435	ng		98
35) Ethyl tert-Butyl Ether	7.84	87	642712	57.587	ng		100
36) 1,2-Dichloroethane	8.15	62	634523	23.497	ng		100
38) 1,1,1-Trichloroethane	8.42	97	700171	24.764	ng		100
39) Isopropyl Acetate	9.60	61	745	No Calib	#		
40) 1-Butanol	8.82	56	7561	No Calib	#		
41) Benzene	8.92	78	1511026	23.573	ng		100
42) Carbon Tetrachloride	9.09	117	633517	25.137	ng		100
43) Cyclohexane	9.24	84	1071648	52.853	ng		100
44) tert-Amyl Methyl Ether	9.62	73	1582610	55.585	ng		100
45) 1,2-Dichloropropane	9.88	63	394635	25.294	ng		100
46) Bromodichloromethane	10.10	83	608915	25.765	ng		100
47) Trichloroethene	10.17	130	404546	23.420	ng		100
48) 1,4-Dioxane	10.13	88	300643	26.871	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	1656112	25.864	ng		99
50) Methyl Methacrylate	10.43	100	294647	56.063	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222406.D Vial: 2
Acq On : 22 Mar 2024 2:15 Operator: SC
Sample : LCS R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:35:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

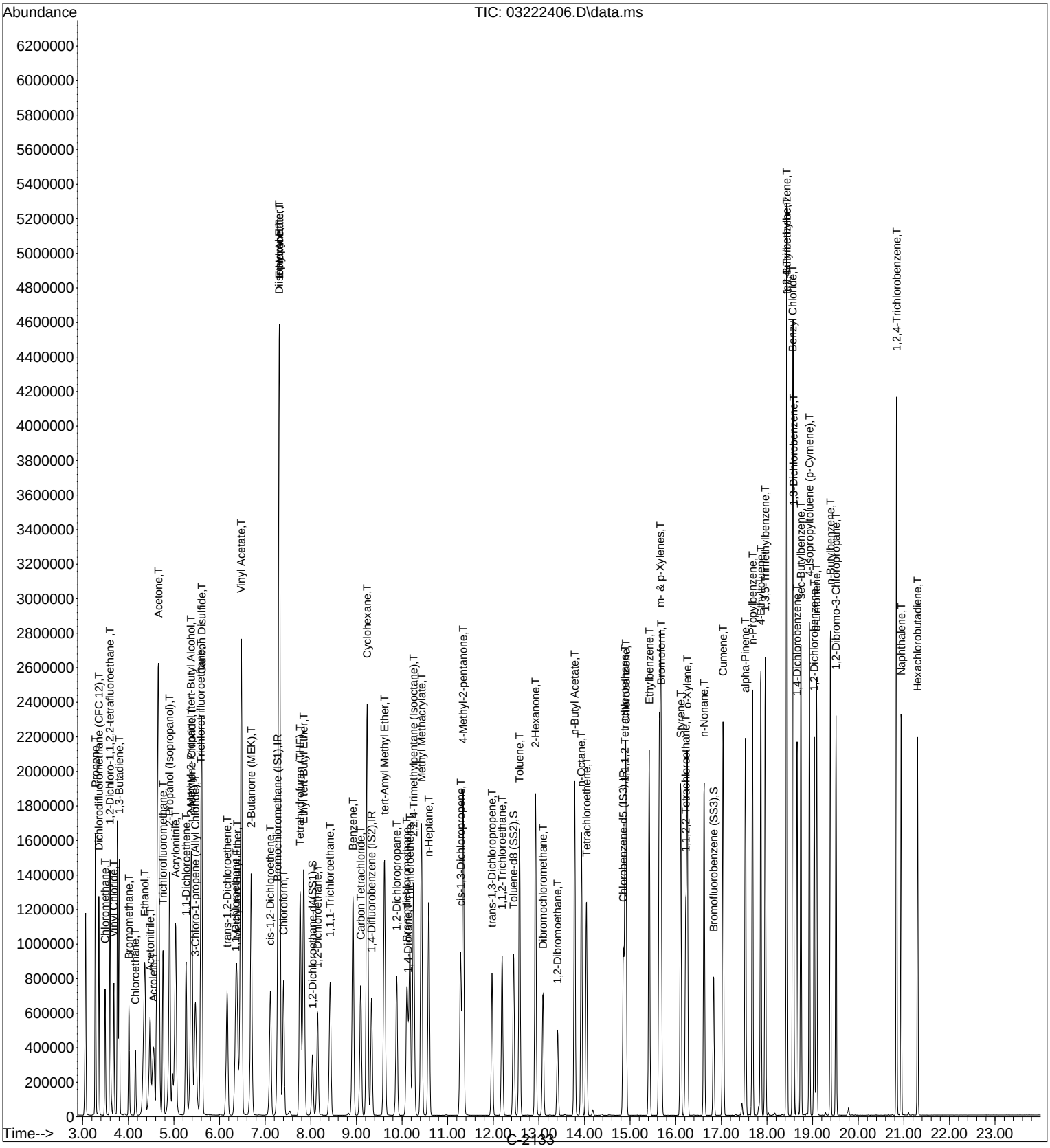
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	363116	26.496 ng		100
52) cis-1,3-Dichloropropene	11.29	75	695258	26.736 ng		100
53) 4-Methyl-2-pentanone	11.34	58	689881	50.196 ng		99
54) trans-1,3-Dichloropropene	11.97	75	572569	25.622 ng		100
55) 1,1,2-Trichloroethane	12.19	97	380041	26.062 ng		100
58) Toluene	12.57	91	1535225	25.799 ng		99
59) 2-Hexanone	12.93	43	1649055	47.693 ng		99
60) Dibromochloromethane	13.09	129	493115	25.723 ng		100
61) 1,2-Dibromoethane	13.41	107	434371	26.003 ng		100
62) n-Butyl Acetate	13.78	43	1787906	46.717 ng		100
63) n-Octane	13.93	57	346703	27.587 ng		100
64) Tetrachloroethene	14.05	166	462188	25.267 ng		100
65) Chlorobenzene	14.91	112	1020148	25.432 ng		100
66) Ethylbenzene	15.42	91	1811568	26.614 ng		100
67) m- & p-Xylenes	15.66	91	2976038	52.649 ng		100
68) Bromoform	15.68	173	456748	28.181 ng		100
69) Styrene	16.11	104	1057638	27.325 ng		100
70) o-Xylene	16.25	91	1464109	26.269 ng		100
71) n-Nonane	16.62	43	849435	26.454 ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	661340	25.093 ng		100
74) Cumene	17.04	105	1738096	25.462 ng		100
75) alpha-Pinene	17.53	93	941602	27.938 ng		100
76) n-Propylbenzene	17.68	91	2097683	25.342 ng		100
77) 3-Ethyltoluene	17.04	105	1738096	No Calib		
78) 4-Ethyltoluene	17.87	105	1700160	25.780 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1471131	25.749 ng		99
80) alpha-Methylstyrene	17.04	118	3321	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1738096	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1486241	25.000 ng		100
83) n-Decane	17.04	58	14367	No Calib		
84) Benzyl Chloride	18.57	91	2430792	41.400 ng		100
85) 1,3-Dichlorobenzene	18.58	146	862689	23.489 ng		100
86) 1,4-Dichlorobenzene	18.66	146	846454	23.432 ng		100
87) sec-Butylbenzene	18.75	105	1830920	23.991 ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1537380	23.473 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1738096	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	825022	23.387 ng		100
91) d-Limonene	19.09	68	532828	25.597 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	557919	45.774 ng		98
93) n-Undecane	17.86	58	25894	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1109966	42.993 ng		100
95) Naphthalene	20.94	128	1486498	16.942 ng		100
96) n-Dodecane	18.93	58	46441	No Calib	#	
97) Hexachlorobutadiene	21.30	225	371947	17.623 ng		100
98) Cyclohexanone	15.41	55	346	No Calib	#	
99) tert-Butylbenzene	18.43	119	1366528	24.472 ng		100
100) n-Butylbenzene	19.39	91	1422328	22.582 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	402564	27.785 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222406.D Vial: 2
Acq On : 22 Mar 2024 2:15 Operator: SC
Sample : LCS R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

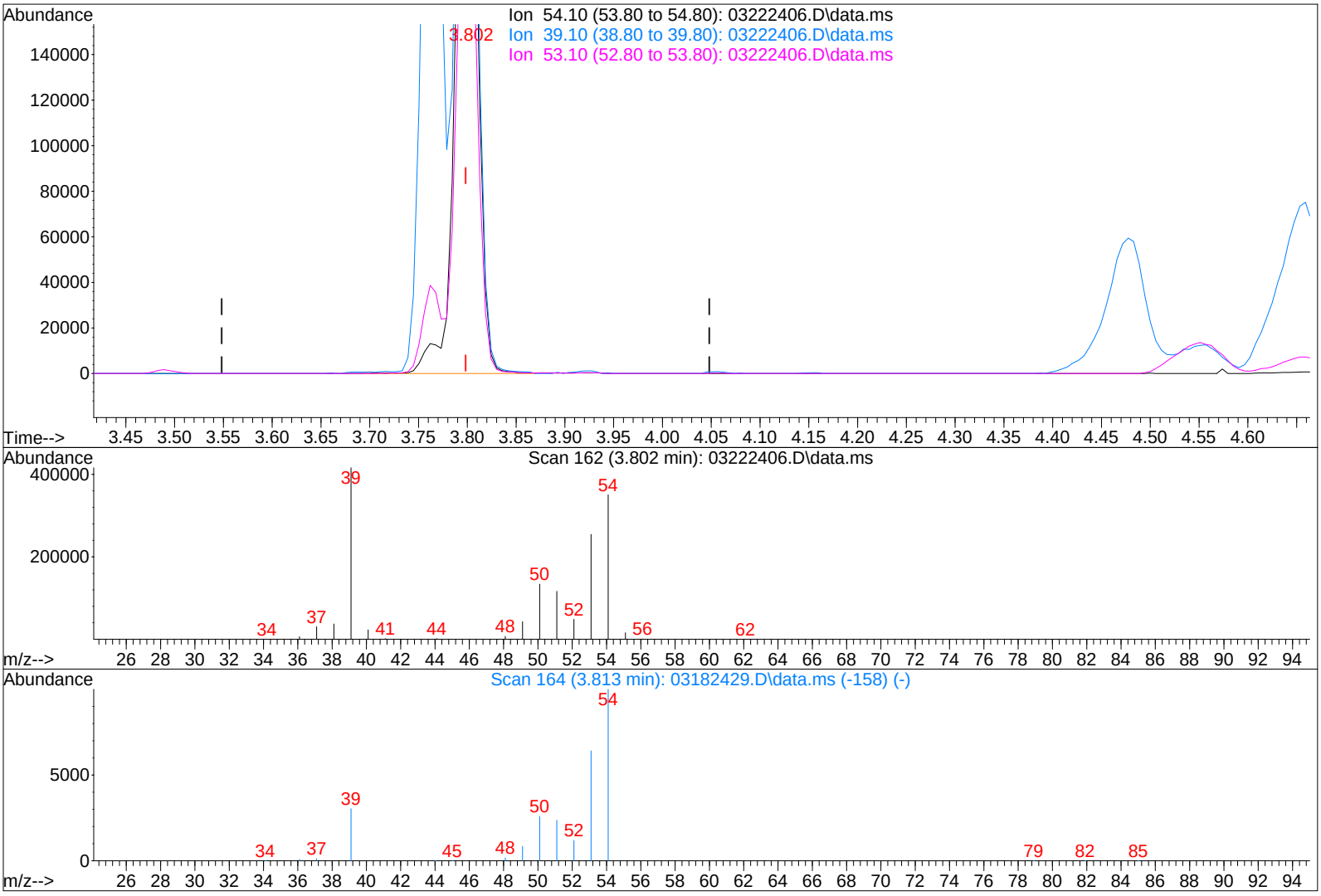
Quant Time: Mar 22 08:35:30 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222406.D Vial: 2
Acq On : 22 Mar 2024 2:15 Operator: SC
Sample : LCS R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:35:08 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222406.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.003) 26.75ng

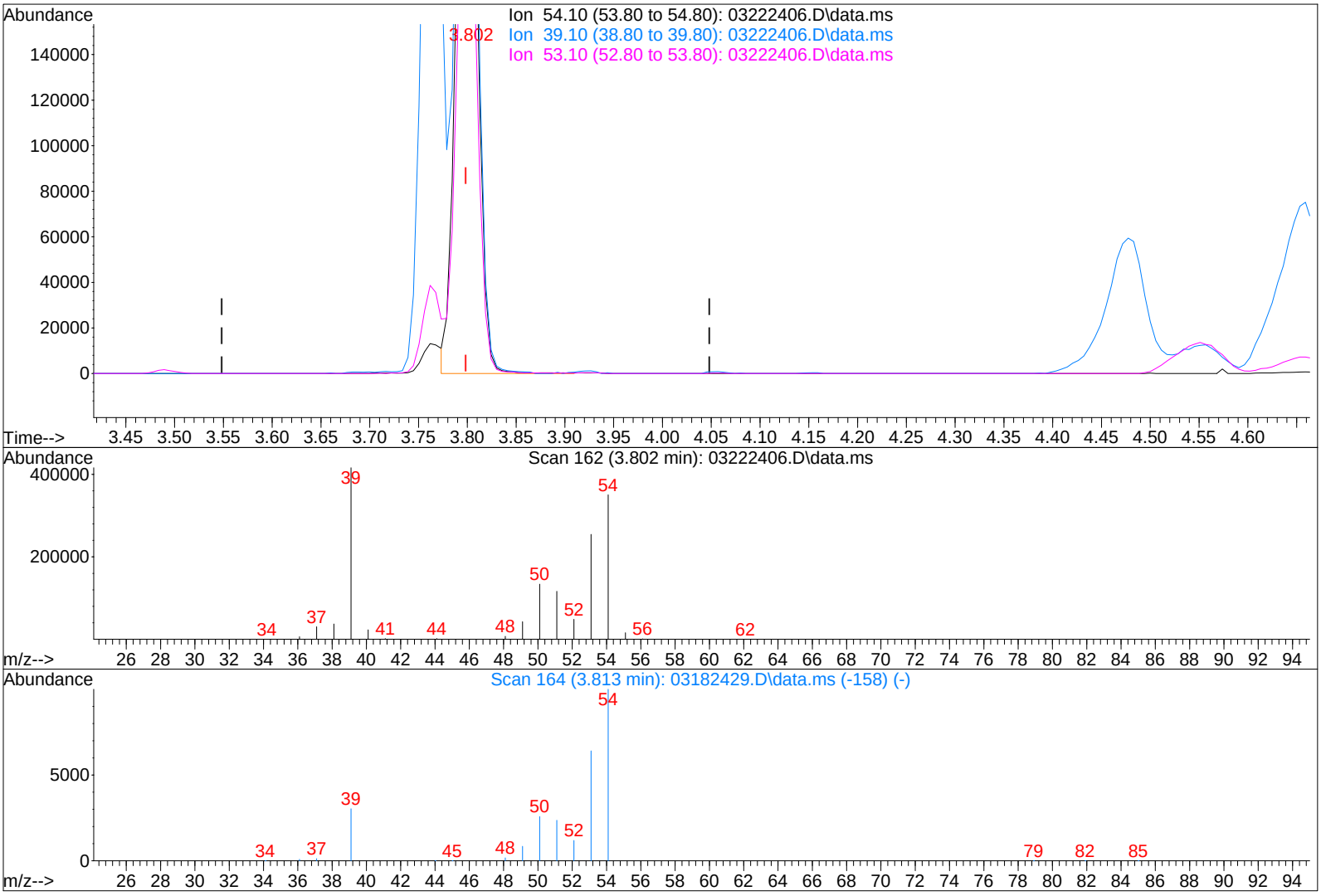
response 498334

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.09
53.10	67.90	70.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222406.D Vial: 2
Acq On : 22 Mar 2024 2:15 Operator: SC
Sample : LCS R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:35:08 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222406.D\data.ms

IPC 3/22/24

(7) 1,3-Butadiene (T)

3.802min (+0.003) 25.81ng m

response 480725

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	119.30
53.10	67.90	73.06
0.00	0.00	0.00

CG 3/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222407.D Vial: 2
Acq On : 22 Mar 2024 2:47 Operator: SC
Sample : LCSD R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:38:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/22/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	165908	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	708158	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	155789	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	329196	12.129	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
57) Toluene-d8 (SS2)	12.44	98	804283	12.858	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.88%				
73) Bromofluorobenzene (SS3)	16.83	174	276238	12.526	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
Target Compounds							Qvalue
2) Propene	3.27	42	439830	23.278	ng		99
3) Dichlorodifluoromethan...	3.35	85	799453	23.494	ng		100
4) Chloromethane	3.48	50	620444	24.522	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	382996	25.596	ng		100
6) Vinyl Chloride	3.68	62	593228	25.098	ng		100
7) 1,3-Butadiene	3.80	54	489397m	26.410	ng		
8) Bromomethane	4.01	94	343415	24.837	ng		99
9) Chloroethane	4.15	64	256957	24.780	ng		100
10) Ethanol	4.36	45	1850781	115.436	ng		100
11) Acetonitrile	4.47	41	807103	21.935	ng		99
12) Acrolein	4.55	56	577892	50.295	ng		100
13) Acetone	4.65	58	1486232	121.804	ng		97
14) Trichlorofluoromethane	4.76	101	779885	23.679	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	2305308	47.446	ng		100
16) Acrylonitrile	5.03	53	1146245	48.512	ng		99
17) 1,1-Dichloroethene	5.26	96	372752	25.965	ng		98
18) 2-Methyl-2-Propanol (t...	5.37	59	1393689	48.012	ng		99
19) Methylene Chloride	5.39	84	390266	21.992	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	676501	25.752	ng		100
21) Trichlorotrifluoroethane	5.58	151	351287	25.302	ng		100
22) Carbon Disulfide	5.60	76	2897870	52.420	ng		100
23) trans-1,2-Dichloroethene	6.16	61	638420	26.107	ng		100
24) 1,1-Dichloroethane	6.35	63	746373	25.756	ng		100
25) Methyl tert-Butyl Ether	6.38	73	892408	30.168	ng		99
26) Vinyl Acetate	6.48	86	394019	145.151	ng	#	96
27) 2-Butanone (MEK)	6.69	72	502421	50.366	ng		96
28) cis-1,2-Dichloroethene	7.11	61	601140	25.411	ng		100
29) Diisopropyl Ether	7.30	87	611358	52.234	ng		96
30) Ethyl Acetate	7.31	61	307171	51.312	ng		100
31) n-Hexane	7.31	57	682125	26.437	ng		99
32) Chloroform	7.40	83	747256	25.984	ng		100
34) Tetrahydrofuran (THF)	7.76	72	455120	50.377	ng		97
35) Ethyl tert-Butyl Ether	7.84	87	646869	58.267	ng		99
36) 1,2-Dichloroethane	8.15	62	639441	23.805	ng		100
38) 1,1,1-Trichloroethane	8.42	97	702237	24.981	ng		100
39) Isopropyl Acetate	9.62	61	901	No Calib		#	
40) 1-Butanol	8.82	56	7374	No Calib		#	
41) Benzene	8.92	78	1528378	23.982	ng		100
42) Carbon Tetrachloride	9.09	117	635460	25.359	ng		100
43) Cyclohexane	9.24	84	1083679	53.755	ng		99
44) tert-Amyl Methyl Ether	9.61	73	1597109	56.418	ng		99
45) 1,2-Dichloropropane	9.88	63	399679	25.766	ng		99
46) Bromodichloromethane	10.10	83	616872	26.252	ng		100
47) Trichloroethene	10.17	130	407134	23.706	ng		100
48) 1,4-Dioxane	10.13	88	305683	27.479	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	1668100	26.201	ng		99
50) Methyl Methacrylate	10.42	100	299659	57.346	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222407.D Vial: 2
Acq On : 22 Mar 2024 2:47 Operator: SC
Sample : LCSD R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:38:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

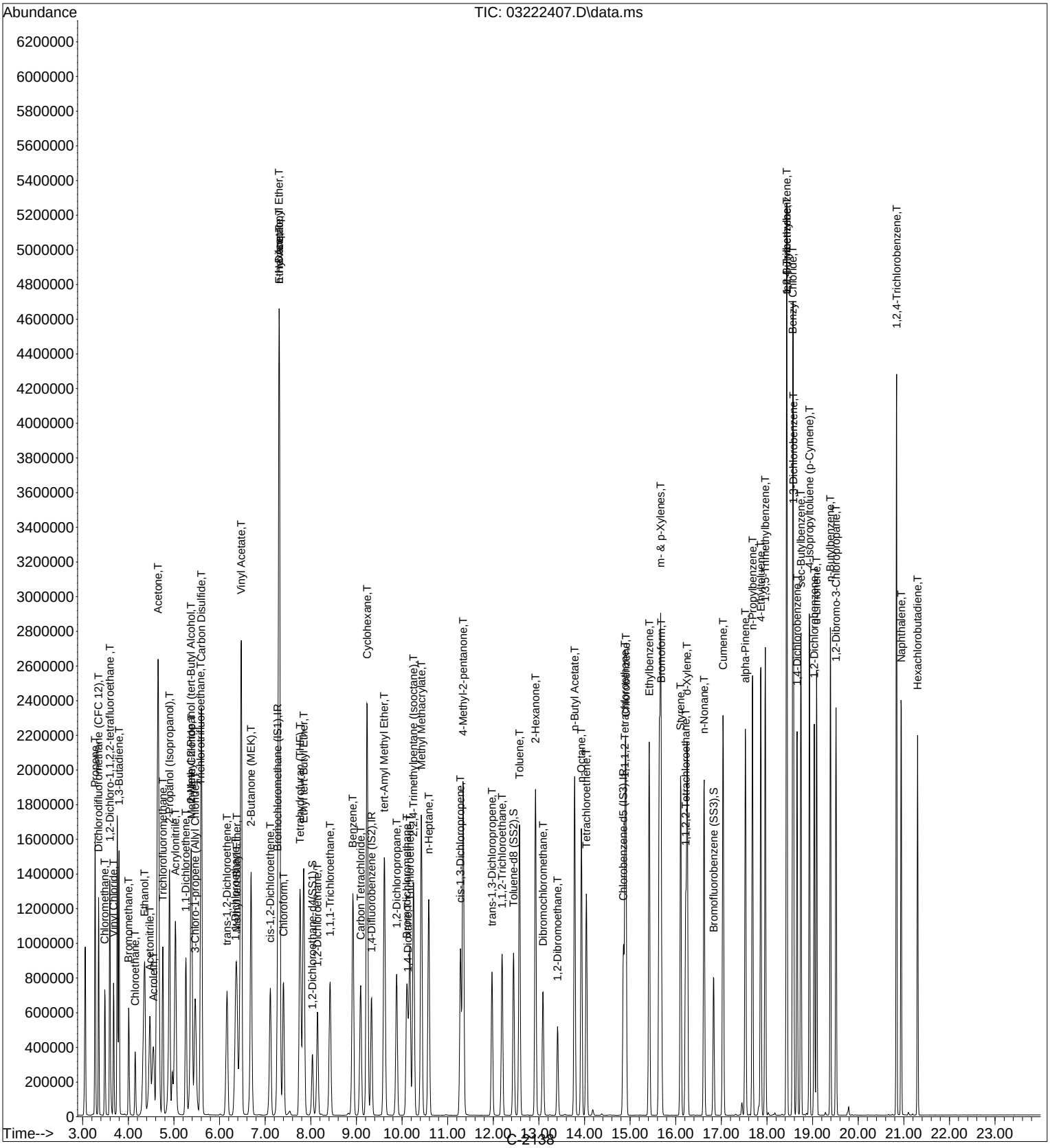
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	369519	27.119 ng		99
52) cis-1,3-Dichloropropene	11.28	75	703866	27.224 ng		99
53) 4-Methyl-2-pentanone	11.34	58	699611	51.199 ng		99
54) trans-1,3-Dichloropropene	11.97	75	580840	26.142 ng		100
55) 1,1,2-Trichloroethane	12.19	97	383650	26.461 ng		100
58) Toluene	12.57	91	1555207	26.049 ng		99
59) 2-Hexanone	12.93	43	1672479	48.211 ng		99
60) Dibromochloromethane	13.09	129	501229	26.060 ng		99
61) 1,2-Dibromoethane	13.41	107	439580	26.228 ng		100
62) n-Butyl Acetate	13.78	43	1809819	47.133 ng		99
63) n-Octane	13.93	57	350795	27.821 ng		100
64) Tetrachloroethene	14.04	166	470018	25.610 ng		100
65) Chlorobenzene	14.91	112	1030110	25.595 ng		100
66) Ethylbenzene	15.42	91	1835645	26.879 ng		100
67) m- & p-Xylenes	15.67	91	3005701	52.998 ng		100
68) Bromoform	15.68	173	461695	28.392 ng		99
69) Styrene	16.11	104	1077744	27.752 ng		100
70) o-Xylene	16.25	91	1479961	26.466 ng		100
71) n-Nonane	16.62	43	864331	26.829 ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	669335	25.313 ng		100
74) Cumene	17.04	105	1755349	25.629 ng		99
75) alpha-Pinene	17.53	93	953994	28.213 ng		100
76) n-Propylbenzene	17.68	91	2117772	25.500 ng		100
77) 3-Ethyltoluene	17.04	105	1755349	No Calib		
78) 4-Ethyltoluene	17.87	105	1719537	25.988 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1491638	26.022 ng		99
80) alpha-Methylstyrene	17.04	118	3393	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1755349	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1502491	25.190 ng		100
83) n-Decane	17.04	58	13579	No Calib		
84) Benzyl Chloride	18.56	91	2468112	41.910 ng		100
85) 1,3-Dichlorobenzene	18.58	146	874045	23.720 ng		100
86) 1,4-Dichlorobenzene	18.66	146	859956	23.727 ng		100
87) sec-Butylbenzene	18.75	105	1849460	24.154 ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1550255	23.591 ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1755349	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	830402	23.462 ng		100
91) d-Limonene	19.09	68	540738	25.892 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	563279	46.062 ng		99
93) n-Undecane	17.86	58	27273	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1134242	43.788 ng		100
95) Naphthalene	20.94	128	1524995	17.326 ng		100
96) n-Dodecane	18.93	58	38146	No Calib	#	
97) Hexachlorobutadiene	21.30	225	374719	17.696 ng		100
98) Cyclohexanone	15.41	55	312	No Calib	#	
99) tert-Butylbenzene	18.43	119	1377053	24.579 ng		100
100) n-Butylbenzene	19.39	91	1445786	22.879 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	407970	28.066 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222407.D Vial: 2
Acq On : 22 Mar 2024 2:47 Operator: SC
Sample : LCSD R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

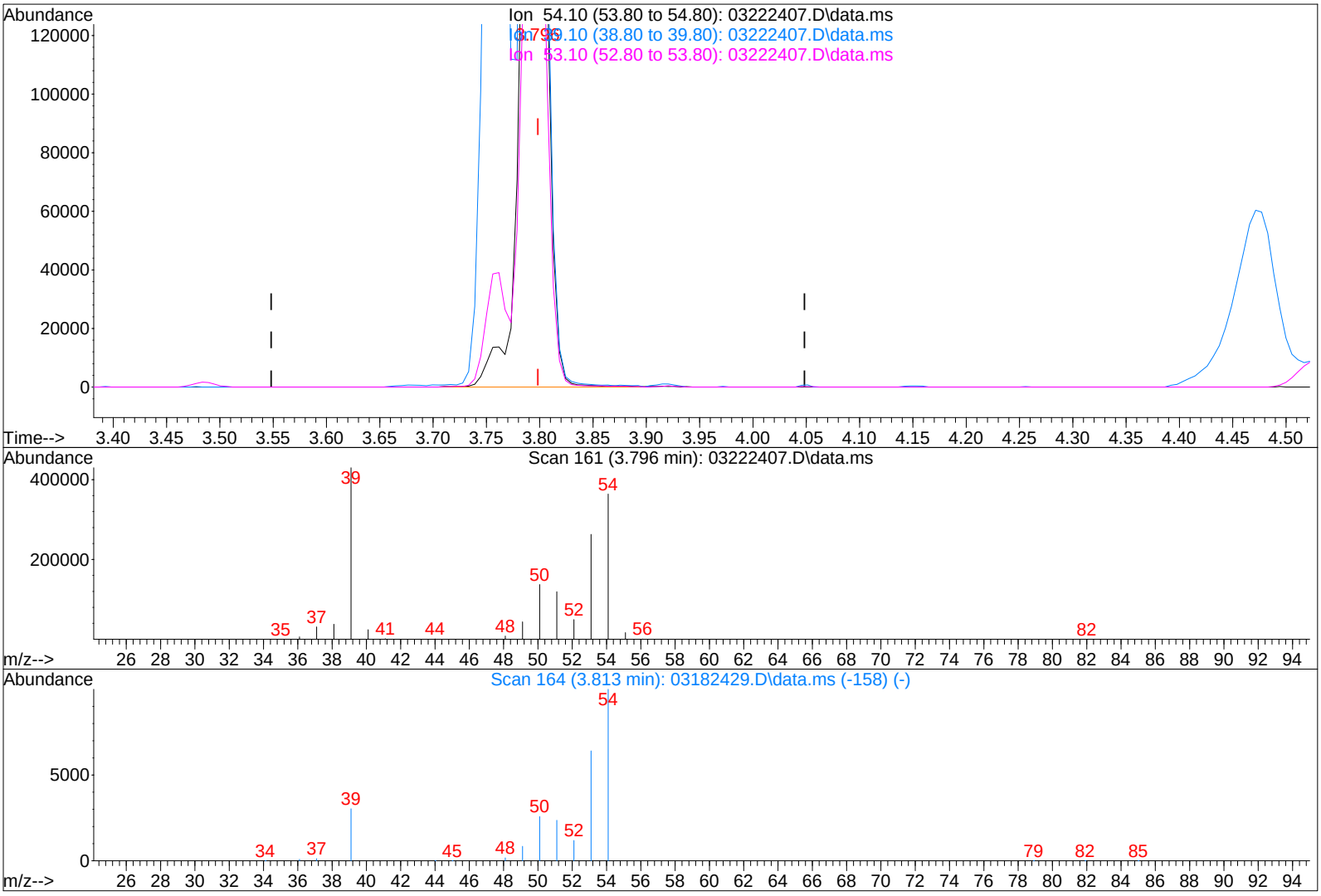
Quant Time: Mar 22 08:38:11 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222407.D Vial: 2
Acq On : 22 Mar 2024 2:47 Operator: SC
Sample : LCSD R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:37:49 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222407.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (-0.003) 27.39ng

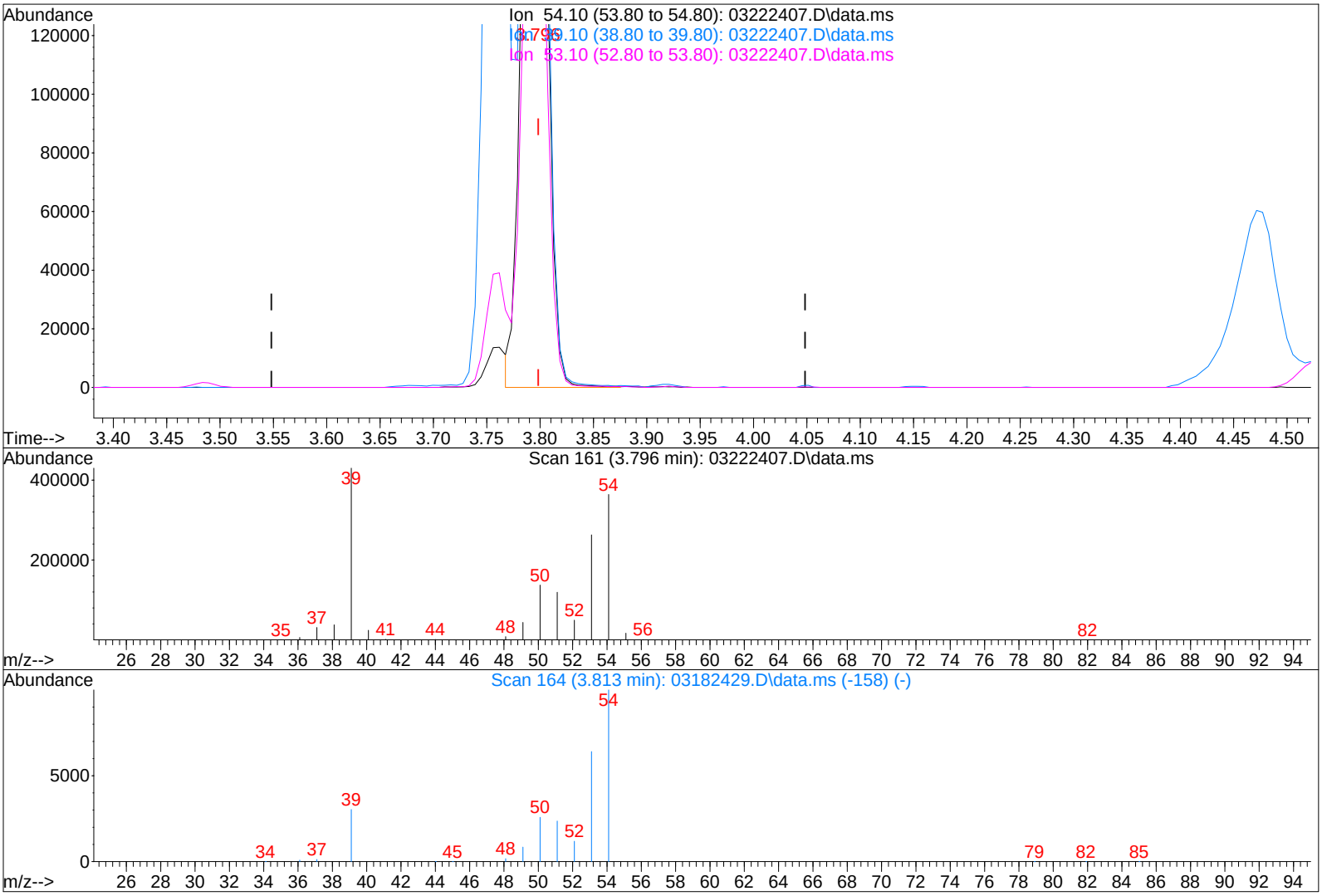
response 507602

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	108.06
53.10	67.90	68.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222407.D Vial: 2
Acq On : 22 Mar 2024 2:47 Operator: SC
Sample : LCSD R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 22 08:37:49 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:34:57 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222407.D\data.ms

IPC 3/22/24

3/22/24

(7) 1,3-Butadiene (T)

3.796min (-0.003) 26.41ng m

response 489397

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	112.08
53.10	67.90	71.55
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252409.D Vial: 2
Acq On : 25 Mar 2024 15:43 Operator: SC
Sample : LCS R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:05:23 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	136960	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	589060	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	119716	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	271783	12.130	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.04%				
57) Toluene-d8 (SS2)	12.45	98	669045	13.919	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.36%				
73) Bromofluorobenzene (SS3)	16.83	174	224735	13.261	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
Target Compounds							Qvalue
2) Propene	3.28	42	380045	24.365	ng		100
3) Dichlorodifluoromethan...	3.35	85	724616	25.796	ng		100
4) Chloromethane	3.49	50	526705	25.218	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	344248	27.870	ng		99
6) Vinyl Chloride	3.68	62	528222	27.071	ng		99
7) 1,3-Butadiene	3.80	54	415781m	27.180	ng		
8) Bromomethane	4.02	94	309435	27.109	ng		100
9) Chloroethane	4.16	64	227281	26.550	ng		100
10) Ethanol	4.36	45	1510433	114.120	ng		100
11) Acetonitrile	4.48	41	665371	21.905	ng		100
12) Acrolein	4.56	56	462562	48.767	ng		99
13) Acetone	4.66	58	1244908	123.591	ng		99
14) Trichlorofluoromethane	4.76	101	704757	25.920	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	1896251	47.276	ng		99
16) Acrylonitrile	5.03	53	927966	47.575	ng		99
17) 1,1-Dichloroethene	5.27	96	326614	27.560	ng		97
18) 2-Methyl-2-Propanol (t...	5.37	59	1157527	48.305	ng		100
19) Methylene Chloride	5.39	84	343870	23.474	ng		95
20) 3-Chloro-1-propene (Al...	5.47	41	565149	26.061	ng		95
21) Trichlorotrifluoroethane	5.59	151	322840	28.168	ng		98
22) Carbon Disulfide	5.61	76	2582454	56.588	ng		100
23) trans-1,2-Dichloroethene	6.17	61	550653	27.277	ng		99
24) 1,1-Dichloroethane	6.36	63	663769	27.747	ng		100
25) Methyl tert-Butyl Ether	6.39	73	800370	32.776	ng		99
26) Vinyl Acetate	6.48	86	336729	150.265	ng	#	81
27) 2-Butanone (MEK)	6.69	72	444038	53.922	ng	#	87
28) cis-1,2-Dichloroethene	7.12	61	516480	26.446	ng		98
29) Diisopropyl Ether	7.31	87	548414	56.759	ng	#	87
30) Ethyl Acetate	7.31	61	256973	51.999	ng		96
31) n-Hexane	7.32	57	593094	27.844	ng		98
32) Chloroform	7.40	83	661516	27.864	ng		100
34) Tetrahydrofuran (THF)	7.77	72	401257	53.803	ng		93
35) Ethyl tert-Butyl Ether	7.84	87	586483	63.993	ng		92
36) 1,2-Dichloroethane	8.15	62	567782	25.605	ng		99
38) 1,1,1-Trichloroethane	8.42	97	622611	26.626	ng		100
39) Isopropyl Acetate	9.61	61	735	No Calib		#	
40) 1-Butanol	8.83	56	9073	No Calib		#	
41) Benzene	8.92	78	1350434	25.474	ng		99
42) Carbon Tetrachloride	9.09	117	575393	27.605	ng		100
43) Cyclohexane	9.24	84	988642	58.956	ng		92
44) tert-Amyl Methyl Ether	9.62	73	1431531	60.793	ng		98
45) 1,2-Dichloropropane	9.88	63	350203	27.141	ng		98
46) Bromodichloromethane	10.10	83	544936	27.880	ng		100
47) Trichloroethene	10.17	130	372895	26.102	ng		100
48) 1,4-Dioxane	10.13	88	267269	28.883	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	1432828	27.056	ng		99
50) Methyl Methacrylate	10.43	100	259155	59.622	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252409.D Vial: 2
Acq On : 25 Mar 2024 15:43 Operator: SC
Sample : LCS R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:05:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

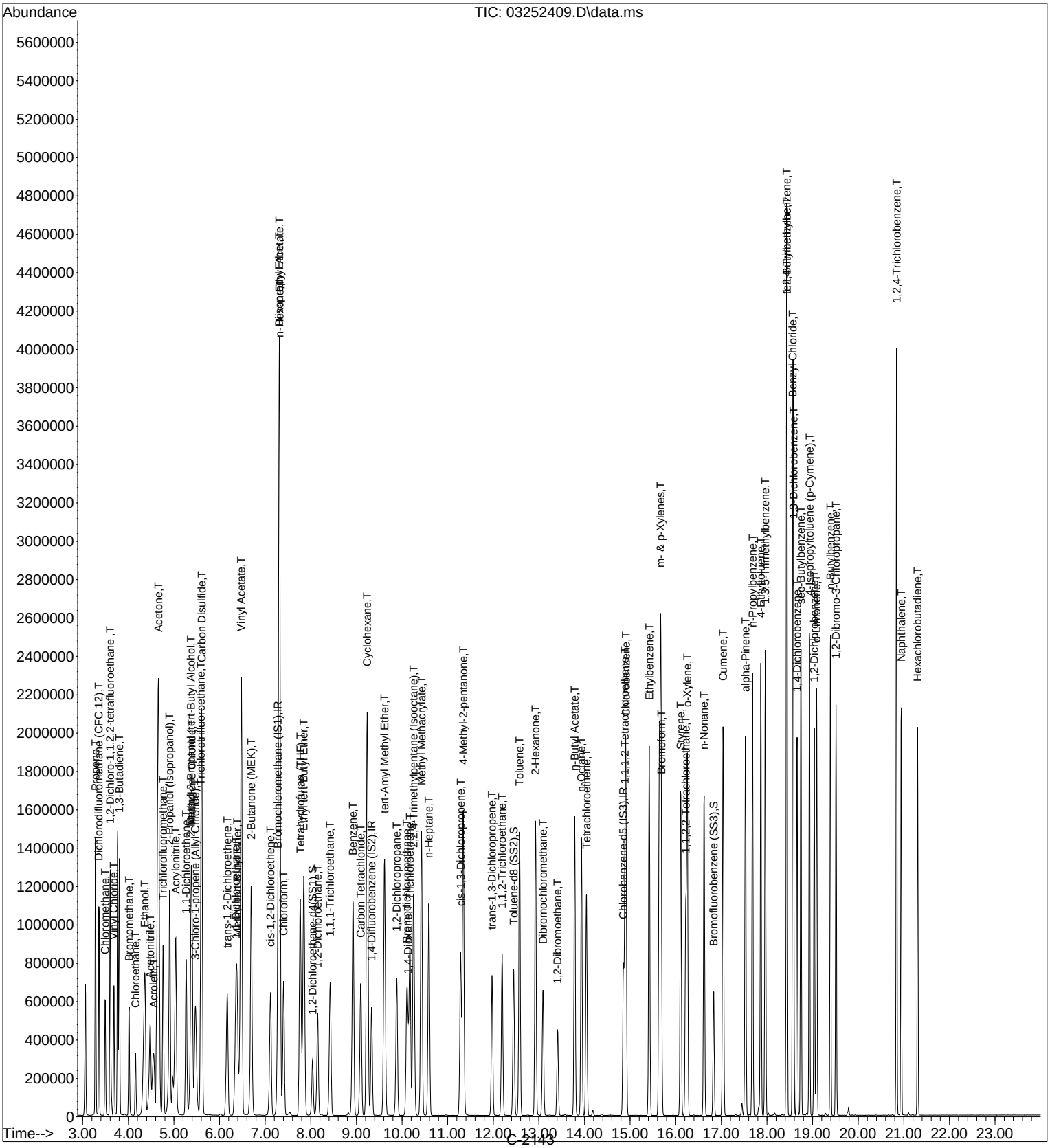
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	334683	29.529 ng		95
52) cis-1,3-Dichloropropene	11.29	75	634013	29.480 ng		100
53) 4-Methyl-2-pentanone	11.34	58	570869	50.224 ng		99
54) trans-1,3-Dichloropropene	11.97	75	516462	27.944 ng		100
55) 1,1,2-Trichloroethane	12.19	97	338304	28.051 ng		99
58) Toluene	12.57	91	1377601	30.027 ng		100
59) 2-Hexanone	12.93	43	1338393	50.206 ng		99
60) Dibromochloromethane	13.09	129	452311	30.603 ng		99
61) 1,2-Dibromoethane	13.41	107	386620	30.019 ng		100
62) n-Butyl Acetate	13.78	43	1417128	48.027 ng		99
63) n-Octane	13.93	57	299632	30.923 ng		93
64) Tetrachloroethene	14.05	166	428545	30.386 ng		98
65) Chlorobenzene	14.91	112	942654	30.480 ng		100
66) Ethylbenzene	15.42	91	1630313	31.066 ng		100
67) m- & p-Xylenes	15.67	91	2681748	61.535 ng		99
68) Bromoform	15.69	173	415950	33.286 ng		99
69) Styrene	16.11	104	946833	31.728 ng		99
70) o-Xylene	16.25	91	1310907	30.506 ng		99
71) n-Nonane	16.62	43	738870	29.845 ng		98
72) 1,1,2,2-Tetrachloroethane	16.22	83	592836	29.175 ng		100
74) Cumene	17.04	105	1566497	29.764 ng		100
75) alpha-Pinene	17.53	93	853856	32.860 ng		99
76) n-Propylbenzene	17.68	91	1896884	29.723 ng		99
77) 3-Ethyltoluene	17.04	105	1566497	No Calib		
78) 4-Ethyltoluene	17.87	105	1539289	30.274 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1323972	30.057 ng		99
80) alpha-Methylstyrene	17.04	118	3087	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1566497	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1346311	29.372 ng		98
83) n-Decane	17.04	58	12044	No Calib		
84) Benzyl Chloride	18.57	91	2018292	44.674 ng		99
85) 1,3-Dichlorobenzene	18.58	146	779881	27.542 ng		99
86) 1,4-Dichlorobenzene	18.66	146	758236	27.224 ng		98
87) sec-Butylbenzene	18.75	105	1640817	27.886 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1375893	27.247 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1566497	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	746049	27.431 ng		99
91) d-Limonene	19.09	68	463329	28.870 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	516485	54.961 ng		97
93) n-Undecane	17.87	58	22926	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1033570	51.924 ng		98
95) Naphthalene	20.94	128	1352194	20.029 ng		100
96) n-Dodecane	18.93	58	31766	No Calib	#	
97) Hexachlorobutadiene	21.30	225	343374	21.102 ng		100
98) Cyclohexanone	15.41	55	289	No Calib	#	
99) tert-Butylbenzene	18.43	119	1248431	28.998 ng		100
100) n-Butylbenzene	19.39	91	1265711	26.065 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	369708	33.097 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252409.D Vial: 2
Acq On : 25 Mar 2024 15:43 Operator: SC
Sample : LCS R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

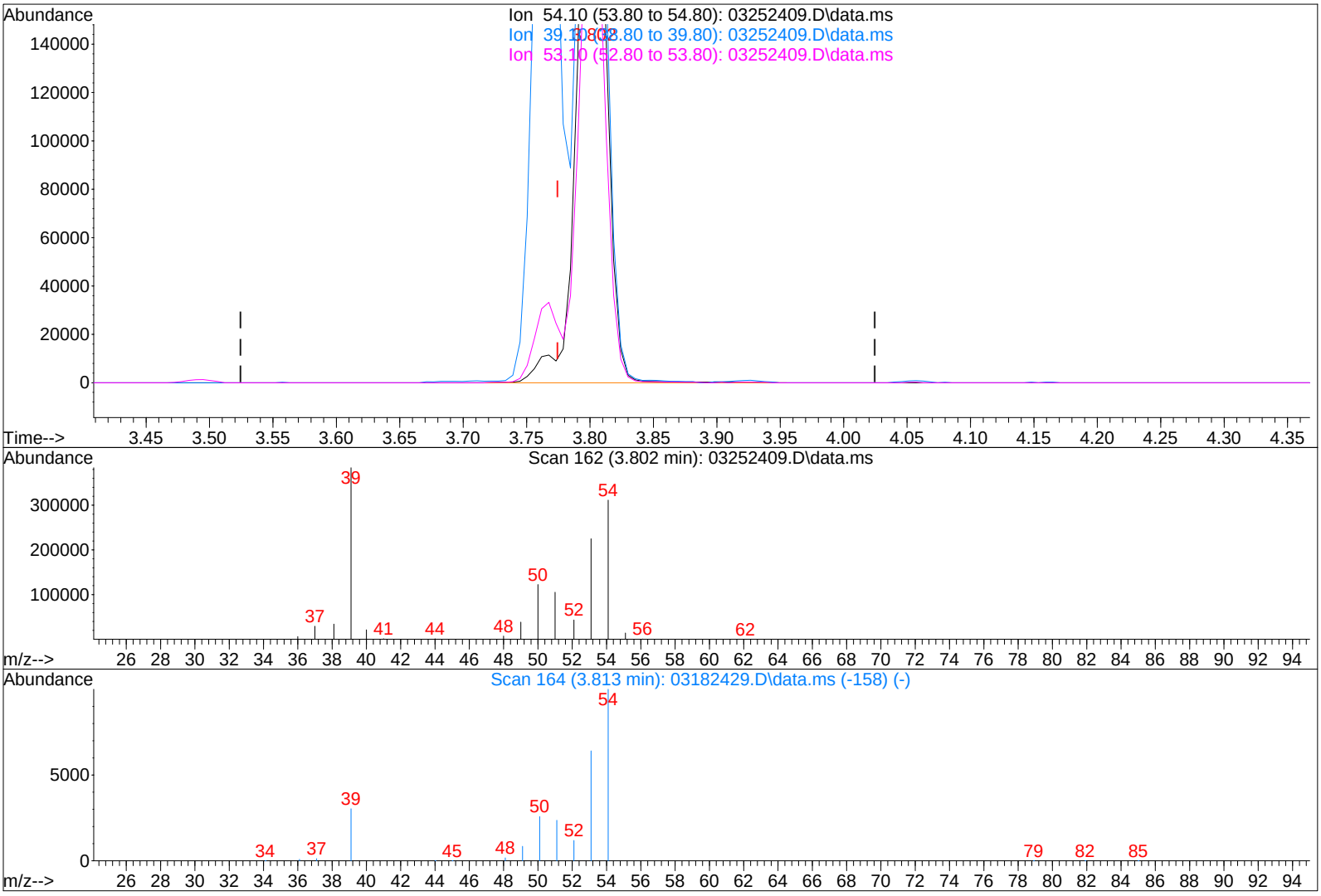
Quant Time: Mar 25 16:05:23 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252409.D Vial: 2
Acq On : 25 Mar 2024 15:43 Operator: SC
Sample : LCS R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:05:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252409.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.027) 28.15ng

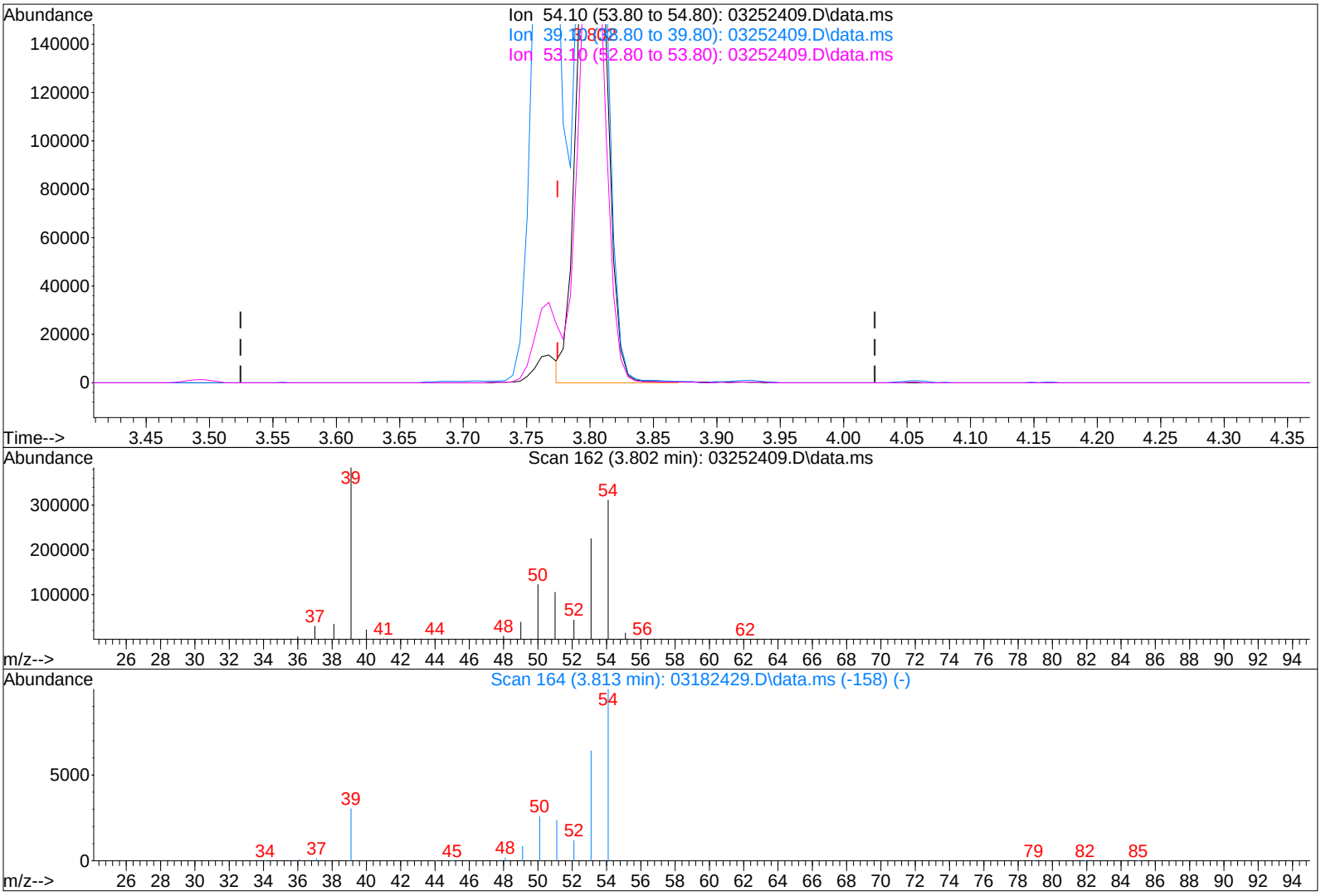
response 430644

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	113.67
53.10	67.90	69.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252409.D Vial: 2
Acq On : 25 Mar 2024 15:43 Operator: SC
Sample : LCS R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:05:01 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252409.D\data.ms

IPC 3/25/24

3/26/24

(7) 1,3-Butadiene (T)

3.802min (+0.027) 27.18ng m

response 415781

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	117.73
53.10	67.90	71.65
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252410.D Vial: 2
Acq On : 25 Mar 2024 16:16 Operator: SC
Sample : LCSD R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:42:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	142177	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	603434	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	122829	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	277976	11.951	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	12.45	98	689767	13.986	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%				
73) Bromofluorobenzene (SS3)	16.83	174	229981	13.227	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	381986	23.591	ng		100
3) Dichlorodifluoromethan...	3.35	85	726300	24.907	ng		100
4) Chloromethane	3.49	50	533257	24.594	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	343855	26.816	ng		99
6) Vinyl Chloride	3.68	62	533010	26.314	ng		98
7) 1,3-Butadiene	3.80	54	423285m	26.655	ng		
8) Bromomethane	4.01	94	312753	26.394	ng		99
9) Chloroethane	4.16	64	231808	26.086	ng		100
10) Ethanol	4.36	45	1560397	113.569	ng		100
11) Acetonitrile	4.48	41	691381	21.926	ng		100
12) Acrolein	4.55	56	471430	47.878	ng		99
13) Acetone	4.66	58	1280882	122.496	ng		98
14) Trichlorofluoromethane	4.76	101	714300	25.307	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	1959137	47.051	ng		100
16) Acrylonitrile	5.03	53	957722	47.298	ng		99
17) 1,1-Dichloroethene	5.27	96	335247	27.251	ng		96
18) 2-Methyl-2-Propanol (t...	5.37	59	1169022	46.995	ng		100
19) Methylene Chloride	5.39	84	352149	23.157	ng		94
20) 3-Chloro-1-propene (Al...	5.47	41	573917	25.494	ng		95
21) Trichlorotrifluoroethane	5.59	151	328630	27.621	ng		97
22) Carbon Disulfide	5.61	76	2635726	55.636	ng		100
23) trans-1,2-Dichloroethene	6.17	61	560025	26.724	ng		99
24) 1,1-Dichloroethane	6.35	63	680831	27.416	ng		100
25) Methyl tert-Butyl Ether	6.38	73	804078	31.719	ng		99
26) Vinyl Acetate	6.48	86	347186	149.246	ng	#	82
27) 2-Butanone (MEK)	6.69	72	457712	53.543	ng	#	86
28) cis-1,2-Dichloroethene	7.12	61	528209	26.055	ng		98
29) Diisopropyl Ether	7.30	87	558889	55.721	ng	#	88
30) Ethyl Acetate	7.31	61	265919	51.835	ng		97
31) n-Hexane	7.32	57	604579	27.342	ng		98
32) Chloroform	7.40	83	675487	27.409	ng		100
34) Tetrahydrofuran (THF)	7.77	72	410128	52.975	ng	#	90
35) Ethyl tert-Butyl Ether	7.84	87	594245	62.461	ng		92
36) 1,2-Dichloroethane	8.15	62	577458	25.086	ng		99
38) 1,1,1-Trichloroethane	8.42	97	632424	26.402	ng		100
39) Isopropyl Acetate	9.61	61	741	No Calib		#	
40) 1-Butanol	8.82	56	9366	No Calib		#	
41) Benzene	8.92	78	1376516	25.347	ng		99
42) Carbon Tetrachloride	9.09	117	585547	27.423	ng		100
43) Cyclohexane	9.24	84	1007117	58.627	ng		93
44) tert-Amyl Methyl Ether	9.62	73	1457025	60.402	ng		97
45) 1,2-Dichloropropane	9.88	63	361568	27.354	ng		98
46) Bromodichloromethane	10.10	83	553411	27.639	ng		100
47) Trichloroethene	10.17	130	381576	26.073	ng		100
48) 1,4-Dioxane	10.14	88	272170	28.712	ng		96
49) 2,2,4-Trimethylpentane...	10.25	57	1463258	26.973	ng		99
50) Methyl Methacrylate	10.43	100	266435	59.837	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252410.D Vial: 2
Acq On : 25 Mar 2024 16:16 Operator: SC
Sample : LCSD R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:42:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

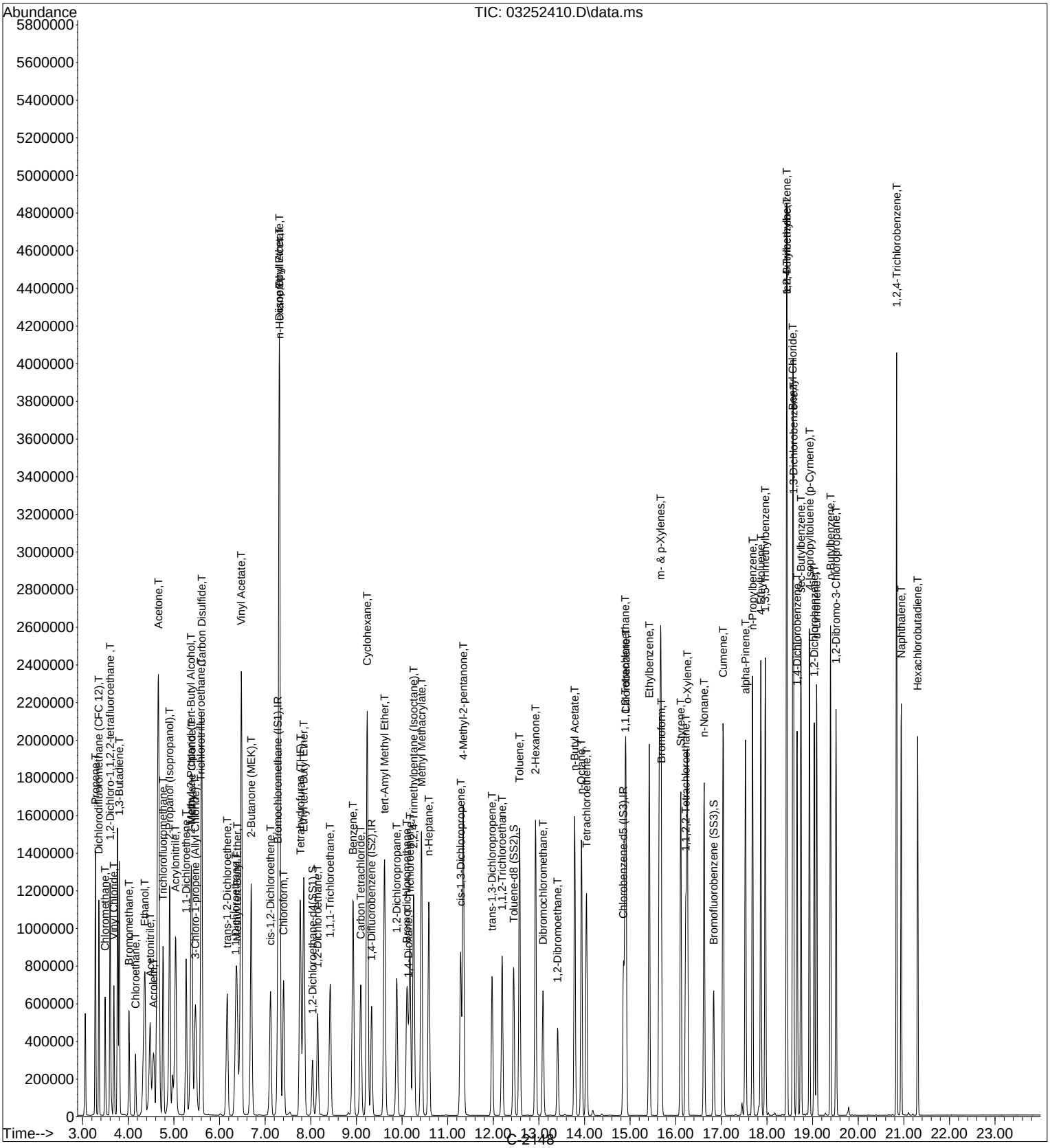
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	343619	29.595 ng		95
52) cis-1,3-Dichloropropene	11.29	75	651087	29.553 ng		100
53) 4-Methyl-2-pentanone	11.34	58	584260	50.177 ng		99
54) trans-1,3-Dichloropropene	11.97	75	530061	27.997 ng		100
55) 1,1,2-Trichloroethane	12.19	97	345833	27.993 ng		100
58) Toluene	12.57	91	1414865	30.057 ng		99
59) 2-Hexanone	12.93	43	1377102	50.348 ng		100
60) Dibromochloromethane	13.09	129	457266	30.154 ng		100
61) 1,2-Dibromoethane	13.41	107	393360	29.768 ng		100
62) n-Butyl Acetate	13.78	43	1468001	48.491 ng		100
63) n-Octane	13.93	57	309285	31.110 ng		95
64) Tetrachloroethene	14.04	166	434942	30.058 ng		99
65) Chlorobenzene	14.91	112	962719	30.340 ng		100
66) Ethylbenzene	15.42	91	1668107	30.980 ng		99
67) m- & p-Xylenes	15.67	91	2735452	61.176 ng		99
68) Bromoform	15.69	173	422975	32.991 ng		99
69) Styrene	16.11	104	973017	31.779 ng		99
70) o-Xylene	16.25	91	1342044	30.439 ng		99
71) n-Nonane	16.62	43	763547	30.060 ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	608814	29.202 ng		99
74) Cumene	17.04	105	1604159	29.707 ng		100
75) alpha-Pinene	17.53	93	867306	32.532 ng		100
76) n-Propylbenzene	17.68	91	1935625	29.561 ng		99
77) 3-Ethyltoluene	17.04	105	1604159	No Calib		
78) 4-Ethyltoluene	17.87	105	1568364	30.064 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1354873	29.979 ng		99
80) alpha-Methylstyrene	17.04	118	3097	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1604159	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1378634	29.315 ng		99
83) n-Decane	17.04	58	12279	No Calib		
84) Benzyl Chloride	18.56	91	2067411	44.599 ng		99
85) 1,3-Dichlorobenzene	18.58	146	792619	27.282 ng		98
86) 1,4-Dichlorobenzene	18.66	146	775031	27.122 ng		98
87) sec-Butylbenzene	18.75	105	1680516	27.837 ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1407660	27.170 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1604159	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	757363	27.141 ng		99
91) d-Limonene	19.09	68	478549	29.062 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	524513	54.401 ng		97
93) n-Undecane	17.87	58	24699	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1051012	51.463 ng		98
95) Naphthalene	20.94	128	1374803	19.845 ng		100
96) n-Dodecane	18.93	58	33720	No Calib	#	
97) Hexachlorobutadiene	21.30	225	343600	20.581 ng		100
98) Cyclohexanone	15.42	55	333	No Calib	#	
99) tert-Butylbenzene	18.43	119	1272436	28.807 ng		100
100) n-Butylbenzene	19.39	91	1290356	25.899 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	376106	32.817 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252410.D Vial: 2
Acq On : 25 Mar 2024 16:16 Operator: SC
Sample : LCSD R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

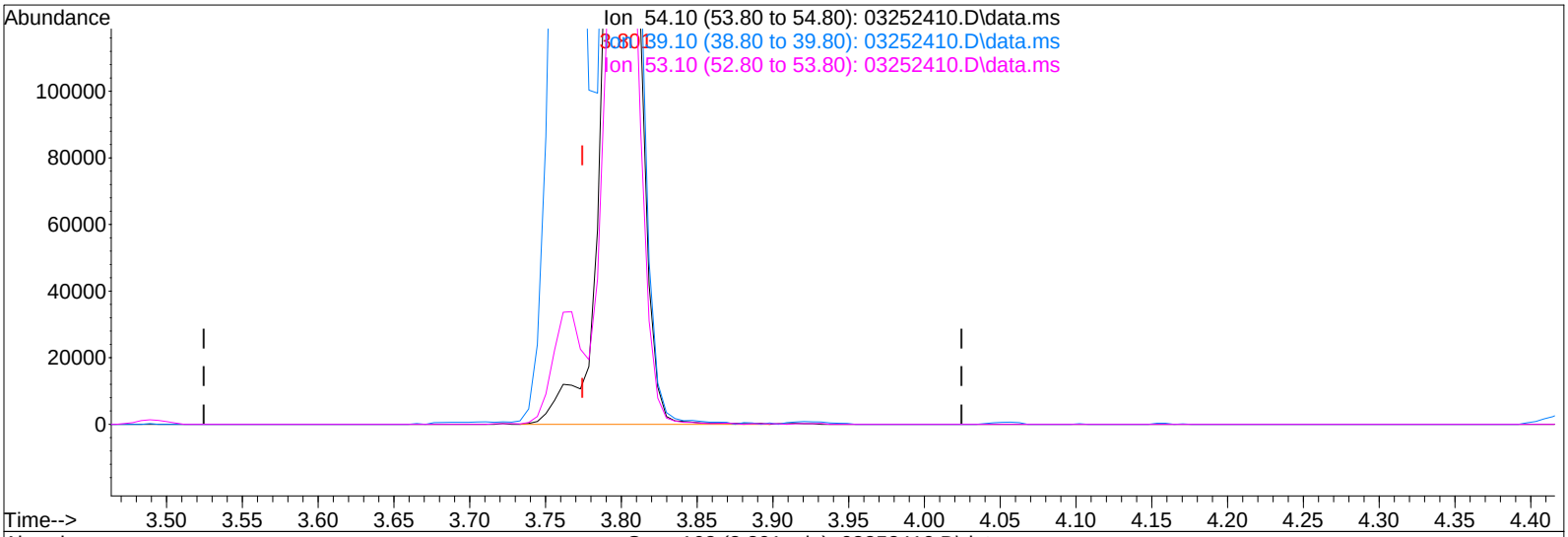
Quant Time: Mar 25 16:42:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

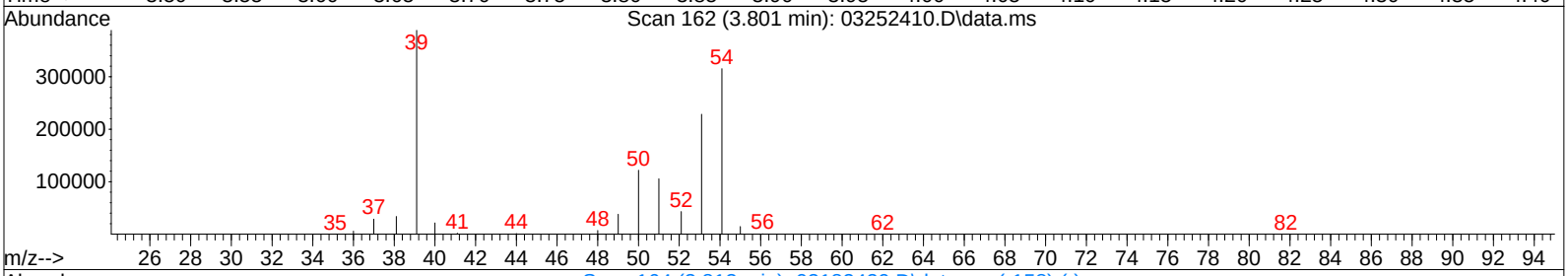


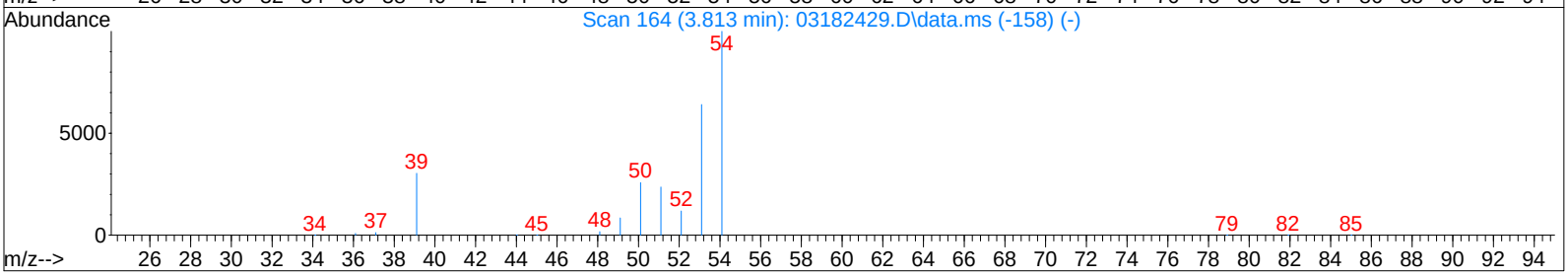
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252410.D Vial: 2
Acq On : 25 Mar 2024 16:16 Operator: SC
Sample : LCSD R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:41:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 03252410.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (+0.027) 27.65ng

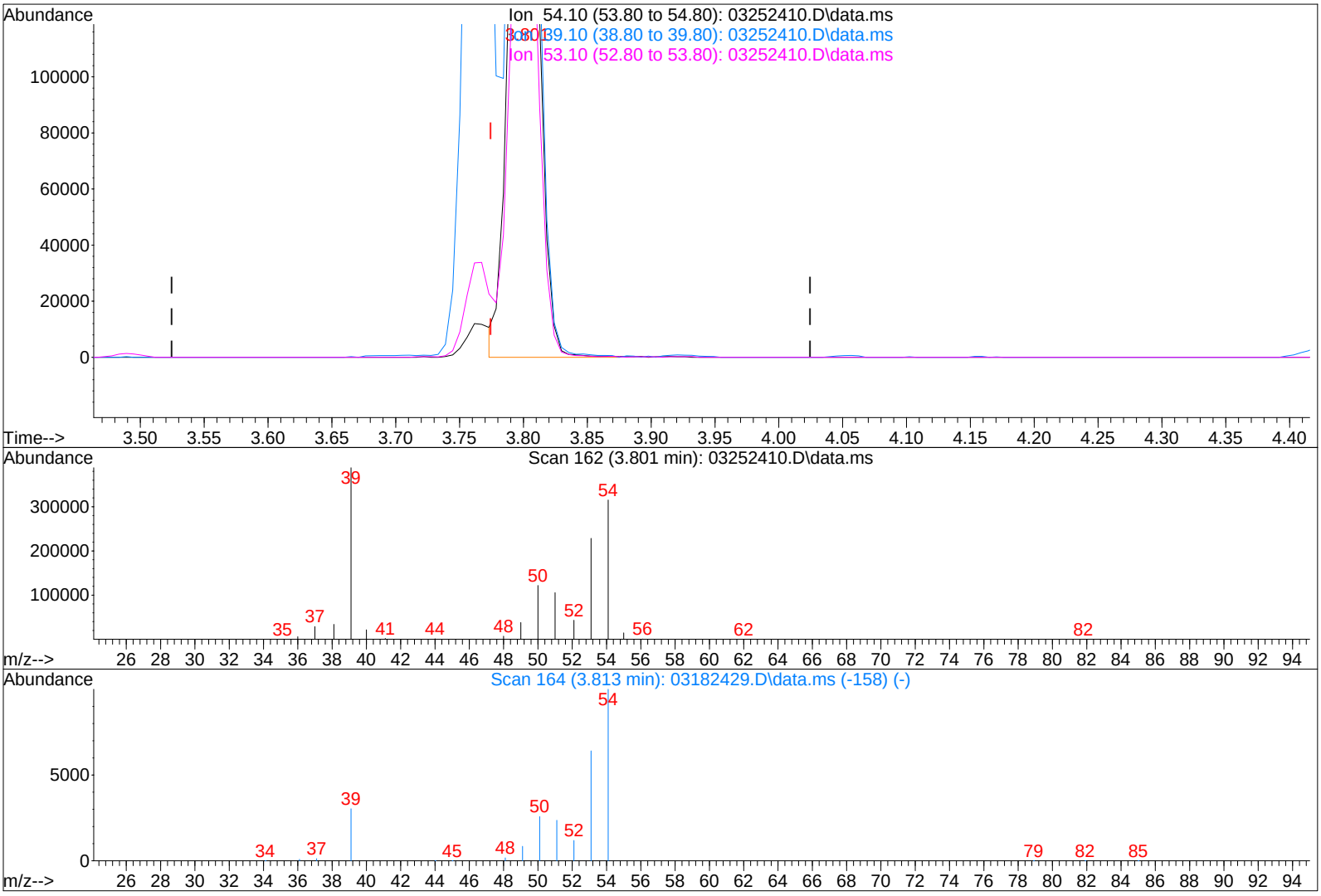
response 439141

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	111.43
53.10	67.90	69.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252410.D Vial: 2
Acq On : 25 Mar 2024 16:16 Operator: SC
Sample : LCSD R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03152406 (4/14)

Quant Time: Mar 25 16:41:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252410.D\data.ms

IPC

3/25/24

3/26/24

(7) 1,3-Butadiene (T)

3.801min (+0.027) 26.66ng m

response 423285

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.60
53.10	67.90	71.83
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:50:21 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145826	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	621655	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	140896	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	300368	12.591	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
57) Toluene-d8 (SS2)	12.43	98	705014	12.462	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.83	174	248078	12.438	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	3899	0.130	ng		98
4) Chloromethane	3.52	50	1115	0.050	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	131	N.D.			
11) Acetonitrile	4.43	41	564	N.D.			
12) Acrolein	4.53	56	446	N.D.			
13) Acetone	4.63	58	18550	1.730	ng	#	56
14) Trichlorofluoromethane	4.75	101	1941971	67.081	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	36193	0.847	ng		88
16) Acrylonitrile	5.04	53	842	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	115	N.D.			
19) Methylene Chloride	5.34	84	2175	0.139	ng		95
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	130783	10.717	ng		99
22) Carbon Disulfide	5.60	76	3408	0.070	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	2045	0.233	ng	#	83
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	64090	12.180	ng		94
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	7.34	83	489	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	195	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	1009	No Calib		#	
41) Benzene	8.89	78	5806	0.104	ng		96
42) Carbon Tetrachloride	9.07	117	341	N.D.			
43) Cyclohexane	9.21	84	1333	0.075	ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	2295	0.169	ng		98
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	527	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	757	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:50:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

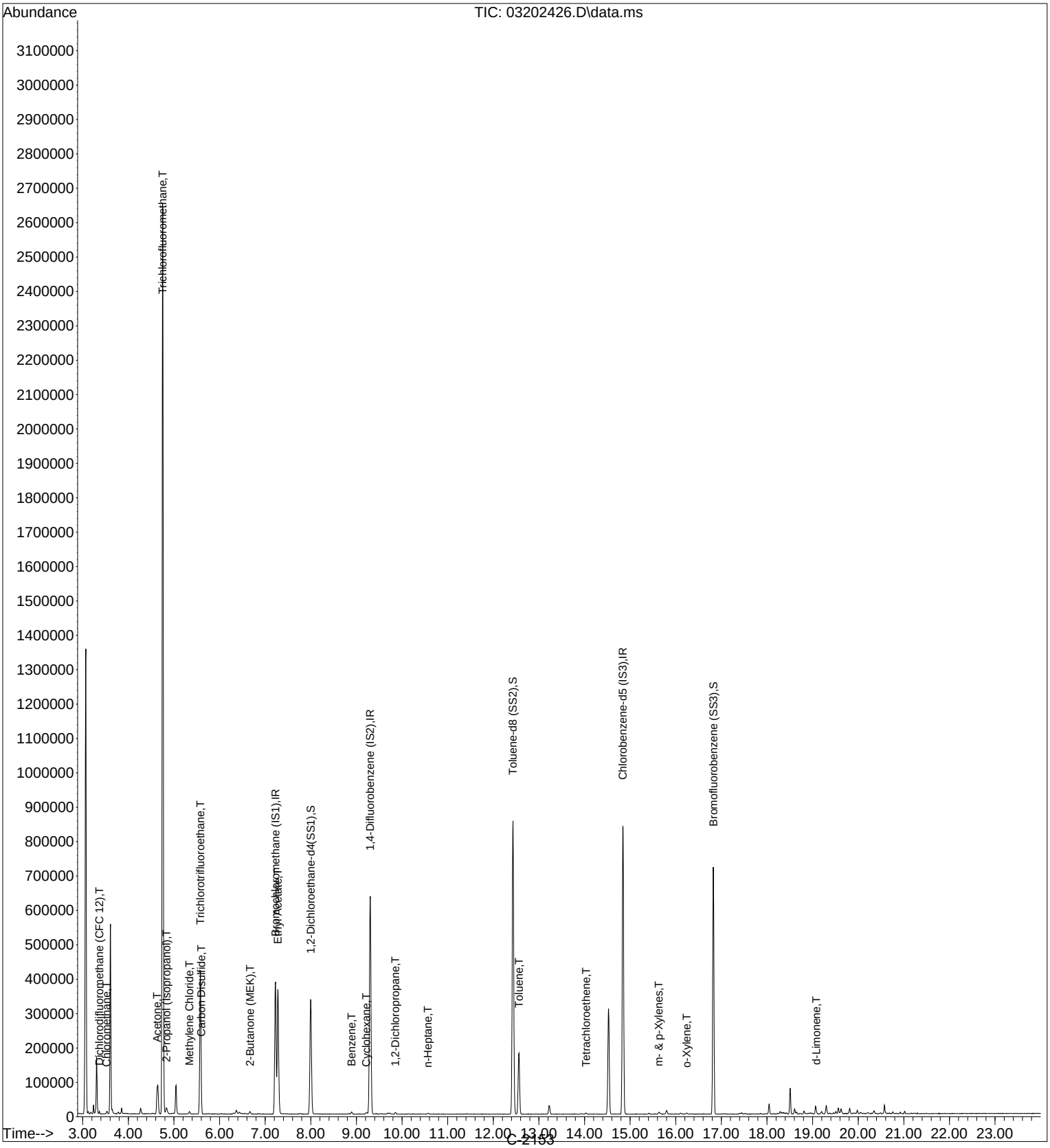
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	690	0.058 ng	#	87
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	161069	2.983 ng		98
59) 2-Hexanone	12.93	43	441	N.D.		
60) Dibromochloromethane	13.07	129	389	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	1061	N.D.		
63) n-Octane	13.93	57	364	N.D.		
64) Tetrachloroethene	14.03	166	1502	0.090 ng		93
65) Chlorobenzene	14.90	112	467	N.D.		
66) Ethylbenzene	15.41	91	2738	N.D.		
67) m- & p-Xylenes	15.63	91	6600	0.129 ng		91
68) Bromoform	15.67	173	325	N.D.		
69) Styrene	16.10	104	1264	N.D.		
70) o-Xylene	16.24	91	2908	0.057 ng		100
71) n-Nonane	16.62	43	705	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.20	83	290	N.D.		
74) Cumene	17.03	105	785	N.D.		
75) alpha-Pinene	17.53	93	1462	N.D.		
76) n-Propylbenzene	17.67	91	1011	N.D.		
77) 3-Ethyltoluene	17.03	105	785	No Calib	#	
78) 4-Ethyltoluene	17.86	105	725	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	565	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	785	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1316	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	446	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	512	N.D.		
87) sec-Butylbenzene	18.74	105	818	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	893	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	785	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	324	N.D.		
91) d-Limonene	19.08	68	1223	0.065 ng		97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	572	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	556	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	869	N.D.		
100) n-Butylbenzene	19.39	91	609	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:50:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:50:21 2024 3/25/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

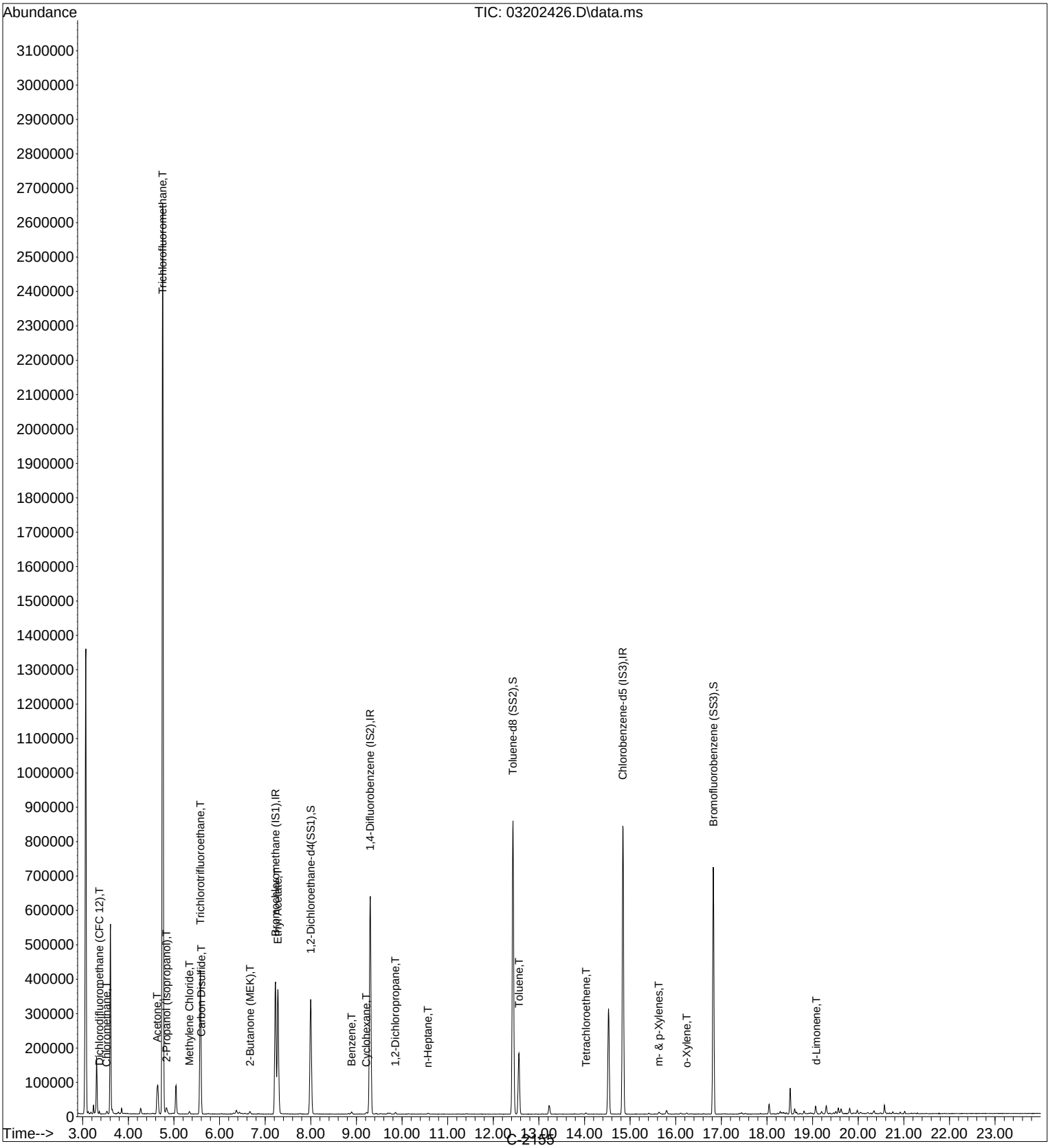
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145826	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	621655	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	140896	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	300368	12.591	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
57) Toluene-d8 (SS2)	12.43	98	705014	12.462	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.83	174	248078	12.438	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	3899	0.130	ng		98
4) Chloromethane	3.52	50	1115	0.050	ng		97
13) Acetone	4.63	58	18550	1.730	ng	#	56
14) Trichlorofluoromethane	4.75	101	1941971	67.081	ng		100
15) 2-Propanol (Isopropanol)	4.83	45	36193	0.847	ng		88
19) Methylene Chloride	5.34	84	2175	0.139	ng		95
21) Trichlorotrifluoroethane	5.58	151	130783	10.717	ng		99
22) Carbon Disulfide	5.60	76	3408	0.070	ng	#	1
27) 2-Butanone (MEK)	6.67	72	2045	0.233	ng	#	83
30) Ethyl Acetate	7.28	61	64090	12.180	ng		94
41) Benzene	8.89	78	5806	0.104	ng		96
43) Cyclohexane	9.21	84	1333	0.075	ng		97
45) 1,2-Dichloropropane	9.85	63	2295	0.169	ng		98
51) n-Heptane	10.56	71	690	0.058	ng	#	87
58) Toluene	12.56	91	161069	2.983	ng		98
64) Tetrachloroethene	14.03	166	1502	0.090	ng		93
67) m- & p-Xylenes	15.63	91	6600	0.129	ng		91
70) o-Xylene	16.24	91	2908	0.057	ng		100
91) d-Limonene	19.08	68	1223	0.065	ng		97

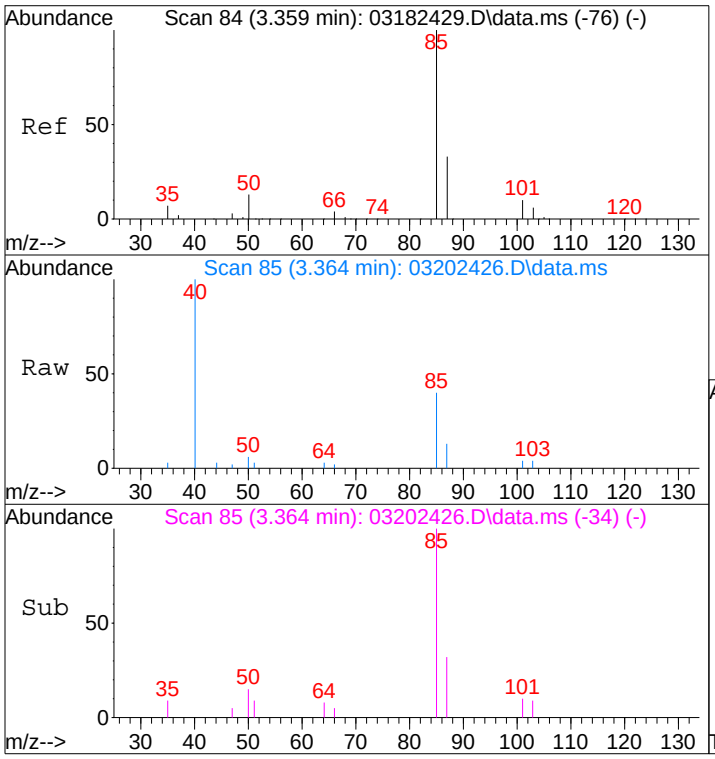
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 10:50:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

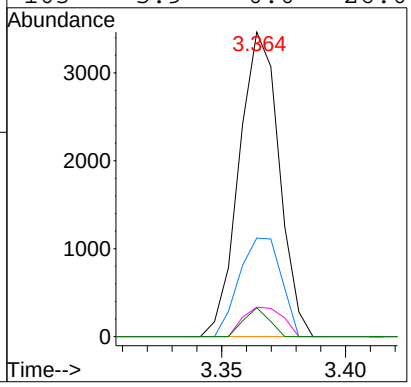


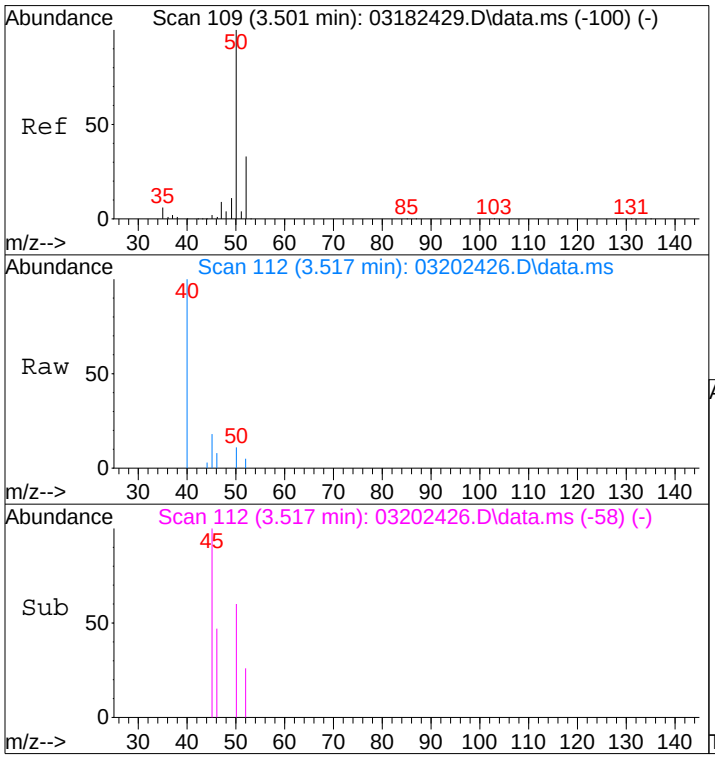


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.13 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.042 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 85 Resp: 3899

Ion	Ratio	Lower	Upper
85	100		
87	33.9	12.5	52.5
101	9.5	0.0	29.2
103	5.9	0.0	26.0

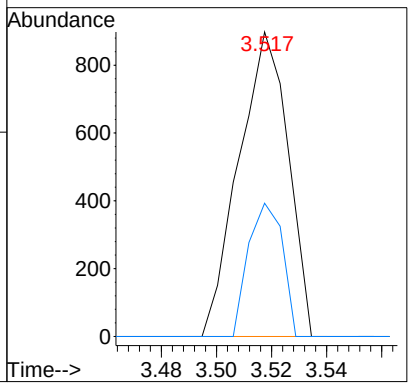


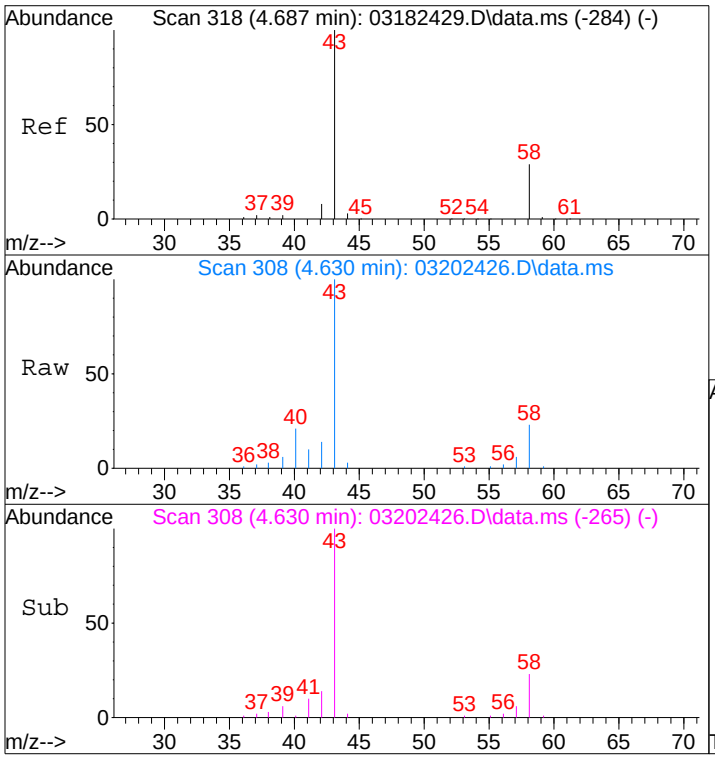


#4
Chloromethane
Concen: 0.05 ng
RT: 3.52 min Scan# 112
Delta R.T. 0.055 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 50 Resp: 1115

Ion	Ratio	Lower	Upper
50	100		
52	30.4	12.3	52.3

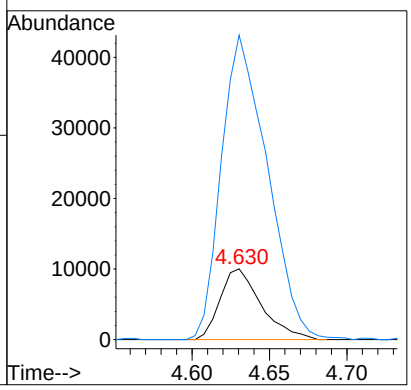


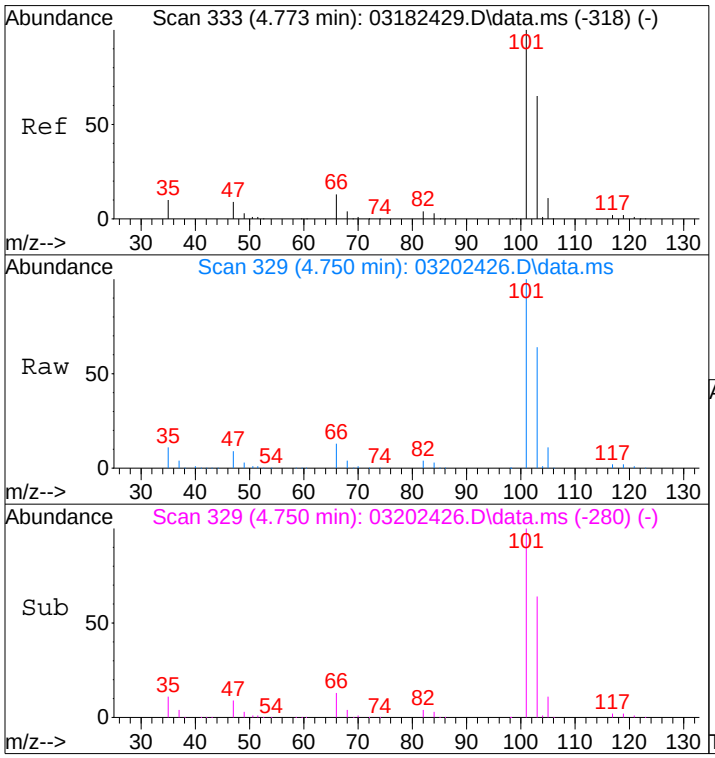


#13
Acetone
Concen: 1.73 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.006 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 58 Resp: 18550

Ion	Ratio	Lower	Upper
58	100		
43	480.5	350.1	410.1#

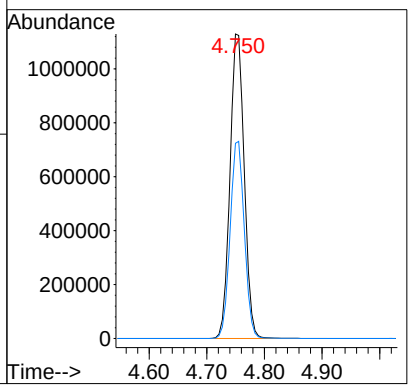


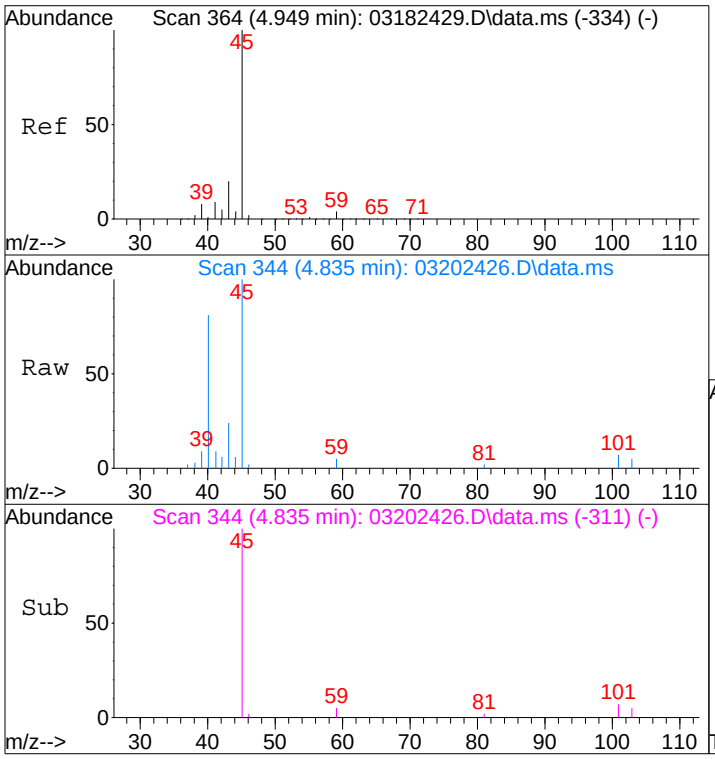


#14
Trichlorofluoromethane
Concen: 67.08 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion:101 Resp: 1941971

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.7	84.7

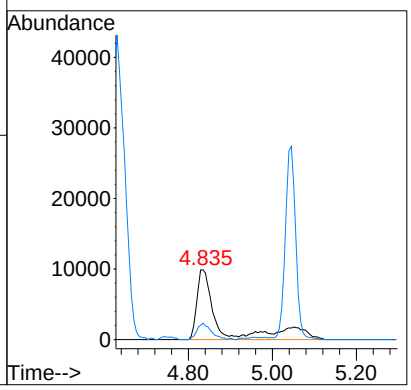


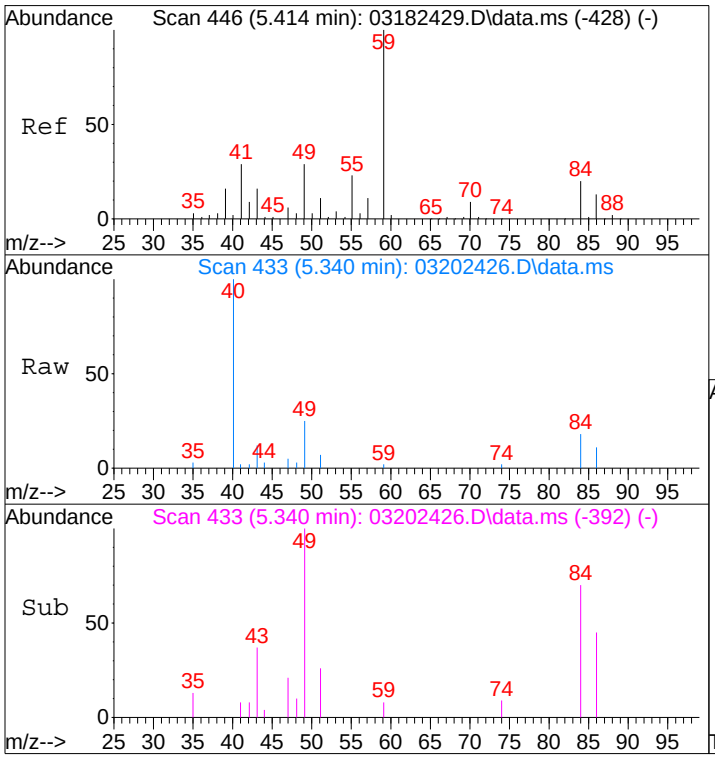


#15
2-Propanol (Isopropanol)
Concen: 0.85 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.060 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 45 Resp: 36193

Ion	Ratio	Lower	Upper
45	100		
43	14.9	0.4	40.4

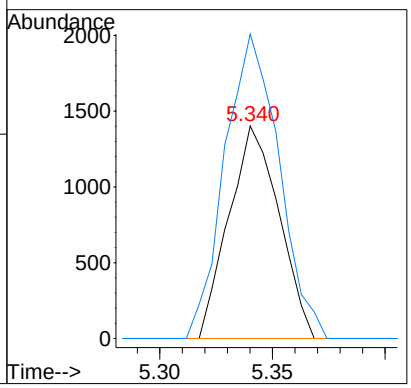


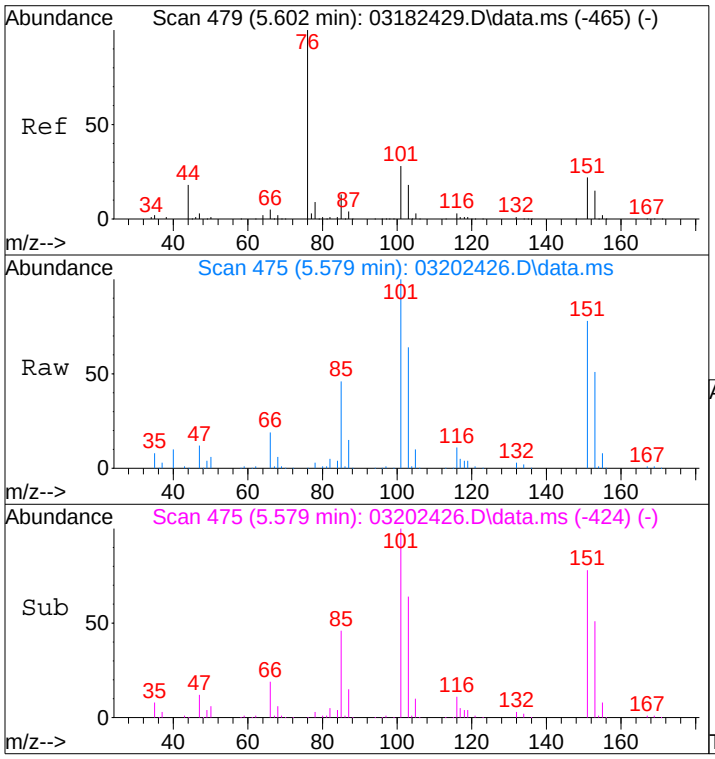


#19
Methylene Chloride
Concen: 0.14 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.015 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 84 Resp: 2175

Ion	Ratio	Lower	Upper
84	100		
49	154.8	122.9	172.9

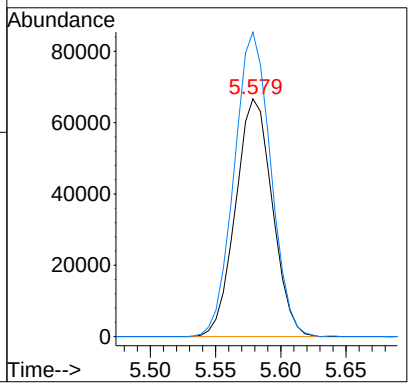


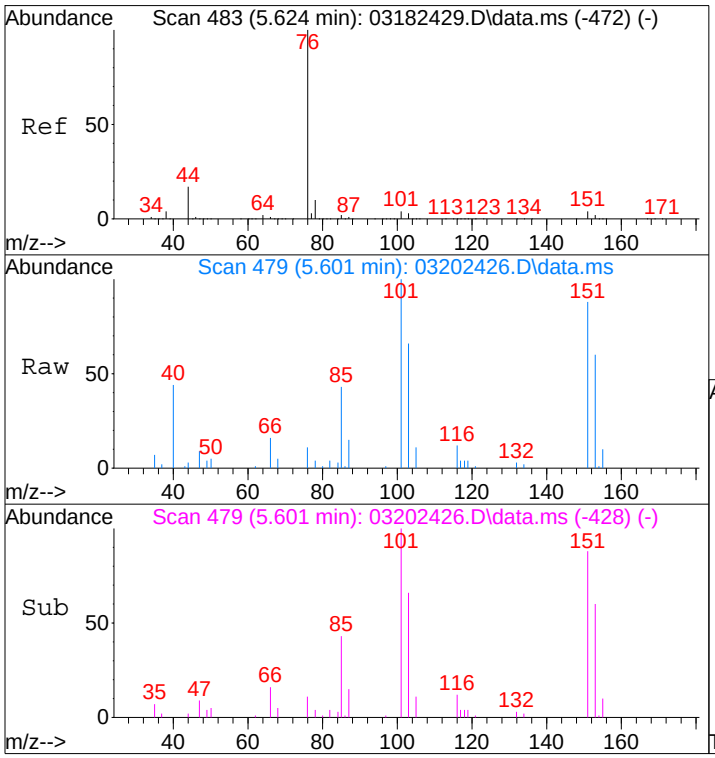


#21
Trichlorotrifluoroethane
Concen: 10.72 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.038 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion:151 Resp: 130783

Ion	Ratio	Lower	Upper
151	100		
101	127.6	106.4	146.4

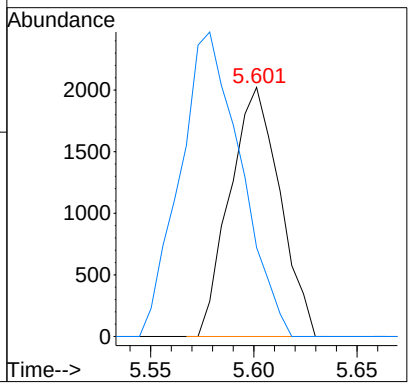


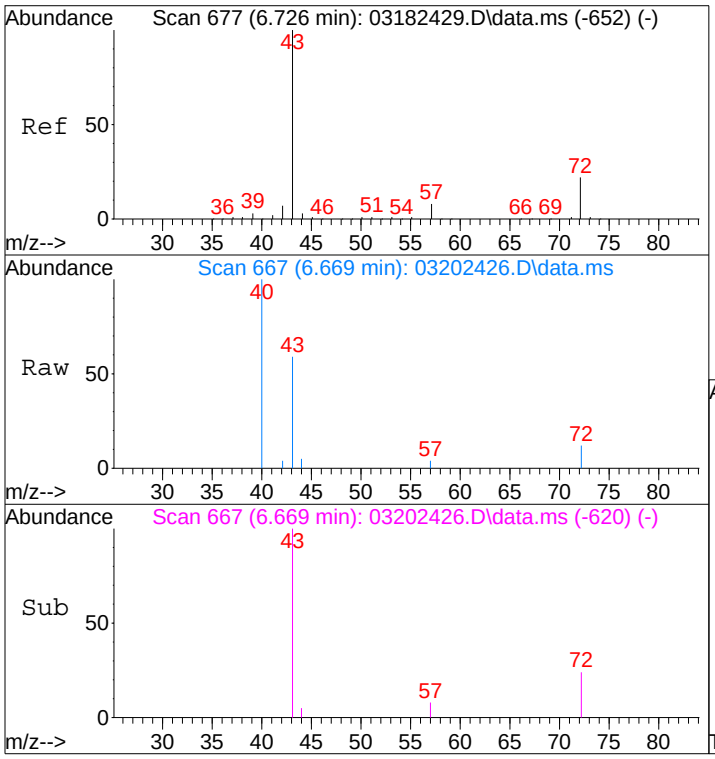


#22
Carbon Disulfide
Concen: 0.07 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 76 Resp: 3408

Ion	Ratio	Lower	Upper
76	100		
78	148.7	0.0	29.8#

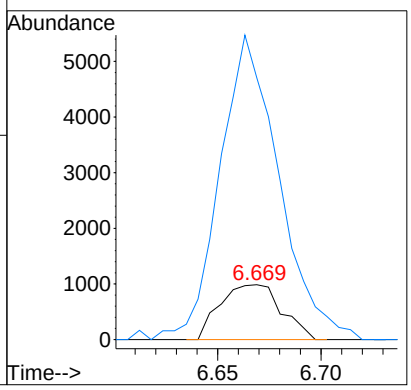


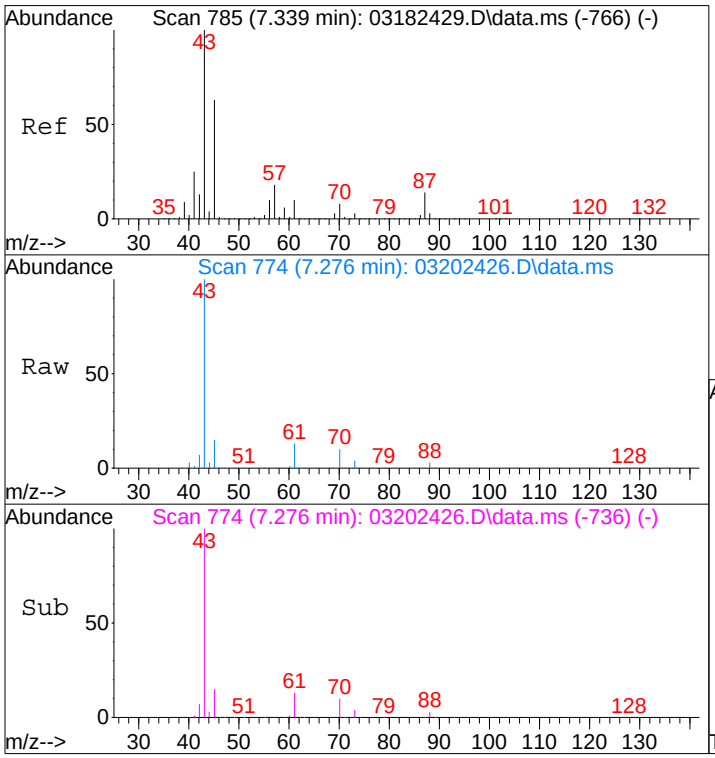


#27
2-Butanone (MEK)
Concen: 0.23 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 72 Resp: 2045

Ion	Ratio	Lower	Upper
72	100		
43	535.4	468.6	508.6#

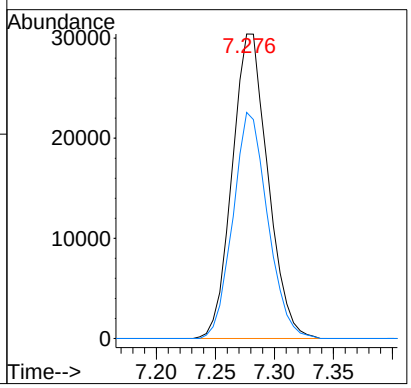


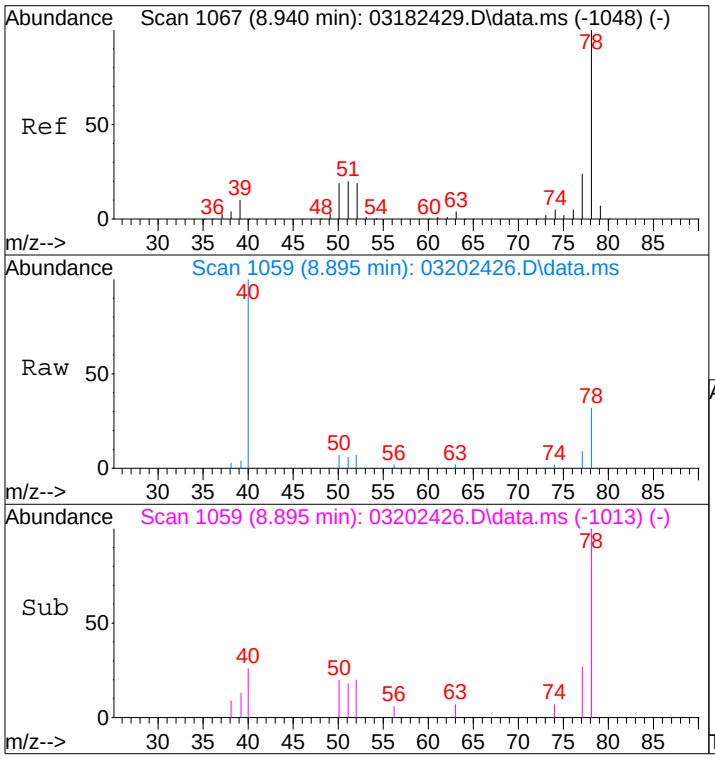


#30
Ethyl Acetate
Concen: 12.18 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.017 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 61 Resp: 64090

Ion	Ratio	Lower	Upper
61	100		
70	72.2	57.3	97.3

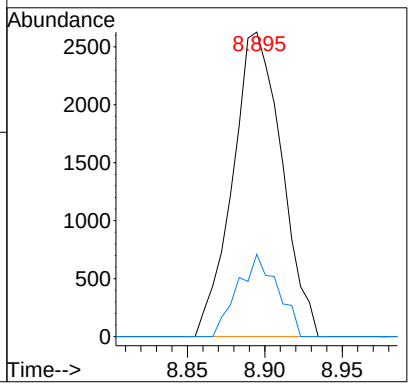


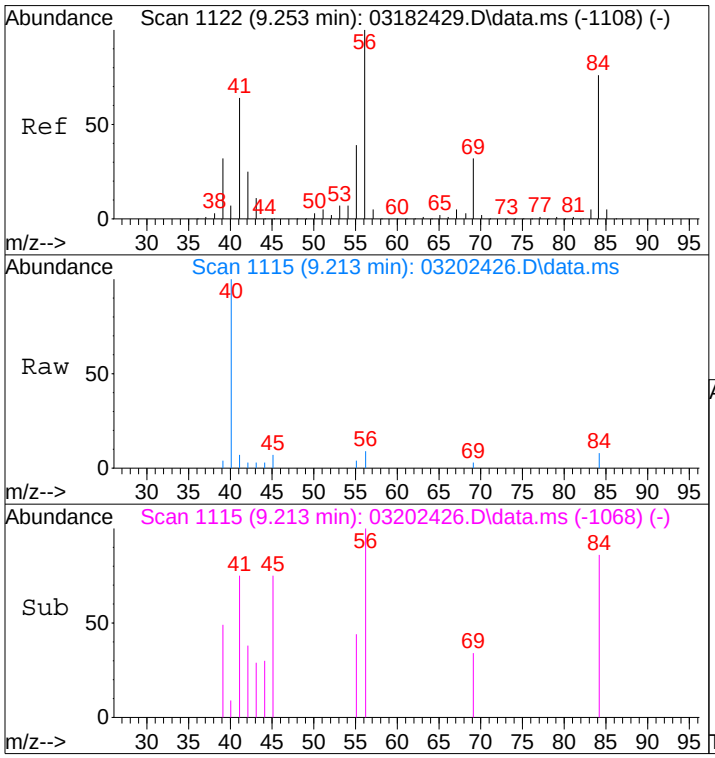


#41
Benzene
Concen: 0.10 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.009 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 78 Resp: 5806

Ion	Ratio	Lower	Upper
78	100		
77	21.9	3.6	43.6

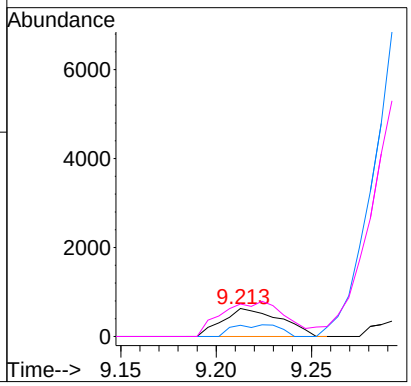


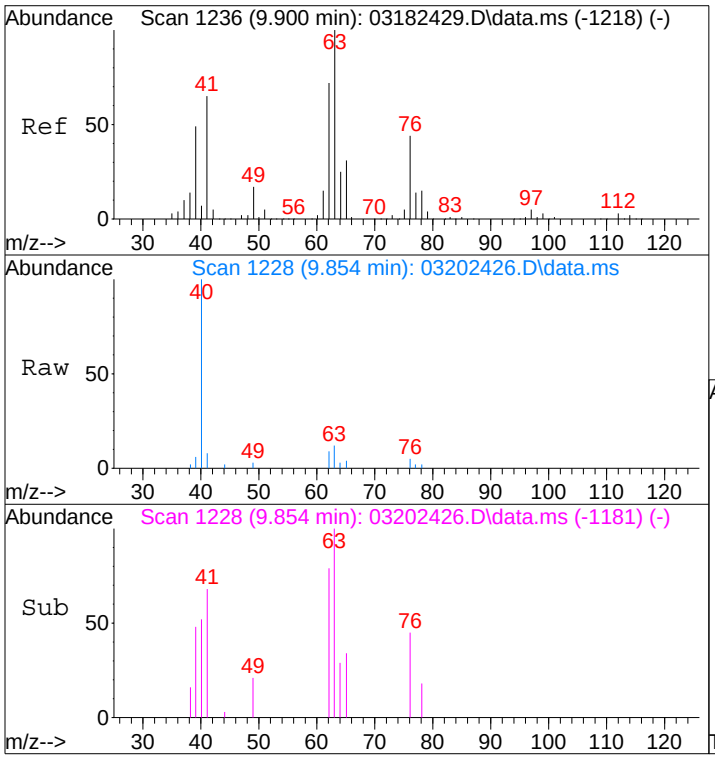


#43
Cyclohexane
Concen: 0.08 ng
RT: 9.21 min Scan# 1115
Delta R.T. 0.016 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 84 Resp: 1333

Ion	Ratio	Lower	Upper
84	100		
69	34.0	21.3	61.3
56	136.2	115.3	155.3

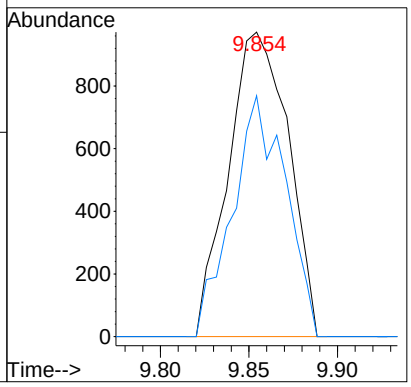


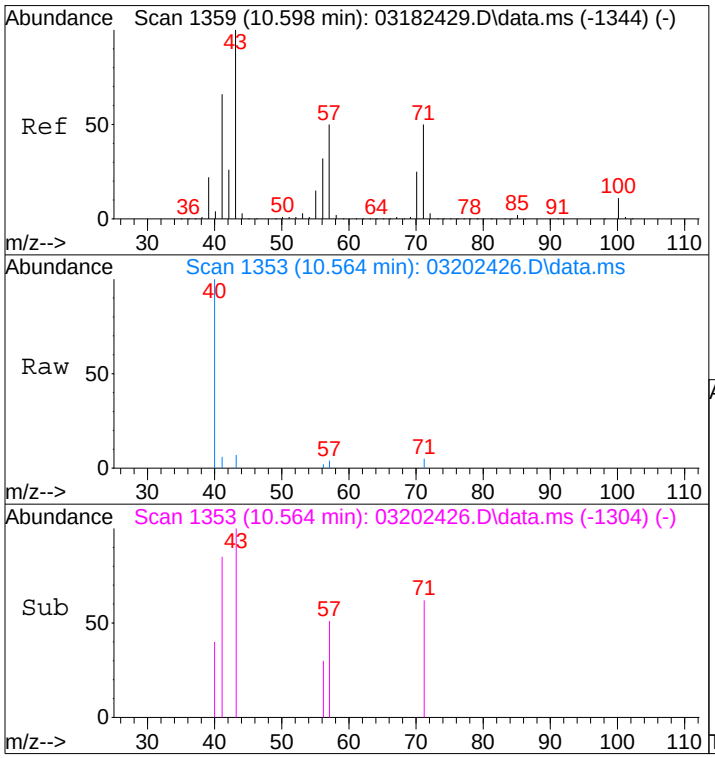


#45
1,2-Dichloropropane
Concen: 0.17 ng
RT: 9.85 min Scan# 1228
Delta R.T. 0.015 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 63 Resp: 2295

Ion	Ratio	Lower	Upper
63	100		
62	70.3	51.8	91.8

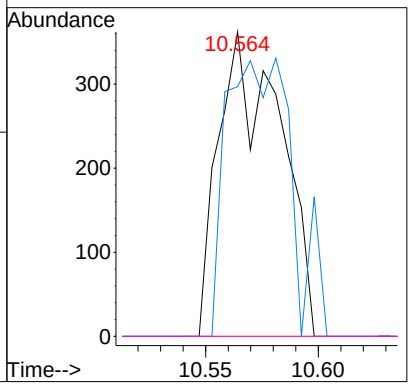


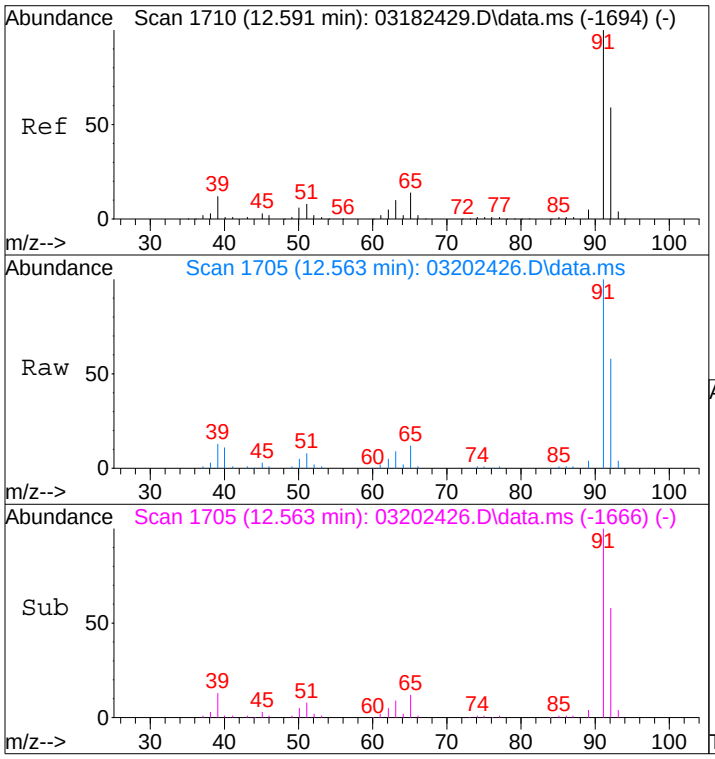


#51
n-Heptane
Concen: 0.06 ng
RT: 10.56 min Scan# 1353
Delta R.T. 0.030 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 71 Resp: 690

Ion	Ratio	Lower	Upper
71	100		
57	97.1	81.2	121.2
100	0.0	4.0	44.0#

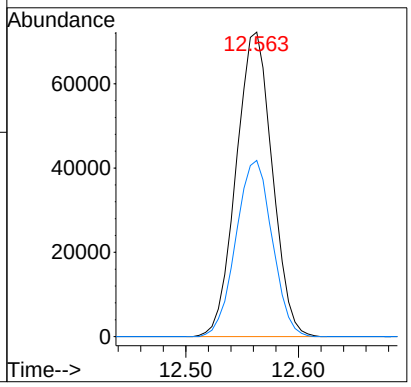


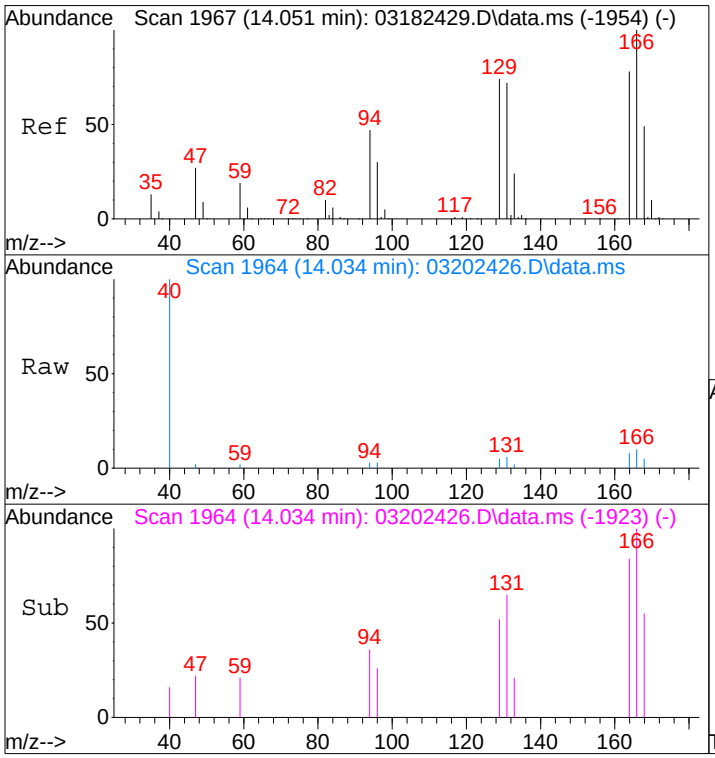


#58
Toluene
Concen: 2.98 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.029 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 91 Resp: 161069

Ion	Ratio	Lower	Upper
91	100		
92	58.1	39.2	79.2

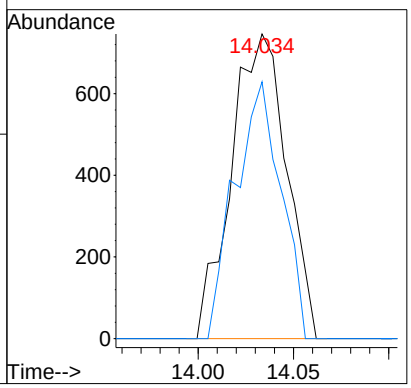


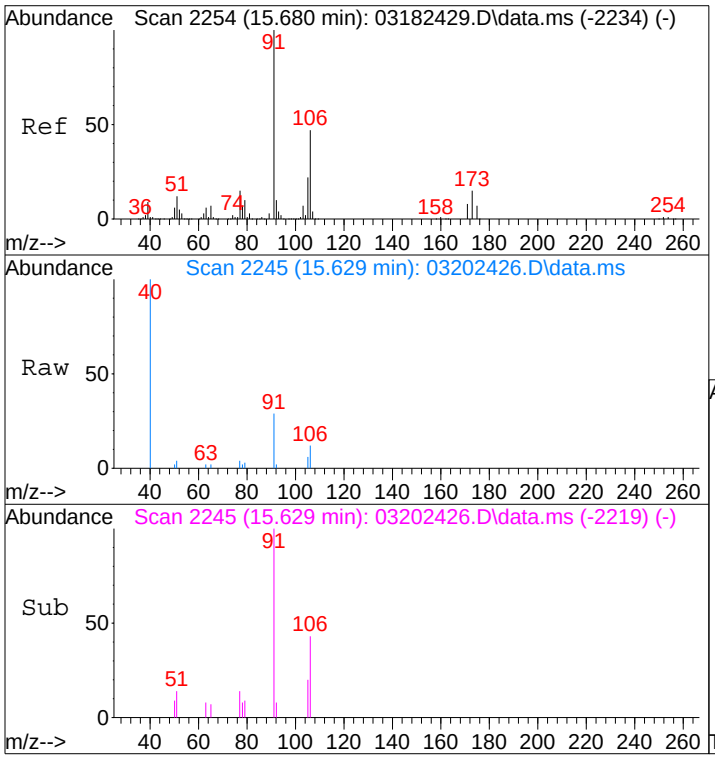


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion:166 Resp: 1502

Ion	Ratio	Lower	Upper
166	100		
164	70.4	56.7	96.7

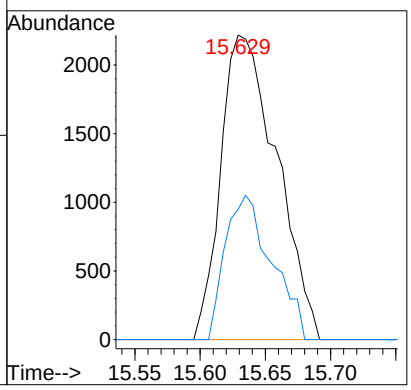


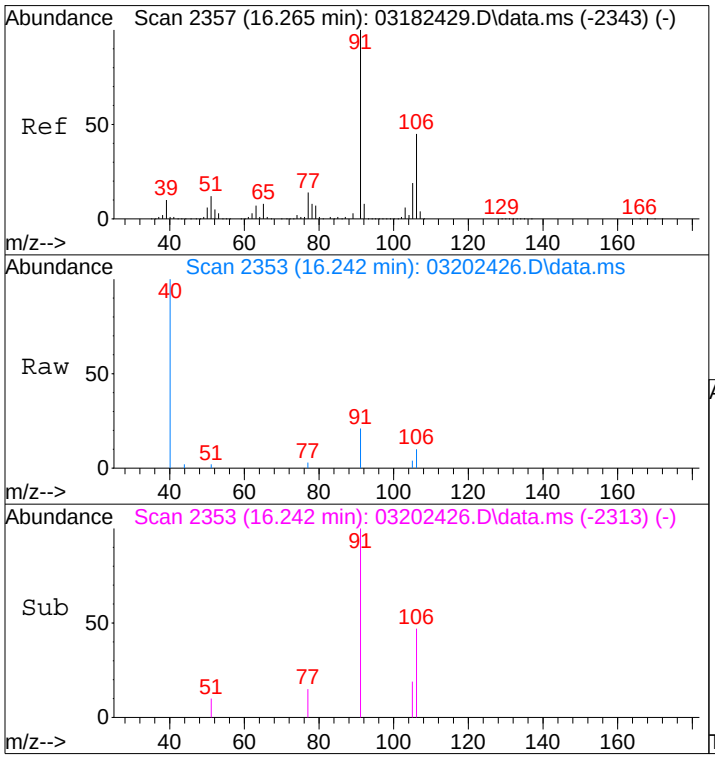


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.051 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 91 Resp: 6600

Ion	Ratio	Lower	Upper
91	100		
106	39.4	25.6	65.6

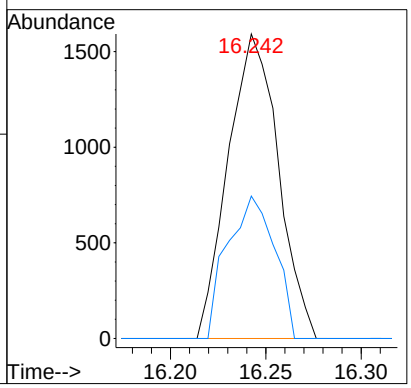


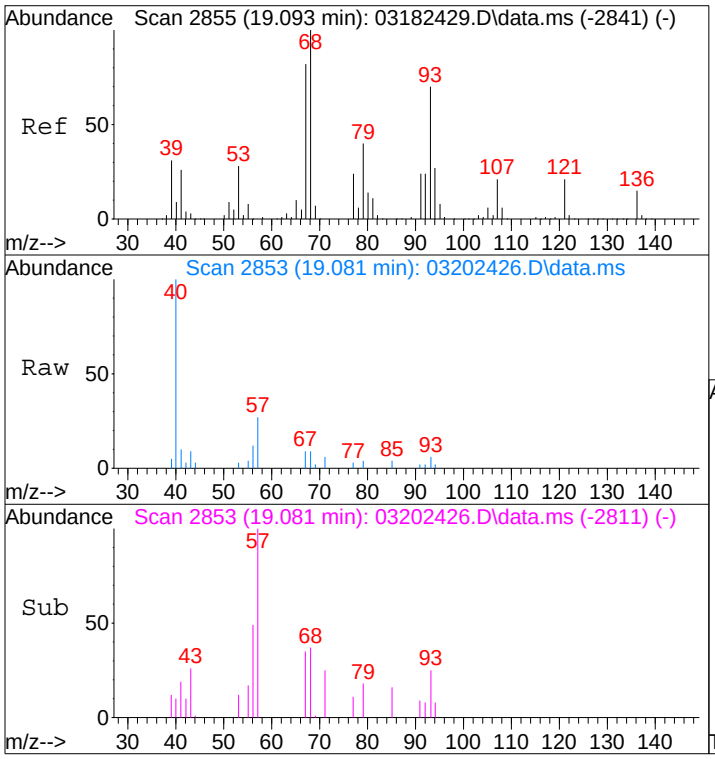


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.023 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 91 Resp: 2908

Ion	Ratio	Lower	Upper
91	100		
106	44.1	24.4	64.4

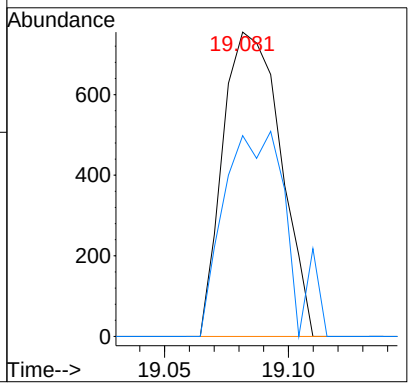




#91
d-Limonene
Concen: 0.06 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.012 min
Lab File: 03202426.D
Acq: 20 Mar 2024 19:24

Tgt Ion: 68 Resp: 1223

Ion	Ratio	Lower	Upper
68	100		
93	73.8	51.5	91.5



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:53:34 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

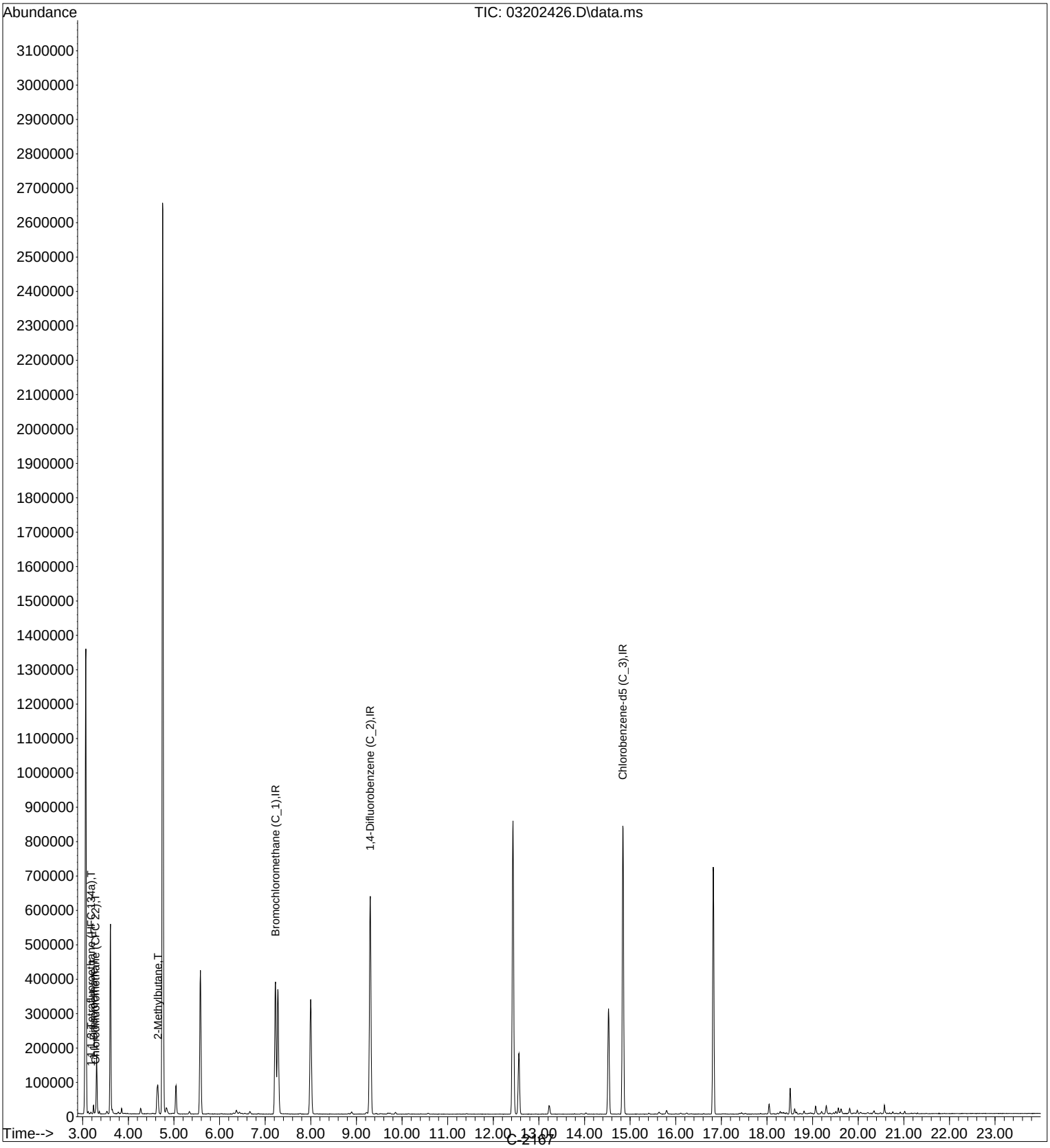
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145826	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	621655	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	140896	12.500	ng		-0.02
Target Compounds							Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	2685	0.200	ng	#	46
4) 1,1-Difluoroethane	3.24	65	6838	0.619	ng	#	63
5) Chlorodifluoromethane ...	3.28	67	1555	0.363	ng	#	88
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.			
7) Dichlorofluoromethane ...	4.22	67	121	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	272	N.D.			
10) 2-Methylbutane	4.65	57	15891	1.088	ng	#	80
11) Methyl Acetate	5.33	43	2256	N.D.			
12) 2-Methylpentane	6.49	71	401	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.53	56	260	N.D.			
18) Dibromomethane	9.80	174	111	N.D.			
20) Methyl Cyclohexane	11.42	55	752	N.D.			
21) 1,3-Dichloropropane	12.56	76	642	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	17.04	77	52	N.D.			
26) 2-Chlorotoluene	17.61	91	565	N.D.			
27) 4-Chlorotoluene	17.67	91	1011	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	81	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	81	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202426.D Vial: 10
Acq On : 20 Mar 2024 19:24 Operator: SC
Sample : P2400922-024dup (80mL) Inst : MS09
Misc : S37-02202408

Quant Time: Mar 25 11:53:34 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:09:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	117681	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	506449	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	102202	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	241924	12.566	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	12.43	98	578059	14.087	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
73) Bromofluorobenzene (SS3)	16.83	174	186453	12.888	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	2875m	0.119	ng		
4) Chloromethane	3.51	50	620	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	131	N.D.			
10) Ethanol	4.28	45	1800	0.158	ng		91
11) Acetonitrile	4.42	41	1168	N.D.			
12) Acrolein	4.53	56	1146	0.141	ng		94
13) Acetone	4.64	58	15843	1.831	ng	#	66
14) Trichlorofluoromethane	4.75	101	2541643	108.793	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	1611	N.D.			
16) Acrylonitrile	4.98	53	454	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.33	84	725	0.058	ng		94
20) 3-Chloro-1-propene (Al...	5.44	41	330	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1135356	115.290	ng		99
22) Carbon Disulfide	5.60	76	4737	0.121	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	3348	0.473	ng		97
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.30	87	395	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	252	N.D.			
32) Chloroform	7.35	83	11995	0.588	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	111	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.80	56	686	No Calib		#	
41) Benzene	8.89	78	2127	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	415	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	575	N.D.			
47) Trichloroethene	10.14	130	40294	3.281	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:09:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

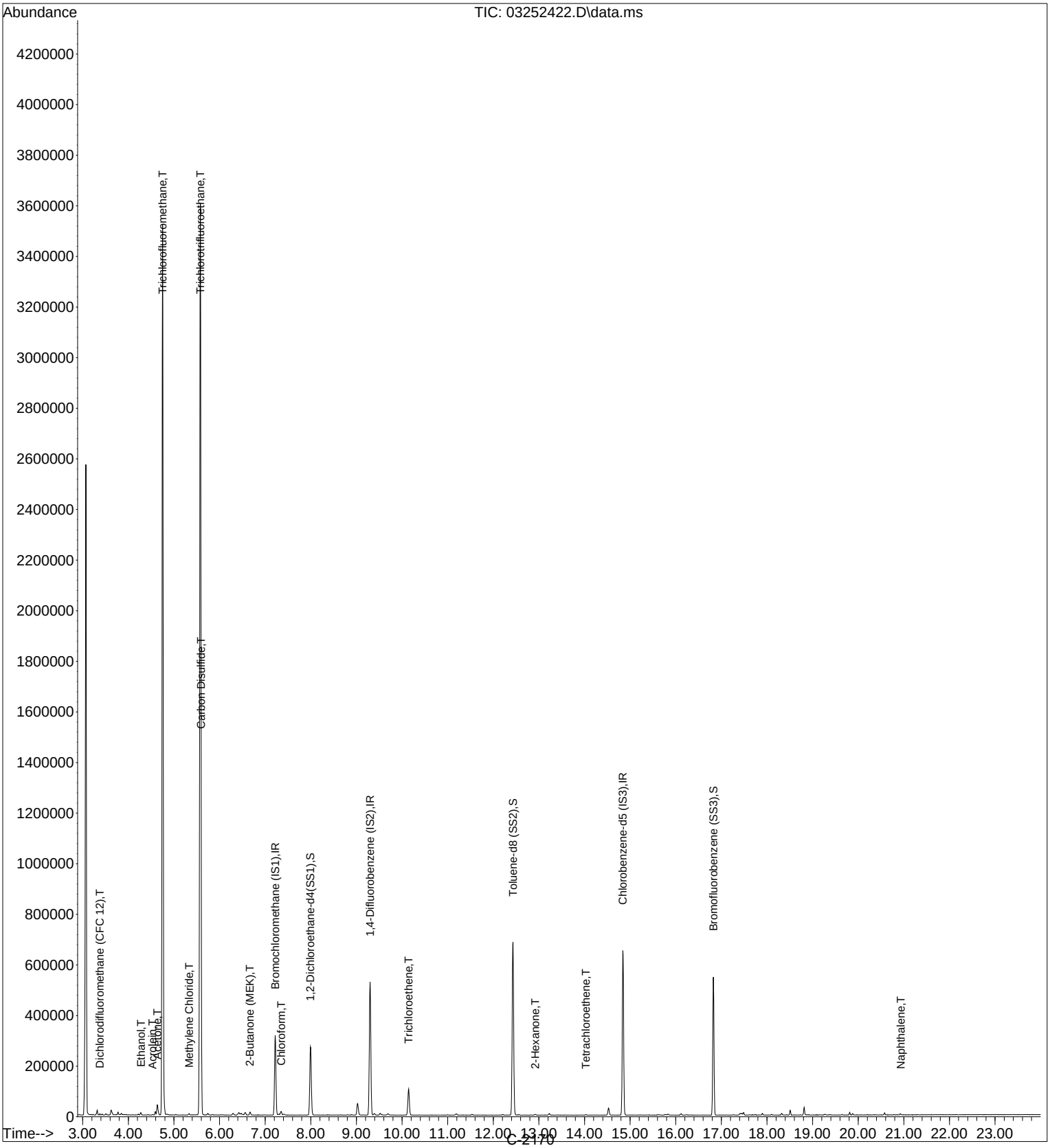
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1915	N.D.	
59) 2-Hexanone	12.92	43	3069	0.135 ng	92
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	699	0.058 ng	100
65) Chlorobenzene	14.90	112	382	N.D.	
66) Ethylbenzene	15.41	91	856	N.D.	
67) m- & p-Xylenes	15.63	91	1633	N.D.	
68) Bromoform	15.67	173	275	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	726	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	180	N.D.	
74) Cumene	17.03	105	579	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	846	N.D.	
77) 3-Ethyltoluene	17.03	105	579	No Calib #	
78) 4-Ethyltoluene	17.86	105	474	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	311	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	579	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	414	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	442	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	330	N.D.	
87) sec-Butylbenzene	18.74	105	592	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	347	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	579	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	226	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	489	N.D.	
95) Naphthalene	20.94	128	1503	0.382 ng #	71
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	369	N.D.	
98) Cyclohexanone	15.36	55	171	No Calib #	
99) tert-Butylbenzene	18.43	119	473	N.D.	
100) n-Butylbenzene	19.39	91	476	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:09:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:09:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

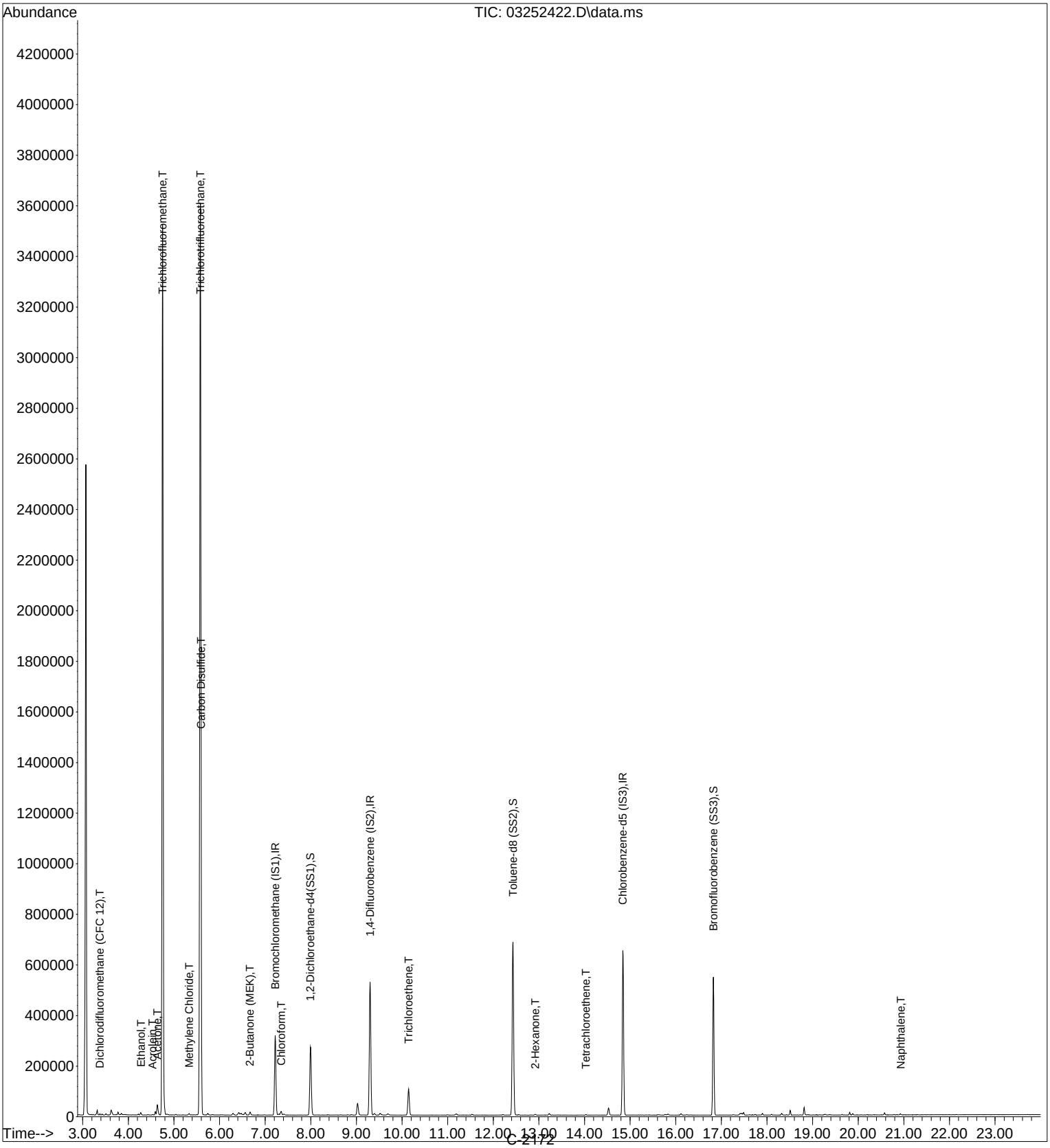
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	117681	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	506449	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	102202	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	241924	12.566	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
57) Toluene-d8 (SS2)	12.43	98	578059	14.087	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.72%				
73) Bromofluorobenzene (SS3)	16.83	174	186453	12.888	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	2875m	0.119	ng		
10) Ethanol	4.28	45	1800	0.158	ng		91
12) Acrolein	4.53	56	1146	0.141	ng		94
13) Acetone	4.64	58	15843	1.831	ng	#	66
14) Trichlorofluoromethane	4.75	101	2541643	108.793	ng		99
19) Methylene Chloride	5.33	84	725	0.058	ng		94
21) Trichlorotrifluoroethane	5.58	151	1135356	115.290	ng		99
22) Carbon Disulfide	5.60	76	4737	0.121	ng	#	1
27) 2-Butanone (MEK)	6.66	72	3348	0.473	ng		97
32) Chloroform	7.35	83	11995	0.588	ng		98
47) Trichloroethene	10.14	130	40294	3.281	ng		100
59) 2-Hexanone	12.92	43	3069	0.135	ng		92
64) Tetrachloroethene	14.03	166	699	0.058	ng		100
95) Naphthalene	20.94	128	1503	0.382	ng	#	71

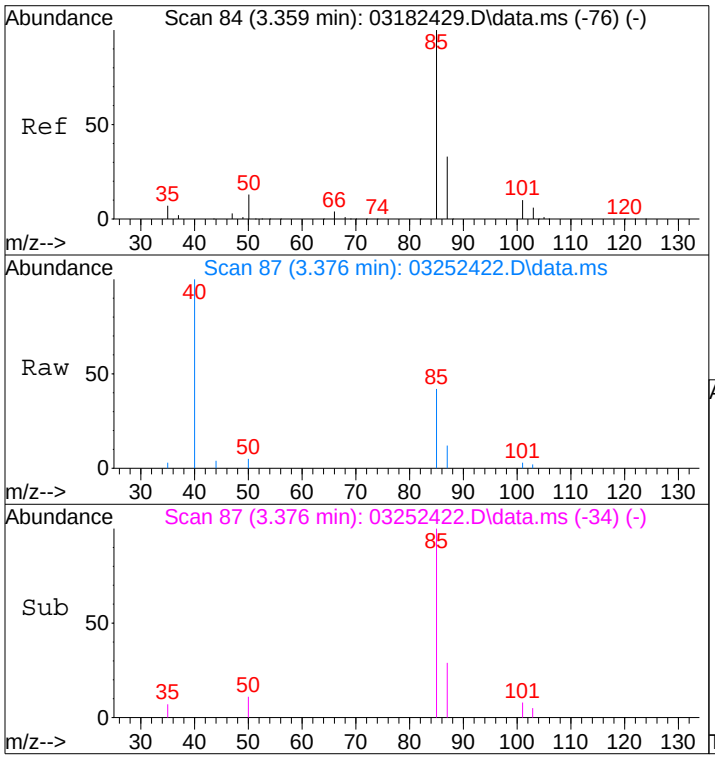
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:09:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

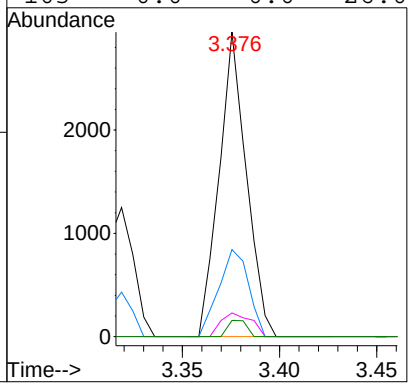


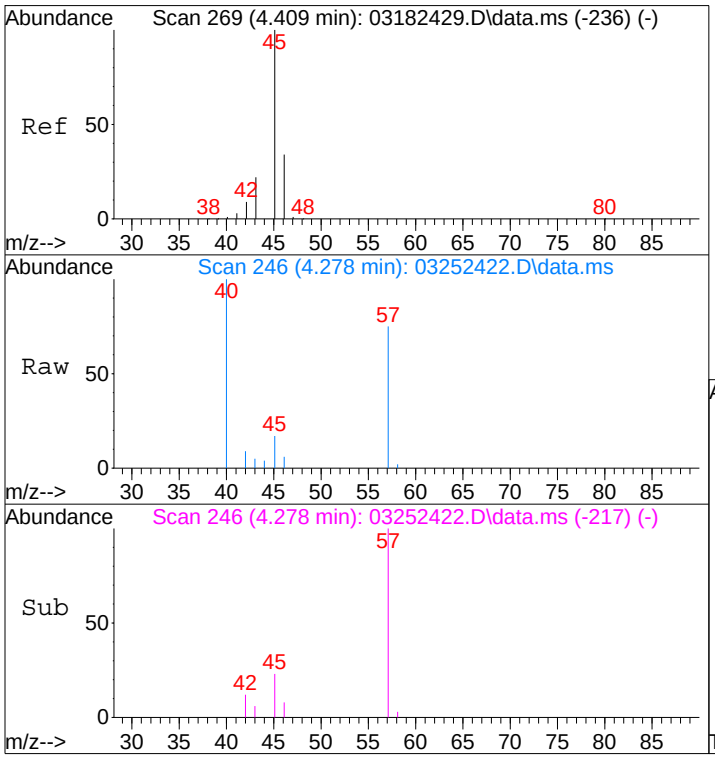


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.12 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.051 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 85 Resp: 2875

Ion	Ratio	Lower	Upper
85	100		
87	11.5	12.5	52.5#
101	0.0	0.0	29.2
103	0.0	0.0	26.0

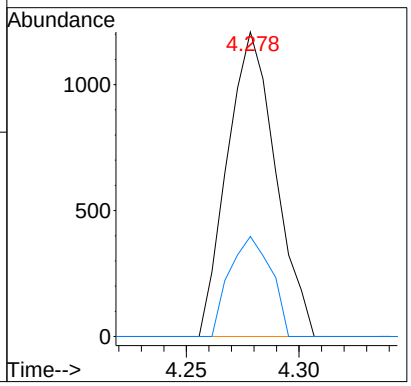


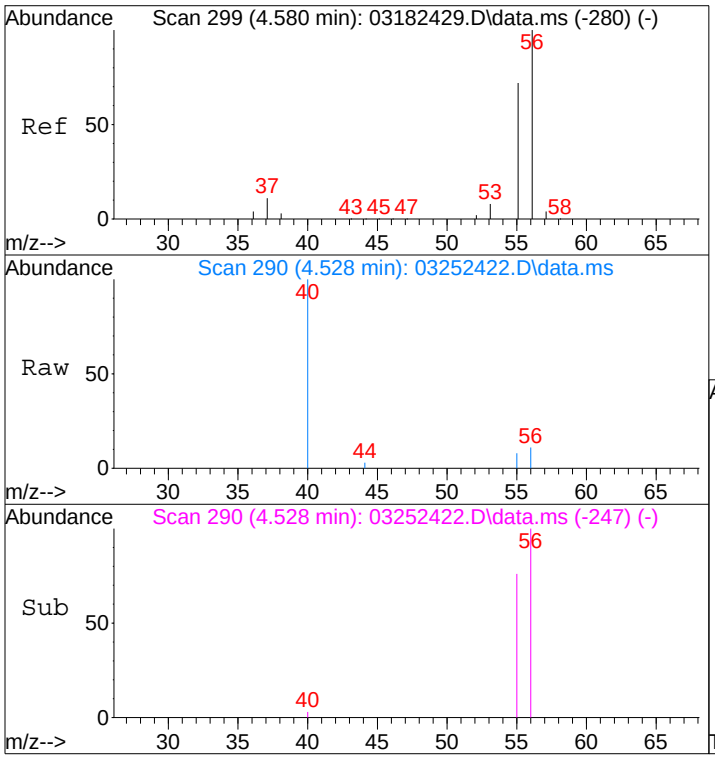


#10
Ethanol
Concen: 0.16 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.086 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 45 Resp: 1800

Ion	Ratio	Lower	Upper
45	100		
46	28.3	13.3	53.3

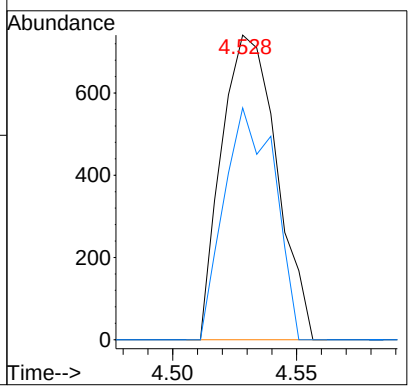


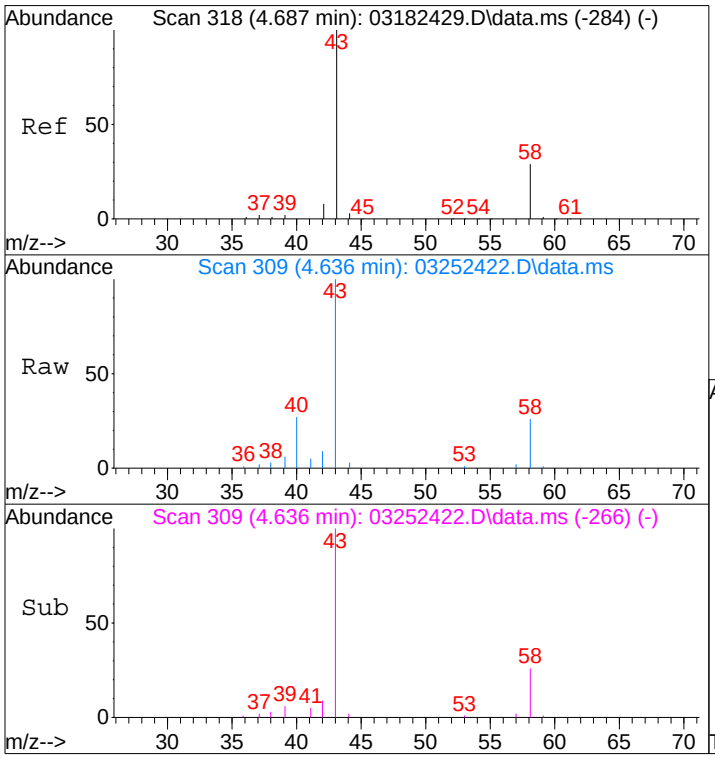


#12
Acrolein
Concen: 0.14 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.005 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 56 Resp: 1146

Ion	Ratio	Lower	Upper
56	100		
55	69.9	54.9	94.9

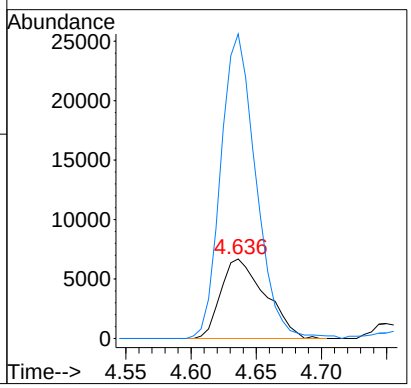


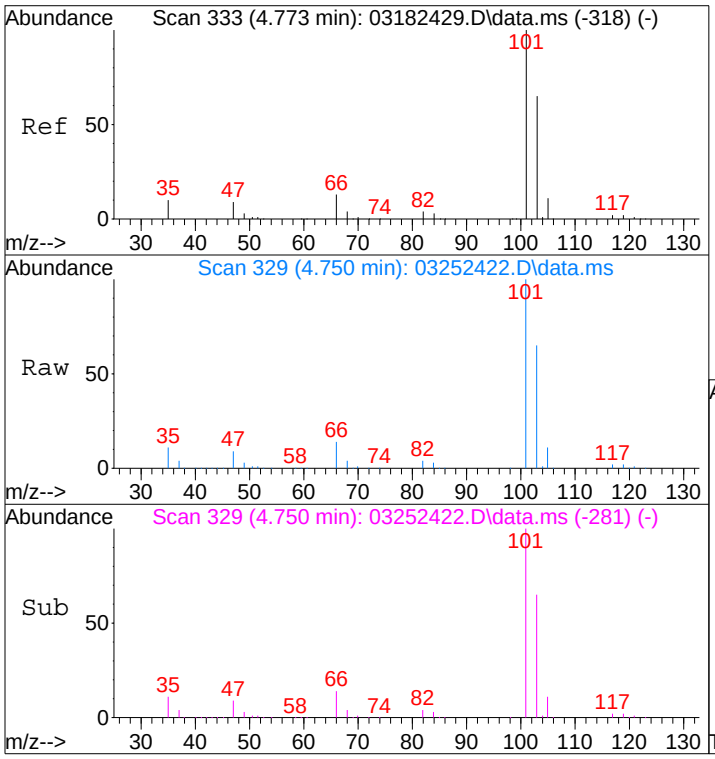


#13
Acetone
Concen: 1.83 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.004 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 58 Resp: 15843

Ion	Ratio	Lower	Upper
58	100		
43	303.0	350.1	410.1#

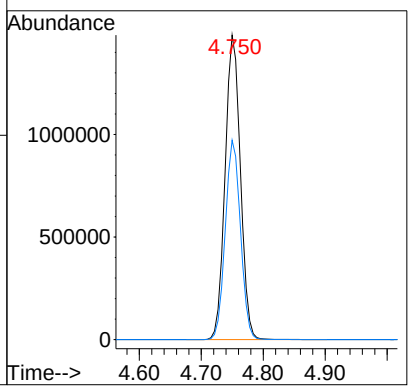


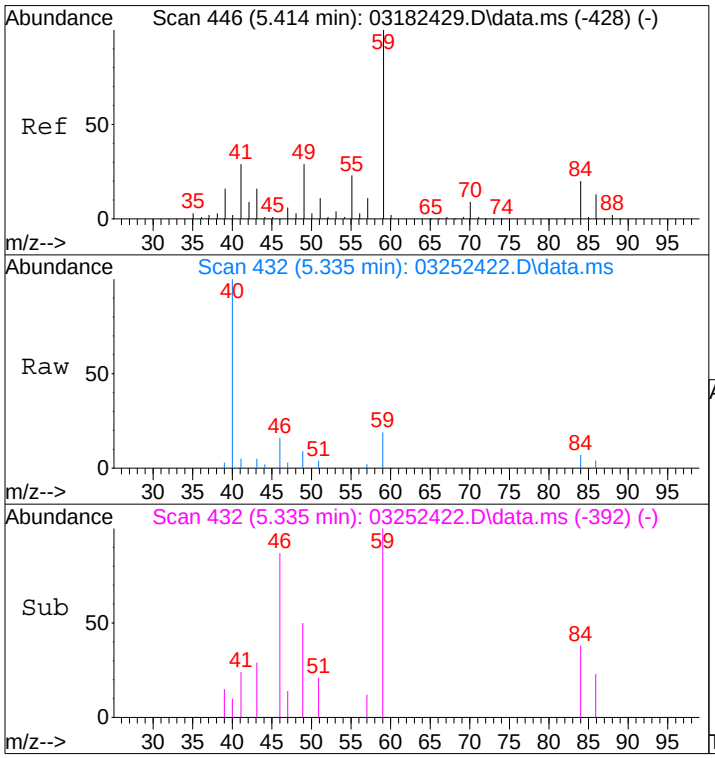


#14
Trichlorofluoromethane
Concen: 108.79 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion:101 Resp: 2541643

Ion	Ratio	Lower	Upper
101	100		
103	65.1	44.7	84.7

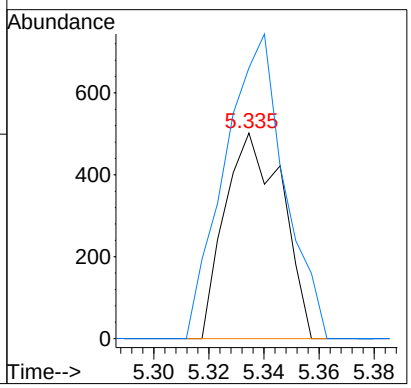


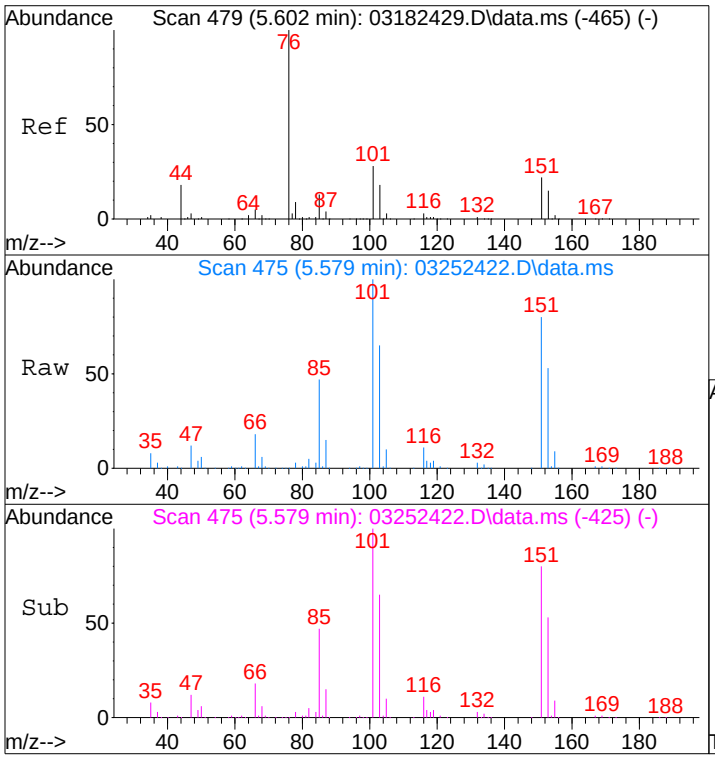


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.33 min Scan# 432
Delta R.T. -0.025 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 84 Resp: 725

Ion	Ratio	Lower	Upper
84	100		
49	155.0	122.9	172.9

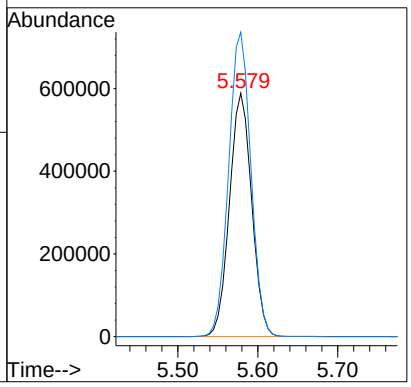


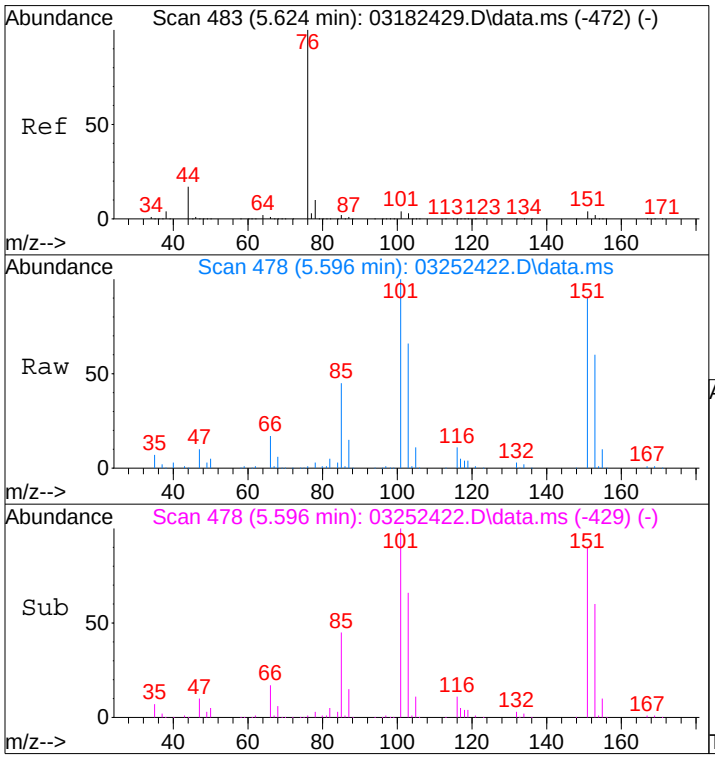


#21
Trichlorotrifluoroethane
Concen: 115.29 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.034 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion:151 Resp: 1135356

Ion	Ratio	Lower	Upper
151	100		
101	125.5	106.4	146.4

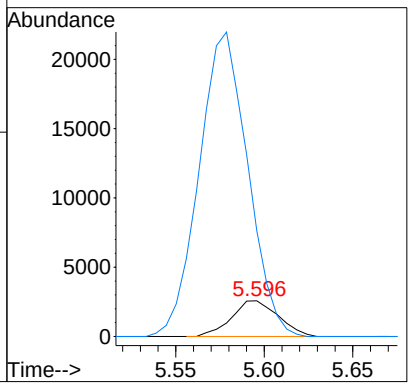


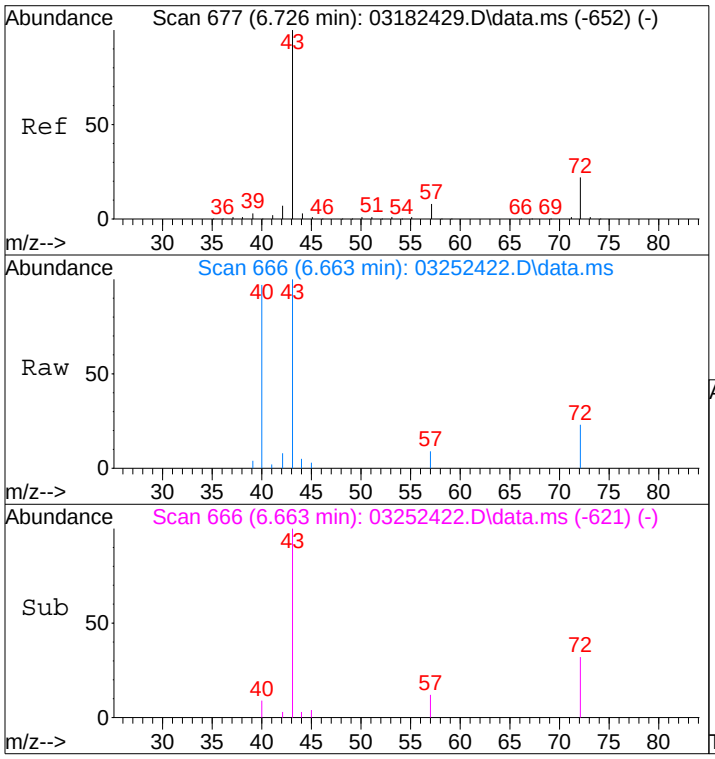


#22
Carbon Disulfide
Concen: 0.12 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.028 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 76 Resp: 4737

Ion	Ratio	Lower	Upper
76	100		
78	887.7	0.0	29.8#

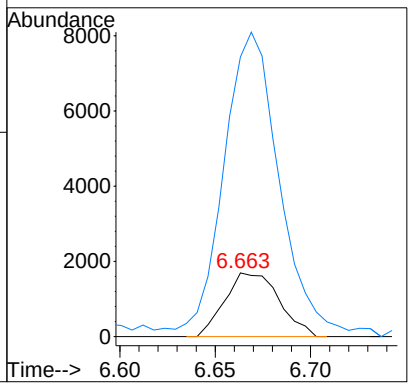


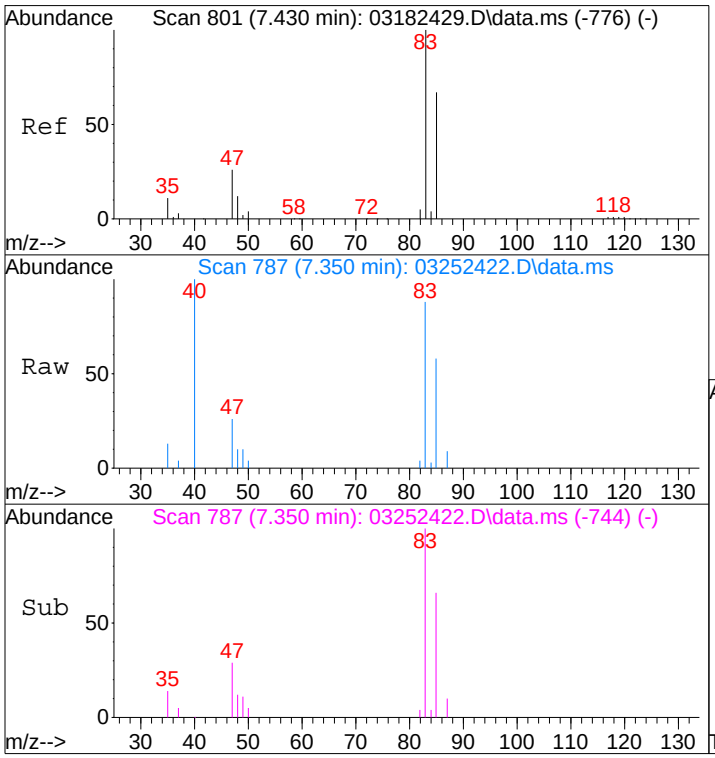


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 72 Resp: 3348

Ion	Ratio	Lower	Upper
72	100		
43	495.4	468.6	508.6

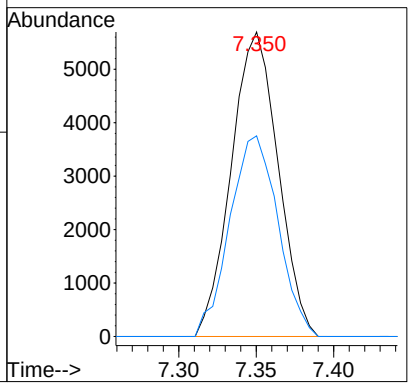


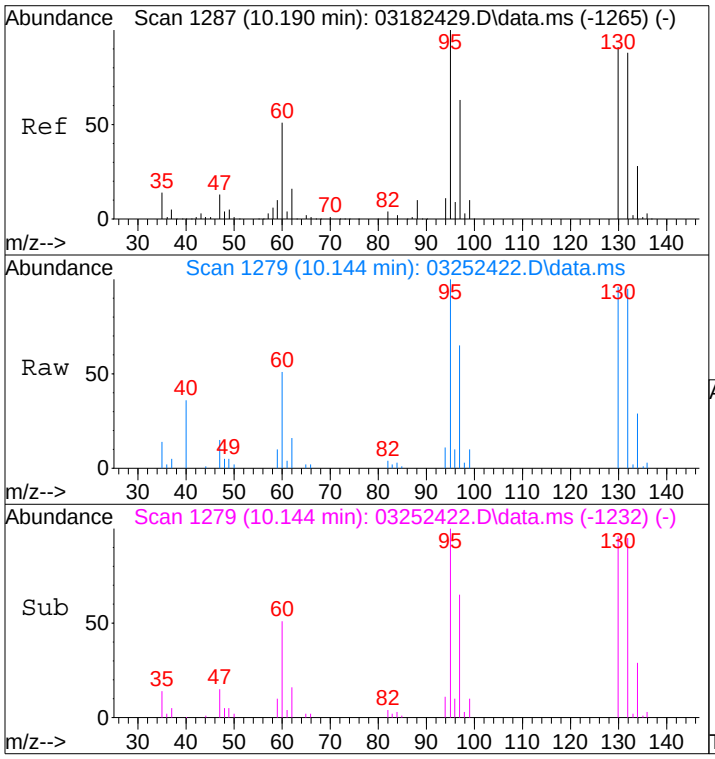


#32
Chloroform
Concen: 0.59 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.005 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 83 Resp: 11995

Ion	Ratio	Lower	Upper
83	100		
85	67.8	46.1	86.1

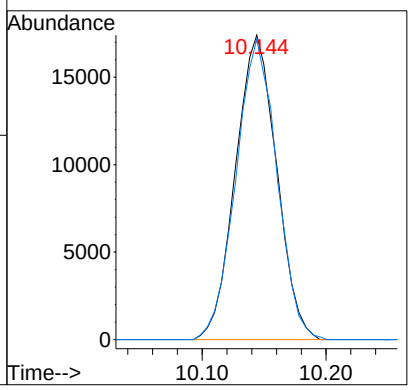


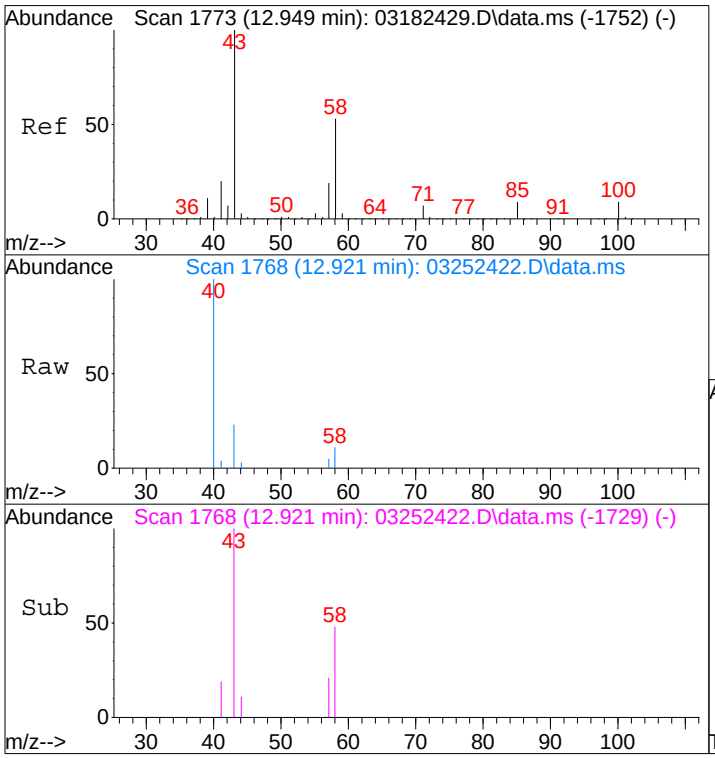


#47
Trichloroethene
Concen: 3.28 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.016 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion:130 Resp: 40294

Ion	Ratio	Lower	Upper
130	100		
132	97.9	77.5	117.5

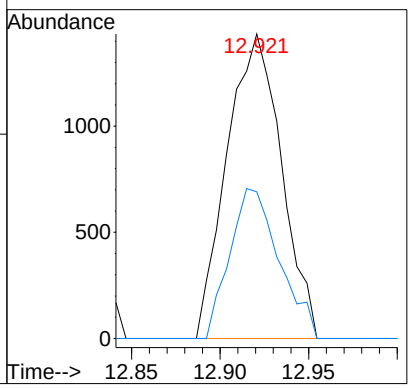


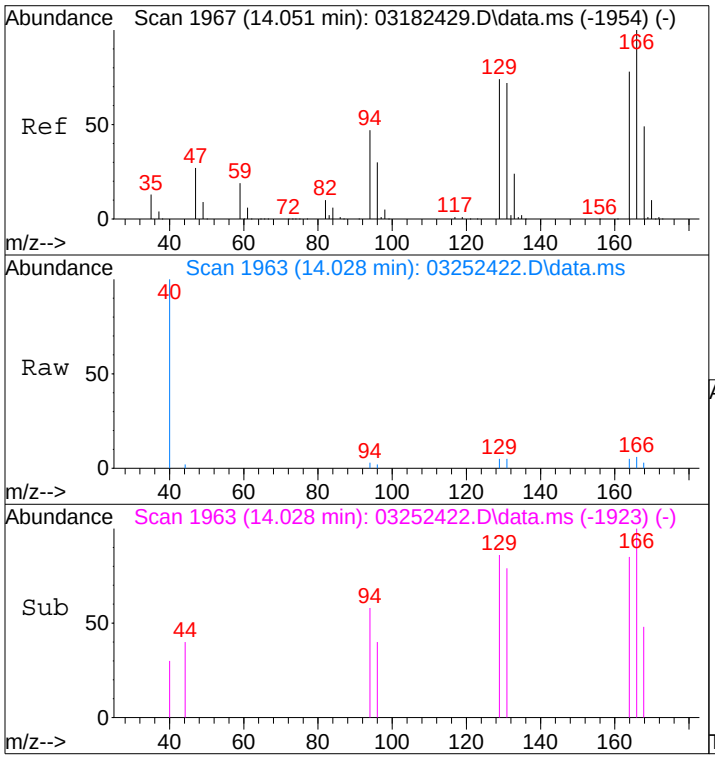


#59
2-Hexanone
Concen: 0.13 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.029 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion: 43 Resp: 3069

Ion	Ratio	Lower	Upper
43	100		
58	44.7	30.2	70.2

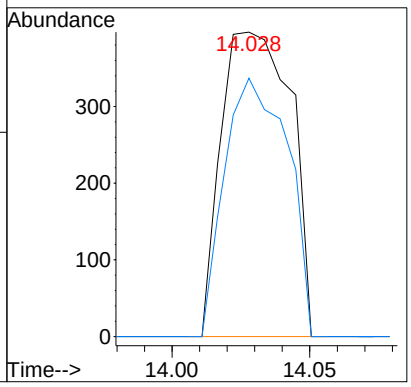


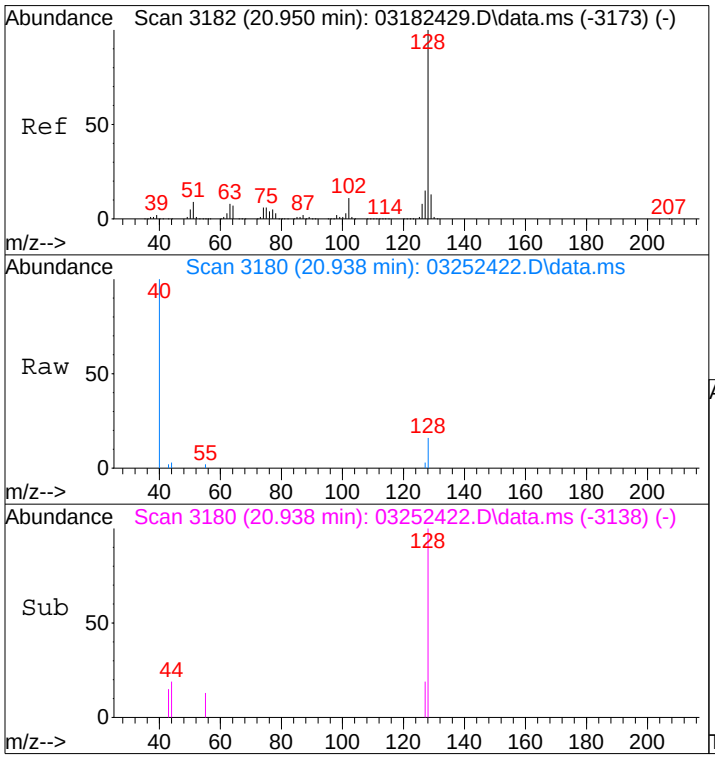


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion:166 Resp: 699

Ion	Ratio	Lower	Upper
166	100		
164	77.0	56.7	96.7

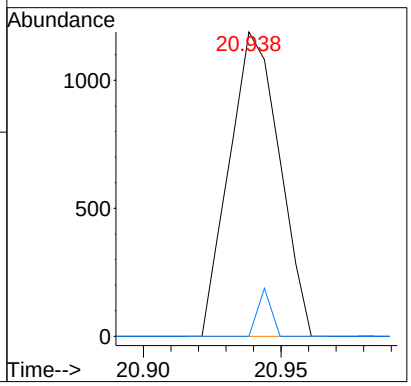




#95
Naphthalene
Concen: 0.38 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.012 min
Lab File: 03252422.D
Acq: 25 Mar 2024 23:02

Tgt Ion:128 Resp: 1503

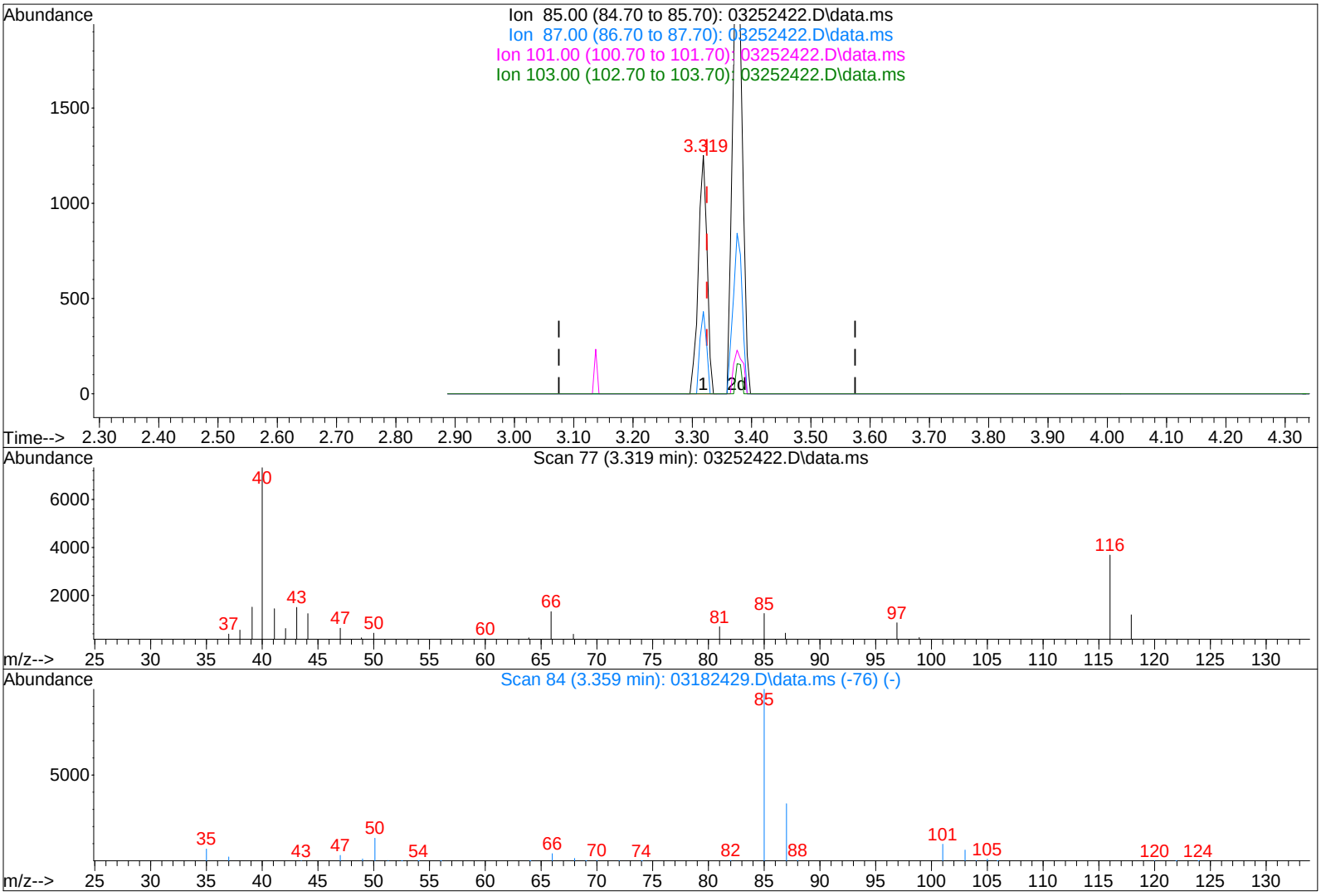
Ion	Ratio	Lower	Upper
128	100		
129	0.0	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:26:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.006) 0.05ng

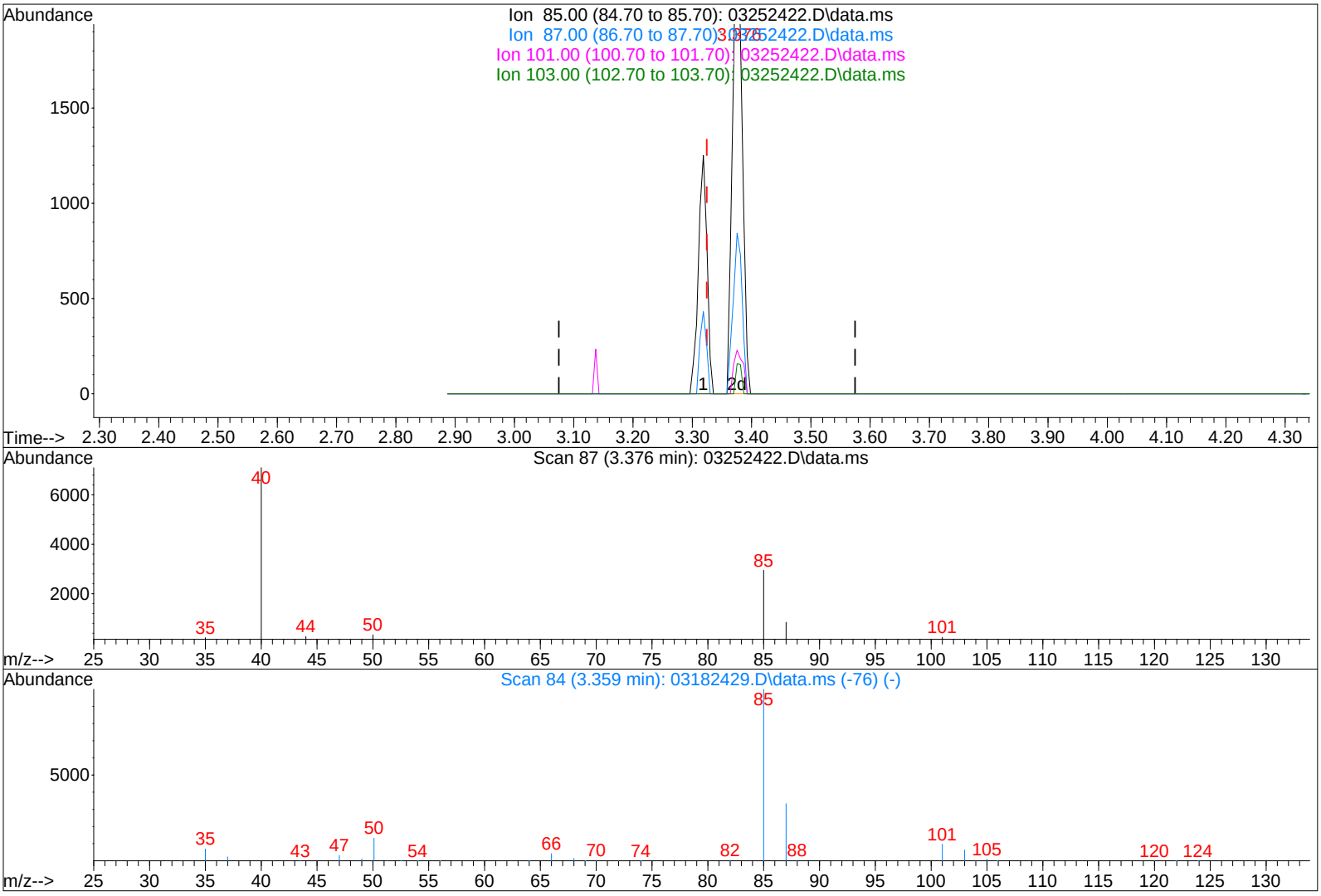
response 1274

Ion	Exp%	Act%
85.00	100	100
87.00	32.50	25.98
101.00	9.20	0.00
103.00	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 08:26:20 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252422.D\data.ms

WP 3/26/24

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.051) 0.12ng m

response 2875

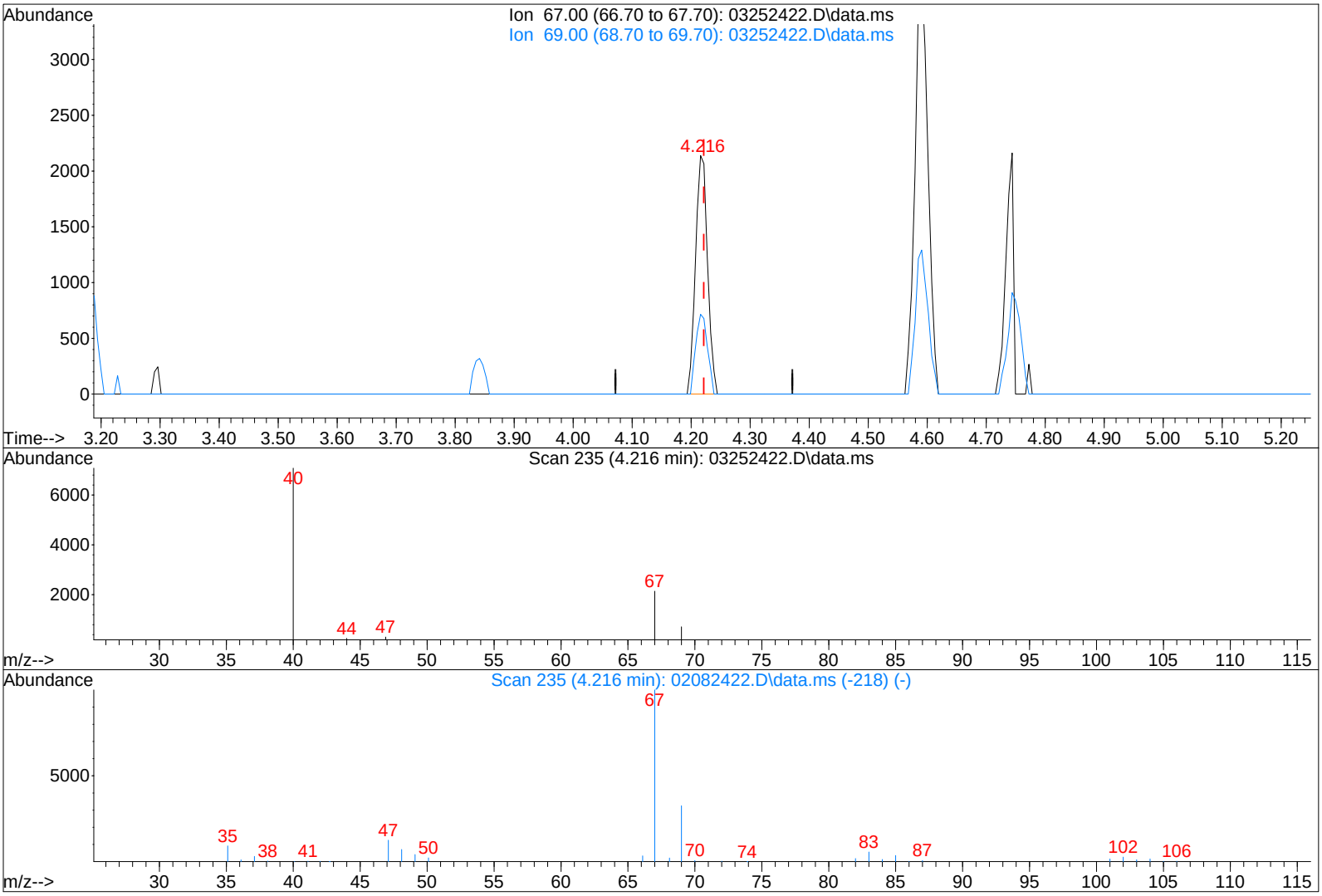
Ion	Exp%	Act%
85.00	100	100
87.00	32.50	11.51#
101.00	9.20	0.00
103.00	6.00	0.00

LH 3/26/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:36:48 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252422.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 0.13ng

response 3023

Ion	Exp%	Act%
67.00	100	100
69.00	32.50	32.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:37:07 2024 3/26/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

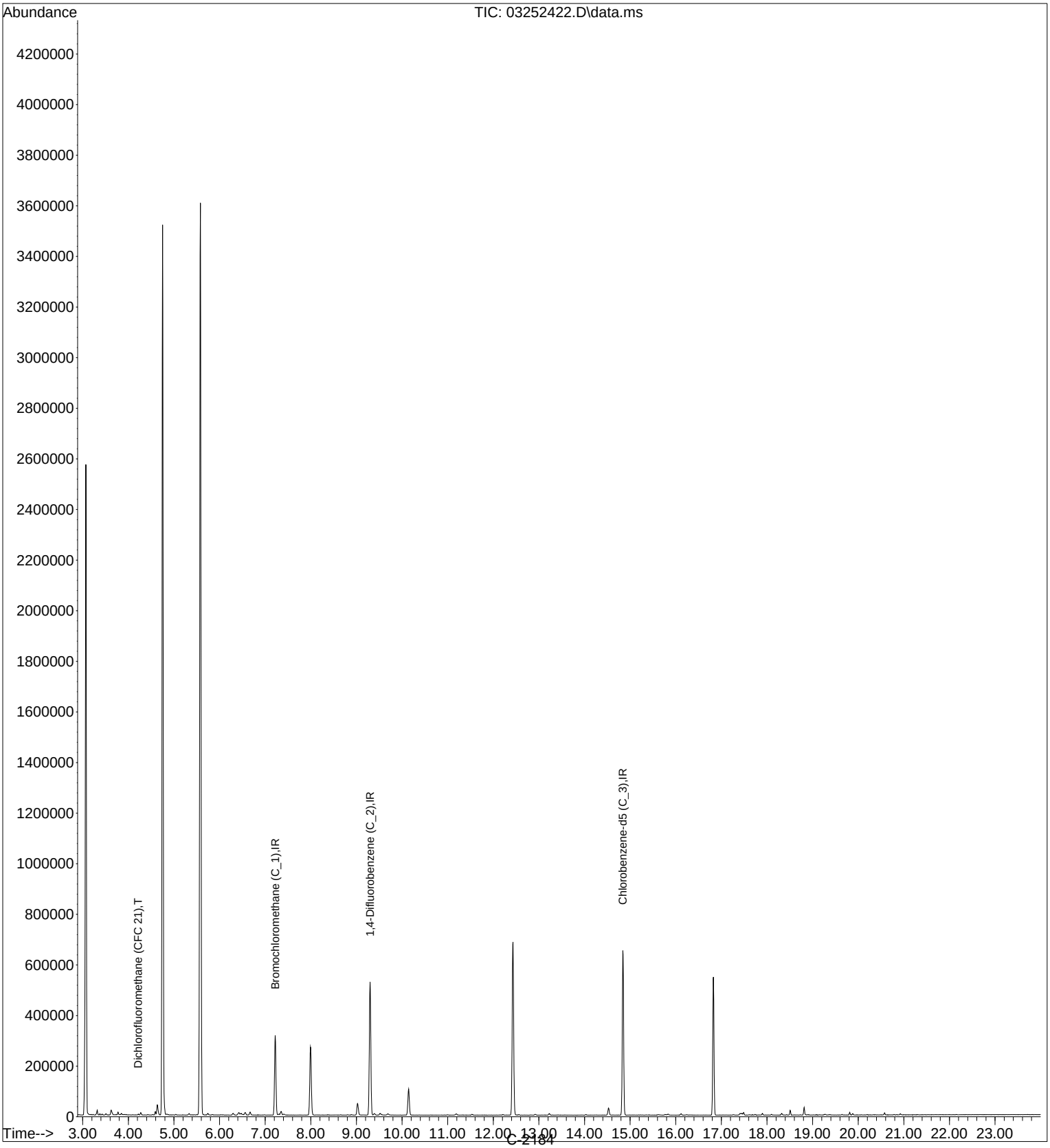
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	117681	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	506449	12.500	ng	-0.03
19) Chlorobenzene-d5 (C_3)	14.84	54	102202	12.500	ng	-0.02
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	140	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	3.30	67	152	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	3023	0.132	ng	100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	243	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.33	43	936	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.54	55	579	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	428	N.D.		
27) 4-Chlorotoluene	17.68	91	846	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252422.D Vial: 13
Acq On : 25 Mar 2024 23:02 Operator: SC
Sample : P2400922-048dup (80mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 09:37:07 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252429.D Vial: 13
Acq On : 26 Mar 2024 10:51 Operator: SC
Sample : P2400922-048dupDil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 11:15:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/26/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	116071	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	489550	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	100900	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	236775	12.469	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
57) Toluene-d8 (SS2)	12.43	98	558758	13.792	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
73) Bromofluorobenzene (SS3)	16.83	174	183528	12.849	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
Target Compounds							Qvalue
2) Propene	3.32	42	551	N.D.			
3) Dichlorodifluoromethan...	3.33	85	515	N.D.			
4) Chloromethane	3.51	50	276	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	1155	0.103	ng		77
11) Acetonitrile	4.44	41	462	N.D.			
12) Acrolein	4.54	56	449	0.056	ng		84
13) Acetone	4.65	58	7290	0.854	ng	#	74
14) Trichlorofluoromethane	4.75	101	1146269	49.746	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	824	N.D.			
16) Acrylonitrile	4.99	53	196	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.34	84	705	0.057	ng		84
20) 3-Chloro-1-propene (Al...	5.35	41	232	N.D.			
21) Trichlorotrifluoroethane	5.58	151	500362	51.514	ng		97
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	1470	0.211	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.35	83	5363	0.267	ng		94
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	1093	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	233	N.D.			
47) Trichloroethene	10.14	130	18384	1.548	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252429.D Vial: 13
Acq On : 26 Mar 2024 10:51 Operator: SC
Sample : P2400922-048dupDil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 11:15:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

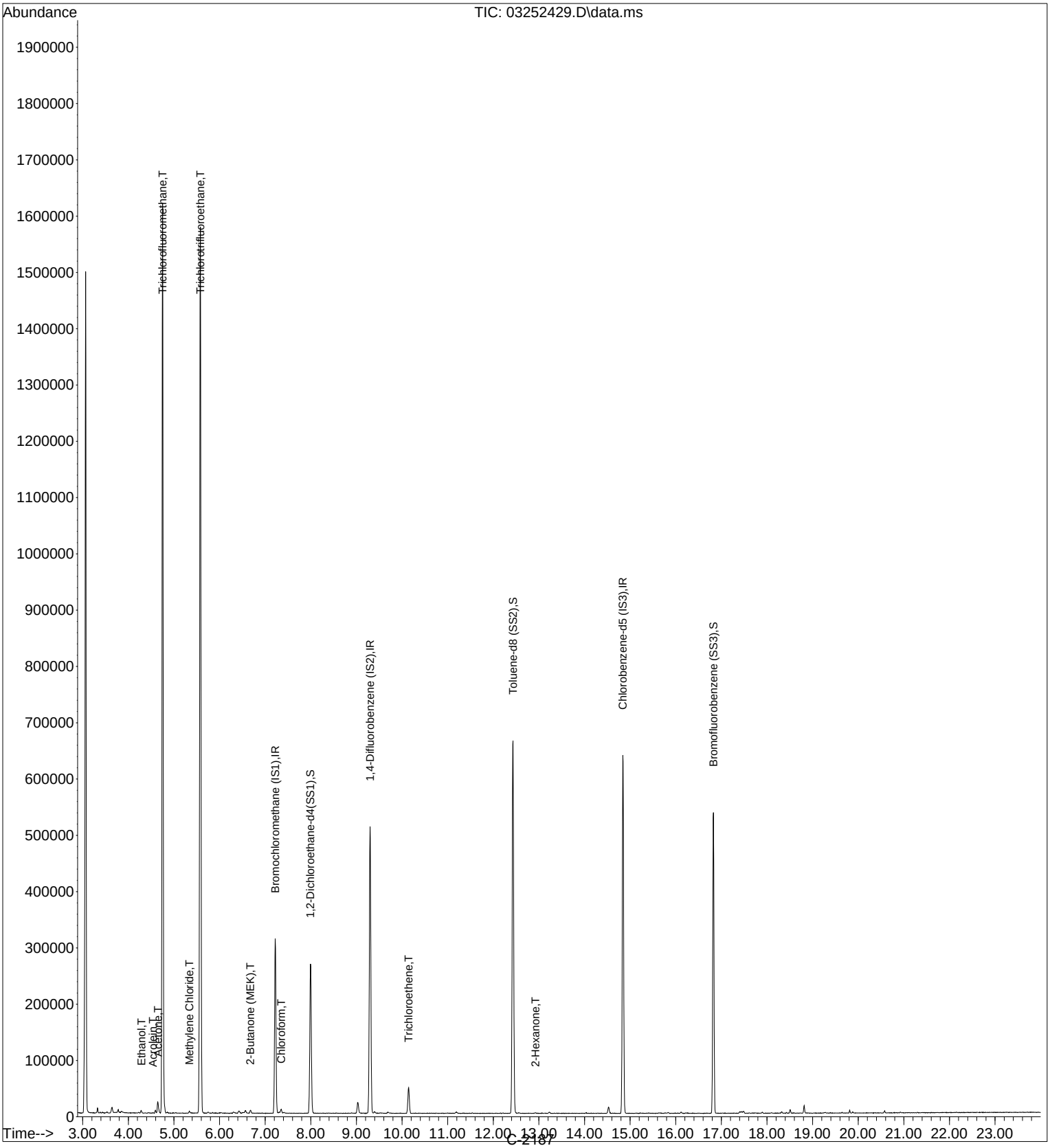
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1032	N.D.	
59) 2-Hexanone	12.93	43	1324	0.059 ng	76
60) Dibromochloromethane	13.06	129	265	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	451	N.D.	
65) Chlorobenzene	14.90	112	320	N.D.	
66) Ethylbenzene	15.41	91	665	N.D.	
67) m- & p-Xylenes	15.63	91	1094	N.D.	
68) Bromoform	15.67	173	378	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	512	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	439	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	633	N.D.	
77) 3-Ethyltoluene	17.03	105	439	No Calib	#
78) 4-Ethyltoluene	17.86	105	400	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	120	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	439	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	390	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	286	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	168	N.D.	
87) sec-Butylbenzene	18.74	105	511	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	235	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	439	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	293	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	387	N.D.	
95) Naphthalene	0.00	128	0	N.D. d	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.31	225	382	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	474	N.D.	
100) n-Butylbenzene	19.38	91	449	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252429.D Vial: 13
Acq On : 26 Mar 2024 10:51 Operator: SC
Sample : P2400922-048dupDil (40mL)PF2 Inst : MS09
Misc : S37-03252401

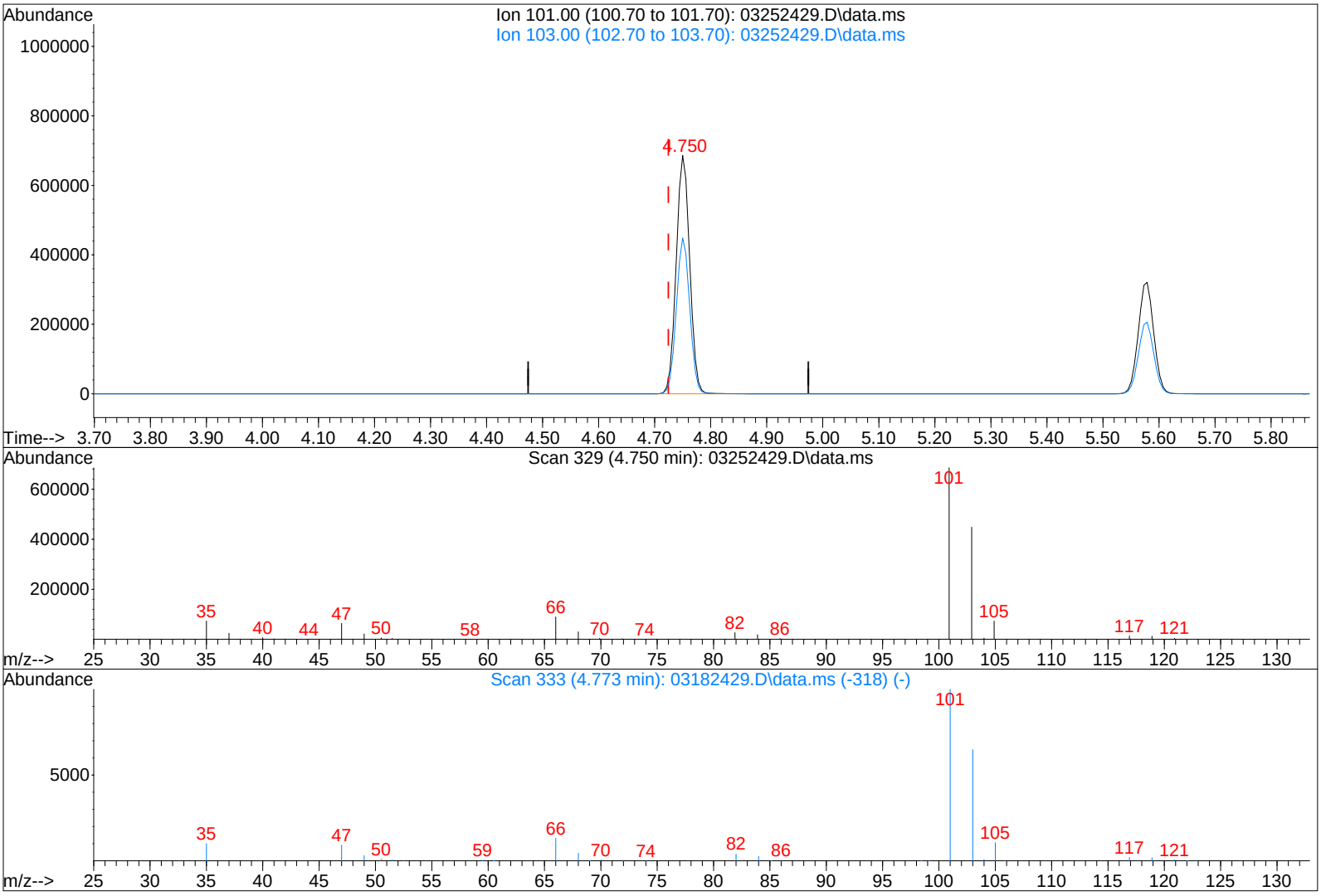
Quant Time: Mar 26 11:15:05 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252429.D Vial: 13
Acq On : 26 Mar 2024 10:51 Operator: SC
Sample : P2400922-048dupDil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 11:14:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252429.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.025) 49.75ng

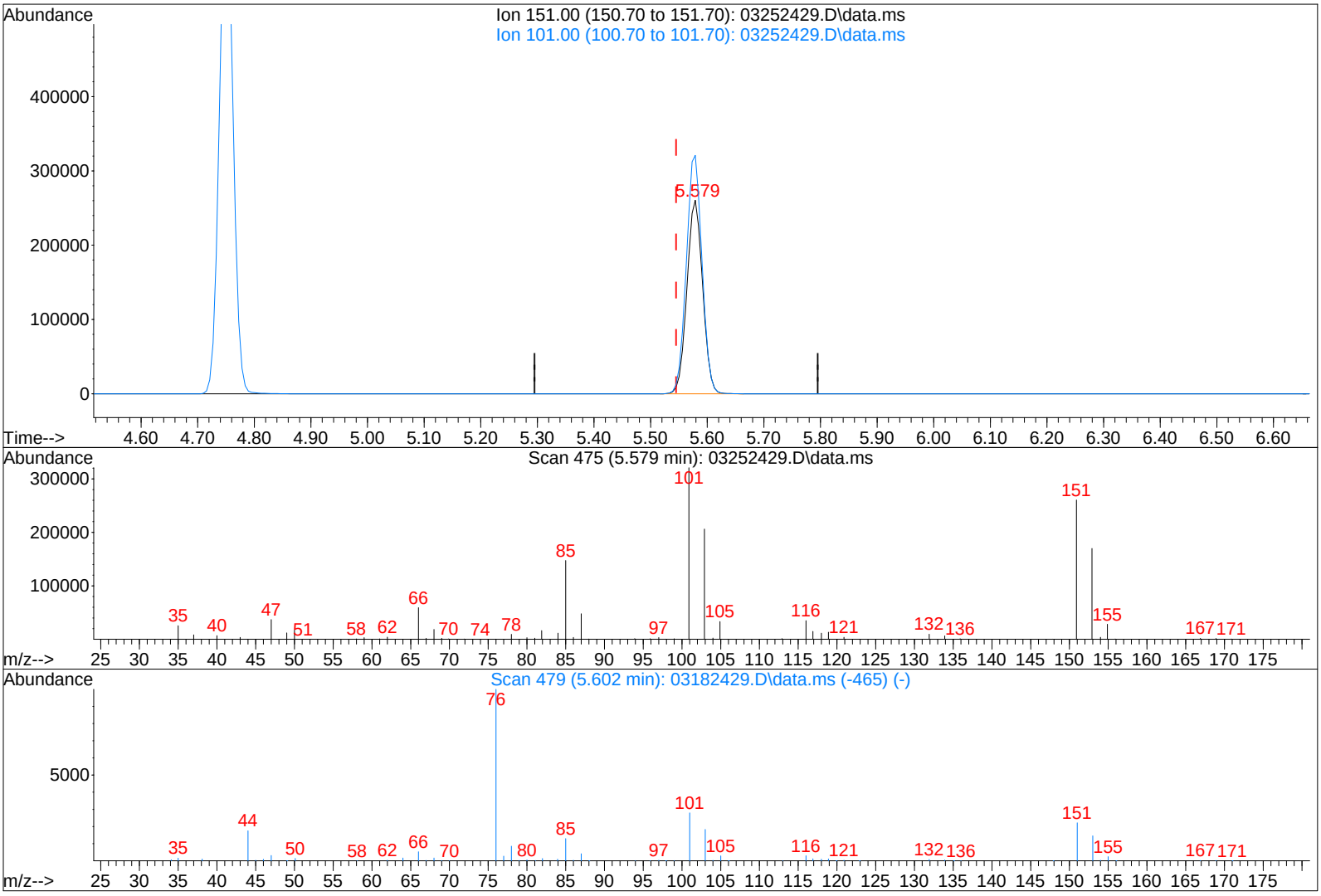
response 1146269

Ion	Exp%	Act%
101.00	100	100
103.00	64.70	64.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252429.D Vial: 13
Acq On : 26 Mar 2024 10:51 Operator: SC
Sample : P2400922-048dupDil (40mL)PF2 Inst : MS09
Misc : S37-03252401

Quant Time: Mar 26 11:14:13 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252429.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.034) 51.51ng

response 500362

Ion	Exp%	Act%
151.00	100	100
101.00	126.40	123.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\18\
Data File : 03182422.D
Acq On : 18 Mar 2024 19:29
Operator : CI
Sample : P2400875-001 (120mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 14:27:07 2024
Quant Method : I:\MS16\METHODS\R16021224.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Feb 13 09:31:22 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	222419	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1020744	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	241173	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	487642	13.434	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.44%			
57) Toluene-d8 (SS2)	15.95	98	1142261	12.286	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%			
73) Bromofluorobenzene (SS3)	19.15	174	386174	13.618	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.96%			
Target Compounds						Qvalue
2) Propene	4.19	42	3497	N.D.		
3) Dichlorodifluoromethan...	4.36	85	8369	N.D.		
4) Chloromethane	4.66	50	4907	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.09	62	4504	N.D.		
7) 1,3-Butadiene	5.28	54	315	N.D.		
8) Bromomethane	5.82	94	277	N.D.		
9) Chloroethane	6.16	64	976	N.D.		
10) Ethanol	6.59	45	3851	N.D.		
11) Acetonitrile	6.82	41	2110	N.D.		
12) Acrolein	7.06	56	982	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.45	101	4261	N.D.		
15) 2-Propanol (Isopropanol)	7.82	45	9526	N.D.		
16) Acrylonitrile	7.99	53	241	N.D.		
17) 1,1-Dichloroethene	8.42	96	133158	6.450	ng	100
18) 2-Methyl-2-Propanol (t...	8.71	59	8458	N.D.		
19) Methylene Chloride	8.64	84	18656	0.797	ng	95
20) 3-Chloro-1-propene (Al...	8.83	41	452	N.D.		
21) Trichlorotrifluoroethane	9.09	151	508	N.D.		
22) Carbon Disulfide	8.91	76	4983	N.D.		
23) trans-1,2-Dichloroethene	9.93	61	4565	N.D.		
24) 1,1-Dichloroethane	10.18	63	38771	0.924	ng	99
25) Methyl tert-Butyl Ether	10.37	73	301	N.D.		
26) Vinyl Acetate	10.44	86	891	N.D.		
27) 2-Butanone (MEK)	10.77	72	3683	N.D.		
28) cis-1,2-Dichloroethene	11.20	61	170922	5.062	ng	98
29) Diisopropyl Ether	11.54	87	2129	N.D.		
30) Ethyl Acetate	11.56	61	1750	N.D.		
31) n-Hexane	11.49	57	10090	N.D.		
32) Chloroform	11.55	83	17893	0.469	ng	98
34) Tetrahydrofuran (THF)	12.11	72	120	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.36	62	1471	N.D.		
38) 1,1,1-Trichloroethane	12.63	97	36921	0.959	ng	99
39) Isopropyl Acetate	13.74	61	225	No Calib	#	
40) 1-Butanol	12.59	56	111	No Calib	#	
41) Benzene	13.12	78	21792	N.D.		
42) Carbon Tetrachloride	13.28	117	416	N.D.		
43) Cyclohexane	13.40	84	1019	N.D.		
44) tert-Amyl Methyl Ether	13.80	73	346	N.D.		
45) 1,2-Dichloropropane	13.96	63	594	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.20	130	2735997	114.878	ng	97
48) 1,4-Dioxane	14.23	88	4064	N.D.		

Data Path : I:\MS16\DATA\2024 03\18\
Data File : 03182422.D
Acq On : 18 Mar 2024 19:29
Operator : CI
Sample : P2400875-001 (120mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:27:07 2024
Quant Method : I:\MS16\METHODS\R16021224.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Feb 13 09:31:22 2024
Response via : Initial Calibration

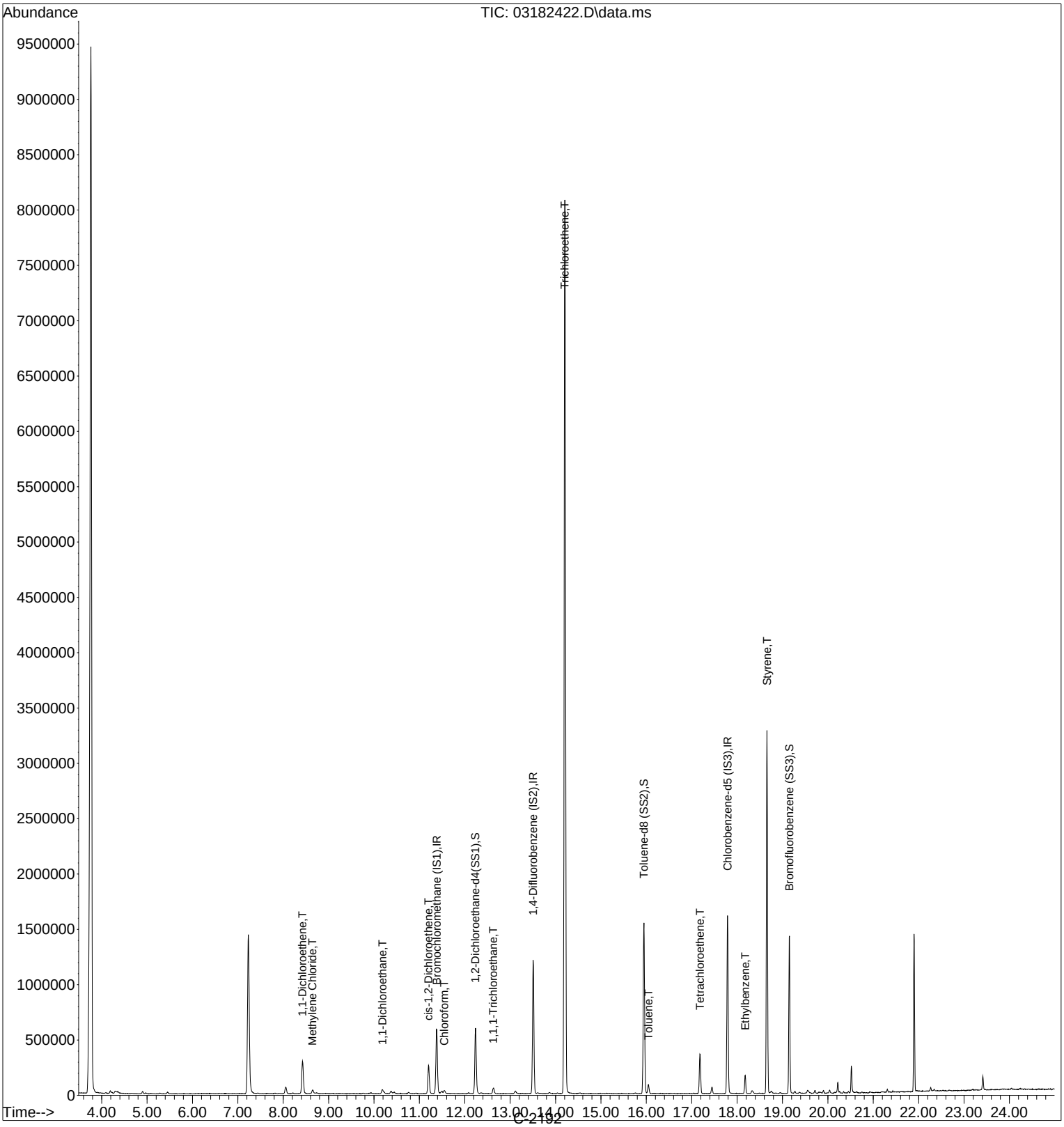
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)	
49) 2,2,4-Trimethylpentane...	14.28	57	915	N.D.		
50) Methyl Methacrylate	14.42	100	127	N.D.		
51) n-Heptane	14.53	71	1577	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	15.13	58	391	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	15.76	97	2275	N.D.		
58) Toluene	16.05	91	64264	0.705 ng	99	
59) 2-Hexanone	16.26	43	789	N.D.		
60) Dibromochloromethane	16.45	129	581	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	16.94	43	912	N.D.		
63) n-Octane	17.05	57	909	N.D.		
64) Tetrachloroethene	17.18	166	105680	4.263 ng	99	
65) Chlorobenzene	17.83	112	2299	N.D.		
66) Ethylbenzene	18.18	91	122852	1.178 ng	99	
67) m- & p-Xylenes	18.33	91	19226	N.D.		
68) Bromoform	18.40	173	789	N.D.		
69) Styrene	18.66	104	1502048	26.559 ng	98	
70) o-Xylene	18.75	91	8126	N.D.		
71) n-Nonane	18.95	43	2749	N.D.		
72) 1,1,2,2-Tetrachloroethane	18.74	83	1856	N.D.		
74) Cumene	19.27	105	10897	N.D.		
75) alpha-Pinene	19.62	93	1498	N.D.		
76) n-Propylbenzene	19.71	91	19948	N.D.		
77) 3-Ethyltoluene	20.26	105	4674	No Calib		
78) 4-Ethyltoluene	19.84	105	3686	N.D.		
79) 1,3,5-Trimethylbenzene	19.90	105	1489	N.D.		
80) alpha-Methylstyrene	20.61	118	843	No Calib	#	
81) 2-Ethyltoluene	20.26	105	4674	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	4674	N.D.		
83) n-Decane	20.35	58	216	No Calib	#	
84) Benzyl Chloride	20.36	91	387	N.D.		
85) 1,3-Dichlorobenzene	20.40	146	1239	N.D.		
86) 1,4-Dichlorobenzene	20.45	146	4321	N.D.		
87) sec-Butylbenzene	20.50	105	1810	N.D.		
88) 4-Isopropyltoluene (p-...	20.63	119	1995	N.D.		
89) 1,2,3-Trimethylbenzene	20.26	105	4674	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1006	N.D.		
91) d-Limonene	20.75	68	1405	N.D.		
92) 1,2-Dibromo-3-Chloropr...	21.13	157	246	N.D.		
93) n-Undecane	21.54	58	148	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	1267	N.D.		
95) Naphthalene	22.36	128	1718	N.D.		
96) n-Dodecane	22.72	57	723	No Calib	#	
97) Hexachlorobutadiene	22.67	225	732	N.D.		
98) Cyclohexanone	18.26	55	312	No Calib	#	
99) tert-Butylbenzene	20.26	119	1855	N.D.		
100) n-Butylbenzene	20.99	91	1508	N.D.		
101) 1,1,1,2-Tetrachloroethane	17.81	131	486	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\18\
Data File : 03182422.D
Acq On : 18 Mar 2024 19:29
Operator : CI
Sample : P2400875-001 (120mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:27:07 2024
Quant Method : I:\MS16\METHODS\R16021224.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Feb 13 09:31:22 2024
Response via : Initial Calibration



C-2192

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192422.D
Acq On : 19 Mar 2024 11:09
Operator : CI
Sample : P2400875-001dil (20mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 14:29:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	216257	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	987785	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	225386	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	454582	12.480	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
57) Toluene-d8 (SS2)	15.94	98	1117034	12.691	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.52%			
73) Bromofluorobenzene (SS3)	19.15	174	372503	12.567	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%			
Target Compounds						Qvalue
2) Propene	4.17	42	184	N.D.		
3) Dichlorodifluoromethan...	4.38	85	1003	N.D.		
4) Chloromethane	4.56	50	108	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.11	62	282	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	6.60	45	3641	N.D.		
11) Acetonitrile	6.89	41	1687	N.D.		
12) Acrolein	7.01	56	129	N.D.		
13) Acetone	7.22	58	3765	N.D.		
14) Trichlorofluoromethane	7.45	101	722	N.D.		
15) 2-Propanol (Isopropanol)	7.77	45	228	N.D.		
16) Acrylonitrile	8.05	53	1900	N.D.		
17) 1,1-Dichloroethene	8.44	96	19588	0.984	ng	91
18) 2-Methyl-2-Propanol (t...	8.69	59	139	N.D.		
19) Methylene Chloride	8.65	84	4034	N.D.		
20) 3-Chloro-1-propene (Al...	8.81	41	835	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	8.93	76	2092	N.D.		
23) trans-1,2-Dichloroethene	9.93	61	999	N.D.		
24) 1,1-Dichloroethane	10.18	63	5866	N.D.		
25) Methyl tert-Butyl Ether	10.28	73	278	N.D.		
26) Vinyl Acetate	10.48	86	134	N.D.		
27) 2-Butanone (MEK)	10.71	72	256	N.D.		
28) cis-1,2-Dichloroethene	11.21	61	23383	0.781	ng	96
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	11.58	61	133	N.D.		
31) n-Hexane	11.50	57	1743	N.D.		
32) Chloroform	11.55	83	3087	N.D.		
34) Tetrahydrofuran (THF)	12.07	72	396	N.D.		
35) Ethyl tert-Butyl Ether	12.11	87	142	N.D.		
36) 1,2-Dichloroethane	12.35	62	790	N.D.		
38) 1,1,1-Trichloroethane	12.63	97	5543	N.D.		
39) Isopropyl Acetate	13.78	61	103	No Calib	#	
40) 1-Butanol	12.64	56	121	No Calib	#	
41) Benzene	13.11	78	8242	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	13.39	84	200	N.D.		
44) tert-Amyl Methyl Ether	13.74	73	274	N.D.		
45) 1,2-Dichloropropane	13.97	63	421	N.D.		
46) Bromodichloromethane	14.15	83	550	N.D.		
47) Trichloroethene	14.20	130	380190	15.878	ng	100
48) 1,4-Dioxane	14.21	88	278	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192422.D
Acq On : 19 Mar 2024 11:09
Operator : CI
Sample : P2400875-001dil (20mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:29:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

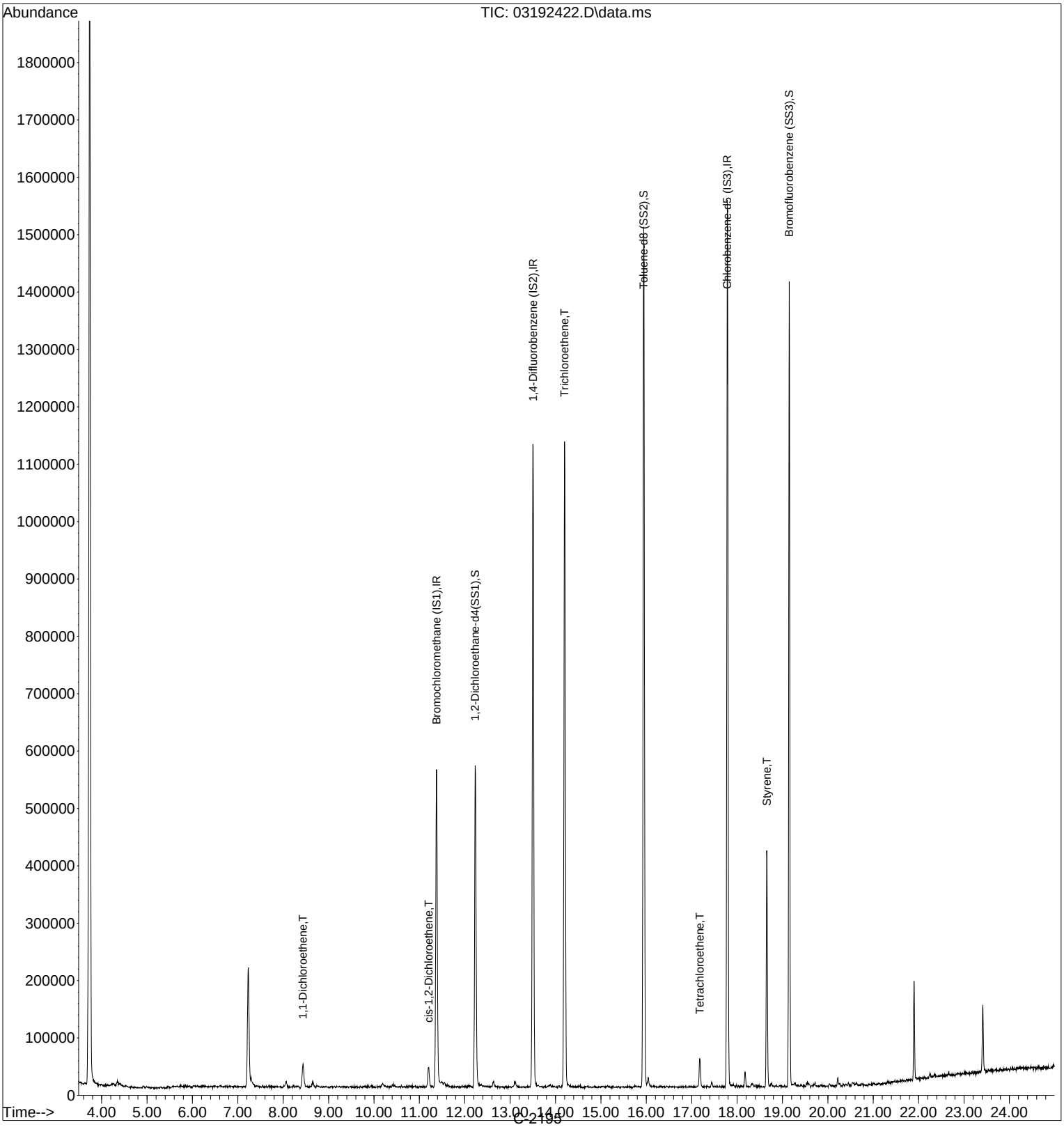
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.25	57	185	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	14.52	71	239	N.D.	
52) cis-1,3-Dichloropropene	15.08	75	148	N.D.	
53) 4-Methyl-2-pentanone	15.11	58	103	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	15.76	97	573	N.D.	
58) Toluene	16.04	91	10720	N.D.	
59) 2-Hexanone	16.33	43	999	N.D.	
60) Dibromochloromethane	16.44	129	402	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.92	43	436	N.D.	
63) n-Octane	17.05	57	111	N.D.	
64) Tetrachloroethene	17.18	166	15500	0.640 ng	97
65) Chlorobenzene	17.82	112	1039	N.D.	
66) Ethylbenzene	18.18	91	18089	N.D.	
67) m- & p-Xylenes	18.33	91	3961	N.D.	
68) Bromoform	18.38	173	441	N.D.	
69) Styrene	18.65	104	194091	3.635 ng	99
70) o-Xylene	18.75	91	1843	N.D.	
71) n-Nonane	18.95	43	750	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.74	83	873	N.D.	
74) Cumene	19.27	105	2671	N.D.	
75) alpha-Pinene	19.62	93	266	N.D.	
76) n-Propylbenzene	19.71	91	5374	N.D.	
77) 3-Ethyltoluene	20.26	105	1163	No Calib	#
78) 4-Ethyltoluene	19.84	105	1459	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	367	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	20.26	105	1163	No Calib	#
82) 1,2,4-Trimethylbenzene	20.26	105	1163	N.D.	
83) n-Decane	20.37	58	140	No Calib	#
84) Benzyl Chloride	20.37	91	454	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	1069	N.D.	
86) 1,4-Dichlorobenzene	20.46	146	1638	N.D.	
87) sec-Butylbenzene	20.49	105	1131	N.D.	
88) 4-Isopropyltoluene (p-...	20.64	119	830	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	1163	No Calib	#
90) 1,2-Dichlorobenzene	20.76	146	996	N.D.	
91) d-Limonene	20.76	68	266	N.D.	
92) 1,2-Dibromo-3-Chloropr...	21.12	157	184	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	22.25	180	2215	N.D.	
95) Naphthalene	22.35	128	3115	N.D.	
96) n-Dodecane	22.72	57	247	No Calib	#
97) Hexachlorobutadiene	22.67	225	960	N.D.	
98) Cyclohexanone	18.26	55	215	No Calib	#
99) tert-Butylbenzene	20.26	119	1680	N.D.	
100) n-Butylbenzene	21.00	91	1178	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192422.D
Acq On : 19 Mar 2024 11:09
Operator : CI
Sample : P2400875-001dil (20mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:29:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



C-2199

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\18\
Data File : 03182423.D
Acq On : 18 Mar 2024 20:02
Operator : CI
Sample : P2400875-001dup (120mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 14:27:55 2024
Quant Method : I:\MS16\METHODS\R16021224.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Feb 13 09:31:22 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	221030	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1011662	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	238007	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	482203	13.368	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.96%			
57) Toluene-d8 (SS2)	15.95	98	1136189	12.384	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.04%			
73) Bromofluorobenzene (SS3)	19.15	174	383904	13.718	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%			
Target Compounds						Qvalue
2) Propene	4.16	42	510	N.D.		
3) Dichlorodifluoromethan...	4.36	85	8112	N.D.		
4) Chloromethane	4.65	50	4569	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.09	62	4579	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.82	94	132	N.D.		
9) Chloroethane	6.15	64	684	N.D.		
10) Ethanol	6.59	45	3379	N.D.		
11) Acetonitrile	6.84	41	2596	N.D.		
12) Acrolein	7.05	56	592	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	7.44	101	4210	N.D.		
15) 2-Propanol (Isopropanol)	7.81	45	9922	N.D.		
16) Acrylonitrile	8.06	53	2247	N.D.		
17) 1,1-Dichloroethene	8.42	96	127153	6.198	ng	98
18) 2-Methyl-2-Propanol (t...	8.71	59	9108	N.D.		
19) Methylene Chloride	8.65	84	17979	0.773	ng	95
20) 3-Chloro-1-propene (Al...	8.82	41	375	N.D.		
21) Trichlorotrifluoroethane	9.09	151	671	N.D.		
22) Carbon Disulfide	8.91	76	5032	N.D.		
23) trans-1,2-Dichloroethene	9.93	61	4178	N.D.		
24) 1,1-Dichloroethane	10.18	63	37454	0.898	ng	98
25) Methyl tert-Butyl Ether	10.37	73	448	N.D.		
26) Vinyl Acetate	10.45	86	609	N.D.		
27) 2-Butanone (MEK)	10.76	72	4026	N.D.		
28) cis-1,2-Dichloroethene	11.20	61	166767	4.970	ng	100
29) Diisopropyl Ether	11.55	87	1873	N.D.		
30) Ethyl Acetate	11.55	61	848	N.D.		
31) n-Hexane	11.50	57	9818	N.D.		
32) Chloroform	11.55	83	17310	0.456	ng	99
34) Tetrahydrofuran (THF)	12.06	72	257	N.D.		
35) Ethyl tert-Butyl Ether	12.08	87	233	N.D.		
36) 1,2-Dichloroethane	12.35	62	1728	N.D.		
38) 1,1,1-Trichloroethane	12.63	97	34364	0.901	ng	97
39) Isopropyl Acetate	13.83	61	331	No Calib	#	
40) 1-Butanol	12.62	56	319	No Calib	#	
41) Benzene	13.10	78	22465	N.D.		
42) Carbon Tetrachloride	13.26	117	609	N.D.		
43) Cyclohexane	13.39	84	1288	N.D.		
44) tert-Amyl Methyl Ether	13.83	73	261	N.D.		
45) 1,2-Dichloropropane	13.98	63	725	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D. d		
47) Trichloroethene	14.20	130	2657676	112.591	ng	97
48) 1,4-Dioxane	14.22	88	3648	N.D.		

Data Path : I:\MS16\DATA\2024 03\18\
Data File : 03182423.D
Acq On : 18 Mar 2024 20:02
Operator : CI
Sample : P2400875-001dup (120mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:27:55 2024
Quant Method : I:\MS16\METHODS\R16021224.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Feb 13 09:31:22 2024
Response via : Initial Calibration

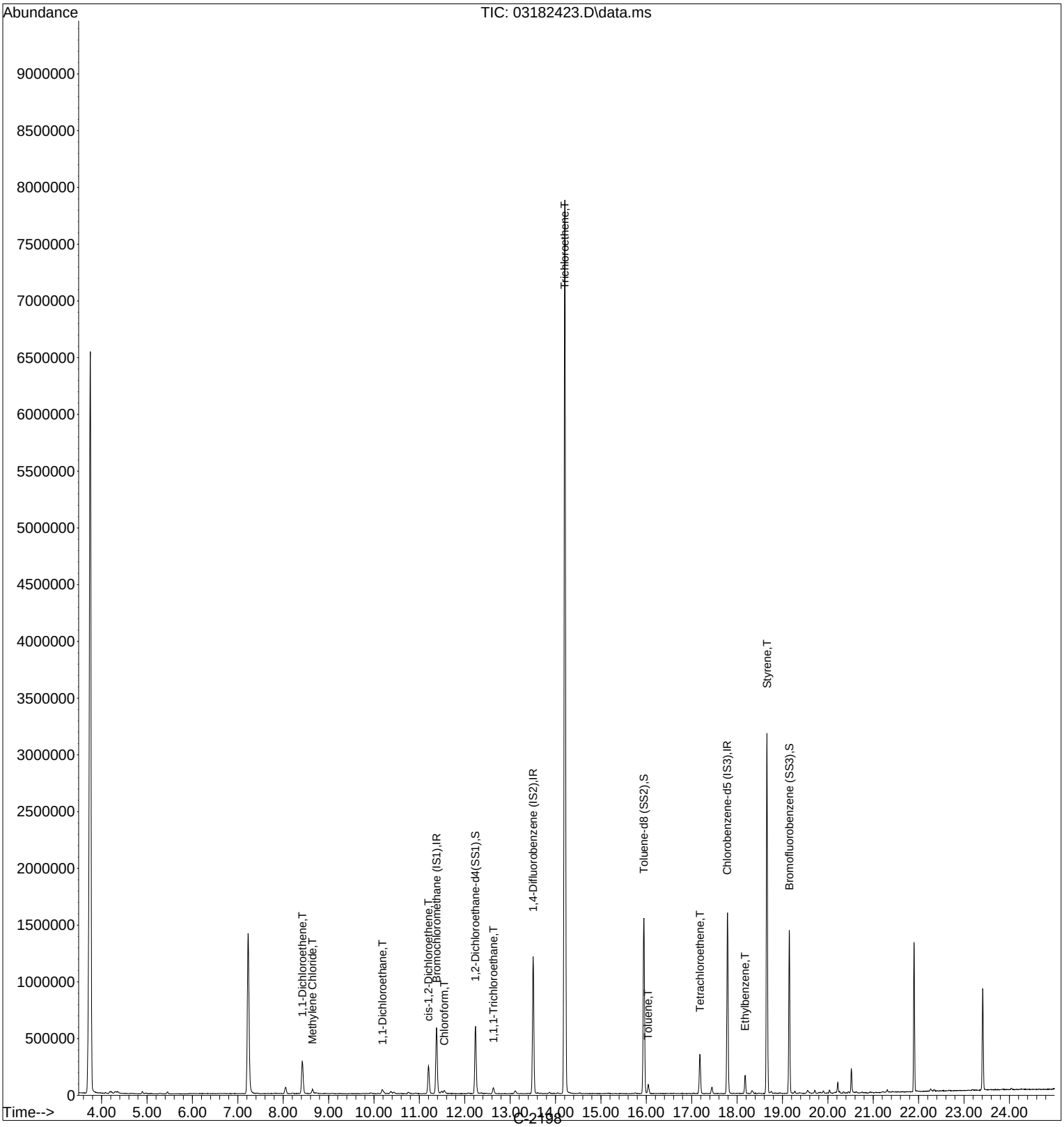
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	14.25	57	1449	N.D.	
50) Methyl Methacrylate	14.41	100	112	N.D.	
51) n-Heptane	14.54	71	1798	N.D.	
52) cis-1,3-Dichloropropene	15.07	75	113	N.D.	
53) 4-Methyl-2-pentanone	15.13	58	245	N.D.	
54) trans-1,3-Dichloropropene	15.63	75	113	N.D.	
55) 1,1,2-Trichloroethane	15.76	97	1825	N.D.	
58) Toluene	16.04	91	58809	0.653 ng	95
59) 2-Hexanone	16.31	43	1730	N.D.	
60) Dibromochloromethane	16.45	129	671	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	16.92	43	1143	N.D.	
63) n-Octane	17.04	57	767	N.D.	
64) Tetrachloroethene	17.19	166	100803	4.120 ng	98
65) Chlorobenzene	17.83	112	1657	N.D.	
66) Ethylbenzene	18.17	91	116740	1.134 ng	98
67) m- & p-Xylenes	18.33	91	19015	N.D.	
68) Bromoform	18.39	173	761	N.D.	
69) Styrene	18.66	104	1468925	26.319 ng	99
70) o-Xylene	18.76	91	7866	N.D.	
71) n-Nonane	18.95	43	2909	N.D.	
72) 1,1,2,2-Tetrachloroethane	18.74	83	1990	N.D.	
74) Cumene	19.27	105	10444	N.D.	
75) alpha-Pinene	19.61	93	1432	N.D.	
76) n-Propylbenzene	19.71	91	20838	N.D.	
77) 3-Ethyltoluene	20.26	105	3813	No Calib	
78) 4-Ethyltoluene	19.84	105	2966	N.D.	
79) 1,3,5-Trimethylbenzene	19.90	105	1319	N.D.	
80) alpha-Methylstyrene	20.60	118	523	No Calib	#
81) 2-Ethyltoluene	20.26	105	3813	No Calib	
82) 1,2,4-Trimethylbenzene	20.26	105	3813	N.D.	
83) n-Decane	20.41	58	197	No Calib	#
84) Benzyl Chloride	20.45	91	240	N.D.	
85) 1,3-Dichlorobenzene	20.39	146	1312	N.D.	
86) 1,4-Dichlorobenzene	20.45	146	3918	N.D.	
87) sec-Butylbenzene	20.49	105	1524	N.D.	
88) 4-Isopropyltoluene (p-...	20.63	119	1864	N.D.	
89) 1,2,3-Trimethylbenzene	20.26	105	3813	No Calib	
90) 1,2-Dichlorobenzene	20.75	146	927	N.D.	
91) d-Limonene	20.75	68	1312	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	21.56	58	233	No Calib	#
94) 1,2,4-Trichlorobenzene	22.25	180	1057	N.D.	
95) Naphthalene	22.35	128	1491	N.D.	
96) n-Dodecane	22.72	57	405	No Calib	#
97) Hexachlorobutadiene	22.67	225	1083	N.D.	
98) Cyclohexanone	18.26	55	412	No Calib	#
99) tert-Butylbenzene	20.26	119	1503	N.D.	
100) n-Butylbenzene	21.00	91	1605	N.D.	
101) 1,1,1,2-Tetrachloroethane	17.80	131	473	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\18\
Data File : 03182423.D
Acq On : 18 Mar 2024 20:02
Operator : CI
Sample : P2400875-001dup (120mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:27:55 2024
Quant Method : I:\MS16\METHODS\R16021224.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Feb 13 09:31:22 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192423.D
Acq On : 19 Mar 2024 11:43
Operator : CI
Sample : P2400875-001dupdil (20mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 14:49:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	214560	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	992075	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	226988	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.23	65	450576	12.468	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%			
57) Toluene-d8 (SS2)	15.94	98	1110611	12.529	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%			
73) Bromofluorobenzene (SS3)	19.15	174	375491	12.579	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%			
Target Compounds						Qvalue
2) Propene	4.16	42	246	N.D.		
3) Dichlorodifluoromethan...	4.37	85	1376	N.D.		
4) Chloromethane	4.67	50	172	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	5.11	62	437	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	5.83	94	157	N.D.		
9) Chloroethane	6.09	64	139	N.D.		
10) Ethanol	6.62	45	2599	N.D.		
11) Acetonitrile	6.84	41	323	N.D.		
12) Acrolein	7.02	56	73	N.D.		
13) Acetone	7.23	58	3283	N.D.		
14) Trichlorofluoromethane	7.43	101	687	N.D.		
15) 2-Propanol (Isopropanol)	7.77	45	52	N.D.		
16) Acrylonitrile	8.00	53	254	N.D.		
17) 1,1-Dichloroethene	8.44	96	16936	0.858	ng	97
18) 2-Methyl-2-Propanol (t...	8.70	59	195	N.D.		
19) Methylene Chloride	8.66	84	3776	N.D.		
20) 3-Chloro-1-propene (Al...	8.83	41	363	N.D.		
21) Trichlorotrifluoroethane	9.06	151	126	N.D.		
22) Carbon Disulfide	8.93	76	971	N.D.		
23) trans-1,2-Dichloroethene	9.93	61	848	N.D.		
24) 1,1-Dichloroethane	10.19	63	5647	N.D.		
25) Methyl tert-Butyl Ether	10.40	73	209	N.D.		
26) Vinyl Acetate	10.47	86	140	N.D.		
27) 2-Butanone (MEK)	10.65	72	165	N.D.		
28) cis-1,2-Dichloroethene	11.20	61	21306	0.717	ng	93
29) Diisopropyl Ether	11.54	87	329	N.D.		
30) Ethyl Acetate	11.47	61	140	N.D.		
31) n-Hexane	11.50	57	1613	N.D.		
32) Chloroform	11.55	83	2587	N.D.		
34) Tetrahydrofuran (THF)	12.02	72	187	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	12.35	62	223	N.D.		
38) 1,1,1-Trichloroethane	12.63	97	5120	N.D.		
39) Isopropyl Acetate	13.74	61	199	No Calib	#	
40) 1-Butanol	12.71	56	224	No Calib	#	
41) Benzene	13.11	78	12651	N.D.		
42) Carbon Tetrachloride	13.26	117	122	N.D.		
43) Cyclohexane	13.39	84	384	N.D.		
44) tert-Amyl Methyl Ether	13.75	73	257	N.D.		
45) 1,2-Dichloropropane	13.96	63	131	N.D.		
46) Bromodichloromethane	14.16	83	987	N.D.		
47) Trichloroethene	14.20	130	364105	15.141	ng	100
48) 1,4-Dioxane	14.24	88	895	N.D.		

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192423.D
Acq On : 19 Mar 2024 11:43
Operator : CI
Sample : P2400875-001dupdil (20mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:49:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

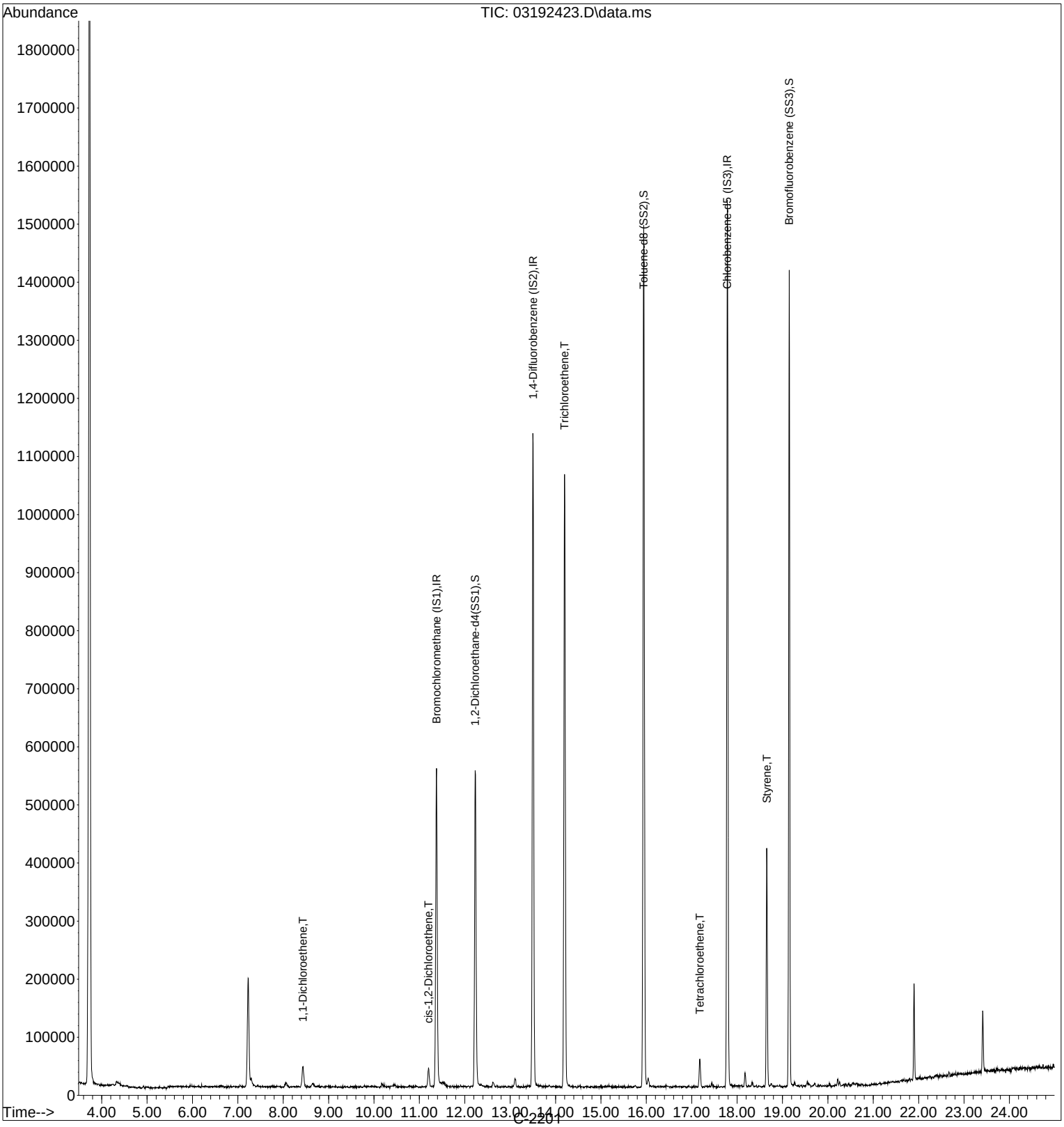
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	347	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			
51) n-Heptane	14.53	71	212	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.			
54) trans-1,3-Dichloropropene	15.58	75	176	N.D.			
55) 1,1,2-Trichloroethane	15.74	97	822	N.D.			
58) Toluene	16.04	91	9944	N.D.			
59) 2-Hexanone	16.32	43	523	N.D.			
60) Dibromochloromethane	16.46	129	671	N.D.			
61) 1,2-Dibromoethane	16.73	107	186	N.D.			
62) n-Butyl Acetate	16.94	43	749	N.D.			
63) n-Octane	17.09	57	257	N.D.			
64) Tetrachloroethene	17.18	166	14030	0.576	ng		97
65) Chlorobenzene	17.83	112	897	N.D.			
66) Ethylbenzene	18.17	91	16857	N.D.			
67) m- & p-Xylenes	18.33	91	3974	N.D.			
68) Bromoform	18.41	173	491	N.D.			
69) Styrene	18.65	104	192224	3.575	ng		100
70) o-Xylene	18.75	91	1929	N.D.			
71) n-Nonane	18.94	43	507	N.D.			
72) 1,1,2,2-Tetrachloroethane	18.74	83	1105	N.D.			
74) Cumene	19.27	105	2404	N.D.			
75) alpha-Pinene	19.62	93	143	N.D.			
76) n-Propylbenzene	19.71	91	4969	N.D.			
77) 3-Ethyltoluene	20.26	105	1096	No Calib			
78) 4-Ethyltoluene	19.85	105	1441	N.D.			
79) 1,3,5-Trimethylbenzene	19.91	105	584	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	20.26	105	1096	No Calib			
82) 1,2,4-Trimethylbenzene	20.26	105	1096	N.D.			
83) n-Decane	20.30	58	170	No Calib		#	
84) Benzyl Chloride	20.39	91	632	N.D.			
85) 1,3-Dichlorobenzene	20.39	146	780	N.D.			
86) 1,4-Dichlorobenzene	20.45	146	1338	N.D.			
87) sec-Butylbenzene	20.50	105	953	N.D.			
88) 4-Isopropyltoluene (p-...	20.64	119	673	N.D.			
89) 1,2,3-Trimethylbenzene	20.26	105	1096	No Calib			
90) 1,2-Dichlorobenzene	20.75	146	865	N.D.			
91) d-Limonene	20.75	68	331	N.D.			
92) 1,2-Dibromo-3-Chloropr...	21.13	157	160	N.D.			
93) n-Undecane	21.53	58	143	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.25	180	1327	N.D.			
95) Naphthalene	22.35	128	1475	N.D.			
96) n-Dodecane	22.81	57	156	No Calib		#	
97) Hexachlorobutadiene	22.67	225	1171	N.D.			
98) Cyclohexanone	18.19	55	175	No Calib		#	
99) tert-Butylbenzene	20.26	119	1268	N.D.			
100) n-Butylbenzene	20.99	91	703	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192423.D
Acq On : 19 Mar 2024 11:43
Operator : CI
Sample : P2400875-001dupdil (20mL)
Misc : S37-01032403/
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 14:49:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



C-2201

Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 08:55:47 2024
Response Via : Initial Calibration

3/19/24

Calibration Files
0.1 =03182422.D 0.2 =03182423.D 0.5 =03182424.D 1.0 =03182425.D 5.0 =03182426.D 25 =03182
100 =03182429.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.524	1.501	1.394	1.363	1.440	1.328	1.343	1.497	1.424	5.44
3)	T	Dichlorodifluo...	2.744	2.779	2.804	2.615	2.578	2.437	2.308	2.245	2.564	8.37
4)	T	Chloromethane	2.005	2.103	2.087	1.910	1.881	1.858	1.798	1.609	1.906	8.51
5)	T	1,2-Dichloro-1...	1.248	1.136	1.214	1.150	1.104	1.093	1.042	1.031	1.127	6.79
6)	T	Vinyl Chloride	1.897	1.824	1.870	1.817	1.753	1.751	1.708	1.627	1.781	4.99
7)	T	1,3-Butadiene	1.474	1.385	1.411	1.352	1.367	1.418	1.393	1.368	1.396	2.79
8)	T	Bromomethane	1.187	1.047	1.080	1.011	0.999	1.024	0.994	0.993	1.042	6.31
9)	T	Chloroethane	0.796	0.806	0.824	0.775	0.763	0.766	0.755	0.765	0.781	3.15
10)	T	Ethanol	1.300	1.122	1.332	1.245	1.203	1.181	1.152	1.129	1.208	6.46
11)	T	Acetonitrile	2.805	2.783	2.671	2.738	2.705	2.648	2.618	3.210	2.772	6.79
12)	T	Acrolein	0.878	0.857	0.844	0.870	0.853	0.881	0.876	0.867	0.866	1.53
13)	T	Acetone	1.059	1.020	0.947	0.874	0.863	0.888	0.862	0.842	0.919	8.81
14)	T	Trichlorofluor...	2.597	2.574	2.578	2.496	2.443	2.449	2.376	2.340	2.482	3.89
15)	T	2-Propanol (Is...	4.077	3.896	3.852	3.705	3.526	3.801	3.502	2.927	3.661	9.62
16)	T	Acrylonitrile	1.914	1.882	1.746	1.683	1.736	1.778	1.745	1.758	1.780	4.38
17)	T	1,1-Dichloroet...	1.116	1.115	1.125	1.049	1.045	1.077	1.061	1.064	1.082	2.99
18)	T	2-Methyl-2-Pro...	2.107	2.118	2.331	2.087	2.275	2.346	2.356	1.876	2.187	7.73
19)	T	Methylene Chlo...	1.942	1.552	1.334	1.211	1.147	1.183	1.166	1.162	1.337	20.91
20)	T	3-Chloro-1-pro...	0.806	2.281	1.985	2.277	2.217	2.166	2.096	2.007	1.979	24.62
21)	T	Trichlorotrifl...	1.060	1.091	1.096	1.034	1.014	1.040	1.016	1.017	1.046	3.15
22)	T	Carbon Disulfide	4.234	4.245	4.251	4.088	4.128	4.250	4.134	3.991	4.165	2.30
23)	T	trans-1,2-Dich...	1.966	1.825	1.875	1.788	1.783	1.852	1.828	1.822	1.842	3.16
24)	T	1,1-Dichloroet...	2.296	2.229	2.252	2.140	2.131	2.163	2.134	2.123	2.183	3.03
25)	T	Methyl tert-Bu...	1.722	1.718	2.044	1.792	2.329	2.512	2.747	2.966	2.229	21.75
26)	T	Vinyl Acetate	0.153	0.175	0.192	0.190	0.216	0.236	0.237	0.237	0.205	15.51
27)	T	2-Butanone (MEK)	0.748	0.739	0.746	0.735	0.740	0.774	0.765	0.766	0.752	1.95
28)	T	cis-1,2-Dichlo...	1.997	1.846	1.792	1.716	1.688	1.757	1.736	1.729	1.782	5.58
29)	T	Diisopropyl Ether	0.905	0.884	0.899	0.843	0.852	0.898	0.889	0.886	0.882	2.57
30)	T	Ethyl Acetate	0.407	0.405	0.447	0.446	0.459	0.485	0.481	0.477	0.451	6.97
31)	T	n-Hexane	1.932	1.986	2.039	1.875	1.916	1.976	1.939	1.890	1.944	2.78
32)	T	Chloroform	2.319	2.227	2.245	2.133	2.087	2.146	2.103	2.075	2.167	4.04
33)	S	1,2-Dichloroet...	2.046	2.070	2.065	2.048	2.065	2.035	2.022	2.008	2.045	1.08
34)	T	Tetrahydrofura...	0.609	0.686	0.707	0.655	0.677	0.708	0.702	0.700	0.681	4.98
35)	T	Ethyl tert-But...	0.720	0.708	0.796	0.720	0.864	0.913	0.963	1.008	0.836	14.11
36)	T	1,2-Dichloroet...	2.225	2.127	2.033	1.982	1.966	1.994	1.949	1.914	2.024	5.11
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.498	0.503	0.523	0.480	0.489	0.504	0.492	0.480	0.496	2.85
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.316	1.218	1.145	1.083	1.057	1.083	1.061	1.038	1.125	8.60
42)	T	Carbon Tetrach...	0.445	0.431	0.445	0.431	0.443	0.461	0.447	0.435	0.442	2.24
43)	T	Cyclohexane	0.367	0.346	0.358	0.348	0.351	0.366	0.358	0.352	0.356	2.19
44)	T	tert-Amyl Meth...	0.455	0.454	0.483	0.453	0.495	0.534	0.550	0.574	0.500	9.54
45)	T	1,2-Dichloropr...	0.292	0.274	0.289	0.268	0.265	0.271	0.267	0.265	0.274	3.94
46)	T	Bromodichlorom...	0.481	0.419	0.405	0.393	0.396	0.415	0.407	0.401	0.415	6.86
47)	T	Trichloroethene	0.370	0.334	0.298	0.286	0.285	0.290	0.284	0.279	0.303	10.64
48)	T	1,4-Dioxane	0.190	0.180	0.180	0.180	0.189	0.221	0.217	0.215	0.196	9.13
49)	T	2,2,4-Trimethy...	1.140	1.165	1.150	1.102	1.107	1.134	1.110	1.082	1.124	2.49
50)	T	Methyl Methacr...	0.068	0.082	0.090	0.091	0.097	0.104	0.103	0.103	0.092	13.45
51)	T	n-Heptane	0.233	0.233	0.241	0.238	0.241	0.248	0.246	0.244	0.241	2.32
52)	T	cis-1,3-Dichlo...	0.415	0.420	0.436	0.439	0.461	0.497	0.493	0.489	0.456	7.36
53)	T	4-Methyl-2-pen...	0.204	0.223	0.234	0.235	0.242	0.269	0.264	0.258	0.241	9.19
54)	T	trans-1,3-Dich...	0.316	0.326	0.376	0.367	0.410	0.451	0.448	0.444	0.392	13.81

55)	T	1,1,2-Trichlor...	0.242	0.255	0.267	0.254	0.256	0.262	0.257	0.254	0.256	2.84
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	5.095	5.011	5.056	5.043	5.003	4.965	4.995	4.983	5.019	0.85
58)	T	Toluene	5.535	5.110	4.819	4.639	4.569	4.618	4.581	4.453	4.790	7.55
59)	T	2-Hexanone	2.527	2.604	2.564	2.597	2.825	3.108	3.087	2.956	2.783	8.70
60)	T	Dibromochlorom...	1.706	1.611	1.549	1.436	1.489	1.526	1.528	1.501	1.543	5.37
61)	T	1,2-Dibromoethane	1.274	1.306	1.348	1.305	1.359	1.395	1.397	1.373	1.345	3.37
62)	T	n-Butyl Acetate	2.772	2.824	2.863	2.932	3.214	3.423	3.396	3.223	3.081	8.55
63)	T	n-Octane	0.918	1.002	1.020	1.016	1.012	1.047	1.050	1.029	1.012	4.08
64)	T	Tetrachloroethene	1.656	1.585	1.466	1.428	1.417	1.427	1.418	1.382	1.473	6.53
65)	T	Chlorobenzene	3.642	3.381	3.277	3.123	3.089	3.166	3.130	3.027	3.229	6.21
66)	T	Ethylbenzene	5.917	5.549	5.441	5.377	5.395	5.518	5.432	5.207	5.480	3.74
67)	T	m- & p-Xylenes	4.891	4.557	4.502	4.412	4.488	4.618	4.580	4.356	4.550	3.57
68)	T	Bromoform	1.499	1.332	1.219	1.165	1.234	1.334	1.341	1.314	1.305	7.82
69)	T	Styrene	2.786	2.790	2.959	3.027	3.251	3.428	3.399	3.287	3.116	8.34
70)	T	o-Xylene	4.908	4.395	4.452	4.399	4.439	4.544	4.466	4.292	4.487	4.12
71)	T	n-Nonane	2.514	2.501	2.584	2.570	2.629	2.689	2.656	2.537	2.585	2.64
72)	T	1,1,2,2-Tetrac...	2.375	2.177	2.094	2.057	2.059	2.083	2.086	2.042	2.122	5.20
73)	S	Bromofluoroben...	1.765	1.746	1.786	1.802	1.779	1.777	1.760	1.740	1.769	1.18
74)	T	Cumene	5.872	5.672	5.561	5.386	5.449	5.518	5.395	5.109	5.495	4.08
75)	T	alpha-Pinene	2.446	2.566	2.586	2.679	2.856	2.926	2.886	2.760	2.713	6.35
76)	T	n-Propylbenzene	6.906	6.840	6.636	6.630	6.682	6.798	6.625	6.194	6.664	3.27
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.378	5.343	5.122	5.222	5.406	5.466	5.427	5.107	5.309	2.63
79)	T	1,3,5-Trimethy...	4.616	4.599	4.659	4.539	4.653	4.731	4.623	4.375	4.599	2.30
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.829	4.677	4.649	4.695	4.903	5.085	4.905	4.545	4.786	3.67
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	2.784	3.050	3.246	3.480	4.171	4.625	4.527	4.040	3.740	18.58
85)	T	1,3-Dichlorobe...	3.284	3.019	2.897	2.868	2.906	3.005	2.927	2.746	2.957	5.31
86)	T	1,4-Dichlorobe...	3.020	3.070	2.886	2.815	2.850	2.961	2.910	2.751	2.908	3.65
87)	T	sec-Butylbenzene	6.452	6.256	6.137	6.060	6.238	6.308	6.075	5.622	6.144	4.02
88)	T	4-Isopropyltol...	5.448	5.287	5.282	5.190	5.339	5.481	5.286	4.869	5.273	3.57
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.052	2.917	2.833	2.770	2.797	2.875	2.808	2.667	2.840	3.99
91)	T	d-Limonene	1.354	1.496	1.521	1.621	1.783	1.906	1.897	1.829	1.676	12.35
92)	T	1,2-Dibromo-3-...	0.912	0.944	0.935	0.939	1.021	1.061	1.042	0.996	0.981	5.71
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.034	1.947	1.858	1.919	2.070	2.396	2.311	2.093	2.078	9.06
95)	T	Naphthalene	4.582	4.626	4.603	4.850	5.443	7.047	6.762	6.145	5.507	18.46
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	2.010	1.869	1.632	1.626	1.597	1.660	1.639	1.560	1.699	9.18
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	4.872	4.691	4.517	4.385	4.526	4.555	4.372	4.044	4.495	5.43
100)	T	n-Butylbenzene	5.195	4.875	4.963	4.963	5.202	5.378	5.190	4.796	5.070	3.93
101)	T	1,1,1,2-Tetrac...	1.057	1.210	1.156	1.140	1.184	1.217	1.206	1.162	1.166	4.46

(#) = Out of Range

R09031824.M Tue Mar 19 08:59:11 2024

Primary Source Standards Concentrations (Working & Initial Calibration)

3/26/24

1ng/L Std. ID: | 40ng/L Std. ID:
4ng/L Std. ID: S37-03182403 | 200ng/L Std. ID: S37-03182401
20ng/L Std. ID: S37-03182402 | 1000ng/L Std. ID:

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Freon-114	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Vinyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Ethanol	4.91	4910	982	196.4	98.2	19.64	4.91		0.491	0.982	2.455	4.91	24.55	122.75	245.5	491
Acetonitrile	0.96	960	192	38.4	19.2	3.84	0.96		0.096	0.192	0.480	0.96	4.80	24.00	48.0	96
Acrolein	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
Acetone	5.11	5110	1022	204.4	102.2	20.44	5.11		0.511	1.022	2.555	5.11	25.55	127.75	255.5	511
Trichlorofluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
Isopropanol	1.98	1980	396	79.2	39.6	7.92	1.98		0.198	0.396	0.990	1.98	9.90	49.50	99.0	198
Acrylonitrile	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	10.00	50.00	100.0	200
1,1-Dichloroethene	0.90	900	180	36.0	18.0	3.60	0.90		0.090	0.180	0.450	0.90	4.50	22.50	45.0	90
tert-Butanol	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
Methylene Chloride	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Allyl Chloride	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Trichlorotrifluoroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Carbon Disulfide	0.90	900	180	36.0	18.0	3.60	0.90		0.090	0.180	0.450	0.90	4.50	22.50	45.0	90
trans-1,2-Dichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Vinyl Acetate	5.37	5370	1074	214.8	107.4	21.48	5.37		0.537	1.074	2.685	5.37	26.85	134.25	268.5	537
2-Butanone	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	10.15	50.75	101.5	203
cis-1,2-Dichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Diisopropyl Ether	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Ethyl Acetate	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
n-Hexane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Chloroform	1.96	1960	392	78.4	39.2	7.84	1.96		0.196	0.392	0.980	1.96	9.80	49.00	98.0	196
Tetrahydrofuran	1.89	1890	378	75.6	37.8	7.56	1.89		0.189	0.378	0.945	1.89	9.45	47.25	94.5	189
Ethyl tert-Butyl Ether	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1,2-Dichloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,1,1-Trichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Carbon Tetrachloride	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Bromodichloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Trichloroethene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Methyl Methacrylate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S37-03182403**	**200ng/L Std. ID:**	**S37-03182401**
20ng/L Std. ID:	**S37-03182402**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**
	Source Std.			**Primary Working Standards**				**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.25**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,3-Dichloropropene	0.98	980	196	39.2	19.6	3.92	0.98		0.098	0.196	0.490	0.98	4.90	24.50	49.0	98
1,1,2-Trichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Toluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
2-Hexanone	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
Dibromochloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,2-Dibromoethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
n-Butyl Acetate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
n-Octane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrachloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
m-&p-Xylene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Bromoform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Styrene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
o-Xylene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
n-Nonane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,1,2,2-Tetrachloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Cumene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
alpha-Pinene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
n-Propylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Ethyltoluene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
1,3,5-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,2,4-Trimethylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,3-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
sec-Butylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
p-Isopropyltoluene	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
1,2-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
d-Limonene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,2-Dibromo-3-chloropropane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
1,2,4-Trichlorobenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Naphthalene	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
Hexachloro-1,3-butadiene	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	5.00	25.00	50.0	100
tert-Butylbenzene	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
n-Butylbenzene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
1,1,1,2-Tetrachloroethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101

Calibration Status Report MS09

Method : I:\MS09\METHODS\R09031824.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2024_03\18\03182422.D
2	0.2	0	13	I:\MS09\DATA\2024_03\18\03182423.D
3	0.5	1	13	I:\MS09\DATA\2024_03\18\03182424.D
4	1.0	1	13	I:\MS09\DATA\2024_03\18\03182425.D
6	5.0	5	13	I:\MS09\DATA\2024_03\18\03182426.D
7	25	26	13	I:\MS09\DATA\2024_03\18\03182427.D
8	50	53	13	I:\MS09\DATA\2024_03\18\03182428.D
9	100	106	13	I:\MS09\DATA\2024_03\18\03182429.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 19 08:53 2024	Mar 19 08:47 2024	18 Mar 2024 20:11
2	0.2	Mar 19 08:54 2024	Mar 19 08:46 2024	18 Mar 2024 20:43
3	0.5	Mar 19 08:54 2024	Mar 19 08:44 2024	18 Mar 2024 21:15
4	1.0	Mar 19 08:54 2024	Mar 19 08:41 2024	18 Mar 2024 21:48
6	5.0	Mar 19 08:55 2024	Mar 19 08:40 2024	18 Mar 2024 22:20
7	25	Mar 19 08:55 2024	Mar 19 08:38 2024	18 Mar 2024 22:52
8	50	Mar 19 08:55 2024	Mar 19 08:50 2024	18 Mar 2024 23:24
9	100	Mar 19 08:55 2024	Mar 19 08:52 2024	18 Mar 2024 23:57

R09031824.M Tue Mar 19 10:58:45 2024

3/19/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182422.D Vial: 13
Acq On : 18 Mar 2024 20:11 Operator: SC
Sample : ICAL R09031824 0.1ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:47:46 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	151405	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	651723	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	145163	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	309726	12.852	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
57) Toluene-d8 (SS2)	12.43	98	739571	13.414	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.28%				
73) Bromofluorobenzene (SS3)	16.83	174	256280	12.406	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
Target Compounds							Qvalue
2) Propene	3.32	42	1938	0.098	ng		98
3) Dichlorodifluoromethan...	3.39	85	3457	0.124	ng		98
4) Chloromethane	3.52	50	2598	0.107	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.63	135	1648	0.130	ng		92
6) Vinyl Chloride	3.71	62	2436	0.133	ng		99
7) 1,3-Butadiene	3.82	54	1893	0.127	ng	#	84
8) Bromomethane	4.02	94	1466	0.151	ng		91
9) Chloroethane	4.18	64	1060	0.120	ng		90
10) Ethanol	4.28	45	7729	0.463	ng		99
11) Acetonitrile	4.44	41	3262	0.078	ng	#	1
12) Acrolein	4.54	56	2287	0.204	ng		96
13) Acetone	4.65	58	6557	0.575	ng		92
14) Trichlorofluoromethane	4.77	101	3177	0.115	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	9777	0.188	ng		90
16) Acrylonitrile	4.98	53	4636	0.204	ng		99
17) 1,1-Dichloroethene	5.27	96	1217	0.099	ng		100
18) 2-Methyl-2-Propanol (t...	5.40	59	5309	0.353	ng	#	80
19) Methylene Chloride	5.35	84	2140	0.144	ng		98
20) 3-Chloro-1-propene (Al...	5.41	41	1054	0.038	ng	#	47
21) Trichlorotrifluoroethane	5.59	151	1155	0.094	ng		90
22) Carbon Disulfide	5.61	76	10617	0.234	ng		97
23) trans-1,2-Dichloroethene	6.14	61	2500	0.116	ng		88
24) 1,1-Dichloroethane	6.31	63	2864	0.118	ng		97
25) Methyl tert-Butyl Ether	6.40	73	2232	0.155	ng		89
26) Vinyl Acetate	6.45	86	998	0.418	ng	#	38
27) 2-Butanone (MEK)	6.67	72	1838	0.223	ng	#	86
28) cis-1,2-Dichloroethene	7.07	61	2491	0.121	ng		90
29) Diisopropyl Ether	7.31	87	2302	0.239	ng		97
30) Ethyl Acetate	7.29	61	967	0.178	ng		96
31) n-Hexane	7.31	57	2457	0.106	ng	#	96
32) Chloroform	7.35	83	3006	0.123	ng		98
34) Tetrahydrofuran (THF)	7.78	72	1395	0.175	ng	#	86
35) Ethyl tert-Butyl Ether	7.85	87	1839	0.362	ng		96
36) 1,2-Dichloroethane	8.11	62	2749	0.120	ng		98
38) 1,1,1-Trichloroethane	8.40	97	2677	0.115	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.90	78	6997	0.119	ng		99
42) Carbon Tetrachloride	9.07	117	2392	0.115	ng		93
43) Cyclohexane	9.22	84	4018	0.240	ng		98
44) tert-Amyl Methyl Ether	9.62	73	5000	0.411	ng		96
45) 1,2-Dichloropropane	9.85	63	1643	0.128	ng		94
46) Bromodichloromethane	10.08	83	2661	0.136	ng		91
47) Trichloroethene	10.14	130	1989	0.138	ng		94
48) 1,4-Dioxane	10.14	88	1031	0.096	ng		96
49) 2,2,4-Trimethylpentane...	10.25	57	6361	0.114	ng		100
50) Methyl Methacrylate	10.41	100	752	0.157	ng	#	60

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182422.D Vial: 13
Acq On : 18 Mar 2024 20:11 Operator: SC
Sample : ICAL R09031824 0.1ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:47:46 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

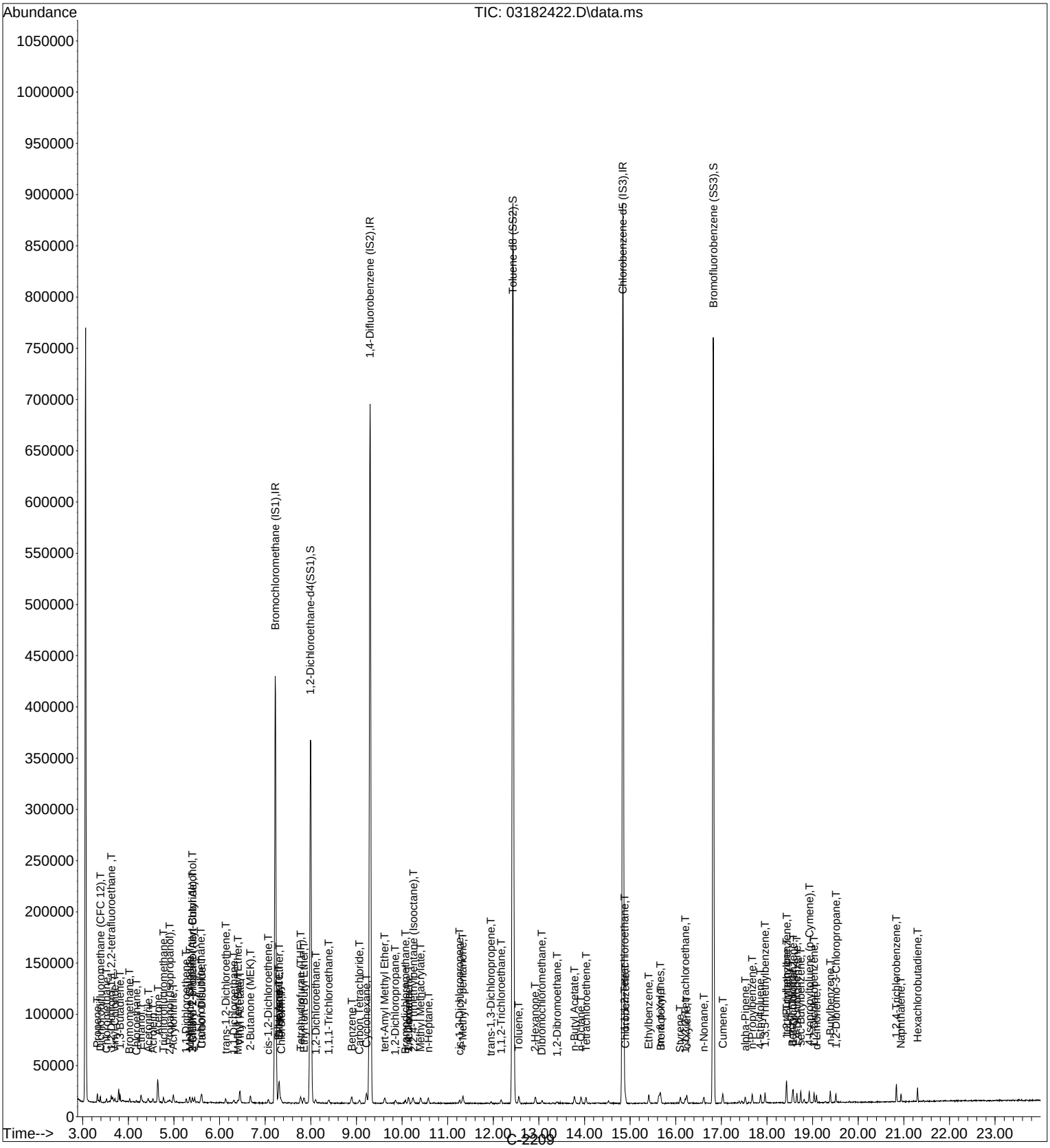
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	1273	0.114 ng	#	87
52) cis-1,3-Dichloropropene	11.26	75	2271	0.102 ng		94
53) 4-Methyl-2-pentanone	11.33	58	2234	0.173 ng		83
54) trans-1,3-Dichloropropene	11.95	75	1617	0.083 ng		92
55) 1,1,2-Trichloroethane	12.17	97	1376	0.110 ng		88
58) Toluene	12.56	91	6942	0.137 ng		98
59) 2-Hexanone	12.92	43	5986	0.154 ng		95
60) Dibromochloromethane	13.06	129	2021	0.127 ng		96
61) 1,2-Dibromoethane	13.40	107	1524	0.106 ng		97
62) n-Butyl Acetate	13.78	43	6695	0.156 ng		98
63) n-Octane	13.92	57	1130	0.100 ng		95
64) Tetrachloroethene	14.03	166	2058	0.128 ng		98
65) Chlorobenzene	14.90	112	4526	0.136 ng		97
66) Ethylbenzene	15.41	91	7490	0.129 ng		99
67) m- & p-Xylenes	15.66	91	12155	0.253 ng		99
68) Bromoform	15.67	173	1898	0.132 ng		91
69) Styrene	16.09	104	3430	0.098 ng		98
70) o-Xylene	16.24	91	6156	0.131 ng		95
71) n-Nonane	16.62	43	3036	0.089 ng		94
72) 1,1,2,2-Tetrachloroethane	16.21	83	2979	0.136 ng		91
74) Cumene	17.03	105	7092	0.123 ng		99
75) alpha-Pinene	17.53	93	3040	0.110 ng		96
76) n-Propylbenzene	17.68	91	8260	0.116 ng		99
77) 3-Ethyltoluene	17.03	105	7092	No Calib		
78) 4-Ethyltoluene	17.86	105	6433	0.111 ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	5789	0.117 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	7092	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5832	0.112 ng		97
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	6692	0.630 ng		96
85) 1,3-Dichlorobenzene	18.58	146	3928	0.121 ng		98
86) 1,4-Dichlorobenzene	18.66	146	3648	0.112 ng		96
87) sec-Butylbenzene	18.74	105	7718	0.117 ng		96
88) 4-Isopropyltoluene (p-...	18.93	119	6453	0.110 ng		98
89) 1,2,3-Trimethylbenzene	17.03	105	7092	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	3651	0.116 ng		99
91) d-Limonene	19.09	68	1572	0.087 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	2181	0.193 ng		94
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	5054	0.185 ng		99
95) Naphthalene	20.94	128	5374	0.247 ng		99
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	2357	0.120 ng		95
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	5884	0.123 ng		96
100) n-Butylbenzene	19.39	91	6033	0.107 ng		97
101) 1,1,1,2-Tetrachloroethane	14.88	131	1314	0.104 ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182422.D Vial: 13
Acq On : 18 Mar 2024 20:11 Operator: SC
Sample : ICAL R09031824 0.1ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:47:46 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182423.D Vial: 13
Acq On : 18 Mar 2024 20:43 Operator: SC
Sample : ICAL R09031824 0.2ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:46:18 2024 3/19/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	150350	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	650560	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	146811	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	311243	13.006	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
57) Toluene-d8 (SS2)	12.43	98	735662	13.193	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
73) Bromofluorobenzene (SS3)	16.83	174	256302	12.268	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.16%				
Target Compounds							Qvalue
2) Propene	3.31	42	3792	0.194	ng		95
3) Dichlorodifluoromethan...	3.38	85	6952	0.251	ng		97
4) Chloromethane	3.51	50	5413	0.225	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	2979	0.237	ng		98
6) Vinyl Chloride	3.69	62	4650	0.255	ng		99
7) 1,3-Butadiene	3.81	54	3532m	0.239	ng		
8) Bromomethane	4.02	94	2570	0.267	ng		97
9) Chloroethane	4.17	64	2133	0.244	ng		100
10) Ethanol	4.27	45	13258	0.799	ng		99
11) Acetonitrile	4.43	41	6428	0.155	ng	#	51
12) Acrolein	4.53	56	4430	0.398	ng		99
13) Acetone	4.64	58	12534	1.106	ng		99
14) Trichlorofluoromethane	4.76	101	6255	0.227	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	18555	0.360	ng		90
16) Acrylonitrile	4.98	53	9056	0.401	ng		97
17) 1,1-Dichloroethene	5.26	96	2413	0.197	ng		100
18) 2-Methyl-2-Propanol (t...	5.41	59	10597	0.710	ng	#	57
19) Methylene Chloride	5.34	84	3397	0.230	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	5925	0.214	ng		92
21) Trichlorotrifluoroethane	5.58	151	2361	0.194	ng		97
22) Carbon Disulfide	5.60	76	21138	0.470	ng		100
23) trans-1,2-Dichloroethene	6.13	61	4609	0.215	ng		97
24) 1,1-Dichloroethane	6.31	63	5523	0.228	ng		98
25) Methyl tert-Butyl Ether	6.39	73	4422	0.309	ng		94
26) Vinyl Acetate	6.44	86	2265	0.956	ng	#	66
27) 2-Butanone (MEK)	6.66	72	3609	0.441	ng	#	91
28) cis-1,2-Dichloroethene	7.06	61	4575	0.223	ng		100
29) Diisopropyl Ether	7.30	87	4464	0.466	ng		99
30) Ethyl Acetate	7.29	61	1908	0.353	ng		89
31) n-Hexane	7.30	57	5016	0.219	ng		96
32) Chloroform	7.35	83	5731	0.236	ng		98
34) Tetrahydrofuran (THF)	7.76	72	3119	0.393	ng		97
35) Ethyl tert-Butyl Ether	7.84	87	3592	0.711	ng		95
36) 1,2-Dichloroethane	8.11	62	5219	0.229	ng		100
38) 1,1,1-Trichloroethane	8.39	97	5392	0.232	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	12934	0.220	ng		96
42) Carbon Tetrachloride	9.07	117	4625	0.224	ng		99
43) Cyclohexane	9.22	84	7565	0.452	ng		97
44) tert-Amyl Methyl Ether	9.61	73	9968	0.820	ng		97
45) 1,2-Dichloropropane	9.85	63	3077	0.239	ng		98
46) Bromodichloromethane	10.06	83	4628	0.238	ng		99
47) Trichloroethene	10.14	130	3581	0.248	ng		97
48) 1,4-Dioxane	10.13	88	1950	0.182	ng		95
49) 2,2,4-Trimethylpentane...	10.24	57	12975	0.233	ng		99
50) Methyl Methacrylate	10.41	100	1798	0.377	ng		90

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182423.D Vial: 13
Acq On : 18 Mar 2024 20:43 Operator: SC
Sample : ICAL R09031824 0.2ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:46:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

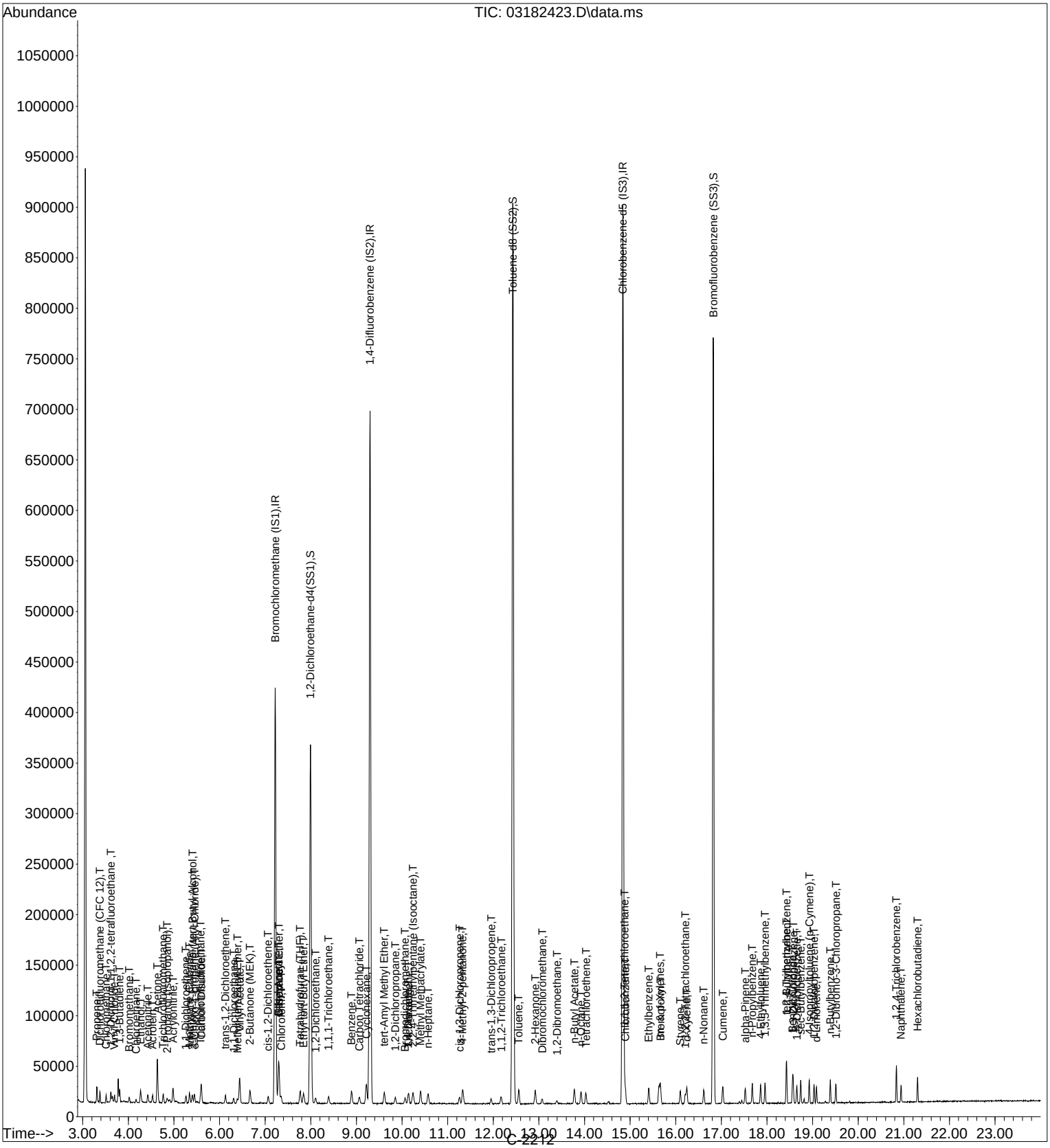
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	2551	0.229 ng		96
52) cis-1,3-Dichloropropene	11.26	75	4590	0.206 ng		99
53) 4-Methyl-2-pentanone	11.33	58	4865	0.378 ng		91
54) trans-1,3-Dichloropropene	11.96	75	3322	0.170 ng		100
55) 1,1,2-Trichloroethane	12.18	97	2898	0.232 ng		95
58) Toluene	12.56	91	12963	0.252 ng		98
59) 2-Hexanone	12.92	43	12476	0.317 ng		97
60) Dibromochloromethane	13.07	129	3861	0.240 ng		98
61) 1,2-Dibromoethane	13.40	107	3161	0.218 ng		94
62) n-Butyl Acetate	13.78	43	13797	0.318 ng		97
63) n-Octane	13.92	57	2496	0.218 ng		96
64) Tetrachloroethene	14.03	166	3984	0.245 ng		96
65) Chlorobenzene	14.90	112	8497	0.252 ng		99
66) Ethylbenzene	15.41	91	14208	0.243 ng		97
67) m- & p-Xylenes	15.66	91	22905	0.472 ng		98
68) Bromoform	15.67	173	3411	0.235 ng		98
69) Styrene	16.10	104	6947	0.197 ng		99
70) o-Xylene	16.24	91	11149	0.234 ng		99
71) n-Nonane	16.61	43	6109	0.177 ng		97
72) 1,1,2,2-Tetrachloroethane	16.21	83	5523	0.249 ng		96
74) Cumene	17.03	105	13857	0.237 ng		100
75) alpha-Pinene	17.53	93	6449	0.230 ng		96
76) n-Propylbenzene	17.68	91	16549	0.230 ng		97
77) 3-Ethyltoluene	17.03	105	13857	No Calib		
78) 4-Ethyltoluene	17.86	105	12927	0.221 ng		96
79) 1,3,5-Trimethylbenzene	17.96	105	11667	0.234 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	13857	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	11425	0.217 ng		99
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	14829	0.792 ng		96
85) 1,3-Dichlorobenzene	18.58	146	7305	0.222 ng		99
86) 1,4-Dichlorobenzene	18.66	146	7501	0.228 ng		96
87) sec-Butylbenzene	18.74	105	15137	0.226 ng		98
88) 4-Isopropyltoluene (p-...	18.93	119	12668	0.214 ng		98
89) 1,2,3-Trimethylbenzene	17.03	105	13857	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	7058	0.222 ng		99
91) d-Limonene	19.08	68	3513	0.191 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	4568	0.400 ng		97
93) n-Undecane	17.87	58	182	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	9785	0.355 ng		97
95) Naphthalene	20.94	128	10976	0.313 ng		100
96) n-Dodecane	18.93	58	241	No Calib	#	
97) Hexachlorobutadiene	21.30	225	4435	0.223 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	11461	0.237 ng		99
100) n-Butylbenzene	19.39	91	11452	0.201 ng		99
101) 1,1,1,2-Tetrachloroethane	14.88	131	3041	0.238 ng	#	90

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182423.D Vial: 13
Acq On : 18 Mar 2024 20:43 Operator: SC
Sample : ICAL R09031824 0.2ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

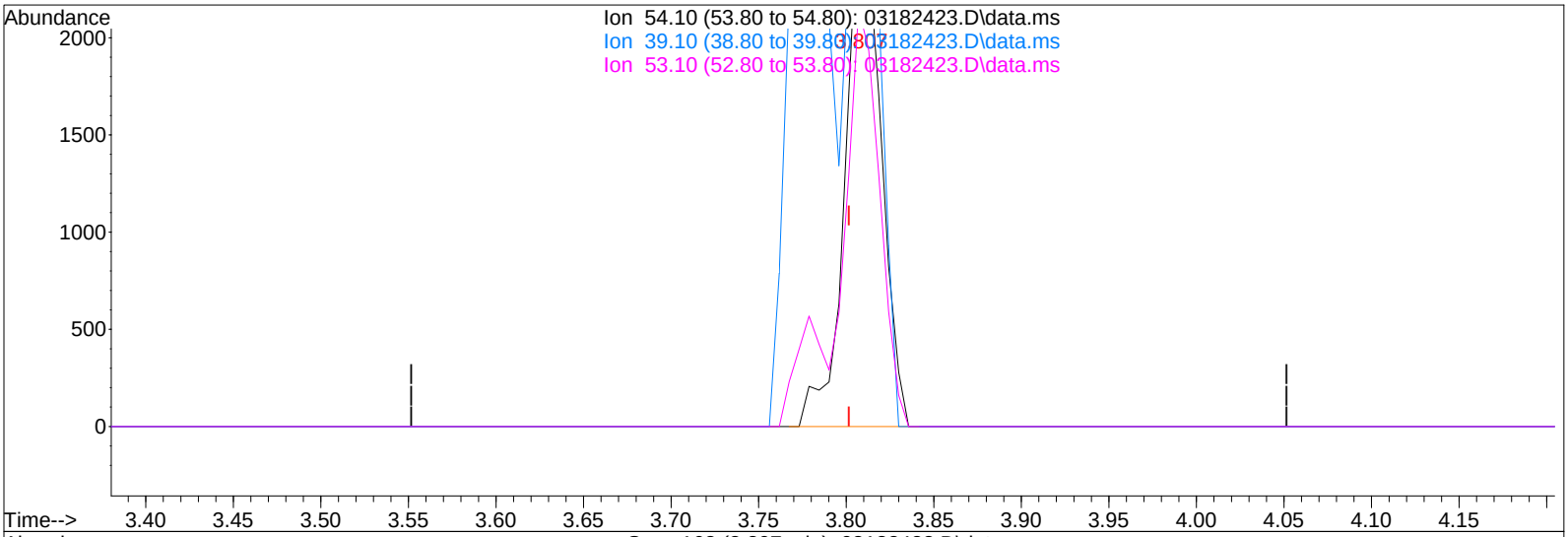
Quant Time: Mar 19 08:46:18 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

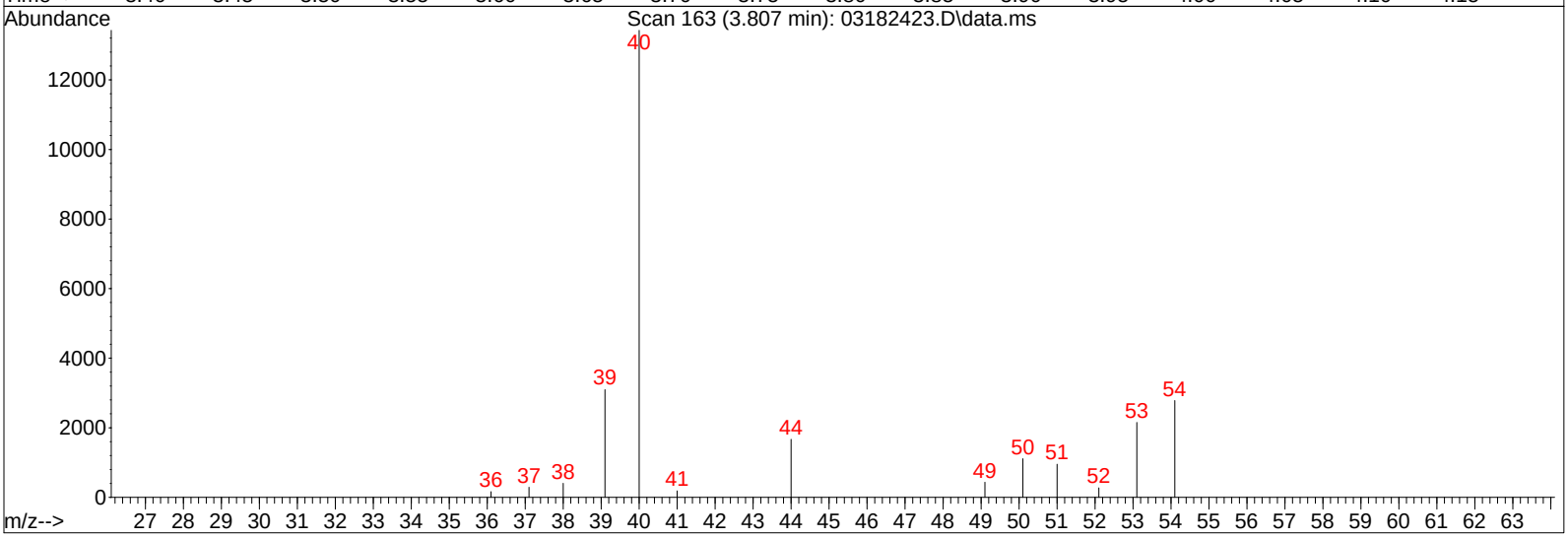


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182423.D Vial: 13
Acq On : 18 Mar 2024 20:43 Operator: SC
Sample : ICAL R09031824 0.2ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:45:52 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182423.D\data.ms

(7) 1,3-Butadiene (T)

3.807min (+0.006) 0.25ng

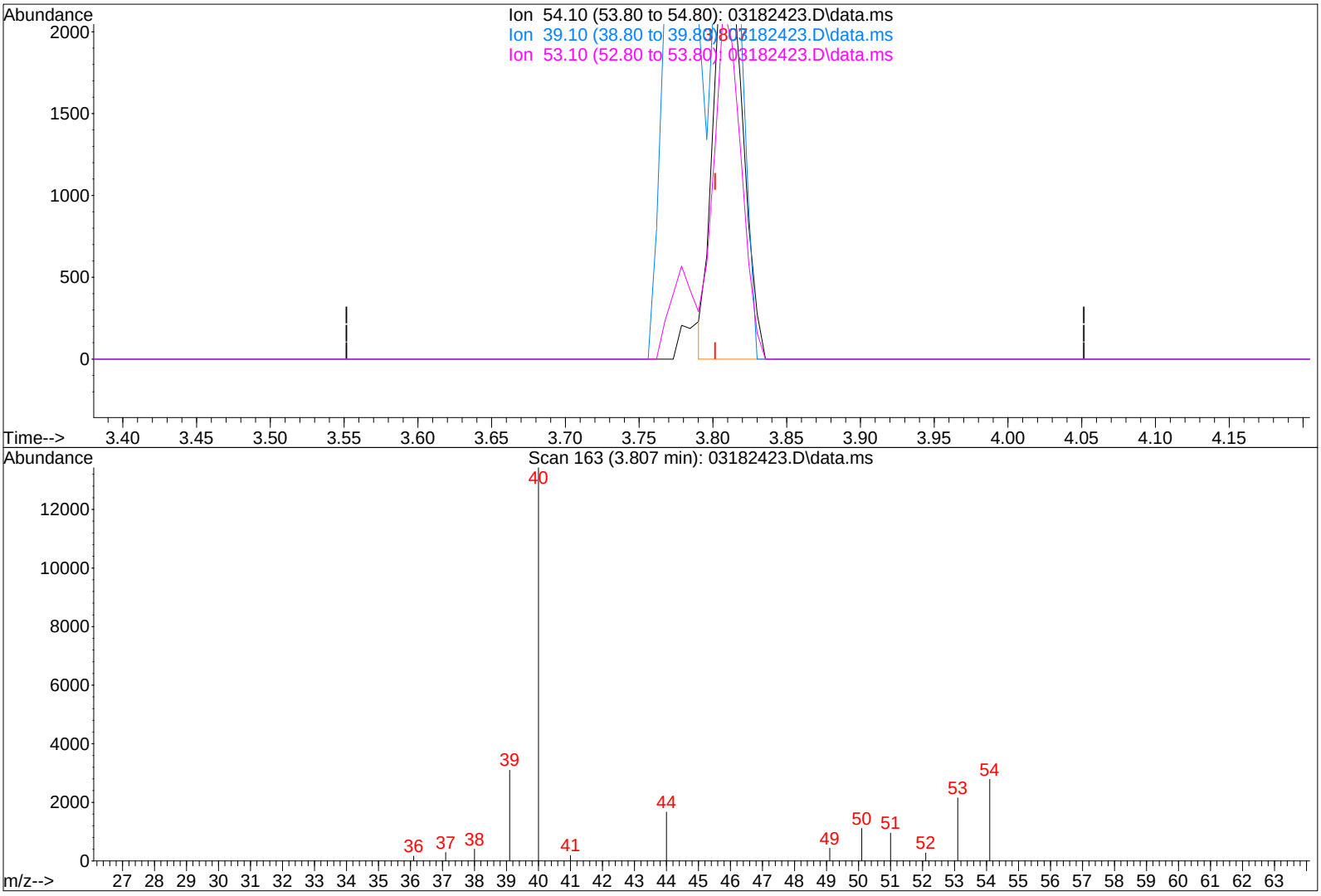
response 3744

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	108.41
53.10	67.90	73.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182423.D Vial: 13
Acq On : 18 Mar 2024 20:43 Operator: SC
Sample : ICAL R09031824 0.2ng Inst : MS09
Misc : S37-02202408/S37-03182403 (4/17)

Quant Time: Mar 19 08:45:52 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03182423.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.807min (+0.006) 0.24ng m

response 3532

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	114.92
53.10	67.90	77.49
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:44:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	148290	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	639080	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	143875	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	306263	12.975	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%				
57) Toluene-d8 (SS2)	12.43	98	727444	13.312	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%				
73) Bromofluorobenzene (SS3)	16.83	174	257003	12.552	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
Target Compounds							Qvalue
2) Propene	3.30	42	8680	0.450	ng		98
3) Dichlorodifluoromethan...	3.37	85	17297	0.634	ng		98
4) Chloromethane	3.50	50	13243	0.559	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	7849	0.632	ng		95
6) Vinyl Chloride	3.69	62	11755	0.653	ng		100
7) 1,3-Butadiene	3.80	54	8874m	0.608	ng		
8) Bromomethane	4.01	94	6532	0.688	ng		100
9) Chloroethane	4.16	64	5379	0.623	ng		96
10) Ethanol	4.27	45	38803	2.371	ng		88
11) Acetonitrile	4.42	41	15209	0.372	ng	#	31
12) Acrolein	4.52	56	10767	0.981	ng		99
13) Acetone	4.62	58	28698	2.568	ng		100
14) Trichlorofluoromethane	4.76	101	15443	0.569	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	45243	0.890	ng		91
16) Acrylonitrile	4.98	53	20711	0.931	ng		99
17) 1,1-Dichloroethene	5.26	96	6007	0.498	ng		97
18) 2-Methyl-2-Propanol (t...	5.40	59	28754m	1.953	ng		
19) Methylene Chloride	5.34	84	7198	0.495	ng		98
20) 3-Chloro-1-propene (Al...	5.45	41	12718	0.465	ng		100
21) Trichlorotrifluoroethane	5.58	151	5853	0.487	ng		98
22) Carbon Disulfide	5.60	76	52197	1.176	ng		99
23) trans-1,2-Dichloroethene	6.12	61	11675	0.552	ng		98
24) 1,1-Dichloroethane	6.31	63	13757	0.577	ng		100
25) Methyl tert-Butyl Ether	6.38	73	12971	0.920	ng		100
26) Vinyl Acetate	6.44	86	6125	2.622	ng	#	88
27) 2-Butanone (MEK)	6.66	72	8981	1.114	ng		95
28) cis-1,2-Dichloroethene	7.07	61	10946	0.541	ng		100
29) Diisopropyl Ether	7.29	87	11201	1.186	ng		98
30) Ethyl Acetate	7.29	61	5200	0.976	ng		100
31) n-Hexane	7.31	57	12699	0.561	ng		98
32) Chloroform	7.35	83	14249	0.596	ng		98
34) Tetrahydrofuran (THF)	7.75	72	7930	1.013	ng		94
35) Ethyl tert-Butyl Ether	7.83	87	9968	2.001	ng		98
36) 1,2-Dichloroethane	8.11	62	12299	0.547	ng		99
38) 1,1,1-Trichloroethane	8.39	97	13765	0.602	ng		97
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	29857	0.516	ng		99
42) Carbon Tetrachloride	9.06	117	11710	0.576	ng		97
43) Cyclohexane	9.21	84	19203	1.168	ng		99
44) tert-Amyl Methyl Ether	9.60	73	26047	2.182	ng		99
45) 1,2-Dichloropropane	9.85	63	7991	0.633	ng		94
46) Bromodichloromethane	10.07	83	10973	0.574	ng		98
47) Trichloroethene	10.14	130	7842	0.553	ng		98
48) 1,4-Dioxane	10.13	88	4776	0.454	ng		100
49) 2,2,4-Trimethylpentane...	10.23	57	31466	0.574	ng		99
50) Methyl Methacrylate	10.41	100	4858	1.037	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:44:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

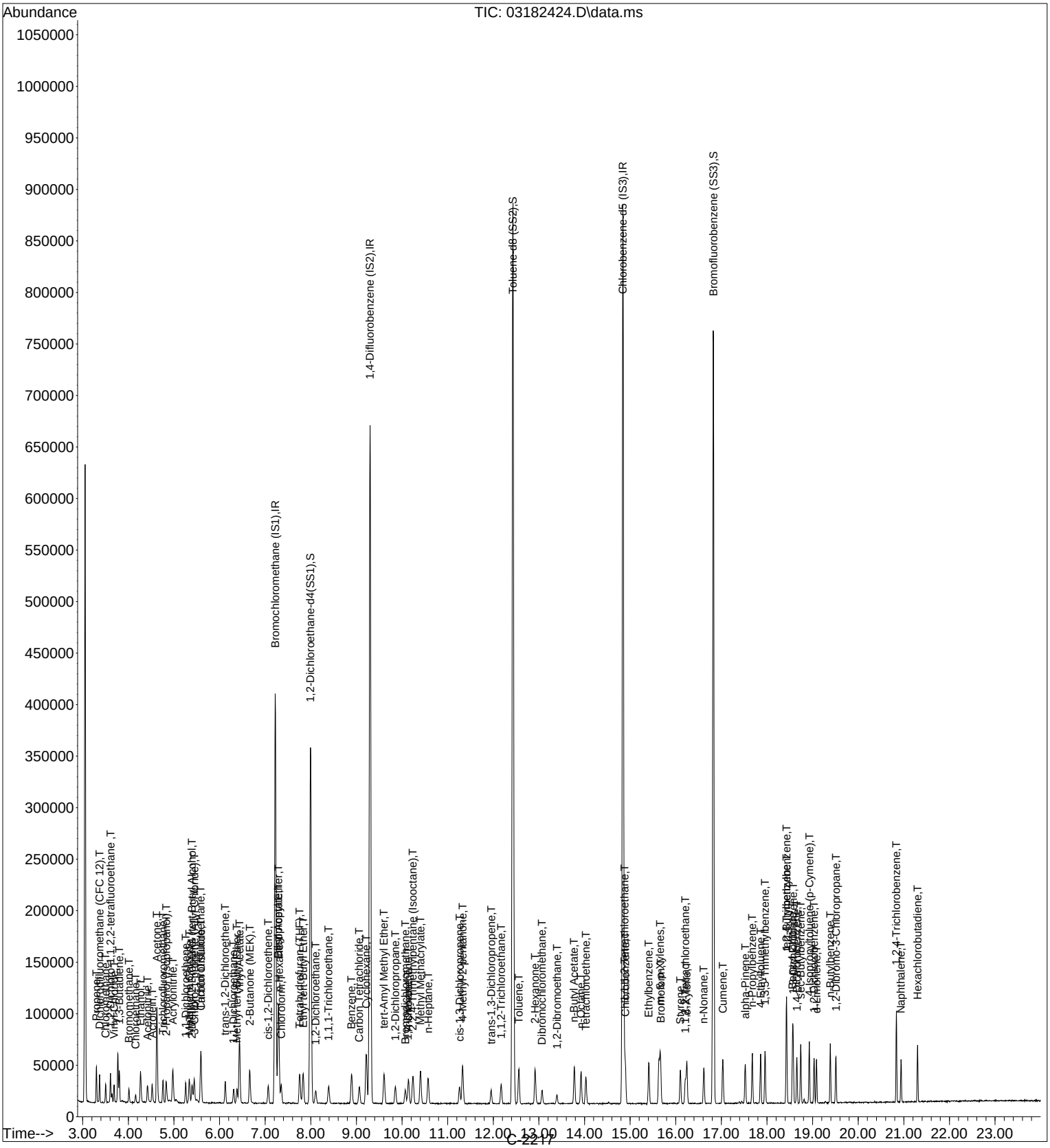
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	6476	0.591 ng		98
52) cis-1,3-Dichloropropene	11.26	75	11711	0.536 ng		99
53) 4-Methyl-2-pentanone	11.33	58	12556	0.994 ng		97
54) trans-1,3-Dichloropropene	11.96	75	9429	0.492 ng		97
55) 1,1,2-Trichloroethane	12.17	97	7444	0.608 ng		95
58) Toluene	12.56	91	29949	0.595 ng		99
59) 2-Hexanone	12.92	43	30100	0.780 ng		98
60) Dibromochloromethane	13.07	129	9090	0.576 ng		97
61) 1,2-Dibromoethane	13.40	107	7993	0.563 ng		95
62) n-Butyl Acetate	13.77	43	34276	0.807 ng		98
63) n-Octane	13.92	57	6220	0.555 ng		99
64) Tetrachloroethene	14.03	166	9030	0.566 ng		96
65) Chlorobenzene	14.90	112	20177	0.610 ng		100
66) Ethylbenzene	15.41	91	34132	0.595 ng		98
67) m- & p-Xylenes	15.66	91	55448	1.167 ng		100
68) Bromoform	15.67	173	7648	0.537 ng		99
69) Styrene	16.10	104	18053	0.522 ng		98
70) o-Xylene	16.24	91	27673	0.594 ng		100
71) n-Nonane	16.61	43	15466	0.456 ng		98
72) 1,1,2,2-Tetrachloroethane	16.21	83	13016	0.598 ng		98
74) Cumene	17.03	105	33286	0.581 ng		98
75) alpha-Pinene	17.53	93	15924	0.580 ng		100
76) n-Propylbenzene	17.68	91	39336	0.557 ng		99
77) 3-Ethyltoluene	17.03	105	33286	No Calib		
78) 4-Ethyltoluene	17.86	105	30364	0.530 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	28955	0.592 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	33286	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	27826	0.539 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	38675	1.287 ng		99
85) 1,3-Dichlorobenzene	18.58	146	17171	0.532 ng		95
86) 1,4-Dichlorobenzene	18.66	146	17274	0.536 ng		99
87) sec-Butylbenzene	18.74	105	36376	0.555 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	31003	0.535 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	33286	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	16792	0.538 ng		99
91) d-Limonene	19.09	68	8752	0.486 ng		94
92) 1,2-Dibromo-3-Chloropr...	19.51	157	11088	0.990 ng		96
93) n-Undecane	17.85	58	507	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	22888	0.848 ng		97
95) Naphthalene	20.94	128	26757	0.506 ng		98
96) n-Dodecane	18.93	58	978	No Calib	#	
97) Hexachlorobutadiene	21.30	225	9487	0.486 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	27036	0.569 ng		99
100) n-Butylbenzene	19.39	91	28564	0.512 ng		100
101) 1,1,1,2-Tetrachloroethane	14.88	131	7117	0.569 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

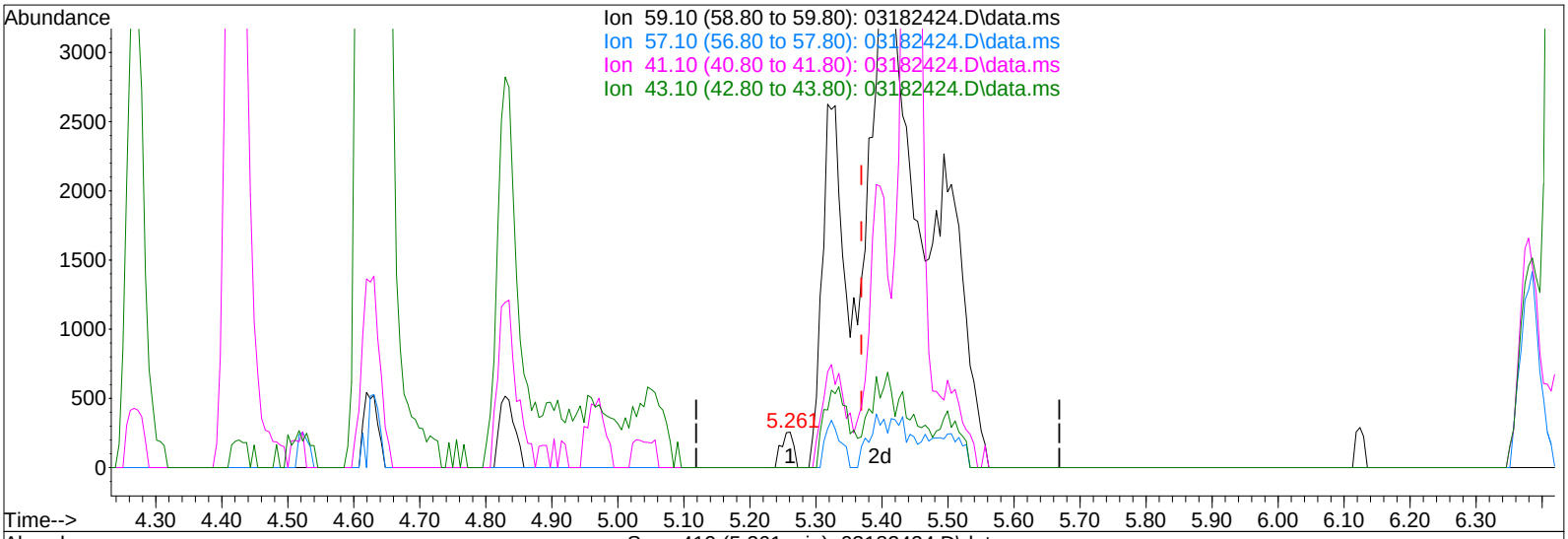
Quant Time: Mar 19 08:44:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

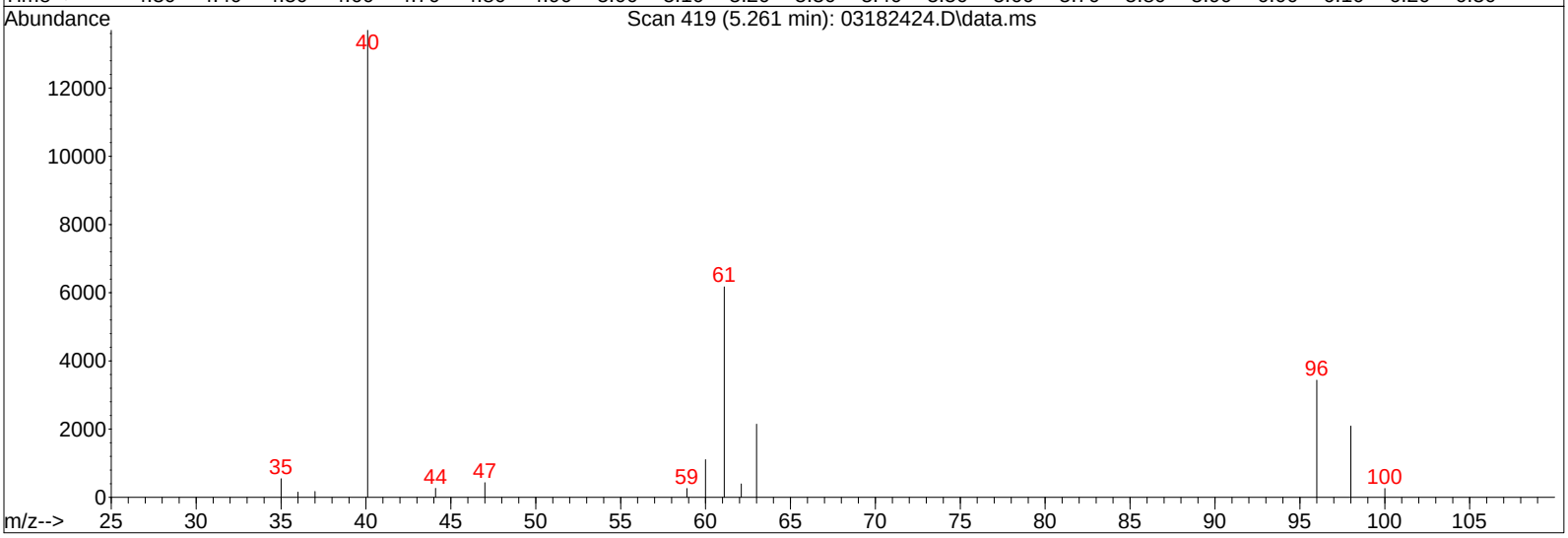


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:43:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182424.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.261min (-0.108) 0.02ng

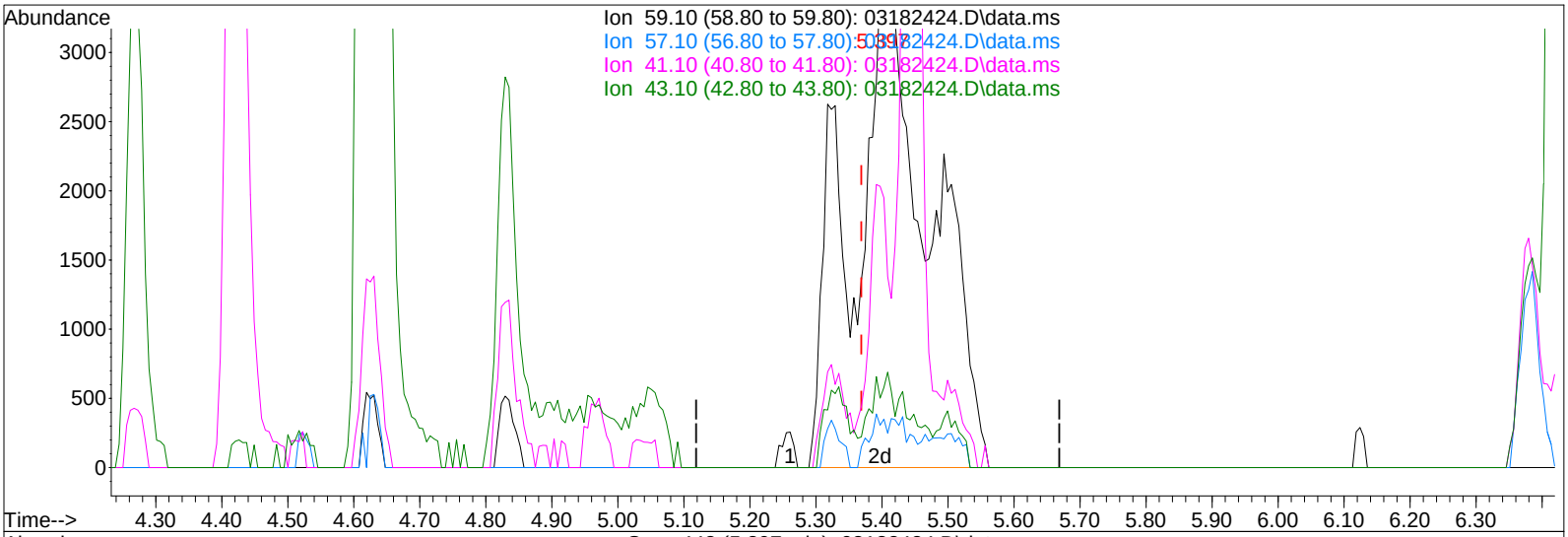
response 334

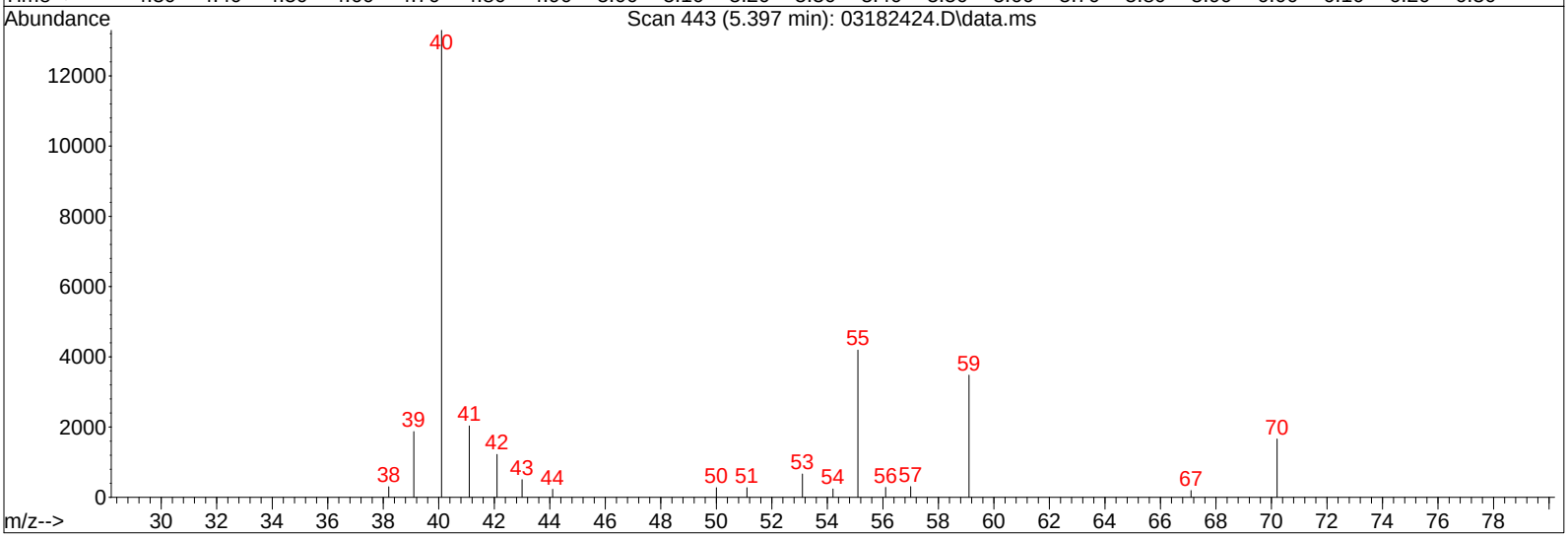
Ion	Exp%	Act%
59.10	100	100
57.10	10.30	164.07#
41.10	26.90	574.85#
43.10	16.80	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:43:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182424.D\data.ms

BLC 3/19/24

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.397min (+0.028) 1.95ng m

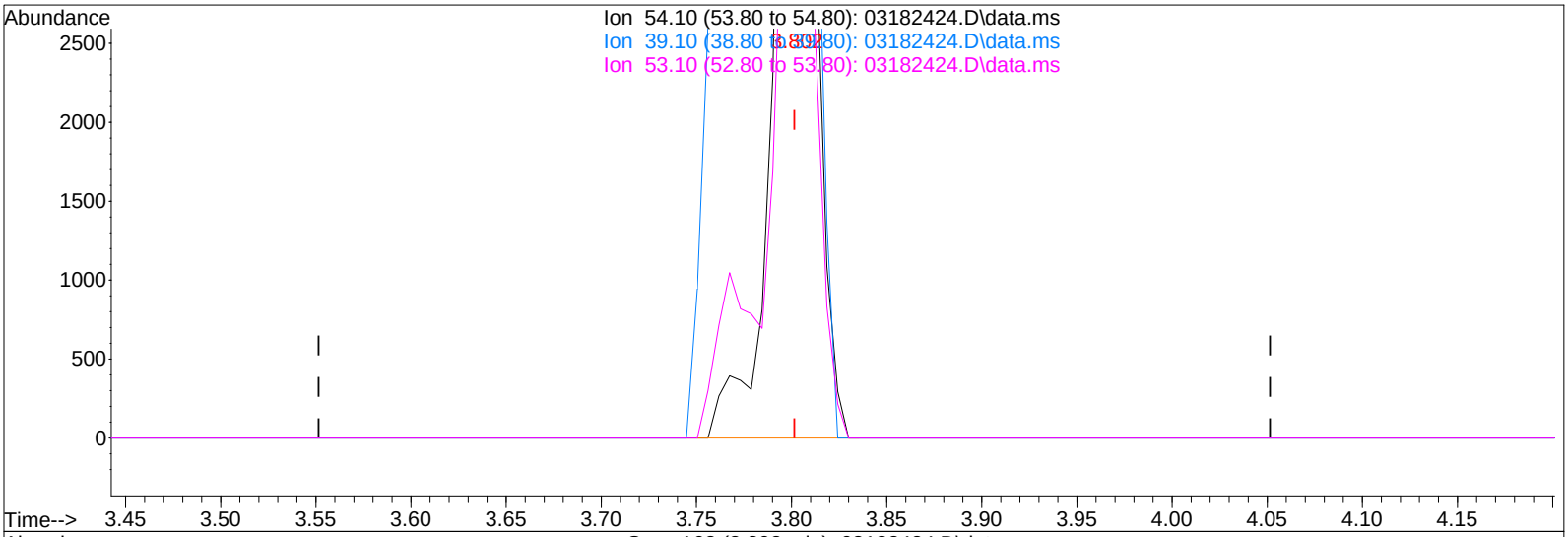
response 28754

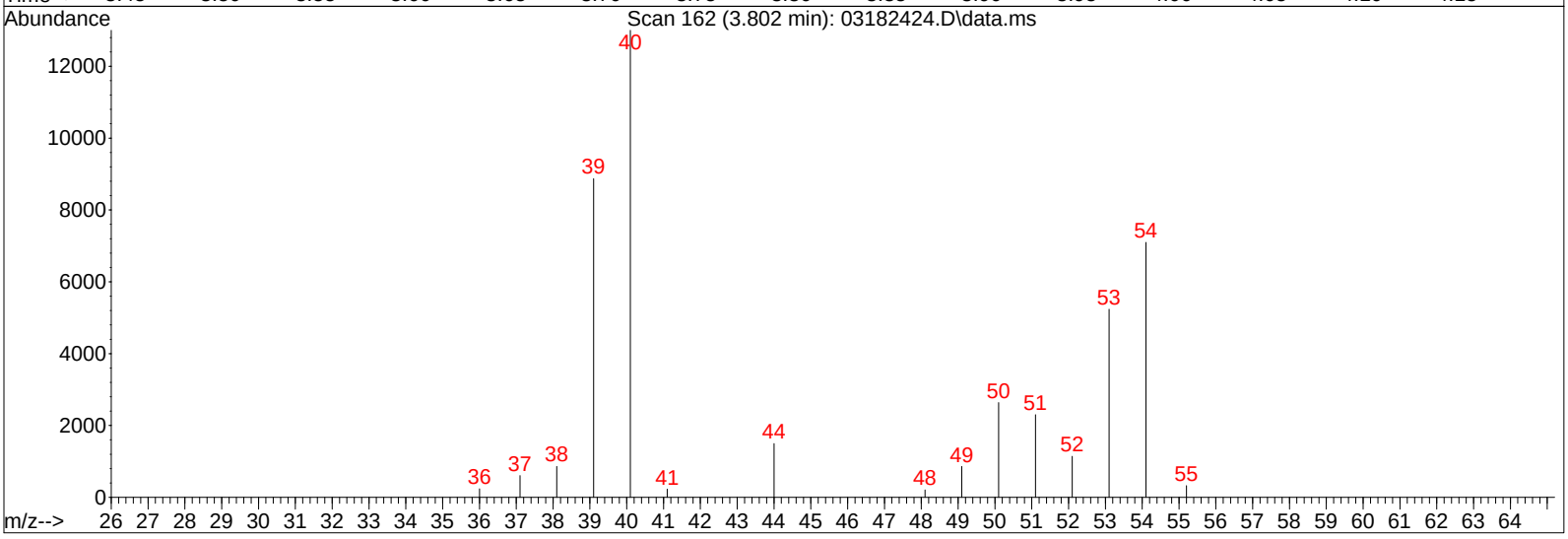
Ion	Exp%	Act%
59.10	100	100
57.10	10.30	1.91
41.10	26.90	6.68#
43.10	16.80	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:43:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182424.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (0.000) 0.64ng

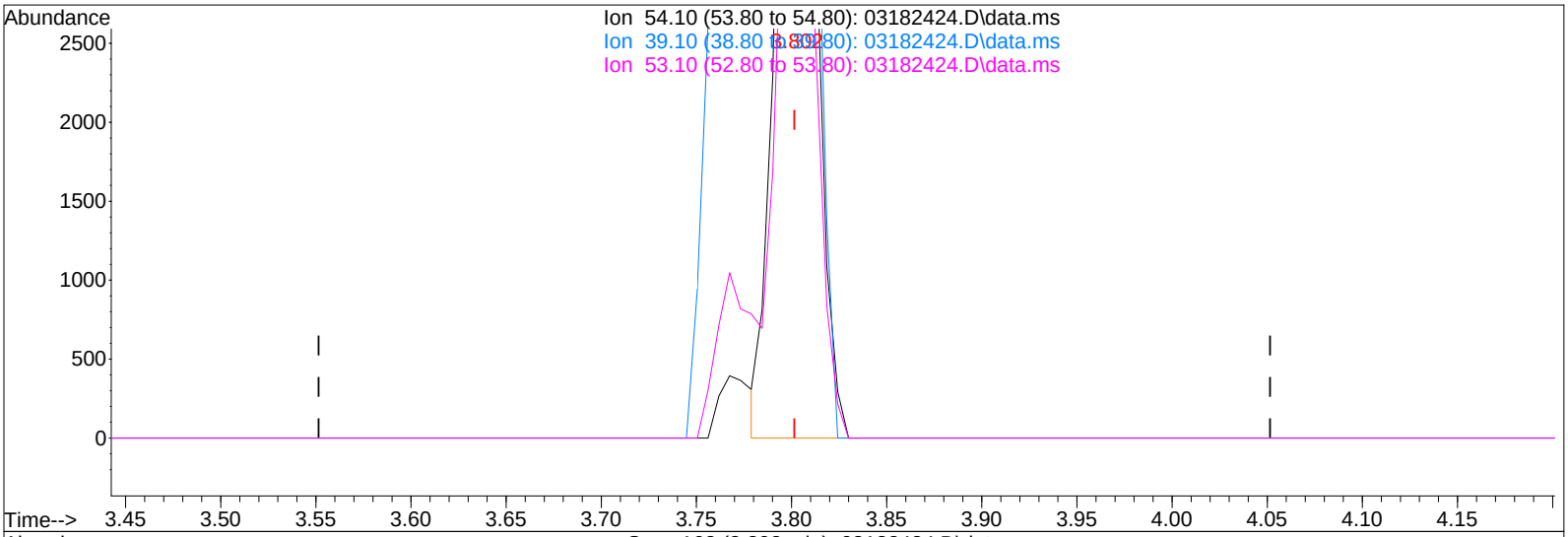
response 9327

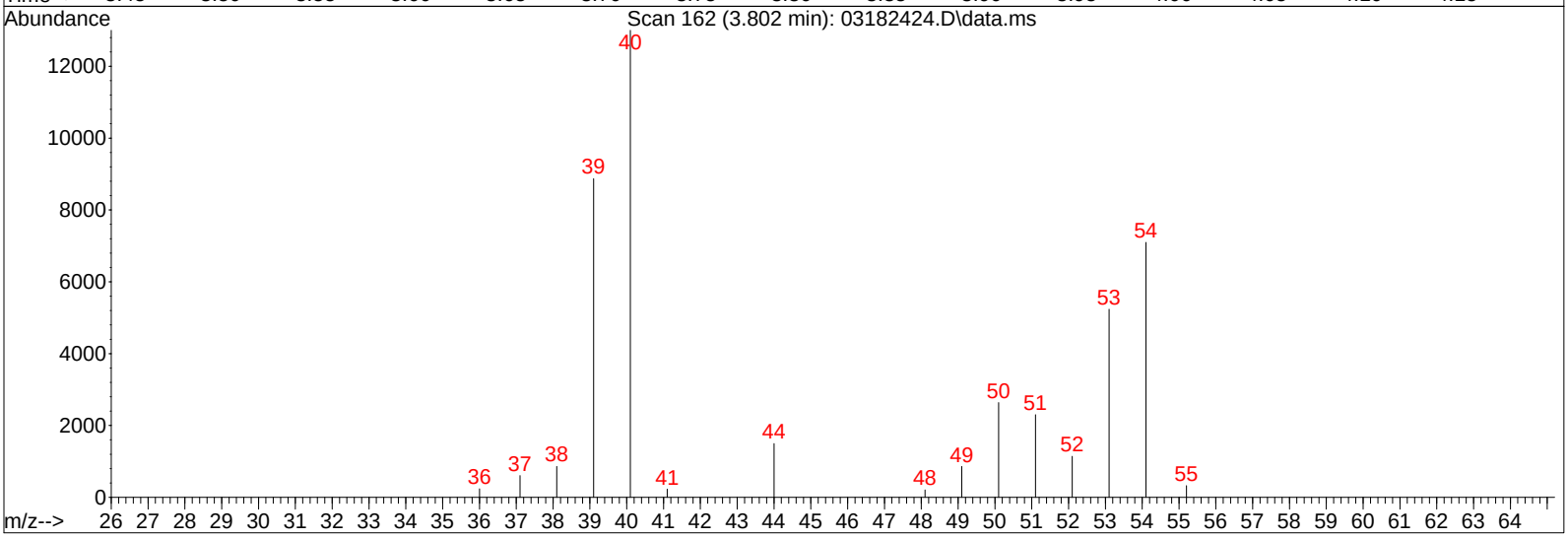
Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.89
53.10	67.90	67.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182424.D Vial: 14
Acq On : 18 Mar 2024 21:15 Operator: SC
Sample : ICAL R09031824 0.5ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:43:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182424.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.802min (0.000) 0.61ng m

response 8874

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	121.81
53.10	67.90	70.44
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182425.D Vial: 14
Acq On : 18 Mar 2024 21:48 Operator: SC
Sample : ICAL R09031824 1.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

3/19/24

Quant Time: Mar 19 08:41:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	152168	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	648901	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	145526	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	311598	12.865	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.96%				
57) Toluene-d8 (SS2)	12.43	98	733945	13.279	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
73) Bromofluorobenzene (SS3)	16.83	174	262281	12.665	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
Target Compounds							Qvalue
2) Propene	3.30	42	17416	0.880	ng		100
3) Dichlorodifluoromethan...	3.37	85	33107	1.183	ng		100
4) Chloromethane	3.50	50	24878	1.023	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	15266	1.199	ng		99
6) Vinyl Chloride	3.69	62	23449	1.269	ng		98
7) 1,3-Butadiene	3.80	54	17442m	1.165	ng		
8) Bromomethane	4.01	94	12553	1.288	ng		98
9) Chloroethane	4.16	64	10376	1.172	ng		99
10) Ethanol	4.28	45	74389	4.430	ng		99
11) Acetonitrile	4.43	41	32001	0.763	ng		100
12) Acrolein	4.52	56	22762	2.020	ng		94
13) Acetone	4.62	58	54373	4.741	ng		96
14) Trichlorofluoromethane	4.76	101	30686	1.101	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	89299	1.711	ng		92
16) Acrylonitrile	4.98	53	40987	1.795	ng		99
17) 1,1-Dichloroethene	5.26	96	11493	0.928	ng		98
18) 2-Methyl-2-Propanol (t...	5.32	59	52855	3.498	ng		82
19) Methylene Chloride	5.34	84	13420	0.899	ng		100
20) 3-Chloro-1-propene (Al...	5.45	41	29935	1.067	ng		91
21) Trichlorotrifluoroethane	5.58	151	11326	0.919	ng		100
22) Carbon Disulfide	5.60	76	103017	2.261	ng		99
23) trans-1,2-Dichloroethene	6.13	61	22860	1.053	ng		100
24) 1,1-Dichloroethane	6.32	63	26827	1.096	ng		100
25) Methyl tert-Butyl Ether	6.38	73	23344	1.614	ng		100
26) Vinyl Acetate	6.44	86	12396	5.171	ng	#	84
27) 2-Butanone (MEK)	6.66	72	18168	2.196	ng		98
28) cis-1,2-Dichloroethene	7.07	61	21511	1.036	ng		99
29) Diisopropyl Ether	7.29	87	21542	2.222	ng		96
30) Ethyl Acetate	7.28	61	10650	1.949	ng		97
31) n-Hexane	7.31	57	23970	1.032	ng		98
32) Chloroform	7.36	83	27778	1.133	ng		98
34) Tetrahydrofuran (THF)	7.75	72	15076	1.878	ng		99
35) Ethyl tert-Butyl Ether	7.83	87	18492	3.617	ng		97
36) 1,2-Dichloroethane	8.11	62	24607	1.066	ng		98
38) 1,1,1-Trichloroethane	8.40	97	25686	1.106	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	57331	0.977	ng		100
42) Carbon Tetrachloride	9.07	117	23023	1.116	ng		98
43) Cyclohexane	9.22	84	37961	2.275	ng		100
44) tert-Amyl Methyl Ether	9.60	73	49583	4.090	ng		98
45) 1,2-Dichloropropane	9.86	63	15003	1.171	ng		98
46) Bromodichloromethane	10.08	83	21618	1.114	ng		99
47) Trichloroethene	10.14	130	15268	1.060	ng		100
48) 1,4-Dioxane	10.12	88	9714	0.910	ng		100
49) 2,2,4-Trimethylpentane...	10.24	57	61192	1.100	ng		100
50) Methyl Methacrylate	10.41	100	9944	2.090	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182425.D Vial: 14
Acq On : 18 Mar 2024 21:48 Operator: SC
Sample : ICAL R09031824 1.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:41:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

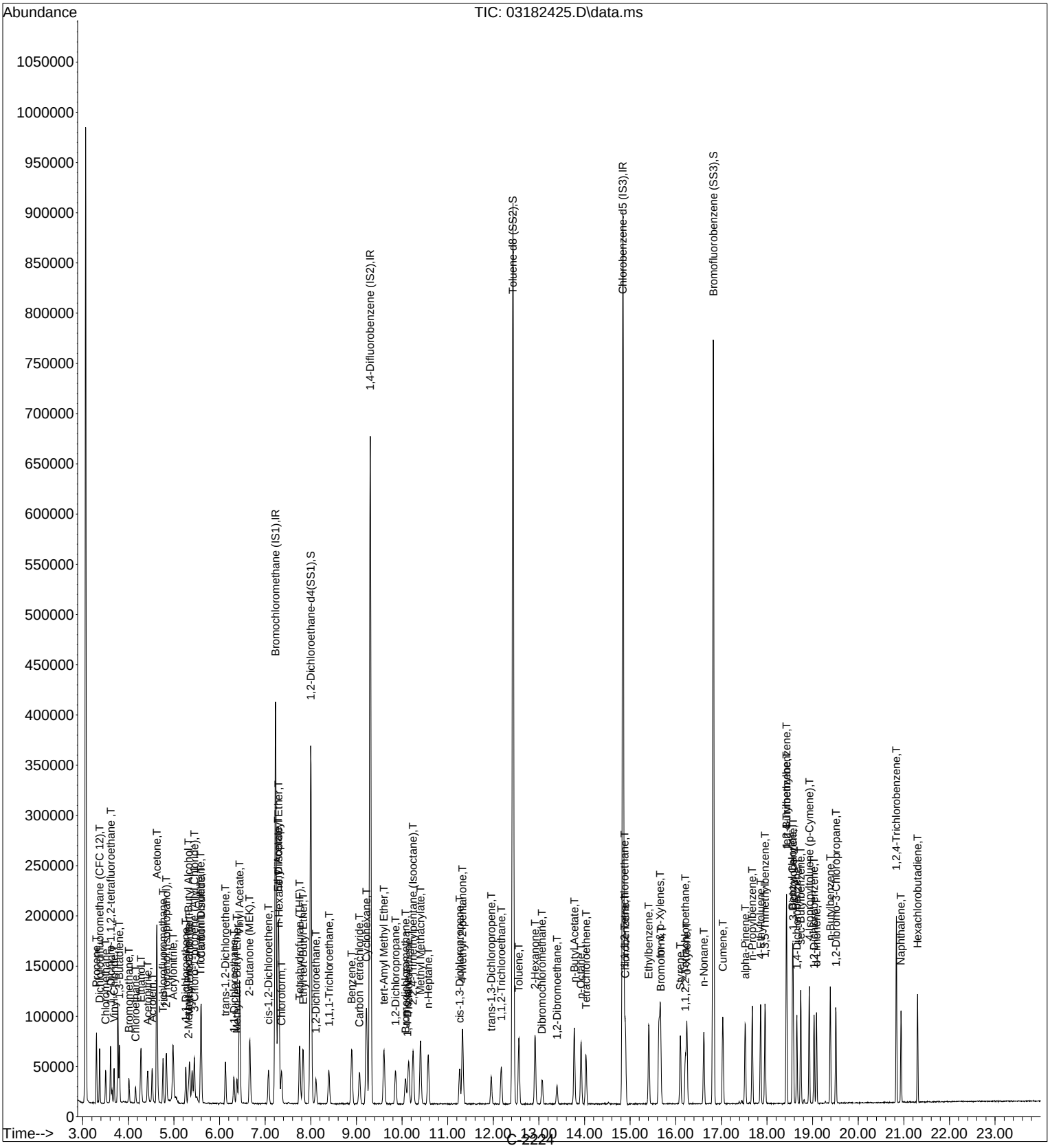
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	12977	1.166 ng	99
52) cis-1,3-Dichloropropene	11.26	75	23936	1.079 ng	98
53) 4-Methyl-2-pentanone	11.33	58	25587	1.994 ng	98
54) trans-1,3-Dichloropropene	11.96	75	18672	0.959 ng	100
55) 1,1,2-Trichloroethane	12.18	97	14372	1.155 ng	98
58) Toluene	12.56	91	58324	1.146 ng	100
59) 2-Hexanone	12.92	43	61672	1.580 ng	99
60) Dibromochloromethane	13.07	129	17051	1.068 ng	99
61) 1,2-Dibromoethane	13.40	107	15645	1.089 ng	99
62) n-Butyl Acetate	13.78	43	71008	1.654 ng	98
63) n-Octane	13.92	57	12534	1.106 ng	99
64) Tetrachloroethene	14.03	166	17791	1.103 ng	98
65) Chlorobenzene	14.90	112	38901	1.162 ng	99
66) Ethylbenzene	15.41	91	68231	1.176 ng	99
67) m- & p-Xylenes	15.66	91	109921	2.286 ng	99
68) Bromoform	15.67	173	14780	1.026 ng	97
69) Styrene	16.10	104	37353	1.068 ng	99
70) o-Xylene	16.24	91	55307	1.173 ng	99
71) n-Nonane	16.62	43	31123	0.908 ng	98
72) 1,1,2,2-Tetrachloroethane	16.21	83	25865	1.174 ng	98
74) Cumene	17.03	105	65213	1.125 ng	100
75) alpha-Pinene	17.53	93	33367	1.202 ng	99
76) n-Propylbenzene	17.68	91	79498	1.113 ng	99
77) 3-Ethyltoluene	17.03	105	65213	No Calib	
78) 4-Ethyltoluene	17.86	105	62623	1.080 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	57073	1.154 ng	99
80) alpha-Methylstyrene	17.03	118	196	No Calib #	
81) 2-Ethyltoluene	17.03	105	65213	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	56852	1.088 ng	99
83) n-Decane	17.04	58	658	No Calib #	
84) Benzyl Chloride	18.56	91	83863	2.196 ng	99
85) 1,3-Dichlorobenzene	18.58	146	34388	1.054 ng	100
86) 1,4-Dichlorobenzene	18.66	146	34088	1.046 ng	99
87) sec-Butylbenzene	18.74	105	72664	1.095 ng	100
88) 4-Isopropyltoluene (p-...	18.93	119	61627	1.052 ng	100
89) 1,2,3-Trimethylbenzene	17.03	105	65213	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	33222	1.052 ng	99
91) d-Limonene	19.09	68	18874	1.037 ng	98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	22509	1.987 ng	96
93) n-Undecane	17.86	58	1245	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	47805	1.750 ng	99
95) Naphthalene	20.94	128	57033	0.863 ng	100
96) n-Dodecane	18.92	58	2180	No Calib #	
97) Hexachlorobutadiene	21.30	225	19116	0.969 ng	98
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	53089	1.105 ng	100
100) n-Butylbenzene	19.39	91	57777	1.023 ng	99
101) 1,1,1,2-Tetrachloroethane	14.88	131	14197	1.123 ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182425.D Vial: 14
Acq On : 18 Mar 2024 21:48 Operator: SC
Sample : ICAL R09031824 1.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

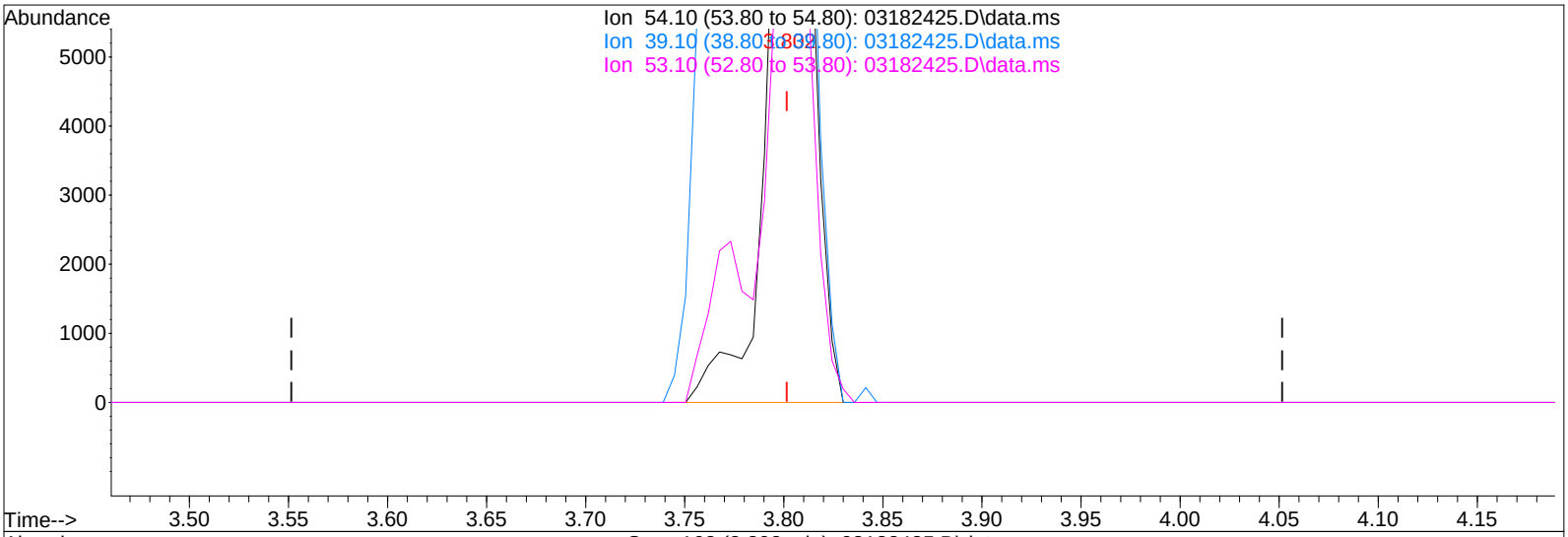
Quant Time: Mar 19 08:41:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

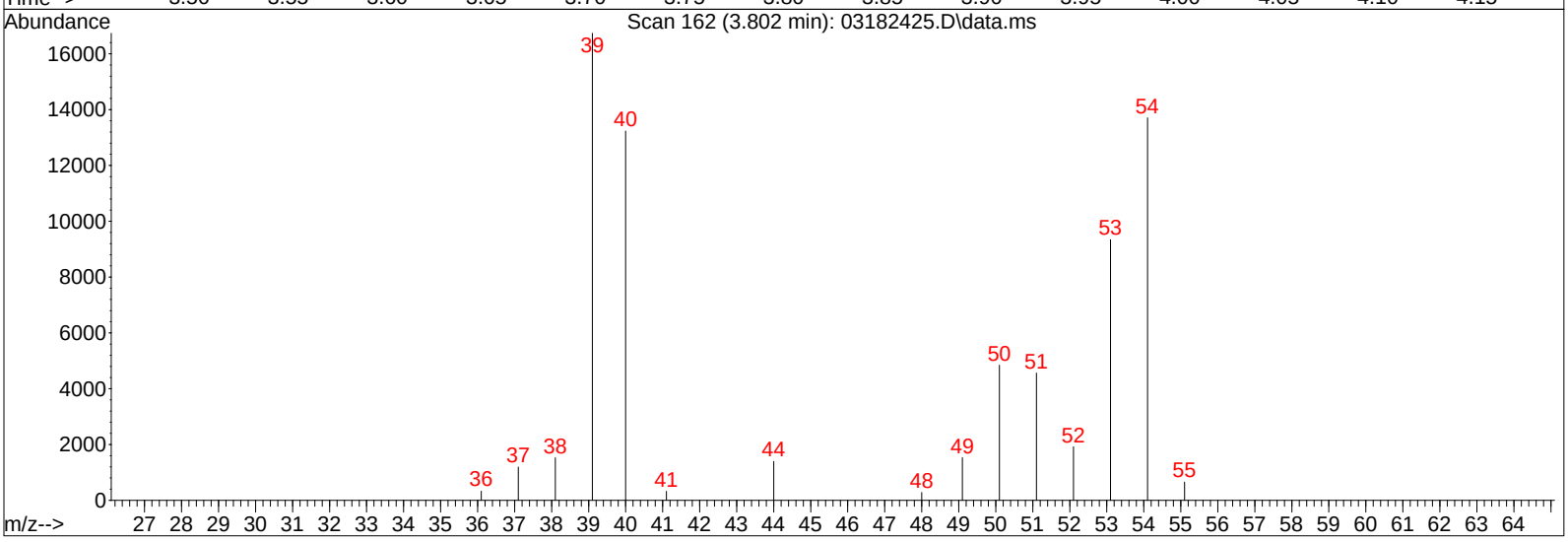


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182425.D Vial: 14
Acq On : 18 Mar 2024 21:48 Operator: SC
Sample : ICAL R09031824 1.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:41:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182425.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.000) 1.23ng

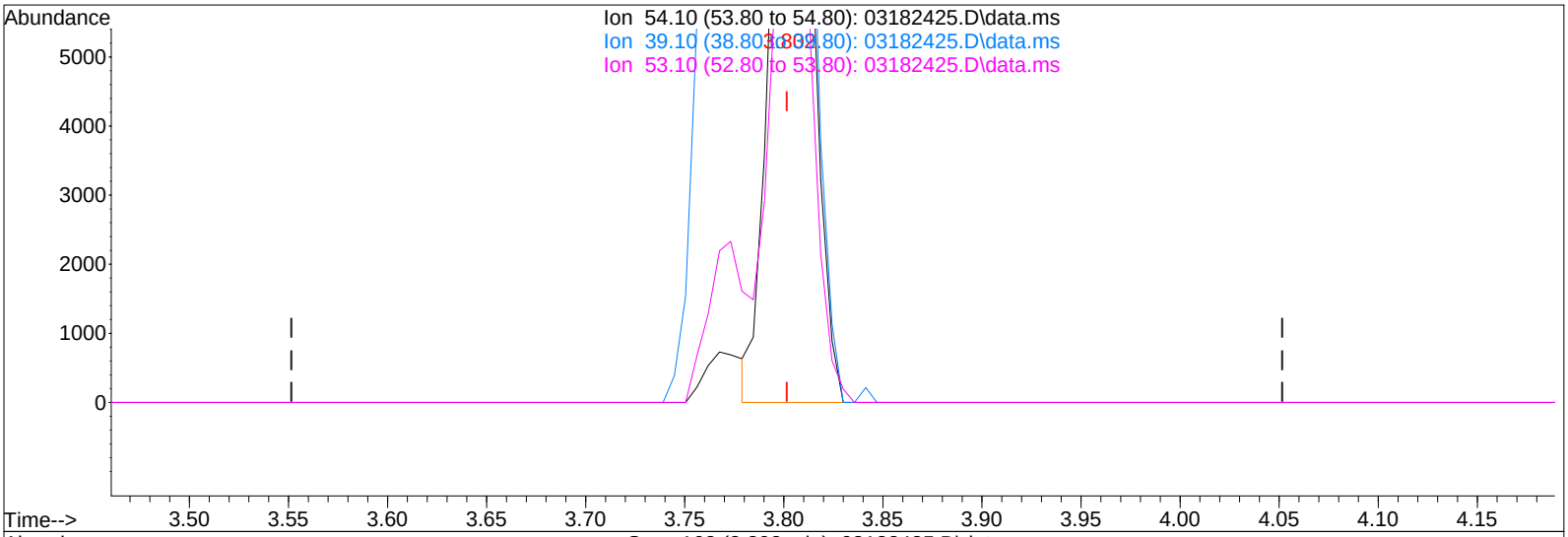
response 18400

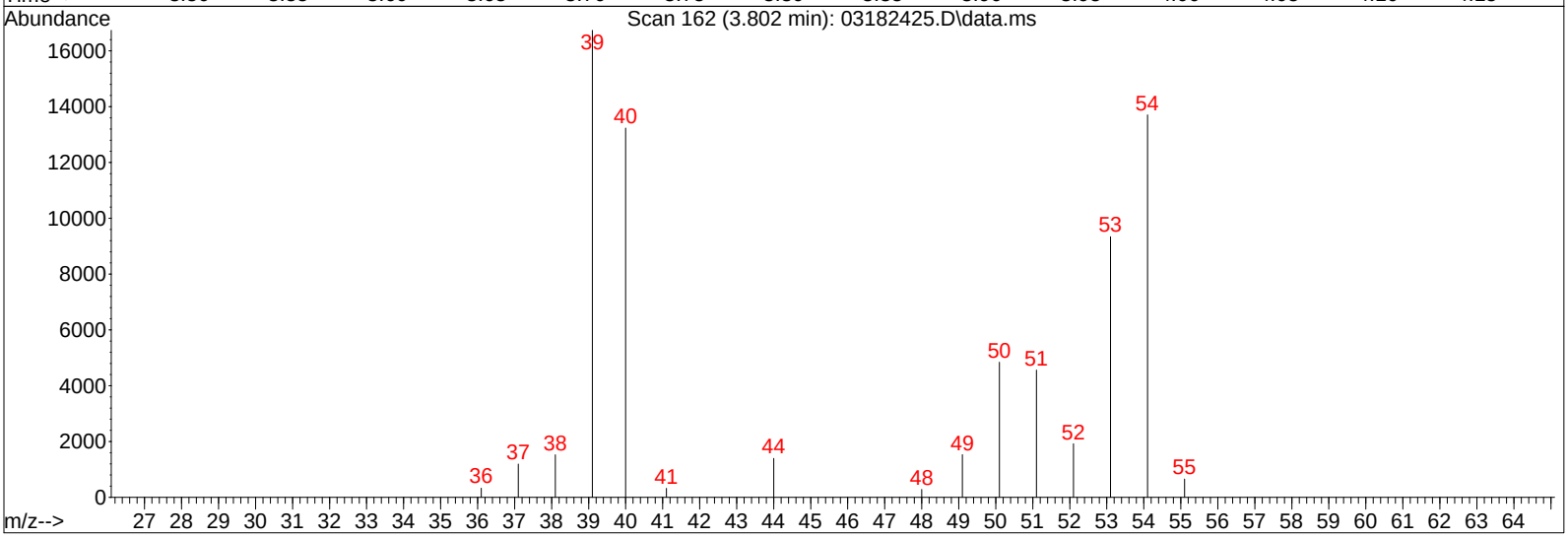
Ion	Exp%	Act%
54.10	100	100
39.10	115.10	106.83
53.10	67.90	65.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182425.D Vial: 14
Acq On : 18 Mar 2024 21:48 Operator: SC
Sample : ICAL R09031824 1.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:41:39 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182425.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.802min (+0.000) 1.17ng m

response 17442

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	112.70
53.10	67.90	69.01
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182426.D Vial: 14
Acq On : 18 Mar 2024 22:20 Operator: SC
Sample : ICAL R09031824 5.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:40:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	150770	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.32	114	645304	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	145703	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	311329	12.973	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%				
57) Toluene-d8 (SS2)	12.44	98	728931	13.172	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
73) Bromofluorobenzene (SS3)	16.83	174	259208	12.501	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
Target Compounds							Qvalue
2) Propene	3.28	42	91197	4.649	ng		100
3) Dichlorodifluoromethan...	3.36	85	161720	5.834	ng		99
4) Chloromethane	3.49	50	121379	5.039	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	72562	5.751	ng		100
6) Vinyl Chloride	3.68	62	112053	6.123	ng		100
7) 1,3-Butadiene	3.80	54	87394m	5.892	ng		
8) Bromomethane	4.01	94	61463	6.366	ng		100
9) Chloroethane	4.15	64	50645	5.773	ng		99
10) Ethanol	4.31	45	356112	21.403	ng		100
11) Acetonitrile	4.44	41	156615	3.769	ng		97
12) Acrolein	4.52	56	110588	9.906	ng		97
13) Acetone	4.63	58	265990	23.410	ng		98
14) Trichlorofluoromethane	4.76	101	148795	5.389	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	421095	8.145	ng		97
16) Acrylonitrile	5.00	53	209368	9.252	ng		99
17) 1,1-Dichloroethene	5.26	96	56721	4.624	ng		99
18) 2-Methyl-2-Propanol (t...	5.33	59	285394	19.063	ng		87
19) Methylene Chloride	5.36	84	62939	4.255	ng		97
20) 3-Chloro-1-propene (Al...	5.45	41	144392	5.193	ng		96
21) Trichlorotrifluoroethane	5.58	151	55064	4.510	ng		100
22) Carbon Disulfide	5.60	76	515310	11.417	ng		99
23) trans-1,2-Dichloroethene	6.14	61	112918	5.249	ng		99
24) 1,1-Dichloroethane	6.33	63	132347	5.459	ng		100
25) Methyl tert-Butyl Ether	6.37	73	150298	10.486	ng		100
26) Vinyl Acetate	6.45	86	69888	29.426	ng	#	96
27) 2-Butanone (MEK)	6.67	72	90575	11.049	ng		99
28) cis-1,2-Dichloroethene	7.09	61	104839	5.094	ng		100
29) Diisopropyl Ether	7.29	87	107881	11.231	ng		96
30) Ethyl Acetate	7.29	61	54296	10.028	ng		98
31) n-Hexane	7.30	57	121345	5.272	ng		99
32) Chloroform	7.37	83	134675	5.542	ng		99
34) Tetrahydrofuran (THF)	7.75	72	77215	9.706	ng		97
35) Ethyl tert-Butyl Ether	7.83	87	109969	21.708	ng		99
36) 1,2-Dichloroethane	8.13	62	120955	5.289	ng		99
38) 1,1,1-Trichloroethane	8.41	97	129943	5.629	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.81	56	477	No Calib			
41) Benzene	8.91	78	278220	4.765	ng		100
42) Carbon Tetrachloride	9.08	117	117787	5.741	ng		99
43) Cyclohexane	9.22	84	190218	11.463	ng		99
44) tert-Amyl Methyl Ether	9.60	73	269833	22.382	ng		99
45) 1,2-Dichloropropane	9.87	63	73988	5.805	ng		100
46) Bromodichloromethane	10.09	83	108276	5.608	ng		100
47) Trichloroethene	10.16	130	75674	5.284	ng		99
48) 1,4-Dioxane	10.12	88	50711	4.778	ng		99
49) 2,2,4-Trimethylpentane...	10.24	57	305656	5.526	ng		100
50) Methyl Methacrylate	10.41	100	52688	11.138	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182426.D Vial: 14
Acq On : 18 Mar 2024 22:20 Operator: SC
Sample : ICAL R09031824 5.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:40:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

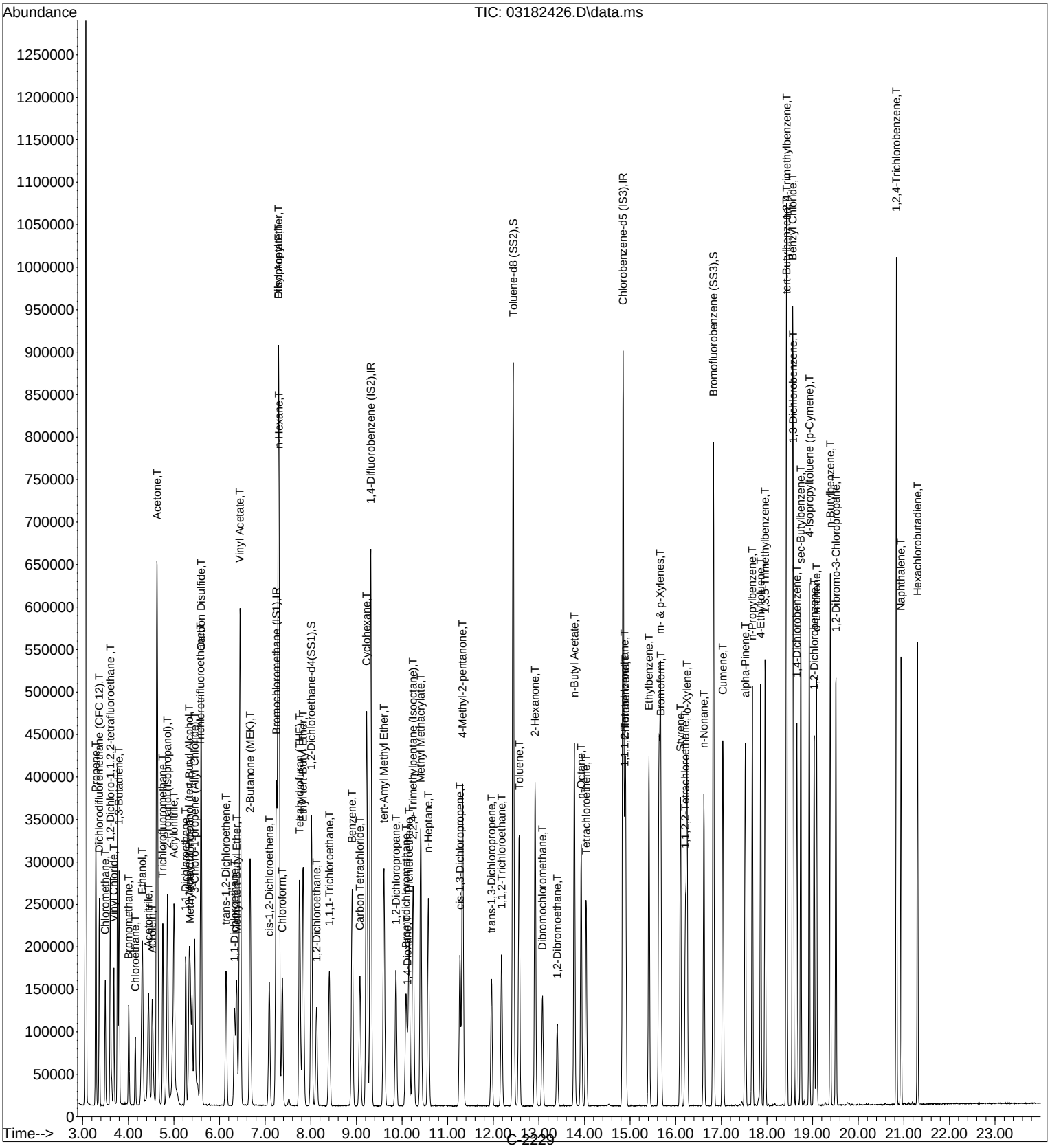
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.58	71	65305	5.901	ng		99
52) cis-1,3-Dichloropropene	11.27	75	124925	5.663	ng		99
53) 4-Methyl-2-pentanone	11.33	58	131440	10.300	ng		97
54) trans-1,3-Dichloropropene	11.96	75	103591	5.350	ng		100
55) 1,1,2-Trichloroethane	12.18	97	71899	5.813	ng		99
58) Toluene	12.57	91	287614	5.645	ng		99
59) 2-Hexanone	12.92	43	335917	8.596	ng		99
60) Dibromochloromethane	13.08	129	88520	5.538	ng		99
61) 1,2-Dibromoethane	13.40	107	81589	5.673	ng		100
62) n-Butyl Acetate	13.78	43	389615	9.062	ng		99
63) n-Octane	13.93	57	62534	5.512	ng		99
64) Tetrachloroethene	14.03	166	88388	5.472	ng		99
65) Chlorobenzene	14.90	112	192614	5.746	ng		100
66) Ethylbenzene	15.41	91	342704	5.901	ng		100
67) m- & p-Xylenes	15.66	91	559715	11.628	ng		100
68) Bromoform	15.67	173	78397	5.433	ng		99
69) Styrene	16.11	104	200833	5.737	ng		99
70) o-Xylene	16.25	91	279413	5.918	ng		100
71) n-Nonane	16.62	43	159340	4.644	ng		100
72) 1,1,2,2-Tetrachloroethane	16.21	83	129579	5.876	ng		99
74) Cumene	17.03	105	330268	5.688	ng		99
75) alpha-Pinene	17.53	93	178107	6.407	ng		99
76) n-Propylbenzene	17.68	91	401107	5.609	ng		100
77) 3-Ethyltoluene	17.03	105	330268	No Calib			
78) 4-Ethyltoluene	17.86	105	324503	5.589	ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	292896	5.916	ng		99
80) alpha-Methylstyrene	17.03	118	887	No Calib		#	
81) 2-Ethyltoluene	17.03	105	330268	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	297191	5.681	ng		100
83) n-Decane	17.03	58	3734	No Calib			
84) Benzyl Chloride	18.56	91	503158	10.761	ng		100
85) 1,3-Dichlorobenzene	18.58	146	174444	5.341	ng		99
86) 1,4-Dichlorobenzene	18.66	146	172727	5.294	ng		99
87) sec-Butylbenzene	18.74	105	374493	5.637	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	317357	5.410	ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	330268	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	167881	5.311	ng		100
91) d-Limonene	19.09	68	103935	5.703	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	122537	10.805	ng		99
93) n-Undecane	17.85	58	5674	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	258167	9.440	ng		100
95) Naphthalene	20.94	128	320390	4.020	ng		100
96) n-Dodecane	18.92	58	10875	No Calib		#	
97) Hexachlorobutadiene	21.30	225	94026	4.759	ng		99
98) Cyclohexanone	15.43	55	1361	No Calib			
99) tert-Butylbenzene	18.43	119	274315	5.704	ng		99
100) n-Butylbenzene	19.39	91	303168	5.364	ng		100
101) 1,1,1,2-Tetrachloroethane	14.88	131	73815	5.832	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182426.D Vial: 14
Acq On : 18 Mar 2024 22:20 Operator: SC
Sample : ICAL R09031824 5.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

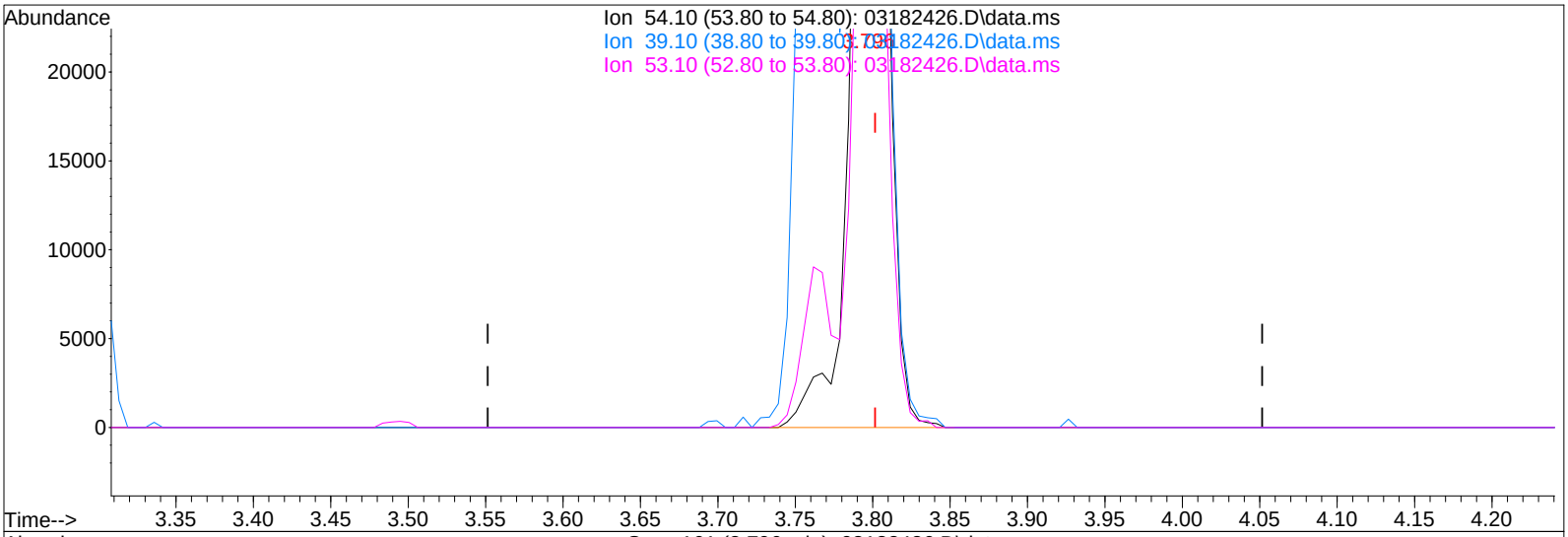
Quant Time: Mar 19 08:40:17 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

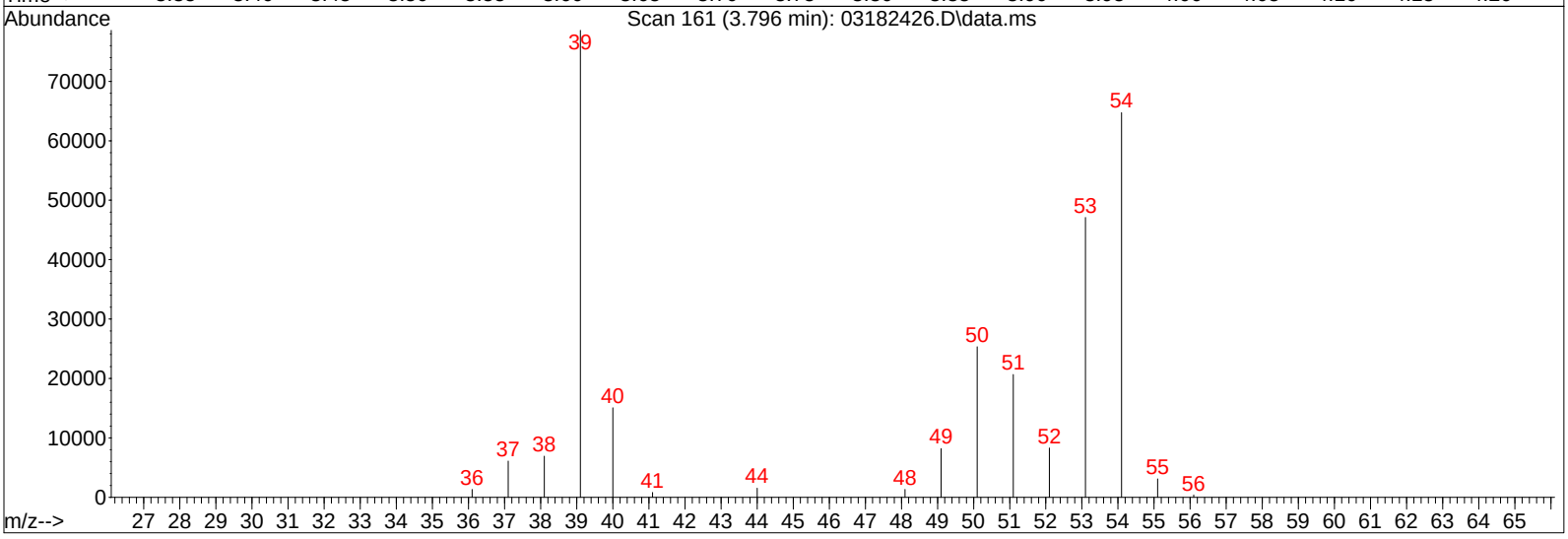


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182426.D Vial: 14
Acq On : 18 Mar 2024 22:20 Operator: SC
Sample : ICAL R09031824 5.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:39:48 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182426.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (-0.006) 6.15ng

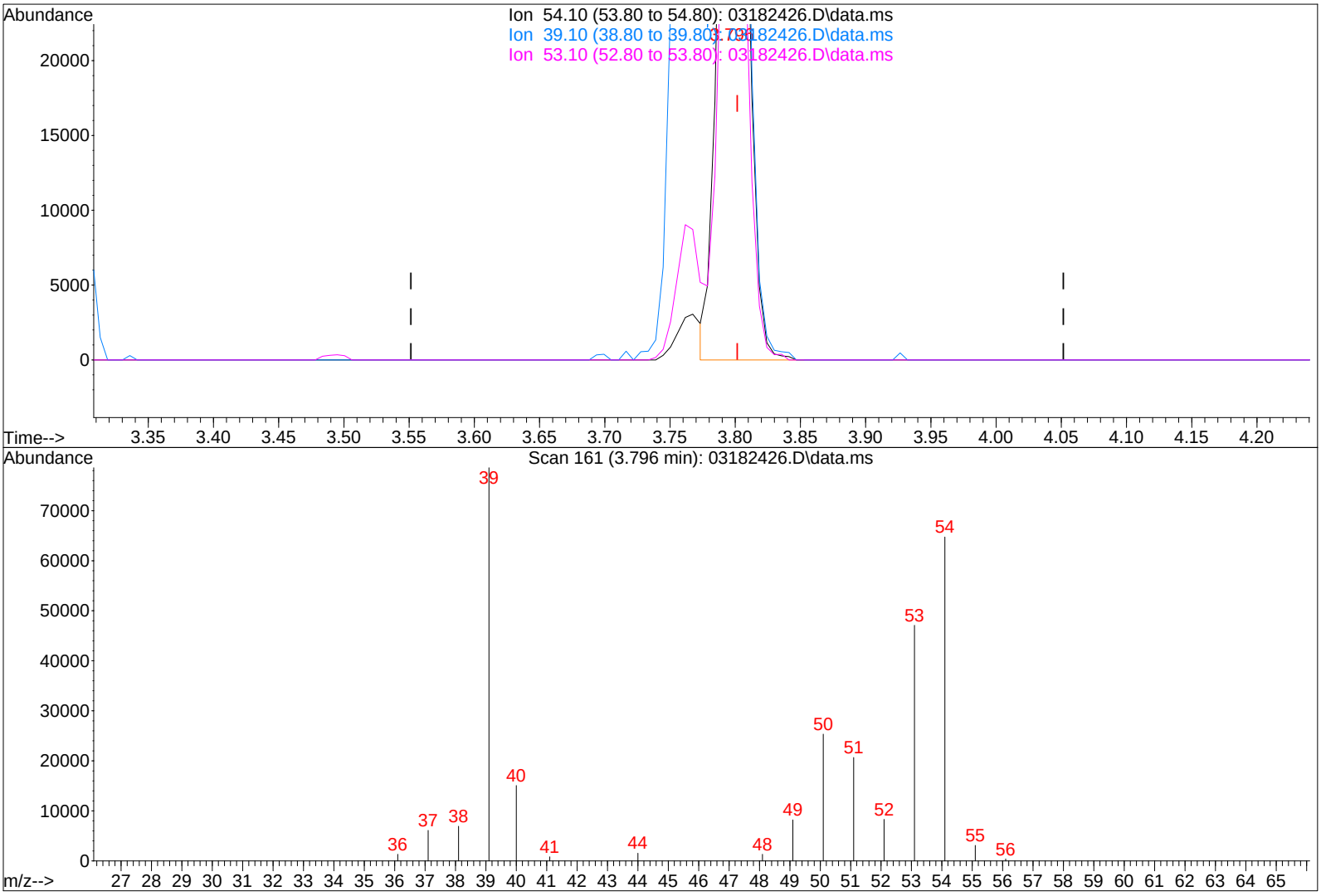
response 91259

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.38
53.10	67.90	68.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182426.D Vial: 14
Acq On : 18 Mar 2024 22:20 Operator: SC
Sample : ICAL R09031824 5.0ng Inst : MS09
Misc : S37-02202408/S37-03182402 (4/17)

Quant Time: Mar 19 08:39:48 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03182426.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.796min (-0.006) 5.89ng m

response 87394

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	120.49
53.10	67.90	71.19
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182427.D Vial: 15
Acq On : 18 Mar 2024 22:52 Operator: SC
Sample : ICAL R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:38:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	153349	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	652735	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	150504	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.04	65	312066	12.785	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%			
57) Toluene-d8 (SS2)	12.44	98	747219	13.072	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%			
73) Bromofluorobenzene (SS3)	16.83	174	267393	12.485	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%			
Target Compounds						Qvalue
2) Propene	3.28	42	427711	21.439	ng	100
3) Dichlorodifluoromethan...	3.35	85	777279	27.569	ng	100
4) Chloromethane	3.49	50	609802	24.891	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	365376	28.471	ng	100
6) Vinyl Chloride	3.68	62	569242	30.580	ng	100
7) 1,3-Butadiene	3.80	54	461124m	30.563	ng	
8) Bromomethane	4.01	94	320396	32.627	ng	100
9) Chloroethane	4.15	64	258422	28.964	ng	100
10) Ethanol	4.35	45	1778481	105.095	ng	100
11) Acetonitrile	4.47	41	779577	18.446	ng	99
12) Acrolein	4.55	56	581077	51.175	ng	100
13) Acetone	4.65	58	1391163	120.377	ng	100
14) Trichlorofluoromethane	4.76	101	758574	27.011	ng	100
15) 2-Propanol (Isopropanol)	4.90	45	2308329	43.897	ng	100
16) Acrylonitrile	5.03	53	1090370	47.375	ng	100
17) 1,1-Dichloroethene	5.27	96	297308	23.830	ng	100
18) 2-Methyl-2-Propanol (t...	5.37	59	1496846	98.300	ng	100
19) Methylene Chloride	5.39	84	330273	21.950	ng	100
20) 3-Chloro-1-propene (Al...	5.47	41	717298	25.362	ng	100
21) Trichlorotrifluoroethane	5.59	151	287187	23.125	ng	100
22) Carbon Disulfide	5.61	76	2697943	58.771	ng	100
23) trans-1,2-Dichloroethene	6.16	61	596538	27.262	ng	100
24) 1,1-Dichloroethane	6.35	63	683327	27.712	ng	100
25) Methyl tert-Butyl Ether	6.38	73	824310	56.541	ng	100
26) Vinyl Acetate	6.48	86	388133	160.670	ng	100
27) 2-Butanone (MEK)	6.69	72	481610	57.761	ng	100
28) cis-1,2-Dichloroethene	7.11	61	554898	26.507	ng	100
29) Diisopropyl Ether	7.31	87	578062	59.168	ng	100
30) Ethyl Acetate	7.31	61	291772	52.982	ng	100
31) n-Hexane	7.31	57	636283	27.180	ng	100
32) Chloroform	7.40	83	704212	28.490	ng	100
34) Tetrahydrofuran (THF)	7.76	72	410342	50.713	ng	100
35) Ethyl tert-Butyl Ether	7.84	87	590566	114.620	ng	100
36) 1,2-Dichloroethane	8.15	62	623896	26.821	ng	100
38) 1,1,1-Trichloroethane	8.42	97	678017	29.034	ng	100
39) Isopropyl Acetate	9.61	61	866	No Calib	#	
40) 1-Butanol	8.83	56	2206	No Calib		
41) Benzene	8.92	78	1442047	24.419	ng	100
42) Carbon Tetrachloride	9.09	117	619505	29.849	ng	100
43) Cyclohexane	9.24	84	1003007	59.754	ng	100
44) tert-Amyl Methyl Ether	9.61	73	1470146	120.557	ng	100
45) 1,2-Dichloropropane	9.88	63	381773	29.614	ng	100
46) Bromodichloromethane	10.10	83	574936	29.441	ng	100
47) Trichloroethene	10.17	130	389746	26.906	ng	100
48) 1,4-Dioxane	10.13	88	299500	27.897	ng	100
49) 2,2,4-Trimethylpentane...	10.25	57	1583591	28.305	ng	100
50) Methyl Methacrylate	10.42	100	287060	59.991	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182427.D Vial: 15
Acq On : 18 Mar 2024 22:52 Operator: SC
Sample : ICAL R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:38:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

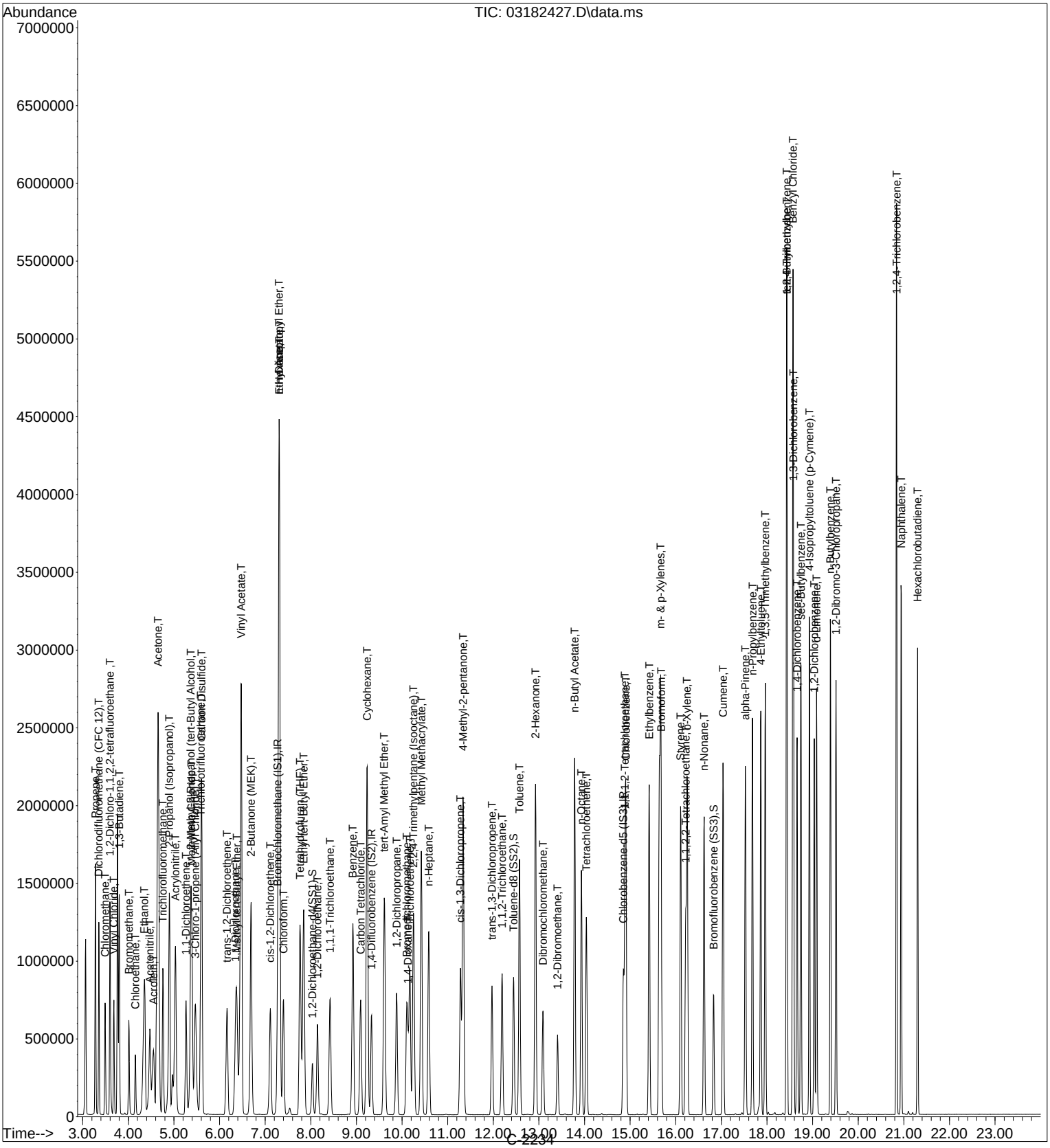
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.59	71	339888	30.361 ng	100
52) cis-1,3-Dichloropropene	11.28	75	681769	30.555 ng	100
53) 4-Methyl-2-pentanone	11.34	58	737813	57.161 ng	100
54) trans-1,3-Dichloropropene	11.97	75	576587	29.441 ng	100
55) 1,1,2-Trichloroethane	12.19	97	373360	29.840 ng	100
58) Toluene	12.57	91	1501188	28.522 ng	100
59) 2-Hexanone	12.93	43	1908504	47.278 ng	100
60) Dibromochloromethane	13.09	129	468555	28.377 ng	100
61) 1,2-Dibromoethane	13.41	107	432394	29.106 ng	100
62) n-Butyl Acetate	13.78	43	2143215	48.260 ng	100
63) n-Octane	13.93	57	333943	28.494 ng	100
64) Tetrachloroethene	14.04	166	459671	27.551 ng	100
65) Chlorobenzene	14.91	112	1019668	29.448 ng	100
66) Ethylbenzene	15.42	91	1810534	30.183 ng	100
67) m- & p-Xylenes	15.67	91	2974992	59.836 ng	100
68) Bromoform	15.68	173	437744	29.368 ng	100
69) Styrene	16.11	104	1093826	30.251 ng	100
70) o-Xylene	16.25	91	1477103	30.286 ng	100
71) n-Nonane	16.62	43	841887	23.754 ng	100
72) 1,1,2,2-Tetrachloroethane	16.22	83	677252	29.731 ng	100
74) Cumene	17.04	105	1727501	28.805 ng	100
75) alpha-Pinene	17.53	93	942474	32.820 ng	100
76) n-Propylbenzene	17.68	91	2107525	28.530 ng	100
77) 3-Ethyltoluene	17.04	105	1727501	No Calib	
78) 4-Ethyltoluene	17.87	105	1694620	28.257 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	1537996	30.073 ng	100
80) alpha-Methylstyrene	17.04	118	3253	No Calib	
81) 2-Ethyltoluene	17.04	105	1727501	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1591761	29.456 ng	100
83) n-Decane	17.04	58	13764	No Calib	
84) Benzyl Chloride	18.57	91	2881706	59.679 ng	100
85) 1,3-Dichlorobenzene	18.58	146	931778	27.621 ng	100
86) 1,4-Dichlorobenzene	18.66	146	927076	27.508 ng	100
87) sec-Butylbenzene	18.75	105	1955727	28.499 ng	100
88) 4-Isopropyltoluene (p-...	18.93	119	1682804	27.773 ng	100
89) 1,2,3-Trimethylbenzene	17.04	105	1727501	No Calib	
90) 1,2-Dichlorobenzene	19.04	146	891241	27.297 ng	100
91) d-Limonene	19.09	68	573677	30.471 ng	100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	657715	56.146 ng	100
93) n-Undecane	17.86	58	26970	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1543099	54.624 ng	100
95) Naphthalene	20.94	128	2142419	25.943 ng	100
96) n-Dodecane	18.94	58	45534	No Calib #	
97) Hexachlorobutadiene	21.30	225	504625	24.724 ng	100
98) Cyclohexanone	15.43	55	5905	No Calib	
99) tert-Butylbenzene	18.43	119	1425967	28.707 ng	100
100) n-Butylbenzene	19.39	91	1618900	27.728 ng	100
101) 1,1,1,2-Tetrachloroethane	14.89	131	391859	29.972 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182427.D Vial: 15
Acq On : 18 Mar 2024 22:52 Operator: SC
Sample : ICAL R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

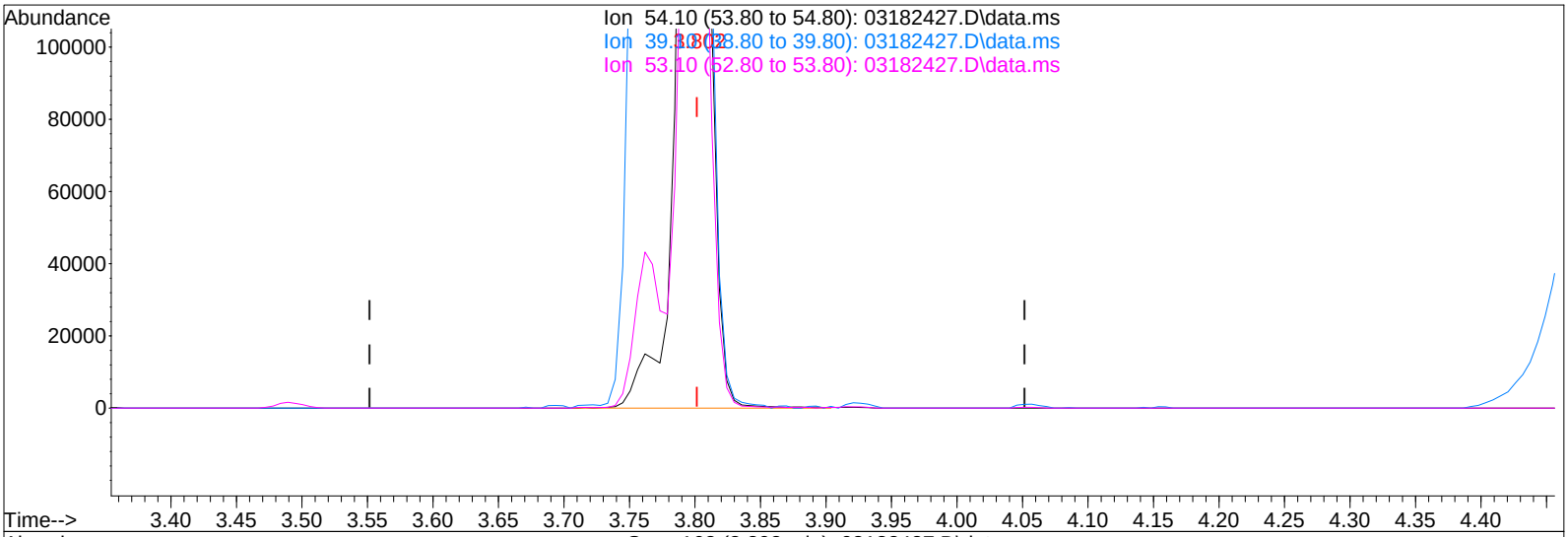
Quant Time: Mar 19 08:38:22 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

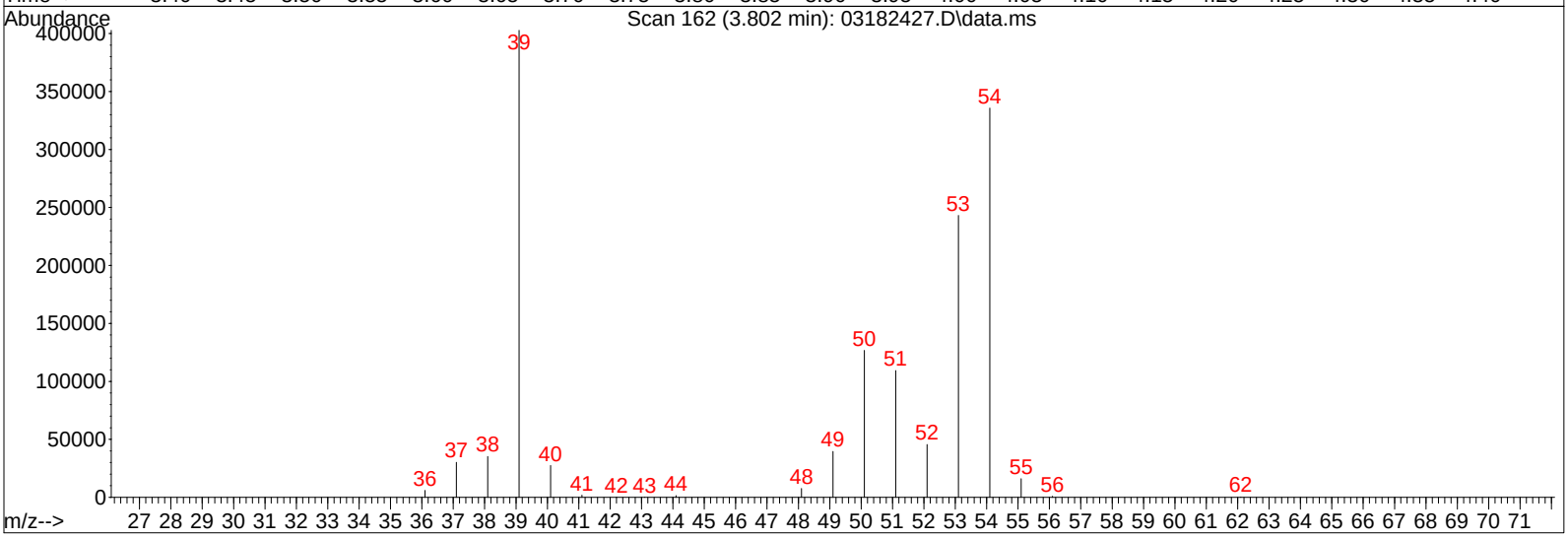


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182427.D Vial: 15
Acq On : 18 Mar 2024 22:52 Operator: SC
Sample : ICAL R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:37:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182427.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (0.000) 31.91ng

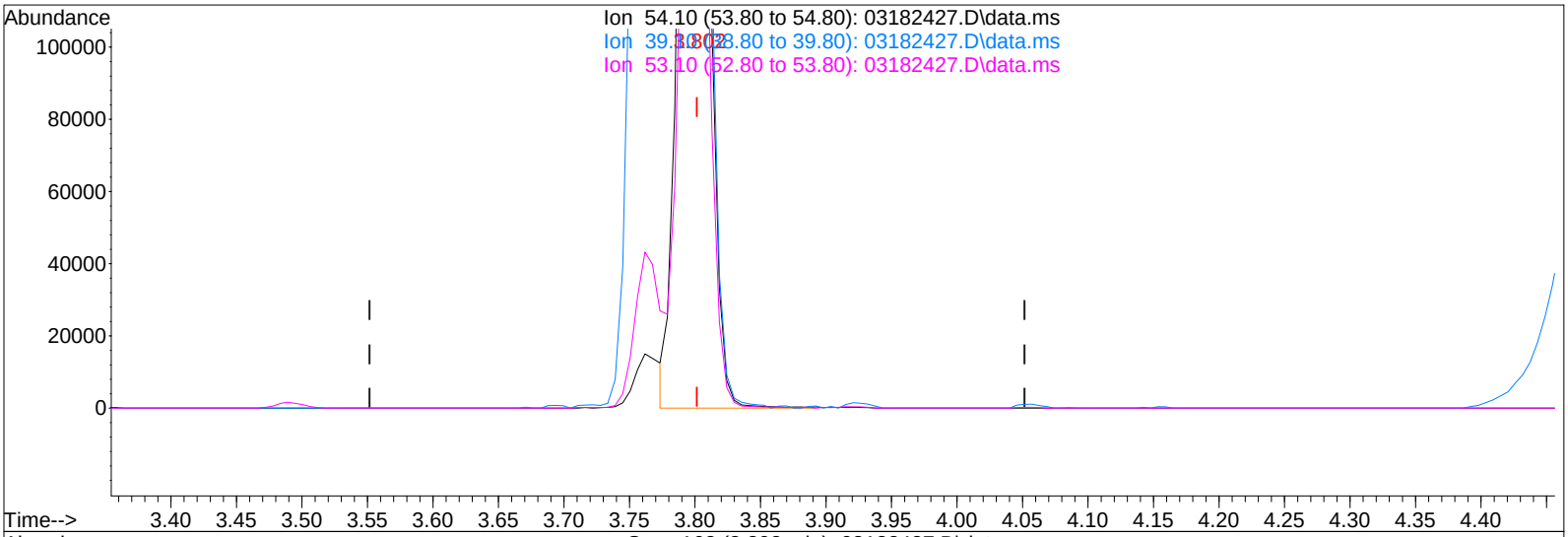
response 481485

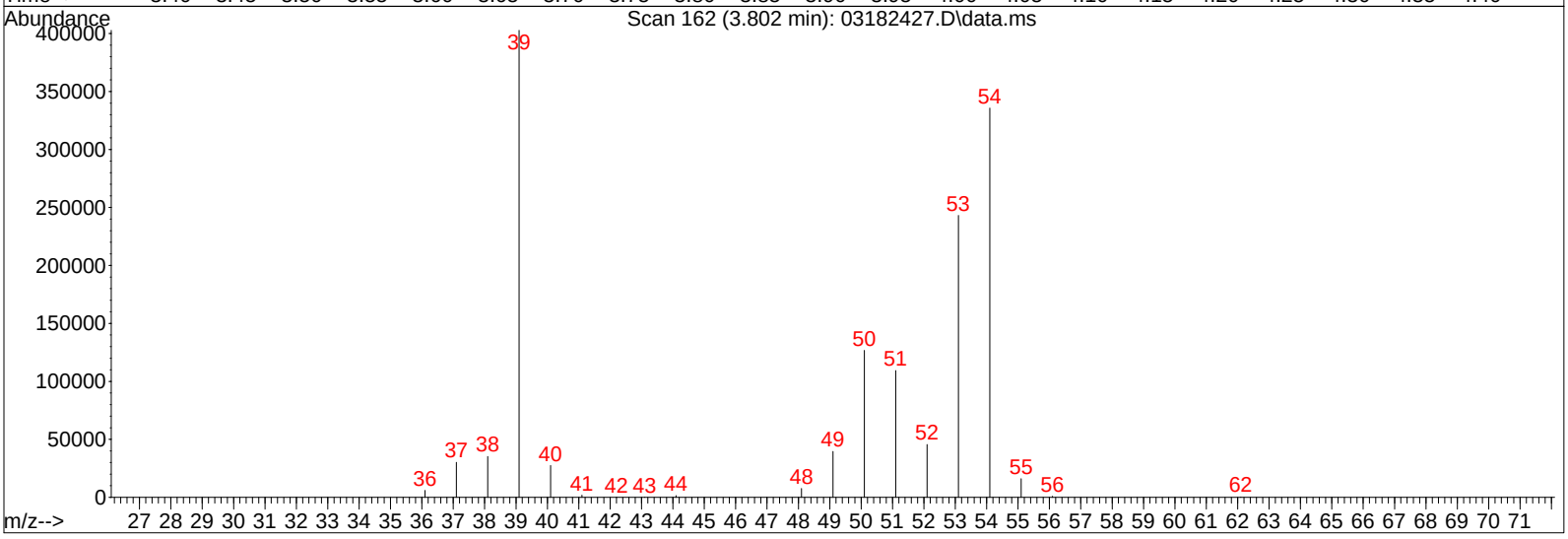
Ion	Exp%	Act%
54.10	100	100
39.10	115.10	115.10
53.10	67.90	67.93
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182427.D Vial: 15
Acq On : 18 Mar 2024 22:52 Operator: SC
Sample : ICAL R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:37:57 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182427.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.802min (0.000) 30.56ng m

response 461124

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	120.18
53.10	67.90	70.93
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182428.D Vial: 15
Acq On : 18 Mar 2024 23:24 Operator: SC
Sample : ICAL R09031824 50ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:50:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.29	130	159705	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.34	114	681151	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	154548	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.05	65	323001	12.706	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.68%				
57) Toluene-d8 (SS2)	12.45	98	771991	13.152	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
73) Bromofluorobenzene (SS3)	16.83	174	272053	12.370	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.96%				
Target Compounds							Qvalue
2) Propene	3.28	42	900541	43.342	ng		100
3) Dichlorodifluoromethan...	3.36	85	1533490	52.227	ng		100
4) Chloromethane	3.49	50	1229163	48.176	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	725518	54.284	ng		100
6) Vinyl Chloride	3.69	62	1156824	59.672	ng		100
7) 1,3-Butadiene	3.81	54	943599m	60.053	ng		
8) Bromomethane	4.02	94	647437	63.306	ng		100
9) Chloroethane	4.16	64	530441	57.086	ng		100
10) Ethanol	4.38	45	3613645	205.040	ng		100
11) Acetonitrile	4.49	41	1605403	36.474	ng		93
12) Acrolein	4.57	56	1203050	101.735	ng		99
13) Acetone	4.67	58	2813136	233.731	ng		97
14) Trichlorofluoromethane	4.77	101	1532942	52.412	ng		100
15) 2-Propanol (Isopropanol)	4.93	45	4429851	80.890	ng		100
16) Acrylonitrile	5.05	53	2230020	93.035	ng		100
17) 1,1-Dichloroethene	5.27	96	610212	46.963	ng		99
18) 2-Methyl-2-Propanol (t...	5.39	59	3130037	197.373	ng		99
19) Methylene Chloride	5.40	84	677633	43.244	ng		100
20) 3-Chloro-1-propene (Al...	5.48	41	1445755	49.084	ng		99
21) Trichlorotrifluoroethane	5.59	151	584246	45.172	ng		99
22) Carbon Disulfide	5.61	76	5466253	114.335	ng		100
23) trans-1,2-Dichloroethene	6.18	61	1226140	53.805	ng		99
24) 1,1-Dichloroethane	6.36	63	1403998	54.672	ng		100
25) Methyl tert-Butyl Ether	6.39	73	1877536	123.658	ng		100
26) Vinyl Acetate	6.49	86	813951	323.531	ng	#	91
27) 2-Butanone (MEK)	6.71	72	992471	114.294	ng		97
28) cis-1,2-Dichloroethene	7.12	61	1142033	52.383	ng		100
29) Diisopropyl Ether	7.32	87	1192696	117.221	ng		95
30) Ethyl Acetate	7.32	61	602562	105.062	ng		99
31) n-Hexane	7.32	57	1300330	53.335	ng		99
32) Chloroform	7.42	83	1437179	55.828	ng		100
34) Tetrahydrofuran (THF)	7.78	72	847454	100.567	ng		99
35) Ethyl tert-Butyl Ether	7.86	87	1298019	241.900	ng		99
36) 1,2-Dichloroethane	8.16	62	1269949	52.421	ng		100
38) 1,1,1-Trichloroethane	8.44	97	1379717	56.618	ng		100
39) Isopropyl Acetate	9.62	61	1737	No Calib		#	
40) 1-Butanol	8.83	56	3303	No Calib		#	
41) Benzene	8.93	78	2947282	47.826	ng		100
42) Carbon Tetrachloride	9.10	117	1255066	57.949	ng		100
43) Cyclohexane	9.24	84	2051157	117.100	ng		99
44) tert-Amyl Methyl Ether	9.62	73	3161810	248.463	ng		100
45) 1,2-Dichloropropane	9.89	63	784864	58.341	ng		100
46) Bromodichloromethane	10.12	83	1176075	57.711	ng		100
47) Trichloroethene	10.18	130	796784	52.712	ng		100
48) 1,4-Dioxane	10.14	88	613478	54.759	ng		99
49) 2,2,4-Trimethylpentane...	10.26	57	3237006	55.444	ng		100
50) Methyl Methacrylate	10.43	100	593766	118.911	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182428.D Vial: 15
Acq On : 18 Mar 2024 23:24 Operator: SC
Sample : ICAL R09031824 50ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:50:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

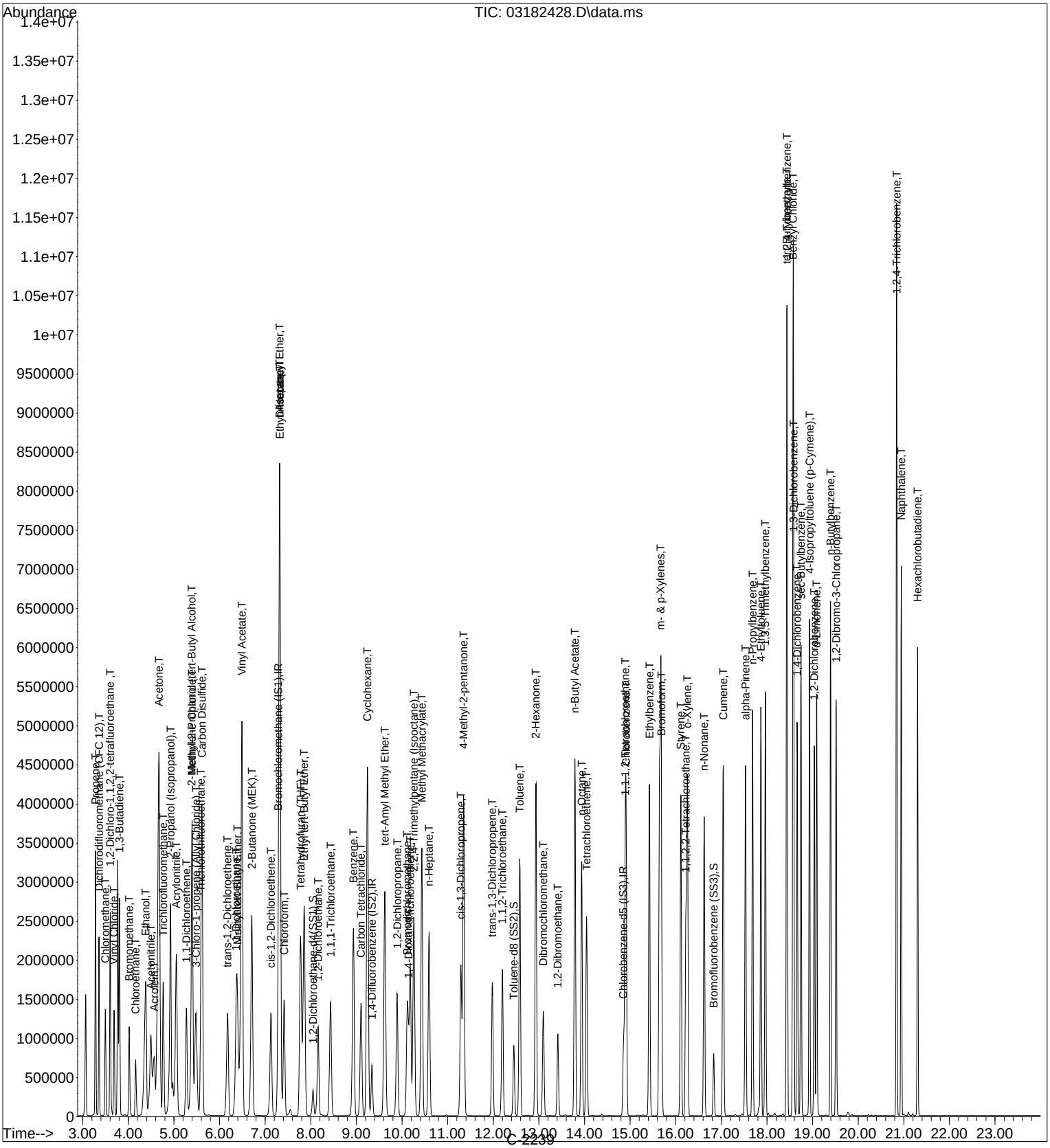
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	703332	60.206	ng		100
52) cis-1,3-Dichloropropene	11.29	75	1411042	60.601	ng		100
53) 4-Methyl-2-pentanone	11.35	58	1512209	112.269	ng		98
54) trans-1,3-Dichloropropene	11.98	75	1195305	58.487	ng		100
55) 1,1,2-Trichloroethane	12.20	97	763336	58.463	ng		100
58) Toluene	12.58	91	3058294	56.585	ng		100
59) 2-Hexanone	12.93	43	3893585	93.930	ng		99
60) Dibromochloromethane	13.10	129	963518	56.827	ng		100
61) 1,2-Dibromoethane	13.41	107	889639	58.318	ng		100
62) n-Butyl Acetate	13.79	43	4366649	95.753	ng		99
63) n-Octane	13.94	57	688222	57.186	ng		100
64) Tetrachloroethene	14.05	166	937819	54.739	ng		100
65) Chlorobenzene	14.91	112	2070190	58.222	ng		100
66) Ethylbenzene	15.42	91	3660497	59.427	ng		100
67) m- & p-Xylenes	15.67	91	6058663	118.668	ng		100
68) Bromoform	15.69	173	903422	59.024	ng		100
69) Styrene	16.11	104	2227028	59.980	ng		99
70) o-Xylene	16.25	91	2981940	59.542	ng		100
71) n-Nonane	16.62	43	1707395	46.914	ng		100
72) 1,1,2,2-Tetrachloroethane	16.22	83	1392904	59.547	ng		100
74) Cumene	17.04	105	3468561	56.323	ng		100
75) alpha-Pinene	17.53	93	1908878	64.735	ng		100
76) n-Propylbenzene	17.68	91	4218319	55.609	ng		100
77) 3-Ethyltoluene	17.04	105	3468561	No Calib			
78) 4-Ethyltoluene	17.87	105	3455595	56.113	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	3086257	58.767	ng		100
80) alpha-Methylstyrene	17.04	118	6112	No Calib		#	
81) 2-Ethyltoluene	17.04	105	3468561	No Calib			
82) 1,2,4-Trimethylbenzene	18.44	105	3153227	56.825	ng		100
83) n-Decane	17.04	58	27805	No Calib			
84) Benzyl Chloride	18.57	91	5792450	122.568	ng		99
85) 1,3-Dichlorobenzene	18.59	146	1863869	53.806	ng		100
86) 1,4-Dichlorobenzene	18.66	146	1870911	54.061	ng		100
87) sec-Butylbenzene	18.75	105	3868393	54.896	ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	3332867	53.566	ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	3468561	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	1787867	53.325	ng		100
91) d-Limonene	19.09	68	1172409	60.644	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.52	157	1327349	110.344	ng		99
93) n-Undecane	17.87	58	55194	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	3057642	105.405	ng		100
95) Naphthalene	20.94	128	4221811	51.883	ng		99
96) n-Dodecane	18.93	58	91026	No Calib		#	
97) Hexachlorobutadiene	21.30	225	1023133	48.817	ng		100
98) Cyclohexanone	15.43	55	13124	No Calib			
99) tert-Butylbenzene	18.43	119	2811144	55.112	ng		100
100) n-Butylbenzene	19.39	91	3208506	53.516	ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	797402	59.394	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182428.D Vial: 15
Acq On : 18 Mar 2024 23:24 Operator: SC
Sample : ICAL R09031824 50ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

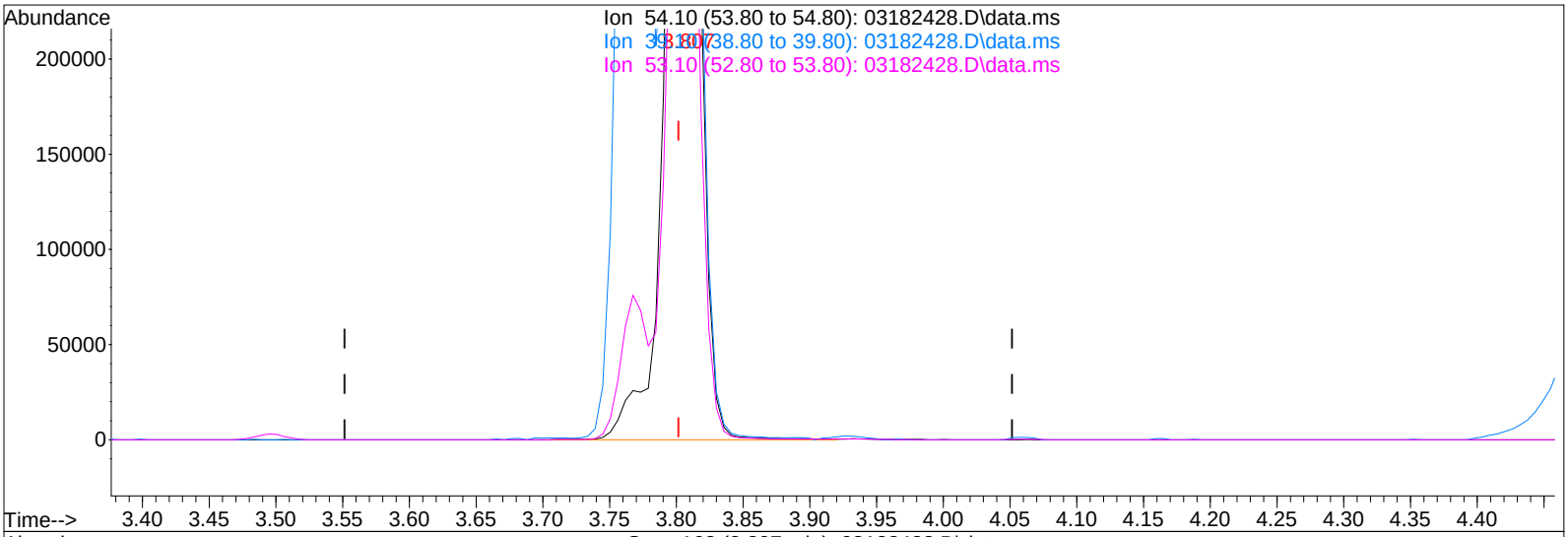
Quant Time: Mar 19 08:50:40 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

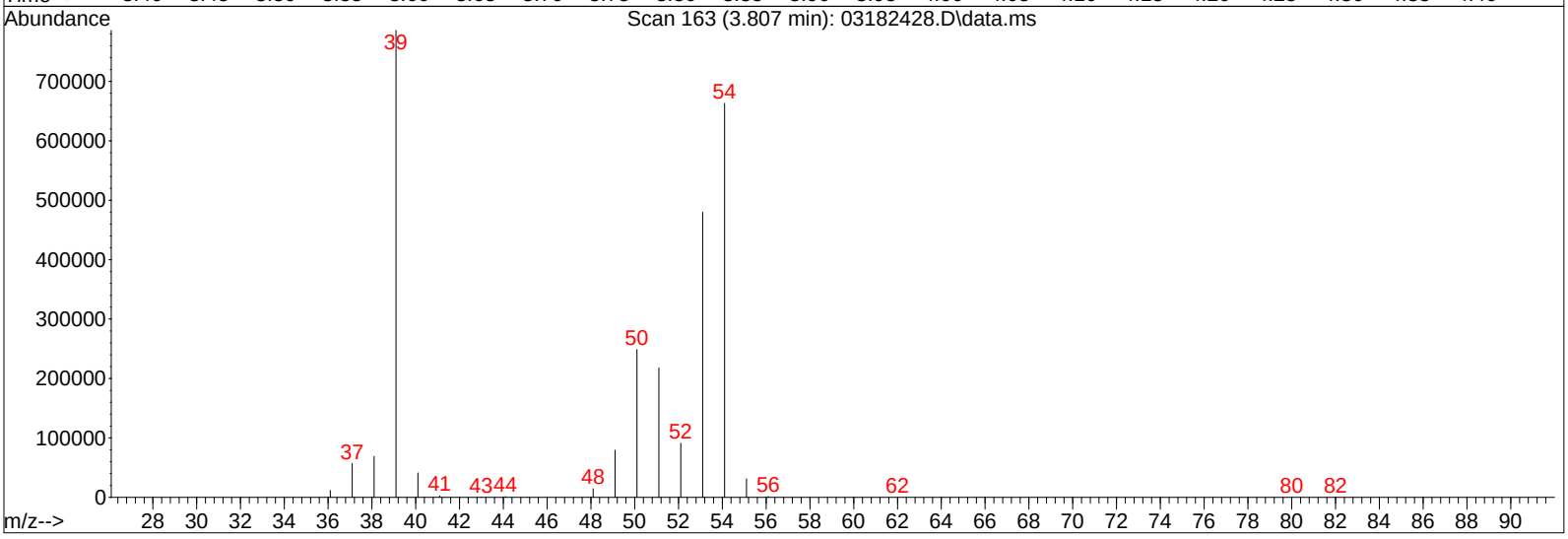


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182428.D Vial: 15
Acq On : 18 Mar 2024 23:24 Operator: SC
Sample : ICAL R09031824 50ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:50:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182428.D\data.ms

(7) 1,3-Butadiene (T)

3.807min (+0.006) 62.64ng

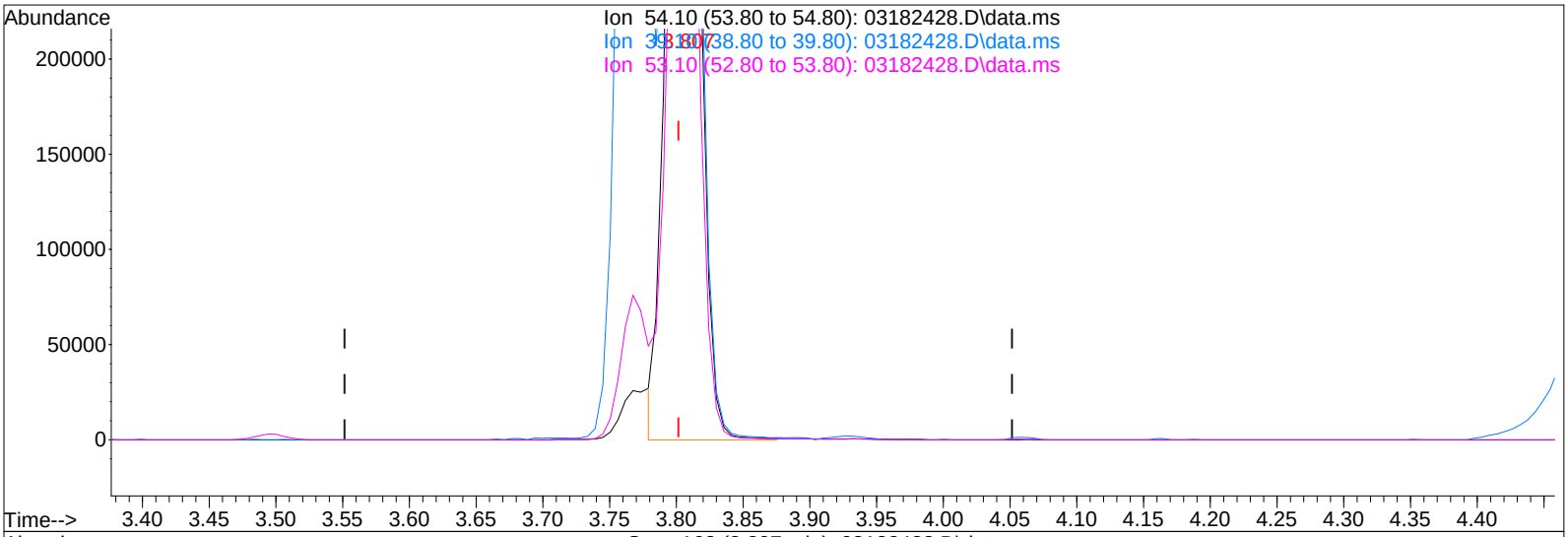
response 984226

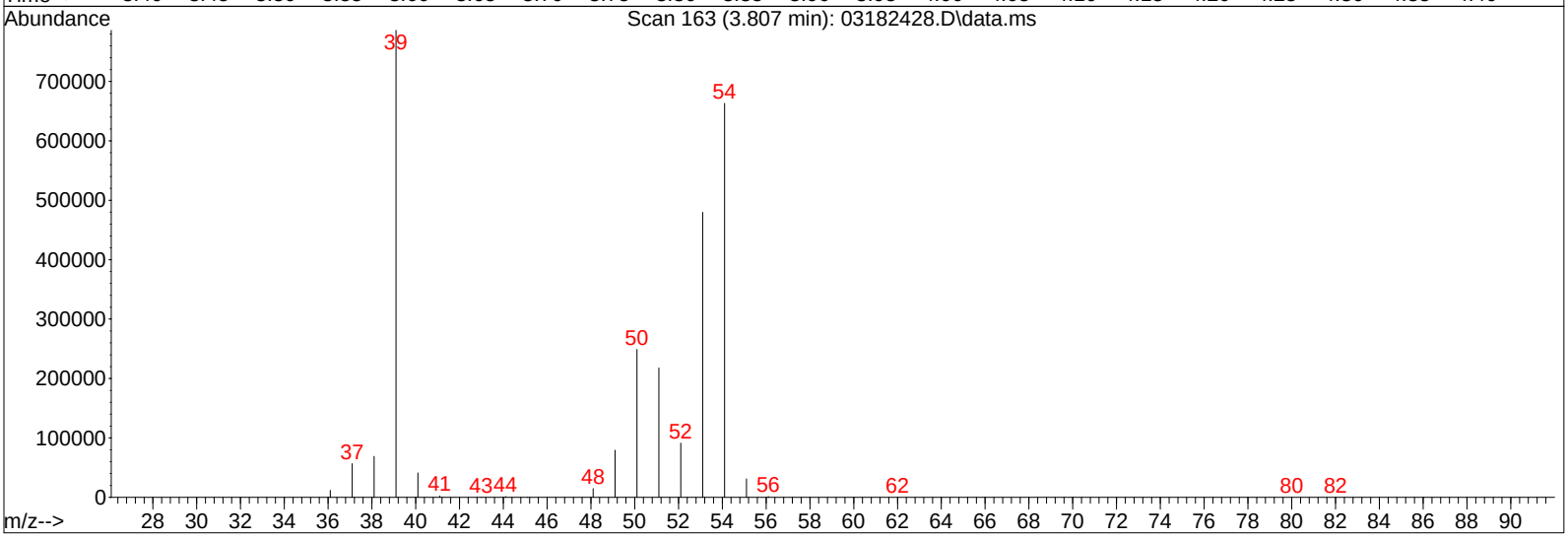
Ion	Exp%	Act%
54.10	100	100
39.10	115.10	113.79
53.10	67.90	69.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182428.D Vial: 15
Acq On : 18 Mar 2024 23:24 Operator: SC
Sample : ICAL R09031824 50ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:50:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182428.D\data.ms

IPC

3/19/24

(7) 1,3-Butadiene (T)

3.807min (+0.006) 60.05ng m

response 943599

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	118.68
53.10	67.90	72.80
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182429.D Vial: 15
Acq On : 18 Mar 2024 23:57 Operator: SC
Sample : ICAL R09031824 100ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:52:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	162165	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.35	114	698393	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.86	54	158570	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.06	65	325694	12.618	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.96%				
57) Toluene-d8 (SS2)	12.46	98	790135	13.119	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
73) Bromofluorobenzene (SS3)	16.84	174	275874	12.225	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	2038590	96.627	ng		100
3) Dichlorodifluoromethan...	3.36	85	3028581	101.581	ng		99
4) Chloromethane	3.50	50	2232899	86.190	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1458169	107.448	ng		99
6) Vinyl Chloride	3.69	62	2237157	113.648	ng		100
7) 1,3-Butadiene	3.81	54	1880557m	117.867	ng		
8) Bromomethane	4.02	94	1313470	126.482	ng		100
9) Chloroethane	4.16	64	1091763	115.713	ng		100
10) Ethanol	4.41	45	7191842	401.879	ng		99
11) Acetonitrile	4.51	41	3997324	89.441	ng		95
12) Acrolein	4.58	56	2417706	201.351	ng		100
13) Acetone	4.69	58	5582787	456.813	ng		91
14) Trichlorofluoromethane	4.77	101	3065713	103.228	ng		100
15) 2-Propanol (Isopropanol)	4.95	45	7518704	135.210	ng		100
16) Acrylonitrile	5.07	53	4560423	187.372	ng		100
17) 1,1-Dichloroethene	5.28	96	1242504	94.175	ng		99
18) 2-Methyl-2-Propanol (t...	5.41	59	5062198	314.368	ng	#	43
19) Methylene Chloride	5.41	84	1371630	86.204	ng		99
20) 3-Chloro-1-propene (Al...	5.49	41	2812412	94.033	ng		96
21) Trichlorotrifluoroethane	5.60	151	1187365	90.410	ng		100
22) Carbon Disulfide	5.62	76	10716837	220.758	ng		99
23) trans-1,2-Dichloroethene	6.19	61	2482547	107.286	ng		99
24) 1,1-Dichloroethane	6.37	63	2836991	108.797	ng		100
25) Methyl tert-Butyl Ether	6.40	73	4117264	267.057	ng		99
26) Vinyl Acetate	6.50	86	1649352	645.643	ng	#	83
27) 2-Butanone (MEK)	6.73	72	2017962	228.865	ng	#	92
28) cis-1,2-Dichloroethene	7.14	61	2310163	104.356	ng		100
29) Diisopropyl Ether	7.32	87	2413068	233.564	ng	#	86
30) Ethyl Acetate	7.34	61	1212019	208.121	ng		98
31) n-Hexane	7.32	57	2573904	103.971	ng		99
32) Chloroform	7.43	83	2880249	110.188	ng		100
34) Tetrahydrofuran (THF)	7.79	72	1716560	200.613	ng		98
35) Ethyl tert-Butyl Ether	7.86	87	2759746	506.507	ng		98
36) 1,2-Dichloroethane	8.17	62	2533058	102.974	ng		100
38) 1,1,1-Trichloroethane	8.44	97	2764478	110.642	ng		100
39) Isopropyl Acetate	9.64	61	3835	No Calib		#	
40) 1-Butanol	8.85	56	7333	No Calib			
41) Benzene	8.94	78	5913190	93.585	ng		99
42) Carbon Tetrachloride	9.11	117	2505524	112.829	ng		100
43) Cyclohexane	9.25	84	4135826	230.285	ng		99
44) tert-Amyl Methyl Ether	9.63	73	6771616	518.992	ng		100
45) 1,2-Dichloropropane	9.90	63	1599123	115.932	ng		100
46) Bromodichloromethane	10.13	83	2374876	113.660	ng		100
47) Trichloroethene	10.19	130	1605962	103.620	ng		100
48) 1,4-Dioxane	10.16	88	1249434	108.771	ng		99
49) 2,2,4-Trimethylpentane...	10.27	57	6469693	108.079	ng		100
50) Methyl Methacrylate	10.45	100	1209314	236.204	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182429.D Vial: 15
Acq On : 18 Mar 2024 23:57 Operator: SC
Sample : ICAL R09031824 100ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:52:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

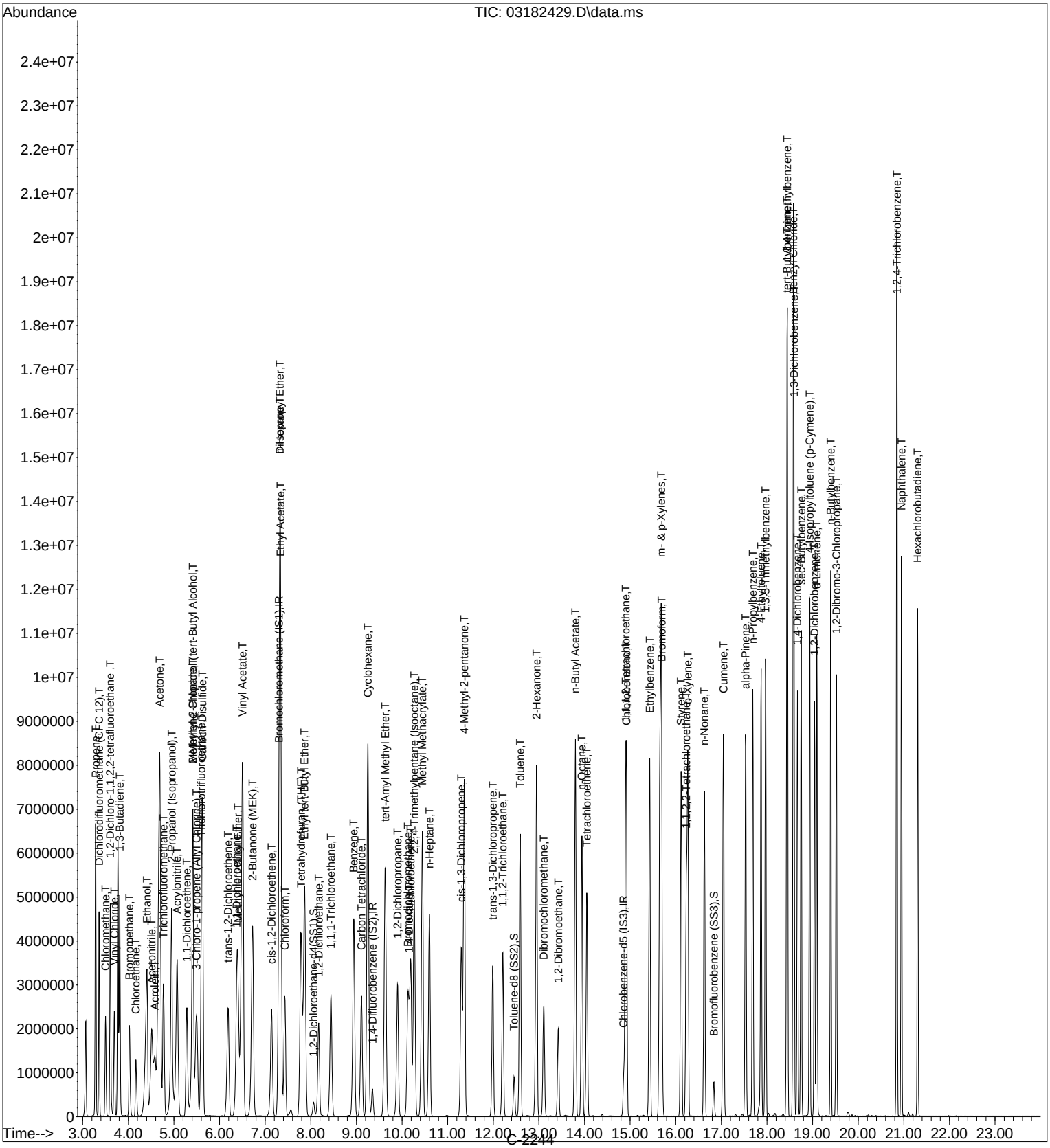
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.60	71	1431765	119.535	ng		100
52) cis-1,3-Dichloropropene	11.30	75	2870201	120.226	ng		100
53) 4-Methyl-2-pentanone	11.36	58	3032921	219.610	ng		95
54) trans-1,3-Dichloropropene	11.99	75	2431606	116.042	ng		99
55) 1,1,2-Trichloroethane	12.21	97	1545027	115.411	ng		99
58) Toluene	12.59	91	6101352	110.025	ng		99
59) 2-Hexanone	12.95	43	7650412	179.879	ng		98
60) Dibromochloromethane	13.11	129	1941857	111.622	ng		100
61) 1,2-Dibromoethane	13.43	107	1794441	114.646	ng		100
62) n-Butyl Acetate	13.80	43	8504043	181.749	ng		97
63) n-Octane	13.94	57	1383614	112.051	ng		99
64) Tetrachloroethene	14.05	166	1876273	106.738	ng		99
65) Chlorobenzene	14.92	112	4108754	112.623	ng		99
66) Ethylbenzene	15.43	91	7200224	113.929	ng		99
67) m- & p-Xylenes	15.68	91	11825837	225.752	ng		99
68) Bromoform	15.69	173	1816344	115.660	ng		99
69) Styrene	16.12	104	4420327	116.032	ng		98
70) o-Xylene	16.27	91	5879626	114.423	ng		99
71) n-Nonane	16.63	43	3346949	89.631	ng		98
72) 1,1,2,2-Tetrachloroethane	16.23	83	2797276	116.551	ng		100
74) Cumene	17.05	105	6740452	106.675	ng		99
75) alpha-Pinene	17.53	93	3746821	123.841	ng		99
76) n-Propylbenzene	17.69	91	8092580	103.977	ng		98
77) 3-Ethyltoluene	17.05	105	6740452	No Calib			
78) 4-Ethyltoluene	17.87	105	6673411	105.617	ng		100
79) 1,3,5-Trimethylbenzene	17.97	105	5994340	111.246	ng		99
80) alpha-Methylstyrene	17.05	118	11289	No Calib		#	
81) 2-Ethyltoluene	17.05	105	6740452	No Calib			
82) 1,2,4-Trimethylbenzene	18.45	105	5995723	105.310	ng		99
83) n-Decane	17.04	58	57163	No Calib			
84) Benzyl Chloride	18.58	91	10608719	243.488	ng		96
85) 1,3-Dichlorobenzene	18.59	146	3588578	100.966	ng		99
86) 1,4-Dichlorobenzene	18.67	146	3629407	102.214	ng		100
87) sec-Butylbenzene	18.75	105	7346319	101.606	ng		97
88) 4-Isopropyltoluene (p-...	18.94	119	6300534	98.695	ng		97
89) 1,2,3-Trimethylbenzene	17.05	105	6740452	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	3484246	101.286	ng		100
91) d-Limonene	19.09	68	2320134	116.968	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.52	157	2603927	210.976	ng		98
93) n-Undecane	17.87	58	108879	No Calib			
94) 1,2,4-Trichlorobenzene	20.85	180	5681555	190.891	ng		99
95) Naphthalene	20.95	128	7872757	103.598	ng		97
96) n-Dodecane	18.93	58	167255	No Calib		#	
97) Hexachlorobutadiene	21.30	225	1998151	92.920	ng		99
98) Cyclohexanone	15.44	55	27674	No Calib		#	
99) tert-Butylbenzene	18.44	119	5334676	101.933	ng		98
100) n-Butylbenzene	19.40	91	6084099	98.905	ng		98
101) 1,1,1,2-Tetrachloroethane	14.90	131	1577371	114.509	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182429.D Vial: 15
Acq On : 18 Mar 2024 23:57 Operator: SC
Sample : ICAL R09031824 100ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

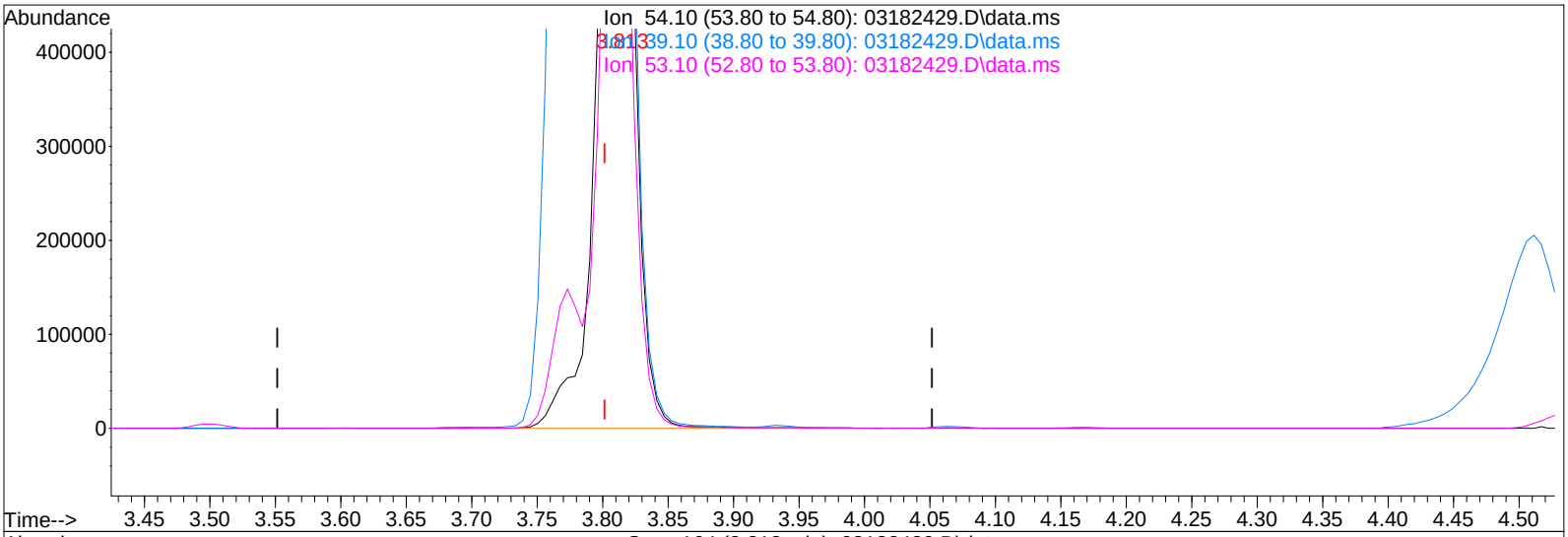
Quant Time: Mar 19 08:52:21 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

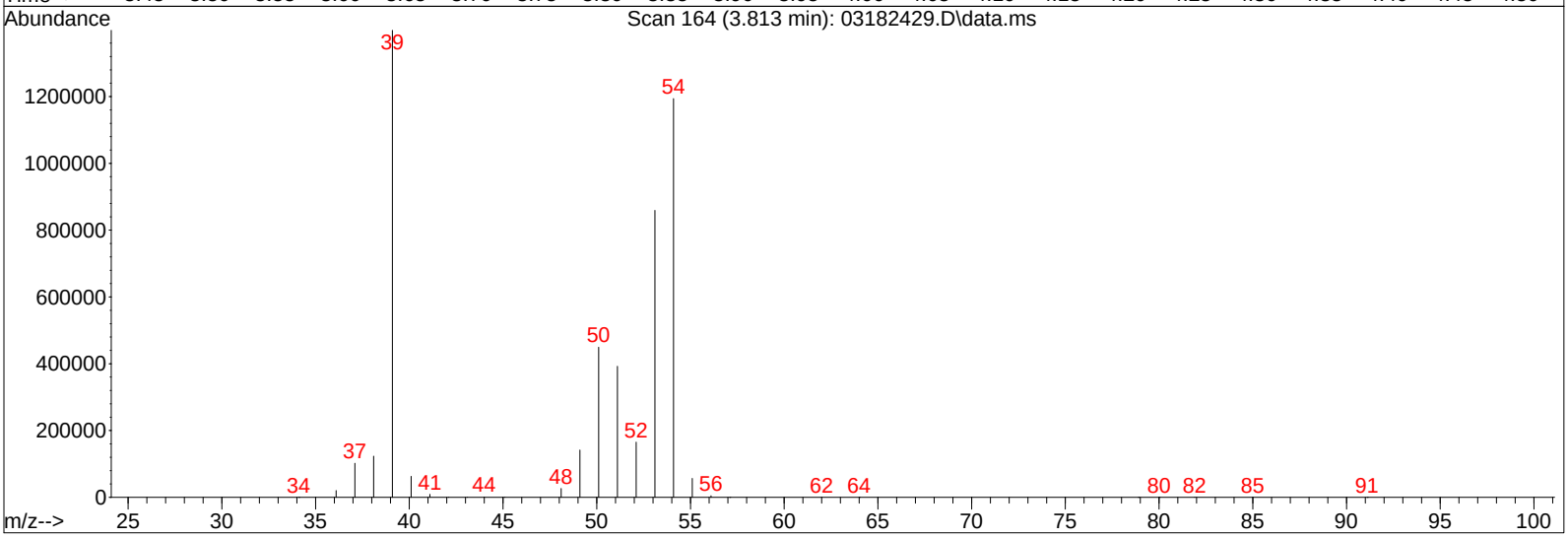


Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182429.D Vial: 15
Acq On : 18 Mar 2024 23:57 Operator: SC
Sample : ICAL R09031824 100ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:52:02 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182429.D\data.ms

(7) 1,3-Butadiene (T)

3.813min (+0.011) 122.45ng

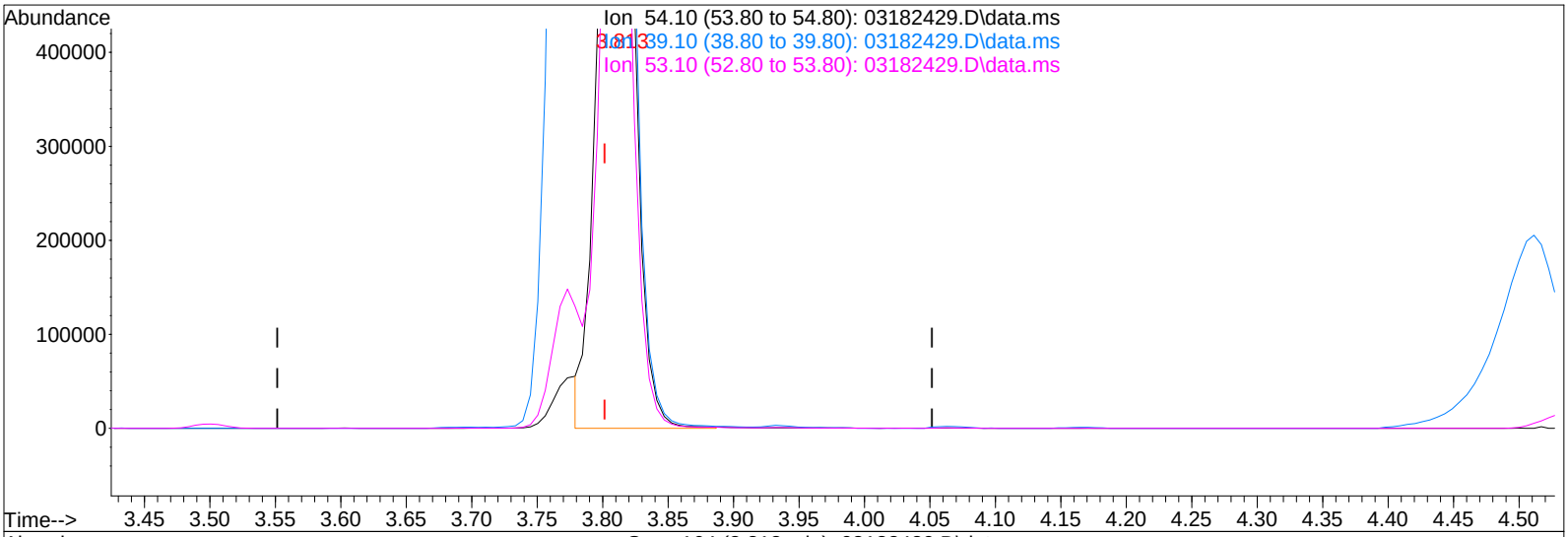
response 1953642

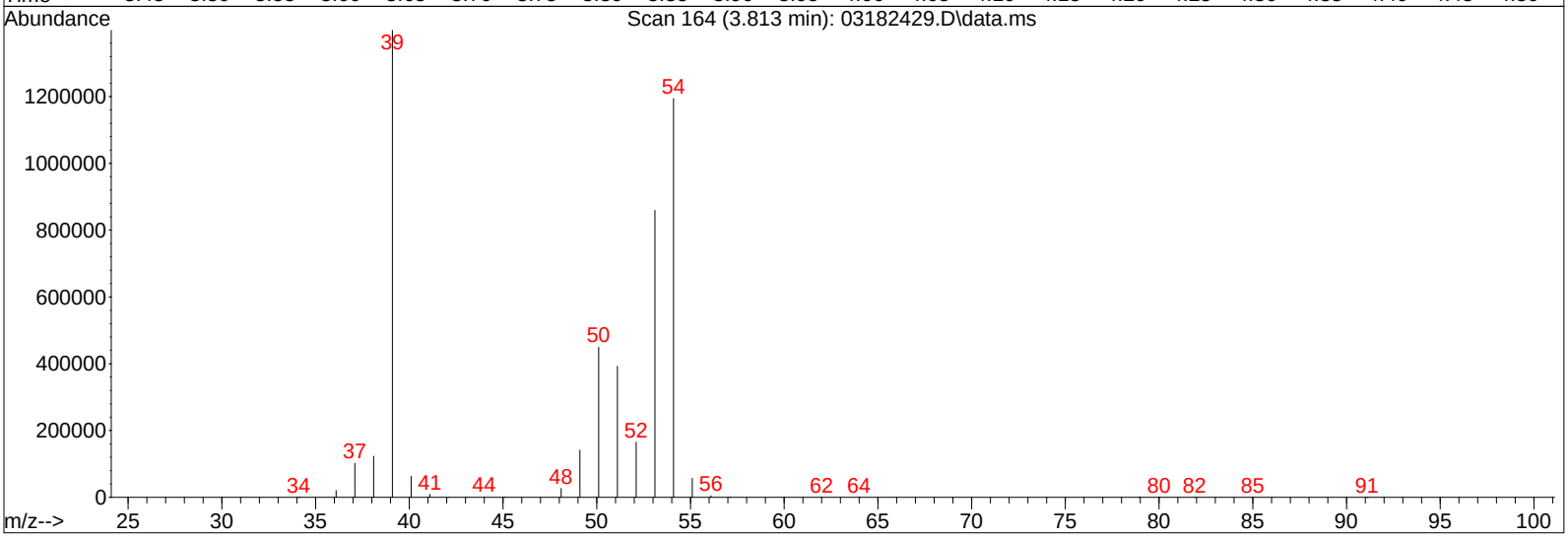
Ion	Exp%	Act%
54.10	100	100
39.10	115.10	109.80
53.10	67.90	68.92
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182429.D Vial: 15
Acq On : 18 Mar 2024 23:57 Operator: SC
Sample : ICAL R09031824 100ng Inst : MS09
Misc : S37-02202408/S37-03182401 (4/17)

Quant Time: Mar 19 08:52:02 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 08:37:42 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 03182429.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.813min (+0.011) 117.87ng m

response 1880557

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	114.06
53.10	67.90	71.60
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182432.D Vial: 2
Acq On : 19 Mar 2024 1:33 Operator: SC
Sample : ICV R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 09:04:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	169999	12.500	ng	-0.02
37) 1,4-Difluorobenzene (IS2)	9.33	114	725992	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	157623	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.04	65	336360	12.094	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.72%			
57) Toluene-d8 (SS2)	12.44	98	819024	12.941	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.52%			
73) Bromofluorobenzene (SS3)	16.83	174	282563	12.664	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%			
Target Compounds						Qvalue
2) Propene	3.28	42	459677	23.743	ng	99
3) Dichlorodifluoromethan...	3.36	85	832351	23.872	ng	100
4) Chloromethane	3.49	50	655393	25.280	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	396347	25.851	ng	100
6) Vinyl Chloride	3.69	62	598480	24.711	ng	100
7) 1,3-Butadiene	3.80	54	456729m	24.054	ng	
8) Bromomethane	4.02	94	361898	25.543	ng	100
9) Chloroethane	4.16	64	271716	25.572	ng	100
10) Ethanol	4.36	45	1982087	120.651	ng	100
11) Acetonitrile	4.48	41	870221	23.081	ng	100
12) Acrolein	4.56	56	624169	53.016	ng	99
13) Acetone	4.66	58	1574878	125.963	ng	96
14) Trichlorofluoromethane	4.76	101	811053	24.032	ng	100
15) 2-Propanol (Isopropanol)	4.90	45	2482324	49.859	ng	99
16) Acrylonitrile	5.04	53	1219872	50.385	ng	100
17) 1,1-Dichloroethene	5.27	96	390740	26.563	ng	98
18) 2-Methyl-2-Propanol (t...	5.37	59	1418100	47.678	ng	98
19) Methylene Chloride	5.39	84	413204	22.725	ng	98
20) 3-Chloro-1-propene (Al...	5.47	41	715454	26.580	ng	99
21) Trichlorotrifluoroethane	5.59	151	364788	25.643	ng	98
22) Carbon Disulfide	5.61	76	3041592	53.696	ng	100
23) trans-1,2-Dichloroethene	6.17	61	670639	26.765	ng	100
24) 1,1-Dichloroethane	6.36	63	786914	26.502	ng	100
25) Methyl tert-Butyl Ether	6.39	73	872701	28.792	ng	100
26) Vinyl Acetate	6.48	86	429566	154.438	ng	98
27) 2-Butanone (MEK)	6.70	72	532151	52.063	ng	97
28) cis-1,2-Dichloroethene	7.12	61	630962	26.029	ng	100
29) Diisopropyl Ether	7.31	87	637510	53.157	ng	98
30) Ethyl Acetate	7.31	61	322676	52.605	ng	99
31) n-Hexane	7.32	57	715865	27.076	ng	100
32) Chloroform	7.40	83	781582	26.524	ng	100
34) Tetrahydrofuran (THF)	7.77	72	478413	51.681	ng	99
35) Ethyl tert-Butyl Ether	7.84	87	640268	56.284	ng	100
36) 1,2-Dichloroethane	8.15	62	667098	24.237	ng	100
38) 1,1,1-Trichloroethane	8.42	97	733341	25.446	ng	100
39) Isopropyl Acetate	9.61	61	812	No Calib	#	
40) 1-Butanol	8.82	56	5821	No Calib	#	
41) Benzene	8.92	78	1607510	24.604	ng	100
42) Carbon Tetrachloride	9.09	117	662771	25.800	ng	100
43) Cyclohexane	9.24	84	1136743	55.002	ng	100
44) tert-Amyl Methyl Ether	9.62	73	1598503	55.080	ng	99
45) 1,2-Dichloropropane	9.88	63	421161	26.484	ng	99
46) Bromodichloromethane	10.10	83	644596	26.758	ng	100
47) Trichloroethene	10.17	130	429287	24.382	ng	100
48) 1,4-Dioxane	10.13	88	325553	28.546	ng	100
49) 2,2,4-Trimethylpentane...	10.25	57	1760131	26.968	ng	99
50) Methyl Methacrylate	10.43	100	315925	58.974	ng	99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182432.D Vial: 2
Acq On : 19 Mar 2024 1:33 Operator: SC
Sample : ICV R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 09:04:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

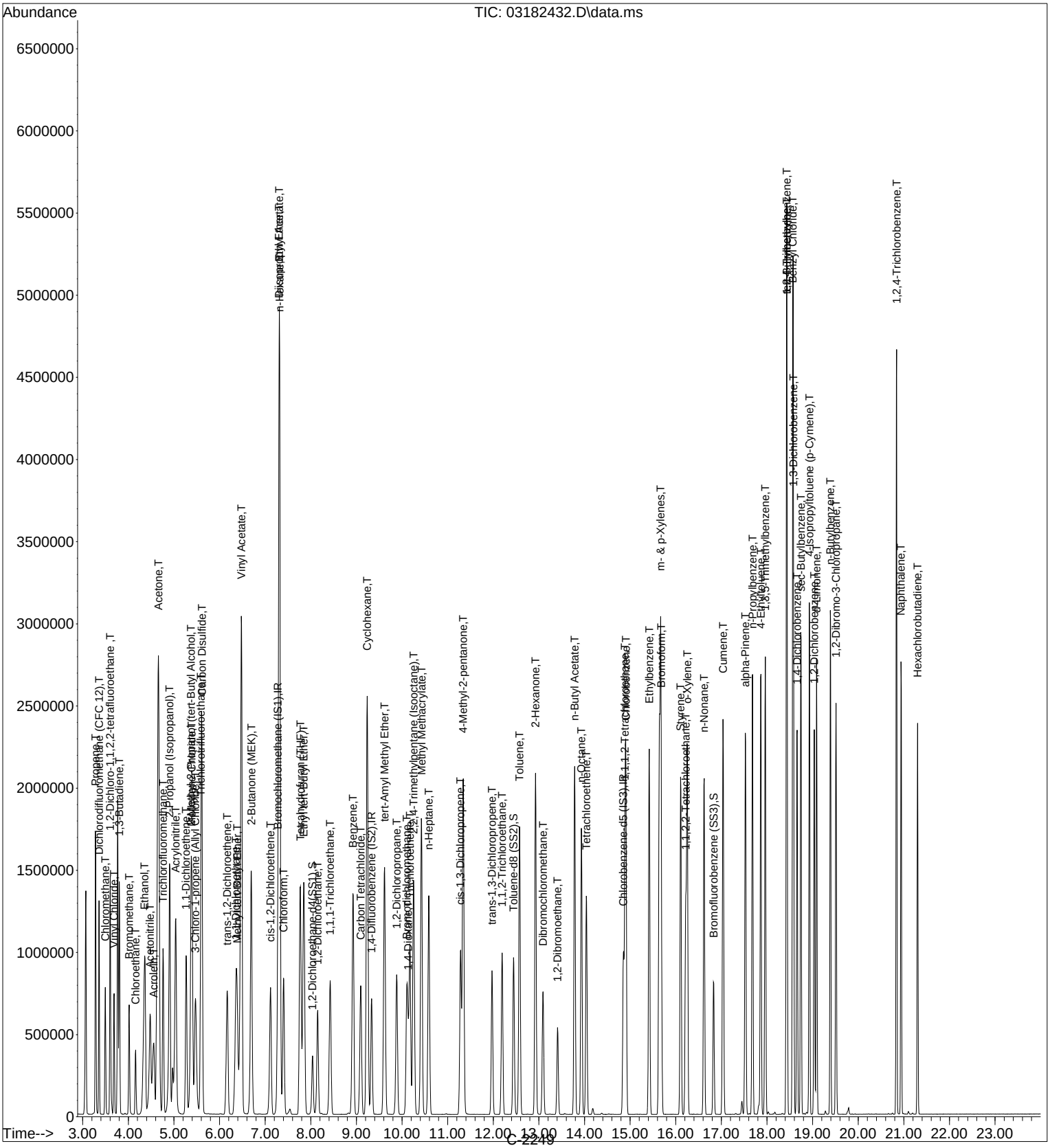
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	387517	27.742	ng		100
52) cis-1,3-Dichloropropene	11.28	75	742618	28.017	ng		100
53) 4-Methyl-2-pentanone	11.34	58	754651	53.870	ng		99
54) trans-1,3-Dichloropropene	11.97	75	613377	26.929	ng		99
55) 1,1,2-Trichloroethane	12.19	97	401971	27.044	ng		100
58) Toluene	12.57	91	1627644	26.945	ng		99
59) 2-Hexanone	12.93	43	1846335	52.603	ng		99
60) Dibromochloromethane	13.09	129	525605	27.009	ng		99
61) 1,2-Dibromoethane	13.41	107	460318	27.146	ng		100
62) n-Butyl Acetate	13.78	43	2000576	51.495	ng		99
63) n-Octane	13.93	57	368457	28.881	ng		100
64) Tetrachloroethene	14.04	166	489988	26.388	ng		100
65) Chlorobenzene	14.91	112	1078855	26.494	ng		100
66) Ethylbenzene	15.42	91	1921412	27.808	ng		100
67) m- & p-Xylenes	15.67	91	3142903	54.773	ng		100
68) Bromoform	15.68	173	481204	29.247	ng		99
69) Styrene	16.11	104	1138310	28.971	ng		100
70) o-Xylene	16.25	91	1552339	27.437	ng		100
71) n-Nonane	16.62	43	910581	27.935	ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	705449	26.368	ng		100
74) Cumene	17.04	105	1841232	26.571	ng		100
75) alpha-Pinene	17.53	93	1001662	29.278	ng		100
76) n-Propylbenzene	17.68	91	2230388	26.544	ng		100
77) 3-Ethyltoluene	17.04	105	1841232	No Calib			
78) 4-Ethyltoluene	17.87	105	1808345	27.012	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1559899	26.896	ng		100
80) alpha-Methylstyrene	17.04	118	3208	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1841232	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1577297	26.136	ng		100
83) n-Decane	17.04	58	14704	No Calib			
84) Benzyl Chloride	18.56	91	2773803	46.693	ng		100
85) 1,3-Dichlorobenzene	18.58	146	927262	24.872	ng		100
86) 1,4-Dichlorobenzene	18.66	146	914363	24.935	ng		100
87) sec-Butylbenzene	18.75	105	1956386	25.253	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1651206	24.835	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1841232	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	882008	24.630	ng		100
91) d-Limonene	19.09	68	580112	27.454	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	610898	49.374	ng		98
93) n-Undecane	17.86	58	28816	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1240548	47.335	ng		100
95) Naphthalene	20.94	128	1730694	19.462	ng		100
96) n-Dodecane	18.93	58	55033	No Calib		#	
97) Hexachlorobutadiene	21.30	225	409834	19.129	ng		100
98) Cyclohexanone	15.42	55	500	No Calib		#	
99) tert-Butylbenzene	18.43	119	1456453	25.694	ng		100
100) n-Butylbenzene	19.39	91	1552280	24.279	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	426663	29.010	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\18\03182432.D Vial: 2
Acq On : 19 Mar 2024 1:33 Operator: SC
Sample : ICV R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

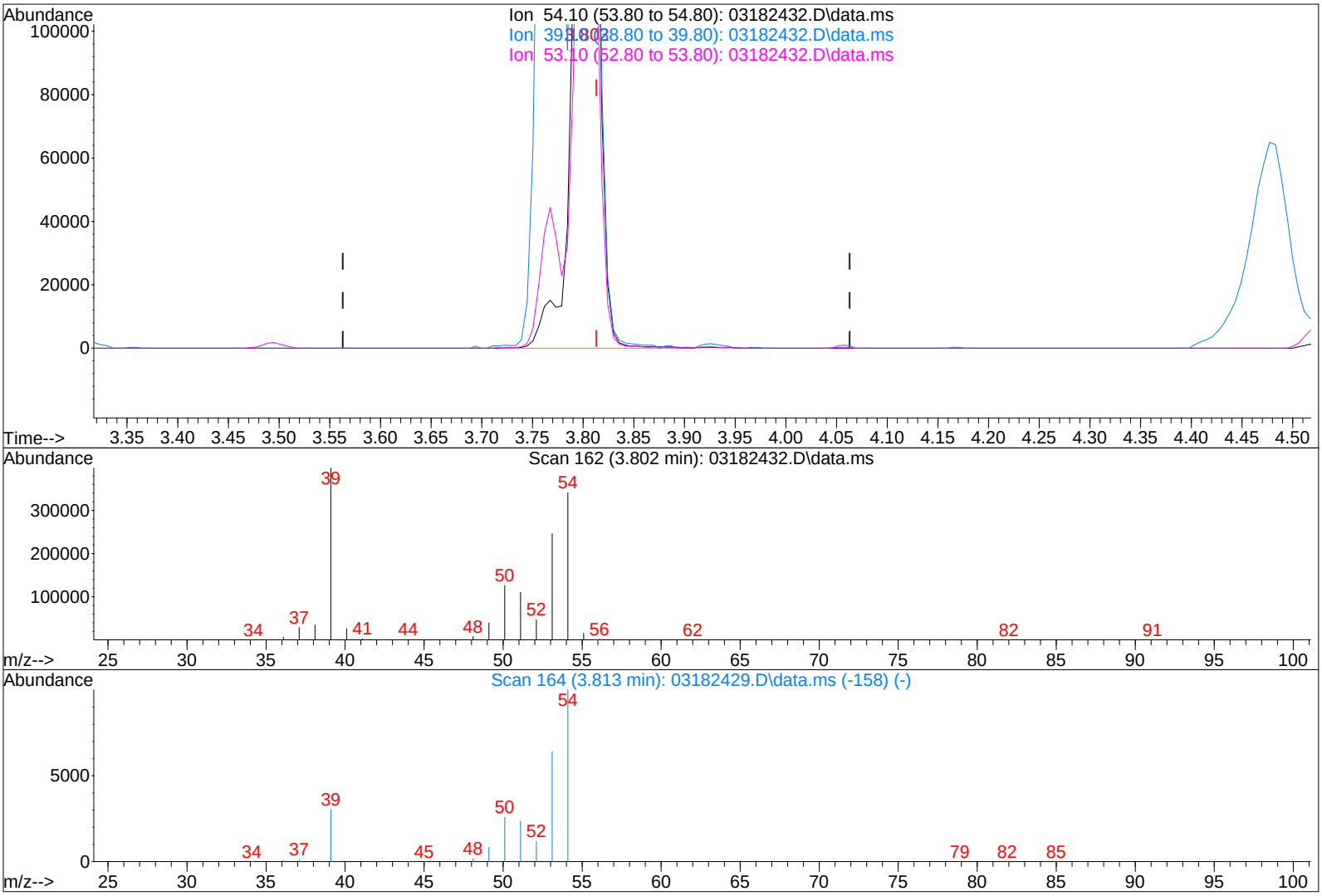
Quant Time: Mar 19 09:04:43 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182432.D Vial: 2
Acq On : 19 Mar 2024 1:33 Operator: SC
Sample : ICV R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 09:04:14 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03182432.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (-0.011) 25.25ng

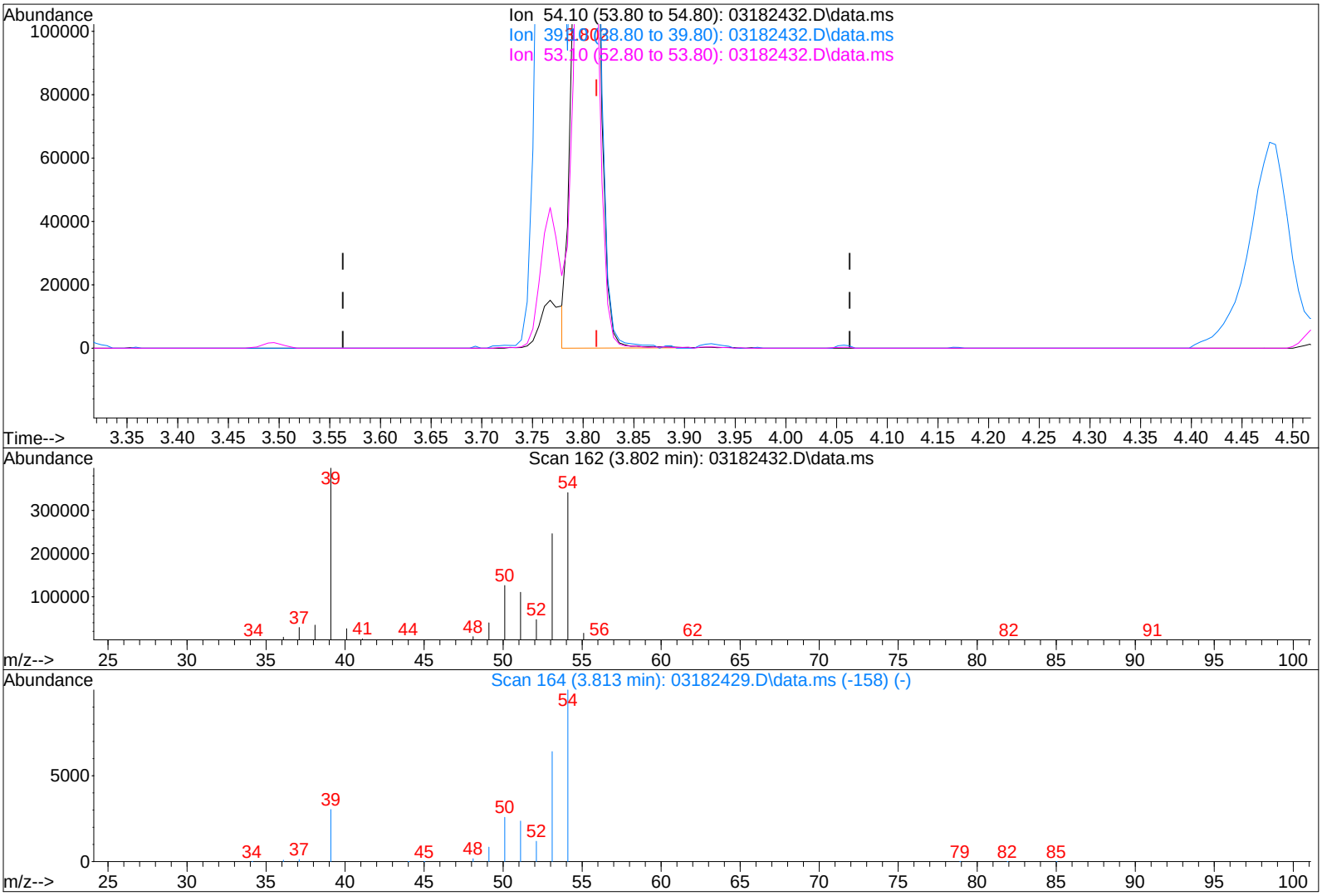
response 479477

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	107.93
53.10	67.90	69.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\18\03182432.D Vial: 2
Acq On : 19 Mar 2024 1:33 Operator: SC
Sample : ICV R09031824 25ng Inst : MS09
Misc : S37-02202408/S37-03152406 (4/14)

Quant Time: Mar 19 09:04:14 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03182432.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.802min (-0.011) 24.05ng m

response 456729

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	113.31
53.10	67.90	72.44
0.00	0.00	0.00

ALS Environmental

LCS Acceptance Criteria

3/19/24

ICV R09031824_25ng

	RT
Bromochloromethane (IS1)	7.28
1,4-Difluorobenzene (IS2)	9.33
Chlorobenzene-d5 (IS3)	14.85

Datafile: 03182432.D
Instrument: MS-09
Date: 3/19/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	23.743	26.5	90	50-133	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	23.872	25.5	94	66-122	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	25.280	26.0	97	56-131	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	25.851	26.0	99	63-120	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	24.711	26.5	93	57-129	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	24.054	26.5	91	62-132	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	25.543	26.3	97	72-120	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	25.572	26.5	96	67-123	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	120.651	139	87	52-120	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	23.081	26.8	86	50-114	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	53.016	53.3	99	63-125	ok	70-130	ok	62-126	ok
67-64-1	Acetone	125.963	132	95	61-120	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	24.032	26.3	91	65-122	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	49.859	52.3	95	59-132	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	50.385	53.0	95	60-128	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	26.563	26.0	102	75-120	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	47.678	51.3	93	60-143	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	22.725	26.0	87	71-123	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	26.580	26.8	99	50-118	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	25.643	26.3	98	65-121	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	53.696	53.8	100	69-115	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	26.765	27.3	98	67-123	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	26.502	27.0	98	66-120	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	28.792	27.0	107	65-124	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	154.438	137	113	76-147	ok	70-130	ok	56-139	ok
78-93-3	2-Butanone	52.063	51.8	101	70-125	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	26.029	27.0	96	64-120	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	53.157	53.3	100	64-120	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	52.605	49.8	106	56-120	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	27.076	26.5	102	60-125	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	26.524	27.0	98	64-121	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	51.681	50.5	102	67-117	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	56.284	53.0	106	69-121	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.237	25.8	94	64-138	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	25.446	26.3	97	67-125	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	24.604	25.8	95	73-128	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	25.800	26.3	98	71-134	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	55.002	53.5	103	71-118	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	55.080	53.0	104	70-126	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	26.484	26.8	99	68-121	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	26.758	27.3	98	70-125	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	24.382	26.8	91	68-124	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	28.546	26.8	107	76-127	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	26.968	26.8	101	62-124	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	58.974	53.5	110	77-118	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	27.742	26.8	104	72-121	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	28.017	26.5	106	87-137	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	53.870	53.3	101	67-137	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

ICV R09031824_25ng

	RT
Bromochloromethane (IS1)	7.28
1,4-Difluorobenzene (IS2)	9.33
Chlorobenzene-d5 (IS3)	14.85

Datafile: 03182432.D
Instrument: MS-09
Date: 3/19/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	26.929	24.5	110	73-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	27.044	27.0	100	71-119	ok	70-130	ok	73-119	ok
108-88-3	Toluene	26.945	26.8	101	64-121	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	52.603	53.3	99	70-136	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	27.009	26.8	101	67-128	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	27.146	25.8	105	69-129	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	51.495	53.3	97	70-135	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	28.881	26.8	108	66-124	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	26.388	26.8	98	55-132	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	26.494	27.3	97	63-124	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	27.808	27.3	102	64-119	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	54.773	54.0	101	64-121	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	29.247	27.3	107	63-132	ok	70-130	ok	66-139	ok
100-42-5	Styrene	28.971	26.8	108	71-125	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	27.437	27.0	102	66-122	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	27.935	26.8	104	65-129	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	26.368	27.0	98	71-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	26.571	26.5	100	66-126	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	29.278	27.0	108	65-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	26.544	26.8	99	67-126	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	27.012	27.3	99	67-128	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	26.896	27.3	99	66-125	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	26.136	26.5	99	67-130	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	46.693	53.8	87	58-151	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	24.872	26.8	93	57-135	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	24.935	26.8	93	56-129	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	25.253	26.5	95	64-132	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	24.835	26.3	94	65-125	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	24.630	26.5	93	57-138	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	27.454	26.0	106	70-129	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	49.374	53.3	93	63-138	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	47.335	55.0	86	50-137	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	19.462	27.5	71	50-157	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	19.129	26.8	71	50-133	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	25.694	26.8	96	63-130	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	24.279	26.3	92	69-133	ok	70-130	ok	66-130	ok

Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : C9020824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:38:15 2024
Response Via : Initial Calibration

2/12/24

Calibration Files
0.40=02082418.D 1.0 =02082419.D 2.5 =02082420.D 5.0 =02082421.D 25 =02082422.D 50 =02082

	Compound	0.40	1.0	2.5	5.0	25	50	100	Avg	%RSD
1) IR	Bromochloromethane...	----------ISTD----------								
2) T	Chloropentaflu...	1.482	1.398	1.364	1.396	1.321	1.198	1.112	1.324	9.66
3) T	1,1,1,2-Tetraf...	1.270	1.184	1.159	1.178	1.131	1.082	1.046	1.150	6.36
4) T	1,1-Difluoroet...	1.024	0.977	0.965	0.979	0.951	0.899	0.832	0.947	6.63
5) T	Chlorodifluoro...	0.396	0.382	0.368	0.373	0.362	0.348	0.341	0.367	5.24
6) T	1-Chloro-1,1-D...	2.595	2.490	2.454	2.497	2.419	2.297	2.230	2.426	5.14
7) T	Dichlorofluoro...	2.676	2.515	2.439	2.518	2.441	2.331	2.150	2.439	6.77
8) T	Vinylbromide	1.007	0.944	0.947	0.959	0.937	0.896	0.878	0.938	4.48
9) T	2,2-Dichloro-1...	1.650	1.554	1.531	1.554	1.518	1.461	1.445	1.531	4.44
10) T	2-Methylbutane	1.420	1.329	1.258	1.278	1.208	1.155	1.115	1.252	8.29
11) T	Methyl Acetate	3.472	3.380	3.315	3.344	3.108	2.994	2.920	3.219	6.56
12) T	2-Methylpentane	1.063	0.959	0.926	0.945	0.924	0.887	0.875	0.940	6.57
13) T	2,2-Dichloropr...	1.412	1.418	1.408	1.440	1.426	1.392	1.384	1.411	1.37
14) T	1,1-Dichloropr...	1.607	1.574	1.565	1.592	1.553	1.512	1.501	1.558	2.53
15) T	Thiophene	2.379	2.305	2.264	2.292	2.229	2.149	2.106	2.246	4.18
16) IR	1,4-Difluorobenzen...	----------ISTD----------								
17) T	2,3-Dimethylpe...	0.544	0.521	0.499	0.504	0.498	0.487	0.481	0.505	4.24
18) T	Dibromomethane	0.216	0.206	0.197	0.197	0.198	0.197	0.199	0.202	3.63
19) IR	Chlorobenzene-d5 (...	----------ISTD----------								
20) T	Methyl Cyclohe...	2.074	1.979	1.949	1.965	1.949	1.921	1.909	1.964	2.77
21) T	1,3-Dichloropr...	1.769	1.696	1.654	1.678	1.639	1.623	1.627	1.669	3.07
22) T	1,1,1,2-Tetrac...	1.068	0.967	0.979	1.002	1.006	1.000	1.009	1.004	3.18
23) T	1-Chlorohexane	1.702	1.586	1.577	1.606	1.596	1.577	1.569	1.602	2.87
24) T	1,2,3-Trichlor...	1.804	1.757	1.744	1.757	1.687	1.672	1.684	1.729	2.84
25) T	Bromobenzene	2.045	1.969	1.979	1.986	1.913	1.919	1.937	1.964	2.34
26) T	2-Chlorotoluene	4.045	3.799	3.744	3.769	3.703	3.633	3.568	3.751	4.05
27) T	4-Chlorotoluene	4.461	4.075	3.889	3.961	3.659	3.594	3.535	3.882	8.36
28) T	Indane	4.472	4.282	4.284	4.369	4.231	4.104	3.931	4.239	4.18
29) T	Indene	3.650	3.532	3.658	3.724	3.511	3.441	3.359	3.554	3.67
30) T	1,2,4,5-Tetram...	4.818	4.691	4.722	4.839	4.530	4.396	4.282	4.611	4.64
31) T	1,2,3,4-Tetram...	4.822	4.658	4.648	4.758	4.519	4.455	4.186	4.578	4.68
32) T	1,2,3,5-Tetram...	4.637	4.564	4.613	4.684	4.320	4.235	4.074	4.447	5.30
33) T	1,2,3-Trichlor...	1.827	1.826	1.835	1.894	1.726	1.738	1.736	1.797	3.58

(#) = Out of Range

C9020824.M Mon Feb 12 09:38:25 2024

2/12/24

Std#: **Working Standards**

(1) 200 ng/L Working Std. ID: S37-02012401

(2) 20 ng/L Working Std. ID: S37-02012402

Injection Amts.(L):	0.020	0.050	0.125	0.250	0.125	0.250	0.500
Standards Used:	(2)	(2)	(2)	(2)	(1)	(1)	(1)
Compounds/ Concentrations (ng):	0.4ng	1.0ng	2.5ng	5.0ng	25ng	50ng	100ng
Vinyl bromide	0.396	0.990	2.475	4.95	24.75	49.5	99
2-Methylbutane (Isopentane)	0.448	1.120	2.800	5.60	28.00	56.0	112
2-Methylpentane	0.396	0.990	2.475	4.95	24.75	49.5	99
2,2-Dichloropropane	0.304	0.760	1.900	3.80	19.00	38.0	76
1,1-Dichloropropene	0.412	1.030	2.575	5.15	25.75	51.5	103
Thiophene	0.404	1.010	2.525	5.05	25.25	50.5	101
2,3-Dimethylpentane	0.420	1.050	2.625	5.25	26.25	52.5	105
Dibromomethane	0.408	1.020	2.550	5.10	25.50	51.0	102
1,3-Dichloropropane	0.420	1.050	2.625	5.25	26.25	52.5	105
1,1,1,2-Tetrachloroethane	0.308	0.770	1.925	3.85	19.25	38.5	77
1-Chlorohexane	0.412	1.030	2.575	5.15	25.75	51.5	103
1,2,3-Trichloropropane	0.416	1.040	2.600	5.20	26.00	52.0	104
Bromobenzene	0.420	1.050	2.625	5.25	26.25	52.5	105
2-Chlorotoluene	0.436	1.090	2.725	5.45	27.25	54.5	109
4-Chlorotoluene	0.412	1.030	2.575	5.15	25.75	51.5	103
Indane	0.396	0.990	2.475	4.95	24.75	49.5	99
Indene	0.380	0.950	2.375	4.75	23.75	47.5	95
1,2,4,5-Tetramethylbenzene	0.408	1.020	2.550	5.10	25.50	51.0	102
1,2,3,4-Tetramethylbenzene	0.416	1.040	2.600	5.20	26.00	52.0	104
1,2,3,5-Tetramethylbenzene	0.408	1.020	2.550	5.10	25.50	51.0	102
1,2,3-Trichlorobenzene	0.404	1.010	2.525	5.05	25.25	50.5	101
Chloropentafluoroethane (R115)	0.424	1.060	2.650	5.30	26.50	53.0	106
2,2-Dichloro-1,1,1-trifluoroethane (R123)	0.432	1.080	2.700	5.40	27.00	54.0	108
1,1-Difluoroethane (R152a)	0.432	1.080	2.700	5.40	27.00	54.0	108
Chlorodifluoromethane (R22)	0.432	1.080	2.700	5.40	27.00	54.0	108
Dichlorofluoromethane (R21)	0.408	1.020	2.550	5.10	25.50	51.0	102
1,1,1,2-Tetrafluoroethane (R134a)	0.412	1.030	2.575	5.15	25.75	51.5	103
1-Chloro-1,1-Difluoroethane	0.424	1.060	2.650	5.30	26.50	53.0	106
Methyl Acetate	0.348	0.870	2.175	4.35	21.75	43.5	87
Methylcyclohexane	0.428	1.070	2.675	5.35	26.75	53.5	107
Chlorotrifluoroethene	0.404	1.010	2.525	5.05	25.25	50.5	101

Calibration Status Report MS09

Method : I:\MS09\METHODS\C9020824.M (RTE Integrator)
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.40	0	13	I:\MS09\DATA\2024_02\08\02082418.D
2	1.0	1	13	I:\MS09\DATA\2024_02\08\02082419.D
3	2.5	3	13	I:\MS09\DATA\2024_02\08\02082420.D
4	5.0	5	13	I:\MS09\DATA\2024_02\08\02082421.D
5	25	26	13	I:\MS09\DATA\2024_02\08\02082422.D
6	50	52	13	I:\MS09\DATA\2024_02\08\02082423.D
7	100	104	13	I:\MS09\DATA\2024_02\08\02082424.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.40	Feb 12 09:36 2024	Feb 12 09:33 2024	9 Feb 2024 00:01
2	1.0	Feb 12 09:37 2024	Feb 12 09:32 2024	9 Feb 2024 00:33
3	2.5	Feb 12 09:37 2024	Feb 12 09:31 2024	9 Feb 2024 1:05
4	5.0	Feb 12 09:37 2024	Feb 12 09:31 2024	9 Feb 2024 1:37
5	25	Feb 12 09:37 2024	Feb 12 09:30 2024	9 Feb 2024 2:09
6	50	Feb 12 09:38 2024	Feb 12 09:34 2024	9 Feb 2024 2:41
7	100	Feb 12 09:38 2024	Feb 12 09:35 2024	9 Feb 2024 3:12

C9020824.M Mon Feb 26 13:40:41 2024

2/26/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082418.D Vial: 13
Acq On : 9 Feb 2024 00:01 Operator: SC
Sample : 0.4ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:33:32 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/12/24

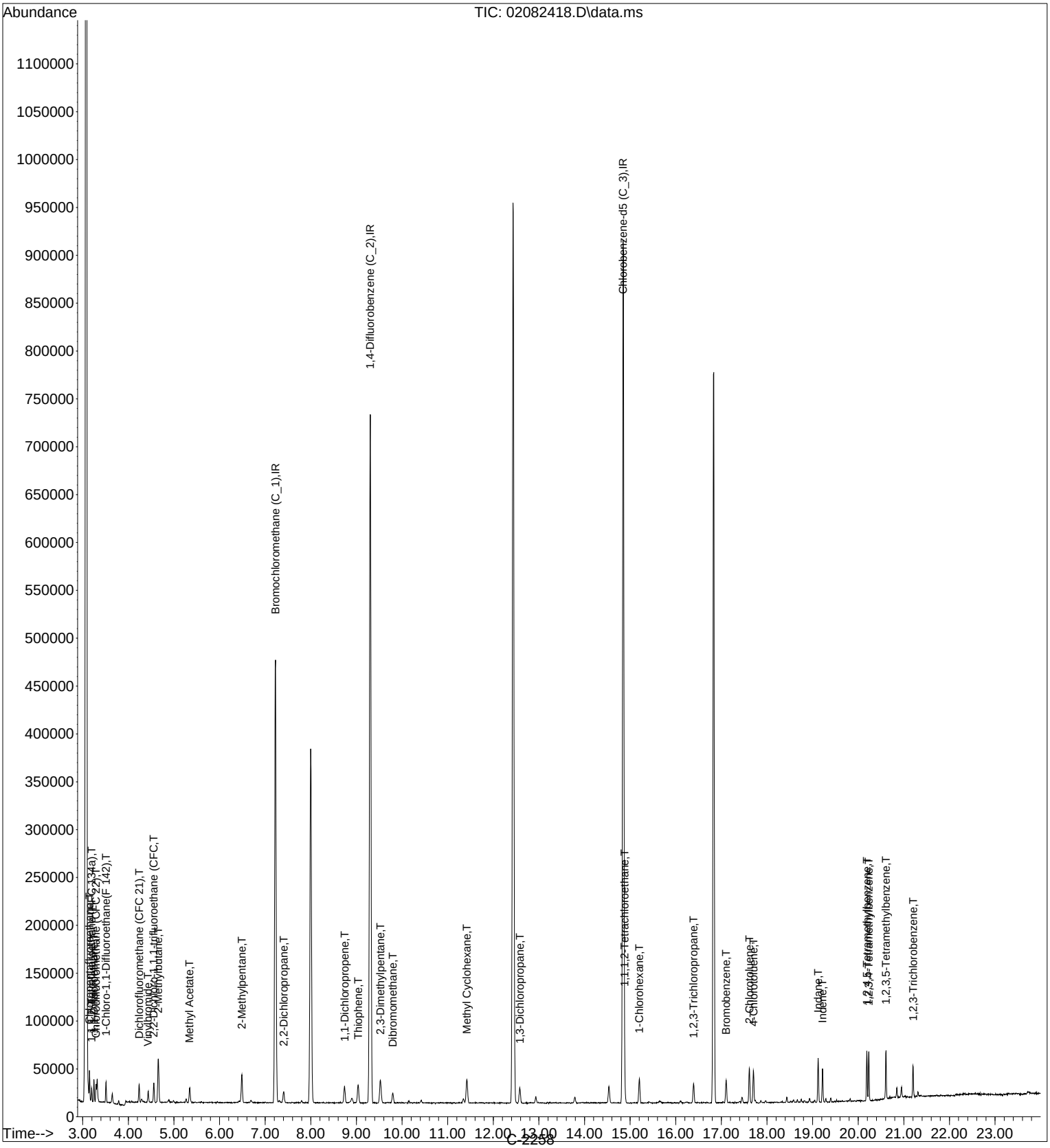
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	161631	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C 2)	9.30	114	701402	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	154828	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	7974	0.497	ng	97
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	6698	0.554	ng	98
4) 1,1-Difluoroethane	3.25	65	5616	0.532	ng	81
5) Chlorodifluoromethane ...	3.29	67	2173	0.612	ng	71
6) 1-Chloro-1,1-Difluoroe...	3.51	65	13960	0.588	ng	99
7) Dichlorofluoromethane ...	4.24	67	13981	0.534	ng	99
8) Vinylbromide	4.43	108	5157	0.485	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	8962	0.553	ng	99
10) 2-Methylbutane	4.66	57	7489	0.531	ng	97
11) Methyl Acetate	5.34	43	17421	0.676	ng	99
12) 2-Methylpentane	6.49	71	5496	0.481	ng	95
13) 2,2-Dichloropropane	7.41	77	7231	0.926	ng	98
14) 1,1-Dichloropropene	8.74	75	8644	0.469	ng	98
15) Thiophene	9.04	84	12427	0.449	ng	99
17) 2,3-Dimethylpentane	9.53	56	12689	0.458	ng	99
18) Dibromomethane	9.80	174	5248	0.520	ng	97
20) Methyl Cyclohexane	11.42	55	10997	0.458	ng	99
21) 1,3-Dichloropropane	12.59	76	9201	0.432	ng	98
22) 1,1,1,2-Tetrachloroethane	14.88	131	4657	0.365	ng	96
23) 1-Chlorohexane	15.20	91	8687	0.405	ng	98
24) 1,2,3-Trichloropropane	16.39	75	9386	0.423	ng	99
25) Bromobenzene	17.11	77	10639	0.409	ng	99
26) 2-Chlorotoluene	17.62	91	21241	0.429	ng	99
27) 4-Chlorotoluene	17.71	91	22322	0.439	ng	92
28) Indane	19.12	117	21715	0.358	ng	99
29) Indene	19.22	115	16819	0.367	ng	100
30) 1,2,4,5-Tetramethylben...	20.19	119	23870	0.385	ng	98
31) 1,2,3,4-Tetramethylben...	20.23	119	24131	0.372	ng	96
32) 1,2,3,5-Tetramethylben...	20.61	119	22746	0.371	ng	99
33) 1,2,3-Trichlorobenzene	21.21	180	9053	0.432	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082418.D Vial: 13
Acq On : 9 Feb 2024 00:01 Operator: SC
Sample : 0.4ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:33:32 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082419.D Vial: 13
Acq On : 9 Feb 2024 00:33 Operator: SC
Sample : 1.0ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

2/12/24

Quant Time: Feb 12 09:32:52 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

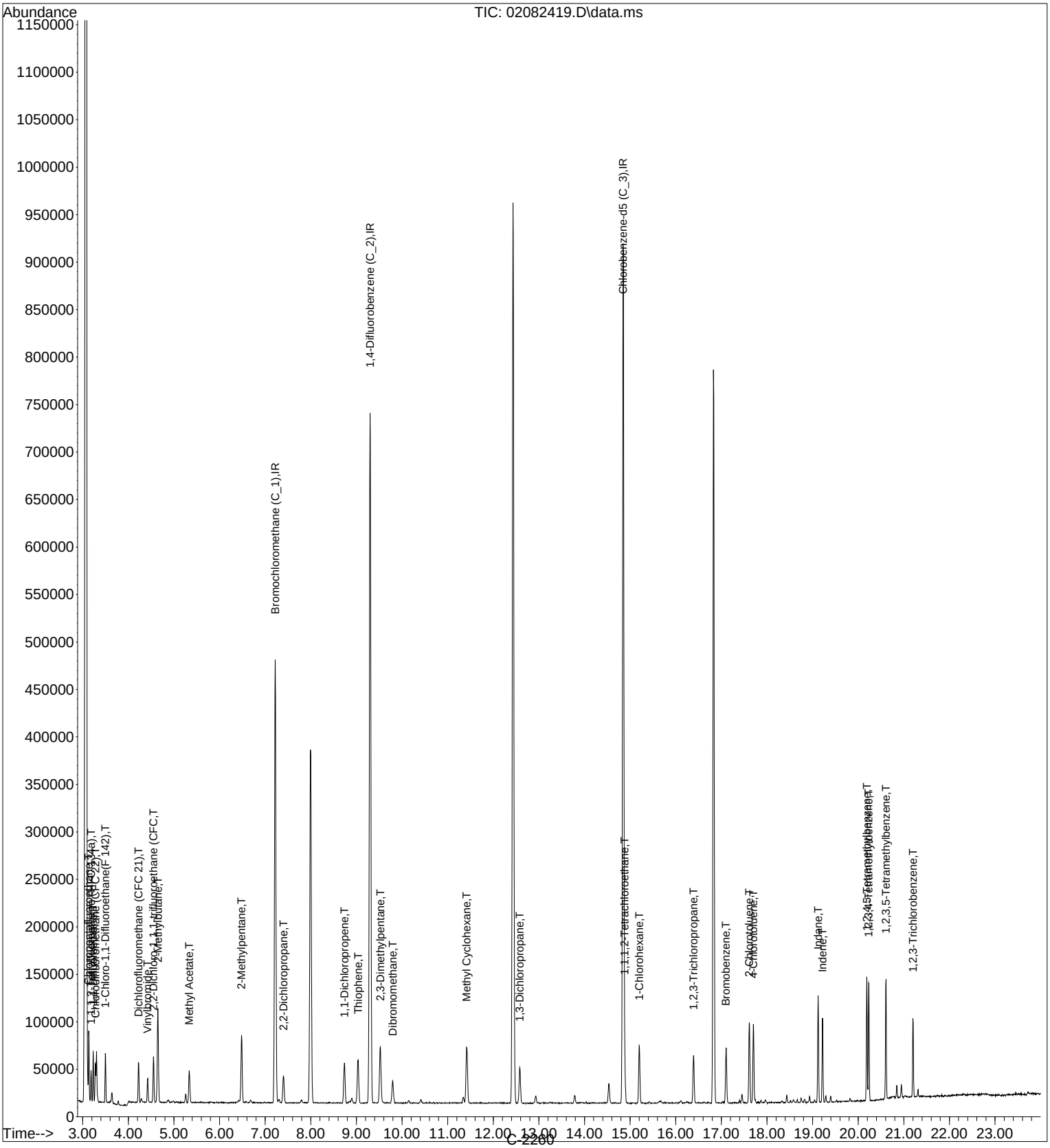
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	161309	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	705739	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	155435	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	18761	1.172	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	15585	1.293	ng	100
4) 1,1-Difluoroethane	3.23	65	13370	1.269	ng	81
5) Chlorodifluoromethane ...	3.28	67	5230	1.476	ng	71
6) 1-Chloro-1,1-Difluoroe...	3.49	65	33420	1.411	ng	100
7) Dichlorofluoromethane ...	4.22	67	32780	1.254	ng	99
8) Vinylbromide	4.42	108	12065	1.136	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	21060	1.301	ng	98
10) 2-Methylbutane	4.65	57	17499	1.243	ng	98
11) Methyl Acetate	5.33	43	42313	1.644	ng	99
12) 2-Methylpentane	6.48	71	12374	1.085	ng	97
13) 2,2-Dichloropropane	7.40	77	18112	2.323	ng	99
14) 1,1-Dichloropropene	8.74	75	21126	1.148	ng	98
15) Thiophene	9.04	84	30041	1.088	ng	99
17) 2,3-Dimethylpentane	9.53	56	30588	1.098	ng	99
18) Dibromomethane	9.80	174	12547	1.235	ng	99
20) Methyl Cyclohexane	11.42	55	26331	1.092	ng	99
21) 1,3-Dichloropropane	12.58	76	22138	1.036	ng	100
22) 1,1,1,2-Tetrachloroethane	14.88	131	10586	0.827	ng	98
23) 1-Chlorohexane	15.20	91	20316	0.944	ng	99
24) 1,2,3-Trichloropropane	16.39	75	22944	1.030	ng	99
25) Bromobenzene	17.10	77	25713	0.984	ng	100
26) 2-Chlorotoluene	17.61	91	50068	1.007	ng	100
27) 4-Chlorotoluene	17.70	91	51177	1.003	ng	97
28) Indane	19.12	117	52184	0.858	ng	99
29) Indene	19.22	115	40848	0.888	ng	98
30) 1,2,4,5-Tetramethylben...	20.19	119	58329	0.937	ng	98
31) 1,2,3,4-Tetramethylben...	20.23	119	58501	0.899	ng	97
32) 1,2,3,5-Tetramethylben...	20.61	119	56184	0.913	ng	100
33) 1,2,3-Trichlorobenzene	21.20	180	22705	1.078	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082419.D Vial: 13
Acq On : 9 Feb 2024 00:33 Operator: SC
Sample : 1.0ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:32:52 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082420.D Vial: 13
Acq On : 9 Feb 2024 1:05 Operator: SC
Sample : 2.5ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:31:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/12/24

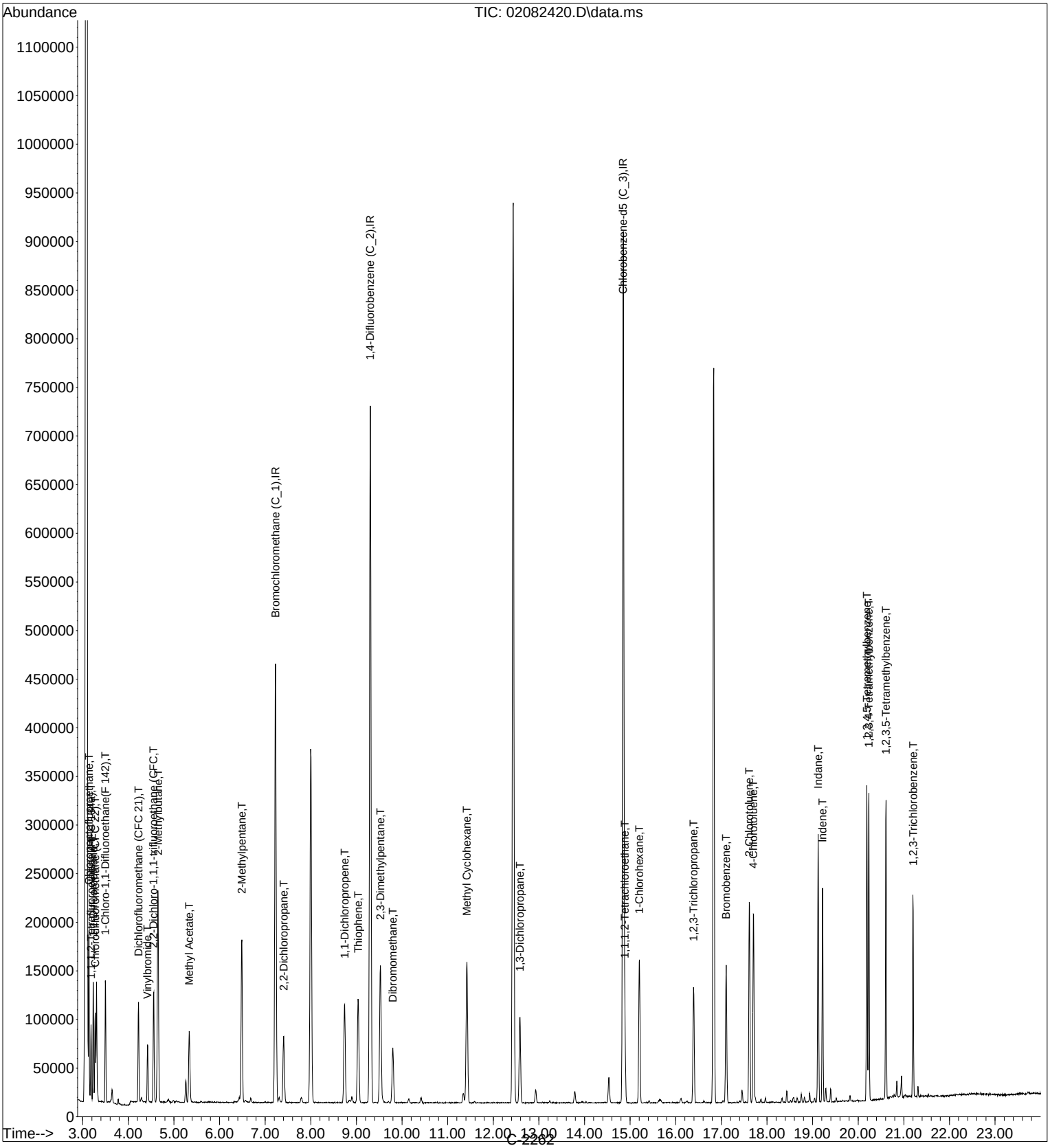
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	159374	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C 2)	9.30	114	698666	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	153420	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	45207	2.859	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	37688	3.164	ng	98
4) 1,1-Difluoroethane	3.23	65	32604	3.133	ng	80
5) Chlorodifluoromethane ...	3.27	67	12425	3.549	ng	66
6) 1-Chloro-1,1-Difluoroe...	3.49	65	81365	3.477	ng	100
7) Dichlorofluoromethane ...	4.22	67	78532	3.040	ng	99
8) Vinylbromide	4.42	108	29869	2.846	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	51256	3.205	ng	99
10) 2-Methylbutane	4.65	57	40905	2.941	ng	98
11) Methyl Acetate	5.33	43	102494	4.031	ng	99
12) 2-Methylpentane	6.49	71	29508	2.620	ng	91
13) 2,2-Dichloropropane	7.41	77	44435	5.769	ng	99
14) 1,1-Dichloropropene	8.74	75	51885	2.854	ng	99
15) Thiophene	9.04	84	72897	2.672	ng	100
17) 2,3-Dimethylpentane	9.53	56	72517	2.630	ng	99
18) Dibromomethane	9.80	174	29757	2.958	ng	98
20) Methyl Cyclohexane	11.42	55	63994	2.690	ng	99
21) 1,3-Dichloropropane	12.59	76	53299	2.527	ng	99
22) 1,1,1,2-Tetrachloroethane	14.89	131	26430	2.091	ng	99
23) 1-Chlorohexane	15.20	91	49842	2.347	ng	99
24) 1,2,3-Trichloropropane	16.39	75	56181	2.556	ng	99
25) Bromobenzene	17.11	77	63747	2.471	ng	98
26) 2-Chlorotoluene	17.61	91	121786	2.482	ng	100
27) 4-Chlorotoluene	17.70	91	120529	2.393	ng	98
28) Indane	19.12	117	128831	2.146	ng	99
29) Indene	19.22	115	104376	2.300	ng	99
30) 1,2,4,5-Tetramethylben...	20.19	119	144887	2.358	ng	100
31) 1,2,3,4-Tetramethylben...	20.23	119	144053	2.244	ng	97
32) 1,2,3,5-Tetramethylben...	20.61	119	140116	2.307	ng	100
33) 1,2,3-Trichlorobenzene	21.21	180	56316	2.709	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082420.D Vial: 13
Acq On : 9 Feb 2024 1:05 Operator: SC
Sample : 2.5ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:31:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-2202

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082421.D Vial: 13
Acq On : 9 Feb 2024 1:37 Operator: SC
Sample : 5.0ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:31:06 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/12/24

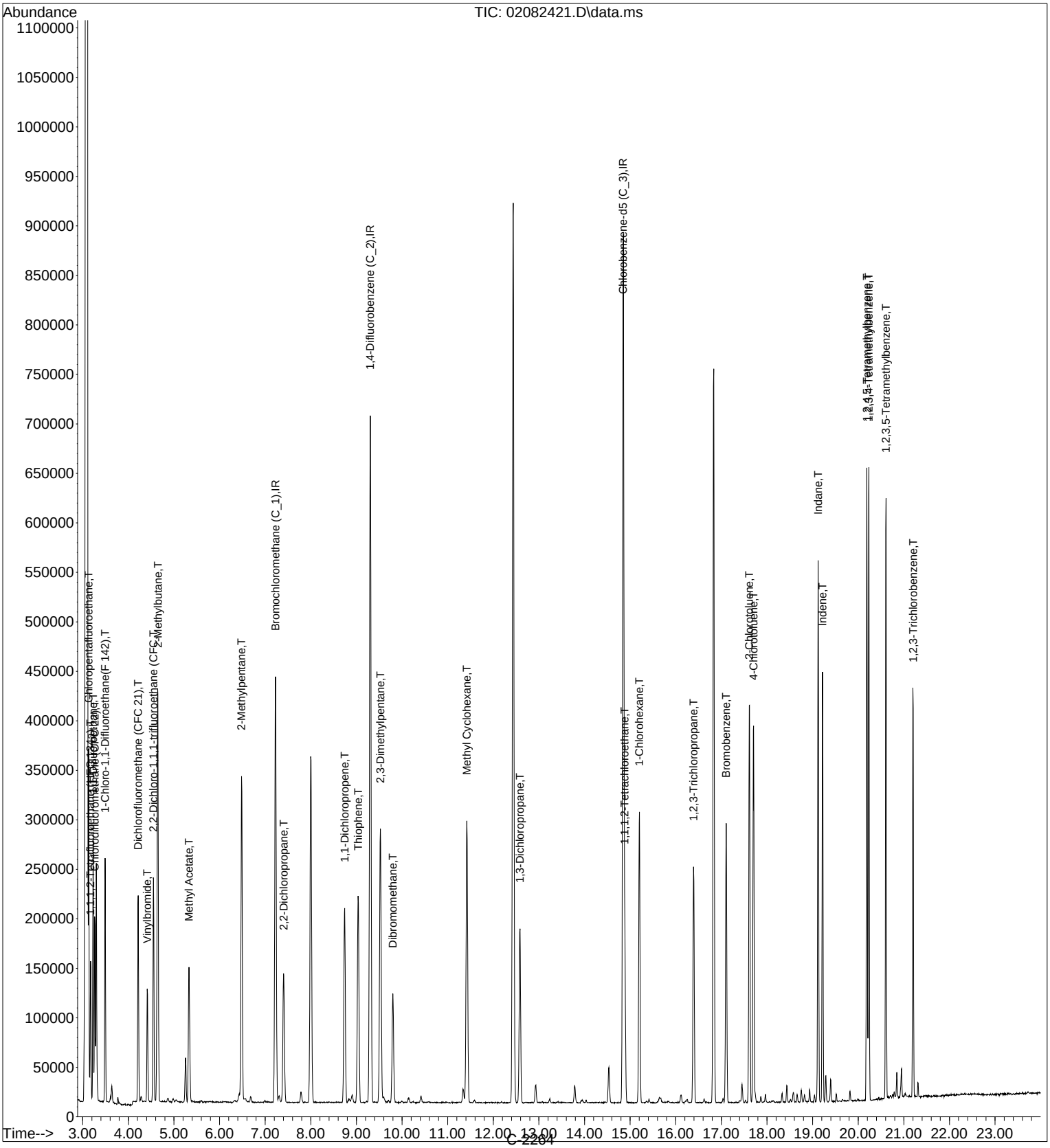
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	154998	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C 2)	9.30	114	683584	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	149985	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	90027	5.855	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	74467	6.429	ng	99
4) 1,1-Difluoroethane	3.23	65	64328	6.357	ng	81
5) Chlorodifluoromethane ...	3.26	67	24538	7.206	ng	67
6) 1-Chloro-1,1-Difluoroe...	3.49	65	160999	7.074	ng	100
7) Dichlorofluoromethane ...	4.22	67	157696	6.277	ng	99
8) Vinylbromide	4.41	108	58847	5.766	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	101136	6.503	ng	100
10) 2-Methylbutane	4.65	57	80798	5.974	ng	98
11) Methyl Acetate	5.33	43	201101	8.132	ng	100
12) 2-Methylpentane	6.48	71	58591	5.349	ng	91
13) 2,2-Dichloropropane	7.41	77	88408	11.801	ng	100
14) 1,1-Dichloropropene	8.74	75	102683	5.807	ng	100
15) Thiophene	9.04	84	143542	5.410	ng	99
17) 2,3-Dimethylpentane	9.53	56	143268	5.310	ng	100
18) Dibromomethane	9.80	174	58234	5.917	ng	99
20) Methyl Cyclohexane	11.42	55	126150	5.424	ng	99
21) 1,3-Dichloropropane	12.59	76	105687	5.126	ng	99
22) 1,1,1,2-Tetrachloroethane	14.88	131	52920	4.284	ng	100
23) 1-Chlorohexane	15.20	91	99260	4.781	ng	100
24) 1,2,3-Trichloropropane	16.39	75	110710	5.153	ng	100
25) Bromobenzene	17.11	77	125112	4.960	ng	99
26) 2-Chlorotoluene	17.61	91	239684	4.997	ng	100
27) 4-Chlorotoluene	17.71	91	240014	4.875	ng	98
28) Indane	19.12	117	256857	4.377	ng	100
29) Indene	19.22	115	207789	4.683	ng	99
30) 1,2,4,5-Tetramethylben...	20.19	119	290303	4.833	ng	100
31) 1,2,3,4-Tetramethylben...	20.23	119	288321	4.594	ng	98
32) 1,2,3,5-Tetramethylben...	20.61	119	278200	4.686	ng	100
33) 1,2,3-Trichlorobenzene	21.21	180	113616	5.590	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082421.D Vial: 13
Acq On : 9 Feb 2024 1:37 Operator: SC
Sample : 5.0ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012402 (3/2)

Quant Time: Feb 12 09:31:06 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082422.D Vial: 14
Acq On : 9 Feb 2024 2:09 Operator: SC
Sample : 25ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012401 (3/2)

Quant Time: Feb 12 09:30:10 2024 2/12/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

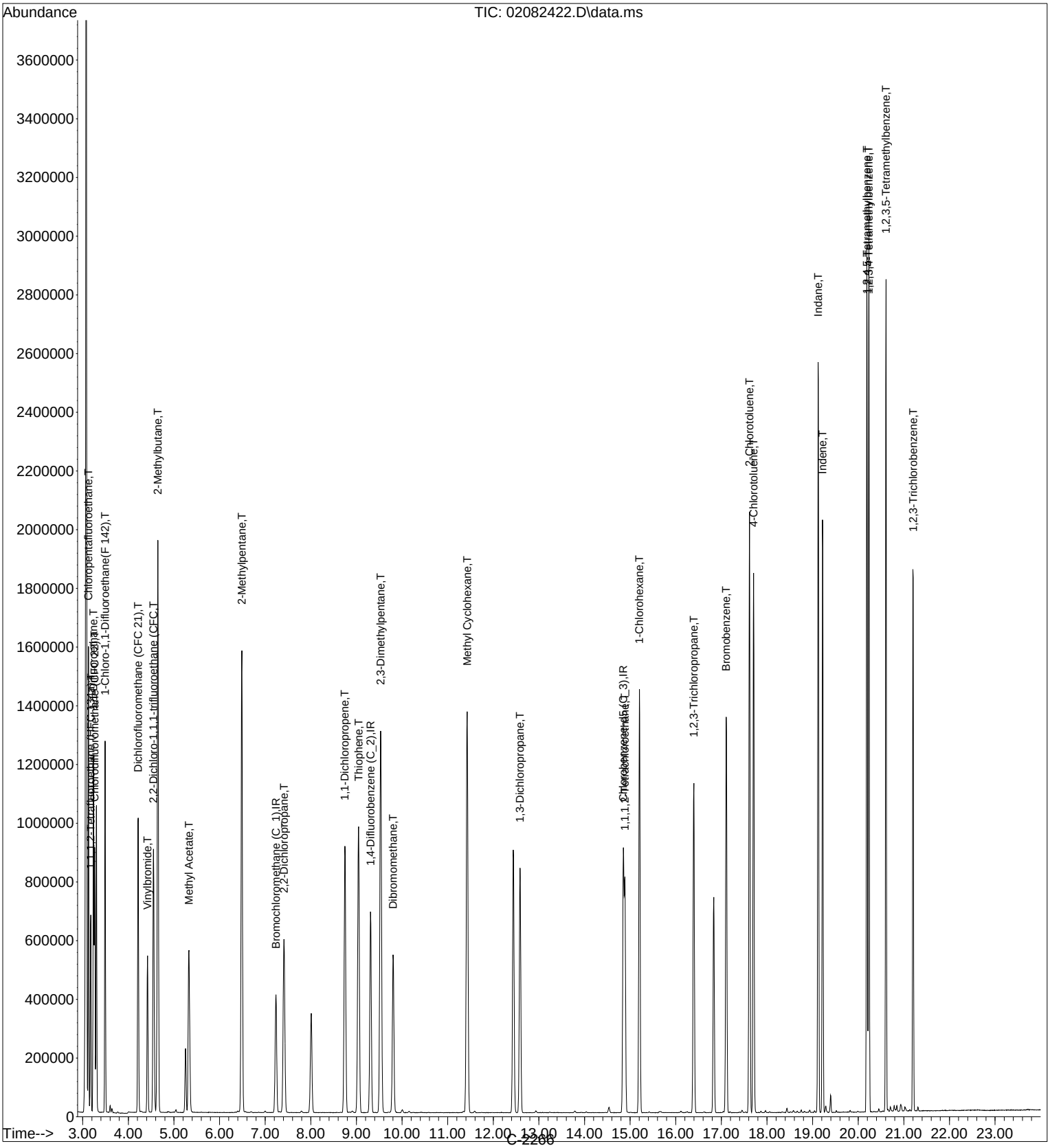
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	156262	12.500	ng	0.00
16) 1,4-Difluorobenzene (C 2)	9.31	114	677052	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	148535	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	429199	27.686	ng	100
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	360673	30.884	ng	100
4) 1,1-Difluoroethane	3.23	65	314951	30.871	ng	100
5) Chlorodifluoromethane ...	3.26	67	119954	34.943	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	786282	34.270	ng	100
7) Dichlorofluoromethane ...	4.22	67	770345	30.418	ng	100
8) Vinylbromide	4.42	108	289820	28.169	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	498210	31.774	ng	100
10) 2-Methylbutane	4.65	57	385169	28.246	ng	100
11) Methyl Acetate	5.33	43	942100	37.787	ng	100
12) 2-Methylpentane	6.49	71	288646	26.139	ng	100
13) 2,2-Dichloropropane	7.41	77	441184	58.416	ng	100
14) 1,1-Dichloropropene	8.75	75	504824	28.320	ng	100
15) Thiophene	9.05	84	703527	26.302	ng	100
17) 2,3-Dimethylpentane	9.53	56	701262	26.244	ng	100
18) Dibromomethane	9.80	174	289319	29.680	ng	100
20) Methyl Cyclohexane	11.43	55	619521	26.895	ng	100
21) 1,3-Dichloropropane	12.59	76	511179	25.034	ng	100
22) 1,1,1,2-Tetrachloroethane	14.89	131	262918	21.489	ng	100
23) 1-Chlorohexane	15.20	91	488361	23.754	ng	100
24) 1,2,3-Trichloropropane	16.40	75	526123	24.727	ng	100
25) Bromobenzene	17.11	77	596579	23.882	ng	100
26) 2-Chlorotoluene	17.62	91	1165943	24.546	ng	100
27) 4-Chlorotoluene	17.71	91	1097848	22.516	ng	100
28) Indane	19.12	117	1231679	21.192	ng	100
29) Indene	19.22	115	970121	22.078	ng	100
30) 1,2,4,5-Tetramethylben...	20.19	119	1345851	22.626	ng	100
31) 1,2,3,4-Tetramethylben...	20.23	119	1355757	21.811	ng	97
32) 1,2,3,5-Tetramethylben...	20.61	119	1270449	21.608	ng	100
33) 1,2,3-Trichlorobenzene	21.21	180	512643	25.470	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082422.D Vial: 14
Acq On : 9 Feb 2024 2:09 Operator: SC
Sample : 25ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012401 (3/2)

Quant Time: Feb 12 09:30:10 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082423.D Vial: 14
Acq On : 9 Feb 2024 2:41 Operator: SC
Sample : 50ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012401 (3/2)

Quant Time: Feb 12 09:34:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/12/24

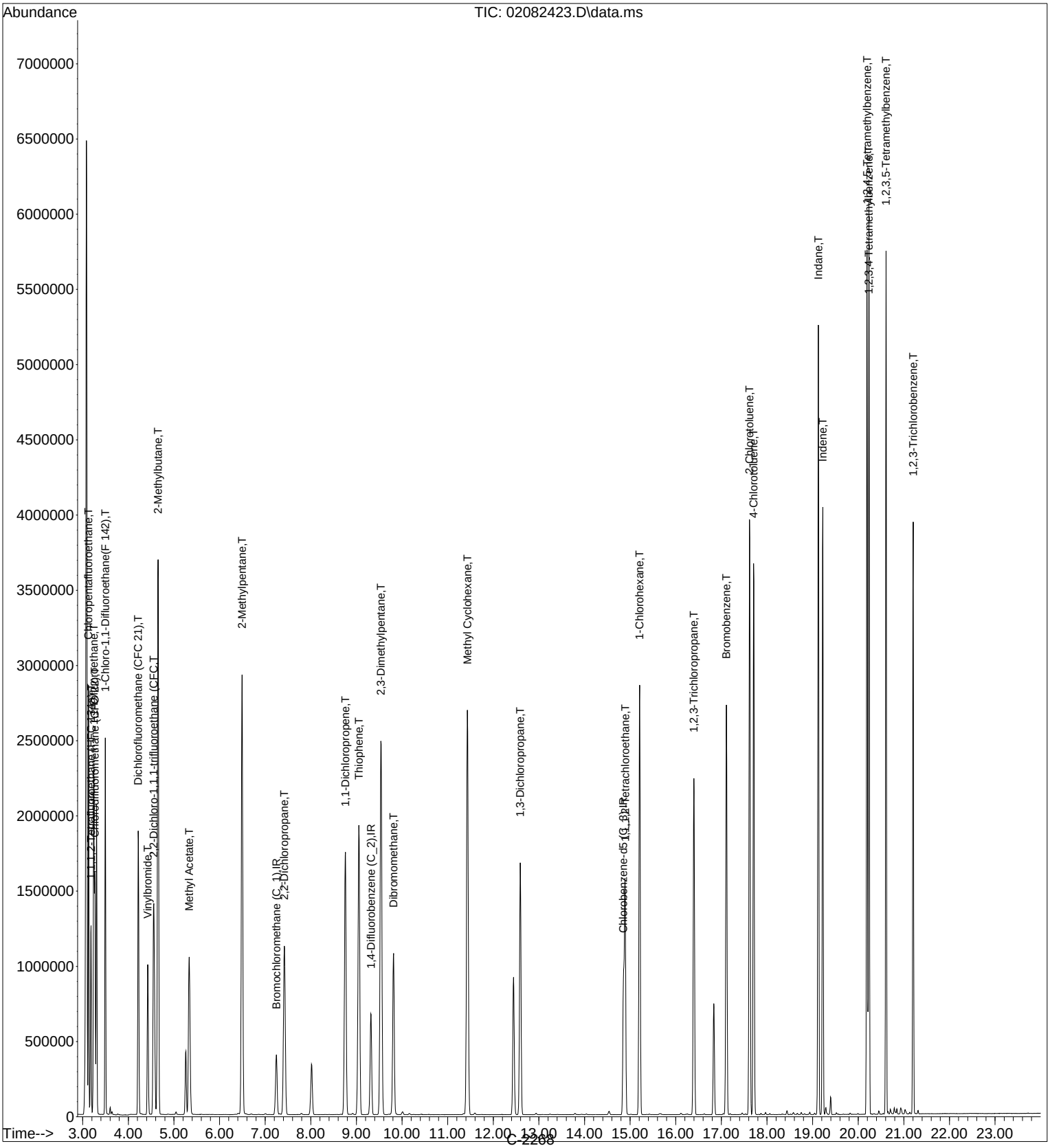
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.25	130	161963	12.500	ng		0.01
16) 1,4-Difluorobenzene (C 2)	9.32	114	688992	12.500	ng		0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	150811	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	807110	50.231	ng		100
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	714789	59.053	ng		100
4) 1,1-Difluoroethane	3.24	65	617606	58.405	ng	#	1
5) Chlorodifluoromethane ...	3.27	67	238746	67.100	ng	#	1
6) 1-Chloro-1,1-Difluoroe...	3.49	65	1547773	65.086	ng		100
7) Dichlorofluoromethane ...	4.22	67	1525100	58.100	ng		100
8) Vinylbromide	4.43	108	574865	53.907	ng		100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	993701	61.143	ng		100
10) 2-Methylbutane	4.65	57	763490	54.020	ng		99
11) Methyl Acetate	5.33	43	1881684	72.816	ng		100
12) 2-Methylpentane	6.49	71	574891	50.228	ng		99
13) 2,2-Dichloropropane	7.42	77	892602	114.026	ng		100
14) 1,1-Dichloropropene	8.76	75	1018654	55.133	ng		100
15) Thiophene	9.05	84	1406325	50.727	ng		100
17) 2,3-Dimethylpentane	9.54	56	1396118	51.342	ng		100
18) Dibromomethane	9.81	174	585754	59.048	ng		100
20) Methyl Cyclohexane	11.43	55	1240090	53.023	ng		100
21) 1,3-Dichloropropane	12.59	76	1028029	49.586	ng		100
22) 1,1,1,2-Tetrachloroethane	14.89	131	531087	42.753	ng		100
23) 1-Chlorohexane	15.21	91	979799	46.939	ng		100
24) 1,2,3-Trichloropropane	16.40	75	1059327	49.035	ng		100
25) Bromobenzene	17.11	77	1215756	47.934	ng		98
26) 2-Chlorotoluene	17.62	91	2323079	48.169	ng		100
27) 4-Chlorotoluene	17.71	91	2189533	44.228	ng		100
28) Indane	19.13	117	2426207	41.114	ng		99
29) Indene	19.22	115	1930275	43.266	ng		100
30) 1,2,4,5-Tetramethylben...	20.19	119	2651871	43.909	ng		98
31) 1,2,3,4-Tetramethylben...	20.23	119	2714262	43.008	ng		96
32) 1,2,3,5-Tetramethylben...	20.61	119	2529320	42.370	ng		99
33) 1,2,3-Trichlorobenzene	21.21	180	1048415	51.303	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082423.D Vial: 14
Acq On : 9 Feb 2024 2:41 Operator: SC
Sample : 50ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012401 (3/2)

Quant Time: Feb 12 09:34:49 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082424.D Vial: 14
Acq On : 9 Feb 2024 3:12 Operator: SC
Sample : 100ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012401 (3/2)

Quant Time: Feb 12 09:35:57 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/12/24

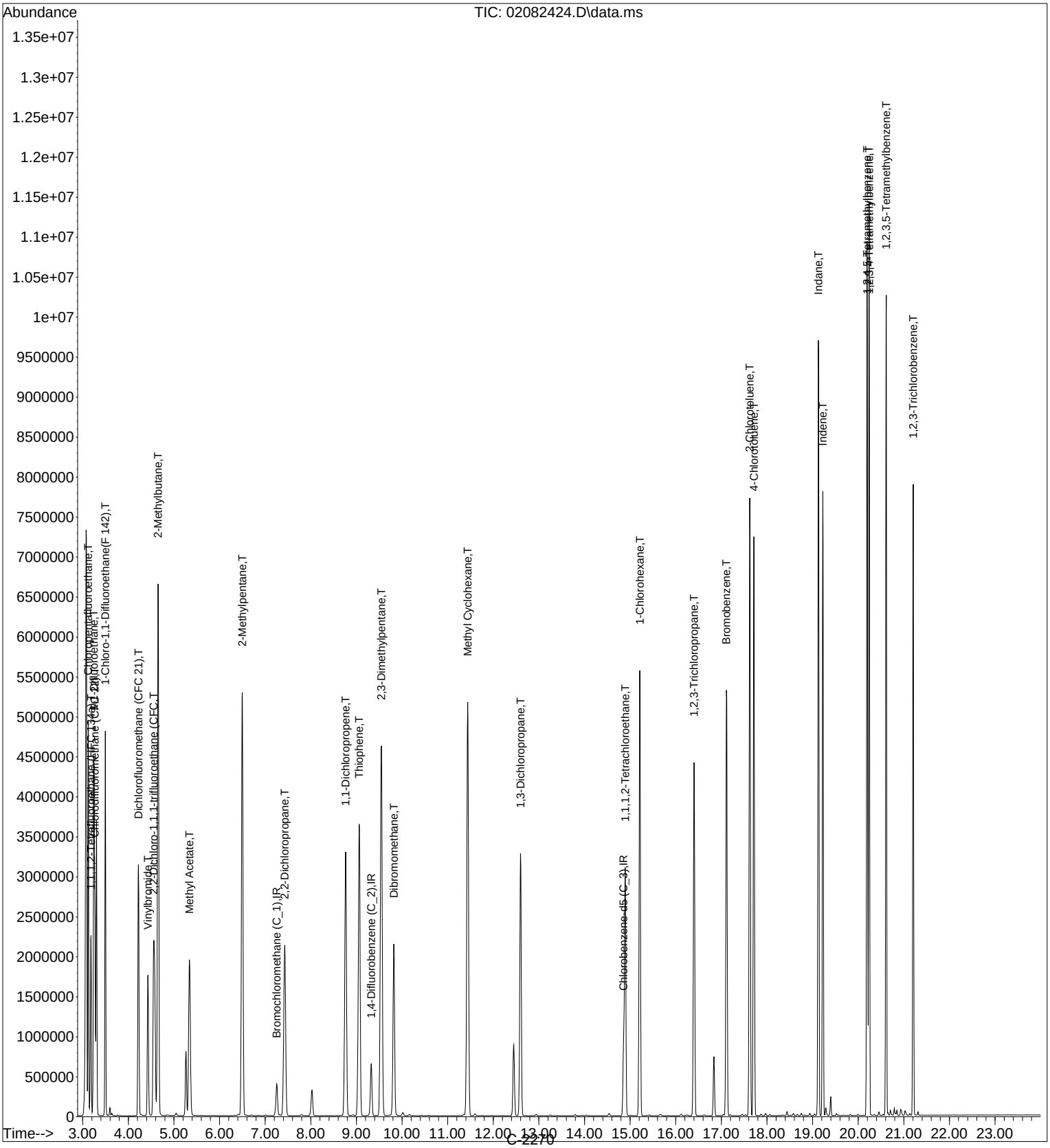
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.25	130	162815	12.500	ng		0.02
16) 1,4-Difluorobenzene (C 2)	9.33	114	684340	12.500	ng		0.02
19) Chlorobenzene-d5 (C_3)	14.86	54	150128	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	1506602	93.275	ng		99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1389738	114.213	ng		100
4) 1,1-Difluoroethane	3.24	65	1149312	108.118	ng	#	1
5) Chlorodifluoromethane ...	3.26	67	470475	131.535	ng	#	1
6) 1-Chloro-1,1-Difluoroe...	3.49	65	3021343	126.387	ng		100
7) Dichlorofluoromethane ...	4.22	67	2828958	107.207	ng		100
8) Vinylbromide	4.43	108	1132820	105.672	ng		100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1976745	120.994	ng		100
10) 2-Methylbutane	4.65	57	1482009	104.308	ng		99
11) Methyl Acetate	5.34	43	3689180	142.015	ng		99
12) 2-Methylpentane	6.50	71	1140081	99.088	ng		96
13) 2,2-Dichloropropane	7.43	77	1784475	226.767	ng		100
14) 1,1-Dichloropropene	8.76	75	2032811	109.447	ng		100
15) Thiophene	9.06	84	2770275	99.402	ng		99
17) 2,3-Dimethylpentane	9.55	56	2736301	101.311	ng		100
18) Dibromomethane	9.82	174	1178048	119.562	ng		100
20) Methyl Cyclohexane	11.44	55	2453038	105.363	ng		99
21) 1,3-Dichloropropane	12.60	76	2051450	99.400	ng		100
22) 1,1,1,2-Tetrachloroethane	14.89	131	1065911	86.196	ng		100
23) 1-Chlorohexane	15.21	91	1940871	93.404	ng		100
24) 1,2,3-Trichloropropane	16.40	75	2123945	98.763	ng		100
25) Bromobenzene	17.11	77	2442083	96.724	ng		98
26) 2-Chlorotoluene	17.62	91	4542592	94.618	ng		99
27) 4-Chlorotoluene	17.71	91	4288318	87.017	ng		99
28) Indane	19.13	117	4627314	78.771	ng		99
29) Indene	19.22	115	3751704	84.474	ng		100
30) 1,2,4,5-Tetramethylben...	20.19	119	5142623	85.537	ng		99
31) 1,2,3,4-Tetramethylben...	20.24	119	5077920	80.827	ng		99
32) 1,2,3,5-Tetramethylben...	20.61	119	4843791	81.511	ng		99
33) 1,2,3-Trichlorobenzene	21.21	180	2085385	102.509	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082424.D Vial: 14
Acq On : 9 Feb 2024 3:12 Operator: SC
Sample : 100ng TO-15 Custom STD Inst : MS09
Misc : S37-01032417/S37-02012401 (3/2)

Quant Time: Feb 12 09:35:57 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:30:06 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082426.D Vial: 15
Acq On : 9 Feb 2024 4:16 Operator: SC
Sample : 25ng TO-15 Custom ICV STD Inst : MS09
Misc : S37-01032417/S37-02012403 (3/2)

Quant Time: Feb 12 09:39:15 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

2/12/24

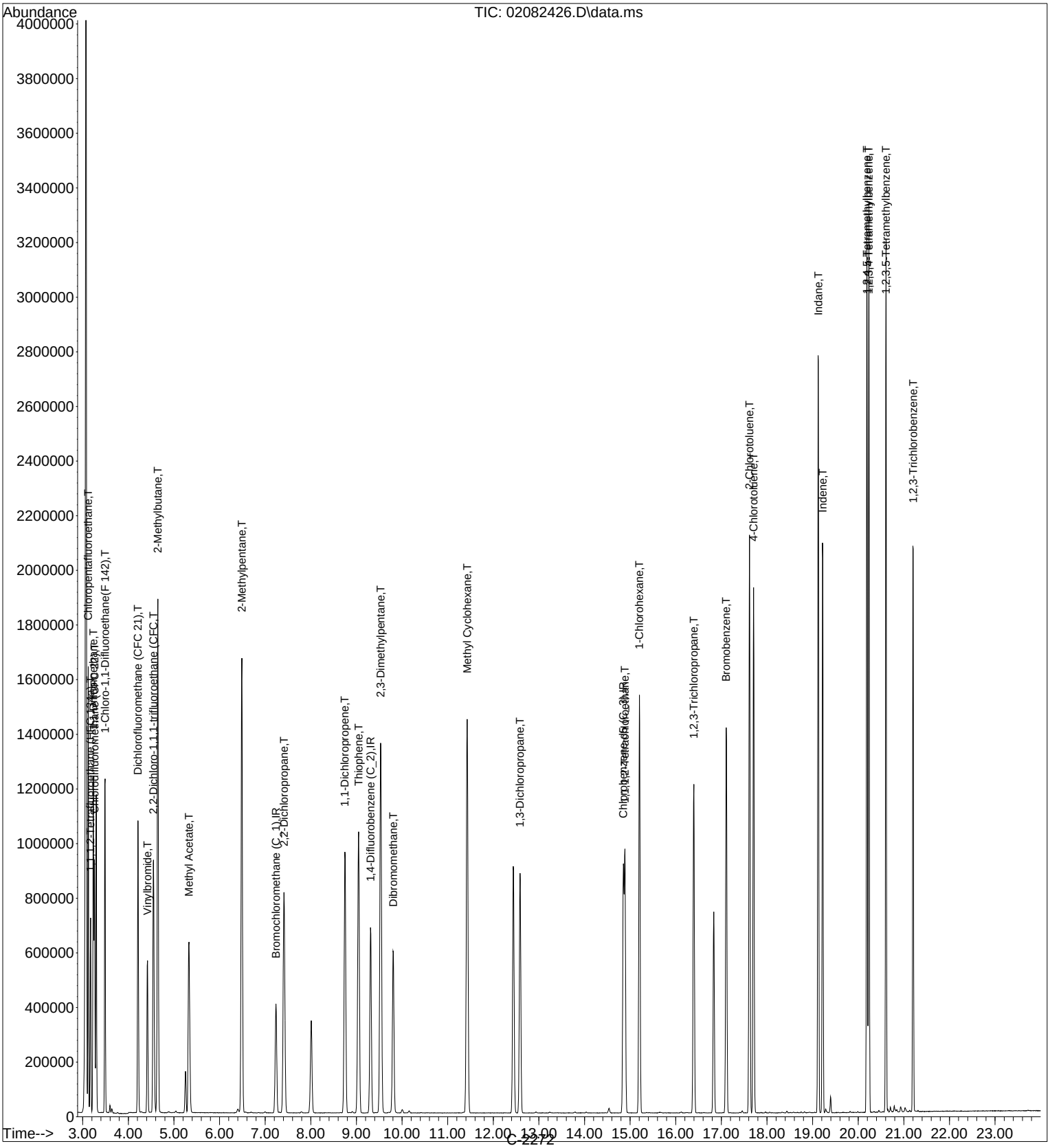
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	157009	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	681297	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	149363	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	447799	26.918	ng		100
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	373760	25.877	ng		99
4) 1,1-Difluoroethane	3.23	65	326517	27.454	ng	#	1
5) Chlorodifluoromethane ...	3.26	67	124584	27.012	ng	#	1
6) 1-Chloro-1,1-Difluoroe...	3.49	65	806287	26.457	ng		100
7) Dichlorofluoromethane ...	4.21	67	794177	25.927	ng		100
8) Vinylbromide	4.42	108	310075	26.309	ng		100
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	530552	27.597	ng		100
10) 2-Methylbutane	4.65	57	387402	24.635	ng		92
11) Methyl Acetate	5.33	43	1087085	26.885	ng		100
12) 2-Methylpentane	6.49	71	307860	26.080	ng		99
13) 2,2-Dichloropropane	7.41	77	609840	34.399	ng		100
14) 1,1-Dichloropropene	8.75	75	538394	27.516	ng		99
15) Thiophene	9.05	84	743167	26.339	ng		100
17) 2,3-Dimethylpentane	9.53	56	727630	26.451	ng		100
18) Dibromomethane	9.81	174	321834	29.304	ng		99
20) Methyl Cyclohexane	11.43	55	651223	27.752	ng		100
21) 1,3-Dichloropropane	12.59	76	542335	27.190	ng		100
22) 1,1,1,2-Tetrachloroethane	14.89	131	316667	26.383	ng		100
23) 1-Chlorohexane	15.20	91	518522	27.088	ng		99
24) 1,2,3-Trichloropropane	16.40	75	568967	27.533	ng		100
25) Bromobenzene	17.11	77	628462	26.780	ng		99
26) 2-Chlorotoluene	17.62	91	1218376	27.180	ng		100
27) 4-Chlorotoluene	17.71	91	1136832	24.508	ng		100
28) Indane	19.13	117	1335309	26.362	ng		100
29) Indene	19.22	115	1022154	24.072	ng		100
30) 1,2,4,5-Tetramethylben...	20.19	119	1484233	26.938	ng		100
31) 1,2,3,4-Tetramethylben...	20.23	119	1471691	26.903	ng		98
32) 1,2,3,5-Tetramethylben...	20.61	119	1397188	26.296	ng		99
33) 1,2,3-Trichlorobenzene	21.21	180	572212	26.642	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 02\08\02082426.D Vial: 15
Acq On : 9 Feb 2024 4:16 Operator: SC
Sample : 25ng TO-15 Custom ICV STD Inst : MS09
Misc : S37-01032417/S37-02012403 (3/2)

Quant Time: Feb 12 09:39:15 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



2/12/24

Std#: **Working Standards**

(1) **200 ng/L Working Std. ID:S37-02012403**

(2) **20 ng/L Working Std. ID:**

Injection Amts.(L):	**0.125**
Standards Used:	**1**
Compounds/ Concentrations (ng):	**25ng**
Vinyl bromide	24.75
2-Methylbutane (Isopentane)	25.50
2-Methylpentane	25.00
2,2-Dichloropropane	24.75
1,1-Dichloropropene	25.75
Thiophene	25.25
2,3-Dimethylpentane	26.00
Dibromomethane	26.75
1,3-Dichloropropane	26.00
1,1,1,2-Tetrachloroethane	21.75
1-Chlorohexane	25.75
1,2,3-Trichloropropane	26.25
Bromobenzene	26.25
2-Chlorotoluene	26.50
4-Chlorotoluene	25.25
Indane	24.75
Indene	23.50
1,2,4,5-Tetramethylbenzene	25.00
1,2,3,4-Tetramethylbenzene	25.50
1,2,3,5-Tetramethylbenzene	25.00
1,2,3-Trichlorobenzene	25.75
Chloropentafluoroethane (R115)	25.50
2,2-Dichloro-1,1,1-trifluoroethane (R123)	26.25
1,1-Difluoroethane (R152a)	26.25
Chlorodifluoromethane (R22)	26.25
Dichlorofluoromethane (R21)	25.00
1,1,1,2-Tetrafluoroethane (R134a)	25.25
1-Chloro-1,1-Difluoroethane	26.00
Methyl Acetate	24.50
Methylcyclohexane	26.75
Chlorotrifluoroethene	25.25

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:41:16 2024
Response Via : Initial Calibration

CI 3/19/24

Calibration Files
0.1 =03192402.D 0.2 =03192403.D 0.5 =03192404.D 1.0 =03192405.D 5.0 =03192406.D 25 =03192407.D 50 =03192408.D
100 =03192409.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.781	1.991	1.707	1.636	1.711	1.779	1.793	1.710	1.764	6.00
3)	T	Dichlorodifluo...	3.198	2.922	3.050	2.816	3.036	2.574	2.416	2.243	2.782	12.13
4)	T	Chloromethane	2.499	2.169	2.027	1.907	2.103	1.719	1.425	0.836	1.836	27.99
5)	T	1,2-Dichloro-1...	1.334	1.175	1.155	1.115	1.223	1.047	1.010	0.949	1.126	10.99
6)	T	Vinyl Chloride	1.596	1.707	1.852	1.652	1.853	1.599	1.552	1.452	1.658	8.51
7)	T	1,3-Butadiene	1.407	1.211	1.242	1.177	1.391	1.252	1.241	1.155	1.259	7.34
8)	T	Bromomethane	1.109	1.078	1.036	0.987	1.043	0.890	0.854	0.813	0.976	11.31
9)	T	Chloroethane	1.262	1.084	0.992	0.911	0.976	0.821	0.794	0.755	0.950	17.74
10)	T	Ethanol	1.470	1.289	1.202	1.099	1.113	0.974	0.945	0.873	1.121	17.57
11)	T	Acetonitrile	4.137	2.989	2.843	2.675	2.811	2.508	2.481	2.429	2.859	19.33
12)	T	Acrolein	0.834	0.831	0.855	0.825	0.880	0.785	0.770	0.728	0.813	6.07
13)	T	Acetone	1.093	1.038	0.966	0.902	0.971	0.821	0.779	0.702	0.909	14.73
14)	T	Trichlorofluor...	2.684	2.710	2.607	2.465	2.670	2.361	2.285	2.192	2.497	8.01
15)	T	2-Propanol (Is...	4.229	3.517	3.818	3.486	4.044	3.031	2.636	2.325	3.386	19.88
16)	T	Acrylonitrile	1.840	1.594	1.713	1.531	1.737	1.553	1.531	1.490	1.624	7.68
17)	T	1,1-Dichloroet...	1.400	1.289	1.226	1.082	1.172	1.022	1.011	1.000	1.150	12.76
18)	T	2-Methyl-2-Pro...	3.544	3.121	3.345	3.166	3.559	2.784	1.756		3.039	20.61
19)	T	Methylene Chlo...	1.859	1.634	1.326	1.300	1.275	1.071	1.054	1.009	1.316	22.62
20)	T	3-Chloro-1-pro...	1.812	1.549	1.553	1.470	1.847	1.799	1.807	1.762	1.700	8.80
21)	T	Trichlorotrifl...	1.403	1.228	1.116	1.014	1.095	0.965	0.955	0.923	1.087	14.96
22)	T	Carbon Disulfide	3.856	3.629	3.797	3.586	4.203	3.703	3.598	3.510	3.735	5.91
23)	T	trans-1,2-Dich...	2.237	1.948	1.831	1.683	1.896	1.691	1.651	1.559	1.812	11.94
24)	T	1,1-Dichloroet...	2.751	2.225	2.246	2.063	2.227	2.002	1.945	1.853	2.164	12.84
25)	T	Methyl tert-Bu...	4.204	3.804	3.604	3.502	3.903	3.321	2.602	1.368	3.289	27.65
26)	T	Vinyl Acetate		0.082	0.096	0.193	0.206	0.206	0.186	0.162	35.13	
27)	T	2-Butanone (MEK)	0.892	0.778	0.828	0.808	0.877	0.777	0.757	0.642	0.795	9.84
28)	T	cis-1,2-Dichlo...	1.968	1.773	1.909	1.718	1.813	1.594	1.568	1.504	1.731	9.60
29)	T	Diisopropyl Ether	1.196	1.078	1.116	1.082	1.178	1.042	1.007	0.867	1.071	9.71
30)	T	Ethyl Acetate	0.577	0.471	0.451	0.458	0.470	0.425	0.412	0.358	0.453	13.86
31)	T	n-Hexane	2.422	2.171	2.148	2.094	2.206	1.948	1.869	1.739	2.075	10.38
32)	T	Chloroform	2.647	2.253	2.205	1.983	2.247	1.954	1.883	1.751	2.115	13.34
33)	S	1,2-Dichloroet...	2.157	2.148	2.116	2.092	2.083	2.088	2.066	2.093	2.105	1.54
34)	T	Tetrahydrofura...	0.900	0.898	0.843	0.715	0.801	0.694	0.665	0.621	0.767	14.08
35)	T	Ethyl tert-But...	1.523	1.438	1.435	1.406	1.548	1.401	1.361	1.248	1.420	6.59
36)	T	1,2-Dichloroet...	2.657	2.266	2.140	2.034	2.160	1.931	1.859	1.731	2.097	13.60
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.514	0.465	0.495	0.453	0.511	0.456	0.428	0.409	0.466	8.17
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.854	1.347	1.122	1.125	0.981	0.942	0.947	1.188	27.46	
42)	T	Carbon Tetrach...	0.322	0.306	0.357	0.342	0.434	0.404	0.389	0.369	0.365	11.67

Method Path : I:\MS16\METHODS\
Method File : R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

43)	T	Cyclohexane	0.404	0.386	0.416	0.379	0.429	0.381	0.367	0.344	0.388	7.07
44)	T	tert-Amyl Meth...	0.754	0.709	0.738	0.693	0.796	0.727	0.699	0.650	0.721	6.11
45)	T	1,2-Dichloropr...	0.363	0.292	0.296	0.247	0.279	0.248	0.239	0.233	0.275	15.75
46)	T	Bromodichlorom...	0.475	0.406	0.392	0.349	0.399	0.371	0.357	0.343	0.387	11.01
47)	T	Trichloroethene	0.403	0.358	0.302	0.282	0.301	0.266	0.258	0.254	0.303	17.31
48)	T	1,4-Dioxane	0.237	0.221	0.231	0.208	0.225	0.202	0.196	0.193	0.214	7.73
49)	T	2,2,4-Trimethy...	1.219	1.109	1.144	1.062	1.203	1.085	1.032	1.007	1.107	6.95
50)	T	Methyl Methacr...	0.114	0.095	0.107	0.096	0.113	0.105	0.103	0.100	0.104	6.76
51)	T	n-Heptane	0.316	0.316	0.291	0.275	0.304	0.274	0.262	0.258	0.287	8.07
52)	T	cis-1,3-Dichlo...	0.463	0.414	0.444	0.404	0.498	0.460	0.443	0.435	0.445	6.62
53)	T	4-Methyl-2-pen...	0.254	0.226	0.237	0.215	0.261	0.234	0.222	0.208	0.232	7.98
54)	T	trans-1,3-Dich...	0.364	0.308	0.337	0.343	0.434	0.411	0.401	0.395	0.374	11.47
55)	T	1,1,2-Trichlor...	0.289	0.247	0.268	0.243	0.268	0.234	0.223	0.223	0.249	9.55
56)	IR	Chlorobenzene-d5 (...	----------	----------	----------	ISTD	----------	----------	----------	----------	----------	
57)	S	Toluene-d8 (SS2)	4.836	4.808	4.822	4.847	4.882	4.885	5.006	4.965	4.881	1.44
58)	T	Toluene	5.235	4.607	4.681	4.403	4.798	4.249	4.339	4.312	4.578	7.19
59)	T	2-Hexanone	3.128	2.679	2.815	2.778	3.266	2.955	2.922	2.722	2.908	7.02
60)	T	Dibromochlorom...	1.405	1.323	1.309	1.224	1.403	1.324	1.338	1.316	1.330	4.31
61)	T	1,2-Dibromoethane	1.473	1.226	1.188	1.181	1.393	1.243	1.260	1.240	1.276	8.07
62)	T	n-Butyl Acetate	3.185	3.019	3.176	3.103	3.590	3.298	3.286	3.049	3.213	5.69
63)	T	n-Octane	1.337	1.000	1.029	1.031	1.130	0.998	0.989	0.934	1.056	11.96
64)	T	Tetrachloroethene	1.625	1.458	1.380	1.266	1.350	1.216	1.232	1.212	1.342	10.76
65)	T	Chlorobenzene	3.828	3.070	3.264	2.975	3.216	2.848	2.888	2.811	3.113	10.71
66)	T	Ethylbenzene	5.769	5.206	5.435	5.083	5.775	5.114	5.115	5.009	5.313	5.83
67)	T	m- & p-Xylenes	5.005	4.240	4.298	4.017	4.567	4.068	4.092	3.849	4.267	8.61
68)	T	Bromoform	1.286	0.970	0.993	0.944	1.124	1.098	1.127	1.116	1.082	10.29
69)	T	Styrene	2.850	2.722	2.684	2.759	3.319	3.082	3.138	3.135	2.961	7.98
70)	T	o-Xylene	4.766	4.315	4.279	4.192	4.578	4.133	4.136	3.941	4.293	6.16
71)	T	n-Nonane	2.728	2.763	2.884	2.562	2.968	2.652	2.593	2.430	2.697	6.52
72)	T	1,1,2,2-Tetrac...	2.285	2.012	1.880	1.723	2.038	1.851	1.858	1.798	1.931	9.14
73)	S	Bromofluoroben...	1.628	1.627	1.619	1.625	1.641	1.649	1.692	1.670	1.644	1.54
74)	T	Cumene	5.880	5.568	5.609	5.274	5.938	5.339	5.343	5.201	5.519	5.04
75)	T	alpha-Pinene	2.514	2.140	2.365	2.297	2.646	2.560	2.603	2.547	2.459	7.10
76)	T	n-Propylbenzene	7.569	6.727	6.697	6.538	7.121	6.405	6.426	6.320	6.725	6.31
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	5.608	4.996	5.479	5.147	5.796	5.260	5.399	5.337	5.378	4.73
79)	T	1,3,5-Trimethy...	4.879	4.103	4.513	4.457	4.882	4.439	4.514	4.426	4.527	5.62
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	4.710	4.330	4.654	4.448	5.070	4.659	4.629	4.057	4.570	6.53
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride			1.889	2.234	3.661	3.863	3.995	3.508	3.192	28.12
85)	T	1,3-Dichlorobe...	3.069	2.646	2.688	2.514	2.734	2.517	2.608	2.287	2.633	8.51
86)	T	1,4-Dichlorobe...	2.636	2.403	2.595	2.430	2.748	2.508	2.594	2.598	2.564	4.40
87)	T	sec-Butylbenzene	6.310	6.060	6.252	5.974	6.594	6.042	6.216	6.069	6.190	3.24
88)	T	4-Isopropyltol...	5.358	5.193	5.279	5.008	5.793	5.216	5.311	5.170	5.291	4.33
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.984	2.438	2.655	2.432	2.664	2.423	2.491	2.194	2.535	9.23
91)	T	d-Limonene	1.417	1.338	1.459	1.356	1.780	1.714	1.747	1.519	1.541	11.70
92)	T	1,2-Dibromo-3-...	0.684	0.662	0.771	0.758	0.951	0.912	0.937	0.892	0.821	14.14
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.772	1.616	1.729	1.793	1.980	1.926	2.027	1.818	1.833	7.47

Method Path : I:\MS16\METHODS\
Method File : R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

95)	T	Naphthalene	4.193	4.127	4.460	4.714	5.835	5.686	5.997	6.125	5.142	16.52
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.754	1.537	1.380	1.269	1.455	1.346	1.399	1.347	1.436	10.54
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	4.994	4.639	4.256	4.257	4.722	4.311	4.271	3.712	4.395	8.82
100)	T	n-Butylbenzene	4.741	4.636	4.996	4.832	5.413	4.897	5.010	4.847	4.922	4.76
101)	T	1,1,1,2-Tetrac...	1.144	1.116	1.062	0.999	1.187	1.071	1.078	1.026	1.085	5.67

(#) = Out of Range

CJ 3/19/24

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID: | **40ng/L Std. ID:**
4ng/L Std. ID: S37-03182406 | **200ng/L Std. ID:** S37-03182404
20ng/L Std. ID: S37-03182405 | **1000ng/L Std. ID:**

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200	200
	Source Std.		Primary Working Standards					Injection (L):	0.025	0.050	0.0250	0.050	0.100	0.025	0.125	0.25	0.50
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	2ng	5ng	25ng	50ng	100ng
Propene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	2.10	5.25	26.25	52.5	105
Dichlorodifluoromethane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
Chloromethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
Freon-114	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	2.18	5.45	27.25	54.5	109
Vinyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	2.12	5.30	26.50	53.0	106
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	2.12	5.30	26.50	53.0	106
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	2.04	5.10	25.50	51.0	102
Chloroethane	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	2.20	5.50	27.50	55.0	110
Ethanol	4.91	4910	982	196.4	98.2	19.64	4.91		0.491	0.982	2.455	4.91	9.82	24.55	122.75	245.5	491
Acetonitrile	0.96	960	192	38.4	19.2	3.84	0.96		0.096	0.192	0.480	0.96	1.92	4.80	24.00	48.0	96
Acrolein	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	4.30	10.75	53.75	107.5	215
Acetone	5.11	5110	1022	204.4	102.2	20.44	5.11		0.511	1.022	2.555	5.11	10.22	25.55	127.75	255.5	511
Trichlorofluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	2.02	5.05	25.25	50.5	101
Isopropanol	1.98	1980	396	79.2	39.6	7.92	1.98		0.198	0.396	0.990	1.98	3.96	9.90	49.50	99.0	198
Acrylonitrile	2.00	2000	400	80.0	40.0	8.00	2.00		0.200	0.400	1.000	2.00	4.00	10.00	50.00	100.0	200
1,1-Dichloroethene	0.90	900	180	36.0	18.0	3.60	0.90		0.090	0.180	0.450	0.90	1.80	4.50	22.50	45.0	90
tert-Butanol	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	4.16	10.40	52.00	104.0	208
Methylene Chloride	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	1.82	4.55	22.75	45.5	91
Allyl Chloride	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	2.16	5.40	27.00	54.0	108
Trichlorotrifluoroethane	0.90	900	180	36.0	18.0	3.60	0.90		0.090	0.180	0.450	0.90	1.80	4.50	22.50	45.0	90
Carbon Disulfide	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	4.14	10.35	51.75	103.5	207
trans-1,2-Dichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	2.10	5.25	26.25	52.5	105
1,1-Dichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
Methyl tert-Butyl Ether	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
Vinyl Acetate	5.37	5370	1074	214.8	107.4	21.48	5.37		0.537	1.074	2.685	5.37	10.74	26.85	134.25	268.5	537
2-Butanone	2.03	2030	406	81.2	40.6	8.12	2.03		0.203	0.406	1.015	2.03	4.06	10.15	50.75	101.5	203
cis-1,2-Dichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
Diisopropyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	4.20	10.50	52.50	105.0	210
Ethyl Acetate	1.96	1960	392	78.4	39.2	7.84	1.96		0.196	0.392	0.980	1.96	3.92	9.80	49.00	98.0	196
n-Hexane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	2.10	5.25	26.25	52.5	105
Chloroform	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
Tetrahydrofuran	1.89	1890	378	75.6	37.8	7.56	1.89		0.189	0.378	0.945	1.89	3.78	9.45	47.25	94.5	189
Ethyl tert-Butyl Ether	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	4.22	10.55	52.75	105.5	211
1,2-Dichloroethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	2.04	5.10	25.50	51.0	102
1,1,1-Trichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
Benzene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	2.04	5.10	25.50	51.0	102
Carbon Tetrachloride	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
Cyclohexane	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	4.20	10.50	52.50	105.0	210
tert-Amyl Methyl Ether	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	4.22	10.55	52.75	105.5	211
1,2-Dichloropropane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	2.16	5.40	27.00	54.0	108
Bromodichloromethane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	2.12	5.30	26.50	53.0	106
Trichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
1,4-Dioxane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
Isooctane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
Methyl Methacrylate	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	4.22	10.55	52.75	105.5	211
n-Heptane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	2.10	5.25	26.25	52.5	105

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		**40ng/L Std. ID:**	
4ng/L Std. ID:	**S37-03182406**	**200ng/L Std. ID:**	**S37-03182404**
20ng/L Std. ID:	**S37-03182405**	**1000ng/L Std. ID:**	

Dilution Factors:		**1**	**5**	**25**	**50**	**250**	**1000**	**Working STD Conc.(ng/L):**	**4**	**4**	**20**	**20**	**20**	**200**	**200**	**200**	**200**
	Source Std.		**Primary Working Standards**					**Injection (L):**	**0.025**	**0.050**	**0.0250**	**0.050**	**0.100**	**0.025**	**0.125**	**0.25**	**0.50**
Compounds	**mg/m³**	**1000ng/L**	**200ng/L**	**40ng/L**	**20ng/L**	**4ng/L**	**1ng/L**	**ICAL Points:**	**0.1ng**	**0.2ng**	**0.5ng**	**1ng**	**2ng**	**5ng**	**25ng**	**50ng**	**100ng**
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	2.10	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	4.20	10.50	52.50	105.0	210
trans-1,3-Dichloropropene	0.98	980	196	39.2	19.6	3.92	0.98		0.098	0.196	0.490	0.98	1.96	4.90	24.50	49.0	98
1,1,2-Trichloroethane	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	2.18	5.45	27.25	54.5	109
Toluene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	2.16	5.40	27.00	54.0	108
2-Hexanone	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	4.08	10.20	51.00	102.0	204
Dibromochloromethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	2.04	5.10	25.50	51.0	102
1,2-Dibromoethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
n-Butyl Acetate	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	4.16	10.40	52.00	104.0	208
n-Octane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	2.12	5.30	26.50	53.0	106
Tetrachloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
Ethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	2.18	5.45	27.25	54.5	109
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	4.28	10.70	53.50	107.0	214
Bromoform	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	2.18	5.45	27.25	54.5	109
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	2.12	5.30	26.50	53.0	106
o-Xylene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	2.16	5.40	27.00	54.0	108
n-Nonane	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
1,1,2,2-Tetrachloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	2.16	5.40	27.00	54.0	108
Cumene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107
n-Propylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
4-Ethyltoluene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
1,3,5-Trimethylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	2.16	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
Benzyl Chloride	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	4.14	10.35	51.75	103.5	207
1,3-Dichlorobenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
1,4-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
sec-Butylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
p-Isopropyltoluene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	2.04	5.10	25.50	51.0	102
1,2-Dichlorobenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	2.06	5.15	25.75	51.5	103
d-Limonene	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	2.00	5.00	25.00	50.0	100
1,2-Dibromo-3-chloropropane	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	4.12	10.30	51.50	103.0	206
1,2,4-Trichlorobenzene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	4.28	10.70	53.50	107.0	214
Naphthalene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	2.02	5.05	25.25	50.5	101
Hexachloro-1,3-butadiene	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	2.02	5.05	25.25	50.5	101
tert-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	2.08	5.20	26.00	52.0	104
n-Butylbenzene	1.00	1000	200	40.0	20.0	4.00	1.00		0.100	0.200	0.500	1.00	2.00	5.00	25.00	50.0	100
1,1,1,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	2.14	5.35	26.75	53.5	107

Calibration Status Report GCMS-16

CJ 3/19/24

Method   : I:\MS16\METHODS\R16031924.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS16\DATA\2024_03\19\03192402.D
2	0.2	0	13	I:\MS16\DATA\2024_03\19\03192403.D
3	0.5	1	13	I:\MS16\DATA\2024_03\19\03192404.D
4	1.0	1	13	I:\MS16\DATA\2024_03\19\03192405.D
6	5.0	5	13	I:\MS16\DATA\2024_03\19\03192406.D
7	25	26	13	I:\MS16\DATA\2024_03\19\03192407.D
8	50	53	13	I:\MS16\DATA\2024_03\19\03192408.D
9	100	100	13	I:\MS16\DATA\2024_03\19\03192409.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 19 09:28 2024	Mar 19 09:17 2024	18 Mar 2024 23:58
2	0.2	Mar 19 09:41 2024	Mar 19 09:40 2024	19 Mar 2024 00:32
3	0.5	Mar 19 09:28 2024	Mar 19 09:08 2024	19 Mar 2024 1:05
4	1.0	Mar 19 09:28 2024	Mar 19 09:25 2024	19 Mar 2024 1:39
6	5.0	Mar 19 09:28 2024	Mar 19 09:23 2024	19 Mar 2024 2:12
7	25	Mar 19 09:28 2024	Mar 19 09:09 2024	19 Mar 2024 2:46
8	50	Mar 19 09:28 2024	Mar 19 09:24 2024	19 Mar 2024 3:19
9	100	Mar 19 09:28 2024	Mar 19 09:28 2024	19 Mar 2024 3:53

R16031924.M Tue Mar 19 09:50:04 2024

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192402.D
Acq On : 18 Mar 2024 23:58
Operator : CI
Sample : ICAL R16031924 0.1ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:17:14 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.37	130	219445	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	13.50	114	1007295	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	17.78	54	233647	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	473411	13.157	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.28%				
57) Toluene-d8 (SS2)	15.94	98	1130023	12.481	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.84%				
73) Bromofluorobenzene (SS3)	19.15	174	380303	13.603	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.22	42	3283	0.090	ng	#	88
3) Dichlorodifluoromethan...	4.37	85	5838	0.120	ng		88
4) Chloromethane	4.66	50	4695	0.131	ng		91
5) 1,2-Dichloro-1,1,2,2-t...	4.95	135	2552	0.129	ng		88
6) Vinyl Chloride	5.10	62	2970	0.090	ng		100
7) 1,3-Butadiene	5.38	54	2618	0.112	ng	#	73
8) Bromomethane	5.81	94	1986m	0.109	ng		
9) Chloroethane	6.15	64	2438	0.136	ng		77
10) Ethanol	6.57	45	12675	0.557	ng		92
11) Acetonitrile	6.84	41	6973	0.122	ng	#	66
12) Acrolein	7.03	56	3148	0.186	ng		77
13) Acetone	7.27	58	9805	0.530	ng		91
14) Trichlorofluoromethane	7.45	101	4759	0.111	ng		93
15) 2-Propanol (Isopropanol)	7.80	45	14701	0.219	ng		97
16) Acrylonitrile	8.01	53	6462	0.190	ng		83
17) 1,1-Dichloroethene	8.42	96	2212	0.109	ng		99
18) 2-Methyl-2-Propanol (t...	8.71	59	12942	0.225	ng		82
19) Methylene Chloride	8.64	84	2970	0.129	ng	#	79
20) 3-Chloro-1-propene (Al...	8.81	41	3435	0.096	ng		96
21) Trichlorotrifluoroethane	9.07	151	2217	0.120	ng		85
22) Carbon Disulfide	8.92	76	14011	0.193	ng		90
23) trans-1,2-Dichloroethene	9.93	61	4124	0.125	ng		95
24) 1,1-Dichloroethane	10.18	63	4975	0.121	ng		96
25) Methyl tert-Butyl Ether	10.35	73	7897	0.126	ng		82
26) Vinyl Acetate	10.47	86	417	0.122	ng	#	71
27) 2-Butanone (MEK)	10.75	72	3178	0.203	ng		97
28) cis-1,2-Dichloroethene	11.20	61	3559	0.108	ng		80
29) Diisopropyl Ether	11.53	87	4408	0.223	ng	#	90
30) Ethyl Acetate	11.56	61	1986	0.227	ng		97
31) n-Hexane	11.49	57	4465	0.108	ng	#	88
32) Chloroform	11.55	83	4972	0.132	ng		95
34) Tetrahydrofuran (THF)	12.04	72	2987	0.205	ng		98
35) Ethyl tert-Butyl Ether	12.12	87	5642	0.226	ng		92
36) 1,2-Dichloroethane	12.35	62	4757	0.129	ng		99
38) 1,1,1-Trichloroethane	12.63	97	4267	0.112	ng		92
39) Isopropyl Acetate	13.75	61	154	No Calib		#	
40) 1-Butanol	12.66	56	164	No Calib		#	
41) Benzene	13.10	78	21198	0.216	ng		97
42) Carbon Tetrachloride	13.26	117	2671	0.084	ng		95
43) Cyclohexane	13.40	84	6830	0.205	ng		89
44) tert-Amyl Methyl Ether	13.78	73	12824	0.214	ng		93
45) 1,2-Dichloropropane	13.95	63	3159	0.132	ng		93
46) Bromodichloromethane	14.14	83	4055	0.129	ng		96
47) Trichloroethene	14.19	130	3345	0.142	ng		95
48) 1,4-Dioxane	14.23	88	1984	0.101	ng	#	30

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192402.D
Acq On : 18 Mar 2024 23:58
Operator : CI
Sample : ICAL R16031924 0.1ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:17:14 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

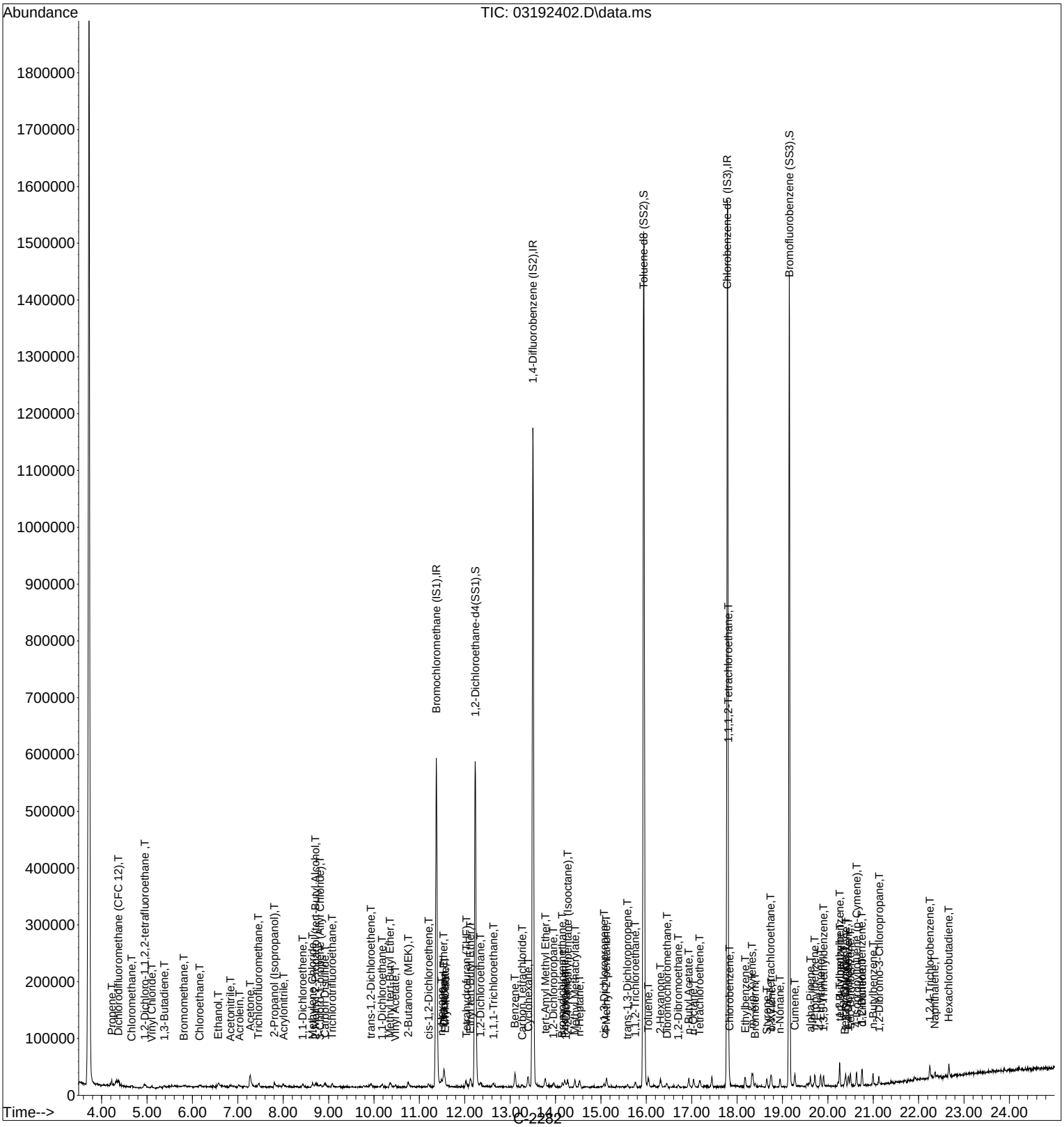
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	10515	0.101 ng		87
50) Methyl Methacrylate	14.43	100	1933	0.228 ng	#	86
51) n-Heptane	14.53	71	2671	0.108 ng		93
52) cis-1,3-Dichloropropene	15.07	75	3919	0.103 ng		96
53) 4-Methyl-2-pentanone	15.12	58	4303	0.196 ng		95
54) trans-1,3-Dichloropropene	15.58	75	2876	0.092 ng		100
55) 1,1,2-Trichloroethane	15.76	97	2537	0.119 ng		92
58) Toluene	16.04	91	10568	0.120 ng		99
59) 2-Hexanone	16.31	43	11927	0.195 ng		98
60) Dibromochloromethane	16.45	129	2678	0.109 ng		85
61) 1,2-Dibromoethane	16.70	107	2836	0.122 ng		97
62) n-Butyl Acetate	16.93	43	12384	0.180 ng		92
63) n-Octane	17.04	57	2649	0.121 ng		98
64) Tetrachloroethene	17.17	166	3251	0.134 ng		80
65) Chlorobenzene	17.83	112	7657	0.133 ng		99
66) Ethylbenzene	18.18	91	11753	0.116 ng		93
67) m- & p-Xylenes	18.33	91	20022	0.252 ng		90
68) Bromoform	18.39	173	2621	0.138 ng		94
69) Styrene	18.65	104	5646	0.103 ng		92
70) o-Xylene	18.76	91	9621	0.120 ng		99
71) n-Nonane	18.94	43	5303	0.096 ng		95
72) 1,1,2,2-Tetrachloroethane	18.74	83	4612	0.126 ng		95
74) Cumene	19.27	105	11430	0.110 ng		94
75) alpha-Pinene	19.62	93	5028	0.106 ng		99
76) n-Propylbenzene	19.71	91	14572	0.115 ng		93
77) 3-Ethyltoluene	20.26	105	9156	No Calib		
78) 4-Ethyltoluene	19.84	105	10797	0.106 ng		98
79) 1,3,5-Trimethylbenzene	19.90	105	9850	0.116 ng		92
80) alpha-Methylstyrene	20.63	118	330	No Calib	#	
81) 2-Ethyltoluene	20.26	105	9156	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	9156	0.106 ng		96
83) n-Decane	20.39	58	109	No Calib	#	
84) Benzyl Chloride	20.37	91	5284	0.090 ng		93
85) 1,3-Dichlorobenzene	20.40	146	5909	0.122 ng		95
86) 1,4-Dichlorobenzene	20.45	146	5125	0.106 ng		87
87) sec-Butylbenzene	20.50	105	12148	0.103 ng		97
88) 4-Isopropyltoluene (p-...	20.63	119	10215	0.103 ng		96
89) 1,2,3-Trimethylbenzene	20.26	105	9156	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	5744	0.121 ng		94
91) d-Limonene	20.76	68	2648	0.087 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.13	157	2635	0.168 ng	#	59
93) n-Undecane	21.51	58	175	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	7089	0.206 ng	#	94
95) Naphthalene	22.35	128	7916	0.073 ng		97
96) n-Dodecane	22.76	57	132	No Calib	#	
97) Hexachlorobutadiene	22.66	225	3312	0.124 ng		92
98) Cyclohexanone	18.25	55	180	No Calib	#	
99) tert-Butylbenzene	20.26	119	9708	0.120 ng		96
100) n-Butylbenzene	21.00	91	8862	0.093 ng		93
101) 1,1,1,2-Tetrachloroethane	17.81	131	2289	0.115 ng	#	88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192402.D
Acq On : 18 Mar 2024 23:58
Operator : CI
Sample : ICAL R16031924 0.1ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

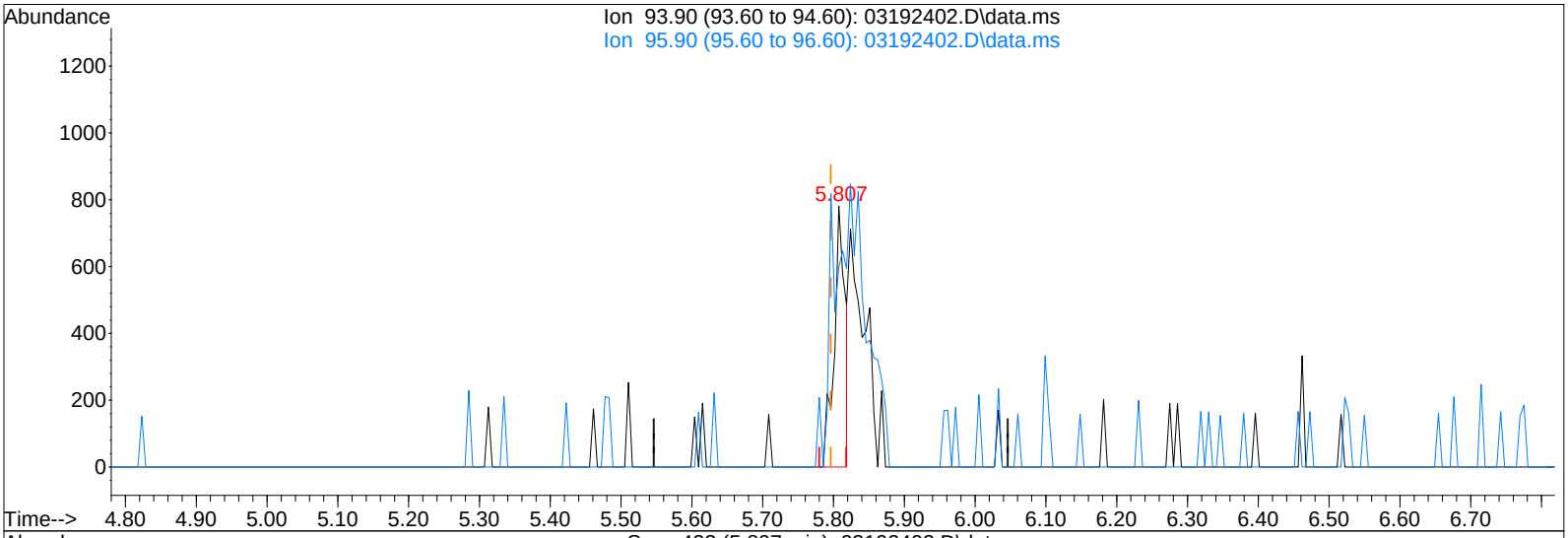
Quant Time: Mar 19 09:17:14 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

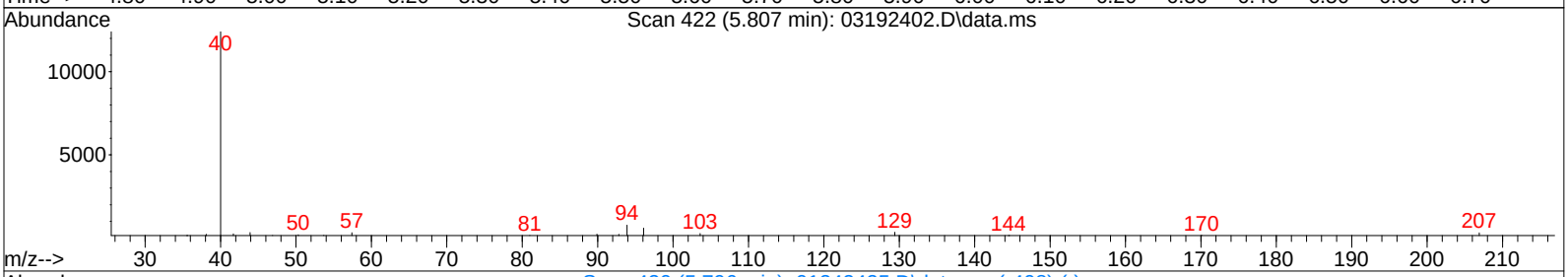


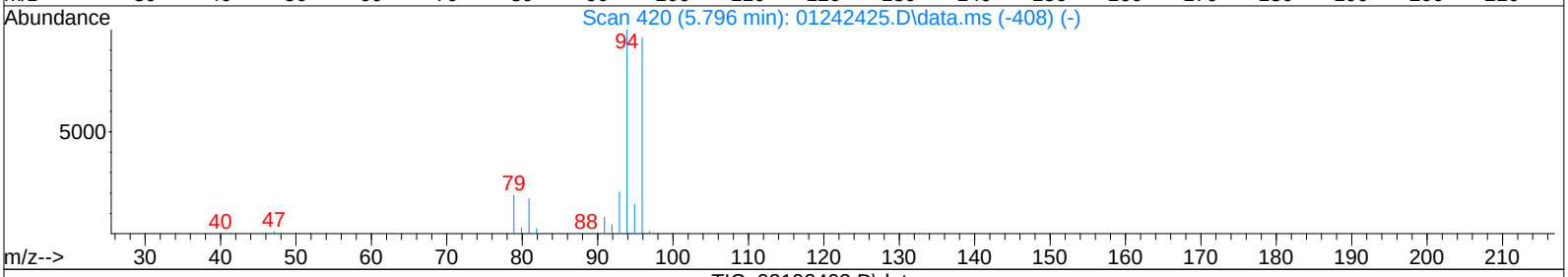
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192402.D
Acq On : 18 Mar 2024 23:58
Operator : CI
Sample : ICAL R16031924 0.1ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:16:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration







TIC: 03192402.D\data.ms

(8) Bromomethane (T)

5.807min (+0.011) 0.05ng

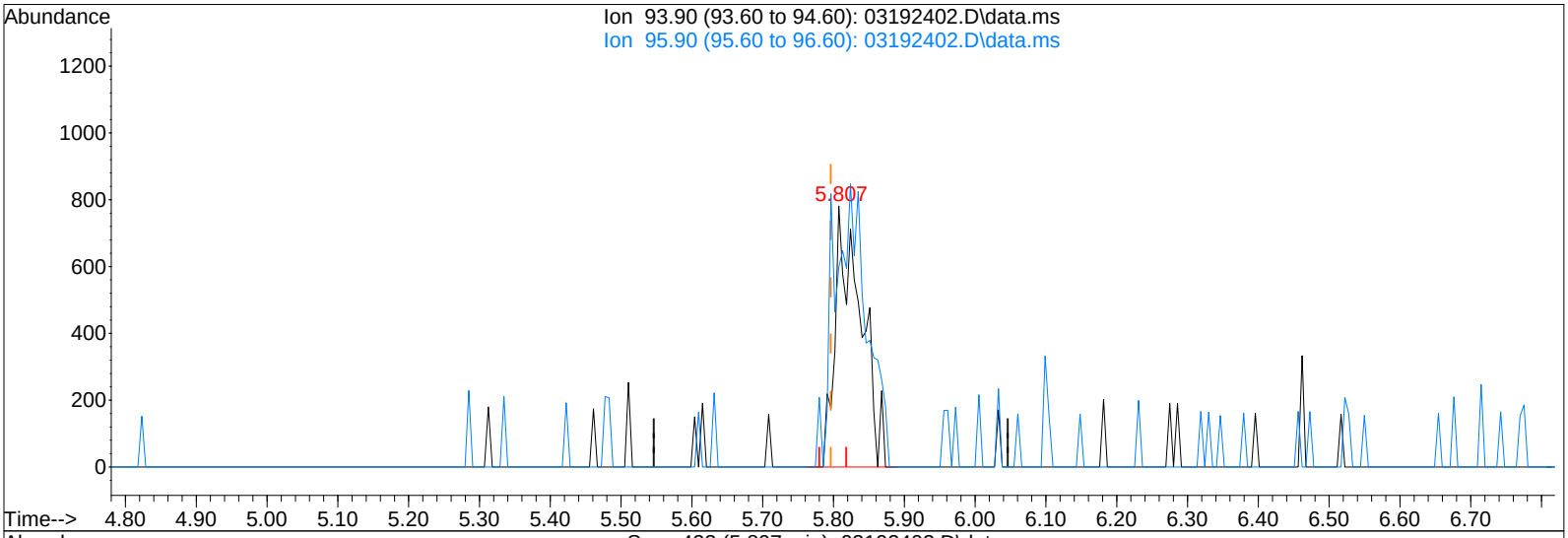
response 853

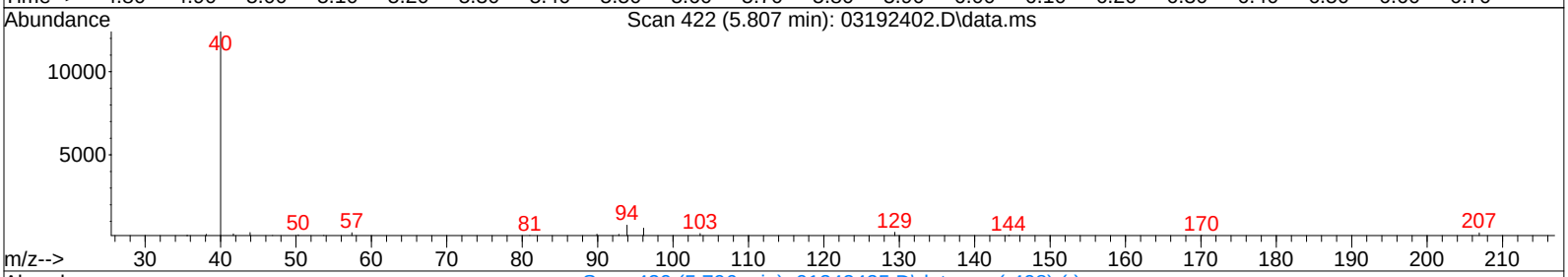
Ion	Exp%	Act%
93.90	100	100
95.90	95.90	87.34
0.00	0.00	0.00
0.00	0.00	0.00

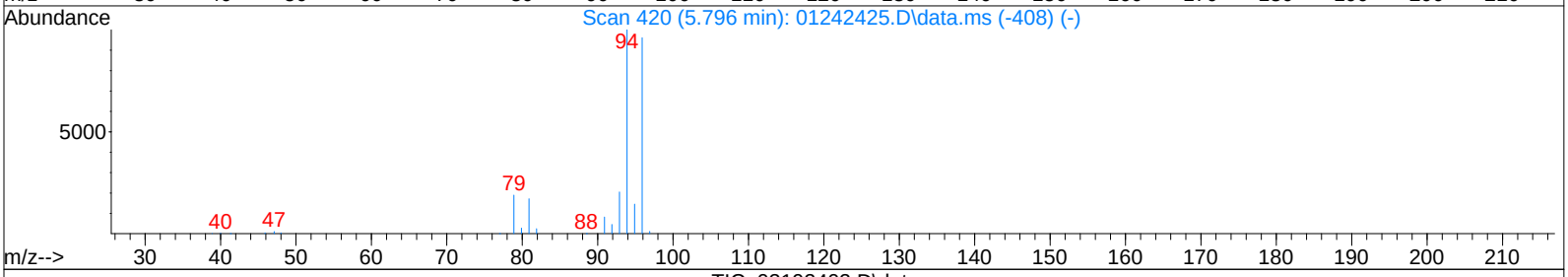
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192402.D
Acq On : 18 Mar 2024 23:58
Operator : CI
Sample : ICAL R16031924 0.1ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:16:26 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration







TIC: 03192402.D\data.ms

(8) Bromomethane (T)

5.807min (+0.011) 0.11ng m

response 1986

Ion	Exp%	Act%
93.90	100	100
95.90	95.90	37.51#
0.00	0.00	0.00
0.00	0.00	0.00

CI 3/19/24

IC-

CG 3/27/24

C-2284

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:40:43 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	219800	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	1014786	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	232745	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.23	65	472101	13.100	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
57) Toluene-d8 (SS2)	15.94	98	1118949	12.407	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
73) Bromofluorobenzene (SS3)	19.15	174	378643	13.596	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
Target Compounds							Qvalue
2) Propene	4.21	42	7353	0.202	ng		90
3) Dichlorodifluoromethan...	4.37	85	10687	0.220	ng		98
4) Chloromethane	4.66	50	8162m	0.227	ng		
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	4504	0.226	ng		94
6) Vinyl Chloride	5.09	62	6362	0.191	ng		97
7) 1,3-Butadiene	5.37	54	4513	0.193	ng	#	84
8) Bromomethane	5.81	94	3866	0.212	ng		91
9) Chloroethane	6.15	64	4195	0.233	ng		96
10) Ethanol	6.57	45	22263	0.976	ng		100
11) Acetonitrile	6.83	41	10090	0.176	ng	#	1
12) Acrolein	7.02	56	6282	0.372	ng		90
13) Acetone	7.26	58	18659	1.007	ng		95
14) Trichlorofluoromethane	7.45	101	9626	0.224	ng		96
15) 2-Propanol (Isopropanol)	7.80	45	24491	0.364	ng		75
16) Acrylonitrile	8.00	53	11211	0.329	ng		96
17) 1,1-Dichloroethene	8.44	96	4079	0.200	ng		97
18) 2-Methyl-2-Propanol (t...	8.69	59	22832	0.397	ng		91
19) Methylene Chloride	8.65	84	5230	0.228	ng		91
20) 3-Chloro-1-propene (Al...	8.82	41	5883	0.165	ng		95
21) Trichlorotrifluoroethane	9.08	151	3888	0.210	ng		93
22) Carbon Disulfide	8.92	76	26419	0.364	ng		94
23) trans-1,2-Dichloroethene	9.93	61	7194	0.217	ng		100
24) 1,1-Dichloroethane	10.18	63	8059	0.196	ng		88
25) Methyl tert-Butyl Ether	10.36	73	14315	0.227	ng		71
26) Vinyl Acetate	10.47	86	422	0.123	ng	#	1
27) 2-Butanone (MEK)	10.75	72	5555	0.355	ng		99
28) cis-1,2-Dichloroethene	11.21	61	6421	0.194	ng		97
29) Diisopropyl Ether	11.53	87	7964	0.402	ng	#	91
30) Ethyl Acetate	11.55	61	3249m	0.371	ng		
31) n-Hexane	11.49	57	8016	0.194	ng	#	90
32) Chloroform	11.54	83	8477	0.225	ng		99
34) Tetrahydrofuran (THF)	12.02	72	5971	0.408	ng	#	82
35) Ethyl tert-Butyl Ether	12.12	87	10669	0.426	ng		95
36) 1,2-Dichloroethane	12.35	62	8129	0.221	ng		94
38) 1,1,1-Trichloroethane	12.63	97	7774	0.203	ng		93
39) Isopropyl Acetate	13.83	61	118	No Calib		#	
40) 1-Butanol	12.60	56	123	No Calib		#	
41) Benzene	13.11	78	30708	0.310	ng		96
42) Carbon Tetrachloride	13.26	117	5125	0.159	ng		97
43) Cyclohexane	13.40	84	13166	0.393	ng		94
44) tert-Amyl Methyl Ether	13.77	73	24280	0.403	ng		95
45) 1,2-Dichloropropane	13.96	63	5115	0.212	ng		99
46) Bromodichloromethane	14.15	83	6991	0.220	ng		89
47) Trichloroethene	14.20	130	5987	0.253	ng		90
48) 1,4-Dioxane	14.22	88	3731	0.189	ng	#	69

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:40:43 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

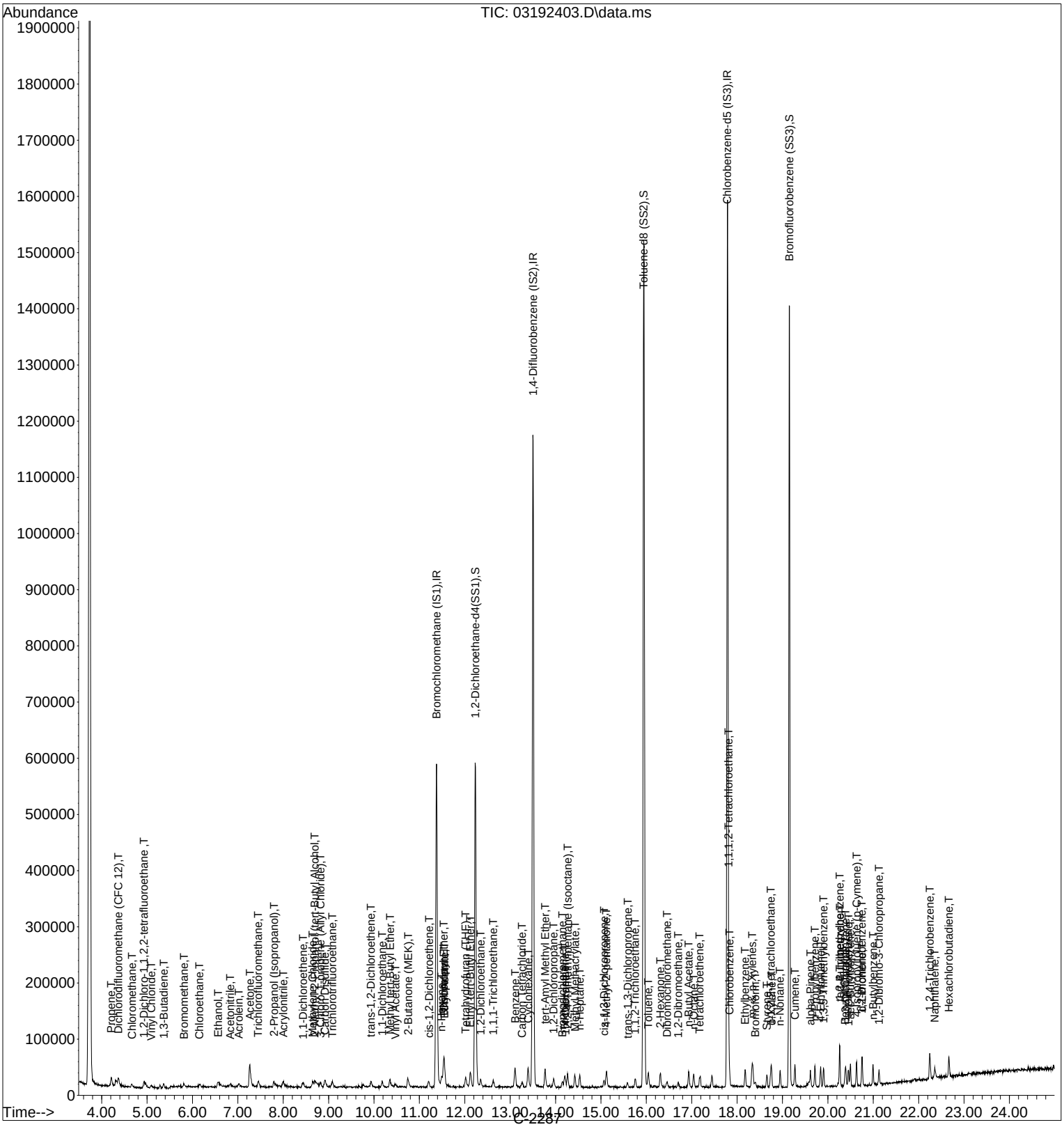
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	19259	0.183 ng		100
50) Methyl Methacrylate	14.43	100	3264	0.382 ng		95
51) n-Heptane	14.53	71	5393	0.216 ng		94
52) cis-1,3-Dichloropropene	15.07	75	7052	0.184 ng		98
53) 4-Methyl-2-pentanone	15.12	58	7700	0.349 ng		99
54) trans-1,3-Dichloropropene	15.59	75	4905	0.156 ng		91
55) 1,1,2-Trichloroethane	15.75	97	4372	0.203 ng		100
58) Toluene	16.04	91	18529	0.211 ng		100
59) 2-Hexanone	16.31	43	20354	0.334 ng		98
60) Dibromochloromethane	16.45	129	5024	0.205 ng		98
61) 1,2-Dibromoethane	16.70	107	4703	0.203 ng		95
62) n-Butyl Acetate	16.93	43	23386	0.342 ng		95
63) n-Octane	17.05	57	3947	0.181 ng		99
64) Tetrachloroethene	17.17	166	5808	0.241 ng		93
65) Chlorobenzene	17.83	112	12233	0.213 ng		93
66) Ethylbenzene	18.17	91	21130	0.210 ng		97
67) m- & p-Xylenes	18.33	91	33791	0.427 ng		98
68) Bromoform	18.40	173	3936	0.209 ng		98
69) Styrene	18.65	104	10745	0.196 ng		100
70) o-Xylene	18.76	91	17354	0.217 ng		97
71) n-Nonane	18.94	43	10699	0.194 ng		97
72) 1,1,2,2-Tetrachloroethane	18.74	83	8090	0.221 ng		93
74) Cumene	19.27	105	21566	0.209 ng		98
75) alpha-Pinene	19.62	93	8527	0.180 ng		94
76) n-Propylbenzene	19.71	91	25803	0.204 ng		98
77) 3-Ethyltoluene	20.26	105	16771	No Calib		
78) 4-Ethyltoluene	19.84	105	19161	0.189 ng		99
79) 1,3,5-Trimethylbenzene	19.90	105	16501	0.195 ng		94
80) alpha-Methylstyrene	20.63	118	502	No Calib	#	
81) 2-Ethyltoluene	20.26	105	16771	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	16771	0.196 ng		96
83) n-Decane	20.35	58	169	No Calib	#	
84) Benzyl Chloride	20.38	91	10510	0.180 ng		99
85) 1,3-Dichlorobenzene	20.39	146	10149	0.210 ng		96
86) 1,4-Dichlorobenzene	20.46	146	9307	0.194 ng		91
87) sec-Butylbenzene	20.50	105	23243	0.199 ng		98
88) 4-Isopropyltoluene (p-...	20.63	119	19724	0.199 ng		96
89) 1,2,3-Trimethylbenzene	20.26	105	16771	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	9353	0.198 ng		98
91) d-Limonene	20.75	68	4982	0.165 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.13	157	5078	0.325 ng	#	70
93) n-Undecane	21.58	58	160	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.25	180	12882	0.376 ng		98
95) Naphthalene	22.35	128	15523	0.144 ng		97
96) n-Dodecane	22.75	57	125	No Calib	#	
97) Hexachlorobutadiene	22.67	225	5782	0.217 ng		96
98) Cyclohexanone	18.31	55	200	No Calib	#	
99) tert-Butylbenzene	20.26	119	17967	0.222 ng		99
100) n-Butylbenzene	21.00	91	17264	0.181 ng		98
101) 1,1,1,2-Tetrachloroethane	17.81	131	4446	0.224 ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

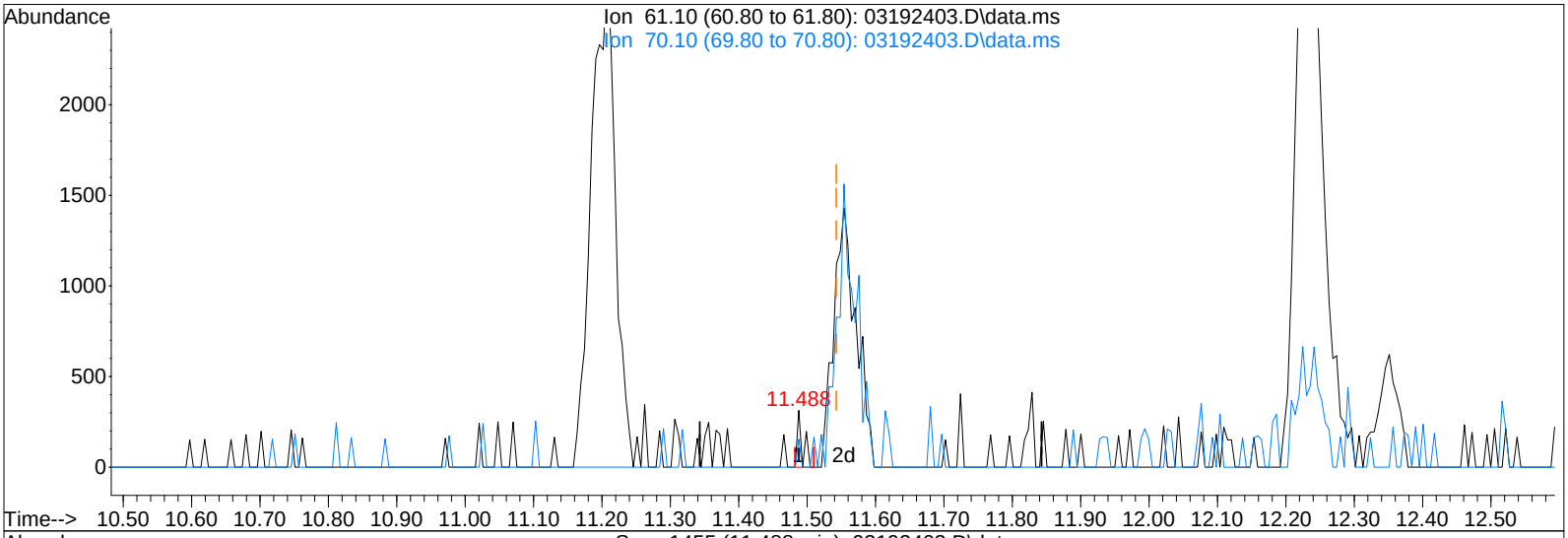
Quant Time: Mar 19 09:40:43 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

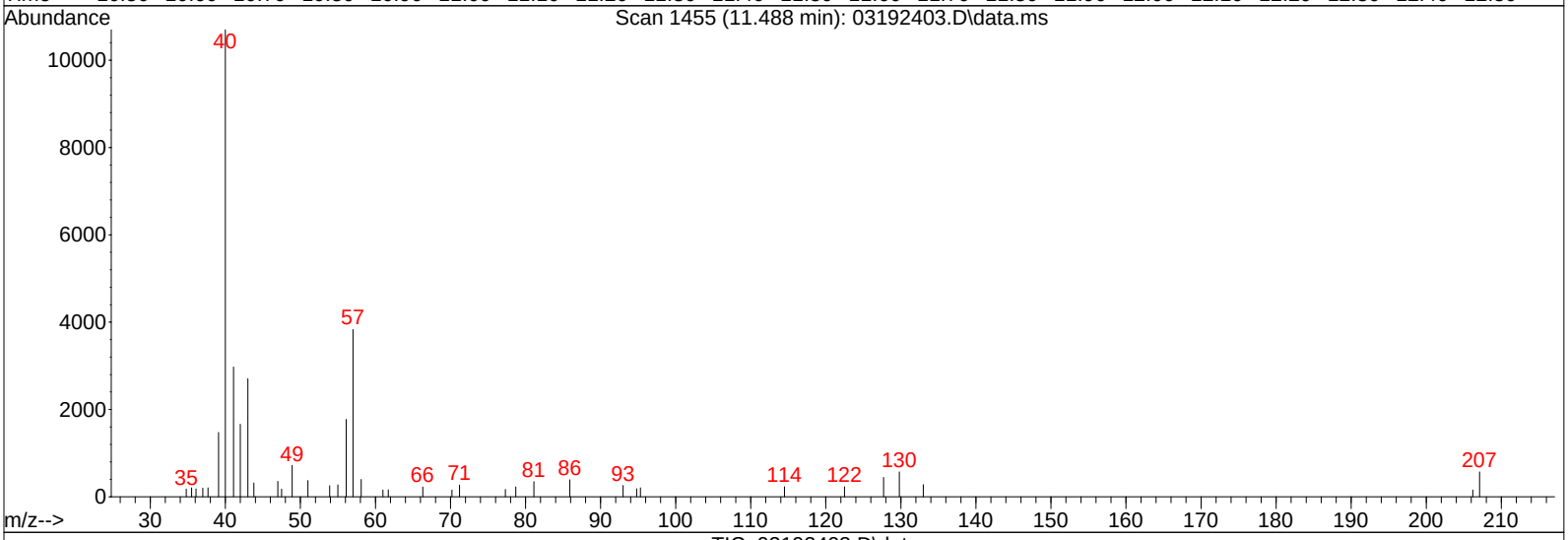


Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:19:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration





TIC: 03192403.D\data.ms

(30) Ethyl Acetate (T)

11.488min (-0.055) 0.02ng

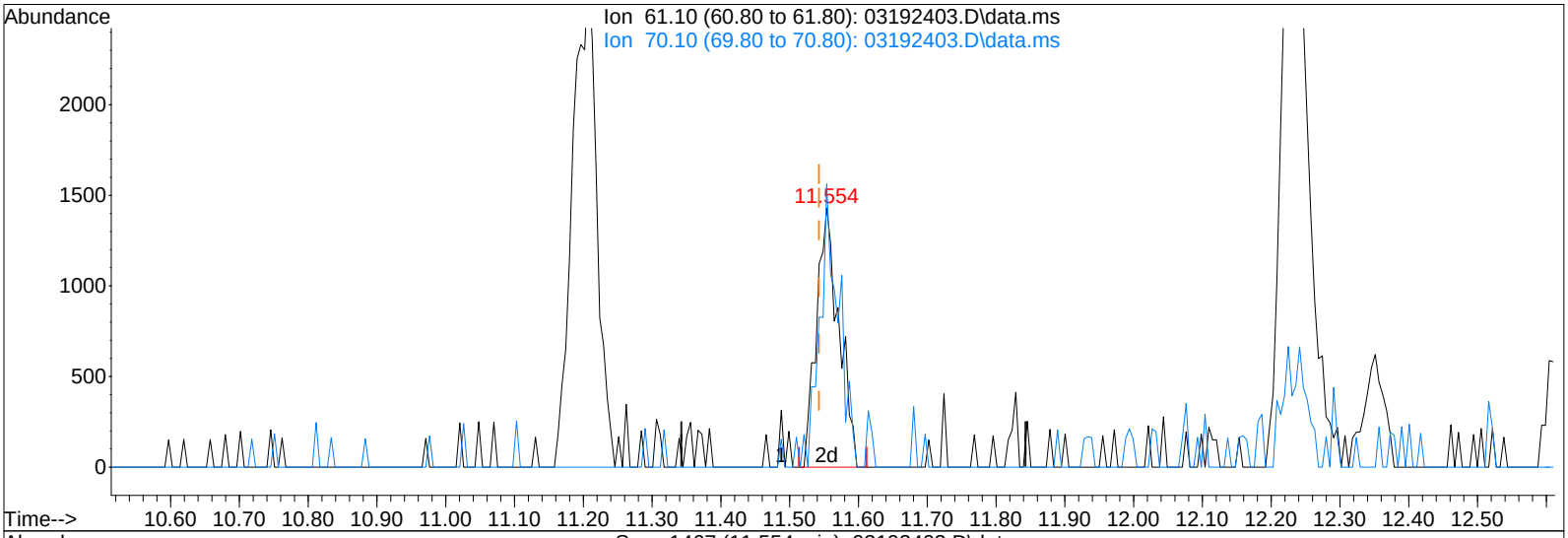
response 168

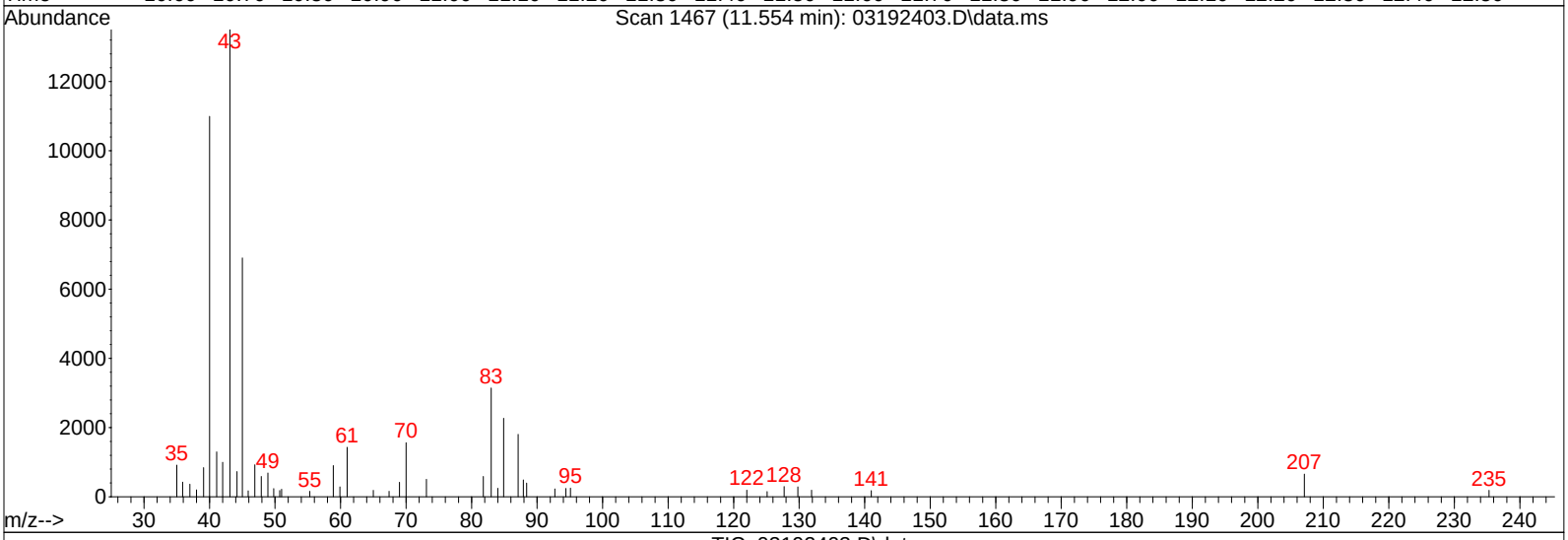
Ion	Exp%	Act%
61.10	100	100
70.10	84.50	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:19:37 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration





TIC: 03192403.D\data.ms

(30) Ethyl Acetate (T)

11.554min (+0.011) 0.37ng m

response 3249

Ion	Exp%	Act%
61.10	100	100
70.10	84.50	92.31
0.00	0.00	0.00
0.00	0.00	0.00

CI 3/19/24

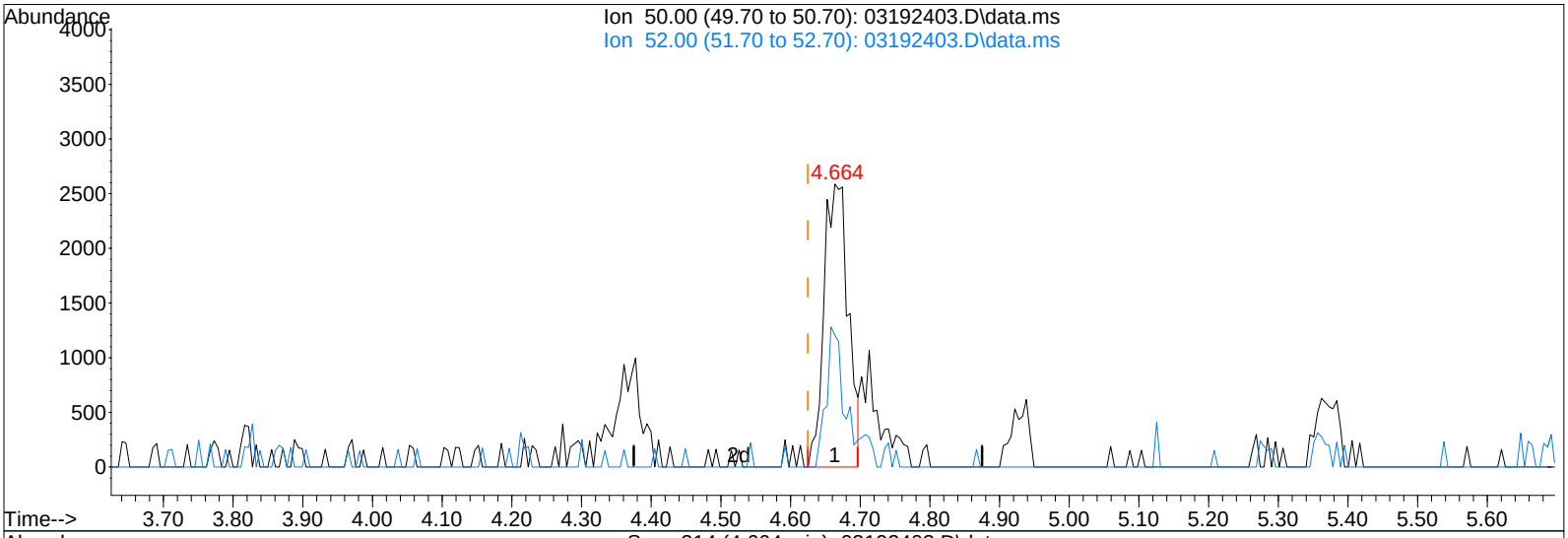
MP

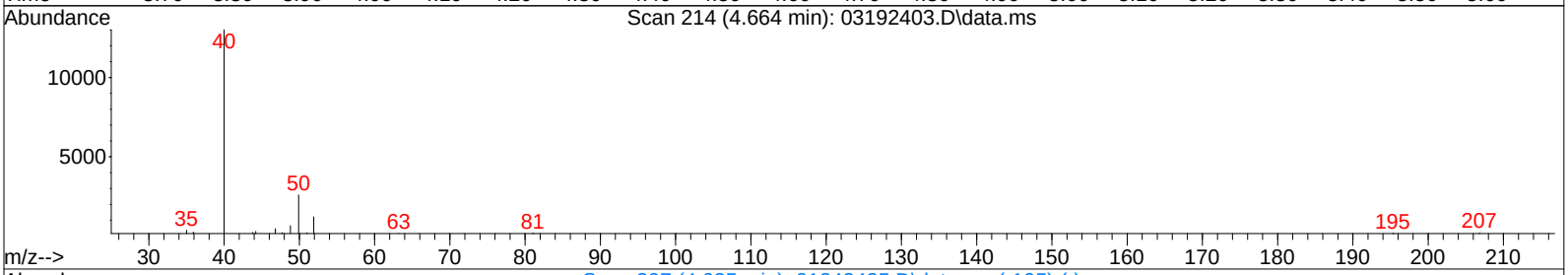
CG 3/27/24

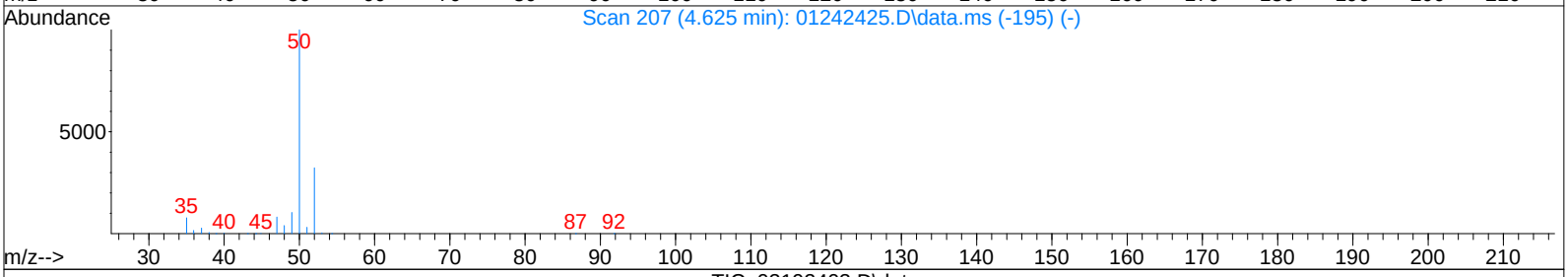
C-2289

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:18:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration







TIC: 03192403.D\data.ms

(4) Chloromethane (T)

4.664min (+0.038) 0.17ng

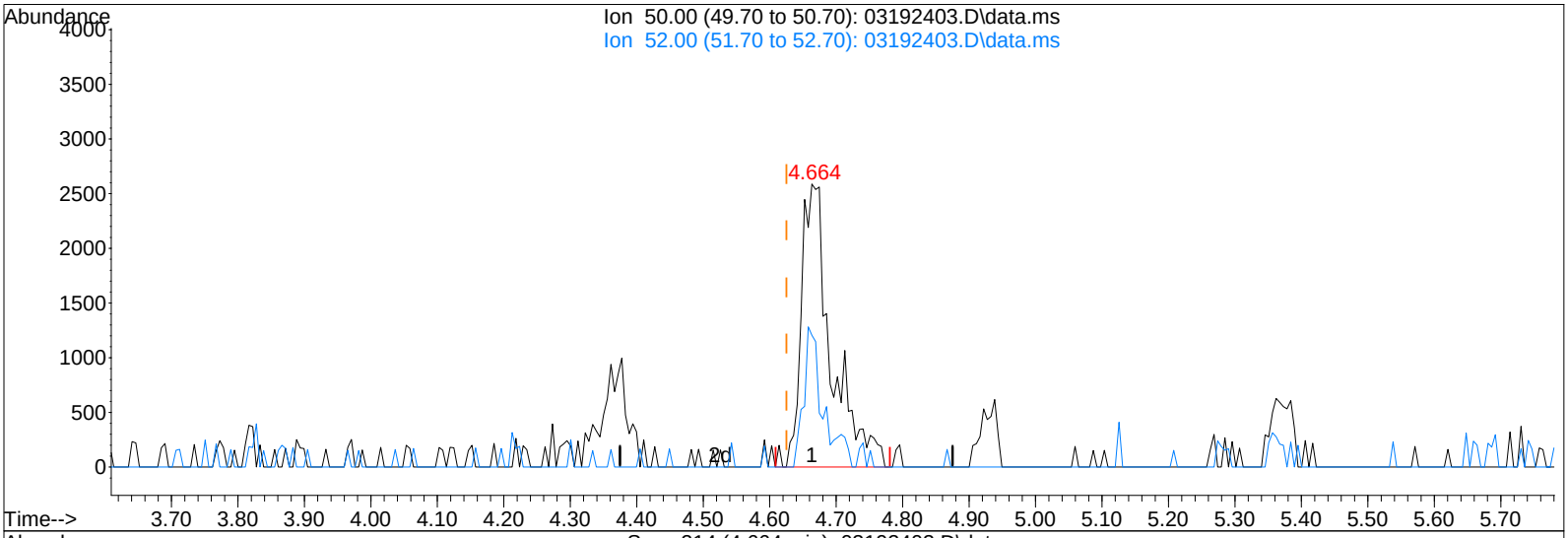
response 6257

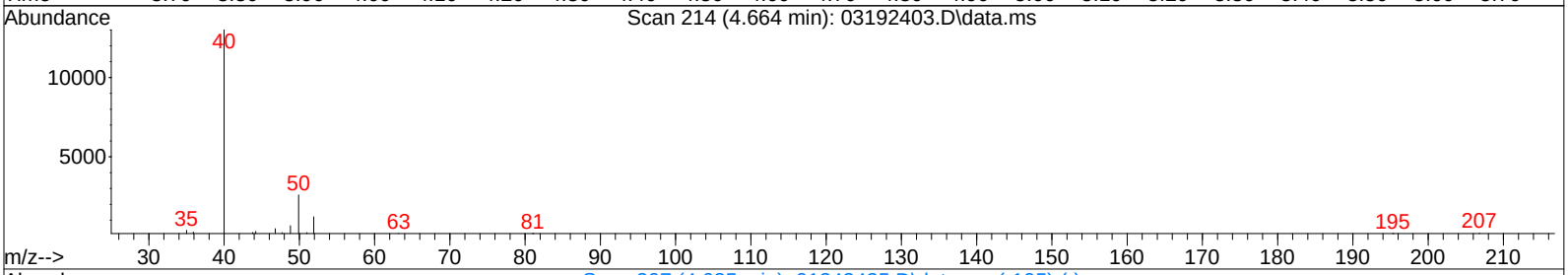
Ion	Exp%	Act%
50.00	100	100
52.00	32.80	36.36
0.00	0.00	0.00
0.00	0.00	0.00

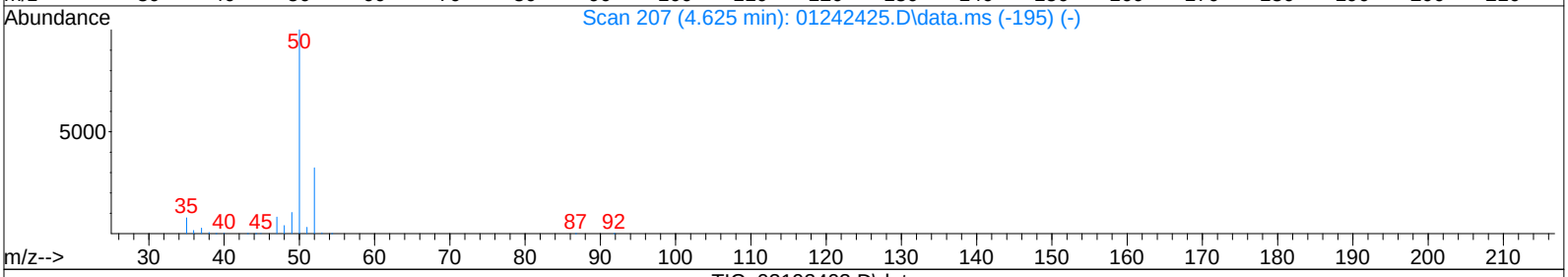
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 00:32
Operator : CI
Sample : ICAL R16031924 0.2ng
Misc : S37-01032403/S37-03182406 (4/17)
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Mar 19 09:18:42 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration







TIC: 03192403.D\data.ms

(4) Chloromethane (T)

4.664min (+0.038) 0.23ng m

response 8162

Ion	Exp%	Act%
50.00	100	100
52.00	32.80	31.93
0.00	0.00	0.00
0.00	0.00	0.00

CI 3/19/24

IC-

CG 3/27/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192404.D
Acq On : 19 Mar 2024 1:05
Operator : CI
Sample : ICAL R16031924 0.5ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:08:58 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	218325	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	995094	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.78	54	229568	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	461917	12.904	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%				
57) Toluene-d8 (SS2)	15.94	98	1106928	12.443	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	19.15	174	371722	13.533	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
Target Compounds							Qvalue
2) Propene	4.20	42	15655	0.433	ng		97
3) Dichlorodifluoromethan...	4.35	85	27697	0.573	ng		99
4) Chloromethane	4.65	50	18944	0.530	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	10990	0.556	ng		98
6) Vinyl Chloride	5.08	62	17148	0.520	ng		97
7) 1,3-Butadiene	5.35	54	11493	0.494	ng		96
8) Bromomethane	5.80	94	9228	0.510	ng		94
9) Chloroethane	6.15	64	9533	0.534	ng		94
10) Ethanol	6.55	45	51531	2.275	ng		96
11) Acetonitrile	6.82	41	23835	0.419	ng		80
12) Acrolein	7.01	56	16062	0.956	ng		97
13) Acetone	7.24	58	43108	2.343	ng		100
14) Trichlorofluoromethane	7.45	101	22994	0.539	ng		97
15) 2-Propanol (Isopropanol)	7.77	45	66024	0.989	ng		89
16) Acrylonitrile	7.99	53	29916	0.884	ng		99
17) 1,1-Dichloroethene	8.42	96	9636	0.476	ng		90
18) 2-Methyl-2-Propanol (t...	8.68	59	60763	1.064	ng		94
19) Methylene Chloride	8.64	84	10541	0.462	ng		96
20) 3-Chloro-1-propene (Al...	8.82	41	14643	0.413	ng		99
21) Trichlorotrifluoroethane	9.08	151	8772	0.477	ng		100
22) Carbon Disulfide	8.91	76	68632	0.951	ng		97
23) trans-1,2-Dichloroethene	9.93	61	16790	0.510	ng		100
24) 1,1-Dichloroethane	10.18	63	20204	0.494	ng		96
25) Methyl tert-Butyl Ether	10.33	73	33676	0.538	ng		97
26) Vinyl Acetate	10.47	86	3858	1.134	ng	#	95
27) 2-Butanone (MEK)	10.73	72	14683	0.945	ng		95
28) cis-1,2-Dichloroethene	11.20	61	17169	0.522	ng		99
29) Diisopropyl Ether	11.53	87	20460	1.040	ng	#	93
30) Ethyl Acetate	11.54	61	7726	0.889	ng		97
31) n-Hexane	11.49	57	19700	0.479	ng		96
32) Chloroform	11.55	83	20606	0.551	ng		94
34) Tetrahydrofuran (THF)	12.01	72	13915	0.958	ng	#	89
35) Ethyl tert-Butyl Ether	12.11	87	26447	1.063	ng		98
36) 1,2-Dichloroethane	12.35	62	19059	0.521	ng		95
38) 1,1,1-Trichloroethane	12.63	97	20294	0.540	ng		96
39) Isopropyl Acetate	13.81	61	130	No Calib		#	
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	13.11	78	54673	0.563	ng		98
42) Carbon Tetrachloride	13.26	117	14634	0.464	ng		96
43) Cyclohexane	13.40	84	34787	1.059	ng		98
44) tert-Amyl Methyl Ether	13.76	73	61980	1.048	ng		98
45) 1,2-Dichloropropane	13.96	63	12744	0.540	ng		99
46) Bromodichloromethane	14.15	83	16546	0.531	ng		96
47) Trichloroethene	14.20	130	12370	0.532	ng		99
48) 1,4-Dioxane	14.22	88	9578	0.496	ng		97

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192404.D
Acq On : 19 Mar 2024 1:05
Operator : CI
Sample : ICAL R16031924 0.5ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 19 09:08:58 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

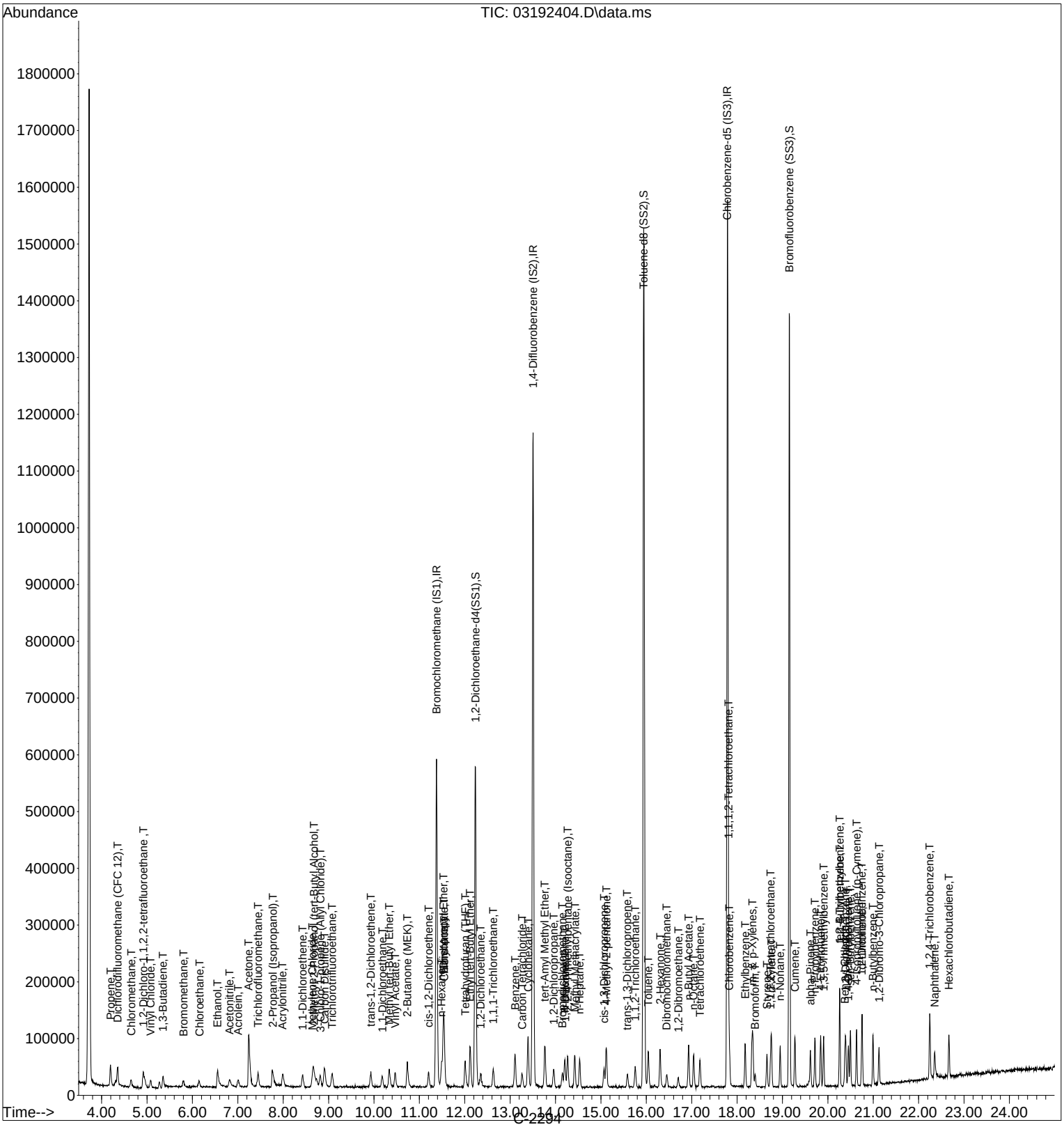
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	48704	0.472 ng		94
50) Methyl Methacrylate	14.43	100	9021	1.078 ng	#	89
51) n-Heptane	14.53	71	12178	0.498 ng		92
52) cis-1,3-Dichloropropene	15.07	75	18575	0.493 ng		97
53) 4-Methyl-2-pentanone	15.12	58	19782	0.913 ng		99
54) trans-1,3-Dichloropropene	15.58	75	13128	0.426 ng		94
55) 1,1,2-Trichloroethane	15.76	97	11639	0.552 ng		100
58) Toluene	16.04	91	46426	0.535 ng		99
59) 2-Hexanone	16.31	43	52740	0.877 ng		99
60) Dibromochloromethane	16.45	129	12262	0.508 ng		92
61) 1,2-Dibromoethane	16.71	107	11239	0.491 ng		96
62) n-Butyl Acetate	16.93	43	60670	0.899 ng		94
63) n-Octane	17.04	57	10012	0.466 ng		91
64) Tetrachloroethene	17.18	166	13563	0.570 ng		97
65) Chlorobenzene	17.83	112	32067	0.565 ng		94
66) Ethylbenzene	18.18	91	54404	0.548 ng		100
67) m- & p-Xylenes	18.34	91	84466	1.082 ng		98
68) Bromoform	18.39	173	9938	0.534 ng		95
69) Styrene	18.66	104	26130	0.484 ng		98
70) o-Xylene	18.76	91	42440	0.538 ng		98
71) n-Nonane	18.95	43	27544	0.505 ng		95
72) 1,1,2,2-Tetrachloroethane	18.74	83	18644	0.517 ng		98
74) Cumene	19.27	105	53565	0.526 ng		100
75) alpha-Pinene	19.62	93	23236	0.497 ng		92
76) n-Propylbenzene	19.71	91	63340	0.508 ng		99
77) 3-Ethyltoluene	20.26	105	44446	No Calib		
78) 4-Ethyltoluene	19.84	105	51819	0.519 ng		98
79) 1,3,5-Trimethylbenzene	19.91	105	44757	0.538 ng		100
80) alpha-Methylstyrene	20.63	118	931	No Calib	#	
81) 2-Ethyltoluene	20.26	105	44446	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	44446	0.526 ng		98
83) n-Decane	20.32	58	103	No Calib	#	
84) Benzyl Chloride	20.37	91	35911	0.623 ng		100
85) 1,3-Dichlorobenzene	20.39	146	25426	0.534 ng		98
86) 1,4-Dichlorobenzene	20.45	146	24779	0.523 ng		93
87) sec-Butylbenzene	20.50	105	59130	0.512 ng		98
88) 4-Isopropyltoluene (p-...	20.63	119	49449	0.506 ng		97
89) 1,2,3-Trimethylbenzene	20.26	105	44446	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	25107	0.540 ng		96
91) d-Limonene	20.75	68	13401	0.449 ng		96
92) 1,2-Dibromo-3-Chloropr...	21.13	157	14578	0.945 ng		90
93) n-Undecane	21.47	58	178	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	33969	1.004 ng		98
95) Naphthalene	22.35	128	41367	0.390 ng		98
96) n-Dodecane	22.66	57	115	No Calib	#	
97) Hexachlorobutadiene	22.67	225	12797	0.487 ng		100
98) Cyclohexanone	18.25	55	143	No Calib	#	
99) tert-Butylbenzene	20.26	119	40644	0.510 ng		94
100) n-Butylbenzene	20.99	91	45877	0.489 ng		99
101) 1,1,1,2-Tetrachloroethane	17.81	131	10438	0.534 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192404.D
Acq On : 19 Mar 2024 1:05
Operator : CI
Sample : ICAL R16031924 0.5ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 19 09:08:58 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192405.D
Acq On : 19 Mar 2024 1:39
Operator : CI
Sample : ICAL R16031924 1ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:25:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.38	130	219241	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	13.51	114	1003266	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	226221	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	458545	12.756	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.08%				
57) Toluene-d8 (SS2)	15.95	98	1096415	12.508	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%				
73) Bromofluorobenzene (SS3)	19.15	174	367647	13.582	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
Target Compounds							Qvalue
2) Propene	4.20	42	30120m	0.830	ng		
3) Dichlorodifluoromethan...	4.35	85	51360	1.058	ng		99
4) Chloromethane	4.65	50	35781	0.997	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	21317	1.075	ng		98
6) Vinyl Chloride	5.08	62	30719	0.927	ng		96
7) 1,3-Butadiene	5.35	54	21882	0.937	ng		97
8) Bromomethane	5.80	94	17663	0.972	ng		97
9) Chloroethane	6.15	64	17573	0.980	ng		100
10) Ethanol	6.56	45	94654	4.162	ng		99
11) Acetonitrile	6.81	41	45036	0.788	ng	#	40
12) Acrolein	7.00	56	31104	1.844	ng		95
13) Acetone	7.23	58	80802	4.373	ng		99
14) Trichlorofluoromethane	7.44	101	43665	1.019	ng		98
15) 2-Propanol (Isopropanol)	7.76	45	121077	1.806	ng		91
16) Acrylonitrile	7.99	53	53699	1.580	ng		95
17) 1,1-Dichloroethene	8.42	96	17085	0.841	ng		91
18) 2-Methyl-2-Propanol (t...	8.66	59	115497	2.014	ng		97
19) Methylene Chloride	8.65	84	20747	0.905	ng		91
20) 3-Chloro-1-propene (Al...	8.82	41	27842	0.782	ng		99
21) Trichlorotrifluoroethane	9.08	151	16009	0.867	ng		96
22) Carbon Disulfide	8.91	76	130203	1.797	ng		99
23) trans-1,2-Dichloroethene	9.93	61	31002	0.937	ng		98
24) 1,1-Dichloroethane	10.18	63	37266	0.908	ng		99
25) Methyl tert-Butyl Ether	10.33	73	65725	1.046	ng		100
26) Vinyl Acetate	10.47	86	9063	2.653	ng	#	82
27) 2-Butanone (MEK)	10.73	72	28754	1.843	ng		97
28) cis-1,2-Dichloroethene	11.21	61	31031	0.940	ng		99
29) Diisopropyl Ether	11.53	87	39859	2.017	ng		97
30) Ethyl Acetate	11.55	61	15738	1.802	ng		99
31) n-Hexane	11.49	57	38557	0.934	ng		99
32) Chloroform	11.55	83	37219	0.991	ng		96
34) Tetrahydrofuran (THF)	12.00	72	23718	1.627	ng		97
35) Ethyl tert-Butyl Ether	12.11	87	52026	2.082	ng		99
36) 1,2-Dichloroethane	12.36	62	36389	0.990	ng		98
38) 1,1,1-Trichloroethane	12.63	97	37432	0.988	ng		98
39) Isopropyl Acetate	13.71	61	286	No Calib		#	
40) 1-Butanol	12.60	56	111	No Calib		#	
41) Benzene	13.11	78	91886	0.938	ng		97
42) Carbon Tetrachloride	13.26	117	28299	0.889	ng		97
43) Cyclohexane	13.40	84	63902	1.930	ng		98
44) tert-Amyl Methyl Ether	13.76	73	117426	1.970	ng		98
45) 1,2-Dichloropropane	13.96	63	21375	0.898	ng		95
46) Bromodichloromethane	14.15	83	29725	0.946	ng		100
47) Trichloroethene	14.20	130	23291	0.994	ng		97
48) 1,4-Dioxane	14.21	88	17381	0.892	ng		97

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192405.D
Acq On : 19 Mar 2024 1:39
Operator : CI
Sample : ICAL R16031924 1ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 19 09:25:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

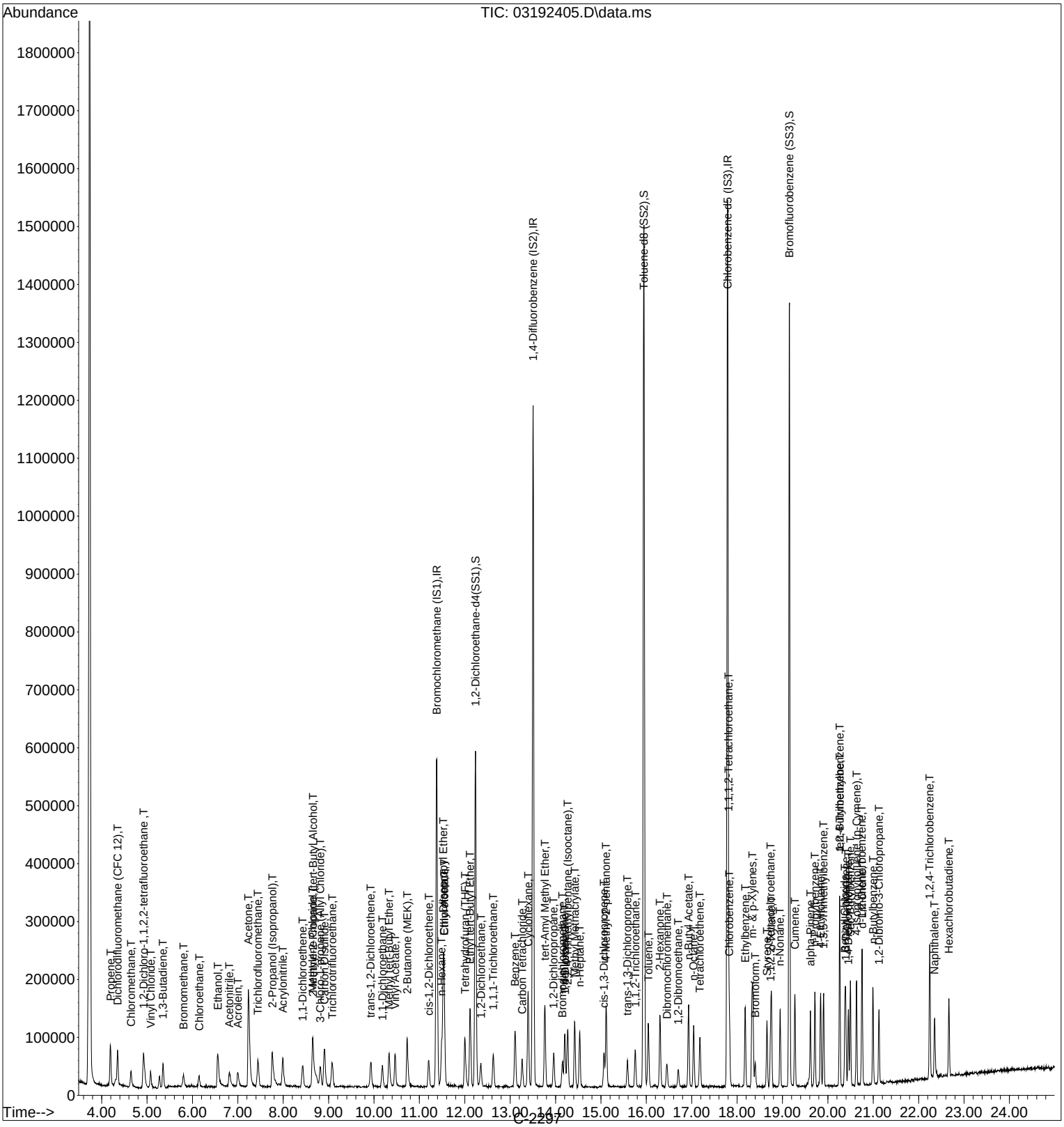
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	91167	0.877 ng		98
50) Methyl Methacrylate	14.42	100	16242	1.925 ng		99
51) n-Heptane	14.53	71	23216	0.941 ng		97
52) cis-1,3-Dichloropropene	15.07	75	34058	0.897 ng		97
53) 4-Methyl-2-pentanone	15.11	58	36249	1.660 ng		97
54) trans-1,3-Dichloropropene	15.58	75	26948	0.867 ng		97
55) 1,1,2-Trichloroethane	15.76	97	21236	0.998 ng		99
58) Toluene	16.05	91	86057	1.006 ng		98
59) 2-Hexanone	16.30	43	102552	1.730 ng		99
60) Dibromochloromethane	16.45	129	22592	0.950 ng		100
61) 1,2-Dibromoethane	16.70	107	22016	0.975 ng		98
62) n-Butyl Acetate	16.93	43	116795	1.757 ng		98
63) n-Octane	17.04	57	19780	0.934 ng		94
64) Tetrachloroethene	17.18	166	24516	1.045 ng		99
65) Chlorobenzene	17.83	112	57618	1.030 ng		100
66) Ethylbenzene	18.18	91	100270	1.024 ng		98
67) m- & p-Xylenes	18.34	91	155588	2.023 ng		100
68) Bromoform	18.40	173	18612	1.014 ng		98
69) Styrene	18.66	104	52929	0.995 ng		99
70) o-Xylene	18.76	91	81931	1.054 ng		98
71) n-Nonane	18.94	43	48216	0.897 ng		98
72) 1,1,2,2-Tetrachloroethane	18.74	83	33684	0.947 ng		94
74) Cumene	19.27	105	99261	0.988 ng		99
75) alpha-Pinene	19.62	93	44484	0.966 ng		100
76) n-Propylbenzene	19.71	91	121864	0.993 ng		99
77) 3-Ethyltoluene	20.26	105	83710	No Calib		
78) 4-Ethyltoluene	19.84	105	95950	0.974 ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	87110	1.062 ng		96
80) alpha-Methylstyrene	20.63	118	2807	No Calib	#	
81) 2-Ethyltoluene	20.26	105	83710	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	83710	1.005 ng		100
83) n-Decane	20.46	58	120	No Calib	#	
84) Benzyl Chloride	20.37	91	83704	1.474 ng		98
85) 1,3-Dichlorobenzene	20.40	146	46855	0.999 ng		99
86) 1,4-Dichlorobenzene	20.45	146	45737	0.979 ng		99
87) sec-Butylbenzene	20.50	105	111365	0.979 ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	92437	0.960 ng		97
89) 1,2,3-Trimethylbenzene	20.26	105	83710	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	45343	0.990 ng		100
91) d-Limonene	20.76	68	24545	0.835 ng		97
92) 1,2-Dibromo-3-Chloropr...	21.13	157	28265	1.859 ng		91
93) n-Undecane	21.52	58	161	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	69434	2.083 ng		98
95) Naphthalene	22.35	128	86171	0.825 ng		100
96) n-Dodecane	22.82	57	226	No Calib	#	
97) Hexachlorobutadiene	22.67	225	23194	0.895 ng		98
98) Cyclohexanone	18.21	55	314	No Calib	#	
99) tert-Butylbenzene	20.26	119	80131	1.021 ng		100
100) n-Butylbenzene	21.00	91	87440	0.945 ng		98
101) 1,1,1,2-Tetrachloroethane	17.81	131	19348	1.004 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192405.D
Acq On : 19 Mar 2024 1:39
Operator : CI
Sample : ICAL R16031924 1ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

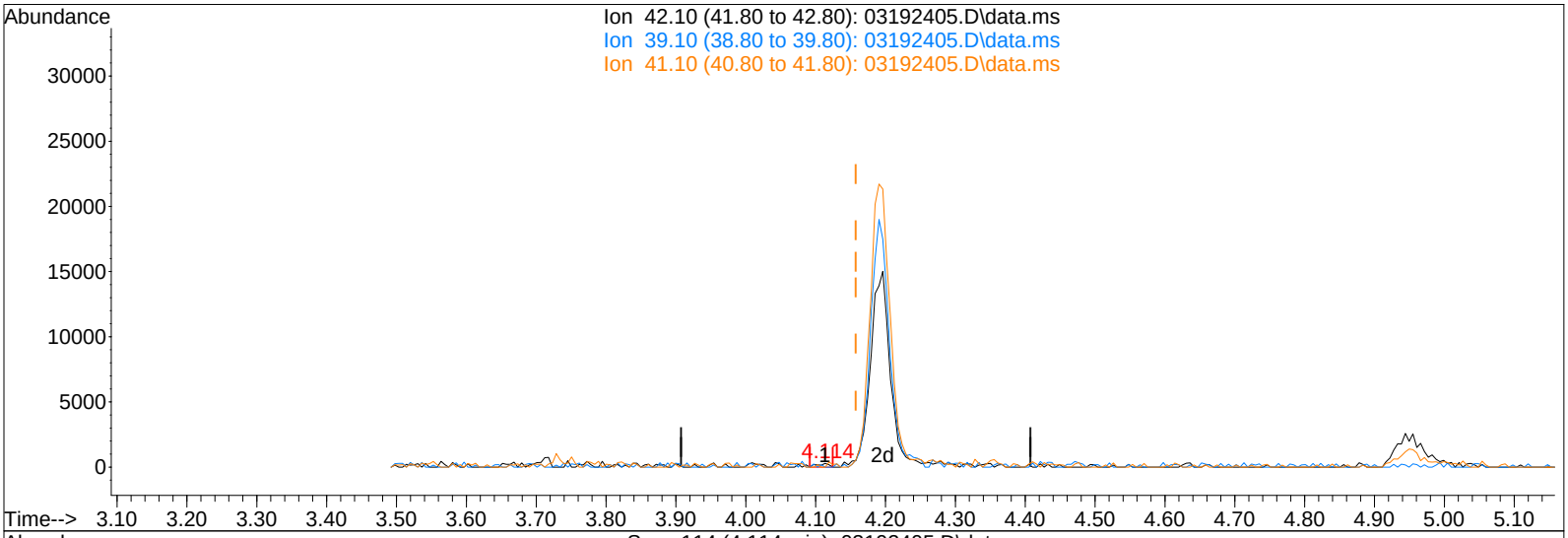
Quant Time: Mar 19 09:25:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

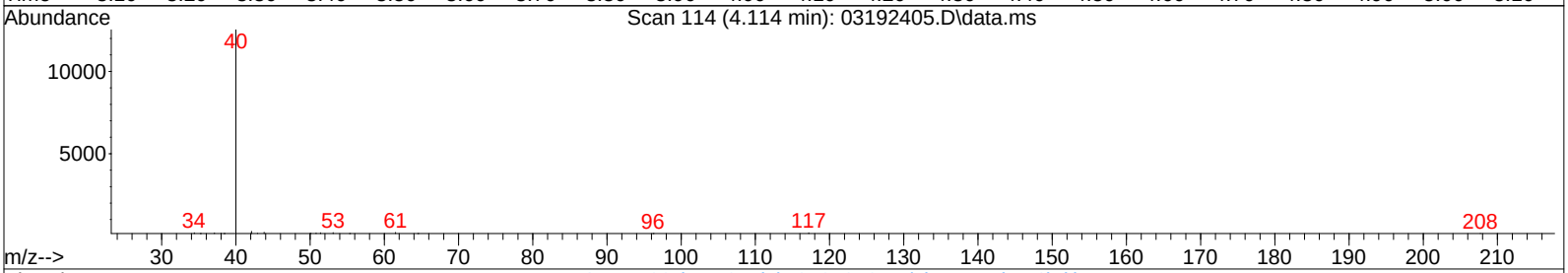


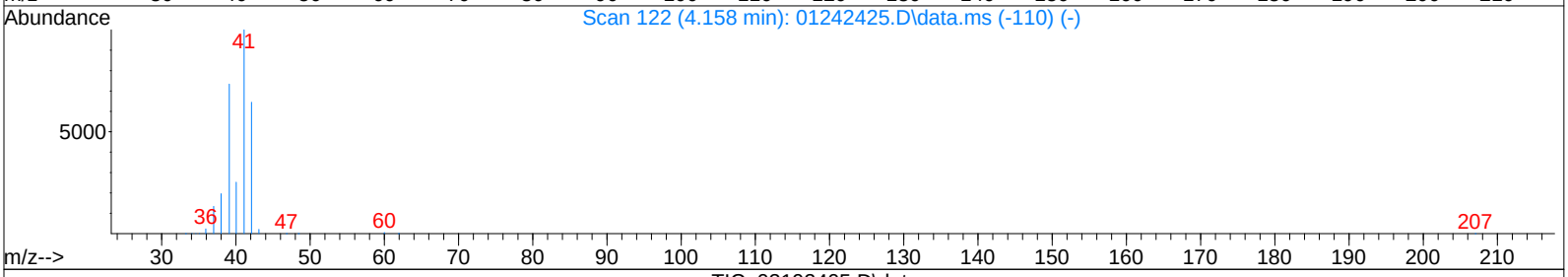
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192405.D
Acq On : 19 Mar 2024 1:39
Operator : CI
Sample : ICAL R16031924 1ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 19 09:23:39 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration







TIC: 03192405.D\data.ms

(2) Propene (T)

4.114min (-0.044) 0.01ng

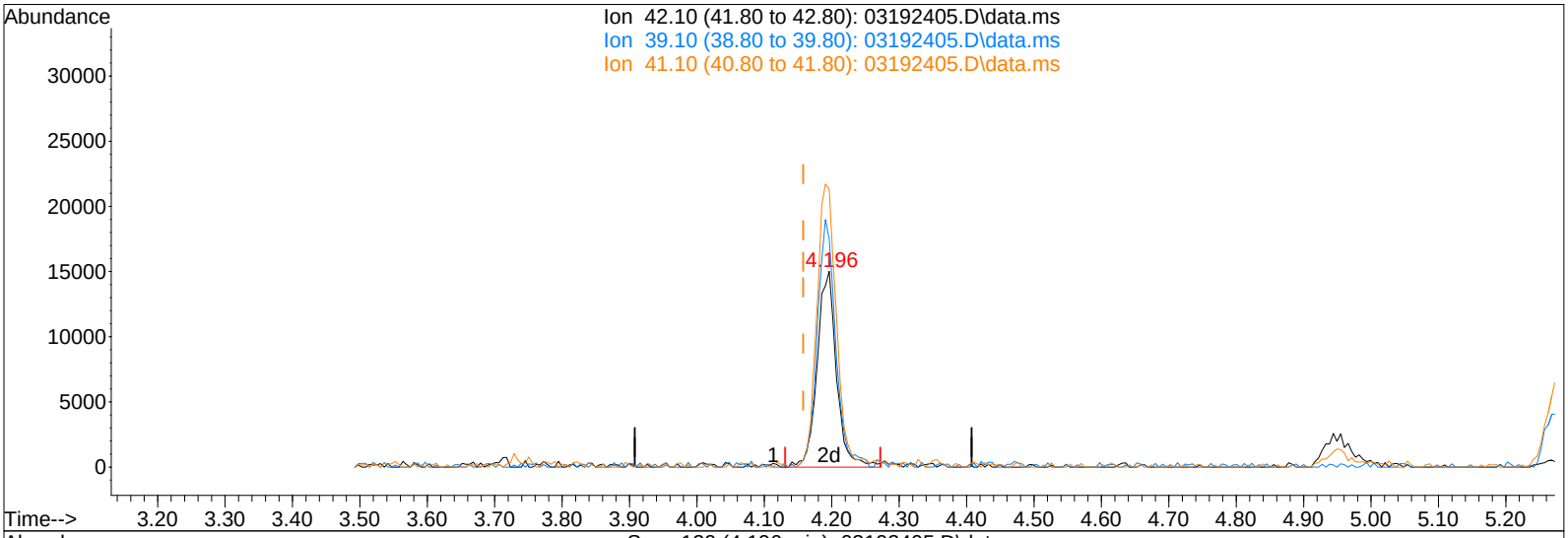
response 323

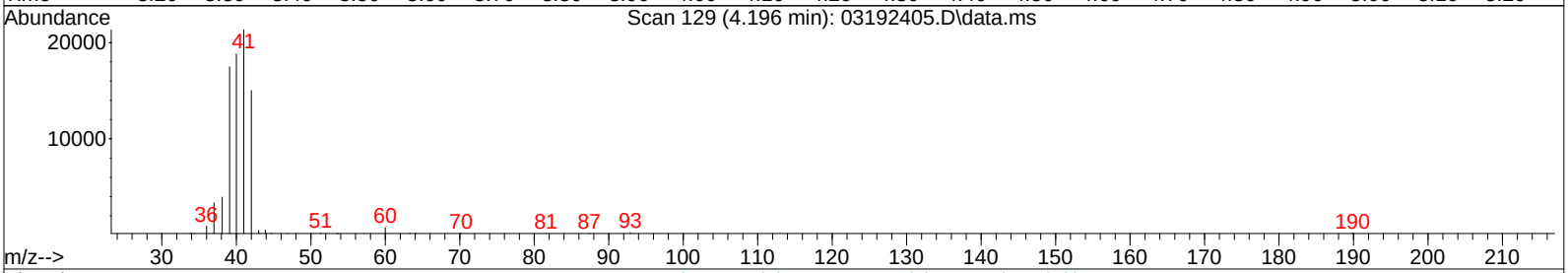
Ion	Exp%	Act%
42.10	100	100
39.10	118.60	0.00#
41.10	152.40	85.76#
0.00	0.00	0.00

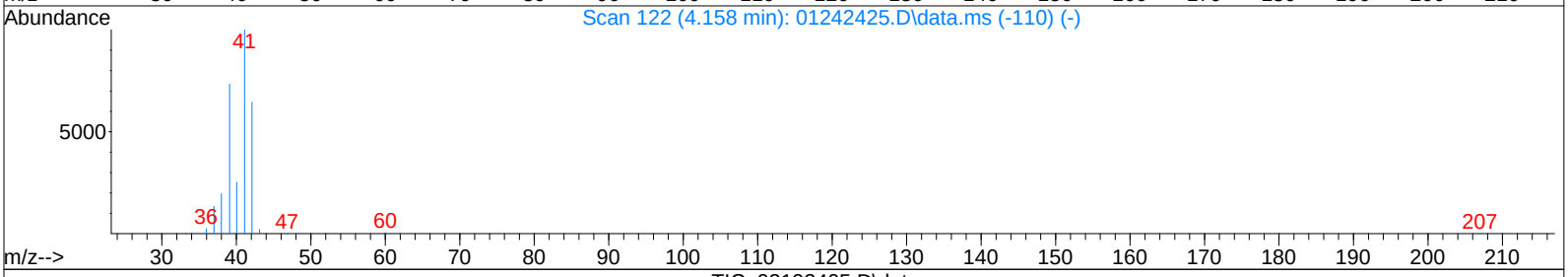
Quantitation Report (Qedit)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192405.D
Acq On : 19 Mar 2024 1:39
Operator : CI
Sample : ICAL R16031924 1ng
Misc : S37-01032403/S37-03182405 (4/17)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Mar 19 09:23:39 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration







TIC: 03192405.D\data.ms

(2) Propene (T)

4.196min (+0.038) 0.83ng m

response 30120

Ion	Exp%	Act%
42.10	100	100
39.10	118.60	120.90
41.10	152.40	148.27
0.00	0.00	0.00

CI 3/19/24

MP

CG 3/27/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192406.D
Acq On : 19 Mar 2024 2:12
Operator : CI
Sample : ICAL R16031924 5ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:23:48 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.39	130	219431	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.51	114	993568	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	224989	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	457030	12.703	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.60%				
57) Toluene-d8 (SS2)	15.95	98	1098508	12.600	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
73) Bromofluorobenzene (SS3)	19.15	174	369278	13.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.76%				
Target Compounds							Qvalue
2) Propene	4.16	42	157693	4.342	ng		99
3) Dichlorodifluoromethan...	4.33	85	277166	5.706	ng		99
4) Chloromethane	4.62	50	197503	5.498	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	117029	5.895	ng		99
6) Vinyl Chloride	5.06	62	172442	5.199	ng		100
7) 1,3-Butadiene	5.33	54	129386	5.533	ng		99
8) Bromomethane	5.79	94	93369	5.135	ng		100
9) Chloroethane	6.13	64	94243	5.252	ng		99
10) Ethanol	6.57	45	479573	21.068	ng		100
11) Acetonitrile	6.81	41	236874	4.141	ng		98
12) Acrolein	7.00	56	166078	9.839	ng		100
13) Acetone	7.22	58	435335	23.539	ng		100
14) Trichlorofluoromethane	7.44	101	236711	5.522	ng		100
15) 2-Propanol (Isopropanol)	7.75	45	702768	10.472	ng		97
16) Acrylonitrile	7.99	53	304911	8.965	ng		99
17) 1,1-Dichloroethene	8.42	96	92613	4.554	ng		98
18) 2-Methyl-2-Propanol (t...	8.64	59	649833	11.323	ng		99
19) Methylene Chloride	8.66	84	101812	4.439	ng		94
20) 3-Chloro-1-propene (Al...	8.82	41	175092	4.911	ng		100
21) Trichlorotrifluoroethane	9.07	151	86485	4.678	ng		98
22) Carbon Disulfide	8.90	76	763654	10.532	ng		100
23) trans-1,2-Dichloroethene	9.93	61	174763	5.280	ng		99
24) 1,1-Dichloroethane	10.19	63	201329	4.902	ng		99
25) Methyl tert-Butyl Ether	10.32	73	366575	5.828	ng		99
26) Vinyl Acetate	10.46	86	91001	26.618	ng	#	92
27) 2-Butanone (MEK)	10.72	72	156183	10.000	ng		98
28) cis-1,2-Dichloroethene	11.21	61	163879	4.958	ng		99
29) Diisopropyl Ether	11.52	87	217096	10.977	ng		98
30) Ethyl Acetate	11.54	61	80935	9.261	ng		99
31) n-Hexane	11.49	57	203345	4.920	ng		100
32) Chloroform	11.55	83	211047	5.617	ng		100
34) Tetrahydrofuran (THF)	11.99	72	132930	9.109	ng		96
35) Ethyl tert-Butyl Ether	12.11	87	286781	11.464	ng		99
36) 1,2-Dichloroethane	12.36	62	193414	5.257	ng		100
38) 1,1,1-Trichloroethane	12.63	97	209209	5.576	ng		100
39) Isopropyl Acetate	13.75	61	397	No Calib		#	
40) 1-Butanol	12.68	56	112	No Calib		#	
41) Benzene	13.11	78	456058	4.703	ng		100
42) Carbon Tetrachloride	13.26	117	177704	5.640	ng		97
43) Cyclohexane	13.40	84	357954	10.916	ng		99
44) tert-Amyl Methyl Ether	13.76	73	667702	11.311	ng		100
45) 1,2-Dichloropropane	13.96	63	119718	5.078	ng		100
46) Bromodichloromethane	14.15	83	168256	5.409	ng		99
47) Trichloroethene	14.20	130	123326	5.317	ng		99
48) 1,4-Dioxane	14.19	88	93138	4.829	ng		99

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192406.D
Acq On : 19 Mar 2024 2:12
Operator : CI
Sample : ICAL R16031924 5ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:23:48 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

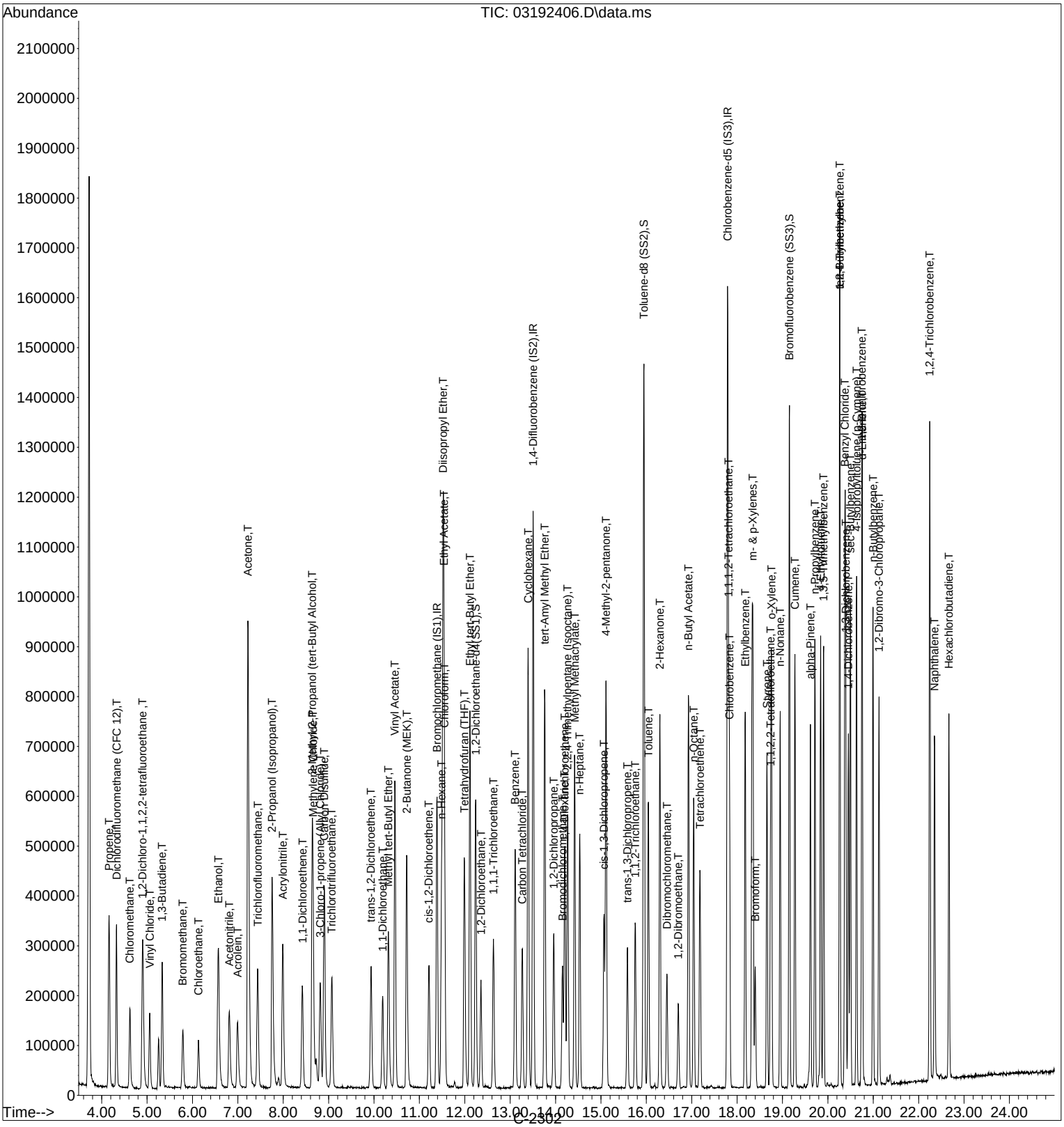
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	511623	4.969 ng		98
50) Methyl Methacrylate	14.42	100	95036	11.374 ng		99
51) n-Heptane	14.53	71	127030	5.198 ng		99
52) cis-1,3-Dichloropropene	15.07	75	207636	5.521 ng		99
53) 4-Methyl-2-pentanone	15.11	58	217935	10.078 ng		99
54) trans-1,3-Dichloropropene	15.58	75	168854	5.486 ng		99
55) 1,1,2-Trichloroethane	15.76	97	115966	5.505 ng		98
58) Toluene	16.05	91	466341	5.483 ng		100
59) 2-Hexanone	16.30	43	599627	10.172 ng		100
60) Dibromochloromethane	16.45	129	128798	5.445 ng		98
61) 1,2-Dibromoethane	16.70	107	129081	5.751 ng		98
62) n-Butyl Acetate	16.93	43	672106	10.164 ng		99
63) n-Octane	17.05	57	107784	5.116 ng		99
64) Tetrachloroethene	17.18	166	129973	5.570 ng		99
65) Chlorobenzene	17.83	112	309726	5.570 ng		100
66) Ethylbenzene	18.18	91	566525	5.820 ng		99
67) m- & p-Xylenes	18.35	91	879645	11.499 ng		99
68) Bromoform	18.40	173	110298	6.045 ng		99
69) Styrene	18.66	104	316653	5.986 ng		99
70) o-Xylene	18.76	91	444966	5.754 ng		98
71) n-Nonane	18.95	43	277769	5.198 ng		99
72) 1,1,2,2-Tetrachloroethane	18.74	83	198108	5.602 ng		100
74) Cumene	19.27	105	555742	5.565 ng		100
75) alpha-Pinene	19.62	93	254830	5.564 ng		94
76) n-Propylbenzene	19.71	91	660119	5.406 ng		100
77) 3-Ethyltoluene	20.26	105	474346	No Calib		
78) 4-Ethyltoluene	19.84	105	537289	5.486 ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	474504	5.815 ng		98
80) alpha-Methylstyrene	20.63	118	7917	No Calib	#	
81) 2-Ethyltoluene	20.26	105	474379	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	474536	5.731 ng		100
83) n-Decane	20.37	58	325	No Calib	#	
84) Benzyl Chloride	20.37	91	682076	12.076 ng		99
85) 1,3-Dichlorobenzene	20.40	146	253386	5.433 ng		100
86) 1,4-Dichlorobenzene	20.45	146	257218	5.535 ng		99
87) sec-Butylbenzene	20.50	105	611245	5.401 ng		100
88) 4-Isopropyltoluene (p-...	20.63	119	531805	5.553 ng		100
89) 1,2,3-Trimethylbenzene	20.26	105	474379	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	246950	5.420 ng		100
91) d-Limonene	20.76	68	160199	5.477 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.13	157	176318	11.660 ng		99
93) n-Undecane	21.57	58	111	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	381301	11.501 ng		99
95) Naphthalene	22.35	128	530414	5.107 ng		100
96) n-Dodecane	22.83	57	105	No Calib	#	
97) Hexachlorobutadiene	22.67	225	132249	5.132 ng		99
98) Cyclohexanone	18.28	55	211	No Calib	#	
99) tert-Butylbenzene	20.26	119	441911	5.659 ng		99
100) n-Butylbenzene	21.00	91	487151	5.295 ng		100
101) 1,1,1,2-Tetrachloroethane	17.81	131	114304	5.966 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192406.D
Acq On : 19 Mar 2024 2:12
Operator : CI
Sample : ICAL R16031924 5ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:23:48 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192407.D
Acq On : 19 Mar 2024 2:46
Operator : CI
Sample : ICAL R16031924 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:09:19 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.40	130	223866	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1001176	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	230917	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.25	65	467538	12.737	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
57) Toluene-d8 (SS2)	15.95	98	1128008	12.606	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
73) Bromofluorobenzene (SS3)	19.15	174	380864	13.784	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.24%			
Target Compounds						Qvalue
2) Propene	4.16	42	836509	22.577	ng	100
3) Dichlorodifluoromethan...	4.32	85	1198532	24.187	ng	100
4) Chloromethane	4.63	50	823552	22.473	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	4.90	135	511081	25.233	ng	100
6) Vinyl Chloride	5.07	62	758672	22.419	ng	100
7) 1,3-Butadiene	5.35	54	594355	24.913	ng	100
8) Bromomethane	5.80	94	406645	21.922	ng	100
9) Chloroethane	6.15	64	404572	22.101	ng	100
10) Ethanol	6.62	45	2140813	92.184	ng	100
11) Acetonitrile	6.84	41	1077999	18.473	ng	100
12) Acrolein	7.01	56	755474	43.871	ng	100
13) Acetone	7.24	58	1877279	99.494	ng	100
14) Trichlorofluoromethane	7.45	101	1067879	24.417	ng	100
15) 2-Propanol (Isopropanol)	7.79	45	2687181	39.250	ng	100
16) Acrylonitrile	8.01	53	1390540	40.074	ng	100
17) 1,1-Dichloroethene	8.44	96	411985	19.855	ng	100
18) 2-Methyl-2-Propanol (t...	8.67	59	2592453	44.276	ng	100
19) Methylene Chloride	8.68	84	436550	18.657	ng	100
20) 3-Chloro-1-propene (Al...	8.83	41	869803	23.913	ng	100
21) Trichlorotrifluoroethane	9.08	151	388714	20.608	ng	100
22) Carbon Disulfide	8.92	76	3432109	46.398	ng	100
23) trans-1,2-Dichloroethene	9.95	61	795012	23.543	ng	100
24) 1,1-Dichloroethane	10.20	63	923326	22.036	ng	100
25) Methyl tert-Butyl Ether	10.32	73	1590989	24.795	ng	100
26) Vinyl Acetate	10.48	86	496254	142.278	ng	100
27) 2-Butanone (MEK)	10.73	72	706135	44.318	ng	100
28) cis-1,2-Dichloroethene	11.22	61	735214	21.802	ng	100
29) Diisopropyl Ether	11.53	87	980062	48.574	ng	100
30) Ethyl Acetate	11.54	61	372901	41.824	ng	100
31) n-Hexane	11.49	57	915965	21.721	ng	100
32) Chloroform	11.57	83	936234	24.425	ng	100
34) Tetrahydrofuran (THF)	11.99	72	587377	39.451	ng	100
35) Ethyl tert-Butyl Ether	12.12	87	1323480	51.858	ng	100
36) 1,2-Dichloroethane	12.37	62	882055	23.498	ng	100
38) 1,1,1-Trichloroethane	12.64	97	941111	24.891	ng	100
39) Isopropyl Acetate	13.76	61	1428	No Calib	#	
40) 1-Butanol	12.65	56	227	No Calib		
41) Benzene	13.12	78	2002681	20.496	ng	100
42) Carbon Tetrachloride	13.28	117	832643	26.225	ng	100
43) Cyclohexane	13.40	84	1600225	48.428	ng	100
44) tert-Amyl Methyl Ether	13.76	73	3072061	51.644	ng	100
45) 1,2-Dichloropropane	13.97	63	536568	22.587	ng	100
46) Bromodichloromethane	14.15	83	788412	25.151	ng	100
47) Trichloroethene	14.21	130	549122	23.494	ng	100
48) 1,4-Dioxane	14.20	88	419819	21.606	ng	100

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192407.D
Acq On : 19 Mar 2024 2:46
Operator : CI
Sample : ICAL R16031924 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:09:19 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

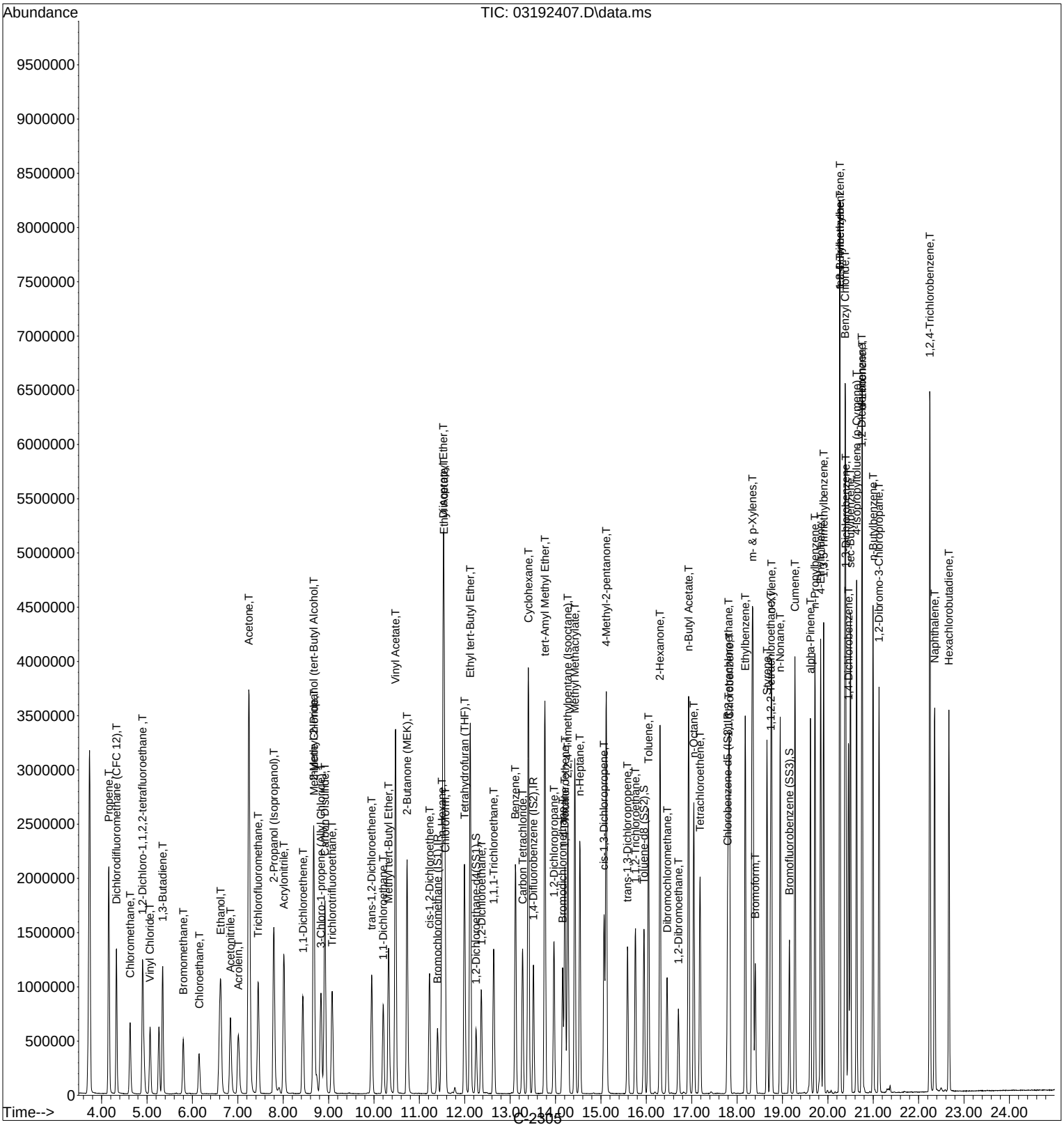
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	2324734	22.405 ng		100
50) Methyl Methacrylate	14.42	100	442631	52.570 ng		100
51) n-Heptane	14.53	71	575181	23.358 ng		100
52) cis-1,3-Dichloropropene	15.07	75	967400	25.526 ng		100
53) 4-Methyl-2-pentanone	15.12	58	984993	45.202 ng		100
54) trans-1,3-Dichloropropene	15.58	75	806706	26.009 ng		100
55) 1,1,2-Trichloroethane	15.76	97	510737	24.061 ng		100
58) Toluene	16.05	91	2119504	24.279 ng		100
59) 2-Hexanone	16.30	43	2784195	46.018 ng		100
60) Dibromochloromethane	16.46	129	623621	25.689 ng		100
61) 1,2-Dibromoethane	16.71	107	591413	25.671 ng		100
62) n-Butyl Acetate	16.93	43	3168092	46.682 ng		100
63) n-Octane	17.05	57	488731	22.601 ng		100
64) Tetrachloroethene	17.18	166	600953	25.095 ng		100
65) Chlorobenzene	17.83	112	1407449	24.659 ng		100
66) Ethylbenzene	18.18	91	2574426	25.767 ng		100
67) m- & p-Xylenes	18.34	91	4020428	51.209 ng		100
68) Bromoform	18.40	173	552940	29.526 ng		100
69) Styrene	18.66	104	1508582	27.785 ng		100
70) o-Xylene	18.76	91	2061404	25.973 ng		100
71) n-Nonane	18.95	43	1273651	23.220 ng		100
72) 1,1,2,2-Tetrachloroethane	18.74	83	923302	25.441 ng		100
74) Cumene	19.27	105	2564289	25.017 ng		100
75) alpha-Pinene	19.62	93	1265037	26.914 ng		100
76) n-Propylbenzene	19.71	91	3046959	24.314 ng		100
77) 3-Ethyltoluene	20.26	105	2237956	No Calib		
78) 4-Ethyltoluene	19.84	105	2502025	24.889 ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	2214317	26.439 ng		100
80) alpha-Methylstyrene	20.62	118	18878	No Calib		
81) 2-Ethyltoluene	20.26	105	2237956	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	2237956	26.333 ng		100
83) n-Decane	20.37	58	942	No Calib	#	
84) Benzyl Chloride	20.38	91	3692537	63.697 ng		100
85) 1,3-Dichlorobenzene	20.40	146	1197270	25.014 ng		100
86) 1,4-Dichlorobenzene	20.46	146	1204419	25.252 ng		100
87) sec-Butylbenzene	20.50	105	2874031	24.741 ng		100
88) 4-Isopropyltoluene (p-...	20.63	119	2457226	25.001 ng		100
89) 1,2,3-Trimethylbenzene	20.26	105	2237956	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1152720	24.651 ng		100
91) d-Limonene	20.76	68	791643	26.369 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.13	157	867839	55.916 ng		100
93) n-Undecane	21.52	58	128	No Calib		
94) 1,2,4-Trichlorobenzene	22.25	180	1903643	55.945 ng		100
95) Naphthalene	22.35	128	2652161	24.881 ng		100
96) n-Dodecane	22.77	57	196	No Calib		
97) Hexachlorobutadiene	22.67	225	627766	23.737 ng		100
98) Cyclohexanone	18.27	55	469	No Calib	#	
99) tert-Butylbenzene	20.26	119	2070478	25.832 ng		100
100) n-Butylbenzene	21.00	91	2261755	23.952 ng		100
101) 1,1,1,2-Tetrachloroethane	17.81	131	529053	26.906 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192407.D
Acq On : 19 Mar 2024 2:46
Operator : CI
Sample : ICAL R16031924 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:09:19 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration



C-2309

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192408.D
Acq On : 19 Mar 2024 3:19
Operator : CI
Sample : ICAL R16031924 50ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:24:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.41	130	233341	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	13.52	114	1065004	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.80	54	234464	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.26	65	482003	12.598	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	15.95	98	1173692	12.918	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%				
73) Bromofluorobenzene (SS3)	19.15	174	396599	14.137	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.12%				
Target Compounds							Qvalue
2) Propene	4.16	42	1757187	45.500	ng		99
3) Dichlorodifluoromethan...	4.33	85	2345280	45.408	ng		100
4) Chloromethane	4.64	50	1422853	37.250	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.92	135	1027323	48.662	ng		100
6) Vinyl Chloride	5.08	62	1535543	43.533	ng		99
7) 1,3-Butadiene	5.36	54	1227459	49.362	ng		99
8) Bromomethane	5.81	94	812693	42.034	ng		99
9) Chloroethane	6.16	64	814974	42.712	ng		99
10) Ethanol	6.66	45	4331176	178.928	ng		100
11) Acetonitrile	6.86	41	2222865	36.545	ng		98
12) Acrolein	7.03	56	1545740	86.117	ng		99
13) Acetone	7.27	58	3715717	188.932	ng		98
14) Trichlorofluoromethane	7.46	101	2153863	47.249	ng		100
15) 2-Propanol (Isopropanol)	7.82	45	4872027	68.273	ng		99
16) Acrylonitrile	8.03	53	2858476	79.034	ng		99
17) 1,1-Dichloroethene	8.44	96	849551	39.281	ng		99
18) 2-Methyl-2-Propanol (t...	8.69	59	3408385	55.847	ng		99
19) Methylene Chloride	8.69	84	895300	36.708	ng		99
20) 3-Chloro-1-propene (Al...	8.84	41	1821489	48.044	ng		99
21) Trichlorotrifluoroethane	9.08	151	802453	40.815	ng		100
22) Carbon Disulfide	8.93	76	6952262	90.171	ng		100
23) trans-1,2-Dichloroethene	9.96	61	1618213	45.974	ng		100
24) 1,1-Dichloroethane	10.21	63	1870152	42.821	ng		100
25) Methyl tert-Butyl Ether	10.33	73	2598589	38.854	ng		100
26) Vinyl Acetate	10.49	86	1032332	283.956	ng	#	96
27) 2-Butanone (MEK)	10.74	72	1433676	86.327	ng		98
28) cis-1,2-Dichloroethene	11.23	61	1507476	42.887	ng		100
29) Diisopropyl Ether	11.54	87	1973887	93.857	ng		95
30) Ethyl Acetate	11.55	61	754431	81.180	ng		100
31) n-Hexane	11.50	57	1831808	41.675	ng		99
32) Chloroform	11.58	83	1880423	47.066	ng		100
34) Tetrahydrofuran (THF)	12.00	72	1173707	75.630	ng		99
35) Ethyl tert-Butyl Ether	12.13	87	2679524	100.729	ng		99
36) 1,2-Dichloroethane	12.37	62	1769976	45.237	ng		100
38) 1,1,1-Trichloroethane	12.64	97	1879136	46.722	ng		99
39) Isopropyl Acetate	13.78	61	3243	No Calib		#	
40) 1-Butanol	12.64	56	494	No Calib		#	
41) Benzene	13.12	78	4093434	39.382	ng		100
42) Carbon Tetrachloride	13.28	117	1705240	50.490	ng		100
43) Cyclohexane	13.41	84	3281406	93.354	ng		99
44) tert-Amyl Methyl Ether	13.77	73	6283523	99.301	ng		99
45) 1,2-Dichloropropane	13.97	63	1100044	43.532	ng		99
46) Bromodichloromethane	14.16	83	1612144	48.347	ng		99
47) Trichloroethene	14.22	130	1134236	45.619	ng		100
48) 1,4-Dioxane	14.20	88	869204	42.042	ng		98

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192408.D
Acq On : 19 Mar 2024 3:19
Operator : CI
Sample : ICAL R16031924 50ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:24:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

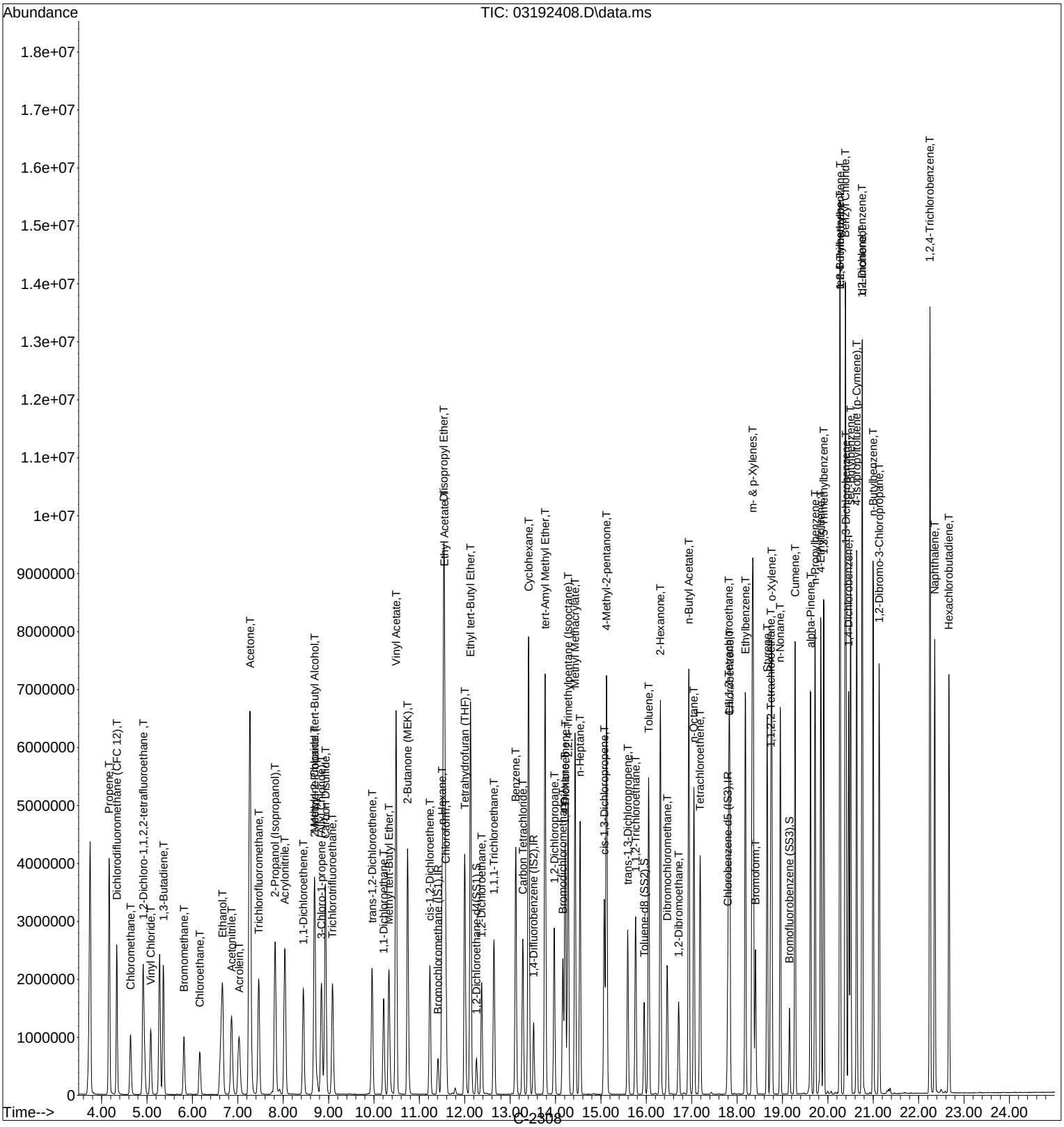
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.28	57	4703425	42.614 ng		100
50) Methyl Methacrylate	14.43	100	929646	103.794 ng		97
51) n-Heptane	14.54	71	1172694	44.769 ng		100
52) cis-1,3-Dichloropropene	15.07	75	1983350	49.197 ng		100
53) 4-Methyl-2-pentanone	15.12	58	1983974	85.590 ng		100
54) trans-1,3-Dichloropropene	15.59	75	1672975	50.706 ng		99
55) 1,1,2-Trichloroethane	15.77	97	1033786	45.783 ng		99
58) Toluene	16.05	91	4394596	49.578 ng		100
59) 2-Hexanone	16.31	43	5591083	91.013 ng		100
60) Dibromochloromethane	16.46	129	1280005	51.930 ng		100
61) 1,2-Dibromoethane	16.71	107	1216926	52.024 ng		99
62) n-Butyl Acetate	16.94	43	6410847	93.035 ng		100
63) n-Octane	17.05	57	983232	44.781 ng		98
64) Tetrachloroethene	17.18	166	1236013	50.832 ng		100
65) Chlorobenzene	17.84	112	2898151	50.009 ng		100
66) Ethylbenzene	18.19	91	5229131	51.546 ng		99
67) m- & p-Xylenes	18.35	91	8213275	103.032 ng		99
68) Bromoform	18.41	173	1151970	60.582 ng		99
69) Styrene	18.66	104	3119355	56.584 ng		99
70) o-Xylene	18.76	91	4189083	51.983 ng		99
71) n-Nonane	18.95	43	2529177	45.413 ng		98
72) 1,1,2,2-Tetrachloroethane	18.74	83	1882351	51.082 ng		100
74) Cumene	19.28	105	5211841	50.078 ng		100
75) alpha-Pinene	19.62	93	2611645	54.722 ng		99
76) n-Propylbenzene	19.72	91	6207630	48.786 ng		99
77) 3-Ethyltoluene	20.27	105	4514794	No Calib		
78) 4-Ethyltoluene	19.84	105	5215441	51.097 ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	4571764	53.761 ng		99
80) alpha-Methylstyrene	20.63	118	38318	No Calib		
81) 2-Ethyltoluene	20.27	105	4514794	No Calib		
82) 1,2,4-Trimethylbenzene	20.27	105	4514794	52.321 ng		99
83) n-Decane	20.38	58	766	No Calib	#	
84) Benzyl Chloride	20.39	91	7756117	131.770 ng		99
85) 1,3-Dichlorobenzene	20.40	146	2519310	51.838 ng		99
86) 1,4-Dichlorobenzene	20.46	146	2530521	52.253 ng		100
87) sec-Butylbenzene	20.50	105	6004708	50.910 ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	5080478	50.910 ng		99
89) 1,2,3-Trimethylbenzene	20.27	105	4514794	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	2406508	50.685 ng		99
91) d-Limonene	20.76	68	1638762	53.760 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.13	157	1810526	114.889 ng		98
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.25	180	4068932	117.771 ng		99
95) Naphthalene	22.35	128	5680204	52.483 ng		100
96) n-Dodecane	22.83	57	264	No Calib	#	
97) Hexachlorobutadiene	22.67	225	1325599	49.364 ng		100
98) Cyclohexanone	18.27	55	513	No Calib	#	
99) tert-Butylbenzene	20.26	119	4165786	51.188 ng		100
100) n-Butylbenzene	21.00	91	4698940	49.009 ng		100
101) 1,1,1,2-Tetrachloroethane	17.82	131	1081491	54.170 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192408.D
Acq On : 19 Mar 2024 3:19
Operator : CI
Sample : ICAL R16031924 50ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:24:02 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192409.D
Acq On : 19 Mar 2024 3:53
Operator : CI
Sample : ICAL R16031924 100ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 09:24:10 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.42	130	249589	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	13.52	114	1103361	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	17.80	54	248360	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.27	65	522511	12.768	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
57) Toluene-d8 (SS2)	15.95	98	1233207	12.814	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
73) Bromofluorobenzene (SS3)	19.15	174	414762	13.957	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
Target Compounds							Qvalue
2) Propene	4.17	42	3585494	86.797	ng		99
3) Dichlorodifluoromethan...	4.33	85	4657923	84.313	ng		100
4) Chloromethane	4.64	50	1785477	43.700	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	4.93	135	2064558	91.427	ng		100
6) Vinyl Chloride	5.09	62	3072909	81.446	ng		99
7) 1,3-Butadiene	5.37	54	2444551	91.906	ng		97
8) Bromomethane	5.82	94	1654854	80.019	ng		99
9) Chloroethane	6.17	64	1658904	81.282	ng		99
10) Ethanol	6.71	45	8560831	330.639	ng		100
11) Acetonitrile	6.89	41	4655969	71.564	ng		98
12) Acrolein	7.04	56	3123931	162.712	ng		99
13) Acetone	7.29	58	7157699	340.254	ng		94
14) Trichlorofluoromethane	7.47	101	4421290	90.675	ng		100
15) 2-Propanol (Isopropanol)	7.86	45	9190051	120.399	ng		99
16) Acrylonitrile	8.07	53	5949769	153.796	ng		99
17) 1,1-Dichloroethene	8.45	96	1796378	77.653	ng		97
18) 2-Methyl-2-Propanol (t...	8.72	59	2673277	40.951	ng		94
19) Methylene Chloride	8.70	84	1834081	70.304	ng		98
20) 3-Chloro-1-propene (Al...	8.85	41	3799996	93.705	ng		100
21) Trichlorotrifluoroethane	9.10	151	1659366	78.906	ng		99
22) Carbon Disulfide	8.94	76	14506304	175.899	ng		100
23) trans-1,2-Dichloroethene	9.96	61	3269162	86.832	ng		98
24) 1,1-Dichloroethane	10.22	63	3810799	81.575	ng		100
25) Methyl tert-Butyl Ether	10.33	73	2922161	40.848	ng		100
26) Vinyl Acetate	10.50	86	1992416	512.363	ng	#	88
27) 2-Butanone (MEK)	10.76	72	2601707	146.460	ng		95
28) cis-1,2-Dichloroethene	11.24	61	3093172	82.270	ng		99
29) Diisopropyl Ether	11.54	87	3635542	161.615	ng	#	94
30) Ethyl Acetate	11.57	61	1400483	140.887	ng		98
31) n-Hexane	11.50	57	3644895	77.526	ng		100
32) Chloroform	11.60	83	3740325	87.524	ng		99
34) Tetrahydrofuran (THF)	12.00	72	2341811	141.076	ng		99
35) Ethyl tert-Butyl Ether	12.13	87	5258586	184.812	ng		96
36) 1,2-Dichloroethane	12.38	62	3525501	84.239	ng		100
38) 1,1,1-Trichloroethane	12.65	97	3716300	89.189	ng		99
39) Isopropyl Acetate	13.78	61	5932	No Calib		#	
40) 1-Butanol	12.68	56	1037	No Calib		#	
41) Benzene	13.13	78	8525401	79.170	ng		99
42) Carbon Tetrachloride	13.28	117	3355458	95.898	ng		99
43) Cyclohexane	13.41	84	6367451	174.852	ng		97
44) tert-Amyl Methyl Ether	13.78	73	12097222	184.532	ng		99
45) 1,2-Dichloropropane	13.98	63	2218568	84.742	ng		99
46) Bromodichloromethane	14.17	83	3212978	93.004	ng		99
47) Trichloroethene	14.22	130	2305038	89.485	ng		100
48) 1,4-Dioxane	14.21	88	1775950	82.914	ng		95

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192409.D
Acq On : 19 Mar 2024 3:53
Operator : CI
Sample : ICAL R16031924 100ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:24:10 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration

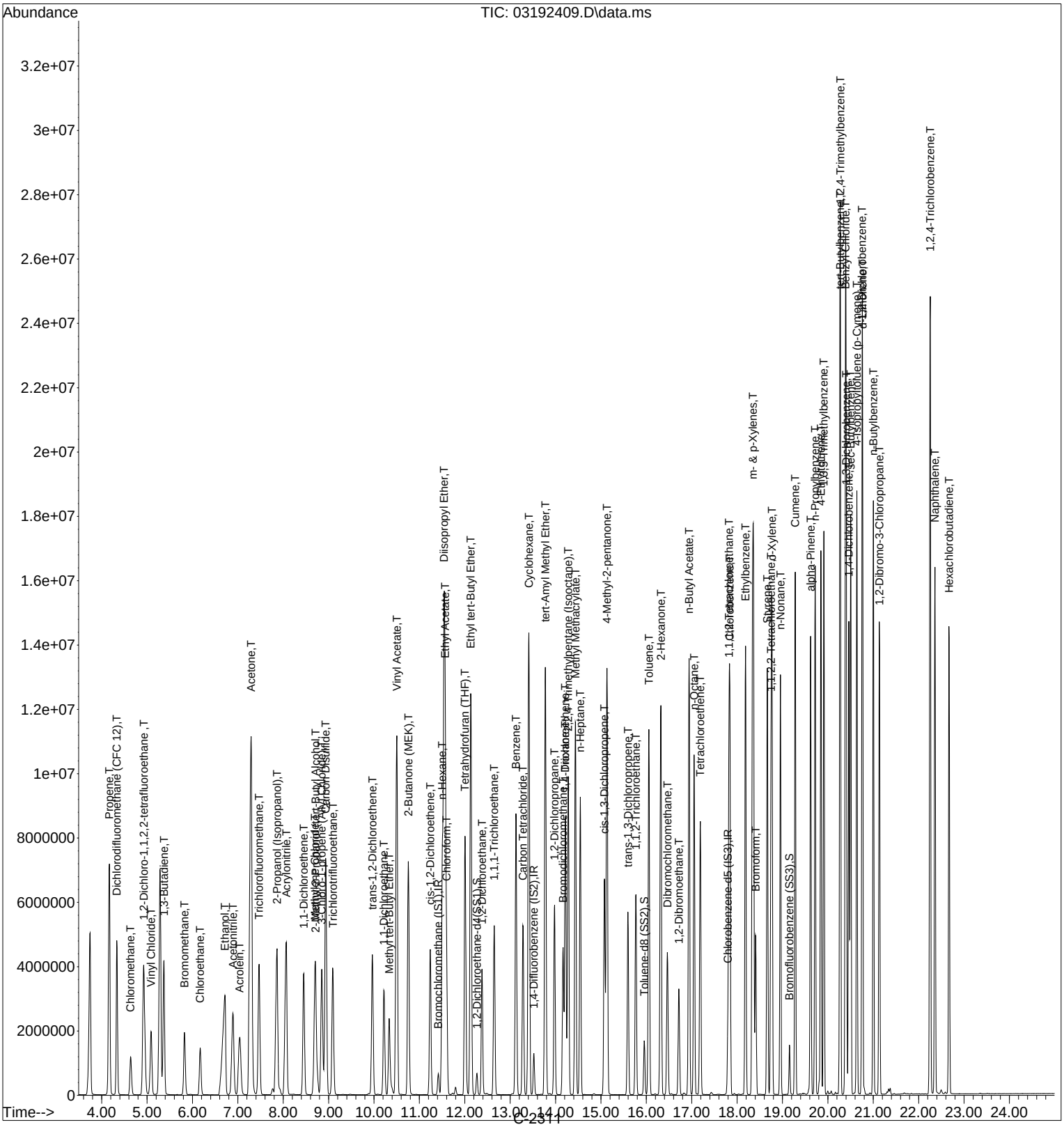
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.28	57	9507571	83.146	ng		100
50) Methyl Methacrylate	14.44	100	1869604	201.483	ng		94
51) n-Heptane	14.55	71	2393272	88.190	ng		99
52) cis-1,3-Dichloropropene	15.08	75	4029345	96.474	ng		100
53) 4-Methyl-2-pentanone	15.13	58	3846769	160.183	ng		97
54) trans-1,3-Dichloropropene	15.60	75	3414795	99.902	ng		99
55) 1,1,2-Trichloroethane	15.77	97	2141762	91.553	ng		99
58) Toluene	16.06	91	9252483	98.543	ng		99
59) 2-Hexanone	16.32	43	11033192	169.552	ng		100
60) Dibromochloromethane	16.46	129	2666128	102.114	ng		100
61) 1,2-Dibromoethane	16.72	107	2538403	102.446	ng		99
62) n-Butyl Acetate	16.94	43	12598637	172.604	ng		99
63) n-Octane	17.05	57	1966902	84.569	ng		97
64) Tetrachloroethene	17.19	166	2576055	100.016	ng		99
65) Chlorobenzene	17.84	112	5976026	97.350	ng		100
66) Ethylbenzene	18.19	91	10847811	100.948	ng		99
67) m- & p-Xylenes	18.35	91	16365265	193.808	ng		99
68) Bromoform	18.41	173	2416880	119.991	ng		100
69) Styrene	18.66	104	6602416	113.064	ng		98
70) o-Xylene	18.77	91	8457463	99.078	ng		98
71) n-Nonane	18.96	43	5020452	85.102	ng		99
72) 1,1,2,2-Tetrachloroethane	18.75	83	3858297	98.845	ng		100
74) Cumene	19.28	105	10746729	97.482	ng		99
75) alpha-Pinene	19.62	93	5414425	107.101	ng		97
76) n-Propylbenzene	19.72	91	12933606	95.959	ng		99
77) 3-Ethyltoluene	20.28	105	8384076	No Calib			
78) 4-Ethyltoluene	19.85	105	10921488	101.013	ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	9496676	105.426	ng		99
80) alpha-Methylstyrene	20.62	118	14395	No Calib		#	
81) 2-Ethyltoluene	20.28	105	8384076	No Calib			
82) 1,2,4-Trimethylbenzene	20.28	105	8384076	91.724	ng		98
83) n-Decane	20.37	58	708	No Calib		#	
84) Benzyl Chloride	20.39	91	14425940	231.373	ng		100
85) 1,3-Dichlorobenzene	20.41	146	4680344	90.916	ng		99
86) 1,4-Dichlorobenzene	20.46	146	5368179	104.646	ng		99
87) sec-Butylbenzene	20.50	105	12419572	99.406	ng		99
88) 4-Isopropyltoluene (p-...	20.64	119	10477787	99.119	ng		100
89) 1,2,3-Trimethylbenzene	20.28	105	8384076	No Calib			
90) 1,2-Dichlorobenzene	20.75	146	4489102	89.259	ng		99
91) d-Limonene	20.76	68	3018653	93.488	ng		98
92) 1,2-Dibromo-3-Chloropr...	21.14	157	3652752	218.821	ng		96
93) n-Undecane	21.51	58	216	No Calib		#	
94) 1,2,4-Trichlorobenzene	22.25	180	7729151	211.195	ng		99
95) Naphthalene	22.36	128	12290739	107.207	ng		100
96) n-Dodecane	22.78	57	216	No Calib		#	
97) Hexachlorobutadiene	22.67	225	2703249	95.034	ng		99
98) Cyclohexanone	18.36	55	13286	No Calib		#	
99) tert-Butylbenzene	20.27	119	7670339	88.978	ng		99
100) n-Butylbenzene	21.00	91	9630267	94.821	ng		100
101) 1,1,1,2-Tetrachloroethane	17.82	131	2180628	103.112	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192409.D
Acq On : 19 Mar 2024 3:53
Operator : CI
Sample : ICAL R16031924 100ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Mar 19 09:24:10 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:08:14 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 5:00
Operator : CI
Sample : ICV R16031924 5ng
Misc : S37-01032403/S37-03052402 (4/4)
ALS Vial : 2 Sample Multiplier: 1

CI 3/27/24

Quant Time: Mar 19 09:56:54 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.39	130	235359	12.500	ng	-0.01
37) 1,4-Difluorobenzene (IS2)	13.51	114	1063618	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	235729	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.24	65	496414	12.523	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.16%			
57) Toluene-d8 (SS2)	15.95	98	1191889	12.948	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%			
73) Bromofluorobenzene (SS3)	19.15	174	387699	12.506	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.08%			
Target Compounds						Qvalue
2) Propene	4.16	42	128368	3.866	ng	100
3) Dichlorodifluoromethan...	4.33	85	225875	4.312	ng	99
4) Chloromethane	4.62	50	150461	4.353	ng	99
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	93858	4.428	ng	99
6) Vinyl Chloride	5.06	62	138347	4.432	ng	100
7) 1,3-Butadiene	5.33	54	107171	4.520	ng	98
8) Bromomethane	5.79	94	76036	4.137	ng	100
9) Chloroethane	6.14	64	71839	4.018	ng	97
10) Ethanol	6.57	45	411907	19.520	ng	100
11) Acetonitrile	6.81	41	204658	3.802	ng	99
12) Acrolein	7.00	56	133798	8.735	ng	99
13) Acetone	7.23	58	363509	21.243	ng	100
14) Trichlorofluoromethane	7.43	101	195460	4.158	ng	100
15) 2-Propanol (Isopropanol)	7.75	45	601066	9.428	ng	100
16) Acrylonitrile	7.99	53	253947	8.307	ng	99
17) 1,1-Dichloroethene	8.42	96	89816	4.147	ng	98
18) 2-Methyl-2-Propanol (t...	8.63	59	541544	9.463	ng	100
19) Methylene Chloride	8.65	84	90717	3.661	ng	100
20) 3-Chloro-1-propene (Al...	8.82	41	127000	3.968	ng	100
21) Trichlorotrifluoroethane	9.07	151	83450	4.075	ng	98
22) Carbon Disulfide	8.90	76	623521	8.866	ng	100
23) trans-1,2-Dichloroethene	9.93	61	147302	4.317	ng	99
24) 1,1-Dichloroethane	10.19	63	171535	4.210	ng	100
25) Methyl tert-Butyl Ether	10.32	73	305628	4.936	ng	100
26) Vinyl Acetate	10.46	86	70772	23.256	ng	99
27) 2-Butanone (MEK)	10.72	72	128644	8.597	ng	98
28) cis-1,2-Dichloroethene	11.21	61	137185	4.210	ng	99
29) Diisopropyl Ether	11.53	87	179582	8.907	ng	99
30) Ethyl Acetate	11.54	61	67343	7.897	ng	98
31) n-Hexane	11.49	57	168303	4.308	ng	98
32) Chloroform	11.55	83	171797	4.313	ng	98
34) Tetrahydrofuran (THF)	11.99	72	112275	7.771	ng	100
35) Ethyl tert-Butyl Ether	12.11	87	239722	8.966	ng	99
36) 1,2-Dichloroethane	12.36	62	158472	4.013	ng	100
38) 1,1,1-Trichloroethane	12.63	97	169717	4.277	ng	99
39) Isopropyl Acetate	13.76	61	347	No Calib	#	
40) 1-Butanol	12.66	56	126	No Calib	#	
41) Benzene	13.11	78	372328	3.682	ng	99
42) Carbon Tetrachloride	13.26	117	140439	4.517	ng	99
43) Cyclohexane	13.40	84	296984	8.993	ng	100
44) tert-Amyl Methyl Ether	13.76	73	556602	9.075	ng	100
45) 1,2-Dichloropropane	13.96	63	97795	4.186	ng	97
46) Bromodichloromethane	14.15	83	140254	4.262	ng	99
47) Trichloroethene	14.20	130	99259	3.850	ng	98
48) 1,4-Dioxane	14.20	88	79682	4.371	ng	99

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 5:00
Operator : CI
Sample : ICV R16031924 5ng
Misc : S37-01032403/S37-03052402 (4/4)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 09:56:54 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

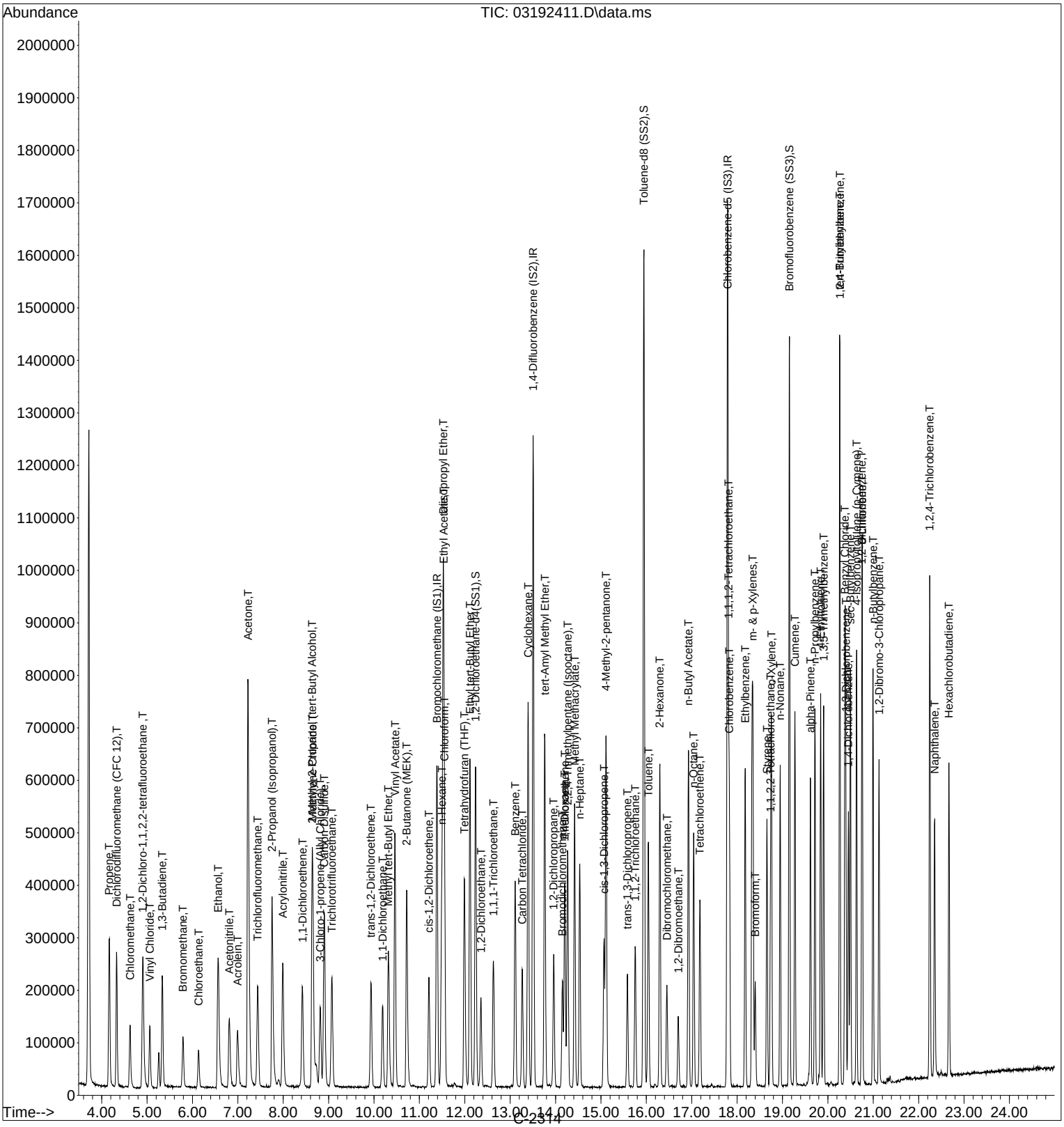
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	418170	4.438 ng		100
50) Methyl Methacrylate	14.42	100	77428	8.727 ng		100
51) n-Heptane	14.53	71	106767	4.370 ng		98
52) cis-1,3-Dichloropropene	15.07	75	166521	4.396 ng		99
53) 4-Methyl-2-pentanone	15.11	58	179250	9.078 ng		99
54) trans-1,3-Dichloropropene	15.58	75	127108	3.995 ng		100
55) 1,1,2-Trichloroethane	15.76	97	89624	4.226 ng		99
58) Toluene	16.05	91	375967	4.355 ng		99
59) 2-Hexanone	16.29	43	495654	9.037 ng		99
60) Dibromochloromethane	16.45	129	108837	4.339 ng		99
61) 1,2-Dibromoethane	16.71	107	99785	4.148 ng		99
62) n-Butyl Acetate	16.93	43	555523	9.167 ng		99
63) n-Octane	17.04	57	88197	4.429 ng		99
64) Tetrachloroethene	17.18	166	105572	4.170 ng		99
65) Chlorobenzene	17.83	112	244234	4.161 ng		99
66) Ethylbenzene	18.18	91	445543	4.447 ng		100
67) m- & p-Xylenes	18.35	91	694861	8.635 ng		99
68) Bromoform	18.40	173	90256	4.422 ng		99
69) Styrene	18.66	104	237184	4.247 ng		99
70) o-Xylene	18.76	91	356532	4.404 ng		99
71) n-Nonane	18.95	43	227642	4.475 ng		100
72) 1,1,2,2-Tetrachloroethane	18.74	83	156419	4.296 ng		99
74) Cumene	19.27	105	448365	4.308 ng		99
75) alpha-Pinene	19.62	93	209706	4.522 ng		95
76) n-Propylbenzene	19.71	91	543007	4.281 ng		99
77) 3-Ethyltoluene	20.26	105	374090	No Calib		
78) 4-Ethyltoluene	19.84	105	445227	4.390 ng		99
79) 1,3,5-Trimethylbenzene	19.91	105	377335	4.420 ng		100
80) alpha-Methylstyrene	20.63	118	6439	No Calib	#	
81) 2-Ethyltoluene	20.26	105	374090	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	374090	4.341 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	20.37	91	510028	8.474 ng		98
85) 1,3-Dichlorobenzene	20.40	146	194810	3.924 ng		100
86) 1,4-Dichlorobenzene	20.45	146	186067	3.848 ng		97
87) sec-Butylbenzene	20.50	105	497330	4.261 ng		99
88) 4-Isopropyltoluene (p-...	20.63	119	429203	4.302 ng		100
89) 1,2,3-Trimethylbenzene	20.26	105	374090	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	192215	4.021 ng		100
91) d-Limonene	20.76	68	126726	4.360 ng		98
92) 1,2-Dibromo-3-Chloropr...	21.13	157	142944	9.233 ng		96
93) n-Undecane	21.50	58	165	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	283076	8.191 ng		99
95) Naphthalene	22.35	128	392288	4.045 ng		99
96) n-Dodecane	22.80	57	470	No Calib	#	
97) Hexachlorobutadiene	22.67	225	108227	3.997 ng		99
98) Cyclohexanone	18.26	55	345	No Calib	#	
99) tert-Butylbenzene	20.26	119	371928	4.487 ng		99
100) n-Butylbenzene	21.00	91	401885	4.330 ng		99
101) 1,1,1,2-Tetrachloroethane	17.81	131	92602	4.524 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192411.D
Acq On : 19 Mar 2024 5:00
Operator : CI
Sample : ICV R16031924 5ng
Misc : S37-01032403/S37-03052402 (4/4)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 09:56:54 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



ALS Environmental

CJ 3/27/24

LCS Acceptance Criteria

ICV R16031924_5ng

	RT
Bromochloromethane (IS1)	11.39
1,4-Difluorobenzene (IS2)	13.51
Chlorobenzene-d5 (IS3)	17.79

Datafile: 03192411.D
Instrument: MS-16
Date: 3/19/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	3.866	5.30	73	50-133	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	4.312	5.10	85	66-122	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	4.353	5.20	84	56-131	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	4.428	5.20	85	63-120	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	4.432	5.30	84	57-129	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	4.520	5.30	85	62-132	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	4.137	5.25	79	72-120	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	4.018	5.30	76	67-123	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	19.520	27.9	70	52-120	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	3.802	5.35	71	50-114	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	8.735	10.7	82	63-125	ok	70-130	ok	62-126	ok
67-64-1	Acetone	21.243	26.5	80	61-120	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	4.158	5.25	79	65-122	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	9.428	10.5	90	59-132	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	8.307	10.6	78	60-128	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	4.147	5.20	80	75-120	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	9.463	10.3	92	60-143	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	3.661	5.20	70	71-123	FAIL	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	3.968	5.35	74	50-118	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	4.075	5.25	78	65-121	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	8.866	10.8	82	69-115	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	4.317	5.45	79	67-123	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	4.210	5.40	78	66-120	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	4.936	5.40	91	65-124	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	23.256	27.3	85	76-147	ok	70-130	ok	56-139	ok
78-93-3	2-Butanone	8.597	10.4	83	70-125	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	4.210	5.40	78	64-120	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	8.907	10.7	83	64-120	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	7.897	9.95	79	56-120	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	4.308	5.30	81	60-125	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	4.313	5.40	80	64-121	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	7.771	10.1	77	67-117	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	8.966	10.6	85	69-121	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	4.013	5.15	78	64-138	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	4.277	5.25	81	67-125	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	65-129	#N/A
71-36-3	1-Butanol	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	62-133	#N/A
71-43-2	Benzene	3.682	5.15	71	73-128	FAIL	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	4.517	5.25	86	71-134	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	8.993	10.7	84	71-118	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	9.075	10.6	86	70-126	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	4.186	5.35	78	68-121	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	4.262	5.45	78	70-125	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	3.850	5.35	72	68-124	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	4.371	5.35	82	76-127	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	4.438	5.35	83	62-124	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	8.727	10.7	82	77-118	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	4.370	5.35	82	72-121	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	4.396	5.30	83	87-137	FAIL	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	9.078	10.7	85	67-137	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

ICV R16031924_5ng

	RT
Bromochloromethane (IS1)	11.39
1,4-Difluorobenzene (IS2)	13.51
Chlorobenzene-d5 (IS3)	17.79

Datafile: 03192411.D
Instrument: MS-16
Date: 3/19/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	3.995	4.90	82	73-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	4.226	5.40	78	71-119	ok	70-130	ok	73-119	ok
108-88-3	Toluene	4.355	5.35	81	64-121	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	9.037	10.7	84	70-136	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	4.339	5.35	81	67-128	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	4.148	5.15	81	69-129	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	9.167	10.7	86	70-135	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	4.429	5.35	83	66-124	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	4.170	5.35	78	55-132	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	4.161	5.45	76	63-124	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	4.447	5.45	82	64-119	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	8.635	10.8	80	64-121	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	4.422	5.45	81	63-132	ok	70-130	ok	66-139	ok
100-42-5	Styrene	4.247	5.35	79	71-125	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	4.404	5.40	82	66-122	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	4.475	5.35	84	65-129	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	4.296	5.40	80	71-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	4.308	5.30	81	66-126	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	4.522	5.40	84	65-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	4.281	5.35	80	67-126	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	62-123	#N/A
622-96-8	4-Ethyltoluene	4.390	5.45	81	67-128	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	4.420	5.45	81	66-125	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	67-128	#N/A
611-14-3	2-Ethyltoluene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	66-121	#N/A
95-63-6	1,2,4-Trimethylbenzene	4.341	5.30	82	67-130	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	70-118	#N/A
100-44-7	Benzyl Chloride	8.474	10.8	78	58-151	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	3.924	5.35	73	57-135	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	3.848	5.35	72	56-129	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	4.261	5.30	80	64-132	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	4.302	5.25	82	65-125	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	60-134	#N/A
95-50-1	1,2-Dichlorobenzene	4.021	5.30	76	57-138	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	4.360	5.20	84	70-129	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	9.233	10.7	86	63-138	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	69-123	#N/A
120-82-1	1,2,4-Trichlorobenzene	8.191	11.0	74	50-137	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	4.045	5.50	74	50-157	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	62-147	#N/A
87-68-3	Hexachloro-1,3-butadiene	3.997	5.35	75	50-133	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	#N/A	#N/A	-	#N/A	70-130	#N/A	61-132	#N/A
98-06-6	tert-Butylbenzene	4.487	5.35	84	63-130	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	4.330	5.25	82	69-133	ok	70-130	ok	66-130	ok

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : C16021424.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Wed Feb 21 09:27:57 2024
Response Via : Initial Calibration

CJ 2/21/24

Calibration Files
0.40=02142444.D 1.0 =02142445.D 2.5 =02142446.D 5.0 =02142447.D 25 =02142448.D 50 =02142

	Compound	0.40	1.0	2.5	5.0	25	50	100	Avg	%RSD
1) IR	Bromochloromethane...	----------ISTD----------								
2) T	Chloropentaflu...	1.602	1.611	1.570	1.549	1.514	1.487	1.391	1.532	5.01
3) T	1,1,1,2-Tetraf...	1.324	1.251	1.250	1.254	1.235	1.238	1.132	1.241	4.56
4) T	1,1-Difluoroet...	1.288	1.197	1.143	1.078	1.119	1.036	0.667	1.075	18.40
5) T	Chlorodifluoro...	0.467	0.397	0.405	0.400	0.391	0.391	0.353	0.401	8.48
6) T	1-Chloro-1,1-D...	2.764	2.669	2.559	2.541	2.548	2.582	2.502	2.595	3.49
7) T	Dichlorofluoro...	2.846	2.536	2.516	2.476	2.468	2.486	2.352	2.526	6.06
8) T	Vinylbromide	0.992	0.819	0.864	0.844	0.875	0.868	0.830	0.870	6.59
9) T	2,2-Dichloro-1...	1.572	1.512	1.480	1.479	1.448	1.435	1.364	1.470	4.41
10) T	2-Methylbutane	1.357	1.225	1.275	1.266	1.254	1.234	1.156	1.252	4.84
11) T	Methyl Acetate	3.153	2.887	2.698	2.703	2.800	2.820	2.819	2.840	5.42
12) T	2-Methylpentane	1.232	1.136	1.152	1.157	1.156	1.139	1.046	1.145	4.76
13) T	2,2-Dichloropr...	1.139	1.203	1.174	1.184	1.477	1.457	1.135	1.253	11.86
14) T	1,1-Dichloropr...	1.643	1.558	1.587	1.566	1.579	1.569	1.484	1.569	2.99
15) T	Thiophene	2.432	2.296	2.339	2.312	2.259	2.224	2.052	2.273	5.17
16) IR	1,4-Difluorobenzen...	----------ISTD----------								
17) T	2,3-Dimethylpe...	0.546	0.516	0.510	0.508	0.516	0.503	0.493	0.513	3.18
18) T	Dibromomethane	0.181	0.162	0.156	0.159	0.159	0.158	0.156	0.162	5.41
19) IR	Chlorobenzene-d5 (...	----------ISTD----------								
20) T	Methyl Cyclohe...	1.812	1.749	1.722	1.742	1.783	1.769	1.685	1.752	2.36
21) T	1,3-Dichloropr...	1.755	1.613	1.684	1.680	1.662	1.659	1.573	1.661	3.46
22) T	1,1,1,2-Tetrac...	0.952	0.883	0.877	0.889	0.934	0.935	0.901	0.910	3.29
23) T	1-Chlorohexane	1.488	1.402	1.460	1.503	1.525	1.477	1.415	1.467	3.07
24) T	1,2,3-Trichlor...	1.573	1.628	1.613	1.577	1.561	1.539	1.494	1.569	2.85
25) T	Bromobenzene	1.844	1.736	1.687	1.748	1.727	1.702	1.660	1.729	3.41
26) T	2-Chlorotoluene	3.628	3.255	3.115	3.259	3.306	3.256	3.137	3.280	5.15
27) T	4-Chlorotoluene	3.088	3.200	3.196	3.209	3.153	3.137	3.077	3.151	1.71
28) T	Indane	3.504	3.330	3.601	3.698	3.728	3.647	3.634	3.592	3.79
29) T	Indene	2.122	2.304	2.544	2.749	2.827	2.842	2.903	2.613	11.51
30) T	1,2,4,5-Tetram...	3.489	3.627	3.713	3.908	4.087	3.979	3.808	3.802	5.48
31) T	1,2,3,4-Tetram...	3.538	3.736	3.823	3.949	3.724	3.857	3.842	3.781	3.48
32) T	1,2,3,5-Tetram...	3.615	3.585	3.651	3.720	3.716	3.708	3.665	3.666	1.43
33) T	1,2,3-Trichlor...	1.075	1.151	1.217	1.250	1.173	1.176	1.168	1.173	4.66

(#) = Out of Range

C16021424.M Wed Feb 21 09:29:32 2024

CI 2/21/24

Std#: **Working Standards**

(1) **200 ng/L Working Std. ID:** S37-02012401

(2) **20 ng/L Working Std. ID:** S37-02012402

Injection Amts.(L):	0.020	0.050	0.125	0.250	0.125	0.250	0.500
Standards Used:	(2)	(2)	(2)	(2)	(1)	(1)	(1)
Compounds/ Concentrations (ng):	0.4ng	1.0ng	2.5ng	5.0ng	25ng	50ng	100ng
Vinyl bromide	0.396	0.990	2.475	4.95	24.75	49.5	99
2-Methylbutane (Isopentane)	0.448	1.120	2.800	5.60	28.00	56.0	112
2-Methylpentane	0.396	0.990	2.475	4.95	24.75	49.5	99
2,2-Dichloropropane	0.304	0.760	1.900	3.80	19.00	38.0	76
1,1-Dichloropropene	0.412	1.030	2.575	5.15	25.75	51.5	103
Thiophene	0.404	1.010	2.525	5.05	25.25	50.5	101
2,3-Dimethylpentane	0.420	1.050	2.625	5.25	26.25	52.5	105
Dibromomethane	0.408	1.020	2.550	5.10	25.50	51.0	102
1,3-Dichloropropane	0.420	1.050	2.625	5.25	26.25	52.5	105
1,1,1,2-Tetrachloroethane	0.308	0.770	1.925	3.85	19.25	38.5	77
1-Chlorohexane	0.412	1.030	2.575	5.15	25.75	51.5	103
1,2,3-Trichloropropane	0.416	1.040	2.600	5.20	26.00	52.0	104
Bromobenzene	0.420	1.050	2.625	5.25	26.25	52.5	105
2-Chlorotoluene	0.436	1.090	2.725	5.45	27.25	54.5	109
4-Chlorotoluene	0.412	1.030	2.575	5.15	25.75	51.5	103
Indane	0.396	0.990	2.475	4.95	24.75	49.5	99
Indene	0.380	0.950	2.375	4.75	23.75	47.5	95
1,2,4,5-Tetramethylbenzene	0.408	1.020	2.550	5.10	25.50	51.0	102
1,2,3,4-Tetramethylbenzene	0.416	1.040	2.600	5.20	26.00	52.0	104
1,2,3,5-Tetramethylbenzene	0.408	1.020	2.550	5.10	25.50	51.0	102
1,2,3-Trichlorobenzene	0.404	1.010	2.525	5.05	25.25	50.5	101
Chloropentafluoroethane (R115)	0.424	1.060	2.650	5.30	26.50	53.0	106
2,2-Dichloro-1,1,1-trifluoroethane (R123)	0.432	1.080	2.700	5.40	27.00	54.0	108
1,1-Difluoroethane (R152a)	0.432	1.080	2.700	5.40	27.00	54.0	108
Chlorodifluoromethane (R22)	0.432	1.080	2.700	5.40	27.00	54.0	108
Dichlorofluoromethane (R21)	0.408	1.020	2.550	5.10	25.50	51.0	102
1,1,1,2-Tetrafluoroethane (R134a)	0.412	1.030	2.575	5.15	25.75	51.5	103
1-Chloro-1,1-Difluoroethane	0.424	1.060	2.650	5.30	26.50	53.0	106
Methyl Acetate	0.348	0.870	2.175	4.35	21.75	43.5	87
Methylcyclohexane	0.428	1.070	2.675	5.35	26.75	53.5	107
Chlorotrifluoroethene	0.404	1.010	2.525	5.05	25.25	50.5	101

Calibration Status Report GCMS-16

Method : I:\MS16\METHODS\C16021424.M (RTE Integrator)
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

CI 2/21/24

#	ID	Conc	ISTD Conc	Path\File
1	0.40	0	13	I:\MS16\DATA\2024_02\14\02142444.D
2	1.0	1	13	I:\MS16\DATA\2024_02\14\02142445.D
3	2.5	3	13	I:\MS16\DATA\2024_02\14\02142446.D
4	5.0	5	13	I:\MS16\DATA\2024_02\14\02142447.D
5	25	27	13	I:\MS16\DATA\2024_02\14\02142448.D
6	50	53	13	I:\MS16\DATA\2024_02\14\02142449.D
7	100	106	13	I:\MS16\DATA\2024_02\14\02142450.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.40	Feb 21 09:27 2024	Feb 21 09:22 2024	15 Feb 2024 2:10
2	1.0	Feb 21 09:27 2024	Feb 21 09:22 2024	15 Feb 2024 2:44
3	2.5	Feb 21 09:27 2024	Feb 21 09:23 2024	15 Feb 2024 3:17
4	5.0	Feb 21 09:27 2024	Feb 21 09:23 2024	15 Feb 2024 3:50
5	25	Feb 21 09:27 2024	Feb 21 09:23 2024	15 Feb 2024 4:24
6	50	Feb 21 09:27 2024	Feb 21 09:23 2024	15 Feb 2024 4:57
7	100	Feb 21 09:27 2024	Feb 21 09:23 2024	15 Feb 2024 5:31

C16021424.M Wed Feb 21 09:28:07 2024

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142444.D
Acq On : 15 Feb 2024 2:10
Operator : CI/TO
Sample : 0.4ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:22:50 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

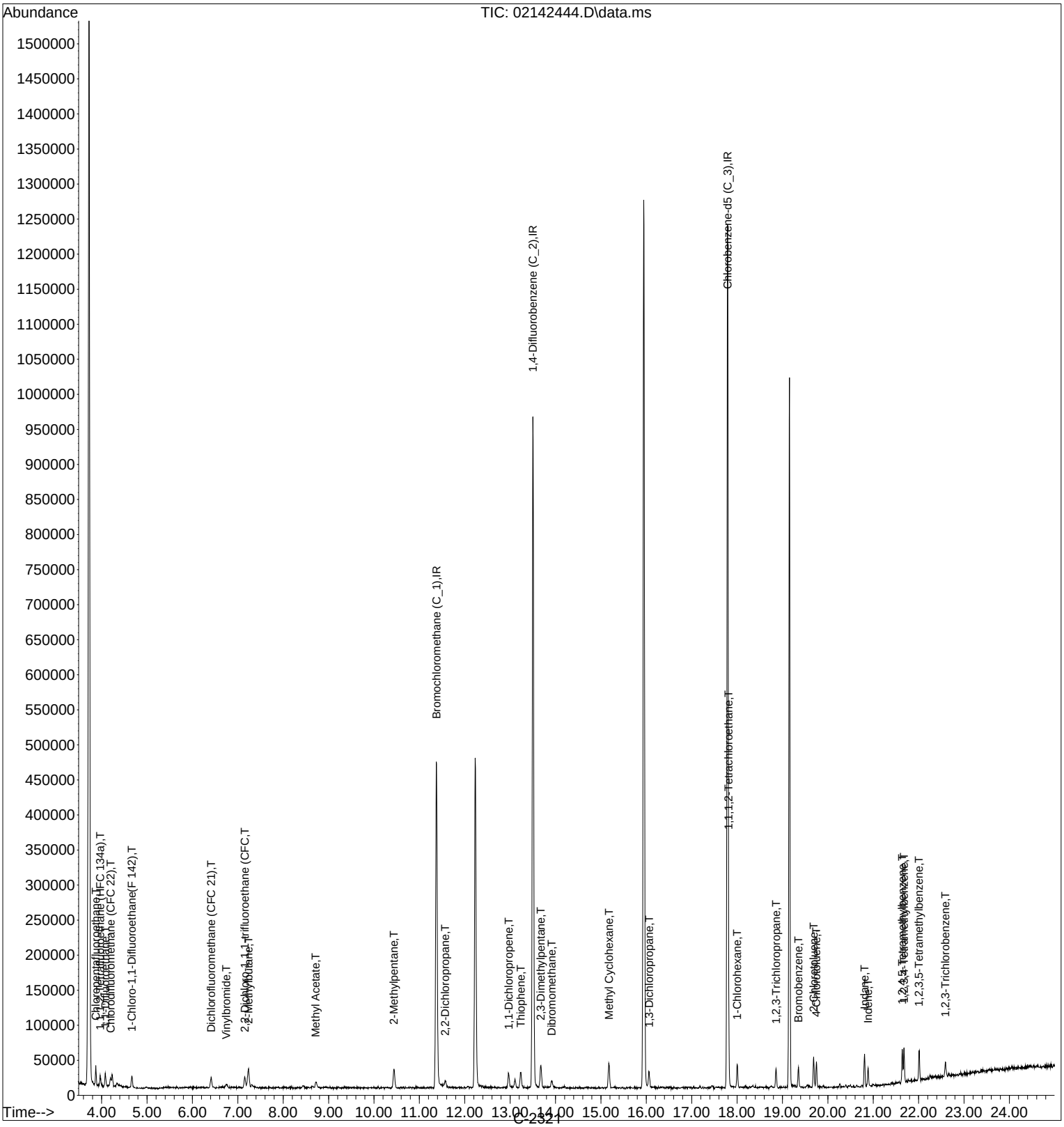
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	177786	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	805071	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	189340	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.87	85	9661	0.422	ng		97
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	7758	0.389	ng		94
4) 1,1-Difluoroethane	4.08	65	7912	0.522	ng		94
5) Chlorodifluoromethane ...	4.20	67	2871	0.484	ng		76
6) 1-Chloro-1,1-Difluoroe...	4.66	65	16668	0.448	ng		99
7) Dichlorofluoromethane ...	6.41	67	16517	0.467	ng		96
8) Vinylbromide	6.75	108	5585	0.425	ng		89
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	9656	0.445	ng		99
10) 2-Methylbutane	7.24	57	8647	0.506	ng		91
11) Methyl Acetate	8.72	43	15608	0.410	ng	#	97
12) 2-Methylpentane	10.44	71	6939	0.426	ng		95
13) 2,2-Dichloropropane	11.57	77	4924	0.203	ng	#	81
14) 1,1-Dichloropropene	12.97	75	9628	0.413	ng		93
15) Thiophene	13.24	84	13974	0.411	ng		95
17) 2,3-Dimethylpentane	13.68	56	14761	0.483	ng		98
18) Dibromomethane	13.91	174	4754	0.376	ng		95
20) Methyl Cyclohexane	15.18	55	11746	0.419	ng		97
21) 1,3-Dichloropropane	16.06	76	11166	0.363	ng		98
22) 1,1,1,2-Tetrachloroethane	17.81	131	4443	0.247	ng		97
23) 1-Chlorohexane	18.00	91	9288	0.344	ng		100
24) 1,2,3-Trichloropropane	18.86	75	9910	0.350	ng		98
25) Bromobenzene	19.35	77	11733	0.348	ng		97
26) 2-Chlorotoluene	19.69	91	23963	0.388	ng		97
27) 4-Chlorotoluene	19.75	91	19273	0.306	ng		97
28) Indane	20.81	117	21021	0.299	ng		99
29) Indene	20.89	115	12212	0.217	ng		100
30) 1,2,4,5-Tetramethylben...	21.64	119	21561	0.271	ng		99
31) 1,2,3,4-Tetramethylben...	21.68	119	22291	0.302	ng		100
32) 1,2,3,5-Tetramethylben...	22.01	119	22342	0.297	ng		98
33) 1,2,3-Trichlorobenzene	22.59	180	6581	0.224	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142444.D
Acq On : 15 Feb 2024 2:10
Operator : CI/TO
Sample : 0.4ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 21 09:22:50 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142445.D
Acq On : 15 Feb 2024 2:44
Operator : CI/TO
Sample : 1.0ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:22:58 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

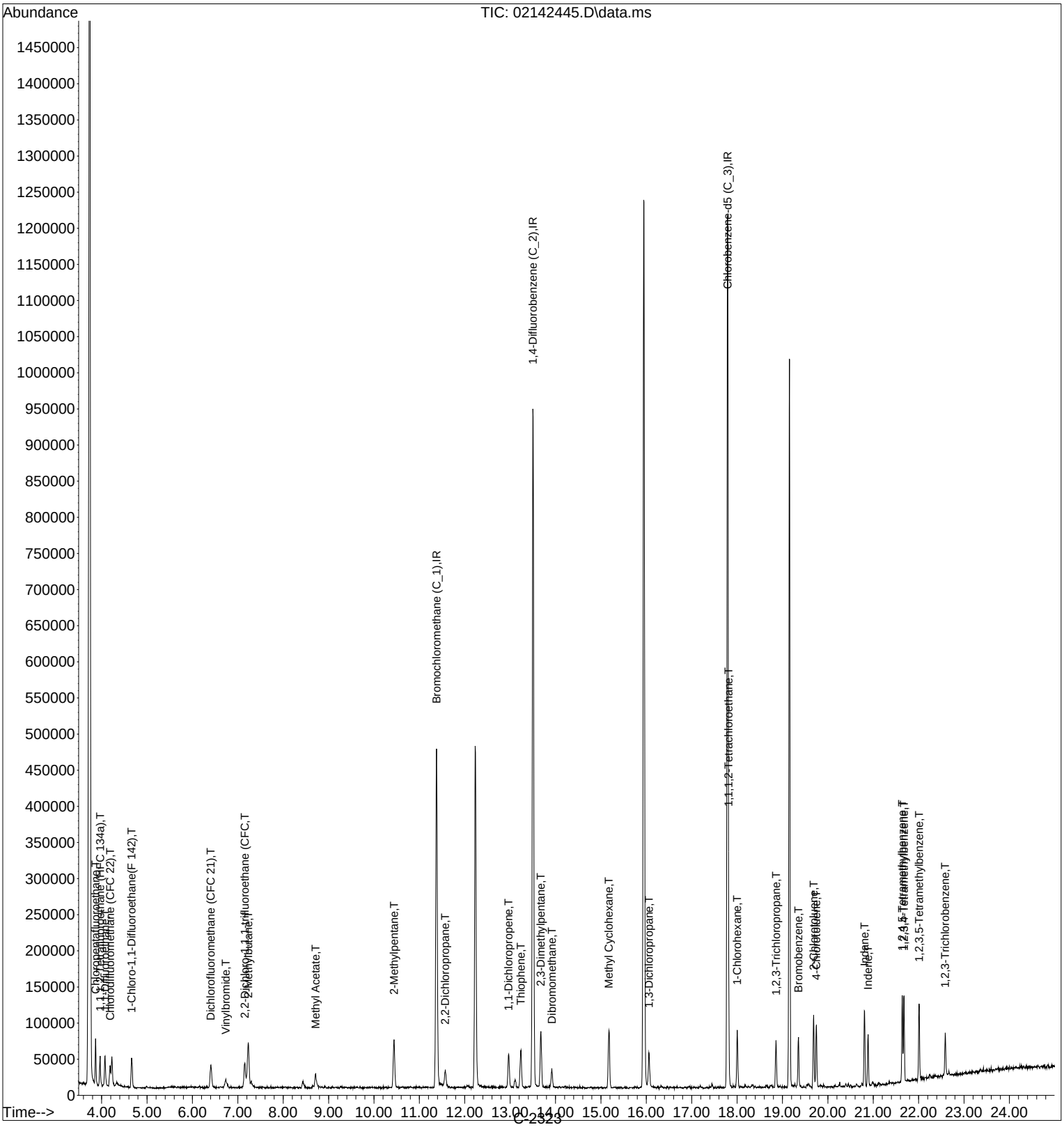
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	179827	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.50	114	811641	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	187821	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.87	85	24573	1.060	ng	97
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	18542	0.920	ng	98
4) 1,1-Difluoroethane	4.08	65	18605	1.213	ng	96
5) Chlorodifluoromethane ...	4.19	67	6172	1.028	ng	99
6) 1-Chloro-1,1-Difluoroe...	4.66	65	40703	1.081	ng	97
7) Dichlorofluoromethane ...	6.40	67	37216	1.041	ng	98
8) Vinylbromide	6.74	108	11670	0.878	ng	97
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	23496	1.070	ng	98
10) 2-Methylbutane	7.23	57	19738	1.143	ng	89
11) Methyl Acetate	8.72	43	36135	0.938	ng	98
12) 2-Methylpentane	10.44	71	16186	0.982	ng	95
13) 2,2-Dichloropropane	11.57	77	13156	0.536	ng	93
14) 1,1-Dichloropropene	12.96	75	23093	0.980	ng	99
15) Thiophene	13.24	84	33355	0.971	ng	98
17) 2,3-Dimethylpentane	13.68	56	35213	1.143	ng	99
18) Dibromomethane	13.92	174	10713	0.840	ng	97
20) Methyl Cyclohexane	15.17	55	28126	1.010	ng	97
21) 1,3-Dichloropropane	16.06	76	25442	0.835	ng	96
22) 1,1,1,2-Tetrachloroethane	17.81	131	10214	0.573	ng	95
23) 1-Chlorohexane	18.00	91	21699	0.810	ng	98
24) 1,2,3-Trichloropropane	18.86	75	25436	0.904	ng	98
25) Bromobenzene	19.35	77	27390	0.819	ng	98
26) 2-Chlorotoluene	19.69	91	53310	0.870	ng	100
27) 4-Chlorotoluene	19.75	91	49517	0.792	ng	100
28) Indane	20.81	117	49532	0.710	ng	96
29) Indene	20.89	115	32888	0.590	ng	99
30) 1,2,4,5-Tetramethylben...	21.64	119	55588	0.704	ng	100
31) 1,2,3,4-Tetramethylben...	21.68	119	58380	0.798	ng	92
32) 1,2,3,5-Tetramethylben...	22.01	119	54949	0.737	ng	100
33) 1,2,3-Trichlorobenzene	22.58	180	17467	0.600	ng	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142445.D
Acq On : 15 Feb 2024 2:44
Operator : CI/TO
Sample : 1.0ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 21 09:22:58 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



C-2323

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142446.D
Acq On : 15 Feb 2024 3:17
Operator : CI/TO
Sample : 2.5ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:23:04 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

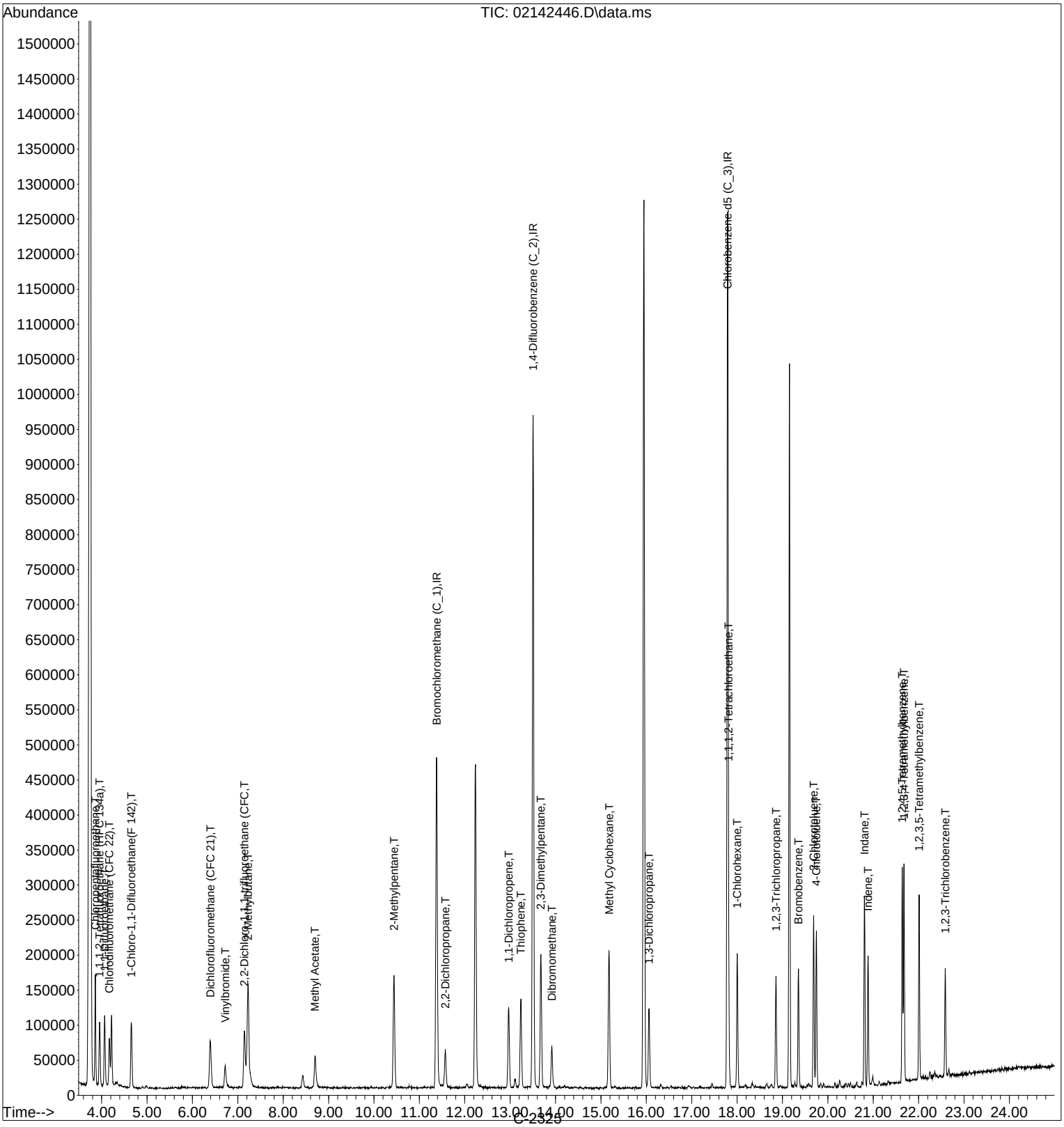
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	177544	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	819929	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	187185	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.86	85	59109	2.583	ng		97
3) 1,1,1,2-Tetrafluoroeth...	3.95	83	45727	2.299	ng		96
4) 1,1-Difluoroethane	4.06	65	43818	2.893	ng		100
5) Chlorodifluoromethane ...	4.17	67	15543	2.623	ng		88
6) 1-Chloro-1,1-Difluoroe...	4.65	65	96322	2.591	ng		100
7) Dichlorofluoromethane ...	6.40	67	91129	2.581	ng		99
8) Vinylbromide	6.73	108	30356	2.313	ng		99
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	56768	2.619	ng		98
10) 2-Methylbutane	7.23	57	50693	2.972	ng		94
11) Methyl Acetate	8.70	43	83336	2.192	ng	#	98
12) 2-Methylpentane	10.44	71	40486	2.489	ng		98
13) 2,2-Dichloropropane	11.58	77	31694	1.307	ng		97
14) 1,1-Dichloropropene	12.97	75	58025	2.494	ng		98
15) Thiophene	13.24	84	83869	2.473	ng		96
17) 2,3-Dimethylpentane	13.68	56	87886	2.825	ng		98
18) Dibromomethane	13.92	174	26058	2.023	ng		99
20) Methyl Cyclohexane	15.18	55	68990	2.487	ng		98
21) 1,3-Dichloropropane	16.06	76	66194	2.179	ng		97
22) 1,1,1,2-Tetrachloroethane	17.81	131	25269	1.423	ng		98
23) 1-Chlorohexane	18.00	91	56282	2.107	ng		98
24) 1,2,3-Trichloropropane	18.86	75	62798	2.240	ng		98
25) Bromobenzene	19.35	77	66330	1.989	ng		98
26) 2-Chlorotoluene	19.69	91	127127	2.082	ng		97
27) 4-Chlorotoluene	19.75	91	123224	1.977	ng		99
28) Indane	20.81	117	133471	1.920	ng		99
29) Indene	20.89	115	90469	1.628	ng		98
30) 1,2,4,5-Tetramethylben...	21.64	119	141787	1.801	ng		95
31) 1,2,3,4-Tetramethylben...	21.68	119	148832	2.041	ng		89
32) 1,2,3,5-Tetramethylben...	22.01	119	139434	1.878	ng		99
33) 1,2,3-Trichlorobenzene	22.59	180	46028	1.588	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142446.D
Acq On : 15 Feb 2024 3:17
Operator : CI/TO
Sample : 2.5ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 21 09:23:04 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142447.D
Acq On : 15 Feb 2024 3:50
Operator : CI/TO
Sample : 5.0ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:23:12 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

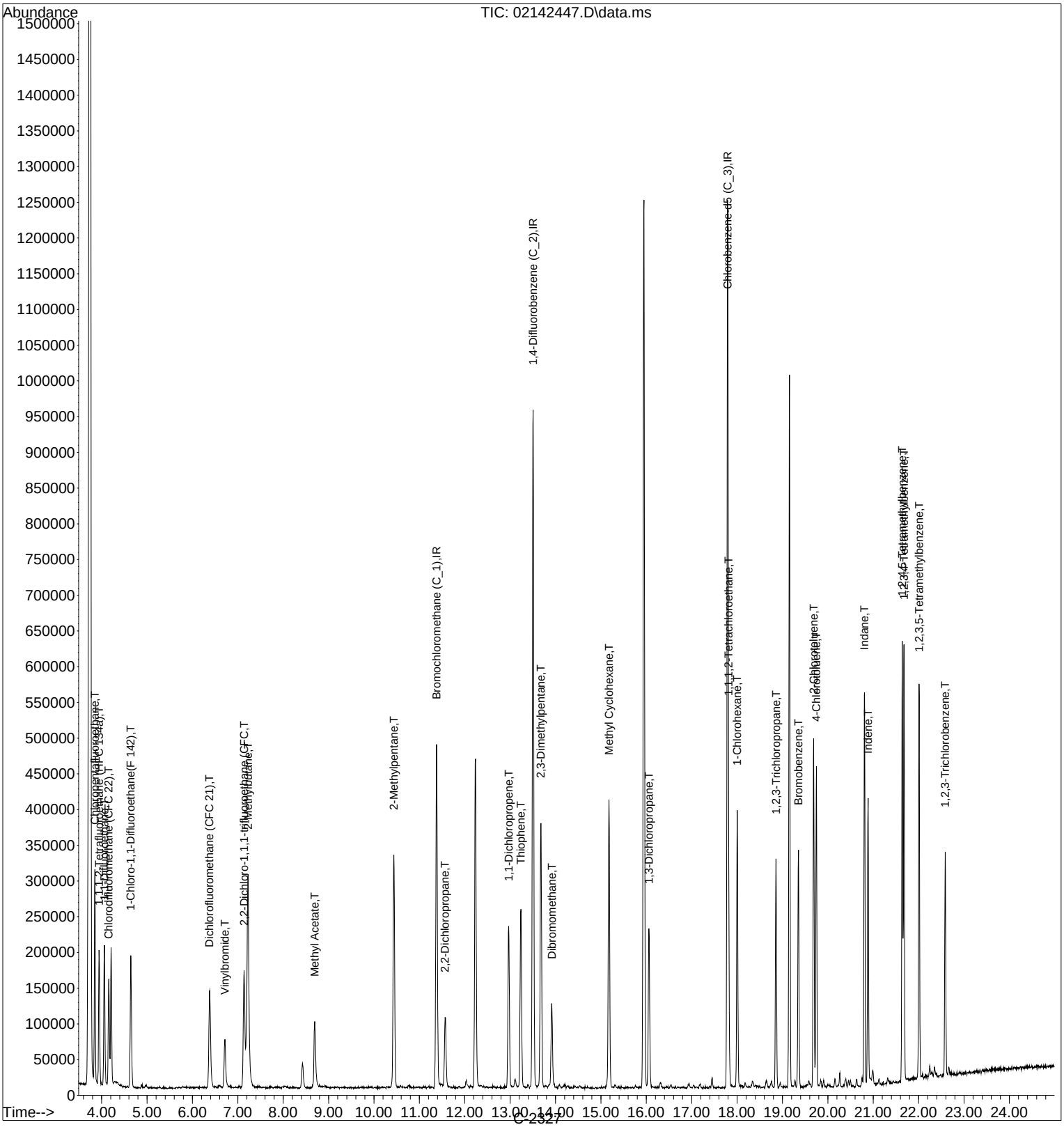
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	177218	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	807517	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	184192	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.85	85	116377	5.096	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.94	83	91574	4.612	ng	100
4) 1,1-Difluoroethane	4.06	65	82538	5.459	ng	100
5) Chlorodifluoromethane ...	4.15	67	30613	5.176	ng	95
6) 1-Chloro-1,1-Difluoroe...	4.64	65	190938	5.145	ng	99
7) Dichlorofluoromethane ...	6.37	67	179043	5.081	ng	98
8) Vinylbromide	6.71	108	59206	4.519	ng	96
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	113225	5.233	ng	100
10) 2-Methylbutane	7.23	57	100494	5.904	ng	97
11) Methyl Acetate	8.69	43	166683	4.392	ng	98
12) 2-Methylpentane	10.44	71	81172	4.999	ng	99
13) 2,2-Dichloropropane	11.56	77	63779	2.635	ng	98
14) 1,1-Dichloropropene	12.97	75	114318	4.922	ng	98
15) Thiophene	13.24	84	165548	4.890	ng	98
17) 2,3-Dimethylpentane	13.68	56	172290	5.623	ng	98
18) Dibromomethane	13.92	174	52227	4.116	ng	99
20) Methyl Cyclohexane	15.18	55	137350	5.031	ng	98
21) 1,3-Dichloropropane	16.06	76	129972	4.348	ng	98
22) 1,1,1,2-Tetrachloroethane	17.81	131	50436	2.887	ng	99
23) 1-Chlorohexane	18.00	91	114072	4.340	ng	97
24) 1,2,3-Trichloropropane	18.86	75	120841	4.381	ng	99
25) Bromobenzene	19.35	77	135262	4.123	ng	98
26) 2-Chlorotoluene	19.69	91	261700	4.355	ng	98
27) 4-Chlorotoluene	19.75	91	243538	3.971	ng	99
28) Indane	20.80	117	269726	3.944	ng	99
29) Indene	20.89	115	192420	3.519	ng	98
30) 1,2,4,5-Tetramethylben...	21.64	119	293717	3.792	ng	100
31) 1,2,3,4-Tetramethylben...	21.68	119	302587	4.217	ng	93
32) 1,2,3,5-Tetramethylben...	22.01	119	279569	3.826	ng	98
33) 1,2,3-Trichlorobenzene	22.58	180	93012	3.260	ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142447.D
Acq On : 15 Feb 2024 3:50
Operator : CI/TO
Sample : 5.0ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012402 (3/2)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Feb 21 09:23:12 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142448.D
Acq On : 15 Feb 2024 4:24
Operator : CI/TO
Sample : 25ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012401 (3/2)
ALS Vial : 16 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:23:18 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

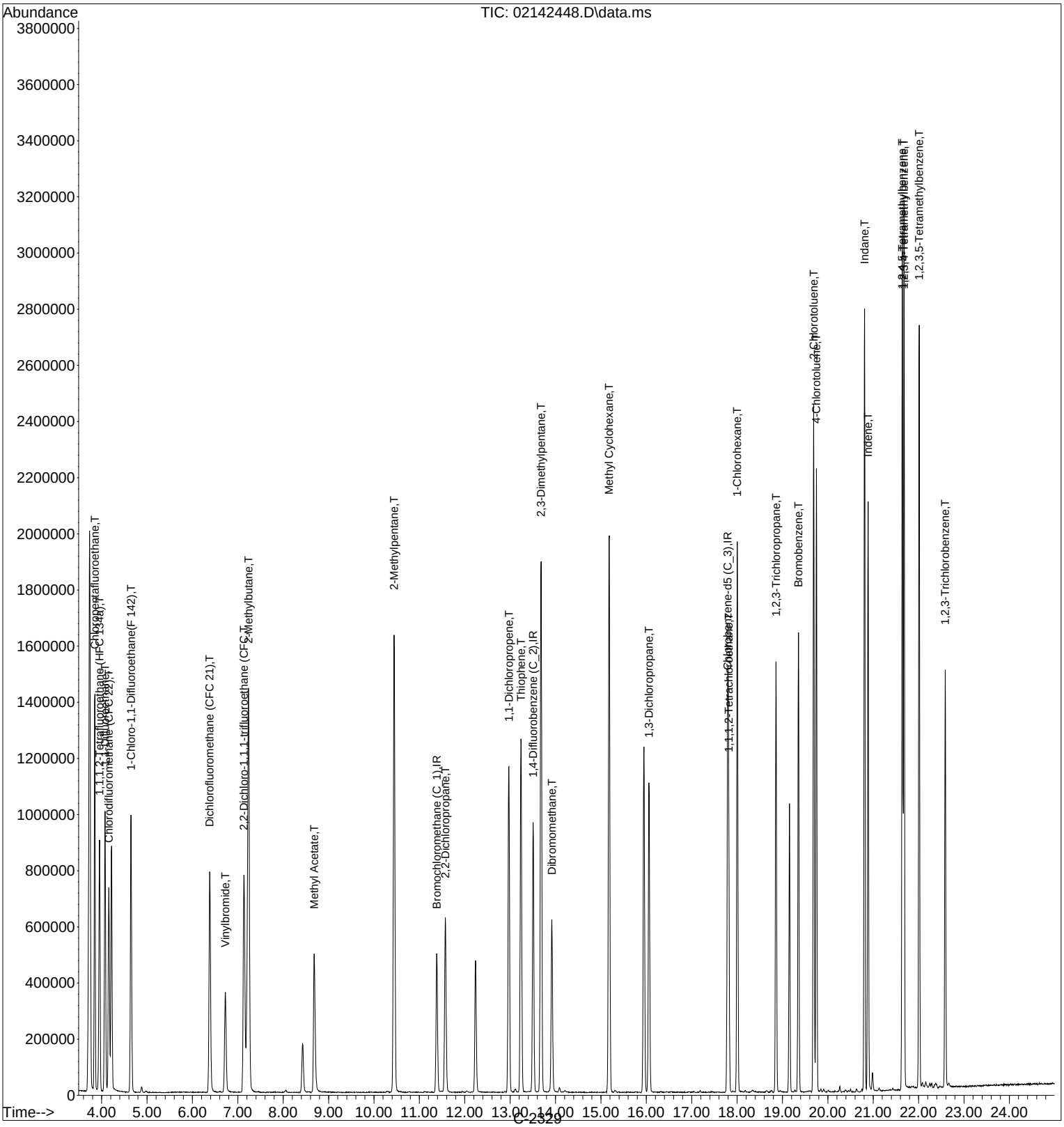
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	181017	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	805376	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	183415	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.85	85	581034	24.906	ng	100
3) 1,1,1,2-Tetrafluoroeth...	3.95	83	460664	22.715	ng	100
4) 1,1-Difluoroethane	4.08	65	437707	28.341	ng	100
5) Chlorodifluoromethane ...	4.16	67	152884	25.307	ng	100
6) 1-Chloro-1,1-Difluoroe...	4.65	65	977808	25.795	ng	100
7) Dichlorofluoromethane ...	6.38	67	911393	25.321	ng	100
8) Vinylbromide	6.73	108	313473	23.425	ng	100
9) 2,2-Dichloro-1,1,1-tri...	7.13	83	566245	25.620	ng	100
10) 2-Methylbutane	7.24	57	508398	29.239	ng	100
11) Methyl Acetate	8.68	43	881778	22.749	ng	100
12) 2-Methylpentane	10.44	71	414227	24.976	ng	100
13) 2,2-Dichloropropane	11.58	77	406408	16.437	ng	100
14) 1,1-Dichloropropene	12.97	75	588617	24.813	ng	100
15) Thiophene	13.24	84	825903	23.883	ng	100
17) 2,3-Dimethylpentane	13.68	56	872011	28.534	ng	100
18) Dibromomethane	13.92	174	261638	20.676	ng	100
20) Methyl Cyclohexane	15.18	55	699685	25.737	ng	100
21) 1,3-Dichloropropane	16.06	76	640313	21.511	ng	100
22) 1,1,1,2-Tetrachloroethane	17.82	131	263924	15.173	ng	100
23) 1-Chlorohexane	18.00	91	576202	22.014	ng	100
24) 1,2,3-Trichloropropane	18.86	75	595654	21.687	ng	100
25) Bromobenzene	19.35	77	665176	20.360	ng	100
26) 2-Chlorotoluene	19.69	91	1321919	22.093	ng	100
27) 4-Chlorotoluene	19.75	91	1191220	19.506	ng	100
28) Indane	20.81	117	1353807	19.879	ng	100
29) Indene	20.89	115	985203	18.096	ng	100
30) 1,2,4,5-Tetramethylben...	21.64	119	1529047	19.825	ng	100
31) 1,2,3,4-Tetramethylben...	21.68	119	1420622	19.880	ng	92
32) 1,2,3,5-Tetramethylben...	22.01	119	1390467	19.108	ng	100
33) 1,2,3-Trichlorobenzene	22.58	180	434724	15.302	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142448.D
Acq On : 15 Feb 2024 4:24
Operator : CI/TO
Sample : 25ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012401 (3/2)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 21 09:23:18 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142449.D
Acq On : 15 Feb 2024 4:57
Operator : CI/TO
Sample : 50ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012401 (3/2)
ALS Vial : 16 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:23:26 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

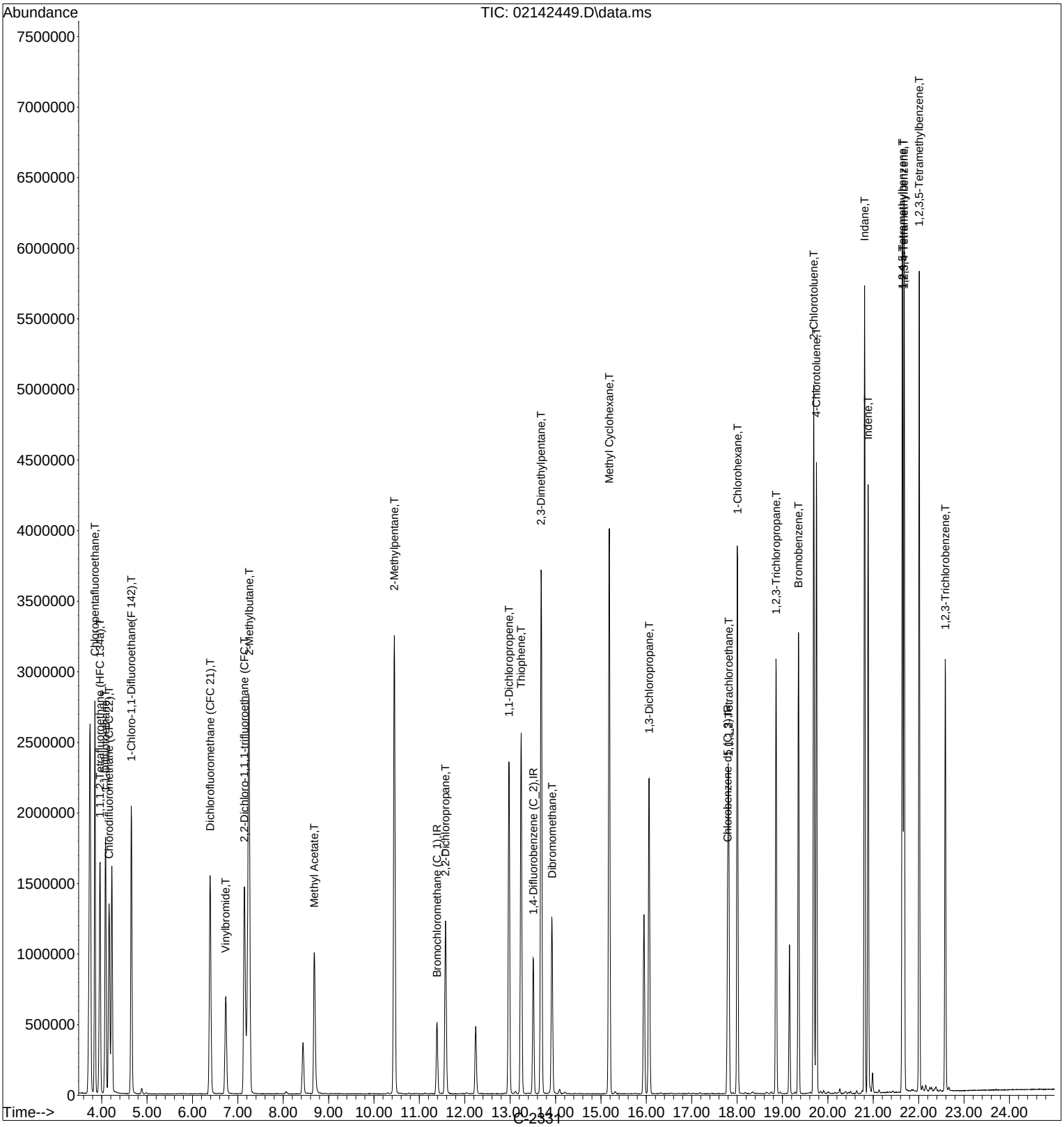
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.39	130	183370	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	819186	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	188637	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.85	85	1156149	48.923	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	935207	45.523	ng	96
4) 1,1-Difluoroethane	4.09	65	820863	52.469	ng	97
5) Chlorodifluoromethane ...	4.16	67	309421	50.562	ng	99
6) 1-Chloro-1,1-Difluoroe...	4.65	65	2007093	52.269	ng	99
7) Dichlorofluoromethane ...	6.39	67	1859595	51.001	ng	100
8) Vinylbromide	6.73	108	630090	46.482	ng	99
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	1136881	50.778	ng	100
10) 2-Methylbutane	7.25	57	1013640	57.549	ng	97
11) Methyl Acetate	8.68	43	1799361	45.825	ng	99
12) 2-Methylpentane	10.45	71	827235	49.239	ng	98
13) 2,2-Dichloropropane	11.58	77	812473	32.438	ng	99
14) 1,1-Dichloropropene	12.97	75	1185598	49.336	ng	99
15) Thiophene	13.24	84	1647554	47.031	ng	98
17) 2,3-Dimethylpentane	13.68	56	1731808	55.712	ng	99
18) Dibromomethane	13.92	174	529209	41.117	ng	99
20) Methyl Cyclohexane	15.18	55	1428404	51.088	ng	98
21) 1,3-Dichloropropane	16.06	76	1314500	42.938	ng	100
22) 1,1,1,2-Tetrachloroethane	17.82	131	543081	30.358	ng	99
23) 1-Chlorohexane	18.01	91	1148029	42.646	ng	98
24) 1,2,3-Trichloropropane	18.86	75	1207745	42.755	ng	100
25) Bromobenzene	19.35	77	1348127	40.122	ng	99
26) 2-Chlorotoluene	19.69	91	2677973	43.517	ng	99
27) 4-Chlorotoluene	19.75	91	2437883	38.814	ng	100
28) Indane	20.81	117	2724598	38.900	ng	99
29) Indene	20.89	115	2037482	36.388	ng	99
30) 1,2,4,5-Tetramethylben...	21.64	119	3062471	38.608	ng	99
31) 1,2,3,4-Tetramethylben...	21.68	119	3026771	41.185	ng	93
32) 1,2,3,5-Tetramethylben...	22.01	119	2854203	38.137	ng	100
33) 1,2,3-Trichlorobenzene	22.59	180	895963	30.665	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142449.D
Acq On : 15 Feb 2024 4:57
Operator : CI/TO
Sample : 50ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012401 (3/2)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 21 09:23:26 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142450.D
Acq On : 15 Feb 2024 5:31
Operator : CI/TO
Sample : 100ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012401 (3/2)
ALS Vial : 16 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:23:37 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration

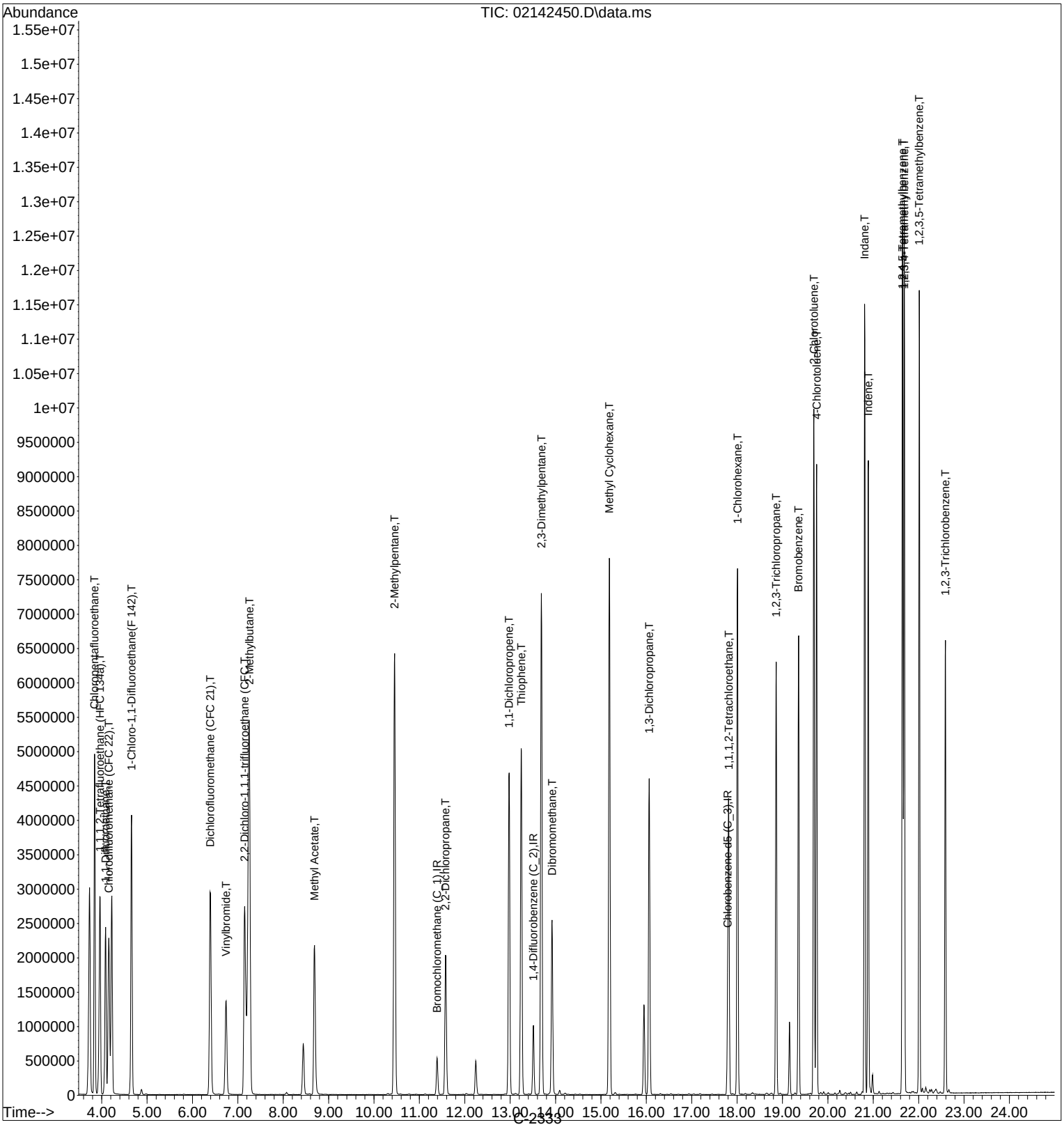
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.39	130	196478	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	836043	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	198618	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.84	85	2316914	91.501	ng	98
3) 1,1,1,2-Tetrafluoroeth...	3.97	83	1832499	83.250	ng	95
4) 1,1-Difluoroethane	4.09	65	1131995	67.529	ng	95
5) Chlorodifluoromethane ...	4.16	67	599336	91.403	ng	95
6) 1-Chloro-1,1-Difluoroe...	4.66	65	4168221	101.308	ng	98
7) Dichlorofluoromethane ...	6.39	67	3771502	96.536	ng	100
8) Vinylbromide	6.74	108	1290888	88.876	ng	100
9) 2,2-Dichloro-1,1,1-tri...	7.15	83	2315457	96.519	ng	100
10) 2-Methylbutane	7.25	57	2034478	107.800	ng	91
11) Methyl Acetate	8.69	43	3855624	91.642	ng	99
12) 2-Methylpentane	10.45	71	1627166	90.391	ng	95
13) 2,2-Dichloropropane	11.58	77	1355733	50.517	ng	99
14) 1,1-Dichloropropene	12.98	75	2402965	93.324	ng	98
15) Thiophene	13.25	84	3258231	86.804	ng	96
17) 2,3-Dimethylpentane	13.69	56	3464585	109.208	ng	99
18) Dibromomethane	13.92	174	1067573	81.272	ng	98
20) Methyl Cyclohexane	15.18	55	2865029	97.321	ng	98
21) 1,3-Dichloropropane	16.06	76	2624731	81.428	ng	98
22) 1,1,1,2-Tetrachloroethane	17.82	131	1102456	58.529	ng	100
23) 1-Chlorohexane	18.01	91	2316098	81.714	ng	99
24) 1,2,3-Trichloropropane	18.86	75	2469300	83.023	ng	100
25) Bromobenzene	19.35	77	2770343	78.306	ng	99
26) 2-Chlorotoluene	19.69	91	5433731	83.860	ng	100
27) 4-Chlorotoluene	19.75	91	5035563	76.143	ng	100
28) Indane	20.81	117	5716059	77.509	ng	99
29) Indene	20.89	115	4381804	74.324	ng	100
30) 1,2,4,5-Tetramethylben...	21.64	119	6172057	73.901	ng	94
31) 1,2,3,4-Tetramethylben...	21.68	119	6348125	82.037	ng	89
32) 1,2,3,5-Tetramethylben...	22.01	119	5939298	75.371	ng	99
33) 1,2,3-Trichlorobenzene	22.59	180	1874020	60.916	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142450.D
Acq On : 15 Feb 2024 5:31
Operator : CI/TO
Sample : 100ng C16021424 ICAL STD
Misc : S37-01032403/S37-02012401 (3/2)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Feb 21 09:23:37 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:14:51 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142452.D
Acq On : 15 Feb 2024 6:38
Operator : CI/TO
Sample : 25ng C16021424 ICV STD
Misc : S37-01032403/S37-02012403 (3/2)
ALS Vial : 14 Sample Multiplier: 1

CI 2/21/24

Quant Time: Feb 21 09:34:04 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

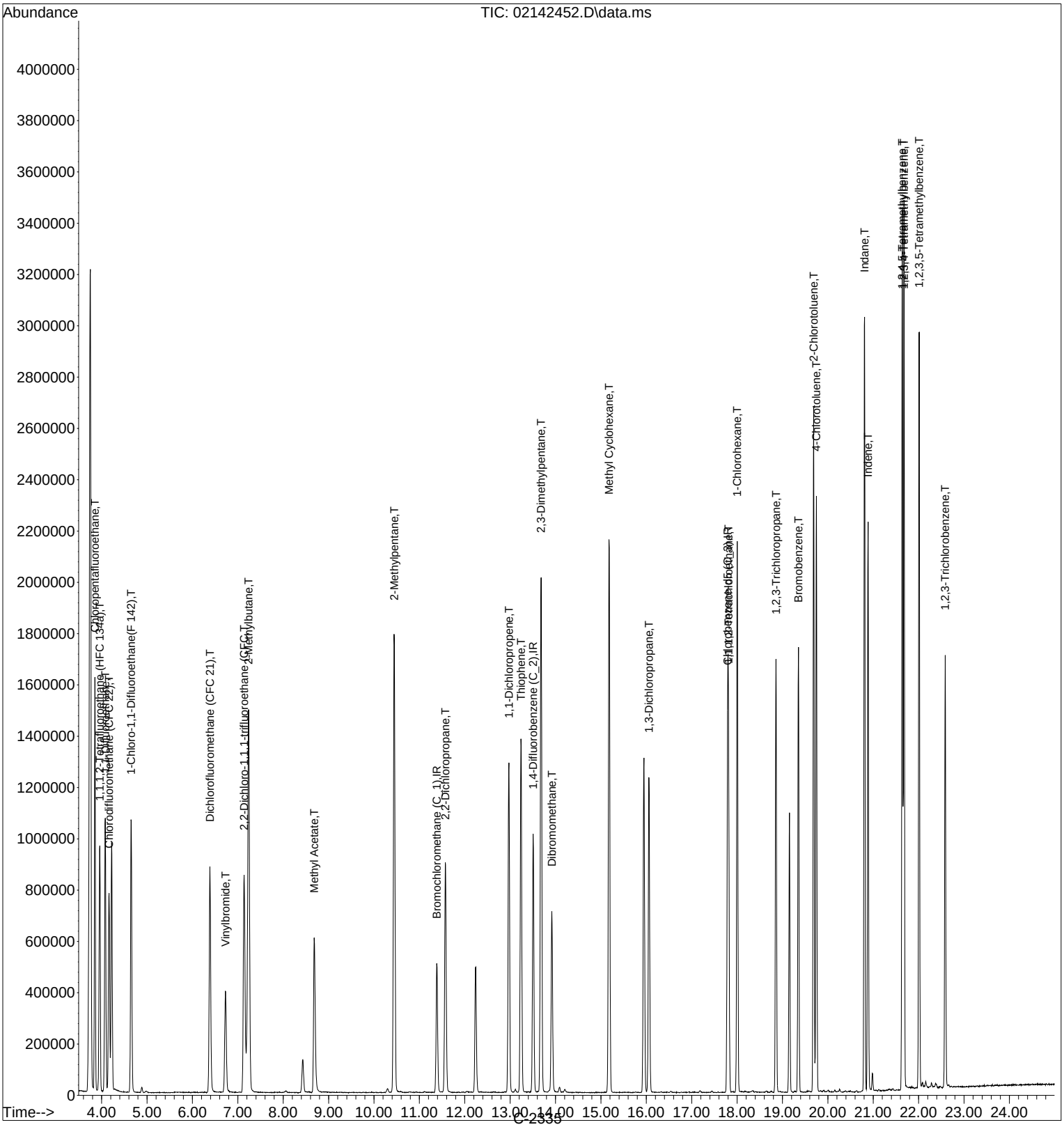
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	184502	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	838812	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	198118	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.85	85	638926	28.254	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.96	83	512126	27.965	ng	97
4) 1,1-Difluoroethane	4.08	65	475273	29.940	ng	99
5) Chlorodifluoromethane ...	4.16	67	167267	28.287	ng	99
6) 1-Chloro-1,1-Difluoroe...	4.65	65	1070359	27.946	ng	100
7) Dichlorofluoromethane ...	6.38	67	995673	26.707	ng	99
8) Vinylbromide	6.73	108	348716	27.155	ng	99
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	619895	28.569	ng	99
10) 2-Methylbutane	7.24	57	533635	28.871	ng	95
11) Methyl Acetate	8.68	43	1081133	25.792	ng	99
12) 2-Methylpentane	10.45	71	451590	26.713	ng	98
13) 2,2-Dichloropropane	11.58	77	598195	32.349	ng	99
14) 1,1-Dichloropropene	12.97	75	643223	27.767	ng	98
15) Thiophene	13.24	84	892717	26.605	ng	99
17) 2,3-Dimethylpentane	13.68	56	927933	26.941	ng	99
18) Dibromomethane	13.92	174	300454	27.710	ng	99
20) Methyl Cyclohexane	15.18	55	768152	27.666	ng	99
21) 1,3-Dichloropropane	16.06	76	713438	27.101	ng	100
22) 1,1,1,2-Tetrachloroethane	17.81	131	329230	22.823	ng	99
23) 1-Chlorohexane	18.00	91	634177	27.271	ng	100
24) 1,2,3-Trichloropropane	18.86	75	676469	27.197	ng	99
25) Bromobenzene	19.35	77	711374	25.954	ng	100
26) 2-Chlorotoluene	19.69	91	1410497	27.136	ng	100
27) 4-Chlorotoluene	19.75	91	1278984	25.607	ng	100
28) Indane	20.81	117	1486040	26.104	ng	99
29) Indene	20.89	115	1051580	25.392	ng	100
30) 1,2,4,5-Tetramethylben...	21.64	119	1610622	26.731	ng	95
31) 1,2,3,4-Tetramethylben...	21.68	119	1671909	27.899	ng	87
32) 1,2,3,5-Tetramethylben...	22.01	119	1559050	26.833	ng	100
33) 1,2,3-Trichlorobenzene	22.59	180	491257	26.426	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142452.D
Acq On : 15 Feb 2024 6:38
Operator : CI/TO
Sample : 25ng C16021424 ICV STD
Misc : S37-01032403/S37-02012403 (3/2)
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Feb 21 09:34:04 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



ALS Environmental

ICV / LCS Custom Report Acceptance Criteria

25ng C16021424 ICV STD

CI 2/21/24

	RT
Bromochloromethane (IS1)	11.38
1,4-Difluorobenzene (IS2)	13.51
Chlorobenzene-d5 (IS3)	17.79

Datafile: 02142452.D
Instrument: MS-16
Date: 2/15/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	Pass/Fail
76-15-3	Chloropentafluoroethane	28.254	25.5	111	70-130	ok
811-97-2	1,1,1,2-Tetrafluoroethane (HFC 134a)	27.965	25.3	111	70-130	ok
75-37-6	1,1-Difluoroethane	29.940	26.3	114	70-130	ok
75-45-6	Chlorodifluoromethane (CFC 22)	28.287	26.3	108	70-130	ok
75-68-3	1-Chloro-1,1-Difluoroethane(F 142)	27.946	26.0	107	70-130	ok
75-43-4	Dichlorofluoromethane (CFC 21)	26.707	25.0	107	70-130	ok
593-60-2	Vinylbromide	27.155	24.8	109	70-130	ok
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (CFC	28.569	26.3	109	70-130	ok
78-78-4	2-Methylbutane	28.871	25.5	113	70-130	ok
79-20-9	Methyl Acetate	25.792	24.5	105	70-130	ok
107-83-5	2-Methylpentane	26.713	25.0	107	70-130	ok
594-20-7	2,2-Dichloropropane	32.349	24.8	130	70-130	ok
563-58-6	1,1-Dichloropropene	27.767	25.8	108	70-130	ok
110-02-1	Thiophene	26.605	25.3	105	70-130	ok
565-59-3	2,3-Dimethylpentane	26.941	26.0	104	70-130	ok
74-95-3	Dibromomethane	27.710	26.8	103	70-130	ok
108-87-2	Methyl Cyclohexane	27.666	26.8	103	70-130	ok
142-28-9	1,3-Dichloropropane	27.101	26.0	104	70-130	ok
630-20-6	1,1,1,2-Tetrachloroethane	22.823	27.3	84	70-130	ok
544-10-5	1-Chlorohexane	27.271	25.8	106	70-130	ok
96-18-4	1,2,3-Trichloropropane	27.197	26.3	103	70-130	ok
108-86-1	Bromobenzene	25.954	26.3	99	70-130	ok
95-49-8	2-Chlorotoluene	27.136	26.5	102	70-130	ok
106-43-4	4-Chlorotoluene	25.607	25.3	101	70-130	ok
496-11-7	Indan	26.104	24.8	105	70-130	ok
95-13-6	Indene	25.392	23.5	108	70-130	ok
95-93-2	1,2,4,5-Tetramethylbenzene	26.731	25.0	107	70-130	ok
488-23-3	1,2,3,4-Tetramethylbenzene	27.899	25.5	109	70-130	ok
527-53-7	1,2,3,5-Tetramethylbenzene	26.833	25.0	107	70-130	ok
87-61-6	1,2,3-Trichlorobenzene	26.426	25.8	102	70-130	ok

ALS Environmental

ICV / LCS Custom Report Acceptance Criteria

25ng C16021424 ICV STD

	RT
Bromochloromethane (IS1)	11.38
1,4-Difluorobenzene (IS2)	13.51
Chlorobenzene-d5 (IS3)	17.79

Datafile: 02142452.D
Instrument: MS-16
Date: 2/15/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	Pass/Fail

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 19 10:37:55 2024 3/19/24
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	113	-0.03
2	T	Propene	1.424	1.301	8.6	111	0.00
3	T	Dichlorodifluoromethane (CF	2.564	2.306	10.1	107	0.00
4	T	Chloromethane	1.906	1.830	4.0	112	-0.01
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.127	1.036	8.1	108	0.00
6	T	Vinyl Chloride	1.781	1.526	14.3	99	-0.01
7	T	1,3-Butadiene	1.396	1.349	3.4	108	-0.01
8	T	Bromomethane	1.042	0.984	5.6	109	-0.01
9	T	Chloroethane	0.781	0.755	3.3	112	-0.01
10	T	Ethanol	1.208	1.161	3.9	112	-0.05
11	T	Acetonitrile	2.772	2.562	7.6	110	-0.03
12	T	Acrolein	0.866	0.877	-1.3	113	-0.02
13	T	Acetone	0.919	0.870	5.3	111	-0.03
14	T	Trichlorofluoromethane	2.482	2.298	7.4	106	-0.01
15	T	2-Propanol (Isopropanol)	3.661	3.681	-0.5	110	-0.04
16	T	Acrylonitrile	1.780	1.741	2.2	111	-0.03
17	T	1,1-Dichloroethene	1.082	1.045	3.4	110	-0.02
18	T	2-Methyl-2-Propanol (tert-B	2.187	2.172	0.7	105	-0.03
19	T	Methylene Chloride	1.337	1.160	13.2	111	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.979	2.100	-6.1	110	-0.02
21	T	Trichlorotrifluoroethane	1.046	1.008	3.6	110	-0.01
22	T	Carbon Disulfide	4.165	4.145	0.5	111	-0.02
23	T	trans-1,2-Dichloroethene	1.842	1.797	2.4	110	-0.02
24	T	1,1-Dichloroethane	2.183	2.105	3.6	110	-0.02
25	T	Methyl tert-Butyl Ether	2.229	2.396	-7.5	108	-0.02
26	T	Vinyl Acetate	0.205	0.233	-13.7	112	-0.02
27	T	2-Butanone (MEK)	0.752	0.759	-0.9	111	-0.03
28	T	cis-1,2-Dichloroethene	1.782	1.703	4.4	110	-0.02
29	T	Diisopropyl Ether	0.882	0.884	-0.2	112	-0.02
30	T	Ethyl Acetate	0.451	0.485	-7.5	113	-0.03
31	T	n-Hexane	1.944	1.956	-0.6	112	-0.01
32	T	Chloroform	2.167	2.068	4.6	109	-0.03
33	S	1,2-Dichloroethane-d4(SS1)	2.045	1.966	3.9	110	-0.02
34	T	Tetrahydrofuran (THF)	0.681	0.692	-1.6	111	-0.02
35	T	Ethyl tert-Butyl Ether	0.836	0.874	-4.5	109	-0.01
36	T	1,2-Dichloroethane	2.024	1.872	7.5	106	-0.02
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	114	-0.02
38	T	1,1,1-Trichloroethane	0.496	0.473	4.6	107	-0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	95	-0.03
40	T	1-Butanol	0.000	0.000	0.0	103	-0.02
41	T	Benzene	1.125	1.052	6.5	111	-0.02
42	T	Carbon Tetrachloride	0.442	0.428	3.2	106	-0.02
43	T	Cyclohexane	0.356	0.355	0.3	111	-0.02
44	T	tert-Amyl Methyl Ether	0.500	0.504	-0.8	108	-0.02
45	T	1,2-Dichloropropane	0.274	0.264	3.6	112	-0.02
46	T	Bromodichloromethane	0.415	0.393	5.3	108	-0.02
47	T	Trichloroethene	0.303	0.280	7.6	111	-0.02
48	T	1,4-Dioxane	0.196	0.213	-8.7	111	-0.02
49	T	2,2,4-Trimethylpentane (Iso	1.124	1.107	1.5	112	-0.02
50	T	Methyl Methacrylate	0.092	0.101	-9.8	111	-0.02
51	T	n-Heptane	0.241	0.243	-0.8	112	-0.01
52	T	cis-1,3-Dichloropropene	0.456	0.479	-5.0	110	-0.01
53	T	4-Methyl-2-pentanone	0.241	0.259	-7.5	110	-0.02
54	T	trans-1,3-Dichloropropene	0.392	0.427	-8.9	108	-0.02
55	T	1,1,2-Trichloroethane	0.256	0.252	1.6	110	-0.02

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 19 10:37:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	107	0.00
57	S	Toluene-d8 (SS2)	5.019	5.224	-4.1	113	-0.01
58	T	Toluene	4.790	4.765	0.5	111	-0.02
59	T	2-Hexanone	2.783	3.167	-13.8	109	-0.02
60	T	Dibromochloromethane	1.543	1.539	0.3	108	-0.02
61	T	1,2-Dibromoethane	1.345	1.420	-5.6	109	-0.02
62	T	n-Butyl Acetate	3.081	3.490	-13.3	109	-0.02
63	T	n-Octane	1.012	1.069	-5.6	109	-0.01
64	T	Tetrachloroethene	1.473	1.450	1.6	109	-0.01
65	T	Chlorobenzene	3.229	3.218	0.3	109	-0.01
66	T	Ethylbenzene	5.480	5.595	-2.1	109	-0.01
67	T	m- & p-Xylenes	4.550	4.691	-3.1	109	-0.02
68	T	Bromoform	1.305	1.339	-2.6	107	-0.01
69	T	Styrene	3.116	3.483	-11.8	109	-0.01
70	T	o-Xylene	4.487	4.593	-2.4	108	-0.02
71	T	n-Nonane	2.585	2.722	-5.3	108	-0.01
72	T	1,1,2,2-Tetrachloroethane	2.122	2.136	-0.7	110	-0.01
73	S	Bromofluorobenzene (SS3)	1.769	1.793	-1.4	108	0.00
74	T	Cumene	5.495	5.565	-1.3	108	-0.01
75	T	alpha-Pinene	2.713	2.947	-8.6	108	0.00
76	T	n-Propylbenzene	6.664	6.853	-2.8	108	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	108	-0.01
78	T	4-Ethyltoluene	5.309	5.513	-3.8	108	0.00
79	T	1,3,5-Trimethylbenzene	4.599	4.753	-3.3	108	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	102	-0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	108	-0.01
82	T	1,2,4-Trimethylbenzene	4.786	5.071	-6.0	107	-0.01
83	T	n-Decane	0.000	0.000	0.0	108	0.00
84	T	Benzyl Chloride	3.740	4.615	-23.4	107	-0.02
85	T	1,3-Dichlorobenzene	2.957	2.995	-1.3	107	-0.01
86	T	1,4-Dichlorobenzene	2.908	2.956	-1.7	107	0.00
87	T	sec-Butylbenzene	6.144	6.336	-3.1	108	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.273	5.495	-4.2	107	-0.01
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	108	-0.01
90	T	1,2-Dichlorobenzene	2.840	2.873	-1.2	107	0.00
91	T	d-Limonene	1.676	1.916	-14.3	108	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.981	1.062	-8.3	107	-0.01
93	T	n-Undecane	0.000	0.000	0.0	110	-0.01
94	T	1,2,4-Trichlorobenzene	2.078	2.375	-14.3	106	0.00
95	T	Naphthalene	5.507	6.944	-26.1	106	0.00
96	T	n-Dodecane	0.000	0.000	0.0	98	0.00
97	T	Hexachlorobutadiene	1.699	1.640	3.5	106	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	102	0.00
99	T	tert-Butylbenzene	4.495	4.547	-1.2	107	0.00
100	T	n-Butylbenzene	5.070	5.350	-5.5	107	0.00
101	T	1,1,1,2-Tetrachloroethane	1.166	1.222	-4.8	108	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 19 10:37:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	173908	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.33	114	747038	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	161218	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	341935	12.018	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.16%				
57) Toluene-d8 (SS2)	12.44	98	842283	13.012	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
73) Bromofluorobenzene (SS3)	16.83	174	288991	12.663	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
Target Compounds							Qvalue
2) Propene	3.28	42	475101	23.988	ng		99
3) Dichlorodifluoromethan...	3.35	85	834289	23.390	ng		100
4) Chloromethane	3.49	50	681199	25.685	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	392853	25.047	ng		100
6) Vinyl Chloride	3.68	62	562525	22.704	ng		100
7) 1,3-Butadiene	3.80	54	497307m	25.603	ng		
8) Bromomethane	4.01	94	349202	24.093	ng		99
9) Chloroethane	4.15	64	288899	26.578	ng		99
10) Ethanol	4.36	45	1983311	118.012	ng		100
11) Acetonitrile	4.48	41	855415	22.178	ng		100
12) Acrolein	4.56	56	655906	54.459	ng		99
13) Acetone	4.66	58	1545739	120.853	ng		96
14) Trichlorofluoromethane	4.76	101	807348	23.385	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2534886	49.771	ng		99
16) Acrylonitrile	5.04	53	1211437	48.912	ng		100
17) 1,1-Dichloroethene	5.27	96	327230	21.746	ng		98
18) 2-Methyl-2-Propanol (t...	5.38	59	1571313	51.641	ng		100
19) Methylene Chloride	5.39	84	367194	19.740	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	788989	28.653	ng		100
21) Trichlorotrifluoroethane	5.59	151	315405	21.673	ng		100
22) Carbon Disulfide	5.61	76	2984551	51.505	ng		100
23) trans-1,2-Dichloroethene	6.17	61	656125	25.597	ng		100
24) 1,1-Dichloroethane	6.36	63	754226	24.830	ng		99
25) Methyl tert-Butyl Ether	6.38	73	891840	28.762	ng		100
26) Vinyl Acetate	6.48	86	435672	153.112	ng	#	97
27) 2-Butanone (MEK)	6.70	72	535761	51.238	ng		97
28) cis-1,2-Dichloroethene	7.12	61	610142	24.605	ng		100
29) Diisopropyl Ether	7.30	87	646031	52.657	ng		98
30) Ethyl Acetate	7.31	61	330688	52.699	ng		99
31) n-Hexane	7.31	57	714335	26.411	ng		100
32) Chloroform	7.40	83	769504	25.527	ng		100
34) Tetrahydrofuran (THF)	7.77	72	454800	48.026	ng		99
35) Ethyl tert-Butyl Ether	7.85	87	641279	55.106	ng		99
36) 1,2-Dichloroethane	8.15	62	664278	23.592	ng		100
38) 1,1,1-Trichloroethane	8.42	97	728490	24.566	ng		100
39) Isopropyl Acetate	9.61	61	820	No Calib		#	
40) 1-Butanol	8.83	56	2273	No Calib			
41) Benzene	8.92	78	1602568	23.837	ng		100
42) Carbon Tetrachloride	9.09	117	659307	24.942	ng		100
43) Cyclohexane	9.24	84	1114979	52.429	ng		99
44) tert-Amyl Methyl Ether	9.62	73	1590360	53.256	ng		99
45) 1,2-Dichloropropane	9.88	63	425943	26.030	ng		100
46) Bromodichloromethane	10.10	83	621731	25.082	ng		100
47) Trichloroethene	10.17	130	431342	23.808	ng		100
48) 1,4-Dioxane	10.13	88	331653	28.262	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	1770324	26.360	ng		98
50) Methyl Methacrylate	10.43	100	317913	57.673	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 19 10:37:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

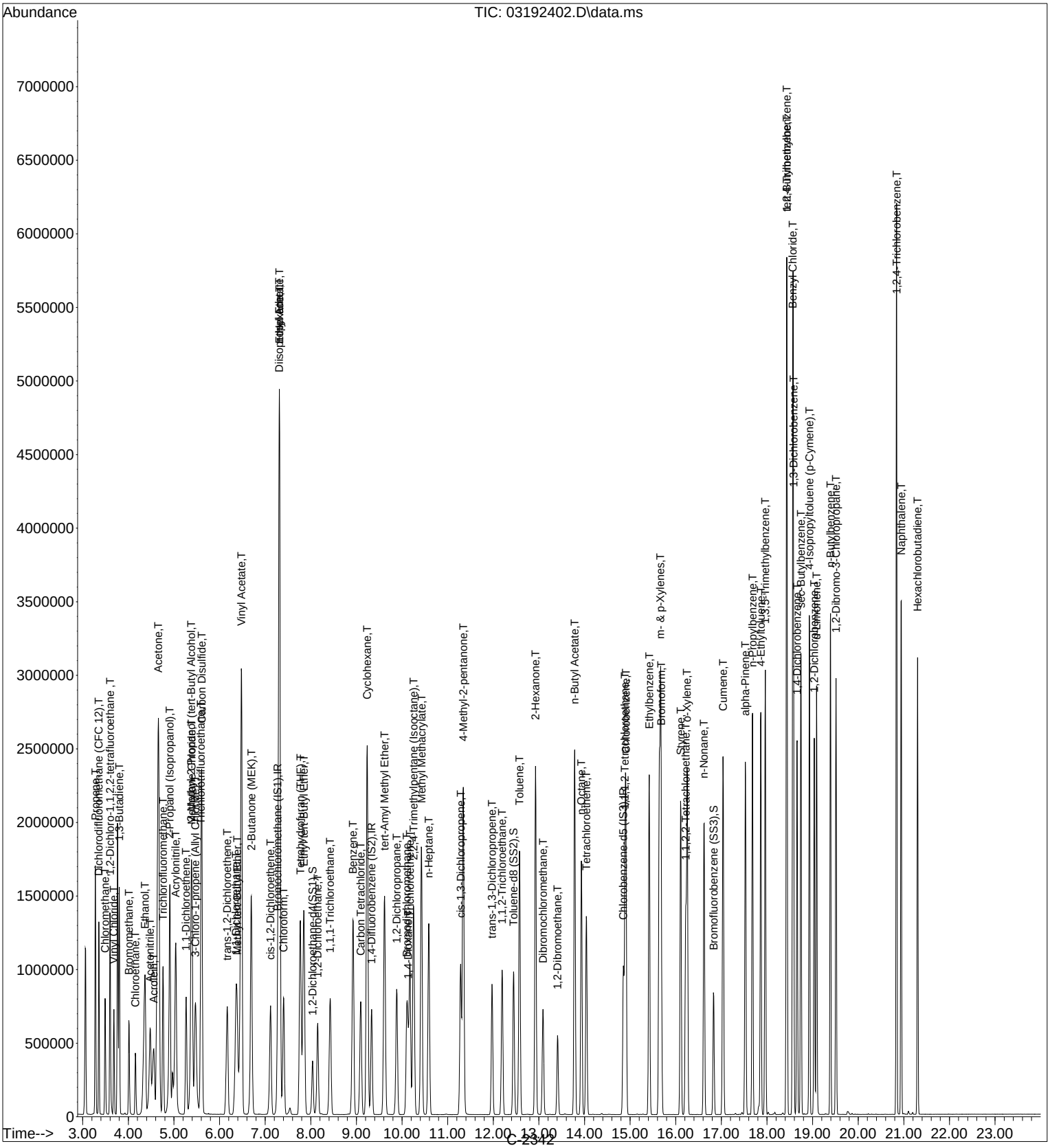
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	381083	26.512	ng		99
52) cis-1,3-Dichloropropene	11.29	75	752040	27.573	ng		100
53) 4-Methyl-2-pentanone	11.34	58	811667	56.307	ng		99
54) trans-1,3-Dichloropropene	11.97	75	624989	26.665	ng		100
55) 1,1,2-Trichloroethane	12.19	97	409623	26.782	ng		99
58) Toluene	12.57	91	1659158	26.854	ng		100
59) 2-Hexanone	12.93	43	2082936	58.021	ng		99
60) Dibromochloromethane	13.09	129	506034	25.424	ng		100
61) 1,2-Dibromoethane	13.41	107	471677	27.196	ng		100
62) n-Butyl Acetate	13.78	43	2340820	58.910	ng		99
63) n-Octane	13.93	57	365431	28.005	ng		99
64) Tetrachloroethene	14.04	166	500189	26.336	ng		100
65) Chlorobenzene	14.91	112	1110064	26.653	ng		100
66) Ethylbenzene	15.42	91	1966310	27.823	ng		100
67) m- & p-Xylenes	15.66	91	3237056	55.156	ng		100
68) Bromoform	15.68	173	470526	27.961	ng		100
69) Styrene	16.11	104	1190415	29.621	ng		100
70) o-Xylene	16.25	91	1599344	27.637	ng		100
71) n-Nonane	16.62	43	912675	27.375	ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	743899	27.185	ng		99
74) Cumene	17.04	105	1866075	26.329	ng		100
75) alpha-Pinene	17.53	93	1016700	29.054	ng		99
76) n-Propylbenzene	17.68	91	2275872	26.481	ng		100
77) 3-Ethyltoluene	17.04	105	1866075	No Calib			
78) 4-Ethyltoluene	17.87	105	1830955	26.740	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1655148	27.902	ng		100
80) alpha-Methylstyrene	17.04	118	3319	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1866075	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1700458	27.549	ng		100
83) n-Decane	17.04	58	14834	No Calib			
84) Benzyl Chloride	18.56	91	3080558	50.845	ng		100
85) 1,3-Dichlorobenzene	18.58	146	994824	26.089	ng		100
86) 1,4-Dichlorobenzene	18.66	146	991367	26.432	ng		100
87) sec-Butylbenzene	18.75	105	2104317	26.557	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1807155	26.575	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1866075	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	954074	26.049	ng		100
91) d-Limonene	19.09	68	617808	28.586	ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	705522	55.751	ng		98
93) n-Undecane	17.86	58	29654	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1638925	61.141	ng		100
95) Naphthalene	20.94	128	2261356	24.999	ng		100
96) n-Dodecane	18.93	58	44715	No Calib		#	
97) Hexachlorobutadiene	21.30	225	534141	24.376	ng		100
98) Cyclohexanone	15.43	55	6052	No Calib			
99) tert-Butylbenzene	18.43	119	1524883	26.301	ng		100
100) n-Butylbenzene	19.39	91	1724913	26.377	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	421646	28.030	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

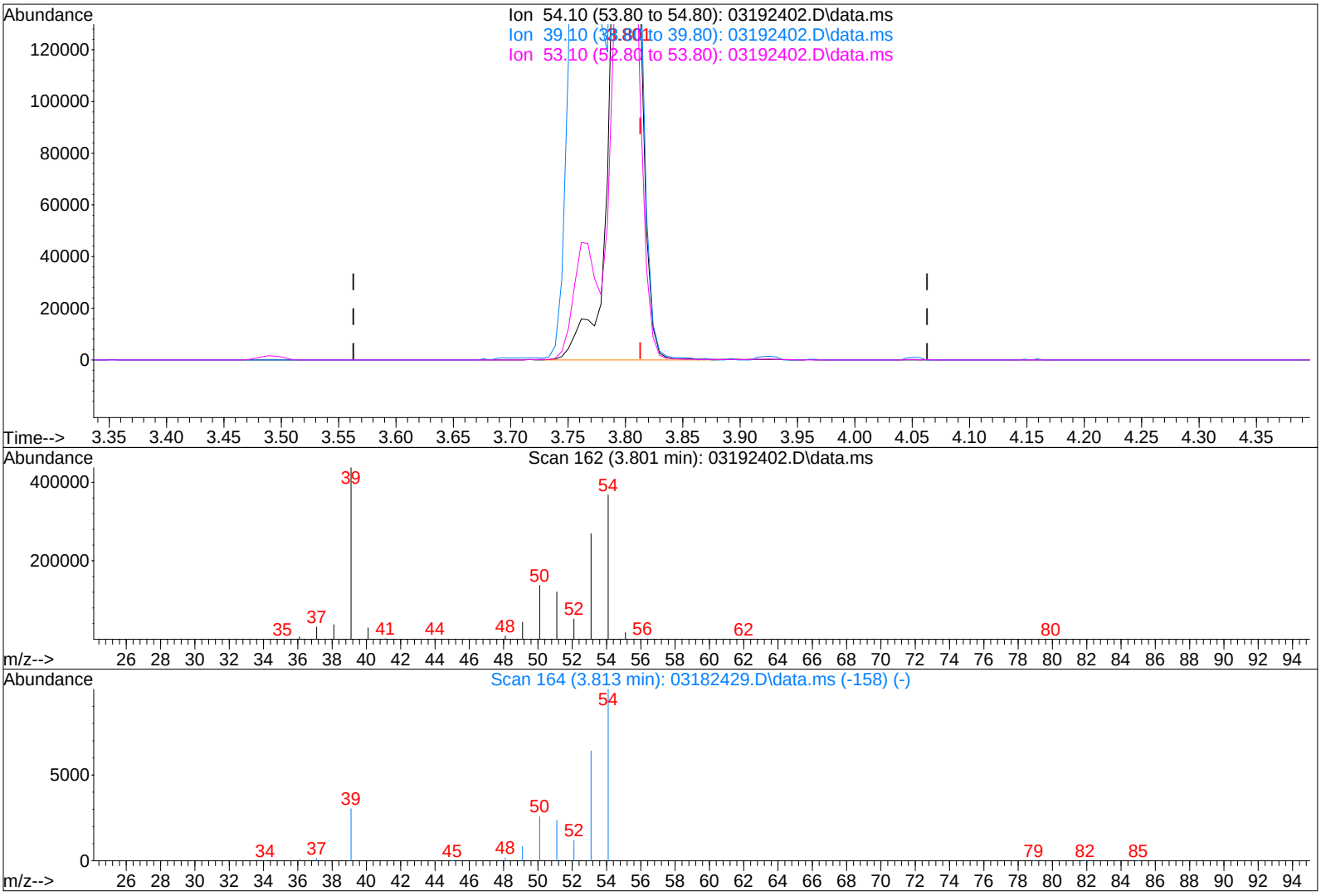
Quant Time: Mar 19 10:37:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 19 10:35:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192402.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (-0.012) 26.68ng

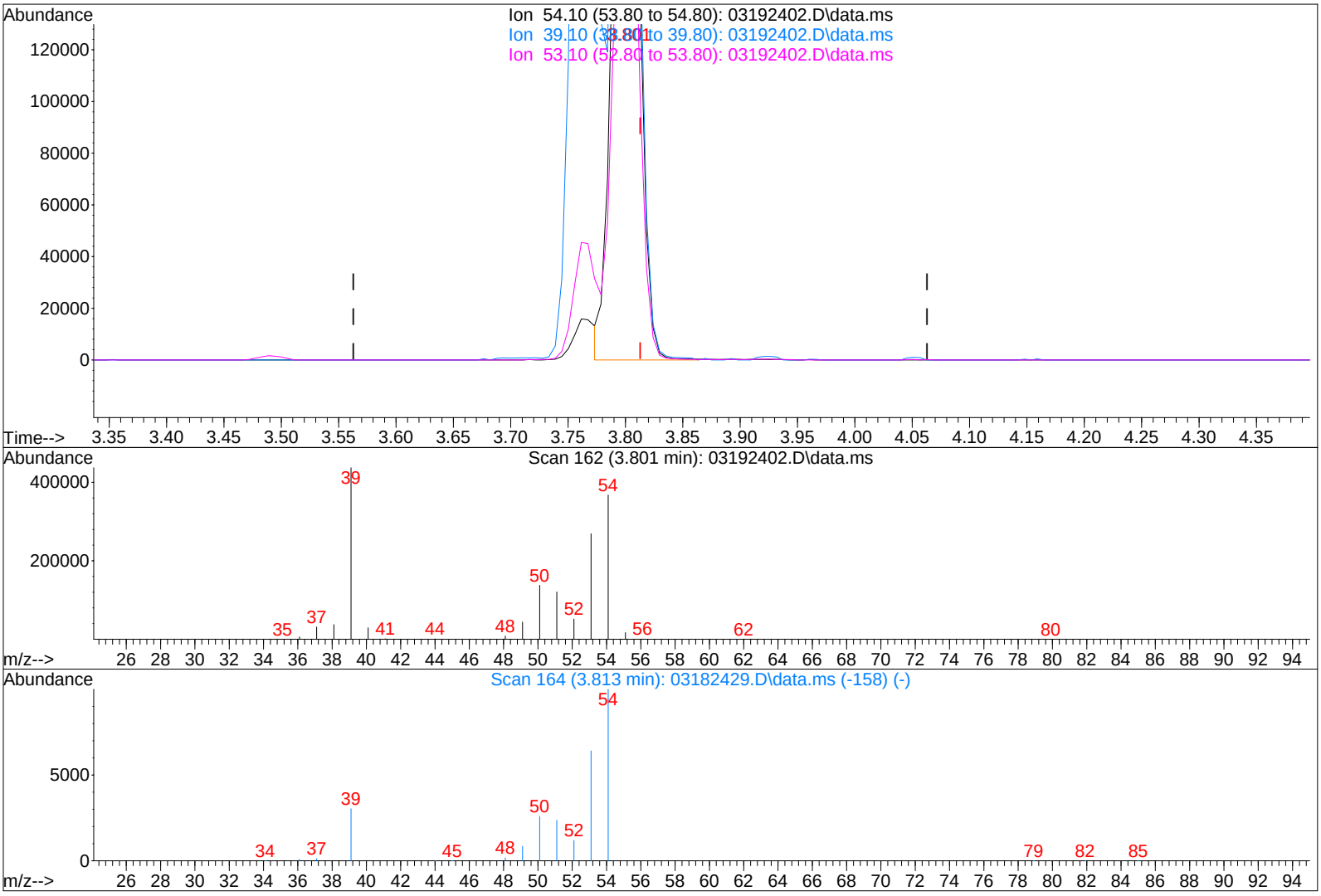
response 518217

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	106.52
53.10	67.90	68.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\19\03192402.D Vial: 15
Acq On : 19 Mar 2024 10:05 Operator: SC
Sample : CCV R09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 19 10:35:55 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:00:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03192402.D\data.ms

IPC 3/19/24

(7) 1,3-Butadiene (T)

3.801min (-0.012) 25.60ng m

response 497307

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	111.00
53.10	67.90	71.36
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\19\03192403.D Vial: 3
Acq On : 19 Mar 2024 10:37 Operator: SC
Sample : CCV C09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02202402 (3/21)

Quant Time: Mar 19 11:14:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	108	-0.02
2	T	Chloropentafluoroethane	1.324	1.055	20.3	86	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.150	0.860	25.2	82	-0.01
4	T	1,1-Difluoroethane	0.947	0.750	20.8	85	-0.02
5	T	Chlorodifluoromethane (CFC	0.367	0.289	21.3	86	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.426	1.852	23.7	83	-0.01
7	T	Dichlorofluoromethane (CFC	2.439	1.953	19.9	86	-0.01
8	T	Vinylbromide	0.938	0.743	20.8	86	-0.02
9	T	2,2-Dichloro-1,1,1-trifluor	1.531	1.179	23.0	84	0.00
10	T	2-Methylbutane	1.252	0.915	26.9	82	0.00
11	T	Methyl Acetate	3.219	1.997	38.0#	69	-0.02
12	T	2-Methylpentane	0.940	0.752	20.0	88	-0.01
13	T	2,2-Dichloropropane	1.411	1.100	22.0	83	-0.02
14	T	1,1-Dichloropropene	1.558	1.223	21.5	85	-0.02
15	T	Thiophene	2.246	1.751	22.0	85	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	106	-0.02
17	T	2,3-Dimethylpentane	0.505	0.368	27.1	79	-0.02
18	T	Dibromomethane	0.202	0.146	27.7	78	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	104	-0.01
20	T	Methyl Cyclohexane	1.964	1.449	26.2	77	-0.02
21	T	1,3-Dichloropropane	1.669	1.360	18.5	86	-0.02
22	T	1,1,1,2-Tetrachloroethane	1.004	0.775	22.8	80	-0.01
23	T	1-Chlorohexane	1.602	1.296	19.1	84	-0.02
24	T	1,2,3-Trichloropropane	1.729	1.398	19.1	86	-0.01
25	T	Bromobenzene	1.964	1.723	12.3	94	-0.01
26	T	2-Chlorotoluene	3.751	3.087	17.7	87	-0.01
27	T	4-Chlorotoluene	3.882	3.170	18.3	90	-0.01
28	T	Indane	4.239	3.600	15.1	89	-0.01
29	T	Indene	3.554	2.496	29.8	74	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.611	3.435	25.5	79	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.578	3.514	23.2	81	-0.02
32	T	1,2,3,5-Tetramethylbenzene	4.447	3.214	27.7	77	-0.02
33	T	1,2,3-Trichlorobenzene	1.797	1.314	26.9	79	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192403.D Vial: 3
Acq On : 19 Mar 2024 10:37 Operator: SC
Sample : CCV C09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02202402 (3/21)

Quant Time: Mar 19 11:14:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/19/24

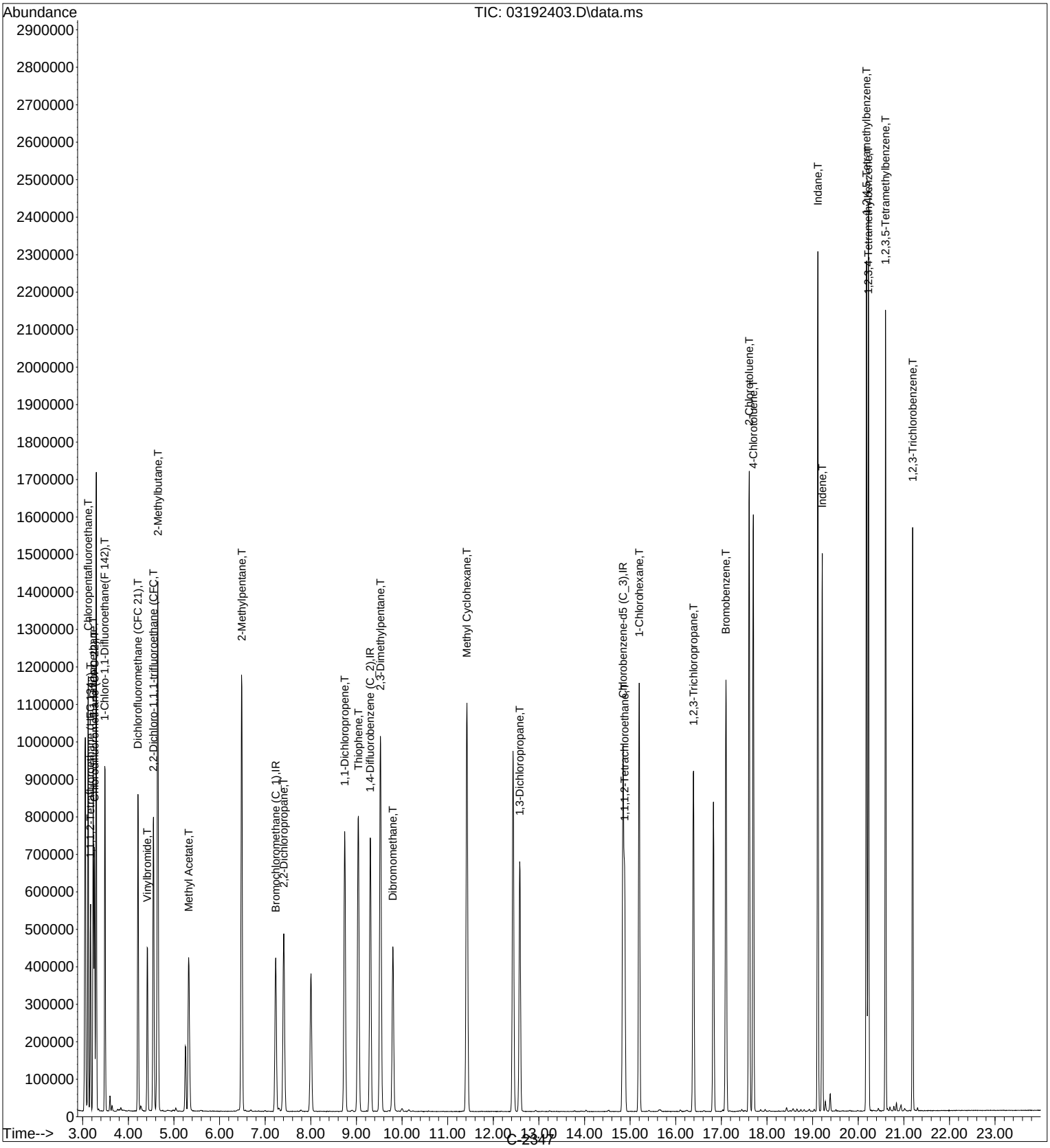
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	168768	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	720667	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	154546	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	370192	20.703	ng		97
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	295959	19.062	ng		96
4) 1,1-Difluoroethane	3.23	65	268185	20.978	ng		76
5) Chlorodifluoromethane ...	3.26	67	103276	20.832	ng		82
6) 1-Chloro-1,1-Difluoroe...	3.48	65	650287	19.852	ng		99
7) Dichlorofluoromethane ...	4.21	67	665878	20.224	ng		99
8) Vinylbromide	4.41	108	248171	19.589	ng		96
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	418009	20.228	ng		98
10) 2-Methylbutane	4.65	57	315114	18.642	ng		84
11) Methyl Acetate	5.32	43	653897	15.045	ng	#	94
12) 2-Methylpentane	6.49	71	253859	20.007	ng	#	66
13) 2,2-Dichloropropane	7.41	77	367581	19.289	ng		99
14) 1,1-Dichloropropene	8.74	75	429358	20.414	ng		90
15) Thiophene	9.04	84	597085	19.687	ng		93
17) 2,3-Dimethylpentane	9.53	56	552029	18.971	ng		90
18) Dibromomethane	9.80	174	226629	19.508	ng		92
20) Methyl Cyclohexane	11.42	55	479174	19.735	ng		92
21) 1,3-Dichloropropane	12.58	76	441446	21.390	ng		89
22) 1,1,1,2-Tetrachloroethane	14.88	131	210790	16.973	ng		99
23) 1-Chlorohexane	15.20	91	412464	20.825	ng		95
24) 1,2,3-Trichloropropane	16.39	75	453755	21.221	ng		100
25) Bromobenzene	17.10	77	559313	23.034	ng		90
26) 2-Chlorotoluene	17.61	91	1011426	21.806	ng		99
27) 4-Chlorotoluene	17.70	91	989762	20.622	ng		99
28) Indane	19.12	117	1090472	20.806	ng		98
29) Indene	19.21	115	717599	16.333	ng		96
30) 1,2,4,5-Tetramethylben...	20.18	119	1061651	18.622	ng		98
31) 1,2,3,4-Tetramethylben...	20.22	119	1096976	19.381	ng		96
32) 1,2,3,5-Tetramethylben...	20.60	119	983365	17.887	ng		99
33) 1,2,3-Trichlorobenzene	21.19	180	406085	18.273	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\19\03192403.D Vial: 3
Acq On : 19 Mar 2024 10:37 Operator: SC
Sample : CCV C09031924 25ng Inst : MS09
Misc : S37-02202408/S37-02202402 (3/21)

Quant Time: Mar 19 11:14:51 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 7:14
Operator : CI
Sample : CCV R16031924 5ng
Misc : S37-01032403/S37-03062403 (4/5)
ALS Vial : 2 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 11:01:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	109	-0.01
2	T	Propene	1.764	1.584	10.2	101	0.01
3	T	Dichlorodifluoromethane (CF	2.782	2.843	-2.2	102	0.01
4	T	Chloromethane	1.836	1.966	-7.1	102	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.126	1.146	-1.8	102	0.01
6	T	Vinyl Chloride	1.658	1.767	-6.6	104	0.00
7	T	1,3-Butadiene	1.259	1.393	-10.6	110	0.00
8	T	Bromomethane	0.976	0.970	0.6	102	0.00
9	T	Chloroethane	0.950	0.914	3.8	102	0.00
10	T	Ethanol	1.121	1.083	3.4	106	-0.04
11	T	Acetonitrile	2.859	2.816	1.5	110	-0.02
12	T	Acrolein	0.813	0.840	-3.3	104	-0.02
13	T	Acetone	0.909	0.909	0.0	102	-0.04
14	T	Trichlorofluoromethane	2.497	2.547	-2.0	104	0.00
15	T	2-Propanol (Isopropanol)	3.386	3.916	-15.7	106	-0.03
16	T	Acrylonitrile	1.624	1.704	-4.9	107	-0.02
17	T	1,1-Dichloroethene	1.150	1.120	2.6	105	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.039	3.417	-12.4	105	-0.07
19	T	Methylene Chloride	1.316	1.189	9.7	102	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.700	1.748	-2.8	104	-0.01
21	T	Trichlorotrifluoroethane	1.087	1.051	3.3	105	0.00
22	T	Carbon Disulfide	3.735	3.939	-5.5	103	-0.01
23	T	trans-1,2-Dichloroethene	1.812	1.805	0.4	104	-0.01
24	T	1,1-Dichloroethane	2.164	2.154	0.5	106	0.00
25	T	Methyl tert-Butyl Ether	3.289	3.749	-14.0	105	-0.05
26	T	Vinyl Acetate	0.162	0.184	-13.6	104	-0.01
27	T	2-Butanone (MEK)	0.795	0.847	-6.5	106	0.00
28	T	cis-1,2-Dichloroethene	1.731	1.724	0.4	104	-0.01
29	T	Diisopropyl Ether	1.071	1.141	-6.5	106	0.00
30	T	Ethyl Acetate	0.453	0.466	-2.9	108	0.00
31	T	n-Hexane	2.075	2.144	-3.3	106	0.00
32	T	Chloroform	2.115	2.128	-0.6	104	-0.01
33	S	1,2-Dichloroethane-d4(SS1)	2.105	2.047	2.8	108	0.00
34	T	Tetrahydrofuran (THF)	0.767	0.760	0.9	104	0.00
35	T	Ethyl tert-Butyl Ether	1.420	1.512	-6.5	107	0.00
36	T	1,2-Dichloroethane	2.097	2.057	1.9	104	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	108	0.00
38	T	1,1,1-Trichloroethane	0.466	0.485	-4.1	103	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	83	-0.01
40	T	1-Butanol	0.000	0.000	0.0	149	-0.06
41	T	Benzene	1.188	1.087	8.5	104	0.00
42	T	Carbon Tetrachloride	0.365	0.412	-12.9	103	0.00
43	T	Cyclohexane	0.388	0.417	-7.5	105	0.00
44	T	tert-Amyl Methyl Ether	0.721	0.786	-9.0	107	0.00
45	T	1,2-Dichloropropane	0.275	0.266	3.3	103	0.00
46	T	Bromodichloromethane	0.387	0.385	0.5	104	0.00
47	T	Trichloroethene	0.303	0.290	4.3	104	0.00
48	T	1,4-Dioxane	0.214	0.215	-0.5	103	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.107	1.184	-7.0	106	0.00
50	T	Methyl Methacrylate	0.104	0.110	-5.8	105	0.00
51	T	n-Heptane	0.287	0.303	-5.6	108	0.00
52	T	cis-1,3-Dichloropropene	0.445	0.479	-7.6	104	0.00
53	T	4-Methyl-2-pentanone	0.232	0.243	-4.7	101	0.00

Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 7:14
Operator : CI
Sample : CCV R16031924 5ng
Misc : S37-01032403/S37-03062403 (4/5)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:01:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	T	trans-1,3-Dichloropropene	0.374	0.417	-11.5	104	0.00
55	T	1,1,2-Trichloroethane	0.249	0.252	-1.2	102	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	105	0.00
57	S	Toluene-d8 (SS2)	4.881	5.072	-3.9	109	0.00
58	T	Toluene	4.578	4.760	-4.0	104	0.00
59	T	2-Hexanone	2.908	3.232	-11.1	104	0.00
60	T	Dibromochloromethane	1.330	1.418	-6.6	106	0.00
61	T	1,2-Dibromoethane	1.276	1.381	-8.2	104	0.00
62	T	n-Butyl Acetate	3.213	3.618	-12.6	106	0.00
63	T	n-Octane	1.056	1.111	-5.2	103	0.00
64	T	Tetrachloroethene	1.342	1.351	-0.7	105	0.00
65	T	Chlorobenzene	3.113	3.227	-3.7	105	0.00
66	T	Ethylbenzene	5.313	5.770	-8.6	105	0.00
67	T	m- & p-Xylenes	4.267	4.554	-6.7	104	0.00
68	T	Bromoform	1.082	1.133	-4.7	106	0.00
69	T	Styrene	2.961	3.362	-13.5	106	0.00
70	T	o-Xylene	4.293	4.636	-8.0	106	0.00
71	T	n-Nonane	2.697	2.955	-9.6	104	0.00
72	T	1,1,2,2-Tetrachloroethane	1.931	2.038	-5.5	105	0.00
73	S	Bromofluorobenzene (SS3)	1.644	1.654	-0.6	106	0.00
74	T	Cumene	5.519	5.957	-7.9	105	0.00
75	T	alpha-Pinene	2.459	2.836	-15.3	112	0.00
76	T	n-Propylbenzene	6.725	7.095	-5.5	104	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	107	0.00
78	T	4-Ethyltoluene	5.378	5.858	-8.9	106	0.00
79	T	1,3,5-Trimethylbenzene	4.527	4.887	-8.0	105	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	226#	0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	107	0.00
82	T	1,2,4-Trimethylbenzene	4.570	5.168	-13.1	107	0.00
83	T	n-Decane	0.000	0.000	0.0	58	-0.02
84	T	Benzyl Chloride	3.192	3.877	-21.5	111	0.00
85	T	1,3-Dichlorobenzene	2.633	2.768	-5.1	106	0.00
86	T	1,4-Dichlorobenzene	2.564	2.746	-7.1	105	0.00
87	T	sec-Butylbenzene	6.190	6.748	-9.0	107	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.291	5.778	-9.2	105	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	107	0.00
90	T	1,2-Dichlorobenzene	2.535	2.697	-6.4	106	0.00
91	T	d-Limonene	1.541	1.823	-18.3	107	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.821	0.997	-21.4	110	0.00
93	T	n-Undecane	0.000	0.000	0.0	287#	-0.07
94	T	1,2,4-Trichlorobenzene	1.833	2.104	-14.8	111	0.00
95	T	Naphthalene	5.142	6.282	-22.2	113	0.00
96	T	n-Dodecane	0.000	0.000	0.0	118	0.00
97	T	Hexachlorobutadiene	1.436	1.510	-5.2	109	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	765#	-0.07
99	T	tert-Butylbenzene	4.395	4.821	-9.7	107	0.00
100	T	n-Butylbenzene	4.922	5.536	-12.5	107	0.00
101	T	1,1,1,2-Tetrachloroethane	1.085	1.202	-10.8	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 7:14
Operator : CI
Sample : CCV R16031924 5ng
Misc : S37-01032403/S37-03062403 (4/5)
ALS Vial : 2 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 11:01:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.39	130	240026	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	13.51	114	1074690	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	235804	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.24	65	491417	12.156	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	15.95	98	1195895	12.987	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.92%				
73) Bromofluorobenzene (SS3)	19.15	174	390068	12.578	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.64%				
Target Compounds							Qvalue
2) Propene	4.17	42	159696	4.716	ng		98
3) Dichlorodifluoromethan...	4.33	85	283907	5.315	ng		100
4) Chloromethane	4.63	50	201946	5.729	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	119952	5.548	ng		98
6) Vinyl Chloride	5.07	62	179790	5.647	ng		99
7) 1,3-Butadiene	5.35	54	141817	5.865	ng		99
8) Bromomethane	5.80	94	95000	5.068	ng		99
9) Chloroethane	6.14	64	96530	5.294	ng		100
10) Ethanol	6.58	45	510605	23.727	ng		100
11) Acetonitrile	6.81	41	259594	4.728	ng		96
12) Acrolein	7.00	56	173369	11.099	ng		100
13) Acetone	7.23	58	445970	25.555	ng		99
14) Trichlorofluoromethane	7.45	101	246956	5.151	ng		100
15) 2-Propanol (Isopropanol)	7.76	45	744372	11.449	ng		100
16) Acrylonitrile	8.00	53	327207	10.495	ng		99
17) 1,1-Dichloroethene	8.42	96	96799	4.382	ng		96
18) 2-Methyl-2-Propanol (t...	8.64	59	682315	11.691	ng		99
19) Methylene Chloride	8.66	84	103904	4.111	ng		99
20) 3-Chloro-1-propene (Al...	8.82	41	181302	5.555	ng		99
21) Trichlorotrifluoroethane	9.08	151	90831	4.350	ng		100
22) Carbon Disulfide	8.91	76	782816	10.914	ng		100
23) trans-1,2-Dichloroethene	9.94	61	181929	5.228	ng		99
24) 1,1-Dichloroethane	10.20	63	212994	5.126	ng		100
25) Methyl tert-Butyl Ether	10.32	73	385148	6.099	ng		99
26) Vinyl Acetate	10.47	86	94923	30.586	ng	#	96
27) 2-Butanone (MEK)	10.72	72	165134	10.821	ng		97
28) cis-1,2-Dichloroethene	11.21	61	170449	5.129	ng		100
29) Diisopropyl Ether	11.52	87	230143	11.193	ng		99
30) Ethyl Acetate	11.54	61	87771	10.092	ng		98
31) n-Hexane	11.49	57	216171	5.426	ng		99
32) Chloroform	11.56	83	218616	5.382	ng		99
34) Tetrahydrofuran (THF)	11.99	72	137888	9.359	ng		98
35) Ethyl tert-Butyl Ether	12.11	87	306285	11.233	ng		99
36) 1,2-Dichloroethane	12.36	62	201425	5.002	ng		99
38) 1,1,1-Trichloroethane	12.63	97	214897	5.359	ng		99
39) Isopropyl Acetate	13.75	61	331	No Calib		#	
40) 1-Butanol	12.59	56	167	No Calib		#	
41) Benzene	13.11	78	476488	4.664	ng		99
42) Carbon Tetrachloride	13.27	117	182469	5.809	ng		99
43) Cyclohexane	13.40	84	376111	11.272	ng		99
44) tert-Amyl Methyl Ether	13.76	73	712596	11.499	ng		99
45) 1,2-Dichloropropane	13.96	63	123566	5.234	ng		100
46) Bromodichloromethane	14.15	83	175548	5.280	ng		100
47) Trichloroethene	14.20	130	128379	4.928	ng		99
48) 1,4-Dioxane	14.20	88	96208	5.223	ng		99

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 7:14
Operator : CI
Sample : CCV R16031924 5ng
Misc : S37-01032403/S37-03062403 (4/5)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:01:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

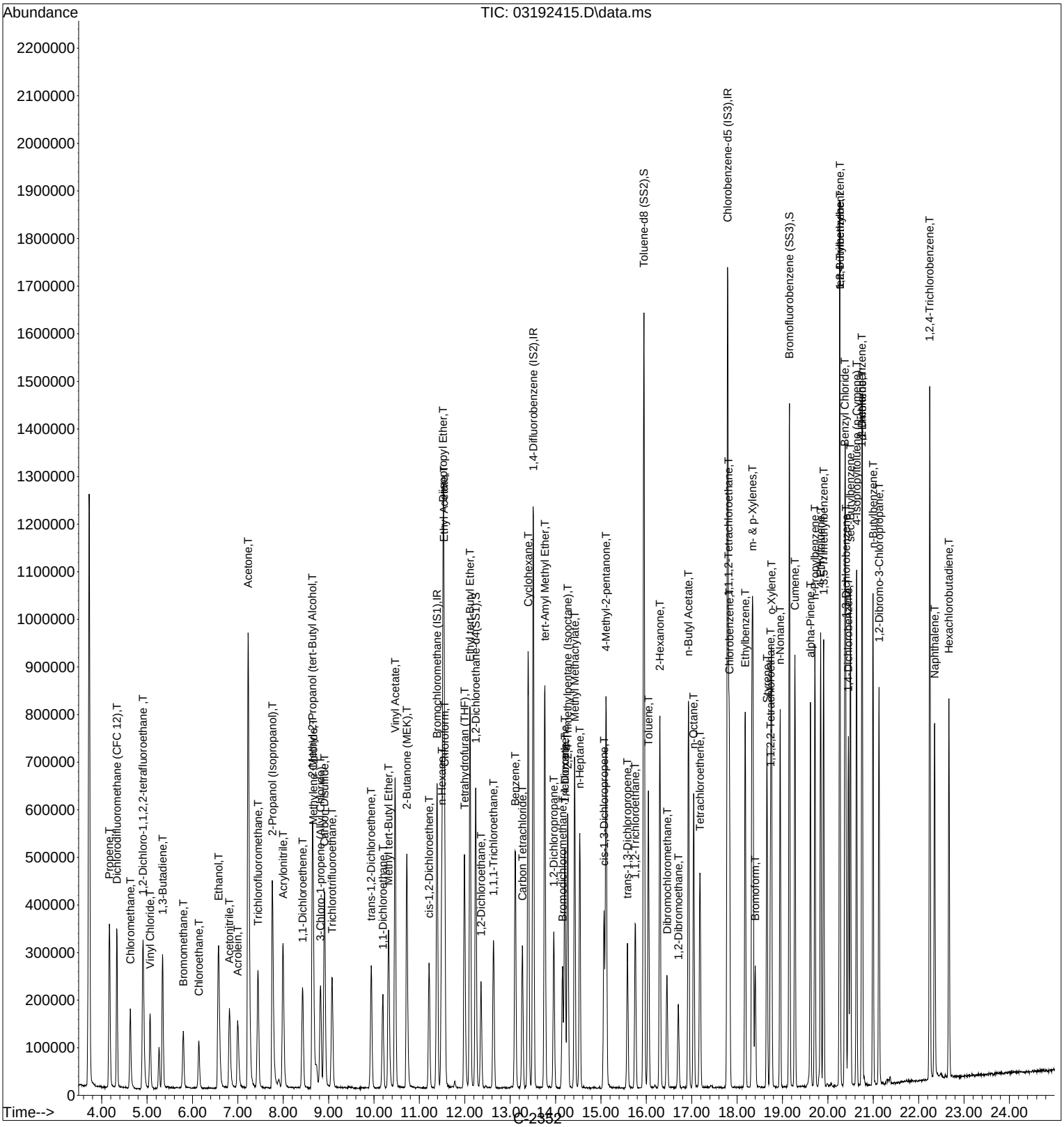
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.26	57	544487	5.718 ng		100
50) Methyl Methacrylate	14.42	100	99655	11.116 ng		98
51) n-Heptane	14.53	71	136896	5.545 ng		97
52) cis-1,3-Dichloropropene	15.07	75	216301	5.652 ng		99
53) 4-Methyl-2-pentanone	15.11	58	219640	11.009 ng		98
54) trans-1,3-Dichloropropene	15.58	75	175837	5.469 ng		99
55) 1,1,2-Trichloroethane	15.76	97	118219	5.517 ng		98
58) Toluene	16.05	91	484930	5.615 ng		99
59) 2-Hexanone	16.30	43	621848	11.335 ng		100
60) Dibromochloromethane	16.46	129	136458	5.438 ng		98
61) 1,2-Dibromoethane	16.71	107	134126	5.574 ng		98
62) n-Butyl Acetate	16.93	43	709897	11.711 ng		99
63) n-Octane	17.04	57	111114	5.578 ng		99
64) Tetrachloroethene	17.18	166	136380	5.386 ng		100
65) Chlorobenzene	17.83	112	325685	5.547 ng		99
66) Ethylbenzene	18.18	91	593166	5.918 ng		100
67) m- & p-Xylenes	18.34	91	919193	11.419 ng		99
68) Bromoform	18.40	173	116505	5.706 ng		99
69) Styrene	18.66	104	336113	6.017 ng		99
70) o-Xylene	18.76	91	472291	5.833 ng		100
71) n-Nonane	18.95	43	289828	5.696 ng		99
72) 1,1,2,2-Tetrachloroethane	18.74	83	207634	5.701 ng		97
74) Cumene	19.27	105	584341	5.613 ng		99
75) alpha-Pinene	19.62	93	286233	6.171 ng		99
76) n-Propylbenzene	19.71	91	689240	5.433 ng		100
77) 3-Ethyltoluene	20.26	105	506948	No Calib		
78) 4-Ethyltoluene	19.84	105	569157	5.610 ng		99
79) 1,3,5-Trimethylbenzene	19.91	105	497871	5.830 ng		100
80) alpha-Methylstyrene	20.63	118	17873	No Calib	#	
81) 2-Ethyltoluene	20.26	105	506948	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	506948	5.881 ng		99
83) n-Decane	20.35	58	190	No Calib	#	
84) Benzyl Chloride	20.37	91	756893	12.571 ng		99
85) 1,3-Dichlorobenzene	20.40	146	268873	5.414 ng		99
86) 1,4-Dichlorobenzene	20.45	146	269396	5.570 ng		99
87) sec-Butylbenzene	20.50	105	655610	5.615 ng		100
88) 4-Isopropyltoluene (p-...	20.63	119	555873	5.569 ng		100
89) 1,2,3-Trimethylbenzene	20.26	105	506948	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	262030	5.479 ng		99
91) d-Limonene	20.76	68	171929	5.913 ng		100
92) 1,2-Dibromo-3-Chloropr...	21.13	157	193639	12.503 ng		98
93) n-Undecane	21.46	58	319	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	424637	12.283 ng		100
95) Naphthalene	22.35	128	598441	6.169 ng		100
96) n-Dodecane	22.77	57	124	No Calib	#	
97) Hexachlorobutadiene	22.67	225	143883	5.312 ng		100
98) Cyclohexanone	18.20	55	1614	No Calib	#	
99) tert-Butylbenzene	20.26	119	472923	5.704 ng		100
100) n-Butylbenzene	21.00	91	522194	5.625 ng		99
101) 1,1,1,2-Tetrachloroethane	17.81	131	121294	5.924 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 7:14
Operator : CI
Sample : CCV R16031924 5ng
Misc : S37-01032403/S37-03062403 (4/5)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 11:01:51 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192416.D
Acq On : 19 Mar 2024 7:48
Operator : CI
Sample : CCV C16031924 25ng
Misc : S37-01032403/S37-02282403 (3/29)
ALS Vial : 3 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 11:15:42 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	128	0.00
2	T	Chloropentafluoroethane	1.532	1.498	2.2	127	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.241	1.389	-11.9	144	0.00
4	T	1,1-Difluoroethane	1.075	1.019	5.2	116	0.00
5	T	Chlorodifluoromethane (CFC	0.401	0.406	-1.2	133	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.595	2.684	-3.4	135	0.00
7	T	Dichlorofluoromethane (CFC	2.526	2.412	4.5	125	0.00
8	T	Vinylbromide	0.870	0.881	-1.3	129	0.00
9	T	2,2-Dichloro-1,1,1-trifluor	1.470	1.408	4.2	124	0.00
10	T	2-Methylbutane	1.252	1.111	11.3	113	0.00
11	T	Methyl Acetate	2.840	2.574	9.4	118	-0.02
12	T	2-Methylpentane	1.145	1.109	3.1	123	0.00
13	T	2,2-Dichloropropane	1.253	0.842	32.8#	73	0.00
14	T	1,1-Dichloropropene	1.569	1.598	-1.8	129	0.00
15	T	Thiophene	2.273	2.224	2.2	126	0.00
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	129	0.00
17	T	2,3-Dimethylpentane	0.513	0.452	11.9	113	0.00
18	T	Dibromomethane	0.162	0.171	-5.6	139	0.00
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	128	0.00
20	T	Methyl Cyclohexane	1.752	1.637	6.6	118	0.00
21	T	1,3-Dichloropropane	1.661	1.702	-2.5	131	0.00
22	T	1,1,1,2-Tetrachloroethane	0.910	0.985	-8.2	135	0.00
23	T	1-Chlorohexane	1.467	1.540	-5.0	130	0.00
24	T	1,2,3-Trichloropropane	1.569	1.621	-3.3	133	0.00
25	T	Bromobenzene	1.729	1.893	-9.5	141	0.00
26	T	2-Chlorotoluene	3.280	3.403	-3.8	132	0.00
27	T	4-Chlorotoluene	3.151	3.529	-12.0	144	0.00
28	T	Indane	3.592	3.928	-9.4	135	0.00
29	T	Indene	2.613	3.289	-25.9	149	0.00
30	T	1,2,4,5-Tetramethylbenzene	3.802	4.608	-21.2	145	0.00
31	T	1,2,3,4-Tetramethylbenzene	3.781	4.065	-7.5	140	0.00
32	T	1,2,3,5-Tetramethylbenzene	3.666	4.287	-16.9	148	0.00
33	T	1,2,3-Trichlorobenzene	1.173	1.582	-34.9#	173	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192416.D
Acq On : 19 Mar 2024 7:48
Operator : CI
Sample : CCV C16031924 25ng
Misc : S37-01032403/S37-02282403 (3/29)
ALS Vial : 3 Sample Multiplier: 1

CI 3/19/24

Quant Time: Mar 19 11:15:42 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

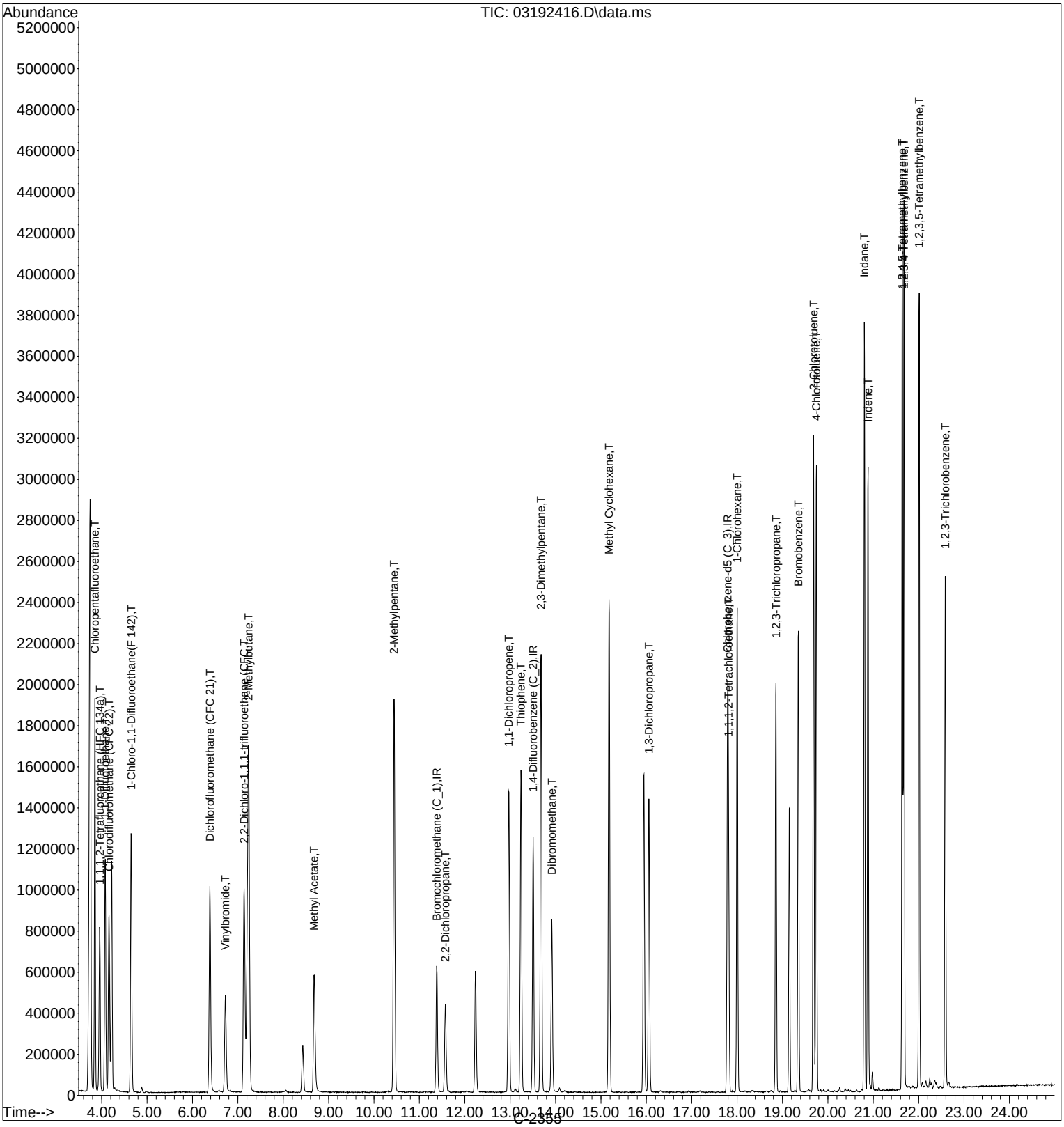
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	231590	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	1041168	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.79	54	235495	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.85	85	735690	25.919	ng		95
3) 1,1,1,2-Tetrafluoroeth...	3.96	83	662716	28.831	ng		84
4) 1,1-Difluoroethane	4.08	65	509896	25.590	ng		98
5) Chlorodifluoromethane ...	4.16	67	203083	27.361	ng		81
6) 1-Chloro-1,1-Difluoroe...	4.65	65	1317521	27.405	ng		98
7) Dichlorofluoromethane ...	6.38	67	1139600	24.352	ng		98
8) Vinylbromide	6.73	108	404120	25.071	ng		100
9) 2,2-Dichloro-1,1,1-tri...	7.14	83	704276	25.858	ng		99
10) 2-Methylbutane	7.24	57	576353	24.842	ng	#	84
11) Methyl Acetate	8.68	43	1037226	19.713	ng		98
12) 2-Methylpentane	10.44	71	508725	23.974	ng		90
13) 2,2-Dichloropropane	11.58	77	296443	12.771	ng		99
14) 1,1-Dichloropropene	12.97	75	762136	26.211	ng		96
15) Thiophene	13.24	84	1040586	24.706	ng		97
17) 2,3-Dimethylpentane	13.68	56	987601	23.101	ng		98
18) Dibromomethane	13.92	174	362966	26.969	ng		97
20) Methyl Cyclohexane	15.18	55	824907	24.995	ng		93
21) 1,3-Dichloropropane	16.06	76	841841	26.903	ng		96
22) 1,1,1,2-Tetrachloroethane	17.81	131	357222	20.833	ng		100
23) 1-Chlorohexane	18.00	91	747140	27.029	ng		94
24) 1,2,3-Trichloropropane	18.86	75	794254	26.865	ng		99
25) Bromobenzene	19.35	77	935931	28.727	ng		97
26) 2-Chlorotoluene	19.69	91	1747004	28.275	ng		99
27) 4-Chlorotoluene	19.75	91	1712164	28.839	ng		98
28) Indane	20.80	117	1831373	27.064	ng		99
29) Indene	20.89	115	1471694	29.896	ng		100
30) 1,2,4,5-Tetramethylben...	21.64	119	2213738	30.909	ng		98
31) 1,2,3,4-Tetramethylben...	21.68	119	1991062	27.951	ng		93
32) 1,2,3,5-Tetramethylben...	22.01	119	2059608	29.822	ng		99
33) 1,2,3-Trichlorobenzene	22.59	180	752693	34.063	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192416.D
Acq On : 19 Mar 2024 7:48
Operator : CI
Sample : CCV C16031924 25ng
Misc : S37-01032403/S37-02282403 (3/29)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 11:15:42 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

3/20/24

Quant Time: Mar 20 08:30:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	0.05
2	T	Propene	1.424	1.191	16.4	87	0.02
3	T	Dichlorodifluoromethane (CF	2.564	2.312	9.8	92	0.03
4	T	Chloromethane	1.906	1.670	12.4	87	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.127	1.038	7.9	92	0.03
6	T	Vinyl Chloride	1.781	1.605	9.9	89	0.02
7	T	1,3-Butadiene	1.396	1.292	7.4	88	0.02
8	T	Bromomethane	1.042	0.950	8.8	90	0.03
9	T	Chloroethane	0.781	0.702	10.1	89	0.03
10	T	Ethanol	1.208	1.058	12.4	87	0.00
11	T	Acetonitrile	2.772	2.353	15.1	86	0.00
12	T	Acrolein	0.866	0.811	6.4	89	0.02
13	T	Acetone	0.919	0.814	11.4	89	0.01
14	T	Trichlorofluoromethane	2.482	2.357	5.0	93	0.03
15	T	2-Propanol (Isopropanol)	3.661	3.454	5.7	88	0.00
16	T	Acrylonitrile	1.780	1.632	8.3	89	0.02
17	T	1,1-Dichloroethene	1.082	1.004	7.2	90	0.03
18	T	2-Methyl-2-Propanol (tert-B	2.187	2.198	-0.5	90	0.01
19	T	Methylene Chloride	1.337	1.100	17.7	90	0.02
20	T	3-Chloro-1-propene (Allyl C	1.979	1.958	1.1	87	0.03
21	T	Trichlorotrifluoroethane	1.046	0.998	4.6	93	0.04
22	T	Carbon Disulfide	4.165	3.971	4.7	90	0.04
23	T	trans-1,2-Dichloroethene	1.842	1.726	6.3	90	0.04
24	T	1,1-Dichloroethane	2.183	2.018	7.6	90	0.04
25	T	Methyl tert-Butyl Ether	2.229	2.415	-8.3	93	0.05
26	T	Vinyl Acetate	0.205	0.222	-8.3	91	0.04
27	T	2-Butanone (MEK)	0.752	0.715	4.9	89	0.03
28	T	cis-1,2-Dichloroethene	1.782	1.644	7.7	90	0.05
29	T	Diisopropyl Ether	0.882	0.841	4.6	91	0.06
30	T	Ethyl Acetate	0.451	0.448	0.7	89	0.05
31	T	n-Hexane	1.944	1.835	5.6	90	0.07
32	T	Chloroform	2.167	2.030	6.3	91	0.05
33	S	1,2-Dichloroethane-d4(SS1)	2.045	2.067	-1.1	98	0.06
34	T	Tetrahydrofuran (THF)	0.681	0.658	3.4	90	0.06
35	T	Ethyl tert-Butyl Ether	0.836	0.876	-4.8	93	0.06
36	T	1,2-Dichloroethane	2.024	1.910	5.6	92	0.06
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.03
38	T	1,1,1-Trichloroethane	0.496	0.484	2.4	93	0.03
39	T	Isopropyl Acetate	0.000	0.000	0.0	77	0.04
40	T	1-Butanol	0.000	0.000	0.0	98	0.03
41	T	Benzene	1.125	1.014	9.9	90	0.04
42	T	Carbon Tetrachloride	0.442	0.442	0.0	93	0.03
43	T	Cyclohexane	0.356	0.342	3.9	90	0.03
44	T	tert-Amyl Methyl Ether	0.500	0.505	-1.0	91	0.04
45	T	1,2-Dichloropropane	0.274	0.250	8.8	89	0.04
46	T	Bromodichloromethane	0.415	0.394	5.1	92	0.03
47	T	Trichloroethene	0.303	0.277	8.6	92	0.04
48	T	1,4-Dioxane	0.196	0.205	-4.6	90	0.04
49	T	2,2,4-Trimethylpentane (Iso	1.124	1.049	6.7	89	0.05
50	T	Methyl Methacrylate	0.092	0.099	-7.6	91	0.04
51	T	n-Heptane	0.241	0.232	3.7	90	0.05
52	T	cis-1,3-Dichloropropene	0.456	0.462	-1.3	90	0.05
53	T	4-Methyl-2-pentanone	0.241	0.246	-2.1	88	0.04
54	T	trans-1,3-Dichloropropene	0.392	0.416	-6.1	89	0.06
55	T	1,1,2-Trichloroethane	0.256	0.245	4.3	90	0.06

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 20 08:30:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	95	0.01
57	S	Toluene-d8 (SS2)	5.019	5.002	0.3	95	-0.01
58	T	Toluene	4.790	4.450	7.1	91	-0.02
59	T	2-Hexanone	2.783	2.917	-4.8	89	-0.02
60	T	Dibromochloromethane	1.543	1.493	3.2	93	-0.02
61	T	1,2-Dibromoethane	1.345	1.342	0.2	91	-0.02
62	T	n-Butyl Acetate	3.081	3.156	-2.4	87	-0.02
63	T	n-Octane	1.012	0.987	2.5	89	-0.01
64	T	Tetrachloroethene	1.473	1.404	4.7	93	-0.01
65	T	Chlorobenzene	3.229	3.063	5.1	92	-0.01
66	T	Ethylbenzene	5.480	5.337	2.6	92	-0.01
67	T	m- & p-Xylenes	4.550	4.479	1.6	92	-0.02
68	T	Bromoform	1.305	1.310	-0.4	93	0.00
69	T	Styrene	3.116	3.305	-6.1	91	-0.01
70	T	o-Xylene	4.487	4.399	2.0	92	-0.02
71	T	n-Nonane	2.585	2.534	2.0	89	-0.01
72	T	1,1,2,2-Tetrachloroethane	2.122	2.001	5.7	91	-0.02
73	S	Bromofluorobenzene (SS3)	1.769	1.788	-1.1	95	0.00
74	T	Cumene	5.495	5.369	2.3	92	-0.01
75	T	alpha-Pinene	2.713	2.868	-5.7	93	0.00
76	T	n-Propylbenzene	6.664	6.582	1.2	92	-0.01
77	T	3-Ethyltoluene	0.000	0.000	0.0	92	-0.01
78	T	4-Ethyltoluene	5.309	5.334	-0.5	92	0.00
79	T	1,3,5-Trimethylbenzene	4.599	4.612	-0.3	92	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	98	-0.02
81	T	2-Ethyltoluene	0.000	0.000	0.0	92	-0.01
82	T	1,2,4-Trimethylbenzene	4.786	4.948	-3.4	92	-0.01
83	T	n-Decane	0.000	0.000	0.0	89	0.00
84	T	Benzyl Chloride	3.740	4.413	-18.0	90	-0.02
85	T	1,3-Dichlorobenzene	2.957	2.940	0.6	93	-0.01
86	T	1,4-Dichlorobenzene	2.908	2.908	0.0	93	0.00
87	T	sec-Butylbenzene	6.144	6.127	0.3	92	-0.01
88	T	4-Isopropyltoluene (p-Cymen	5.273	5.338	-1.2	92	-0.01
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	92	-0.01
90	T	1,2-Dichlorobenzene	2.840	2.829	0.4	93	0.00
91	T	d-Limonene	1.676	1.828	-9.1	91	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.981	1.038	-5.8	93	-0.01
93	T	n-Undecane	0.000	0.000	0.0	84	0.00
94	T	1,2,4-Trichlorobenzene	2.078	2.361	-13.6	93	0.00
95	T	Naphthalene	5.507	6.697	-21.6	90	0.00
96	T	n-Dodecane	0.000	0.000	0.0	80	0.00
97	T	Hexachlorobutadiene	1.699	1.655	2.6	94	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	77	0.00
99	T	tert-Butylbenzene	4.495	4.433	1.4	92	0.00
100	T	n-Butylbenzene	5.070	5.208	-2.7	92	0.00
101	T	1,1,1,2-Tetrachloroethane	1.166	1.191	-2.1	93	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 20 08:30:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	148062	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	629965	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	142513	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	306005	12.633	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
57) Toluene-d8 (SS2)	12.44	98	712812	12.457	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.83	174	254841	12.632	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
Target Compounds							Qvalue
2) Propene	3.27	42	370328	21.962	ng		99
3) Dichlorodifluoromethan...	3.35	85	712053	23.448	ng		100
4) Chloromethane	3.48	50	529081	23.432	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	335095	25.094	ng		100
6) Vinyl Chloride	3.68	62	503857	23.886	ng		100
7) 1,3-Butadiene	3.79	54	405692m	24.532	ng		
8) Bromomethane	4.01	94	286877	23.248	ng		100
9) Chloroethane	4.15	64	228741	24.717	ng		100
10) Ethanol	4.35	45	1538751	107.542	ng		100
11) Acetonitrile	4.47	41	669042	20.374	ng		99
12) Acrolein	4.55	56	516247	50.346	ng		100
13) Acetone	4.65	58	1231708	113.111	ng		98
14) Trichlorofluoromethane	4.76	101	704890	23.981	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	2025452	46.710	ng		98
16) Acrylonitrile	5.03	53	966569	45.838	ng		100
17) 1,1-Dichloroethene	5.26	96	267581	20.886	ng		100
18) 2-Methyl-2-Propanol (t...	5.37	59	1354039	52.269	ng		100
19) Methylene Chloride	5.38	84	296303	18.710	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	626098	26.706	ng		99
21) Trichlorotrifluoroethane	5.58	151	266095	21.476	ng		99
22) Carbon Disulfide	5.60	76	2433868	49.333	ng		100
23) trans-1,2-Dichloroethene	6.16	61	536589	24.588	ng		100
24) 1,1-Dichloroethane	6.35	63	615426	23.797	ng		100
25) Methyl tert-Butyl Ether	6.38	73	765324	28.990	ng		100
26) Vinyl Acetate	6.47	86	352686	145.584	ng	#	95
27) 2-Butanone (MEK)	6.69	72	429877	48.288	ng		98
28) cis-1,2-Dichloroethene	7.11	61	501335	23.746	ng		100
29) Diisopropyl Ether	7.30	87	523154	50.085	ng		97
30) Ethyl Acetate	7.31	61	259755	48.621	ng		100
31) n-Hexane	7.31	57	570435	24.773	ng		99
32) Chloroform	7.40	83	643059	25.056	ng		100
34) Tetrahydrofuran (THF)	7.77	72	368286	45.679	ng		98
35) Ethyl tert-Butyl Ether	7.84	87	547542	55.265	ng		99
36) 1,2-Dichloroethane	8.15	62	576857	24.064	ng		100
38) 1,1,1-Trichloroethane	8.42	97	628340	25.126	ng		100
39) Isopropyl Acetate	9.62	61	670	No Calib		#	
40) 1-Butanol	8.82	56	2153	No Calib			
41) Benzene	8.92	78	1302720	22.978	ng		100
42) Carbon Tetrachloride	9.09	117	573833	25.742	ng		99
43) Cyclohexane	9.23	84	904360	50.428	ng		99
44) tert-Amyl Methyl Ether	9.61	73	1343623	53.355	ng		100
45) 1,2-Dichloropropane	9.88	63	339752	24.621	ng		100
46) Bromodichloromethane	10.10	83	526850	25.204	ng		100
47) Trichloroethene	10.17	130	358915	23.492	ng		100
48) 1,4-Dioxane	10.13	88	268453	27.128	ng		99
49) 2,2,4-Trimethylpentane...	10.25	57	1414386	24.974	ng		99
50) Methyl Methacrylate	10.42	100	262174	56.400	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 20 08:30:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

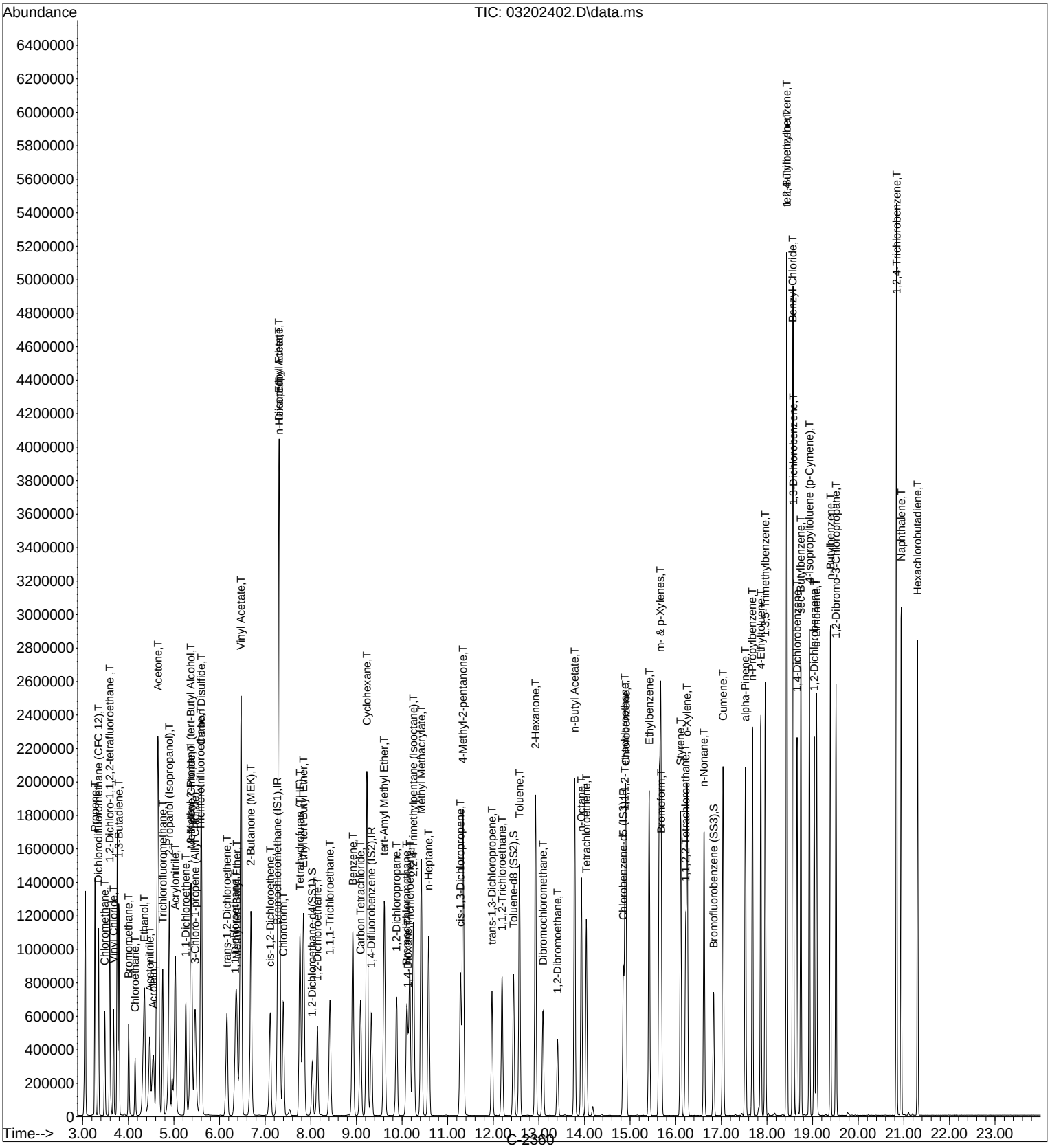
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.58	71	306733	25.306	ng		99
52) cis-1,3-Dichloropropene	11.28	75	611184	26.573	ng		100
53) 4-Methyl-2-pentanone	11.34	58	650732	53.532	ng		99
54) trans-1,3-Dichloropropene	11.97	75	513214	25.966	ng		99
55) 1,1,2-Trichloroethane	12.19	97	336839	26.116	ng		100
58) Toluene	12.57	91	1369786	25.081	ng		99
59) 2-Hexanone	12.93	43	1696202	53.449	ng		100
60) Dibromochloromethane	13.09	129	434180	24.677	ng		100
61) 1,2-Dibromoethane	13.41	107	394112	25.706	ng		100
62) n-Butyl Acetate	13.78	43	1871214	53.272	ng		100
63) n-Octane	13.93	57	298193	25.852	ng		99
64) Tetrachloroethene	14.04	166	428220	25.506	ng		99
65) Chlorobenzene	14.91	112	934144	25.373	ng		100
66) Ethylbenzene	15.42	91	1658060	26.540	ng		100
67) m- & p-Xylenes	15.66	91	2731752	52.655	ng		100
68) Bromoform	15.69	173	406970	27.358	ng		100
69) Styrene	16.11	104	998647	28.111	ng		100
70) o-Xylene	16.25	91	1354010	26.469	ng		100
71) n-Nonane	16.62	43	751249	25.491	ng		99
72) 1,1,2,2-Tetrachloroethane	16.21	83	615850	25.459	ng		100
74) Cumene	17.04	105	1591382	25.400	ng		100
75) alpha-Pinene	17.53	93	874583	28.273	ng		100
76) n-Propylbenzene	17.68	91	1932410	25.436	ng		100
77) 3-Ethyltoluene	17.04	105	1591382	No Calib			
78) 4-Ethyltoluene	17.87	105	1565847	25.870	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1419798	27.076	ng		100
80) alpha-Methylstyrene	17.03	118	3176	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1591382	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1466587	26.878	ng		100
83) n-Decane	17.04	58	12253	No Calib			
84) Benzyl Chloride	18.57	91	2603565	48.534	ng		100
85) 1,3-Dichlorobenzene	18.58	146	863037	25.603	ng		100
86) 1,4-Dichlorobenzene	18.66	146	862121	26.003	ng		99
87) sec-Butylbenzene	18.74	105	1798883	25.682	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1551759	25.814	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1591382	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	830383	25.647	ng		100
91) d-Limonene	19.09	68	521075	27.274	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	609313	54.468	ng		100
93) n-Undecane	17.87	58	22589	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1439801	60.762	ng		99
95) Naphthalene	20.94	128	1927785	24.084	ng		100
96) n-Dodecane	18.93	58	36434	No Calib		#	
97) Hexachlorobutadiene	21.30	225	476482	24.598	ng		100
98) Cyclohexanone	15.43	55	4556	No Calib		#	
99) tert-Butylbenzene	18.43	119	1314107	25.641	ng		100
100) n-Butylbenzene	19.39	91	1484482	25.680	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	363319	27.322	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

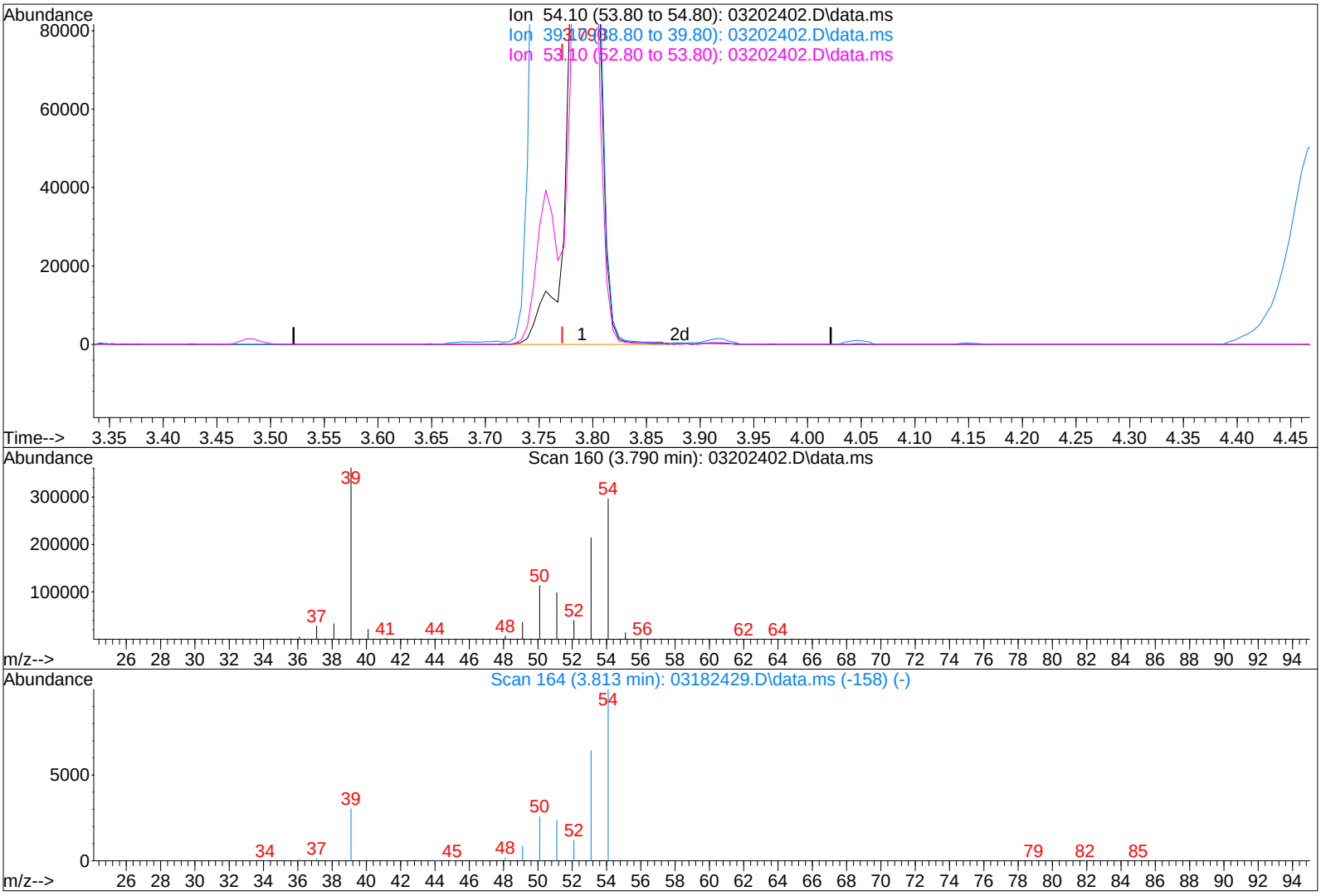
Quant Time: Mar 20 08:30:19 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 20 08:29:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202402.D\data.ms

(7) 1,3-Butadiene (T)

3.790min (+0.019) 25.66ng

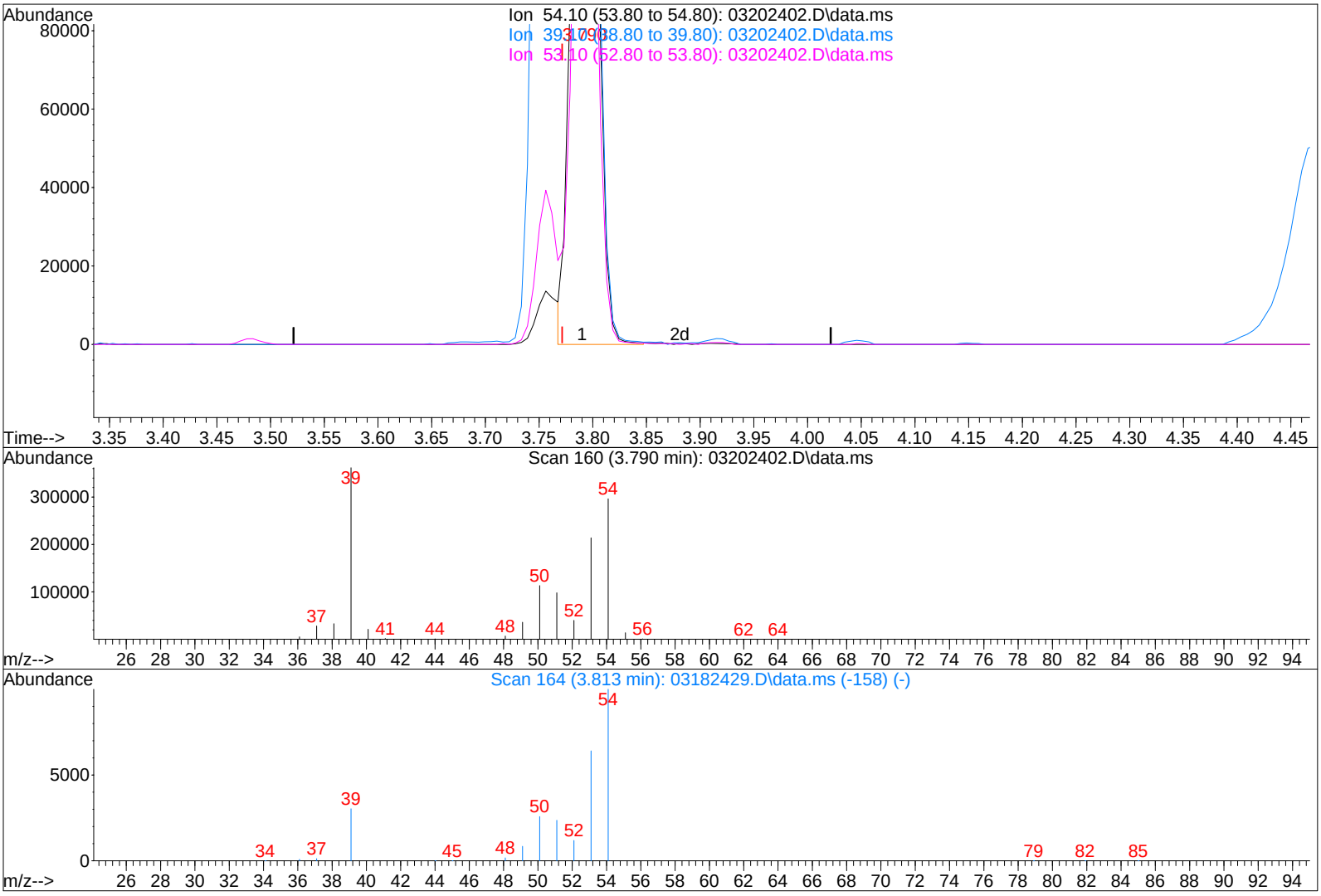
response 424326

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	113.55
53.10	67.90	69.59
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\20\03202402.D Vial: 2
Acq On : 20 Mar 2024 1:45 Operator: SC
Sample : CCV R09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 20 08:29:56 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 15:09:59 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03202402.D\data.ms

IPC

3/20/24

(7) 1,3-Butadiene (T)

3.790min (+0.019) 24.53ng m

response 405692

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	118.77
53.10	67.90	72.78
0.00	0.00	0.00

3/21/24

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\20\03202403.D Vial: 3
Acq On : 20 Mar 2024 2:18 Operator: SC
Sample : CCV C09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02202402 (3/21)

Quant Time: Mar 20 09:01:10 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/20/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	95	-0.02
2	T	Chloropentafluoroethane	1.324	1.018	23.1	73	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.150	0.873	24.1	73	0.00
4	T	1,1-Difluoroethane	0.947	0.724	23.5	72	-0.01
5	T	Chlorodifluoromethane (CFC	0.367	0.290	21.0	76	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.426	1.884	22.3	74	0.00
7	T	Dichlorofluoromethane (CFC	2.439	1.912	21.6	75	0.00
8	T	Vinylbromide	0.938	0.723	22.9	73	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.531	1.119	26.9	70	0.00
10	T	2-Methylbutane	1.252	0.870	30.5#	69	0.00
11	T	Methyl Acetate	3.219	1.881	41.6#	58	-0.02
12	T	2-Methylpentane	0.940	0.705	25.0	73	-0.01
13	T	2,2-Dichloropropane	1.411	1.086	23.0	72	-0.02
14	T	1,1-Dichloropropene	1.558	1.182	24.1	72	-0.02
15	T	Thiophene	2.246	1.680	25.2	72	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	93	-0.02
17	T	2,3-Dimethylpentane	0.505	0.351	30.5#	66	-0.02
18	T	Dibromomethane	0.202	0.144	28.7	68	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	94	-0.01
20	T	Methyl Cyclohexane	1.964	1.359	30.8#	65	-0.02
21	T	1,3-Dichloropropane	1.669	1.265	24.2	72	-0.02
22	T	1,1,1,2-Tetrachloroethane	1.004	0.749	25.4	70	-0.01
23	T	1-Chlorohexane	1.602	1.184	26.1	69	-0.02
24	T	1,2,3-Trichloropropane	1.729	1.313	24.1	73	-0.02
25	T	Bromobenzene	1.964	1.626	17.2	80	-0.01
26	T	2-Chlorotoluene	3.751	2.924	22.0	74	-0.01
27	T	4-Chlorotoluene	3.882	3.023	22.1	77	-0.01
28	T	Indane	4.239	3.418	19.4	76	-0.01
29	T	Indene	3.554	2.361	33.6#	63	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.611	3.291	28.6	68	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.578	3.386	26.0	70	-0.02
32	T	1,2,3,5-Tetramethylbenzene	4.447	3.094	30.4#	67	-0.02
33	T	1,2,3-Trichlorobenzene	1.797	1.287	28.4	70	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202403.D Vial: 3
Acq On : 20 Mar 2024 2:18 Operator: SC
Sample : CCV C09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02202402 (3/21)

Quant Time: Mar 20 09:01:10 2024 3/20/24
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

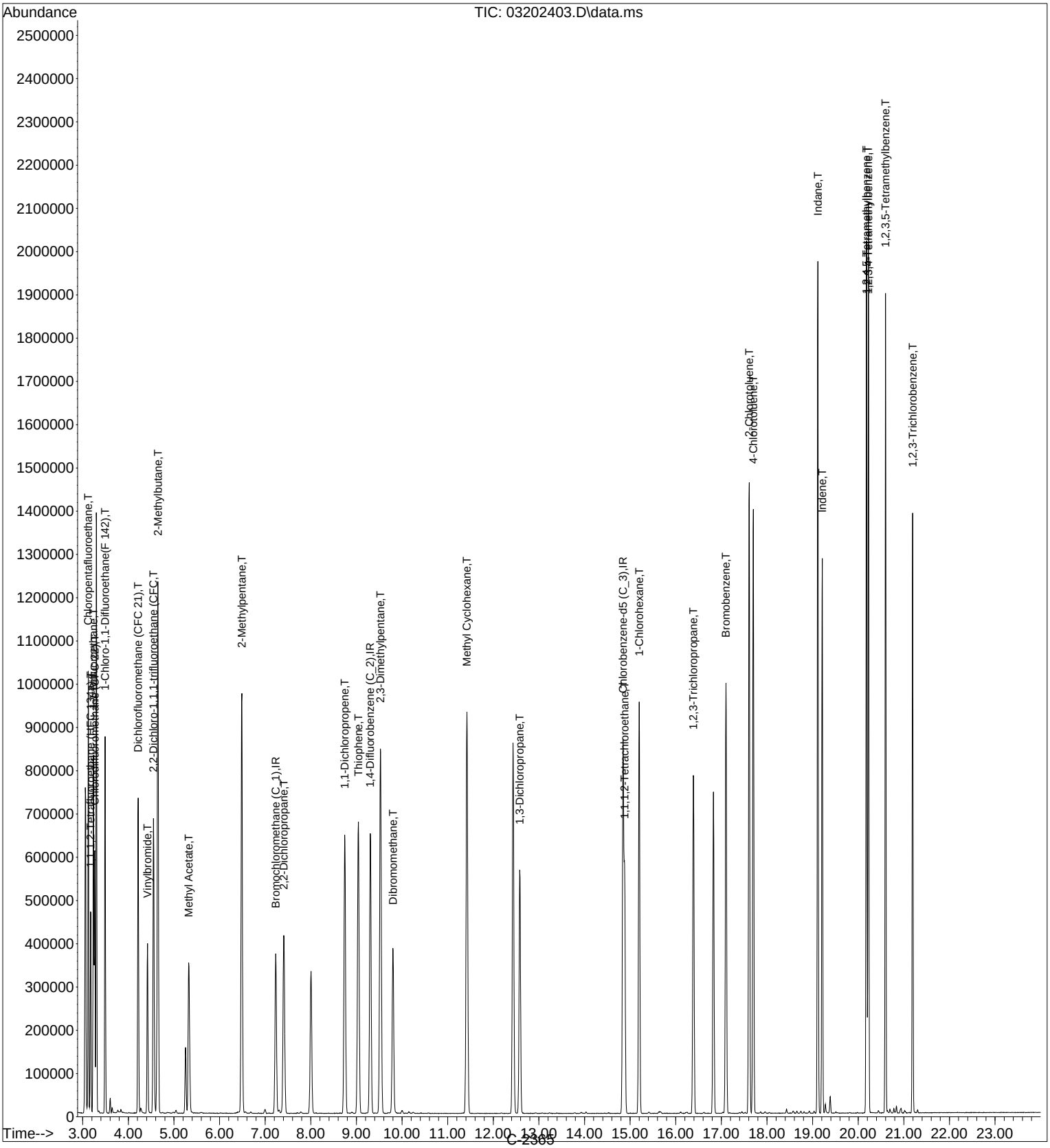
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	148725	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	632153	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	139066	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	314820	19.979	ng		99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	264920	19.363	ng		99
4) 1,1-Difluoroethane	3.23	65	228201	20.256	ng		82
5) Chlorodifluoromethane ...	3.26	67	91578	20.962	ng		69
6) 1-Chloro-1,1-Difluoroe...	3.49	65	582902	20.193	ng		100
7) Dichlorofluoromethane ...	4.22	67	574279	19.792	ng		100
8) Vinylbromide	4.42	108	212779	19.059	ng		96
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	349619	19.199	ng		98
10) 2-Methylbutane	4.65	57	263845	17.712	ng		85
11) Methyl Acetate	5.32	43	542675	14.169	ng	#	93
12) 2-Methylpentane	6.49	71	209643	18.749	ng	#	66
13) 2,2-Dichloropropane	7.41	77	319757	19.041	ng		99
14) 1,1-Dichloropropene	8.74	75	365782	19.735	ng		91
15) Thiophene	9.04	84	504773	18.886	ng		93
17) 2,3-Dimethylpentane	9.53	56	460937	18.059	ng		91
18) Dibromomethane	9.80	174	196313	19.264	ng		92
20) Methyl Cyclohexane	11.42	55	404393	18.509	ng		93
21) 1,3-Dichloropropane	12.58	76	369311	19.886	ng		90
22) 1,1,1,2-Tetrachloroethane	14.88	131	183390	16.410	ng		99
23) 1-Chlorohexane	15.20	91	339283	19.037	ng		96
24) 1,2,3-Trichloropropane	16.38	75	383390	19.926	ng		99
25) Bromobenzene	17.10	77	474825	21.732	ng		91
26) 2-Chlorotoluene	17.61	91	862012	20.654	ng		99
27) 4-Chlorotoluene	17.70	91	849084	19.660	ng		99
28) Indane	19.12	117	931508	19.752	ng		98
29) Indene	19.21	115	610618	15.445	ng		96
30) 1,2,4,5-Tetramethylben...	20.18	119	915428	17.845	ng		98
31) 1,2,3,4-Tetramethylben...	20.22	119	951143	18.675	ng		96
32) 1,2,3,5-Tetramethylben...	20.60	119	852025	17.223	ng		99
33) 1,2,3-Trichlorobenzene	21.19	180	357870	17.896	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\20\03202403.D Vial: 3
Acq On : 20 Mar 2024 2:18 Operator: SC
Sample : CCV C09032024 25ng Inst : MS09
Misc : S37-02202408/S37-02202402 (3/21)

Quant Time: Mar 20 09:01:10 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202401.D
Acq On : 20 Mar 2024 3:16
Operator : CI
Sample : CCV R16032024 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 08:35:35 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	104	0.00
2	T	Propene	1.764	1.658	6.0	97	0.00
3	T	Dichlorodifluoromethane (CF	2.782	2.404	13.6	97	0.00
4	T	Chloromethane	1.836	1.575	14.2	95	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.126	1.001	11.1	99	0.00
6	T	Vinyl Chloride	1.658	1.517	8.5	99	0.00
7	T	1,3-Butadiene	1.259	1.168	7.2	97	0.00
8	T	Bromomethane	0.976	0.852	12.7	99	0.00
9	T	Chloroethane	0.950	0.780	17.9	99	0.00
10	T	Ethanol	1.121	0.902	19.5	96	0.00
11	T	Acetonitrile	2.859	2.368	17.2	98	0.00
12	T	Acrolein	0.813	0.719	11.6	95	0.00
13	T	Acetone	0.909	0.759	16.5	96	-0.02
14	T	Trichlorofluoromethane	2.497	2.199	11.9	97	0.00
15	T	2-Propanol (Isopropanol)	3.386	2.778	18.0	95	0.00
16	T	Acrylonitrile	1.624	1.453	10.5	97	0.00
17	T	1,1-Dichloroethene	1.150	0.969	15.7	99	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.039	2.455	19.2	92	-0.05
19	T	Methylene Chloride	1.316	0.996	24.3	97	0.00
20	T	3-Chloro-1-propene (Allyl C	1.700	1.638	3.6	95	0.00
21	T	Trichlorotrifluoroethane	1.087	0.903	16.9	97	0.00
22	T	Carbon Disulfide	3.735	3.448	7.7	97	0.00
23	T	trans-1,2-Dichloroethene	1.812	1.567	13.5	96	0.00
24	T	1,1-Dichloroethane	2.164	1.863	13.9	97	0.00
25	T	Methyl tert-Butyl Ether	3.289	2.952	10.2	92	-0.05
26	T	Vinyl Acetate	0.162	0.185	-14.2	93	0.00
27	T	2-Butanone (MEK)	0.795	0.725	8.8	97	0.00
28	T	cis-1,2-Dichloroethene	1.731	1.501	13.3	98	0.00
29	T	Diisopropyl Ether	1.071	0.978	8.7	98	0.00
30	T	Ethyl Acetate	0.453	0.400	11.7	98	0.00
31	T	n-Hexane	2.075	1.789	13.8	95	0.00
32	T	Chloroform	2.115	1.827	13.6	97	0.00
33	S	1,2-Dichloroethane-d4(SS1)	2.105	2.003	4.8	100	0.00
34	T	Tetrahydrofuran (THF)	0.767	0.650	15.3	97	0.00
35	T	Ethyl tert-Butyl Ether	1.420	1.338	5.8	99	0.00
36	T	1,2-Dichloroethane	2.097	1.706	18.6	92	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	106	0.00
38	T	1,1,1-Trichloroethane	0.466	0.408	12.4	95	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	121	0.00
40	T	1-Butanol	0.000	0.000	0.0	76	-0.01
41	T	Benzene	1.188	0.921	22.5	100	0.00
42	T	Carbon Tetrachloride	0.365	0.363	0.5	95	0.00
43	T	Cyclohexane	0.388	0.355	8.5	99	0.00
44	T	tert-Amyl Methyl Ether	0.721	0.681	5.5	99	0.00
45	T	1,2-Dichloropropane	0.275	0.229	16.7	98	0.00
46	T	Bromodichloromethane	0.387	0.335	13.4	96	0.00
47	T	Trichloroethene	0.303	0.254	16.2	101	0.00
48	T	1,4-Dioxane	0.214	0.192	10.3	101	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.107	0.997	9.9	97	0.00
50	T	Methyl Methacrylate	0.104	0.098	5.8	100	0.00
51	T	n-Heptane	0.287	0.256	10.8	99	0.00
52	T	cis-1,3-Dichloropropene	0.445	0.419	5.8	97	0.00
53	T	4-Methyl-2-pentanone	0.232	0.213	8.2	96	0.00

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202401.D
Acq On : 20 Mar 2024 3:16
Operator : CI
Sample : CCV R16032024 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:35:35 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	T	trans-1,3-Dichloropropene	0.374	0.370	1.1	95	0.00
55	T	1,1,2-Trichloroethane	0.249	0.219	12.0	99	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	98	0.00
57	S	Toluene-d8 (SS2)	4.881	5.199	-6.5	104	0.00
58	T	Toluene	4.578	4.346	5.1	100	0.00
59	T	2-Hexanone	2.908	2.776	4.5	92	0.00
60	T	Dibromochloromethane	1.330	1.336	-0.5	99	0.00
61	T	1,2-Dibromoethane	1.276	1.261	1.2	99	0.00
62	T	n-Butyl Acetate	3.213	3.020	6.0	90	0.00
63	T	n-Octane	1.056	0.979	7.3	96	0.00
64	T	Tetrachloroethene	1.342	1.234	8.0	99	0.00
65	T	Chlorobenzene	3.113	2.847	8.5	98	0.00
66	T	Ethylbenzene	5.313	5.074	4.5	97	0.00
67	T	m- & p-Xylenes	4.267	4.021	5.8	97	0.00
68	T	Bromoform	1.082	1.071	1.0	95	0.00
69	T	Styrene	2.961	3.034	-2.5	96	0.00
70	T	o-Xylene	4.293	4.088	4.8	97	0.00
71	T	n-Nonane	2.697	2.589	4.0	96	0.00
72	T	1,1,2,2-Tetrachloroethane	1.931	1.809	6.3	96	0.00
73	S	Bromofluorobenzene (SS3)	1.644	1.705	-3.7	101	0.00
74	T	Cumene	5.519	5.256	4.8	96	0.00
75	T	alpha-Pinene	2.459	2.590	-5.3	99	0.00
76	T	n-Propylbenzene	6.725	6.276	6.7	96	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	96	0.00
78	T	4-Ethyltoluene	5.378	5.252	2.3	98	0.00
79	T	1,3,5-Trimethylbenzene	4.527	4.381	3.2	97	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	214#	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	96	0.00
82	T	1,2,4-Trimethylbenzene	4.570	4.590	-0.4	96	0.00
83	T	n-Decane	0.000	0.000	0.0	48#	0.01
84	T	Benzyl Chloride	3.192	3.843	-20.4	97	0.00
85	T	1,3-Dichlorobenzene	2.633	2.512	4.6	98	0.00
86	T	1,4-Dichlorobenzene	2.564	2.480	3.3	97	0.00
87	T	sec-Butylbenzene	6.190	5.981	3.4	97	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.291	5.133	3.0	96	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	96	0.00
90	T	1,2-Dichlorobenzene	2.535	2.425	4.3	98	0.00
91	T	d-Limonene	1.541	1.681	-9.1	96	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.821	0.903	-10.0	97	0.00
93	T	n-Undecane	0.000	0.000	0.0	0#	-21.52#
94	T	1,2,4-Trichlorobenzene	1.833	1.908	-4.1	97	0.00
95	T	Naphthalene	5.142	5.584	-8.6	96	0.00
96	T	n-Dodecane	0.000	0.000	0.0	64	0.04
97	T	Hexachlorobutadiene	1.436	1.338	6.8	97	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	106	0.02
99	T	tert-Butylbenzene	4.395	4.256	3.2	97	0.00
100	T	n-Butylbenzene	4.922	4.850	1.5	97	0.00
101	T	1,1,1,2-Tetrachloroethane	1.085	1.065	1.8	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202401.D
Acq On : 20 Mar 2024 3:16
Operator : CI
Sample : CCV R16032024 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 08:35:35 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	11.40	130	232708	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1061788	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	226100	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	12.25	65	466015	11.890	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%			
57) Toluene-d8 (SS2)	15.95	98	1175500	13.313	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.48%			
73) Bromofluorobenzene (SS3)	19.15	174	385462	12.963	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%			
Target Compounds						Qvalue
2) Propene	4.16	42	810203	24.677	ng	99
3) Dichlorodifluoromethan...	4.33	85	1163814	22.473	ng	100
4) Chloromethane	4.63	50	784332	22.952	ng	98
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	507951	24.234	ng	100
6) Vinyl Chloride	5.07	62	748465	24.250	ng	99
7) 1,3-Butadiene	5.35	54	576271	24.580	ng	99
8) Bromomethane	5.80	94	404296	22.246	ng	99
9) Chloroethane	6.15	64	399088	22.575	ng	98
10) Ethanol	6.62	45	2060715	98.771	ng	100
11) Acetonitrile	6.84	41	1057961	19.876	ng	99
12) Acrolein	7.01	56	719584	47.514	ng	100
13) Acetone	7.24	58	1805317	106.703	ng	100
14) Trichlorofluoromethane	7.45	101	1033755	22.240	ng	99
15) 2-Propanol (Isopropanol)	7.79	45	2560447	40.620	ng	100
16) Acrylonitrile	8.01	53	1352374	44.742	ng	99
17) 1,1-Dichloroethene	8.43	96	406055	18.961	ng	99
18) 2-Methyl-2-Propanol (t...	8.67	59	2376648	42.003	ng	99
19) Methylene Chloride	8.67	84	421935	17.220	ng	99
20) 3-Chloro-1-propene (Al...	8.83	41	823544	26.026	ng	99
21) Trichlorotrifluoroethane	9.08	151	378340	18.688	ng	100
22) Carbon Disulfide	8.92	76	3321974	47.773	ng	100
23) trans-1,2-Dichloroethene	9.95	61	765860	22.701	ng	100
24) 1,1-Dichloroethane	10.20	63	893050	22.167	ng	100
25) Methyl tert-Butyl Ether	10.32	73	1470181	24.014	ng	99
26) Vinyl Acetate	10.47	86	463445	154.025	ng	97
27) 2-Butanone (MEK)	10.73	72	684608	46.273	ng	99
28) cis-1,2-Dichloroethene	11.22	61	719574	22.332	ng	100
29) Diisopropyl Ether	11.53	87	955689	47.943	ng	97
30) Ethyl Acetate	11.55	61	365125	43.303	ng	99
31) n-Hexane	11.49	57	874462	22.641	ng	100
32) Chloroform	11.57	83	909945	23.106	ng	100
34) Tetrahydrofuran (THF)	11.99	72	571696	40.022	ng	99
35) Ethyl tert-Butyl Ether	12.12	87	1314252	49.715	ng	100
36) 1,2-Dichloroethane	12.36	62	809814	20.741	ng	99
38) 1,1,1-Trichloroethane	12.64	97	891819	22.511	ng	98
39) Isopropyl Acetate	13.76	61	1730	No Calib	#	
40) 1-Butanol	12.64	56	172	No Calib	#	
41) Benzene	13.12	78	1995883	19.774	ng	100
42) Carbon Tetrachloride	13.28	117	794125	25.587	ng	100
43) Cyclohexane	13.40	84	1581343	47.968	ng	97
44) tert-Amyl Methyl Ether	13.76	73	3050714	49.828	ng	98
45) 1,2-Dichloropropane	13.96	63	526281	22.565	ng	100
46) Bromodichloromethane	14.15	83	754081	22.956	ng	99
47) Trichloroethene	14.20	130	555270	21.574	ng	99
48) 1,4-Dioxane	14.20	88	423391	23.266	ng	96

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202401.D
Acq On : 20 Mar 2024 3:16
Operator : CI
Sample : CCV R16032024 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:35:35 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

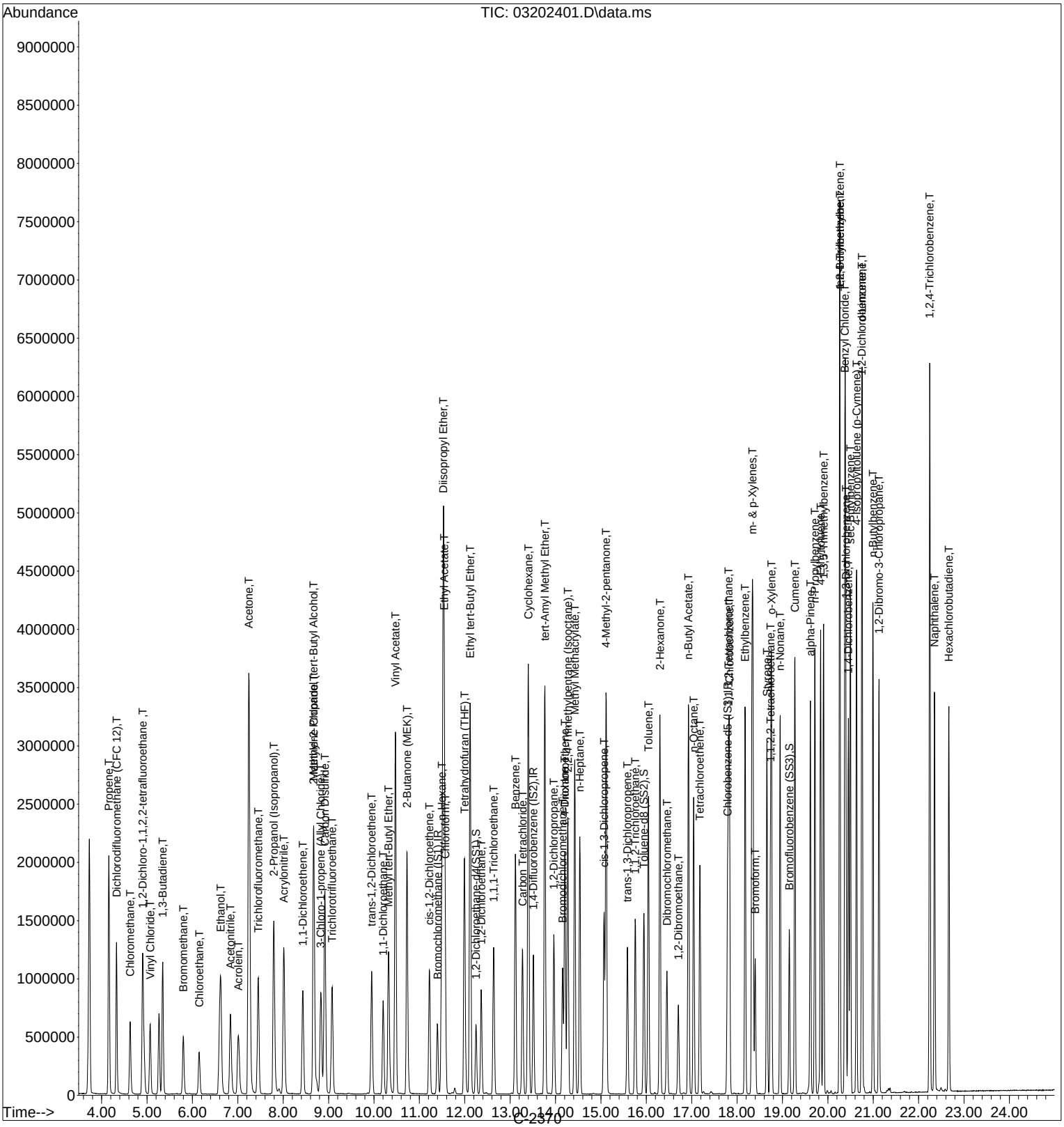
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	2265948	24.087 ng		97
50) Methyl Methacrylate	14.42	100	441011	49.791 ng		96
51) n-Heptane	14.53	71	571901	23.446 ng		98
52) cis-1,3-Dichloropropene	15.07	75	934308	24.709 ng		99
53) 4-Methyl-2-pentanone	15.11	58	949227	48.155 ng		96
54) trans-1,3-Dichloropropene	15.58	75	769946	24.238 ng		99
55) 1,1,2-Trichloroethane	15.76	97	505819	23.893 ng		100
58) Toluene	16.05	91	2122606	25.633 ng		100
59) 2-Hexanone	16.30	43	2561204	48.688 ng		97
60) Dibromochloromethane	16.45	129	616243	25.614 ng		100
61) 1,2-Dibromoethane	16.71	107	587113	25.447 ng		99
62) n-Butyl Acetate	16.93	43	2840659	48.873 ng		97
63) n-Octane	17.04	57	469337	24.572 ng		96
64) Tetrachloroethene	17.18	166	596859	24.582 ng		99
65) Chlorobenzene	17.83	112	1377656	24.469 ng		100
66) Ethylbenzene	18.17	91	2500956	26.023 ng		100
67) m- & p-Xylenes	18.34	91	3891593	50.419 ng		100
68) Bromoform	18.40	173	527948	26.969 ng		98
69) Styrene	18.66	104	1454088	27.148 ng		100
70) o-Xylene	18.76	91	1996584	25.715 ng		100
71) n-Nonane	18.95	43	1217703	24.958 ng		99
72) 1,1,2,2-Tetrachloroethane	18.74	83	883432	25.297 ng		100
74) Cumene	19.27	105	2471873	24.762 ng		100
75) alpha-Pinene	19.62	93	1253184	28.176 ng		100
76) n-Propylbenzene	19.71	91	2923320	24.031 ng		100
77) 3-Ethyltoluene	20.26	105	2158746	No Calib		
78) 4-Ethyltoluene	19.84	105	2446213	25.148 ng		100
79) 1,3,5-Trimethylbenzene	19.91	105	2139753	26.134 ng		100
80) alpha-Methylstyrene	20.63	118	40477	No Calib	#	
81) 2-Ethyltoluene	20.26	105	2158746	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	2158746	26.117 ng		99
83) n-Decane	20.38	58	454	No Calib	#	
84) Benzyl Chloride	20.37	91	3597570	62.316 ng		100
85) 1,3-Dichlorobenzene	20.40	146	1169974	24.568 ng		100
86) 1,4-Dichlorobenzene	20.45	146	1166092	25.143 ng		100
87) sec-Butylbenzene	20.50	105	2785556	24.881 ng		100
88) 4-Isopropyltoluene (p-...	20.63	119	2367622	24.739 ng		100
89) 1,2,3-Trimethylbenzene	20.26	105	2158746	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1129451	24.631 ng		99
91) d-Limonene	20.75	68	760315	27.271 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.13	157	841517	56.668 ng		98
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	22.24	180	1846288	55.696 ng		100
95) Naphthalene	22.35	128	2550563	27.422 ng		100
96) n-Dodecane	22.80	57	126	No Calib	#	
97) Hexachlorobutadiene	22.67	225	611314	23.536 ng		99
98) Cyclohexanone	18.28	55	497	No Calib	#	
99) tert-Butylbenzene	20.26	119	2001779	25.179 ng		100
100) n-Butylbenzene	20.99	91	2193211	24.637 ng		100
101) 1,1,1,2-Tetrachloroethane	17.81	131	515385	26.252 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202401.D
Acq On : 20 Mar 2024 3:16
Operator : CI
Sample : CCV R16032024 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 20 08:35:35 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202402.D
Acq On : 20 Mar 2024 3:49
Operator : CI
Sample : CCV C16032024 25ng
Misc : S37-01032403/S37-031224054 (4/11)
ALS Vial : 3 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 09:16:45 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	121	0.00
2	T	Chloropentafluoroethane	1.532	1.553	-1.4	124	-0.01
3	T	1,1,1,2-Tetrafluoroethane (	1.241	1.434	-15.6	140	0.00
4	T	1,1-Difluoroethane	1.075	1.037	3.5	112	0.00
5	T	Chlorodifluoromethane (CFC	0.401	0.431	-7.5	133	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.595	2.715	-4.6	129	0.00
7	T	Dichlorofluoromethane (CFC	2.526	2.505	0.8	123	0.00
8	T	Vinylbromide	0.870	0.917	-5.4	127	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.470	1.461	0.6	122	0.00
10	T	2-Methylbutane	1.252	1.150	8.1	111	-0.01
11	T	Methyl Acetate	2.840	2.609	8.1	113	-0.03
12	T	2-Methylpentane	1.145	1.145	0.0	120	0.00
13	T	2,2-Dichloropropane	1.253	0.892	28.8	73	0.00
14	T	1,1-Dichloropropene	1.569	1.637	-4.3	125	0.00
15	T	Thiophene	2.273	2.307	-1.5	124	0.00
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	121	0.00
17	T	2,3-Dimethylpentane	0.513	0.467	9.0	110	0.00
18	T	Dibromomethane	0.162	0.179	-10.5	136	0.00
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	115	0.00
20	T	Methyl Cyclohexane	1.752	1.756	-0.2	113	0.00
21	T	1,3-Dichloropropane	1.661	1.880	-13.2	130	0.00
22	T	1,1,1,2-Tetrachloroethane	0.910	1.112	-22.2	137	-0.01
23	T	1-Chlorohexane	1.467	1.748	-19.2	132	0.00
24	T	1,2,3-Trichloropropane	1.569	1.814	-15.6	134	0.00
25	T	Bromobenzene	1.729	2.070	-19.7	138	0.00
26	T	2-Chlorotoluene	3.280	3.777	-15.2	131	0.00
27	T	4-Chlorotoluene	3.151	3.814	-21.0	139	0.00
28	T	Indane	3.592	4.379	-21.9	135	0.00
29	T	Indene	2.613	3.659	-40.0#	149	0.00
30	T	1,2,4,5-Tetramethylbenzene	3.802	4.953	-30.3#	139	0.00
31	T	1,2,3,4-Tetramethylbenzene	3.781	4.844	-28.1	149	0.00
32	T	1,2,3,5-Tetramethylbenzene	3.666	4.790	-30.7#	148	0.00
33	T	1,2,3-Trichlorobenzene	1.173	1.770	-50.9#	173	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202402.D
Acq On : 20 Mar 2024 3:49
Operator : CI
Sample : CCV C16032024 25ng
Misc : S37-01032403/S37-031224054 (4/11)
ALS Vial : 3 Sample Multiplier: 1

CI 3/20/24

Quant Time: Mar 20 09:16:45 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration

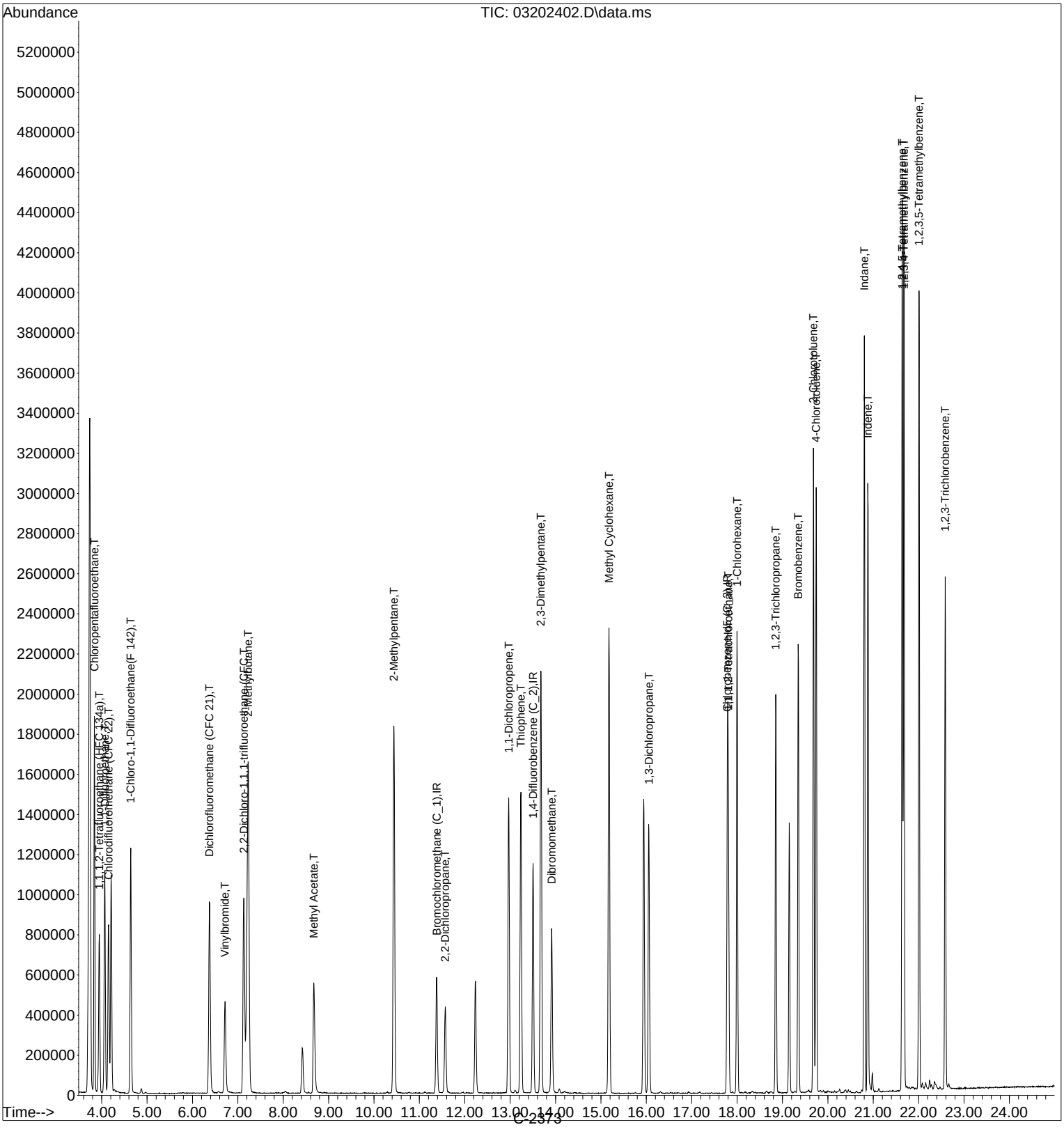
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	11.38	130	219003	12.500	ng		0.00
16) 1,4-Difluorobenzene (C_2)	13.51	114	977642	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	17.78	54	210793	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.84	85	721008	26.861	ng		95
3) 1,1,1,2-Tetrafluoroeth...	3.95	83	647053	29.767	ng		83
4) 1,1-Difluoroethane	4.07	65	490728	26.043	ng		100
5) Chlorodifluoromethane ...	4.15	67	203649	29.014	ng		75
6) 1-Chloro-1,1-Difluoroe...	4.64	65	1260369	27.722	ng		99
7) Dichlorofluoromethane ...	6.37	67	1119084	25.288	ng		99
8) Vinylbromide	6.71	108	397423	26.073	ng		100
9) 2,2-Dichloro-1,1,1-tri...	7.13	83	690916	26.826	ng		99
10) 2-Methylbutane	7.23	57	564240	25.717	ng	#	84
11) Methyl Acetate	8.67	43	994236	19.982	ng		98
12) 2-Methylpentane	10.44	71	496457	24.740	ng		90
13) 2,2-Dichloropropane	11.57	77	296792	13.521	ng		99
14) 1,1-Dichloropropene	12.97	75	738624	26.863	ng		97
15) Thiophene	13.24	84	1020678	25.626	ng		96
17) 2,3-Dimethylpentane	13.68	56	958068	23.866	ng		97
18) Dibromomethane	13.91	174	356966	28.247	ng		97
20) Methyl Cyclohexane	15.18	55	792142	26.814	ng		90
21) 1,3-Dichloropropane	16.06	76	832234	29.713	ng		91
22) 1,1,1,2-Tetrachloroethane	17.81	131	361008	23.521	ng		100
23) 1-Chlorohexane	18.00	91	759197	30.684	ng		89
24) 1,2,3-Trichloropropane	18.85	75	795485	30.059	ng		98
25) Bromobenzene	19.35	77	916474	31.427	ng		96
26) 2-Chlorotoluene	19.68	91	1735861	31.387	ng		98
27) 4-Chlorotoluene	19.74	91	1656119	31.164	ng		97
28) Indane	20.80	117	1827814	30.177	ng		99
29) Indene	20.88	115	1465547	33.260	ng		99
30) 1,2,4,5-Tetramethylben...	21.64	119	2129896	33.224	ng		98
31) 1,2,3,4-Tetramethylben...	21.68	119	2123810	33.309	ng		94
32) 1,2,3,5-Tetramethylben...	22.01	119	2059729	33.318	ng		99
33) 1,2,3-Trichlorobenzene	22.58	180	753515	38.096	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202402.D
Acq On : 20 Mar 2024 3:49
Operator : CI
Sample : CCV C16032024 25ng
Misc : S37-01032403/S37-031224054 (4/11)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 20 09:16:45 2024
Quant Method : I:\MS16\METHODS\C16021424.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 21 09:27:57 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212401.D
Acq On : 21 Mar 2024 00:24
Operator : CI
Sample : CCV R16032124 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 08:53:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	104	0.00
2	T	Propene	1.764	1.580	10.4	92	0.00
3	T	Dichlorodifluoromethane (CF	2.782	2.337	16.0	95	0.01
4	T	Chloromethane	1.836	1.516	17.4	92	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.126	0.984	12.6	98	0.01
6	T	Vinyl Chloride	1.658	1.485	10.4	97	0.01
7	T	1,3-Butadiene	1.259	1.134	9.9	94	0.00
8	T	Bromomethane	0.976	0.809	17.1	95	0.01
9	T	Chloroethane	0.950	0.740	22.1	94	0.00
10	T	Ethanol	1.121	0.836	25.4	89	0.00
11	T	Acetonitrile	2.859	2.280	20.3	95	0.00
12	T	Acrolein	0.813	0.705	13.3	93	0.00
13	T	Acetone	0.909	0.732	19.5	93	-0.01
14	T	Trichlorofluoromethane	2.497	2.127	14.8	94	0.00
15	T	2-Propanol (Isopropanol)	3.386	2.637	22.1	91	0.00
16	T	Acrylonitrile	1.624	1.401	13.7	94	0.00
17	T	1,1-Dichloroethene	1.150	0.941	18.2	96	0.00
18	T	2-Methyl-2-Propanol (tert-B	3.039	2.262	25.6	85	-0.05
19	T	Methylene Chloride	1.316	0.983	25.3	96	0.00
20	T	3-Chloro-1-propene (Allyl C	1.700	1.577	7.2	91	0.00
21	T	Trichlorotrifluoroethane	1.087	0.896	17.6	97	0.00
22	T	Carbon Disulfide	3.735	3.355	10.2	94	0.00
23	T	trans-1,2-Dichloroethene	1.812	1.505	16.9	93	0.00
24	T	1,1-Dichloroethane	2.164	1.797	17.0	93	0.00
25	T	Methyl tert-Butyl Ether	3.289	3.013	8.4	94	-0.05
26	T	Vinyl Acetate	0.162	0.195	-20.4	98	0.00
27	T	2-Butanone (MEK)	0.795	0.700	11.9	94	0.00
28	T	cis-1,2-Dichloroethene	1.731	1.433	17.2	94	0.00
29	T	Diisopropyl Ether	1.071	0.944	11.9	94	0.00
30	T	Ethyl Acetate	0.453	0.380	16.1	93	0.00
31	T	n-Hexane	2.075	1.729	16.7	92	0.00
32	T	Chloroform	2.115	1.753	17.1	93	0.00
33	S	1,2-Dichloroethane-d4(SS1)	2.105	1.969	6.5	98	0.00
34	T	Tetrahydrofuran (THF)	0.767	0.631	17.7	95	0.00
35	T	Ethyl tert-Butyl Ether	1.420	1.253	11.8	93	0.00
36	T	1,2-Dichloroethane	2.097	1.664	20.6	90	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	103	0.00
38	T	1,1,1-Trichloroethane	0.466	0.411	11.8	93	0.00
39	T	Isopropyl Acetate	0.000	0.000	0.0	164	0.00
40	T	1-Butanol	0.000	0.000	0.0	257#	0.00
41	T	Benzene	1.188	0.905	23.8	96	0.00
42	T	Carbon Tetrachloride	0.365	0.365	0.0	93	0.00
43	T	Cyclohexane	0.388	0.352	9.3	96	0.00
44	T	tert-Amyl Methyl Ether	0.721	0.654	9.3	93	0.00
45	T	1,2-Dichloropropane	0.275	0.225	18.2	94	0.00
46	T	Bromodichloromethane	0.387	0.334	13.7	93	0.00
47	T	Trichloroethene	0.303	0.252	16.8	98	0.00
48	T	1,4-Dioxane	0.214	0.188	12.1	97	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.107	0.981	11.4	94	0.00
50	T	Methyl Methacrylate	0.104	0.096	7.7	95	0.00
51	T	n-Heptane	0.287	0.249	13.2	94	0.00
52	T	cis-1,3-Dichloropropene	0.445	0.415	6.7	93	0.00
53	T	4-Methyl-2-pentanone	0.232	0.210	9.5	93	0.00

Evaluate Continuing Calibration Report

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212401.D
Acq On : 21 Mar 2024 00:24
Operator : CI
Sample : CCV R16032124 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 08:53:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
54	T	trans-1,3-Dichloropropene	0.374	0.369	1.3	93	0.00
55	T	1,1,2-Trichloroethane	0.249	0.215	13.7	95	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	86	0.00
57	S	Toluene-d8 (SS2)	4.881	5.789	-18.6	102	0.00
58	T	Toluene	4.578	4.643	-1.4	94	0.00
59	T	2-Hexanone	2.908	2.874	1.2	83	0.00
60	T	Dibromochloromethane	1.330	1.413	-6.2	92	0.00
61	T	1,2-Dibromoethane	1.276	1.360	-6.6	94	0.00
62	T	n-Butyl Acetate	3.213	2.950	8.2	77	0.00
63	T	n-Octane	1.056	0.993	6.0	85	0.00
64	T	Tetrachloroethene	1.342	1.359	-1.3	96	0.00
65	T	Chlorobenzene	3.113	3.203	-2.9	96	0.00
66	T	Ethylbenzene	5.313	5.601	-5.4	94	0.00
67	T	m- & p-Xylenes	4.267	4.398	-3.1	93	0.00
68	T	Bromoform	1.082	1.201	-11.0	94	0.00
69	T	Styrene	2.961	3.356	-13.3	93	0.00
70	T	o-Xylene	4.293	4.495	-4.7	93	0.00
71	T	n-Nonane	2.697	2.801	-3.9	91	0.00
72	T	1,1,2,2-Tetrachloroethane	1.931	2.032	-5.2	94	0.00
73	S	Bromofluorobenzene (SS3)	1.644	1.995	-21.4	104	0.00
74	T	Cumene	5.519	5.805	-5.2	93	0.00
75	T	alpha-Pinene	2.459	2.827	-15.0	95	0.00
76	T	n-Propylbenzene	6.725	6.936	-3.1	93	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	93	0.00
78	T	4-Ethyltoluene	5.378	5.731	-6.6	93	0.00
79	T	1,3,5-Trimethylbenzene	4.527	4.830	-6.7	93	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	139	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	93	0.00
82	T	1,2,4-Trimethylbenzene	4.570	5.031	-10.1	93	0.00
83	T	n-Decane	0.000	0.000	0.0	66	0.00
84	T	Benzyl Chloride	3.192	4.102	-28.5	91	0.00
85	T	1,3-Dichlorobenzene	2.633	2.749	-4.4	94	0.00
86	T	1,4-Dichlorobenzene	2.564	2.704	-5.5	92	0.00
87	T	sec-Butylbenzene	6.190	6.586	-6.4	93	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.291	5.670	-7.2	93	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	93	0.00
90	T	1,2-Dichlorobenzene	2.535	2.653	-4.7	94	0.00
91	T	d-Limonene	1.541	1.817	-17.9	91	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.821	1.000	-21.8	94	0.00
93	T	n-Undecane	0.000	0.000	0.0	91	-0.06
94	T	1,2,4-Trichlorobenzene	1.833	2.119	-15.6	94	0.00
95	T	Naphthalene	5.142	6.208	-20.7	94	0.00
96	T	n-Dodecane	0.000	0.000	0.0	63	0.02
97	T	Hexachlorobutadiene	1.436	1.475	-2.7	94	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	669#	0.08
99	T	tert-Butylbenzene	4.395	4.676	-6.4	93	0.00
100	T	n-Butylbenzene	4.922	5.327	-8.2	93	0.00
101	T	1,1,1,2-Tetrachloroethane	1.085	1.178	-8.6	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212401.D
Acq On : 21 Mar 2024 00:24
Operator : CI
Sample : CCV R16032124 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

CI 3/21/24

Quant Time: Mar 21 08:53:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	11.40	130	233015	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	13.51	114	1035706	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	17.79	54	198045	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	12.25	65	458742	11.689	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%				
57) Toluene-d8 (SS2)	15.94	98	1146541	14.825	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 118.56%				
73) Bromofluorobenzene (SS3)	19.15	174	395073	15.169	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 121.36%				
Target Compounds							Qvalue
2) Propene	4.16	42	773013	23.514	ng		99
3) Dichlorodifluoromethan...	4.33	85	1132696	21.843	ng		100
4) Chloromethane	4.63	50	756052	22.095	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	4.91	135	499854	23.816	ng		99
6) Vinyl Chloride	5.08	62	733705	23.740	ng		100
7) 1,3-Butadiene	5.35	54	560135	23.860	ng		98
8) Bromomethane	5.81	94	384471	21.128	ng		99
9) Chloroethane	6.15	64	379347	21.430	ng		100
10) Ethanol	6.62	45	1912664	91.554	ng		100
11) Acetonitrile	6.84	41	1019983	19.138	ng		100
12) Acrolein	7.02	56	706172	46.567	ng		99
13) Acetone	7.25	58	1743001	102.884	ng		96
14) Trichlorofluoromethane	7.45	101	1001174	21.510	ng		100
15) 2-Propanol (Isopropanol)	7.79	45	2432982	38.547	ng		99
16) Acrylonitrile	8.01	53	1305953	43.149	ng		99
17) 1,1-Dichloroethene	8.43	96	394474	18.396	ng		96
18) 2-Methyl-2-Propanol (t...	8.67	59	2192816	38.703	ng		99
19) Methylene Chloride	8.68	84	416966	16.995	ng		97
20) 3-Chloro-1-propene (Al...	8.83	41	793599	25.046	ng		98
21) Trichlorotrifluoroethane	9.08	151	375804	18.538	ng		99
22) Carbon Disulfide	8.92	76	3236464	46.482	ng		100
23) trans-1,2-Dichloroethene	9.95	61	736618	21.805	ng		96
24) 1,1-Dichloroethane	10.20	63	862784	21.387	ng		100
25) Methyl tert-Butyl Ether	10.32	73	1502614	24.512	ng		100
26) Vinyl Acetate	10.47	86	488062	161.992	ng	#	91
27) 2-Butanone (MEK)	10.72	72	661975	44.685	ng		96
28) cis-1,2-Dichloroethene	11.22	61	687947	21.322	ng		98
29) Diisopropyl Ether	11.53	87	923441	46.264	ng	#	94
30) Ethyl Acetate	11.54	61	346970	41.096	ng		100
31) n-Hexane	11.49	57	846129	21.878	ng		100
32) Chloroform	11.57	83	874225	22.170	ng		100
34) Tetrahydrofuran (THF)	11.99	72	555591	38.843	ng		96
35) Ethyl tert-Butyl Ether	12.12	87	1232104	46.546	ng		97
36) 1,2-Dichloroethane	12.36	62	790960	20.231	ng		99
38) 1,1,1-Trichloroethane	12.64	97	875848	22.665	ng		98
39) Isopropyl Acetate	13.76	61	2337	No Calib		#	
40) 1-Butanol	12.64	56	583	No Calib		#	
41) Benzene	13.12	78	1912617	19.426	ng		100
42) Carbon Tetrachloride	13.27	117	778344	25.710	ng		100
43) Cyclohexane	13.40	84	1530529	47.596	ng		98
44) tert-Amyl Methyl Ether	13.76	73	2858997	47.872	ng		98
45) 1,2-Dichloropropane	13.96	63	503620	22.137	ng		98
46) Bromodichloromethane	14.16	83	734032	22.908	ng		100
47) Trichloroethene	14.20	130	536649	21.376	ng		100
48) 1,4-Dioxane	14.20	88	405466	22.842	ng		96

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212401.D
Acq On : 21 Mar 2024 00:24
Operator : CI
Sample : CCV R16032124 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 08:53:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration

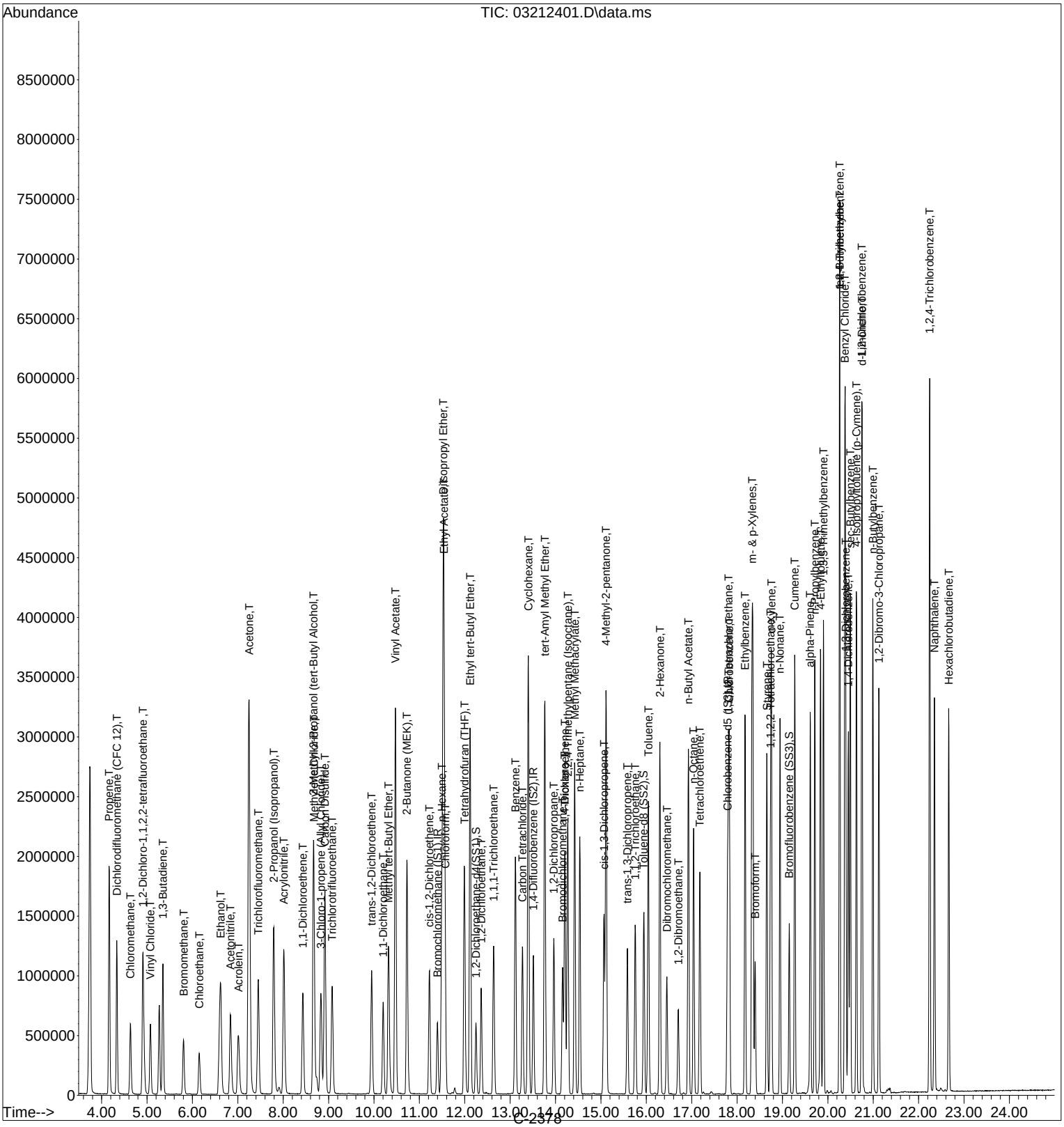
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	14.27	57	2174520	23.697 ng		98
50) Methyl Methacrylate	14.42	100	421324	48.766 ng		96
51) n-Heptane	14.53	71	541427	22.756 ng		99
52) cis-1,3-Dichloropropene	15.07	75	903465	24.495 ng		100
53) 4-Methyl-2-pentanone	15.11	58	913657	47.517 ng		99
54) trans-1,3-Dichloropropene	15.58	75	748385	24.153 ng		99
55) 1,1,2-Trichloroethane	15.76	97	485684	23.520 ng		100
58) Toluene	16.05	91	1986118	27.382 ng		100
59) 2-Hexanone	16.30	43	2322045	50.395 ng		94
60) Dibromochloromethane	16.45	129	571016	27.096 ng		100
61) 1,2-Dibromoethane	16.71	107	554855	27.455 ng		99
62) n-Butyl Acetate	16.93	43	2430704	47.744 ng		95
63) n-Octane	17.04	57	416998	24.925 ng		91
64) Tetrachloroethene	17.18	166	575938	27.081 ng		100
65) Chlorobenzene	17.83	112	1357471	27.526 ng		99
66) Ethylbenzene	18.17	91	2418050	28.724 ng		98
67) m- & p-Xylenes	18.33	91	3727907	55.140 ng		98
68) Bromoform	18.40	173	518600	30.244 ng		98
69) Styrene	18.66	104	1409104	30.035 ng		99
70) o-Xylene	18.76	91	1922705	28.271 ng		98
71) n-Nonane	18.94	43	1153904	27.001 ng		98
72) 1,1,2,2-Tetrachloroethane	18.74	83	869258	28.418 ng		100
74) Cumene	19.27	105	2391348	27.348 ng		99
75) alpha-Pinene	19.61	93	1198086	30.753 ng		100
76) n-Propylbenzene	19.71	91	2829754	26.557 ng		99
77) 3-Ethyltoluene	20.26	105	2071788	No Calib		
78) 4-Ethyltoluene	19.84	105	2337965	27.440 ng		100
79) 1,3,5-Trimethylbenzene	19.90	105	2066055	28.808 ng		100
80) alpha-Methylstyrene	20.62	118	26151	No Calib	#	
81) 2-Ethyltoluene	20.26	105	2071788	No Calib		
82) 1,2,4-Trimethylbenzene	20.26	105	2072425	28.624 ng		98
83) n-Decane	20.37	58	619	No Calib	#	
84) Benzyl Chloride	20.37	91	3363539	66.515 ng		99
85) 1,3-Dichlorobenzene	20.40	146	1121716	26.891 ng		100
86) 1,4-Dichlorobenzene	20.45	146	1113760	27.417 ng		100
87) sec-Butylbenzene	20.50	105	2686939	27.400 ng		100
88) 4-Isopropyltoluene (p-...	20.63	119	2290644	27.325 ng		99
89) 1,2,3-Trimethylbenzene	20.26	105	2071788	No Calib		
90) 1,2-Dichlorobenzene	20.75	146	1082507	26.951 ng		99
91) d-Limonene	20.75	68	719561	29.465 ng		99
92) 1,2-Dibromo-3-Chloropr...	21.13	157	816139	62.744 ng		96
93) n-Undecane	21.46	58	116	No Calib	#	
94) 1,2,4-Trichlorobenzene	22.24	180	1795812	61.848 ng		99
95) Naphthalene	22.35	128	2483390	30.482 ng		100
96) n-Dodecane	22.79	57	123	No Calib	#	
97) Hexachlorobutadiene	22.67	225	590029	25.934 ng		100
98) Cyclohexanone	18.35	55	3136	No Calib	#	
99) tert-Butylbenzene	20.26	119	1926201	27.661 ng		99
100) n-Butylbenzene	20.99	91	2110051	27.061 ng		99
101) 1,1,1,2-Tetrachloroethane	17.81	131	499373	29.040 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212401.D
Acq On : 21 Mar 2024 00:24
Operator : CI
Sample : CCV R16032124 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 21 08:53:20 2024
Quant Method : I:\MS16\METHODS\R16031924.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 19 09:41:16 2024
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 22 08:31:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/22/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	109	0.05
2	T	Propene	1.424	1.249	12.3	103	0.02
3	T	Dichlorodifluoromethane (CF	2.564	2.266	11.6	101	0.03
4	T	Chloromethane	1.906	1.730	9.2	102	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.127	1.044	7.4	104	0.03
6	T	Vinyl Chloride	1.781	1.685	5.4	105	0.02
7	T	1,3-Butadiene	1.396	1.349	3.4	104	0.02
8	T	Bromomethane	1.042	0.965	7.4	103	0.03
9	T	Chloroethane	0.781	0.731	6.4	104	0.03
10	T	Ethanol	1.208	1.103	8.7	102	-0.01
11	T	Acetonitrile	2.772	2.462	11.2	101	0.00
12	T	Acrolein	0.866	0.832	3.9	103	0.01
13	T	Acetone	0.919	0.838	8.8	103	0.01
14	T	Trichlorofluoromethane	2.482	2.262	8.9	101	0.03
15	T	2-Propanol (Isopropanol)	3.661	3.522	3.8	101	0.00
16	T	Acrylonitrile	1.780	1.676	5.8	103	0.01
17	T	1,1-Dichloroethene	1.082	1.017	6.0	103	0.03
18	T	2-Methyl-2-Propanol (tert-B	2.187	2.298	-5.1	107	0.00
19	T	Methylene Chloride	1.337	1.117	16.5	103	0.03
20	T	3-Chloro-1-propene (Allyl C	1.979	1.997	-0.9	101	0.03
21	T	Trichlorotrifluoroethane	1.046	0.976	6.7	102	0.04
22	T	Carbon Disulfide	4.165	4.018	3.5	103	0.03
23	T	trans-1,2-Dichloroethene	1.842	1.732	6.0	102	0.04
24	T	1,1-Dichloroethane	2.183	2.029	7.1	102	0.04
25	T	Methyl tert-Butyl Ether	2.229	2.500	-12.2	109	0.04
26	T	Vinyl Acetate	0.205	0.226	-10.2	104	0.04
27	T	2-Butanone (MEK)	0.752	0.731	2.8	103	0.03
28	T	cis-1,2-Dichloroethene	1.782	1.640	8.0	102	0.04
29	T	Diisopropyl Ether	0.882	0.854	3.2	104	0.06
30	T	Ethyl Acetate	0.451	0.463	-2.7	104	0.04
31	T	n-Hexane	1.944	1.875	3.5	104	0.06
32	T	Chloroform	2.167	2.001	7.7	102	0.05
33	S	1,2-Dichloroethane-d4(SS1)	2.045	1.989	2.7	107	0.05
34	T	Tetrahydrofuran (THF)	0.681	0.671	1.5	103	0.06
35	T	Ethyl tert-Butyl Ether	0.836	0.902	-7.9	108	0.06
36	T	1,2-Dichloroethane	2.024	1.835	9.3	100	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	109	0.03
38	T	1,1,1-Trichloroethane	0.496	0.465	6.2	101	0.03
39	T	Isopropyl Acetate	0.000	0.000	0.0	89	0.02
40	T	1-Butanol	0.000	0.000	0.0	92	0.03
41	T	Benzene	1.125	1.022	9.2	103	0.03
42	T	Carbon Tetrachloride	0.442	0.422	4.5	100	0.03
43	T	Cyclohexane	0.356	0.347	2.5	103	0.03
44	T	tert-Amyl Methyl Ether	0.500	0.527	-5.4	108	0.03
45	T	1,2-Dichloropropane	0.274	0.256	6.6	103	0.03
46	T	Bromodichloromethane	0.415	0.384	7.5	101	0.03
47	T	Trichloroethene	0.303	0.273	9.9	103	0.04
48	T	1,4-Dioxane	0.196	0.205	-4.6	102	0.03
49	T	2,2,4-Trimethylpentane (Iso	1.124	1.073	4.5	103	0.04
50	T	Methyl Methacrylate	0.092	0.098	-6.5	103	0.03
51	T	n-Heptane	0.241	0.235	2.5	103	0.05
52	T	cis-1,3-Dichloropropene	0.456	0.468	-2.6	103	0.04
53	T	4-Methyl-2-pentanone	0.241	0.253	-5.0	103	0.03
54	T	trans-1,3-Dichloropropene	0.392	0.421	-7.4	102	0.05
55	T	1,1,2-Trichloroethane	0.256	0.245	4.3	102	0.05

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 22 08:31:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	104	0.01
57	S	Toluene-d8 (SS2)	5.019	5.161	-2.8	109	-0.01
58	T	Toluene	4.790	4.539	5.2	103	-0.02
59	T	2-Hexanone	2.783	3.022	-8.6	101	-0.02
60	T	Dibromochloromethane	1.543	1.482	4.0	101	-0.02
61	T	1,2-Dibromoethane	1.345	1.360	-1.1	102	-0.02
62	T	n-Butyl Acetate	3.081	3.349	-8.7	102	-0.02
63	T	n-Octane	1.012	1.021	-0.9	102	-0.01
64	T	Tetrachloroethene	1.473	1.384	6.0	101	-0.01
65	T	Chlorobenzene	3.229	3.076	4.7	101	-0.01
66	T	Ethylbenzene	5.480	5.401	1.4	102	-0.01
67	T	m- & p-Xylenes	4.550	4.509	0.9	102	-0.01
68	T	Bromoform	1.305	1.287	1.4	101	0.00
69	T	Styrene	3.116	3.330	-6.9	101	-0.01
70	T	o-Xylene	4.487	4.405	1.8	101	-0.02
71	T	n-Nonane	2.585	2.598	-0.5	101	0.00
72	T	1,1,2,2-Tetrachloroethane	2.122	2.043	3.7	102	-0.01
73	S	Bromofluorobenzene (SS3)	1.769	1.804	-2.0	106	0.00
74	T	Cumene	5.495	5.367	2.3	102	-0.01
75	T	alpha-Pinene	2.713	2.868	-5.7	102	0.00
76	T	n-Propylbenzene	6.664	6.596	1.0	101	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	102	-0.01
78	T	4-Ethyltoluene	5.309	5.320	-0.2	102	0.00
79	T	1,3,5-Trimethylbenzene	4.599	4.593	0.1	101	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	103	-0.02
81	T	2-Ethyltoluene	0.000	0.000	0.0	102	-0.01
82	T	1,2,4-Trimethylbenzene	4.786	4.905	-2.5	101	-0.01
83	T	n-Decane	0.000	0.000	0.0	103	0.00
84	T	Benzyl Chloride	3.740	4.444	-18.8	100	-0.01
85	T	1,3-Dichlorobenzene	2.957	2.880	2.6	100	-0.01
86	T	1,4-Dichlorobenzene	2.908	2.837	2.4	100	0.00
87	T	sec-Butylbenzene	6.144	6.090	0.9	101	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.273	5.269	0.1	100	-0.01
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	102	-0.01
90	T	1,2-Dichlorobenzene	2.840	2.770	2.5	101	0.00
91	T	d-Limonene	1.676	1.846	-10.1	101	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.981	1.014	-3.4	100	-0.01
93	T	n-Undecane	0.000	0.000	0.0	100	-0.01
94	T	1,2,4-Trichlorobenzene	2.078	2.246	-8.1	98	0.00
95	T	Naphthalene	5.507	6.540	-18.8	97	0.00
96	T	n-Dodecane	0.000	0.000	0.0	92	0.00
97	T	Hexachlorobutadiene	1.699	1.575	7.3	99	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	70	0.00
99	T	tert-Butylbenzene	4.495	4.374	2.7	100	0.00
100	T	n-Butylbenzene	5.070	5.138	-1.3	100	0.00
101	T	1,1,1,2-Tetrachloroethane	1.166	1.175	-0.8	101	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 22 08:31:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/22/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	167298	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	712626	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	157126	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	332824	12.160	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 97.28%				
57) Toluene-d8 (SS2)	12.44	98	810856	12.853	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
73) Bromofluorobenzene (SS3)	16.83	174	283402	12.742	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	3.27	42	438950	23.038	ng		100
3) Dichlorodifluoromethan...	3.35	85	788602	22.982	ng		100
4) Chloromethane	3.49	50	619529	24.283	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	380729	25.234	ng		100
6) Vinyl Chloride	3.68	62	597606	25.073	ng		100
7) 1,3-Butadiene	3.80	54	478546m	25.610	ng		
8) Bromomethane	4.01	94	329478	23.631	ng		100
9) Chloroethane	4.15	64	268876	25.714	ng		100
10) Ethanol	4.35	45	1812564	112.113	ng		100
11) Acetonitrile	4.47	41	790703	21.311	ng		100
12) Acrolein	4.55	56	598493	51.655	ng		100
13) Acetone	4.65	58	1432605	116.433	ng		96
14) Trichlorofluoromethane	4.76	101	764580	23.021	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	2333032	47.617	ng		100
16) Acrylonitrile	5.03	53	1121255	47.060	ng		99
17) 1,1-Dichloroethene	5.26	96	306381	21.165	ng		99
18) 2-Methyl-2-Propanol (t...	5.37	59	1599080	54.630	ng		98
19) Methylene Chloride	5.39	84	340013	19.001	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	721504	27.237	ng		99
21) Trichlorotrifluoroethane	5.58	151	293783	20.985	ng		99
22) Carbon Disulfide	5.60	76	2782811	49.921	ng		100
23) trans-1,2-Dichloroethene	6.16	61	608379	24.672	ng		100
24) 1,1-Dichloroethane	6.35	63	699265	23.930	ng		100
25) Methyl tert-Butyl Ether	6.38	73	895111	30.008	ng		100
26) Vinyl Acetate	6.48	86	405196	148.028	ng	#	96
27) 2-Butanone (MEK)	6.69	72	496307	49.340	ng		96
28) cis-1,2-Dichloroethene	7.11	61	565237	23.694	ng		100
29) Diisopropyl Ether	7.30	87	600411	50.872	ng		97
30) Ethyl Acetate	7.30	61	303402	50.261	ng		99
31) n-Hexane	7.31	57	658847	25.322	ng		100
32) Chloroform	7.40	83	716479	24.707	ng		100
34) Tetrahydrofuran (THF)	7.76	72	424048	46.548	ng		98
35) Ethyl tert-Butyl Ether	7.84	87	636615	56.867	ng		100
36) 1,2-Dichloroethane	8.15	62	626122	23.116	ng		100
38) 1,1,1-Trichloroethane	8.42	97	682169	24.115	ng		100
39) Isopropyl Acetate	9.60	61	773	No Calib		#	
40) 1-Butanol	8.83	56	2028	No Calib			
41) Benzene	8.92	78	1486168	23.173	ng		99
42) Carbon Tetrachloride	9.09	117	620208	24.596	ng		100
43) Cyclohexane	9.24	84	1037588	51.146	ng		100
44) tert-Amyl Methyl Ether	9.61	73	1585587	55.660	ng		99
45) 1,2-Dichloropropane	9.88	63	393493	25.208	ng		100
46) Bromodichloromethane	10.10	83	579549	24.509	ng		100
47) Trichloroethene	10.17	130	401482	23.230	ng		100
48) 1,4-Dioxane	10.13	88	304215	27.176	ng		99
49) 2,2,4-Trimethylpentane...	10.25	57	1636190	25.539	ng		99
50) Methyl Methacrylate	10.42	100	296179	56.325	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 22 08:31:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

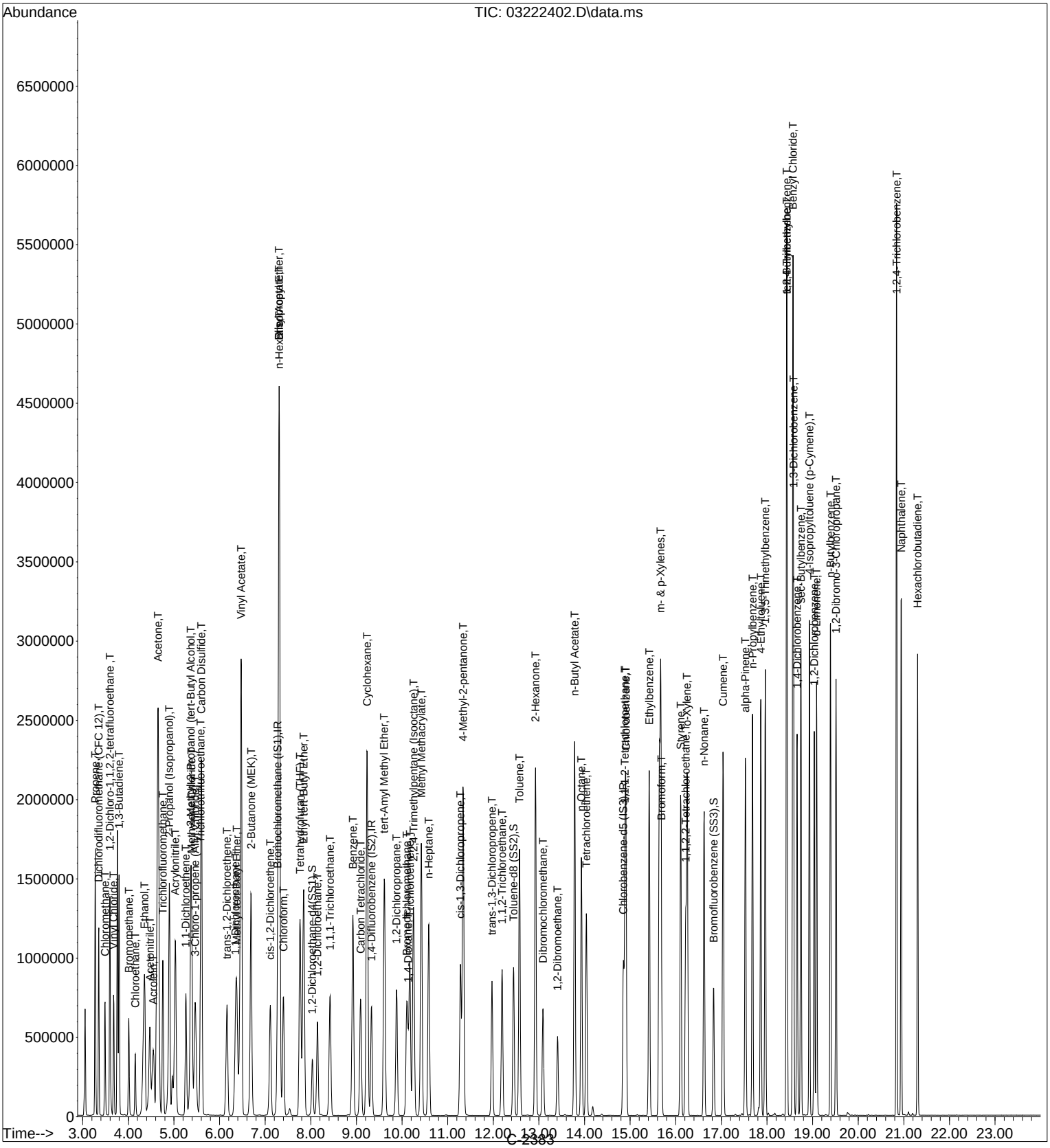
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	351713	25.651 ng		100
52) cis-1,3-Dichloropropene	11.28	75	700065	26.907 ng		100
53) 4-Methyl-2-pentanone	11.34	58	756713	55.030 ng		99
54) trans-1,3-Dichloropropene	11.97	75	588011	26.299 ng		100
55) 1,1,2-Trichloroethane	12.19	97	380654	26.090 ng		100
58) Toluene	12.57	91	1540568	25.584 ng		99
59) 2-Hexanone	12.93	43	1937028	55.361 ng		99
60) Dibromochloromethane	13.09	129	474878	24.480 ng		100
61) 1,2-Dibromoethane	13.41	107	440311	26.048 ng		100
62) n-Butyl Acetate	13.78	43	2189068	56.525 ng		99
63) n-Octane	13.93	57	340043	26.738 ng		99
64) Tetrachloroethene	14.04	166	465396	25.142 ng		100
65) Chlorobenzene	14.91	112	1034410	25.483 ng		99
66) Ethylbenzene	15.42	91	1849992	26.859 ng		99
67) m- & p-Xylenes	15.67	91	3032285	53.012 ng		100
68) Bromoform	15.69	173	440986	26.888 ng		100
69) Styrene	16.11	104	1109323	28.322 ng		100
70) o-Xylene	16.25	91	1495189	26.510 ng		100
71) n-Nonane	16.62	43	849003	26.129 ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	693217	25.993 ng		100
74) Cumene	17.04	105	1753969	25.391 ng		99
75) alpha-Pinene	17.53	93	964255	28.273 ng		100
76) n-Propylbenzene	17.68	91	2134855	25.487 ng		100
77) 3-Ethyltoluene	17.04	105	1753969	No Calib		
78) 4-Ethyltoluene	17.87	105	1721909	25.802 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1558725	26.961 ng		99
80) alpha-Methylstyrene	17.03	118	3360	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1753969	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1603064	26.647 ng		100
83) n-Decane	17.04	58	14158	No Calib		
84) Benzyl Chloride	18.57	91	2890713	48.887 ng		100
85) 1,3-Dichlorobenzene	18.58	146	932202	25.083 ng		100
86) 1,4-Dichlorobenzene	18.66	146	927047	25.360 ng		100
87) sec-Butylbenzene	18.75	105	1971268	25.526 ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1688894	25.483 ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1753969	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	896671	25.119 ng		100
91) d-Limonene	19.09	68	580256	27.547 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	656218	53.205 ng		99
93) n-Undecane	17.86	58	27072	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1510295	57.809 ng		100
95) Naphthalene	20.94	128	2075703	23.505 ng		100
96) n-Dodecane	18.93	58	42047	No Calib	#	
97) Hexachlorobutadiene	21.30	225	499851	23.405 ng		100
98) Cyclohexanone	15.43	55	4154	No Calib	#	
99) tert-Butylbenzene	18.43	119	1429407	25.297 ng		100
100) n-Butylbenzene	19.39	91	1614595	25.333 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	394946	26.939 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

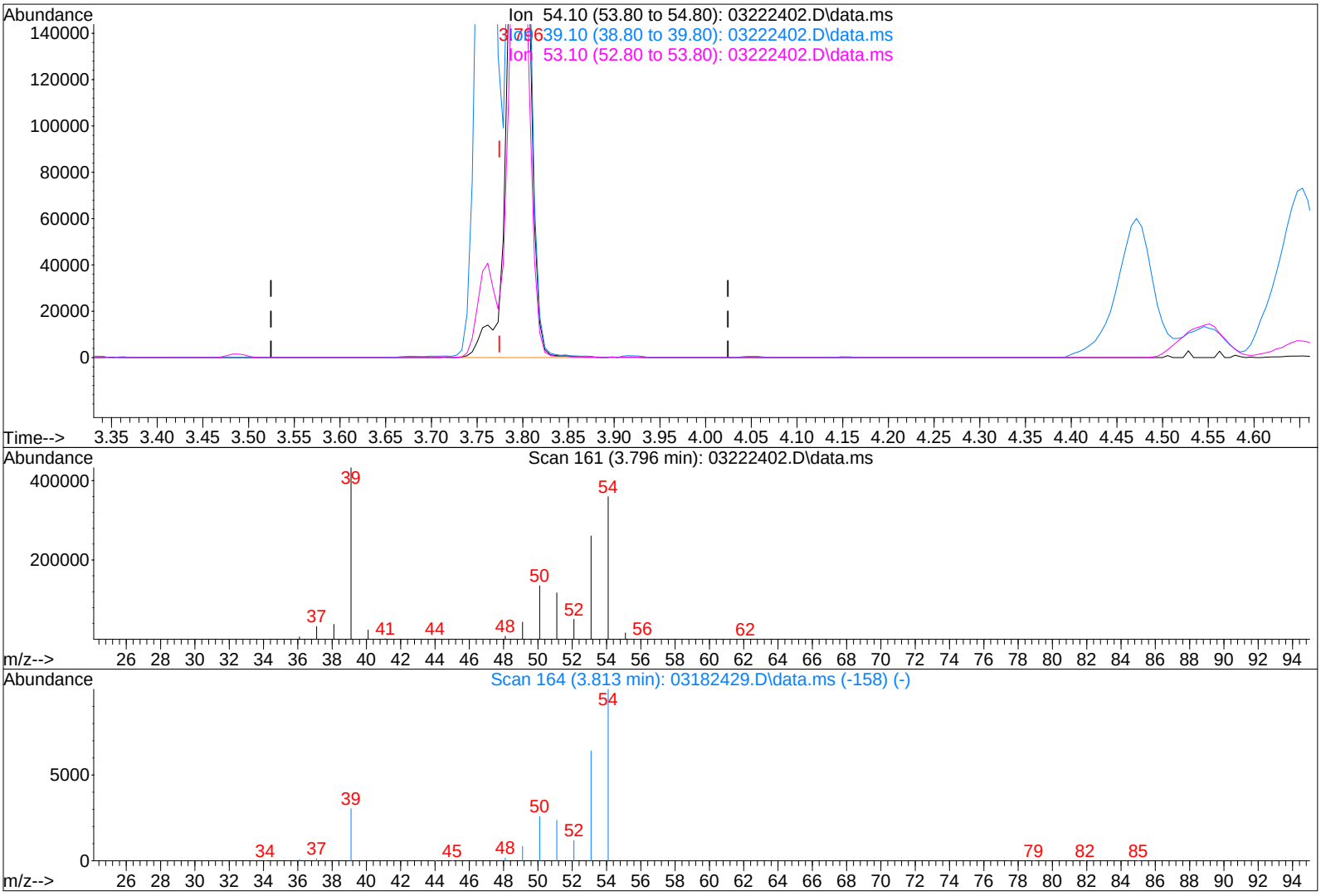
Quant Time: Mar 22 08:31:24 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 22 08:30:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222402.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (+0.021) 26.54ng

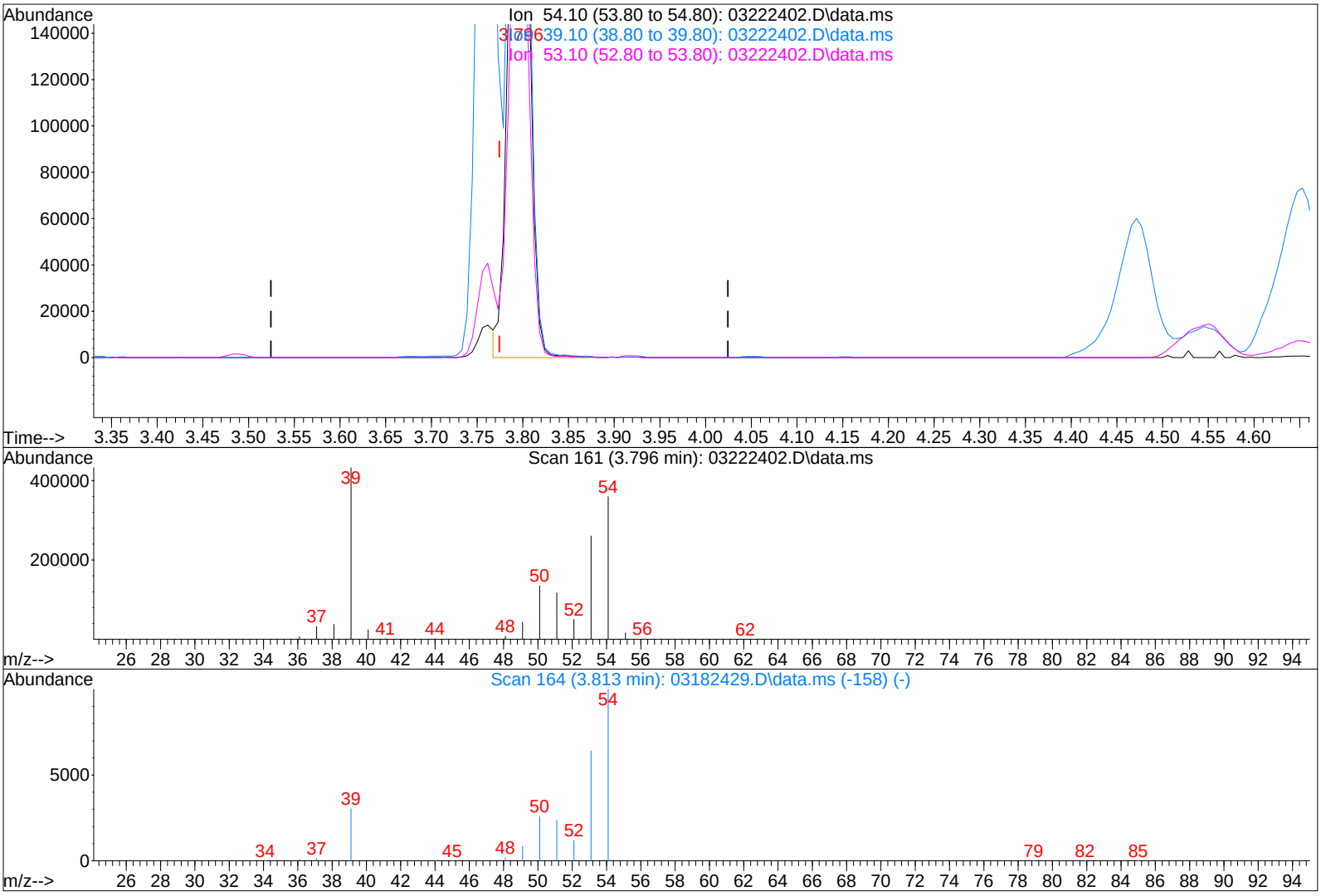
response 495890

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	110.76
53.10	67.90	69.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\22\03222402.D Vial: 2
Acq On : 22 Mar 2024 00:06 Operator: SC
Sample : CCV R09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282402 (3/29)

Quant Time: Mar 22 08:30:58 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 22 08:19:00 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03222402.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (+0.021) 25.61ng m

response 478546

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	114.77
53.10	67.90	72.15
0.00	0.00	0.00

IPC 3/22/24

CG 3/22/24

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\22\03222403.D Vial: 3
Acq On : 22 Mar 2024 00:38 Operator: SC
Sample : CCV C09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282404 (3/29)

Quant Time: Mar 22 08:43:58 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/22/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	103	-0.02
2	T	Chloropentafluoroethane	1.324	1.363	-2.9	106	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.150	1.119	2.7	102	0.00
4	T	1,1-Difluoroethane	0.947	0.955	-0.8	104	-0.01
5	T	Chlorodifluoromethane (CFC	0.367	0.370	-0.8	105	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.426	2.420	0.2	103	0.00
7	T	Dichlorofluoromethane (CFC	2.439	2.551	-4.6	108	0.00
8	T	Vinylbromide	0.938	0.961	-2.5	106	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.531	1.540	-0.6	105	0.00
10	T	2-Methylbutane	1.252	1.180	5.8	101	0.00
11	T	Methyl Acetate	3.219	2.636	18.1	88	-0.02
12	T	2-Methylpentane	0.940	0.972	-3.4	109	-0.01
13	T	2,2-Dichloropropane	1.411	1.451	-2.8	105	-0.02
14	T	1,1-Dichloropropene	1.558	1.606	-3.1	107	-0.02
15	T	Thiophene	2.246	2.277	-1.4	105	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	101	-0.02
17	T	2,3-Dimethylpentane	0.505	0.481	4.8	97	-0.02
18	T	Dibromomethane	0.202	0.191	5.4	98	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	101	-0.01
20	T	Methyl Cyclohexane	1.964	1.863	5.1	96	-0.02
21	T	1,3-Dichloropropane	1.669	1.769	-6.0	109	-0.02
22	T	1,1,1,2-Tetrachloroethane	1.004	1.005	-0.1	101	-0.01
23	T	1-Chlorohexane	1.602	1.681	-4.9	106	-0.02
24	T	1,2,3-Trichloropropane	1.729	1.847	-6.8	110	-0.01
25	T	Bromobenzene	1.964	2.247	-14.4	118	-0.01
26	T	2-Chlorotoluene	3.751	4.024	-7.3	110	-0.01
27	T	4-Chlorotoluene	3.882	4.160	-7.2	115	-0.01
28	T	Indane	4.239	4.739	-11.8	113	-0.01
29	T	Indene	3.554	3.901	-9.8	112	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.611	5.379	-16.7	120	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.578	5.201	-13.6	116	-0.02
32	T	1,2,3,5-Tetramethylbenzene	4.447	5.232	-17.7	122	-0.02
33	T	1,2,3-Trichlorobenzene	1.797	2.147	-19.5	125	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222403.D Vial: 3
Acq On : 22 Mar 2024 00:38 Operator: SC
Sample : CCV C09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282404 (3/29)

3/22/24

Quant Time: Mar 22 08:43:58 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

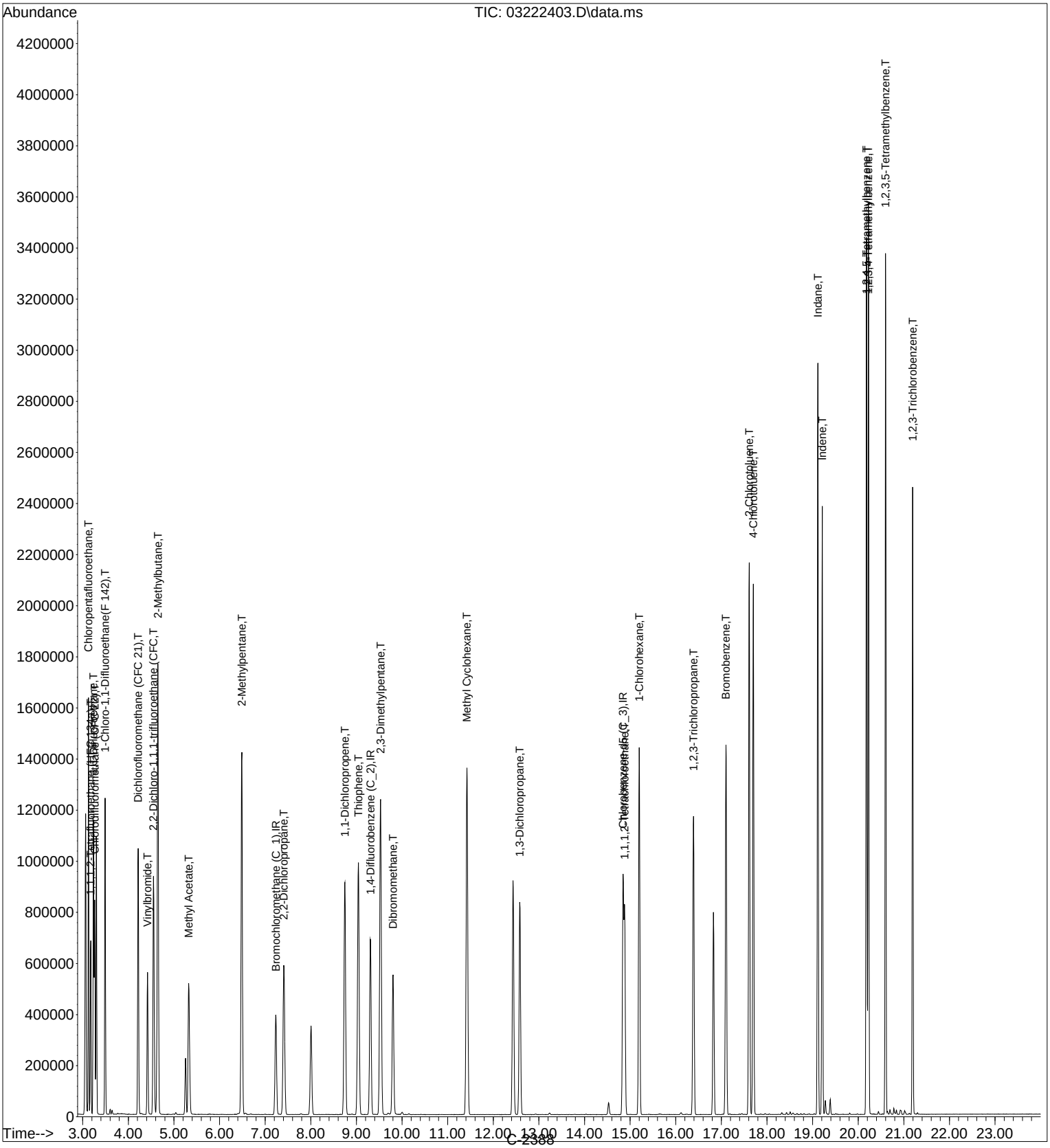
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	161192	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	683699	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	149699	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	457036	26.761	ng		97
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	368125	24.825	ng		98
4) 1,1-Difluoroethane	3.23	65	326402	26.732	ng		82
5) Chlorodifluoromethane ...	3.26	67	126283	26.670	ng		74
6) 1-Chloro-1,1-Difluoroe...	3.49	65	811376	25.933	ng		100
7) Dichlorofluoromethane ...	4.22	67	830688	26.415	ng		100
8) Vinylbromide	4.42	108	306807	25.356	ng		97
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	521388	26.417	ng		99
10) 2-Methylbutane	4.65	57	388160	24.042	ng		83
11) Methyl Acetate	5.32	43	824347	19.858	ng	#	93
12) 2-Methylpentane	6.49	71	313225	25.846	ng	#	66
13) 2,2-Dichloropropane	7.41	77	463017	25.440	ng		99
14) 1,1-Dichloropropene	8.75	75	538603	26.812	ng		90
15) Thiophene	9.04	84	741466	25.597	ng		93
17) 2,3-Dimethylpentane	9.53	56	683587	24.763	ng		91
18) Dibromomethane	9.80	174	282517	25.634	ng		92
20) Methyl Cyclohexane	11.42	55	596706	25.372	ng		92
21) 1,3-Dichloropropane	12.58	76	556230	27.824	ng		89
22) 1,1,1,2-Tetrachloroethane	14.88	131	264765	22.009	ng		99
23) 1-Chlorohexane	15.20	91	518341	27.018	ng		95
24) 1,2,3-Trichloropropane	16.39	75	580529	28.029	ng		100
25) Bromobenzene	17.10	77	706508	30.038	ng		89
26) 2-Chlorotoluene	17.61	91	1277132	28.427	ng		99
27) 4-Chlorotoluene	17.70	91	1257921	27.058	ng		99
28) Indane	19.12	117	1390430	27.388	ng		98
29) Indene	19.21	115	1086227	25.524	ng		96
30) 1,2,4,5-Tetramethylben...	20.18	119	1610428	29.163	ng		98
31) 1,2,3,4-Tetramethylben...	20.22	119	1572866	28.688	ng		96
32) 1,2,3,5-Tetramethylben...	20.60	119	1550639	29.118	ng		98
33) 1,2,3-Trichlorobenzene	21.19	180	642688	29.856	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\22\03222403.D Vial: 3
Acq On : 22 Mar 2024 00:38 Operator: SC
Sample : CCV C09032224 25ng Inst : MS09
Misc : S37-02202408/S37-02282404 (3/29)

Quant Time: Mar 22 08:43:58 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

Quant Time: Mar 25 13:32:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	89	0.05
2	T	Propene	1.424	1.253	12.0	84	0.03
3	T	Dichlorodifluoromethane (CF	2.564	2.419	5.7	89	0.03
4	T	Chloromethane	1.906	1.757	7.8	84	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.127	1.097	2.7	90	0.03
6	T	Vinyl Chloride	1.781	1.743	2.1	89	0.03
7	T	1,3-Butadiene	1.396	1.350	3.3	85	0.03
8	T	Bromomethane	1.042	1.036	0.6	90	0.03
9	T	Chloroethane	0.781	0.766	1.9	89	0.03
10	T	Ethanol	1.208	1.075	11.0	81	0.00
11	T	Acetonitrile	2.772	2.380	14.1	80	0.01
12	T	Acrolein	0.866	0.799	7.7	81	0.02
13	T	Acetone	0.919	0.830	9.7	84	0.01
14	T	Trichlorofluoromethane	2.482	2.447	1.4	89	0.04
15	T	2-Propanol (Isopropanol)	3.661	3.418	6.6	80	0.00
16	T	Acrylonitrile	1.780	1.601	10.1	80	0.02
17	T	1,1-Dichloroethene	1.082	1.071	1.0	89	0.04
18	T	2-Methyl-2-Propanol (tert-B	2.187	2.249	-2.8	86	0.01
19	T	Methylene Chloride	1.337	1.177	12.0	89	0.03
20	T	3-Chloro-1-propene (Allyl C	1.979	1.964	0.8	81	0.03
21	T	Trichlorotrifluoroethane	1.046	1.083	-3.5	93	0.05
22	T	Carbon Disulfide	4.165	4.246	-1.9	89	0.04
23	T	trans-1,2-Dichloroethene	1.842	1.778	3.5	86	0.04
24	T	1,1-Dichloroethane	2.183	2.149	1.6	89	0.04
25	T	Methyl tert-Butyl Ether	2.229	2.625	-17.8	93	0.04
26	T	Vinyl Acetate	0.205	0.237	-15.6	90	0.04
27	T	2-Butanone (MEK)	0.752	0.772	-2.7	89	0.03
28	T	cis-1,2-Dichloroethene	1.782	1.689	5.2	86	0.04
29	T	Diisopropyl Ether	0.882	0.916	-3.9	91	0.06
30	T	Ethyl Acetate	0.451	0.464	-2.9	85	0.05
31	T	n-Hexane	1.944	1.926	0.9	87	0.06
32	T	Chloroform	2.167	2.117	2.3	88	0.05
33	S	1,2-Dichloroethane-d4(SS1)	2.045	1.962	4.1	86	0.06
34	T	Tetrahydrofuran (THF)	0.681	0.711	-4.4	90	0.06
35	T	Ethyl tert-Butyl Ether	0.836	0.943	-12.8	92	0.06
36	T	1,2-Dichloroethane	2.024	1.945	3.9	87	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	90	0.03
38	T	1,1,1-Trichloroethane	0.496	0.488	1.6	87	0.03
39	T	Isopropyl Acetate	0.000	0.000	0.0	96	0.04
40	T	1-Butanol	0.000	0.000	0.0	104	0.03
41	T	Benzene	1.125	1.067	5.2	89	0.04
42	T	Carbon Tetrachloride	0.442	0.459	-3.8	90	0.04
43	T	Cyclohexane	0.356	0.374	-5.1	92	0.04
44	T	tert-Amyl Methyl Ether	0.500	0.539	-7.8	91	0.04
45	T	1,2-Dichloropropane	0.274	0.267	2.6	89	0.04
46	T	Bromodichloromethane	0.415	0.407	1.9	88	0.04
47	T	Trichloroethene	0.303	0.297	2.0	92	0.05
48	T	1,4-Dioxane	0.196	0.217	-10.7	89	0.04
49	T	2,2,4-Trimethylpentane (Iso	1.124	1.079	4.0	86	0.05
50	T	Methyl Methacrylate	0.092	0.102	-10.9	88	0.04
51	T	n-Heptane	0.241	0.254	-5.4	92	0.05
52	T	cis-1,3-Dichloropropene	0.456	0.501	-9.9	91	0.05
53	T	4-Methyl-2-pentanone	0.241	0.250	-3.7	84	0.04
54	T	trans-1,3-Dichloropropene	0.392	0.445	-13.5	89	0.06
55	T	1,1,2-Trichloroethane	0.256	0.258	-0.8	89	0.06

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

Quant Time: Mar 25 13:32:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	78	0.01
57	S	Toluene-d8 (SS2)	5.019	5.665	-12.9	89	-0.01
58	T	Toluene	4.790	5.322	-11.1	90	-0.02
59	T	2-Hexanone	2.783	3.289	-18.2	82	-0.02
60	T	Dibromochloromethane	1.543	1.762	-14.2	90	-0.02
61	T	1,2-Dibromoethane	1.345	1.578	-17.3	88	-0.02
62	T	n-Butyl Acetate	3.081	3.578	-16.1	81	-0.02
63	T	n-Octane	1.012	1.152	-13.8	86	-0.01
64	T	Tetrachloroethene	1.473	1.680	-14.1	92	-0.01
65	T	Chlorobenzene	3.229	3.730	-15.5	92	-0.01
66	T	Ethylbenzene	5.480	6.344	-15.8	89	-0.01
67	T	m- & p-Xylenes	4.550	5.318	-16.9	90	-0.01
68	T	Bromoform	1.305	1.547	-18.5	90	-0.01
69	T	Styrene	3.116	3.919	-25.8	89	-0.01
70	T	o-Xylene	4.487	5.186	-15.6	89	-0.01
71	T	n-Nonane	2.585	2.936	-13.6	85	0.00
72	T	1,1,2,2-Tetrachloroethane	2.122	2.403	-13.2	90	-0.01
73	S	Bromofluorobenzene (SS3)	1.769	1.898	-7.3	83	0.00
74	T	Cumene	5.495	6.371	-15.9	90	-0.01
75	T	alpha-Pinene	2.713	3.395	-25.1	90	0.00
76	T	n-Propylbenzene	6.664	7.818	-17.3	90	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	90	-0.01
78	T	4-Ethyltoluene	5.309	6.337	-19.4	90	0.00
79	T	1,3,5-Trimethylbenzene	4.599	5.451	-18.5	90	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	95	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	90	-0.01
82	T	1,2,4-Trimethylbenzene	4.786	5.890	-23.1	90	-0.01
83	T	n-Decane	0.000	0.000	0.0	86	0.00
84	T	Benzyl Chloride	3.740	5.189	-38.7#	87	-0.02
85	T	1,3-Dichlorobenzene	2.957	3.418	-15.6	89	-0.01
86	T	1,4-Dichlorobenzene	2.908	3.346	-15.1	88	0.00
87	T	sec-Butylbenzene	6.144	7.252	-18.0	89	0.00
88	T	4-Isopropyltoluene (p-Cymen	5.273	6.319	-19.8	90	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	90	-0.01
90	T	1,2-Dichlorobenzene	2.840	3.278	-15.4	89	0.00
91	T	d-Limonene	1.676	2.112	-26.0	86	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.981	1.247	-27.1	92	-0.01
93	T	n-Undecane	0.000	0.000	0.0	85	0.00
94	T	1,2,4-Trichlorobenzene	2.078	2.724	-31.1#	89	0.00
95	T	Naphthalene	5.507	7.687	-39.6#	85	0.00
96	T	n-Dodecane	0.000	0.000	0.0	75	0.00
97	T	Hexachlorobutadiene	1.699	1.941	-14.2	91	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	35#	0.00
99	T	tert-Butylbenzene	4.495	5.335	-18.7	91	0.00
100	T	n-Butylbenzene	5.070	6.088	-20.1	88	0.00
101	T	1,1,1,2-Tetrachloroethane	1.166	1.413	-21.2	90	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

Quant Time: Mar 25 13:32:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	136979	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	588463	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	117161	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	268728	11.992	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%				
57) Toluene-d8 (SS2)	12.44	98	663704	14.109	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.88%				
73) Bromofluorobenzene (SS3)	16.83	174	222334	13.406	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.28%				
Target Compounds							Qvalue
2) Propene	3.28	42	360554	23.112	ng		100
3) Dichlorodifluoromethan...	3.35	85	689283	24.534	ng		100
4) Chloromethane	3.49	50	515099	24.658	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	327566	26.515	ng		99
6) Vinyl Chloride	3.68	62	506270	25.943	ng		98
7) 1,3-Butadiene	3.80	54	392029m	25.624	ng		
8) Bromomethane	4.01	94	289405	25.351	ng		99
9) Chloroethane	4.15	64	230886	26.968	ng		100
10) Ethanol	4.36	45	1445927	109.231	ng		100
11) Acetonitrile	4.48	41	625813	20.600	ng		100
12) Acrolein	4.55	56	470707	49.619	ng		99
13) Acetone	4.65	58	1162172	115.361	ng		99
14) Trichlorofluoromethane	4.76	101	677018	24.896	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	1854182	46.220	ng		99
16) Acrylonitrile	5.03	53	877465	44.979	ng		99
17) 1,1-Dichloroethene	5.27	96	264048	22.278	ng		96
18) 2-Methyl-2-Propanol (t...	5.37	59	1281752	53.482	ng		99
19) Methylene Chloride	5.39	84	293433	20.028	ng		94
20) 3-Chloro-1-propene (Al...	5.47	41	581105	26.793	ng		94
21) Trichlorotrifluoroethane	5.59	151	267016	23.294	ng		97
22) Carbon Disulfide	5.61	76	2407733	52.752	ng		100
23) trans-1,2-Dichloroethene	6.16	61	511455	25.332	ng		98
24) 1,1-Dichloroethane	6.35	63	606417	25.346	ng		99
25) Methyl tert-Butyl Ether	6.38	73	769491	31.507	ng		98
26) Vinyl Acetate	6.48	86	348358	155.433	ng	#	79
27) 2-Butanone (MEK)	6.69	72	429181	52.111	ng	#	85
28) cis-1,2-Dichloroethene	7.11	61	476485	24.395	ng		98
29) Diisopropyl Ether	7.31	87	527150	54.551	ng	#	86
30) Ethyl Acetate	7.31	61	249292	50.438	ng		98
31) n-Hexane	7.31	57	554165	26.013	ng		98
32) Chloroform	7.40	83	620680	26.141	ng		100
34) Tetrahydrofuran (THF)	7.77	72	368166	49.359	ng		92
35) Ethyl tert-Butyl Ether	7.84	87	545371	59.499	ng		92
36) 1,2-Dichloroethane	8.15	62	543405	24.502	ng		99
38) 1,1,1-Trichloroethane	8.42	97	592053	25.345	ng		100
39) Isopropyl Acetate	9.62	61	834	No Calib		#	
40) 1-Butanol	8.83	56	2297	No Calib			
41) Benzene	8.92	78	1280536	24.180	ng		99
42) Carbon Tetrachloride	9.09	117	555969	26.700	ng		100
43) Cyclohexane	9.24	84	925395	55.240	ng		92
44) tert-Amyl Methyl Ether	9.61	73	1337670	56.865	ng		98
45) 1,2-Dichloropropane	9.88	63	338801	26.284	ng		97
46) Bromodichloromethane	10.10	83	507417	25.986	ng		100
47) Trichloroethene	10.17	130	359624	25.198	ng		100
48) 1,4-Dioxane	10.13	88	265394	28.710	ng		96
49) 2,2,4-Trimethylpentane...	10.25	57	1358879	25.686	ng		99
50) Methyl Methacrylate	10.42	100	253496	58.380	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

Quant Time: Mar 25 13:32:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

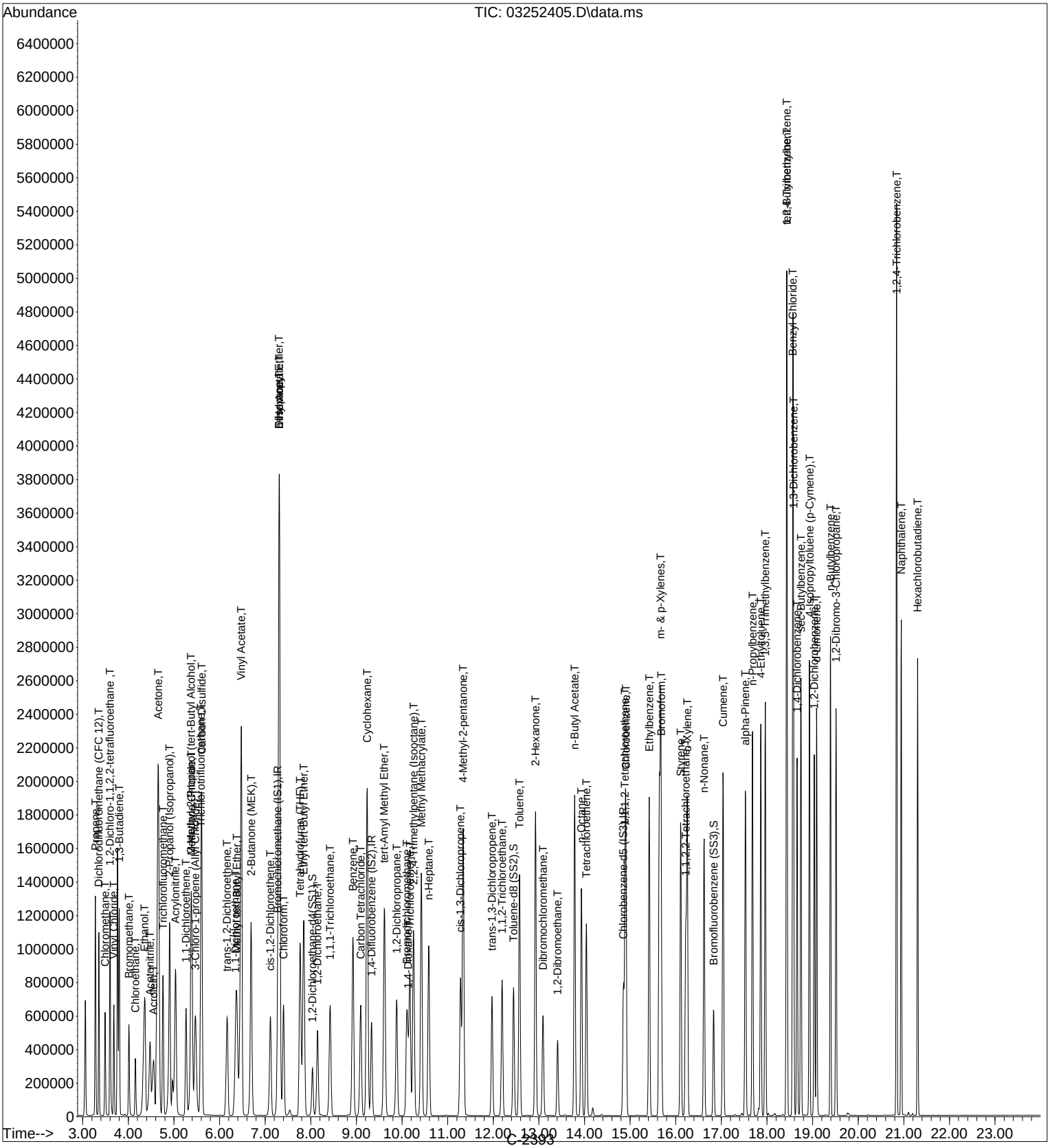
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	313784	27.713 ng		95
52) cis-1,3-Dichloropropene	11.28	75	619253	28.823 ng		100
53) 4-Methyl-2-pentanone	11.34	58	617904	54.417 ng		98
54) trans-1,3-Dichloropropene	11.97	75	513444	27.809 ng		100
55) 1,1,2-Trichloroethane	12.19	97	331586	27.522 ng		99
58) Toluene	12.57	91	1346827	29.996 ng		99
59) 2-Hexanone	12.93	43	1572104	60.258 ng		99
60) Dibromochloromethane	13.09	129	421107	29.113 ng		99
61) 1,2-Dibromoethane	13.41	107	380873	30.218 ng		100
62) n-Butyl Acetate	13.78	43	1743653	60.382 ng		99
63) n-Octane	13.93	57	286143	30.175 ng		93
64) Tetrachloroethene	14.04	166	421141	30.513 ng		99
65) Chlorobenzene	14.91	112	935284	30.901 ng		100
66) Ethylbenzene	15.42	91	1620283	31.548 ng		99
67) m- & p-Xylenes	15.67	91	2666752	62.525 ng		99
68) Bromoform	15.68	173	395043	32.303 ng		99
69) Styrene	16.11	104	973303	33.326 ng		99
70) o-Xylene	16.25	91	1312432	31.208 ng		99
71) n-Nonane	16.62	43	715525	29.532 ng		98
72) 1,1,2,2-Tetrachloroethane	16.22	83	608041	30.576 ng		100
74) Cumene	17.04	105	1552480	30.141 ng		99
75) alpha-Pinene	17.53	93	851248	33.474 ng		99
76) n-Propylbenzene	17.68	91	1887001	30.213 ng		99
77) 3-Ethyltoluene	17.04	105	1552480	No Calib		
78) 4-Ethyltoluene	17.87	105	1529451	30.736 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1379424	31.999 ng		99
80) alpha-Methylstyrene	17.04	118	3086	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1552480	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1435261	31.996 ng		99
83) n-Decane	17.04	58	11877	No Calib		
84) Benzyl Chloride	18.57	91	2517012	57.445 ng		99
85) 1,3-Dichlorobenzene	18.58	146	824917	29.768 ng		98
86) 1,4-Dichlorobenzene	18.66	146	815504	29.919 ng		98
87) sec-Butylbenzene	18.75	105	1750278	30.395 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1510177	30.559 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1552480	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	791256	29.727 ng		99
91) d-Limonene	19.09	68	494923	31.511 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	602015	65.460 ng		97
93) n-Undecane	17.87	58	22929	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1366055	70.124 ng		98
95) Naphthalene	20.94	128	1819213	27.769 ng		100
96) n-Dodecane	18.93	58	34278	No Calib	#	
97) Hexachlorobutadiene	21.30	225	459443	28.851 ng		99
98) Cyclohexanone	15.43	55	2063	No Calib	#	
99) tert-Butylbenzene	18.43	119	1300043	30.855 ng		100
100) n-Butylbenzene	19.39	91	1426642	30.020 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	354254	32.405 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

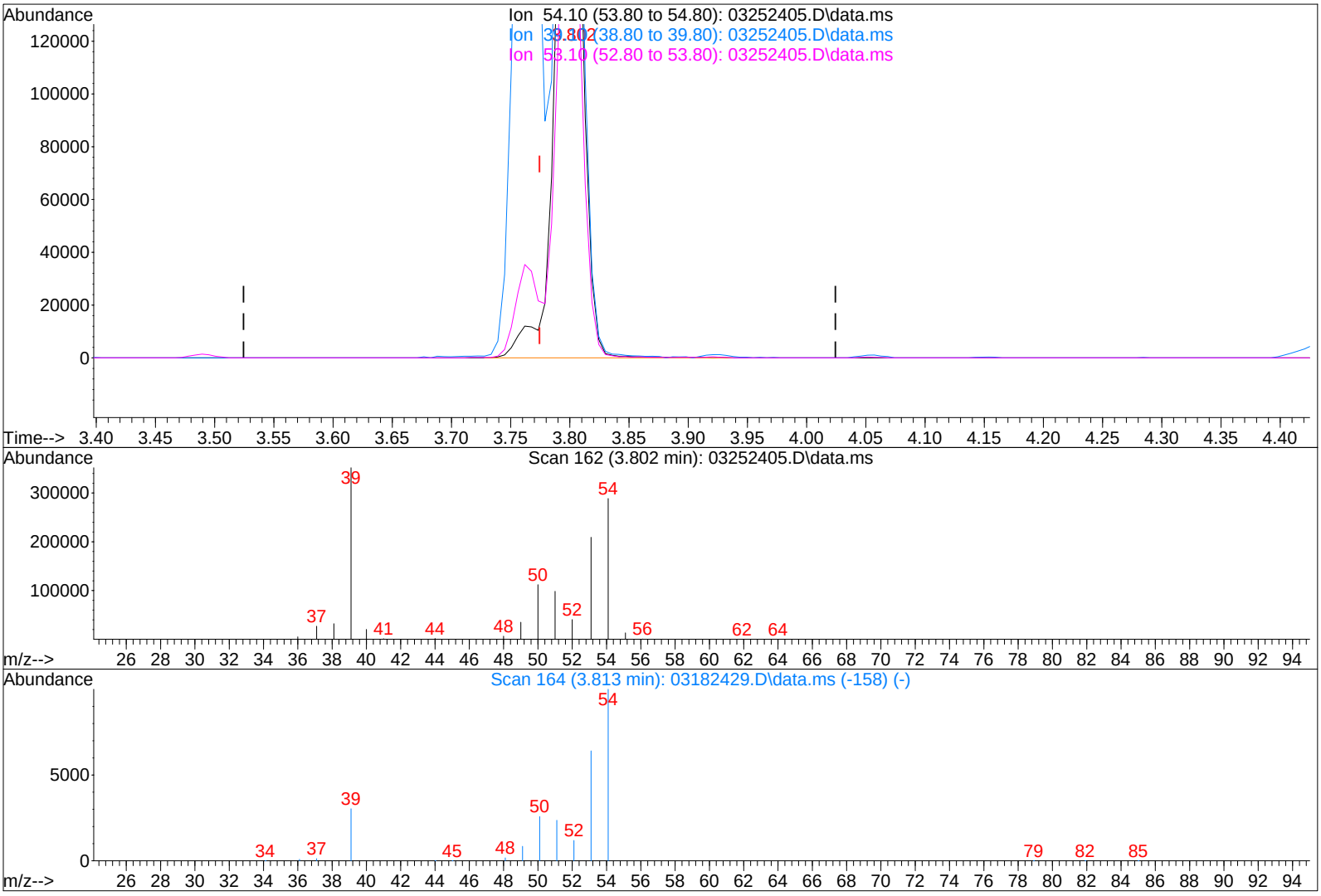
Quant Time: Mar 25 13:32:25 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

Quant Time: Mar 25 13:29:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252405.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.027) 26.76ng

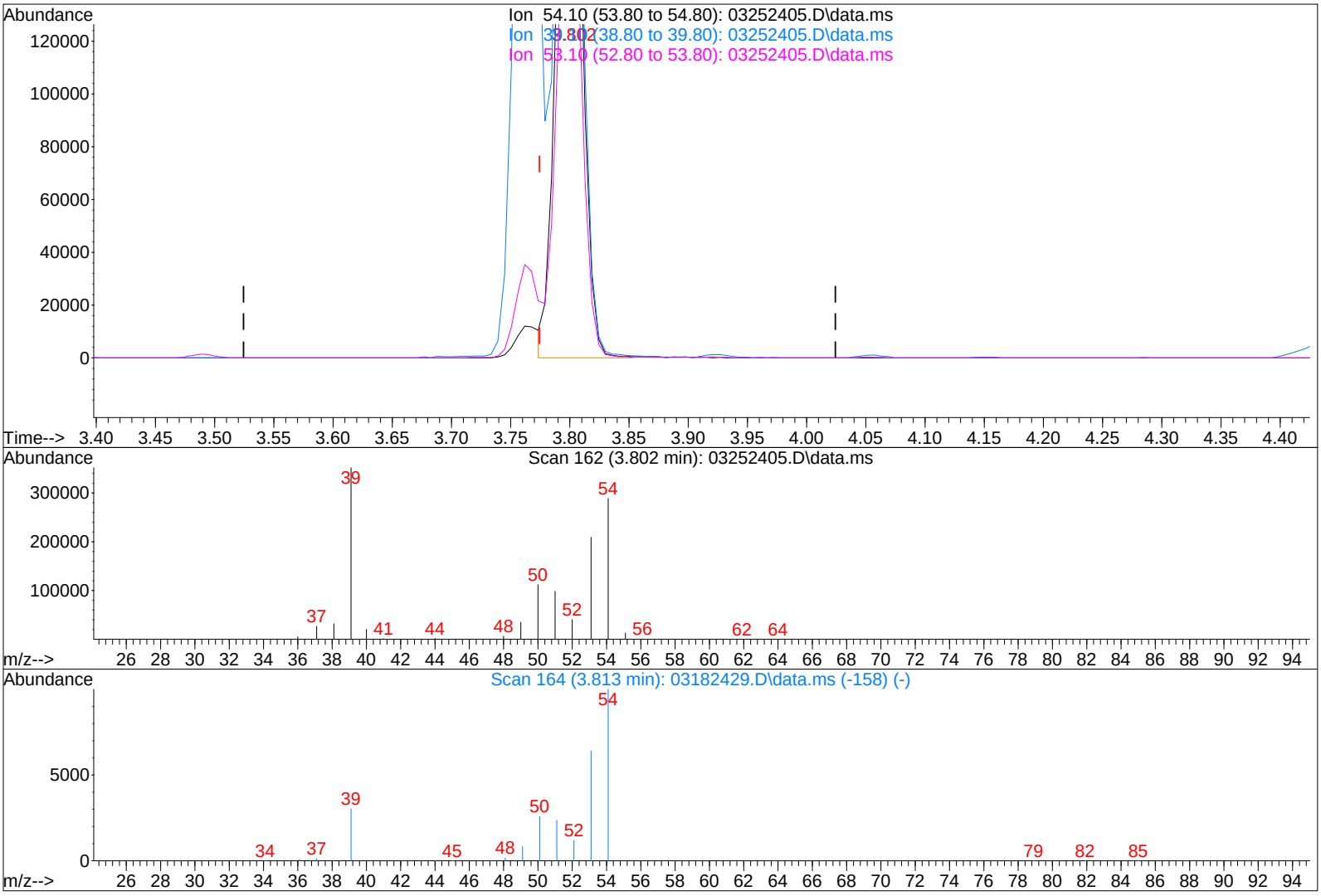
response 409471

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	117.28
53.10	67.90	68.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 03\25\03252405.D Vial: 2
Acq On : 25 Mar 2024 12:52 Operator: SC
Sample : CCV R09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03182401 (4/27)

Quant Time: Mar 25 13:29:53 2024
Quant Method : I:\MS09\METHODS\R09031824.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Mar 25 09:49:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 03252405.D\data.ms

IPC

3/25/24

3/26/24

(7) 1,3-Butadiene (T)

3.802min (+0.027) 25.62ng m

response 392029

Ion	Exp%	Act%
54.10	100	100
39.10	115.10	122.50
53.10	67.90	71.41
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 03\25\03252407.D Vial: 3
Acq On : 25 Mar 2024 14:18 Operator: SC
Sample : CCV C09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03122405 (4/11)

3/25/24

Quant Time: Mar 25 14:43:45 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	97	-0.02
2	T	Chloropentafluoroethane	1.324	1.351	-2.0	99	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.150	1.167	-1.5	100	-0.01
4	T	1,1-Difluoroethane	0.947	0.962	-1.6	98	-0.01
5	T	Chlorodifluoromethane (CFC	0.367	0.376	-2.5	101	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.426	2.507	-3.3	100	0.00
7	T	Dichlorofluoromethane (CFC	2.439	2.570	-5.4	102	-0.01
8	T	Vinylbromide	0.938	0.980	-4.5	101	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.531	1.522	0.6	97	0.00
10	T	2-Methylbutane	1.252	1.132	9.6	91	0.00
11	T	Methyl Acetate	3.219	2.437	24.3	76	-0.02
12	T	2-Methylpentane	0.940	0.993	-5.6	104	-0.01
13	T	2,2-Dichloropropane	1.411	1.465	-3.8	100	-0.02
14	T	1,1-Dichloropropene	1.558	1.633	-4.8	102	-0.02
15	T	Thiophene	2.246	2.345	-4.4	102	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	95	-0.02
17	T	2,3-Dimethylpentane	0.505	0.450	10.9	86	-0.02
18	T	Dibromomethane	0.202	0.192	5.0	92	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	87	-0.01
20	T	Methyl Cyclohexane	1.964	1.890	3.8	84	-0.02
21	T	1,3-Dichloropropane	1.669	1.932	-15.8	102	-0.02
22	T	1,1,1,2-Tetrachloroethane	1.004	1.107	-10.3	95	-0.01
23	T	1-Chlorohexane	1.602	1.809	-12.9	98	-0.02
24	T	1,2,3-Trichloropropane	1.729	2.040	-18.0	105	-0.01
25	T	Bromobenzene	1.964	2.377	-21.0	108	-0.01
26	T	2-Chlorotoluene	3.751	4.319	-15.1	101	-0.01
27	T	4-Chlorotoluene	3.882	4.355	-12.2	103	-0.01
28	T	Indane	4.239	5.142	-21.3	105	-0.01
29	T	Indene	3.554	4.276	-20.3	106	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.611	5.847	-26.8	112	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.578	5.698	-24.5	109	-0.02
32	T	1,2,3,5-Tetramethylbenzene	4.447	5.674	-27.6	114	-0.01
33	T	1,2,3-Trichlorobenzene	1.797	2.240	-24.7	113	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252407.D Vial: 3
Acq On : 25 Mar 2024 14:18 Operator: SC
Sample : CCV C09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03122405 (4/11)

Quant Time: Mar 25 14:43:45 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

3/25/24

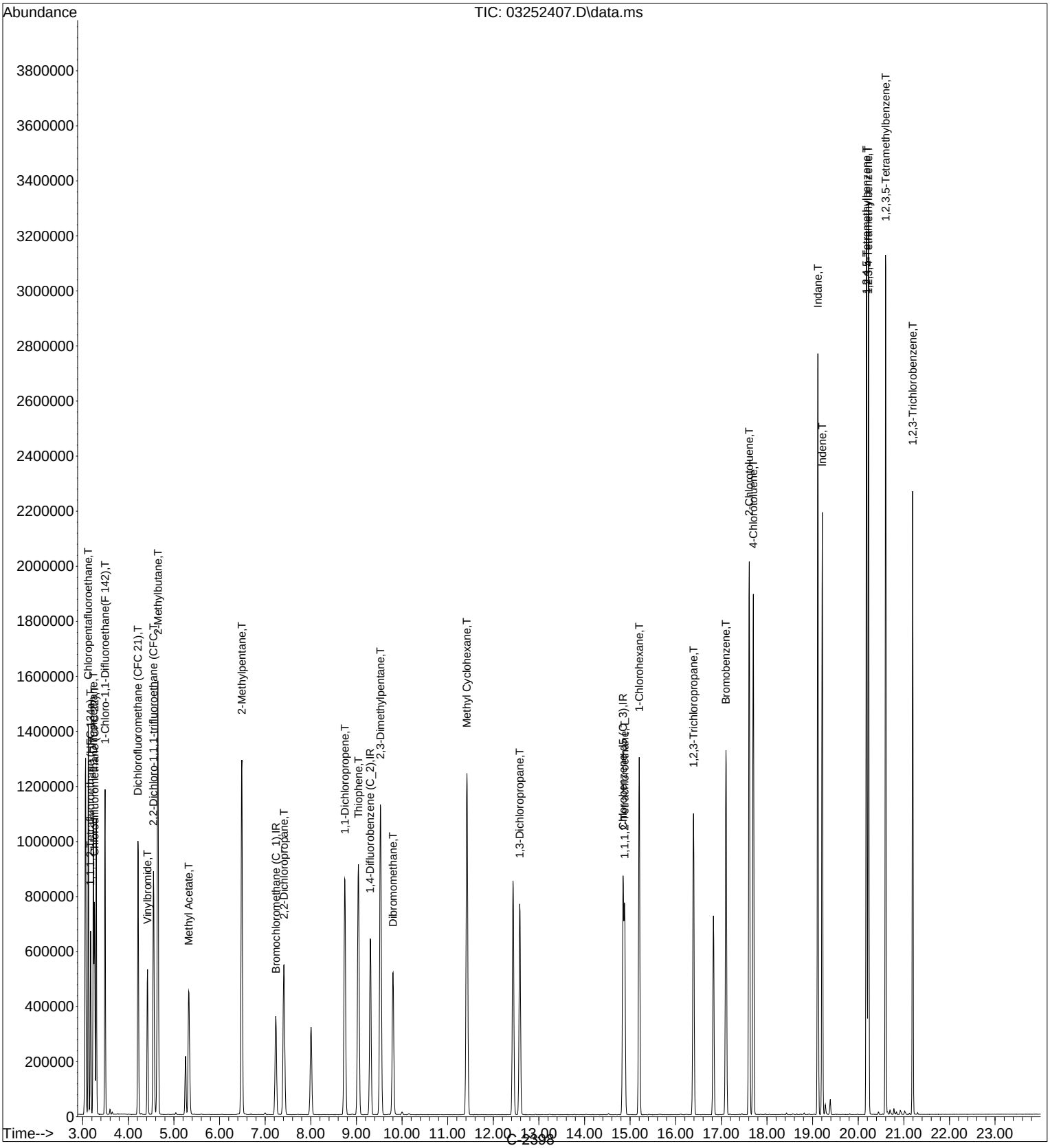
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	151367	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	643667	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	128848	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	425259	26.516	ng		98
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	360311	25.875	ng		98
4) 1,1-Difluoroethane	3.23	65	308856	26.937	ng	#	25
5) Chlorodifluoromethane ...	3.26	67	120676	27.140	ng	#	1
6) 1-Chloro-1,1-Difluoroe...	3.49	65	789401	26.869	ng		100
7) Dichlorofluoromethane ...	4.21	67	785860	26.612	ng		99
8) Vinylbromide	4.42	108	293735	25.851	ng		96
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	483821	26.104	ng		97
10) 2-Methylbutane	4.65	57	349405	23.047	ng		82
11) Methyl Acetate	5.32	43	715637	18.359	ng	#	91
12) 2-Methylpentane	6.49	71	300522	26.407	ng	#	57
13) 2,2-Dichloropropane	7.41	77	439081	25.690	ng		98
14) 1,1-Dichloropropene	8.75	75	514007	27.248	ng	#	87
15) Thiophene	9.04	84	716921	26.356	ng	#	89
17) 2,3-Dimethylpentane	9.53	56	602403	23.179	ng	#	91
18) Dibromomethane	9.80	174	267299	25.761	ng		92
20) Methyl Cyclohexane	11.42	55	521216	25.748	ng		83
21) 1,3-Dichloropropane	12.58	76	522721	30.379	ng	#	85
22) 1,1,1,2-Tetrachloroethane	14.88	131	250965	24.238	ng		98
23) 1-Chlorohexane	15.20	91	480157	29.078	ng		91
24) 1,2,3-Trichloropropane	16.39	75	551950	30.962	ng		98
25) Bromobenzene	17.10	77	643089	31.767	ng		91
26) 2-Chlorotoluene	17.61	91	1179719	30.508	ng		99
27) 4-Chlorotoluene	17.70	91	1133428	28.325	ng		99
28) Indane	19.12	117	1298530	29.717	ng		98
29) Indene	19.21	115	1024692	27.974	ng		96
30) 1,2,4,5-Tetramethylben...	20.18	119	1506692	31.699	ng		99
31) 1,2,3,4-Tetramethylben...	20.22	119	1483046	31.427	ng		97
32) 1,2,3,5-Tetramethylben...	20.60	119	1447598	31.583	ng		100
33) 1,2,3-Trichlorobenzene	21.19	180	577202	31.153	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 03\25\03252407.D Vial: 3
Acq On : 25 Mar 2024 14:18 Operator: SC
Sample : CCV C09032524 25ng Inst : MS09
Misc : S37-03252401/S37-03122405 (4/11)

Quant Time: Mar 25 14:43:45 2024
Quant Method : I:\MS09\METHODS\C9020824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Mon Feb 12 09:38:15 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-2398

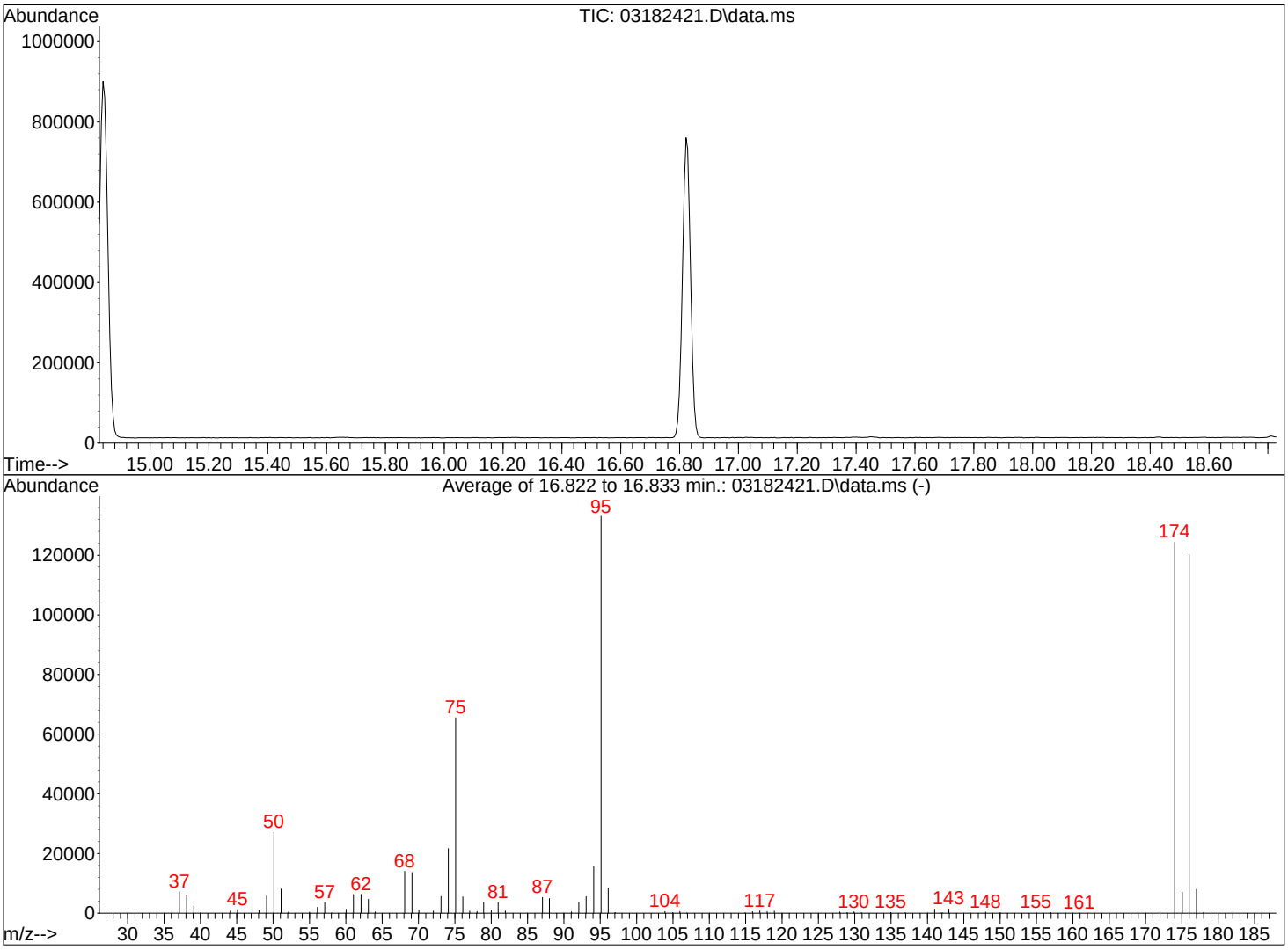
BFB

Data Path : I:\MS09\DATA\2024 03\18\
Data File : 03182421.D
Acq On : 18 Mar 2024 19:39
Operator : SC
Sample : 12.5ng R09031824 BFB
Misc : S37-02202408
ALS Vial : 2 Sample Multiplier: 1

3/19/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 08:37:42 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2446

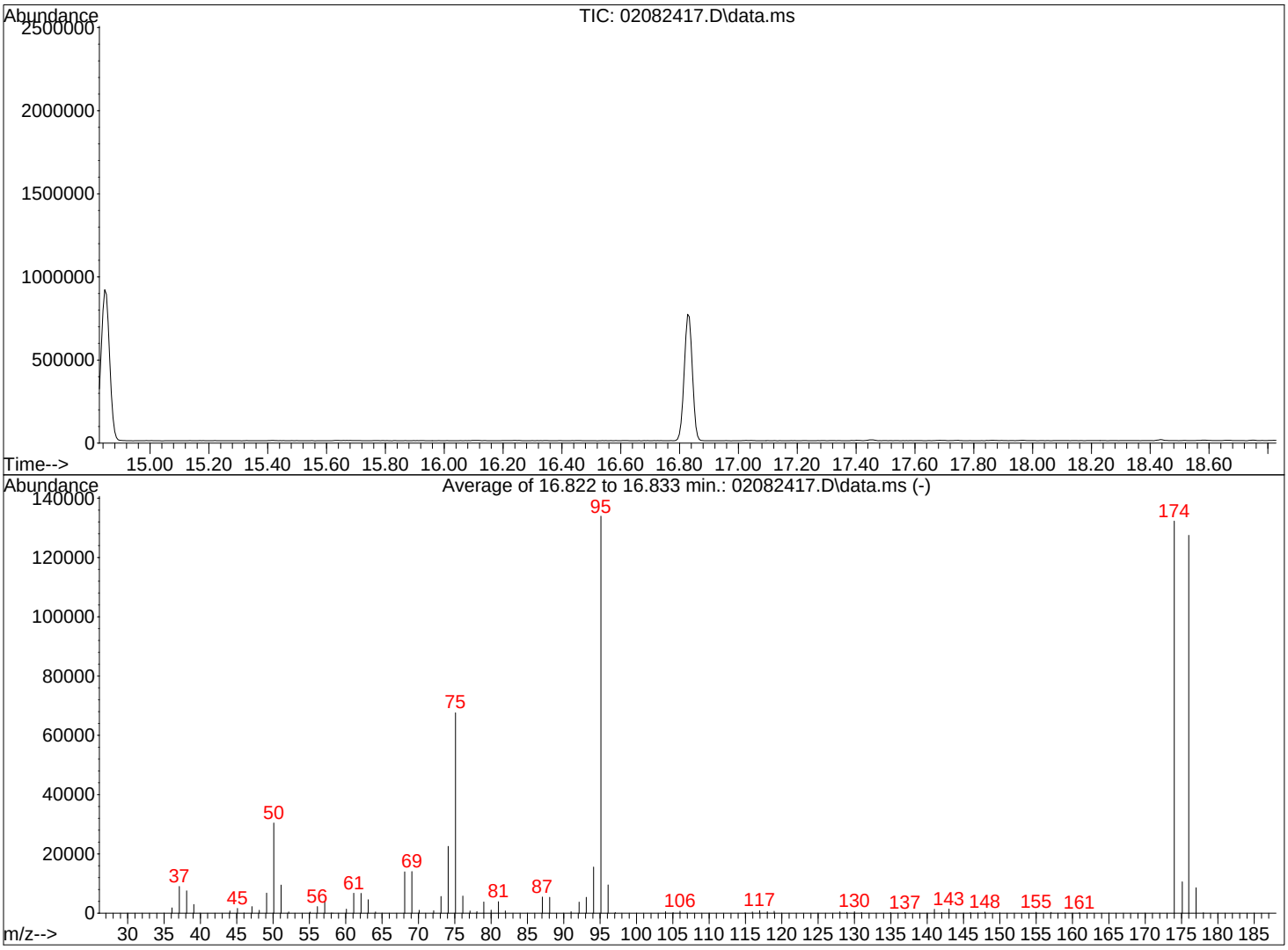
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.4	27176	PASS
75	95	30	66	49.2	65499	PASS
95	95	100	100	100.0	133101	PASS
96	95	5	9	6.3	8440	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	93.5	124384	PASS
175	174	4	9	5.6	7023	PASS
176	174	93	101	96.7	120248	PASS
177	176	5	9	6.7	8022	PASS

Data Path : I:\MS09\DATA\2024 02\08\
Data File : 02082417.D
Acq On : 8 Feb 2024 23:29
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S37-01032417
ALS Vial : 2 Sample Multiplier: 1

2/12/24

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C9020824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:30:06 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2446

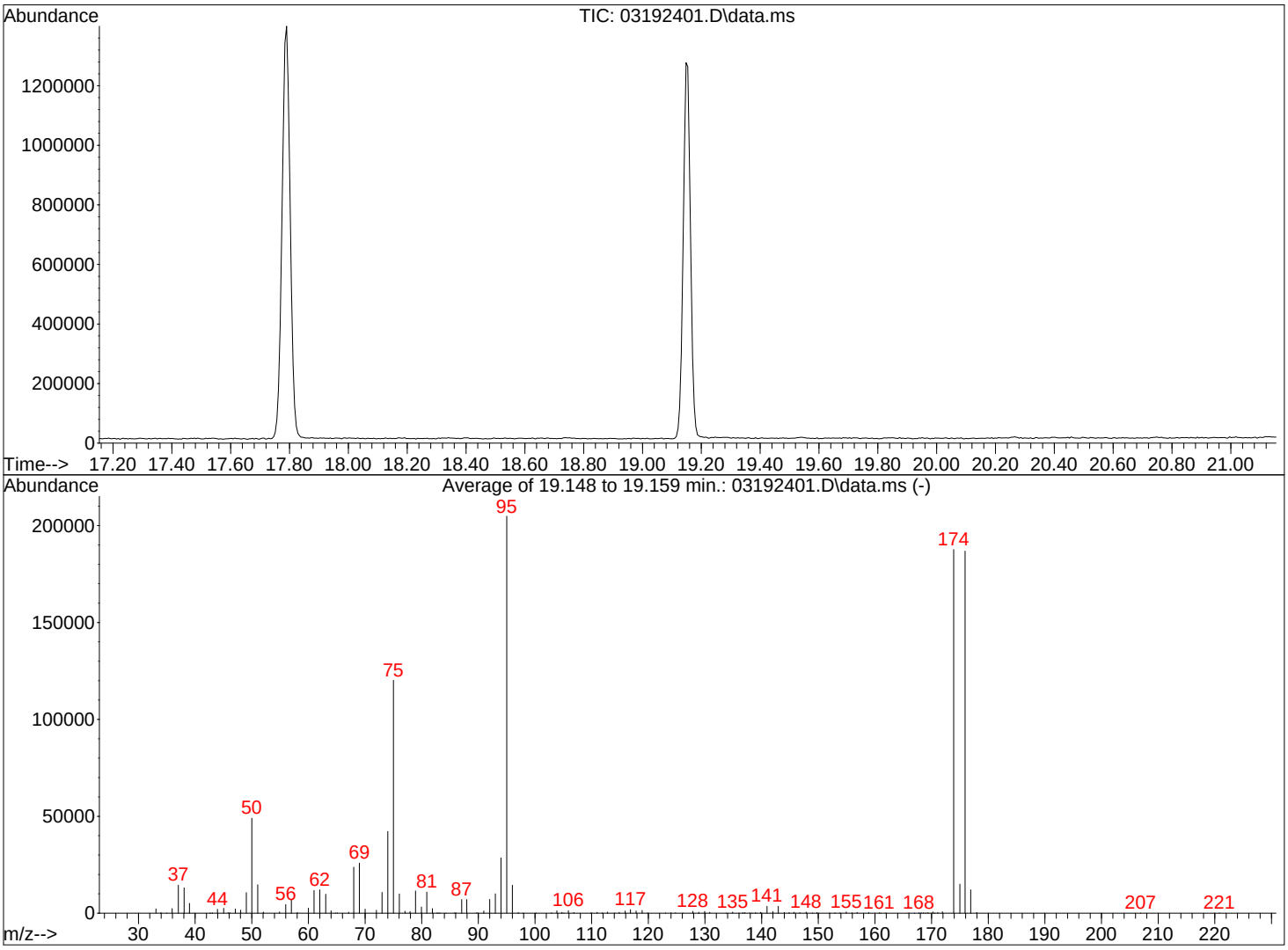
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.7	30416	PASS
75	95	30	66	50.5	67619	PASS
95	95	100	100	100.0	133936	PASS
96	95	5	9	7.1	9575	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	98.7	132259	PASS
175	174	4	9	8.0	10572	PASS
176	174	93	101	96.4	127501	PASS
177	176	5	9	6.7	8587	PASS

BFB

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192401.D
Acq On : 18 Mar 2024 23:25
Operator : CI
Sample : BFB
Misc : S37-01032403/
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Feb 13 09:31:22 2024



AutoFind: Scans 2848, 2849, 2850; Background Corrected with Scan 2840

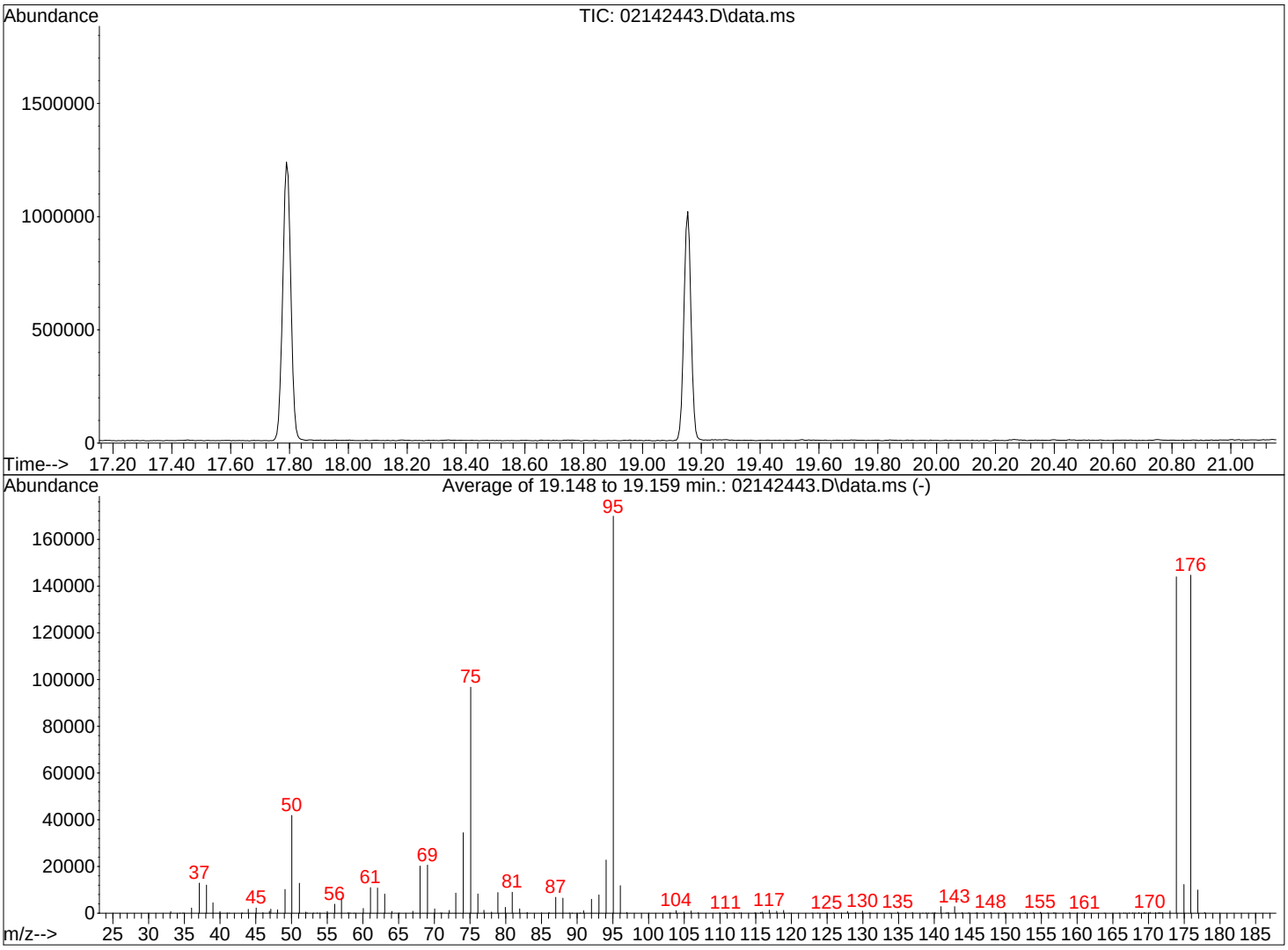
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.9	49016	PASS
75	95	30	66	58.7	120168	PASS
95	95	100	100	100.0	204864	PASS
96	95	5	9	7.1	14448	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.6	187627	PASS
175	174	4	9	8.0	14942	PASS
176	174	93	101	99.6	186837	PASS
177	176	5	9	6.5	12082	PASS

CJ 3/19/24

Data Path : I:\MS16\DATA\2024 02\14\
Data File : 02142443.D
Acq On : 15 Feb 2024 1:37
Operator : CI/TO
Sample : BFB STD Check
Misc : S37-01032403/
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16021224.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Feb 13 09:31:22 2024



AutoFind: Scans 2848, 2849, 2850; Background Corrected with Scan 2840

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	24.6	41859	PASS
75	95	30	66	56.9	96776	PASS
95	95	100	100	100.0	169941	PASS
96	95	5	9	7.0	11811	PASS
173	174	0.00	2	0.7	998	PASS
174	95	50	120	84.7	144000	PASS
175	174	4	9	8.5	12294	PASS
176	174	93	101	100.5	144704	PASS
177	176	5	9	6.9	9960	PASS

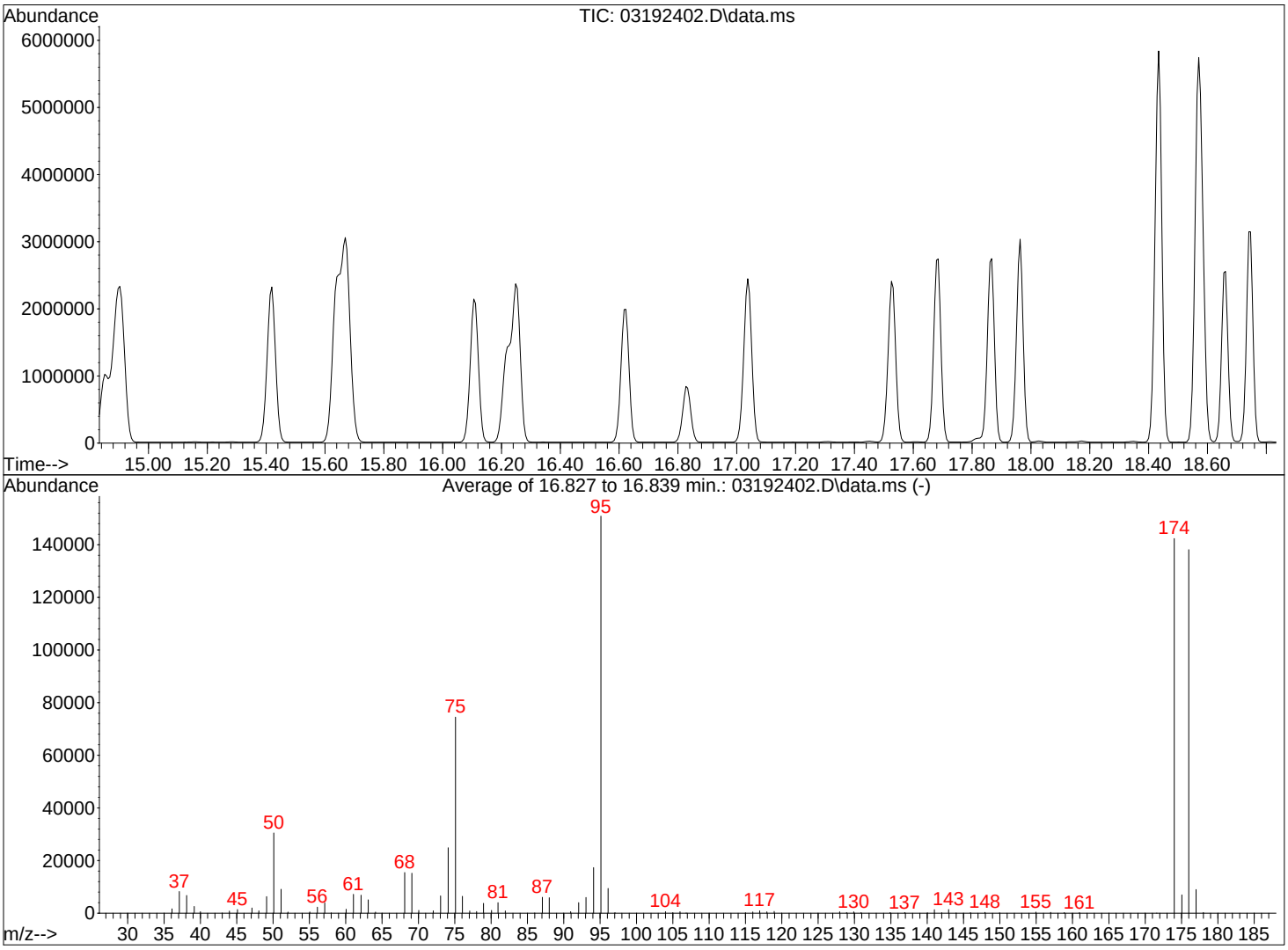
CI 2/21/24

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192402.D
Acq On : 19 Mar 2024 10:05
Operator : SC
Sample : CCV R09031924 25ng
Misc : S37-02202408/S37-02282402 (3/29)
ALS Vial : 15 Sample Multiplier: 1

3/19/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:00:24 2024



AutoFind: Scans 2456, 2457, 2458; Background Corrected with Scan 2447

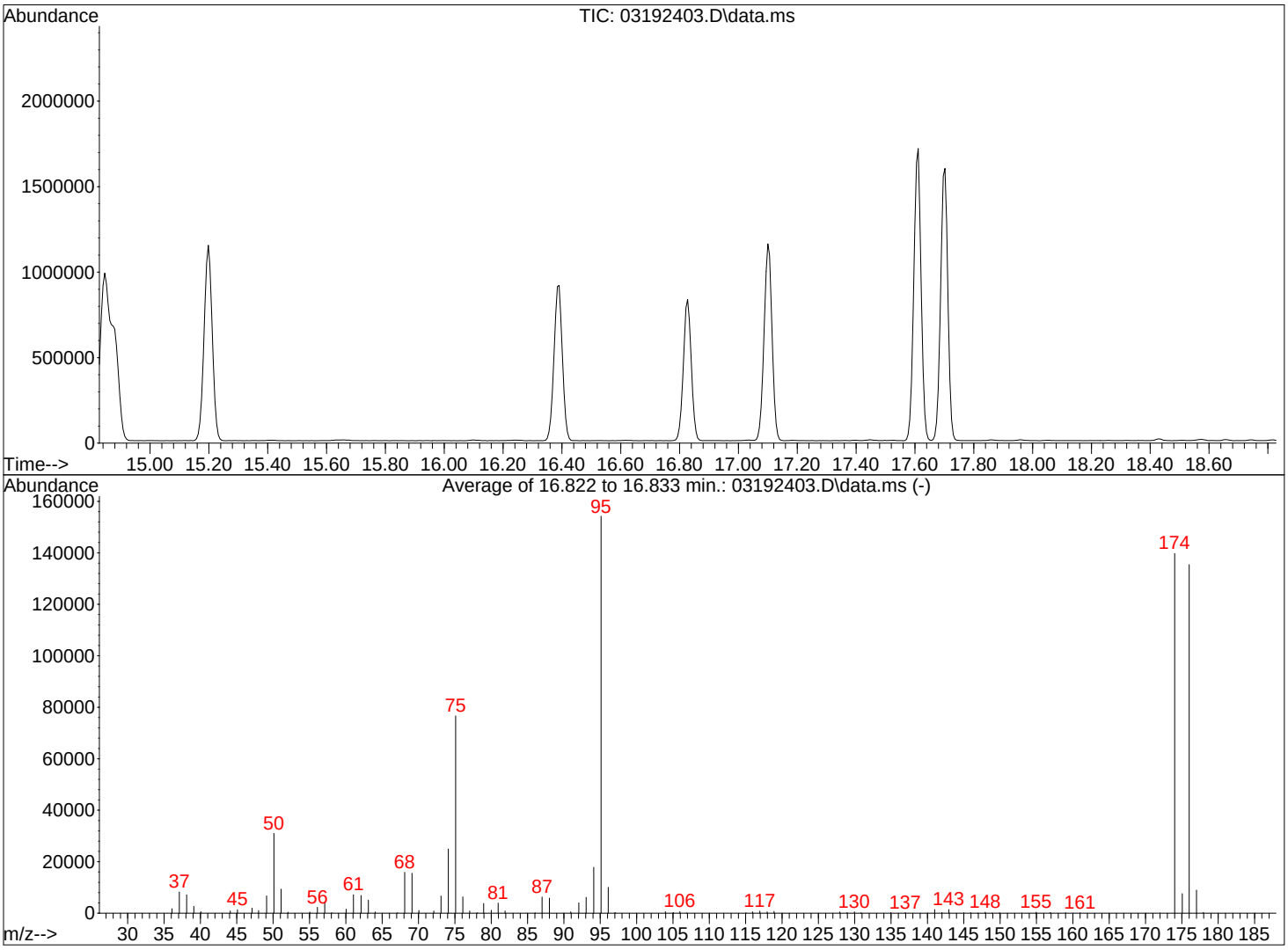
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.2	30475	PASS
75	95	30	66	49.4	74477	PASS
95	95	100	100	100.0	150856	PASS
96	95	5	9	6.2	9410	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.4	142349	PASS
175	174	4	9	4.9	6940	PASS
176	174	93	101	97.0	138128	PASS
177	176	5	9	6.5	8986	PASS

Data Path : I:\MS09\DATA\2024 03\19\
Data File : 03192403.D
Acq On : 19 Mar 2024 10:37
Operator : SC
Sample : CCV C09031924 25ng
Misc : S37-02202408/S37-02202402 (3/21)
ALS Vial : 3 Sample Multiplier: 1

3/19/24

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C9020824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:38:15 2024



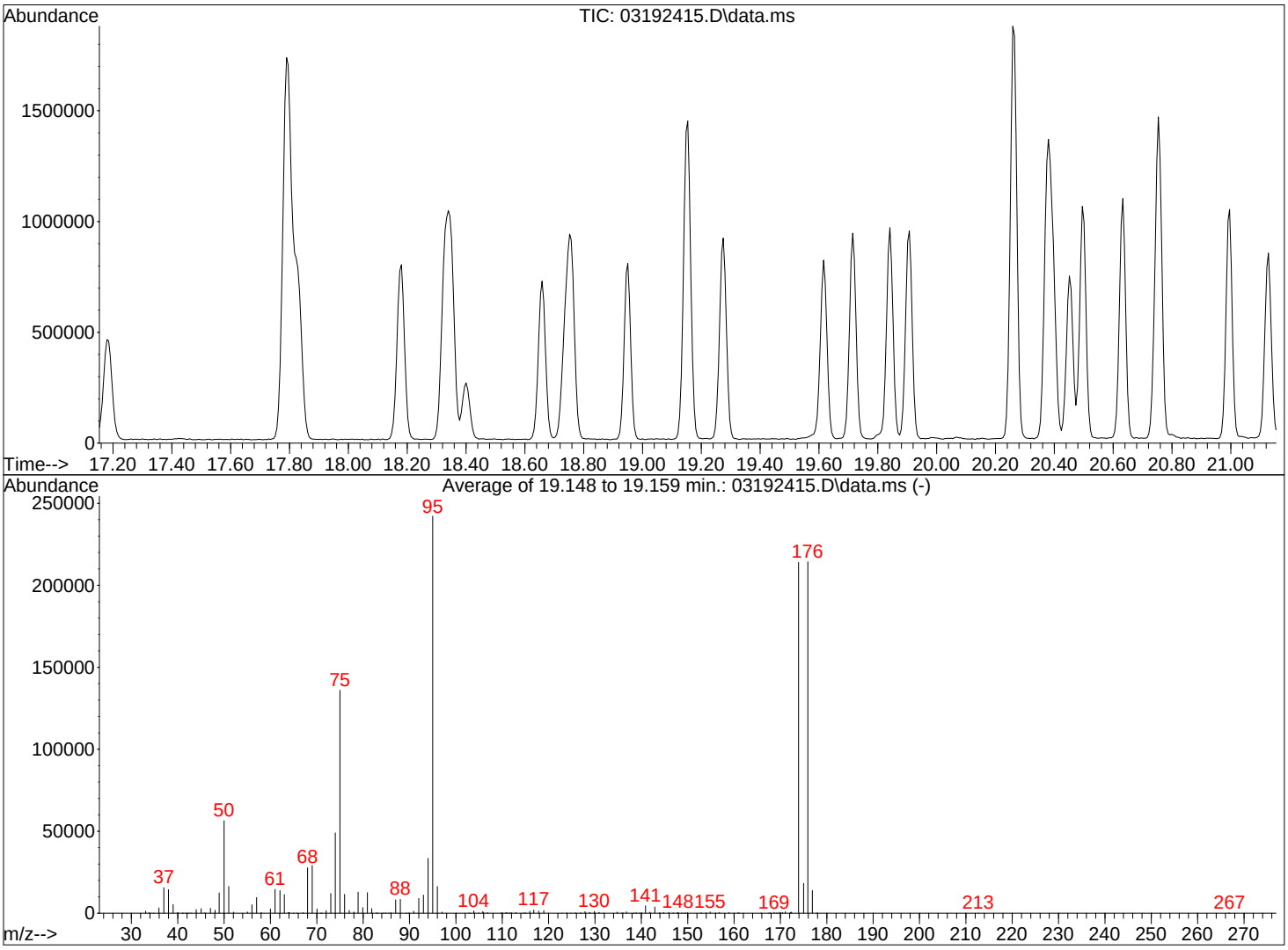
AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2445

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.1	30992	PASS
75	95	30	66	49.7	76635	PASS
95	95	100	100	100.0	154240	PASS
96	95	5	9	6.5	10084	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.6	139755	PASS
175	174	4	9	5.5	7620	PASS
176	174	93	101	96.9	135421	PASS
177	176	5	9	6.6	8979	PASS

Data Path : I:\MS16\DATA\2024 03\19\
Data File : 03192415.D
Acq On : 19 Mar 2024 7:14
Operator : CI
Sample : CCV R16031924 5ng
Misc : S37-01032403/S37-03062403 (4/5)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:41:16 2024



AutoFind: Scans 2848, 2849, 2850; Background Corrected with Scan 2839

CI 3/19/24

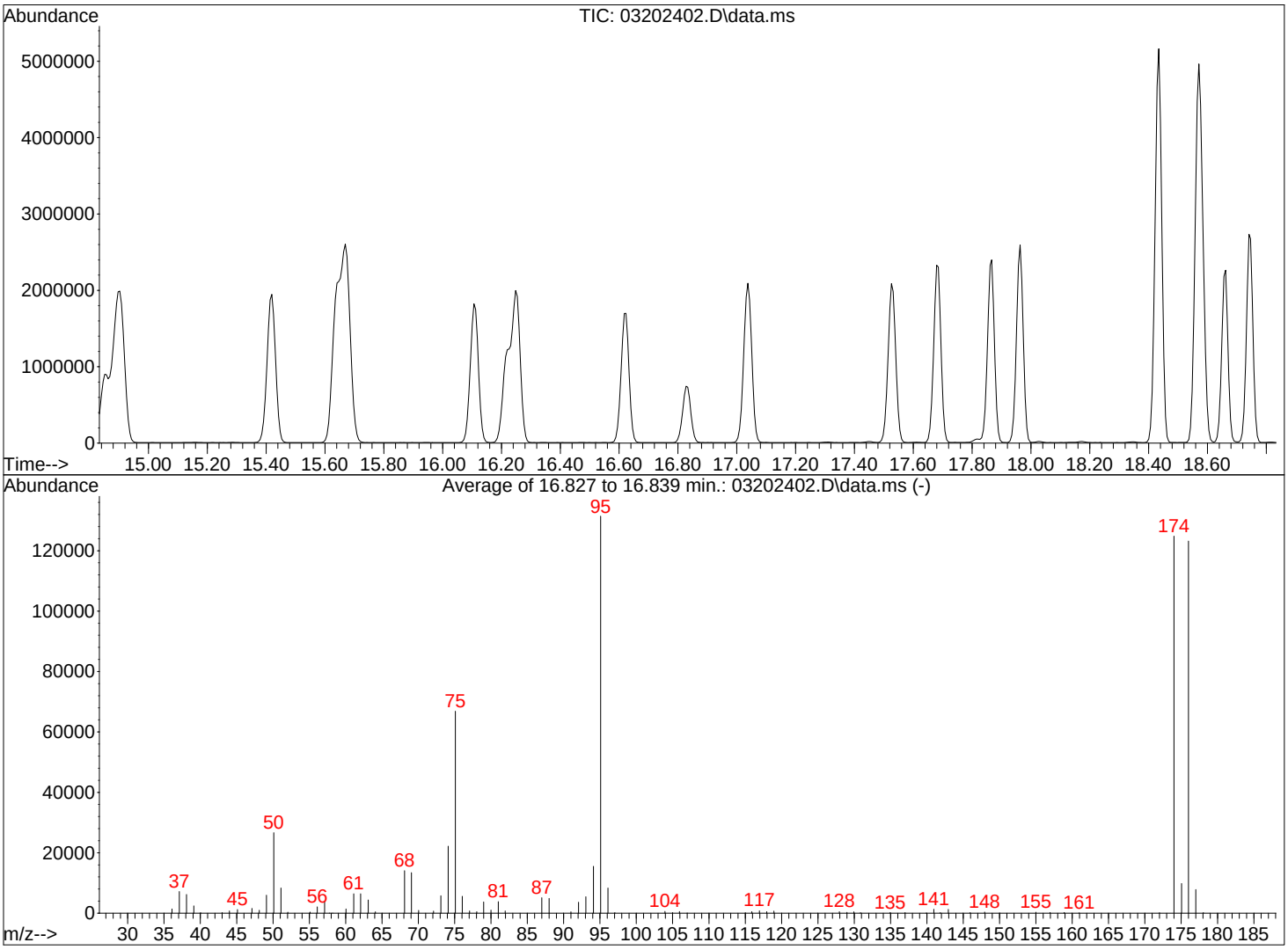
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.3	56368	PASS
75	95	30	66	56.2	135992	PASS
95	95	100	100	100.0	242155	PASS
96	95	5	9	6.7	16278	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	88.3	213888	PASS
175	174	4	9	8.5	18196	PASS
176	174	93	101	100.2	214357	PASS
177	176	5	9	6.4	13813	PASS

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202402.D
Acq On : 20 Mar 2024 1:45
Operator : SC
Sample : CCV R09032024 25ng
Misc : S37-02202408/S37-02282402 (3/29)
ALS Vial : 2 Sample Multiplier: 1

3/20/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 15:09:59 2024



AutoFind: Scans 2456, 2457, 2458; Background Corrected with Scan 2447

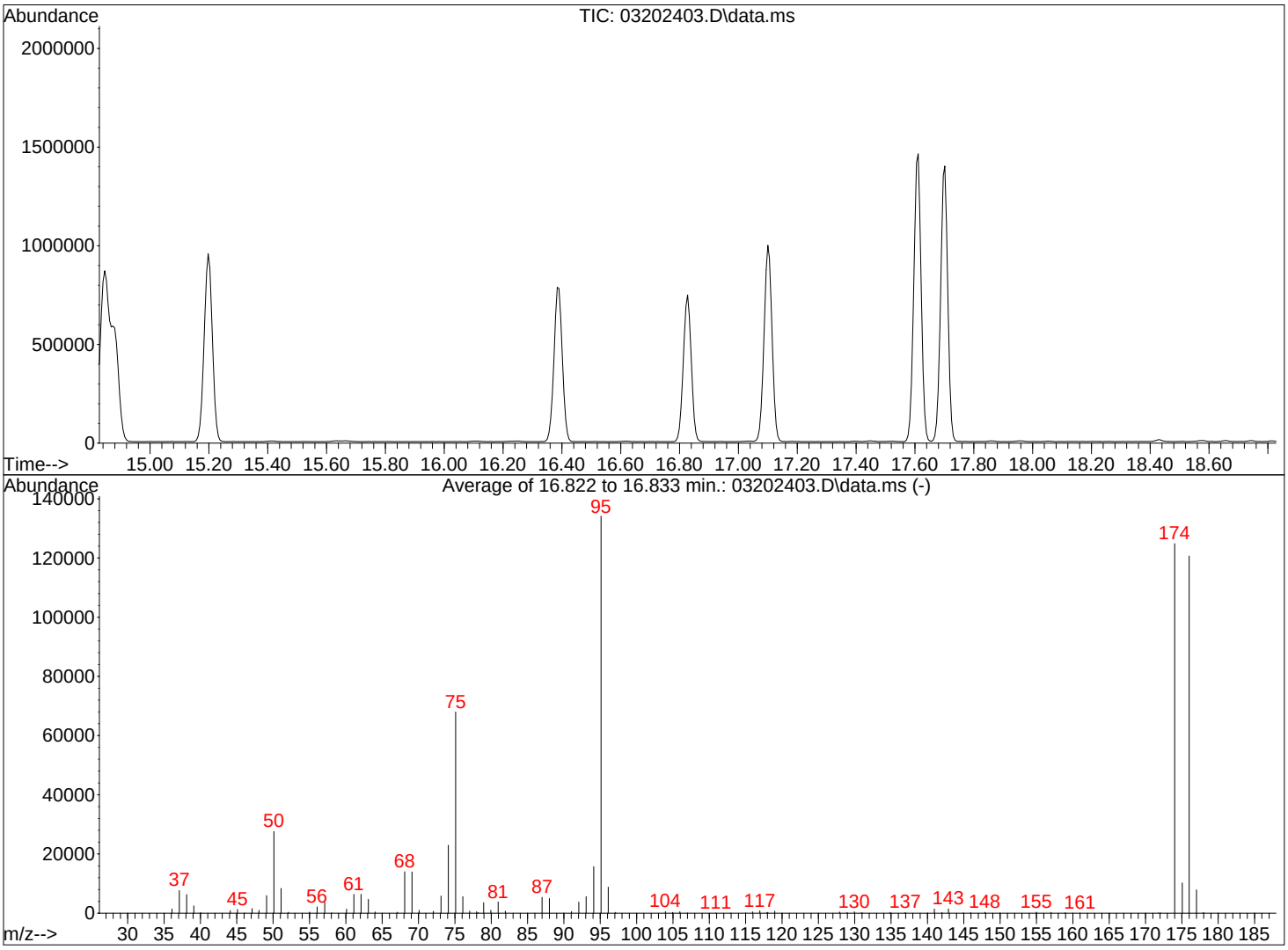
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.3	26661	PASS
75	95	30	66	50.9	66885	PASS
95	95	100	100	100.0	131443	PASS
96	95	5	9	6.4	8353	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.0	124829	PASS
175	174	4	9	7.9	9827	PASS
176	174	93	101	98.7	123187	PASS
177	176	5	9	6.4	7830	PASS

Data Path : I:\MS09\DATA\2024 03\20\
Data File : 03202403.D
Acq On : 20 Mar 2024 2:18
Operator : SC
Sample : CCV C09032024 25ng
Misc : S37-02202408/S37-02202402 (3/21)
ALS Vial : 3 Sample Multiplier: 1

3/20/24

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C9020824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:38:15 2024



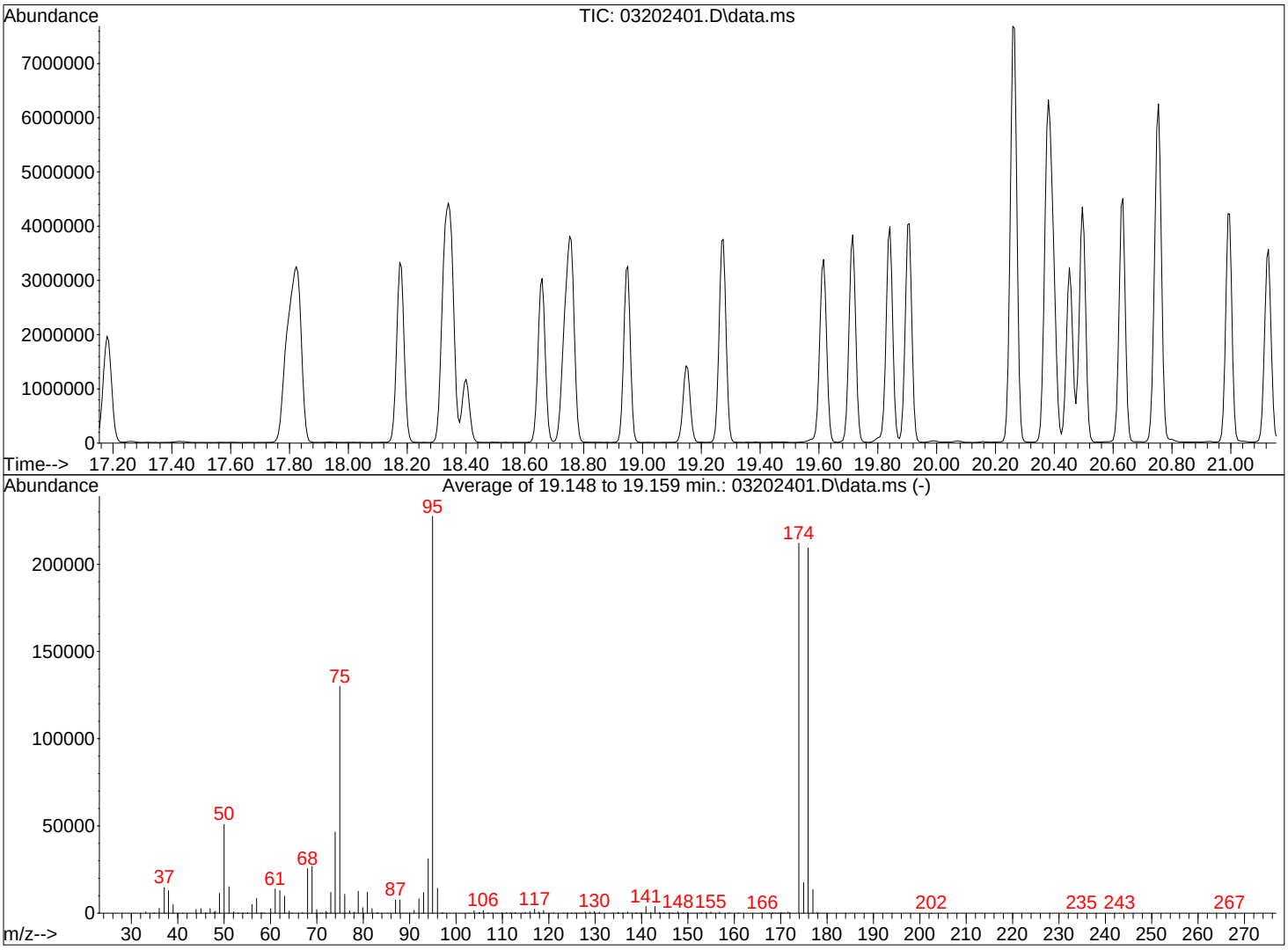
AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2445

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.6	27645	PASS
75	95	30	66	50.7	67984	PASS
95	95	100	100	100.0	134128	PASS
96	95	5	9	6.6	8819	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	93.1	124885	PASS
175	174	4	9	8.2	10240	PASS
176	174	93	101	96.6	120656	PASS
177	176	5	9	6.6	7907	PASS

Data Path : I:\MS16\DATA\2024 03\20\
Data File : 03202401.D
Acq On : 20 Mar 2024 3:16
Operator : CI
Sample : CCV R16032024 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:41:16 2024



AutoFind: Scans 2848, 2849, 2850; Background Corrected with Scan 2840

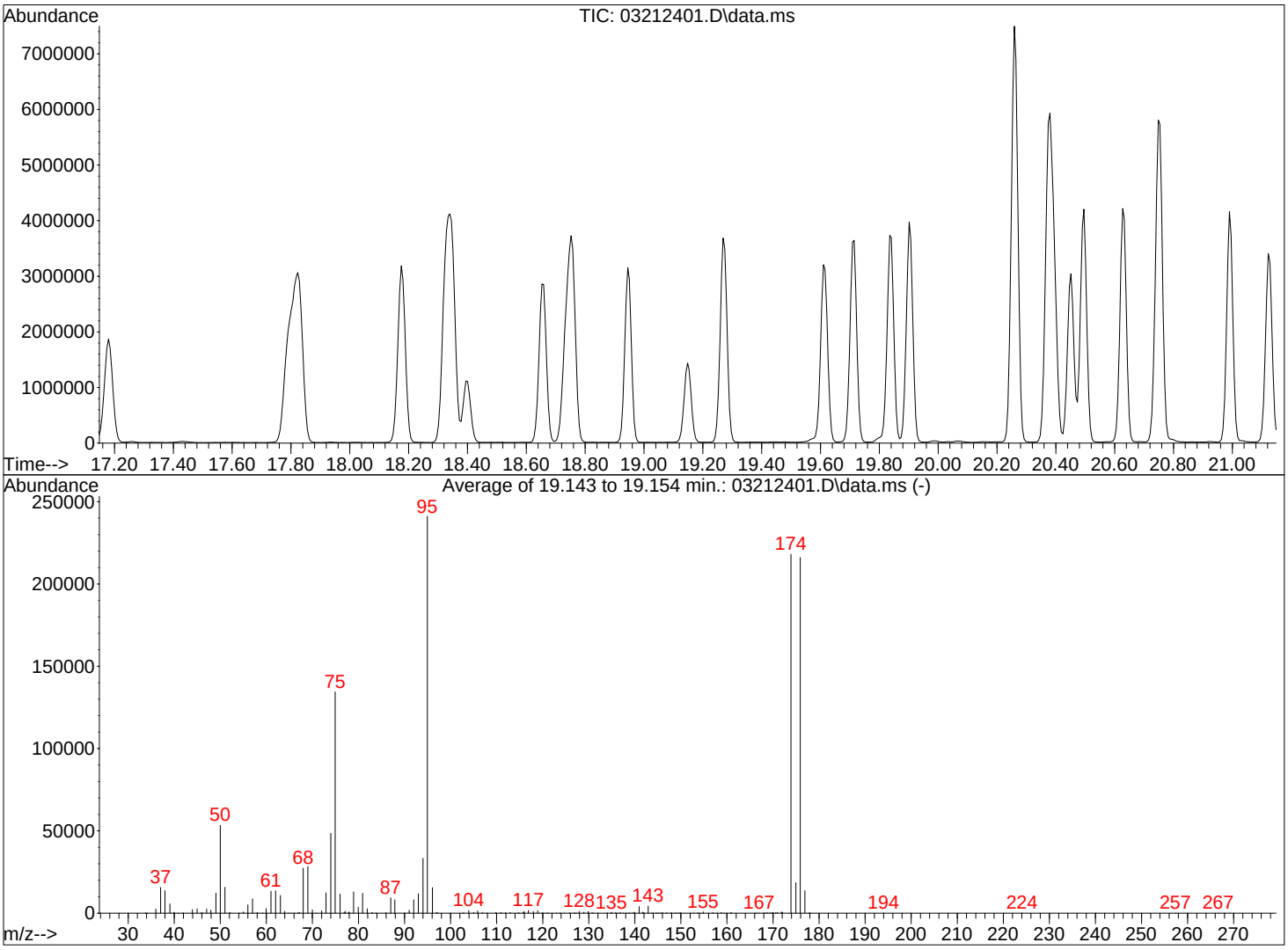
CJ 3/20/24

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.4	50917	PASS
75	95	30	66	57.1	129944	PASS
95	95	100	100	100.0	227548	PASS
96	95	5	9	6.3	14312	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	93.2	212032	PASS
175	174	4	9	8.3	17553	PASS
176	174	93	101	98.7	209323	PASS
177	176	5	9	6.5	13531	PASS

Data Path : I:\MS16\DATA\2024 03\21\
Data File : 03212401.D
Acq On : 21 Mar 2024 00:24
Operator : CI
Sample : CCV R16032124 25ng
Misc : S37-01032403/S37-03182404 (4/17)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS16\METHODS\R16031924.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 19 09:41:16 2024



AutoFind: Scans 2847, 2848, 2849; Background Corrected with Scan 2839

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	22.1	53363	PASS
75	95	30	66	55.8	134482	PASS
95	95	100	100	100.0	241172	PASS
96	95	5	9	6.5	15578	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.4	218091	PASS
175	174	4	9	8.5	18565	PASS
176	174	93	101	99.1	216085	PASS
177	176	5	9	6.4	13723	PASS

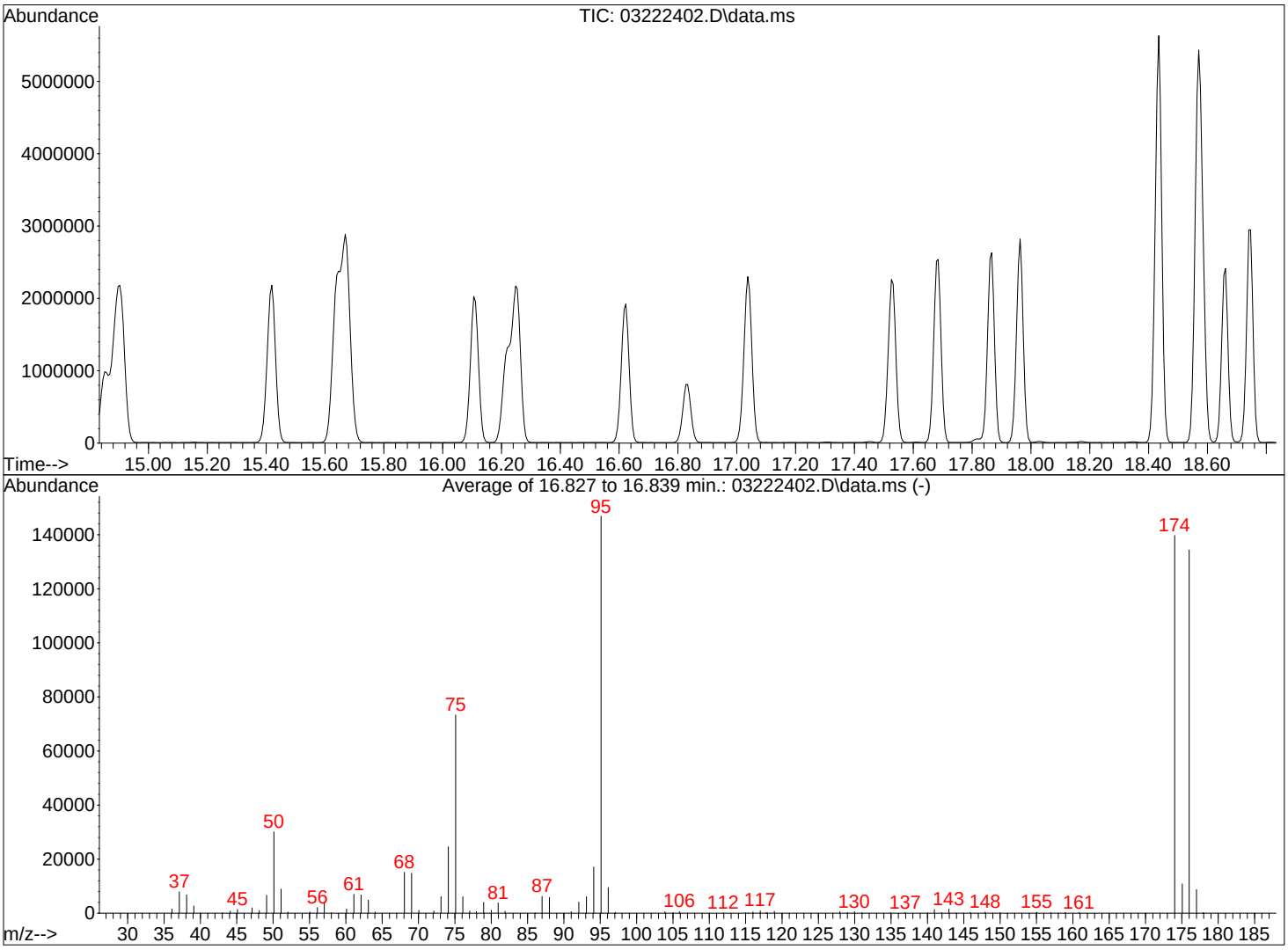
CJ 3/21/24

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222402.D
Acq On : 22 Mar 2024 00:06
Operator : SC
Sample : CCV R09032224 25ng
Misc : S37-02202408/S37-02282402 (3/29)
ALS Vial : 2 Sample Multiplier: 1

3/22/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Mar 22 08:19:00 2024



AutoFind: Scans 2456, 2457, 2458; Background Corrected with Scan 2447

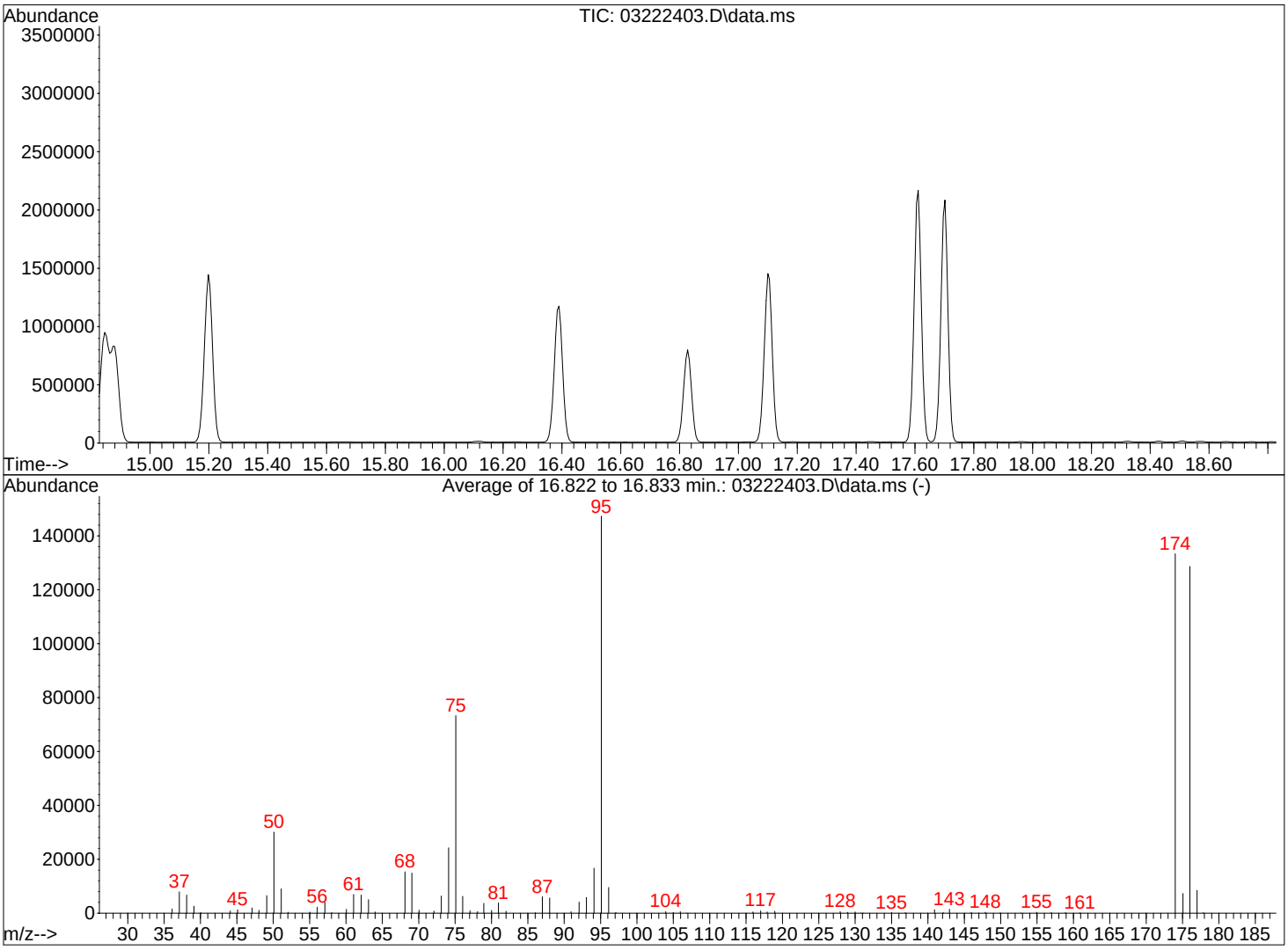
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.5	30072	PASS
75	95	30	66	50.0	73365	PASS
95	95	100	100	100.0	146867	PASS
96	95	5	9	6.5	9537	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	95.2	139765	PASS
175	174	4	9	7.8	10857	PASS
176	174	93	101	96.2	134397	PASS
177	176	5	9	6.5	8736	PASS

Data Path : I:\MS09\DATA\2024 03\22\
Data File : 03222403.D
Acq On : 22 Mar 2024 00:38
Operator : SC
Sample : CCV C09032224 25ng
Misc : S37-02202408/S37-02282404 (3/29)
ALS Vial : 3 Sample Multiplier: 1

3/22/24

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C9020824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:38:15 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2445

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.4	30085	PASS
75	95	30	66	49.8	73344	PASS
95	95	100	100	100.0	147328	PASS
96	95	5	9	6.5	9550	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.5	133379	PASS
175	174	4	9	5.5	7328	PASS
176	174	93	101	96.5	128667	PASS
177	176	5	9	6.6	8452	PASS

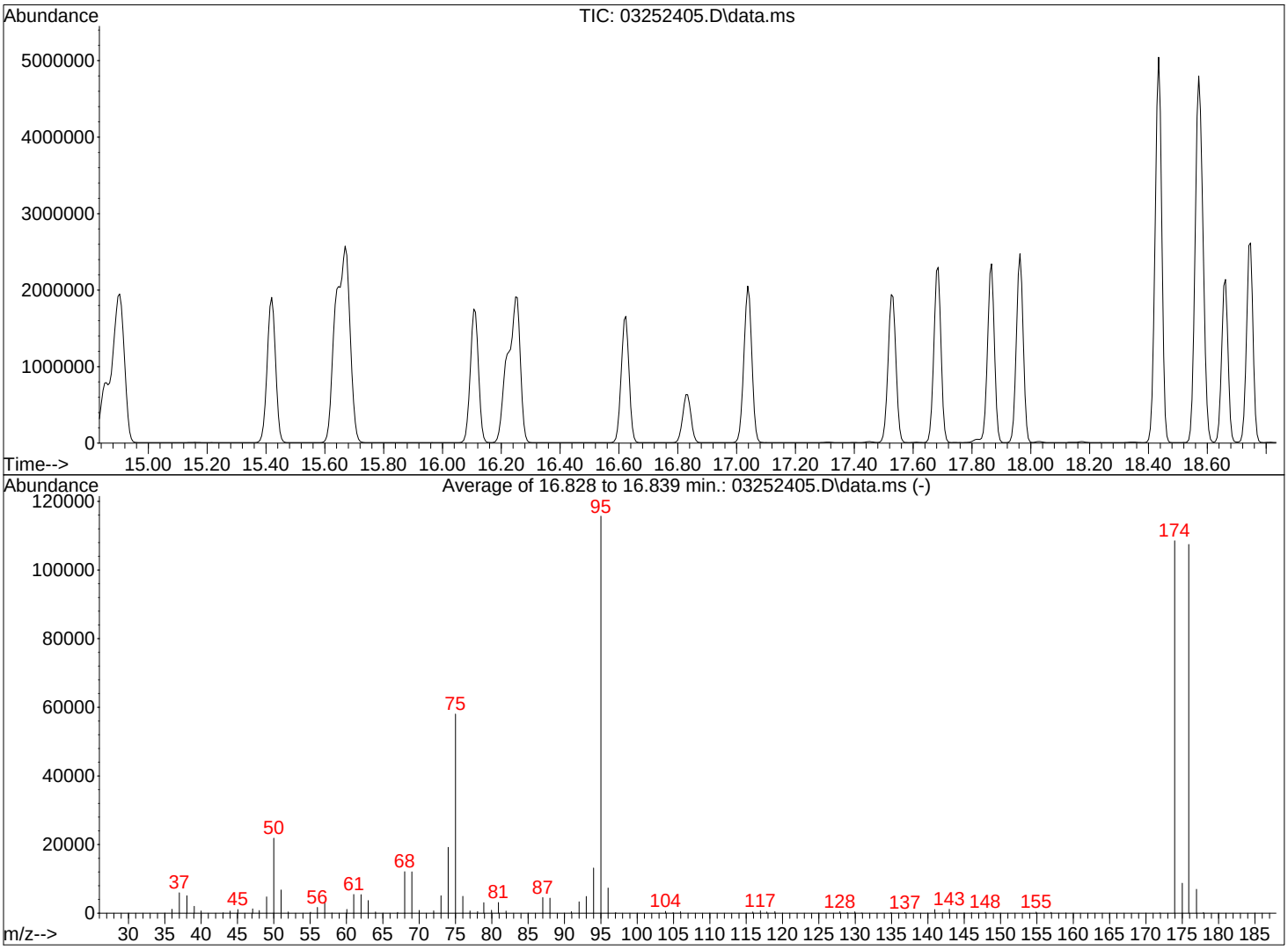
BFB

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252405.D
Acq On : 25 Mar 2024 12:52
Operator : SC
Sample : CCV R09032524 25ng
Misc : S37-03252401/S37-03182401 (4/27)
ALS Vial : 2 Sample Multiplier: 1

3/25/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09031824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Mar 25 09:49:41 2024



AutoFind: Scans 2456, 2457, 2458; Background Corrected with Scan 2447

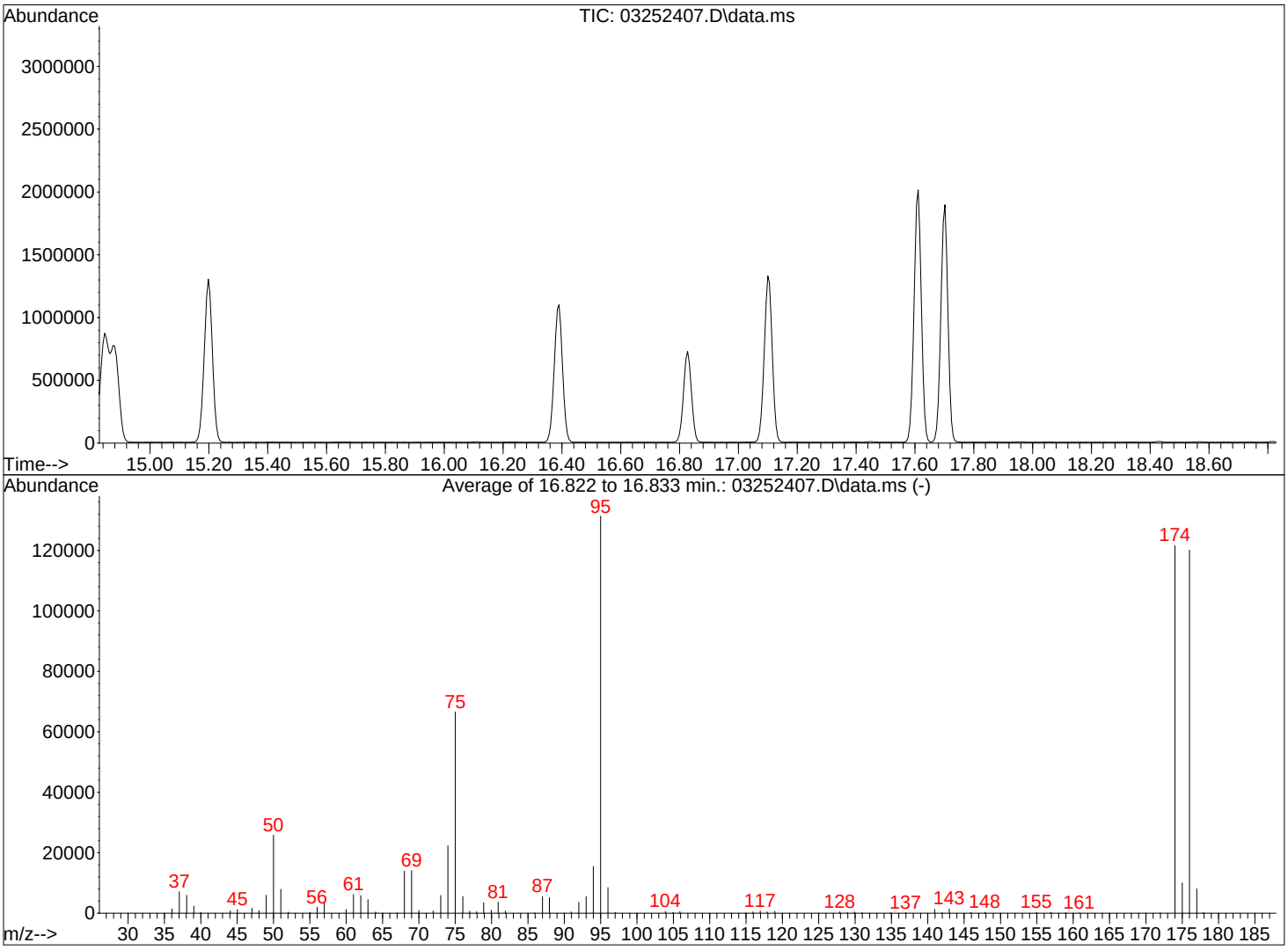
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.9	21840	PASS
75	95	30	66	50.2	58029	PASS
95	95	100	100	100.0	115688	PASS
96	95	5	9	6.3	7325	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	93.8	108499	PASS
175	174	4	9	8.1	8743	PASS
176	174	93	101	99.0	107445	PASS
177	176	5	9	6.5	6987	PASS

Data Path : I:\MS09\DATA\2024 03\25\
Data File : 03252407.D
Acq On : 25 Mar 2024 14:18
Operator : SC
Sample : CCV C09032524 25ng
Misc : S37-03252401/S37-03122405 (4/11)
ALS Vial : 3 Sample Multiplier: 1

3/25/24

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C9020824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Mon Feb 12 09:38:15 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2445

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.7	25840	PASS
75	95	30	66	50.7	66573	PASS
95	95	100	100	100.0	131349	PASS
96	95	5	9	6.5	8483	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	92.6	121619	PASS
175	174	4	9	8.2	10027	PASS
176	174	93	101	98.8	120141	PASS
177	176	5	9	6.7	8056	PASS

Injection Log

Directory: J:\MS09\DATA\2024_03\18\

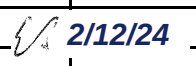
	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
20	3/18/24 19:06	03182420.D	Blank	S37-02202408	SC	2	
21	3/18/24 19:39	03182421.D	12.5ng R09031824 BFB	S37-02202408	SC	2	pass
22	3/18/24 20:11	03182422.D	ICAL R09031824_0.1ng	S37-02202408/S37-03182403 (4/17)	SC	13	
23	3/18/24 20:43	03182423.D	ICAL R09031824_0.2ng	S37-02202408/S37-03182403 (4/17)	SC	13	
24	3/18/24 21:15	03182424.D	ICAL R09031824_0.5ng	S37-02202408/S37-03182402 (4/17)	SC	14	
25	3/18/24 21:48	03182425.D	ICAL R09031824_1.0ng	S37-02202408/S37-03182402 (4/17)	SC	14	
26	3/18/24 22:20	03182426.D	ICAL R09031824_5.0ng	S37-02202408/S37-03182402 (4/17)	SC	14	
27	3/18/24 22:52	03182427.D	ICAL R09031824_25ng	S37-02202408/S37-03182401 (4/17)	SC	15	
28	3/18/24 23:24	03182428.D	ICAL R09031824_50ng	S37-02202408/S37-03182401 (4/17)	SC	15	
29	3/18/24 23:57	03182429.D	ICAL R09031824_100ng	S37-02202408/S37-03182401 (4/17)	SC	15	
30	3/19/24 0:29	03182430.D	Blank	S37-02202408	SC	2	
31	3/19/24 1:01	03182431.D	ICV R09031824_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	not used
32	3/19/24 1:33	03182432.D	ICV R09031824_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	pass
33							
34							
35							
36							
37							
38							
39							
40							
41							

3/26/24

Injection Log

Directory: J:\MS09\DATA\2024_02\08\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/8/24 14:55	02082401.D	Blank	S37-01032417	SC	2	
2	2/8/24 15:28	02082402.D	12.5 BFB TO-15 STD	S37-01032417	SC	2	pass
3	2/8/24 16:00	02082403.D	0.1ng TO-15 ICAL STD	S37-01032417/S37-02052403 (3/4)	SC	9	
4	2/8/24 16:32	02082404.D	0.2ng TO-15 ICAL STD	S37-01032417/S37-02052403 (3/4)	SC	9	
5	2/8/24 17:04	02082405.D	0.5ng TO-15 ICAL STD	S37-01032417/S37-02052402 (3/4)	SC	10	
6	2/8/24 17:37	02082406.D	1.0ng TO-15 ICAL STD	S37-01032417/S37-02052402 (3/4)	SC	10	
7	2/8/24 18:09	02082407.D	5.0ng TO-15 ICAL STD	S37-01032417/S37-02052402 (3/4)	SC	10	
8	2/8/24 18:41	02082408.D	25ng TO-15 ICAL STD	S37-01032417/S37-02052401 (3/4)	SC	11	
9	2/8/24 19:13	02082409.D	50ng TO-15 ICAL STD	S37-01032417/S37-02052401 (3/4)	SC	11	
10	2/8/24 19:45	02082410.D	100ng TO-15 ICAL STD	S37-01032417/S37-02052401 (3/4)	SC	11	
11	2/8/24 20:17	02082411.D	Blank	S37-01032417	SC	2	
12	2/8/24 20:49	02082412.D	25ng TO-15 ICV STD	S37-01032417/S37-02072404 (3/6)	SC	12	pass
13	2/8/24 21:21	02082413.D	25ng TO-15 ICV STD	S37-01032417/S37-02072404 (3/6)	SC	12	pass
14	2/8/24 21:53	02082414.D	Blank	S37-01032417	SC	2	
15	2/8/24 22:25	02082415.D	25ng TO-15 ICV STD	S37-01032417/S37-01122401 (2/10)	SC	12	
16	2/8/24 22:57	02082416.D	Blank	S37-01032417	SC	2	
17	2/8/24 23:29	02082417.D	12.5ng TO-15 BFB STD	S37-01032417	SC	2	pass
18	2/9/24 0:01	02082418.D	0.4ng TO-15 Custom STD	S37-01032417/S37-02012402 (3/2)	SC	13	
19	2/9/24 0:33	02082419.D	1.0ng TO-15 Custom STD	S37-01032417/S37-02012402 (3/2)	SC	13	
20	2/9/24 1:05	02082420.D	2.5ng TO-15 Custom STD	S37-01032417/S37-02012402 (3/2)	SC	13	
21	2/9/24 1:37	02082421.D	5.0ng TO-15 Custom STD	S37-01032417/S37-02012402 (3/2)	SC	13	
22	2/9/24 2:09	02082422.D	25ng TO-15 Custom STD	S37-01032417/S37-02012401 (3/2)	SC	14	
23	2/9/24 2:41	02082423.D	50ng TO-15 Custom STD	S37-01032417/S37-02012401 (3/2)	SC	14	
24	2/9/24 3:12	02082424.D	100ng TO-15 Custom STD	S37-01032417/S37-02012401 (3/2)	SC	14	
25	2/9/24 3:44	02082425.D	Blank	S37-01032417	SC	2	
26	2/9/24 4:16	02082426.D	25ng TO-15 Custom ICV STD	S37-01032417/S37-02012403 (3/2)	SC	15	pass
27	2/9/24 4:48	02082427.D	25ng TO-15 Custom ICV STD	S37-01032417/S37-02012403 (3/2)	SC	15	pass
28							
29							
30							
31							
32							pass
33							
34							
35							
36							
37							
38							
39							



CI 3/27/24

Injection Log

Directory: I:\MS16\DATA\2024_03\19\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/18/24 23:25	03192401.D	BFB	S37-01032403/	CI	2	pass
2	3/18/24 23:58	03192402.D	ICAL R16031924_0.1ng	S37-01032403/S37-03182406 (4/17)	CI	13	
3	3/19/24 0:32	03192403.D	ICAL R16031924_0.2ng	S37-01032403/S37-03182406 (4/17)	CI	13	
4	3/19/24 1:05	03192404.D	ICAL R16031924_0.5ng	S37-01032403/S37-03182405 (4/17)	CI	14	
5	3/19/24 1:39	03192405.D	ICAL R16031924_1ng	S37-01032403/S37-03182405 (4/17)	CI	14	R16031924.M
6	3/19/24 2:12	03192406.D	ICAL R16031924_5ng	S37-01032403/S37-03182404 (4/17)	CI	15	
7	3/19/24 2:46	03192407.D	ICAL R16031924_25ng	S37-01032403/S37-03182404 (4/17)	CI	15	
8	3/19/24 3:19	03192408.D	ICAL R16031924_50ng	S37-01032403/S37-03182404 (4/17)	CI	15	
9	3/19/24 3:53	03192409.D	ICAL R16031924_100ng	S37-01032403/S37-03182404 (4/17)	CI	15	
10	3/19/24 4:26	03192410.D	blank	S37-01032403/	CI	2	
11	3/19/24 5:00	03192411.D	ICV R16031924_5ng	S37-01032403/S37-03052402 (4/4)	CI	2	pass
12	3/19/24 5:33	03192412.D	ICV R16031924_25ng	S37-01032403/S37-03052402 (4/4)	CI	2	

Injection Log

Directory: I:\MS16\DATA\2024_02\14\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	2/15/24 1:37	02142443.D	BFB STD Check	S37-01032403/	CI/TO	2	
2	2/15/24 2:10	02142444.D	0.4ng C16021424 ICAL STD	S37-01032403/S37-02012402 (3/2)	CI/TO	15	
3	2/15/24 2:44	02142445.D	1.0ng C16021424 ICAL STD	S37-01032403/S37-02012402 (3/2)	CI/TO	15	
4	2/15/24 3:17	02142446.D	2.5ng C16021424 ICAL STD	S37-01032403/S37-02012402 (3/2)	CI/TO	15	
5	2/15/24 3:50	02142447.D	5.0ng C16021424 ICAL STD	S37-01032403/S37-02012402 (3/2)	CI/TO	15	C16021424.M
6	2/15/24 4:24	02142448.D	25ng C16021424 ICAL STD	S37-01032403/S37-02012401 (3/2)	CI/TO	16	
7	2/15/24 4:57	02142449.D	50ng C16021424 ICAL STD	S37-01032403/S37-02012401 (3/2)	CI/TO	16	
8	2/15/24 5:31	02142450.D	100ng C16021424 ICAL STD	S37-01032403/S37-02012401 (3/2)	CI/TO	16	
9	2/15/24 6:04	02142451.D	blank	S37-01032403/	CI/TO	2	
10	2/15/24 6:38	02142452.D	25ng C16021424 ICV STD	S37-01032403/S37-02012403 (3/2)	CI/TO	14	pass

C.I. 2/21/24

Injection Log

Directory: I:\MS09\DATA\2024_03\19\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/19/24 9:33	03192401.D	Blank	S37-02202408	SC	1	
2	3/19/24 10:05	03192402.D	CCV R09031924_25ng	S37-02202408/S37-02282402 (3/29)	SC	15	Passed
3	3/19/24 10:37	03192403.D	CCV C09031924_25ng	S37-02202408/S37-02202402 (3/21)	SC	3	Passed
4	3/19/24 11:09	03192404.D	Blank	S37-02202408	SC	2	
5	3/19/24 11:41	03192405.D	MB R09031924_1000mL	S37-02202408/AC00880	SC	2	Passed
6	3/19/24 12:14	03192406.D	LCS R09031924_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	Passed
7	3/19/24 12:46	03192407.D	LCSD R09031924_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	Passed
8	3/19/24 13:37	03192408.D	P2400922-011Dil (0.15mL)	S37-02202408	SC	1	
9	3/19/24 14:09	03192409.D	P2400922-011 (0.3mL)	S37-02202408	SC	1	
10	3/19/24 14:47	03192410.D	P2400922-020 (0.7mL)	S37-02202408	SC	1	
11	3/19/24 15:27	03192411.D	P2400922-020 (1.0mL)	S37-02202408	SC	1	
12	3/19/24 16:03	03192412.D	P2400922-021 (3.0mL)	S37-02202408	SC	1	
13	3/19/24 16:35	03192413.D	P2400922-022 (3.0mL)	S37-02202408	SC	1	
14	3/19/24 17:09	03192414.D	P2400922-025 (0.2mL)	S37-02202408	SC	1	
15	3/19/24 17:41	03192415.D	P2400922-001 (400mL)	S37-02202408	SC	4	
16	3/19/24 18:14	03192416.D	P2400922-002 (400mL)	S37-02202408	SC	5	
17	3/19/24 18:46	03192417.D	P2400922-003 (400mL)	S37-02202408	SC	6	
18	3/19/24 19:18	03192418.D	P2400922-004 (100mL)	S37-02202408	SC	7	
19	3/19/24 19:50	03192419.D	P2400922-005 (400mL)	S37-02202408	SC	8	
20	3/19/24 20:23	03192420.D	P2400922-006 (400mL)	S37-02202408	SC	9	
21	3/19/24 20:55	03192421.D	P2400922-007 (400mL)	S37-02202408	SC	10	
22	3/19/24 21:27	03192422.D	P2400922-008 (400mL)	S37-02202408	SC	11	
23	3/19/24 21:59	03192423.D	P2400922-009 (80mL)	S37-02202408	SC	12	
24	3/19/24 22:32	03192424.D	P2400922-010 (400mL)	S37-02202408	SC	13	
25	3/19/24 23:04	03192425.D	P2400922-012 (25mL)	S37-02202408	SC	14	
26	3/19/24 23:37	03192426.D	P2400922-012 dup(25mL)	S37-02202408	SC	14	Passed
27	3/20/24 0:09	03192427.D	P2400922-013 (50mL)	S37-02202408	SC	15	
28	3/20/24 0:41	03192428.D	P2400922-014 (100mL)	S37-02202408	SC	16	



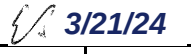
Injection Log

Directory: I:\MS16\DATA\2024_03\19\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/19/24 7:14	03192415.D	CCV R16031924_5ng	S37-01032403/S37-03062403 (4/5)	CI	2	Pass
2	3/19/24 7:48	03192416.D	CCV C16031924_25ng	S37-01032403/S37-02282403 (3/29)	CI	3	Pass
3	3/19/24 8:21	03192417.D	blank	S37-01032403/	CI	1	
4	3/19/24 8:55	03192418.D	MB R16031924_1000ng	S37-01032403/AS01319	CI	2	Pass
5	3/19/24 9:28	03192419.D	system	S37-01032403/S37-03052402 (4/4)	CI	2	
6	3/19/24 10:02	03192420.D	LCS R16031924_5ng	S37-01032403/S37-03052402 (4/4)	CI	2	Pass
7	3/19/24 10:35	03192421.D	P2400875-001dil (20mL)	S37-01032403/	CI	8	no can
8	3/19/24 11:09	03192422.D	P2400875-001dil (20mL)	S37-01032403/	CI	8	
9	3/19/24 11:43	03192423.D	P2400875-001dupdil (20mL)	S37-01032403/	CI	8	Pass
10	3/19/24 12:38	03192424.D	P2400922-067 (1mL)	S37-01032403/	CI	1	
11	3/19/24 13:11	03192425.D	P2400922-066 (15mL)	S37-01032403/	CI	12	
12	3/19/24 13:45	03192426.D	P2400922-067dil (0.5mL)	S37-01032403/	CI	1	
13	3/19/24 14:20	03192427.D	P2400922-066dil (5mL)	S37-01032403/	CI	1	
14	3/19/24 14:54	03192428.D	P2400922-062 (0.8mL)	S37-01032403/	CI	1	needs dil
15	3/19/24 15:28	03192429.D	P2400922-061 (2mL)	S37-01032403/	CI	1	
16	3/19/24 16:01	03192430.D	P2400922-065 (45mL)	S37-01032403/	CI	11	
17	3/19/24 16:37	03192431.D	P2400922-065dil (15mL)	S37-01032403/	CI	11	
18	3/19/24 17:10	03192432.D	P2400922-059 (2.5mL)	S37-01032403/	CI	1	
19	3/19/24 17:44	03192433.D	P2400922-051 (50mL)	S37-01032403/	CI	3	
20	3/19/24 18:17	03192434.D	P2400922-052 (400mL)	S37-01032403/	CI	4	
21	3/19/24 18:51	03192435.D	P2400922-053 (400mL)	S37-01032403/	CI	5	
22	3/19/24 19:24	03192436.D	P2400922-054 (400mL)	S37-01032403/	CI	6	
23	3/19/24 19:58	03192437.D	P2400922-055 (400mL)	S37-01032403/	CI	7	
24	3/19/24 20:32	03192438.D	P2400922-056 (400mL)	S37-01032403/	CI	8	
25	3/19/24 21:05	03192439.D	P2400922-057 (400mL)	S37-01032403/	CI	12	
26	3/19/24 21:39	03192440.D	P2400922-058 (400mL)	S37-01032403/	CI	13	
27	3/19/24 22:13	03192441.D	P2400922-060 (140mL)	S37-01032403/	CI	14	
28	3/19/24 22:46	03192442.D	P2400922-063 (90mL)	S37-01032403/	CI	9	run higher
29	3/19/24 23:20	03192443.D	P2400922-063dup (90mL)	S37-01032403/	CI	9	not used
30	3/19/24 23:54	03192444.D	P2400922-064 (210mL)	S37-01032403/	CI	10	run higher
31	3/20/24 0:27	03192445.D	P2400877-007 (400mL)	S37-01032403/	CI	15	
	LCS:Methylene Chloride,cis-1,3-Dichloropropene,Benzene low w/in 70-130 CI 3/20/24						

Injection Log

Directory: I:\MS09\DATA\2024_03\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/20/24 1:13	03202401.D	Blank	S37-02202408	SC	1	
2	3/20/24 1:45	03202402.D	CCV R09032024_25ng	S37-02202408/S37-02282402 (3/29)	SC	2	Passed
3	3/20/24 2:18	03202403.D	CCV C09032024_25ng	S37-02202408/S37-02202402 (3/21)	SC	3	Passed
4	3/20/24 2:50	03202404.D	Blank	S37-02202408	SC	2	
5	3/20/24 3:22	03202405.D	MB R09032024_1000mL	S37-02202408/AC00880	SC	2	Passed
6	3/20/24 3:54	03202406.D	LCS R09032024_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	Passed
7	3/20/24 4:26	03202407.D	LCSD R09032024_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	Passed
8	3/20/24 8:59	03202408.D	P2400922-012 (400mL)	S37-02202408	SC	14	
9	3/20/24 9:31	03202409.D	P2400922-013 (400mL)	S37-02202408	SC	15	
10	3/20/24 10:03	03202410.D	P2400922-014 (400mL)	S37-02202408	SC	16	
11	3/20/24 10:35	03202411.D	P2400922-004Dil (50mL)	S37-02202408	SC	7	
12	3/20/24 11:10	03202412.D	TO-15 IDC 2ng	S37-02202408/S37-03122411 (4/11)	SC	2	
13	3/20/24 11:42	03202413.D	TO-15 IDC 2ng	S37-02202408/S37-03122411 (4/11)	SC	2	
14	3/20/24 12:15	03202414.D	TO-15 IDC 2ng	S37-02202408/S37-03122411 (4/11)	SC	2	
15	3/20/24 12:47	03202415.D	TO-15 IDC 2ng	S37-02202408/S37-03122411 (4/11)	SC	2	
16	3/20/24 13:44	03202416.D	P2400922-015Dil (50mL)	S37-02202408	SC	4	
17	3/20/24 14:17	03202417.D	P2400922-016 (200mL)	S37-02202408	SC	5	
18	3/20/24 14:49	03202418.D	P2400922-017 (400mL)	S37-02202408	SC	6	
19	3/20/24 15:21	03202419.D	P2400922-018 (400mL)	S37-02202408	SC	7	
20	3/20/24 15:54	03202420.D	P2400922-019 (400mL)	S37-02202408	SC	8	
21	3/20/24 16:26	03202421.D	P2400922-023 (400mL)	S37-02202408	SC	9	
22	3/20/24 17:16	03202422.D	P2400922-015 (100mL)	S37-02202408	SC	4	
23	3/20/24 17:48	03202423.D	P2400922-016 (400mL)	S37-02202408	SC	5	
24	3/20/24 18:20	03202424.D	P2400922-023Dil (40mL)	S37-02202408	SC	9	
25	3/20/24 18:52	03202425.D	P2400922-024 (80mL)	S37-02202408	SC	10	
26	3/20/24 19:24	03202426.D	P2400922-024dup (80mL)	S37-02202408	SC	10	Passed
27	3/20/24 19:56	03202427.D	P2400922-026 (25mL)	S37-02202408	SC	11	
28	3/20/24 20:28	03202428.D	P2400922-027 (20mL)	S37-02202408	SC	12	
29	3/20/24 21:01	03202429.D	P2400922-028 (120mL)	S37-02202408	SC	13	
30	3/20/24 21:33	03202430.D	P2400922-029 (400mL)	S37-02202408	SC	14	
31	3/20/24 22:05	03202431.D	P2400922-030 (400mL)	S37-02202408	SC	15	
32	3/20/24 22:38	03202432.D	P2400922-031 (80mL)	S37-02202408	SC	16	
33	3/20/24 23:10	03202433.D	P2400922-032 (400mL)	S37-02202408	SC	6	
34	3/20/24 23:42	03202434.D	P2400922-033 (400mL)	S37-02202408	SC	7	
35	3/21/24 0:15	03202435.D	P2400922-034 (80mL)	S37-02202408	SC	8	
							

Injection Log

Directory: I:\MS16\DATA\2024_03\20\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/20/24 3:16	03202401.D	CCV R16032024_25ng	S37-01032403/S37-03182404 (4/17)	CI	2	pass
2	3/20/24 3:49	03202402.D	CCV C16032024_25ng	S37-01032403/S37-031224054 (4/11)	CI	3	pass
3	3/20/24 4:23	03202403.D	blank	S37-01032403/	CI	1	
4	3/20/24 4:56	03202404.D	MB R16032024_1000ng	S37-01032403/AS01319	CI	2	pass
5	3/20/24 5:30	03202405.D	LCS R16032024_25ng	S37-01032403/S37-03192403 (4/18)	CI	2	pass
6	3/20/24 6:03	03202406.D	LCSD R16032024_25ng	S37-01032403/S37-03192403 (4/18)	CI	2	pass
7	3/20/24 6:37	03202407.D	blank	S37-01032403/	CI	1	
8	3/20/24 9:05	03202408.D	P2400922-062dil (0.5mL)	S37-01032403/	CI	1	
9	3/20/24 9:38	03202409.D	P2400922-063 (400mL)	S37-01032403/	CI	9	
10	3/20/24 10:11	03202410.D	P2400922-064 (400mL)	S37-01032403/	CI	10	
11	3/20/24 10:55	03202411.D	P2400937-001 (1mL)	S37-01032403/	CI	1	
12	3/20/24 11:29	03202412.D	P2400937-002 (7mL)	S37-01032403/	CI	1	
13	3/20/24 12:02	03202413.D	P2400937-001 (2mL)	S37-01032403/	CI	1	
14	3/20/24 12:36	03202414.D	P2400937-003 (9mL)	S37-01032403/	CI	1	
15	3/20/24 13:10	03202415.D	P2400937-004 (130mL)	S37-01032403/	CI	8	
16	3/20/24 13:45	03202416.D	P2400937-005 (0.3mL)	S37-01032403/	CI	1	
17	3/20/24 14:18	03202417.D	P2400937-006 (0.5mL)	S37-01032403/	CI	1	
18	3/20/24 14:52	03202418.D	P2400937-007 (1.3mL)	S37-01032403/	CI	1	
19	3/20/24 15:30	03202419.D	P2400937-008 (7mL)	S37-01032403/	CI	1	
20	3/20/24 16:04	03202420.D	system	S37-01032403/S37-03182404 (4/17)	CI	2	
21	3/20/24 17:07	03202421.D	P2400937-004dil (65mL)	S37-01032403/	CI	8	
22	3/20/24 17:41	03202422.D	P2400937-013 (30mL)	S37-01032403/	CI	3	higher
23	3/20/24 18:14	03202423.D	P2400937-014 (20mL)	S37-01032403/	CI	4	
24	3/20/24 18:48	03202424.D	P2400937-015 (40mL)	S37-01032403/	CI	5	
25	3/20/24 19:21	03202425.D	P2400937-016 (40mL)	S37-01032403/	CI	6	
26	3/20/24 19:55	03202426.D	P2400937-017 (50mL)	S37-01032403/	CI	7	
27	3/20/24 20:29	03202427.D	P2400937-018 (50mL)	S37-01032403/	CI	9	
28	3/20/24 21:03	03202428.D	P2400937-018dup (50mL)	S37-01032403/	CI	9	pass
29	3/20/24 21:36	03202429.D	P2400937-019 (160mL)	S37-01032403/	CI	10	higher
30	3/20/24 22:10	03202430.D	P2400937-020 (70mL)	S37-01032403/	CI	11	higher
31	3/20/24 22:43	03202431.D	P2400937-021 (20mL)	S37-01032403/	CI	13	dil
32	3/20/24 23:17	03202432.D	blank	S37-01032403/	CI	1	
33	3/20/24 23:51	03202433.D	CCVend R16032024_25ng	S37-01032403/S37-03182404 (4/17)	CI	2	pass
							CI 3/21/24

Injection Log

Directory: I:\MS16\DATA\2024_03\21\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/21/24 0:24	03212401.D	CCV R16032124_25ng	S37-01032403/S37-03182404 (4/17)	CI	2	pass
2	3/21/24 0:58	03212402.D	std check	S37-01032403/S37-03182404 (4/17)	CI	2	
3	3/21/24 1:31	03212403.D	CCV C16032024_25ng	S37-01032403/S37-031224054 (4/11)	CI	16	pass
4	3/21/24 2:05	03212404.D	blank	S37-01032403/	CI	1	
5	3/21/24 2:38	03212405.D	xMB R16032124_1000ngx	S37-01032403/AS01319	CI	2	can contaminated
6	3/21/24 3:12	03212406.D	xLCS R16032124_25ngx	S37-01032403/S37-03192403 (4/18)	CI	2	rerun
7	3/21/24 3:45	03212407.D	xLCSD R16032124_25ngx	S37-01032403/S37-03192403 (4/18)	CI	2	rerun
8	3/21/24 4:19	03212408.D	blank	S37-01032403/	CI	2	
9	3/21/24 4:53	03212409.D	xP2400937-022 (15mL)x	S37-01032403/	CI	14	rerun
10	3/21/24 5:26	03212410.D	xP2400937-023 (25mL)x	S37-01032403/	CI	15	rerun
11	3/21/24 9:47	03212411.D	MB R16032124_1000ng	S37-01032403/AS01319	CI	2	pass
12	3/21/24 10:20	03212412.D	LCS R16032124_5ng	S37-01032403/S37-03192403 (4/18)	CI	2	pass
13	3/21/24 10:54	03212413.D	LCSD R16032124_5ng	S37-01032403/S37-03192403 (4/18)	CI	2	pass
14	3/21/24 11:27	03212414.D	P2401045-001 (60mL)	S37-01032403/	CI	3	
15	3/21/24 12:01	03212415.D	P2401045-002 (1000mL)	S37-01032403/	CI	4	
16	3/21/24 12:34	03212416.D	P2400922-066dil (5mL)	S37-01032403/	CI	1	
17	3/21/24 13:08	03212417.D	P2400922-065dil (15mL)	S37-01032403/	CI	8	
18	3/21/24 13:42	03212418.D	P2400937-021dil (5mL)	S37-01032403/	CI	1	
19	3/21/24 14:15	03212419.D	P2400937-009 (0.4mL)	S37-01032403/	CI	1	
20	3/21/24 15:08	03212420.D	P2400937-010 (0.15mL)	S37-01032403/	CI	1	
21	3/21/24 15:42	03212421.D	P2401087-001 (0.5mL)	S37-01032403/	CI	1	
22	3/21/24 16:24	03212422.D	P2401087-001 (2.5mL)	S37-01032403/	CI	1	
23	3/21/24 16:57	03212423.D	P2400937-012 (45mL)	S37-01032403/	CI	12	lower
24	3/21/24 17:31	03212424.D	P2400937-013 (60mL)	S37-01032403/	CI	13	
25	3/21/24 18:04	03212425.D	P2400937-019 (400mL)	S37-01032403/	CI	10	
26	3/21/24 18:38	03212426.D	P2400937-020 (400mL)	S37-01032403/	CI	11	
27	3/21/24 19:12	03212427.D	P2400937-023 (15mL)	S37-01032403/	CI	9	
28	3/21/24 19:45	03212428.D	P2400937-026 (25mL)	S37-01032403/	CI	8	lower
29	3/21/24 20:19	03212429.D	P2401109-001 (100mL)	S37-01032403/	CI	3	
30	3/21/24 20:52	03212430.D	P2401109-001dup (100mL)	S37-01032403/	CI	3	
31	3/21/24 21:26	03212431.D	P2401028-001 (1000mL)	S37-01032403/	CI	6	
32	3/21/24 22:00	03212432.D	P2304618-001 (1000mL)	S37-01032403/	CI	7	
33	3/21/24 22:33	03212433.D	P2400841-001 (1000mL)	S37-01032403/	CI	5	lower
34	3/21/24 23:06	03212434.D	P2400841-004 (30mL)	S37-01032403/	CI	4	
35	3/21/24 23:40	03212435.D	CCVend R16032124_25ng	S37-01032403/S37-03182404 (4/17)	CI	2	pass
					CI 3/22/24		

Injection Log

Directory: I:\MS09\DATA\2024_03\22\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/22/24 0:06	03222402.D	CCV R09032224_25ng	S37-02202408/S37-02282402 (3/29)	SC	2	pass
2	3/22/24 0:38	03222403.D	CCV C09032224_25ng	S37-02202408/S37-02282404 (3/29)	SC	3	pass
3	3/22/24 1:11	03222404.D	Blank	S37-02202408	SC	2	
4	3/22/24 1:43	03222405.D	MB R09032224_1000mL	S37-02202408/AC00880	SC	2	pass
5	3/22/24 2:15	03222406.D	LCS R09032224_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	pass
6	3/22/24 2:47	03222407.D	LCSD R09032224_25ng	S37-02202408/S37-03152406 (4/14)	SC	2	pass
7	3/22/24 9:11	03222408.D	P2400928-018 (1000mL)	S37-02202408	SC	13	
8	3/22/24 9:43	03222409.D	P2400928-019 (1000mL)	S37-02202408	SC	14	
9	3/22/24 10:36	03222410.D	P2400928-020 (1000mL)	S37-02202408	SC	4	
10	3/22/24 11:08	03222411.D	P2400928-021 (1000mL)	S37-02202408	SC	5	
11	3/22/24 11:40	03222412.D	P2400928-022 (1000mL)	S37-02202408	SC	6	
12	3/22/24 12:12	03222413.D	P2400928-023 (1000mL)	S37-02202408	SC	7	
13	3/22/24 12:44	03222414.D	P2400928-024 (1000mL)	S37-02202408	SC	8	
14	3/22/24 13:18	03222415.D	P2400928-024dup (1000mL)	S37-02202408	SC	8	
15	3/22/24 13:50	03222416.D	P2400928-025 (1000mL)	S37-02202408	SC	9	pass
16	3/22/24 14:22	03222417.D	P2400928-026 (1000mL)	S37-02202408	SC	10	
17	3/22/24 14:54	03222418.D	P2400928-027 (1000mL)	S37-02202408	SC	11	
18	3/22/24 15:27	03222419.D	P2400928-028 (1000mL)	S37-02202408	SC	12	
19	3/22/24 16:29	03222420.D	P2400922-035 (20mL)	S37-02202408	SC	13	Dilution
20	3/22/24 17:02	03222421.D	P2400922-036 (120mL)	S37-02202408	SC	14	
21	3/22/24 17:34	03222422.D	P2400922-037 (400mL)	S37-02202408	SC	15	
22	3/22/24 18:06	03222423.D	P2400922-038 (80mL)	S37-02202408	SC	16	Dilution
23	3/22/24 18:38	03222424.D	P2400922-026 (400mL)	S37-02202408	SC	4	
24	3/22/24 19:10	03222425.D	P2400922-028 (400mL)	S37-02202408	SC	5	
25	3/22/24 19:42	03222426.D	P2400922-030Dil (40mL)	S37-02202408	SC	6	
26	3/22/24 20:15	03222427.D	P2400922-031Dil (40mL)	S37-02202408	SC	7	
27	3/22/24 20:47	03222428.D	P2400922-034Dil (40mL)	S37-02202408	SC	8	
28	3/22/24 21:19	03222429.D	1SS00706	S37-02202408	SC	9	
29	3/22/24 21:51	03222430.D	1SS00025	S37-02202408	SC	10	
30	3/22/24 22:23	03222431.D	1SS00873	S37-02202408	SC	11	
31	3/22/24 22:55	03222432.D	CCV ENDR09032224_25ng	S37-02202408/S37-02282402 (3/29)	SC	2	pass
							CL 3/23/24

Injection Log

Directory: I:\MS09\DATA\2024_03\25\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/25/24 12:14	03252404.D	Blank	S37-03252401	SC	1	
2	3/25/24 12:52	03252405.D	CCV R09032524_25ng	S37-03252401/S37-03182401 (4/27)	SC	2	Passed
3	3/25/24 13:38	03252406.D	CCV C09032524_25ng	S37-03252401	SC	3	not used
4	3/25/24 14:18	03252407.D	CCV C09032524_25ng	S37-03252401/S37-03122405 (4/11)	SC	3	Passed
5	3/25/24 15:11	03252408.D	MB R09032524_1000mL	S37-03252401/AC00880	SC	2	Passed
6	3/25/24 15:43	03252409.D	LCS R09032524_25ng	S37-03252401/S37-03152406 (4/14)	SC	2	Passed
7	3/25/24 16:16	03252410.D	LCSD R09032524_25ng	S37-03252401/S37-03152406 (4/14)	SC	2	Passed
8	3/25/24 17:09	03252411.D	P2400922-039 (5.0mL)	S37-03252401	SC	1	
9	3/25/24 17:41	03252412.D	P2400922-035Dil (15mL)	S37-03252401	SC	4	
10	3/25/24 18:13	03252413.D	P2400922-038Dil (40mL)	S37-03252401	SC	5	
11	3/25/24 18:45	03252414.D	P2400922-040 (400mL)PF2	S37-03252401	SC	6	
12	3/25/24 19:17	03252415.D	P2400922-041 (400mL)PF2	S37-03252401	SC	7	
13	3/25/24 19:49	03252416.D	P2400922-042 (400mL)PF2	S37-03252401	SC	8	
14	3/25/24 20:21	03252417.D	P2400922-043 (80mL)	S37-03252401	SC	9	
15	3/25/24 20:54	03252418.D	P2400922-045 (400mL)PF2	S37-03252401	SC	10	
16	3/25/24 21:26	03252419.D	P2400922-046 (400mL)PF2	S37-03252401	SC	11	
17	3/25/24 21:58	03252420.D	P2400922-047 (400mL)PF2	S37-03252401	SC	12	
18	3/25/24 22:30	03252421.D	P2400922-048 (80mL)PF2	S37-03252401	SC	13	
19	3/25/24 23:02	03252422.D	P2400922-048dup (80mL)PF2	S37-03252401	SC	13	Passed
20	3/25/24 23:34	03252423.D	P2400922-049 (400mL)PF2	S37-03252401	SC	14	
21	3/26/24 0:06	03252424.D	P2400922-050 (400mL)PF2	S37-03252401	SC	15	
22	3/26/24 8:42	03252425.D	P2400922-044 (5.0mL)	S37-03252401	SC	1	
23	3/26/24 9:15	03252426.D	P2400922-042Dil (40mL)PF2	S37-03252401	SC	8	
24	3/26/24 9:47	03252427.D	P2400922-043Dil (40mL)	S37-03252401	SC	9	
25	3/26/24 10:19	03252428.D	P2400922-048Dil (40mL)PF2	S37-03252401	SC	13	
26	3/26/24 10:51	03252429.D	P2400922-048dupDil (40mL)PF2	S37-03252401	SC	13	Passed
27	3/26/24 11:33	03252430.D	xxxP2400922-050Dil (40mL)PF2	S37-03252401	SC	15	not used
28	3/26/24 12:05	03252431.D	P2400922-050Dil (40mL)PF3	S37-03252401	SC	15	

3/26/24

March 13, 2024 Service Request No:R2401542

Stephanie Portillo
NASA/WSTF/Navarro
P.O. Box 20
Las Cruces, NM 88004

Laboratory Results for: White Sands Test Facility

Dear Stephanie,

Enclosed are the results of the sample(s) submitted to our laboratory February 28, 2024
For your reference, these analyses have been assigned our service request number **R2401542.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental



Janice Jaeger
Project Manager

CC: Laurel Gardenhire

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ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility
Sample Matrix: Water

Service Request: R2401542
Date Received: 02/28/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.
Manual Integrations may have been used in the quantitation of the results in this report. Manual Integrations are readily identified in the raw data on the Quantitation Reports (Organics) by the automatic placement of an “m” next to the sample result. For Ion Chromatography, the manual integrations are identified by the automatic placement of “manipulated” or "manually integrated" in the upper left corner of the chromatogram (Hexavalent Chromium) or “M” by the result in the “Type” column (anions). The reason for the manual integration is noted on the “after” chromatogram, which is found with the original chromatogram and quantitation report. All integrations follow the lab SOP ADM-INT “Manual Integration.”

Sample Receipt:

Fifteen water samples were received for analysis at ALS Environmental on 02/28/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Volatiles by GC/MS:

Method 8260C, 03/06/2024: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
Method 8260C, 03/07/2024: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Approved by _____ Date 03/13/2024

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2401542-001	2402260900A 400-EV-131	2/26/2024	
R2401542-002	2402260901A 400-EV-131	2/26/2024	
R2401542-003	2402260745C 400-FV-131	2/26/2024	
R2401542-004	2402260935C 400-FV-131	2/26/2024	
R2401542-005	2402260936C 400-FV-131	2/26/2024	
R2401542-006	2402260937C 400-FV-131	2/26/2024	
R2401542-007	2402261005A 400-HV-147	2/26/2024	
R2401542-008	2402261006A 400-HV-147	2/26/2024	
R2401542-009	2402261030C 400-GV-125	2/26/2024	
R2401542-010	2402261031C 400-GV-125	2/26/2024	
R2401542-011	2402261032C 400-GV-125	2/26/2024	
R2401542-012	2402261316A 400-JV-150	2/26/2024	
R2401542-013	2402261315A 400-JV-150	2/26/2024	
R2401542-014	2402261410C 400-IV-123	2/26/2024	
R2401542-015	2402261411C 400-IV-123	2/26/2024	

Date 2-27-24

WSTF CHAIN OF CUSTODY RECORD

Laboratory: ALS PO# 23EC002B

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Stephanie Portillo, stephanie.portillo@nasa.gov
- [ ] Other
- [ ] Other

Analytical Requirements: Method 8260 VOA

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytical Requirements	Charge Number (WSTF Use Only)	Comments
240226090DA	400-EV-131	3	A	X	HNMU	
240226090 1A	"	3	A	X	"	
240226074SC	400-FV-131	3	A	X	"	
240226093SC	"	3	A	X	"	
240226093 6C	"	3	A	X	"	
240226093 7C	"	3	A	X	"	
240226100SA	400-HV-147	3	A	X	"	
240226100 6A	"	3	A	X	"	
240226103 0C	400-GV-125	3	A	X	"	
240226103 1C	"	3	A	X	"	
240226103 2C	"	3	A	X	"	
240226131 6A	400-JV-150	3	A	X	"	

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori Minnick	2-27-24 1100 HRS	[signature]	2/28/24 0730

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R2401542 5
NASA/WSTF/Navarro
White Sands Test Facility

Date 2-27-24

WSTF CHAIN OF CUSTODY RECORD

Laboratory: MS PO# 23EC002B

Address shipping questions to:
- [x] Lori Minnick, 575-524-5119
- [ ] Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:
- [x] Stephanie Portillo, stephanie.portillo@nasa.gov
- [ ] Other
- [ ] Other

Analytical Requirements: Method 8260 VOA

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analyte(s)	Charge Number (WSTF Use Only)	Comments
240226131SA	400-JV-150	3	A	X	HWMU	
240226141DC	400-JV-123	3	A	X	"	
240226141IC	"	3	A	X	"	Bubbles: 2 of 3

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	2-27-24 1100HRS	[signature]	2/28/24 0730

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R2401542 5
NASA/WSTF/Navarro
White Sands Test Facility

Cooler Receipt and Preservati

Project/Client NASA Folder Number

Cooler received on 2/28/24 by: KE

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk, or Sulfide have sig* **bubbles**?	(Y)	N	NA *
6	Where did the bottles originate?	(ALS/ROC)		(CLIENT)
7	Soil VOA received as: Bulk Encore 5035set			(NA)

8. Temperature Readings Date: 2/28/24 Time: 07:53 ID: IR#12 (IR#11) From: Temp Blank (Sample Bottle)

Observed Temp (°C)							
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: SMO by KE on 2/28/24 at 07:59
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 2/28/24 Time: 0850 by: RR

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Were dissolved metals filtered in the field? YES NO (N/A)
14. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**	no lot info	-				

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 2718-2

Explain all Discrepancies/ Other Comments:

*Noted on COC.

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: RR

PC Secondary Review: _____

*significant air bubbles: VOA >5-6 mm; WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations[1]

NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory. To verify NH accredited analytes, go to https://www4.des.state.nh.us/CertifiedLabs/Certified-Method.aspx.

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: NASA/WSTF/Navarro **Service Request:** R2401542
Project: White Sands Test Facility/23EC002B

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
8260C	Water	2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)
8260C	Water	Dichlorofluoromethane (CFC 21)

Client: NASA/WSTF/Navarro **Service Request:** R2401542
Project: White Sands Test Facility/23EC002B

Sample Name: 2402260900A 400-EV-131 **Date Collected:** 02/26/24
Lab Code: R2401542-001 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402260901A 400-EV-131 **Date Collected:** 02/26/24
Lab Code: R2401542-002 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402260745C 400-FV-131 **Date Collected:** 02/26/24
Lab Code: R2401542-003 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402260935C 400-FV-131 **Date Collected:** 02/26/24
Lab Code: R2401542-004 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402260936C 400-FV-131 **Date Collected:** 02/26/24
Lab Code: R2401542-005 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: NASA/WSTF/Navarro **Service Request:** R2401542
Project: White Sands Test Facility/23EC002B

Sample Name: 2402260937C 400-FV-131 **Date Collected:** 02/26/24
Lab Code: R2401542-006 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261005A 400-HV-147 **Date Collected:** 02/26/24
Lab Code: R2401542-007 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261006A 400-HV-147 **Date Collected:** 02/26/24
Lab Code: R2401542-008 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261030C 400-GV-125 **Date Collected:** 02/26/24
Lab Code: R2401542-009 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261030C 400-GV-125 **Date Collected:** 02/26/24
Lab Code: R2401542-009.R01 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client: NASA/WSTF/Navarro **Service Request:** R2401542
Project: White Sands Test Facility/23EC002B

Sample Name: 2402261031C 400-GV-125 **Date Collected:** 02/26/24
Lab Code: R2401542-010 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261031C 400-GV-125 **Date Collected:** 02/26/24
Lab Code: R2401542-010.R01 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261032C 400-GV-125 **Date Collected:** 02/26/24
Lab Code: R2401542-011 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261316A 400-JV-150 **Date Collected:** 02/26/24
Lab Code: R2401542-012 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: 2402261315A 400-JV-150 **Date Collected:** 02/26/24
Lab Code: R2401542-013 **Date Received:** 02/28/24
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B		

Sample Name:	2402261410C 400-IV-123	**Date Collected:**	02/26/24
Lab Code:	R2401542-014	**Date Received:**	02/28/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name:	2402261411C 400-IV-123	**Date Collected:**	02/26/24
Lab Code:	R2401542-015	**Date Received:**	02/28/24
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260900A 400-EV-131	**Units:**	ug/L
Lab Code:	R2401542-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 18:54	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.20	1	03/06/24 18:54	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 18:54	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	03/06/24 18:54	
1,1,2-Trichloro-1,2,2-trifluoroethane	**13**		1.0	0.20	1	03/06/24 18:54	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	03/06/24 18:54	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.20	1	03/06/24 18:54	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	03/06/24 18:54	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	03/06/24 18:54	
1,2-Dibromoethane	ND	U	1.0	0.20	1	03/06/24 18:54	
1,2-Dichloroethane	ND	U	1.0	0.20	1	03/06/24 18:54	
1,2-Dichloropropane	ND	U	1.0	0.20	1	03/06/24 18:54	
1,4-Dioxane	ND	U	100	13	1	03/06/24 18:54	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.20	1	03/06/24 18:54	
2-Butanone (MEK)	ND	U	5.0	0.78	1	03/06/24 18:54	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	03/06/24 18:54	
2-Hexanone	ND	U	5.0	0.20	1	03/06/24 18:54	
Isobutyl Alcohol	ND	U	100	33	1	03/06/24 18:54	
2-Propanol	ND	U	50	22	1	03/06/24 18:54	
Allyl Chloride	ND	U	2.0	0.36	1	03/06/24 18:54	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	03/06/24 18:54	
Acetone	ND	U	10	5.0	1	03/06/24 18:54	
Acetonitrile	ND	U	25	5.2	1	03/06/24 18:54	
Acrolein	ND	U	10	0.90	1	03/06/24 18:54	
Acrylonitrile	ND	U	5.0	0.90	1	03/06/24 18:54	
Benzene	ND	U	1.0	0.20	1	03/06/24 18:54	
Bromodichloromethane	ND	U	1.0	0.20	1	03/06/24 18:54	
Bromoform	ND	U	1.0	0.25	1	03/06/24 18:54	
Bromomethane	ND	U	2.0	0.70	1	03/06/24 18:54	
Carbon Disulfide	ND	U	1.0	0.42	1	03/06/24 18:54	
Carbon Tetrachloride	ND	U	1.0	0.34	1	03/06/24 18:54	
Chlorobenzene	ND	U	1.0	0.20	1	03/06/24 18:54	
Chloroethane	ND	U	2.0	0.23	1	03/06/24 18:54	
Chloroform	ND	U	1.0	0.51	1	03/06/24 18:54	
Chloromethane	ND	U	2.0	0.80	1	03/06/24 18:54	
Cyclohexane	ND	U	10	0.60	1	03/06/24 18:54	
Dibromochloromethane	ND	U	1.0	0.20	1	03/06/24 18:54	
Dibromomethane	ND	U	1.0	0.20	1	03/06/24 18:54	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	03/06/24 18:54	
Dichlorofluoromethane (CFC 21)	**0.27**	**J**	1.0	0.20	1	03/06/24 18:54	
Dichloromethane	ND	U	1.0	0.65	1	03/06/24 18:54	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260900A 400-EV-131	**Units:**	ug/L
Lab Code:	R2401542-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 18:54	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 18:54	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 18:54	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 18:54	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 18:54	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 18:54	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 18:54	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 18:54	
Styrene	ND	U	1.0	0.20	1	03/06/24 18:54	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 18:54	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 18:54	
Toluene	ND	U	1.0	0.20	1	03/06/24 18:54	
Trichloroethene (TCE)	**0.26**	**J**	1.0	0.20	1	03/06/24 18:54	
Trichlorofluoromethane (CFC 11)	**84**		1.0	0.24	1	03/06/24 18:54	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 18:54	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 18:54	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 18:54	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 18:54	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 18:54	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 18:54	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 18:54	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 18:54	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 18:54	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	03/06/24 18:54	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	03/06/24 18:54	
Dibromofluoromethane	101	80 - 116	03/06/24 18:54	
Toluene-d8	104	87 - 121	03/06/24 18:54	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.98	22	J
001825-61-2	Silane, methoxytrimethyl-	2.70	5.5	JN

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260901A 400-EV-131	**Units:**	ug/L
Lab Code:	R2401542-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 15:27	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 15:27	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 15:27	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 15:27	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 15:27	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 15:27	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 15:27	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 15:27	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 15:27	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 15:27	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 15:27	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 15:27	
1,4-Dioxane	ND U	100	13	1	03/06/24 15:27	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 15:27	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 15:27	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 15:27	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 15:27	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 15:27	
2-Propanol	ND U	50	22	1	03/06/24 15:27	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 15:27	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 15:27	
Acetone	ND U	10	5.0	1	03/06/24 15:27	
Acetonitrile	ND U	25	5.2	1	03/06/24 15:27	
Acrolein	ND U	10	0.90	1	03/06/24 15:27	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 15:27	
Benzene	ND U	1.0	0.20	1	03/06/24 15:27	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 15:27	
Bromoform	ND U	1.0	0.25	1	03/06/24 15:27	
Bromomethane	ND U	2.0	0.70	1	03/06/24 15:27	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 15:27	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 15:27	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 15:27	
Chloroethane	ND U	2.0	0.23	1	03/06/24 15:27	
Chloroform	ND U	1.0	0.51	1	03/06/24 15:27	
Chloromethane	ND U	2.0	0.80	1	03/06/24 15:27	
Cyclohexane	ND U	10	0.60	1	03/06/24 15:27	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 15:27	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 15:27	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 15:27	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 15:27	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 15:27	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260901A 400-EV-131	**Units:**	ug/L
Lab Code:	R2401542-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 15:27	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 15:27	
Iodomethane	ND U	5.0	4.3	1	03/06/24 15:27	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 15:27	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 15:27	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 15:27	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 15:27	
Propionitrile	ND U	5.0	3.0	1	03/06/24 15:27	
Styrene	ND U	1.0	0.20	1	03/06/24 15:27	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 15:27	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 15:27	
Toluene	ND U	1.0	0.20	1	03/06/24 15:27	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 15:27	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 15:27	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 15:27	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 15:27	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 15:27	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 15:27	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 15:27	
o-Xylene	ND U	1.0	0.20	1	03/06/24 15:27	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 15:27	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 15:27	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 15:27	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 15:27	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	03/06/24 15:27	
Dibromofluoromethane	100	80 - 116	03/06/24 15:27	
Toluene-d8	101	87 - 121	03/06/24 15:27	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	No Tentatively Identified Compounds Detected			

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260745C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 17:22	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 17:22	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 17:22	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 17:22	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 17:22	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 17:22	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 17:22	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 17:22	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 17:22	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 17:22	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 17:22	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 17:22	
1,4-Dioxane	ND U	100	13	1	03/06/24 17:22	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 17:22	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 17:22	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 17:22	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 17:22	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 17:22	
2-Propanol	ND U	50	22	1	03/06/24 17:22	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 17:22	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 17:22	
Acetone	ND U	10	5.0	1	03/06/24 17:22	
Acetonitrile	ND U	25	5.2	1	03/06/24 17:22	
Acrolein	ND U	10	0.90	1	03/06/24 17:22	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 17:22	
Benzene	ND U	1.0	0.20	1	03/06/24 17:22	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 17:22	
Bromoform	ND U	1.0	0.25	1	03/06/24 17:22	
Bromomethane	ND U	2.0	0.70	1	03/06/24 17:22	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 17:22	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 17:22	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 17:22	
Chloroethane	ND U	2.0	0.23	1	03/06/24 17:22	
Chloroform	ND U	1.0	0.51	1	03/06/24 17:22	
Chloromethane	ND U	2.0	0.80	1	03/06/24 17:22	
Cyclohexane	ND U	10	0.60	1	03/06/24 17:22	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 17:22	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 17:22	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 17:22	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 17:22	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 17:22	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260745C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 17:22	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 17:22	
Iodomethane	ND U	5.0	4.3	1	03/06/24 17:22	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 17:22	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 17:22	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 17:22	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 17:22	
Propionitrile	ND U	5.0	3.0	1	03/06/24 17:22	
Styrene	ND U	1.0	0.20	1	03/06/24 17:22	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 17:22	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 17:22	
Toluene	ND U	1.0	0.20	1	03/06/24 17:22	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 17:22	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 17:22	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 17:22	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 17:22	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 17:22	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 17:22	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 17:22	
o-Xylene	ND U	1.0	0.20	1	03/06/24 17:22	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 17:22	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 17:22	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 17:22	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 17:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 122	03/06/24 17:22	
Dibromofluoromethane	98	80 - 116	03/06/24 17:22	
Toluene-d8	101	87 - 121	03/06/24 17:22	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	8.5	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260935C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 17:45	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.20	1	03/06/24 17:45	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 17:45	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	03/06/24 17:45	
1,1,2-Trichloro-1,2,2-trifluoroethane	**37**		1.0	0.20	1	03/06/24 17:45	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	03/06/24 17:45	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.20	1	03/06/24 17:45	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	03/06/24 17:45	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	03/06/24 17:45	
1,2-Dibromoethane	ND	U	1.0	0.20	1	03/06/24 17:45	
1,2-Dichloroethane	ND	U	1.0	0.20	1	03/06/24 17:45	
1,2-Dichloropropane	ND	U	1.0	0.20	1	03/06/24 17:45	
1,4-Dioxane	ND	U	100	13	1	03/06/24 17:45	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.20	1	03/06/24 17:45	
2-Butanone (MEK)	ND	U	5.0	0.78	1	03/06/24 17:45	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	03/06/24 17:45	
2-Hexanone	ND	U	5.0	0.20	1	03/06/24 17:45	
Isobutyl Alcohol	ND	U	100	33	1	03/06/24 17:45	
2-Propanol	ND	U	50	22	1	03/06/24 17:45	
Allyl Chloride	ND	U	2.0	0.36	1	03/06/24 17:45	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	03/06/24 17:45	
Acetone	ND	U	10	5.0	1	03/06/24 17:45	
Acetonitrile	ND	U	25	5.2	1	03/06/24 17:45	
Acrolein	ND	U	10	0.90	1	03/06/24 17:45	
Acrylonitrile	ND	U	5.0	0.90	1	03/06/24 17:45	
Benzene	ND	U	1.0	0.20	1	03/06/24 17:45	
Bromodichloromethane	ND	U	1.0	0.20	1	03/06/24 17:45	
Bromoform	ND	U	1.0	0.25	1	03/06/24 17:45	
Bromomethane	ND	U	2.0	0.70	1	03/06/24 17:45	
Carbon Disulfide	ND	U	1.0	0.42	1	03/06/24 17:45	
Carbon Tetrachloride	ND	U	1.0	0.34	1	03/06/24 17:45	
Chlorobenzene	ND	U	1.0	0.20	1	03/06/24 17:45	
Chloroethane	ND	U	2.0	0.23	1	03/06/24 17:45	
Chloroform	ND	U	1.0	0.51	1	03/06/24 17:45	
Chloromethane	ND	U	2.0	0.80	1	03/06/24 17:45	
Cyclohexane	ND	U	10	0.60	1	03/06/24 17:45	
Dibromochloromethane	ND	U	1.0	0.20	1	03/06/24 17:45	
Dibromomethane	ND	U	1.0	0.20	1	03/06/24 17:45	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	03/06/24 17:45	
Dichlorofluoromethane (CFC 21)	**4.4**		1.0	0.20	1	03/06/24 17:45	
Dichloromethane	ND	U	1.0	0.65	1	03/06/24 17:45	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260935C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 17:45	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 17:45	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 17:45	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 17:45	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 17:45	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 17:45	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 17:45	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 17:45	
Styrene	ND	U	1.0	0.20	1	03/06/24 17:45	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 17:45	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 17:45	
Toluene	ND	U	1.0	0.20	1	03/06/24 17:45	
Trichloroethene (TCE)	**0.55**	**J**	1.0	0.20	1	03/06/24 17:45	
Trichlorofluoromethane (CFC 11)	**96**		1.0	0.24	1	03/06/24 17:45	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 17:45	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 17:45	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 17:45	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 17:45	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 17:45	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 17:45	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 17:45	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 17:45	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 17:45	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	**5.4**		1.0	0.20	1	03/06/24 17:45	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	03/06/24 17:45	
Dibromofluoromethane	101	80 - 116	03/06/24 17:45	
Toluene-d8	103	87 - 121	03/06/24 17:45	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.98	30	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260936C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 18:08	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 18:08	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 18:08	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 18:08	
1,1,2-Trichloro-1,2,2-trifluoroethane	**34**	1.0	0.20	1	03/06/24 18:08	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 18:08	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 18:08	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 18:08	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 18:08	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 18:08	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 18:08	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 18:08	
1,4-Dioxane	ND U	100	13	1	03/06/24 18:08	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 18:08	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 18:08	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 18:08	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 18:08	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 18:08	
2-Propanol	ND U	50	22	1	03/06/24 18:08	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 18:08	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 18:08	
Acetone	ND U	10	5.0	1	03/06/24 18:08	
Acetonitrile	ND U	25	5.2	1	03/06/24 18:08	
Acrolein	ND U	10	0.90	1	03/06/24 18:08	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 18:08	
Benzene	ND U	1.0	0.20	1	03/06/24 18:08	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 18:08	
Bromoform	ND U	1.0	0.25	1	03/06/24 18:08	
Bromomethane	ND U	2.0	0.70	1	03/06/24 18:08	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 18:08	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 18:08	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 18:08	
Chloroethane	ND U	2.0	0.23	1	03/06/24 18:08	
Chloroform	ND U	1.0	0.51	1	03/06/24 18:08	
Chloromethane	ND U	2.0	0.80	1	03/06/24 18:08	
Cyclohexane	ND U	10	0.60	1	03/06/24 18:08	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 18:08	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 18:08	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 18:08	
Dichlorofluoromethane (CFC 21)	**4.0**	1.0	0.20	1	03/06/24 18:08	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 18:08	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260936C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 18:08	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 18:08	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 18:08	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 18:08	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 18:08	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 18:08	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 18:08	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 18:08	
Styrene	ND	U	1.0	0.20	1	03/06/24 18:08	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 18:08	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 18:08	
Toluene	ND	U	1.0	0.20	1	03/06/24 18:08	
Trichloroethene (TCE)	**0.54**	**J**	1.0	0.20	1	03/06/24 18:08	
Trichlorofluoromethane (CFC 11)	**87**		1.0	0.24	1	03/06/24 18:08	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 18:08	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 18:08	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 18:08	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 18:08	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 18:08	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 18:08	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 18:08	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 18:08	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 18:08	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	**5.1**		1.0	0.20	1	03/06/24 18:08	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	03/06/24 18:08	
Dibromofluoromethane	99	80 - 116	03/06/24 18:08	
Toluene-d8	101	87 - 121	03/06/24 18:08	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.98	31	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260937C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 18:31	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 18:31	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 18:31	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 18:31	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 18:31	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 18:31	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 18:31	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 18:31	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 18:31	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 18:31	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 18:31	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 18:31	
1,4-Dioxane	ND U	100	13	1	03/06/24 18:31	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 18:31	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 18:31	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 18:31	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 18:31	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 18:31	
2-Propanol	ND U	50	22	1	03/06/24 18:31	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 18:31	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 18:31	
Acetone	ND U	10	5.0	1	03/06/24 18:31	
Acetonitrile	ND U	25	5.2	1	03/06/24 18:31	
Acrolein	ND U	10	0.90	1	03/06/24 18:31	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 18:31	
Benzene	ND U	1.0	0.20	1	03/06/24 18:31	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 18:31	
Bromoform	ND U	1.0	0.25	1	03/06/24 18:31	
Bromomethane	ND U	2.0	0.70	1	03/06/24 18:31	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 18:31	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 18:31	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 18:31	
Chloroethane	ND U	2.0	0.23	1	03/06/24 18:31	
Chloroform	ND U	1.0	0.51	1	03/06/24 18:31	
Chloromethane	ND U	2.0	0.80	1	03/06/24 18:31	
Cyclohexane	ND U	10	0.60	1	03/06/24 18:31	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 18:31	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 18:31	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 18:31	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 18:31	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 18:31	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402260937C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 18:31	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 18:31	
Iodomethane	ND U	5.0	4.3	1	03/06/24 18:31	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 18:31	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 18:31	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 18:31	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 18:31	
Propionitrile	ND U	5.0	3.0	1	03/06/24 18:31	
Styrene	ND U	1.0	0.20	1	03/06/24 18:31	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 18:31	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 18:31	
Toluene	ND U	1.0	0.20	1	03/06/24 18:31	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 18:31	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 18:31	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 18:31	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 18:31	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 18:31	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 18:31	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 18:31	
o-Xylene	ND U	1.0	0.20	1	03/06/24 18:31	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 18:31	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 18:31	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 18:31	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 18:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	03/06/24 18:31	
Dibromofluoromethane	99	80 - 116	03/06/24 18:31	
Toluene-d8	101	87 - 121	03/06/24 18:31	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	9.2	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261005A 400-HV-147	**Units:**	ug/L
Lab Code:	R2401542-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 19:17	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.20	1	03/06/24 19:17	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 19:17	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	03/06/24 19:17	
1,1,2-Trichloro-1,2,2-trifluoroethane	**13**		1.0	0.20	1	03/06/24 19:17	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	03/06/24 19:17	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.20	1	03/06/24 19:17	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	03/06/24 19:17	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	03/06/24 19:17	
1,2-Dibromoethane	ND	U	1.0	0.20	1	03/06/24 19:17	
1,2-Dichloroethane	ND	U	1.0	0.20	1	03/06/24 19:17	
1,2-Dichloropropane	ND	U	1.0	0.20	1	03/06/24 19:17	
1,4-Dioxane	ND	U	100	13	1	03/06/24 19:17	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.20	1	03/06/24 19:17	
2-Butanone (MEK)	ND	U	5.0	0.78	1	03/06/24 19:17	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	03/06/24 19:17	
2-Hexanone	ND	U	5.0	0.20	1	03/06/24 19:17	
Isobutyl Alcohol	ND	U	100	33	1	03/06/24 19:17	
2-Propanol	ND	U	50	22	1	03/06/24 19:17	
Allyl Chloride	ND	U	2.0	0.36	1	03/06/24 19:17	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	03/06/24 19:17	
Acetone	ND	U	10	5.0	1	03/06/24 19:17	
Acetonitrile	ND	U	25	5.2	1	03/06/24 19:17	
Acrolein	ND	U	10	0.90	1	03/06/24 19:17	
Acrylonitrile	ND	U	5.0	0.90	1	03/06/24 19:17	
Benzene	ND	U	1.0	0.20	1	03/06/24 19:17	
Bromodichloromethane	ND	U	1.0	0.20	1	03/06/24 19:17	
Bromoform	ND	U	1.0	0.25	1	03/06/24 19:17	
Bromomethane	ND	U	2.0	0.70	1	03/06/24 19:17	
Carbon Disulfide	ND	U	1.0	0.42	1	03/06/24 19:17	
Carbon Tetrachloride	ND	U	1.0	0.34	1	03/06/24 19:17	
Chlorobenzene	ND	U	1.0	0.20	1	03/06/24 19:17	
Chloroethane	ND	U	2.0	0.23	1	03/06/24 19:17	
Chloroform	**0.66**	**J**	1.0	0.51	1	03/06/24 19:17	
Chloromethane	ND	U	2.0	0.80	1	03/06/24 19:17	
Cyclohexane	ND	U	10	0.60	1	03/06/24 19:17	
Dibromochloromethane	ND	U	1.0	0.20	1	03/06/24 19:17	
Dibromomethane	ND	U	1.0	0.20	1	03/06/24 19:17	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	03/06/24 19:17	
Dichlorofluoromethane (CFC 21)	**1.8**		1.0	0.20	1	03/06/24 19:17	
Dichloromethane	ND	U	1.0	0.65	1	03/06/24 19:17	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261005A 400-HV-147	**Units:**	ug/L
Lab Code:	R2401542-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 19:17	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 19:17	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 19:17	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 19:17	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 19:17	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 19:17	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 19:17	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 19:17	
Styrene	ND	U	1.0	0.20	1	03/06/24 19:17	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 19:17	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 19:17	
Toluene	ND	U	1.0	0.20	1	03/06/24 19:17	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	03/06/24 19:17	
Trichlorofluoromethane (CFC 11)	**33**		1.0	0.24	1	03/06/24 19:17	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 19:17	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 19:17	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 19:17	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 19:17	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 19:17	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 19:17	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 19:17	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 19:17	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 19:17	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	**0.56**	**J**	1.0	0.20	1	03/06/24 19:17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	03/06/24 19:17	
Dibromofluoromethane	101	80 - 116	03/06/24 19:17	
Toluene-d8	101	87 - 121	03/06/24 19:17	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.98	29	J

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261006A 400-HV-147	**Units:**	ug/L
Lab Code:	R2401542-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 15:50	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 15:50	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 15:50	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 15:50	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 15:50	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 15:50	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 15:50	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 15:50	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 15:50	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 15:50	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 15:50	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 15:50	
1,4-Dioxane	ND U	100	13	1	03/06/24 15:50	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 15:50	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 15:50	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 15:50	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 15:50	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 15:50	
2-Propanol	ND U	50	22	1	03/06/24 15:50	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 15:50	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 15:50	
Acetone	ND U	10	5.0	1	03/06/24 15:50	
Acetonitrile	ND U	25	5.2	1	03/06/24 15:50	
Acrolein	ND U	10	0.90	1	03/06/24 15:50	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 15:50	
Benzene	ND U	1.0	0.20	1	03/06/24 15:50	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 15:50	
Bromoform	ND U	1.0	0.25	1	03/06/24 15:50	
Bromomethane	ND U	2.0	0.70	1	03/06/24 15:50	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 15:50	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 15:50	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 15:50	
Chloroethane	ND U	2.0	0.23	1	03/06/24 15:50	
Chloroform	ND U	1.0	0.51	1	03/06/24 15:50	
Chloromethane	ND U	2.0	0.80	1	03/06/24 15:50	
Cyclohexane	ND U	10	0.60	1	03/06/24 15:50	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 15:50	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 15:50	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 15:50	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 15:50	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 15:50	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261006A 400-HV-147	**Units:**	ug/L
Lab Code:	R2401542-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 15:50	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 15:50	
Iodomethane	ND U	5.0	4.3	1	03/06/24 15:50	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 15:50	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 15:50	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 15:50	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 15:50	
Propionitrile	ND U	5.0	3.0	1	03/06/24 15:50	
Styrene	ND U	1.0	0.20	1	03/06/24 15:50	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 15:50	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 15:50	
Toluene	ND U	1.0	0.20	1	03/06/24 15:50	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 15:50	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 15:50	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 15:50	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 15:50	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 15:50	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 15:50	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 15:50	
o-Xylene	ND U	1.0	0.20	1	03/06/24 15:50	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 15:50	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 15:50	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 15:50	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 15:50	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	03/06/24 15:50	
Dibromofluoromethane	99	80 - 116	03/06/24 15:50	
Toluene-d8	100	87 - 121	03/06/24 15:50	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	8.2	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261030C 400-GV-125	**Units:**	ug/L
Lab Code:	R2401542-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 19:40	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.20	1	03/06/24 19:40	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 19:40	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	03/06/24 19:40	
1,1,2-Trichloro-1,2,2-trifluoroethane	**59**		1.0	0.20	1	03/06/24 19:40	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	03/06/24 19:40	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.20	1	03/06/24 19:40	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	03/06/24 19:40	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	03/06/24 19:40	
1,2-Dibromoethane	ND	U	1.0	0.20	1	03/06/24 19:40	
1,2-Dichloroethane	ND	U	1.0	0.20	1	03/06/24 19:40	
1,2-Dichloropropane	ND	U	1.0	0.20	1	03/06/24 19:40	
1,4-Dioxane	ND	U	100	13	1	03/06/24 19:40	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.20	1	03/06/24 19:40	
2-Butanone (MEK)	ND	U	5.0	0.78	1	03/06/24 19:40	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	03/06/24 19:40	
2-Hexanone	ND	U	5.0	0.20	1	03/06/24 19:40	
Isobutyl Alcohol	ND	U	100	33	1	03/06/24 19:40	
2-Propanol	ND	U	50	22	1	03/06/24 19:40	
Allyl Chloride	ND	U	2.0	0.36	1	03/06/24 19:40	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	03/06/24 19:40	
Acetone	ND	U	10	5.0	1	03/06/24 19:40	
Acetonitrile	ND	U	25	5.2	1	03/06/24 19:40	
Acrolein	ND	U	10	0.90	1	03/06/24 19:40	
Acrylonitrile	ND	U	5.0	0.90	1	03/06/24 19:40	
Benzene	ND	U	1.0	0.20	1	03/06/24 19:40	
Bromodichloromethane	ND	U	1.0	0.20	1	03/06/24 19:40	
Bromoform	ND	U	1.0	0.25	1	03/06/24 19:40	
Bromomethane	ND	U	2.0	0.70	1	03/06/24 19:40	
Carbon Disulfide	ND	U	1.0	0.42	1	03/06/24 19:40	
Carbon Tetrachloride	ND	U	1.0	0.34	1	03/06/24 19:40	
Chlorobenzene	ND	U	1.0	0.20	1	03/06/24 19:40	
Chloroethane	ND	U	2.0	0.23	1	03/06/24 19:40	
Chloroform	ND	U	1.0	0.51	1	03/06/24 19:40	
Chloromethane	ND	U	2.0	0.80	1	03/06/24 19:40	
Cyclohexane	ND	U	10	0.60	1	03/06/24 19:40	
Dibromochloromethane	ND	U	1.0	0.20	1	03/06/24 19:40	
Dibromomethane	ND	U	1.0	0.20	1	03/06/24 19:40	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	03/06/24 19:40	
Dichlorofluoromethane (CFC 21)	**2.8**		1.0	0.20	1	03/06/24 19:40	
Dichloromethane	ND	U	1.0	0.65	1	03/06/24 19:40	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261030C 400-GV-125	**Units:**	ug/L
Lab Code:	R2401542-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 19:40	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 19:40	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 19:40	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 19:40	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 19:40	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 19:40	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 19:40	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 19:40	
Styrene	ND	U	1.0	0.20	1	03/06/24 19:40	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 19:40	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 19:40	
Toluene	ND	U	1.0	0.20	1	03/06/24 19:40	
Trichloroethene (TCE)	**1.4**		1.0	0.20	1	03/06/24 19:40	
Trichlorofluoromethane (CFC 11)	**220**	**D**	2.5	0.60	2.5	03/07/24 14:54	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 19:40	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 19:40	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 19:40	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 19:40	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 19:40	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 19:40	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 19:40	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 19:40	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 19:40	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	**3.1**		1.0	0.20	1	03/06/24 19:40	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85 - 122	03/06/24 19:40	
Dibromofluoromethane	99	80 - 116	03/06/24 19:40	
Toluene-d8	102	87 - 121	03/06/24 19:40	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	29	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261031C 400-GV-125	**Units:**	ug/L
Lab Code:	R2401542-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 20:03	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 20:03	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 20:03	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 20:03	
1,1,2-Trichloro-1,2,2-trifluoroethane	**58**	1.0	0.20	1	03/06/24 20:03	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 20:03	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 20:03	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 20:03	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 20:03	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 20:03	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 20:03	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 20:03	
1,4-Dioxane	ND U	100	13	1	03/06/24 20:03	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 20:03	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 20:03	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 20:03	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 20:03	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 20:03	
2-Propanol	ND U	50	22	1	03/06/24 20:03	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 20:03	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 20:03	
Acetone	ND U	10	5.0	1	03/06/24 20:03	
Acetonitrile	ND U	25	5.2	1	03/06/24 20:03	
Acrolein	ND U	10	0.90	1	03/06/24 20:03	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 20:03	
Benzene	ND U	1.0	0.20	1	03/06/24 20:03	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 20:03	
Bromoform	ND U	1.0	0.25	1	03/06/24 20:03	
Bromomethane	ND U	2.0	0.70	1	03/06/24 20:03	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 20:03	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 20:03	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 20:03	
Chloroethane	ND U	2.0	0.23	1	03/06/24 20:03	
Chloroform	ND U	1.0	0.51	1	03/06/24 20:03	
Chloromethane	ND U	2.0	0.80	1	03/06/24 20:03	
Cyclohexane	ND U	10	0.60	1	03/06/24 20:03	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 20:03	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 20:03	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 20:03	
Dichlorofluoromethane (CFC 21)	**2.7**	1.0	0.20	1	03/06/24 20:03	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 20:03	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261031C 400-GV-125	**Units:**	ug/L
Lab Code:	R2401542-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 20:03	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 20:03	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 20:03	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 20:03	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 20:03	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 20:03	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 20:03	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 20:03	
Styrene	ND	U	1.0	0.20	1	03/06/24 20:03	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 20:03	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 20:03	
Toluene	ND	U	1.0	0.20	1	03/06/24 20:03	
Trichloroethene (TCE)	**1.3**		1.0	0.20	1	03/06/24 20:03	
Trichlorofluoromethane (CFC 11)	**210**	**D**	2.5	0.60	2.5	03/07/24 15:17	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 20:03	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 20:03	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 20:03	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 20:03	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 20:03	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 20:03	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 20:03	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 20:03	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 20:03	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	**2.9**		1.0	0.20	1	03/06/24 20:03	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	03/06/24 20:03	
Dibromofluoromethane	99	80 - 116	03/06/24 20:03	
Toluene-d8	102	87 - 121	03/06/24 20:03	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.98	31	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261032C 400-GV-125	**Units:**	ug/L
Lab Code:	R2401542-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 16:13	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 16:13	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 16:13	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 16:13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 16:13	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 16:13	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 16:13	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 16:13	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 16:13	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 16:13	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 16:13	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 16:13	
1,4-Dioxane	ND U	100	13	1	03/06/24 16:13	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 16:13	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 16:13	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 16:13	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 16:13	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 16:13	
2-Propanol	ND U	50	22	1	03/06/24 16:13	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 16:13	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 16:13	
Acetone	ND U	10	5.0	1	03/06/24 16:13	
Acetonitrile	ND U	25	5.2	1	03/06/24 16:13	
Acrolein	ND U	10	0.90	1	03/06/24 16:13	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 16:13	
Benzene	ND U	1.0	0.20	1	03/06/24 16:13	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 16:13	
Bromoform	ND U	1.0	0.25	1	03/06/24 16:13	
Bromomethane	ND U	2.0	0.70	1	03/06/24 16:13	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 16:13	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 16:13	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 16:13	
Chloroethane	ND U	2.0	0.23	1	03/06/24 16:13	
Chloroform	ND U	1.0	0.51	1	03/06/24 16:13	
Chloromethane	ND U	2.0	0.80	1	03/06/24 16:13	
Cyclohexane	ND U	10	0.60	1	03/06/24 16:13	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 16:13	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 16:13	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 16:13	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 16:13	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 16:13	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261032C 400-GV-125	**Units:**	ug/L
Lab Code:	R2401542-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 16:13	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 16:13	
Iodomethane	ND U	5.0	4.3	1	03/06/24 16:13	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 16:13	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 16:13	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 16:13	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 16:13	
Propionitrile	ND U	5.0	3.0	1	03/06/24 16:13	
Styrene	ND U	1.0	0.20	1	03/06/24 16:13	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 16:13	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 16:13	
Toluene	ND U	1.0	0.20	1	03/06/24 16:13	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 16:13	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 16:13	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 16:13	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 16:13	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 16:13	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 16:13	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 16:13	
o-Xylene	ND U	1.0	0.20	1	03/06/24 16:13	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 16:13	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 16:13	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 16:13	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 16:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	03/06/24 16:13	
Dibromofluoromethane	100	80 - 116	03/06/24 16:13	
Toluene-d8	102	87 - 121	03/06/24 16:13	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	7.8	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261316A 400-JV-150	**Units:**	ug/L
Lab Code:	R2401542-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/07/24 14:31	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/07/24 14:31	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/07/24 14:31	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/07/24 14:31	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/07/24 14:31	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/07/24 14:31	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/07/24 14:31	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/07/24 14:31	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/07/24 14:31	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/07/24 14:31	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/07/24 14:31	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/07/24 14:31	
1,4-Dioxane	ND U	100	13	1	03/07/24 14:31	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/07/24 14:31	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/07/24 14:31	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/07/24 14:31	
2-Hexanone	ND U	5.0	0.20	1	03/07/24 14:31	
Isobutyl Alcohol	ND U	100	33	1	03/07/24 14:31	
2-Propanol	ND U	50	22	1	03/07/24 14:31	
Allyl Chloride	ND U	2.0	0.36	1	03/07/24 14:31	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/07/24 14:31	
Acetone	ND U	10	5.0	1	03/07/24 14:31	
Acetonitrile	ND U	25	5.2	1	03/07/24 14:31	
Acrolein	ND U	10	0.90	1	03/07/24 14:31	
Acrylonitrile	ND U	5.0	0.90	1	03/07/24 14:31	
Benzene	ND U	1.0	0.20	1	03/07/24 14:31	
Bromodichloromethane	ND U	1.0	0.20	1	03/07/24 14:31	
Bromoform	ND U	1.0	0.25	1	03/07/24 14:31	
Bromomethane	ND U	2.0	0.70	1	03/07/24 14:31	
Carbon Disulfide	ND U	1.0	0.42	1	03/07/24 14:31	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/07/24 14:31	
Chlorobenzene	ND U	1.0	0.20	1	03/07/24 14:31	
Chloroethane	ND U	2.0	0.23	1	03/07/24 14:31	
Chloroform	ND U	1.0	0.51	1	03/07/24 14:31	
Chloromethane	ND U	2.0	0.80	1	03/07/24 14:31	
Cyclohexane	ND U	10	0.60	1	03/07/24 14:31	
Dibromochloromethane	ND U	1.0	0.20	1	03/07/24 14:31	
Dibromomethane	ND U	1.0	0.20	1	03/07/24 14:31	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/07/24 14:31	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/07/24 14:31	
Dichloromethane	ND U	1.0	0.65	1	03/07/24 14:31	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261316A 400-JV-150	**Units:**	ug/L
Lab Code:	R2401542-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/07/24 14:31	
Ethylbenzene	ND U	1.0	0.20	1	03/07/24 14:31	
Iodomethane	ND U	5.0	4.3	1	03/07/24 14:31	
Methacrylonitrile	ND U	5.0	0.52	1	03/07/24 14:31	
Methyl Methacrylate	ND U	2.0	0.51	1	03/07/24 14:31	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/07/24 14:31	
Methylcyclohexane	ND U	10	0.20	1	03/07/24 14:31	
Propionitrile	ND U	5.0	3.0	1	03/07/24 14:31	
Styrene	ND U	1.0	0.20	1	03/07/24 14:31	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/07/24 14:31	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/07/24 14:31	
Toluene	ND U	1.0	0.20	1	03/07/24 14:31	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/07/24 14:31	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/07/24 14:31	
Vinyl Acetate	ND U	5.0	1.1	1	03/07/24 14:31	
Vinyl Chloride	ND U	1.0	0.20	1	03/07/24 14:31	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/07/24 14:31	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/07/24 14:31	
m,p-Xylenes	ND U	2.0	0.20	1	03/07/24 14:31	
o-Xylene	ND U	1.0	0.20	1	03/07/24 14:31	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/07/24 14:31	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/07/24 14:31	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/07/24 14:31	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/07/24 14:31	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	03/07/24 14:31	
Dibromofluoromethane	102	80 - 116	03/07/24 14:31	
Toluene-d8	105	87 - 121	03/07/24 14:31	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
000124-38-9	Carbon dioxide	0.99	9.5	JN

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261315A 400-JV-150	**Units:**	ug/L
Lab Code:	R2401542-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 16:36	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.20	1	03/06/24 16:36	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 16:36	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	03/06/24 16:36	
1,1,2-Trichloro-1,2,2-trifluoroethane	**30**		1.0	0.20	1	03/06/24 16:36	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	03/06/24 16:36	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.20	1	03/06/24 16:36	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	03/06/24 16:36	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	03/06/24 16:36	
1,2-Dibromoethane	ND	U	1.0	0.20	1	03/06/24 16:36	
1,2-Dichloroethane	ND	U	1.0	0.20	1	03/06/24 16:36	
1,2-Dichloropropane	ND	U	1.0	0.20	1	03/06/24 16:36	
1,4-Dioxane	ND	U	100	13	1	03/06/24 16:36	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.20	1	03/06/24 16:36	
2-Butanone (MEK)	ND	U	5.0	0.78	1	03/06/24 16:36	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	03/06/24 16:36	
2-Hexanone	ND	U	5.0	0.20	1	03/06/24 16:36	
Isobutyl Alcohol	ND	U	100	33	1	03/06/24 16:36	
2-Propanol	ND	U	50	22	1	03/06/24 16:36	
Allyl Chloride	ND	U	2.0	0.36	1	03/06/24 16:36	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	03/06/24 16:36	
Acetone	ND	U	10	5.0	1	03/06/24 16:36	
Acetonitrile	ND	U	25	5.2	1	03/06/24 16:36	
Acrolein	ND	U	10	0.90	1	03/06/24 16:36	
Acrylonitrile	ND	U	5.0	0.90	1	03/06/24 16:36	
Benzene	ND	U	1.0	0.20	1	03/06/24 16:36	
Bromodichloromethane	ND	U	1.0	0.20	1	03/06/24 16:36	
Bromoform	ND	U	1.0	0.25	1	03/06/24 16:36	
Bromomethane	ND	U	2.0	0.70	1	03/06/24 16:36	
Carbon Disulfide	ND	U	1.0	0.42	1	03/06/24 16:36	
Carbon Tetrachloride	ND	U	1.0	0.34	1	03/06/24 16:36	
Chlorobenzene	ND	U	1.0	0.20	1	03/06/24 16:36	
Chloroethane	ND	U	2.0	0.23	1	03/06/24 16:36	
Chloroform	ND	U	1.0	0.51	1	03/06/24 16:36	
Chloromethane	ND	U	2.0	0.80	1	03/06/24 16:36	
Cyclohexane	ND	U	10	0.60	1	03/06/24 16:36	
Dibromochloromethane	ND	U	1.0	0.20	1	03/06/24 16:36	
Dibromomethane	ND	U	1.0	0.20	1	03/06/24 16:36	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	03/06/24 16:36	
Dichlorofluoromethane (CFC 21)	**1.9**		1.0	0.20	1	03/06/24 16:36	
Dichloromethane	ND	U	1.0	0.65	1	03/06/24 16:36	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261315A 400-JV-150	**Units:**	ug/L
Lab Code:	R2401542-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 16:36	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 16:36	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 16:36	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 16:36	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 16:36	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 16:36	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 16:36	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 16:36	
Styrene	ND	U	1.0	0.20	1	03/06/24 16:36	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 16:36	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 16:36	
Toluene	ND	U	1.0	0.20	1	03/06/24 16:36	
Trichloroethene (TCE)	**0.54**	**J**	1.0	0.20	1	03/06/24 16:36	
Trichlorofluoromethane (CFC 11)	**120**		1.0	0.24	1	03/06/24 16:36	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 16:36	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 16:36	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 16:36	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 16:36	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 16:36	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 16:36	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 16:36	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 16:36	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 16:36	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	**0.26**	**J**	1.0	0.20	1	03/06/24 16:36	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	03/06/24 16:36	
Dibromofluoromethane	100	80 - 116	03/06/24 16:36	
Toluene-d8	103	87 - 121	03/06/24 16:36	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	27	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261410C 400-IV-123	**Units:**	ug/L
Lab Code:	R2401542-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 20:49	
1,1,1-Trichloroethane (TCA)	ND	U	1.0	0.20	1	03/06/24 20:49	
1,1,2,2-Tetrachloroethane	ND	U	1.0	0.20	1	03/06/24 20:49	
1,1,2-Trichloroethane	ND	U	1.0	0.20	1	03/06/24 20:49	
1,1,2-Trichloro-1,2,2-trifluoroethane	**3.1**		1.0	0.20	1	03/06/24 20:49	
1,1-Dichloroethane (1,1-DCA)	ND	U	1.0	0.20	1	03/06/24 20:49	
1,1-Dichloroethene (1,1-DCE)	ND	U	1.0	0.20	1	03/06/24 20:49	
1,2,3-Trichloropropane	ND	U	1.0	0.26	1	03/06/24 20:49	
1,2-Dibromo-3-chloropropane (DBCP)	ND	U	2.0	0.45	1	03/06/24 20:49	
1,2-Dibromoethane	ND	U	1.0	0.20	1	03/06/24 20:49	
1,2-Dichloroethane	ND	U	1.0	0.20	1	03/06/24 20:49	
1,2-Dichloropropane	ND	U	1.0	0.20	1	03/06/24 20:49	
1,4-Dioxane	ND	U	100	13	1	03/06/24 20:49	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND	U	1.0	0.20	1	03/06/24 20:49	
2-Butanone (MEK)	ND	U	5.0	0.78	1	03/06/24 20:49	
2-Chloro-1,3-butadiene	ND	U	1.0	0.20	1	03/06/24 20:49	
2-Hexanone	ND	U	5.0	0.20	1	03/06/24 20:49	
Isobutyl Alcohol	ND	U	100	33	1	03/06/24 20:49	
2-Propanol	ND	U	50	22	1	03/06/24 20:49	
Allyl Chloride	ND	U	2.0	0.36	1	03/06/24 20:49	
4-Methyl-2-pentanone	ND	U	5.0	0.20	1	03/06/24 20:49	
Acetone	ND	U	10	5.0	1	03/06/24 20:49	
Acetonitrile	ND	U	25	5.2	1	03/06/24 20:49	
Acrolein	ND	U	10	0.90	1	03/06/24 20:49	
Acrylonitrile	ND	U	5.0	0.90	1	03/06/24 20:49	
Benzene	ND	U	1.0	0.20	1	03/06/24 20:49	
Bromodichloromethane	ND	U	1.0	0.20	1	03/06/24 20:49	
Bromoform	ND	U	1.0	0.25	1	03/06/24 20:49	
Bromomethane	ND	U	2.0	0.70	1	03/06/24 20:49	
Carbon Disulfide	ND	U	1.0	0.42	1	03/06/24 20:49	
Carbon Tetrachloride	ND	U	1.0	0.34	1	03/06/24 20:49	
Chlorobenzene	ND	U	1.0	0.20	1	03/06/24 20:49	
Chloroethane	ND	U	2.0	0.23	1	03/06/24 20:49	
Chloroform	ND	U	1.0	0.51	1	03/06/24 20:49	
Chloromethane	ND	U	2.0	0.80	1	03/06/24 20:49	
Cyclohexane	ND	U	10	0.60	1	03/06/24 20:49	
Dibromochloromethane	ND	U	1.0	0.20	1	03/06/24 20:49	
Dibromomethane	ND	U	1.0	0.20	1	03/06/24 20:49	
Dichlorodifluoromethane (CFC 12)	ND	U	1.0	0.21	1	03/06/24 20:49	
Dichlorofluoromethane (CFC 21)	**0.44**	**J**	1.0	0.20	1	03/06/24 20:49	
Dichloromethane	ND	U	1.0	0.65	1	03/06/24 20:49	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261410C 400-IV-123	**Units:**	ug/L
Lab Code:	R2401542-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND	U	2.0	0.20	1	03/06/24 20:49	
Ethylbenzene	ND	U	1.0	0.20	1	03/06/24 20:49	
Iodomethane	ND	U	5.0	4.3	1	03/06/24 20:49	
Methacrylonitrile	ND	U	5.0	0.52	1	03/06/24 20:49	
Methyl Methacrylate	ND	U	2.0	0.51	1	03/06/24 20:49	
Methyl tert-Butyl Ether	ND	U	10	0.20	1	03/06/24 20:49	
Methylcyclohexane	ND	U	10	0.20	1	03/06/24 20:49	
Propionitrile	ND	U	5.0	3.0	1	03/06/24 20:49	
Styrene	ND	U	1.0	0.20	1	03/06/24 20:49	
Tetrachloroethene (PCE)	ND	U	1.0	0.21	1	03/06/24 20:49	
Tetrahydrofuran (THF)	ND	U	5.0	1.7	1	03/06/24 20:49	
Toluene	ND	U	1.0	0.20	1	03/06/24 20:49	
Trichloroethene (TCE)	ND	U	1.0	0.20	1	03/06/24 20:49	
Trichlorofluoromethane (CFC 11)	**140**		1.0	0.24	1	03/06/24 20:49	
Vinyl Acetate	ND	U	5.0	1.1	1	03/06/24 20:49	
Vinyl Chloride	ND	U	1.0	0.20	1	03/06/24 20:49	
cis-1,2-Dichloroethene	ND	U	1.0	0.23	1	03/06/24 20:49	
cis-1,3-Dichloropropene	ND	U	1.0	0.20	1	03/06/24 20:49	
m,p-Xylenes	ND	U	2.0	0.20	1	03/06/24 20:49	
o-Xylene	ND	U	1.0	0.20	1	03/06/24 20:49	
trans-1,2-Dichloroethene	ND	U	1.0	0.20	1	03/06/24 20:49	
trans-1,3-Dichloropropene	ND	U	1.0	0.23	1	03/06/24 20:49	
trans-1,4-Dichloro-2-butene	ND	U	1.0	0.78	1	03/06/24 20:49	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND	U	1.0	0.20	1	03/06/24 20:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	101	85 - 122	03/06/24 20:49	
Dibromofluoromethane	99	80 - 116	03/06/24 20:49	
Toluene-d8	102	87 - 121	03/06/24 20:49	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.98	22	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261411C 400-IV-123	**Units:**	ug/L
Lab Code:	R2401542-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 16:59	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 16:59	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 16:59	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 16:59	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 16:59	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 16:59	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 16:59	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 16:59	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 16:59	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 16:59	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 16:59	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 16:59	
1,4-Dioxane	ND U	100	13	1	03/06/24 16:59	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 16:59	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 16:59	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 16:59	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 16:59	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 16:59	
2-Propanol	ND U	50	22	1	03/06/24 16:59	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 16:59	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 16:59	
Acetone	ND U	10	5.0	1	03/06/24 16:59	
Acetonitrile	ND U	25	5.2	1	03/06/24 16:59	
Acrolein	ND U	10	0.90	1	03/06/24 16:59	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 16:59	
Benzene	ND U	1.0	0.20	1	03/06/24 16:59	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 16:59	
Bromoform	ND U	1.0	0.25	1	03/06/24 16:59	
Bromomethane	ND U	2.0	0.70	1	03/06/24 16:59	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 16:59	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 16:59	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 16:59	
Chloroethane	ND U	2.0	0.23	1	03/06/24 16:59	
Chloroform	ND U	1.0	0.51	1	03/06/24 16:59	
Chloromethane	ND U	2.0	0.80	1	03/06/24 16:59	
Cyclohexane	ND U	10	0.60	1	03/06/24 16:59	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 16:59	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 16:59	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 16:59	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 16:59	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 16:59	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24 07:30
Sample Name:	2402261411C 400-IV-123	**Units:**	ug/L
Lab Code:	R2401542-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 16:59	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 16:59	
Iodomethane	ND U	5.0	4.3	1	03/06/24 16:59	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 16:59	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 16:59	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 16:59	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 16:59	
Propionitrile	ND U	5.0	3.0	1	03/06/24 16:59	
Styrene	ND U	1.0	0.20	1	03/06/24 16:59	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 16:59	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 16:59	
Toluene	ND U	1.0	0.20	1	03/06/24 16:59	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 16:59	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 16:59	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 16:59	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 16:59	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 16:59	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 16:59	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 16:59	
o-Xylene	ND U	1.0	0.20	1	03/06/24 16:59	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 16:59	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 16:59	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 16:59	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 16:59	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85 - 122	03/06/24 16:59	
Dibromofluoromethane	100	80 - 116	03/06/24 16:59	
Toluene-d8	102	87 - 121	03/06/24 16:59	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	8.9	J

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:** R2401542
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 122	Dibromofluoromethane 80 - 116	Toluene-d8 87 - 121
2402260900A 400-EV-131	R2401542-001	102	101	104
2402260901A 400-EV-131	R2401542-002	97	100	101
2402260745C 400-FV-131	R2401542-003	100	98	101
2402260935C 400-FV-131	R2401542-004	101	101	103
2402260936C 400-FV-131	R2401542-005	101	99	101
2402260937C 400-FV-131	R2401542-006	99	99	101
2402261005A 400-HV-147	R2401542-007	98	101	101
2402261006A 400-HV-147	R2401542-008	97	99	100
2402261030C 400-GV-125	R2401542-009	97	99	102
2402261031C 400-GV-125	R2401542-010	98	99	102
2402261032C 400-GV-125	R2401542-011	102	100	102
2402261316A 400-JV-150	R2401542-012	101	102	105
2402261315A 400-JV-150	R2401542-013	101	100	103
2402261410C 400-IV-123	R2401542-014	101	99	102
2402261411C 400-IV-123	R2401542-015	99	100	102
Lab Control Sample	RQ2402425-03	99	102	101
Method Blank	RQ2402425-04	98	102	101
2402260935C 400-FV-131 MS	RQ2402425-05	102	102	102
2402260935C 400-FV-131 DMS	RQ2402425-06	102	103	103
Lab Control Sample	RQ2402458-03	99	100	101
Method Blank	RQ2402458-04	100	102	103

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24
		Date Analyzed:	03/6/24
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	2402260935C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-004	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

	Matrix Spike				**Duplicate Matrix Spike**					
	RQ2402425-05				RQ2402425-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	50.4	50.0	101	53.4	50.0	107	68-146	6	30
1,1,1-Trichloroethane (TCA)	ND U	52.6	50.0	105	54.9	50.0	110	70-130	4	25
1,1,2,2-Tetrachloroethane	ND U	47.0	50.0	94	50.1	50.0	100	72-122	6	30
1,1,2-Trichloroethane	ND U	48.8	50.0	98	52.0	50.0	104	82-121	6	30
1,1,2-Trichloro-1,2,2-trifluoroethane	37	86.0	50.0	98	89.4	50.0	105	70-130	4	25
1,1-Dichloroethane (1,1-DCA)	ND U	52.2	50.0	104	53.1	50.0	106	74-132	2	30
1,1-Dichloroethene (1,1-DCE)	ND U	48.6	50.0	97	51.2	50.0	102	70-130	5	25
1,2,3-Trichloropropane	ND U	45.8	50.0	92	48.9	50.0	98	75-122	7	30
1,2-Dibromo-3-chloropropane (DBCP)	ND U	46.4	50.0	93	51.6	50.0	103	37-150	11	30
1,2-Dibromoethane	ND U	48.6	50.0	97	51.2	50.0	102	67-127	5	30
1,2-Dichloroethane	ND U	49.6	50.0	99	52.1	50.0	104	68-130	5	30
1,2-Dichloropropane	ND U	50.0	50.0	100	53.5	50.0	107	79-124	7	30
1,4-Dioxane	ND U	929	1000	93	1020	1000	102	44-154	9	30
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	61.0	50.0	122	62.0	50.0	124	70-130	2	25
2-Butanone (MEK)	ND U	40.9	50.0	82	42.8	50.0	86	61-137	4	30
2-Chloro-1,3-butadiene	ND U	48.3	50.0	97	51.2	50.0	102	68-139	6	30
2-Hexanone	ND U	46.2	50.0	92	49.2	50.0	98	56-132	6	30
Isobutyl Alcohol	ND U	1010	1000	101	1110	1000	111	51-143	9	30
2-Propanol	ND U	958	1000	96	988	1000	99	52-136	3	30
Allyl Chloride	ND U	52.7	50.0	105	55.4	50.0	111	49-156	5	30
4-Methyl-2-pentanone	ND U	46.8	50.0	94	50.1	50.0	100	60-141	7	30
Acetone	ND U	37.7	50.0	75	41.4	50.0	83	35-183	9	30
Acetonitrile	ND U	241	250	97	253	250	101	46-154	5	30
Acrolein	ND U	88.0	100	88	94.4	100	94	13-165	7	30
Acrylonitrile	ND U	238	250	95	249	250	100	69-131	5	30
Benzene	ND U	52.5	50.0	105	55.6	50.0	111	76-129	6	30
Bromodichloromethane	ND U	51.2	50.0	102	54.0	50.0	108	78-133	5	30
Bromoform	ND U	53.4	50.0	107	57.9	50.0	116	58-133	8	30
Bromomethane	ND U	48.5	50.0	97	51.6	50.0	103	10-184	6	30
Carbon Disulfide	ND U	44.8	50.0	90	48.1	50.0	96	59-140	7	30
Carbon Tetrachloride	ND U	53.3	50.0	107	56.1	50.0	112	65-135	5	30
Chlorobenzene	ND U	49.3	50.0	99	53.1	50.0	106	76-125	8	30
Chloroethane	ND U	39.8	50.0	80	42.0	50.0	84	58-146	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	02/26/24
Sample Matrix:	Water	**Date Received:**	02/28/24
		Date Analyzed:	03/6/24
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	2402260935C 400-FV-131	**Units:**	ug/L
Lab Code:	R2401542-004	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

	Matrix Spike RQ2402425-05				**Duplicate Matrix Spike** RQ2402425-06					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloroform	ND U	49.4	50.0	99	51.8	50.0	104	70-130	5	25
Chloromethane	ND U	49.4	50.0	99	50.8	50.0	102	55-160	3	30
Cyclohexane	ND U	50.8	50.0	102	52.5	50.0	105	52-145	3	30
Dibromochloromethane	ND U	50.5	50.0	101	53.5	50.0	107	72-128	6	30
Dibromomethane	ND U	49.6	50.0	99	52.3	50.0	105	77-119	5	30
Dichlorodifluoromethane (CFC 12)	ND U	35.6	50.0	71	37.2	50.0	74	49-154	4	30
Dichlorofluoromethane (CFC 21)	4.4	48.8	50.0	89	50.1	50.0	91	70-130	3	25
Dichloromethane	ND U	50.7	50.0	101	52.6	50.0	105	73-122	4	30
Ethyl Methacrylate	ND U	51.3	50.0	103	54.0	50.0	108	63-138	5	30
Ethylbenzene	ND U	51.2	50.0	102	54.5	50.0	109	72-134	6	30
Iodomethane	ND U	48.9	50.0	98	52.2	50.0	104	18-160	6	30
Methacrylonitrile	ND U	47.7	50.0	95	50.4	50.0	101	67-131	6	30
Methyl Methacrylate	ND U	51.7	50.0	103	54.1	50.0	108	64-129	4	30
Methyl tert-Butyl Ether	ND U	49.4	50.0	99	51.7	50.0	103	75-119	4	30
Methylcyclohexane	ND U	49.7	50.0	99	51.8	50.0	104	45-146	4	30
Propionitrile	ND U	239	250	96	250	250	100	66-129	5	30
Styrene	ND U	51.2	50.0	102	54.3	50.0	109	74-136	6	30
Tetrachloroethene (PCE)	ND U	50.6	50.0	101	54.2	50.0	108	70-130	7	25
Tetrahydrofuran (THF)	ND U	47.0	50.0	94	49.8	50.0	100	48-141	6	30
Toluene	ND U	52.1	50.0	104	55.4	50.0	111	79-119	6	30
Trichloroethene (TCE)	0.55 J	50.7	50.0	100	54.5	50.0	108	70-130	7	25
Trichlorofluoromethane (CFC 11)	96	144	50.0	96	145	50.0	98	70-130	<1	25
Vinyl Acetate	ND U	56.9	50.0	114	57.8	50.0	116	48-172	2	30
Vinyl Chloride	ND U	44.8	50.0	90	47.0	50.0	94	74-159	5	30
cis-1,2-Dichloroethene	ND U	51.3	50.0	103	53.7	50.0	107	77-127	5	30
cis-1,3-Dichloropropene	ND U	51.3	50.0	103	54.8	50.0	110	52-134	7	30
m,p-Xylenes	ND U	104	100	104	112	100	112	80-126	7	30
o-Xylene	ND U	51.5	50.0	103	55.2	50.0	110	79-123	7	30
trans-1,2-Dichloroethene	ND U	47.8	50.0	96	51.7	50.0	103	73-118	8	30
trans-1,3-Dichloropropene	ND U	51.0	50.0	102	53.7	50.0	107	71-133	5	30
trans-1,4-Dichloro-2-butene	ND U	43.6	50.0	87	46.4	50.0	93	27-155	6	30
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	5.4	56.5	50.0	102	56.7	50.0	103	70-130	<1	25

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Analyzed:**	03/06/24 13:09
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank **Instrument ID:** R-MS-17
Lab Code: RQ2402425-04 **File ID:** I:\ACQUDATA\MSVOA17\Data\030624\K0291.D\

Analysis Method: 8260C **Analysis Lot:** 834245
Prep Method: EPA 5030C

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ2402425-03	I:\ACQUDATA\MSVOA17\Data\030624 \K0286.D\	03/06/24 11:03
2402260901A 400-EV-131	R2401542-002	I:\ACQUDATA\MSVOA17\Data\030624 \K0297.D\	03/06/24 15:27
2402261006A 400-HV-147	R2401542-008	I:\ACQUDATA\MSVOA17\Data\030624 \K0298.D\	03/06/24 15:50
2402261032C 400-GV-125	R2401542-011	I:\ACQUDATA\MSVOA17\Data\030624 \K0299.D\	03/06/24 16:13
2402261315A 400-JV-150	R2401542-013	I:\ACQUDATA\MSVOA17\Data\030624 \K0300.D\	03/06/24 16:36
2402261411C 400-IV-123	R2401542-015	I:\ACQUDATA\MSVOA17\Data\030624 \K0301.D\	03/06/24 16:59
2402260745C 400-FV-131	R2401542-003	I:\ACQUDATA\MSVOA17\Data\030624 \K0302.D\	03/06/24 17:22
2402260935C 400-FV-131	R2401542-004	I:\ACQUDATA\MSVOA17\Data\030624 \K0303.D\	03/06/24 17:45
2402260936C 400-FV-131	R2401542-005	I:\ACQUDATA\MSVOA17\Data\030624 \K0304.D\	03/06/24 18:08
2402260937C 400-FV-131	R2401542-006	I:\ACQUDATA\MSVOA17\Data\030624 \K0305.D\	03/06/24 18:31
2402260900A 400-EV-131	R2401542-001	I:\ACQUDATA\MSVOA17\Data\030624 \K0306.D\	03/06/24 18:54
2402261005A 400-HV-147	R2401542-007	I:\ACQUDATA\MSVOA17\Data\030624 \K0307.D\	03/06/24 19:17
2402261030C 400-GV-125	R2401542-009	I:\ACQUDATA\MSVOA17\Data\030624 \K0308.D\	03/06/24 19:40
2402261031C 400-GV-125	R2401542-010	I:\ACQUDATA\MSVOA17\Data\030624 \K0309.D\	03/06/24 20:03
2402261410C 400-IV-123	R2401542-014	I:\ACQUDATA\MSVOA17\Data\030624\K0311.D\	03/06/24 20:49
2402260935C 400-FV-131MS	RQ2402425-05	I:\ACQUDATA\MSVOA17\Data\030624 \K0312.D\	03/06/24 21:12
2402260935C 400-FV-131DMS	RQ2402425-06	I:\ACQUDATA\MSVOA17\Data\030624 \K0313.D\	03/06/24 21:35

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Analyzed:**	03/07/24 12:13
Sample Matrix:	Water	**Date Extracted:**	

Method Blank Summary
Volatile Organic Compounds by GC/MS

Sample Name: Method Blank **Instrument ID:** R-MS-17
Lab Code: RQ2402458-04 **File ID:** I:\ACQUDATA\MSVOA17\Data\030724\K0321.D\

Analysis Method: 8260C **Analysis Lot:** 834332
Prep Method: EPA 5030C

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	RQ2402458-03	I:\ACQUDATA\MSVOA17\Data\030724 \K0318.D\	03/07/24 10:52
2402261316A 400-JV-150	R2401542-012	I:\ACQUDATA\MSVOA17\Data\030724 \K0327.D\	03/07/24 14:31
2402261030C 400-GV-125	R2401542-009	I:\ACQUDATA\MSVOA17\Data\030724 \K0328.D\	03/07/24 14:54
2402261031C 400-GV-125	R2401542-010	I:\ACQUDATA\MSVOA17\Data\030724 \K0329.D\	03/07/24 15:17

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2402425-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 13:09	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/06/24 13:09	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/06/24 13:09	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/06/24 13:09	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/06/24 13:09	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/06/24 13:09	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/06/24 13:09	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/06/24 13:09	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/06/24 13:09	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/06/24 13:09	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/06/24 13:09	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/06/24 13:09	
1,4-Dioxane	ND U	100	13	1	03/06/24 13:09	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/06/24 13:09	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/06/24 13:09	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/06/24 13:09	
2-Hexanone	ND U	5.0	0.20	1	03/06/24 13:09	
Isobutyl Alcohol	ND U	100	33	1	03/06/24 13:09	
2-Propanol	ND U	50	22	1	03/06/24 13:09	
Allyl Chloride	ND U	2.0	0.36	1	03/06/24 13:09	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/06/24 13:09	
Acetone	ND U	10	5.0	1	03/06/24 13:09	
Acetonitrile	ND U	25	5.2	1	03/06/24 13:09	
Acrolein	ND U	10	0.90	1	03/06/24 13:09	
Acrylonitrile	ND U	5.0	0.90	1	03/06/24 13:09	
Benzene	ND U	1.0	0.20	1	03/06/24 13:09	
Bromodichloromethane	ND U	1.0	0.20	1	03/06/24 13:09	
Bromoform	ND U	1.0	0.25	1	03/06/24 13:09	
Bromomethane	ND U	2.0	0.70	1	03/06/24 13:09	
Carbon Disulfide	ND U	1.0	0.42	1	03/06/24 13:09	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/06/24 13:09	
Chlorobenzene	ND U	1.0	0.20	1	03/06/24 13:09	
Chloroethane	ND U	2.0	0.23	1	03/06/24 13:09	
Chloroform	ND U	1.0	0.51	1	03/06/24 13:09	
Chloromethane	ND U	2.0	0.80	1	03/06/24 13:09	
Cyclohexane	ND U	10	0.60	1	03/06/24 13:09	
Dibromochloromethane	ND U	1.0	0.20	1	03/06/24 13:09	
Dibromomethane	ND U	1.0	0.20	1	03/06/24 13:09	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/06/24 13:09	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/06/24 13:09	
Dichloromethane	ND U	1.0	0.65	1	03/06/24 13:09	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2402425-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/06/24 13:09	
Ethylbenzene	ND U	1.0	0.20	1	03/06/24 13:09	
Iodomethane	ND U	5.0	4.3	1	03/06/24 13:09	
Methacrylonitrile	ND U	5.0	0.52	1	03/06/24 13:09	
Methyl Methacrylate	ND U	2.0	0.51	1	03/06/24 13:09	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/06/24 13:09	
Methylcyclohexane	ND U	10	0.20	1	03/06/24 13:09	
Propionitrile	ND U	5.0	3.0	1	03/06/24 13:09	
Styrene	ND U	1.0	0.20	1	03/06/24 13:09	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/06/24 13:09	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/06/24 13:09	
Toluene	ND U	1.0	0.20	1	03/06/24 13:09	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/06/24 13:09	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/06/24 13:09	
Vinyl Acetate	ND U	5.0	1.1	1	03/06/24 13:09	
Vinyl Chloride	ND U	1.0	0.20	1	03/06/24 13:09	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/06/24 13:09	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/06/24 13:09	
m,p-Xylenes	ND U	2.0	0.20	1	03/06/24 13:09	
o-Xylene	ND U	1.0	0.20	1	03/06/24 13:09	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/06/24 13:09	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/06/24 13:09	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/06/24 13:09	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/06/24 13:09	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85 - 122	03/06/24 13:09	
Dibromofluoromethane	102	80 - 116	03/06/24 13:09	
Toluene-d8	101	87 - 121	03/06/24 13:09	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	6.9	J

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2402458-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	1.0	0.20	1	03/07/24 12:13	
1,1,1-Trichloroethane (TCA)	ND U	1.0	0.20	1	03/07/24 12:13	
1,1,2,2-Tetrachloroethane	ND U	1.0	0.20	1	03/07/24 12:13	
1,1,2-Trichloroethane	ND U	1.0	0.20	1	03/07/24 12:13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	1.0	0.20	1	03/07/24 12:13	
1,1-Dichloroethane (1,1-DCA)	ND U	1.0	0.20	1	03/07/24 12:13	
1,1-Dichloroethene (1,1-DCE)	ND U	1.0	0.20	1	03/07/24 12:13	
1,2,3-Trichloropropane	ND U	1.0	0.26	1	03/07/24 12:13	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	0.45	1	03/07/24 12:13	
1,2-Dibromoethane	ND U	1.0	0.20	1	03/07/24 12:13	
1,2-Dichloroethane	ND U	1.0	0.20	1	03/07/24 12:13	
1,2-Dichloropropane	ND U	1.0	0.20	1	03/07/24 12:13	
1,4-Dioxane	ND U	100	13	1	03/07/24 12:13	
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	ND U	1.0	0.20	1	03/07/24 12:13	
2-Butanone (MEK)	ND U	5.0	0.78	1	03/07/24 12:13	
2-Chloro-1,3-butadiene	ND U	1.0	0.20	1	03/07/24 12:13	
2-Hexanone	ND U	5.0	0.20	1	03/07/24 12:13	
Isobutyl Alcohol	ND U	100	33	1	03/07/24 12:13	
2-Propanol	ND U	50	22	1	03/07/24 12:13	
Allyl Chloride	ND U	2.0	0.36	1	03/07/24 12:13	
4-Methyl-2-pentanone	ND U	5.0	0.20	1	03/07/24 12:13	
Acetone	ND U	10	5.0	1	03/07/24 12:13	
Acetonitrile	ND U	25	5.2	1	03/07/24 12:13	
Acrolein	ND U	10	0.90	1	03/07/24 12:13	
Acrylonitrile	ND U	5.0	0.90	1	03/07/24 12:13	
Benzene	ND U	1.0	0.20	1	03/07/24 12:13	
Bromodichloromethane	ND U	1.0	0.20	1	03/07/24 12:13	
Bromoform	ND U	1.0	0.25	1	03/07/24 12:13	
Bromomethane	ND U	2.0	0.70	1	03/07/24 12:13	
Carbon Disulfide	ND U	1.0	0.42	1	03/07/24 12:13	
Carbon Tetrachloride	ND U	1.0	0.34	1	03/07/24 12:13	
Chlorobenzene	ND U	1.0	0.20	1	03/07/24 12:13	
Chloroethane	ND U	2.0	0.23	1	03/07/24 12:13	
Chloroform	ND U	1.0	0.51	1	03/07/24 12:13	
Chloromethane	ND U	2.0	0.80	1	03/07/24 12:13	
Cyclohexane	ND U	10	0.60	1	03/07/24 12:13	
Dibromochloromethane	ND U	1.0	0.20	1	03/07/24 12:13	
Dibromomethane	ND U	1.0	0.20	1	03/07/24 12:13	
Dichlorodifluoromethane (CFC 12)	ND U	1.0	0.21	1	03/07/24 12:13	
Dichlorofluoromethane (CFC 21)	ND U	1.0	0.20	1	03/07/24 12:13	
Dichloromethane	ND U	1.0	0.65	1	03/07/24 12:13	

Analytical Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ2402458-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Ethyl Methacrylate	ND U	2.0	0.20	1	03/07/24 12:13	
Ethylbenzene	ND U	1.0	0.20	1	03/07/24 12:13	
Iodomethane	ND U	5.0	4.3	1	03/07/24 12:13	
Methacrylonitrile	ND U	5.0	0.52	1	03/07/24 12:13	
Methyl Methacrylate	ND U	2.0	0.51	1	03/07/24 12:13	
Methyl tert-Butyl Ether	ND U	10	0.20	1	03/07/24 12:13	
Methylcyclohexane	ND U	10	0.20	1	03/07/24 12:13	
Propionitrile	ND U	5.0	3.0	1	03/07/24 12:13	
Styrene	ND U	1.0	0.20	1	03/07/24 12:13	
Tetrachloroethene (PCE)	ND U	1.0	0.21	1	03/07/24 12:13	
Tetrahydrofuran (THF)	ND U	5.0	1.7	1	03/07/24 12:13	
Toluene	ND U	1.0	0.20	1	03/07/24 12:13	
Trichloroethene (TCE)	ND U	1.0	0.20	1	03/07/24 12:13	
Trichlorofluoromethane (CFC 11)	ND U	1.0	0.24	1	03/07/24 12:13	
Vinyl Acetate	ND U	5.0	1.1	1	03/07/24 12:13	
Vinyl Chloride	ND U	1.0	0.20	1	03/07/24 12:13	
cis-1,2-Dichloroethene	ND U	1.0	0.23	1	03/07/24 12:13	
cis-1,3-Dichloropropene	ND U	1.0	0.20	1	03/07/24 12:13	
m,p-Xylenes	ND U	2.0	0.20	1	03/07/24 12:13	
o-Xylene	ND U	1.0	0.20	1	03/07/24 12:13	
trans-1,2-Dichloroethene	ND U	1.0	0.20	1	03/07/24 12:13	
trans-1,3-Dichloropropene	ND U	1.0	0.23	1	03/07/24 12:13	
trans-1,4-Dichloro-2-butene	ND U	1.0	0.78	1	03/07/24 12:13	
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	ND U	1.0	0.20	1	03/07/24 12:13	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85 - 122	03/07/24 12:13	
Dibromofluoromethane	102	80 - 116	03/07/24 12:13	
Toluene-d8	103	87 - 121	03/07/24 12:13	

Tentatively Identified Compounds

CAS#	Compound Identification	RT	Result ug/L	Q
	unknown	0.99	8.5	J

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Analyzed:**	03/06/24 11:03
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-17
Lab Code:	RQ2402425-03	**File ID:**	I:\ACQUDATA\MSVOA17\Data\030624\K0286.D\
Analysis Method:	8260C	**Analysis Lot:**	834245
Prep Method:	EPA 5030C		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ2402425-04	I:\ACQUDATA\MSVOA17\Data\030624 \K0291.D\	03/06/24 13:09
2402260901A 400-EV-131	R2401542-002	I:\ACQUDATA\MSVOA17\Data\030624 \K0297.D\	03/06/24 15:27
2402261006A 400-HV-147	R2401542-008	I:\ACQUDATA\MSVOA17\Data\030624 \K0298.D\	03/06/24 15:50
2402261032C 400-GV-125	R2401542-011	I:\ACQUDATA\MSVOA17\Data\030624 \K0299.D\	03/06/24 16:13
2402261315A 400-JV-150	R2401542-013	I:\ACQUDATA\MSVOA17\Data\030624 \K0300.D\	03/06/24 16:36
2402261411C 400-IV-123	R2401542-015	I:\ACQUDATA\MSVOA17\Data\030624 \K0301.D\	03/06/24 16:59
2402260745C 400-FV-131	R2401542-003	I:\ACQUDATA\MSVOA17\Data\030624 \K0302.D\	03/06/24 17:22
2402260935C 400-FV-131	R2401542-004	I:\ACQUDATA\MSVOA17\Data\030624 \K0303.D\	03/06/24 17:45
2402260936C 400-FV-131	R2401542-005	I:\ACQUDATA\MSVOA17\Data\030624 \K0304.D\	03/06/24 18:08
2402260937C 400-FV-131	R2401542-006	I:\ACQUDATA\MSVOA17\Data\030624 \K0305.D\	03/06/24 18:31
2402260900A 400-EV-131	R2401542-001	I:\ACQUDATA\MSVOA17\Data\030624 \K0306.D\	03/06/24 18:54
2402261005A 400-HV-147	R2401542-007	I:\ACQUDATA\MSVOA17\Data\030624 \K0307.D\	03/06/24 19:17
2402261030C 400-GV-125	R2401542-009	I:\ACQUDATA\MSVOA17\Data\030624 \K0308.D\	03/06/24 19:40
2402261031C 400-GV-125	R2401542-010	I:\ACQUDATA\MSVOA17\Data\030624 \K0309.D\	03/06/24 20:03
2402261410C 400-IV-123	R2401542-014	I:\ACQUDATA\MSVOA17\Data\030624\K0311.D\	03/06/24 20:49
2402260935C 400-FV-131MS	RQ2402425-05	I:\ACQUDATA\MSVOA17\Data\030624 \K0312.D\	03/06/24 21:12
2402260935C 400-FV-131DMS	RQ2402425-06	I:\ACQUDATA\MSVOA17\Data\030624 \K0313.D\	03/06/24 21:35

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401542
Project:	White Sands Test Facility/23EC002B	**Date Analyzed:**	03/07/24 10:52
Sample Matrix:	Water	**Date Extracted:**	

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	R-MS-17
Lab Code:	RQ2402458-03	**File ID:**	I:\ACQUDATA\MSVOA17\Data\030724\K0318.D\
Analysis Method:	8260C	**Analysis Lot:**	834332
Prep Method:	EPA 5030C		

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	RQ2402458-04	I:\ACQUDATA\MSVOA17\Data\030724 \K0321.D\	03/07/24 12:13
2402261316A 400-JV-150	R2401542-012	I:\ACQUDATA\MSVOA17\Data\030724 \K0327.D\	03/07/24 14:31
2402261030C 400-GV-125	R2401542-009	I:\ACQUDATA\MSVOA17\Data\030724 \K0328.D\	03/07/24 14:54
2402261031C 400-GV-125	R2401542-010	I:\ACQUDATA\MSVOA17\Data\030724 \K0329.D\	03/07/24 15:17

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401542
Date Analyzed: 03/06/24

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2402425-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	19.3	20.0	97	76-129
1,1,1-Trichloroethane (TCA)	8260C	19.1	20.0	96	70-130
1,1,2,2-Tetrachloroethane	8260C	17.9	20.0	89	78-126
1,1,2-Trichloroethane	8260C	18.4	20.0	92	82-121
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	19.1	20.0	96	70-130
1,1-Dichloroethane (1,1-DCA)	8260C	19.0	20.0	95	80-124
1,1-Dichloroethene (1,1-DCE)	8260C	18.1	20.0	91	70-130
1,2,3-Trichloropropane	8260C	17.3	20.0	87	75-118
1,2-Dibromo-3-chloropropane (DBCP)	8260C	16.8	20.0	84	55-136
1,2-Dibromoethane	8260C	19.1	20.0	95	82-127
1,2-Dichloroethane	8260C	19.2	20.0	96	71-127
1,2-Dichloropropane	8260C	19.1	20.0	95	80-119
1,4-Dioxane	8260C	346	400	87	44-154
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	8260C	23.7	20.0	119	70-130
2-Butanone (MEK)	8260C	15.4	20.0	77	61-137
2-Chloro-1,3-butadiene	8260C	18.9	20.0	94	68-139
2-Hexanone	8260C	17.4	20.0	87	63-124
Isobutyl Alcohol	8260C	336	400	84	51-143
2-Propanol	8260C	341	400	85	52-136
Allyl Chloride	8260C	18.7	20.0	94	61-143
4-Methyl-2-pentanone	8260C	17.6	20.0	88	66-124
Acetone	8260C	15.2	20.0	76	40-161
Acetonitrile	8260C	98.6	100	99	46-154
Acrolein	8260C	36.8	40.0	92	13-165
Acrylonitrile	8260C	90.3	100	90	71-130
Benzene	8260C	19.3	20.0	96	79-119
Bromodichloromethane	8260C	19.2	20.0	96	81-123
Bromoform	8260C	19.7	20.0	98	65-146
Bromomethane	8260C	17.4	20.0	87	42-166
Carbon Disulfide	8260C	18.2	20.0	91	66-128
Carbon Tetrachloride	8260C	19.7	20.0	98	70-127
Chlorobenzene	8260C	18.8	20.0	94	81-120
Chloroethane	8260C	18.1	20.0	91	62-131

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401542
Date Analyzed: 03/06/24

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2402425-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloroform	8260C	18.6	20.0	93	70-130
Chloromethane	8260C	18.2	20.0	91	65-135
Cyclohexane	8260C	20.2	20.0	101	69-120
Dibromochloromethane	8260C	19.0	20.0	95	72-128
Dibromomethane	8260C	19.1	20.0	96	80-118
Dichlorodifluoromethane (CFC 12)	8260C	13.5	20.0	67	59-155
Dichlorofluoromethane (CFC 21)	8260C	17.7	20.0	88	70-130
Dichloromethane	8260C	19.4	20.0	97	73-122
Ethyl Methacrylate	8260C	18.9	20.0	95	68-132
Ethylbenzene	8260C	19.2	20.0	96	76-120
Iodomethane	8260C	19.3	20.0	96	18-160
Methacrylonitrile	8260C	17.7	20.0	88	68-123
Methyl Methacrylate	8260C	18.7	20.0	94	68-129
Methyl tert-Butyl Ether	8260C	18.9	20.0	94	75-118
Methylcyclohexane	8260C	19.6	20.0	98	51-129
Propionitrile	8260C	89.5	100	90	69-126
Styrene	8260C	19.6	20.0	98	80-124
Tetrachloroethene (PCE)	8260C	18.7	20.0	94	70-130
Tetrahydrofuran (THF)	8260C	17.2	20.0	86	48-141
Toluene	8260C	19.3	20.0	96	79-119
Trichloroethene (TCE)	8260C	19.0	20.0	95	70-130
Trichlorofluoromethane (CFC 11)	8260C	19.0	20.0	95	70-130
Vinyl Acetate	8260C	23.8	20.0	119	52-174
Vinyl Chloride	8260C	16.2	20.0	81	74-159
cis-1,2-Dichloroethene	8260C	19.5	20.0	98	80-121
cis-1,3-Dichloropropene	8260C	19.6	20.0	98	77-122
m,p-Xylenes	8260C	39.5	40.0	99	80-126
o-Xylene	8260C	19.5	20.0	98	79-123
trans-1,2-Dichloroethene	8260C	18.2	20.0	91	73-118
trans-1,3-Dichloropropene	8260C	19.2	20.0	96	71-133
trans-1,4-Dichloro-2-butene	8260C	15.5	20.0	77	39-137
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8260C	20.2	20.0	101	70-130

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401542
Date Analyzed: 03/07/24

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2402458-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8260C	20.1	20.0	100	76-129
1,1,1-Trichloroethane (TCA)	8260C	20.0	20.0	100	70-130
1,1,2,2-Tetrachloroethane	8260C	18.1	20.0	90	78-126
1,1,2-Trichloroethane	8260C	19.4	20.0	97	82-121
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	19.8	20.0	99	70-130
1,1-Dichloroethane (1,1-DCA)	8260C	20.5	20.0	102	80-124
1,1-Dichloroethene (1,1-DCE)	8260C	18.9	20.0	95	70-130
1,2,3-Trichloropropane	8260C	17.7	20.0	88	75-118
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.1	20.0	86	55-136
1,2-Dibromoethane	8260C	19.4	20.0	97	82-127
1,2-Dichloroethane	8260C	19.8	20.0	99	71-127
1,2-Dichloropropane	8260C	19.8	20.0	99	80-119
1,4-Dioxane	8260C	342	400	85	44-154
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	8260C	23.9	20.0	119	70-130
2-Butanone (MEK)	8260C	14.6	20.0	73	61-137
2-Chloro-1,3-butadiene	8260C	18.3	20.0	92	68-139
2-Hexanone	8260C	17.0	20.0	85	63-124
Isobutyl Alcohol	8260C	353	400	88	51-143
2-Propanol	8260C	346	400	86	52-136
Allyl Chloride	8260C	20.2	20.0	101	61-143
4-Methyl-2-pentanone	8260C	17.4	20.0	87	66-124
Acetone	8260C	15.2	20.0	76	40-161
Acetonitrile	8260C	100	100	100	46-154
Acrolein	8260C	36.0	40.0	90	13-165
Acrylonitrile	8260C	92.0	100	92	71-130
Benzene	8260C	20.2	20.0	101	79-119
Bromodichloromethane	8260C	20.1	20.0	100	81-123
Bromoform	8260C	20.5	20.0	103	65-146
Bromomethane	8260C	18.6	20.0	93	42-166
Carbon Disulfide	8260C	17.3	20.0	86	66-128
Carbon Tetrachloride	8260C	20.4	20.0	102	70-127
Chlorobenzene	8260C	19.6	20.0	98	81-120
Chloroethane	8260C	15.6	20.0	78	62-131

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401542
Date Analyzed: 03/07/24

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ2402458-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloroform	8260C	19.4	20.0	97	70-130
Chloromethane	8260C	19.3	20.0	97	65-135
Cyclohexane	8260C	20.3	20.0	102	69-120
Dibromochloromethane	8260C	19.9	20.0	99	72-128
Dibromomethane	8260C	19.8	20.0	99	80-118
Dichlorodifluoromethane (CFC 12)	8260C	14.1	20.0	71	59-155
Dichlorofluoromethane (CFC 21)	8260C	18.0	20.0	90	70-130
Dichloromethane	8260C	20.3	20.0	102	73-122
Ethyl Methacrylate	8260C	19.2	20.0	96	68-132
Ethylbenzene	8260C	20.0	20.0	100	76-120
Iodomethane	8260C	18.2	20.0	91	18-160
Methacrylonitrile	8260C	18.3	20.0	91	68-123
Methyl Methacrylate	8260C	19.7	20.0	99	68-129
Methyl tert-Butyl Ether	8260C	19.7	20.0	99	75-118
Methylcyclohexane	8260C	19.6	20.0	98	51-129
Propionitrile	8260C	91.7	100	92	69-126
Styrene	8260C	20.7	20.0	103	80-124
Tetrachloroethene (PCE)	8260C	20.1	20.0	101	70-130
Tetrahydrofuran (THF)	8260C	17.3	20.0	86	48-141
Toluene	8260C	20.1	20.0	101	79-119
Trichloroethene (TCE)	8260C	19.8	20.0	99	70-130
Trichlorofluoromethane (CFC 11)	8260C	19.9	20.0	100	70-130
Vinyl Acetate	8260C	22.3	20.0	111	52-174
Vinyl Chloride	8260C	17.6	20.0	88	74-159
cis-1,2-Dichloroethene	8260C	20.2	20.0	101	80-121
cis-1,3-Dichloropropene	8260C	20.2	20.0	101	77-122
m,p-Xylenes	8260C	41.1	40.0	103	80-126
o-Xylene	8260C	20.0	20.0	100	79-123
trans-1,2-Dichloroethene	8260C	19.4	20.0	97	73-118
trans-1,3-Dichloropropene	8260C	20.1	20.0	101	71-133
trans-1,4-Dichloro-2-butene	8260C	15.9	20.0	80	39-137
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	8260C	20.6	20.0	103	70-130

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B **Date Analyzed:**03/06/24 09:49

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA17\Data\030624\K0284.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-17 **Analysis Lot:** 834245

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	21.0	39429	Pass
75	95	30	60	49.9	93683	Pass
95	95	100	100	100.0	187861	Pass
96	95	5	9	6.8	12836	Pass
173	174	0	2	0.9	1383	Pass
174	95	50	120	77.8	146213	Pass
175	174	5	9	7.6	11047	Pass
176	174	95	101	96.9	141712	Pass
177	176	5	9	6.8	9592	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ2402425-02	I:\ACQUDATA\MSVOA17\Data\030624\K0285.D\	03/06/24 10:22	
Lab Control Sample	RQ2402425-03	I:\ACQUDATA\MSVOA17\Data\030624\K0286.D\	03/06/24 11:03	
Method Blank	RQ2402425-04	I:\ACQUDATA\MSVOA17\Data\030624\K0291.D\	03/06/24 13:09	
2402260901A 400-EV-131	R2401542-002	I:\ACQUDATA\MSVOA17\Data\030624\K0297.D\	03/06/24 15:27	
2402261006A 400-HV-147	R2401542-008	I:\ACQUDATA\MSVOA17\Data\030624\K0298.D\	03/06/24 15:50	
2402261032C 400-GV-125	R2401542-011	I:\ACQUDATA\MSVOA17\Data\030624\K0299.D\	03/06/24 16:13	
2402261315A 400-JV-150	R2401542-013	I:\ACQUDATA\MSVOA17\Data\030624\K0300.D\	03/06/24 16:36	
2402261411C 400-IV-123	R2401542-015	I:\ACQUDATA\MSVOA17\Data\030624\K0301.D\	03/06/24 16:59	
2402260745C 400-FV-131	R2401542-003	I:\ACQUDATA\MSVOA17\Data\030624\K0302.D\	03/06/24 17:22	
2402260935C 400-FV-131	R2401542-004	I:\ACQUDATA\MSVOA17\Data\030624\K0303.D\	03/06/24 17:45	
2402260936C 400-FV-131	R2401542-005	I:\ACQUDATA\MSVOA17\Data\030624\K0304.D\	03/06/24 18:08	
2402260937C 400-FV-131	R2401542-006	I:\ACQUDATA\MSVOA17\Data\030624\K0305.D\	03/06/24 18:31	
2402260900A 400-EV-131	R2401542-001	I:\ACQUDATA\MSVOA17\Data\030624\K0306.D\	03/06/24 18:54	
2402261005A 400-HV-147	R2401542-007	I:\ACQUDATA\MSVOA17\Data\030624\K0307.D\	03/06/24 19:17	
2402261030C 400-GV-125	R2401542-009	I:\ACQUDATA\MSVOA17\Data\030624\K0308.D\	03/06/24 19:40	
2402261031C 400-GV-125	R2401542-010	I:\ACQUDATA\MSVOA17\Data\030624\K0309.D\	03/06/24 20:03	
2402261410C 400-IV-123	R2401542-014	I:\ACQUDATA\MSVOA17\Data\030624\K0311.D\	03/06/24 20:49	
2402260935C 400-FV-131	RQ2402425-05	I:\ACQUDATA\MSVOA17\Data\030624\K0312.D\	03/06/24 21:12	
2402260935C 400-FV-131	RQ2402425-06	I:\ACQUDATA\MSVOA17\Data\030624\K0313.D\	03/06/24 21:35	

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B **Date Analyzed:**03/07/24 09:37

Tune Summary
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA17\Data\030724\K0316.D\ **Analytical Method:** 8260C
Instrument ID: R-MS-17 **Analysis Lot:** 834332

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
50	95	15	40	21.4	40024	Pass
75	95	30	60	50.9	95200	Pass
95	95	100	100	100.0	186965	Pass
96	95	5	9	6.7	12568	Pass
173	174	0	2	1.0	1437	Pass
174	95	50	120	79.6	148739	Pass
175	174	5	9	7.8	11611	Pass
176	174	95	101	95.2	141572	Pass
177	176	5	9	6.4	9115	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	RQ2402458-02	I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\	03/07/24 10:10	
Lab Control Sample	RQ2402458-03	I:\ACQUDATA\MSVOA17\Data\030724\K0318.D\	03/07/24 10:52	
Method Blank	RQ2402458-04	I:\ACQUDATA\MSVOA17\Data\030724\K0321.D\	03/07/24 12:13	
2402261316A 400-JV-150	R2401542-012	I:\ACQUDATA\MSVOA17\Data\030724\K0327.D\	03/07/24 14:31	
2402261030C 400-GV-125	R2401542-009	I:\ACQUDATA\MSVOA17\Data\030724\K0328.D\	03/07/24 14:54	
2402261031C 400-GV-125	R2401542-010	I:\ACQUDATA\MSVOA17\Data\030724\K0329.D\	03/07/24 15:17	

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B **Date Analyzed:**03/06/24 10:22

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA17\Data\030624\K0285.D\ **Lab Code:**RQ2402425-02
Instrument ID: R-MS-17 **Analysis Lot:**834245
Analysis Method: 8260C **Signal ID:**1

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	286,498	11.68	624,064	6.24	566,170	9.62
	Upper Limit ==>	572,996	11.85	1,248,128	6.41	1,132,340	9.79
	Lower Limit ==>	143,249	11.51	312,032	6.07	283,085	9.45
Associated Analyses							
Lab Control Sample	RQ2402425-03	293940	11.68	631748	6.24	563345	9.62
Method Blank	RQ2402425-04	290318	11.68	643654	6.24	578688	9.62
2402260901A 400-EV-131	R2401542-002	273282	11.68	640220	6.24	565356	9.62
2402261006A 400-HV-147	R2401542-008	278977	11.68	640622	6.24	572937	9.62
2402261032C 400-GV-125	R2401542-011	283255	11.68	638931	6.24	579703	9.62
2402261315A 400-JV-150	R2401542-013	282136	11.68	640834	6.24	579064	9.62
2402261411C 400-IV-123	R2401542-015	279531	11.68	635990	6.24	564975	9.62
2402260745C 400-FV-131	R2401542-003	279203	11.68	640438	6.24	568397	9.62
2402260935C 400-FV-131	R2401542-004	272838	11.68	632229	6.24	568784	9.62
2402260936C 400-FV-131	R2401542-005	296959	11.68	671195	6.24	609460	9.62
2402260937C 400-FV-131	R2401542-006	273448	11.68	629657	6.24	561481	9.62
2402260900A 400-EV-131	R2401542-001	275252	11.68	627660	6.24	559450	9.62
2402261005A 400-HV-147	R2401542-007	269350	11.68	622209	6.24	551073	9.62
2402261030C 400-GV-125	R2401542-009	270332	11.68	630574	6.24	555856	9.62
2402261031C 400-GV-125	R2401542-010	272891	11.68	623183	6.24	546859	9.62
2402261410C 400-IV-123	R2401542-014	274504	11.68	623463	6.24	558839	9.62
2402260935C 400-FV-131MS	RQ2402425-05	286577	11.68	618371	6.24	560894	9.62
2402260935C 400-FV-131DMS	RQ2402425-06	282829	11.68	617555	6.24	558078	9.62

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B **Date Analyzed:**03/06/24 10:22

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA17\Data\030624\K0285.D\ **Lab Code:**RQ2402425-02
Instrument ID: R-MS-17 **Analysis Lot:**834245
Analysis Method: 8260C **Signal ID:**1

		Pentafluorobenzene	
		Area	**RT**
	Result ==>	425,417	5.08
	Upper Limit ==>	850,834	5.25
	Lower Limit ==>	212,709	4.91
Associated Analyses			
Lab Control Sample	RQ2402425-03	427474	5.08
Method Blank	RQ2402425-04	439994	5.08
2402260901A 400-EV-131	R2401542-002	434948	5.09
2402261006A 400-HV-147	R2401542-008	431373	5.09
2402261032C 400-GV-125	R2401542-011	439278	5.09
2402261315A 400-JV-150	R2401542-013	429932	5.09
2402261411C 400-IV-123	R2401542-015	427003	5.09
2402260745C 400-FV-131	R2401542-003	427314	5.09
2402260935C 400-FV-131	R2401542-004	421657	5.09
2402260936C 400-FV-131	R2401542-005	454405	5.09
2402260937C 400-FV-131	R2401542-006	427946	5.09
2402260900A 400-EV-131	R2401542-001	419372	5.09
2402261005A 400-HV-147	R2401542-007	416890	5.09
2402261030C 400-GV-125	R2401542-009	425890	5.09
2402261031C 400-GV-125	R2401542-010	419665	5.09
2402261410C 400-IV-123	R2401542-014	418989	5.09
2402260935C 400-FV-131MS	RQ2402425-05	421217	5.09
2402260935C 400-FV-131DMS	RQ2402425-06	420797	5.08

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B **Date Analyzed:**03/07/24 10:10

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\ **Lab Code:**RQ2402458-02
Instrument ID: R-MS-17 **Analysis Lot:**834332
Analysis Method: 8260C **Signal ID:**1

		1,4-Dichlorobenzene-d4		1,4-Difluorobenzene		Chlorobenzene-d5	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Result ==>	296,336	11.68	628,235	6.24	566,676	9.62
	Upper Limit ==>	592,672	11.85	1,256,470	6.41	1,133,352	9.79
	Lower Limit ==>	148,168	11.51	314,118	6.07	283,338	9.45
Associated Analyses							
Lab Control Sample	RQ2402458-03	291909	11.68	642448	6.24	571456	9.62
Method Blank	RQ2402458-04	263434	11.68	624419	6.24	544918	9.62
2402261316A 400-JV-150	R2401542-012	264604	11.68	610700	6.24	546002	9.62
2402261030C 400-GV-125	R2401542-009	275274	11.68	625503	6.24	554029	9.62
2402261031C 400-GV-125	R2401542-010	272033	11.68	613439	6.24	551782	9.62

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QA/QC Report

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B **Date Analyzed:**03/07/24 10:10

Internal Standard Area and RT SUMMARY
Volatile Organic Compounds by GC/MS

File ID: I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\ **Lab Code:**RQ2402458-02
Instrument ID: R-MS-17 **Analysis Lot:**834332
Analysis Method: 8260C **Signal ID:**1

		Pentafluorobenzene	
		Area	**RT**
	Result ==>	428,120	5.08
	Upper Limit ==>	856,240	5.25
	Lower Limit ==>	214,060	4.91
Associated Analyses			
Lab Control Sample	RQ2402458-03	434225	5.08
Method Blank	RQ2402458-04	422938	5.09
2402261316A 400-JV-150	R2401542-012	412909	5.09
2402261030C 400-GV-125	R2401542-009	419256	5.08
2402261031C 400-GV-125	R2401542-010	415853	5.09

Raw Data

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Volatile Organic Compounds by GC/MS

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Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Service Request: R2401542
Date Analyzed: 03/06/24 10:22

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\MSVOA17\Data\030624\K0285.D\
Signal ID: 1
Calibration Date: 2/15/2024
Calibration ID: RC2400037
Analysis Lot: 834245
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	50.8	0.3563	0.3622	1.6	NA	±20	Average RF
1,1,1-Trichloroethane (TCA)	50.0	51.9	0.6926	0.719	3.8	NA	±20	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.2	0.8826	0.8156	-7.6	NA	±20	Average RF
1,1,2-Trichloroethane	50.0	48.6	0.2848	0.2766	-2.9	NA	±20	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	52.1	0.4059	0.4232	4.3	NA	±20	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	50.2	0.7324	0.736	0.5	NA	±20	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	50.3	0.3867	0.3889	0.6	NA	±20	Average RF
1,2,3-Trichloropropane	50.0	45.2	0.3186	0.2877	-9.7	NA	±20	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	47.3	0.2242	0.2119	-5.5	NA	±20	Average RF
1,2-Dibromoethane	50.0	48.2	0.3426	0.33	-3.7	NA	±20	Average RF
1,2-Dichloroethane	50.0	50.2	0.4437	0.4457	0.4	NA	±20	Average RF
1,2-Dichloropropane	50.0	50.9	0.2807	0.286	1.9	NA	±20	Average RF
1,4-Dioxane	1000	897	0.0049	0.0044	-10.3	NA	±20	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	51.7	0.5412	0.5595	3.4	NA	±20	Average RF
2-Butanone (MEK)	50.0	45.6	0.3017	0.2751	-8.8	NA	±20	Average RF
2-Chloro-1,3-butadiene	50.0	51.1	0.742	0.7588	2.3	NA	±20	Average RF
2-Hexanone	50.0	45.6	0.3126	0.2853	-8.7	NA	±20	Average RF
Isobutyl Alcohol	1000	954	0.0165	0.0158	-4.6	NA	±20	Average RF
2-Propanol	1000	893	0.0402	0.0359	-10.7	NA	±20	Average RF
Allyl Chloride	50.0	48.2	0.2163	0.2085	-3.6	NA	±20	Average RF
4-Methyl-2-pentanone	50.0	46.5	0.3826	0.3561	-6.9	NA	±20	Average RF
Acetone	50.0	43.6	0.2339	0.2038	-12.9	NA	±20	Average RF
Acetonitrile	250	248	0.0945	0.0938	-0.8	NA	±20	Average RF
Acrolein	250	257	0.1003	0.1032	2.9	NA	±20	Average RF
Acrylonitrile	250	231	0.2195	0.2033	-7.4	NA	±20	Average RF
Benzene	50.0	50.8	1.0504	1.0662	1.5	NA	±20	Average RF
Bromodichloromethane	50.0	52.0	0.3881	0.4032	3.9	NA	±20	Average RF
Bromoform	50.0	50.4	0.2457	0.2475	0.7	NA	±20	Average RF
Bromomethane	50.0	51.4	0.3076	0.2777	NA	2.7	±20	Quadratic
Carbon Disulfide	50.0	49.9	1.0822	1.0807	-0.1	NA	±20	Average RF
Carbon Tetrachloride	50.0	52.5	0.424	0.4453	5.0	NA	±20	Average RF
Chlorobenzene	50.0	48.8	0.9252	0.9033	-2.4	NA	±20	Average RF
Chloroethane	50.0	55.6	0.3382	0.3758	11.1	NA	±20	Average RF
Chloroform	50.0	48.8	0.7713	0.7526	-2.4	NA	±20	Average RF
Chloromethane	50.0	50.0	0.4976	0.4975	0.0	NA	±20	Average RF
Cyclohexane	50.0	53.4	0.2823	0.3014	6.8	NA	±20	Average RF
Dibromochloromethane	50.0	52.2	0.3769	0.3935	4.4	NA	±20	Average RF
Dibromomethane	50.0	48.6	0.1992	0.1938	-2.7	NA	±20	Average RF

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Service Request: R2401542
Date Analyzed: 03/06/24 10:22

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\MSVOA17\Data\030624\K0285.D\
Signal ID: 1
Calibration Date: 2/15/2024
Calibration ID: RC2400037
Analysis Lot: 834245
Units: ug/L

Dichlorodifluoromethane (CFC 12)	50.0	51.8	0.6372	0.6602	3.6	NA	±20	Average RF
Dichlorofluoromethane (CFC 21)	50.0	50.8	0.733	0.7441	1.5	NA	±20	Average RF
Dichloromethane	50.0	50.3	0.442	0.4031	NA	0.6	±20	Quadratic
Ethyl Methacrylate	50.0	48.8	0.4141	0.404	-2.5	NA	±20	Average RF
Ethylbenzene	50.0	50.4	0.4784	0.4821	0.8	NA	±20	Average RF
Iodomethane	50.0	52.6	0.6403	0.6731	5.1	NA	±20	Average RF
Methacrylonitrile	50.0	46.3	0.2141	0.1982	-7.4	NA	±20	Average RF
Methyl Methacrylate	50.0	48.3	0.2285	0.2207	-3.4	NA	±20	Average RF
Methyl tert-Butyl Ether	50.0	48.6	1.3324	1.2937	-2.9	NA	±20	Average RF
Methylcyclohexane	50.0	51.0	0.4089	0.4169	1.9	NA	±20	Average RF
Propionitrile	250	227	0.0885	0.0804	-9.2	NA	±20	Average RF
Styrene	50.0	51.1	0.9678	0.9894	2.2	NA	±20	Average RF
Tetrachloroethene (PCE)	50.0	50.1	0.2915	0.2919	0.1	NA	±20	Average RF
Tetrahydrofuran (THF)	50.0	44.3	0.1846	0.1635	-11.4	NA	±20	Average RF
Toluene	50.0	51.3	1.1687	1.1994	2.6	NA	±20	Average RF
Trichloroethene (TCE)	50.0	50.3	0.3269	0.329	0.7	NA	±20	Average RF
Trichlorofluoromethane (CFC 11)	50.0	52.0	0.7001	0.7285	4.1	NA	±20	Average RF
Vinyl Acetate	50.0	51.1	0.061	0.0624	2.3	NA	±20	Average RF
Vinyl Chloride	50.0	51.7	0.5073	0.5245	3.4	NA	±20	Average RF
cis-1,2-Dichloroethene	50.0	50.3	0.4631	0.4661	0.6	NA	±20	Average RF
cis-1,3-Dichloropropene	50.0	50.8	0.4517	0.4588	1.6	NA	±20	Average RF
m,p-Xylenes	100	102	0.5821	0.591	1.5	NA	±20	Average RF
o-Xylene	50.0	50.0	0.5725	0.5719	-0.1	NA	±20	Average RF
trans-1,2-Dichloroethene	50.0	50.4	0.4172	0.4201	0.7	NA	±20	Average RF
trans-1,3-Dichloropropene	50.0	50.1	0.4292	0.4304	0.3	NA	±20	Average RF
trans-1,4-Dichloro-2-butene	50.0	35.0	0.1431	0.1001	-30.1*	NA	±20	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	50.3	0.4227	0.4252	0.6	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	52.5	0.4467	0.4691	5.0	NA	±20	Average RF
Dibromofluoromethane	50.0	53.0	0.3241	0.3437	6.1	NA	±20	Average RF
Toluene-d8	50.0	52.5	1.1674	1.2247	4.9	NA	±20	Average RF

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B

Service Request: R2401542
Date Analyzed: 03/07/24 10:10

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\
Signal ID: 1

Calibration Date: 2/15/2024
Calibration ID: RC2400037
Analysis Lot: 834332
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1,1,1,2-Tetrachloroethane	50.0	51.1	0.3563	0.364	2.2	NA	±20	Average RF
1,1,1-Trichloroethane (TCA)	50.0	50.7	0.6926	0.7022	1.4	NA	±20	Average RF
1,1,2,2-Tetrachloroethane	50.0	46.4	0.8826	0.8195	-7.1	NA	±20	Average RF
1,1,2-Trichloroethane	50.0	50.2	0.2848	0.286	0.4	NA	±20	Average RF
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.1	0.4059	0.4065	0.1	NA	±20	Average RF
1,1-Dichloroethane (1,1-DCA)	50.0	50.6	0.7324	0.7409	1.2	NA	±20	Average RF
1,1-Dichloroethene (1,1-DCE)	50.0	49.2	0.3867	0.3803	-1.6	NA	±20	Average RF
1,2,3-Trichloropropane	50.0	45.3	0.3186	0.2884	-9.5	NA	±20	Average RF
1,2-Dibromo-3-chloropropane (DBCP)	50.0	48.2	0.2242	0.216	-3.7	NA	±20	Average RF
1,2-Dibromoethane	50.0	49.6	0.3426	0.3395	-0.9	NA	±20	Average RF
1,2-Dichloroethane	50.0	50.2	0.4437	0.4451	0.3	NA	±20	Average RF
1,2-Dichloropropane	50.0	50.3	0.2807	0.2822	0.5	NA	±20	Average RF
1,4-Dioxane	1000	926	0.0049	0.0045	-7.4	NA	±20	Average RF
2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)	50.0	51.4	0.5412	0.5562	2.8	NA	±20	Average RF
2-Butanone (MEK)	50.0	48.5	0.3017	0.2927	-3.0	NA	±20	Average RF
2-Chloro-1,3-butadiene	50.0	49.1	0.742	0.7284	-1.8	NA	±20	Average RF
2-Hexanone	50.0	49.4	0.3126	0.309	-1.1	NA	±20	Average RF
Isobutyl Alcohol	1000	1040	0.0165	0.0173	4.4	NA	±20	Average RF
2-Propanol	1000	953	0.0402	0.0383	-4.7	NA	±20	Average RF
Allyl Chloride	50.0	45.1	0.2163	0.195	-9.8	NA	±20	Average RF
4-Methyl-2-pentanone	50.0	47.9	0.3826	0.3669	-4.1	NA	±20	Average RF
Acetone	50.0	51.1	0.2339	0.2391	2.2	NA	±20	Average RF
Acetonitrile	250	245	0.0945	0.0927	-1.9	NA	±20	Average RF
Acrolein	250	269	0.1003	0.108	7.7	NA	±20	Average RF
Acrylonitrile	250	242	0.2195	0.2121	-3.4	NA	±20	Average RF
Benzene	50.0	49.9	1.0504	1.0485	-0.2	NA	±20	Average RF
Bromodichloromethane	50.0	51.8	0.3881	0.4018	3.5	NA	±20	Average RF
Bromoform	50.0	51.5	0.2457	0.2532	3.1	NA	±20	Average RF
Bromomethane	50.0	51.4	0.3076	0.2777	NA	2.7	±20	Quadratic
Carbon Disulfide	50.0	48.0	1.0822	1.0389	-4.0	NA	±20	Average RF
Carbon Tetrachloride	50.0	50.9	0.424	0.4313	1.7	NA	±20	Average RF
Chlorobenzene	50.0	48.8	0.9252	0.9034	-2.4	NA	±20	Average RF
Chloroethane	50.0	49.9	0.3382	0.3378	-0.1	NA	±20	Average RF
Chloroform	50.0	47.7	0.7713	0.7362	-4.5	NA	±20	Average RF
Chloromethane	50.0	51.3	0.4976	0.5105	2.6	NA	±20	Average RF
Cyclohexane	50.0	51.6	0.2823	0.2913	3.2	NA	±20	Average RF
Dibromochloromethane	50.0	52.6	0.3769	0.3962	5.1	NA	±20	Average RF
Dibromomethane	50.0	49.7	0.1992	0.1982	-0.5	NA	±20	Average RF

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B

Service Request: R2401542
Date Analyzed: 03/07/24 10:10

Continuing Calibration Verification (CCV) Summary
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
File ID: I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\
Signal ID: 1

Calibration Date: 2/15/2024
Calibration ID: RC2400037
Analysis Lot: 834332
Units: ug/L

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Dichlorodifluoromethane (CFC 12)	50.0	48.8	0.6372	0.6213	-2.5	NA	±20	Average RF
Dichlorofluoromethane (CFC 21)	50.0	50.3	0.733	0.7366	0.5	NA	±20	Average RF
Dichloromethane	50.0	49.7	0.442	0.3986	NA	-0.5	±20	Quadratic
Ethyl Methacrylate	50.0	50.1	0.4141	0.4149	0.2	NA	±20	Average RF
Ethylbenzene	50.0	49.8	0.4784	0.4763	-0.4	NA	±20	Average RF
Iodomethane	50.0	50.2	0.6403	0.6422	0.3	NA	±20	Average RF
Methacrylonitrile	50.0	49.5	0.2141	0.2119	-1.0	NA	±20	Average RF
Methyl Methacrylate	50.0	49.8	0.2285	0.2275	-0.4	NA	±20	Average RF
Methyl tert-Butyl Ether	50.0	49.9	1.3324	1.3285	-0.3	NA	±20	Average RF
Methylcyclohexane	50.0	49.2	0.4089	0.4024	-1.6	NA	±20	Average RF
Propionitrile	250	239	0.0885	0.0846	-4.5	NA	±20	Average RF
Styrene	50.0	51.2	0.9678	0.9903	2.3	NA	±20	Average RF
Tetrachloroethene (PCE)	50.0	49.1	0.2915	0.2863	-1.8	NA	±20	Average RF
Tetrahydrofuran (THF)	50.0	47.3	0.1846	0.1747	-5.3	NA	±20	Average RF
Toluene	50.0	50.4	1.1687	1.1777	0.8	NA	±20	Average RF
Trichloroethene (TCE)	50.0	49.8	0.3269	0.3254	-0.5	NA	±20	Average RF
Trichlorofluoromethane (CFC 11)	50.0	49.7	0.7001	0.6965	-0.5	NA	±20	Average RF
Vinyl Acetate	50.0	48.5	0.061	0.0591	-3.0	NA	±20	Average RF
Vinyl Chloride	50.0	49.9	0.5073	0.5059	-0.3	NA	±20	Average RF
cis-1,2-Dichloroethene	50.0	50.0	0.4631	0.4627	-0.1	NA	±20	Average RF
cis-1,3-Dichloropropene	50.0	50.6	0.4517	0.4573	1.2	NA	±20	Average RF
m,p-Xylenes	100	99.5	0.5821	0.5792	-0.5	NA	±20	Average RF
o-Xylene	50.0	49.5	0.5725	0.5671	-0.9	NA	±20	Average RF
trans-1,2-Dichloroethene	50.0	49.2	0.4172	0.4104	-1.6	NA	±20	Average RF
trans-1,3-Dichloropropene	50.0	51.1	0.4292	0.4384	2.1	NA	±20	Average RF
trans-1,4-Dichloro-2-butene	50.0	37.1	0.1431	0.1063	-25.8*	NA	±20	Average RF
1,2-Dichloro-1,1,2-trifluoroethane (CFC 123a)	50.0	50.6	0.4227	0.4278	1.2	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
4-Bromofluorobenzene	50.0	51.8	0.4467	0.4629	3.6	NA	±20	Average RF
Dibromofluoromethane	50.0	51.6	0.3241	0.3342	3.1	NA	±20	Average RF
Toluene-d8	50.0	51.2	1.1674	1.1946	2.3	NA	±20	Average RF

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**834245
Instrument ID:R-MS-17

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\MSVOA17\Data\030624\K0284.D\	ZZZZZZZ	ZZZZZZZ	3/6/2024	09:49:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0285.D\	Continuing Calibration Verification	RQ2402425-02	3/6/2024	10:22:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0286.D\	Lab Control Sample	RQ2402425-03	3/6/2024	11:03:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0291.D\	Method Blank	RQ2402425-04	3/6/2024	13:09:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0297.D\	2402260901A 400-EV-131	R2401542-002	3/6/2024	15:27:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0298.D\	2402261006A 400-HV-147	R2401542-008	3/6/2024	15:50:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0299.D\	2402261032C 400-GV-125	R2401542-011	3/6/2024	16:13:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0300.D\	2402261315A 400-JV-150	R2401542-013	3/6/2024	16:36:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0301.D\	2402261411C 400-IV-123	R2401542-015	3/6/2024	16:59:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0302.D\	2402260745C 400-FV-131	R2401542-003	3/6/2024	17:22:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0303.D\	2402260935C 400-FV-131	R2401542-004	3/6/2024	17:45:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0304.D\	2402260936C 400-FV-131	R2401542-005	3/6/2024	18:08:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0305.D\	2402260937C 400-FV-131	R2401542-006	3/6/2024	18:31:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0306.D\	2402260900A 400-EV-131	R2401542-001	3/6/2024	18:54:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0307.D\	2402261005A 400-HV-147	R2401542-007	3/6/2024	19:17:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0308.D\	2402261030C 400-GV-125	R2401542-009	3/6/2024	19:40:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0309.D\	2402261031C 400-GV-125	R2401542-010	3/6/2024	20:03:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0311.D\	2402261410C 400-IV-123	R2401542-014	3/6/2024	20:49:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0312.D\	2402260935C 400-FV-131 MS	RQ2402425-05	3/6/2024	21:12:00	
I:\ACQUDATA\MSVOA17\Data\030624\K0313.D\	2402260935C 400-FV-131 DMS	RQ2402425-06	3/6/2024	21:35:00	

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**834332
Instrument ID:R-MS-17

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\MSVOA17\Data\030724\K0316.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	09:37:00	
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I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	10:10:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0317.D\	Continuing Calibration Verification	RQ2402458-02	3/7/2024	10:10:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0318.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	10:52:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0318.D\	Lab Control Sample	RQ2402458-03	3/7/2024	10:52:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0321.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	12:13:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0321.D\	Method Blank	RQ2402458-04	3/7/2024	12:13:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0322.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	12:36:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0323.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	12:59:00	
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I:\ACQUDATA\MSVOA17\Data\030724\K0325.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	13:45:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0326.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	14:08:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0327.D\	2402261316A 400-JV-150	R2401542-012	3/7/2024	14:31:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0328.D\	2402261030C 400-GV-125	R2401542-009	3/7/2024	14:54:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0329.D\	2402261031C 400-GV-125	R2401542-010	3/7/2024	15:17:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0330.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	15:40:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0331.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	16:03:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0332.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	16:26:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0333.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	16:49:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0334.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	17:12:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0335.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	17:35:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0336.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	17:58:00	

Client: NASA/WSTF/Navarro **Service Request:**R2401542
Project: White Sands Test Facility/23EC002B

Analysis Run Log
Volatile Organic Compounds by GC/MS

Analysis Method: **Analysis Lot:**834332
Instrument ID:R-MS-17

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
I:\ACQUDATA\MSVOA17\Data\030724\K0337.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	18:21:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0338.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	18:44:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0339.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	19:07:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0340.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	19:30:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0341.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	19:53:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0342.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	20:16:00	
I:\ACQUDATA\MSVOA17\Data\030724\K0343.D\	ZZZZZZZ	ZZZZZZZ	3/7/2024	20:39:00	

Analysis: 8260 waters | Analyst: VD | pH strips: 238035 | Tune Method: WDA529

Date: 3/6/24 | Balance ID: N/A | ResCl strips: N/A | Run Method: ↓

Instr. 17 | 50 mL Class A used for dilution FV | Syringes: 202106 + 221562 | LIMS Run#: 834943 + 834945 (med / wat)

Data Path: j:\acqudata\msvoa(InstID)\(Date)

Pos.	Sample	Diln.	Diln. Prep./ (meds / wat)	RL	Vial	HS	CL	pH	File#	OK?	Comments
1	BLK								K0883		
2	LNE		RQ2402424-01 + Q2402425.01						K0884	YT	(auto) 9:49
1	CCV		02	02					K0885	YC	
1	LCS·FP			03					K0886	YD	
2	LCS·MED	5D	1mlMeOH/5mlsDI(03)	—					K0887	YD	
1	BLK			—					K0888	(Y)	rpt 4/6
2	MBLK·WMP		(W2) ~~04~~	—					K0889	YB	
3	MEDBLK	5D	1mlMeOH/5mlsDI(04)	—					K0890	YB	
4	MBLK·FP		RQ2402425.04 (MD)	21913					K0891	YB	
(MD) 5	~~R2400829.008~~	~~5D~~	1mlMeOH/5mlsDI	22800	1	N/A	N/A	N/A	K0892	(Y)	R2400734.011 not 500ul (mek)
6	RQ2402424.06		50µls → 10/5mlsDI	22800	N/A	↓	↓	↓	K0893	YD	R2400829.008 - LOD 5
LOQ 7	↓ 05		↓ 5/5mlsDI	↓	↓	↓	↓	↓	K0894	YD	LOQ ↓
LOD 8	R2400734.011	100	500uL/5mlsDI	21913	1	(Y)	N/A	N/A	K0895	(Y)	(DL) mek
9	BLK								K0896	—	
10	R2401542.002	1.0	(tics)	66526	1	N	N/A	12	K0897	Y	
11	008	1.0			1			12	K0898	Y	
12	011	1.0			1			12	K0899	Y	
13	013	1.0			1			12	K0900	Y	
14	015	1.0			1			12	K0901	Y	
15	003	1.0			1			12	K0902	Y	
16	004	1.0			1			12	K0903	Y	
17	005	1.0			1			12	K0904	Y	
18	006	1.0			1			12	K0905	Y	
19	001	1.0			1			12	K0906	Y	
20	007	1.0			1			12	K0907	Y	
21	009	1.0			1			12	K0908	(Y)	rpt 2.5 JCFM
22	010	1.0			1			12	K0909	(Y)	↓ rpt 1.0 c/o
23	012	1.0			1			12	K0910	(Y)	
24	↓ 014	1.0			1			12	K0911	Y	
25	ms 004	1.0			2			12	K0912	YD	Run QC
26	↓ msD 004	1.0			3	↓	↓	12	K0913	YD	↓ 21:35 ✓
27	BLK								K0914		

All samples = 5 mL + 5 uL combined IS/ 5 mL purged

500 Primary CCV: 2329854
Primary Frt: 2339937
Primary TG: 2339945 (5ul → 50mls)
Primary HSL: 2339946 = CCV
Primary 236: 2334526 (TCT)

200 Secondary Frt: 2339929.5ul
500 Secondary CCV: 2326722
Secondary HSL: 2339928 (2ml)
Secondary TG: 2339945 = LCS (50mls)
Secondary 236: 2334457 (TJT)

- 10.8mL = 4.3mL

Combined IS/Surr: ____
Surrogate 5D: 233764
Internal Std 5D: 233765
Reagents: MeOH: 229828

4.3ml vial : ms ID

Analysis: 8260 waters | Analyst: VRuest | pH strips: 225022 | Tune Method: W021524

Date: 3/7/24 | Balance ID: 2/A | ResCl strips: N/A | Run Method: ↓

Instr. 17 | 50 mL Class A used for dilution FV | Syringes: 231174 | LIMS Run#: 834332

Data Path: j:\acqudata\msvoa(InstID)\(Date)

Pos.	Sample	Diln.	Diln. Prep./	RL	Vial	HS	Cl	pH	File#	OK?	Comments
1	BLK		FCW						K0315		
2	DWE		RQ2402458-01 + 05						K0316	YT	(auto) 9:37
1	CCV		02 06						K0317	YK	
1	LCS-FP		03 07						K0318	YQ	
1	BLK		— —						K0319	(N)	not c/o
2	MBLK-UMP		— —						K0320	YB	
3	MBLK-FP		↓ 04 08						K0321	YB	
4	R2401720-001	1.0	this (LV)	66556	1	N	N/A	12	K0322	Y	
5	↓ 002	1.0	↓		1			12	K0323	Y	
6	↓ 003	1.0	↓		1			12	K0324	Y	
7	R2401719-001	1.0	this		1			12	K0325	Y	
8	↓ 002	1.0			1			12	K0326	Y	
9	R2401547-012	1.0			2			12	K0327	Y	
10	↓ 009	2.5	20/50mls		2			12	K0328	(Y)	(DC) TCVPM
11	↓ 010	2.5	↓		2			12	K0329	(Y)	↓
12	R2401577-001	2.5	↓	14733	1			12	K0330	Y	
13	RQ2402252-01	1.0	TCVP BLK	VAR	1			(5)	K0331	Y	
14	R2401413-001	10	5/50mls TCVP	22732	1			(5)	K0332	Y	
15	R2401609-001	10	↓	66560	1			(5)	K0333	Y	
16	R2401610-001	10	↓	↓	1			(5)	K0334	Y	
17	R2401653-001	10	↓	↓	1			(5)	K0335	Y	
18	RQ2402308-01	1.0	TCVP BLK	↓	1			(5)	K0336	Y	
19	R2401691-001	10	5/50mls TCVP	↓	1			(5)	K0337	Y	
20	R2401742-001	1.0		14917	1			12	K0338	Y	
21	↓ 002	1.0		↓	1			12	K0339	Y	
22	R2401765-001	1.0		9443	1			12	K0340	Y	
23	R2401767-001	1.0		25202	1			12	K0341	Y	
24	R2401719-001	1.0	MS	66556	2			12	K0342	YQ	
25	↓ 001	1.0	MSD	↓	3	✓	✓	12	K0343	YQ	20:39 ✓
26	BLK								K0344	—	

All samples = 5 mL + 5 uL combined IS/ 5 mL purged

Primary OCC : 233984
Primary Frt : 233987
Primary TG : 233995 5uL → 50mls
Primary HSL : 233996 = CCV
Primary 236 : 234956
JCT

Secondary Frt : 233979 .5mL
Secondary OCC : 232672
Secondary HSL : 233978 2mL
Secondary TG : 233995
Secondary 236 : 234957
TP

50mls = LCS

- 10.5mL / 43mL vial = MS/D

Combined IS/Surr :
Surrogate 50 : 233964
Internal Std 50 : 233765
Reagents:

March 07, 2024 Service Request No:R2401543

Stephanie Portillo
NASA/WSTF/Navarro
P.O. Box 20
Las Cruces, NM 88004

Laboratory Results for: White Sands Test Facility

Dear Stephanie,

Enclosed are the results of the sample(s) submitted to our laboratory February 28, 2024
For your reference, these analyses have been assigned our service request number **R2401543.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

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Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility
Sample Matrix: Water

Service Request: R2401543
Date Received: 02/28/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.
Manual Integrations may have been used in the quantitation of the results in this report. Manual Integrations are readily identified in the raw data on the Quantitation Reports (Organics) by the automatic placement of an “m” next to the sample result. For Ion Chromatography, the manual integrations are identified by the automatic placement of “manipulated” or "manually integrated" in the upper left corner of the chromatogram (Hexavalent Chromium) or “M” by the result in the “Type” column (anions). The reason for the manual integration is noted on the “after” chromatogram, which is found with the original chromatogram and quantitation report. All integrations follow the lab SOP ADM-INT “Manual Integration.”

Sample Receipt:

Eight water samples were received for analysis at ALS Environmental on 02/28/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

Approved by _____ Date 03/07/2024

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: NASA/WSTF/Navarro **Service Request:**R2401543
Project: White Sands Test Facility/23EC002B

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R2401543-001	2402260903A 400-EV-131	2/26/2024	
R2401543-002	2402260950C 400-FV-131	2/26/2024	
R2401543-003	2402260959C 400-FV-131	2/26/2024	
R2401543-004	2402261008A 400-HV-147	2/26/2024	
R2401543-005	2402261050C 400-GV-125	2/26/2024	
R2401543-006	2402261052C 400-GV-125	2/26/2024	
R2401543-007	2402261318A 400-JV-150	2/26/2024	
R2401543-008	2402261425C 400-IV-123	2/26/2024	

WSTF CHAIN OF CUSTODY RECORD

Date 2-27-24

Laboratory: ALS PO# 23EC002B

Address shipping questions to:

☑ Lori Minnick, 575-524-5119

☐ Other _____, 575-524-_____

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements

Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytes / Method: TTHM						Charge Number (WSTF Use Only)	Comments
240226090 3A	400-EV-131	2	A	X						HWMU	
240226095 0C	400-FV-131	2	A	X						"	
240226095 9C	"	2	A	X						"	
240226100 8A	400-HV-147	2	A	X						"	
240226105 0C	400-GV-125	2	A	X						"	
240226105 2C	"	2	A	X						"	
240226131 8A	400-JV-150	2	A	X						"	
240226142 5C	400-IV-123	2	A	X						"	

Special Instructions

Return coolers and reusable packaging materials within 14 days as required in statement of work to:

Return Address:

NASA WSTF Environmental Department
12600 NASA Road; Bldg. 120
Las Cruces, NM 88012
Attn: Lori Minnick

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori Minnick	2-27-24 1100 HRS		2/28/24 07:30

* Sample Matrix: A – Aqueous; G – Gaseous; S – Solid

R2401543 5
NASA/WSTF/Navarro
White Sands Test Facility

Cooler Receipt and Preservati

R2401543 5
NASA/WSTF/Navarro
White Sands Test Facility

Project/Client NASA Folder Number

Cooler received on 2/28/24 by: KE

COURIER: ALS UPS (FEDEX) VELOCITY CLIENT

1	Were **Custody seals** on outside of cooler?	(Y)	N
2	**Custody papers** properly completed (ink, signed)?	(Y)	N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y)	N
4	Circle: (**Wet Ice**) **Dry Ice** **Gel packs** present?	(Y)	N

5a	**Perchlorate** samples have required headspace?	Y	N	(NA)
5b	Did VOA vials, Alk, or Sulfide have sig* **bubbles**?	(Y)	N	NA *
6	Where did the bottles originate?	(ALS/ROC)	(CLIENT)	
7	Soil VOA received as: Bulk Encore 5035set	(NA)		

8. Temperature Readings Date: 2/28/24 Time: 07:53 ID: IR#12 (IR#11) From: Temp Blank (Sample Bottle)

Observed Temp (°C)							
Within 0-6°C?	Y N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: _____ Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: _____ Standing Approval Client aware at drop-off Client notified by: _____

All samples held in storage location: SMO by KE on 2/28/24 at 09:59
5035 samples placed in storage location: _____ by _____ on _____ at _____ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check**: Date: 2/28/24 Time: 900 by: RR

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Were dissolved metals filtered in the field? YES NO (N/A)
14. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample-ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2	213623	HNO_3	✓		Bottle labels	-				
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$	-	-						
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: Bottle labels
Explain all Discrepancies/ Other Comments:

*Noted on COC.

HPROD	BULK
HTR	FLDT
SUB	HGFB
ALS	LL3541

Labels secondary reviewed by: RR
PC Secondary Review: _____

* significant air bubbles: VOA >5-6 mm ; WC >1 in. diameter

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Accreditations[1]

NELAP States
Florida ID # E87674
New Hampshire ID # 2941
New York ID # 10145
Pennsylvania ID# 68-786
Virginia #460167

Non-NELAP States
Connecticut ID #PH0556
Delaware Approved
Maine ID #NY01587
North Carolina #36701
North Carolina #676
Rhode Island LAO00333

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory. To verify NH accredited analytes, go to https://www4.des.state.nh.us/CertifiedLabs/Certified-Method.aspx.

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: NASA/WSTF/Navarro **Service Request:** R2401397
Project: White Sands Test Facility/23EC002B

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
8260C	Water	2,2-Dichloro-1,1,1-trifluoroethane (CFC 123)
8260C	Water	Dichlorofluoromethane (CFC 21)

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9034 Sulfide Acid Soluble	9030B
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7199	3060A
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction
For analytical methods not listed, the preparation method is the same as the analytical method reference.	

Sample Results

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Metals

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402260903A 400-EV-131		
Lab Code:	R2401543-001	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:25	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:28	
Arsenic, Total	6020A	**0.0010**	J	mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:28	
Barium, Total	6010C	**0.031**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:25	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:25	
Boron, Total	6010C	**0.23**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:25	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:25	
Calcium, Total	6010C	**102**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:25	
Chromium, Total	6010C	**0.002**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:25	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:25	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:25	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:25	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:25	
Magnesium, Total	6010C	**79.7**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:25	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:25	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:26	
Molybdenum, Total	6010C	**0.01**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:25	
Nickel, Total	6010C	**0.003**	J	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:25	
Potassium, Total	6010C	**4.3**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:25	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:25	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:25	
Sodium, Total	6010C	**91.3**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:09	
Strontium, Total	6010C	**4.17**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:25	
Thallium, Total	6020A	ND	U	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:28	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:25	
Vanadium, Total	6010C	**0.001**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:25	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:25	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402260950C 400-FV-131		
Lab Code:	R2401543-002	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:31	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:37	
Arsenic, Total	6020A	**0.0016**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:37	
Barium, Total	6010C	**0.041**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:31	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:31	
Boron, Total	6010C	**0.26**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:31	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:31	
Calcium, Total	6010C	**104**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:31	
Chromium, Total	6010C	**0.004**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:31	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:31	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:31	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:31	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:31	
Magnesium, Total	6010C	**81.3**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:31	
Manganese, Total	6010C	**0.006**	J	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:31	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:33	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:31	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:31	
Potassium, Total	6010C	**2.7**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:31	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:31	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:31	
Sodium, Total	6010C	**99.8**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:12	
Strontium, Total	6010C	**2.30**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:31	
Thallium, Total	6020A	**0.00008**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:37	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:31	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:31	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:31	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402260959C 400-FV-131		
Lab Code:	R2401543-003	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:35	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:39	
Arsenic, Total	6020A	**0.0015**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:39	
Barium, Total	6010C	**0.040**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:35	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:35	
Boron, Total	6010C	**0.25**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:35	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:35	
Calcium, Total	6010C	**101**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:35	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:35	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:35	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:35	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:35	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:35	
Magnesium, Total	6010C	**79.4**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:35	
Manganese, Total	6010C	**0.006**	J	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:35	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:36	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:35	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:35	
Potassium, Total	6010C	**2.7**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:35	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:35	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:35	
Sodium, Total	6010C	**97.5**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:15	
Strontium, Total	6010C	**2.24**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:35	
Thallium, Total	6020A	**0.00008**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:39	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:35	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:35	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:35	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261008A 400-HV-147		
Lab Code:	R2401543-004	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:38	
Antimony, Total	6020A	**0.0044**		mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:41	
Arsenic, Total	6020A	**0.0012**		mg/L	0.0010	0.0004	1	2/28/24	3/4/24 17:06	
Barium, Total	6010C	**0.087**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:38	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:38	
Boron, Total	6010C	**0.83**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:38	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:38	
Calcium, Total	6010C	**152**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:38	
Chromium, Total	6010C	**0.003**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:38	
Cobalt, Total	6010C	**0.003**	J	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:38	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:38	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:38	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:38	
Magnesium, Total	6010C	**118**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:38	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:38	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:38	
Molybdenum, Total	6010C	**0.006**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:38	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:38	
Potassium, Total	6010C	**4.6**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:38	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:38	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:38	
Sodium, Total	6010C	**139**		mg/L	5.0	1.4	5	2/29/24	3/4/24 18:05	
Strontium, Total	6010C	**6.47**		mg/L	0.50	0.009	5	2/29/24	3/4/24 18:05	
Thallium, Total	6020A	**0.00005**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:41	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:38	
Vanadium, Total	6010C	**0.003**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:38	
Zinc, Total	6010C	**0.004**	J	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:38	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261050C 400-GV-125		
Lab Code:	R2401543-005	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:41	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:43	
Arsenic, Total	6020A	**0.0012**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:43	
Barium, Total	6010C	**0.043**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:41	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:41	
Boron, Total	6010C	**0.32**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:41	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:41	
Calcium, Total	6010C	**120**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:41	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:41	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:41	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:41	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:41	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:41	
Magnesium, Total	6010C	**90.0**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:41	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:41	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:46	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:41	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:41	
Potassium, Total	6010C	**3.8**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:41	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:41	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:41	
Sodium, Total	6010C	**84.1**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:21	
Strontium, Total	6010C	**3.48**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:41	
Thallium, Total	6020A	**0.0001**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:43	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:41	
Vanadium, Total	6010C	**0.001**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:41	
Zinc, Total	6010C	**0.003**	J	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:41	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261052C 400-GV-125		
Lab Code:	R2401543-006	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:44	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:45	
Arsenic, Total	6020A	**0.0010**		mg/L	0.0010	0.0004	1	2/28/24	3/6/24 11:13	
Barium, Total	6010C	**0.043**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:44	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:44	
Boron, Total	6010C	**0.32**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:44	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:44	
Calcium, Total	6010C	**120**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:44	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:44	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:44	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:44	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:44	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:44	
Magnesium, Total	6010C	**90.3**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:44	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:44	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:48	
Molybdenum, Total	6010C	**0.008**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:44	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:44	
Potassium, Total	6010C	**3.8**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:44	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:44	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:44	
Sodium, Total	6010C	**84.1**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:24	
Strontium, Total	6010C	**3.50**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:44	
Thallium, Total	6020A	**0.0002**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:45	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:44	
Vanadium, Total	6010C	**0.001**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:44	
Zinc, Total	6010C	**0.003**	J	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:44	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261318A 400-JV-150		
Lab Code:	R2401543-007	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:54	
Antimony, Total	6020A	**0.0002**	J	mg/L	0.0010	0.0002	1	2/28/24	3/4/24 16:55	
Arsenic, Total	6020A	**0.0011**		mg/L	0.0010	0.0004	1	2/28/24	3/4/24 16:55	
Barium, Total	6010C	**0.040**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:54	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:54	
Boron, Total	6010C	**0.97**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:54	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:54	
Calcium, Total	6010C	**153**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:54	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:54	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:54	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:54	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:54	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:54	
Magnesium, Total	6010C	**114**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:54	
Manganese, Total	6010C	**0.006**	J	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:54	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:51	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:54	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:54	
Potassium, Total	6010C	**5.1**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:54	
Selenium, Total	6010C	**0.007**	J	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:54	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:54	
Sodium, Total	6010C	**194**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:33	
Strontium, Total	6010C	**4.47**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:54	
Thallium, Total	6020A	**0.00005**	J	mg/L	0.0010	0.00004	1	2/28/24	3/4/24 16:55	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:54	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:54	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:54	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261425C 400-IV-123		
Lab Code:	R2401543-008	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:57	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:53	
Arsenic, Total	6020A	**0.0076**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:53	
Barium, Total	6010C	**0.028**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:57	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:57	
Boron, Total	6010C	**0.14**	J	mg/L	0.20	0.02	1	2/29/24	3/1/24 16:57	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:57	
Calcium, Total	6010C	**17.2**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:57	
Chromium, Total	6010C	**0.007**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:57	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:57	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:57	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:57	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:57	
Magnesium, Total	6010C	**28.2**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:57	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:57	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:54	
Molybdenum, Total	6010C	**0.006**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:57	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:57	
Potassium, Total	6010C	**2.7**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:57	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:57	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:57	
Sodium, Total	6010C	**30.1**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:36	
Strontium, Total	6010C	**0.89**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:57	
Thallium, Total	6020A	ND	U	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:53	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:57	
Vanadium, Total	6010C	**0.008**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:57	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:57	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R2401543-MB	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:15	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:05	
Arsenic, Total	6020A	ND	U	mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:05	
Barium, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:15	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:15	
Boron, Total	6010C	ND	U	mg/L	0.20	0.02	1	2/29/24	3/1/24 16:15	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:15	
Calcium, Total	6010C	ND	U	mg/L	1.0	0.3	1	2/29/24	3/1/24 16:15	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:15	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:15	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:15	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:15	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:15	
Magnesium, Total	6010C	ND	U	mg/L	1.0	0.03	1	2/29/24	3/1/24 16:15	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:15	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:18	
Molybdenum, Total	6010C	ND	U	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:15	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:15	
Potassium, Total	6010C	ND	U	mg/L	2.0	0.4	1	2/29/24	3/1/24 16:15	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:15	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:15	
Sodium, Total	6010C	ND	U	mg/L	1.0	0.3	1	2/29/24	3/4/24 17:56	
Strontium, Total	6010C	ND	U	mg/L	0.10	0.002	1	2/29/24	3/1/24 16:15	
Thallium, Total	6020A	ND	U	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:05	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:15	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:15	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:15	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Metals

ALS Environmental—Rochester Laboratory
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Form 2

Calibration Verifications

7470A, 6010C, 6020A

Workorder

R2401543

Client

NASA/WSTF/Navarro

Project

White Sands Test Facility

03/07/2024

ALS Environmental–Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

7470A

RCVAA03_833741		ICV			CCV			LLCCV			CCV			CCV			LLCCV		
Units	Run Date	02/29/24			02/29/24			02/29/24			02/29/24			02/29/24			02/29/24		
mg/L	Run Time	09:45			11:45			12:10			12:13			12:41			13:09		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Mercury, Total		3.05	102		3	100		0.201	100		2.96	99		2.93	98		0.2	100	

RCVAA03_833741		CCV		
Units	Run Date	02/29/24		
ug/L	Run Time	13:11		
Analyte		Found	%R	Q
Mercury, Total		2.94	98	

Q - %Recovery Flag * - %Recovery (%R) Outside Limits

QC ID	%R Limits	Spike True Value ug/L
CCV	80 - 120	**3.0** - Hg
ICV	90 - 110	**3.0** - Hg
LLCCV	70 - 130	**0.2** - Hg

Form 2 - Calibration Verifications

Client NASA/WSTF/Navarro

Project White Sands Test Facility

Workorder **R2401543**

6010C

RPAES07_833939		ICV			LLCCV			CCV			CCV			CCV			CCV		
Units	Run Date	03/01/24			03/01/24			03/01/24			03/01/24			03/01/24			03/01/24		
mg/L	Run Time	14:40:00			14:47:00			15:33:00			16:09:00			16:47:00			17:26:00		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Aluminum, Total		9.92	99		0.195	98		9.92	99		10.1	101		10	100		9.89	99	
Barium, Total		10.2	102		0.205	102		10.2	102		10.3	103		10.2	102		10.3	103	
Beryllium, Total		0.241	96		0.0049	98		0.242	97		0.244	98		0.243	97		0.246	98	
Boron, Total		2.44	98		0.192	96		2.44	98		2.47	99		2.46	98		2.46	98	
Cadmium, Total		0.505	101		0.0101	101		0.505	101		0.51	102		0.506	101		0.519	104	
Calcium, Total		25.6	102		1.01	101		25.7	103		25.8	103		25.7	103		26.2	105	
Chromium, Total		0.516	103		0.0101	101		0.517	103		0.521	104		0.517	103		0.521	104	
Cobalt, Total		2.53	101		0.051	102		2.54	101		2.56	103		2.55	102		2.58	103	
Copper, Total		1.23	98		0.0247	99		1.24	99		1.26	100		1.24	99		1.23	98	
Iron, Total		5	100		0.106	106		5.03	101		5.06	101		5.01	100		5.08	102	
Lead, Total		0.505	101		0.0101	101		0.508	102		0.516	103		0.511	102		0.524	105	
Magnesium, Total		25.2	101		0.985	98		25.2	101		25.4	102		25.2	101		25.7	103	
Manganese, Total		0.745	99		0.0152	101		0.747	100		0.755	101		0.749	100		0.756	101	
Molybdenum, Total		2.52	101		0.0254	102		2.54	102		2.56	103		2.55	102		2.58	103	
Nickel, Total		2.09	105		0.0394	98		2.09	105		2.12	106		2.1	105		2.14	107	
Potassium, Total		24.1	96		0.926	93		24	96		24.5	98		24.3	97		24	96	
Selenium, Total		0.491	98		0.0118	118		0.484	97		0.494	99		0.493	99		0.489	98	
Silver, Total		0.518	104		0.0097	97		0.518	104		0.523	105		0.518	104		0.511	102	
Strontium, Total		2.49	100		0.1	100		2.5	100		2.51	101		2.5	100		2.55	102	
Tin, Total		5.03	101		0.502	100		5.03	101		5.1	102		5.05	101		5.15	103	
Vanadium, Total		2.5	100		0.0489	98		2.51	100		2.52	101		2.51	100		2.52	101	
Zinc, Total		0.992	99		0.0195	98		0.992	99		1	100		0.994	99		0.998	100	

QC ID	%R Limits	Spike True Value ppm
CCV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
ICV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
LLCCV	70 - 130	**0.2** - Al, Ba, B; **0.005** - Be; **0.01** - Cd, Cr, Pb, Se, Ag; **1.0** - Ca, Mg, K; **0.05** - Co, V; **0.0250** - Cu, Mo; **0.1** - Fe, Sr; **0.0150** - Mn; **0.04** - Ni; **0.5** - Sn; **0.02** - Zn

Form 2 - Calibration Verifications

Client NASA/WSTF/Navarro

Project White Sands Test Facility

Workorder **R2401543**

6010C

RPAES07_833939		LLCCV			CCV			
Units	Run Date	03/01/24			03/01/24			
ppm	Run Time	17:33:00			17:52:00			
Analyte		Found	%R	Q	Found	%R	Q	
Aluminum, Total		0.191	95		9.94	99		
Barium, Total		0.208	104		10.2	102		
Beryllium, Total		0.005	100		0.243	97		
Boron, Total		0.192	96		2.45	98		
Cadmium, Total		0.0103	103		0.504	101		
Calcium, Total		1.03	103		25.7	103		
Chromium, Total		0.0105	105		0.515	103		
Cobalt, Total		0.0516	103		2.54	102		
Copper, Total		0.0248	99		1.24	99		
Iron, Total		0.108	108		5.02	100		
Lead, Total		0.0102	102		0.512	102		
Magnesium, Total		1	100		25.1	101		
Manganese, Total		0.0154	103		0.748	100		
Molybdenum, Total		0.0254	102		2.55	102		
Nickel, Total		0.0397	99		2.1	105		
Potassium, Total		1.11	111		24.3	97		
Selenium, Total		0.0095	95		0.482	96		
Silver, Total		0.0096	96		0.516	103		
Strontium, Total		0.103	103		2.49	100		
Tin, Total		0.512	102		5.04	101		
Vanadium, Total		0.0491	98		2.5	100		
Zinc, Total		0.0196	98		0.988	99		

QC ID	%R Limits	Spike True Value ppm
CCV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
ICV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
LLCCV	70 - 130	**0.2** - Al, Ba, B; **0.005** - Be; **0.01** - Cd, Cr, Pb, Se, Ag; **1.0** - Ca, Mg, K; **0.05** - Co, V; **0.0250** - Cu, Mo; **0.1** - Fe, Sr; **0.0150** - Mn; **0.04** - Ni; **0.5** - Sn; **0.02** - Zn

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6010C

RPAES07_834055		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	03/04/24			03/04/24			03/04/24			03/04/24			03/04/24			03/04/24		
mg/L	**Run Time**	13:48:00			17:35:00			17:50:00			18:27:00			19:01:00			19:16:00		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Sodium, Total		24.9	100		24.7	99		24.6	99		24.7	99		24.8	99		24.6	99	
Strontium, Total		2.49	99		2.49	99		2.48	99		2.5	100		2.5	100		2.49	100	

QC ID	%R Limits	Spike True Value ppm
CCV	90 - 110	**25.0** - Na; **2.50** - Sr
ICV	90 - 110	**25.0** - Na; **2.50** - Sr

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6020A

RPMS02_833814		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	02/29/24			02/29/24			02/29/24			02/29/24			02/29/24			02/29/24		
mg/L	**Run Time**	10:50:39			11:01:42			11:24:34			11:47:39			11:55:19			12:04:03		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Antimony, Total		48.6	97		47.1	94		47.6	95		48.5	97		48.4	97		48.7	97	
Arsenic, Total		48.4	97		47.5	95		48.4	97		48.3	97		49.8	100		48.1	96	
Thallium, Total		49.5	99		48.1	96		49.3	99		49.3	99		51.1	102		50.7	101	

QC ID	%R Limits	Spike True Value ppb
CCV	90 - 110	**50.0** - Sb, As, Tl
ICV	90 - 110	**50.0** - Sb, As, Tl

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6020A

RPMS02_834067		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	03/04/24			03/04/24			03/04/24			03/04/24			03/04/24			03/04/24		
mg/L	**Run Time**	16:36:32			16:47:38			17:10:45			17:33:45			17:43:20			17:52:10		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Antimony, Total		49.4	99		47.5	95		46.6	93		46.6	93		46.8	94		49.6	99	
Arsenic, Total		48.7	97		49.7	99		50	100		48.7	97		49.3	99		51.5	103	
Thallium, Total		49.4	99		50.6	101		46.2	92		46.4	93		45.9	92		48.3	97	

QC ID	%R Limits	Spike True Value ppb
CCV	90 - 110	**50.0** - Sb, As, Tl
ICV	90 - 110	**50.0** - Sb, As, Tl

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6020A

RPMS02_834239		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	03/06/24			03/06/24			03/06/24			03/06/24			03/06/24			03/06/24		
mg/L	**Run Time**	09:10:02			10:05:52			10:14:35			10:37:36			11:00:26			11:15:50		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Arsenic, Total		50.1	100		50.4	101		50.8	102		50.8	102		51.6	103		49.5	99	

RPMS02_834239		CCV		
Units	**Run Date**	03/06/24		
ppb	**Run Time**	11:21:32		
Analyte		Found	%R	Q
Arsenic, Total		49.5	99	

QC ID	%R Limits	Spike True Value ppb
CCV	90 - 110	**50.0** - As
ICV	90 - 110	**50.0** - As

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401543
Date Collected: 2/26/24
Date Received: 2/28/24
Date Analyzed: 2/29/24

Matrix Spike Summary
Inorganic Parameters

Sample Name: 2402260903A 400-EV-131
Lab Code: R2401543-001

Units: mg/L
Basis: NA

			2402260903A 400-EV-131MS **Matrix Spike** R2401543-001MS			2402260903A 400-EV-131 **Duplicate Matrix Spike** R2401543-001DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Antimony, Total	6020A	ND	0.0201	0.0200	101	0.0205	0.0200	103	75 - 125	2	20
Arsenic, Total	6020A	0.0010	0.0212	0.0200	101	0.0219	0.0200	105	75 - 125	3	20
Mercury, Total	7470A	ND	0.00093	0.00100	93	0.00097	0.00100	97	75 - 125	3	20
Thallium, Total	6020A	ND	0.0197	0.0200	98	0.0194	0.0200	97	75 - 125	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401543
Date Analyzed: 3/ 1/24 - 3/ 4/24

Lab Control Sample Summary
Inorganic Parameters

Units: mg/L
Basis: NA

		Lab Control Sample R2401543-LCS1			Duplicate Lab Control Sample R2401543-DLCS1					
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aluminum, Total	6010C	1.91	2.00	96	1.94	2.00	97	80 - 120	2	20
Barium, Total	6010C	2.00	2.00	100	2.03	2.00	102	80 - 120	2	20
Beryllium, Total	6010C	0.0475	0.0500	95	0.0483	0.0500	97	80 - 120	2	20
Boron, Total	6010C	0.97	1.00	97	0.98	1.00	98	80 - 120	1	20
Cadmium, Total	6010C	0.0505	0.0500	101	0.0511	0.0500	102	80 - 120	1	20
Calcium, Total	6010C	1.98	2.0	99	2.01	2.0	101	80 - 120	2	20
Chromium, Total	6010C	0.198	0.200	99	0.201	0.200	101	80 - 120	2	20
Cobalt, Total	6010C	0.507	0.500	101	0.514	0.500	103	80 - 120	1	20
Copper, Total	6010C	0.248	0.250	99	0.252	0.250	101	80 - 120	2	20
Iron, Total	6010C	0.977	1.00	98	0.993	1.00	99	80 - 120	2	20
Lead, Total	6010C	0.504	0.500	101	0.512	0.500	102	80 - 120	2	20
Magnesium, Total	6010C	1.93	2.0	97	1.96	2.0	98	80 - 120	1	20
Manganese, Total	6010C	0.484	0.500	97	0.491	0.500	98	80 - 120	2	20
Molybdenum, Total	6010C	0.487	0.500	97	0.496	0.500	99	80 - 120	2	20
Nickel, Total	6010C	0.518	0.500	104	0.527	0.500	105	80 - 120	2	20
Potassium, Total	6010C	18.4	20.0	92	18.7	20.0	94	80 - 120	2	20
Selenium, Total	6010C	1.00	1.01	99	1.02	1.01	101	80 - 120	2	20
Silver, Total	6010C	0.051	0.050	101	0.051	0.050	103	80 - 120	2	20
Sodium, Total	6010C	18.5	20.0	93	18.5	20.0	93	80 - 120	<1	20
Strontium, Total	6010C	1.98	2.00	99	2.00	2.00	100	80 - 120	<1	20
Tin, Total	6010C	4.94	5.00	99	5.02	5.00	100	80 - 120	2	20
Vanadium, Total	6010C	0.481	0.500	96	0.489	0.500	98	80 - 120	2	20
Zinc, Total	6010C	0.505	0.500	101	0.512	0.500	102	80 - 120	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: NASA/WSTF/Navarro
Project: White Sands Test Facility/23EC002B
Sample Matrix: Water

Service Request: R2401543
Date Analyzed: 2/29/24

Lab Control Sample Summary
Inorganic Parameters

Units: mg/L
Basis: NA

Lab Control Sample
R2401543-LCS2

Analyte Name	Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Total	6020A	0.0207	0.0200	103	80 - 120
Arsenic, Total	6020A	0.0205	0.0200	102	80 - 120
Mercury, Total	7470A	0.000950	0.00100	95	80 - 120
Thallium, Total	6020A	0.0200	0.0200	100	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Raw Data

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Metals

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Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402260903A 400-EV-131		
Lab Code:	R2401543-001	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:25	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:28	
Arsenic, Total	6020A	**0.0010**	J	mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:28	
Barium, Total	6010C	**0.031**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:25	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:25	
Boron, Total	6010C	**0.23**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:25	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:25	
Calcium, Total	6010C	**102**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:25	
Chromium, Total	6010C	**0.002**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:25	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:25	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:25	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:25	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:25	
Magnesium, Total	6010C	**79.7**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:25	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:25	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:26	
Molybdenum, Total	6010C	**0.01**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:25	
Nickel, Total	6010C	**0.003**	J	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:25	
Potassium, Total	6010C	**4.3**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:25	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:25	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:25	
Sodium, Total	6010C	**91.3**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:09	
Strontium, Total	6010C	**4.17**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:25	
Thallium, Total	6020A	ND	U	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:28	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:25	
Vanadium, Total	6010C	**0.001**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:25	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:25	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402260950C 400-FV-131		
Lab Code:	R2401543-002	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:31	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:37	
Arsenic, Total	6020A	**0.0016**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:37	
Barium, Total	6010C	**0.041**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:31	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:31	
Boron, Total	6010C	**0.26**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:31	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:31	
Calcium, Total	6010C	**104**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:31	
Chromium, Total	6010C	**0.004**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:31	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:31	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:31	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:31	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:31	
Magnesium, Total	6010C	**81.3**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:31	
Manganese, Total	6010C	**0.006**	J	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:31	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:33	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:31	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:31	
Potassium, Total	6010C	**2.7**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:31	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:31	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:31	
Sodium, Total	6010C	**99.8**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:12	
Strontium, Total	6010C	**2.30**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:31	
Thallium, Total	6020A	**0.00008**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:37	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:31	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:31	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:31	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402260959C 400-FV-131		
Lab Code:	R2401543-003	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:35	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:39	
Arsenic, Total	6020A	**0.0015**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:39	
Barium, Total	6010C	**0.040**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:35	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:35	
Boron, Total	6010C	**0.25**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:35	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:35	
Calcium, Total	6010C	**101**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:35	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:35	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:35	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:35	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:35	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:35	
Magnesium, Total	6010C	**79.4**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:35	
Manganese, Total	6010C	**0.006**	J	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:35	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:36	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:35	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:35	
Potassium, Total	6010C	**2.7**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:35	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:35	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:35	
Sodium, Total	6010C	**97.5**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:15	
Strontium, Total	6010C	**2.24**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:35	
Thallium, Total	6020A	**0.00008**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:39	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:35	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:35	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:35	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261008A 400-HV-147		
Lab Code:	R2401543-004	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:38	
Antimony, Total	6020A	**0.0044**		mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:41	
Arsenic, Total	6020A	**0.0012**		mg/L	0.0010	0.0004	1	2/28/24	3/4/24 17:06	
Barium, Total	6010C	**0.087**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:38	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:38	
Boron, Total	6010C	**0.83**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:38	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:38	
Calcium, Total	6010C	**152**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:38	
Chromium, Total	6010C	**0.003**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:38	
Cobalt, Total	6010C	**0.003**	J	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:38	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:38	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:38	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:38	
Magnesium, Total	6010C	**118**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:38	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:38	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:38	
Molybdenum, Total	6010C	**0.006**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:38	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:38	
Potassium, Total	6010C	**4.6**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:38	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:38	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:38	
Sodium, Total	6010C	**139**		mg/L	5.0	1.4	5	2/29/24	3/4/24 18:05	
Strontium, Total	6010C	**6.47**		mg/L	0.50	0.009	5	2/29/24	3/4/24 18:05	
Thallium, Total	6020A	**0.00005**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:41	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:38	
Vanadium, Total	6010C	**0.003**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:38	
Zinc, Total	6010C	**0.004**	J	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:38	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261050C 400-GV-125		
Lab Code:	R2401543-005	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:41	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:43	
Arsenic, Total	6020A	**0.0012**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:43	
Barium, Total	6010C	**0.043**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:41	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:41	
Boron, Total	6010C	**0.32**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:41	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:41	
Calcium, Total	6010C	**120**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:41	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:41	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:41	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:41	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:41	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:41	
Magnesium, Total	6010C	**90.0**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:41	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:41	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:46	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:41	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:41	
Potassium, Total	6010C	**3.8**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:41	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:41	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:41	
Sodium, Total	6010C	**84.1**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:21	
Strontium, Total	6010C	**3.48**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:41	
Thallium, Total	6020A	**0.0001**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:43	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:41	
Vanadium, Total	6010C	**0.001**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:41	
Zinc, Total	6010C	**0.003**	J	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:41	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261052C 400-GV-125		
Lab Code:	R2401543-006	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:44	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:45	
Arsenic, Total	6020A	**0.0010**		mg/L	0.0010	0.0004	1	2/28/24	3/6/24 11:13	
Barium, Total	6010C	**0.043**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:44	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:44	
Boron, Total	6010C	**0.32**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:44	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:44	
Calcium, Total	6010C	**120**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:44	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:44	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:44	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:44	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:44	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:44	
Magnesium, Total	6010C	**90.3**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:44	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:44	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:48	
Molybdenum, Total	6010C	**0.008**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:44	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:44	
Potassium, Total	6010C	**3.8**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:44	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:44	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:44	
Sodium, Total	6010C	**84.1**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:24	
Strontium, Total	6010C	**3.50**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:44	
Thallium, Total	6020A	**0.0002**	J	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:45	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:44	
Vanadium, Total	6010C	**0.001**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:44	
Zinc, Total	6010C	**0.003**	J	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:44	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261318A 400-JV-150		
Lab Code:	R2401543-007	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:54	
Antimony, Total	6020A	**0.0002**	J	mg/L	0.0010	0.0002	1	2/28/24	3/4/24 16:55	
Arsenic, Total	6020A	**0.0011**		mg/L	0.0010	0.0004	1	2/28/24	3/4/24 16:55	
Barium, Total	6010C	**0.040**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:54	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:54	
Boron, Total	6010C	**0.97**		mg/L	0.20	0.02	1	2/29/24	3/1/24 16:54	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:54	
Calcium, Total	6010C	**153**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:54	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:54	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:54	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:54	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:54	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:54	
Magnesium, Total	6010C	**114**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:54	
Manganese, Total	6010C	**0.006**	J	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:54	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:51	
Molybdenum, Total	6010C	**0.007**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:54	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:54	
Potassium, Total	6010C	**5.1**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:54	
Selenium, Total	6010C	**0.007**	J	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:54	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:54	
Sodium, Total	6010C	**194**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:33	
Strontium, Total	6010C	**4.47**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:54	
Thallium, Total	6020A	**0.00005**	J	mg/L	0.0010	0.00004	1	2/28/24	3/4/24 16:55	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:54	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:54	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:54	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	2/26/24
Sample Matrix:	Water	**Date Received:**	2/28/24
Sample Name:	2402261425C 400-IV-123		
Lab Code:	R2401543-008	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:57	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:53	
Arsenic, Total	6020A	**0.0076**		mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:53	
Barium, Total	6010C	**0.028**		mg/L	0.020	0.003	1	2/29/24	3/1/24 16:57	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:57	
Boron, Total	6010C	**0.14**	J	mg/L	0.20	0.02	1	2/29/24	3/1/24 16:57	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:57	
Calcium, Total	6010C	**17.2**		mg/L	1.0	0.3	1	2/29/24	3/1/24 16:57	
Chromium, Total	6010C	**0.007**	J	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:57	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:57	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:57	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:57	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:57	
Magnesium, Total	6010C	**28.2**		mg/L	1.0	0.03	1	2/29/24	3/1/24 16:57	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:57	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:54	
Molybdenum, Total	6010C	**0.006**	J	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:57	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:57	
Potassium, Total	6010C	**2.7**		mg/L	2.0	0.4	1	2/29/24	3/1/24 16:57	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:57	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:57	
Sodium, Total	6010C	**30.1**		mg/L	1.0	0.3	1	2/29/24	3/4/24 18:36	
Strontium, Total	6010C	**0.89**		mg/L	0.10	0.002	1	2/29/24	3/1/24 16:57	
Thallium, Total	6020A	ND	U	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:53	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:57	
Vanadium, Total	6010C	**0.008**	J	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:57	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:57	

Client:	NASA/WSTF/Navarro	**Service Request:**	R2401543
Project:	White Sands Test Facility/23EC002B	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R2401543-MB	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Aluminum, Total	6010C	ND	U	mg/L	0.10	0.03	1	2/29/24	3/1/24 16:15	
Antimony, Total	6020A	ND	U	mg/L	0.0010	0.0002	1	2/28/24	2/29/24 11:05	
Arsenic, Total	6020A	ND	U	mg/L	0.0010	0.0004	1	2/28/24	2/29/24 11:05	
Barium, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:15	
Beryllium, Total	6010C	ND	U	mg/L	0.0030	0.0002	1	2/29/24	3/1/24 16:15	
Boron, Total	6010C	ND	U	mg/L	0.20	0.02	1	2/29/24	3/1/24 16:15	
Cadmium, Total	6010C	ND	U	mg/L	0.0050	0.0004	1	2/29/24	3/1/24 16:15	
Calcium, Total	6010C	ND	U	mg/L	1.0	0.3	1	2/29/24	3/1/24 16:15	
Chromium, Total	6010C	ND	U	mg/L	0.010	0.002	1	2/29/24	3/1/24 16:15	
Cobalt, Total	6010C	ND	U	mg/L	0.050	0.0009	1	2/29/24	3/1/24 16:15	
Copper, Total	6010C	ND	U	mg/L	0.020	0.004	1	2/29/24	3/1/24 16:15	
Iron, Total	6010C	ND	U	mg/L	0.10	0.07	1	2/29/24	3/1/24 16:15	
Lead, Total	6010C	ND	U	mg/L	0.050	0.004	1	2/29/24	3/1/24 16:15	
Magnesium, Total	6010C	ND	U	mg/L	1.0	0.03	1	2/29/24	3/1/24 16:15	
Manganese, Total	6010C	ND	U	mg/L	0.010	0.004	1	2/29/24	3/1/24 16:15	
Mercury, Total	7470A	ND	U	mg/L	0.00020	0.00008	1	2/28/24	2/29/24 12:18	
Molybdenum, Total	6010C	ND	U	mg/L	0.025	0.003	1	2/29/24	3/1/24 16:15	
Nickel, Total	6010C	ND	U	mg/L	0.040	0.003	1	2/29/24	3/1/24 16:15	
Potassium, Total	6010C	ND	U	mg/L	2.0	0.4	1	2/29/24	3/1/24 16:15	
Selenium, Total	6010C	ND	U	mg/L	0.010	0.007	1	2/29/24	3/1/24 16:15	
Silver, Total	6010C	ND	U	mg/L	0.010	0.0006	1	2/29/24	3/1/24 16:15	
Sodium, Total	6010C	ND	U	mg/L	1.0	0.3	1	2/29/24	3/4/24 17:56	
Strontium, Total	6010C	ND	U	mg/L	0.10	0.002	1	2/29/24	3/1/24 16:15	
Thallium, Total	6020A	ND	U	mg/L	0.0010	0.00004	1	2/28/24	2/29/24 11:05	
Tin, Total	6010C	ND	U	mg/L	0.50	0.008	1	2/29/24	3/1/24 16:15	
Vanadium, Total	6010C	ND	U	mg/L	0.050	0.0007	1	2/29/24	3/1/24 16:15	
Zinc, Total	6010C	ND	U	mg/L	0.020	0.003	1	2/29/24	3/1/24 16:15	

Metals Data Scan Sheet

Run Date: 3/1/24 Data File: 030124-ICP7

Primary Reviewer: N. Mansen Secondary Reviewer: MFM

LIMS Runs:	Preps:
833939	434608, 434610, 434740 **CCV5**
833940	434741 **CCV8**
833941	434742 **T2**
833942	434757 **T2**

Comments:

N/A

ICP-7 Run Log

Serial number: MY2309CQ22

Analyst: MFM Date: 3/1/24 Data File: 030124-ICP7

	Prep Date	Lot #		Prep Date	Lot #
MRL	2/8/24	M844011 9A	Cal Std 1	10/2/23	M8440008B
ICSA	2/12/24	M8440132F	Cal Std 2	10/2/23	M8440023B
ICSAB	3/1/24	M8440143A	Cal Std 5/ HLCCV1	1/31/24	M8440039B
Int. Std	2/13/24	M8440149D	HLCCV2	1/31/24	M8440097A ~~76B~~
ICV/CCV	3/1/24	M8440059G	HLCCV3	2/23/24	M8440097A

MFM 3/1/24

(Cal Std 4 is a 1/5 and Cal Std 3 is a 1/100 dilution of Cal Std 5)

Blank Prep - Daily	NHO3	HCl	Pipet Used	DOD Pipet Verification	IEC Date
Lot	233477	233283	M37, M40	—	—

1:1	PBW-434608						
1:2	LCSW-434608	S1:7	Continuing Calibration Blank	2:5	R2401591-004 10X	2:28	PBS-434757
1:3	R2401532-001	1:30	PBW-434741	2:6	R2401591-006 10X	2:29	LCSS-434757
1:4	R2401532-001L 5X	1:31	LCSW-434741	2:7	R2401592-001 10X	2:30	R2401503-002
1:5	PBW-434610	1:32	R2401541-001	2:8	R2401592-001S 10X	2:31	R2401594-002
1:6	LCSW-434610	1:33	R2401541-003	2:9	R2401592-001SD 10X	2:32	R2401594-004
1:7	R2401493-003 500X	1:34	R2401541-005	S1:6	Continuing Calibration Verification	2:33	R2401594-006
1:8	R2401493-004 500X	1:35	R2401541-007	S1:7	Continuing Calibration Blank	2:34	R2401594-006S
1:9	R2401493-004L 2500X	1:36	R2401541-009	2:10	R2401592-001A 10X	2:35	R2401594-006SD
S1:6	Continuing Calibration Verification	1:37	R2401541-011	2:11	R2401592-001L 50X	2:36	R2401594-006A
S1:7	Continuing Calibration Blank	1:38	R2401541-013	2:12	R2401592-002 10X	2:37	R2401594-006L 5X
1:10	PBW-434740	1:39	R2401541-015	S1:6	Continuing Calibration Verification	S1:8	Continuing Calibration Verification1
1:11	LCSW-434740	S1:6	Continuing Calibration Verification	S1:7	Continuing Calibration Blank	S1:9	Continuing Calibration Blank1
1:12	DLCSW-434740	S1:7	Continuing Calibration Blank	S1:3	Contract Required Detection Limit	2:38	R2401594-008
1:13	R2401543-001	1:40	R2401541-017	S1:4	Interference Check Solution A	2:39	R2401594-010
1:14	R2401543-001L 5X	1:41	R2401541-019	S1:5	Interference Check Solution AB	2:40	R2401594-012
1:15	R2401543-002	1:42	R2401541-021	S1:6	Continuing Calibration Verification	2:41	R2401638-001
1:16	R2401543-003	1:43	R2401591-001	S1:7	Continuing Calibration Blank	S1:8	Continuing Calibration Verification1
1:17	R2401543-004	1:44	R2401591-001S	2:13	PBW-434742	S1:9	Continuing Calibration Blank1
1:18	R2401543-005	1:45	R2401591-001SD	2:14	LCSW-434742	S1:3	Contract Required Detection Limit
1:19	R2401543-006	1:46	R2401591-001A	2:15	R2401554-001	S1:4	Interference Check Solution A
S1:6	Continuing Calibration Verification	1:47	R2401591-001L 5X	2:16	R2401554-001S	S1:5	Interference Check Solution AB
S1:7	Continuing Calibration Blank	1:48	R2401591-002	2:17	R2401554-001SD	S1:8	Continuing Calibration Verification1
1:20	R2401543-007	1:49	R2401591-003	2:18	R2401554-001A	S1:9	Continuing Calibration Blank1
1:21	R2401543-008	S1:6	Continuing Calibration Verification	2:19	R2401554-001L 5X		
1:22	R2401566-001	S1:7	Continuing Calibration Blank	2:20	R2401554-002		
1:23	R2401567-001	1:50	R2401591-004	2:21	R2401554-003		
1:24	R2401574-001	1:51	R2401591-006	2:22	R2401554-004		
1:25	R2401574-002	1:52	R2401592-001	S1:8	Continuing Calibration Verification1		
1:26	R2401574-003	1:53	R2401592-001S	S1:9	Continuing Calibration Blank1		
1:27	R2401574-004	1:54	R2401592-001SD	2:23	R2401554-005		
1:28	R2401574-005	1:55	R2401592-001A	2:24	R2401554-006		
1:29	R2401574-006	1:56	R2401592-001L 5X	2:25	R2401554-007		
S1:6	Continuing Calibration Verification	1:57	R2401592-002	2:26	R2401554-008		
S1:7	Continuing Calibration Blank	1:58	R2401591-001 10X	2:27	R2401558-001		
S1:3	Contract Required Detection Limit	1:59	R2401591-001S 10X	S1:8	Continuing Calibration Verification1		
S1:4	Interference Check Solution A	S1:6	Continuing Calibration Verification	S1:9	Continuing Calibration Blank1		
S1:5	Interference Check Solution AB	S1:7	Continuing Calibration Blank	S1:3	Contract Required Detection Limit		
S1:21	HLCCV2	1:60	R2401591-001SD 10X	S1:4	Interference Check Solution A		
S1:22	HLCCV3	2:1	R2401591-001A 10X	S1:5	Interference Check Solution AB		
S1:18	HLCCV1	2:2	R2401591-001L 50X	S1:8	Continuing Calibration Verification1		
S1:6	Continuing Calibration Verification	2:3	R2401591-002 10X	S1:9	Continuing Calibration Blank1		
		2:4	R2401591-003 10X				

MFM 3/1/24

Created Date/Time	3/1/2024 08:46:05	Software Version	7.6.1.12212
Instrument Name	MY2309CQ22	Firmware Version	5590
File Path	C:\Agilent\ICP Expert\My Results\2023\030124-ICP7.esws		

Notes MFM 3/1/24 (NM 3/4/24)

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/1/2024 14:20:45	Blank	Ag (328.068 nm)	0.0000	N/A	-341.4986
	Blank	Al (237.312 nm)	0.0000	N/A	112.3005
	Blank	As (188.980 nm)	0.0000	N/A	-12.1659
	Blank	B (249.772 nm)	0.0000	N/A	70.8956
	Blank	Ba (230.424 nm)	0.0000	N/A	-28.2787
	Blank	Be (313.107 nm)	0.0000	N/A	-213.5958
	Blank	Ca (317.933 nm)	0.0000	N/A	2935.9102
	Blank	Cd (214.439 nm)	0.0000	N/A	-12.5011
	Blank	Co (230.786 nm)	0.0000	N/A	65.2650
	Blank	Cr (267.716 nm)	0.0000	N/A	-27.7637
	Blank	Cu (327.395 nm)	0.0000	N/A	-55.6708
	Blank	Fe (234.350 nm)	0.0000	N/A	172.4237
	Blank	K (766.491 nm)	0.0000	N/A	-12.1510
	Blank	Mg (279.078 nm)	0.0000	N/A	-54.0035
	Blank	Mn (257.610 nm)	0.0000	N/A	9.2687
	Blank	Mo (202.032 nm)	0.0000	N/A	-15.3011
	Blank	Na (588.995 nm)	0.0000	N/A	-6216.1038
	Blank	Ni (230.299 nm)	0.0000	N/A	110.7431
	Blank	Pb (220.353 nm)	0.0000	N/A	3.3329
	Blank	Sb (217.582 nm)	0.0000	N/A	11.5978
	Blank	Se (196.026 nm)	0.0000	N/A	-2.3552
	Blank	Sn (189.925 nm)	0.0000	N/A	6.0363
	Blank	Sr (216.596 nm)	0.0000	N/A	-65.2827
	Blank	Ti (336.122 nm)	0.0000	N/A	-202.5923
	Blank	Tl (190.794 nm)	0.0000	N/A	-6.0620
	Blank	V (292.401 nm)	0.0000	N/A	-80.5819
	Blank	Y (360.074 nm)	1.00	0.00	481960.96
	Blank	Y_R (360.074 nm)	1.00	0.00	481313.58
	Blank	Zn (213.857 nm)	0.0000	N/A	-76.2099
3/1/2024 14:24:00	Standard 1	Ag (328.068 nm)		N/A	-346.7755
	Standard 1	Al (237.312 nm)		N/A	152.9877
	Standard 1	As (188.980 nm)	0.0050	N/A	-4.0270
	Standard 1	B (249.772 nm)		N/A	81.0611
	Standard 1	Ba (230.424 nm)	0.0200	N/A	916.6851
	Standard 1	Be (313.107 nm)		N/A	-203.1368
	Standard 1	Ca (317.933 nm)		N/A	22890.4055
	Standard 1	Cd (214.439 nm)	0.0010	N/A	48.6107
	Standard 1	Co (230.786 nm)	0.0030	N/A	106.7648
	Standard 1	Cr (267.716 nm)	0.0050	N/A	195.6279
	Standard 1	Cu (327.395 nm)	0.0100	N/A	319.1387
	Standard 1	Fe (234.350 nm)		N/A	455.0147
	Standard 1	K (766.491 nm)		N/A	1811.2242
	Standard 1	Mg (279.078 nm)		N/A	1502.9510
	Standard 1	Mn (257.610 nm)	0.0100	N/A	3242.2288
	Standard 1	Mo (202.032 nm)	0.0250	N/A	176.9705
	Standard 1	Na (588.995 nm)		N/A	-2321.0520
	Standard 1	Ni (230.299 nm)		N/A	98.9553
	Standard 1	Pb (220.353 nm)	0.0050	N/A	30.0253
	Standard 1	Sb (217.582 nm)	0.0100	N/A	31.0933
	Standard 1	Se (196.026 nm)		N/A	-1.1701
	Standard 1	Sn (189.925 nm)		N/A	5.9354
	Standard 1	Sr (216.596 nm)		N/A	-59.9095

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Standard 1	Ti (336.122 nm)		N/A	-265.6260
	Standard 1	Tl (190.794 nm)	0.0100	N/A	3.1763
	Standard 1	V (292.401 nm)	0.0030	N/A	30.8746
	Standard 1	Y (360.074 nm)	1.00	0.52	483857.89
	Standard 1	Y_R (360.074 nm)	1.00	0.52	483210.81
	Standard 1	Zn (213.857 nm)	0.0100	N/A	451.7447
3/1/2024 14:27:15	Standard 2	Ag (328.068 nm)		N/A	-338.1739
	Standard 2	Al (237.312 nm)	0.1000	N/A	332.3085
	Standard 2	As (188.980 nm)	0.0100	N/A	6.8078
	Standard 2	B (249.772 nm)	0.2000	N/A	6061.2923
	Standard 2	Ba (230.424 nm)		N/A	-24.8606
	Standard 2	Be (313.107 nm)	0.0030	N/A	2820.0636
	Standard 2	Ca (317.933 nm)	1.0000	N/A	42027.3999
	Standard 2	Cd (214.439 nm)	0.0050	N/A	291.6773
	Standard 2	Co (230.786 nm)		N/A	58.6822
	Standard 2	Cr (267.716 nm)		N/A	-21.0704
	Standard 2	Cu (327.395 nm)	0.0200	N/A	658.1296
	Standard 2	Fe (234.350 nm)		N/A	174.4990
	Standard 2	K (766.491 nm)	2.0000	N/A	1864.7612
	Standard 2	Mg (279.078 nm)	1.0000	N/A	3069.2191
	Standard 2	Mn (257.610 nm)		N/A	18.1140
	Standard 2	Mo (202.032 nm)		N/A	-15.5157
	Standard 2	Na (588.995 nm)	1.0000	N/A	1737.1430
	Standard 2	Ni (230.299 nm)		N/A	103.8943
	Standard 2	Pb (220.353 nm)	0.0500	N/A	269.9139
	Standard 2	Sb (217.582 nm)	0.0600	N/A	138.3067
	Standard 2	Se (196.026 nm)	0.0100	N/A	6.9597
	Standard 2	Sn (189.925 nm)	0.5000	N/A	1453.2818
	Standard 2	Sr (216.596 nm)		N/A	-63.3716
	Standard 2	Ti (336.122 nm)		N/A	-268.1591
	Standard 2	Tl (190.794 nm)		N/A	-6.7146
	Standard 2	V (292.401 nm)		N/A	-79.7910
	Standard 2	Y (360.074 nm)	1.00	0.40	483145.07
	Standard 2	Y_R (360.074 nm)	1.00	0.40	482519.89
	Standard 2	Zn (213.857 nm)		N/A	-86.1704
3/1/2024 14:30:31	Standard 3	Ag (328.068 nm)	0.0100	N/A	237.9723
	Standard 3	Al (237.312 nm)		N/A	568.4461
	Standard 3	As (188.980 nm)		N/A	22.4959
	Standard 3	B (249.772 nm)		N/A	1537.9765
	Standard 3	Ba (230.424 nm)		N/A	9340.8041
	Standard 3	Be (313.107 nm)	0.0050	N/A	4917.1682
	Standard 3	Ca (317.933 nm)	0.5000	N/A	22510.9608
	Standard 3	Cd (214.439 nm)		N/A	597.8323
	Standard 3	Co (230.786 nm)	0.0500	N/A	832.2747
	Standard 3	Cr (267.716 nm)	0.0100	N/A	424.8797
	Standard 3	Cu (327.395 nm)		N/A	803.9150
	Standard 3	Fe (234.350 nm)	0.1000	N/A	2477.3029
	Standard 3	K (766.491 nm)	0.5000	N/A	405.1630
	Standard 3	Mg (279.078 nm)	0.5000	N/A	1498.5451
	Standard 3	Mn (257.610 nm)		N/A	4825.9732
	Standard 3	Mo (202.032 nm)		N/A	355.9176
	Standard 3	Na (588.995 nm)	0.5000	N/A	-2176.2252
	Standard 3	Ni (230.299 nm)	0.0400	N/A	567.0234
	Standard 3	Pb (220.353 nm)		N/A	56.8632
	Standard 3	Sb (217.582 nm)		N/A	221.6939
	Standard 3	Se (196.026 nm)		N/A	3.4944
	Standard 3	Sn (189.925 nm)		N/A	293.9349

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Standard 3	Sr (216.596 nm)	0.0500	N/A	911.2782
	Standard 3	Ti (336.122 nm)	0.0500	N/A	6130.2678
	Standard 3	Tl (190.794 nm)	0.0200	N/A	18.0191
	Standard 3	V (292.401 nm)	0.0500	N/A	1829.1587
	Standard 3	Y (360.074 nm)	1.00	0.67	482736.70
	Standard 3	Y_R (360.074 nm)	1.00	0.67	482104.57
	Standard 3	Zn (213.857 nm)	0.0200	N/A	985.1577
3/1/2024 14:33:46	Standard 4	Ag (328.068 nm)	0.2000	N/A	11134.6120
	Standard 4	Al (237.312 nm)	4.0000	N/A	9257.7443
	Standard 4	As (188.980 nm)	0.4000	N/A	681.8378
	Standard 4	B (249.772 nm)	1.0000	N/A	30292.7592
	Standard 4	Ba (230.424 nm)	4.0000	N/A	186938.5814
	Standard 4	Be (313.107 nm)	0.1000	N/A	105049.7763
	Standard 4	Ca (317.933 nm)	10.0000	N/A	395552.7953
	Standard 4	Cd (214.439 nm)	0.2000	N/A	12393.9668
	Standard 4	Co (230.786 nm)	1.0000	N/A	15354.2798
	Standard 4	Cr (267.716 nm)	0.2000	N/A	8827.0676
	Standard 4	Cu (327.395 nm)	0.5000	N/A	17156.4852
	Standard 4	Fe (234.350 nm)	2.0000	N/A	45848.5743
	Standard 4	K (766.491 nm)	10.0000	N/A	9217.6410
	Standard 4	Mg (279.078 nm)	10.0000	N/A	31104.3121
	Standard 4	Mn (257.610 nm)	0.3000	N/A	95019.9094
	Standard 4	Mo (202.032 nm)	1.0000	N/A	7566.6681
	Standard 4	Na (588.995 nm)	10.0000	N/A	77057.6254
	Standard 4	Ni (230.299 nm)	0.8000	N/A	9357.7539
	Standard 4	Pb (220.353 nm)	0.2000	N/A	1060.2438
	Standard 4	Sb (217.582 nm)	2.0000	N/A	4347.5736
	Standard 4	Se (196.026 nm)	0.2000	N/A	141.8402
	Standard 4	Sn (189.925 nm)	2.0000	N/A	5820.1487
	Standard 4	Sr (216.596 nm)	1.0000	N/A	19378.1239
	Standard 4	Ti (336.122 nm)	1.0000	N/A	128819.2221
	Standard 4	Tl (190.794 nm)	0.4000	N/A	474.3850
	Standard 4	V (292.401 nm)	1.0000	N/A	38728.3065
	Standard 4	Y (360.074 nm)	0.98	0.36	473890.26
	Standard 4	Y_R (360.074 nm)	0.98	0.36	473275.47
	Standard 4	Zn (213.857 nm)	0.4000	N/A	21723.2101
3/1/2024 14:37:01	Standard 5	Ag (328.068 nm)	1.0000	N/A	57478.3739
	Standard 5	Al (237.312 nm)	20.0000	N/A	46327.0202
	Standard 5	As (188.980 nm)	2.0000	N/A	3565.2608
	Standard 5	B (249.772 nm)	5.0000	N/A	155116.5109
	Standard 5	Ba (230.424 nm)	20.0000	N/A	907719.9804
	Standard 5	Be (313.107 nm)	0.5000	N/A	528913.6244
	Standard 5	Ca (317.933 nm)	50.0000	N/A	1932941.2926
	Standard 5	Cd (214.439 nm)	1.0000	N/A	61236.6862
	Standard 5	Co (230.786 nm)	5.0000	N/A	74925.7288
	Standard 5	Cr (267.716 nm)	1.0000	N/A	43808.0780
	Standard 5	Cu (327.395 nm)	2.5000	N/A	86984.5830
	Standard 5	Fe (234.350 nm)	10.0000	N/A	226579.9852
	Standard 5	K (766.491 nm)	50.0000	N/A	48393.2529
	Standard 5	Mg (279.078 nm)	50.0000	N/A	157061.7840
	Standard 5	Mn (257.610 nm)	1.5000	N/A	469637.8182
	Standard 5	Mo (202.032 nm)	5.0000	N/A	37998.3638
	Standard 5	Na (588.995 nm)	50.0000	N/A	420967.3634
	Standard 5	Ni (230.299 nm)	4.0000	N/A	45295.5933
	Standard 5	Pb (220.353 nm)	1.0000	N/A	5185.9671
	Standard 5	Sb (217.582 nm)	10.0000	N/A	22086.9216
	Standard 5	Se (196.026 nm)	1.0000	N/A	742.2835

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Standard 5	Sn (189.925 nm)	10.0000	N/A	28835.3324
	Standard 5	Sr (216.596 nm)	5.0000	N/A	95555.9009
	Standard 5	Ti (336.122 nm)	5.0000	N/A	646952.6884
	Standard 5	Tl (190.794 nm)	2.0000	N/A	2340.1814
	Standard 5	V (292.401 nm)	5.0000	N/A	195791.2475
	Standard 5	Y (360.074 nm)	0.94	0.82	453689.65
	Standard 5	Y_R (360.074 nm)	0.94	0.82	453085.48
	Standard 5	Zn (213.857 nm)	2.0000	N/A	109705.6815
3/1/2024 14:40:45	Initial Calibration Verification	Ag (328.068 nm)	0.5180	0.05	29598.5863
	Initial Calibration Verification	Al (237.312 nm)	9.9210	0.16	23027.6965
	Initial Calibration Verification	As (188.980 nm)	0.9852	0.35	1747.9930
	Initial Calibration Verification	B (249.772 nm)	2.4377	0.14	75583.2402
	Initial Calibration Verification	Ba (230.424 nm)	10.2088	0.15	463855.4244
	Initial Calibration Verification	Be (313.107 nm)	0.2409	0.13	254649.8353
	Initial Calibration Verification	Ca (317.933 nm)	25.5839	0.17	991134.3145
	Initial Calibration Verification	Cd (214.439 nm)	0.5045	0.11	30904.9429
	Initial Calibration Verification	Co (230.786 nm)	2.5305	0.15	37983.0696
	Initial Calibration Verification	Cr (267.716 nm)	0.5156	0.22	22584.7777
	Initial Calibration Verification	Cu (327.395 nm)	1.2283	0.25	42691.3621
	Initial Calibration Verification	Fe (234.350 nm)	4.9967	0.12	113340.1305
	Initial Calibration Verification	K (766.491 nm)	24.1101	0.13	23285.8147
	Initial Calibration Verification	Mg (279.078 nm)	25.1897	0.12	79074.0717
	Initial Calibration Verification	Mn (257.610 nm)	0.7449	0.18	233326.3068
	Initial Calibration Verification	Mo (202.032 nm)	2.5247	0.15	19177.3573
	Initial Calibration Verification	Na (588.995 nm)	24.9101	0.17	206393.9901
	Initial Calibration Verification	Ni (230.299 nm)	2.0919	0.13	23762.1450
	Initial Calibration Verification	Pb (220.353 nm)	0.5048	0.33	2621.8004
	Initial Calibration Verification	Sb (217.582 nm)	4.8873	0.19	10793.0143
	Initial Calibration Verification	Se (196.026 nm)	0.4910	0.30	362.8557
	Initial Calibration Verification	Sn (189.925 nm)	5.0311	0.17	14515.2335
	Initial Calibration Verification	Sr (216.596 nm)	2.4899	0.08	47583.7155
	Initial Calibration Verification	Ti (336.122 nm)	2.5283	0.14	326991.5960
	Initial Calibration Verification	Tl (190.794 nm)	1.0040	0.64	1172.8360
	Initial Calibration Verification	V (292.401 nm)	2.4993	0.17	97790.8828
	Initial Calibration Verification	Y (360.074 nm)	0.97	0.43	465524.27
	Initial Calibration Verification	Y_R (360.074 nm)	0.97	0.43	464898.99
	Initial Calibration Verification	Zn (213.857 nm)	0.9917	0.21	54344.2525
3/1/2024 14:43:59	Initial Calibration Blank	Ag (328.068 nm)	-0.0001 u	> 100.00	-345.0456
	Initial Calibration Blank	Al (237.312 nm)	0.0009 u	> 100.00	114.4713
	Initial Calibration Blank	As (188.980 nm)	0.0027	59.31	-7.3230
	Initial Calibration Blank	B (249.772 nm)	0.0021	16.18	135.1124
	Initial Calibration Blank	Ba (230.424 nm)	0.0002	21.45	-20.3138
	Initial Calibration Blank	Be (313.107 nm)	0.0000	24.74	-194.9992
	Initial Calibration Blank	Ca (317.933 nm)	0.0004	15.03	2952.8741
	Initial Calibration Blank	Cd (214.439 nm)	0.0000 u	87.04	-15.4009
	Initial Calibration Blank	Co (230.786 nm)	0.0000 u	> 100.00	65.9102
	Initial Calibration Blank	Cr (267.716 nm)	0.0000 u	> 100.00	-29.4763
	Initial Calibration Blank	Cu (327.395 nm)	0.0005	56.00	-36.5512
	Initial Calibration Blank	Fe (234.350 nm)	0.0011	33.74	196.7688
	Initial Calibration Blank	K (766.491 nm)	0.0144	68.37	1.7746
	Initial Calibration Blank	Mg (279.078 nm)	0.0011 u	> 100.00	-50.4470
	Initial Calibration Blank	Mn (257.610 nm)	0.0000 u	> 100.00	6.4078
	Initial Calibration Blank	Mo (202.032 nm)	0.0019	31.27	-1.0267
	Initial Calibration Blank	Na (588.995 nm)	0.0222	21.44	-6026.6633
	Initial Calibration Blank	Ni (230.299 nm)	0.0000 u	> 100.00	110.7858
	Initial Calibration Blank	Pb (220.353 nm)	-0.0001 u	> 100.00	2.9368
	Initial Calibration Blank	Sb (217.582 nm)	0.0092	12.21	31.9397

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Initial Calibration Blank	Se (196.026 nm)	0.0017	97.03	-1.0909
	Initial Calibration Blank	Sn (189.925 nm)	0.0004 u	> 100.00	7.2666
	Initial Calibration Blank	Sr (216.596 nm)	0.0000 u	> 100.00	-65.5723
	Initial Calibration Blank	Ti (336.122 nm)	0.0019	20.44	47.7142
	Initial Calibration Blank	Tl (190.794 nm)	0.0005 u	> 100.00	-5.4662
	Initial Calibration Blank	V (292.401 nm)	0.0000 u	> 100.00	-80.1205
	Initial Calibration Blank	Y (360.074 nm)	1.00	0.19	482312.44
	Initial Calibration Blank	Y_R (360.074 nm)	1.00	0.19	481690.58
	Initial Calibration Blank	Zn (213.857 nm)	0.0002	69.79	-67.5675
3/1/2024 14:47:12	Contract Required Detection Limit	Ag (328.068 nm)	0.0097	2.13	219.8785
	Contract Required Detection Limit	Al (237.312 nm)	0.1951	2.17	562.9573
	Contract Required Detection Limit	As (188.980 nm)	0.0205	9.37	24.4341
	Contract Required Detection Limit	B (249.772 nm)	0.1917	0.28	6008.3229
	Contract Required Detection Limit	Ba (230.424 nm)	0.2049	0.09	9280.8778
	Contract Required Detection Limit	Be (313.107 nm)	0.0049	0.18	4930.3631
	Contract Required Detection Limit	Ca (317.933 nm)	1.0146	0.07	42126.1039
	Contract Required Detection Limit	Cd (214.439 nm)	0.0101	0.51	603.6585
	Contract Required Detection Limit	Co (230.786 nm)	0.0510	0.29	829.1622
	Contract Required Detection Limit	Cr (267.716 nm)	0.0101	1.78	415.2250
	Contract Required Detection Limit	Cu (327.395 nm)	0.0247	1.12	803.5837
	Contract Required Detection Limit	Fe (234.350 nm)	0.1056	0.19	2563.9691
	Contract Required Detection Limit	K (766.491 nm)	0.9256	3.91	882.2620
	Contract Required Detection Limit	Mg (279.078 nm)	0.9849	0.19	3039.8137
	Contract Required Detection Limit	Mn (257.610 nm)	0.0152	0.19	4773.6707
	Contract Required Detection Limit	Mo (202.032 nm)	0.0254	2.11	177.6498
	Contract Required Detection Limit	Na (588.995 nm)	0.9304	0.55	1724.7745
	Contract Required Detection Limit	Ni (230.299 nm)	0.0394	1.09	556.3248
	Contract Required Detection Limit	Pb (220.353 nm)	0.0101	5.93	55.5678
	Contract Required Detection Limit	Sb (217.582 nm)	0.0642	3.77	153.1877
	Contract Required Detection Limit	Se (196.026 nm)	0.0118	22.31	6.4088
	Contract Required Detection Limit	Sn (189.925 nm)	0.5016	0.24	1452.4598
	Contract Required Detection Limit	Sr (216.596 nm)	0.1004	0.46	1855.9569
	Contract Required Detection Limit	Ti (336.122 nm)	0.0495	0.07	6198.5862
	Contract Required Detection Limit	Tl (190.794 nm)	0.0206	5.39	18.1175
	Contract Required Detection Limit	V (292.401 nm)	0.0489	0.27	1835.4614
	Contract Required Detection Limit	Y (360.074 nm)	1.00	0.40	481500.86
	Contract Required Detection Limit	Y_R (360.074 nm)	1.00	0.40	480869.26
	Contract Required Detection Limit	Zn (213.857 nm)	0.0195	0.43	993.8147
3/1/2024 14:50:26	Interference Check Solution A	Ag (328.068 nm)	0.0000 u	> 100.00	-344.2256
	Interference Check Solution A	Al (237.312 nm)	252.8960 o	0.16	584250.4154
	Interference Check Solution A	As (188.980 nm)	-0.0048 u	35.95	-20.7963
	Interference Check Solution A	B (249.772 nm)	0.1255	0.25	3958.2995
	Interference Check Solution A	Ba (230.424 nm)	0.0002	72.97	-20.0860
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	57.75	-225.6141
	Interference Check Solution A	Ca (317.933 nm)	240.9456 o	0.26	9309648.9691
	Interference Check Solution A	Cd (214.439 nm)	0.0009	1.44	43.1672
	Interference Check Solution A	Co (230.786 nm)	0.0018	12.86	92.2958
	Interference Check Solution A	Cr (267.716 nm)	0.0010	20.17	15.3382
	Interference Check Solution A	Cu (327.395 nm)	0.0011	32.55	-18.6493
	Interference Check Solution A	Fe (234.350 nm)	94.3327 o	0.17	2136655.9750
	Interference Check Solution A	K (766.491 nm)	-0.0216 u	> 100.00	-33.0064
	Interference Check Solution A	Mg (279.078 nm)	261.8482 o	0.19	822486.1985
	Interference Check Solution A	Mn (257.610 nm)	0.0013	2.34	414.8465
	Interference Check Solution A	Mo (202.032 nm)	-0.0031 u	10.61	-38.9597
	Interference Check Solution A	Na (588.995 nm)	-0.0277 u	26.21	-6452.4089
	Interference Check Solution A	Ni (230.299 nm)	0.0020	27.58	133.0563
	Interference Check Solution A	Pb (220.353 nm)	0.0005	30.38	6.0410

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	Sb (217.582 nm)	-0.0032 u	60.90	4.4802
	Interference Check Solution A	Se (196.026 nm)	-0.0050 u	59.99	-6.0813
	Interference Check Solution A	Sn (189.925 nm)	0.0022	58.61	12.5034
	Interference Check Solution A	Sr (216.596 nm)	0.0095	3.81	116.6059
	Interference Check Solution A	Ti (336.122 nm)	0.0023	4.19	94.4425
	Interference Check Solution A	Tl (190.794 nm)	0.0029	41.15	-2.6464
	Interference Check Solution A	V (292.401 nm)	0.0014	31.37	-24.1715
	Interference Check Solution A	Y (360.074 nm)	0.89	0.24	427258.81
	Interference Check Solution A	Y_R (360.074 nm)	0.89	0.24	426678.77
	Interference Check Solution A	Zn (213.857 nm)	0.0116 K	1.32	562.2427 K
3/1/2024 15:30:24	Interference Check Solution AB	Ag (328.068 nm)	0.2136 !	1.66	12002.5539 !
	Interference Check Solution AB	Al (237.312 nm)	243.9514 !o	1.85	563590.1870 !
	Interference Check Solution AB	As (188.980 nm)	0.0897 !	2.97	148.0605 !
	Interference Check Solution AB	B (249.772 nm)	0.1207 !	1.74	3810.3520 !
	Interference Check Solution AB	Ba (230.424 nm)	0.5062 !	1.63	22975.0326 !
	Interference Check Solution AB	Be (313.107 nm)	0.4759 !	1.64	503346.5248 !
	Interference Check Solution AB	Ca (317.933 nm)	231.7645 !o	1.58	8955022.7805 !
	Interference Check Solution AB	Cd (214.439 nm)	0.9429 !	1.61	57770.6082 !
	Interference Check Solution AB	Co (230.786 nm)	0.4767 !	1.90	7207.6920 !
	Interference Check Solution AB	Cr (267.716 nm)	0.5043 !	1.73	22087.8073 !
	Interference Check Solution AB	Cu (327.395 nm)	0.5206 !	1.76	18060.2172 !
	Interference Check Solution AB	Fe (234.350 nm)	91.6833 !o	1.69	2076651.8340 !
	Interference Check Solution AB	K (766.491 nm)	-0.0456 !u	49.83	-56.2587 !
	Interference Check Solution AB	Mg (279.078 nm)	253.5424 !o	1.68	796395.3883 !
	Interference Check Solution AB	Mn (257.610 nm)	0.4781 !	1.76	149749.0118 !
	Interference Check Solution AB	Mo (202.032 nm)	-0.0032 !u	11.98	-39.4355 !
	Interference Check Solution AB	Na (588.995 nm)	-0.0026 !u	> 100.00	-6238.5871 !
	Interference Check Solution AB	Ni (230.299 nm)	0.9639 !	1.84	11008.9929 !
	Interference Check Solution AB	Pb (220.353 nm)	0.0468 !	1.38	245.9834 !
	Interference Check Solution AB	Sb (217.582 nm)	0.5990 !	1.66	1333.0382 !
	Interference Check Solution AB	Se (196.026 nm)	0.0420 !	9.59	28.8797 !
	Interference Check Solution AB	Sn (189.925 nm)	0.0019 !	49.43	11.5639 !
	Interference Check Solution AB	Sr (216.596 nm)	0.0106 !	4.14	137.9633 !
	Interference Check Solution AB	Ti (336.122 nm)	0.0018 !	6.73	29.4053 !
	Interference Check Solution AB	Tl (190.794 nm)	0.0987 !	0.44	109.7776 !
	Interference Check Solution AB	V (292.401 nm)	0.4943 !	1.76	19278.1728 !
	Interference Check Solution AB	Y (360.074 nm)	0.90 !	1.76	435614.25 !
	Interference Check Solution AB	Y_R (360.074 nm)	0.90 !	1.77	435035.81 !
	Interference Check Solution AB	Zn (213.857 nm)	0.9839 !	1.81	53915.8999 !
3/1/2024 15:33:38	Continuing Calibration Verification	Ag (328.068 nm)	0.5175 !	0.29	29568.9069 !
	Continuing Calibration Verification	Al (237.312 nm)	9.9231 !	0.15	23032.6719 !
	Continuing Calibration Verification	As (188.980 nm)	0.9754 !	0.61	1730.5611 !
	Continuing Calibration Verification	B (249.772 nm)	2.4443 !	0.20	75789.0272 !
	Continuing Calibration Verification	Ba (230.424 nm)	10.2222 !	0.38	464463.9147 !
	Continuing Calibration Verification	Be (313.107 nm)	0.2422 !	0.23	256046.9912 !
	Continuing Calibration Verification	Ca (317.933 nm)	25.7205 !	0.19	996408.6680 !
	Continuing Calibration Verification	Cd (214.439 nm)	0.5049 !	0.26	30930.3527 !
	Continuing Calibration Verification	Co (230.786 nm)	2.5350 !	0.26	38050.1523 !
	Continuing Calibration Verification	Cr (267.716 nm)	0.5169 !	0.19	22638.9704 !
	Continuing Calibration Verification	Cu (327.395 nm)	1.2362 !	0.31	42966.4514 !
	Continuing Calibration Verification	Fe (234.350 nm)	5.0257 !	0.19	113997.4073 !
	Continuing Calibration Verification	K (766.491 nm)	23.9852 !	0.17	23165.1720 !
	Continuing Calibration Verification	Mg (279.078 nm)	25.2339 !	0.23	79212.9982 !
	Continuing Calibration Verification	Mn (257.610 nm)	0.7472 !	0.19	234049.6986 !
	Continuing Calibration Verification	Mo (202.032 nm)	2.5415 !	0.40	19305.2235 !
	Continuing Calibration Verification	Na (588.995 nm)	24.7115 !	0.27	204698.6934 !
	Continuing Calibration Verification	Ni (230.299 nm)	2.0932 !	0.24	23777.2810 !

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Pb (220.353 nm)	0.5079 !	0.11	2637.8320 !
	Continuing Calibration Verification	Sb (217.582 nm)	4.8593 !	0.27	10731.3267 !
	Continuing Calibration Verification	Se (196.026 nm)	0.4835 !	0.68	357.2473 !
	Continuing Calibration Verification	Sn (189.925 nm)	5.0267 !	0.15	14502.3234 !
	Continuing Calibration Verification	Sr (216.596 nm)	2.5026 !	0.46	47826.2656 !
	Continuing Calibration Verification	Ti (336.122 nm)	2.5331 !	0.26	327617.2109 !
	Continuing Calibration Verification	Tl (190.794 nm)	1.0060 !	0.21	1175.2027 !
	Continuing Calibration Verification	V (292.401 nm)	2.5068 !	0.16	98084.8181 !
	Continuing Calibration Verification	Y (360.074 nm)	0.97 !	0.24	466223.79 !
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97 !	0.24	465665.92 !
	Continuing Calibration Verification	Zn (213.857 nm)	0.9918 !	0.43	54347.0020 !
3/1/2024 15:36:52	Continuing Calibration Blank	Ag (328.068 nm)	0.0000 u	> 100.00	-340.7986
	Continuing Calibration Blank	Al (237.312 nm)	0.0005 u	> 100.00	113.4367
	Continuing Calibration Blank	As (188.980 nm)	0.0022	52.72	-8.3079
	Continuing Calibration Blank	B (249.772 nm)	0.0008	26.14	96.7922
	Continuing Calibration Blank	Ba (230.424 nm)	0.0000 u	> 100.00	-29.1508
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	93.89	-205.3365
	Continuing Calibration Blank	Ca (317.933 nm)	0.0000 u	> 100.00	2935.3080
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	95.93	-18.6941
	Continuing Calibration Blank	Co (230.786 nm)	-0.0001 u	> 100.00	63.2116
	Continuing Calibration Blank	Cr (267.716 nm)	0.0000 u	42.60	-29.8259
	Continuing Calibration Blank	Cu (327.395 nm)	0.0005	61.71	-36.8155
	Continuing Calibration Blank	Fe (234.350 nm)	0.0013	24.76	202.4744
	Continuing Calibration Blank	K (766.491 nm)	-0.0490 u	78.57	-59.4779
	Continuing Calibration Blank	Mg (279.078 nm)	0.0009 u	> 100.00	-51.0275
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	29.60	-3.9002
	Continuing Calibration Blank	Mo (202.032 nm)	0.0021	35.38	0.8512
	Continuing Calibration Blank	Na (588.995 nm)	0.0041 u	> 100.00	-6180.9081
	Continuing Calibration Blank	Ni (230.299 nm)	0.0002 u	> 100.00	112.4883
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0005 u	> 100.00	0.8189
	Continuing Calibration Blank	Sb (217.582 nm)	0.0096	24.52	32.8363
	Continuing Calibration Blank	Se (196.026 nm)	-0.0012 u	> 100.00	-3.2607
	Continuing Calibration Blank	Sn (189.925 nm)	0.0005 u	> 100.00	7.5030
	Continuing Calibration Blank	Sr (216.596 nm)	0.0002	63.28	-60.9475
	Continuing Calibration Blank	Ti (336.122 nm)	0.0014	22.65	-16.9064
	Continuing Calibration Blank	Tl (190.794 nm)	0.0000 u	> 100.00	-6.0757
	Continuing Calibration Blank	V (292.401 nm)	-0.0002 u	87.93	-86.6614
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.07	483879.95
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.07	483344.22
	Continuing Calibration Blank	Zn (213.857 nm)	0.0000 u	> 100.00	-76.2958
3/1/2024 15:40:05	PBW-434608	Ag (328.068 nm)	0.0002	86.72	-332.6421
	PBW-434608	Al (237.312 nm)	0.0033	25.93	119.8097
	PBW-434608	As (188.980 nm)	0.0008	58.44	-10.6884
	PBW-434608	B (249.772 nm)	0.0015	13.61	116.6666
	PBW-434608	Ba (230.424 nm)	0.0002	18.85	-18.2084
	PBW-434608	Be (313.107 nm)	0.0000	68.70	-190.8013
	PBW-434608	Ca (317.933 nm)	0.0055	14.31	3146.7177
	PBW-434608	Cd (214.439 nm)	0.0000 u	> 100.00	-11.4715
	PBW-434608	Co (230.786 nm)	0.0002	> 100.00	67.9492
	PBW-434608	Cr (267.716 nm)	0.0000 u	> 100.00	-28.0624
	PBW-434608	Cu (327.395 nm)	0.0003	57.69	-45.9329
	PBW-434608	Fe (234.350 nm)	0.0012	15.35	199.0018
	PBW-434608	K (766.491 nm)	-0.0346 u	> 100.00	-45.5434
	PBW-434608	Mg (279.078 nm)	0.0034	35.96	-43.3662
	PBW-434608	Mn (257.610 nm)	0.0000 u	> 100.00	13.5086
	PBW-434608	Mo (202.032 nm)	0.0006	6.04	-10.7644
	PBW-434608	Na (588.995 nm)	-0.0043 u	88.49	-6252.4315

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	PBW-434608	Ni (230.299 nm)	-0.0008 u	68.84	101.4917
	PBW-434608	Pb (220.353 nm)	0.0002 u	> 100.00	4.1833
	PBW-434608	Sb (217.582 nm)	0.0463	1.46	113.7473
	PBW-434608	Se (196.026 nm)	-0.0013 u	> 100.00	-3.3400
	PBW-434608	Sn (189.925 nm)	-0.0001 u	> 100.00	5.7194
	PBW-434608	Sr (216.596 nm)	0.0001	96.28	-62.6364
	PBW-434608	Ti (336.122 nm)	0.0004	19.63	-146.9253
	PBW-434608	Tl (190.794 nm)	0.0002 u	> 100.00	-5.8555
	PBW-434608	V (292.401 nm)	-0.0001 u	> 100.00	-83.1240
	PBW-434608	Y (360.074 nm)	1.01	0.35	488019.35
	PBW-434608	Y_R (360.074 nm)	1.01	0.35	487490.93
	PBW-434608	Zn (213.857 nm)	0.0002	8.28	-63.1902
3/1/2024 15:43:19	LCSW-434608	Ag (328.068 nm)	0.0509	0.61	2598.6146
	LCSW-434608	Al (237.312 nm)	1.9188	0.37	4544.2891
	LCSW-434608	As (188.980 nm)	0.0355	8.35	51.2312
	LCSW-434608	B (249.772 nm)	0.9678	0.42	30049.3341
	LCSW-434608	Ba (230.424 nm)	2.0199	0.34	91755.0568
	LCSW-434608	Be (313.107 nm)	0.0480	0.52	50617.2165
	LCSW-434608	Ca (317.933 nm)	2.0047	0.45	80368.7850
	LCSW-434608	Cd (214.439 nm)	0.0509	0.17	3105.1341
	LCSW-434608	Co (230.786 nm)	0.5118	0.48	7733.7550
	LCSW-434608	Cr (267.716 nm)	0.2005	0.54	8763.5927
	LCSW-434608	Cu (327.395 nm)	0.2513	0.66	8690.6244
	LCSW-434608	Fe (234.350 nm)	0.9881	0.32	22551.5829
	LCSW-434608	K (766.491 nm)	18.5752	0.65	17937.3769
	LCSW-434608	Mg (279.078 nm)	1.9525	0.60	6079.4645
	LCSW-434608	Mn (257.610 nm)	0.4890	0.44	153167.5114
	LCSW-434608	Mo (202.032 nm)	0.4927	0.58	3729.9456
	LCSW-434608	Na (588.995 nm)	19.1861	0.67	157538.6086
	LCSW-434608	Ni (230.299 nm)	0.5239	0.55	6034.6051
	LCSW-434608	Pb (220.353 nm)	0.5130	0.62	2664.2909
	LCSW-434608	Sb (217.582 nm)	0.5211	0.61	1161.1629
	LCSW-434608	Se (196.026 nm)	0.9880	0.19	732.4784
	LCSW-434608	Sn (189.925 nm)	4.9997	0.42	14424.6850
	LCSW-434608	Sr (216.596 nm)	1.9956	0.15	38123.8973
	LCSW-434608	Ti (336.122 nm)	0.4905	0.44	63274.4593
	LCSW-434608	Tl (190.794 nm)	1.9938	0.68	2335.0409
	LCSW-434608	V (292.401 nm)	0.4878	0.47	19020.7517
	LCSW-434608	Y (360.074 nm)	0.99	0.28	475947.60
	LCSW-434608	Y_R (360.074 nm)	0.99	0.28	475432.03
	LCSW-434608	Zn (213.857 nm)	0.5075	0.44	27772.8045
3/1/2024 15:46:33	R2401532-001	Ag (328.068 nm)	-0.0002 u	> 100.00	-351.0154
	R2401532-001	Al (237.312 nm)	0.6569	0.21	1629.5583
	R2401532-001	As (188.980 nm)	0.0876	1.95	144.3716
	R2401532-001	B (249.772 nm)	9.7155 o	0.23	301029.9448
	R2401532-001	Ba (230.424 nm)	0.1778	0.21	8052.1935
	R2401532-001	Be (313.107 nm)	0.0001	15.37	-130.4129
	R2401532-001	Ca (317.933 nm)	304.7206 o	0.12	11773009.0131
	R2401532-001	Cd (214.439 nm)	0.0001	73.96	-6.6955
	R2401532-001	Co (230.786 nm)	0.0141	3.87	277.2372
	R2401532-001	Cr (267.716 nm)	0.0862	0.29	3751.7742
	R2401532-001	Cu (327.395 nm)	0.0464	0.72	1559.7795
	R2401532-001	Fe (234.350 nm)	14.4195 o	0.15	326750.1078
	R2401532-001	K (766.491 nm)	395.1409 o	0.47	381819.1868
	R2401532-001	Mg (279.078 nm)	317.4565 o	0.14	997167.8176
	R2401532-001	Mn (257.610 nm)	3.6118 o	0.22	1131321.0987
	R2401532-001	Mo (202.032 nm)	0.0052	8.84	24.5987

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401532-001	Na (588.995 nm)	627.3916 o	0.59	5348623.1777
	R2401532-001	Ni (230.299 nm)	0.0721	0.69	925.7723
	R2401532-001	Pb (220.353 nm)	0.0022 u	90.93	14.6205
	R2401532-001	Sb (217.582 nm)	0.0433	2.79	107.0700
	R2401532-001	Se (196.026 nm)	0.0096	28.64	4.7535
	R2401532-001	Sn (189.925 nm)	0.0065	14.03	24.8159
	R2401532-001	Sr (216.596 nm)	1.4583	0.11	27840.6268
	R2401532-001	Ti (336.122 nm)	0.0842	0.21	10698.1057
	R2401532-001	Tl (190.794 nm)	0.0023 u	> 100.00	-3.3727
	R2401532-001	V (292.401 nm)	0.0285	0.74	1035.4330
	R2401532-001	Y (360.074 nm)	0.85	0.17	409553.18
	R2401532-001	Y_R (360.074 nm)	0.85	0.17	409056.98
	R2401532-001	Zn (213.857 nm)	0.0519	0.31	2773.8330
3/1/2024 15:49:46	R2401532-001L 5X	Ag (328.068 nm)	-0.0002 u	58.00	-354.7182
	R2401532-001L 5X	Al (237.312 nm)	0.1231	1.43	396.5799
	R2401532-001L 5X	As (188.980 nm)	0.0168	9.71	17.9094
	R2401532-001L 5X	B (249.772 nm)	1.8431	0.30	57163.7215
	R2401532-001L 5X	Ba (230.424 nm)	0.0354	0.56	1579.0737
	R2401532-001L 5X	Be (313.107 nm)	0.0000	42.18	-193.3019
	R2401532-001L 5X	Ca (317.933 nm)	64.3881 o	0.24	2489977.4694
	R2401532-001L 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-15.2730
	R2401532-001L 5X	Co (230.786 nm)	0.0027	8.79	106.4016
	R2401532-001L 5X	Cr (267.716 nm)	0.0168	0.56	709.4882
	R2401532-001L 5X	Cu (327.395 nm)	0.0089	1.53	252.8225
	R2401532-001L 5X	Fe (234.350 nm)	2.8766	0.26	65323.4787
	R2401532-001L 5X	K (766.491 nm)	71.6495 o	0.31	69224.0088
	R2401532-001L 5X	Mg (279.078 nm)	61.4040 o	0.24	192833.6103
	R2401532-001L 5X	Mn (257.610 nm)	0.7219	0.24	226139.0272
	R2401532-001L 5X	Mo (202.032 nm)	0.0010	25.86	-7.5424
	R2401532-001L 5X	Na (588.995 nm)	132.6555 o	0.29	1126009.2619
	R2401532-001L 5X	Ni (230.299 nm)	0.0153	2.23	283.6731
	R2401532-001L 5X	Pb (220.353 nm)	0.0004	33.36	5.4939
	R2401532-001L 5X	Sb (217.582 nm)	0.0163	8.36	47.5912
	R2401532-001L 5X	Se (196.026 nm)	-0.0037 u	58.00	-5.0900
	R2401532-001L 5X	Sn (189.925 nm)	0.0015	14.04	10.2706
	R2401532-001L 5X	Sr (216.596 nm)	0.2925	0.48	5532.1522
	R2401532-001L 5X	Ti (336.122 nm)	0.0163	0.35	1910.7783
	R2401532-001L 5X	Tl (190.794 nm)	0.0019	79.51	-3.8756
	R2401532-001L 5X	V (292.401 nm)	0.0055	1.26	134.8700
	R2401532-001L 5X	Y (360.074 nm)	0.93	0.23	450572.65
	R2401532-001L 5X	Y_R (360.074 nm)	0.94	0.23	450034.38
	R2401532-001L 5X	Zn (213.857 nm)	0.0099	1.20	468.5151
3/1/2024 15:53:00	PBW-434610	Ag (328.068 nm)	0.0001 u	> 100.00	-337.1892
	PBW-434610	Al (237.312 nm)	0.0014	89.06	115.5786
	PBW-434610	As (188.980 nm)	0.0012	34.11	-10.0031
	PBW-434610	B (249.772 nm)	0.0040	7.81	193.6700
	PBW-434610	Ba (230.424 nm)	-0.0001 u	> 100.00	-32.9709
	PBW-434610	Be (313.107 nm)	0.0000	79.18	-209.1409
	PBW-434610	Ca (317.933 nm)	0.0103	22.59	3333.5377
	PBW-434610	Cd (214.439 nm)	-0.0001 u	39.85	-17.5801
	PBW-434610	Co (230.786 nm)	-0.0004 u	87.98	59.2391
	PBW-434610	Cr (267.716 nm)	0.0000 u	> 100.00	-26.2161
	PBW-434610	Cu (327.395 nm)	0.0005	23.17	-38.5081
	PBW-434610	Fe (234.350 nm)	0.0016	19.45	208.1902
	PBW-434610	K (766.491 nm)	0.2032	28.78	184.1894
	PBW-434610	Mg (279.078 nm)	0.0053	53.95	-37.2130
	PBW-434610	Mn (257.610 nm)	0.0001	47.07	35.5978

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	PBW-434610	Mo (202.032 nm)	0.0002 u	> 100.00	-14.1554
	PBW-434610	Na (588.995 nm)	0.1954	6.88	-4548.0916
	PBW-434610	Ni (230.299 nm)	-0.0006 u	79.30	103.6401
	PBW-434610	Pb (220.353 nm)	0.0002 u	> 100.00	4.2216
	PBW-434610	Sb (217.582 nm)	0.0302	2.99	78.1761
	PBW-434610	Se (196.026 nm)	0.0016	70.12	-1.1548
	PBW-434610	Sn (189.925 nm)	0.0000 u	> 100.00	5.9940
	PBW-434610	Sr (216.596 nm)	0.0005	40.91	-55.9467
	PBW-434610	Ti (336.122 nm)	0.0000 u	> 100.00	-208.2900
	PBW-434610	Tl (190.794 nm)	0.0010 u	> 100.00	-4.9269
	PBW-434610	V (292.401 nm)	-0.0001 u	> 100.00	-82.9251
	PBW-434610	Y (360.074 nm)	1.00	0.21	484245.89
	PBW-434610	Y_R (360.074 nm)	1.00	0.21	483686.80
	PBW-434610	Zn (213.857 nm)	0.0009	7.82	-27.3040
3/1/2024 15:56:14	LCSW-434610	Ag (328.068 nm)	0.0511	0.14	2610.2048
	LCSW-434610	Al (237.312 nm)	1.9296	0.12	4569.2985
	LCSW-434610	As (188.980 nm)	0.0384	6.00	56.5168
	LCSW-434610	B (249.772 nm)	0.9765	0.19	30321.2615
	LCSW-434610	Ba (230.424 nm)	2.0192	0.50	91723.6874
	LCSW-434610	Be (313.107 nm)	0.0480	0.21	50581.8300
	LCSW-434610	Ca (317.933 nm)	2.0026	0.17	80287.9982
	LCSW-434610	Cd (214.439 nm)	0.0510	0.51	3112.5521
	LCSW-434610	Co (230.786 nm)	0.5115	0.17	7729.7152
	LCSW-434610	Cr (267.716 nm)	0.2001	0.24	8746.7666
	LCSW-434610	Cu (327.395 nm)	0.2506	0.22	8665.3926
	LCSW-434610	Fe (234.350 nm)	0.9871	0.20	22529.6491
	LCSW-434610	K (766.491 nm)	18.7739	0.24	18129.4130
	LCSW-434610	Mg (279.078 nm)	1.9578	0.24	6095.9673
	LCSW-434610	Mn (257.610 nm)	0.4890	0.20	153187.1952
	LCSW-434610	Mo (202.032 nm)	0.4914	0.81	3720.3770
	LCSW-434610	Na (588.995 nm)	19.4273	0.21	159597.7372
	LCSW-434610	Ni (230.299 nm)	0.5250	0.20	6046.4542
	LCSW-434610	Pb (220.353 nm)	0.5092	0.70	2644.5879
	LCSW-434610	Sb (217.582 nm)	0.5107	0.40	1138.3074
	LCSW-434610	Se (196.026 nm)	1.0163	0.60	753.4955
	LCSW-434610	Sn (189.925 nm)	5.0273	0.17	14504.0971
	LCSW-434610	Sr (216.596 nm)	2.0044	0.45	38291.6867
	LCSW-434610	Ti (336.122 nm)	0.4887	0.24	63044.9952
	LCSW-434610	Tl (190.794 nm)	1.9973	0.27	2339.1938
	LCSW-434610	V (292.401 nm)	0.4863	0.15	18963.6870
	LCSW-434610	Y (360.074 nm)	0.98	0.17	473953.13
	LCSW-434610	Y_R (360.074 nm)	0.98	0.17	473388.98
	LCSW-434610	Zn (213.857 nm)	0.5103	0.20	27929.3284
3/1/2024 15:59:28	R2401493-003 500X	Ag (328.068 nm)	0.0001 u	> 100.00	-337.4393
	R2401493-003 500X	Al (237.312 nm)	0.0070	13.96	128.4610
	R2401493-003 500X	As (188.980 nm)	-0.0041 u	46.30	-19.5524
	R2401493-003 500X	B (249.772 nm)	0.0371	1.13	1221.5165
	R2401493-003 500X	Ba (230.424 nm)	0.0000 u	> 100.00	-26.0987
	R2401493-003 500X	Be (313.107 nm)	0.0000	58.41	-201.7828
	R2401493-003 500X	Ca (317.933 nm)	0.6410	0.19	27695.6822
	R2401493-003 500X	Cd (214.439 nm)	-0.0001 u	55.44	-17.3997
	R2401493-003 500X	Co (230.786 nm)	-0.0003 u	35.13	61.4529
	R2401493-003 500X	Cr (267.716 nm)	1.1683 o	0.19	51204.5491
	R2401493-003 500X	Cu (327.395 nm)	0.0003 u	> 100.00	-46.4735
	R2401493-003 500X	Fe (234.350 nm)	0.0009	24.84	192.9699
	R2401493-003 500X	K (766.491 nm)	0.1645	19.17	146.8028
	R2401493-003 500X	Mg (279.078 nm)	0.1206	1.14	324.8031

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401493-003 500X	Mn (257.610 nm)	0.0001	2.98	45.8699
	R2401493-003 500X	Mo (202.032 nm)	0.0026	10.01	4.1291
	R2401493-003 500X	Na (588.995 nm)	3.8285	0.43	26460.6608
	R2401493-003 500X	Ni (230.299 nm)	-0.0004 u	> 100.00	106.7142
	R2401493-003 500X	Pb (220.353 nm)	-0.0006 u	98.64	0.0031
	R2401493-003 500X	Sb (217.582 nm)	0.0089	17.71	31.2774
	R2401493-003 500X	Se (196.026 nm)	0.0020 u	> 100.00	-0.8689
	R2401493-003 500X	Sn (189.925 nm)	0.0004 u	> 100.00	7.1883
	R2401493-003 500X	Sr (216.596 nm)	0.0054	4.52	38.9802
	R2401493-003 500X	Ti (336.122 nm)	0.0005	12.27	-139.5798
	R2401493-003 500X	Tl (190.794 nm)	0.0025	12.54	-3.1255
	R2401493-003 500X	V (292.401 nm)	0.0011	18.35	-37.2348
	R2401493-003 500X	Y (360.074 nm)	1.00	0.27	479621.19
	R2401493-003 500X	Y_R (360.074 nm)	1.00	0.27	479049.93
	R2401493-003 500X	Zn (213.857 nm)	0.0001	> 100.00	-70.9869
3/1/2024 16:02:42	R2401493-004 500X	Ag (328.068 nm)	-0.0001 u	> 100.00	-346.3360
	R2401493-004 500X	Al (237.312 nm)	0.0014 u	> 100.00	115.4400
	R2401493-004 500X	As (188.980 nm)	-0.0038 u	36.64	-18.9427
	R2401493-004 500X	B (249.772 nm)	0.0317	0.61	1051.4676
	R2401493-004 500X	Ba (230.424 nm)	0.0000	61.07	-27.0521
	R2401493-004 500X	Be (313.107 nm)	0.0000 u	> 100.00	-218.8733
	R2401493-004 500X	Ca (317.933 nm)	0.2887	0.33	14088.6889
	R2401493-004 500X	Cd (214.439 nm)	-0.0001 u	47.17	-16.4094
	R2401493-004 500X	Co (230.786 nm)	-0.0002 u	> 100.00	62.8867
	R2401493-004 500X	Cr (267.716 nm)	1.1468 o	0.43	50262.3758
	R2401493-004 500X	Cu (327.395 nm)	0.0002 u	> 100.00	-48.6677
	R2401493-004 500X	Fe (234.350 nm)	0.0007	58.47	188.7567
	R2401493-004 500X	K (766.491 nm)	0.1537	20.37	136.3544
	R2401493-004 500X	Mg (279.078 nm)	0.0003 u	> 100.00	-53.1726
	R2401493-004 500X	Mn (257.610 nm)	0.0000 u	> 100.00	5.7049
	R2401493-004 500X	Mo (202.032 nm)	0.0015	26.99	-3.7526
	R2401493-004 500X	Na (588.995 nm)	3.8031	0.22	26243.3518
	R2401493-004 500X	Ni (230.299 nm)	0.0004	88.68	115.0218
	R2401493-004 500X	Pb (220.353 nm)	0.0003 u	> 100.00	5.1413
	R2401493-004 500X	Sb (217.582 nm)	0.0054	31.32	23.5219
	R2401493-004 500X	Se (196.026 nm)	0.0026	32.85	-0.4528
	R2401493-004 500X	Sn (189.925 nm)	0.0002 u	> 100.00	6.5147
	R2401493-004 500X	Sr (216.596 nm)	0.0036	11.06	2.7647
	R2401493-004 500X	Ti (336.122 nm)	0.0000	> 100.00	-196.5491
	R2401493-004 500X	Tl (190.794 nm)	-0.0006 u	> 100.00	-6.7687
	R2401493-004 500X	V (292.401 nm)	0.0009	9.34	-44.6051
	R2401493-004 500X	Y (360.074 nm)	0.99	0.21	479515.54
	R2401493-004 500X	Y_R (360.074 nm)	1.00	0.21	478931.20
	R2401493-004 500X	Zn (213.857 nm)	0.0001	12.03	-71.1061
3/1/2024 16:05:56	R2401493-004L 2500X	Ag (328.068 nm)	0.0000 u	> 100.00	-339.9833
	R2401493-004L 2500X	Al (237.312 nm)	0.0013	16.92	115.2067
	R2401493-004L 2500X	As (188.980 nm)	-0.0005 u	> 100.00	-13.0660
	R2401493-004L 2500X	B (249.772 nm)	0.0070	1.53	288.6783
	R2401493-004L 2500X	Ba (230.424 nm)	0.0000 u	> 100.00	-27.0997
	R2401493-004L 2500X	Be (313.107 nm)	0.0000 u	> 100.00	-209.1657
	R2401493-004L 2500X	Ca (317.933 nm)	0.0592	0.09	5224.0849
	R2401493-004L 2500X	Cd (214.439 nm)	-0.0002 u	7.69	-21.7478
	R2401493-004L 2500X	Co (230.786 nm)	-0.0002 u	11.80	62.4214
	R2401493-004L 2500X	Cr (267.716 nm)	0.2332	0.43	10196.6243
	R2401493-004L 2500X	Cu (327.395 nm)	0.0002 u	> 100.00	-49.9920
	R2401493-004L 2500X	Fe (234.350 nm)	0.0007	46.62	187.2119
	R2401493-004L 2500X	K (766.491 nm)	0.0582	34.02	44.0532

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401493-004L 2500X	Mg (279.078 nm)	0.0019	87.79	-47.8840
	R2401493-004L 2500X	Mn (257.610 nm)	0.0000 u	30.06	3.4745
	R2401493-004L 2500X	Mo (202.032 nm)	0.0003 u	> 100.00	-12.8630
	R2401493-004L 2500X	Na (588.995 nm)	0.8169	0.95	756.4111
	R2401493-004L 2500X	Ni (230.299 nm)	0.0000 u	> 100.00	110.7585
	R2401493-004L 2500X	Pb (220.353 nm)	-0.0009 u	69.84	-1.0991
	R2401493-004L 2500X	Sb (217.582 nm)	0.0038	40.28	19.9011
	R2401493-004L 2500X	Se (196.026 nm)	0.0013 u	> 100.00	-1.3917
	R2401493-004L 2500X	Sn (189.925 nm)	0.0000 u	> 100.00	6.0557
	R2401493-004L 2500X	Sr (216.596 nm)	0.0009	16.07	-48.1823
	R2401493-004L 2500X	Ti (336.122 nm)	0.0001	44.06	-188.4867
	R2401493-004L 2500X	Tl (190.794 nm)	0.0015	47.72	-4.3591
	R2401493-004L 2500X	V (292.401 nm)	0.0000 u	> 100.00	-79.4523
	R2401493-004L 2500X	Y (360.074 nm)	1.00	0.44	480164.61
	R2401493-004L 2500X	Y_R (360.074 nm)	1.00	0.44	479578.62
	R2401493-004L 2500X	Zn (213.857 nm)	0.0001	16.69	-70.5324
3/1/2024 16:09:10	Continuing Calibration Verification	Ag (328.068 nm)	0.5230	0.21	29887.7784
	Continuing Calibration Verification	Al (237.312 nm)	10.0944	0.20	23428.3025
	Continuing Calibration Verification	As (188.980 nm)	0.9898	0.52	1756.3480
	Continuing Calibration Verification	B (249.772 nm)	2.4737	0.31	76700.6409
	Continuing Calibration Verification	Ba (230.424 nm)	10.3154	0.64	468697.1645
	Continuing Calibration Verification	Be (313.107 nm)	0.2443	0.37	258271.9099
	Continuing Calibration Verification	Ca (317.933 nm)	25.8498	0.39	1001405.6865
	Continuing Calibration Verification	Cd (214.439 nm)	0.5103	0.37	31259.6760
	Continuing Calibration Verification	Co (230.786 nm)	2.5640	0.62	38484.9351
	Continuing Calibration Verification	Cr (267.716 nm)	0.5210	0.35	22818.6027
	Continuing Calibration Verification	Cu (327.395 nm)	1.2553	0.19	43628.6812
	Continuing Calibration Verification	Fe (234.350 nm)	5.0588	0.41	114745.3578
	Continuing Calibration Verification	K (766.491 nm)	24.5348	0.23	23696.1922
	Continuing Calibration Verification	Mg (279.078 nm)	25.3960	0.34	79722.2306
	Continuing Calibration Verification	Mn (257.610 nm)	0.7551	0.35	236525.3799
	Continuing Calibration Verification	Mo (202.032 nm)	2.5645	0.40	19479.8172
	Continuing Calibration Verification	Na (588.995 nm)	25.3193	0.16	209885.8860
	Continuing Calibration Verification	Ni (230.299 nm)	2.1218	0.32	24100.6977
	Continuing Calibration Verification	Pb (220.353 nm)	0.5162	0.27	2681.0232
	Continuing Calibration Verification	Sb (217.582 nm)	4.9944	0.17	11029.2382
	Continuing Calibration Verification	Se (196.026 nm)	0.4940	0.34	365.0235
	Continuing Calibration Verification	Sn (189.925 nm)	5.0987	0.41	14710.2279
	Continuing Calibration Verification	Sr (216.596 nm)	2.5147	0.78	48057.3129
	Continuing Calibration Verification	Ti (336.122 nm)	2.5549	0.44	330437.8518
	Continuing Calibration Verification	Tl (190.794 nm)	1.0171	0.21	1188.2693
	Continuing Calibration Verification	V (292.401 nm)	2.5243	0.36	98772.4910
	Continuing Calibration Verification	Y (360.074 nm)	0.96	0.33	460720.41
	Continuing Calibration Verification	Y_R (360.074 nm)	0.96	0.34	460171.60
	Continuing Calibration Verification	Zn (213.857 nm)	1.0022	0.90	54918.0405
3/1/2024 16:12:24	Continuing Calibration Blank	Ag (328.068 nm)	0.0001	27.90	-335.0748
	Continuing Calibration Blank	Al (237.312 nm)	0.0019	55.01	116.7420
	Continuing Calibration Blank	As (188.980 nm)	0.0029	18.18	-6.9078
	Continuing Calibration Blank	B (249.772 nm)	0.0018	4.18	125.2168
	Continuing Calibration Blank	Ba (230.424 nm)	0.0001	38.12	-21.6948
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	57.17	-201.7957
	Continuing Calibration Blank	Ca (317.933 nm)	-0.0003 u	31.45	2922.6480
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0002 u	16.64	-22.4295
	Continuing Calibration Blank	Co (230.786 nm)	-0.0002 u	> 100.00	62.3140
	Continuing Calibration Blank	Cr (267.716 nm)	0.0001 u	> 100.00	-22.7267
	Continuing Calibration Blank	Cu (327.395 nm)	0.0001 u	> 100.00	-53.8126
	Continuing Calibration Blank	Fe (234.350 nm)	0.0009	24.82	192.0486

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank	K (766.491 nm)	0.0423	> 100.00	28.7062
	Continuing Calibration Blank	Mg (279.078 nm)	-0.0002 u	> 100.00	-54.4752
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	> 100.00	6.3899
	Continuing Calibration Blank	Mo (202.032 nm)	0.0018	61.98	-1.7157
	Continuing Calibration Blank	Na (588.995 nm)	0.0605	7.23	-5699.3470
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0006 u	86.09	103.6249
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0002 u	> 100.00	2.3608
	Continuing Calibration Blank	Sb (217.582 nm)	0.0086	22.79	30.4905
	Continuing Calibration Blank	Se (196.026 nm)	0.0003 u	> 100.00	-2.1381
	Continuing Calibration Blank	Sn (189.925 nm)	-0.0004 u	83.79	4.9894
	Continuing Calibration Blank	Sr (216.596 nm)	0.0001 u	> 100.00	-63.7336
	Continuing Calibration Blank	Ti (336.122 nm)	0.0016	26.90	6.4898
	Continuing Calibration Blank	Tl (190.794 nm)	0.0007	28.37	-5.2440
	Continuing Calibration Blank	V (292.401 nm)	-0.0002 u	> 100.00	-88.9250
	Continuing Calibration Blank	Y (360.074 nm)	0.99	0.24	477911.19
	Continuing Calibration Blank	Y_R (360.074 nm)	0.99	0.24	477355.97
	Continuing Calibration Blank	Zn (213.857 nm)	0.0001	> 100.00	-73.0304
3/1/2024 16:15:38	PBW-434740	Ag (328.068 nm)	0.0000 u	> 100.00	-342.6697
	PBW-434740	Al (237.312 nm)	0.0023	17.27	117.5876
	PBW-434740	As (188.980 nm)	-0.0003 u	> 100.00	-12.7555
	PBW-434740	B (249.772 nm)	0.0022	2.69	139.0226
	PBW-434740	Ba (230.424 nm)	0.0003	23.88	-13.6037
	PBW-434740	Be (313.107 nm)	0.0000	28.65	-192.3071
	PBW-434740	Ca (317.933 nm)	0.0074	4.38	3223.1043
	PBW-434740	Cd (214.439 nm)	0.0000 u	> 100.00	-13.2904
	PBW-434740	Co (230.786 nm)	-0.0004 u	78.55	59.7500
	PBW-434740	Cr (267.716 nm)	-0.0002 u	58.88	-35.4874
	PBW-434740	Cu (327.395 nm)	0.0007	39.77	-32.0331
	PBW-434740	Fe (234.350 nm)	0.0021	1.42	219.5238
	PBW-434740	K (766.491 nm)	0.0297 u	> 100.00	16.5849
	PBW-434740	Mg (279.078 nm)	0.0003 u	> 100.00	-52.9581
	PBW-434740	Mn (257.610 nm)	0.0000	56.05	24.2132
	PBW-434740	Mo (202.032 nm)	0.0002 u	> 100.00	-14.0190
	PBW-434740	Na (588.995 nm)	0.0417	8.74	-5859.7839
	PBW-434740	Ni (230.299 nm)	-0.0007 u	41.92	103.0597
	PBW-434740	Pb (220.353 nm)	0.0004 u	> 100.00	5.4151
	PBW-434740	Sb (217.582 nm)	0.0353	5.31	89.4266
	PBW-434740	Se (196.026 nm)	-0.0008 u	> 100.00	-2.9316
	PBW-434740	Sn (189.925 nm)	-0.0005 u	> 100.00	4.4608
	PBW-434740	Sr (216.596 nm)	0.0004	17.09	-56.6995
	PBW-434740	Ti (336.122 nm)	0.0004	19.13	-145.7699
	PBW-434740	Tl (190.794 nm)	-0.0005 u	> 100.00	-6.5924
	PBW-434740	V (292.401 nm)	0.0001 u	> 100.00	-75.6728
	PBW-434740	Y (360.074 nm)	1.01	0.28	484991.55
	PBW-434740	Y_R (360.074 nm)	1.01	0.28	484411.14
	PBW-434740	Zn (213.857 nm)	0.0005	20.30	-49.9733
3/1/2024 16:18:52	LCSW-434740	Ag (328.068 nm)	0.0505	0.38	2575.5222
	LCSW-434740	Al (237.312 nm)	1.9118	0.46	4528.1294
	LCSW-434740	As (188.980 nm)	0.0373	5.47	54.4669
	LCSW-434740	B (249.772 nm)	0.9650	0.33	29962.6930
	LCSW-434740	Ba (230.424 nm)	1.9984	0.24	90779.0147
	LCSW-434740	Be (313.107 nm)	0.0475	0.35	50092.3849
	LCSW-434740	Ca (317.933 nm)	1.9809	0.28	79449.2166
	LCSW-434740	Cd (214.439 nm)	0.0505	0.35	3081.8719
	LCSW-434740	Co (230.786 nm)	0.5067	0.24	7658.2039
	LCSW-434740	Cr (267.716 nm)	0.1980	0.26	8654.0927
	LCSW-434740	Cu (327.395 nm)	0.2481	0.37	8577.8665

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	LCSW-434740	Fe (234.350 nm)	0.9767	0.22	22293.8479
	LCSW-434740	K (766.491 nm)	18.4441	0.64	17810.7015
	LCSW-434740	Mg (279.078 nm)	1.9320	0.33	6014.9861
	LCSW-434740	Mn (257.610 nm)	0.4836	0.30	151482.0433
	LCSW-434740	Mo (202.032 nm)	0.4873	0.56	3689.0247
	LCSW-434740	Na (588.995 nm)	19.1106	0.54	156894.4538
	LCSW-434740	Ni (230.299 nm)	0.5183	0.39	5970.6205
	LCSW-434740	Pb (220.353 nm)	0.5039	0.30	2617.0862
	LCSW-434740	Sb (217.582 nm)	0.5111	0.35	1139.0998
	LCSW-434740	Se (196.026 nm)	0.9995	0.78	741.0066
	LCSW-434740	Sn (189.925 nm)	4.9360	0.31	14240.7591
	LCSW-434740	Sr (216.596 nm)	1.9845	0.38	37912.0944
	LCSW-434740	Ti (336.122 nm)	0.4860	0.27	62698.4259
	LCSW-434740	Tl (190.794 nm)	1.9841	0.59	2323.7019
	LCSW-434740	V (292.401 nm)	0.4812	0.34	18762.3594
	LCSW-434740	Y (360.074 nm)	0.98	0.29	474708.33
	LCSW-434740	Y_R (360.074 nm)	0.99	0.29	474142.72
	LCSW-434740	Zn (213.857 nm)	0.5046	0.33	27616.5032
3/1/2024 16:22:07	DLCSW-434740	Ag (328.068 nm)	0.0513	0.92	2621.7669
	DLCSW-434740	Al (237.312 nm)	1.9429	0.43	4599.8893
	DLCSW-434740	As (188.980 nm)	0.0371	3.62	54.0425
	DLCSW-434740	B (249.772 nm)	0.9794	0.49	30410.7141
	DLCSW-434740	Ba (230.424 nm)	2.0329	0.35	92346.7986
	DLCSW-434740	Be (313.107 nm)	0.0483	0.49	50845.2159
	DLCSW-434740	Ca (317.933 nm)	2.0121	0.48	80653.4887
	DLCSW-434740	Cd (214.439 nm)	0.0511	0.56	3118.4808
	DLCSW-434740	Co (230.786 nm)	0.5142	0.50	7770.3620
	DLCSW-434740	Cr (267.716 nm)	0.2012	0.54	8796.5120
	DLCSW-434740	Cu (327.395 nm)	0.2523	0.34	8724.9823
	DLCSW-434740	Fe (234.350 nm)	0.9929	0.44	22659.7268
	DLCSW-434740	K (766.491 nm)	18.7413	0.55	18097.8742
	DLCSW-434740	Mg (279.078 nm)	1.9611	0.28	6106.5252
	DLCSW-434740	Mn (257.610 nm)	0.4912	0.55	153851.0559
	DLCSW-434740	Mo (202.032 nm)	0.4961	0.53	3755.9146
	DLCSW-434740	Na (588.995 nm)	19.4328	0.61	159644.2479
	DLCSW-434740	Ni (230.299 nm)	0.5268	0.39	6067.2579
	DLCSW-434740	Pb (220.353 nm)	0.5120	0.46	2658.8305
	DLCSW-434740	Sb (217.582 nm)	0.5125	0.76	1142.1116
	DLCSW-434740	Se (196.026 nm)	1.0202	0.88	756.4021
	DLCSW-434740	Sn (189.925 nm)	5.0201	0.60	14483.2920
	DLCSW-434740	Sr (216.596 nm)	2.0026	0.35	38256.9554
	DLCSW-434740	Ti (336.122 nm)	0.4936	0.46	63670.7951
	DLCSW-434740	Tl (190.794 nm)	2.0127	0.61	2357.2440
	DLCSW-434740	V (292.401 nm)	0.4888	0.55	19061.3879
	DLCSW-434740	Y (360.074 nm)	0.99	0.30	475033.74
	DLCSW-434740	Y_R (360.074 nm)	0.99	0.30	474477.16
	DLCSW-434740	Zn (213.857 nm)	0.5121	0.48	28023.8335
3/1/2024 16:25:21	R2401543-001	Ag (328.068 nm)	0.0001	81.78	-337.8484
	R2401543-001	Al (237.312 nm)	0.0245	10.41	168.9227
	R2401543-001	As (188.980 nm)	0.0000 u	> 100.00	-12.1656
	R2401543-001	B (249.772 nm)	0.2333	0.16	7297.2703
	R2401543-001	Ba (230.424 nm)	0.0308	0.41	1371.2734
	R2401543-001	Be (313.107 nm)	0.0000 u	> 100.00	-208.0041
	R2401543-001	Ca (317.933 nm)	101.9370 o	0.16	3940331.5047
	R2401543-001	Cd (214.439 nm)	-0.0001 u	> 100.00	-15.9299
	R2401543-001	Co (230.786 nm)	0.0003	76.90	69.4379
	R2401543-001	Cr (267.716 nm)	0.0022	6.65	69.3595

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-001	Cu (327.395 nm)	0.0009	4.85	-23.4031
	R2401543-001	Fe (234.350 nm)	0.0340	1.06	942.8575
	R2401543-001	K (766.491 nm)	4.2579	0.62	4102.3123
	R2401543-001	Mg (279.078 nm)	79.6777 o	0.22	250236.4001
	R2401543-001	Mn (257.610 nm)	0.0016	0.84	505.5477
	R2401543-001	Mo (202.032 nm)	0.0097	4.42	58.0605
	R2401543-001	Na (588.995 nm)	95.1706 o	0.40	806072.6093
	R2401543-001	Ni (230.299 nm)	0.0031	10.14	146.0361
	R2401543-001	Pb (220.353 nm)	-0.0007 u	71.75	-0.1396
	R2401543-001	Sb (217.582 nm)	0.0179	16.22	51.1228
	R2401543-001	Se (196.026 nm)	0.0041	82.78	0.6852
	R2401543-001	Sn (189.925 nm)	0.0004 u	> 100.00	7.1042
	R2401543-001	Sr (216.596 nm)	4.1711	0.46	79755.9391
	R2401543-001	Ti (336.122 nm)	0.0017	3.39	21.3351
	R2401543-001	Tl (190.794 nm)	0.0048	29.43	-0.3684
	R2401543-001	V (292.401 nm)	0.0011	18.44	-38.8842
	R2401543-001	Y (360.074 nm)	0.94	0.17	451921.52
	R2401543-001	Y_R (360.074 nm)	0.94	0.17	451363.32
	R2401543-001	Zn (213.857 nm)	0.0010	7.55	-19.0431
3/1/2024 16:28:35	R2401543-001L 5X	Ag (328.068 nm)	0.0000 u	> 100.00	-344.3584
	R2401543-001L 5X	Al (237.312 nm)	0.0070	9.30	128.4419
	R2401543-001L 5X	As (188.980 nm)	0.0007 u	> 100.00	-10.9429
	R2401543-001L 5X	B (249.772 nm)	0.0460	0.54	1494.8767
	R2401543-001L 5X	Ba (230.424 nm)	0.0060	0.30	243.1486
	R2401543-001L 5X	Be (313.107 nm)	0.0000 u	> 100.00	-209.0582
	R2401543-001L 5X	Ca (317.933 nm)	20.5486	0.31	796640.8492
	R2401543-001L 5X	Cd (214.439 nm)	-0.0001 u	> 100.00	-16.1527
	R2401543-001L 5X	Co (230.786 nm)	0.0000 u	> 100.00	65.7102
	R2401543-001L 5X	Cr (267.716 nm)	0.0005	4.29	-7.1887
	R2401543-001L 5X	Cu (327.395 nm)	0.0003	85.47	-46.6904
	R2401543-001L 5X	Fe (234.350 nm)	0.0072	1.42	335.9395
	R2401543-001L 5X	K (766.491 nm)	0.7738	9.84	735.5855
	R2401543-001L 5X	Mg (279.078 nm)	15.5119	0.31	48673.2999
	R2401543-001L 5X	Mn (257.610 nm)	0.0003	7.53	102.7595
	R2401543-001L 5X	Mo (202.032 nm)	0.0021	46.40	0.3640
	R2401543-001L 5X	Na (588.995 nm)	18.5933	0.42	152479.1591
	R2401543-001L 5X	Ni (230.299 nm)	0.0006 u	> 100.00	117.5443
	R2401543-001L 5X	Pb (220.353 nm)	-0.0001 u	> 100.00	2.6905
	R2401543-001L 5X	Sb (217.582 nm)	0.0089	18.42	31.1832
	R2401543-001L 5X	Se (196.026 nm)	0.0014 u	95.08	-1.2962
	R2401543-001L 5X	Sn (189.925 nm)	-0.0003 u	48.97	5.1895
	R2401543-001L 5X	Sr (216.596 nm)	0.8380	0.29	15970.6954
	R2401543-001L 5X	Ti (336.122 nm)	0.0003	12.96	-157.5428
	R2401543-001L 5X	Tl (190.794 nm)	0.0022	38.32	-3.4889
	R2401543-001L 5X	V (292.401 nm)	0.0002 u	> 100.00	-72.5537
	R2401543-001L 5X	Y (360.074 nm)	0.98	0.25	471903.05
	R2401543-001L 5X	Y_R (360.074 nm)	0.98	0.25	471362.30
	R2401543-001L 5X	Zn (213.857 nm)	0.0002	33.51	-66.2502
3/1/2024 16:31:49	R2401543-002	Ag (328.068 nm)	-0.0001 u	> 100.00	-346.7862
	R2401543-002	Al (237.312 nm)	0.0097	20.05	134.7569
	R2401543-002	As (188.980 nm)	0.0009	> 100.00	-10.4698
	R2401543-002	B (249.772 nm)	0.2625	0.41	8201.2383
	R2401543-002	Ba (230.424 nm)	0.0409	0.46	1829.6466
	R2401543-002	Be (313.107 nm)	0.0000	53.31	-203.0432
	R2401543-002	Ca (317.933 nm)	103.8585 o	0.47	4014550.2758
	R2401543-002	Cd (214.439 nm)	-0.0001 u	34.25	-20.7667
	R2401543-002	Co (230.786 nm)	0.0002 u	> 100.00	67.5751

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-002	Cr (267.716 nm)	0.0035	4.95	123.7808
	R2401543-002	Cu (327.395 nm)	0.0008	37.00	-26.3021
	R2401543-002	Fe (234.350 nm)	0.0165	2.00	546.2416
	R2401543-002	K (766.491 nm)	2.7194	1.97	2615.6915
	R2401543-002	Mg (279.078 nm)	81.3186 o	0.44	255390.9525
	R2401543-002	Mn (257.610 nm)	0.0064	0.72	2002.4494
	R2401543-002	Mo (202.032 nm)	0.0071	3.81	38.8215
	R2401543-002	Na (588.995 nm)	103.9421 o	0.20	880938.0307
	R2401543-002	Ni (230.299 nm)	0.0004	49.66	115.5770
	R2401543-002	Pb (220.353 nm)	-0.0006 u	17.54	0.4100
	R2401543-002	Sb (217.582 nm)	0.0086	5.20	30.4862
	R2401543-002	Se (196.026 nm)	0.0031 u	93.34	-0.0834
	R2401543-002	Sn (189.925 nm)	0.0001 u	> 100.00	6.3096
	R2401543-002	Sr (216.596 nm)	2.3007	0.56	43961.7385
	R2401543-002	Ti (336.122 nm)	0.0009	3.60	-82.6140
	R2401543-002	Tl (190.794 nm)	0.0016 u	> 100.00	-4.1856
	R2401543-002	V (292.401 nm)	0.0003	> 100.00	-67.9216
	R2401543-002	Y (360.074 nm)	0.94	0.04	451825.32
	R2401543-002	Y_R (360.074 nm)	0.94	0.04	451290.25
	R2401543-002	Zn (213.857 nm)	0.0022	2.27	42.2233
3/1/2024 16:35:02	R2401543-003	Ag (328.068 nm)	0.0001 u	> 100.00	-333.4008
	R2401543-003	Al (237.312 nm)	0.0072	25.52	128.9063
	R2401543-003	As (188.980 nm)	0.0020	15.87	-8.6409
	R2401543-003	B (249.772 nm)	0.2548	0.33	7964.5970
	R2401543-003	Ba (230.424 nm)	0.0399	0.68	1786.8787
	R2401543-003	Be (313.107 nm)	0.0000 u	> 100.00	-202.1849
	R2401543-003	Ca (317.933 nm)	101.4236 o	0.12	3920502.9444
	R2401543-003	Cd (214.439 nm)	-0.0001 u	41.99	-17.4870
	R2401543-003	Co (230.786 nm)	0.0001 u	> 100.00	66.9012
	R2401543-003	Cr (267.716 nm)	0.0017	4.22	45.2833
	R2401543-003	Cu (327.395 nm)	0.0009	29.91	-22.8776
	R2401543-003	Fe (234.350 nm)	0.0066	4.94	322.5431
	R2401543-003	K (766.491 nm)	2.6900	0.44	2587.2401
	R2401543-003	Mg (279.078 nm)	79.4382 o	0.15	249484.0017
	R2401543-003	Mn (257.610 nm)	0.0064	0.50	2025.8174
	R2401543-003	Mo (202.032 nm)	0.0065	3.52	34.3010
	R2401543-003	Na (588.995 nm)	101.6081 o	0.45	861017.7105
	R2401543-003	Ni (230.299 nm)	0.0014	19.20	126.0678
	R2401543-003	Pb (220.353 nm)	0.0006 u	> 100.00	6.5837
	R2401543-003	Sb (217.582 nm)	0.0085	28.67	30.2887
	R2401543-003	Se (196.026 nm)	0.0014	36.02	-1.3457
	R2401543-003	Sn (189.925 nm)	-0.0005 u	89.62	4.6615
	R2401543-003	Sr (216.596 nm)	2.2438	0.22	42873.6746
	R2401543-003	Ti (336.122 nm)	0.0008	17.29	-101.4901
	R2401543-003	Tl (190.794 nm)	0.0027	30.94	-2.8458
	R2401543-003	V (292.401 nm)	0.0002	30.88	-71.0096
	R2401543-003	Y (360.074 nm)	0.94	0.17	452484.71
	R2401543-003	Y_R (360.074 nm)	0.94	0.17	451937.37
	R2401543-003	Zn (213.857 nm)	0.0020	1.41	33.1253
3/1/2024 16:38:16	R2401543-004	Ag (328.068 nm)	0.0000 u	> 100.00	-340.0746
	R2401543-004	Al (237.312 nm)	0.0106	7.72	136.7544
	R2401543-004	As (188.980 nm)	0.0007 u	> 100.00	-10.8959
	R2401543-004	B (249.772 nm)	0.8292	0.27	25755.9160
	R2401543-004	Ba (230.424 nm)	0.0868	0.57	3917.4661
	R2401543-004	Be (313.107 nm)	0.0000	28.57	-189.5254
	R2401543-004	Ca (317.933 nm)	152.0175 o	0.26	5874732.1465
	R2401543-004	Cd (214.439 nm)	-0.0001 u	47.44	-17.7256

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-004	Co (230.786 nm)	0.0026	9.44	103.6339
	R2401543-004	Cr (267.716 nm)	0.0034	1.87	123.5199
	R2401543-004	Cu (327.395 nm)	0.0021	26.55	18.1241
	R2401543-004	Fe (234.350 nm)	0.0063	2.02	316.0688
	R2401543-004	K (766.491 nm)	4.6368	1.54	4468.4225
	R2401543-004	Mg (279.078 nm)	118.2584 o	0.21	371429.4006
	R2401543-004	Mn (257.610 nm)	0.0004	5.16	125.7762
	R2401543-004	Mo (202.032 nm)	0.0063	0.89	32.3581
	R2401543-004	Na (588.995 nm)	140.7107 o	0.26	1194761.5160
	R2401543-004	Ni (230.299 nm)	0.0025	24.99	138.7314
	R2401543-004	Pb (220.353 nm)	0.0000 u	> 100.00	3.4321
	R2401543-004	Sb (217.582 nm)	0.0133	17.73	40.9296
	R2401543-004	Se (196.026 nm)	-0.0024 u	> 100.00	-4.1559
	R2401543-004	Sn (189.925 nm)	0.0004 u	> 100.00	7.2505
	R2401543-004	Sr (216.596 nm)	6.2529 o	0.16	119593.8727
	R2401543-004	Ti (336.122 nm)	0.0012	0.75	-41.2200
	R2401543-004	Tl (190.794 nm)	0.0039	49.45	-1.5284
	R2401543-004	V (292.401 nm)	0.0034	3.81	51.0008
	R2401543-004	Y (360.074 nm)	0.92	0.18	443872.41
	R2401543-004	Y_R (360.074 nm)	0.92	0.18	443337.20
	R2401543-004	Zn (213.857 nm)	0.0039	2.07	135.4475
3/1/2024 16:41:30	R2401543-005	Ag (328.068 nm)	0.0000 u	> 100.00	-342.1361
	R2401543-005	Al (237.312 nm)	0.0202	5.35	159.0093
	R2401543-005	As (188.980 nm)	0.0003 u	> 100.00	-11.5608
	R2401543-005	B (249.772 nm)	0.3179	0.30	9918.8973
	R2401543-005	Ba (230.424 nm)	0.0429	0.45	1920.1956
	R2401543-005	Be (313.107 nm)	0.0000	80.69	-192.2376
	R2401543-005	Ca (317.933 nm)	119.9224 o	0.32	4635030.7312
	R2401543-005	Cd (214.439 nm)	0.0000 u	> 100.00	-15.2419
	R2401543-005	Co (230.786 nm)	0.0006	28.58	74.9814
	R2401543-005	Cr (267.716 nm)	0.0013	7.03	31.3109
	R2401543-005	Cu (327.395 nm)	0.0009	48.66	-25.6893
	R2401543-005	Fe (234.350 nm)	0.0139	1.33	488.1290
	R2401543-005	K (766.491 nm)	3.8413	0.55	3699.7142
	R2401543-005	Mg (279.078 nm)	89.9771 o	0.33	282589.8828
	R2401543-005	Mn (257.610 nm)	0.0011	2.29	348.3875
	R2401543-005	Mo (202.032 nm)	0.0074	3.10	40.6840
	R2401543-005	Na (588.995 nm)	88.1979 o	0.42	746560.5669
	R2401543-005	Ni (230.299 nm)	-0.0002 u	> 100.00	108.9530
	R2401543-005	Pb (220.353 nm)	0.0002 u	> 100.00	4.4955
	R2401543-005	Sb (217.582 nm)	0.0066	34.10	26.1285
	R2401543-005	Se (196.026 nm)	0.0053	72.41	1.5570
	R2401543-005	Sn (189.925 nm)	-0.0005 u	> 100.00	4.6806
	R2401543-005	Sr (216.596 nm)	3.4831	0.28	66588.5614
	R2401543-005	Ti (336.122 nm)	0.0011	7.32	-55.5212
	R2401543-005	Tl (190.794 nm)	0.0024	57.63	-3.2944
	R2401543-005	V (292.401 nm)	0.0012	31.99	-34.1245
	R2401543-005	Y (360.074 nm)	0.94	0.27	454295.31
	R2401543-005	Y_R (360.074 nm)	0.94	0.27	453741.72
	R2401543-005	Zn (213.857 nm)	0.0030	5.39	85.7778
3/1/2024 16:44:43	R2401543-006	Ag (328.068 nm)	0.0001 u	> 100.00	-337.1820
	R2401543-006	Al (237.312 nm)	0.0197	22.02	157.6892
	R2401543-006	As (188.980 nm)	0.0014	78.27	-9.7215
	R2401543-006	B (249.772 nm)	0.3205	0.39	9999.5007
	R2401543-006	Ba (230.424 nm)	0.0430	0.51	1925.6917
	R2401543-006	Be (313.107 nm)	0.0000 u	> 100.00	-207.5311
	R2401543-006	Ca (317.933 nm)	120.2028 o	0.28	4645864.1792

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-006	Cd (214.439 nm)	-0.0001 u	62.26	-17.7955
	R2401543-006	Co (230.786 nm)	0.0001 u	> 100.00	66.7056
	R2401543-006	Cr (267.716 nm)	0.0013	9.01	27.5790
	R2401543-006	Cu (327.395 nm)	0.0008	57.72	-29.4503
	R2401543-006	Fe (234.350 nm)	0.0156	2.33	525.8025
	R2401543-006	K (766.491 nm)	3.8055	0.45	3665.1983
	R2401543-006	Mg (279.078 nm)	90.3421 o	0.31	283736.5821
	R2401543-006	Mn (257.610 nm)	0.0010	1.35	319.9765
	R2401543-006	Mo (202.032 nm)	0.0075	6.25	41.6730
	R2401543-006	Na (588.995 nm)	88.4534 o	0.42	748740.9168
	R2401543-006	Ni (230.299 nm)	-0.0007 u	64.89	103.3322
	R2401543-006	Pb (220.353 nm)	0.0002 u	> 100.00	4.1414
	R2401543-006	Sb (217.582 nm)	0.0070	36.71	26.9789
	R2401543-006	Se (196.026 nm)	0.0016	33.20	-1.2002
	R2401543-006	Sn (189.925 nm)	0.0000 u	> 100.00	6.0352
	R2401543-006	Sr (216.596 nm)	3.4950	0.57	66816.6331
	R2401543-006	Ti (336.122 nm)	0.0011	7.55	-58.6665
	R2401543-006	Tl (190.794 nm)	0.0014	> 100.00	-4.4700
	R2401543-006	V (292.401 nm)	0.0010	7.26	-39.7644
	R2401543-006	Y (360.074 nm)	0.95	0.32	455752.21
	R2401543-006	Y_R (360.074 nm)	0.95	0.32	455207.01
	R2401543-006	Zn (213.857 nm)	0.0033	3.83	105.5835
3/1/2024 16:47:57	Continuing Calibration Verification	Ag (328.068 nm)	0.5182	0.10	29614.0182
	Continuing Calibration Verification	Al (237.312 nm)	9.9960	0.04	23201.0139
	Continuing Calibration Verification	As (188.980 nm)	0.9798	0.43	1738.3484
	Continuing Calibration Verification	B (249.772 nm)	2.4570	0.31	76180.8759
	Continuing Calibration Verification	Ba (230.424 nm)	10.2474	0.16	465609.9335
	Continuing Calibration Verification	Be (313.107 nm)	0.2427	0.30	256620.0524
	Continuing Calibration Verification	Ca (317.933 nm)	25.7203	0.32	996402.9674
	Continuing Calibration Verification	Cd (214.439 nm)	0.5057	0.34	30976.9488
	Continuing Calibration Verification	Co (230.786 nm)	2.5482	0.11	38248.5800
	Continuing Calibration Verification	Cr (267.716 nm)	0.5167	0.27	22630.5495
	Continuing Calibration Verification	Cu (327.395 nm)	1.2434	0.31	43216.3351
	Continuing Calibration Verification	Fe (234.350 nm)	5.0139	0.36	113728.0695
	Continuing Calibration Verification	K (766.491 nm)	24.3020	0.25	23471.3212
	Continuing Calibration Verification	Mg (279.078 nm)	25.2316	0.30	79205.5994
	Continuing Calibration Verification	Mn (257.610 nm)	0.7492	0.30	234678.2270
	Continuing Calibration Verification	Mo (202.032 nm)	2.5469	0.28	19346.1819
	Continuing Calibration Verification	Na (588.995 nm)	25.1441	0.06	208391.1053
	Continuing Calibration Verification	Ni (230.299 nm)	2.1018	0.27	23874.4355
	Continuing Calibration Verification	Pb (220.353 nm)	0.5109	0.27	2653.2755
	Continuing Calibration Verification	Sb (217.582 nm)	4.9923	0.30	11024.6931
	Continuing Calibration Verification	Se (196.026 nm)	0.4934	0.88	364.6224
	Continuing Calibration Verification	Sn (189.925 nm)	5.0490	0.26	14566.7456
	Continuing Calibration Verification	Sr (216.596 nm)	2.4974	0.44	47725.6067
	Continuing Calibration Verification	Ti (336.122 nm)	2.5375	0.36	328190.7601
	Continuing Calibration Verification	Tl (190.794 nm)	1.0076	0.31	1176.9995
	Continuing Calibration Verification	V (292.401 nm)	2.5089	0.36	98167.3234
	Continuing Calibration Verification	Y (360.074 nm)	0.97	0.23	467719.82
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97	0.23	467192.09
	Continuing Calibration Verification	Zn (213.857 nm)	0.9941	0.38	54474.1003
3/1/2024 16:51:11	Continuing Calibration Blank	Ag (328.068 nm)	0.0000 u	> 100.00	-339.0038
	Continuing Calibration Blank	Al (237.312 nm)	-0.0025 u	69.74	106.6073
	Continuing Calibration Blank	As (188.980 nm)	0.0005 u	> 100.00	-11.2560
	Continuing Calibration Blank	B (249.772 nm)	0.0014	10.65	114.4823
	Continuing Calibration Blank	Ba (230.424 nm)	0.0002	48.50	-17.1493
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	9.60	-197.9798

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank	Ca (317.933 nm)	0.0004	31.42	2949.5955
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-15.3413
	Continuing Calibration Blank	Co (230.786 nm)	-0.0002 u	> 100.00	62.6164
	Continuing Calibration Blank	Cr (267.716 nm)	-0.0002 u	98.35	-35.6877
	Continuing Calibration Blank	Cu (327.395 nm)	0.0003	> 100.00	-45.0188
	Continuing Calibration Blank	Fe (234.350 nm)	0.0009	8.43	193.8387
	Continuing Calibration Blank	K (766.491 nm)	0.0426	41.55	29.0409
	Continuing Calibration Blank	Mg (279.078 nm)	0.0015	11.00	-49.3386
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	> 100.00	8.2291
	Continuing Calibration Blank	Mo (202.032 nm)	0.0022	18.86	1.6370
	Continuing Calibration Blank	Na (588.995 nm)	0.1049	6.34	-5320.8487
	Continuing Calibration Blank	Ni (230.299 nm)	0.0003 u	> 100.00	114.1340
	Continuing Calibration Blank	Pb (220.353 nm)	0.0002 u	> 100.00	4.3323
	Continuing Calibration Blank	Sb (217.582 nm)	0.0097	17.92	32.9780
	Continuing Calibration Blank	Se (196.026 nm)	-0.0020 u	> 100.00	-3.8234
	Continuing Calibration Blank	Sn (189.925 nm)	-0.0003 u	> 100.00	5.0412
	Continuing Calibration Blank	Sr (216.596 nm)	0.0002	56.95	-61.4650
	Continuing Calibration Blank	Ti (336.122 nm)	0.0015	23.76	-14.6023
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0018 u	29.63	-8.1618
	Continuing Calibration Blank	V (292.401 nm)	-0.0001 u	> 100.00	-83.3457
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.21	484057.91
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.21	483524.62
	Continuing Calibration Blank	Zn (213.857 nm)	0.0000 u	> 100.00	-74.1534
3/1/2024 16:54:25	R2401543-007	Ag (328.068 nm)	0.0000 u	> 100.00	-339.9678
	R2401543-007	Al (237.312 nm)	0.0144	13.34	145.4491
	R2401543-007	As (188.980 nm)	0.0000 u	> 100.00	-12.1654
	R2401543-007	B (249.772 nm)	0.9728	0.29	30206.6196
	R2401543-007	Ba (230.424 nm)	0.0400	0.43	1789.4500
	R2401543-007	Be (313.107 nm)	0.0000 u	> 100.00	-211.0868
	R2401543-007	Ca (317.933 nm)	153.3970 o	0.23	5928015.5693
	R2401543-007	Cd (214.439 nm)	-0.0001 u	> 100.00	-17.7295
	R2401543-007	Co (230.786 nm)	0.0002	4.44	68.7837
	R2401543-007	Cr (267.716 nm)	0.0015	12.14	37.1803
	R2401543-007	Cu (327.395 nm)	0.0007	61.42	-31.4792
	R2401543-007	Fe (234.350 nm)	0.0467	0.85	1229.4167
	R2401543-007	K (766.491 nm)	5.1338	0.32	4948.7608
	R2401543-007	Mg (279.078 nm)	113.9316 o	0.27	357837.7145
	R2401543-007	Mn (257.610 nm)	0.0058	0.29	1818.8164
	R2401543-007	Mo (202.032 nm)	0.0070	3.32	38.0745
	R2401543-007	Na (588.995 nm)	204.4352 o	0.43	1738654.9579
	R2401543-007	Ni (230.299 nm)	0.0013	53.61	124.9015
	R2401543-007	Pb (220.353 nm)	0.0000 u	> 100.00	3.4104
	R2401543-007	Sb (217.582 nm)	0.0133	12.69	40.8760
	R2401543-007	Se (196.026 nm)	0.0072	23.33	3.0027
	R2401543-007	Sn (189.925 nm)	0.0008	54.38	8.3142
	R2401543-007	Sr (216.596 nm)	4.4656	0.36	85391.6566
	R2401543-007	Ti (336.122 nm)	0.0020	4.46	57.8167
	R2401543-007	Tl (190.794 nm)	0.0041	58.91	-1.1902
	R2401543-007	V (292.401 nm)	0.0006	47.72	-57.8930
	R2401543-007	Y (360.074 nm)	0.93	0.08	446297.03
	R2401543-007	Y_R (360.074 nm)	0.93	0.08	445751.03
	R2401543-007	Zn (213.857 nm)	0.0026	3.53	68.8949
3/1/2024 16:57:39	R2401543-008	Ag (328.068 nm)	0.0002	46.74	-332.5439
	R2401543-008	Al (237.312 nm)	0.0092	16.48	133.6310
	R2401543-008	As (188.980 nm)	0.0088	1.96	3.6415
	R2401543-008	B (249.772 nm)	0.1420	0.29	4470.4208
	R2401543-008	Ba (230.424 nm)	0.0279	0.72	1240.4651

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-008	Be (313.107 nm)	0.0000 u	> 100.00	-201.6545
	R2401543-008	Ca (317.933 nm)	17.1841	0.23	666685.6542
	R2401543-008	Cd (214.439 nm)	-0.0001 u	57.05	-17.4260
	R2401543-008	Co (230.786 nm)	-0.0005 u	24.99	57.1364
	R2401543-008	Cr (267.716 nm)	0.0067	1.67	267.8151
	R2401543-008	Cu (327.395 nm)	0.0009	61.42	-25.6091
	R2401543-008	Fe (234.350 nm)	0.0285	0.94	817.7451
	R2401543-008	K (766.491 nm)	2.7013	0.41	2598.1216
	R2401543-008	Mg (279.078 nm)	28.2376	0.21	88648.3230
	R2401543-008	Mn (257.610 nm)	0.0003	1.62	98.2299
	R2401543-008	Mo (202.032 nm)	0.0058	6.14	28.4336
	R2401543-008	Na (588.995 nm)	31.5360	0.37	262946.5848
	R2401543-008	Ni (230.299 nm)	-0.0005 u	92.22	104.9002
	R2401543-008	Pb (220.353 nm)	-0.0009 u	> 100.00	-1.3597
	R2401543-008	Sb (217.582 nm)	0.0124	16.00	38.9227
	R2401543-008	Se (196.026 nm)	0.0022 u	> 100.00	-0.7326
	R2401543-008	Sn (189.925 nm)	0.0002 u	> 100.00	6.6103
	R2401543-008	Sr (216.596 nm)	0.8908	0.24	16982.2364
	R2401543-008	Ti (336.122 nm)	0.0004	11.18	-152.1692
	R2401543-008	Tl (190.794 nm)	0.0015	74.59	-4.2980
	R2401543-008	V (292.401 nm)	0.0075	2.25	214.0826
	R2401543-008	Y (360.074 nm)	0.99	0.10	474940.65
	R2401543-008	Y_R (360.074 nm)	0.99	0.10	474396.34
	R2401543-008	Zn (213.857 nm)	0.0007	16.52	-39.1386
3/1/2024 17:00:53	R2401566-001	Ag (328.068 nm)	0.0003	46.01	-327.0215
	R2401566-001	Al (237.312 nm)	0.8392	0.34	2050.7917
	R2401566-001	As (188.980 nm)	3.1416 o	0.90	5600.6908
	R2401566-001	B (249.772 nm)	1.1607	0.84	36025.3141
	R2401566-001	Ba (230.424 nm)	0.0734	0.95	3304.9029
	R2401566-001	Be (313.107 nm)	0.0001	8.83	-140.8710
	R2401566-001	Ca (317.933 nm)	11.5359	0.83	448517.7333
	R2401566-001	Cd (214.439 nm)	0.0149	0.83	901.0369
	R2401566-001	Co (230.786 nm)	0.0099	5.11	213.9778
	R2401566-001	Cr (267.716 nm)	0.0661	0.44	2870.1651
	R2401566-001	Cu (327.395 nm)	0.1452	0.30	4996.8082
	R2401566-001	Fe (234.350 nm)	407.1904 o LR	0.73	9222377.7836
	R2401566-001	K (766.491 nm)	1.3541	3.43	1296.3287
	R2401566-001	Mg (279.078 nm)	0.9260	0.80	2854.7531
	R2401566-001	Mn (257.610 nm)	4.1712 o LR	0.76	1306539.1232
	R2401566-001	Mo (202.032 nm)	0.0115	2.37	72.4458
	R2401566-001	Na (588.995 nm)	18.8342	0.88	154534.9801
	R2401566-001	Ni (230.299 nm)	0.5251	0.72	6047.4775
	R2401566-001	Pb (220.353 nm)	0.0823	1.26	430.0260
	R2401566-001	Sb (217.582 nm)	0.2741	56.21	616.3433
	R2401566-001	Se (196.026 nm)	0.0014	44.66	-1.3425
	R2401566-001	Sn (189.925 nm)	0.0223	8.13	70.3261
	R2401566-001	Sr (216.596 nm)	0.5923	0.85	11269.3591
	R2401566-001	Ti (336.122 nm)	0.0118	1.38	1329.7915
	R2401566-001	Tl (190.794 nm)	-0.0016 u	> 100.00	-7.9235
	R2401566-001	V (292.401 nm)	0.0132	0.91	435.2141
	R2401566-001	Y (360.074 nm)	1.00	0.24	479716.85
	R2401566-001	Y_R (360.074 nm)	1.00	0.24	479164.83
	R2401566-001	Zn (213.857 nm)	0.3261	0.79	17819.2944
3/1/2024 17:04:07	R2401567-001	Ag (328.068 nm)	-0.0003 u	56.43	-360.6698
	R2401567-001	Al (237.312 nm)	7.3946	0.48	17192.2910
	R2401567-001	As (188.980 nm)	1.1405	0.41	2025.5361
	R2401567-001	B (249.772 nm)	2.5582	0.19	79316.5078

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401567-001	Ba (230.424 nm)	0.2977	0.25	13498.9390
	R2401567-001	Be (313.107 nm)	0.0006	1.16	378.7887
	R2401567-001	Ca (317.933 nm)	584.2625 o LR	0.18	22570532.9302
	R2401567-001	Cd (214.439 nm)	0.0819	0.20	5004.3920
	R2401567-001	Co (230.786 nm)	0.0113	3.10	234.9728
	R2401567-001	Cr (267.716 nm)	0.0606	0.32	2628.3896
	R2401567-001	Cu (327.395 nm)	0.4362	0.67	15124.1597
	R2401567-001	Fe (234.350 nm)	519.3236 o LR	0.21	11762011.5661
	R2401567-001	K (766.491 nm)	370.1826 o	0.44	357701.4765
	R2401567-001	Mg (279.078 nm)	53.4600	0.24	167879.1868
	R2401567-001	Mn (257.610 nm)	8.2578 o LR	0.18	2586570.3525
	R2401567-001	Mo (202.032 nm)	0.0178	8.63	120.3428
	R2401567-001	Na (588.995 nm)	1796.7793 o LR	0.41	15329444.1283
	R2401567-001	Ni (230.299 nm)	0.1685	0.07	2015.8698
	R2401567-001	Pb (220.353 nm)	0.0786	2.04	411.0421
	R2401567-001	Sb (217.582 nm)	0.0563	28.19	135.7078
	R2401567-001	Se (196.026 nm)	-0.0050 u	> 100.00	-6.1014
	R2401567-001	Sn (189.925 nm)	0.0160	1.32	52.1452
	R2401567-001	Sr (216.596 nm)	19.9612 o LR	0.35	381923.1258
	R2401567-001	Ti (336.122 nm)	0.1298	0.38	16591.3729
	R2401567-001	Tl (190.794 nm)	-0.0055 u	41.72	-12.5578
	R2401567-001	V (292.401 nm)	0.0309	0.78	1128.7469
	R2401567-001	Y (360.074 nm)	0.65 <70%	0.32	315335.19
	R2401567-001	Y_R (360.074 nm)	0.65	0.32	314904.75
	R2401567-001	Zn (213.857 nm)	0.4043	0.29	22112.0848
3/1/2024 17:07:22	R2401574-001	Ag (328.068 nm)	-0.0001 u	> 100.00	-345.9286
	R2401574-001	Al (237.312 nm)	0.1626	2.06	487.9559
	R2401574-001	As (188.980 nm)	0.0021	74.32	-8.3693
	R2401574-001	B (249.772 nm)	0.0143	3.73	514.7851
	R2401574-001	Ba (230.424 nm)	0.0441	0.07	1974.0403
	R2401574-001	Be (313.107 nm)	0.0000 u	> 100.00	-205.1902
	R2401574-001	Ca (317.933 nm)	56.7982 o	0.18	2196809.6744
	R2401574-001	Cd (214.439 nm)	-0.0001 u	34.25	-20.3740
	R2401574-001	Co (230.786 nm)	0.0001 u	> 100.00	66.1311
	R2401574-001	Cr (267.716 nm)	0.0004	30.51	-11.3127
	R2401574-001	Cu (327.395 nm)	0.0010	35.58	-21.0118
	R2401574-001	Fe (234.350 nm)	0.2308	3.60	5399.0965
	R2401574-001	K (766.491 nm)	3.8150	3.57	3674.3462
	R2401574-001	Mg (279.078 nm)	12.1882	0.10	38232.6399
	R2401574-001	Mn (257.610 nm)	0.0129	1.02	4040.6193
	R2401574-001	Mo (202.032 nm)	0.0006 u	90.65	-10.3738
	R2401574-001	Na (588.995 nm)	8.3623	2.71	65156.6470
	R2401574-001	Ni (230.299 nm)	0.0003	34.14	114.4087
	R2401574-001	Pb (220.353 nm)	0.0005 u	> 100.00	5.6796
	R2401574-001	Sb (217.582 nm)	0.0107	15.18	35.1805
	R2401574-001	Se (196.026 nm)	0.0029	56.90	-0.1631
	R2401574-001	Sn (189.925 nm)	-0.0004 u	81.01	4.9933
	R2401574-001	Sr (216.596 nm)	0.1925	0.26	3618.9504
	R2401574-001	Ti (336.122 nm)	0.0049	3.32	434.7983
	R2401574-001	Tl (190.794 nm)	0.0010 u	> 100.00	-4.9160
	R2401574-001	V (292.401 nm)	0.0003	95.51	-70.5966
	R2401574-001	Y (360.074 nm)	1.00	0.05	480172.27
	R2401574-001	Y_R (360.074 nm)	1.00	0.05	479649.16
	R2401574-001	Zn (213.857 nm)	0.0011	2.95	-15.2059
3/1/2024 17:10:36	R2401574-002	Ag (328.068 nm)	0.0000 u	> 100.00	-340.4568
	R2401574-002	Al (237.312 nm)	0.2648	0.85	723.9079
	R2401574-002	As (188.980 nm)	0.0005 u	> 100.00	-11.2875

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401574-002	B (249.772 nm)	0.0155	1.46	551.6735
	R2401574-002	Ba (230.424 nm)	0.0488	0.08	2187.6940
	R2401574-002	Be (313.107 nm)	0.0000	57.58	-191.5503
	R2401574-002	Ca (317.933 nm)	58.7329 o	0.18	2271538.7066
	R2401574-002	Cd (214.439 nm)	-0.0001 u	48.38	-21.3228
	R2401574-002	Co (230.786 nm)	-0.0005 u	47.05	58.1899
	R2401574-002	Cr (267.716 nm)	0.0008	2.00	9.3917
	R2401574-002	Cu (327.395 nm)	0.0016	38.22	0.5138
	R2401574-002	Fe (234.350 nm)	0.2312	1.31	5408.4918
	R2401574-002	K (766.491 nm)	3.3235	3.09	3199.4508
	R2401574-002	Mg (279.078 nm)	24.6014	0.12	77226.1595
	R2401574-002	Mn (257.610 nm)	0.0122	0.72	3817.3758
	R2401574-002	Mo (202.032 nm)	0.0177	0.74	119.3743
	R2401574-002	Na (588.995 nm)	8.6309	0.74	67449.0445
	R2401574-002	Ni (230.299 nm)	0.0013	36.37	124.9754
	R2401574-002	Pb (220.353 nm)	0.0010 u	99.02	8.6829
	R2401574-002	Sb (217.582 nm)	0.0080	11.88	29.2596
	R2401574-002	Se (196.026 nm)	0.0027	77.78	-0.3126
	R2401574-002	Sn (189.925 nm)	0.0003 u	> 100.00	6.8415
	R2401574-002	Sr (216.596 nm)	1.0555	0.22	20133.9183
	R2401574-002	Ti (336.122 nm)	0.0076	7.67	783.2946
	R2401574-002	Tl (190.794 nm)	0.0028	44.40	-2.8078
	R2401574-002	V (292.401 nm)	0.0000 u	> 100.00	-78.8829
	R2401574-002	Y (360.074 nm)	1.01	0.24	484494.58
	R2401574-002	Y_R (360.074 nm)	1.01	0.24	483959.39
	R2401574-002	Zn (213.857 nm)	0.0027	1.68	72.7713
3/1/2024 17:13:50	R2401574-003	Ag (328.068 nm)	0.0000 u	> 100.00	-344.1408
	R2401574-003	Al (237.312 nm)	0.1250	0.79	400.9853
	R2401574-003	As (188.980 nm)	0.0004 u	> 100.00	-11.5162
	R2401574-003	B (249.772 nm)	0.0350	0.19	1155.6644
	R2401574-003	Ba (230.424 nm)	0.0482	0.31	2162.0936
	R2401574-003	Be (313.107 nm)	0.0000	95.67	-197.1598
	R2401574-003	Ca (317.933 nm)	105.9099 o	0.39	4093789.9373
	R2401574-003	Cd (214.439 nm)	0.0000 u	> 100.00	-15.1205
	R2401574-003	Co (230.786 nm)	0.0000 u	> 100.00	65.6042
	R2401574-003	Cr (267.716 nm)	0.0005	12.95	-7.9577
	R2401574-003	Cu (327.395 nm)	0.0017	3.73	2.5531
	R2401574-003	Fe (234.350 nm)	0.1637	0.39	3878.9160
	R2401574-003	K (766.491 nm)	3.2298	0.22	3108.8179
	R2401574-003	Mg (279.078 nm)	24.6688	0.33	77437.8152
	R2401574-003	Mn (257.610 nm)	0.0210	0.18	6597.9110
	R2401574-003	Mo (202.032 nm)	0.0078	5.55	43.9373
	R2401574-003	Na (588.995 nm)	29.5278	0.12	245805.9620
	R2401574-003	Ni (230.299 nm)	0.0025	10.78	139.5085
	R2401574-003	Pb (220.353 nm)	0.0009	58.14	8.0031
	R2401574-003	Sb (217.582 nm)	0.0033	51.29	18.8867
	R2401574-003	Se (196.026 nm)	0.0009 u	> 100.00	-1.6736
	R2401574-003	Sn (189.925 nm)	-0.0003 u	> 100.00	5.0771
	R2401574-003	Sr (216.596 nm)	0.5962	0.39	11344.0039
	R2401574-003	Ti (336.122 nm)	0.0038	8.04	290.0516
	R2401574-003	Tl (190.794 nm)	0.0032	30.84	-2.3056
	R2401574-003	V (292.401 nm)	-0.0001 u	> 100.00	-83.7181
	R2401574-003	Y (360.074 nm)	0.99	0.25	477690.04
	R2401574-003	Y_R (360.074 nm)	0.99	0.25	477167.22
	R2401574-003	Zn (213.857 nm)	0.0034	0.58	108.7887
3/1/2024 17:17:04	R2401574-004	Ag (328.068 nm)	0.0000 u	> 100.00	-344.0412
	R2401574-004	Al (237.312 nm)	0.2707	0.76	737.5651

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401574-004	As (188.980 nm)	0.0011	78.99	-10.1912
	R2401574-004	B (249.772 nm)	0.0175	1.83	613.1498
	R2401574-004	Ba (230.424 nm)	0.0669	0.37	3011.4061
	R2401574-004	Be (313.107 nm)	0.0000	23.94	-190.9044
	R2401574-004	Ca (317.933 nm)	61.1545 o	0.03	2365076.5153
	R2401574-004	Cd (214.439 nm)	-0.0001 u	> 100.00	-15.6792
	R2401574-004	Co (230.786 nm)	-0.0004 u	41.67	59.2606
	R2401574-004	Cr (267.716 nm)	0.0005	7.07	-4.4833
	R2401574-004	Cu (327.395 nm)	0.0025	15.97	31.7088
	R2401574-004	Fe (234.350 nm)	0.2462	0.25	5748.4073
	R2401574-004	K (766.491 nm)	3.8043	0.44	3663.9923
	R2401574-004	Mg (279.078 nm)	13.8113	0.10	43331.3560
	R2401574-004	Mn (257.610 nm)	0.0584	0.05	18302.4608
	R2401574-004	Mo (202.032 nm)	0.0253	1.14	176.7657
	R2401574-004	Na (588.995 nm)	23.4675	0.20	194080.9109
	R2401574-004	Ni (230.299 nm)	0.0029	11.24	143.0420
	R2401574-004	Pb (220.353 nm)	0.0004 u	> 100.00	5.6179
	R2401574-004	Sb (217.582 nm)	0.0020	43.85	16.1000
	R2401574-004	Se (196.026 nm)	-0.0014 u	> 100.00	-3.3889
	R2401574-004	Sn (189.925 nm)	0.0003 u	> 100.00	6.9598
	R2401574-004	Sr (216.596 nm)	0.3030	0.22	5733.7527
	R2401574-004	Ti (336.122 nm)	0.0064	5.91	619.7141
	R2401574-004	Tl (190.794 nm)	0.0018 u	> 100.00	-4.0047
	R2401574-004	V (292.401 nm)	0.0004	32.63	-65.5537
	R2401574-004	Y (360.074 nm)	1.00	0.04	484243.01
	R2401574-004	Y_R (360.074 nm)	1.01	0.04	483731.33
	R2401574-004	Zn (213.857 nm)	0.0025	3.33	59.4431
3/1/2024 17:20:18	R2401574-005	Ag (328.068 nm)	0.0000 u	> 100.00	-341.7917
	R2401574-005	Al (237.312 nm)	0.2324	1.16	649.0269
	R2401574-005	As (188.980 nm)	0.0012 u	> 100.00	-9.9407
	R2401574-005	B (249.772 nm)	0.0191	1.43	663.0289
	R2401574-005	Ba (230.424 nm)	0.0835	0.46	3765.3391
	R2401574-005	Be (313.107 nm)	0.0000	> 100.00	-199.3420
	R2401574-005	Ca (317.933 nm)	68.9059 o	0.41	2664480.4199
	R2401574-005	Cd (214.439 nm)	0.0000 u	> 100.00	-14.9261
	R2401574-005	Co (230.786 nm)	-0.0002 u	> 100.00	61.8138
	R2401574-005	Cr (267.716 nm)	0.0005	26.04	-5.0908
	R2401574-005	Cu (327.395 nm)	0.0019	14.25	12.0336
	R2401574-005	Fe (234.350 nm)	0.3579	0.37	8277.1654
	R2401574-005	K (766.491 nm)	3.9297	0.61	3785.1611
	R2401574-005	Mg (279.078 nm)	16.2671	0.37	51045.6313
	R2401574-005	Mn (257.610 nm)	0.0786	0.44	24634.1897
	R2401574-005	Mo (202.032 nm)	0.0138	0.65	89.7003
	R2401574-005	Na (588.995 nm)	17.4846	0.52	143016.3817
	R2401574-005	Ni (230.299 nm)	0.0016	30.72	128.4349
	R2401574-005	Pb (220.353 nm)	0.0010	17.36	8.5988
	R2401574-005	Sb (217.582 nm)	0.0015	> 100.00	14.9921
	R2401574-005	Se (196.026 nm)	-0.0017 u	> 100.00	-3.6542
	R2401574-005	Sn (189.925 nm)	-0.0001 u	> 100.00	5.7978
	R2401574-005	Sr (216.596 nm)	0.3017	0.49	5708.8488
	R2401574-005	Ti (336.122 nm)	0.0068	4.69	671.7047
	R2401574-005	Tl (190.794 nm)	0.0021	22.25	-3.6232
	R2401574-005	V (292.401 nm)	0.0003	55.30	-70.1011
	R2401574-005	Y (360.074 nm)	1.00	0.27	482930.04
	R2401574-005	Y_R (360.074 nm)	1.00	0.27	482440.32
	R2401574-005	Zn (213.857 nm)	0.0039	1.52	139.1207
3/1/2024 17:23:32	R2401574-006	Ag (328.068 nm)	0.0000 u	> 100.00	-343.4725

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401574-006	Al (237.312 nm)	0.1180	3.44	384.9383
	R2401574-006	As (188.980 nm)	-0.0005 u	> 100.00	-13.1177
	R2401574-006	B (249.772 nm)	0.0117	1.88	433.8617
	R2401574-006	Ba (230.424 nm)	0.0393	0.56	1755.5513
	R2401574-006	Be (313.107 nm)	0.0000	37.63	-205.5195
	R2401574-006	Ca (317.933 nm)	142.9344 o	0.25	5523887.8869
	R2401574-006	Cd (214.439 nm)	0.0000 u	> 100.00	-15.4079
	R2401574-006	Co (230.786 nm)	-0.0001 u	> 100.00	64.0768
	R2401574-006	Cr (267.716 nm)	0.0001 u	> 100.00	-24.4431
	R2401574-006	Cu (327.395 nm)	0.0003	35.55	-44.8923
	R2401574-006	Fe (234.350 nm)	0.4258	0.21	9815.1138
	R2401574-006	K (766.491 nm)	2.7577	1.26	2652.6194
	R2401574-006	Mg (279.078 nm)	42.0969	0.19	132184.4914
	R2401574-006	Mn (257.610 nm)	0.3714	0.16	116343.6767
	R2401574-006	Mo (202.032 nm)	0.0037	21.71	13.1013
	R2401574-006	Na (588.995 nm)	30.4984	0.27	254090.0886
	R2401574-006	Ni (230.299 nm)	0.0008	20.60	119.3652
	R2401574-006	Pb (220.353 nm)	-0.0001 u	> 100.00	2.7510
	R2401574-006	Sb (217.582 nm)	0.0009	94.49	13.5825
	R2401574-006	Se (196.026 nm)	0.0033	7.90	0.0644
	R2401574-006	Sn (189.925 nm)	-0.0005 u	> 100.00	4.4511
	R2401574-006	Sr (216.596 nm)	0.4869	0.34	9252.3402
	R2401574-006	Ti (336.122 nm)	0.0035	1.72	247.8761
	R2401574-006	Tl (190.794 nm)	0.0013 u	> 100.00	-4.5786
	R2401574-006	V (292.401 nm)	0.0000 u	> 100.00	-81.8711
	R2401574-006	Y (360.074 nm)	0.98	0.27	471477.66
	R2401574-006	Y_R (360.074 nm)	0.98	0.27	470994.34
	R2401574-006	Zn (213.857 nm)	0.0035	1.04	117.2378
3/1/2024 17:26:46	Continuing Calibration Verification	Ag (328.068 nm)	0.5114	0.15	29217.3623
	Continuing Calibration Verification	Al (237.312 nm)	9.8885	0.03	22952.6639
	Continuing Calibration Verification	As (188.980 nm)	0.9934	0.23	1762.6387
	Continuing Calibration Verification	B (249.772 nm)	2.4558	0.22	76145.4568
	Continuing Calibration Verification	Ba (230.424 nm)	10.3488	0.66	470215.1446
	Continuing Calibration Verification	Be (313.107 nm)	0.2462	0.19	260317.7948
	Continuing Calibration Verification	Ca (317.933 nm)	26.1817	0.22	1014223.8716
	Continuing Calibration Verification	Cd (214.439 nm)	0.5185	0.21	31760.2534
	Continuing Calibration Verification	Co (230.786 nm)	2.5839	0.69	38783.0655
	Continuing Calibration Verification	Cr (267.716 nm)	0.5214	0.20	22839.1125
	Continuing Calibration Verification	Cu (327.395 nm)	1.2282	0.07	42685.7679
	Continuing Calibration Verification	Fe (234.350 nm)	5.0783	0.22	115188.2177
	Continuing Calibration Verification	K (766.491 nm)	23.9942	0.21	23173.8889
	Continuing Calibration Verification	Mg (279.078 nm)	25.7451	0.14	80818.6026
	Continuing Calibration Verification	Mn (257.610 nm)	0.7564	0.21	236929.7434
	Continuing Calibration Verification	Mo (202.032 nm)	2.5807	0.27	19603.0944
	Continuing Calibration Verification	Na (588.995 nm)	25.2132	0.05	208980.5641
	Continuing Calibration Verification	Ni (230.299 nm)	2.1374	0.13	24277.3984
	Continuing Calibration Verification	Pb (220.353 nm)	0.5242	0.25	2722.2623
	Continuing Calibration Verification	Sb (217.582 nm)	4.9526	0.08	10937.1124
	Continuing Calibration Verification	Se (196.026 nm)	0.4889	1.79	361.2749
	Continuing Calibration Verification	Sn (189.925 nm)	5.1527	0.07	14865.7526
	Continuing Calibration Verification	Sr (216.596 nm)	2.5494	0.61	48721.9495
	Continuing Calibration Verification	Ti (336.122 nm)	2.5358	0.25	327965.9178
	Continuing Calibration Verification	Tl (190.794 nm)	1.0195	0.30	1191.0811
	Continuing Calibration Verification	V (292.401 nm)	2.5192	0.18	98570.2649
	Continuing Calibration Verification	Y (360.074 nm)	0.99	0.29	478541.63
	Continuing Calibration Verification	Y_R (360.074 nm)	0.99	0.29	478036.43
	Continuing Calibration Verification	Zn (213.857 nm)	0.9980	0.57	54689.9876

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/1/2024 17:29:59	Continuing Calibration Blank	Ag (328.068 nm)	0.0000 u	> 100.00	-341.3046
	Continuing Calibration Blank	Al (237.312 nm)	-0.0002 u	> 100.00	111.8997
	Continuing Calibration Blank	As (188.980 nm)	0.0007	74.92	-10.9823
	Continuing Calibration Blank	B (249.772 nm)	0.0015	14.35	118.0062
	Continuing Calibration Blank	Ba (230.424 nm)	0.0003	11.23	-14.3964
	Continuing Calibration Blank	Be (313.107 nm)	0.0000 u	> 100.00	-208.9665
	Continuing Calibration Blank	Ca (317.933 nm)	0.0006	21.78	2959.8789
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	42.16	-15.8397
	Continuing Calibration Blank	Co (230.786 nm)	-0.0007 u	35.29	55.0135
	Continuing Calibration Blank	Cr (267.716 nm)	0.0000	57.79	-26.2120
	Continuing Calibration Blank	Cu (327.395 nm)	0.0002	28.60	-49.5991
	Continuing Calibration Blank	Fe (234.350 nm)	0.0015	4.46	205.9279
	Continuing Calibration Blank	K (766.491 nm)	0.2374	18.95	217.2326
	Continuing Calibration Blank	Mg (279.078 nm)	0.0013 u	> 100.00	-49.7746
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	55.03	3.2506
	Continuing Calibration Blank	Mo (202.032 nm)	0.0029	30.67	6.6608
	Continuing Calibration Blank	Na (588.995 nm)	0.7564	0.78	239.8009
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0004 u	57.88	105.8489
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0005 u	> 100.00	0.5697
	Continuing Calibration Blank	Sb (217.582 nm)	0.0081	17.77	29.4676
	Continuing Calibration Blank	Se (196.026 nm)	-0.0008 u	> 100.00	-2.9204
	Continuing Calibration Blank	Sn (189.925 nm)	0.0008	53.06	8.4284
	Continuing Calibration Blank	Sr (216.596 nm)	0.0003	71.66	-60.4336
	Continuing Calibration Blank	Ti (336.122 nm)	0.0016	27.31	7.8790
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0006 u	> 100.00	-6.7367
	Continuing Calibration Blank	V (292.401 nm)	-0.0001 u	> 100.00	-84.6286
	Continuing Calibration Blank	Y (360.074 nm)	1.03	0.17	495177.51
	Continuing Calibration Blank	Y_R (360.074 nm)	1.03	0.17	494695.29
	Continuing Calibration Blank	Zn (213.857 nm)	0.0001	65.42	-72.1014
3/1/2024 17:33:13	Contract Required Detection Limit	Ag (328.068 nm)	0.0096	1.29	215.3930
	Contract Required Detection Limit	Al (237.312 nm)	0.1908	0.43	553.0393
	Contract Required Detection Limit	As (188.980 nm)	0.0209	4.12	25.2224
	Contract Required Detection Limit	B (249.772 nm)	0.1922	0.21	6025.7497
	Contract Required Detection Limit	Ba (230.424 nm)	0.2075	0.22	9400.0359
	Contract Required Detection Limit	Be (313.107 nm)	0.0050	0.26	5026.2849
	Contract Required Detection Limit	Ca (317.933 nm)	1.0345	0.27	42895.3899
	Contract Required Detection Limit	Cd (214.439 nm)	0.0103	0.78	621.0496
	Contract Required Detection Limit	Co (230.786 nm)	0.0516	0.73	838.9065
	Contract Required Detection Limit	Cr (267.716 nm)	0.0105	3.35	430.6657
	Contract Required Detection Limit	Cu (327.395 nm)	0.0248	1.38	807.6011
	Contract Required Detection Limit	Fe (234.350 nm)	0.1079	0.10	2616.7708
	Contract Required Detection Limit	K (766.491 nm)	1.1144	3.34	1064.7522
	Contract Required Detection Limit	Mg (279.078 nm)	1.0033	0.19	3097.7875
	Contract Required Detection Limit	Mn (257.610 nm)	0.0154	0.15	4837.7024
	Contract Required Detection Limit	Mo (202.032 nm)	0.0254	2.45	177.8567
	Contract Required Detection Limit	Na (588.995 nm)	1.5727 R 157%	0.18	7206.8976 R
	Contract Required Detection Limit	Ni (230.299 nm)	0.0397	1.62	559.9250
	Contract Required Detection Limit	Pb (220.353 nm)	0.0102	9.66	56.3449
	Contract Required Detection Limit	Sb (217.582 nm)	0.0651	1.40	155.1752
	Contract Required Detection Limit	Se (196.026 nm)	0.0095	11.09	4.7445
	Contract Required Detection Limit	Sn (189.925 nm)	0.5123	0.12	1483.3574
	Contract Required Detection Limit	Sr (216.596 nm)	0.1026	0.10	1897.9577
	Contract Required Detection Limit	Ti (336.122 nm)	0.0493	0.16	6173.5150
	Contract Required Detection Limit	Tl (190.794 nm)	0.0201	4.75	17.5206
	Contract Required Detection Limit	V (292.401 nm)	0.0491	0.91	1842.1209
	Contract Required Detection Limit	Y (360.074 nm)	1.03	0.31	494928.88
	Contract Required Detection Limit	Y_R (360.074 nm)	1.03	0.31	494437.92

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Contract Required Detection Limit	Zn (213.857 nm)	0.0196	0.36	1000.7747
3/1/2024 17:36:27	Interference Check Solution A	Ag (328.068 nm)	-0.0002 u	> 100.00	-351.4076
	Interference Check Solution A	Al (237.312 nm)	251.2491 o	0.23	580446.4519
	Interference Check Solution A	As (188.980 nm)	-0.0046 u	38.96	-20.4248
	Interference Check Solution A	B (249.772 nm)	0.1267	0.12	3996.2410
	Interference Check Solution A	Ba (230.424 nm)	0.0006	20.08	-0.8532
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-214.0525
	Interference Check Solution A	Ca (317.933 nm)	245.0898 o	0.29	9469722.8016
	Interference Check Solution A	Cd (214.439 nm)	0.0009	3.78	43.0317
	Interference Check Solution A	Co (230.786 nm)	0.0011	29.86	81.3320
	Interference Check Solution A	Cr (267.716 nm)	0.0013	13.65	27.4063
	Interference Check Solution A	Cu (327.395 nm)	0.0004	78.68	-41.0973
	Interference Check Solution A	Fe (234.350 nm)	95.5055 o	0.31	2163217.7831
	Interference Check Solution A	K (766.491 nm)	0.2270	23.00	207.2389
	Interference Check Solution A	Mg (279.078 nm)	266.2926 o	0.22	836447.3417
	Interference Check Solution A	Mn (257.610 nm)	0.0013	2.78	412.7599
	Interference Check Solution A	Mo (202.032 nm)	-0.0023 u	33.29	-32.5871
	Interference Check Solution A	Na (588.995 nm)	0.8156	1.31	745.5040
	Interference Check Solution A	Ni (230.299 nm)	0.0008 u	> 100.00	120.0091
	Interference Check Solution A	Pb (220.353 nm)	-0.0016 u	> 100.00	-4.8079
	Interference Check Solution A	Sb (217.582 nm)	-0.0034 u	74.75	4.1644
	Interference Check Solution A	Se (196.026 nm)	-0.0024 u	91.99	-4.1274
	Interference Check Solution A	Sn (189.925 nm)	0.0012	31.69	9.4568
	Interference Check Solution A	Sr (216.596 nm)	0.0098	2.15	122.6741
	Interference Check Solution A	Ti (336.122 nm)	0.0023	0.64	95.7211
	Interference Check Solution A	Tl (190.794 nm)	0.0012 u	> 100.00	-4.6772
	Interference Check Solution A	V (292.401 nm)	0.0016	8.45	-18.4626
	Interference Check Solution A	Y (360.074 nm)	0.91	0.22	439797.82
	Interference Check Solution A	Y_R (360.074 nm)	0.91	0.23	439322.18
	Interference Check Solution A	Zn (213.857 nm)	0.0117 K +/- 0.02	0.50	565.5637 K
3/1/2024 17:39:41	Interference Check Solution AB	Ag (328.068 nm)	0.2158	1.23	12130.5945
	Interference Check Solution AB	Al (237.312 nm)	247.3615 o	1.34	571466.8170
	Interference Check Solution AB	As (188.980 nm)	0.0948	3.10	157.1235
	Interference Check Solution AB	B (249.772 nm)	0.1251	1.17	3945.4144
	Interference Check Solution AB	Ba (230.424 nm)	0.5219	1.37	23688.3277
	Interference Check Solution AB	Be (313.107 nm)	0.4896	1.43	517790.8586
	Interference Check Solution AB	Ca (317.933 nm)	240.2995 o	1.33	9284690.4354
	Interference Check Solution AB	Cd (214.439 nm)	0.9866	1.34	60446.4901
	Interference Check Solution AB	Co (230.786 nm)	0.4938	1.46	7464.7254
	Interference Check Solution AB	Cr (267.716 nm)	0.5182	1.32	22696.3726
	Interference Check Solution AB	Cu (327.395 nm)	0.5264	1.39	18262.7656
	Interference Check Solution AB	Fe (234.350 nm)	94.6818 o	1.46	2144562.1773
	Interference Check Solution AB	K (766.491 nm)	0.2008	15.34	181.8859
	Interference Check Solution AB	Mg (279.078 nm)	263.2581 o	1.37	826915.2999
	Interference Check Solution AB	Mn (257.610 nm)	0.4918	1.41	154042.0380
	Interference Check Solution AB	Mo (202.032 nm)	-0.0030 u	7.50	-37.8358
	Interference Check Solution AB	Na (588.995 nm)	0.7869	0.79	500.3714
	Interference Check Solution AB	Ni (230.299 nm)	0.9989	1.22	11404.7048
	Interference Check Solution AB	Pb (220.353 nm)	0.0482	1.57	253.1299
	Interference Check Solution AB	Sb (217.582 nm)	0.6097	1.70	1356.4970
	Interference Check Solution AB	Se (196.026 nm)	0.0445	7.78	30.7218
	Interference Check Solution AB	Sn (189.925 nm)	0.0018	12.43	11.3076
	Interference Check Solution AB	Sr (216.596 nm)	0.0108	2.91	141.5036
	Interference Check Solution AB	Ti (336.122 nm)	0.0020	1.81	59.9769
	Interference Check Solution AB	Tl (190.794 nm)	0.1016	0.17	113.2001
	Interference Check Solution AB	V (292.401 nm)	0.5062	1.36	19741.3133
	Interference Check Solution AB	Y (360.074 nm)	0.91	0.87	439448.44

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution AB	Y_R (360.074 nm)	0.91	0.87	438964.91
	Interference Check Solution AB	Zn (213.857 nm)	1.0094	1.28	55313.9670
3/1/2024 17:42:55	HLCCV2 HLCCV3	Ag (328.068 nm)	0.0007 Q	31.99	-302.3592 Q
	HLCCV2	Al (237.312 nm)	0.2049 Q	1.39	585.5838 Q
	HLCCV2	As (188.980 nm)	0.0009 Qu	> 100.00	-10.5937 Q
	HLCCV2	B (249.772 nm)	0.0690 Q	1.22	2208.1263 Q
	HLCCV2	Ba (230.424 nm)	0.0142 Q	0.48	615.7533 Q
	HLCCV2	Be (313.107 nm)	0.0004 Q	1.23	171.2706 Q
	HLCCV2	Ca (317.933 nm)	190.0647 Qo	0.47	7344331.9984 Q
	HLCCV2	Cd (214.439 nm)	0.0011 Q	2.06	55.3585 Q
	HLCCV2	Co (230.786 nm)	0.0041 Q	3.88	126.7017 Q
	HLCCV2	Cr (267.716 nm)	0.0041 Q	3.15	152.4260 Q
	HLCCV2	Cu (327.395 nm)	4.0451 Qo	0.02	140718.7370 Q
	HLCCV2	Fe (234.350 nm)	38.1552 Qo	0.38	864325.1482 Q
	HLCCV2	K (766.491 nm)	106.6194 Qo	0.15	103016.0055 Q
	HLCCV2	Mg (279.078 nm)	413.1295 Qo	0.40	1297704.1872 Q
	HLCCV2	Mn (257.610 nm)	0.0147 Q	0.38	4601.3832 Q
	HLCCV2	Mo (202.032 nm)	0.0026 Q	16.41	4.2396 Q
	HLCCV2	Na (588.995 nm)	149.3428 Qo	0.07	1268436.9462 Q
	HLCCV2	Ni (230.299 nm)	-0.0179 Qu	2.47	-92.1187 Q
	HLCCV2	Pb (220.353 nm)	0.0053 Q	14.09	30.6350 Q
	HLCCV2	Sb (217.582 nm)	-0.0013 u	94.09	8.6923
	HLCCV2	Se (196.026 nm)	-0.0010 Qu	> 100.00	-3.1196 Q
	HLCCV2	Sn (189.925 nm)	-0.0001 u	> 100.00	5.6082
	HLCCV2	Sr (216.596 nm)	0.0115 Q	0.84	154.4764 Q
	HLCCV2	Ti (336.122 nm)	0.0162 Q	0.48	1891.8065 Q
	HLCCV2	Tl (190.794 nm)	2.8167 Qo	0.52	3301.3379 Q
	HLCCV2	V (292.401 nm)	0.0038 Q	4.87	68.7075 Q
	HLCCV2	Y (360.074 nm)	0.91	0.26	439079.45
	HLCCV2	Y_R (360.074 nm)	0.91	0.26	438574.82
	HLCCV2	Zn (213.857 nm)	0.0105 Q	1.45	502.1038 Q
3/1/2024 17:46:10	HLCCV3 Empty Cup	Ag (328.068 nm)	0.0015	5.33	-253.9744
	HLCCV3	Al (237.312 nm)	-0.0248 u	7.07	54.9100
	HLCCV3	As (188.980 nm)	0.0043	3.58	-4.4151
	HLCCV3	B (249.772 nm)	-0.0015 u	7.85	25.2925
	HLCCV3	Ba (230.424 nm)	0.0004	8.09	-11.7738
	HLCCV3	Be (313.107 nm)	0.0002	3.26	-43.2627
	HLCCV3	Ca (317.933 nm)	0.0019 Q	71.22	3010.2903 Q
	HLCCV3	Cd (214.439 nm)	0.0001	28.98	-6.9051
	HLCCV3	Co (230.786 nm)	-0.0027 u	3.79	24.0971
	HLCCV3	Cr (267.716 nm)	0.0012	5.16	23.7811
	HLCCV3	Cu (327.395 nm)	0.0014 Q	9.24	-7.5043 Q
	HLCCV3	Fe (234.350 nm)	0.0033 Q	35.78	246.4989 Q
	HLCCV3	K (766.491 nm)	0.0423 Q	31.45	28.7076 Q
	HLCCV3	Mg (279.078 nm)	0.0218	5.30	14.5661
	HLCCV3	Mn (257.610 nm)	0.0000	29.79	12.5866
	HLCCV3	Mo (202.032 nm)	0.0012	9.73	-5.8999
	HLCCV3	Na (588.995 nm)	0.5456 Q	1.89	-1559.7744 Q
	HLCCV3	Ni (230.299 nm)	-0.0060 u	1.89	43.1117
	HLCCV3	Pb (220.353 nm)	-0.0001 u	> 100.00	2.9504
	HLCCV3	Sb (217.582 nm)	-0.0038 u	1.63	3.2874
	HLCCV3	Se (196.026 nm)	0.0020	64.07	-0.8824
	HLCCV3	Sn (189.925 nm)	-0.0015 u	10.09	1.6381
	HLCCV3	Sr (216.596 nm)	0.0022	2.66	-23.8400
	HLCCV3	Ti (336.122 nm)	0.0006	2.34	-122.0667
	HLCCV3	Tl (190.794 nm)	0.0038 Q	18.04	-1.6370 Q
	HLCCV3	V (292.401 nm)	0.0011	5.77	-36.2652

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	HLCCV3	Y (360.074 nm)	2.58	1.71	1244707.50
	HLCCV3	Y_R (360.074 nm)	2.58	1.71	1243545.10
	HLCCV3	Zn (213.857 nm)	0.0007	11.47	-39.4662
3/1/2024 17:49:24	HLCCV1	Ag (328.068 nm)	0.9883	0.16	56785.5568
	HLCCV1	Al (237.312 nm)	19.8715	0.15	46011.4156
	HLCCV1	As (188.980 nm)	1.9785	0.48	3522.7844
	HLCCV1	B (249.772 nm)	4.9795	0.29	154321.9558
	HLCCV1	Ba (230.424 nm)	19.9147	0.51	904887.0529
	HLCCV1	Be (313.107 nm)	0.4996	0.38	528330.4797
	HLCCV1	Ca (317.933 nm)	49.7650	0.44	1925148.1474
	HLCCV1	Cd (214.439 nm)	0.9894	0.39	60618.0318
	HLCCV1	Co (230.786 nm)	4.9728	0.35	74578.9569
	HLCCV1	Cr (267.716 nm)	0.9896	0.37	43369.6896
	HLCCV1	Cu (327.395 nm)	2.4900	0.21	86597.4320
	HLCCV1	Fe (234.350 nm)	9.9449	0.35	225409.1420
	HLCCV1	K (766.491 nm)	50.1743	0.14	48472.1121
	HLCCV1	Mg (279.078 nm)	49.4898	0.33	155407.4994
	HLCCV1	Mn (257.610 nm)	1.4915	0.40	467178.8451
	HLCCV1	Mo (202.032 nm)	4.9928	0.48	37939.5392
	HLCCV1	Na (588.995 nm)	49.9524	0.07	420131.6504
	HLCCV1	Ni (230.299 nm)	3.9654	0.36	44945.2817
	HLCCV1	Pb (220.353 nm)	1.0023	0.48	5202.1587
	HLCCV1	Sb (217.582 nm)	9.9260	0.26	21908.4949
	HLCCV1	Se (196.026 nm)	0.9874	0.36	731.9920
	HLCCV1	Sn (189.925 nm)	9.9078	0.29	28579.0038
	HLCCV1	Sr (216.596 nm)	4.9547	0.37	94750.8179
	HLCCV1	Ti (336.122 nm)	4.9656	0.29	642418.5769
	HLCCV1	Tl (190.794 nm)	1.9811	0.21	2320.1695
	HLCCV1	V (292.401 nm)	4.9608	0.32	194185.2966
	HLCCV1	Y (360.074 nm)	0.95	0.36	456724.31
	HLCCV1	Y_R (360.074 nm)	0.95	0.36	456253.24
	HLCCV1	Zn (213.857 nm)	1.9749	0.35	108295.0848
3/1/2024 17:52:39	Continuing Calibration Verification	Ag (328.068 nm)	0.5164	0.16	29509.8625
	Continuing Calibration Verification	Al (237.312 nm)	9.9430	0.09	23078.6794
	Continuing Calibration Verification	As (188.980 nm)	0.9796	0.17	1737.9478
	Continuing Calibration Verification	B (249.772 nm)	2.4495	0.26	75950.3451
	Continuing Calibration Verification	Ba (230.424 nm)	10.2380	0.25	465183.5188
	Continuing Calibration Verification	Be (313.107 nm)	0.2430	0.28	256894.1250
	Continuing Calibration Verification	Ca (317.933 nm)	25.6916	0.30	995295.0457
	Continuing Calibration Verification	Cd (214.439 nm)	0.5043	0.26	30888.4535
	Continuing Calibration Verification	Co (230.786 nm)	2.5447	0.44	38196.0568
	Continuing Calibration Verification	Cr (267.716 nm)	0.5154	0.30	22575.8205
	Continuing Calibration Verification	Cu (327.395 nm)	1.2385	0.12	43046.9656
	Continuing Calibration Verification	Fe (234.350 nm)	5.0162	0.24	113780.3293
	Continuing Calibration Verification	K (766.491 nm)	24.3454	0.36	23513.1889
	Continuing Calibration Verification	Mg (279.078 nm)	25.1411	0.19	78921.4547
	Continuing Calibration Verification	Mn (257.610 nm)	0.7484	0.27	234440.8079
	Continuing Calibration Verification	Mo (202.032 nm)	2.5497	0.25	19367.3622
	Continuing Calibration Verification	Na (588.995 nm)	25.2406	0.04	209214.8911
	Continuing Calibration Verification	Ni (230.299 nm)	2.0978	0.24	23829.5243
	Continuing Calibration Verification	Pb (220.353 nm)	0.5116	0.33	2656.8587
	Continuing Calibration Verification	Sb (217.582 nm)	4.9052	0.21	10832.5863
	Continuing Calibration Verification	Se (196.026 nm)	0.4824	0.96	356.4626
	Continuing Calibration Verification	Sn (189.925 nm)	5.0434	0.31	14550.6090
	Continuing Calibration Verification	Sr (216.596 nm)	2.4921	0.25	47624.4366
	Continuing Calibration Verification	Ti (336.122 nm)	2.5338	0.26	327712.6318
	Continuing Calibration Verification	Tl (190.794 nm)	1.0142	0.37	1184.7574

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	V (292.401 nm)	2.5012	0.28	97867.0727
	Continuing Calibration Verification	Y (360.074 nm)	0.96	0.32	464926.34
	Continuing Calibration Verification	Y_R (360.074 nm)	0.96	0.32	464462.82
	Continuing Calibration Verification	Zn (213.857 nm)	0.9881	0.30	54144.1247
3/1/2024 17:55:52	Continuing Calibration Blank	Ag (328.068 nm)	0.0002 u	> 100.00	-330.8853
	Continuing Calibration Blank	Al (237.312 nm)	-0.0036 u	23.93	103.9184
	Continuing Calibration Blank	As (188.980 nm)	0.0035	72.23	-5.9437
	Continuing Calibration Blank	B (249.772 nm)	0.0022	8.96	137.9259
	Continuing Calibration Blank	Ba (230.424 nm)	0.0004	35.56	-9.2658
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	32.97	-191.3076
	Continuing Calibration Blank	Ca (317.933 nm)	0.0005	47.07	2954.7963
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-14.7267
	Continuing Calibration Blank	Co (230.786 nm)	-0.0008 u	21.75	53.3531
	Continuing Calibration Blank	Cr (267.716 nm)	0.0002	62.73	-19.3217
	Continuing Calibration Blank	Cu (327.395 nm)	0.0005	33.87	-39.0246
	Continuing Calibration Blank	Fe (234.350 nm)	0.0018	24.77	212.9112
	Continuing Calibration Blank	K (766.491 nm)	0.0534	32.94	39.4193
	Continuing Calibration Blank	Mg (279.078 nm)	0.0035	10.59	-42.8992
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	> 100.00	6.1307
	Continuing Calibration Blank	Mo (202.032 nm)	0.0025	27.12	3.4114
	Continuing Calibration Blank	Na (588.995 nm)	0.3316	0.84	-3385.6696
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0014 u	14.52	95.0411
	Continuing Calibration Blank	Pb (220.353 nm)	0.0001 u	> 100.00	4.0925
	Continuing Calibration Blank	Sb (217.582 nm)	0.0074	34.30	27.8994
	Continuing Calibration Blank	Se (196.026 nm)	0.0029	68.85	-0.2231
	Continuing Calibration Blank	Sn (189.925 nm)	0.0006 u	> 100.00	7.6681
	Continuing Calibration Blank	Sr (216.596 nm)	0.0004	71.37	-57.1130
	Continuing Calibration Blank	Ti (336.122 nm)	0.0020	16.89	55.1876
	Continuing Calibration Blank	Tl (190.794 nm)	0.0023	40.60	-3.3263
	Continuing Calibration Blank	V (292.401 nm)	0.0000 u	> 100.00	-81.1173
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.15	480397.80
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.15	479931.17
	Continuing Calibration Blank	Zn (213.857 nm)	0.0001 u	> 100.00	-73.2879
3/1/2024 17:59:06	PBW-434741	Ag (328.068 nm)	0.0002	34.70	-331.0104
	PBW-434741	Al (237.312 nm)	-0.0006 u	> 100.00	110.9002
	PBW-434741	As (188.980 nm)	0.0013	25.01	-9.9306
	PBW-434741	B (249.772 nm)	0.0022	7.26	138.7642
	PBW-434741	Ba (230.424 nm)	0.0002	55.32	-18.9581
	PBW-434741	Be (313.107 nm)	0.0000	38.70	-184.4235
	PBW-434741	Ca (317.933 nm)	0.0112	7.28	3369.0294
	PBW-434741	Cd (214.439 nm)	0.0000 u	> 100.00	-11.4441
	PBW-434741	Co (230.786 nm)	-0.0007 u	8.60	54.7429
	PBW-434741	Cr (267.716 nm)	0.0001	44.96	-22.1528
	PBW-434741	Cu (327.395 nm)	0.0004	50.29	-42.8826
	PBW-434741	Fe (234.350 nm)	0.0038	11.27	257.6478
	PBW-434741	K (766.491 nm)	0.1048	36.91	89.1042
	PBW-434741	Mg (279.078 nm)	0.0082	17.93	-28.3403
	PBW-434741	Mn (257.610 nm)	0.0000	47.29	16.3470
	PBW-434741	Mo (202.032 nm)	0.0007	19.15	-9.8006
	PBW-434741	Na (588.995 nm)	0.2997	1.50	-3658.1792
	PBW-434741	Ni (230.299 nm)	-0.0013 u	26.69	96.4988
	PBW-434741	Pb (220.353 nm)	0.0004 u	96.89	5.1981
	PBW-434741	Sb (217.582 nm)	0.0146	6.25	43.8147
	PBW-434741	Se (196.026 nm)	-0.0001 u	> 100.00	-2.4645
	PBW-434741	Sn (189.925 nm)	-0.0003 u	88.19	5.0796
	PBW-434741	Sr (216.596 nm)	0.0004	75.45	-58.2698
	PBW-434741	Ti (336.122 nm)	0.0008	27.21	-102.8503

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	PBW-434741	Tl (190.794 nm)	0.0007 u	> 100.00	-5.2085
	PBW-434741	V (292.401 nm)	0.0000 u	> 100.00	-79.5765
	PBW-434741	Y (360.074 nm)	1.01	0.25	486267.61
	PBW-434741	Y_R (360.074 nm)	1.01	0.25	485811.50
	PBW-434741	Zn (213.857 nm)	0.0004	14.50	-51.9440
3/1/2024 18:02:20	LCSW-434741	Ag (328.068 nm)	0.0509	0.18	2601.8558
	LCSW-434741	Al (237.312 nm)	1.9315	0.30	4573.6706
	LCSW-434741	As (188.980 nm)	0.0377	1.27	55.2788
	LCSW-434741	B (249.772 nm)	0.9776	0.21	30353.8869
	LCSW-434741	Ba (230.424 nm)	2.0308	0.32	92248.9874
	LCSW-434741	Be (313.107 nm)	0.0484	0.05	50995.4311
	LCSW-434741	Ca (317.933 nm)	2.0094	0.12	80550.9446
	LCSW-434741	Cd (214.439 nm)	0.0512	0.14	3125.8581
	LCSW-434741	Co (230.786 nm)	0.5145	0.04	7775.3431
	LCSW-434741	Cr (267.716 nm)	0.2005	0.08	8763.6333
	LCSW-434741	Cu (327.395 nm)	0.2518	0.21	8708.7866
	LCSW-434741	Fe (234.350 nm)	0.9909	0.13	22614.8281
	LCSW-434741	K (766.491 nm)	18.8495	0.37	18202.4141
	LCSW-434741	Mg (279.078 nm)	1.9552	0.29	6087.8966
	LCSW-434741	Mn (257.610 nm)	0.4904	0.11	153617.0536
	LCSW-434741	Mo (202.032 nm)	0.4956	0.60	3752.5479
	LCSW-434741	Na (588.995 nm)	19.5905	0.46	160990.7922
	LCSW-434741	Ni (230.299 nm)	0.5235	0.23	6029.1622
	LCSW-434741	Pb (220.353 nm)	0.5147	0.31	2672.8814
	LCSW-434741	Sb (217.582 nm)	0.5019	0.22	1118.8489
	LCSW-434741	Se (196.026 nm)	1.0036	0.47	744.0831
	LCSW-434741	Sn (189.925 nm)	5.0095	0.15	14452.8212
	LCSW-434741	Sr (216.596 nm)	2.0059	0.11	38319.8023
	LCSW-434741	Ti (336.122 nm)	0.4909	0.10	63326.3319
	LCSW-434741	Tl (190.794 nm)	1.9954	0.21	2336.9607
	LCSW-434741	V (292.401 nm)	0.4876	0.19	19015.7859
	LCSW-434741	Y (360.074 nm)	0.99	0.04	475196.94
	LCSW-434741	Y_R (360.074 nm)	0.99	0.04	474744.57
	LCSW-434741	Zn (213.857 nm)	0.5098	0.16	27898.1585
3/1/2024 18:05:33	R2401541-001	Ag (328.068 nm)	0.0002	16.08	-330.0851
	R2401541-001	Al (237.312 nm)	0.9049	0.10	2202.5083
	R2401541-001	As (188.980 nm)	-0.0013 u	7.84	-14.4447
	R2401541-001	B (249.772 nm)	0.8935	0.48	27750.3385
	R2401541-001	Ba (230.424 nm)	0.0127	0.98	550.4390
	R2401541-001	Be (313.107 nm)	0.0001	15.92	-128.1511
	R2401541-001	Ca (317.933 nm)	498.4372 o LR	0.59	19255464.4058
	R2401541-001	Cd (214.439 nm)	-0.0001 u	73.36	-16.0760
	R2401541-001	Co (230.786 nm)	0.0007	27.80	75.7091
	R2401541-001	Cr (267.716 nm)	0.0016	3.87	41.1489
	R2401541-001	Cu (327.395 nm)	0.0017	17.31	4.0489
	R2401541-001	Fe (234.350 nm)	0.8292	0.48	18951.7513
	R2401541-001	K (766.491 nm)	4.5821	0.65	4415.6142
	R2401541-001	Mg (279.078 nm)	159.6591 o	0.44	501481.1261
	R2401541-001	Mn (257.610 nm)	0.0522	0.40	16362.7349
	R2401541-001	Mo (202.032 nm)	0.0013	56.23	-5.2182
	R2401541-001	Na (588.995 nm)	20.2441	0.30	166569.1497
	R2401541-001	Ni (230.299 nm)	-0.0005 u	> 100.00	104.9874
	R2401541-001	Pb (220.353 nm)	0.0006 u	> 100.00	6.5022
	R2401541-001	Sb (217.582 nm)	0.0050	24.82	22.5801
	R2401541-001	Se (196.026 nm)	-0.0035 u	> 100.00	-4.9660
	R2401541-001	Sn (189.925 nm)	0.0012 u	> 100.00	9.4494
	R2401541-001	Sr (216.596 nm)	11.8674 o	0.74	227035.7004

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-001	Ti (336.122 nm)	0.0331	4.58	4082.3598
	R2401541-001	Tl (190.794 nm)	0.0071	13.02	2.2339
	R2401541-001	V (292.401 nm)	0.0015	9.58	-22.6092
	R2401541-001	Y (360.074 nm)	0.92	0.11	442838.92
	R2401541-001	Y_R (360.074 nm)	0.92	0.10	442383.65
	R2401541-001	Zn (213.857 nm)	0.0073	0.23	326.2345
3/1/2024 18:08:47	R2401541-003	Ag (328.068 nm)	0.0003	37.24	-326.3259
	R2401541-003	Al (237.312 nm)	0.2324	0.73	649.1038
	R2401541-003	As (188.980 nm)	-0.0008 u	> 100.00	-13.5502
	R2401541-003	B (249.772 nm)	0.2589	0.25	8091.0050
	R2401541-003	Ba (230.424 nm)	0.0216	0.39	955.4775
	R2401541-003	Be (313.107 nm)	0.0000	19.93	-183.0009
	R2401541-003	Ca (317.933 nm)	84.3578 o	0.11	3261320.3611
	R2401541-003	Cd (214.439 nm)	-0.0001 u	32.95	-17.1441
	R2401541-003	Co (230.786 nm)	-0.0004 u	45.71	58.5732
	R2401541-003	Cr (267.716 nm)	0.0010	5.61	13.9098
	R2401541-003	Cu (327.395 nm)	0.0008	26.27	-27.1750
	R2401541-003	Fe (234.350 nm)	0.1630	0.04	3864.2070
	R2401541-003	K (766.491 nm)	5.1871	0.67	5000.1926
	R2401541-003	Mg (279.078 nm)	34.1562	0.15	107240.3468
	R2401541-003	Mn (257.610 nm)	0.0105	0.44	3287.5209
	R2401541-003	Mo (202.032 nm)	0.0023	26.25	2.1531
	R2401541-003	Na (588.995 nm)	32.4273	0.32	270553.5869
	R2401541-003	Ni (230.299 nm)	-0.0015 u	27.75	93.5920
	R2401541-003	Pb (220.353 nm)	0.0001 u	> 100.00	3.8704
	R2401541-003	Sb (217.582 nm)	0.0051	64.08	22.8078
	R2401541-003	Se (196.026 nm)	-0.0011 u	> 100.00	-3.1628
	R2401541-003	Sn (189.925 nm)	-0.0001 u	> 100.00	5.6644
	R2401541-003	Sr (216.596 nm)	24.7807 o	0.38	474151.2641
	R2401541-003	Ti (336.122 nm)	0.0057	3.82	531.7013
	R2401541-003	Tl (190.794 nm)	0.0042	16.22	-1.1217
	R2401541-003	V (292.401 nm)	0.0003	30.24	-67.3084
	R2401541-003	Y (360.074 nm)	0.97	0.29	468418.90
	R2401541-003	Y_R (360.074 nm)	0.97	0.29	467948.48
	R2401541-003	Zn (213.857 nm)	0.0047	1.93	183.9598
3/1/2024 18:12:01	R2401541-005	Ag (328.068 nm)	0.0002	86.93	-327.3627
	R2401541-005	Al (237.312 nm)	0.4500	0.69	1151.6981
	R2401541-005	As (188.980 nm)	-0.0003 u	40.25	-12.7427
	R2401541-005	B (249.772 nm)	0.2641	0.82	8250.5173
	R2401541-005	Ba (230.424 nm)	0.0219	0.91	968.2855
	R2401541-005	Be (313.107 nm)	0.0000	72.98	-182.2132
	R2401541-005	Ca (317.933 nm)	117.0264 o	0.96	4523171.1919
	R2401541-005	Cd (214.439 nm)	0.0000 u	> 100.00	-12.7632
	R2401541-005	Co (230.786 nm)	0.0001 u	> 100.00	66.0147
	R2401541-005	Cr (267.716 nm)	0.0010	11.34	14.8041
	R2401541-005	Cu (327.395 nm)	0.0011	27.15	-17.5470
	R2401541-005	Fe (234.350 nm)	0.3181	0.77	7377.6267
	R2401541-005	K (766.491 nm)	3.8529	1.26	3710.9785
	R2401541-005	Mg (279.078 nm)	41.8057	0.92	131269.6074
	R2401541-005	Mn (257.610 nm)	0.0089	0.73	2802.5672
	R2401541-005	Mo (202.032 nm)	0.0057	10.86	27.8897
	R2401541-005	Na (588.995 nm)	33.5703	0.74	280309.1082
	R2401541-005	Ni (230.299 nm)	-0.0010 u	52.05	99.4052
	R2401541-005	Pb (220.353 nm)	0.0005 u	> 100.00	5.9734
	R2401541-005	Sb (217.582 nm)	0.0054	14.67	23.4186
	R2401541-005	Se (196.026 nm)	0.0007 u	> 100.00	-1.8304
	R2401541-005	Sn (189.925 nm)	0.0000 u	> 100.00	5.9658

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-005	Sr (216.596 nm)	16.1043 o	0.93	308115.8272
	R2401541-005	Ti (336.122 nm)	0.0119	5.29	1340.0459
	R2401541-005	Tl (190.794 nm)	0.0036	16.56	-1.7834
	R2401541-005	V (292.401 nm)	0.0007	31.72	-51.6493
	R2401541-005	Y (360.074 nm)	0.97	0.52	466404.75
	R2401541-005	Y_R (360.074 nm)	0.97	0.52	465942.68
	R2401541-005	Zn (213.857 nm)	0.0104	2.96	496.6275
3/1/2024 18:15:15	R2401541-007	Ag (328.068 nm)	0.0000 u	> 100.00	-341.7345
	R2401541-007	Al (237.312 nm)	1.2742	0.62	3055.4967
	R2401541-007	As (188.980 nm)	0.0114	5.62	8.2083
	R2401541-007	B (249.772 nm)	0.3985	0.17	12415.8409
	R2401541-007	Ba (230.424 nm)	0.0202	0.95	889.4517
	R2401541-007	Be (313.107 nm)	0.0001	14.15	-142.0781
	R2401541-007	Ca (317.933 nm)	337.5039 o LR	0.16	13039287.1224
	R2401541-007	Cd (214.439 nm)	0.0000 u	> 100.00	-13.6844
	R2401541-007	Co (230.786 nm)	0.0004	90.38	71.0105
	R2401541-007	Cr (267.716 nm)	0.0023	6.58	74.6525
	R2401541-007	Cu (327.395 nm)	0.0016	10.71	1.7118
	R2401541-007	Fe (234.350 nm)	2.8939	0.19	65714.3304
	R2401541-007	K (766.491 nm)	5.8039	0.37	5596.2608
	R2401541-007	Mg (279.078 nm)	118.4457 o	0.13	372017.9628
	R2401541-007	Mn (257.610 nm)	0.0769	0.30	24108.4996
	R2401541-007	Mo (202.032 nm)	0.0033	19.30	10.0447
	R2401541-007	Na (588.995 nm)	97.6458 o	0.35	827199.0775
	R2401541-007	Ni (230.299 nm)	0.0074	2.58	194.2887
	R2401541-007	Pb (220.353 nm)	0.0007	78.10	6.7340
	R2401541-007	Sb (217.582 nm)	0.0012 u	> 100.00	14.2219
	R2401541-007	Se (196.026 nm)	0.0002 u	> 100.00	-2.2141
	R2401541-007	Sn (189.925 nm)	0.0000 u	> 100.00	6.1706
	R2401541-007	Sr (216.596 nm)	14.9122 o	0.20	285302.6339
	R2401541-007	Ti (336.122 nm)	0.0372	1.70	4612.9444
	R2401541-007	Tl (190.794 nm)	0.0033	79.16	-2.1576
	R2401541-007	V (292.401 nm)	0.0017	16.29	-14.3178
	R2401541-007	Y (360.074 nm)	0.93	0.23	447985.82
	R2401541-007	Y_R (360.074 nm)	0.93	0.23	447541.84
	R2401541-007	Zn (213.857 nm)	0.0158	0.23	792.4494
3/1/2024 18:18:30	R2401541-009	Ag (328.068 nm)	0.0002	65.12	-330.0669
	R2401541-009	Al (237.312 nm)	0.0608	1.25	252.6305
	R2401541-009	As (188.980 nm)	0.0217	9.91	26.5967
	R2401541-009	B (249.772 nm)	0.4742	0.41	14758.9252
	R2401541-009	Ba (230.424 nm)	0.0086	1.51	363.5874
	R2401541-009	Be (313.107 nm)	0.0000	29.58	-175.1763
	R2401541-009	Ca (317.933 nm)	358.0997 o LR	0.37	13834818.8855
	R2401541-009	Cd (214.439 nm)	0.0000 u	> 100.00	-13.1539
	R2401541-009	Co (230.786 nm)	0.0002	64.70	67.5582
	R2401541-009	Cr (267.716 nm)	0.0007	10.22	4.1364
	R2401541-009	Cu (327.395 nm)	0.0005	78.01	-37.5972
	R2401541-009	Fe (234.350 nm)	5.8825	0.28	133401.3718
	R2401541-009	K (766.491 nm)	19.1235	0.30	18467.2169
	R2401541-009	Mg (279.078 nm)	142.2810 o	0.28	446891.3856
	R2401541-009	Mn (257.610 nm)	0.0231	0.14	7231.7650
	R2401541-009	Mo (202.032 nm)	0.0029	19.33	6.7025
	R2401541-009	Na (588.995 nm)	137.1802 o	0.18	1164627.8584
	R2401541-009	Ni (230.299 nm)	0.0064	4.67	182.8102
	R2401541-009	Pb (220.353 nm)	0.0002 u	> 100.00	4.4419
	R2401541-009	Sb (217.582 nm)	-0.0003 u	> 100.00	10.9377
	R2401541-009	Se (196.026 nm)	-0.0044 u	51.10	-5.6306

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-009	Sn (189.925 nm)	0.0003 u	> 100.00	6.9696
	R2401541-009	Sr (216.596 nm)	17.0083 o	0.49	325414.9243
	R2401541-009	Ti (336.122 nm)	0.0044	3.86	366.5333
	R2401541-009	Tl (190.794 nm)	0.0048	15.65	-0.4001
	R2401541-009	V (292.401 nm)	-0.0002 u	57.27	-87.5151
	R2401541-009	Y (360.074 nm)	0.92	0.11	444273.21
	R2401541-009	Y_R (360.074 nm)	0.92	0.11	443843.26
	R2401541-009	Zn (213.857 nm)	0.0063	1.77	271.4094
3/1/2024 18:21:44	R2401541-011	Ag (328.068 nm)	0.0003	14.93	-324.6400
	R2401541-011	Al (237.312 nm)	0.4034	0.57	1044.0331
	R2401541-011	As (188.980 nm)	0.0017	46.55	-9.2073
	R2401541-011	B (249.772 nm)	0.1332	0.24	4197.5388
	R2401541-011	Ba (230.424 nm)	0.0151	0.38	656.6179
	R2401541-011	Be (313.107 nm)	0.0000	16.39	-176.1969
	R2401541-011	Ca (317.933 nm)	348.3724 o LR	0.06	13459090.5984
	R2401541-011	Cd (214.439 nm)	0.0000 u	> 100.00	-13.0540
	R2401541-011	Co (230.786 nm)	0.0016	26.45	89.1443
	R2401541-011	Cr (267.716 nm)	0.0007	25.22	3.1634
	R2401541-011	Cu (327.395 nm)	0.0040	9.44	83.2239
	R2401541-011	Fe (234.350 nm)	0.3923	0.37	9057.6110
	R2401541-011	K (766.491 nm)	4.0108	0.64	3863.5557
	R2401541-011	Mg (279.078 nm)	208.3273 o	0.18	654361.6728
	R2401541-011	Mn (257.610 nm)	0.0844	0.19	26441.0120
	R2401541-011	Mo (202.032 nm)	0.0017	7.49	-2.3226
	R2401541-011	Na (588.995 nm)	47.0727	1.06	395552.9932
	R2401541-011	Ni (230.299 nm)	0.0004 u	> 100.00	114.8925
	R2401541-011	Pb (220.353 nm)	0.0005 u	> 100.00	5.8846
	R2401541-011	Sb (217.582 nm)	0.0015	68.68	14.9607
	R2401541-011	Se (196.026 nm)	-0.0032 u	> 100.00	-4.7203
	R2401541-011	Sn (189.925 nm)	-0.0002 u	> 100.00	5.5033
	R2401541-011	Sr (216.596 nm)	9.9323 o	0.06	190005.1034
	R2401541-011	Ti (336.122 nm)	0.0116	0.85	1296.8910
	R2401541-011	Tl (190.794 nm)	0.0035	95.94	-1.9469
	R2401541-011	V (292.401 nm)	0.0002 u	> 100.00	-73.8023
	R2401541-011	Y (360.074 nm)	0.93	0.70	447102.08
	R2401541-011	Y_R (360.074 nm)	0.93	0.70	446667.34
	R2401541-011	Zn (213.857 nm)	0.0102	1.10	484.5113
3/1/2024 18:24:58	R2401541-013	Ag (328.068 nm)	0.0001	82.25	-337.5253
	R2401541-013	Al (237.312 nm)	1.1815	0.34	2841.4083
	R2401541-013	As (188.980 nm)	0.0011	44.16	-10.2551
	R2401541-013	B (249.772 nm)	0.1498	0.40	4710.4036
	R2401541-013	Ba (230.424 nm)	0.0140	0.91	606.0936
	R2401541-013	Be (313.107 nm)	0.0001	9.11	-145.0247
	R2401541-013	Ca (317.933 nm)	451.2543 o LR	0.29	17432986.2434
	R2401541-013	Cd (214.439 nm)	-0.0001 u	35.04	-16.4909
	R2401541-013	Co (230.786 nm)	0.0007	65.22	75.2436
	R2401541-013	Cr (267.716 nm)	0.0016	13.22	40.6098
	R2401541-013	Cu (327.395 nm)	0.0017	20.88	5.0110
	R2401541-013	Fe (234.350 nm)	1.2773	0.28	29101.4258
	R2401541-013	K (766.491 nm)	3.3139	1.72	3190.1500
	R2401541-013	Mg (279.078 nm)	135.9333 o	0.27	426951.4990
	R2401541-013	Mn (257.610 nm)	0.0868	0.32	27208.4887
	R2401541-013	Mo (202.032 nm)	0.0004	67.77	-11.8860
	R2401541-013	Na (588.995 nm)	10.9852	0.26	87543.1793
	R2401541-013	Ni (230.299 nm)	0.0001 u	> 100.00	111.4990
	R2401541-013	Pb (220.353 nm)	0.0012	26.88	9.6689
	R2401541-013	Sb (217.582 nm)	-0.0004 u	> 100.00	10.6930

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-013	Se (196.026 nm)	-0.0036 u	> 100.00	-5.0487
	R2401541-013	Sn (189.925 nm)	-0.0002 u	80.91	5.4658
	R2401541-013	Sr (216.596 nm)	12.1031 o	0.38	231545.3523
	R2401541-013	Ti (336.122 nm)	0.0323	2.17	3975.5741
	R2401541-013	Tl (190.794 nm)	0.0037	45.54	-1.6998
	R2401541-013	V (292.401 nm)	0.0014	11.64	-26.2270
	R2401541-013	Y (360.074 nm)	0.93	0.16	446609.85
	R2401541-013	Y_R (360.074 nm)	0.93	0.16	446171.43
	R2401541-013	Zn (213.857 nm)	0.0091	0.64	423.3659
3/1/2024 18:28:12	R2401541-015	Ag (328.068 nm)	0.0002	52.55	-330.4931
	R2401541-015	Al (237.312 nm)	0.2001	1.86	574.4132
	R2401541-015	As (188.980 nm)	0.0075	33.55	1.2395
	R2401541-015	B (249.772 nm)	0.2226	0.03	6967.3677
	R2401541-015	Ba (230.424 nm)	0.0097	0.78	412.8288
	R2401541-015	Be (313.107 nm)	0.0000	30.21	-174.6057
	R2401541-015	Ca (317.933 nm)	310.3713 o LR	0.18	11991268.7317
	R2401541-015	Cd (214.439 nm)	0.0000 u	> 100.00	-11.0640
	R2401541-015	Co (230.786 nm)	0.0004	30.45	71.9918
	R2401541-015	Cr (267.716 nm)	0.0007	5.61	1.6252
	R2401541-015	Cu (327.395 nm)	0.0010	56.95	-22.4016
	R2401541-015	Fe (234.350 nm)	0.4301	0.18	9912.3827
	R2401541-015	K (766.491 nm)	1.9523	1.22	1874.4363
	R2401541-015	Mg (279.078 nm)	108.1845 o	0.19	339784.6447
	R2401541-015	Mn (257.610 nm)	0.1946	0.18	60961.3981
	R2401541-015	Mo (202.032 nm)	0.0058	3.00	28.8789
	R2401541-015	Na (588.995 nm)	31.9564	0.24	266534.0028
	R2401541-015	Ni (230.299 nm)	-0.0011 u	83.82	98.7720
	R2401541-015	Pb (220.353 nm)	0.0004 u	> 100.00	5.6022
	R2401541-015	Sb (217.582 nm)	-0.0010 u	> 100.00	9.3419
	R2401541-015	Se (196.026 nm)	-0.0008 u	> 100.00	-2.9591
	R2401541-015	Sn (189.925 nm)	-0.0009 u	> 100.00	3.5326
	R2401541-015	Sr (216.596 nm)	12.0170 o	0.33	229898.9067
	R2401541-015	Ti (336.122 nm)	0.0066	4.07	647.4959
	R2401541-015	Tl (190.794 nm)	0.0023	53.04	-3.3327
	R2401541-015	V (292.401 nm)	-0.0003 u	19.33	-92.6946
	R2401541-015	Y (360.074 nm)	0.94	0.30	455433.08
	R2401541-015	Y_R (360.074 nm)	0.95	0.30	455000.58
	R2401541-015	Zn (213.857 nm)	0.0055	1.85	227.3397
3/1/2024 18:31:26	Continuing Calibration Verification	Ag (328.068 nm)	0.5169	0.32	29538.9118
	Continuing Calibration Verification	Al (237.312 nm)	9.9754	0.25	23153.3449
	Continuing Calibration Verification	As (188.980 nm)	0.9825	0.36	1743.1340
	Continuing Calibration Verification	B (249.772 nm)	2.4504	0.27	75977.6362
	Continuing Calibration Verification	Ba (230.424 nm)	10.2541	0.52	465914.6633
	Continuing Calibration Verification	Be (313.107 nm)	0.2427	0.37	256566.3742
	Continuing Calibration Verification	Ca (317.933 nm)	25.6656	0.35	994291.4925
	Continuing Calibration Verification	Cd (214.439 nm)	0.5023	0.34	30767.9053
	Continuing Calibration Verification	Co (230.786 nm)	2.5436	0.37	38179.8890
	Continuing Calibration Verification	Cr (267.716 nm)	0.5141	0.49	22516.5051
	Continuing Calibration Verification	Cu (327.395 nm)	1.2440	0.36	43238.2735
	Continuing Calibration Verification	Fe (234.350 nm)	4.9999	0.35	113412.0923
	Continuing Calibration Verification	K (766.491 nm)	24.5346	0.18	23696.0686
	Continuing Calibration Verification	Mg (279.078 nm)	25.0430	0.38	78613.3744
	Continuing Calibration Verification	Mn (257.610 nm)	0.7474	0.39	234109.3405
	Continuing Calibration Verification	Mo (202.032 nm)	2.5499	0.39	19369.0049
	Continuing Calibration Verification	Na (588.995 nm)	25.3666	0.11	210289.9391
	Continuing Calibration Verification	Ni (230.299 nm)	2.0907	0.33	23748.6172
	Continuing Calibration Verification	Pb (220.353 nm)	0.5126	0.31	2662.2695

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Sb (217.582 nm)	4.9224	0.37	10870.4360
	Continuing Calibration Verification	Se (196.026 nm)	0.4862	0.36	359.2490
	Continuing Calibration Verification	Sn (189.925 nm)	5.0367	0.34	14531.3429
	Continuing Calibration Verification	Sr (216.596 nm)	2.5012	0.44	47799.2932
	Continuing Calibration Verification	Ti (336.122 nm)	2.5332	0.46	327629.2073
	Continuing Calibration Verification	Tl (190.794 nm)	1.0091	0.37	1178.8559
	Continuing Calibration Verification	V (292.401 nm)	2.4999	0.40	97814.2991
	Continuing Calibration Verification	Y (360.074 nm)	0.98	0.35	472363.49
	Continuing Calibration Verification	Y_R (360.074 nm)	0.98	0.35	471926.89
	Continuing Calibration Verification	Zn (213.857 nm)	0.9896	0.24	54226.9808
3/1/2024 18:34:39	Continuing Calibration Blank	Ag (328.068 nm)	0.0001	> 100.00	-336.1868
	Continuing Calibration Blank	Al (237.312 nm)	-0.0056 u	18.29	99.4550
	Continuing Calibration Blank	As (188.980 nm)	0.0014	55.13	-9.6701
	Continuing Calibration Blank	B (249.772 nm)	0.0012	13.43	108.6449
	Continuing Calibration Blank	Ba (230.424 nm)	0.0005	12.20	-5.0488
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	22.30	-196.5396
	Continuing Calibration Blank	Ca (317.933 nm)	0.0034	7.96	3066.2857
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	42.44	-15.5520
	Continuing Calibration Blank	Co (230.786 nm)	-0.0005 u	96.08	57.1720
	Continuing Calibration Blank	Cr (267.716 nm)	0.0002 u	> 100.00	-18.9982
	Continuing Calibration Blank	Cu (327.395 nm)	0.0004	42.69	-42.3225
	Continuing Calibration Blank	Fe (234.350 nm)	0.0014	15.92	204.7417
	Continuing Calibration Blank	K (766.491 nm)	0.0240	37.13	11.0615
	Continuing Calibration Blank	Mg (279.078 nm)	0.0042	27.78	-40.6657
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	56.37	6.8931
	Continuing Calibration Blank	Mo (202.032 nm)	0.0024	33.33	2.8072
	Continuing Calibration Blank	Na (588.995 nm)	0.2532	1.32	-4055.0622
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0015 u	19.45	94.0837
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0005 u	91.62	0.4808
	Continuing Calibration Blank	Sb (217.582 nm)	0.0062	31.44	25.3347
	Continuing Calibration Blank	Se (196.026 nm)	-0.0015 u	> 100.00	-3.4887
	Continuing Calibration Blank	Sn (189.925 nm)	0.0003 u	> 100.00	7.0032
	Continuing Calibration Blank	Sr (216.596 nm)	0.0008	30.04	-50.5066
	Continuing Calibration Blank	Ti (336.122 nm)	0.0016	23.32	6.3597
	Continuing Calibration Blank	Tl (190.794 nm)	0.0014	> 100.00	-4.4000
	Continuing Calibration Blank	V (292.401 nm)	0.0001	> 100.00	-75.7402
	Continuing Calibration Blank	Y (360.074 nm)	1.01	0.13	488383.36
	Continuing Calibration Blank	Y_R (360.074 nm)	1.01	0.13	487907.35
	Continuing Calibration Blank	Zn (213.857 nm)	0.0002	21.36	-66.0125
3/1/2024 18:37:53	R2401541-017	Ag (328.068 nm)	0.0002	21.37	-328.1351
	R2401541-017	Al (237.312 nm)	0.2554	1.09	702.1921
	R2401541-017	As (188.980 nm)	-0.0006 u	> 100.00	-13.2345
	R2401541-017	B (249.772 nm)	0.1369	0.49	4310.7105
	R2401541-017	Ba (230.424 nm)	0.0139	1.01	603.9563
	R2401541-017	Be (313.107 nm)	0.0000	17.57	-180.6621
	R2401541-017	Ca (317.933 nm)	389.9154 o LR	0.19	15063721.6065
	R2401541-017	Cd (214.439 nm)	0.0000 u	> 100.00	-14.6741
	R2401541-017	Co (230.786 nm)	0.0002 u	> 100.00	68.8333
	R2401541-017	Cr (267.716 nm)	0.0007	41.56	3.0258
	R2401541-017	Cu (327.395 nm)	0.0009	38.83	-26.0147
	R2401541-017	Fe (234.350 nm)	0.3208	0.12	7437.5387
	R2401541-017	K (766.491 nm)	1.8628	1.94	1787.8563
	R2401541-017	Mg (279.078 nm)	89.6265 o	0.20	281488.5211
	R2401541-017	Mn (257.610 nm)	0.1299	0.19	40699.5970
	R2401541-017	Mo (202.032 nm)	0.0004 u	> 100.00	-11.8993
	R2401541-017	Na (588.995 nm)	5.0143	0.21	36581.5094
	R2401541-017	Ni (230.299 nm)	-0.0014 u	97.54	95.3299

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-017	Pb (220.353 nm)	-0.0001 u	> 100.00	2.9277
	R2401541-017	Sb (217.582 nm)	0.0068	26.03	26.5274
	R2401541-017	Se (196.026 nm)	-0.0049 u	47.29	-6.0024
	R2401541-017	Sn (189.925 nm)	-0.0002 u	84.35	5.4638
	R2401541-017	Sr (216.596 nm)	11.0256 o	0.29	210927.4509
	R2401541-017	Ti (336.122 nm)	0.0101	2.33	1101.9006
	R2401541-017	Tl (190.794 nm)	0.0052	27.24	0.0705
	R2401541-017	V (292.401 nm)	0.0000 u	> 100.00	-79.6956
	R2401541-017	Y (360.074 nm)	0.94	0.28	454317.06
	R2401541-017	Y_R (360.074 nm)	0.94	0.28	453847.91
	R2401541-017	Zn (213.857 nm)	0.0080	0.84	363.8638
3/1/2024 18:41:06	R2401541-019	Ag (328.068 nm)	0.0004	26.37	-316.3491
	R2401541-019	Al (237.312 nm)	0.4551	0.85	1163.4772
	R2401541-019	As (188.980 nm)	0.0021	56.45	-8.4834
	R2401541-019	B (249.772 nm)	0.0688	0.14	2203.1796
	R2401541-019	Ba (230.424 nm)	0.0215	0.53	946.5555
	R2401541-019	Be (313.107 nm)	0.0000	37.47	-185.2891
	R2401541-019	Ca (317.933 nm)	158.3242 o	0.18	6118331.4922
	R2401541-019	Cd (214.439 nm)	0.0000 u	> 100.00	-15.3864
	R2401541-019	Co (230.786 nm)	-0.0004 u	97.35	59.5148
	R2401541-019	Cr (267.716 nm)	0.0015	4.71	38.0950
	R2401541-019	Cu (327.395 nm)	0.0017	7.98	3.0455
	R2401541-019	Fe (234.350 nm)	0.3979	0.24	9184.6201
	R2401541-019	K (766.491 nm)	2.4962	1.28	2399.9759
	R2401541-019	Mg (279.078 nm)	36.2211	0.25	113726.7381
	R2401541-019	Mn (257.610 nm)	0.0115	0.03	3617.5186
	R2401541-019	Mo (202.032 nm)	0.0032	2.86	9.4018
	R2401541-019	Na (588.995 nm)	12.8883	0.51	103786.7660
	R2401541-019	Ni (230.299 nm)	-0.0015 u	43.08	93.6987
	R2401541-019	Pb (220.353 nm)	0.0007 u	> 100.00	6.7710
	R2401541-019	Sb (217.582 nm)	0.0063	32.33	25.3853
	R2401541-019	Se (196.026 nm)	0.0011 u	> 100.00	-1.5458
	R2401541-019	Sn (189.925 nm)	-0.0007 u	> 100.00	4.1133
	R2401541-019	Sr (216.596 nm)	4.5600	0.35	87197.5172
	R2401541-019	Ti (336.122 nm)	0.0139	3.17	1601.1132
	R2401541-019	Tl (190.794 nm)	0.0014	83.16	-4.3893
	R2401541-019	V (292.401 nm)	0.0007	18.56	-54.9439
	R2401541-019	Y (360.074 nm)	0.98	0.17	471613.36
	R2401541-019	Y_R (360.074 nm)	0.98	0.17	471153.62
	R2401541-019	Zn (213.857 nm)	0.0093	0.65	434.7846
3/1/2024 18:44:20	R2401541-021	Ag (328.068 nm)	0.0002	70.92	-330.2233
	R2401541-021	Al (237.312 nm)	0.4146	0.48	1069.9480
	R2401541-021	As (188.980 nm)	-0.0012 u	> 100.00	-14.2548
	R2401541-021	B (249.772 nm)	0.1321	0.53	4162.4452
	R2401541-021	Ba (230.424 nm)	0.0153	0.96	664.7982
	R2401541-021	Be (313.107 nm)	0.0000	37.71	-175.1008
	R2401541-021	Ca (317.933 nm)	345.4702 o	0.32	13346994.0912
	R2401541-021	Cd (214.439 nm)	0.0000 u	50.90	-14.3862
	R2401541-021	Co (230.786 nm)	0.0014	4.54	86.4617
	R2401541-021	Cr (267.716 nm)	0.0012	14.13	24.1262
	R2401541-021	Cu (327.395 nm)	0.0026	4.90	33.1004
	R2401541-021	Fe (234.350 nm)	0.4052	0.32	9349.6311
	R2401541-021	K (766.491 nm)	3.9627	0.56	3817.0499
	R2401541-021	Mg (279.078 nm)	206.9166 o	0.28	649930.5001
	R2401541-021	Mn (257.610 nm)	0.0840	0.32	26308.9965
	R2401541-021	Mo (202.032 nm)	0.0016	1.31	-2.9293
	R2401541-021	Na (588.995 nm)	47.0362	0.30	395242.0883

LR

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-021	Ni (230.299 nm)	0.0003 u	> 100.00	113.6357
	R2401541-021	Pb (220.353 nm)	-0.0003 u	> 100.00	1.6815
	R2401541-021	Sb (217.582 nm)	0.0030	81.02	18.2245
	R2401541-021	Se (196.026 nm)	-0.0019 u	> 100.00	-3.7596
	R2401541-021	Sn (189.925 nm)	0.0000 u	> 100.00	6.0282
	R2401541-021	Sr (216.596 nm)	9.8695 o	0.25	188803.4406
	R2401541-021	Ti (336.122 nm)	0.0122	3.73	1370.1233
	R2401541-021	Tl (190.794 nm)	0.0050	26.21	-0.2420
	R2401541-021	V (292.401 nm)	0.0003	53.05	-70.7252
	R2401541-021	Y (360.074 nm)	0.94	0.23	450709.40
	R2401541-021	Y_R (360.074 nm)	0.94	0.24	450248.59
	R2401541-021	Zn (213.857 nm)	0.0100	0.56	471.4946
3/1/2024 18:47:34	R2401591-001	Ag (328.068 nm)	-0.0002 u	> 100.00	-350.7191
	R2401591-001	Al (237.312 nm)	0.0145	20.71	145.6883
	R2401591-001	As (188.980 nm)	-0.0022 u	79.18	-16.1298
	R2401591-001	B (249.772 nm)	0.0126	2.24	460.6585
	R2401591-001	Ba (230.424 nm)	0.8314	0.16	37749.9300
	R2401591-001	Be (313.107 nm)	0.0001	17.03	-153.3464
	R2401591-001	Ca (317.933 nm)	#### LR	N/A	####
	R2401591-001	Cd (214.439 nm)	-0.0002 u	14.22	-23.7188
	R2401591-001	Co (230.786 nm)	0.0009	19.62	78.4351
	R2401591-001	Cr (267.716 nm)	0.0000 u	> 100.00	-28.2207
	R2401591-001	Cu (327.395 nm)	0.0012	20.97	-12.9861
	R2401591-001	Fe (234.350 nm)	0.0070	1.78	331.9304
	R2401591-001	K (766.491 nm)	77.3364 o	0.08	74719.3046
	R2401591-001	Mg (279.078 nm)	13.1717	0.15	41322.1854
	R2401591-001	Mn (257.610 nm)	0.0036	0.49	1135.0935
	R2401591-001	Mo (202.032 nm)	0.0013	23.24	-5.2667
	R2401591-001	Na (588.995 nm)	852.8649 o LR	0.24	7273056.2088
	R2401591-001	Ni (230.299 nm)	0.0006 u	> 100.00	117.4138
	R2401591-001	Pb (220.353 nm)	-0.0009 u	> 100.00	-1.5499
	R2401591-001	Sb (217.582 nm)	-0.0003 u	> 100.00	10.9267
	R2401591-001	Se (196.026 nm)	0.0022	38.69	-0.7392
	R2401591-001	Sn (189.925 nm)	0.0004 u	> 100.00	7.2915
	R2401591-001	Sr (216.596 nm)	10.8160 o	0.24	206915.5102
	R2401591-001	Ti (336.122 nm)	0.0195	0.42	2320.6645
	R2401591-001	Tl (190.794 nm)	0.0051	31.37	-0.1016
	R2401591-001	V (292.401 nm)	-0.0012 u	15.87	-127.5730
	R2401591-001	Y (360.074 nm)	0.83	0.17	398576.92
	R2401591-001	Y_R (360.074 nm)	0.83	0.17	398148.63
	R2401591-001	Zn (213.857 nm)	0.0029	1.88	81.5538
3/1/2024 18:50:48	R2401591-001S	Ag (328.068 nm)	0.0573	0.65	2972.6232
	R2401591-001S	Al (237.312 nm)	2.2093	0.49	5215.3624
	R2401591-001S	As (188.980 nm)	0.0384	7.59	56.3912
	R2401591-001S	B (249.772 nm)	1.0854	0.39	33693.9800
	R2401591-001S	Ba (230.424 nm)	2.7498	0.22	124922.4902
	R2401591-001S	Be (313.107 nm)	0.0463	0.31	48776.0285
	R2401591-001S	Ca (317.933 nm)	#### LR	N/A	####
	R2401591-001S	Cd (214.439 nm)	0.0468	0.35	2853.5216
	R2401591-001S	Co (230.786 nm)	0.4800	0.29	7258.1514
	R2401591-001S	Cr (267.716 nm)	0.1913	0.39	8361.6601
	R2401591-001S	Cu (327.395 nm)	0.2746	0.47	9501.0585
	R2401591-001S	Fe (234.350 nm)	0.9473	0.29	21626.1678
	R2401591-001S	K (766.491 nm)	102.1674 o LR	0.45	98713.9652
	R2401591-001S	Mg (279.078 nm)	14.7587	0.27	46307.4095
	R2401591-001S	Mn (257.610 nm)	0.4801	0.28	150391.7894
	R2401591-001S	Mo (202.032 nm)	0.4925	0.13	3728.7555

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001S	Na (588.995 nm)	850.0282 o LR	0.60	7248845.0749
	R2401591-001S	Ni (230.299 nm)	0.4851	0.32	5594.9789
	R2401591-001S	Pb (220.353 nm)	0.4786	0.28	2485.9051
	R2401591-001S	Sb (217.582 nm)	0.5352	0.17	1192.2505
	R2401591-001S	Se (196.026 nm)	1.0840	0.62	803.8788
	R2401591-001S	Sn (189.925 nm)	4.7626	0.24	13740.9117
	R2401591-001S	Sr (216.596 nm)	12.4787 o	0.23	238733.1597
	R2401591-001S	Ti (336.122 nm)	0.5230	0.21	67484.6677
	R2401591-001S	Tl (190.794 nm)	1.7899	0.19	2095.6594
	R2401591-001S	V (292.401 nm)	0.4884	0.28	19044.0744
	R2401591-001S	Y (360.074 nm)	0.83	0.24	399892.26
	R2401591-001S	Y_R (360.074 nm)	0.83	0.24	399465.32
	R2401591-001S	Zn (213.857 nm)	0.5415	0.38	29640.8483
3/1/2024 18:54:02	R2401591-001SD	Ag (328.068 nm)	0.0571	0.09	2961.2009
	R2401591-001SD	Al (237.312 nm)	2.2133	0.30	5224.6108
	R2401591-001SD	As (188.980 nm)	0.0407	2.75	60.5664
	R2401591-001SD	B (249.772 nm)	1.0861	0.21	33716.0676
	R2401591-001SD	Ba (230.424 nm)	2.7518	0.27	125014.3810
	R2401591-001SD	Be (313.107 nm)	0.0462	0.23	48720.2357
	R2401591-001SD	Ca (317.933 nm)	#### LR	N/A	####
	R2401591-001SD	Cd (214.439 nm)	0.0469	0.24	2860.1452
	R2401591-001SD	Co (230.786 nm)	0.4810	0.27	7272.0179
	R2401591-001SD	Cr (267.716 nm)	0.1917	0.03	8380.4612
	R2401591-001SD	Cu (327.395 nm)	0.2756	0.24	9535.0051
	R2401591-001SD	Fe (234.350 nm)	0.9482	0.21	21647.8376
	R2401591-001SD	K (766.491 nm)	103.0570 o LR	0.21	99573.5543
	R2401591-001SD	Mg (279.078 nm)	14.8376	0.27	46555.2570
	R2401591-001SD	Mn (257.610 nm)	0.4807	0.25	150561.9403
	R2401591-001SD	Mo (202.032 nm)	0.4946	0.37	3744.4546
	R2401591-001SD	Na (588.995 nm)	852.5543 o LR	0.10	7270405.2428
	R2401591-001SD	Ni (230.299 nm)	0.4857	0.42	5602.0372
	R2401591-001SD	Pb (220.353 nm)	0.4777	0.27	2481.0642
	R2401591-001SD	Sb (217.582 nm)	0.5379	0.26	1198.1890
	R2401591-001SD	Se (196.026 nm)	1.0858	0.67	805.2107
	R2401591-001SD	Sn (189.925 nm)	4.7624	0.18	13740.2129
	R2401591-001SD	Sr (216.596 nm)	12.5582 o	0.35	240254.7910
	R2401591-001SD	Ti (336.122 nm)	0.5233	0.22	67526.4002
	R2401591-001SD	Tl (190.794 nm)	1.7928	0.27	2099.0913
	R2401591-001SD	V (292.401 nm)	0.4881	0.25	19032.7660
	R2401591-001SD	Y (360.074 nm)	0.83	0.15	398887.88
	R2401591-001SD	Y_R (360.074 nm)	0.83	0.15	398458.75
	R2401591-001SD	Zn (213.857 nm)	0.5430	0.15	29723.9758
3/1/2024 18:57:16	R2401591-001A	Ag (328.068 nm)	0.0565	0.04	2924.4221
	R2401591-001A	Al (237.312 nm)	2.1807	0.28	5149.1796
	R2401591-001A	As (188.980 nm)	0.0389	4.60	57.4108
	R2401591-001A	B (249.772 nm)	1.0777	0.53	33454.3340
	R2401591-001A	Ba (230.424 nm)	2.7103	0.39	123127.5590
	R2401591-001A	Be (313.107 nm)	0.0456	0.35	48041.1076
	R2401591-001A	Ca (317.933 nm)	####	N/A	####
	R2401591-001A	Cd (214.439 nm)	0.0461	0.33	2815.2312
	R2401591-001A	Co (230.786 nm)	0.4736	0.41	7161.1861
	R2401591-001A	Cr (267.716 nm)	0.1894	0.50	8279.5463
	R2401591-001A	Cu (327.395 nm)	0.2709	0.17	9370.7728
	R2401591-001A	Fe (234.350 nm)	0.9331	0.39	21306.1907
	R2401591-001A	K (766.491 nm)	100.9216 o	0.33	97510.0552
	R2401591-001A	Mg (279.078 nm)	14.5285	0.37	45584.3305
	R2401591-001A	Mn (257.610 nm)	0.4739	0.45	148437.2625

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001A	Mo (202.032 nm)	0.4877	0.93	3692.4268
	R2401591-001A	Na (588.995 nm)	835.6472 o	0.22	7126101.7878
	R2401591-001A	Ni (230.299 nm)	0.4790	0.42	5526.9534
	R2401591-001A	Pb (220.353 nm)	0.4711	0.47	2446.6291
	R2401591-001A	Sb (217.582 nm)	0.5316	0.80	1184.2751
	R2401591-001A	Se (196.026 nm)	1.0748	0.88	797.0417
	R2401591-001A	Sn (189.925 nm)	4.7211	0.54	13621.0233
	R2401591-001A	Sr (216.596 nm)	12.3022 o	0.48	235357.0549
	R2401591-001A	Ti (336.122 nm)	0.5157	0.54	66538.2441
	R2401591-001A	Tl (190.794 nm)	1.7826	0.79	2087.0366
	R2401591-001A	V (292.401 nm)	0.4815	0.34	18773.4223
	R2401591-001A	Y (360.074 nm)	0.83	0.14	400900.38
	R2401591-001A	Y_R (360.074 nm)	0.83	0.14	400480.78
	R2401591-001A	Zn (213.857 nm)	0.5366	0.34	29368.0552
3/1/2024 19:00:30	R2401591-001L 5X	Ag (328.068 nm)	0.0001 u	> 100.00	-337.3928
	R2401591-001L 5X	Al (237.312 nm)	-0.0016 u	91.56	108.6686
	R2401591-001L 5X	As (188.980 nm)	-0.0011 u	> 100.00	-14.1747
	R2401591-001L 5X	B (249.772 nm)	0.0034	10.38	176.1999
	R2401591-001L 5X	Ba (230.424 nm)	0.1724	0.28	7803.5349
	R2401591-001L 5X	Be (313.107 nm)	0.0000	35.91	-190.1920
	R2401591-001L 5X	Ca (317.933 nm)	369.5118 o	0.39	14275619.4813
	R2401591-001L 5X	Cd (214.439 nm)	-0.0001 u	> 100.00	-16.6799
	R2401591-001L 5X	Co (230.786 nm)	0.0002 u	> 100.00	68.5627
	R2401591-001L 5X	Cr (267.716 nm)	0.0004	23.05	-11.8908
	R2401591-001L 5X	Cu (327.395 nm)	0.0005	49.31	-37.8431
	R2401591-001L 5X	Fe (234.350 nm)	0.0018	14.06	213.0727
	R2401591-001L 5X	K (766.491 nm)	13.8911	0.13	13411.0786
	R2401591-001L 5X	Mg (279.078 nm)	2.8042	0.30	8754.8823
	R2401591-001L 5X	Mn (257.610 nm)	0.0007	3.21	229.7103
	R2401591-001L 5X	Mo (202.032 nm)	0.0012	40.84	-6.1030
	R2401591-001L 5X	Na (588.995 nm)	199.3161 o	0.14	1694963.4600
	R2401591-001L 5X	Ni (230.299 nm)	-0.0008 u	77.32	101.3167
	R2401591-001L 5X	Pb (220.353 nm)	0.0007	52.11	7.1323
	R2401591-001L 5X	Sb (217.582 nm)	0.0005 u	> 100.00	12.6040
	R2401591-001L 5X	Se (196.026 nm)	0.0030	42.01	-0.1363
	R2401591-001L 5X	Sn (189.925 nm)	0.0011	> 100.00	9.2426
	R2401591-001L 5X	Sr (216.596 nm)	2.2866	0.20	43693.0846
	R2401591-001L 5X	Ti (336.122 nm)	0.0043	3.59	351.6539
	R2401591-001L 5X	Tl (190.794 nm)	0.0042	15.69	-1.0852
	R2401591-001L 5X	V (292.401 nm)	-0.0004 u	83.04	-94.7473
	R2401591-001L 5X	Y (360.074 nm)	0.94	0.22	451444.54
	R2401591-001L 5X	Y_R (360.074 nm)	0.94	0.22	451001.29
	R2401591-001L 5X	Zn (213.857 nm)	0.0008	8.85	-33.3220
3/1/2024 19:03:44	R2401591-002	Ag (328.068 nm)	-0.0001 u	> 100.00	-348.8069
	R2401591-002	Al (237.312 nm)	0.0445	5.26	215.0509
	R2401591-002	As (188.980 nm)	-0.0007 u	> 100.00	-13.3419
	R2401591-002	B (249.772 nm)	0.0149	0.58	531.0160
	R2401591-002	Ba (230.424 nm)	0.4207	0.21	19087.7970
	R2401591-002	Be (313.107 nm)	0.0000	23.43	-176.1509
	R2401591-002	Ca (317.933 nm)	#### LR	N/A	####
	R2401591-002	Cd (214.439 nm)	-0.0002 u	24.03	-23.4276
	R2401591-002	Co (230.786 nm)	0.0006	73.81	74.1700
	R2401591-002	Cr (267.716 nm)	0.0022	6.40	68.1329
	R2401591-002	Cu (327.395 nm)	0.0029	11.98	45.4012
	R2401591-002	Fe (234.350 nm)	0.0359	0.18	985.6893
	R2401591-002	K (766.491 nm)	102.2442 o LR	0.46	98788.1875
	R2401591-002	Mg (279.078 nm)	0.0866	2.38	218.0558

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-002	Mn (257.610 nm)	0.0010	2.04	314.6893
	R2401591-002	Mo (202.032 nm)	0.0056	10.31	26.9426
	R2401591-002	Na (588.995 nm)	468.2560 o LR	0.50	3990387.5271
	R2401591-002	Ni (230.299 nm)	0.0030	23.83	144.2406
	R2401591-002	Pb (220.353 nm)	0.0018	34.98	12.7572
	R2401591-002	Sb (217.582 nm)	-0.0007 u	> 100.00	10.0867
	R2401591-002	Se (196.026 nm)	0.0072	59.91	2.9825
	R2401591-002	Sn (189.925 nm)	0.0001 u	> 100.00	6.2417
	R2401591-002	Sr (216.596 nm)	5.7391 o	0.23	109761.9512
	R2401591-002	Ti (336.122 nm)	0.0156	0.79	1811.7930
	R2401591-002	Tl (190.794 nm)	0.0045	41.87	-0.8350
	R2401591-002	V (292.401 nm)	-0.0002 u	78.54	-89.7417
	R2401591-002	Y (360.074 nm)	0.87	0.24	417985.06
	R2401591-002	Y_R (360.074 nm)	0.87	0.24	417556.88
	R2401591-002	Zn (213.857 nm)	0.0011	1.61	-15.2667
3/1/2024 19:06:58	R2401591-003	Ag (328.068 nm)	0.0001 u	> 100.00	-336.8077
	R2401591-003	Al (237.312 nm)	0.0551	6.74	239.5260
	R2401591-003	As (188.980 nm)	-0.0005 u	> 100.00	-12.9893
	R2401591-003	B (249.772 nm)	0.0329	1.37	1089.9521
	R2401591-003	Ba (230.424 nm)	0.2385	0.19	10808.5750
	R2401591-003	Be (313.107 nm)	0.0000	4.76	-182.5016
	R2401591-003	Ca (317.933 nm)	657.8803 o LR	0.05	25414078.3886
	R2401591-003	Cd (214.439 nm)	0.0000 u	70.70	-15.2917
	R2401591-003	Co (230.786 nm)	0.0003	71.18	70.3764
	R2401591-003	Cr (267.716 nm)	0.0044	6.91	163.6270
	R2401591-003	Cu (327.395 nm)	0.0043	12.53	93.5866
	R2401591-003	Fe (234.350 nm)	0.0507	0.49	1320.8161
	R2401591-003	K (766.491 nm)	50.6608	0.47	48942.2195
	R2401591-003	Mg (279.078 nm)	0.4231	0.22	1275.0753
	R2401591-003	Mn (257.610 nm)	0.0049	0.60	1539.5916
	R2401591-003	Mo (202.032 nm)	0.0088	3.38	51.3122
	R2401591-003	Na (588.995 nm)	231.5441 o LR	0.40	1970031.9414
	R2401591-003	Ni (230.299 nm)	0.0019	44.22	131.8074
	R2401591-003	Pb (220.353 nm)	0.0007	54.94	7.0745
	R2401591-003	Sb (217.582 nm)	-0.0008 u	> 100.00	9.7735
	R2401591-003	Se (196.026 nm)	0.0066	12.03	2.5276
	R2401591-003	Sn (189.925 nm)	0.0002 u	> 100.00	6.4741
	R2401591-003	Sr (216.596 nm)	4.3975	0.41	84088.1884
	R2401591-003	Ti (336.122 nm)	0.0084	0.81	880.5477
	R2401591-003	Tl (190.794 nm)	0.0030 u	> 100.00	-2.5637
	R2401591-003	V (292.401 nm)	0.0017	12.00	-13.3212
	R2401591-003	Y (360.074 nm)	0.91	0.16	440866.42
	R2401591-003	Y_R (360.074 nm)	0.92	0.16	440437.24
	R2401591-003	Zn (213.857 nm)	0.0025	4.28	61.9082
3/1/2024 19:10:12	Continuing Calibration Verification	Ag (328.068 nm)	0.5187	0.23	29642.9721
	Continuing Calibration Verification	Al (237.312 nm)	10.0690	0.10	23369.6287
	Continuing Calibration Verification	As (188.980 nm)	0.9851	0.22	1747.9468
	Continuing Calibration Verification	B (249.772 nm)	2.4642	0.23	76405.4732
	Continuing Calibration Verification	Ba (230.424 nm)	10.2519	0.55	465814.9866
	Continuing Calibration Verification	Be (313.107 nm)	0.2433	0.28	257194.0966
	Continuing Calibration Verification	Ca (317.933 nm)	25.6665	0.24	994323.1130
	Continuing Calibration Verification	Cd (214.439 nm)	0.5021	0.26	30753.6441
	Continuing Calibration Verification	Co (230.786 nm)	2.5470	0.57	38230.3711
	Continuing Calibration Verification	Cr (267.716 nm)	0.5144	0.27	22529.2408
	Continuing Calibration Verification	Cu (327.395 nm)	1.2625	0.15	43882.2578
	Continuing Calibration Verification	Fe (234.350 nm)	5.0069	0.29	113571.2629
	Continuing Calibration Verification	K (766.491 nm)	25.1320	0.19	24273.3579

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Mg (279.078 nm)	24.9861	0.30	78434.3990
	Continuing Calibration Verification	Mn (257.610 nm)	0.7495	0.25	234783.1933
	Continuing Calibration Verification	Mo (202.032 nm)	2.5635	0.31	19471.8831
	Continuing Calibration Verification	Na (588.995 nm)	26.3557	0.22	218732.1645
	Continuing Calibration Verification	Ni (230.299 nm)	2.0943	0.23	23789.9887
	Continuing Calibration Verification	Pb (220.353 nm)	0.5137	0.58	2667.8112
	Continuing Calibration Verification	Sb (217.582 nm)	4.9629	0.08	10959.7236
	Continuing Calibration Verification	Se (196.026 nm)	0.4877	0.56	360.3405
	Continuing Calibration Verification	Sn (189.925 nm)	5.0478	0.21	14563.2278
	Continuing Calibration Verification	Sr (216.596 nm)	2.4913	0.55	47609.7504
	Continuing Calibration Verification	Ti (336.122 nm)	2.5494	0.31	329726.9223
	Continuing Calibration Verification	Tl (190.794 nm)	1.0122	0.37	1182.4236
	Continuing Calibration Verification	V (292.401 nm)	2.5079	0.31	98130.1969
	Continuing Calibration Verification	Y (360.074 nm)	1.00	0.24	484327.20
	Continuing Calibration Verification	Y_R (360.074 nm)	1.01	0.24	483896.05
	Continuing Calibration Verification	Zn (213.857 nm)	0.9902	0.50	54263.4320
3/1/2024 19:13:26	Continuing Calibration Blank	Ag (328.068 nm)	0.0004	28.76	-319.5205
	Continuing Calibration Blank	Al (237.312 nm)	-0.0086 u	18.33	92.4013
	Continuing Calibration Blank	As (188.980 nm)	0.0019	34.40	-8.8060
	Continuing Calibration Blank	B (249.772 nm)	0.0011	11.35	104.5118
	Continuing Calibration Blank	Ba (230.424 nm)	0.0005	27.15	-6.2640
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	66.30	-196.9567
	Continuing Calibration Blank	Ca (317.933 nm)	0.0052	14.66	3136.4897
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-13.0398
	Continuing Calibration Blank	Co (230.786 nm)	-0.0006 u	15.62	56.5798
	Continuing Calibration Blank	Cr (267.716 nm)	0.0002	55.68	-19.5592
	Continuing Calibration Blank	Cu (327.395 nm)	0.0006	20.27	-34.8141
	Continuing Calibration Blank	Fe (234.350 nm)	0.0012	11.00	200.6106
	Continuing Calibration Blank	K (766.491 nm)	0.2836	17.66	261.9219
	Continuing Calibration Blank	Mg (279.078 nm)	0.0036	29.52	-42.7639
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	77.90	3.4360
	Continuing Calibration Blank	Mo (202.032 nm)	0.0031	20.67	7.9625
	Continuing Calibration Blank	Na (588.995 nm)	0.7065	1.47	-186.2732
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0020 u	23.81	88.2344
	Continuing Calibration Blank	Pb (220.353 nm)	0.0002	35.90	4.1156
	Continuing Calibration Blank	Sb (217.582 nm)	0.0062	6.37	25.2550
	Continuing Calibration Blank	Se (196.026 nm)	0.0018	49.20	-1.0180
	Continuing Calibration Blank	Sn (189.925 nm)	0.0001 u	> 100.00	6.2775
	Continuing Calibration Blank	Sr (216.596 nm)	0.0009	23.44	-48.2813
	Continuing Calibration Blank	Ti (336.122 nm)	0.0017	15.29	18.4042
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0007 u	> 100.00	-6.8322
	Continuing Calibration Blank	V (292.401 nm)	0.0001 u	> 100.00	-77.5225
	Continuing Calibration Blank	Y (360.074 nm)	1.04	0.12	502315.91
	Continuing Calibration Blank	Y_R (360.074 nm)	1.04	0.12	501900.84
	Continuing Calibration Blank	Zn (213.857 nm)	0.0002	16.44	-64.5283
3/1/2024 19:16:39	R2401591-004	Ag (328.068 nm)	0.0001 u	> 100.00	-337.9512
	R2401591-004	Al (237.312 nm)	0.0930	2.81	327.1684
	R2401591-004	As (188.980 nm)	0.0015 u	> 100.00	-9.4490
	R2401591-004	B (249.772 nm)	0.0330	0.96	1094.0512
	R2401591-004	Ba (230.424 nm)	0.2388	0.38	10824.3862
	R2401591-004	Be (313.107 nm)	0.0000	22.16	-192.0668
	R2401591-004	Ca (317.933 nm)	657.3882 o LR	0.11	25395071.4796
	R2401591-004	Cd (214.439 nm)	-0.0001 u	22.25	-18.8136
	R2401591-004	Co (230.786 nm)	0.0005	50.66	72.1206
	R2401591-004	Cr (267.716 nm)	0.0184	1.09	777.3874
	R2401591-004	Cu (327.395 nm)	0.0045	3.94	100.1817
	R2401591-004	Fe (234.350 nm)	0.1707	0.28	4038.5245

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-004	K (766.491 nm)	50.3496	0.47	48641.5451
	R2401591-004	Mg (279.078 nm)	0.4125	0.82	1241.9027
	R2401591-004	Mn (257.610 nm)	0.0054	0.26	1703.2853
	R2401591-004	Mo (202.032 nm)	0.0091	3.13	53.6777
	R2401591-004	Na (588.995 nm)	231.6804 o	LR 0.51	1971195.6091
	R2401591-004	Ni (230.299 nm)	0.0013	7.58	125.4649
	R2401591-004	Pb (220.353 nm)	0.0009	4.11	8.0006
	R2401591-004	Sb (217.582 nm)	0.0056	41.21	23.8864
	R2401591-004	Se (196.026 nm)	0.0048	23.81	1.2473
	R2401591-004	Sn (189.925 nm)	-0.0002 u	> 100.00	5.5008
	R2401591-004	Sr (216.596 nm)	4.3915	0.32	83972.7231
	R2401591-004	Ti (336.122 nm)	0.0098	4.89	1072.0680
	R2401591-004	Tl (190.794 nm)	0.0036	31.81	-1.8740
	R2401591-004	V (292.401 nm)	0.0020	9.71	-0.3457
	R2401591-004	Y (360.074 nm)	0.92	0.23	441644.33
	R2401591-004	Y_R (360.074 nm)	0.92	0.23	441212.81
	R2401591-004	Zn (213.857 nm)	0.0034	2.26	110.3595
3/1/2024 19:19:53	R2401591-006	Ag (328.068 nm)	0.0006	26.55	-309.1176
	R2401591-006	Al (237.312 nm)	-0.0071 u	30.12	95.8811
	R2401591-006	As (188.980 nm)	0.0016	> 100.00	-9.2467
	R2401591-006	B (249.772 nm)	0.0012	19.21	106.6105
	R2401591-006	Ba (230.424 nm)	0.0003	22.51	-15.6219
	R2401591-006	Be (313.107 nm)	0.0000	16.99	-185.4942
	R2401591-006	Ca (317.933 nm)	0.0673	12.88	5536.6379
	R2401591-006	Cd (214.439 nm)	0.0000 u	> 100.00	-13.4166
	R2401591-006	Co (230.786 nm)	-0.0010 u	6.90	50.8859
	R2401591-006	Cr (267.716 nm)	0.0004	31.51	-8.2444
	R2401591-006	Cu (327.395 nm)	0.0005	> 100.00	-39.1057
	R2401591-006	Fe (234.350 nm)	0.0025	13.18	228.6177
	R2401591-006	K (766.491 nm)	0.2606	6.26	239.6271
	R2401591-006	Mg (279.078 nm)	0.0085	17.15	-27.4583
	R2401591-006	Mn (257.610 nm)	0.0001	26.74	29.7618
	R2401591-006	Mo (202.032 nm)	0.0006	62.66	-11.0583
	R2401591-006	Na (588.995 nm)	0.6213	1.73	-913.0194
	R2401591-006	Ni (230.299 nm)	-0.0024 u	9.16	83.5316
	R2401591-006	Pb (220.353 nm)	0.0002 u	> 100.00	4.3966
	R2401591-006	Sb (217.582 nm)	0.0081	33.29	29.5301
	R2401591-006	Se (196.026 nm)	0.0009	71.57	-1.7037
	R2401591-006	Sn (189.925 nm)	-0.0006 u	> 100.00	4.4113
	R2401591-006	Sr (216.596 nm)	0.0012	27.59	-43.2390
	R2401591-006	Ti (336.122 nm)	0.0005	11.75	-144.2908
	R2401591-006	Tl (190.794 nm)	-0.0009 u	> 100.00	-7.0813
	R2401591-006	V (292.401 nm)	0.0001 u	98.47	-76.8282
	R2401591-006	Y (360.074 nm)	1.05	0.15	508320.64
	R2401591-006	Y_R (360.074 nm)	1.06	0.15	507872.10
	R2401591-006	Zn (213.857 nm)	0.0018	1.77	23.5546
3/1/2024 19:23:07	R2401592-001	Ag (328.068 nm)	0.0004	56.67	-320.9772
	R2401592-001	Al (237.312 nm)	0.0344	7.33	191.8116
	R2401592-001	As (188.980 nm)	0.0004	83.25	-11.4576
	R2401592-001	B (249.772 nm)	0.0126	0.78	461.4740
	R2401592-001	Ba (230.424 nm)	0.0595	0.19	2673.4630
	R2401592-001	Be (313.107 nm)	0.0000	8.28	-195.3645
	R2401592-001	Ca (317.933 nm)	56.6607 o	0.15	2191500.4005
	R2401592-001	Cd (214.439 nm)	0.0000 u	50.28	-15.4808
	R2401592-001	Co (230.786 nm)	-0.0004 u	65.58	58.5395
	R2401592-001	Cr (267.716 nm)	0.0010	9.68	16.7740
	R2401592-001	Cu (327.395 nm)	0.0030	11.94	48.8774

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001	Fe (234.350 nm)	0.0447	0.48	1183.7585
	R2401592-001	K (766.491 nm)	3.0453	2.13	2930.5883
	R2401592-001	Mg (279.078 nm)	19.2077	0.21	60282.9206
	R2401592-001	Mn (257.610 nm)	0.0060	0.31	1883.1758
	R2401592-001	Mo (202.032 nm)	0.0018	16.71	-1.8370
	R2401592-001	Na (588.995 nm)	6.4745	0.36	49044.4073
	R2401592-001	Ni (230.299 nm)	-0.0016 u	26.51	92.6498
	R2401592-001	Pb (220.353 nm)	0.0004 u	> 100.00	5.6376
	R2401592-001	Sb (217.582 nm)	0.0036	28.23	19.6060
	R2401592-001	Se (196.026 nm)	-0.0006 u	> 100.00	-2.8273
	R2401592-001	Sn (189.925 nm)	-0.0002 u	> 100.00	5.3796
	R2401592-001	Sr (216.596 nm)	4.1188	0.14	78755.1087
	R2401592-001	Ti (336.122 nm)	0.0014	6.26	-26.8926
	R2401592-001	Tl (190.794 nm)	0.0022	48.52	-3.4803
	R2401592-001	V (292.401 nm)	0.0002	28.74	-72.5137
	R2401592-001	Y (360.074 nm)	1.02	0.26	491773.62
	R2401592-001	Y_R (360.074 nm)	1.02	0.25	491330.70
	R2401592-001	Zn (213.857 nm)	0.0027	2.56	71.3249
3/1/2024 19:26:21	R2401592-001S	Ag (328.068 nm)	0.0517	0.06	2647.5518
	R2401592-001S	Al (237.312 nm)	1.9956	0.22	4721.7981
	R2401592-001S	As (188.980 nm)	0.0395	4.25	58.4855
	R2401592-001S	B (249.772 nm)	0.9999	0.07	31043.6865
	R2401592-001S	Ba (230.424 nm)	2.0670	0.49	93895.0124
	R2401592-001S	Be (313.107 nm)	0.0484	0.23	51047.7571
	R2401592-001S	Ca (317.933 nm)	61.6934 o	0.19	2385890.8970
	R2401592-001S	Cd (214.439 nm)	0.0494	0.30	3013.1909
	R2401592-001S	Co (230.786 nm)	0.5009	0.14	7571.4414
	R2401592-001S	Cr (267.716 nm)	0.1996	0.22	8725.2158
	R2401592-001S	Cu (327.395 nm)	0.2550	0.54	8820.0550
	R2401592-001S	Fe (234.350 nm)	1.0310	0.21	23523.9331
	R2401592-001S	K (766.491 nm)	22.9378	0.46	22153.0445
	R2401592-001S	Mg (279.078 nm)	22.2624	0.21	69878.5934
	R2401592-001S	Mn (257.610 nm)	0.4976	0.16	155860.7812
	R2401592-001S	Mo (202.032 nm)	0.4999	0.56	3784.5669
	R2401592-001S	Na (588.995 nm)	27.1305	0.49	225344.7567
	R2401592-001S	Ni (230.299 nm)	0.5092	0.09	5867.8217
	R2401592-001S	Pb (220.353 nm)	0.5009	0.38	2601.4634
	R2401592-001S	Sb (217.582 nm)	0.5102	0.44	1137.0395
	R2401592-001S	Se (196.026 nm)	1.0153	0.33	752.7918
	R2401592-001S	Sn (189.925 nm)	4.9696	0.34	14337.7022
	R2401592-001S	Sr (216.596 nm)	6.2971 o	0.37	120439.7463
	R2401592-001S	Ti (336.122 nm)	0.4955	0.20	63925.1729
	R2401592-001S	Tl (190.794 nm)	1.9761	0.35	2314.2206
	R2401592-001S	V (292.401 nm)	0.4901	0.18	19111.7163
	R2401592-001S	Y (360.074 nm)	1.01	0.17	485405.37
	R2401592-001S	Y_R (360.074 nm)	1.01	0.17	484963.86
	R2401592-001S	Zn (213.857 nm)	0.5028	0.24	27516.5545
3/1/2024 19:29:34	R2401592-001SD	Ag (328.068 nm)	0.0511	0.19	2614.0829
	R2401592-001SD	Al (237.312 nm)	1.9618	0.31	4643.6688
	R2401592-001SD	As (188.980 nm)	0.0381	1.93	55.8773
	R2401592-001SD	B (249.772 nm)	0.9867	0.57	30634.8825
	R2401592-001SD	Ba (230.424 nm)	2.0362	0.30	92496.7662
	R2401592-001SD	Be (313.107 nm)	0.0477	0.17	50256.3943
	R2401592-001SD	Ca (317.933 nm)	61.3436 o	0.16	2372380.1652
	R2401592-001SD	Cd (214.439 nm)	0.0487	0.10	2969.2947
	R2401592-001SD	Co (230.786 nm)	0.4920	0.19	7437.5478
	R2401592-001SD	Cr (267.716 nm)	0.1966	0.09	8592.2173

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001SD	Cu (327.395 nm)	0.2507	0.17	8668.7055
	R2401592-001SD	Fe (234.350 nm)	1.0145	0.18	23149.9922
	R2401592-001SD	K (766.491 nm)	22.6071	0.58	21833.4984
	R2401592-001SD	Mg (279.078 nm)	22.1076	0.21	69392.4571
	R2401592-001SD	Mn (257.610 nm)	0.4897	0.18	153386.2533
	R2401592-001SD	Mo (202.032 nm)	0.4948	0.53	3746.4224
	R2401592-001SD	Na (588.995 nm)	26.7260	0.49	221892.8858
	R2401592-001SD	Ni (230.299 nm)	0.5005	0.36	5769.5090
	R2401592-001SD	Pb (220.353 nm)	0.4953	0.40	2572.3711
	R2401592-001SD	Sb (217.582 nm)	0.5002	0.67	1115.0839
	R2401592-001SD	Se (196.026 nm)	1.0080	0.58	747.3395
	R2401592-001SD	Sn (189.925 nm)	4.8956	0.33	14124.3829
	R2401592-001SD	Sr (216.596 nm)	6.2416 o	0.23	119377.0730
	R2401592-001SD	Ti (336.122 nm)	0.4879	0.18	62936.5122
	R2401592-001SD	Tl (190.794 nm)	1.9561	0.19	2290.8160
	R2401592-001SD	V (292.401 nm)	0.4825	0.16	18812.8889
	R2401592-001SD	Y (360.074 nm)	1.01	0.16	485136.10
	R2401592-001SD	Y_R (360.074 nm)	1.01	0.17	484700.06
	R2401592-001SD	Zn (213.857 nm)	0.4953	0.23	27102.4408
3/1/2024 19:32:48	R2401592-001A	Ag (328.068 nm)	0.0523	0.37	2681.6898
	R2401592-001A	Al (237.312 nm)	2.0182	0.21	4773.9697
	R2401592-001A	As (188.980 nm)	0.0394	2.37	58.2610
	R2401592-001A	B (249.772 nm)	1.0173	0.34	31585.4541
	R2401592-001A	Ba (230.424 nm)	2.0801	0.53	94489.6434
	R2401592-001A	Be (313.107 nm)	0.0490	0.27	51604.1122
	R2401592-001A	Ca (317.933 nm)	57.0606 o	0.39	2206946.2886
	R2401592-001A	Cd (214.439 nm)	0.0499	0.18	3047.5857
	R2401592-001A	Co (230.786 nm)	0.5056	0.34	7641.0144
	R2401592-001A	Cr (267.716 nm)	0.2014	0.31	8804.5587
	R2401592-001A	Cu (327.395 nm)	0.2575	0.33	8905.3331
	R2401592-001A	Fe (234.350 nm)	1.0391	0.43	23705.2498
	R2401592-001A	K (766.491 nm)	22.7716	0.37	21992.4504
	R2401592-001A	Mg (279.078 nm)	20.6238	0.38	64731.3754
	R2401592-001A	Mn (257.610 nm)	0.5020	0.36	157233.5205
	R2401592-001A	Mo (202.032 nm)	0.5067	1.01	3836.5843
	R2401592-001A	Na (588.995 nm)	26.6409	0.22	221166.2198
	R2401592-001A	Ni (230.299 nm)	0.5144	0.31	5926.2154
	R2401592-001A	Pb (220.353 nm)	0.5065	0.38	2630.5709
	R2401592-001A	Sb (217.582 nm)	0.5139	0.17	1145.1881
	R2401592-001A	Se (196.026 nm)	1.0375	0.69	769.3155
	R2401592-001A	Sn (189.925 nm)	5.0173	0.37	14475.3430
	R2401592-001A	Sr (216.596 nm)	5.9559 o	0.42	113909.1861
	R2401592-001A	Ti (336.122 nm)	0.5007	0.36	64601.9604
	R2401592-001A	Tl (190.794 nm)	2.0117	0.50	2356.0356
	R2401592-001A	V (292.401 nm)	0.4938	0.36	19257.0968
	R2401592-001A	Y (360.074 nm)	1.01	0.05	485993.54
	R2401592-001A	Y_R (360.074 nm)	1.01	0.05	485574.97
	R2401592-001A	Zn (213.857 nm)	0.5166	0.33	28274.3429
3/1/2024 19:36:01	R2401592-001L 5X	Ag (328.068 nm)	0.0002	61.57	-329.8851
	R2401592-001L 5X	Al (237.312 nm)	0.0002 u	> 100.00	112.7953
	R2401592-001L 5X	As (188.980 nm)	0.0002 u	> 100.00	-11.8863
	R2401592-001L 5X	B (249.772 nm)	0.0033	4.75	171.6058
	R2401592-001L 5X	Ba (230.424 nm)	0.0123	0.85	531.6208
	R2401592-001L 5X	Be (313.107 nm)	0.0000	64.29	-197.0317
	R2401592-001L 5X	Ca (317.933 nm)	11.7053	0.51	455061.1625
	R2401592-001L 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-14.9213
	R2401592-001L 5X	Co (230.786 nm)	-0.0009 u	31.19	51.8773

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001L 5X	Cr (267.716 nm)	0.0006	2.48	-2.6829
	R2401592-001L 5X	Cu (327.395 nm)	0.0010	29.58	-20.1613
	R2401592-001L 5X	Fe (234.350 nm)	0.0097	1.69	392.2381
	R2401592-001L 5X	K (766.491 nm)	0.6667	1.52	632.0879
	R2401592-001L 5X	Mg (279.078 nm)	3.9388	0.47	12318.8867
	R2401592-001L 5X	Mn (257.610 nm)	0.0012	1.11	397.8416
	R2401592-001L 5X	Mo (202.032 nm)	0.0017	31.27	-2.1235
	R2401592-001L 5X	Na (588.995 nm)	1.5743	0.53	7220.6906
	R2401592-001L 5X	Ni (230.299 nm)	-0.0019 u	16.43	89.3814
	R2401592-001L 5X	Pb (220.353 nm)	-0.0004 u	> 100.00	1.0327
	R2401592-001L 5X	Sb (217.582 nm)	0.0017 u	> 100.00	15.2904
	R2401592-001L 5X	Se (196.026 nm)	0.0040 u	> 100.00	0.6244
	R2401592-001L 5X	Sn (189.925 nm)	0.0013	64.34	9.8508
	R2401592-001L 5X	Sr (216.596 nm)	0.8490	0.52	16181.9990
	R2401592-001L 5X	Ti (336.122 nm)	0.0009	19.11	-88.3490
	R2401592-001L 5X	Tl (190.794 nm)	0.0007 u	> 100.00	-5.2177
	R2401592-001L 5X	V (292.401 nm)	0.0000 u	> 100.00	-81.0065
	R2401592-001L 5X	Y (360.074 nm)	1.04	0.28	501082.48
	R2401592-001L 5X	Y_R (360.074 nm)	1.04	0.28	500661.74
	R2401592-001L 5X	Zn (213.857 nm)	0.0007	13.25	-38.9689
3/1/2024 19:39:15	R2401592-002	Ag (328.068 nm)	0.0003	10.32	-325.7451
	R2401592-002	Al (237.312 nm)	0.0505	1.97	229.0161
	R2401592-002	As (188.980 nm)	0.0011	> 100.00	-10.1579
	R2401592-002	B (249.772 nm)	0.0138	1.94	497.5640
	R2401592-002	Ba (230.424 nm)	0.0644	0.45	2896.5239
	R2401592-002	Be (313.107 nm)	0.0000	44.17	-199.6589
	R2401592-002	Ca (317.933 nm)	61.1319 o	0.44	2364203.8276
	R2401592-002	Cd (214.439 nm)	0.0000 u	> 100.00	-11.2934
	R2401592-002	Co (230.786 nm)	-0.0008 u	12.73	52.6645
	R2401592-002	Cr (267.716 nm)	0.0007	16.40	2.0651
	R2401592-002	Cu (327.395 nm)	0.0033	9.05	60.1981
	R2401592-002	Fe (234.350 nm)	0.0560	0.34	1441.8019
	R2401592-002	K (766.491 nm)	3.2067	0.79	3086.5249
	R2401592-002	Mg (279.078 nm)	20.6215	0.38	64724.0226
	R2401592-002	Mn (257.610 nm)	0.0068	0.56	2149.6734
	R2401592-002	Mo (202.032 nm)	0.0022	19.92	1.4151
	R2401592-002	Na (588.995 nm)	7.0370	0.14	53844.9737
	R2401592-002	Ni (230.299 nm)	-0.0016 u	23.99	92.3607
	R2401592-002	Pb (220.353 nm)	0.0004 u	> 100.00	5.4704
	R2401592-002	Sb (217.582 nm)	-0.0005 u	> 100.00	10.4887
	R2401592-002	Se (196.026 nm)	0.0028	16.68	-0.2566
	R2401592-002	Sn (189.925 nm)	-0.0001 u	> 100.00	5.7727
	R2401592-002	Sr (216.596 nm)	4.4444	0.47	84985.5925
	R2401592-002	Ti (336.122 nm)	0.0018	3.35	31.0793
	R2401592-002	Tl (190.794 nm)	0.0021	46.48	-3.5557
	R2401592-002	V (292.401 nm)	0.0004	34.09	-63.6663
	R2401592-002	Y (360.074 nm)	1.02	0.15	491013.71
	R2401592-002	Y_R (360.074 nm)	1.02	0.15	490579.24
	R2401592-002	Zn (213.857 nm)	0.0023	6.55	47.3291
3/1/2024 19:42:29	R2401591-001 10X	Ag (328.068 nm)	0.0003	3.70	-325.5140
	R2401591-001 10X	Al (237.312 nm)	-0.0033 u	25.01	104.6824
	R2401591-001 10X	As (188.980 nm)	0.0009 u	> 100.00	-10.5869
	R2401591-001 10X	B (249.772 nm)	0.0015	14.11	116.9329
	R2401591-001 10X	Ba (230.424 nm)	0.0854	0.89	3851.3549
	R2401591-001 10X	Be (313.107 nm)	0.0000	38.00	-197.3753
	R2401591-001 10X	Ca (317.933 nm)	192.1607 o	0.65	7425292.8093
	R2401591-001 10X	Cd (214.439 nm)	-0.0001 u	59.30	-17.0739

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DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001 10X	Co (230.786 nm)	-0.0003 u	73.98	60.3373
	R2401591-001 10X	Cr (267.716 nm)	0.0003	67.27	-13.5452
	R2401591-001 10X	Cu (327.395 nm)	0.0006	69.24	-33.8286
	R2401591-001 10X	Fe (234.350 nm)	0.0010	19.44	195.6723
	R2401591-001 10X	K (766.491 nm)	6.3035 OK	0.85	6079.0133
	R2401591-001 10X	Mg (279.078 nm)	1.3934	0.99	4322.9455
	R2401591-001 10X	Mn (257.610 nm)	0.0003	5.15	113.1665
	R2401591-001 10X	Mo (202.032 nm)	0.0004 u	> 100.00	-12.0957
	R2401591-001 10X	Na (588.995 nm)	98.2866 o	0.85	832668.5797
	R2401591-001 10X	Ni (230.299 nm)	-0.0009 u	40.03	100.3976
	R2401591-001 10X	Pb (220.353 nm)	0.0011	61.41	8.8608
	R2401591-001 10X	Sb (217.582 nm)	0.0008 u	> 100.00	13.2778
	R2401591-001 10X	Se (196.026 nm)	-0.0033 u	> 100.00	-4.8377
	R2401591-001 10X	Sn (189.925 nm)	0.0001 u	> 100.00	6.2588
	R2401591-001 10X	Sr (216.596 nm)	1.1437	0.75	21821.9592
	R2401591-001 10X	Ti (336.122 nm)	0.0019	1.76	39.4178
	R2401591-001 10X	Tl (190.794 nm)	0.0030	62.50	-2.5422
	R2401591-001 10X	V (292.401 nm)	-0.0002 u	> 100.00	-87.9925
	R2401591-001 10X	Y (360.074 nm)	0.97	0.14	468132.61
	R2401591-001 10X	Y_R (360.074 nm)	0.97	0.14	467709.97
	R2401591-001 10X	Zn (213.857 nm)	0.0003	8.13	-58.0167
3/1/2024 19:45:43	R2401591-001S 10X	Ag (328.068 nm)	0.0054	0.25	-27.3817
	R2401591-001S 10X	Al (237.312 nm)	0.1990	0.67	571.9778
	R2401591-001S 10X	As (188.980 nm)	0.0029	12.73	-6.9433
	R2401591-001S 10X	B (249.772 nm)	0.1033	0.51	3269.6855
	R2401591-001S 10X	Ba (230.424 nm)	0.2856	0.45	12949.9112
	R2401591-001S 10X	Be (313.107 nm)	0.0048	0.43	4893.5911
	R2401591-001S 10X	Ca (317.933 nm)	190.2613 o OK	0.52	7351929.2061
	R2401591-001S 10X	Cd (214.439 nm)	0.0050	1.50	292.9116
	R2401591-001S 10X	Co (230.786 nm)	0.0500	0.72	814.8167
	R2401591-001S 10X	Cr (267.716 nm)	0.0199	0.98	846.3165
	R2401591-001S 10X	Cu (327.395 nm)	0.0263	1.76	861.1384
	R2401591-001S 10X	Fe (234.350 nm)	0.0983	0.24	2398.1184
	R2401591-001S 10X	K (766.491 nm)	8.3516 OK	0.43	8058.1030
	R2401591-001S 10X	Mg (279.078 nm)	1.5708	0.22	4880.4253
	R2401591-001S 10X	Mn (257.610 nm)	0.0495	0.42	15499.0984
	R2401591-001S 10X	Mo (202.032 nm)	0.0507	0.39	369.8279
	R2401591-001S 10X	Na (588.995 nm)	98.8689 o	0.30	837637.7856
	R2401591-001S 10X	Ni (230.299 nm)	0.0511	0.76	688.4300
	R2401591-001S 10X	Pb (220.353 nm)	0.0512	3.19	268.6525
	R2401591-001S 10X	Sb (217.582 nm)	0.0517	3.46	125.5381
	R2401591-001S 10X	Se (196.026 nm)	0.1079	2.49	77.9256
	R2401591-001S 10X	Sn (189.925 nm)	0.5017	0.97	1452.8792
	R2401591-001S 10X	Sr (216.596 nm)	1.3250	0.50	25291.5996
	R2401591-001S 10X	Ti (336.122 nm)	0.0523	0.43	6559.4061
	R2401591-001S 10X	Tl (190.794 nm)	0.1975	0.95	225.8305
	R2401591-001S 10X	V (292.401 nm)	0.0490	0.24	1839.1964
	R2401591-001S 10X	Y (360.074 nm)	0.97	0.16	468695.89
	R2401591-001S 10X	Y_R (360.074 nm)	0.97	0.16	468267.24
	R2401591-001S 10X	Zn (213.857 nm)	0.0533	0.52	2847.0440
3/1/2024 19:48:57	Continuing Calibration Verification	Ag (328.068 nm)	0.5157	0.32	29469.2234
	Continuing Calibration Verification	Al (237.312 nm)	10.0249	0.10	23267.8715
	Continuing Calibration Verification	As (188.980 nm)	0.9780	0.45	1735.1725
	Continuing Calibration Verification	B (249.772 nm)	2.4554	0.30	76130.9843
	Continuing Calibration Verification	Ba (230.424 nm)	10.2188	0.58	464310.1104
	Continuing Calibration Verification	Be (313.107 nm)	0.2427	0.40	256582.0422
	Continuing Calibration Verification	Ca (317.933 nm)	25.5908	0.37	991400.5185

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Cd (214.439 nm)	0.5001	0.37	30633.6869
	Continuing Calibration Verification	Co (230.786 nm)	2.5367	0.67	38075.8646
	Continuing Calibration Verification	Cr (267.716 nm)	0.5135	0.41	22491.3544
	Continuing Calibration Verification	Cu (327.395 nm)	1.2584	0.20	43739.6737
	Continuing Calibration Verification	Fe (234.350 nm)	4.9889	0.42	113162.0739
	Continuing Calibration Verification	K (766.491 nm)	24.7559	0.31	23909.8874
	Continuing Calibration Verification	Mg (279.078 nm)	24.9281	0.36	78252.3178
	Continuing Calibration Verification	Mn (257.610 nm)	0.7473	0.34	234080.4916
	Continuing Calibration Verification	Mo (202.032 nm)	2.5555	0.46	19411.6310
	Continuing Calibration Verification	Na (588.995 nm)	25.7755	0.10	213779.6045
	Continuing Calibration Verification	Ni (230.299 nm)	2.0876	0.30	23713.3363
	Continuing Calibration Verification	Pb (220.353 nm)	0.5122	0.31	2659.9562
	Continuing Calibration Verification	Sb (217.582 nm)	4.9439	0.30	10917.8719
	Continuing Calibration Verification	Se (196.026 nm)	0.4928	0.81	364.1684
	Continuing Calibration Verification	Sn (189.925 nm)	5.0374	0.34	14533.2311
	Continuing Calibration Verification	Sr (216.596 nm)	2.4901	0.45	47587.2350
	Continuing Calibration Verification	Ti (336.122 nm)	2.5397	0.39	328472.7335
	Continuing Calibration Verification	Tl (190.794 nm)	1.0103	0.45	1180.2132
	Continuing Calibration Verification	V (292.401 nm)	2.5024	0.38	97915.7481
	Continuing Calibration Verification	Y (360.074 nm)	1.01	0.20	484711.60
	Continuing Calibration Verification	Y_R (360.074 nm)	1.01	0.20	484284.84
	Continuing Calibration Verification	Zn (213.857 nm)	0.9884	0.37	54165.4127
3/1/2024 19:52:11	Continuing Calibration Blank	Ag (328.068 nm)	0.0005	27.93	-315.2586
	Continuing Calibration Blank	Al (237.312 nm)	-0.0088 u	17.99	92.0779
	Continuing Calibration Blank	As (188.980 nm)	0.0016 u	> 100.00	-9.3400
	Continuing Calibration Blank	B (249.772 nm)	0.0011	34.66	103.6998
	Continuing Calibration Blank	Ba (230.424 nm)	0.0006	17.30	-0.0481
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	35.92	-187.9052
	Continuing Calibration Blank	Ca (317.933 nm)	0.0008	50.41	2966.1428
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-14.6650
	Continuing Calibration Blank	Co (230.786 nm)	-0.0005 u	57.66	57.8702
	Continuing Calibration Blank	Cr (267.716 nm)	0.0005	6.91	-7.3801
	Continuing Calibration Blank	Cu (327.395 nm)	0.0007	24.71	-32.0877
	Continuing Calibration Blank	Fe (234.350 nm)	0.0013	29.19	202.3458
	Continuing Calibration Blank	K (766.491 nm)	0.1485	25.37	131.3661
	Continuing Calibration Blank	Mg (279.078 nm)	0.0042	21.32	-40.9325
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	> 100.00	11.5664
	Continuing Calibration Blank	Mo (202.032 nm)	0.0030	29.18	7.1649
	Continuing Calibration Blank	Na (588.995 nm)	0.3530	1.55	-3202.8680
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0018 u	22.93	90.6959
	Continuing Calibration Blank	Pb (220.353 nm)	0.0003 u	> 100.00	4.6692
	Continuing Calibration Blank	Sb (217.582 nm)	0.0066	36.23	26.1081
	Continuing Calibration Blank	Se (196.026 nm)	-0.0010 u	86.07	-3.0727
	Continuing Calibration Blank	Sn (189.925 nm)	0.0005 u	> 100.00	7.3487
	Continuing Calibration Blank	Sr (216.596 nm)	0.0008	29.98	-50.8279
	Continuing Calibration Blank	Ti (336.122 nm)	0.0017	23.73	20.0535
	Continuing Calibration Blank	Tl (190.794 nm)	0.0003 u	> 100.00	-5.7441
	Continuing Calibration Blank	V (292.401 nm)	0.0002	64.19	-72.8616
	Continuing Calibration Blank	Y (360.074 nm)	1.04	0.29	502230.29
	Continuing Calibration Blank	Y_R (360.074 nm)	1.04	0.29	501804.07
	Continuing Calibration Blank	Zn (213.857 nm)	0.0001	20.33	-69.6261
3/1/2024 19:55:25	R2401591-001SD 10X	Ag (328.068 nm)	0.0055	2.09	-25.5566
	R2401591-001SD 10X	Al (237.312 nm)	0.1959	0.62	564.8752
	R2401591-001SD 10X	As (188.980 nm)	0.0035	47.72	-5.8530
	R2401591-001SD 10X	B (249.772 nm)	0.1022	0.50	3235.5069
	R2401591-001SD 10X	Ba (230.424 nm)	0.2805	0.31	12715.6237
	R2401591-001SD 10X	Be (313.107 nm)	0.0048	0.29	4817.6930

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001SD 10X	Ca (317.933 nm)	187.9703 o OK	0.35	7263436.8540
	R2401591-001SD 10X	Cd (214.439 nm)	0.0049	1.91	289.0099
	R2401591-001SD 10X	Co (230.786 nm)	0.0490	1.61	799.0551
	R2401591-001SD 10X	Cr (267.716 nm)	0.0197	0.69	835.0980
	R2401591-001SD 10X	Cu (327.395 nm)	0.0260	1.58	848.5382
	R2401591-001SD 10X	Fe (234.350 nm)	0.0967	0.38	2363.1636
	R2401591-001SD 10X	K (766.491 nm)	8.1744 OK	0.82	7886.9427
	R2401591-001SD 10X	Mg (279.078 nm)	1.5458	0.39	4801.8036
	R2401591-001SD 10X	Mn (257.610 nm)	0.0486	0.26	15239.2020
	R2401591-001SD 10X	Mo (202.032 nm)	0.0498	1.14	362.9805
	R2401591-001SD 10X	Na (588.995 nm)	97.7719 o	0.15	828274.7964
	R2401591-001SD 10X	Ni (230.299 nm)	0.0495	0.34	670.6308
	R2401591-001SD 10X	Pb (220.353 nm)	0.0517	0.71	271.6975
	R2401591-001SD 10X	Sb (217.582 nm)	0.0520	0.48	126.2030
	R2401591-001SD 10X	Se (196.026 nm)	0.1073	0.98	77.4699
	R2401591-001SD 10X	Sn (189.925 nm)	0.4924	0.53	1426.1428
	R2401591-001SD 10X	Sr (216.596 nm)	1.3063	0.27	24932.2687
	R2401591-001SD 10X	Ti (336.122 nm)	0.0517	0.27	6483.5721
	R2401591-001SD 10X	Tl (190.794 nm)	0.1961	0.58	224.1472
	R2401591-001SD 10X	V (292.401 nm)	0.0480	0.62	1799.2918
	R2401591-001SD 10X	Y (360.074 nm)	0.97	0.11	468290.52
	R2401591-001SD 10X	Y_R (360.074 nm)	0.97	0.11	467879.46
	R2401591-001SD 10X	Zn (213.857 nm)	0.0523	0.44	2796.1757
3/1/2024 19:58:39	R2401591-001A 10X	Ag (328.068 nm)	0.0536	0.38	2757.9320
	R2401591-001A 10X	Al (237.312 nm)	2.0261	0.29	4792.1220
	R2401591-001A 10X	As (188.980 nm)	0.0392	5.51	57.7834
	R2401591-001A 10X	B (249.772 nm)	1.0393	0.42	32266.2621
	R2401591-001A 10X	Ba (230.424 nm)	2.0868	0.43	94793.6226
	R2401591-001A 10X	Be (313.107 nm)	0.0491	0.37	51715.5651
	R2401591-001A 10X	Ca (317.933 nm)	190.9713 o	0.48	7379353.7054
	R2401591-001A 10X	Cd (214.439 nm)	0.0503	0.54	3069.7813
	R2401591-001A 10X	Co (230.786 nm)	0.5074	0.57	7668.6309
	R2401591-001A 10X	Cr (267.716 nm)	0.1996	0.40	8724.9055
	R2401591-001A 10X	Cu (327.395 nm)	0.2627	0.49	9086.8050
	R2401591-001A 10X	Fe (234.350 nm)	0.9844	0.55	22466.6121
	R2401591-001A 10X	K (766.491 nm)	27.3708	0.34	26436.7122
	R2401591-001A 10X	Mg (279.078 nm)	3.3120	0.45	10350.0331
	R2401591-001A 10X	Mn (257.610 nm)	0.4912	0.40	153854.3934
	R2401591-001A 10X	Mo (202.032 nm)	0.5002	1.34	3787.4074
	R2401591-001A 10X	Na (588.995 nm)	116.1997 o	0.29	985558.2462
	R2401591-001A 10X	Ni (230.299 nm)	0.5173	0.55	5959.2739
	R2401591-001A 10X	Pb (220.353 nm)	0.5120	0.34	2658.9814
	R2401591-001A 10X	Sb (217.582 nm)	0.5169	0.67	1151.9731
	R2401591-001A 10X	Se (196.026 nm)	1.0880 o	1.15	806.8755
	R2401591-001A 10X	Sn (189.925 nm)	4.9884	0.45	14392.0546
	R2401591-001A 10X	Sr (216.596 nm)	3.0480	0.66	58262.6098
	R2401591-001A 10X	Ti (336.122 nm)	0.5022	0.45	64785.3186
	R2401591-001A 10X	Tl (190.794 nm)	1.9971	0.36	2338.8767
	R2401591-001A 10X	V (292.401 nm)	0.4988	0.44	19454.3660
	R2401591-001A 10X	Y (360.074 nm)	0.97	0.06	465751.69
	R2401591-001A 10X	Y_R (360.074 nm)	0.97	0.06	465333.49
	R2401591-001A 10X	Zn (213.857 nm)	0.5380	0.45	29446.4014
3/1/2024 20:01:52	R2401591-001L 50X	Ag (328.068 nm)	0.0005	15.90	-312.5969
	R2401591-001L 50X	Al (237.312 nm)	-0.0070 u	32.44	96.0698
	R2401591-001L 50X	As (188.980 nm)	0.0024	37.15	-7.8601
	R2401591-001L 50X	B (249.772 nm)	0.0006	54.68	89.7449
	R2401591-001L 50X	Ba (230.424 nm)	0.0162	0.93	706.4848

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001L 50X	Be (313.107 nm)	0.0000	> 100.00	-205.2101
	R2401591-001L 50X	Ca (317.933 nm)	37.2416	0.42	1441423.2767
	R2401591-001L 50X	Cd (214.439 nm)	0.0000 u	> 100.00	-13.6152
	R2401591-001L 50X	Co (230.786 nm)	-0.0009 u	16.68	52.2216
	R2401591-001L 50X	Cr (267.716 nm)	0.0003	9.69	-13.6421
	R2401591-001L 50X	Cu (327.395 nm)	0.0003	83.23	-44.8686
	R2401591-001L 50X	Fe (234.350 nm)	0.0008	7.82	189.5623
	R2401591-001L 50X	K (766.491 nm)	1.1776	3.47	1125.7902
	R2401591-001L 50X	Mg (279.078 nm)	0.2656	0.74	780.3855
	R2401591-001L 50X	Mn (257.610 nm)	0.0001	24.01	27.4829
	R2401591-001L 50X	Mo (202.032 nm)	0.0015	24.92	-4.2387
	R2401591-001L 50X	Na (588.995 nm)	18.2183	0.23	149278.2081
	R2401591-001L 50X	Ni (230.299 nm)	-0.0012 u	49.11	96.8916
	R2401591-001L 50X	Pb (220.353 nm)	0.0006 u	> 100.00	6.4983
	R2401591-001L 50X	Sb (217.582 nm)	0.0006 u	> 100.00	13.0290
	R2401591-001L 50X	Se (196.026 nm)	0.0030	53.48	-0.1553
	R2401591-001L 50X	Sn (189.925 nm)	0.0012	51.71	9.5784
	R2401591-001L 50X	Sr (216.596 nm)	0.2158	0.46	4064.8039
	R2401591-001L 50X	Ti (336.122 nm)	0.0009	11.89	-84.3018
	R2401591-001L 50X	Tl (190.794 nm)	0.0012	44.50	-4.6206
	R2401591-001L 50X	V (292.401 nm)	0.0002 u	> 100.00	-73.5697
	R2401591-001L 50X	Y (360.074 nm)	1.02	0.10	490861.64
	R2401591-001L 50X	Y_R (360.074 nm)	1.02	0.10	490445.72
	R2401591-001L 50X	Zn (213.857 nm)	0.0002	11.82	-64.1374
3/1/2024 20:05:06	R2401591-002 10X	Ag (328.068 nm)	0.0003	28.03	-324.7807
	R2401591-002 10X	Al (237.312 nm)	-0.0015 u	> 100.00	108.8131
	R2401591-002 10X	As (188.980 nm)	0.0004 u	> 100.00	-11.4825
	R2401591-002 10X	B (249.772 nm)	0.0015	5.99	118.2349
	R2401591-002 10X	Ba (230.424 nm)	0.0434	0.23	1943.5686
	R2401591-002 10X	Be (313.107 nm)	0.0000	> 100.00	-206.9556
	R2401591-002 10X	Ca (317.933 nm)	146.3854 o OK	0.06	5657185.8743
	R2401591-002 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-14.3400
	R2401591-002 10X	Co (230.786 nm)	-0.0007 u	> 100.00	55.4646
	R2401591-002 10X	Cr (267.716 nm)	0.0004	24.83	-12.3068
	R2401591-002 10X	Cu (327.395 nm)	0.0008	17.13	-26.8774
	R2401591-002 10X	Fe (234.350 nm)	0.0040	2.62	262.5833
	R2401591-002 10X	K (766.491 nm)	8.5864 OK	0.17	8285.0477
	R2401591-002 10X	Mg (279.078 nm)	0.0102	14.82	-21.8231
	R2401591-002 10X	Mn (257.610 nm)	0.0001	37.63	33.5053
	R2401591-002 10X	Mo (202.032 nm)	0.0009	37.25	-8.2524
	R2401591-002 10X	Na (588.995 nm)	48.7318	0.38	409713.7823
	R2401591-002 10X	Ni (230.299 nm)	-0.0007 u	80.62	102.7740
	R2401591-002 10X	Pb (220.353 nm)	0.0009	56.22	8.1962
	R2401591-002 10X	Sb (217.582 nm)	0.0002 u	> 100.00	12.0602
	R2401591-002 10X	Se (196.026 nm)	0.0000 u	> 100.00	-2.3915
	R2401591-002 10X	Sn (189.925 nm)	-0.0007 u	> 100.00	4.0787
	R2401591-002 10X	Sr (216.596 nm)	0.5996	0.24	11408.5364
	R2401591-002 10X	Ti (336.122 nm)	0.0017	6.19	20.9416
	R2401591-002 10X	Tl (190.794 nm)	0.0054	56.66	0.2819
	R2401591-002 10X	V (292.401 nm)	0.0001	> 100.00	-77.5722
	R2401591-002 10X	Y (360.074 nm)	0.99	0.17	476135.05
	R2401591-002 10X	Y_R (360.074 nm)	0.99	0.16	475738.47
	R2401591-002 10X	Zn (213.857 nm)	0.0002	73.73	-66.6671
3/1/2024 20:08:19	R2401591-003 10X	Ag (328.068 nm)	0.0004	28.60	-319.9029
	R2401591-003 10X	Al (237.312 nm)	-0.0018 u	> 100.00	108.0913
	R2401591-003 10X	As (188.980 nm)	0.0015 u	> 100.00	-9.4118
	R2401591-003 10X	B (249.772 nm)	0.0030	5.34	165.3516

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-003 10X	Ba (230.424 nm)	0.0248	0.37	1097.4590
	R2401591-003 10X	Be (313.107 nm)	0.0000	> 100.00	-203.5689
	R2401591-003 10X	Ca (317.933 nm)	80.7486 o OK	0.43	3121913.2804
	R2401591-003 10X	Cd (214.439 nm)	-0.0001 u	91.39	-16.9242
	R2401591-003 10X	Co (230.786 nm)	-0.0003 u	58.04	61.3977
	R2401591-003 10X	Cr (267.716 nm)	0.0006	19.18	0.1842
	R2401591-003 10X	Cu (327.395 nm)	0.0011	38.95	-19.1156
	R2401591-003 10X	Fe (234.350 nm)	0.0057	1.02	302.2602
	R2401591-003 10X	K (766.491 nm)	4.4507	0.81	4288.6376
	R2401591-003 10X	Mg (279.078 nm)	0.0472	3.28	94.1729
	R2401591-003 10X	Mn (257.610 nm)	0.0005	4.70	156.1478
	R2401591-003 10X	Mo (202.032 nm)	0.0013	28.89	-5.1668
	R2401591-003 10X	Na (588.995 nm)	23.2400	0.20	192139.1397
	R2401591-003 10X	Ni (230.299 nm)	-0.0014 u	36.29	94.3505
	R2401591-003 10X	Pb (220.353 nm)	0.0005	39.09	5.9067
	R2401591-003 10X	Sb (217.582 nm)	-0.0002 u	> 100.00	11.0966
	R2401591-003 10X	Se (196.026 nm)	0.0035 u	> 100.00	0.2170
	R2401591-003 10X	Sn (189.925 nm)	-0.0007 u	> 100.00	4.0767
	R2401591-003 10X	Sr (216.596 nm)	0.4600	0.39	8737.0758
	R2401591-003 10X	Ti (336.122 nm)	0.0009	4.38	-86.7086
	R2401591-003 10X	Tl (190.794 nm)	0.0034	69.88	-2.0988
	R2401591-003 10X	V (292.401 nm)	0.0003	43.95	-69.3882
	R2401591-003 10X	Y (360.074 nm)	1.01	0.13	484729.63
	R2401591-003 10X	Y_R (360.074 nm)	1.01	0.13	484337.72
	R2401591-003 10X	Zn (213.857 nm)	0.0004	16.25	-54.7521
3/1/2024 20:11:33	R2401591-004 10X	Ag (328.068 nm)	0.0004	8.31	-318.0097
	R2401591-004 10X	Al (237.312 nm)	0.0035	72.76	120.4903
	R2401591-004 10X	As (188.980 nm)	0.0007	56.35	-10.9643
	R2401591-004 10X	B (249.772 nm)	0.0031	9.12	166.9601
	R2401591-004 10X	Ba (230.424 nm)	0.0249	0.53	1104.7734
	R2401591-004 10X	Be (313.107 nm)	0.0000	43.48	-202.1710
	R2401591-004 10X	Ca (317.933 nm)	81.4454 o OK	0.30	3148827.2233
	R2401591-004 10X	Cd (214.439 nm)	-0.0001 u	89.14	-15.6704
	R2401591-004 10X	Co (230.786 nm)	-0.0006 u	55.85	56.0527
	R2401591-004 10X	Cr (267.716 nm)	0.0023	5.93	70.9619
	R2401591-004 10X	Cu (327.395 nm)	0.0010	33.01	-19.8462
	R2401591-004 10X	Fe (234.350 nm)	0.0180	1.92	580.1629
	R2401591-004 10X	K (766.491 nm)	4.4999	0.32	4336.1381
	R2401591-004 10X	Mg (279.078 nm)	0.0466	2.58	92.3145
	R2401591-004 10X	Mn (257.610 nm)	0.0005	4.18	169.3674
	R2401591-004 10X	Mo (202.032 nm)	0.0016	9.20	-3.0906
	R2401591-004 10X	Na (588.995 nm)	23.5410	0.15	194707.9154
	R2401591-004 10X	Ni (230.299 nm)	-0.0010 u	57.69	99.3124
	R2401591-004 10X	Pb (220.353 nm)	0.0003 u	> 100.00	4.7698
	R2401591-004 10X	Sb (217.582 nm)	-0.0010 u	> 100.00	9.3082
	R2401591-004 10X	Se (196.026 nm)	0.0005 u	> 100.00	-1.9666
	R2401591-004 10X	Sn (189.925 nm)	0.0005	87.81	7.6175
	R2401591-004 10X	Sr (216.596 nm)	0.4644	0.31	8820.9346
	R2401591-004 10X	Ti (336.122 nm)	0.0010	2.28	-66.9081
	R2401591-004 10X	Tl (190.794 nm)	0.0020	50.36	-3.7194
	R2401591-004 10X	V (292.401 nm)	0.0000 u	> 100.00	-80.5460
	R2401591-004 10X	Y (360.074 nm)	1.01	0.21	485383.43
	R2401591-004 10X	Y_R (360.074 nm)	1.01	0.21	484946.83
	R2401591-004 10X	Zn (213.857 nm)	0.0008	17.23	-34.3142
3/1/2024 20:14:47	R2401591-006 10X	Ag (328.068 nm)	0.0004	34.85	-317.3774
	R2401591-006 10X	Al (237.312 nm)	-0.0064 u	8.45	97.5256
	R2401591-006 10X	As (188.980 nm)	0.0000 u	> 100.00	-12.1073

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-006 10X	B (249.772 nm)	0.0000 u	> 100.00	72.2682
	R2401591-006 10X	Ba (230.424 nm)	0.0002	37.28	-21.0352
	R2401591-006 10X	Be (313.107 nm)	0.0000 u	> 100.00	-207.9573
	R2401591-006 10X	Ca (317.933 nm)	0.0079	5.03	3240.4253
	R2401591-006 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-13.3825
	R2401591-006 10X	Co (230.786 nm)	-0.0009 u	61.55	51.6899
	R2401591-006 10X	Cr (267.716 nm)	0.0004	20.91	-10.8155
	R2401591-006 10X	Cu (327.395 nm)	0.0002 u	> 100.00	-48.6003
	R2401591-006 10X	Fe (234.350 nm)	0.0005	11.57	182.9457
	R2401591-006 10X	K (766.491 nm)	0.0919	40.12	76.6871
	R2401591-006 10X	Mg (279.078 nm)	0.0035	3.24	-43.0753
	R2401591-006 10X	Mn (257.610 nm)	0.0000 u	44.74	-0.1850
	R2401591-006 10X	Mo (202.032 nm)	0.0002 u	> 100.00	-13.4405
	R2401591-006 10X	Na (588.995 nm)	0.2936	0.70	-3709.9820
	R2401591-006 10X	Ni (230.299 nm)	-0.0024 u	16.46	83.6281
	R2401591-006 10X	Pb (220.353 nm)	-0.0002 u	> 100.00	2.3442
	R2401591-006 10X	Sb (217.582 nm)	0.0004 u	> 100.00	12.4317
	R2401591-006 10X	Se (196.026 nm)	-0.0016 u	> 100.00	-3.5326
	R2401591-006 10X	Sn (189.925 nm)	0.0000 u	> 100.00	6.1087
	R2401591-006 10X	Sr (216.596 nm)	0.0008	12.31	-50.4878
	R2401591-006 10X	Ti (336.122 nm)	0.0002	62.43	-174.1721
	R2401591-006 10X	Tl (190.794 nm)	0.0016	70.31	-4.2304
	R2401591-006 10X	V (292.401 nm)	0.0002 u	> 100.00	-72.0588
	R2401591-006 10X	Y (360.074 nm)	1.04	0.27	503288.72
	R2401591-006 10X	Y_R (360.074 nm)	1.04	0.27	502845.92
	R2401591-006 10X	Zn (213.857 nm)	0.0004	15.67	-56.5769
3/1/2024 20:18:00	R2401592-001 10X	Ag (328.068 nm)	0.0004	22.83	-320.2864
	R2401592-001 10X	Al (237.312 nm)	-0.0067 u	28.29	96.7927
	R2401592-001 10X	As (188.980 nm)	-0.0006 u	> 100.00	-13.1526
	R2401592-001 10X	B (249.772 nm)	0.0011	19.75	106.5035
	R2401592-001 10X	Ba (230.424 nm)	0.0066	0.44	273.4949
	R2401592-001 10X	Be (313.107 nm)	0.0000 u	> 100.00	-203.3761
	R2401592-001 10X	Ca (317.933 nm)	6.3590	0.46	248558.1259
	R2401592-001 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-14.7574
	R2401592-001 10X	Co (230.786 nm)	-0.0012 u	35.16	47.6571
	R2401592-001 10X	Cr (267.716 nm)	0.0005	17.15	-4.1507
	R2401592-001 10X	Cu (327.395 nm)	0.0008	31.85	-27.1472
	R2401592-001 10X	Fe (234.350 nm)	0.0052	2.50	290.3504
	R2401592-001 10X	K (766.491 nm)	0.4049	2.44	379.1164
	R2401592-001 10X	Mg (279.078 nm)	2.1414	0.53	6672.8368
	R2401592-001 10X	Mn (257.610 nm)	0.0006	1.37	209.2860
	R2401592-001 10X	Mo (202.032 nm)	0.0005	58.56	-11.3404
	R2401592-001 10X	Na (588.995 nm)	0.9014	0.61	1477.3685
	R2401592-001 10X	Ni (230.299 nm)	-0.0020 u	17.58	87.7484
	R2401592-001 10X	Pb (220.353 nm)	-0.0002 u	> 100.00	2.4884
	R2401592-001 10X	Sb (217.582 nm)	0.0003 u	> 100.00	12.1754
	R2401592-001 10X	Se (196.026 nm)	-0.0006 u	> 100.00	-2.7698
	R2401592-001 10X	Sn (189.925 nm)	-0.0002 u	> 100.00	5.4576
	R2401592-001 10X	Sr (216.596 nm)	0.4630	0.69	8794.6942
	R2401592-001 10X	Ti (336.122 nm)	0.0003	28.84	-160.5140
	R2401592-001 10X	Tl (190.794 nm)	0.0008 u	> 100.00	-5.0950
	R2401592-001 10X	V (292.401 nm)	0.0001	> 100.00	-77.5424
	R2401592-001 10X	Y (360.074 nm)	1.04	0.18	500993.68
	R2401592-001 10X	Y_R (360.074 nm)	1.04	0.18	500548.89
	R2401592-001 10X	Zn (213.857 nm)	0.0004	13.22	-54.9954
3/1/2024 20:21:14	R2401592-001S 10X	Ag (328.068 nm)	0.0057	2.27	-11.3885
	R2401592-001S 10X	Al (237.312 nm)	0.1952	0.58	563.1735

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001S 10X	As (188.980 nm)	0.0046	23.58	-4.0289
	R2401592-001S 10X	B (249.772 nm)	0.0991	0.47	3139.5647
	R2401592-001S 10X	Ba (230.424 nm)	0.2131	0.47	9655.6817
	R2401592-001S 10X	Be (313.107 nm)	0.0049	0.56	4990.0602
	R2401592-001S 10X	Ca (317.933 nm)	6.3794	0.29	249343.8606
	R2401592-001S 10X	Cd (214.439 nm)	0.0050	1.52	296.7696
	R2401592-001S 10X	Co (230.786 nm)	0.0510	0.51	829.2255
	R2401592-001S 10X	Cr (267.716 nm)	0.0207	0.74	880.6714
	R2401592-001S 10X	Cu (327.395 nm)	0.0262	1.15	855.3888
	R2401592-001S 10X	Fe (234.350 nm)	0.1058	0.15	2568.4661
	R2401592-001S 10X	K (766.491 nm)	2.3032	2.16	2213.4580
	R2401592-001S 10X	Mg (279.078 nm)	2.2912	0.25	7143.1827
	R2401592-001S 10X	Mn (257.610 nm)	0.0517	0.31	16213.6162
	R2401592-001S 10X	Mo (202.032 nm)	0.0504	2.26	367.7175
	R2401592-001S 10X	Na (588.995 nm)	2.8384	0.13	18009.8564
	R2401592-001S 10X	Ni (230.299 nm)	0.0506	1.08	682.7913
	R2401592-001S 10X	Pb (220.353 nm)	0.0520	1.65	273.2612
	R2401592-001S 10X	Sb (217.582 nm)	0.0513	3.11	124.7026
	R2401592-001S 10X	Se (196.026 nm)	0.1035	1.13	74.6234
	R2401592-001S 10X	Sn (189.925 nm)	0.5068	0.25	1467.5168
	R2401592-001S 10X	Sr (216.596 nm)	0.6514	0.37	12399.7139
	R2401592-001S 10X	Ti (336.122 nm)	0.0499	0.58	6258.8794
	R2401592-001S 10X	Tl (190.794 nm)	0.2037	0.48	233.0890
	R2401592-001S 10X	V (292.401 nm)	0.0490	0.45	1837.4121
	R2401592-001S 10X	Y (360.074 nm)	1.04	0.15	499450.88
	R2401592-001S 10X	Y_R (360.074 nm)	1.04	0.15	498998.83
	R2401592-001S 10X	Zn (213.857 nm)	0.0511	0.37	2729.2687
3/1/2024 20:24:27	R2401592-001SD 10X	Ag (328.068 nm)	0.0055	2.97	-22.4041
	R2401592-001SD 10X	Al (237.312 nm)	0.1904	0.16	552.1349
	R2401592-001SD 10X	As (188.980 nm)	0.0041	22.58	-4.8168
	R2401592-001SD 10X	B (249.772 nm)	0.0973	0.51	3085.0085
	R2401592-001SD 10X	Ba (230.424 nm)	0.2079	0.31	9420.5384
	R2401592-001SD 10X	Be (313.107 nm)	0.0048	0.48	4879.3567
	R2401592-001SD 10X	Ca (317.933 nm)	6.2999	0.42	246272.7714
	R2401592-001SD 10X	Cd (214.439 nm)	0.0049	0.63	287.8197
	R2401592-001SD 10X	Co (230.786 nm)	0.0501	0.17	816.7197
	R2401592-001SD 10X	Cr (267.716 nm)	0.0203	1.20	862.7800
	R2401592-001SD 10X	Cu (327.395 nm)	0.0253	0.59	825.1444
	R2401592-001SD 10X	Fe (234.350 nm)	0.1034	0.56	2513.9572
	R2401592-001SD 10X	K (766.491 nm)	2.1895	1.94	2103.5705
	R2401592-001SD 10X	Mg (279.078 nm)	2.2609	0.37	7048.2400
	R2401592-001SD 10X	Mn (257.610 nm)	0.0505	0.39	15836.5132
	R2401592-001SD 10X	Mo (202.032 nm)	0.0491	1.71	358.2299
	R2401592-001SD 10X	Na (588.995 nm)	2.7808	0.09	17518.5368
	R2401592-001SD 10X	Ni (230.299 nm)	0.0498	0.36	674.1932
	R2401592-001SD 10X	Pb (220.353 nm)	0.0516	2.81	271.1945
	R2401592-001SD 10X	Sb (217.582 nm)	0.0513	2.45	124.6592
	R2401592-001SD 10X	Se (196.026 nm)	0.1022	5.25	73.6743
	R2401592-001SD 10X	Sn (189.925 nm)	0.4981	0.26	1442.4441
	R2401592-001SD 10X	Sr (216.596 nm)	0.6419	0.37	12219.3951
	R2401592-001SD 10X	Ti (336.122 nm)	0.0488	0.39	6117.8708
	R2401592-001SD 10X	Tl (190.794 nm)	0.1999	0.84	228.7023
	R2401592-001SD 10X	V (292.401 nm)	0.0478	0.40	1790.2716
	R2401592-001SD 10X	Y (360.074 nm)	1.04	0.10	500929.58
	R2401592-001SD 10X	Y_R (360.074 nm)	1.04	0.10	500470.07
	R2401592-001SD 10X	Zn (213.857 nm)	0.0500	0.21	2668.6149
3/1/2024 20:27:42	Continuing Calibration Verification	Ag (328.068 nm)	0.5145	0.26	29396.6908

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Al (237.312 nm)	10.0129	0.06	23239.9640
	Continuing Calibration Verification	As (188.980 nm)	0.9801	0.22	1738.8737
	Continuing Calibration Verification	B (249.772 nm)	2.4413	0.21	75695.8758
	Continuing Calibration Verification	Ba (230.424 nm)	10.1812	0.32	462600.1387
	Continuing Calibration Verification	Be (313.107 nm)	0.2410	0.24	254800.0684
	Continuing Calibration Verification	Ca (317.933 nm)	25.3664	0.34	982732.1245
	Continuing Calibration Verification	Cd (214.439 nm)	0.4975	0.41	30473.2204
	Continuing Calibration Verification	Co (230.786 nm)	2.5291	0.19	37961.7198
	Continuing Calibration Verification	Cr (267.716 nm)	0.5115	0.24	22404.6260
	Continuing Calibration Verification	Cu (327.395 nm)	1.2535	0.11	43567.8105
	Continuing Calibration Verification	Fe (234.350 nm)	4.9645	0.32	112610.4383
	Continuing Calibration Verification	K (766.491 nm)	24.6616	0.28	23818.7399
	Continuing Calibration Verification	Mg (279.078 nm)	24.7866	0.26	77807.8616
	Continuing Calibration Verification	Mn (257.610 nm)	0.7428	0.29	232686.5086
	Continuing Calibration Verification	Mo (202.032 nm)	2.5368	0.36	19269.0305
	Continuing Calibration Verification	Na (588.995 nm)	25.6396	0.10	212619.7419
	Continuing Calibration Verification	Ni (230.299 nm)	2.0774	0.31	23598.0774
	Continuing Calibration Verification	Pb (220.353 nm)	0.5078	0.07	2637.1538
	Continuing Calibration Verification	Sb (217.582 nm)	4.9292	0.23	10885.4447
	Continuing Calibration Verification	Se (196.026 nm)	0.4865	0.88	359.4487
	Continuing Calibration Verification	Sn (189.925 nm)	5.0115	0.29	14458.5447
	Continuing Calibration Verification	Sr (216.596 nm)	2.4702	0.17	47206.2649
	Continuing Calibration Verification	Ti (336.122 nm)	2.5295	0.37	327148.4358
	Continuing Calibration Verification	Tl (190.794 nm)	1.0017	0.57	1170.1779
	Continuing Calibration Verification	V (292.401 nm)	2.4904	0.30	97445.4452
	Continuing Calibration Verification	Y (360.074 nm)	1.01	0.38	485129.07
	Continuing Calibration Verification	Y_R (360.074 nm)	1.01	0.37	484657.47
	Continuing Calibration Verification	Zn (213.857 nm)	0.9854	0.15	53999.5700
3/1/2024 20:30:55	Continuing Calibration Blank	Ag (328.068 nm)	0.0004	13.68	-319.8729
	Continuing Calibration Blank	Al (237.312 nm)	-0.0067 u	20.81	96.7903
	Continuing Calibration Blank	As (188.980 nm)	0.0013	77.73	-9.7913
	Continuing Calibration Blank	B (249.772 nm)	0.0010	32.99	100.9006
	Continuing Calibration Blank	Ba (230.424 nm)	0.0007	26.98	2.5426
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	21.68	-185.2684
	Continuing Calibration Blank	Ca (317.933 nm)	0.0000 u	> 100.00	2936.7613
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-14.6744
	Continuing Calibration Blank	Co (230.786 nm)	-0.0007 u	26.26	54.8386
	Continuing Calibration Blank	Cr (267.716 nm)	0.0003	4.54	-15.0408
	Continuing Calibration Blank	Cu (327.395 nm)	0.0006	36.78	-36.4574
	Continuing Calibration Blank	Fe (234.350 nm)	0.0016	8.72	208.4533
	Continuing Calibration Blank	K (766.491 nm)	0.0598	39.16	45.6047
	Continuing Calibration Blank	Mg (279.078 nm)	0.0042	22.77	-40.7839
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000 u	> 100.00	9.6022
	Continuing Calibration Blank	Mo (202.032 nm)	0.0024	27.53	2.9015
	Continuing Calibration Blank	Na (588.995 nm)	0.2444	0.28	-4129.7096
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0018 u	29.12	90.1087
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0006 u	4.62	0.0935
	Continuing Calibration Blank	Sb (217.582 nm)	0.0051	32.33	22.8533
	Continuing Calibration Blank	Se (196.026 nm)	0.0018	60.32	-1.0023
	Continuing Calibration Blank	Sn (189.925 nm)	0.0000 u	> 100.00	5.9452
	Continuing Calibration Blank	Sr (216.596 nm)	0.0006	18.59	-53.1773
	Continuing Calibration Blank	Ti (336.122 nm)	0.0018	18.07	29.5169
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0013 u	84.85	-7.6392
	Continuing Calibration Blank	V (292.401 nm)	0.0001 u	> 100.00	-74.9717
	Continuing Calibration Blank	Y (360.074 nm)	1.04	0.17	501831.90
	Continuing Calibration Blank	Y_R (360.074 nm)	1.04	0.17	501351.08
	Continuing Calibration Blank	Zn (213.857 nm)	0.0002	39.83	-65.1496

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/1/2024 20:34:09	R2401592-001A 10X	Ag (328.068 nm)	0.0513	0.32	2626.2973
	R2401592-001A 10X	Al (237.312 nm)	1.9504	0.14	4617.2308
	R2401592-001A 10X	As (188.980 nm)	0.0388	1.80	57.1536
	R2401592-001A 10X	B (249.772 nm)	0.9895	0.19	30722.9834
	R2401592-001A 10X	Ba (230.424 nm)	2.0096	0.29	91285.0120
	R2401592-001A 10X	Be (313.107 nm)	0.0486	0.29	51217.1002
	R2401592-001A 10X	Ca (317.933 nm)	7.7422	0.25	301985.5855
	R2401592-001A 10X	Cd (214.439 nm)	0.0504	0.52	3073.7511
	R2401592-001A 10X	Co (230.786 nm)	0.5070	0.40	7661.8150
	R2401592-001A 10X	Cr (267.716 nm)	0.1988	0.32	8689.2926
	R2401592-001A 10X	Cu (327.395 nm)	0.2521	0.13	8718.0193
	R2401592-001A 10X	Fe (234.350 nm)	0.9859	0.32	22502.2557
	R2401592-001A 10X	K (766.491 nm)	19.3720	0.03	18707.3828
	R2401592-001A 10X	Mg (279.078 nm)	3.8353	0.16	11993.7650
	R2401592-001A 10X	Mn (257.610 nm)	0.4898	0.24	153433.5482
	R2401592-001A 10X	Mo (202.032 nm)	0.4941	0.69	3740.9180
	R2401592-001A 10X	Na (588.995 nm)	20.4633	0.08	168439.6415
	R2401592-001A 10X	Ni (230.299 nm)	0.5177	0.48	5963.5794
	R2401592-001A 10X	Pb (220.353 nm)	0.5091	0.11	2643.7996
	R2401592-001A 10X	Sb (217.582 nm)	0.5059	0.45	1127.6539
	R2401592-001A 10X	Se (196.026 nm)	1.0443	0.32	774.3248
	R2401592-001A 10X	Sn (189.925 nm)	4.9473	0.20	14273.4116
	R2401592-001A 10X	Sr (216.596 nm)	2.3695	0.29	45277.8585
	R2401592-001A 10X	Ti (336.122 nm)	0.4900	0.29	63210.9949
	R2401592-001A 10X	Tl (190.794 nm)	2.0012	0.26	2343.7386
	R2401592-001A 10X	V (292.401 nm)	0.4846	0.27	18895.8232
	R2401592-001A 10X	Y (360.074 nm)	1.02	0.20	491717.78
	R2401592-001A 10X	Y_R (360.074 nm)	1.02	0.20	491294.91
	R2401592-001A 10X	Zn (213.857 nm)	0.5129	0.23	28069.6842
3/1/2024 20:37:23	R2401592-001L 50X	Ag (328.068 nm)	0.0004	50.33	-320.8635
	R2401592-001L 50X	Al (237.312 nm)	-0.0079 u	21.36	93.9564
	R2401592-001L 50X	As (188.980 nm)	0.0013	42.47	-9.7790
	R2401592-001L 50X	B (249.772 nm)	0.0006	36.70	90.4718
	R2401592-001L 50X	Ba (230.424 nm)	0.0015	5.43	42.0854
	R2401592-001L 50X	Be (313.107 nm)	0.0000	35.67	-197.4402
	R2401592-001L 50X	Ca (317.933 nm)	1.1685	0.37	48071.1719
	R2401592-001L 50X	Cd (214.439 nm)	0.0000 u	> 100.00	-15.1991
	R2401592-001L 50X	Co (230.786 nm)	-0.0007 u	2.37	54.8920
	R2401592-001L 50X	Cr (267.716 nm)	0.0005	6.99	-3.9893
	R2401592-001L 50X	Cu (327.395 nm)	0.0005	57.60	-37.2931
	R2401592-001L 50X	Fe (234.350 nm)	0.0017	12.12	210.3049
	R2401592-001L 50X	K (766.491 nm)	0.0793	12.58	64.4348
	R2401592-001L 50X	Mg (279.078 nm)	0.3984	0.16	1197.5413
	R2401592-001L 50X	Mn (257.610 nm)	0.0001	17.20	44.0915
	R2401592-001L 50X	Mo (202.032 nm)	0.0015	19.43	-3.6360
	R2401592-001L 50X	Na (588.995 nm)	0.3560	1.71	-3177.7250
	R2401592-001L 50X	Ni (230.299 nm)	-0.0018 u	34.10	89.9356
	R2401592-001L 50X	Pb (220.353 nm)	0.0002 u	> 100.00	4.2162
	R2401592-001L 50X	Sb (217.582 nm)	0.0021	64.21	16.2654
	R2401592-001L 50X	Se (196.026 nm)	0.0031	28.50	-0.0408
	R2401592-001L 50X	Sn (189.925 nm)	0.0003 u	> 100.00	6.9637
	R2401592-001L 50X	Sr (216.596 nm)	0.0866	0.55	1591.0266
	R2401592-001L 50X	Ti (336.122 nm)	0.0008	13.27	-92.6532
	R2401592-001L 50X	Tl (190.794 nm)	0.0011 u	> 100.00	-4.7333
	R2401592-001L 50X	V (292.401 nm)	0.0001 u	> 100.00	-78.2558
	R2401592-001L 50X	Y (360.074 nm)	1.04	0.14	502282.91
	R2401592-001L 50X	Y_R (360.074 nm)	1.04	0.14	501800.65

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001L 50X	Zn (213.857 nm)	0.0002	38.59	-65.5749
3/1/2024 20:40:37	R2401592-002 10X	Ag (328.068 nm)	0.0002	21.21	-329.1248
	R2401592-002 10X	Al (237.312 nm)	-0.0042 u	41.59	102.6660
	R2401592-002 10X	As (188.980 nm)	-0.0002 u	> 100.00	-12.5328
	R2401592-002 10X	B (249.772 nm)	0.0015	13.22	118.6725
	R2401592-002 10X	Ba (230.424 nm)	0.0066	0.44	272.3910
	R2401592-002 10X	Be (313.107 nm)	0.0000	64.82	-194.1750
	R2401592-002 10X	Ca (317.933 nm)	6.1954	0.47	242238.5965
	R2401592-002 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-11.5168
	R2401592-002 10X	Co (230.786 nm)	-0.0007 u	37.93	55.4012
	R2401592-002 10X	Cr (267.716 nm)	0.0003	62.82	-13.3461
	R2401592-002 10X	Cu (327.395 nm)	0.0008	27.48	-26.6201
	R2401592-002 10X	Fe (234.350 nm)	0.0062	2.78	313.6399
	R2401592-002 10X	K (766.491 nm)	0.3511	5.35	327.1648
	R2401592-002 10X	Mg (279.078 nm)	2.0783	0.37	6474.5217
	R2401592-002 10X	Mn (257.610 nm)	0.0007	2.90	221.1675
	R2401592-002 10X	Mo (202.032 nm)	0.0006	38.01	-10.5705
	R2401592-002 10X	Na (588.995 nm)	0.8613	0.59	1135.4467
	R2401592-002 10X	Ni (230.299 nm)	-0.0018 u	15.41	90.3025
	R2401592-002 10X	Pb (220.353 nm)	-0.0007 u	> 100.00	-0.5021
	R2401592-002 10X	Sb (217.582 nm)	0.0019	54.51	15.8095
	R2401592-002 10X	Se (196.026 nm)	0.0004 u	> 100.00	-2.0482
	R2401592-002 10X	Sn (189.925 nm)	0.0002	> 100.00	6.6612
	R2401592-002 10X	Sr (216.596 nm)	0.4507	0.53	8559.8941
	R2401592-002 10X	Ti (336.122 nm)	0.0006	16.17	-124.9865
	R2401592-002 10X	Tl (190.794 nm)	0.0001 u	> 100.00	-5.9577
	R2401592-002 10X	V (292.401 nm)	0.0003	24.08	-69.1717
	R2401592-002 10X	Y (360.074 nm)	1.04	0.13	501465.62
	R2401592-002 10X	Y_R (360.074 nm)	1.04	0.14	500970.65
	R2401592-002 10X	Zn (213.857 nm)	0.0004	14.17	-54.5497
3/1/2024 20:43:51	Continuing Calibration Verification	Ag (328.068 nm)	0.5201	0.91	29722.2073
	Continuing Calibration Verification	Al (237.312 nm)	10.1080	0.96	23459.6226
	Continuing Calibration Verification	As (188.980 nm)	0.9863	0.81	1750.0612
	Continuing Calibration Verification	B (249.772 nm)	2.4594	0.97	76256.4091
	Continuing Calibration Verification	Ba (230.424 nm)	10.2528	1.11	465852.8892
	Continuing Calibration Verification	Be (313.107 nm)	0.2427	0.99	256534.2404
	Continuing Calibration Verification	Ca (317.933 nm)	25.5389	1.06	989394.7184
	Continuing Calibration Verification	Cd (214.439 nm)	0.5013	1.03	30708.9940
	Continuing Calibration Verification	Co (230.786 nm)	2.5475	1.13	38237.7163
	Continuing Calibration Verification	Cr (267.716 nm)	0.5153	1.08	22570.1015
	Continuing Calibration Verification	Cu (327.395 nm)	1.2590	0.70	43759.7622
	Continuing Calibration Verification	Fe (234.350 nm)	5.0027	1.06	113475.4269
	Continuing Calibration Verification	K (766.491 nm)	24.8382	0.71	23989.3993
	Continuing Calibration Verification	Mg (279.078 nm)	24.9614	1.03	78356.9341
	Continuing Calibration Verification	Mn (257.610 nm)	0.7487	1.02	234533.8251
	Continuing Calibration Verification	Mo (202.032 nm)	2.5534	1.11	19395.8524
	Continuing Calibration Verification	Na (588.995 nm)	25.8248	0.71	214200.8109
	Continuing Calibration Verification	Ni (230.299 nm)	2.0941	1.06	23787.6181
	Continuing Calibration Verification	Pb (220.353 nm)	0.5109	0.99	2653.4199
	Continuing Calibration Verification	Sb (217.582 nm)	4.9664	0.99	10967.5743
	Continuing Calibration Verification	Se (196.026 nm)	0.4903	1.74	362.2728
	Continuing Calibration Verification	Sn (189.925 nm)	5.0481	1.04	14564.2545
	Continuing Calibration Verification	Sr (216.596 nm)	2.4848	1.13	47484.8878
	Continuing Calibration Verification	Ti (336.122 nm)	2.5490	1.05	329674.8489
	Continuing Calibration Verification	Tl (190.794 nm)	1.0103	0.71	1180.2395
	Continuing Calibration Verification	V (292.401 nm)	2.5074	1.02	98110.5798
	Continuing Calibration Verification	Y (360.074 nm)	1.00	0.67	483875.96

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Y_R (360.074 nm)	1.00	0.67	483396.44
	Continuing Calibration Verification	Zn (213.857 nm)	0.9900	0.83	54252.8996
3/1/2024 20:47:05	Continuing Calibration Blank	Ag (328.068 nm)	0.0004	37.09	-317.4776
	Continuing Calibration Blank	Al (237.312 nm)	-0.0078 u	27.51	94.2359
	Continuing Calibration Blank	As (188.980 nm)	0.0029	31.61	-6.8953
	Continuing Calibration Blank	B (249.772 nm)	0.0012	10.65	106.9188
	Continuing Calibration Blank	Ba (230.424 nm)	0.0009	18.46	12.8997
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	37.55	-186.5257
	Continuing Calibration Blank	Ca (317.933 nm)	0.0004	> 100.00	2951.5973
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-14.1656
	Continuing Calibration Blank	Co (230.786 nm)	-0.0006 u	42.65	56.9172
	Continuing Calibration Blank	Cr (267.716 nm)	0.0004	27.84	-11.3063
	Continuing Calibration Blank	Cu (327.395 nm)	0.0006	46.13	-34.7559
	Continuing Calibration Blank	Fe (234.350 nm)	0.0013	25.33	201.3260
	Continuing Calibration Blank	K (766.491 nm)	0.0414 u	> 100.00	27.8692
	Continuing Calibration Blank	Mg (279.078 nm)	0.0048	11.73	-38.9951
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000	43.65	19.2040
	Continuing Calibration Blank	Mo (202.032 nm)	0.0029	15.81	6.4111
	Continuing Calibration Blank	Na (588.995 nm)	0.2245	1.02	-4299.8079
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0024 u	5.81	84.0819
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0001 u	> 100.00	2.7071
	Continuing Calibration Blank	Sb (217.582 nm)	0.0054	15.75	23.4367
	Continuing Calibration Blank	Se (196.026 nm)	-0.0004 u	> 100.00	-2.6377
	Continuing Calibration Blank	Sn (189.925 nm)	0.0000 u	> 100.00	6.1546
	Continuing Calibration Blank	Sr (216.596 nm)	0.0009	9.75	-48.7928
	Continuing Calibration Blank	Ti (336.122 nm)	0.0020	20.72	50.9565
	Continuing Calibration Blank	Tl (190.794 nm)	0.0010 u	95.14	-4.9065
	Continuing Calibration Blank	V (292.401 nm)	0.0004	44.11	-64.9474
	Continuing Calibration Blank	Y (360.074 nm)	1.04	0.25	502379.88
	Continuing Calibration Blank	Y_R (360.074 nm)	1.04	0.25	501882.23
	Continuing Calibration Blank	Zn (213.857 nm)	0.0002	19.65	-64.9723
3/1/2024 20:50:19	Contract Required Detection Limit	Ag (328.068 nm)	0.0101	1.64	243.4716
	Contract Required Detection Limit	Al (237.312 nm)	0.1903	1.80	551.9507
	Contract Required Detection Limit	As (188.980 nm)	0.0211	6.49	25.4592
	Contract Required Detection Limit	B (249.772 nm)	0.1915	0.34	6002.1865
	Contract Required Detection Limit	Ba (230.424 nm)	0.2059	0.28	9329.9486
	Contract Required Detection Limit	Be (313.107 nm)	0.0049	0.47	4948.8546
	Contract Required Detection Limit	Ca (317.933 nm)	1.0081	0.31	41874.2957
	Contract Required Detection Limit	Cd (214.439 nm)	0.0100	0.42	601.6788
	Contract Required Detection Limit	Co (230.786 nm)	0.0500	0.81	814.6016
	Contract Required Detection Limit	Cr (267.716 nm)	0.0105	1.79	431.1647
	Contract Required Detection Limit	Cu (327.395 nm)	0.0256	0.86	836.1863
	Contract Required Detection Limit	Fe (234.350 nm)	0.1056	0.17	2562.9641
	Contract Required Detection Limit	K (766.491 nm)	0.9691	4.73	924.2793
	Contract Required Detection Limit	Mg (279.078 nm)	0.9719	0.52	2999.0890
	Contract Required Detection Limit	Mn (257.610 nm)	0.0152	0.38	4781.8101
	Contract Required Detection Limit	Mo (202.032 nm)	0.0254	0.81	177.6688
	Contract Required Detection Limit	Na (588.995 nm)	1.1431	0.33	3540.3915
	Contract Required Detection Limit	Ni (230.299 nm)	0.0379	1.04	539.6417
	Contract Required Detection Limit	Pb (220.353 nm)	0.0105	5.15	57.7008
	Contract Required Detection Limit	Sb (217.582 nm)	0.0663	1.17	157.8349
	Contract Required Detection Limit	Se (196.026 nm)	0.0096	5.07	4.8102
	Contract Required Detection Limit	Sn (189.925 nm)	0.5014	0.51	1451.9622
	Contract Required Detection Limit	Sr (216.596 nm)	0.1004	0.80	1856.1134
	Contract Required Detection Limit	Ti (336.122 nm)	0.0496	0.21	6215.2194
	Contract Required Detection Limit	Tl (190.794 nm)	0.0200	3.27	17.4502
	Contract Required Detection Limit	V (292.401 nm)	0.0490	0.66	1839.3958

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Contract Required Detection Limit	Y (360.074 nm)	1.04	0.35	503387.54
	Contract Required Detection Limit	Y_R (360.074 nm)	1.04	0.35	502907.57
	Contract Required Detection Limit	Zn (213.857 nm)	0.0195	0.29	992.8829
3/1/2024 20:53:32	Interference Check Solution A	Ag (328.068 nm)	0.0002	81.26	-328.1674
	Interference Check Solution A	Al (237.312 nm)	256.8039 o	0.18	593276.7684
	Interference Check Solution A	As (188.980 nm)	-0.0029 u	50.31	-17.3065
	Interference Check Solution A	B (249.772 nm)	0.1224	0.47	3860.9668
	Interference Check Solution A	Ba (230.424 nm)	0.0005	19.00	-4.1061
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-216.8963
	Interference Check Solution A	Ca (317.933 nm)	238.8687 o	0.38	9229426.8988
	Interference Check Solution A	Cd (214.439 nm)	0.0008	5.40	37.9321
	Interference Check Solution A	Co (230.786 nm)	0.0008	14.40	76.8661
	Interference Check Solution A	Cr (267.716 nm)	0.0013	8.88	30.7342
	Interference Check Solution A	Cu (327.395 nm)	0.0011	19.68	-18.5413
	Interference Check Solution A	Fe (234.350 nm)	93.9346 o	0.38	2127639.9387
	Interference Check Solution A	K (766.491 nm)	0.0387 u	> 100.00	25.2774
	Interference Check Solution A	Mg (279.078 nm)	258.8271 o	0.35	812996.0466
	Interference Check Solution A	Mn (257.610 nm)	0.0013	1.56	410.2197
	Interference Check Solution A	Mo (202.032 nm)	-0.0025 u	6.60	-34.3086
	Interference Check Solution A	Na (588.995 nm)	0.2295	1.01	-4257.6731
	Interference Check Solution A	Ni (230.299 nm)	-0.0005 u	38.63	105.4106
	Interference Check Solution A	Pb (220.353 nm)	-0.0008 u	> 100.00	-0.9423
	Interference Check Solution A	Sb (217.582 nm)	-0.0058 u	37.00	-1.2393
	Interference Check Solution A	Se (196.026 nm)	-0.0005 u	> 100.00	-2.7597
	Interference Check Solution A	Sn (189.925 nm)	0.0019	38.40	11.5547
	Interference Check Solution A	Sr (216.596 nm)	0.0101	2.91	127.4931
	Interference Check Solution A	Ti (336.122 nm)	0.0024	1.73	104.9728
	Interference Check Solution A	Tl (190.794 nm)	0.0016	34.12	-4.1900
	Interference Check Solution A	V (292.401 nm)	0.0021	5.57	1.3712
	Interference Check Solution A	Y (360.074 nm)	0.93	0.35	446120.44
	Interference Check Solution A	Y_R (360.074 nm)	0.93	0.35	445643.08
	Interference Check Solution A	Zn (213.857 nm)	0.0119 K +/-0.02	0.39	574.1095 K
3/1/2024 20:56:46	Interference Check Solution AB	Ag (328.068 nm)	0.2182	0.21	12268.6291
	Interference Check Solution AB	Al (237.312 nm)	252.6257 o	0.18	583626.1489
	Interference Check Solution AB	As (188.980 nm)	0.0920	2.02	152.1940
	Interference Check Solution AB	B (249.772 nm)	0.1209	0.14	3817.5586
	Interference Check Solution AB	Ba (230.424 nm)	0.5164	0.29	23435.7570
	Interference Check Solution AB	Be (313.107 nm)	0.4812	0.27	508883.0904
	Interference Check Solution AB	Ca (317.933 nm)	233.8780 o	0.30	9036657.7618
	Interference Check Solution AB	Cd (214.439 nm)	0.9518	0.26	58315.9279
	Interference Check Solution AB	Co (230.786 nm)	0.4844	0.24	7323.0910
	Interference Check Solution AB	Cr (267.716 nm)	0.5111	0.19	22384.2999
	Interference Check Solution AB	Cu (327.395 nm)	0.5407	0.10	18761.8358
	Interference Check Solution AB	Fe (234.350 nm)	93.0630 o	0.30	2107898.9683
	Interference Check Solution AB	K (766.491 nm)	0.0269 u	> 100.00	13.8513
	Interference Check Solution AB	Mg (279.078 nm)	255.5376 o	0.31	802662.8938
	Interference Check Solution AB	Mn (257.610 nm)	0.4862	0.24	152295.3410
	Interference Check Solution AB	Mo (202.032 nm)	-0.0027 u	20.25	-35.7147
	Interference Check Solution AB	Na (588.995 nm)	0.2423	2.36	-4148.0254
	Interference Check Solution AB	Ni (230.299 nm)	0.9759	0.17	11144.0711
	Interference Check Solution AB	Pb (220.353 nm)	0.0481	1.19	252.6187
	Interference Check Solution AB	Sb (217.582 nm)	0.6169	0.48	1372.5382
	Interference Check Solution AB	Se (196.026 nm)	0.0400	7.81	27.4036
	Interference Check Solution AB	Sn (189.925 nm)	0.0025	20.02	13.1686
	Interference Check Solution AB	Sr (216.596 nm)	0.0110	2.94	146.1446
	Interference Check Solution AB	Ti (336.122 nm)	0.0022	1.55	83.6384
	Interference Check Solution AB	Tl (190.794 nm)	0.1018	1.10	113.5043

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution AB	V (292.401 nm)	0.5022	0.29	19586.7728
	Interference Check Solution AB	Y (360.074 nm)	0.93	0.29	446563.95
	Interference Check Solution AB	Y_R (360.074 nm)	0.93	0.29	446076.00
	Interference Check Solution AB	Zn (213.857 nm)	1.0015	0.22	54882.8143
3/1/2024 21:00:01	Continuing Calibration Verification	Ag (328.068 nm)	0.5178 e	0.69	29587.8340 e
	Continuing Calibration Verification	Al (237.312 nm)	10.1728 e	0.66	23609.3005 e
	Continuing Calibration Verification	As (188.980 nm)	0.9882 e	1.06	1753.3336 e
	Continuing Calibration Verification	B (249.772 nm)	2.4609 e	0.79	76304.0375 e
	Continuing Calibration Verification	Ba (230.424 nm)	10.2780 e	0.90	467000.5509 e
	Continuing Calibration Verification	Be (313.107 nm)	0.2430 e	0.78	256874.3852 e
	Continuing Calibration Verification	Ca (317.933 nm)	25.6199 e	0.75	992523.7324 e
	Continuing Calibration Verification	Cd (214.439 nm)	0.5024 e	0.69	30773.2529 e
	Continuing Calibration Verification	Co (230.786 nm)	2.5562 e	0.82	38367.7122 e
	Continuing Calibration Verification	Cr (267.716 nm)	0.5160 e	0.84	22600.2494 e
	Continuing Calibration Verification	Cu (327.395 nm)	1.2631 e	0.61	43903.0695 e
	Continuing Calibration Verification	Fe (234.350 nm)	5.0327 e	0.76	114154.8755 e
	Continuing Calibration Verification	K (766.491 nm)	24.8380 e	0.43	23989.2745 e
	Continuing Calibration Verification	Mg (279.078 nm)	25.0558 e	0.72	78653.4508 e
	Continuing Calibration Verification	Mn (257.610 nm)	0.7491 e	0.75	234643.3798 e
	Continuing Calibration Verification	Mo (202.032 nm)	2.5589 e	0.83	19437.6521 e
	Continuing Calibration Verification	Na (588.995 nm)	25.8273 e	0.54	214221.7863 e
	Continuing Calibration Verification	Ni (230.299 nm)	2.0959 e	0.70	23807.1756 e
	Continuing Calibration Verification	Pb (220.353 nm)	0.5103 e	0.67	2650.1040 e
	Continuing Calibration Verification	Sb (217.582 nm)	4.9784 e	0.73	10993.9789 e
	Continuing Calibration Verification	Se (196.026 nm)	0.4915 e	1.34	363.2157 e
	Continuing Calibration Verification	Sn (189.925 nm)	5.0524 e	0.71	14576.6716 e
	Continuing Calibration Verification	Sr (216.596 nm)	2.4936 e	0.88	47654.4861 e
	Continuing Calibration Verification	Ti (336.122 nm)	2.5517 e	0.78	330029.2866 e
	Continuing Calibration Verification	Tl (190.794 nm)	1.0133 e	1.06	1183.7934 e
	Continuing Calibration Verification	V (292.401 nm)	2.5111 e	0.73	98254.6705 e
	Continuing Calibration Verification	Y (360.074 nm)	1.00 e	0.06	483350.47 e
	Continuing Calibration Verification	Y_R (360.074 nm)	1.00 e	0.06	482853.48 e
	Continuing Calibration Verification	Zn (213.857 nm)	0.9952 e	0.58	54536.4571 e
3/1/2024 21:03:14	Continuing Calibration Blank	Ag (328.068 nm)	0.0004	59.61	-319.8770
	Continuing Calibration Blank	Al (237.312 nm)	-0.0021 u	36.38	107.3841
	Continuing Calibration Blank	As (188.980 nm)	0.0021	52.64	-8.4002
	Continuing Calibration Blank	B (249.772 nm)	0.0008	7.18	95.1284
	Continuing Calibration Blank	Ba (230.424 nm)	0.0008	17.56	6.8201
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	22.70	-174.3949
	Continuing Calibration Blank	Ca (317.933 nm)	0.0042	28.30	3099.2513
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-9.4713
	Continuing Calibration Blank	Co (230.786 nm)	-0.0009 u	39.60	51.6848
	Continuing Calibration Blank	Cr (267.716 nm)	0.0004	30.97	-8.9102
	Continuing Calibration Blank	Cu (327.395 nm)	0.0005	46.49	-37.3581
	Continuing Calibration Blank	Fe (234.350 nm)	0.0036	18.65	254.9258
	Continuing Calibration Blank	K (766.491 nm)	0.0420	82.56	28.4358
	Continuing Calibration Blank	Mg (279.078 nm)	0.0088	18.38	-26.3849
	Continuing Calibration Blank	Mn (257.610 nm)	0.0000	50.86	15.9258
	Continuing Calibration Blank	Mo (202.032 nm)	0.0020	6.35	0.0246
	Continuing Calibration Blank	Na (588.995 nm)	0.1963	2.08	-4540.3899
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0021 u	17.58	86.4931
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0002 u	> 100.00	2.1318
	Continuing Calibration Blank	Sb (217.582 nm)	0.0063	26.51	25.5035
	Continuing Calibration Blank	Se (196.026 nm)	0.0031 u	> 100.00	-0.0277
	Continuing Calibration Blank	Sn (189.925 nm)	-0.0007 u	70.07	4.1251
	Continuing Calibration Blank	Sr (216.596 nm)	0.0008	44.77	-50.3328
	Continuing Calibration Blank	Ti (336.122 nm)	0.0014	13.68	-18.7304

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank	Tl (190.794 nm)	0.0010 u	> 100.00	-4.8938
	Continuing Calibration Blank	V (292.401 nm)	0.0001	72.73	-76.2752
	Continuing Calibration Blank	Y (360.074 nm)	1.04	0.06	503113.65
	Continuing Calibration Blank	Y_R (360.074 nm)	1.04	0.06	502603.93
	Continuing Calibration Blank	Zn (213.857 nm)	0.0002	20.24	-65.0970
3/1/2024 21:06:28	PBW-434742	Ag (328.068 nm)	0.0004	12.39	-317.4077
	PBW-434742	Al (237.312 nm)	-0.0055 u	47.32	99.6014
	PBW-434742	As (188.980 nm)	-0.0007 u	> 100.00	-13.3841
	PBW-434742	B (249.772 nm)	0.0013	12.56	110.7039
	PBW-434742	Ba (230.424 nm)	0.0002	59.04	-16.9215
	PBW-434742	Be (313.107 nm)	0.0000	17.66	-191.5202
	PBW-434742	Ca (317.933 nm)	0.0084	13.66	3259.3450
	PBW-434742	Cd (214.439 nm)	0.0000 u	69.23	-14.4601
	PBW-434742	Co (230.786 nm)	-0.0010 u	45.16	50.4708
	PBW-434742	Cr (267.716 nm)	0.0003	41.38	-14.7653
	PBW-434742	Cu (327.395 nm)	0.0006	11.19	-35.8772
	PBW-434742	Fe (234.350 nm)	0.0021	9.15	220.4971
	PBW-434742	K (766.491 nm)	0.0241	82.41	11.1673
	PBW-434742	Mg (279.078 nm)	0.0083	13.27	-27.8434
	PBW-434742	Mn (257.610 nm)	0.0000 u	19.03	2.5169
	PBW-434742	Mo (202.032 nm)	0.0007	82.78	-10.0722
	PBW-434742	Na (588.995 nm)	0.1768	1.11	-4707.4321
	PBW-434742	Ni (230.299 nm)	-0.0026 u	6.93	81.6782
	PBW-434742	Pb (220.353 nm)	0.0001 u	> 100.00	3.9013
	PBW-434742	Sb (217.582 nm)	0.0186	7.98	52.6495
	PBW-434742	Se (196.026 nm)	0.0000 u	> 100.00	-2.3245
	PBW-434742	Sn (189.925 nm)	-0.0002 u	> 100.00	5.5151
	PBW-434742	Sr (216.596 nm)	0.0007	17.62	-52.5322
	PBW-434742	Ti (336.122 nm)	0.0006	17.02	-131.1665
	PBW-434742	Tl (190.794 nm)	-0.0002 u	> 100.00	-6.2647
	PBW-434742	V (292.401 nm)	0.0001 u	98.17	-74.8928
	PBW-434742	Y (360.074 nm)	1.06	0.25	508931.35
	PBW-434742	Y_R (360.074 nm)	1.06	0.25	508403.92
	PBW-434742	Zn (213.857 nm)	0.0005	5.50	-49.2544
3/1/2024 21:09:41	LCSW-434742	Ag (328.068 nm)	0.0516	0.30	2641.6999
	LCSW-434742	Al (237.312 nm)	1.9667	0.47	4655.0465
	LCSW-434742	As (188.980 nm)	0.0383	3.75	56.2290
	LCSW-434742	B (249.772 nm)	0.9734	0.42	30223.1698
	LCSW-434742	Ba (230.424 nm)	2.0331	0.47	92352.6880
	LCSW-434742	Be (313.107 nm)	0.0483	0.43	50877.0791
	LCSW-434742	Ca (317.933 nm)	2.0032	0.44	80309.6255
	LCSW-434742	Cd (214.439 nm)	0.0507	0.63	3094.3994
	LCSW-434742	Co (230.786 nm)	0.5134	0.35	7758.1178
	LCSW-434742	Cr (267.716 nm)	0.2005	0.50	8766.1785
	LCSW-434742	Cu (327.395 nm)	0.2564	0.31	8867.0201
	LCSW-434742	Fe (234.350 nm)	0.9910	0.43	22616.2452
	LCSW-434742	K (766.491 nm)	19.2215	0.33	18561.9500
	LCSW-434742	Mg (279.078 nm)	1.9460	0.42	6058.9528
	LCSW-434742	Mn (257.610 nm)	0.4908	0.42	153747.2352
	LCSW-434742	Mo (202.032 nm)	0.4988	1.35	3776.5034
	LCSW-434742	Na (588.995 nm)	20.0412	0.22	164837.4221
	LCSW-434742	Ni (230.299 nm)	0.5228	0.47	6022.1657
	LCSW-434742	Pb (220.353 nm)	0.5139	0.45	2669.0378
	LCSW-434742	Sb (217.582 nm)	0.5095	0.64	1135.5468
	LCSW-434742	Se (196.026 nm)	1.0198	0.44	756.1465
	LCSW-434742	Sn (189.925 nm)	5.0255	0.43	14499.0851
	LCSW-434742	Sr (216.596 nm)	1.9974	0.64	38157.8741

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	LCSW-434742	Ti (336.122 nm)	0.4964	0.45	64041.6571
	LCSW-434742	Tl (190.794 nm)	2.0050	0.88	2348.1462
	LCSW-434742	V (292.401 nm)	0.4890	0.36	19070.7077
	LCSW-434742	Y (360.074 nm)	1.03	0.32	497884.71
	LCSW-434742	Y_R (360.074 nm)	1.03	0.32	497357.10
	LCSW-434742	Zn (213.857 nm)	0.5137	0.38	28113.5534
3/1/2024 21:12:54	R2401554-001	Ag (328.068 nm)	0.0002	46.50	-327.7724
	R2401554-001	Al (237.312 nm)	0.0085	14.81	131.9548
	R2401554-001	As (188.980 nm)	0.0019	45.45	-8.7480
	R2401554-001	B (249.772 nm)	0.0326	0.37	1082.2965
	R2401554-001	Ba (230.424 nm)	0.1205	0.38	5447.5246
	R2401554-001	Be (313.107 nm)	0.0000	1.54	-173.6112
	R2401554-001	Ca (317.933 nm)	110.0476 o	0.26	4253609.7125
	R2401554-001	Cd (214.439 nm)	0.0000 u	> 100.00	-12.2146
	R2401554-001	Co (230.786 nm)	-0.0004 u	38.70	58.5627
	R2401554-001	Cr (267.716 nm)	0.0005	21.13	-4.4727
	R2401554-001	Cu (327.395 nm)	0.0011	21.34	-17.1636
	R2401554-001	Fe (234.350 nm)	0.0939	0.21	2298.0678
	R2401554-001	K (766.491 nm)	3.1588	1.08	3040.2554
	R2401554-001	Mg (279.078 nm)	57.9080 o	0.21	181851.5811
	R2401554-001	Mn (257.610 nm)	0.0738	0.10	23124.6975
	R2401554-001	Mo (202.032 nm)	0.0018	19.63	-1.3539
	R2401554-001	Na (588.995 nm)	12.3549	0.27	99234.3757
	R2401554-001	Ni (230.299 nm)	-0.0026 u	7.81	81.4520
	R2401554-001	Pb (220.353 nm)	0.0007 u	> 100.00	7.0553
	R2401554-001	Sb (217.582 nm)	0.0100	11.76	33.6622
	R2401554-001	Se (196.026 nm)	-0.0005 u	> 100.00	-2.7643
	R2401554-001	Sn (189.925 nm)	0.0002 u	> 100.00	6.6369
	R2401554-001	Sr (216.596 nm)	0.4071	0.23	7726.1621
	R2401554-001	Ti (336.122 nm)	0.0016	13.24	4.9793
	R2401554-001	Tl (190.794 nm)	0.0058	39.18	0.7967
	R2401554-001	V (292.401 nm)	-0.0001 u	> 100.00	-84.8715
	R2401554-001	Y (360.074 nm)	1.00	0.13	482968.67
	R2401554-001	Y_R (360.074 nm)	1.00	0.13	482446.49
	R2401554-001	Zn (213.857 nm)	0.0052	0.73	210.9748
3/1/2024 21:16:08	R2401554-001S	Ag (328.068 nm)	0.0527	0.54	2702.8500
	R2401554-001S	Al (237.312 nm)	2.0233	0.09	4785.7552
	R2401554-001S	As (188.980 nm)	0.0409	4.20	60.9331
	R2401554-001S	B (249.772 nm)	1.0455	0.47	32457.6880
	R2401554-001S	Ba (230.424 nm)	2.1289	0.44	96707.6920
	R2401554-001S	Be (313.107 nm)	0.0485	0.36	51097.6695
	R2401554-001S	Ca (317.933 nm)	111.9952 o	0.44	4328837.2632
	R2401554-001S	Cd (214.439 nm)	0.0492	0.41	3002.1276
	R2401554-001S	Co (230.786 nm)	0.4904	0.42	7413.7225
	R2401554-001S	Cr (267.716 nm)	0.2006	0.45	8769.2627
	R2401554-001S	Cu (327.395 nm)	0.2533	0.27	8758.5589
	R2401554-001S	Fe (234.350 nm)	1.0844	0.34	24731.6834
	R2401554-001S	K (766.491 nm)	23.6385	0.43	22830.1489
	R2401554-001S	Mg (279.078 nm)	59.9467 o	0.35	188255.6556
	R2401554-001S	Mn (257.610 nm)	0.5644	0.37	176795.8170
	R2401554-001S	Mo (202.032 nm)	0.5038	0.91	3814.4626
	R2401554-001S	Na (588.995 nm)	33.2901	0.13	277918.0199
	R2401554-001S	Ni (230.299 nm)	0.4987	0.30	5749.7505
	R2401554-001S	Pb (220.353 nm)	0.4961	0.51	2576.3682
	R2401554-001S	Sb (217.582 nm)	0.5260	1.03	1171.9395
	R2401554-001S	Se (196.026 nm)	1.0469	0.66	776.2990
	R2401554-001S	Sn (189.925 nm)	5.0444	0.28	14553.3725

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401554-001S	Sr (216.596 nm)	2.3542	0.43	44986.7189
	R2401554-001S	Ti (336.122 nm)	0.5009	0.43	64624.9068
	R2401554-001S	Tl (190.794 nm)	1.9771	0.35	2315.4136
	R2401554-001S	V (292.401 nm)	0.4946	0.36	19289.3774
	R2401554-001S	Y (360.074 nm)	0.99	0.20	479258.36
	R2401554-001S	Y_R (360.074 nm)	0.99	0.21	478717.79
	R2401554-001S	Zn (213.857 nm)	0.5103	0.25	27925.3610
3/1/2024 21:19:21	R2401554-001SD	Ag (328.068 nm)	0.0526	0.45	2696.2122
	R2401554-001SD	Al (237.312 nm)	2.0129	0.38	4761.7178
	R2401554-001SD	As (188.980 nm)	0.0412	3.20	61.4257
	R2401554-001SD	B (249.772 nm)	1.0442	0.08	32418.5824
	R2401554-001SD	Ba (230.424 nm)	2.1296	0.27	96741.0477
	R2401554-001SD	Be (313.107 nm)	0.0485	0.11	51075.3742
	R2401554-001SD	Ca (317.933 nm)	112.0345 o	0.14	4330357.7807
	R2401554-001SD	Cd (214.439 nm)	0.0491	0.11	2996.5322
	R2401554-001SD	Co (230.786 nm)	0.4899	0.37	7405.7764
	R2401554-001SD	Cr (267.716 nm)	0.2001	0.14	8747.3451
	R2401554-001SD	Cu (327.395 nm)	0.2523	0.30	8723.2165
	R2401554-001SD	Fe (234.350 nm)	1.0804	0.08	24641.5331
	R2401554-001SD	K (766.491 nm)	23.5674	0.55	22761.4657
	R2401554-001SD	Mg (279.078 nm)	59.9575 o	0.11	188289.7973
	R2401554-001SD	Mn (257.610 nm)	0.5636	0.11	176549.7945
	R2401554-001SD	Mo (202.032 nm)	0.5032	0.50	3809.6275
	R2401554-001SD	Na (588.995 nm)	33.1346	0.38	276590.7219
	R2401554-001SD	Ni (230.299 nm)	0.4978	0.16	5739.2801
	R2401554-001SD	Pb (220.353 nm)	0.4959	0.37	2575.3502
	R2401554-001SD	Sb (217.582 nm)	0.5200	0.64	1158.8231
	R2401554-001SD	Se (196.026 nm)	1.0462	0.31	775.7773
	R2401554-001SD	Sn (189.925 nm)	5.0302	0.09	14512.4969
	R2401554-001SD	Sr (216.596 nm)	2.3504	0.30	44913.1904
	R2401554-001SD	Ti (336.122 nm)	0.5003	0.07	64548.6199
	R2401554-001SD	Tl (190.794 nm)	1.9771	0.17	2315.4380
	R2401554-001SD	V (292.401 nm)	0.4934	0.25	19240.8387
	R2401554-001SD	Y (360.074 nm)	0.99	0.08	479178.67
	R2401554-001SD	Y_R (360.074 nm)	0.99	0.08	478655.55
	R2401554-001SD	Zn (213.857 nm)	0.5087	0.10	27840.6217
3/1/2024 21:22:35	R2401554-001A	Ag (328.068 nm)	0.0522	0.60	2674.8645
	R2401554-001A	Al (237.312 nm)	2.0018	0.36	4736.0636
	R2401554-001A	As (188.980 nm)	0.0398	2.58	58.9917
	R2401554-001A	B (249.772 nm)	1.0449	0.36	32438.0011
	R2401554-001A	Ba (230.424 nm)	2.1168	0.42	96156.1003
	R2401554-001A	Be (313.107 nm)	0.0482	0.32	50789.5869
	R2401554-001A	Ca (317.933 nm)	107.9524 o	0.38	4172683.6675
	R2401554-001A	Cd (214.439 nm)	0.0490	0.52	2990.9216
	R2401554-001A	Co (230.786 nm)	0.4877	0.34	7372.8370
	R2401554-001A	Cr (267.716 nm)	0.1992	0.28	8705.9780
	R2401554-001A	Cu (327.395 nm)	0.2515	0.56	8698.0887
	R2401554-001A	Fe (234.350 nm)	1.0731	0.26	24477.0767
	R2401554-001A	K (766.491 nm)	23.2209	0.25	22426.5514
	R2401554-001A	Mg (279.078 nm)	57.6098 o	0.36	180914.9838
	R2401554-001A	Mn (257.610 nm)	0.5585	0.38	174956.4826
	R2401554-001A	Mo (202.032 nm)	0.5013	0.67	3795.5689
	R2401554-001A	Na (588.995 nm)	32.4782	0.27	270987.7421
	R2401554-001A	Ni (230.299 nm)	0.4956	0.15	5714.5940
	R2401554-001A	Pb (220.353 nm)	0.4939	0.20	2565.2608
	R2401554-001A	Sb (217.582 nm)	0.5179	0.86	1154.0551
	R2401554-001A	Se (196.026 nm)	1.0327	0.53	765.7429

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401554-001A	Sn (189.925 nm)	4.9979	0.28	14419.4707
	R2401554-001A	Sr (216.596 nm)	2.3270	0.30	44464.6222
	R2401554-001A	Ti (336.122 nm)	0.4986	0.41	64320.2782
	R2401554-001A	Tl (190.794 nm)	1.9696	0.29	2306.5796
	R2401554-001A	V (292.401 nm)	0.4907	0.24	19136.1885
	R2401554-001A	Y (360.074 nm)	1.00	0.43	481450.93
	R2401554-001A	Y_R (360.074 nm)	1.00	0.43	480916.99
	R2401554-001A	Zn (213.857 nm)	0.5091	0.45	27858.6011
3/1/2024 21:25:48	R2401554-001L 5X	Ag (328.068 nm)	0.0003	45.83	-321.8121
	R2401554-001L 5X	Al (237.312 nm)	-0.0056 u	25.01	99.2976
	R2401554-001L 5X	As (188.980 nm)	-0.0013 u	71.84	-14.4162
	R2401554-001L 5X	B (249.772 nm)	0.0073	2.12	297.7470
	R2401554-001L 5X	Ba (230.424 nm)	0.0245	0.37	1086.7348
	R2401554-001L 5X	Be (313.107 nm)	0.0000	23.78	-194.2183
	R2401554-001L 5X	Ca (317.933 nm)	22.6988	0.36	879696.5741
	R2401554-001L 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-14.0912
	R2401554-001L 5X	Co (230.786 nm)	-0.0006 u	21.14	56.7920
	R2401554-001L 5X	Cr (267.716 nm)	0.0005	35.79	-5.0002
	R2401554-001L 5X	Cu (327.395 nm)	0.0007	30.60	-32.8443
	R2401554-001L 5X	Fe (234.350 nm)	0.0200	0.97	625.8825
	R2401554-001L 5X	K (766.491 nm)	0.6303	5.65	596.8879
	R2401554-001L 5X	Mg (279.078 nm)	11.5792	0.29	36319.5308
	R2401554-001L 5X	Mn (257.610 nm)	0.0150	0.45	4720.7151
	R2401554-001L 5X	Mo (202.032 nm)	0.0014	22.98	-4.6561
	R2401554-001L 5X	Na (588.995 nm)	2.4722	0.26	14883.9886
	R2401554-001L 5X	Ni (230.299 nm)	-0.0019 u	9.57	89.4404
	R2401554-001L 5X	Pb (220.353 nm)	-0.0003 u	> 100.00	1.9984
	R2401554-001L 5X	Sb (217.582 nm)	0.0043	41.34	20.9950
	R2401554-001L 5X	Se (196.026 nm)	0.0008 u	> 100.00	-1.7244
	R2401554-001L 5X	Sn (189.925 nm)	0.0011 u	> 100.00	9.2496
	R2401554-001L 5X	Sr (216.596 nm)	0.0840	0.52	1541.3406
	R2401554-001L 5X	Ti (336.122 nm)	0.0009	5.51	-88.0793
	R2401554-001L 5X	Tl (190.794 nm)	0.0035	45.27	-1.9427
	R2401554-001L 5X	V (292.401 nm)	0.0001 u	> 100.00	-77.4017
	R2401554-001L 5X	Y (360.074 nm)	1.04	0.25	500090.68
	R2401554-001L 5X	Y_R (360.074 nm)	1.04	0.25	499566.50
	R2401554-001L 5X	Zn (213.857 nm)	0.0012	2.08	-12.7896
3/1/2024 21:29:02	R2401554-002	Ag (328.068 nm)	0.0003	57.02	-325.8304
	R2401554-002	Al (237.312 nm)	-0.0023 u	39.47	106.9538
	R2401554-002	As (188.980 nm)	0.0018	92.15	-8.9081
	R2401554-002	B (249.772 nm)	0.0211	1.91	725.4074
	R2401554-002	Ba (230.424 nm)	0.1580	0.17	7151.3729
	R2401554-002	Be (313.107 nm)	0.0000	58.24	-195.6375
	R2401554-002	Ca (317.933 nm)	81.0823 o	0.23	3134804.3104
	R2401554-002	Cd (214.439 nm)	0.0002	29.79	-1.5434
	R2401554-002	Co (230.786 nm)	0.0004	91.76	70.8020
	R2401554-002	Cr (267.716 nm)	0.0004	42.19	-10.0028
	R2401554-002	Cu (327.395 nm)	0.0012	20.57	-15.1926
	R2401554-002	Fe (234.350 nm)	0.0634	0.17	1608.5078
	R2401554-002	K (766.491 nm)	3.9810	1.31	3834.7314
	R2401554-002	Mg (279.078 nm)	45.8160	0.18	143867.2962
	R2401554-002	Mn (257.610 nm)	0.0786	0.18	24641.9874
	R2401554-002	Mo (202.032 nm)	0.0018	24.56	-1.6310
	R2401554-002	Na (588.995 nm)	9.9507	0.37	78714.0355
	R2401554-002	Ni (230.299 nm)	-0.0011 u	37.41	97.8172
	R2401554-002	Pb (220.353 nm)	0.0000 u	> 100.00	3.1666
	R2401554-002	Sb (217.582 nm)	0.0032	73.68	18.5608

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401554-002	Se (196.026 nm)	0.0025 u	> 100.00	-0.5124
	R2401554-002	Sn (189.925 nm)	0.0004 u	> 100.00	7.2221
	R2401554-002	Sr (216.596 nm)	0.4433	0.18	8418.4214
	R2401554-002	Ti (336.122 nm)	0.0009	8.49	-80.9788
	R2401554-002	Tl (190.794 nm)	0.0031	55.37	-2.4091
	R2401554-002	V (292.401 nm)	0.0000 u	> 100.00	-81.0472
	R2401554-002	Y (360.074 nm)	1.01	0.22	486857.34
	R2401554-002	Y_R (360.074 nm)	1.01	0.22	486358.03
	R2401554-002	Zn (213.857 nm)	0.0052	1.68	206.4652
3/1/2024 21:32:15	R2401554-003	Ag (328.068 nm)	0.0002	72.38	-328.9441
	R2401554-003	Al (237.312 nm)	-0.0036 u	92.81	103.8960
	R2401554-003	As (188.980 nm)	0.0008	> 100.00	-10.7377
	R2401554-003	B (249.772 nm)	0.0116	2.68	429.6944
	R2401554-003	Ba (230.424 nm)	0.1281	0.20	5791.1468
	R2401554-003	Be (313.107 nm)	0.0000	33.54	-186.8928
	R2401554-003	Ca (317.933 nm)	117.3837 o	0.29	4536973.2171
	R2401554-003	Cd (214.439 nm)	0.0000 u	> 100.00	-13.9414
	R2401554-003	Co (230.786 nm)	-0.0004 u	58.62	59.4164
	R2401554-003	Cr (267.716 nm)	0.0006	7.64	-0.4894
	R2401554-003	Cu (327.395 nm)	0.0007	32.47	-29.7462
	R2401554-003	Fe (234.350 nm)	0.9559	0.02	21822.6462
	R2401554-003	K (766.491 nm)	1.7360	1.85	1665.3966
	R2401554-003	Mg (279.078 nm)	51.9957	0.06	163279.3100
	R2401554-003	Mn (257.610 nm)	0.1151	0.07	36063.4646
	R2401554-003	Mo (202.032 nm)	0.0011	7.84	-6.9213
	R2401554-003	Na (588.995 nm)	7.0909	0.36	54305.2817
	R2401554-003	Ni (230.299 nm)	-0.0030 u	15.15	76.4111
	R2401554-003	Pb (220.353 nm)	0.0007	> 100.00	6.8717
	R2401554-003	Sb (217.582 nm)	0.0036	9.57	19.5941
	R2401554-003	Se (196.026 nm)	-0.0006 u	> 100.00	-2.8043
	R2401554-003	Sn (189.925 nm)	0.0005	50.74	7.4816
	R2401554-003	Sr (216.596 nm)	0.2964	0.15	5606.1735
	R2401554-003	Ti (336.122 nm)	0.0012	2.42	-42.1792
	R2401554-003	Tl (190.794 nm)	0.0028	23.69	-2.8261
	R2401554-003	V (292.401 nm)	0.0002	65.23	-71.4064
	R2401554-003	Y (360.074 nm)	1.00	0.13	484203.34
	R2401554-003	Y_R (360.074 nm)	1.01	0.13	483749.65
	R2401554-003	Zn (213.857 nm)	0.0019	1.02	27.1210
3/1/2024 21:35:29	R2401554-004	Ag (328.068 nm)	0.0003	10.70	-321.9404
	R2401554-004	Al (237.312 nm)	0.1246	0.97	399.9936
	R2401554-004	As (188.980 nm)	0.0015 u	> 100.00	-9.5119
	R2401554-004	B (249.772 nm)	0.0146	1.04	522.1377
	R2401554-004	Ba (230.424 nm)	0.0449	0.47	2012.4199
	R2401554-004	Be (313.107 nm)	0.0000	30.12	-183.6118
	R2401554-004	Ca (317.933 nm)	115.9924 o	0.29	4483234.5866
	R2401554-004	Cd (214.439 nm)	0.0000 u	> 100.00	-13.8587
	R2401554-004	Co (230.786 nm)	0.0011	23.26	81.8008
	R2401554-004	Cr (267.716 nm)	0.0002	13.97	-18.2764
	R2401554-004	Cu (327.395 nm)	0.0024	24.39	26.3045
	R2401554-004	Fe (234.350 nm)	0.2805	0.45	6525.8533
	R2401554-004	K (766.491 nm)	3.0602	1.10	2944.9773
	R2401554-004	Mg (279.078 nm)	82.3186 o	0.31	258532.2053
	R2401554-004	Mn (257.610 nm)	0.0444	0.32	13930.4217
	R2401554-004	Mo (202.032 nm)	0.0017	19.57	-2.2796
	R2401554-004	Na (588.995 nm)	7.0047	0.40	53569.7550
	R2401554-004	Ni (230.299 nm)	0.0133	2.55	261.0831
	R2401554-004	Pb (220.353 nm)	-0.0002 u	> 100.00	2.2995

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401554-004	Sb (217.582 nm)	0.0063	29.92	25.5203
	R2401554-004	Se (196.026 nm)	0.0044	92.70	0.9480
	R2401554-004	Sn (189.925 nm)	-0.0007 u	95.26	4.0318
	R2401554-004	Sr (216.596 nm)	0.4871	0.43	9255.9289
	R2401554-004	Ti (336.122 nm)	0.0054	8.27	495.1175
	R2401554-004	Tl (190.794 nm)	0.0017	87.23	-4.0087
	R2401554-004	V (292.401 nm)	0.0002 u	> 100.00	-71.6348
	R2401554-004	Y (360.074 nm)	1.01	0.24	484843.58
	R2401554-004	Y_R (360.074 nm)	1.01	0.24	484404.39
	R2401554-004	Zn (213.857 nm)	0.0247	0.69	1276.9150
3/1/2024 21:38:43	Continuing Calibration Verification1	Ag (328.068 nm)	0.5191	0.25	29663.3227
	Continuing Calibration Verification1	Al (237.312 nm)	10.0800	0.03	23395.0201
	Continuing Calibration Verification1	As (188.980 nm)	0.9902	0.11	1756.9850
	Continuing Calibration Verification1	B (249.772 nm)	2.4724	0.18	76660.5411
	Continuing Calibration Verification1	Ba (230.424 nm)	10.2999	0.44	467992.7216
	Continuing Calibration Verification1	Be (313.107 nm)	0.2443	0.21	258229.7506
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7679	0.22	998240.4631
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5038	0.25	30858.1855
	Continuing Calibration Verification1	Co (230.786 nm)	2.5615	0.45	38447.5329
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5182	0.25	22696.6529
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2654	0.19	43980.7041
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0263	0.24	114009.0799
	Continuing Calibration Verification1	K (766.491 nm)	24.7192	0.22	23874.4350
	Continuing Calibration Verification1	Mg (279.078 nm)	25.1437	0.24	78929.5253
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7523	0.21	235635.8149
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5713	0.30	19531.4171
	Continuing Calibration Verification1	Na (588.995 nm)	25.6217	0.13	212467.2038
	Continuing Calibration Verification1	Ni (230.299 nm)	2.1011	0.26	23866.0220
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5142	0.40	2670.3133
	Continuing Calibration Verification1	Sb (217.582 nm)	4.9857	0.20	11010.1187
	Continuing Calibration Verification1	Se (196.026 nm)	0.4926	0.29	364.0172
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0623	0.19	14605.0311
	Continuing Calibration Verification1	Sr (216.596 nm)	2.5073	0.06	47916.1991
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5615	0.28	331300.5196
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0153	0.28	1186.0729
	Continuing Calibration Verification1	V (292.401 nm)	2.5216	0.22	98667.2293
	Continuing Calibration Verification1	Y (360.074 nm)	1.01	0.19	485541.07
	Continuing Calibration Verification1	Y_R (360.074 nm)	1.01	0.19	485095.01
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9967	0.10	54616.5653
3/1/2024 21:41:57	Continuing Calibration Blank1	Ag (328.068 nm)	0.0004	28.01	-319.0697
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0069 u	47.74	96.3574
	Continuing Calibration Blank1	As (188.980 nm)	0.0012	65.15	-10.1028
	Continuing Calibration Blank1	B (249.772 nm)	0.0011	39.26	103.8542
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0003	7.22	-14.6588
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	80.63	-197.4897
	Continuing Calibration Blank1	Ca (317.933 nm)	-0.0011 u	34.61	2893.9087
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-12.6872
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0008 u	27.62	53.5282
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0002 u	> 100.00	-19.7617
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0004	20.88	-42.9685
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0012	19.89	198.7387
	Continuing Calibration Blank1	K (766.491 nm)	0.0091 u	> 100.00	-3.3907
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0023	57.20	-46.7035
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0000 u	23.82	-1.2240
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0020	19.36	-0.1818
	Continuing Calibration Blank1	Na (588.995 nm)	0.1614	1.07	-4838.8625
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0026 u	22.71	81.3380

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0005 u	> 100.00	0.5654
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0065	16.55	25.8729
	Continuing Calibration Blank1	Se (196.026 nm)	0.0001 u	> 100.00	-2.2642
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0004	> 100.00	7.1710
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0009	29.71	-48.9631
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0015	24.97	-8.2511
	Continuing Calibration Blank1	Tl (190.794 nm)	-0.0009 u	> 100.00	-7.1242
	Continuing Calibration Blank1	V (292.401 nm)	0.0000 u	> 100.00	-80.2369
	Continuing Calibration Blank1	Y (360.074 nm)	1.04	0.23	502559.97
	Continuing Calibration Blank1	Y_R (360.074 nm)	1.04	0.23	502109.64
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0002	58.39	-65.5239
3/1/2024 21:45:10	R2401554-005	Ag (328.068 nm)	0.0004	44.57	-318.3222
	R2401554-005	Al (237.312 nm)	0.0530	1.98	234.7250
	R2401554-005	As (188.980 nm)	0.0010 u	> 100.00	-10.2911
	R2401554-005	B (249.772 nm)	0.1656	0.22	5200.6153
	R2401554-005	Ba (230.424 nm)	0.1316	0.20	5952.8535
	R2401554-005	Be (313.107 nm)	0.0000	50.19	-185.4909
	R2401554-005	Ca (317.933 nm)	39.5847	0.20	1531924.8178
	R2401554-005	Cd (214.439 nm)	0.0000 u	> 100.00	-11.0086
	R2401554-005	Co (230.786 nm)	-0.0003 u	20.92	60.8694
	R2401554-005	Cr (267.716 nm)	0.0006	41.80	0.6052
	R2401554-005	Cu (327.395 nm)	0.0009	5.05	-23.3153
	R2401554-005	Fe (234.350 nm)	0.0952	0.19	2327.6841
	R2401554-005	K (766.491 nm)	5.8972	0.72	5686.3654
	R2401554-005	Mg (279.078 nm)	25.6280	0.24	80450.8734
	R2401554-005	Mn (257.610 nm)	0.0177	0.15	5556.8018
	R2401554-005	Mo (202.032 nm)	0.0010	36.77	-7.4348
	R2401554-005	Na (588.995 nm)	24.1281	0.46	199719.2954
	R2401554-005	Ni (230.299 nm)	-0.0030 u	13.87	76.3512
	R2401554-005	Pb (220.353 nm)	0.0006 u	> 100.00	6.3890
	R2401554-005	Sb (217.582 nm)	0.0097	12.00	32.9975
	R2401554-005	Se (196.026 nm)	-0.0020 u	91.87	-3.8219
	R2401554-005	Sn (189.925 nm)	0.0002 u	> 100.00	6.4988
	R2401554-005	Sr (216.596 nm)	0.6246	0.15	11886.5510
	R2401554-005	Ti (336.122 nm)	0.0030	5.47	184.1292
	R2401554-005	Tl (190.794 nm)	0.0013	26.26	-4.4864
	R2401554-005	V (292.401 nm)	0.0002	94.72	-72.4315
	R2401554-005	Y (360.074 nm)	1.02	0.19	490245.50
	R2401554-005	Y_R (360.074 nm)	1.02	0.19	489801.69
	R2401554-005	Zn (213.857 nm)	0.0041	2.12	147.5262
3/1/2024 21:48:25	R2401554-006	Ag (328.068 nm)	0.0006	6.88	-308.8564
	R2401554-006	Al (237.312 nm)	-0.0023 u	77.11	106.8748
	R2401554-006	As (188.980 nm)	0.0014 u	> 100.00	-9.7283
	R2401554-006	B (249.772 nm)	0.0161	1.26	568.5708
	R2401554-006	Ba (230.424 nm)	0.0404	0.20	1807.8322
	R2401554-006	Be (313.107 nm)	0.0000	40.75	-193.6704
	R2401554-006	Ca (317.933 nm)	108.9358 o	0.15	4210666.6479
	R2401554-006	Cd (214.439 nm)	0.0000 u	87.18	-13.4530
	R2401554-006	Co (230.786 nm)	-0.0004 u	42.23	59.9624
	R2401554-006	Cr (267.716 nm)	0.0006	17.25	-3.4803
	R2401554-006	Cu (327.395 nm)	0.0016	15.07	1.1025
	R2401554-006	Fe (234.350 nm)	0.0061	0.68	310.8621
	R2401554-006	K (766.491 nm)	1.5286	0.57	1464.9689
	R2401554-006	Mg (279.078 nm)	32.6584	0.23	102535.2587
	R2401554-006	Mn (257.610 nm)	0.0212	0.05	6646.1227
	R2401554-006	Mo (202.032 nm)	0.0006	87.19	-11.0239
	R2401554-006	Na (588.995 nm)	4.7132	0.43	34011.0875

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401554-006	Ni (230.299 nm)	-0.0010 u	18.07	98.9644
	R2401554-006	Pb (220.353 nm)	-0.0007 u	> 100.00	-0.4938
	R2401554-006	Sb (217.582 nm)	0.0065	28.39	25.9875
	R2401554-006	Se (196.026 nm)	0.0008 u	> 100.00	-1.7581
	R2401554-006	Sn (189.925 nm)	-0.0010 u	39.06	3.2943
	R2401554-006	Sr (216.596 nm)	0.2201	0.11	4147.2108
	R2401554-006	Ti (336.122 nm)	0.0014	3.45	-24.6335
	R2401554-006	Tl (190.794 nm)	0.0015 u	> 100.00	-4.2582
	R2401554-006	V (292.401 nm)	0.0001 u	> 100.00	-78.4977
	R2401554-006	Y (360.074 nm)	1.01	0.21	485409.13
	R2401554-006	Y_R (360.074 nm)	1.01	0.21	484957.87
	R2401554-006	Zn (213.857 nm)	0.0026	4.56	64.4596
3/1/2024 21:51:38	R2401554-007	Ag (328.068 nm)	0.0004	8.31	-316.6087
	R2401554-007	Al (237.312 nm)	-0.0026 u	99.11	106.2317
	R2401554-007	As (188.980 nm)	0.0062	20.13	-1.0260
	R2401554-007	B (249.772 nm)	0.0529	0.47	1708.1146
	R2401554-007	Ba (230.424 nm)	0.1164	0.22	5263.1242
	R2401554-007	Be (313.107 nm)	0.0000	36.14	-191.9624
	R2401554-007	Ca (317.933 nm)	48.9611	0.11	1894096.8768
	R2401554-007	Cd (214.439 nm)	0.0000 u	> 100.00	-9.9351
	R2401554-007	Co (230.786 nm)	-0.0005 u	49.60	57.2467
	R2401554-007	Cr (267.716 nm)	0.0009	5.01	11.2266
	R2401554-007	Cu (327.395 nm)	0.0001 u	> 100.00	-51.1434
	R2401554-007	Fe (234.350 nm)	0.0825	0.35	2041.5853
	R2401554-007	K (766.491 nm)	3.8896	1.26	3746.4173
	R2401554-007	Mg (279.078 nm)	32.0819	0.13	100724.5163
	R2401554-007	Mn (257.610 nm)	0.0271	0.17	8511.0209
	R2401554-007	Mo (202.032 nm)	0.0026	13.91	4.7444
	R2401554-007	Na (588.995 nm)	13.4579	0.49	108648.5357
	R2401554-007	Ni (230.299 nm)	-0.0025 u	18.67	82.8116
	R2401554-007	Pb (220.353 nm)	0.0000 u	> 100.00	3.3657
	R2401554-007	Sb (217.582 nm)	0.0069	17.17	26.8786
	R2401554-007	Se (196.026 nm)	-0.0003 u	> 100.00	-2.6089
	R2401554-007	Sn (189.925 nm)	-0.0007 u	75.03	4.0340
	R2401554-007	Sr (216.596 nm)	0.5429	0.06	10323.4971
	R2401554-007	Ti (336.122 nm)	0.0006	14.13	-122.6980
	R2401554-007	Tl (190.794 nm)	0.0024	62.90	-3.2076
	R2401554-007	V (292.401 nm)	0.0002 u	> 100.00	-73.5872
	R2401554-007	Y (360.074 nm)	1.01	0.11	488186.08
	R2401554-007	Y_R (360.074 nm)	1.01	0.11	487735.67
	R2401554-007	Zn (213.857 nm)	0.0033	1.12	104.2523
3/1/2024 21:54:52	R2401554-008	Ag (328.068 nm)	0.0004	22.13	-321.1810
	R2401554-008	Al (237.312 nm)	0.0019	92.77	116.6005
	R2401554-008	As (188.980 nm)	0.0000 u	> 100.00	-12.1720
	R2401554-008	B (249.772 nm)	0.0158	0.39	561.4536
	R2401554-008	Ba (230.424 nm)	0.0625	0.30	2812.1818
	R2401554-008	Be (313.107 nm)	0.0000	56.95	-192.3824
	R2401554-008	Ca (317.933 nm)	157.0320 o	0.01	6068417.8853
	R2401554-008	Cd (214.439 nm)	-0.0001 u	75.87	-15.8609
	R2401554-008	Co (230.786 nm)	-0.0006 u	44.40	55.6058
	R2401554-008	Cr (267.716 nm)	0.0007	19.43	4.1543
	R2401554-008	Cu (327.395 nm)	0.0012	15.51	-14.7126
	R2401554-008	Fe (234.350 nm)	0.0079	1.03	350.5958
	R2401554-008	K (766.491 nm)	1.0416	0.85	994.3783
	R2401554-008	Mg (279.078 nm)	62.1742 o	0.08	195253.0972
	R2401554-008	Mn (257.610 nm)	0.0011	0.49	358.8510
	R2401554-008	Mo (202.032 nm)	0.0001 u	> 100.00	-14.2842

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401554-008	Na (588.995 nm)	20.6498	0.35	170031.8643
	R2401554-008	Ni (230.299 nm)	-0.0015 u	58.64	94.3037
	R2401554-008	Pb (220.353 nm)	-0.0003 u	65.67	1.5732
	R2401554-008	Sb (217.582 nm)	0.0052	54.94	23.1082
	R2401554-008	Se (196.026 nm)	-0.0032 u	> 100.00	-4.7536
	R2401554-008	Sn (189.925 nm)	-0.0001 u	> 100.00	5.7372
	R2401554-008	Sr (216.596 nm)	0.2682	0.34	5066.8803
	R2401554-008	Ti (336.122 nm)	0.0017	2.90	17.8939
	R2401554-008	Tl (190.794 nm)	0.0043	24.72	-0.9842
	R2401554-008	V (292.401 nm)	0.0000 u	> 100.00	-81.3963
	R2401554-008	Y (360.074 nm)	0.99	0.19	477133.36
	R2401554-008	Y_R (360.074 nm)	0.99	0.19	476681.77
	R2401554-008	Zn (213.857 nm)	0.0048	1.77	189.0173
3/1/2024 21:58:05	R2401558-001	Ag (328.068 nm)	0.0003	42.54	-324.5694
	R2401558-001	Al (237.312 nm)	0.2518	0.90	694.0167
	R2401558-001	As (188.980 nm)	0.0005 u	> 100.00	-11.3520
	R2401558-001	B (249.772 nm)	0.8835	0.44	27439.8293
	R2401558-001	Ba (230.424 nm)	0.2969	0.50	13462.5224
	R2401558-001	Be (313.107 nm)	0.0000	30.64	-188.9331
	R2401558-001	Ca (317.933 nm)	190.4202 o	0.42	7358063.3610
	R2401558-001	Cd (214.439 nm)	0.0000 u	> 100.00	-13.0288
	R2401558-001	Co (230.786 nm)	0.0023	14.40	100.4693
	R2401558-001	Cr (267.716 nm)	0.0026	2.58	84.0633
	R2401558-001	Cu (327.395 nm)	0.0018	8.29	6.9501
	R2401558-001	Fe (234.350 nm)	2.4069	0.44	54684.6407
	R2401558-001	K (766.491 nm)	41.1245	0.45	39727.1607
	R2401558-001	Mg (279.078 nm)	98.4721 o	0.44	309275.1472
	R2401558-001	Mn (257.610 nm)	0.3276	0.44	102625.6152
	R2401558-001	Mo (202.032 nm)	-0.0001 u	> 100.00	-15.6856
	R2401558-001	Na (588.995 nm)	239.6393 o	0.24	2039124.8723
	R2401558-001	Ni (230.299 nm)	-0.0007 u	90.50	103.2144
	R2401558-001	Pb (220.353 nm)	0.0078	19.98	43.9054
	R2401558-001	Sb (217.582 nm)	0.0048	12.17	22.2775
	R2401558-001	Se (196.026 nm)	-0.0012 u	> 100.00	-3.2620
	R2401558-001	Sn (189.925 nm)	0.0062	3.66	23.9892
	R2401558-001	Sr (216.596 nm)	1.8039	0.46	34455.4145
	R2401558-001	Ti (336.122 nm)	0.0088	1.63	930.6740
	R2401558-001	Tl (190.794 nm)	0.0011	50.51	-4.7686
	R2401558-001	V (292.401 nm)	0.0011	11.39	-39.4162
	R2401558-001	Y (360.074 nm)	0.95	0.25	458356.80
	R2401558-001	Y_R (360.074 nm)	0.95	0.25	457894.81
	R2401558-001	Zn (213.857 nm)	0.0285	0.21	1485.2272
3/1/2024 22:01:18	Continuing Calibration Verification1	Ag (328.068 nm)	0.5221	0.27	29836.1128
	Continuing Calibration Verification1	Al (237.312 nm)	10.1829	0.10	23632.7540
	Continuing Calibration Verification1	As (188.980 nm)	0.9945	0.28	1764.5770
	Continuing Calibration Verification1	B (249.772 nm)	2.4802	0.24	76902.2402
	Continuing Calibration Verification1	Ba (230.424 nm)	10.3415	0.13	469884.1713
	Continuing Calibration Verification1	Be (313.107 nm)	0.2447	0.28	258649.5167
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7786	0.26	998653.4512
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5050	0.24	30936.5120
	Continuing Calibration Verification1	Co (230.786 nm)	2.5679	0.12	38542.7654
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5187	0.16	22716.5278
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2733	0.27	44255.2474
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0423	0.23	114371.6056
	Continuing Calibration Verification1	K (766.491 nm)	24.9965	0.19	24142.3615
	Continuing Calibration Verification1	Mg (279.078 nm)	25.1430	0.24	78927.3811
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7546	0.24	236363.5938

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5784	0.32	19585.3250
	Continuing Calibration Verification1	Na (588.995 nm)	25.9364	0.14	215153.1835
	Continuing Calibration Verification1	Ni (230.299 nm)	2.1109	0.22	23977.3020
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5163	0.49	2681.1966
	Continuing Calibration Verification1	Sb (217.582 nm)	5.0234	0.29	11093.2264
	Continuing Calibration Verification1	Se (196.026 nm)	0.4961	0.60	366.6004
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0762	0.17	14645.3153
	Continuing Calibration Verification1	Sr (216.596 nm)	2.5077	0.16	47922.6350
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5684	0.31	332185.9557
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0218	0.59	1193.7761
	Continuing Calibration Verification1	V (292.401 nm)	2.5255	0.27	98818.9818
	Continuing Calibration Verification1	Y (360.074 nm)	1.01	0.40	484996.41
	Continuing Calibration Verification1	Y_R (360.074 nm)	1.01	0.40	484551.00
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9989	0.29	54737.2794
3/1/2024 22:04:32	Continuing Calibration Blank1	Ag (328.068 nm)	0.0002 u	> 100.00	-327.2829
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0075 u	37.28	94.9569
	Continuing Calibration Blank1	As (188.980 nm)	0.0008 u	> 100.00	-10.6990
	Continuing Calibration Blank1	B (249.772 nm)	0.0010	18.26	102.1174
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0002	39.02	-19.0744
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	8.49	-202.2247
	Continuing Calibration Blank1	Ca (317.933 nm)	-0.0010 u	24.54	2897.7565
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-12.8106
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0009 u	58.31	52.4526
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0005	30.43	-6.1241
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0006	39.92	-33.9255
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0012	6.25	200.2843
	Continuing Calibration Blank1	K (766.491 nm)	0.0176 u	> 100.00	4.8407
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0032 u	99.73	-43.8805
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0000 u	57.89	5.5504
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0020	33.27	-0.3539
	Continuing Calibration Blank1	Na (588.995 nm)	0.2067	1.11	-4451.9039
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0024 u	9.79	83.2015
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0001 u	> 100.00	3.6143
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0052	56.22	23.0542
	Continuing Calibration Blank1	Se (196.026 nm)	0.0018	60.05	-1.0431
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0005 u	> 100.00	7.4856
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0007	26.81	-51.5186
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0016	28.81	1.1994
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0002 u	> 100.00	-5.8024
	Continuing Calibration Blank1	V (292.401 nm)	0.0003	32.78	-69.1287
	Continuing Calibration Blank1	Y (360.074 nm)	1.05	0.04	504598.87
	Continuing Calibration Blank1	Y_R (360.074 nm)	1.05	0.04	504158.03
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0003	24.82	-61.1450
3/1/2024 22:07:46	Contract Required Detection Limit	Ag (328.068 nm)	0.0104	0.25	258.8989
	Contract Required Detection Limit	Al (237.312 nm)	0.1921	0.91	556.0252
	Contract Required Detection Limit	As (188.980 nm)	0.0194	10.27	22.4656
	Contract Required Detection Limit	B (249.772 nm)	0.1922	0.18	6026.1464
	Contract Required Detection Limit	Ba (230.424 nm)	0.2065	0.23	9356.0342
	Contract Required Detection Limit	Be (313.107 nm)	0.0049	0.34	4952.4392
	Contract Required Detection Limit	Ca (317.933 nm)	1.0112	0.31	41995.8014
	Contract Required Detection Limit	Cd (214.439 nm)	0.0100	0.17	603.1184
	Contract Required Detection Limit	Co (230.786 nm)	0.0505	0.41	821.3715
	Contract Required Detection Limit	Cr (267.716 nm)	0.0106	1.01	436.4682
	Contract Required Detection Limit	Cu (327.395 nm)	0.0259	0.20	845.3670
	Contract Required Detection Limit	Fe (234.350 nm)	0.1058	0.37	2568.6561
	Contract Required Detection Limit	K (766.491 nm)	0.9747	4.47	929.7280
	Contract Required Detection Limit	Mg (279.078 nm)	0.9740	0.42	3005.5209

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Contract Required Detection Limit	Mn (257.610 nm)	0.0153	0.20	4799.3177
	Contract Required Detection Limit	Mo (202.032 nm)	0.0258	0.41	180.8117
	Contract Required Detection Limit	Na (588.995 nm)	1.1200	0.50	3343.1178
	Contract Required Detection Limit	Ni (230.299 nm)	0.0382	0.55	543.0185
	Contract Required Detection Limit	Pb (220.353 nm)	0.0107	5.23	58.8631
	Contract Required Detection Limit	Sb (217.582 nm)	0.0672	3.25	159.7678
	Contract Required Detection Limit	Se (196.026 nm)	0.0088	9.24	4.1584
	Contract Required Detection Limit	Sn (189.925 nm)	0.5000	0.43	1448.1071
	Contract Required Detection Limit	Sr (216.596 nm)	0.1005	0.20	1858.2153
	Contract Required Detection Limit	Ti (336.122 nm)	0.0497	0.21	6230.8048
	Contract Required Detection Limit	Tl (190.794 nm)	0.0196	10.40	16.9621
	Contract Required Detection Limit	V (292.401 nm)	0.0494	0.32	1852.4936
	Contract Required Detection Limit	Y (360.074 nm)	1.05	0.25	505538.41
	Contract Required Detection Limit	Y_R (360.074 nm)	1.05	0.25	505089.70
	Contract Required Detection Limit	Zn (213.857 nm)	0.0196	0.11	996.9843
3/1/2024 22:10:59	Interference Check Solution A	Ag (328.068 nm)	0.0002	47.79	-331.0345
	Interference Check Solution A	Al (237.312 nm)	257.4145 o	0.15	594687.3474
	Interference Check Solution A	As (188.980 nm)	-0.0053 Ku	30.18	-21.5969 K
	Interference Check Solution A	B (249.772 nm)	0.1215	0.35	3834.4980
	Interference Check Solution A	Ba (230.424 nm)	0.0006	2.20	-2.6142
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-209.7179
	Interference Check Solution A	Ca (317.933 nm)	238.9726 o	0.30	9233440.5833
	Interference Check Solution A	Cd (214.439 nm)	0.0009	5.42	42.3545
	Interference Check Solution A	Co (230.786 nm)	0.0009	27.20	79.0959
	Interference Check Solution A	Cr (267.716 nm)	0.0014	0.82	34.8826
	Interference Check Solution A	Cu (327.395 nm)	0.0015	33.76	-4.1648
	Interference Check Solution A	Fe (234.350 nm)	94.0179 o	0.33	2129525.6494
	Interference Check Solution A	K (766.491 nm)	-0.0003 u	> 100.00	-12.3969
	Interference Check Solution A	Mg (279.078 nm)	258.7405 o	0.29	812724.2283
	Interference Check Solution A	Mn (257.610 nm)	0.0013	1.94	410.0791
	Interference Check Solution A	Mo (202.032 nm)	-0.0022 u	21.18	-32.2420
	Interference Check Solution A	Na (588.995 nm)	0.1732	1.01	-4737.8472
	Interference Check Solution A	Ni (230.299 nm)	-0.0001 u	> 100.00	109.7395
	Interference Check Solution A	Pb (220.353 nm)	-0.0011 u	57.05	-2.6098
	Interference Check Solution A	Sb (217.582 nm)	-0.0067 u	35.68	-3.1665
	Interference Check Solution A	Se (196.026 nm)	-0.0058 u	84.16	-6.6678
	Interference Check Solution A	Sn (189.925 nm)	0.0010 u	> 100.00	8.9576
	Interference Check Solution A	Sr (216.596 nm)	0.0103	3.45	130.9617
	Interference Check Solution A	Ti (336.122 nm)	0.0024	7.89	104.2709
	Interference Check Solution A	Tl (190.794 nm)	0.0009 u	> 100.00	-4.9479
	Interference Check Solution A	V (292.401 nm)	0.0020	10.12	-1.6819
	Interference Check Solution A	Y (360.074 nm)	0.93	0.33	447909.14
	Interference Check Solution A	Y_R (360.074 nm)	0.93	0.33	447462.62
	Interference Check Solution A	Zn (213.857 nm)	0.0118 K	21.39	573.6643 K
3/1/2024 22:14:13	Interference Check Solution AB	Ag (328.068 nm)	0.2183	0.27	12277.8515
	Interference Check Solution AB	Al (237.312 nm)	253.4096 o	0.17	585436.8175
	Interference Check Solution AB	As (188.980 nm)	0.0939	2.54	155.5697
	Interference Check Solution AB	B (249.772 nm)	0.1202	0.34	3793.7609
	Interference Check Solution AB	Ba (230.424 nm)	0.5172	0.30	23473.8759
	Interference Check Solution AB	Be (313.107 nm)	0.4818	0.28	509494.3725
	Interference Check Solution AB	Ca (317.933 nm)	233.9284 o	0.51	9038602.6128
	Interference Check Solution AB	Cd (214.439 nm)	0.9513	0.30	58279.7069
	Interference Check Solution AB	Co (230.786 nm)	0.4852	0.32	7335.5130
	Interference Check Solution AB	Cr (267.716 nm)	0.5113	0.27	22395.0385
	Interference Check Solution AB	Cu (327.395 nm)	0.5426	0.21	18826.4063
	Interference Check Solution AB	Fe (234.350 nm)	93.1158 o	0.30	2109094.4198
	Interference Check Solution AB	K (766.491 nm)	0.0239 u	> 100.00	10.9521

+/-0.01

+/-0.02

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution AB	Mg (279.078 nm)	255.2036 o	0.32	801613.5500
	Interference Check Solution AB	Mn (257.610 nm)	0.4868	0.28	152490.9884
	Interference Check Solution AB	Mo (202.032 nm)	-0.0029 u	36.59	-37.4924
	Interference Check Solution AB	Na (588.995 nm)	0.1782	0.87	-4695.4660
	Interference Check Solution AB	Ni (230.299 nm)	0.9768	0.21	11154.2329
	Interference Check Solution AB	Pb (220.353 nm)	0.0484	0.37	254.4667
	Interference Check Solution AB	Sb (217.582 nm)	0.6174	0.16	1373.5877
	Interference Check Solution AB	Se (196.026 nm)	0.0424	8.10	29.1649
	Interference Check Solution AB	Sn (189.925 nm)	0.0025	7.33	13.3407
	Interference Check Solution AB	Sr (216.596 nm)	0.0115	0.18	155.2513
	Interference Check Solution AB	Ti (336.122 nm)	0.0022	5.54	77.5705
	Interference Check Solution AB	Tl (190.794 nm)	0.1029	5.19	114.8176
	Interference Check Solution AB	V (292.401 nm)	0.5036	0.38	19639.2430
	Interference Check Solution AB	Y (360.074 nm)	0.93	0.24	449052.07
	Interference Check Solution AB	Y_R (360.074 nm)	0.93	0.24	448591.63
	Interference Check Solution AB	Zn (213.857 nm)	1.0015	0.23	54883.2495
3/1/2024 22:17:27	Continuing Calibration Verification1	Ag (328.068 nm)	0.5207	0.16	29756.3789
	Continuing Calibration Verification1	Al (237.312 nm)	10.2197	0.13	23717.7265
	Continuing Calibration Verification1	As (188.980 nm)	0.9932	0.36	1762.3719
	Continuing Calibration Verification1	B (249.772 nm)	2.4816	0.26	76944.1653
	Continuing Calibration Verification1	Ba (230.424 nm)	10.3502	0.32	470278.8081
	Continuing Calibration Verification1	Be (313.107 nm)	0.2447	0.26	258670.6659
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7775	0.31	998611.7673
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5047	0.25	30918.1945
	Continuing Calibration Verification1	Co (230.786 nm)	2.5684	0.34	38550.2630
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5186	0.24	22714.6569
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2742	0.18	44287.4788
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0603	0.28	114780.2674
	Continuing Calibration Verification1	K (766.491 nm)	24.9297	0.27	24077.8370
	Continuing Calibration Verification1	Mg (279.078 nm)	25.1392	0.23	78915.3401
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7543	0.28	236270.0253
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5813	0.34	19607.8692
	Continuing Calibration Verification1	Na (588.995 nm)	25.8991	0.12	214835.0202
	Continuing Calibration Verification1	Ni (230.299 nm)	2.1084	0.25	23948.8575
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5164	0.17	2681.7578
	Continuing Calibration Verification1	Sb (217.582 nm)	5.0180	0.30	11081.3231
	Continuing Calibration Verification1	Se (196.026 nm)	0.4980	0.25	368.0224
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0810	0.28	14658.9214
	Continuing Calibration Verification1	Sr (216.596 nm)	2.5079	0.15	47927.0731
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5698	0.29	332369.4912
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0177	0.74	1188.8962
	Continuing Calibration Verification1	V (292.401 nm)	2.5249	0.30	98794.8552
	Continuing Calibration Verification1	Y (360.074 nm)	1.01	0.11	487935.56
	Continuing Calibration Verification1	Y_R (360.074 nm)	1.01	0.11	487481.16
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9970	0.21	54632.4729
3/1/2024 22:20:41	Continuing Calibration Blank1	Ag (328.068 nm)	0.0002	45.49	-329.5701
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0044 u	59.55	102.1016
	Continuing Calibration Blank1	As (188.980 nm)	0.0008	76.22	-10.7747
	Continuing Calibration Blank1	B (249.772 nm)	0.0012	33.22	107.5047
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0004	5.01	-10.3742
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	14.62	-194.5555
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0001 u	> 100.00	2940.3885
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000	64.09	-10.0899
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0007 u	45.50	55.1525
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0004	52.45	-11.2091
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0004	52.94	-40.2883
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0021	7.54	220.4464

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	K (766.491 nm)	0.0321	93.26	18.8370
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0053	17.68	-37.2219
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0000 u	44.54	3.7763
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0023	18.85	2.3180
	Continuing Calibration Blank1	Na (588.995 nm)	0.1636	4.69	-4819.6953
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0024 u	10.60	83.1144
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0005	9.80	5.6911
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0054	17.04	23.5801
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0011 u	> 100.00	-3.1389
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0004 u	> 100.00	7.2687
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0008	16.64	-49.0908
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0017	23.66	18.5928
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0004 u	> 100.00	-5.5389
	Continuing Calibration Blank1	V (292.401 nm)	-0.0001 u	78.24	-86.3040
	Continuing Calibration Blank1	Y (360.074 nm)	1.05	0.11	505148.42
	Continuing Calibration Blank1	Y_R (360.074 nm)	1.05	0.11	504660.95
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0002	14.88	-63.7846
3/1/2024 22:23:54	PBS-434757	Ag (328.068 nm)	0.0003	19.81	-321.8669
	PBS-434757	Al (237.312 nm)	-0.0070 u	16.69	96.1129
	PBS-434757	As (188.980 nm)	0.0014	85.77	-9.7536
	PBS-434757	B (249.772 nm)	0.0012	9.27	109.4642
	PBS-434757	Ba (230.424 nm)	0.0010	13.08	16.5562
	PBS-434757	Be (313.107 nm)	0.0000	15.52	-172.4364
	PBS-434757	Ca (317.933 nm)	0.0104	11.95	3335.9930
	PBS-434757	Cd (214.439 nm)	0.0000 u	> 100.00	-11.7048
	PBS-434757	Co (230.786 nm)	-0.0009 u	2.72	51.8927
	PBS-434757	Cr (267.716 nm)	0.0010	15.56	17.9639
	PBS-434757	Cu (327.395 nm)	0.0009	19.63	-24.5903
	PBS-434757	Fe (234.350 nm)	0.0090	2.24	375.7728
	PBS-434757	K (766.491 nm)	-0.0104 u	> 100.00	-22.1553
	PBS-434757	Mg (279.078 nm)	0.0099	6.39	-23.0544
	PBS-434757	Mn (257.610 nm)	0.0001	22.18	55.7918
	PBS-434757	Mo (202.032 nm)	0.0011	36.50	-6.5832
	PBS-434757	Na (588.995 nm)	0.1445	1.72	-4982.9960
	PBS-434757	Ni (230.299 nm)	-0.0033 u	23.39	73.3635
	PBS-434757	Pb (220.353 nm)	-0.0002 u	> 100.00	2.5332
	PBS-434757	Sb (217.582 nm)	0.0025	54.73	17.0350
	PBS-434757	Se (196.026 nm)	0.0027 u	> 100.00	-0.3624
	PBS-434757	Sn (189.925 nm)	0.0095	7.24	33.5641
	PBS-434757	Sr (216.596 nm)	0.0010	16.68	-45.5654
	PBS-434757	Ti (336.122 nm)	0.0005	12.67	-144.1039
	PBS-434757	Tl (190.794 nm)	-0.0012 u	> 100.00	-7.5149
	PBS-434757	V (292.401 nm)	0.0003	39.44	-67.6743
	PBS-434757	Y (360.074 nm)	1.06	0.46	511831.83
	PBS-434757	Y_R (360.074 nm)	1.06	0.47	511358.36
	PBS-434757	Zn (213.857 nm)	0.0004	22.77	-54.0597
3/1/2024 22:27:08	LCSS-434757	Ag (328.068 nm)	0.0499	0.82	2542.4632
	LCSS-434757	Al (237.312 nm)	1.8892	0.29	4476.0518
	LCSS-434757	As (188.980 nm)	0.0368	4.05	53.6634
	LCSS-434757	B (249.772 nm)	0.9292	0.24	28854.3994
	LCSS-434757	Ba (230.424 nm)	2.0173	0.54	91634.9837
	LCSS-434757	Be (313.107 nm)	0.0469	0.33	49374.0229
	LCSS-434757	Ca (317.933 nm)	1.9737	0.33	79172.4333
	LCSS-434757	Cd (214.439 nm)	0.0494	0.43	3013.4052
	LCSS-434757	Co (230.786 nm)	0.5056	0.33	7641.1685
	LCSS-434757	Cr (267.716 nm)	0.1995	0.40	8723.0706
	LCSS-434757	Cu (327.395 nm)	0.2532	0.35	8755.8432

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	LCSS-434757	Fe (234.350 nm)	0.9843	0.27	22464.7984
	LCSS-434757	K (766.491 nm)	18.7414	0.19	18097.9351
	LCSS-434757	Mg (279.078 nm)	1.8848	0.14	5866.5435
	LCSS-434757	Mn (257.610 nm)	0.4863	0.33	152339.3829
	LCSS-434757	Mo (202.032 nm)	0.4976	0.63	3767.2352
	LCSS-434757	Na (588.995 nm)	19.4945	0.02	160170.7318
	LCSS-434757	Ni (230.299 nm)	0.5121	0.31	5900.8195
	LCSS-434757	Pb (220.353 nm)	0.5010	0.28	2602.1790
	LCSS-434757	Sb (217.582 nm)	0.4828	0.79	1076.5674
	LCSS-434757	Se (196.026 nm)	0.9156	0.62	678.6172
	LCSS-434757	Sn (189.925 nm)	4.8784	0.21	14074.7879
	LCSS-434757	Sr (216.596 nm)	1.9657	0.45	37552.3853
	LCSS-434757	Ti (336.122 nm)	0.4930	0.36	63603.1588
	LCSS-434757	Tl (190.794 nm)	1.9572	0.46	2292.1297
	LCSS-434757	V (292.401 nm)	0.4877	0.37	19017.2256
	LCSS-434757	Y (360.074 nm)	1.04	0.52	500527.68
	LCSS-434757	Y_R (360.074 nm)	1.04	0.52	500045.87
	LCSS-434757	Zn (213.857 nm)	0.4845	0.24	26509.8248
3/1/2024 22:30:21	R2401503-002	Ag (328.068 nm)	0.0021	8.44	-222.8137
	R2401503-002	Al (237.312 nm)	1.9254	0.22	4559.5814
	R2401503-002	As (188.980 nm)	0.0036	23.18	-5.7249
	R2401503-002	B (249.772 nm)	0.0209	0.91	717.3245
	R2401503-002	Ba (230.424 nm)	0.1856	0.33	8404.6364
	R2401503-002	Be (313.107 nm)	0.0000	16.00	-161.9640
	R2401503-002	Ca (317.933 nm)	16.9775	0.30	658704.8962
	R2401503-002	Cd (214.439 nm)	0.0009	0.30	43.6533
	R2401503-002	Co (230.786 nm)	0.0003	24.54	69.3389
	R2401503-002	Cr (267.716 nm)	0.0185	1.42	782.6989
	R2401503-002	Cu (327.395 nm)	1.0330	0.80	35895.2731
	R2401503-002	Fe (234.350 nm)	4.7308	0.32	107317.0014
	R2401503-002	K (766.491 nm)	0.6973	4.13	661.6861
	R2401503-002	Mg (279.078 nm)	1.7850	0.17	5553.2038
	R2401503-002	Mn (257.610 nm)	0.1229	0.32	38512.3839
	R2401503-002	Mo (202.032 nm)	0.0061	5.22	31.2162
	R2401503-002	Na (588.995 nm)	1.5970	0.28	7414.3498
	R2401503-002	Ni (230.299 nm)	0.0022	28.34	135.6398
	R2401503-002	Pb (220.353 nm)	0.0269	2.28	142.8136
	R2401503-002	Sb (217.582 nm)	0.0114	16.43	36.7754
	R2401503-002	Se (196.026 nm)	0.0091	8.72	4.4264
	R2401503-002	Sn (189.925 nm)	0.0477	0.46	143.4561
	R2401503-002	Sr (216.596 nm)	0.0480	0.75	853.7639
	R2401503-002	Ti (336.122 nm)	0.2051	2.46	26334.9783
	R2401503-002	Tl (190.794 nm)	0.0000 u	> 100.00	-6.0835
	R2401503-002	V (292.401 nm)	0.0041	1.41	80.8248
	R2401503-002	Y (360.074 nm)	1.06	0.57	510013.17
	R2401503-002	Y_R (360.074 nm)	1.06	0.57	509538.76
	R2401503-002	Zn (213.857 nm)	0.7858	0.42	43044.8713
3/1/2024 22:33:34	R2401594-002	Ag (328.068 nm)	0.0000 u	> 100.00	-343.3208
	R2401594-002	Al (237.312 nm)	33.9217 o	0.23	78464.5726
	R2401594-002	As (188.980 nm)	0.0173	6.00	18.7631
	R2401594-002	B (249.772 nm)	0.1144	0.67	3614.6000
	R2401594-002	Ba (230.424 nm)	0.1694	0.59	7668.4516
	R2401594-002	Be (313.107 nm)	0.0013	0.94	1123.8495
	R2401594-002	Ca (317.933 nm)	253.8603 o	0.52	9808489.4458
	R2401594-002	Cd (214.439 nm)	0.0011	3.45	56.9860
	R2401594-002	Co (230.786 nm)	0.0264	0.60	460.2855
	R2401594-002	Cr (267.716 nm)	0.0435	0.42	1878.6513

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-002	Cu (327.395 nm)	0.1214	0.21	4170.2942
	R2401594-002	Fe (234.350 nm)	75.8335 o	0.50	1717678.8428
	R2401594-002	K (766.491 nm)	4.9769	0.55	4797.1252
	R2401594-002	Mg (279.078 nm)	50.0538	0.50	157179.3858
	R2401594-002	Mn (257.610 nm)	3.3463 o LR	0.45	1048139.3491
	R2401594-002	Mo (202.032 nm)	0.0003 u	> 100.00	-13.3185
	R2401594-002	Na (588.995 nm)	0.5696	0.28	-1354.4064
	R2401594-002	Ni (230.299 nm)	0.0551	1.23	733.5965
	R2401594-002	Pb (220.353 nm)	0.0200	5.08	107.2459
	R2401594-002	Sb (217.582 nm)	0.0000 u	> 100.00	11.7053
	R2401594-002	Se (196.026 nm)	-0.0042 u	87.46	-5.4523
	R2401594-002	Sn (189.925 nm)	0.0109	6.05	37.5198
	R2401594-002	Sr (216.596 nm)	0.4457	0.50	8463.8067
	R2401594-002	Ti (336.122 nm)	0.9163	0.29	118375.9792
	R2401594-002	Tl (190.794 nm)	0.0000 u	> 100.00	-6.0938
	R2401594-002	V (292.401 nm)	0.0818	0.54	3121.9654
	R2401594-002	Y (360.074 nm)	1.01	0.24	488840.61
	R2401594-002	Y_R (360.074 nm)	1.01	0.24	488343.32
	R2401594-002	Zn (213.857 nm)	0.1888	0.38	10284.0445
3/1/2024 22:36:48	R2401594-004	Ag (328.068 nm)	0.0001	81.55	-337.3332
	R2401594-004	Al (237.312 nm)	32.5197 o	0.11	75226.2458
	R2401594-004	As (188.980 nm)	0.0164	5.86	17.1298
	R2401594-004	B (249.772 nm)	0.1104	0.57	3491.3130
	R2401594-004	Ba (230.424 nm)	0.1630	0.23	7380.4928
	R2401594-004	Be (313.107 nm)	0.0013	0.97	1158.5633
	R2401594-004	Ca (317.933 nm)	210.6144 o	0.40	8138082.9377
	R2401594-004	Cd (214.439 nm)	0.0010	10.53	50.8158
	R2401594-004	Co (230.786 nm)	0.0257	1.10	450.6499
	R2401594-004	Cr (267.716 nm)	0.0417	0.43	1801.6385
	R2401594-004	Cu (327.395 nm)	0.1239	0.42	4257.8959
	R2401594-004	Fe (234.350 nm)	74.0935 o	0.36	1678269.5187
	R2401594-004	K (766.491 nm)	4.9840	0.39	4804.0184
	R2401594-004	Mg (279.078 nm)	51.8082	0.26	162690.3409
	R2401594-004	Mn (257.610 nm)	3.1996 o LR	0.29	1002197.7300
	R2401594-004	Mo (202.032 nm)	0.0005	80.87	-11.2811
	R2401594-004	Na (588.995 nm)	0.5157	1.06	-1814.4743
	R2401594-004	Ni (230.299 nm)	0.0543	1.42	725.0268
	R2401594-004	Pb (220.353 nm)	0.0212	1.65	113.5206
	R2401594-004	Sb (217.582 nm)	-0.0011 u	68.08	9.1995
	R2401594-004	Se (196.026 nm)	-0.0039 u	> 100.00	-5.2671
	R2401594-004	Sn (189.925 nm)	0.0104	9.08	35.9145
	R2401594-004	Sr (216.596 nm)	0.2778	0.23	5251.3734
	R2401594-004	Ti (336.122 nm)	0.8774	0.15	113346.4010
	R2401594-004	Tl (190.794 nm)	0.0010 u	> 100.00	-4.9072
	R2401594-004	V (292.401 nm)	0.0768	0.35	2926.5226
	R2401594-004	Y (360.074 nm)	1.02	0.34	491059.53
	R2401594-004	Y_R (360.074 nm)	1.02	0.34	490557.54
	R2401594-004	Zn (213.857 nm)	0.1918	0.34	10451.1791
3/1/2024 22:40:02	R2401594-006	Ag (328.068 nm)	0.0001	88.81	-334.3629
	R2401594-006	Al (237.312 nm)	38.0329 o	0.18	87960.5251
	R2401594-006	As (188.980 nm)	0.0168	17.77	17.8706
	R2401594-006	B (249.772 nm)	0.1231	0.66	3883.3709
	R2401594-006	Ba (230.424 nm)	0.1714	0.45	7758.3226
	R2401594-006	Be (313.107 nm)	0.0014	0.73	1259.6655
	R2401594-006	Ca (317.933 nm)	205.3979 o	0.44	7936591.9167
	R2401594-006	Cd (214.439 nm)	0.0012	6.16	59.6661
	R2401594-006	Co (230.786 nm)	0.0290	0.25	499.4986

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-006	Cr (267.716 nm)	0.0470	0.47	2032.0245
	R2401594-006	Cu (327.395 nm)	0.1407	0.16	4841.3288
	R2401594-006	Fe (234.350 nm)	83.5318 o	0.37	1892033.6765
	R2401594-006	K (766.491 nm)	5.1672	0.28	4981.0143
	R2401594-006	Mg (279.078 nm)	46.0997	0.38	144758.4418
	R2401594-006	Mn (257.610 nm)	3.2078 o LR	0.38	1004761.9759
	R2401594-006	Mo (202.032 nm)	0.0001 u	> 100.00	-14.6275
	R2401594-006	Na (588.995 nm)	0.5043	1.37	-1912.1015
	R2401594-006	Ni (230.299 nm)	0.0646	1.00	841.3099
	R2401594-006	Pb (220.353 nm)	0.0216	2.10	115.3895
	R2401594-006	Sb (217.582 nm)	-0.0025 u	26.64	6.1749
	R2401594-006	Se (196.026 nm)	-0.0036 u	84.47	-5.0058
	R2401594-006	Sn (189.925 nm)	0.0100	2.91	34.7924
	R2401594-006	Sr (216.596 nm)	0.2997	0.60	5669.4695
	R2401594-006	Ti (336.122 nm)	0.7592	0.11	98054.7431
	R2401594-006	Tl (190.794 nm)	0.0000 u	> 100.00	-6.0244
	R2401594-006	V (292.401 nm)	0.0829	0.41	3166.5666
	R2401594-006	Y (360.074 nm)	1.02	0.34	490341.56
	R2401594-006	Y_R (360.074 nm)	1.02	0.34	489854.52
	R2401594-006	Zn (213.857 nm)	0.2006	0.28	10929.4908
3/1/2024 22:43:15	R2401594-006S	Ag (328.068 nm)	0.0494	0.55	2515.6520
	R2401594-006S	Al (237.312 nm)	38.9438 o	0.20	90064.5093
	R2401594-006S	As (188.980 nm)	0.0557	3.29	87.4336
	R2401594-006S	B (249.772 nm)	1.0390	0.17	32255.1304
	R2401594-006S	Ba (230.424 nm)	2.0327	0.21	92335.5836
	R2401594-006S	Be (313.107 nm)	0.0469	0.15	49393.7920
	R2401594-006S	Ca (317.933 nm)	376.2402 o	0.23	14535508.9735
	R2401594-006S	Cd (214.439 nm)	0.0462	0.17	2818.1387
	R2401594-006S	Co (230.786 nm)	0.4913	0.16	7427.7358
	R2401594-006S	Cr (267.716 nm)	0.2379	0.14	10403.3649
	R2401594-006S	Cu (327.395 nm)	0.3641	0.17	12617.1564
	R2401594-006S	Fe (234.350 nm)	79.6566 o	0.20	1804265.1647
	R2401594-006S	K (766.491 nm)	23.7316	0.39	22920.0980
	R2401594-006S	Mg (279.078 nm)	53.2180	0.17	167119.1286
	R2401594-006S	Mn (257.610 nm)	3.6273 o	0.18	1136160.1827
	R2401594-006S	Mo (202.032 nm)	0.4753	0.32	3597.5718
	R2401594-006S	Na (588.995 nm)	21.4630	0.30	176972.7682
	R2401594-006S	Ni (230.299 nm)	0.5247	0.30	6042.8167
	R2401594-006S	Pb (220.353 nm)	0.4771	0.43	2478.2527
	R2401594-006S	Sb (217.582 nm)	0.4431	0.43	989.0565
	R2401594-006S	Se (196.026 nm)	0.9105	1.09	674.7987
	R2401594-006S	Sn (189.925 nm)	4.6163	0.12	13319.0344
	R2401594-006S	Sr (216.596 nm)	2.3160	0.30	44255.6652
	R2401594-006S	Ti (336.122 nm)	1.2309	0.28	159097.8133
	R2401594-006S	Tl (190.794 nm)	1.8039	0.23	2112.0382
	R2401594-006S	V (292.401 nm)	0.5567	0.21	21720.1324
	R2401594-006S	Y (360.074 nm)	0.99	0.44	477534.17
	R2401594-006S	Y_R (360.074 nm)	0.99	0.44	477035.33
	R2401594-006S	Zn (213.857 nm)	0.6560	0.20	35921.5227
3/1/2024 22:46:29	R2401594-006SD	Ag (328.068 nm)	0.0480	0.24	2433.3306
	R2401594-006SD	Al (237.312 nm)	39.4002 o	0.49	91118.7179
	R2401594-006SD	As (188.980 nm)	0.0545	0.91	85.2732
	R2401594-006SD	B (249.772 nm)	1.0103	0.41	31367.1720
	R2401594-006SD	Ba (230.424 nm)	2.0216	0.46	91830.8264
	R2401594-006SD	Be (313.107 nm)	0.0461	0.21	48519.7562
	R2401594-006SD	Ca (317.933 nm)	193.4813 o	0.19	7476301.6014
	R2401594-006SD	Cd (214.439 nm)	0.0459	0.39	2802.6038

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-006SD	Co (230.786 nm)	0.4871	0.47	7363.6500
	R2401594-006SD	Cr (267.716 nm)	0.2312	0.22	10111.9808
	R2401594-006SD	Cu (327.395 nm)	0.3779	0.43	13095.6940
	R2401594-006SD	Fe (234.350 nm)	83.9106 o	0.22	1900612.6143
	R2401594-006SD	K (766.491 nm)	22.6405	0.52	21865.7236
	R2401594-006SD	Mg (279.078 nm)	47.8983	0.27	150408.3097
	R2401594-006SD	Mn (257.610 nm)	3.8449 o	0.28	1204342.9557
	R2401594-006SD	Mo (202.032 nm)	0.4673	0.21	3536.9193
	R2401594-006SD	Na (588.995 nm)	20.2962	0.63	167013.6294
	R2401594-006SD	Ni (230.299 nm)	0.5354	0.24	6164.2193
	R2401594-006SD	Pb (220.353 nm)	0.4741	0.06	2462.1968
	R2401594-006SD	Sb (217.582 nm)	0.4228	0.25	944.2192
	R2401594-006SD	Se (196.026 nm)	0.8890	0.70	658.8519
	R2401594-006SD	Sn (189.925 nm)	4.6017	0.37	13276.7375
	R2401594-006SD	Sr (216.596 nm)	2.0680	0.40	39508.9157
	R2401594-006SD	Ti (336.122 nm)	1.2450	0.47	160917.1936
	R2401594-006SD	Tl (190.794 nm)	1.7973	0.28	2104.2810
	R2401594-006SD	V (292.401 nm)	0.5411	0.29	21110.9351
	R2401594-006SD	Y (360.074 nm)	1.04	0.39	499101.89
	R2401594-006SD	Y_R (360.074 nm)	1.04	0.39	498583.71
	R2401594-006SD	Zn (213.857 nm)	0.6667	0.30	36509.2523
3/1/2024 22:49:43	R2401594-006A	Ag (328.068 nm)	0.0487	0.26	2472.5961
	R2401594-006A	Al (237.312 nm)	38.7692 o	0.24	89661.3418
	R2401594-006A	As (188.980 nm)	0.0505	4.43	78.0450
	R2401594-006A	B (249.772 nm)	1.0362	0.48	32169.6431
	R2401594-006A	Ba (230.424 nm)	2.0339	0.60	92392.2176
	R2401594-006A	Be (313.107 nm)	0.0465	0.47	48981.6294
	R2401594-006A	Ca (317.933 nm)	201.8311 o	0.52	7798820.1746
	R2401594-006A	Cd (214.439 nm)	0.0463	0.14	2823.0366
	R2401594-006A	Co (230.786 nm)	0.4913	0.60	7426.9553
	R2401594-006A	Cr (267.716 nm)	0.2326	0.62	10172.8140
	R2401594-006A	Cu (327.395 nm)	0.3788	0.31	13127.4287
	R2401594-006A	Fe (234.350 nm)	82.1540 o	0.51	1860827.1436
	R2401594-006A	K (766.491 nm)	24.2816	0.06	23451.5213
	R2401594-006A	Mg (279.078 nm)	46.4950	0.44	146000.2549
	R2401594-006A	Mn (257.610 nm)	3.5585 o	0.49	1114618.5839
	R2401594-006A	Mo (202.032 nm)	0.4720	0.78	3572.5209
	R2401594-006A	Na (588.995 nm)	20.4087	0.05	167973.8259
	R2401594-006A	Ni (230.299 nm)	0.5326	0.46	6132.7610
	R2401594-006A	Pb (220.353 nm)	0.4815	0.56	2500.8953
	R2401594-006A	Sb (217.582 nm)	0.4655	0.22	1038.4891
	R2401594-006A	Se (196.026 nm)	0.9082	0.48	673.1498
	R2401594-006A	Sn (189.925 nm)	4.6574	0.43	13437.5645
	R2401594-006A	Sr (216.596 nm)	2.1041	0.37	40200.5333
	R2401594-006A	Ti (336.122 nm)	1.2069	0.45	155988.9454
	R2401594-006A	Tl (190.794 nm)	1.8143	0.29	2124.2886
	R2401594-006A	V (292.401 nm)	0.5466	0.53	21322.6040
	R2401594-006A	Y (360.074 nm)	1.01	0.26	487804.02
	R2401594-006A	Y_R (360.074 nm)	1.01	0.26	487308.40
	R2401594-006A	Zn (213.857 nm)	0.6635	0.30	36335.5987
3/1/2024 22:52:57	R2401594-006L 5X Empty cup	Ag (328.068 nm)	0.0018	4.30	-239.3358
	R2401594-006L 5X	Al (237.312 nm)	0.4546 u	92.86	1162.3844
	R2401594-006L 5X	As (188.980 nm)	0.0056	14.85	-2.0976
	R2401594-006L 5X	B (249.772 nm)	0.0007 u	> 100.00	91.5332
	R2401594-006L 5X	Ba (230.424 nm)	0.0038	85.36	143.7852
	R2401594-006L 5X	Be (313.107 nm)	0.0002	12.92	-11.6009
	R2401594-006L 5X	Ca (317.933 nm)	2.5697	90.66	102193.4768

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-006L 5X	Cd (214.439 nm)	0.0001	5.94	-4.2764
	R2401594-006L 5X	Co (230.786 nm)	-0.0023 u	29.94	30.0698
	R2401594-006L 5X	Cr (267.716 nm)	0.0022	38.78	70.5412
	R2401594-006L 5X	Cu (327.395 nm)	0.0041	56.21	86.6604
	R2401594-006L 5X	Fe (234.350 nm)	1.6013	84.48	36439.9072
	R2401594-006L 5X	K (766.491 nm)	0.1013	67.82	85.7478
	R2401594-006L 5X	Mg (279.078 nm)	0.6687	86.27	2046.6957
	R2401594-006L 5X	Mn (257.610 nm)	0.0431	86.08	13495.7901
	R2401594-006L 5X	Mo (202.032 nm)	0.0021	5.50	0.6487
	R2401594-006L 5X	Na (588.995 nm)	0.4836	1.69	-2088.2353
	R2401594-006L 5X	Ni (230.299 nm)	-0.0053 u	21.24	51.0393
	R2401594-006L 5X	Pb (220.353 nm)	0.0001 u	> 100.00	4.0632
	R2401594-006L 5X	Sb (217.582 nm)	-0.0029 u	11.68	5.1018
	R2401594-006L 5X	Se (196.026 nm)	0.0019	45.63	-0.9388
	R2401594-006L 5X	Sn (189.925 nm)	-0.0011 u	36.06	2.9117
	R2401594-006L 5X	Sr (216.596 nm)	0.0085	69.40	97.9633
	R2401594-006L 5X	Ti (336.122 nm)	0.0145	77.48	1667.5764
	R2401594-006L 5X	Tl (190.794 nm)	0.0041	13.60	-1.2984
	R2401594-006L 5X	V (292.401 nm)	0.0030	50.51	36.6645
	R2401594-006L 5X	Y (360.074 nm)	3.06	5.80	1475742.65
	R2401594-006L 5X	Y_R (360.074 nm)	3.06	5.80	1474549.10
	R2401594-006L 5X	Zn (213.857 nm)	0.0046	80.58	178.6058
3/1/2024 22:56:11	Continuing Calibration Verification1	Ag (328.068 nm)	0.5181	0.09	29603.6169
	Continuing Calibration Verification1	Al (237.312 nm)	10.1256	0.21	23500.2624
	Continuing Calibration Verification1	As (188.980 nm)	0.9856	0.08	1748.8206
	Continuing Calibration Verification1	B (249.772 nm)	2.4747	0.03	76731.0756
	Continuing Calibration Verification1	Ba (230.424 nm)	10.3158	0.33	468716.8721
	Continuing Calibration Verification1	Be (313.107 nm)	0.2441	0.14	258056.1528
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7479	0.18	997469.0986
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5037	0.17	30856.4197
	Continuing Calibration Verification1	Co (230.786 nm)	2.5602	0.21	38428.1012
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5177	0.12	22675.6918
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2660	0.07	44002.6601
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0468	0.15	114475.1845
	Continuing Calibration Verification1	K (766.491 nm)	24.7400	0.10	23894.4842
	Continuing Calibration Verification1	Mg (279.078 nm)	25.0572	0.15	78657.8906
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7535	0.15	236039.8800
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5789	0.19	19589.1228
	Continuing Calibration Verification1	Na (588.995 nm)	25.6063	0.38	212335.7469
	Continuing Calibration Verification1	Ni (230.299 nm)	2.1020	0.18	23877.1171
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5165	0.17	2682.3425
	Continuing Calibration Verification1	Sb (217.582 nm)	4.9941	0.15	11028.6873
	Continuing Calibration Verification1	Se (196.026 nm)	0.4859	0.63	359.0528
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0594	0.13	14596.8934
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4990	0.23	47757.2476
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5647	0.17	331709.2117
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0170	0.25	1188.0711
	Continuing Calibration Verification1	V (292.401 nm)	2.5206	0.12	98625.1083
	Continuing Calibration Verification1	Y (360.074 nm)	1.01	0.13	489125.11
	Continuing Calibration Verification1	Y_R (360.074 nm)	1.02	0.13	488685.76
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9928	0.26	54402.3324
3/1/2024 22:59:24	Continuing Calibration Blank1	Ag (328.068 nm)	0.0004	21.51	-316.7672
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0067 u	31.43	96.7150
	Continuing Calibration Blank1	As (188.980 nm)	0.0018	78.58	-9.0237
	Continuing Calibration Blank1	B (249.772 nm)	0.0011	10.19	105.3951
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0005	27.99	-4.9811
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	14.50	-197.5215

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	Ca (317.933 nm)	-0.0002 u	44.14	2927.4004
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-15.2542
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0006 u	47.90	55.7063
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0005	31.82	-6.1373
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0004	38.74	-40.4324
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0022	3.25	221.5948
	Continuing Calibration Blank1	K (766.491 nm)	0.0290 u	> 100.00	15.9181
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0035	14.34	-43.1320
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0000	37.11	13.9774
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0025	34.63	3.5261
	Continuing Calibration Blank1	Na (588.995 nm)	0.1473	2.26	-4958.7851
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0020 u	22.75	87.8960
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0005	82.92	5.7893
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0055	40.24	23.6905
	Continuing Calibration Blank1	Se (196.026 nm)	0.0013 u	> 100.00	-1.4250
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0007	64.58	8.1843
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0008	26.04	-50.6201
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0020	19.97	57.9632
	Continuing Calibration Blank1	Tl (190.794 nm)	-0.0008 u	15.64	-7.0196
	Continuing Calibration Blank1	V (292.401 nm)	0.0000 u	> 100.00	-79.8584
	Continuing Calibration Blank1	Y (360.074 nm)	1.05	0.21	506933.42
	Continuing Calibration Blank1	Y_R (360.074 nm)	1.05	0.21	506509.08
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0002	45.18	-62.7264
3/1/2024 23:02:38	R2401594-008	Ag (328.068 nm)	0.0000 u	> 100.00	-340.2366
	R2401594-008	Al (237.312 nm)	34.6284 o	0.05	80096.9101
	R2401594-008	As (188.980 nm)	0.0180	7.61	20.0526
	R2401594-008	B (249.772 nm)	0.1157	0.63	3655.9574
	R2401594-008	Ba (230.424 nm)	0.1637	0.08	7410.6459
	R2401594-008	Be (313.107 nm)	0.0014	0.72	1275.9248
	R2401594-008	Ca (317.933 nm)	318.5686 o	0.32	12307896.5881
	R2401594-008	Cd (214.439 nm)	0.0011	7.69	53.4267
	R2401594-008	Co (230.786 nm)	0.0270	1.70	469.3338
	R2401594-008	Cr (267.716 nm)	0.0449	0.52	1939.7434
	R2401594-008	Cu (327.395 nm)	0.1663	0.26	5731.0176
	R2401594-008	Fe (234.350 nm)	76.4011 o	0.23	1730533.3228
	R2401594-008	K (766.491 nm)	5.6047	0.60	5403.7820
	R2401594-008	Mg (279.078 nm)	62.6933 o	0.21	196883.5578
	R2401594-008	Mn (257.610 nm)	3.4682 o	0.21	1086321.8917
	R2401594-008	Mo (202.032 nm)	0.0005	> 100.00	-11.6078
	R2401594-008	Na (588.995 nm)	0.6493	0.27	-674.0074
	R2401594-008	Ni (230.299 nm)	0.0550	1.17	732.1376
	R2401594-008	Pb (220.353 nm)	0.0199	4.38	106.7892
	R2401594-008	Sb (217.582 nm)	0.0010 u	> 100.00	13.8629
	R2401594-008	Se (196.026 nm)	-0.0026 u	81.41	-4.3157
	R2401594-008	Sn (189.925 nm)	0.0104	8.41	36.1435
	R2401594-008	Sr (216.596 nm)	0.4000	0.34	7588.4495
	R2401594-008	Ti (336.122 nm)	0.8154	0.41	105317.7746
	R2401594-008	Tl (190.794 nm)	-0.0001 u	> 100.00	-6.1922
	R2401594-008	V (292.401 nm)	0.0777	0.29	2964.0709
	R2401594-008	Y (360.074 nm)	1.00	0.42	481744.10
	R2401594-008	Y_R (360.074 nm)	1.00	0.42	481308.88
	R2401594-008	Zn (213.857 nm)	0.2026	0.05	11043.9624
3/1/2024 23:05:51	R2401594-010	Ag (328.068 nm)	0.0000 u	> 100.00	-340.4985
	R2401594-010	Al (237.312 nm)	38.1669 o	0.04	88269.9891
	R2401594-010	As (188.980 nm)	0.0188	7.83	21.3754
	R2401594-010	B (249.772 nm)	0.1274	0.13	4018.6046
	R2401594-010	Ba (230.424 nm)	0.1382	0.14	6252.8295

LR

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-010	Be (313.107 nm)	0.0015	1.26	1321.5567
	R2401594-010	Ca (317.933 nm)	284.7657 o	0.26	11002234.3172
	R2401594-010	Cd (214.439 nm)	0.0011	4.72	55.6091
	R2401594-010	Co (230.786 nm)	0.0302	0.46	517.8052
	R2401594-010	Cr (267.716 nm)	0.0495	0.09	2140.9886
	R2401594-010	Cu (327.395 nm)	0.1686	0.28	5810.3853
	R2401594-010	Fe (234.350 nm)	85.3711 o	0.18	1933690.9568
	R2401594-010	K (766.491 nm)	5.4636	0.65	5267.3982
	R2401594-010	Mg (279.078 nm)	64.0212 o	0.15	201055.0793
	R2401594-010	Mn (257.610 nm)	3.8450 o LR	0.22	1204351.0198
	R2401594-010	Mo (202.032 nm)	0.0004	9.05	-12.0665
	R2401594-010	Na (588.995 nm)	0.6355	0.58	-792.3461
	R2401594-010	Ni (230.299 nm)	0.0643	0.94	837.3724
	R2401594-010	Pb (220.353 nm)	0.0234	1.48	124.9141
	R2401594-010	Sb (217.582 nm)	-0.0005 u	> 100.00	10.4890
	R2401594-010	Se (196.026 nm)	0.0002 u	> 100.00	-2.2073
	R2401594-010	Sn (189.925 nm)	0.0112	9.10	38.2680
	R2401594-010	Sr (216.596 nm)	0.4473	0.30	8495.1474
	R2401594-010	Ti (336.122 nm)	0.8464	0.31	109331.5314
	R2401594-010	Tl (190.794 nm)	0.0000 u	> 100.00	-6.0496
	R2401594-010	V (292.401 nm)	0.0843	0.51	3219.5456
	R2401594-010	Y (360.074 nm)	1.00	0.26	484158.27
	R2401594-010	Y_R (360.074 nm)	1.01	0.26	483742.37
	R2401594-010	Zn (213.857 nm)	0.1960	0.24	10678.2802
3/1/2024 23:09:04	R2401594-012	Ag (328.068 nm)	0.0001 u	> 100.00	-335.7099
	R2401594-012	Al (237.312 nm)	37.9631 o	0.30	87799.2892
	R2401594-012	As (188.980 nm)	0.0175	2.44	19.0356
	R2401594-012	B (249.772 nm)	0.1265	0.12	3990.5992
	R2401594-012	Ba (230.424 nm)	0.1326	0.10	5995.3088
	R2401594-012	Be (313.107 nm)	0.0014	1.02	1304.0483
	R2401594-012	Ca (317.933 nm)	328.4753 o	0.12	12690551.0206
	R2401594-012	Cd (214.439 nm)	0.0011	3.73	56.2074
	R2401594-012	Co (230.786 nm)	0.0308	0.74	526.8310
	R2401594-012	Cr (267.716 nm)	0.0509	0.23	2204.4668
	R2401594-012	Cu (327.395 nm)	0.1603	0.28	5521.2767
	R2401594-012	Fe (234.350 nm)	84.2538 o	0.09	1908384.2621
	R2401594-012	K (766.491 nm)	5.5114	0.43	5313.6394
	R2401594-012	Mg (279.078 nm)	59.6387 o	0.13	187288.1568
	R2401594-012	Mn (257.610 nm)	3.2621 o LR	0.14	1021792.7386
	R2401594-012	Mo (202.032 nm)	0.0002 u	> 100.00	-13.7569
	R2401594-012	Na (588.995 nm)	0.6568	1.00	-610.4145
	R2401594-012	Ni (230.299 nm)	0.0620	0.66	811.5711
	R2401594-012	Pb (220.353 nm)	0.0234	3.24	124.5686
	R2401594-012	Sb (217.582 nm)	-0.0026 u	61.06	5.7683
	R2401594-012	Se (196.026 nm)	-0.0028 u	94.36	-4.4650
	R2401594-012	Sn (189.925 nm)	0.0109	5.68	37.4683
	R2401594-012	Sr (216.596 nm)	0.4816	0.10	9149.9471
	R2401594-012	Ti (336.122 nm)	0.8621	0.37	111366.0985
	R2401594-012	Tl (190.794 nm)	-0.0001 u	> 100.00	-6.1650
	R2401594-012	V (292.401 nm)	0.0876	0.21	3348.8257
	R2401594-012	Y (360.074 nm)	1.00	0.18	484281.90
	R2401594-012	Y_R (360.074 nm)	1.01	0.19	483867.67
	R2401594-012	Zn (213.857 nm)	0.2038	0.29	11107.2738
3/1/2024 23:12:18	R2401638-001	Ag (328.068 nm)	0.0104	2.65	257.0374
	R2401638-001	Al (237.312 nm)	151.6055 o	0.09	350290.0749
	R2401638-001	As (188.980 nm)	0.0289	4.39	39.5296
	R2401638-001	B (249.772 nm)	0.5688	0.16	17689.7216

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401638-001	Ba (230.424 nm)	1.5187	0.26	68979.6683
	R2401638-001	Be (313.107 nm)	0.0020	0.65	1878.4897
	R2401638-001	Ca (317.933 nm)	379.9190 o	0.21	14677603.4577
	R2401638-001	Cd (214.439 nm)	0.0189	0.21	1145.6496
	R2401638-001	Co (230.786 nm)	0.0961	0.15	1504.7815
	R2401638-001	Cr (267.716 nm)	0.3143	0.20	13755.9659
	R2401638-001	Cu (327.395 nm)	2.8823 o	0.25	100252.5787
	R2401638-001	Fe (234.350 nm)	71.1672 o	0.18	1611993.4626
	R2401638-001	K (766.491 nm)	42.7479	0.21	41295.8485
	R2401638-001	Mg (279.078 nm)	34.6300	0.16	108728.7684
	R2401638-001	Mn (257.610 nm)	2.7333 o	0.15	856155.8436
	R2401638-001	Mo (202.032 nm)	0.0294	4.09	208.3185
	R2401638-001	Na (588.995 nm)	75.2413 o	0.20	635974.4020
	R2401638-001	Ni (230.299 nm)	0.2766	0.22	3238.1155
	R2401638-001	Pb (220.353 nm)	0.9906	0.29	5141.4914
	R2401638-001	Sb (217.582 nm)	0.0485	2.63	118.6410
	R2401638-001	Se (196.026 nm)	0.0055	49.80	1.7068
	R2401638-001	Sn (189.925 nm)	0.3458	0.63	1003.3396
	R2401638-001	Sr (216.596 nm)	0.7294	0.22	13893.3251
	R2401638-001	Ti (336.122 nm)	0.4057	0.83	52306.2334
	R2401638-001	Tl (190.794 nm)	-0.0018 u	> 100.00	-8.1753
	R2401638-001	V (292.401 nm)	0.0553	0.44	2085.4625
	R2401638-001	Y (360.074 nm)	0.97	0.37	469316.60
	R2401638-001	Y_R (360.074 nm)	0.97	0.37	468910.19
	R2401638-001	Zn (213.857 nm)	5.0982 o LR	0.25	279688.5370
3/1/2024 23:15:31	Continuing Calibration Verification1	Ag (328.068 nm)	0.5170	0.03	29544.7521
	Continuing Calibration Verification1	Al (237.312 nm)	10.0953	0.16	23430.3347
	Continuing Calibration Verification1	As (188.980 nm)	0.9843	0.15	1746.4670
	Continuing Calibration Verification1	B (249.772 nm)	2.4644	0.05	76411.5586
	Continuing Calibration Verification1	Ba (230.424 nm)	10.2773	0.34	466966.7812
	Continuing Calibration Verification1	Be (313.107 nm)	0.2438	0.06	257701.2665
	Continuing Calibration Verification1	Ca (317.933 nm)	25.6793	0.05	994817.4165
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5014	0.13	30712.9021
	Continuing Calibration Verification1	Co (230.786 nm)	2.5586	0.31	38403.4279
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5139	0.02	22506.4884
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2669	0.06	44032.5340
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0255	0.04	113990.9312
	Continuing Calibration Verification1	K (766.491 nm)	24.8051	0.05	23957.4286
	Continuing Calibration Verification1	Mg (279.078 nm)	24.9420	0.02	78295.9465
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7500	0.04	234927.7235
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5702	0.17	19522.8619
	Continuing Calibration Verification1	Na (588.995 nm)	25.6251	0.14	212495.8754
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0969	0.08	23819.3042
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5162	0.46	2680.8665
	Continuing Calibration Verification1	Sb (217.582 nm)	4.9720	0.08	10979.8215
	Continuing Calibration Verification1	Se (196.026 nm)	0.4856	0.79	358.7715
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0409	0.12	14543.2655
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4902	0.32	47589.3803
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5533	0.15	330229.0334
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0078	0.15	1177.3258
	Continuing Calibration Verification1	V (292.401 nm)	2.5091	0.12	98177.4249
	Continuing Calibration Verification1	Y (360.074 nm)	1.01	0.32	487414.39
	Continuing Calibration Verification1	Y_R (360.074 nm)	1.01	0.32	487027.48
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9917	0.22	54341.9060
3/1/2024 23:18:45	Continuing Calibration Blank1	Ag (328.068 nm)	0.0004	3.69	-316.9401
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0073 u	17.12	95.5080
	Continuing Calibration Blank1	As (188.980 nm)	0.0006 u	> 100.00	-11.1662

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	B (249.772 nm)	0.0010	28.63	102.2746
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0006	6.49	-1.1267
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	17.71	-193.3542
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0034	13.68	3067.6904
	Continuing Calibration Blank1	Cd (214.439 nm)	-0.0001 u	76.51	-15.7657
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0004 u	41.70	59.0025
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0004	47.96	-9.3731
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0006	17.85	-34.8403
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0036	15.56	253.5647
	Continuing Calibration Blank1	K (766.491 nm)	0.0349	30.39	21.5623
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0028	67.56	-45.1876
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	28.00	28.3153
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0025	13.25	3.9030
	Continuing Calibration Blank1	Na (588.995 nm)	0.1525	3.27	-4914.6452
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0018 u	30.94	90.3495
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0001 u	> 100.00	3.9496
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0045	34.17	21.6144
	Continuing Calibration Blank1	Se (196.026 nm)	0.0006 u	> 100.00	-1.8888
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0003	> 100.00	6.9696
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0007	14.13	-52.0742
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0026	23.02	130.7280
	Continuing Calibration Blank1	Tl (190.794 nm)	-0.0001 u	> 100.00	-6.1939
	Continuing Calibration Blank1	V (292.401 nm)	0.0003	66.41	-69.2626
	Continuing Calibration Blank1	Y (360.074 nm)	1.05	0.07	503815.21
	Continuing Calibration Blank1	Y_R (360.074 nm)	1.05	0.07	503415.35
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0003	2.44	-58.2072
3/1/2024 23:21:59	Contract Required Detection Limit	Ag (328.068 nm)	0.0101	1.12	239.7219
	Contract Required Detection Limit	Al (237.312 nm)	0.1928	1.80	557.7304
	Contract Required Detection Limit	As (188.980 nm)	0.0206	4.25	24.6146
	Contract Required Detection Limit	B (249.772 nm)	0.1924	0.34	6031.5102
	Contract Required Detection Limit	Ba (230.424 nm)	0.2065	0.34	9354.4950
	Contract Required Detection Limit	Be (313.107 nm)	0.0049	0.47	4966.1180
	Contract Required Detection Limit	Ca (317.933 nm)	1.0168	0.22	42210.7787
	Contract Required Detection Limit	Cd (214.439 nm)	0.0100	1.28	599.9141
	Contract Required Detection Limit	Co (230.786 nm)	0.0507	0.07	824.3523
	Contract Required Detection Limit	Cr (267.716 nm)	0.0105	0.47	431.3136
	Contract Required Detection Limit	Cu (327.395 nm)	0.0257	1.20	839.2258
	Contract Required Detection Limit	Fe (234.350 nm)	0.1083	0.19	2624.8338
	Contract Required Detection Limit	K (766.491 nm)	0.9664	5.34	921.6558
	Contract Required Detection Limit	Mg (279.078 nm)	0.9744	0.26	3006.7236
	Contract Required Detection Limit	Mn (257.610 nm)	0.0154	0.28	4820.6764
	Contract Required Detection Limit	Mo (202.032 nm)	0.0259	2.05	181.4008
	Contract Required Detection Limit	Na (588.995 nm)	1.0726	0.33	2938.4233
	Contract Required Detection Limit	Ni (230.299 nm)	0.0378	1.77	538.3558
	Contract Required Detection Limit	Pb (220.353 nm)	0.0105	2.14	58.0283
	Contract Required Detection Limit	Sb (217.582 nm)	0.0670	1.84	159.4056
	Contract Required Detection Limit	Se (196.026 nm)	0.0089	33.55	4.2670
	Contract Required Detection Limit	Sn (189.925 nm)	0.5009	0.63	1450.5577
	Contract Required Detection Limit	Sr (216.596 nm)	0.1008	0.35	1863.4030
	Contract Required Detection Limit	Ti (336.122 nm)	0.0500	0.29	6271.0934
	Contract Required Detection Limit	Tl (190.794 nm)	0.0204	1.04	17.9142
	Contract Required Detection Limit	V (292.401 nm)	0.0491	0.31	1841.9198
	Contract Required Detection Limit	Y (360.074 nm)	1.05	0.36	504933.00
	Contract Required Detection Limit	Y_R (360.074 nm)	1.05	0.36	504540.72
	Contract Required Detection Limit	Zn (213.857 nm)	0.0195	0.53	996.2982
3/1/2024 23:25:12	Interference Check Solution A	Ag (328.068 nm)	0.0002	19.97	-327.8514
	Interference Check Solution A	Al (237.312 nm)	257.2071 o	0.09	594208.2721

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	As (188.980 nm)	-0.0032 u	29.79	-17.7997
	Interference Check Solution A	B (249.772 nm)	0.1215	0.49	3835.5192
	Interference Check Solution A	Ba (230.424 nm)	0.0005	2.64	-5.7314
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-215.4296
	Interference Check Solution A	Ca (317.933 nm)	239.7207 o	0.26	9262334.3800
	Interference Check Solution A	Cd (214.439 nm)	0.0009	1.92	43.9672
	Interference Check Solution A	Co (230.786 nm)	0.0012	39.15	83.1796
	Interference Check Solution A	Cr (267.716 nm)	0.0014	12.03	32.7010
	Interference Check Solution A	Cu (327.395 nm)	0.0007	27.59	-30.6845
	Interference Check Solution A	Fe (234.350 nm)	94.2221 o	0.24	2134151.6849
	Interference Check Solution A	K (766.491 nm)	-0.0029 u	> 100.00	-14.9617
	Interference Check Solution A	Mg (279.078 nm)	258.9550 o	0.26	813397.8942
	Interference Check Solution A	Mn (257.610 nm)	0.0013	0.18	419.0453
	Interference Check Solution A	Mo (202.032 nm)	-0.0027 u	10.77	-36.0521
	Interference Check Solution A	Na (588.995 nm)	0.1205	1.27	-5187.4498
	Interference Check Solution A	Ni (230.299 nm)	-0.0003 u	89.08	106.9682
	Interference Check Solution A	Pb (220.353 nm)	0.0004 u	> 100.00	5.2989
	Interference Check Solution A	Sb (217.582 nm)	-0.0075 u	23.20	-4.9060
	Interference Check Solution A	Se (196.026 nm)	-0.0023 u	> 100.00	-4.0449
	Interference Check Solution A	Sn (189.925 nm)	0.0011	76.45	9.3170
	Interference Check Solution A	Sr (216.596 nm)	0.0104	2.77	132.9285
	Interference Check Solution A	Ti (336.122 nm)	0.0026	3.69	134.1163
	Interference Check Solution A	Tl (190.794 nm)	0.0003 u	> 100.00	-5.7671
	Interference Check Solution A	V (292.401 nm)	0.0020	7.60	-1.3992
	Interference Check Solution A	Y (360.074 nm)	0.93	0.39	446059.44
	Interference Check Solution A	Y_R (360.074 nm)	0.93	0.39	445650.24
	Interference Check Solution A	Zn (213.857 nm)	0.0118 K +/-0.02	0.08	573.2391 K
3/1/2024 23:28:26	Interference Check Solution AB	Ag (328.068 nm)	0.2186	0.21	12295.1167
	Interference Check Solution AB	Al (237.312 nm)	252.9387 o	0.09	584349.1332
	Interference Check Solution AB	As (188.980 nm)	0.0940	0.35	155.6934
	Interference Check Solution AB	B (249.772 nm)	0.1199	0.21	3786.1691
	Interference Check Solution AB	Ba (230.424 nm)	0.5184	0.23	23528.9436
	Interference Check Solution AB	Be (313.107 nm)	0.4832	0.18	511076.4425
	Interference Check Solution AB	Ca (317.933 nm)	234.5853 o	0.20	9063976.8396
	Interference Check Solution AB	Cd (214.439 nm)	0.9534	0.10	58410.5827
	Interference Check Solution AB	Co (230.786 nm)	0.4864	0.20	7353.5565
	Interference Check Solution AB	Cr (267.716 nm)	0.5114	0.09	22400.3631
	Interference Check Solution AB	Cu (327.395 nm)	0.5430	0.06	18840.9079
	Interference Check Solution AB	Fe (234.350 nm)	93.2671 o	0.10	2112520.9431
	Interference Check Solution AB	K (766.491 nm)	-0.0649 u	54.25	-74.8258
	Interference Check Solution AB	Mg (279.078 nm)	255.6681 o	0.18	803072.9382
	Interference Check Solution AB	Mn (257.610 nm)	0.4879	0.08	152835.9368
	Interference Check Solution AB	Mo (202.032 nm)	-0.0027 u	6.39	-36.1838
	Interference Check Solution AB	Na (588.995 nm)	0.1359	0.04	-5056.0607
	Interference Check Solution AB	Ni (230.299 nm)	0.9793	0.13	11183.1980
	Interference Check Solution AB	Pb (220.353 nm)	0.0494	2.14	259.6395
	Interference Check Solution AB	Sb (217.582 nm)	0.6188	0.11	1376.6799
	Interference Check Solution AB	Se (196.026 nm)	0.0418	6.72	28.7610
	Interference Check Solution AB	Sn (189.925 nm)	0.0023	34.76	12.8054
	Interference Check Solution AB	Sr (216.596 nm)	0.0115	4.46	154.5702
	Interference Check Solution AB	Ti (336.122 nm)	0.0024	2.38	112.2120
	Interference Check Solution AB	Tl (190.794 nm)	0.1017	2.79	113.3469
	Interference Check Solution AB	V (292.401 nm)	0.5039	0.18	19654.1877
	Interference Check Solution AB	Y (360.074 nm)	0.93	0.44	446716.79
	Interference Check Solution AB	Y_R (360.074 nm)	0.93	0.44	446296.56
	Interference Check Solution AB	Zn (213.857 nm)	1.0040	0.01	55017.6104
3/1/2024 23:31:40	Continuing Calibration Verification1	Ag (328.068 nm)	0.5186	0.08	29634.1494

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Al (237.312 nm)	10.1614	0.08	23583.1035
	Continuing Calibration Verification1	As (188.980 nm)	0.9896	0.21	1755.8278
	Continuing Calibration Verification1	B (249.772 nm)	2.4762	0.23	76776.7922
	Continuing Calibration Verification1	Ba (230.424 nm)	10.3100	0.26	468451.9379
	Continuing Calibration Verification1	Be (313.107 nm)	0.2443	0.21	258267.3356
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7213	0.23	996439.6423
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5031	0.15	30815.3492
	Continuing Calibration Verification1	Co (230.786 nm)	2.5598	0.21	38422.3634
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5169	0.23	22640.8178
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2692	0.16	44113.7389
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0474	0.11	114488.8439
	Continuing Calibration Verification1	K (766.491 nm)	24.8352	0.02	23986.5118
	Continuing Calibration Verification1	Mg (279.078 nm)	25.0564	0.16	78655.1901
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7525	0.21	235701.1418
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5778	0.22	19580.9309
	Continuing Calibration Verification1	Na (588.995 nm)	25.6768	0.14	212937.7812
	Continuing Calibration Verification1	Ni (230.299 nm)	2.1042	0.18	23901.1893
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5157	0.26	2678.1251
	Continuing Calibration Verification1	Sb (217.582 nm)	5.0014	0.13	11044.6846
	Continuing Calibration Verification1	Se (196.026 nm)	0.4912	0.72	362.9833
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0638	0.13	14609.5104
	Continuing Calibration Verification1	Sr (216.596 nm)	2.5038	0.21	47848.2751
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5593	0.26	331002.9642
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0173	0.21	1188.4196
	Continuing Calibration Verification1	V (292.401 nm)	2.5191	0.21	98567.1118
	Continuing Calibration Verification1	Y (360.074 nm)	1.01	0.27	485765.56
	Continuing Calibration Verification1	Y_R (360.074 nm)	1.01	0.28	485346.03
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9950	0.15	54526.5968
3/1/2024 23:34:54	Continuing Calibration Blank1	Ag (328.068 nm)	0.0003	27.54	-326.3565
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0063 u	43.64	97.8089
	Continuing Calibration Blank1	As (188.980 nm)	0.0023	9.09	-8.1447
	Continuing Calibration Blank1	B (249.772 nm)	0.0011	19.64	105.5658
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0006	19.62	-2.5430
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	56.56	-191.8822
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0013	19.13	2985.8262
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-15.1124
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0009 u	31.78	51.6338
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0005	40.38	-4.6650
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0004	24.45	-40.7884
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0031	13.04	242.8004
	Continuing Calibration Blank1	K (766.491 nm)	0.0062 u	> 100.00	-6.1432
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0053	10.92	-37.4120
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0000 u	> 100.00	11.7470
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0024	27.04	3.1881
	Continuing Calibration Blank1	Na (588.995 nm)	0.1386	2.71	-5033.0608
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0021 u	26.39	87.2659
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0002 u	> 100.00	2.5463
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0078	7.11	28.7920
	Continuing Calibration Blank1	Se (196.026 nm)	0.0022 u	> 100.00	-0.7325
	Continuing Calibration Blank1	Sn (189.925 nm)	-0.0006 u	65.65	4.4426
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0008	23.08	-50.5087
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0022	20.31	87.4762
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0007 u	> 100.00	-5.2248
	Continuing Calibration Blank1	V (292.401 nm)	0.0004	65.51	-66.0456
	Continuing Calibration Blank1	Y (360.074 nm)	1.05	0.08	503903.53
	Continuing Calibration Blank1	Y_R (360.074 nm)	1.05	0.08	503466.66
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0003	2.83	-60.5016

Summary Calibration Results

Element and wavelength	Type	Units	Equation	Correlation Coefficient	%RSE
Ag (328.068 nm)	Analyte	ppm	57802.98947996 * Concentration - 341.49860151	1.00000	0.77272381
Al (237.312 nm)	Analyte	ppm	2309.79584847 * Concentration + 112.30047116	1.00000	4.85731020
As (188.980 nm)	Analyte	ppm	1786.64948235 * Concentration - 12.16586461	0.99998	7.93252320
B (249.772 nm)	Analyte	ppm	30977.26649406 * Concentration + 70.89558084	0.99999	4.11241136
Ba (230.424 nm)	Analyte	ppm	45439.50323751 * Concentration - 28.27869910	0.99998	4.90609830
Be (313.107 nm)	Analyte	ppm	1058033.57301414 * Concentration - 213.59581790	1.00000	3.80246279
Ca (317.933 nm)	Analyte	ppm	38625.78260010 * Concentration + 2935.91015606	0.99999	1.73365413
Cd (214.439 nm)	Analyte	ppm	61279.29772839 * Concentration - 12.50107141	1.00000	1.02745882
Co (230.786 nm)	Analyte	ppm	14984.31588098 * Concentration + 65.26501982	0.99999	5.86472119
Cr (267.716 nm)	Analyte	ppm	43852.85553795 * Concentration - 27.76366647	1.00000	2.72282505
Cu (327.395 nm)	Analyte	ppm	34801.12861933 * Concentration - 55.67078578	1.00000	5.78766632
Fe (234.350 nm)	Analyte	ppm	22648.38385077 * Concentration + 172.42367526	1.00000	1.95658222
K (766.491 nm)	Analyte	ppm	966.31682681 * Concentration - 12.15100121	0.99996	10.348444 54
Mg (279.078 nm)	Analyte	ppm	3141.28670093 * Concentration - 54.00351248	1.00000	1.07602269
Mn (257.610 nm)	Analyte	ppm	313225.22373854 * Concentration + 9.26869567	1.00000	3.40170580
Mo (202.032 nm)	Analyte	ppm	7601.93651688 * Concentration - 15.30113870	1.00000	1.19897685
Na (588.995 nm)	Analyte	ppm	8535.08268503 * Concentration - 6216.10375012	0.99999	6.35859649
Ni (230.299 nm)	Analyte	ppm	11306.32034232 * Concentration + 110.74311920	0.99999	2.40546598
Pb (220.353 nm)	Analyte	ppm	5186.90572575 * Concentration + 3.33290181	0.99999	3.15232333
Sb (217.582 nm)	Analyte	ppm	2206.00793415 * Concentration + 11.59776208	0.99999	8.84165442
Se (196.026 nm)	Analyte	ppm	743.74667237 * Concentration - 2.35520995	0.99997	25.427797 84
Sn (189.925 nm)	Analyte	ppm	2883.88304575 * Concentration + 6.03634081	1.00000	0.88434674
Sr (216.596 nm)	Analyte	ppm	19136.55042273 * Concentration - 65.28268949	0.99999	2.61319158
Ti (336.122 nm)	Analyte	ppm	129415.05089858 * Concentration - 202.59229059	1.00000	2.15260014
Tl (190.794 nm)	Analyte	ppm	1174.19529554 * Concentration - 6.06198106	0.99999	15.270511 97
V (292.401 nm)	Analyte	ppm	39160.21554845 * Concentration - 80.58194675	1.00000	4.07290673
Zn (213.857 nm)	Analyte	ppm	54875.62973490 * Concentration - 76.20985689	1.00000	3.58389856

Detailed Calibration Results

Ag (328.068 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-341.4986	0.0000	0.0000	N/A
Standard 3	237.9723	0.0100	0.0100	0.2493
Standard 4	11134.6120	0.2000	0.1985	0.7308
Standard 5	57478.3739	1.0000	1.0003	0.0292

Al (237.312 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	112.3005	0.0000	0.0000	N/A
Standard 2	332.3085	0.1000	0.0953	4.7500
Standard 4	9257.7443	4.0000	3.9594	1.0146
Standard 5	46327.0202	20.0000	20.0081	0.0407

As (188.980 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-12.1659	0.0000	0.0000	N/A
Standard 1	-4.0270	0.0050	0.0046	8.8926
Standard 2	6.8078	0.0100	0.0106	6.1971

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Standard 4	681.8378	0.4000	0.3884	2.8903
Standard 5	3565.2608	2.0000	2.0023	0.1155

B (249.772 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	70.8956	0.0000	0.0000	N/A
Standard 2	6061.2923	0.2000	0.1934	3.3098
Standard 4	30292.7592	1.0000	0.9756	2.4386
Standard 5	155116.5109	5.0000	5.0051	0.1028

Ba (230.424 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-28.2787	0.0000	0.0000	N/A
Standard 1	916.6851	0.0200	0.0208	3.9804
Standard 4	186938.5814	4.0000	4.1146	2.8658
Standard 5	907719.9804	20.0000	19.9771	0.1146

Be (313.107 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-213.5958	0.0000	0.0000	N/A
Standard 2	2820.0636	0.0030	0.0029	4.4246
Standard 3	4917.1682	0.0050	0.0048	3.0132
Standard 4	105049.7763	0.1000	0.0995	0.5104
Standard 5	528913.6244	0.5000	0.5001	0.0209

Ca (317.933 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	2935.9102	0.0000	0.0000	N/A
Standard 2	42027.3999	1.0000	1.0121	1.2057
Standard 3	22510.9608	0.5000	0.5068	1.3574
Standard 4	395552.7953	10.0000	10.1646	1.6463
Standard 5	1932941.2926	50.0000	49.9668	0.0665

Cd (214.439 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-12.5011	0.0000	0.0000	N/A
Standard 1	48.6107	0.0010	0.0010	0.2734
Standard 2	291.6773	0.0050	0.0050	0.7239
Standard 4	12393.9668	0.2000	0.2025	1.2289
Standard 5	61236.6862	1.0000	0.9995	0.0491

Co (230.786 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	65.2650	0.0000	0.0000	N/A
Standard 1	106.7648	0.0030	0.0028	7.6816
Standard 3	832.2747	0.0500	0.0512	2.3750
Standard 4	15354.2798	1.0000	1.0203	2.0335
Standard 5	74925.7288	5.0000	4.9959	0.0816

Cr (267.716 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-27.7637	0.0000	0.0000	N/A
Standard 1	195.6279	0.0050	0.0051	1.8823
Standard 3	424.8797	0.0100	0.0103	3.2187

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Standard 4	8827.0676	0.2000	0.2019	0.9607
Standard 5	43808.0780	1.0000	0.9996	0.0388

Cu (327.395 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-55.6708	0.0000	0.0000	N/A
Standard 1	319.1387	0.0100	0.0108	7.7004
Standard 2	658.1296	0.0200	0.0205	2.5542
Standard 4	17156.4852	0.5000	0.4946	1.0828
Standard 5	86984.5830	2.5000	2.5011	0.0430

Fe (234.350 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	172.4237	0.0000	0.0000	N/A
Standard 3	2477.3029	0.1000	0.1018	1.7679
Standard 4	45848.5743	2.0000	2.0168	0.8375
Standard 5	226579.9852	10.0000	9.9966	0.0337

K (766.491 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-12.1510	0.0000	0.0000	N/A
Standard 2	1864.7612	2.0000	1.9423	2.8832
Standard 3	405.1630	0.5000	0.4319	13.6279
Standard 4	9217.6410	10.0000	9.5515	4.4848
Standard 5	48393.2529	50.0000	50.0927	0.1854

Mg (279.078 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-54.0035	0.0000	0.0000	N/A
Standard 2	3069.2191	1.0000	0.9942	0.5751
Standard 3	1498.5451	0.5000	0.4942	1.1521
Standard 4	31104.3121	10.0000	9.9190	0.8103
Standard 5	157061.7840	50.0000	50.0164	0.0328

Mn (257.610 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	9.2687	0.0000	0.0000	N/A
Standard 1	3242.2288	0.0100	0.0103	3.2152
Standard 4	95019.9094	0.3000	0.3033	1.1100
Standard 5	469637.8182	1.5000	1.4993	0.0445

Mo (202.032 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-15.3011	0.0000	0.0000	N/A
Standard 1	176.9705	0.0250	0.0253	1.1698
Standard 4	7566.6681	1.0000	0.9974	0.2627
Standard 5	37998.3638	5.0000	5.0005	0.0105

Na (588.995 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-6216.1038	0.0000	0.0000	N/A
Standard 2	1737.1430	1.0000	0.9318	6.8170
Standard 3	-2176.2252	0.5000	0.4733	5.3348
Standard 4	77057.6254	10.0000	9.7560	2.4336

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Standard 5	420967.3634	50.0000	50.0503	0.1006

Ni (230.299 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	110.7431	0.0000	0.0000	N/A
Standard 3	567.0234	0.0400	0.0404	0.8905
Standard 4	9357.7539	0.8000	0.8179	2.2328
Standard 5	45295.5933	4.0000	3.9964	0.0894

Pb (220.353 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	3.3329	0.0000	0.0000	N/A
Standard 1	30.0253	0.0050	0.0051	2.9222
Standard 2	269.9139	0.0500	0.0514	2.7900
Standard 4	1060.2438	0.2000	0.2038	1.8826
Standard 5	5185.9671	1.0000	0.9992	0.0824

Sb (217.582 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	11.5978	0.0000	0.0000	N/A
Standard 1	31.0933	0.0100	0.0088	11.6251
Standard 2	138.3067	0.0600	0.0574	4.2698
Standard 4	4347.5736	2.0000	1.9655	1.7235
Standard 5	22086.9216	10.0000	10.0069	0.0691

Se (196.026 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-2.3552	0.0000	0.0000	N/A
Standard 2	6.9597	0.0100	0.0125	25.2425
Standard 4	141.8402	0.2000	0.1939	3.0614
Standard 5	742.2835	1.0000	1.0012	0.1199

Sn (189.925 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	6.0363	0.0000	0.0000	N/A
Standard 2	1453.2818	0.5000	0.5018	0.3678
Standard 4	5820.1487	2.0000	2.0161	0.8035
Standard 5	28835.3324	10.0000	9.9967	0.0331

Sr (216.596 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-65.2827	0.0000	0.0000	N/A
Standard 3	911.2782	0.0500	0.0510	2.0624
Standard 4	19378.1239	1.0000	1.0160	1.6035
Standard 5	95555.9009	5.0000	4.9968	0.0643

Ti (336.122 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-202.5923	0.0000	0.0000	N/A
Standard 3	6130.2678	0.0500	0.0489	2.1310
Standard 4	128819.2221	1.0000	0.9970	0.3039
Standard 5	646952.6884	5.0000	5.0006	0.0124

Tl (190.794 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-6.0620	0.0000	0.0000	N/A
Standard 1	3.1763	0.0100	0.0079	21.3224
Standard 3	18.0191	0.0200	0.0205	2.5427
Standard 4	474.3850	0.4000	0.4092	2.2928
Standard 5	2340.1814	2.0000	1.9982	0.0914

V (292.401 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-80.5819	0.0000	0.0000	N/A
Standard 1	30.8746	0.0030	0.0028	5.1277
Standard 3	1829.1587	0.0500	0.0488	2.4653
Standard 4	38728.3065	1.0000	0.9910	0.8972
Standard 5	195791.2475	5.0000	5.0018	0.0361

Zn (213.857 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-76.2099	0.0000	0.0000	N/A
Standard 1	451.7447	0.0100	0.0096	3.7907
Standard 3	985.1577	0.0200	0.0193	3.2934
Standard 4	21723.2101	0.4000	0.3973	0.6872
Standard 5	109705.6815	2.0000	2.0006	0.0279

Preparation Information Benchsheet

Prep Run#: 434608
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/27/24 10:51

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402095-01	MB		50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Sr T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		HB:1 Well:D1 Temp:93.4C
2	RQ2402095-02	LCS		50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Sr T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/233797; 0.5000 mL/230954; 0.5000 mL/230955	On HB:16:43 HB Shutoff:2:43 Pipet/Repipettor:M340,MA100,M23
3	R2401394-001	Effluent	.01	5mL	6010C/K T	<2			50.00mL	Brown-Cloudy/Yellow-Cloudy		1.0mL HNO3 Added Diluted 10x due to thickness
4	R2401395-001	Effluent	.04	5mL	6010C/K T	<2			50.00mL	Brown-Cloudy/Yellow-Cloudy		1.0mL HNO3 Added Diluted 10x due to thickness
5	R2401398-001	2402201105X 300-E-183	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
6	R2401398-002	2402201250Y 200-F-420	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
7	R2401398-007	2402201520Y 200-F-225	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
8	R2401469-001	SCA-PAR0029-01	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		Tier IV
9	RQ2402095-03	R2401469-001 MS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
10	RQ2402095-04	R2401469-001 DMS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear	0.5000 mL/230955; 0.5000 mL/233797; 0.5000 mL/230954	
11	R2401469-002	SCA-PAR0029-02	.05	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434608 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/27/24 10:51

12	R2401469-003	SCA-PAR0029-03	.05	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
13	R2401469-006	SCA-PAR0029-06	.05	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
14	R2401505-001	MH-1N	.16	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		Tier IV
15	R2401530-001	RMW-38S	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
16	R2401530-002	RMW-38D	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
17	R2401530-003	Cell #5 GW	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
18	R2401530-004	Cell $6 GW	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
19	R2401530-005	RMW-12S	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
20	R2401530-006	Dupe-X	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
21	R2401532-001	Leachate Tank	.17	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Tan-Cloudy/Colorless-Clear		Tier IV

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Materials

1:1 HCl Metals Grade 1:1 232049 (232050) Hot Block Cups 50mL Lot 2304355 (232860) Nitric Acid Metals Grade HNO3 233477 (233477)
Thermometer 460 (230830)

1394 3/1
1395 3/1
1398 3/4
1469 IV 3/8
1505 IV 3/5
1530 3/15
1532 IV 3/15

Preparation Steps

Step: Digestion
Started: 2/27/24 10:51
Finished: 2/28/24 13:05
By: CDISTEFANO
Comments

Preparation Information Benchsheet

Prep Run#: 434608
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/27/24 10:51

Comments:

Reviewed By: [signature] Date: 2/28/24

Chain of Custody

Relinquished By:	[signature]	Date:	2/28/24	Extracts Examined
Received By:	[signature]	Date:	2/28/24	Yes No

Preparation Information Benchsheet

Prep Run#: 434610 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/27/24 10:51

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402091-01	MB		50mL	6010C/Ag D, Ag T, Al D, Al T, As D, As T, Ba D, Ba T, Ca D, Ca T, Cd D, Cd T, Cr D, Cr T, Cu D, Cu T, Fe D, Fe T, K D, K T, Li D, Li T, Mg D, Mg T, Mn T, Mo D, Mo T, Na D, Na T, Ni D, Ni T, Pb D, Pb T, Sb D, Sb T, Se D, Se T, Si D, Si T, Sr D, Sr T, V D, V T, Zn D, Zn T	<2			50.00mL	Colorless-Clear		HB:11 Well:D1 Temp:94.6C
2	RQ2402091-02	LCS		50mL	6010C/Ag D, Ag T, Al D, Al T, As D, As T, Ba D, Ba T, Ca D, Ca T, Cd D, Cd T, Cr D, Cr T, Cu D, Cu T, Fe D, Fe T, K D, K T, Mg D, Mg T, Mn T, Mo D, Mo T, Na D, Na T, Ni D, Ni T, Pb D, Pb T, Sb D, Sb T, Se D, Se T, Sr D, Sr T, V D, V T, Zn D, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	On HB:16:43 HB Shutoff:2:43 Pipet/Repipettor:M340,MA100,M23
3	RQ2402091-03	LCS		50mL	6010C/Li D, Li T, Si D, Si T	<2			50.00mL	Colorless-Clear	0.2500 mL/231918; 0.2500 mL/231917	
4	R2401485-020	DUPE-02	.02	50mL	6010C/As T, Ca T, Cr T, Fe T, Mg T, Mn T, Na T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
5	R2401493-001	T2-022224-1030	.13	50mL	6010C/Ag T, Al T, As T, Ba T, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Li T, Mg T, Mo T, Na T, Ni T, Pb T, Sb T, Se T, Si T, Sr T, V T, Zn T	<2			50.00mL	Yellow-Cloudy/Colorless-Clear		Tier IV
6	R2401493-002	T2-022224-1030 Diss	.01	50mL	6010C/Ag D, Al D, As D, Ba D, Ca D, Cd D, Cr D, Cu D, Fe D, K D, Li D, Mg D, Mo D, Na D, Ni D, Pb D, Sb D, Se D, Si D, Sr D, V D, Zn D	<2			50.00mL	Yellow-Clear/Colorless-Clear		
7	R2401493-003	T3-022224-1200	.13	50mL	6010C/Ag T, Al T, As T, Ba T, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Li T, Mg T, Mo T, Na T, Ni T, Pb T, Sb T, Se T, Si T, Sr T, V T, Zn T	<2			50.00mL	Orange-Cloudy/Green-Clear		
8	R2401493-004	T3-022224-1200 Diss	.01	50mL	6010C/Ag D, Al D, As D, Ba D, Ca D, Cd D, Cr D, Cu D, Fe D, K D, Li D, Mg D, Mo D, Na D, Ni D, Pb D, Sb D, Se D, Si D, Sr D, V D, Zn D	<2			50.00mL	Orange-Clear/Green-Clear		
9	R2401506-003	IBM-MM-FMR-R1	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy		Tier IV
10	RQ2402091-04	R2401506-003 MS	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy	0.5000 mL/233797; 0.5000 mL/230954; 0.5000 mL/230955	
11	RQ2402091-05	R2401506-003 DMS	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
12	R2401506-004	IBM-MM-FMR-R1 DUP	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy		

Preparation Information Benchsheet

Prep Run#: 434610 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/27/24 10:51

13	R2401506-005	IBM-MM-FMR-R2	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy		
14	R2401506-006	IBM-MM-FMR-R3	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy		
15	R2401506-007	IBM-MM-FB	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Cloudy/Colorless-Cloudy		
16	R2401506-008	IBM-MM-DI BLANK	.01	50mL	6010C/Ag T, Cd T, Cr T, Pb T	<2			50.00mL	Colorless-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	Lithium 1000 ug/mL Li	Inventory ID	231917	Logbook Ref:	231917	Expires On:	04/30/2025	Lot #:	2327601-1
Name:	Silicon 1000 ug/mL Si	Inventory ID	231918	Logbook Ref:	231918	Expires On:	04/30/2025	Lot #:	2309631-1
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	Hot Block Cups	50mL Lot 2304355 (232860)	Nitric Acid Metals Grade HNO3 231748 (231748)
Thermometer	461 (230831)			

Preparation Steps

Step: Digestion
Started: 2/27/24 10:51
Finished: 2/28/24 13:17
By: CDISTEFANO
Comments

1485 3/11
1493 (N) 3/11 +LiSi
1506 (N) 3/11 *
*FB on Prep 434612

Comments: _____

Reviewed By: Nicole Mansen Date: 2/28/24

Chain of Custody

Relinquished By: CD Date: 2/28/24
Received By: [illegible] Date: 2/29/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434740
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402209-01	MB		50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		HB:11 Well:F3 Temp:92.5C
2	RQ2402209-02	LCS		50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	On HB:16:16 HB Shutoff:2:16 Pipet/Repipettor:M340,MA100,M23
3	RQ2402209-03	DLCS		50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
4	R2401543-001	2402260903A 400-EV-131	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
5	R2401543-002	2402260950C 400-FV-131	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
6	R2401543-003	2402260959C 400-FV-131	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
7	R2401543-004	2402261008A 400-HV-147	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
8	R2401543-005	2402261050C 400-GV-125	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
9	R2401543-006	2402261052C 400-GV-125	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
10	R2401543-007	2402261318A 400-JV-150	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434740 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/29/24 10:00

11	R2401543-008	2402261425C 400-IV-123	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
12	R2401566-001	Weber-Rolsin Line Drip	.03	50mL	6010C/Ba T, Ca T, Fe T, Mg T, Mn T, Na T, Sr T	<2			50.00mL	Grey-Cloudy/Yellow-Cloudy		
13	R2401567-001	Benson Line Drip	.03	50mL	6010C/Ba T, Ca T, Fe T, Mg T, Mn T, Na T, Sr T	<2			50.00mL	Grey-Cloudy/Yellow-Cloudy		1.0mL HNO3 Added
14	R2401574-001	MVMSW-01	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
15	R2401574-002	MVMSW-02	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
16	R2401574-003	MVMSW-03	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
17	R2401574-004	MVMSW-04	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
18	R2401574-005	MVMSW-05	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
19	R2401574-006	MVMSW-06	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	Hot Block Cups	50mL Lot 2304355 (232860)	Nitric Acid Metals Grade HNO3 231748 (231748)
Thermometer	461 (230831)			

Preparation Steps

Step: Digestion
Started: 2/29/24 10:00
Finished: 3/1/24 10:35
By: CDISTEFANO
Comments

1543 3/8
1566
1567
1574

Comments: _____

Reviewed By: Molly Mellor Date: 3/1/24

Chain of Custody

Relinquished By: CD Date: 3/1/24

Received By: R-Ao1 Date: 3/1/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434741
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402211-01	MB		50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		HB:1 Well:F3 Temp:93.4C
2	RQ2402211-02	LCS		50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	On HB:16:16 HB Shutoff:2:16 Pipet/Repipettor:M340,MA100,M23
3	R2401541-001	MW-7BB	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		Tier IV
4	R2401541-003	MW-11B	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
5	R2401541-005	MW-11C	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
6	R2401541-007	MW-5B	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
7	R2401541-009	MW-5A	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
8	R2401541-011	MW-3	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
9	R2401541-013	MW-21A	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
10	R2401541-015	MW-19AA	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434741 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/29/24 10:00

11	R2401541-017	MW-28A	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
12	R2401541-019	MW-28B	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
13	R2401541-021	DUPE Y	.02	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
14	R2401591-001	SB915-PAR0033-01	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		Tier IV
15	RQ2402211-03	R2401591-001 MS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/230955; 0.5000 mL/233797	
16	RQ2402211-04	R2401591-001 DMS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
17	R2401591-002	SB915-PAR0033-02	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
18	R2401591-003	SB915-PAR0033-03	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
19	R2401591-004	SB915-PAR0033-04	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
20	R2401591-006	SB915-PAR0033-06	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434741
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

21	R2401592-001	SCA-PAR0030-01	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		Tier IV
22	RQ2402211-05	R2401592-001 MS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230955; 0.5000 mL/233797; 0.5000 mL/230954	
23	RQ2402211-06	R2401592-001 DMS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
24	R2401592-002	SCA-PAR0030-02	.05	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #: 2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #: 2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025	

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	Hot Block Cups	50mL Lot 2304355 (232860)	Nitric Acid Metals Grade HNO3 231748 (231748)
Thermometer	460 (230830)			

1541 (IV) 3/8
1591 (V) 3/15
1592 (IV) 3/15

Preparation Steps

Step: Digestion
Started: 2/29/24 10:00
Finished: 3/1/24 10:38
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: Molly Mitchell Date: 3/1/24

Preparation Information Benchsheet

Prep Run#: 434741
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

Chain of Custody

Relinquished By:	CD	Date:	3/1/24	Extracts Examined
Received By:	R-AO1	Date:	3/1/24	Yes No

Preparation Information Benchsheet

Prep Run#: 434742
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402212-01	MB		50mL	6010C/As T, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Zn T	<2			50.00mL	Colorless-Clear		HB:1 Well:F3 Temp:93.4C
2	RQ2402212-02	LCS		50mL	6010C/As T, Ca T, Cd T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/233797; 0.5000 mL/230954; 0.5000 mL/230955	On HB:16:16 HB Shutoff:2:16 Pipet/Repipettor:M340,MA100,M23
3	R2401554-001	RMW-11D	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
4	RQ2402212-03	R2401554-001 MS	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
5	RQ2402212-04	R2401554-001 DMS	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear	0.5000 mL/233797; 0.5000 mL/230954; 0.5000 mL/230955	
6	R2401554-002	RMW-40D	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
7	R2401554-003	RMW-40S	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
8	R2401554-004	RMW-12I	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
9	R2401554-005	RMW-12D	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
10	R2401554-006	RMW-36S	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
11	R2401554-007	RMW-36D	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
12	R2401554-008	RMW-11S	.05	50mL	6010C/As T, Ca T, Cd T, Fe T, K T, Mg T, Mn T, Na T, Pb T	<2			50.00mL	Colorless-Clear		
13	R2401558-001	TLF	.04	50mL	6010C/Cd T, Cr T, Cu T, Ni T, Pb T, Zn T	<2			50.00mL	Colorless-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	Hot Block Cups	50mL Lot 2304355 (232860)	Nitric Acid Metals Grade HNO3 231748 (231748)
Thermometer	460 (230830)			

Preparation Information Benchsheet

Prep Run#: 434742
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

Preparation Steps

Step: Digestion
Started: 2/29/24 10:00
Finished: 3/1/24 10:39
By: CDISTEFANO
Comments

1554 3|15
1558 3|21

Comments: _____

Reviewed By: Molly Mitch Date: 3/1/24

Chain of Custody

Relinquished By: CD Date: 3/1/24
Received By: R-Aon Date: 3/1/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434757
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigSICP
Prep Method: EPA 3050B

Status: Prepped
Prep Date/Time: 3/1/24 08:45

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402227-01	MB		0.5g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Zn T				50.00mL	White-Coarse/Colorless-Clear		HB:12 Well:G4 Temp:92.2C/90.9C
2	RQ2402227-02	LCS		0.5g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Zn T				50.00mL	White-Coarse/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/230955; 0.5000 mL/233797	On HB:10:14-10:29-10:30-11:00,11:01-11:31,12:26-12:41,12:42-12:57 Pip:M340,MA100,M380,M38,M33,M23
3	R2401503-002	Secondary Digester Sludge	.02	0.5500g	6010C/Ag T, As T, Be T, Cd T, Cr T, Cu T, Mo T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
4	R2401594-002	SB13-Lind375-022824-02	.02	0.5400g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
5	R2401594-004	SB13-Lind375-022824-04	.02	0.5300g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
6	R2401594-006	SB13-Lind375-022824-06, 14	.02	0.5100g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
7	RQ2402227-03	R2401594-006 MS	.02	0.5300g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
8	RQ2402227-04	R2401594-006 DMS	.02	0.5200g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear	0.5000 mL/230955; 0.5000 mL/233797; 0.5000 mL/230954	
9	R2401594-008	SB13-Lind375-022824-08	.02	0.5200g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
10	R2401594-010	SB13-Lind375-022824-10	.02	0.5400g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
11	R2401594-012	SB13-Lind375-022824-16	.02	0.5100g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
12	R2401638-001	800 Stockpile	.02	0.5300g	6010C/Cd T, Pb T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Information Benchsheet

Prep Run#: 434757
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigSICP
Prep Method: EPA 3050B

Status: Prepped
Prep Date/Time: 3/1/24 08:45

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Boiling Stones PTFE	226047 (226047)
Hot Block Cups	50mL Lot 2304355 (232860)	Hydrogen Peroxide 30% Reagent Grade H2O2	233709 (233709)	Nitric Acid Metals Grade HNO3	231748 (231748)
Thermometer	462 (230832)				

Preparation Steps

Step: Digestion
Started: 3/1/24 08:45
Finished: 3/1/24 13:08
By: CDISTEFANO
Comments

SOILS
1503 3/5
1594 3/8
1638 3/11

Comments:

Reviewed By: [signature] Date: 3/1/24

Chain of Custody

Relinquished By: [signature] Date: 3/1/24

Received By: [signature] Date: 3/1/24

Extracts Examined
Yes No

ICP ICV/CCV (Standard is prepared daily)
(ICV FOR ILM5.3 IS A ½ DILUTION OF THIS STANDARD)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 1	CA	231799	5000	1.00	200	25.0
	MG		5000			25.0
	K		5000			25.0
	NA		5000			25.0
Cal Std 2	AG	231800	100	1.00		0.500
	CR		100			0.500
	MN		150			0.750
	NI		400			2.00
	ZN		200			1.00
Cal Std 3	AL	233056	2000	1.00		10.0
	BA		2000			10.0
	BE		50			0.250
	CO		500			2.50
	CU		250			1.25
	FE		1000			5.00
	V		500			2.50
Cal Std 4	AS	232796	100	2.00		1.00
	CD		50			0.500
	PB		50			0.500
	SE		50			0.500
	TL		100			1.00
Single Metals	SB	232797	1000	1.00		5.00
	SN	232726	1000	1.00		5.00
	B	231910	1000	0.500		2.50
	MO	230303	1000	0.500		2.50
	TI	225912	1000	0.500		2.50
	SR	230304	1000	0.500		2.50
	P	—	1000	1.00		5.00

Analyst/ Date	Letter ID	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Pipet ID
MFM 2/23/24	A	231748 2%	233283 5%	M40
MFM 2/23/24	B	231748 10%	233283 5%	M40
MFM 2/27/24	C	231748 2%	233283 5%	M40
MFM 2/28/24	D	231748 10%	233283 5%	M36
NM 2/28/24	E	231748 2%	233283 5%	M40
NM 2/29/24	F	231748 10%	233283 5%	M40
MFM 3/1/24	G	231748 10%	233283 5%	M36
	H			
	I			
	J			
	K			
	L			
	M			
	N			
	O			
	P			
	Q			
	R			
	S			
	T			
	U			
	V			
	W			
	X			
	Y			
	Z			
	AA			
	BB			

ICP CALIBRATION STANDARD #1 (Standard is prepared every 6 months or as necessary)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std.1	AL	M844003A	20.0	1.00	1000	0.020
Int.	AS		5.00			0.0050
	CD		1.00			0.0010
	CO		3.00			0.0030
	CR		5.00			0.0050
	PB		5.00			0.0030
	V		3.00			0.500
Cal Std. 1	CA	226704	5000	0.100		BELOW
	K		5000			0.500
	MG		5000			0.500
	NA		5000			0.020
Single	BA	227183	1000	0.020		0.010
Element	CU	230454	1000	0.010		2.00
	K	229196	10000	0.150		0.010
	MN	227184	1000	0.010		0.025
	MO	226706	1000	0.025		0.010
	SB	230313	1000	0.010		0.010
	TL	226708	1000	0.010		0.010
	ZN	227186	1000	0.010		0.100
	P	–	1000	0.100		

Analyst/ Date	Letter ID	Nitric Acid Lot#/ Concentration	Hydrochloric Acid Lot #/ Concentration	Expiration Date	Pipet ID
NM 10/2/23	A	229709 2%	231167 5%	3/28/24	M37 M36
NM 10/2/23	B	229709 10%	231167 5%	3/28/24	M37 M36
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				

ICP CALIBRATION STANDARD #2
(Standard is prepared every 6 months or as necessary)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Single Element	AL	199356	1000	0.100	1000	0.100
	AS	230302	1000	0.010		0.010
	B	226705	1000	0.200		0.200
	BE	230311 (1/10)	100	0.030		0.003
	CA	230305	10000	0.100		1.00
	CD	227603 (1/10)	100	0.050		0.005
	CU	230454	1000	0.020		0.020
	K	229196	10000	0.200		2.00
	MG	230307	10000	0.100		1.00
	NA	230308	10000	0.100		1.00
	PB	227185	1000	0.050		0.050
	SB	230313	1000	0.060		0.060
	SE	230309	1000	0.010		0.010
	SN	229641	1000	0.500		0.500

Analyst/ Date	Letter ID	Nitric Acid Lot#	Hydrochloric Acid Lot #	Expiration Date	Pipet ID
NM 10/2/23	A	229709 2%	231167 5%	4/2/24	M37 M36
NM 10/2/23	B	229709 10%	231167 5%	4/2/24	M37 M36
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				

ICP CALIBRATION STANDARD #5 / HLCCV1 (Standard is prepared every 6 months or as necessary)

(CALIBRATION STANDARD #3 IS A 1/100 DILUTION OF THIS STANDARD)
(CALIBRATION STANDARD #4 IS A 1/5 DILUTION OF THIS STANDARD)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 2	AG	230301	100	~~2.00~~	~~200~~	1.00
	CR		100	5.00	500	1.00
	MN		150			1.50
	NI		400			4.00
	ZN		200			2.00
Cal Std 3	AL	233055	2000	~~2.00~~		20.0
	BA		2000	5.00		20.0
	BE		50			0.500
	CO		500			5.00
	CU		250			2.50
	FE		1000			10.0
	V		500			5.00
Cal Std 4	AS	231798	100	~~4.00~~		2.00
	CD		50	10.00		1.00
	PB		50			1.00
	SE		50			1.00
	TL		100			2.00
Single Metals	CA	230305	10000	~~1.00~~	2.50	50.0
	MG	230307	10000	~~1.00~~	2.50	50.0
	K	229196	10000	~~1.00~~	2.50	50.0
	NA	230308	10000	~~1.00~~	2.50	50.0
	SB	230313	1000	~~2.00~~	5.00	10.0
	SN	231915	1000	~~2.00~~	5.00	10.0
	B	226705	1000	~~1.00~~	2.50	5.00
	MO	226706	1000	~~1.00~~	2.50	5.00
	TI	230316	1000	~~1.00~~	2.50	5.00
	SR	230310	1000	~~1.00~~	2.50	5.00

Analyst/ Date	Letter ID	Nitric Acid Lot#/ Concentration	Hydrochloric Acid Lot #/ Concentration	Expiration Date	Pipet ID
NM 1/31/24	A	231748 2%.	232049 5%.	6/30/24	M38
NM 1/31/24	B	231748 10%.	232049 5%.	6/30/24	M38
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				
	AA				
	BB				

C-2666

ICP HLCCV2 (Standard is prepared every 6 months or as necessary)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 2	AG	230301	100	~~2.00~~	100	2.00
	CR		100	4.00	200	Below
	MN		150			Below
	NI		400			8.00
	ZN		200			4.00
Cal Std 3	AL	233055	2000	~~2.00~~		Below
	BA		2000	4.00		40.0
	BE		50			1.00
	CO, V		500			10.0
	CU		250			5.00
	FE		1000			Below
Cal Std 4	AS, TL	231798	100	~~4.00~~		4.00
	CD, SE		50	8.00		2.00
	PB		50			Below
Single Metals	B	226705	1000	~~1.00~~	2.00	10.0
	MO	226706	1000	~~1.00~~	2.00	10.0
	TI	230316	1000	~~1.00~~	2.00	10.0
	SR	230310	1000	~~1.00~~	2.00	10.0
	CA	230305	10000	~~2.50~~	5.00	250
	MG	230307	10000	~~5.00~~	10.00	500
	NA	230308	10000	~~2.00~~	4.00	~~150~~ 200
	CR	230312	1000	~~0.800~~	1.60	10.0
	FE	230306	10000	~~0.300~~	0.60	50
	AL	226846	10000	~~4.60~~	9.20	500
	MN	227184	1000	~~0.700~~	1.40	10.00
	PB	227185	1000	~~0.800~~	1.60	10.0
	K	229196	10000	~~1.50~~	3.00	150

MFM 1/8/24

Analyst/ Date	Letter ID	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
MFM 1/8/24	A	231748 2%	232049 5%	6/8/24	M36 M38
MFM 1/31/24	B	231748 10%	232049 5%	6/30/24	M36 M38
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				
	AA				

C-2667

ICP HLCCV3 (Standard is prepared every 6 months or as necessary)

Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
CA	230305	10,000	~~2.000~~ 4.00	~~100~~ 200	200.00	10% HNO_3, 5% HCl	MFM 2/13/24	A	231748	232283	7/13/24	M36 M38
CU	230454	1000	~~0.400~~ 0.800		4.00			B				
FE	230306	10,000	~~0.400~~ 0.800		40.00			C				
K	229196	10,000	~~1.000~~ 2.00		100.00			D				
TL	233695	1000	~~0.300~~ 0.600		3.00			E				
NA	230308	10,000	~~1.500~~ 3.00		150.00			F				
MG	230307	10,000	~~4.000~~ 8.00		400.00			G				
								H				
								I				
								J				
								K				
								L				
								M				
								N				
								O				
								P				
								Q				
								R				
								S				
								T				
								U				

ICP MRL (Standard is prepared every 6 months or as needed)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 1	CA	226704	5000	0.200	1000	1.00
	MG		5000			1.00
	K		5000			1.00
	NA		5000			1.00
Cal Std 2	AG	230301	100	0.100		0.0100
	CR		100			0.0100
	MN		150			0.0150
	NI		400			0.0400
	ZN		200			0.0200
Cal Std 3	AL	233055	2000	0.100		0.200
	BA		2000			0.200
	BE		50			0.0050
	CO		500			0.0500
	CU		250			0.0250
	FE		1000			0.100
	V		500			0.0500
Cal Std 4	AS	231798	100	0.200		0.0200
	CD		50			0.0100
	PB		50			0.0100
	SE		50			0.0100
	TL		100			0.0200
Single Metals	B	226705	1000	0.200		0.200
	MO	226706	1000	0.025		0.0250
	SN	231915	1000	0.500		0.500
	TI	230316	1000	0.050		0.0500
	SB	230313	1000	0.060		0.0600
	SR	230310	1000	0.100		0.100
	P	—	1000	0.100		0.100

Analyst/ Date	Letter ID	Nitric Acid Lot# / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
MFM 2/8/24	A	231748 10%	232049 8%	3/28/24	M36 M37
	B				
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				
	AA				
	BB				

ICP ICSA STANDARD (Standard is prepared every 6 months or as necessary)

Element	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Int. A Sol'n	230960	Multi	50	1000	Multi
AL		5000			250
CA		5000			250
FE		2000			100
MG		5000			250

Analyst/ Date	ID Letter	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
NM 10/17/23	A	229709 2%	231167 5%	4/17/24	dispo
NM 10/17/23	B	229709 10%	231167 5%	4/17/24	dispo
NM 12/6/23	C	231748 10%	232049 5%	6/6/24	dispo
NM 12/7/23	D	231748 10%	232049 5%	6/7/24	dispo
NM 12/21/23	E	231748 2%	232049 5%	6/21/24	dispo
MFM 2/12/24	F	231748 10%	232049 5%	8/12/24	dispo
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				

ICP ICSAB STANDARD (Standard is prepared every 6 months or as necessary)

Element	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Int. A Sol'n	233727	Multi	~~25~~ 50	~~500~~ 1000	Multi
AL		5000			250
CA		5000			250
FE		2000			100
MG		5000			250
Int. B Sol'n	233912	Multi	~~5~~ 10		Multi
AG		20			0.200
BA		50			0.500
BE		50			0.500
CD		100			1.00
CO		50			0.500
CR		50			0.500
CU		50			0.500
MN		50			0.500
NI		100			1.00
PB		5			0.0500
V		50			0.500
ZN		100			1.00
AS		10			0.100
SB		60			0.600
SE		5			0.0500
TL		10			0.100

Analyst/ Date	ID Letter	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
MFM 3/1/24	A	233477 10%	233283 5%	8/30/24	MSPU
	B				
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				

ICP INTERNAL STANDARD (ADDED ON-LINE)

Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst/ Date	Letter ID	Nitric Acid Lot #	Hydro-chloric Acid Lot #	Expiration Date	Pipet ID
Y	226709	10000	2.0	2000	10.0	5 % HCl 2%HNO3	MFM 1/25/24	A	231748	232049	6/30/24	M40
CS	226847	10000	2.0		10.0		MFM 1/25/24	B	231748	232049	6/30/24	M40
							MFM 2/13/24	C	231748	232049	6/30/24	M40
							MFM 2/13/24	D	231748	232049	6/30/24	M40
								E				
								F				
								G				
								H				
								I				
								J				
								K				
								L				
								M				
								N				
								O				
								P				
								Q				
								R				
								S				
								T				
								V				

Metals Cover Page

Analyst: MFM **Date:** 2/29/24 **Instrument:** MS7900

Data File: 022924 **Reviewed By:** MFM **Entered By:** MFM

Starlims Run #	Analytes Used	Batch ID	Method	Failed Analytes	Repeats
833814	AgAlAsBaBeCdCrCuNiSbSeTlZn	434684	200.8/6020A	Se	1534-1 QC Se stn
					1543-7 AsSbTl

(5) CCV only

833815	Pb	DW	200.8		1533-1 QC Pb

(11)

Agilent 7900 (R-ICP-MS-2) Run Log

Serial Number: JP16491642

Analyst: MFM Date: 2/29/24

Data File: 022924 Method: 6020A / 200.8

	Prep Date	Lot #			Prep Date	Lot #
Instrument Tune Solution	5/1/23	M84S0127A		Cal Srt 1 / CRDL	2/14/24	M84S0003C
Mass Tune Solution	↓	↓		Cal Std 2	2/12/24	M84S0012B
Internal Standard	1/31/24	M84S0114A		Cal Std 3	2/12/24	M84S0022B
ICSA	2/27/24	M84S0090C		Cal Std 4 / HLCCV1	2/12/24	M84S0032B
ICSAB	2/27/24	M84S0101G		ICV / CCV	2/29/24	M84S0050
HNO3	NA	231748		HCL	NA	233283
HLCCV2	2/29/24	M84S0067D		HLCCV3	2/29/24	M84S0078D

Pipet Used		DOD Pipet Verification	
M36, M37		–	
3101	PBW-434684	3211	PBW1
3102	LCSW-434684	3212	LCSW1
3103	R2401517-005	3301	R2401533-001
3104	R2401523-001 10X	3302	R2401533-001S
3105	R2401527-015	3303	R2401533-001SD
3106	R2401534-001	3304	R2401553-001
3107	R2401534-001S		
3108	R2401534-001SD		
3109	R2401534-001A		
3110	R2401534-001L 5X		
3111	R2401543-001		
3112	R2401543-001S		
3201	R2401543-001SD		
3202	R2401543-001A		
3203	R2401543-001L 5X		
3204	R2401543-002		
3205	R2401543-003		
3206	R2401543-004		
3207	R2401543-005		
3208	R2401543-006		
3209	R2401543-007		
3210	R2401543-008		

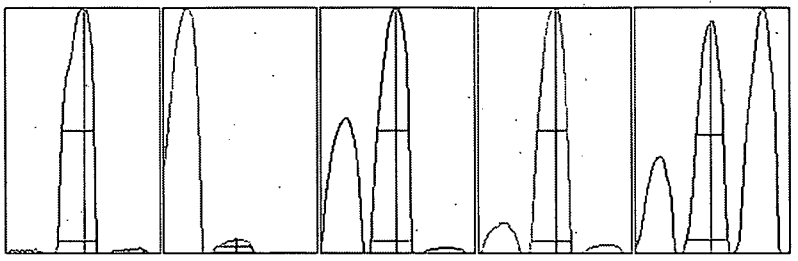
MFM 2/29/24

US EPA Tune Check Report

Operator Name	ALRCE Metals05
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq. Date-Time	02/29/24 09:37:24
Report Comment	---
Instrument Name	G8403A JP16491642

[No Gas]

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	212.97	9.05	8.90 - 9.10	
24	1781.90	23.95	23.90 - 24.10	
59	4232.82	59.00	58.90 - 59.10	
115	13206.77	115.05	114.90 - 115.10	
208	3089.70	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.63	0.742	0.900	
24	0.62	0.787	0.900	
59	0.63	0.785	0.900	
115	0.59	0.779	0.900	
208	0.54	0.786	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	157.399999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.4 V	Deflect	16.4 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

US EPA Tune Check Report

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	128	Axis Gain	0.9993	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.00		

Hardware Settings

Torch

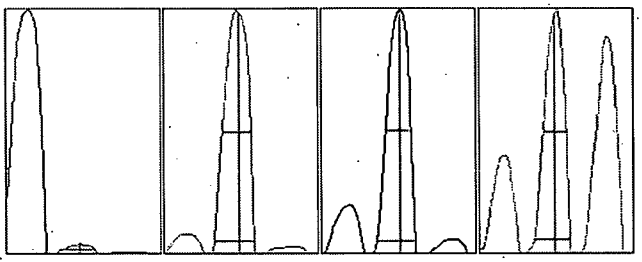
Torch H	0.5 mm	Torch V	-0.4 mm		

EM

Discriminator	4.5 mV	Analog HV	2116 V	Pulse HV	1251 V

[He]

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
24	70.15	23.95	23.90 - 24.10	
59	1177.79	59.00	58.90 - 59.10	
115	3189.81	115.05	114.90 - 115.10	
208	2194.27	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
24	0.56	0.782	0.900	
59	0.57	0.775	0.900	
115	0.50	0.740	0.900	
208	0.46	0.694	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	125.92
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.4 V	Deflect	2.2 V

US EPA Tune Check Report

Extract 2	-250.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-90 V	Cell Exit	-60 V		
Cell Parameters					
Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.3 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		
QP Parameters					
Mass Gain	128	Axis Gain	0.9993	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	0.00		
Hardware Settings					
Torch					
Torch H	0.5 mm	Torch V	-0.4 mm		
EM					
Discriminator	4.5 mV	Analog HV	2116 V	Pulse HV	1251 V

7900 ICP-MS 200.8/6020A
Calibration Blank Report

Sample Name	Blank
File Name	014CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:39:30
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d
Operator	MFM 2/29/24

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	No Gas	21.11	39.7
Al	27	72	No Gas	23148.78	3.8
V	51	72	He	1254.50	8.6
Cr	52	72	No Gas	39706.10	0.7
Mn	55	72	No Gas	9573.22	0.4
Co	59	72	He	76.67	0.0
Ni	60	72	No Gas	458.90	17.3
Cu	63	72	No Gas	1761.22	5.8
Zn	66	72	No Gas	5062.02	3.4
Se	78	72	He	102.00	11.9
Se	82	72	No Gas	139.14	81.2
Mo	98	89	No Gas	2448.18	24.4
Ag	107	89	No Gas	357.78	11.8
Cd	111	89	No Gas	2962.26	2.4
Sb	123	89	No Gas	5498.92	15.9
Ba	137	115	No Gas	201.11	23.2
Tl	203	115	No Gas	188.89	8.0
Pb	208	115	No Gas	1338.91	4.7
Th	232	115	No Gas	6234.87	2.3
U	238	115	No Gas	216.67	27.2

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc	45	No Gas	38013970.71	1.8
Sc	45	He	2389810.11	5.0
Ge	72	No Gas	5473324.50	2.6
Ge	72	He	817172.85	0.6
Y	89	No Gas	8234261.89	2.2
Y	89	He	1341372.10	0.2
Rh	103	No Gas	7010680.00	2.8
Rh	103	He	3311982.79	0.7
In	115	No Gas	7846251.35	2.9
Lu	175	No Gas	38999.68	1.3

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	1
File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:42:27
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	3471.53	2.2	0.990
Al	27	72	No Gas	169319.58	1.5	5.113
V	51	72	He	10394.92	1.9	1.034
Cr	52	72	No Gas	97055.64	0.5	1.217
Mn	55	72	No Gas	79779.83	0.7	1.052
Co	59	72	He	17768.87	0.8	0.978
Ni	60	72	No Gas	15099.15	1.8	1.105
Cu	63	72	No Gas	35633.56	3.1	1.046
Zn	66	72	No Gas	45645.56	0.4	4.940
As	75	72	No Gas	9054.85	10.5	0.986
Se	78	72	He	204.33	7.9	0.890
Se	82	72	No Gas	565.73	1.7	0.710
Mo	98	89	No Gas	27984.48	0.5	0.885
Ag	107	89	No Gas	44405.65	1.5	0.940
Cd	111	89	No Gas	12572.21	1.5	0.974
Sb	123	89	No Gas	32960.78	2.1	0.900
Ba	137	115	No Gas	16161.89	2.8	1.014
Tl	203	115	No Gas	25722.03	0.6	0.993
Pb	208	115	No Gas	82269.65	1.2	0.992
Th	232	115	No Gas	75887.54	1.3	0.965
U	238	115	No Gas	71422.63	0.8	1.030

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37996252.94	4.0	38013970.71	99.95	60	125	
Sc	45	He	2440394.28	3.4	2389810.11	102.12	60	125	
Ge	72	No Gas	5399754.37	2.1	5473324.5	98.66	60	125	
Ge	72	He	823866.37	0.7	817172.85	100.82	60	125	
Y	89	No Gas	8262278.28	1.5	8234261.89	100.34	60	125	
Y	89	He	1331074.15	0.7	1341372.1	99.23	60	125	
Rh	103	No Gas	7070719.16	3.2	7010680	100.86	60	125	
Rh	103	He	3338200.84	0.9	3311982.79	100.79	60	125	
In	115	No Gas	7795378.02	1.1	7846251.35	99.35	60	125	
Lu	175	No Gas	39785.44	1.7	38999.68	102.01	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	10
File Name	016CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:44:38
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	35966.15	0.7	10.289
Al	27	72	No Gas	332832.30	0.1	10.787
V	51	72	He	88250.73	1.0	9.929
Cr	52	72	No Gas	529310.90	1.4	10.284
Mn	55	72	No Gas	691366.64	0.8	10.172
Co	59	72	He	176971.70	0.7	9.850
Ni	60	72	No Gas	136496.03	1.4	10.240
Cu	63	72	No Gas	331315.74	1.6	10.152
Zn	66	72	No Gas	87352.32	1.1	9.987
As	75	72	No Gas	97078.23	1.2	10.383
Se	78	72	He	1237.72	0.8	10.024
Se	82	72	No Gas	6181.06	2.5	10.026
Mo	98	89	No Gas	272801.77	0.7	9.344
Ag	107	89	No Gas	452591.04	1.2	9.621
Cd	111	89	No Gas	98982.86	0.5	9.721
Sb	123	89	No Gas	296296.54	0.6	9.500
Ba	137	115	No Gas	157755.65	0.5	10.050
Tl	203	115	No Gas	258626.51	1.0	10.096
Pb	208	115	No Gas	822364.52	0.1	10.113
Th	232	115	No Gas	733592.58	1.3	10.122
U	238	115	No Gas	702889.03	1.0	10.210

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	38062819.60	1.3	38013970.71	100.13	60	125	
Sc	45	He	2364754.56	4.7	2389810.11	98.95	60	125	
Ge	72	No Gas	5410606.59	1.3	5473324.5	98.85	60	125	
Ge	72	He	817542.87	0.5	817172.85	100.05	60	125	
Y	89	No Gas	8288148.84	2.1	8234261.89	100.65	60	125	
Y	89	He	1337258.77	0.2	1341372.1	99.69	60	125	
Rh	103	No Gas	7048424.72	3.0	7010680	100.54	60	125	
Rh	103	He	3360804.45	0.3	3311982.79	101.47	60	125	
In	115	No Gas	7762549.69	3.6	7846251.35	98.93	60	125	
Lu	175	No Gas	40090.68	1.3	38999.68	102.8	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	50
File Name	017CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:46:49
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	180235.57	0.8	51.410
Al	27	72	No Gas	1446413.17	1.9	49.730
V	51	72	He	440244.87	1.2	49.824
Cr	52	72	No Gas	2517427.75	2.4	51.898
Mn	55	72	No Gas	3345659.80	1.7	49.773
Co	59	72	He	870743.92	1.8	48.432
Ni	60	72	No Gas	671737.26	1.4	50.707
Cu	63	72	No Gas	1641274.73	0.7	50.755
Zn	66	72	No Gas	423577.49	0.9	50.773
As	75	72	No Gas	485309.74	0.5	51.751
Se	78	72	He	5616.46	0.5	48.652
Se	82	72	No Gas	30590.71	0.9	50.571
Mo	98	89	No Gas	1380996.14	1.2	47.833
Ag	107	89	No Gas	2183655.54	1.8	46.705
Cd	111	89	No Gas	480089.64	1.3	48.335
Sb	123	89	No Gas	1447089.87	1.5	47.263
Ba	137	115	No Gas	791775.63	1.2	50.593
Tl	203	115	No Gas	1311937.28	1.8	51.195
Pb	208	115	No Gas	4048325.43	0.8	50.080
Th	232	115	No Gas	3726291.79	2.2	51.728
U	238	115	No Gas	3507367.15	0.9	51.363

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37975738.49	2.4	38013970.71	99.9	60	125	
Sc	45	He	2465579.14	4.0	2389810.11	103.17	60	125	
Ge	72	No Gas	5369368.54	2.7	5473324.5	98.1	60	125	
Ge	72	He	820009.62	0.4	817172.85	100.35	60	125	
Y	89	No Gas	8278382.45	3.3	8234261.89	100.54	60	125	
Y	89	He	1341202.55	0.7	1341372.1	99.99	60	125	
Rh	103	No Gas	7088959.72	1.7	7010680	101.12	60	125	
Rh	103	He	3336838.90	0.5	3311982.79	100.75	60	125	
In	115	No Gas	7746909.42	2.9	7846251.35	98.73	60	125	
Lu	175	No Gas	39151.24	1.0	38999.68	100.39	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	100
File Name	018CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:48:50
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

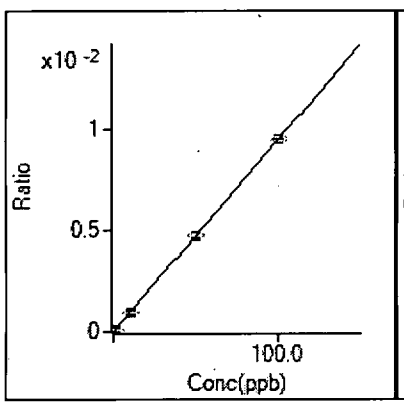
QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	358745.77	1.4	99.939
Al	27	72	No Gas	2857776.62	2.3	100.064
V	51	72	He	893960.17	0.2	100.291
Cr	52	72	No Gas	4852271.47	0.5	99.608
Mn	55	72	No Gas	6840525.84	3.2	100.659
Co	59	72	He	1769428.92	2.9	100.254
Ni	60	72	No Gas	1323902.27	1.0	99.902
Cu	63	72	No Gas	3271010.01	2.4	100.152
Zn	66	72	No Gas	840753.89	0.0	100.197
As	75	72	No Gas	955628.12	0.8	99.891
Se	78	72	He	11216.46	0.8	100.076
Se	82	72	No Gas	60583.77	0.4	100.069
Mo	98	89	No Gas	2825406.81	0.7	100.882
Ag	107	89	No Gas	4518592.60	1.5	101.040
Cd	111	89	No Gas	946645.85	0.4	100.157
Sb	123	89	No Gas	2961303.42	4.6	100.880
Ba	137	115	No Gas	1583693.41	0.8	99.624
Tl	203	115	No Gas	2623508.30	3.7	99.625
Pb	208	115	No Gas	8232563.35	0.4	99.954
Th	232	115	No Gas	7346939.43	1.6	99.357
U	238	115	No Gas	6858291.39	2.0	99.142

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37905740.72	1.8	38013970.71	99.72	60	125	
Sc	45	He	2430742.26	1.4	2389810.11	101.71	60	125	
Ge	72	No Gas	5315781.32	2.7	5473324.5	97.12	60	125	
Ge	72	He	822355.44	1.3	817172.85	100.63	60	125	
Y	89	No Gas	8120938.84	1.3	8234261.89	98.62	60	125	
Y	89	He	1348881.20	1.0	1341372.1	100.56	60	125	
Rh	103	No Gas	7094460.97	3.7	7010680	101.2	60	125	
Rh	103	He	3300615.56	2.2	3311982.79	99.66	60	125	
In	115	No Gas	7888861.91	0.4	7846251.35	100.54	60	125	
Lu	175	No Gas	39451.06	1.3	38999.68	101.16	60	125	

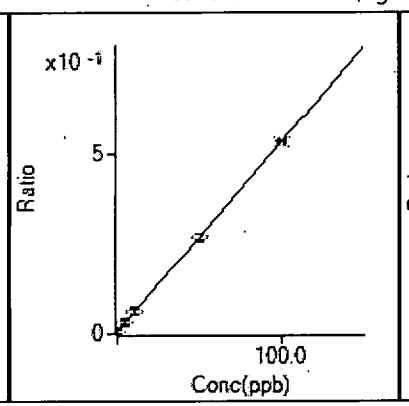
Calibration for C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b\018CALS.d



9 Be [No Gas] / ISTD: 45 Sc

y = 9.471E-5 x + 5.557E-7

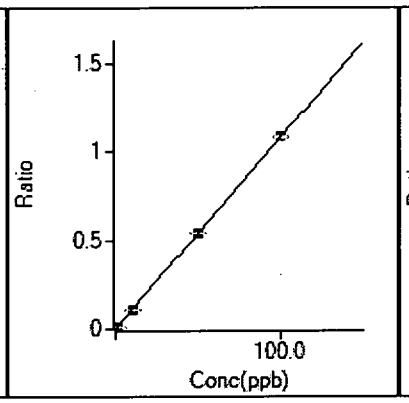
R	1.0000
DL	0.006964
BEC	0.005867



27 Al [No Gas] / ISTD: 72 Ge

y = 5.335E-3 x + 4.229E-3

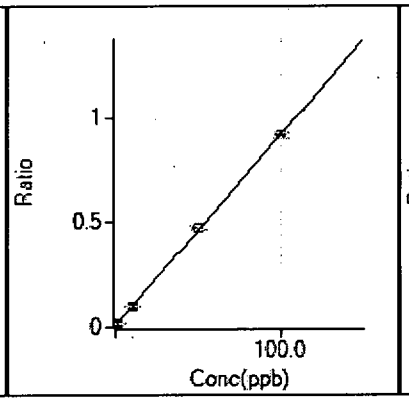
R	1.0000
DL	0.03001
BEC	0.7927



51 V [He] / ISTD: 72 Ge

y = 1.083E-2 x + 1.535E-3

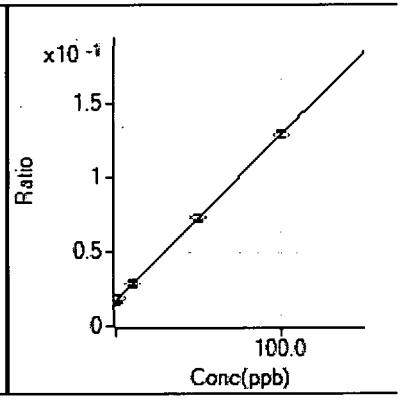
R	1.0000
DL	0.03419
BEC	0.1418



52 Cr [No Gas] / ISTD: 72 Ge

y = 9.095E-3 x + 7.258E-3

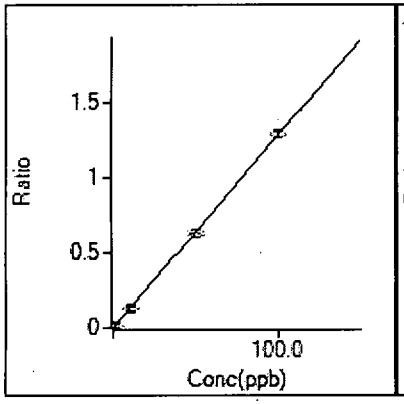
R	1.0000
DL	0.07496
BEC	0.7981



53 (Cr) [No Gas] / ISTD: 72 Ge

y = 1.116E-3 x + 1.727E-2

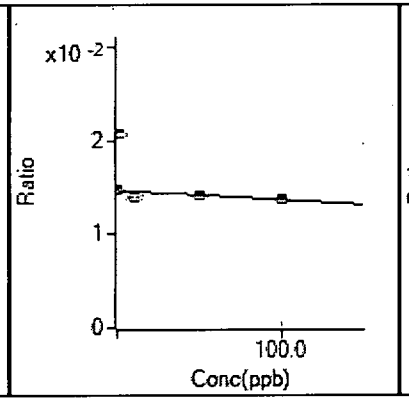
R	0.9999
DL	1.684
BEC	15.47



55 Mn [No Gas] / ISTD: 72 Ge

y = 1.277E-2 x + 1.750E-3

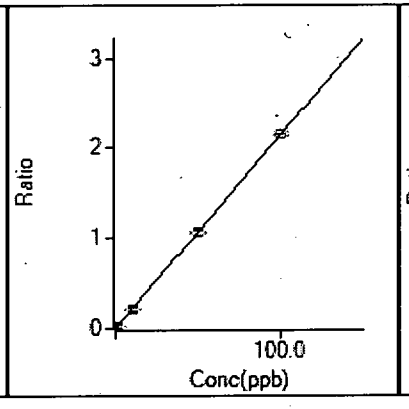
R	0.9999
DL	0.01153
BEC	0.1371



56 Fe [He] / ISTD: 72 Ge

y = - 1.007E-5 x + 1.471E-2

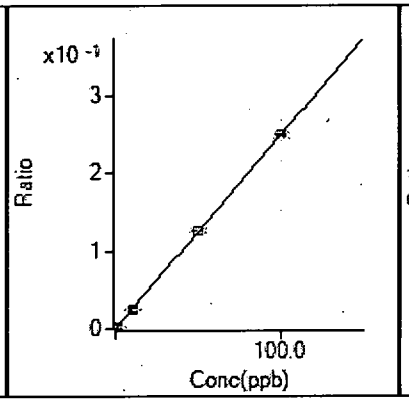
R	-0.4889
DL	-73.55
BEC	-1460



59 Co [He] / ISTD: 72 Ge

y = 2.146E-2 x + 9.383E-5

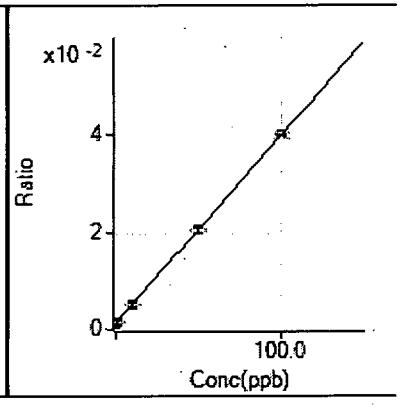
R	1.0000
DL	7.702E-05
BEC	0.004372



60 Ni [No Gas] / ISTD: 72 Ge

y = 2.493E-3 x + 8.398E-5

R	1.0000
DL	0.01864
BEC	0.03368

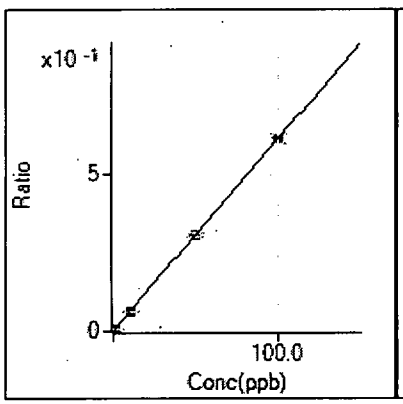


62 (Ni) [No Gas] / ISTD: 72 Ge

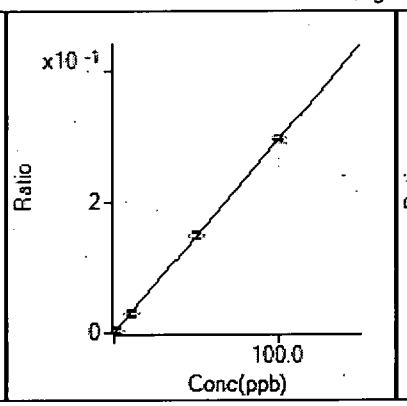
y = 3.874E-4 x + 1.216E-3

R	1.0000
DL	0.4242
BEC	3.139

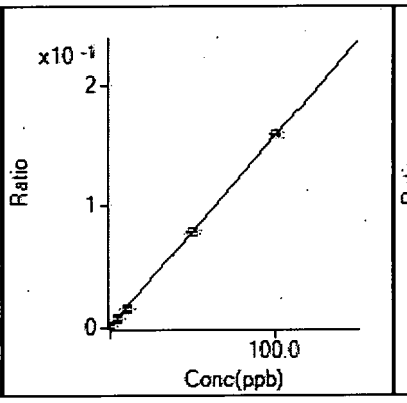
Calibration for C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b\018CALS.d



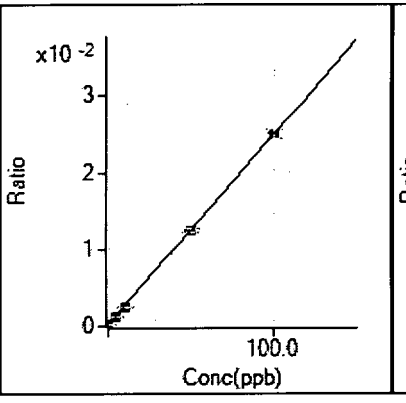
63 Cu [No Gas] / ISTD: 72 Ge
y = 6.146E-3 x + 3.216E-4
R 1.0000
DL 0.005344
BEC 0.05233



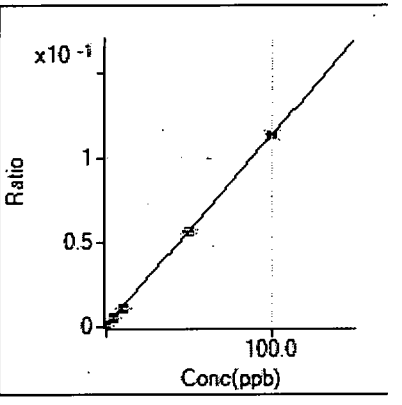
65 (Cu) [No Gas] / ISTD: 72 Ge
y = 2.951E-3 x + 1.383E-4
R 1.0000
DL 0.007377
BEC 0.04686



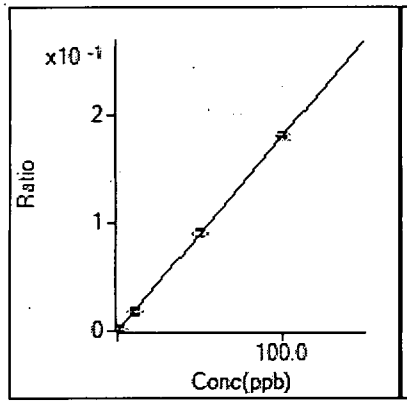
66 Zn [No Gas] / ISTD: 72 Ge
y = 1.570E-3 x + 9.254E-4
R 1.0000
DL 0.08217
BEC 0.5894



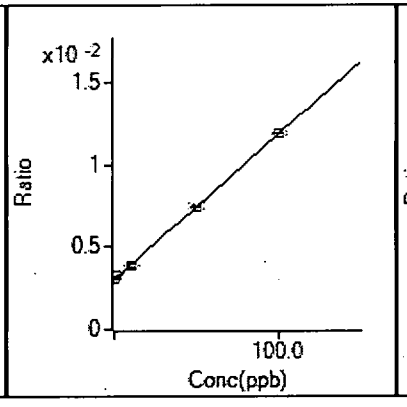
67 (Zn) [No Gas] / ISTD: 72 Ge
y = 2.476E-4 x + 1.851E-4
R 1.0000
DL 0.1218
BEC 0.7476



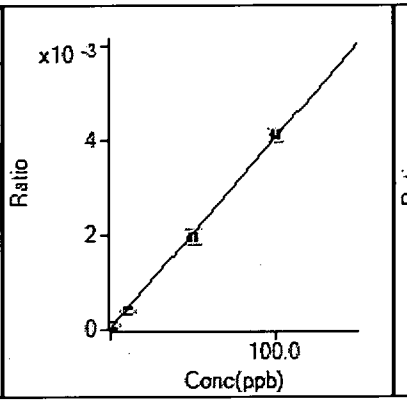
68 (Zn) [No Gas] / ISTD: 72 Ge
y = 1.130E-3 x + 6.571E-4
R 1.0000
DL 0.01329
BEC 0.5816



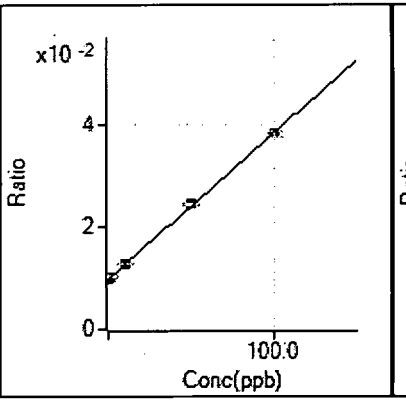
75 As [No Gas] / ISTD: 72 Ge
y = 1.801E-3 x - 2.881E-5
R 1.0000
DL 0.2169
BEC -0.016



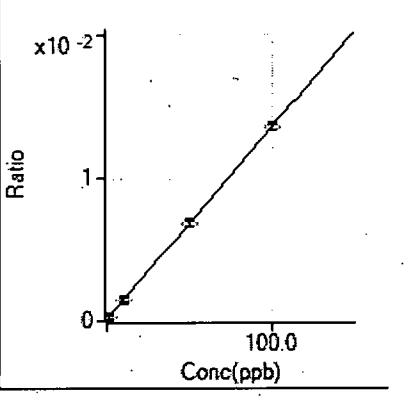
77 (Se) [No Gas] / ISTD: 72 Ge
y = 8.794E-5 x + 3.019E-3
R 0.9998
DL 4.948
BEC 34.33



77 (Se) [He] / ISTD: 72 Ge
y = 4.032E-5 x + 4.075E-5
R 0.9996
DL 1.041
BEC 1.011

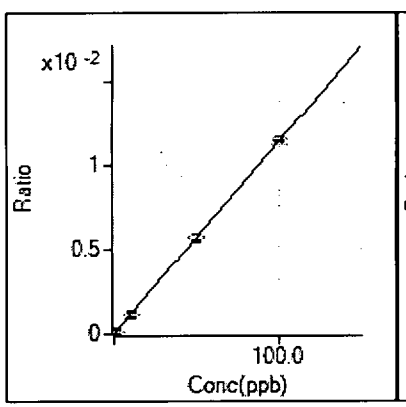


78 (Se) [No Gas] / ISTD: 72 Ge
y = 2.834E-4 x + 9.715E-3
R 0.9998
DL 2.975
BEC 34.28



78 Se [He] / ISTD: 72 Ge
y = 1.350E-4 x + 1.249E-4
R 1.0000
DL 0.3451
BEC 0.9247

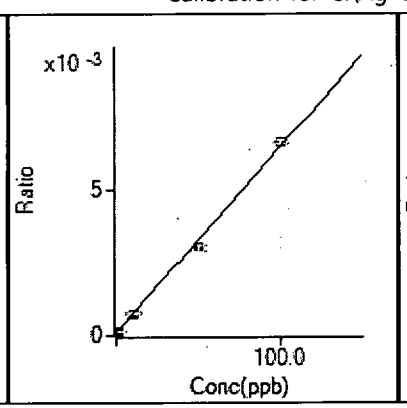
Calibration for C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b\018CALS.d



82 Se [No Gas] / ISTD: 72 Ge

y = 1.137E-4 x + 2.578E-5

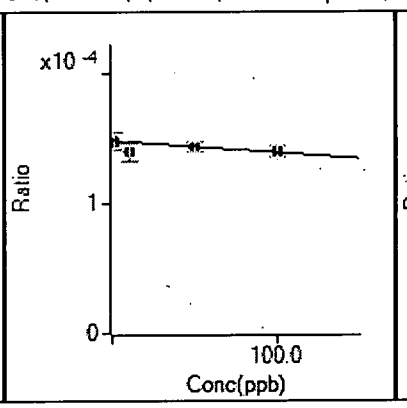
R	1.0000
DL	0.5579
BEC	0.2268



82 (Se) [He] / ISTD: 72 Ge

y = 6.425E-5 x + 9.776E-5

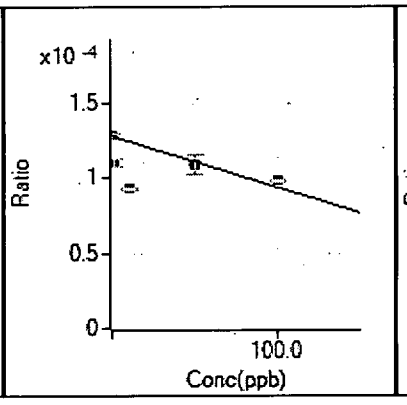
R	0.9986
DL	1.687
BEC	1.521



83 [As] [No Gas] / ISTD: 72 Ge

y = - 9.095E-8 x + 1.476E-4

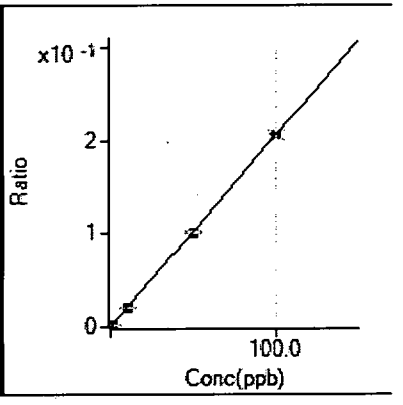
R	-0.6109
DL	-426.7
BEC	-1623



88 Sr [No Gas] / ISTD: 89 Y

y = - 3.366E-7 x + 1.282E-4

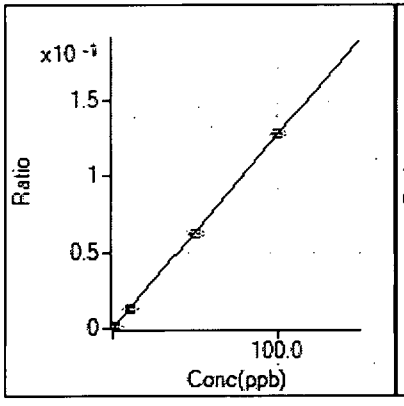
R	-0.4452
DL	-36.69
BEC	-381



95 (Mo) [No Gas] / ISTD: 89 Y

y = 2.063E-3 x + 1.777E-4

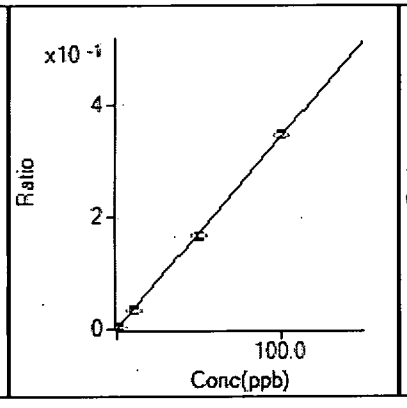
R	0.9999
DL	0.04556
BEC	0.08616



97 (Mo) [No Gas] / ISTD: 89 Y

y = 1.271E-3 x + 1.177E-4

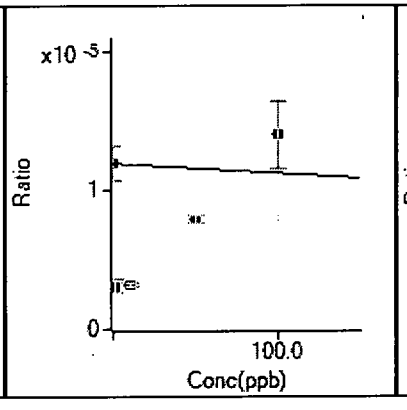
R	0.9999
DL	0.05472
BEC	0.09261



98 Mo [No Gas] / ISTD: 89 Y

y = 3.446E-3 x + 2.964E-4

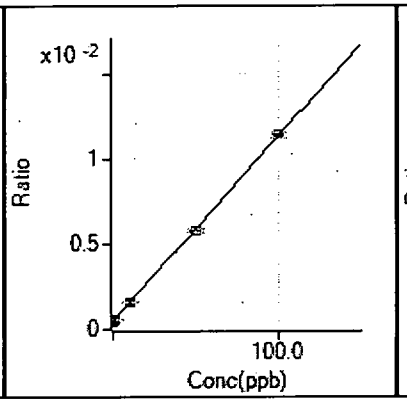
R	0.9998
DL	0.05756
BEC	0.08601



99 [Mo] [No Gas] / ISTD: 89 Y

y = - 7.054E-9 x + 1.191E-5

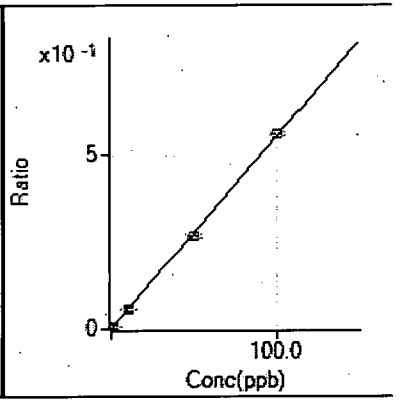
R	0.6301
DL	-1047
BEC	-1689



106 (Cd) [No Gas] / ISTD: 89 Y

y = 1.092E-4 x + 4.673E-4

R	0.9999
DL	0.4324
BEC	4.279

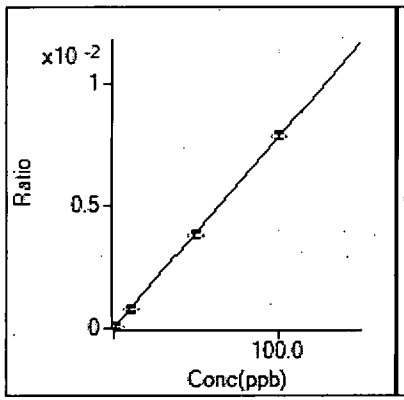


107 Ag [No Gas] / ISTD: 89 Y

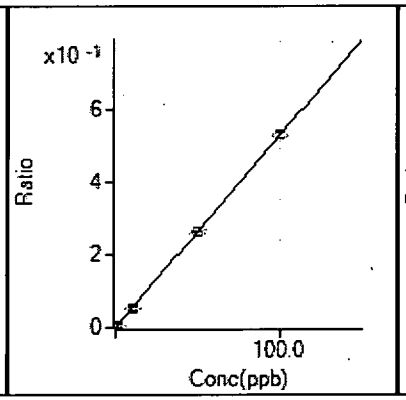
y = 5.507E-3 x + 4.353E-5

R	0.9997
DL	0.003245
BEC	0.007905

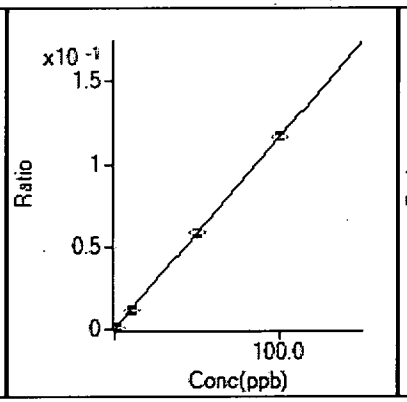
Calibration for C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b\018CALS.d



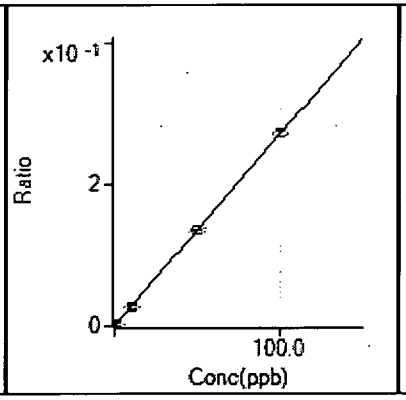
108 (Cd) [No Gas] / ISTD: 89 Y
y = 7.784E-5 x + 4.301E-6
R 0.9999
DL 0.09067
BEC 0.05526



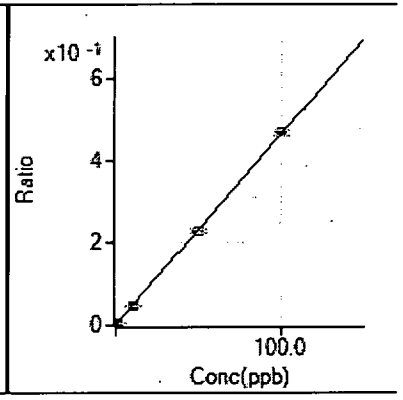
109 (Ag) [No Gas] / ISTD: 89 Y
y = 5.290E-3 x + 3.237E-5
R 1.0000
DL 0.0005551
BEC 0.00612



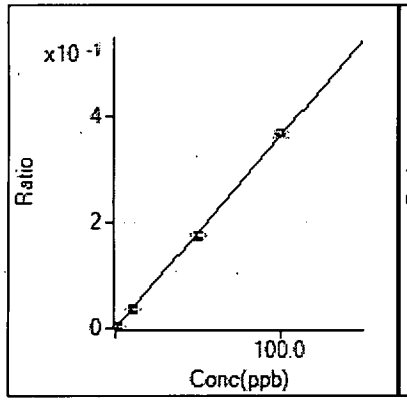
111 Cd [No Gas] / ISTD: 89 Y
y = 1.160E-3 x + 3.599E-4
R 1.0000
DL 0.0335
BEC 0.3101



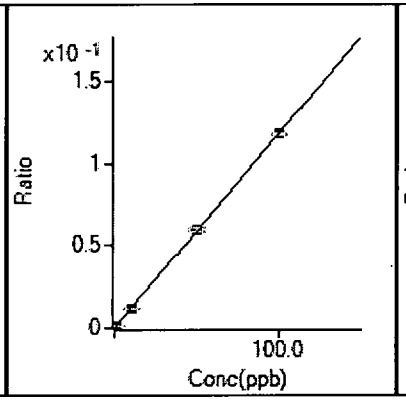
114 (Cd) [No Gas] / ISTD: 89 Y
y = 2.707E-3 x + 2.353E-5
R 1.0000
DL 0.005629
BEC 0.008693



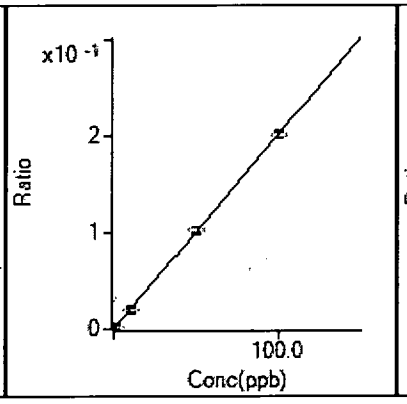
121 (Sb) [No Gas] / ISTD: 89 Y
y = 4.646E-3 x + 8.674E-4
R 0.9999
DL 0.08836
BEC 0.1867



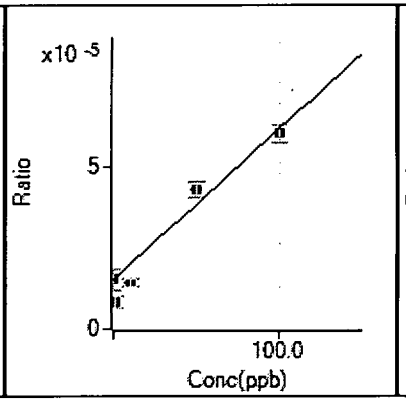
123 Sb [No Gas] / ISTD: 89 Y
y = 3.607E-3 x + 6.666E-4
R 0.9998
DL 0.07686
BEC 0.1848



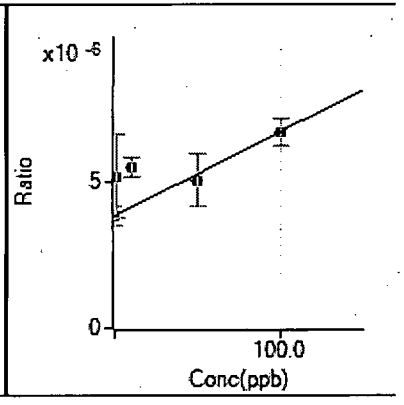
135 (Ba) [No Gas] / ISTD: 115 In
y = 1.181E-3 x + 1.865E-5
R 1.0000
DL 0.006159
BEC 0.01579



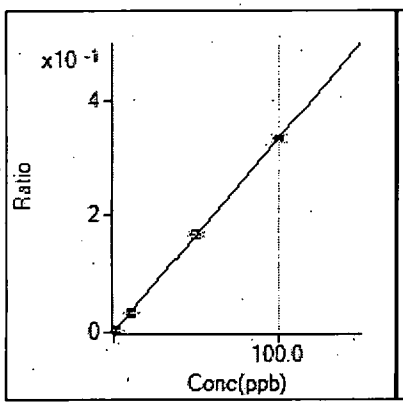
137 Ba [No Gas] / ISTD: 115 In
y = 2.015E-3 x + 2.559E-5
R 1.0000
DL 0.008244
BEC 0.0127



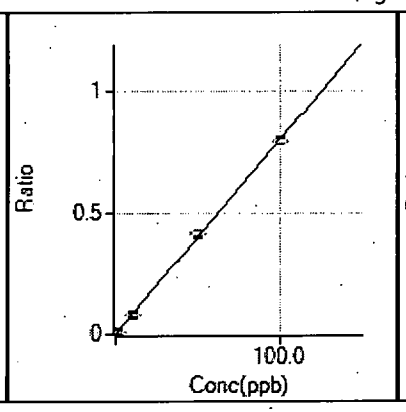
184 W [No Gas] / ISTD: 115 In
y = 4.616E-7 x + 1.517E-5
R 0.9818
DL 41.2
BEC 32.87



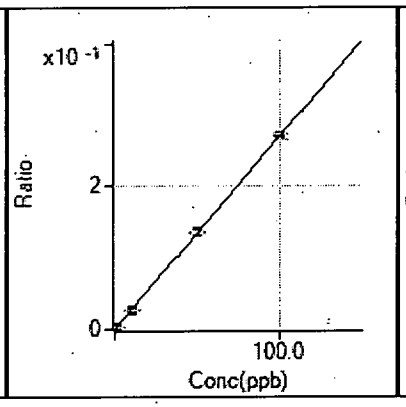
195 Pt [No Gas] / ISTD: 115 In
y = 2.850E-8 x + 3.813E-6
R 0.7751
DL 66
BEC 133.8



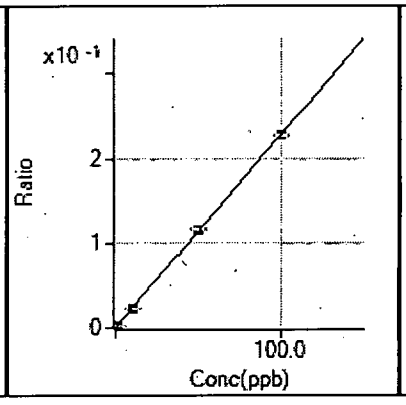
203 Tl [No Gas] / ISTD: 115 In
y = 3.338E-3 x + 2.405E-5
R 1.0000
DL 0.001103
BEC 0.007205



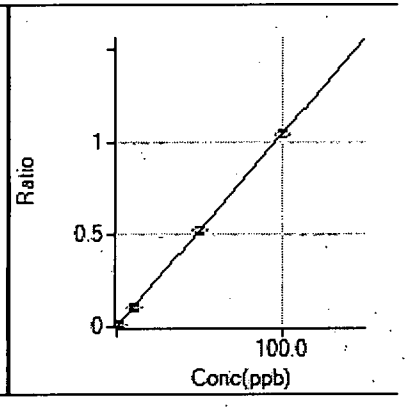
205 (Tl) [No Gas] / ISTD: 115 In
y = 8.002E-3 x + 5.469E-5
R 0.9998
DL 0.0006586
BEC 0.006834



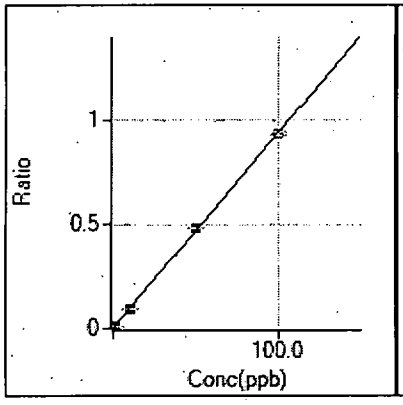
206 (Pb) [No Gas] / ISTD: 115 In
y = 2.700E-3 x + 4.201E-5
R 1.0000
DL 0.005439
BEC 0.01556



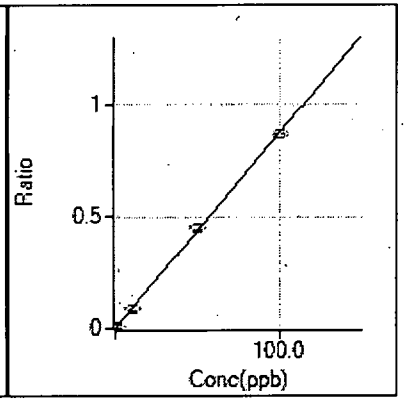
207 (Pb) [No Gas] / ISTD: 115 In
y = 2.286E-3 x + 4.058E-5
R 1.0000
DL 0.008378
BEC 0.01775



208 Pb [No Gas] / ISTD: 115 In
y = 1.044E-2 x + 1.708E-4
R 1.0000
DL 0.002998
BEC 0.01636



232 Th [No Gas] / ISTD: 115 In
y = 9.366E-3 x + 7.950E-4
R 0.9999
DL 0.007826
BEC 0.08488



238 U [No Gas] / ISTD: 115 In
y = 8.769E-3 x + 2.748E-5
R 0.9998
DL 0.002283
BEC 0.003134

Relative Error for ICP-MS Calibration

Date: ~~2/29~~ 2/29/24 MFM 2/29/24 Data File: 022924

Be	TV	Conc	%RE	%RD
	1	0.959	-0.041	0.959
	10	9.972	-0.0028	0.9972
	50	50.129	0.00258	1.00258
	100	99.939	-0.00061	0.99939
Al				
	5	5.088	0.0176	1.0176
	10	10.74	0.074	1.074
	50	49.716	-0.00568	0.99432
	100	100.064	0.00064	1.00064
V				
	1	1.024	0.024	1.024
	10	9.83	-0.017	0.983
	50	49.452	-0.01096	0.98904
	100	100.291	0.00291	1.00291
Cr				
	1	1.179	0.179	1.179
	10	9.959	-0.0041	0.9959
	50	50.789	0.01578	1.01578
	100	99.608	-0.00392	0.99608
Mn				
	1	1.021	0.021	1.021
	10	9.874	-0.0126	0.9874
	50	48.706	-0.02588	0.97412
	100	100.659	0.00659	1.00659
Co				
	1	1.001	0.001	1.001
	10	10.083	0.0083	1.0083
	50	49.476	-0.01048	0.98952
	100	100.254	0.00254	1.00254
Ni				
	1	1.088	0.088	1.088
	10	10.087	0.0087	1.0087
	50	50.176	0.00352	1.00352
	100	99.902	-0.00098	0.99902
Cu				
	1	1.021	0.021	1.021
	10	9.912	-0.0088	0.9912
	50	49.713	-0.00574	0.99426
	100	100.152	0.00152	1.00152
Zn				
	5	4.796	-0.0408	0.9592
	10	9.695	-0.0305	0.9695
	50	49.687	-0.00626	0.99374
	100	100.197	0.00197	1.00197
Pb				
	1	0.995	-0.005	0.995
	10	10.141	0.0141	1.0141
	50	50.064	0.00128	1.00128
	100	99.954	-0.00046	0.99954
U				
	1	1.042	0.042	1.042
	10	10.33	0.033	1.033
	50	51.649	0.03298	1.03298
	100	99.142	-0.00858	0.99142

As	TV	Conc	%RE	%RD
	1	0.948	-0.052	0.948
	10	9.979	-0.0021	0.9979
	50	50.224	0.00448	1.00448
	100	99.891	-0.00109	0.99891
Se78				
	1	0.913	-0.087	0.913
	10	10.286	0.0286	1.0286
	50	49.792	-0.00416	0.99584
	100	100.076	0.00076	1.00076
Se82				
	1	0.695	-0.305	0.695
	10	9.822	-0.0178	0.9822
	50	49.904	-0.00192	0.99808
	100	100.069	0.00069	1.00069
Mo				
	1	0.897	-0.103	0.897
	10	9.469	-0.0531	0.9469
	50	48.345	-0.0331	0.9669
	100	100.882	0.00882	1.00882
Ag				
	1	0.968	-0.032	0.968
	10	9.912	-0.0088	0.9912
	50	47.938	-0.04124	0.95876
	100	101.04	0.0104	1.0104
Cd				
	1	1.001	0.001	1.001
	10	9.985	-0.0015	0.9985
	50	49.688	-0.00624	0.99376
	100	100.157	0.00157	1.00157
Sb				
	1	0.921	-0.079	0.921
	10	9.729	-0.0271	0.9729
	50	48.296	-0.03408	0.96592
	100	100.88	0.0088	1.0088
Ba				
	1	1.016	0.016	1.016
	10	10.081	0.0081	1.0081
	50	50.736	0.01472	1.01472
	100	99.624	-0.00376	0.99624
Tl				
	1	0.981	-0.019	0.981
	10	9.985	-0.0015	0.9985
	50	50.753	0.01506	1.01506
	100	99.625	-0.00375	0.99625
Th				
	1	0.955	-0.045	0.955
	10	10.017	0.0017	1.0017
	50	51.283	0.02566	1.02566
	100	99.357	-0.00643	0.99357

7900 ICP-MS 200.8/6020A
Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	019_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:50:39
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	47.891	ppb	6.0	173378.98	95.78	
Al	27	72	No Gas	49.684	ppb	8.0	1447188.62	99.37	
V	51	72	He	49.080	ppb	0.5	444425.61	98.16	
Cr	52	72	No Gas	47.930	ppb	10.3	2382434.00	95.86	
Mn	55	72	No Gas	47.409	ppb	3.9	3260408.83	94.82	
Co	59	72	He	49.250	ppb	0.8	881606.06	98.5	
Ni	60	72	No Gas	46.983	ppb	4.8	629811.10	93.97	
Cu	63	72	No Gas	48.015	ppb	6.6	1587512.23	96.03	
Zn	66	72	No Gas	48.329	ppb	6.3	412688.04	96.66	
As	75	72	No Gas	48.422	ppb	6.0	468427.10	96.84	
Se	78	72	He	51.960	ppb	0.9	5956.93	103.92	
Se	82	72	No Gas	49.607	ppb	4.7	30436.78	99.21	
Mo	98	89	No Gas	48.198	ppb	3.6	1352514.76	96.4	
Ag	107	89	No Gas	48.481	ppb	4.6	2170687.69	96.96	
Cd	111	89	No Gas	49.143	ppb	3.3	466458.08	98.29	
Sb	123	89	No Gas	48.591	ppb	2.9	1430044.60	97.18	
Ba	137	115	No Gas	49.323	ppb	5.9	769859.10	98.65	
Tl	203	115	No Gas	49.505	ppb	5.2	1279959.19	99.01	
Pb	208	115	No Gas	49.223	ppb	4.7	3980847.90	98.45	
Th	232	115	No Gas	49.300	ppb	6.7	3582468.12	98.6	
U	238	115	No Gas	51.462	ppb	6.6	3495283.20	102.92	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	38199656.26	1.3	38013970.71	100.49	60	125	
Sc	45	He	2476871.85	1.5	2389810.11	103.64	60	125	
Ge	72	No Gas	5369617.98	1.8	5473324.5	98.11	60	125	
Ge	72	He	834057.40	1.1	817172.85	102.07	60	125	
Y	89	No Gas	8125526.07	1.6	8234261.89	98.68	60	125	
Y	89	He	1356656.26	1.8	1341372.1	101.14	60	125	
Rh	103	No Gas	7181611.10	0.6	7010680	102.44	60	125	
Rh	103	He	3346320.29	1.0	3311982.79	101.04	60	125	
In	115	No Gas	7743620.80	1.0	7846251.35	98.69	60	125	
Lu	175	No Gas	38588.58	0.6	38999.68	98.95	60	125	

7900 ICP-MS 200.8/6020A
Initial Calibration Blank (ICB) Report

Sample Name	ICB
File Name	020_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:52:26
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	44.4	57.78	
Al	27	72	No Gas	-0.358	ppb	N/A	12365.33	
V	51	72	He	-0.004	ppb	N/A	1230.06	
Cr	52	72	No Gas	-0.017	ppb	N/A	37912.47	
Mn	55	72	No Gas	0.000	ppb	7224.9	9345.31	
Co	59	72	He	0.004	ppb	14.4	140.00	
Ni	60	72	No Gas	0.005	ppb	97.7	513.34	
Cu	63	72	No Gas	0.016	ppb	10.4	2242.41	
Zn	66	72	No Gas	-0.269	ppb	N/A	2685.82	
As	75	72	No Gas	0.051	ppb	235.3	321.99	
Se	78	72	He	-0.028	ppb	N/A	100.00	
Se	82	72	No Gas	0.030	ppb	495.5	155.02	
Mo	98	89	No Gas	0.023	ppb	304.1	3009.12	
Ag	107	89	No Gas	0.009	ppb	21.4	766.69	
Cd	111	89	No Gas	0.015	ppb	85.4	3059.96	
Sb	123	89	No Gas	0.107	ppb	136.8	8439.72	
Ba	137	115	No Gas	0.003	ppb	68.2	250.00	
Tl	203	115	No Gas	0.019	ppb	15.3	683.35	
Pb	208	115	No Gas	0.005	ppb	40.1	1781.16	
Th	232	115	No Gas	0.189	ppb	20.4	20345.40	
U	238	115	No Gas	0.006	ppb	20.5	630.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	36775188.54	3.4	38013970.71	96.74	60	125	
Sc	45	He	2395543.10	1.5	2389810.11	100.24	60	125	
Ge	72	No Gas	5338084.23	1.6	5473324.5	97.53	60	125	
Ge	72	He	825965.14	0.8	817172.85	101.08	60	125	
Y	89	No Gas	8106091.90	3.5	8234261.89	98.44	60	125	
Y	89	He	1350254.81	0.9	1341372.1	100.66	60	125	
Rh	103	No Gas	6964722.92	1.5	7010680	99.34	60	125	
Rh	103	He	3401165.98	1.2	3311982.79	102.69	60	125	
In	115	No Gas	7941420.80	2.4	7846251.35	101.21	60	125	
Lu	175	No Gas	38634.31	2.8	38999.68	99.06	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	021LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:54:22
Sample Type	LLICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.940	ppb	6.0	3417.07	94	
Al	27	72	No Gas	4.797	ppb	8.4	157809.25	95.94	
V	51	72	He	1.021	ppb	0.7	10240.34	102.1	
Cr	52	72	No Gas	1.143	ppb	7.8	93403.17	114.3	
Mn	55	72	No Gas	0.976	ppb	6.6	75197.89	97.6	
Co	59	72	He	1.007	ppb	1.7	17664.29	100.7	
Ni	60	72	No Gas	1.051	ppb	9.0	14309.55	105.1	
Cu	63	72	No Gas	0.964	ppb	7.0	33064.47	96.4	
Zn	66	72	No Gas	4.774	ppb	4.1	44561.71	95.48	
As	75	72	No Gas	1.077	ppb	10.3	10105.03	107.7	
Se	78	72	He	1.054	ppb	10.3	217.33	105.4	
Se	82	72	No Gas	0.839	ppb	3.1	640.98	83.9	
Mo	98	89	No Gas	0.935	ppb	7.7	27834.91	93.5	
Ag	107	89	No Gas	0.988	ppb	2.1	43398.75	98.8	
Cd	111	89	No Gas	1.032	ppb	2.3	12314.18	103.2	
Sb	123	89	No Gas	0.990	ppb	11.0	33530.59	99	
Ba	137	115	No Gas	0.979	ppb	2.9	15389.96	97.9	
Tl	203	115	No Gas	0.965	ppb	2.3	24990.87	96.5	
Pb	208	115	No Gas	0.976	ppb	2.6	79758.18	97.6	
Th	232	115	No Gas	1.017	ppb	2.2	79462.52	101.7	
U	238	115	No Gas	0.997	ppb	2.7	67559.56	99.7	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	38143380.71	2.1	38013970.71	100.34	60	125	
Sc	45	He	2463874.62	3.3	2389810.11	103.1	60	125	
Ge	72	No Gas	5292081.18	0.6	5473324.5	96.69	60	125	
Ge	72	He	813805.80	2.0	817172.85	99.59	60	125	
Y	89	No Gas	7907610.24	3.8	8234261.89	96.03	60	125	
Y	89	He	1338903.59	0.8	1341372.1	99.82	60	125	
Rh	103	No Gas	6950324.86	1.6	7010680	99.14	60	125	
Rh	103	He	3352449.24	1.5	3311982.79	101.22	60	125	
In	115	No Gas	7699904.69	2.2	7846251.35	98.13	60	125	
Lu	175	No Gas	38105.98	1.4	38999.68	97.71	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV1
File Name	022_QCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:56:18
Sample Type	QCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	92.544	ppb	9.8	332807.95	92.54	
Al	27	72	No Gas	94.875	ppb	9.4	2757239.19	94.88	
V	51	72	He	98.783	ppb	1.2	882413.60	98.78	
Cr	52	72	No Gas	93.369	ppb	9.5	4627779.12	93.37	
Mn	55	72	No Gas	90.871	ppb	11.8	6273134.06	90.87	
Co	59	72	He	98.903	ppb	2.6	1748265.56	98.9	
Ni	60	72	No Gas	95.726	ppb	10.0	1289900.85	95.73	
Cu	63	72	No Gas	94.770	ppb	8.8	3149160.15	94.77	
Zn	66	72	No Gas	95.013	ppb	10.4	810755.14	95.01	
As	75	72	No Gas	93.298	ppb	9.5	907549.25	93.3	
Se	78	72	He	100.786	ppb	0.5	11316.88	100.79	
Se	82	72	No Gas	95.428	ppb	9.6	58749.09	95.43	
Mo	98	89	No Gas	95.999	ppb	5.2	2674019.09	96	
Ag	107	89	No Gas	95.829	ppb	2.3	4263164.55	95.83	
Cd	111	89	No Gas	97.140	ppb	5.5	913353.00	97.14	
Sb	123	89	No Gas	96.533	ppb	6.6	2816519.33	96.53	
Ba	137	115	No Gas	97.511	ppb	6.2	1513802.99	97.51	
Tl	203	115	No Gas	100.417	ppb	4.5	2582635.94	100.42	
Pb	208	115	No Gas	98.031	ppb	6.5	7885294.41	98.03	
Th	232	115	No Gas	97.142	ppb	7.4	7013767.64	97.14	
U	238	115	No Gas	98.366	ppb	6.6	6645538.21	98.37	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37993607.38	2.0	38013970.71	99.95	60	125	
Sc	45	He	2374470.46	0.6	2389810.11	99.36	60	125	
Ge	72	No Gas	5411554.64	2.9	5473324.5	98.87	60	125	
Ge	72	He	823901.62	1.6	817172.85	100.82	60	125	
Y	89	No Gas	8075609.68	2.7	8234261.89	98.07	60	125	
Y	89	He	1359420.19	0.6	1341372.1	101.35	60	125	
Rh	103	No Gas	6950614.31	0.5	7010680	99.14	60	125	
Rh	103	He	3357320.91	1.7	3311982.79	101.37	60	125	
In	115	No Gas	7706205.25	1.7	7846251.35	98.22	60	125	
Lu	175	No Gas	39062.14	1.2	38999.68	100.16	60	125	

7900 ICP-MS 200.8/6020A
Interference Check Solution A (ICSA) Report

Sample Name	ICSA
File Name	023ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:57:58
Sample Type	ICSA
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	85.1	61.11	
Al	27	72	No Gas	17853.400	ppb	10.2	511574984.11	
V	51	72	He	0.031	ppb	41.6	1507.86	
Cr	52	72	No Gas	0.489	ppb	16.6	62898.52	
Mn	55	72	No Gas	0.074	ppb	4.5	14522.97	
Co	59	72	He	0.062	ppb	5.8	1151.16	
Ni	60	72	No Gas	0.306	ppb	11.8	4547.41	
Cu	63	72	No Gas	0.779	ppb	11.6	27455.87	
Zn	66	72	No Gas	0.529	ppb	14.4	9436.53	
As	75	72	No Gas	0.129	ppb	107.2	1117.25	
Se	78	72	He	0.187	ppb	24.2	120.67	
Se	82	72	No Gas	0.186	ppb	137.1	249.61	
Mo	98	89	No Gas	381.581	ppb	5.6	10560617.04	
Ag	107	89	No Gas	0.048	ppb	7.3	2492.46	
Cd	111	89	No Gas	0.087	ppb	15.4	3705.45	
Sb	123	89	No Gas	0.268	ppb	69.5	13053.69	
Ba	137	115	No Gas	0.130	ppb	5.2	2156.85	
Tl	203	115	No Gas	0.034	ppb	28.3	1034.49	
Pb	208	115	No Gas	0.053	ppb	13.8	5420.46	
Th	232	115	No Gas	0.485	ppb	7.7	40051.78	
U	238	115	No Gas	0.013	ppb	43.8	1072.28	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37333320.74	1.1	38013970.71	98.21	60	125	
Sc	45	He	2441289.14	5.0	2389810.11	102.15	60	125	
Ge	72	No Gas	5380569.92	2.7	5473324.5	98.31	60	125	
Ge	72	He	803787.87	0.9	817172.85	98.36	60	125	
Y	89	No Gas	8035779.96	2.1	8234261.89	97.59	60	125	
Y	89	He	1333614.84	1.4	1341372.1	99.42	60	125	
Rh	103	No Gas	6519627.79	1.5	7010680	93	60	125	
Rh	103	He	3148100.57	3.3	3311982.79	95.05	60	125	
In	115	No Gas	7507078.87	1.3	7846251.35	95.68	60	125	
Lu	175	No Gas	37662.64	0.8	38999.68	96.57	60	125	

7900 ICP-MS 200.8/6020A
Interference Check Solution AB (ICSAB) Report

Sample Name	ICSAB
File Name	024ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 10:59:50
Sample Type	ICSB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	18.623	ppb	11.6	65923.44	
Al	27	72	No Gas	18153.177	ppb	9.8	512435801.86	
V	51	72	He	20.685	ppb	1.2	183174.17	
Cr	52	72	No Gas	18.357	ppb	9.7	921910.92	
Mn	55	72	No Gas	18.487	ppb	11.5	1257836.41	
Co	59	72	He	19.393	ppb	0.3	338254.99	
Ni	60	72	No Gas	18.837	ppb	10.5	248945.05	
Cu	63	72	No Gas	19.092	ppb	10.1	622594.52	
Zn	66	72	No Gas	18.960	ppb	9.9	162416.64	
As	75	72	No Gas	19.120	ppb	8.8	182069.80	
Se	78	72	He	20.511	ppb	4.7	2352.86	
Se	82	72	No Gas	19.749	ppb	8.9	12017.31	
Mo	98	89	No Gas	383.482	ppb	5.3	10789894.85	
Ag	107	89	No Gas	17.845	ppb	8.3	802452.40	
Cd	111	89	No Gas	18.177	ppb	9.0	175081.11	
Sb	123	89	No Gas	19.537	ppb	7.8	580623.66	
Ba	137	115	No Gas	20.449	ppb	6.2	313988.94	
Tl	203	115	No Gas	18.484	ppb	8.2	470026.96	
Pb	208	115	No Gas	19.228	ppb	7.5	1529793.87	
Th	232	115	No Gas	0.140	ppb	22.3	15993.49	> +/- 10%
U	238	115	No Gas	19.991	ppb	7.6	1335093.04	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37393054.07	1.8	38013970.71	98.37	60	125	
Sc	45	He	2389981.99	1.7	2389810.11	100.01	60	125	
Ge	72	No Gas	5296671.46	1.5	5473324.5	96.77	60	125	
Ge	72	He	812568.27	1.5	817172.85	99.44	60	125	
Y	89	No Gas	8165059.40	0.8	8234261.89	99.16	60	125	
Y	89	He	1332943.25	1.6	1341372.1	99.37	60	125	
Rh	103	No Gas	6685031.54	2.6	7010680	95.35	60	125	
Rh	103	He	3218635.15	0.9	3311982.79	97.18	60	125	
In	115	No Gas	7618828.58	1.4	7846251.35	97.1	60	125	
Lu	175	No Gas	37791.81	1.3	38999.68	96.9	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	025_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:01:42
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.666	ppb	9.3	163880.48	91.33	
Al	27	72	No Gas	46.486	ppb	7.5	1372935.05	92.97	
V	51	72	He	48.248	ppb	2.0	434753.02	96.5	
Cr	52	72	No Gas	46.385	ppb	6.1	2336698.66	92.77	
Mn	55	72	No Gas	45.872	ppb	6.4	3195980.50	91.74	
Co	59	72	He	48.452	ppb	2.1	863019.01	96.9	
Ni	60	72	No Gas	45.920	ppb	6.3	623494.39	91.84	
Cu	63	72	No Gas	47.059	ppb	7.9	1575671.43	94.12	
Zn	66	72	No Gas	46.810	ppb	6.6	404999.87	93.62	
As	75	72	No Gas	47.464	ppb	6.3	465122.52	94.93	
Se	78	72	He	50.586	ppb	0.8	5775.52	101.17	
Se	82	72	No Gas	48.500	ppb	5.1	30148.06	97	
Mo	98	89	No Gas	47.466	ppb	8.3	1351930.57	94.93	
Ag	107	89	No Gas	49.294	ppb	11.5	2239320.74	98.59	
Cd	111	89	No Gas	47.513	ppb	8.9	457825.48	95.03	
Sb	123	89	No Gas	47.138	ppb	7.3	1408491.44	94.28	
Ba	137	115	No Gas	48.368	ppb	6.6	765419.22	96.74	
Tl	203	115	No Gas	48.096	ppb	8.3	1260570.54	96.19	
Pb	208	115	No Gas	47.369	ppb	7.6	3882788.36	94.74	
Th	232	115	No Gas	48.862	ppb	4.0	3599019.23	97.72	
U	238	115	No Gas	49.941	ppb	6.6	3437758.82	99.88	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37924097.38	2.0	38013970.71	99.76	60	125	
Sc	45	He	2422112.89	1.8	2389810.11	101.35	60	125	
Ge	72	No Gas	5440344.09	2.4	5473324.5	99.4	60	125	
Ge	72	He	830162.66	2.0	817172.85	101.59	60	125	
Y	89	No Gas	8258406.34	1.8	8234261.89	100.29	60	125	
Y	89	He	1352746.86	2.2	1341372.1	100.85	60	125	
Rh	103	No Gas	6990333.47	3.8	7010680	99.71	60	125	
Rh	103	He	3370678.69	1.1	3311982.79	101.77	60	125	
In	115	No Gas	7852800.24	2.2	7846251.35	100.08	60	125	
Lu	175	No Gas	37407.41	2.2	38999.68	95.92	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	026_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:03:29
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	76.1	28.89	
Al	27	72	No Gas	-0.188	ppb	N/A	17497.66	
V	51	72	He	-0.027	ppb	N/A	1018.93	
Cr	52	72	No Gas	-0.107	ppb	N/A	34178.58	
Mn	55	72	No Gas	-0.009	ppb	N/A	8846.10	
Co	59	72	He	0.002	ppb	40.4	118.89	
Ni	60	72	No Gas	0.009	ppb	106.9	576.68	
Cu	63	72	No Gas	0.012	ppb	29.1	2152.39	
Zn	66	72	No Gas	-0.264	ppb	N/A	2770.28	
As	75	72	No Gas	0.171	ppb	137.2	1508.42	
Se	78	72	He	0.112	ppb	152.0	115.00	
Se	82	72	No Gas	0.099	ppb	55.1	200.90	
Mo	98	89	No Gas	0.082	ppb	135.3	4582.17	
Ag	107	89	No Gas	0.008	ppb	44.6	690.02	
Cd	111	89	No Gas	-0.001	ppb	N/A	2850.90	
Sb	123	89	No Gas	0.057	ppb	199.8	6910.95	
Ba	137	115	No Gas	-0.001	ppb	N/A	178.89	
Tl	203	115	No Gas	0.017	ppb	2.0	614.46	
Pb	208	115	No Gas	0.005	ppb	60.8	1694.49	
Th	232	115	No Gas	0.088	ppb	16.6	12499.53	
U	238	115	No Gas	0.003	ppb	53.4	424.45	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	36267949.67	2.8	38013970.71	95.41	60	125	
Sc	45	He	2388597.06	4.9	2389810.11	99.95	60	125	
Ge	72	No Gas	5435080.20	1.8	5473324.5	99.3	60	125	
Ge	72	He	819927.64	1.9	817172.85	100.34	60	125	
Y	89	No Gas	7955356.35	2.7	8234261.89	96.61	60	125	
Y	89	He	1345944.11	2.0	1341372.1	100.34	60	125	
Rh	103	No Gas	6815901.54	3.6	7010680	97.22	60	125	
Rh	103	He	3338724.66	2.9	3311982.79	100.81	60	125	
In	115	No Gas	7701175.80	2.1	7846251.35	98.15	60	125	
Lu	175	No Gas	36622.99	1.6	38999.68	93.91	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW-434684
File Name	027_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:05:26
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	-0.001	ppb	N/A	16.66	
Al	27	72	No Gas	0.580	ppb	22.4	38506.15	
V	51	72	He	-0.012	ppb	N/A	1153.38	
Cr	52	72	No Gas	0.001	ppb	629.8	38334.79	
Mn	55	72	No Gas	0.003	ppb	348.4	9420.90	
Co	59	72	He	0.001	ppb	208.3	86.67	
Ni	60	72	No Gas	0.011	ppb	28.0	585.57	
Cu	63	72	No Gas	0.006	ppb	54.1	1896.80	
Zn	66	72	No Gas	1.121	ppb	4.6	14149.33	
As	75	72	No Gas	0.107	ppb	102.6	882.21	
Se	78	72	He	-0.051	ppb	N/A	96.67	
Se	82	72	No Gas	0.184	ppb	102.8	248.90	
Mo	98	89	No Gas	0.010	ppb	594.8	2657.22	
Ag	107	89	No Gas	0.002	ppb	4.1	444.45	
Cd	111	89	No Gas	-0.004	ppb	N/A	2865.32	
Sb	123	89	No Gas	-0.051	ppb	N/A	3898.43	
Ba	137	115	No Gas	0.000	ppb	N/A	202.23	
Tl	203	115	No Gas	0.003	ppb	30.2	262.23	
Pb	208	115	No Gas	-0.002	ppb	N/A	1185.58	
Th	232	115	No Gas	0.017	ppb	11.7	7576.72	
U	238	115	No Gas	0.000	ppb	N/A	215.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	36757898.54	1.4	38013970.71	96.7	60	125	
Sc	45	He	2437475.32	1.9	2389810.11	101.99	60	125	
Ge	72	No Gas	5273794.79	4.2	5473324.5	96.35	60	125	
Ge	72	He	818606.91	1.0	817172.85	100.18	60	125	
Y	89	No Gas	8065744.96	2.0	8234261.89	97.95	60	125	
Y	89	He	1343780.88	1.5	1341372.1	100.18	60	125	
Rh	103	No Gas	7017707.78	1.3	7010680	100.1	60	125	
Rh	103	He	3371804.94	2.0	3311982.79	101.81	60	125	
In	115	No Gas	7965571.90	1.5	7846251.35	101.52	60	125	
Lu	175	No Gas	36834.60	1.5	38999.68	94.45	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434684
File Name	028_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:07:23
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	19.562	ppb	6.8	67157.67	97.81	
Al	27	72	No Gas	40.238	ppb	5.7	1144433.26	100.59	
V	51	72	He	19.879	ppb	0.7	177538.81	99.4	
Cr	52	72	No Gas	19.646	ppb	5.3	972172.49	98.23	
Mn	55	72	No Gas	19.972	ppb	6.3	1342059.01	99.86	
Co	59	72	He	20.466	ppb	0.7	359879.63	102.33	
Ni	60	72	No Gas	19.874	ppb	7.2	259466.24	99.37	
Cu	63	72	No Gas	20.566	ppb	5.0	662528.48	102.83	
Zn	66	72	No Gas	20.452	ppb	6.8	172693.99	102.26	
As	75	72	No Gas	20.470	ppb	6.7	192570.86	102.35	
Se	78	72	He	20.720	ppb	2.6	2395.20	103.6	
Se	82	72	No Gas	20.904	ppb	7.8	12556.91	104.52	
Mo	98	89	No Gas	20.226	ppb	3.7	559037.31	101.13	
Ag	107	89	No Gas	19.916	ppb	1.8	876183.42	99.58	
Cd	111	89	No Gas	20.026	ppb	3.7	188467.21	100.13	
Sb	123	89	No Gas	20.657	ppb	3.9	600374.72	103.29	
Ba	137	115	No Gas	19.678	ppb	4.6	306368.54	98.39	
Tl	203	115	No Gas	20.032	ppb	2.9	516466.37	100.16	
Pb	208	115	No Gas	19.926	ppb	2.9	1607320.28	99.63	
Th	232	115	No Gas	20.226	ppb	4.2	1468829.32	101.13	
U	238	115	No Gas	20.700	ppb	3.7	1401700.46	103.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	36250701.89	0.8	38013970.71	95.36	60	125	
Sc	45	He	2396310.18	4.7	2389810.11	100.27	60	125	
Ge	72	No Gas	5230111.60	1.2	5473324.5	95.56	60	125	
Ge	72	He	819196.03	1.6	817172.85	100.25	60	125	
Y	89	No Gas	7985321.07	1.7	8234261.89	96.98	60	125	
Y	89	He	1353149.74	2.6	1341372.1	100.88	60	125	
Rh	103	No Gas	6792264.87	2.6	7010680	96.88	60	125	
Rh	103	He	3332962.51	4.2	3311982.79	100.63	60	125	
In	115	No Gas	7719054.69	1.3	7846251.35	98.38	60	125	
Lu	175	No Gas	37808.45	1.1	38999.68	96.95	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401517-005
File Name	029SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:09:20
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	56.0	50.00	
Al	27	72	No Gas	90.298	ppb	6.8	2355825.60	
V	51	72	He	0.308	ppb	10.3	3622.69	
Cr	52	72	No Gas	0.820	ppb	12.2	71348.08	
Mn	55	72	No Gas	64.979	ppb	4.7	4030723.31	
Co	59	72	He	0.281	ppb	3.6	4558.52	
Ni	60	72	No Gas	3.941	ppb	7.2	48049.76	
Cu	63	72	No Gas	15.313	ppb	4.4	458007.88	
Zn	66	72	No Gas	45.412	ppb	4.2	350206.30	
As	75	72	No Gas	0.388	ppb	60.1	3229.80	
Se	78	72	He	0.128	ppb	112.9	105.67	
Se	82	72	No Gas	0.514	ppb	51.2	409.77	
Mo	98	89	No Gas	0.532	ppb	10.6	16018.95	
Ag	107	89	No Gas	0.028	ppb	34.4	1501.26	
Cd	111	89	No Gas	0.048	ppb	61.6	3117.55	
Sb	123	89	No Gas	0.138	ppb	29.1	8782.90	
Ba	137	115	No Gas	45.062	ppb	5.2	639929.11	
Tl	203	115	No Gas	0.030	ppb	21.9	865.59	
Pb	208	115	No Gas	0.413	ppb	4.0	31590.49	
Th	232	115	No Gas	0.120	ppb	9.4	13506.07	
U	238	115	No Gas	0.336	ppb	6.0	20949.55	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34713520.84	2.3	38013970.71	91.32	60	125	
Sc	45	He	2178479.98	1.7	2389810.11	91.16	60	125	
Ge	72	No Gas	4849138.84	1.8	5473324.5	88.6	60	125	
Ge	72	He	743441.34	1.7	817172.85	90.98	60	125	
Y	89	No Gas	7519450.81	3.9	8234261.89	91.32	60	125	
Y	89	He	1266129.39	0.5	1341372.1	94.39	60	125	
Rh	103	No Gas	6021732.12	3.0	7010680	85.89	60	125	
Rh	103	He	2862662.04	1.2	3311982.79	86.43	60	125	
In	115	No Gas	7049221.39	1.5	7846251.35	89.84	60	125	
Lu	175	No Gas	36395.65	0.9	38999.68	93.32	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401523-001 10X
File Name	030SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:11:13
Sample Type	Sample
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	-0.002	ppb	N/A	14.45	
Al	27	72	No Gas	-0.040	ppb	N/A	20787.13	
V	51	72	He	-0.006	ppb	N/A	1178.94	
Cr	52	72	No Gas	0.555	ppb	3.7	63805.53	
Mn	55	72	No Gas	1.633	ppb	2.7	117218.67	
Co	59	72	He	0.022	ppb	3.9	450.01	
Ni	60	72	No Gas	0.265	ppb	5.4	3857.21	
Cu	63	72	No Gas	3.705	ppb	2.3	119791.15	
Zn	66	72	No Gas	125.996	ppb	1.9	1030626.69	>LDR
As	75	72	No Gas	0.149	ppb	58.2	1229.28	
Se	78	72	He	0.025	ppb	143.1	103.00	
Se	82	72	No Gas	0.192	ppb	16.9	246.49	
Mo	98	89	No Gas	0.323	ppb	8.7	11244.37	
Ag	107	89	No Gas	0.007	ppb	22.8	633.35	
Cd	111	89	No Gas	0.004	ppb	385.2	2902.73	
Sb	123	89	No Gas	-0.065	ppb	N/A	3448.23	
Ba	137	115	No Gas	1.362	ppb	3.2	20675.93	
Tl	203	115	No Gas	0.033	ppb	4.9	993.37	
Pb	208	115	No Gas	-0.003	ppb	N/A	1068.91	
Th	232	115	No Gas	0.073	ppb	23.6	11037.08	
U	238	115	No Gas	0.001	ppb	41.7	292.23	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	35966028.57	0.9	38013970.71	94.61	60	125	
Sc	45	He	2267680.05	3.9	2389810.11	94.89	60	125	
Ge	72	No Gas	5185530.49	2.5	5473324.5	94.74	60	125	
Ge	72	He	803034.43	2.1	817172.85	98.27	60	125	
Y	89	No Gas	7970178.29	1.4	8234261.89	96.79	60	125	
Y	89	He	1314589.46	2.0	1341372.1	98	60	125	
Rh	103	No Gas	6469380.30	2.1	7010680	92.28	60	125	
Rh	103	He	3104962.58	5.0	3311982.79	93.75	60	125	
In	115	No Gas	7465103.87	0.3	7846251.35	95.14	60	125	
Lu	175	No Gas	37412.95	1.9	38999.68	95.93	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401527-015
File Name	031SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:13:09
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.008	ppb	18.5	45.56	
Al	27	72	No Gas	182.460	ppb	5.5	4869685.78	>LDR
V	51	72	He	0.690	ppb	6.5	7070.65	
Cr	52	72	No Gas	1.447	ppb	6.7	101690.72	
Mn	55	72	No Gas	131.492	ppb	5.8	8370091.89	>LDR
Co	59	72	He	0.327	ppb	4.0	5586.67	
Ni	60	72	No Gas	1.944	ppb	4.9	24566.92	
Cu	63	72	No Gas	91.464	ppb	5.7	2801567.53	
Zn	66	72	No Gas	83.105	ppb	5.0	654514.37	
As	75	72	No Gas	0.999	ppb	25.6	8831.09	
Se	78	72	He	0.568	ppb	1.9	158.33	
Se	82	72	No Gas	1.001	ppb	18.8	695.11	
Mo	98	89	No Gas	0.695	ppb	6.9	21240.64	
Ag	107	89	No Gas	0.395	ppb	5.8	17505.64	
Cd	111	89	No Gas	0.060	ppb	21.6	3388.98	
Sb	123	89	No Gas	0.157	ppb	17.9	9732.41	
Ba	137	115	No Gas	141.218	ppb	2.6	1984024.23	>LDR
Tl	203	115	No Gas	0.002	ppb	86.9	220.00	
Pb	208	115	No Gas	1.545	ppb	5.6	113641.74	
Th	232	115	No Gas	-0.003	ppb	N/A	5320.03	
U	238	115	No Gas	0.665	ppb	5.6	40851.38	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34960153.06	1.7	38013970.71	91.97	60	125	
Sc	45	He	2319115.05	0.9	2389810.11	97.04	60	125	
Ge	72	No Gas	4979414.52	1.4	5473324.5	90.98	60	125	
Ge	72	He	785585.09	1.8	817172.85	96.13	60	125	
Y	89	No Gas	7888398.30	2.6	8234261.89	95.8	60	125	
Y	89	He	1321226.30	1.9	1341372.1	98.5	60	125	
Rh	103	No Gas	6443295.58	1.6	7010680	91.91	60	125	
Rh	103	He	3116487.10	1.7	3311982.79	94.1	60	125	
In	115	No Gas	6975274.59	2.9	7846251.35	88.9	60	125	
Lu	175	No Gas	37098.75	1.0	38999.68	95.13	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401534-001
File Name	032_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:15:01
Sample Type	AllRef
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.003	ppb	56.0	30.00
Al	27	72	No Gas	7.967	ppb	4.9	244435.94
Cr	52	72	No Gas	0.141	ppb	22.2	44706.49
Mn	55	72	No Gas	6.714	ppb	6.1	457538.76
Ni	60	72	No Gas	0.624	ppb	9.1	8575.96
Cu	63	72	No Gas	15.332	ppb	5.2	494528.19
Zn	66	72	No Gas	14.143	ppb	5.0	120989.27
As	75	72	No Gas	0.129	ppb	74.3	1079.68
Se	82	72	No Gas	0.265	ppb	28.5	291.57
Mo	98	89	No Gas	0.190	ppb	9.8	7369.86
Ag	107	89	No Gas	0.009	ppb	12.0	734.47
Cd	111	89	No Gas	0.008	ppb	105.3	2850.19
Sb	123	89	No Gas	-0.102	ppb	N/A	2317.99
Ba	137	115	No Gas	65.005	ppb	4.0	958009.06
Tl	203	115	No Gas	-0.004	ppb	N/A	83.33
Pb	208	115	No Gas	0.095	ppb	4.9	8464.44
Th	232	115	No Gas	0.110	ppb	40.6	13375.13
U	238	115	No Gas	0.109	ppb	5.9	7204.29
V	51	72	He	0.041	ppb	41.4	1568.98
Co	59	72	He	0.051	ppb	0.8	942.26
Se	78	72	He	-0.053	ppb	N/A	93.67

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	34472631.96	1.5	38013970.71	90.68	60	125
Sc	45	He	2352886.50	4.2	2389810.11	98.45	60	125
Ge	72	No Gas	5232007.71	3.3	5473324.5	95.59	60	125
Ge	72	He	795690.98	2.2	817172.85	97.37	60	125
Y	89	No Gas	7721558.03	4.1	8234261.89	93.77	60	125
Y	89	He	1315992.00	1.2	1341372.1	98.11	60	125
Rh	103	No Gas	6222932.81	2.7	7010680	88.76	60	125
Rh	103	He	3060881.75	1.7	3311982.79	92.42	60	125
In	115	No Gas	7312678.32	1.0	7846251.35	93.2	60	125
Lu	175	No Gas	35919.96	1.3	38999.68	92.1	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401534-001S
File Name	033_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:16:57
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	032_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	19.834	ppb	4.3	65499.56	0.003	99.15	
Al	27	No Gas	45.113	ppb	5.2	1253765.19	7.967	94.05	
V	51	He	19.906	ppb	1.2	175211.05	0.041	99.33	
Cr	52	No Gas	19.922	ppb	4.9	965160.94	0.141	98.91	
Mn	55	No Gas	26.897	ppb	5.8	1767799.00	6.714	100.69	
Co	59	He	19.288	ppb	0.2	334270.30	0.051	96.2	
Ni	60	No Gas	19.420	ppb	4.0	248406.75	0.624	94.16	
Cu	63	No Gas	34.968	ppb	4.6	1102376.59	15.332	98.97	
Zn	66	No Gas	33.704	ppb	3.8	275730.35	14.143	98.72	
As	75	No Gas	20.857	ppb	3.7	192209.94	0.129	103.62	
Se	78	He	10.509	ppb	1.4	1246.72	-0.053	52.68	> +/- 25%
Se	82	No Gas	10.378	ppb	5.0	6174.60	0.265	51.21	> +/- 25%
Mo	98	No Gas	21.121	ppb	5.7	562679.50	0.19	104.61	
Ag	107	No Gas	19.069	ppb	5.6	808899.57	0.009	95.3	
Cd	111	No Gas	19.652	ppb	3.8	178351.47	0.008	98.22	
Sb	123	No Gas	20.939	ppb	5.1	586660.06	-0.102	105.23	
Ba	137	No Gas	85.316	ppb	5.8	1267146.44	65.005	100.37	
Tl	203	No Gas	19.581	ppb	5.6	481873.32	-0.004	97.92	
Pb	208	No Gas	19.515	ppb	5.4	1502626.51	0.095	97.12	
Th	232	No Gas	20.849	ppb	5.6	1444812.89	0.11	103.67	
U	238	No Gas	21.640	ppb	5.0	1398620.78	0.109	107.61	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34823800.84	3.7	38013970.71	91.61	60	125	
Sc	45	He	2317964.42	0.3	2389810.11	96.99	60	125	
Ge	72	No Gas	5118771.32	1.9	5473324.5	93.52	60	125	
Ge	72	He	807380.40	0.5	817172.85	98.8	60	125	
Y	89	No Gas	7699214.14	0.2	8234261.89	93.5	60	125	
Y	89	He	1332160.71	0.7	1341372.1	99.31	60	125	
Rh	103	No Gas	6299659.89	1.8	7010680	89.86	60	125	
Rh	103	He	3027565.71	1.5	3311982.79	91.41	60	125	
In	115	No Gas	7371979.43	1.7	7846251.35	93.96	60	125	
Lu	175	No Gas	36624.02	3.2	38999.68	93.91	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401534-001SD
File Name	034_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:18:51
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	033_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	19.709	ppb	6.5	65258.59	19.834	0.63	
Al	27	No Gas	44.302	ppb	7.0	1239763.87	45.113	1.81	
V	51	He	19.829	ppb	2.0	174123.88	19.906	0.39	
Cr	52	No Gas	19.343	ppb	7.2	944080.97	19.922	2.95	
Mn	55	No Gas	26.564	ppb	8.9	1757143.64	26.897	1.24	
Co	59	He	19.235	ppb	2.7	332453.88	19.288	0.28	
Ni	60	No Gas	19.197	ppb	5.5	247156.64	19.42	1.16	
Cu	63	No Gas	34.791	ppb	8.0	1103835.62	34.968	0.51	
Zn	66	No Gas	33.000	ppb	7.0	271838.81	33.704	2.11	
As	75	No Gas	20.099	ppb	6.8	186411.47	20.857	3.7	
Se	78	He	10.449	ppb	1.9	1237.06	10.509	0.57	
Se	82	No Gas	9.765	ppb	7.6	5855.53	10.378	6.08	
Mo	98	No Gas	21.113	ppb	4.3	555488.41	21.121	0.03	
Ag	107	No Gas	19.281	ppb	7.2	807495.13	19.069	1.11	
Cd	111	No Gas	19.502	ppb	6.5	174784.11	19.652	0.77	
Sb	123	No Gas	20.917	ppb	5.5	578689.54	20.939	0.1	
Ba	137	No Gas	86.228	ppb	3.6	1257496.34	85.316	1.06	
Tl	203	No Gas	19.715	ppb	3.1	476283.37	19.581	0.68	
Pb	208	No Gas	19.391	ppb	4.1	1465406.88	19.515	0.64	
Th	232	No Gas	20.938	ppb	3.3	1424136.09	20.849	0.43	
U	238	No Gas	21.725	ppb	3.4	1378276.51	21.64	0.39	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34954641.94	2.7	38013970.71	91.95	60	125	
Sc	45	He	2310166.09	6.5	2389810.11	96.67	60	125	
Ge	72	No Gas	5154895.21	0.9	5473324.5	94.18	60	125	
Ge	72	He	805602.76	2.4	817172.85	98.58	60	125	
Y	89	No Gas	7604313.59	2.8	8234261.89	92.35	60	125	
Y	89	He	1343521.72	3.1	1341372.1	100.16	60	125	
Rh	103	No Gas	6313689.06	2.6	7010680	90.06	60	125	
Rh	103	He	3079661.34	4.5	3311982.79	92.99	60	125	
In	115	No Gas	7236078.60	4.5	7846251.35	92.22	60	125	
Lu	175	No Gas	36629.56	2.4	38999.68	93.92	60	125	

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401534-001A
File Name	035_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:20:45
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	032_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	22.290	ppb	6.8	72705.68	0.003	111.43	
Al	27	No Gas	47.729	ppb	6.0	1348920.37	7.967	99.51	
V	51	He	21.867	ppb	1.4	192625.52	0.041	109.11	
Cr	52	No Gas	21.198	ppb	7.2	1042642.08	0.141	105.25	
Mn	55	No Gas	28.330	ppb	8.4	1894069.13	6.714	106.05	
Co	59	He	21.013	ppb	0.7	364656.74	0.051	104.8	
Ni	60	No Gas	20.750	ppb	6.9	270069.46	0.624	100.61	
Cu	63	No Gas	36.125	ppb	6.5	1158888.49	15.332	102.24	
Zn	66	No Gas	35.597	ppb	6.3	296093.19	14.143	104.26	
As	75	No Gas	22.410	ppb	5.8	210203.94	0.129	111.33	
Se	78	He	23.638	ppb	1.4	2681.92	-0.053	118.5	
Se	82	No Gas	22.586	ppb	6.4	13516.49	0.265	111.45	
Mo	98	No Gas	22.469	ppb	5.3	619822.84	0.19	111.29	
Ag	107	No Gas	16.183	ppb	7.1	710868.91	0.009	80.88	
Cd	111	No Gas	21.072	ppb	6.0	197840.60	0.008	105.32	
Sb	123	No Gas	21.319	ppb	5.9	618519.23	-0.102	107.14	
Ba	137	No Gas	87.137	ppb	4.6	1320323.21	65.005	102.51	
Tl	203	No Gas	21.377	ppb	4.3	536711.11	-0.004	106.91	
Pb	208	No Gas	20.739	ppb	4.1	1629054.46	0.095	103.21	
Th	232	No Gas	22.409	ppb	5.1	1584155.21	0.11	111.43	
U	238	No Gas	23.197	ppb	4.7	1529582.16	0.109	115.36	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34406734.19	1.6	38013970.71	90.51	60	125	
Sc	45	He	2422816.09	2.3	2389810.11	101.38	60	125	
Ge	72	No Gas	5212174.51	0.7	5473324.5	95.23	60	125	
Ge	72	He	808501.50	1.0	817172.85	98.94	60	125	
Y	89	No Gas	7975604.13	1.5	8234261.89	96.86	60	125	
Y	89	He	1347096.55	2.1	1341372.1	100.43	60	125	
Rh	103	No Gas	6516126.96	2.0	7010680	92.95	60	125	
Rh	103	He	3142390.71	2.1	3311982.79	94.88	60	125	
In	115	No Gas	7517524.43	1.0	7846251.35	95.81	60	125	
Lu	175	No Gas	37012.93	2.6	38999.68	94.91	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401534-001L 5X
File Name	036SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:22:40
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	19.4	27.78	
Al	27	72	No Gas	1.592	ppb	1.6	66381.09	
V	51	72	He	0.033	ppb	12.4	1565.65	
Cr	52	72	No Gas	0.120	ppb	6.2	43590.73	
Mn	55	72	No Gas	1.451	ppb	4.1	105824.14	
Co	59	72	He	0.010	ppb	20.2	248.89	
Ni	60	72	No Gas	0.134	ppb	4.5	2176.84	
Cu	63	72	No Gas	3.308	ppb	4.1	107796.48	
Zn	66	72	No Gas	2.700	ppb	3.3	26951.36	
As	75	72	No Gas	0.110	ppb	52.6	885.69	
Se	78	72	He	-0.057	ppb	N/A	96.67	
Se	82	72	No Gas	0.182	ppb	56.2	242.57	
Mo	98	89	No Gas	0.009	ppb	357.1	2574.56	
Ag	107	89	No Gas	0.008	ppb	45.5	684.46	
Cd	111	89	No Gas	0.027	ppb	63.3	3061.80	
Sb	123	89	No Gas	-0.036	ppb	N/A	4208.50	
Ba	137	115	No Gas	12.658	ppb	2.2	193727.97	
Tl	203	115	No Gas	-0.001	ppb	N/A	164.45	
Pb	208	115	No Gas	0.020	ppb	9.3	2875.69	
Th	232	115	No Gas	0.040	ppb	14.1	8866.44	
U	238	115	No Gas	0.025	ppb	6.7	1865.69	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	35898165.24	1.5	38013970.71	94.43	60	125	
Sc	45	He	2381118.31	0.5	2389810.11	99.64	60	125	
Ge	72	No Gas	5217937.43	1.1	5473324.5	95.33	60	125	
Ge	72	He	825419.67	2.7	817172.85	101.01	60	125	
Y	89	No Gas	7835868.02	1.8	8234261.89	95.16	60	125	
Y	89	He	1362971.06	3.0	1341372.1	101.61	60	125	
Rh	103	No Gas	6743254.45	3.1	7010680	96.19	60	125	
Rh	103	He	3274633.27	3.2	3311982.79	98.87	60	125	
In	115	No Gas	7587519.70	1.1	7846251.35	96.7	60	125	
Lu	175	No Gas	37818.54	1.4	38999.68	96.97	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	037_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:24:34
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	47.511	ppb	7.9	163889.18	95.02	
Al	27	72	No Gas	50.299	ppb	7.7	1424751.02	100.6	
V	51	72	He	48.668	ppb	0.8	425382.39	97.34	
Cr	52	72	No Gas	48.917	ppb	5.4	2364088.66	97.83	
Mn	55	72	No Gas	47.789	ppb	9.0	3197807.10	95.58	
Co	59	72	He	49.567	ppb	0.4	856443.58	99.13	
Ni	60	72	No Gas	47.364	ppb	9.4	617645.24	94.73	
Cu	63	72	No Gas	48.544	ppb	6.0	1561518.13	97.09	
Zn	66	72	No Gas	48.036	ppb	8.0	399056.78	96.07	
As	75	72	No Gas	48.366	ppb	8.2	455132.72	96.73	
Se	78	72	He	52.462	ppb	0.4	5804.86	104.92	
Se	82	72	No Gas	48.773	ppb	8.0	29117.15	97.55	
Mo	98	89	No Gas	48.605	ppb	5.5	1319836.87	97.21	
Ag	107	89	No Gas	49.704	ppb	6.1	2153732.83	99.41	
Cd	111	89	No Gas	48.563	ppb	4.8	446051.44	97.13	
Sb	123	89	No Gas	47.613	ppb	3.6	1356027.59	95.23	
Ba	137	115	No Gas	50.126	ppb	10.2	750720.02	100.25	
Tl	203	115	No Gas	49.288	ppb	10.4	1222681.27	98.58	
Pb	208	115	No Gas	49.279	ppb	10.7	3823906.84	98.56	
Th	232	115	No Gas	50.073	ppb	10.0	3491421.87	100.15	
U	238	115	No Gas	51.745	ppb	11.1	3370857.37	103.49	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	36404295.22	0.6	38013970.71	95.77	60	125	
Sc	45	He	2346238.80	2.7	2389810.11	98.18	60	125	
Ge	72	No Gas	5230436.04	1.2	5473324.5	95.56	60	125	
Ge	72	He	805116.27	1.1	817172.85	98.52	60	125	
Y	89	No Gas	7862059.13	1.9	8234261.89	95.48	60	125	
Y	89	He	1354211.23	0.5	1341372.1	100.96	60	125	
Rh	103	No Gas	6967723.34	2.0	7010680	99.39	60	125	
Rh	103	He	3314366.26	1.8	3311982.79	100.07	60	125	
In	115	No Gas	7456869.15	5.1	7846251.35	95.04	60	125	
Lu	175	No Gas	38566.28	0.9	38999.68	98.89	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	038_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:26:21
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	134.0	31.11	
Al	27	72	No Gas	-0.305	ppb	N/A	13764.34	
V	51	72	He	0.026	ppb	36.0	1491.19	
Cr	52	72	No Gas	0.046	ppb	123.5	40550.83	
Mn	55	72	No Gas	0.015	ppb	4.4	10254.81	
Co	59	72	He	0.001	ppb	62.0	102.22	
Ni	60	72	No Gas	0.001	ppb	704.6	460.01	
Cu	63	72	No Gas	0.030	ppb	4.7	2689.15	
Zn	66	72	No Gas	-0.276	ppb	N/A	2601.36	
As	75	72	No Gas	0.035	ppb	698.0	148.23	
Se	78	72	He	-0.030	ppb	N/A	99.00	
Se	82	72	No Gas	0.043	ppb	261.3	161.03	
Mo	98	89	No Gas	-0.009	ppb	N/A	2134.31	
Ag	107	89	No Gas	0.008	ppb	29.0	705.58	
Cd	111	89	No Gas	0.014	ppb	70.4	3013.72	
Sb	123	89	No Gas	0.028	ppb	329.2	6133.80	
Ba	137	115	No Gas	0.003	ppb	93.4	238.89	
Tl	203	115	No Gas	0.010	ppb	15.9	437.78	
Pb	208	115	No Gas	0.005	ppb	34.3	1693.38	
Th	232	115	No Gas	0.091	ppb	31.1	12432.84	
U	238	115	No Gas	0.004	ppb	43.6	456.68	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	35421129.70	1.2	38013970.71	93.18	60	125	
Sc	45	He	2387403.93	3.4	2389810.11	99.9	60	125	
Ge	72	No Gas	5291707.01	3.5	5473324.5	96.68	60	125	
Ge	72	He	819694.31	0.9	817172.85	100.31	60	125	
Y	89	No Gas	8015334.96	2.2	8234261.89	97.34	60	125	
Y	89	He	1355799.88	1.3	1341372.1	101.08	60	125	
Rh	103	No Gas	6872597.78	3.3	7010680	98.03	60	125	
Rh	103	He	3356508.97	3.0	3311982.79	101.34	60	125	
In	115	No Gas	7534712.20	0.6	7846251.35	96.03	60	125	
Lu	175	No Gas	38450.50	1.5	38999.68	98.59	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401543-001
File Name	039_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:28:17
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.003	ppb	136.8	31.11
Al	27	72	No Gas	9.192	ppb	7.4	276762.75
Cr	52	72	No Gas	1.925	ppb	6.8	128765.01
Mn	55	72	No Gas	1.212	ppb	4.6	89485.89
Ni	60	72	No Gas	3.381	ppb	4.5	44269.49
Cu	63	72	No Gas	3.857	ppb	4.6	124943.79
Zn	66	72	No Gas	2.022	ppb	4.9	21316.18
As	75	72	No Gas	0.952	ppb	14.8	8790.00
Se	82	72	No Gas	6.197	ppb	5.1	3797.29
Mo	98	89	No Gas	7.796	ppb	4.9	216250.92
Ag	107	89	No Gas	0.009	ppb	29.1	756.69
Cd	111	89	No Gas	0.011	ppb	76.4	2965.96
Sb	123	89	No Gas	-0.004	ppb	N/A	5193.29
Ba	137	115	No Gas	28.728	ppb	4.9	428577.13
Tl	203	115	No Gas	0.039	ppb	3.5	1135.61
Pb	208	115	No Gas	0.033	ppb	4.6	3838.00
Th	232	115	No Gas	0.188	ppb	4.5	18927.54
U	238	115	No Gas	7.791	ppb	4.0	505695.62
V	51	72	He	1.416	ppb	2.7	13514.18
Co	59	72	He	0.306	ppb	2.0	5338.79
Se	78	72	He	4.892	ppb	3.7	629.68

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	35923268.57	1.1	38013970.71	94.5	60	125
Sc	45	He	2310592.20	4.6	2389810.11	96.69	60	125
Ge	72	No Gas	5198228.96	3.3	5473324.5	94.97	60	125
Ge	72	He	801317.12	1.8	817172.85	98.06	60	125
Y	89	No Gas	7962730.24	3.1	8234261.89	96.7	60	125
Y	89	He	1332501.93	2.0	1341372.1	99.34	60	125
Rh	103	No Gas	6329113.36	4.7	7010680	90.28	60	125
Rh	103	He	3072013.28	4.9	3311982.79	92.75	60	125
In	115	No Gas	7399971.93	1.1	7846251.35	94.31	60	125
Lu	175	No Gas	37908.78	1.8	38999.68	97.2	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401543-001S
File Name	040_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:30:13
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	039_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	19.382	ppb	8.8	64529.21	0.003	96.89	
Al	27	No Gas	49.060	ppb	6.4	1353878.14	9.192	99.73	
V	51	He	21.435	ppb	1.3	176048.90	1.416	100.09	
Cr	52	No Gas	20.986	ppb	5.6	1008628.02	1.925	95.72	
Mn	55	No Gas	20.246	ppb	5.8	1324628.04	1.212	95.45	
Co	59	He	19.389	ppb	1.1	313658.63	0.306	95.48	
Ni	60	No Gas	21.267	ppb	5.8	270374.91	3.381	90.96	
Cu	63	No Gas	22.235	ppb	4.6	697260.41	3.857	93.2	
Zn	66	No Gas	21.631	ppb	3.9	177568.51	2.022	98.23	
As	75	No Gas	21.188	ppb	3.9	194076.33	0.952	101.13	
Se	78	He	27.297	ppb	1.8	2872.63	4.892	109.66	
Se	82	No Gas	26.742	ppb	5.0	15606.92	6.197	102.08	
Mo	98	No Gas	28.059	ppb	5.4	757879.83	7.796	100.95	
Ag	107	No Gas	18.208	ppb	7.4	783638.21	0.009	91	
Cd	111	No Gas	18.590	ppb	4.9	171347.70	0.011	92.9	
Sb	123	No Gas	20.107	ppb	4.5	571839.54	-0.004	100.56	
Ba	137	No Gas	49.594	ppb	4.0	706885.58	28.728	101.78	
Tl	203	No Gas	19.628	ppb	4.3	463547.78	0.039	97.95	
Pb	208	No Gas	19.274	ppb	3.0	1424006.85	0.033	96.21	
Th	232	No Gas	20.953	ppb	3.3	1393405.36	0.188	103.79	
U	238	No Gas	29.507	ppb	2.7	1829800.69	7.791	106.18	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	35156953.05	0.7	38013970.71	92.48	60	125	
Sc	45	He	2177508.87	2.3	2389810.11	91.12	60	125	
Ge	72	No Gas	5088011.05	1.5	5473324.5	92.96	60	125	
Ge	72	He	753683.93	0.6	817172.85	92.23	60	125	
Y	89	No Gas	7813203.02	2.0	8234261.89	94.89	60	125	
Y	89	He	1259815.85	0.5	1341372.1	93.92	60	125	
Rh	103	No Gas	6202270.59	1.1	7010680	88.47	60	125	
Rh	103	He	2867324.12	1.5	3311982.79	86.57	60	125	
In	115	No Gas	7070305.69	1.0	7846251.35	90.11	60	125	
Lu	175	No Gas	35663.62	2.5	38999.68	91.45	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401543-001SD
File Name	041_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:32:09
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	040_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	19.612	ppb	6.2	61399.71	19.382	1.18	
Al	27	No Gas	51.360	ppb	6.5	1308337.94	49.06	4.58	
V	51	He	21.613	ppb	0.5	172022.49	21.435	0.82	
Cr	52	No Gas	21.542	ppb	5.3	955897.60	20.986	2.61	
Mn	55	No Gas	20.799	ppb	6.0	1257258.59	20.246	2.7	
Co	59	He	19.376	ppb	1.8	303742.68	19.389	0.07	
Ni	60	No Gas	22.039	ppb	6.1	258876.40	21.267	3.56	
Cu	63	No Gas	22.885	ppb	5.1	663242.73	22.235	2.88	
Zn	66	No Gas	21.157	ppb	6.5	160590.94	21.631	2.22	
As	75	No Gas	21.890	ppb	7.9	185313.34	21.188	3.26	
Se	78	He	27.418	ppb	1.3	2796.28	27.297	0.44	
Se	82	No Gas	27.421	ppb	5.5	14788.77	26.742	2.51	
Mo	98	No Gas	28.371	ppb	4.7	714959.64	28.059	1.11	
Ag	107	No Gas	18.324	ppb	3.1	736394.40	18.208	0.64	
Cd	111	No Gas	18.915	ppb	3.7	162678.95	18.59	1.73	
Sb	123	No Gas	20.516	ppb	4.5	544779.23	20.107	2.01	
Ba	137	No Gas	48.955	ppb	4.1	671909.47	49.594	1.3	
Tl	203	No Gas	19.743	ppb	1.5	448845.17	19.628	0.58	
Pb	208	No Gas	19.080	ppb	1.4	1357235.26	19.274	1.01	
Th	232	No Gas	20.894	ppb	2.6	1337910.61	20.953	0.28	
U	238	No Gas	29.563	ppb	1.8	1765256.49	29.507	0.19	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33045163.13	0.3	38013970.71	86.93	60	125	
Sc	45	He	2118722.90	3.6	2389810.11	88.66	60	125	
Ge	72	No Gas	4705815.79	1.6	5473324.5	85.98	60	125	
Ge	72	He	730501.71	2.5	817172.85	89.39	60	125	
Y	89	No Gas	7295147.49	3.4	8234261.89	88.6	60	125	
Y	89	He	1221884.78	2.6	1341372.1	91.09	60	125	
Rh	103	No Gas	5774284.49	1.1	7010680	82.36	60	125	
Rh	103	He	2815490.51	2.9	3311982.79	85.01	60	125	
In	115	No Gas	6808562.09	2.4	7846251.35	86.77	60	125	
Lu	175	No Gas	33179.38	1.1	38999.68	85.08	60	125	

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401543-001A
File Name	042_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:34:05
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	039_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	21.568	ppb	7.2	63417.37	0.003	107.82	
Al	27	No Gas	52.661	ppb	1.4	1318783.21	9.192	107.05	
V	51	He	22.816	ppb	1.8	179894.43	1.416	106.54	
Cr	52	No Gas	22.804	ppb	4.6	992435.10	1.925	104.01	
Mn	55	No Gas	21.900	ppb	7.7	1300260.57	1.212	103.24	
Co	59	He	20.808	ppb	0.5	323311.87	0.306	102.47	
Ni	60	No Gas	23.131	ppb	6.3	266997.72	3.381	98.93	
Cu	63	No Gas	23.899	ppb	5.5	680586.12	3.857	100.18	
Zn	66	No Gas	22.068	ppb	6.6	164434.22	2.022	100.21	
As	75	No Gas	23.394	ppb	6.2	194642.48	0.952	111.65	
Se	78	He	28.967	ppb	0.6	2922.31	4.892	116.37	
Se	82	No Gas	28.547	ppb	7.0	15121.69	6.197	108.97	
Mo	98	No Gas	30.404	ppb	2.3	741335.13	7.796	109.38	
Ag	107	No Gas	15.388	ppb	2.6	598440.83	0.009	76.91	
Cd	111	No Gas	20.129	ppb	2.5	167402.97	0.011	100.59	
Sb	123	No Gas	21.301	ppb	1.4	546763.02	-0.004	106.53	
Ba	137	No Gas	48.385	ppb	1.5	648033.13	28.728	99.3	
Tl	203	No Gas	20.919	ppb	0.7	463970.33	0.039	104.39	
Pb	208	No Gas	20.376	ppb	1.2	1414402.06	0.033	101.71	
Th	232	No Gas	22.403	ppb	1.0	1399371.68	0.188	110.97	
U	238	No Gas	30.670	ppb	0.7	1786475.83	7.791	110.36	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	31060772.10	2.7	38013970.71	81.71	60	125	
Sc	45	He	2117721.65	2.0	2389810.11	88.61	60	125	
Ge	72	No Gas	4625410.09	2.0	5473324.5	84.51	60	125	
Ge	72	He	723919.33	0.9	817172.85	88.59	60	125	
Y	89	No Gas	7056071.39	3.7	8234261.89	85.69	60	125	
Y	89	He	1218502.69	1.0	1341372.1	90.84	60	125	
Rh	103	No Gas	5501384.09	1.3	7010680	78.47	60	125	
Rh	103	He	2763473.57	0.3	3311982.79	83.44	60	125	
In	115	No Gas	6643121.26	3.5	7846251.35	84.67	60	125	
Lu	175	No Gas	31397.31	1.1	38999.68	80.51	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-001L 5X
File Name	043SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:36:01
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.001	ppb	211.9	20.00	
Al	27	72	No Gas	1.572	ppb	8.6	58610.81	
V	51	72	He	0.283	ppb	3.9	3302.61	
Cr	52	72	No Gas	0.540	ppb	10.7	56557.23	
Mn	55	72	No Gas	0.399	ppb	6.8	31786.52	
Co	59	72	He	0.069	ppb	9.7	1128.94	
Ni	60	72	No Gas	0.701	ppb	8.3	8509.23	
Cu	63	72	No Gas	0.840	ppb	5.4	25488.63	
Zn	66	72	No Gas	0.117	ppb	34.7	5150.95	
As	75	72	No Gas	0.327	ppb	43.4	2616.09	
Se	78	72	He	0.990	ppb	1.2	186.00	
Se	82	72	No Gas	1.308	ppb	13.2	810.17	
Mo	98	89	No Gas	1.521	ppb	3.1	38314.84	
Ag	107	89	No Gas	0.008	ppb	40.9	613.35	
Cd	111	89	No Gas	0.007	ppb	209.7	2547.22	
Sb	123	89	No Gas	-0.021	ppb	N/A	4075.10	
Ba	137	115	No Gas	5.702	ppb	3.8	75825.00	
Tl	203	115	No Gas	0.005	ppb	29.7	277.78	
Pb	208	115	No Gas	0.001	ppb	145.0	1208.91	
Th	232	115	No Gas	0.050	ppb	16.2	8338.31	
U	238	115	No Gas	1.581	ppb	5.5	91467.29	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	31298158.76	1.6	38013970.71	82.33	60	125	
Sc	45	He	1987658.33	2.9	2389810.11	83.17	60	125	
Ge	72	No Gas	4650083.15	2.4	5473324.5	84.96	60	125	
Ge	72	He	719244.07	2.4	817172.85	88.02	60	125	
Y	89	No Gas	6920256.25	1.1	8234261.89	84.04	60	125	
Y	89	He	1192232.80	2.0	1341372.1	88.88	60	125	
Rh	103	No Gas	5525942.00	3.5	7010680	78.82	60	125	
Rh	103	He	2830524.61	6.2	3311982.79	85.46	60	125	
In	115	No Gas	6586141.13	1.3	7846251.35	83.94	60	125	
Lu	175	No Gas	31123.23	1.6	38999.68	79.8	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-002
File Name	044SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:37:57
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	105.0	23.33	
Al	27	72	No Gas	4.240	ppb	5.7	120087.72	
V	51	72	He	0.597	ppb	1.0	5529.97	
Cr	52	72	No Gas	2.089	ppb	7.1	117446.23	
Mn	55	72	No Gas	8.692	ppb	6.3	504197.62	
Co	59	72	He	0.122	ppb	11.6	1876.80	
Ni	60	72	No Gas	2.161	ppb	3.6	24473.50	
Cu	63	72	No Gas	4.152	ppb	4.6	115577.58	
Zn	66	72	No Gas	3.029	ppb	6.1	25410.77	
As	75	72	No Gas	1.580	ppb	6.7	12597.67	
Se	78	72	He	3.017	ppb	11.5	368.01	
Se	82	72	No Gas	3.872	ppb	5.8	2084.13	
Mo	98	89	No Gas	7.229	ppb	5.7	171940.77	
Ag	107	89	No Gas	0.008	ppb	30.5	602.24	
Cd	111	89	No Gas	-0.002	ppb	N/A	2439.72	
Sb	123	89	No Gas	0.043	ppb	103.0	5597.86	
Ba	137	115	No Gas	40.944	ppb	6.1	509652.55	
Tl	203	115	No Gas	0.077	ppb	11.4	1739.01	
Pb	208	115	No Gas	0.020	ppb	15.3	2315.64	
Th	232	115	No Gas	0.073	ppb	26.9	9115.54	
U	238	115	No Gas	13.744	ppb	5.4	744384.24	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	31557339.86	2.3	38013970.71	83.02	60	125	
Sc	45	He	1955812.56	0.5	2389810.11	81.84	60	125	
Ge	72	No Gas	4473105.79	0.4	5473324.5	81.73	60	125	
Ge	72	He	691647.32	2.1	817172.85	84.64	60	125	
Y	89	No Gas	6823284.31	1.1	8234261.89	82.86	60	125	
Y	89	He	1138407.63	2.0	1341372.1	84.87	60	125	
Rh	103	No Gas	5413075.90	5.0	7010680	77.21	60	125	
Rh	103	He	2642205.38	1.0	3311982.79	79.78	60	125	
In	115	No Gas	6179515.87	2.2	7846251.35	78.76	60	125	
Lu	175	No Gas	30079.77	1.1	38999.68	77.13	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-003
File Name	045SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:39:54
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	80.1	22.22	
Al	27	72	No Gas	3.170	ppb	5.6	88557.48	
V	51	72	He	0.573	ppb	1.4	5129.81	
Cr	52	72	No Gas	1.979	ppb	7.9	105768.35	
Mn	55	72	No Gas	5.848	ppb	6.6	319992.52	
Co	59	72	He	0.129	ppb	11.1	1900.14	
Ni	60	72	No Gas	2.024	ppb	6.1	21493.07	
Cu	63	72	No Gas	4.216	ppb	5.7	109865.66	
Zn	66	72	No Gas	3.214	ppb	7.7	25010.07	
As	75	72	No Gas	1.454	ppb	16.1	10850.08	
Se	78	72	He	3.076	ppb	5.3	358.34	
Se	82	72	No Gas	3.824	ppb	7.8	1928.54	
Mo	98	89	No Gas	6.940	ppb	7.4	161127.70	
Ag	107	89	No Gas	0.005	ppb	26.0	461.12	
Cd	111	89	No Gas	-0.013	ppb	N/A	2297.65	
Sb	123	89	No Gas	0.016	ppb	182.4	4818.65	
Ba	137	115	No Gas	40.948	ppb	7.2	482049.32	
Tl	203	115	No Gas	0.078	ppb	6.3	1663.45	
Pb	208	115	No Gas	0.020	ppb	1.9	2216.74	
Th	232	115	No Gas	0.014	ppb	90.8	5398.94	
U	238	115	No Gas	14.096	ppb	6.4	722215.98	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29448664.39	2.9	38013970.71	77.47	60	125	
Sc	45	He	1868604.93	2.3	2389810.11	78.19	60	125	
Ge	72	No Gas	4190301.36	1.2	5473324.5	76.56	60	125	
Ge	72	He	663461.83	1.8	817172.85	81.19	60	125	
Y	89	No Gas	6665223.90	4.9	8234261.89	80.95	60	125	
Y	89	He	1107739.50	1.7	1341372.1	82.58	60	125	
Rh	103	No Gas	5061974.66	1.3	7010680	72.2	60	125	
Rh	103	He	2529717.95	1.0	3311982.79	76.38	60	125	
In	115	No Gas	5849877.27	3.2	7846251.35	74.56	60	125	
Lu	175	No Gas	27975.12	3.0	38999.68	71.73	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-004
File Name	046SMPL.d
Data.Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:41:51
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	17.5	45.56	
Al	27	72	No Gas	3.395	ppb	4.2	93035.25	
V	51	72	He	3.755	ppb	2.6	26565.80	
Cr	52	72	No Gas	3.662	ppb	6.4	168930.32	
Mn	55	72	No Gas	0.381	ppb	2.5	27548.79	
Co	59	72	He	2.252	ppb	2.0	30503.76	
Ni	60	72	No Gas	3.654	ppb	5.4	38290.75	
Cu	63	72	No Gas	6.704	ppb	5.8	172956.03	
Zn	66	72	No Gas	4.038	ppb	6.2	30259.21	
As	75	72	No Gas	1.409	ppb	22.4	10450.32	
Se	78	72	He	2.371	ppb	1.0	280.33	
Se	82	72	No Gas	3.497	ppb	6.2	1762.95	
Mo	98	89	No Gas	5.914	ppb	4.1	130685.33	
Ag	107	89	No Gas	0.009	ppb	21.6	573.35	
Cd	111	89	No Gas	-0.003	ppb	N/A	2252.95	
Sb	123	89	No Gas	4.432	ppb	3.7	105254.86	
Ba	137	115	No Gas	83.019	ppb	6.8	931121.14	
Tl	203	115	No Gas	0.045	ppb	7.5	970.04	
Pb	208	115	No Gas	0.014	ppb	12.8	1764.50	
Th	232	115	No Gas	-0.004	ppb	N/A	4237.39	
U	238	115	No Gas	19.877	ppb	5.7	970368.78	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29064449.96	2.6	38013970.71	76.46	60	125	
Sc	45	He	1787985.49	1.8	2389810.11	74.82	60	125	
Ge	72	No Gas	4165129.28	0.6	5473324.5	76.1	60	125	
Ge	72	He	629863.20	0.9	817172.85	77.08	60	125	
Y	89	No Gas	6319828.91	0.7	8234261.89	76.75	60	125	
Y	89	He	1063196.07	0.3	1341372.1	79.26	60	125	
Rh	103	No Gas	4824529.25	2.6	7010680	68.82	60	125	
Rh	103	He	2432513.10	0.8	3311982.79	73.45	60	125	
In	115	No Gas	5571609.08	2.4	7846251.35	71.01	60	125	
Lu	175	No Gas	27158.03	3.2	38999.68	69.64 70%	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-005
File Name	047SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:43:47
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	-0.001	ppb	N/A	13.33	
Al	27	72	No Gas	7.960	ppb	9.7	189451.94	
V	51	72	He	1.462	ppb	1.4	11315.61	
Cr	52	72	No Gas	1.361	ppb	9.0	79671.14	
Mn	55	72	No Gas	1.011	ppb	5.4	59466.41	
Co	59	72	He	0.204	ppb	1.2	2908.08	
Ni	60	72	No Gas	1.181	ppb	6.2	12285.40	
Cu	63	72	No Gas	3.297	ppb	5.6	83515.89	
Zn	66	72	No Gas	3.466	ppb	5.9	25833.73	
As	75	72	No Gas	1.228	ppb	18.5	8849.59	
Se	78	72	He	4.156	ppb	4.3	447.34	
Se	82	72	No Gas	5.515	ppb	1.3	2648.99	
Mo	98	89	No Gas	7.521	ppb	5.9	159263.67	
Ag	107	89	No Gas	0.006	ppb	30.9	448.90	
Cd	111	89	No Gas	-0.017	ppb	N/A	2065.87	
Sb	123	89	No Gas	-0.030	ppb	N/A	3387.10	
Ba	137	115	No Gas	41.082	ppb	4.3	471253.18	
Tl	203	115	No Gas	0.145	ppb	2.4	2893.67	
Pb	208	115	No Gas	0.016	ppb	12.7	1940.06	
Th	232	115	No Gas	0.005	ppb	152.5	4765.36	
U	238	115	No Gas	9.466	ppb	3.1	472562.86	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28030777.77	1.1	38013970.71	73.74	60	125	
Sc	45	He	1850966.32	1.6	2389810.11	77.45	60	125	
Ge	72	No Gas	4057954.98	0.8	5473324.5	74.14	60	125	
Ge	72	He	651898.78	1.2	817172.85	79.77	60	125	
Y	89	No Gas	6077152.12	2.5	8234261.89	73.8	60	125	
Y	89	He	1090110.79	2.8	1341372.1	81.27	60	125	
Rh	103	No Gas	4893938.69	2.0	7010680	69.81 70L	60	125	
Rh	103	He	2455166.29	2.8	3311982.79	74.13	60	125	
In	115	No Gas	5690985.19	0.3	7846251.35	72.53	60	125	
Lu	175	No Gas	26358.56	0.5	38999.68	67.59	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-006
File Name	048SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:45:43
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	65.1	20.00	
Al	27	72	No Gas	8.510	ppb	5.2	193862.10	
V	51	72	He	1.526	ppb	1.8	11256.66	
Cr	52	72	No Gas	1.408	ppb	2.6	78363.15	
Mn	55	72	No Gas	0.960	ppb	1.7	54678.44	
Co	59	72	He	0.200	ppb	5.0	2740.27	
Ni	60	72	No Gas	1.225	ppb	4.8	12253.14	
Cu	63	72	No Gas	3.298	ppb	3.4	80435.28	
Zn	66	72	No Gas	4.008	ppb	3.4	28193.88	
As	75	72	No Gas	1.210	ppb	25.9	8425.26	
Se	78	72	He	4.838	ppb	3.9	485.34	
Se	82	72	No Gas	5.641	ppb	3.8	2605.27	
Mo	98	89	No Gas	7.297	ppb	6.5	159038.97	
Ag	107	89	No Gas	0.004	ppb	39.7	420.01	
Cd	111	89	No Gas	-0.025	ppb	N/A	2067.60	
Sb	123	89	No Gas	-0.040	ppb	N/A	3264.85	
Ba	137	115	No Gas	42.803	ppb	8.3	476287.88	
Tl	203	115	No Gas	0.151	ppb	4.7	2918.11	
Pb	208	115	No Gas	0.030	ppb	10.4	2664.55	
Th	232	115	No Gas	-0.010	ppb	N/A	3860.60	
U	238	115	No Gas	9.748	ppb	7.3	472174.74	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28289849.99	3.2	38013970.71	74.42	60	125	
Sc	45	He	1781869.86	2.7	2389810.11	74.56	60	125	
Ge	72	No Gas	3903954.29	2.4	5473324.5	71.33	60	125	
Ge	72	He	623607.44	1.2	817172.85	76.31	60	125	
Y	89	No Gas	6255361.70	2.8	8234261.89	75.97	60	125	
Y	89	He	1042163.05	1.0	1341372.1	77.69	60	125	
Rh	103	No Gas	4753619.40	2.9	7010680	67.81	60	125	
Rh	103	He	2403739.42	0.9	3311982.79	72.58	60	125	
In	115	No Gas	5536625.20	6.3	7846251.35	70.56	60	125	
Lu	175	No Gas	25179.54	4.1	38999.68	64.56	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	049_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:47:39
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.087	ppb	8.9	126563.90	90.17	
Al	27	72	No Gas	49.433	ppb	7.0	1113777.49	98.87	
V	51	72	He	47.417	ppb	1.0	344730.56	94.83	
Cr	52	72	No Gas	47.692	ppb	9.8	1833721.70	95.38	
Mn	55	72	No Gas	47.157	ppb	6.8	2508329.69	94.31	
Co	59	72	He	48.437	ppb	1.1	696055.98	96.87	
Ni	60	72	No Gas	46.211	ppb	7.1	479256.52	92.42	
Cu	63	72	No Gas	47.383	ppb	7.2	1212205.89	94.77	
Zn	66	72	No Gas	46.902	ppb	7.1	309990.44	93.8	
As	75	72	No Gas	48.324	ppb	6.8	361705.76	96.65	
Se	78	72	He	52.266	ppb	4.3	4809.16	104.53	
Se	82	72	No Gas	48.269	ppb	6.2	22917.86	96.54	
Mo	98	89	No Gas	47.817	ppb	5.6	1021198.30	95.63	
Ag	107	89	No Gas	48.800	ppb	6.5	1663178.65	97.6	
Cd	111	89	No Gas	47.432	ppb	5.0	342681.07	94.86	
Sb	123	89	No Gas	48.545	ppb	6.2	1087270.55	97.09	
Ba	137	115	No Gas	48.614	ppb	1.6	576501.28	97.23	
Tl	203	115	No Gas	49.259	ppb	2.0	967919.41	98.52	
Pb	208	115	No Gas	48.438	ppb	2.1	2975489.40	96.88	
Th	232	115	No Gas	49.408	ppb	4.0	2727450.10	98.82	
U	238	115	No Gas	52.823	ppb	1.8	2724850.38	105.65	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29604822.16	2.1	38013970.71	77.88	60	125	
Sc	45	He	1847494.10	3.2	2389810.11	77.31	60	125	
Ge	72	No Gas	4153154.42	2.9	5473324.5	75.88	60	125	
Ge	72	He	669637.23	1.2	817172.85	81.95	60	125	
Y	89	No Gas	6181005.03	2.5	8234261.89	75.06	60	125	
Y	89	He	1103297.98	1.4	1341372.1	82.25	60	125	
Rh	103	No Gas	5105010.21	1.3	7010680	72.82	60	125	
Rh	103	He	2727040.73	1.8	3311982.79	82.34	60	125	
In	115	No Gas	5881766.15	5.3	7846251.35	74.96	60	125	
Lu	175	No Gas	27030.01	2.2	38999.68	69.31	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	050_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:49:31
Sample Type	CCB
Total Dilution	1.0000
Comment	--
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	146.1	21.11	
Al	27	72	No Gas	-0.282	ppb	N/A	11297.78	
V	51	72	He	0.049	ppb	45.8	1366.73	
Cr	52	72	No Gas	0.115	ppb	14.4	34454.89	
Mn	55	72	No Gas	0.068	ppb	4.3	10860.81	
Co	59	72	He	0.002	ppb	26.0	92.22	
Ni	60	72	No Gas	0.001	ppb	214.0	362.23	
Cu	63	72	No Gas	0.036	ppb	13.0	2241.29	
Zn	66	72	No Gas	-0.264	ppb	N/A	2120.16	
As	75	72	No Gas	0.235	ppb	43.7	1625.61	
Se	78	72	He	0.039	ppb	202.9	86.00	
Se	82	72	No Gas	0.011	ppb	1936.8	113.22	
Mo	98	89	No Gas	-0.015	ppb	N/A	1538.35	
Ag	107	89	No Gas	0.004	ppb	75.5	413.34	
Cd	111	89	No Gas	-0.007	ppb	N/A	2173.65	
Sb	123	89	No Gas	0.037	ppb	230.1	4998.83	
Ba	137	115	No Gas	0.001	ppb	99.5	163.33	
Tl	203	115	No Gas	0.008	ppb	14.3	298.89	
Pb	208	115	No Gas	-0.002	ppb	N/A	851.13	
Th	232	115	No Gas	0.103	ppb	27.2	10198.60	
U	238	115	No Gas	0.005	ppb	9.8	425.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29182031.06	1.9	38013970.71	76.77	60	125	
Sc	45	He	1865811.31	3.5	2389810.11	78.07	60	125	
Ge	72	No Gas	4147940.39	2.1	5473324.5	75.78	60	125	
Ge	72	He	660832.92	0.6	817172.85	80.87	60	125	
Y	89	No Gas	6175381.98	4.2	8234261.89	75	60	125	
Y	89	He	1098495.55	1.8	1341372.1	81.89	60	125	
Rh	103	No Gas	5271729.93	4.4	7010680	75.2	60	125	
Rh	103	He	2757789.96	4.8	3311982.79	83.27	60	125	
In	115	No Gas	5801491.16	2.2	7846251.35	73.94	60	125	
Lu	175	No Gas	26931.91	1.1	38999.68	69.06	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-007
File Name	051SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:51:27
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	31.9	43.33	
Al	27	72	No Gas	4.884	ppb	8.5	118898.90	
V	51	72	He	0.826	ppb	4.7	6194.69	
Cr	52	72	No Gas	1.558	ppb	2.2	84095.51	
Mn	55	72	No Gas	4.941	ppb	2.1	254351.08	
Co	59	72	He	0.175	ppb	8.3	2279.08	
Ni	60	72	No Gas	2.227	ppb	2.2	22111.82	
Cu	63	72	No Gas	7.670	ppb	3.8	186297.91	
Zn	66	72	No Gas	4.136	ppb	3.7	29117.95	
As	75	72	No Gas	0.870	ppb	33.5	6045.49	
Se	78	72	He	8.482	ppb	3.9	751.69	
Se	82	72	No Gas	10.497	ppb	2.1	4784.51	
Mo	98	89	No Gas	6.623	ppb	4.7	131623.07	
Ag	107	89	No Gas	0.011	ppb	23.1	597.79	
Cd	111	89	No Gas	0.010	ppb	309.1	2118.00	
Sb	123	89	No Gas	0.107	ppb	56.9	5991.37	
Ba	137	115	No Gas	39.442	ppb	5.1	429852.44	
Tl	203	115	No Gas	0.038	ppb	8.0	810.03	
Pb	208	115	No Gas	0.029	ppb	3.2	2574.55	
Th	232	115	No Gas	0.198	ppb	3.3	14332.58	
U	238	115	No Gas	17.326	ppb	5.0	821686.65	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	27906767.23	1.8	38013970.71	73.41	60	125	
Sc	45	He	1685910.07	1.7	2389810.11	70.55	60	125	
Ge	72	No Gas	3923363.46	2.1	5473324.5	71.68	60	125	
Ge	72	He	591375.20	2.6	817172.85	72.37	60	125	
Y	89	No Gas	5694615.75	1.5	8234261.89	69.16	60	125	
Y	89	He	1007876.83	1.6	1341372.1	75.14	60	125	
Rh	103	No Gas	4526544.68	5.9	7010680	64.57	60	125	
Rh	103	He	2285526.64	1.5	3311982.79	69.01	60	125	
In	115	No Gas	5410589.23	2.1	7846251.35	68.96	60	125	
Lu	175	No Gas	25187.36	3.7	38999.68	64.58	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-008
File Name	052SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:53:24
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	138.2	20.00	
Al	27	72	No Gas	6.551	ppb	3.7	152733.75	
V	51	72	He	7.349	ppb	2.2	51600.54	
Cr	52	72	No Gas	6.679	ppb	3.1	265383.15	
Mn	55	72	No Gas	0.335	ppb	1.6	23523.87	
Co	59	72	He	0.025	ppb	9.4	396.67	
Ni	60	72	No Gas	0.463	ppb	0.1	4826.39	
Cu	63	72	No Gas	1.716	ppb	3.8	42425.11	
Zn	66	72	No Gas	1.383	ppb	4.9	12087.43	
As	75	72	No Gas	7.583	ppb	3.0	53172.53	
Se	78	72	He	0.918	ppb	18.1	158.33	
Se	82	72	No Gas	1.009	ppb	11.4	548.13	
Mo	98	89	No Gas	5.864	ppb	6.7	119036.22	
Ag	107	89	No Gas	0.000	ppb	N/A	241.12	
Cd	111	89	No Gas	-0.011	ppb	N/A	2018.26	
Sb	123	89	No Gas	0.115	ppb	26.4	6283.71	
Ba	137	115	No Gas	26.887	ppb	9.1	301692.58	
Tl	203	115	No Gas	-0.002	ppb	N/A	92.22	
Pb	208	115	No Gas	0.019	ppb	20.3	2072.29	
Th	232	115	No Gas	-0.009	ppb	N/A	3957.29	
U	238	115	No Gas	2.255	ppb	10.5	110164.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	27799774.45	3.0	38013970.71	73.13	60	125	
Sc	45	He	1787743.89	1.8	2389810.11	74.81	60	125	
Ge	72	No Gas	3901010.40	2.6	5473324.5	71.27	60	125	
Ge	72	He	636356.52	0.7	817172.85	77.87	60	125	
Y	89	No Gas	5809837.96	2.2	8234261.89	70.56	60	125	
Y	89	He	1056279.78	1.9	1341372.1	78.75	60	125	
Rh	103	No Gas	4736457.87	2.2	7010680	67.56	60	125	
Rh	103	He	2463898.44	2.0	3311982.79	74.39	60	125	
In	115	No Gas	5580479.36	4.2	7846251.35	71.12	60	125	
Lu	175	No Gas	25258.59	0.7	38999.68	64.77	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	053_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:55:19
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.705	ppb	10.6	121190.15	91.41	
Al	27	72	No Gas	52.131	ppb	8.2	1067303.43	104.26	
V	51	72	He	47.644	ppb	1.5	325637.84	95.29	
Cr	52	72	No Gas	50.131	ppb	7.5	1750460.31	100.26	
Mn	55	72	No Gas	49.808	ppb	8.1	2409846.50	99.62	
Co	59	72	He	48.628	ppb	0.7	656946.96	97.26	
Ni	60	72	No Gas	47.835	ppb	7.8	451231.39	95.67	
Cu	63	72	No Gas	48.514	ppb	7.9	1128500.16	97.03	
Zn	66	72	No Gas	48.300	ppb	7.1	290150.00	96.6	
As	75	72	No Gas	49.818	ppb	8.5	339049.02	99.64	
Se	78	72	He	51.594	ppb	2.1	4464.71	103.19	
Se	82	72	No Gas	48.953	ppb	7.4	21132.55	97.91	
Mo	98	89	No Gas	47.784	ppb	5.5	943958.08	95.57	
Ag	107	89	No Gas	48.528	ppb	5.8	1529645.67	97.06	
Cd	111	89	No Gas	47.957	ppb	5.2	320475.40	95.91	
Sb	123	89	No Gas	48.390	ppb	6.6	1002532.29	96.78	
Ba	137	115	No Gas	50.852	ppb	7.3	544143.82	101.7	
Tl	203	115	No Gas	51.053	ppb	6.4	905155.99	102.11	
Pb	208	115	No Gas	50.174	ppb	7.2	2781960.76	100.35	
Th	232	115	No Gas	53.087	ppb	6.5	2643840.38	106.17	
U	238	115	No Gas	56.419	ppb	6.9	2626347.95	112.84	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28045334.44	4.2	38013970.71	73.78	60	125	
Sc	45	He	1730698.23	1.7	2389810.11	72.42	60	125	
Ge	72	No Gas	3781462.07	3.4	5473324.5	69.09	60	125	
Ge	72	He	629451.57	0.9	817172.85	77.03	60	125	
Y	89	No Gas	5719524.63	1.9	8234261.89	69.46	60	125	
Y	89	He	1047849.75	2.2	1341372.1	78.12	60	125	
Rh	103	No Gas	5061632.44	3.1	7010680	72.2	60	125	
Rh	103	He	2623111.49	4.7	3311982.79	79.2	60	125	
In	115	No Gas	5311661.87	2.0	7846251.35	67.7	60	125	
Lu	175	No Gas	24884.54	4.2	38999.68	63.81	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	054_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:57:10
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	66.2	30.00	
Al	27	72	No Gas	-0.264	ppb	N/A	11084.25	
V	51	72	He	0.036	ppb	6.2	1246.73	
Cr	52	72	No Gas	0.128	ppb	36.1	33107.29	
Mn	55	72	No Gas	0.077	ppb	8.8	10715.15	
Co	59	72	He	0.002	ppb	112.8	83.33	
Ni	60	72	No Gas	0.003	ppb	142.8	354.45	
Cu	63	72	No Gas	0.034	ppb	13.9	2091.27	
Zn	66	72	No Gas	-0.253	ppb	N/A	2073.49	
As	75	72	No Gas	0.273	ppb	60.1	1828.19	
Se	78	72	He	0.054	ppb	259.2	85.67	
Se	82	72	No Gas	0.065	ppb	80.9	130.08	
Mo	98	89	No Gas	-0.011	ppb	N/A	1519.89	
Ag	107	89	No Gas	0.005	ppb	62.1	403.34	
Cd	111	89	No Gas	-0.012	ppb	N/A	2024.96	
Sb	123	89	No Gas	0.050	ppb	197.5	4967.70	
Ba	137	115	No Gas	0.005	ppb	77.2	195.56	
Tl	203	115	No Gas	0.010	ppb	17.2	310.00	
Pb	208	115	No Gas	-0.002	ppb	N/A	816.68	
Th	232	115	No Gas	0.125	ppb	34.7	10561.16	
U	238	115	No Gas	0.006	ppb	55.2	442.23	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28133737.22	2.3	38013970.71	74.01	60	125	
Sc	45	He	1836514.02	3.9	2389810.11	76.85	60	125	
Ge	72	No Gas	3930673.04	2.2	5473324.5	71.82	60	125	
Ge	72	He	648316.13	2.0	817172.85	79.34	60	125	
Y	89	No Gas	5858200.60	3.0	8234261.89	71.14	60	125	
Y	89	He	1073960.20	1.7	1341372.1	80.06	60	125	
Rh	103	No Gas	5041154.38	0.2	7010680	71.91	60	125	
Rh	103	He	2691157.95	3.8	3311982.79	81.26	60	125	
In	115	No Gas	5414540.89	4.1	7846251.35	69.01	60	125	
Lu	175	No Gas	25111.75	6.3	38999.68	64.39	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	055LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 11:59:05
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.885	ppb	14.2	2444.65	88.5	
Al	27	72	No Gas	4.937	ppb	4.2	122788.29	98.74	
V	51	72	He	1.029	ppb	6.5	8051.17	102.9	
Cr	52	72	No Gas	1.271	ppb	5.9	75590.22	127.1	
Mn	55	72	No Gas	1.032	ppb	4.7	59954.62	103.2	
Co	59	72	He	0.993	ppb	3.0	13610.97	99.3	
Ni	60	72	No Gas	1.017	ppb	4.2	10519.54	101.7	
Cu	63	72	No Gas	0.973	ppb	2.5	25309.56	97.3	
Zn	66	72	No Gas	4.585	ppb	5.8	32645.89	91.7	
As	75	72	No Gas	0.996	ppb	14.1	7071.60	99.6	
Se	78	72	He	1.116	ppb	25.8	175.67	111.6	
Se	82	72	No Gas	0.691	ppb	20.5	418.79	69.1	> +/- 50%
Mo	98	89	No Gas	0.893	ppb	7.0	19544.08	89.3	
Ag	107	89	No Gas	0.975	ppb	6.2	31365.02	97.5	
Cd	111	89	No Gas	0.982	ppb	5.7	8695.32	98.2	
Sb	123	89	No Gas	0.941	ppb	9.9	23531.66	94.1	
Ba	137	115	No Gas	0.989	ppb	11.4	11224.73	98.9	
Tl	203	115	No Gas	0.973	ppb	9.1	18217.41	97.3	
Pb	208	115	No Gas	0.980	ppb	9.6	57892.96	98	
Th	232	115	No Gas	1.017	ppb	9.6	57405.08	101.7	
U	238	115	No Gas	1.074	ppb	5.8	52577.16	107.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29013876.62	2.1	38013970.71	76.32	60	125	
Sc	45	He	1833153.54	1.8	2389810.11	76.71	60	125	
Ge	72	No Gas	4014720.95	2.9	5473324.5	73.35	60	125	
Ge	72	He	636083.55	2.3	817172.85	77.84	60	125	
Y	89	No Gas	5795632.41	3.4	8234261.89	70.38	60	125	
Y	89	He	1047664.68	1.8	1341372.1	78.1	60	125	
Rh	103	No Gas	4916127.86	3.2	7010680	70.12	60	125	
Rh	103	He	2665162.88	2.1	3311982.79	80.47	60	125	
In	115	No Gas	5573736.72	2.7	7846251.35	71.04	60	125	
Lu	175	No Gas	26107.00	3.0	38999.68	66.94	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV2
File Name	056HCCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:01:00
Sample Type	HLCCV2
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	182.948	ppb	9.3	503960.78	91.47	
Al	27	72	No Gas	195.723	ppb	10.3	4212020.53	97.86	
V	51	72	He	200.110	ppb	3.3	1437114.63	100.06	
Cr	52	72	No Gas	188.263	ppb	8.7	6908343.76	94.13	
Mn	55	72	No Gas	183.992	ppb	14.0	9441421.29	92	
Co	59	72	He	198.682	ppb	1.9	2827499.33	99.34	
Ni	60	72	No Gas	191.402	ppb	13.7	1917259.82	95.7	
Cu	63	72	No Gas	191.909	ppb	9.9	4740929.40	95.95	
Zn	66	72	No Gas	187.268	ppb	10.8	1184903.08	93.63	
As	75	72	No Gas	190.750	ppb	11.4	1380379.92	95.38	
Se	78	72	He	198.066	ppb	2.0	17821.26	99.03	
Se	82	72	No Gas	185.421	ppb	10.6	84789.32	92.71	
Mo	98	89	No Gas	179.788	ppb	12.7	3842305.16	89.89	HLCCV2 Main CR1 Failed
Ag	107	89	No Gas	173.089	ppb	13.5	5908152.82	86.54	HLCCV2 Main CR1 Failed
Cd	111	89	No Gas	182.110	ppb	12.3	1312275.04	91.06	
Sb	123	89	No Gas	180.669	ppb	12.2	4044855.39	90.33	
Ba	137	115	No Gas	199.777	ppb	10.3	2225952.97	99.89	
Tl	203	115	No Gas	195.850	ppb	8.1	3615048.60	97.92	
Pb	208	115	No Gas	202.307	ppb	6.7	11679431.41	101.15	
Th	232	115	No Gas	210.910	ppb	9.7	10928300.40	105.45	
U	238	115	No Gas	217.057	ppb	9.0	10525251.53	108.53	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29083235.51	0.7	38013970.71	76.51	60	125	
Sc	45	He	1873716.45	2.1	2389810.11	78.4	60	125	
Ge	72	No Gas	4019735.54	1.4	5473324.5	73.44	60	125	
Ge	72	He	663072.99	0.9	817172.85	81.14	60	125	
Y	89	No Gas	6214200.31	2.9	8234261.89	75.47	60	125	
Y	89	He	1090855.86	1.3	1341372.1	81.32	60	125	
Rh	103	No Gas	5055683.97	3.9	7010680	72.11	60	125	
Rh	103	He	2689167.32	3.8	3311982.79	81.2	60	125	
In	115	No Gas	5530407.70	1.2	7846251.35	70.48	60	125	
Lu	175	No Gas	26781.62	1.7	38999.68	68.67	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV3
File Name	057_QC1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:02:35
Sample Type	QC1
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	373.220	ppb	10.2	1039384.68	93.3	
Al	27	72	No Gas	392.539	ppb	12.4	8519222.44	98.13	
V	51	72	He	399.362	ppb	1.8	2900776.21	99.84	
Cr	52	72	No Gas	376.928	ppb	11.8	13947183.89	94.23	
Mn	55	72	No Gas	370.304	ppb	12.0	19198069.79	92.58	
Co	59	72	He	390.650	ppb	1.6	5621382.14	97.66	
Ni	60	72	No Gas	379.148	ppb	13.1	3838336.72	94.79	
Cu	63	72	No Gas	360.245	ppb	9.0	8989362.98	90.06	
Zn	66	72	No Gas	372.148	ppb	9.6	2375509.90	93.04	
As	75	72	No Gas	375.636	ppb	11.6	2746443.81	93.91	
Se	78	72	He	404.185	ppb	0.6	36691.69	101.05	
Se	82	72	No Gas	376.453	ppb	9.8	173832.54	94.11	
Mo	98	89	No Gas	389.417	ppb	11.5	7907887.97	97.35	
Ag	107	89	No Gas	365.181	ppb	27.3	11810685.09	91.3	
Cd	111	89	No Gas	392.702	ppb	5.7	2686590.71	98.18	
Sb	123	89	No Gas	395.768	ppb	7.8	8413330.22	98.94	
Ba	137	115	No Gas	385.399	ppb	9.0	4531701.07	96.35	
Tl	203	115	No Gas	382.231	ppb	5.3	7438286.51	95.56	
Pb	208	115	No Gas	383.712	ppb	6.4	23360886.71	95.93	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29387589.94	3.0	38013970.71	77.31	60	125	
Sc	45	He	1955792.07	2.3	2389810.11	81.84	60	125	
Ge	72	No Gas	4057730.40	0.7	5473324.5	74.14	60	125	
Ge	72	He	670632.16	1.9	817172.85	82.07	60	125	
Y	89	No Gas	5887967.82	1.7	8234261.89	71.51	60	125	
Y	89	He	1105479.51	2.9	1341372.1	82.41	60	125	
Rh	103	No Gas	5291444.65	4.0	7010680	75.48	60	125	
Rh	103	He	2765228.43	2.3	3311982.79	83.49	60	125	
In	115	No Gas	5823183.24	3.5	7846251.35	74.22	60	125	
Lu	175	No Gas	26664.76	2.9	38999.68	68.37	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	058_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:04:03
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	47.871	ppb	8.9	134068.70	95.74	
Al	27	72	No Gas	49.138	ppb	8.3	1114996.69	98.28	
V	51	72	He	48.576	ppb	1.7	349531.21	97.15	
Cr	52	72	No Gas	47.877	ppb	8.7	1853038.64	95.75	
Mn	55	72	No Gas	46.960	ppb	10.7	2516928.44	93.92	
Co	59	72	He	49.459	ppb	2.7	703460.87	98.92	
Ni	60	72	No Gas	46.007	ppb	8.5	480532.39	92.01	
Cu	63	72	No Gas	47.254	ppb	11.5	1217146.76	94.51	
Zn	66	72	No Gas	46.602	ppb	8.6	310139.77	93.2	
As	75	72	No Gas	48.061	ppb	7.1	362196.25	96.12	
Se	78	72	He	51.199	ppb	2.5	4665.44	102.4	
Se	82	72	No Gas	47.915	ppb	7.6	22909.19	95.83	
Mo	98	89	No Gas	48.230	ppb	9.2	1044074.28	96.46	
Ag	107	89	No Gas	49.009	ppb	10.0	1692658.13	98.02	
Cd	111	89	No Gas	47.077	ppb	8.5	344850.36	94.15	
Sb	123	89	No Gas	48.696	ppb	7.9	1105799.44	97.39	
Ba	137	115	No Gas	50.538	ppb	5.8	582309.58	101.08	
Tl	203	115	No Gas	50.671	ppb	4.5	967075.48	101.34	
Pb	208	115	No Gas	49.938	ppb	4.8	2981323.99	99.88	
Th	232	115	No Gas	53.252	ppb	4.4	2854721.76	106.5	
U	238	115	No Gas	54.333	ppb	3.0	2722827.25	108.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29575319.94	2.8	38013970.71	77.8	60	125	
Sc	45	He	1871192.70	2.9	2389810.11	78.3	60	125	
Ge	72	No Gas	4185885.53	0.4	5473324.5	76.48	60	125	
Ge	72	He	662792.04	1.7	817172.85	81.11	60	125	
Y	89	No Gas	6277237.25	1.7	8234261.89	76.23	60	125	
Y	89	He	1084438.32	1.8	1341372.1	80.85	60	125	
Rh	103	No Gas	5192633.96	2.0	7010680	74.07	60	125	
Rh	103	He	2678900.10	2.1	3311982.79	80.89	60	125	
In	115	No Gas	5713948.52	2.1	7846251.35	72.82	60	125	
Lu	175	No Gas	27270.38	3.2	38999.68	69.92 70%	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	059_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:05:54
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.019	ppb	41.0	71.11	
Al	27	72	No Gas	-0.246	ppb	N/A	11971.64	
V	51	72	He	0.024	ppb	56.8	1173.38	
Cr	52	72	No Gas	0.095	ppb	32.9	33337.74	
Mn	55	72	No Gas	0.082	ppb	12.3	11492.41	
Co	59	72	He	0.005	ppb	33.7	127.78	
Ni	60	72	No Gas	0.001	ppb	906.2	350.00	
Cu	63	72	No Gas	0.041	ppb	16.9	2346.86	
Zn	66	72	No Gas	-0.251	ppb	N/A	2182.40	
As	75	72	No Gas	-0.037	ppb	N/A	-374.61	
Se	78	72	He	0.198	ppb	24.6	99.33	
Se	82	72	No Gas	-0.032	ppb	N/A	91.67	
Mo	98	89	No Gas	0.088	ppb	129.6	3707.31	
Ag	107	89	No Gas	0.121	ppb	21.5	4320.72	
Cd	111	89	No Gas	-0.001	ppb	N/A	2168.02	
Sb	123	89	No Gas	0.276	ppb	74.8	10201.14	
Ba	137	115	No Gas	0.004	ppb	98.0	200.00	
Tl	203	115	No Gas	0.018	ppb	18.1	491.12	
Pb	208	115	No Gas	0.004	ppb	79.7	1260.03	
Th	232	115	No Gas	0.237	ppb	11.0	17591.10	
U	238	115	No Gas	0.011	ppb	25.9	728.91	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30088836.58	0.9	38013970.71	79.15	60	125	
Sc	45	He	1854236.39	3.2	2389810.11	77.59	60	125	
Ge	72	No Gas	4105554.70	1.9	5473324.5	75.01	60	125	
Ge	72	He	654991.49	0.3	817172.85	80.15	60	125	
Y	89	No Gas	6049061.71	6.9	8234261.89	73.46	60	125	
Y	89	He	1079308.12	1.1	1341372.1	80.46	60	125	
Rh	103	No Gas	5150440.91	3.4	7010680	73.47	60	125	
Rh	103	He	2710854.13	3.1	3311982.79	81.85	60	125	
In	115	No Gas	5836447.41	1.2	7846251.35	74.39	60	125	
Lu	175	No Gas	27493.07	0.6	38999.68	70.5	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW1
File Name	060_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:07:50
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	23.6	46.67	
Al	27	72	No Gas	-0.227	ppb	N/A	11970.49	
V	51	72	He	0.036	ppb	32.2	1251.17	
Cr	52	72	No Gas	0.158	ppb	4.4	34469.32	
Mn	55	72	No Gas	0.096	ppb	12.6	11808.22	
Co	59	72	He	0.003	ppb	50.8	106.67	
Ni	60	72	No Gas	0.000	ppb	N/A	327.78	
Cu	63	72	No Gas	0.017	ppb	28.2	1694.55	
Zn	66	72	No Gas	-0.318	ppb	N/A	1691.22	
As	75	72	No Gas	-0.030	ppb	N/A	-326.06	
Se	78	72	He	-0.002	ppb	N/A	81.00	
Se	82	72	No Gas	-0.016	ppb	N/A	93.84	
Mo	98	89	No Gas	-0.001	ppb	N/A	1791.68	
Ag	107	89	No Gas	0.029	ppb	19.9	1220.06	
Cd	111	89	No Gas	0.007	ppb	325.5	2203.50	
Sb	123	89	No Gas	0.074	ppb	151.0	5659.15	
Ba	137	115	No Gas	-0.003	ppb	N/A	114.45	
Tl	203	115	No Gas	0.006	ppb	14.1	258.89	
Pb	208	115	No Gas	-0.003	ppb	N/A	787.79	
Th	232	115	No Gas	0.107	ppb	5.3	10212.98	
U	238	115	No Gas	0.005	ppb	21.0	418.90	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29485489.94	1.1	38013970.71	77.56	60	125	
Sc	45	He	1904917.56	2.1	2389810.11	79.71	60	125	
Ge	72	No Gas	3965100.54	2.3	5473324.5	72.44	60	125	
Ge	72	He	650748.95	1.6	817172.85	79.63	60	125	
Y	89	No Gas	5996629.90	4.0	8234261.89	72.83	60	125	
Y	89	He	1075511.56	1.7	1341372.1	80.18	60	125	
Rh	103	No Gas	5240802.29	3.1	7010680	74.75	60	125	
Rh	103	He	2697161.91	0.8	3311982.79	81.44	60	125	
In	115	No Gas	5698833.11	2.1	7846251.35	72.63	60	125	
Lu	175	No Gas	26513.33	1.6	38999.68	67.98	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW1
File Name	061_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:09:46
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	21.229	ppb	5.0	58770.52	106.14	
Al	27	72	No Gas	22.175	ppb	6.3	503218.35	55.44	> +/- 10%
V	51	72	He	20.806	ppb	0.6	150409.17	104.03	
Cr	52	72	No Gas	20.585	ppb	6.4	798699.15	102.92	
Mn	55	72	No Gas	20.973	ppb	6.7	1107373.67	104.86	
Co	59	72	He	21.133	ppb	0.9	300873.52	105.66	
Ni	60	72	No Gas	20.558	ppb	5.8	210898.93	102.79	
Cu	63	72	No Gas	20.970	ppb	6.9	530839.67	104.85	
Zn	66	72	No Gas	22.619	ppb	5.4	149629.99	113.09	
As	75	72	No Gas	21.190	ppb	7.9	156579.71	105.95	
Se	78	72	He	22.362	ppb	3.4	2085.82	111.81	
Se	82	72	No Gas	21.079	ppb	6.7	9955.44	105.4	
Mo	98	89	No Gas	21.067	ppb	5.0	446714.45	105.34	
Ag	107	89	No Gas	0.018	ppb	42.8	865.59	0.09	> +/- 10%
Cd	111	89	No Gas	20.818	ppb	6.2	150254.09	104.09	
Sb	123	89	No Gas	21.443	ppb	4.2	478060.26	107.22	
Ba	137	115	No Gas	0.018	ppb	6.8	356.67	0.09	> +/- 10%
Tl	203	115	No Gas	21.549	ppb	1.2	415633.14	107.74	
Pb	208	115	No Gas	21.566	ppb	0.4	1301351.40	107.83	
Th	232	115	No Gas	22.019	ppb	0.6	1195424.43	110.09	
U	238	115	No Gas	23.412	ppb	1.2	1185564.71	117.06	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29219412.17	0.4	38013970.71	76.86	60	125	
Sc	45	He	1842760.69	2.0	2389810.11	77.11	60	125	
Ge	72	No Gas	4111467.20	4.8	5473324.5	75.12	60	125	
Ge	72	He	663276.19	1.0	817172.85	81.17	60	125	
Y	89	No Gas	6127389.20	1.0	8234261.89	74.41	60	125	
Y	89	He	1078843.85	0.7	1341372.1	80.43	60	125	
Rh	103	No Gas	5145018.68	4.9	7010680	73.39	60	125	
Rh	103	He	2684324.13	2.7	3311982.79	81.05	60	125	
In	115	No Gas	5775488.11	4.9	7846251.35	73.61	60	125	
Lu	175	No Gas	27001.01	5.8	38999.68	69.23	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401533-001
File Name	062_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:11:43
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.066	ppb	142.4	170.00
Al	27	72	No Gas	0.082	ppb	53.8	16215.45
Cr	52	72	No Gas	2.091	ppb	6.1	90988.81
Mn	55	72	No Gas	20.492	ppb	8.3	911516.23
Ni	60	72	No Gas	3.330	ppb	5.5	29069.28
Cu	63	72	No Gas	2.804	ppb	8.0	60742.67
Zn	66	72	No Gas	4.582	ppb	10.5	28107.06
As	75	72	No Gas	2.829	ppb	7.4	17524.76
Se	82	72	No Gas	1.835	ppb	11.4	809.72
Mo	98	89	No Gas	1.414	ppb	5.9	26809.63
Ag	107	89	No Gas	0.064	ppb	59.6	2042.46
Cd	111	89	No Gas	0.037	ppb	310.2	2079.94
Sb	123	89	No Gas	-0.003	ppb	N/A	3391.64
Ba	137	115	No Gas	13.675	ppb	3.4	127721.54
Tl	203	115	No Gas	0.082	ppb	112.1	1352.38
Pb	208	115	No Gas	0.071	ppb	101.6	4190.49
Th	232	115	No Gas	0.323	ppb	21.9	17643.80
U	238	115	No Gas	0.137	ppb	70.7	5646.48
V	51	72	He	-0.029	ppb	N/A	702.24
Co	59	72	He	0.554	ppb	1.6	6909.48
Se	78	72	He	0.089	ppb	149.8	79.00

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	24468838.47	4.7	38013970.71	64.37	60	125
Sc	45	He	1630226.74	2.3	2389810.11	68.22	60	125
Ge	72	No Gas	3469444.17	6.4	5473324.5	63.39	60	125
Ge	72	He	576439.18	1.5	817172.85	70.54	60	125
Y	89	No Gas	5185389.24	3.0	8234261.89	62.97	60	125
Y	89	He	976863.02	1.8	1341372.1	72.83	60	125
Rh	103	No Gas	4148490.25	8.2	7010680	59.17	60	125
Rh	103	He	2252507.06	1.1	3311982.79	68.01	60	125
In	115	No Gas	4631383.01	5.5	7846251.35	59.03	60	125
Lu	175	No Gas	20879.03	5.8	38999.68	53.54	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401533-001S
File Name	063_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:13:40
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	062_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	20.052	ppb	3.3	51672.36	0.066	99.93	
Al	27	No Gas	25.084	ppb	3.8	533882.55	0.082	62.58	> +/- 25%
V	51	He	21.054	ppb	2.9	140557.89	-0.029	105.42	
Cr	52	No Gas	22.319	ppb	5.3	813285.07	2.091	101.03	
Mn	55	No Gas	41.459	ppb	6.0	2053187.14	20.492	102.39	
Co	59	He	20.646	ppb	4.0	271525.03	0.554	100.45	
Ni	60	No Gas	23.058	ppb	5.4	222701.62	3.33	98.84	
Cu	63	No Gas	22.780	ppb	4.9	542859.35	2.804	99.9	
Zn	66	No Gas	76.132	ppb	5.8	465976.94	4.582	309.71	> +/- 25%
As	75	No Gas	26.543	ppb	5.7	184841.08	2.829	116.27	
Se	78	He	26.170	ppb	3.1	2241.18	0.089	130.27	> +/- 25%
Se	82	No Gas	26.454	ppb	5.8	11733.07	1.835	121.16	
Mo	98	No Gas	22.913	ppb	3.2	455958.19	1.414	107	
Ag	107	No Gas	0.031	ppb	30.4	1232.40	0.064	0.15	> +/- 25%
Cd	111	No Gas	20.425	ppb	5.4	138584.94	0.037	101.93	
Sb	123	No Gas	23.157	ppb	3.1	484696.16	-0.003	115.8	
Ba	137	No Gas	14.145	ppb	3.4	149220.91	13.675	42.01	> +/- 25%
Tl	203	No Gas	20.647	ppb	2.3	360509.13	0.082	102.82	
Pb	208	No Gas	22.021	ppb	3.9	1203378.76	0.071	109.71	
Th	232	No Gas	24.515	ppb	3.9	1205209.36	0.323	120.63	
U	238	No Gas	25.053	ppb	4.2	1149389.75	0.137	124.41	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	27215061.70	5.8	38013970.71	71.59	60	125	
Sc	45	He	1686033.37	7.5	2389810.11	70.55	60	125	
Ge	72	No Gas	3866358.46	2.4	5473324.5	70.64	60	125	
Ge	72	He	612358.08	3.4	817172.85	74.94	60	125	
Y	89	No Gas	5752029.49	4.2	8234261.89	69.85	60	125	
Y	89	He	1028324.89	6.5	1341372.1	76.66	60	125	
Rh	103	No Gas	4446211.76	7.3	7010680	63.42	60	125	
Rh	103	He	2384626.78	4.8	3311982.79	72	60	125	
In	115	No Gas	5228457.71	2.1	7846251.35	66.64	60	125	
Lu	175	No Gas	25180.28	2.7	38999.68	64.57	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401533-001SD
File Name	064_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:15:35
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d
QC Ref File Name	063_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	20.270	ppb	4.4	49612.28	20.052	1.08	
Al	27	No Gas	29.931	ppb	4.2	582122.62	25.084	17.62	
V	51	He	21.656	ppb	4.3	160470.56	21.054	2.82	
Cr	52	No Gas	22.343	ppb	5.8	747691.03	22.319	0.11	
Mn	55	No Gas	41.381	ppb	6.0	1880731.80	41.459	0.19	
Co	59	He	21.552	ppb	1.1	314095.08	20.646	4.29	
Ni	60	No Gas	22.948	ppb	3.9	203557.35	23.058	0.48	
Cu	63	No Gas	23.311	ppb	4.6	510344.44	22.78	2.3	
Zn	66	No Gas	42.487	ppb	2.2	240466.09	76.132	56.73	RPD > 20%
As	75	No Gas	27.146	ppb	3.5	173721.93	26.543	2.25	
Se	78	He	26.915	ppb	2.4	2547.57	26.17	2.81	
Se	82	No Gas	26.469	ppb	4.9	10785.61	26.454	0.06	
Mo	98	No Gas	23.091	ppb	3.2	424119.69	22.913	0.77	
Ag	107	No Gas	0.016	ppb	21.6	685.57	0.031	65.69	RPD > 20%
Cd	111	No Gas	20.224	ppb	2.4	126533.48	20.425	0.99	
Sb	123	No Gas	23.139	ppb	1.9	446774.02	23.157	0.08	
Ba	137	No Gas	13.420	ppb	0.8	134859.96	14.145	5.27	
Tl	203	No Gas	20.277	ppb	3.6	337043.00	20.647	1.81	
Pb	208	No Gas	21.288	ppb	0.6	1108143.71	22.021	3.38	
Th	232	No Gas	24.096	ppb	0.5	1128470.68	24.515	1.72	
U	238	No Gas	24.345	ppb	0.8	1063683.29	25.053	2.87	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	25838589.53	2.2	38013970.71	67.97	60	125	
Sc	45	He	1961626.35	16.0	2389810.11	82.08	60	125	
Ge	72	No Gas	3558132.57	7.5	5473324.5	65.01	60	125	
Ge	72	He	678410.91	11.7	817172.85	83.02	60	125	
Y	89	No Gas	5308084.10	4.0	8234261.89	64.46	60	125	
Y	89	He	1123646.83	11.9	1341372.1	83.77	60	125	
Rh	103	No Gas	4132144.70	5.3	7010680	58.94	60	125	ISTD Failed
Rh	103	He	2643934.06	10.1	3311982.79	79.83	60	125	
In	115	No Gas	4983432.44	4.7	7846251.35	63.51	60	125	
Lu	175	No Gas	23325.61	3.3	38999.68	59.81	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401553-001
File Name	065SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:17:31
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	18.5	35.55	
Al	27	72	No Gas	-0.009	ppb	N/A	18363.82	
V	51	72	He	-0.130	ppb	N/A	95.56	
Cr	52	72	No Gas	1.154	ppb	21.4	77953.19	
Mn	55	72	No Gas	54.994	ppb	8.9	3089307.24	
Co	59	72	He	0.031	ppb	24.4	557.79	
Ni	60	72	No Gas	0.363	ppb	8.8	4341.79	
Cu	63	72	No Gas	4.538	ppb	7.0	123872.52	
Zn	66	72	No Gas	9.897	ppb	8.7	72275.57	
As	75	72	No Gas	0.079	ppb	36.7	494.07	
Se	78	72	He	-0.110	ppb	N/A	81.00	
Se	82	72	No Gas	-0.040	ppb	N/A	93.46	
Mo	98	89	No Gas	0.154	ppb	31.0	5372.94	
Ag	107	89	No Gas	0.008	ppb	56.0	564.46	
Cd	111	89	No Gas	0.012	ppb	161.9	2422.60	
Sb	123	89	No Gas	-0.140	ppb	N/A	1046.71	
Ba	137	115	No Gas	111.303	ppb	1.9	1416606.23	>LDR
Tl	203	115	No Gas	0.001	ppb	313.7	162.22	
Pb	208	115	No Gas	0.424	ppb	3.9	29023.94	
Th	232	115	No Gas	-0.026	ppb	N/A	3499.38	
U	238	115	No Gas	0.013	ppb	11.4	900.03	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30968915.44	3.0	38013970.71	81.47	60	125	
Sc	45	He	2097323.88	3.4	2389810.11	87.76	60	125	
Ge	72	No Gas	4393573.30	2.9	5473324.5	80.27	60	125	
Ge	72	He	736269.89	3.7	817172.85	90.1	60	125	
Y	89	No Gas	6491330.30	4.3	8234261.89	78.83	60	125	
Y	89	He	1194398.77	4.1	1341372.1	89.04	60	125	
Rh	103	No Gas	5285785.49	4.1	7010680	75.4	60	125	
Rh	103	He	2899304.40	2.9	3311982.79	87.54	60	125	
In	115	No Gas	6321026.55	6.5	7846251.35	80.56	60	125	
Lu	175	No Gas	29595.35	1.7	38999.68	75.89	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	066_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:19:25
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	46.738	ppb	10.4	147106.82	93.48	
Al	27	72	No Gas	48.100	ppb	5.6	1203388.08	96.2	
V	51	72	He	47.771	ppb	2.7	383808.07	95.54	
Cr	52	72	No Gas	47.840	ppb	3.8	2040054.09	95.68	
Mn	55	72	No Gas	47.534	ppb	4.3	2806966.97	95.07	
Co	59	72	He	48.618	ppb	1.1	772200.18	97.24	
Ni	60	72	No Gas	46.218	ppb	6.4	532253.26	92.44	
Cu	63	72	No Gas	48.366	ppb	4.9	1372760.22	96.73	
Zn	66	72	No Gas	48.439	ppb	5.3	355160.96	96.88	
As	75	72	No Gas	49.372	ppb	5.1	410129.83	98.74	
Se	78	72	He	51.999	ppb	2.6	5289.00	104	
Se	82	72	No Gas	49.308	ppb	5.8	25979.94	98.62	
Mo	98	89	No Gas	48.102	ppb	4.6	1171076.93	96.2	
Ag	107	89	No Gas	47.473	ppb	3.2	1843363.54	94.95	
Cd	111	89	No Gas	47.528	ppb	4.9	391465.66	95.06	
Sb	123	89	No Gas	48.379	ppb	4.1	1235302.35	96.76	
Ba	137	115	No Gas	46.706	ppb	2.8	649411.38	93.41	
Tl	203	115	No Gas	46.997	ppb	2.1	1081122.46	93.99	
Pb	208	115	No Gas	46.503	ppb	2.0	3346845.58	93.01	
Th	232	115	No Gas	47.004	ppb	2.3	3038144.46	94.01	
U	238	115	No Gas	49.468	ppb	4.4	2985647.73	98.94	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33287416.45	2.9	38013970.71	87.57	60	125	
Sc	45	He	2099913.88	1.5	2389810.11	87.87	60	125	
Ge	72	No Gas	4608420.79	3.8	5473324.5	84.2	60	125	
Ge	72	He	740116.34	1.0	817172.85	90.57	60	125	
Y	89	No Gas	7048673.05	2.0	8234261.89	85.6	60	125	
Y	89	He	1220235.54	1.5	1341372.1	90.97	60	125	
Rh	103	No Gas	6094905.45	3.5	7010680	86.94	60	125	
Rh	103	He	3028691.96	2.7	3311982.79	91.45	60	125	
In	115	No Gas	6896270.56	7.6	7846251.35	87.89	60	125	
Lu	175	No Gas	35183.51	3.6	38999.68	90.21	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	067_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:21:14
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	56.5	44.44	
Al	27	72	No Gas	-0.223	ppb	N/A	13378.40	
V	51	72	He	-0.006	ppb	N/A	1065.60	
Cr	52	72	No Gas	0.040	ppb	42.9	33561.61	
Mn	55	72	No Gas	0.074	ppb	9.0	11847.15	
Co	59	72	He	0.002	ppb	18.8	98.89	
Ni	60	72	No Gas	0.006	ppb	128.0	433.34	
Cu	63	72	No Gas	0.040	ppb	8.9	2510.22	
Zn	66	72	No Gas	-0.177	ppb	N/A	2850.29	
As	75	72	No Gas	0.052	ppb	230.5	281.47	
Se	78	72	He	-0.045	ppb	N/A	86.00	
Se	82	72	No Gas	0.013	ppb	1267.7	120.90	
Mo	98	89	No Gas	0.006	ppb	892.6	2121.61	
Ag	107	89	No Gas	0.013	ppb	24.4	783.36	
Cd	111	89	No Gas	0.030	ppb	90.1	2629.62	
Sb	123	89	No Gas	0.029	ppb	309.4	5146.66	
Ba	137	115	No Gas	0.004	ppb	68.7	226.67	
Tl	203	115	No Gas	0.023	ppb	7.6	663.35	
Pb	208	115	No Gas	0.000	ppb	433.7	1150.02	
Th	232	115	No Gas	0.214	ppb	37.3	18434.76	
U	238	115	No Gas	0.006	ppb	13.6	540.01	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32032964.28	2.6	38013970.71	84.27	60	125	
Sc	45	He	1975761.03	2.7	2389810.11	82.67	60	125	
Ge	72	No Gas	4404150.93	3.0	5473324.5	80.47	60	125	
Ge	72	He	723327.77	0.8	817172.85	88.52	60	125	
Y	89	No Gas	6664335.98	0.9	8234261.89	80.93	60	125	
Y	89	He	1179863.67	2.3	1341372.1	87.96	60	125	
Rh	103	No Gas	5868093.93	2.7	7010680	83.7	60	125	
Rh	103	He	2888882.80	2.3	3311982.79	87.23	60	125	
In	115	No Gas	6578265.57	1.4	7846251.35	83.84	60	125	
Lu	175	No Gas	32846.49	2.8	38999.68	84.22	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	068LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:23:10
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.911	ppb	8.1	2676.92	91.1	
Al	27	72	No Gas	4.706	ppb	7.0	129000.98	94.12	
V	51	72	He	0.988	ppb	3.1	8550.34	98.8	
Cr	52	72	No Gas	1.102	ppb	8.5	75999.75	110.2	
Mn	55	72	No Gas	0.999	ppb	6.6	63804.79	99.9	
Co	59	72	He	0.998	ppb	2.2	15050.21	99.8	
Ni	60	72	No Gas	1.003	ppb	9.0	11367.97	100.3	
Cu	63	72	No Gas	0.952	ppb	7.4	27149.66	95.2	
Zn	66	72	No Gas	4.516	ppb	5.2	35252.09	90.32	
As	75	72	No Gas	0.831	ppb	9.6	6459.29	83.1	
Se	78	72	He	1.003	ppb	16.7	182.00	100.3	
Se	82	72	No Gas	0.675	ppb	13.0	451.22	67.5	> +/- 50%
Mo	98	89	No Gas	0.875	ppb	8.3	21848.70	87.5	
Ag	107	89	No Gas	0.957	ppb	7.6	35037.43	95.7	
Cd	111	89	No Gas	0.964	ppb	4.3	9750.71	96.4	
Sb	123	89	No Gas	0.916	ppb	9.4	26191.05	91.6	
Ba	137	115	No Gas	0.973	ppb	3.3	12167.77	97.3	
Tl	203	115	No Gas	0.957	ppb	3.6	19718.48	95.7	
Pb	208	115	No Gas	0.970	ppb	2.2	63053.71	97	
Th	232	115	No Gas	1.022	ppb	2.8	63454.23	102.2	
U	238	115	No Gas	1.035	ppb	4.5	55777.51	103.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30902116.55	3.6	38013970.71	81.29	60	125	
Sc	45	He	2056183.81	1.7	2389810.11	86.04	60	125	
Ge	72	No Gas	4398537.88	1.5	5473324.5	80.36	60	125	
Ge	72	He	699550.21	1.2	817172.85	85.61	60	125	
Y	89	No Gas	6596120.29	2.4	8234261.89	80.11	60	125	
Y	89	He	1158925.23	1.5	1341372.1	86.4	60	125	
Rh	103	No Gas	5660760.47	2.9	7010680	80.74	60	125	
Rh	103	He	2929870.30	1.7	3311982.79	88.46	60	125	
In	115	No Gas	6124691.14	3.3	7846251.35	78.06	60	125	
Lu	175	No Gas	31234.65	2.7	38999.68	80.09	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	069_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:25:05
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	46.875	ppb	8.1	146478.65	93.75	
Al	27	72	No Gas	47.533	ppb	5.9	1211333.35	95.07	
V	51	72	He	47.872	ppb	1.7	377538.75	95.74	
Cr	52	72	No Gas	47.587	ppb	4.1	2067594.30	95.17	
Mn	55	72	No Gas	45.374	ppb	8.5	2730514.75	90.75	
Co	59	72	He	49.203	ppb	1.8	767034.55	98.41	
Ni	60	72	No Gas	44.570	ppb	7.5	522629.39	89.14	> +/- 10%
Cu	63	72	No Gas	46.025	ppb	7.7	1330872.20	92.05	
Zn	66	72	No Gas	46.119	ppb	6.8	344611.89	92.24	
As	75	72	No Gas	47.543	ppb	6.4	402215.42	95.09	
Se	78	72	He	51.359	ppb	2.2	5128.93	102.72	
Se	82	72	No Gas	47.311	ppb	6.2	25395.37	94.62	
Mo	98	89	No Gas	49.296	ppb	5.4	1160327.11	98.59	
Ag	107	89	No Gas	48.539	ppb	5.1	1823292.05	97.08	
Cd	111	89	No Gas	48.321	ppb	4.6	384750.75	96.64	
Sb	123	89	No Gas	48.440	ppb	5.3	1195359.23	96.88	
Ba	137	115	No Gas	46.923	ppb	6.6	630488.34	93.85	
Tl	203	115	No Gas	47.663	ppb	6.7	1060911.56	95.33	
Pb	208	115	No Gas	47.374	ppb	6.9	3297617.68	94.75	
Th	232	115	No Gas	46.863	ppb	9.3	2931372.94	93.73	
U	238	115	No Gas	50.404	ppb	4.1	2947935.02	100.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32981524.24	0.8	38013970.71	86.76	60	125	
Sc	45	He	2054485.33	3.5	2389810.11	85.97	60	125	
Ge	72	No Gas	4697258.70	1.0	5473324.5	85.82	60	125	
Ge	72	He	726463.58	1.1	817172.85	88.9	60	125	
Y	89	No Gas	6814405.84	2.5	8234261.89	82.76	60	125	
Y	89	He	1186903.08	0.4	1341372.1	88.48	60	125	
Rh	103	No Gas	5961140.04	1.6	7010680	85.03	60	125	
Rh	103	He	2958078.84	3.2	3311982.79	89.31	60	125	
In	115	No Gas	6669234.60	2.7	7846251.35	85	60	125	
Lu	175	No Gas	32703.80	3.7	38999.68	83.86	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	070_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\022924.b
Acq Time	02/29/24 12:26:55
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	014CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	28.8	45.55	
Al	27	72	No Gas	-0.246	ppb	N/A	13380.62	
V	51	72	He	-0.007	ppb	N/A	1068.93	
Cr	52	72	No Gas	0.004	ppb	53.7	33472.42	
Mn	55	72	No Gas	0.069	ppb	10.5	12050.65	
Co	59	72	He	0.003	ppb	40.6	123.33	
Ni	60	72	No Gas	-0.003	ppb	N/A	354.45	
Cu	63	72	No Gas	0.026	ppb	9.9	2222.40	
Zn	66	72	No Gas	-0.168	ppb	N/A	3035.89	
As	75	72	No Gas	0.027	ppb	843.6	86.46	
Se	78	72	He	-0.016	ppb	N/A	89.67	
Se	82	72	No Gas	0.036	ppb	107.0	137.07	
Mo	98	89	No Gas	-0.005	ppb	N/A	1906.62	
Ag	107	89	No Gas	0.007	ppb	35.5	553.34	
Cd	111	89	No Gas	0.012	ppb	39.7	2576.10	
Sb	123	89	No Gas	0.045	ppb	242.0	5664.68	
Ba	137	115	No Gas	0.002	ppb	116.0	196.67	
Tl	203	115	No Gas	0.012	ppb	11.9	420.01	
Pb	208	115	No Gas	-0.001	ppb	N/A	1033.35	
Th	232	115	No Gas	0.258	ppb	34.9	20993.64	
U	238	115	No Gas	0.006	ppb	10.3	510.01	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33076115.35	3.1	38013970.71	87.01	60	125	
Sc	45	He	2087289.15	1.9	2389810.11	87.34	60	125	
Ge	72	No Gas	4589610.37	2.1	5473324.5	83.85	60	125	
Ge	72	He	730247.02	1.1	817172.85	89.36	60	125	
Y	89	No Gas	6900896.67	3.6	8234261.89	83.81	60	125	
Y	89	He	1181820.92	1.8	1341372.1	88.11	60	125	
Rh	103	No Gas	5982170.87	3.9	7010680	85.33	60	125	
Rh	103	He	2993359.26	0.6	3311982.79	90.38	60	125	
In	115	No Gas	6510342.80	2.9	7846251.35	82.97	60	125	
Lu	175	No Gas	32647.01	1.6	38999.68	83.71	60	125	

Preparation Information Benchsheet

Prep Run#: 434684
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 2/28/24 10:18

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol.	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402157-01	MB		10mL	200.8/Ag T, Al T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T, Zn T, 6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		HB:10 Well:11 Temp:90.2C/93.1C
2	RQ2402157-02	LCS		10mL	200.8/Ag T, Al T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T, Zn T, 6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	On HB:11:45 Off HB:13:45 Pipet/Repipettor:M33,M39
3	R2401517-005	YD16-2024-1X-CM	.01	10mL	200.8/Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		
4	R2401523-001	OF002 - Internal - Effluent	.04	10mL	200.8/Cr T, Zn T 2/28/24	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
5	R2401527-015	PS-240221-INF	.02	10mL	200.8/Al T, ~~Cd~~ T, Zn T Cu	<2			10.00mL	Tan-Cloudy/Colorless-Cloudy		
6	R2401534-001	M33847-1-11 4766 Pilgrimport Road	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		
7	RQ2402157-03	R2401534-001 MS	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/228122; 0.0200 mL/230559	
8	RQ2402157-04	R2401534-001 DMS	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/230559; 0.0200 mL/228122	
9	R2401543-001	2402260903A 400-EV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
10	RQ2402157-05	R2401543-001 MS	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/230559; 0.0200 mL/228122; 0.0200 mL/233423	
11	RQ2402157-06	R2401543-001 DMS	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	
12	R2401543-002	2402260950C 400-FV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
13	R2401543-003	2402260959C 400-FV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
14	R2401543-004	2402261008A 400-HV-147	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
15	R2401543-005	2402261050C 400-GV-125	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
16	R2401543-006	2402261052C 400-GV-125	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
17	R2401543-007	2402261318A 400-JV-150	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
18	R2401543-008	2402261425C 400-IV-123	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		

piking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #: 222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024	
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #: 221015154

Preparation Information Benchsheet

Prep Run#: 434684
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

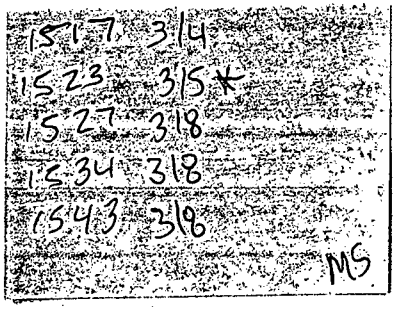
Status: Prepped
Prep Date/Time: 2/28/24 10:18

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:18
Finished: 2/28/24 14:50
By: CDISTEFANO
Comments



Comments: _____

Reviewed By: Molly McMahon Date: 2/29/24

Chain of Custody

Relinquished By:	CD	Date:	2/28/24	Extracts Examined
Received By:	R-A07	Date:	2/28/24	Yes No

ICP-MS ICV / CCV STANDARD
(PREPARED DAILY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot#	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	232728	10000	0.500	100	50	1% HNO_3 0.5% HCl	MFM 1/29/24	A	231748	232049	1/30/24	M40
	SB						1% HNO_3 0.5% HCl	MFM 1/31/24	B	231748	232049	2/1/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/1/24	C	231748	232049	2/2/24	M36
	BE						1% HNO_3 0.5% HCl	MFM 2/2/24	D	231748	232049	2/3/24	M36
	CD						1% HNO_3 0.5% HCl	MFM 2/6/24	E	231748	232049	2/7/24	M36
	CR						1% HNO_3 0.5% HCl	MFM 2/8/24	F	231748	232049	2/9/24	M36
	CO						1% HNO_3 0.5% HCl	MFM 2/12/24	G	231748	232049	2/13/24	M36
	CU						1% HNO_3 0.5% HCl	MFM 2/13/24	H	231748	232049	2/14/24	M40
	PB						1% HNO_3 0.5% HCl	MFM 2/14/24	I	231748	232049	2/15/24	M40
	MN						1% HNO_3 0.5% HCl	MFM 2/16/24	J	231748	232049	2/17/24	M40
	MO						1% HNO_3 0.5% HCl	MFM 2/20/24	K	231748	232049	2/21/24	M40
	NI						1% HNO_3 0.5% HCl	MFM 2/23/24	L	231748	233283	2/24/24	M40
	TL						1% HNO_3 0.5% HCl	MFM 2/27/24	M	231748	233283	2/28/24	M36
	V						1% HNO_3 0.5% HCl	MFM 2/28/24	N	231748	233283	2/29/24	M36
	ZN						1% HNO_3 0.5% HCl	MFM 2/29/24	O	231748	233283	3/1/24	M40
	SE								P				
Cal Std 2	BA	233423		0.500					Q				
	AG	—							R				
Cal Std 3	SR	—		0.500					S				
	W								T				
	PT								U				

ICP-MS CALIBRATION STANDARD #1/MRL STANDARD MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	0.025	500	1.0	1% HNO3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M37 M36
	MO	———				1.0	1% HNO3 0.5% HCl	NM 1/25/24	B	231748	232049	2/25/24	M37 M36
Cal Std 2	AL	231913		0.025		Below	1% HNO3 0.5% HCl	MFM 2/14/24	C	231748	232049	3/14/24	M37 M40
	AS					1.0			D				
	BA								E				
	BE								F				
	CD								G				
	CO								H				
	CU								I				
	PB								J				
	MN								K				
	NI								L				
	TH								M				
	AG, TL								N				
	CR, V, SE								O				
	ZN					Below			P				
Cal Std 3	SR, W, PT	—		0.025		1.0			Q				
Indiv. Std.	AL	M845011 7B	10000	0.200		5.0			R				
	ZN	M845011 7J	10000	0.200		5.0			S				

	MO	231912							1% HNO3 0.5% HCl	MFM 2/14/24	B	231948	232049	6/12/24	M845				
Cal Std 2	AL	231913			0.250				1% HNO3 0.5% HCl		C								
	AS										D								
	BA										E								
	BE										F								
	CD										G								
	CR										H								
	CO										I								
	CU										J								
	PB										K								
	MN										L								
	NI										M								
	AG										N								
	TL										O								
	TH										P								
	V										Q								
	ZN										R								
	SE, U										S								
Cal Std 3	SR	—			0.250						T								
	W										U								
	PT										V								

	Metal	CAS #									
Cal Std 1	SB	231912	20000	1.25	500	50	1% HNO3 0.5% HCl				
	MO	———					1% HNO3 0.5% HCl	MEM 4/4/18	B		
Cal Std 2	AL	231913		1.25					C		
	AS								D		
	BA								E		
	BE								F		
	CD								G		
	CR								H		
	CO								I		
	CU								J		
	PB								K		
	MN								L		
	NI								M		
	AG								N		
	TL								O		
	TH								P		
	V								Q		
	ZN								R		
	SE, U								S		
Cal Std 3	SR	—		1.25					T		
	W								U		
	PT								V		

ICP-MS CALIBRATION STANDARD #4 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	2.50	500	100	1% HNO_3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	———					1% HNO_3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		2.50					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		2.50					T				
	W								U				
	PT		▽		▽	▽			V				

ICP-MS HLCCV2 STANDARD
(PREPARED MONTHLY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot/#	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	231912	20000	0.500	50	200	1% HNO_3 0.5% HCl	MFM 1/2/24	A	231748	232049	2/2/24	M36
	BA						1% HNO_3 0.5% HCl	NM 1/22/24	B	231748	232049	2/22/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/8/24	C	231748	232049	3/8/24	M36
	BE						1% HNO_3 0.5% HCl	MFM 2/29/24	D	231748	233238	3/28/24	M40
	CD								E				
	CR								F				
	CO								G				
	CU								H				
	PB								I				
	MN								J				
	AG								K				
	NI								L				
	TL								M				
	V								N				
	ZN								O				
	SE								P				
Cal Std 2	SB	231913		0.500					Q				
	MO	—							R				
Cal Std 3	SR	—		0.500					S				
	W								T				
	PT		↓		↓	↓			U				

ICP-MS HLCCV3 STANDARD
(PREPARED MONTHLY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	231912	20000	1.000	50	400	1% HNO_3 0.5% HCl	MFM 1/2/24	A	231748	232049	2/2/24	M36
	BA						1% HNO_3 0.5% HCl	NM 1/22/24	B	231748	232049	2/22/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/8/24	C	231748	232049	3/8/24	M36
	BE						1% HNO_3 0.5% HCl	MFM 2/20/24	D	231748	233283	3/28/24	M40
	CD								E				
	CR								F				
	CO								G				
	CU								H				
	PB								I				
	MN								J				
	AG								K				
	NI								L				
	TL								M				
	V								N				
	ZN								O				
	SE								P				
Cal Std 2	SB	231913		1.000					Q				
	MO	—							R				
Cal Std 3	SR	—		1.000					S				
	W								T				
	PT		↓		↓	↓			U				

ICP-MS ICSA SOLUTION
(PREPARED WEEKLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
ICSA	CL-	228511	10000	2.00	100	200000	1% HNO_3 0.5% HCl	MFM 2/8/24	A	231748	232049	2/15/24	M36
	AL		1000			20000	1% HNO_3 0.5% HCl	MFM 2/16/24	B	231748	232049	2/23/24	M40
	CA						1% HNO_3 0.5% HCl	MFM 2/27/24	C	231748	233283	3/5/24	M36
	FE								D				
	MG								E				
	P								F				
	K								G				
	NA								H				
	S								I				
	C		2000			40000			J				
	MO		20			400			K				
	TI		20			400			L				
									M				
									N				
									O				
									P				
									Q				
									R				
									S				
									T				

ICP-MS ICSAB SOLUTION
(PREPARED WEEKLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
ICSA	CL-	228511	10000	2.00	100	200000	1% HNO_3 0.5% HCl	MFM 1/4/24	A	231798	232049	1/11/24	M36
	AL,CA		1000			20000	1% HNO_3 0.5% HCl	MFM 1/17/24	B	231798	232049	1/24/24	M36
	FE,MG						1% HNO_3 0.5% HCl	MFM 1/24/24	C	231798	232049	1/31/24	M36
	P,K						1% HNO_3 0.5% HCl	NM 1/31/24	D	231798	232049	2/6/24	M36
	NA,S						1% HNO_3 0.5% HCl	MFM 2/8/24	E	231798	232049	2/15/24	M36
	C		2000			40000	1% HNO_3 0.5% HCl	MFM 2/16/24	F	231798	232049	2/23/24	M40
	MO,TI		20			400	1% HNO_3 0.5% HCl	MFM 2/27/24	G	231798	233283	3/5/24	M36
AB Int.	Be, V	M845D108A	2	1.00		20			H				
	Se, Sb		2			20			I				
	Ba, Tl		2			20			J				
	Sr, W		2			20			K				
	Pt, Pb		2			20			L				
	U		2			20			M				
ICSAB	NI	230958	2	1.00		20.0			N				
	MN		2						O				
	CR		2						P				
	AS		2						Q				
	CO,CU		2						R				
	AG,CD		2						S				
	ZN		2						T				

ICP-MS INTERNAL STANDARD SOLUTION
(PREPARED EVERY 6 MONTHS OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
I.S. STD	BI	231911	10000	50.0	500	1000	1% HNO3	NM 7/31/24	A	231748	232049	7/31/24	M836
	HO								B				
	IN								C				
	LI +6								D				
	RH					↓			E				
	SC					Below			F				
	TB					1000			G				
	Y		↓			1000			H				
Single Element	SC	232724	100000	5.00		2000			I				
	GE	228287	1000000	2.5	↓	5000			J				
									K				
									L				
									M				
									N				
									O				
									P				
									Q				
									R				
									S				
									T				

Type of Standard	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Vol. (mls)	Conc. (ppb)							8/30/24	M3
MS Mass Cal	Ba Be Co In Mg Pb Rb U	228201	0.01	1000	1000	10	1% HNO3	NM 5/1/23	A	—	—		
									B				
	Cd	227603	1000	0.01		16			C				
	Cu	222428	1000	0.01		10			D				
	Li	223753	1000	0.01		10			E				
	Tl	226708	1000	0.01		10			F				
	Y	226709	1000	0.01		10			G				
									H				
									I				
									J				
									K				
									L				
									M				
									N				
									O				
									P				
									Q				
									R				
									S				
									T				
									U				

Sample Dilutions

Final Volume: 8-10mL

Analyst: MFM
Instrument: MS 7900

Date 2/29/24
Analysis 200.8/6020A

Common Dilutions

Dilution	Matrix of Diluent	1st Dilution			2nd Dilution			3rd Dilution			4th Dilution			5th Dilution		
		mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor
1/2	DI	4.5	4.5	1/2												
1/3	DI	3	6	1/3												
1/4	DI	2	6	1/4												
1/5	DI	2	8	1/5												
1/10	DI	1	9	1/10												
1/20	DI	3	3	1/2	1	9	1/20									
1/30	DI	3	6	1/3	1	9	1/30									
1/40	DI	1	3	1/4	1	9	1/40									
1/50	DI	1	4	1/5	1	9	1/50									
1/100	DI	1	9	1/10	1	9	1/100									
1/200	DI	3	3	1/2	1	9	1/20	1	9	1/200						
1/300	DI	3	6	1/3	1	9	1/30	1	9	1/300						
1/400	DI	1	3	1/4	1	9	1/40	1	9	1/400						
1/500	DI	1	4	1/5	1	9	1/50	1	9	1/500						
1/1000	DI	1	9	1/10	1	9	1/100	1	9	1/1000						
1/2000	DI	3	3	1/2	1	9	1/20	1	9	1/200	1	9	1/2000			
1/3000	DI	3	6	1/3	1	9	1/30	1	9	1/300	1	9	1/3000			
1/4000	DI	1	3	1/4	1	9	1/40	1	9	1/400	1	9	1/4000			
1/10000	DI	1	9	1/10	1	9	1/100	1	9	1/1000	1	9	1/10000			
1/20000	DI	1	1	1/2	1	9	1/20	1	9	1/200	1	9	1/2000	1	9	1/20000
1/40000	DI	1	3	1/4	1	9	1/40	1	9	1/400	1	9	1/4000	1	9	1/40000
1/100000	DI	1	9	1/10	1	9	1/100	1	9	1/1000	1	9	1/10000	1	9	1/100000

Special Dilutions

Dilution	Matrix of Diluent	1st Dilution			2nd Dilution			3rd Dilution			4th Dilution			5th Dilution		
		mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor	mL's of Sample	mL's of Diluent	Dilution Factor

Analytical Results Summary

Instrument Name: R-ICP-MS-02 **Analyst:** MMCMAHON **Analysis Lot:** 833814 **Method/Testcode:** 200.8/Al T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402157-01	Aluminum, Total	MB		Water	0.58 ppb	10 mL	10 µg/L U	1	8	10			2/29/24 11:05:26	N	II
KQ2402157-01	Antimony, Total	MB		Water	-0.05 ppb	10 mL	1.0 µg/L U	1	0.2	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Antimony, Total	MB		Water	-0.05 ppb	10 mL	1.0 µg/L U	1	0.2	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Arsenic, Total	MB		Water	0.11 ppb	10 mL	1.0 µg/L U	1	0.4	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Arsenic, Total	MB		Water	0.11 ppb	10 mL	1.0 µg/L U	1	0.4	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Barium, Total	MB		Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.3	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Beryllium	MB		Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.08	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Cadmium, Total	MB		Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.2	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Chromium, Total	MB		Water	0.00 ppb	10 mL	2.0 µg/L U	1	0.6	2.0			2/29/24 11:05:26	N	II
KQ2402157-01	Copper, Total	MB		Water	0.01 ppb	10 mL	1.0 µg/L U	1	0.7	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Nickel, Total	MB		Water	0.01 ppb	10 mL	1.0 µg/L U	1	0.5	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Silver, Total	MB		Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.4	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Thallium, Total	MB		Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.04	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Thallium, Total	MB		Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.04	1.0			2/29/24 11:05:26	N	II
KQ2402157-01	Zinc, Total	MB		Water	1.12 ppb	10 mL	5.0 µg/L U	1	2.5	5.0			2/29/24 11:05:26	N	II
KQ2402157-02	Aluminum, Total	LCS		Water	40.24 ppb	10 mL	40.2 µg/L	1	8	10	101		2/29/24 11:07:23	N	II
KQ2402157-02	Antimony, Total	LCS		Water	20.66 ppb	10 mL	20.7 µg/L	1	0.2	1.0	103		2/29/24 11:07:23	N	II
KQ2402157-02	Antimony, Total	LCS		Water	20.66 ppb	10 mL	20.7 µg/L	1	0.2	1.0	103		2/29/24 11:07:23	N	II
KQ2402157-02	Arsenic, Total	LCS		Water	20.47 ppb	10 mL	20.5 µg/L	1	0.4	1.0	102		2/29/24 11:07:23	N	II
KQ2402157-02	Arsenic, Total	LCS		Water	20.47 ppb	10 mL	20.5 µg/L	1	0.4	1.0	102		2/29/24 11:07:23	N	II
KQ2402157-02	Barium, Total	LCS		Water	19.68 ppb	10 mL	19.7 µg/L	1	0.3	1.0	98		2/29/24 11:07:23	N	II
KQ2402157-02	Beryllium	LCS		Water	19.56 ppb	10 mL	19.6 µg/L	1	0.08	1.0	98		2/29/24 11:07:23	N	II
KQ2402157-02	Cadmium, Total	LCS		Water	20.03 ppb	10 mL	20.0 µg/L	1	0.2	1.0	100		2/29/24 11:07:23	N	II
KQ2402157-02	Chromium, Total	LCS		Water	19.65 ppb	10 mL	19.6 µg/L	1	0.6	2.0	98		2/29/24 11:07:23	N	II
KQ2402157-02	Copper, Total	LCS		Water	20.57 ppb	10 mL	20.6 µg/L	1	0.7	1.0	103		2/29/24 11:07:23	N	II
KQ2402157-02	Nickel, Total	LCS		Water	19.87 ppb	10 mL	19.9 µg/L	1	0.5	1.0	99		2/29/24 11:07:23	N	II
KQ2402157-02	Silver, Total	LCS		Water	19.92 ppb	10 mL	19.9 µg/L	1	0.4	1.0	100		2/29/24 11:07:23	N	II
KQ2402157-02	Thallium, Total	LCS		Water	19.97 ppb	10 mL	20.0 µg/L	1	0.04	1.0	100		2/29/24 11:07:23	N	II
KQ2402157-02	Thallium, Total	LCS		Water	19.97 ppb	10 mL	20.0 µg/L	1	0.04	1.0	100		2/29/24 11:07:23	N	II
KQ2402157-02	Zinc, Total	LCS		Water	20.45 ppb	10 mL	20.5 µg/L	1	2.5	5.0	102		2/29/24 11:07:23	N	II
KQ2401517-005	Zinc, Total	N/A		Water	45.41 ppb	10 mL	45.4 µg/L	1	2.5	5.0			2/29/24 11:09:20	N	II
KQ2401523-001	Chromium, Total	N/A		Water	0.56 ppb	10 mL	20 µg/L U	10	6	20			2/29/24 11:11:13	N	II
KQ2401523-001	Zinc, Total	N/A		Water	126.00 ppb	10 mL	1260 µg/L	10	25	50			2/29/24 11:11:13	N	II
KQ2401527-015	Aluminum, Total	N/A		Water	182.46 ppb	10 mL	182 µg/L	1	8	10			2/29/24 11:13:09	N	II
KQ2401527-015	Copper, Total	N/A		Water	91.46 ppb	10 mL	91.5 µg/L	1	0.7	1.0			2/29/24 11:13:09	N	II
KQ2401527-015	Zinc, Total	N/A		Water	83.11 ppb	10 mL	83.1 µg/L	1	2.5	5.0			2/29/24 11:13:09	N	II

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-ICP-MS-02 **Analyst:** MMCMAHON **Analysis Lot:** 833814 **Method/Testcode:** 200.8/Sb T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
R2401534-001	Antimony, Total	N/A		Drinking Water	-0.10 ppb	10 mL	1.0 µg/L U	1	0.2	1.0			2/29/24 11:15:01	N	II
R2401534-001	Arsenic, Total	N/A		Drinking Water	0.13 ppb	10 mL	1.0 µg/L U	1	0.4	1.0			2/29/24 11:15:01	N	II
R2401534-001	Barium, Total	N/A		Drinking Water	65.01 ppb	10 mL	65.0 µg/L	1	0.3	1.0			2/29/24 11:15:01	N	II
R2401534-001	Beryllium	N/A		Drinking Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.08	1.0			2/29/24 11:15:01	N	II
R2401534-001	Cadmium, Total	N/A		Drinking Water	0.01 ppb	10 mL	1.0 µg/L U	1	0.2	1.0			2/29/24 11:15:01	N	II
R2401534-001	Chromium, Total	N/A		Drinking Water	0.14 ppb	10 mL	2.0 µg/L U	1	0.6	2.0			2/29/24 11:15:01	N	II
R2401534-001	Copper, Total	N/A		Drinking Water	15.33 ppb	10 mL	15.3 µg/L	1	0.7	1.0			2/29/24 11:15:01	N	II
R2401534-001	Nickel, Total	N/A		Drinking Water	0.62 ppb	10 mL	1.0 µg/L U	1	0.5	1.0			2/29/24 11:15:01	N	II
R2401534-001	Silver, Total	N/A		Drinking Water	0.01 ppb	10 mL	1.0 µg/L U	1	0.4	1.0			2/29/24 11:15:01	N	II
R2401534-001	Thallium, Total	N/A		Drinking Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.04	1.0			2/29/24 11:15:01	N	II
R2402157-03	Antimony, Total	MS	R2401534-001	Drinking Water	20.94 ppb	10 mL	20.9 µg/L	1	0.2	1.0	105		2/29/24 11:16:57	N	II
R2402157-03	Arsenic, Total	MS	R2401534-001	Drinking Water	20.86 ppb	10 mL	20.9 µg/L	1	0.4	1.0	104		2/29/24 11:16:57	N	II
R2402157-03	Barium, Total	MS	R2401534-001	Drinking Water	85.32 ppb	10 mL	85.3 µg/L	1	0.3	1.0	102		2/29/24 11:16:57	N	II
R2402157-03	Beryllium	MS	R2401534-001	Drinking Water	19.83 ppb	10 mL	19.8 µg/L	1	0.08	1.0	99		2/29/24 11:16:57	N	II
R2402157-03	Cadmium, Total	MS	R2401534-001	Drinking Water	19.65 ppb	10 mL	19.7 µg/L	1	0.2	1.0	98		2/29/24 11:16:57	N	II
R2402157-03	Chromium, Total	MS	R2401534-001	Drinking Water	19.92 ppb	10 mL	19.9 µg/L	1	0.6	2.0	100		2/29/24 11:16:57	N	II
R2402157-03	Copper, Total	MS	R2401534-001	Drinking Water	34.97 ppb	10 mL	35.0 µg/L	1	0.7	1.0	98		2/29/24 11:16:57	N	II
R2402157-03	Nickel, Total	MS	R2401534-001	Drinking Water	19.42 ppb	10 mL	19.4 µg/L	1	0.5	1.0	97		2/29/24 11:16:57	N	II
R2402157-03	Silver, Total	MS	R2401534-001	Drinking Water	19.07 ppb	10 mL	19.1 µg/L	1	0.4	1.0	95		2/29/24 11:16:57	N	II
R2402157-03	Thallium, Total	MS	R2401534-001	Drinking Water	19.94 ppb	10 mL	19.9 µg/L	1	0.04	1.0	100		2/29/24 11:16:57	N	II
R2402157-04	Antimony, Total	DMS	R2401534-001	Drinking Water	20.92 ppb	10 mL	20.9 µg/L	1	0.2	1.0	105	<1	2/29/24 11:18:51	N	II
R2402157-04	Arsenic, Total	DMS	R2401534-001	Drinking Water	20.10 ppb	10 mL	20.1 µg/L	1	0.4	1.0	100	4	2/29/24 11:18:51	N	II
R2402157-04	Barium, Total	DMS	R2401534-001	Drinking Water	86.23 ppb	10 mL	86.2 µg/L	1	0.3	1.0	106	1	2/29/24 11:18:51	N	II
R2402157-04	Beryllium	DMS	R2401534-001	Drinking Water	19.71 ppb	10 mL	19.7 µg/L	1	0.08	1.0	99	<1	2/29/24 11:18:51	N	II
R2402157-04	Cadmium, Total	DMS	R2401534-001	Drinking Water	19.50 ppb	10 mL	19.5 µg/L	1	0.2	1.0	98	<1	2/29/24 11:18:51	N	II
R2402157-04	Chromium, Total	DMS	R2401534-001	Drinking Water	19.34 ppb	10 mL	19.3 µg/L	1	0.6	2.0	97	3	2/29/24 11:18:51	N	II
R2402157-04	Copper, Total	DMS	R2401534-001	Drinking Water	34.79 ppb	10 mL	34.8 µg/L	1	0.7	1.0	97	<1	2/29/24 11:18:51	N	II

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-ICP-MS-02 **Analyst:** MMCMAHON **Analysis Lot:** 833814 **Method/Testcode:** 200.8/Cu T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402157-04	Nickel, Total	DMS	R2401534-001	Drinking Water	19.20 ppb	10 mL	19.2 µg/L	1	0.5	1.0	96	1	2/29/24 11:18:51	N	II
KQ2402157-04	Silver, Total	DMS	R2401534-001	Drinking Water	19.28 ppb	10 mL	19.3 µg/L	1	0.4	1.0	96	1	2/29/24 11:18:51	N	II
KQ2402157-04	Thallium, Total	DMS	R2401534-001	Drinking Water	19.74 ppb	10 mL	19.7 µg/L	1	0.04	1.0	99	1	2/29/24 11:18:51	N	II
K2401543-001	Antimony, Total	N/A		Water	0.00 ppb	10 mL	0.0010 mg/L U	1	0.0002	0.0010			2/29/24 11:28:17	N	IV
K2401543-001	Arsenic, Total	N/A		Water	0.95 ppb	10 mL	0.0010 mg/L J	1	0.0004	0.0010			2/29/24 11:28:17	N	IV
K2401543-001	Thallium, Total	N/A		Water	0.04 ppb	10 mL	0.0010 mg/L U	1	0.00004	0.0010			2/29/24 11:28:17	N	IV
KQ2402157-05	Antimony, Total	MS	R2401543-001	Water	20.11 ppb	10 mL	20.1 µg/L	1	0.2	1.0	101		2/29/24 11:30:13	N	IV
KQ2402157-05	Arsenic, Total	MS	R2401543-001	Water	21.19 ppb	10 mL	21.2 µg/L	1	0.4	1.0	101		2/29/24 11:30:13	N	IV
KQ2402157-05	Thallium, Total	MS	R2401543-001	Water	19.69 ppb	10 mL	19.7 µg/L	1	0.04	1.0	98		2/29/24 11:30:13	N	IV
KQ2402157-06	Antimony, Total	DMS	R2401543-001	Water	20.52 ppb	10 mL	20.5 µg/L	1	0.2	1.0	103	2	2/29/24 11:32:09	N	IV
KQ2402157-06	Arsenic, Total	DMS	R2401543-001	Water	21.89 ppb	10 mL	21.9 µg/L	1	0.4	1.0	105	3	2/29/24 11:32:09	N	IV
KQ2402157-06	Thallium, Total	DMS	R2401543-001	Water	19.40 ppb	10 mL	19.4 µg/L	1	0.04	1.0	97	2	2/29/24 11:32:09	N	IV
K2401543-002	Antimony, Total	N/A		Water	0.04 ppb	10 mL	0.0010 mg/L U	1	0.0002	0.0010			2/29/24 11:37:57	N	IV
K2401543-002	Arsenic, Total	N/A		Water	1.58 ppb	10 mL	0.0016 mg/L	1	0.0004	0.0010			2/29/24 11:37:57	N	IV
K2401543-002	Thallium, Total	N/A		Water	0.08 ppb	10 mL	0.00008 mg/L J	1	0.00004	0.0010			2/29/24 11:37:57	N	IV
K2401543-003	Antimony, Total	N/A		Water	0.02 ppb	10 mL	0.0010 mg/L U	1	0.0002	0.0010			2/29/24 11:39:54	N	IV
K2401543-003	Arsenic, Total	N/A		Water	1.45 ppb	10 mL	0.0015 mg/L	1	0.0004	0.0010			2/29/24 11:39:54	N	IV
K2401543-003	Thallium, Total	N/A		Water	0.08 ppb	10 mL	0.00008 mg/L J	1	0.00004	0.0010			2/29/24 11:39:54	N	IV
K2401543-004	Antimony, Total	N/A		Water	4.43 ppb	10 mL	0.0044 mg/L	1	0.0002	0.0010			2/29/24 11:41:51	N	IV
~~K2401543-004~~	~~Arsenic, Total~~	~~N/A~~		~~Water~~	~~1.41 ppb~~	~~10 mL~~	~~0.0014 mg/L~~	~~1~~	~~0.0004~~	~~0.0010~~			~~2/29/24 11:41:51~~	~~N~~	~~IV~~
K2401543-004	Thallium, Total	N/A		Water	0.05 ppb	10 mL	0.00005 mg/L J	1	0.00004	0.0010			2/29/24 11:41:51	N	IV
K2401543-005	Antimony, Total	N/A		Water	-0.03 ppb	10 mL	0.0010 mg/L U	1	0.0002	0.0010			2/29/24 11:43:47	N	IV
K2401543-005	Arsenic, Total	N/A		Water	1.23 ppb	10 mL	0.0012 mg/L	1	0.0004	0.0010			2/29/24 11:43:47	N	IV
K2401543-005	Thallium, Total	N/A		Water	0.15 ppb	10 mL	0.0001 mg/L J	1	0.00004	0.0010			2/29/24 11:43:47	N	IV
K2401543-006	Antimony, Total	N/A		Water	-0.04 ppb	10 mL	0.0010 mg/L U	1	0.0002	0.0010			2/29/24 11:45:43	N	IV
~~K2401543-006~~	~~Arsenic, Total~~	~~N/A~~		~~Water~~	~~1.21 ppb~~	~~10 mL~~	~~0.0012 mg/L~~	~~1~~	~~0.0004~~	~~0.0010~~			~~2/29/24 11:45:43~~	~~N~~	~~IV~~
K2401543-006	Thallium, Total	N/A		Water	0.15 ppb	10 mL	0.0002 mg/L J	1	0.00004	0.0010			2/29/24 11:45:43	N	IV
K2401543-008	Antimony, Total	N/A		Water	0.12 ppb	10 mL	0.0010 mg/L U	1	0.0002	0.0010			2/29/24 11:53:24	N	IV
K2401543-008	Arsenic, Total	N/A		Water	7.58 ppb	10 mL	0.0076 mg/L	1	0.0004	0.0010			2/29/24 11:53:24	N	IV
K2401543-008	Thallium, Total	N/A		Water	0.00 ppb	10 mL	0.0010 mg/L U	1	0.00004	0.0010			2/29/24 11:53:24	N	IV

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-ICP-MS-02 **Analyst:** MMCMAHON **Analysis Lot:** 833815 **Method/Testcode:** 200.8/Pb T UnD

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402285-01	Lead, Total	MB		Drinking Water	0.00 ppb	10 mL	1.0 µg/L U	1	0.04	1.0			2/29/24 12:07:50	N	II
KQ2402285-02	Lead, Total	LCS		Drinking Water	21.57 ppb	10 mL	21.6 µg/L	1	0.04	1.0	108		2/29/24 12:09:46	N	II
K2401553-001	Lead, Total	N/A		Drinking Water	0.42 ppb	10 mL	1.0 µg/L U	1	0.04	1.0			2/29/24 12:17:31	N	II

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Metals Cover Page

Analyst: ec **Date:** 2/29/24 **Instrument:** M7600

Data File: 022924 **Reviewed By:** ec **Entered By:** ec

Starlims Run #	Analytes Used	Batch ID	Method	Failed Analytes	Repeats
833739	Hg	434686	245.1/7470A		
833740	Hg	434687	7470A		
833741	Hg	434688	7470A		
833742	Hg	434689	TCLP		

Quicktrace M7600 Run Log (R-CVAA-03)

Serial number: US23110001

Analyst: ec Data File: 022924

Date Prepped: 2/28/24 Date Analyzed: 2/29/24

Calibration/CRDL Source Standard: 231916 ICV/CCV/LCS/MS Source Standard: 230321

Cal/ CRDL 10ppm stock: M8600074A ICV/CCV/LCS/MS 10ppm stock: M8600025A

Cal/ CRDL 0.1ppm stock: M8600074B ICV/CCV/LCS/MS 0.1 ppm stock: M8600029B

Digested Calibration: M8600074I

Stannous Chloride (prep/exp daily): 100g SnCL2 lot 232619 + 70 mLHCl lot 232049 diluted to 1000 mL

Pipet ID: — DOD Pipet Verification: —

S:1	Calibration Blank	1:29	PBW-434687	1:47	PBW-434688
S:2	Standard #1 (0.2 ug/L)	1:30	LCSW-43687	1:48	LCSW-434688
S:3	Standard #2 (0.5 ug/L)	1:31	ec 2/29/24 ~~R2401515-001~~ R2401505-001	1:49	R2401532-001
S:4	Standard #3 (1 ug/L)	1:32	R2401541-001	1:50	R2401543-001
S:5	Standard #4 (2 ug/L)	1:33	R2401541-003	1:51	R2401543-001S
S:6	Standard #5 (5 ug/L)	1:34	R2401541-005	1:52	R2401543-001SD
S:7	Standard #6 (10 ug/L)	1:35	R2401541-007	1:53	R2401543-002
S:8	ICV	1:36	R2401541-009	1:54	R2401543-003
S:9	ICB	1:37	R2401541-011	1:55	R2401543-004
S:2	CRDL	1:38	R2401541-013	S:8	CCV
S:8	CCV	S:8	CCV	S:9	CCB
S:9	CCB	S:9	CCB	1:56	R2401543-005
1:1	PBW-434686	1:39	R2401541-015	1:57	R2401543-006
1:2	FBW-434686	1:40	R2401541-017	1:58	R2401543-007
1:3	LCSW-434686	1:41	R2401541-019	1:59	R2401543-008
1:4	R2401493-001	1:42	R2401541-019S	1:60	R2401558-001
1:5	R2401493-002	1:43	R2401541-019SD	2:1	RQ2402072-01
1:6	R2401493-003	1:44	R2401541-021	2:2	RQ2402073-01
1:7	R2401493-004	1:45	R2401562-001	2:3	R2401405-001
1:8	R2401504-001	1:46	R2401563-001	2:4	R2401443-001
S:8	CCV	S:2	CRDL	S:2	CRDL
S:9	CCB	S:8	CCV	S:8	CCV
1:9	R2401504-002	S:9	CCB	S:9	CCB
1:10	R2401504-002S				
1:11	R2401504-002SD				
1:12	R2401504-003				
1:13	R2401504-004				
1:14	R2401504-005				
1:15	R2401504-006				
1:16	R2401504-007				
1:17	R2401504-008				
S:8	CCV				
S:9	CCB				
1:18	R2401504-009				
1:19	R2401504-012				
1:20	R2401504-013				
1:21	R2401504-014				
1:22	R2401528-001				
1:23	R2401528-001S				
1:24	R2401528-001SD				
1:25	R2401534-001				
S:2	CRDL				
S:8	CCV				
S:9	CCB				

ec 2/29/24

ALS Environmental - Mercury 245.1/7470A/7471B

Report Generated By Teledyne Leeman QuickTrace

Analyst: alrce.nouser

Worksheet file: C:\Users\Public\Documents\Teledyne CETAC\QuickTrace\Worksheets\022924.wszf

Creation Date: 2/29/2024 07:43:26

Comment: RC 2/29/24

Results

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	DF	% Recovery
Calibration Blank					STD	02/29/24 09:28:06 am	0.000	868	1.83		1.0000	N/A
Replicates	891.7	856.3	862.7	862.2								
Standard #1 (0.2 ug/L)					STD	02/29/24 09:30:38 am	0.200	3604	0.40	2.02%	1.0000	N/A
Replicates	3600.4	3606.6	3586.6	3621.8								
Standard #2 (0.5 ug/L)					STD	02/29/24 09:33:11 am	0.500	7834	0.09	-0.50%	1.0000	N/A
Replicates	7835.3	7843.1	7828.1	7828.8								
Standard #3 (1 ug/L)					STD	02/29/24 09:35:43 am	1.000	14830	0.09	-1.71%	1.0000	N/A
Replicates	14836.1	14846.5	14819.2	14819.9								
Standard #4 (2 ug/L)					STD	02/29/24 09:38:16 am	2.000	29270	0.17	-0.77%	1.0000	N/A
Replicates	29315.3	29308.2	29249.4	29208.5								
Standard #5 (5 ug/L)					STD	02/29/24 09:40:49 am	5.000	73080	0.16	0.48%	1.0000	N/A
Replicates	73181.0	73150.7	73072.7	72916.7								
Standard #6 (10 ug/L)					STD	02/29/24 09:43:22 am	10.000	144709	0.14	-0.07%	1.0000	N/A
Replicates	144891.8	144838.7	144673.9	144433.2								

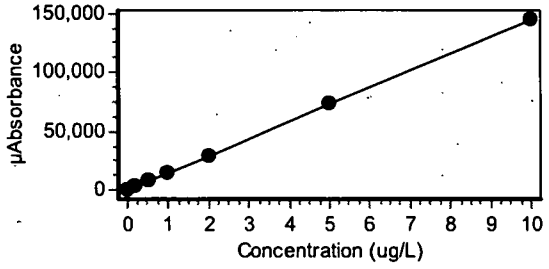
Calibration

Equation: Abs = 14414.869x + 662.623

R2: 0.99998 RSE: 1.42%

SEE: 238.9830

Flags:



ICV					ICV	02/29/24 09:45:56 am	3.048	44605	0.15		1.0000	101.61
Replicates	44666.8	44635.5	44608.0	44511.0								
ICB					ICB	02/29/24 09:48:30 am	-0.021	361	2.16		1.0000	N/A
Replicates	361.4	366.8	351.7	363.5								
CRDL					CRDL	02/29/24 09:51:02 am	0.203	3595	0.28		1.0000	101.70
Replicates	3591.8	3598.4	3603.4	3584.6								
CCV					CCV	02/29/24 09:53:36 am	3.050	44625	0.13		1.0000	101.66
Replicates	44651.8	44658.9	44648.0	44540.9								
CCB					CCB	02/29/24 09:56:10 am	-0.020	379	2.39		1.0000	N/A
Replicates	380.5	370.6	386.9	377.4								

Sample Name					Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	DF	% Recovery
PBW-434686					UNK	02/29/24 09:58:41 am	0.006	750	14.00		1.0000	N/A
Replicates	740.0	756.6	763.4	738.9								
FBW-434686					UNK	02/29/24 10:01:13 am	0.000	667	331.96		1.0000	N/A
Replicates	654.6	684.9	658.9	668.4								
LCSW-434686					UNK	02/29/24 10:03:44 am	0.990	14939	0.18		1.0000	N/A
Replicates	14969.5	14944.1	14935.9	14907.6								
R2401493-001					UNK	02/29/24 10:06:16 am	0.019	937	5.90		1.0000	N/A
Replicates	922.4	959.8	929.6	935.8								
R2401493-002					UNK	02/29/24 10:08:48 am	0.026	1036	2.83		1.0000	N/A
Replicates	1044.9	1039.8	1020.9	1039.9								
R2401493-003					UNK	02/29/24 10:11:20 am	0.020	945	2.98		1.0000	N/A
Replicates	952.2	943.3	934.4	951.9								
R2401493-004					UNK	02/29/24 10:13:52 am	0.009	789	8.50		1.0000	N/A
Replicates	797.7	784.6	776.4	798.8								
R2401504-001					UNK	02/29/24 10:16:25 am	-0.002	633	25.45		1.0000	N/A
Replicates	639.7	626.4	625.4	638.6								
CCV					CCV	02/29/24 10:18:58 am	3.053	44676	0.07		1.0000	101.78
Replicates	44685.0	44692.2	44696.4	44631.6								
CCB					CCB	02/29/24 10:21:32 am	-0.020	370	3.88		1.0000	N/A
Replicates	383.7	371.3	356.0	370.1								
R2401504-002					UNK	02/29/24 10:24:05 am	-0.001	653	121.70		1.0000	N/A
Replicates	655.8	640.0	649.5	667.4								
R2401504-002S					UNK	02/29/24 10:26:37 am	0.994	14995	0.12		1.0000	N/A
Replicates	15010.2	15009.3	14986.1	14975.1								
R2401504-002SD					UNK	02/29/24 10:29:10 am	0.975	14721	0.13		1.0000	N/A
Replicates	14730.0	14739.9	14713.4	14699.3								
R2401504-003					UNK	02/29/24 10:31:43 am	-0.001	644	58.02		1.0000	N/A
Replicates	630.0	650.6	653.8	643.4								
R2401504-004					UNK	02/29/24 10:34:14 am	0.001	671	231.73		1.0000	N/A
Replicates	662.2	699.3	663.5	658.5								
R2401504-005					UNK	02/29/24 10:36:46 am	0.003	700	27.09		1.0000	N/A
Replicates	713.8	689.1	697.8	700.5								
R2401504-006					UNK	02/29/24 10:39:17 am	0.008	777	6.33		1.0000	N/A
Replicates	769.6	785.0	772.5	781.3								
R2401504-007					UNK	02/29/24 10:41:49 am	0.003	702	19.33		1.0000	N/A
Replicates	701.3	703.2	692.4	710.9								
R2401504-008					UNK	02/29/24 10:44:21 am	-0.003	616	25.49		1.0000	N/A
Replicates	624.0	602.0	610.2	627.5								

Sample Name		Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	DF	% Recovery
CCV		CCV	02/29/24 10:46:55 am	3.008	44025	0.15		1.0000	100.27
Replicates	44063.7	44073.8	44028.0	43932.8					
CCB		CCB	02/29/24 10:49:29 am	-0.017	422	4.21		1.0000	N/A
Replicates	429.1	407.0	424.5	427.2					
R2401504-009		UNK	02/29/24 10:52:01 am	-0.014	462	5.61		1.0000	N/A
Replicates	466.5	454.0	475.2	450.9					
R2401504-012		UNK	02/29/24 10:54:33 am	-0.016	432	3.29		1.0000	N/A
Replicates	438.7	424.4	427.7	439.2					
R2401504-013		UNK	02/29/24 10:57:05 am	0.000	658	405.63		1.0000	N/A
Replicates	677.7	652.4	665.9	637.4					
R2401504-014		UNK	02/29/24 10:59:38 am	-0.007	556	11.93		1.0000	N/A
Replicates	544.4	544.9	566.9	566.6					
R2401528-001		UNK	02/29/24 11:02:10 am	-0.012	485	5.63		1.0000	N/A
Replicates	495.2	487.5	484.5	471.2					
R2401528-001S		UNK	02/29/24 11:04:43 am	0.992	14955	0.14		1.0000	N/A
Replicates	14970.4	14974.2	14937.9	14938.0					
R2401528-001SD		UNK	02/29/24 11:07:16 am	0.962	14528	0.27		1.0000	N/A
Replicates	14557.9	14543.6	14537.3	14473.8					
R2401534-001		UNK	02/29/24 11:09:48 am	-0.015	444	6.77		1.0000	N/A
Replicates	422.2	454.0	447.7	452.4					
CRDL		CRDL	02/29/24 11:12:19 am	0.207	3649	0.34		1.0000	103.59
Replicates	3650.6	3656.6	3655.0	3634.3					
CCV		CCV	02/29/24 11:14:53 am	3.016	44137	0.04		1.0000	100.53
Replicates	44138.8	44152.3	44145.3	44112.3					
CCB		CCB	02/29/24 11:17:27 am	-0.017	424	3.22		1.0000	N/A
Replicates	423.9	426.4	431.2	413.1					
PBW-434687		UNK	02/29/24 11:19:59 am	-0.009	528	9.62		1.0000	N/A
Replicates	544.7	526.3	527.3	513.2					
LCSW-43687		UNK	02/29/24 11:22:31 am	1.005	15154	0.14		1.0000	N/A
Replicates	15174.3	15156.8	15157.6	15126.8					
~~R2401516-001~~ R2401505-001		UNK	02/29/24 11:25:03 am	-0.013	473	4.83		1.0000	N/A
Replicates	479.3	464.6	466.8	483.1					
R2401541-001		UNK	02/29/24 11:27:36 am	-0.012	486	3.14		1.0000	N/A
Replicates	478.2	489.3	490.0	488.1					
R2401541-003		UNK	02/29/24 11:30:08 am	-0.020	381	4.35		1.0000	N/A
Replicates	383.3	395.8	366.1	378.6					
R2401541-005		UNK	02/29/24 11:32:41 am	-0.018	409	3.31		1.0000	N/A
Replicates	405.6	407.4	400.9	420.6					

EC 2/29/24

Sample Name		Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	DF	% Recovery
R2401541-007		UNK	02/29/24 11:35:13 am	-0.017	411	4.44		1.0000	N/A
Replicates	424.4	414.5	406.5	398.3					
R2401541-009		UNK	02/29/24 11:37:46 am	-0.018	408	2.43		1.0000	N/A
Replicates	399.2	411.1	413.3	408.6					
R2401541-011		UNK	02/29/24 11:40:18 am	-0.016	431	3.35		1.0000	N/A
Replicates	432.3	438.4	433.9	420.2					
R2401541-013		UNK	02/29/24 11:42:50 am	-0.016	435	5.56		1.0000	N/A
Replicates	432.0	453.4	423.7	432.7					
CCV		CCV	02/29/24 11:45:23 am	3.002	43943	0.10		1.0000	100.08
Replicates	43961.9	43975.4	43955.1	43880.2					
CCB		CCB	02/29/24 11:47:57 am	-0.019	394	5.66		1.0000	N/A
Replicates	405.1	407.3	375.3	387.3					
R2401541-015		UNK	02/29/24 11:50:29 am	-0.018	410	7.69		1.0000	N/A
Replicates	412.9	423.0	422.0	381.5					
R2401541-017		UNK	02/29/24 11:53:01 am	-0.016	438	6.06		1.0000	N/A
Replicates	446.1	423.6	453.1	430.6					
R2401541-019		UNK	02/29/24 11:55:33 am	-0.006	578	7.32		1.0000	N/A
Replicates	574.7	571.9	585.4	581.4					
R2401541-019S		UNK	02/29/24 11:58:05 am	0.945	14285	0.29		1.0000	N/A
Replicates	14315.6	14323.2	14247.3	14253.5					
R2401541-019SD		UNK	02/29/24 12:00:37 pm	0.970	14650	0.16		1.0000	N/A
Replicates	14682.9	14647.1	14641.9	14629.3					
R2401541-021		UNK	02/29/24 12:03:09 pm	-0.020	368	4.47		1.0000	N/A
Replicates	368.9	381.9	350.1	370.3					
R2401562-001		UNK	02/29/24 12:05:42 pm	-0.010	520	11.81		1.0000	N/A
Replicates	504.1	539.9	507.4	527.0					
R2401563-001		UNK	02/29/24 12:08:14 pm	-0.014	467	5.84		1.0000	N/A
Replicates	467.8	450.6	477.6	470.4					
CRDL		CRDL	02/29/24 12:10:46 pm	0.201	3562	0.41		1.0000	100.57
Replicates	3549.5	3574.8	3554.3	3569.2					
CCV		CCV	02/29/24 12:13:20 pm	2.964	43389	0.03		1.0000	98.80
Replicates	43400.2	43375.5	43394.0	43384.5					
CCB		CCB	02/29/24 12:15:54 pm	-0.022	344	0.89		1.0000	N/A
Replicates	340.9	347.4	345.2	342.5					
PBW-434688		UNK	02/29/24 12:18:27 pm	-0.008	541	11.54		1.0000	N/A
Replicates	553.4	548.8	521.7	541.2					
LCSW-434688		UNK	02/29/24 12:21:00 pm	0.950	14362	0.07		1.0000	N/A
Replicates	14375.7	14361.4	14357.2	14353.7					

Sample Name		Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	DF	% Recovery
R2401532-001		UNK	02/29/24 12:23:32 pm	-0.007	564	7.05		1.0000	N/A
Replicates	563.4	565.5	572.8	556.0					
R2401543-001		UNK	02/29/24 12:26:04 pm	-0.010	516	9.99		1.0000	N/A
Replicates	526.1	531.0	499.8	508.8					
R2401543-001S		UNK	02/29/24 12:28:36 pm	0.934	14125	0.07		1.0000	N/A
Replicates	14128.2	14125.8	14133.1	14112.1					
R2401543-001SD		UNK	02/29/24 12:31:08 pm	0.966	14593	0.09		1.0000	N/A
Replicates	14604.4	14603.7	14585.7	14579.9					
R2401543-002		UNK	02/29/24 12:33:40 pm	-0.001	643	59.75		1.0000	N/A
Replicates	630.0	646.0	638.1	657.6					
R2401543-003		UNK	02/29/24 12:36:12 pm	-0.001	653	242.80		1.0000	N/A
Replicates	626.3	658.6	646.6	681.1					
R2401543-004		UNK	02/29/24 12:38:44 pm	-0.004	602	12.03		1.0000	N/A
Replicates	594.3	611.6	603.6	599.6					
CCV		CCV	02/29/24 12:41:18 pm	2.933	42934	0.03		1.0000	97.75
Replicates	42930.8	42949.5	42931.7	42923.4					
CCB		CCB	02/29/24 12:43:52 pm	-0.020	377	6.39		1.0000	N/A
Replicates	373.8	402.9	360.6	369.9					
R2401543-005		UNK	02/29/24 12:46:24 pm	0.009	786	6.27		1.0000	N/A
Replicates	791.1	793.4	776.9	782.1					
R2401543-006		UNK	02/29/24 12:48:56 pm	0.002	698	38.97		1.0000	N/A
Replicates	699.8	678.6	711.0	704.0					
R2401543-007		UNK	02/29/24 12:51:29 pm	-0.002	632	34.04		1.0000	N/A
Replicates	646.2	626.0	632.8	622.5					
R2401543-008		UNK	02/29/24 12:54:02 pm	0.006	753	7.57		1.0000	N/A
Replicates	742.4	756.0	757.0	755.0					
R2401558-001		UNK	02/29/24 12:56:35 pm	0.008	777	14.42		1.0000	N/A
Replicates	785.0	793.8	775.3	755.3					
RQ2402072-01		UNK	02/29/24 12:59:07 pm	0.000	660	288.59		1.0000	N/A
Replicates	672.1	655.5	652.9	658.0					
RQ2402073-01		UNK	02/29/24 01:01:39 pm	0.000	670	89.16		1.0000	N/A
Replicates	673.9	675.2	669.2	661.0					
R2401405-001		UNK	02/29/24 01:04:12 pm	-0.003	623	25.24		1.0000	N/A
Replicates	622.3	636.1	611.7	622.2					
R2401443-001		UNK	02/29/24 01:06:44 pm	0.004	724	23.75		1.0000	N/A
Replicates	714.9	708.5	735.1	737.8					
CRDL		CRDL	02/29/24 01:09:16 pm	0.200	3539	0.73		1.0000	99.77
Replicates	3524.9	3561.1	3517.6	3552.0					

Sample Name				Type	Date/Time	Conc (ug/L)	µAbs	%RSD	Residual	DF	% Recovery
CCV				CCV	02/29/24 01:11:50 pm	2.942	43068	0.05		1.0000	98.06
	Replicates	43076.8	43086.2	43069.7	43040.6						
CCB				CCB	02/29/24 01:14:24 pm	-0.018	405	4.33		1.0000	N/A
	Replicates	389.4	415.0	409.5	408.0						

M-7600 245.1/7470A/7471B Calibration

Date	2/29/2024	Analyst	EC
Data File	022924		

Abs= 14414.869x + 662.623

Standard	Conc ug/L	uAbs	CF_x	Meas. conc	%Rec
System Blk	0	868			
STD-1	0.2	3604	3546	0.20	101.65
STD-2	0.5	7834	7597	0.52	103.12
STD-3	1	14830	15077	0.98	98.36
STD-4	2	29270	29492	1.98	99.25
STD-5	5	73080	72737	5.02	100.47
STD-6	10	144709	144811	9.99	99.93

14414.869
662.623

Preparation Information Benchsheet

Prep Run#: 434686
Team: Metals/ECASTROVINCI

Prep WorkFlow: HgDigAq
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/28/24 10:53

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402163-01	MB		25mL	245.1/Hg T, 7470A/Hg D, Hg T	<2			25.00mL			HB: 7 WELL: E2 TEMP: 93.9C/94.5C
2	RQ2402163-07	MB		25mL	7470A/Hg D	<2			25.00mL			Filter Blank R2401493 2/28/24
3	RQ2402163-02	LCS		25mL	245.1/Hg T, 7470A/Hg D, Hg T	<2			25.00mL		0.2500 mL/233901	ON HB: 13:19 OFF HB: 15:19 Pipets/Repipettors used: M39, M36, M208, M106, M270, M370, M320
4	R2401493-001	T2-022224-1030	.06	25mL	7470A/Hg T	<2			25.00mL			
5	R2401493-002	T2-022224-1030 Diss	.05	25mL	7470A/Hg D	<2			25.00mL			
6	R2401493-003	T3-022224-1200	.06	25mL	7470A/Hg T	<2			25.00mL			
7	R2401493-004	T3-022224-1200 Diss	.05	25mL	7470A/Hg D	<2			25.00mL			
8	R2401504-001	MW-30B	.01	25mL	7470A/Hg T	<2			25.00mL			
9	R2401504-002	MW-30A	.01	25mL	7470A/Hg T	<2			25.00mL			
10	RQ2402163-05	R2401504-002 MS	.01	25mL	7470A/Hg T	<2			25.00mL		0.2500 mL/233901	
11	RQ2402163-06	R2401504-002 DMS	.01	25mL	7470A/Hg T	<2			25.00mL		0.2500 mL/233901	
12	R2401504-003	MW-29B	.01	25mL	7470A/Hg T	<2			25.00mL			
13	R2401504-004	MW-29A	.01	25mL	7470A/Hg T	<2			25.00mL			
14	R2401504-005	MW-4AA	.01	25mL	7470A/Hg T	<2			25.00mL			
15	R2401504-006	MW-4B	.01	25mL	7470A/Hg T	<2			25.00mL			
16	R2401504-007	MW-4C	.01	25mL	7470A/Hg T	<2			25.00mL			
17	R2401504-008	MW-23C	.01	25mL	7470A/Hg T	<2			25.00mL			
18	R2401504-009	MW-23AA	.01	25mL	7470A/Hg T	<2			25.00mL			
19	R2401504-012	MW-22A	.01	25mL	7470A/Hg T	<2			25.00mL			
20	R2401504-013	MW-22C	.01	25mL	7470A/Hg T	<2			25.00mL			
21	R2401504-014	MW-21C	.01	25mL	7470A/Hg T	<2			25.00mL			
22	R2401528-001	IS-240222-PM	.01	25mL	245.1/Hg T	<2			25.00mL			
23	RQ2402163-03	R2401528-001 MS	.01	25mL	245.1/Hg T	<2			25.00mL		0.2500 mL/233901	
24	RQ2402163-04	R2401528-001 DMS	.01	25mL	245.1/Hg T	<2			25.00mL		0.2500 mL/233901	
25	R2401534-001	M33847-1-11 4766 Pilgrimport Road	.05	25mL	245.1/Hg T	<2			25.00mL			

Spiking Solutions

Name: Mercury LCSW Metals Hg Inventory ID 233901 Logbook Ref: 233901 Expires On: 02/29/2024

Preparation Information Benchsheet

Prep Run#: 434686
Team: Metals/ECASTROVINCI

Prep WorkFlow: HgDigAq
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/28/24 10:53

Preparation Materials

Hot Block Cups	50mL Lot 2304355 (232860)	Sulfuric Acid, Instra-Analyzed	230116 (230116)	Nitric Acid Metals Grade HNO3	231748 (231748)
Hydroxylamine HCL Solution	233083 (233083)	Potassium Persulfate RG K2S2O8	231914 (231914)	Potassium Permanganate RG KMnO4	230956 (230956)
Thermometer	458 (230828)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:53
Finished: 2/29/24 07:35
By: ECASTROVINCI
Comments

Comments: _____

Reviewed By: Nicole Maassen Date: 2/29/24

Chain of Custody

Relinquished By: E Castro Date: 2/29/24

Received By: RAD1 Date: 2/29/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434687 **Prep WorkFlow:** HgDigAq **Status:** Prepped
Team: Metals/ECASTROVINCI **Prep Method:** Method **Prep Date/Time:** 2/28/24 10:53

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402164-01	MB		25mL	7470A/Hg T	<2			25.00mL			HB: 7 WELL: E2 TEMP: 93.9C/94.5C
2	RQ2402164-02	LCS		25mL	7470A/Hg T	<2			25.00mL		0.2500 mL/233901	ON HB: 13:19 OFF HB: 15:19 Pipets/Repipettors used: M39, M36, M208, M106, M270, M370, M320
3	R2401505-001	MH-1N	.16	25mL	7470A/Hg T	<2			25.00mL			
4	R2401541-001	MW-7BB	.03	25mL	7470A/Hg T	<2			25.00mL			
5	R2401541-003	MW-11B	.03	25mL	7470A/Hg T	<2			25.00mL			
6	R2401541-005	MW-11C	.03	25mL	7470A/Hg T	<2			25.00mL			
7	R2401541-007	MW-5B	.03	25mL	7470A/Hg T	<2			25.00mL			
8	R2401541-009	MW-5A	.03	25mL	7470A/Hg T	<2			25.00mL			
9	R2401541-011	MW-3	.03	25mL	7470A/Hg T	<2			25.00mL			
10	R2401541-013	MW-21A	.03	25mL	7470A/Hg T	<2			25.00mL			
11	R2401541-015	MW-19AA	.03	25mL	7470A/Hg T	<2			25.00mL			
12	R2401541-017	MW-28A	.03	25mL	7470A/Hg T	<2			25.00mL			
13	R2401541-019	MW-28B	.03	25mL	7470A/Hg T	<2			25.00mL			
14	RQ2402164-03	R2401541-019 MS	.03	25mL	7470A/Hg T	<2			25.00mL		0.2500 mL/233901	
15	RQ2402164-04	R2401541-019 DMS	.03	25mL	7470A/Hg T	<2			25.00mL		0.2500 mL/233901	
16	R2401541-021	DUPE Y	.01	25mL	7470A/Hg T	<2			25.00mL			
17	R2401562-001	43A1 Liquid	.05	25mL	7470A/Hg T	<2			25.00mL			
18	R2401563-001	43A1 Storm	.05	25mL	7470A/Hg T	<2			25.00mL			

Spiking Solutions

Name: Mercury LCSW Metals Hg Inventory ID 233901 Logbook Ref: 233901 Expires On: 02/29/2024

Preparation Materials

Hot Block Cups	50mL Lot 2304355 (232860)	Sulfuric Acid, Instra-Analyzed	230116 (230116)	Nitric Acid Metals Grade HNO3	231748 (231748)
Hydroxylamine HCL Solution	233083 (233083)	Potassium Permanganate RG KMnO4	230956 (230956)	Potassium Persulfate RG K2S2O8	231914 (231914)
Thermometer	458 (230828)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:53
Finished: 2/29/24 07:35
By: ECASTROVINCI
Comments

Preparation Information Benchsheet

Prep Run#: 434687
Team: Metals/ECASTROVINCI

Prep WorkFlow: HgDigAq
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/28/24 10:53

Comments: _____

Reviewed By: Nicole Mansen Date: 2/29/24

Chain of Custody

Relinquished By: E. Castro Date: 2/29/24

Received By: RAO1 Date: 2/29/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434688
Team: Metals/ECASTROVINCI

Prep WorkFlow: HgDigAq
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/28/24 10:53

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402165-01	MB		25mL	7470A/Hg T	<2			25.00mL			HB: 8 WELL: E2 TEMP: 95.5C/93.7C
2	RQ2402165-02	LCS		25mL	7470A/Hg T	<2			25.00mL		0.2500 mL/233901	ON HB: 13:19 OFF HB: 15:19 Pipets/Repipettors used: M39,M36,M208,M106,M270,M370,M320
3	R2401532-001	Leachate Tank	.01	25mL	7470A/Hg T	<2			25.00mL			
4	R2401543-001	2402260903A 400-EV-131	.01	25mL	7470A/Hg T	<2			25.00mL			
5	RQ2402165-03	R2401543-001 MS	.01	25mL	7470A/Hg T				25.00mL		0.2500 mL/233901	
6	RQ2402165-04	R2401543-001 DMS	.01	25mL	7470A/Hg T				25.00mL		0.2500 mL/233901	
7	R2401543-002	2402260950C 400-FV-131	.01	25mL	7470A/Hg T	<2			25.00mL			
8	R2401543-003	2402260959C 400-FV-131	.01	25mL	7470A/Hg T	<2			25.00mL			
9	R2401543-004	2402261008A 400-HV-147	.01	25mL	7470A/Hg T	<2			25.00mL			
10	R2401543-005	2402261050C 400-GV-125	.01	25mL	7470A/Hg T	<2			25.00mL			
11	R2401543-006	2402261052C 400-GV-125	.01	25mL	7470A/Hg T	<2			25.00mL			
12	R2401543-007	2402261318A 400-JV-150	.01	25mL	7470A/Hg T	<2			25.00mL			
13	R2401543-008	2402261425C 400-IV-123	.01	25mL	7470A/Hg T	<2			25.00mL			
14	R2401558-001	TLF	.10	25mL	7470A/Hg T	<2			25.00mL			

Spiking Solutions

Name: Mercury LCSW Metals Hg Inventory ID 233901 Logbook Ref: 233901 Expires On: 02/29/2024

Preparation Materials

Hot Block Cups	50mL Lot 2304355 (232860)	Sulfuric Acid, Instra-Analyzed	230116 (230116)	Nitric Acid Metals Grade HNO3	231748 (231748)
Hydroxylamine HCL Solution	233083 (233083)	Potassium Permanganate RG KMnO4	230956 (230956)	Potassium Persulfate RG K2S2O8	231914 (231914)
Thermometer	459 (230829)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:53
Finished: 2/29/24 07:35
By: ECASTROVINCI
Comments

Preparation Information Benchsheet

Prep Run#: 434688
Team: Metals/ECASTROVINCI

Prep WorkFlow: HgDigAq
Prep Method: Method

Status: Prepped
Prep Date/Time: 2/28/24 10:53

Comments: _____

Reviewed By: Nicole Manser Date: 2/29/24

Chain of Custody

Relinquished By:	E C	Date:	2/29/24	Extracts Examined
Received By:	RAO1	Date:	2/29/24	Yes No

Preparation Information Benchsheet

Prep Run#: 434689 **Prep WorkFlow:** HgDigLP **Status:** Prepped
Team: Metals/ECASTROVINCI **Prep Method:** Method **Prep Date/Time:** 2/28/24 10:53

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402072-01	MB	.01	25mL	7470A/Hg TCLP	<2			25.00mL			
2	RQ2402073-01	MB	.01	25mL	7470A/Hg TCLP	<2			25.00mL			
3	RQ2402161-01	MB		25mL	7470A/Hg TCLP	<2			25.00mL			HB: 8 WELL: E2 TEMP: 95.5C/93.7
4	RQ2402161-02	LCS		25mL	7470A/Hg TCLP	<2			25.00mL			ON HB: 13:19 OFF HB: 15:19 Pipets/Repipettors used: M39, M36, M208, M106, M270, M370, M320
5	R2401405-001	Steuben Soil	.05	25mL	7470A/Hg TCLP	<2			25.00mL			
6	R2401443-001	POST-SS-41-0-0.5	.02	25mL	7470A/Hg TCLP	<2			25.00mL			

Preparation Materials

Hot Block Cups	50mL Lot 2304355 (232860)	Sulfuric Acid, Instra-Analyzed	230116 (230116)	Nitric Acid Metals Grade HNO3	231748 (231748)
Hydroxylamine HCL Solution	233083 (233083)	Potassium Permanganate RG KMnO4	230956 (230956)	Potassium Persulfate RG K2S2O8	231914 (231914)
Thermometer	459 (230829)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:53
Finished: 2/29/24 07:36
By: ECASTROVINCI
Comments

Comments: _____

Reviewed By: Nicole Mousen Date: 2/29/24

Chain of Custody

Relinquished By: [signature] Date: 2/29/24 Extracts Examined

Received By: RAD Date: 2/29/24 Yes No

MERCURY CCV / LCSW / MS STANDARDS

Standard	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst/ Date	Letter ID	Nitric Acid Lot #	Expiration Date	Pipet ID
Hg CCV Stk A	230321	1000	1.00	100	10	0.5%HNO3	ec 2/28/24	A	231748	3/6/24	M40

(PREPARED DAILY)

Standard	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst/ Date	Letter ID	Nitric Acid Lot #	Pipet ID
Hg CCV StkB	Hg CCV Stk A	10.0	1.00	100	0.100	0.5%HNO3	ec 2/28/24	B	231748	M40
								C		
								D		
								E		
								F		
								G		
								H		

(PREPARED AND DIGESTED DAILY WITH SAMPLE PREP RUNS)

CCV Standard (ppb)	ALS Lot #	Conc. (ppm)	Vol. (mL) Soil	Vol. (mL) Water	Final Vol. (mls)	Final Conc. (ppb)	Water/ Soil	Analyst/ Date	Letter ID	Pipet ID
CCV	Hg CCV Stk B	0.100	3.00	0.75	Soils- Final vol. 100mL after digest. Water – Final Vol of 25 mL before digest.	3.00	W	ec 2/28/24	I	M40, M39
LCS / MS			1.00	0.25		1.00			J	
									K	
									L	
									M	
									N	
									O	

MERCURY CALIBRATION / CRDL STANDARDS

Standard	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst/ Date	Letter ID	Nitric Acid Lot #	Expiration Date	Pipet ID
Hg Cal Stk A	231916	1000	1.00	100	10	0.5%HNO3	cc 2/28/24	A	231748	3/6/24	M40

(PREPARED DAILY)

Standard	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst/ Date	Letter ID	Nitric Acid Lot #	Pipet ID
Hg Cal StkB	Hg Cal Stk A	10.0	1.00	100	0.100	0.5%HNO3	cc 2/28/24	B	231748	M40
								C		
								D		
								E		
								F		
								G		
								H		

(PREPARED AND DIGESTED DAILY WITH SAMPLE PREP RUNS)

CAL Standard (ppb)	ALS Lot #	Conc. (ppm)	Vol. (mL) Soil	Vol. (mL) Water	Final Vol. (mls)	Final Conc. (ppb)	Water/ Soil	Analyst/ Date	Letter ID	Pipet ID
0.200	Hg Cal Stk B	0.100	0.200	0.05	Soils- Dilute to 10mL w/ DI. Final vol. 100mL after digest. Water – dilute to Final Vol of 25 mL with DI before digest.	0.200	W	cc 2/28/24	I	M40, M39
0.500			0.500	0.125		0.500			J	
1.00			1.00	0.25		1.00			K	
2.00			2.00	0.5		2.00			L	
5.00			5.00	1.25		5.00			M	
10.0			10.0	2.5		10.0			N	
CRA			0.200	0.05		0.200			O	

Analytical Results Summary

Instrument Name: R-CVAA-03 **Analyst:** ECASTROVINCI **Analysis Lot:** 833739 **Method/Testcode:** 7470A/Hg D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402233-05	Mercury, Dissolved	ICV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:45	N	IV
KQ2402233-05	Mercury, Total	ICV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:45	N	IV
KQ2402233-05	Mercury, Total	ICV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:45	N	IV
KQ2402233-08	Mercury, Dissolved	ICB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:48	N	IV
KQ2402233-08	Mercury, Total	ICB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:48	N	IV
KQ2402233-08	Mercury, Total	ICB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:48	N	IV
KQ2402233-06	Mercury, Dissolved	LLCCV		Water	0.20 µg/L	25 mL	0.203 µg/L	1					2/29/24 09:51	N	IV
KQ2402233-06	Mercury, Total	LLCCV		Water	0.20 µg/L	25 mL	0.203 µg/L	1					2/29/24 09:51	N	IV
KQ2402233-06	Mercury, Total	LLCCV		Water	0.20 µg/L	25 mL	0.203 µg/L	1					2/29/24 09:51	N	IV
KQ2402233-01	Mercury, Dissolved	CCV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:53	N	IV
KQ2402233-01	Mercury, Total	CCV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:53	N	IV
KQ2402233-01	Mercury, Total	CCV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:53	N	IV
KQ2402233-09	Mercury, Dissolved	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:56	N	IV
KQ2402233-09	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:56	N	IV
KQ2402233-09	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:56	N	IV
KQ2402163-01	Mercury, Dissolved	MB		Water	0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:58	N	IV
KQ2402163-01	Mercury, Total	MB		Water	0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:58	N	IV
KQ2402163-01	Mercury, Total	MB		Water	0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:58	N	IV
KQ2402163-07	Mercury, Dissolved	MB		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:01	N	IV
KQ2402163-02	Mercury, Dissolved	LCS		Water	0.99 µg/L	25 mL	0.990 µg/L	1	0.08	0.20	99		2/29/24 10:03	N	IV
KQ2402163-02	Mercury, Total	LCS		Water	0.99 µg/L	25 mL	0.990 µg/L	1	0.08	0.20	99		2/29/24 10:03	N	IV
KQ2402163-02	Mercury, Total	LCS		Water	0.99 µg/L	25 mL	0.990 µg/L	1	0.08	0.20	99		2/29/24 10:03	N	IV
R2401493-001	Mercury, Total	N/A		Water	0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:06	N	IV
R2401493-002	Mercury, Dissolved	N/A		Water	0.03 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:08	N	IV
R2401493-003	Mercury, Total	N/A		Water	0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:11	N	IV
R2401493-004	Mercury, Dissolved	N/A		Water	0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:13	N	IV
R2401504-001	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:16	N	IV
KQ2402233-02	Mercury, Dissolved	CCV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 10:18	N	IV
KQ2402233-02	Mercury, Total	CCV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 10:18	N	IV
KQ2402233-02	Mercury, Total	CCV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 10:18	N	IV
KQ2402233-10	Mercury, Dissolved	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:21	N	IV
KQ2402233-10	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:21	N	IV
KQ2402233-10	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:21	N	IV
R2401504-002	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:24	N	IV
KQ2402163-05	Mercury, Total	MS	R2401504-002	Water	0.99 µg/L	25 mL	0.99 µg/L	1	0.08	0.20	99		2/29/24 10:26	N	IV
KQ2402163-06	Mercury, Total	DMS	R2401504-002	Water	0.98 µg/L	25 mL	0.98 µg/L	1	0.08	0.20	98	2	2/29/24 10:29	N	IV

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-CVAA-03 **Analyst:** ECASTROVINCI **Analysis Lot:** 833739 **Method/Testcode:** 7470A/Hg T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
2401504-003	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:31	N	IV
2401504-004	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:34	N	IV
2401504-005	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:36	N	IV
2401504-006	Mercury, Total	N/A		Water	0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:39	N	IV
2401504-007	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:41	N	IV
2401504-008	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:44	N	IV
Q2402233-03	Mercury, Dissolved	CCV		Water	3.01 µg/L	25 mL	3.01 µg/L	1					2/29/24 10:46	N	IV
Q2402233-03	Mercury, Total	CCV		Water	3.01 µg/L	25 mL	3.01 µg/L	1					2/29/24 10:46	N	IV
Q2402233-03	Mercury, Total	CCV		Water	3.01 µg/L	25 mL	3.01 µg/L	1					2/29/24 10:46	N	IV
Q2402233-11	Mercury, Dissolved	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:49	N	IV
Q2402233-11	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:49	N	IV
Q2402233-11	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:49	N	IV
2401504-009	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:52	N	IV
2401504-012	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:54	N	IV
2401504-013	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:57	N	IV
2401504-014	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:59	N	IV
2401528-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:02	N	II
Q2402163-03	Mercury, Total	MS	R2401528-001	Water	0.99 µg/L	25 mL	0.99 µg/L	1	0.08	0.20	99		2/29/24 11:04	N	II
Q2402163-04	Mercury, Total	DMS	R2401528-001	Water	0.96 µg/L	25 mL	0.96 µg/L	1	0.08	0.20	96	3	2/29/24 11:07	N	II
2401534-001	Mercury, Total	N/A		Drinking Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:09	N	II
Q2402233-07	Mercury, Dissolved	LLCCV		Water	0.21 µg/L	25 mL	0.207 µg/L	1					2/29/24 11:12	N	IV
Q2402233-07	Mercury, Total	LLCCV		Water	0.21 µg/L	25 mL	0.207 µg/L	1					2/29/24 11:12	N	IV
Q2402233-07	Mercury, Total	LLCCV		Water	0.21 µg/L	25 mL	0.207 µg/L	1					2/29/24 11:12	N	IV
Q2402233-04	Mercury, Dissolved	CCV		Water	3.02 µg/L	25 mL	3.02 µg/L	1					2/29/24 11:14	N	IV
Q2402233-04	Mercury, Total	CCV		Water	3.02 µg/L	25 mL	3.02 µg/L	1					2/29/24 11:14	N	IV
Q2402233-04	Mercury, Total	CCV		Water	3.02 µg/L	25 mL	3.02 µg/L	1					2/29/24 11:14	N	IV
Q2402233-12	Mercury, Dissolved	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:17	N	IV
Q2402233-12	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:17	N	IV
Q2402233-12	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:17	N	IV

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-CVAA-03 **Analyst:** ECASTROVINCI **Analysis Lot:** 833740 **Method/Testcode:** 7470A/Hg T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402234-05	Mercury, Total	ICV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:45	N	IV
KQ2402234-08	Mercury, Total	ICB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:48	N	IV
KQ2402234-01	Mercury, Total	CCV		Water	3.01 µg/L	25 mL	3.01 µg/L	1					2/29/24 10:46	N	IV
KQ2402234-09	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 10:49	N	IV
KQ2402234-06	Mercury, Total	LLCCV		Water	0.21 µg/L	25 mL	0.207 µg/L	1					2/29/24 11:12	N	IV
KQ2402234-02	Mercury, Total	CCV		Water	3.02 µg/L	25 mL	3.02 µg/L	1					2/29/24 11:14	N	IV
KQ2402234-10	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:17	N	IV
KQ2402164-01	Mercury, Total	MB		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:19	N	IV
KQ2402164-02	Mercury, Total	LCS		Water	1.01 µg/L	25 mL	1.01 µg/L	1	0.08	0.20	101		2/29/24 11:22	N	IV
K2401505-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:25	N	IV
K2401541-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:27	N	IV
K2401541-003	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:30	N	IV
K2401541-005	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:32	N	IV
K2401541-007	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:35	N	IV
K2401541-009	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:37	N	IV
K2401541-011	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:40	N	IV
K2401541-013	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:42	N	IV
KQ2402234-03	Mercury, Total	CCV		Water	3.00 µg/L	25 mL	3.00 µg/L	1					2/29/24 11:45	N	IV
KQ2402234-11	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:47	N	IV
K2401541-015	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:50	N	IV
K2401541-017	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:53	N	IV
K2401541-019	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:55	N	IV
KQ2402164-03	Mercury, Total	MS	R2401541-019	Water	0.95 µg/L	25 mL	0.95 µg/L	1	0.08	0.20	95		2/29/24 11:58	N	IV
KQ2402164-04	Mercury, Total	DMS	R2401541-019	Water	0.97 µg/L	25 mL	0.97 µg/L	1	0.08	0.20	97	3	2/29/24 12:00	N	IV
K2401541-021	Mercury, Total	N/A		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:03	N	IV
K2401562-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:05	N	II
K2401563-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:08	N	II
KQ2402234-07	Mercury, Total	LLCCV		Water	0.20 µg/L	25 mL	0.201 µg/L	1					2/29/24 12:10	N	IV
KQ2402234-04	Mercury, Total	CCV		Water	2.96 µg/L	25 mL	2.96 µg/L	1					2/29/24 12:13	N	IV
KQ2402234-12	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:15	N	IV

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-CVAA-03 **Analyst:** ECASTROVINCI **Analysis Lot:** 833741 **Method/Testcode:** 7470A/Hg T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402235-05	Mercury, Total	ICV		Water	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:45	N	IV
KQ2402235-08	Mercury, Total	ICB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 09:48	N	IV
KQ2402235-01	Mercury, Total	CCV		Water	3.00 µg/L	25 mL	3.00 µg/L	1					2/29/24 11:45	N	IV
KQ2402235-09	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 11:47	N	IV
KQ2402235-06	Mercury, Total	LLCCV		Water	0.20 µg/L	25 mL	0.201 µg/L	1					2/29/24 12:10	N	IV
KQ2402235-02	Mercury, Total	CCV		Water	2.96 µg/L	25 mL	2.96 µg/L	1					2/29/24 12:13	N	IV
KQ2402235-10	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:15	N	IV
KQ2402165-01	Mercury, Total	MB		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:18	N	IV
KQ2402165-02	Mercury, Total	LCS		Water	0.95 µg/L	25 mL	0.950 µg/L	1	0.08	0.20	95		2/29/24 12:21	N	IV
K2401532-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:23	N	IV
K2401543-001	Mercury, Total	N/A		Water	-0.01 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:26	N	IV
KQ2402165-03	Mercury, Total	MS	R2401543-001	Water	0.93 µg/L	25 mL	0.93 µg/L	1	0.08	0.20	93		2/29/24 12:28	N	IV
KQ2402165-04	Mercury, Total	DMS	R2401543-001	Water	0.97 µg/L	25 mL	0.97 µg/L	1	0.08	0.20	97	3	2/29/24 12:31	N	IV
K2401543-002	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:33	N	IV
K2401543-003	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:36	N	IV
K2401543-004	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:38	N	IV
KQ2402235-03	Mercury, Total	CCV		Water	2.93 µg/L	25 mL	2.93 µg/L	1					2/29/24 12:41	N	IV
KQ2402235-11	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:43	N	IV
K2401543-005	Mercury, Total	N/A		Water	0.01 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:46	N	IV
K2401543-006	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:48	N	IV
K2401543-007	Mercury, Total	N/A		Water	0.00 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:51	N	IV
K2401543-008	Mercury, Total	N/A		Water	0.01 µg/L	25 mL	0.00020 mg/L U	1	0.00008	0.00020			2/29/24 12:54	N	IV
K2401558-001	Mercury, Total	N/A		Water	0.01 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 12:56	N	II
KQ2402235-07	Mercury, Total	LLCCV		Water	0.20 µg/L	25 mL	0.200 µg/L	1					2/29/24 13:09	N	IV
KQ2402235-04	Mercury, Total	CCV		Water	2.94 µg/L	25 mL	2.94 µg/L	1					2/29/24 13:11	N	IV
KQ2402235-12	Mercury, Total	CCB		Water	-0.02 µg/L	25 mL	0.20 µg/L U	1	0.08	0.20			2/29/24 13:14	N	IV

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-CVAA-03 **Analyst:** ECASTROVINCI **Analysis Lot:** 833742 **Method/Testcode:** 7470A/Hg TCLP

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
KQ2402236-05	Mercury	ICV		Soil	3.05 µg/L	25 mL	3.05 µg/L	1					2/29/24 09:45	N	II
KQ2402236-08	Mercury	ICB		Soil	-0.02 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 09:48	N	II
KQ2402236-01	Mercury	CCV		Soil	3.00 µg/L	25 mL	3.00 µg/L	1					2/29/24 11:45	N	II
KQ2402236-09	Mercury	CCB		Soil	-0.02 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 11:47	N	II
KQ2402236-06	Mercury	LLCCV		Soil	0.20 µg/L	25 mL	0.201 µg/L	1					2/29/24 12:10	N	II
KQ2402236-02	Mercury	CCV		Soil	2.96 µg/L	25 mL	2.96 µg/L	1					2/29/24 12:13	N	II
KQ2402236-10	Mercury	CCB		Soil	-0.02 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 12:15	N	II
KQ2402161-01	Mercury	MB		Soil	-0.01 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 12:18	N	II
KQ2402161-02	Mercury	LCS		Soil	0.95 µg/L	25 mL	0.000950 mg/L	1	0.00008	0.00030	95		2/29/24 12:21	N	II
KQ2402236-03	Mercury	CCV		Soil	2.93 µg/L	25 mL	2.93 µg/L	1					2/29/24 12:41	N	II
KQ2402236-11	Mercury	CCB		Soil	-0.02 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 12:43	N	II
KQ2402072-01	Mercury	MB		Soil	0.00 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 12:59	N	II
KQ2402073-01	Mercury	MB		Soil	0.00 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 13:01	N	IV
K2401405-001	Mercury	N/A		Soil	0.00 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 13:04	N	II
K2401443-001	Mercury	N/A		Soil	0.00 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 13:06	N	IV
KQ2402236-07	Mercury	LLCCV		Soil	0.20 µg/L	25 mL	0.200 µg/L	1					2/29/24 13:09	N	II
KQ2402236-04	Mercury	CCV		Soil	2.94 µg/L	25 mL	2.94 µg/L	1					2/29/24 13:11	N	II
KQ2402236-12	Mercury	CCB		Soil	-0.02 µg/L	25 mL	0.00030 mg/L U	1	0.00008	0.00030			2/29/24 13:14	N	II

! indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Metals Data Cover Sheet

Run Date: 03/04/24 Data File: 030424A-ICP7

Primary Reviewer: N. Mansen Secondary Reviewer: MFM

LIMS Runs:	Preps:
834053	434757 **T2**
834054	434741 **CCV7**
834055	434740 **CCV5 only**
834056	434822 **T2**
834057	434821 **T2**

Comments:

N/A

ICP-7 Run Log

Serial number: MY2309CQ22

Analyst: MFM Date: 3/4/24 Data File: 030424A - ICP7

	Prep Date	Lot #		Prep Date	Lot #
MRL	12/5/23	M844011 8A	Cal Std 1	10/2/23	M844000 8A
ICSA	12/21/23	M844013 2E	Cal Std 2	10/2/23	M844002 3A
ICSAB	12/21/23	M844014 0F	Cal Std 5/ HLCCV1	1/31/24	M844003 9A
Int. Std	2/13/24	M844014 9D	HLCCV2	1/8/24	M844007 6A
ICV/CCV	3/4/24	M844005 9A	HLCCV3	1/8/24	M844009 6D

(Cal Std 4 is a 1/5 and Cal Std 3 is a 1/100 dilution of Cal Std 5)

Blank Prep - Daily	NHO3	HCl	Pipet Used	DOD Pipet Verification	IEC Date
Lot	233477	233283	M37, M40	–	–

1	PBS-434757	2:29	R2401592-001L 5X	S1:8	Continuing Calibration Verification1	1:16	R2401556-001
2	LCSS-434757	2:30	R2401592-002	S1:9	Continuing Calibration Blank1	1:17	R2401556-001S
3	R2401594-002 10X	2:31	R2401541-001	2:60	R2401543-007	1:18	R2401556-001SD
4	R2401594-004 10X	2:32	R2401541-003	3:1	R2401543-008	1:19	R2401556-001A
5	R2401594-006 10X	2:33	R2401541-005	3:2	R2401543-007 5X	1:20	R2401556-001L 5X
6	R2401594-006S 10X	S1:6	Continuing Calibration Verification	3:3	R2401566-001	1:21	R2401573-001
7	R2401594-006SD 10X	S1:7	Continuing Calibration Blank	3:4	R2401566-001L 5X	1:22	R2401632-001 5X
8	R2401594-006A 10X	2:34	R2401541-007	3:5	R2401566-001 20X	1:23	R2401632-002 5X
9	R2401594-006L 50X	2:35	R2401541-009	3:6	R2401567-001 10X	S1:8	Continuing Calibration Verification1
10	R2401594-008 10X	2:36	R2401541-011	3:7	R2401567-001L 50X	S1:9	Continuing Calibration Blank1
S1:6	Continuing Calibration Verification	2:37	R2401541-013	3:8	R2401567-001 100X	1:24	R2401632-003 5X
S1:7	Continuing Calibration Blank	2:38	R2401541-015	S1:8	Continuing Calibration Verification1	1:25	R2401632-004 5X
11	R2401594-010 10X	2:39	R2401541-017	S1:9	Continuing Calibration Blank1	1:26	R2401632-005 5X
12	R2401594-012 10X	2:40	R2401541-019	S1:3	Contract Required Detection Limit	1:27	R2401632-006 5X
13	R2401638-001 10X	2:41	R2401541-021	S1:4	Interference Check Solution A	1:28	R2401633-001 5X
S1:6	Continuing Calibration Verification	2:42	R2401541-001 10X	S1:5	Interference Check Solution AB	1:29	R2401633-002 5X
S1:7	Continuing Calibration Blank	2:43	R2401541-007 10X	S1:8	Continuing Calibration Verification1	1:30	R2401633-003 5X
S1:3	Contract Required Detection Limit	S1:6	Continuing Calibration Verification	S1:9	Continuing Calibration Blank1	1:31	R2401633-004 5X
S1:4	Interference Check Solution A	S1:7	Continuing Calibration Blank	1:1	PBW-434822	1:32	R2401633-005 5X
S1:5	Interference Check Solution AB	2:44	R2401541-009 10X	1:2	LCSW-434822	1:33	R2401633-006 5X
S1:21	HLCCV2	2:45	R2401541-011 10X	1:3	R2401562-001	S1:8	Continuing Calibration Verification1
S1:22	HLCCV3	2:46	R2401541-013 10X	1:4	R2401563-001	S1:9	Continuing Calibration Blank1
S1:18	HLCCV1	2:47	R2401541-015 10X	1:5	R2401563-001S	1:34	R2401633-007 5X
S1:6	Continuing Calibration Verification	2:48	R2401541-017 10X	1:6	R2401563-001SD	1:35	R2401633-008 5X
S1:7	Continuing Calibration Blank	2:49	R2401541-021 10X	1:7	R2401563-001A	1:36	R2401633-009 5X
14	PBW-434741	S1:6	Continuing Calibration Verification	1:8	R2401563-001L 5X	1:37	R2401633-010 5X
15	LCSW-434741	S1:7	Continuing Calibration Blank	1:9	R2401612-001	1:38	R2401633-011 5X
16	R2401591-001 20X	S1:3	Contract Required Detection Limit	1:10	R2401669-001	1:39	R2401641-001
17	R2401591-001S 20X	S1:4	Interference Check Solution A	S1:8	Continuing Calibration Verification1	1:40	R2401641-001S
18	R2401591-001SD 20X	S1:5	Interference Check Solution AB	S1:9	Continuing Calibration Blank1	1:41	R2401641-001SD
19	R2401591-001A 20X	S1:6	Continuing Calibration Verification	1:11	R2401669-002	1:42	R2401641-001A
20	R2401591-001L 100X	S1:7	Continuing Calibration Blank	1:12	R2401673-002	1:43	R2401641-001L 5X
21	R2401591-002 10X	2:50	PBW-434740	1:13	R2401673-003	S1:8	Continuing Calibration Verification1
22	R2401591-003 10X	2:51	LCSW-434740	S1:8	Continuing Calibration Verification1	S1:9	Continuing Calibration Blank1
23	R2401591-004 10X	2:52	DLCSW-434740	S1:9	Continuing Calibration Blank1	S1:3	Contract Required Detection Limit
S1:6	Continuing Calibration Verification	2:53	R2401543-004 5X	S1:3	Contract Required Detection Limit	S1:4	Interference Check Solution A
S1:7	Continuing Calibration Blank	2:54	R2401543-001	S1:4	Interference Check Solution A	S1:5	Interference Check Solution AB
24	R2401591-006	2:55	R2401543-002	S1:5	Interference Check Solution AB	S1:8	Continuing Calibration Verification1
25	R2401592-001	2:56	R2401543-003	S1:8	Continuing Calibration Verification1	S1:9	Continuing Calibration Blank1
26	R2401592-001S	2:57	R2401543-004	S1:9	Continuing Calibration Blank1		
27	R2401592-001SD	2:58	R2401543-005	1:14	PBW-434821		
28	R2401592-001A	2:59	R2401543-006	1:15	LCSW-434821		

MFM 3/4/24

Created Date/Time	3/4/2024 10:44:15	Software Version	7.6.1.12212
Instrument Name	MY2309CQ22	Firmware Version	5590
File Path	C:\Agilent\ICP Expert\My Results\2023\030424A-ICP7.esws		
Notes	MFM 3/4/24 (NM 3/4/24)		

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/4/2024 13:29:44	Blank	Ag (328.068 nm)	0.0000	N/A	-401.5285
	Blank	Al (237.312 nm)	0.0000	N/A	144.2777
	Blank	As (188.980 nm)	0.0000	N/A	-10.3640
	Blank	B (249.772 nm)	0.0000	N/A	64.1323
	Blank	Ba (230.424 nm)	0.0000	N/A	-18.3430
	Blank	Be (313.107 nm)	0.0000	N/A	-217.6060
	Blank	Ca (317.933 nm)	0.0000	N/A	3236.3493
	Blank	Cd (214.439 nm)	0.0000	N/A	-0.9489
	Blank	Co (230.786 nm)	0.0000	N/A	61.7864
	Blank	Cr (267.716 nm)	0.0000	N/A	-46.5780
	Blank	Cu (327.395 nm)	0.0000	N/A	-43.3506
	Blank	Fe (234.350 nm)	0.0000	N/A	135.7147
	Blank	K (766.491 nm)	0.0000	N/A	-260.8499
	Blank	Mg (279.078 nm)	0.0000	N/A	-43.2682
	Blank	Mn (257.610 nm)	0.0000	N/A	-15.1028
	Blank	Mo (202.032 nm)	0.0000	N/A	-11.1633
	Blank	Na (588.995 nm)	0.0000	N/A	-6110.4585
	Blank	Ni (230.299 nm)	0.0000	N/A	88.8707
	Blank	Pb (220.353 nm)	0.0000	N/A	12.1496
	Blank	Sb (217.582 nm)	0.0000	N/A	11.7840
	Blank	Se (196.026 nm)	0.0000	N/A	1.0794
	Blank	Sn (189.925 nm)	0.0000	N/A	7.2263
	Blank	Sr (216.596 nm)	0.0000	N/A	-54.5263
	Blank	Ti (336.122 nm)	0.0000	N/A	-192.8309
	Blank	Tl (190.794 nm)	0.0000	N/A	-1.4245
	Blank	V (292.401 nm)	0.0000	N/A	-75.9332
	Blank	Y (360.074 nm)	1.00	0.00	498804.83
	Blank	Y_R (360.074 nm)	1.00	0.00	498581.47
	Blank	Zn (213.857 nm)	0.0000	N/A	-67.2059
3/4/2024 13:32:49	Standard 1	Ag (328.068 nm)		N/A	-400.1745
	Standard 1	Al (237.312 nm)		N/A	207.1919
	Standard 1	As (188.980 nm)	0.0050	N/A	-4.1213
	Standard 1	B (249.772 nm)		N/A	104.3841
	Standard 1	Ba (230.424 nm)	0.0200	N/A	977.6382
	Standard 1	Be (313.107 nm)		N/A	-202.5300
	Standard 1	Ca (317.933 nm)		N/A	24120.0681
	Standard 1	Cd (214.439 nm)	0.0010	N/A	65.0780
	Standard 1	Co (230.786 nm)	0.0030	N/A	108.3154
	Standard 1	Cr (267.716 nm)	0.0050	N/A	185.6906
	Standard 1	Cu (327.395 nm)	0.0100	N/A	318.2417
	Standard 1	Fe (234.350 nm)		N/A	304.4968
	Standard 1	K (766.491 nm)		N/A	1722.7139
	Standard 1	Mg (279.078 nm)		N/A	1610.6933
	Standard 1	Mn (257.610 nm)	0.0100	N/A	3405.8215
	Standard 1	Mo (202.032 nm)	0.0250	N/A	182.6573
	Standard 1	Na (588.995 nm)		N/A	-2015.9738
	Standard 1	Ni (230.299 nm)		N/A	87.8619
	Standard 1	Pb (220.353 nm)	0.0050	N/A	42.5462
	Standard 1	Sb (217.582 nm)	0.0100	N/A	37.7649
	Standard 1	Se (196.026 nm)		N/A	0.5527
	Standard 1	Sn (189.925 nm)		N/A	7.0966
	Standard 1	Sr (216.596 nm)		N/A	-50.9609

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Standard 1	Ti (336.122 nm)		N/A	-180.4531
	Standard 1	Tl (190.794 nm)	0.0100	N/A	7.6552
	Standard 1	V (292.401 nm)	0.0030	N/A	35.7921
	Standard 1	Y (360.074 nm)	1.00	0.36	501287.34
	Standard 1	Y_R (360.074 nm)	1.01	0.36	501088.28
	Standard 1	Zn (213.857 nm)	0.0100	N/A	552.6952
3/4/2024 13:35:54	Standard 2	Ag (328.068 nm)		N/A	-387.8030
	Standard 2	Al (237.312 nm)	0.1000	N/A	435.2625
	Standard 2	As (188.980 nm)	0.0100	N/A	6.9398
	Standard 2	B (249.772 nm)	0.2000	N/A	6821.9110
	Standard 2	Ba (230.424 nm)		N/A	-15.4587
	Standard 2	Be (313.107 nm)	0.0030	N/A	3155.1854
	Standard 2	Ca (317.933 nm)	1.0000	N/A	44046.1754
	Standard 2	Cd (214.439 nm)	0.0050	N/A	343.0742
	Standard 2	Co (230.786 nm)		N/A	63.2280
	Standard 2	Cr (267.716 nm)		N/A	-48.6045
	Standard 2	Cu (327.395 nm)	0.0200	N/A	691.3050
	Standard 2	Fe (234.350 nm)		N/A	97.7303
	Standard 2	K (766.491 nm)	2.0000	N/A	1831.9118
	Standard 2	Mg (279.078 nm)	1.0000	N/A	3261.5920
	Standard 2	Mn (257.610 nm)		N/A	3.7275
	Standard 2	Mo (202.032 nm)		N/A	-5.8315
	Standard 2	Na (588.995 nm)	1.0000	N/A	2276.6629
	Standard 2	Ni (230.299 nm)		N/A	86.6514
	Standard 2	Pb (220.353 nm)	0.0500	N/A	307.3287
	Standard 2	Sb (217.582 nm)	0.0600	N/A	158.2124
	Standard 2	Se (196.026 nm)	0.0100	N/A	6.4062
	Standard 2	Sn (189.925 nm)	0.5000	N/A	1548.5560
	Standard 2	Sr (216.596 nm)		N/A	-57.8752
	Standard 2	Ti (336.122 nm)		N/A	-180.6990
	Standard 2	Tl (190.794 nm)		N/A	-1.6920
	Standard 2	V (292.401 nm)		N/A	-82.6339
	Standard 2	Y (360.074 nm)	1.00	0.34	500469.91
	Standard 2	Y_R (360.074 nm)	1.00	0.35	500240.32
	Standard 2	Zn (213.857 nm)		N/A	-66.8458
3/4/2024 13:39:00	Standard 3	Ag (328.068 nm)	0.0100	N/A	217.2250
	Standard 3	Al (237.312 nm)		N/A	738.8108
	Standard 3	As (188.980 nm)		N/A	24.9240
	Standard 3	B (249.772 nm)		N/A	1724.4636
	Standard 3	Ba (230.424 nm)		N/A	9961.6558
	Standard 3	Be (313.107 nm)	0.0050	N/A	5506.4035
	Standard 3	Ca (317.933 nm)	0.5000	N/A	23923.0428
	Standard 3	Cd (214.439 nm)		N/A	659.1253
	Standard 3	Co (230.786 nm)	0.0500	N/A	894.3179
	Standard 3	Cr (267.716 nm)	0.0100	N/A	414.8914
	Standard 3	Cu (327.395 nm)		N/A	855.5299
	Standard 3	Fe (234.350 nm)	0.1000	N/A	2378.7296
	Standard 3	K (766.491 nm)	0.5000	N/A	258.5256
	Standard 3	Mg (279.078 nm)	0.5000	N/A	1625.8298
	Standard 3	Mn (257.610 nm)		N/A	5186.1719
	Standard 3	Mo (202.032 nm)		N/A	371.9611
	Standard 3	Na (588.995 nm)	0.5000	N/A	-2097.0348
	Standard 3	Ni (230.299 nm)	0.0400	N/A	598.2805
	Standard 3	Pb (220.353 nm)		N/A	66.1110
	Standard 3	Sb (217.582 nm)		N/A	254.9686
	Standard 3	Se (196.026 nm)		N/A	5.8398
	Standard 3	Sn (189.925 nm)		N/A	314.6156

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Standard 3	Sr (216.596 nm)	0.0500	N/A	990.3218
	Standard 3	Ti (336.122 nm)	0.0500	N/A	6448.7474
	Standard 3	Tl (190.794 nm)	0.0200	N/A	15.1225
	Standard 3	V (292.401 nm)	0.0500	N/A	1938.0934
	Standard 3	Y (360.074 nm)	1.01	0.79	502209.02
	Standard 3	Y_R (360.074 nm)	1.01	0.79	501951.94
	Standard 3	Zn (213.857 nm)	0.0200	N/A	1138.2383
3/4/2024 13:42:05	Standard 4	Ag (328.068 nm)	0.2000	N/A	11656.4109
	Standard 4	Al (237.312 nm)	4.0000	N/A	12631.0727
	Standard 4	As (188.980 nm)	0.4000	N/A	720.2404
	Standard 4	B (249.772 nm)	1.0000	N/A	34470.9439
	Standard 4	Ba (230.424 nm)	4.0000	N/A	199918.0123
	Standard 4	Be (313.107 nm)	0.1000	N/A	116961.5087
	Standard 4	Ca (317.933 nm)	10.0000	N/A	421877.0260
	Standard 4	Cd (214.439 nm)	0.2000	N/A	13331.1907
	Standard 4	Co (230.786 nm)	1.0000	N/A	16723.8373
	Standard 4	Cr (267.716 nm)	0.2000	N/A	9252.5935
	Standard 4	Cu (327.395 nm)	0.5000	N/A	18264.8123
	Standard 4	Fe (234.350 nm)	2.0000	N/A	46080.4882
	Standard 4	K (766.491 nm)	10.0000	N/A	10206.0549
	Standard 4	Mg (279.078 nm)	10.0000	N/A	33623.9609
	Standard 4	Mn (257.610 nm)	0.3000	N/A	103160.9103
	Standard 4	Mo (202.032 nm)	1.0000	N/A	7959.4968
	Standard 4	Na (588.995 nm)	10.0000	N/A	82958.4159
	Standard 4	Ni (230.299 nm)	0.8000	N/A	10176.5599
	Standard 4	Pb (220.353 nm)	0.2000	N/A	1206.9531
	Standard 4	Sb (217.582 nm)	2.0000	N/A	4995.7264
	Standard 4	Se (196.026 nm)	0.2000	N/A	175.3048
	Standard 4	Sn (189.925 nm)	2.0000	N/A	6270.7789
	Standard 4	Sr (216.596 nm)	1.0000	N/A	20861.5304
	Standard 4	Ti (336.122 nm)	1.0000	N/A	135041.3711
	Standard 4	Tl (190.794 nm)	0.4000	N/A	350.6688
	Standard 4	V (292.401 nm)	1.0000	N/A	41036.8963
	Standard 4	Y (360.074 nm)	0.99	0.56	492649.89
	Standard 4	Y_R (360.074 nm)	0.99	0.56	492438.90
	Standard 4	Zn (213.857 nm)	0.4000	N/A	24473.9430
3/4/2024 13:45:09	Standard 5	Ag (328.068 nm)	1.0000	N/A	58807.8526
	Standard 5	Al (237.312 nm)	20.0000	N/A	62178.8961
	Standard 5	As (188.980 nm)	2.0000	N/A	3677.6678
	Standard 5	B (249.772 nm)	5.0000	N/A	174441.7275
	Standard 5	Ba (230.424 nm)	20.0000	N/A	951083.4963
	Standard 5	Be (313.107 nm)	0.5000	N/A	575600.5939
	Standard 5	Ca (317.933 nm)	50.0000	N/A	2019078.8755
	Standard 5	Cd (214.439 nm)	1.0000	N/A	63925.8401
	Standard 5	Co (230.786 nm)	5.0000	N/A	79956.7092
	Standard 5	Cr (267.716 nm)	1.0000	N/A	45151.3829
	Standard 5	Cu (327.395 nm)	2.5000	N/A	90898.6792
	Standard 5	Fe (234.350 nm)	10.0000	N/A	223685.7240
	Standard 5	K (766.491 nm)	50.0000	N/A	53636.7098
	Standard 5	Mg (279.078 nm)	50.0000	N/A	166632.9911
	Standard 5	Mn (257.610 nm)	1.5000	N/A	499805.7233
	Standard 5	Mo (202.032 nm)	5.0000	N/A	39412.3797
	Standard 5	Na (588.995 nm)	50.0000	N/A	442157.3360
	Standard 5	Ni (230.299 nm)	4.0000	N/A	48272.9416
	Standard 5	Pb (220.353 nm)	1.0000	N/A	5732.5346
	Standard 5	Sb (217.582 nm)	10.0000	N/A	24765.6571
	Standard 5	Se (196.026 nm)	1.0000	N/A	865.2780

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Standard 5	Sn (189.925 nm)	10.0000	N/A	30388.7718
	Standard 5	Sr (216.596 nm)	5.0000	N/A	100721.8234
	Standard 5	Ti (336.122 nm)	5.0000	N/A	666642.9121
	Standard 5	Tl (190.794 nm)	2.0000	N/A	1691.1168
	Standard 5	V (292.401 nm)	5.0000	N/A	203805.3399
	Standard 5	Y (360.074 nm)	0.94	0.31	471122.56
	Standard 5	Y_R (360.074 nm)	0.94	0.31	470972.71
	Standard 5	Zn (213.857 nm)	2.0000	N/A	119420.5229
3/4/2024 13:48:44	Initial Calibration Verification	Ag (328.068 nm)	0.5116	0.29	29912.5639
	Initial Calibration Verification	Al (237.312 nm)	9.8551	0.27	30719.5330
	Initial Calibration Verification	As (188.980 nm)	0.9804	0.48	1796.8729
	Initial Calibration Verification	B (249.772 nm)	2.4246	0.51	84577.0418
	Initial Calibration Verification	Ba (230.424 nm)	10.1523	0.57	483721.3361
	Initial Calibration Verification	Be (313.107 nm)	0.2404	0.46	276781.6208
	Initial Calibration Verification	Ca (317.933 nm)	25.4345	0.49	1030196.6277
	Initial Calibration Verification	Cd (214.439 nm)	0.5048	0.46	32322.9451
	Initial Calibration Verification	Co (230.786 nm)	2.5171	0.63	40348.3436
	Initial Calibration Verification	Cr (267.716 nm)	0.5117	0.43	23105.7333
	Initial Calibration Verification	Cu (327.395 nm)	1.2268	0.27	44595.5261
	Initial Calibration Verification	Fe (234.350 nm)	4.9786	0.54	111551.3165
	Initial Calibration Verification	K (766.491 nm)	23.9625	0.28	25539.4991
	Initial Calibration Verification	Mg (279.078 nm)	25.0545	0.46	83508.1748
	Initial Calibration Verification	Mn (257.610 nm)	0.7400	0.47	246856.9072
	Initial Calibration Verification	Mo (202.032 nm)	2.5139	0.62	19818.2728
	Initial Calibration Verification	Na (588.995 nm)	24.8933	0.19	217003.1914
	Initial Calibration Verification	Ni (230.299 nm)	2.0796	0.50	25184.9835
	Initial Calibration Verification	Pb (220.353 nm)	0.5038	0.26	2899.3820
	Initial Calibration Verification	Sb (217.582 nm)	4.7875	0.50	11865.6474
	Initial Calibration Verification	Se (196.026 nm)	0.4898	1.24	424.4857
	Initial Calibration Verification	Sn (189.925 nm)	4.9880	0.49	15180.0654
	Initial Calibration Verification	Sr (216.596 nm)	2.4874	0.74	50152.5045
	Initial Calibration Verification	Ti (336.122 nm)	2.4994	0.48	333324.7397
	Initial Calibration Verification	Tl (190.794 nm)	1.0132	0.50	857.3296
	Initial Calibration Verification	V (292.401 nm)	2.4812	0.45	101132.1055
	Initial Calibration Verification	Y (360.074 nm)	0.97	0.25	483809.71
	Initial Calibration Verification	Y_R (360.074 nm)	0.97	0.25	483617.43
	Initial Calibration Verification	Zn (213.857 nm)	0.9897	0.69	59121.4929
3/4/2024 13:51:47	Initial Calibration Blank	Ag (328.068 nm)	0.0003	88.93	-381.8528
	Initial Calibration Blank	Al (237.312 nm)	0.0029	26.13	153.2735
	Initial Calibration Blank	As (188.980 nm)	0.0022	38.53	-6.3554
	Initial Calibration Blank	B (249.772 nm)	0.0026	1.11	155.4666
	Initial Calibration Blank	Ba (230.424 nm)	0.0005	16.81	5.1646
	Initial Calibration Blank	Be (313.107 nm)	0.0000	29.01	-192.1803
	Initial Calibration Blank	Ca (317.933 nm)	0.0344	0.47	4625.1512
	Initial Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-3.5489
	Initial Calibration Blank	Co (230.786 nm)	0.0002	42.67	64.8059
	Initial Calibration Blank	Cr (267.716 nm)	0.0000 u	> 100.00	-44.4248
	Initial Calibration Blank	Cu (327.395 nm)	-0.0003 u	18.65	-53.0711
	Initial Calibration Blank	Fe (234.350 nm)	0.0026	13.53	193.6441
	Initial Calibration Blank	K (766.491 nm)	0.0331 u	> 100.00	-225.2524
	Initial Calibration Blank	Mg (279.078 nm)	0.0053	30.95	-25.7533
	Initial Calibration Blank	Mn (257.610 nm)	0.0001	7.34	19.2466
	Initial Calibration Blank	Mo (202.032 nm)	0.0039	19.26	19.3837
	Initial Calibration Blank	Na (588.995 nm)	0.0396	10.05	-5755.3906
	Initial Calibration Blank	Ni (230.299 nm)	0.0000 u	> 100.00	88.8332
	Initial Calibration Blank	Pb (220.353 nm)	-0.0006 u	17.75	8.6826
	Initial Calibration Blank	Sb (217.582 nm)	0.0087	22.63	33.2389

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Initial Calibration Blank	Se (196.026 nm)	-0.0035 u	56.45	-1.9820
	Initial Calibration Blank	Sn (189.925 nm)	0.0007 u	> 100.00	9.2254
	Initial Calibration Blank	Sr (216.596 nm)	0.0000 u	> 100.00	-55.3649
	Initial Calibration Blank	Ti (336.122 nm)	0.0030	19.22	210.9451
	Initial Calibration Blank	Tl (190.794 nm)	-0.0003 u	> 100.00	-1.6496
	Initial Calibration Blank	V (292.401 nm)	-0.0001 u	61.04	-81.0568
	Initial Calibration Blank	Y (360.074 nm)	1.01	0.40	501839.59
	Initial Calibration Blank	Y_R (360.074 nm)	1.01	0.40	501535.01
	Initial Calibration Blank	Zn (213.857 nm)	0.0003	17.79	-48.1493
3/4/2024 13:54:51	Contract Required Detection Limit	Ag (328.068 nm)	0.0102	1.28	205.5755
	Contract Required Detection Limit	Al (237.312 nm)	0.1924	0.57	741.0671
	Contract Required Detection Limit	As (188.980 nm)	0.0198	12.61	26.2207
	Contract Required Detection Limit	B (249.772 nm)	0.1982	0.03	6971.7705
	Contract Required Detection Limit	Ba (230.424 nm)	0.2072	0.13	9854.7891
	Contract Required Detection Limit	Be (313.107 nm)	0.0048	0.12	5276.7266
	Contract Required Detection Limit	Ca (317.933 nm)	1.0184	0.05	44356.0403
	Contract Required Detection Limit	Cd (214.439 nm)	0.0102	0.79	651.7053
	Contract Required Detection Limit	Co (230.786 nm)	0.0522	0.84	896.5766
	Contract Required Detection Limit	Cr (267.716 nm)	0.0102	1.21	412.7948
	Contract Required Detection Limit	Cu (327.395 nm)	0.0249	2.04	860.9436
	Contract Required Detection Limit	Fe (234.350 nm)	0.1020	0.13	2419.3987
	Contract Required Detection Limit	K (766.491 nm)	0.9204	1.32	730.1662
	Contract Required Detection Limit	Mg (279.078 nm)	0.9887	0.14	3253.6898
	Contract Required Detection Limit	Mn (257.610 nm)	0.0155	0.11	5152.6939
	Contract Required Detection Limit	Mo (202.032 nm)	0.0257	1.74	191.7885
	Contract Required Detection Limit	Na (588.995 nm)	0.9387	0.49	2302.6737
	Contract Required Detection Limit	Ni (230.299 nm)	0.0415	0.57	589.1987
	Contract Required Detection Limit	Pb (220.353 nm)	0.0105	3.37	72.3260
	Contract Required Detection Limit	Sb (217.582 nm)	0.0633	3.10	168.5022
	Contract Required Detection Limit	Se (196.026 nm)	0.0078 R 78%	25.11	7.8458 R
	Contract Required Detection Limit	Sn (189.925 nm)	0.5035	0.42	1538.8726
	Contract Required Detection Limit	Sr (216.596 nm)	0.1032	0.55	2028.5582
	Contract Required Detection Limit	Ti (336.122 nm)	0.0503	0.24	6519.8104
	Contract Required Detection Limit	Tl (190.794 nm)	0.0198	5.35	15.3783
	Contract Required Detection Limit	V (292.401 nm)	0.0492	0.61	1929.7110
	Contract Required Detection Limit	Y (360.074 nm)	1.00	0.39	501066.02
	Contract Required Detection Limit	Y_R (360.074 nm)	1.00	0.39	500781.06
	Contract Required Detection Limit	Zn (213.857 nm)	0.0201	0.27	1137.0691
3/4/2024 13:57:55	Interference Check Solution A	Ag (328.068 nm)	0.0000 u	> 100.00	-403.2751
	Interference Check Solution A	Al (237.312 nm)	252.2253 o	0.06	782671.8042
	Interference Check Solution A	As (188.980 nm)	-0.0037 u	55.77	-17.1363
	Interference Check Solution A	B (249.772 nm)	0.1205	0.08	4265.3119
	Interference Check Solution A	Ba (230.424 nm)	0.0006	21.62	8.9617
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-225.1576
	Interference Check Solution A	Ca (317.933 nm)	239.2451 o	0.24	9663144.5369
	Interference Check Solution A	Cd (214.439 nm)	-0.0007 u	18.40	-43.7873
	Interference Check Solution A	Co (230.786 nm)	0.0020	12.76	93.9372
	Interference Check Solution A	Cr (267.716 nm)	-0.0003 u	45.44	-59.2378
	Interference Check Solution A	Cu (327.395 nm)	0.0003	> 100.00	-31.8091
	Interference Check Solution A	Fe (234.350 nm)	93.6676 o	0.22	2096300.2757
	Interference Check Solution A	K (766.491 nm)	0.0641	36.73	-191.8042
	Interference Check Solution A	Mg (279.078 nm)	261.0132 o	0.15	870380.9998
	Interference Check Solution A	Mn (257.610 nm)	0.0012	0.86	400.2118
	Interference Check Solution A	Mo (202.032 nm)	-0.0018 u	46.01	-25.2641
	Interference Check Solution A	Na (588.995 nm)	-0.0192 u	25.97	-6282.7979
	Interference Check Solution A	Ni (230.299 nm)	0.0021	24.00	114.4326
	Interference Check Solution A	Pb (220.353 nm)	0.0009	> 100.00	17.3870

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	Sb (217.582 nm)	0.0013	> 100.00	15.0518
	Interference Check Solution A	Se (196.026 nm)	-0.0016 u	> 100.00	-0.3190
	Interference Check Solution A	Sn (189.925 nm)	0.0031	35.63	16.8050
	Interference Check Solution A	Sr (216.596 nm)	0.0094	0.60	135.7126
	Interference Check Solution A	Ti (336.122 nm)	0.0031	3.36	221.9657
	Interference Check Solution A	Tl (190.794 nm)	-0.0008 u	> 100.00	-2.1355
	Interference Check Solution A	V (292.401 nm)	0.0020	4.69	6.2585
	Interference Check Solution A	Y (360.074 nm)	0.89	0.21	444733.49
	Interference Check Solution A	Y_R (360.074 nm)	0.89	0.21	444595.70
	Interference Check Solution A	Zn (213.857 nm)	0.0118 K +/- 0.02	0.56	638.9095 K
3/4/2024 14:00:59	Interference Check Solution AB	Ag (328.068 nm)	0.2030	0.37	11623.6877
	Interference Check Solution AB	Al (237.312 nm)	253.7440 o	0.29	787383.6347
	Interference Check Solution AB	As (188.980 nm)	0.0941	3.39	163.1203
	Interference Check Solution AB	B (249.772 nm)	0.1190	0.39	4213.4691
	Interference Check Solution AB	Ba (230.424 nm)	0.5257	0.25	25031.9032
	Interference Check Solution AB	Be (313.107 nm)	0.4804	0.35	553396.1496
	Interference Check Solution AB	Ca (317.933 nm)	240.7200 o	0.32	9722694.7077
	Interference Check Solution AB	Cd (214.439 nm)	0.9777	0.29	62600.2782
	Interference Check Solution AB	Co (230.786 nm)	0.4864	0.26	7846.5274
	Interference Check Solution AB	Cr (267.716 nm)	0.5084	0.28	22957.7458
	Interference Check Solution AB	Cu (327.395 nm)	0.5268	0.14	19125.3584
	Interference Check Solution AB	Fe (234.350 nm)	94.2572 o	0.30	2109493.5426
	Interference Check Solution AB	K (766.491 nm)	0.0014 u	> 100.00	-259.3626
	Interference Check Solution AB	Mg (279.078 nm)	262.6956 o	0.26	875991.6004
	Interference Check Solution AB	Mn (257.610 nm)	0.4903	0.26	163555.1501
	Interference Check Solution AB	Mo (202.032 nm)	-0.0017 u	40.01	-24.7462
	Interference Check Solution AB	Na (588.995 nm)	-0.0249 u	17.11	-6333.3515
	Interference Check Solution AB	Ni (230.299 nm)	0.9921	0.23	12061.3598
	Interference Check Solution AB	Pb (220.353 nm)	0.0495	1.07	295.8258
	Interference Check Solution AB	Sb (217.582 nm)	0.6032	0.18	1505.3271
	Interference Check Solution AB	Se (196.026 nm)	0.0435	2.74	38.7204
	Interference Check Solution AB	Sn (189.925 nm)	0.0025	18.29	14.9572
	Interference Check Solution AB	Sr (216.596 nm)	0.0099	3.99	146.0711
	Interference Check Solution AB	Ti (336.122 nm)	0.0030	2.48	212.5467
	Interference Check Solution AB	Tl (190.794 nm)	0.1008	2.46	84.0377
	Interference Check Solution AB	V (292.401 nm)	0.5084	0.25	20660.9922
	Interference Check Solution AB	Y (360.074 nm)	0.89	0.15	443100.98
	Interference Check Solution AB	Y_R (360.074 nm)	0.89	0.14	442964.06
	Interference Check Solution AB	Zn (213.857 nm)	1.0089	0.27	60269.8010
3/4/2024 14:04:02	Continuing Calibration Verification	Ag (328.068 nm)	0.5166	0.06	30208.9997
	Continuing Calibration Verification	Al (237.312 nm)	9.9791	0.17	31104.2389
	Continuing Calibration Verification	As (188.980 nm)	0.9877	0.30	1810.2788
	Continuing Calibration Verification	B (249.772 nm)	2.4448	0.15	85279.1122
	Continuing Calibration Verification	Ba (230.424 nm)	10.2301	0.13	487430.5450
	Continuing Calibration Verification	Be (313.107 nm)	0.2428	0.05	279554.5575
	Continuing Calibration Verification	Ca (317.933 nm)	25.7049	0.06	1041111.5664
	Continuing Calibration Verification	Cd (214.439 nm)	0.5095	0.05	32625.8141
	Continuing Calibration Verification	Co (230.786 nm)	2.5350	0.22	40634.8853
	Continuing Calibration Verification	Cr (267.716 nm)	0.5153	0.04	23271.6146
	Continuing Calibration Verification	Cu (327.395 nm)	1.2398	0.07	45068.9464
	Continuing Calibration Verification	Fe (234.350 nm)	5.0396	0.02	112914.9915
	Continuing Calibration Verification	K (766.491 nm)	24.1836	0.22	25777.5582
	Continuing Calibration Verification	Mg (279.078 nm)	25.3055	0.02	84345.3338
	Continuing Calibration Verification	Mn (257.610 nm)	0.7462	0.10	248952.5826
	Continuing Calibration Verification	Mo (202.032 nm)	2.5379	0.31	20007.9899
	Continuing Calibration Verification	Na (588.995 nm)	25.1086	0.22	218932.8020
	Continuing Calibration Verification	Ni (230.299 nm)	2.0988	0.12	25417.2205

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Pb (220.353 nm)	0.5086	0.22	2926.9649
	Continuing Calibration Verification	Sb (217.582 nm)	4.8438	0.08	12005.2136
	Continuing Calibration Verification	Se (196.026 nm)	0.4911	0.97	425.5898
	Continuing Calibration Verification	Sn (189.925 nm)	5.0282	0.05	15302.1610
	Continuing Calibration Verification	Sr (216.596 nm)	2.5053	0.04	50513.0576
	Continuing Calibration Verification	Ti (336.122 nm)	2.5165	0.15	335607.7879
	Continuing Calibration Verification	Tl (190.794 nm)	1.0250	0.29	867.3229
	Continuing Calibration Verification	V (292.401 nm)	2.5023	0.06	101992.0769
	Continuing Calibration Verification	Y (360.074 nm)	0.97	0.26	482589.93
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97	0.25	482312.59
	Continuing Calibration Verification	Zn (213.857 nm)	0.9972	0.20	59570.2241
3/4/2024 14:07:06	Continuing Calibration Blank	Ag (328.068 nm)	0.0002	90.51	-392.0093
	Continuing Calibration Blank	Al (237.312 nm)	0.0050	36.51	159.7637
	Continuing Calibration Blank	As (188.980 nm)	0.0025	48.61	-5.7174
	Continuing Calibration Blank	B (249.772 nm)	0.0021	17.82	136.5449
	Continuing Calibration Blank	Ba (230.424 nm)	0.0003	17.44	-4.4851
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	62.77	-202.2916
	Continuing Calibration Blank	Ca (317.933 nm)	0.0851	0.45	6671.0803
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	24.56	-8.7935
	Continuing Calibration Blank	Co (230.786 nm)	-0.0001 u	> 100.00	60.3792
	Continuing Calibration Blank	Cr (267.716 nm)	0.0000 u	86.26	-48.3602
	Continuing Calibration Blank	Cu (327.395 nm)	-0.0002 u	67.25	-51.2722
	Continuing Calibration Blank	Fe (234.350 nm)	0.0031	19.05	204.0299
	Continuing Calibration Blank	K (766.491 nm)	-0.0082 u	> 100.00	-269.6364
	Continuing Calibration Blank	Mg (279.078 nm)	0.0054	11.23	-25.1446
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	4.97	24.0185
	Continuing Calibration Blank	Mo (202.032 nm)	0.0033	15.88	14.5397
	Continuing Calibration Blank	Na (588.995 nm)	0.0324	7.06	-5820.0061
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0001 u	20.31	87.4454
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0002 u	> 100.00	11.0159
	Continuing Calibration Blank	Sb (217.582 nm)	0.0078	1.50	31.0900
	Continuing Calibration Blank	Se (196.026 nm)	-0.0036 u	32.58	-2.0077
	Continuing Calibration Blank	Sn (189.925 nm)	0.0009 u	> 100.00	10.1094
	Continuing Calibration Blank	Sr (216.596 nm)	0.0001 u	> 100.00	-52.5372
	Continuing Calibration Blank	Ti (336.122 nm)	0.0026	22.74	155.6468
	Continuing Calibration Blank	Tl (190.794 nm)	0.0013 u	> 100.00	-0.3025
	Continuing Calibration Blank	V (292.401 nm)	0.0000 u	> 100.00	-75.4365
	Continuing Calibration Blank	Y (360.074 nm)	1.01	0.37	501300.84
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.37	500996.47
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	19.66	-45.6597
3/4/2024 14:10:09	PBS-434757	Ag (328.068 nm)	0.0002	29.88	-389.4388
	PBS-434757	Al (237.312 nm)	0.0048	39.68	159.1091
	PBS-434757	As (188.980 nm)	0.0017	69.79	-7.3038
	PBS-434757	B (249.772 nm)	0.0022	12.29	140.8727
	PBS-434757	Ba (230.424 nm)	0.0013	19.69	42.1217
	PBS-434757	Be (313.107 nm)	0.0000	23.01	-171.9144
	PBS-434757	Ca (317.933 nm)	0.0144	17.85	3818.6477
	PBS-434757	Cd (214.439 nm)	0.0003	17.65	19.3241
	PBS-434757	Co (230.786 nm)	0.0002	54.58	64.8164
	PBS-434757	Cr (267.716 nm)	0.0007	19.45	-16.8083
	PBS-434757	Cu (327.395 nm)	0.0004	75.87	-30.3435
	PBS-434757	Fe (234.350 nm)	0.0117	2.99	397.3033
	PBS-434757	K (766.491 nm)	0.0191 u	> 100.00	-240.2906
	PBS-434757	Mg (279.078 nm)	0.0131	19.53	0.3431
	PBS-434757	Mn (257.610 nm)	0.0002	12.95	53.7566
	PBS-434757	Mo (202.032 nm)	0.0011	11.30	-2.5498
	PBS-434757	Na (588.995 nm)	0.0060	60.77	-6056.3937

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	PBS-434757	Ni (230.299 nm)	-0.0005 u	33.57	82.4906
	PBS-434757	Pb (220.353 nm)	0.0005	67.34	15.0039
	PBS-434757	Sb (217.582 nm)	0.0072	28.91	29.6036
	PBS-434757	Se (196.026 nm)	-0.0029 u	> 100.00	-1.4087
	PBS-434757	Sn (189.925 nm)	0.0104	7.04	38.9696
	PBS-434757	Sr (216.596 nm)	0.0004	14.60	-46.7699
	PBS-434757	Ti (336.122 nm)	0.0007	31.08	-96.2807
	PBS-434757	Tl (190.794 nm)	-0.0004 u	> 100.00	-1.7708
	PBS-434757	V (292.401 nm)	0.0004	53.52	-59.4594
	PBS-434757	Y (360.074 nm)	1.01	0.69	503892.45
	PBS-434757	Y_R (360.074 nm)	1.01	0.69	503493.06
	PBS-434757	Zn (213.857 nm)	0.0002	7.30	-52.8450
3/4/2024 14:13:13	LCSS-434757	Ag (328.068 nm)	0.0476	0.29	2417.4553
	LCSS-434757	Al (237.312 nm)	1.7660	0.46	5623.3059
	LCSS-434757	As (188.980 nm)	0.0343	7.15	52.8728
	LCSS-434757	B (249.772 nm)	0.8625	0.24	30127.5665
	LCSS-434757	Ba (230.424 nm)	1.9772	0.31	94191.9659
	LCSS-434757	Be (313.107 nm)	0.0450	0.03	51609.5404
	LCSS-434757	Ca (317.933 nm)	1.9367	0.03	81433.4406
	LCSS-434757	Cd (214.439 nm)	0.0484	0.12	3098.5012
	LCSS-434757	Co (230.786 nm)	0.4911	0.12	7922.2798
	LCSS-434757	Cr (267.716 nm)	0.1970	0.05	8866.8478
	LCSS-434757	Cu (327.395 nm)	0.2426	0.26	8785.3749
	LCSS-434757	Fe (234.350 nm)	0.9678	0.14	21792.8910
	LCSS-434757	K (766.491 nm)	17.7257	0.42	18824.3787
	LCSS-434757	Mg (279.078 nm)	1.8284	0.10	6054.1115
	LCSS-434757	Mn (257.610 nm)	0.4753	0.11	158556.3311
	LCSS-434757	Mo (202.032 nm)	0.4843	0.67	3809.0598
	LCSS-434757	Na (588.995 nm)	18.5041	0.45	159738.0903
	LCSS-434757	Ni (230.299 nm)	0.4994	0.23	6115.2509
	LCSS-434757	Pb (220.353 nm)	0.4838	0.20	2784.3988
	LCSS-434757	Sb (217.582 nm)	0.4579	0.24	1145.6367
	LCSS-434757	Se (196.026 nm)	0.7844	0.36	679.1486
	LCSS-434757	Sn (189.925 nm)	4.7914	0.10	14581.9529
	LCSS-434757	Sr (216.596 nm)	1.9369	0.47	39040.6232
	LCSS-434757	Ti (336.122 nm)	0.4829	0.09	64239.1317
	LCSS-434757	Tl (190.794 nm)	1.8963	0.02	1605.8323
	LCSS-434757	V (292.401 nm)	0.4822	0.11	19592.8831
	LCSS-434757	Y (360.074 nm)	0.99	0.59	493632.28
	LCSS-434757	Y_R (360.074 nm)	0.99	0.59	493275.68
	LCSS-434757	Zn (213.857 nm)	0.4552	0.20	27154.4349
3/4/2024 14:16:17	R2401594-002 10X	Ag (328.068 nm)	0.0002	91.66	-388.3420
	R2401594-002 10X	Al (237.312 nm)	3.4795	1.25	10939.5080
	R2401594-002 10X	As (188.980 nm)	0.0019	26.36	-6.9464
	R2401594-002 10X	B (249.772 nm)	0.0271	1.11	1009.7551
	R2401594-002 10X	Ba (230.424 nm)	0.0199	0.75	930.6107
	R2401594-002 10X	Be (313.107 nm)	0.0001	4.24	-52.3847
	R2401594-002 10X	Ca (317.933 nm)	28.5462	1.44	1155837.2790
	R2401594-002 10X	Cd (214.439 nm)	0.0002	9.21	9.0924
	R2401594-002 10X	Co (230.786 nm)	0.0030	8.98	109.8036
	R2401594-002 10X	Cr (267.716 nm)	0.0047	1.87	167.3711
	R2401594-002 10X	Cu (327.395 nm)	0.0119	1.78	387.9759
	R2401594-002 10X	Fe (234.350 nm)	8.3869	1.53	187823.5672
	R2401594-002 10X	K (766.491 nm)	0.5778	5.67	361.2292
	R2401594-002 10X	Mg (279.078 nm)	5.3562	1.40	17818.4256
	R2401594-002 10X	Mn (257.610 nm)	0.3604	1.42	120227.5944
	R2401594-002 10X	Mo (202.032 nm)	0.0014	34.09	-0.3953

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-002 10X	Na (588.995 nm)	0.0791	7.50	-5401.7603
	R2401594-002 10X	Ni (230.299 nm)	0.0061	5.28	162.4941
	R2401594-002 10X	Pb (220.353 nm)	0.0019	71.32	23.2883
	R2401594-002 10X	Sb (217.582 nm)	0.0025	60.48	18.0304
	R2401594-002 10X	Se (196.026 nm)	-0.0025 u	64.99	-1.1123
	R2401594-002 10X	Sn (189.925 nm)	0.0018	36.86	12.7917
	R2401594-002 10X	Sr (216.596 nm)	0.0479	0.93	911.6793
	R2401594-002 10X	Ti (336.122 nm)	0.1043	0.70	13730.1105
	R2401594-002 10X	Tl (190.794 nm)	0.0031	97.08	1.2095
	R2401594-002 10X	V (292.401 nm)	0.0087	4.22	276.9674
	R2401594-002 10X	Y (360.074 nm)	1.00	0.15	498053.46
	R2401594-002 10X	Y_R (360.074 nm)	1.00	0.15	497731.99
	R2401594-002 10X	Zn (213.857 nm)	0.0197	1.38	1108.0268
3/4/2024 14:19:20	R2401594-004 10X	Ag (328.068 nm)	0.0002	83.90	-386.9438
	R2401594-004 10X	Al (237.312 nm)	3.3804	0.39	10631.8150
	R2401594-004 10X	As (188.980 nm)	0.0019	64.41	-6.8807
	R2401594-004 10X	B (249.772 nm)	0.0157	0.71	611.5312
	R2401594-004 10X	Ba (230.424 nm)	0.0189	0.81	881.2779
	R2401594-004 10X	Be (313.107 nm)	0.0002	3.37	-32.4896
	R2401594-004 10X	Ca (317.933 nm)	23.4711	0.69	950921.9414
	R2401594-004 10X	Cd (214.439 nm)	0.0000 u	> 100.00	0.6287
	R2401594-004 10X	Co (230.786 nm)	0.0031	12.09	111.1838
	R2401594-004 10X	Cr (267.716 nm)	0.0047	1.15	167.7627
	R2401594-004 10X	Cu (327.395 nm)	0.0120	3.30	393.0418
	R2401594-004 10X	Fe (234.350 nm)	8.2130	0.78	183933.4167
	R2401594-004 10X	K (766.491 nm)	0.5951	0.42	379.8733
	R2401594-004 10X	Mg (279.078 nm)	5.5480	0.73	18458.0226
	R2401594-004 10X	Mn (257.610 nm)	0.3455	0.71	115256.2914
	R2401594-004 10X	Mo (202.032 nm)	0.0005	37.17	-6.9708
	R2401594-004 10X	Na (588.995 nm)	0.0619	4.93	-5555.5013
	R2401594-004 10X	Ni (230.299 nm)	0.0060	3.63	161.4708
	R2401594-004 10X	Pb (220.353 nm)	0.0018	49.98	22.6666
	R2401594-004 10X	Sb (217.582 nm)	0.0024 u	88.75	17.6989
	R2401594-004 10X	Se (196.026 nm)	-0.0055 u	53.30	-3.7089
	R2401594-004 10X	Sn (189.925 nm)	0.0010	33.24	10.2378
	R2401594-004 10X	Sr (216.596 nm)	0.0301	0.71	552.1884
	R2401594-004 10X	Ti (336.122 nm)	0.1016	1.72	13358.0202
	R2401594-004 10X	Tl (190.794 nm)	-0.0003 u	> 100.00	-1.6401
	R2401594-004 10X	V (292.401 nm)	0.0083	2.01	261.1088
	R2401594-004 10X	Y (360.074 nm)	1.00	0.13	498346.76
	R2401594-004 10X	Y_R (360.074 nm)	1.00	0.13	498022.03
	R2401594-004 10X	Zn (213.857 nm)	0.0201	0.97	1135.9227
3/4/2024 14:22:24	R2401594-006 10X	Ag (328.068 nm)	0.0000 u	> 100.00	-403.9440
	R2401594-006 10X	Al (237.312 nm)	3.9570	0.16	12420.8735
	R2401594-006 10X	As (188.980 nm)	0.0000 u	> 100.00	-10.4310
	R2401594-006 10X	B (249.772 nm)	0.0136	2.17	538.6083
	R2401594-006 10X	Ba (230.424 nm)	0.0197	0.00	922.5064
	R2401594-006 10X	Be (313.107 nm)	0.0002	5.21	-21.1987
	R2401594-006 10X	Ca (317.933 nm)	22.6386	0.37	917306.4647
	R2401594-006 10X	Cd (214.439 nm)	0.0001	19.45	6.5680
	R2401594-006 10X	Co (230.786 nm)	0.0034	2.63	116.1973
	R2401594-006 10X	Cr (267.716 nm)	0.0053	3.32	191.3188
	R2401594-006 10X	Cu (327.395 nm)	0.0135	2.48	447.1367
	R2401594-006 10X	Fe (234.350 nm)	9.2414	0.43	206947.4024
	R2401594-006 10X	K (766.491 nm)	0.6181	4.21	404.6828
	R2401594-006 10X	Mg (279.078 nm)	4.9234	0.37	16375.1438
	R2401594-006 10X	Mn (257.610 nm)	0.3438	0.37	114696.9473

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-006 10X	Mo (202.032 nm)	0.0000 u	> 100.00	-11.3856
	R2401594-006 10X	Na (588.995 nm)	0.0658	3.35	-5520.5477
	R2401594-006 10X	Ni (230.299 nm)	0.0070	9.99	173.1444
	R2401594-006 10X	Pb (220.353 nm)	0.0012	42.29	18.8405
	R2401594-006 10X	Sb (217.582 nm)	0.0030	27.54	19.3148
	R2401594-006 10X	Se (196.026 nm)	-0.0037 u	69.17	-2.1236
	R2401594-006 10X	Sn (189.925 nm)	0.0008	53.47	9.6846
	R2401594-006 10X	Sr (216.596 nm)	0.0323	0.62	597.8253
	R2401594-006 10X	Ti (336.122 nm)	0.0907	1.39	11911.6140
	R2401594-006 10X	Tl (190.794 nm)	0.0005 u	> 100.00	-1.0039
	R2401594-006 10X	V (292.401 nm)	0.0088	1.75	284.6033
	R2401594-006 10X	Y (360.074 nm)	1.00	0.11	498622.75
	R2401594-006 10X	Y_R (360.074 nm)	1.00	0.11	498464.17
	R2401594-006 10X	Zn (213.857 nm)	0.0208	0.24	1178.3443
3/4/2024 14:25:28	R2401594-006S 10X	Ag (328.068 nm)	0.0052	1.48	-92.8440
	R2401594-006S 10X	Al (237.312 nm)	3.9964	0.69	12543.0357
	R2401594-006S 10X	As (188.980 nm)	0.0046	32.74	-1.8959
	R2401594-006S 10X	B (249.772 nm)	0.1042	1.34	3696.5082
	R2401594-006S 10X	Ba (230.424 nm)	0.2160	1.03	10274.0560
	R2401594-006S 10X	Be (313.107 nm)	0.0048	1.04	5363.4522
	R2401594-006S 10X	Ca (317.933 nm)	43.7399	1.13	1769306.6335
	R2401594-006S 10X	Cd (214.439 nm)	0.0050	0.49	319.5300
	R2401594-006S 10X	Co (230.786 nm)	0.0526	1.06	903.5664
	R2401594-006S 10X	Cr (267.716 nm)	0.0256	1.85	1109.7421
	R2401594-006S 10X	Cu (327.395 nm)	0.0353	0.38	1240.8000
	R2401594-006S 10X	Fe (234.350 nm)	8.8234	1.16	197592.9586
	R2401594-006S 10X	K (766.491 nm)	2.2686	0.92	2181.7651
	R2401594-006S 10X	Mg (279.078 nm)	5.7384	1.11	19093.1949
	R2401594-006S 10X	Mn (257.610 nm)	0.3898	1.13	130028.0619
	R2401594-006S 10X	Mo (202.032 nm)	0.0479	3.17	366.6183
	R2401594-006S 10X	Na (588.995 nm)	1.9736	0.56	11578.4610
	R2401594-006S 10X	Ni (230.299 nm)	0.0565	2.15	771.1751
	R2401594-006S 10X	Pb (220.353 nm)	0.0520	2.59	310.2319
	R2401594-006S 10X	Sb (217.582 nm)	0.0445	4.82	122.0167
	R2401594-006S 10X	Se (196.026 nm)	0.0907	1.44	79.5133
	R2401594-006S 10X	Sn (189.925 nm)	0.5005	1.28	1529.6794
	R2401594-006S 10X	Sr (216.596 nm)	0.2496	1.06	4984.3342
	R2401594-006S 10X	Ti (336.122 nm)	0.1376	1.26	18173.5108
	R2401594-006S 10X	Tl (190.794 nm)	0.1911	3.67	160.5630
	R2401594-006S 10X	V (292.401 nm)	0.0572	1.37	2258.1939
	R2401594-006S 10X	Y (360.074 nm)	0.99	0.16	494207.76
	R2401594-006S 10X	Y_R (360.074 nm)	0.99	0.16	494171.67
	R2401594-006S 10X	Zn (213.857 nm)	0.0674	1.23	3961.7028
3/4/2024 14:28:32	R2401594-006SD 10X	Ag (328.068 nm)	0.0052	1.96	-95.8083
	R2401594-006SD 10X	Al (237.312 nm)	4.0783	0.40	12797.1604
	R2401594-006SD 10X	As (188.980 nm)	0.0051	34.39	-0.9480
	R2401594-006SD 10X	B (249.772 nm)	0.1033	0.79	3664.4216
	R2401594-006SD 10X	Ba (230.424 nm)	0.2171	0.64	10326.6942
	R2401594-006SD 10X	Be (313.107 nm)	0.0048	0.95	5329.4297
	R2401594-006SD 10X	Ca (317.933 nm)	21.4998	0.65	871326.8988
	R2401594-006SD 10X	Cd (214.439 nm)	0.0050	1.27	317.4808
	R2401594-006SD 10X	Co (230.786 nm)	0.0523	0.88	898.8266
	R2401594-006SD 10X	Cr (267.716 nm)	0.0248	0.27	1075.6536
	R2401594-006SD 10X	Cu (327.395 nm)	0.0377	1.48	1327.9935
	R2401594-006SD 10X	Fe (234.350 nm)	9.3502	0.70	209381.0901
	R2401594-006SD 10X	K (766.491 nm)	2.2245	2.21	2134.2681
	R2401594-006SD 10X	Mg (279.078 nm)	5.1463	0.45	17118.4521

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-006SD 10X	Mn (257.610 nm)	0.4166	0.63	138963.9362
	R2401594-006SD 10X	Mo (202.032 nm)	0.0478	1.70	365.4908
	R2401594-006SD 10X	Na (588.995 nm)	1.9217	0.16	11113.0847
	R2401594-006SD 10X	Ni (230.299 nm)	0.0584	0.52	793.9518
	R2401594-006SD 10X	Pb (220.353 nm)	0.0522	1.89	311.5139
	R2401594-006SD 10X	Sb (217.582 nm)	0.0438	2.95	120.1137
	R2401594-006SD 10X	Se (196.026 nm)	0.0873	3.18	76.5747
	R2401594-006SD 10X	Sn (189.925 nm)	0.4989	0.43	1524.9534
	R2401594-006SD 10X	Sr (216.596 nm)	0.2244	0.69	4474.2124
	R2401594-006SD 10X	Ti (336.122 nm)	0.1381	0.28	18235.1806
	R2401594-006SD 10X	Tl (190.794 nm)	0.1937	4.16	162.7585
	R2401594-006SD 10X	V (292.401 nm)	0.0561	0.68	2213.6970
	R2401594-006SD 10X	Y (360.074 nm)	1.00	0.11	498222.47
	R2401594-006SD 10X	Y_R (360.074 nm)	1.00	0.10	497872.77
	R2401594-006SD 10X	Zn (213.857 nm)	0.0692	0.71	4070.0509
3/4/2024 14:31:35	R2401594-006A 10X	Ag (328.068 nm)	0.0495	0.53	2531.7333
	R2401594-006A 10X	Al (237.312 nm)	5.7462	0.22	17971.8516
	R2401594-006A 10X	As (188.980 nm)	0.0371	2.51	58.1008
	R2401594-006A 10X	B (249.772 nm)	0.9397	0.33	32816.6803
	R2401594-006A 10X	Ba (230.424 nm)	1.9876	0.53	94685.9907
	R2401594-006A 10X	Be (313.107 nm)	0.0468	0.37	53723.7892
	R2401594-006A 10X	Ca (317.933 nm)	24.0669	0.37	974977.9561
	R2401594-006A 10X	Cd (214.439 nm)	0.0491	0.49	3140.8965
	R2401594-006A 10X	Co (230.786 nm)	0.4960	0.24	8000.9963
	R2401594-006A 10X	Cr (267.716 nm)	0.2000	0.48	9004.7701
	R2401594-006A 10X	Cu (327.395 nm)	0.2554	0.29	9249.4114
	R2401594-006A 10X	Fe (234.350 nm)	9.9505	0.42	222815.1141
	R2401594-006A 10X	K (766.491 nm)	18.8500	0.43	20034.9371
	R2401594-006A 10X	Mg (279.078 nm)	6.6478	0.31	22125.6505
	R2401594-006A 10X	Mn (257.610 nm)	0.8101	0.38	270262.8136
	R2401594-006A 10X	Mo (202.032 nm)	0.4827	1.36	3796.7415
	R2401594-006A 10X	Na (588.995 nm)	18.9724	0.03	163934.9343
	R2401594-006A 10X	Ni (230.299 nm)	0.5095	0.41	6237.4482
	R2401594-006A 10X	Pb (220.353 nm)	0.4934	0.46	2839.7753
	R2401594-006A 10X	Sb (217.582 nm)	0.4728	0.24	1182.4826
	R2401594-006A 10X	Se (196.026 nm)	0.9045	0.99	782.9630
	R2401594-006A 10X	Sn (189.925 nm)	4.9079	0.42	14936.3451
	R2401594-006A 10X	Sr (216.596 nm)	1.9712	0.30	39732.4973
	R2401594-006A 10X	Ti (336.122 nm)	0.5680	0.26	75603.9739
	R2401594-006A 10X	Tl (190.794 nm)	1.9508	0.54	1651.9935
	R2401594-006A 10X	V (292.401 nm)	0.4885	0.54	19849.0781
	R2401594-006A 10X	Y (360.074 nm)	0.98	0.13	488383.20
	R2401594-006A 10X	Y_R (360.074 nm)	0.98	0.13	487859.52
	R2401594-006A 10X	Zn (213.857 nm)	0.4981	0.31	29719.7297
3/4/2024 14:34:39	R2401594-006L 50X	Ag (328.068 nm)	0.0003	17.55	-386.3079
	R2401594-006L 50X	Al (237.312 nm)	0.7708	1.67	2535.6479
	R2401594-006L 50X	As (188.980 nm)	0.0003	92.93	-9.8459
	R2401594-006L 50X	B (249.772 nm)	0.0034	1.79	183.1195
	R2401594-006L 50X	Ba (230.424 nm)	0.0041	0.76	177.2735
	R2401594-006L 50X	Be (313.107 nm)	0.0000	20.80	-164.2552
	R2401594-006L 50X	Ca (317.933 nm)	4.5741	2.01	187922.1258
	R2401594-006L 50X	Cd (214.439 nm)	-0.0001 u	> 100.00	-5.5228
	R2401594-006L 50X	Co (230.786 nm)	0.0009	8.72	76.3465
	R2401594-006L 50X	Cr (267.716 nm)	0.0011	4.90	3.7471
	R2401594-006L 50X	Cu (327.395 nm)	0.0026	6.51	52.9037
	R2401594-006L 50X	Fe (234.350 nm)	1.8517	2.07	41574.3752
	R2401594-006L 50X	K (766.491 nm)	0.1618	18.87	-86.5944

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-006L 50X	Mg (279.078 nm)	0.9842	1.97	3238.6972
	R2401594-006L 50X	Mn (257.610 nm)	0.0696	1.96	23217.3662
	R2401594-006L 50X	Mo (202.032 nm)	0.0018	10.37	2.7964
	R2401594-006L 50X	Na (588.995 nm)	0.0359	8.98	-5788.6930
	R2401594-006L 50X	Ni (230.299 nm)	0.0011	24.09	102.2024
	R2401594-006L 50X	Pb (220.353 nm)	0.0003	84.30	14.0603
	R2401594-006L 50X	Sb (217.582 nm)	0.0034	50.46	20.2674
	R2401594-006L 50X	Se (196.026 nm)	-0.0035 u	17.32	-1.9886
	R2401594-006L 50X	Sn (189.925 nm)	0.0009	48.38	9.9285
	R2401594-006L 50X	Sr (216.596 nm)	0.0066	3.23	77.9238
	R2401594-006L 50X	Ti (336.122 nm)	0.0186	2.84	2284.1800
	R2401594-006L 50X	Tl (190.794 nm)	0.0008 u	> 100.00	-0.7355
	R2401594-006L 50X	V (292.401 nm)	0.0016	7.05	-9.3741
	R2401594-006L 50X	Y (360.074 nm)	1.01	0.08	501699.46
	R2401594-006L 50X	Y_R (360.074 nm)	1.01	0.08	501239.68
	R2401594-006L 50X	Zn (213.857 nm)	0.0044	2.76	194.8995
3/4/2024 14:37:43	R2401594-008 10X	Ag (328.068 nm)	0.0004	25.22	-378.9997
	R2401594-008 10X	Al (237.312 nm)	3.6134	0.37	11354.9126
	R2401594-008 10X	As (188.980 nm)	0.0004 u	> 100.00	-9.5811
	R2401594-008 10X	B (249.772 nm)	0.0127	2.52	507.4499
	R2401594-008 10X	Ba (230.424 nm)	0.0201	0.87	937.8904
	R2401594-008 10X	Be (313.107 nm)	0.0002	6.51	-32.5274
	R2401594-008 10X	Ca (317.933 nm)	36.8035	0.70	1489237.2566
	R2401594-008 10X	Cd (214.439 nm)	0.0001	71.82	6.2198
	R2401594-008 10X	Co (230.786 nm)	0.0030	4.57	109.7780
	R2401594-008 10X	Cr (267.716 nm)	0.0050	5.61	179.5131
	R2401594-008 10X	Cu (327.395 nm)	0.0164	2.53	552.7807
	R2401594-008 10X	Fe (234.350 nm)	8.5442	0.71	191344.1056
	R2401594-008 10X	K (766.491 nm)	0.6128	4.35	398.9632
	R2401594-008 10X	Mg (279.078 nm)	6.7220	0.63	22373.1492
	R2401594-008 10X	Mn (257.610 nm)	0.3775	0.60	125918.5138
	R2401594-008 10X	Mo (202.032 nm)	0.0004	8.20	-8.1866
	R2401594-008 10X	Na (588.995 nm)	0.0718	9.35	-5466.4940
	R2401594-008 10X	Ni (230.299 nm)	0.0066	4.85	168.7981
	R2401594-008 10X	Pb (220.353 nm)	0.0023	5.96	25.3394
	R2401594-008 10X	Sb (217.582 nm)	0.0001 u	> 100.00	12.0327
	R2401594-008 10X	Se (196.026 nm)	-0.0020 u	> 100.00	-0.6300
	R2401594-008 10X	Sn (189.925 nm)	0.0009	52.66	9.9662
	R2401594-008 10X	Sr (216.596 nm)	0.0435	1.17	822.7841
	R2401594-008 10X	Ti (336.122 nm)	0.0965	0.76	12682.3043
	R2401594-008 10X	Tl (190.794 nm)	0.0019	64.12	0.2046
	R2401594-008 10X	V (292.401 nm)	0.0083	2.62	262.6051
	R2401594-008 10X	Y (360.074 nm)	0.99	0.13	493979.82
	R2401594-008 10X	Y_R (360.074 nm)	0.99	0.13	493556.78
	R2401594-008 10X	Zn (213.857 nm)	0.0212	0.38	1198.3554
3/4/2024 14:40:47	Continuing Calibration Verification	Ag (328.068 nm)	0.5169	0.25	30225.2977
	Continuing Calibration Verification	Al (237.312 nm)	9.9511	0.13	31017.4551
	Continuing Calibration Verification	As (188.980 nm)	0.9886	0.65	1811.8858
	Continuing Calibration Verification	B (249.772 nm)	2.4490	0.24	85426.2090
	Continuing Calibration Verification	Ba (230.424 nm)	10.2322	0.31	487529.5233
	Continuing Calibration Verification	Be (313.107 nm)	0.2428	0.27	279557.1645
	Continuing Calibration Verification	Ca (317.933 nm)	25.6403	0.30	1038504.6860
	Continuing Calibration Verification	Cd (214.439 nm)	0.5102	0.19	32668.2510
	Continuing Calibration Verification	Co (230.786 nm)	2.5292	0.20	40542.0667
	Continuing Calibration Verification	Cr (267.716 nm)	0.5143	0.25	23224.7322
	Continuing Calibration Verification	Cu (327.395 nm)	1.2395	0.25	45058.4854
	Continuing Calibration Verification	Fe (234.350 nm)	5.0253	0.24	112595.1461

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	K (766.491 nm)	24.1637	0.10	25756.1504
	Continuing Calibration Verification	Mg (279.078 nm)	25.1772	0.26	83917.2693
	Continuing Calibration Verification	Mn (257.610 nm)	0.7461	0.26	248907.0432
	Continuing Calibration Verification	Mo (202.032 nm)	2.5407	0.43	20030.2522
	Continuing Calibration Verification	Na (588.995 nm)	25.0765	0.08	218644.9969
	Continuing Calibration Verification	Ni (230.299 nm)	2.0964	0.28	25387.7820
	Continuing Calibration Verification	Pb (220.353 nm)	0.5083	0.20	2924.9636
	Continuing Calibration Verification	Sb (217.582 nm)	4.8288	0.14	11968.0905
	Continuing Calibration Verification	Se (196.026 nm)	0.4921	0.56	426.4313
	Continuing Calibration Verification	Sn (189.925 nm)	5.0221	0.31	15283.6776
	Continuing Calibration Verification	Sr (216.596 nm)	2.5032	0.25	50470.8735
	Continuing Calibration Verification	Ti (336.122 nm)	2.5136	0.44	335218.6632
	Continuing Calibration Verification	Tl (190.794 nm)	1.0339	0.66	874.8500
	Continuing Calibration Verification	V (292.401 nm)	2.4981	0.22	101819.9032
	Continuing Calibration Verification	Y (360.074 nm)	0.97	0.21	482817.32
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97	0.21	482409.88
	Continuing Calibration Verification	Zn (213.857 nm)	0.9946	0.23	59412.7956
3/4/2024 14:43:51	Continuing Calibration Blank	Ag (328.068 nm)	0.0002	43.84	-388.5955
	Continuing Calibration Blank	Al (237.312 nm)	0.0025	31.31	151.9011
	Continuing Calibration Blank	As (188.980 nm)	0.0015	74.11	-7.6663
	Continuing Calibration Blank	B (249.772 nm)	0.0018	7.37	127.2616
	Continuing Calibration Blank	Ba (230.424 nm)	0.0003	48.97	-2.8376
	Continuing Calibration Blank	Be (313.107 nm)	0.0000 u	> 100.00	-204.4770
	Continuing Calibration Blank	Ca (317.933 nm)	0.0840	0.27	6628.6566
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	> 100.00	-6.4815
	Continuing Calibration Blank	Co (230.786 nm)	0.0000 u	> 100.00	62.4649
	Continuing Calibration Blank	Cr (267.716 nm)	0.0000 u	> 100.00	-48.1293
	Continuing Calibration Blank	Cu (327.395 nm)	-0.0003 u	46.83	-54.6533
	Continuing Calibration Blank	Fe (234.350 nm)	0.0026	18.23	194.2232
	Continuing Calibration Blank	K (766.491 nm)	0.0351	72.10	-223.0158
	Continuing Calibration Blank	Mg (279.078 nm)	0.0050	29.62	-26.5714
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	26.76	19.6850
	Continuing Calibration Blank	Mo (202.032 nm)	0.0032	16.56	14.2857
	Continuing Calibration Blank	Na (588.995 nm)	0.0273	8.83	-5865.5632
	Continuing Calibration Blank	Ni (230.299 nm)	0.0002 u	> 100.00	91.5130
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0001 u	> 100.00	11.3330
	Continuing Calibration Blank	Sb (217.582 nm)	0.0073	12.82	29.8299
	Continuing Calibration Blank	Se (196.026 nm)	-0.0006 u	> 100.00	0.5745
	Continuing Calibration Blank	Sn (189.925 nm)	0.0006	55.79	9.0146
	Continuing Calibration Blank	Sr (216.596 nm)	0.0002	80.58	-50.9175
	Continuing Calibration Blank	Ti (336.122 nm)	0.0026	23.93	160.6775
	Continuing Calibration Blank	Tl (190.794 nm)	0.0005 u	> 100.00	-0.9606
	Continuing Calibration Blank	V (292.401 nm)	-0.0001 u	73.76	-80.4057
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.45	500508.21
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.45	500037.62
	Continuing Calibration Blank	Zn (213.857 nm)	0.0003	36.61	-46.5622
3/4/2024 14:46:55	R2401594-010 10X	Ag (328.068 nm)	0.0003	95.41	-385.4521
	R2401594-010 10X	Al (237.312 nm)	3.9430	1.26	12377.4283
	R2401594-010 10X	As (188.980 nm)	0.0028	26.18	-5.1202
	R2401594-010 10X	B (249.772 nm)	0.0144	1.56	566.8885
	R2401594-010 10X	Ba (230.424 nm)	0.0170	0.80	790.5579
	R2401594-010 10X	Be (313.107 nm)	0.0002	6.94	-13.3906
	R2401594-010 10X	Ca (317.933 nm)	32.4095	1.42	1311823.5331
	R2401594-010 10X	Cd (214.439 nm)	0.0002	42.78	10.7731
	R2401594-010 10X	Co (230.786 nm)	0.0037	7.80	121.5976
	R2401594-010 10X	Cr (267.716 nm)	0.0055	0.63	200.6522
	R2401594-010 10X	Cu (327.395 nm)	0.0167	1.56	562.5248

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401594-010 10X	Fe (234.350 nm)	9.5350	1.49	213518.0216
	R2401594-010 10X	K (766.491 nm)	0.6125	2.30	398.6486
	R2401594-010 10X	Mg (279.078 nm)	6.8358	1.34	22752.7348
	R2401594-010 10X	Mn (257.610 nm)	0.4172	1.42	139159.8691
	R2401594-010 10X	Mo (202.032 nm)	0.0010	37.69	-3.0808
	R2401594-010 10X	Na (588.995 nm)	0.0707	5.46	-5476.4079
	R2401594-010 10X	Ni (230.299 nm)	0.0076	3.36	180.9858
	R2401594-010 10X	Pb (220.353 nm)	0.0030	16.40	29.2769
	R2401594-010 10X	Sb (217.582 nm)	0.0034	67.50	20.2975
	R2401594-010 10X	Se (196.026 nm)	-0.0038 u	54.36	-2.2375
	R2401594-010 10X	Sn (189.925 nm)	0.0017	18.03	12.5141
	R2401594-010 10X	Sr (216.596 nm)	0.0487	1.85	928.5509
	R2401594-010 10X	Ti (336.122 nm)	0.0944	1.33	12409.2031
	R2401594-010 10X	Tl (190.794 nm)	0.0025 u	> 100.00	0.6854
	R2401594-010 10X	V (292.401 nm)	0.0090	1.31	292.8004
	R2401594-010 10X	Y (360.074 nm)	0.99	0.09	494997.77
	R2401594-010 10X	Y_R (360.074 nm)	0.99	0.09	494540.44
	R2401594-010 10X	Zn (213.857 nm)	0.0208	1.23	1174.8376
3/4/2024 14:49:59	R2401594-012 10X	Ag (328.068 nm)	0.0004	27.19	-378.1736
	R2401594-012 10X	Al (237.312 nm)	3.9051	0.90	12259.8327
	R2401594-012 10X	As (188.980 nm)	0.0018	55.88	-7.0168
	R2401594-012 10X	B (249.772 nm)	0.0140	1.18	551.0183
	R2401594-012 10X	Ba (230.424 nm)	0.0154	0.95	715.5149
	R2401594-012 10X	Be (313.107 nm)	0.0002	0.28	-15.8645
	R2401594-012 10X	Ca (317.933 nm)	37.7391	1.35	1527015.0073
	R2401594-012 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-1.6328
	R2401594-012 10X	Co (230.786 nm)	0.0035	2.43	118.5045
	R2401594-012 10X	Cr (267.716 nm)	0.0056	2.95	204.7758
	R2401594-012 10X	Cu (327.395 nm)	0.0156	0.90	523.4431
	R2401594-012 10X	Fe (234.350 nm)	9.3927	1.33	210333.5282
	R2401594-012 10X	K (766.491 nm)	0.6497	3.87	438.7067
	R2401594-012 10X	Mg (279.078 nm)	6.3624	1.31	21174.1707
	R2401594-012 10X	Mn (257.610 nm)	0.3522	1.33	117480.6297
	R2401594-012 10X	Mo (202.032 nm)	0.0004	77.24	-7.7361
	R2401594-012 10X	Na (588.995 nm)	0.0713	7.46	-5471.3302
	R2401594-012 10X	Ni (230.299 nm)	0.0071	2.32	174.8780
	R2401594-012 10X	Pb (220.353 nm)	0.0019	60.50	22.9659
	R2401594-012 10X	Sb (217.582 nm)	0.0026	59.33	18.1712
	R2401594-012 10X	Se (196.026 nm)	-0.0019 u	> 100.00	-0.5738
	R2401594-012 10X	Sn (189.925 nm)	0.0009	51.11	9.9642
	R2401594-012 10X	Sr (216.596 nm)	0.0523	1.25	1000.4146
	R2401594-012 10X	Ti (336.122 nm)	0.0975	0.32	12812.3506
	R2401594-012 10X	Tl (190.794 nm)	0.0012 u	> 100.00	-0.4085
	R2401594-012 10X	V (292.401 nm)	0.0092	2.76	300.1822
	R2401594-012 10X	Y (360.074 nm)	0.99	0.15	494857.78
	R2401594-012 10X	Y_R (360.074 nm)	0.99	0.15	494421.75
	R2401594-012 10X	Zn (213.857 nm)	0.0212	1.27	1201.2974
3/4/2024 14:53:03	R2401638-001 10X	Ag (328.068 nm)	0.0013	14.53	-321.8016
	R2401638-001 10X	Al (237.312 nm)	14.6787	1.62	45684.9554
	R2401638-001 10X	As (188.980 nm)	0.0025	75.56	-5.7107
	R2401638-001 10X	B (249.772 nm)	0.0558	1.84	2010.3116
	R2401638-001 10X	Ba (230.424 nm)	0.1564	1.73	7433.9409
	R2401638-001 10X	Be (313.107 nm)	0.0002	3.73	19.2830
	R2401638-001 10X	Ca (317.933 nm)	42.3342	1.90	1712549.2208
	R2401638-001 10X	Cd (214.439 nm)	0.0019	4.73	120.4291
	R2401638-001 10X	Co (230.786 nm)	0.0101	1.25	223.4524
	R2401638-001 10X	Cr (267.716 nm)	0.0322	1.77	1409.2543

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401638-001 10X	Cu (327.395 nm)	0.2676	1.85	9693.2691
	R2401638-001 10X	Fe (234.350 nm)	7.5500	1.86	169095.8928
	R2401638-001 10X	K (766.491 nm)	3.7245	1.31	3749.3646
	R2401638-001 10X	Mg (279.078 nm)	3.6264	1.77	12049.9214
	R2401638-001 10X	Mn (257.610 nm)	0.2813	1.88	93845.5361
	R2401638-001 10X	Mo (202.032 nm)	0.0030	17.45	12.2877
	R2401638-001 10X	Na (588.995 nm)	6.8826	1.71	55576.8580
	R2401638-001 10X	Ni (230.299 nm)	0.0289	1.21	438.1815
	R2401638-001 10X	Pb (220.353 nm)	0.1037	1.85	606.4848
	R2401638-001 10X	Sb (217.582 nm)	0.0059	25.48	26.3139
	R2401638-001 10X	Se (196.026 nm)	-0.0013 u	62.09	-0.0207
	R2401638-001 10X	Sn (189.925 nm)	0.0351	4.75	114.0355
	R2401638-001 10X	Sr (216.596 nm)	0.0755	1.90	1469.4070
	R2401638-001 10X	Ti (336.122 nm)	0.0708	3.02	9251.7680
	R2401638-001 10X	Tl (190.794 nm)	0.0012	89.12	-0.3900
	R2401638-001 10X	V (292.401 nm)	0.0059	1.97	162.7164
	R2401638-001 10X	Y (360.074 nm)	0.99	0.13	494968.32
	R2401638-001 10X	Y_R (360.074 nm)	0.99	0.13	494535.01
	R2401638-001 10X	Zn (213.857 nm)	0.5026	1.84	29989.7113
3/4/2024 14:56:06	Continuing Calibration Verification	Ag (328.068 nm)	0.5169	0.04	30227.6661
	Continuing Calibration Verification	Al (237.312 nm)	9.9582	0.02	31039.4005
	Continuing Calibration Verification	As (188.980 nm)	0.9870	0.62	1808.9618
	Continuing Calibration Verification	B (249.772 nm)	2.4486	0.20	85410.9334
	Continuing Calibration Verification	Ba (230.424 nm)	10.2584	0.37	488778.2207
	Continuing Calibration Verification	Be (313.107 nm)	0.2428	0.13	279633.9410
	Continuing Calibration Verification	Ca (317.933 nm)	25.6498	0.15	1038889.0566
	Continuing Calibration Verification	Cd (214.439 nm)	0.5102	0.23	32668.0202
	Continuing Calibration Verification	Co (230.786 nm)	2.5412	0.49	40735.2341
	Continuing Calibration Verification	Cr (267.716 nm)	0.5141	0.14	23216.1478
	Continuing Calibration Verification	Cu (327.395 nm)	1.2403	0.06	45087.0462
	Continuing Calibration Verification	Fe (234.350 nm)	5.0261	0.19	112613.6994
	Continuing Calibration Verification	K (766.491 nm)	24.1452	0.33	25736.2259
	Continuing Calibration Verification	Mg (279.078 nm)	25.1715	0.16	83898.3991
	Continuing Calibration Verification	Mn (257.610 nm)	0.7460	0.14	248865.8091
	Continuing Calibration Verification	Mo (202.032 nm)	2.5401	0.35	20025.2336
	Continuing Calibration Verification	Na (588.995 nm)	25.0618	0.07	218513.2887
	Continuing Calibration Verification	Ni (230.299 nm)	2.0990	0.15	25418.8781
	Continuing Calibration Verification	Pb (220.353 nm)	0.5097	0.32	2933.2126
	Continuing Calibration Verification	Sb (217.582 nm)	4.8313	0.18	11974.3150
	Continuing Calibration Verification	Se (196.026 nm)	0.4934	0.33	427.5719
	Continuing Calibration Verification	Sn (189.925 nm)	5.0215	0.14	15281.9753
	Continuing Calibration Verification	Sr (216.596 nm)	2.5065	0.51	50538.3684
	Continuing Calibration Verification	Ti (336.122 nm)	2.5140	0.29	335269.6725
	Continuing Calibration Verification	Tl (190.794 nm)	1.0305	0.24	871.9848
	Continuing Calibration Verification	V (292.401 nm)	2.4979	0.16	101811.8081
	Continuing Calibration Verification	Y (360.074 nm)	0.97	0.24	482596.34
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97	0.24	482175.66
	Continuing Calibration Verification	Zn (213.857 nm)	0.9972	0.16	59571.5245
3/4/2024 14:59:10	Continuing Calibration Blank	Ag (328.068 nm)	0.0002	32.26	-388.3702
	Continuing Calibration Blank	Al (237.312 nm)	0.0032	51.08	154.0655
	Continuing Calibration Blank	As (188.980 nm)	-0.0003 u	> 100.00	-10.8732
	Continuing Calibration Blank	B (249.772 nm)	0.0017	9.26	122.5446
	Continuing Calibration Blank	Ba (230.424 nm)	0.0005	36.33	4.0527
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	9.30	-196.7077
	Continuing Calibration Blank	Ca (317.933 nm)	0.0839	0.42	6625.1173
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	69.40	-5.7411
	Continuing Calibration Blank	Co (230.786 nm)	0.0001 u	> 100.00	64.1682

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank	Cr (267.716 nm)	0.0000	65.36	-44.7685
	Continuing Calibration Blank	Cu (327.395 nm)	0.0001 u	> 100.00	-40.7322
	Continuing Calibration Blank	Fe (234.350 nm)	0.0027	17.59	195.7338
	Continuing Calibration Blank	K (766.491 nm)	0.0477	54.35	-209.4561
	Continuing Calibration Blank	Mg (279.078 nm)	0.0044	23.40	-28.6373
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	29.91	23.2744
	Continuing Calibration Blank	Mo (202.032 nm)	0.0033	33.64	14.9464
	Continuing Calibration Blank	Na (588.995 nm)	0.0250	12.60	-5886.3020
	Continuing Calibration Blank	Ni (230.299 nm)	0.0003	55.20	92.4724
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0003 u	> 100.00	10.1691
	Continuing Calibration Blank	Sb (217.582 nm)	0.0096	26.20	35.5123
	Continuing Calibration Blank	Se (196.026 nm)	-0.0008 u	> 100.00	0.4056
	Continuing Calibration Blank	Sn (189.925 nm)	0.0017	73.14	12.3092
	Continuing Calibration Blank	Sr (216.596 nm)	0.0002	52.78	-49.8337
	Continuing Calibration Blank	Ti (336.122 nm)	0.0029	23.94	188.0809
	Continuing Calibration Blank	Tl (190.794 nm)	0.0002 u	> 100.00	-1.2876
	Continuing Calibration Blank	V (292.401 nm)	0.0000 u	40.08	-76.8705
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.17	501023.69
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.17	500482.18
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	24.47	-45.9111
3/4/2024 15:02:13	Contract Required Detection Limit	Ag (328.068 nm)	0.0105	1.18	223.5664
	Contract Required Detection Limit	Al (237.312 nm)	0.1922	0.59	740.5486
	Contract Required Detection Limit	As (188.980 nm)	0.0194	6.66	25.4412
	Contract Required Detection Limit	B (249.772 nm)	0.1977	0.25	6954.8468
	Contract Required Detection Limit	Ba (230.424 nm)	0.2078	0.09	9882.0819
	Contract Required Detection Limit	Be (313.107 nm)	0.0048	0.25	5288.8749
	Contract Required Detection Limit	Ca (317.933 nm)	1.0178	0.25	44332.7137
	Contract Required Detection Limit	Cd (214.439 nm)	0.0103	0.96	659.0005
	Contract Required Detection Limit	Co (230.786 nm)	0.0521	0.45	895.0089
	Contract Required Detection Limit	Cr (267.716 nm)	0.0101	1.41	411.4058
	Contract Required Detection Limit	Cu (327.395 nm)	0.0247	0.90	855.5261
	Contract Required Detection Limit	Fe (234.350 nm)	0.1022	0.31	2423.7162
	Contract Required Detection Limit	K (766.491 nm)	0.9370	0.94	748.0498
	Contract Required Detection Limit	Mg (279.078 nm)	0.9831	0.36	3235.2011
	Contract Required Detection Limit	Mn (257.610 nm)	0.0155	0.30	5146.0990
	Contract Required Detection Limit	Mo (202.032 nm)	0.0254	3.14	189.1846
	Contract Required Detection Limit	Na (588.995 nm)	0.9335	0.06	2256.1602
	Contract Required Detection Limit	Ni (230.299 nm)	0.0413	1.72	586.6999
	Contract Required Detection Limit	Pb (220.353 nm)	0.0096	8.50	67.1852
	Contract Required Detection Limit	Sb (217.582 nm)	0.0651	2.67	173.0695
	Contract Required Detection Limit	Se (196.026 nm)	0.0089	33.84	8.8090
	Contract Required Detection Limit	Sn (189.925 nm)	0.5027	0.38	1536.2507
	Contract Required Detection Limit	Sr (216.596 nm)	0.1029	0.18	2022.9557
	Contract Required Detection Limit	Ti (336.122 nm)	0.0501	0.20	6492.9552
	Contract Required Detection Limit	Tl (190.794 nm)	0.0205	4.28	15.9586
	Contract Required Detection Limit	V (292.401 nm)	0.0493	0.54	1933.3465
	Contract Required Detection Limit	Y (360.074 nm)	1.01	0.33	502045.22
	Contract Required Detection Limit	Y_R (360.074 nm)	1.01	0.33	501526.17
	Contract Required Detection Limit	Zn (213.857 nm)	0.0200	0.19	1130.4360
3/4/2024 15:05:17	Interference Check Solution A	Ag (328.068 nm)	0.0000 u	> 100.00	-402.6191
	Interference Check Solution A	Al (237.312 nm)	252.3005 o	0.38	782904.9959
	Interference Check Solution A	As (188.980 nm)	-0.0056 Ku+/- 0.01	46.61	-20.6056 K
	Interference Check Solution A	B (249.772 nm)	0.1188	0.34	4203.7514
	Interference Check Solution A	Ba (230.424 nm)	0.0007	13.86	15.5646
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	54.38	-229.3029
	Interference Check Solution A	Ca (317.933 nm)	239.2840 o	0.54	9664717.1871
	Interference Check Solution A	Cd (214.439 nm)	-0.0007 u	12.56	-43.3997

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	Co (230.786 nm)	0.0016	17.77	87.4463
	Interference Check Solution A	Cr (267.716 nm)	-0.0004 u	51.13	-63.3342
	Interference Check Solution A	Cu (327.395 nm)	0.0004	86.07	-29.5179
	Interference Check Solution A	Fe (234.350 nm)	93.6366 o	0.53	2095606.9463
	Interference Check Solution A	K (766.491 nm)	-0.0160 u	> 100.00	-278.0350
	Interference Check Solution A	Mg (279.078 nm)	260.0191 o	0.47	867066.1570
	Interference Check Solution A	Mn (257.610 nm)	0.0013	0.01	407.1983
	Interference Check Solution A	Mo (202.032 nm)	-0.0021 u	7.28	-27.6477
	Interference Check Solution A	Na (588.995 nm)	-0.0279 u	0.57	-6360.0936
	Interference Check Solution A	Ni (230.299 nm)	0.0021	19.47	114.7781
	Interference Check Solution A	Pb (220.353 nm)	0.0008 u	> 100.00	16.5690
	Interference Check Solution A	Sb (217.582 nm)	0.0028	66.66	18.7579
	Interference Check Solution A	Se (196.026 nm)	-0.0021 u	> 100.00	-0.7508
	Interference Check Solution A	Sn (189.925 nm)	0.0029	27.51	16.0410
	Interference Check Solution A	Sr (216.596 nm)	0.0097	3.64	141.6803
	Interference Check Solution A	Ti (336.122 nm)	0.0030	2.02	206.5114
	Interference Check Solution A	Tl (190.794 nm)	-0.0021 u	63.51	-3.2456
	Interference Check Solution A	V (292.401 nm)	0.0020	7.49	7.0127
	Interference Check Solution A	Y (360.074 nm)	0.89	0.10	444172.40
	Interference Check Solution A	Y_R (360.074 nm)	0.89	0.10	443821.84
	Interference Check Solution A	Zn (213.857 nm)	0.0117 K +/- 0.02	1.33	633.3990 K
3/4/2024 15:08:21	Interference Check Solution AB	Ag (328.068 nm)	0.2025	0.21	11596.6628
	Interference Check Solution AB	Al (237.312 nm)	253.0089 o	0.21	785102.8783
	Interference Check Solution AB	As (188.980 nm)	0.0927	0.39	160.4639
	Interference Check Solution AB	B (249.772 nm)	0.1168	0.58	4135.8022
	Interference Check Solution AB	Ba (230.424 nm)	0.5249	0.31	24993.2262
	Interference Check Solution AB	Be (313.107 nm)	0.4793	0.24	552189.4091
	Interference Check Solution AB	Ca (317.933 nm)	239.8766 o	0.32	9688642.4692
	Interference Check Solution AB	Cd (214.439 nm)	0.9763	0.30	62516.6733
	Interference Check Solution AB	Co (230.786 nm)	0.4853	0.59	7828.7270
	Interference Check Solution AB	Cr (267.716 nm)	0.5039	0.36	22754.2203
	Interference Check Solution AB	Cu (327.395 nm)	0.5264	0.18	19111.7065
	Interference Check Solution AB	Fe (234.350 nm)	93.8512 o	0.34	2100407.4348
	Interference Check Solution AB	K (766.491 nm)	-0.0175 u	> 100.00	-279.7407
	Interference Check Solution AB	Mg (279.078 nm)	260.5586 o	0.34	868865.1249
	Interference Check Solution AB	Mn (257.610 nm)	0.4880	0.28	162799.4426
	Interference Check Solution AB	Mo (202.032 nm)	-0.0020 u	6.93	-27.0787
	Interference Check Solution AB	Na (588.995 nm)	-0.0355 u	14.74	-6428.3491
	Interference Check Solution AB	Ni (230.299 nm)	0.9886	0.19	12019.6399
	Interference Check Solution AB	Pb (220.353 nm)	0.0494	1.16	295.1395
	Interference Check Solution AB	Sb (217.582 nm)	0.6068	0.21	1514.2387
	Interference Check Solution AB	Se (196.026 nm)	0.0434	2.66	38.5936
	Interference Check Solution AB	Sn (189.925 nm)	0.0023	8.86	14.3712
	Interference Check Solution AB	Sr (216.596 nm)	0.0099	3.62	144.8210
	Interference Check Solution AB	Ti (336.122 nm)	0.0029	2.17	199.1555
	Interference Check Solution AB	Tl (190.794 nm)	0.0973	1.25	81.0203
	Interference Check Solution AB	V (292.401 nm)	0.5046	0.27	20505.7888
	Interference Check Solution AB	Y (360.074 nm)	0.89	0.13	444989.32
	Interference Check Solution AB	Y_R (360.074 nm)	0.89	0.13	444593.97
	Interference Check Solution AB	Zn (213.857 nm)	1.0026	0.27	59893.4824
3/4/2024 15:11:25	HLCCV2	Ag (328.068 nm)	2.0875 o	0.80	123286.5559
	HLCCV2	Al (237.312 nm)	496.4839 o	0.75	1540482.6629
	HLCCV2	As (188.980 nm)	3.9975 o	1.33	7358.4171
	HLCCV2	B (249.772 nm)	10.5315 o	0.83	367149.8851
	HLCCV2	Ba (230.424 nm)	38.7532 o	1.00	1846513.5655
	HLCCV2	Be (313.107 nm)	0.9801 o	0.84	1129204.2757
	HLCCV2	Ca (317.933 nm)	233.0426 o	0.93	9412708.1988

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	HLCCV2	Cd (214.439 nm)	1.8886 o	0.76	120931.8771
	HLCCV2	Co (230.786 nm)	9.4234 o	0.70	150885.5567
	HLCCV2	Cr (267.716 nm)	9.9206 o	0.85	448842.2305
	HLCCV2	Cu (327.395 nm)	5.2758 o	0.75	191922.4113
	HLCCV2	Fe (234.350 nm)	46.8559 o	0.73	1048711.4576
	HLCCV2	K (766.491 nm)	167.1111 Qo111%	0.72	179667.4778 Q
	HLCCV2	Mg (279.078 nm)	502.7788 o	0.82	1676619.0064
	HLCCV2	Mn (257.610 nm)	9.4363 o	0.95	3148186.1290
	HLCCV2	Mo (202.032 nm)	9.8593 o	1.19	77759.3049
	HLCCV2	Na (588.995 nm)	206.6978 o	0.69	1846479.5565
	HLCCV2	Ni (230.299 nm)	7.3436 o	0.74	88709.0670
	HLCCV2	Pb (220.353 nm)	9.5614 o	0.82	54804.1692
	HLCCV2	Sb (217.582 nm)	0.0221	9.15	66.5760
	HLCCV2	Se (196.026 nm)	1.9263 o	0.55	1666.2724
	HLCCV2	Sn (189.925 nm)	-0.0077 u	12.15	-16.2713
	HLCCV2	Sr (216.596 nm)	9.6611 o	0.96	194951.7253
	HLCCV2	Ti (336.122 nm)	9.9955 o	0.99	1333591.2250
	HLCCV2	Tl (190.794 nm)	3.7597 o	0.95	3185.2076
	HLCCV2	V (292.401 nm)	9.8550 o	0.86	401900.5752
	HLCCV2	Y (360.074 nm)	0.85	0.19	422735.09
	HLCCV2	Y_R (360.074 nm)	0.85	0.19	422418.14
	HLCCV2	Zn (213.857 nm)	3.9358 o	0.79	235318.8518
3/4/2024 15:14:30	HLCCV3	Ag (328.068 nm)	0.0007	6.70	-357.1432
	HLCCV3	Al (237.312 nm)	0.0776	0.79	384.9916
	HLCCV3	As (188.980 nm)	0.0085	51.49	5.2956
	HLCCV3	B (249.772 nm)	0.0535	0.78	1929.1629
	HLCCV3	Ba (230.424 nm)	0.0067	0.98	299.6364
	HLCCV3	Be (313.107 nm)	0.0001	5.53	-45.8198
	HLCCV3	Ca (317.933 nm)	191.4766 o	0.39	7734414.4794
	HLCCV3	Cd (214.439 nm)	0.0008	11.00	50.0558
	HLCCV3	Co (230.786 nm)	0.0026	4.48	104.0227
	HLCCV3	Cr (267.716 nm)	0.0022	9.36	50.7968
	HLCCV3	Cu (327.395 nm)	4.2455 o	0.42	154434.1689
	HLCCV3	Fe (234.350 nm)	39.0723 o	0.46	874524.7359
	HLCCV3	K (766.491 nm)	111.8521 Qo112%	0.38	120170.1630 Q
	HLCCV3	Mg (279.078 nm)	412.7479 o	0.52	1376384.4950
	HLCCV3	Mn (257.610 nm)	0.0129	0.45	4284.4071
	HLCCV3	Mo (202.032 nm)	0.0103	31.65	70.1299
	HLCCV3	Na (588.995 nm)	158.8428 o	0.31	1417565.5238
	HLCCV3	Ni (230.299 nm)	-0.0180 u	2.94	-128.0047
	HLCCV3	Pb (220.353 nm)	0.0029	37.15	28.7624
	HLCCV3	Sb (217.582 nm)	0.0005 u	> 100.00	13.0118
	HLCCV3	Se (196.026 nm)	-0.0041 u	44.15	-2.4352
	HLCCV3	Sn (189.925 nm)	0.0024	13.25	14.6301
	HLCCV3	Sr (216.596 nm)	0.0091	3.69	128.4447
	HLCCV3	Ti (336.122 nm)	0.0204	6.42	2527.2079
	HLCCV3	Tl (190.794 nm)	2.9051 o	0.54	2460.8444
	HLCCV3	V (292.401 nm)	0.0026	9.37	30.6974
	HLCCV3	Y (360.074 nm)	0.88	0.28	440869.07
	HLCCV3	Y_R (360.074 nm)	0.88	0.27	440535.74
	HLCCV3	Zn (213.857 nm)	0.0157	0.96	874.4725
3/4/2024 15:17:35	HLCCV1	Ag (328.068 nm)	0.9937	0.00	58475.2948
	HLCCV1	Al (237.312 nm)	19.8836	0.09	61833.0302
	HLCCV1	As (188.980 nm)	1.9846	0.52	3647.8758
	HLCCV1	B (249.772 nm)	4.9873	0.10	173899.4816
	HLCCV1	Ba (230.424 nm)	19.8802	0.21	947245.9723
	HLCCV1	Be (313.107 nm)	0.4973	0.17	572826.2876

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	HLCCV1	Ca (317.933 nm)	49.6580	0.12	2008259.1981
	HLCCV1	Cd (214.439 nm)	0.9949	0.10	63701.7053
	HLCCV1	Co (230.786 nm)	4.9544	0.10	79359.0556
	HLCCV1	Cr (267.716 nm)	0.9861	0.11	44571.5533
	HLCCV1	Cu (327.395 nm)	2.4849	0.08	90373.6087
	HLCCV1	Fe (234.350 nm)	9.9418	0.12	222621.6774
	HLCCV1	K (766.491 nm)	49.6979	0.16	53248.8116
	HLCCV1	Mg (279.078 nm)	49.4900	0.11	164995.6772
	HLCCV1	Mn (257.610 nm)	1.4873	0.11	496173.1934
	HLCCV1	Mo (202.032 nm)	4.9728	0.36	39214.3685
	HLCCV1	Na (588.995 nm)	49.5433	0.26	437936.2450
	HLCCV1	Ni (230.299 nm)	3.9624	0.17	47906.1680
	HLCCV1	Pb (220.353 nm)	0.9957	0.35	5717.8991
	HLCCV1	Sb (217.582 nm)	9.9270	0.22	24591.3031
	HLCCV1	Se (196.026 nm)	0.9882	0.26	855.3525
	HLCCV1	Sn (189.925 nm)	9.8968	0.12	30111.6961
	HLCCV1	Sr (216.596 nm)	4.9600	0.13	100061.8209
	HLCCV1	Ti (336.122 nm)	4.9528	0.15	660704.6286
	HLCCV1	Tl (190.794 nm)	2.0003	0.52	1693.9922
	HLCCV1	V (292.401 nm)	4.9452	0.09	201633.1031
	HLCCV1	Y (360.074 nm)	0.95	0.25	471802.21
	HLCCV1	Y_R (360.074 nm)	0.95	0.25	471345.66
	HLCCV1	Zn (213.857 nm)	1.9808	0.11	118394.9373
3/4/2024 15:20:39	Continuing Calibration Verification	Ag (328.068 nm)	0.5168	0.17	30219.1130
	Continuing Calibration Verification	Al (237.312 nm)	9.9717	0.15	31081.4866
	Continuing Calibration Verification	As (188.980 nm)	0.9929	0.06	1819.8164
	Continuing Calibration Verification	B (249.772 nm)	2.4562	0.25	85677.7855
	Continuing Calibration Verification	Ba (230.424 nm)	10.2559	0.42	488661.8700
	Continuing Calibration Verification	Be (313.107 nm)	0.2430	0.20	279761.3946
	Continuing Calibration Verification	Ca (317.933 nm)	25.6442	0.25	1038662.1455
	Continuing Calibration Verification	Cd (214.439 nm)	0.5107	0.25	32697.1594
	Continuing Calibration Verification	Co (230.786 nm)	2.5297	0.23	40550.6966
	Continuing Calibration Verification	Cr (267.716 nm)	0.5134	0.27	23182.0392
	Continuing Calibration Verification	Cu (327.395 nm)	1.2394	0.20	45052.1034
	Continuing Calibration Verification	Fe (234.350 nm)	5.0269	0.27	112631.0819
	Continuing Calibration Verification	K (766.491 nm)	24.2083	0.08	25804.2329
	Continuing Calibration Verification	Mg (279.078 nm)	25.1916	0.20	83965.5796
	Continuing Calibration Verification	Mn (257.610 nm)	0.7460	0.21	248860.8634
	Continuing Calibration Verification	Mo (202.032 nm)	2.5431	0.41	20048.5976
	Continuing Calibration Verification	Na (588.995 nm)	25.1312	0.07	219135.5724
	Continuing Calibration Verification	Ni (230.299 nm)	2.0958	0.16	25380.2260
	Continuing Calibration Verification	Pb (220.353 nm)	0.5088	0.43	2927.6275
	Continuing Calibration Verification	Sb (217.582 nm)	4.8363	0.20	11986.5504
	Continuing Calibration Verification	Se (196.026 nm)	0.4885	0.96	423.3473
	Continuing Calibration Verification	Sn (189.925 nm)	5.0181	0.17	15271.5188
	Continuing Calibration Verification	Sr (216.596 nm)	2.5060	0.51	50529.0233
	Continuing Calibration Verification	Ti (336.122 nm)	2.5189	0.26	335926.4349
	Continuing Calibration Verification	Tl (190.794 nm)	1.0267	0.54	868.8015
	Continuing Calibration Verification	V (292.401 nm)	2.4962	0.24	101741.8649
	Continuing Calibration Verification	Y (360.074 nm)	0.97	0.11	482797.70
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97	0.11	482325.43
	Continuing Calibration Verification	Zn (213.857 nm)	0.9947	0.50	59423.3694
3/4/2024 15:23:43	Continuing Calibration Blank	Ag (328.068 nm)	0.0004	35.85	-378.3780
	Continuing Calibration Blank	Al (237.312 nm)	0.0049	22.92	159.4845
	Continuing Calibration Blank	As (188.980 nm)	0.0018	81.59	-7.1359
	Continuing Calibration Blank	B (249.772 nm)	0.0038	6.94	197.1569
	Continuing Calibration Blank	Ba (230.424 nm)	0.0006	4.70	10.4676

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	34.55	-191.3287
	Continuing Calibration Blank	Ca (317.933 nm)	0.0848	0.46	6658.3927
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-2.2983
	Continuing Calibration Blank	Co (230.786 nm)	0.0001 u	> 100.00	63.3659
	Continuing Calibration Blank	Cr (267.716 nm)	0.0001	21.72	-41.3891
	Continuing Calibration Blank	Cu (327.395 nm)	0.0000	> 100.00	-41.5504
	Continuing Calibration Blank	Fe (234.350 nm)	0.0034	20.98	210.8506
	Continuing Calibration Blank	K (766.491 nm)	0.0932	18.64	-160.5264
	Continuing Calibration Blank	Mg (279.078 nm)	0.0068	6.62	-20.5621
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	4.87	32.1608
	Continuing Calibration Blank	Mo (202.032 nm)	0.0042	24.40	21.9463
	Continuing Calibration Blank	Na (588.995 nm)	0.0778	1.37	-5412.9456
	Continuing Calibration Blank	Ni (230.299 nm)	0.0000 u	> 100.00	88.9412
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0001 u	> 100.00	11.7497
	Continuing Calibration Blank	Sb (217.582 nm)	0.0115 Z 0.06U	6.04	40.3476 Z
	Continuing Calibration Blank	Se (196.026 nm)	-0.0015 u	> 100.00	-0.2454
	Continuing Calibration Blank	Sn (189.925 nm)	0.0014	88.01	11.5610
	Continuing Calibration Blank	Sr (216.596 nm)	0.0003 u	> 100.00	-48.9059
	Continuing Calibration Blank	Ti (336.122 nm)	0.0035	16.83	272.9121
	Continuing Calibration Blank	Tl (190.794 nm)	0.0013	58.99	-0.3498
	Continuing Calibration Blank	V (292.401 nm)	0.0001 u	> 100.00	-72.8789
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.08	500248.57
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.08	499703.67
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	4.57	-44.6289
3/4/2024 15:26:47	PBW-434741	Ag (328.068 nm)	0.0003	27.72	-384.1021
	PBW-434741	Al (237.312 nm)	0.0024	65.82	151.8777
	PBW-434741	As (188.980 nm)	0.0003 u	> 100.00	-9.7338
	PBW-434741	B (249.772 nm)	0.0032	7.25	174.9640
	PBW-434741	Ba (230.424 nm)	0.0005	29.87	7.7906
	PBW-434741	Be (313.107 nm)	0.0000	34.91	-187.3199
	PBW-434741	Ca (317.933 nm)	0.0095	5.70	3621.7123
	PBW-434741	Cd (214.439 nm)	0.0001	29.10	3.5048
	PBW-434741	Co (230.786 nm)	0.0001 u	> 100.00	63.2899
	PBW-434741	Cr (267.716 nm)	0.0002 u	> 100.00	-39.0332
	PBW-434741	Cu (327.395 nm)	0.0002 u	> 100.00	-35.8645
	PBW-434741	Fe (234.350 nm)	0.0022	15.81	185.2715
	PBW-434741	K (766.491 nm)	0.0614 u	95.07	-194.7928
	PBW-434741	Mg (279.078 nm)	0.0077	13.25	-17.6196
	PBW-434741	Mn (257.610 nm)	0.0001	17.77	27.6166
	PBW-434741	Mo (202.032 nm)	0.0016	4.69	1.3576
	PBW-434741	Na (588.995 nm)	0.0526	4.73	-5639.1885
	PBW-434741	Ni (230.299 nm)	-0.0007 u	73.44	80.5288
	PBW-434741	Pb (220.353 nm)	0.0002 u	> 100.00	13.0485
	PBW-434741	Sb (217.582 nm)	0.0371	11.63	103.6510
	PBW-434741	Se (196.026 nm)	-0.0035 u	96.53	-1.9459
	PBW-434741	Sn (189.925 nm)	0.0007 u	> 100.00	9.4391
	PBW-434741	Sr (216.596 nm)	0.0003	72.13	-47.4852
	PBW-434741	Ti (336.122 nm)	0.0014	9.74	-3.1148
	PBW-434741	Tl (190.794 nm)	0.0006 u	> 100.00	-0.9091
	PBW-434741	V (292.401 nm)	0.0001 u	> 100.00	-73.3164
	PBW-434741	Y (360.074 nm)	1.01	0.21	503887.47
	PBW-434741	Y_R (360.074 nm)	1.01	0.21	503342.53
	PBW-434741	Zn (213.857 nm)	0.0003	16.89	-48.7563
3/4/2024 15:29:50	LCSW-434741	Ag (328.068 nm)	0.0499	0.11	2556.8590
	LCSW-434741	Al (237.312 nm)	1.8493	0.30	5881.8675
	LCSW-434741	As (188.980 nm)	0.0369	3.57	57.7281
	LCSW-434741	B (249.772 nm)	0.9113	0.38	31826.9225

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	LCSW-434741	Ba (230.424 nm)	2.0026	0.54	95401.8896
	LCSW-434741	Be (313.107 nm)	0.0465	0.32	53314.9889
	LCSW-434741	Ca (317.933 nm)	1.9587	0.46	82323.6472
	LCSW-434741	Cd (214.439 nm)	0.0496	0.61	3174.1312
	LCSW-434741	Co (230.786 nm)	0.5004	0.56	8071.2080
	LCSW-434741	Cr (267.716 nm)	0.1972	0.49	8876.2362
	LCSW-434741	Cu (327.395 nm)	0.2466	0.23	8928.8507
	LCSW-434741	Fe (234.350 nm)	0.9745	0.39	21944.5069
	LCSW-434741	K (766.491 nm)	18.3311	0.08	19476.2281
	LCSW-434741	Mg (279.078 nm)	1.8795	0.48	6224.5915
	LCSW-434741	Mn (257.610 nm)	0.4806	0.39	160323.5391
	LCSW-434741	Mo (202.032 nm)	0.4859	1.51	3822.0060
	LCSW-434741	Na (588.995 nm)	19.0992	0.08	165071.4675
	LCSW-434741	Ni (230.299 nm)	0.5107	0.24	6252.1713
	LCSW-434741	Pb (220.353 nm)	0.4973	0.31	2862.0996
	LCSW-434741	Sb (217.582 nm)	0.4976	0.61	1243.8083
	LCSW-434741	Se (196.026 nm)	0.8703	0.46	753.3678
	LCSW-434741	Sn (189.925 nm)	4.9282	0.37	14998.2136
	LCSW-434741	Sr (216.596 nm)	1.9628	0.48	39563.9392
	LCSW-434741	Ti (336.122 nm)	0.4857	0.54	64620.0419
	LCSW-434741	Tl (190.794 nm)	1.9552	0.52	1655.7605
	LCSW-434741	V (292.401 nm)	0.4833	0.37	19636.7519
	LCSW-434741	Y (360.074 nm)	0.99	0.16	494197.49
	LCSW-434741	Y_R (360.074 nm)	0.99	0.16	493681.45
	LCSW-434741	Zn (213.857 nm)	0.4799	0.42	28631.8541
3/4/2024 15:32:53	R2401591-001 20X	Ag (328.068 nm)	0.0002	> 100.00	-387.7634
	R2401591-001 20X	Al (237.312 nm)	0.0035	25.36	155.2121
	R2401591-001 20X	As (188.980 nm)	-0.0008 u	> 100.00	-11.8216
	R2401591-001 20X	B (249.772 nm)	0.0026	11.25	155.3528
	R2401591-001 20X	Ba (230.424 nm)	0.0420	1.61	1982.5742
	R2401591-001 20X	Be (313.107 nm)	0.0000	99.54	-207.0035
	R2401591-001 20X	Ca (317.933 nm)	95.3103 o	1.77	3851543.7485
	R2401591-001 20X	Cd (214.439 nm)	0.0000 u	> 100.00	-1.3803
	R2401591-001 20X	Co (230.786 nm)	0.0002	62.06	64.4696
	R2401591-001 20X	Cr (267.716 nm)	0.0000 u	> 100.00	-47.5867
	R2401591-001 20X	Cu (327.395 nm)	-0.0003 u	> 100.00	-54.0803
	R2401591-001 20X	Fe (234.350 nm)	0.0013	10.98	165.5237
	R2401591-001 20X	K (766.491 nm)	2.8150	1.97	2770.0171
	R2401591-001 20X	Mg (279.078 nm)	0.6704	1.78	2192.2686
	R2401591-001 20X	Mn (257.610 nm)	0.0002	9.95	66.8166
	R2401591-001 20X	Mo (202.032 nm)	0.0020	20.50	4.4858
	R2401591-001 20X	Na (588.995 nm)	45.9019	1.48	405298.5578
	R2401591-001 20X	Ni (230.299 nm)	0.0005 u	> 100.00	94.6932
	R2401591-001 20X	Pb (220.353 nm)	-0.0001 u	> 100.00	11.5942
	R2401591-001 20X	Sb (217.582 nm)	0.0097	3.09	35.7996
	R2401591-001 20X	Se (196.026 nm)	-0.0026 u	84.29	-1.1500
	R2401591-001 20X	Sn (189.925 nm)	0.0010	78.70	10.2230
	R2401591-001 20X	Sr (216.596 nm)	0.5571	1.71	11190.2267
	R2401591-001 20X	Ti (336.122 nm)	0.0019	7.78	64.1374
	R2401591-001 20X	Tl (190.794 nm)	0.0058	31.37	3.5273
	R2401591-001 20X	V (292.401 nm)	-0.0002 u	23.43	-83.6298
	R2401591-001 20X	Y (360.074 nm)	0.96	0.12	480597.34
	R2401591-001 20X	Y_R (360.074 nm)	0.96	0.12	480186.47
	R2401591-001 20X	Zn (213.857 nm)	0.0002	27.91	-58.2116
3/4/2024 15:35:57	R2401591-001S 20X	Ag (328.068 nm)	0.0027	7.82	-241.3436
	R2401591-001S 20X	Al (237.312 nm)	0.0967	3.09	444.4126
	R2401591-001S 20X	As (188.980 nm)	0.0027	89.01	-5.4432

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001S 20X	B (249.772 nm)	0.0497	0.89	1796.0717
	R2401591-001S 20X	Ba (230.424 nm)	0.1422	1.20	6759.5980
	R2401591-001S 20X	Be (313.107 nm)	0.0024	1.58	2513.0350
	R2401591-001S 20X	Ca (317.933 nm)	96.8511 o	1.25	3913755.5759
	R2401591-001S 20X	Cd (214.439 nm)	0.0024	1.91	154.0674
	R2401591-001S 20X	Co (230.786 nm)	0.0252	0.95	465.1876
	R2401591-001S 20X	Cr (267.716 nm)	0.0098	1.07	398.3426
	R2401591-001S 20X	Cu (327.395 nm)	0.0122	1.89	400.7081
	R2401591-001S 20X	Fe (234.350 nm)	0.0498	1.23	1250.5087
	R2401591-001S 20X	K (766.491 nm)	3.8160	1.48	3847.8187
	R2401591-001S 20X	Mg (279.078 nm)	0.7768	1.16	2547.1660
	R2401591-001S 20X	Mn (257.610 nm)	0.0245	1.17	8172.6759
	R2401591-001S 20X	Mo (202.032 nm)	0.0254	2.31	189.3244
	R2401591-001S 20X	Na (588.995 nm)	47.4170	0.94	418878.6475
	R2401591-001S 20X	Ni (230.299 nm)	0.0255	1.33	396.7309
	R2401591-001S 20X	Pb (220.353 nm)	0.0264	5.01	163.4789
	R2401591-001S 20X	Sb (217.582 nm)	0.0311	6.50	88.7323
	R2401591-001S 20X	Se (196.026 nm)	0.0477	12.84	42.2752
	R2401591-001S 20X	Sn (189.925 nm)	0.2494	1.04	765.9798
	R2401591-001S 20X	Sr (216.596 nm)	0.6615	1.24	13297.5393
	R2401591-001S 20X	Ti (336.122 nm)	0.0263	0.91	3311.3846
	R2401591-001S 20X	Tl (190.794 nm)	0.0964	3.62	80.2682
	R2401591-001S 20X	V (292.401 nm)	0.0243	0.56	915.0298
	R2401591-001S 20X	Y (360.074 nm)	0.96	0.18	480940.17
	R2401591-001S 20X	Y_R (360.074 nm)	0.96	0.18	480529.51
	R2401591-001S 20X	Zn (213.857 nm)	0.0255	0.94	1456.8843
3/4/2024 15:39:01	R2401591-001SD 20X	Ag (328.068 nm)	0.0029	4.31	-229.8924
	R2401591-001SD 20X	Al (237.312 nm)	0.0927	1.98	431.8667
	R2401591-001SD 20X	As (188.980 nm)	0.0012 u	> 100.00	-8.1976
	R2401591-001SD 20X	B (249.772 nm)	0.0476	1.66	1722.2546
	R2401591-001SD 20X	Ba (230.424 nm)	0.1380	1.55	6556.3942
	R2401591-001SD 20X	Be (313.107 nm)	0.0023	1.71	2418.2284
	R2401591-001SD 20X	Ca (317.933 nm)	94.5666 o	1.55	3821516.5174
	R2401591-001SD 20X	Cd (214.439 nm)	0.0024	4.04	149.6343
	R2401591-001SD 20X	Co (230.786 nm)	0.0244	0.97	452.7042
	R2401591-001SD 20X	Cr (267.716 nm)	0.0095	1.88	384.2731
	R2401591-001SD 20X	Cu (327.395 nm)	0.0123	1.76	403.7573
	R2401591-001SD 20X	Fe (234.350 nm)	0.0487	1.27	1224.5593
	R2401591-001SD 20X	K (766.491 nm)	3.7476	1.55	3774.2012
	R2401591-001SD 20X	Mg (279.078 nm)	0.7557	1.01	2476.8877
	R2401591-001SD 20X	Mn (257.610 nm)	0.0238	1.32	7927.4486
	R2401591-001SD 20X	Mo (202.032 nm)	0.0244	5.16	181.0310
	R2401591-001SD 20X	Na (588.995 nm)	46.1377	1.34	407412.5108
	R2401591-001SD 20X	Ni (230.299 nm)	0.0254	2.05	395.1005
	R2401591-001SD 20X	Pb (220.353 nm)	0.0247	5.50	153.5321
	R2401591-001SD 20X	Sb (217.582 nm)	0.0294	7.98	84.4746
	R2401591-001SD 20X	Se (196.026 nm)	0.0445	5.96	39.5478
	R2401591-001SD 20X	Sn (189.925 nm)	0.2415	1.71	741.9358
	R2401591-001SD 20X	Sr (216.596 nm)	0.6449	1.55	12963.1504
	R2401591-001SD 20X	Ti (336.122 nm)	0.0253	1.63	3188.7764
	R2401591-001SD 20X	Tl (190.794 nm)	0.0939	3.38	78.1351
	R2401591-001SD 20X	V (292.401 nm)	0.0235	1.42	880.8939
	R2401591-001SD 20X	Y (360.074 nm)	0.97	0.11	481794.26
	R2401591-001SD 20X	Y_R (360.074 nm)	0.97	0.10	481315.04
	R2401591-001SD 20X	Zn (213.857 nm)	0.0247	1.31	1411.5659
3/4/2024 15:42:04	R2401591-001A 20X	Ag (328.068 nm)	0.0500	0.22	2561.3576
	R2401591-001A 20X	Al (237.312 nm)	1.8439	0.14	5865.0331

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-001A 20X	As (188.980 nm)	0.0364	4.73	56.7352
	R2401591-001A 20X	B (249.772 nm)	0.9450	0.26	33004.1187
	R2401591-001A 20X	Ba (230.424 nm)	1.9683	0.50	93766.5010
	R2401591-001A 20X	Be (313.107 nm)	0.0464	0.25	53301.4474
	R2401591-001A 20X	Ca (317.933 nm)	96.4648 o	0.30	3898157.3378
	R2401591-001A 20X	Cd (214.439 nm)	0.0487	0.25	3115.2438
	R2401591-001A 20X	Co (230.786 nm)	0.4850	0.29	7824.4170
	R2401591-001A 20X	Cr (267.716 nm)	0.1917	0.44	8629.4634
	R2401591-001A 20X	Cu (327.395 nm)	0.2436	0.27	8820.8684
	R2401591-001A 20X	Fe (234.350 nm)	0.9495	0.32	21383.5587
	R2401591-001A 20X	K (766.491 nm)	21.6381	0.13	23036.8761
	R2401591-001A 20X	Mg (279.078 nm)	2.5166	0.22	8349.0331
	R2401591-001A 20X	Mn (257.610 nm)	0.4699	0.22	156757.6346
	R2401591-001A 20X	Mo (202.032 nm)	0.4804	1.59	3777.8698
	R2401591-001A 20X	Na (588.995 nm)	63.7753 o	0.02	565494.3448
	R2401591-001A 20X	Ni (230.299 nm)	0.4966	0.29	6082.1635
	R2401591-001A 20X	Pb (220.353 nm)	0.4860	0.30	2797.1125
	R2401591-001A 20X	Sb (217.582 nm)	0.4868	0.33	1217.2075
	R2401591-001A 20X	Se (196.026 nm)	0.9498	1.45	822.1454
	R2401591-001A 20X	Sn (189.925 nm)	4.8236	0.34	14679.8027
	R2401591-001A 20X	Sr (216.596 nm)	2.4236	0.43	48865.1389
	R2401591-001A 20X	Ti (336.122 nm)	0.4831	0.40	64270.1387
	R2401591-001A 20X	Tl (190.794 nm)	1.9233	0.38	1628.7411
	R2401591-001A 20X	V (292.401 nm)	0.4788	0.23	19454.7434
	R2401591-001A 20X	Y (360.074 nm)	0.96	0.20	479097.59
	R2401591-001A 20X	Y_R (360.074 nm)	0.96	0.20	478528.74
	R2401591-001A 20X	Zn (213.857 nm)	0.4954	0.19	29563.4775
3/4/2024 15:45:08	R2401591-001L 100X	Ag (328.068 nm)	0.0001 u	> 100.00	-393.5489
	R2401591-001L 100X	Al (237.312 nm)	-0.0002 u	> 100.00	143.5487
	R2401591-001L 100X	As (188.980 nm)	0.0001 u	> 100.00	-10.2504
	R2401591-001L 100X	B (249.772 nm)	0.0011	7.05	101.9894
	R2401591-001L 100X	Ba (230.424 nm)	0.0088	1.22	399.6716
	R2401591-001L 100X	Be (313.107 nm)	0.0000	47.72	-208.0827
	R2401591-001L 100X	Ca (317.933 nm)	19.9532	1.22	808878.0129
	R2401591-001L 100X	Cd (214.439 nm)	-0.0001 u	37.24	-4.8072
	R2401591-001L 100X	Co (230.786 nm)	0.0004	31.90	67.7458
	R2401591-001L 100X	Cr (267.716 nm)	0.0002	64.31	-35.4304
	R2401591-001L 100X	Cu (327.395 nm)	-0.0001 u	> 100.00	-45.7643
	R2401591-001L 100X	Fe (234.350 nm)	0.0010	16.37	157.6061
	R2401591-001L 100X	K (766.491 nm)	0.5954	0.96	380.2401
	R2401591-001L 100X	Mg (279.078 nm)	0.1433	2.31	434.7712
	R2401591-001L 100X	Mn (257.610 nm)	0.0001	18.89	19.8008
	R2401591-001L 100X	Mo (202.032 nm)	0.0021	33.97	5.6310
	R2401591-001L 100X	Na (588.995 nm)	9.2212	1.15	76537.0364
	R2401591-001L 100X	Ni (230.299 nm)	-0.0001 u	> 100.00	88.0367
	R2401591-001L 100X	Pb (220.353 nm)	-0.0002 u	94.61	10.8108
	R2401591-001L 100X	Sb (217.582 nm)	0.0060	44.01	26.5833
	R2401591-001L 100X	Se (196.026 nm)	-0.0025 u	52.11	-1.0946
	R2401591-001L 100X	Sn (189.925 nm)	0.0014	48.89	11.3695
	R2401591-001L 100X	Sr (216.596 nm)	0.1168	1.38	2302.8613
	R2401591-001L 100X	Ti (336.122 nm)	0.0011	10.66	-47.0974
	R2401591-001L 100X	Tl (190.794 nm)	0.0008	59.34	-0.7443
	R2401591-001L 100X	V (292.401 nm)	0.0000 u	> 100.00	-74.6418
	R2401591-001L 100X	Y (360.074 nm)	1.00	0.11	498390.28
	R2401591-001L 100X	Y_R (360.074 nm)	1.00	0.11	497746.29
	R2401591-001L 100X	Zn (213.857 nm)	0.0001	38.39	-59.1413
3/4/2024 15:48:11	R2401591-002 10X	Ag (328.068 nm)	0.0002	63.59	-387.9583

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-002 10X	Al (237.312 nm)	0.0051	1.52	160.0876
	R2401591-002 10X	As (188.980 nm)	0.0011 u	91.00	-8.3751
	R2401591-002 10X	B (249.772 nm)	0.0020	1.67	132.7770
	R2401591-002 10X	Ba (230.424 nm)	0.0421	1.69	1989.4260
	R2401591-002 10X	Be (313.107 nm)	0.0000	83.99	-204.8740
	R2401591-002 10X	Ca (317.933 nm)	142.3964 o	2.14	5752723.5601
	R2401591-002 10X	Cd (214.439 nm)	-0.0001 u	88.79	-4.2819
	R2401591-002 10X	Co (230.786 nm)	0.0003	79.69	67.1773
	R2401591-002 10X	Cr (267.716 nm)	0.0003	41.52	-35.2629
	R2401591-002 10X	Cu (327.395 nm)	0.0000 u	> 100.00	-42.6332
	R2401591-002 10X	Fe (234.350 nm)	0.0042	6.26	229.4079
	R2401591-002 10X	K (766.491 nm)	8.0220	1.73	8376.4306
	R2401591-002 10X	Mg (279.078 nm)	0.0111	11.86	-6.0957
	R2401591-002 10X	Mn (257.610 nm)	0.0002	8.89	37.5120
	R2401591-002 10X	Mo (202.032 nm)	0.0010	10.50	-3.2443
	R2401591-002 10X	Na (588.995 nm)	45.7189	1.94	403659.0272
	R2401591-002 10X	Ni (230.299 nm)	0.0016	16.97	108.6045
	R2401591-002 10X	Pb (220.353 nm)	0.0005 u	> 100.00	15.0555
	R2401591-002 10X	Sb (217.582 nm)	0.0028	23.89	18.8271
	R2401591-002 10X	Se (196.026 nm)	-0.0032 u	77.32	-1.6626
	R2401591-002 10X	Sn (189.925 nm)	0.0006	35.97	9.2028
	R2401591-002 10X	Sr (216.596 nm)	0.5852	2.14	11758.0796
	R2401591-002 10X	Ti (336.122 nm)	0.0018	3.20	52.0948
	R2401591-002 10X	Tl (190.794 nm)	-0.0007 u	> 100.00	-1.9792
	R2401591-002 10X	V (292.401 nm)	-0.0002 u	64.39	-82.4066
	R2401591-002 10X	Y (360.074 nm)	0.96	0.08	478578.55
	R2401591-002 10X	Y_R (360.074 nm)	0.96	0.08	477884.15
	R2401591-002 10X	Zn (213.857 nm)	0.0003	10.80	-46.8503
3/4/2024 15:51:15	R2401591-003 10X	Ag (328.068 nm)	0.0003	22.34	-383.9209
	R2401591-003 10X	Al (237.312 nm)	0.0067	36.16	165.1198
	R2401591-003 10X	As (188.980 nm)	-0.0006 u	> 100.00	-11.5161
	R2401591-003 10X	B (249.772 nm)	0.0033	5.85	180.4368
	R2401591-003 10X	Ba (230.424 nm)	0.0235	0.52	1102.0449
	R2401591-003 10X	Be (313.107 nm)	0.0000	33.19	-198.6776
	R2401591-003 10X	Ca (317.933 nm)	76.7913 o	1.10	3103808.5875
	R2401591-003 10X	Cd (214.439 nm)	-0.0001 u	66.34	-4.8602
	R2401591-003 10X	Co (230.786 nm)	0.0001	> 100.00	63.9060
	R2401591-003 10X	Cr (267.716 nm)	0.0005	6.99	-24.8482
	R2401591-003 10X	Cu (327.395 nm)	0.0000 u	> 100.00	-43.9387
	R2401591-003 10X	Fe (234.350 nm)	0.0055	1.75	257.7785
	R2401591-003 10X	K (766.491 nm)	3.9997	2.00	4045.6322
	R2401591-003 10X	Mg (279.078 nm)	0.0436	2.57	102.1551
	R2401591-003 10X	Mn (257.610 nm)	0.0005	1.89	162.1895
	R2401591-003 10X	Mo (202.032 nm)	0.0010	23.25	-3.1932
	R2401591-003 10X	Na (588.995 nm)	21.1738	0.83	183665.6469
	R2401591-003 10X	Ni (230.299 nm)	0.0004 u	> 100.00	93.8652
	R2401591-003 10X	Pb (220.353 nm)	0.0001 u	> 100.00	12.6303
	R2401591-003 10X	Sb (217.582 nm)	0.0035	39.63	20.5257
	R2401591-003 10X	Se (196.026 nm)	-0.0035 u	26.89	-1.9799
	R2401591-003 10X	Sn (189.925 nm)	-0.0007 u	> 100.00	5.2332
	R2401591-003 10X	Sr (216.596 nm)	0.4387	1.02	8800.2594
	R2401591-003 10X	Ti (336.122 nm)	0.0011	2.76	-47.0496
	R2401591-003 10X	Tl (190.794 nm)	0.0032	> 100.00	1.2704
	R2401591-003 10X	V (292.401 nm)	0.0000 u	> 100.00	-74.5761
	R2401591-003 10X	Y (360.074 nm)	0.98	0.13	488369.88
	R2401591-003 10X	Y_R (360.074 nm)	0.98	0.13	487622.29
	R2401591-003 10X	Zn (213.857 nm)	0.0004	2.20	-44.5893

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/4/2024 15:54:19	R2401591-004 10X	Ag (328.068 nm)	0.0002	40.59	-389.1480
	R2401591-004 10X	Al (237.312 nm)	0.0101	21.40	175.6315
	R2401591-004 10X	As (188.980 nm)	-0.0003 u	> 100.00	-10.9633
	R2401591-004 10X	B (249.772 nm)	0.0033	3.36	180.4594
	R2401591-004 10X	Ba (230.424 nm)	0.0240	1.57	1125.8785
	R2401591-004 10X	Be (313.107 nm)	0.0000	22.07	-205.6767
	R2401591-004 10X	Ca (317.933 nm)	77.8955 o	1.52	3148394.7521
	R2401591-004 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-2.9225
	R2401591-004 10X	Co (230.786 nm)	0.0003	> 100.00	67.0824
	R2401591-004 10X	Cr (267.716 nm)	0.0018	4.30	32.8036
	R2401591-004 10X	Cu (327.395 nm)	-0.0001 u	> 100.00	-45.4356
	R2401591-004 10X	Fe (234.350 nm)	0.0176	2.17	529.7003
	R2401591-004 10X	K (766.491 nm)	4.0746	0.88	4126.2919
	R2401591-004 10X	Mg (279.078 nm)	0.0436	2.56	102.1526
	R2401591-004 10X	Mn (257.610 nm)	0.0006	3.65	181.4427
	R2401591-004 10X	Mo (202.032 nm)	0.0011	8.61	-2.2073
	R2401591-004 10X	Na (588.995 nm)	21.4507	1.21	186147.4288
	R2401591-004 10X	Ni (230.299 nm)	0.0006	99.02	95.6103
	R2401591-004 10X	Pb (220.353 nm)	0.0006	67.09	15.7243
	R2401591-004 10X	Sb (217.582 nm)	0.0025	72.24	18.0771
	R2401591-004 10X	Se (196.026 nm)	-0.0003 u	> 100.00	0.7985
	R2401591-004 10X	Sn (189.925 nm)	-0.0005 u	> 100.00	5.8314
	R2401591-004 10X	Sr (216.596 nm)	0.4447	1.67	8922.2580
	R2401591-004 10X	Ti (336.122 nm)	0.0012	7.60	-36.5448
	R2401591-004 10X	Tl (190.794 nm)	0.0000 u	> 100.00	-1.4375
	R2401591-004 10X	V (292.401 nm)	0.0000 u	> 100.00	-74.8744
	R2401591-004 10X	Y (360.074 nm)	0.98	0.25	487042.77
	R2401591-004 10X	Y_R (360.074 nm)	0.98	0.25	486249.38
	R2401591-004 10X	Zn (213.857 nm)	0.0004	10.07	-40.5782
3/4/2024 15:57:23	Continuing Calibration Verification	Ag (328.068 nm)	0.5162	0.26	30182.8811
	Continuing Calibration Verification	Al (237.312 nm)	9.7498	0.13	30393.0343
	Continuing Calibration Verification	As (188.980 nm)	0.9812	0.55	1798.2292
	Continuing Calibration Verification	B (249.772 nm)	2.4401	0.31	85114.7191
	Continuing Calibration Verification	Ba (230.424 nm)	10.1524	0.37	483730.0703
	Continuing Calibration Verification	Be (313.107 nm)	0.2418	0.24	278437.5291
	Continuing Calibration Verification	Ca (317.933 nm)	25.5273	0.18	1033942.9499
	Continuing Calibration Verification	Cd (214.439 nm)	0.5087	0.19	32570.5840
	Continuing Calibration Verification	Co (230.786 nm)	2.5064	0.18	40178.0359
	Continuing Calibration Verification	Cr (267.716 nm)	0.5068	0.20	22884.0842
	Continuing Calibration Verification	Cu (327.395 nm)	1.2302	0.19	44718.7402
	Continuing Calibration Verification	Fe (234.350 nm)	4.9617	0.31	111172.6173
	Continuing Calibration Verification	K (766.491 nm)	23.7192	0.10	25277.6167
	Continuing Calibration Verification	Mg (279.078 nm)	24.9140	0.21	83039.5560
	Continuing Calibration Verification	Mn (257.610 nm)	0.7371	0.22	245912.4512
	Continuing Calibration Verification	Mo (202.032 nm)	2.5239	0.57	19897.0889
	Continuing Calibration Verification	Na (588.995 nm)	24.6365	0.22	214701.5513
	Continuing Calibration Verification	Ni (230.299 nm)	2.0735	0.21	25111.7068
	Continuing Calibration Verification	Pb (220.353 nm)	0.5076	0.18	2921.1133
	Continuing Calibration Verification	Sb (217.582 nm)	4.7842	0.06	11857.6451
	Continuing Calibration Verification	Se (196.026 nm)	0.4840	0.57	419.4726
	Continuing Calibration Verification	Sn (189.925 nm)	4.9682	0.23	15119.7050
	Continuing Calibration Verification	Sr (216.596 nm)	2.4834	0.30	50071.2641
	Continuing Calibration Verification	Ti (336.122 nm)	2.4848	0.45	331380.9697
	Continuing Calibration Verification	Tl (190.794 nm)	1.0251	0.09	867.4468
	Continuing Calibration Verification	V (292.401 nm)	2.4716	0.20	100740.2273
	Continuing Calibration Verification	Y (360.074 nm)	0.97	0.18	482566.81
	Continuing Calibration Verification	Y_R (360.074 nm)	0.97	0.18	481720.07

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Zn (213.857 nm)	0.9879	0.40	59012.0353
3/4/2024 16:00:27	Continuing Calibration Blank	Ag (328.068 nm)	0.0003	5.75	-381.0137
	Continuing Calibration Blank	Al (237.312 nm)	0.0040	46.00	156.8189
	Continuing Calibration Blank	As (188.980 nm)	0.0025	9.45	-5.8127
	Continuing Calibration Blank	B (249.772 nm)	0.0015	20.89	116.9417
	Continuing Calibration Blank	Ba (230.424 nm)	0.0007	27.16	15.3262
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	55.72	-201.0960
	Continuing Calibration Blank	Ca (317.933 nm)	0.0833	0.18	6598.8445
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-1.6508
	Continuing Calibration Blank	Co (230.786 nm)	0.0001 u	97.92	63.7893
	Continuing Calibration Blank	Cr (267.716 nm)	0.0000 u	> 100.00	-45.8909
	Continuing Calibration Blank	Cu (327.395 nm)	0.0001 u	> 100.00	-40.4999
	Continuing Calibration Blank	Fe (234.350 nm)	0.0025	20.20	192.0453
	Continuing Calibration Blank	K (766.491 nm)	0.0555	66.39	-201.1429
	Continuing Calibration Blank	Mg (279.078 nm)	0.0058	9.61	-23.7700
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	13.31	29.2821
	Continuing Calibration Blank	Mo (202.032 nm)	0.0040	21.04	20.1157
	Continuing Calibration Blank	Na (588.995 nm)	0.0382	5.29	-5767.9337
	Continuing Calibration Blank	Ni (230.299 nm)	0.0002 u	> 100.00	91.5293
	Continuing Calibration Blank	Pb (220.353 nm)	0.0005	22.62	14.7700
	Continuing Calibration Blank	Sb (217.582 nm)	0.0096	10.34	35.5788
	Continuing Calibration Blank	Se (196.026 nm)	-0.0039 u	66.79	-2.3145
	Continuing Calibration Blank	Sn (189.925 nm)	0.0011	> 100.00	10.4318
	Continuing Calibration Blank	Sr (216.596 nm)	0.0004	7.10	-47.0368
	Continuing Calibration Blank	Ti (336.122 nm)	0.0028	20.39	176.3198
	Continuing Calibration Blank	Tl (190.794 nm)	0.0003 u	> 100.00	-1.2064
	Continuing Calibration Blank	V (292.401 nm)	0.0001 u	> 100.00	-73.4471
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.22	499103.90
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.22	498072.71
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	20.80	-45.9823
3/4/2024 16:03:31	R2401591-006	Ag (328.068 nm)	0.0005	15.85	-370.4609
	R2401591-006	Al (237.312 nm)	0.0014	77.67	148.7041
	R2401591-006	As (188.980 nm)	0.0004 u	> 100.00	-9.5682
	R2401591-006	B (249.772 nm)	0.0014	11.03	112.0214
	R2401591-006	Ba (230.424 nm)	0.0004	26.25	-0.0943
	R2401591-006	Be (313.107 nm)	0.0000	4.44	-200.4284
	R2401591-006	Ca (317.933 nm)	0.0442	2.77	5022.7158
	R2401591-006	Cd (214.439 nm)	0.0001	26.83	4.8606
	R2401591-006	Co (230.786 nm)	0.0000 u	> 100.00	62.5705
	R2401591-006	Cr (267.716 nm)	0.0003	32.41	-32.8204
	R2401591-006	Cu (327.395 nm)	0.0001 u	> 100.00	-40.7805
	R2401591-006	Fe (234.350 nm)	0.0026	7.54	194.0367
	R2401591-006	K (766.491 nm)	0.0106 u	> 100.00	-249.4837
	R2401591-006	Mg (279.078 nm)	0.0075	7.66	-18.1123
	R2401591-006	Mn (257.610 nm)	0.0001	14.03	26.0664
	R2401591-006	Mo (202.032 nm)	0.0005	98.94	-6.9906
	R2401591-006	Na (588.995 nm)	0.0329	14.71	-5816.0266
	R2401591-006	Ni (230.299 nm)	-0.0005 u	10.18	82.9614
	R2401591-006	Pb (220.353 nm)	-0.0004 u	> 100.00	10.0968
	R2401591-006	Sb (217.582 nm)	0.0327	13.68	92.7850
	R2401591-006	Se (196.026 nm)	-0.0017 u	> 100.00	-0.4264
	R2401591-006	Sn (189.925 nm)	-0.0001 u	> 100.00	6.7947
	R2401591-006	Sr (216.596 nm)	0.0004	40.44	-45.8452
	R2401591-006	Ti (336.122 nm)	0.0008	18.17	-81.3675
	R2401591-006	Tl (190.794 nm)	0.0004 u	> 100.00	-1.1166
	R2401591-006	V (292.401 nm)	0.0000 u	> 100.00	-77.7716
	R2401591-006	Y (360.074 nm)	1.01	0.11	505798.18

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401591-006	Y_R (360.074 nm)	1.01	0.11	504693.04
	R2401591-006	Zn (213.857 nm)	0.0015	6.66	20.0492
3/4/2024 16:06:35	R2401592-001	Ag (328.068 nm)	0.0004	39.61	-378.0355
	R2401592-001	Al (237.312 nm)	0.0386	3.93	264.1125
	R2401592-001	As (188.980 nm)	0.0009 u	> 100.00	-8.7026
	R2401592-001	B (249.772 nm)	0.0132	0.91	524.5707
	R2401592-001	Ba (230.424 nm)	0.0647	0.82	3065.0203
	R2401592-001	Be (313.107 nm)	0.0000	27.67	-183.8407
	R2401592-001	Ca (317.933 nm)	61.4377 o	0.76	2483882.8535
	R2401592-001	Cd (214.439 nm)	0.0001	67.05	4.7285
	R2401592-001	Co (230.786 nm)	0.0003	> 100.00	66.2216
	R2401592-001	Cr (267.716 nm)	0.0007	9.07	-15.1461
	R2401592-001	Cu (327.395 nm)	0.0024	11.53	44.3693
	R2401592-001	Fe (234.350 nm)	0.0483	0.65	1217.2037
	R2401592-001	K (766.491 nm)	2.9954	0.51	2964.2763
	R2401592-001	Mg (279.078 nm)	20.5182	0.69	68380.7340
	R2401592-001	Mn (257.610 nm)	0.0065	0.52	2158.8076
	R2401592-001	Mo (202.032 nm)	0.0017	22.51	2.3801
	R2401592-001	Na (588.995 nm)	6.2760	0.44	50140.4375
	R2401592-001	Ni (230.299 nm)	0.0000 u	> 100.00	88.8627
	R2401592-001	Pb (220.353 nm)	0.0003 u	> 100.00	13.7035
	R2401592-001	Sb (217.582 nm)	0.0213	14.24	64.6251
	R2401592-001	Se (196.026 nm)	-0.0028 u	76.37	-1.3584
	R2401592-001	Sn (189.925 nm)	-0.0003 u	> 100.00	6.2606
	R2401592-001	Sr (216.596 nm)	4.4757	0.81	90286.2921
	R2401592-001	Ti (336.122 nm)	0.0013	8.55	-15.8741
	R2401592-001	Tl (190.794 nm)	0.0013 u	> 100.00	-0.2872
	R2401592-001	V (292.401 nm)	0.0002	26.97	-65.7548
	R2401592-001	Y (360.074 nm)	0.98	0.05	487181.13
	R2401592-001	Y_R (360.074 nm)	0.98	0.05	486127.23
	R2401592-001	Zn (213.857 nm)	0.0022	3.55	65.0414
3/4/2024 16:09:38	R2401592-001S	Ag (328.068 nm)	0.0501	0.40	2564.3230
	R2401592-001S	Al (237.312 nm)	1.8400	0.60	5852.8246
	R2401592-001S	As (188.980 nm)	0.0355	1.96	55.0436
	R2401592-001S	B (249.772 nm)	0.9317	0.55	32537.9411
	R2401592-001S	Ba (230.424 nm)	2.0301	0.65	96711.3083
	R2401592-001S	Be (313.107 nm)	0.0466	0.48	53488.6317
	R2401592-001S	Ca (317.933 nm)	60.3817 o	0.47	2441245.2809
	R2401592-001S	Cd (214.439 nm)	0.0485	0.60	3106.3624
	R2401592-001S	Co (230.786 nm)	0.4833	0.36	7797.5341
	R2401592-001S	Cr (267.716 nm)	0.1943	0.58	8743.6141
	R2401592-001S	Cu (327.395 nm)	0.2447	0.33	8861.0644
	R2401592-001S	Fe (234.350 nm)	1.0083	0.55	22699.8046
	R2401592-001S	K (766.491 nm)	21.3045	0.23	22677.6265
	R2401592-001S	Mg (279.078 nm)	21.3993	0.51	71318.8991
	R2401592-001S	Mn (257.610 nm)	0.4830	0.49	161115.9500
	R2401592-001S	Mo (202.032 nm)	0.4855	1.64	3818.0904
	R2401592-001S	Na (588.995 nm)	25.1882	0.21	219646.5080
	R2401592-001S	Ni (230.299 nm)	0.4921	0.53	6026.8549
	R2401592-001S	Pb (220.353 nm)	0.4846	0.43	2788.9753
	R2401592-001S	Sb (217.582 nm)	0.4937	0.63	1234.2785
	R2401592-001S	Se (196.026 nm)	0.8533	0.35	738.6890
	R2401592-001S	Sn (189.925 nm)	4.8402	0.57	14730.3624
	R2401592-001S	Sr (216.596 nm)	6.1618 o	0.57	124319.5537
	R2401592-001S	Ti (336.122 nm)	0.4823	0.60	64166.4166
	R2401592-001S	Tl (190.794 nm)	1.9424	0.73	1644.9000
	R2401592-001S	V (292.401 nm)	0.4814	0.47	19560.7494

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001S	Y (360.074 nm)	0.97	0.14	482716.79
	R2401592-001S	Y_R (360.074 nm)	0.97	0.14	481641.43
	R2401592-001S	Zn (213.857 nm)	0.4698	0.41	28031.2253
3/4/2024 16:12:42	R2401592-001SD	Ag (328.068 nm)	0.0495	0.68	2530.1323
	R2401592-001SD	Al (237.312 nm)	1.8033	0.50	5738.8980
	R2401592-001SD	As (188.980 nm)	0.0354	3.92	54.9581
	R2401592-001SD	B (249.772 nm)	0.9226	0.24	32221.4510
	R2401592-001SD	Ba (230.424 nm)	1.9936	0.55	94971.5459
	R2401592-001SD	Be (313.107 nm)	0.0459	0.47	52679.1402
	R2401592-001SD	Ca (317.933 nm)	60.1379 o	0.47	2431402.1978
	R2401592-001SD	Cd (214.439 nm)	0.0478	0.43	3059.2211
	R2401592-001SD	Co (230.786 nm)	0.4763	0.46	7684.6139
	R2401592-001SD	Cr (267.716 nm)	0.1912	0.39	8606.1406
	R2401592-001SD	Cu (327.395 nm)	0.2410	0.62	8726.7797
	R2401592-001SD	Fe (234.350 nm)	0.9907	0.52	22305.8041
	R2401592-001SD	K (766.491 nm)	21.0472	0.47	22400.6855
	R2401592-001SD	Mg (279.078 nm)	21.2783	0.40	70915.4285
	R2401592-001SD	Mn (257.610 nm)	0.4755	0.47	158629.3823
	R2401592-001SD	Mo (202.032 nm)	0.4800	1.70	3774.9186
	R2401592-001SD	Na (588.995 nm)	24.8962	0.18	217029.4548
	R2401592-001SD	Ni (230.299 nm)	0.4846	0.41	5937.2020
	R2401592-001SD	Pb (220.353 nm)	0.4776	0.73	2749.2555
	R2401592-001SD	Sb (217.582 nm)	0.4870	0.43	1217.6867
	R2401592-001SD	Se (196.026 nm)	0.8510	0.74	736.7308
	R2401592-001SD	Sn (189.925 nm)	4.7788	0.42	14543.5828
	R2401592-001SD	Sr (216.596 nm)	6.1151 o	0.59	123376.6869
	R2401592-001SD	Ti (336.122 nm)	0.4748	0.50	63168.8643
	R2401592-001SD	Tl (190.794 nm)	1.9252	0.60	1630.3293
	R2401592-001SD	V (292.401 nm)	0.4742	0.43	19266.4432
	R2401592-001SD	Y (360.074 nm)	0.97	0.15	482913.10
	R2401592-001SD	Y_R (360.074 nm)	0.97	0.15	481804.44
	R2401592-001SD	Zn (213.857 nm)	0.4631	0.42	27628.4140
3/4/2024 16:15:45	R2401592-001A	Ag (328.068 nm)	0.0480	0.56	2443.3553
	R2401592-001A	Al (237.312 nm)	1.7611	0.49	5608.1000
	R2401592-001A	As (188.980 nm)	0.0356	3.85	55.1802
	R2401592-001A	B (249.772 nm)	0.9058	0.65	31638.2945
	R2401592-001A	Ba (230.424 nm)	1.9398	0.60	92408.2991
	R2401592-001A	Be (313.107 nm)	0.0446	0.72	51220.3908
	R2401592-001A	Ca (317.933 nm)	59.7951 o	0.71	2417559.0373
	R2401592-001A	Cd (214.439 nm)	0.0466	0.83	2983.5860
	R2401592-001A	Co (230.786 nm)	0.4628	0.67	7468.3550
	R2401592-001A	Cr (267.716 nm)	0.1858	0.67	8358.6340
	R2401592-001A	Cu (327.395 nm)	0.2341	0.58	8474.2947
	R2401592-001A	Fe (234.350 nm)	0.9676	0.69	21788.9386
	R2401592-001A	K (766.491 nm)	20.4950	0.40	21806.1123
	R2401592-001A	Mg (279.078 nm)	21.0885	0.64	70282.3077
	R2401592-001A	Mn (257.610 nm)	0.4624	0.64	154264.6118
	R2401592-001A	Mo (202.032 nm)	0.4797	1.83	3773.1090
	R2401592-001A	Na (588.995 nm)	24.3248	0.35	211907.8454
	R2401592-001A	Ni (230.299 nm)	0.4715	0.86	5778.8626
	R2401592-001A	Pb (220.353 nm)	0.4631	1.02	2666.0971
	R2401592-001A	Sb (217.582 nm)	0.4817	1.15	1204.4261
	R2401592-001A	Se (196.026 nm)	0.7932	1.18	686.7192
	R2401592-001A	Sn (189.925 nm)	4.4811	0.60	13637.9628
	R2401592-001A	Sr (216.596 nm)	5.9509 o	0.46	120062.9983
	R2401592-001A	Ti (336.122 nm)	0.4744	0.75	63109.0260
	R2401592-001A	Tl (190.794 nm)	1.8805	0.83	1592.4677

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-001A	V (292.401 nm)	0.4607	0.64	18714.2196
	R2401592-001A	Y (360.074 nm)	0.97	0.28	482845.93
	R2401592-001A	Y_R (360.074 nm)	0.97	0.28	481652.31
	R2401592-001A	Zn (213.857 nm)	0.4540	0.54	27087.4323
3/4/2024 16:18:48	R2401592-001L 5X	Ag (328.068 nm)	0.0004	40.26	-380.3833
	R2401592-001L 5X	Al (237.312 nm)	0.0093	11.17	173.0941
	R2401592-001L 5X	As (188.980 nm)	0.0008	61.26	-8.7981
	R2401592-001L 5X	B (249.772 nm)	0.0035	3.36	187.8452
	R2401592-001L 5X	Ba (230.424 nm)	0.0132	2.12	612.2667
	R2401592-001L 5X	Be (313.107 nm)	0.0000	27.41	-191.4837
	R2401592-001L 5X	Ca (317.933 nm)	12.5221	1.45	508837.3429
	R2401592-001L 5X	Cd (214.439 nm)	-0.0001 u	76.84	-5.6216
	R2401592-001L 5X	Co (230.786 nm)	0.0002	> 100.00	65.5150
	R2401592-001L 5X	Cr (267.716 nm)	0.0002	47.57	-35.7490
	R2401592-001L 5X	Cu (327.395 nm)	0.0003	> 100.00	-33.9942
	R2401592-001L 5X	Fe (234.350 nm)	0.0106	2.18	373.2100
	R2401592-001L 5X	K (766.491 nm)	0.6415	5.36	429.8662
	R2401592-001L 5X	Mg (279.078 nm)	4.1516	1.62	13801.4605
	R2401592-001L 5X	Mn (257.610 nm)	0.0014	2.38	460.8438
	R2401592-001L 5X	Mo (202.032 nm)	0.0024	2.26	7.8420
	R2401592-001L 5X	Na (588.995 nm)	1.2274	1.46	4890.0903
	R2401592-001L 5X	Ni (230.299 nm)	0.0002	76.90	91.7338
	R2401592-001L 5X	Pb (220.353 nm)	0.0005 u	> 100.00	14.7773
	R2401592-001L 5X	Sb (217.582 nm)	0.0113	8.60	39.7214
	R2401592-001L 5X	Se (196.026 nm)	-0.0013 u	> 100.00	-0.0201
	R2401592-001L 5X	Sn (189.925 nm)	0.0011	49.23	10.5552
	R2401592-001L 5X	Sr (216.596 nm)	0.9071	1.67	18254.1717
	R2401592-001L 5X	Ti (336.122 nm)	0.0010	16.65	-53.9505
	R2401592-001L 5X	Tl (190.794 nm)	0.0001 u	> 100.00	-1.3057
	R2401592-001L 5X	V (292.401 nm)	0.0000 u	> 100.00	-76.7901
	R2401592-001L 5X	Y (360.074 nm)	1.00	0.34	497776.64
	R2401592-001L 5X	Y_R (360.074 nm)	1.00	0.34	496481.90
	R2401592-001L 5X	Zn (213.857 nm)	0.0005	12.41	-35.3394
3/4/2024 16:21:52	R2401592-002	Ag (328.068 nm)	0.0006	34.73	-367.4856
	R2401592-002	Al (237.312 nm)	0.0475	3.97	291.6473
	R2401592-002	As (188.980 nm)	-0.0008 u	> 100.00	-11.8199
	R2401592-002	B (249.772 nm)	0.0127	1.24	505.8714
	R2401592-002	Ba (230.424 nm)	0.0622	0.79	2943.4329
	R2401592-002	Be (313.107 nm)	0.0000	31.13	-196.2835
	R2401592-002	Ca (317.933 nm)	59.2553 o	0.74	2395764.7871
	R2401592-002	Cd (214.439 nm)	0.0001	79.90	2.3061
	R2401592-002	Co (230.786 nm)	0.0002 u	> 100.00	64.4224
	R2401592-002	Cr (267.716 nm)	0.0002	34.35	-36.8657
	R2401592-002	Cu (327.395 nm)	0.0023	12.66	41.6624
	R2401592-002	Fe (234.350 nm)	0.0533	0.95	1328.0869
	R2401592-002	K (766.491 nm)	2.9111	0.09	2873.5345
	R2401592-002	Mg (279.078 nm)	19.6244	0.66	65399.9610
	R2401592-002	Mn (257.610 nm)	0.0066	0.48	2201.6641
	R2401592-002	Mo (202.032 nm)	0.0022	4.26	6.3320
	R2401592-002	Na (588.995 nm)	6.2039	0.30	49493.5919
	R2401592-002	Ni (230.299 nm)	0.0002 u	> 100.00	91.3863
	R2401592-002	Pb (220.353 nm)	0.0003 u	> 100.00	13.9124
	R2401592-002	Sb (217.582 nm)	0.0140	13.39	46.4138
	R2401592-002	Se (196.026 nm)	-0.0053 u	72.86	-3.5060
	R2401592-002	Sn (189.925 nm)	0.0000 u	> 100.00	7.2234
	R2401592-002	Sr (216.596 nm)	4.3030	0.77	86800.5038
	R2401592-002	Ti (336.122 nm)	0.0012	8.32	-29.8311

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401592-002	Tl (190.794 nm)	0.0029	52.05	1.0216
	R2401592-002	V (292.401 nm)	0.0000 u	90.85	-76.9636
	R2401592-002	Y (360.074 nm)	0.98	0.36	486607.98
	R2401592-002	Y_R (360.074 nm)	0.97	0.36	485388.06
	R2401592-002	Zn (213.857 nm)	0.0018	2.85	41.0136
3/4/2024 16:24:56	R2401541-001	Ag (328.068 nm)	0.0001 u	> 100.00	-395.8109
	R2401541-001	Al (237.312 nm)	0.6978	0.32	2309.1191
	R2401541-001	As (188.980 nm)	0.0016	> 100.00	-7.3956
	R2401541-001	B (249.772 nm)	0.8230	0.44	28749.6634
	R2401541-001	Ba (230.424 nm)	0.0117	1.39	540.9154
	R2401541-001	Be (313.107 nm)	0.0001	4.84	-140.6754
	R2401541-001	Ca (317.933 nm)	480.5890 o LR	0.51	19407795.0469
	R2401541-001	Cd (214.439 nm)	0.0001	24.96	5.4190
	R2401541-001	Co (230.786 nm)	0.0012	23.82	80.7255
	R2401541-001	Cr (267.716 nm)	0.0015	15.81	19.8179
	R2401541-001	Cu (327.395 nm)	0.0012	17.69	-0.4259
	R2401541-001	Fe (234.350 nm)	0.7821	0.46	17638.4618
	R2401541-001	K (766.491 nm)	4.2192	0.40	4281.9724
	R2401541-001	Mg (279.078 nm)	150.8368 o	0.48	502966.0146
	R2401541-001	Mn (257.610 nm)	0.0498	0.42	16613.2290
	R2401541-001	Mo (202.032 nm)	0.0005	33.94	-7.2383
	R2401541-001	Na (588.995 nm)	18.7472	0.41	161917.1898
	R2401541-001	Ni (230.299 nm)	-0.0021 u	31.92	64.0768
	R2401541-001	Pb (220.353 nm)	0.0012	32.58	18.8715
	R2401541-001	Sb (217.582 nm)	0.0158	5.09	50.9489
	R2401541-001	Se (196.026 nm)	-0.0054 u	56.83	-3.5630
	R2401541-001	Sn (189.925 nm)	0.0004	87.57	8.5346
	R2401541-001	Sr (216.596 nm)	11.4026 o	0.69	230103.3565
	R2401541-001	Ti (336.122 nm)	0.0183	1.55	2244.7952
	R2401541-001	Tl (190.794 nm)	0.0026	53.83	0.8025
	R2401541-001	V (292.401 nm)	0.0010	33.54	-33.7695
	R2401541-001	Y (360.074 nm)	0.91	0.17	453268.49
	R2401541-001	Y_R (360.074 nm)	0.91	0.16	452259.71
	R2401541-001	Zn (213.857 nm)	0.0065	0.64	320.7408
3/4/2024 16:27:59	R2401541-003	Ag (328.068 nm)	0.0004	28.88	-378.7334
	R2401541-003	Al (237.312 nm)	0.1893	1.00	731.7080
	R2401541-003	As (188.980 nm)	-0.0001 u	> 100.00	-10.5314
	R2401541-003	B (249.772 nm)	0.2386	0.54	8380.7666
	R2401541-003	Ba (230.424 nm)	0.0206	0.18	961.3057
	R2401541-003	Be (313.107 nm)	0.0000	38.06	-192.0852
	R2401541-003	Ca (317.933 nm)	81.2002 o	0.59	3281827.3982
	R2401541-003	Cd (214.439 nm)	0.0000 u	> 100.00	0.9104
	R2401541-003	Co (230.786 nm)	0.0006	16.16	70.5948
	R2401541-003	Cr (267.716 nm)	0.0008	13.77	-8.4810
	R2401541-003	Cu (327.395 nm)	0.0004	90.48	-28.7402
	R2401541-003	Fe (234.350 nm)	0.1537	0.49	3575.4055
	R2401541-003	K (766.491 nm)	4.7926	1.14	4899.2847
	R2401541-003	Mg (279.078 nm)	32.1633	0.58	107214.6514
	R2401541-003	Mn (257.610 nm)	0.0100	0.45	3328.8754
	R2401541-003	Mo (202.032 nm)	0.0018	33.25	2.8269
	R2401541-003	Na (588.995 nm)	30.4040	0.42	266394.0441
	R2401541-003	Ni (230.299 nm)	-0.0010 u	49.27	77.2775
	R2401541-003	Pb (220.353 nm)	0.0004 u	> 100.00	14.3694
	R2401541-003	Sb (217.582 nm)	0.0128	16.90	43.6009
	R2401541-003	Se (196.026 nm)	-0.0023 u	> 100.00	-0.9007
	R2401541-003	Sn (189.925 nm)	0.0003 u	> 100.00	8.0157
	R2401541-003	Sr (216.596 nm)	23.7315 o	0.74	478955.4610

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-003	Ti (336.122 nm)	0.0032	0.66	230.3513
	R2401541-003	Tl (190.794 nm)	0.0021 u	> 100.00	0.3146
	R2401541-003	V (292.401 nm)	0.0004	23.13	-61.3748
	R2401541-003	Y (360.074 nm)	0.96	0.25	479435.71
	R2401541-003	Y_R (360.074 nm)	0.96	0.25	478192.00
	R2401541-003	Zn (213.857 nm)	0.0041	1.59	177.7114
3/4/2024 16:31:03	R2401541-005	Ag (328.068 nm)	0.0003	22.96	-381.2765
	R2401541-005	Al (237.312 nm)	0.3470	0.60	1220.7702
	R2401541-005	As (188.980 nm)	-0.0005 u	> 100.00	-11.2779
	R2401541-005	B (249.772 nm)	0.2431	0.75	8537.4173
	R2401541-005	Ba (230.424 nm)	0.0209	1.40	976.1503
	R2401541-005	Be (313.107 nm)	0.0000	28.44	-188.5672
	R2401541-005	Ca (317.933 nm)	112.6530 o	0.75	4551783.7597
	R2401541-005	Cd (214.439 nm)	0.0001	53.81	3.8823
	R2401541-005	Co (230.786 nm)	0.0007	8.24	73.2540
	R2401541-005	Cr (267.716 nm)	0.0008	20.70	-11.7852
	R2401541-005	Cu (327.395 nm)	0.0004	34.64	-27.5025
	R2401541-005	Fe (234.350 nm)	0.2972	0.82	6786.5534
	R2401541-005	K (766.491 nm)	3.5537	1.42	3565.4510
	R2401541-005	Mg (279.078 nm)	39.3734	0.69	131258.6451
	R2401541-005	Mn (257.610 nm)	0.0085	0.81	2820.9670
	R2401541-005	Mo (202.032 nm)	0.0051	5.95	29.0035
	R2401541-005	Na (588.995 nm)	31.4429	0.54	275705.6822
	R2401541-005	Ni (230.299 nm)	-0.0010 u	34.61	76.7648
	R2401541-005	Pb (220.353 nm)	0.0004 u	> 100.00	14.2004
	R2401541-005	Sb (217.582 nm)	0.0127	29.65	43.2625
	R2401541-005	Se (196.026 nm)	-0.0045 u	57.88	-2.8296
	R2401541-005	Sn (189.925 nm)	0.0006 u	> 100.00	9.1012
	R2401541-005	Sr (216.596 nm)	15.4572 o	0.80	311942.1208
	R2401541-005	Ti (336.122 nm)	0.0058	0.45	581.6464
	R2401541-005	Tl (190.794 nm)	0.0026	56.08	0.7646
	R2401541-005	V (292.401 nm)	0.0005	49.22	-54.7283
	R2401541-005	Y (360.074 nm)	0.95	0.37	476214.22
	R2401541-005	Y_R (360.074 nm)	0.95	0.37	474928.18
	R2401541-005	Zn (213.857 nm)	0.0084	0.95	433.0706
3/4/2024 16:34:07	Continuing Calibration Verification	Ag (328.068 nm)	0.5186	0.22	30328.7314
	Continuing Calibration Verification	Al (237.312 nm)	9.6254	0.17	30006.9483
	Continuing Calibration Verification	As (188.980 nm)	0.9815	0.73	1798.8669
	Continuing Calibration Verification	B (249.772 nm)	2.4387	0.27	85065.6976
	Continuing Calibration Verification	Ba (230.424 nm)	10.0988	0.30	481172.4656
	Continuing Calibration Verification	Be (313.107 nm)	0.2419	0.23	278579.7772
	Continuing Calibration Verification	Ca (317.933 nm)	25.4753	0.22	1031841.6178
	Continuing Calibration Verification	Cd (214.439 nm)	0.5087	0.15	32569.2063
	Continuing Calibration Verification	Co (230.786 nm)	2.4904	0.26	39921.8339
	Continuing Calibration Verification	Cr (267.716 nm)	0.5017	0.33	22653.1738
	Continuing Calibration Verification	Cu (327.395 nm)	1.2289	0.22	44671.9384
	Continuing Calibration Verification	Fe (234.350 nm)	4.9240	0.33	110327.5688
	Continuing Calibration Verification	K (766.491 nm)	23.5657	0.29	25112.2892
	Continuing Calibration Verification	Mg (279.078 nm)	24.7871	0.17	82616.6875
	Continuing Calibration Verification	Mn (257.610 nm)	0.7327	0.22	244442.1408
	Continuing Calibration Verification	Mo (202.032 nm)	2.5078	0.66	19770.6823
	Continuing Calibration Verification	Na (588.995 nm)	24.5130	0.17	213594.3503
	Continuing Calibration Verification	Ni (230.299 nm)	2.0545	0.12	24881.9046
	Continuing Calibration Verification	Pb (220.353 nm)	0.5052	0.42	2907.4551
	Continuing Calibration Verification	Sb (217.582 nm)	4.7667	0.15	11814.2407
	Continuing Calibration Verification	Se (196.026 nm)	0.4792	1.66	415.2818
	Continuing Calibration Verification	Sn (189.925 nm)	4.9475	0.32	15056.6852

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Sr (216.596 nm)	2.4662	0.09	49724.0757
	Continuing Calibration Verification	Ti (336.122 nm)	2.4681	0.48	329150.2368
	Continuing Calibration Verification	Tl (190.794 nm)	1.0391	0.24	879.3272
	Continuing Calibration Verification	V (292.401 nm)	2.4587	0.20	100212.2714
	Continuing Calibration Verification	Y (360.074 nm)	0.96	0.24	480373.51
	Continuing Calibration Verification	Y_R (360.074 nm)	0.96	0.24	479075.17
	Continuing Calibration Verification	Zn (213.857 nm)	0.9811	0.20	58607.1582
3/4/2024 16:37:11	Continuing Calibration Blank	Ag (328.068 nm)	0.0003	11.03	-381.8538
	Continuing Calibration Blank	Al (237.312 nm)	0.0043	35.54	157.5165
	Continuing Calibration Blank	As (188.980 nm)	-0.0002 u	> 100.00	-10.8001
	Continuing Calibration Blank	B (249.772 nm)	0.0015	21.29	117.6119
	Continuing Calibration Blank	Ba (230.424 nm)	0.0009	15.32	23.3304
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	46.82	-193.7447
	Continuing Calibration Blank	Ca (317.933 nm)	0.0847	0.45	6658.1298
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	64.22	-5.5606
	Continuing Calibration Blank	Co (230.786 nm)	0.0004	45.60	67.4800
	Continuing Calibration Blank	Cr (267.716 nm)	0.0001 u	> 100.00	-41.8601
	Continuing Calibration Blank	Cu (327.395 nm)	-0.0003 u	31.74	-54.5951
	Continuing Calibration Blank	Fe (234.350 nm)	0.0025	19.15	190.8635
	Continuing Calibration Blank	K (766.491 nm)	0.0588	72.48	-197.5766
	Continuing Calibration Blank	Mg (279.078 nm)	0.0069	19.66	-20.2292
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	14.42	33.1688
	Continuing Calibration Blank	Mo (202.032 nm)	0.0042	27.09	21.6608
	Continuing Calibration Blank	Na (588.995 nm)	0.0277	18.42	-5862.2861
	Continuing Calibration Blank	Ni (230.299 nm)	-0.0001 u	89.13	88.0237
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0004 u	84.67	9.8131
	Continuing Calibration Blank	Sb (217.582 nm)	0.0124 Z	8.51	42.4392 Z
	Continuing Calibration Blank	Se (196.026 nm)	-0.0031 u	> 100.00	-1.5690
	Continuing Calibration Blank	Sn (189.925 nm)	0.0012 u	> 100.00	10.7301
	Continuing Calibration Blank	Sr (216.596 nm)	0.0006	24.39	-42.1011
	Continuing Calibration Blank	Ti (336.122 nm)	0.0027	23.19	171.4251
	Continuing Calibration Blank	Tl (190.794 nm)	0.0001 u	> 100.00	-1.3018
	Continuing Calibration Blank	V (292.401 nm)	0.0001 u	> 100.00	-73.7797
	Continuing Calibration Blank	Y (360.074 nm)	1.00	0.13	497891.06
	Continuing Calibration Blank	Y_R (360.074 nm)	1.00	0.13	496476.03
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	21.50	-45.2182
3/4/2024 16:40:14	R2401541-007	Ag (328.068 nm)	0.0002	24.42	-389.3071
	R2401541-007	Al (237.312 nm)	0.9911	1.11	3219.2779
	R2401541-007	As (188.980 nm)	0.0104	10.28	8.7747
	R2401541-007	B (249.772 nm)	0.3729	0.86	13062.7875
	R2401541-007	Ba (230.424 nm)	0.0189	0.86	882.1057
	R2401541-007	Be (313.107 nm)	0.0001	5.18	-136.8523
	R2401541-007	Ca (317.933 nm)	326.2670 o LR	0.95	13176794.4760
	R2401541-007	Cd (214.439 nm)	0.0001	71.09	6.2961
	R2401541-007	Co (230.786 nm)	0.0011	24.17	79.5654
	R2401541-007	Cr (267.716 nm)	0.0018	5.04	34.8172
	R2401541-007	Cu (327.395 nm)	0.0012	31.75	-0.4064
	R2401541-007	Fe (234.350 nm)	2.7698	1.04	62121.2239
	R2401541-007	K (766.491 nm)	5.4059	1.95	5559.6850
	R2401541-007	Mg (279.078 nm)	112.3932 o	0.94	374764.6774
	R2401541-007	Mn (257.610 nm)	0.0738	0.95	24605.6316
	R2401541-007	Mo (202.032 nm)	0.0042	8.81	21.8416
	R2401541-007	Na (588.995 nm)	93.4781 o	0.72	831714.2659
	R2401541-007	Ni (230.299 nm)	0.0039	8.93	136.4505
	R2401541-007	Pb (220.353 nm)	0.0001 u	> 100.00	12.6307
	R2401541-007	Sb (217.582 nm)	0.0153	6.47	49.7584
	R2401541-007	Se (196.026 nm)	-0.0049 u	56.57	-3.1653

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-007	Sn (189.925 nm)	0.0013	> 100.00	11.2793
	R2401541-007	Sr (216.596 nm)	14.3351 o	1.07	289293.5813
	R2401541-007	Ti (336.122 nm)	0.0222	1.33	2768.2122
	R2401541-007	Tl (190.794 nm)	-0.0004 u	> 100.00	-1.7711
	R2401541-007	V (292.401 nm)	0.0015	26.97	-15.9340
	R2401541-007	Y (360.074 nm)	0.91	0.25	456261.67
	R2401541-007	Y_R (360.074 nm)	0.91	0.25	455054.10
	R2401541-007	Zn (213.857 nm)	0.0146	0.33	808.9177
3/4/2024 16:43:18	R2401541-009	Ag (328.068 nm)	0.0004	49.02	-376.1871
	R2401541-009	Al (237.312 nm)	0.0524	2.77	306.8916
	R2401541-009	As (188.980 nm)	0.0198	11.23	26.0736
	R2401541-009	B (249.772 nm)	0.4463	1.26	15620.2919
	R2401541-009	Ba (230.424 nm)	0.0085	2.09	384.4990
	R2401541-009	Be (313.107 nm)	0.0000	6.25	-174.5060
	R2401541-009	Ca (317.933 nm)	349.5707 o >LR	0.89	14117720.1882
	R2401541-009	Cd (214.439 nm)	0.0001 u	> 100.00	4.8275
	R2401541-009	Co (230.786 nm)	0.0010	13.38	77.6420
	R2401541-009	Cr (267.716 nm)	0.0005	17.22	-22.1242
	R2401541-009	Cu (327.395 nm)	0.0003	27.71	-33.3652
	R2401541-009	Fe (234.350 nm)	5.7257	1.02	128269.8075
	R2401541-009	K (766.491 nm)	18.2362	0.91	19374.0918
	R2401541-009	Mg (279.078 nm)	136.2987 o	0.92	454484.4361
	R2401541-009	Mn (257.610 nm)	0.0224	0.84	7470.4576
	R2401541-009	Mo (202.032 nm)	0.0036	18.94	17.4380
	R2401541-009	Na (588.995 nm)	132.9019 o	0.71	1185062.2065
	R2401541-009	Ni (230.299 nm)	0.0046	12.30	144.0338
	R2401541-009	Pb (220.353 nm)	0.0003 u	> 100.00	13.7961
	R2401541-009	Sb (217.582 nm)	0.0137	8.77	45.7534
	R2401541-009	Se (196.026 nm)	-0.0050 u	42.54	-3.2413
	R2401541-009	Sn (189.925 nm)	-0.0001 u	> 100.00	6.8346
	R2401541-009	Sr (216.596 nm)	16.5487 o	1.01	333974.2362
	R2401541-009	Ti (336.122 nm)	0.0043	1.70	377.4902
	R2401541-009	Tl (190.794 nm)	0.0031	51.68	1.2194
	R2401541-009	V (292.401 nm)	-0.0003 u	74.84	-88.3343
	R2401541-009	Y (360.074 nm)	0.90	0.23	451120.73
	R2401541-009	Y_R (360.074 nm)	0.90	0.24	449905.51
	R2401541-009	Zn (213.857 nm)	0.0056	1.09	270.1138
3/4/2024 16:46:22	R2401541-011	Ag (328.068 nm)	0.0002	72.01	-389.4769
	R2401541-011	Al (237.312 nm)	0.3380	1.46	1192.9620
	R2401541-011	As (188.980 nm)	-0.0001 u	> 100.00	-10.5341
	R2401541-011	B (249.772 nm)	0.1254	0.76	4436.2520
	R2401541-011	Ba (230.424 nm)	0.0146	1.30	677.7250
	R2401541-011	Be (313.107 nm)	0.0000	8.23	-174.9827
	R2401541-011	Ca (317.933 nm)	339.5913 o >LR	0.79	13714785.2786
	R2401541-011	Cd (214.439 nm)	0.0002	26.26	10.0552
	R2401541-011	Co (230.786 nm)	0.0025	22.56	101.4337
	R2401541-011	Cr (267.716 nm)	0.0005	23.47	-24.6154
	R2401541-011	Cu (327.395 nm)	0.0031	13.56	69.8336
	R2401541-011	Fe (234.350 nm)	0.3783	0.69	8601.1190
	R2401541-011	K (766.491 nm)	3.8227	0.84	3855.0329
	R2401541-011	Mg (279.078 nm)	199.2527 o	0.84	664422.6947
	R2401541-011	Mn (257.610 nm)	0.0818	0.81	27289.5666
	R2401541-011	Mo (202.032 nm)	0.0020	11.28	4.3977
	R2401541-011	Na (588.995 nm)	45.3996	0.55	400797.3048
	R2401541-011	Ni (230.299 nm)	0.0005	> 100.00	94.4187
	R2401541-011	Pb (220.353 nm)	0.0013	> 100.00	19.8238
	R2401541-011	Sb (217.582 nm)	0.0127	16.98	43.1794

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-011	Se (196.026 nm)	-0.0037 u	40.00	-2.1125
	R2401541-011	Sn (189.925 nm)	0.0000 u	> 100.00	7.1734
	R2401541-011	Sr (216.596 nm)	9.6569 o	0.80	194866.0492
	R2401541-011	Ti (336.122 nm)	0.0084	0.59	926.7536
	R2401541-011	Tl (190.794 nm)	0.0017 u	> 100.00	-0.0012
	R2401541-011	V (292.401 nm)	0.0001 u	> 100.00	-72.4965
	R2401541-011	Y (360.074 nm)	0.91	0.24	455804.73
	R2401541-011	Y_R (360.074 nm)	0.91	0.24	454558.40
	R2401541-011	Zn (213.857 nm)	0.0094	0.62	495.7835
3/4/2024 16:49:26	R2401541-013	Ag (328.068 nm)	0.0002	20.70	-387.9029
	R2401541-013	Al (237.312 nm)	0.9948	0.83	3230.6844
	R2401541-013	As (188.980 nm)	0.0013	75.31	-8.0140
	R2401541-013	B (249.772 nm)	0.1417	0.78	5003.1762
	R2401541-013	Ba (230.424 nm)	0.0131	1.91	604.8563
	R2401541-013	Be (313.107 nm)	0.0001	20.71	-158.8345
	R2401541-013	Ca (317.933 nm)	439.4363 o >LR	0.89	17746190.8379
	R2401541-013	Cd (214.439 nm)	0.0001	41.20	4.8060
	R2401541-013	Co (230.786 nm)	0.0013	24.15	82.2401
	R2401541-013	Cr (267.716 nm)	0.0013	14.83	12.3705
	R2401541-013	Cu (327.395 nm)	0.0012	26.58	0.8089
	R2401541-013	Fe (234.350 nm)	1.2353	0.90	27780.4263
	R2401541-013	K (766.491 nm)	3.1622	0.37	3143.8398
	R2401541-013	Mg (279.078 nm)	130.1754 o	0.87	434064.3107
	R2401541-013	Mn (257.610 nm)	0.0844	0.97	28134.3215
	R2401541-013	Mo (202.032 nm)	0.0008	36.97	-4.8219
	R2401541-013	Na (588.995 nm)	10.4675	0.66	87707.8332
	R2401541-013	Ni (230.299 nm)	-0.0019 u	8.77	65.9014
	R2401541-013	Pb (220.353 nm)	0.0006 u	> 100.00	15.5077
	R2401541-013	Sb (217.582 nm)	0.0111	22.36	39.3272
	R2401541-013	Se (196.026 nm)	-0.0022 u	33.63	-0.8107
	R2401541-013	Sn (189.925 nm)	0.0009	12.55	10.0757
	R2401541-013	Sr (216.596 nm)	11.7635 o	0.90	237387.8694
	R2401541-013	Ti (336.122 nm)	0.0197	1.65	2438.4675
	R2401541-013	Tl (190.794 nm)	-0.0005 u	> 100.00	-1.8906
	R2401541-013	V (292.401 nm)	0.0011	6.88	-30.3865
	R2401541-013	Y (360.074 nm)	0.92	0.31	459157.83
	R2401541-013	Y_R (360.074 nm)	0.92	0.31	457924.65
	R2401541-013	Zn (213.857 nm)	0.0084	1.45	434.9616
3/4/2024 16:52:30	R2401541-015	Ag (328.068 nm)	0.0004	38.70	-377.5230
	R2401541-015	Al (237.312 nm)	0.1729	1.54	680.7028
	R2401541-015	As (188.980 nm)	0.0085	11.00	5.2336
	R2401541-015	B (249.772 nm)	0.2112	0.93	7426.0503
	R2401541-015	Ba (230.424 nm)	0.0095	1.17	436.4701
	R2401541-015	Be (313.107 nm)	0.0000	11.70	-192.8234
	R2401541-015	Ca (317.933 nm)	303.0178 o >LR	0.76	12238070.9589
	R2401541-015	Cd (214.439 nm)	0.0001	21.13	3.3296
	R2401541-015	Co (230.786 nm)	0.0010	12.23	77.4500
	R2401541-015	Cr (267.716 nm)	0.0004	19.10	-27.8053
	R2401541-015	Cu (327.395 nm)	0.0004	33.11	-27.1177
	R2401541-015	Fe (234.350 nm)	0.4192	0.86	9517.2450
	R2401541-015	K (766.491 nm)	1.8818	0.86	1765.3103
	R2401541-015	Mg (279.078 nm)	103.8641 o	0.83	346321.6749
	R2401541-015	Mn (257.610 nm)	0.1896	0.76	63231.4077
	R2401541-015	Mo (202.032 nm)	0.0064	4.66	39.4964
	R2401541-015	Na (588.995 nm)	31.0518	0.61	272200.2375
	R2401541-015	Ni (230.299 nm)	-0.0020 u	23.55	64.3868
	R2401541-015	Pb (220.353 nm)	0.0001 u	> 100.00	12.6824

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-015	Sb (217.582 nm)	0.0109	18.33	38.7921
	R2401541-015	Se (196.026 nm)	-0.0014 u	> 100.00	-0.1408
	R2401541-015	Sn (189.925 nm)	-0.0002 u	> 100.00	6.5655
	R2401541-015	Sr (216.596 nm)	11.7131 o	1.08	236369.3172
	R2401541-015	Ti (336.122 nm)	0.0051	0.45	489.7855
	R2401541-015	Tl (190.794 nm)	0.0014	54.63	-0.2695
	R2401541-015	V (292.401 nm)	-0.0001 u	> 100.00	-79.5593
	R2401541-015	Y (360.074 nm)	0.93	0.41	466220.06
	R2401541-015	Y_R (360.074 nm)	0.93	0.41	464959.79
	R2401541-015	Zn (213.857 nm)	0.0052	2.06	244.6447
3/4/2024 16:55:33	R2401541-017	Ag (328.068 nm)	0.0004	6.82	-379.7964
	R2401541-017	Al (237.312 nm)	0.2081	0.49	789.8418
	R2401541-017	As (188.980 nm)	-0.0012 u	> 100.00	-12.5607
	R2401541-017	B (249.772 nm)	0.1324	0.69	4677.6495
	R2401541-017	Ba (230.424 nm)	0.0136	0.99	629.2423
	R2401541-017	Be (313.107 nm)	0.0000	25.34	-175.9202
	R2401541-017	Ca (317.933 nm)	389.0686 o >LR	0.65	15712511.3545
	R2401541-017	Cd (214.439 nm)	0.0000 u	> 100.00	0.3792
	R2401541-017	Co (230.786 nm)	0.0006	58.18	71.7014
	R2401541-017	Cr (267.716 nm)	0.0006	36.42	-21.4424
	R2401541-017	Cu (327.395 nm)	0.0004	35.81	-27.0473
	R2401541-017	Fe (234.350 nm)	0.3186	0.78	7265.3982
	R2401541-017	K (766.491 nm)	1.8466	1.00	1727.3758
	R2401541-017	Mg (279.078 nm)	88.2163 o	0.67	294139.5236
	R2401541-017	Mn (257.610 nm)	0.1297	0.63	43262.8776
	R2401541-017	Mo (202.032 nm)	0.0003 u	> 100.00	-8.7564
	R2401541-017	Na (588.995 nm)	4.8445	0.64	37309.5032
	R2401541-017	Ni (230.299 nm)	-0.0014 u	21.48	72.0298
	R2401541-017	Pb (220.353 nm)	0.0010	63.61	17.6744
	R2401541-017	Sb (217.582 nm)	0.0115	15.36	40.1715
	R2401541-017	Se (196.026 nm)	-0.0002 u	> 100.00	0.8848
	R2401541-017	Sn (189.925 nm)	-0.0002 u	> 100.00	6.4684
	R2401541-017	Sr (216.596 nm)	11.0016 o	0.66	222009.1308
	R2401541-017	Ti (336.122 nm)	0.0066	1.81	684.4883
	R2401541-017	Tl (190.794 nm)	0.0016	41.28	-0.0847
	R2401541-017	V (292.401 nm)	0.0000 u	> 100.00	-75.5955
	R2401541-017	Y (360.074 nm)	0.93	0.13	465150.44
	R2401541-017	Y_R (360.074 nm)	0.93	0.13	463977.99
	R2401541-017	Zn (213.857 nm)	0.0076	0.42	384.5853
3/4/2024 16:58:37	R2401541-019	Ag (328.068 nm)	0.0006	13.91	-368.4386
	R2401541-019	Al (237.312 nm)	0.3614	1.55	1265.6715
	R2401541-019	As (188.980 nm)	0.0014	39.65	-7.7652
	R2401541-019	B (249.772 nm)	0.0647	1.44	2320.1659
	R2401541-019	Ba (230.424 nm)	0.0207	1.17	967.3856
	R2401541-019	Be (313.107 nm)	0.0000	13.83	-192.4095
	R2401541-019	Ca (317.933 nm)	155.6392 o	0.96	6287422.1497
	R2401541-019	Cd (214.439 nm)	0.0000 u	> 100.00	2.2025
	R2401541-019	Co (230.786 nm)	0.0003	20.52	66.7401
	R2401541-019	Cr (267.716 nm)	0.0014	6.65	15.9425
	R2401541-019	Cu (327.395 nm)	0.0009	45.06	-9.6021
	R2401541-019	Fe (234.350 nm)	0.3841	1.13	8731.2891
	R2401541-019	K (766.491 nm)	2.3919	0.90	2314.5061
	R2401541-019	Mg (279.078 nm)	34.9403	0.96	116475.3912
	R2401541-019	Mn (257.610 nm)	0.0113	1.18	3753.0469
	R2401541-019	Mo (202.032 nm)	0.0030	9.35	12.7046
	R2401541-019	Na (588.995 nm)	12.5246	0.68	106144.5620
	R2401541-019	Ni (230.299 nm)	-0.0015 u	54.79	71.1404

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-019	Pb (220.353 nm)	0.0010 u	93.67	17.9803
	R2401541-019	Sb (217.582 nm)	0.0085	25.91	32.7865
	R2401541-019	Se (196.026 nm)	-0.0027 u	72.45	-1.2261
	R2401541-019	Sn (189.925 nm)	-0.0004 u	> 100.00	6.0310
	R2401541-019	Sr (216.596 nm)	4.4693	0.77	90155.9582
	R2401541-019	Ti (336.122 nm)	0.0075	1.67	803.3007
	R2401541-019	Tl (190.794 nm)	0.0002 u	> 100.00	-1.2158
	R2401541-019	V (292.401 nm)	0.0005	18.00	-57.5287
	R2401541-019	Y (360.074 nm)	0.96	0.21	481218.25
	R2401541-019	Y_R (360.074 nm)	0.96	0.21	479998.31
	R2401541-019	Zn (213.857 nm)	0.0086	0.80	446.1346
3/4/2024 17:01:40	R2401541-021	Ag (328.068 nm)	0.0002	65.83	-389.9188
	R2401541-021	Al (237.312 nm)	0.3477	1.14	1223.0132
	R2401541-021	As (188.980 nm)	-0.0020 u	67.48	-14.1259
	R2401541-021	B (249.772 nm)	0.1234	0.53	4364.7935
	R2401541-021	Ba (230.424 nm)	0.0147	1.30	681.2035
	R2401541-021	Be (313.107 nm)	0.0000	86.51	-201.6012
	R2401541-021	Ca (317.933 nm)	339.9193 o >LR	0.68	13728030.4536
	R2401541-021	Cd (214.439 nm)	0.0001	84.47	7.0080
	R2401541-021	Co (230.786 nm)	0.0026	7.03	102.7520
	R2401541-021	Cr (267.716 nm)	0.0007	11.06	-12.6919
	R2401541-021	Cu (327.395 nm)	0.0019	18.72	25.5187
	R2401541-021	Fe (234.350 nm)	0.3921	0.79	8911.4710
	R2401541-021	K (766.491 nm)	3.6779	0.14	3699.1505
	R2401541-021	Mg (279.078 nm)	199.0122 o	0.70	663620.8079
	R2401541-021	Mn (257.610 nm)	0.0816	0.73	27200.9748
	R2401541-021	Mo (202.032 nm)	0.0017	16.05	2.1859
	R2401541-021	Na (588.995 nm)	44.4905	0.59	392648.7081
	R2401541-021	Ni (230.299 nm)	0.0010	34.22	100.5322
	R2401541-021	Pb (220.353 nm)	0.0008	48.57	16.9404
	R2401541-021	Sb (217.582 nm)	0.0123	8.50	42.3102
	R2401541-021	Se (196.026 nm)	-0.0039 u	74.93	-2.3153
	R2401541-021	Sn (189.925 nm)	0.0002 u	> 100.00	7.7085
	R2401541-021	Sr (216.596 nm)	9.6705 o	0.91	195140.7571
	R2401541-021	Ti (336.122 nm)	0.0083	1.74	918.5607
	R2401541-021	Tl (190.794 nm)	0.0009 u	> 100.00	-0.6485
	R2401541-021	V (292.401 nm)	0.0001 u	> 100.00	-69.9923
	R2401541-021	Y (360.074 nm)	0.89	0.32	442589.93
	R2401541-021	Y_R (360.074 nm)	0.89	0.32	441558.00
	R2401541-021	Zn (213.857 nm)	0.0090	0.52	473.9586
3/4/2024 17:04:43	R2401541-001 10X	Ag (328.068 nm)	0.0002	4.89	-388.2474
	R2401541-001 10X	Al (237.312 nm)	0.0717	2.04	366.6713
	R2401541-001 10X	As (188.980 nm)	-0.0002 u	> 100.00	-10.6936
	R2401541-001 10X	B (249.772 nm)	0.0814	1.75	2900.1249
	R2401541-001 10X	Ba (230.424 nm)	0.0014	10.20	46.2664
	R2401541-001 10X	Be (313.107 nm)	0.0000 u	> 100.00	-215.7043
	R2401541-001 10X	Ca (317.933 nm)	56.7007 o	1.72	2292619.6140
	R2401541-001 10X	Cd (214.439 nm)	-0.0001 u	56.80	-4.2220
	R2401541-001 10X	Co (230.786 nm)	0.0006	44.03	71.0500
	R2401541-001 10X	Cr (267.716 nm)	0.0000 u	> 100.00	-45.7509
	R2401541-001 10X	Cu (327.395 nm)	-0.0002 u	> 100.00	-49.4009
	R2401541-001 10X	Fe (234.350 nm)	0.0827	1.95	1986.3570
	R2401541-001 10X	K (766.491 nm)	0.3899	5.93	158.9668
	R2401541-001 10X	Mg (279.078 nm)	15.2503	1.64	50813.3240
	R2401541-001 10X	Mn (257.610 nm)	0.0052	1.75	1735.8382
	R2401541-001 10X	Mo (202.032 nm)	0.0004	43.34	-8.3045
	R2401541-001 10X	Na (588.995 nm)	1.6621	1.11	8786.9059

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-001 10X	Ni (230.299 nm)	0.0003 u	> 100.00	92.4062
	R2401541-001 10X	Pb (220.353 nm)	0.0004 u	> 100.00	14.2901
	R2401541-001 10X	Sb (217.582 nm)	0.0042	16.16	22.1155
	R2401541-001 10X	Se (196.026 nm)	-0.0042 u	53.49	-2.5579
	R2401541-001 10X	Sn (189.925 nm)	-0.0006 u	24.12	5.2913
	R2401541-001 10X	Sr (216.596 nm)	1.2100	1.67	24368.8791
	R2401541-001 10X	Ti (336.122 nm)	0.0020	4.10	75.3375
	R2401541-001 10X	Tl (190.794 nm)	0.0003 u	> 100.00	-1.1607
	R2401541-001 10X	V (292.401 nm)	-0.0001 u	> 100.00	-78.5413
	R2401541-001 10X	Y (360.074 nm)	0.96	0.18	476968.76
	R2401541-001 10X	Y_R (360.074 nm)	0.95	0.18	475757.61
	R2401541-001 10X	Zn (213.857 nm)	0.0007	16.23	-25.6241
3/4/2024 17:07:47	R2401541-007 10X	Ag (328.068 nm)	0.0002	33.40	-391.2004
	R2401541-007 10X	Al (237.312 nm)	0.1004	2.75	455.8977
	R2401541-007 10X	As (188.980 nm)	0.0009	77.63	-8.6332
	R2401541-007 10X	B (249.772 nm)	0.0368	1.34	1346.0652
	R2401541-007 10X	Ba (230.424 nm)	0.0020	3.10	77.4194
	R2401541-007 10X	Be (313.107 nm)	0.0000	79.30	-204.8636
	R2401541-007 10X	Ca (317.933 nm)	35.9496	1.64	1454761.0921
	R2401541-007 10X	Cd (214.439 nm)	-0.0001 u	> 100.00	-5.9770
	R2401541-007 10X	Co (230.786 nm)	0.0004	16.54	68.9572
	R2401541-007 10X	Cr (267.716 nm)	0.0003	39.89	-31.3679
	R2401541-007 10X	Cu (327.395 nm)	-0.0003 u	91.86	-55.5019
	R2401541-007 10X	Fe (234.350 nm)	0.2857	1.81	6529.2128
	R2401541-007 10X	K (766.491 nm)	0.4549	15.05	228.9921
	R2401541-007 10X	Mg (279.078 nm)	11.1384	1.62	37101.0781
	R2401541-007 10X	Mn (257.610 nm)	0.0076	1.68	2515.4465
	R2401541-007 10X	Mo (202.032 nm)	0.0004 u	> 100.00	-8.1601
	R2401541-007 10X	Na (588.995 nm)	8.7462	1.59	72279.9417
	R2401541-007 10X	Ni (230.299 nm)	0.0001 u	> 100.00	90.5233
	R2401541-007 10X	Pb (220.353 nm)	0.0006 u	> 100.00	15.4636
	R2401541-007 10X	Sb (217.582 nm)	0.0028	56.49	18.6231
	R2401541-007 10X	Se (196.026 nm)	-0.0023 u	75.78	-0.9443
	R2401541-007 10X	Sn (189.925 nm)	0.0000 u	> 100.00	7.3766
	R2401541-007 10X	Sr (216.596 nm)	1.4910	1.66	30040.7409
	R2401541-007 10X	Ti (336.122 nm)	0.0023	1.27	113.4152
	R2401541-007 10X	Tl (190.794 nm)	0.0004 u	> 100.00	-1.0589
	R2401541-007 10X	V (292.401 nm)	-0.0001 u	63.38	-79.4399
	R2401541-007 10X	Y (360.074 nm)	0.95	0.11	476095.14
	R2401541-007 10X	Y_R (360.074 nm)	0.95	0.11	474895.11
	R2401541-007 10X	Zn (213.857 nm)	0.0015	3.91	22.5416
3/4/2024 17:10:51	Continuing Calibration Verification	Ag (328.068 nm)	0.5198	0.44	30397.6139
	Continuing Calibration Verification	Al (237.312 nm)	9.7928	0.35	30526.4684
	Continuing Calibration Verification	As (188.980 nm)	0.9842	0.43	1803.8259
	Continuing Calibration Verification	B (249.772 nm)	2.4478	0.46	85385.0045
	Continuing Calibration Verification	Ba (230.424 nm)	10.1908	0.50	485558.0678
	Continuing Calibration Verification	Be (313.107 nm)	0.2437	0.42	280603.8229
	Continuing Calibration Verification	Ca (317.933 nm)	25.6801	0.41	1040112.5229
	Continuing Calibration Verification	Cd (214.439 nm)	0.5134	0.41	32873.5122
	Continuing Calibration Verification	Co (230.786 nm)	2.5134	0.24	40290.0850
	Continuing Calibration Verification	Cr (267.716 nm)	0.5075	0.46	22916.8861
	Continuing Calibration Verification	Cu (327.395 nm)	1.2368	0.49	44958.7832
	Continuing Calibration Verification	Fe (234.350 nm)	4.9872	0.54	111743.0132
	Continuing Calibration Verification	K (766.491 nm)	23.9222	0.22	25496.1264
	Continuing Calibration Verification	Mg (279.078 nm)	25.0569	0.40	83516.3425
	Continuing Calibration Verification	Mn (257.610 nm)	0.7408	0.44	247138.9115
	Continuing Calibration Verification	Mo (202.032 nm)	2.5371	0.71	20001.6634

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	Na (588.995 nm)	24.7685	0.28	215884.2052
	Continuing Calibration Verification	Ni (230.299 nm)	2.0827	0.35	25222.8041
	Continuing Calibration Verification	Pb (220.353 nm)	0.5106	0.10	2938.0344
	Continuing Calibration Verification	Sb (217.582 nm)	4.7979	0.43	11891.5510
	Continuing Calibration Verification	Se (196.026 nm)	0.4847	0.75	420.0754
	Continuing Calibration Verification	Sn (189.925 nm)	5.0117	0.47	15252.1723
	Continuing Calibration Verification	Sr (216.596 nm)	2.4890	0.31	50184.5986
	Continuing Calibration Verification	Ti (336.122 nm)	2.4931	0.62	332481.0073
	Continuing Calibration Verification	Tl (190.794 nm)	1.0422	0.24	881.8842
	Continuing Calibration Verification	V (292.401 nm)	2.4807	0.44	101108.3716
	Continuing Calibration Verification	Y (360.074 nm)	0.94	0.09	467002.41
	Continuing Calibration Verification	Y_R (360.074 nm)	0.93	0.09	465949.55
	Continuing Calibration Verification	Zn (213.857 nm)	0.9910	0.34	59202.2018
3/4/2024 17:13:54	Continuing Calibration Blank	Ag (328.068 nm)	0.0003	61.33	-386.5291
	Continuing Calibration Blank	Al (237.312 nm)	0.0053	14.30	160.8569
	Continuing Calibration Blank	As (188.980 nm)	0.0003 u	> 100.00	-9.8076
	Continuing Calibration Blank	B (249.772 nm)	0.0017	21.82	124.8789
	Continuing Calibration Blank	Ba (230.424 nm)	0.0009	2.69	22.6148
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	81.79	-196.9089
	Continuing Calibration Blank	Ca (317.933 nm)	0.0859	0.40	6703.8914
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-2.5485
	Continuing Calibration Blank	Co (230.786 nm)	0.0003 u	94.14	67.0833
	Continuing Calibration Blank	Cr (267.716 nm)	0.0001 u	> 100.00	-42.0808
	Continuing Calibration Blank	Cu (327.395 nm)	-0.0002 u	80.75	-51.8665
	Continuing Calibration Blank	Fe (234.350 nm)	0.0024	21.27	190.4656
	Continuing Calibration Blank	K (766.491 nm)	0.0080 u	> 100.00	-252.2385
	Continuing Calibration Blank	Mg (279.078 nm)	0.0064	17.86	-21.7964
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	2.21	32.6292
	Continuing Calibration Blank	Mo (202.032 nm)	0.0034	31.88	15.6848
	Continuing Calibration Blank	Na (588.995 nm)	-0.0052 u	37.00	-6156.6555
	Continuing Calibration Blank	Ni (230.299 nm)	0.0004 u	> 100.00	93.9051
	Continuing Calibration Blank	Pb (220.353 nm)	-0.0003 u	> 100.00	10.6518
	Continuing Calibration Blank	Sb (217.582 nm)	0.0097	13.08	35.6837
	Continuing Calibration Blank	Se (196.026 nm)	-0.0021 u	> 100.00	-0.7252
	Continuing Calibration Blank	Sn (189.925 nm)	0.0011 u	94.97	10.6823
	Continuing Calibration Blank	Sr (216.596 nm)	0.0004	47.28	-47.3944
	Continuing Calibration Blank	Ti (336.122 nm)	0.0027	21.59	165.0473
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0005 u	66.89	-1.8564
	Continuing Calibration Blank	V (292.401 nm)	0.0000 u	> 100.00	-75.5227
	Continuing Calibration Blank	Y (360.074 nm)	0.97	0.08	483530.26
	Continuing Calibration Blank	Y_R (360.074 nm)	0.97	0.08	482379.07
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	11.35	-45.2180
3/4/2024 17:16:58	R2401541-009 10X	Ag (328.068 nm)	0.0002	20.66	-391.5845
	R2401541-009 10X	Al (237.312 nm)	0.0077	24.20	168.1456
	R2401541-009 10X	As (188.980 nm)	0.0014	> 100.00	-7.6928
	R2401541-009 10X	B (249.772 nm)	0.0449	1.70	1630.5778
	R2401541-009 10X	Ba (230.424 nm)	0.0013	5.97	42.7563
	R2401541-009 10X	Be (313.107 nm)	0.0000	32.42	-200.7259
	R2401541-009 10X	Ca (317.933 nm)	39.6713	1.79	1605029.0742
	R2401541-009 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-1.7039
	R2401541-009 10X	Co (230.786 nm)	0.0005	27.31	69.1100
	R2401541-009 10X	Cr (267.716 nm)	0.0001	45.14	-40.0035
	R2401541-009 10X	Cu (327.395 nm)	-0.0003 u	> 100.00	-56.0672
	R2401541-009 10X	Fe (234.350 nm)	0.6053	1.82	13681.3936
	R2401541-009 10X	K (766.491 nm)	1.6482	1.50	1513.7774
	R2401541-009 10X	Mg (279.078 nm)	13.8005	1.74	45978.6650
	R2401541-009 10X	Mn (257.610 nm)	0.0024	2.25	794.9045

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-009 10X	Mo (202.032 nm)	0.0010	53.45	-3.2492
	R2401541-009 10X	Na (588.995 nm)	12.8986	1.67	109497.1202
	R2401541-009 10X	Ni (230.299 nm)	0.0009	29.89	100.0786
	R2401541-009 10X	Pb (220.353 nm)	0.0001 u	> 100.00	12.6041
	R2401541-009 10X	Sb (217.582 nm)	0.0063	5.94	27.3196
	R2401541-009 10X	Se (196.026 nm)	-0.0051 u	22.77	-3.3561
	R2401541-009 10X	Sn (189.925 nm)	0.0004 u	> 100.00	8.3603
	R2401541-009 10X	Sr (216.596 nm)	1.7690	1.75	35652.6985
	R2401541-009 10X	Ti (336.122 nm)	0.0013	7.81	-24.3667
	R2401541-009 10X	Tl (190.794 nm)	-0.0002 u	> 100.00	-1.6261
	R2401541-009 10X	V (292.401 nm)	0.0000 u	> 100.00	-77.5454
	R2401541-009 10X	Y (360.074 nm)	0.95	0.14	475818.91
	R2401541-009 10X	Y_R (360.074 nm)	0.95	0.14	474745.62
	R2401541-009 10X	Zn (213.857 nm)	0.0005	1.23	-36.5131
3/4/2024 17:20:02	R2401541-011 10X	Ag (328.068 nm)	0.0003	18.95	-382.1565
	R2401541-011 10X	Al (237.312 nm)	0.0369	3.27	258.9126
	R2401541-011 10X	As (188.980 nm)	-0.0008 u	> 100.00	-11.7733
	R2401541-011 10X	B (249.772 nm)	0.0127	0.87	507.4948
	R2401541-011 10X	Ba (230.424 nm)	0.0017	4.32	60.9799
	R2401541-011 10X	Be (313.107 nm)	0.0000	81.93	-211.6749
	R2401541-011 10X	Ca (317.933 nm)	38.2198	1.25	1546421.7839
	R2401541-011 10X	Cd (214.439 nm)	0.0000 u	> 100.00	-1.9689
	R2401541-011 10X	Co (230.786 nm)	0.0005	62.63	70.2505
	R2401541-011 10X	Cr (267.716 nm)	0.0002	83.44	-37.6414
	R2401541-011 10X	Cu (327.395 nm)	-0.0004 u	48.23	-58.5326
	R2401541-011 10X	Fe (234.350 nm)	0.0408	0.84	1049.6819
	R2401541-011 10X	K (766.491 nm)	0.3485	5.74	114.3632
	R2401541-011 10X	Mg (279.078 nm)	19.9039	1.22	66332.0588
	R2401541-011 10X	Mn (257.610 nm)	0.0086	1.37	2844.8909
	R2401541-011 10X	Mo (202.032 nm)	0.0004	86.24	-8.2454
	R2401541-011 10X	Na (588.995 nm)	4.1403	1.18	30998.5241
	R2401541-011 10X	Ni (230.299 nm)	0.0009	72.01	99.4588
	R2401541-011 10X	Pb (220.353 nm)	0.0004 u	> 100.00	14.2416
	R2401541-011 10X	Sb (217.582 nm)	0.0059	23.73	26.2908
	R2401541-011 10X	Se (196.026 nm)	-0.0032 u	> 100.00	-1.6854
	R2401541-011 10X	Sn (189.925 nm)	-0.0003 u	> 100.00	6.4224
	R2401541-011 10X	Sr (216.596 nm)	1.0222	1.28	20577.6292
	R2401541-011 10X	Ti (336.122 nm)	0.0014	10.32	-8.8745
	R2401541-011 10X	Tl (190.794 nm)	0.0000 u	> 100.00	-1.4075
	R2401541-011 10X	V (292.401 nm)	-0.0002 u	43.49	-84.5525
	R2401541-011 10X	Y (360.074 nm)	0.96	0.17	478009.88
	R2401541-011 10X	Y_R (360.074 nm)	0.96	0.17	476918.89
	R2401541-011 10X	Zn (213.857 nm)	0.0009	5.38	-11.4815
3/4/2024 17:23:05	R2401541-013 10X	Ag (328.068 nm)	0.0003	36.90	-381.2392
	R2401541-013 10X	Al (237.312 nm)	0.1005	1.66	456.0195
	R2401541-013 10X	As (188.980 nm)	-0.0013 u	64.42	-12.7701
	R2401541-013 10X	B (249.772 nm)	0.0143	2.33	561.3476
	R2401541-013 10X	Ba (230.424 nm)	0.0015	7.53	51.9226
	R2401541-013 10X	Be (313.107 nm)	0.0000	32.57	-190.9212
	R2401541-013 10X	Ca (317.933 nm)	50.6917	2.10	2049996.1529
	R2401541-013 10X	Cd (214.439 nm)	-0.0001 u	76.08	-4.7168
	R2401541-013 10X	Co (230.786 nm)	0.0005	67.25	70.3913
	R2401541-013 10X	Cr (267.716 nm)	0.0001	48.34	-40.8074
	R2401541-013 10X	Cu (327.395 nm)	-0.0006 u	61.49	-63.9653
	R2401541-013 10X	Fe (234.350 nm)	0.1288	2.19	3018.4521
	R2401541-013 10X	K (766.491 nm)	0.2341	22.19	-8.7736
	R2401541-013 10X	Mg (279.078 nm)	12.9471	2.09	43132.7122

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-013 10X	Mn (257.610 nm)	0.0088	1.89	2904.1414
	R2401541-013 10X	Mo (202.032 nm)	0.0003 u	> 100.00	-8.6182
	R2401541-013 10X	Na (588.995 nm)	0.8893	2.06	1859.9999
	R2401541-013 10X	Ni (230.299 nm)	0.0006	19.89	96.0119
	R2401541-013 10X	Pb (220.353 nm)	0.0009	27.39	17.1472
	R2401541-013 10X	Sb (217.582 nm)	0.0036	12.21	20.7706
	R2401541-013 10X	Se (196.026 nm)	-0.0037 u	98.42	-2.1285
	R2401541-013 10X	Sn (189.925 nm)	-0.0004 u	> 100.00	6.0569
	R2401541-013 10X	Sr (216.596 nm)	1.2359	2.10	24891.8913
	R2401541-013 10X	Ti (336.122 nm)	0.0022	2.05	101.4725
	R2401541-013 10X	Tl (190.794 nm)	0.0041	30.71	2.0100
	R2401541-013 10X	V (292.401 nm)	-0.0001 u	> 100.00	-80.2146
	R2401541-013 10X	Y (360.074 nm)	0.96	0.12	480632.13
	R2401541-013 10X	Y_R (360.074 nm)	0.96	0.13	479569.75
	R2401541-013 10X	Zn (213.857 nm)	0.0008	10.42	-17.1330
3/4/2024 17:26:09	R2401541-015 10X	Ag (328.068 nm)	0.0002	39.50	-389.0474
	R2401541-015 10X	Al (237.312 nm)	0.0185	7.21	201.7746
	R2401541-015 10X	As (188.980 nm)	0.0000 u	> 100.00	-10.3759
	R2401541-015 10X	B (249.772 nm)	0.0207	1.93	784.7942
	R2401541-015 10X	Ba (230.424 nm)	0.0012	6.60	39.6019
	R2401541-015 10X	Be (313.107 nm)	0.0000	34.34	-211.9595
	R2401541-015 10X	Ca (317.933 nm)	33.0325	1.33	1336977.1804
	R2401541-015 10X	Cd (214.439 nm)	-0.0001 u	25.85	-4.5470
	R2401541-015 10X	Co (230.786 nm)	0.0004 u	> 100.00	67.6992
	R2401541-015 10X	Cr (267.716 nm)	-0.0001 u	> 100.00	-49.9094
	R2401541-015 10X	Cu (327.395 nm)	0.0000 u	> 100.00	-45.1393
	R2401541-015 10X	Fe (234.350 nm)	0.0437	1.85	1113.0968
	R2401541-015 10X	K (766.491 nm)	0.1792	22.02	-67.9506
	R2401541-015 10X	Mg (279.078 nm)	10.2017	1.30	33977.4110
	R2401541-015 10X	Mn (257.610 nm)	0.0195	1.36	6484.3620
	R2401541-015 10X	Mo (202.032 nm)	0.0006	41.74	-6.0563
	R2401541-015 10X	Na (588.995 nm)	2.7108	1.41	18185.9280
	R2401541-015 10X	Ni (230.299 nm)	0.0001 u	> 100.00	90.5396
	R2401541-015 10X	Pb (220.353 nm)	0.0005	92.03	14.9742
	R2401541-015 10X	Sb (217.582 nm)	0.0029	30.36	18.8685
	R2401541-015 10X	Se (196.026 nm)	-0.0064 u	58.03	-4.4953
	R2401541-015 10X	Sn (189.925 nm)	-0.0009 u	75.57	4.5858
	R2401541-015 10X	Sr (216.596 nm)	1.2099	1.37	24366.6921
	R2401541-015 10X	Ti (336.122 nm)	0.0008	9.58	-84.2725
	R2401541-015 10X	Tl (190.794 nm)	0.0017	39.13	-0.0023
	R2401541-015 10X	V (292.401 nm)	-0.0002 u	81.76	-82.2113
	R2401541-015 10X	Y (360.074 nm)	0.97	0.24	483781.14
	R2401541-015 10X	Y_R (360.074 nm)	0.97	0.24	482735.99
	R2401541-015 10X	Zn (213.857 nm)	0.0005	12.55	-35.3564
3/4/2024 17:29:13	R2401541-017 10X	Ag (328.068 nm)	0.0003	52.83	-386.5384
	R2401541-017 10X	Al (237.312 nm)	0.0223	7.44	213.4630
	R2401541-017 10X	As (188.980 nm)	0.0010	82.34	-8.4845
	R2401541-017 10X	B (249.772 nm)	0.0132	2.70	524.3060
	R2401541-017 10X	Ba (230.424 nm)	0.0015	2.47	52.4412
	R2401541-017 10X	Be (313.107 nm)	0.0000 u	> 100.00	-211.4520
	R2401541-017 10X	Ca (317.933 nm)	44.1643	1.84	1786441.7220
	R2401541-017 10X	Cd (214.439 nm)	-0.0001 u	> 100.00	-4.9936
	R2401541-017 10X	Co (230.786 nm)	0.0003 u	> 100.00	66.5354
	R2401541-017 10X	Cr (267.716 nm)	0.0000 u	> 100.00	-45.8576
	R2401541-017 10X	Cu (327.395 nm)	-0.0003 u	> 100.00	-54.5916
	R2401541-017 10X	Fe (234.350 nm)	0.0338	2.11	891.3377
	R2401541-017 10X	K (766.491 nm)	0.1226	18.26	-128.7938

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401541-017 10X	Mg (279.078 nm)	8.8495	1.83	29467.8212
	R2401541-017 10X	Mn (257.610 nm)	0.0135	1.82	4497.7502
	R2401541-017 10X	Mo (202.032 nm)	0.0002	72.66	-9.2747
	R2401541-017 10X	Na (588.995 nm)	0.4004	3.89	-2521.9542
	R2401541-017 10X	Ni (230.299 nm)	0.0005 u	90.17	94.9571
	R2401541-017 10X	Pb (220.353 nm)	0.0000 u	> 100.00	11.8794
	R2401541-017 10X	Sb (217.582 nm)	0.0041	41.54	21.9889
	R2401541-017 10X	Se (196.026 nm)	-0.0041 u	88.16	-2.4970
	R2401541-017 10X	Sn (189.925 nm)	0.0000 u	> 100.00	7.2630
	R2401541-017 10X	Sr (216.596 nm)	1.1519	1.86	23197.0844
	R2401541-017 10X	Ti (336.122 nm)	0.0010	1.67	-64.6570
	R2401541-017 10X	Tl (190.794 nm)	0.0024	38.56	0.6039
	R2401541-017 10X	V (292.401 nm)	-0.0001 u	> 100.00	-79.7666
	R2401541-017 10X	Y (360.074 nm)	0.97	0.17	483484.85
	R2401541-017 10X	Y_R (360.074 nm)	0.97	0.18	482403.83
	R2401541-017 10X	Zn (213.857 nm)	0.0008	6.86	-19.5671
3/4/2024 17:32:17	R2401541-021 10X	Ag (328.068 nm)	0.0001 u	> 100.00	-395.2982
	R2401541-021 10X	Al (237.312 nm)	0.0374	2.56	260.2760
	R2401541-021 10X	As (188.980 nm)	0.0013	87.07	-8.0502
	R2401541-021 10X	B (249.772 nm)	0.0125	1.79	501.4830
	R2401541-021 10X	Ba (230.424 nm)	0.0016	3.82	60.1534
	R2401541-021 10X	Be (313.107 nm)	0.0000 u	> 100.00	-211.5788
	R2401541-021 10X	Ca (317.933 nm)	38.2099	2.12	1546021.9621
	R2401541-021 10X	Cd (214.439 nm)	-0.0001 u	76.01	-5.5326
	R2401541-021 10X	Co (230.786 nm)	0.0004	12.05	68.0409
	R2401541-021 10X	Cr (267.716 nm)	0.0001	83.00	-43.7288
	R2401541-021 10X	Cu (327.395 nm)	-0.0007 u	28.45	-67.5814
	R2401541-021 10X	Fe (234.350 nm)	0.0421	1.95	1077.9159
	R2401541-021 10X	K (766.491 nm)	0.3285	12.94	92.8625
	R2401541-021 10X	Mg (279.078 nm)	19.9020	2.11	66325.7431
	R2401541-021 10X	Mn (257.610 nm)	0.0086	2.02	2839.5235
	R2401541-021 10X	Mo (202.032 nm)	-0.0001 u	> 100.00	-12.1780
	R2401541-021 10X	Na (588.995 nm)	4.1366	1.94	30964.7455
	R2401541-021 10X	Ni (230.299 nm)	0.0002 u	> 100.00	91.2352
	R2401541-021 10X	Pb (220.353 nm)	0.0005 u	> 100.00	15.1802
	R2401541-021 10X	Sb (217.582 nm)	0.0025	17.11	17.9454
	R2401541-021 10X	Se (196.026 nm)	-0.0031 u	49.28	-1.6009
	R2401541-021 10X	Sn (189.925 nm)	-0.0011 u	44.45	3.7510
	R2401541-021 10X	Sr (216.596 nm)	1.0227	2.15	20589.2720
	R2401541-021 10X	Ti (336.122 nm)	0.0011	9.61	-51.3498
	R2401541-021 10X	Tl (190.794 nm)	0.0006 u	> 100.00	-0.9353
	R2401541-021 10X	V (292.401 nm)	-0.0002 u	79.33	-84.5268
	R2401541-021 10X	Y (360.074 nm)	0.96	0.14	481240.94
	R2401541-021 10X	Y_R (360.074 nm)	0.96	0.14	480231.98
	R2401541-021 10X	Zn (213.857 nm)	0.0010	6.88	-7.2936
3/4/2024 17:35:21	Continuing Calibration Verification	Ag (328.068 nm)	0.5180	0.51	30289.8168
	Continuing Calibration Verification	Al (237.312 nm)	9.7987	0.43	30544.6924
	Continuing Calibration Verification	As (188.980 nm)	0.9808	0.73	1797.5754
	Continuing Calibration Verification	B (249.772 nm)	2.4420	0.57	85181.7376
	Continuing Calibration Verification	Ba (230.424 nm)	10.1932	0.73	485670.5685
	Continuing Calibration Verification	Be (313.107 nm)	0.2429	0.52	279699.9730
	Continuing Calibration Verification	Ca (317.933 nm)	25.5956	0.52	1036702.1890
	Continuing Calibration Verification	Cd (214.439 nm)	0.5116	0.49	32760.2417
	Continuing Calibration Verification	Co (230.786 nm)	2.5160	0.73	40331.7891
	Continuing Calibration Verification	Cr (267.716 nm)	0.5069	0.53	22891.0272
	Continuing Calibration Verification	Cu (327.395 nm)	1.2329	0.40	44818.0479
	Continuing Calibration Verification	Fe (234.350 nm)	4.9785	0.63	111548.8160

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification	K (766.491 nm)	23.8425	0.64	25410.2916
	Continuing Calibration Verification	Mg (279.078 nm)	24.9935	0.47	83304.8441
	Continuing Calibration Verification	Mn (257.610 nm)	0.7395	0.52	246708.6611
	Continuing Calibration Verification	Mo (202.032 nm)	2.5271	0.89	19922.2413
	Continuing Calibration Verification	Na (588.995 nm)	24.7037	0.43	215303.7793
	Continuing Calibration Verification	Ni (230.299 nm)	2.0781	0.51	25167.1555
	Continuing Calibration Verification	Pb (220.353 nm)	0.5083	0.72	2924.7203
	Continuing Calibration Verification	Sb (217.582 nm)	4.7829	0.49	11854.4026
	Continuing Calibration Verification	Se (196.026 nm)	0.4864	1.32	421.5536
	Continuing Calibration Verification	Sn (189.925 nm)	4.9926	0.53	15193.9495
	Continuing Calibration Verification	Sr (216.596 nm)	2.4869	0.62	50143.3855
	Continuing Calibration Verification	Ti (336.122 nm)	2.4908	0.73	332178.1090
	Continuing Calibration Verification	Tl (190.794 nm)	1.0384	1.07	878.6950
	Continuing Calibration Verification	V (292.401 nm)	2.4763	0.53	100928.2839
	Continuing Calibration Verification	Y (360.074 nm)	0.94	0.04	470956.68
	Continuing Calibration Verification	Y_R (360.074 nm)	0.94	0.04	470014.55
	Continuing Calibration Verification	Zn (213.857 nm)	0.9869	0.54	58955.0381
3/4/2024 17:38:24	Continuing Calibration Blank	Ag (328.068 nm)	0.0002	> 100.00	-392.0273
	Continuing Calibration Blank	Al (237.312 nm)	0.0042	61.01	157.2682
	Continuing Calibration Blank	As (188.980 nm)	0.0018	86.38	-6.9887
	Continuing Calibration Blank	B (249.772 nm)	0.0015	9.36	116.4098
	Continuing Calibration Blank	Ba (230.424 nm)	0.0009	3.50	25.2608
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	45.57	-194.6230
	Continuing Calibration Blank	Ca (317.933 nm)	0.0839	0.43	6624.5357
	Continuing Calibration Blank	Cd (214.439 nm)	-0.0001 u	13.02	-8.3581
	Continuing Calibration Blank	Co (230.786 nm)	0.0003 u	> 100.00	67.0243
	Continuing Calibration Blank	Cr (267.716 nm)	0.0002	57.07	-39.3786
	Continuing Calibration Blank	Cu (327.395 nm)	0.0000 u	> 100.00	-43.6586
	Continuing Calibration Blank	Fe (234.350 nm)	0.0025	17.82	192.3381
	Continuing Calibration Blank	K (766.491 nm)	0.0275	33.67	-231.2804
	Continuing Calibration Blank	Mg (279.078 nm)	0.0078	12.90	-17.2754
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	13.22	34.4336
	Continuing Calibration Blank	Mo (202.032 nm)	0.0039	23.11	19.6837
	Continuing Calibration Blank	Na (588.995 nm)	-0.0131 u	41.04	-6227.5864
	Continuing Calibration Blank	Ni (230.299 nm)	0.0002	87.05	91.1404
	Continuing Calibration Blank	Pb (220.353 nm)	0.0008	92.32	16.5519
	Continuing Calibration Blank	Sb (217.582 nm)	0.0111 Z 0.06U	23.22	39.3049 Z
	Continuing Calibration Blank	Se (196.026 nm)	-0.0002 u	> 100.00	0.9182
	Continuing Calibration Blank	Sn (189.925 nm)	0.0012	44.94	10.9277
	Continuing Calibration Blank	Sr (216.596 nm)	0.0005	24.74	-45.3144
	Continuing Calibration Blank	Ti (336.122 nm)	0.0028	21.53	178.6909
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0020 u	> 100.00	-3.1185
	Continuing Calibration Blank	V (292.401 nm)	0.0000 u	> 100.00	-75.2809
	Continuing Calibration Blank	Y (360.074 nm)	0.98	0.21	488727.05
	Continuing Calibration Blank	Y_R (360.074 nm)	0.98	0.21	487695.53
	Continuing Calibration Blank	Zn (213.857 nm)	0.0003	24.19	-48.4950
3/4/2024 17:41:28	Contract Required Detection Limit	Ag (328.068 nm)	0.0105	1.43	219.5701
	Contract Required Detection Limit	Al (237.312 nm)	0.1899	1.41	733.4140
	Contract Required Detection Limit	As (188.980 nm)	0.0199	3.08	26.2634
	Contract Required Detection Limit	B (249.772 nm)	0.1981	0.48	6968.4140
	Contract Required Detection Limit	Ba (230.424 nm)	0.2070	0.50	9846.5916
	Contract Required Detection Limit	Be (313.107 nm)	0.0048	0.74	5319.7664
	Contract Required Detection Limit	Ca (317.933 nm)	1.0188	0.50	44370.1676
	Contract Required Detection Limit	Cd (214.439 nm)	0.0104	0.59	663.9074
	Contract Required Detection Limit	Co (230.786 nm)	0.0520	1.34	894.1452
	Contract Required Detection Limit	Cr (267.716 nm)	0.0100	0.21	406.2492
	Contract Required Detection Limit	Cu (327.395 nm)	0.0244	2.01	844.0610

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Contract Required Detection Limit	Fe (234.350 nm)	0.1015	0.43	2406.3426
	Contract Required Detection Limit	K (766.491 nm)	0.8968	2.59	704.7284
	Contract Required Detection Limit	Mg (279.078 nm)	0.9813	0.42	3229.1072
	Contract Required Detection Limit	Mn (257.610 nm)	0.0154	0.46	5133.0603
	Contract Required Detection Limit	Mo (202.032 nm)	0.0256	1.44	190.6301
	Contract Required Detection Limit	Na (588.995 nm)	0.8896	0.36	1862.5354
	Contract Required Detection Limit	Ni (230.299 nm)	0.0413	1.36	586.9395
	Contract Required Detection Limit	Pb (220.353 nm)	0.0103	5.94	71.2108
	Contract Required Detection Limit	Sb (217.582 nm)	0.0628	4.14	167.3557
	Contract Required Detection Limit	Se (196.026 nm)	0.0073 R 73%	18.59	7.4149 R
	Contract Required Detection Limit	Sn (189.925 nm)	0.5026	0.56	1535.9603
	Contract Required Detection Limit	Sr (216.596 nm)	0.1024	0.73	2012.7664
	Contract Required Detection Limit	Ti (336.122 nm)	0.0497	0.54	6439.4544
	Contract Required Detection Limit	Tl (190.794 nm)	0.0197	16.33	15.2790
	Contract Required Detection Limit	V (292.401 nm)	0.0490	0.53	1922.9295
	Contract Required Detection Limit	Y (360.074 nm)	0.98	0.18	488757.40
	Contract Required Detection Limit	Y_R (360.074 nm)	0.98	0.18	487743.87
	Contract Required Detection Limit	Zn (213.857 nm)	0.0198	0.25	1119.7467
3/4/2024 17:44:32	Interference Check Solution A	Ag (328.068 nm)	-0.0001 u	> 100.00	-404.8894
	Interference Check Solution A	Al (237.312 nm)	249.1555 o	0.66	773147.8648
	Interference Check Solution A	As (188.980 nm)	-0.0067 Ku +/- 0.01	25.68	-22.6409 K
	Interference Check Solution A	B (249.772 nm)	0.1174	0.56	4155.7103
	Interference Check Solution A	Ba (230.424 nm)	0.0007	10.62	14.4733
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-233.2148
	Interference Check Solution A	Ca (317.933 nm)	239.5818 o	0.67	9676741.1576
	Interference Check Solution A	Cd (214.439 nm)	-0.0008 u	8.78	-49.6963
	Interference Check Solution A	Co (230.786 nm)	0.0015	34.24	85.7850
	Interference Check Solution A	Cr (267.716 nm)	-0.0004 u	42.83	-64.6187
	Interference Check Solution A	Cu (327.395 nm)	0.0004 u	> 100.00	-28.3053
	Interference Check Solution A	Fe (234.350 nm)	93.3723 o	0.77	2089690.9839
	Interference Check Solution A	K (766.491 nm)	-0.0075 u	> 100.00	-268.8744
	Interference Check Solution A	Mg (279.078 nm)	259.2667 o	0.74	864557.0333
	Interference Check Solution A	Mn (257.610 nm)	0.0012	2.14	393.1466
	Interference Check Solution A	Mo (202.032 nm)	-0.0018 u	45.68	-25.3509
	Interference Check Solution A	Na (588.995 nm)	-0.0742 u	4.47	-6775.3546
	Interference Check Solution A	Ni (230.299 nm)	0.0023	9.89	116.8562
	Interference Check Solution A	Pb (220.353 nm)	0.0009 u	> 100.00	17.2035
	Interference Check Solution A	Sb (217.582 nm)	0.0025	93.36	18.0730
	Interference Check Solution A	Se (196.026 nm)	-0.0104 Ku +/- 0.02	17.37	-7.8851 K
	Interference Check Solution A	Sn (189.925 nm)	0.0019	44.67	12.8712
	Interference Check Solution A	Sr (216.596 nm)	0.0096	0.62	139.5054
	Interference Check Solution A	Ti (336.122 nm)	0.0028	3.40	185.2395
	Interference Check Solution A	Tl (190.794 nm)	0.0018 u	> 100.00	0.1044
	Interference Check Solution A	V (292.401 nm)	0.0021	13.90	10.4741
	Interference Check Solution A	Y (360.074 nm)	0.87	0.18	434813.80
	Interference Check Solution A	Y_R (360.074 nm)	0.87	0.17	434140.34
	Interference Check Solution A	Zn (213.857 nm)	0.0114 K +/- 0.02	1.56	617.2858 K
3/4/2024 17:47:35	Interference Check Solution AB	Ag (328.068 nm)	0.2027	0.84	11608.9826
	Interference Check Solution AB	Al (237.312 nm)	250.3488 o	0.68	776849.9108
	Interference Check Solution AB	As (188.980 nm)	0.0930	2.72	161.1009
	Interference Check Solution AB	B (249.772 nm)	0.1164	0.51	4121.0316
	Interference Check Solution AB	Ba (230.424 nm)	0.5225	0.68	24875.6500
	Interference Check Solution AB	Be (313.107 nm)	0.4816	0.38	554780.8335
	Interference Check Solution AB	Ca (317.933 nm)	240.1723 o	0.85	9700583.6158
	Interference Check Solution AB	Cd (214.439 nm)	0.9768	0.67	62548.0584
	Interference Check Solution AB	Co (230.786 nm)	0.4823	0.59	7781.7976
	Interference Check Solution AB	Cr (267.716 nm)	0.5032	0.75	22722.4752

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution AB	Cu (327.395 nm)	0.5239	0.63	19017.7661
	Interference Check Solution AB	Fe (234.350 nm)	93.6751 o	0.68	2096467.1574
	Interference Check Solution AB	K (766.491 nm)	-0.0418 u	53.43	-305.8269
	Interference Check Solution AB	Mg (279.078 nm)	260.4665 o	0.71	868557.8801
	Interference Check Solution AB	Mn (257.610 nm)	0.4861	0.69	162165.6625
	Interference Check Solution AB	Mo (202.032 nm)	-0.0018 u	2.97	-25.5125
	Interference Check Solution AB	Na (588.995 nm)	-0.0787 u	3.19	-6816.2327
	Interference Check Solution AB	Ni (230.299 nm)	0.9840	0.68	11963.4228
	Interference Check Solution AB	Pb (220.353 nm)	0.0512	2.40	305.7469
	Interference Check Solution AB	Sb (217.582 nm)	0.6020	1.01	1502.4529
	Interference Check Solution AB	Se (196.026 nm)	0.0436	9.76	38.8032
	Interference Check Solution AB	Sn (189.925 nm)	0.0018	51.85	12.7954
	Interference Check Solution AB	Sr (216.596 nm)	0.0096	4.76	139.5462
	Interference Check Solution AB	Ti (336.122 nm)	0.0027	3.95	170.5587
	Interference Check Solution AB	Tl (190.794 nm)	0.1002	5.30	83.5100
	Interference Check Solution AB	V (292.401 nm)	0.5034	0.56	20455.7437
	Interference Check Solution AB	Y (360.074 nm)	0.87	0.09	435272.62
	Interference Check Solution AB	Y_R (360.074 nm)	0.87	0.09	434802.02
	Interference Check Solution AB	Zn (213.857 nm)	0.9995	0.70	59707.3307
3/4/2024 17:50:39	Continuing Calibration Verification	Ag (328.068 nm)	0.5136	0.41	30030.9530
	Continuing Calibration Verification	Al (237.312 nm)	9.8103	0.25	30580.6736
	Continuing Calibration Verification	As (188.980 nm)	0.9776	0.44	1791.6135
	Continuing Calibration Verification	B (249.772 nm)	2.4245	0.42	84573.1384
	Continuing Calibration Verification	Ba (230.424 nm)	10.1498	0.41	483602.6387
	Continuing Calibration Verification	Be (313.107 nm)	0.2414	0.35	277941.3208
	Continuing Calibration Verification	Ca (317.933 nm)	25.5043	0.35	1033012.5685
	Continuing Calibration Verification	Cd (214.439 nm)	0.5079	0.35	32522.7641
	Continuing Calibration Verification	Co (230.786 nm)	2.5083	0.30	40208.5133
	Continuing Calibration Verification	Cr (267.716 nm)	0.5076	0.24	22920.3973
	Continuing Calibration Verification	Cu (327.395 nm)	1.2249	0.28	44527.0525
	Continuing Calibration Verification	Fe (234.350 nm)	4.9878	0.36	111756.7984
	Continuing Calibration Verification	K (766.491 nm)	23.7029	0.16	25260.0706
	Continuing Calibration Verification	Mg (279.078 nm)	24.9716	0.23	83231.8233
	Continuing Calibration Verification	Mn (257.610 nm)	0.7369	0.39	245836.9263
	Continuing Calibration Verification	Mo (202.032 nm)	2.5148	0.72	19825.9799
	Continuing Calibration Verification	Na (588.995 nm)	24.6356	0.24	214693.4293
	Continuing Calibration Verification	Ni (230.299 nm)	2.0762	0.36	25144.0904
	Continuing Calibration Verification	Pb (220.353 nm)	0.5065	0.66	2914.7261
	Continuing Calibration Verification	Sb (217.582 nm)	4.7686	0.44	11819.0281
	Continuing Calibration Verification	Se (196.026 nm)	0.4842	0.71	419.6355
	Continuing Calibration Verification	Sn (189.925 nm)	4.9824	0.38	15162.9261
	Continuing Calibration Verification	Sr (216.596 nm)	2.4830	0.19	50063.7345
	Continuing Calibration Verification	Ti (336.122 nm)	2.4842	0.51	331294.6069
	Continuing Calibration Verification	Tl (190.794 nm)	1.0251	0.60	867.3893
	Continuing Calibration Verification	V (292.401 nm)	2.4701	0.38	100678.7394
	Continuing Calibration Verification	Y (360.074 nm)	0.95	0.13	472538.11
	Continuing Calibration Verification	Y_R (360.074 nm)	0.95	0.12	471871.62
	Continuing Calibration Verification	Zn (213.857 nm)	0.9871	0.22	58965.9911
3/4/2024 17:53:43	Continuing Calibration Blank	Ag (328.068 nm)	0.0001 u	> 100.00	-395.5752
	Continuing Calibration Blank	Al (237.312 nm)	0.0056	12.16	161.6630
	Continuing Calibration Blank	As (188.980 nm)	0.0019	38.02	-6.8405
	Continuing Calibration Blank	B (249.772 nm)	0.0017	11.14	124.4483
	Continuing Calibration Blank	Ba (230.424 nm)	0.0009	7.99	26.3232
	Continuing Calibration Blank	Be (313.107 nm)	0.0000	51.65	-192.8456
	Continuing Calibration Blank	Ca (317.933 nm)	0.0860	0.33	6708.6775
	Continuing Calibration Blank	Cd (214.439 nm)	0.0000 u	> 100.00	-0.2807
	Continuing Calibration Blank	Co (230.786 nm)	0.0004	20.70	68.1936

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank	Cr (267.716 nm)	0.0001 u	> 100.00	-42.5034
	Continuing Calibration Blank	Cu (327.395 nm)	-0.0003 u	> 100.00	-54.1559
	Continuing Calibration Blank	Fe (234.350 nm)	0.0041	14.53	226.8290
	Continuing Calibration Blank	K (766.491 nm)	0.0231 u	93.59	-236.0042
	Continuing Calibration Blank	Mg (279.078 nm)	0.0077	19.83	-17.4619
	Continuing Calibration Blank	Mn (257.610 nm)	0.0001	11.02	33.7086
	Continuing Calibration Blank	Mo (202.032 nm)	0.0036	19.78	17.3989
	Continuing Calibration Blank	Na (588.995 nm)	-0.0044 u	27.27	-6149.4793
	Continuing Calibration Blank	Ni (230.299 nm)	0.0000 u	> 100.00	88.8390
	Continuing Calibration Blank	Pb (220.353 nm)	0.0004 u	> 100.00	14.3953
	Continuing Calibration Blank	Sb (217.582 nm)	0.0109 Z 0.06U	19.63	38.8051 Z
	Continuing Calibration Blank	Se (196.026 nm)	-0.0045 u	77.88	-2.7798
	Continuing Calibration Blank	Sn (189.925 nm)	0.0012	31.07	10.9769
	Continuing Calibration Blank	Sr (216.596 nm)	0.0004	40.13	-47.0323
	Continuing Calibration Blank	Ti (336.122 nm)	0.0028	19.95	174.5770
	Continuing Calibration Blank	Tl (190.794 nm)	-0.0001 u	> 100.00	-1.4907
	Continuing Calibration Blank	V (292.401 nm)	0.0000 u	> 100.00	-75.0049
	Continuing Calibration Blank	Y (360.074 nm)	0.98	0.31	488439.55
	Continuing Calibration Blank	Y_R (360.074 nm)	0.98	0.31	487626.57
	Continuing Calibration Blank	Zn (213.857 nm)	0.0004	6.56	-44.7684
3/4/2024 17:56:47	PBW-434740	Ag (328.068 nm)	0.0004	12.97	-380.7638
	PBW-434740	Al (237.312 nm)	0.0033	71.16	154.5792
	PBW-434740	As (188.980 nm)	0.0010 u	> 100.00	-8.5351
	PBW-434740	B (249.772 nm)	0.0014	3.30	113.5648
	PBW-434740	Ba (230.424 nm)	0.0002	36.54	-10.7909
	PBW-434740	Be (313.107 nm)	0.0000	> 100.00	-210.4700
	PBW-434740	Ca (317.933 nm)	0.0041	5.55	3401.0547
	PBW-434740	Cd (214.439 nm)	0.0000 u	> 100.00	0.7504
	PBW-434740	Co (230.786 nm)	-0.0002 u	> 100.00	58.8272
	PBW-434740	Cr (267.716 nm)	0.0000 u	> 100.00	-48.6659
	PBW-434740	Cu (327.395 nm)	0.0000 u	> 100.00	-42.1908
	PBW-434740	Fe (234.350 nm)	0.0026	2.03	193.1800
	PBW-434740	K (766.491 nm)	-0.0196 u	> 100.00	-281.9479
	PBW-434740	Mg (279.078 nm)	0.0035	20.04	-31.4650
	PBW-434740	Mn (257.610 nm)	0.0000	55.58	1.1470
	PBW-434740	Mo (202.032 nm)	0.0008	57.36	-4.5426
	PBW-434740	Na (588.995 nm)	-0.0235 u	18.53	-6321.5124
	PBW-434740	Ni (230.299 nm)	-0.0007 u	16.02	79.9228
	PBW-434740	Pb (220.353 nm)	-0.0003 u	> 100.00	10.5448
	PBW-434740	Sb (217.582 nm)	0.0333	15.02	94.1141
	PBW-434740	Se (196.026 nm)	-0.0031 u	> 100.00	-1.5739
	PBW-434740	Sn (189.925 nm)	-0.0001 u	> 100.00	6.9396
	PBW-434740	Sr (216.596 nm)	0.0002	88.20	-51.2955
	PBW-434740	Ti (336.122 nm)	0.0006	11.09	-109.1242
	PBW-434740	Tl (190.794 nm)	-0.0019 u	> 100.00	-3.0759
	PBW-434740	V (292.401 nm)	0.0000 u	> 100.00	-75.5755
	PBW-434740	Y (360.074 nm)	0.99	0.13	494738.60
	PBW-434740	Y_R (360.074 nm)	0.99	0.13	493606.98
	PBW-434740	Zn (213.857 nm)	0.0003	9.70	-51.6489
3/4/2024 17:59:50	LCSW-434740	Ag (328.068 nm)	0.0497	0.71	2540.9588
	LCSW-434740	Al (237.312 nm)	1.7948	0.69	5712.4865
	LCSW-434740	As (188.980 nm)	0.0350	2.63	54.2248
	LCSW-434740	B (249.772 nm)	0.9083	0.78	31722.4776
	LCSW-434740	Ba (230.424 nm)	1.9770	0.87	94182.7289
	LCSW-434740	Be (313.107 nm)	0.0462	0.77	53060.3459
	LCSW-434740	Ca (317.933 nm)	1.9471	0.79	81853.9859
	LCSW-434740	Cd (214.439 nm)	0.0496	0.83	3172.7236

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	LCSW-434740	Co (230.786 nm)	0.4930	0.94	7952.8629
	LCSW-434740	Cr (267.716 nm)	0.1935	0.77	8706.9675
	LCSW-434740	Cu (327.395 nm)	0.2429	0.65	8794.5320
	LCSW-434740	Fe (234.350 nm)	0.9632	0.83	21691.2470
	LCSW-434740	K (766.491 nm)	17.8217	0.66	18927.7634
	LCSW-434740	Mg (279.078 nm)	1.8587	0.94	6155.0134
	LCSW-434740	Mn (257.610 nm)	0.4743	0.78	158230.1658
	LCSW-434740	Mo (202.032 nm)	0.4829	2.00	3798.3351
	LCSW-434740	Na (588.995 nm)	18.5399	0.49	160058.6394
	LCSW-434740	Ni (230.299 nm)	0.5037	0.79	6167.5771
	LCSW-434740	Pb (220.353 nm)	0.4941	0.62	2843.4650
	LCSW-434740	Sb (217.582 nm)	0.4941	1.93	1235.2514
	LCSW-434740	Se (196.026 nm)	0.8474	0.96	733.5830
	LCSW-434740	Sn (189.925 nm)	4.8736	0.83	14832.0499
	LCSW-434740	Sr (216.596 nm)	1.9402	0.79	39108.1141
	LCSW-434740	Ti (336.122 nm)	0.4793	0.90	63766.3808
	LCSW-434740	Tl (190.794 nm)	1.9643	0.70	1663.4767
	LCSW-434740	V (292.401 nm)	0.4769	0.78	19375.2650
	LCSW-434740	Y (360.074 nm)	0.97	0.06	484575.50
	LCSW-434740	Y_R (360.074 nm)	0.97	0.06	483519.55
	LCSW-434740	Zn (213.857 nm)	0.4736	0.70	28257.6513
3/4/2024 18:02:53	DLCSW-434740	Ag (328.068 nm)	0.0495	0.64	2532.6412
	DLCSW-434740	Al (237.312 nm)	1.8044	0.42	5742.4347
	DLCSW-434740	As (188.980 nm)	0.0360	3.09	55.9169
	DLCSW-434740	B (249.772 nm)	0.9090	0.45	31747.8107
	DLCSW-434740	Ba (230.424 nm)	1.9855	0.78	94588.4235
	DLCSW-434740	Be (313.107 nm)	0.0463	0.51	53124.5141
	DLCSW-434740	Ca (317.933 nm)	1.9545	0.54	82153.8925
	DLCSW-434740	Cd (214.439 nm)	0.0498	0.47	3185.5414
	DLCSW-434740	Co (230.786 nm)	0.4942	0.59	7971.9459
	DLCSW-434740	Cr (267.716 nm)	0.1944	0.59	8751.7113
	DLCSW-434740	Cu (327.395 nm)	0.2435	0.45	8816.4944
	DLCSW-434740	Fe (234.350 nm)	0.9666	0.65	21766.3014
	DLCSW-434740	K (766.491 nm)	17.7914	0.47	18895.1289
	DLCSW-434740	Mg (279.078 nm)	1.8634	0.52	6170.7568
	DLCSW-434740	Mn (257.610 nm)	0.4757	0.49	158683.1164
	DLCSW-434740	Mo (202.032 nm)	0.4838	1.85	3804.7088
	DLCSW-434740	Na (588.995 nm)	18.5472	0.39	160124.2942
	DLCSW-434740	Ni (230.299 nm)	0.5056	0.43	6190.6598
	DLCSW-434740	Pb (220.353 nm)	0.4947	0.25	2847.1732
	DLCSW-434740	Sb (217.582 nm)	0.4897	0.77	1224.3030
	DLCSW-434740	Se (196.026 nm)	0.8513	0.36	736.9924
	DLCSW-434740	Sn (189.925 nm)	4.8796	0.48	14850.1197
	DLCSW-434740	Sr (216.596 nm)	1.9460	0.68	39224.1828
	DLCSW-434740	Ti (336.122 nm)	0.4803	0.56	63891.7696
	DLCSW-434740	Tl (190.794 nm)	1.9607	0.65	1660.4427
	DLCSW-434740	V (292.401 nm)	0.4781	0.49	19424.2474
	DLCSW-434740	Y (360.074 nm)	0.97	0.09	483598.26
	DLCSW-434740	Y_R (360.074 nm)	0.97	0.09	482601.23
	DLCSW-434740	Zn (213.857 nm)	0.4739	0.49	28276.2337
3/4/2024 18:05:57	R2401543-004 5X	Ag (328.068 nm)	0.0002	23.81	-391.9739
	R2401543-004 5X	Al (237.312 nm)	0.0052	27.50	160.4489
	R2401543-004 5X	As (188.980 nm)	-0.0010 u	> 100.00	-12.1754
	R2401543-004 5X	B (249.772 nm)	0.1582	1.97	5579.5745
	R2401543-004 5X	Ba (230.424 nm)	0.0170	1.84	791.2997
	R2401543-004 5X	Be (313.107 nm)	0.0000	9.87	-187.8475
	R2401543-004 5X	Ca (317.933 nm)	31.8110	1.81	1287655.1774

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-004 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-2.7866
	R2401543-004 5X	Co (230.786 nm)	0.0008	19.01	74.8525
	R2401543-004 5X	Cr (267.716 nm)	0.0006	12.69	-20.6415
	R2401543-004 5X	Cu (327.395 nm)	-0.0001 u	> 100.00	-45.2401
	R2401543-004 5X	Fe (234.350 nm)	0.0025	6.87	192.4073
	R2401543-004 5X	K (766.491 nm)	0.8305	1.53	633.3175
	R2401543-004 5X	Mg (279.078 nm)	22.9610	1.97	76526.9740
	R2401543-004 5X	Mn (257.610 nm)	0.0002	13.60	41.6608
	R2401543-004 5X	Mo (202.032 nm)	0.0030	15.99	12.2829
	R2401543-004 5X	Na (588.995 nm)	27.8126	2.02	243167.9574
	R2401543-004 5X	Ni (230.299 nm)	0.0002 u	> 100.00	90.7160
	R2401543-004 5X	Pb (220.353 nm)	0.0001 u	> 100.00	12.6545
	R2401543-004 5X	Sb (217.582 nm)	0.0153	5.78	49.6113
	R2401543-004 5X	Se (196.026 nm)	-0.0027 u	75.34	-1.2387
	R2401543-004 5X	Sn (189.925 nm)	0.0012	49.44	10.9096
	R2401543-004 5X	Sr (216.596 nm)	1.2946	1.86	26077.3665
	R2401543-004 5X	Ti (336.122 nm)	0.0011	14.25	-51.5877
	R2401543-004 5X	Tl (190.794 nm)	0.0044	71.26	2.2648
	R2401543-004 5X	V (292.401 nm)	0.0007	36.39	-48.4513
	R2401543-004 5X	Y (360.074 nm)	0.96	0.09	476743.71
	R2401543-004 5X	Y_R (360.074 nm)	0.95	0.09	475807.34
	R2401543-004 5X	Zn (213.857 nm)	0.0005	16.22	-35.0933
3/4/2024 18:09:00	R2401543-001	Ag (328.068 nm)	0.0004	28.55	-375.5053
	R2401543-001	Al (237.312 nm)	0.0211	6.38	209.8048
	R2401543-001	As (188.980 nm)	-0.0007 u	54.99	-11.7335
	R2401543-001	B (249.772 nm)	0.2162	0.66	7600.3566
	R2401543-001	Ba (230.424 nm)	0.0301	0.96	1417.2184
	R2401543-001	Be (313.107 nm)	0.0000	34.22	-197.6173
	R2401543-001	Ca (317.933 nm)	98.9711 o	0.82	3999354.3520
	R2401543-001	Cd (214.439 nm)	0.0001 u	> 100.00	2.4925
	R2401543-001	Co (230.786 nm)	0.0008	64.79	74.3735
	R2401543-001	Cr (267.716 nm)	0.0022	9.06	55.2000
	R2401543-001	Cu (327.395 nm)	0.0007	53.62	-18.1346
	R2401543-001	Fe (234.350 nm)	0.0323	0.68	857.5166
	R2401543-001	K (766.491 nm)	4.0341	0.28	4082.6247
	R2401543-001	Mg (279.078 nm)	75.6931 o	0.77	252377.4943
	R2401543-001	Mn (257.610 nm)	0.0016	0.83	504.6399
	R2401543-001	Mo (202.032 nm)	0.0082	3.45	53.2932
	R2401543-001	Na (588.995 nm)	91.2892 o	0.52	812095.7536
	R2401543-001	Ni (230.299 nm)	0.0000 u	> 100.00	88.9135
	R2401543-001	Pb (220.353 nm)	0.0011	75.03	18.6471
	R2401543-001	Sb (217.582 nm)	0.0207	4.48	63.0311
	R2401543-001	Se (196.026 nm)	-0.0028 u	75.19	-1.3550
	R2401543-001	Sn (189.925 nm)	0.0005 u	> 100.00	8.7780
	R2401543-001	Sr (216.596 nm)	4.0451	0.62	81593.9827
	R2401543-001	Ti (336.122 nm)	0.0013	4.58	-21.4236
	R2401543-001	Tl (190.794 nm)	0.0032	83.53	1.3299
	R2401543-001	V (292.401 nm)	0.0010	23.59	-33.8051
	R2401543-001	Y (360.074 nm)	0.93	0.11	462842.28
	R2401543-001	Y_R (360.074 nm)	0.93	0.11	461975.83
	R2401543-001	Zn (213.857 nm)	0.0007	2.97	-23.6969
3/4/2024 18:12:03	R2401543-002	Ag (328.068 nm)	0.0000 u	> 100.00	-399.9998
	R2401543-002	Al (237.312 nm)	0.0092	13.55	172.7704
	R2401543-002	As (188.980 nm)	0.0005 u	> 100.00	-9.4050
	R2401543-002	B (249.772 nm)	0.2435	0.55	8550.7690
	R2401543-002	Ba (230.424 nm)	0.0399	0.91	1882.4839
	R2401543-002	Be (313.107 nm)	0.0000	65.19	-200.2595

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-002	Ca (317.933 nm)	100.5573 o	0.45	4063401.9636
	R2401543-002	Cd (214.439 nm)	0.0001 u	> 100.00	3.9691
	R2401543-002	Co (230.786 nm)	0.0009	20.76	76.8918
	R2401543-002	Cr (267.716 nm)	0.0038	5.70	125.5653
	R2401543-002	Cu (327.395 nm)	-0.0001 u	> 100.00	-45.3914
	R2401543-002	Fe (234.350 nm)	0.0159	1.14	491.0939
	R2401543-002	K (766.491 nm)	2.6072	2.22	2546.2991
	R2401543-002	Mg (279.078 nm)	77.1000 o	0.48	257069.0444
	R2401543-002	Mn (257.610 nm)	0.0062	0.79	2056.6042
	R2401543-002	Mo (202.032 nm)	0.0069	12.57	43.5032
	R2401543-002	Na (588.995 nm)	99.8055 o	0.32	888425.9965
	R2401543-002	Ni (230.299 nm)	-0.0018 u	17.49	67.4944
	R2401543-002	Pb (220.353 nm)	-0.0002 u	> 100.00	10.9137
	R2401543-002	Sb (217.582 nm)	0.0189	7.45	58.5527
	R2401543-002	Se (196.026 nm)	-0.0013 u	> 100.00	-0.0557
	R2401543-002	Sn (189.925 nm)	-0.0004 u	> 100.00	5.9660
	R2401543-002	Sr (216.596 nm)	2.2261	0.62	44877.5766
	R2401543-002	Ti (336.122 nm)	0.0008	8.10	-84.2910
	R2401543-002	Tl (190.794 nm)	-0.0011 u	> 100.00	-2.3801
	R2401543-002	V (292.401 nm)	0.0004	38.97	-59.5477
	R2401543-002	Y (360.074 nm)	0.92	0.04	461374.75
	R2401543-002	Y_R (360.074 nm)	0.92	0.05	460535.76
	R2401543-002	Zn (213.857 nm)	0.0018	1.02	41.4185
3/4/2024 18:15:07	R2401543-003	Ag (328.068 nm)	0.0003	13.56	-382.5969
	R2401543-003	Al (237.312 nm)	0.0065	39.47	164.5762
	R2401543-003	As (188.980 nm)	-0.0007 u	> 100.00	-11.7298
	R2401543-003	B (249.772 nm)	0.2379	0.35	8354.8230
	R2401543-003	Ba (230.424 nm)	0.0392	0.78	1849.3649
	R2401543-003	Be (313.107 nm)	0.0000	39.18	-191.7083
	R2401543-003	Ca (317.933 nm)	98.2525 o	0.49	3970341.2877
	R2401543-003	Cd (214.439 nm)	0.0001 u	> 100.00	3.3765
	R2401543-003	Co (230.786 nm)	0.0007	42.96	73.7443
	R2401543-003	Cr (267.716 nm)	0.0016	15.43	26.5259
	R2401543-003	Cu (327.395 nm)	-0.0001 u	> 100.00	-46.3512
	R2401543-003	Fe (234.350 nm)	0.0059	2.78	267.0856
	R2401543-003	K (766.491 nm)	2.5028	0.47	2433.9222
	R2401543-003	Mg (279.078 nm)	75.2865 o	0.44	251021.3585
	R2401543-003	Mn (257.610 nm)	0.0063	0.45	2077.9516
	R2401543-003	Mo (202.032 nm)	0.0068	2.09	42.4702
	R2401543-003	Na (588.995 nm)	97.4530 o	0.47	867340.6125
	R2401543-003	Ni (230.299 nm)	-0.0022 u	26.70	62.6547
	R2401543-003	Pb (220.353 nm)	0.0000 u	> 100.00	12.1275
	R2401543-003	Sb (217.582 nm)	0.0194	6.06	59.9367
	R2401543-003	Se (196.026 nm)	-0.0008 u	> 100.00	0.4178
	R2401543-003	Sn (189.925 nm)	-0.0005 u	> 100.00	5.7280
	R2401543-003	Sr (216.596 nm)	2.1741	0.69	43827.9387
	R2401543-003	Ti (336.122 nm)	0.0007	6.17	-95.8703
	R2401543-003	Tl (190.794 nm)	0.0013 u	> 100.00	-0.3138
	R2401543-003	V (292.401 nm)	0.0004	33.48	-58.8474
	R2401543-003	Y (360.074 nm)	0.93	0.11	462071.10
	R2401543-003	Y_R (360.074 nm)	0.93	0.11	461211.23
	R2401543-003	Zn (213.857 nm)	0.0017	2.85	36.6389
3/4/2024 18:18:10	R2401543-004	Ag (328.068 nm)	0.0004	20.40	-378.5037
	R2401543-004	Al (237.312 nm)	0.0091	29.30	172.5738
	R2401543-004	As (188.980 nm)	0.0005 u	> 100.00	-9.3555
	R2401543-004	B (249.772 nm)	0.7777	0.57	27171.9448
	R2401543-004	Ba (230.424 nm)	0.0796	0.33	3774.8915

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-004	Be (313.107 nm)	0.0000	52.94	-188.7660
	R2401543-004	Ca (317.933 nm)	148.6552 o	0.58	6005430.2579
	R2401543-004	Cd (214.439 nm)	0.0001	15.59	6.5410
	R2401543-004	Co (230.786 nm)	0.0029	3.88	107.9114
	R2401543-004	Cr (267.716 nm)	0.0037	3.19	120.7791
	R2401543-004	Cu (327.395 nm)	0.0012	44.32	0.3345
	R2401543-004	Fe (234.350 nm)	0.0051	3.51	249.9865
	R2401543-004	K (766.491 nm)	4.3274	0.22	4398.4742
	R2401543-004	Mg (279.078 nm)	113.2491 o	0.56	377618.6714
	R2401543-004	Mn (257.610 nm)	0.0003	0.92	99.6763
	R2401543-004	Mo (202.032 nm)	0.0062	3.46	38.0484
	R2401543-004	Na (588.995 nm)	135.6219 o	0.39	1209440.7770
	R2401543-004	Ni (230.299 nm)	-0.0017 u	17.78	68.4345
	R2401543-004	Pb (220.353 nm)	0.0007	92.48	16.4146
	R2401543-004	Sb (217.582 nm)	0.0237	2.34	70.5156
	R2401543-004	Se (196.026 nm)	0.0047	35.40	5.1098
	R2401543-004	Sn (189.925 nm)	0.0008 u	> 100.00	9.7256
	R2401543-004	Sr (216.596 nm)	6.1181 o	0.48	123437.2201
	R2401543-004	Ti (336.122 nm)	0.0012	5.15	-35.3380
	R2401543-004	Tl (190.794 nm)	0.0019 u	94.86	0.1894
	R2401543-004	V (292.401 nm)	0.0033	3.37	60.4804
	R2401543-004	Y (360.074 nm)	0.91	0.02	453811.16
	R2401543-004	Y_R (360.074 nm)	0.91	0.02	452940.43
	R2401543-004	Zn (213.857 nm)	0.0022	4.52	61.4300
3/4/2024 18:21:14	R2401543-005	Ag (328.068 nm)	0.0003	44.24	-386.3879
	R2401543-005	Al (237.312 nm)	0.0201	4.95	206.5051
	R2401543-005	As (188.980 nm)	-0.0004 u	> 100.00	-11.1270
	R2401543-005	B (249.772 nm)	0.2942	0.60	10319.0269
	R2401543-005	Ba (230.424 nm)	0.0418	0.23	1971.5653
	R2401543-005	Be (313.107 nm)	0.0000	58.85	-197.9456
	R2401543-005	Ca (317.933 nm)	116.0335 o	0.48	4688277.2236
	R2401543-005	Cd (214.439 nm)	0.0000 u	> 100.00	-0.2207
	R2401543-005	Co (230.786 nm)	0.0008	44.64	74.5966
	R2401543-005	Cr (267.716 nm)	0.0014	14.73	17.2850
	R2401543-005	Cu (327.395 nm)	-0.0002 u	> 100.00	-52.2961
	R2401543-005	Fe (234.350 nm)	0.0136	0.74	439.9041
	R2401543-005	K (766.491 nm)	3.5573	0.97	3569.3357
	R2401543-005	Mg (279.078 nm)	85.1703 o	0.44	283981.7441
	R2401543-005	Mn (257.610 nm)	0.0011	2.31	341.4142
	R2401543-005	Mo (202.032 nm)	0.0077	1.42	49.2772
	R2401543-005	Na (588.995 nm)	84.0733 o	0.40	747421.7937
	R2401543-005	Ni (230.299 nm)	-0.0028 u	10.66	54.6520
	R2401543-005	Pb (220.353 nm)	0.0011	76.24	18.6166
	R2401543-005	Sb (217.582 nm)	0.0158	12.72	50.8889
	R2401543-005	Se (196.026 nm)	-0.0007 u	> 100.00	0.4501
	R2401543-005	Sn (189.925 nm)	-0.0004 u	68.27	5.9243
	R2401543-005	Sr (216.596 nm)	3.3638	0.63	67841.7583
	R2401543-005	Ti (336.122 nm)	0.0009	8.71	-66.5195
	R2401543-005	Tl (190.794 nm)	0.0004 u	> 100.00	-1.1210
	R2401543-005	V (292.401 nm)	0.0011	10.77	-29.6758
	R2401543-005	Y (360.074 nm)	0.93	0.08	465053.21
	R2401543-005	Y_R (360.074 nm)	0.93	0.07	464197.21
	R2401543-005	Zn (213.857 nm)	0.0024	4.56	74.8908
3/4/2024 18:24:18	R2401543-006	Ag (328.068 nm)	0.0003	43.19	-385.6369
	R2401543-006	Al (237.312 nm)	0.0209	7.08	209.1959
	R2401543-006	As (188.980 nm)	-0.0010 u	9.53	-12.1311
	R2401543-006	B (249.772 nm)	0.2953	0.73	10358.3894

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-006	Ba (230.424 nm)	0.0416	0.76	1961.6556
	R2401543-006	Be (313.107 nm)	0.0000	28.14	-190.8032
	R2401543-006	Ca (317.933 nm)	116.1793 o	0.85	4694163.1947
	R2401543-006	Cd (214.439 nm)	0.0001	83.88	3.3536
	R2401543-006	Co (230.786 nm)	0.0005	5.10	70.2165
	R2401543-006	Cr (267.716 nm)	0.0013	7.76	11.4327
	R2401543-006	Cu (327.395 nm)	-0.0001 u	> 100.00	-47.2758
	R2401543-006	Fe (234.350 nm)	0.0150	1.45	471.2929
	R2401543-006	K (766.491 nm)	3.5623	1.60	3574.6797
	R2401543-006	Mg (279.078 nm)	85.2977 o	0.87	284406.7992
	R2401543-006	Mn (257.610 nm)	0.0010	1.86	324.4477
	R2401543-006	Mo (202.032 nm)	0.0075	9.79	48.1230
	R2401543-006	Na (588.995 nm)	84.1001 o	0.69	747661.6784
	R2401543-006	Ni (230.299 nm)	-0.0034 u	10.29	48.3078
	R2401543-006	Pb (220.353 nm)	0.0007 u	> 100.00	16.0583
	R2401543-006	Sb (217.582 nm)	0.0151	6.37	49.2772
	R2401543-006	Se (196.026 nm)	0.0006 u	> 100.00	1.6153
	R2401543-006	Sn (189.925 nm)	-0.0003 u	> 100.00	6.4130
	R2401543-006	Sr (216.596 nm)	3.3748	0.96	68065.3702
	R2401543-006	Ti (336.122 nm)	0.0010	5.34	-56.3874
	R2401543-006	Tl (190.794 nm)	0.0010 u	> 100.00	-0.5890
	R2401543-006	V (292.401 nm)	0.0012	8.35	-28.5899
	R2401543-006	Y (360.074 nm)	0.93	0.19	465264.85
	R2401543-006	Y_R (360.074 nm)	0.93	0.19	464394.74
	R2401543-006	Zn (213.857 nm)	0.0029	2.65	107.2253
3/4/2024 18:27:21	Continuing Calibration Verification1	Ag (328.068 nm)	0.5209	0.32	30459.7671
	Continuing Calibration Verification1	Al (237.312 nm)	9.7948	0.14	30532.5427
	Continuing Calibration Verification1	As (188.980 nm)	0.9859	0.15	1807.0323
	Continuing Calibration Verification1	B (249.772 nm)	2.4525	0.33	85549.0765
	Continuing Calibration Verification1	Ba (230.424 nm)	10.2187	0.54	486885.3437
	Continuing Calibration Verification1	Be (313.107 nm)	0.2442	0.25	281230.5947
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7670	0.23	1043620.6699
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5141	0.23	32916.1627
	Continuing Calibration Verification1	Co (230.786 nm)	2.5182	0.31	40366.8703
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5101	0.28	23033.7647
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2375	0.18	44984.9076
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0037	0.37	112112.8830
	Continuing Calibration Verification1	K (766.491 nm)	23.8007	0.20	25365.3619
	Continuing Calibration Verification1	Mg (279.078 nm)	25.1524	0.21	83834.5813
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7425	0.26	247710.1116
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5408	0.64	20030.9765
	Continuing Calibration Verification1	Na (588.995 nm)	24.7184	0.18	215435.9044
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0856	0.26	25257.6752
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5100	0.12	2934.8772
	Continuing Calibration Verification1	Sb (217.582 nm)	4.8038	0.40	11906.1695
	Continuing Calibration Verification1	Se (196.026 nm)	0.4847	1.04	420.0342
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0091	0.11	15244.2821
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4992	0.42	50390.9739
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5050	0.42	334065.3422
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0412	0.47	881.1137
	Continuing Calibration Verification1	V (292.401 nm)	2.4918	0.26	101560.8580
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.09	475161.68
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.95	0.09	474189.90
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9902	0.32	59154.2030
3/4/2024 18:30:25	Continuing Calibration Blank1	Ag (328.068 nm)	0.0002	9.20	-390.0721
	Continuing Calibration Blank1	Al (237.312 nm)	0.0015	44.46	148.8641
	Continuing Calibration Blank1	As (188.980 nm)	0.0001 u	> 100.00	-10.1395

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	B (249.772 nm)	0.0012	20.74	104.8021
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0003	21.83	-4.1778
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000 u	> 100.00	-218.1125
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0032	9.43	3367.1024
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-2.0429
	Continuing Calibration Blank1	Co (230.786 nm)	0.0000 u	> 100.00	61.6267
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0001	> 100.00	-42.2843
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0004 u	> 100.00	-56.4808
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0019	31.20	177.8049
	Continuing Calibration Blank1	K (766.491 nm)	0.0640	16.50	-191.9447
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0013	94.87	-38.9111
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0000	45.65	-1.0072
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0038	21.27	18.6736
	Continuing Calibration Blank1	Na (588.995 nm)	0.0147	26.31	-5979.0511
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0001 u	> 100.00	89.4870
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0009 u	97.07	6.9526
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0117 Z 0.06U	12.67	40.7707 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0026 u	> 100.00	-1.1460
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0010	49.35	10.2871
	Continuing Calibration Blank1	Sr (216.596 nm)	-0.0001 u	> 100.00	-56.0148
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0022	25.10	107.2562
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0004 u	> 100.00	-1.0593
	Continuing Calibration Blank1	V (292.401 nm)	-0.0001 u	79.77	-80.6871
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.09	490336.03
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.09	489194.51
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0009	7.51	-15.8556
3/4/2024 18:33:29	R2401543-007	Ag (328.068 nm)	0.0003	9.18	-384.1904
	R2401543-007	Al (237.312 nm)	0.0131	2.80	184.8815
	R2401543-007	As (188.980 nm)	-0.0012 u	77.89	-12.6057
	R2401543-007	B (249.772 nm)	0.9014	0.77	31482.0961
	R2401543-007	Ba (230.424 nm)	0.0399	0.06	1882.6173
	R2401543-007	Be (313.107 nm)	0.0000	10.05	-170.8284
	R2401543-007	Ca (317.933 nm)	148.7155 o	0.90	6007864.9665
	R2401543-007	Cd (214.439 nm)	0.0001	> 100.00	5.4717
	R2401543-007	Co (230.786 nm)	0.0009	24.77	75.4849
	R2401543-007	Cr (267.716 nm)	0.0013	8.24	14.1728
	R2401543-007	Cu (327.395 nm)	0.0002 u	> 100.00	-36.5645
	R2401543-007	Fe (234.350 nm)	0.0454	0.87	1152.1090
	R2401543-007	K (766.491 nm)	4.7812	1.71	4887.0455
	R2401543-007	Mg (279.078 nm)	107.8743 o	0.83	359695.0236
	R2401543-007	Mn (257.610 nm)	0.0057	0.14	1879.6872
	R2401543-007	Mo (202.032 nm)	0.0076	6.81	48.6589
	R2401543-007	Na (588.995 nm)	194.2209 o	0.59	1734651.5675
	R2401543-007	Ni (230.299 nm)	-0.0026 u	25.72	57.9340
	R2401543-007	Pb (220.353 nm)	0.0007 u	> 100.00	16.2794
	R2401543-007	Sb (217.582 nm)	0.0212	2.31	64.3280
	R2401543-007	Se (196.026 nm)	0.0008 u	> 100.00	1.7788
	R2401543-007	Sn (189.925 nm)	0.0011	40.98	10.5912
	R2401543-007	Sr (216.596 nm)	4.3164	0.74	87069.5680
	R2401543-007	Ti (336.122 nm)	0.0023	7.27	111.6026
	R2401543-007	Tl (190.794 nm)	0.0015 u	> 100.00	-0.1936
	R2401543-007	V (292.401 nm)	0.0006	32.80	-51.3713
	R2401543-007	Y (360.074 nm)	0.91	0.11	454247.02
	R2401543-007	Y_R (360.074 nm)	0.91	0.11	453301.70
	R2401543-007	Zn (213.857 nm)	0.0016	4.05	30.4112
3/4/2024 18:36:34	R2401543-008	Ag (328.068 nm)	0.0002	40.26	-386.8292
	R2401543-008	Al (237.312 nm)	0.0092	15.78	172.8116

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401543-008	As (188.980 nm)	0.0074	13.48	3.3296
	R2401543-008	B (249.772 nm)	0.1322	0.68	4672.4662
	R2401543-008	Ba (230.424 nm)	0.0275	0.27	1290.1424
	R2401543-008	Be (313.107 nm)	0.0000	91.05	-203.3253
	R2401543-008	Ca (317.933 nm)	16.7659	0.71	680185.8107
	R2401543-008	Cd (214.439 nm)	0.0000	> 100.00	2.0680
	R2401543-008	Co (230.786 nm)	0.0005	9.01	69.8006
	R2401543-008	Cr (267.716 nm)	0.0066	2.84	254.0950
	R2401543-008	Cu (327.395 nm)	0.0002	24.64	-37.3375
	R2401543-008	Fe (234.350 nm)	0.0263	0.78	725.2413
	R2401543-008	K (766.491 nm)	2.5084	1.62	2439.9778
	R2401543-008	Mg (279.078 nm)	26.9544	0.68	89844.0127
	R2401543-008	Mn (257.610 nm)	0.0003	4.26	90.4808
	R2401543-008	Mo (202.032 nm)	0.0059	6.69	35.5230
	R2401543-008	Na (588.995 nm)	30.1299	0.47	263937.9040
	R2401543-008	Ni (230.299 nm)	-0.0034 u	13.98	48.4368
	R2401543-008	Pb (220.353 nm)	0.0001 u	> 100.00	12.8656
	R2401543-008	Sb (217.582 nm)	0.0174	13.24	54.8179
	R2401543-008	Se (196.026 nm)	-0.0016 u	99.27	-0.3359
	R2401543-008	Sn (189.925 nm)	0.0001 u	> 100.00	7.6540
	R2401543-008	Sr (216.596 nm)	0.8686	0.68	17478.0772
	R2401543-008	Ti (336.122 nm)	0.0003	17.54	-149.5367
	R2401543-008	Tl (190.794 nm)	-0.0011 u	52.41	-2.3218
	R2401543-008	V (292.401 nm)	0.0072	1.66	217.6585
	R2401543-008	Y (360.074 nm)	0.97	0.25	481367.79
	R2401543-008	Y_R (360.074 nm)	0.96	0.25	480265.51
	R2401543-008	Zn (213.857 nm)	0.0006	5.07	-30.0872
3/4/2024 18:39:39	R2401543-007 5X	Ag (328.068 nm)	0.0002	> 100.00	-392.4386
	R2401543-007 5X	Al (237.312 nm)	0.0057	10.91	162.0807
	R2401543-007 5X	As (188.980 nm)	-0.0001 u	> 100.00	-10.5356
	R2401543-007 5X	B (249.772 nm)	0.1828	0.74	6434.4564
	R2401543-007 5X	Ba (230.424 nm)	0.0082	2.29	370.2879
	R2401543-007 5X	Be (313.107 nm)	0.0000	80.33	-205.4724
	R2401543-007 5X	Ca (317.933 nm)	31.8942	0.76	1291018.2598
	R2401543-007 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-1.7697
	R2401543-007 5X	Co (230.786 nm)	0.0004	> 100.00	68.1500
	R2401543-007 5X	Cr (267.716 nm)	0.0003	23.28	-34.6423
	R2401543-007 5X	Cu (327.395 nm)	0.0001 u	> 100.00	-39.9770
	R2401543-007 5X	Fe (234.350 nm)	0.0099	2.37	357.2602
	R2401543-007 5X	K (766.491 nm)	0.9078	0.83	716.6119
	R2401543-007 5X	Mg (279.078 nm)	21.8816	0.71	72927.1983
	R2401543-007 5X	Mn (257.610 nm)	0.0012	1.93	395.4356
	R2401543-007 5X	Mo (202.032 nm)	0.0015	22.53	0.5201
	R2401543-007 5X	Na (588.995 nm)	39.5941	0.52	348763.5787
	R2401543-007 5X	Ni (230.299 nm)	0.0000 u	> 100.00	88.9563
	R2401543-007 5X	Pb (220.353 nm)	0.0007	52.81	16.2354
	R2401543-007 5X	Sb (217.582 nm)	0.0094	23.98	35.1405
	R2401543-007 5X	Se (196.026 nm)	-0.0026 u	> 100.00	-1.1257
	R2401543-007 5X	Sn (189.925 nm)	0.0008	57.78	9.5385
	R2401543-007 5X	Sr (216.596 nm)	0.9111	0.68	18335.7511
	R2401543-007 5X	Ti (336.122 nm)	0.0006	6.43	-112.9951
	R2401543-007 5X	Tl (190.794 nm)	-0.0004 u	> 100.00	-1.7474
	R2401543-007 5X	V (292.401 nm)	-0.0002 u	76.60	-83.2012
	R2401543-007 5X	Y (360.074 nm)	0.96	0.28	479006.71
	R2401543-007 5X	Y_R (360.074 nm)	0.96	0.28	477897.11
	R2401543-007 5X	Zn (213.857 nm)	0.0004	9.82	-44.9206
3/4/2024 18:42:45	R2401566-001	Ag (328.068 nm)	0.0008	12.71	-352.4489

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401566-001	Al (237.312 nm)	0.6742	1.05	2236.0898
	R2401566-001	As (188.980 nm)	2.9414 o	0.70	5411.5710
	R2401566-001	B (249.772 nm)	1.0618	0.64	37073.3715
	R2401566-001	Ba (230.424 nm)	0.0721	0.81	3417.2205
	R2401566-001	Be (313.107 nm)	0.0001	12.53	-143.9336
	R2401566-001	Ca (317.933 nm)	11.2806	0.82	458708.7542
	R2401566-001	Cd (214.439 nm)	0.0139	0.73	886.0655
	R2401566-001	Co (230.786 nm)	0.0094	3.85	211.9087
	R2401566-001	Cr (267.716 nm)	0.0642	1.13	2858.4410
	R2401566-001	Cu (327.395 nm)	0.1398	0.80	5043.3919
	R2401566-001	Fe (234.350 nm)	398.8179 o >LR	0.76	8925183.2339
	R2401566-001	K (766.491 nm)	1.2933	0.64	1131.6528
	R2401566-001	Mg (279.078 nm)	0.8324	0.97	2732.7411
	R2401566-001	Mn (257.610 nm)	4.0553 o >LR	0.83	1352928.0431
	R2401566-001	Mo (202.032 nm)	0.0122	2.78	85.0707
	R2401566-001	Na (588.995 nm)	17.8343	0.88	153734.6849
	R2401566-001	Ni (230.299 nm)	0.5026	1.09	6154.4883
	R2401566-001	Pb (220.353 nm)	0.0806	2.59	474.2813
	R2401566-001	Sb (217.582 nm)	0.1576	> 100.00	401.8840
	R2401566-001	Se (196.026 nm)	0.0006 u	> 100.00	1.5929
	R2401566-001	Sn (189.925 nm)	0.0192	3.82	65.6113
	R2401566-001	Sr (216.596 nm)	0.5761	0.86	11573.5170
	R2401566-001	Ti (336.122 nm)	0.0113	1.46	1311.5646
	R2401566-001	Tl (190.794 nm)	-0.0398 u	12.66	-35.1188
	R2401566-001	V (292.401 nm)	0.0141	1.18	497.9223
	R2401566-001	Y (360.074 nm)	0.96	0.76	480904.93
	R2401566-001	Y_R (360.074 nm)	0.96	0.76	479720.56
	R2401566-001	Zn (213.857 nm)	0.3034	0.96	18076.8584
3/4/2024 18:45:50	R2401566-001L 5X	Ag (328.068 nm)	0.0002	> 100.00	-389.2168
	R2401566-001L 5X	Al (237.312 nm)	0.1224	1.48	524.0665
	R2401566-001L 5X	As (188.980 nm)	0.5360	0.90	977.6961
	R2401566-001L 5X	B (249.772 nm)	0.2116	0.88	7440.3063
	R2401566-001L 5X	Ba (230.424 nm)	0.0141	1.51	655.3484
	R2401566-001L 5X	Be (313.107 nm)	0.0000	69.93	-201.1677
	R2401566-001L 5X	Ca (317.933 nm)	2.2415	0.85	93740.0937
	R2401566-001L 5X	Cd (214.439 nm)	0.0026	2.75	168.2480
	R2401566-001L 5X	Co (230.786 nm)	0.0023	14.65	98.6059
	R2401566-001L 5X	Cr (267.716 nm)	0.0128	0.37	530.5970
	R2401566-001L 5X	Cu (327.395 nm)	0.0263	1.67	912.3259
	R2401566-001L 5X	Fe (234.350 nm)	92.0610 o	0.79	2060345.3026
	R2401566-001L 5X	K (766.491 nm)	0.2979	6.45	59.9424
	R2401566-001L 5X	Mg (279.078 nm)	0.1703	1.12	524.7760
	R2401566-001L 5X	Mn (257.610 nm)	0.8089	0.88	269866.3523
	R2401566-001L 5X	Mo (202.032 nm)	0.0024	12.66	7.7245
	R2401566-001L 5X	Na (588.995 nm)	3.2516	1.13	23033.0950
	R2401566-001L 5X	Ni (230.299 nm)	0.0995	0.99	1289.6122
	R2401566-001L 5X	Pb (220.353 nm)	0.0167	3.82	107.6143
	R2401566-001L 5X	Sb (217.582 nm)	0.1904	12.21	483.2347
	R2401566-001L 5X	Se (196.026 nm)	-0.0030 u	32.67	-1.5031
	R2401566-001L 5X	Sn (189.925 nm)	0.0028	15.33	15.6282
	R2401566-001L 5X	Sr (216.596 nm)	0.1140	1.06	2247.0360
	R2401566-001L 5X	Ti (336.122 nm)	0.0023	3.62	113.2824
	R2401566-001L 5X	Tl (190.794 nm)	-0.0076 u	25.52	-7.8344
	R2401566-001L 5X	V (292.401 nm)	0.0026	9.22	30.6810
	R2401566-001L 5X	Y (360.074 nm)	0.97	0.36	486258.70
	R2401566-001L 5X	Y_R (360.074 nm)	0.97	0.37	485012.59
	R2401566-001L 5X	Zn (213.857 nm)	0.0586	0.69	3436.9780

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/4/2024 18:48:55	R2401566-001 20X	Ag (328.068 nm)	0.0001	> 100.00	-393.0309
	R2401566-001 20X	Al (237.312 nm)	0.0274	2.87	229.3954
	R2401566-001 20X	As (188.980 nm)	0.1293	1.91	228.0641
	R2401566-001 20X	B (249.772 nm)	0.0529	0.83	1908.3760
	R2401566-001 20X	Ba (230.424 nm)	0.0036	3.73	153.8363
	R2401566-001 20X	Be (313.107 nm)	0.0000	79.60	-210.5671
	R2401566-001 20X	Ca (317.933 nm)	0.6255	1.09	28493.8599
	R2401566-001 20X	Cd (214.439 nm)	0.0006	7.75	36.7195
	R2401566-001 20X	Co (230.786 nm)	0.0006	20.28	71.6183
	R2401566-001 20X	Cr (267.716 nm)	0.0032	2.36	100.1368
	R2401566-001 20X	Cu (327.395 nm)	0.0062	4.90	181.7000
	R2401566-001 20X	Fe (234.350 nm)	23.4456 o	1.20	524818.1053
	R2401566-001 20X	K (766.491 nm)	0.0791	28.14	-175.7266
	R2401566-001 20X	Mg (279.078 nm)	0.0467	1.23	112.3314
	R2401566-001 20X	Mn (257.610 nm)	0.2011	1.09	67082.0871
	R2401566-001 20X	Mo (202.032 nm)	0.0010	32.45	-3.6426
	R2401566-001 20X	Na (588.995 nm)	0.7847	1.50	922.9189
	R2401566-001 20X	Ni (230.299 nm)	0.0253	3.46	394.5271
	R2401566-001 20X	Pb (220.353 nm)	0.0040	26.55	35.1354
	R2401566-001 20X	Sb (217.582 nm)	0.1289	17.00	331.0479
	R2401566-001 20X	Se (196.026 nm)	-0.0010 u	> 100.00	0.2248
	R2401566-001 20X	Sn (189.925 nm)	0.0011	42.34	10.4916
	R2401566-001 20X	Sr (216.596 nm)	0.0286	0.52	522.0296
	R2401566-001 20X	Ti (336.122 nm)	0.0008	5.61	-90.1671
	R2401566-001 20X	Tl (190.794 nm)	0.0003 u	> 100.00	-1.1411
	R2401566-001 20X	V (292.401 nm)	0.0004	33.64	-61.0944
	R2401566-001 20X	Y (360.074 nm)	0.97	0.24	484789.66
	R2401566-001 20X	Y_R (360.074 nm)	0.97	0.24	483552.99
	R2401566-001 20X	Zn (213.857 nm)	0.0147	0.58	809.6361
3/4/2024 18:52:01	R2401567-001 10X	Ag (328.068 nm)	-0.0001 u	> 100.00	-406.5572
	R2401567-001 10X	Al (237.312 nm)	0.5538	0.76	1862.4505
	R2401567-001 10X	As (188.980 nm)	0.1026	2.12	178.7795
	R2401567-001 10X	B (249.772 nm)	0.2643	0.69	9278.1434
	R2401567-001 10X	Ba (230.424 nm)	0.0332	0.65	1564.2271
	R2401567-001 10X	Be (313.107 nm)	0.0000	29.16	-174.0114
	R2401567-001 10X	Ca (317.933 nm)	76.0243 o	0.48	3072839.3741
	R2401567-001 10X	Cd (214.439 nm)	0.0103	0.61	661.4693
	R2401567-001 10X	Co (230.786 nm)	0.0021	14.46	95.5482
	R2401567-001 10X	Cr (267.716 nm)	0.0065	4.16	249.4549
	R2401567-001 10X	Cu (327.395 nm)	0.0356	1.66	1250.6036
	R2401567-001 10X	Fe (234.350 nm)	72.8912 o >LR	0.45	1631349.0893
	R2401567-001 10X	K (766.491 nm)	25.2224	1.49	26896.0209
	R2401567-001 10X	Mg (279.078 nm)	6.7756	0.42	22552.1010
	R2401567-001 10X	Mn (257.610 nm)	0.9270	0.40	309240.3736
	R2401567-001 10X	Mo (202.032 nm)	0.0016	38.71	1.7536
	R2401567-001 10X	Na (588.995 nm)	906.6302 o >LR	0.11	8119830.7866
	R2401567-001 10X	Ni (230.299 nm)	0.0221	2.54	355.4753
	R2401567-001 10X	Pb (220.353 nm)	0.0104	9.68	71.6426
	R2401567-001 10X	Sb (217.582 nm)	0.0827	6.37	216.4385
	R2401567-001 10X	Se (196.026 nm)	-0.0028 u	> 100.00	-1.3630
	R2401567-001 10X	Sn (189.925 nm)	0.0017	42.64	12.3570
	R2401567-001 10X	Sr (216.596 nm)	2.3684	0.68	47750.1081
	R2401567-001 10X	Ti (336.122 nm)	0.0132	1.33	1573.1576
	R2401567-001 10X	Tl (190.794 nm)	-0.0060 u	65.34	-6.4890
	R2401567-001 10X	V (292.401 nm)	0.0029	3.19	41.1056
	R2401567-001 10X	Y (360.074 nm)	0.84	0.13	416889.70
	R2401567-001 10X	Y_R (360.074 nm)	0.83	0.13	415959.71

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401567-001 10X	Zn (213.857 nm)	0.0383	0.54	2220.5394
3/4/2024 18:55:06	R2401567-001L 50X	Ag (328.068 nm)	-0.0001 u	54.28	-410.0431
	R2401567-001L 50X	Al (237.312 nm)	0.1029	3.46	463.5504
	R2401567-001L 50X	As (188.980 nm)	0.0180	12.03	22.8180
	R2401567-001L 50X	B (249.772 nm)	0.0506	0.75	1829.1466
	R2401567-001L 50X	Ba (230.424 nm)	0.0066	0.21	294.3144
	R2401567-001L 50X	Be (313.107 nm)	0.0000	72.21	-198.0150
	R2401567-001L 50X	Ca (317.933 nm)	14.9889	0.52	608438.5259
	R2401567-001L 50X	Cd (214.439 nm)	0.0020	1.31	124.1333
	R2401567-001L 50X	Co (230.786 nm)	0.0006	49.99	71.3430
	R2401567-001L 50X	Cr (267.716 nm)	0.0012	15.42	7.1429
	R2401567-001L 50X	Cu (327.395 nm)	0.0061	4.52	180.2785
	R2401567-001L 50X	Fe (234.350 nm)	14.6482 o	0.48	327944.8313
	R2401567-001L 50X	K (766.491 nm)	4.4311	1.38	4510.0781
	R2401567-001L 50X	Mg (279.078 nm)	1.3504	0.43	4460.1008
	R2401567-001L 50X	Mn (257.610 nm)	0.1808	0.49	60289.6868
	R2401567-001L 50X	Mo (202.032 nm)	0.0003 u	> 100.00	-8.6584
	R2401567-001L 50X	Na (588.995 nm)	206.7652 o	0.39	1847083.5697
	R2401567-001L 50X	Ni (230.299 nm)	0.0045	0.44	143.6485
	R2401567-001L 50X	Pb (220.353 nm)	0.0021	40.93	23.9234
	R2401567-001L 50X	Sb (217.582 nm)	0.0525	6.46	141.8764
	R2401567-001L 50X	Se (196.026 nm)	-0.0024 u	43.14	-0.9591
	R2401567-001L 50X	Sn (189.925 nm)	0.0003 u	> 100.00	8.2225
	R2401567-001L 50X	Sr (216.596 nm)	0.4664	0.47	9359.4906
	R2401567-001L 50X	Ti (336.122 nm)	0.0027	1.82	171.1669
	R2401567-001L 50X	Tl (190.794 nm)	0.0008	> 100.00	-0.7730
	R2401567-001L 50X	V (292.401 nm)	0.0002 u	> 100.00	-65.9921
	R2401567-001L 50X	Y (360.074 nm)	0.92	0.28	458730.64
	R2401567-001L 50X	Y_R (360.074 nm)	0.92	0.28	457608.94
	R2401567-001L 50X	Zn (213.857 nm)	0.0074	0.78	376.8997
3/4/2024 18:58:11	R2401567-001 100X	Ag (328.068 nm)	0.0001 u	> 100.00	-397.2772
	R2401567-001 100X	Al (237.312 nm)	0.0505	5.57	300.9898
	R2401567-001 100X	As (188.980 nm)	0.0095	14.05	7.1034
	R2401567-001 100X	B (249.772 nm)	0.0256	0.53	954.7454
	R2401567-001 100X	Ba (230.424 nm)	0.0034	1.57	144.0934
	R2401567-001 100X	Be (313.107 nm)	0.0000	80.42	-207.0435
	R2401567-001 100X	Ca (317.933 nm)	7.6839	0.39	313484.5157
	R2401567-001 100X	Cd (214.439 nm)	0.0010	1.86	60.1252
	R2401567-001 100X	Co (230.786 nm)	0.0000 u	> 100.00	62.4936
	R2401567-001 100X	Cr (267.716 nm)	0.0005	37.39	-21.7238
	R2401567-001 100X	Cu (327.395 nm)	0.0031	3.61	69.9638
	R2401567-001 100X	Fe (234.350 nm)	7.4397	0.41	166626.6582
	R2401567-001 100X	K (766.491 nm)	2.1839	1.69	2090.5513
	R2401567-001 100X	Mg (279.078 nm)	0.6912	0.53	2261.5902
	R2401567-001 100X	Mn (257.610 nm)	0.0927	0.37	30899.7042
	R2401567-001 100X	Mo (202.032 nm)	0.0001 u	> 100.00	-10.0851
	R2401567-001 100X	Na (588.995 nm)	106.4464 o	0.19	947946.6642
	R2401567-001 100X	Ni (230.299 nm)	0.0018	31.01	110.6522
	R2401567-001 100X	Pb (220.353 nm)	0.0015	31.83	20.9565
	R2401567-001 100X	Sb (217.582 nm)	0.0320	7.00	91.0665
	R2401567-001 100X	Se (196.026 nm)	-0.0020 u	> 100.00	-0.6184
	R2401567-001 100X	Sn (189.925 nm)	0.0004 u	> 100.00	8.3933
	R2401567-001 100X	Sr (216.596 nm)	0.2366	0.26	4720.8459
	R2401567-001 100X	Ti (336.122 nm)	0.0015	8.18	9.3465
	R2401567-001 100X	Tl (190.794 nm)	0.0015	91.90	-0.1450
	R2401567-001 100X	V (292.401 nm)	0.0001	74.26	-72.7065
	R2401567-001 100X	Y (360.074 nm)	0.95	0.09	471908.89

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401567-001 100X	Y_R (360.074 nm)	0.94	0.09	470698.60
	R2401567-001 100X	Zn (213.857 nm)	0.0038	1.41	157.7563
3/4/2024 19:01:15	Continuing Calibration Verification1	Ag (328.068 nm)	0.5225	0.08	30557.2507
	Continuing Calibration Verification1	Al (237.312 nm)	9.6961	0.16	30226.4362
	Continuing Calibration Verification1	As (188.980 nm)	0.9837	0.19	1802.8595
	Continuing Calibration Verification1	B (249.772 nm)	2.4522	0.05	85539.0412
	Continuing Calibration Verification1	Ba (230.424 nm)	10.2139	0.07	486659.9852
	Continuing Calibration Verification1	Be (313.107 nm)	0.2448	0.14	281936.3467
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7726	0.12	1043845.9737
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5163	0.18	33056.7835
	Continuing Calibration Verification1	Co (230.786 nm)	2.5132	0.26	40286.6415
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5072	0.05	22903.0911
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2369	0.09	44962.3843
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0029	0.05	112095.2173
	Continuing Calibration Verification1	K (766.491 nm)	23.7579	0.10	25319.2176
	Continuing Calibration Verification1	Mg (279.078 nm)	25.0958	0.15	83646.0800
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7403	0.12	246967.3498
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5376	0.35	20005.4401
	Continuing Calibration Verification1	Na (588.995 nm)	24.7552	0.18	215765.6244
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0812	0.11	25204.2788
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5115	0.18	2943.2616
	Continuing Calibration Verification1	Sb (217.582 nm)	4.8915	0.09	12123.3449
	Continuing Calibration Verification1	Se (196.026 nm)	0.4784	0.97	414.6293
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0105	0.17	15248.3973
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4974	0.24	50353.7480
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4954	0.13	332795.8337
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0398	0.27	879.9117
	Continuing Calibration Verification1	V (292.401 nm)	2.4862	0.13	101332.8641
	Continuing Calibration Verification1	Y (360.074 nm)	0.94	0.46	470168.36
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.94	0.46	468915.73
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9928	0.11	59306.5427
3/4/2024 19:04:19	Continuing Calibration Blank1	Ag (328.068 nm)	0.0003	45.00	-383.6386
	Continuing Calibration Blank1	Al (237.312 nm)	0.0015	82.90	148.9445
	Continuing Calibration Blank1	As (188.980 nm)	0.0000 u	> 100.00	-10.2727
	Continuing Calibration Blank1	B (249.772 nm)	0.0015	18.21	115.0859
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0003	47.81	-3.1648
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	10.87	-201.7331
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0023	6.24	3330.5330
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-2.1945
	Continuing Calibration Blank1	Co (230.786 nm)	0.0003	45.77	66.9550
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0001 u	99.81	-43.6552
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0001 u	29.80	-46.6391
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0030	23.35	202.6874
	Continuing Calibration Blank1	K (766.491 nm)	0.1318	16.32	-118.9214
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0007	90.14	-40.8221
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	33.93	1.6439
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0043	26.99	22.7862
	Continuing Calibration Blank1	Na (588.995 nm)	0.1263	7.13	-4978.1723
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0003 u	77.31	85.3285
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0001 u	> 100.00	11.5279
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0194 Z 0.06U	15.05	59.6997 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0026 u	> 100.00	-1.1404
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0013	53.66	11.2855
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0001 u	> 100.00	-51.8316
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0020	25.90	69.5022
	Continuing Calibration Blank1	Tl (190.794 nm)	-0.0012 u	97.03	-2.4787
	Continuing Calibration Blank1	V (292.401 nm)	-0.0001 u	> 100.00	-81.1827

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.10	488072.06
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.10	486653.58
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0009	5.23	-10.4649
3/4/2024 19:07:22	Contract Required Detection Limit	Ag (328.068 nm)	0.0105	1.17	221.2094
	Contract Required Detection Limit	Al (237.312 nm)	0.1878	0.24	727.0525
	Contract Required Detection Limit	As (188.980 nm)	0.0186	11.04	24.0023
	Contract Required Detection Limit	B (249.772 nm)	0.1974	0.36	6943.4023
	Contract Required Detection Limit	Ba (230.424 nm)	0.2062	0.25	9809.0989
	Contract Required Detection Limit	Be (313.107 nm)	0.0048	0.22	5335.5190
	Contract Required Detection Limit	Ca (317.933 nm)	1.0177	0.16	44326.3763
	Contract Required Detection Limit	Cd (214.439 nm)	0.0104	0.46	667.0391
	Contract Required Detection Limit	Co (230.786 nm)	0.0520	0.32	893.6550
	Contract Required Detection Limit	Cr (267.716 nm)	0.0098	1.04	398.5128
	Contract Required Detection Limit	Cu (327.395 nm)	0.0244	1.10	844.1187
	Contract Required Detection Limit	Fe (234.350 nm)	0.1024	0.20	2427.1788
	Contract Required Detection Limit	K (766.491 nm)	0.9348	3.69	745.6332
	Contract Required Detection Limit	Mg (279.078 nm)	0.9804	0.17	3226.1841
	Contract Required Detection Limit	Mn (257.610 nm)	0.0154	0.19	5111.6160
	Contract Required Detection Limit	Mo (202.032 nm)	0.0252	2.77	187.2771
	Contract Required Detection Limit	Na (588.995 nm)	0.9972	1.03	2827.1960
	Contract Required Detection Limit	Ni (230.299 nm)	0.0419	0.91	594.3105
	Contract Required Detection Limit	Pb (220.353 nm)	0.0100	6.58	69.6843
	Contract Required Detection Limit	Sb (217.582 nm)	0.0708	1.07	187.0885
	Contract Required Detection Limit	Se (196.026 nm)	0.0079 R 79%	25.40	7.9442 R
	Contract Required Detection Limit	Sn (189.925 nm)	0.4995	0.19	1526.6621
	Contract Required Detection Limit	Sr (216.596 nm)	0.1019	0.20	2003.0398
	Contract Required Detection Limit	Ti (336.122 nm)	0.0494	0.19	6396.9973
	Contract Required Detection Limit	Tl (190.794 nm)	0.0170	7.35	12.9910
	Contract Required Detection Limit	V (292.401 nm)	0.0488	0.43	1912.5531
	Contract Required Detection Limit	Y (360.074 nm)	0.98	0.27	486786.25
	Contract Required Detection Limit	Y_R (360.074 nm)	0.97	0.27	485342.06
	Contract Required Detection Limit	Zn (213.857 nm)	0.0199	0.57	1120.7175
3/4/2024 19:10:26	Interference Check Solution A	Ag (328.068 nm)	0.0001 u	> 100.00	-397.0712
	Interference Check Solution A	Al (237.312 nm)	243.9327 o	0.85	756943.9823
	Interference Check Solution A	As (188.980 nm)	-0.0064 Ku +/- .01	5.20	-22.1969 K
	Interference Check Solution A	B (249.772 nm)	0.1147	0.83	4063.5278
	Interference Check Solution A	Ba (230.424 nm)	0.0010	11.73	27.4369
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	> 100.00	-223.2285
	Interference Check Solution A	Ca (317.933 nm)	238.9107 o	0.98	9649643.0959
	Interference Check Solution A	Cd (214.439 nm)	-0.0007 u	12.81	-47.5763
	Interference Check Solution A	Co (230.786 nm)	0.0016	9.32	87.5644
	Interference Check Solution A	Cr (267.716 nm)	-0.0005 u	57.69	-70.1364
	Interference Check Solution A	Cu (327.395 nm)	0.0001 u	> 100.00	-40.2981
	Interference Check Solution A	Fe (234.350 nm)	92.5540 o	0.96	2071379.3127
	Interference Check Solution A	K (766.491 nm)	0.1259	47.82	-125.3202
	Interference Check Solution A	Mg (279.078 nm)	257.2056 o	0.92	857683.5532
	Interference Check Solution A	Mn (257.610 nm)	0.0012	0.83	396.6240
	Interference Check Solution A	Mo (202.032 nm)	-0.0019 u	14.36	-26.5326
	Interference Check Solution A	Na (588.995 nm)	0.0817	8.64	-5378.5698
	Interference Check Solution A	Ni (230.299 nm)	0.0026	18.52	119.7662
	Interference Check Solution A	Pb (220.353 nm)	0.0009	90.06	17.4915
	Interference Check Solution A	Sb (217.582 nm)	0.0049	46.56	23.8430
	Interference Check Solution A	Se (196.026 nm)	-0.0036 u	> 100.00	-2.0750
	Interference Check Solution A	Sn (189.925 nm)	0.0021	54.54	13.7226
	Interference Check Solution A	Sr (216.596 nm)	0.0094	1.86	134.7451
	Interference Check Solution A	Ti (336.122 nm)	0.0028	4.82	177.0346
	Interference Check Solution A	Tl (190.794 nm)	0.0024 u	> 100.00	0.5826

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	V (292.401 nm)	0.0021	13.38	7.9432
	Interference Check Solution A	Y (360.074 nm)	0.87	0.31	434240.91
	Interference Check Solution A	Y_R (360.074 nm)	0.87	0.30	433144.20
	Interference Check Solution A	Zn (213.857 nm)	0.0113 K +/-0.02	0.86	609.8934 K
3/4/2024 19:13:30	Interference Check Solution AB	Ag (328.068 nm)	0.2028	0.78	11613.0844
	Interference Check Solution AB	Al (237.312 nm)	244.6635 o	0.77	759211.3449
	Interference Check Solution AB	As (188.980 nm)	0.0916	1.79	158.4761
	Interference Check Solution AB	B (249.772 nm)	0.1132	0.87	4009.5025
	Interference Check Solution AB	Ba (230.424 nm)	0.5180	0.81	24661.2317
	Interference Check Solution AB	Be (313.107 nm)	0.4824	0.74	555739.5750
	Interference Check Solution AB	Ca (317.933 nm)	239.3141 o	0.71	9665929.7776
	Interference Check Solution AB	Cd (214.439 nm)	0.9776	0.72	62599.8270
	Interference Check Solution AB	Co (230.786 nm)	0.4768	0.82	7692.9695
	Interference Check Solution AB	Cr (267.716 nm)	0.4931	0.72	22263.3139
	Interference Check Solution AB	Cu (327.395 nm)	0.5207	0.71	18902.7026
	Interference Check Solution AB	Fe (234.350 nm)	92.7037 o	0.80	2074729.1424
	Interference Check Solution AB	K (766.491 nm)	0.0393	10.60	-218.5107
	Interference Check Solution AB	Mg (279.078 nm)	257.6009 o	0.74	859001.9795
	Interference Check Solution AB	Mn (257.610 nm)	0.4801	0.77	160161.9063
	Interference Check Solution AB	Mo (202.032 nm)	-0.0024 u	15.48	-29.7744
	Interference Check Solution AB	Na (588.995 nm)	0.0595	3.46	-5577.2489
	Interference Check Solution AB	Ni (230.299 nm)	0.9715	0.71	11812.8813
	Interference Check Solution AB	Pb (220.353 nm)	0.0490	2.32	292.9029
	Interference Check Solution AB	Sb (217.582 nm)	0.5935	0.77	1481.3449
	Interference Check Solution AB	Se (196.026 nm)	0.0412	4.23	36.6958
	Interference Check Solution AB	Sn (189.925 nm)	0.0022	17.24	13.8466
	Interference Check Solution AB	Sr (216.596 nm)	0.0095	4.12	137.9138
	Interference Check Solution AB	Ti (336.122 nm)	0.0027	1.15	167.1146
	Interference Check Solution AB	Tl (190.794 nm)	0.0940	5.07	78.2163
	Interference Check Solution AB	V (292.401 nm)	0.4980	0.76	20238.6401
	Interference Check Solution AB	Y (360.074 nm)	0.87	0.32	434519.85
	Interference Check Solution AB	Y_R (360.074 nm)	0.87	0.32	433429.49
	Interference Check Solution AB	Zn (213.857 nm)	0.9889	0.69	59072.0976
3/4/2024 19:16:34	Continuing Calibration Verification1	Ag (328.068 nm)	0.5227	0.32	30570.7297
	Continuing Calibration Verification1	Al (237.312 nm)	9.7302	0.15	30332.2206
	Continuing Calibration Verification1	As (188.980 nm)	0.9846	0.51	1804.5294
	Continuing Calibration Verification1	B (249.772 nm)	2.4537	0.32	85589.9960
	Continuing Calibration Verification1	Ba (230.424 nm)	10.2239	0.61	487136.8234
	Continuing Calibration Verification1	Be (313.107 nm)	0.2449	0.27	281951.7189
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7882	0.29	1044477.6322
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5161	0.24	33046.9835
	Continuing Calibration Verification1	Co (230.786 nm)	2.5145	0.60	40306.6287
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5059	0.31	22845.9238
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2354	0.21	44908.7471
	Continuing Calibration Verification1	Fe (234.350 nm)	5.0092	0.28	112236.1487
	Continuing Calibration Verification1	K (766.491 nm)	23.7493	0.24	25309.9791
	Continuing Calibration Verification1	Mg (279.078 nm)	25.1038	0.21	83672.6581
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7400	0.33	246877.0963
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5351	0.57	19985.8749
	Continuing Calibration Verification1	Na (588.995 nm)	24.6418	0.15	214748.5438
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0790	0.23	25178.0603
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5124	0.53	2948.6275
	Continuing Calibration Verification1	Sb (217.582 nm)	4.8402	0.43	11996.1558
	Continuing Calibration Verification1	Se (196.026 nm)	0.4840	0.74	419.4986
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0100	0.20	15246.8942
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4921	0.73	50246.6073
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4916	0.47	332279.2706

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0481	1.39	886.9608
	Continuing Calibration Verification1	V (292.401 nm)	2.4839	0.30	101241.5162
	Continuing Calibration Verification1	Y (360.074 nm)	0.94	0.14	468428.17
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.94	0.14	467114.84
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9901	0.35	59144.2554
3/4/2024 19:19:37	Continuing Calibration Blank1	Ag (328.068 nm)	0.0003	21.03	-384.2737
	Continuing Calibration Blank1	Al (237.312 nm)	0.0042	30.17	157.2601
	Continuing Calibration Blank1	As (188.980 nm)	-0.0016 u	13.71	-13.2256
	Continuing Calibration Blank1	B (249.772 nm)	0.0013	12.71	107.8806
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0003	30.52	-2.0952
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	21.89	-201.7573
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0035	3.15	3379.2384
	Continuing Calibration Blank1	Cd (214.439 nm)	-0.0001 u	> 100.00	-4.3878
	Continuing Calibration Blank1	Co (230.786 nm)	0.0003	74.67	66.9348
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0000 u	> 100.00	-45.0692
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0005 u	64.24	-61.9073
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0037	16.17	218.4757
	Continuing Calibration Blank1	K (766.491 nm)	0.0503	61.57	-206.6569
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0029	37.31	-33.6673
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	34.15	6.3270
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0044	33.60	23.8537
	Continuing Calibration Blank1	Na (588.995 nm)	0.0462	9.54	-5696.7517
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0003	50.63	91.9282
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0000 u	> 100.00	11.9757
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0125 Z 0.06U	10.43	42.8057 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0054 u	36.16	-3.5909
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0010	34.16	10.1527
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0000 u	> 100.00	-54.2010
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0021	28.70	87.5302
	Continuing Calibration Blank1	Tl (190.794 nm)	-0.0003 u	> 100.00	-1.6557
	Continuing Calibration Blank1	V (292.401 nm)	-0.0002 u	54.57	-82.1706
	Continuing Calibration Blank1	Y (360.074 nm)	0.97	0.13	485378.06
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.97	0.13	483934.46
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0010	3.05	-9.7285
3/4/2024 19:22:41	PBW-434822	Ag (328.068 nm)	0.0002	9.22	-387.8115
	PBW-434822	Al (237.312 nm)	0.0044	45.53	158.0531
	PBW-434822	As (188.980 nm)	-0.0014 u	> 100.00	-12.8987
	PBW-434822	B (249.772 nm)	0.0001	> 100.00	68.7428
	PBW-434822	Ba (230.424 nm)	0.0005	41.23	6.6986
	PBW-434822	Be (313.107 nm)	0.0000	95.68	-200.2676
	PBW-434822	Ca (317.933 nm)	0.0031	> 100.00	3361.4450
	PBW-434822	Cd (214.439 nm)	0.0000 u	39.12	-3.3525
	PBW-434822	Co (230.786 nm)	0.0003	68.27	67.1658
	PBW-434822	Cr (267.716 nm)	-0.0002 u	56.51	-53.6579
	PBW-434822	Cu (327.395 nm)	0.0000 u	> 100.00	-42.2355
	PBW-434822	Fe (234.350 nm)	0.0001 u	> 100.00	138.0224
	PBW-434822	K (766.491 nm)	0.0295	87.16	-229.1266
	PBW-434822	Mg (279.078 nm)	0.0047	54.12	-27.4857
	PBW-434822	Mn (257.610 nm)	0.0000	98.47	-5.1155
	PBW-434822	Mo (202.032 nm)	0.0009	53.39	-4.1351
	PBW-434822	Na (588.995 nm)	-0.0350 u	46.93	-6423.9264
	PBW-434822	Ni (230.299 nm)	0.0084	3.81	190.0737
	PBW-434822	Pb (220.353 nm)	0.0002 u	> 100.00	13.4377
	PBW-434822	Sb (217.582 nm)	0.0025	29.92	17.8573
	PBW-434822	Se (196.026 nm)	-0.0054 u	50.38	-3.5486
	PBW-434822	Sn (189.925 nm)	0.0000 u	> 100.00	7.1356
	PBW-434822	Sr (216.596 nm)	0.0003	21.50	-48.9462

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	PBW-434822	Ti (336.122 nm)	0.0007	20.24	-103.3885
	PBW-434822	Tl (190.794 nm)	-0.0013 u	> 100.00	-2.5678
	PBW-434822	V (292.401 nm)	0.0000 u	> 100.00	-77.7552
	PBW-434822	Y (360.074 nm)	0.98	2.35	487891.46
	PBW-434822	Y_R (360.074 nm)	0.98	2.35	486457.99
	PBW-434822	Zn (213.857 nm)	0.0006	9.46	-29.8871
3/4/2024 19:25:45	LCSW-434822	Ag (328.068 nm)	0.0517	0.57	2662.2776
	LCSW-434822	Al (237.312 nm)	1.8454	0.67	5869.6627
	LCSW-434822	As (188.980 nm)	0.0347	3.64	53.5910
	LCSW-434822	B (249.772 nm)	0.9477	0.59	33097.8704
	LCSW-434822	Ba (230.424 nm)	2.0156	0.76	96020.3475
	LCSW-434822	Be (313.107 nm)	0.0476	0.65	54633.8110
	LCSW-434822	Ca (317.933 nm)	1.9920	0.63	83666.3505
	LCSW-434822	Cd (214.439 nm)	0.0516	0.86	3300.4283
	LCSW-434822	Co (230.786 nm)	0.5032	0.74	8116.1652
	LCSW-434822	Cr (267.716 nm)	0.1961	0.68	8828.3931
	LCSW-434822	Cu (327.395 nm)	0.2469	0.62	8941.9621
	LCSW-434822	Fe (234.350 nm)	0.9780	0.46	22022.1073
	LCSW-434822	K (766.491 nm)	18.2086	0.63	19344.3592
	LCSW-434822	Mg (279.078 nm)	1.9131	0.49	6336.3640
	LCSW-434822	Mn (257.610 nm)	0.4820	0.63	160788.4451
	LCSW-434822	Mo (202.032 nm)	0.4872	1.13	3832.2297
	LCSW-434822	Na (588.995 nm)	18.8324	0.61	162680.7464
	LCSW-434822	Ni (230.299 nm)	0.5153	0.65	6307.7354
	LCSW-434822	Pb (220.353 nm)	0.5101	0.83	2935.1866
	LCSW-434822	Sb (217.582 nm)	0.4839	0.56	1209.8117
	LCSW-434822	Se (196.026 nm)	0.9397	0.15	813.3902
	LCSW-434822	Sn (189.925 nm)	4.9455	0.40	15050.6030
	LCSW-434822	Sr (216.596 nm)	1.9730	0.52	39769.4075
	LCSW-434822	Ti (336.122 nm)	0.4850	0.43	64530.1825
	LCSW-434822	Tl (190.794 nm)	2.0035	1.18	1696.6800
	LCSW-434822	V (292.401 nm)	0.4845	0.63	19688.3062
	LCSW-434822	Y (360.074 nm)	0.97	0.91	482028.16
	LCSW-434822	Y_R (360.074 nm)	0.96	0.92	480649.15
	LCSW-434822	Zn (213.857 nm)	0.5025	0.61	29985.3600
3/4/2024 19:28:49	R2401562-001	Ag (328.068 nm)	0.0004	25.77	-376.0522
	R2401562-001	Al (237.312 nm)	3.2683	0.18	10284.1896
	R2401562-001	As (188.980 nm)	0.0152	7.22	17.5967
	R2401562-001	B (249.772 nm)	14.4329 o LR	0.35	503136.0131
	R2401562-001	Ba (230.424 nm)	1.8479	0.18	88031.3276
	R2401562-001	Be (313.107 nm)	0.0002	3.78	5.4597
	R2401562-001	Ca (317.933 nm)	579.6005 o LR	0.43	23405548.1517
	R2401562-001	Cd (214.439 nm)	0.0005	11.11	29.3420
	R2401562-001	Co (230.786 nm)	0.0225	2.26	421.5934
	R2401562-001	Cr (267.716 nm)	0.0051	0.84	182.4718
	R2401562-001	Cu (327.395 nm)	0.0119	2.20	390.5650
	R2401562-001	Fe (234.350 nm)	25.3786 o	0.51	568076.3577
	R2401562-001	K (766.491 nm)	185.9366 o LR	0.53	199936.7884
	R2401562-001	Mg (279.078 nm)	238.0195 o	0.38	793701.9691
	R2401562-001	Mn (257.610 nm)	14.8162 o LR	0.41	4943054.3219
	R2401562-001	Mo (202.032 nm)	0.0039	23.86	19.6444
	R2401562-001	Na (588.995 nm)	650.7855 o LR	0.16	5826747.1581
	R2401562-001	Ni (230.299 nm)	0.1749	0.66	2199.7033
	R2401562-001	Pb (220.353 nm)	0.0066	13.79	49.7427
	R2401562-001	Sb (217.582 nm)	0.0300	4.69	85.9932
	R2401562-001	Se (196.026 nm)	0.0074	31.09	7.4513
	R2401562-001	Sn (189.925 nm)	0.0141	26.91	50.0740

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401562-001	Sr (216.596 nm)	3.6374	0.14	73364.1400
	R2401562-001	Ti (336.122 nm)	0.0714	0.30	9335.9727
	R2401562-001	Tl (190.794 nm)	0.0098	22.49	6.8919
	R2401562-001	V (292.401 nm)	0.0109	2.02	366.8161
	R2401562-001	Y (360.074 nm)	0.85	0.27	425034.97
	R2401562-001	Y_R (360.074 nm)	0.85	0.27	424022.10
	R2401562-001	Zn (213.857 nm)	0.0611	0.50	3586.9878
3/4/2024 19:31:53	R2401563-001	Ag (328.068 nm)	0.0003	37.47	-383.3303
	R2401563-001	Al (237.312 nm)	-0.0010 u	> 100.00	141.3214
	R2401563-001	As (188.980 nm)	-0.0001 u	> 100.00	-10.5347
	R2401563-001	B (249.772 nm)	0.4516	0.90	15806.7356
	R2401563-001	Ba (230.424 nm)	0.0567	1.14	2684.1059
	R2401563-001	Be (313.107 nm)	0.0000	41.07	-207.9654
	R2401563-001	Ca (317.933 nm)	134.8168 o	1.01	5446683.0447
	R2401563-001	Cd (214.439 nm)	0.0000 u	> 100.00	-1.7721
	R2401563-001	Co (230.786 nm)	0.0020	23.20	94.3886
	R2401563-001	Cr (267.716 nm)	-0.0005 u	39.30	-70.3038
	R2401563-001	Cu (327.395 nm)	0.0001 u	> 100.00	-40.0451
	R2401563-001	Fe (234.350 nm)	2.8344	1.26	63565.9603
	R2401563-001	K (766.491 nm)	8.6724	0.58	9076.7538
	R2401563-001	Mg (279.078 nm)	45.8698	1.07	152923.0764
	R2401563-001	Mn (257.610 nm)	1.2024	1.08	401134.0789
	R2401563-001	Mo (202.032 nm)	0.0029	5.03	11.4447
	R2401563-001	Na (588.995 nm)	43.6426	0.96	385049.6055
	R2401563-001	Ni (230.299 nm)	0.0118	1.25	231.0145
	R2401563-001	Pb (220.353 nm)	-0.0005 u	90.20	9.5629
	R2401563-001	Sb (217.582 nm)	0.0048	14.61	23.6182
	R2401563-001	Se (196.026 nm)	-0.0039 u	4.99	-2.2814
	R2401563-001	Sn (189.925 nm)	0.0025	19.85	14.7357
	R2401563-001	Sr (216.596 nm)	0.6882	1.02	13835.7893
	R2401563-001	Ti (336.122 nm)	0.0017	2.53	31.2957
	R2401563-001	Tl (190.794 nm)	0.0009 u	> 100.00	-0.6687
	R2401563-001	V (292.401 nm)	-0.0002 u	27.49	-84.8699
	R2401563-001	Y (360.074 nm)	0.94	1.19	469260.11
	R2401563-001	Y_R (360.074 nm)	0.94	1.20	468048.03
	R2401563-001	Zn (213.857 nm)	0.0133	1.51	725.8111
3/4/2024 19:34:57	R2401563-001S	Ag (328.068 nm)	0.0523	0.77	2697.9049
	R2401563-001S	Al (237.312 nm)	1.8818	0.53	5982.3976
	R2401563-001S	As (188.980 nm)	0.0371	4.16	57.9753
	R2401563-001S	B (249.772 nm)	1.4189	0.39	49520.0889
	R2401563-001S	Ba (230.424 nm)	2.0615	0.45	98207.8336
	R2401563-001S	Be (313.107 nm)	0.0478	0.47	54814.7575
	R2401563-001S	Ca (317.933 nm)	132.2684 o	0.44	5343788.0580
	R2401563-001S	Cd (214.439 nm)	0.0496	0.50	3173.9118
	R2401563-001S	Co (230.786 nm)	0.4983	0.48	8037.9051
	R2401563-001S	Cr (267.716 nm)	0.1959	0.74	8819.5011
	R2401563-001S	Cu (327.395 nm)	0.2502	0.49	9059.8555
	R2401563-001S	Fe (234.350 nm)	3.7280	0.28	83564.5463
	R2401563-001S	K (766.491 nm)	27.9547	0.53	29837.9362
	R2401563-001S	Mg (279.078 nm)	46.2876	0.43	154316.0561
	R2401563-001S	Mn (257.610 nm)	1.6503 o	0.44	550570.4076
	R2401563-001S	Mo (202.032 nm)	0.4959	1.07	3900.2614
	R2401563-001S	Na (588.995 nm)	61.6332 o	0.59	546294.8824
	R2401563-001S	Ni (230.299 nm)	0.5176	0.49	6335.3865
	R2401563-001S	Pb (220.353 nm)	0.4939	0.54	2842.7496
	R2401563-001S	Sb (217.582 nm)	0.4984	0.31	1245.9092
	R2401563-001S	Se (196.026 nm)	0.9637	0.44	834.0998

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401563-001S	Sn (189.925 nm)	4.9395	0.24	15032.3382
	R2401563-001S	Sr (216.596 nm)	2.5911	0.60	52245.4270
	R2401563-001S	Ti (336.122 nm)	0.4941	0.34	65742.6426
	R2401563-001S	Tl (190.794 nm)	1.9647	0.83	1663.8053
	R2401563-001S	V (292.401 nm)	0.4948	0.29	20106.5988
	R2401563-001S	Y (360.074 nm)	0.93	0.59	464806.39
	R2401563-001S	Y_R (360.074 nm)	0.93	0.59	463604.73
	R2401563-001S	Zn (213.857 nm)	0.5095	0.43	30403.5673
3/4/2024 19:38:01	R2401563-001SD	Ag (328.068 nm)	0.0511	0.57	2625.8644
	R2401563-001SD	Al (237.312 nm)	1.8384	0.39	5847.8510
	R2401563-001SD	As (188.980 nm)	0.0365	2.50	56.8373
	R2401563-001SD	B (249.772 nm)	1.3793	0.35	48141.6015
	R2401563-001SD	Ba (230.424 nm)	2.0009	0.38	95320.0196
	R2401563-001SD	Be (313.107 nm)	0.0465	0.32	53386.5368
	R2401563-001SD	Ca (317.933 nm)	128.7746 o	0.33	5202720.2747
	R2401563-001SD	Cd (214.439 nm)	0.0484	0.14	3099.8975
	R2401563-001SD	Co (230.786 nm)	0.4858	0.26	7836.3806
	R2401563-001SD	Cr (267.716 nm)	0.1910	0.36	8597.9917
	R2401563-001SD	Cu (327.395 nm)	0.2440	0.39	8834.8664
	R2401563-001SD	Fe (234.350 nm)	3.6290	0.21	81349.1429
	R2401563-001SD	K (766.491 nm)	27.1912	0.61	29015.9219
	R2401563-001SD	Mg (279.078 nm)	45.0345	0.30	150137.2049
	R2401563-001SD	Mn (257.610 nm)	1.6076	0.30	536327.7109
	R2401563-001SD	Mo (202.032 nm)	0.4869	0.64	3829.2520
	R2401563-001SD	Na (588.995 nm)	59.9299 o	0.36	531029.0744
	R2401563-001SD	Ni (230.299 nm)	0.5047	0.32	6179.4515
	R2401563-001SD	Pb (220.353 nm)	0.4812	0.58	2769.5632
	R2401563-001SD	Sb (217.582 nm)	0.4872	0.27	1218.1982
	R2401563-001SD	Se (196.026 nm)	0.9366	0.55	810.7176
	R2401563-001SD	Sn (189.925 nm)	4.8375	0.19	14722.0770
	R2401563-001SD	Sr (216.596 nm)	2.5239	0.36	50889.2751
	R2401563-001SD	Ti (336.122 nm)	0.4824	0.20	64176.7455
	R2401563-001SD	Tl (190.794 nm)	1.9119	0.86	1619.0970
	R2401563-001SD	V (292.401 nm)	0.4818	0.35	19575.3119
	R2401563-001SD	Y (360.074 nm)	0.93	0.49	464340.50
	R2401563-001SD	Y_R (360.074 nm)	0.93	0.49	463171.55
	R2401563-001SD	Zn (213.857 nm)	0.4964	0.41	29620.5505
3/4/2024 19:41:05	R2401563-001A	Ag (328.068 nm)	0.0516	0.25	2658.6862
	R2401563-001A	Al (237.312 nm)	1.8665	0.25	5935.0634
	R2401563-001A	As (188.980 nm)	0.0377	1.81	59.0925
	R2401563-001A	B (249.772 nm)	1.3926	0.22	48605.1506
	R2401563-001A	Ba (230.424 nm)	2.0356	0.16	96974.5774
	R2401563-001A	Be (313.107 nm)	0.0472	0.32	54179.8603
	R2401563-001A	Ca (317.933 nm)	128.3862 o	0.26	5187038.4622
	R2401563-001A	Cd (214.439 nm)	0.0492	0.51	3147.3550
	R2401563-001A	Co (230.786 nm)	0.4936	0.23	7962.2407
	R2401563-001A	Cr (267.716 nm)	0.1944	0.40	8750.6989
	R2401563-001A	Cu (327.395 nm)	0.2476	0.33	8967.1959
	R2401563-001A	Fe (234.350 nm)	3.6382	0.23	81553.7424
	R2401563-001A	K (766.491 nm)	27.5864	0.12	29441.4038
	R2401563-001A	Mg (279.078 nm)	44.9710	0.27	149925.7522
	R2401563-001A	Mn (257.610 nm)	1.6128	0.26	538069.7120
	R2401563-001A	Mo (202.032 nm)	0.4950	0.92	3893.0552
	R2401563-001A	Na (588.995 nm)	60.3183 o	0.33	534509.7763
	R2401563-001A	Ni (230.299 nm)	0.5116	0.16	6262.3516
	R2401563-001A	Pb (220.353 nm)	0.4887	0.27	2812.6151
	R2401563-001A	Sb (217.582 nm)	0.4944	0.54	1235.9187

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401563-001A	Se (196.026 nm)	0.9602	0.37	831.1210
	R2401563-001A	Sn (189.925 nm)	4.9204	0.28	14974.2824
	R2401563-001A	Sr (216.596 nm)	2.5578	0.09	51573.8837
	R2401563-001A	Ti (336.122 nm)	0.4908	0.21	65305.2664
	R2401563-001A	Tl (190.794 nm)	1.9665	0.47	1665.3683
	R2401563-001A	V (292.401 nm)	0.4890	0.31	19868.8920
	R2401563-001A	Y (360.074 nm)	0.93	0.43	463608.88
	R2401563-001A	Y_R (360.074 nm)	0.93	0.43	462523.15
	R2401563-001A	Zn (213.857 nm)	0.5035	0.35	30042.2113
3/4/2024 19:44:09	R2401563-001L 5X	Ag (328.068 nm)	0.0003	53.90	-385.6129
	R2401563-001L 5X	Al (237.312 nm)	-0.0008 u	> 100.00	141.6450
	R2401563-001L 5X	As (188.980 nm)	-0.0007 u	61.19	-11.6949
	R2401563-001L 5X	B (249.772 nm)	0.0928	0.12	3298.0013
	R2401563-001L 5X	Ba (230.424 nm)	0.0120	0.75	551.7140
	R2401563-001L 5X	Be (313.107 nm)	0.0000	47.45	-193.3852
	R2401563-001L 5X	Ca (317.933 nm)	28.5031	0.47	1154093.7976
	R2401563-001L 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-2.1241
	R2401563-001L 5X	Co (230.786 nm)	0.0008	38.81	74.2773
	R2401563-001L 5X	Cr (267.716 nm)	-0.0002 u	> 100.00	-56.6060
	R2401563-001L 5X	Cu (327.395 nm)	0.0001 u	> 100.00	-38.4070
	R2401563-001L 5X	Fe (234.350 nm)	0.5930	0.50	13405.7962
	R2401563-001L 5X	K (766.491 nm)	1.7319	3.60	1603.8689
	R2401563-001L 5X	Mg (279.078 nm)	9.3324	0.37	31078.2992
	R2401563-001L 5X	Mn (257.610 nm)	0.2500	0.43	83385.3828
	R2401563-001L 5X	Mo (202.032 nm)	0.0029	32.45	11.5245
	R2401563-001L 5X	Na (588.995 nm)	8.7556	0.12	72364.6267
	R2401563-001L 5X	Ni (230.299 nm)	0.0021	13.82	113.6921
	R2401563-001L 5X	Pb (220.353 nm)	0.0011	7.58	18.5910
	R2401563-001L 5X	Sb (217.582 nm)	0.0046	4.23	23.2350
	R2401563-001L 5X	Se (196.026 nm)	-0.0020 u	> 100.00	-0.6556
	R2401563-001L 5X	Sn (189.925 nm)	0.0139	27.51	49.4832
	R2401563-001L 5X	Sr (216.596 nm)	0.1444	0.57	2859.9899
	R2401563-001L 5X	Ti (336.122 nm)	0.0011	15.06	-39.6085
	R2401563-001L 5X	Tl (190.794 nm)	0.0030	25.87	1.1528
	R2401563-001L 5X	V (292.401 nm)	-0.0001 u	> 100.00	-79.5050
	R2401563-001L 5X	Y (360.074 nm)	0.97	0.19	481612.52
	R2401563-001L 5X	Y_R (360.074 nm)	0.96	0.19	480461.22
	R2401563-001L 5X	Zn (213.857 nm)	0.0030	1.79	113.4426
3/4/2024 19:47:13	R2401612-001	Ag (328.068 nm)	0.0004	89.37	-379.5999
	R2401612-001	Al (237.312 nm)	0.3114	0.52	1110.3919
	R2401612-001	As (188.980 nm)	-0.0006 u	> 100.00	-11.4183
	R2401612-001	B (249.772 nm)	0.0288	0.71	1068.0288
	R2401612-001	Ba (230.424 nm)	0.0430	0.53	2028.2360
	R2401612-001	Be (313.107 nm)	0.0000	51.96	-212.0036
	R2401612-001	Ca (317.933 nm)	44.6481	0.44	1805977.1582
	R2401612-001	Cd (214.439 nm)	-0.0001 u	66.03	-4.7694
	R2401612-001	Co (230.786 nm)	0.0004	89.47	68.6629
	R2401612-001	Cr (267.716 nm)	0.0032	3.28	99.9576
	R2401612-001	Cu (327.395 nm)	0.0314	0.38	1098.5410
	R2401612-001	Fe (234.350 nm)	0.0140	0.71	449.4645
	R2401612-001	K (766.491 nm)	0.8889	1.48	696.2132
	R2401612-001	Mg (279.078 nm)	11.6847	0.44	38922.6304
	R2401612-001	Mn (257.610 nm)	0.0343	0.41	11412.1892
	R2401612-001	Mo (202.032 nm)	0.0010	17.59	-3.1989
	R2401612-001	Na (588.995 nm)	20.1304	0.54	174313.7965
	R2401612-001	Ni (230.299 nm)	0.0024	15.18	117.8103
	R2401612-001	Pb (220.353 nm)	0.0012	41.01	19.0086

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401612-001	Sb (217.582 nm)	0.0011 u	> 100.00	14.4101
	R2401612-001	Se (196.026 nm)	-0.0033 u	34.05	-1.7935
	R2401612-001	Sn (189.925 nm)	0.0057	16.24	24.4174
	R2401612-001	Sr (216.596 nm)	0.1389	0.47	2748.1306
	R2401612-001	Ti (336.122 nm)	0.0006	16.80	-114.4837
	R2401612-001	Tl (190.794 nm)	0.0010	34.73	-0.5634
	R2401612-001	V (292.401 nm)	-0.0003 u	62.30	-89.7201
	R2401612-001	Y (360.074 nm)	0.96	0.65	478622.58
	R2401612-001	Y_R (360.074 nm)	0.96	0.66	477572.25
	R2401612-001	Zn (213.857 nm)	0.0633	0.46	3718.5466
3/4/2024 19:50:17	R2401669-001	Ag (328.068 nm)	0.0002	33.81	-387.3716
	R2401669-001	Al (237.312 nm)	0.0084	4.73	170.3335
	R2401669-001	As (188.980 nm)	0.0003 u	> 100.00	-9.7805
	R2401669-001	B (249.772 nm)	0.0144	2.19	564.9310
	R2401669-001	Ba (230.424 nm)	0.0156	0.70	724.1042
	R2401669-001	Be (313.107 nm)	0.0000 u	> 100.00	-221.6895
	R2401669-001	Ca (317.933 nm)	26.9513	0.44	1091439.4558
	R2401669-001	Cd (214.439 nm)	0.0000 u	66.39	-3.5273
	R2401669-001	Co (230.786 nm)	0.0004	36.07	67.7014
	R2401669-001	Cr (267.716 nm)	0.0000 u	> 100.00	-47.4660
	R2401669-001	Cu (327.395 nm)	0.0320	1.17	1120.6231
	R2401669-001	Fe (234.350 nm)	0.0030	1.92	201.8487
	R2401669-001	K (766.491 nm)	1.4048	2.54	1251.7110
	R2401669-001	Mg (279.078 nm)	6.3129	0.47	21009.0880
	R2401669-001	Mn (257.610 nm)	0.0002	4.07	50.6417
	R2401669-001	Mo (202.032 nm)	0.0007	32.33	-5.2846
	R2401669-001	Na (588.995 nm)	19.9832	0.50	172994.4358
	R2401669-001	Ni (230.299 nm)	-0.0001 u	> 100.00	87.7569
	R2401669-001	Pb (220.353 nm)	0.0009	73.17	17.3650
	R2401669-001	Sb (217.582 nm)	0.0000 u	> 100.00	11.9061
	R2401669-001	Se (196.026 nm)	-0.0025 u	> 100.00	-1.1176
	R2401669-001	Sn (189.925 nm)	0.0023	19.87	14.3570
	R2401669-001	Sr (216.596 nm)	0.0567	1.04	1089.3259
	R2401669-001	Ti (336.122 nm)	0.0005	7.10	-122.5830
	R2401669-001	Tl (190.794 nm)	0.0033 u	93.17	1.3303
	R2401669-001	V (292.401 nm)	-0.0002 u	11.85	-82.7343
	R2401669-001	Y (360.074 nm)	0.97	0.69	482959.35
	R2401669-001	Y_R (360.074 nm)	0.97	0.69	481936.23
	R2401669-001	Zn (213.857 nm)	0.0100	0.67	531.0108
3/4/2024 19:53:21	Continuing Calibration Verification1	Ag (328.068 nm)	0.5204	0.24	30433.1656
	Continuing Calibration Verification1	Al (237.312 nm)	9.8017	0.24	30553.9184
	Continuing Calibration Verification1	As (188.980 nm)	0.9894	0.60	1813.4159
	Continuing Calibration Verification1	B (249.772 nm)	2.4495	0.36	85442.7365
	Continuing Calibration Verification1	Ba (230.424 nm)	10.2200	0.45	486951.8697
	Continuing Calibration Verification1	Be (313.107 nm)	0.2442	0.33	281150.4006
	Continuing Calibration Verification1	Ca (317.933 nm)	25.7139	0.34	1041477.5518
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5134	0.32	32875.2983
	Continuing Calibration Verification1	Co (230.786 nm)	2.5145	0.23	40307.5099
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5081	0.28	22942.5548
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2374	0.16	44982.2539
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9995	0.44	112019.1513
	Continuing Calibration Verification1	K (766.491 nm)	23.8967	0.21	25468.6404
	Continuing Calibration Verification1	Mg (279.078 nm)	25.0938	0.33	83639.2040
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7423	0.32	247639.4479
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5354	0.66	19988.2639
	Continuing Calibration Verification1	Na (588.995 nm)	24.8663	0.12	216761.2564
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0850	0.26	25249.7605

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5110	0.24	2940.2575
	Continuing Calibration Verification1	Sb (217.582 nm)	4.8265	0.39	11962.2048
	Continuing Calibration Verification1	Se (196.026 nm)	0.4832	0.77	418.8043
	Continuing Calibration Verification1	Sn (189.925 nm)	5.0169	0.27	15267.7920
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4944	0.42	50293.6669
	Continuing Calibration Verification1	Ti (336.122 nm)	2.5027	0.44	333762.1074
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0363	0.42	876.9549
	Continuing Calibration Verification1	V (292.401 nm)	2.4878	0.34	101398.0233
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.07	471411.62
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.94	0.07	470413.70
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9925	0.28	59290.1487
3/4/2024 19:56:25	Continuing Calibration Blank1	Ag (328.068 nm)	0.0002 u	96.56	-390.1590
	Continuing Calibration Blank1	Al (237.312 nm)	0.0004 u	> 100.00	145.5254
	Continuing Calibration Blank1	As (188.980 nm)	0.0018	60.73	-7.0050
	Continuing Calibration Blank1	B (249.772 nm)	0.0027	12.95	157.3453
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0006	7.07	8.6695
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	77.42	-200.3683
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0041	2.62	3400.4757
	Continuing Calibration Blank1	Cd (214.439 nm)	-0.0001 u	> 100.00	-4.1887
	Continuing Calibration Blank1	Co (230.786 nm)	0.0001 u	> 100.00	63.2899
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0001	49.87	-43.4778
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0002 u	> 100.00	-51.4093
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0024	16.15	189.8374
	Continuing Calibration Blank1	K (766.491 nm)	0.0850	46.80	-169.3052
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0029	48.16	-33.5382
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	15.93	7.1806
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0041	21.61	21.0518
	Continuing Calibration Blank1	Na (588.995 nm)	0.0787	8.18	-5405.1552
	Continuing Calibration Blank1	Ni (230.299 nm)	-0.0004 u	70.18	83.9414
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0006	35.17	15.4432
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0120 Z 0.06U	12.03	41.5520 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0046 u	4.43	-2.8802
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0031	16.49	16.6339
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0000 u	> 100.00	-54.5296
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0021	25.53	85.8506
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0014	67.75	-0.2790
	Continuing Calibration Blank1	V (292.401 nm)	-0.0002 u	47.07	-85.1127
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.06	490033.34
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.06	488925.73
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0009	3.03	-12.5824
3/4/2024 19:59:29	R2401669-002	Ag (328.068 nm)	0.0001	60.11	-396.2843
	R2401669-002	Al (237.312 nm)	0.0061	44.91	163.1404
	R2401669-002	As (188.980 nm)	-0.0001 u	> 100.00	-10.5146
	R2401669-002	B (249.772 nm)	0.0214	0.71	809.3400
	R2401669-002	Ba (230.424 nm)	0.0018	2.82	69.2741
	R2401669-002	Be (313.107 nm)	0.0000	53.12	-206.1187
	R2401669-002	Ca (317.933 nm)	0.4393	0.47	20974.9027
	R2401669-002	Cd (214.439 nm)	-0.0001 u	90.39	-5.9085
	R2401669-002	Co (230.786 nm)	0.0004	34.83	68.6881
	R2401669-002	Cr (267.716 nm)	0.0001	92.69	-42.7026
	R2401669-002	Cu (327.395 nm)	0.0092	3.25	292.1387
	R2401669-002	Fe (234.350 nm)	0.0008	21.19	154.1006
	R2401669-002	K (766.491 nm)	0.5770	8.34	360.3807
	R2401669-002	Mg (279.078 nm)	0.1406	0.80	425.4752
	R2401669-002	Mn (257.610 nm)	0.0002	5.32	45.6005
	R2401669-002	Mo (202.032 nm)	0.0018	15.93	3.0242
	R2401669-002	Na (588.995 nm)	240.7067 o	0.57	2151294.1964

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401669-002	Ni (230.299 nm)	-0.0014 u	28.87	71.7509
	R2401669-002	Pb (220.353 nm)	0.0000 u	> 100.00	12.2492
	R2401669-002	Sb (217.582 nm)	0.0011	23.85	14.5713
	R2401669-002	Se (196.026 nm)	-0.0026 u	> 100.00	-1.1983
	R2401669-002	Sn (189.925 nm)	0.0012	56.17	11.0007
	R2401669-002	Sr (216.596 nm)	0.0015	13.01	-24.6302
	R2401669-002	Ti (336.122 nm)	0.0009	4.85	-76.6494
	R2401669-002	Tl (190.794 nm)	0.0016 u	> 100.00	-0.0433
	R2401669-002	V (292.401 nm)	0.0001	> 100.00	-70.0594
	R2401669-002	Y (360.074 nm)	0.93	0.50	462440.30
	R2401669-002	Y_R (360.074 nm)	0.93	0.50	461486.61
	R2401669-002	Zn (213.857 nm)	0.0052	1.10	241.0205
3/4/2024 20:02:33	R2401673-002	Ag (328.068 nm)	0.0094	0.72	153.3182
	R2401673-002	Al (237.312 nm)	0.0374	3.58	260.3918
	R2401673-002	As (188.980 nm)	0.0008 u	> 100.00	-8.9362
	R2401673-002	B (249.772 nm)	0.0724	0.62	2586.9797
	R2401673-002	Ba (230.424 nm)	0.0874	0.42	4145.8454
	R2401673-002	Be (313.107 nm)	0.0000 u	> 100.00	-215.6225
	R2401673-002	Ca (317.933 nm)	45.5636	0.38	1842942.0013
	R2401673-002	Cd (214.439 nm)	0.0000 u	> 100.00	-1.7340
	R2401673-002	Co (230.786 nm)	0.0008	38.37	75.2414
	R2401673-002	Cr (267.716 nm)	0.0107	0.43	435.9252
	R2401673-002	Cu (327.395 nm)	0.0070	2.05	210.9480
	R2401673-002	Fe (234.350 nm)	0.0503	0.14	1262.4293
	R2401673-002	K (766.491 nm)	10.8792	0.21	11452.7370
	R2401673-002	Mg (279.078 nm)	12.4075	0.48	41333.1639
	R2401673-002	Mn (257.610 nm)	0.0634	0.42	21141.3956
	R2401673-002	Mo (202.032 nm)	0.0066	6.23	41.2253
	R2401673-002	Na (588.995 nm)	166.9153 o	0.46	1489917.4301
	R2401673-002	Ni (230.299 nm)	0.0056	7.76	156.3817
	R2401673-002	Pb (220.353 nm)	0.0003	> 100.00	13.7918
	R2401673-002	Sb (217.582 nm)	0.0043	47.38	22.3278
	R2401673-002	Se (196.026 nm)	-0.0069 u	42.94	-4.8641
	R2401673-002	Sn (189.925 nm)	0.0008	75.41	9.7926
	R2401673-002	Sr (216.596 nm)	0.2350	0.46	4689.5835
	R2401673-002	Ti (336.122 nm)	0.0013	6.19	-16.7862
	R2401673-002	Tl (190.794 nm)	0.0001 u	> 100.00	-1.3551
	R2401673-002	V (292.401 nm)	0.0002 u	> 100.00	-66.0429
	R2401673-002	Y (360.074 nm)	0.93	0.52	465238.24
	R2401673-002	Y_R (360.074 nm)	0.93	0.53	464282.23
	R2401673-002	Zn (213.857 nm)	0.0548	0.30	3208.2439
3/4/2024 20:05:38	R2401673-003	Ag (328.068 nm)	0.0324	1.20	1517.3476
	R2401673-003	Al (237.312 nm)	0.0923	2.21	430.7562
	R2401673-003	As (188.980 nm)	0.0022	65.71	-6.3621
	R2401673-003	B (249.772 nm)	0.0693	0.63	2480.0335
	R2401673-003	Ba (230.424 nm)	0.1330	0.48	6318.2576
	R2401673-003	Be (313.107 nm)	0.0000 u	> 100.00	-207.1208
	R2401673-003	Ca (317.933 nm)	44.2608	0.34	1790338.7108
	R2401673-003	Cd (214.439 nm)	0.0000 u	> 100.00	0.8151
	R2401673-003	Co (230.786 nm)	0.0017	6.64	89.7846
	R2401673-003	Cr (267.716 nm)	0.0197	0.80	845.8238
	R2401673-003	Cu (327.395 nm)	0.0095	0.82	301.1861
	R2401673-003	Fe (234.350 nm)	0.2016	0.31	4646.9415
	R2401673-003	K (766.491 nm)	11.4955	0.39	12116.3689
	R2401673-003	Mg (279.078 nm)	12.0574	0.45	40165.4737
	R2401673-003	Mn (257.610 nm)	0.2405	0.39	80233.3969
	R2401673-003	Mo (202.032 nm)	0.0070	5.57	43.7434

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401673-003	Na (588.995 nm)	153.9638 o	0.47	1373835.5424
	R2401673-003	Ni (230.299 nm)	0.0079	3.19	183.8242
	R2401673-003	Pb (220.353 nm)	0.0019	66.14	22.7847
	R2401673-003	Sb (217.582 nm)	0.0137	19.90	45.7699
	R2401673-003	Se (196.026 nm)	-0.0046 u	> 100.00	-2.9007
	R2401673-003	Sn (189.925 nm)	0.0008	26.58	9.8100
	R2401673-003	Sr (216.596 nm)	0.2299	0.34	4586.8427
	R2401673-003	Ti (336.122 nm)	0.0030	4.23	202.6794
	R2401673-003	Tl (190.794 nm)	0.0016 u	> 100.00	-0.0868
	R2401673-003	V (292.401 nm)	0.0002	34.74	-66.8979
	R2401673-003	Y (360.074 nm)	0.94	0.52	466500.94
	R2401673-003	Y_R (360.074 nm)	0.93	0.52	465512.06
	R2401673-003	Zn (213.857 nm)	0.1121	0.48	6637.6101
3/4/2024 20:08:41	Continuing Calibration Verification1	Ag (328.068 nm)	0.5197	0.27	30391.1166
	Continuing Calibration Verification1	Al (237.312 nm)	9.7864	0.20	30506.4985
	Continuing Calibration Verification1	As (188.980 nm)	0.9816	0.38	1798.9791
	Continuing Calibration Verification1	B (249.772 nm)	2.4444	0.31	85267.4958
	Continuing Calibration Verification1	Ba (230.424 nm)	10.1854	0.22	485303.2400
	Continuing Calibration Verification1	Be (313.107 nm)	0.2436	0.23	280511.6483
	Continuing Calibration Verification1	Ca (317.933 nm)	25.6586	0.23	1039242.0164
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5126	0.25	32824.0501
	Continuing Calibration Verification1	Co (230.786 nm)	2.5111	0.45	40252.2449
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5061	0.34	22851.8922
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2353	0.22	44902.5786
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9858	0.33	111712.0886
	Continuing Calibration Verification1	K (766.491 nm)	23.8747	0.15	25444.9923
	Continuing Calibration Verification1	Mg (279.078 nm)	25.0151	0.23	83376.9942
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7400	0.26	246864.4495
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5304	0.59	19948.2775
	Continuing Calibration Verification1	Na (588.995 nm)	24.8880	0.05	216955.6481
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0787	0.25	25173.5640
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5092	0.04	2930.2525
	Continuing Calibration Verification1	Sb (217.582 nm)	4.8151	0.29	11934.0517
	Continuing Calibration Verification1	Se (196.026 nm)	0.4803	0.94	416.2635
	Continuing Calibration Verification1	Sn (189.925 nm)	4.9952	0.30	15201.7823
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4831	0.04	50065.1602
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4964	0.43	332919.4679
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0381	0.87	878.4802
	Continuing Calibration Verification1	V (292.401 nm)	2.4799	0.30	101075.7428
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.09	472106.73
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.94	0.09	471047.93
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9881	0.04	59025.6407
3/4/2024 20:11:45	Continuing Calibration Blank1	Ag (328.068 nm)	0.0003	28.77	-384.9964
	Continuing Calibration Blank1	Al (237.312 nm)	0.0008	69.38	146.8832
	Continuing Calibration Blank1	As (188.980 nm)	-0.0004 u	> 100.00	-11.1693
	Continuing Calibration Blank1	B (249.772 nm)	0.0018	16.59	127.5337
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0007	19.54	17.0310
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	15.44	-186.5595
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0044	2.67	3415.4702
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-1.9626
	Continuing Calibration Blank1	Co (230.786 nm)	0.0002 u	> 100.00	64.3680
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0000 u	> 100.00	-46.3062
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0002 u	> 100.00	-50.1982
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0026	19.36	193.5803
	Continuing Calibration Blank1	K (766.491 nm)	0.1208	22.10	-130.7982
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0038	26.10	-30.5681
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	37.15	12.6876

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0048	22.43	26.9582
	Continuing Calibration Blank1	Na (588.995 nm)	0.1301	5.47	-4944.7466
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0000 u	> 100.00	89.3918
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0001 u	> 100.00	11.5947
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0128 Z 0.06U	16.50	43.3777 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0029 u	55.63	-1.4230
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0008	19.38	9.7859
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0002 u	> 100.00	-51.2141
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0024	24.92	122.5903
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0015	72.09	-0.1454
	Continuing Calibration Blank1	V (292.401 nm)	-0.0001 u	> 100.00	-78.4302
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.11	490812.85
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.11	489693.47
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0010	4.16	-7.9527
3/4/2024 20:14:49	Contract Required Detection Limit	Ag (328.068 nm)	0.0105	0.90	223.4763
	Contract Required Detection Limit	Al (237.312 nm)	0.1883	1.74	728.4244
	Contract Required Detection Limit	As (188.980 nm)	0.0185	2.89	23.6768
	Contract Required Detection Limit	B (249.772 nm)	0.1972	0.50	6937.6338
	Contract Required Detection Limit	Ba (230.424 nm)	0.2060	0.49	9798.4732
	Contract Required Detection Limit	Be (313.107 nm)	0.0048	0.87	5292.8178
	Contract Required Detection Limit	Ca (317.933 nm)	1.0138	0.57	44171.2353
	Contract Required Detection Limit	Cd (214.439 nm)	0.0103	0.20	661.7285
	Contract Required Detection Limit	Co (230.786 nm)	0.0513	0.41	883.3297
	Contract Required Detection Limit	Cr (267.716 nm)	0.0098	1.58	397.0920
	Contract Required Detection Limit	Cu (327.395 nm)	0.0241	1.55	833.6883
	Contract Required Detection Limit	Fe (234.350 nm)	0.1014	0.82	2403.8388
	Contract Required Detection Limit	K (766.491 nm)	0.9784	1.86	792.5492
	Contract Required Detection Limit	Mg (279.078 nm)	0.9770	0.57	3214.7653
	Contract Required Detection Limit	Mn (257.610 nm)	0.0153	0.61	5101.1004
	Contract Required Detection Limit	Mo (202.032 nm)	0.0254	1.94	189.1509
	Contract Required Detection Limit	Na (588.995 nm)	1.0124	0.54	2963.2917
	Contract Required Detection Limit	Ni (230.299 nm)	0.0409	0.57	582.5483
	Contract Required Detection Limit	Pb (220.353 nm)	0.0099	2.16	68.7524
	Contract Required Detection Limit	Sb (217.582 nm)	0.0666	1.98	176.5704
	Contract Required Detection Limit	Se (196.026 nm)	0.0087	26.14	8.6118
	Contract Required Detection Limit	Sn (189.925 nm)	0.5003	0.38	1528.9217
	Contract Required Detection Limit	Sr (216.596 nm)	0.1017	0.75	1997.4351
	Contract Required Detection Limit	Ti (336.122 nm)	0.0495	0.59	6413.7095
	Contract Required Detection Limit	Tl (190.794 nm)	0.0193	14.45	14.9463
	Contract Required Detection Limit	V (292.401 nm)	0.0486	0.64	1908.4085
	Contract Required Detection Limit	Y (360.074 nm)	0.98	0.04	490381.46
	Contract Required Detection Limit	Y_R (360.074 nm)	0.98	0.04	489253.78
	Contract Required Detection Limit	Zn (213.857 nm)	0.0198	0.41	1118.9329
3/4/2024 20:17:53	Interference Check Solution A	Ag (328.068 nm)	0.0001 u	> 100.00	-394.5957
	Interference Check Solution A	Al (237.312 nm)	247.3975 o	0.80	767693.4964
	Interference Check Solution A	As (188.980 nm)	-0.0052 Ku +/- 0.01	38.39	-19.8581 K
	Interference Check Solution A	B (249.772 nm)	0.1165	0.80	4124.9788
	Interference Check Solution A	Ba (230.424 nm)	0.0007	8.09	15.0980
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	92.78	-232.1315
	Interference Check Solution A	Ca (317.933 nm)	238.8166 o	0.84	9645842.8944
	Interference Check Solution A	Cd (214.439 nm)	-0.0007 u	3.09	-44.7469
	Interference Check Solution A	Co (230.786 nm)	0.0012	10.03	81.6106
	Interference Check Solution A	Cr (267.716 nm)	-0.0004 u	32.75	-65.3554
	Interference Check Solution A	Cu (327.395 nm)	0.0002 u	> 100.00	-36.4608
	Interference Check Solution A	Fe (234.350 nm)	92.9780 o	0.86	2080866.9829
	Interference Check Solution A	K (766.491 nm)	0.0825	52.91	-172.0246
	Interference Check Solution A	Mg (279.078 nm)	257.9370 o	0.82	860122.7399

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	Mn (257.610 nm)	0.0012	3.00	394.3027
	Interference Check Solution A	Mo (202.032 nm)	-0.0022 u	3.82	-28.8052
	Interference Check Solution A	Na (588.995 nm)	0.0723	12.59	-5462.5767
	Interference Check Solution A	Ni (230.299 nm)	0.0028	15.98	123.2064
	Interference Check Solution A	Pb (220.353 nm)	0.0012	52.05	18.8209
	Interference Check Solution A	Sb (217.582 nm)	0.0039	36.82	21.4102
	Interference Check Solution A	Se (196.026 nm)	-0.0020 u	> 100.00	-0.6371
	Interference Check Solution A	Sn (189.925 nm)	0.0023	81.62	14.3377
	Interference Check Solution A	Sr (216.596 nm)	0.0095	1.28	136.5579
	Interference Check Solution A	Ti (336.122 nm)	0.0028	2.47	185.2769
	Interference Check Solution A	Tl (190.794 nm)	0.0020 u	> 100.00	0.2627
	Interference Check Solution A	V (292.401 nm)	0.0020	16.57	5.0455
	Interference Check Solution A	Y (360.074 nm)	0.87	0.23	436097.73
	Interference Check Solution A	Y_R (360.074 nm)	0.87	0.22	435212.52
	Interference Check Solution A	Zn (213.857 nm)	0.0113 K +/-0.02	1.43	609.6985 K
3/4/2024 20:20:57	Interference Check Solution AB	Ag (328.068 nm)	0.2028	0.70	11615.0138
	Interference Check Solution AB	Al (237.312 nm)	247.7134 o	0.93	768673.7130
	Interference Check Solution AB	As (188.980 nm)	0.0925	5.04	160.2216
	Interference Check Solution AB	B (249.772 nm)	0.1146	0.99	4058.8083
	Interference Check Solution AB	Ba (230.424 nm)	0.5201	0.88	24763.0304
	Interference Check Solution AB	Be (313.107 nm)	0.4819	0.69	555123.2357
	Interference Check Solution AB	Ca (317.933 nm)	239.4241 o	0.98	9670373.0155
	Interference Check Solution AB	Cd (214.439 nm)	0.9772	0.87	62568.7942
	Interference Check Solution AB	Co (230.786 nm)	0.4794	0.78	7734.3021
	Interference Check Solution AB	Cr (267.716 nm)	0.4966	0.91	22422.9873
	Interference Check Solution AB	Cu (327.395 nm)	0.5224	0.92	18965.3841
	Interference Check Solution AB	Fe (234.350 nm)	93.1315 o	0.87	2084302.0964
	Interference Check Solution AB	K (766.491 nm)	0.0872	38.76	-166.9117
	Interference Check Solution AB	Mg (279.078 nm)	258.4580 o	0.88	861860.1155
	Interference Check Solution AB	Mn (257.610 nm)	0.4828	0.83	161045.3598
	Interference Check Solution AB	Mo (202.032 nm)	-0.0023 u	18.89	-28.9159
	Interference Check Solution AB	Na (588.995 nm)	0.0485	3.41	-5675.6847
	Interference Check Solution AB	Ni (230.299 nm)	0.9762	0.78	11869.7705
	Interference Check Solution AB	Pb (220.353 nm)	0.0496	2.24	296.2873
	Interference Check Solution AB	Sb (217.582 nm)	0.5938	1.62	1481.9898
	Interference Check Solution AB	Se (196.026 nm)	0.0445	17.98	39.5189
	Interference Check Solution AB	Sn (189.925 nm)	0.0021	43.16	13.6735
	Interference Check Solution AB	Sr (216.596 nm)	0.0097	1.52	141.1364
	Interference Check Solution AB	Ti (336.122 nm)	0.0028	3.21	178.4236
	Interference Check Solution AB	Tl (190.794 nm)	0.0966	11.70	80.4758
	Interference Check Solution AB	V (292.401 nm)	0.5000	0.83	20319.9040
	Interference Check Solution AB	Y (360.074 nm)	0.88	0.30	436803.42
	Interference Check Solution AB	Y_R (360.074 nm)	0.87	0.30	435940.44
	Interference Check Solution AB	Zn (213.857 nm)	0.9921	0.87	59268.6268
3/4/2024 20:24:00	Continuing Calibration Verification1	Ag (328.068 nm)	0.5169	0.27	30225.6605
	Continuing Calibration Verification1	Al (237.312 nm)	9.7554	0.19	30410.2495
	Continuing Calibration Verification1	As (188.980 nm)	0.9788	0.50	1793.8200
	Continuing Calibration Verification1	B (249.772 nm)	2.4329	0.25	84865.7991
	Continuing Calibration Verification1	Ba (230.424 nm)	10.1552	0.53	483861.4484
	Continuing Calibration Verification1	Be (313.107 nm)	0.2426	0.24	279376.8029
	Continuing Calibration Verification1	Ca (317.933 nm)	25.5976	0.27	1036780.2409
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5107	0.27	32700.1505
	Continuing Calibration Verification1	Co (230.786 nm)	2.5063	0.49	40176.4637
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5055	0.24	22825.9829
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2285	0.26	44657.5358
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9892	0.26	111788.0605
	Continuing Calibration Verification1	K (766.491 nm)	23.6573	0.17	25210.8909

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Mg (279.078 nm)	24.9837	0.27	83272.1741
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7371	0.32	245904.2888
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5180	0.48	19851.0579
	Continuing Calibration Verification1	Na (588.995 nm)	24.6289	0.19	214633.4288
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0710	0.20	25080.6102
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5079	0.64	2922.9867
	Continuing Calibration Verification1	Sb (217.582 nm)	4.7858	0.34	11861.5690
	Continuing Calibration Verification1	Se (196.026 nm)	0.4825	0.31	418.2028
	Continuing Calibration Verification1	Sn (189.925 nm)	4.9732	0.33	15135.1121
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4779	0.54	49960.7641
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4870	0.48	331676.3143
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0354	0.52	876.1676
	Continuing Calibration Verification1	V (292.401 nm)	2.4721	0.25	100758.1327
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.20	473882.09
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.95	0.21	472901.25
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9841	0.26	58786.7106
3/4/2024 20:27:04	Continuing Calibration Blank1	Ag (328.068 nm)	0.0004	46.76	-378.6189
	Continuing Calibration Blank1	Al (237.312 nm)	-0.0003 u	> 100.00	143.4071
	Continuing Calibration Blank1	As (188.980 nm)	0.0008	67.25	-8.9707
	Continuing Calibration Blank1	B (249.772 nm)	0.0018	19.59	125.2524
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0010	16.99	26.9661
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	12.54	-184.0214
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0059	3.14	3473.0438
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-3.6778
	Continuing Calibration Blank1	Co (230.786 nm)	0.0001 u	> 100.00	63.8453
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0001 u	> 100.00	-42.6712
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0001 u	> 100.00	-40.4505
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0041	16.40	226.8758
	Continuing Calibration Blank1	K (766.491 nm)	0.1059	54.72	-146.8395
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0044	20.32	-28.6550
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	8.92	21.4608
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0045	25.15	24.4950
	Continuing Calibration Blank1	Na (588.995 nm)	0.0621	4.25	-5553.6309
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0003 u	> 100.00	92.2543
	Continuing Calibration Blank1	Pb (220.353 nm)	0.0003 u	> 100.00	13.8461
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0121 Z 0.06U	15.57	41.7408 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0019 u	59.66	-0.5224
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0021	44.95	13.6042
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0001 u	> 100.00	-51.8786
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0023	21.63	116.8278
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0018	52.46	0.0719
	Continuing Calibration Blank1	V (292.401 nm)	0.0001 u	> 100.00	-73.5813
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.12	490896.29
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.12	489806.10
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0011	4.52	0.0146
3/4/2024 20:30:08	PBW-434821	Ag (328.068 nm)	0.0003	38.05	-385.8381
	PBW-434821	Al (237.312 nm)	0.0013	28.43	148.3529
	PBW-434821	As (188.980 nm)	0.0006 u	> 100.00	-9.3302
	PBW-434821	B (249.772 nm)	0.0006	48.72	84.6486
	PBW-434821	Ba (230.424 nm)	0.0005	24.67	6.2846
	PBW-434821	Be (313.107 nm)	0.0000	35.52	-183.3454
	PBW-434821	Ca (317.933 nm)	0.0003 u	> 100.00	3248.3635
	PBW-434821	Cd (214.439 nm)	-0.0001 u	90.82	-5.1090
	PBW-434821	Co (230.786 nm)	0.0000 u	> 100.00	61.5268
	PBW-434821	Cr (267.716 nm)	-0.0002 u	83.13	-53.6209
	PBW-434821	Cu (327.395 nm)	-0.0004 u	96.68	-58.0460
	PBW-434821	Fe (234.350 nm)	-0.0009 u	25.23	115.9900

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	PBW-434821	K (766.491 nm)	0.0096 u	> 100.00	-250.5021
	PBW-434821	Mg (279.078 nm)	0.0025	38.03	-34.8541
	PBW-434821	Mn (257.610 nm)	0.0000	9.29	-1.2207
	PBW-434821	Mo (202.032 nm)	0.0007	26.59	-5.8785
	PBW-434821	Na (588.995 nm)	-0.0134 u	41.70	-6230.5975
	PBW-434821	Ni (230.299 nm)	-0.0002 u	> 100.00	86.8642
	PBW-434821	Pb (220.353 nm)	0.0000 u	> 100.00	12.2919
	PBW-434821	Sb (217.582 nm)	0.0031	68.31	19.4781
	PBW-434821	Se (196.026 nm)	-0.0039 u	47.83	-2.2496
	PBW-434821	Sn (189.925 nm)	0.0009 u	89.29	9.9283
	PBW-434821	Sr (216.596 nm)	0.0003	35.20	-49.3924
	PBW-434821	Ti (336.122 nm)	0.0006	4.85	-111.7559
	PBW-434821	Tl (190.794 nm)	0.0026	85.60	0.7697
	PBW-434821	V (292.401 nm)	-0.0001 u	66.39	-81.2996
	PBW-434821	Y (360.074 nm)	1.00	0.87	497537.16
	PBW-434821	Y_R (360.074 nm)	1.00	0.88	496420.20
	PBW-434821	Zn (213.857 nm)	0.0002	8.36	-53.5568
3/4/2024 20:33:12	LCSW-434821	Ag (328.068 nm)	0.0494	0.65	2526.5996
	LCSW-434821	Al (237.312 nm)	1.7988	0.80	5725.0607
	LCSW-434821	As (188.980 nm)	0.0360	4.76	56.0748
	LCSW-434821	B (249.772 nm)	0.9128	0.77	31879.4050
	LCSW-434821	Ba (230.424 nm)	1.9465	0.52	92731.0035
	LCSW-434821	Be (313.107 nm)	0.0458	0.57	52559.1090
	LCSW-434821	Ca (317.933 nm)	1.9250	0.56	80961.5100
	LCSW-434821	Cd (214.439 nm)	0.0496	0.71	3174.7168
	LCSW-434821	Co (230.786 nm)	0.4873	0.69	7860.4577
	LCSW-434821	Cr (267.716 nm)	0.1906	0.58	8577.7001
	LCSW-434821	Cu (327.395 nm)	0.2390	0.79	8653.8226
	LCSW-434821	Fe (234.350 nm)	0.9461	0.36	21307.5090
	LCSW-434821	K (766.491 nm)	17.6597	0.70	18753.3590
	LCSW-434821	Mg (279.078 nm)	1.8525	0.68	6134.4242
	LCSW-434821	Mn (257.610 nm)	0.4670	0.59	155781.3863
	LCSW-434821	Mo (202.032 nm)	0.4690	1.26	3688.4384
	LCSW-434821	Na (588.995 nm)	18.2960	0.59	157872.7932
	LCSW-434821	Ni (230.299 nm)	0.4996	0.82	6118.4792
	LCSW-434821	Pb (220.353 nm)	0.4915	0.67	2828.8779
	LCSW-434821	Sb (217.582 nm)	0.4675	0.08	1169.2756
	LCSW-434821	Se (196.026 nm)	0.9196	0.16	795.9834
	LCSW-434821	Sn (189.925 nm)	4.7867	0.29	14567.5469
	LCSW-434821	Sr (216.596 nm)	1.9198	0.54	38695.7920
	LCSW-434821	Ti (336.122 nm)	0.4691	0.45	62397.3439
	LCSW-434821	Tl (190.794 nm)	1.9245	0.55	1629.7466
	LCSW-434821	V (292.401 nm)	0.4688	0.56	19044.2298
	LCSW-434821	Y (360.074 nm)	0.98	0.78	486645.26
	LCSW-434821	Y_R (360.074 nm)	0.97	0.78	485680.35
	LCSW-434821	Zn (213.857 nm)	0.4885	0.58	29150.4424
3/4/2024 20:36:16	R2401556-001	Ag (328.068 nm)	-0.0002 u	> 100.00	-412.8652
	R2401556-001	Al (237.312 nm)	0.0135	29.66	186.2401
	R2401556-001	As (188.980 nm)	0.0012 u	> 100.00	-8.2322
	R2401556-001	B (249.772 nm)	0.4230	0.54	14809.5971
	R2401556-001	Ba (230.424 nm)	0.0252	0.08	1182.0883
	R2401556-001	Be (313.107 nm)	0.0000 u	> 100.00	-215.7288
	R2401556-001	Ca (317.933 nm)	149.6602 o	0.55	6046010.3823
	R2401556-001	Cd (214.439 nm)	-0.0001 u	> 100.00	-4.6246
	R2401556-001	Co (230.786 nm)	0.0013	17.32	83.3360
	R2401556-001	Cr (267.716 nm)	0.0000 u	> 100.00	-44.9251
	R2401556-001	Cu (327.395 nm)	-0.0008 u	68.31	-73.3015

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401556-001	Fe (234.350 nm)	0.0107	1.55	374.4205
	R2401556-001	K (766.491 nm)	17.5799	2.13	18667.3527
	R2401556-001	Mg (279.078 nm)	33.8517	0.45	112845.1834
	R2401556-001	Mn (257.610 nm)	0.0069	0.75	2297.7981
	R2401556-001	Mo (202.032 nm)	0.0036	20.25	17.0080
	R2401556-001	Na (588.995 nm)	1936.7296 o	0.67	17352401.6780
	R2401556-001	Ni (230.299 nm)	0.0049	12.05	147.7953
	R2401556-001	Pb (220.353 nm)	0.0004 u	> 100.00	14.1997
	R2401556-001	Sb (217.582 nm)	0.0039	40.77	21.4206
	R2401556-001	Se (196.026 nm)	-0.0035 u	> 100.00	-1.9639
	R2401556-001	Sn (189.925 nm)	0.0124	37.10	44.9717
	R2401556-001	Sr (216.596 nm)	5.6170 o	0.46	113323.0464
	R2401556-001	Ti (336.122 nm)	0.0025	2.83	142.1206
	R2401556-001	Tl (190.794 nm)	0.0032	50.03	1.2591
	R2401556-001	V (292.401 nm)	0.0000 u	> 100.00	-75.7340
	R2401556-001	Y (360.074 nm)	0.74	0.17	369109.93
	R2401556-001	Y_R (360.074 nm)	0.74	0.17	368575.58
	R2401556-001	Zn (213.857 nm)	0.0206	0.12	1163.1254
3/4/2024 20:39:19	R2401556-001S	Ag (328.068 nm)	0.0539	1.08	2793.1009
	R2401556-001S	Al (237.312 nm)	1.9720	0.75	6262.3095
	R2401556-001S	As (188.980 nm)	0.0391	2.13	61.7100
	R2401556-001S	B (249.772 nm)	1.3741	0.73	47960.3733
	R2401556-001S	Ba (230.424 nm)	0.4002	0.55	19052.0567
	R2401556-001S	Be (313.107 nm)	0.0421	0.61	48268.6349
	R2401556-001S	Ca (317.933 nm)	147.5020 o	0.62	5958867.7463
	R2401556-001S	Cd (214.439 nm)	0.0452	0.28	2892.5311
	R2401556-001S	Co (230.786 nm)	0.4520	0.50	7295.4601
	R2401556-001S	Cr (267.716 nm)	0.1810	0.63	8141.1078
	R2401556-001S	Cu (327.395 nm)	0.2554	0.46	9249.0992
	R2401556-001S	Fe (234.350 nm)	0.8986	1.04	20244.9911
	R2401556-001S	K (766.491 nm)	44.5791	1.00	47737.3494
	R2401556-001S	Mg (279.078 nm)	34.6706	0.58	115575.9780
	R2401556-001S	Mn (257.610 nm)	0.4500	0.63	150123.0766
	R2401556-001S	Mo (202.032 nm)	0.4649	2.32	3656.3285
	R2401556-001S	Na (588.995 nm)	1897.0780 o	0.02	16997011.6409
	R2401556-001S	Ni (230.299 nm)	0.4664	0.62	5717.1382
	R2401556-001S	Pb (220.353 nm)	0.2405	0.74	1390.2039
	R2401556-001S	Sb (217.582 nm)	0.4881	1.15	1220.3625
	R2401556-001S	Se (196.026 nm)	1.0025	0.85	867.6545
	R2401556-001S	Sn (189.925 nm)	4.5067	1.63	13716.0557
	R2401556-001S	Sr (216.596 nm)	7.0024 o	0.41	141285.3862
	R2401556-001S	Ti (336.122 nm)	0.4713	1.14	62695.1854
	R2401556-001S	Tl (190.794 nm)	1.6484	0.90	1395.7125
	R2401556-001S	V (292.401 nm)	0.4690	0.64	19053.7140
	R2401556-001S	Y (360.074 nm)	0.74	0.15	370473.87
	R2401556-001S	Y_R (360.074 nm)	0.74	0.15	369916.59
	R2401556-001S	Zn (213.857 nm)	0.5244	0.63	31295.6553
3/4/2024 20:42:23	R2401556-001SD	Ag (328.068 nm)	0.0529	0.86	2733.2177
	R2401556-001SD	Al (237.312 nm)	1.9426	0.30	6171.2836
	R2401556-001SD	As (188.980 nm)	0.0383	3.09	60.3228
	R2401556-001SD	B (249.772 nm)	1.3546	0.50	47279.8837
	R2401556-001SD	Ba (230.424 nm)	0.3816	0.53	18163.4286
	R2401556-001SD	Be (313.107 nm)	0.0414	0.46	47534.3443
	R2401556-001SD	Ca (317.933 nm)	145.5038 o	0.55	5878189.1098
	R2401556-001SD	Cd (214.439 nm)	0.0447	0.30	2858.5244
	R2401556-001SD	Co (230.786 nm)	0.4445	0.47	7175.6486
	R2401556-001SD	Cr (267.716 nm)	0.1782	0.62	8018.3955

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401556-001SD	Cu (327.395 nm)	0.2510	0.48	9088.7747
	R2401556-001SD	Fe (234.350 nm)	0.8839	0.86	19915.5365
	R2401556-001SD	K (766.491 nm)	44.2110	0.65	47341.0546
	R2401556-001SD	Mg (279.078 nm)	34.1697	0.51	113905.6537
	R2401556-001SD	Mn (257.610 nm)	0.4430	0.54	147796.2017
	R2401556-001SD	Mo (202.032 nm)	0.4570	2.41	3593.5797
	R2401556-001SD	Na (588.995 nm)	1864.3599 o	0.24	16703766.3465
	R2401556-001SD	Ni (230.299 nm)	0.4596	0.33	5635.5362
	R2401556-001SD	Pb (220.353 nm)	0.2348	0.45	1357.6217
	R2401556-001SD	Sb (217.582 nm)	0.4815	0.89	1203.9360
	R2401556-001SD	Se (196.026 nm)	0.9852	0.48	852.7045
	R2401556-001SD	Sn (189.925 nm)	4.4554	1.05	13559.8149
	R2401556-001SD	Sr (216.596 nm)	6.8872 o	0.62	138960.6843
	R2401556-001SD	Ti (336.122 nm)	0.4645	0.80	61783.9506
	R2401556-001SD	Tl (190.794 nm)	1.6279	1.34	1378.3031
	R2401556-001SD	V (292.401 nm)	0.4619	0.59	18763.5217
	R2401556-001SD	Y (360.074 nm)	0.74	0.09	370699.78
	R2401556-001SD	Y_R (360.074 nm)	0.74	0.09	370126.15
	R2401556-001SD	Zn (213.857 nm)	0.5160	0.48	30793.6739
3/4/2024 20:45:27	R2401556-001A	Ag (328.068 nm)	0.0549	0.65	2851.1554
	R2401556-001A	Al (237.312 nm)	2.0362	0.19	6461.6852
	R2401556-001A	As (188.980 nm)	0.0389	2.48	61.3000
	R2401556-001A	B (249.772 nm)	1.3941	0.42	48657.1081
	R2401556-001A	Ba (230.424 nm)	1.9114	0.75	91058.7437
	R2401556-001A	Be (313.107 nm)	0.0431	0.42	49489.6152
	R2401556-001A	Ca (317.933 nm)	147.0883 o	0.50	5942165.0661
	R2401556-001A	Cd (214.439 nm)	0.0464	0.28	2970.2239
	R2401556-001A	Co (230.786 nm)	0.4629	0.37	7471.0297
	R2401556-001A	Cr (267.716 nm)	0.1856	0.44	8350.1344
	R2401556-001A	Cu (327.395 nm)	0.2613	0.37	9462.6514
	R2401556-001A	Fe (234.350 nm)	0.9217	0.80	20762.4395
	R2401556-001A	K (766.491 nm)	45.0447	0.59	48238.7428
	R2401556-001A	Mg (279.078 nm)	34.5992	0.48	115337.8747
	R2401556-001A	Mn (257.610 nm)	0.4615	0.47	153966.7214
	R2401556-001A	Mo (202.032 nm)	0.4773	1.65	3753.9568
	R2401556-001A	Na (588.995 nm)	1891.8513 o	0.28	16950165.8106
	R2401556-001A	Ni (230.299 nm)	0.4779	0.36	5855.6924
	R2401556-001A	Pb (220.353 nm)	0.4498	0.60	2589.5425
	R2401556-001A	Sb (217.582 nm)	0.4992	0.59	1247.8330
	R2401556-001A	Se (196.026 nm)	1.0200	0.77	882.7716
	R2401556-001A	Sn (189.925 nm)	4.6577	1.17	14175.3378
	R2401556-001A	Sr (216.596 nm)	7.2537 o	0.46	146358.2449
	R2401556-001A	Ti (336.122 nm)	0.4819	0.79	64117.1420
	R2401556-001A	Tl (190.794 nm)	1.7017	0.42	1440.9010
	R2401556-001A	V (292.401 nm)	0.4811	0.46	19549.2806
	R2401556-001A	Y (360.074 nm)	0.73	0.16	366492.30
	R2401556-001A	Y_R (360.074 nm)	0.73	0.16	365947.92
	R2401556-001A	Zn (213.857 nm)	0.5387	0.44	32150.3469
3/4/2024 20:48:31	R2401556-001L 5X	Ag (328.068 nm)	-0.0001 u	92.83	-409.1807
	R2401556-001L 5X	Al (237.312 nm)	0.0099	21.13	175.0098
	R2401556-001L 5X	As (188.980 nm)	-0.0004 u	> 100.00	-11.1519
	R2401556-001L 5X	B (249.772 nm)	0.0851	0.45	3031.6855
	R2401556-001L 5X	Ba (230.424 nm)	0.0055	0.84	244.9745
	R2401556-001L 5X	Be (313.107 nm)	0.0000 u	> 100.00	-225.5904
	R2401556-001L 5X	Ca (317.933 nm)	31.6645	0.16	1281741.2649
	R2401556-001L 5X	Cd (214.439 nm)	0.0000 u	74.06	-3.5037
	R2401556-001L 5X	Co (230.786 nm)	0.0006	20.56	71.8014

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401556-001L 5X	Cr (267.716 nm)	-0.0002 u	82.60	-53.4826
	R2401556-001L 5X	Cu (327.395 nm)	-0.0007 u	27.15	-69.4248
	R2401556-001L 5X	Fe (234.350 nm)	0.0035	4.12	214.9607
	R2401556-001L 5X	K (766.491 nm)	3.4070	1.97	3407.4391
	R2401556-001L 5X	Mg (279.078 nm)	7.2580	0.19	24160.6259
	R2401556-001L 5X	Mn (257.610 nm)	0.0015	1.74	479.4372
	R2401556-001L 5X	Mo (202.032 nm)	0.0020	13.46	4.6856
	R2401556-001L 5X	Na (588.995 nm)	753.5779 o	0.28	6748053.9985
	R2401556-001L 5X	Ni (230.299 nm)	0.0019	17.04	111.8210
	R2401556-001L 5X	Pb (220.353 nm)	0.0001 u	> 100.00	13.0039
	R2401556-001L 5X	Sb (217.582 nm)	0.0091	20.18	34.3959
	R2401556-001L 5X	Se (196.026 nm)	-0.0023 u	> 100.00	-0.9349
	R2401556-001L 5X	Sn (189.925 nm)	0.0238	23.88	79.6136
	R2401556-001L 5X	Sr (216.596 nm)	1.1853	0.20	23870.0787
	R2401556-001L 5X	Ti (336.122 nm)	0.0018	9.84	48.9712
	R2401556-001L 5X	Tl (190.794 nm)	0.0035	66.79	1.5655
	R2401556-001L 5X	V (292.401 nm)	-0.0002 u	> 100.00	-82.6919
	R2401556-001L 5X	Y (360.074 nm)	0.86	0.48	426494.07
	R2401556-001L 5X	Y_R (360.074 nm)	0.85	0.48	425751.30
	R2401556-001L 5X	Zn (213.857 nm)	0.0041	2.95	176.6139
3/4/2024 20:51:35	R2401573-001	Ag (328.068 nm)	0.0001 u	90.32	-392.7049
	R2401573-001	Al (237.312 nm)	0.2047	1.11	779.4204
	R2401573-001	As (188.980 nm)	-0.0005 u	95.11	-11.2055
	R2401573-001	B (249.772 nm)	0.0126	1.18	502.1016
	R2401573-001	Ba (230.424 nm)	0.0213	2.48	994.3810
	R2401573-001	Be (313.107 nm)	0.0000	50.50	-198.9072
	R2401573-001	Ca (317.933 nm)	44.4551	0.85	1798181.7823
	R2401573-001	Cd (214.439 nm)	-0.0001 u	> 100.00	-4.5324
	R2401573-001	Co (230.786 nm)	0.0003 u	> 100.00	66.6189
	R2401573-001	Cr (267.716 nm)	0.0000 u	> 100.00	-44.7578
	R2401573-001	Cu (327.395 nm)	0.0007	23.08	-16.4700
	R2401573-001	Fe (234.350 nm)	1.0666	0.75	24004.9954
	R2401573-001	K (766.491 nm)	6.1564	1.94	6367.7648
	R2401573-001	Mg (279.078 nm)	12.3580	0.88	41168.2111
	R2401573-001	Mn (257.610 nm)	0.2235	0.90	74540.3140
	R2401573-001	Mo (202.032 nm)	0.0019	14.52	4.2148
	R2401573-001	Na (588.995 nm)	6.8443	1.95	55233.2409
	R2401573-001	Ni (230.299 nm)	0.0011	43.85	101.6166
	R2401573-001	Pb (220.353 nm)	0.0003	> 100.00	13.8635
	R2401573-001	Sb (217.582 nm)	0.0011 u	> 100.00	14.3871
	R2401573-001	Se (196.026 nm)	-0.0031 u	> 100.00	-1.6283
	R2401573-001	Sn (189.925 nm)	0.0082	8.44	32.1203
	R2401573-001	Sr (216.596 nm)	0.1416	1.11	2802.7665
	R2401573-001	Ti (336.122 nm)	0.0059	0.52	597.7012
	R2401573-001	Tl (190.794 nm)	-0.0006 u	> 100.00	-1.9085
	R2401573-001	V (292.401 nm)	0.0003	19.54	-64.2468
	R2401573-001	Y (360.074 nm)	0.96	1.05	478066.70
	R2401573-001	Y_R (360.074 nm)	0.96	1.06	477102.83
	R2401573-001	Zn (213.857 nm)	0.0051	1.38	240.3488
3/4/2024 20:54:39	R2401632-001 5X	Ag (328.068 nm)	0.0019	4.10	-286.1782
	R2401632-001 5X	Al (237.312 nm)	0.1948	0.05	748.6010
	R2401632-001 5X	As (188.980 nm)	-0.0002 u	> 100.00	-10.8081
	R2401632-001 5X	B (249.772 nm)	0.0392	0.36	1429.6913
	R2401632-001 5X	Ba (230.424 nm)	0.3822	0.30	18194.8211
	R2401632-001 5X	Be (313.107 nm)	0.0000 u	> 100.00	-216.2916
	R2401632-001 5X	Ca (317.933 nm)	13.9230	0.23	565398.4074
	R2401632-001 5X	Cd (214.439 nm)	0.0000 u	> 100.00	-1.1813

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401632-001 5X	Co (230.786 nm)	0.0008	38.01	75.3737
	R2401632-001 5X	Cr (267.716 nm)	0.0083	1.33	326.7912
	R2401632-001 5X	Cu (327.395 nm)	0.0798	0.11	2860.5542
	R2401632-001 5X	Fe (234.350 nm)	2.1510	0.36	48272.3603
	R2401632-001 5X	K (766.491 nm)	6.8356	0.43	7098.9828
	R2401632-001 5X	Mg (279.078 nm)	3.0283	0.21	10055.3895
	R2401632-001 5X	Mn (257.610 nm)	0.0831	0.23	27707.7907
	R2401632-001 5X	Mo (202.032 nm)	0.0039	10.79	19.7706
	R2401632-001 5X	Na (588.995 nm)	65.1445 o	0.11	577766.5569
	R2401632-001 5X	Ni (230.299 nm)	0.0036	14.72	132.1545
	R2401632-001 5X	Pb (220.353 nm)	0.0008 u	> 100.00	16.6254
	R2401632-001 5X	Sb (217.582 nm)	0.0031	36.70	19.4018
	R2401632-001 5X	Se (196.026 nm)	-0.0045 u	68.01	-2.7967
	R2401632-001 5X	Sn (189.925 nm)	0.0079	2.99	31.1795
	R2401632-001 5X	Sr (216.596 nm)	0.0587	0.76	1129.9932
	R2401632-001 5X	Ti (336.122 nm)	0.0018	0.40	41.8797
	R2401632-001 5X	Tl (190.794 nm)	0.0011 u	> 100.00	-0.5317
	R2401632-001 5X	V (292.401 nm)	0.0002	21.55	-66.9714
	R2401632-001 5X	Y (360.074 nm)	0.94	0.32	470163.42
	R2401632-001 5X	Y_R (360.074 nm)	0.94	0.32	469271.83
	R2401632-001 5X	Zn (213.857 nm)	0.0975	0.13	5763.6160
3/4/2024 20:57:44	R2401632-002 5X	Ag (328.068 nm)	0.0016	7.40	-303.9903
	R2401632-002 5X	Al (237.312 nm)	0.1438	0.59	590.5461
	R2401632-002 5X	As (188.980 nm)	0.0001 u	> 100.00	-10.2228
	R2401632-002 5X	B (249.772 nm)	0.0501	0.54	1810.6281
	R2401632-002 5X	Ba (230.424 nm)	0.2389	0.36	11363.7158
	R2401632-002 5X	Be (313.107 nm)	0.0000	> 100.00	-212.8985
	R2401632-002 5X	Ca (317.933 nm)	12.0056	0.26	487981.5752
	R2401632-002 5X	Cd (214.439 nm)	-0.0001 u	50.55	-4.4659
	R2401632-002 5X	Co (230.786 nm)	0.0004	57.85	68.1158
	R2401632-002 5X	Cr (267.716 nm)	0.0052	1.01	188.0396
	R2401632-002 5X	Cu (327.395 nm)	0.0419	1.13	1482.3572
	R2401632-002 5X	Fe (234.350 nm)	1.4294	0.41	32124.7187
	R2401632-002 5X	K (766.491 nm)	8.4546	0.76	8842.1940
	R2401632-002 5X	Mg (279.078 nm)	2.5648	0.27	8509.7410
	R2401632-002 5X	Mn (257.610 nm)	0.0692	0.28	23082.7293
	R2401632-002 5X	Mo (202.032 nm)	0.0041	4.87	21.2902
	R2401632-002 5X	Na (588.995 nm)	77.9510 o	0.16	692548.1947
	R2401632-002 5X	Ni (230.299 nm)	0.0026	4.05	120.3327
	R2401632-002 5X	Pb (220.353 nm)	0.0001 u	> 100.00	12.7932
	R2401632-002 5X	Sb (217.582 nm)	0.0049	5.25	23.9555
	R2401632-002 5X	Se (196.026 nm)	-0.0033 u	> 100.00	-1.7556
	R2401632-002 5X	Sn (189.925 nm)	0.0066	3.52	27.1923
	R2401632-002 5X	Sr (216.596 nm)	0.0504	0.47	962.4472
	R2401632-002 5X	Ti (336.122 nm)	0.0010	6.53	-59.6916
	R2401632-002 5X	Tl (190.794 nm)	0.0004 u	> 100.00	-1.0582
	R2401632-002 5X	V (292.401 nm)	0.0002	89.98	-66.6773
	R2401632-002 5X	Y (360.074 nm)	0.94	0.15	469441.48
	R2401632-002 5X	Y_R (360.074 nm)	0.94	0.15	468499.75
	R2401632-002 5X	Zn (213.857 nm)	0.0762	0.22	4488.4202
3/4/2024 21:00:48	Continuing Calibration Verification1	Ag (328.068 nm)	0.5149	0.20	30103.9499
	Continuing Calibration Verification1	Al (237.312 nm)	9.7107	0.22	30271.7377
	Continuing Calibration Verification1	As (188.980 nm)	0.9781	0.40	1792.6679
	Continuing Calibration Verification1	B (249.772 nm)	2.4174	0.25	84323.9512
	Continuing Calibration Verification1	Ba (230.424 nm)	10.1555	0.32	483877.3044
	Continuing Calibration Verification1	Be (313.107 nm)	0.2416	0.27	278196.3277
	Continuing Calibration Verification1	Ca (317.933 nm)	25.5057	0.29	1033070.5546

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5090	0.21	32590.5343
	Continuing Calibration Verification1	Co (230.786 nm)	2.5053	0.28	40160.2922
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5045	0.34	22782.2545
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2224	0.18	44436.6696
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9608	0.39	111152.9511
	Continuing Calibration Verification1	K (766.491 nm)	23.7749	0.27	25337.5509
	Continuing Calibration Verification1	Mg (279.078 nm)	24.9009	0.27	82995.9113
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7358	0.25	245451.3404
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5130	0.60	19811.2593
	Continuing Calibration Verification1	Na (588.995 nm)	25.5167	0.08	222590.8920
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0679	0.27	25044.1044
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5058	0.44	2910.4697
	Continuing Calibration Verification1	Sb (217.582 nm)	4.7694	0.44	11820.8286
	Continuing Calibration Verification1	Se (196.026 nm)	0.4774	1.06	413.7480
	Continuing Calibration Verification1	Sn (189.925 nm)	4.9832	0.41	15165.4343
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4839	0.40	50081.6186
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4791	0.44	330621.6084
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0298	0.53	871.4352
	Continuing Calibration Verification1	V (292.401 nm)	2.4667	0.31	100538.2977
	Continuing Calibration Verification1	Y (360.074 nm)	0.94	0.08	469090.19
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.94	0.08	468188.50
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9842	0.51	58794.1314
3/4/2024 21:03:52	Continuing Calibration Blank1	Ag (328.068 nm)	0.0003	73.48	-384.3075
	Continuing Calibration Blank1	Al (237.312 nm)	0.0022	75.31	150.9910
	Continuing Calibration Blank1	As (188.980 nm)	0.0005 u	> 100.00	-9.4138
	Continuing Calibration Blank1	B (249.772 nm)	0.0016	12.69	120.9745
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0012	10.56	40.0907
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	9.01	-181.3922
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0058	3.84	3472.1980
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-1.0858
	Continuing Calibration Blank1	Co (230.786 nm)	0.0001 u	> 100.00	62.7481
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0002	26.90	-36.6694
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0004 u	16.61	-57.4629
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0029	13.51	200.9571
	Continuing Calibration Blank1	K (766.491 nm)	0.1939	32.54	-52.0969
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0050	41.58	-26.4595
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	8.98	10.6735
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0045	19.25	24.2921
	Continuing Calibration Blank1	Na (588.995 nm)	0.8625	0.97	1620.0531
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0004 u	> 100.00	93.6081
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0003 u	> 100.00	10.4650
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0117 Z 0.06U	18.14	40.7207 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0011 u	38.84	0.0965
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0031	22.95	16.5112
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0002 u	> 100.00	-51.2319
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0024	24.77	123.9462
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0000 u	> 100.00	-1.4475
	Continuing Calibration Blank1	V (292.401 nm)	0.0000 u	> 100.00	-74.3780
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.08	487984.83
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.08	487053.54
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0010	1.90	-4.6557
3/4/2024 21:06:56	R2401632-003 5X	Ag (328.068 nm)	0.0015	13.54	-312.4298
	R2401632-003 5X	Al (237.312 nm)	0.1291	1.24	544.8320
	R2401632-003 5X	As (188.980 nm)	-0.0009 u	> 100.00	-12.0528
	R2401632-003 5X	B (249.772 nm)	0.0322	0.71	1185.3887
	R2401632-003 5X	Ba (230.424 nm)	0.1876	0.45	8921.8800
	R2401632-003 5X	Be (313.107 nm)	0.0000	46.50	-202.1002

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401632-003 5X	Ca (317.933 nm)	14.6718	0.48	595633.3697
	R2401632-003 5X	Cd (214.439 nm)	0.0000 u	> 100.00	0.1010
	R2401632-003 5X	Co (230.786 nm)	0.0007	42.36	73.5008
	R2401632-003 5X	Cr (267.716 nm)	0.0064	1.79	243.1046
	R2401632-003 5X	Cu (327.395 nm)	0.0887	0.32	3185.1215
	R2401632-003 5X	Fe (234.350 nm)	1.6534	0.58	37137.6051
	R2401632-003 5X	K (766.491 nm)	6.3066	0.18	6529.4807
	R2401632-003 5X	Mg (279.078 nm)	3.1623	0.35	10502.2460
	R2401632-003 5X	Mn (257.610 nm)	0.0645	0.52	21491.1158
	R2401632-003 5X	Mo (202.032 nm)	0.0036	3.63	17.0605
	R2401632-003 5X	Na (588.995 nm)	74.9442 o	0.27	665599.0706
	R2401632-003 5X	Ni (230.299 nm)	0.0023	20.56	116.5380
	R2401632-003 5X	Pb (220.353 nm)	0.0015	57.72	20.7752
	R2401632-003 5X	Sb (217.582 nm)	0.0085	17.29	32.7439
	R2401632-003 5X	Se (196.026 nm)	-0.0026 u	34.37	-1.1718
	R2401632-003 5X	Sn (189.925 nm)	0.0048	18.19	21.7858
	R2401632-003 5X	Sr (216.596 nm)	0.0625	0.30	1206.1872
	R2401632-003 5X	Ti (336.122 nm)	0.0015	3.94	9.2592
	R2401632-003 5X	Tl (190.794 nm)	0.0009 u	> 100.00	-0.6240
	R2401632-003 5X	V (292.401 nm)	0.0003	17.14	-64.0668
	R2401632-003 5X	Y (360.074 nm)	0.94	0.03	470602.36
	R2401632-003 5X	Y_R (360.074 nm)	0.94	0.02	469734.56
	R2401632-003 5X	Zn (213.857 nm)	0.0656	0.29	3856.0785
3/4/2024 21:10:00	R2401632-004 5X	Ag (328.068 nm)	0.0009	29.99	-349.2249
	R2401632-004 5X	Al (237.312 nm)	0.0915	2.09	428.1709
	R2401632-004 5X	As (188.980 nm)	-0.0004 u	> 100.00	-11.1439
	R2401632-004 5X	B (249.772 nm)	0.0303	0.52	1119.7022
	R2401632-004 5X	Ba (230.424 nm)	0.0987	0.27	4686.4006
	R2401632-004 5X	Be (313.107 nm)	0.0000 u	> 100.00	-211.4814
	R2401632-004 5X	Ca (317.933 nm)	14.2919	0.40	580293.9706
	R2401632-004 5X	Cd (214.439 nm)	0.0000 u	92.68	-2.1714
	R2401632-004 5X	Co (230.786 nm)	0.0005	45.27	70.4319
	R2401632-004 5X	Cr (267.716 nm)	0.0043	1.06	146.8175
	R2401632-004 5X	Cu (327.395 nm)	0.0469	0.29	1664.6349
	R2401632-004 5X	Fe (234.350 nm)	1.0108	0.51	22756.4692
	R2401632-004 5X	K (766.491 nm)	5.8903	0.20	6081.2037
	R2401632-004 5X	Mg (279.078 nm)	3.1892	0.38	10592.1339
	R2401632-004 5X	Mn (257.610 nm)	0.0380	0.33	12668.1405
	R2401632-004 5X	Mo (202.032 nm)	0.0031	8.63	13.4727
	R2401632-004 5X	Na (588.995 nm)	72.6088 o	0.09	644667.0980
	R2401632-004 5X	Ni (230.299 nm)	0.0017	10.89	109.5931
	R2401632-004 5X	Pb (220.353 nm)	0.0017	59.60	21.7086
	R2401632-004 5X	Sb (217.582 nm)	0.0057	20.65	26.0084
	R2401632-004 5X	Se (196.026 nm)	-0.0028 u	26.87	-1.3312
	R2401632-004 5X	Sn (189.925 nm)	0.0034	11.63	17.6995
	R2401632-004 5X	Sr (216.596 nm)	0.0620	0.44	1195.9522
	R2401632-004 5X	Ti (336.122 nm)	0.0010	2.55	-57.0611
	R2401632-004 5X	Tl (190.794 nm)	0.0008 u	> 100.00	-0.7154
	R2401632-004 5X	V (292.401 nm)	0.0001 u	> 100.00	-72.3701
	R2401632-004 5X	Y (360.074 nm)	0.94	0.03	471246.55
	R2401632-004 5X	Y_R (360.074 nm)	0.94	0.03	470334.61
	R2401632-004 5X	Zn (213.857 nm)	0.0454	0.29	2648.5015
3/4/2024 21:13:04	R2401632-005 5X	Ag (328.068 nm)	0.0015	15.63	-312.8882
	R2401632-005 5X	Al (237.312 nm)	0.1219	0.43	522.6229
	R2401632-005 5X	As (188.980 nm)	0.0009 u	> 100.00	-8.7474
	R2401632-005 5X	B (249.772 nm)	0.0256	0.78	955.5519
	R2401632-005 5X	Ba (230.424 nm)	0.1953	0.40	9287.4100

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401632-005 5X	Be (313.107 nm)	0.0000	97.98	-205.5129
	R2401632-005 5X	Ca (317.933 nm)	11.8927	0.26	483423.3718
	R2401632-005 5X	Cd (214.439 nm)	0.0000 u	45.56	-4.0009
	R2401632-005 5X	Co (230.786 nm)	0.0007	60.59	73.1370
	R2401632-005 5X	Cr (267.716 nm)	0.0091	0.17	363.9836
	R2401632-005 5X	Cu (327.395 nm)	0.0723	0.45	2588.8948
	R2401632-005 5X	Fe (234.350 nm)	1.9555	0.37	43896.3463
	R2401632-005 5X	K (766.491 nm)	6.8778	0.65	7144.5139
	R2401632-005 5X	Mg (279.078 nm)	2.5155	0.26	8345.3924
	R2401632-005 5X	Mn (257.610 nm)	0.0463	0.31	15428.9871
	R2401632-005 5X	Mo (202.032 nm)	0.0027	20.46	9.8899
	R2401632-005 5X	Na (588.995 nm)	60.5896 o	0.09	536942.0309
	R2401632-005 5X	Ni (230.299 nm)	0.0026	26.23	120.2938
	R2401632-005 5X	Pb (220.353 nm)	0.0019	10.34	22.8211
	R2401632-005 5X	Sb (217.582 nm)	0.0063	22.63	27.4977
	R2401632-005 5X	Se (196.026 nm)	-0.0035 u	74.05	-1.9316
	R2401632-005 5X	Sn (189.925 nm)	0.0049	16.16	22.2140
	R2401632-005 5X	Sr (216.596 nm)	0.0480	0.29	914.0536
	R2401632-005 5X	Ti (336.122 nm)	0.0012	6.28	-33.7661
	R2401632-005 5X	Tl (190.794 nm)	-0.0007 u	> 100.00	-1.9967
	R2401632-005 5X	V (292.401 nm)	0.0002 u	> 100.00	-69.4994
	R2401632-005 5X	Y (360.074 nm)	0.95	0.17	474619.64
	R2401632-005 5X	Y_R (360.074 nm)	0.95	0.17	473692.38
	R2401632-005 5X	Zn (213.857 nm)	0.0595	0.50	3491.4008
3/4/2024 21:16:08	R2401632-006 5X	Ag (328.068 nm)	0.0009	21.49	-348.8154
	R2401632-006 5X	Al (237.312 nm)	0.0595	0.91	329.0262
	R2401632-006 5X	As (188.980 nm)	0.0005 u	> 100.00	-9.3662
	R2401632-006 5X	B (249.772 nm)	0.0272	1.64	1010.6718
	R2401632-006 5X	Ba (230.424 nm)	0.0725	0.74	3434.1863
	R2401632-006 5X	Be (313.107 nm)	0.0000 u	> 100.00	-214.8670
	R2401632-006 5X	Ca (317.933 nm)	13.6497	0.56	554365.3808
	R2401632-006 5X	Cd (214.439 nm)	0.0000	48.91	0.2529
	R2401632-006 5X	Co (230.786 nm)	0.0003	82.39	66.8128
	R2401632-006 5X	Cr (267.716 nm)	0.0036	4.09	118.1395
	R2401632-006 5X	Cu (327.395 nm)	0.0367	1.14	1291.6848
	R2401632-006 5X	Fe (234.350 nm)	0.8915	0.75	20086.5250
	R2401632-006 5X	K (766.491 nm)	5.7480	1.57	5927.9833
	R2401632-006 5X	Mg (279.078 nm)	3.0299	0.56	10060.9517
	R2401632-006 5X	Mn (257.610 nm)	0.0342	0.71	11398.8778
	R2401632-006 5X	Mo (202.032 nm)	0.0033	9.39	14.5109
	R2401632-006 5X	Na (588.995 nm)	75.1763 o	0.66	667679.6209
	R2401632-006 5X	Ni (230.299 nm)	0.0023	8.41	117.1582
	R2401632-006 5X	Pb (220.353 nm)	0.0003	> 100.00	13.7035
	R2401632-006 5X	Sb (217.582 nm)	0.0041	39.94	21.8640
	R2401632-006 5X	Se (196.026 nm)	-0.0042 u	43.38	-2.5679
	R2401632-006 5X	Sn (189.925 nm)	0.0036	4.59	18.2021
	R2401632-006 5X	Sr (216.596 nm)	0.0590	0.96	1137.2737
	R2401632-006 5X	Ti (336.122 nm)	0.0007	3.72	-93.5445
	R2401632-006 5X	Tl (190.794 nm)	0.0018 u	> 100.00	0.0890
	R2401632-006 5X	V (292.401 nm)	-0.0002 u	> 100.00	-82.5532
	R2401632-006 5X	Y (360.074 nm)	0.95	0.22	474639.89
	R2401632-006 5X	Y_R (360.074 nm)	0.95	0.22	473758.73
	R2401632-006 5X	Zn (213.857 nm)	0.0349	0.76	2022.9047
3/4/2024 21:19:12	R2401633-001 5X	Ag (328.068 nm)	0.0116	0.86	288.5209
	R2401633-001 5X	Al (237.312 nm)	1.8798	0.56	5976.3321
	R2401633-001 5X	As (188.980 nm)	0.0313	1.99	47.3025
	R2401633-001 5X	B (249.772 nm)	1.1323	0.54	39531.4686

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401633-001 5X	Ba (230.424 nm)	1.8862	0.64	89855.6540
	R2401633-001 5X	Be (313.107 nm)	0.0000 u	21.39	-271.7528
	R2401633-001 5X	Ca (317.933 nm)	22.3387	0.65	905199.2704
	R2401633-001 5X	Cd (214.439 nm)	0.0003	3.20	17.8486
	R2401633-001 5X	Co (230.786 nm)	0.0060	1.49	158.5480
	R2401633-001 5X	Cr (267.716 nm)	0.0143	1.06	600.3472
	R2401633-001 5X	Cu (327.395 nm)	0.0491	0.60	1741.8854
	R2401633-001 5X	Fe (234.350 nm)	7.6559	0.66	171464.1953
	R2401633-001 5X	K (766.491 nm)	68.4246 o	0.65	73411.8523
	R2401633-001 5X	Mg (279.078 nm)	3.9381	0.63	13089.3429
	R2401633-001 5X	Mn (257.610 nm)	0.2174	0.48	72501.9339
	R2401633-001 5X	Mo (202.032 nm)	0.0661	1.10	509.9778
	R2401633-001 5X	Na (588.995 nm)	825.2978 o	0.06	7390864.8740
	R2401633-001 5X	Ni (230.299 nm)	0.0249	1.12	389.0056
	R2401633-001 5X	Pb (220.353 nm)	0.0709	1.91	418.7067
	R2401633-001 5X	Sb (217.582 nm)	0.0861	6.60	225.0580
	R2401633-001 5X	Se (196.026 nm)	-0.0012 u	> 100.00	0.0693
	R2401633-001 5X	Sn (189.925 nm)	0.0312	0.72	102.1725
	R2401633-001 5X	Sr (216.596 nm)	0.1096	0.58	2157.6382
	R2401633-001 5X	Ti (336.122 nm)	0.0032	2.12	234.6033
	R2401633-001 5X	Tl (190.794 nm)	-0.0051 u	16.02	-5.7455
	R2401633-001 5X	V (292.401 nm)	0.0034	4.08	62.0425
	R2401633-001 5X	Y (360.074 nm)	0.85	0.16	422162.72
	R2401633-001 5X	Y_R (360.074 nm)	0.85	0.16	421509.12
	R2401633-001 5X	Zn (213.857 nm)	0.8990	0.57	53697.4593
3/4/2024 21:22:16	R2401633-002 5X	Ag (328.068 nm)	0.0116	1.50	284.3557
	R2401633-002 5X	Al (237.312 nm)	1.7906	0.55	5699.7158
	R2401633-002 5X	As (188.980 nm)	0.0334	4.60	51.2655
	R2401633-002 5X	B (249.772 nm)	1.1012	0.64	38446.6835
	R2401633-002 5X	Ba (230.424 nm)	1.1351	0.88	54068.2799
	R2401633-002 5X	Be (313.107 nm)	0.0000 u	58.94	-241.3658
	R2401633-002 5X	Ca (317.933 nm)	23.1958	0.78	939802.6431
	R2401633-002 5X	Cd (214.439 nm)	0.0004	10.59	24.5644
	R2401633-002 5X	Co (230.786 nm)	0.0054	11.52	147.6944
	R2401633-002 5X	Cr (267.716 nm)	0.0193	0.70	826.4373
	R2401633-002 5X	Cu (327.395 nm)	0.0660	0.42	2358.9124
	R2401633-002 5X	Fe (234.350 nm)	9.9196	0.78	222123.5805
	R2401633-002 5X	K (766.491 nm)	57.7916 o	0.67	61963.3263
	R2401633-002 5X	Mg (279.078 nm)	3.4749	0.63	11544.8663
	R2401633-002 5X	Mn (257.610 nm)	0.2334	0.72	77845.2371
	R2401633-002 5X	Mo (202.032 nm)	0.0557	1.83	427.9860
	R2401633-002 5X	Na (588.995 nm)	516.6892 o	0.47	4624869.6826
	R2401633-002 5X	Ni (230.299 nm)	0.0250	4.56	391.1297
	R2401633-002 5X	Pb (220.353 nm)	0.0696	1.72	410.8043
	R2401633-002 5X	Sb (217.582 nm)	0.0765	3.38	201.1977
	R2401633-002 5X	Se (196.026 nm)	-0.0017 u	> 100.00	-0.3794
	R2401633-002 5X	Sn (189.925 nm)	0.0230	3.58	77.2155
	R2401633-002 5X	Sr (216.596 nm)	0.0858	0.67	1678.1580
	R2401633-002 5X	Ti (336.122 nm)	0.0057	1.75	567.5368
	R2401633-002 5X	Tl (190.794 nm)	0.0073	20.45	4.7662
	R2401633-002 5X	V (292.401 nm)	0.0026	7.76	30.8696
	R2401633-002 5X	Y (360.074 nm)	0.88	0.21	437552.03
	R2401633-002 5X	Y_R (360.074 nm)	0.88	0.21	436789.37
	R2401633-002 5X	Zn (213.857 nm)	1.0868	1.12	64927.6793
3/4/2024 21:25:20	R2401633-003 5X	Ag (328.068 nm)	0.0007	5.26	-357.1151
	R2401633-003 5X	Al (237.312 nm)	1.0702	1.19	3464.4243
	R2401633-003 5X	As (188.980 nm)	0.0145	6.34	16.4558

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401633-003 5X	B (249.772 nm)	0.8303	0.84	29004.8489
	R2401633-003 5X	Ba (230.424 nm)	0.3452	0.84	16428.3652
	R2401633-003 5X	Be (313.107 nm)	0.0000 u	5.92	-262.6102
	R2401633-003 5X	Ca (317.933 nm)	17.0139	0.86	690200.6231
	R2401633-003 5X	Cd (214.439 nm)	0.0001	63.59	4.8278
	R2401633-003 5X	Co (230.786 nm)	0.0027	6.64	105.2935
	R2401633-003 5X	Cr (267.716 nm)	0.0075	3.54	291.8031
	R2401633-003 5X	Cu (327.395 nm)	0.0136	2.68	451.6748
	R2401633-003 5X	Fe (234.350 nm)	5.0708	0.92	113613.9363
	R2401633-003 5X	K (766.491 nm)	57.3112 o	0.86	61446.0398
	R2401633-003 5X	Mg (279.078 nm)	3.1227	0.86	10370.3750
	R2401633-003 5X	Mn (257.610 nm)	0.1589	0.86	53005.7200
	R2401633-003 5X	Mo (202.032 nm)	0.1485	0.81	1160.1229
	R2401633-003 5X	Na (588.995 nm)	854.6963 o	0.77	7654358.1159
	R2401633-003 5X	Ni (230.299 nm)	0.0182	2.04	308.1164
	R2401633-003 5X	Pb (220.353 nm)	0.0202	2.04	127.9594
	R2401633-003 5X	Sb (217.582 nm)	0.0712	4.82	188.0117
	R2401633-003 5X	Se (196.026 nm)	0.0025 u	> 100.00	3.2139
	R2401633-003 5X	Sn (189.925 nm)	0.0146	5.67	51.5742
	R2401633-003 5X	Sr (216.596 nm)	0.0604	1.06	1164.0293
	R2401633-003 5X	Ti (336.122 nm)	0.0016	2.13	24.4803
	R2401633-003 5X	Tl (190.794 nm)	0.0005 u	> 100.00	-1.0203
	R2401633-003 5X	V (292.401 nm)	0.0013	25.19	-23.8071
	R2401633-003 5X	Y (360.074 nm)	0.85	0.52	421963.89
	R2401633-003 5X	Y_R (360.074 nm)	0.85	0.52	421310.90
	R2401633-003 5X	Zn (213.857 nm)	0.4674	0.87	27883.1035
3/4/2024 21:28:24	R2401633-004 5X	Ag (328.068 nm)	0.0147	0.76	467.8436
	R2401633-004 5X	Al (237.312 nm)	1.8962	0.43	6027.1954
	R2401633-004 5X	As (188.980 nm)	0.0363	5.88	56.4708
	R2401633-004 5X	B (249.772 nm)	0.9535	0.34	33299.3005
	R2401633-004 5X	Ba (230.424 nm)	2.0195	0.06	96208.3073
	R2401633-004 5X	Be (313.107 nm)	-0.0001 u	14.38	-275.8042
	R2401633-004 5X	Ca (317.933 nm)	24.7396	0.39	1002139.1763
	R2401633-004 5X	Cd (214.439 nm)	0.0003	50.42	15.7416
	R2401633-004 5X	Co (230.786 nm)	0.0058	4.16	154.0509
	R2401633-004 5X	Cr (267.716 nm)	0.0182	1.37	779.0110
	R2401633-004 5X	Cu (327.395 nm)	0.0551	0.38	1960.9116
	R2401633-004 5X	Fe (234.350 nm)	10.3711	0.42	232228.5161
	R2401633-004 5X	K (766.491 nm)	63.2355 o	0.52	67824.7385
	R2401633-004 5X	Mg (279.078 nm)	3.6276	0.33	12054.1102
	R2401633-004 5X	Mn (257.610 nm)	0.2494	0.31	83178.7596
	R2401633-004 5X	Mo (202.032 nm)	0.1330	1.41	1037.7457
	R2401633-004 5X	Na (588.995 nm)	1004.5048 o	0.18	8997060.4466
	R2401633-004 5X	Ni (230.299 nm)	0.0272	3.02	416.5902
	R2401633-004 5X	Pb (220.353 nm)	0.0605	1.14	358.7498
	R2401633-004 5X	Sb (217.582 nm)	0.0619	1.89	165.0593
	R2401633-004 5X	Se (196.026 nm)	0.0007 u	> 100.00	1.7177
	R2401633-004 5X	Sn (189.925 nm)	0.0279	4.34	92.1203
	R2401633-004 5X	Sr (216.596 nm)	0.1608	0.53	3191.9826
	R2401633-004 5X	Ti (336.122 nm)	0.0053	1.02	517.1104
	R2401633-004 5X	Tl (190.794 nm)	0.0076	41.68	5.0561
	R2401633-004 5X	V (292.401 nm)	0.0013	14.00	-23.4334
	R2401633-004 5X	Y (360.074 nm)	0.83	0.09	414248.77
	R2401633-004 5X	Y_R (360.074 nm)	0.83	0.09	413619.10
	R2401633-004 5X	Zn (213.857 nm)	0.7057	0.44	42137.5225
3/4/2024 21:31:27	R2401633-005 5X	Ag (328.068 nm)	0.0201	0.58	790.3893
	R2401633-005 5X	Al (237.312 nm)	1.7331	1.01	5521.1261

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401633-005 5X	As (188.980 nm)	0.0277	7.97	40.7095
	R2401633-005 5X	B (249.772 nm)	0.7122	0.76	24888.0578
	R2401633-005 5X	Ba (230.424 nm)	2.4611	0.81	117250.5148
	R2401633-005 5X	Be (313.107 nm)	-0.0001 u	18.49	-286.8651
	R2401633-005 5X	Ca (317.933 nm)	26.6151	0.83	1077863.4893
	R2401633-005 5X	Cd (214.439 nm)	0.0003	52.60	17.8952
	R2401633-005 5X	Co (230.786 nm)	0.0052	7.93	144.3213
	R2401633-005 5X	Cr (267.716 nm)	0.0189	0.90	809.0059
	R2401633-005 5X	Cu (327.395 nm)	0.0608	1.05	2169.3701
	R2401633-005 5X	Fe (234.350 nm)	12.5425 o	0.85	280821.6343
	R2401633-005 5X	K (766.491 nm)	56.8478 o	0.92	60947.0748
	R2401633-005 5X	Mg (279.078 nm)	3.8845	0.77	12910.6413
	R2401633-005 5X	Mn (257.610 nm)	0.2584	0.74	86201.3010
	R2401633-005 5X	Mo (202.032 nm)	0.0975	1.81	758.0750
	R2401633-005 5X	Na (588.995 nm)	1026.4494 o	0.20	9193745.3567
	R2401633-005 5X	Ni (230.299 nm)	0.0328	2.34	485.0346
	R2401633-005 5X	Pb (220.353 nm)	0.0559	2.18	332.6427
	R2401633-005 5X	Sb (217.582 nm)	0.0624	1.75	166.3266
	R2401633-005 5X	Se (196.026 nm)	0.0031	31.28	3.7329
	R2401633-005 5X	Sn (189.925 nm)	0.0308	2.02	100.9574
	R2401633-005 5X	Sr (216.596 nm)	0.1507	1.22	2988.2079
	R2401633-005 5X	Ti (336.122 nm)	0.0043	2.62	375.8466
	R2401633-005 5X	Tl (190.794 nm)	-0.0006 u	> 100.00	-1.9237
	R2401633-005 5X	V (292.401 nm)	0.0010	11.48	-33.4853
	R2401633-005 5X	Y (360.074 nm)	0.82	0.11	411497.53
	R2401633-005 5X	Y_R (360.074 nm)	0.82	0.12	410881.03
	R2401633-005 5X	Zn (213.857 nm)	0.8172	0.86	48806.0880
3/4/2024 21:34:31	R2401633-006 5X	Ag (328.068 nm)	0.0107	1.57	232.9393
	R2401633-006 5X	Al (237.312 nm)	1.5063	0.81	4817.6536
	R2401633-006 5X	As (188.980 nm)	0.0226	3.08	31.2405
	R2401633-006 5X	B (249.772 nm)	0.9083	0.62	31724.2016
	R2401633-006 5X	Ba (230.424 nm)	0.6560	0.64	31237.7477
	R2401633-006 5X	Be (313.107 nm)	-0.0001 u	14.82	-331.5479
	R2401633-006 5X	Ca (317.933 nm)	20.1850	0.62	818237.3419
	R2401633-006 5X	Cd (214.439 nm)	0.0004	20.85	22.3430
	R2401633-006 5X	Co (230.786 nm)	0.0034	9.32	116.6140
	R2401633-006 5X	Cr (267.716 nm)	0.0178	1.17	757.1863
	R2401633-006 5X	Cu (327.395 nm)	0.0481	1.16	1708.0910
	R2401633-006 5X	Fe (234.350 nm)	9.1861	0.56	205709.8219
	R2401633-006 5X	K (766.491 nm)	53.1353	0.66	56949.8130
	R2401633-006 5X	Mg (279.078 nm)	3.5513	0.59	11799.5313
	R2401633-006 5X	Mn (257.610 nm)	0.2062	0.73	68777.3991
	R2401633-006 5X	Mo (202.032 nm)	0.0757	1.75	586.3196
	R2401633-006 5X	Na (588.995 nm)	900.8014 o	0.61	8067588.5078
	R2401633-006 5X	Ni (230.299 nm)	0.0281	1.11	428.1064
	R2401633-006 5X	Pb (220.353 nm)	0.0372	1.78	225.2206
	R2401633-006 5X	Sb (217.582 nm)	0.0527	2.96	142.2838
	R2401633-006 5X	Se (196.026 nm)	0.0017 u	> 100.00	2.5795
	R2401633-006 5X	Sn (189.925 nm)	0.0298	1.86	97.7356
	R2401633-006 5X	Sr (216.596 nm)	0.0894	0.51	1750.2193
	R2401633-006 5X	Ti (336.122 nm)	0.0043	0.66	375.3085
	R2401633-006 5X	Tl (190.794 nm)	-0.0041 u	19.39	-4.8984
	R2401633-006 5X	V (292.401 nm)	-0.0006 u	25.25	-101.6632
	R2401633-006 5X	Y (360.074 nm)	0.84	0.17	419037.81
	R2401633-006 5X	Y_R (360.074 nm)	0.84	0.17	418431.37
	R2401633-006 5X	Zn (213.857 nm)	0.8892	0.52	53109.5416
3/4/2024 21:37:35	Continuing Calibration Verification1	Ag (328.068 nm)	0.5136	0.47	30029.7312

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Al (237.312 nm)	9.6831	0.48	30186.1877
	Continuing Calibration Verification1	As (188.980 nm)	0.9764	0.55	1789.5575
	Continuing Calibration Verification1	B (249.772 nm)	2.3984	0.49	83661.5578
	Continuing Calibration Verification1	Ba (230.424 nm)	10.0950	0.55	480993.5494
	Continuing Calibration Verification1	Be (313.107 nm)	0.2408	0.41	277318.6088
	Continuing Calibration Verification1	Ca (317.933 nm)	25.4090	0.43	1029166.4580
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5073	0.39	32485.6746
	Continuing Calibration Verification1	Co (230.786 nm)	2.4927	0.59	39957.5321
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5019	0.35	22664.1053
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2236	0.37	44478.7290
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9418	0.50	110728.0237
	Continuing Calibration Verification1	K (766.491 nm)	23.8051	0.26	25370.0870
	Continuing Calibration Verification1	Mg (279.078 nm)	24.7737	0.39	82571.8907
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7313	0.45	243979.6102
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5035	0.76	19736.1207
	Continuing Calibration Verification1	Na (588.995 nm)	25.7996	0.20	225125.6810
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0589	0.43	24935.2864
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5032	0.59	2895.7235
	Continuing Calibration Verification1	Sb (217.582 nm)	4.7946	0.35	11883.2829
	Continuing Calibration Verification1	Se (196.026 nm)	0.4823	1.22	417.9730
	Continuing Calibration Verification1	Sn (189.925 nm)	4.9604	0.44	15095.9586
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4720	0.46	49841.3538
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4737	0.66	329898.5009
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0234	0.31	865.9990
	Continuing Calibration Verification1	V (292.401 nm)	2.4590	0.41	100225.4458
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.04	475397.84
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.95	0.04	474490.40
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9794	0.61	58505.2750
3/4/2024 21:40:39	Continuing Calibration Blank1	Ag (328.068 nm)	0.0004	3.80	-380.4197
	Continuing Calibration Blank1	Al (237.312 nm)	0.0024	34.76	151.7518
	Continuing Calibration Blank1	As (188.980 nm)	-0.0001 u	> 100.00	-10.5010
	Continuing Calibration Blank1	B (249.772 nm)	0.0020	10.18	133.0312
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0011	8.39	35.2022
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	17.20	-168.6273
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0061	3.88	3484.4172
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	-1.9387
	Continuing Calibration Blank1	Co (230.786 nm)	-0.0002 u	> 100.00	58.3730
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0002	69.72	-37.6458
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0001 u	> 100.00	-41.2515
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0043	20.74	232.1848
	Continuing Calibration Blank1	K (766.491 nm)	0.2200	15.64	-24.0136
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0062	7.30	-22.6429
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	5.56	21.4416
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0045	28.22	23.9995
	Continuing Calibration Blank1	Na (588.995 nm)	0.9240	3.94	2170.7542
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0001 u	> 100.00	89.7568
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0011 u	81.88	5.6074
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0125 Z 0.06U	15.62	42.6544 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0019 u	> 100.00	-0.5691
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0020	15.61	13.3082
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0005	26.57	-45.2772
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0030	23.98	203.6144
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0000 u	> 100.00	-1.4583
	Continuing Calibration Blank1	V (292.401 nm)	0.0003	96.94	-65.2803
	Continuing Calibration Blank1	Y (360.074 nm)	0.98	0.03	490045.18
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.98	0.03	489062.18
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0011	2.33	-3.3086

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
3/4/2024 21:43:43	R2401633-007 5X	Ag (328.068 nm)	0.0007	32.36	-361.8567
	R2401633-007 5X	Al (237.312 nm)	1.1080	0.47	3581.7695
	R2401633-007 5X	As (188.980 nm)	0.0175	10.95	21.8513
	R2401633-007 5X	B (249.772 nm)	0.8510	0.34	29724.9023
	R2401633-007 5X	Ba (230.424 nm)	0.5295	0.41	25213.0929
	R2401633-007 5X	Be (313.107 nm)	-0.0001 u	9.42	-321.6697
	R2401633-007 5X	Ca (317.933 nm)	22.1181	0.48	896291.0327
	R2401633-007 5X	Cd (214.439 nm)	0.0004	20.40	23.5472
	R2401633-007 5X	Co (230.786 nm)	0.0040	12.43	126.4594
	R2401633-007 5X	Cr (267.716 nm)	0.0149	0.36	627.8687
	R2401633-007 5X	Cu (327.395 nm)	0.0819	0.86	2935.7390
	R2401633-007 5X	Fe (234.350 nm)	10.3215	0.45	231118.4137
	R2401633-007 5X	K (766.491 nm)	56.1464 o	0.43	60191.9458
	R2401633-007 5X	Mg (279.078 nm)	3.3560	0.57	11148.2189
	R2401633-007 5X	Mn (257.610 nm)	0.2233	0.42	74466.9674
	R2401633-007 5X	Mo (202.032 nm)	0.0996	1.60	774.1392
	R2401633-007 5X	Na (588.995 nm)	757.2031 o	0.07	6780546.4841
	R2401633-007 5X	Ni (230.299 nm)	0.0343	1.82	502.6303
	R2401633-007 5X	Pb (220.353 nm)	0.0309	4.14	189.1142
	R2401633-007 5X	Sb (217.582 nm)	0.0680	2.53	180.2148
	R2401633-007 5X	Se (196.026 nm)	-0.0008 u	> 100.00	0.3856
	R2401633-007 5X	Sn (189.925 nm)	0.0260	0.40	86.2610
	R2401633-007 5X	Sr (216.596 nm)	0.0952	0.56	1867.5430
	R2401633-007 5X	Ti (336.122 nm)	0.0036	4.00	282.8018
	R2401633-007 5X	Tl (190.794 nm)	-0.0051 u	37.01	-5.7617
	R2401633-007 5X	V (292.401 nm)	-0.0007 u	26.68	-103.4715
	R2401633-007 5X	Y (360.074 nm)	0.86	0.14	427720.31
	R2401633-007 5X	Y_R (360.074 nm)	0.86	0.14	427035.68
	R2401633-007 5X	Zn (213.857 nm)	1.1081	0.47	66201.6785
3/4/2024 21:46:47	R2401633-008 5X	Ag (328.068 nm)	0.0209	0.73	835.6962
	R2401633-008 5X	Al (237.312 nm)	2.1511	0.54	6817.9408
	R2401633-008 5X	As (188.980 nm)	0.0156	16.77	18.3257
	R2401633-008 5X	B (249.772 nm)	0.8341	0.53	29135.9701
	R2401633-008 5X	Ba (230.424 nm)	1.8492	0.65	88095.5655
	R2401633-008 5X	Be (313.107 nm)	-0.0001 u	9.92	-330.7303
	R2401633-008 5X	Ca (317.933 nm)	25.7639	0.71	1043493.8746
	R2401633-008 5X	Cd (214.439 nm)	0.0004	11.12	23.8551
	R2401633-008 5X	Co (230.786 nm)	0.0055	11.36	150.5688
	R2401633-008 5X	Cr (267.716 nm)	0.0248	1.11	1074.7550
	R2401633-008 5X	Cu (327.395 nm)	0.0774	0.47	2773.6818
	R2401633-008 5X	Fe (234.350 nm)	13.0822 o	0.69	292898.7255
	R2401633-008 5X	K (766.491 nm)	55.5577 o	0.59	59558.0327
	R2401633-008 5X	Mg (279.078 nm)	3.8892	0.60	12926.2592
	R2401633-008 5X	Mn (257.610 nm)	0.2481	0.54	82756.0769
	R2401633-008 5X	Mo (202.032 nm)	0.1735	1.71	1357.2686
	R2401633-008 5X	Na (588.995 nm)	581.4964 o	0.32	5205723.1966
	R2401633-008 5X	Ni (230.299 nm)	0.0346	3.10	505.8656
	R2401633-008 5X	Pb (220.353 nm)	0.0439	2.99	263.5733
	R2401633-008 5X	Sb (217.582 nm)	0.0575	3.59	154.1020
	R2401633-008 5X	Se (196.026 nm)	0.0029	51.95	3.5569
	R2401633-008 5X	Sn (189.925 nm)	0.0520	2.22	165.3087
	R2401633-008 5X	Sr (216.596 nm)	0.1298	0.63	2565.0161
	R2401633-008 5X	Ti (336.122 nm)	0.0053	0.59	510.0580
	R2401633-008 5X	Tl (190.794 nm)	-0.0015 u	> 100.00	-2.7209
	R2401633-008 5X	V (292.401 nm)	-0.0014 u	12.20	-132.5893
	R2401633-008 5X	Y (360.074 nm)	0.88	0.05	436764.45
	R2401633-008 5X	Y_R (360.074 nm)	0.87	0.05	436067.93

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401633-008 5X	Zn (213.857 nm)	1.9176	0.65	114619.3778
3/4/2024 21:49:52	R2401633-009 5X	Ag (328.068 nm)	0.0073	2.36	30.4106
	R2401633-009 5X	Al (237.312 nm)	1.3903	0.74	4457.5711
	R2401633-009 5X	As (188.980 nm)	0.0123	24.05	12.3006
	R2401633-009 5X	B (249.772 nm)	0.6799	0.62	23764.1696
	R2401633-009 5X	Ba (230.424 nm)	1.1756	0.62	55996.4876
	R2401633-009 5X	Be (313.107 nm)	-0.0001 u	5.86	-327.5594
	R2401633-009 5X	Ca (317.933 nm)	21.7048	0.75	879603.5975
	R2401633-009 5X	Cd (214.439 nm)	0.0003	45.31	17.1132
	R2401633-009 5X	Co (230.786 nm)	0.0062	5.27	161.5575
	R2401633-009 5X	Cr (267.716 nm)	0.0227	1.46	978.5363
	R2401633-009 5X	Cu (327.395 nm)	0.0506	0.49	1796.3004
	R2401633-009 5X	Fe (234.350 nm)	8.2640	0.80	185074.0150
	R2401633-009 5X	K (766.491 nm)	48.2146	0.62	51651.7827
	R2401633-009 5X	Mg (279.078 nm)	3.8722	0.79	12869.7011
	R2401633-009 5X	Mn (257.610 nm)	0.1845	0.63	61546.6986
	R2401633-009 5X	Mo (202.032 nm)	0.0825	1.21	639.9363
	R2401633-009 5X	Na (588.995 nm)	528.8801 o	0.34	4734133.4516
	R2401633-009 5X	Ni (230.299 nm)	0.0281	2.20	427.4335
	R2401633-009 5X	Pb (220.353 nm)	0.0252	0.69	156.4956
	R2401633-009 5X	Sb (217.582 nm)	0.0445	1.23	121.8637
	R2401633-009 5X	Se (196.026 nm)	0.0001 u	> 100.00	1.1530
	R2401633-009 5X	Sn (189.925 nm)	0.0257	2.90	85.3397
	R2401633-009 5X	Sr (216.596 nm)	0.0906	0.94	1773.4842
	R2401633-009 5X	Ti (336.122 nm)	0.0051	0.91	487.6803
	R2401633-009 5X	Tl (190.794 nm)	-0.0036 u	> 100.00	-4.4671
	R2401633-009 5X	V (292.401 nm)	-0.0020 u	9.66	-158.2620
	R2401633-009 5X	Y (360.074 nm)	0.88	0.10	438095.45
	R2401633-009 5X	Y_R (360.074 nm)	0.88	0.10	437365.07
	R2401633-009 5X	Zn (213.857 nm)	0.8044	0.57	48041.2071
3/4/2024 21:52:56	R2401633-010 5X	Ag (328.068 nm)	0.0163	1.17	566.5995
	R2401633-010 5X	Al (237.312 nm)	1.5930	0.24	5086.4054
	R2401633-010 5X	As (188.980 nm)	0.0147	12.63	16.7044
	R2401633-010 5X	B (249.772 nm)	1.2520	0.40	43702.8177
	R2401633-010 5X	Ba (230.424 nm)	0.7471	0.46	35580.9402
	R2401633-010 5X	Be (313.107 nm)	-0.0001 u	4.28	-358.3823
	R2401633-010 5X	Ca (317.933 nm)	27.1688	0.57	1100221.0953
	R2401633-010 5X	Cd (214.439 nm)	0.0004	5.86	26.0217
	R2401633-010 5X	Co (230.786 nm)	0.0044	11.76	132.1077
	R2401633-010 5X	Cr (267.716 nm)	0.0163	0.91	692.2125
	R2401633-010 5X	Cu (327.395 nm)	0.0608	0.94	2168.5053
	R2401633-010 5X	Fe (234.350 nm)	10.6312	0.54	238048.8681
	R2401633-010 5X	K (766.491 nm)	70.2063 o	0.61	75330.2190
	R2401633-010 5X	Mg (279.078 nm)	4.1256	0.43	13714.8503
	R2401633-010 5X	Mn (257.610 nm)	0.2647	0.47	88298.1712
	R2401633-010 5X	Mo (202.032 nm)	0.0936	1.72	727.3230
	R2401633-010 5X	Na (588.995 nm)	810.2697 o	0.36	7256171.2869
	R2401633-010 5X	Ni (230.299 nm)	0.0330	1.77	486.5858
	R2401633-010 5X	Pb (220.353 nm)	0.0265	1.92	163.7484
	R2401633-010 5X	Sb (217.582 nm)	0.0554	2.48	148.9091
	R2401633-010 5X	Se (196.026 nm)	0.0083	6.54	8.2545
	R2401633-010 5X	Sn (189.925 nm)	0.0348	1.82	113.1574
	R2401633-010 5X	Sr (216.596 nm)	0.1138	0.80	2243.3137
	R2401633-010 5X	Ti (336.122 nm)	0.0033	1.47	248.9661
	R2401633-010 5X	Tl (190.794 nm)	-0.0039 u	68.06	-4.7191
	R2401633-010 5X	V (292.401 nm)	-0.0013 u	13.53	-129.8000
	R2401633-010 5X	Y (360.074 nm)	0.85	0.23	424190.80

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401633-010 5X	Y_R (360.074 nm)	0.85	0.23	423539.70
	R2401633-010 5X	Zn (213.857 nm)	0.9929	0.50	59311.9615
3/4/2024 21:56:00	R2401633-011 5X	Ag (328.068 nm)	0.0421	0.54	2093.3208
	R2401633-011 5X	Al (237.312 nm)	0.8878	0.80	2898.6898
	R2401633-011 5X	As (188.980 nm)	0.0117	11.38	11.1692
	R2401633-011 5X	B (249.772 nm)	1.0309	0.55	35998.0799
	R2401633-011 5X	Ba (230.424 nm)	0.4860	0.43	23139.2064
	R2401633-011 5X	Be (313.107 nm)	-0.0001 u	3.27	-289.5763
	R2401633-011 5X	Ca (317.933 nm)	17.5940	0.52	713623.1637
	R2401633-011 5X	Cd (214.439 nm)	0.0002	49.56	13.5477
	R2401633-011 5X	Co (230.786 nm)	0.0029	4.78	107.5296
	R2401633-011 5X	Cr (267.716 nm)	0.0171	1.34	726.9173
	R2401633-011 5X	Cu (327.395 nm)	0.0478	1.15	1695.7074
	R2401633-011 5X	Fe (234.350 nm)	8.0991	0.56	181382.5330
	R2401633-011 5X	K (766.491 nm)	60.3530 o	0.42	64721.1475
	R2401633-011 5X	Mg (279.078 nm)	3.6532	0.55	12139.3401
	R2401633-011 5X	Mn (257.610 nm)	0.2026	0.45	67577.0455
	R2401633-011 5X	Mo (202.032 nm)	0.0617	1.40	475.3037
	R2401633-011 5X	Na (588.995 nm)	603.9485 o	0.18	5406956.2535
	R2401633-011 5X	Ni (230.299 nm)	0.0254	1.87	394.9769
	R2401633-011 5X	Pb (220.353 nm)	0.0192	1.40	121.9341
	R2401633-011 5X	Sb (217.582 nm)	0.0351	3.03	98.6285
	R2401633-011 5X	Se (196.026 nm)	0.0022	66.61	2.9597
	R2401633-011 5X	Sn (189.925 nm)	0.0156	7.14	54.7825
	R2401633-011 5X	Sr (216.596 nm)	0.0680	0.57	1317.7074
	R2401633-011 5X	Ti (336.122 nm)	0.0025	4.23	139.4202
	R2401633-011 5X	Tl (190.794 nm)	-0.0052 u	81.37	-5.7953
	R2401633-011 5X	V (292.401 nm)	0.0008	13.04	-42.0632
	R2401633-011 5X	Y (360.074 nm)	0.87	0.10	433628.60
	R2401633-011 5X	Y_R (360.074 nm)	0.87	0.10	432888.03
	R2401633-011 5X	Zn (213.857 nm)	0.7498	0.56	44773.8216
3/4/2024 21:59:03	R2401641-001	Ag (328.068 nm)	0.0002 u	> 100.00	-390.5351
	R2401641-001	Al (237.312 nm)	0.0604	4.34	331.7188
	R2401641-001	As (188.980 nm)	0.0003 u	> 100.00	-9.9025
	R2401641-001	B (249.772 nm)	0.0443	1.33	1609.8430
	R2401641-001	Ba (230.424 nm)	0.0414	0.70	1955.0270
	R2401641-001	Be (313.107 nm)	0.0000	42.23	-203.1338
	R2401641-001	Ca (317.933 nm)	82.3236 o	0.72	3327183.7369
	R2401641-001	Cd (214.439 nm)	0.0000 u	> 100.00	-0.7431
	R2401641-001	Co (230.786 nm)	0.0003	90.10	66.7731
	R2401641-001	Cr (267.716 nm)	0.0018	8.84	35.6968
	R2401641-001	Cu (327.395 nm)	0.0608	0.19	2168.3780
	R2401641-001	Fe (234.350 nm)	0.0979	0.50	2325.5566
	R2401641-001	K (766.491 nm)	4.4379	1.14	4517.4306
	R2401641-001	Mg (279.078 nm)	24.5503	0.74	81826.9361
	R2401641-001	Mn (257.610 nm)	0.0174	0.74	5781.2225
	R2401641-001	Mo (202.032 nm)	0.0039	6.83	19.8438
	R2401641-001	Na (588.995 nm)	245.8715 o	0.57	2197585.7147
	R2401641-001	Ni (230.299 nm)	0.0063	7.46	165.2767
	R2401641-001	Pb (220.353 nm)	-0.0005 u	> 100.00	9.0022
	R2401641-001	Sb (217.582 nm)	0.0021 u	> 100.00	17.0847
	R2401641-001	Se (196.026 nm)	-0.0026 u	96.68	-1.1560
	R2401641-001	Sn (189.925 nm)	0.0008	64.25	9.6355
	R2401641-001	Sr (216.596 nm)	0.8495	0.71	17091.6293
	R2401641-001	Ti (336.122 nm)	0.0013	5.64	-25.9702
	R2401641-001	Tl (190.794 nm)	-0.0027 u	> 100.00	-3.6924
	R2401641-001	V (292.401 nm)	-0.0001 u	98.94	-81.6603

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401641-001	Y (360.074 nm)	0.92	0.95	460232.74
	R2401641-001	Y_R (360.074 nm)	0.92	0.95	459390.77
	R2401641-001	Zn (213.857 nm)	0.0205	1.08	1160.4292
3/4/2024 22:02:07	R2401641-001S	Ag (328.068 nm)	0.0490	0.44	2501.7378
	R2401641-001S	Al (237.312 nm)	1.8678	0.52	5939.2599
	R2401641-001S	As (188.980 nm)	0.0378	3.03	59.2488
	R2401641-001S	B (249.772 nm)	0.9792	0.43	34196.0462
	R2401641-001S	Ba (230.424 nm)	1.9474	0.35	92772.1002
	R2401641-001S	Be (313.107 nm)	0.0455	0.37	52161.4927
	R2401641-001S	Ca (317.933 nm)	81.3748 o	0.37	3288876.6563
	R2401641-001S	Cd (214.439 nm)	0.0471	0.37	3013.4919
	R2401641-001S	Co (230.786 nm)	0.4794	0.38	7734.6237
	R2401641-001S	Cr (267.716 nm)	0.1886	0.40	8486.4694
	R2401641-001S	Cu (327.395 nm)	0.2999	0.43	10868.7710
	R2401641-001S	Fe (234.350 nm)	1.0238	0.22	23046.0254
	R2401641-001S	K (766.491 nm)	23.9027	0.41	25475.2056
	R2401641-001S	Mg (279.078 nm)	25.5727	0.41	85236.3201
	R2401641-001S	Mn (257.610 nm)	0.4775	0.35	159295.3624
	R2401641-001S	Mo (202.032 nm)	0.4769	0.68	3750.7946
	R2401641-001S	Na (588.995 nm)	256.2020 o	0.52	2290175.4698
	R2401641-001S	Ni (230.299 nm)	0.4951	0.59	6063.1654
	R2401641-001S	Pb (220.353 nm)	0.4701	0.44	2706.0242
	R2401641-001S	Sb (217.582 nm)	0.4749	0.90	1187.6451
	R2401641-001S	Se (196.026 nm)	0.9268	0.13	802.2209
	R2401641-001S	Sn (189.925 nm)	4.7950	0.38	14592.9934
	R2401641-001S	Sr (216.596 nm)	2.6671	0.28	53779.3685
	R2401641-001S	Ti (336.122 nm)	0.4681	0.25	62270.6797
	R2401641-001S	Tl (190.794 nm)	1.8462	0.24	1563.3440
	R2401641-001S	V (292.401 nm)	0.4737	0.34	19247.4898
	R2401641-001S	Y (360.074 nm)	0.92	0.53	457068.74
	R2401641-001S	Y_R (360.074 nm)	0.92	0.53	456277.76
	R2401641-001S	Zn (213.857 nm)	0.5082	0.38	30326.1036
3/4/2024 22:05:11	R2401641-001SD	Ag (328.068 nm)	0.0491	0.38	2508.8350
	R2401641-001SD	Al (237.312 nm)	1.8756	0.62	5963.2374
	R2401641-001SD	As (188.980 nm)	0.0343	6.46	52.8393
	R2401641-001SD	B (249.772 nm)	0.9866	0.47	34453.1144
	R2401641-001SD	Ba (230.424 nm)	1.9603	0.64	93385.8083
	R2401641-001SD	Be (313.107 nm)	0.0457	0.49	52460.6592
	R2401641-001SD	Ca (317.933 nm)	81.4914 o	0.47	3293584.2565
	R2401641-001SD	Cd (214.439 nm)	0.0476	0.79	3044.9500
	R2401641-001SD	Co (230.786 nm)	0.4817	0.50	7771.3977
	R2401641-001SD	Cr (267.716 nm)	0.1898	0.32	8543.1844
	R2401641-001SD	Cu (327.395 nm)	0.3014	0.61	10922.3663
	R2401641-001SD	Fe (234.350 nm)	1.0303	0.29	23192.5884
	R2401641-001SD	K (766.491 nm)	24.0508	0.35	25634.6618
	R2401641-001SD	Mg (279.078 nm)	25.6299	0.53	85427.1621
	R2401641-001SD	Mn (257.610 nm)	0.4804	0.48	160261.9803
	R2401641-001SD	Mo (202.032 nm)	0.4819	0.34	3789.9576
	R2401641-001SD	Na (588.995 nm)	256.5953 o	0.61	2293701.0923
	R2401641-001SD	Ni (230.299 nm)	0.4978	0.54	6095.8893
	R2401641-001SD	Pb (220.353 nm)	0.4734	0.48	2725.1014
	R2401641-001SD	Sb (217.582 nm)	0.4808	0.18	1202.1573
	R2401641-001SD	Se (196.026 nm)	0.9399	0.27	813.5554
	R2401641-001SD	Sn (189.925 nm)	4.8232	0.41	14678.7820
	R2401641-001SD	Sr (216.596 nm)	2.6784	0.75	54007.5218
	R2401641-001SD	Ti (336.122 nm)	0.4720	0.36	62785.3853
	R2401641-001SD	Tl (190.794 nm)	1.8511	0.31	1567.5623

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401641-001SD	V (292.401 nm)	0.4763	0.59	19351.6073
	R2401641-001SD	Y (360.074 nm)	0.92	0.74	457899.68
	R2401641-001SD	Y_R (360.074 nm)	0.92	0.74	457087.16
	R2401641-001SD	Zn (213.857 nm)	0.5111	0.61	30498.5640
3/4/2024 22:08:15	R2401641-001A	Ag (328.068 nm)	0.0512	0.12	2631.7314
	R2401641-001A	Al (237.312 nm)	1.9494	0.41	6192.2189
	R2401641-001A	As (188.980 nm)	0.0385	2.10	60.6265
	R2401641-001A	B (249.772 nm)	1.0241	0.40	35760.5594
	R2401641-001A	Ba (230.424 nm)	2.0296	0.19	96691.0172
	R2401641-001A	Be (313.107 nm)	0.0474	0.47	54410.5880
	R2401641-001A	Ca (317.933 nm)	82.2126 o	0.46	3322702.2038
	R2401641-001A	Cd (214.439 nm)	0.0493	0.26	3158.2638
	R2401641-001A	Co (230.786 nm)	0.5010	0.51	8081.0087
	R2401641-001A	Cr (267.716 nm)	0.1969	0.25	8863.6803
	R2401641-001A	Cu (327.395 nm)	0.3108	0.58	11266.6509
	R2401641-001A	Fe (234.350 nm)	1.0687	0.22	24051.0432
	R2401641-001A	K (766.491 nm)	24.7143	0.41	26349.0263
	R2401641-001A	Mg (279.078 nm)	25.8854	0.45	86279.0000
	R2401641-001A	Mn (257.610 nm)	0.4981	0.46	166149.7183
	R2401641-001A	Mo (202.032 nm)	0.5003	0.60	3935.1143
	R2401641-001A	Na (588.995 nm)	258.5827 o	0.63	2311513.8215
	R2401641-001A	Ni (230.299 nm)	0.5168	0.30	6326.0411
	R2401641-001A	Pb (220.353 nm)	0.4909	0.43	2825.5310
	R2401641-001A	Sb (217.582 nm)	0.4976	0.73	1243.9391
	R2401641-001A	Se (196.026 nm)	0.9679	0.36	837.7690
	R2401641-001A	Sn (189.925 nm)	5.0508	0.22	15371.0835
	R2401641-001A	Sr (216.596 nm)	2.7568	0.38	55590.7011
	R2401641-001A	Ti (336.122 nm)	0.4923	0.27	65494.2634
	R2401641-001A	Tl (190.794 nm)	1.9378	0.51	1641.0310
	R2401641-001A	V (292.401 nm)	0.4941	0.52	20076.0593
	R2401641-001A	Y (360.074 nm)	0.92	0.82	456575.83
	R2401641-001A	Y_R (360.074 nm)	0.91	0.82	455763.27
	R2401641-001A	Zn (213.857 nm)	0.5297	0.50	31610.9941
3/4/2024 22:11:19	R2401641-001L 5X	Ag (328.068 nm)	0.0018	8.38	-297.3190
	R2401641-001L 5X	Al (237.312 nm)	-0.0232 u	9.89	72.2547
	R2401641-001L 5X	As (188.980 nm)	0.0032	21.34	-4.4770
	R2401641-001L 5X	B (249.772 nm)	0.0000 u	> 100.00	65.6537
	R2401641-001L 5X	Ba (230.424 nm)	0.0010	59.83	29.2342
	R2401641-001L 5X	Be (313.107 nm)	0.0001	4.63	-55.5655
	R2401641-001L 5X	Ca (317.933 nm)	1.1761	83.56	50723.3298
	R2401641-001L 5X	Cd (214.439 nm)	0.0001	32.07	5.1259
	R2401641-001L 5X	Co (230.786 nm)	-0.0022 u	3.05	26.1786
	R2401641-001L 5X	Cr (267.716 nm)	0.0010	2.71	-0.6529
	R2401641-001L 5X	Cu (327.395 nm)	0.0017	39.72	19.5925
	R2401641-001L 5X	Fe (234.350 nm)	0.0005 u	> 100.00	147.7163
	R2401641-001L 5X	K (766.491 nm)	0.2564	17.57	15.2136
	R2401641-001L 5X	Mg (279.078 nm)	0.3198	78.28	1023.2778
	R2401641-001L 5X	Mn (257.610 nm)	0.0004	72.97	101.7883
	R2401641-001L 5X	Mo (202.032 nm)	0.0031	23.95	13.6134
	R2401641-001L 5X	Na (588.995 nm)	3.8104	68.13	28041.0624
	R2401641-001L 5X	Ni (230.299 nm)	-0.0038 u	16.41	43.2264
	R2401641-001L 5X	Pb (220.353 nm)	-0.0012 u	58.15	5.2025
	R2401641-001L 5X	Sb (217.582 nm)	-0.0018 u	12.25	7.2140
	R2401641-001L 5X	Se (196.026 nm)	-0.0010 u	44.19	0.2428
	R2401641-001L 5X	Sn (189.925 nm)	0.0153	31.58	53.8550
	R2401641-001L 5X	Sr (216.596 nm)	0.0166	75.94	280.8585
	R2401641-001L 5X	Ti (336.122 nm)	0.0015	22.28	11.6816

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	R2401641-001L 5X	Tl (190.794 nm)	0.0012	8.17	-0.3852
	R2401641-001L 5X	V (292.401 nm)	0.0009	7.87	-37.9626
	R2401641-001L 5X	Y (360.074 nm)	2.33 ^	4.22	1164561.68
	R2401641-001L 5X	Y_R (360.074 nm)	2.33 ^	4.21	1161873.46
	R2401641-001L 5X	Zn (213.857 nm)	0.0007	37.76	-24.0149
3/4/2024 22:14:22	Continuing Calibration Verification1	Ag (328.068 nm)	0.5149	0.48	30107.1178
	Continuing Calibration Verification1	Al (237.312 nm)	9.7319	0.42	30337.4210
	Continuing Calibration Verification1	As (188.980 nm)	0.9769	0.81	1790.4772
	Continuing Calibration Verification1	B (249.772 nm)	2.4160	0.47	84277.0345
	Continuing Calibration Verification1	Ba (230.424 nm)	10.1257	0.71	482454.6730
	Continuing Calibration Verification1	Be (313.107 nm)	0.2411	0.53	277660.1599
	Continuing Calibration Verification1	Ca (317.933 nm)	25.4318	0.61	1030085.6134
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5080	0.47	32524.4631
	Continuing Calibration Verification1	Co (230.786 nm)	2.4975	0.39	40035.2183
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5037	0.46	22743.7085
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2255	0.39	44547.3541
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9529	0.66	110974.3163
	Continuing Calibration Verification1	K (766.491 nm)	23.9327	0.35	25507.4044
	Continuing Calibration Verification1	Mg (279.078 nm)	24.8282	0.55	82753.6496
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7344	0.56	245007.2825
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5086	0.89	19776.7102
	Continuing Calibration Verification1	Na (588.995 nm)	25.3223	0.33	220848.2292
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0637	0.55	24993.2429
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5056	0.91	2909.2489
	Continuing Calibration Verification1	Sb (217.582 nm)	4.7701	0.69	11822.6772
	Continuing Calibration Verification1	Se (196.026 nm)	0.4808	0.38	416.7041
	Continuing Calibration Verification1	Sn (189.925 nm)	4.9730	0.61	15134.4580
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4678	0.74	49757.6532
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4801	0.72	330745.6945
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0268	0.20	868.8675
	Continuing Calibration Verification1	V (292.401 nm)	2.4642	0.53	100438.0413
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.11	474746.97
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.95	0.11	473827.39
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9820	0.48	58663.3377
3/4/2024 22:17:26	Continuing Calibration Blank1	Ag (328.068 nm)	0.0003	18.72	-383.8691
	Continuing Calibration Blank1	Al (237.312 nm)	0.0019	> 100.00	150.0939
	Continuing Calibration Blank1	As (188.980 nm)	0.0001 u	> 100.00	-10.2462
	Continuing Calibration Blank1	B (249.772 nm)	0.0020	13.24	133.4946
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0011	5.24	35.5410
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	25.85	-174.5021
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0064	2.00	3494.1524
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	0.2702
	Continuing Calibration Blank1	Co (230.786 nm)	0.0000 u	> 100.00	62.1542
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0003	68.52	-31.2958
	Continuing Calibration Blank1	Cu (327.395 nm)	0.0002 u	> 100.00	-37.0141
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0034	19.89	211.7396
	Continuing Calibration Blank1	K (766.491 nm)	0.1134	31.39	-138.7295
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0055	16.03	-24.8205
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	19.26	17.9880
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0044	22.68	23.4535
	Continuing Calibration Blank1	Na (588.995 nm)	0.5774	1.28	-935.3178
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0005	54.30	95.4514
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0006 u	> 100.00	8.9233
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0097	5.29	35.7577
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0018 u	72.33	-0.4606
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0049	7.80	22.1050
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0002 u	96.50	-49.7940

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0028	26.08	184.7527
	Continuing Calibration Blank1	Tl (190.794 nm)	-0.0001 u	> 100.00	-1.4776
	Continuing Calibration Blank1	V (292.401 nm)	0.0001	64.11	-70.3072
	Continuing Calibration Blank1	Y (360.074 nm)	0.99	0.25	492975.45
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.99	0.25	492041.70
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0011	6.58	-3.3536
3/4/2024 22:20:30	Contract Required Detection Limit	Ag (328.068 nm)	0.0103	1.94	210.8301
	Contract Required Detection Limit	Al (237.312 nm)	0.1890	1.05	730.7891
	Contract Required Detection Limit	As (188.980 nm)	0.0182	4.46	23.1535
	Contract Required Detection Limit	B (249.772 nm)	0.1953	0.61	6870.5537
	Contract Required Detection Limit	Ba (230.424 nm)	0.2048	0.26	9739.2126
	Contract Required Detection Limit	Be (313.107 nm)	0.0047	0.35	5256.3028
	Contract Required Detection Limit	Ca (317.933 nm)	1.0091	0.34	43981.3246
	Contract Required Detection Limit	Cd (214.439 nm)	0.0102	0.78	650.1700
	Contract Required Detection Limit	Co (230.786 nm)	0.0510	0.84	878.3280
	Contract Required Detection Limit	Cr (267.716 nm)	0.0099	2.33	400.4776
	Contract Required Detection Limit	Cu (327.395 nm)	0.0244	1.89	845.2514
	Contract Required Detection Limit	Fe (234.350 nm)	0.1009	0.44	2393.9545
	Contract Required Detection Limit	K (766.491 nm)	1.0067	0.81	823.0301
	Contract Required Detection Limit	Mg (279.078 nm)	0.9742	0.25	3205.3312
	Contract Required Detection Limit	Mn (257.610 nm)	0.0152	0.48	5070.2073
	Contract Required Detection Limit	Mo (202.032 nm)	0.0257	2.04	191.3173
	Contract Required Detection Limit	Na (588.995 nm)	1.4413 R 144%	0.27	6807.7734 R
	Contract Required Detection Limit	Ni (230.299 nm)	0.0414	1.20	588.7956
	Contract Required Detection Limit	Pb (220.353 nm)	0.0105	3.88	72.5862
	Contract Required Detection Limit	Sb (217.582 nm)	0.0612	1.59	163.2588
	Contract Required Detection Limit	Se (196.026 nm)	0.0055 R 55%	50.19	5.8674 R
	Contract Required Detection Limit	Sn (189.925 nm)	0.4996	0.45	1526.9296
	Contract Required Detection Limit	Sr (216.596 nm)	0.1016	0.29	1996.6186
	Contract Required Detection Limit	Ti (336.122 nm)	0.0494	0.49	6397.5536
	Contract Required Detection Limit	Tl (190.794 nm)	0.0204	5.03	15.8609
	Contract Required Detection Limit	V (292.401 nm)	0.0484	0.35	1899.8457
	Contract Required Detection Limit	Y (360.074 nm)	0.99	0.28	492715.77
	Contract Required Detection Limit	Y_R (360.074 nm)	0.99	0.27	491725.65
	Contract Required Detection Limit	Zn (213.857 nm)	0.0197	0.60	1112.5073
3/4/2024 22:23:34	Interference Check Solution A	Ag (328.068 nm)	0.0000	80.67	-399.9793
	Interference Check Solution A	Al (237.312 nm)	246.4927 o	0.55	764886.5552
	Interference Check Solution A	As (188.980 nm)	-0.0031 u	10.61	-16.1567
	Interference Check Solution A	B (249.772 nm)	0.1160	0.28	4107.1382
	Interference Check Solution A	Ba (230.424 nm)	0.0007	7.23	14.2811
	Interference Check Solution A	Be (313.107 nm)	0.0000 u	36.40	-235.1734
	Interference Check Solution A	Ca (317.933 nm)	237.7315 o	0.66	9602032.8261
	Interference Check Solution A	Cd (214.439 nm)	-0.0007 u	15.56	-45.2144
	Interference Check Solution A	Co (230.786 nm)	0.0015	19.64	86.1534
	Interference Check Solution A	Cr (267.716 nm)	-0.0003 u	83.56	-59.8356
	Interference Check Solution A	Cu (327.395 nm)	0.0006	37.48	-19.9861
	Interference Check Solution A	Fe (234.350 nm)	92.4713 o	0.66	2069527.1109
	Interference Check Solution A	K (766.491 nm)	0.1550	14.05	-94.0015
	Interference Check Solution A	Mg (279.078 nm)	256.3016 o	0.64	854668.8164
	Interference Check Solution A	Mn (257.610 nm)	0.0012	3.55	400.1116
	Interference Check Solution A	Mo (202.032 nm)	-0.0020 u	43.24	-26.5589
	Interference Check Solution A	Na (588.995 nm)	0.6463	1.06	-317.6076
	Interference Check Solution A	Ni (230.299 nm)	0.0017	29.91	109.7091
	Interference Check Solution A	Pb (220.353 nm)	-0.0005 u	82.16	9.1419
	Interference Check Solution A	Sb (217.582 nm)	0.0034	44.51	20.1321
	Interference Check Solution A	Se (196.026 nm)	-0.0091 u	73.72	-6.7752
	Interference Check Solution A	Sn (189.925 nm)	0.0045	13.05	20.8968

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Interference Check Solution A	Sr (216.596 nm)	0.0097	4.05	140.8199
	Interference Check Solution A	Ti (336.122 nm)	0.0031	1.74	214.5820
	Interference Check Solution A	Tl (190.794 nm)	0.0007 u	> 100.00	-0.8595
	Interference Check Solution A	V (292.401 nm)	0.0018	5.01	-0.6243
	Interference Check Solution A	Y (360.074 nm)	0.88	0.03	437273.72
	Interference Check Solution A	Y_R (360.074 nm)	0.88	0.03	436465.97
	Interference Check Solution A	Zn (213.857 nm)	0.0114 K +/- 0.02	1.13	614.9547 K
3/4/2024 22:26:37	Interference Check Solution AB	Ag (328.068 nm)	0.2017	0.58	11551.3564
	Interference Check Solution AB	Al (237.312 nm)	247.2567 o	0.58	767256.7344
	Interference Check Solution AB	As (188.980 nm)	0.0908	6.61	157.0172
	Interference Check Solution AB	B (249.772 nm)	0.1141	0.54	4039.9096
	Interference Check Solution AB	Ba (230.424 nm)	0.5185	0.77	24686.8899
	Interference Check Solution AB	Be (313.107 nm)	0.4784	0.49	551147.1024
	Interference Check Solution AB	Ca (317.933 nm)	238.5538 o	0.71	9635233.1024
	Interference Check Solution AB	Cd (214.439 nm)	0.9723	0.71	62256.7358
	Interference Check Solution AB	Co (230.786 nm)	0.4764	0.67	7686.0616
	Interference Check Solution AB	Cr (267.716 nm)	0.4952	0.72	22360.2343
	Interference Check Solution AB	Cu (327.395 nm)	0.5204	0.69	18891.4569
	Interference Check Solution AB	Fe (234.350 nm)	92.7883 o	0.70	2076620.9656
	Interference Check Solution AB	K (766.491 nm)	0.1047	21.71	-148.0859
	Interference Check Solution AB	Mg (279.078 nm)	257.4144 o	0.65	858379.9115
	Interference Check Solution AB	Mn (257.610 nm)	0.4808	0.64	160387.6998
	Interference Check Solution AB	Mo (202.032 nm)	-0.0021 u	24.05	-27.9838
	Interference Check Solution AB	Na (588.995 nm)	0.6007	1.21	-726.3417
	Interference Check Solution AB	Ni (230.299 nm)	0.9723	0.68	11822.1474
	Interference Check Solution AB	Pb (220.353 nm)	0.0500	1.47	298.3981
	Interference Check Solution AB	Sb (217.582 nm)	0.5977	1.10	1491.7617
	Interference Check Solution AB	Se (196.026 nm)	0.0434	4.68	38.5740
	Interference Check Solution AB	Sn (189.925 nm)	0.0020	20.94	13.4313
	Interference Check Solution AB	Sr (216.596 nm)	0.0095	4.35	136.6605
	Interference Check Solution AB	Ti (336.122 nm)	0.0029	4.87	188.5914
	Interference Check Solution AB	Tl (190.794 nm)	0.1012	4.06	84.3587
	Interference Check Solution AB	V (292.401 nm)	0.4984	0.61	20252.3329
	Interference Check Solution AB	Y (360.074 nm)	0.88	0.10	437861.82
	Interference Check Solution AB	Y_R (360.074 nm)	0.88	0.10	437065.11
	Interference Check Solution AB	Zn (213.857 nm)	0.9887	0.61	59063.3804
3/4/2024 22:29:41	Continuing Calibration Verification1	Ag (328.068 nm)	0.5135	0.42	30024.9181
	Continuing Calibration Verification1	Al (237.312 nm)	9.7153	0.39	30286.0894
	Continuing Calibration Verification1	As (188.980 nm)	0.9772	0.36	1790.9227
	Continuing Calibration Verification1	B (249.772 nm)	2.4088	0.54	84023.3353
	Continuing Calibration Verification1	Ba (230.424 nm)	10.1146	0.56	481925.4419
	Continuing Calibration Verification1	Be (313.107 nm)	0.2406	0.47	277062.1008
	Continuing Calibration Verification1	Ca (317.933 nm)	25.4444	0.45	1030595.9596
	Continuing Calibration Verification1	Cd (214.439 nm)	0.5071	0.51	32471.4746
	Continuing Calibration Verification1	Co (230.786 nm)	2.4893	0.40	39903.8276
	Continuing Calibration Verification1	Cr (267.716 nm)	0.5027	0.48	22700.1286
	Continuing Calibration Verification1	Cu (327.395 nm)	1.2212	0.47	44392.5422
	Continuing Calibration Verification1	Fe (234.350 nm)	4.9658	0.43	111263.0501
	Continuing Calibration Verification1	K (766.491 nm)	23.7208	0.34	25279.2620
	Continuing Calibration Verification1	Mg (279.078 nm)	24.8261	0.40	82746.4789
	Continuing Calibration Verification1	Mn (257.610 nm)	0.7328	0.49	244456.7903
	Continuing Calibration Verification1	Mo (202.032 nm)	2.5009	0.79	19715.8272
	Continuing Calibration Verification1	Na (588.995 nm)	24.9834	0.36	217811.0788
	Continuing Calibration Verification1	Ni (230.299 nm)	2.0580	0.41	24924.1190
	Continuing Calibration Verification1	Pb (220.353 nm)	0.5029	0.43	2894.3323
	Continuing Calibration Verification1	Sb (217.582 nm)	4.7573	0.53	11791.0080
	Continuing Calibration Verification1	Se (196.026 nm)	0.4797	0.39	415.7656

DateTimeMeasured	SolutionLabel	Element Label (nm)	Unadjusted Conc (ppm)	%RSD	Intensity (c/s)
	Continuing Calibration Verification1	Sn (189.925 nm)	4.9587	0.39	15090.8185
	Continuing Calibration Verification1	Sr (216.596 nm)	2.4708	0.49	49817.1927
	Continuing Calibration Verification1	Ti (336.122 nm)	2.4729	0.60	329788.7852
	Continuing Calibration Verification1	Tl (190.794 nm)	1.0313	1.31	872.7170
	Continuing Calibration Verification1	V (292.401 nm)	2.4595	0.48	100246.8464
	Continuing Calibration Verification1	Y (360.074 nm)	0.95	0.22	474761.56
	Continuing Calibration Verification1	Y_R (360.074 nm)	0.95	0.22	473813.65
	Continuing Calibration Verification1	Zn (213.857 nm)	0.9816	0.42	58640.9191
3/4/2024 22:32:45	Continuing Calibration Blank1	Ag (328.068 nm)	0.0005	36.47	-372.2550
	Continuing Calibration Blank1	Al (237.312 nm)	0.0064	30.10	164.2675
	Continuing Calibration Blank1	As (188.980 nm)	0.0007 u	> 100.00	-8.9871
	Continuing Calibration Blank1	B (249.772 nm)	0.0016	9.36	119.9454
	Continuing Calibration Blank1	Ba (230.424 nm)	0.0013	7.21	43.7171
	Continuing Calibration Blank1	Be (313.107 nm)	0.0000	15.48	-167.0180
	Continuing Calibration Blank1	Ca (317.933 nm)	0.0081	10.99	3561.6293
	Continuing Calibration Blank1	Cd (214.439 nm)	0.0000 u	> 100.00	0.5266
	Continuing Calibration Blank1	Co (230.786 nm)	0.0002 u	> 100.00	65.0479
	Continuing Calibration Blank1	Cr (267.716 nm)	0.0003	38.75	-33.2231
	Continuing Calibration Blank1	Cu (327.395 nm)	-0.0002 u	> 100.00	-49.1486
	Continuing Calibration Blank1	Fe (234.350 nm)	0.0055	5.76	259.2071
	Continuing Calibration Blank1	K (766.491 nm)	0.1022	23.55	-150.8441
	Continuing Calibration Blank1	Mg (279.078 nm)	0.0058	25.19	-23.9832
	Continuing Calibration Blank1	Mn (257.610 nm)	0.0001	9.79	30.0515
	Continuing Calibration Blank1	Mo (202.032 nm)	0.0045	25.97	24.4839
	Continuing Calibration Blank1	Na (588.995 nm)	0.4100	1.64	-2435.9053
	Continuing Calibration Blank1	Ni (230.299 nm)	0.0000 u	> 100.00	88.4309
	Continuing Calibration Blank1	Pb (220.353 nm)	-0.0011 u	65.44	5.5731
	Continuing Calibration Blank1	Sb (217.582 nm)	0.0109 Z 0.06U	9.13	38.7088 Z
	Continuing Calibration Blank1	Se (196.026 nm)	-0.0024 u	61.69	-1.0350
	Continuing Calibration Blank1	Sn (189.925 nm)	0.0023	16.53	14.1246
	Continuing Calibration Blank1	Sr (216.596 nm)	0.0003	39.72	-47.6035
	Continuing Calibration Blank1	Ti (336.122 nm)	0.0028	22.13	179.5003
	Continuing Calibration Blank1	Tl (190.794 nm)	0.0019	85.31	0.1935
	Continuing Calibration Blank1	V (292.401 nm)	0.0003	42.38	-63.2078
	Continuing Calibration Blank1	Y (360.074 nm)	0.99	0.07	492479.19
	Continuing Calibration Blank1	Y_R (360.074 nm)	0.99	0.06	491447.64
	Continuing Calibration Blank1	Zn (213.857 nm)	0.0010	8.24	-4.4161

Summary Calibration Results

Element and wavelength	Type	Units	Equation	Correlation Coefficient	%RSE
Ag (328.068 nm)	Analyte	ppm	59251.18397914 * Concentration - 401.52847244	0.99999	4.76361422
Al (237.312 nm)	Analyte	ppm	3102.49428429 * Concentration + 144.27767774	1.00000	6.24021602
As (188.980 nm)	Analyte	ppm	1843.33634812 * Concentration - 10.36397165	1.00000	23.233587 09
B (249.772 nm)	Analyte	ppm	34855.85036000 * Concentration + 64.13231607	1.00000	3.32157958
Ba (230.424 nm)	Analyte	ppm	47648.51698969 * Concentration - 18.34304746	0.99994	6.66596715
Be (313.107 nm)	Analyte	ppm	1152409.87663138 * Concentration - 217.60599269	0.99999	2.14871545
Ca (317.933 nm)	Analyte	ppm	40376.62133547 * Concentration + 3236.34929410	0.99997	3.22790343
Cd (214.439 nm)	Analyte	ppm	64032.05596945 * Concentration - 0.94891529	0.99996	6.40854986
Co (230.786 nm)	Analyte	ppm	16005.31822296 * Concentration + 61.78636516	0.99996	4.62109500
Cr (267.716 nm)	Analyte	ppm	45247.99536685 * Concentration - 46.57799002	0.99998	3.05494857
Cu (327.395 nm)	Analyte	ppm	36386.04183969 * Concentration - 43.35059815	1.00000	0.92137587
Fe (234.350 nm)	Analyte	ppm	22378.75148996 * Concentration + 135.71466420	0.99998	2.66471239
K (766.491 nm)	Analyte	ppm	1076.69856858 * Concentration - 260.84992513	0.99998	3.75043630
Mg (279.078 nm)	Analyte	ppm	3334.79083713 * Concentration - 43.26819647	1.00000	0.93121254
Mn (257.610 nm)	Analyte	ppm	333626.02122544 * Concentration - 15.10280736	0.99998	3.99692990
Mo (202.032 nm)	Analyte	ppm	7888.01118351 * Concentration - 11.16329284	1.00000	2.00917597
Na (588.995 nm)	Analyte	ppm	8962.79569412 * Concentration - 6110.45848823	1.00000	8.68019944
Ni (230.299 nm)	Analyte	ppm	12067.75858895 * Concentration + 88.87070629	0.99995	7.12650152
Pb (220.353 nm)	Analyte	ppm	5730.56443812 * Concentration + 12.14957074	0.99996	5.66713442
Sb (217.582 nm)	Analyte	ppm	2476.02403283 * Concentration + 11.78404812	1.00000	3.65928434
Se (196.026 nm)	Analyte	ppm	864.43314334 * Concentration + 1.07943436	0.99999	38.386414 17
Sn (189.925 nm)	Analyte	ppm	3041.85348305 * Concentration + 7.22628574	0.99998	3.24859929
Sr (216.596 nm)	Analyte	ppm	20184.59945466 * Concentration - 54.52625235	0.99997	5.06051476
Ti (336.122 nm)	Analyte	ppm	133438.89993680 * Concentration - 192.83086427	1.00000	1.42132868
Tl (190.794 nm)	Analyte	ppm	847.57643785 * Concentration - 1.42453574	0.99997	5.97274999
V (292.401 nm)	Analyte	ppm	40789.14968104 * Concentration - 75.93320662	1.00000	6.23782578
Zn (213.857 nm)	Analyte	ppm	59805.84669851 * Concentration - 67.20591350	0.99998	3.21318650

Detailed Calibration Results

Ag (328.068 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-401.5285	0.0000	0.0000	N/A
Standard 3	217.2250	0.0100	0.0104	4.4289
Standard 4	11656.4109	0.2000	0.2035	1.7527
Standard 5	58807.8526	1.0000	0.9993	0.0706

Al (237.312 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	144.2777	0.0000	0.0000	N/A
Standard 2	435.2625	0.1000	0.0938	6.2094
Standard 4	12631.0727	4.0000	4.0248	0.6190
Standard 5	62178.8961	20.0000	19.9951	0.0246

As (188.980 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-10.3640	0.0000	0.0000	N/A
Standard 1	-4.1213	0.0050	0.0034	32.2678
Standard 2	6.9398	0.0100	0.0094	6.1280

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Standard 4	720.2404	0.4000	0.3963	0.9128
Standard 5	3677.6678	2.0000	2.0007	0.0369

B (249.772 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	64.1323	0.0000	0.0000	N/A
Standard 2	6821.9110	0.2000	0.1939	3.0611
Standard 4	34470.9439	1.0000	0.9871	1.2883
Standard 5	174441.7275	5.0000	5.0028	0.0564

Ba (230.424 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-18.3430	0.0000	0.0000	N/A
Standard 1	977.6382	0.0200	0.0209	4.5134
Standard 4	199918.0123	4.0000	4.1961	4.9017
Standard 5	951083.4963	20.0000	19.9608	0.1961

Be (313.107 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-217.6060	0.0000	0.0000	N/A
Standard 2	3155.1854	0.0030	0.0029	2.4424
Standard 3	5506.4035	0.0050	0.0050	0.6602
Standard 4	116961.5087	0.1000	0.1017	1.6818
Standard 5	575600.5939	0.5000	0.4997	0.0671

Ca (317.933 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	3236.3493	0.0000	0.0000	N/A
Standard 2	44046.1754	1.0000	1.0107	1.0729
Standard 3	23923.0428	0.5000	0.5123	2.4687
Standard 4	421877.0260	10.0000	10.3684	3.6839
Standard 5	2019078.8755	50.0000	49.9260	0.1480

Cd (214.439 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-0.9489	0.0000	0.0000	N/A
Standard 1	65.0780	0.0010	0.0010	3.1154
Standard 2	343.0742	0.0050	0.0054	7.4534
Standard 4	13331.1907	0.2000	0.2082	4.1052
Standard 5	63925.8401	1.0000	0.9984	0.1644

Co (230.786 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	61.7864	0.0000	0.0000	N/A
Standard 1	108.3154	0.0030	0.0029	3.0967
Standard 3	894.3179	0.0500	0.0520	4.0319
Standard 4	16723.8373	1.0000	1.0410	4.1032
Standard 5	79956.7092	5.0000	4.9918	0.1645

Cr (267.716 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-46.5780	0.0000	0.0000	N/A
Standard 1	185.6906	0.0050	0.0051	2.6647
Standard 3	414.8914	0.0100	0.0102	1.9867

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Standard 4	9252.5935	0.2000	0.2055	2.7578
Standard 5	45151.3829	1.0000	0.9989	0.1106

Cu (327.395 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-43.3506	0.0000	0.0000	N/A
Standard 1	318.2417	0.0100	0.0099	0.6233
Standard 2	691.3050	0.0200	0.0202	0.9529
Standard 4	18264.8123	0.5000	0.5032	0.6329
Standard 5	90898.6792	2.5000	2.4994	0.0254

Fe (234.350 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	135.7147	0.0000	0.0000	N/A
Standard 3	2378.7296	0.1000	0.1002	0.2297
Standard 4	46080.4882	2.0000	2.0531	2.6527
Standard 5	223685.7240	10.0000	9.9894	0.1061

K (766.491 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-260.8499	0.0000	0.0000	N/A
Standard 2	1831.9118	2.0000	1.9437	2.8158
Standard 3	258.5256	0.5000	0.4824	3.5244
Standard 4	10206.0549	10.0000	9.7213	2.7870
Standard 5	53636.7098	50.0000	50.0582	0.1163

Mg (279.078 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-43.2682	0.0000	0.0000	N/A
Standard 2	3261.5920	1.0000	0.9910	0.8975
Standard 3	1625.8298	0.5000	0.5005	0.1021
Standard 4	33623.9609	10.0000	10.0958	0.9575
Standard 5	166632.9911	50.0000	49.9810	0.0380

Mn (257.610 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-15.1028	0.0000	0.0000	N/A
Standard 1	3405.8215	0.0100	0.0103	2.5377
Standard 4	103160.9103	0.3000	0.3093	3.0855
Standard 5	499805.7233	1.5000	1.4981	0.1235

Mo (202.032 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-11.1633	0.0000	0.0000	N/A
Standard 1	182.6573	0.0250	0.0246	1.7138
Standard 4	7959.4968	1.0000	1.0105	1.0478
Standard 5	39412.3797	5.0000	4.9979	0.0419

Na (588.995 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-6110.4585	0.0000	0.0000	N/A
Standard 2	2276.6629	1.0000	0.9358	6.4229
Standard 3	-2097.0348	0.5000	0.4478	10.4426
Standard 4	82958.4159	10.0000	9.9376	0.6238

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Standard 5	442157.3360	50.0000	50.0143	0.0286

Ni (230.299 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	88.8707	0.0000	0.0000	N/A
Standard 3	598.2805	0.0400	0.0422	5.5312
Standard 4	10176.5599	0.8000	0.8359	4.4901
Standard 5	48272.9416	4.0000	3.9928	0.1802

Pb (220.353 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	12.1496	0.0000	0.0000	N/A
Standard 1	42.5462	0.0050	0.0053	6.0858
Standard 2	307.3287	0.0500	0.0515	3.0192
Standard 4	1206.9531	0.2000	0.2085	4.2483
Standard 5	5732.5346	1.0000	0.9982	0.1776

Sb (217.582 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	11.7840	0.0000	0.0000	N/A
Standard 1	37.7649	0.0100	0.0105	4.9299
Standard 2	158.2124	0.0600	0.0591	1.4358
Standard 4	4995.7264	2.0000	2.0129	0.6441
Standard 5	24765.6571	10.0000	9.9974	0.0257

Se (196.026 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	1.0794	0.0000	0.0000	N/A
Standard 2	6.4062	0.0100	0.0062	38.3786
Standard 4	175.3048	0.2000	0.2015	0.7744
Standard 5	865.2780	1.0000	0.9997	0.0271

Sn (189.925 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	7.2263	0.0000	0.0000	N/A
Standard 2	1548.5560	0.5000	0.5067	1.3415
Standard 4	6270.7789	2.0000	2.0591	2.9562
Standard 5	30388.7718	10.0000	9.9878	0.1216

Sr (216.596 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-54.5263	0.0000	0.0000	N/A
Standard 3	990.3218	0.0500	0.0518	3.5292
Standard 4	20861.5304	1.0000	1.0362	3.6238
Standard 5	100721.8234	5.0000	4.9927	0.1453

Ti (336.122 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-192.8309	0.0000	0.0000	N/A
Standard 3	6448.7474	0.0500	0.0498	0.4551
Standard 4	135041.3711	1.0000	1.0135	1.3454
Standard 5	666642.9121	5.0000	4.9973	0.0538

Tl (190.794 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-1.4245	0.0000	0.0000	N/A
Standard 1	7.6552	0.0100	0.0107	7.1264
Standard 3	15.1225	0.0200	0.0195	2.3860
Standard 4	350.6688	0.4000	0.4154	3.8530
Standard 5	1691.1168	2.0000	1.9969	0.1541

V (292.401 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-75.9332	0.0000	0.0000	N/A
Standard 1	35.7921	0.0030	0.0027	8.6969
Standard 3	1938.0934	0.0500	0.0494	1.2469
Standard 4	41036.8963	1.0000	1.0079	0.7935
Standard 5	203805.3399	5.0000	4.9984	0.0316

Zn (213.857 nm)

Standard	Intensity	Method Concentration	Calculated Concentration	% Error
Blank	-67.2059	0.0000	0.0000	N/A
Standard 1	552.6952	0.0100	0.0104	3.6523
Standard 3	1138.2383	0.0200	0.0202	0.7798
Standard 4	24473.9430	0.4000	0.4103	2.5867
Standard 5	119420.5229	2.0000	1.9979	0.1036

Preparation Information Benchsheet

Prep Run#: 434757 **Prep WorkFlow:** MetDigSICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3050B **Prep Date/Time:** 3/1/24 08:45

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402227-01	MB		0.5g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Zn T				50.00mL	White-Coarse/Colorless-Clear		HB:12 Well:G4 Temp:92.2C/90.9C
2	RQ2402227-02	LCS		0.5g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Zn T				50.00mL	White-Coarse/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/230955; 0.5000 mL/233797	On HB:10:14-10:29-10:30-11:00,11:01-11:31,12:26-12:41,12:42-12:57 Pip:M340,MA100,M380,M38,M33,M23
3	R2401503-002	Secondary Digester Sludge	.02	0.5500g	6010C/Ag T, As T, Be T, Cd T, Cr T, Cu T, Mo T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
4	R2401594-002	SB13-Lind375-022824-02	.02	0.5400g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
5	R2401594-004	SB13-Lind375-022824-04	.02	0.5300g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
6	R2401594-006	SB13-Lind375-022824-06, 14	.02	0.5100g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
7	RQ2402227-03	R2401594-006 MS	.02	0.5300g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
8	RQ2402227-04	R2401594-006 DMS	.02	0.5200g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear	0.5000 mL/230955; 0.5000 mL/233797; 0.5000 mL/230954	
9	R2401594-008	SB13-Lind375-022824-08	.02	0.5200g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
10	R2401594-010	SB13-Lind375-022824-10	.02	0.5400g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
11	R2401594-012	SB13-Lind375-022824-16	.02	0.5100g	6010C/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Mn T, Ni T, Pb T, Se T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		
12	R2401638-001	800 Stockpile	.02	0.5300g	6010C/Cd T, Pb T, Zn T				50.00mL	Brown-Medium/Yellow-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Information Benchsheet

Prep Run#: 434757
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigSICP
Prep Method: EPA 3050B

Status: Prepped
Prep Date/Time: 3/1/24 08:45

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Boiling Stones PTFE	226047 (226047)
Hot Block Cups	50mL Lot 2304355 (232860)	Hydrogen Peroxide 30% Reagent Grade H2O2	233709 (233709)	Nitric Acid Metals Grade HNO3	231748 (231748)
Thermometer	462 (230832)				

Preparation Steps

Step: Digestion
Started: 3/1/24 08:45
Finished: 3/1/24 13:08
By: CDISTEFANO
Comments

SOILS
1503 3/5
1594 3/8
1638 3/11

Comments:

Reviewed By: [signature] Date: 3/1/24

Chain of Custody

Relinquished By: [signature] Date: 3/1/24

Received By: [signature] Date: 3/1/24

Extracts Examined
Yes No

Weighed 2/29/24 for 3/1/24 Digestion

Date: _____ Analyst: CD

Prep Number: 434757 Balance ID: R-Balance-03

Sample	ICP (g)	Hg (g)	Sample Description
R2401503-02	0.55	NA	B-M
R2401594-02	0.54		B-M
-04	0.53		
-06	0.51		
-06 MS	0.53		
-06 DMS	0.52		
-08	0.52		
-10	0.54		
-12	0.51		
R2401638-01	0.53		B-M

Preparation Information Benchsheet

Prep Run#: 434741
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402211-01	MB		50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		HB:1 Well:F3 Temp:93.4C
2	RQ2402211-02	LCS		50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	On HB:16:16 HB Shutoff:2:16 Pipet/Repipettor:M340,MA100,M23
3	R2401541-001	MW-7BB	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		Tier IV
4	R2401541-003	MW-11B	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
5	R2401541-005	MW-11C	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
6	R2401541-007	MW-5B	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
7	R2401541-009	MW-5A	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
8	R2401541-011	MW-3	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
9	R2401541-013	MW-21A	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
10	R2401541-015	MW-19AA	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434741 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/29/24 10:00

11	R2401541-017	MW-28A	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
12	R2401541-019	MW-28B	.08	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
13	R2401541-021	DUPE Y	.02	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		
14	R2401591-001	SB915-PAR0033-01	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		Tier IV
15	RQ2402211-03	R2401591-001 MS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/230955; 0.5000 mL/233797	
16	RQ2402211-04	R2401591-001 DMS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
17	R2401591-002	SB915-PAR0033-02	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
18	R2401591-003	SB915-PAR0033-03	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
19	R2401591-004	SB915-PAR0033-04	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
20	R2401591-006	SB915-PAR0033-06	.07	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434741 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/29/24 10:00

21	R2401592-001	SCA-PAR0030-01	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear		Tier IV
22	RQ2402211-05	R2401592-001 MS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230955; 0.5000 mL/233797; 0.5000 mL/230954	
23	RQ2402211-06	R2401592-001 DMS	.28	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
24	R2401592-002	SCA-PAR0030-02	.05	50mL	6010C/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Sn T, Tl T, V T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	Hot Block Cups	50mL Lot 2304355 (232860)	Nitric Acid Metals Grade HNO3 231748 (231748)
Thermometer	460 (230830)			

Preparation Steps

Step: Digestion
Started: 2/29/24 10:00
Finished: 3/1/24 10:38
By: CDISTEFANO
Comments

1541 (IV) 3/8
1591 (IV) 3/15
1592 (IV) 3/15

Comments: _____

Reviewed By: Molly Mitchell Date: 3/1/24

Preparation Information Benchsheet

Prep Run#: 434741
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

Chain of Custody

Relinquished By:	CD	Date:	3/1/24	Extracts Examined
Received By:	R-AO1	Date:	3/1/24	Yes No

Preparation Information Benchsheet

Prep Run#: 434740
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method: EPA 3005A/3010A

Status: Prepped
Prep Date/Time: 2/29/24 10:00

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402209-01	MB		50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		HB:11 Well:F3 Temp:92.5C
2	RQ2402209-02	LCS		50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	On HB:16:16 HB Shutoff:2:16 Pipet/Repipettor:M340,MA100,M23
3	RQ2402209-03	DLCS		50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear	0.5000 mL/230954; 0.5000 mL/233797; 0.5000 mL/230955	
4	R2401543-001	2402260903A 400-EV-131	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
5	R2401543-002	2402260950C 400-FV-131	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
6	R2401543-003	2402260959C 400-FV-131	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
7	R2401543-004	2402261008A 400-HV-147	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
8	R2401543-005	2402261050C 400-GV-125	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
9	R2401543-006	2402261052C 400-GV-125	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
10	R2401543-007	2402261318A 400-JV-150	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		

Preparation Information Benchsheet

Prep Run#: 434740 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3005A/3010A **Prep Date/Time:** 2/29/24 10:00

11	R2401543-008	2402261425C 400-IV-123	.02	50mL	6010C/Ag T, Al T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Mo T, Na T, Ni T, Pb T, Se T, Sn T, Sr T, V T, Zn T	<2			50.00mL	Colorless-Clear		
12	R2401566-001	Weber-Rolsin Line Drip	.03	50mL	6010C/Ba T, Ca T, Fe T, Mg T, Mn T, Na T, Sr T	<2			50.00mL	Grey-Cloudy/Yellow-Cloudy		
13	R2401567-001	Benson Line Drip	.03	50mL	6010C/Ba T, Ca T, Fe T, Mg T, Mn T, Na T, Sr T	<2			50.00mL	Grey-Cloudy/Yellow-Cloudy		1.0mL HNO3 Added
14	R2401574-001	MVMSW-01	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
15	R2401574-002	MVMSW-02	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
16	R2401574-003	MVMSW-03	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
17	R2401574-004	MVMSW-04	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
18	R2401574-005	MVMSW-05	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		
19	R2401574-006	MVMSW-06	.03	50mL	6010C/Fe T, Zn T	<2			50.00mL	Colorless-Cloudy/Colorless-Clear		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Materials

1:1 HCl Metals Grade 1:1 232049 (232050) Hot Block Cups 50mL Lot 2304355 (232860) Nitric Acid Metals Grade HNO3 231748 (231748)
Thermometer 461 (230831)

Preparation Steps

Step: Digestion
Started: 2/29/24 10:00
Finished: 3/1/24 10:35
By: CDISTEFANO
Comments

1543 3/8
1566
1567
1574

Comments: _____

Reviewed By: Molly Miller Date: 3/1/24

Chain of Custody

Relinquished By: CD Date: 3/1/24
Received By: R-Do1 Date: 3/1/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434822 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** **Prep Date/Time:** 3/1/24 09:06

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402261-01	MB		10mL	200.7/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			10.00mL	Colorless-Clear		HB:9 Well:A3 Temp:93.4C/93.8C
2	RQ2402261-02	LCS		10mL	200.7/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			10.00mL	Colorless-Clear	0.1000 mL/230954; 0.1000 mL/230955; 0.1000 mL/233797	
3	R2401562-001	43A1 Liquid	.04	10mL	200.7/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
4	R2401563-001	43A1 Storm	.04	10mL	200.7/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
5	RQ2402261-03	R2401563-001 MS	.04	10mL	200.7/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear	0.1000 mL/230955; 0.1000 mL/230954; 0.1000 mL/233797	
6	RQ2402261-04	R2401563-001 DMS	.04	10mL	200.7/Ag T, Al T, As T, B T, Ba T, Be T, Ca T, Cd T, Co T, Cr T, Cu T, Fe T, K T, Mg T, Mn T, Na T, Ni T, Pb T, Sb T, Se T, Tl T, V T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear	0.1000 mL/230955; 0.1000 mL/230954; 0.1000 mL/233797	
7	R2401612-001	7210-03	.01	10mL	200.7/Fe T	<2			10.00mL	Colorless-Clear		
8	R2401669-001	H1,2,3	.01	10mL	200.7/Fe T	<2			10.00mL	Colorless-Clear		
9	R2401669-002	B1,2,3	.01	10mL	200.7/Fe T	<2			10.00mL	Colorless-Clear		
10	R2401673-002	STE-02282024-24 HR	.08	10mL	200.7/Ag T, Al T, Ba T, Cr T, Fe T, Ni T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		
11	R2401673-003	TKP-02282024-24 HR	.03	10mL	200.7/Ag T, Al T, Ba T, Cr T, Fe T, Ni T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Information Benchsheet

Prep Run#: 434822
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method:

Status: Prepped
Prep Date/Time: 3/1/24 09:06

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	401 (182586)				

Preparation Steps

Step: Digestion
Started: 3/1/24 09:06
Finished: 3/1/24 14:38
By: CDISTEFANO
Comments

1562 318
1563 318
1612 3111
1669 3115
1673 317 *

ICP

Comments: _____

Reviewed By: Molly Wallace Date: 3/4/24

Chain of Custody

Relinquished By: CD Date: 3/1/24
Received By: R-AO Date: 3/1/24

Extracts Examined
Yes No

C-2890

Preparation Information Benchsheet

Prep Run#: 434821 **Prep WorkFlow:** MetDigAqICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** **Prep Date/Time:** 3/1/24 09:06

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402260-01	MB		10mL	200.7/Al T, As T, Ba T, Co T, Cr T, Cu T, Fe T, Mo T, Pb T, Sn T, Ti T, Zn T	<2			10.00mL	Colorless-Clear		HB:9 Well:A3 Temp:93.4C/93.8C
2	RQ2402260-02	LCS		10mL	200.7/Al T, As T, Ba T, Co T, Cr T, Cu T, Fe T, Mo T, Pb T, Sn T, Ti T, Zn T	<2			10.00mL	Colorless-Clear	0.1000 mL/230954; 0.1000 mL/230955; 0.1000 mL/233797	On HB:11:29 Off HB:13:29 Pipet/Repipettor:M33,M39
3	R2401556-001	Outfall 013 Comp	.04	10mL	200.7/Fe T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
4	RQ2402260-03	R2401556-001 MS	.04	10mL	200.7/Fe T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear	0.1000 mL/230954; 0.1000 mL/233797; 0.1000 mL/230955	
5	RQ2402260-04	R2401556-001 DMS	.04	10mL	200.7/Fe T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear	0.1000 mL/230954; 0.1000 mL/230955; 0.1000 mL/233797	
6	R2401573-001	SW-021	.05	10mL	200.7/Fe T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
7	R2401632-001	#304 - Stericycle EFF	.01	10mL	200.7/Ba T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
8	R2401632-002	#309 - Stericycle EFF	.01	10mL	200.7/Ba T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
9	R2401632-003	#321 - Stericycle EFF	.01	10mL	200.7/Ba T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
10	R2401632-004	#336 - Stericycle EFF	.01	10mL	200.7/Ba T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
11	R2401632-005	#348 - Stericycle EFF	.01	10mL	200.7/Ba T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
12	R2401632-006	#360 - Stericycle EFF	.01	10mL	200.7/Ba T	<2			10.00mL	Tan-Cloudy/Yellow-Cloudy		
13	R2401633-001	Tote #1760	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
14	R2401633-002	Tote #1761	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
15	R2401633-003	Tote #1762	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Brown-Cloudy		
16	R2401633-004	Tote #1763	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
17	R2401633-005	Tote #1764	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
18	R2401633-006	Tote #1765	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
19	R2401633-007	Tote #1766	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Brown-Cloudy		
20	R2401633-008	Tote #1767	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
21	R2401633-009	Tote #1768	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
22	R2401633-010	Tote #1769	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
23	R2401633-011	Tote #1770	.01	10mL	200.7/Ba T	<2			10.00mL	Brown-Cloudy/Yellow-Cloudy		
24	R2401641-001	B325 Final Eff 24Hr Comp	.06	10mL	200.7/Al T, As T, Co T, Cr T, Cu T, Mo T, Pb T, Sn T, Ti T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		
25	RQ2402260-05	R2401641-001 MS	.06	10mL	200.7/Al T, As T, Co T, Cr T, Cu T, Mo T, Pb T, Sn T, Ti T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy	0.1000 mL/230954; 0.1000 mL/230955; 0.1000 mL/233797	
26	RQ2402260-06	R2401641-001 DMS	.06	10mL	200.7/Al T, As T, Co T, Cr T, Cu T, Mo T, Pb T, Sn T, Ti T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy	0.1000 mL/233797; 0.1000 mL/230955; 0.1000 mL/230954	

Spiking Solutions

Name:	Custom LCS STD A Metals	Inventory ID	230954	Logbook Ref:	230954	Expires On:	02/28/2025	Lot #:	2320923-5
Name:	Custom LCS STD B Metals	Inventory ID	230955	Logbook Ref:	230955	Expires On:	02/28/2025	Lot #:	2320908-5
Name:	C Spike	Inventory ID	233797	Logbook Ref:	233797	Expires On:	01/31/2025		

Preparation Information Benchsheet

Prep Run#: 434821
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqICP
Prep Method:

Status: Prepped
Prep Date/Time: 3/1/24 09:06

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	401 (182586)				

Preparation Steps

Step: Digestion
Started: 3/1/24 09:06
Finished: 3/1/24 14:45
By: CDISTEFANO
Comments

1556 3/8
1573 3/8
1632 3/11
1633 3/6
1641 3/7 *
ICP

Comments: _____

Reviewed By: Molly McMahon Date: 3/4/24

Chain of Custody

Relinquished By: _____ Date: 3/1/24

Received By: R-A01 Date: 3/1/24

Extracts Examined
Yes No

ICP ICV/CCV (Standard is prepared daily)
(ICV FOR ILM5.3 IS A ½ DILUTION OF THIS STANDARD)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 1	CA	231799	5000	1.00	200	25.0
	MG		5000			25.0
	K		5000			25.0
	NA		5000			25.0
Cal Std 2	AG	231800	100	1.00		0.500
	CR		100			0.500
	MN		150			0.750
	NI		400			2.00
	ZN		200			1.00
Cal Std 3	AL	233056	2000	1.00		10.0
	BA		2000			10.0
	BE		50			0.250
	CO		500			2.50
	CU		250			1.25
	FE		1000			5.00
	V		500			2.50
Cal Std 4	AS	232796	100	2.00		1.00
	CD		50			0.500
	PB		50			0.500
	SE		50			0.500
	TL		100			1.00
Single Metals	SB	232797	1000	1.00		5.00
	SN	232726	1000	1.00		5.00
	B	231910	1000	0.500		2.50
	MO	230303	1000	0.500		2.50
	TI	225912	1000	0.500		2.50
	SR	230304	1000	0.500		2.50
	P	—	1000	1.00		5.00

Analyst/ Date	Letter ID	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Pipet ID
MFM 2/23/24	A	231748 2%	233283 5%	M40
MFM 2/23/24	B	231748 10%	233283 5%	M40
MFM 2/27/24	C	231748 2%	233283 5%	M40
MFM 2/28/24	D	231748 10%	233283 5%	M36
NM 2/28/24	E	231748 2%	233283 5%	M40
NM 2/29/24	F	231748 10%	233283 5%	M40
MFM 3/1/24	G	231748 10%	233283 5%	M36
MFM 3/4/24	H	233477 2%	233283 5%	M36
	I			
	J			
	K			
	L			
	M			
	N			
	O			
	P			
	Q			
	R			
	S			
	T			
	U			
	V			
	W			
	X			
	Y			
	Z			
	AA			
	BB			

ICP CALIBRATION STANDARD #1 (Standard is prepared every 6 months or as necessary)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std.1	AL	M8440003A	20.0	1.00	1000	0.020
Int.	AS		5.00			0.0050
	CD		1.00			0.0010
	CO		3.00			0.0030
	CR		5.00			0.0050
	PB		5.00			0.0050
	V		3.00			0.0030
Cal Std. 1	CA	226704	5000	0.100		0.500
	K		5000			BELOW
	MG		5000			0.500
	NA		5000			0.500
Single	BA	227183	1000	0.020		0.020
Element	CU	230454	1000	0.010		0.010
	K	229196	10000	0.150		2.00
	MN	227184	1000	0.010		0.010
	MO	226706	1000	0.025		0.025
	SB	230313	1000	0.010		0.010
	TL	226708	1000	0.010		0.010
	ZN	227186	1000	0.010		0.010
	P	–	1000	0.100		0.100

Analyst/ Date	Letter ID	Nitric Acid Lot#/ Concentration	Hydrochloric Acid Lot #/ Concentration	Expiration Date	Pipet ID
NM 10/2/23	A	229709 2%	231167 5%	3/28/24	M37 M36
NM 10/2/23	B	229709 10%	231167 5%	3/28/24	M37 M36
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				

ICP CALIBRATION STANDARD #2
(Standard is prepared every 6 months or as necessary)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Single Element	AL	199356	1000	0.100	1000	0.100
	AS	230302	1000	0.010		0.010
	B	226705	1000	0.200		0.200
	BE	230311 (1/10)	100	0.030		0.003
	CA	230305	10000	0.100		1.00
	CD	227603 (1/10)	100	0.050		0.005
	CU	230454	1000	0.020		0.020
	K	229196	10000	0.200		2.00
	MG	230307	10000	0.100		1.00
	NA	230308	10000	0.100		1.00
	PB	227185	1000	0.050		0.050
	SB	230313	1000	0.060		0.060
	SE	230309	1000	0.010		0.010
	SN	229641	1000	0.500		0.500

Analyst/ Date	Letter ID	Nitric Acid Lot#	Hydrochloric Acid Lot #	Expiration Date	Pipet ID
NM 10/2/23	A	229709 2%	231167 5%	4/2/24	M37 M36
NM 10/2/23	B	229709 10%	231167 5%	4/2/24	M37 M36
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				

ICP CALIBRATION STANDARD #5 / HLCCV1 (Standard is prepared every 6 months or as necessary)
(CALIBRATION STANDARD #3 IS A 1/100 DILUTION OF THIS STANDARD)
(CALIBRATION STANDARD #4 IS A 1/5 DILUTION OF THIS STANDARD)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 2	AG	230301	100	~~2.00~~	~~200~~	1.00
	CR		100	5.00	500	1.00
	MN		150			1.50
	NI		400			4.00
	ZN		200			2.00
Cal Std 3	AL	233055	2000	~~2.00~~		20.0
	BA		2000	5.00		20.0
	BE		50			0.500
	CO		500			5.00
	CU		250			2.50
	FE		1000			10.0
	V		500			5.00
Cal Std 4	AS	2231798	100	~~4.00~~		2.00
	CD		50	10.00		1.00
	PB		50			1.00
	SE		50			1.00
	TL		100			2.00
Single Metals	CA	230305	10000	~~1.00~~	2.50	50.0
	MG	230307	10000	~~1.00~~	2.50	50.0
	K	229196	10000	~~1.00~~	2.50	50.0
	NA	230308	10000	~~1.00~~	2.50	50.0
	SB	230313	1000	~~2.00~~	5.00	10.0
	SN	231915	1000	~~2.00~~	5.00	10.0
	B	226705	1000	~~1.00~~	2.50	5.00
	MO	226706	1000	~~1.00~~	2.50	5.00
	TI	230316	1000	~~1.00~~	2.50	5.00
	SR	230310	1000	~~1.00~~	2.50	5.00

Analyst/ Date	Letter ID	Nitric Acid Lot#/ Concentration	Hydrochloric Acid Lot #/ Concentration	Expiration Date	Pipet ID
NM 1/31/24	A	231748 2%	232049 5%	6/30/24	M38
NM 1/31/24	B	231748 10%	232049 5%	6/30/24	M38
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				
	W				
	X				
	Y				
	Z				
	AA				
	BB				

ICP HLCCV2 (Standard is prepared every 6 months or as necessary)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 2	AG	230301	100	~~2.00~~	100	2.00
	CR		100	4.00	200	Below
	MN		150			Below
	NI		400			8.00
	ZN		200			4.00
Cal Std 3	AL	233055	2000	~~2.00~~		Below
	BA		2000	4.00		40.0
	BE		50			1.00
	CO, V		500			10.0
	CU		250			5.00
	FE		1000			Below
Cal Std 4	AS, TL	231798	100	~~4.00~~		4.00
	CD, SE		50	8.00		2.00
	PB		50			Below
Single Metals	B	226705	1000	~~1.00~~	2.00	10.0
	MO	226706	1000	~~1.00~~	2.00	10.0
	TI	230316	1000	~~1.00~~	2.00	10.0
	SR	230310	1000	~~1.00~~	2.00	10.0
	CA	230305	10000	~~2.50~~	5.00	250
	MG	230307	10000	~~5.00~~	10.00	500
	NA	230308	10000	~~2.00~~	4.00	~~150~~ 200
	CR	230312	1000	~~0.800~~	1.60	10.0
	FE	230306	10000	~~0.300~~	0.60	50
	AL	226846	10000	~~4.60~~	9.20	500
	MN	227184	1000	~~0.700~~	1.40	10.00
	PB	227185	1000	~~0.800~~	1.60	10.0
	K	229196	10000	~~1.50~~	3.00	150

MFM 1/8/24

Analyst/ Date	Letter ID	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
MFM 1/8/24	A	231748 2%	232049 5%	6/8/24	M36 M38
MFM 1/31/24	B	231748 10%	232049 5%	6/30/24	M36 M38
	C				
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
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	V				
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	X				
	Y				
	Z				
	AA				

C-2897

ICP HLCCV3 (Standard is prepared every 6 months or as necessary)

Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)
CA	230305	10,000	~~2.000~~ 4.00	~~100~~ 200
CU	230454	1000	~~0.400~~ 0.800	
FE	230306	10,000	~~0.400~~ 0.800	
K	229196	10,000	~~1.000~~ 2.00	
TL	226708	1000	~~0.300~~ 0.600	
NA	230308	10,000	~~1.500~~ 3.00	
MG	230307	10,000	~~4.000~~ 8.00	

Final Conc. (ppm)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
200.00	2% HNO3 5% HCl	NM 9/13/23	A	229709	229711	3/13/24	M36 M38
4.00	10% HNO3 5% HCl	NM 9/13/23	B	229709	229711	3/13/24	M36 M38
40.00	10% HNO3 5% HCl	NM 12/6/23	C	231748	232049	6/6/24	M36 M38
100.00	2% HNO3 5% HCl	MFM 1/8/24	D	231748	232049	6/8/24	M36 M38
3.00	~~10% HNO3 5% HCl~~	~~MFM 2/23/24~~	E	231748	~~233283~~	6/8/24	M36 M38
150.00			F				
400.00			G				
			H				
			I				
			J				
			K				
			L				
			M				
			N				
			O				
			P				
			Q				
			R				
			S				
			T				
			U			MFM 2/23/24	

ICP MRL (Standard is prepared every 6 months or as needed)

	Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Cal Std 1	CA	226704	5000	0.200	1000	1.00
	MG		5000			1.00
	K		5000			1.00
	NA		5000			1.00
Cal Std 2	AG	230301	100	0.100		0.0100
	CR		100			0.0100
	MN		150			0.0150
	NI		400			0.0400
	ZN		200			0.0200
Cal Std 3	AL	230757	2000	0.100		0.200
	BA		2000			0.200
	BE		50			0.0050
	CO		500			0.0500
	CU		250			0.0250
	FE		1000			0.100
	V		500			0.0500
Cal Std 4	AS	231798	100	0.200		0.0200
	CD		50			0.0100
	PB		50			0.0100
	SE		50			0.0100
	TL		100			0.0200
Single Metals	B	226705	1000	0.200		0.200
	MO	226706	1000	0.025		0.0250
	SN	231915	1000	0.500		0.500
	TI	230316	1000	0.050		0.0500
	SB	230313	1000	0.060		0.0600
	SR	226707	1000	0.100		0.100
	P	—	1000	0.100		0.100

Analyst/ Date	Letter ID	Nitric Acid Lot# / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
NM 12/5/23	A	231748 2%	232049 5%	3/28/24	M37 M40
NM 12/5/23	B	231748 10%	232049 5%	3/28/24	M37 M40
~~MFM 2/8/24~~	~~C~~	~~231748 10%~~	~~232049 5%~~		
	D				
	E				
	F				
	G				
	H				
	I				
	J				
	K				
	L				
	M				
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	V				
	W				
	X				
	Y				
	Z				
	AA		MFM 2/8/24		
	BB				

ICP ICSA STANDARD (Standard is prepared every 6 months or as necessary)

Element	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Int. A Sol'n	230960	Multi	50	1000	Multi
AL		5000			250
CA		5000			250
FE		2000			100
MG		5000			250

Analyst/ Date	ID Letter	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
NM 10/17/23	A	229709 2%	231167 5%	4/17/24	dispo
NM 10/17/23	B	229709 10%	231167 5%	4/17/24	dispo
NM 12/6/23	C	231748 10%	232049 5%	6/6/24	dispo
NM 12/7/23	D	231748 10%	232049 5%	6/7/24	dispo
NM 12/21/23	E	231748 2%	232049 5%	6/21/24	dispo
MFM 2/12/24	F	231748 10%	232049 5%	8/12/24	dispo
	G				
	H				
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U				
	V				

ICP ICSAB STANDARD (Standard is prepared every 6 months or as necessary)

Element	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)
Int. A Sol'n	228413	Multi	~~25~~ 50	~~500~~ 1000	Multi
AL		5000			250
CA		5000			250
FE		2000			100
MG		5000			250
Int. B Sol'n	228979	Multi	~~5~~ 10		Multi
AG		20			0.200
BA		50			0.500
BE		50			0.500
CD		100			1.00
CO		50			0.500
CR		50			0.500
CU		50			0.500
MN		50			0.500
NI		100			1.00
PB		5			0.0500
V		50			0.500
ZN		100			1.00
AS		10			0.100
SB		60			0.600
SE		5			0.0500
TL		10			0.100

Analyst/ Date	ID Letter	Nitric Acid Lot # / Concentration	Hydrochloric Acid Lot # / Concentration	Expiration Date	Pipet ID
NM 6/30/23	A	228400 2%	229711 5%	12/30/23	M38
NM 6/30/23	B	228400 10%	229711 5%	12/30/23	M38
NM 9/13/23	C	229709 2%	229711 5%	3/13/24	M38
NM 9/13/23	D	229709 10%	229711 5%	3/13/24	M38
NM 11/14/23	E	229709 10%	231167 5%	3/31/24	dispo
NM 12/21/23	F	231748 2%	NM 12/21/23 ~~231116~~ 232049 5%	6/21/24	dispo
NM 12/21/23	G	231748 10%	232049 5%	6/21/24	dispo
~~MFM 2/23/24~~	H	~~231748 10%~~	~~233283 5%~~		
	I				
	J				
	K				
	L				
	M				
	N				
	O				
	P				
	Q				
	R				
	S				
	T				
	U			MFM 2/23/24	
	V				

MFM 1/12/24

ICP INTERNAL STANDARD (ADDED ON-LINE)

Metal	ALS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppm)	Matrix	Analyst/ Date	Letter ID	Nitric Acid Lot #	Hydro-chloric Acid Lot #	Expiration Date	Pipet ID
Y	226709	10000	2.0	2000	10.0	5 % HCl 2%HNO3	MFM 1/25/24	A	231748	232049	6/30/24	M40
CS	226847	10000	2.0		10.0		MFM 1/25/24	B	231748	232049	6/30/24	M40
							MFM 2/13/24	C	231748	232049	6/30/24	M40
							MFM 2/13/24	D	231748	232049	6/30/24	M40
								E				
								F				
								G				
								H				
								I				
								J				
								K				
								L				
								M				
								N				
								O				
								P				
								Q				
								R				
								S				
								T				
								V				

Metals Data Cover Sheet

Run Date: 03/04/24 Data File: 030424-ICPMS7900

Primary Reviewer: Molly McMahon Secondary Reviewer: NM

LIMS Runs:

834067 434684. 434823

Comments:

N/A

Agilent 7900 (R-ICP-MS-2) Run Log

Serial Number: JP16491642

Analyst: MFM Date: 3/4/24

Data File: 030424 - ICPMS7900 Method: 6020A / 200.8

	Prep Date	Lot #			Prep Date	Lot #
Instrument Tune Solution	5/1/23	M84S01279		Cal Srt 1 / CRDL	2/14/24	M84S00036
Mass Tune Solution	↓	↓		Cal Std 2	2/12/24	M84S0012B
Internal Standard	1/31/24	M84S0114A		Cal Std 3	2/12/24	M84S0022B
ICSA	2/27/24	M84S00990C		Cal Std 4 / HLCCV1	2/12/24	M84S0032B
ICSAB	2/27/24	M84S01016		ICV / CCV	3/4/24	M84S0050P
HNO3	NA	233477		HCL	NA	233283
HLCCV2	2/29/24	M84S0068A		HLCCV3	2/28/24	M84S0078D

Pipet Used	DOD Pipet Verification
M37, M40	—

3101	PBW-434684	3210	PBW1	3501	PBS-434762 5X
3102	LCSW-434684	3211	LCSW1	3502	LCSS-434762 5X
3103	R2401543-007	3212	R2401533-001	3503	MDL1 5X
3104	R2401534-001	3301	R2401533-001S	3504	PBS-434760
3105	R2401534-001S	3302	R2401533-001SD	3505	LCSS-434760
3106	R2401534-001SD			3506	MDL1 5X
3107	R2401534-001A				
3108	R2401534-001L 5X				
3109	R2401543-007 5X				
3110	PBW-434823				
3111	LCSW-434823				
3112	R2401607-001				
3201	R2401607-001S				
3202	R2401607-001SD				
3203	R2401607-001A				
3204	R2401607-001L 5X				
3205	R2401612-001				
3206	R2401613-001				
3207	R2401613-002				
3208	R2401669-001				
3209	R2401669-002				

R2401543-004 006 > MFM 3/4/24

MFM 3/4/24

7900 ICP-MS 200.8/6020A
Calibration Blank Report

Sample Name	Blank
File Name	072CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:26:04
Sample Type	CalBlk
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
Operator	

Analyst: Molly McMahon 3/4/24

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	No Gas	5.56	91.6
Al	27	72	No Gas	20156.02	25.6
V	51	72	He	1038.93	3.6
Cr	52	72	No Gas	35228.87	1.0
Mn	55	72	No Gas	6503.75	4.6
Co	59	72	He	71.11	17.7
Ni	60	72	No Gas	364.45	6.2
Cu	63	72	No Gas	1337.85	9.1
Zn	66	72	No Gas	2355.76	8.1
Se	78	72	He	84.00	10.6
Se	82	72	No Gas	93.70	19.2
Mo	98	89	No Gas	99.92	36.0
Ag	107	89	No Gas	103.33	28.1
Cd	111	89	No Gas	2340.07	0.1
Sb	123	89	No Gas	943.37	4.8
Ba	137	115	No Gas	90.00	17.0
Tl	203	115	No Gas	40.00	8.3
Pb	208	115	No Gas	468.89	6.6
Th	232	115	No Gas	1604.55	6.9
U	238	115	No Gas	35.56	5.4

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc	45	No Gas	42925068.29	1.1
Sc	45	He	2744212.81	0.5
Ge	72	No Gas	4631903.43	1.5
Ge	72	He	848502.95	1.1
Y	89	No Gas	6551279.88	1.1
Y	89	He	1308806.79	1.8
Rh	103	No Gas	5283364.65	3.7
Rh	103	He	3409159.31	3.6
In	115	No Gas	5834783.80	4.3
Lu	175	No Gas	25373.31	1.6

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	1
File Name	073CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:28:14
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	3647.12	0.5	0.791
Al	27	72	No Gas	216869.34	0.8	6.926
V	51	72	He	11480.16	3.9	0.974
Cr	52	72	No Gas	94365.27	0.2	1.339
Mn	55	72	No Gas	79623.15	0.6	1.201
Co	59	72	He	21382.74	2.0	1.018
Ni	60	72	No Gas	14646.46	0.8	1.128
Cu	63	72	No Gas	32478.20	1.0	1.043
Zn	66	72	No Gas	43202.35	1.1	5.235
As	75	72	No Gas	7347.59	19.9	1.000
Se	78	72	He	212.67	4.2	1.046
Se	82	72	No Gas	552.54	11.2	0.811
Mo	98	89	No Gas	22024.08	1.1	0.913
Ag	107	89	No Gas	37719.33	2.7	0.956
Cd	111	89	No Gas	9924.76	1.1	0.933
Sb	123	89	No Gas	23462.42	1.6	0.889
Ba	137	115	No Gas	12012.03	1.2	0.922
Tl	203	115	No Gas	17148.07	0.7	0.797
Pb	208	115	No Gas	55407.86	1.6	0.810
Th	232	115	No Gas	47091.37	2.4	0.757
U	238	115	No Gas	46104.73	0.7	0.798

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43972507.14	2.2	42925068.29	102.44	60	125	
Sc	45	He	2714956.91	1.4	2744212.81	98.93	60	125	
Ge	72	No Gas	4495520.79	2.2	4631903.43	97.06	60	125	
Ge	72	He	841699.39	0.9	848502.95	99.2	60	125	
Y	89	No Gas	6534617.66	1.6	6551279.88	99.75	60	125	
Y	89	He	1303393.25	1.4	1308806.79	99.59	60	125	
Rh	103	No Gas	5346240.20	1.3	5283364.65	101.19	60	125	
Rh	103	He	3310836.26	1.5	3409159.31	97.12	60	125	
In	115	No Gas	5800571.44	5.9	5834783.8	99.41	60	125	
Lu	175	No Gas	24616.26	2.6	25373.31	97.02	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	10
File Name	074CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:30:25
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	35943.75	1.5	7.833
Al	27	72	No Gas	452085.33	0.2	15.233
V	51	72	He	106488.56	2.2	9.682
Cr	52	72	No Gas	547787.36	1.1	11.496
Mn	55	72	No Gas	734813.46	2.2	11.999
Co	59	72	He	211431.82	1.9	9.945
Ni	60	72	No Gas	135494.21	1.1	10.727
Cu	63	72	No Gas	323087.20	1.9	10.836
Zn	66	72	No Gas	83570.66	0.9	10.472
As	75	72	No Gas	83308.02	1.6	9.605
Se	78	72	He	1313.73	1.3	9.784
Se	82	72	No Gas	5464.56	2.4	9.487
Mo	98	89	No Gas	227019.51	1.0	9.377
Ag	107	89	No Gas	382150.05	1.3	9.627
Cd	111	89	No Gas	78560.08	2.1	9.299
Sb	123	89	No Gas	225694.03	1.0	8.802
Ba	137	115	No Gas	120431.26	0.8	9.410
Tl	203	115	No Gas	175586.86	2.1	8.270
Pb	208	115	No Gas	558593.08	1.5	8.320
Th	232	115	No Gas	478249.93	0.5	8.028
U	238	115	No Gas	477448.83	1.3	8.373

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43879671.59	1.6	42925068.29	102.22	60	125	
Sc	45	He	2813783.36	1.8	2744212.81	102.54	60	125	
Ge	72	No Gas	4464182.05	1.5	4631903.43	96.38	60	125	
Ge	72	He	854863.06	1.7	848502.95	100.75	60	125	
Y	89	No Gas	6599935.43	4.7	6551279.88	100.74	60	125	
Y	89	He	1340218.49	1.5	1308806.79	102.4	60	125	
Rh	103	No Gas	5457331.45	4.5	5283364.65	103.29	60	125	
Rh	103	He	3211472.65	0.4	3409159.31	94.2	60	125	
In	115	No Gas	5732724.77	3.3	5834783.8	98.25	60	125	
Lu	175	No Gas	25757.35	2.0	25373.31	101.51	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	50
File Name	075CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:32:37
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	180656.28	0.8	40.709
Al	27	72	No Gas	1964936.45	3.9	62.407
V	51	72	He	529142.91	1.7	48.259
Cr	52	72	No Gas	2657079.34	2.5	54.952
Mn	55	72	No Gas	3602391.80	1.3	55.397
Co	59	72	He	1082380.93	0.9	50.119
Ni	60	72	No Gas	663571.40	0.4	50.445
Cu	63	72	No Gas	1620622.78	3.3	52.151
Zn	66	72	No Gas	412772.78	1.9	50.853
As	75	72	No Gas	418852.69	1.4	46.572
Se	78	72	He	6428.14	0.5	50.054
Se	82	72	No Gas	27662.56	1.3	47.310
Mo	98	89	No Gas	1157820.05	0.3	47.959
Ag	107	89	No Gas	1998778.11	4.7	50.141
Cd	111	89	No Gas	390399.76	1.4	47.631
Sb	123	89	No Gas	1145558.46	1.5	45.527
Ba	137	115	No Gas	603371.78	1.3	46.223
Tl	203	115	No Gas	900764.97	0.8	42.466
Pb	208	115	No Gas	2878237.99	1.6	42.885
Th	232	115	No Gas	2640861.42	5.6	44.088
U	238	115	No Gas	2422522.61	5.7	42.436

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44512261.57	0.4	42925068.29	103.7	60	125	
Sc	45	He	2859957.80	2.1	2744212.81	104.22	60	125	
Ge	72	No Gas	4597521.07	4.2	4631903.43	99.26	60	125	
Ge	72	He	867719.48	1.9	848502.95	102.26	60	125	
Y	89	No Gas	6633161.26	0.5	6551279.88	101.25	60	125	
Y	89	He	1365512.62	0.8	1308806.79	104.33	60	125	
Rh	103	No Gas	5413430.48	2.2	5283364.65	102.46	60	125	
Rh	103	He	3495569.23	5.0	3409159.31	102.53	60	125	
In	115	No Gas	5993762.26	8.4	5834783.8	102.72	60	125	
Lu	175	No Gas	26191.59	2.6	25373.31	103.22	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

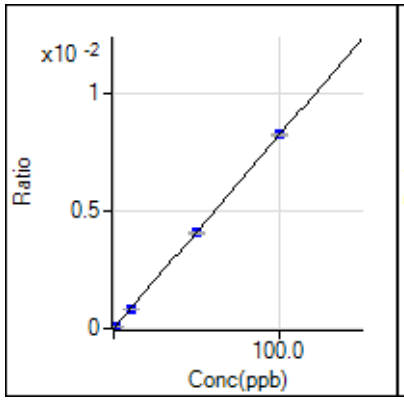
Sample Name	100
File Name	076CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:34:41
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

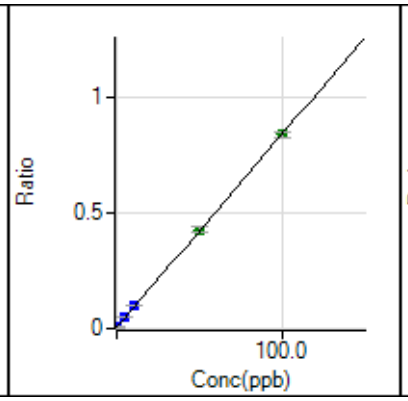
Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	360571.37	0.9	100.270
Al	27	72	No Gas	3909752.07	4.2	99.608
V	51	72	He	1067237.07	1.2	100.281
Cr	52	72	No Gas	5024480.49	1.0	98.692
Mn	55	72	No Gas	7225731.38	3.6	99.782
Co	59	72	He	2122780.89	4.8	99.704
Ni	60	72	No Gas	1325709.74	0.7	99.682
Cu	63	72	No Gas	3140238.07	1.5	99.078
Zn	66	72	No Gas	828086.46	1.2	99.838
As	75	72	No Gas	852225.53	0.5	100.022
Se	78	72	He	12897.24	2.1	100.317
Se	82	72	No Gas	55761.61	0.4	99.929
Mo	98	89	No Gas	2349450.19	2.2	100.602
Ag	107	89	No Gas	3905807.34	3.1	99.857
Cd	111	89	No Gas	776021.52	1.3	100.238
Sb	123	89	No Gas	2345020.12	5.1	100.796
Ba	137	115	No Gas	1197618.46	1.6	100.083
Tl	203	115	No Gas	1792543.33	1.1	100.166
Pb	208	115	No Gas	5648272.17	4.1	99.876
Th	232	115	No Gas	4882645.08	7.0	98.627
U	238	115	No Gas	4475054.13	6.6	98.622

QC ISTD Table

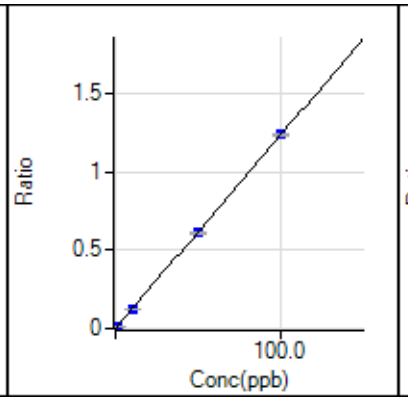
Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43829530.48	1.4	42925068.29	102.11	60	125	
Sc	45	He	2825609.26	1.6	2744212.81	102.97	60	125	
Ge	72	No Gas	4650616.90	1.0	4631903.43	100.4	60	125	
Ge	72	He	863580.62	1.1	848502.95	101.78	60	125	
Y	89	No Gas	6542381.68	2.8	6551279.88	99.86	60	125	
Y	89	He	1354190.92	2.0	1308806.79	103.47	60	125	
Rh	103	No Gas	5294853.26	3.2	5283364.65	100.22	60	125	
Rh	103	He	3323529.80	0.5	3409159.31	97.49	60	125	
In	115	No Gas	5892006.15	4.5	5834783.8	100.98	60	125	
Lu	175	No Gas	25401.14	0.5	25373.31	100.11	60	125	



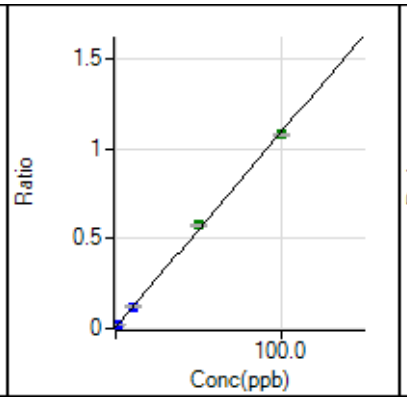
9 Be [No Gas] / ISTD: 45 Sc
y = 8.205E-5 x + 1.292E-7
R 1.0000
DL 0.004352
BEC 0.001575



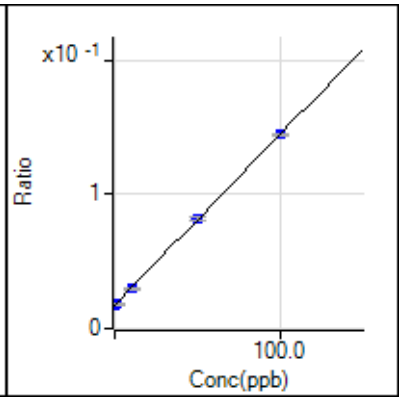
27 Al [No Gas] / ISTD: 72 Ge
y = 8.395E-3 x + 4.341E-3
R 0.9999
DL 0.3724
BEC 0.5172



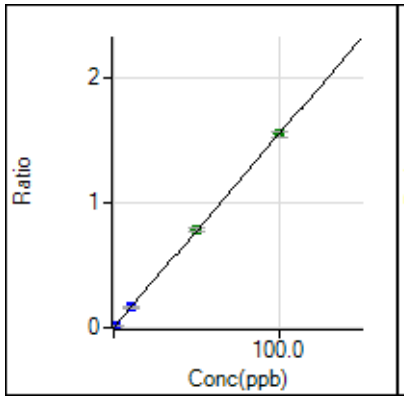
51 V [He] / ISTD: 72 Ge
y = 1.231E-2 x + 1.224E-3
R 1.0000
DL 0.0081
BEC 0.09944



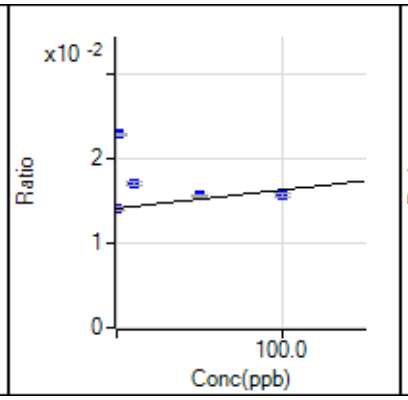
52 Cr [No Gas] / ISTD: 72 Ge
y = 1.087E-2 x + 7.607E-3
R 0.9995
DL 0.03744
BEC 0.6998



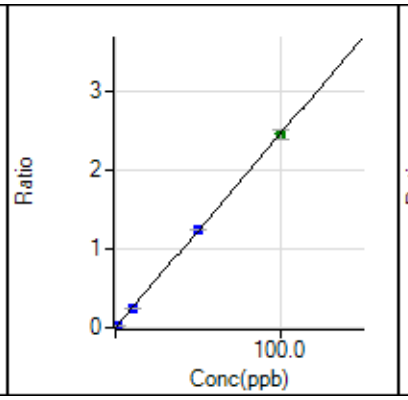
53 (Cr) [No Gas] / ISTD: 72 Ge
y = 1.276E-3 x + 1.761E-2
R 0.9999
DL 0.9228
BEC 13.79



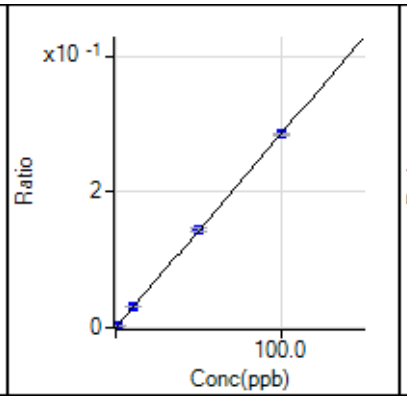
55 Mn [No Gas] / ISTD: 72 Ge
y = 1.556E-2 x + 1.404E-3
R 1.0000
DL 0.008279
BEC 0.09024



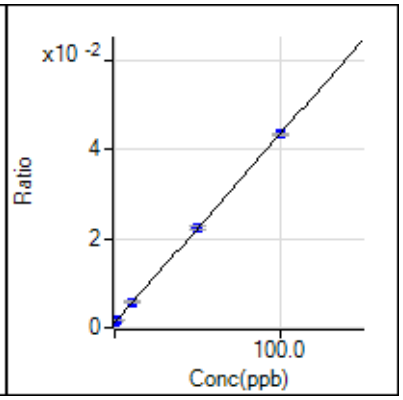
56 Fe [He] / ISTD: 72 Ge
y = 2.189E-5 x + 1.414E-2
R -0.3422
DL 84.17
BEC 646.1



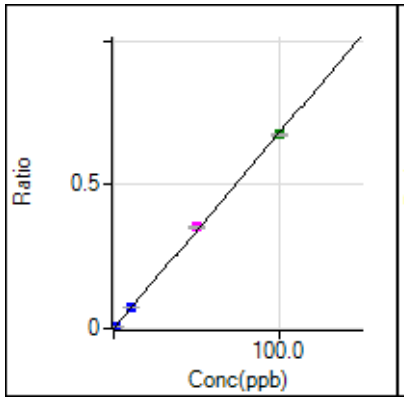
59 Co [He] / ISTD: 72 Ge
y = 2.466E-2 x + 8.390E-5
R 1.0000
DL 0.001891
BEC 0.003402



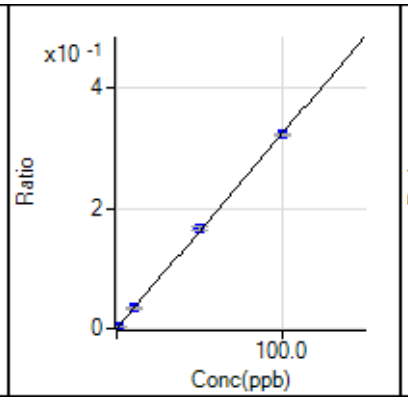
60 Ni [No Gas] / ISTD: 72 Ge
y = 2.859E-3 x + 7.865E-5
R 1.0000
DL 0.003882
BEC 0.02751



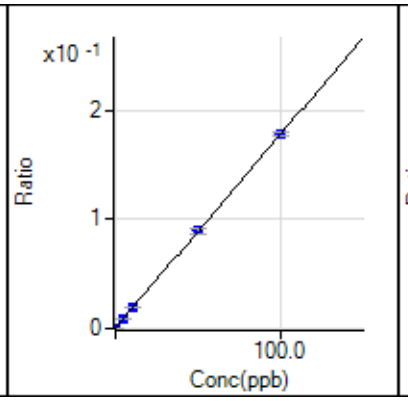
62 (Ni) [No Gas] / ISTD: 72 Ge
y = 4.231E-4 x + 1.111E-3
R 1.0000
DL 0.2919
BEC 2.626



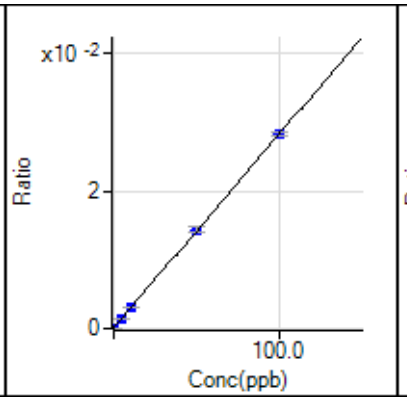
63 Cu [No Gas] / ISTD: 72 Ge
y = 6.812E-3 x + 2.887E-4
R 0.9998
DL 0.01008
BEC 0.04237



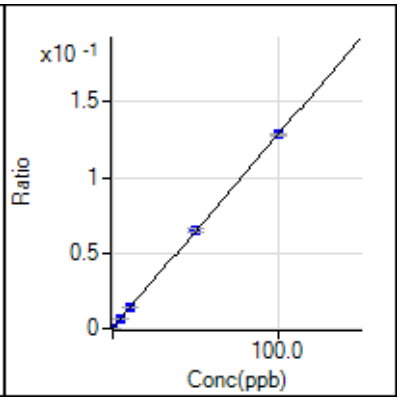
65 (Cu) [No Gas] / ISTD: 72 Ge
y = 3.242E-3 x + 1.295E-4
R 0.9999
DL 0.004539
BEC 0.03994



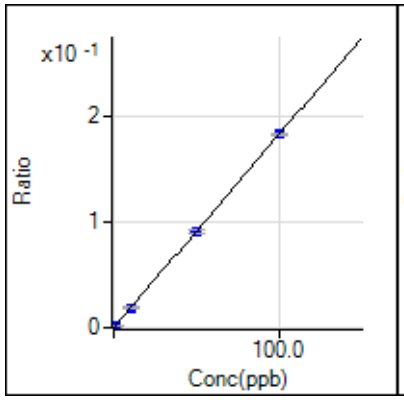
66 Zn [No Gas] / ISTD: 72 Ge
y = 1.779E-3 x + 5.087E-4
R 1.0000
DL 0.07191
BEC 0.286



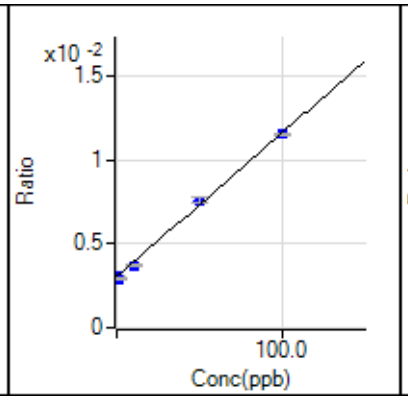
67 (Zn) [No Gas] / ISTD: 72 Ge
y = 2.824E-4 x + 9.689E-5
R 1.0000
DL 0.08713
BEC 0.3431



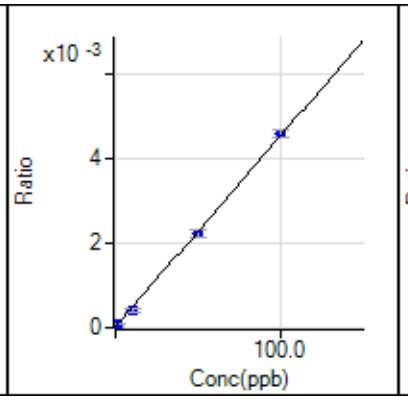
68 (Zn) [No Gas] / ISTD: 72 Ge
y = 1.281E-3 x + 3.825E-4
R 1.0000
DL 0.03674
BEC 0.2985



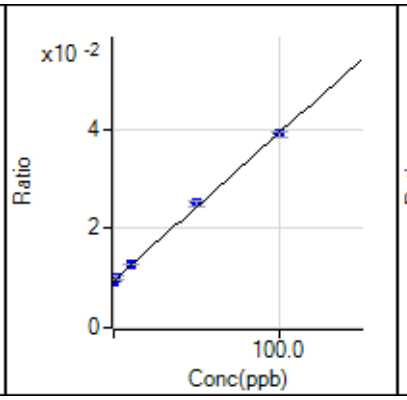
75 As [No Gas] / ISTD: 72 Ge
y = 1.836E-3 x - 3.415E-4
R 1.0000
DL 0.09648
BEC -0.1861



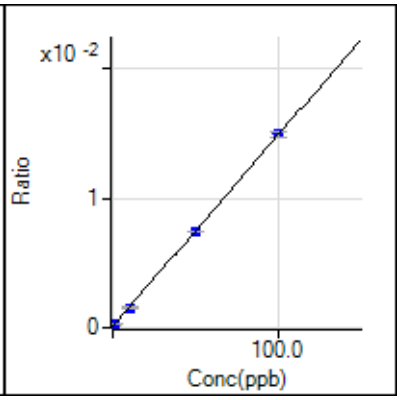
77 (Se) [No Gas] / ISTD: 72 Ge
y = 8.591E-5 x + 3.052E-3
R 0.9988
DL 1.944
BEC 35.52



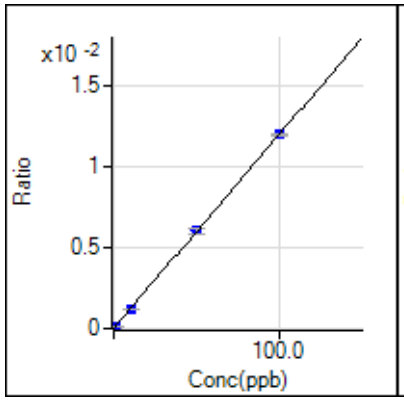
77 (Se) [He] / ISTD: 72 Ge
y = 4.505E-5 x + 2.356E-5
R 0.9998
DL 0.7771
BEC 0.523



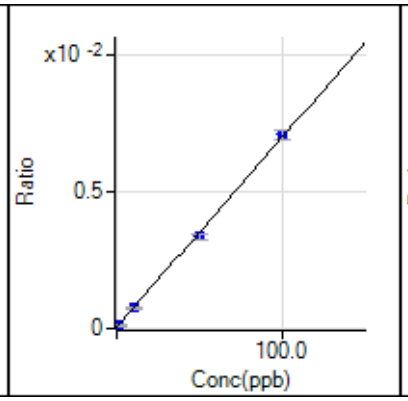
78 (Se) [No Gas] / ISTD: 72 Ge
y = 2.990E-4 x + 9.505E-3
R 0.9997
DL 3.178
BEC 31.79



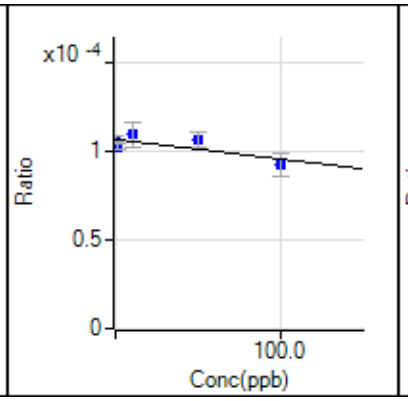
78 Se [He] / ISTD: 72 Ge
y = 1.479E-4 x + 9.894E-5
R 1.0000
DL 0.1946
BEC 0.6689



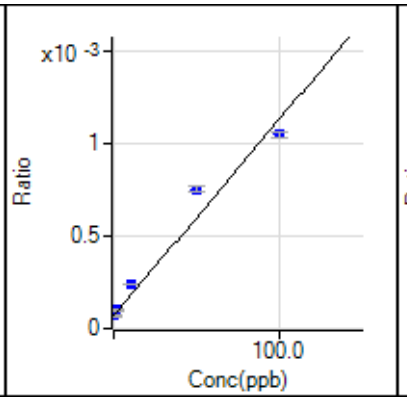
82 Se [No Gas] / ISTD: 72 Ge
y = 1.198E-4 x + 2.022E-5
R 1.0000
DL 0.09662
BEC 0.1688



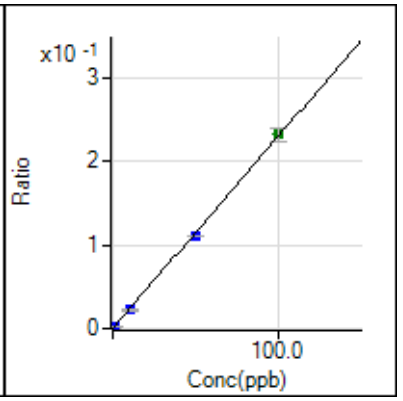
82 (Se) [He] / ISTD: 72 Ge
y = 6.921E-5 x + 5.900E-5
R 0.9995
DL 0.5354
BEC 0.8525



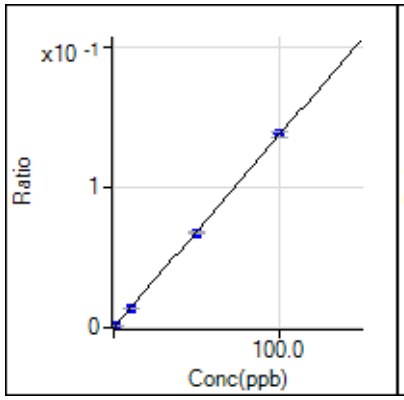
83 [As] [No Gas] / ISTD: 72 Ge
y = - 1.113E-7 x + 1.068E-4
R -0.7883
DL -80.97
BEC -959.5



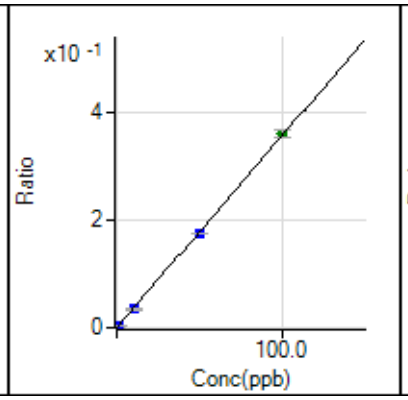
88 Sr [No Gas] / ISTD: 89 Y
y = 1.064E-5 x + 6.968E-5
R 0.9825
DL 1.846
BEC 6.548



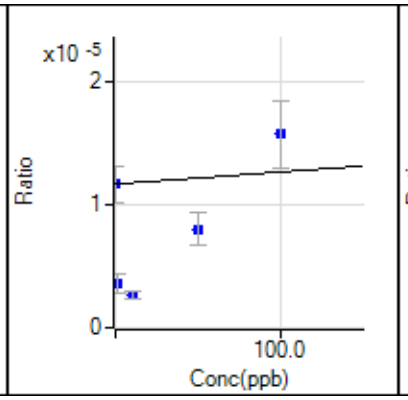
95 (Mo) [No Gas] / ISTD: 89 Y
y = 2.303E-3 x + 1.308E-5
R 0.9998
DL 0.004959
BEC 0.005679



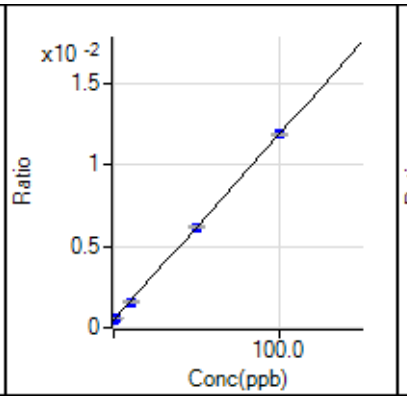
97 (Mo) [No Gas] / ISTD: 89 Y
y = 1.373E-3 x + 1.171E-5
R 1.0000
DL 0.004078
BEC 0.008531



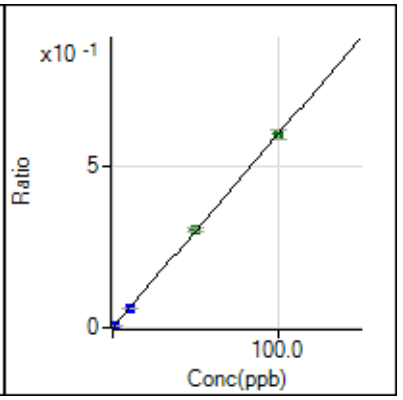
98 Mo [No Gas] / ISTD: 89 Y
y = 3.572E-3 x + 1.529E-5
R 0.9999
DL 0.004737
BEC 0.004282



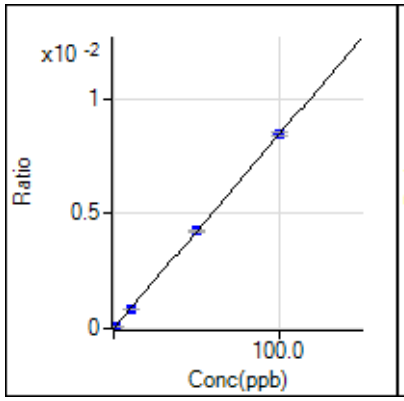
99 [Mo] [No Gas] / ISTD: 89 Y
y = 9.834E-9 x + 1.168E-5
R 0.7001
DL 902.1
BEC 1188



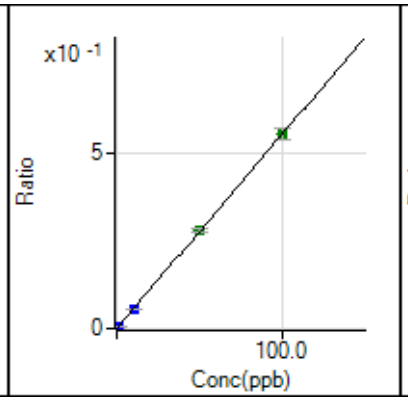
106 (Cd) [No Gas] / ISTD: 89 Y
y = 1.142E-4 x + 4.701E-4
R 1.0000
DL 0.2037
BEC 4.116



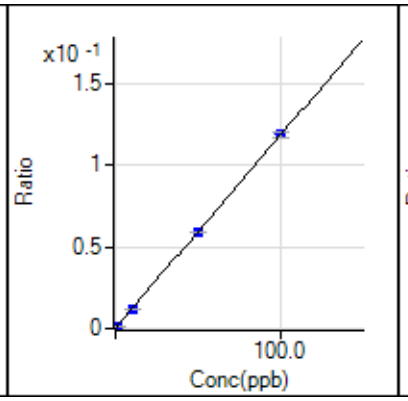
107 Ag [No Gas] / ISTD: 89 Y
y = 5.984E-3 x + 1.580E-5
R 1.0000
DL 0.00229
BEC 0.002641



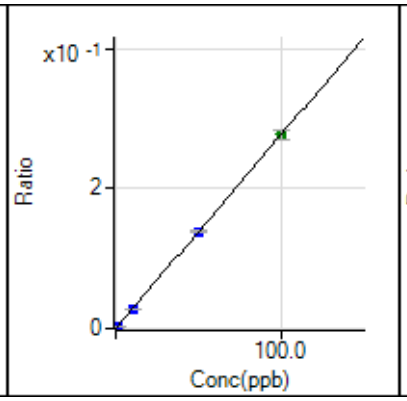
108 (Cd) [No Gas] / ISTD: 89 Y
y = 8.438E-5 x + 4.259E-6
R 1.0000
DL 0.09244
BEC 0.05047



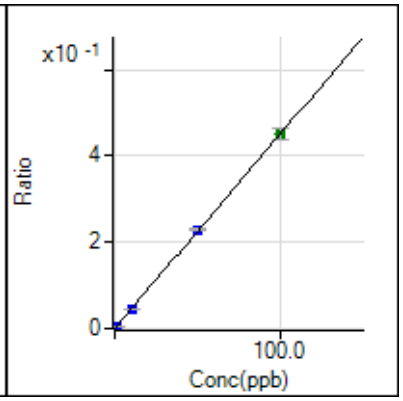
109 (Ag) [No Gas] / ISTD: 89 Y
y = 5.526E-3 x + 1.121E-5
R 1.0000
DL 0.00174
BEC 0.002029



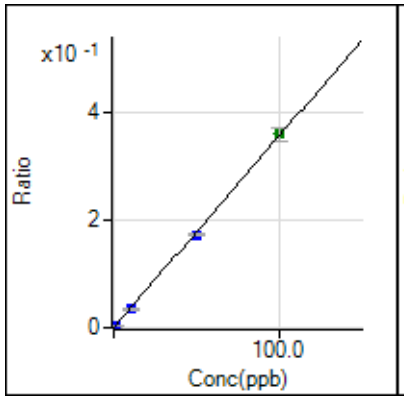
111 Cd [No Gas] / ISTD: 89 Y
y = 1.180E-3 x + 3.572E-4
R 1.0000
DL 0.01004
BEC 0.3027



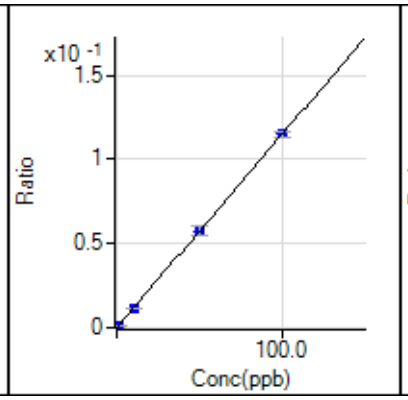
114 (Cd) [No Gas] / ISTD: 89 Y
y = 2.771E-3 x + 1.118E-5
R 1.0000
DL 0.00177
BEC 0.004036



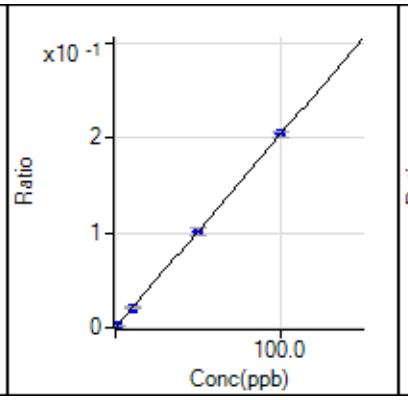
121 (Sb) [No Gas] / ISTD: 89 Y
y = 4.509E-3 x + 1.881E-4
R 1.0000
DL 0.005266
BEC 0.04171



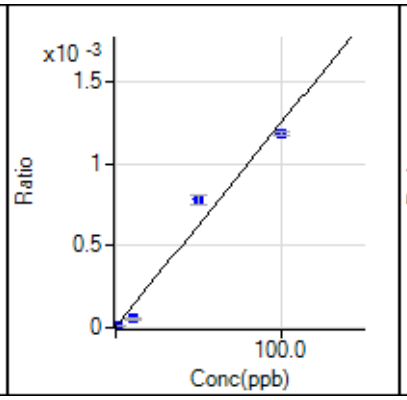
123 Sb [No Gas] / ISTD: 89 Y
y = 3.558E-3 x + 1.440E-4
R 0.9998
DL 0.006489
BEC 0.04048



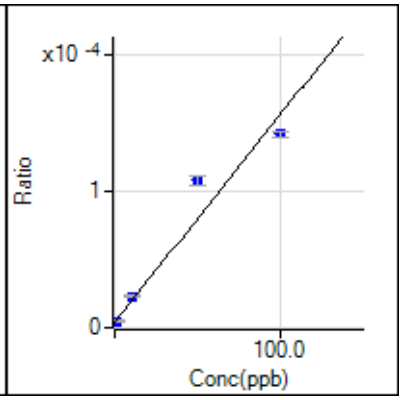
135 (Ba) [No Gas] / ISTD: 115 In
y = 1.150E-3 x + 8.401E-6
R 1.0000
DL 0.002418
BEC 0.007303



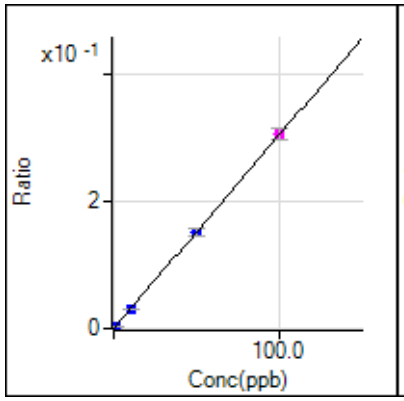
137 Ba [No Gas] / ISTD: 115 In
y = 2.033E-3 x + 1.545E-5
R 1.0000
DL 0.004077
BEC 0.007598



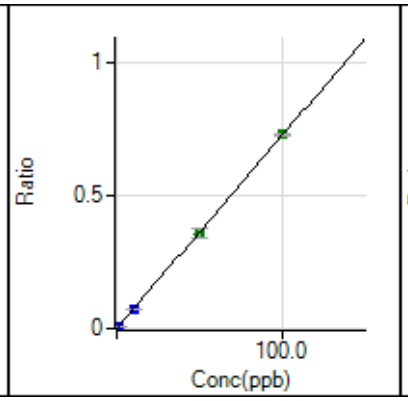
184 W [No Gas] / ISTD: 115 In
y = 1.243E-5 x + 5.148E-6
R 0.9853
DL 0.05172
BEC 0.4142



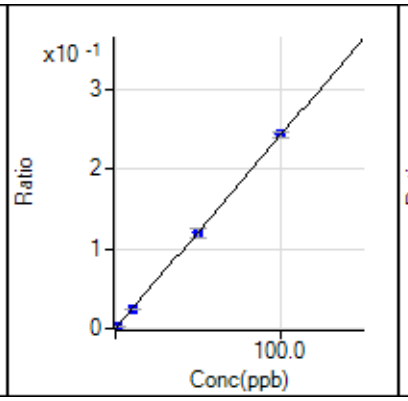
195 Pt [No Gas] / ISTD: 115 In
y = 1.524E-6 x + 4.003E-6
R 0.9718
DL 0.3279
BEC 2.626



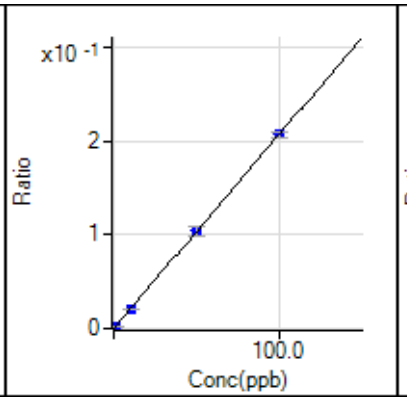
203 Tl [No Gas] / ISTD: 115 In
y = 3.042E-3 x + 6.851E-6
R 1.0000
DL 0.0003857
BEC 0.002252



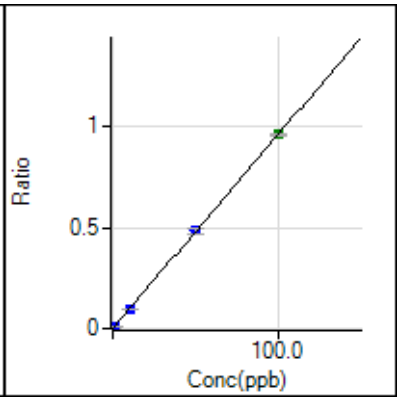
205 (Tl) [No Gas] / ISTD: 115 In
y = 7.291E-3 x + 9.517E-6
R 1.0000
DL 0.0002854
BEC 0.001305



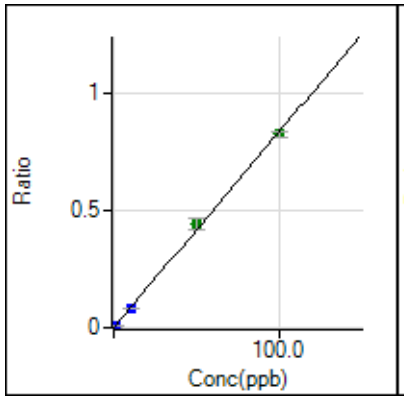
206 (Pb) [No Gas] / ISTD: 115 In
y = 2.425E-3 x + 1.923E-5
R 1.0000
DL 0.001306
BEC 0.007931



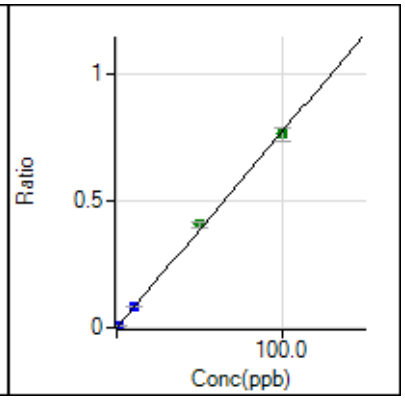
207 (Pb) [No Gas] / ISTD: 115 In
y = 2.072E-3 x + 1.745E-5
R 1.0000
DL 0.006255
BEC 0.008422



208 Pb [No Gas] / ISTD: 115 In
y = 9.599E-3 x + 8.060E-5
R 1.0000
DL 0.00267
BEC 0.008397



232 Th [No Gas] / ISTD: 115 In
y = 8.395E-3 x + 2.749E-4
R 0.9994
DL 0.003775
BEC 0.03274



238 U [No Gas] / ISTD: 115 In
y = 7.706E-3 x + 6.095E-6
R 0.9995
DL 0.0001045
BEC 0.000791

Relative Error for ICP-MS Calibration

Date: 3/4/24 Data File: 030424-icpms7900

Be	TV	Conc	%RE	%RD
	1	1.01	0.01	1.01
	10	9.982	-0.0018	0.9982
	50	49.464	-0.01072	0.98928
	100	100.27	0.0027	1.0027
Al				
	5	5.232	0.0464	1.0464
	10	11.548	0.1548	1.1548
	50	50.451	0.00902	1.00902
	100	99.608	-0.00392	0.99608
V				
	1	1.008	0.008	1.008
	10	10.019	0.0019	1.0019
	50	49.433	-0.01134	0.98866
	100	100.281	0.00281	1.00281
Cr				
	1	1.232	0.232	1.232
	10	10.591	0.0591	1.0591
	50	52.493	0.04986	1.04986
	100	98.692	-0.01308	0.98692
Mn				
	1	1.049	0.049	1.049
	10	10.495	0.0495	1.0495
	50	50.336	0.00672	1.00672
	100	99.782	-0.00218	0.99782
Co				
	1	1.027	0.027	1.027
	10	10.027	0.0027	1.0027
	50	50.587	0.01174	1.01174
	100	99.704	-0.00296	0.99704
Ni				
	1	1.113	0.113	1.113
	10	10.589	0.0589	1.0589
	50	50.515	0.0103	1.0103
	100	99.682	-0.00318	0.99682
Cu				
	1	1.018	0.018	1.018
	10	10.582	0.0582	1.0582
	50	51.728	0.03456	1.03456
	100	99.078	-0.00922	0.99078
Zn				
	5	5.118	0.0236	1.0236
	10	10.24	0.024	1.024
	50	50.265	0.0053	1.0053
	100	99.838	-0.00162	0.99838
Pb				
	1	0.989	-0.011	0.989
	10	10.147	0.0147	1.0147
	50	50.219	0.00438	1.00438
	100	99.876	-0.00124	0.99876
U				
	1	1.033	0.033	1.033
	10	10.815	0.0815	1.0815
	50	52.593	0.05186	1.05186
	100	98.622	-0.01378	0.98622

As	TV	Conc	%RE	%RD
	1	1.079	0.079	1.079
	10	10.356	0.0356	1.0356
	50	49.883	-0.00234	0.99766
	100	100.022	0.00022	1.00022
Se78				
	1	1.04	0.04	1.04
	10	9.723	-0.0277	0.9723
	50	49.421	-0.01158	0.98842
	100	100.317	0.00317	1.00317
Se82				
	1	0.859	-0.141	0.859
	10	10.054	0.0054	1.0054
	50	50.133	0.00266	1.00266
	100	99.929	-0.00071	0.99929
Mo				
	1	0.939	-0.061	0.939
	10	9.641	-0.0359	0.9641
	50	48.869	-0.02262	0.97738
	100	100.602	0.00602	1.00602
Ag				
	1	0.962	-0.038	0.962
	10	9.688	-0.0312	0.9688
	50	50.35	0.007	1.007
	100	99.857	-0.00143	0.99857
Cd				
	1	0.984	-0.016	0.984
	10	9.803	-0.0197	0.9803
	50	49.564	-0.00872	0.99128
	100	100.238	0.00238	1.00238
Sb				
	1	0.969	-0.031	0.969
	10	9.581	-0.0419	0.9581
	50	48.493	-0.03014	0.96986
	100	100.796	0.00796	1.00796
Ba				
	1	1.013	0.013	1.013
	10	10.337	0.0337	1.0337
	50	49.766	-0.00468	0.99532
	100	100.083	0.00083	1.00083
Tl				
	1	0.971	-0.029	0.971
	10	10.068	0.0068	1.0068
	50	49.656	-0.00688	0.99312
	100	100.166	0.00166	1.00166
Th				
	1	0.936	-0.064	0.936
	10	9.913	-0.0087	0.9913
	50	52.764	0.05528	1.05528
	100	98.627	-0.01373	0.98627

7900 ICP-MS 200.8/6020A
Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	077_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:36:32
Sample Type	ICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	48.287	ppb	7.2	175763.37	96.57	
Al	27	72	No Gas	47.199	ppb	9.6	1875679.37	94.4	
V	51	72	He	49.499	ppb	1.6	530967.71	99	
Cr	52	72	No Gas	49.231	ppb	8.7	2542315.80	98.46	
Mn	55	72	No Gas	48.392	ppb	9.8	3530896.87	96.78	
Co	59	72	He	50.215	ppb	1.4	1076812.94	100.43	
Ni	60	72	No Gas	47.335	ppb	11.3	633718.57	94.67	
Cu	63	72	No Gas	49.593	ppb	13.0	1581741.46	99.19	
Zn	66	72	No Gas	48.337	ppb	11.3	404743.65	96.67	
As	75	72	No Gas	48.695	ppb	9.9	416887.04	97.39	
Se	78	72	He	50.134	ppb	1.3	6535.52	100.27	
Se	82	72	No Gas	48.789	ppb	10.1	27455.29	97.58	
Mo	98	89	No Gas	49.022	ppb	7.9	1149630.06	98.04	
Ag	107	89	No Gas	47.580	ppb	8.2	1869289.75	95.16	
Cd	111	89	No Gas	49.069	ppb	5.8	382666.29	98.14	
Sb	123	89	No Gas	49.361	ppb	7.3	1154214.99	98.72	
Ba	137	115	No Gas	48.563	ppb	6.7	587943.20	97.13	
Tl	203	115	No Gas	49.362	ppb	7.3	894310.21	98.72	
Pb	208	115	No Gas	48.740	ppb	6.7	2786372.97	97.48	
Th	232	115	No Gas	50.388	ppb	7.1	2520043.23	100.78	
U	238	115	No Gas	51.484	ppb	7.7	2361940.18	102.97	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44363480.46	0.5	42925068.29	103.35	60	125	
Sc	45	He	2848259.68	2.1	2744212.81	103.79	60	125	
Ge	72	No Gas	4693932.18	4.0	4631903.43	101.34	60	125	
Ge	72	He	869690.42	2.0	848502.95	102.5	60	125	
Y	89	No Gas	6570357.65	1.4	6551279.88	100.29	60	125	
Y	89	He	1350517.52	2.9	1308806.79	103.19	60	125	
Rh	103	No Gas	5609672.83	2.1	5283364.65	106.18	60	125	
Rh	103	He	3423413.54	5.0	3409159.31	100.42	60	125	
In	115	No Gas	5958724.21	1.8	5834783.8	102.12	60	125	
Lu	175	No Gas	26257.39	1.5	25373.31	103.48	60	125	

7900 ICP-MS 200.8/6020A
Initial Calibration Blank (ICB) Report

Sample Name	ICB
File Name	078_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:38:21
Sample Type	ICB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	66.5	15.55	
Al	27	72	No Gas	0.018	ppb	556.7	20278.47	
V	51	72	He	-0.010	ppb	N/A	967.81	
Cr	52	72	No Gas	0.003	ppb	773.1	34594.03	
Mn	55	72	No Gas	0.007	ppb	103.6	6847.21	
Co	59	72	He	0.004	ppb	36.6	166.67	
Ni	60	72	No Gas	0.009	ppb	56.5	468.90	
Cu	63	72	No Gas	0.017	ppb	44.6	1822.35	
Zn	66	72	No Gas	0.317	ppb	42.6	4839.83	
As	75	72	No Gas	0.118	ppb	119.1	-576.73	
Se	78	72	He	0.176	ppb	13.0	109.33	
Se	82	72	No Gas	0.157	ppb	50.5	177.63	
Mo	98	89	No Gas	0.094	ppb	62.4	2284.00	
Ag	107	89	No Gas	0.011	ppb	21.7	522.23	
Cd	111	89	No Gas	0.033	ppb	10.7	2582.37	
Sb	123	89	No Gas	0.235	ppb	56.8	6350.62	
Ba	137	115	No Gas	0.007	ppb	58.4	168.89	
Tl	203	115	No Gas	0.037	ppb	25.3	673.35	
Pb	208	115	No Gas	0.019	ppb	17.7	1488.93	
Th	232	115	No Gas	0.252	ppb	10.9	13677.41	
U	238	115	No Gas	0.010	ppb	9.1	485.57	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44960285.99	3.0	42925068.29	104.74	60	125	
Sc	45	He	2833386.69	2.3	2744212.81	103.25	60	125	
Ge	72	No Gas	4534119.96	3.7	4631903.43	97.89	60	125	
Ge	72	He	874989.30	1.4	848502.95	103.12	60	125	
Y	89	No Gas	6519434.32	1.7	6551279.88	99.51	60	125	
Y	89	He	1348147.38	1.4	1308806.79	103.01	60	125	
Rh	103	No Gas	5397887.01	1.0	5283364.65	102.17	60	125	
Rh	103	He	3392772.23	5.9	3409159.31	99.52	60	125	
In	115	No Gas	5709301.86	3.4	5834783.8	97.85	60	125	
Lu	175	No Gas	25668.33	3.2	25373.31	101.16	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	079LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:40:16
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.981	ppb	8.1	3485.98	98.1	
Al	27	72	No Gas	4.932	ppb	3.7	213239.25	98.64	
V	51	72	He	1.019	ppb	1.6	11782.65	101.9	
Cr	52	72	No Gas	1.108	ppb	8.7	91594.24	110.8	
Mn	55	72	No Gas	0.981	ppb	6.7	77645.98	98.1	
Co	59	72	He	1.023	ppb	0.9	21647.59	102.3	
Ni	60	72	No Gas	1.068	ppb	5.5	14602.04	106.8	
Cu	63	72	No Gas	0.981	ppb	6.0	32503.11	98.1	
Zn	66	72	No Gas	4.985	ppb	4.3	43708.74	99.7	
As	75	72	No Gas	1.157	ppb	18.2	8302.24	115.7	
Se	78	72	He	1.024	ppb	3.0	214.33	102.4	
Se	82	72	No Gas	0.773	ppb	13.8	526.16	77.3	
Mo	98	89	No Gas	0.959	ppb	9.1	22990.33	95.9	
Ag	107	89	No Gas	0.948	ppb	4.7	38060.94	94.8	
Cd	111	89	No Gas	0.959	ppb	5.8	9964.71	95.9	
Sb	123	89	No Gas	1.023	ppb	7.7	25294.81	102.3	
Ba	137	115	No Gas	0.969	ppb	9.8	11651.75	96.9	
Tl	203	115	No Gas	0.959	ppb	11.3	17158.15	95.9	
Pb	208	115	No Gas	0.973	ppb	9.2	55300.10	97.3	
Th	232	115	No Gas	1.030	ppb	9.0	52386.03	103	
U	238	115	No Gas	1.013	ppb	8.1	45910.00	101.3	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43242163.84	1.7	42925068.29	100.74	60	125	
Sc	45	He	2701128.02	1.8	2744212.81	98.43	60	125	
Ge	72	No Gas	4661745.09	0.3	4631903.43	100.64	60	125	
Ge	72	He	855771.60	2.4	848502.95	100.86	60	125	
Y	89	No Gas	6689038.90	1.4	6551279.88	102.1	60	125	
Y	89	He	1332933.63	2.1	1308806.79	101.84	60	125	
Rh	103	No Gas	5501960.48	1.7	5283364.65	104.14	60	125	
Rh	103	He	3369726.05	2.5	3409159.31	98.84	60	125	
In	115	No Gas	5888428.10	4.4	5834783.8	100.92	60	125	
Lu	175	No Gas	25384.50	1.1	25373.31	100.04	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV1
File Name	080_QCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:42:12
Sample Type	QCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	96.413	ppb	7.3	347349.83	96.41	
Al	27	72	No Gas	96.959	ppb	6.3	3701326.66	96.96	
V	51	72	He	100.269	ppb	2.3	1071418.64	100.27	
Cr	52	72	No Gas	98.475	ppb	5.1	4875758.97	98.48	
Mn	55	72	No Gas	98.732	ppb	4.4	6953413.47	98.73	
Co	59	72	He	99.340	ppb	2.3	2124825.40	99.34	
Ni	60	72	No Gas	98.923	ppb	4.6	1279889.84	98.92	
Cu	63	72	No Gas	98.696	ppb	5.8	3043367.17	98.7	
Zn	66	72	No Gas	98.075	ppb	4.4	790957.07	98.08	
As	75	72	No Gas	98.253	ppb	4.9	814177.07	98.25	
Se	78	72	He	97.307	ppb	3.5	12565.61	97.31	
Se	82	72	No Gas	98.110	ppb	3.8	53248.98	98.11	
Mo	98	89	No Gas	98.762	ppb	5.3	2275957.26	98.76	
Ag	107	89	No Gas	97.070	ppb	4.8	3747636.93	97.07	
Cd	111	89	No Gas	97.349	ppb	5.7	743574.04	97.35	
Sb	123	89	No Gas	97.347	ppb	2.8	2234115.12	97.35	
Ba	137	115	No Gas	97.576	ppb	6.2	1166131.31	97.58	
Tl	203	115	No Gas	95.209	ppb	5.0	1703663.75	95.21	
Pb	208	115	No Gas	97.811	ppb	8.4	5522306.83	97.81	
Th	232	115	No Gas	97.187	ppb	10.7	4795333.42	97.19	
U	238	115	No Gas	96.377	ppb	7.9	4366045.24	96.38	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43919518.26	0.6	42925068.29	102.32	60	125	
Sc	45	He	2806922.18	3.2	2744212.81	102.29	60	125	
Ge	72	No Gas	4523690.51	5.5	4631903.43	97.66	60	125	
Ge	72	He	867389.22	2.7	848502.95	102.23	60	125	
Y	89	No Gas	6447658.77	3.1	6551279.88	98.42	60	125	
Y	89	He	1349078.66	1.0	1308806.79	103.08	60	125	
Rh	103	No Gas	5429337.70	3.2	5283364.65	102.76	60	125	
Rh	103	He	3289871.05	2.7	3409159.31	96.5	60	125	
In	115	No Gas	5883198.66	3.8	5834783.8	100.83	60	125	
Lu	175	No Gas	25501.37	2.6	25373.31	100.5	60	125	

7900 ICP-MS 200.8/6020A
Interference Check Solution A (ICSA) Report

Sample Name	ICSA
File Name	081ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:43:55
Sample Type	ICSA
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.010	ppb	72.2	40.00	
Al	27	72	No Gas	19471.496	ppb	7.0	704513412.00	
V	51	72	He	0.019	ppb	21.7	1216.72	
Cr	52	72	No Gas	0.516	ppb	4.6	56932.21	
Mn	55	72	No Gas	0.120	ppb	6.6	14080.29	
Co	59	72	He	0.068	ppb	8.2	1461.19	
Ni	60	72	No Gas	0.290	ppb	4.7	3906.10	
Cu	63	72	No Gas	0.809	ppb	5.7	24985.52	
Zn	66	72	No Gas	1.727	ppb	3.0	15427.30	
As	75	72	No Gas	0.105	ppb	51.4	-642.91	
Se	78	72	He	0.105	ppb	31.2	95.33	
Se	82	72	No Gas	0.297	ppb	18.8	240.76	
Mo	98	89	No Gas	395.015	ppb	8.4	8939997.18	
Ag	107	89	No Gas	0.047	ppb	2.8	1903.47	
Cd	111	89	No Gas	0.089	ppb	9.9	2931.92	
Sb	123	89	No Gas	0.403	ppb	42.2	9947.34	
Ba	137	115	No Gas	0.190	ppb	2.4	2267.98	
Tl	203	115	No Gas	0.044	ppb	22.3	786.69	
Pb	208	115	No Gas	0.066	ppb	4.6	4034.71	
Th	232	115	No Gas	0.422	ppb	3.9	21531.57	
U	238	115	No Gas	0.014	ppb	35.5	648.91	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43622007.15	1.1	42925068.29	101.62	60	125	
Sc	45	He	2765989.54	1.1	2744212.81	100.79	60	125	
Ge	72	No Gas	4309509.97	2.0	4631903.43	93.04	60	125	
Ge	72	He	832201.06	1.4	848502.95	98.08	60	125	
Y	89	No Gas	6342854.33	3.6	6551279.88	96.82	60	125	
Y	89	He	1303059.50	3.2	1308806.79	99.56	60	125	
Rh	103	No Gas	5026819.94	2.3	5283364.65	95.14	60	125	
Rh	103	He	3090285.50	1.7	3409159.31	90.65	60	125	
In	115	No Gas	5646519.77	3.1	5834783.8	96.77	60	125	
Lu	175	No Gas	24660.85	0.8	25373.31	97.19	60	125	

7900 ICP-MS 200.8/6020A
Interference Check Solution AB (ICSAB) Report

Sample Name	ICSAB
File Name	082ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:45:47
Sample Type	ICSB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	19.344	ppb	7.9	68602.14	
Al	27	72	No Gas	19917.913	ppb	10.8	713462158.32	
V	51	72	He	21.037	ppb	0.8	216877.73	
Cr	52	72	No Gas	20.210	ppb	11.7	969793.26	
Mn	55	72	No Gas	20.107	ppb	10.2	1340741.93	
Co	59	72	He	20.034	ppb	1.1	411773.37	
Ni	60	72	No Gas	19.583	ppb	11.9	239201.65	
Cu	63	72	No Gas	19.940	ppb	11.1	580823.94	
Zn	66	72	No Gas	20.817	ppb	9.5	160205.75	
As	75	72	No Gas	20.043	ppb	9.8	155557.76	
Se	78	72	He	20.169	ppb	2.6	2568.90	
Se	82	72	No Gas	20.131	ppb	11.4	10375.56	
Mo	98	89	No Gas	394.589	ppb	8.6	8804731.43	
Ag	107	89	No Gas	17.767	ppb	8.4	663661.24	
Cd	111	89	No Gas	18.488	ppb	7.6	138442.29	
Sb	123	89	No Gas	20.111	ppb	6.7	447610.55	
Ba	137	115	No Gas	19.580	ppb	3.9	229441.03	
Tl	203	115	No Gas	18.034	ppb	6.8	316262.48	
Pb	208	115	No Gas	18.992	ppb	5.8	1051129.28	
Th	232	115	No Gas	0.151	ppb	14.3	8886.50	> +/- 10%
U	238	115	No Gas	20.263	ppb	6.2	899990.07	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43206489.39	1.1	42925068.29	100.66	60	125	
Sc	45	He	2720475.72	1.6	2744212.81	99.14	60	125	
Ge	72	No Gas	4276200.25	3.0	4631903.43	92.32	60	125	
Ge	72	He	833535.14	3.1	848502.95	98.24	60	125	
Y	89	No Gas	6245740.31	2.7	6551279.88	95.34	60	125	
Y	89	He	1303179.67	3.4	1308806.79	99.57	60	125	
Rh	103	No Gas	5009431.05	1.6	5283364.65	94.82	60	125	
Rh	103	He	3032150.02	2.0	3409159.31	88.94	60	125	
In	115	No Gas	5760276.30	3.4	5834783.8	98.72	60	125	
Lu	175	No Gas	24316.93	2.4	25373.31	95.84	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	083_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:47:38
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	48.997	ppb	8.1	172542.67	97.99	
Al	27	72	No Gas	51.741	ppb	3.3	1981224.85	103.48	
V	51	72	He	50.027	ppb	2.5	522892.64	100.05	
Cr	52	72	No Gas	50.610	ppb	2.2	2517855.39	101.22	
Mn	55	72	No Gas	49.448	ppb	4.2	3477804.93	98.9	
Co	59	72	He	50.687	ppb	1.1	1059110.24	101.37	
Ni	60	72	No Gas	48.729	ppb	4.5	629435.20	97.46	
Cu	63	72	No Gas	49.986	ppb	3.9	1538828.69	99.97	
Zn	66	72	No Gas	49.258	ppb	3.0	398101.20	98.52	
As	75	72	No Gas	49.738	ppb	4.2	410954.65	99.48	
Se	78	72	He	49.915	ppb	2.0	6339.76	99.83	
Se	82	72	No Gas	48.992	ppb	3.7	26607.53	97.98	
Mo	98	89	No Gas	47.915	ppb	8.5	1109687.98	95.83	
Ag	107	89	No Gas	48.570	ppb	6.4	1884800.55	97.14	
Cd	111	89	No Gas	46.898	ppb	7.5	361248.29	93.8	
Sb	123	89	No Gas	47.522	ppb	7.0	1097522.91	95.04	
Ba	137	115	No Gas	50.126	ppb	6.1	563532.57	100.25	
Tl	203	115	No Gas	50.614	ppb	7.0	851099.81	101.23	
Pb	208	115	No Gas	48.909	ppb	6.6	2595898.55	97.82	
Th	232	115	No Gas	49.679	ppb	8.9	2307726.99	99.36	
U	238	115	No Gas	52.732	ppb	10.7	2244662.83	105.46	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	42936646.07	0.8	42925068.29	100.03	60	125	
Sc	45	He	2780308.50	0.8	2744212.81	101.32	60	125	
Ge	72	No Gas	4515157.32	4.6	4631903.43	97.48	60	125	
Ge	72	He	847271.30	0.0	848502.95	99.85	60	125	
Y	89	No Gas	6488451.55	1.2	6551279.88	99.04	60	125	
Y	89	He	1324634.18	2.2	1308806.79	101.21	60	125	
Rh	103	No Gas	5240841.18	2.8	5283364.65	99.2	60	125	
Rh	103	He	3195345.57	2.9	3409159.31	93.73	60	125	
In	115	No Gas	5539671.45	7.7	5834783.8	94.94	60	125	
Lu	175	No Gas	23115.94	3.7	25373.31	91.1	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	084_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:49:28
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	84.8	15.56	
Al	27	72	No Gas	0.400	ppb	23.4	33248.86	
V	51	72	He	-0.020	ppb	N/A	805.58	
Cr	52	72	No Gas	-0.037	ppb	N/A	31085.95	
Mn	55	72	No Gas	0.024	ppb	12.3	7674.30	
Co	59	72	He	0.002	ppb	43.9	116.67	
Ni	60	72	No Gas	0.005	ppb	117.5	402.23	
Cu	63	72	No Gas	0.015	ppb	26.4	1700.11	
Zn	66	72	No Gas	0.300	ppb	33.1	4500.82	
As	75	72	No Gas	0.061	ppb	113.5	-984.79	
Se	78	72	He	0.025	ppb	415.7	84.33	
Se	82	72	No Gas	-0.001	ppb	N/A	86.85	
Mo	98	89	No Gas	0.164	ppb	62.4	3730.09	
Ag	107	89	No Gas	0.008	ppb	29.0	402.23	
Cd	111	89	No Gas	-0.001	ppb	N/A	2239.43	
Sb	123	89	No Gas	0.165	ppb	61.2	4552.01	
Ba	137	115	No Gas	0.007	ppb	46.3	164.45	
Tl	203	115	No Gas	0.025	ppb	17.7	457.79	
Pb	208	115	No Gas	0.018	ppb	9.7	1382.25	
Th	232	115	No Gas	0.140	ppb	15.0	8054.80	
U	238	115	No Gas	0.006	ppb	11.7	295.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	42993550.51	1.0	42925068.29	100.16	60	125	
Sc	45	He	2720901.84	3.4	2744212.81	99.15	60	125	
Ge	72	No Gas	4315548.16	1.8	4631903.43	93.17	60	125	
Ge	72	He	821108.63	2.2	848502.95	96.77	60	125	
Y	89	No Gas	6290674.05	3.1	6551279.88	96.02	60	125	
Y	89	He	1248087.24	1.8	1308806.79	95.36	60	125	
Rh	103	No Gas	5164579.38	2.6	5283364.65	97.75	60	125	
Rh	103	He	3212513.14	4.6	3409159.31	94.23	60	125	
In	115	No Gas	5551782.14	4.0	5834783.8	95.15	60	125	
Lu	175	No Gas	22561.57	1.2	25373.31	88.92	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW-434684
File Name	085_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:51:24
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.001	ppb	69.7	10.00	
Al	27	72	No Gas	1.038	ppb	8.2	55666.18	
V	51	72	He	-0.021	ppb	N/A	790.02	
Cr	52	72	No Gas	0.003	ppb	392.5	32592.66	
Mn	55	72	No Gas	0.031	ppb	20.3	8031.16	
Co	59	72	He	0.001	ppb	55.2	82.22	
Ni	60	72	No Gas	0.011	ppb	28.2	470.01	
Cu	63	72	No Gas	0.026	ppb	33.1	1992.37	
Zn	66	72	No Gas	2.976	ppb	2.2	24758.25	
As	75	72	No Gas	0.199	ppb	65.5	124.70	
Se	78	72	He	-0.075	ppb	N/A	71.67	
Se	82	72	No Gas	0.061	ppb	42.0	117.21	
Mo	98	89	No Gas	0.087	ppb	59.5	2010.43	
Ag	107	89	No Gas	0.003	ppb	21.1	220.00	
Cd	111	89	No Gas	-0.005	ppb	N/A	2158.09	
Sb	123	89	No Gas	0.071	ppb	54.6	2449.13	
Ba	137	115	No Gas	0.009	ppb	36.2	176.67	
Tl	203	115	No Gas	0.008	ppb	24.5	156.67	
Pb	208	115	No Gas	0.009	ppb	2.5	880.02	
Th	232	115	No Gas	0.050	ppb	4.1	3654.97	
U	238	115	No Gas	0.002	ppb	28.2	117.78	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	41394993.91	1.2	42925068.29	96.44	60	125	
Sc	45	He	2746663.15	4.6	2744212.81	100.09	60	125	
Ge	72	No Gas	4268914.55	3.8	4631903.43	92.16	60	125	
Ge	72	He	814643.01	1.2	848502.95	96.01	60	125	
Y	89	No Gas	6150105.17	1.5	6551279.88	93.88	60	125	
Y	89	He	1242340.02	3.6	1308806.79	94.92	60	125	
Rh	103	No Gas	4965659.94	2.9	5283364.65	93.99	60	125	
Rh	103	He	3184967.10	2.0	3409159.31	93.42	60	125	
In	115	No Gas	5256394.65	3.5	5834783.8	90.09	60	125	
Lu	175	No Gas	21936.06	2.5	25373.31	86.45	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434684
File Name	086_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:53:22
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	20.257	ppb	3.7	68739.61	101.28	
Al	27	72	No Gas	41.875	ppb	3.4	1502690.11	104.69	
V	51	72	He	20.982	ppb	1.3	210278.83	104.91	
Cr	52	72	No Gas	20.914	ppb	2.2	992791.03	104.57	
Mn	55	72	No Gas	21.650	ppb	1.4	1428984.53	108.25	
Co	59	72	He	21.111	ppb	1.6	421718.20	105.56	
Ni	60	72	No Gas	20.262	ppb	1.4	245097.67	101.31	
Cu	63	72	No Gas	21.226	ppb	3.1	612016.71	106.13	
Zn	66	72	No Gas	21.244	ppb	3.0	161753.00	106.22	
As	75	72	No Gas	20.774	ppb	2.7	159676.26	103.87	
Se	78	72	He	20.291	ppb	1.2	2511.56	101.46	
Se	82	72	No Gas	20.490	ppb	3.1	10456.32	102.45	
Mo	98	89	No Gas	20.371	ppb	3.6	435735.94	101.85	
Ag	107	89	No Gas	19.879	ppb	3.2	711858.48	99.4	
Cd	111	89	No Gas	19.794	ppb	2.3	141954.17	98.97	
Sb	123	89	No Gas	20.101	ppb	3.3	429015.88	100.5	
Ba	137	115	No Gas	19.716	ppb	5.1	213283.14	98.58	
Tl	203	115	No Gas	20.127	ppb	3.1	325781.64	100.64	
Pb	208	115	No Gas	19.493	ppb	4.0	996026.30	97.46	
Th	232	115	No Gas	20.108	ppb	5.0	899277.07	100.54	
U	238	115	No Gas	21.135	ppb	2.5	866552.64	105.68	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	41364879.47	1.0	42925068.29	96.37	60	125	
Sc	45	He	2758276.07	3.1	2744212.81	100.51	60	125	
Ge	72	No Gas	4227245.94	5.1	4631903.43	91.26	60	125	
Ge	72	He	810152.07	2.5	848502.95	95.48	60	125	
Y	89	No Gas	5986465.46	3.6	6551279.88	91.38	60	125	
Y	89	He	1238919.99	2.1	1308806.79	94.66	60	125	
Rh	103	No Gas	5028743.41	3.6	5283364.65	95.18	60	125	
Rh	103	He	3070256.75	2.8	3409159.31	90.06	60	125	
In	115	No Gas	5321516.46	2.2	5834783.8	91.2	60	125	
Lu	175	No Gas	21897.13	3.5	25373.31	86.3	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-007
File Name	087SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:55:18
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.013	ppb	16.7	47.78	
Al	27	72	No Gas	5.307	ppb	3.2	204272.21	
V	51	72	He	0.859	ppb	3.6	9211.87	
Cr	52	72	No Gas	1.514	ppb	8.8	100590.82	
Mn	55	72	No Gas	5.286	ppb	6.8	349597.36	
Co	59	72	He	0.189	ppb	1.5	3706.05	
Ni	60	72	No Gas	2.231	ppb	8.2	26994.79	
Cu	63	72	No Gas	7.837	ppb	3.6	224294.85	
Zn	66	72	No Gas	4.602	ppb	4.8	36335.51	
As	75	72	No Gas	1.061	ppb	18.2	6710.76	
Se	78	72	He	8.804	ppb	2.9	1094.04	
Se	82	72	No Gas	10.946	ppb	6.7	5565.69	
Mo	98	89	No Gas	6.622	ppb	4.3	141505.00	
Ag	107	89	No Gas	0.020	ppb	24.9	828.92	
Cd	111	89	No Gas	0.023	ppb	34.5	2296.22	
Sb	123	89	No Gas	0.213	ppb	15.7	5434.46	
Ba	137	115	No Gas	39.369	ppb	3.9	417236.60	
Tl	203	115	No Gas	0.054	ppb	5.1	887.81	
Pb	208	115	No Gas	0.057	ppb	16.8	3289.06	
Th	232	115	No Gas	0.332	ppb	3.5	15958.93	
U	238	115	No Gas	16.997	ppb	4.8	683095.30	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	41295587.25	1.0	42925068.29	96.2	60	125	
Sc	45	He	2691688.57	2.3	2744212.81	98.09	60	125	
Ge	72	No Gas	4177094.28	1.8	4631903.43	90.18	60	125	
Ge	72	He	780749.24	1.2	848502.95	92.01	60	125	
Y	89	No Gas	5980796.43	6.9	6551279.88	91.29	60	125	
Y	89	He	1212092.73	4.0	1308806.79	92.61	60	125	
Rh	103	No Gas	4602208.57	1.8	5283364.65	87.11	60	125	
Rh	103	He	2853257.59	4.2	3409159.31	83.69	60	125	
In	115	No Gas	5209190.90	3.8	5834783.8	89.28	60	125	
Lu	175	No Gas	22605.00	7.8	25373.31	89.09	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401534-001
File Name	088_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:57:15
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.004	ppb	62.6	20.00
Al	27	72	No Gas	9.965	ppb	4.8	362723.83
Cr	52	72	No Gas	2.033	ppb	5.0	122483.91
Mn	55	72	No Gas	1.370	ppb	4.3	93647.97
Ni	60	72	No Gas	3.438	ppb	6.9	40824.37
Cu	63	72	No Gas	3.858	ppb	6.9	109540.47
Zn	66	72	No Gas	2.593	ppb	4.6	21103.55
As	75	72	No Gas	0.911	ppb	12.1	5480.64
Se	82	72	No Gas	6.159	ppb	5.7	3127.45
Mo	98	89	No Gas	7.994	ppb	4.0	169073.07
Ag	107	89	No Gas	0.020	ppb	15.5	798.92
Cd	111	89	No Gas	0.020	ppb	51.3	2254.34
Sb	123	89	No Gas	0.110	ppb	23.9	3163.72
Ba	137	115	No Gas	29.787	ppb	3.8	312454.57
Tl	203	115	No Gas	0.046	ppb	3.1	758.91
Pb	208	115	No Gas	0.048	ppb	8.5	2776.79
Th	232	115	No Gas	0.121	ppb	21.9	6660.70
U	238	115	No Gas	8.429	ppb	2.4	335108.85
V	51	72	He	1.466	ppb	2.1	14776.54
Co	59	72	He	0.326	ppb	2.4	6230.27
Se	78	72	He	5.028	ppb	4.5	646.02

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	40714576.16	1.9	42925068.29	94.85	60	125
Sc	45	He	2579672.54	0.3	2744212.81	94	60	125
Ge	72	No Gas	4124821.64	2.8	4631903.43	89.05	60	125
Ge	72	He	766555.99	1.9	848502.95	90.34	60	125
Y	89	No Gas	5918510.32	1.5	6551279.88	90.34	60	125
Y	89	He	1179561.41	2.6	1308806.79	90.12	60	125
Rh	103	No Gas	4538345.38	3.5	5283364.65	85.9	60	125
Rh	103	He	2727140.03	1.9	3409159.31	79.99	60	125
In	115	No Gas	5159647.71	4.5	5834783.8	88.43	60	125
Lu	175	No Gas	22669.51	2.4	25373.31	89.34	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401534-001S
File Name	089_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 16:59:11
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	088_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	20.776	ppb	5.8	68997.50	0.004	103.86	
Al	27	No Gas	54.598	ppb	2.5	1837022.22	9.965	109.27	
V	51	He	23.083	ppb	1.1	215429.46	1.466	107.53	
Cr	52	No Gas	23.172	ppb	4.7	1030512.46	2.033	105.17	
Mn	55	No Gas	22.148	ppb	3.7	1373760.19	1.37	103.64	
Co	59	He	20.276	ppb	2.1	377397.73	0.326	99.75	
Ni	60	No Gas	22.338	ppb	5.1	253919.90	3.438	95.31	
Cu	63	No Gas	23.535	ppb	3.5	637816.29	3.858	98.65	
Zn	66	No Gas	23.030	ppb	4.3	164677.53	2.593	101.93	
As	75	No Gas	22.749	ppb	4.5	164461.57	0.911	108.79	
Se	78	He	25.385	ppb	1.8	2908.64	5.028	101.43	
Se	82	No Gas	27.003	ppb	5.0	12925.04	6.159	103.23	
Mo	98	No Gas	29.314	ppb	1.8	578269.01	7.994	104.72	
Ag	107	No Gas	18.396	ppb	1.5	607976.94	0.02	91.89	
Cd	111	No Gas	19.254	ppb	0.8	127432.87	0.02	96.17	
Sb	123	No Gas	21.040	ppb	0.2	414178.29	0.11	104.63	
Ba	137	No Gas	50.599	ppb	5.7	496106.49	29.787	101.63	
Tl	203	No Gas	20.033	ppb	3.8	294023.16	0.046	99.93	
Pb	208	No Gas	19.565	ppb	5.6	906085.50	0.048	97.59	
Th	232	No Gas	21.053	ppb	6.6	853636.25	0.121	104.63	
U	238	No Gas	30.543	ppb	6.2	1135050.79	8.429	107.43	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	40511290.61	2.6	42925068.29	94.38	60	125	
Sc	45	He	2529982.26	0.8	2744212.81	92.19	60	125	
Ge	72	No Gas	3970773.45	0.6	4631903.43	85.73	60	125	
Ge	72	He	754820.75	1.7	848502.95	88.96	60	125	
Y	89	No Gas	5521303.95	2.3	6551279.88	84.28	60	125	
Y	89	He	1150641.97	0.8	1308806.79	87.92	60	125	
Rh	103	No Gas	4221212.47	0.8	5283364.65	79.9	60	125	
Rh	103	He	2680553.71	2.4	3409159.31	78.63	60	125	
In	115	No Gas	4825396.48	1.5	5834783.8	82.7	60	125	
Lu	175	No Gas	20747.43	1.3	25373.31	81.77	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401534-001SD
File Name	090_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:01:06
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	089_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	20.003	ppb	4.8	64920.20	20.776	3.79	
Al	27	No Gas	50.688	ppb	0.1	1714053.48	54.598	7.43	
V	51	He	22.524	ppb	1.0	204461.76	23.083	2.45	
Cr	52	No Gas	21.853	ppb	1.8	977636.73	23.172	5.86	
Mn	55	No Gas	21.485	ppb	2.8	1338390.40	22.148	3.04	
Co	59	He	20.001	ppb	2.5	362072.75	20.276	1.37	
Ni	60	No Gas	21.193	ppb	1.7	241938.05	22.338	5.26	
Cu	63	No Gas	21.974	ppb	1.6	598103.76	23.535	6.86	
Zn	66	No Gas	20.857	ppb	2.8	149917.20	23.03	9.9	
As	75	No Gas	21.724	ppb	0.6	157641.03	22.749	4.61	
Se	78	He	25.537	ppb	2.0	2846.62	25.385	0.6	
Se	82	No Gas	25.563	ppb	1.0	12293.75	27.003	5.48	
Mo	98	No Gas	27.919	ppb	4.1	547820.27	29.314	4.88	
Ag	107	No Gas	17.540	ppb	2.8	576617.20	18.396	4.76	
Cd	111	No Gas	18.538	ppb	3.5	122138.32	19.254	3.79	
Sb	123	No Gas	19.920	ppb	1.1	390201.00	21.04	5.47	
Ba	137	No Gas	49.190	ppb	3.3	463784.08	50.599	2.82	
Tl	203	No Gas	19.534	ppb	5.0	275528.20	20.033	2.52	
Pb	208	No Gas	18.838	ppb	1.7	839004.80	19.565	3.78	
Th	232	No Gas	20.815	ppb	4.8	811721.27	21.053	1.13	
U	238	No Gas	29.839	ppb	4.3	1066553.64	30.543	2.33	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	39553962.87	0.7	42925068.29	92.15	60	125	
Sc	45	He	2483765.32	2.7	2744212.81	90.51	60	125	
Ge	72	No Gas	3987440.81	4.0	4631903.43	86.09	60	125	
Ge	72	He	734142.00	2.1	848502.95	86.52	60	125	
Y	89	No Gas	5494659.22	3.5	6551279.88	83.87	60	125	
Y	89	He	1099482.63	2.7	1308806.79	84.01	60	125	
Rh	103	No Gas	4199586.91	2.5	5283364.65	79.49	60	125	
Rh	103	He	2632968.02	2.4	3409159.31	77.23	60	125	
In	115	No Gas	4637159.67	2.6	5834783.8	79.47	60	125	
Lu	175	No Gas	19856.08	1.3	25373.31	78.26	60	125	

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401534-001A
File Name	091_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:03:02
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	088_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	22.908	ppb	4.7	70340.87	0.004	114.51	
Al	27	No Gas	58.091	ppb	6.0	1802956.52	9.965	116.26	
V	51	He	25.236	ppb	1.2	218606.82	1.466	117.56	
Cr	52	No Gas	25.389	ppb	6.8	1039056.07	2.033	115.23	
Mn	55	No Gas	25.387	ppb	8.9	1451546.40	1.37	118.8	
Co	59	He	22.283	ppb	1.4	385212.56	0.326	109.63	
Ni	60	No Gas	24.653	ppb	7.5	258474.22	3.438	105.19	
Cu	63	No Gas	25.500	ppb	6.0	637605.81	3.858	106.89	
Zn	66	No Gas	24.249	ppb	5.8	159890.69	2.593	107.33	
As	75	No Gas	25.323	ppb	7.1	169052.08	0.911	121.1	
Se	78	He	26.911	ppb	0.7	2859.29	5.028	107.52	
Se	82	No Gas	29.116	ppb	5.8	12855.83	6.159	111.3	
Mo	98	No Gas	30.331	ppb	2.2	574508.73	7.994	108.35	
Ag	107	No Gas	15.105	ppb	2.5	479293.38	0.02	75.45	
Cd	111	No Gas	20.189	ppb	2.6	128256.72	0.02	100.85	
Sb	123	No Gas	20.932	ppb	1.2	395708.55	0.11	104.09	
Ba	137	No Gas	49.505	ppb	5.5	454610.07	29.787	99.43	
Tl	203	No Gas	21.104	ppb	7.2	289961.43	0.046	105.28	
Pb	208	No Gas	20.264	ppb	7.2	878671.05	0.048	101.08	
Th	232	No Gas	21.990	ppb	7.0	834828.89	0.121	109.29	
U	238	No Gas	31.473	ppb	7.1	1095231.66	8.429	110.71	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37420217.40	0.9	42925068.29	87.18	60	125	
Sc	45	He	2447541.78	4.4	2744212.81	89.19	60	125	
Ge	72	No Gas	3668091.11	2.9	4631903.43	79.19	60	125	
Ge	72	He	700895.25	1.3	848502.95	82.6	60	125	
Y	89	No Gas	5301589.51	1.6	6551279.88	80.92	60	125	
Y	89	He	1050057.42	1.9	1308806.79	80.23	60	125	
Rh	103	No Gas	4103597.06	2.9	5283364.65	77.67	60	125	
Rh	103	He	2462464.07	3.4	3409159.31	72.23	60	125	
In	115	No Gas	4521173.71	2.7	5834783.8	77.49	60	125	
Lu	175	No Gas	19032.63	4.3	25373.31	75.01	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401534-001L 5X
File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:04:57
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	15.3	18.89	
Al	27	72	No Gas	2.424	ppb	5.3	93458.45	
V	51	72	He	0.325	ppb	7.6	3673.81	
Cr	52	72	No Gas	0.439	ppb	8.3	46877.81	
Mn	55	72	No Gas	0.346	ppb	5.2	25674.24	
Co	59	72	He	0.071	ppb	5.4	1281.17	
Ni	60	72	No Gas	0.711	ppb	8.3	7985.61	
Cu	63	72	No Gas	0.822	ppb	2.2	22288.74	
Zn	66	72	No Gas	0.626	ppb	10.8	6149.17	
As	75	72	No Gas	0.401	ppb	43.7	1503.33	
Se	78	72	He	1.029	ppb	5.3	176.33	
Se	82	72	No Gas	1.142	ppb	18.3	593.90	
Mo	98	89	No Gas	1.649	ppb	7.6	31496.90	
Ag	107	89	No Gas	0.009	ppb	24.9	365.56	
Cd	111	89	No Gas	0.020	ppb	56.7	2030.91	
Sb	123	89	No Gas	0.107	ppb	45.3	2792.54	
Ba	137	115	No Gas	5.671	ppb	4.1	53552.28	
Tl	203	115	No Gas	0.012	ppb	4.2	196.67	
Pb	208	115	No Gas	0.012	ppb	12.1	918.91	
Th	232	115	No Gas	0.087	ppb	11.6	4655.30	
U	238	115	No Gas	1.577	ppb	6.5	56364.16	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	37649552.95	1.3	42925068.29	87.71	60	125	
Sc	45	He	2427405.67	1.7	2744212.81	88.46	60	125	
Ge	72	No Gas	3786559.15	1.6	4631903.43	81.75	60	125	
Ge	72	He	701859.80	1.7	848502.95	82.72	60	125	
Y	89	No Gas	5337600.62	1.9	6551279.88	81.47	60	125	
Y	89	He	1025948.54	2.7	1308806.79	78.39	60	125	
Rh	103	No Gas	4201666.22	1.6	5283364.65	79.53	60	125	
Rh	103	He	2542277.12	2.4	3409159.31	74.57	60	125	
In	115	No Gas	4645417.04	4.9	5834783.8	79.62	60	125	
Lu	175	No Gas	19318.60	1.6	25373.31	76.14	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-004
File Name	093SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:06:53
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.016	ppb	4.7	51.11	
Al	27	72	No Gas	4.018	ppb	4.3	132974.73	
V	51	72	He	4.105	ppb	0.3	33598.26	
Cr	52	72	No Gas	3.808	ppb	6.8	171124.50	
Mn	55	72	No Gas	0.413	ppb	5.7	27318.43	
Co	59	72	He	2.433	ppb	1.8	38992.20	
Ni	60	72	No Gas	3.511	ppb	6.9	35325.28	
Cu	63	72	No Gas	6.521	ppb	5.8	156146.20	
Zn	66	72	No Gas	4.426	ppb	3.3	29273.59	
As	75	72	No Gas	1.232	ppb	24.5	6696.38	2nd analysis
Se	78	72	He	1.962	ppb	11.3	252.33	
Se	82	72	No Gas	3.203	ppb	7.5	1410.46	
Mo	98	89	No Gas	5.971	ppb	6.1	103043.04	
Ag	107	89	No Gas	0.017	ppb	10.9	568.90	
Cd	111	89	No Gas	0.022	ppb	58.8	1848.98	
Sb	123	89	No Gas	4.413	ppb	7.3	76490.01	
Ba	137	115	No Gas	81.478	ppb	4.3	647885.79	
Tl	203	115	No Gas	0.049	ppb	1.4	612.24	
Pb	208	115	No Gas	0.023	ppb	6.7	1160.02	
Th	232	115	No Gas	0.092	ppb	15.0	4086.23	
U	238	115	No Gas	19.101	ppb	5.0	575773.62	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34678814.18	0.6	42925068.29	80.79	60	125	
Sc	45	He	2360040.25	2.1	2744212.81	86	60	125	
Ge	72	No Gas	3494081.87	1.3	4631903.43	75.44	60	125	
Ge	72	He	649040.72	2.1	848502.95	76.49	60	125	
Y	89	No Gas	4833297.58	4.4	6551279.88	73.78	60	125	
Y	89	He	980938.40	2.9	1308806.79	74.95	60	125	
Rh	103	No Gas	3633681.03	4.9	5283364.65	68.78	60	125	
Rh	103	He	2258344.77	2.4	3409159.31	66.24	60	125	
In	115	No Gas	3910581.37	1.3	5834783.8	67.02	60	125	
Lu	175	No Gas	17169.01	2.4	25373.31	67.67	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-006
File Name	094SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:08:49
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	153.5	11.11	
Al	27	72	No Gas	8.941	ppb	3.9	260806.34	
V	51	72	He	1.694	ppb	1.9	13495.26	
Cr	52	72	No Gas	1.367	ppb	4.6	73781.35	
Mn	55	72	No Gas	1.040	ppb	6.0	57704.47	
Co	59	72	He	0.228	ppb	4.6	3488.22	
Ni	60	72	No Gas	1.122	ppb	5.8	10788.56	
Cu	63	72	No Gas	3.137	ppb	6.0	71086.42	
Zn	66	72	No Gas	4.427	ppb	4.1	27521.19	
As	75	72	No Gas	1.106	ppb	14.1	5535.37	
Se	78	72	He	4.294	ppb	3.4	448.68	
Se	82	72	No Gas	5.265	ppb	0.8	2138.21	
Mo	98	89	No Gas	7.734	ppb	6.8	123505.31	
Ag	107	89	No Gas	0.013	ppb	18.3	408.90	
Cd	111	89	No Gas	0.002	ppb	181.3	1606.49	
Sb	123	89	No Gas	0.108	ppb	19.4	2351.32	
Ba	137	115	No Gas	41.456	ppb	1.5	310219.81	
Tl	203	115	No Gas	0.150	ppb	4.6	1704.56	
Pb	208	115	No Gas	0.039	ppb	5.3	1657.82	
Th	232	115	No Gas	0.070	ppb	12.8	3173.74	
U	238	115	No Gas	9.168	ppb	2.6	259769.36	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32647449.81	2.4	42925068.29	76.06	60	125	
Sc	45	He	2218139.98	4.4	2744212.81	80.83	60	125	
Ge	72	No Gas	3284617.16	2.1	4631903.43	70.91	60	125	
Ge	72	He	611213.48	0.8	848502.95	72.03	60	125	
Y	89	No Gas	4475134.13	3.9	6551279.88	68.31	60	125	
Y	89	He	877713.18	0.9	1308806.79	67.06	60	125	
Rh	103	No Gas	3379423.69	3.3	5283364.65	63.96	60	125	
Rh	103	He	2106598.87	4.5	3409159.31	61.79	60	125	
In	115	No Gas	3679214.71	4.5	5834783.8	63.06	60	125	
Lu	175	No Gas	15144.30	2.7	25373.31	59.69	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	095_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:10:45
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	49.478	ppb	6.5	136541.94	98.96	
Al	27	72	No Gas	51.370	ppb	6.2	1521979.80	102.74	
V	51	72	He	53.651	ppb	1.3	446239.30	107.3	
Cr	52	72	No Gas	51.486	ppb	5.4	1982668.05	102.97	
Mn	55	72	No Gas	51.866	ppb	7.2	2825922.11	103.73	
Co	59	72	He	52.618	ppb	1.6	874910.18	105.24	
Ni	60	72	No Gas	48.595	ppb	7.4	486024.96	97.19	
Cu	63	72	No Gas	49.568	ppb	6.8	1181436.79	99.14	
Zn	66	72	No Gas	50.273	ppb	5.7	314279.18	100.55	
As	75	72	No Gas	50.044	ppb	6.8	319917.38	100.09	
Se	78	72	He	47.345	ppb	3.0	4787.48	94.69	
Se	82	72	No Gas	47.124	ppb	6.7	19803.52	94.25	
Mo	98	89	No Gas	48.974	ppb	9.3	815825.00	97.95	
Ag	107	89	No Gas	47.937	ppb	10.1	1338159.15	95.87	
Cd	111	89	No Gas	47.738	ppb	8.8	264486.55	95.48	
Sb	123	89	No Gas	46.573	ppb	7.5	774067.71	93.15	
Ba	137	115	No Gas	47.495	ppb	8.2	392949.46	94.99	
Tl	203	115	No Gas	46.158	ppb	8.9	571472.23	92.32	
Pb	208	115	No Gas	44.903	ppb	7.5	1754390.43	89.81	> +/- 10%
Th	232	115	No Gas	46.264	ppb	9.6	1581384.03	92.53	
U	238	115	No Gas	47.212	ppb	9.3	1480400.04	94.42	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33632099.78	0.9	42925068.29	78.35	60	125	
Sc	45	He	2354127.48	3.7	2744212.81	85.79	60	125	
Ge	72	No Gas	3495903.40	2.4	4631903.43	75.47	60	125	
Ge	72	He	674401.59	2.5	848502.95	79.48	60	125	
Y	89	No Gas	4670397.46	2.7	6551279.88	71.29	60	125	
Y	89	He	943149.37	1.9	1308806.79	72.06	60	125	
Rh	103	No Gas	3711060.27	4.1	5283364.65	70.24	60	125	
Rh	103	He	2511411.29	4.7	3409159.31	73.67	60	125	
In	115	No Gas	4072064.70	1.2	5834783.8	69.79	60	125	
Lu	175	No Gas	17413.76	1.5	25373.31	68.63	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	096_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:12:37
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	31.9	15.55	
Al	27	72	No Gas	0.042	ppb	198.3	15983.84	
V	51	72	He	0.030	ppb	11.4	1074.49	
Cr	52	72	No Gas	0.082	ppb	34.5	28874.70	
Mn	55	72	No Gas	0.076	ppb	7.9	8779.39	
Co	59	72	He	0.004	ppb	10.9	124.44	
Ni	60	72	No Gas	0.012	ppb	23.3	381.12	
Cu	63	72	No Gas	0.058	ppb	24.5	2326.87	
Zn	66	72	No Gas	0.363	ppb	29.7	3928.40	
As	75	72	No Gas	0.148	ppb	137.7	-238.95	
Se	78	72	He	-0.027	ppb	N/A	64.00	
Se	82	72	No Gas	-0.043	ppb	N/A	51.66	
Mo	98	89	No Gas	0.064	ppb	60.1	1190.98	
Ag	107	89	No Gas	0.008	ppb	28.5	302.22	
Cd	111	89	No Gas	0.021	ppb	151.0	1843.80	
Sb	123	89	No Gas	0.134	ppb	45.5	3020.38	
Ba	137	115	No Gas	0.011	ppb	26.0	152.22	
Tl	203	115	No Gas	0.015	ppb	10.0	208.89	
Pb	208	115	No Gas	0.009	ppb	39.8	676.68	
Th	232	115	No Gas	0.145	ppb	20.5	6012.55	
U	238	115	No Gas	0.007	ppb	26.3	236.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	34150919.75	2.0	42925068.29	79.56	60	125	
Sc	45	He	2338193.94	3.0	2744212.81	85.2	60	125	
Ge	72	No Gas	3398020.08	1.8	4631903.43	73.36	60	125	
Ge	72	He	673845.34	1.8	848502.95	79.42	60	125	
Y	89	No Gas	4826667.17	4.4	6551279.88	73.68	60	125	
Y	89	He	949461.24	0.8	1308806.79	72.54	60	125	
Rh	103	No Gas	3882791.93	5.6	5283364.65	73.49	60	125	
Rh	103	He	2478959.90	2.0	3409159.31	72.71	60	125	
In	115	No Gas	4050265.67	7.2	5834783.8	69.42	60	125	
Lu	175	No Gas	17176.81	2.5	25373.31	67.7	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-007 5X
File Name	097SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:14:34
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	41.2	27.78	
Al	27	72	No Gas	1.334	ppb	2.8	52670.46	
V	51	72	He	0.187	ppb	14.0	2222.40	
Cr	52	72	No Gas	0.363	ppb	2.2	39152.40	
Mn	55	72	No Gas	1.171	ppb	4.0	66506.18	
Co	59	72	He	0.044	ppb	2.4	735.58	
Ni	60	72	No Gas	0.453	ppb	5.4	4654.11	
Cu	63	72	No Gas	1.510	ppb	4.9	35859.19	
Zn	66	72	No Gas	1.019	ppb	6.0	7866.64	
As	75	72	No Gas	0.362	ppb	40.0	1090.49	
Se	78	72	He	1.445	ppb	13.2	197.00	
Se	82	72	No Gas	1.760	ppb	3.6	783.10	
Mo	98	89	No Gas	1.386	ppb	10.1	22388.84	
Ag	107	89	No Gas	0.006	ppb	18.2	245.56	
Cd	111	89	No Gas	0.020	ppb	42.8	1718.07	
Sb	123	89	No Gas	0.088	ppb	36.0	2054.61	
Ba	137	115	No Gas	7.896	ppb	5.5	60698.09	
Tl	203	115	No Gas	0.014	ppb	15.0	187.78	
Pb	208	115	No Gas	0.012	ppb	10.1	743.35	
Th	232	115	No Gas	0.088	ppb	8.6	3821.70	
U	238	115	No Gas	3.291	ppb	1.9	95817.79	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32792716.47	2.4	42925068.29	76.4	60	125	
Sc	45	He	2215348.59	3.9	2744212.81	80.73	60	125	
Ge	72	No Gas	3389836.12	1.1	4631903.43	73.18	60	125	
Ge	72	He	629356.73	1.9	848502.95	74.17	60	125	
Y	89	No Gas	4518564.40	3.1	6551279.88	68.97	60	125	
Y	89	He	896923.25	2.8	1308806.79	68.53	60	125	
Rh	103	No Gas	3438556.32	0.2	5283364.65	65.08	60	125	
Rh	103	He	2263045.54	1.4	3409159.31	66.38	60	125	
In	115	No Gas	3777750.68	0.2	5834783.8	64.75	60	125	
Lu	175	No Gas	16016.45	5.7	25373.31	63.12	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW-434823
File Name	098_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:16:29
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.000	ppb	N/A	3.33	
Al	27	72	No Gas	0.969	ppb	5.3	40506.28	
V	51	72	He	0.012	ppb	152.9	864.48	
Cr	52	72	No Gas	0.091	ppb	46.1	27927.33	
Mn	55	72	No Gas	0.081	ppb	5.8	8629.29	
Co	59	72	He	0.002	ppb	19.6	76.67	
Ni	60	72	No Gas	0.019	ppb	28.8	432.23	
Cu	63	72	No Gas	0.058	ppb	15.6	2222.40	
Zn	66	72	No Gas	0.931	ppb	7.4	7027.32	
As	75	72	No Gas	0.287	ppb	33.6	605.92	
Se	78	72	He	0.033	ppb	144.8	65.33	
Se	82	72	No Gas	-0.040	ppb	N/A	50.08	
Mo	98	89	No Gas	0.023	ppb	62.1	440.27	
Ag	107	89	No Gas	0.003	ppb	30.3	160.00	
Cd	111	89	No Gas	-0.007	ppb	N/A	1568.50	
Sb	123	89	No Gas	0.038	ppb	47.9	1258.95	
Ba	137	115	No Gas	0.006	ppb	87.7	102.22	
Tl	203	115	No Gas	0.002	ppb	32.3	55.56	
Pb	208	115	No Gas	0.003	ppb	46.8	422.23	
Th	232	115	No Gas	0.012	ppb	7.9	1451.20	
U	238	115	No Gas	0.001	ppb	38.9	64.44	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32178000.94	1.8	42925068.29	74.96	60	125	
Sc	45	He	2284578.24	1.7	2744212.81	83.25	60	125	
Ge	72	No Gas	3248163.62	1.9	4631903.43	70.13	60	125	
Ge	72	He	629471.45	2.6	848502.95	74.19	60	125	
Y	89	No Gas	4502222.46	2.6	6551279.88	68.72	60	125	
Y	89	He	880041.25	0.6	1308806.79	67.24	60	125	
Rh	103	No Gas	3643714.02	3.4	5283364.65	68.97	60	125	
Rh	103	He	2252796.16	3.0	3409159.31	66.08	60	125	
In	115	No Gas	3865579.71	3.2	5834783.8	66.25	60	125	
Lu	175	No Gas	15899.67	1.8	25373.31	62.66	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434823
File Name	099_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:18:25
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	19.472	ppb	6.2	51639.19	97.36	
Al	27	72	No Gas	41.060	ppb	3.2	1144960.99	102.65	
V	51	72	He	21.755	ppb	1.7	171316.42	108.78	
Cr	52	72	No Gas	20.670	ppb	4.6	762140.75	103.35	
Mn	55	72	No Gas	20.888	ppb	3.4	1070395.24	104.44	
Co	59	72	He	21.456	ppb	1.5	336937.24	107.28	
Ni	60	72	No Gas	19.391	ppb	4.0	182139.51	96.95	
Cu	63	72	No Gas	20.270	ppb	4.3	453949.56	101.35	
Zn	66	72	No Gas	20.471	ppb	4.0	121116.21	102.35	
As	75	72	No Gas	20.384	ppb	4.4	121642.28	101.92	
Se	78	72	He	18.947	ppb	3.8	1846.79	94.73	
Se	82	72	No Gas	19.096	ppb	3.2	7570.18	95.48	
Mo	98	89	No Gas	19.292	ppb	3.5	309689.84	96.46	
Ag	107	89	No Gas	18.627	ppb	5.7	500815.31	93.14	
Cd	111	89	No Gas	18.503	ppb	3.9	99756.29	92.52	
Sb	123	89	No Gas	18.700	ppb	4.4	299508.81	93.5	
Ba	137	115	No Gas	19.257	ppb	4.9	146017.85	96.29	
Tl	203	115	No Gas	19.452	ppb	6.9	220737.70	97.26	
Pb	208	115	No Gas	18.699	ppb	5.3	669585.43	93.5	
Th	232	115	No Gas	18.701	ppb	3.2	586319.20	93.51	
U	238	115	No Gas	19.733	ppb	3.4	566965.17	98.66	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32323162.05	0.7	42925068.29	75.3	60	125	
Sc	45	He	2213835.68	1.2	2744212.81	80.67	60	125	
Ge	72	No Gas	3279152.93	1.9	4631903.43	70.79	60	125	
Ge	72	He	636873.24	2.6	848502.95	75.06	60	125	
Y	89	No Gas	4492831.49	3.3	6551279.88	68.58	60	125	
Y	89	He	902315.07	1.0	1308806.79	68.94	60	125	
Rh	103	No Gas	3583437.85	2.8	5283364.65	67.82	60	125	
Rh	103	He	2327268.03	2.8	3409159.31	68.27	60	125	
In	115	No Gas	3727216.66	1.3	5834783.8	63.88	60	125	
Lu	175	No Gas	16046.46	2.1	25373.31	63.24	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401607-001
File Name	100_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:20:21
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.002	ppb	57.7	10.00
Al	27	72	No Gas	62.278	ppb	9.2	1706054.86
Cr	52	72	No Gas	0.415	ppb	10.3	39235.99
Mn	55	72	No Gas	0.270	ppb	4.1	18166.00
Ni	60	72	No Gas	0.762	ppb	8.0	7310.80
Cu	63	72	No Gas	1.249	ppb	5.8	28462.12
Zn	66	72	No Gas	4.841	ppb	4.5	29525.25
As	75	72	No Gas	0.443	ppb	55.0	1552.68
Se	82	72	No Gas	-0.019	ppb	N/A	57.75
Mo	98	89	No Gas	1.094	ppb	1.7	17715.07
Ag	107	89	No Gas	0.004	ppb	33.9	181.11
Cd	111	89	No Gas	0.006	ppb	462.6	1640.61
Sb	123	89	No Gas	0.167	ppb	10.1	3337.09
Ba	137	115	No Gas	21.460	ppb	5.7	164899.16
Tl	203	115	No Gas	0.013	ppb	2.5	176.67
Pb	208	115	No Gas	0.020	ppb	2.6	1044.47
Th	232	115	No Gas	0.176	ppb	3.9	6638.41
U	238	115	No Gas	0.159	ppb	4.4	4643.08
V	51	72	He	0.168	ppb	6.2	2085.71
Co	59	72	He	0.036	ppb	4.8	615.57
Se	78	72	He	0.160	ppb	24.0	77.67

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	31654813.19	0.9	42925068.29	73.74	60	125
Sc	45	He	2220121.58	3.8	2744212.81	80.9	60	125
Ge	72	No Gas	3238956.61	2.8	4631903.43	69.93	60	125
Ge	72	He	633352.73	1.6	848502.95	74.64	60	125
Y	89	No Gas	4517479.82	5.2	6551279.88	68.96	60	125
Y	89	He	878665.82	2.2	1308806.79	67.13	60	125
Rh	103	No Gas	3469227.29	3.7	5283364.65	65.66	60	125
Rh	103	He	2191105.19	4.9	3409159.31	64.27	60	125
In	115	No Gas	3781301.24	2.1	5834783.8	64.81	60	125
Lu	175	No Gas	15987.52	2.6	25373.31	63.01	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401607-001S
File Name	101_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:22:17
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	100_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	20.107	ppb	2.5	52819.57	0.002	100.52	
Al	27	No Gas	101.931	ppb	0.2	2796538.57	62.278	99.66	
V	51	He	21.691	ppb	0.3	170097.66	0.168	107.55	
Cr	52	No Gas	21.069	ppb	1.5	769595.79	0.415	103.2	
Mn	55	No Gas	20.862	ppb	1.8	1059932.01	0.27	102.92	
Co	59	He	20.688	ppb	0.6	323517.96	0.036	103.26	
Ni	60	No Gas	19.594	ppb	1.7	182427.42	0.762	94.37	
Cu	63	No Gas	21.046	ppb	2.4	467154.96	1.249	99.05	
Zn	66	No Gas	24.878	ppb	1.8	145483.66	4.841	100.15	
As	75	No Gas	21.342	ppb	3.5	126196.51	0.443	104.4	
Se	78	He	17.999	ppb	1.6	1750.78	0.16	89.28	
Se	82	No Gas	19.002	ppb	2.9	7466.18	-0.019	95.1	
Mo	98	No Gas	20.906	ppb	2.7	324601.66	1.094	99.11	
Ag	107	No Gas	18.360	ppb	1.7	477779.98	0.004	91.78	
Cd	111	No Gas	18.679	ppb	2.6	97433.20	0.006	93.37	
Sb	123	No Gas	19.557	ppb	1.0	303234.74	0.167	96.98	
Ba	137	No Gas	39.994	ppb	3.0	307024.62	21.46	96.46	
Tl	203	No Gas	17.879	ppb	4.1	205448.14	0.013	89.34	
Pb	208	No Gas	17.501	ppb	1.2	634481.41	0.02	87.42	
Th	232	No Gas	18.592	ppb	4.9	590456.89	0.176	92.15	
U	238	No Gas	19.416	ppb	0.3	564815.41	0.159	96.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32010388.73	1.9	42925068.29	74.57	60	125	
Sc	45	He	2229880.61	2.1	2744212.81	81.26	60	125	
Ge	72	No Gas	3251581.95	4.0	4631903.43	70.2	60	125	
Ge	72	He	634052.87	1.5	848502.95	74.73	60	125	
Y	89	No Gas	4347480.94	2.9	6551279.88	66.36	60	125	
Y	89	He	887089.58	1.5	1308806.79	67.78	60	125	
Rh	103	No Gas	3485472.50	1.3	5283364.65	65.97	60	125	
Rh	103	He	2225752.34	2.2	3409159.31	65.29	60	125	
In	115	No Gas	3774640.54	1.7	5834783.8	64.69	60	125	
Lu	175	No Gas	15543.63	2.3	25373.31	61.26	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401607-001SD
File Name	102_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:24:12
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	101_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	19.816	ppb	3.1	51898.60	20.107	1.46	
Al	27	No Gas	101.960	ppb	3.0	2848700.44	101.931	0.03	
V	51	He	21.708	ppb	0.9	167062.99	21.691	0.08	
Cr	52	No Gas	20.878	ppb	4.6	777060.92	21.069	0.91	
Mn	55	No Gas	20.472	ppb	3.5	1059500.79	20.862	1.89	
Co	59	He	20.481	ppb	0.5	314326.52	20.688	1.01	
Ni	60	No Gas	19.135	ppb	3.1	181447.35	19.594	2.37	
Cu	63	No Gas	20.263	ppb	3.1	458143.99	21.046	3.79	
Zn	66	No Gas	23.362	ppb	1.8	139317.99	24.878	6.28	
As	75	No Gas	20.277	ppb	4.7	122200.77	21.342	5.12	
Se	78	He	19.088	ppb	4.3	1818.45	17.999	5.87	
Se	82	No Gas	18.456	ppb	2.6	7389.55	19.002	2.92	
Mo	98	No Gas	20.667	ppb	7.0	323024.99	20.906	1.15	
Ag	107	No Gas	17.830	ppb	8.3	466843.42	18.36	2.93	
Cd	111	No Gas	18.031	ppb	8.1	94679.13	18.679	3.53	
Sb	123	No Gas	18.607	ppb	7.7	290313.80	19.557	4.98	
Ba	137	No Gas	40.090	ppb	6.9	299583.49	39.994	0.24	
Tl	203	No Gas	17.936	ppb	7.5	200600.89	17.879	0.32	
Pb	208	No Gas	17.463	ppb	5.3	616539.31	17.501	0.22	
Th	232	No Gas	18.162	ppb	3.7	561504.44	18.592	2.34	
U	238	No Gas	19.142	ppb	4.3	542337.30	19.416	1.42	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	31906039.84	1.7	42925068.29	74.33	60	125	
Sc	45	He	2195932.20	4.1	2744212.81	80.02	60	125	
Ge	72	No Gas	3311389.73	2.4	4631903.43	71.49	60	125	
Ge	72	He	622241.14	0.5	848502.95	73.33	60	125	
Y	89	No Gas	4381963.72	3.4	6551279.88	66.89	60	125	
Y	89	He	870248.06	0.7	1308806.79	66.49	60	125	
Rh	103	No Gas	3446224.03	3.8	5283364.65	65.23	60	125	
Rh	103	He	2129406.38	2.2	3409159.31	62.46	60	125	
In	115	No Gas	3677756.10	2.5	5834783.8	63.03	60	125	
Lu	175	No Gas	15040.84	1.3	25373.31	59.28	60	125	ISTD Failed

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401607-001A
File Name	103_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:26:08
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	100_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	21.222	ppb	3.9	55100.26	0.002	106.1	
Al	27	No Gas	102.279	ppb	4.8	2764962.95	62.278	100	
V	51	He	24.127	ppb	0.7	181652.75	0.168	119.63	
Cr	52	No Gas	22.492	ppb	5.5	807791.48	0.415	110.18	
Mn	55	No Gas	22.445	ppb	4.9	1123134.16	0.27	110.73	
Co	59	He	22.725	ppb	2.4	341348.97	0.036	113.42	
Ni	60	No Gas	21.310	ppb	5.2	195454.68	0.762	102.64	
Cu	63	No Gas	22.615	ppb	5.5	494526.32	1.249	106.43	
Zn	66	No Gas	26.092	ppb	3.9	150327.72	4.841	105.04	
As	75	No Gas	22.617	ppb	6.1	131923.01	0.443	110.63	
Se	78	He	20.539	ppb	3.6	1910.46	0.16	101.88	
Se	82	No Gas	20.592	ppb	5.8	7968.55	-0.019	103.06	
Mo	98	No Gas	22.507	ppb	9.2	342238.52	1.094	106.7	
Ag	107	No Gas	15.458	ppb	8.7	393833.13	0.004	77.27	
Cd	111	No Gas	19.876	ppb	8.8	101387.79	0.006	99.35	
Sb	123	No Gas	20.111	ppb	7.4	305360.59	0.167	99.72	
Ba	137	No Gas	41.042	ppb	3.6	291960.71	21.46	98.99	
Tl	203	No Gas	20.509	ppb	5.3	218317.36	0.013	102.48	
Pb	208	No Gas	19.513	ppb	4.9	655595.43	0.02	97.46	
Th	232	No Gas	20.720	ppb	3.9	609586.33	0.176	102.7	
U	238	No Gas	21.771	ppb	5.8	586951.73	0.159	108	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	31629435.41	1.7	42925068.29	73.69	60	125	
Sc	45	He	2189352.83	2.7	2744212.81	79.78	60	125	
Ge	72	No Gas	3204224.66	0.5	4631903.43	69.18	60	125	
Ge	72	He	609015.77	1.4	848502.95	71.78	60	125	
Y	89	No Gas	4266141.64	3.6	6551279.88	65.12	60	125	
Y	89	He	856890.24	1.3	1308806.79	65.47	60	125	
Rh	103	No Gas	3240624.39	5.1	5283364.65	61.34	60	125	
Rh	103	He	2162223.94	1.1	3409159.31	63.42	60	125	
In	115	No Gas	3497831.67	1.4	5834783.8	59.95 60 OK	60	125	ISTD Failed
Lu	175	No Gas	14634.82	3.2	25373.31	57.68	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401607-001L 5X
File Name	104SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:28:03
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.000	ppb	458.8	4.44	
Al	27	72	No Gas	12.519	ppb	4.0	352081.69	
V	51	72	He	0.027	ppb	20.8	943.37	
Cr	52	72	No Gas	0.079	ppb	28.4	27245.94	
Mn	55	72	No Gas	0.107	ppb	4.8	9868.97	
Co	59	72	He	0.010	ppb	21.7	201.12	
Ni	60	72	No Gas	0.188	ppb	2.7	1984.59	
Cu	63	72	No Gas	0.286	ppb	3.5	7196.28	
Zn	66	72	No Gas	0.971	ppb	7.4	7191.86	
As	75	72	No Gas	0.190	ppb	63.4	14.47	
Se	78	72	He	0.133	ppb	45.3	72.00	
Se	82	72	No Gas	-0.113	ppb	N/A	20.95	
Mo	98	89	No Gas	0.256	ppb	11.0	3956.75	
Ag	107	89	No Gas	0.005	ppb	24.9	205.56	
Cd	111	89	No Gas	0.020	ppb	55.9	1619.69	
Sb	123	89	No Gas	0.118	ppb	44.7	2388.02	
Ba	137	115	No Gas	4.207	ppb	6.0	31005.77	
Tl	203	115	No Gas	0.006	ppb	7.7	95.55	
Pb	208	115	No Gas	0.005	ppb	3.1	475.56	
Th	232	115	No Gas	0.078	ppb	5.1	3377.12	
U	238	115	No Gas	0.035	ppb	12.2	990.04	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	31134004.32	1.4	42925068.29	72.53	60	125	
Sc	45	He	2160587.07	1.1	2744212.81	78.73	60	125	
Ge	72	No Gas	3218172.30	1.6	4631903.43	69.48	60	125	
Ge	72	He	607091.28	1.4	848502.95	71.55	60	125	
Y	89	No Gas	4254064.00	1.9	6551279.88	64.93	60	125	
Y	89	He	855416.23	2.6	1308806.79	65.36	60	125	
Rh	103	No Gas	3439440.07	1.8	5283364.65	65.1	60	125	
Rh	103	He	2155254.29	0.2	3409159.31	63.22	60	125	
In	115	No Gas	3622020.00	2.1	5834783.8	62.08	60	125	
Lu	175	No Gas	14453.51	3.3	25373.31	56.96	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401612-001
File Name	105SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:29:59
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	28.9	18.89	
Al	27	72	No Gas	332.285	ppb	3.8	9243351.30	>LDR
V	51	72	He	0.053	ppb	16.9	1181.16	
Cr	52	72	No Gas	3.673	ppb	5.1	157263.28	
Mn	55	72	No Gas	35.324	ppb	5.5	1822680.45	
Co	59	72	He	0.100	ppb	3.8	1601.21	
Ni	60	72	No Gas	4.722	ppb	5.5	44932.41	
Cu	63	72	No Gas	31.854	ppb	5.9	718940.94	
Zn	66	72	No Gas	64.568	ppb	4.7	381651.46	
As	75	72	No Gas	0.419	ppb	34.9	1414.81	
Se	78	72	He	-0.034	ppb	N/A	59.00	
Se	82	72	No Gas	0.166	ppb	78.0	132.68	
Mo	98	89	No Gas	0.111	ppb	16.8	1783.26	
Ag	107	89	No Gas	0.006	ppb	7.8	216.67	
Cd	111	89	No Gas	0.019	ppb	50.0	1635.98	
Sb	123	89	No Gas	0.109	ppb	23.4	2311.32	
Ba	137	115	No Gas	40.179	ppb	4.0	311192.12	
Tl	203	115	No Gas	0.004	ppb	23.9	76.67	
Pb	208	115	No Gas	0.374	ppb	3.8	13978.55	
Th	232	115	No Gas	0.033	ppb	16.3	2109.07	
U	238	115	No Gas	0.077	ppb	6.6	2281.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32035087.61	2.1	42925068.29	74.63	60	125	
Sc	45	He	2193026.51	3.4	2744212.81	79.91	60	125	
Ge	72	No Gas	3308295.77	0.4	4631903.43	71.42	60	125	
Ge	72	He	627809.18	0.2	848502.95	73.99	60	125	
Y	89	No Gas	4317878.30	3.9	6551279.88	65.91	60	125	
Y	89	He	891533.75	2.0	1308806.79	68.12	60	125	
Rh	103	No Gas	3320472.99	1.4	5283364.65	62.85	60	125	
Rh	103	He	2198307.06	5.9	3409159.31	64.48	60	125	
In	115	No Gas	3811274.99	6.3	5834783.8	65.32	60	125	
Lu	175	No Gas	15467.98	3.3	25373.31	60.96	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401613-001
File Name	106SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:31:54
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.000	ppb	N/A	3.33	
Al	27	72	No Gas	1.610	ppb	2.0	58452.61	
V	51	72	He	-0.063	ppb	N/A	277.78	
Cr	52	72	No Gas	0.153	ppb	21.7	30332.13	
Mn	55	72	No Gas	218.971	ppb	6.5	11151087.06	>LDR
Co	59	72	He	0.046	ppb	2.1	752.24	
Ni	60	72	No Gas	0.457	ppb	6.9	4528.51	
Cu	63	72	No Gas	1.171	ppb	5.4	27040.44	
Zn	66	72	No Gas	5.563	ppb	4.3	34045.31	
As	75	72	No Gas	14.579	ppb	5.7	86459.28	
Se	78	72	He	0.103	ppb	194.1	70.67	
Se	82	72	No Gas	-0.071	ppb	N/A	38.24	
Mo	98	89	No Gas	1.117	ppb	2.1	18065.56	
Ag	107	89	No Gas	0.000	ppb	297.2	75.55	
Cd	111	89	No Gas	-0.018	ppb	N/A	1516.51	
Sb	123	89	No Gas	-0.002	ppb	N/A	626.68	
Ba	137	115	No Gas	424.238	ppb	4.8	3150477.23	>LDR
Tl	203	115	No Gas	0.001	ppb	145.0	41.11	
Pb	208	115	No Gas	0.002	ppb	51.7	365.56	
Th	232	115	No Gas	0.011	ppb	43.1	1336.74	
U	238	115	No Gas	0.378	ppb	4.5	10660.07	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32412380.94	1.6	42925068.29	75.51	60	125	
Sc	45	He	2252786.71	2.0	2744212.81	82.09	60	125	
Ge	72	No Gas	3272965.08	0.4	4631903.43	70.66	60	125	
Ge	72	He	619673.14	0.7	848502.95	73.03	60	125	
Y	89	No Gas	4512426.90	4.6	6551279.88	68.88	60	125	
Y	89	He	873202.71	1.5	1308806.79	66.72	60	125	
Rh	103	No Gas	3425872.02	1.3	5283364.65	64.84	60	125	
Rh	103	He	2128330.54	4.2	3409159.31	62.43	60	125	
In	115	No Gas	3652323.74	0.8	5834783.8	62.6	60	125	
Lu	175	No Gas	15089.80	4.4	25373.31	59.47	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	107_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:33:45
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	48.074	ppb	11.3	126640.42	96.15	
Al	27	72	No Gas	49.268	ppb	4.8	1391851.27	98.54	
V	51	72	He	54.655	ppb	0.8	418124.33	109.31	
Cr	52	72	No Gas	50.822	ppb	4.7	1865230.20	101.64	
Mn	55	72	No Gas	50.619	ppb	8.0	2626422.25	101.24	
Co	59	72	He	53.749	ppb	0.2	822271.39	107.5	
Ni	60	72	No Gas	47.026	ppb	6.0	447993.10	94.05	
Cu	63	72	No Gas	48.540	ppb	6.2	1102199.37	97.08	
Zn	66	72	No Gas	49.540	ppb	5.5	295088.17	99.08	
As	75	72	No Gas	48.734	ppb	7.4	296782.90	97.47	
Se	78	72	He	47.008	ppb	0.6	4374.68	94.02	
Se	82	72	No Gas	45.493	ppb	7.3	18217.40	90.99	
Mo	98	89	No Gas	49.136	ppb	4.6	753014.93	98.27	
Ag	107	89	No Gas	48.026	ppb	5.1	1233539.78	96.05	
Cd	111	89	No Gas	47.314	ppb	5.3	241161.40	94.63	
Sb	123	89	No Gas	46.574	ppb	7.0	711790.70	93.15	
Ba	137	115	No Gas	47.668	ppb	6.3	353606.41	95.34	
Tl	203	115	No Gas	46.440	ppb	4.3	515383.62	92.88	
Pb	208	115	No Gas	45.668	ppb	4.8	1599257.05	91.34	
Th	232	115	No Gas	45.190	ppb	6.3	1385132.06	90.38	
U	238	115	No Gas	48.768	ppb	3.5	1370608.80	97.54	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32181060.94	3.3	42925068.29	74.97	60	125	
Sc	45	He	2181468.94	2.7	2744212.81	79.49	60	125	
Ge	72	No Gas	3329504.24	1.3	4631903.43	71.88	60	125	
Ge	72	He	620307.35	2.1	848502.95	73.11	60	125	
Y	89	No Gas	4289237.05	2.4	6551279.88	65.47	60	125	
Y	89	He	889862.92	0.7	1308806.79	67.99	60	125	
Rh	103	No Gas	3545670.90	2.7	5283364.65	67.11	60	125	
Rh	103	He	2258107.34	2.8	3409159.31	66.24	60	125	
In	115	No Gas	3644809.72	2.6	5834783.8	62.47	60	125	
Lu	175	No Gas	15354.51	1.6	25373.31	60.51	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	108_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:35:39
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	60.2	12.22	
Al	27	72	No Gas	0.027	ppb	284.5	15172.81	
V	51	72	He	0.001	ppb	972.1	777.80	
Cr	52	72	No Gas	-0.018	ppb	N/A	24679.07	
Mn	55	72	No Gas	0.073	ppb	8.3	8473.64	
Co	59	72	He	0.004	ppb	18.2	112.22	
Ni	60	72	No Gas	0.008	ppb	89.4	336.67	
Cu	63	72	No Gas	0.034	ppb	32.8	1727.89	
Zn	66	72	No Gas	0.294	ppb	29.8	3427.13	
As	75	72	No Gas	0.179	ppb	42.7	-44.81	
Se	78	72	He	0.073	ppb	47.5	69.00	
Se	82	72	No Gas	-0.144	ppb	N/A	10.26	
Mo	98	89	No Gas	0.072	ppb	61.9	1165.77	
Ag	107	89	No Gas	0.008	ppb	31.3	265.56	
Cd	111	89	No Gas	0.026	ppb	44.1	1673.76	
Sb	123	89	No Gas	0.142	ppb	54.2	2785.88	
Ba	137	115	No Gas	0.014	ppb	8.9	167.78	
Tl	203	115	No Gas	0.017	ppb	3.8	218.89	
Pb	208	115	No Gas	0.010	ppb	8.6	651.12	
Th	232	115	No Gas	0.120	ppb	9.7	4794.25	
U	238	115	No Gas	0.007	ppb	3.5	232.23	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32155443.16	2.7	42925068.29	74.91	60	125	
Sc	45	He	2212003.24	2.5	2744212.81	80.61	60	125	
Ge	72	No Gas	3328581.05	1.7	4631903.43	71.86	60	125	
Ge	72	He	628706.09	0.6	848502.95	74.1	60	125	
Y	89	No Gas	4308659.83	1.5	6551279.88	65.77	60	125	
Y	89	He	881629.45	1.6	1308806.79	67.36	60	125	
Rh	103	No Gas	3676516.38	3.0	5283364.65	69.59	60	125	
Rh	103	He	2312354.84	1.8	3409159.31	67.83	60	125	
In	115	No Gas	3739740.13	4.7	5834783.8	64.09	60	125	
Lu	175	No Gas	16058.71	1.0	25373.31	63.29	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401613-002
File Name	109SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:37:35
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.001	ppb	228.4	6.66	
Al	27	72	No Gas	1.392	ppb	5.6	53547.10	
V	51	72	He	0.012	ppb	32.7	887.81	
Cr	52	72	No Gas	0.353	ppb	20.9	38235.61	
Mn	55	72	No Gas	2.860	ppb	8.4	153238.07	
Co	59	72	He	0.041	ppb	5.4	711.13	
Ni	60	72	No Gas	0.444	ppb	7.1	4502.95	
Cu	63	72	No Gas	5.432	ppb	6.0	124571.46	
Zn	66	72	No Gas	4.498	ppb	6.1	28425.19	
As	75	72	No Gas	8.150	ppb	5.6	48837.61	
Se	78	72	He	-0.041	ppb	N/A	60.00	
Se	82	72	No Gas	0.156	ppb	22.9	129.95	
Mo	98	89	No Gas	1.137	ppb	6.5	18149.20	
Ag	107	89	No Gas	0.005	ppb	13.3	201.12	
Cd	111	89	No Gas	0.044	ppb	35.7	1819.99	
Sb	123	89	No Gas	0.085	ppb	38.4	1983.49	
Ba	137	115	No Gas	393.827	ppb	6.6	3118728.35	>LDR
Tl	203	115	No Gas	0.006	ppb	22.1	100.00	
Pb	208	115	No Gas	0.135	ppb	3.2	5357.12	
Th	232	115	No Gas	0.060	ppb	21.4	3024.82	
U	238	115	No Gas	0.383	ppb	8.2	11523.10	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32081333.17	2.1	42925068.29	74.74	60	125	
Sc	45	He	2317605.60	0.5	2744212.81	84.45	60	125	
Ge	72	No Gas	3343901.05	2.6	4631903.43	72.19	60	125	
Ge	72	He	644169.42	2.3	848502.95	75.92	60	125	
Y	89	No Gas	4451866.07	1.1	6551279.88	67.95	60	125	
Y	89	He	928364.69	1.3	1308806.79	70.93	60	125	
Rh	103	No Gas	3532284.79	5.9	5283364.65	66.86	60	125	
Rh	103	He	2337124.63	1.2	3409159.31	68.55	60	125	
In	115	No Gas	3897562.62	2.4	5834783.8	66.8	60	125	
Lu	175	No Gas	16626.05	1.8	25373.31	65.53	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401669-001
File Name	110SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:39:29
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.000	ppb	N/A	3.33	
Al	27	72	No Gas	8.346	ppb	2.8	248468.26	
V	51	72	He	0.066	ppb	9.6	1313.40	
Cr	52	72	No Gas	0.297	ppb	3.6	36160.21	
Mn	55	72	No Gas	0.285	ppb	1.5	19495.55	
Co	59	72	He	0.029	ppb	6.3	523.34	
Ni	60	72	No Gas	0.494	ppb	5.5	4980.89	
Cu	63	72	No Gas	32.613	ppb	3.5	742970.02	
Zn	66	72	No Gas	9.451	ppb	2.7	57835.88	
As	75	72	No Gas	0.430	ppb	21.3	1500.28	
Se	78	72	He	0.077	ppb	38.7	71.33	
Se	82	72	No Gas	0.055	ppb	195.7	89.87	
Mo	98	89	No Gas	0.503	ppb	1.7	8239.26	
Ag	107	89	No Gas	0.005	ppb	18.4	211.11	
Cd	111	89	No Gas	0.000	ppb	2780.5	1626.64	
Sb	123	89	No Gas	0.093	ppb	24.2	2173.52	
Ba	137	115	No Gas	14.811	ppb	9.6	116463.78	
Tl	203	115	No Gas	0.003	ppb	18.4	57.78	
Pb	208	115	No Gas	0.098	ppb	4.1	3961.35	
Th	232	115	No Gas	0.069	ppb	35.2	3308.23	
U	238	115	No Gas	0.027	ppb	14.5	833.36	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32154459.83	0.5	42925068.29	74.91	60	125	
Sc	45	He	2291546.02	2.1	2744212.81	83.5	60	125	
Ge	72	No Gas	3338237.16	2.1	4631903.43	72.07	60	125	
Ge	72	He	646005.23	1.5	848502.95	76.13	60	125	
Y	89	No Gas	4546342.88	2.9	6551279.88	69.4	60	125	
Y	89	He	912381.56	0.8	1308806.79	69.71	60	125	
Rh	103	No Gas	3576237.91	4.8	5283364.65	67.69	60	125	
Rh	103	He	2316615.81	2.3	3409159.31	67.95	60	125	
In	115	No Gas	3871497.35	3.5	5834783.8	66.35	60	125	
Lu	175	No Gas	15845.10	3.6	25373.31	62.45	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401669-002
File Name	111SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:41:25
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	62.8	12.22	
Al	27	72	No Gas	2.102	ppb	5.2	70817.55	
V	51	72	He	0.060	ppb	4.8	1155.60	
Cr	52	72	No Gas	0.393	ppb	9.8	38250.08	
Mn	55	72	No Gas	0.241	ppb	7.7	16578.53	
Co	59	72	He	0.016	ppb	6.9	284.45	
Ni	60	72	No Gas	0.261	ppb	10.8	2661.37	
Cu	63	72	No Gas	16.819	ppb	5.9	370084.27	
Zn	66	72	No Gas	4.669	ppb	4.1	28380.63	
As	75	72	No Gas	0.260	ppb	68.8	447.84	
Se	78	72	He	0.504	ppb	10.7	102.00	
Se	82	72	No Gas	0.303	ppb	45.0	181.12	
Mo	98	89	No Gas	1.067	ppb	7.2	16401.28	
Ag	107	89	No Gas	0.007	ppb	30.5	248.89	
Cd	111	89	No Gas	0.002	ppb	792.1	1539.92	
Sb	123	89	No Gas	0.060	ppb	94.1	1533.67	
Ba	137	115	No Gas	1.317	ppb	5.5	9465.57	
Tl	203	115	No Gas	0.004	ppb	48.1	64.44	
Pb	208	115	No Gas	0.172	ppb	5.0	6077.23	
Th	232	115	No Gas	0.022	ppb	10.3	1607.88	
U	238	115	No Gas	1.228	ppb	3.3	33301.66	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32254639.83	1.9	42925068.29	75.14	60	125	
Sc	45	He	2134434.91	3.7	2744212.81	77.78	60	125	
Ge	72	No Gas	3221640.50	2.8	4631903.43	69.55	60	125	
Ge	72	He	588214.65	3.0	848502.95	69.32	60	125	
Y	89	No Gas	4287166.64	0.5	6551279.88	65.44	60	125	
Y	89	He	850781.86	2.2	1308806.79	65	60	125	
Rh	103	No Gas	3247668.34	3.6	5283364.65	61.47	60	125	
Rh	103	He	2102023.67	2.7	3409159.31	61.66	60	125	
In	115	No Gas	3516850.62	3.9	5834783.8	60.27	60	125	
Lu	175	No Gas	14690.42	3.2	25373.31	57.9	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	112_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:43:20
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	50.164	ppb	10.9	137226.05	100.33	
Al	27	72	No Gas	50.930	ppb	9.7	1485413.07	101.86	
V	51	72	He	54.185	ppb	1.3	425502.59	108.37	
Cr	52	72	No Gas	51.658	ppb	10.1	1957259.44	103.32	
Mn	55	72	No Gas	50.188	ppb	12.0	2688513.44	100.38	
Co	59	72	He	53.517	ppb	1.9	840204.55	107.03	
Ni	60	72	No Gas	47.619	ppb	10.9	468337.34	95.24	
Cu	63	72	No Gas	48.899	ppb	11.5	1146110.86	97.8	
Zn	66	72	No Gas	49.416	ppb	11.8	303867.48	98.83	
As	75	72	No Gas	49.348	ppb	10.0	310321.73	98.7	
Se	78	72	He	47.375	ppb	2.0	4524.06	94.75	
Se	82	72	No Gas	45.354	ppb	10.9	18748.34	90.71	
Mo	98	89	No Gas	48.174	ppb	6.3	772383.99	96.35	
Ag	107	89	No Gas	47.553	ppb	5.8	1277346.51	95.11	
Cd	111	89	No Gas	46.612	ppb	7.6	248577.53	93.22	
Sb	123	89	No Gas	46.821	ppb	6.4	748570.32	93.64	
Ba	137	115	No Gas	46.776	ppb	4.1	367138.99	93.55	
Tl	203	115	No Gas	45.896	ppb	2.3	538747.04	91.79	
Pb	208	115	No Gas	44.744	ppb	2.8	1657685.86	89.49	> +/- 10%
Th	232	115	No Gas	43.201	ppb	4.6	1400831.82	86.4	> +/- 10%
U	238	115	No Gas	47.522	ppb	2.8	1413289.73	95.04	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33435300.89	4.2	42925068.29	77.89	60	125	
Sc	45	He	2254938.87	1.4	2744212.81	82.17	60	125	
Ge	72	No Gas	3447073.96	3.6	4631903.43	74.42	60	125	
Ge	72	He	636715.83	1.6	848502.95	75.04	60	125	
Y	89	No Gas	4487753.85	0.9	6551279.88	68.5	60	125	
Y	89	He	904139.55	0.2	1308806.79	69.08	60	125	
Rh	103	No Gas	3654552.91	0.5	5283364.65	69.17	60	125	
Rh	103	He	2348889.08	2.1	3409159.31	68.9	60	125	
In	115	No Gas	3855753.60	4.9	5834783.8	66.08	60	125	
Lu	175	No Gas	15810.62	1.6	25373.31	62.31	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	113_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:45:13
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.008	ppb	13.2	26.67	
Al	27	72	No Gas	0.049	ppb	90.5	16097.24	
V	51	72	He	-0.003	ppb	N/A	763.36	
Cr	52	72	No Gas	-0.012	ppb	N/A	25263.45	
Mn	55	72	No Gas	0.074	ppb	1.3	8637.07	
Co	59	72	He	0.004	ppb	64.6	121.11	
Ni	60	72	No Gas	0.014	ppb	7.7	398.90	
Cu	63	72	No Gas	0.052	ppb	7.5	2184.62	
Zn	66	72	No Gas	0.336	ppb	26.7	3747.25	
As	75	72	No Gas	0.229	ppb	38.6	260.86	
Se	78	72	He	0.127	ppb	93.6	76.00	
Se	82	72	No Gas	-0.015	ppb	N/A	62.28	
Mo	98	89	No Gas	0.069	ppb	70.6	1200.50	
Ag	107	89	No Gas	0.009	ppb	31.3	327.78	
Cd	111	89	No Gas	0.033	ppb	37.0	1835.08	
Sb	123	89	No Gas	0.146	ppb	54.5	3050.39	
Ba	137	115	No Gas	0.008	ppb	7.4	123.33	
Tl	203	115	No Gas	0.016	ppb	13.3	216.67	
Pb	208	115	No Gas	0.010	ppb	27.2	694.45	
Th	232	115	No Gas	0.332	ppb	41.3	12074.30	
U	238	115	No Gas	0.008	ppb	19.6	276.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33413577.56	1.6	42925068.29	77.84	60	125	
Sc	45	He	2218523.52	1.5	2744212.81	80.84	60	125	
Ge	72	No Gas	3382550.42	2.2	4631903.43	73.03	60	125	
Ge	72	He	644020.11	2.3	848502.95	75.9	60	125	
Y	89	No Gas	4640992.18	4.2	6551279.88	70.84	60	125	
Y	89	He	912649.61	2.1	1308806.79	69.73	60	125	
Rh	103	No Gas	3750282.77	4.9	5283364.65	70.98	60	125	
Rh	103	He	2391854.35	1.3	3409159.31	70.16	60	125	
In	115	No Gas	3964748.59	2.2	5834783.8	67.95	60	125	
Lu	175	No Gas	16741.80	4.6	25373.31	65.98	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	114LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:47:08
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.992	ppb	8.6	2701.37	99.2	
Al	27	72	No Gas	5.199	ppb	4.8	164650.16	103.98	
V	51	72	He	1.071	ppb	1.7	9053.98	107.1	
Cr	52	72	No Gas	1.126	ppb	9.4	68112.96	112.6	
Mn	55	72	No Gas	1.055	ppb	5.7	61151.21	105.5	
Co	59	72	He	1.083	ppb	2.9	16831.07	108.3	
Ni	60	72	No Gas	1.050	ppb	8.8	10576.24	105	
Cu	63	72	No Gas	0.994	ppb	7.2	24227.67	99.4	
Zn	66	72	No Gas	5.128	ppb	4.8	33033.02	102.56	
As	75	72	No Gas	1.172	ppb	9.0	6210.06	117.2	
Se	78	72	He	0.995	ppb	13.4	154.67	99.5	
Se	82	72	No Gas	0.628	ppb	11.4	327.68	62.8	> +/- 50%
Mo	98	89	No Gas	0.895	ppb	10.2	15328.71	89.5	
Ag	107	89	No Gas	0.883	ppb	6.7	25293.61	88.3	
Cd	111	89	No Gas	0.891	ppb	8.1	6725.71	89.1	
Sb	123	89	No Gas	0.955	ppb	10.7	16893.99	95.5	
Ba	137	115	No Gas	0.925	ppb	7.8	7578.82	92.5	
Tl	203	115	No Gas	0.909	ppb	9.3	11090.39	90.9	
Pb	208	115	No Gas	0.889	ppb	6.9	34458.43	88.9	
Th	232	115	No Gas	0.934	ppb	1.9	32454.75	93.4	
U	238	115	No Gas	0.922	ppb	4.2	28444.36	92.2	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33204383.12	2.9	42925068.29	77.35	60	125	
Sc	45	He	2222017.97	0.9	2744212.81	80.97	60	125	
Ge	72	No Gas	3430880.76	1.9	4631903.43	74.07	60	125	
Ge	72	He	628303.45	0.5	848502.95	74.05	60	125	
Y	89	No Gas	4775522.17	1.4	6551279.88	72.89	60	125	
Y	89	He	906336.84	0.7	1308806.79	69.25	60	125	
Rh	103	No Gas	3836785.40	2.9	5283364.65	72.62	60	125	
Rh	103	He	2349432.27	4.2	3409159.31	68.92	60	125	
In	115	No Gas	4000750.12	3.5	5834783.8	68.57	60	125	
Lu	175	No Gas	16827.44	2.2	25373.31	66.32	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV2
File Name	115HCCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:49:03
Sample Type	HLCCV2
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	224.104	ppb	27.0	537714.20	112.05	HLCCV2 Main CR1 Failed
Al	27	72	No Gas	219.396	ppb	26.1	5592274.08	109.7	
V	51	72	He	215.174	ppb	2.3	1720014.06	107.59	
Cr	52	72	No Gas	222.491	ppb	27.4	7339443.32	111.25	HLCCV2 Main CR1 Failed
Mn	55	72	No Gas	225.149	ppb	28.6	10592497.63	112.57	HLCCV2 Main CR1 Failed
Co	59	72	He	212.860	ppb	1.6	3406277.78	106.43	
Ni	60	72	No Gas	220.664	ppb	27.0	1912777.53	110.33	HLCCV2 Main CR1 Failed
Cu	63	72	No Gas	220.221	ppb	26.8	4545708.29	110.11	HLCCV2 Main CR1 Failed
Zn	66	72	No Gas	219.645	ppb	25.6	1186280.51	109.82	
As	75	72	No Gas	216.781	ppb	26.4	1204254.12	108.39	
Se	78	72	He	181.490	ppb	1.3	17485.84	90.74	
Se	82	72	No Gas	202.205	ppb	27.3	73342.85	101.1	
Mo	98	89	No Gas	229.693	ppb	34.8	3197639.17	114.85	HLCCV2 Main CR1 Failed
Ag	107	89	No Gas	178.513	ppb	29.3	4204119.14	89.26	HLCCV2 Main CR1 Failed
Cd	111	89	No Gas	217.194	ppb	32.0	1005427.96	108.6	
Sb	123	89	No Gas	216.048	ppb	33.2	3004374.74	108.02	
Ba	137	115	No Gas	219.560	ppb	29.8	1515928.52	109.78	
Tl	203	115	No Gas	224.995	ppb	30.1	2323197.96	112.5	HLCCV2 Main CR1 Failed
Pb	208	115	No Gas	210.736	ppb	32.8	6840451.95	105.37	
Th	232	115	No Gas	209.571	ppb	32.8	5950734.76	104.79	
U	238	115	No Gas	223.088	ppb	31.8	5823786.57	111.54	HLCCV2 Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30222736.02	18.3	42925068.29	70.41	60	125	
Sc	45	He	2190652.62	5.0	2744212.81	79.83	60	125	
Ge	72	No Gas	3126177.52	18.5	4631903.43	67.49	60	125	
Ge	72	He	648945.93	1.5	848502.95	76.48	60	125	
Y	89	No Gas	4110537.34	22.4	6551279.88	62.74	60	125	
Y	89	He	924605.62	2.3	1308806.79	70.64	60	125	
Rh	103	No Gas	3272309.24	25.7	5283364.65	61.94	60	125	
Rh	103	He	2389410.67	1.4	3409159.31	70.09	60	125	
In	115	No Gas	3549521.80	21.9	5834783.8	60.83	60	125	
Lu	175	No Gas	15419.79	23.2	25373.31	60.77	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV3
File Name	116_QC1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:50:42
Sample Type	QC1
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	404.232	ppb	10.6	1100356.66	101.06	
Al	27	72	No Gas	381.176	ppb	8.6	11168554.28	95.29	
V	51	72	He	435.209	ppb	4.0	3504527.57	108.8	
Cr	52	72	No Gas	383.609	ppb	9.8	14572789.42	95.9	
Mn	55	72	No Gas	377.823	ppb	9.4	20504900.30	94.46	
Co	59	72	He	418.117	ppb	1.8	6743562.65	104.53	
Ni	60	72	No Gas	367.283	ppb	11.3	3663940.41	91.82	
Cu	63	72	No Gas	367.505	ppb	10.0	8732801.32	91.88	
Zn	66	72	No Gas	379.800	ppb	10.5	2357894.98	94.95	
As	75	72	No Gas	382.210	ppb	6.8	2445612.52	95.55	
Se	78	72	He	369.809	ppb	1.1	35841.16	92.45	
Se	82	72	No Gas	352.844	ppb	8.1	147472.75	88.21	QC1 Main CR1 Failed
Mo	98	89	No Gas	366.722	ppb	6.0	6180100.73	91.68	
Ag	107	89	No Gas	150.896	ppb	7.1	4261296.50	37.72	QC1 Main CR1 Failed
Cd	111	89	No Gas	378.435	ppb	9.8	2110498.99	94.61	
Sb	123	89	No Gas	364.570	ppb	6.4	6122578.78	91.14	
Ba	137	115	No Gas	379.818	ppb	9.1	3134681.54	94.95	
Tl	203	115	No Gas	377.776	ppb	12.2	4666882.59	94.44	
Pb	208	115	No Gas	378.074	ppb	8.1	14733936.29	94.52	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33198865.35	1.0	42925068.29	77.34	60	125	
Sc	45	He	2313365.33	4.7	2744212.81	84.3	60	125	
Ge	72	No Gas	3486696.39	2.4	4631903.43	75.28	60	125	
Ge	72	He	653979.97	1.1	848502.95	77.07	60	125	
Y	89	No Gas	4714443.84	2.3	6551279.88	71.96	60	125	
Y	89	He	955075.24	0.7	1308806.79	72.97	60	125	
Rh	103	No Gas	3747657.63	4.0	5283364.65	70.93	60	125	
Rh	103	He	2525083.65	3.5	3409159.31	74.07	60	125	
In	115	No Gas	4059210.95	0.4	5834783.8	69.57	60	125	
Lu	175	No Gas	17688.58	4.1	25373.31	69.71	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	117_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:52:10
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	50.168	ppb	8.6	136222.58	100.34	
Al	27	72	No Gas	50.576	ppb	6.8	1456986.19	101.15	
V	51	72	He	53.250	ppb	1.3	428975.60	106.5	
Cr	52	72	No Gas	52.426	ppb	8.0	1961631.31	104.85	
Mn	55	72	No Gas	52.380	ppb	7.7	2772438.09	104.76	
Co	59	72	He	53.381	ppb	1.1	859685.71	106.76	
Ni	60	72	No Gas	48.769	ppb	7.7	473829.46	97.54	
Cu	63	72	No Gas	50.492	ppb	7.8	1169228.77	100.98	
Zn	66	72	No Gas	51.815	ppb	8.1	314741.31	103.63	
As	75	72	No Gas	51.462	ppb	8.0	319686.79	102.92	
Se	78	72	He	47.302	ppb	0.7	4634.10	94.6	
Se	82	72	No Gas	48.208	ppb	9.2	19681.81	96.42	
Mo	98	89	No Gas	47.977	ppb	8.2	819188.79	95.95	
Ag	107	89	No Gas	47.125	ppb	10.3	1348043.59	94.25	
Cd	111	89	No Gas	46.753	ppb	9.5	265392.83	93.51	
Sb	123	89	No Gas	49.632	ppb	8.4	845009.10	99.26	
Ba	137	115	No Gas	49.119	ppb	7.5	408309.65	98.24	
Tl	203	115	No Gas	48.301	ppb	6.8	600789.68	96.6	
Pb	208	115	No Gas	47.602	ppb	3.7	1868700.47	95.2	
Th	232	115	No Gas	49.116	ppb	4.0	1688325.07	98.23	
U	238	115	No Gas	50.900	ppb	5.4	1605083.44	101.8	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33127790.91	2.2	42925068.29	77.18	60	125	
Sc	45	He	2251082.06	4.1	2744212.81	82.03	60	125	
Ge	72	No Gas	3398294.59	1.3	4631903.43	73.37	60	125	
Ge	72	He	653073.79	1.1	848502.95	76.97	60	125	
Y	89	No Gas	4788117.45	3.6	6551279.88	73.09	60	125	
Y	89	He	946578.85	1.7	1308806.79	72.32	60	125	
Rh	103	No Gas	3785996.38	1.8	5283364.65	71.66	60	125	
Rh	103	He	2475791.91	1.2	3409159.31	72.62	60	125	
In	115	No Gas	4092680.26	6.6	5834783.8	70.14	60	125	
Lu	175	No Gas	17647.65	6.1	25373.31	69.55	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	118_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:54:02
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	16.5	34.44	
Al	27	72	No Gas	0.015	ppb	623.3	15663.56	
V	51	72	He	-0.009	ppb	N/A	720.02	
Cr	52	72	No Gas	-0.025	ppb	N/A	25786.54	
Mn	55	72	No Gas	0.065	ppb	8.8	8495.87	
Co	59	72	He	0.009	ppb	23.0	205.56	
Ni	60	72	No Gas	0.008	ppb	42.8	354.45	
Cu	63	72	No Gas	0.045	ppb	29.3	2086.83	
Zn	66	72	No Gas	0.291	ppb	50.4	3594.98	
As	75	72	No Gas	0.243	ppb	30.1	366.97	
Se	78	72	He	0.098	ppb	62.9	73.67	
Se	82	72	No Gas	0.045	ppb	266.1	90.79	
Mo	98	89	No Gas	0.163	ppb	65.5	2957.56	
Ag	107	89	No Gas	0.016	ppb	14.3	556.68	
Cd	111	89	No Gas	-0.006	ppb	N/A	1724.68	
Sb	123	89	No Gas	0.380	ppb	56.9	7393.51	
Ba	137	115	No Gas	0.010	ppb	27.7	143.33	
Tl	203	115	No Gas	0.027	ppb	14.8	361.12	
Pb	208	115	No Gas	0.017	ppb	12.4	987.80	
Th	232	115	No Gas	0.449	ppb	6.4	16566.34	
U	238	115	No Gas	0.015	ppb	10.1	500.01	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	32891376.47	1.0	42925068.29	76.63	60	125	
Sc	45	He	2240196.37	4.0	2744212.81	81.63	60	125	
Ge	72	No Gas	3513818.33	2.3	4631903.43	75.86	60	125	
Ge	72	He	649044.07	1.7	848502.95	76.49	60	125	
Y	89	No Gas	4941971.75	5.6	6551279.88	75.44	60	125	
Y	89	He	936861.91	2.1	1308806.79	71.58	60	125	
Rh	103	No Gas	3756364.99	1.8	5283364.65	71.1	60	125	
Rh	103	He	2478887.33	3.6	3409159.31	72.71	60	125	
In	115	No Gas	4097551.92	1.1	5834783.8	70.23	60	125	
Lu	175	No Gas	17836.57	2.3	25373.31	70.3	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW1
File Name	119_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:55:59
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	57.1	20.00	
Al	27	72	No Gas	0.211	ppb	29.4	21308.13	
V	51	72	He	-0.007	ppb	N/A	745.58	
Cr	52	72	No Gas	-0.035	ppb	N/A	25234.48	
Mn	55	72	No Gas	0.060	ppb	8.6	8157.89	
Co	59	72	He	0.006	ppb	14.9	147.78	
Ni	60	72	No Gas	0.005	ppb	24.0	325.56	
Cu	63	72	No Gas	0.024	ppb	3.2	1584.53	
Zn	66	72	No Gas	-0.001	ppb	N/A	1762.38	
As	75	72	No Gas	0.108	ppb	133.4	-487.37	
Se	78	72	He	0.151	ppb	49.3	79.67	
Se	82	72	No Gas	-0.049	ppb	N/A	50.81	
Mo	98	89	No Gas	0.076	ppb	63.4	1328.70	
Ag	107	89	No Gas	0.008	ppb	15.4	293.34	
Cd	111	89	No Gas	0.025	ppb	68.7	1791.50	
Sb	123	89	No Gas	0.197	ppb	52.5	3911.76	
Ba	137	115	No Gas	0.001	ppb	290.9	76.67	
Tl	203	115	No Gas	0.008	ppb	18.5	134.44	
Pb	208	115	No Gas	0.005	ppb	3.6	553.34	
Th	232	115	No Gas	0.208	ppb	9.5	8427.25	
U	238	115	No Gas	0.007	ppb	22.2	260.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33232355.35	2.0	42925068.29	77.42	60	125	
Sc	45	He	2219972.41	2.5	2744212.81	80.9	60	125	
Ge	72	No Gas	3490813.40	1.9	4631903.43	75.36	60	125	
Ge	72	He	656266.95	1.4	848502.95	77.34	60	125	
Y	89	No Gas	4639710.37	1.9	6551279.88	70.82	60	125	
Y	89	He	951922.84	1.1	1308806.79	72.73	60	125	
Rh	103	No Gas	3920220.96	1.2	5283364.65	74.2	60	125	
Rh	103	He	2509127.88	4.4	3409159.31	73.6	60	125	
In	115	No Gas	4173518.17	2.5	5834783.8	71.53	60	125	
Lu	175	No Gas	17792.05	2.3	25373.31	70.12	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW1
File Name	120_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:57:55
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	22.113	ppb	6.4	60919.96	110.56	
Al	27	72	No Gas	22.117	ppb	4.3	655779.77	55.29	> +/- 10%
V	51	72	He	23.574	ppb	2.1	190812.30	117.87	> +/- 10%
Cr	52	72	No Gas	22.263	ppb	5.2	861703.86	111.32	
Mn	55	72	No Gas	22.630	ppb	5.0	1219794.29	113.15	
Co	59	72	He	23.156	ppb	1.2	373929.85	115.78	> +/- 10%
Ni	60	72	No Gas	20.968	ppb	3.7	207164.64	104.84	
Cu	63	72	No Gas	21.819	ppb	3.5	514220.47	109.09	
Zn	66	72	No Gas	24.969	ppb	6.4	155005.40	124.84	> +/- 10%
As	75	72	No Gas	22.150	ppb	3.8	139165.32	110.75	
Se	78	72	He	20.390	ppb	1.2	2039.48	101.95	
Se	82	72	No Gas	20.781	ppb	4.7	8661.78	103.9	
Mo	98	89	No Gas	21.508	ppb	1.0	364701.23	107.54	
Ag	107	89	No Gas	0.006	ppb	16.0	255.56	0.03	> +/- 10%
Cd	111	89	No Gas	20.863	ppb	0.9	118566.66	104.32	
Sb	123	89	No Gas	21.129	ppb	0.1	357516.31	105.65	
Ba	137	115	No Gas	0.046	ppb	3.0	443.34	0.23	> +/- 10%
Tl	203	115	No Gas	21.184	ppb	5.1	264844.56	105.92	
Pb	208	115	No Gas	21.067	ppb	2.9	831156.11	105.34	
Th	232	115	No Gas	21.282	ppb	2.5	735077.64	106.41	
U	238	115	No Gas	22.207	ppb	4.3	703331.66	111.04	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	33597155.33	1.6	42925068.29	78.27	60	125	
Sc	45	He	2284897.83	2.4	2744212.81	83.26	60	125	
Ge	72	No Gas	3451590.14	4.6	4631903.43	74.52	60	125	
Ge	72	He	654833.57	2.3	848502.95	77.18	60	125	
Y	89	No Gas	4745944.26	4.4	6551279.88	72.44	60	125	
Y	89	He	956520.59	2.8	1308806.79	73.08	60	125	
Rh	103	No Gas	3770504.85	4.6	5283364.65	71.37	60	125	
Rh	103	He	2456465.53	3.9	3409159.31	72.05	60	125	
In	115	No Gas	4106331.92	3.1	5834783.8	70.38	60	125	
Lu	175	No Gas	18089.12	3.6	25373.31	71.29	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401533-001
File Name	121_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 17:59:51
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.075	ppb	161.1	181.12
Al	27	72	No Gas	0.575	ppb	35.1	24907.55
Cr	52	72	No Gas	0.038	ppb	404.2	21815.83
Mn	55	72	No Gas	22.402	ppb	6.1	943512.12
Ni	60	72	No Gas	2.556	ppb	1.4	19950.95
Cu	63	72	No Gas	2.806	ppb	2.4	52390.91
Zn	66	72	No Gas	5.301	ppb	4.0	26821.04
As	75	72	No Gas	2.828	ppb	3.8	13106.06
Se	82	72	No Gas	0.941	ppb	21.8	358.59
Mo	98	89	No Gas	1.466	ppb	3.8	19127.94
Ag	107	89	No Gas	0.026	ppb	91.6	642.38
Cd	111	89	No Gas	0.052	ppb	266.1	1552.22
Sb	123	89	No Gas	0.123	ppb	70.8	2163.59
Ba	137	115	No Gas	12.304	ppb	4.6	69696.31
Tl	203	115	No Gas	0.129	ppb	116.2	1156.84
Pb	208	115	No Gas	0.096	ppb	115.2	2902.53
Th	232	115	No Gas	0.317	ppb	19.8	8241.88
U	238	115	No Gas	0.141	ppb	84.8	3145.25
V	51	72	He	0.036	ppb	15.2	844.47
Co	59	72	He	0.652	ppb	3.2	8175.70
Se	78	72	He	-0.006	ppb	N/A	49.33

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	27417645.58	4.6	42925068.29	63.87	60	125
Sc	45	He	1905002.63	6.7	2744212.81	69.42	60	125
Ge	72	No Gas	2701858.50	4.9	4631903.43	58.33	60	125
Ge	72	He	506764.51	9.0	848502.95	59.72	60	125
Y	89	No Gas	3636108.05	7.4	6551279.88	55.5	60	125
Y	89	He	688252.49	10.1	1308806.79	52.59	60	125
Rh	103	No Gas	2627660.31	7.6	5283364.65	49.73	60	125
Rh	103	He	1660051.39	8.6	3409159.31	48.69	60	125
In	115	No Gas	2790896.55	7.1	5834783.8	47.83	60	125
Lu	175	No Gas	10655.56	6.5	25373.31	42	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401533-001S
File Name	122_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:01:48
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	121_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	18.985	ppb	3.8	36147.41	0.075	94.57	
Al	27	No Gas	21.402	ppb	1.3	448227.86	0.575	52.75	> +/- 25%
V	51	He	26.024	ppb	1.8	149990.79	0.036	129.89	> +/- 25%
Cr	52	No Gas	23.266	ppb	2.7	634569.07	0.038	116.11	
Mn	55	No Gas	46.228	ppb	1.7	1754969.55	22.402	109.02	
Co	59	He	24.986	ppb	0.8	287361.27	0.652	120.99	
Ni	60	No Gas	23.323	ppb	2.9	162588.97	2.556	103.4	
Cu	63	No Gas	24.174	ppb	3.3	401778.50	2.806	106	
Zn	66	No Gas	30.345	ppb	1.4	132706.10	5.301	119.94	
As	75	No Gas	27.399	ppb	3.4	121656.60	2.828	120.02	
Se	78	He	21.803	ppb	3.1	1549.09	-0.006	109.05	
Se	82	No Gas	24.015	ppb	4.0	7055.09	0.941	114.68	
Mo	98	No Gas	22.470	ppb	2.8	255295.27	1.466	104.68	
Ag	107	No Gas	0.012	ppb	19.1	283.34	0.026	0.06	> +/- 25%
Cd	111	No Gas	18.876	ppb	3.6	72009.75	0.052	94.13	
Sb	123	No Gas	20.183	ppb	3.5	228933.07	0.123	100.3	
Ba	137	No Gas	12.515	ppb	2.0	61096.67	12.304	38.74	> +/- 25%
Tl	203	No Gas	18.517	ppb	1.5	135252.03	0.129	91.99	
Pb	208	No Gas	18.749	ppb	2.3	432282.04	0.096	93.3	
Th	232	No Gas	20.439	ppb	1.5	412812.56	0.317	100.6	
U	238	No Gas	21.447	ppb	2.4	396880.23	0.141	106.48	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	23221115.19	3.5	42925068.29	54.1	60	125	ISTD Failed
Sc	45	He	1712887.82	4.1	2744212.81	62.42	60	125	
Ge	72	No Gas	2436128.86	1.3	4631903.43	52.59	60	125	ISTD Failed
Ge	72	He	466372.86	4.0	848502.95	54.96	60	125	ISTD Failed
Y	89	No Gas	3181175.57	1.0	6551279.88	48.56	60	125	ISTD Failed
Y	89	He	617376.11	5.0	1308806.79	47.17	60	125	ISTD Failed
Rh	103	No Gas	2327720.53	0.7	5283364.65	44.06	60	125	ISTD Failed
Rh	103	He	1474608.97	5.2	3409159.31	43.25	60	125	ISTD Failed
In	115	No Gas	2401220.67	3.6	5834783.8	41.15	60	125	ISTD Failed
Lu	175	No Gas	9016.55	2.5	25373.31	35.54	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401533-001SD
File Name	123_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:03:44
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d
QC Ref File Name	122_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	17.041	ppb	3.6	33735.49	18.985	10.79	
Al	27	No Gas	20.186	ppb	3.1	430757.20	21.402	5.84	
V	51	He	25.704	ppb	2.5	170301.59	26.024	1.24	
Cr	52	No Gas	22.762	ppb	3.6	632366.17	23.266	2.19	
Mn	55	No Gas	45.139	ppb	3.7	1745291.91	46.228	2.38	
Co	59	He	24.657	ppb	2.2	326345.59	24.986	1.33	
Ni	60	No Gas	22.908	ppb	4.1	162658.53	23.323	1.79	
Cu	63	No Gas	23.527	ppb	4.0	398172.47	24.174	2.71	
Zn	66	No Gas	26.939	ppb	4.3	120051.23	30.345	11.89	
As	75	No Gas	27.227	ppb	3.5	123119.94	27.399	0.63	
Se	78	He	23.255	ppb	2.4	1900.47	21.803	6.44	
Se	82	No Gas	23.880	ppb	4.9	7147.01	24.015	0.57	
Mo	98	No Gas	23.084	ppb	3.0	259646.21	22.47	2.7	
Ag	107	No Gas	0.009	ppb	20.9	224.45	0.012	27.13	RPD > 20%
Cd	111	No Gas	19.204	ppb	2.9	72513.94	18.876	1.72	
Sb	123	No Gas	20.554	ppb	1.7	230711.72	20.183	1.82	
Ba	137	No Gas	12.145	ppb	4.4	60897.85	12.515	3	
Tl	203	No Gas	17.842	ppb	3.6	133783.79	18.517	3.72	
Pb	208	No Gas	18.628	ppb	4.6	440912.02	18.749	0.65	
Th	232	No Gas	20.268	ppb	3.5	419954.97	20.439	0.84	
U	238	No Gas	21.639	ppb	4.4	410951.14	21.447	0.89	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	24128874.04	4.9	42925068.29	56.21	60	125	ISTD Failed
Sc	45	He	1910033.81	10.4	2744212.81	69.6	60	125	
Ge	72	No Gas	2479494.00	5.7	4631903.43	53.53	60	125	ISTD Failed
Ge	72	He	537096.12	11.9	848502.95	63.3	60	125	
Y	89	No Gas	3146988.42	4.4	6551279.88	48.04	60	125	ISTD Failed
Y	89	He	730271.83	14.2	1308806.79	55.8	60	125	ISTD Failed
Rh	103	No Gas	2421413.80	5.3	5283364.65	45.83	60	125	ISTD Failed
Rh	103	He	1767876.63	16.6	3409159.31	51.86	60	125	ISTD Failed
In	115	No Gas	2462301.57	3.9	5834783.8	42.2	60	125	ISTD Failed
Lu	175	No Gas	10057.39	10.6	25373.31	39.64	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	124_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:05:38
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	42.181	ppb	10.4	96128.03	84.36	> +/- 10%
Al	27	72	No Gas	46.112	ppb	7.4	1114520.34	92.22	
V	51	72	He	54.038	ppb	1.6	381978.01	108.08	
Cr	52	72	No Gas	51.545	ppb	10.7	1617753.65	103.09	
Mn	55	72	No Gas	52.261	ppb	5.4	2317940.53	104.52	
Co	59	72	He	53.286	ppb	2.5	753094.14	106.57	
Ni	60	72	No Gas	47.902	ppb	7.6	390162.75	95.8	
Cu	63	72	No Gas	49.233	ppb	8.1	955852.62	98.47	
Zn	66	72	No Gas	51.198	ppb	6.1	260669.53	102.4	
As	75	72	No Gas	50.764	ppb	5.9	264288.36	101.53	
Se	78	72	He	45.448	ppb	1.0	3909.54	90.9	
Se	82	72	No Gas	46.604	ppb	7.5	15952.88	93.21	
Mo	98	89	No Gas	46.710	ppb	7.2	660569.10	93.42	
Ag	107	89	No Gas	44.859	ppb	6.2	1062785.10	89.72	> +/- 10%
Cd	111	89	No Gas	43.655	ppb	6.5	205386.46	87.31	> +/- 10%
Sb	123	89	No Gas	43.219	ppb	7.4	609439.28	86.44	> +/- 10%
Ba	137	115	No Gas	46.950	ppb	7.0	298840.11	93.9	
Tl	203	115	No Gas	45.708	ppb	5.6	435360.68	91.42	
Pb	208	115	No Gas	43.907	ppb	6.0	1319609.30	87.81	> +/- 10%
Th	232	115	No Gas	44.560	ppb	4.8	1171746.10	89.12	> +/- 10%
U	238	115	No Gas	46.122	ppb	6.9	1112462.11	92.24	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	27737607.79	3.0	42925068.29	64.62	60	125	
Sc	45	He	2032888.18	3.9	2744212.81	74.08	60	125	
Ge	72	No Gas	2844254.61	2.2	4631903.43	61.41	60	125	
Ge	72	He	573094.14	0.5	848502.95	67.54	60	125	
Y	89	No Gas	3956855.54	2.3	6551279.88	60.4	60	125	
Y	89	He	785406.41	1.3	1308806.79	60.01	60	125	
Rh	103	No Gas	3109648.84	5.2	5283364.65	58.86	60	125	ISTD Failed
Rh	103	He	2042363.81	3.5	3409159.31	59.91	60	125	ISTD Failed
In	115	No Gas	3127450.43	3.1	5834783.8	53.6	60	125	ISTD Failed
Lu	175	No Gas	14078.68	3.9	25373.31	55.49	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	125_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:07:32
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	59.7	13.34	
Al	27	72	No Gas	-0.023	ppb	N/A	12267.75	
V	51	72	He	-0.016	ppb	N/A	576.68	
Cr	52	72	No Gas	-0.021	ppb	N/A	21802.19	
Mn	55	72	No Gas	0.080	ppb	8.0	7824.38	
Co	59	72	He	0.004	ppb	43.1	107.78	
Ni	60	72	No Gas	0.008	ppb	3.3	298.89	
Cu	63	72	No Gas	0.045	ppb	20.9	1747.89	
Zn	66	72	No Gas	0.335	ppb	31.6	3272.66	
As	75	72	No Gas	0.126	ppb	193.5	-292.32	
Se	78	72	He	0.113	ppb	134.0	65.00	
Se	82	72	No Gas	-0.015	ppb	N/A	55.23	
Mo	98	89	No Gas	0.101	ppb	64.9	1442.77	
Ag	107	89	No Gas	0.012	ppb	15.3	333.34	
Cd	111	89	No Gas	0.034	ppb	65.4	1531.38	
Sb	123	89	No Gas	0.174	ppb	54.7	2931.47	
Ba	137	115	No Gas	0.007	ppb	17.8	98.89	
Tl	203	115	No Gas	0.028	ppb	15.0	298.89	
Pb	208	115	No Gas	0.013	ppb	6.7	660.01	
Th	232	115	No Gas	0.321	ppb	27.0	9598.35	
U	238	115	No Gas	0.011	ppb	11.3	285.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28565091.09	1.9	42925068.29	66.55	60	125	
Sc	45	He	1996390.68	2.1	2744212.81	72.75	60	125	
Ge	72	No Gas	2959404.05	5.9	4631903.43	63.89	60	125	
Ge	72	He	563846.29	2.5	848502.95	66.45	60	125	
Y	89	No Gas	3855871.65	2.7	6551279.88	58.86	60	125	ISTD Failed
Y	89	He	766770.23	1.6	1308806.79	58.59	60	125	ISTD Failed
Rh	103	No Gas	3153004.11	1.0	5283364.65	59.68	60	125	ISTD Failed
Rh	103	He	2072641.52	2.0	3409159.31	60.8	60	125	
In	115	No Gas	3227133.14	1.8	5834783.8	55.31	60	125	ISTD Failed
Lu	175	No Gas	13811.73	2.5	25373.31	54.43	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	126LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:09:27
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.919	ppb	7.6	2120.16	91.9	
Al	27	72	No Gas	4.683	ppb	7.5	130657.89	93.66	
V	51	72	He	1.104	ppb	3.6	8470.30	110.4	
Cr	52	72	No Gas	1.114	ppb	9.7	58996.71	111.4	
Mn	55	72	No Gas	1.069	ppb	8.6	53941.73	106.9	
Co	59	72	He	1.122	ppb	1.5	15854.38	112.2	
Ni	60	72	No Gas	1.042	ppb	11.8	9147.46	104.2	
Cu	63	72	No Gas	0.996	ppb	7.1	21169.36	99.6	
Zn	66	72	No Gas	5.193	ppb	6.4	29169.05	103.86	
As	75	72	No Gas	1.109	ppb	18.0	5065.68	110.9	
Se	78	72	He	0.821	ppb	11.8	126.00	82.1	
Se	82	72	No Gas	0.690	ppb	20.6	308.45	69	> +/- 50%
Mo	98	89	No Gas	0.934	ppb	4.5	13554.93	93.4	
Ag	107	89	No Gas	0.921	ppb	7.1	22353.98	92.1	
Cd	111	89	No Gas	0.914	ppb	6.5	5809.83	91.4	
Sb	123	89	No Gas	0.998	ppb	7.3	14965.00	99.8	
Ba	137	115	No Gas	0.912	ppb	3.8	6360.42	91.2	
Tl	203	115	No Gas	0.899	ppb	10.9	9296.71	89.9	
Pb	208	115	No Gas	0.890	ppb	8.8	29259.95	89	
Th	232	115	No Gas	0.953	ppb	9.4	28066.61	95.3	
U	238	115	No Gas	0.923	ppb	10.5	24118.84	92.3	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28069321.66	0.7	42925068.29	65.39	60	125	
Sc	45	He	2064338.88	0.9	2744212.81	75.23	60	125	
Ge	72	No Gas	2994285.78	1.3	4631903.43	64.64	60	125	
Ge	72	He	571348.28	1.1	848502.95	67.34	60	125	
Y	89	No Gas	4044775.81	4.4	6551279.88	61.74	60	125	
Y	89	He	778285.52	2.2	1308806.79	59.47	60	125	ISTD Failed
Rh	103	No Gas	3227316.33	0.2	5283364.65	61.08	60	125	
Rh	103	He	2114803.04	1.3	3409159.31	62.03	60	125	
In	115	No Gas	3400589.31	5.5	5834783.8	58.28	60	125	ISTD Failed
Lu	175	No Gas	14761.63	2.8	25373.31	58.18	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	127_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:11:23
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	44.576	ppb	6.5	103792.14	89.15	> +/- 10%
Al	27	72	No Gas	45.825	ppb	9.9	1203101.83	91.65	
V	51	72	He	54.668	ppb	1.9	400248.70	109.34	
Cr	52	72	No Gas	49.215	ppb	10.1	1678240.00	98.43	
Mn	55	72	No Gas	51.656	ppb	6.4	2490065.87	103.31	
Co	59	72	He	54.352	ppb	1.5	795695.14	108.7	
Ni	60	72	No Gas	46.185	ppb	8.6	408642.26	92.37	
Cu	63	72	No Gas	48.205	ppb	10.8	1016438.22	96.41	
Zn	66	72	No Gas	49.085	ppb	9.1	271604.45	98.17	
As	75	72	No Gas	49.384	ppb	9.0	279319.24	98.77	
Se	78	72	He	45.682	ppb	0.7	4070.59	91.36	
Se	82	72	No Gas	45.573	ppb	8.6	16948.23	91.15	
Mo	98	89	No Gas	48.811	ppb	5.1	702339.36	97.62	
Ag	107	89	No Gas	48.172	ppb	4.4	1161119.12	96.34	
Cd	111	89	No Gas	48.165	ppb	5.7	230449.94	96.33	
Sb	123	89	No Gas	47.189	ppb	6.3	676912.77	94.38	
Ba	137	115	No Gas	45.701	ppb	5.9	330195.95	91.4	
Tl	203	115	No Gas	46.121	ppb	8.1	498770.78	92.24	
Pb	208	115	No Gas	44.202	ppb	7.1	1508114.88	88.4	> +/- 10%
Th	232	115	No Gas	43.815	ppb	10.1	1308584.39	87.63	> +/- 10%
U	238	115	No Gas	45.589	ppb	5.7	1248647.94	91.18	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28351747.21	2.1	42925068.29	66.05	60	125	
Sc	45	He	2128458.67	1.4	2744212.81	77.56	60	125	
Ge	72	No Gas	3095188.21	1.4	4631903.43	66.82	60	125	
Ge	72	He	593731.50	2.3	848502.95	69.97	60	125	
Y	89	No Gas	4026413.04	2.5	6551279.88	61.46	60	125	
Y	89	He	818716.03	1.7	1308806.79	62.55	60	125	
Rh	103	No Gas	3293518.90	0.6	5283364.65	62.34	60	125	
Rh	103	He	2159684.50	3.4	3409159.31	63.35	60	125	
In	115	No Gas	3553485.14	1.0	5834783.8	60.9	60	125	
Lu	175	No Gas	15816.24	5.2	25373.31	62.33	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	128_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:13:17
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	67.0	16.67	
Al	27	72	No Gas	-0.021	ppb	N/A	12521.22	
V	51	72	He	-0.023	ppb	N/A	563.35	
Cr	52	72	No Gas	-0.034	ppb	N/A	21777.72	
Mn	55	72	No Gas	0.076	ppb	9.2	7796.58	
Co	59	72	He	0.004	ppb	46.7	104.44	
Ni	60	72	No Gas	0.008	ppb	61.3	302.23	
Cu	63	72	No Gas	0.043	ppb	2.9	1760.11	
Zn	66	72	No Gas	0.318	ppb	48.7	3224.89	
As	75	72	No Gas	0.091	ppb	65.6	-522.25	
Se	78	72	He	-0.072	ppb	N/A	52.67	
Se	82	72	No Gas	-0.060	ppb	N/A	39.75	
Mo	98	89	No Gas	0.078	ppb	57.7	1181.58	
Ag	107	89	No Gas	0.011	ppb	26.4	323.34	
Cd	111	89	No Gas	0.028	ppb	34.0	1553.41	
Sb	123	89	No Gas	0.166	ppb	48.2	2950.37	
Ba	137	115	No Gas	0.009	ppb	22.0	114.44	
Tl	203	115	No Gas	0.019	ppb	17.6	222.23	
Pb	208	115	No Gas	0.011	ppb	30.4	654.45	
Th	232	115	No Gas	0.405	ppb	34.9	12613.66	
U	238	115	No Gas	0.008	ppb	26.7	226.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	28986624.40	3.3	42925068.29	67.53	60	125	
Sc	45	He	2125164.43	4.0	2744212.81	77.44	60	125	
Ge	72	No Gas	3010529.05	2.0	4631903.43	65	60	125	
Ge	72	He	596131.54	0.4	848502.95	70.26	60	125	
Y	89	No Gas	3981232.62	2.8	6551279.88	60.77	60	125	
Y	89	He	818389.83	3.0	1308806.79	62.53	60	125	
Rh	103	No Gas	3280964.59	2.5	5283364.65	62.1	60	125	
Rh	103	He	2163623.11	0.8	3409159.31	63.47	60	125	
In	115	No Gas	3462986.25	5.2	5834783.8	59.35	60	125	ISTD Failed
Lu	175	No Gas	15633.73	3.1	25373.31	61.61	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBS-434762 5X
File Name	129_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:15:14
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	97.5	8.89	
Al	27	72	No Gas	0.690	ppb	7.7	32137.65	
V	51	72	He	-0.030	ppb	N/A	521.12	
Cr	52	72	No Gas	0.084	ppb	6.0	27037.77	
Mn	55	72	No Gas	0.145	ppb	4.9	11596.95	
Co	59	72	He	0.003	ppb	43.0	91.11	
Ni	60	72	No Gas	0.015	ppb	16.4	388.90	
Cu	63	72	No Gas	0.088	ppb	4.2	2821.40	
Zn	66	72	No Gas	0.345	ppb	22.3	3550.47	
As	75	72	No Gas	0.230	ppb	53.3	258.16	
Se	78	72	He	-0.100	ppb	N/A	51.33	
Se	82	72	No Gas	-0.091	ppb	N/A	30.69	
Mo	98	89	No Gas	0.057	ppb	56.8	926.21	
Ag	107	89	No Gas	0.004	ppb	23.9	164.44	
Cd	111	89	No Gas	0.039	ppb	45.5	1689.68	
Sb	123	89	No Gas	0.158	ppb	47.3	2993.71	
Ba	137	115	No Gas	0.008	ppb	77.9	114.44	
Tl	203	115	No Gas	0.009	ppb	33.8	122.22	
Pb	208	115	No Gas	0.006	ppb	9.5	496.67	
Th	232	115	No Gas	0.619	ppb	6.2	20087.04	
U	238	115	No Gas	0.004	ppb	15.5	137.78	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29118004.40	4.1	42925068.29	67.83	60	125	
Sc	45	He	2125705.89	2.8	2744212.81	77.46	60	125	
Ge	72	No Gas	3173958.97	3.2	4631903.43	68.52	60	125	
Ge	72	He	609942.28	1.4	848502.95	71.88	60	125	
Y	89	No Gas	4187932.75	5.1	6551279.88	63.93	60	125	
Y	89	He	852884.27	0.4	1308806.79	65.17	60	125	
Rh	103	No Gas	3457114.79	2.5	5283364.65	65.43	60	125	
Rh	103	He	2296589.49	5.5	3409159.31	67.37	60	125	
In	115	No Gas	3678223.88	3.5	5834783.8	63.04	60	125	
Lu	175	No Gas	17432.72	6.5	25373.31	68.7	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSS-434762 5X
File Name	130_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:17:11
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	8.672	ppb	3.5	21042.88	43.36	> +/- 10%
Al	27	72	No Gas	19.033	ppb	1.7	505450.99	47.58	> +/- 10%
V	51	72	He	10.514	ppb	2.3	79143.62	52.57	> +/- 10%
Cr	52	72	No Gas	9.892	ppb	1.8	354757.61	49.46	> +/- 10%
Mn	55	72	No Gas	10.129	ppb	2.2	489680.62	50.64	> +/- 10%
Co	59	72	He	10.679	ppb	2.5	159536.83	53.4	> +/- 10%
Ni	60	72	No Gas	9.244	ppb	1.7	81654.49	46.22	> +/- 10%
Cu	63	72	No Gas	9.691	ppb	3.2	204285.53	48.46	> +/- 10%
Zn	66	72	No Gas	9.656	ppb	1.6	54450.24	48.28	> +/- 10%
As	75	72	No Gas	10.134	ppb	2.2	56255.94	50.67	> +/- 10%
Se	78	72	He	8.951	ppb	3.7	861.70	44.76	> +/- 10%
Se	82	72	No Gas	9.140	ppb	0.8	3434.94	45.7	> +/- 10%
Mo	98	89	No Gas	9.550	ppb	2.1	145173.38	47.75	> +/- 10%
Ag	107	89	No Gas	9.166	ppb	2.6	233288.29	45.83	> +/- 10%
Cd	111	89	No Gas	9.137	ppb	1.4	47385.70	45.68	> +/- 10%
Sb	123	89	No Gas	9.656	ppb	1.0	146812.94	48.28	> +/- 10%
Ba	137	115	No Gas	8.736	ppb	1.6	67257.19	43.68	> +/- 10%
Tl	203	115	No Gas	9.042	ppb	1.0	104154.50	45.21	> +/- 10%
Pb	208	115	No Gas	8.860	ppb	1.7	322202.94	44.3	> +/- 10%
Th	232	115	No Gas	8.871	ppb	4.0	282716.42	44.36	> +/- 10%
U	238	115	No Gas	9.539	ppb	1.1	278314.60	47.7	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29561151.05	1.0	42925068.29	68.87	60	125	
Sc	45	He	2185325.68	1.9	2744212.81	79.63	60	125	
Ge	72	No Gas	3080042.87	3.9	4631903.43	66.5	60	125	
Ge	72	He	605748.12	1.5	848502.95	71.39	60	125	
Y	89	No Gas	4254877.47	4.8	6551279.88	64.95	60	125	
Y	89	He	850042.41	2.0	1308806.79	64.95	60	125	
Rh	103	No Gas	3495609.65	4.2	5283364.65	66.16	60	125	
Rh	103	He	2336257.27	5.6	3409159.31	68.53	60	125	
In	115	No Gas	3785925.41	4.8	5834783.8	64.89	60	125	
Lu	175	No Gas	17282.54	6.7	25373.31	68.11	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	MDL1 5X
File Name	131SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:19:08
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.156	ppb	2.9	400.01	
Al	27	72	No Gas	0.925	ppb	2.5	37225.35	
V	51	72	He	0.172	ppb	10.7	2071.26	
Cr	52	72	No Gas	0.324	ppb	6.1	34210.88	
Mn	55	72	No Gas	0.337	ppb	2.2	20417.93	
Co	59	72	He	0.214	ppb	4.3	3332.62	
Ni	60	72	No Gas	0.219	ppb	10.0	2167.95	
Cu	63	72	No Gas	0.257	ppb	3.4	6279.18	
Zn	66	72	No Gas	0.343	ppb	20.9	3439.34	
As	75	72	No Gas	0.335	ppb	16.3	839.17	
Se	78	72	He	0.107	ppb	40.4	71.33	
Se	82	72	No Gas	0.115	ppb	95.5	104.62	
Mo	98	89	No Gas	0.212	ppb	16.4	3412.65	
Ag	107	89	No Gas	0.189	ppb	1.0	5070.95	
Cd	111	89	No Gas	0.205	ppb	4.7	2648.09	
Sb	123	89	No Gas	0.227	ppb	19.1	4211.78	
Ba	137	115	No Gas	0.204	ppb	11.2	1587.88	
Tl	203	115	No Gas	0.184	ppb	5.1	2097.95	
Pb	208	115	No Gas	0.185	ppb	4.7	6882.97	
Th	232	115	No Gas	0.462	ppb	8.7	15322.58	
U	238	115	No Gas	0.192	ppb	5.6	5500.10	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30969732.10	1.6	42925068.29	72.15	60	125	
Sc	45	He	2214943.73	3.0	2744212.81	80.71	60	125	
Ge	72	No Gas	3074828.07	0.3	4631903.43	66.38	60	125	
Ge	72	He	620934.38	2.3	848502.95	73.18	60	125	
Y	89	No Gas	4421129.96	1.0	6551279.88	67.48	60	125	
Y	89	He	879680.81	1.0	1308806.79	67.21	60	125	
Rh	103	No Gas	3594458.61	7.8	5283364.65	68.03	60	125	
Rh	103	He	2346489.56	1.7	3409159.31	68.83	60	125	
In	115	No Gas	3699912.77	4.1	5834783.8	63.41	60	125	
Lu	175	No Gas	17634.11	3.8	25373.31	69.5	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBS-434760
File Name	132_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:21:05
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.001	ppb	223.2	5.55	
Al	27	72	No Gas	0.627	ppb	5.8	30175.71	
V	51	72	He	0.069	ppb	15.5	1288.95	
Cr	52	72	No Gas	0.265	ppb	21.7	32961.40	
Mn	55	72	No Gas	0.130	ppb	2.1	10781.86	
Co	59	72	He	0.004	ppb	19.7	115.55	
Ni	60	72	No Gas	0.025	ppb	16.2	467.78	
Cu	63	72	No Gas	0.100	ppb	8.8	3055.89	
Zn	66	72	No Gas	0.233	ppb	32.7	2898.11	
As	75	72	No Gas	0.136	ppb	281.9	-287.43	
Se	78	72	He	-0.001	ppb	N/A	61.33	
Se	82	72	No Gas	0.128	ppb	90.1	111.77	
Mo	98	89	No Gas	0.023	ppb	51.3	436.83	
Ag	107	89	No Gas	0.006	ppb	1.4	216.67	
Cd	111	89	No Gas	0.019	ppb	121.3	1661.56	
Sb	123	89	No Gas	0.080	ppb	26.1	1892.37	
Ba	137	115	No Gas	0.005	ppb	31.6	101.11	
Tl	203	115	No Gas	0.003	ppb	25.7	62.22	
Pb	208	115	No Gas	0.005	ppb	35.4	484.44	
Th	232	115	No Gas	0.179	ppb	4.9	6899.66	
U	238	115	No Gas	0.001	ppb	25.1	54.45	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29653345.49	2.3	42925068.29	69.08	60	125	
Sc	45	He	2185410.89	2.0	2744212.81	79.64	60	125	
Ge	72	No Gas	3142320.85	1.1	4631903.43	67.84	60	125	
Ge	72	He	620385.32	1.7	848502.95	73.12	60	125	
Y	89	No Gas	4390097.60	5.7	6551279.88	67.01	60	125	
Y	89	He	871823.77	0.8	1308806.79	66.61	60	125	
Rh	103	No Gas	3535897.78	6.0	5283364.65	66.93	60	125	
Rh	103	He	2448407.96	2.8	3409159.31	71.82	60	125	
In	115	No Gas	3877524.99	4.0	5834783.8	66.46	60	125	
Lu	175	No Gas	18113.60	4.0	25373.31	71.39	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSS-434760
File Name	133_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:23:02
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	8.944	ppb	3.6	21413.48	44.72	> +/- 10%
Al	27	72	No Gas	18.548	ppb	3.7	503505.17	46.37	> +/- 10%
V	51	72	He	10.838	ppb	1.6	85283.03	54.19	> +/- 10%
Cr	52	72	No Gas	10.443	ppb	2.9	381038.34	52.22	> +/- 10%
Mn	55	72	No Gas	10.566	ppb	5.3	521601.37	52.83	> +/- 10%
Co	59	72	He	10.940	ppb	1.2	170932.36	54.7	> +/- 10%
Ni	60	72	No Gas	9.630	ppb	5.6	86875.74	48.15	> +/- 10%
Cu	63	72	No Gas	10.016	ppb	4.5	215583.62	50.08	> +/- 10%
Zn	66	72	No Gas	9.909	ppb	3.4	57046.09	49.55	> +/- 10%
As	75	72	No Gas	10.500	ppb	4.2	59563.58	52.5	> +/- 10%
Se	78	72	He	9.060	ppb	4.3	912.03	45.3	> +/- 10%
Se	82	72	No Gas	9.792	ppb	5.0	3753.74	48.96	> +/- 10%
Mo	98	89	No Gas	10.218	ppb	6.6	156801.79	51.09	> +/- 10%
Ag	107	89	No Gas	9.762	ppb	5.9	250920.28	48.81	> +/- 10%
Cd	111	89	No Gas	9.711	ppb	6.5	50754.22	48.56	> +/- 10%
Sb	123	89	No Gas	10.477	ppb	5.5	160714.11	52.39	> +/- 10%
Ba	137	115	No Gas	9.408	ppb	5.6	74711.93	47.04	> +/- 10%
Tl	203	115	No Gas	9.649	ppb	2.3	114612.96	48.24	> +/- 10%
Pb	208	115	No Gas	9.525	ppb	4.9	357397.46	47.62	> +/- 10%
Th	232	115	No Gas	9.711	ppb	2.2	319262.63	48.56	> +/- 10%
U	238	115	No Gas	10.225	ppb	4.5	307512.81	51.12	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29148458.29	4.0	42925068.29	67.91	60	125	
Sc	45	He	2140301.86	2.7	2744212.81	77.99	60	125	
Ge	72	No Gas	3144915.78	1.5	4631903.43	67.9	60	125	
Ge	72	He	633449.91	1.9	848502.95	74.66	60	125	
Y	89	No Gas	4294043.58	0.9	6551279.88	65.55	60	125	
Y	89	He	890463.94	2.7	1308806.79	68.04	60	125	
Rh	103	No Gas	3556431.66	7.1	5283364.65	67.31	60	125	
Rh	103	He	2338924.28	6.9	3409159.31	68.61	60	125	
In	115	No Gas	3903755.54	4.5	5834783.8	66.9	60	125	
Lu	175	No Gas	17993.43	5.0	25373.31	70.91	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	MDL1 5X
File Name	134SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:24:59
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.165	ppb	20.6	403.34	
Al	27	72	No Gas	0.775	ppb	1.6	34557.75	
V	51	72	He	0.306	ppb	2.9	3143.68	
Cr	52	72	No Gas	0.476	ppb	7.3	40709.06	
Mn	55	72	No Gas	0.325	ppb	4.5	20585.97	
Co	59	72	He	0.218	ppb	1.2	3443.76	
Ni	60	72	No Gas	0.306	ppb	9.2	3041.45	
Cu	63	72	No Gas	0.248	ppb	2.8	6311.42	
Zn	66	72	No Gas	0.479	ppb	16.7	4332.91	
As	75	72	No Gas	0.300	ppb	100.0	668.77	
Se	78	72	He	0.187	ppb	27.2	79.67	
Se	82	72	No Gas	0.183	ppb	91.3	134.16	
Mo	98	89	No Gas	0.219	ppb	14.4	3496.49	
Ag	107	89	No Gas	0.193	ppb	4.7	5142.08	
Cd	111	89	No Gas	0.209	ppb	5.7	2654.38	
Sb	123	89	No Gas	0.231	ppb	14.7	4247.35	
Ba	137	115	No Gas	0.204	ppb	9.0	1651.21	
Tl	203	115	No Gas	0.206	ppb	1.2	2425.79	
Pb	208	115	No Gas	0.193	ppb	2.4	7437.52	
Th	232	115	No Gas	0.449	ppb	10.2	15478.35	
U	238	115	No Gas	0.203	ppb	8.5	6011.45	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29477495.50	1.3	42925068.29	68.67	60	125	
Sc	45	He	2169003.73	1.3	2744212.81	79.04	60	125	
Ge	72	No Gas	3186060.22	0.2	4631903.43	68.79	60	125	
Ge	72	He	629717.58	4.0	848502.95	74.22	60	125	
Y	89	No Gas	4394805.52	3.4	6551279.88	67.08	60	125	
Y	89	He	883388.94	2.5	1308806.79	67.5	60	125	
Rh	103	No Gas	3677712.01	6.1	5283364.65	69.61	60	125	
Rh	103	He	2434912.75	0.4	3409159.31	71.42	60	125	
In	115	No Gas	3836376.79	3.9	5834783.8	65.75	60	125	
Lu	175	No Gas	18202.59	3.6	25373.31	71.74	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	135_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:26:54
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	43.395	ppb	9.5	104691.16	86.79	> +/- 10%
Al	27	72	No Gas	43.995	ppb	9.9	1184795.41	87.99	> +/- 10%
V	51	72	He	54.436	ppb	1.8	418055.18	108.87	
Cr	52	72	No Gas	49.823	ppb	9.0	1741788.44	99.65	
Mn	55	72	No Gas	50.111	ppb	11.8	2474953.03	100.22	
Co	59	72	He	53.747	ppb	2.2	825227.47	107.49	
Ni	60	72	No Gas	46.809	ppb	11.7	424385.68	93.62	
Cu	63	72	No Gas	48.684	ppb	11.9	1051992.22	97.37	
Zn	66	72	No Gas	49.438	ppb	10.7	280358.49	98.88	
As	75	72	No Gas	50.610	ppb	11.1	293379.55	101.22	
Se	78	72	He	46.351	ppb	1.0	4331.00	92.7	
Se	82	72	No Gas	46.972	ppb	11.1	17900.44	93.94	
Mo	98	89	No Gas	46.885	ppb	6.5	748972.75	93.77	
Ag	107	89	No Gas	46.729	ppb	6.9	1250620.37	93.46	
Cd	111	89	No Gas	46.609	ppb	7.5	247643.69	93.22	
Sb	123	89	No Gas	46.271	ppb	5.9	737026.74	92.54	
Ba	137	115	No Gas	48.305	ppb	4.5	368854.57	96.61	
Tl	203	115	No Gas	48.003	ppb	2.8	548369.42	96.01	
Pb	208	115	No Gas	46.449	ppb	4.8	1674997.02	92.9	
Th	232	115	No Gas	45.581	ppb	4.6	1438173.21	91.16	
U	238	115	No Gas	49.907	ppb	3.3	1444439.84	99.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29426154.39	1.6	42925068.29	68.55	60	125	
Sc	45	He	2107687.28	0.8	2744212.81	76.8	60	125	
Ge	72	No Gas	3178325.43	3.7	4631903.43	68.62	60	125	
Ge	72	He	622767.20	2.1	848502.95	73.4	60	125	
Y	89	No Gas	4471387.60	0.6	6551279.88	68.25	60	125	
Y	89	He	855676.81	2.4	1308806.79	65.38	60	125	
Rh	103	No Gas	3640360.97	1.0	5283364.65	68.9	60	125	
Rh	103	He	2302985.19	3.9	3409159.31	67.55	60	125	
In	115	No Gas	3753474.43	2.8	5834783.8	64.33	60	125	
Lu	175	No Gas	16881.99	2.1	25373.31	66.53	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	136_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:28:48
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.010	ppb	65.7	27.78	
Al	27	72	No Gas	-0.031	ppb	N/A	12939.50	
V	51	72	He	-0.018	ppb	N/A	617.79	
Cr	52	72	No Gas	-0.060	ppb	N/A	21972.43	
Mn	55	72	No Gas	0.061	ppb	2.8	7417.50	
Co	59	72	He	0.004	ppb	14.1	112.22	
Ni	60	72	No Gas	0.003	ppb	161.2	280.00	
Cu	63	72	No Gas	0.031	ppb	6.6	1578.98	
Zn	66	72	No Gas	0.321	ppb	29.6	3422.71	
As	75	72	No Gas	0.011	ppb	1567.6	-998.13	
Se	78	72	He	-0.078	ppb	N/A	54.33	
Se	82	72	No Gas	0.124	ppb	67.3	110.61	
Mo	98	89	No Gas	0.071	ppb	62.4	1144.50	
Ag	107	89	No Gas	0.011	ppb	9.9	348.89	
Cd	111	89	No Gas	0.011	ppb	93.2	1587.99	
Sb	123	89	No Gas	0.113	ppb	66.9	2322.46	
Ba	137	115	No Gas	0.007	ppb	22.1	111.11	
Tl	203	115	No Gas	0.020	ppb	33.6	250.00	
Pb	208	115	No Gas	0.012	ppb	10.6	743.35	
Th	232	115	No Gas	0.404	ppb	36.3	13541.22	
U	238	115	No Gas	0.010	ppb	21.9	305.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29115369.95	1.8	42925068.29	67.83	60	125	
Sc	45	He	2156210.68	3.1	2744212.81	78.57	60	125	
Ge	72	No Gas	3161483.42	3.3	4631903.43	68.25	60	125	
Ge	72	He	619468.00	2.1	848502.95	73.01	60	125	
Y	89	No Gas	4293624.41	3.2	6551279.88	65.54	60	125	
Y	89	He	876155.42	2.5	1308806.79	66.94	60	125	
Rh	103	No Gas	3506838.20	0.9	5283364.65	66.38	60	125	
Rh	103	He	2307355.05	3.8	3409159.31	67.68	60	125	
In	115	No Gas	3711307.77	2.5	5834783.8	63.61	60	125	
Lu	175	No Gas	17255.81	1.1	25373.31	68.01	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	137LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:30:44
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.861	ppb	8.0	2152.39	86.1	
Al	27	72	No Gas	4.504	ppb	6.4	135654.63	90.08	
V	51	72	He	1.060	ppb	1.5	8923.91	106	
Cr	52	72	No Gas	1.082	ppb	12.9	62303.31	108.2	
Mn	55	72	No Gas	1.053	ppb	7.8	57203.24	105.3	
Co	59	72	He	1.103	ppb	1.7	17054.66	110.3	
Ni	60	72	No Gas	1.041	ppb	9.8	9824.57	104.1	
Cu	63	72	No Gas	0.993	ppb	8.1	22689.49	99.3	
Zn	66	72	No Gas	5.110	ppb	6.3	30884.86	102.2	
As	75	72	No Gas	1.122	ppb	8.2	5536.37	112.2	
Se	78	72	He	0.876	ppb	8.9	143.00	87.6	
Se	82	72	No Gas	0.739	ppb	15.7	349.42	73.9	
Mo	98	89	No Gas	0.950	ppb	10.0	14957.95	95	
Ag	107	89	No Gas	0.928	ppb	9.7	24439.74	92.8	
Cd	111	89	No Gas	0.961	ppb	9.5	6546.82	96.1	
Sb	123	89	No Gas	0.980	ppb	10.2	15932.77	98	
Ba	137	115	No Gas	0.958	ppb	3.7	7588.84	95.8	
Tl	203	115	No Gas	0.895	ppb	5.7	10559.93	89.5	
Pb	208	115	No Gas	0.923	ppb	4.2	34565.07	92.3	
Th	232	115	No Gas	0.982	ppb	0.7	32930.55	98.2	
U	238	115	No Gas	0.943	ppb	4.6	28144.87	94.3	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30469914.34	3.0	42925068.29	70.98	60	125	
Sc	45	He	2147163.04	3.6	2744212.81	78.24	60	125	
Ge	72	No Gas	3220692.37	2.4	4631903.43	69.53	60	125	
Ge	72	He	625432.82	1.7	848502.95	73.71	60	125	
Y	89	No Gas	4394756.08	2.7	6551279.88	67.08	60	125	
Y	89	He	865166.54	1.4	1308806.79	66.1	60	125	
Rh	103	No Gas	3542421.80	1.8	5283364.65	67.05	60	125	
Rh	103	He	2364058.59	2.5	3409159.31	69.34	60	125	
In	115	No Gas	3867423.87	2.2	5834783.8	66.28	60	125	
Lu	175	No Gas	17244.67	1.7	25373.31	67.96	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	138_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:32:39
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	42.646	ppb	8.6	106637.06	85.29	> +/- 10%
Al	27	72	No Gas	46.422	ppb	4.5	1251908.56	92.84	
V	51	72	He	53.503	ppb	2.0	420176.96	107.01	
Cr	52	72	No Gas	49.577	ppb	5.1	1737252.78	99.15	
Mn	55	72	No Gas	50.342	ppb	4.8	2492321.91	100.68	
Co	59	72	He	53.891	ppb	2.1	846157.34	107.78	
Ni	60	72	No Gas	47.366	ppb	4.8	430709.07	94.73	
Cu	63	72	No Gas	48.804	ppb	6.9	1057715.44	97.61	
Zn	66	72	No Gas	50.748	ppb	4.5	288448.17	101.5	
As	75	72	No Gas	50.939	ppb	5.3	296060.97	101.88	
Se	78	72	He	46.320	ppb	3.0	4425.03	92.64	
Se	82	72	No Gas	47.930	ppb	4.4	18307.16	95.86	
Mo	98	89	No Gas	47.742	ppb	11.5	767538.30	95.48	
Ag	107	89	No Gas	47.470	ppb	9.8	1279205.50	94.94	
Cd	111	89	No Gas	47.036	ppb	9.6	251607.43	94.07	
Sb	123	89	No Gas	47.026	ppb	9.3	754338.29	94.05	
Ba	137	115	No Gas	48.489	ppb	6.2	373650.15	96.98	
Tl	203	115	No Gas	47.259	ppb	6.3	545065.45	94.52	
Pb	208	115	No Gas	47.383	ppb	5.9	1724461.94	94.77	
Th	232	115	No Gas	46.348	ppb	7.4	1475005.57	92.7	
U	238	115	No Gas	50.848	ppb	6.7	1484339.53	101.7	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	30484617.68	1.3	42925068.29	71.02	60	125	
Sc	45	He	2168897.21	2.0	2744212.81	79.04	60	125	
Ge	72	No Gas	3176229.53	3.8	4631903.43	68.57	60	125	
Ge	72	He	636696.76	0.6	848502.95	75.04	60	125	
Y	89	No Gas	4513486.77	3.7	6551279.88	68.89	60	125	
Y	89	He	887371.01	0.9	1308806.79	67.8	60	125	
Rh	103	No Gas	3759328.18	5.4	5283364.65	71.15	60	125	
Rh	103	He	2275556.16	2.2	3409159.31	66.75	60	125	
In	115	No Gas	3789310.68	2.2	5834783.8	64.94	60	125	
Lu	175	No Gas	17888.86	2.1	25373.31	70.5	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	139_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030424-ICPMS7900.b
Acq Time	03/04/24 18:34:33
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	072CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.008	ppb	12.4	22.22	
Al	27	72	No Gas	-0.024	ppb	N/A	13092.87	
V	51	72	He	-0.026	ppb	N/A	570.02	
Cr	52	72	No Gas	-0.062	ppb	N/A	21924.57	
Mn	55	72	No Gas	0.061	ppb	6.9	7428.61	
Co	59	72	He	0.006	ppb	19.6	152.22	
Ni	60	72	No Gas	0.006	ppb	43.3	302.23	
Cu	63	72	No Gas	0.032	ppb	9.0	1594.54	
Zn	66	72	No Gas	0.330	ppb	39.3	3469.37	
As	75	72	No Gas	0.114	ppb	66.9	-416.14	
Se	78	72	He	0.063	ppb	49.3	68.33	
Se	82	72	No Gas	0.056	ppb	100.8	85.28	
Mo	98	89	No Gas	0.073	ppb	55.8	1219.06	
Ag	107	89	No Gas	0.011	ppb	21.4	353.34	
Cd	111	89	No Gas	0.030	ppb	101.9	1704.67	
Sb	123	89	No Gas	0.132	ppb	58.7	2710.32	
Ba	137	115	No Gas	0.009	ppb	32.5	126.67	
Tl	203	115	No Gas	0.022	ppb	22.0	276.67	
Pb	208	115	No Gas	0.014	ppb	17.2	803.34	
Th	232	115	No Gas	0.421	ppb	36.7	14490.25	
U	238	115	No Gas	0.011	ppb	13.9	344.45	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	29489694.38	2.2	42925068.29	68.7	60	125	
Sc	45	He	2135877.76	2.2	2744212.81	77.83	60	125	
Ge	72	No Gas	3162930.50	0.7	4631903.43	68.29	60	125	
Ge	72	He	631282.08	1.7	848502.95	74.4	60	125	
Y	89	No Gas	4361185.38	5.3	6551279.88	66.57	60	125	
Y	89	He	879960.64	2.4	1308806.79	67.23	60	125	
Rh	103	No Gas	3690812.28	7.6	5283364.65	69.86	60	125	
Rh	103	He	2300514.01	3.7	3409159.31	67.48	60	125	
In	115	No Gas	3822862.49	4.4	5834783.8	65.52	60	125	
Lu	175	No Gas	17913.29	4.6	25373.31	70.6	60	125	

Preparation Information Benchsheet

Prep Run#: 434684 **Prep WorkFlow:** MetDigAqMS **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** **Prep Date/Time:** 2/28/24 10:18

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402157-01	MB		10mL	200.8/Ag T, Al T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T, Zn T, 6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		HB:10 Well:11 Temp:90.2C/93.1C
2	RQ2402157-02	LCS		10mL	200.8/Ag T, Al T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T, Zn T, 6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	On HB:11:45 Off HB:13:45 Pipet/Repipettor:M33,M39
3	R2401517-005	YD16-2024-1X-CM	.01	10mL	200.8/Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		
4	R2401523-001	OF002 - Internal - Effluent	.04	10mL	200.8/Cr T, Zn T 3/1/2024	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
5	R2401527-015	PS-240221-INF	.02	10mL	200.8/Al T, ~~Cd~~ T, Zn T Cu	<2			10.00mL	Tan-Cloudy/Colorless-Cloudy		
6	R2401534-001	M33847-1-11 4766 Pilgrimport Road	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		
7	RQ2402157-03	R2401534-001 MS	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/228122; 0.0200 mL/230559	
8	RQ2402157-04	R2401534-001 DMS	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/230559; 0.0200 mL/228122	
9	R2401543-001	2402260903A 400-EV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
10	RQ2402157-05	R2401543-001 MS	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/230559; 0.0200 mL/228122; 0.0200 mL/233423	
11	RQ2402157-06	R2401543-001 DMS	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	
12	R2401543-002	2402260950C 400-FV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
13	R2401543-003	2402260959C 400-FV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
14	R2401543-004	2402261008A 400-HV-147	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
15	R2401543-005	2402261050C 400-GV-125	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
16	R2401543-006	2402261052C 400-GV-125	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
17	R2401543-007	2402261318A 400-JV-150	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
18	R2401543-008	2402261425C 400-IV-123	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Information Benchsheet

Prep Run#: 434684 **Prep WorkFlow:** MetDigAqMS **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** **Prep Date/Time:** 2/28/24 10:18

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:18
Finished: 2/28/24 14:50
By: CDISTEFANO
Comments

1517 3/4
1523 3/5*
1527 3/8
1534 3/8
1543 3/6

MS

Comments:

Reviewed By: [signature] Date: 2/29/24

Chain of Custody

Relinquished By: [signature] Date: 2/28/24

Received By: [signature] Date: 2/29/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434823
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 3/1/24 09:13

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402262-01	MB		10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Pb T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		HB:10 Well:A3 Temp:94.2C/94.0C
2	RQ2402262-02	LCS		10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Pb T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/233423; 0.0200 mL/230559	On HB:11:29 Off HB:13:29 Pipet/Repipettor:M33,M39
3	R2401607-001	Ontario	.05	10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		
4	RQ2402262-03	R2401607-001 MS	.05	10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/230559; 0.0200 mL/228122; 0.0200 mL/233423	
5	RQ2402262-04	R2401607-001 DMS	.05	10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/228122; 0.0200 mL/230559	
6	R2401612-001	7210-03	.01	10mL	200.8/Pb T	<2			10.00mL	Colorless-Clear		
7	R2401613-001	Raw Water	.01	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
8	R2401613-002	Finished Water	.01	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
9	R2401669-001	H1,2,3	.01	10mL	200.8/Pb T	<2			10.00mL	Colorless-Clear		
10	R2401669-002	B1,2,3	.01	10mL	200.8/Pb T	<2			10.00mL	Colorless-Clear		

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Steps

Step: Digestion
Started: 3/1/24 09:13
Finished: 3/1/24 14:37
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: Molly Mellado Date: 3/4/24

Preparation Information Benchsheet

Prep Run#: 434823
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 3/1/24 09:13

1607 3/11
1612 3/11
1613 3/11
1669 3/15

MS

Chain of Custody

Relinquished By:	CD	Date:	3/1/24	Extracts Examined
Received By:	R-01	Date:	3/1/24	Yes No

Preparation Information Benchsheet

Prep Run#: 434762 **Prep WorkFlow:** MetDigSMS **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA 3050B **Prep Date/Time:** 3/1/24 08:45

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402229-01	MB		0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	White-Coarse/Colorless-Clear		HB:12 Well:G4 Temp:92.2C/92.7C
2	RQ2402229-02	LCS		0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	White-Coarse/Colorless-Clear	0.2500 mL/233423; 0.2500 mL/228122; 0.2500 mL/230559	On HB:10:14-10:29-10:30-11:00,11:01-11:31,12:26-12:41 Pip:M340,MA100,M380,M38,M33,M23,M27
3	RQ2402229-03	MDLV		0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	Colorless-Clear		
4	R2400831-025	ICPMS MDLv #1	.01	0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	Colorless-Clear		M8250109B

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Boiling Stones PTFE	226047 (226047)	Hot Block Cups	50mL Lot 2304355 (232860)
Hydrogen Peroxide 30% Reagent Grade H2O2	233709 (233709)	Nitric Acid Metals Grade HNO3	231748 (231748)	Thermometer	462 (230832)

Preparation Steps

Step: Digestion
Started: 3/1/24 08:45
Finished: 3/1/24 13:05
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: 3/1/24

Received By: R-A01 Date: 3/1/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434760 **Prep WorkFlow:** MetDigSICP **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** EPA CLP-METALS ILM05.3 **Prep Date/Time:** 3/1/24 08:45

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402228-01	MB		1.0g	6020A/Ag T, Sb T				100.00mL	White-Coarse/Colorless-Clear		HB:12 Well:G4 Temp:92.2C/90.9C
2	RQ2402228-02	LCS		1.0g	6020A/Ag T, Sb T				100.00mL	White-Coarse/Colorless-Clear	0.2500 mL/228122; 0.2500 mL/233423; 0.2500 mL/230559	On HB:10:14-10:29-10:30-11:00,11:01-11:31,12:26-12:41,12:42-12:57 P:M340,MA100,M380,M38,M33,M23,M27
3	RQ2402228-03	MDLV		1.0g	6020A/Ag T, Sb T				100.00mL	Colorless-Clear		
4	R2400831-025	ICPMS MDLv #1	.01	1.0g	6020A/Ag T, Sb T				100.00mL	Colorless-Clear		M8250109A

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Boiling Stones PTFE	226047 (226047)
Hot Block Cups	50mL Lot 2304355 (232860)	Hydrogen Peroxide 30% Reagent Grade H2O2	233709 (233709)	Nitric Acid Metals Grade HNO3	231748 (231748)
Thermometer	462 (230832)				

Preparation Steps

Step: Digestion
Started: 3/1/24 08:45
Finished: 3/1/24 13:06
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: CD Date: 3/1/24

Received By: R. AO1 Date: 3/1/24

Extracts Examined
Yes No

ICP-MS ICV / CCV STANDARD
(PREPARED DAILY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	232728	10000	0.500	100	50	1% HNO_3 0.5% HCl	MFM 1/29/24	A	231748	232049	1/30/24	M40
	SB						1% HNO_3 0.5% HCl	MFM 1/31/24	B	231748	232049	2/1/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/1/24	C	231748	232049	2/2/24	M36
	BE						1% HNO_3 0.5% HCl	MFM 2/2/24	D	231748	232049	2/3/24	M36
	CD						1% HNO_3 0.5% HCl	MFM 2/6/24	E	231748	232049	2/7/24	M36
	CR						1% HNO_3 0.5% HCl	MFM 2/8/24	F	231748	232049	2/9/24	M36
	CO						1% HNO_3 0.5% HCl	MFM 2/12/24	G	231748	232049	2/13/24	M36
	CU						1% HNO_3 0.5% HCl	MFM 2/13/24	H	231748	232049	2/14/24	M40
	PB						1% HNO_3 0.5% HCl	MFM 2/14/24	I	231748	232049	2/15/24	M40
	MN						1% HNO_3 0.5% HCl	MFM 2/16/24	J	231748	232049	2/17/24	M40
	MO						1% HNO_3 0.5% HCl	MFM 2/20/24	K	231748	232049	2/21/24	M40
	NI						1% HNO_3 0.5% HCl	MFM 2/23/24	L	231748	233283	2/24/24	M40
	TL						1% HNO_3 0.5% HCl	MFM 2/27/24	M	231748	233283	2/28/24	M36
	V						1% HNO_3 0.5% HCl	MFM 2/28/24	N	231748	233283	2/29/24	M36
	ZN						1% HNO_3 0.5% HCl	MFM 2/29/24	O	231748	233283	3/1/24	M40
	SE						1% HNO_3 0.5% HCl	MFM 3/4/24	P	233477	233283	3/5/24	M36
Cal Std 2	BA	233423		0.500					Q				
	AG	—							R				
Cal Std 3	SR	—		0.500					S				
	W								T				
	PT								U				

ICP-MS CALIBRATION STANDARD #1/MRL STANDARD MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	0.025	500	1.0	1% HNO3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M37 M36
	MO	———				1.0	1% HNO3 0.5% HCl	NM 1/25/24	B	231748	232049	2/25/24	M37 M36
Cal Std 2	AL	231913		0.025		Below	1% HNO3 0.5% HCl	MFM 2/14/24	C	231748	232049	3/14/24	M37 M40
	AS					1.0			D				
	BA								E				
	BE								F				
	CD								G				
	CO								H				
	CU								I				
	PB								J				
	MN								K				
	NI								L				
	TH								M				
	AG, TL								N				
	CR, V, SE								O				
	ZN					Below			P				
Cal Std 3	SR, W, PT	—		0.025		1.0			Q				
Indiv. Std.	AL	M845011 7B	10000	0.200		5.0			R				
	ZN	M845011 7 J	10000	0.200		5.0			S				

ICP-MS CALIBRATION STANDARD #2 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	0.250	500	10	1% HNO3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	———					1% HNO3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		0.250					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		0.250					T				
	W								U				
	PT								V				

ICP-MS CALIBRATION STANDARD #3 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	1.25	500	50	1% HNO_3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	———					1% HNO_3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		1.25					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		1.25					T				
	W								U				
	PT								V				

ICP-MS CALIBRATION STANDARD #4 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	2.50	500	100	1% HNO_3 0.3% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	—					1% HNO_3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		2.50					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		2.50					T				
	W								U				
	PT								V				

ICP-MS HLCCV2 STANDARD
(PREPARED MONTHLY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	231912	20000	0.500	50	200	1% HNO3 0.5% HCl	MFM 1/2/24	A	231748	232049	2/2/24	M36
	BA						1% HNO3 0.5% HCl	NM 1/22/24	B	231748	232049	2/22/24	M36
	AS						1% HNO3 0.5% HCl	MFM 2/8/24	C	231748	232049	3/8/24	M36
	BE								D				
	CD								E				
	CR								F				
	CO								G				
	CU								H				
	PB								I				
	MN								J				
	AG								K				
	NI								L				
	TL								M				
	V								N				
	ZN								O				
	SE								P				
Cal Std 2	SB	231913		0.500					Q				
	MO	—							R				
Cal Std 3	SR	—		0.500					S				
	W								T				
	PT								U				

ICP-MS HLCCV3 STANDARD
(PREPARED MONTHLY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	231912	20000	1.000	50	400	1% HNO_3 0.5% HCl	MFM 1/2/24	A	231748	232049	2/2/24	M36
	BA						1% HNO_3 0.5% HCl	NM 1/22/24	B	231748	232049	3/22/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/8/24	C	231748	232049	3/8/24	M36
	BE								D				
	CD								E				
	CR								F				
	CO								G				
	CU								H				
	PB								I				
	MN								J				
	AG								K				
	NI								L				
	TL								M				
	V								N				
	ZN								O				
	SE								P				
Cal Std 2	SB	231913		1.000					Q				
	MO	———							R				
Cal Std 3	SR	—		1.000					S				
	W								T				
	PT		▼		▼	▼			U				

ICP-MS ICSA SOLUTION
(PREPARED WEEKLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date
ICSA	CL-	228511	10000	2.00	100	200000	1% HNO_3 0.5% HCl	MFM 2/8/24
	AL		1000			20000	1% HNO_3 0.5% HCl	MFM 2/16/24
	CA						1% HNO_3 0.5% HCl	MFM 2/27/24
	FE							
	MG							
	P							
	K							
	NA							
	S							
	C		2000			40000		
	MO		20			400		
	TI		20			400		

Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
A	231748	232049	2/15/24	M36
B	231748	232049	2/23/24	M40
C	231748	233283	3/5/24	M36
D				
E				
F				
G				
H				
I				
J				
K				
L				
M				
N				
O				
P				
Q				
R				
S				
T				

ICP-MS ICSAB SOLUTION
(PREPARED WEEKLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
ICSA	CL-	228511	10000	2.00	100	200000	1% HNO_3 0.5% HCl	MFM 1/4/24	A	231798	232049	1/11/24	M36
	AL,CA		1000			20000	1% HNO_3 0.5% HCl	MFM 1/17/24	B	231798	232049	1/24/24	M36
	FE,MG						1% HNO_3 0.5% HCl	MFM 1/24/24	C	231798	232049	1/31/24	M36
	P,K						1% HNO_3 0.5% HCl	NM 1/31/24	D	231798	232049	2/6/24	M36
	NA,S						1% HNO_3 0.5% HCl	MFM 2/8/24	E	231798	232049	2/15/24	M36
	C		2000			40000	1% HNO_3 0.5% HCl	MFM 2/16/24	F	231798	232049	2/23/24	M40
	MO,TI		20			400	1% HNO_3 0.5% HCl	MFM 2/27/24	G	231798	233283	3/5/24	M36
AB Int.	Be, V	M845D108A	2	1.00		20			H				
	Se, Sb		2			20			I				
	Ba, Tl		2			20			J				
	Sr, W		2			20			K				
	Pt, Pb		2			20			L				
	U		2			20			M				
ICSAB	NI	230958	2	1.00		20.0			N				
	MN		2						O				
	CR		2						P				
	AS		2						Q				
	CO,CU		2						R				
	AG,CD		2						S				
	ZN		2						T				

ICP-MS INTERNAL STANDARD SOLUTION
(PREPARED EVERY 6 MONTHS OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
I.S. STD	BI	231911	10000	50.0	500	1000	1%-HNO3	NM 1/31/24	A	231748	232049	7/31/24	M36
	HO								B				
	IN								C				
	LI +6								D				
	RH					▼			E				
	SC					Below			F				
	TB					1000			G				
	Y		▼			1000			H				
Single Element	SC	232724	100000	5.00		2000			I				
	GE	228287	1000000	2.5	▼	5000			J				
									K				
									L				
									M				
									N				
									O				
									P				
									Q				
									R				
									S				
									T				

MISCELLANEOUS STANDARDS

Type of Standard	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
MS Mass Cal	BaBeCeCo InMgPb RbU	228201	0.01	1000	1000	10	1% HNO3	NM 5/1/23	A	—	—	8/30/24	M37
	Cd	227603	1000	0.01	↓	10			B				
	Cu	222428	1000	0.01		10			C				
	Li	223753	1000	0.01		10			D				
	Tl	226708	1000	0.01		10			E				
	Y	226709	1000	0.01		10			F				
									G				
SIC	Cl	233254	2121.5	1	10	2121.5	1% HNO3 0.5% HCl	NM 1/16/24	H	231748	232049	1/23/24	M40
	Ca		3000			300	1% HNO3 0.5% HCl	NM 1/24/24	I	231748	232049	1/31/24	M40
	Fe Na		2500			250	1% HNO3 0.5% HCl	NM 1/25/24	J	231748	232049	2/1/24	M40
	C		2000			200	1% HNO3 0.5% HCl	NM 1/29/24	K	231748	232049	2/5/24	M40
	Al K Mg P S O		1000			100	1% HNO3 0.5% HCl	NM 2/1/24	L	231748	232049	2/8/24	M40
	Mo Ti		20			2			M				
									N				
Single	Ag	226100	1000	0.100 ~~0.01~~	10	1000 ~~100~~	1% HNO3 0.5% HCl	NM 1/17/24	O				
Single	Ba	227183	1000	0.100 ~~0.01~~	10	1000 ~~100~~	1% HNO3 0.5% HCl	NM 1/17/24	P	231748	232049		
									Q				
	Ag	M8450127O	100 ~~ppb~~	0.05	100	50			R				
	Ba	M8450127P	100 ~~ppb~~	0.05		50			S				
	AlSbAs BeCdCr	232728	10 ~~ppb~~	0.500		50			T				
	CoCuFeMn MoNiSeTl ThUV Zn	↓							U				

Metals Data Cover Sheet

Run Date: 3/6/2024

Data File: 030624-ICPMS7900

Primary Reviewer: MFM

Secondary Reviewer: N. Mansen

LIMS Runs:	LIMS Preps:	
834238	434955	DOD
834239	434823, 434947, 434684	CCV only (6)
834239	434762, 434760	MDLs

Comments:
N/A

Agilent 7900 (R-ICP-MS-2) Run Log

Serial Number: JP16491642

Analyst: MFM Date: 3/6/24

Data File: 030624-ICPMS7900 Method: 6020A / 200.8

	Prep Date	Lot #			Prep Date	Lot #
Instrument Tune Solution	5/1/23	M845012 7A		Cal Srt 1 / CRDL	2/14/24	M845 00 03C
Mass Tune Solution	↓	↓		Cal Std 2	2/12/24	M845 00 12B
Internal Standard	1/31/24	M845011 4A		Cal Std 3	2/12/24	M845 00 22B
ICSA	3/6/24	M845 00 9DD		Cal Std 4 / HLCCV1	2/12/24	M845 00 32B
ICSAB	3/6/24	M845 01 01H		ICV / CCV	3/6/24	M845 00 50Q
HNO3	NA	233477		HCL	NA	233283
HLCCV2	2/29/24	M845 00 67D		HLCCV3	2/28/24	M845 00 78D

Pipet Used				DOD Pipet Verification			
M36, M37				M839 00 36			
3101	PBW-434955	3208	PBW-434823	3408	PBW1	3507	PBS-434762 5X
3102	LCSW-434955	3209	LCSW-434823	3409	LCSW1	3508	LCSS-434762 5X
3103	R2401701-001	3210	R2401607-001	3410	R2401553-001 5X	3509	MDL1 5X
3104	R2401701-001S	3211	R2401607-001S	3411	R2401553-001L 25X	3510	PBS-434760 5X
3105	R2401701-001SD	3212	R2401607-001SD	3412	R2401707-001	3511	LCSS-434760 5X
3106	R2401701-001A	3301	R2401607-001A	3501	R2401707-001S	3512	MDL1 5X AgSb MFM 3/6/24
3107	R2401701-001L 5X	3302	R2401607-001L 5X	3502	R2401707-001SD		
3108	R2401701-002	3303	R2401612-001	3503	R2401707-002		
3109	R2401701-003	3304	R2401669-001	3504	R2401707-004		
3110	R2401701-004	3305	R2401669-002	3505	R2401707-005		
3111	R2401701-005	3306	PBW-434947	3506	R2401707-006		
3112	R2401701-006	3307	LCSW-434947				
3201	R2401701-007	3308	R2401534-001				
3202	R2401701-008	3309	R2401684-013				
3203	R2401701-009	3310	R2401715-001				
3204	R2401701-010	3311	R2401715-001S				
3205	R2401721-001	3312	R2401715-001SD				
3206	R2401721-006	3401	R2401715-001A				
3207	R2401721-007	3402	R2401715-001L 5X				
		3403	R2401715-002				
		3404	R2401715-007				
		3405	R2401715-008				
		3406	R2401716-001				
		3407	R2401716-002				
		~~4101~~	~~PBW-434684~~				
		4102	LCSW-434684				
		4103	R2401543-006				
		~~4104~~	~~R2401543-006L 5X~~				

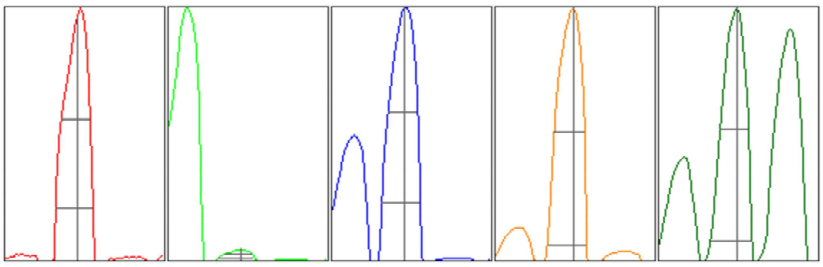
no volume MFM 3/6/24

US EPA Tune Check Report

Operator Name	ALRCE Metals05
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq. Date-Time	03/06/24 08:26:07
Report Comment	---
Instrument Name	G8403A JP16491642

[No Gas]

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	276.23	8.90	8.90 - 9.10	
24	3504.52	23.90	23.90 - 24.10	
59	4220.06	58.90	58.90 - 59.10	
115	7716.34	115.00	114.90 - 115.10	
208	1170.34	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.53	0.688	0.900	
24	0.51	0.683	0.900	
59	0.54	0.711	0.900	
115	0.56	0.732	0.900	
208	0.53	0.780	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	157.399999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	5.8 V	Deflect	15.6 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Cell Parameters

US EPA Tune Check Report

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	127	Axis Gain	0.9998	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.12		

Hardware Settings

Torch

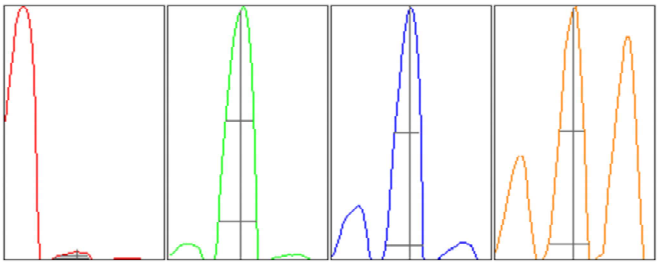
Torch H	0.2 mm	Torch V	-0.4 mm

EM

Discriminator	4.8 mV	Analog HV	2113 V	Pulse HV	1260 V

[He]

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
24	103.85	23.90	23.90 - 24.10	
59	1071.41	58.90	58.90 - 59.10	
115	1770.76	115.00	114.90 - 115.10	
208	829.27	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
24	0.51	0.666	0.900	
59	0.52	0.710	0.900	
115	0.49	0.694	0.900	
208	0.46	0.745	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	125.92
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	5.8 V	Deflect	1.8 V

US EPA Tune Check Report

Extract 2	-250.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-110 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	4.3 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	127	Axis Gain	0.9998	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.12		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.4 mm		

EM

Discriminator	4.8 mV	Analog HV	2113 V	Pulse HV	1260 V

7900 ICP-MS 200.8/6020A
Calibration Blank Report

Sample Name	Blank
File Name	004CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 08:58:47
Sample Type	CalBlk
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
Operator	Molly McMahon 3/6/24

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Be	9	45	No Gas	1.11	173.2
Al	27	72	No Gas	15142.32	1.2
V	51	72	He	721.13	1.9
Cr	52	72	No Gas	38605.30	0.3
Mn	55	72	No Gas	10413.80	0.3
Co	59	72	He	50.00	17.6
Ni	60	72	No Gas	358.90	1.4
Cu	63	72	No Gas	1930.13	5.9
Zn	66	72	No Gas	2041.26	7.5
Se	78	72	He	64.33	12.7
Se	82	72	No Gas	141.79	36.4
Mo	98	89	No Gas	185.13	19.8
Ag	107	89	No Gas	320.00	6.3
Cd	111	89	No Gas	2619.99	3.2
Sb	123	89	No Gas	1236.73	7.7
Ba	137	115	No Gas	81.11	26.4
Tl	203	115	No Gas	32.22	31.6
Pb	208	115	No Gas	348.89	12.2
Th	232	115	No Gas	975.60	8.4
U	238	115	No Gas	16.67	40.0

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Sc	45	No Gas	45483248.19	1.8
Sc	45	He	2200900.54	1.2
Ge	72	No Gas	4513567.18	1.8
Ge	72	He	632773.79	1.2
Y	89	No Gas	6405295.44	1.4
Y	89	He	911251.11	1.3
Rh	103	No Gas	4964291.47	4.4
Rh	103	He	2314658.72	1.7
In	115	No Gas	4992972.58	3.3
Lu	175	No Gas	20565.02	2.9

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	1
File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:01:40
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	4707.42	1.0	1.000
Al	27	72	No Gas	210669.56	0.1	5.000
V	51	72	He	8690.43	2.1	1.000
Cr	52	72	No Gas	100221.55	1.8	1.000
Mn	55	72	No Gas	84834.20	1.3	1.000
Co	59	72	He	16106.91	0.8	1.000
Ni	60	72	No Gas	14724.32	6.1	1.000
Cu	63	72	No Gas	33594.10	0.3	1.000
Zn	66	72	No Gas	42323.05	0.3	5.000
As	75	72	No Gas	8235.39	13.0	1.000
Se	78	72	He	129.33	3.7	1.000
Se	82	72	No Gas	559.88	3.5	1.000
Mo	98	89	No Gas	20460.21	1.3	1.000
Ag	107	89	No Gas	32635.30	0.5	1.000
Cd	111	89	No Gas	9553.63	0.1	1.000
Sb	123	89	No Gas	19556.25	1.1	1.000
Ba	137	115	No Gas	8864.04	1.0	1.000
Tl	203	115	No Gas	11152.59	0.3	1.000
Pb	208	115	No Gas	35435.63	0.9	1.000
Th	232	115	No Gas	28776.99	0.6	1.000
U	238	115	No Gas	29252.51	2.5	1.000

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45634930.41	0.5	45483248.19	100.33	60	125	
Sc	45	He	2241500.75	1.6	2200900.54	101.84	60	125	
Ge	72	No Gas	4558306.62	3.6	4513567.18	100.99	60	125	
Ge	72	He	621817.53	0.6	632773.79	98.27	60	125	
Y	89	No Gas	6378386.83	2.7	6405295.44	99.58	60	125	
Y	89	He	907165.62	0.6	911251.11	99.55	60	125	
Rh	103	No Gas	4845731.47	5.8	4964291.47	97.61	60	125	
Rh	103	He	2292577.69	2.2	2314658.72	99.05	60	125	
In	115	No Gas	4836257.72	4.8	4992972.58	96.86	60	125	
Lu	175	No Gas	20257.81	3.0	20565.02	98.51	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	10
File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:03:50
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	48631.04	1.2	10.003
Al	27	72	No Gas	443217.66	1.6	10.142
V	51	72	He	82594.12	1.2	10.000
Cr	52	72	No Gas	571058.54	1.9	9.983
Mn	55	72	No Gas	758143.39	1.4	9.999
Co	59	72	He	159882.81	1.2	9.997
Ni	60	72	No Gas	135520.78	0.6	9.992
Cu	63	72	No Gas	326208.51	0.2	10.001
Zn	66	72	No Gas	92709.61	0.8	10.194
As	75	72	No Gas	86249.27	1.3	10.002
Se	78	72	He	939.37	6.1	10.022
Se	82	72	No Gas	5370.99	2.6	10.019
Mo	98	89	No Gas	209253.66	0.8	10.005
Ag	107	89	No Gas	335096.96	2.1	10.006
Cd	111	89	No Gas	70256.66	1.1	10.000
Sb	123	89	No Gas	185893.79	1.3	10.003
Ba	137	115	No Gas	88691.76	1.1	10.001
Tl	203	115	No Gas	112526.51	0.7	10.001
Pb	208	115	No Gas	356799.02	0.6	10.001
Th	232	115	No Gas	294038.13	2.4	10.005
U	238	115	No Gas	291249.65	0.2	9.999

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45931077.06	1.7	45483248.19	100.98	60	125	
Sc	45	He	2202107.14	2.6	2200900.54	100.05	60	125	
Ge	72	No Gas	4639866.90	2.8	4513567.18	102.8	60	125	
Ge	72	He	638703.46	1.1	632773.79	100.94	60	125	
Y	89	No Gas	6225319.06	2.5	6405295.44	97.19	60	125	
Y	89	He	914500.80	0.6	911251.11	100.36	60	125	
Rh	103	No Gas	4926210.22	3.1	4964291.47	99.23	60	125	
Rh	103	He	2289427.13	1.9	2314658.72	98.91	60	125	
In	115	No Gas	4841893.84	3.3	4992972.58	96.97	60	125	
Lu	175	No Gas	21073.57	0.4	20565.02	102.47	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

Sample Name	50
File Name	007CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:06:01
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	241782.66	0.6	49.962
Al	27	72	No Gas	1914439.92	2.6	49.741
V	51	72	He	402586.37	1.6	49.989
Cr	52	72	No Gas	2672944.89	2.4	49.980
Mn	55	72	No Gas	3625549.16	0.3	49.936
Co	59	72	He	810895.73	0.5	50.052
Ni	60	72	No Gas	677635.93	0.5	50.004
Cu	63	72	No Gas	1595018.86	1.8	49.968
Zn	66	72	No Gas	429450.77	0.8	49.907
As	75	72	No Gas	424705.09	1.2	49.971
Se	78	72	He	4460.37	1.1	50.039
Se	82	72	No Gas	26623.85	0.6	50.030
Mo	98	89	No Gas	1051657.87	2.8	49.926
Ag	107	89	No Gas	1636419.97	1.6	49.869
Cd	111	89	No Gas	344580.06	1.7	49.934
Sb	123	89	No Gas	929278.40	0.7	49.925
Ba	137	115	No Gas	450977.41	1.1	50.019
Tl	203	115	No Gas	576047.91	1.7	50.033
Pb	208	115	No Gas	1806444.40	1.4	50.011
Th	232	115	No Gas	1546060.60	2.9	50.089
U	238	115	No Gas	1480809.04	2.0	50.019

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46587501.48	1.5	45483248.19	102.43	60	125	
Sc	45	He	2225928.80	0.8	2200900.54	101.14	60	125	
Ge	72	No Gas	4634081.48	1.8	4513567.18	102.67	60	125	
Ge	72	He	630675.74	2.0	632773.79	99.67	60	125	
Y	89	No Gas	6501108.91	2.3	6405295.44	101.5	60	125	
Y	89	He	918957.01	2.8	911251.11	100.85	60	125	
Rh	103	No Gas	4912571.61	3.9	4964291.47	98.96	60	125	
Rh	103	He	2264013.66	2.1	2314658.72	97.81	60	125	
In	115	No Gas	4875523.14	2.5	4992972.58	97.65	60	125	
Lu	175	No Gas	20662.87	3.7	20565.02	100.48	60	125	

7900 ICP-MS 200.8/6020A
Calibration Standard Report

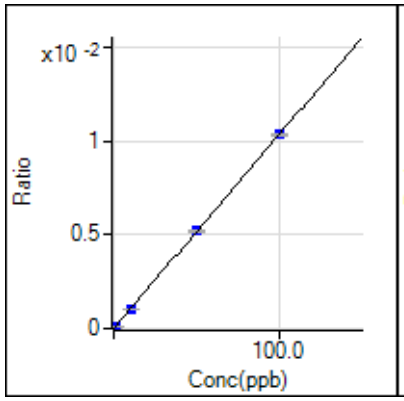
Sample Name	100
File Name	008CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:08:08
Sample Type	CalStd
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

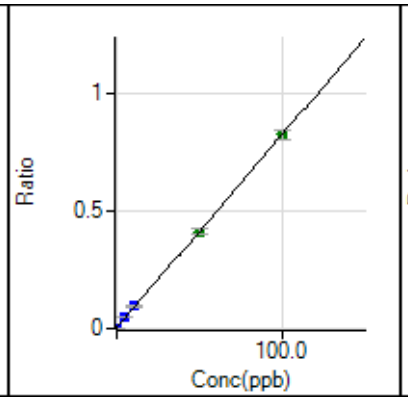
Name	Mass	ISTD	Tune	CPS	RSD	Conc.
Be	9	45	No Gas	480238.71	0.7	99.903
Al	27	72	No Gas	3853821.10	3.3	99.916
V	51	72	He	811691.98	1.4	99.769
Cr	52	72	No Gas	5343101.87	1.4	99.942
Mn	55	72	No Gas	7297014.43	3.4	99.937
Co	59	72	He	1652596.18	1.3	100.006
Ni	60	72	No Gas	1352047.37	0.9	99.761
Cu	63	72	No Gas	3247225.43	0.3	100.174
Zn	66	72	No Gas	834097.81	0.4	99.199
As	75	72	No Gas	856408.15	0.4	99.964
Se	78	72	He	8854.45	2.2	99.596
Se	82	72	No Gas	53971.60	1.3	100.156
Mo	98	89	No Gas	2152014.03	3.1	101.094
Ag	107	89	No Gas	3304821.19	1.8	100.814
Cd	111	89	No Gas	692853.40	1.6	100.821
Sb	123	89	No Gas	1907934.23	4.6	101.157
Ba	137	115	No Gas	920872.26	1.0	100.344
Tl	203	115	No Gas	1183063.53	2.1	100.455
Pb	208	115	No Gas	3730811.54	1.0	100.575
Th	232	115	No Gas	3141394.25	4.7	100.261
U	238	115	No Gas	3082395.36	3.7	100.718

QC ISTD Table

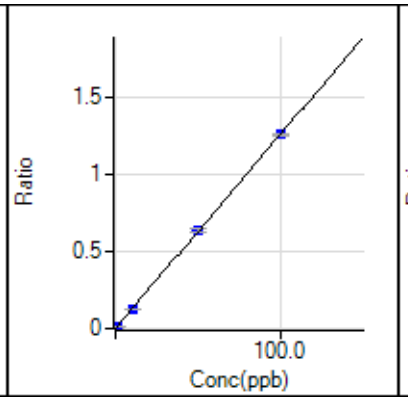
Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46446312.60	1.6	45483248.19	102.12	60	125	
Sc	45	He	2193682.20	2.9	2200900.54	99.67	60	125	
Ge	72	No Gas	4677129.12	1.2	4513567.18	103.62	60	125	
Ge	72	He	643213.41	1.9	632773.79	101.65	60	125	
Y	89	No Gas	6294638.22	3.0	6405295.44	98.27	60	125	
Y	89	He	936607.84	1.5	911251.11	102.78	60	125	
Rh	103	No Gas	4844939.81	3.1	4964291.47	97.6	60	125	
Rh	103	He	2289749.28	5.2	2314658.72	98.92	60	125	
In	115	No Gas	4896438.14	1.3	4992972.58	98.07	60	125	
Lu	175	No Gas	20573.89	2.7	20565.02	100.04	60	125	



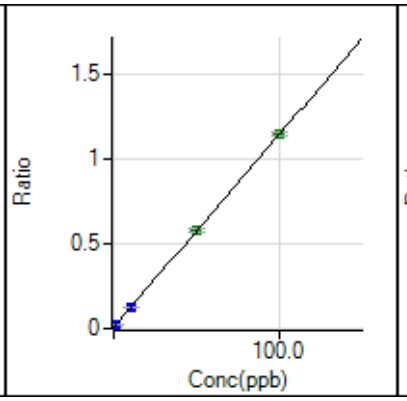
9 Be [No Gas] / ISTD: 45 Sc
y = 1.035E-4 x + 2.415E-8
R 1.0000
DL 0.001212
BEC 0.0002333



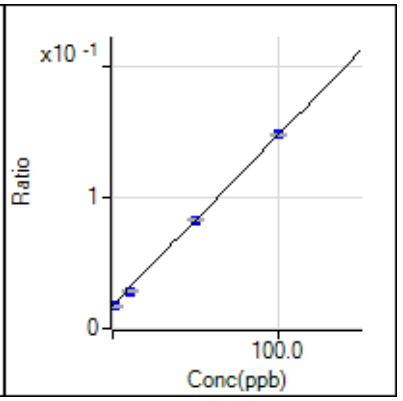
27 Al [No Gas] / ISTD: 72 Ge
y = 8.216E-3 x + 3.355E-3
R 0.9999
DL 0.009604
BEC 0.4084



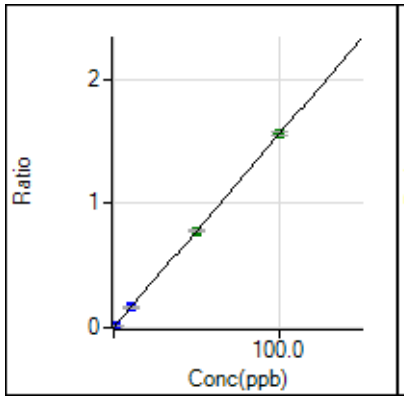
51 V [He] / ISTD: 72 Ge
y = 1.264E-2 x + 1.140E-3
R 1.0000
DL 0.004445
BEC 0.09017



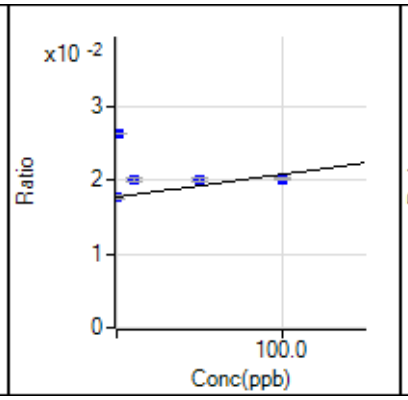
52 Cr [No Gas] / ISTD: 72 Ge
y = 1.135E-2 x + 8.555E-3
R 1.0000
DL 0.03915
BEC 0.754



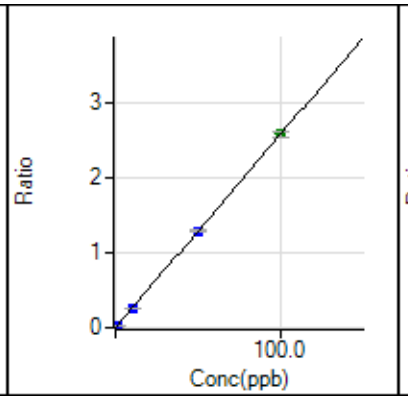
53 (Cr) [No Gas] / ISTD: 72 Ge
y = 1.298E-3 x + 1.791E-2
R 0.9998
DL 0.9221
BEC 13.79



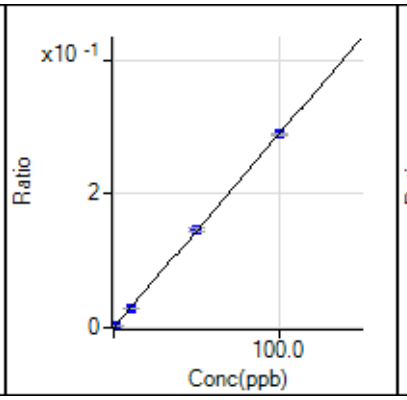
55 Mn [No Gas] / ISTD: 72 Ge
y = 1.559E-2 x + 2.308E-3
R 1.0000
DL 0.008479
BEC 0.1481



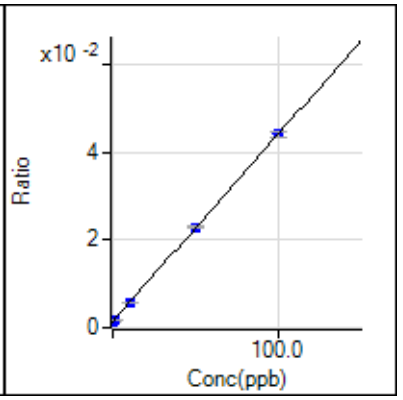
56 Fe [He] / ISTD: 72 Ge
y = 3.097E-5 x + 1.777E-2
R -0.2055
DL 46.63
BEC 573.7



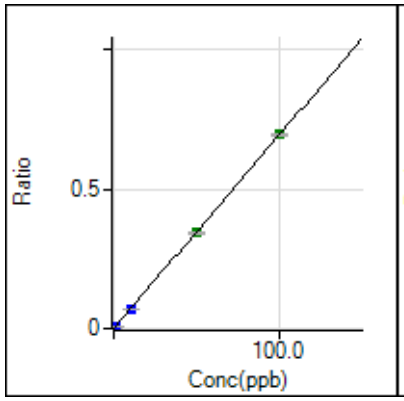
59 Co [He] / ISTD: 72 Ge
y = 2.570E-2 x + 7.899E-5
R 1.0000
DL 0.001594
BEC 0.003073



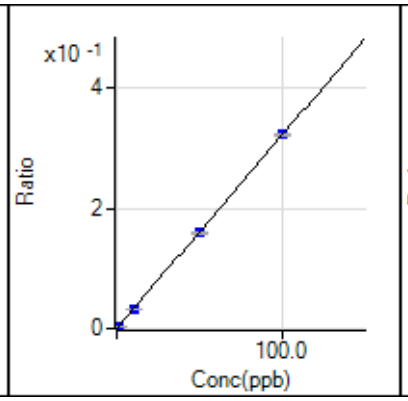
60 Ni [No Gas] / ISTD: 72 Ge
y = 2.897E-3 x + 7.954E-5
R 1.0000
DL 0.002576
BEC 0.02746



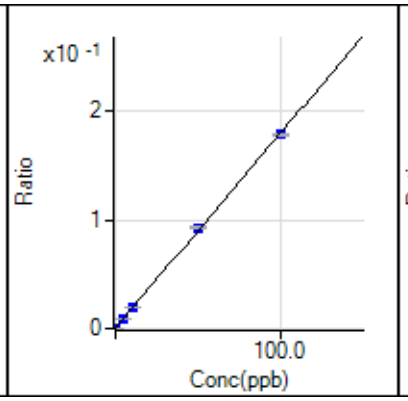
62 (Ni) [No Gas] / ISTD: 72 Ge
y = 4.277E-4 x + 1.444E-3
R 1.0000
DL 0.2166
BEC 3.376



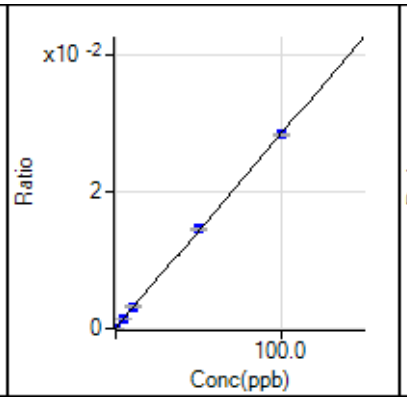
63 Cu [No Gas] / ISTD: 72 Ge
y = 6.927E-3 x + 4.278E-4
R 1.0000
DL 0.0122
BEC 0.06176



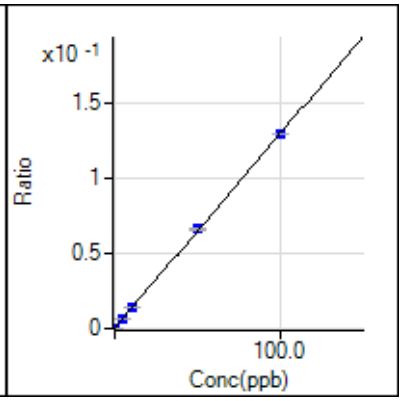
65 (Cu) [No Gas] / ISTD: 72 Ge
y = 3.224E-3 x + 1.912E-4
R 1.0000
DL 0.03276
BEC 0.0593



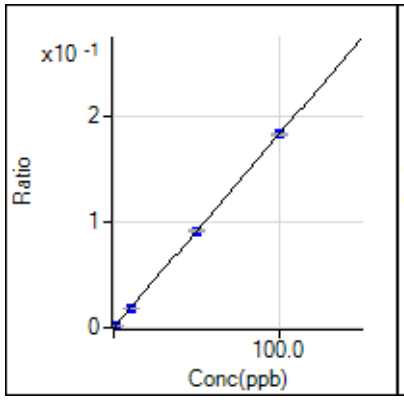
66 Zn [No Gas] / ISTD: 72 Ge
y = 1.793E-3 x + 4.526E-4
R 0.9998
DL 0.06571
BEC 0.2524



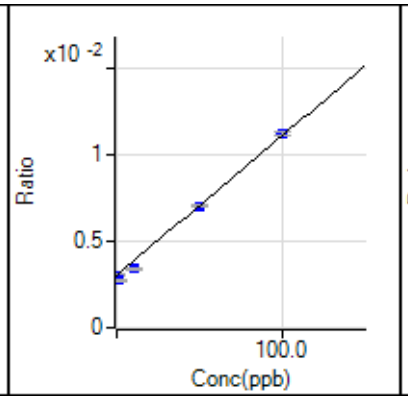
67 (Zn) [No Gas] / ISTD: 72 Ge
y = 2.841E-4 x + 8.542E-5
R 0.9999
DL 0.05654
BEC 0.3007



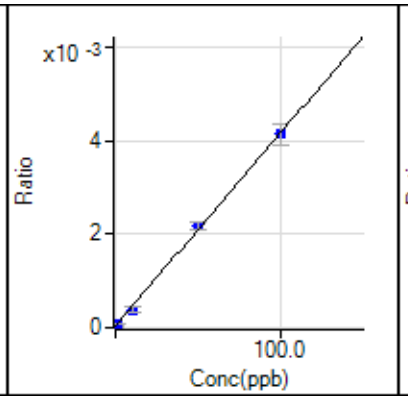
68 (Zn) [No Gas] / ISTD: 72 Ge
y = 1.293E-3 x + 3.330E-4
R 0.9999
DL 0.03722
BEC 0.2575



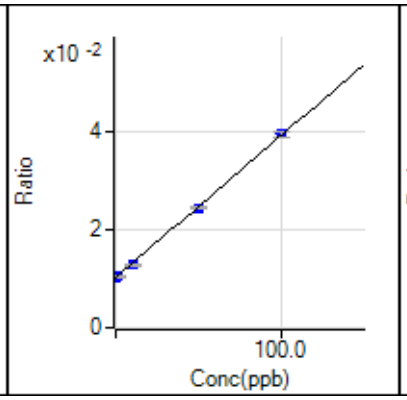
75 As [No Gas] / ISTD: 72 Ge
y = 1.832E-3 x - 1.400E-5
R 1.0000
DL 0.4827
BEC -0.007642



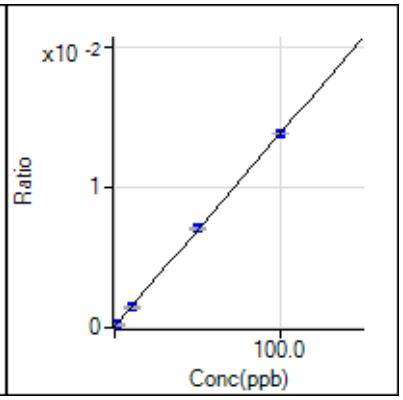
77 (Se) [No Gas] / ISTD: 72 Ge
y = 8.076E-5 x + 3.042E-3
R 0.9987
DL 5.06
BEC 37.67



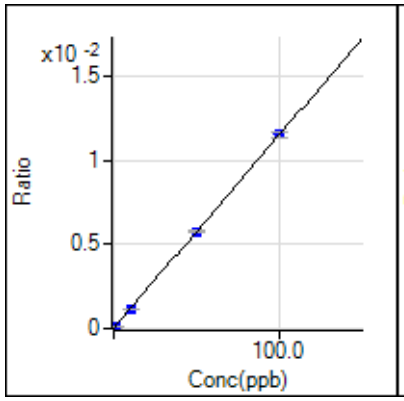
77 (Se) [He] / ISTD: 72 Ge
y = 4.140E-5 x + 3.718E-5
R 0.9996
DL 2.915
BEC 0.8981



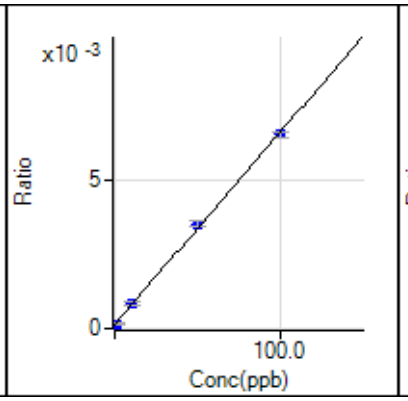
78 (Se) [No Gas] / ISTD: 72 Ge
y = 2.888E-4 x + 1.025E-2
R 0.9999
DL 2.604
BEC 35.48



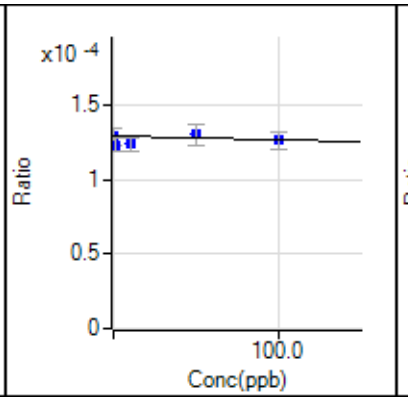
78 Se [He] / ISTD: 72 Ge
y = 1.372E-4 x + 1.017E-4
R 0.9999
DL 0.2832
BEC 0.7411



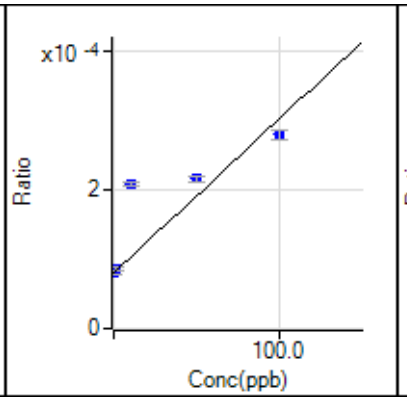
82 Se [No Gas] / ISTD: 72 Ge
y = 1.149E-4 x + 3.129E-5
R 1.0000
DL 0.2875
BEC 0.2723



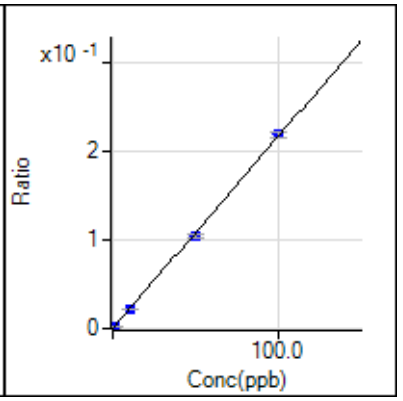
82 (Se) [He] / ISTD: 72 Ge
y = 6.455E-5 x + 1.367E-4
R 0.9994
DL 1.449
BEC 2.118



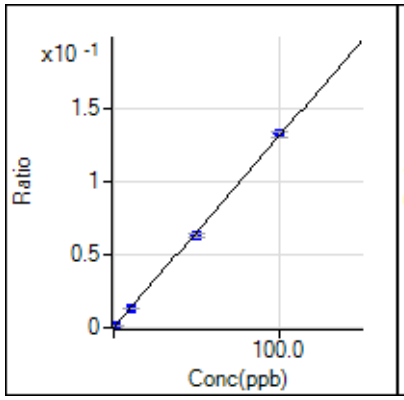
83 [As] [No Gas] / ISTD: 72 Ge
y = - 2.574E-8 x + 1.294E-4
R 0.2296
DL -1370
BEC -5026



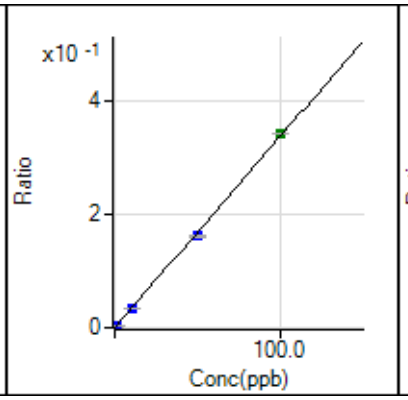
88 Sr [No Gas] / ISTD: 89 Y
y = 2.230E-6 x + 8.028E-5
R 0.8562
DL 5.466
BEC 35.99



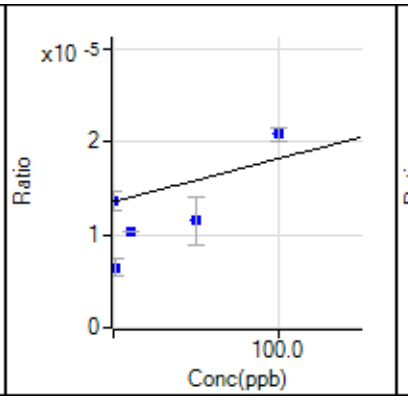
95 (Mo) [No Gas] / ISTD: 89 Y
y = 2.160E-3 x + 1.805E-5
R 0.9997
DL 0.001248
BEC 0.008352



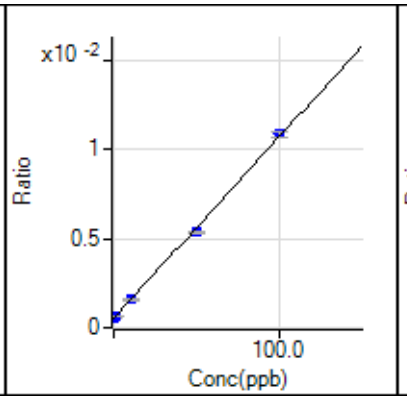
97 (Mo) [No Gas] / ISTD: 89 Y
y = 1.308E-3 x + 2.585E-5
R 0.9997
DL 0.006223
BEC 0.01976



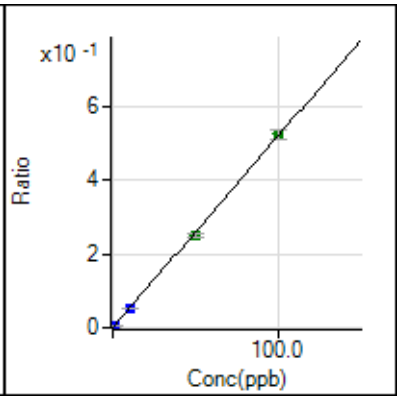
98 Mo [No Gas] / ISTD: 89 Y
y = 3.381E-3 x + 2.891E-5
R 0.9996
DL 0.005071
BEC 0.008549



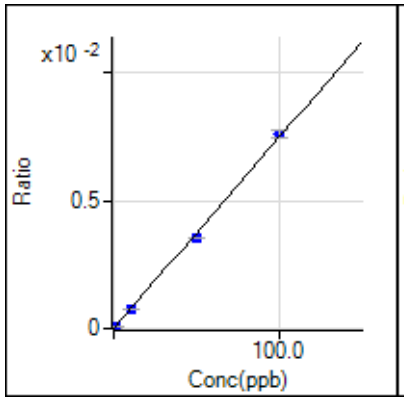
99 [Mo] [No Gas] / ISTD: 89 Y
y = 4.650E-8 x + 1.355E-5
R 0.8204
DL 133.1
BEC 291.3



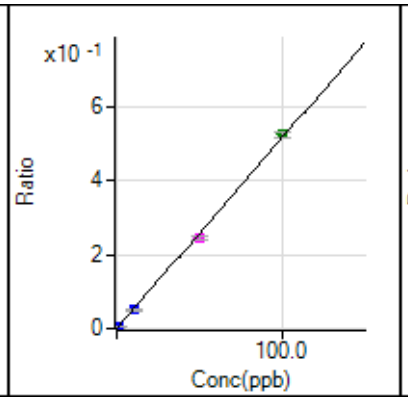
106 (Cd) [No Gas] / ISTD: 89 Y
y = 1.021E-4 x + 5.356E-4
R 0.9994
DL 0.4314
BEC 5.245



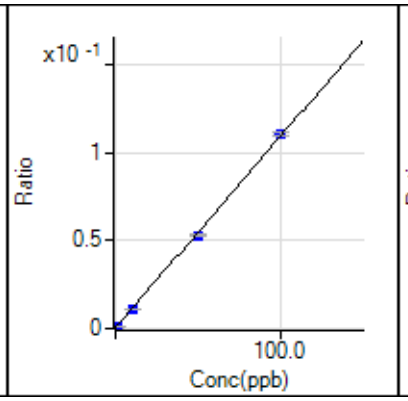
107 Ag [No Gas] / ISTD: 89 Y
y = 5.212E-3 x + 4.994E-5
R 0.9998
DL 0.001444
BEC 0.009582



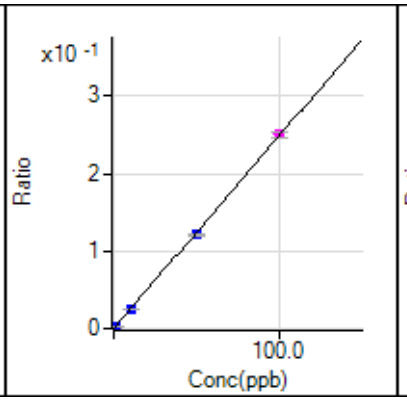
108 (Cd) [No Gas] / ISTD: 89 Y
y = 7.480E-5 x + 4.686E-6
R 0.9995
DL 0.07512
BEC 0.06265



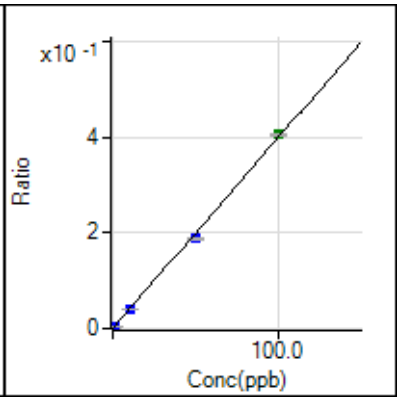
109 (Ag) [No Gas] / ISTD: 89 Y
y = 5.153E-3 x + 4.402E-5
R 0.9993
DL 0.002741
BEC 0.008543



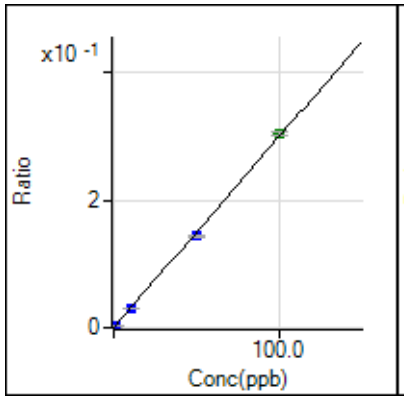
111 Cd [No Gas] / ISTD: 89 Y
y = 1.088E-3 x + 4.091E-4
R 0.9998
DL 0.03444
BEC 0.376



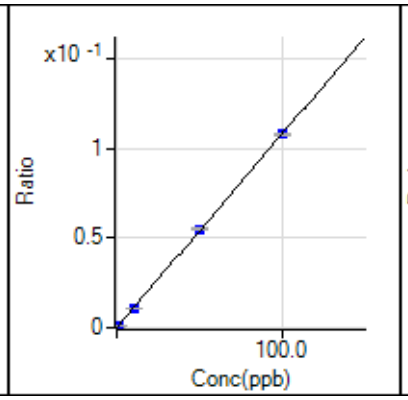
114 (Cd) [No Gas] / ISTD: 89 Y
y = 2.488E-3 x + 1.700E-5
R 0.9999
DL 0.000663
BEC 0.006833



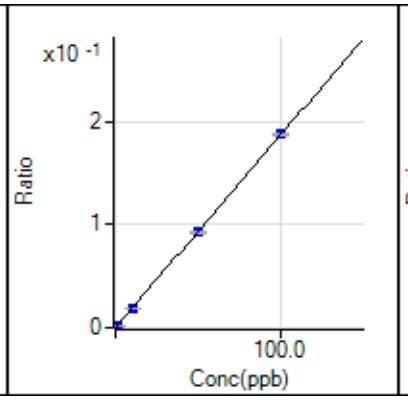
121 (Sb) [No Gas] / ISTD: 89 Y
y = 3.990E-3 x + 2.583E-4
R 0.9993
DL 0.01645
BEC 0.06475



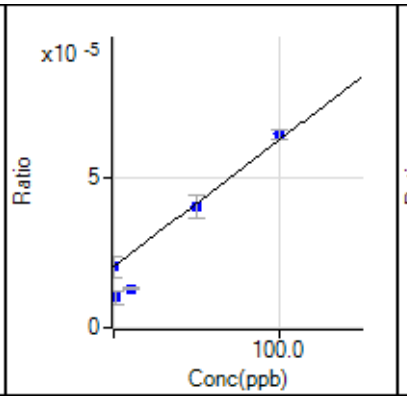
123 Sb [No Gas] / ISTD: 89 Y
y = 2.994E-3 x + 1.932E-4
R 0.9996
DL 0.01771
BEC 0.06455



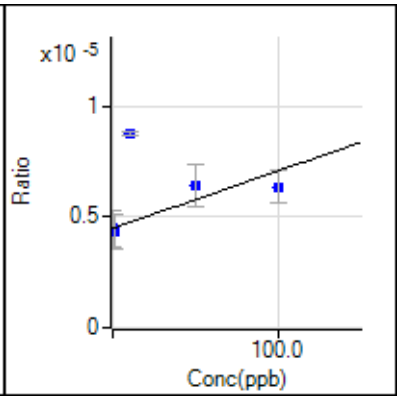
135 (Ba) [No Gas] / ISTD: 115 In
y = 1.083E-3 x + 1.360E-5
R 1.0000
DL 0.003217
BEC 0.01255



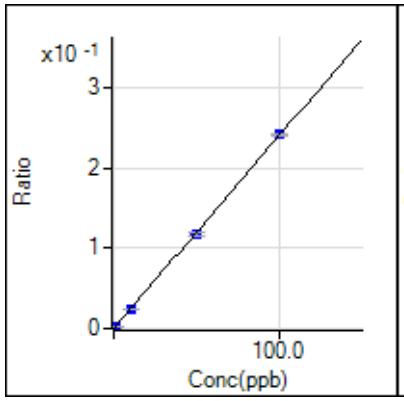
137 Ba [No Gas] / ISTD: 115 In
y = 1.874E-3 x + 1.618E-5
R 1.0000
DL 0.006344
BEC 0.008634



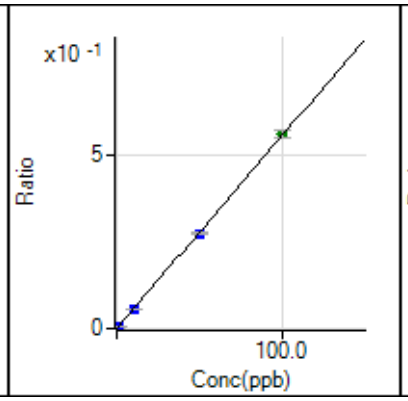
184 W [No Gas] / ISTD: 115 In
y = 4.238E-7 x + 2.042E-5
R 0.9768
DL 48.94
BEC 48.2



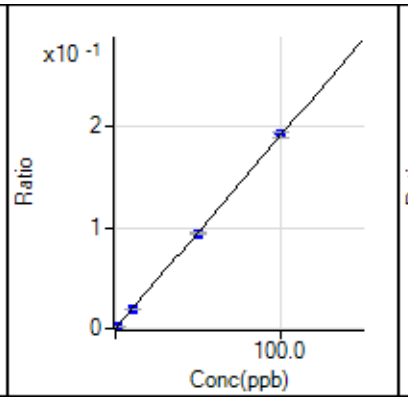
195 Pt [No Gas] / ISTD: 115 In
y = 2.592E-8 x + 4.483E-6
R 0.2366
DL 190.4
BEC 172.9



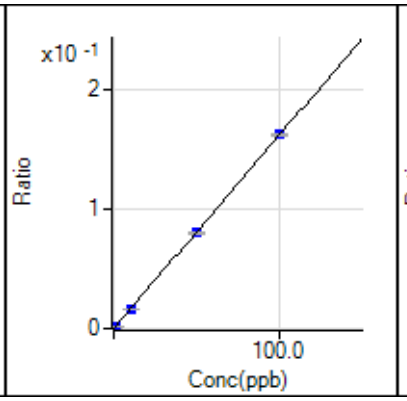
203 Tl [No Gas] / ISTD: 115 In
y = 2.405E-3 x + 6.488E-6
R 0.9999
DL 0.00278
BEC 0.002698



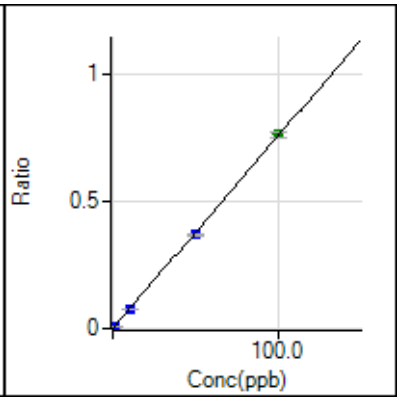
205 (Tl) [No Gas] / ISTD: 115 In
y = 5.560E-3 x + 9.603E-6
R 0.9999
DL 0.001675
BEC 0.001727



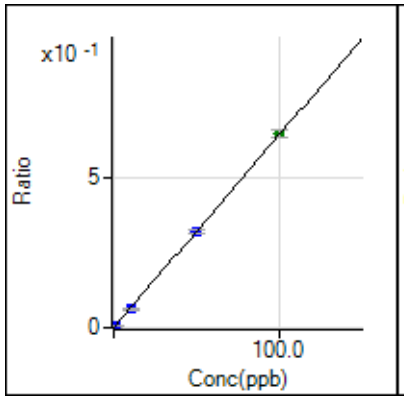
206 (Pb) [No Gas] / ISTD: 115 In
y = 1.917E-3 x + 1.718E-5
R 0.9999
DL 0.003909
BEC 0.008962



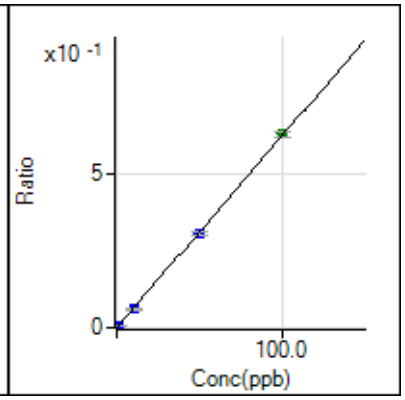
207 (Pb) [No Gas] / ISTD: 115 In
y = 1.621E-3 x + 1.736E-5
R 1.0000
DL 0.006437
BEC 0.01071



208 Pb [No Gas] / ISTD: 115 In
y = 7.577E-3 x + 6.992E-5
R 0.9999
DL 0.003459
BEC 0.009228



232 Th [No Gas] / ISTD: 115 In
y = 6.395E-3 x + 1.953E-4
R 1.0000
DL 0.005913
BEC 0.03053



238 U [No Gas] / ISTD: 115 In
y = 6.249E-3 x + 3.325E-6
R 0.9999
DL 0.0006248
BEC 0.0005321

Relative Error for ICP-MS Calibration

Date: 3/6/24 Data File: 030624-ICPSMS7900

Be	TV	Conc	%RE	%RD
	1	0.996	-0.004	0.996
	10	10.23	0.023	1.023
	50	50.149	0.00298	1.00298
	100	99.903	-0.00097	0.99903
Al				
	5	5.222	0.0444	1.0444
	10	11.228	0.1228	1.1228
	50	49.9	-0.002	0.998
	100	99.916	-0.00084	0.99916
V				
	1	1.016	0.016	1.016
	10	10.142	0.0142	1.0142
	50	50.433	0.00866	1.00866
	100	99.769	-0.00231	0.99769
Cr				
	1	1.186	0.186	1.186
	10	10.103	0.0103	1.0103
	50	50.091	0.00182	1.00182
	100	99.942	-0.00058	0.99942
Mn				
	1	1.047	0.047	1.047
	10	10.339	0.0339	1.0339
	50	50.058	0.00116	1.00116
	100	99.937	-0.00063	0.99937
Co				
	1	1.005	0.005	1.005
	10	9.738	-0.0262	0.9738
	50	50.04	0.0008	1.0008
	100	100.006	6E-05	1.00006
Ni				
	1	1.088	0.088	1.088
	10	10.061	0.0061	1.0061
	50	50.463	0.00926	1.00926
	100	99.761	-0.00239	0.99761
Cu				
	1	1.003	0.003	1.003
	10	10.093	0.0093	1.0093
	50	49.633	-0.00734	0.99266
	100	100.174	0.00174	1.00174
Zn				
	5	4.929	-0.0142	0.9858
	10	10.896	0.0896	1.0896
	50	51.43	0.0286	1.0286
	100	99.199	-0.00801	0.99199
Pb				
	1	0.959	-0.041	0.959
	10	9.725	-0.0275	0.9725
	50	48.906	-0.02188	0.97812
	100	100.575	0.00575	1.00575
U				
	1	0.968	-0.032	0.968
	10	9.632	-0.0368	0.9632
	50	48.638	-0.02724	0.97276
	100	100.718	0.00718	1.00718

As	TV	Conc	%RE	%RD
	1	0.996	-0.004	0.996
	10	10.158	0.0158	1.0158
	50	50.04	0.0008	1.0008
	100	99.964	-0.00036	0.99964
Se78				
	1	0.775	-0.225	0.775
	10	9.984	-0.0016	0.9984
	50	50.816	0.01632	1.01632
	100	99.596	-0.00404	0.99596
Se82				
	1	0.798	-0.202	0.798
	10	9.809	-0.0191	0.9809
	50	49.73	-0.0054	0.9946
	100	100.156	0.00156	1.00156
Mo				
	1	0.94	-0.06	0.94
	10	9.936	-0.0064	0.9936
	50	47.826	-0.04348	0.95652
	100	101.094	0.01094	1.01094
Ag				
	1	0.973	-0.027	0.973
	10	10.321	0.0321	1.0321
	50	48.309	-0.03382	0.96618
	100	100.814	0.00814	1.00814
Cd				
	1	1.001	0.001	1.001
	10	10.001	1E-04	1.0001
	50	48.357	-0.03286	0.96714
	100	100.821	0.00821	1.00821
Sb				
	1	0.96	-0.04	0.96
	10	9.915	-0.0085	0.9915
	50	47.703	-0.04594	0.95406
	100	101.157	0.01157	1.01157
Ba				
	1	0.971	-0.029	0.971
	10	9.774	-0.0226	0.9774
	50	49.357	-0.01286	0.98714
	100	100.344	0.00344	1.00344
Tl				
	1	0.958	-0.042	0.958
	10	9.666	-0.0334	0.9666
	50	49.157	-0.01686	0.98314
	100	100.455	0.00455	1.00455
Th				
	1	0.901	-0.099	0.901
	10	9.467	-0.0533	0.9467
	50	49.586	-0.00828	0.99172
	100	100.261	0.00261	1.00261

7900 ICP-MS 200.8/6020A
Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	009_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:10:02
Sample Type	ICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	49.456	ppb	9.9	234747.26	98.91	
Al	27	72	No Gas	48.651	ppb	3.8	1859280.72	97.3	
V	51	72	He	50.515	ppb	2.0	412897.44	101.03	
Cr	52	72	No Gas	49.460	ppb	4.0	2627366.63	98.92	
Mn	55	72	No Gas	49.639	ppb	5.8	3581893.33	99.28	
Co	59	72	He	49.294	ppb	1.1	817947.02	98.59	
Ni	60	72	No Gas	49.569	ppb	3.8	662923.67	99.14	
Cu	63	72	No Gas	50.522	ppb	5.3	1617210.00	101.04	
Zn	66	72	No Gas	48.439	ppb	2.9	402805.25	96.88	
As	75	72	No Gas	50.106	ppb	3.6	423475.67	100.21	
Se	78	72	He	51.485	ppb	1.8	4625.43	102.97	
Se	82	72	No Gas	50.507	ppb	3.6	26923.98	101.01	
Mo	98	89	No Gas	48.999	ppb	7.8	1056896.41	98	
Ag	107	89	No Gas	51.213	ppb	7.6	1702952.88	102.43	
Cd	111	89	No Gas	48.463	ppb	9.2	338912.66	96.93	
Sb	123	89	No Gas	49.438	ppb	7.2	945120.24	98.88	
Ba	137	115	No Gas	48.158	ppb	9.7	457622.58	96.32	
Tl	203	115	No Gas	48.747	ppb	8.2	594457.10	97.49	
Pb	208	115	No Gas	47.612	ppb	8.7	1829301.51	95.22	
Th	232	115	No Gas	48.916	ppb	9.5	1586910.74	97.83	
U	238	115	No Gas	47.455	ppb	8.0	1503665.18	94.91	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45892380.40	1.8	45483248.19	100.9	60	125	
Sc	45	He	2253926.30	1.2	2200900.54	102.41	60	125	
Ge	72	No Gas	4610008.01	3.4	4513567.18	102.14	60	125	
Ge	72	He	645585.76	0.6	632773.79	102.02	60	125	
Y	89	No Gas	6387697.52	4.2	6405295.44	99.73	60	125	
Y	89	He	947699.30	2.6	911251.11	104	60	125	
Rh	103	No Gas	4996932.44	3.4	4964291.47	100.66	60	125	
Rh	103	He	2328172.27	1.4	2314658.72	100.58	60	125	
In	115	No Gas	5075296.61	1.8	4992972.58	101.65	60	125	
Lu	175	No Gas	21453.08	2.9	20565.02	104.32	60	125	

7900 ICP-MS 200.8/6020A
Initial Calibration Blank (ICB) Report

Sample Name	ICB
File Name	010_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:11:53
Sample Type	ICB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	47.8	44.44	
Al	27	72	No Gas	0.063	ppb	48.2	18090.42	
V	51	72	He	-0.010	ppb	N/A	650.02	
Cr	52	72	No Gas	-0.063	ppb	N/A	36597.88	
Mn	55	72	No Gas	-0.008	ppb	N/A	10230.35	
Co	59	72	He	0.004	ppb	13.4	112.22	
Ni	60	72	No Gas	0.007	ppb	60.6	461.12	
Cu	63	72	No Gas	0.000	ppb	1406.0	2003.48	
Zn	66	72	No Gas	-0.020	ppb	N/A	1947.94	
As	75	72	No Gas	0.047	ppb	463.0	331.39	
Se	78	72	He	0.047	ppb	258.7	69.33	
Se	82	72	No Gas	0.055	ppb	291.6	175.10	
Mo	98	89	No Gas	0.103	ppb	64.7	2326.01	
Ag	107	89	No Gas	0.010	ppb	27.1	615.57	
Cd	111	89	No Gas	0.044	ppb	54.4	2813.80	
Sb	123	89	No Gas	0.280	ppb	55.8	6377.31	
Ba	137	115	No Gas	0.003	ppb	96.2	106.67	
Tl	203	115	No Gas	0.024	ppb	13.4	324.45	
Pb	208	115	No Gas	0.018	ppb	28.9	1026.68	
Th	232	115	No Gas	0.329	ppb	19.7	11619.88	
U	238	115	No Gas	0.010	ppb	11.8	332.23	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46908554.80	2.6	45483248.19	103.13	60	125	
Sc	45	He	2288451.37	5.4	2200900.54	103.98	60	125	
Ge	72	No Gas	4671686.90	1.1	4513567.18	103.5	60	125	
Ge	72	He	641265.44	1.8	632773.79	101.34	60	125	
Y	89	No Gas	6160825.87	1.1	6405295.44	96.18	60	125	
Y	89	He	935393.02	2.2	911251.11	102.65	60	125	
Rh	103	No Gas	5024490.77	2.0	4964291.47	101.21	60	125	
Rh	103	He	2343202.89	2.2	2314658.72	101.23	60	125	
In	115	No Gas	5076445.08	3.5	4992972.58	101.67	60	125	
Lu	175	No Gas	20815.34	0.5	20565.02	101.22	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	011LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:13:48
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.951	ppb	8.2	4584.07	95.1	
Al	27	72	No Gas	4.980	ppb	2.9	207230.79	99.6	
V	51	72	He	1.003	ppb	3.6	8837.19	100.3	
Cr	52	72	No Gas	1.033	ppb	5.7	94867.48	103.3	
Mn	55	72	No Gas	0.991	ppb	5.0	83069.98	99.1	
Co	59	72	He	1.003	ppb	2.2	16538.52	100.3	
Ni	60	72	No Gas	1.031	ppb	7.2	14362.94	103.1	
Cu	63	72	No Gas	0.951	ppb	1.5	32837.27	95.1	
Zn	66	72	No Gas	4.723	ppb	3.7	41771.94	94.46	
As	75	72	No Gas	0.901	ppb	15.0	7683.90	90.1	
Se	78	72	He	0.988	ppb	16.8	151.67	98.8	
Se	82	72	No Gas	0.714	ppb	19.2	530.96	71.4	
Mo	98	89	No Gas	0.976	ppb	4.7	21334.09	97.6	
Ag	107	89	No Gas	0.984	ppb	4.8	33197.14	98.4	
Cd	111	89	No Gas	0.953	ppb	1.6	9263.16	95.3	
Sb	123	89	No Gas	1.065	ppb	8.7	21686.49	106.5	
Ba	137	115	No Gas	0.963	ppb	6.0	9137.58	96.3	
Tl	203	115	No Gas	0.951	ppb	6.5	11502.95	95.1	
Pb	208	115	No Gas	0.947	ppb	8.7	36317.97	94.7	
Th	232	115	No Gas	1.009	ppb	8.6	33321.56	100.9	
U	238	115	No Gas	0.927	ppb	5.3	29073.52	92.7	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46602243.70	2.9	45483248.19	102.46	60	125	
Sc	45	He	2252486.85	2.0	2200900.54	102.34	60	125	
Ge	72	No Gas	4679458.01	3.7	4513567.18	103.68	60	125	
Ge	72	He	639899.96	1.7	632773.79	101.13	60	125	
Y	89	No Gas	6406197.39	3.1	6405295.44	100.01	60	125	
Y	89	He	948865.20	2.9	911251.11	104.13	60	125	
Rh	103	No Gas	4880134.81	1.9	4964291.47	98.3	60	125	
Rh	103	He	2425942.47	0.7	2314658.72	104.81	60	125	
In	115	No Gas	5022862.58	4.2	4992972.58	100.6	60	125	
Lu	175	No Gas	20893.20	2.5	20565.02	101.6	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV1
File Name	012_QCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:15:44
Sample Type	QCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	94.166	ppb	8.7	455676.08	94.17	
Al	27	72	No Gas	96.103	ppb	5.0	3678308.74	96.1	
V	51	72	He	101.416	ppb	1.1	825958.30	101.42	
Cr	52	72	No Gas	97.221	ppb	6.2	5156886.18	97.22	
Mn	55	72	No Gas	99.342	ppb	7.9	7194433.60	99.34	
Co	59	72	He	97.488	ppb	0.8	1613257.02	97.49	
Ni	60	72	No Gas	98.721	ppb	7.5	1327233.42	98.72	
Cu	63	72	No Gas	98.210	ppb	8.6	3159311.34	98.21	
Zn	66	72	No Gas	98.662	ppb	7.7	822997.40	98.66	
As	75	72	No Gas	97.736	ppb	6.6	830659.92	97.74	
Se	78	72	He	101.517	ppb	2.4	9031.56	101.52	
Se	82	72	No Gas	98.457	ppb	7.6	52641.72	98.46	
Mo	98	89	No Gas	97.035	ppb	4.5	2064774.46	97.04	
Ag	107	89	No Gas	97.617	ppb	3.2	3198763.41	97.62	
Cd	111	89	No Gas	97.167	ppb	3.5	667439.22	97.17	
Sb	123	89	No Gas	98.797	ppb	1.8	1860534.44	98.8	
Ba	137	115	No Gas	93.069	ppb	3.5	882236.02	93.07	
Tl	203	115	No Gas	93.782	ppb	4.4	1140985.23	93.78	
Pb	208	115	No Gas	93.547	ppb	4.3	3586154.92	93.55	
Th	232	115	No Gas	94.749	ppb	4.0	3066997.45	94.75	
U	238	115	No Gas	94.315	ppb	3.6	2981696.41	94.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46779832.59	1.1	45483248.19	102.85	60	125	
Sc	45	He	2265018.38	1.3	2200900.54	102.91	60	125	
Ge	72	No Gas	4639646.20	1.0	4513567.18	102.79	60	125	
Ge	72	He	643825.46	0.9	632773.79	101.75	60	125	
Y	89	No Gas	6286326.83	3.5	6405295.44	98.14	60	125	
Y	89	He	958068.89	2.4	911251.11	105.14	60	125	
Rh	103	No Gas	4948635.08	1.7	4964291.47	99.68	60	125	
Rh	103	He	2455882.33	2.1	2314658.72	106.1	60	125	
In	115	No Gas	5055369.94	3.2	4992972.58	101.25	60	125	
Lu	175	No Gas	20866.55	2.4	20565.02	101.47	60	125	

7900 ICP-MS 200.8/6020A
Interference Check Solution A (ICSA) Report

Sample Name	ICSA
File Name	013ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:17:28
Sample Type	ICSA
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.013	ppb	60.6	65.56	
Al	27	72	No Gas	18247.171	ppb	7.5	677523421.97	
V	51	72	He	0.024	ppb	46.3	931.15	
Cr	52	72	No Gas	1.818	ppb	6.7	131833.19	
Mn	55	72	No Gas	0.224	ppb	5.1	26169.60	
Co	59	72	He	0.092	ppb	3.7	1578.98	
Ni	60	72	No Gas	1.209	ppb	6.7	16180.46	>DL*3
Cu	63	72	No Gas	0.813	ppb	5.6	27377.91	
Zn	66	72	No Gas	0.928	ppb	2.5	9564.36	
As	75	72	No Gas	0.092	ppb	242.4	700.94	
Se	78	72	He	0.241	ppb	27.0	87.00	
Se	82	72	No Gas	0.226	ppb	31.4	258.51	
Mo	98	89	No Gas	385.488	ppb	2.5	8624209.08	
Ag	107	89	No Gas	0.041	ppb	18.1	1746.78	
Cd	111	89	No Gas	0.045	ppb	78.2	3025.25	
Sb	123	89	No Gas	0.420	ppb	38.0	9711.63	
Ba	137	115	No Gas	0.144	ppb	9.0	1372.30	
Tl	203	115	No Gas	0.043	ppb	27.9	530.01	
Pb	208	115	No Gas	0.072	ppb	13.4	2933.47	
Th	232	115	No Gas	0.540	ppb	10.0	17488.77	
U	238	115	No Gas	0.018	ppb	25.7	568.90	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47134268.13	2.0	45483248.19	103.63	60	125	
Sc	45	He	2249904.36	5.1	2200900.54	102.23	60	125	
Ge	72	No Gas	4517146.35	1.2	4513567.18	100.08	60	125	
Ge	72	He	645210.46	1.6	632773.79	101.97	60	125	
Y	89	No Gas	6617494.04	5.4	6405295.44	103.31	60	125	
Y	89	He	946730.52	3.1	911251.11	103.89	60	125	
Rh	103	No Gas	4786604.81	1.7	4964291.47	96.42	60	125	
Rh	103	He	2294771.30	0.9	2314658.72	99.14	60	125	
In	115	No Gas	4798488.00	0.7	4992972.58	96.1	60	125	
Lu	175	No Gas	20359.10	2.0	20565.02	99	60	125	

7900 ICP-MS 200.8/6020A
Interference Check Solution AB (ICSAB) Report

Sample Name	ICSAB
File Name	014ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:20:06
Sample Type	ICSB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	17.952	ppb	8.5	85873.64	
Al	27	72	No Gas	18566.873	ppb	7.0	682806195.09	
V	51	72	He	20.646	ppb	1.0	169841.95	
Cr	52	72	No Gas	19.748	ppb	6.0	1040997.77	
Mn	55	72	No Gas	19.921	ppb	6.3	1399900.71	
Co	59	72	He	18.917	ppb	1.1	315137.36	
Ni	60	72	No Gas	19.724	ppb	5.9	256052.67	
Cu	63	72	No Gas	19.301	ppb	5.5	600149.44	
Zn	66	72	No Gas	19.389	ppb	5.5	157606.71	
As	75	72	No Gas	19.884	ppb	6.2	162980.31	
Se	78	72	He	20.451	ppb	1.8	1884.13	
Se	82	72	No Gas	19.891	ppb	5.6	10369.82	
Mo	98	89	No Gas	382.859	ppb	7.8	8186110.39	
Ag	107	89	No Gas	18.534	ppb	8.8	610905.90	
Cd	111	89	No Gas	18.296	ppb	8.0	128413.29	
Sb	123	89	No Gas	20.321	ppb	9.3	385706.84	
Ba	137	115	No Gas	20.117	ppb	8.8	185953.15	
Tl	203	115	No Gas	18.435	ppb	6.7	218559.92	
Pb	208	115	No Gas	18.800	ppb	7.6	702545.51	
Th	232	115	No Gas	0.186	ppb	11.9	6835.21	> +/- 10%
U	238	115	No Gas	18.939	ppb	7.9	583393.99	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46230941.50	1.9	45483248.19	101.64	60	125	
Sc	45	He	2249296.72	5.4	2200900.54	102.2	60	125	
Ge	72	No Gas	4471083.43	2.5	4513567.18	99.06	60	125	
Ge	72	He	648047.11	0.9	632773.79	102.41	60	125	
Y	89	No Gas	6325202.94	1.9	6405295.44	98.75	60	125	
Y	89	He	964657.57	1.3	911251.11	105.86	60	125	
Rh	103	No Gas	4817968.84	3.1	4964291.47	97.05	60	125	
Rh	103	He	2253877.55	2.6	2314658.72	97.37	60	125	
In	115	No Gas	4930735.22	1.2	4992972.58	98.75	60	125	
Lu	175	No Gas	20145.43	1.8	20565.02	97.96	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	015_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:21:57
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	48.130	ppb	7.2	224896.44	96.26	
Al	27	72	No Gas	47.584	ppb	5.5	1814183.12	95.17	
V	51	72	He	49.587	ppb	2.3	413208.93	99.17	
Cr	52	72	No Gas	50.011	ppb	8.3	2650477.40	100.02	
Mn	55	72	No Gas	51.393	ppb	5.3	3696136.10	102.79	
Co	59	72	He	48.840	ppb	3.1	826008.26	97.68	
Ni	60	72	No Gas	49.377	ppb	7.7	658561.00	98.75	
Cu	63	72	No Gas	51.013	ppb	10.0	1628001.12	102.03	
Zn	66	72	No Gas	48.628	ppb	5.5	403324.55	97.26	
As	75	72	No Gas	50.436	ppb	6.3	425105.92	100.87	
Se	78	72	He	51.780	ppb	1.4	4744.81	103.56	
Se	82	72	No Gas	50.654	ppb	5.8	26929.50	101.31	
Mo	98	89	No Gas	49.621	ppb	9.3	1071265.47	99.24	
Ag	107	89	No Gas	50.632	ppb	9.6	1684522.19	101.26	
Cd	111	89	No Gas	49.055	ppb	9.1	343355.77	98.11	
Sb	123	89	No Gas	49.464	ppb	9.7	946449.11	98.93	
Ba	137	115	No Gas	48.310	ppb	8.6	463948.91	96.62	
Tl	203	115	No Gas	47.948	ppb	10.0	590361.61	95.9	
Pb	208	115	No Gas	47.389	ppb	8.6	1839836.44	94.78	
Th	232	115	No Gas	49.167	ppb	7.8	1612350.21	98.33	
U	238	115	No Gas	47.965	ppb	8.7	1535102.96	95.93	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45106528.21	2.1	45483248.19	99.17	60	125	
Sc	45	He	2287286.99	4.0	2200900.54	103.93	60	125	
Ge	72	No Gas	4600398.29	0.5	4513567.18	101.92	60	125	
Ge	72	He	658448.79	3.2	632773.79	104.06	60	125	
Y	89	No Gas	6395813.91	3.3	6405295.44	99.85	60	125	
Y	89	He	945102.74	1.8	911251.11	103.71	60	125	
Rh	103	No Gas	4984213.13	1.8	4964291.47	100.4	60	125	
Rh	103	He	2379153.58	2.9	2314658.72	102.79	60	125	
In	115	No Gas	5134007.85	4.7	4992972.58	102.82	60	125	
Lu	175	No Gas	20522.73	1.8	20565.02	99.79	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	016_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:23:48
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	51.8	27.78	
Al	27	72	No Gas	0.264	ppb	40.3	26360.18	
V	51	72	He	-0.021	ppb	N/A	565.57	
Cr	52	72	No Gas	-0.112	ppb	N/A	34763.25	
Mn	55	72	No Gas	-0.027	ppb	N/A	9038.44	
Co	59	72	He	0.003	ppb	8.3	107.78	
Ni	60	72	No Gas	0.002	ppb	302.5	410.01	
Cu	63	72	No Gas	-0.009	ppb	N/A	1743.45	
Zn	66	72	No Gas	-0.034	ppb	N/A	1872.37	
As	75	72	No Gas	0.149	ppb	79.9	1219.74	
Se	78	72	He	0.064	ppb	63.6	71.33	
Se	82	72	No Gas	0.051	ppb	302.2	176.12	
Mo	98	89	No Gas	0.158	ppb	61.6	3586.60	
Ag	107	89	No Gas	0.006	ppb	37.3	511.12	
Cd	111	89	No Gas	0.010	ppb	303.6	2649.30	
Sb	123	89	No Gas	0.216	ppb	50.4	5331.17	
Ba	137	115	No Gas	0.002	ppb	164.5	100.00	
Tl	203	115	No Gas	0.018	ppb	8.2	255.56	
Pb	208	115	No Gas	0.017	ppb	10.7	980.02	
Th	232	115	No Gas	0.184	ppb	18.6	6893.02	
U	238	115	No Gas	0.007	ppb	19.7	228.89	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46902048.14	3.0	45483248.19	103.12	60	125	
Sc	45	He	2307206.23	2.1	2200900.54	104.83	60	125	
Ge	72	No Gas	4778963.14	2.8	4513567.18	105.88	60	125	
Ge	72	He	645924.96	0.8	632773.79	102.08	60	125	
Y	89	No Gas	6318451.28	3.1	6405295.44	98.64	60	125	
Y	89	He	926609.13	0.8	911251.11	101.69	60	125	
Rh	103	No Gas	5116386.19	3.0	4964291.47	103.06	60	125	
Rh	103	He	2427771.36	1.9	2314658.72	104.89	60	125	
In	115	No Gas	5025319.94	3.4	4992972.58	100.65	60	125	
Lu	175	No Gas	20721.85	1.9	20565.02	100.76	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW-434955
File Name	017_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:25:45
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	26.7	18.89	
Al	27	72	No Gas	1.457	ppb	4.4	71230.48	
V	51	72	He	-0.020	ppb	N/A	587.79	
Cr	52	72	No Gas	-0.052	ppb	N/A	36981.09	
Mn	55	72	No Gas	0.124	ppb	11.2	19735.86	
Co	59	72	He	0.002	ppb	58.5	84.45	
Ni	60	72	No Gas	0.205	ppb	8.2	3121.46	
Cu	63	72	No Gas	0.041	ppb	15.1	3310.39	
Zn	66	72	No Gas	0.729	ppb	0.9	8182.37	
As	75	72	No Gas	0.040	ppb	271.7	267.68	
Se	78	72	He	0.005	ppb	1348.9	67.67	
Se	82	72	No Gas	-0.017	ppb	N/A	135.58	
Mo	98	89	No Gas	0.071	ppb	63.9	1691.12	
Ag	107	89	No Gas	-0.003	ppb	N/A	227.78	
Cd	111	89	No Gas	0.002	ppb	742.0	2577.08	
Sb	123	89	No Gas	0.067	ppb	65.5	2489.14	
Ba	137	115	No Gas	0.012	ppb	6.6	194.45	
Tl	203	115	No Gas	0.004	ppb	47.3	85.56	
Pb	208	115	No Gas	0.017	ppb	3.6	1021.13	
Th	232	115	No Gas	0.060	ppb	5.3	2982.58	
U	238	115	No Gas	0.002	ppb	48.5	73.33	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46399999.27	2.1	45483248.19	102.02	60	125	
Sc	45	He	2267833.73	1.1	2200900.54	103.04	60	125	
Ge	72	No Gas	4649868.84	2.5	4513567.18	103.02	60	125	
Ge	72	He	660833.92	0.9	632773.79	104.43	60	125	
Y	89	No Gas	6271653.78	3.3	6405295.44	97.91	60	125	
Y	89	He	966235.17	1.2	911251.11	106.03	60	125	
Rh	103	No Gas	4824813.84	4.1	4964291.47	97.19	60	125	
Rh	103	He	2343846.57	5.2	2314658.72	101.26	60	125	
In	115	No Gas	5146375.35	2.9	4992972.58	103.07	60	125	
Lu	175	No Gas	20418.07	1.6	20565.02	99.29	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434955
File Name	018_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:27:42
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	19.315	ppb	6.6	93189.55	96.58	
Al	27	72	No Gas	40.815	ppb	3.9	1583306.43	102.04	
V	51	72	He	20.085	ppb	2.6	166890.13	100.43	
Cr	52	72	No Gas	19.772	ppb	3.5	1088518.81	98.86	
Mn	55	72	No Gas	20.284	ppb	5.5	1487652.02	101.42	
Co	59	72	He	19.934	ppb	0.9	335387.89	99.67	
Ni	60	72	No Gas	19.433	ppb	4.1	263505.56	97.16	
Cu	63	72	No Gas	20.136	ppb	4.4	653935.18	100.68	
Zn	66	72	No Gas	19.791	ppb	4.7	168008.66	98.96	
As	75	72	No Gas	20.341	ppb	3.2	174110.14	101.7	
Se	78	72	He	20.601	ppb	1.3	1916.46	103	
Se	82	72	No Gas	20.358	ppb	4.1	11083.22	101.79	
Mo	98	89	No Gas	19.950	ppb	6.8	435715.19	99.75	
Ag	107	89	No Gas	19.878	ppb	7.5	669140.28	99.39	
Cd	111	89	No Gas	19.577	ppb	8.2	140134.61	97.88	
Sb	123	89	No Gas	20.699	ppb	7.0	401276.66	103.5	
Ba	137	115	No Gas	18.450	ppb	9.4	181343.98	92.25	
Tl	203	115	No Gas	18.860	ppb	8.6	237878.75	94.3	
Pb	208	115	No Gas	18.846	ppb	7.8	749257.20	94.23	
Th	232	115	No Gas	18.889	ppb	8.3	634459.56	94.44	
U	238	115	No Gas	19.195	ppb	6.0	629431.62	95.98	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46621753.70	0.6	45483248.19	102.5	60	125	
Sc	45	He	2223719.63	0.7	2200900.54	101.04	60	125	
Ge	72	No Gas	4673476.48	2.5	4513567.18	103.54	60	125	
Ge	72	He	654557.86	0.9	632773.79	103.44	60	125	
Y	89	No Gas	6463207.66	2.5	6405295.44	100.9	60	125	
Y	89	He	946843.26	2.5	911251.11	103.91	60	125	
Rh	103	No Gas	4981122.72	3.0	4964291.47	100.34	60	125	
Rh	103	He	2370537.47	3.7	2314658.72	102.41	60	125	
In	115	No Gas	5253433.96	3.6	4992972.58	105.22	60	125	
Lu	175	No Gas	20258.95	0.9	20565.02	98.51	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401701-001
File Name	019_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:29:38
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.067	ppb	7.8	312.23
Al	27	72	No Gas	87.488	ppb	7.5	3159177.16
Cr	52	72	No Gas	0.617	ppb	10.4	68067.30
Mn	55	72	No Gas	30.481	ppb	6.5	2088788.74
Ni	60	72	No Gas	2.312	ppb	7.8	29652.24
Cu	63	72	No Gas	9.619	ppb	6.5	293394.35
Zn	66	72	No Gas	8.842	ppb	3.6	71381.80
As	75	72	No Gas	0.388	ppb	96.8	3019.58
Se	82	72	No Gas	0.319	ppb	5.5	297.33
Mo	98	89	No Gas	0.152	ppb	23.5	3357.59
Ag	107	89	No Gas	0.022	ppb	19.5	1022.27
Cd	111	89	No Gas	0.122	ppb	13.3	3338.45
Sb	123	89	No Gas	0.125	ppb	19.0	3503.80
Ba	137	115	No Gas	30.819	ppb	4.5	269067.20
Tl	203	115	No Gas	0.048	ppb	4.9	571.13
Pb	208	115	No Gas	0.162	ppb	6.7	6060.57
Th	232	115	No Gas	0.158	ppb	9.6	5609.03
U	238	115	No Gas	0.027	ppb	13.3	800.03
V	51	72	He	0.333	ppb	4.3	3231.48
Co	59	72	He	0.163	ppb	4.5	2570.24
Se	78	72	He	0.356	ppb	35.7	91.00

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	45100377.10	2.5	45483248.19	99.16	60	125
Sc	45	He	2191311.37	4.2	2200900.54	99.56	60	125
Ge	72	No Gas	4377780.66	1.4	4513567.18	96.99	60	125
Ge	72	He	604044.02	1.4	632773.79	95.46	60	125
Y	89	No Gas	6165846.98	4.6	6405295.44	96.26	60	125
Y	89	He	908546.91	1.7	911251.11	99.7	60	125
Rh	103	No Gas	4510382.32	0.4	4964291.47	90.86	60	125
Rh	103	He	2122951.10	4.2	2314658.72	91.72	60	125
In	115	No Gas	4657666.34	1.3	4992972.58	93.28	60	125
Lu	175	No Gas	20455.91	4.0	20565.02	99.47	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401701-001S
File Name	020_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:31:32
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	019_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	18.542	ppb	5.2	87572.66	0.067	92.4	
Al	27	No Gas	136.243	ppb	10.8	4903662.03	87.488	106.87	
V	51	He	21.262	ppb	1.2	164222.94	0.333	104.57	
Cr	52	No Gas	20.780	ppb	5.0	1067899.26	0.617	100.79	
Mn	55	No Gas	49.923	ppb	5.5	3410282.09	30.481	98.9	
Co	59	He	19.436	ppb	1.2	304005.23	0.163	96.4	
Ni	60	No Gas	21.433	ppb	6.4	271705.13	2.312	96.06	
Cu	63	No Gas	28.291	ppb	5.1	858381.81	9.619	95.52	
Zn	66	No Gas	29.893	ppb	5.4	236269.58	8.842	103.64	
As	75	No Gas	21.219	ppb	4.7	169835.99	0.388	104.08	
Se	78	He	21.411	ppb	1.8	1849.79	0.356	105.18	
Se	82	No Gas	20.352	ppb	5.6	10358.54	0.319	100.16	
Mo	98	No Gas	20.567	ppb	5.9	425415.79	0.152	102.06	
Ag	107	No Gas	18.210	ppb	5.9	580592.56	0.022	90.95	
Cd	111	No Gas	18.804	ppb	6.0	127610.22	0.122	93.45	
Sb	123	No Gas	20.173	ppb	4.3	370499.27	0.125	100.24	
Ba	137	No Gas	48.830	ppb	0.7	433148.01	30.819	96.09	
Tl	203	No Gas	19.269	ppb	0.6	219300.33	0.048	96.11	
Pb	208	No Gas	18.642	ppb	1.3	668797.33	0.162	92.46	
Th	232	No Gas	19.955	ppb	1.9	604942.29	0.158	98.99	
U	238	No Gas	19.979	ppb	1.3	590912.93	0.027	99.76	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45629802.63	1.2	45483248.19	100.32	60	125	
Sc	45	He	2189871.99	1.3	2200900.54	99.5	60	125	
Ge	72	No Gas	4370499.69	1.4	4513567.18	96.83	60	125	
Ge	72	He	608555.17	1.9	632773.79	96.17	60	125	
Y	89	No Gas	6117611.01	1.8	6405295.44	95.51	60	125	
Y	89	He	902955.69	1.7	911251.11	99.09	60	125	
Rh	103	No Gas	4640512.04	0.3	4964291.47	93.48	60	125	
Rh	103	He	2112192.21	1.5	2314658.72	91.25	60	125	
In	115	No Gas	4731549.67	2.9	4992972.58	94.76	60	125	
Lu	175	No Gas	20789.77	0.4	20565.02	101.09	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401701-001SD
File Name	021_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:33:26
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	020_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	17.750	ppb	4.3	83196.80	18.542	4.36	
Al	27	No Gas	129.035	ppb	3.9	4545679.26	136.243	5.43	
V	51	He	20.895	ppb	1.3	160162.41	21.262	1.74	
Cr	52	No Gas	20.826	ppb	3.3	1046365.69	20.78	0.22	
Mn	55	No Gas	49.783	ppb	5.4	3324934.73	49.923	0.28	
Co	59	He	18.839	ppb	0.5	292465.91	19.436	3.12	
Ni	60	No Gas	21.302	ppb	4.7	264091.00	21.433	0.61	
Cu	63	No Gas	28.329	ppb	3.7	840463.21	28.291	0.13	
Zn	66	No Gas	28.143	ppb	5.0	217644.29	29.893	6.03	
As	75	No Gas	21.173	ppb	4.0	165694.03	21.219	0.22	
Se	78	He	21.389	ppb	0.7	1833.79	21.411	0.1	
Se	82	No Gas	20.431	ppb	3.9	10169.44	20.352	0.39	
Mo	98	No Gas	20.835	ppb	7.9	413327.30	20.567	1.29	
Ag	107	No Gas	18.599	ppb	7.8	568894.77	18.21	2.11	
Cd	111	No Gas	19.195	ppb	6.8	124915.33	18.804	2.06	
Sb	123	No Gas	20.497	ppb	6.5	361101.07	20.173	1.59	
Ba	137	No Gas	49.640	ppb	4.0	416867.30	48.83	1.65	
Tl	203	No Gas	19.515	ppb	4.9	210444.43	19.269	1.27	
Pb	208	No Gas	18.928	ppb	5.3	642712.94	18.642	1.52	
Th	232	No Gas	20.297	ppb	4.3	582379.25	19.955	1.7	
U	238	No Gas	20.302	ppb	5.2	568469.84	19.979	1.6	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45270012.65	0.9	45483248.19	99.53	60	125	
Sc	45	He	2123700.82	2.7	2200900.54	96.49	60	125	
Ge	72	No Gas	4273078.30	1.6	4513567.18	94.67	60	125	
Ge	72	He	603961.90	1.4	632773.79	95.45	60	125	
Y	89	No Gas	5873824.21	3.1	6405295.44	91.7	60	125	
Y	89	He	906849.24	2.6	911251.11	99.52	60	125	
Rh	103	No Gas	4411591.07	3.9	4964291.47	88.87	60	125	
Rh	103	He	2015635.61	2.5	2314658.72	87.08	60	125	
In	115	No Gas	4483295.24	4.2	4992972.58	89.79	60	125	
Lu	175	No Gas	19380.94	1.6	20565.02	94.24	60	125	

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401701-001A
File Name	022_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:35:20
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	019_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	19.119	ppb	5.3	88304.00	0.067	95.28	
Al	27	No Gas	130.196	ppb	8.9	4591516.62	87.488	102.12	
V	51	He	21.985	ppb	0.2	171655.42	0.333	108.12	
Cr	52	No Gas	21.577	ppb	7.5	1084633.47	0.617	104.66	
Mn	55	No Gas	49.583	ppb	6.7	3318875.49	30.481	98.22	
Co	59	He	19.633	ppb	1.3	310468.58	0.163	97.37	
Ni	60	No Gas	22.249	ppb	6.4	276267.39	2.312	99.72	
Cu	63	No Gas	29.064	ppb	6.9	863694.58	9.619	98.13	
Zn	66	No Gas	29.969	ppb	7.5	232034.90	8.842	103.91	
As	75	No Gas	22.595	ppb	5.9	177172.99	0.388	110.83	
Se	78	He	22.980	ppb	1.4	2002.14	0.356	112.89	
Se	82	No Gas	21.591	ppb	7.9	10755.90	0.319	106.26	
Mo	98	No Gas	22.098	ppb	6.1	440850.82	0.152	109.66	
Ag	107	No Gas	14.180	ppb	4.9	436127.44	0.022	70.82	> +/- 25%
Cd	111	No Gas	19.727	ppb	4.4	128954.15	0.122	98.04	
Sb	123	No Gas	20.651	ppb	6.3	365500.44	0.125	102.62	
Ba	137	No Gas	47.721	ppb	2.7	403590.59	30.819	93.9	
Tl	203	No Gas	20.295	ppb	3.8	220250.86	0.048	101.23	
Pb	208	No Gas	19.847	ppb	3.0	678900.04	0.162	98.44	
Th	232	No Gas	20.836	ppb	2.1	602221.19	0.158	103.37	
U	238	No Gas	20.991	ppb	4.7	592092.46	0.027	104.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44626601.56	1.2	45483248.19	98.12	60	125	
Sc	45	He	2235023.31	1.9	2200900.54	101.55	60	125	
Ge	72	No Gas	4282908.72	1.5	4513567.18	94.89	60	125	
Ge	72	He	615259.02	1.2	632773.79	97.23	60	125	
Y	89	No Gas	5898880.46	2.9	6405295.44	92.09	60	125	
Y	89	He	907194.89	1.6	911251.11	99.55	60	125	
Rh	103	No Gas	4402345.38	1.3	4964291.47	88.68	60	125	
Rh	103	He	2068349.64	3.9	2314658.72	89.36	60	125	
In	115	No Gas	4512090.10	3.0	4992972.58	90.37	60	125	
Lu	175	No Gas	18757.85	3.5	20565.02	91.21	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-001L 5X
File Name	023SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:37:14
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.017	ppb	12.3	85.56	
Al	27	72	No Gas	18.603	ppb	3.3	734417.87	
V	51	72	He	0.068	ppb	8.5	1306.73	
Cr	52	72	No Gas	0.148	ppb	19.9	48133.02	
Mn	55	72	No Gas	5.952	ppb	5.8	446893.59	
Co	59	72	He	0.033	ppb	4.7	607.79	
Ni	60	72	No Gas	0.522	ppb	6.1	7476.44	
Cu	63	72	No Gas	1.806	ppb	5.9	60845.88	
Zn	66	72	No Gas	2.004	ppb	4.7	19017.23	
As	75	72	No Gas	0.017	ppb	530.1	84.57	
Se	78	72	He	0.010	ppb	1220.1	67.33	
Se	82	72	No Gas	0.029	ppb	552.5	162.33	
Mo	98	89	No Gas	0.065	ppb	55.6	1559.56	
Ag	107	89	No Gas	0.005	ppb	40.2	487.79	
Cd	111	89	No Gas	0.045	ppb	16.3	2867.77	
Sb	123	89	No Gas	0.129	ppb	51.4	3624.97	
Ba	137	115	No Gas	6.216	ppb	3.3	58134.39	
Tl	203	115	No Gas	0.012	ppb	3.4	177.78	
Pb	208	115	No Gas	0.032	ppb	6.1	1565.60	
Th	232	115	No Gas	0.164	ppb	19.6	6162.63	
U	238	115	No Gas	0.007	ppb	12.7	232.23	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48067328.09	2.5	45483248.19	105.68	60	125	
Sc	45	He	2299842.20	2.0	2200900.54	104.5	60	125	
Ge	72	No Gas	4702698.01	3.2	4513567.18	104.19	60	125	
Ge	72	He	653554.85	1.5	632773.79	103.28	60	125	
Y	89	No Gas	6258638.08	2.8	6405295.44	97.71	60	125	
Y	89	He	982863.67	2.7	911251.11	107.86	60	125	
Rh	103	No Gas	4736340.78	1.1	4964291.47	95.41	60	125	
Rh	103	He	2291969.14	4.2	2314658.72	99.02	60	125	
In	115	No Gas	4986695.36	4.9	4992972.58	99.87	60	125	
Lu	175	No Gas	21092.46	4.7	20565.02	102.56	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-002
File Name	024SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:39:10
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.042	ppb	8.4	203.34	
Al	27	72	No Gas	38.685	ppb	16.2	1458927.89	
V	51	72	He	0.124	ppb	0.9	1796.79	
Cr	52	72	No Gas	7.528	ppb	8.2	427267.48	
Mn	55	72	No Gas	8.158	ppb	7.5	588694.33	
Co	59	72	He	0.145	ppb	1.3	2518.01	
Ni	60	72	No Gas	1.800	ppb	7.6	24078.35	
Cu	63	72	No Gas	3.926	ppb	6.6	125633.87	
Zn	66	72	No Gas	32.123	ppb	8.3	263986.68	
As	75	72	No Gas	0.232	ppb	67.2	1878.15	
Se	78	72	He	0.469	ppb	18.8	110.00	
Se	82	72	No Gas	0.664	ppb	25.2	488.78	
Mo	98	89	No Gas	0.060	ppb	35.7	1508.68	
Ag	107	89	No Gas	0.184	ppb	4.0	6531.57	
Cd	111	89	No Gas	59.660	ppb	3.8	422947.26	
Sb	123	89	No Gas	0.056	ppb	58.8	2350.22	
Ba	137	115	No Gas	109.785	ppb	3.7	1030455.31	>LDR
Tl	203	115	No Gas	0.062	ppb	6.8	784.47	
Pb	208	115	No Gas	0.025	ppb	2.1	1294.48	
Th	232	115	No Gas	0.083	ppb	4.8	3639.41	
U	238	115	No Gas	0.019	ppb	11.2	607.79	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46173714.83	4.1	45483248.19	101.52	60	125	
Sc	45	He	2321282.89	2.0	2200900.54	105.47	60	125	
Ge	72	No Gas	4550363.99	1.6	4513567.18	100.82	60	125	
Ge	72	He	663166.82	1.8	632773.79	104.8	60	125	
Y	89	No Gas	6471372.80	2.2	6405295.44	101.03	60	125	
Y	89	He	995534.68	2.7	911251.11	109.25	60	125	
Rh	103	No Gas	4715371.89	1.1	4964291.47	94.99	60	125	
Rh	103	He	2302472.13	3.1	2314658.72	99.47	60	125	
In	115	No Gas	5007156.33	1.9	4992972.58	100.28	60	125	
Lu	175	No Gas	21382.87	2.7	20565.02	103.98	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-003
File Name	025SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:41:05
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	11.9	17.78	
Al	27	72	No Gas	1.915	ppb	4.7	94322.54	
V	51	72	He	-0.008	ppb	N/A	720.02	
Cr	52	72	No Gas	0.192	ppb	16.9	53018.15	
Mn	55	72	No Gas	0.115	ppb	7.6	20230.99	
Co	59	72	He	0.003	ppb	20.8	116.67	
Ni	60	72	No Gas	0.133	ppb	6.4	2290.19	
Cu	63	72	No Gas	0.211	ppb	3.0	9335.31	
Zn	66	72	No Gas	2.297	ppb	6.0	22585.85	
As	75	72	No Gas	-0.077	ppb	N/A	-779.38	
Se	78	72	He	0.015	ppb	1097.2	72.33	
Se	82	72	No Gas	-0.046	ppb	N/A	128.55	
Mo	98	89	No Gas	0.015	ppb	83.5	536.64	
Ag	107	89	No Gas	-0.005	ppb	N/A	171.11	
Cd	111	89	No Gas	0.044	ppb	66.6	3091.14	
Sb	123	89	No Gas	0.026	ppb	93.0	1845.69	
Ba	137	115	No Gas	0.058	ppb	12.8	677.79	
Tl	203	115	No Gas	0.001	ppb	28.6	44.45	
Pb	208	115	No Gas	0.033	ppb	11.0	1713.38	
Th	232	115	No Gas	0.043	ppb	8.6	2561.37	
U	238	115	No Gas	0.001	ppb	20.2	52.22	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	49599804.70	1.0	45483248.19	109.05	60	125	
Sc	45	He	2461986.57	1.0	2200900.54	111.86	60	125	
Ge	72	No Gas	4944314.52	3.1	4513567.18	109.54	60	125	
Ge	72	He	697279.87	1.4	632773.79	110.19	60	125	
Y	89	No Gas	6771658.34	3.2	6405295.44	105.72	60	125	
Y	89	He	1051490.69	2.7	911251.11	115.39	60	125	
Rh	103	No Gas	5286819.09	5.2	4964291.47	106.5	60	125	
Rh	103	He	2600320.59	0.8	2314658.72	112.34	60	125	
In	115	No Gas	5416586.17	3.6	4992972.58	108.48	60	125	
Lu	175	No Gas	22394.59	3.1	20565.02	108.9	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-004
File Name	026SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:43:01
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.139	ppb	7.5	702.24	
Al	27	72	No Gas	588.539	ppb	6.4	23500956.29	>LDR
V	51	72	He	0.409	ppb	4.6	4424.03	
Cr	52	72	No Gas	1.064	ppb	10.7	100176.43	
Mn	55	72	No Gas	29.940	ppb	6.1	2277374.35	
Co	59	72	He	0.668	ppb	1.7	12085.16	
Ni	60	72	No Gas	1.359	ppb	7.1	19502.38	
Cu	63	72	No Gas	1.912	ppb	9.3	66377.38	
Zn	66	72	No Gas	14.581	ppb	5.9	129193.76	
As	75	72	No Gas	1.797	ppb	6.3	15924.89	
Se	78	72	He	0.428	ppb	17.8	112.33	
Se	82	72	No Gas	0.371	ppb	62.0	357.70	
Mo	98	89	No Gas	0.107	ppb	12.1	2756.15	
Ag	107	89	No Gas	0.004	ppb	99.2	483.35	
Cd	111	89	No Gas	0.068	ppb	9.1	3399.38	
Sb	123	89	No Gas	0.100	ppb	14.4	3467.12	
Ba	137	115	No Gas	8.847	ppb	4.5	89022.84	
Tl	203	115	No Gas	0.025	ppb	6.4	363.34	
Pb	208	115	No Gas	0.536	ppb	2.9	22155.23	
Th	232	115	No Gas	0.078	ppb	10.8	3730.57	
U	238	115	No Gas	0.179	ppb	5.1	6022.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48744389.17	1.4	45483248.19	107.17	60	125	
Sc	45	He	2395561.43	4.7	2200900.54	108.84	60	125	
Ge	72	No Gas	4859763.42	1.8	4513567.18	107.67	60	125	
Ge	72	He	700874.26	1.4	632773.79	110.76	60	125	
Y	89	No Gas	7042597.91	2.0	6405295.44	109.95	60	125	
Y	89	He	1063644.54	0.8	911251.11	116.72	60	125	
Rh	103	No Gas	5290599.24	3.8	4964291.47	106.57	60	125	
Rh	103	He	2474021.01	1.8	2314658.72	106.88	60	125	
In	115	No Gas	5361721.18	1.8	4992972.58	107.39	60	125	
Lu	175	No Gas	25056.01	1.1	20565.02	121.84	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	027_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:44:53
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	44.469	ppb	9.2	223709.55	88.94	> +/- 10%
Al	27	72	No Gas	48.406	ppb	5.6	1966380.82	96.81	
V	51	72	He	48.594	ppb	1.6	423397.94	97.19	
Cr	52	72	No Gas	47.665	ppb	3.5	2692704.48	95.33	
Mn	55	72	No Gas	48.595	ppb	4.5	3724160.62	97.19	
Co	59	72	He	47.548	ppb	1.4	841021.41	95.1	
Ni	60	72	No Gas	47.451	ppb	3.9	674210.83	94.9	
Cu	63	72	No Gas	47.047	ppb	1.7	1598385.98	94.09	
Zn	66	72	No Gas	47.756	ppb	3.1	421937.97	95.51	
As	75	72	No Gas	49.272	ppb	3.9	442409.06	98.54	
Se	78	72	He	52.381	ppb	1.3	5015.23	104.76	
Se	82	72	No Gas	49.964	ppb	3.4	28297.28	99.93	
Mo	98	89	No Gas	47.612	ppb	4.9	1115414.89	95.22	
Ag	107	89	No Gas	46.954	ppb	7.7	1695509.65	93.91	
Cd	111	89	No Gas	48.165	ppb	6.3	365790.55	96.33	
Sb	123	89	No Gas	48.491	ppb	5.6	1006706.52	96.98	
Ba	137	115	No Gas	46.819	ppb	1.9	493373.56	93.64	
Tl	203	115	No Gas	47.750	ppb	4.3	645639.18	95.5	
Pb	208	115	No Gas	47.246	ppb	5.5	2012827.62	94.49	
Th	232	115	No Gas	47.823	ppb	5.7	1720551.77	95.65	
U	238	115	No Gas	47.214	ppb	4.8	1658640.56	94.43	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48664149.18	3.6	45483248.19	106.99	60	125	
Sc	45	He	2398821.36	1.2	2200900.54	108.99	60	125	
Ge	72	No Gas	4897834.66	3.2	4513567.18	108.51	60	125	
Ge	72	He	688119.94	1.6	632773.79	108.75	60	125	
Y	89	No Gas	6927260.97	0.6	6405295.44	108.15	60	125	
Y	89	He	1019150.51	1.4	911251.11	111.84	60	125	
Rh	103	No Gas	5417791.73	3.0	4964291.47	109.14	60	125	
Rh	103	He	2541162.40	3.7	2314658.72	109.79	60	125	
In	115	No Gas	5621434.64	0.4	4992972.58	112.59	60	125	
Lu	175	No Gas	23138.10	1.6	20565.02	112.51	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	028_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:46:44
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	32.2	34.44	
Al	27	72	No Gas	0.094	ppb	48.3	20531.42	
V	51	72	He	0.004	ppb	143.0	843.36	
Cr	52	72	No Gas	-0.029	ppb	N/A	40957.45	
Mn	55	72	No Gas	-0.018	ppb	N/A	10121.38	
Co	59	72	He	0.002	ppb	47.5	101.11	
Ni	60	72	No Gas	0.007	ppb	41.2	497.79	
Cu	63	72	No Gas	-0.003	ppb	N/A	2029.04	
Zn	66	72	No Gas	-0.007	ppb	N/A	2187.99	
As	75	72	No Gas	0.071	ppb	164.3	592.60	
Se	78	72	He	0.069	ppb	149.9	79.00	
Se	82	72	No Gas	-0.063	ppb	N/A	119.19	
Mo	98	89	No Gas	0.059	ppb	61.2	1590.31	
Ag	107	89	No Gas	0.007	ppb	26.1	581.13	
Cd	111	89	No Gas	0.015	ppb	87.3	2937.24	
Sb	123	89	No Gas	0.189	ppb	54.3	5282.28	
Ba	137	115	No Gas	0.003	ppb	108.7	121.11	
Tl	203	115	No Gas	0.016	ppb	8.3	245.56	
Pb	208	115	No Gas	0.011	ppb	13.0	841.13	
Th	232	115	No Gas	0.249	ppb	21.6	9593.73	
U	238	115	No Gas	0.006	ppb	10.9	231.11	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	49606828.03	1.8	45483248.19	109.07	60	125	
Sc	45	He	2441813.44	2.8	2200900.54	110.95	60	125	
Ge	72	No Gas	4978193.83	2.4	4513567.18	110.29	60	125	
Ge	72	He	710736.36	0.7	632773.79	112.32	60	125	
Y	89	No Gas	6909224.17	2.6	6405295.44	107.87	60	125	
Y	89	He	1071892.01	1.7	911251.11	117.63	60	125	
Rh	103	No Gas	5456537.01	0.2	4964291.47	109.92	60	125	
Rh	103	He	2660940.52	3.2	2314658.72	114.96	60	125	
In	115	No Gas	5387257.29	3.0	4992972.58	107.9	60	125	
Lu	175	No Gas	23508.75	4.5	20565.02	114.31	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-005
File Name	029SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:48:40
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.025	ppb	21.4	128.89	
Al	27	72	No Gas	144.882	ppb	9.3	6084994.20	>LDR
V	51	72	He	0.481	ppb	1.0	5266.54	
Cr	52	72	No Gas	0.289	ppb	12.4	60426.42	
Mn	55	72	No Gas	66.251	ppb	5.8	5281474.23	
Co	59	72	He	0.635	ppb	4.1	11961.72	
Ni	60	72	No Gas	0.487	ppb	7.3	7607.63	
Cu	63	72	No Gas	2.749	ppb	4.9	99341.31	
Zn	66	72	No Gas	10.820	ppb	5.1	101297.76	
As	75	72	No Gas	1.582	ppb	10.1	14731.87	
Se	78	72	He	0.870	ppb	20.8	161.00	
Se	82	72	No Gas	0.651	ppb	20.1	542.13	
Mo	98	89	No Gas	0.166	ppb	13.4	4305.42	
Ag	107	89	No Gas	0.015	ppb	8.1	935.59	
Cd	111	89	No Gas	0.092	ppb	13.8	3707.13	
Sb	123	89	No Gas	0.132	ppb	36.4	4281.82	
Ba	137	115	No Gas	3.327	ppb	4.3	35774.21	
Tl	203	115	No Gas	0.028	ppb	4.5	425.56	
Pb	208	115	No Gas	0.754	ppb	5.1	33085.57	
Th	232	115	No Gas	0.124	ppb	12.0	5653.50	
U	238	115	No Gas	0.154	ppb	4.8	5539.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	49644355.81	3.2	45483248.19	109.15	60	125	
Sc	45	He	2485758.31	1.8	2200900.54	112.94	60	125	
Ge	72	No Gas	5103880.49	2.4	4513567.18	113.08	60	125	
Ge	72	He	730169.31	3.9	632773.79	115.39	60	125	
Y	89	No Gas	7286921.38	3.9	6405295.44	113.76	60	125	
Y	89	He	1104538.50	4.2	911251.11	121.21	60	125	
Rh	103	No Gas	5654579.50	4.6	4964291.47	113.91	60	125	
Rh	103	He	2682429.20	3.2	2314658.72	115.89	60	125	
In	115	No Gas	5722830.61	1.6	4992972.58	114.62	60	125	
Lu	175	No Gas	24677.53	1.0	20565.02	120	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-006
File Name	030SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:50:33
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.136	ppb	3.0	696.69	
Al	27	72	No Gas	534.034	ppb	6.3	21965762.46	>LDR
V	51	72	He	0.373	ppb	3.8	4226.19	
Cr	52	72	No Gas	0.991	ppb	12.1	99040.26	
Mn	55	72	No Gas	30.369	ppb	7.0	2378897.68	
Co	59	72	He	0.729	ppb	4.0	13586.49	
Ni	60	72	No Gas	1.382	ppb	6.6	20419.26	
Cu	63	72	No Gas	1.806	ppb	7.6	64696.56	
Zn	66	72	No Gas	13.880	ppb	6.1	126756.21	
As	75	72	No Gas	1.433	ppb	16.0	13065.23	
Se	78	72	He	0.488	ppb	17.7	121.67	
Se	82	72	No Gas	0.251	ppb	46.7	300.60	
Mo	98	89	No Gas	0.115	ppb	11.3	2954.60	
Ag	107	89	No Gas	0.001	ppb	64.4	402.23	
Cd	111	89	No Gas	0.057	ppb	47.2	3335.68	
Sb	123	89	No Gas	0.095	ppb	33.7	3397.11	
Ba	137	115	No Gas	8.970	ppb	3.0	96321.48	
Tl	203	115	No Gas	0.028	ppb	18.2	424.45	
Pb	208	115	No Gas	0.499	ppb	4.1	22028.54	
Th	232	115	No Gas	0.093	ppb	6.7	4511.92	
U	238	115	No Gas	0.181	ppb	10.3	6481.68	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	49475170.26	3.2	45483248.19	108.78	60	125	
Sc	45	He	2455509.21	2.3	2200900.54	111.57	60	125	
Ge	72	No Gas	5002757.58	1.5	4513567.18	110.84	60	125	
Ge	72	He	721950.34	1.9	632773.79	114.09	60	125	
Y	89	No Gas	7099754.58	5.8	6405295.44	110.84	60	125	
Y	89	He	1151855.93	2.5	911251.11	126.4	60	125	ISTD Failed
Rh	103	No Gas	5519086.17	4.3	4964291.47	111.18	60	125	
Rh	103	He	2576088.02	2.9	2314658.72	111.29	60	125	
In	115	No Gas	5725074.36	1.6	4992972.58	114.66	60	125	
Lu	175	No Gas	26304.05	2.3	20565.02	127.91	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-007
File Name	031SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:52:28
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.058	ppb	7.7	296.67	
Al	27	72	No Gas	345.579	ppb	7.5	14174745.55	>LDR
V	51	72	He	0.527	ppb	3.1	5732.27	
Cr	52	72	No Gas	0.996	ppb	10.7	99048.32	
Mn	55	72	No Gas	67.572	ppb	7.0	5263465.62	
Co	59	72	He	5.518	ppb	3.6	104123.57	
Ni	60	72	No Gas	0.492	ppb	6.1	7499.78	
Cu	63	72	No Gas	4.313	ppb	6.4	151114.59	
Zn	66	72	No Gas	5.555	ppb	4.9	51941.84	
As	75	72	No Gas	2.304	ppb	5.5	20988.43	
Se	78	72	He	2.233	ppb	5.7	299.67	
Se	82	72	No Gas	1.840	ppb	10.2	1210.85	
Mo	98	89	No Gas	0.082	ppb	5.4	2242.40	
Ag	107	89	No Gas	0.188	ppb	2.6	7473.18	
Cd	111	89	No Gas	0.216	ppb	18.6	4673.33	
Sb	123	89	No Gas	0.060	ppb	20.1	2729.17	
Ba	137	115	No Gas	14.079	ppb	5.2	152880.00	
Tl	203	115	No Gas	0.044	ppb	5.5	647.79	
Pb	208	115	No Gas	1.050	ppb	3.2	46483.05	
Th	232	115	No Gas	0.084	ppb	7.2	4228.49	
U	238	115	No Gas	0.242	ppb	4.1	8780.84	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	49104102.49	1.9	45483248.19	107.96	60	125	
Sc	45	He	2470707.82	1.7	2200900.54	112.26	60	125	
Ge	72	No Gas	4988539.11	0.8	4513567.18	110.52	60	125	
Ge	72	He	734232.07	2.2	632773.79	116.03	60	125	
Y	89	No Gas	7279170.41	6.8	6405295.44	113.64	60	125	
Y	89	He	1155248.39	2.0	911251.11	126.78	60	125	ISTD Failed
Rh	103	No Gas	5302450.07	3.5	4964291.47	106.81	60	125	
Rh	103	He	2656737.05	3.6	2314658.72	114.78	60	125	
In	115	No Gas	5791157.96	1.0	4992972.58	115.99	60	125	
Lu	175	No Gas	29896.12	1.7	20565.02	145.37	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-008
File Name	032SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:54:22
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	58.3	33.33	
Al	27	72	No Gas	44.652	ppb	12.2	1832692.77	
V	51	72	He	0.301	ppb	10.4	3453.76	
Cr	52	72	No Gas	3.564	ppb	2.7	243569.89	
Mn	55	72	No Gas	1559.101	ppb	2.5	120912208.53	>LDR
Co	59	72	He	0.859	ppb	2.2	15518.47	
Ni	60	72	No Gas	2.236	ppb	2.9	32611.00	
Cu	63	72	No Gas	4.312	ppb	3.7	150659.63	
Zn	66	72	No Gas	6.475	ppb	2.4	60015.09	
As	75	72	No Gas	1.720	ppb	6.2	15625.85	
Se	78	72	He	0.300	ppb	42.3	100.00	
Se	82	72	No Gas	0.719	ppb	16.7	564.51	
Mo	98	89	No Gas	0.286	ppb	2.1	6732.44	
Ag	107	89	No Gas	0.012	ppb	5.2	763.36	
Cd	111	89	No Gas	0.166	ppb	14.1	3969.44	
Sb	123	89	No Gas	0.073	ppb	12.1	2773.63	
Ba	137	115	No Gas	138.907	ppb	5.8	1414373.10	>LDR
Tl	203	115	No Gas	0.291	ppb	5.8	3831.69	
Pb	208	115	No Gas	0.334	ppb	5.1	14124.18	
Th	232	115	No Gas	0.040	ppb	6.1	2464.68	
U	238	115	No Gas	0.016	ppb	11.8	570.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47783588.10	3.3	45483248.19	105.06	60	125	
Sc	45	He	2385591.29	2.5	2200900.54	108.39	60	125	
Ge	72	No Gas	4975472.72	6.3	4513567.18	110.23	60	125	
Ge	72	He	699799.96	2.3	632773.79	110.59	60	125	
Y	89	No Gas	6744847.23	4.4	6405295.44	105.3	60	125	
Y	89	He	1059578.33	0.9	911251.11	116.28	60	125	
Rh	103	No Gas	5193825.49	5.2	4964291.47	104.62	60	125	
Rh	103	He	2490031.64	2.7	2314658.72	107.58	60	125	
In	115	No Gas	5430850.06	1.1	4992972.58	108.77	60	125	
Lu	175	No Gas	23982.98	3.7	20565.02	116.62	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-009
File Name	033SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:56:16
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	6.9	27.78	
Al	27	72	No Gas	71.624	ppb	36.0	2900868.22	
V	51	72	He	0.249	ppb	2.3	3031.44	
Cr	52	72	No Gas	14.415	ppb	3.5	848575.28	
Mn	55	72	No Gas	6.866	ppb	3.2	538945.06	
Co	59	72	He	0.198	ppb	0.5	3647.14	
Ni	60	72	No Gas	1.603	ppb	5.2	23296.09	
Cu	63	72	No Gas	3.038	ppb	4.4	105854.46	
Zn	66	72	No Gas	37.327	ppb	3.4	332275.02	
As	75	72	No Gas	0.315	ppb	17.3	2779.77	
Se	78	72	He	0.562	ppb	45.0	126.00	
Se	82	72	No Gas	0.633	ppb	29.1	514.06	
Mo	98	89	No Gas	0.173	ppb	10.4	4238.70	
Ag	107	89	No Gas	-0.001	ppb	N/A	323.34	
Cd	111	89	No Gas	61.450	ppb	6.5	464797.41	
Sb	123	89	No Gas	0.079	ppb	30.8	2970.34	
Ba	137	115	No Gas	73.067	ppb	4.6	715184.38	
Tl	203	115	No Gas	0.028	ppb	10.3	383.34	
Pb	208	115	No Gas	0.353	ppb	4.1	14333.12	
Th	232	115	No Gas	0.033	ppb	3.0	2114.63	
U	238	115	No Gas	0.015	ppb	8.7	500.01	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48651153.62	0.5	45483248.19	106.96	60	125	
Sc	45	He	2429260.94	3.9	2200900.54	110.38	60	125	
Ge	72	No Gas	4928453.55	2.3	4513567.18	109.19	60	125	
Ge	72	He	707054.03	2.8	632773.79	111.74	60	125	
Y	89	No Gas	6914416.12	3.2	6405295.44	107.95	60	125	
Y	89	He	1057516.31	2.8	911251.11	116.05	60	125	
Rh	103	No Gas	5217246.32	1.9	4964291.47	105.1	60	125	
Rh	103	He	2496056.43	3.4	2314658.72	107.84	60	125	
In	115	No Gas	5221781.18	1.6	4992972.58	104.58	60	125	
Lu	175	No Gas	24035.22	1.4	20565.02	116.87	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401701-010
File Name	034SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 09:58:11
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.094	ppb	19.9	476.68	
Al	27	72	No Gas	82.436	ppb	4.8	3323938.55	
V	51	72	He	0.470	ppb	4.8	5085.36	
Cr	52	72	No Gas	1.685	ppb	4.7	135257.85	
Mn	55	72	No Gas	446.855	ppb	3.2	34070090.87	>LDR
Co	59	72	He	11.401	ppb	1.1	210503.42	
Ni	60	72	No Gas	7.907	ppb	3.5	112361.35	
Cu	63	72	No Gas	9.682	ppb	4.0	329933.74	
Zn	66	72	No Gas	54.040	ppb	3.1	475947.48	
As	75	72	No Gas	1.000	ppb	15.3	8854.07	
Se	78	72	He	1.817	ppb	2.2	252.00	
Se	82	72	No Gas	2.092	ppb	6.1	1329.59	
Mo	98	89	No Gas	0.142	ppb	8.5	3649.28	
Ag	107	89	No Gas	0.041	ppb	12.3	1896.80	
Cd	111	89	No Gas	0.696	ppb	4.9	8350.79	
Sb	123	89	No Gas	0.082	ppb	3.3	3138.14	
Ba	137	115	No Gas	81.448	ppb	1.5	845019.13	
Tl	203	115	No Gas	0.763	ppb	4.2	10189.59	
Pb	208	115	No Gas	0.204	ppb	1.9	8926.77	
Th	232	115	No Gas	0.049	ppb	6.0	2821.43	
U	238	115	No Gas	0.114	ppb	1.4	3949.51	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48670274.73	0.6	45483248.19	107.01	60	125	
Sc	45	He	2372467.13	2.5	2200900.54	107.8	60	125	
Ge	72	No Gas	4888592.72	4.1	4513567.18	108.31	60	125	
Ge	72	He	718203.62	0.6	632773.79	113.5	60	125	
Y	89	No Gas	7159031.66	2.7	6405295.44	111.77	60	125	
Y	89	He	1136315.82	1.2	911251.11	124.7	60	125	
Rh	103	No Gas	5175487.16	1.1	4964291.47	104.25	60	125	
Rh	103	He	2494071.57	2.3	2314658.72	107.75	60	125	
In	115	No Gas	5533367.70	3.1	4992972.58	110.82	60	125	
Lu	175	No Gas	26272.81	2.0	20565.02	127.75	60	125	ISTD Failed

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401721-001
File Name	035SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:00:04
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	10.0	21.11	
Al	27	72	No Gas	4.669	ppb	1.9	197272.36	
V	51	72	He	2.031	ppb	2.3	17521.85	
Cr	52	72	No Gas	0.704	ppb	4.0	78258.37	
Mn	55	72	No Gas	0.210	ppb	18.9	26317.71	
Co	59	72	He	0.089	ppb	6.3	1546.75	
Ni	60	72	No Gas	0.958	ppb	2.8	13507.61	
Cu	63	72	No Gas	2.258	ppb	4.5	76017.66	
Zn	66	72	No Gas	6.901	ppb	2.1	60672.44	
As	75	72	No Gas	0.538	ppb	28.4	4607.05	
Se	78	72	He	1.829	ppb	15.0	230.33	
Se	82	72	No Gas	2.501	ppb	5.0	1507.94	
Mo	98	89	No Gas	5.999	ppb	6.1	137279.74	
Ag	107	89	No Gas	-0.001	ppb	N/A	310.00	
Cd	111	89	No Gas	0.003	ppb	121.2	2787.05	
Sb	123	89	No Gas	0.057	ppb	27.9	2450.23	
Ba	137	115	No Gas	22.296	ppb	1.4	214589.16	
Tl	203	115	No Gas	0.003	ppb	35.6	65.55	
Pb	208	115	No Gas	0.020	ppb	11.1	1153.36	
Th	232	115	No Gas	0.073	ppb	11.3	3396.02	
U	238	115	No Gas	8.010	ppb	3.1	256799.73	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48377790.30	1.2	45483248.19	106.36	60	125	
Sc	45	He	2313895.33	2.4	2200900.54	105.13	60	125	
Ge	72	No Gas	4728487.31	2.2	4513567.18	104.76	60	125	
Ge	72	He	653824.54	1.7	632773.79	103.33	60	125	
Y	89	No Gas	6761714.04	1.3	6405295.44	105.56	60	125	
Y	89	He	975594.82	0.2	911251.11	107.06	60	125	
Rh	103	No Gas	4818479.67	2.8	4964291.47	97.06	60	125	
Rh	103	He	2299093.24	1.2	2314658.72	99.33	60	125	
In	115	No Gas	5132378.55	3.3	4992972.58	102.79	60	125	
Lu	175	No Gas	21889.35	0.5	20565.02	106.44	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401721-006
File Name	036SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:02:02
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	40.1	21.11	
Al	27	72	No Gas	2.000	ppb	2.6	86735.54	
V	51	72	He	1.609	ppb	4.0	13358.47	
Cr	52	72	No Gas	28.541	ppb	5.5	1457960.08	
Mn	55	72	No Gas	0.067	ppb	15.3	14649.75	
Co	59	72	He	0.108	ppb	7.9	1770.12	
Ni	60	72	No Gas	2.922	ppb	3.2	37467.45	
Cu	63	72	No Gas	2.316	ppb	4.2	72222.47	
Zn	66	72	No Gas	38.655	ppb	3.3	305937.90	
As	75	72	No Gas	1.109	ppb	12.3	8860.49	
Se	78	72	He	4.909	ppb	4.6	482.01	
Se	82	72	No Gas	6.332	ppb	6.0	3329.63	
Mo	98	89	No Gas	10.688	ppb	2.0	219115.60	
Ag	107	89	No Gas	0.003	ppb	26.5	406.67	
Cd	111	89	No Gas	0.032	ppb	39.4	2688.57	
Sb	123	89	No Gas	0.697	ppb	5.5	13827.10	
Ba	137	115	No Gas	27.412	ppb	1.9	240784.90	
Tl	203	115	No Gas	0.004	ppb	43.1	77.78	
Pb	208	115	No Gas	0.029	ppb	2.2	1365.59	
Th	232	115	No Gas	0.063	ppb	17.5	2832.55	
U	238	115	No Gas	6.521	ppb	3.2	190743.96	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44008979.36	2.2	45483248.19	96.76	60	125	
Sc	45	He	2188369.01	2.0	2200900.54	99.43	60	125	
Ge	72	No Gas	4382144.13	3.0	4513567.18	97.09	60	125	
Ge	72	He	622157.92	2.2	632773.79	98.32	60	125	
Y	89	No Gas	6057139.62	4.4	6405295.44	94.56	60	125	
Y	89	He	908961.43	2.1	911251.11	99.75	60	125	
Rh	103	No Gas	4472173.57	4.1	4964291.47	90.09	60	125	
Rh	103	He	2050994.64	4.1	2314658.72	88.61	60	125	
In	115	No Gas	4687182.32	7.5	4992972.58	93.88	60	125	
Lu	175	No Gas	19084.96	4.8	20565.02	92.8	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401721-007
File Name	037SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:03:58
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	44.8	25.56	
Al	27	72	No Gas	2.197	ppb	0.9	94785.96	
V	51	72	He	1.660	ppb	1.6	13267.26	
Cr	52	72	No Gas	28.928	ppb	3.5	1491992.58	
Mn	55	72	No Gas	0.073	ppb	14.7	15233.69	
Co	59	72	He	0.113	ppb	9.1	1790.12	
Ni	60	72	No Gas	2.877	ppb	4.1	37283.70	
Cu	63	72	No Gas	2.436	ppb	3.4	76649.22	
Zn	66	72	No Gas	38.476	ppb	3.2	307663.64	
As	75	72	No Gas	1.392	ppb	7.8	11234.92	
Se	78	72	He	5.327	ppb	1.4	499.34	
Se	82	72	No Gas	6.519	ppb	3.3	3457.77	
Mo	98	89	No Gas	10.783	ppb	3.1	225830.73	
Ag	107	89	No Gas	0.004	ppb	14.0	444.45	
Cd	111	89	No Gas	0.022	ppb	13.1	2676.66	
Sb	123	89	No Gas	0.684	ppb	1.5	13867.13	
Ba	137	115	No Gas	27.817	ppb	2.9	242852.87	
Tl	203	115	No Gas	0.003	ppb	60.1	64.44	
Pb	208	115	No Gas	0.129	ppb	0.3	4875.92	
Th	232	115	No Gas	0.052	ppb	23.7	2473.58	
U	238	115	No Gas	6.838	ppb	3.1	199018.08	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45121031.54	3.0	45483248.19	99.2	60	125	
Sc	45	He	2137700.19	4.1	2200900.54	97.13	60	125	
Ge	72	No Gas	4426858.85	3.4	4513567.18	98.08	60	125	
Ge	72	He	599755.79	0.7	632773.79	94.78	60	125	
Y	89	No Gas	6183371.84	4.4	6405295.44	96.54	60	125	
Y	89	He	884354.89	1.3	911251.11	97.05	60	125	
Rh	103	No Gas	4481444.82	2.5	4964291.47	90.27	60	125	
Rh	103	He	2053988.32	5.5	2314658.72	88.74	60	125	
In	115	No Gas	4653125.51	4.0	4992972.58	93.19	60	125	
Lu	175	No Gas	19777.08	2.1	20565.02	96.17	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	038_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:05:52
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	49.790	ppb	9.2	228566.70	99.58	
Al	27	72	No Gas	49.877	ppb	5.1	1826815.48	99.75	
V	51	72	He	49.331	ppb	0.7	397226.37	98.66	
Cr	52	72	No Gas	49.705	ppb	5.1	2531608.09	99.41	
Mn	55	72	No Gas	49.876	ppb	4.0	3446283.41	99.75	
Co	59	72	He	48.763	ppb	1.6	796934.07	97.53	
Ni	60	72	No Gas	49.443	ppb	4.3	633572.46	98.89	
Cu	63	72	No Gas	48.160	ppb	2.6	1476226.96	96.32	
Zn	66	72	No Gas	48.496	ppb	3.8	386470.79	96.99	
As	75	72	No Gas	50.401	ppb	3.2	408062.16	100.8	
Se	78	72	He	52.105	ppb	1.4	4610.09	104.21	
Se	82	72	No Gas	49.898	ppb	2.9	25483.49	99.8	
Mo	98	89	No Gas	50.604	ppb	4.5	1031138.39	101.21	
Ag	107	89	No Gas	51.508	ppb	4.6	1618396.98	103.02	
Cd	111	89	No Gas	48.665	ppb	3.2	321467.64	97.33	
Sb	123	89	No Gas	49.233	ppb	3.3	888785.47	98.47	
Ba	137	115	No Gas	47.690	ppb	5.8	438850.11	95.38	
Tl	203	115	No Gas	47.612	ppb	4.8	562205.27	95.22	
Pb	208	115	No Gas	46.393	ppb	7.3	1725885.39	92.79	
Th	232	115	No Gas	47.497	ppb	5.0	1492156.19	94.99	
U	238	115	No Gas	46.916	ppb	5.4	1439268.73	93.83	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44362856.01	1.3	45483248.19	97.54	60	125	
Sc	45	He	2141016.23	1.6	2200900.54	97.28	60	125	
Ge	72	No Gas	4416489.27	3.9	4513567.18	97.85	60	125	
Ge	72	He	635931.35	1.1	632773.79	100.5	60	125	
Y	89	No Gas	6022187.68	4.2	6405295.44	94.02	60	125	
Y	89	He	918866.01	1.0	911251.11	100.84	60	125	
Rh	103	No Gas	4831045.78	3.7	4964291.47	97.32	60	125	
Rh	103	He	2277258.80	2.8	2314658.72	98.38	60	125	
In	115	No Gas	4909393.00	0.8	4992972.58	98.33	60	125	
Lu	175	No Gas	20011.98	5.6	20565.02	97.31	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	039_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:07:44
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	28.5	33.33	
Al	27	72	No Gas	0.124	ppb	33.3	19891.54	
V	51	72	He	0.026	ppb	22.1	936.70	
Cr	52	72	No Gas	-0.002	ppb	N/A	38837.14	
Mn	55	72	No Gas	0.003	ppb	90.0	10722.93	
Co	59	72	He	0.003	ppb	51.4	101.11	
Ni	60	72	No Gas	0.011	ppb	8.9	506.68	
Cu	63	72	No Gas	-0.001	ppb	N/A	1927.91	
Zn	66	72	No Gas	-0.009	ppb	N/A	1983.50	
As	75	72	No Gas	-0.060	ppb	N/A	-552.05	
Se	78	72	He	0.157	ppb	18.4	78.33	
Se	82	72	No Gas	0.013	ppb	909.9	149.52	
Mo	98	89	No Gas	0.063	ppb	69.1	1477.56	
Ag	107	89	No Gas	0.004	ppb	33.6	432.23	
Cd	111	89	No Gas	0.026	ppb	37.8	2665.02	
Sb	123	89	No Gas	0.180	ppb	55.1	4469.73	
Ba	137	115	No Gas	0.004	ppb	47.1	120.00	
Tl	203	115	No Gas	0.014	ppb	13.4	200.00	
Pb	208	115	No Gas	0.007	ppb	15.7	596.67	
Th	232	115	No Gas	0.220	ppb	23.5	7831.42	
U	238	115	No Gas	0.007	ppb	12.3	222.22	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45583935.97	1.1	45483248.19	100.22	60	125	
Sc	45	He	2232356.16	3.5	2200900.54	101.43	60	125	
Ge	72	No Gas	4549628.43	1.0	4513567.18	100.8	60	125	
Ge	72	He	636080.79	1.3	632773.79	100.52	60	125	
Y	89	No Gas	6088460.17	1.1	6405295.44	95.05	60	125	
Y	89	He	934009.23	1.7	911251.11	102.5	60	125	
Rh	103	No Gas	4871834.11	4.6	4964291.47	98.14	60	125	
Rh	103	He	2378337.68	3.3	2314658.72	102.75	60	125	
In	115	No Gas	4880464.67	2.8	4992972.58	97.75	60	125	
Lu	175	No Gas	21114.80	1.7	20565.02	102.67	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	040LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:09:39
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.936	ppb	9.2	4396.24	93.6	
Al	27	72	No Gas	5.236	ppb	5.2	207373.06	104.72	
V	51	72	He	1.011	ppb	3.3	9019.53	101.1	
Cr	52	72	No Gas	1.160	ppb	10.0	97101.80	116	
Mn	55	72	No Gas	1.008	ppb	6.3	80560.38	100.8	
Co	59	72	He	0.981	ppb	2.1	16382.77	98.1	
Ni	60	72	No Gas	1.065	ppb	7.2	14156.08	106.5	
Cu	63	72	No Gas	0.985	ppb	8.2	32432.04	98.5	
Zn	66	72	No Gas	4.870	ppb	5.3	41075.61	97.4	
As	75	72	No Gas	1.171	ppb	27.2	9531.65	117.1	
Se	78	72	He	1.031	ppb	9.3	157.67	103.1	
Se	82	72	No Gas	0.716	ppb	17.8	507.89	71.6	
Mo	98	89	No Gas	0.980	ppb	11.7	20627.52	98	
Ag	107	89	No Gas	0.986	ppb	6.2	32047.76	98.6	
Cd	111	89	No Gas	0.980	ppb	10.9	9111.30	98	
Sb	123	89	No Gas	1.071	ppb	13.6	20979.74	107.1	
Ba	137	115	No Gas	0.960	ppb	4.8	8896.33	96	
Tl	203	115	No Gas	0.958	ppb	8.0	11301.68	95.8	
Pb	208	115	No Gas	0.991	ppb	5.9	37119.00	99.1	
Th	232	115	No Gas	1.030	ppb	3.1	33210.15	103	
U	238	115	No Gas	0.983	ppb	7.1	30089.32	98.3	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45366017.08	0.5	45483248.19	99.74	60	125	
Sc	45	He	2294372.34	1.8	2200900.54	104.25	60	125	
Ge	72	No Gas	4471475.66	0.3	4513567.18	99.07	60	125	
Ge	72	He	648228.65	2.1	632773.79	102.44	60	125	
Y	89	No Gas	6179642.53	2.5	6405295.44	96.48	60	125	
Y	89	He	944257.19	1.0	911251.11	103.62	60	125	
Rh	103	No Gas	4926414.53	3.3	4964291.47	99.24	60	125	
Rh	103	He	2401767.27	3.1	2314658.72	103.76	60	125	
In	115	No Gas	4900150.92	4.2	4992972.58	98.14	60	125	
Lu	175	No Gas	21080.20	2.3	20565.02	102.51	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV2
File Name	041HCCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:11:34
Sample Type	HLCCV2
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	182.225	ppb	9.5	887399.83	91.11	
Al	27	72	No Gas	190.245	ppb	7.7	7123394.16	95.12	
V	51	72	He	197.529	ppb	2.5	1653474.45	98.76	
Cr	52	72	No Gas	186.525	ppb	7.0	9662914.62	93.26	
Mn	55	72	No Gas	187.238	ppb	7.5	13286898.09	93.62	
Co	59	72	He	192.793	ppb	1.4	3280107.09	96.4	
Ni	60	72	No Gas	193.078	ppb	9.3	2544870.87	96.54	
Cu	63	72	No Gas	188.585	ppb	9.3	5943528.93	94.29	
Zn	66	72	No Gas	188.993	ppb	8.8	1543602.34	94.5	
As	75	72	No Gas	197.979	ppb	8.1	1649149.73	98.99	
Se	78	72	He	200.103	ppb	0.8	18237.80	100.05	
Se	82	72	No Gas	189.653	ppb	8.2	99257.33	94.83	
Mo	98	89	No Gas	184.070	ppb	7.7	4007790.22	92.04	
Ag	107	89	No Gas	148.170	ppb	10.0	4972506.75	74.08	HLCCV2 Main CR1 Failed
Cd	111	89	No Gas	188.615	ppb	8.1	1324053.04	94.31	
Sb	123	89	No Gas	192.124	ppb	8.1	3705204.58	96.06	
Ba	137	115	No Gas	182.069	ppb	6.5	1751658.99	91.03	
Tl	203	115	No Gas	191.235	ppb	7.3	2360541.99	95.62	
Pb	208	115	No Gas	191.981	ppb	10.7	7461787.82	95.99	
Th	232	115	No Gas	190.596	ppb	11.3	6253415.72	95.3	
U	238	115	No Gas	183.124	ppb	12.3	5868779.07	91.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47052935.91	0.3	45483248.19	103.45	60	125	
Sc	45	He	2253926.37	1.9	2200900.54	102.41	60	125	
Ge	72	No Gas	4545804.12	1.8	4513567.18	100.71	60	125	
Ge	72	He	661880.04	1.5	632773.79	104.6	60	125	
Y	89	No Gas	6441393.08	1.0	6405295.44	100.56	60	125	
Y	89	He	966289.72	1.2	911251.11	106.04	60	125	
Rh	103	No Gas	5078151.74	4.2	4964291.47	102.29	60	125	
Rh	103	He	2367456.85	6.0	2314658.72	102.28	60	125	
In	115	No Gas	5138442.02	2.4	4992972.58	102.91	60	125	
Lu	175	No Gas	21445.25	1.8	20565.02	104.28	60	125	

7900 ICP-MS 200.8/6020A
High-Level Continuing Calibration Verification (HLCCV) Report

Sample Name	HLCCV3
File Name	042_QC1.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:13:08
Sample Type	QC1
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	360.911	ppb	15.9	1714659.96	90.23	
Al	27	72	No Gas	362.437	ppb	9.0	13851589.73	90.61	
V	51	72	He	397.184	ppb	3.7	3310832.92	99.3	
Cr	52	72	No Gas	368.408	ppb	9.6	19455692.56	92.1	
Mn	55	72	No Gas	368.294	ppb	8.2	26677827.83	92.07	
Co	59	72	He	385.516	ppb	4.2	6538513.49	96.38	
Ni	60	72	No Gas	369.399	ppb	10.0	4974009.11	92.35	
Cu	63	72	No Gas	378.655	ppb	12.0	12193681.74	94.66	
Zn	66	72	No Gas	381.958	ppb	9.9	3184025.98	95.49	
As	75	72	No Gas	367.960	ppb	7.5	3132132.69	91.99	
Se	78	72	He	408.234	ppb	3.1	37003.84	102.06	
Se	82	72	No Gas	375.046	ppb	8.7	200382.54	93.76	
Mo	98	89	No Gas	385.765	ppb	10.0	8222923.72	96.44	
Ag	107	89	No Gas	156.192	ppb	7.2	5129385.91	39.05	QC1 Main CR1 Failed
Cd	111	89	No Gas	380.624	ppb	7.6	2612034.57	95.16	
Sb	123	89	No Gas	386.940	ppb	9.7	7303236.51	96.74	
Ba	137	115	No Gas	358.966	ppb	8.0	3503505.35	89.74	QC1 Main CR1 Failed
Tl	203	115	No Gas	367.498	ppb	9.6	4599320.93	91.87	
Pb	208	115	No Gas	381.173	ppb	8.6	15034776.14	95.29	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46024225.95	2.9	45483248.19	101.19	60	125	
Sc	45	He	2275877.48	2.4	2200900.54	103.41	60	125	
Ge	72	No Gas	4643249.81	2.5	4513567.18	102.87	60	125	
Ge	72	He	659871.92	2.9	632773.79	104.28	60	125	
Y	89	No Gas	6297295.03	1.8	6405295.44	98.31	60	125	
Y	89	He	978054.13	1.4	911251.11	107.33	60	125	
Rh	103	No Gas	5229914.52	1.8	4964291.47	105.35	60	125	
Rh	103	He	2386715.05	1.3	2314658.72	103.11	60	125	
In	115	No Gas	5203590.76	3.1	4992972.58	104.22	60	125	
Lu	175	No Gas	21784.75	2.8	20565.02	105.93	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	043_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:14:35
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	48.372	ppb	7.6	231213.12	96.74	
Al	27	72	No Gas	48.064	ppb	11.4	1826905.66	96.13	
V	51	72	He	48.668	ppb	0.8	413328.11	97.34	
Cr	52	72	No Gas	49.362	ppb	12.2	2607465.31	98.72	
Mn	55	72	No Gas	50.291	ppb	12.6	3604617.29	100.58	
Co	59	72	He	47.198	ppb	0.3	813675.65	94.4	
Ni	60	72	No Gas	48.691	ppb	12.5	647160.30	97.38	
Cu	63	72	No Gas	49.822	ppb	11.8	1584412.58	99.64	
Zn	66	72	No Gas	48.966	ppb	12.1	404824.15	97.93	
As	75	72	No Gas	50.784	ppb	10.7	426779.47	101.57	
Se	78	72	He	51.461	ppb	2.9	4803.49	102.92	
Se	82	72	No Gas	50.935	ppb	10.0	27001.41	101.87	
Mo	98	89	No Gas	51.570	ppb	2.8	1095569.86	103.14	
Ag	107	89	No Gas	52.206	ppb	4.6	1710232.40	104.41	
Cd	111	89	No Gas	50.600	ppb	2.4	348384.40	101.2	
Sb	123	89	No Gas	52.375	ppb	2.6	986163.12	104.75	
Ba	137	115	No Gas	48.132	ppb	6.2	467125.99	96.26	
Tl	203	115	No Gas	49.390	ppb	6.6	614845.62	98.78	
Pb	208	115	No Gas	49.304	ppb	6.4	1933799.97	98.61	
Th	232	115	No Gas	50.156	ppb	4.0	1660196.39	100.31	
U	238	115	No Gas	49.614	ppb	3.4	1603671.81	99.23	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46148635.94	1.4	45483248.19	101.46	60	125	
Sc	45	He	2280132.27	2.2	2200900.54	103.6	60	125	
Ge	72	No Gas	4600814.96	4.5	4513567.18	101.93	60	125	
Ge	72	He	670745.91	1.4	632773.79	106	60	125	
Y	89	No Gas	6277064.61	4.6	6405295.44	98	60	125	
Y	89	He	966610.27	0.9	911251.11	106.08	60	125	
Rh	103	No Gas	5156817.02	2.5	4964291.47	103.88	60	125	
Rh	103	He	2444342.06	2.4	2314658.72	105.6	60	125	
In	115	No Gas	5171376.88	3.3	4992972.58	103.57	60	125	
Lu	175	No Gas	22205.45	3.6	20565.02	107.98	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	044_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:16:26
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.016	ppb	22.7	76.67	
Al	27	72	No Gas	0.136	ppb	34.7	20362.44	
V	51	72	He	0.017	ppb	56.6	901.14	
Cr	52	72	No Gas	-0.004	ppb	N/A	38747.96	
Mn	55	72	No Gas	0.006	ppb	186.4	10936.44	
Co	59	72	He	0.007	ppb	5.3	170.00	
Ni	60	72	No Gas	0.013	ppb	23.0	531.12	
Cu	63	72	No Gas	0.004	ppb	177.1	2074.60	
Zn	66	72	No Gas	-0.005	ppb	N/A	2017.95	
As	75	72	No Gas	0.099	ppb	127.8	748.45	
Se	78	72	He	0.070	ppb	68.7	74.33	
Se	82	72	No Gas	0.168	ppb	48.7	229.57	
Mo	98	89	No Gas	0.172	ppb	61.5	3763.78	
Ag	107	89	No Gas	0.007	ppb	16.2	543.35	
Cd	111	89	No Gas	0.032	ppb	12.5	2738.59	
Sb	123	89	No Gas	0.500	ppb	51.6	10430.18	
Ba	137	115	No Gas	0.007	ppb	27.2	157.78	
Tl	203	115	No Gas	0.031	ppb	17.8	424.45	
Pb	208	115	No Gas	0.015	ppb	7.1	968.91	
Th	232	115	No Gas	0.586	ppb	18.8	20621.69	
U	238	115	No Gas	0.016	ppb	12.5	531.13	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46808894.81	0.7	45483248.19	102.91	60	125	
Sc	45	He	2287414.14	5.1	2200900.54	103.93	60	125	
Ge	72	No Gas	4558502.74	4.2	4513567.18	101	60	125	
Ge	72	He	668426.38	2.6	632773.79	105.63	60	125	
Y	89	No Gas	6169478.65	2.2	6405295.44	96.32	60	125	
Y	89	He	969645.79	3.8	911251.11	106.41	60	125	
Rh	103	No Gas	5014427.86	3.4	4964291.47	101.01	60	125	
Rh	103	He	2469653.51	4.0	2314658.72	106.7	60	125	
In	115	No Gas	5224746.04	2.6	4992972.58	104.64	60	125	
Lu	175	No Gas	22338.00	2.9	20565.02	108.62	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW-434823
File Name	045_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:18:23
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.010	ppb	30.6	51.11	
Al	27	72	No Gas	1.065	ppb	2.5	55759.87	
V	51	72	He	0.002	ppb	291.6	784.47	
Cr	52	72	No Gas	0.028	ppb	142.8	40852.83	
Mn	55	72	No Gas	0.004	ppb	10.7	10931.97	
Co	59	72	He	0.005	ppb	45.2	134.44	
Ni	60	72	No Gas	0.010	ppb	19.0	501.12	
Cu	63	72	No Gas	0.013	ppb	40.4	2386.87	
Zn	66	72	No Gas	0.846	ppb	4.7	9070.70	
As	75	72	No Gas	0.157	ppb	72.4	1259.54	
Se	78	72	He	0.008	ppb	1752.5	69.00	
Se	82	72	No Gas	0.119	ppb	126.2	207.12	
Mo	98	89	No Gas	0.075	ppb	64.4	1848.73	
Ag	107	89	No Gas	-0.001	ppb	N/A	271.11	
Cd	111	89	No Gas	0.021	ppb	87.3	2770.16	
Sb	123	89	No Gas	0.184	ppb	51.6	4829.87	
Ba	137	115	No Gas	0.005	ppb	93.4	134.44	
Tl	203	115	No Gas	0.007	ppb	15.8	127.78	
Pb	208	115	No Gas	0.006	ppb	23.0	617.78	
Th	232	115	No Gas	0.191	ppb	8.4	7486.66	
U	238	115	No Gas	0.006	ppb	17.1	205.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47404478.12	2.5	45483248.19	104.22	60	125	
Sc	45	He	2345689.63	1.6	2200900.54	106.58	60	125	
Ge	72	No Gas	4605864.96	0.4	4513567.18	102.04	60	125	
Ge	72	He	670721.78	1.4	632773.79	106	60	125	
Y	89	No Gas	6414167.52	4.9	6405295.44	100.14	60	125	
Y	89	He	994986.83	0.6	911251.11	109.19	60	125	
Rh	103	No Gas	5169459.65	2.9	4964291.47	104.13	60	125	
Rh	103	He	2525802.26	2.0	2314658.72	109.12	60	125	
In	115	No Gas	5288559.23	1.7	4992972.58	105.92	60	125	
Lu	175	No Gas	22610.50	3.5	20565.02	109.95	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434823
File Name	046_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:20:19
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	19.677	ppb	7.9	94543.93	98.38	
Al	27	72	No Gas	40.109	ppb	3.6	1591488.06	100.27	
V	51	72	He	19.367	ppb	1.6	168035.32	96.84	
Cr	52	72	No Gas	19.420	ppb	2.6	1094507.42	97.1	
Mn	55	72	No Gas	20.205	ppb	2.7	1516874.28	101.02	
Co	59	72	He	19.014	ppb	1.7	333996.37	95.07	
Ni	60	72	No Gas	19.104	ppb	2.0	264914.45	95.52	
Cu	63	72	No Gas	19.948	ppb	2.3	662697.23	99.74	
Zn	66	72	No Gas	20.227	ppb	2.0	175582.48	101.14	
As	75	72	No Gas	20.175	ppb	2.8	176656.28	100.88	
Se	78	72	He	20.961	ppb	4.1	2034.48	104.8	
Se	82	72	No Gas	20.125	ppb	2.1	11207.38	100.63	
Mo	98	89	No Gas	20.579	ppb	1.9	448363.65	102.9	
Ag	107	89	No Gas	20.835	ppb	4.8	699958.98	104.18	
Cd	111	89	No Gas	20.470	ppb	3.7	146118.31	102.35	
Sb	123	89	No Gas	21.766	ppb	1.7	420857.94	108.83	
Ba	137	115	No Gas	19.089	ppb	9.4	192087.87	95.44	
Tl	203	115	No Gas	20.404	ppb	9.0	263486.53	102.02	
Pb	208	115	No Gas	19.882	ppb	8.2	809096.50	99.41	
Th	232	115	No Gas	20.028	ppb	7.0	689097.35	100.14	
U	238	115	No Gas	20.112	ppb	8.8	674623.58	100.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46466520.38	2.2	45483248.19	102.16	60	125	
Sc	45	He	2398524.91	4.3	2200900.54	108.98	60	125	
Ge	72	No Gas	4778693.42	3.7	4513567.18	105.87	60	125	
Ge	72	He	683364.26	0.3	632773.79	108	60	125	
Y	89	No Gas	6440198.91	2.5	6405295.44	100.54	60	125	
Y	89	He	1000107.28	1.0	911251.11	109.75	60	125	
Rh	103	No Gas	5195715.49	3.4	4964291.47	104.66	60	125	
Rh	103	He	2459646.36	2.3	2314658.72	106.26	60	125	
In	115	No Gas	5385307.42	6.8	4992972.58	107.86	60	125	
Lu	175	No Gas	23001.25	3.0	20565.02	111.85	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401607-001
File Name	047_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:22:14
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.020	ppb	21.2	100.00
Al	27	72	No Gas	59.438	ppb	2.1	2332109.77
Cr	52	72	No Gas	0.323	ppb	8.4	57984.03
Mn	55	72	No Gas	0.193	ppb	6.1	25244.56
Ni	60	72	No Gas	0.808	ppb	4.0	11481.35
Cu	63	72	No Gas	1.235	ppb	4.3	42613.26
Zn	66	72	No Gas	4.642	ppb	3.5	41635.74
As	75	72	No Gas	0.428	ppb	23.1	3659.56
Se	82	72	No Gas	0.196	ppb	3.9	255.22
Mo	98	89	No Gas	1.201	ppb	7.9	26462.64
Ag	107	89	No Gas	0.000	ppb	204.5	334.45
Cd	111	89	No Gas	0.031	ppb	13.3	2864.16
Sb	123	89	No Gas	0.242	ppb	27.3	5944.68
Ba	137	115	No Gas	22.709	ppb	6.8	220576.70
Tl	203	115	No Gas	0.019	ppb	21.4	266.67
Pb	208	115	No Gas	0.033	ppb	10.8	1663.38
Th	232	115	No Gas	0.399	ppb	4.4	14220.19
U	238	115	No Gas	0.180	ppb	5.6	5856.93
V	51	72	He	0.158	ppb	4.7	2111.27
Co	59	72	He	0.048	ppb	12.3	886.70
Se	78	72	He	0.107	ppb	88.2	78.33

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	47152645.91	1.2	45483248.19	103.67	60	125
Sc	45	He	2261631.51	3.5	2200900.54	102.76	60	125
Ge	72	No Gas	4742534.25	1.0	4513567.18	105.07	60	125
Ge	72	He	672814.59	0.8	632773.79	106.33	60	125
Y	89	No Gas	6470349.19	1.7	6405295.44	101.02	60	125
Y	89	He	1004984.61	2.3	911251.11	110.29	60	125
Rh	103	No Gas	5037516.47	4.4	4964291.47	101.48	60	125
Rh	103	He	2404423.03	3.3	2314658.72	103.88	60	125
In	115	No Gas	5180752.57	0.7	4992972.58	103.76	60	125
Lu	175	No Gas	22544.85	4.3	20565.02	109.63	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401607-001S
File Name	048_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:24:10
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	047_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	18.995	ppb	5.5	91739.04	0.02	94.88	
Al	27	No Gas	96.530	ppb	5.0	3660952.43	59.438	97.08	
V	51	He	20.018	ppb	1.1	173173.07	0.158	99.31	
Cr	52	No Gas	19.892	ppb	6.7	1077249.85	0.323	97.88	
Mn	55	No Gas	20.158	ppb	4.8	1455144.21	0.193	99.82	
Co	59	He	18.740	ppb	2.7	328179.36	0.048	93.47	
Ni	60	No Gas	19.572	ppb	4.7	261097.95	0.808	94.06	
Cu	63	No Gas	20.656	ppb	6.4	659789.42	1.235	97.27	
Zn	66	No Gas	24.555	ppb	4.3	204535.11	4.642	99.65	
As	75	No Gas	21.645	ppb	4.5	182271.03	0.428	105.96	
Se	78	He	21.446	ppb	2.3	2074.16	0.107	106.66	
Se	82	No Gas	20.887	ppb	5.9	11181.63	0.196	103.42	
Mo	98	No Gas	22.109	ppb	3.9	472077.53	1.201	104.28	
Ag	107	No Gas	20.422	ppb	3.5	671854.82	0	102.11	
Cd	111	No Gas	20.101	ppb	3.7	140649.36	0.031	100.35	
Sb	123	No Gas	21.742	ppb	4.6	412088.19	0.242	107.41	
Ba	137	No Gas	40.899	ppb	2.7	404981.57	22.709	95.76	
Tl	203	No Gas	20.097	ppb	6.6	255409.58	0.019	100.39	
Pb	208	No Gas	19.245	ppb	4.1	770700.56	0.033	96.06	
Th	232	No Gas	19.986	ppb	3.5	676168.93	0.399	97.98	
U	238	No Gas	20.224	ppb	4.4	667776.33	0.18	100.22	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46647259.26	2.5	45483248.19	102.56	60	125	
Sc	45	He	2280957.89	1.1	2200900.54	103.64	60	125	
Ge	72	No Gas	4597260.37	2.2	4513567.18	101.85	60	125	
Ge	72	He	681506.22	1.9	632773.79	107.7	60	125	
Y	89	No Gas	6309286.97	3.6	6405295.44	98.5	60	125	
Y	89	He	1003211.70	1.3	911251.11	110.09	60	125	
Rh	103	No Gas	4965517.30	3.4	4964291.47	100.02	60	125	
Rh	103	He	2387567.12	1.3	2314658.72	103.15	60	125	
In	115	No Gas	5281587.71	1.5	4992972.58	105.78	60	125	
Lu	175	No Gas	22514.87	1.7	20565.02	109.48	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401607-001SD
File Name	049_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:26:04
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	048_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	18.401	ppb	5.6	90462.00	18.995	3.18	
Al	27	No Gas	100.904	ppb	4.7	3826607.76	96.53	4.43	
V	51	He	19.683	ppb	0.4	169622.58	20.018	1.69	
Cr	52	No Gas	20.464	ppb	3.3	1106576.90	19.892	2.84	
Mn	55	No Gas	19.710	ppb	1.2	1422180.01	20.158	2.25	
Co	59	He	18.420	ppb	2.5	321279.19	18.74	1.72	
Ni	60	No Gas	19.641	ppb	4.1	261927.68	19.572	0.35	
Cu	63	No Gas	20.339	ppb	3.5	649554.80	20.656	1.55	
Zn	66	No Gas	24.203	ppb	3.9	201601.73	24.555	1.44	
As	75	No Gas	21.407	ppb	3.5	180206.53	21.645	1.11	
Se	78	He	20.765	ppb	4.2	2002.15	21.446	3.23	
Se	82	No Gas	20.788	ppb	2.4	11123.39	20.887	0.48	
Mo	98	No Gas	21.243	ppb	2.6	472599.63	22.109	4	
Ag	107	No Gas	19.191	ppb	1.5	657945.98	20.422	6.22	
Cd	111	No Gas	19.202	ppb	1.4	140036.34	20.101	4.57	
Sb	123	No Gas	21.038	ppb	2.6	415426.09	21.742	3.29	
Ba	137	No Gas	42.379	ppb	6.9	402022.80	40.899	3.55	
Tl	203	No Gas	20.511	ppb	7.3	249653.87	20.097	2.04	
Pb	208	No Gas	19.531	ppb	6.0	749261.36	19.245	1.47	
Th	232	No Gas	20.708	ppb	6.3	671264.68	19.986	3.55	
U	238	No Gas	20.556	ppb	5.4	650184.12	20.224	1.63	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47478147.00	1.1	45483248.19	104.39	60	125	
Sc	45	He	2306507.69	3.2	2200900.54	104.8	60	125	
Ge	72	No Gas	4594245.10	2.2	4513567.18	101.79	60	125	
Ge	72	He	678765.01	2.1	632773.79	107.27	60	125	
Y	89	No Gas	6573328.63	3.5	6405295.44	102.62	60	125	
Y	89	He	996864.62	2.6	911251.11	109.4	60	125	
Rh	103	No Gas	4813626.89	4.3	4964291.47	96.97	60	125	
Rh	103	He	2390341.99	4.8	2314658.72	103.27	60	125	
In	115	No Gas	5063703.96	1.4	4992972.58	101.42	60	125	
Lu	175	No Gas	22502.56	2.7	20565.02	109.42	60	125	

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401607-001A
File Name	050_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:27:59
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	047_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	20.924	ppb	6.5	100104.54	0.02	104.52	
Al	27	No Gas	99.050	ppb	3.3	3806563.04	59.438	99.61	
V	51	He	21.913	ppb	1.0	186775.59	0.158	108.7	
Cr	52	No Gas	21.466	ppb	3.8	1174348.84	0.323	105.62	
Mn	55	No Gas	22.487	ppb	5.0	1643133.62	0.193	111.36	
Co	59	He	20.402	ppb	1.1	352261.24	0.048	101.77	
Ni	60	No Gas	21.641	ppb	3.1	292421.61	0.808	104	
Cu	63	No Gas	22.199	ppb	3.5	718250.79	1.235	104.54	
Zn	66	No Gas	26.192	ppb	3.3	220880.96	4.642	106.29	
As	75	No Gas	23.389	ppb	2.0	199508.92	0.428	114.5	
Se	78	He	23.278	ppb	0.6	2213.17	0.107	115.77	
Se	82	No Gas	22.651	ppb	2.5	12270.82	0.196	112.16	
Mo	98	No Gas	24.077	ppb	9.0	512010.51	1.201	113.57	
Ag	107	No Gas	17.716	ppb	9.5	580701.26	0	88.58	
Cd	111	No Gas	22.231	ppb	8.1	154693.98	0.031	110.99	
Sb	123	No Gas	23.413	ppb	8.0	441951.47	0.242	115.67	
Ba	137	No Gas	43.211	ppb	4.1	415159.10	22.709	101.17	
Tl	203	No Gas	22.175	ppb	2.5	273291.41	0.019	110.77	
Pb	208	No Gas	21.400	ppb	1.4	830912.70	0.033	106.82	
Th	232	No Gas	22.880	ppb	2.5	750732.73	0.399	112.16	
U	238	No Gas	22.560	ppb	2.6	722360.15	0.18	111.79	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46257491.49	2.2	45483248.19	101.7	60	125	
Sc	45	He	2309873.31	1.9	2200900.54	104.95	60	125	
Ge	72	No Gas	4656561.34	2.3	4513567.18	103.17	60	125	
Ge	72	He	671641.71	1.3	632773.79	106.14	60	125	
Y	89	No Gas	6301292.25	3.9	6405295.44	98.38	60	125	
Y	89	He	987251.94	2.7	911251.11	108.34	60	125	
Rh	103	No Gas	4840342.45	1.6	4964291.47	97.5	60	125	
Rh	103	He	2421615.04	0.3	2314658.72	104.62	60	125	
In	115	No Gas	5121373.41	2.9	4992972.58	102.57	60	125	
Lu	175	No Gas	22710.64	2.1	20565.02	110.43	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401607-001L 5X
File Name	051SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:29:54
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	47.4	33.33	
Al	27	72	No Gas	12.697	ppb	4.3	507884.13	
V	51	72	He	0.028	ppb	39.6	996.70	
Cr	52	72	No Gas	0.010	ppb	202.8	40911.78	
Mn	55	72	No Gas	0.027	ppb	27.9	12831.32	
Co	59	72	He	0.009	ppb	21.7	211.12	
Ni	60	72	No Gas	0.169	ppb	3.7	2688.04	
Cu	63	72	No Gas	0.236	ppb	4.1	9715.57	
Zn	66	72	No Gas	0.955	ppb	6.2	10208.13	
As	75	72	No Gas	0.151	ppb	71.4	1216.37	
Se	78	72	He	-0.068	ppb	N/A	61.67	
Se	82	72	No Gas	0.141	ppb	115.9	222.98	
Mo	98	89	No Gas	0.269	ppb	17.0	6033.52	
Ag	107	89	No Gas	0.000	ppb	705.2	328.89	
Cd	111	89	No Gas	0.016	ppb	89.9	2734.33	
Sb	123	89	No Gas	0.143	ppb	36.9	3983.95	
Ba	137	115	No Gas	4.487	ppb	1.7	44001.92	
Tl	203	115	No Gas	0.010	ppb	2.3	155.56	
Pb	208	115	No Gas	0.009	ppb	4.3	708.90	
Th	232	115	No Gas	0.268	ppb	28.2	9929.66	
U	238	115	No Gas	0.039	ppb	3.4	1304.52	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47511590.33	2.4	45483248.19	104.46	60	125	
Sc	45	He	2306634.63	2.1	2200900.54	104.8	60	125	
Ge	72	No Gas	4718926.62	3.4	4513567.18	104.55	60	125	
Ge	72	He	669424.33	2.7	632773.79	105.79	60	125	
Y	89	No Gas	6410218.91	1.4	6405295.44	100.08	60	125	
Y	89	He	987385.44	1.6	911251.11	108.35	60	125	
Rh	103	No Gas	5063465.91	2.7	4964291.47	102	60	125	
Rh	103	He	2432154.28	3.9	2314658.72	105.08	60	125	
In	115	No Gas	5223517.29	3.0	4992972.58	104.62	60	125	
Lu	175	No Gas	22451.40	3.4	20565.02	109.17	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401612-001
File Name	052SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:31:50
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	49.8	42.22	
Al	27	72	No Gas	331.591	ppb	3.4	12708723.38	>LDR
V	51	72	He	0.056	ppb	9.1	1248.95	
Cr	52	72	No Gas	3.578	ppb	5.3	229028.86	
Mn	55	72	No Gas	35.327	ppb	3.2	2575995.66	
Co	59	72	He	0.100	ppb	6.8	1797.90	
Ni	60	72	No Gas	4.977	ppb	3.0	67548.86	
Cu	63	72	No Gas	32.265	ppb	2.9	1043279.13	
Zn	66	72	No Gas	65.792	ppb	4.0	551900.59	
As	75	72	No Gas	0.268	ppb	49.9	2235.05	
Se	78	72	He	-0.001	ppb	N/A	68.67	
Se	82	72	No Gas	0.277	ppb	23.0	294.33	
Mo	98	89	No Gas	0.118	ppb	16.6	2738.37	
Ag	107	89	No Gas	0.000	ppb	N/A	320.01	
Cd	111	89	No Gas	0.024	ppb	120.0	2769.57	
Sb	123	89	No Gas	0.119	ppb	28.6	3518.25	
Ba	137	115	No Gas	42.880	ppb	5.5	417413.09	
Tl	203	115	No Gas	0.008	ppb	12.8	134.45	
Pb	208	115	No Gas	0.428	ppb	6.8	17203.41	
Th	232	115	No Gas	0.151	ppb	14.5	6017.02	
U	238	115	No Gas	0.083	ppb	8.9	2699.18	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46669831.48	0.9	45483248.19	102.61	60	125	
Sc	45	He	2349584.56	3.6	2200900.54	106.76	60	125	
Ge	72	No Gas	4657247.73	2.1	4513567.18	103.18	60	125	
Ge	72	He	676616.40	1.5	632773.79	106.93	60	125	
Y	89	No Gas	6377948.08	3.7	6405295.44	99.57	60	125	
Y	89	He	1003256.97	2.1	911251.11	110.1	60	125	
Rh	103	No Gas	4989704.39	1.2	4964291.47	100.51	60	125	
Rh	103	He	2386926.78	1.7	2314658.72	103.12	60	125	
In	115	No Gas	5193760.90	1.8	4992972.58	104.02	60	125	
Lu	175	No Gas	22545.96	2.3	20565.02	109.63	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401669-001
File Name	053SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:33:44
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	42.2	17.78	
Al	27	72	No Gas	8.308	ppb	4.0	336618.02	
V	51	72	He	0.065	ppb	17.7	1348.95	
Cr	52	72	No Gas	0.250	ppb	12.4	53545.67	
Mn	55	72	No Gas	0.215	ppb	9.5	26599.29	
Co	59	72	He	0.033	ppb	8.8	642.24	
Ni	60	72	No Gas	0.526	ppb	3.3	7536.46	
Cu	63	72	No Gas	32.972	ppb	3.9	1075440.82	
Zn	66	72	No Gas	9.443	ppb	3.0	81704.50	
As	75	72	No Gas	0.451	ppb	38.2	3839.58	
Se	78	72	He	0.021	ppb	406.7	72.00	
Se	82	72	No Gas	0.271	ppb	39.1	293.78	
Mo	98	89	No Gas	0.515	ppb	9.4	11704.31	
Ag	107	89	No Gas	-0.001	ppb	N/A	283.33	
Cd	111	89	No Gas	0.011	ppb	127.0	2787.54	
Sb	123	89	No Gas	0.087	ppb	36.6	3001.46	
Ba	137	115	No Gas	15.526	ppb	4.5	151229.47	
Tl	203	115	No Gas	0.002	ppb	59.2	64.44	
Pb	208	115	No Gas	0.111	ppb	1.9	4747.02	
Th	232	115	No Gas	0.206	ppb	9.1	7837.99	
U	238	115	No Gas	0.030	ppb	4.8	995.60	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46852181.47	1.0	45483248.19	103.01	60	125	
Sc	45	He	2401446.08	4.5	2200900.54	109.11	60	125	
Ge	72	No Gas	4700197.59	2.1	4513567.18	104.13	60	125	
Ge	72	He	688413.90	1.1	632773.79	108.79	60	125	
Y	89	No Gas	6617542.79	3.1	6405295.44	103.31	60	125	
Y	89	He	1038174.89	2.1	911251.11	113.93	60	125	
Rh	103	No Gas	5128160.49	1.6	4964291.47	103.3	60	125	
Rh	103	He	2482260.59	1.3	2314658.72	107.24	60	125	
In	115	No Gas	5193520.63	2.5	4992972.58	104.02	60	125	
Lu	175	No Gas	23344.01	3.7	20565.02	113.51	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401669-002
File Name	054SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:35:41
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.011	ppb	91.9	54.44	
Al	27	72	No Gas	2.190	ppb	4.3	92558.82	
V	51	72	He	0.061	ppb	20.4	1187.83	
Cr	52	72	No Gas	0.345	ppb	21.0	54046.48	
Mn	55	72	No Gas	0.178	ppb	9.3	22012.58	
Co	59	72	He	0.016	ppb	15.7	298.89	
Ni	60	72	No Gas	0.325	ppb	12.0	4426.26	
Cu	63	72	No Gas	17.203	ppb	6.0	518210.95	
Zn	66	72	No Gas	4.687	ppb	7.3	38379.83	
As	75	72	No Gas	0.203	ppb	21.4	1547.93	
Se	78	72	He	0.543	ppb	18.6	109.33	
Se	82	72	No Gas	0.473	ppb	49.6	369.15	
Mo	98	89	No Gas	1.140	ppb	1.0	23406.20	
Ag	107	89	No Gas	0.001	ppb	117.6	338.89	
Cd	111	89	No Gas	0.031	ppb	106.7	2667.72	
Sb	123	89	No Gas	0.039	ppb	43.5	1867.91	
Ba	137	115	No Gas	1.323	ppb	2.7	12089.89	
Tl	203	115	No Gas	0.026	ppb	25.6	332.23	
Pb	208	115	No Gas	0.199	ppb	3.8	7638.67	
Th	232	115	No Gas	0.082	ppb	8.0	3478.26	
U	238	115	No Gas	1.238	ppb	1.8	37502.16	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45862212.62	1.9	45483248.19	100.83	60	125	
Sc	45	He	2194931.16	3.0	2200900.54	99.73	60	125	
Ge	72	No Gas	4338606.22	3.2	4513567.18	96.12	60	125	
Ge	72	He	621338.73	1.8	632773.79	98.19	60	125	
Y	89	No Gas	6027939.90	2.4	6405295.44	94.11	60	125	
Y	89	He	888194.20	1.7	911251.11	97.47	60	125	
Rh	103	No Gas	4625545.37	0.9	4964291.47	93.18	60	125	
Rh	103	He	2101547.97	0.8	2314658.72	90.79	60	125	
In	115	No Gas	4846194.25	2.2	4992972.58	97.06	60	125	
Lu	175	No Gas	20359.07	4.8	20565.02	99	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	055_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:37:36
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.055	ppb	7.1	225128.94	90.11	
Al	27	72	No Gas	48.045	ppb	9.6	1886709.85	96.09	
V	51	72	He	48.044	ppb	1.1	426719.11	96.09	
Cr	52	72	No Gas	49.222	ppb	12.0	2686415.80	98.44	
Mn	55	72	No Gas	49.945	ppb	11.5	3698117.08	99.89	
Co	59	72	He	46.676	ppb	0.8	841510.05	93.35	
Ni	60	72	No Gas	48.271	ppb	10.9	662878.15	96.54	
Cu	63	72	No Gas	49.472	ppb	13.4	1624471.88	98.94	
Zn	66	72	No Gas	49.056	ppb	10.8	418958.63	98.11	
As	75	72	No Gas	50.848	ppb	9.9	441398.47	101.7	
Se	78	72	He	51.055	ppb	2.3	4984.89	102.11	
Se	82	72	No Gas	50.104	ppb	10.5	27433.88	100.21	
Mo	98	89	No Gas	51.576	ppb	7.3	1126380.36	103.15	
Ag	107	89	No Gas	53.312	ppb	7.2	1794365.17	106.62	
Cd	111	89	No Gas	50.690	ppb	5.5	358828.39	101.38	
Sb	123	89	No Gas	52.562	ppb	5.8	1017248.81	105.12	
Ba	137	115	No Gas	49.932	ppb	6.2	495795.54	99.86	
Tl	203	115	No Gas	51.999	ppb	6.7	662865.27	104	
Pb	208	115	No Gas	50.476	ppb	4.8	2027488.95	100.95	
Th	232	115	No Gas	49.169	ppb	6.0	1667671.32	98.34	
U	238	115	No Gas	49.360	ppb	4.6	1634006.12	98.72	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48257488.08	2.9	45483248.19	106.1	60	125	
Sc	45	He	2389126.37	7.1	2200900.54	108.55	60	125	
Ge	72	No Gas	4750256.48	3.7	4513567.18	105.24	60	125	
Ge	72	He	701430.89	0.6	632773.79	110.85	60	125	
Y	89	No Gas	6456066.13	1.9	6405295.44	100.79	60	125	
Y	89	He	1038911.63	0.9	911251.11	114.01	60	125	
Rh	103	No Gas	5268480.90	3.2	4964291.47	106.13	60	125	
Rh	103	He	2592845.66	3.2	2314658.72	112.02	60	125	
In	115	No Gas	5296919.79	4.0	4992972.58	106.09	60	125	
Lu	175	No Gas	22982.28	3.7	20565.02	111.75	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	056_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:39:27
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	17.1	35.56	
Al	27	72	No Gas	0.124	ppb	23.0	20748.26	
V	51	72	He	-0.008	ppb	N/A	707.80	
Cr	52	72	No Gas	-0.067	ppb	N/A	36977.71	
Mn	55	72	No Gas	-0.006	ppb	N/A	10543.91	
Co	59	72	He	0.002	ppb	20.1	97.78	
Ni	60	72	No Gas	0.012	ppb	33.9	535.57	
Cu	63	72	No Gas	-0.004	ppb	N/A	1907.91	
Zn	66	72	No Gas	-0.016	ppb	N/A	2013.50	
As	75	72	No Gas	0.019	ppb	798.4	104.42	
Se	78	72	He	0.021	ppb	128.8	71.67	
Se	82	72	No Gas	0.014	ppb	184.1	155.99	
Mo	98	89	No Gas	0.059	ppb	66.2	1543.64	
Ag	107	89	No Gas	0.002	ppb	98.8	408.90	
Cd	111	89	No Gas	0.005	ppb	714.6	2754.62	
Sb	123	89	No Gas	0.207	ppb	51.0	5491.27	
Ba	137	115	No Gas	0.004	ppb	6.3	125.56	
Tl	203	115	No Gas	0.015	ppb	3.0	225.56	
Pb	208	115	No Gas	0.005	ppb	37.9	600.00	
Th	232	115	No Gas	0.439	ppb	29.8	16333.77	
U	238	115	No Gas	0.007	ppb	10.8	251.11	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	48541018.07	2.4	45483248.19	106.72	60	125	
Sc	45	He	2373377.41	0.6	2200900.54	107.84	60	125	
Ge	72	No Gas	4746677.31	0.8	4513567.18	105.16	60	125	
Ge	72	He	685906.83	2.8	632773.79	108.4	60	125	
Y	89	No Gas	6670238.76	4.8	6405295.44	104.14	60	125	
Y	89	He	1026073.68	1.9	911251.11	112.6	60	125	
Rh	103	No Gas	5205982.85	3.3	4964291.47	104.87	60	125	
Rh	103	He	2520160.87	4.1	2314658.72	108.88	60	125	
In	115	No Gas	5430849.92	2.4	4992972.58	108.77	60	125	
Lu	175	No Gas	23318.44	2.6	20565.02	113.39	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW-434947
File Name	057_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:41:23
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	41.4	21.11	
Al	27	72	No Gas	1.030	ppb	6.1	57910.51	
V	51	72	He	-0.007	ppb	N/A	737.80	
Cr	52	72	No Gas	-0.069	ppb	N/A	38120.73	
Mn	55	72	No Gas	0.001	ppb	415.4	11412.35	
Co	59	72	He	0.002	ppb	44.2	98.89	
Ni	60	72	No Gas	0.009	ppb	50.2	521.12	
Cu	63	72	No Gas	-0.009	ppb	N/A	1801.23	
Zn	66	72	No Gas	0.509	ppb	7.2	6687.14	
As	75	72	No Gas	0.161	ppb	19.1	1366.14	
Se	78	72	He	-0.052	ppb	N/A	66.00	
Se	82	72	No Gas	0.065	ppb	131.1	189.26	
Mo	98	89	No Gas	0.020	ppb	80.1	657.46	
Ag	107	89	No Gas	-0.005	ppb	N/A	147.78	
Cd	111	89	No Gas	0.011	ppb	138.7	2863.66	
Sb	123	89	No Gas	0.059	ppb	62.7	2534.71	
Ba	137	115	No Gas	0.001	ppb	226.8	103.33	
Tl	203	115	No Gas	0.003	ppb	80.1	75.56	
Pb	208	115	No Gas	0.001	ppb	75.8	441.11	
Th	232	115	No Gas	0.144	ppb	13.4	6329.42	
U	238	115	No Gas	0.001	ppb	22.1	68.89	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47521288.11	2.5	45483248.19	104.48	60	125	
Sc	45	He	2418084.14	3.0	2200900.54	109.87	60	125	
Ge	72	No Gas	4905115.64	4.4	4513567.18	108.67	60	125	
Ge	72	He	699305.35	2.6	632773.79	110.51	60	125	
Y	89	No Gas	6807146.67	2.0	6405295.44	106.27	60	125	
Y	89	He	1054285.20	2.1	911251.11	115.7	60	125	
Rh	103	No Gas	5346941.87	4.4	4964291.47	107.71	60	125	
Rh	103	He	2575190.52	1.8	2314658.72	111.26	60	125	
In	115	No Gas	5652312.97	4.4	4992972.58	113.21	60	125	
Lu	175	No Gas	23987.40	3.8	20565.02	116.64	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434947
File Name	058_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:43:20
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	18.651	ppb	3.6	92045.27	93.26	
Al	27	72	No Gas	39.794	ppb	5.3	1595277.99	99.48	
V	51	72	He	19.106	ppb	1.2	173098.44	95.53	
Cr	52	72	No Gas	19.285	ppb	3.7	1097933.43	96.43	
Mn	55	72	No Gas	19.999	ppb	5.0	1516549.04	99.99	
Co	59	72	He	18.701	ppb	2.5	342920.25	93.51	
Ni	60	72	No Gas	19.037	ppb	4.1	266714.30	95.18	
Cu	63	72	No Gas	19.842	ppb	4.8	665804.99	99.21	
Zn	66	72	No Gas	19.978	ppb	4.0	175187.28	99.89	
As	75	72	No Gas	20.518	ppb	3.7	181454.54	102.59	
Se	78	72	He	20.515	ppb	7.0	2080.16	102.57	
Se	82	72	No Gas	20.437	ppb	4.8	11492.88	102.19	
Mo	98	89	No Gas	20.030	ppb	5.7	458031.18	100.15	
Ag	107	89	No Gas	20.349	ppb	7.1	716744.48	101.74	
Cd	111	89	No Gas	20.264	ppb	6.4	151759.32	101.32	
Sb	123	89	No Gas	21.291	ppb	6.8	431888.69	106.46	
Ba	137	115	No Gas	18.897	ppb	4.0	199868.76	94.48	
Tl	203	115	No Gas	20.262	ppb	3.8	274960.60	101.31	
Pb	208	115	No Gas	19.962	ppb	4.0	853964.43	99.81	
Th	232	115	No Gas	20.117	ppb	3.8	727337.78	100.58	
U	238	115	No Gas	20.234	ppb	3.8	713586.36	101.17	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47647973.66	2.8	45483248.19	104.76	60	125	
Sc	45	He	2318023.03	1.5	2200900.54	105.32	60	125	
Ge	72	No Gas	4826815.78	1.9	4513567.18	106.94	60	125	
Ge	72	He	713616.07	2.6	632773.79	112.78	60	125	
Y	89	No Gas	6763225.01	4.6	6405295.44	105.59	60	125	
Y	89	He	1066081.28	1.1	911251.11	116.99	60	125	
Rh	103	No Gas	5351437.01	1.3	4964291.47	107.8	60	125	
Rh	103	He	2559702.19	1.2	2314658.72	110.59	60	125	
In	115	No Gas	5653141.03	8.2	4992972.58	113.22	60	125	
Lu	175	No Gas	23602.22	0.9	20565.02	114.77	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401534-001
File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:45:16
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	4.3	44.44	
Al	27	72	No Gas	5.829	ppb	5.2	249740.94	
V	51	72	He	0.024	ppb	47.8	1008.92	
Cr	52	72	No Gas	-0.007	ppb	N/A	41314.09	
Mn	55	72	No Gas	7.136	ppb	5.3	553112.98	
Co	59	72	He	0.050	ppb	0.6	947.81	
Ni	60	72	No Gas	0.583	ppb	6.6	8613.76	
Cu	63	72	No Gas	9.845	ppb	6.3	334302.09	
Zn	66	72	No Gas	13.894	ppb	4.5	123597.35	
As	75	72	No Gas	0.187	ppb	34.5	1608.72	
Se	78	72	He	0.032	ppb	166.9	74.00	
Se	82	72	No Gas	0.324	ppb	40.1	334.78	
Mo	98	89	No Gas	0.139	ppb	18.9	3322.51	
Ag	107	89	No Gas	0.008	ppb	20.3	613.35	
Cd	111	89	No Gas	0.021	ppb	40.1	2877.22	
Sb	123	89	No Gas	0.089	ppb	49.2	3058.15	
Ba	137	115	No Gas	67.101	ppb	1.8	668040.41	
Tl	203	115	No Gas	0.012	ppb	1.7	184.45	
Pb	208	115	No Gas	0.081	ppb	4.2	3645.77	
Th	232	115	No Gas	0.721	ppb	23.0	25375.86	
U	238	115	No Gas	0.121	ppb	2.6	4051.78	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46768790.36	0.6	45483248.19	102.83	60	125	
Sc	45	He	2352338.17	2.8	2200900.54	106.88	60	125	
Ge	72	No Gas	4872437.58	1.9	4513567.18	107.95	60	125	
Ge	72	He	698221.07	1.5	632773.79	110.34	60	125	
Y	89	No Gas	6655200.29	1.1	6405295.44	103.9	60	125	
Y	89	He	1054570.86	1.1	911251.11	115.73	60	125	
Rh	103	No Gas	5057080.77	2.9	4964291.47	101.87	60	125	
Rh	103	He	2486402.54	0.8	2314658.72	107.42	60	125	
In	115	No Gas	5311343.82	4.4	4992972.58	106.38	60	125	
Lu	175	No Gas	23378.55	2.6	20565.02	113.68	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401684-013
File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:47:12
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	27.7	43.33	
Al	27	72	No Gas	146.707	ppb	7.5	5603721.17	>LDR
V	51	72	He	0.682	ppb	1.6	6605.98	
Cr	52	72	No Gas	1.430	ppb	7.5	114871.29	
Mn	55	72	No Gas	138.649	ppb	6.9	10030198.49	>LDR
Co	59	72	He	0.310	ppb	1.8	5454.39	
Ni	60	72	No Gas	2.341	ppb	7.7	31810.33	
Cu	63	72	No Gas	79.806	ppb	3.6	2565311.98	
Zn	66	72	No Gas	84.956	ppb	6.0	708506.71	
As	75	72	No Gas	0.904	ppb	11.5	7608.76	
Se	78	72	He	0.442	ppb	11.5	110.00	
Se	82	72	No Gas	0.784	ppb	0.5	562.75	
Mo	98	89	No Gas	1.066	ppb	5.4	23518.37	
Ag	107	89	No Gas	0.353	ppb	2.3	12212.35	
Cd	111	89	No Gas	0.077	ppb	25.0	3187.06	
Sb	123	89	No Gas	0.340	ppb	10.3	7828.95	
Ba	137	115	No Gas	134.429	ppb	6.2	1301171.06	>LDR
Tl	203	115	No Gas	0.006	ppb	36.9	114.44	
Pb	208	115	No Gas	2.950	ppb	7.9	115765.44	
Th	232	115	No Gas	0.060	ppb	3.5	2982.58	
U	238	115	No Gas	0.643	ppb	6.9	20771.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46140999.28	1.1	45483248.19	101.45	60	125	
Sc	45	He	2261123.45	3.6	2200900.54	102.74	60	125	
Ge	72	No Gas	4637390.79	0.8	4513567.18	102.74	60	125	
Ge	72	He	677383.64	0.7	632773.79	107.05	60	125	
Y	89	No Gas	6470032.24	1.8	6405295.44	101.01	60	125	
Y	89	He	1020608.96	2.2	911251.11	112	60	125	
Rh	103	No Gas	4892930.78	2.4	4964291.47	98.56	60	125	
Rh	103	He	2388832.68	4.2	2314658.72	103.2	60	125	
In	115	No Gas	5169240.07	2.7	4992972.58	103.53	60	125	
Lu	175	No Gas	23409.69	0.6	20565.02	113.83	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401715-001
File Name	061_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:49:03
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.003	ppb	36.7	15.56
Al	27	72	No Gas	5.805	ppb	2.9	226743.18
Cr	52	72	No Gas	0.412	ppb	5.5	58705.97
Mn	55	72	No Gas	0.514	ppb	1.9	45841.47
Ni	60	72	No Gas	0.788	ppb	4.2	10496.17
Cu	63	72	No Gas	254.018	ppb	2.1	7816213.86
Zn	66	72	No Gas	3.371	ppb	3.0	28867.26
As	75	72	No Gas	0.171	ppb	40.8	1338.09
Se	82	72	No Gas	0.940	ppb	6.8	618.04
Mo	98	89	No Gas	0.320	ppb	8.2	7074.54
Ag	107	89	No Gas	0.012	ppb	3.3	703.35
Cd	111	89	No Gas	0.006	ppb	242.2	2643.36
Sb	123	89	No Gas	0.077	ppb	19.1	2705.84
Ba	137	115	No Gas	97.271	ppb	5.5	921700.97
Tl	203	115	No Gas	0.003	ppb	34.1	66.67
Pb	208	115	No Gas	0.569	ppb	7.8	22160.85
Th	232	115	No Gas	0.037	ppb	5.1	2197.97
U	238	115	No Gas	0.251	ppb	5.5	7950.29
V	51	72	He	0.221	ppb	5.1	2573.57
Co	59	72	He	0.094	ppb	1.1	1628.99
Se	78	72	He	0.571	ppb	32.6	118.00

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	45486997.08	1.7	45483248.19	100.01	60	125
Sc	45	He	2305872.62	3.6	2200900.54	104.77	60	125
Ge	72	No Gas	4439778.02	3.1	4513567.18	98.37	60	125
Ge	72	He	654443.31	1.6	632773.79	103.42	60	125
Y	89	No Gas	6357376.55	2.9	6405295.44	99.25	60	125
Y	89	He	1000667.11	2.1	911251.11	109.81	60	125
Rh	103	No Gas	4647357.04	3.7	4964291.47	93.62	60	125
Rh	103	He	2350900.25	1.4	2314658.72	101.57	60	125
In	115	No Gas	5061807.44	5.0	4992972.58	101.38	60	125
Lu	175	No Gas	21896.00	3.6	20565.02	106.47	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401715-001S
File Name	062_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:50:57
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	061_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	17.698	ppb	4.6	86296.50	0.003	88.48	
Al	27	No Gas	47.474	ppb	6.4	1782582.95	5.805	103.65	
V	51	He	20.287	ppb	1.0	170944.23	0.221	100.33	
Cr	52	No Gas	19.898	ppb	6.3	1061769.61	0.412	97.48	
Mn	55	No Gas	19.929	ppb	5.5	1417987.20	0.514	97.15	
Co	59	He	18.435	ppb	2.5	314463.49	0.094	91.74	
Ni	60	No Gas	19.640	ppb	5.3	258159.04	0.788	94.48	
Cu	63	No Gas	278.417	ppb	4.0	8739162.71	254.018	101.61	
Zn	66	No Gas	22.503	ppb	5.8	184898.79	3.371	96.28	
As	75	No Gas	21.259	ppb	5.5	176408.91	0.171	105.4	
Se	78	He	21.748	ppb	3.0	2047.48	0.571	105.72	
Se	82	No Gas	21.503	ppb	6.0	11339.44	0.94	102.69	
Mo	98	No Gas	21.251	ppb	4.9	456061.73	0.32	104.58	
Ag	107	No Gas	18.811	ppb	2.0	622033.90	0.012	94	
Cd	111	No Gas	19.274	ppb	2.3	135603.12	0.006	96.34	
Sb	123	No Gas	21.503	ppb	1.7	409422.35	0.077	107.1	
Ba	137	No Gas	116.449	ppb	7.5	1111780.68	97.271	99.3	
Tl	203	No Gas	19.820	ppb	6.1	242851.58	0.003	99.09	
Pb	208	No Gas	20.101	ppb	6.6	776203.35	0.569	97.72	
Th	232	No Gas	21.109	ppb	5.9	688713.95	0.037	105.35	
U	238	No Gas	21.209	ppb	5.8	675215.36	0.251	104.73	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47089655.91	1.6	45483248.19	103.53	60	125	
Sc	45	He	2351764.84	4.3	2200900.54	106.85	60	125	
Ge	72	No Gas	4530286.35	0.7	4513567.18	100.37	60	125	
Ge	72	He	663856.03	2.3	632773.79	104.91	60	125	
Y	89	No Gas	6340022.39	3.1	6405295.44	98.98	60	125	
Y	89	He	1007909.40	1.7	911251.11	110.61	60	125	
Rh	103	No Gas	4747834.12	2.9	4964291.47	95.64	60	125	
Rh	103	He	2397895.53	5.0	2314658.72	103.6	60	125	
In	115	No Gas	5094021.19	1.5	4992972.58	102.02	60	125	
Lu	175	No Gas	22575.97	5.4	20565.02	109.78	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401715-001SD
File Name	063_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:52:49
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	062_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	18.557	ppb	6.0	86503.10	17.698	4.74	
Al	27	No Gas	45.270	ppb	5.9	1687344.76	47.474	4.75	
V	51	He	20.158	ppb	0.7	170049.70	20.287	0.64	
Cr	52	No Gas	19.956	ppb	7.7	1056481.66	19.898	0.29	
Mn	55	No Gas	20.397	ppb	7.4	1439650.05	19.929	2.32	
Co	59	He	18.343	ppb	1.0	313353.19	18.435	0.5	
Ni	60	No Gas	19.627	ppb	6.5	255998.37	19.64	0.07	
Cu	63	No Gas	280.500	ppb	8.6	8737285.76	278.417	0.75	
Zn	66	No Gas	22.195	ppb	5.6	180999.90	22.503	1.38	
As	75	No Gas	21.594	ppb	6.5	177811.47	21.259	1.56	
Se	78	He	20.943	ppb	3.3	1977.14	21.748	3.77	
Se	82	No Gas	21.703	ppb	8.4	11354.79	21.503	0.93	
Mo	98	No Gas	20.930	ppb	4.2	445956.37	21.251	1.52	
Ag	107	No Gas	19.022	ppb	3.9	624738.93	18.811	1.12	
Cd	111	No Gas	19.284	ppb	3.5	134715.04	19.274	0.05	
Sb	123	No Gas	21.447	ppb	4.7	405635.15	21.503	0.26	
Ba	137	No Gas	118.218	ppb	7.6	1097738.64	116.449	1.51	
Tl	203	No Gas	19.902	ppb	5.9	237368.11	19.82	0.41	
Pb	208	No Gas	20.715	ppb	6.3	778397.40	20.101	3.01	
Th	232	No Gas	21.359	ppb	5.3	678292.98	21.109	1.18	
U	238	No Gas	21.244	ppb	5.9	657997.37	21.209	0.16	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45019113.77	1.6	45483248.19	98.98	60	125	
Sc	45	He	2254476.72	1.4	2200900.54	102.43	60	125	
Ge	72	No Gas	4497019.82	0.5	4513567.18	99.63	60	125	
Ge	72	He	664522.73	0.9	632773.79	105.02	60	125	
Y	89	No Gas	6294686.97	2.3	6405295.44	98.27	60	125	
Y	89	He	1003608.64	0.7	911251.11	110.14	60	125	
Rh	103	No Gas	4742061.90	2.4	4964291.47	95.52	60	125	
Rh	103	He	2333696.92	1.2	2314658.72	100.82	60	125	
In	115	No Gas	4960999.25	5.1	4992972.58	99.36	60	125	
Lu	175	No Gas	22926.63	3.1	20565.02	111.48	60	125	

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401715-001A
File Name	064_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:54:43
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	061_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	19.464	ppb	6.2	93553.12	0.003	97.31	
Al	27	No Gas	47.728	ppb	3.3	1805461.18	5.805	104.2	
V	51	He	21.769	ppb	2.8	182330.82	0.221	107.66	
Cr	52	No Gas	21.390	ppb	6.5	1147117.18	0.412	104.8	
Mn	55	No Gas	21.786	ppb	7.6	1560195.74	0.514	106.2	
Co	59	He	19.899	ppb	1.9	337606.26	0.094	99.03	
Ni	60	No Gas	20.847	ppb	6.5	276037.18	0.788	100.29	
Cu	63	No Gas	267.159	ppb	5.1	8449867.44	254.018	97.5	
Zn	66	No Gas	24.977	ppb	5.7	206562.54	3.371	106.87	
As	75	No Gas	22.848	ppb	4.4	191074.04	0.171	113.27	
Se	78	He	24.176	ppb	2.8	2256.52	0.571	117.53	
Se	82	No Gas	23.001	ppb	5.4	12208.25	0.94	109.84	
Mo	98	No Gas	22.589	ppb	1.9	478331.89	0.32	111.17	
Ag	107	No Gas	16.352	ppb	1.4	533661.77	0.012	81.71	
Cd	111	No Gas	20.616	ppb	0.7	142929.64	0.006	103.05	
Sb	123	No Gas	22.525	ppb	1.6	423140.26	0.077	112.19	
Ba	137	No Gas	118.451	ppb	3.8	1079632.60	97.271	101.01	
Tl	203	No Gas	22.102	ppb	2.2	258505.55	0.003	110.5	
Pb	208	No Gas	22.257	ppb	4.5	820456.50	0.569	108.21	
Th	232	No Gas	23.725	ppb	2.7	738733.01	0.037	118.4	
U	238	No Gas	23.585	ppb	1.7	716674.26	0.251	116.46	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46462034.82	2.3	45483248.19	102.15	60	125	
Sc	45	He	2292854.29	1.2	2200900.54	104.18	60	125	
Ge	72	No Gas	4566518.99	2.1	4513567.18	101.17	60	125	
Ge	72	He	660010.16	0.7	632773.79	104.3	60	125	
Y	89	No Gas	6257443.78	2.9	6405295.44	97.69	60	125	
Y	89	He	984311.04	2.2	911251.11	108.02	60	125	
Rh	103	No Gas	4582483.71	2.8	4964291.47	92.31	60	125	
Rh	103	He	2248440.75	4.5	2314658.72	97.14	60	125	
In	115	No Gas	4861793.56	1.1	4992972.58	97.37	60	125	
Lu	175	No Gas	22415.75	4.2	20565.02	109	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401715-001L 5X
File Name	065SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:56:36
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	70.2	15.56	
Al	27	72	No Gas	1.429	ppb	4.4	69746.14	
V	51	72	He	0.046	ppb	38.8	1162.27	
Cr	52	72	No Gas	0.023	ppb	115.6	40758.01	
Mn	55	72	No Gas	0.100	ppb	4.0	17837.81	
Co	59	72	He	0.021	ppb	12.4	421.12	
Ni	60	72	No Gas	0.189	ppb	9.1	2903.64	
Cu	63	72	No Gas	52.734	ppb	5.4	1690379.34	
Zn	66	72	No Gas	0.724	ppb	2.5	8087.88	
As	75	72	No Gas	0.174	ppb	21.1	1405.07	
Se	78	72	He	0.110	ppb	78.6	79.00	
Se	82	72	No Gas	0.217	ppb	20.3	259.84	
Mo	98	89	No Gas	0.098	ppb	23.1	2329.41	
Ag	107	89	No Gas	0.001	ppb	86.6	372.23	
Cd	111	89	No Gas	0.015	ppb	40.8	2751.36	
Sb	123	89	No Gas	0.126	ppb	43.5	3716.11	
Ba	137	115	No Gas	18.865	ppb	2.8	184042.85	
Tl	203	115	No Gas	0.004	ppb	57.9	86.67	
Pb	208	115	No Gas	0.120	ppb	1.8	5084.85	
Th	232	115	No Gas	0.125	ppb	13.5	5166.61	
U	238	115	No Gas	0.053	ppb	7.6	1734.56	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47865895.88	1.0	45483248.19	105.24	60	125	
Sc	45	He	2362581.71	1.5	2200900.54	107.35	60	125	
Ge	72	No Gas	4620108.15	1.3	4513567.18	102.36	60	125	
Ge	72	He	676498.95	1.8	632773.79	106.91	60	125	
Y	89	No Gas	6476905.71	2.5	6405295.44	101.12	60	125	
Y	89	He	1016111.62	2.7	911251.11	111.51	60	125	
Rh	103	No Gas	4983625.77	2.7	4964291.47	100.39	60	125	
Rh	103	He	2428679.69	2.4	2314658.72	104.93	60	125	
In	115	No Gas	5203617.43	4.9	4992972.58	104.22	60	125	
Lu	175	No Gas	22787.51	4.6	20565.02	110.81	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401715-002
File Name	066SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 10:58:32
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	47.1	12.22	
Al	27	72	No Gas	6.433	ppb	2.4	253593.44	
V	51	72	He	0.150	ppb	7.3	2082.38	
Cr	52	72	No Gas	0.510	ppb	6.9	64753.30	
Mn	55	72	No Gas	1.929	ppb	3.2	146090.12	
Co	59	72	He	0.065	ppb	9.5	1208.94	
Ni	60	72	No Gas	0.542	ppb	1.5	7445.30	
Cu	63	72	No Gas	22.200	ppb	4.1	696368.13	
Zn	66	72	No Gas	9.173	ppb	2.9	76287.94	
As	75	72	No Gas	0.149	ppb	40.0	1181.51	
Se	78	72	He	0.054	ppb	48.5	75.00	
Se	82	72	No Gas	0.443	ppb	20.1	370.44	
Mo	98	89	No Gas	0.112	ppb	13.2	2612.88	
Ag	107	89	No Gas	-0.001	ppb	N/A	298.89	
Cd	111	89	No Gas	0.006	ppb	439.3	2659.93	
Sb	123	89	No Gas	0.094	ppb	42.5	3058.15	
Ba	137	115	No Gas	73.256	ppb	6.0	707163.01	
Tl	203	115	No Gas	0.002	ppb	44.0	54.44	
Pb	208	115	No Gas	0.369	ppb	6.1	14754.43	
Th	232	115	No Gas	0.081	ppb	10.4	3663.87	
U	238	115	No Gas	0.201	ppb	8.9	6476.12	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46168018.17	2.1	45483248.19	101.51	60	125	
Sc	45	He	2373102.20	3.3	2200900.54	107.82	60	125	
Ge	72	No Gas	4512660.38	3.0	4513567.18	99.98	60	125	
Ge	72	He	687336.55	2.8	632773.79	108.62	60	125	
Y	89	No Gas	6411900.72	2.8	6405295.44	100.1	60	125	
Y	89	He	1009912.84	2.6	911251.11	110.83	60	125	
Rh	103	No Gas	4997698.55	3.2	4964291.47	100.67	60	125	
Rh	103	He	2439733.72	0.5	2314658.72	105.4	60	125	
In	115	No Gas	5152572.16	1.7	4992972.58	103.2	60	125	
Lu	175	No Gas	22330.03	2.9	20565.02	108.58	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	067_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:00:26
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.859	ppb	6.1	219920.61	91.72	
Al	27	72	No Gas	49.741	ppb	7.5	1895991.14	99.48	
V	51	72	He	47.953	ppb	1.1	414198.27	95.91	
Cr	52	72	No Gas	48.467	ppb	3.8	2567689.62	96.93	
Mn	55	72	No Gas	49.301	ppb	3.5	3543307.64	98.6	
Co	59	72	He	46.609	ppb	1.6	817180.11	93.22	
Ni	60	72	No Gas	49.041	ppb	4.4	654232.01	98.08	
Cu	63	72	No Gas	49.229	ppb	5.2	1569026.78	98.46	
Zn	66	72	No Gas	48.905	ppb	2.7	405634.18	97.81	
As	75	72	No Gas	51.597	ppb	4.1	434965.69	103.19	
Se	78	72	He	51.742	ppb	0.4	4912.86	103.48	
Se	82	72	No Gas	50.304	ppb	3.0	26745.17	100.61	
Mo	98	89	No Gas	49.625	ppb	7.0	1088167.06	99.25	
Ag	107	89	No Gas	52.248	ppb	6.0	1767028.92	104.5	
Cd	111	89	No Gas	49.162	ppb	8.2	349483.87	98.32	
Sb	123	89	No Gas	51.015	ppb	8.6	991321.14	102.03	
Ba	137	115	No Gas	48.757	ppb	10.0	478306.04	97.51	
Tl	203	115	No Gas	50.413	ppb	6.5	635097.39	100.83	
Pb	208	115	No Gas	49.498	ppb	10.0	1963019.44	99	
Th	232	115	No Gas	49.647	ppb	10.4	1662932.96	99.29	
U	238	115	No Gas	49.901	ppb	10.9	1631575.59	99.8	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46297355.94	4.3	45483248.19	101.79	60	125	
Sc	45	He	2311947.89	1.2	2200900.54	105.05	60	125	
Ge	72	No Gas	4599809.96	3.9	4513567.18	101.91	60	125	
Ge	72	He	682279.50	3.0	632773.79	107.82	60	125	
Y	89	No Gas	6490311.27	2.8	6405295.44	101.33	60	125	
Y	89	He	997430.97	1.7	911251.11	109.46	60	125	
Rh	103	No Gas	5061243.83	2.6	4964291.47	101.95	60	125	
Rh	103	He	2465233.65	3.5	2314658.72	106.51	60	125	
In	115	No Gas	5246328.68	3.8	4992972.58	105.07	60	125	
Lu	175	No Gas	22104.15	4.9	20565.02	107.48	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	068_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:02:17
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.008	ppb	7.8	40.00	
Al	27	72	No Gas	0.130	ppb	24.7	20531.30	
V	51	72	He	-0.005	ppb	N/A	732.24	
Cr	52	72	No Gas	-0.086	ppb	N/A	35165.38	
Mn	55	72	No Gas	-0.004	ppb	N/A	10450.50	
Co	59	72	He	0.003	ppb	39.1	101.11	
Ni	60	72	No Gas	0.009	ppb	38.9	493.34	
Cu	63	72	No Gas	0.008	ppb	59.8	2227.96	
Zn	66	72	No Gas	-0.027	ppb	N/A	1874.60	
As	75	72	No Gas	0.047	ppb	363.9	310.92	
Se	78	72	He	0.032	ppb	288.0	72.00	
Se	82	72	No Gas	0.098	ppb	42.3	198.23	
Mo	98	89	No Gas	0.063	ppb	66.2	1555.82	
Ag	107	89	No Gas	0.004	ppb	52.5	470.01	
Cd	111	89	No Gas	0.012	ppb	155.5	2730.65	
Sb	123	89	No Gas	0.202	ppb	49.8	5155.54	
Ba	137	115	No Gas	0.006	ppb	106.6	138.89	
Tl	203	115	No Gas	0.016	ppb	22.0	223.34	
Pb	208	115	No Gas	0.007	ppb	38.4	628.90	
Th	232	115	No Gas	0.215	ppb	19.7	7906.93	
U	238	115	No Gas	0.006	ppb	18.5	220.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47135948.13	1.9	45483248.19	103.63	60	125	
Sc	45	He	2303798.17	0.7	2200900.54	104.68	60	125	
Ge	72	No Gas	4645627.87	2.6	4513567.18	102.93	60	125	
Ge	72	He	678468.17	1.8	632773.79	107.22	60	125	
Y	89	No Gas	6467936.27	3.2	6405295.44	100.98	60	125	
Y	89	He	999453.57	2.1	911251.11	109.68	60	125	
Rh	103	No Gas	5184758.55	2.9	4964291.47	104.44	60	125	
Rh	103	He	2544111.29	2.0	2314658.72	109.91	60	125	
In	115	No Gas	5082829.10	6.9	4992972.58	101.8	60	125	
Lu	175	No Gas	22521.53	1.5	20565.02	109.51	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401715-007
File Name	069SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:04:13
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	20.3	18.89	
Al	27	72	No Gas	2.120	ppb	2.7	98482.43	
V	51	72	He	0.097	ppb	3.3	1603.43	
Cr	52	72	No Gas	0.454	ppb	11.3	65004.29	
Mn	55	72	No Gas	0.056	ppb	9.0	15069.07	
Co	59	72	He	0.040	ppb	7.2	754.47	
Ni	60	72	No Gas	0.340	ppb	7.2	5040.91	
Cu	63	72	No Gas	22.634	ppb	6.2	745339.62	
Zn	66	72	No Gas	5.978	ppb	6.0	52982.69	
As	75	72	No Gas	0.206	ppb	36.0	1723.25	
Se	78	72	He	0.118	ppb	90.6	80.00	
Se	82	72	No Gas	0.444	ppb	21.2	390.75	
Mo	98	89	No Gas	0.094	ppb	18.5	2243.55	
Ag	107	89	No Gas	-0.002	ppb	N/A	252.22	
Cd	111	89	No Gas	0.018	ppb	77.2	2773.61	
Sb	123	89	No Gas	0.092	ppb	47.1	3051.48	
Ba	137	115	No Gas	38.719	ppb	5.0	374713.70	
Tl	203	115	No Gas	0.006	ppb	24.8	107.78	
Pb	208	115	No Gas	0.328	ppb	4.0	13194.91	
Th	232	115	No Gas	0.090	ppb	3.3	3993.97	
U	238	115	No Gas	0.044	ppb	1.9	1437.86	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45518287.08	1.3	45483248.19	100.08	60	125	
Sc	45	He	2322129.63	0.9	2200900.54	105.51	60	125	
Ge	72	No Gas	4741185.92	1.8	4513567.18	105.04	60	125	
Ge	72	He	678584.80	1.3	632773.79	107.24	60	125	
Y	89	No Gas	6468228.63	2.4	6405295.44	100.98	60	125	
Y	89	He	1016183.15	1.2	911251.11	111.52	60	125	
Rh	103	No Gas	4894386.47	0.2	4964291.47	98.59	60	125	
Rh	103	He	2387176.78	0.8	2314658.72	103.13	60	125	
In	115	No Gas	5158047.99	3.2	4992972.58	103.31	60	125	
Lu	175	No Gas	22323.35	3.9	20565.02	108.55	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401715-008
File Name	070SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:06:10
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	36.1	14.44	
Al	27	72	No Gas	2.293	ppb	10.5	104676.68	
V	51	72	He	0.108	ppb	18.4	1708.99	
Cr	52	72	No Gas	0.635	ppb	10.9	74332.95	
Mn	55	72	No Gas	0.138	ppb	2.3	21016.55	
Co	59	72	He	0.038	ppb	16.8	724.46	
Ni	60	72	No Gas	0.437	ppb	6.0	6343.67	
Cu	63	72	No Gas	20.805	ppb	4.1	682038.01	
Zn	66	72	No Gas	5.733	ppb	5.3	50647.44	
As	75	72	No Gas	0.132	ppb	42.4	1073.98	
Se	78	72	He	0.044	ppb	294.5	74.00	
Se	82	72	No Gas	0.321	ppb	37.2	320.98	
Mo	98	89	No Gas	0.091	ppb	13.7	2136.68	
Ag	107	89	No Gas	0.005	ppb	59.9	475.57	
Cd	111	89	No Gas	0.015	ppb	61.7	2710.03	
Sb	123	89	No Gas	0.070	ppb	47.6	2565.81	
Ba	137	115	No Gas	36.821	ppb	2.4	375513.30	
Tl	203	115	No Gas	0.002	ppb	56.5	61.11	
Pb	208	115	No Gas	0.281	ppb	5.7	11956.63	
Th	232	115	No Gas	0.048	ppb	20.4	2720.30	
U	238	115	No Gas	0.040	ppb	1.4	1387.86	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46374579.27	3.8	45483248.19	101.96	60	125	
Sc	45	He	2308285.74	5.6	2200900.54	104.88	60	125	
Ge	72	No Gas	4718951.20	1.5	4513567.18	104.55	60	125	
Ge	72	He	683836.22	4.0	632773.79	108.07	60	125	
Y	89	No Gas	6374048.22	1.7	6405295.44	99.51	60	125	
Y	89	He	1019573.81	1.4	911251.11	111.89	60	125	
Rh	103	No Gas	4868411.61	3.0	4964291.47	98.07	60	125	
Rh	103	He	2375068.65	4.3	2314658.72	102.61	60	125	
In	115	No Gas	5439424.23	3.1	4992972.58	108.94	60	125	
Lu	175	No Gas	21805.82	4.4	20565.02	106.03	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401716-001
File Name	071SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:08:05
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	28.5	13.33	
Al	27	72	No Gas	2.052	ppb	4.6	88191.80	
V	51	72	He	0.131	ppb	1.3	1859.01	
Cr	52	72	No Gas	0.199	ppb	22.1	47166.68	
Mn	55	72	No Gas	5.005	ppb	5.4	350469.09	
Co	59	72	He	0.043	ppb	11.0	788.91	
Ni	60	72	No Gas	0.345	ppb	4.3	4705.24	
Cu	63	72	No Gas	1.488	ppb	5.4	46832.19	
Zn	66	72	No Gas	6.029	ppb	3.8	49155.35	
As	75	72	No Gas	2.573	ppb	6.9	20503.65	
Se	78	72	He	0.042	ppb	202.9	71.67	
Se	82	72	No Gas	0.602	ppb	8.2	438.24	
Mo	98	89	No Gas	0.555	ppb	4.5	11899.14	
Ag	107	89	No Gas	-0.005	ppb	N/A	156.67	
Cd	111	89	No Gas	0.003	ppb	284.0	2575.90	
Sb	123	89	No Gas	0.073	ppb	42.2	2568.03	
Ba	137	115	No Gas	285.640	ppb	2.6	2683179.27	>LDR
Tl	203	115	No Gas	0.003	ppb	12.9	66.66	
Pb	208	115	No Gas	0.181	ppb	3.6	7231.91	
Th	232	115	No Gas	0.038	ppb	13.6	2181.30	
U	238	115	No Gas	0.766	ppb	2.9	24011.69	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45052065.99	1.7	45483248.19	99.05	60	125	
Sc	45	He	2291795.95	2.3	2200900.54	104.13	60	125	
Ge	72	No Gas	4363610.94	0.2	4513567.18	96.68	60	125	
Ge	72	He	666482.52	2.8	632773.79	105.33	60	125	
Y	89	No Gas	6247085.03	2.7	6405295.44	97.53	60	125	
Y	89	He	1006457.04	2.1	911251.11	110.45	60	125	
Rh	103	No Gas	4626975.51	3.4	4964291.47	93.21	60	125	
Rh	103	He	2345762.89	1.6	2314658.72	101.34	60	125	
In	115	No Gas	5010308.13	2.9	4992972.58	100.35	60	125	
Lu	175	No Gas	21536.54	2.0	20565.02	104.72	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401716-002
File Name	072SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:10:00
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	65.8	15.56	
Al	27	72	No Gas	3.983	ppb	1.4	165442.15	
V	51	72	He	0.098	ppb	6.3	1575.65	
Cr	52	72	No Gas	0.281	ppb	7.9	53877.07	
Mn	55	72	No Gas	0.414	ppb	3.0	40170.01	
Co	59	72	He	0.044	ppb	6.1	795.58	
Ni	60	72	No Gas	0.287	ppb	1.4	4178.41	
Cu	63	72	No Gas	40.683	ppb	1.0	1294745.71	
Zn	66	72	No Gas	14.455	ppb	2.1	121010.79	
As	75	72	No Gas	0.106	ppb	134.1	791.51	
Se	78	72	He	0.348	ppb	35.3	99.00	
Se	82	72	No Gas	0.626	ppb	13.7	474.71	
Mo	98	89	No Gas	0.212	ppb	10.7	4606.53	
Ag	107	89	No Gas	-0.002	ppb	N/A	256.67	
Cd	111	89	No Gas	0.015	ppb	121.4	2628.97	
Sb	123	89	No Gas	0.082	ppb	39.7	2700.28	
Ba	137	115	No Gas	17.990	ppb	3.8	176457.32	
Tl	203	115	No Gas	0.003	ppb	13.3	70.00	
Pb	208	115	No Gas	0.379	ppb	3.3	15385.82	
Th	232	115	No Gas	0.028	ppb	17.9	1965.71	
U	238	115	No Gas	0.007	ppb	6.4	247.78	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46101537.05	1.4	45483248.19	101.36	60	125	
Sc	45	He	2324055.88	1.3	2200900.54	105.6	60	125	
Ge	72	No Gas	4586449.54	5.0	4513567.18	101.61	60	125	
Ge	72	He	662647.68	1.5	632773.79	104.72	60	125	
Y	89	No Gas	6183371.84	4.1	6405295.44	96.54	60	125	
Y	89	He	992784.82	1.5	911251.11	108.95	60	125	
Rh	103	No Gas	4948226.33	3.8	4964291.47	99.68	60	125	
Rh	103	He	2371915.32	1.7	2314658.72	102.47	60	125	
In	115	No Gas	5229767.85	3.2	4992972.58	104.74	60	125	
Lu	175	No Gas	22210.92	2.5	20565.02	108	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW-434684
File Name	073_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:11:58
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	18.981	ppb	6.4	91404.03	94.9	
Al	27	72	No Gas	42.557	ppb	4.7	1615377.09	106.39	
V	51	72	He	20.382	ppb	0.8	169981.61	101.91	
Cr	52	72	No Gas	20.077	ppb	3.5	1082285.55	100.39	
Mn	55	72	No Gas	21.573	ppb	2.4	1550958.13	107.86	
Co	59	72	He	19.823	ppb	1.9	334695.16	99.12	
Ni	60	72	No Gas	20.117	ppb	3.1	267199.92	100.58	
Cu	63	72	No Gas	20.923	ppb	2.3	665750.97	104.62	
Zn	66	72	No Gas	21.273	ppb	4.3	176709.83	106.36	
As	75	72	No Gas	21.380	ppb	0.8	179448.12	106.9	
Se	78	72	He	21.566	ppb	3.1	2010.81	107.83	
Se	82	72	No Gas	20.957	ppb	2.7	11173.47	104.78	
Mo	98	89	No Gas	20.903	ppb	1.7	450377.56	104.52	
Ag	107	89	No Gas	21.069	ppb	2.2	699844.85	105.34	
Cd	111	89	No Gas	20.404	ppb	1.9	144003.38	102.02	
Sb	123	89	No Gas	21.703	ppb	4.6	415235.09	108.52	
Ba	137	115	No Gas	19.690	ppb	3.4	191302.70	98.45	
Tl	203	115	No Gas	20.361	ppb	5.0	253739.05	101.8	
Pb	208	115	No Gas	20.076	ppb	5.7	788415.98	100.38	
Th	232	115	No Gas	20.383	ppb	6.6	676361.17	101.92	
U	238	115	No Gas	20.141	ppb	7.9	651886.80	100.7	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46547228.15	1.6	45483248.19	102.34	60	125	
Sc	45	He	2278629.42	6.6	2200900.54	103.53	60	125	
Ge	72	No Gas	4584414.68	6.2	4513567.18	101.57	60	125	
Ge	72	He	656933.95	1.1	632773.79	103.82	60	125	
Y	89	No Gas	6368491.00	2.2	6405295.44	99.43	60	125	
Y	89	He	977679.51	1.4	911251.11	107.29	60	125	
Rh	103	No Gas	5228841.74	4.1	4964291.47	105.33	60	125	
Rh	103	He	2422300.04	4.5	2314658.72	104.65	60	125	
In	115	No Gas	5183450.35	2.0	4992972.58	103.81	60	125	
Lu	175	No Gas	21187.04	4.4	20565.02	103.02	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401543-006
File Name	074SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:13:53
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	39.3	28.89	
Al	27	72	No Gas	8.790	ppb	2.0	320029.93	
V	51	72	He	1.588	ppb	6.0	12889.15	
Cr	52	72	No Gas	1.270	ppb	3.8	97247.73	
Mn	55	72	No Gas	0.957	ppb	2.7	72968.72	
Co	59	72	He	0.229	ppb	4.6	3619.36	
Ni	60	72	No Gas	1.183	ppb	5.0	14858.96	
Cu	63	72	No Gas	3.174	ppb	3.4	94919.67	
Zn	66	72	No Gas	4.510	ppb	2.3	36166.27	
As	75	72	No Gas	1.046	ppb	9.8	8055.75	
Se	78	72	He	4.843	ppb	4.4	466.34	
Se	82	72	No Gas	6.016	ppb	5.5	3061.25	
Mo	98	89	No Gas	8.133	ppb	5.4	164377.65	
Ag	107	89	No Gas	0.003	ppb	19.6	392.23	
Cd	111	89	No Gas	0.020	ppb	61.0	2570.82	
Sb	123	89	No Gas	0.112	ppb	14.1	3149.26	
Ba	137	115	No Gas	43.435	ppb	4.9	380290.47	
Tl	203	115	No Gas	0.177	ppb	7.3	2021.27	
Pb	208	115	No Gas	0.045	ppb	4.1	1918.95	
Th	232	115	No Gas	0.332	ppb	7.2	10836.89	
U	238	115	No Gas	9.308	ppb	4.3	271687.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44105153.80	1.3	45483248.19	96.97	60	125	
Sc	45	He	2187056.65	2.8	2200900.54	99.37	60	125	
Ge	72	No Gas	4234026.64	1.5	4513567.18	93.81	60	125	
Ge	72	He	608353.36	2.6	632773.79	96.14	60	125	
Y	89	No Gas	5972928.10	2.1	6405295.44	93.25	60	125	
Y	89	He	911991.49	1.0	911251.11	100.08	60	125	
Rh	103	No Gas	4450617.32	2.4	4964291.47	89.65	60	125	
Rh	103	He	2115767.48	7.0	2314658.72	91.41	60	125	
In	115	No Gas	4671502.59	1.1	4992972.58	93.56	60	125	
Lu	175	No Gas	19241.80	2.4	20565.02	93.57	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	075_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:15:50
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.759	ppb	10.3	219513.47	91.52	
Al	27	72	No Gas	47.204	ppb	6.7	1818059.69	94.41	
V	51	72	He	48.643	ppb	1.2	407501.24	97.29	
Cr	52	72	No Gas	47.915	ppb	8.4	2566533.09	95.83	
Mn	55	72	No Gas	48.946	ppb	11.4	3556050.14	97.89	
Co	59	72	He	47.361	ppb	1.5	805304.33	94.72	
Ni	60	72	No Gas	47.394	ppb	9.2	638496.12	94.79	
Cu	63	72	No Gas	48.982	ppb	9.2	1578968.90	97.96	
Zn	66	72	No Gas	47.344	ppb	7.6	396720.20	94.69	
As	75	72	No Gas	49.546	ppb	7.8	421839.68	99.09	
Se	78	72	He	51.920	ppb	1.9	4779.81	103.84	
Se	82	72	No Gas	49.585	ppb	7.4	26632.23	99.17	
Mo	98	89	No Gas	50.264	ppb	5.8	1053986.49	100.53	
Ag	107	89	No Gas	52.371	ppb	4.4	1692443.34	104.74	
Cd	111	89	No Gas	49.249	ppb	5.8	334831.66	98.5	
Sb	123	89	No Gas	50.705	ppb	3.9	942360.35	101.41	
Ba	137	115	No Gas	47.446	ppb	5.8	455921.33	94.89	
Tl	203	115	No Gas	49.044	ppb	6.2	604735.17	98.09	
Pb	208	115	No Gas	48.782	ppb	4.2	1894484.08	97.56	
Th	232	115	No Gas	48.577	ppb	6.1	1593291.53	97.15	
U	238	115	No Gas	48.696	ppb	3.9	1559432.30	97.39	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46403532.60	3.4	45483248.19	102.02	60	125	
Sc	45	He	2364825.46	4.0	2200900.54	107.45	60	125	
Ge	72	No Gas	4648398.01	0.4	4513567.18	102.99	60	125	
Ge	72	He	661653.81	1.7	632773.79	104.56	60	125	
Y	89	No Gas	6197898.50	2.0	6405295.44	96.76	60	125	
Y	89	He	966568.50	1.0	911251.11	106.07	60	125	
Rh	103	No Gas	5035779.94	6.0	4964291.47	101.44	60	125	
Rh	103	He	2493700.25	4.6	2314658.72	107.74	60	125	
In	115	No Gas	5120812.57	2.8	4992972.58	102.56	60	125	
Lu	175	No Gas	21437.47	0.4	20565.02	104.24	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	076_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:17:41
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	41.2	30.00	
Al	27	72	No Gas	0.131	ppb	23.9	20268.79	
V	51	72	He	0.003	ppb	19.2	777.80	
Cr	52	72	No Gas	-0.057	ppb	N/A	36141.23	
Mn	55	72	No Gas	-0.005	ppb	N/A	10193.66	
Co	59	72	He	0.003	ppb	22.4	97.78	
Ni	60	72	No Gas	0.008	ppb	16.2	472.23	
Cu	63	72	No Gas	-0.008	ppb	N/A	1714.55	
Zn	66	72	No Gas	-0.019	ppb	N/A	1911.27	
As	75	72	No Gas	0.177	ppb	22.1	1415.66	
Se	78	72	He	0.019	ppb	104.7	68.67	
Se	82	72	No Gas	0.171	ppb	64.1	232.54	
Mo	98	89	No Gas	0.062	ppb	69.9	1476.03	
Ag	107	89	No Gas	0.002	ppb	177.7	365.56	
Cd	111	89	No Gas	0.020	ppb	54.9	2692.11	
Sb	123	89	No Gas	0.195	ppb	64.3	4823.22	
Ba	137	115	No Gas	0.006	ppb	16.5	140.00	
Tl	203	115	No Gas	0.018	ppb	15.1	252.23	
Pb	208	115	No Gas	0.005	ppb	9.9	546.67	
Th	232	115	No Gas	0.177	ppb	13.0	6788.50	
U	238	115	No Gas	0.006	ppb	0.1	210.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45314255.98	3.1	45483248.19	99.63	60	125	
Sc	45	He	2263867.69	3.3	2200900.54	102.86	60	125	
Ge	72	No Gas	4571961.35	0.4	4513567.18	101.29	60	125	
Ge	72	He	658281.80	0.8	632773.79	104.03	60	125	
Y	89	No Gas	6244598.78	2.8	6405295.44	97.49	60	125	
Y	89	He	992704.47	2.7	911251.11	108.94	60	125	
Rh	103	No Gas	5216837.85	3.3	4964291.47	105.09	60	125	
Rh	103	He	2420666.22	3.8	2314658.72	104.58	60	125	
In	115	No Gas	5118462.02	1.5	4992972.58	102.51	60	125	
Lu	175	No Gas	20953.32	1.0	20565.02	101.89	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	077LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:19:36
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.944	ppb	8.6	4464.03	94.4	
Al	27	72	No Gas	5.109	ppb	5.7	205948.96	102.18	
V	51	72	He	0.998	ppb	1.9	9061.77	99.8	
Cr	52	72	No Gas	1.064	ppb	7.6	93713.06	106.4	
Mn	55	72	No Gas	0.996	ppb	5.8	81015.60	99.6	
Co	59	72	He	0.952	ppb	3.1	16168.11	95.2	
Ni	60	72	No Gas	1.055	ppb	5.0	14251.72	105.5	
Cu	63	72	No Gas	0.962	ppb	5.5	32206.01	96.2	
Zn	66	72	No Gas	4.839	ppb	5.7	41488.94	96.78	
As	75	72	No Gas	1.065	ppb	8.4	8784.70	106.5	
Se	78	72	He	0.995	ppb	6.5	157.00	99.5	
Se	82	72	No Gas	0.871	ppb	6.1	597.17	87.1	
Mo	98	89	No Gas	0.965	ppb	6.7	21043.49	96.5	
Ag	107	89	No Gas	0.980	ppb	11.6	32932.23	98	
Cd	111	89	No Gas	0.972	ppb	10.5	9367.62	97.2	
Sb	123	89	No Gas	1.055	ppb	12.9	21402.66	105.5	
Ba	137	115	No Gas	0.983	ppb	8.9	9361.09	98.3	
Tl	203	115	No Gas	0.953	ppb	8.6	11578.56	95.3	
Pb	208	115	No Gas	0.984	ppb	9.9	37875.23	98.4	
Th	232	115	No Gas	1.008	ppb	6.3	33455.08	100.8	
U	238	115	No Gas	0.958	ppb	8.8	30161.79	95.8	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45623655.97	1.8	45483248.19	100.31	60	125	
Sc	45	He	2286503.94	2.1	2200900.54	103.89	60	125	
Ge	72	No Gas	4540361.90	2.0	4513567.18	100.59	60	125	
Ge	72	He	658916.92	2.1	632773.79	104.13	60	125	
Y	89	No Gas	6392011.69	2.5	6405295.44	99.79	60	125	
Y	89	He	983294.96	0.7	911251.11	107.91	60	125	
Rh	103	No Gas	5121851.88	3.0	4964291.47	103.17	60	125	
Rh	103	He	2472252.75	2.5	2314658.72	106.81	60	125	
In	115	No Gas	5044765.63	3.8	4992972.58	101.04	60	125	
Lu	175	No Gas	21286.06	1.5	20565.02	103.51	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	078_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:21:32
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	46.183	ppb	8.3	222588.15	92.37	
Al	27	72	No Gas	46.436	ppb	5.7	1820481.60	92.87	
V	51	72	He	48.105	ppb	0.8	413565.10	96.21	
Cr	52	72	No Gas	47.073	ppb	7.9	2568631.98	94.15	
Mn	55	72	No Gas	49.029	ppb	6.1	3625742.08	98.06	
Co	59	72	He	46.340	ppb	0.2	808656.90	92.68	
Ni	60	72	No Gas	46.741	ppb	7.6	641049.02	93.48	
Cu	63	72	No Gas	48.740	ppb	9.2	1599633.48	97.48	
Zn	66	72	No Gas	47.263	ppb	5.7	403016.98	94.53	
As	75	72	No Gas	49.471	ppb	5.9	428659.92	98.94	
Se	78	72	He	51.798	ppb	1.8	4893.85	103.6	
Se	82	72	No Gas	48.543	ppb	5.3	26540.03	97.09	
Mo	98	89	No Gas	47.712	ppb	5.3	1072101.03	95.42	
Ag	107	89	No Gas	49.769	ppb	5.2	1725719.06	99.54	
Cd	111	89	No Gas	47.280	ppb	5.3	344604.02	94.56	
Sb	123	89	No Gas	48.789	ppb	8.1	971646.35	97.58	
Ba	137	115	No Gas	47.973	ppb	4.3	471784.86	95.95	
Tl	203	115	No Gas	49.369	ppb	5.0	623050.79	98.74	
Pb	208	115	No Gas	48.568	ppb	4.2	1931568.71	97.14	
Th	232	115	No Gas	49.478	ppb	7.0	1660685.87	98.96	
U	238	115	No Gas	49.173	ppb	5.3	1610592.16	98.35	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46554504.81	2.9	45483248.19	102.36	60	125	
Sc	45	He	2324500.46	4.1	2200900.54	105.62	60	125	
Ge	72	No Gas	4726109.40	3.0	4513567.18	104.71	60	125	
Ge	72	He	678932.92	1.3	632773.79	107.29	60	125	
Y	89	No Gas	6654737.24	7.4	6405295.44	103.89	60	125	
Y	89	He	990091.21	3.2	911251.11	108.65	60	125	
Rh	103	No Gas	5026661.74	2.3	4964291.47	101.26	60	125	
Rh	103	He	2494902.54	1.8	2314658.72	107.79	60	125	
In	115	No Gas	5243657.57	4.7	4992972.58	105.02	60	125	
Lu	175	No Gas	22272.21	2.9	20565.02	108.3	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	079_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:23:23
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	65.6	34.44	
Al	27	72	No Gas	0.130	ppb	33.6	20441.15	
V	51	72	He	0.007	ppb	55.2	827.80	
Cr	52	72	No Gas	-0.059	ppb	N/A	36489.83	
Mn	55	72	No Gas	-0.002	ppb	N/A	10521.67	
Co	59	72	He	0.003	ppb	57.1	97.78	
Ni	60	72	No Gas	0.009	ppb	39.4	493.34	
Cu	63	72	No Gas	-0.009	ppb	N/A	1704.55	
Zn	66	72	No Gas	-0.018	ppb	N/A	1939.05	
As	75	72	No Gas	0.192	ppb	59.8	1571.39	
Se	78	72	He	0.056	ppb	168.5	73.67	
Se	82	72	No Gas	0.345	ppb	34.0	328.66	
Mo	98	89	No Gas	0.068	ppb	65.9	1667.52	
Ag	107	89	No Gas	0.004	ppb	15.1	446.67	
Cd	111	89	No Gas	0.032	ppb	76.4	2885.80	
Sb	123	89	No Gas	0.217	ppb	57.6	5446.80	
Ba	137	115	No Gas	0.006	ppb	9.3	145.56	
Tl	203	115	No Gas	0.017	ppb	31.1	251.11	
Pb	208	115	No Gas	0.008	ppb	19.6	666.67	
Th	232	115	No Gas	0.198	ppb	14.2	7689.03	
U	238	115	No Gas	0.008	ppb	6.5	294.45	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46473013.71	1.4	45483248.19	102.18	60	125	
Sc	45	He	2254646.09	3.7	2200900.54	102.44	60	125	
Ge	72	No Gas	4627560.51	1.6	4513567.18	102.53	60	125	
Ge	72	He	672591.90	1.6	632773.79	106.29	60	125	
Y	89	No Gas	6501791.41	2.4	6405295.44	101.51	60	125	
Y	89	He	999396.59	1.9	911251.11	109.67	60	125	
Rh	103	No Gas	5309397.15	2.4	4964291.47	106.95	60	125	
Rh	103	He	2456876.08	4.3	2314658.72	106.14	60	125	
In	115	No Gas	5257734.37	3.8	4992972.58	105.3	60	125	
Lu	175	No Gas	22561.55	0.7	20565.02	109.71	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBW1
File Name	080_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:25:20
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.002	ppb	40.4	11.11	
Al	27	72	No Gas	0.232	ppb	12.5	24712.11	
V	51	72	He	0.004	ppb	114.3	795.58	
Cr	52	72	No Gas	-0.071	ppb	N/A	36428.58	
Mn	55	72	No Gas	-0.010	ppb	N/A	10099.14	
Co	59	72	He	0.001	ppb	79.2	73.33	
Ni	60	72	No Gas	-0.002	ppb	N/A	352.23	
Cu	63	72	No Gas	-0.011	ppb	N/A	1636.76	
Zn	66	72	No Gas	-0.020	ppb	N/A	1957.93	
As	75	72	No Gas	0.110	ppb	131.5	889.55	
Se	78	72	He	-0.004	ppb	N/A	67.67	
Se	82	72	No Gas	0.223	ppb	22.9	267.37	
Mo	98	89	No Gas	0.021	ppb	93.8	630.35	
Ag	107	89	No Gas	-0.005	ppb	N/A	170.00	
Cd	111	89	No Gas	0.001	ppb	282.4	2658.51	
Sb	123	89	No Gas	0.073	ppb	89.7	2630.29	
Ba	137	115	No Gas	0.000	ppb	257.8	90.00	
Tl	203	115	No Gas	0.004	ppb	24.1	86.67	
Pb	208	115	No Gas	0.001	ppb	149.1	395.56	
Th	232	115	No Gas	0.071	ppb	7.3	3436.03	
U	238	115	No Gas	0.002	ppb	42.3	86.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46636112.59	2.4	45483248.19	102.53	60	125	
Sc	45	He	2329326.78	3.6	2200900.54	105.84	60	125	
Ge	72	No Gas	4697378.29	1.5	4513567.18	104.07	60	125	
Ge	72	He	668905.76	0.9	632773.79	105.71	60	125	
Y	89	No Gas	6484705.30	4.0	6405295.44	101.24	60	125	
Y	89	He	999944.02	2.0	911251.11	109.73	60	125	
Rh	103	No Gas	5134647.72	2.3	4964291.47	103.43	60	125	
Rh	103	He	2482922.68	2.3	2314658.72	107.27	60	125	
In	115	No Gas	5275524.24	1.3	4992972.58	105.66	60	125	
Lu	175	No Gas	22732.96	1.9	20565.02	110.54	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSW1
File Name	081_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:27:17
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	21.936	ppb	8.5	103656.86	109.68	
Al	27	72	No Gas	22.558	ppb	2.6	894708.13	56.4	> +/- 10%
V	51	72	He	22.428	ppb	1.7	195124.89	112.14	
Cr	52	72	No Gas	21.698	ppb	3.9	1208062.21	108.49	
Mn	55	72	No Gas	23.459	ppb	4.7	1744968.85	117.29	> +/- 10%
Co	59	72	He	21.649	ppb	0.9	381595.81	108.25	
Ni	60	72	No Gas	21.694	ppb	3.3	298410.50	108.47	
Cu	63	72	No Gas	22.151	ppb	4.1	729699.12	110.76	
Zn	66	72	No Gas	25.223	ppb	2.5	216622.85	126.12	> +/- 10%
As	75	72	No Gas	23.451	ppb	4.1	203716.05	117.26	> +/- 10%
Se	78	72	He	24.142	ppb	3.1	2340.20	120.71	> +/- 10%
Se	82	72	No Gas	23.470	ppb	3.7	12940.70	117.35	> +/- 10%
Mo	98	89	No Gas	23.242	ppb	6.7	511844.82	116.21	> +/- 10%
Ag	107	89	No Gas	-0.004	ppb	N/A	186.67	-0.02	> +/- 10%
Cd	111	89	No Gas	23.128	ppb	8.5	166443.18	115.64	> +/- 10%
Sb	123	89	No Gas	24.112	ppb	5.8	471232.12	120.56	> +/- 10%
Ba	137	115	No Gas	0.021	ppb	8.7	291.11	0.11	> +/- 10%
Tl	203	115	No Gas	24.271	ppb	6.3	302640.03	121.36	> +/- 10%
Pb	208	115	No Gas	23.371	ppb	6.2	918491.51	116.86	> +/- 10%
Th	232	115	No Gas	24.236	ppb	6.1	804569.38	121.18	> +/- 10%
U	238	115	No Gas	23.452	ppb	6.3	759818.11	117.26	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45689645.96	2.4	45483248.19	100.45	60	125	
Sc	45	He	2325389.56	1.3	2200900.54	105.66	60	125	
Ge	72	No Gas	4739813.15	2.5	4513567.18	105.01	60	125	
Ge	72	He	685767.11	1.9	632773.79	108.37	60	125	
Y	89	No Gas	6516440.16	2.2	6405295.44	101.74	60	125	
Y	89	He	1029096.52	1.8	911251.11	112.93	60	125	
Rh	103	No Gas	5055471.74	4.2	4964291.47	101.84	60	125	
Rh	103	He	2543519.83	4.1	2314658.72	109.89	60	125	
In	115	No Gas	5186602.43	1.6	4992972.58	103.88	60	125	
Lu	175	No Gas	22888.81	2.2	20565.02	111.3	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401553-001 5X
File Name	082SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:29:13
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.010	ppb	61.7	47.78	
Al	27	72	No Gas	0.366	ppb	8.6	29667.99	
V	51	72	He	-0.004	ppb	N/A	675.57	
Cr	52	72	No Gas	-0.080	ppb	N/A	35703.39	
Mn	55	72	No Gas	4.420	ppb	4.0	332302.36	
Co	59	72	He	0.133	ppb	6.7	2163.50	
Ni	60	72	No Gas	0.640	ppb	7.8	9020.69	
Cu	63	72	No Gas	0.586	ppb	6.4	20923.36	
Zn	66	72	No Gas	1.070	ppb	5.1	11066.55	
As	75	72	No Gas	0.627	ppb	10.6	5285.31	
Se	78	72	He	0.029	ppb	474.8	65.00	
Se	82	72	No Gas	0.370	ppb	37.4	343.27	
Mo	98	89	No Gas	0.358	ppb	10.2	7715.36	
Ag	107	89	No Gas	0.001	ppb	145.3	358.90	
Cd	111	89	No Gas	0.005	ppb	228.9	2579.07	
Sb	123	89	No Gas	0.123	ppb	48.5	3490.49	
Ba	137	115	No Gas	2.691	ppb	2.6	25559.78	
Tl	203	115	No Gas	0.020	ppb	19.0	271.12	
Pb	208	115	No Gas	0.013	ppb	35.7	867.79	
Th	232	115	No Gas	0.185	ppb	8.2	6953.03	
U	238	115	No Gas	0.022	ppb	11.5	725.58	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45358653.75	0.7	45483248.19	99.73	60	125	
Sc	45	He	2112185.61	3.5	2200900.54	95.97	60	125	
Ge	72	No Gas	4669162.04	4.0	4513567.18	103.45	60	125	
Ge	72	He	617674.85	3.8	632773.79	97.61	60	125	
Y	89	No Gas	6225367.81	2.1	6405295.44	97.19	60	125	
Y	89	He	890706.98	3.9	911251.11	97.75	60	125	
Rh	103	No Gas	4715601.76	2.9	4964291.47	94.99	60	125	
Rh	103	He	2159095.12	4.4	2314658.72	93.28	60	125	
In	115	No Gas	5050401.74	1.9	4992972.58	101.15	60	125	
Lu	175	No Gas	21040.14	1.1	20565.02	102.31	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401553-001L 25X
File Name	083SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:31:08
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	29.3	14.45	
Al	27	72	No Gas	0.360	ppb	1.5	27473.67	
V	51	72	He	-0.015	ppb	N/A	600.01	
Cr	52	72	No Gas	-0.081	ppb	N/A	33208.49	
Mn	55	72	No Gas	0.913	ppb	8.4	71851.34	
Co	59	72	He	0.026	ppb	8.6	466.67	
Ni	60	72	No Gas	0.118	ppb	12.1	1826.79	
Cu	63	72	No Gas	0.112	ppb	6.6	5246.54	
Zn	66	72	No Gas	0.233	ppb	6.7	3789.40	
As	75	72	No Gas	0.058	ppb	126.9	395.22	
Se	78	72	He	-0.083	ppb	N/A	57.00	
Se	82	72	No Gas	0.111	ppb	89.9	191.32	
Mo	98	89	No Gas	0.075	ppb	18.4	1635.04	
Ag	107	89	No Gas	-0.002	ppb	N/A	235.56	
Cd	111	89	No Gas	0.004	ppb	229.2	2391.14	
Sb	123	89	No Gas	0.051	ppb	77.2	1985.72	
Ba	137	115	No Gas	0.508	ppb	9.2	4680.83	
Tl	203	115	No Gas	0.003	ppb	67.6	62.22	
Pb	208	115	No Gas	0.000	ppb	N/A	326.67	
Th	232	115	No Gas	0.050	ppb	17.3	2480.25	
U	238	115	No Gas	0.004	ppb	8.1	122.22	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43284009.39	1.4	45483248.19	95.16	60	125	
Sc	45	He	2160109.71	4.3	2200900.54	98.15	60	125	
Ge	72	No Gas	4350667.32	2.6	4513567.18	96.39	60	125	
Ge	72	He	630907.70	0.3	632773.79	99.71	60	125	
Y	89	No Gas	5777693.80	1.4	6405295.44	90.2	60	125	
Y	89	He	926231.39	1.2	911251.11	101.64	60	125	
Rh	103	No Gas	4613924.26	2.5	4964291.47	92.94	60	125	
Rh	103	He	2255527.82	0.4	2314658.72	97.45	60	125	
In	115	No Gas	4847316.06	4.3	4992972.58	97.08	60	125	
Lu	175	No Gas	20261.16	1.4	20565.02	98.52	60	125	

7900 ICP-MS 200.8/6020A
Reference Sample Report

Sample Name	R2401707-001
File Name	084_ARF.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:33:03
Sample Type	AllRef
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS
Be	9	45	No Gas	0.002	ppb	3.1	10.00
Al	27	72	No Gas	49.947	ppb	2.6	1885909.44
Cr	52	72	No Gas	0.699	ppb	15.0	75223.38
Mn	55	72	No Gas	1.964	ppb	2.2	150000.26
Ni	60	72	No Gas	9.153	ppb	4.5	121287.69
Cu	63	72	No Gas	488.039	ppb	3.4	15410802.17
Zn	66	72	No Gas	443.677	ppb	6.7	3628288.88
As	75	72	No Gas	0.493	ppb	15.8	4061.10
Se	82	72	No Gas	0.260	ppb	73.5	278.30
Mo	98	89	No Gas	1.043	ppb	3.0	22091.50
Ag	107	89	No Gas	0.022	ppb	21.5	1018.98
Cd	111	89	No Gas	2.200	ppb	3.7	17412.35
Sb	123	89	No Gas	1.075	ppb	3.7	21197.67
Ba	137	115	No Gas	24.292	ppb	6.4	226345.49
Tl	203	115	No Gas	0.012	ppb	52.8	171.11
Pb	208	115	No Gas	154.542	ppb	2.1	5824041.51
Th	232	115	No Gas	0.022	ppb	22.0	1663.45
U	238	115	No Gas	0.279	ppb	5.7	8695.24
V	51	72	He	0.189	ppb	6.4	2400.21
Co	59	72	He	0.093	ppb	1.4	1670.10
Se	78	72	He	0.043	ppb	181.5	73.00

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High
Sc	45	No Gas	46828759.25	2.8	45483248.19	102.96	60	125
Sc	45	He	2338598.38	4.8	2200900.54	106.26	60	125
Ge	72	No Gas	4555144.26	4.3	4513567.18	100.92	60	125
Ge	72	He	679085.60	2.2	632773.79	107.32	60	125
Y	89	No Gas	6209159.20	1.9	6405295.44	96.94	60	125
Y	89	He	981052.95	0.6	911251.11	107.66	60	125
Rh	103	No Gas	4832654.67	1.6	4964291.47	97.35	60	125
Rh	103	He	2358525.81	4.8	2314658.72	101.9	60	125
In	115	No Gas	4971229.52	4.0	4992972.58	99.56	60	125
Lu	175	No Gas	20935.50	2.4	20565.02	101.8	60	125

7900 ICP-MS 200.8-6020A
Matrix Spike (MS) Sample Report

Sample Name	R2401707-001S
File Name	085_Spk.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:34:54
Sample Type	Spike
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	084_ ARF. d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	%Rec	Flag
Be	9	No Gas	21.708	ppb	4.2	102541.34	0.002	108.53	
Al	27	No Gas	76.204	ppb	7.1	2851655.09	49.947	84.72	
V	51	He	23.067	ppb	1.4	193107.86	0.189	114.25	
Cr	52	No Gas	23.275	ppb	5.6	1234982.83	0.699	112.44	
Mn	55	No Gas	25.362	ppb	6.8	1801016.14	1.964	115.47	
Co	59	He	21.734	ppb	2.6	368556.84	0.093	108.17	
Ni	60	No Gas	31.982	ppb	4.8	420099.24	9.153	109.7	
Cu	63	No Gas	519.237	ppb	7.4	16296999.91	488.039	102.2	
Zn	66	No Gas	473.877	ppb	6.6	3852375.13	443.677	102.2	
As	75	No Gas	25.297	ppb	3.6	209903.76	0.493	123.44	
Se	78	He	25.744	ppb	3.3	2396.87	0.043	128.44	> +/- 25%
Se	82	No Gas	24.920	ppb	4.4	13115.25	0.26	123	
Mo	98	No Gas	24.423	ppb	1.8	511476.51	1.043	116.06	
Ag	107	No Gas	0.018	ppb	6.6	903.36	0.022	0.09	> +/- 25%
Cd	111	No Gas	25.291	ppb	0.9	172987.84	2.2	113.92	
Sb	123	No Gas	25.002	ppb	1.2	464853.02	1.075	118.63	
Ba	137	No Gas	24.449	ppb	1.1	228337.60	24.292	55.2	> +/- 25%
Tl	203	No Gas	22.591	ppb	3.4	270449.92	0.012	112.89	
Pb	208	No Gas	172.840	ppb	3.1	6519008.11	154.542	99.02	
Th	232	No Gas	22.306	ppb	2.0	711357.02	0.022	111.41	
U	238	No Gas	22.648	ppb	3.1	704885.48	0.279	111.68	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45656948.18	5.0	45483248.19	100.38	60	125	
Sc	45	He	2275136.64	0.8	2200900.54	103.37	60	125	
Ge	72	No Gas	4529894.13	1.7	4513567.18	100.36	60	125	
Ge	72	He	659956.66	2.3	632773.79	104.3	60	125	
Y	89	No Gas	6192926.28	3.7	6405295.44	96.68	60	125	
Y	89	He	973506.21	2.5	911251.11	106.83	60	125	
Rh	103	No Gas	4654968.15	2.1	4964291.47	93.77	60	125	
Rh	103	He	2223041.02	1.3	2314658.72	96.04	60	125	
In	115	No Gas	4983276.47	5.5	4992972.58	99.81	60	125	
Lu	175	No Gas	20213.29	2.8	20565.02	98.29	60	125	

7900 ICP-MS 200.8/6020A
Matrix Spike Duplicate (MSD) Sample Report

Sample Name	R2401707-001SD
File Name	086_SpD.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:36:45
Sample Type	SpkDup
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d
QC Ref File Name	085_ Spk.d

QC Analyte Table

Name	Mass	Tune	Conc.	Units	RSD	CPS	RefConc	RPD	Flag
Be	9	No Gas	21.027	ppb	2.7	99985.85	21.708	3.19	
Al	27	No Gas	72.587	ppb	4.2	2738163.08	76.204	4.86	
V	51	He	22.880	ppb	1.9	196845.89	23.067	0.81	
Cr	52	No Gas	23.188	ppb	4.6	1240160.71	23.275	0.37	
Mn	55	No Gas	25.741	ppb	2.2	1841895.41	25.362	1.48	
Co	59	He	21.144	ppb	0.6	368529.78	21.734	2.75	
Ni	60	No Gas	31.418	ppb	3.2	415770.88	31.982	1.78	
Cu	63	No Gas	511.052	ppb	4.1	16160696.02	519.237	1.59	
Zn	66	No Gas	470.308	ppb	5.8	3853120.82	473.877	0.76	
As	75	No Gas	24.936	ppb	3.7	208478.57	25.297	1.44	
Se	78	He	24.926	ppb	2.5	2387.87	25.744	3.23	
Se	82	No Gas	24.559	ppb	4.2	13028.47	24.92	1.46	
Mo	98	No Gas	25.257	ppb	2.9	513590.93	24.423	3.36	
Ag	107	No Gas	0.018	ppb	20.4	861.14	0.018	3.1	
Cd	111	No Gas	25.427	ppb	1.8	168730.04	25.291	0.54	
Sb	123	No Gas	25.738	ppb	2.7	463932.53	25.002	2.9	
Ba	137	No Gas	25.050	ppb	0.8	223572.53	24.449	2.43	
Tl	203	No Gas	23.476	ppb	0.8	268764.36	22.591	3.84	
Pb	208	No Gas	179.929	ppb	3.4	6494620.30	172.84	4.02	
Th	232	No Gas	23.140	ppb	1.4	705433.58	22.306	3.67	
U	238	No Gas	23.577	ppb	1.4	701181.40	22.648	4.02	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45924904.84	2.6	45483248.19	100.97	60	125	
Sc	45	He	2355172.89	0.2	2200900.54	107.01	60	125	
Ge	72	No Gas	4563577.18	2.3	4513567.18	101.11	60	125	
Ge	72	He	678063.13	0.8	632773.79	107.16	60	125	
Y	89	No Gas	6009537.68	4.4	6405295.44	93.82	60	125	
Y	89	He	980785.83	1.3	911251.11	107.63	60	125	
Rh	103	No Gas	4667227.73	3.5	4964291.47	94.02	60	125	
Rh	103	He	2336361.78	4.3	2314658.72	100.94	60	125	
In	115	No Gas	4759462.73	3.9	4992972.58	95.32	60	125	
Lu	175	No Gas	20589.41	2.8	20565.02	100.12	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401707-002
File Name	087SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:38:35
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	27.7	23.33	
Al	27	72	No Gas	21.533	ppb	4.9	829008.73	
V	51	72	He	0.070	ppb	4.7	1338.95	
Cr	52	72	No Gas	0.474	ppb	24.8	64110.36	
Mn	55	72	No Gas	0.115	ppb	4.5	18825.74	
Co	59	72	He	0.042	ppb	10.7	760.02	
Ni	60	72	No Gas	0.880	ppb	4.1	12087.41	
Cu	63	72	No Gas	393.680	ppb	6.6	12544915.33	>LDR
Zn	66	72	No Gas	13.442	ppb	4.8	112944.17	
As	75	72	No Gas	0.434	ppb	11.8	3589.56	
Se	78	72	He	0.216	ppb	72.4	86.67	
Se	82	72	No Gas	0.330	ppb	58.9	318.56	
Mo	98	89	No Gas	1.145	ppb	9.7	22900.72	
Ag	107	89	No Gas	0.006	ppb	8.9	475.57	
Cd	111	89	No Gas	0.032	ppb	33.3	2606.96	
Sb	123	89	No Gas	0.152	ppb	23.7	3810.55	
Ba	137	115	No Gas	20.818	ppb	6.7	192615.38	
Tl	203	115	No Gas	0.009	ppb	15.9	141.11	
Pb	208	115	No Gas	0.313	ppb	3.9	12038.85	
Th	232	115	No Gas	0.086	ppb	10.5	3686.10	
U	238	115	No Gas	0.192	ppb	7.0	5928.07	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45944391.51	2.4	45483248.19	101.01	60	125	
Sc	45	He	2313408.45	1.5	2200900.54	105.11	60	125	
Ge	72	No Gas	4598902.73	1.5	4513567.18	101.89	60	125	
Ge	72	He	660999.19	1.7	632773.79	104.46	60	125	
Y	89	No Gas	5875822.82	1.5	6405295.44	91.73	60	125	
Y	89	He	963452.15	1.4	911251.11	105.73	60	125	
Rh	103	No Gas	4665312.18	7.7	4964291.47	93.98	60	125	
Rh	103	He	2311222.34	1.3	2314658.72	99.85	60	125	
In	115	No Gas	4941687.02	4.0	4992972.58	98.97	60	125	
Lu	175	No Gas	19409.85	2.5	20565.02	94.38	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401707-004
File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:40:29
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	23.4	21.11	
Al	27	72	No Gas	24.737	ppb	2.5	942141.77	
V	51	72	He	0.061	ppb	11.7	1265.61	
Cr	52	72	No Gas	0.465	ppb	16.5	63147.28	
Mn	55	72	No Gas	0.063	ppb	15.9	14990.10	
Co	59	72	He	0.034	ppb	7.2	626.68	
Ni	60	72	No Gas	0.820	ppb	3.8	11203.35	
Cu	63	72	No Gas	94.049	ppb	3.8	2973616.13	
Zn	66	72	No Gas	14.059	ppb	1.2	117012.35	
As	75	72	No Gas	0.407	ppb	0.1	3336.35	
Se	78	72	He	0.112	ppb	75.7	77.67	
Se	82	72	No Gas	0.249	ppb	124.9	275.61	
Mo	98	89	No Gas	1.082	ppb	2.8	21999.25	
Ag	107	89	No Gas	0.002	ppb	59.8	358.90	
Cd	111	89	No Gas	-0.003	ppb	N/A	2415.05	
Sb	123	89	No Gas	0.116	ppb	15.5	3224.83	
Ba	137	115	No Gas	20.413	ppb	3.9	182440.92	
Tl	203	115	No Gas	0.004	ppb	33.1	76.67	
Pb	208	115	No Gas	0.573	ppb	2.1	21025.62	
Th	232	115	No Gas	0.036	ppb	11.8	2016.83	
U	238	115	No Gas	0.239	ppb	4.5	7126.46	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45359528.20	4.9	45483248.19	99.73	60	125	
Sc	45	He	2291351.37	2.4	2200900.54	104.11	60	125	
Ge	72	No Gas	4558183.99	3.2	4513567.18	100.99	60	125	
Ge	72	He	662729.82	1.7	632773.79	104.73	60	125	
Y	89	No Gas	5963958.51	3.2	6405295.44	93.11	60	125	
Y	89	He	942453.92	2.1	911251.11	103.42	60	125	
Rh	103	No Gas	4538732.46	2.5	4964291.47	91.43	60	125	
Rh	103	He	2232337.13	0.8	2314658.72	96.44	60	125	
In	115	No Gas	4766728.28	0.4	4992972.58	95.47	60	125	
Lu	175	No Gas	19064.89	1.8	20565.02	92.71	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401707-005
File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:42:24
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.009	ppb	22.4	44.44	
Al	27	72	No Gas	33.005	ppb	2.5	1257543.98	
V	51	72	He	0.081	ppb	8.4	1443.41	
Cr	52	72	No Gas	0.420	ppb	18.3	61035.37	
Mn	55	72	No Gas	0.168	ppb	2.2	22580.07	
Co	59	72	He	0.041	ppb	1.9	748.91	
Ni	60	72	No Gas	6.030	ppb	4.7	80403.98	
Cu	63	72	No Gas	25.125	ppb	5.3	799418.00	
Zn	66	72	No Gas	69.148	ppb	4.3	570229.21	
As	75	72	No Gas	0.441	ppb	16.4	3635.26	
Se	78	72	He	0.051	ppb	61.3	72.67	
Se	82	72	No Gas	0.263	ppb	36.2	282.16	
Mo	98	89	No Gas	0.970	ppb	5.8	20255.68	
Ag	107	89	No Gas	-0.003	ppb	N/A	198.89	
Cd	111	89	No Gas	-0.005	ppb	N/A	2470.11	
Sb	123	89	No Gas	0.080	ppb	16.2	2648.04	
Ba	137	115	No Gas	18.627	ppb	5.4	168625.96	
Tl	203	115	No Gas	0.005	ppb	16.5	86.67	
Pb	208	115	No Gas	0.374	ppb	4.3	14028.53	
Th	232	115	No Gas	0.022	ppb	11.1	1614.55	
U	238	115	No Gas	0.219	ppb	2.1	6633.97	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44966609.33	0.9	45483248.19	98.86	60	125	
Sc	45	He	2272448.38	1.6	2200900.54	103.25	60	125	
Ge	72	No Gas	4580762.04	0.8	4513567.18	101.49	60	125	
Ge	72	He	668480.68	1.7	632773.79	105.64	60	125	
Y	89	No Gas	6122095.87	1.7	6405295.44	95.58	60	125	
Y	89	He	969582.91	1.1	911251.11	106.4	60	125	
Rh	103	No Gas	4612672.87	2.9	4964291.47	92.92	60	125	
Rh	103	He	2252705.12	6.4	2314658.72	97.32	60	125	
In	115	No Gas	4827202.44	0.5	4992972.58	96.68	60	125	
Lu	175	No Gas	19071.54	3.8	20565.02	92.74	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	090_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:44:18
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	46.713	ppb	10.7	213472.62	93.43	
Al	27	72	No Gas	49.092	ppb	6.8	1813858.61	98.18	
V	51	72	He	48.786	ppb	0.8	387433.45	97.57	
Cr	52	72	No Gas	46.997	ppb	5.7	2416122.82	93.99	
Mn	55	72	No Gas	47.524	ppb	8.6	3314545.36	95.05	
Co	59	72	He	47.464	ppb	0.6	765251.31	94.93	
Ni	60	72	No Gas	47.000	ppb	7.7	607722.47	94	
Cu	63	72	No Gas	48.180	ppb	6.4	1490471.02	96.36	
Zn	66	72	No Gas	48.026	ppb	6.9	386079.04	96.05	
As	75	72	No Gas	50.057	ppb	7.2	408931.24	100.11	
Se	78	72	He	51.719	ppb	1.5	4513.73	103.44	
Se	82	72	No Gas	48.759	ppb	7.6	25129.28	97.52	
Mo	98	89	No Gas	49.842	ppb	6.5	996421.20	99.68	
Ag	107	89	No Gas	50.462	ppb	6.2	1554973.90	100.92	
Cd	111	89	No Gas	48.853	ppb	7.5	316611.68	97.71	
Sb	123	89	No Gas	49.721	ppb	6.6	880984.03	99.44	
Ba	137	115	No Gas	48.037	ppb	5.1	427878.18	96.07	
Tl	203	115	No Gas	47.503	ppb	3.1	543010.81	95.01	
Pb	208	115	No Gas	47.617	ppb	4.3	1714943.51	95.23	
Th	232	115	No Gas	47.755	ppb	5.6	1452098.14	95.51	
U	238	115	No Gas	46.908	ppb	6.0	1392034.73	93.82	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44202289.35	1.7	45483248.19	97.18	60	125	
Sc	45	He	2209600.54	1.5	2200900.54	100.4	60	125	
Ge	72	No Gas	4461154.96	1.8	4513567.18	98.84	60	125	
Ge	72	He	627245.48	1.7	632773.79	99.13	60	125	
Y	89	No Gas	5911725.46	0.2	6405295.44	92.29	60	125	
Y	89	He	932283.71	1.4	911251.11	102.31	60	125	
Rh	103	No Gas	4803947.03	1.9	4964291.47	96.77	60	125	
Rh	103	He	2209699.36	3.5	2314658.72	95.47	60	125	
In	115	No Gas	4752464.53	6.2	4992972.58	95.18	60	125	
Lu	175	No Gas	19663.66	4.2	20565.02	95.62	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	091_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:46:10
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	13.7	31.11	
Al	27	72	No Gas	0.143	ppb	23.0	19948.28	
V	51	72	He	-0.019	ppb	N/A	564.46	
Cr	52	72	No Gas	-0.097	ppb	N/A	32833.17	
Mn	55	72	No Gas	0.005	ppb	83.3	10528.34	
Co	59	72	He	0.003	ppb	64.5	104.44	
Ni	60	72	No Gas	0.007	ppb	61.9	443.34	
Cu	63	72	No Gas	0.073	ppb	10.5	4112.83	
Zn	66	72	No Gas	-0.002	ppb	N/A	1984.62	
As	75	72	No Gas	0.082	ppb	62.3	607.22	
Se	78	72	He	0.083	ppb	79.8	70.67	
Se	82	72	No Gas	0.316	ppb	25.9	297.42	
Mo	98	89	No Gas	0.072	ppb	73.9	1623.63	
Ag	107	89	No Gas	0.007	ppb	21.3	512.24	
Cd	111	89	No Gas	0.026	ppb	150.9	2591.64	
Sb	123	89	No Gas	0.216	ppb	59.9	4989.97	
Ba	137	115	No Gas	0.005	ppb	39.0	117.78	
Tl	203	115	No Gas	0.018	ppb	15.1	232.23	
Pb	208	115	No Gas	0.014	ppb	21.6	831.13	
Th	232	115	No Gas	0.173	ppb	5.4	6085.92	
U	238	115	No Gas	0.007	ppb	8.4	223.34	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43720406.04	2.6	45483248.19	96.12	60	125	
Sc	45	He	2155516.37	1.2	2200900.54	97.94	60	125	
Ge	72	No Gas	4404795.66	1.8	4513567.18	97.59	60	125	
Ge	72	He	625296.49	1.7	632773.79	98.82	60	125	
Y	89	No Gas	5933296.15	1.1	6405295.44	92.63	60	125	
Y	89	He	916826.18	0.1	911251.11	100.61	60	125	
Rh	103	No Gas	4748166.06	2.4	4964291.47	95.65	60	125	
Rh	103	He	2291524.07	4.0	2314658.72	99	60	125	
In	115	No Gas	4680157.18	1.3	4992972.58	93.73	60	125	
Lu	175	No Gas	19877.27	1.7	20565.02	96.66	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	R2401707-006
File Name	092SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:48:07
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	55.8	21.11	
Al	27	72	No Gas	22.008	ppb	6.9	828955.58	
V	51	72	He	0.073	ppb	7.0	1340.07	
Cr	52	72	No Gas	0.527	ppb	26.6	65377.53	
Mn	55	72	No Gas	0.130	ppb	3.3	19532.25	
Co	59	72	He	0.042	ppb	8.7	756.69	
Ni	60	72	No Gas	1.364	ppb	8.5	18145.04	
Cu	63	72	No Gas	568.638	ppb	10.4	17726911.52	>LDR
Zn	66	72	No Gas	37.287	ppb	8.2	302983.48	
As	75	72	No Gas	0.400	ppb	14.5	3231.36	
Se	78	72	He	0.200	ppb	51.9	84.00	
Se	82	72	No Gas	0.228	ppb	57.1	258.30	
Mo	98	89	No Gas	1.065	ppb	5.3	21355.96	
Ag	107	89	No Gas	0.013	ppb	7.5	695.57	
Cd	111	89	No Gas	-0.004	ppb	N/A	2378.66	
Sb	123	89	No Gas	0.118	ppb	14.9	3225.95	
Ba	137	115	No Gas	21.356	ppb	2.1	190897.14	
Tl	203	115	No Gas	0.007	ppb	17.8	114.44	
Pb	208	115	No Gas	0.376	ppb	0.4	13907.41	
Th	232	115	No Gas	0.037	ppb	4.3	2061.28	
U	238	115	No Gas	0.196	ppb	2.6	5855.81	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	43958708.25	2.2	45483248.19	96.65	60	125	
Sc	45	He	2306634.70	2.2	2200900.54	104.8	60	125	
Ge	72	No Gas	4503589.82	1.3	4513567.18	99.78	60	125	
Ge	72	He	650242.91	1.3	632773.79	102.76	60	125	
Y	89	No Gas	5885596.57	2.8	6405295.44	91.89	60	125	
Y	89	He	933134.72	1.5	911251.11	102.4	60	125	
Rh	103	No Gas	4454039.54	3.2	4964291.47	89.72	60	125	
Rh	103	He	2201260.61	4.1	2314658.72	95.1	60	125	
In	115	No Gas	4764885.23	4.5	4992972.58	95.43	60	125	
Lu	175	No Gas	19473.30	5.6	20565.02	94.69	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	093_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:50:00
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	46.287	ppb	8.2	214254.35	92.57	
Al	27	72	No Gas	49.692	ppb	7.1	1860647.39	99.38	
V	51	72	He	48.300	ppb	1.3	397269.28	96.6	
Cr	52	72	No Gas	46.257	ppb	8.1	2411216.78	92.51	
Mn	55	72	No Gas	48.828	ppb	6.9	3450788.61	97.66	
Co	59	72	He	46.892	ppb	2.2	782863.11	93.78	
Ni	60	72	No Gas	47.195	ppb	7.1	618406.29	94.39	
Cu	63	72	No Gas	47.458	ppb	6.9	1487769.87	94.92	
Zn	66	72	No Gas	47.190	ppb	6.3	384539.06	94.38	
As	75	72	No Gas	49.648	ppb	7.0	411079.51	99.3	
Se	78	72	He	51.448	ppb	0.7	4651.44	102.9	
Se	82	72	No Gas	48.787	ppb	7.5	25485.76	97.57	
Mo	98	89	No Gas	49.385	ppb	1.9	1020146.98	98.77	
Ag	107	89	No Gas	51.009	ppb	3.7	1626217.50	102.02	
Cd	111	89	No Gas	47.874	ppb	2.8	320595.68	95.75	
Sb	123	89	No Gas	49.691	ppb	1.3	910132.88	99.38	
Ba	137	115	No Gas	48.829	ppb	6.0	444283.68	97.66	
Tl	203	115	No Gas	49.148	ppb	9.8	573529.54	98.3	
Pb	208	115	No Gas	48.352	ppb	7.2	1777910.20	96.7	
Th	232	115	No Gas	48.856	ppb	6.2	1516893.69	97.71	
U	238	115	No Gas	48.662	ppb	7.5	1475065.43	97.32	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44707009.34	2.4	45483248.19	98.29	60	125	
Sc	45	He	2187861.03	1.2	2200900.54	99.41	60	125	
Ge	72	No Gas	4518372.18	1.4	4513567.18	100.11	60	125	
Ge	72	He	649639.96	1.0	632773.79	102.67	60	125	
Y	89	No Gas	6109470.31	6.7	6405295.44	95.38	60	125	
Y	89	He	953680.52	1.0	911251.11	104.66	60	125	
Rh	103	No Gas	4766453.28	3.7	4964291.47	96.01	60	125	
Rh	103	He	2439348.72	1.3	2314658.72	105.39	60	125	
In	115	No Gas	4852818.70	2.0	4992972.58	97.19	60	125	
Lu	175	No Gas	20403.64	4.0	20565.02	99.22	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	094_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:51:52
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.006	ppb	15.3	27.78	
Al	27	72	No Gas	0.148	ppb	23.2	20511.32	
V	51	72	He	-0.016	ppb	N/A	615.57	
Cr	52	72	No Gas	-0.117	ppb	N/A	32436.74	
Mn	55	72	No Gas	0.002	ppb	504.9	10479.42	
Co	59	72	He	0.002	ppb	15.6	92.22	
Ni	60	72	No Gas	0.006	ppb	51.2	437.78	
Cu	63	72	No Gas	0.044	ppb	14.4	3291.50	
Zn	66	72	No Gas	-0.019	ppb	N/A	1875.71	
As	75	72	No Gas	0.143	ppb	46.2	1121.00	
Se	78	72	He	0.194	ppb	38.4	83.67	
Se	82	72	No Gas	0.320	ppb	37.2	304.49	
Mo	98	89	No Gas	0.068	ppb	74.4	1615.67	
Ag	107	89	No Gas	0.006	ppb	35.1	497.79	
Cd	111	89	No Gas	0.004	ppb	315.6	2559.97	
Sb	123	89	No Gas	0.206	ppb	59.6	5032.20	
Ba	137	115	No Gas	0.007	ppb	30.7	146.67	
Tl	203	115	No Gas	0.019	ppb	3.5	257.78	
Pb	208	115	No Gas	0.011	ppb	17.4	761.12	
Th	232	115	No Gas	0.169	ppb	2.9	6406.07	
U	238	115	No Gas	0.007	ppb	7.9	247.78	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45559132.63	1.0	45483248.19	100.17	60	125	
Sc	45	He	2279408.03	2.8	2200900.54	103.57	60	125	
Ge	72	No Gas	4488415.24	2.5	4513567.18	99.44	60	125	
Ge	72	He	652541.99	2.9	632773.79	103.12	60	125	
Y	89	No Gas	6197216.14	1.0	6405295.44	96.75	60	125	
Y	89	He	977171.94	1.4	911251.11	107.23	60	125	
Rh	103	No Gas	4797714.95	3.9	4964291.47	96.64	60	125	
Rh	103	He	2416556.08	1.5	2314658.72	104.4	60	125	
In	115	No Gas	5012311.47	0.8	4992972.58	100.39	60	125	
Lu	175	No Gas	20708.55	2.8	20565.02	100.7	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	095LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:53:47
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.880	ppb	11.2	4198.40	88	
Al	27	72	No Gas	4.968	ppb	1.2	202049.22	99.36	
V	51	72	He	0.996	ppb	3.3	8895.00	99.6	
Cr	52	72	No Gas	0.977	ppb	4.1	89895.97	97.7	
Mn	55	72	No Gas	0.969	ppb	3.8	79710.09	96.9	
Co	59	72	He	0.979	ppb	1.5	16352.73	97.9	
Ni	60	72	No Gas	1.031	ppb	1.3	14021.49	103.1	
Cu	63	72	No Gas	0.970	ppb	4.2	32700.52	97	
Zn	66	72	No Gas	4.772	ppb	2.7	41231.58	95.44	
As	75	72	No Gas	1.004	ppb	13.9	8377.35	100.4	
Se	78	72	He	1.108	ppb	7.6	164.33	110.8	
Se	82	72	No Gas	0.961	ppb	12.2	649.64	96.1	
Mo	98	89	No Gas	0.987	ppb	9.0	20961.53	98.7	
Ag	107	89	No Gas	1.032	ppb	7.3	33794.22	103.2	
Cd	111	89	No Gas	0.987	ppb	7.0	9229.29	98.7	
Sb	123	89	No Gas	1.082	ppb	10.2	21362.54	108.2	
Ba	137	115	No Gas	0.941	ppb	5.2	9128.69	94.1	
Tl	203	115	No Gas	0.948	ppb	4.2	11722.06	94.8	
Pb	208	115	No Gas	0.961	ppb	4.5	37677.27	96.1	
Th	232	115	No Gas	0.984	ppb	3.3	33275.86	98.4	
U	238	115	No Gas	0.935	ppb	3.6	29973.42	93.5	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46202779.28	2.9	45483248.19	101.58	60	125	
Sc	45	He	2265145.40	0.9	2200900.54	102.92	60	125	
Ge	72	No Gas	4573113.43	4.1	4513567.18	101.32	60	125	
Ge	72	He	647624.47	1.6	632773.79	102.35	60	125	
Y	89	No Gas	6224076.14	1.6	6405295.44	97.17	60	125	
Y	89	He	980046.91	2.6	911251.11	107.55	60	125	
Rh	103	No Gas	5190760.63	3.4	4964291.47	104.56	60	125	
Rh	103	He	2456126.84	2.7	2314658.72	106.11	60	125	
In	115	No Gas	5125219.93	2.0	4992972.58	102.65	60	125	
Lu	175	No Gas	21668.95	1.1	20565.02	105.37	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	096_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:55:42
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	46.247	ppb	11.5	217516.03	92.49	
Al	27	72	No Gas	47.908	ppb	6.0	1815505.80	95.82	
V	51	72	He	47.048	ppb	1.6	404621.00	94.1	
Cr	52	72	No Gas	46.543	ppb	10.7	2451280.46	93.09	
Mn	55	72	No Gas	49.442	ppb	5.5	3533203.06	98.88	
Co	59	72	He	46.697	ppb	2.5	815040.90	93.39	
Ni	60	72	No Gas	47.751	ppb	8.8	632608.60	95.5	
Cu	63	72	No Gas	48.917	ppb	8.2	1551062.92	97.83	
Zn	66	72	No Gas	48.705	ppb	7.3	401352.72	97.41	
As	75	72	No Gas	50.934	ppb	8.1	426407.39	101.87	
Se	78	72	He	51.022	ppb	2.7	4822.49	102.04	
Se	82	72	No Gas	50.819	ppb	7.1	26839.17	101.64	
Mo	98	89	No Gas	50.229	ppb	4.6	1070473.01	100.46	
Ag	107	89	No Gas	52.804	ppb	8.6	1737062.88	105.61	
Cd	111	89	No Gas	49.978	ppb	3.4	345158.82	99.96	
Sb	123	89	No Gas	51.503	ppb	4.6	973002.08	103.01	
Ba	137	115	No Gas	47.833	ppb	2.9	472125.42	95.67	
Tl	203	115	No Gas	49.349	ppb	4.9	625400.46	98.7	
Pb	208	115	No Gas	48.724	ppb	3.6	1945107.64	97.45	
Th	232	115	No Gas	48.333	ppb	4.1	1629697.09	96.67	
U	238	115	No Gas	48.877	ppb	4.5	1609280.60	97.75	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45552987.08	3.3	45483248.19	100.15	60	125	
Sc	45	He	2294636.78	3.0	2200900.54	104.26	60	125	
Ge	72	No Gas	4571863.15	2.3	4513567.18	101.29	60	125	
Ge	72	He	679368.60	2.8	632773.79	107.36	60	125	
Y	89	No Gas	6296295.72	4.1	6405295.44	98.3	60	125	
Y	89	He	1007206.52	1.0	911251.11	110.53	60	125	
Rh	103	No Gas	5091356.33	0.5	4964291.47	102.56	60	125	
Rh	103	He	2551932.47	1.4	2314658.72	110.25	60	125	
In	115	No Gas	5263717.71	3.6	4992972.58	105.42	60	125	
Lu	175	No Gas	22085.19	1.0	20565.02	107.39	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	097_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:57:33
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.007	ppb	12.2	34.45	
Al	27	72	No Gas	0.129	ppb	17.5	20524.66	
V	51	72	He	-0.013	ppb	N/A	644.46	
Cr	52	72	No Gas	-0.112	ppb	N/A	33839.99	
Mn	55	72	No Gas	-0.002	ppb	N/A	10591.72	
Co	59	72	He	0.004	ppb	21.0	112.22	
Ni	60	72	No Gas	0.003	ppb	133.3	410.01	
Cu	63	72	No Gas	0.011	ppb	31.0	2352.42	
Zn	66	72	No Gas	-0.016	ppb	N/A	1969.06	
As	75	72	No Gas	0.106	ppb	34.1	835.10	
Se	78	72	He	0.085	ppb	29.6	74.67	
Se	82	72	No Gas	0.339	ppb	27.2	326.81	
Mo	98	89	No Gas	0.066	ppb	62.4	1637.91	
Ag	107	89	No Gas	0.003	ppb	42.6	438.90	
Cd	111	89	No Gas	-0.001	ppb	N/A	2663.90	
Sb	123	89	No Gas	0.210	ppb	64.8	5361.25	
Ba	137	115	No Gas	0.003	ppb	18.4	111.11	
Tl	203	115	No Gas	0.019	ppb	7.1	278.89	
Pb	208	115	No Gas	0.011	ppb	16.1	813.35	
Th	232	115	No Gas	0.171	ppb	4.1	6750.68	
U	238	115	No Gas	0.007	ppb	7.9	236.67	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45486659.30	0.7	45483248.19	100.01	60	125	
Sc	45	He	2321155.88	3.3	2200900.54	105.46	60	125	
Ge	72	No Gas	4649010.93	0.8	4513567.18	103	60	125	
Ge	72	He	658865.55	2.1	632773.79	104.12	60	125	
Y	89	No Gas	6537572.24	1.1	6405295.44	102.07	60	125	
Y	89	He	988036.25	2.0	911251.11	108.43	60	125	
Rh	103	No Gas	5218242.43	0.2	4964291.47	105.12	60	125	
Rh	103	He	2520589.76	0.9	2314658.72	108.9	60	125	
In	115	No Gas	5231423.82	3.5	4992972.58	104.78	60	125	
Lu	175	No Gas	21946.05	2.7	20565.02	106.72	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBS-434762 5X
File Name	098_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 11:59:30
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	31.2	23.33	
Al	27	72	No Gas	0.857	ppb	5.9	48777.18	
V	51	72	He	-0.023	ppb	N/A	587.79	
Cr	52	72	No Gas	0.030	ppb	114.8	41712.96	
Mn	55	72	No Gas	0.110	ppb	8.2	18902.52	
Co	59	72	He	0.001	ppb	34.1	76.67	
Ni	60	72	No Gas	0.022	ppb	15.4	672.24	
Cu	63	72	No Gas	0.097	ppb	8.1	5156.50	
Zn	66	72	No Gas	0.341	ppb	16.2	4989.78	
As	75	72	No Gas	0.015	ppb	483.3	44.32	
Se	78	72	He	0.002	ppb	1701.0	70.67	
Se	82	72	No Gas	0.284	ppb	54.6	299.62	
Mo	98	89	No Gas	0.036	ppb	62.0	1025.91	
Ag	107	89	No Gas	-0.003	ppb	N/A	238.89	
Cd	111	89	No Gas	0.009	ppb	164.9	2807.22	
Sb	123	89	No Gas	0.161	ppb	58.8	4598.68	
Ba	137	115	No Gas	0.006	ppb	28.3	142.22	
Tl	203	115	No Gas	0.008	ppb	39.8	140.00	
Pb	208	115	No Gas	0.006	ppb	18.9	622.23	
Th	232	115	No Gas	0.349	ppb	19.1	12920.13	
U	238	115	No Gas	0.003	ppb	13.7	114.45	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46878941.47	1.2	45483248.19	103.07	60	125	
Sc	45	He	2343297.61	3.2	2200900.54	106.47	60	125	
Ge	72	No Gas	4694828.84	4.1	4513567.18	104.02	60	125	
Ge	72	He	693179.17	1.8	632773.79	109.55	60	125	
Y	89	No Gas	6717012.37	4.9	6405295.44	104.87	60	125	
Y	89	He	1055813.95	1.0	911251.11	115.86	60	125	
Rh	103	No Gas	5127624.10	9.7	4964291.47	103.29	60	125	
Rh	103	He	2545803.72	1.2	2314658.72	109.99	60	125	
In	115	No Gas	5316846.32	1.7	4992972.58	106.49	60	125	
Lu	175	No Gas	23767.04	1.9	20565.02	115.57	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSS-434762 5X
File Name	099_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:01:26
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	8.827	ppb	8.3	42774.77	44.14	> +/- 10%
Al	27	72	No Gas	20.458	ppb	4.5	819956.68	51.14	> +/- 10%
V	51	72	He	9.562	ppb	2.5	84794.57	47.81	> +/- 10%
Cr	52	72	No Gas	9.493	ppb	5.6	556117.01	47.46	> +/- 10%
Mn	55	72	No Gas	10.109	ppb	6.4	764674.45	50.54	> +/- 10%
Co	59	72	He	9.483	ppb	1.0	169508.12	47.42	> +/- 10%
Ni	60	72	No Gas	9.418	ppb	5.6	130889.13	47.09	> +/- 10%
Cu	63	72	No Gas	9.899	ppb	5.6	330040.42	49.5	> +/- 10%
Zn	66	72	No Gas	9.348	ppb	6.0	82347.39	46.74	> +/- 10%
As	75	72	No Gas	10.141	ppb	3.7	88815.33	50.7	> +/- 10%
Se	78	72	He	10.241	ppb	6.3	1048.04	51.2	> +/- 10%
Se	82	72	No Gas	10.117	ppb	5.2	5712.63	50.58	> +/- 10%
Mo	98	89	No Gas	10.180	ppb	1.2	228911.05	50.9	> +/- 10%
Ag	107	89	No Gas	10.244	ppb	1.2	355160.18	51.22	> +/- 10%
Cd	111	89	No Gas	9.969	ppb	0.6	74773.37	49.84	> +/- 10%
Sb	123	89	No Gas	10.758	ppb	1.5	215337.24	53.79	> +/- 10%
Ba	137	115	No Gas	10.014	ppb	3.7	100041.98	50.07	> +/- 10%
Tl	203	115	No Gas	10.424	ppb	2.9	133654.88	52.12	> +/- 10%
Pb	208	115	No Gas	10.392	ppb	3.2	419900.72	51.96	> +/- 10%
Th	232	115	No Gas	10.753	ppb	5.6	367610.12	53.76	> +/- 10%
U	238	115	No Gas	10.445	ppb	3.4	347714.56	52.22	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46875731.47	3.0	45483248.19	103.06	60	125	
Sc	45	He	2349415.18	3.5	2200900.54	106.75	60	125	
Ge	72	No Gas	4783841.48	1.6	4513567.18	105.99	60	125	
Ge	72	He	695396.46	2.8	632773.79	109.9	60	125	
Y	89	No Gas	6644280.71	5.0	6405295.44	103.73	60	125	
Y	89	He	1043163.71	2.7	911251.11	114.48	60	125	
Rh	103	No Gas	5145323.82	4.1	4964291.47	103.65	60	125	
Rh	103	He	2571731.84	4.9	2314658.72	111.11	60	125	
In	115	No Gas	5328732.98	4.2	4992972.58	106.72	60	125	
Lu	175	No Gas	23941.74	2.1	20565.02	116.42	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	MDL1 5X
File Name	100SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:03:23
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.181	ppb	12.6	890.03	
Al	27	72	No Gas	1.046	ppb	4.5	55662.12	
V	51	72	He	0.179	ppb	2.9	2369.09	
Cr	52	72	No Gas	0.241	ppb	13.7	52579.76	
Mn	55	72	No Gas	0.266	ppb	4.2	30062.76	
Co	59	72	He	0.196	ppb	4.7	3560.45	
Ni	60	72	No Gas	0.217	ppb	7.1	3295.95	
Cu	63	72	No Gas	0.248	ppb	2.6	9997.99	
Zn	66	72	No Gas	0.438	ppb	5.3	5766.75	
As	75	72	No Gas	0.306	ppb	13.2	2547.02	
Se	78	72	He	0.219	ppb	20.3	91.67	
Se	82	72	No Gas	0.448	ppb	41.4	384.44	
Mo	98	89	No Gas	0.234	ppb	7.4	5378.24	
Ag	107	89	No Gas	0.207	ppb	3.0	7399.79	
Cd	111	89	No Gas	0.196	ppb	8.7	4076.62	
Sb	123	89	No Gas	0.261	ppb	13.8	6399.33	
Ba	137	115	No Gas	0.203	ppb	1.5	2113.51	
Tl	203	115	No Gas	0.218	ppb	2.1	2825.87	
Pb	208	115	No Gas	0.211	ppb	1.5	8881.21	
Th	232	115	No Gas	0.399	ppb	8.4	14626.31	
U	238	115	No Gas	0.209	ppb	2.0	6984.17	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	47417963.67	1.9	45483248.19	104.25	60	125	
Sc	45	He	2382945.32	5.8	2200900.54	108.27	60	125	
Ge	72	No Gas	4658081.20	2.0	4513567.18	103.2	60	125	
Ge	72	He	696114.99	1.1	632773.79	110.01	60	125	
Y	89	No Gas	6547833.49	3.9	6405295.44	102.23	60	125	
Y	89	He	1038429.99	0.3	911251.11	113.96	60	125	
Rh	103	No Gas	5435619.23	4.1	4964291.47	109.49	60	125	
Rh	103	He	2600884.76	4.0	2314658.72	112.37	60	125	
In	115	No Gas	5321734.51	2.9	4992972.58	106.58	60	125	
Lu	175	No Gas	24237.86	2.9	20565.02	117.86	60	125	

7900 ICP-MS 200.8/6020A
Prep Blank (PB) Report

Sample Name	PBS-434760 5X
File Name	101_PB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:05:20
Sample Type	PB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.003	ppb	24.5	13.33	
Al	27	72	No Gas	0.856	ppb	3.0	48647.75	
V	51	72	He	0.071	ppb	20.6	1387.85	
Cr	52	72	No Gas	0.186	ppb	17.9	49927.21	
Mn	55	72	No Gas	0.058	ppb	6.6	15067.95	
Co	59	72	He	0.004	ppb	16.3	131.11	
Ni	60	72	No Gas	0.020	ppb	34.3	638.90	
Cu	63	72	No Gas	0.091	ppb	0.7	4957.55	
Zn	66	72	No Gas	0.177	ppb	21.5	3600.46	
As	75	72	No Gas	-0.009	ppb	N/A	-128.81	
Se	78	72	He	-0.084	ppb	N/A	61.33	
Se	82	72	No Gas	0.565	ppb	25.6	449.34	
Mo	98	89	No Gas	0.014	ppb	60.4	497.34	
Ag	107	89	No Gas	-0.001	ppb	N/A	292.23	
Cd	111	89	No Gas	-0.001	ppb	N/A	2696.64	
Sb	123	89	No Gas	0.065	ppb	37.7	2555.81	
Ba	137	115	No Gas	0.007	ppb	26.3	155.56	
Tl	203	115	No Gas	0.003	ppb	14.8	75.55	
Pb	208	115	No Gas	0.005	ppb	30.5	572.23	
Th	232	115	No Gas	0.117	ppb	23.8	5171.10	
U	238	115	No Gas	0.001	ppb	50.6	52.22	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46337010.38	2.9	45483248.19	101.88	60	125	
Sc	45	He	2301511.99	2.5	2200900.54	104.57	60	125	
Ge	72	No Gas	4683282.45	3.1	4513567.18	103.76	60	125	
Ge	72	He	680239.92	1.4	632773.79	107.5	60	125	
Y	89	No Gas	6612131.68	2.3	6405295.44	103.23	60	125	
Y	89	He	1031120.76	1.0	911251.11	113.15	60	125	
Rh	103	No Gas	5269732.43	3.7	4964291.47	106.15	60	125	
Rh	103	He	2594422.74	2.4	2314658.72	112.09	60	125	
In	115	No Gas	5463731.45	4.1	4992972.58	109.43	60	125	
Lu	175	No Gas	24301.30	3.8	20565.02	118.17	60	125	

7900 ICP-MS 200.8/6020A
Laboratory Control Sample (LCS) Report

Sample Name	LCSS-434760 5X
File Name	102_LCS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:07:16
Sample Type	LCS
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	9.323	ppb	7.7	43097.09	46.62	> +/- 10%
Al	27	72	No Gas	18.807	ppb	3.1	743986.74	47.02	> +/- 10%
V	51	72	He	9.503	ppb	2.2	83428.91	47.52	> +/- 10%
Cr	52	72	No Gas	9.483	ppb	4.2	547443.70	47.42	> +/- 10%
Mn	55	72	No Gas	9.897	ppb	4.2	737960.16	49.48	> +/- 10%
Co	59	72	He	9.439	ppb	1.6	166987.24	47.2	> +/- 10%
Ni	60	72	No Gas	9.238	ppb	5.4	126528.17	46.19	> +/- 10%
Cu	63	72	No Gas	9.454	ppb	4.4	310694.28	47.27	> +/- 10%
Zn	66	72	No Gas	9.278	ppb	4.0	80555.05	46.39	> +/- 10%
As	75	72	No Gas	9.949	ppb	1.4	85827.00	49.74	> +/- 10%
Se	78	72	He	10.291	ppb	2.6	1041.71	51.46	> +/- 10%
Se	82	72	No Gas	10.130	ppb	6.4	5635.50	50.65	> +/- 10%
Mo	98	89	No Gas	10.556	ppb	2.2	223671.23	52.78	> +/- 10%
Ag	107	89	No Gas	10.596	ppb	3.5	345825.66	52.98	> +/- 10%
Cd	111	89	No Gas	10.273	ppb	1.9	72556.65	51.36	> +/- 10%
Sb	123	89	No Gas	11.371	ppb	1.2	214627.79	56.86	> +/- 10%
Ba	137	115	No Gas	9.844	ppb	4.8	96333.26	49.22	> +/- 10%
Tl	203	115	No Gas	10.839	ppb	3.9	136031.05	54.2	> +/- 10%
Pb	208	115	No Gas	10.600	ppb	3.7	419662.36	53	> +/- 10%
Th	232	115	No Gas	10.843	ppb	3.2	362945.28	54.22	> +/- 10%
U	238	115	No Gas	10.811	ppb	6.3	352165.24	54.06	> +/- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44648086.00	1.7	45483248.19	98.16	60	125	
Sc	45	He	2319589.56	1.3	2200900.54	105.39	60	125	
Ge	72	No Gas	4711449.81	1.5	4513567.18	104.38	60	125	
Ge	72	He	688232.70	1.3	632773.79	108.76	60	125	
Y	89	No Gas	6266949.48	7.3	6405295.44	97.84	60	125	
Y	89	He	1031243.99	1.1	911251.11	113.17	60	125	
Rh	103	No Gas	5059149.52	9.7	4964291.47	101.91	60	125	
Rh	103	He	2540111.01	4.3	2314658.72	109.74	60	125	
In	115	No Gas	5224826.18	7.1	4992972.58	104.64	60	125	
Lu	175	No Gas	23645.79	6.1	20565.02	114.98	60	125	

7900 ICP-MS 200.8/6020A
Sample Report

Sample Name	MDL1 5X
File Name	103SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:09:12
Sample Type	Sample
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.174	ppb	11.4	822.25	
Al	27	72	No Gas	0.928	ppb	1.4	50805.16	
V	51	72	He	0.266	ppb	8.2	3044.77	
Cr	52	72	No Gas	0.407	ppb	8.6	60959.99	
Mn	55	72	No Gas	0.257	ppb	4.4	29202.16	
Co	59	72	He	0.186	ppb	5.6	3279.27	
Ni	60	72	No Gas	0.305	ppb	2.5	4452.93	
Cu	63	72	No Gas	0.226	ppb	5.7	9243.04	
Zn	66	72	No Gas	0.457	ppb	4.1	5884.56	
As	75	72	No Gas	0.168	ppb	27.9	1360.22	
Se	78	72	He	0.287	ppb	46.9	95.33	
Se	82	72	No Gas	0.532	ppb	35.6	428.43	
Mo	98	89	No Gas	0.201	ppb	7.2	4838.96	
Ag	107	89	No Gas	0.186	ppb	1.5	6952.90	
Cd	111	89	No Gas	0.199	ppb	20.1	4248.25	
Sb	123	89	No Gas	0.205	ppb	8.5	5494.46	
Ba	137	115	No Gas	0.194	ppb	5.3	2039.05	
Tl	203	115	No Gas	0.212	ppb	5.0	2770.30	
Pb	208	115	No Gas	0.204	ppb	5.0	8658.95	
Th	232	115	No Gas	0.446	ppb	8.1	16362.80	
U	238	115	No Gas	0.202	ppb	6.7	6792.96	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45366928.19	2.9	45483248.19	99.74	60	125	
Sc	45	He	2287138.94	3.4	2200900.54	103.92	60	125	
Ge	72	No Gas	4628222.46	1.2	4513567.18	102.54	60	125	
Ge	72	He	675093.66	1.8	632773.79	106.69	60	125	
Y	89	No Gas	6811680.15	5.4	6405295.44	106.34	60	125	
Y	89	He	1029631.00	1.9	911251.11	112.99	60	125	
Rh	103	No Gas	5302117.84	4.8	4964291.47	106.81	60	125	
Rh	103	He	2627230.24	0.9	2314658.72	113.5	60	125	
In	115	No Gas	5367918.26	1.1	4992972.58	107.51	60	125	
Lu	175	No Gas	24741.02	1.6	20565.02	120.31	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	104_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:11:09
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.730	ppb	8.0	219273.64	91.46	
Al	27	72	No Gas	46.520	ppb	6.1	1794760.17	93.04	
V	51	72	He	47.692	ppb	1.4	411083.77	95.38	
Cr	52	72	No Gas	46.631	ppb	7.1	2502620.73	93.26	
Mn	55	72	No Gas	48.213	ppb	9.8	3508277.36	96.43	
Co	59	72	He	46.945	ppb	2.2	821231.38	93.89	
Ni	60	72	No Gas	46.988	ppb	7.1	634081.99	93.98	
Cu	63	72	No Gas	46.380	ppb	2.5	1497240.08	92.76	
Zn	66	72	No Gas	48.491	ppb	7.6	406896.66	96.98	
As	75	72	No Gas	50.500	ppb	6.7	430568.31	101	
Se	78	72	He	52.528	ppb	0.6	4975.88	105.06	
Se	82	72	No Gas	49.927	ppb	6.6	26850.94	99.85	
Mo	98	89	No Gas	48.533	ppb	8.3	1095723.26	97.07	
Ag	107	89	No Gas	49.789	ppb	11.0	1733261.63	99.58	
Cd	111	89	No Gas	48.530	ppb	7.4	355241.30	97.06	
Sb	123	89	No Gas	50.235	ppb	4.6	1005916.52	100.47	
Ba	137	115	No Gas	50.089	ppb	6.6	494013.43	100.18	
Tl	203	115	No Gas	52.116	ppb	4.0	659506.26	104.23	
Pb	208	115	No Gas	51.977	ppb	7.8	2072546.41	103.95	
Th	232	115	No Gas	49.918	ppb	3.7	1680740.14	99.84	
U	238	115	No Gas	50.670	ppb	5.2	1666124.66	101.34	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46292633.72	2.0	45483248.19	101.78	60	125	
Sc	45	He	2250327.82	1.2	2200900.54	102.25	60	125	
Ge	72	No Gas	4652884.26	1.7	4513567.18	103.09	60	125	
Ge	72	He	680865.21	2.7	632773.79	107.6	60	125	
Y	89	No Gas	6683936.96	3.2	6405295.44	104.35	60	125	
Y	89	He	1029785.03	2.3	911251.11	113.01	60	125	
Rh	103	No Gas	5218012.57	2.3	4964291.47	105.11	60	125	
Rh	103	He	2533692.75	2.2	2314658.72	109.46	60	125	
In	115	No Gas	5261126.74	0.5	4992972.58	105.37	60	125	
Lu	175	No Gas	23266.19	3.7	20565.02	113.13	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	105_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:13:00
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.004	ppb	19.6	20.00	
Al	27	72	No Gas	0.128	ppb	22.6	20617.04	
V	51	72	He	-0.017	ppb	N/A	615.57	
Cr	52	72	No Gas	-0.118	ppb	N/A	33763.15	
Mn	55	72	No Gas	-0.008	ppb	N/A	10242.58	
Co	59	72	He	0.003	ppb	23.1	104.45	
Ni	60	72	No Gas	0.003	ppb	110.2	413.34	
Cu	63	72	No Gas	-0.006	ppb	N/A	1810.12	
Zn	66	72	No Gas	-0.020	ppb	N/A	1947.94	
As	75	72	No Gas	0.003	ppb	4366.8	-38.96	
Se	78	72	He	0.014	ppb	941.4	69.33	
Se	82	72	No Gas	0.324	ppb	49.9	320.73	
Mo	98	89	No Gas	0.064	ppb	61.4	1536.92	
Ag	107	89	No Gas	0.003	ppb	5.1	421.12	
Cd	111	89	No Gas	0.028	ppb	97.0	2763.96	
Sb	123	89	No Gas	0.177	ppb	68.2	4558.68	
Ba	137	115	No Gas	0.004	ppb	57.8	121.11	
Tl	203	115	No Gas	0.017	ppb	20.1	237.78	
Pb	208	115	No Gas	0.011	ppb	18.3	774.46	
Th	232	115	No Gas	0.532	ppb	45.8	18400.12	
U	238	115	No Gas	0.008	ppb	14.1	281.11	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	44883392.66	2.4	45483248.19	98.68	60	125	
Sc	45	He	2319060.26	4.1	2200900.54	105.37	60	125	
Ge	72	No Gas	4676712.31	0.3	4513567.18	103.61	60	125	
Ge	72	He	670481.34	1.4	632773.79	105.96	60	125	
Y	89	No Gas	6290909.06	2.3	6405295.44	98.21	60	125	
Y	89	He	1012573.02	1.1	911251.11	111.12	60	125	
Rh	103	No Gas	5352662.98	2.8	4964291.47	107.82	60	125	
Rh	103	He	2610028.09	2.7	2314658.72	112.76	60	125	
In	115	No Gas	5125353.41	4.1	4992972.58	102.65	60	125	
Lu	175	No Gas	23009.09	1.6	20565.02	111.88	60	125	

7900 ICP-MS 200.8/6020A
Contract Required Detection Limit (CRDL) Report

Sample Name	CRDL
File Name	106LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:14:55
Sample Type	LLICV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	%Rec	QC Flag
Be	9	45	No Gas	0.896	ppb	10.4	4297.31	89.6	
Al	27	72	No Gas	4.595	ppb	5.8	199398.66	91.9	
V	51	72	He	0.961	ppb	3.1	8852.76	96.1	
Cr	52	72	No Gas	0.878	ppb	11.5	89851.52	87.8	
Mn	55	72	No Gas	0.929	ppb	7.9	81465.01	92.9	
Co	59	72	He	0.955	ppb	2.3	16396.14	95.5	
Ni	60	72	No Gas	0.961	ppb	5.8	13885.80	96.1	
Cu	63	72	No Gas	0.902	ppb	4.4	32391.91	90.2	
Zn	66	72	No Gas	4.553	ppb	6.3	41816.72	91.06	
As	75	72	No Gas	0.933	ppb	11.4	8236.68	93.3	
Se	78	72	He	1.189	ppb	15.0	176.33	118.9	
Se	82	72	No Gas	0.911	ppb	19.3	660.62	91.1	
Mo	98	89	No Gas	0.980	ppb	8.4	21732.87	98	
Ag	107	89	No Gas	1.003	ppb	7.0	34310.99	100.3	
Cd	111	89	No Gas	0.977	ppb	3.7	9576.31	97.7	
Sb	123	89	No Gas	1.062	ppb	11.8	21923.40	106.2	
Ba	137	115	No Gas	0.947	ppb	9.1	9704.64	94.7	
Tl	203	115	No Gas	0.953	ppb	8.7	12470.53	95.3	
Pb	208	115	No Gas	0.969	ppb	8.2	40202.41	96.9	
Th	232	115	No Gas	1.049	ppb	3.2	37479.44	104.9	
U	238	115	No Gas	0.957	ppb	8.5	32425.10	95.7	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	46355155.93	0.6	45483248.19	101.92	60	125	
Sc	45	He	2205451.58	2.9	2200900.54	100.21	60	125	
Ge	72	No Gas	4850938.28	1.9	4513567.18	107.47	60	125	
Ge	72	He	666220.65	1.1	632773.79	105.29	60	125	
Y	89	No Gas	6504838.07	1.2	6405295.44	101.55	60	125	
Y	89	He	1008518.81	3.1	911251.11	110.67	60	125	
Rh	103	No Gas	5036469.38	4.2	4964291.47	101.45	60	125	
Rh	103	He	2567241.22	2.0	2314658.72	110.91	60	125	
In	115	No Gas	5430262.28	3.4	4992972.58	108.76	60	125	
Lu	175	No Gas	22376.75	4.9	20565.02	108.81	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Verification (CCV) Report

Sample Name	CCV
File Name	107_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:16:50
Sample Type	CCV
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	QC Flag
Be	9	45	No Gas	45.928	ppb	8.7	215714.42	91.86	
Al	27	72	No Gas	47.515	ppb	8.5	1819433.44	95.03	
V	51	72	He	47.440	ppb	1.3	407170.76	94.88	
Cr	52	72	No Gas	46.650	ppb	9.0	2485079.62	93.3	
Mn	55	72	No Gas	47.133	ppb	7.6	3404588.61	94.27	
Co	59	72	He	47.085	ppb	1.6	820307.57	94.17	
Ni	60	72	No Gas	47.668	ppb	7.6	638373.29	95.34	
Cu	63	72	No Gas	47.825	ppb	11.1	1532394.11	95.65	
Zn	66	72	No Gas	48.562	ppb	6.5	404418.73	97.12	
As	75	72	No Gas	49.802	ppb	6.7	421461.52	99.6	
Se	78	72	He	51.122	ppb	1.3	4822.83	102.24	
Se	82	72	No Gas	50.121	ppb	7.1	26758.48	100.24	
Mo	98	89	No Gas	50.242	ppb	5.9	1079632.18	100.48	
Ag	107	89	No Gas	50.436	ppb	6.6	1670708.37	100.87	
Cd	111	89	No Gas	50.723	ppb	5.7	353176.57	101.45	
Sb	123	89	No Gas	51.218	ppb	3.7	975217.77	102.44	
Ba	137	115	No Gas	50.084	ppb	3.8	487696.18	100.17	
Tl	203	115	No Gas	52.316	ppb	2.8	653604.54	104.63	
Pb	208	115	No Gas	50.965	ppb	2.8	2006212.30	101.93	
Th	232	115	No Gas	50.116	ppb	5.0	1666997.57	100.23	
U	238	115	No Gas	50.314	ppb	1.2	1632111.95	100.63	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45367694.87	0.9	45483248.19	99.75	60	125	
Sc	45	He	2350494.77	4.4	2200900.54	106.8	60	125	
Ge	72	No Gas	4619470.65	0.8	4513567.18	102.35	60	125	
Ge	72	He	677806.17	0.3	632773.79	107.12	60	125	
Y	89	No Gas	6351356.14	2.0	6405295.44	99.16	60	125	
Y	89	He	1024385.41	0.9	911251.11	112.42	60	125	
Rh	103	No Gas	5074422.85	4.7	4964291.47	102.22	60	125	
Rh	103	He	2564686.71	3.7	2314658.72	110.8	60	125	
In	115	No Gas	5190555.63	4.2	4992972.58	103.96	60	125	
Lu	175	No Gas	23036.85	2.5	20565.02	112.02	60	125	

7900 ICP-MS 200.8/6020A
Continuing Calibration Blank (CCB) Report

Sample Name	CCB
File Name	108_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\BatchTemplate\030624-ICPMS7900.b
Acq Time	03/06/24 12:18:41
Sample Type	CCB
Total Dilution	1.0000
Comment	—
ISTD Ref FileName	004CALB.d

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	QC Flag
Be	9	45	No Gas	0.005	ppb	12.9	23.33	
Al	27	72	No Gas	0.140	ppb	10.2	20895.21	
V	51	72	He	-0.010	ppb	N/A	693.35	
Cr	52	72	No Gas	-0.128	ppb	N/A	32960.20	
Mn	55	72	No Gas	-0.007	ppb	N/A	10186.97	
Co	59	72	He	0.002	ppb	17.9	93.33	
Ni	60	72	No Gas	0.004	ppb	79.6	426.67	
Cu	63	72	No Gas	-0.006	ppb	N/A	1806.79	
Zn	66	72	No Gas	-0.014	ppb	N/A	1985.74	
As	75	72	No Gas	0.133	ppb	96.2	1056.80	
Se	78	72	He	-0.020	ppb	N/A	67.33	
Se	82	72	No Gas	0.334	ppb	14.9	322.79	
Mo	98	89	No Gas	0.063	ppb	68.9	1588.97	
Ag	107	89	No Gas	0.002	ppb	59.2	408.90	
Cd	111	89	No Gas	0.011	ppb	192.2	2760.68	
Sb	123	89	No Gas	0.183	ppb	61.6	4868.80	
Ba	137	115	No Gas	0.003	ppb	97.5	116.66	
Tl	203	115	No Gas	0.016	ppb	17.6	234.45	
Pb	208	115	No Gas	0.010	ppb	19.4	760.01	
Th	232	115	No Gas	0.571	ppb	43.3	20189.46	
U	238	115	No Gas	0.007	ppb	0.7	260.00	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	No Gas	45840492.62	2.1	45483248.19	100.79	60	125	
Sc	45	He	2247597.13	2.2	2200900.54	102.12	60	125	
Ge	72	No Gas	4639229.54	2.2	4513567.18	102.78	60	125	
Ge	72	He	680307.38	0.5	632773.79	107.51	60	125	
Y	89	No Gas	6553805.15	0.8	6405295.44	102.32	60	125	
Y	89	He	1005271.76	1.0	911251.11	110.32	60	125	
Rh	103	No Gas	5242940.21	2.3	4964291.47	105.61	60	125	
Rh	103	He	2498545.39	3.0	2314658.72	107.94	60	125	
In	115	No Gas	5204899.52	3.3	4992972.58	104.24	60	125	
Lu	175	No Gas	23331.79	1.9	20565.02	113.45	60	125	

ICP-MS ICV / CCV STANDARD
(PREPARED DAILY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	232728	10000	0.500	100	50	1% HNO_3 0.5% HCl	MFM 1/29/24	A	231748	232049	1/30/24	M40
	SB						1% HNO_3 0.5% HCl	MFM 1/31/24	B	231748	232049	2/1/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/1/24	C	231748	232049	2/2/24	M36
	BE						1% HNO_3 0.5% HCl	MFM 2/2/24	D	231748	232049	2/3/24	M36
	CD						1% HNO_3 0.5% HCl	MFM 2/6/24	E	231748	232049	2/7/24	M36
	CR						1% HNO_3 0.5% HCl	MFM 2/8/24	F	231748	232049	2/9/24	M36
	CO						1% HNO_3 0.5% HCl	MFM 2/12/24	G	231748	232049	2/13/24	M36
	CU						1% HNO_3 0.5% HCl	MFM 2/13/24	H	231748	232049	2/14/24	M40
	PB						1% HNO_3 0.5% HCl	MFM 2/14/24	I	231748	232049	2/15/24	M40
	MN						1% HNO_3 0.5% HCl	MFM 2/16/24	J	231748	232049	2/17/24	M40
	MO						1% HNO_3 0.5% HCl	MFM 2/20/24	K	231748	232049	2/21/24	M40
	NI						1% HNO_3 0.5% HCl	MFM 2/23/24	L	231748	233283	2/24/24	M40
	TL						1% HNO_3 0.5% HCl	MFM 2/27/24	M	231748	233283	2/28/24	M36
	V						1% HNO_3 0.5% HCl	MFM 2/28/24	N	231748	233283	2/29/24	M36
	ZN						1% HNO_3 0.5% HCl	MFM 2/29/24	O	231748	233283	3/1/24	M40
	SE						1% HNO_3 0.5% HCl	MFM 3/4/24	P	233477	233283	3/5/24	M36
Cal Std 2	BA	233423		0.500			1% HNO_3 0.5% HCl	MFM 3/6/24	Q	233477	233283	3/7/24	M36
	AG	———							R				
Cal Std 3	SR	———		0.500					S				
	W								T				
	PT		▼		▼	▼			U				

ICP-MS CALIBRATION STANDARD #1/MRL STANDARD MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	0.025	500	1.0	1% HNO3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M37 M36
	MO	———				1.0	1% HNO3 0.5% HCl	NM 1/25/24	B	231748	232049	2/25/24	M37 M36
Cal Std 2	AL	231913		0.025		Below	1% HNO3 0.5% HCl	MFM 2/14/24	C	231748	232049	3/14/24	M37 M40
	AS					1.0			D				
	BA								E				
	BE								F				
	CD								G				
	CO								H				
	CU								I				
	PB								J				
	MN								K				
	NI								L				
	TH								M				
	AG, TL								N				
	CR, V, SE								O				
	ZN					Below			P				
Cal Std 3	SR, W, PT	—		0.025		1.0			Q				
Indiv. Std.	AL	M845011 7B	10000	0.200		5.0			R				
	ZN	M845011 7 J	10000	0.200		5.0			S				

ICP-MS CALIBRATION STANDARD #2 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	0.250	500	10	1% HNO3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	———					1% HNO3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		0.250					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		0.250					T				
	W								U				
	PT								V				

ICP-MS CALIBRATION STANDARD #3 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	1.25	500	50	1% HNO_3 0.5% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	———					1% HNO_3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		1.25					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		1.25					T				
	W								U				
	PT								V				

ICP-MS CALIBRATION STANDARD #4 Agilent MS7900
(PREPARED MONTHLY OR AS NECESSARY)

	Metal	ALS Lot #	Conc. (ppb)	Vol (mL)	Final Vol (mL)	Final Conc (ppb)	Matrix	Analyst/Date	Letter ID	Nitric Acid Lot #	HCl Lot #	Exp Date	Pipet ID
Cal Std 1	SB	231912	20000	2.50	500	100	1% HNO_3 0.3% HCl	MFM 1/9/24	A	231748	232049	2/9/24	M36
	MO	—					1% HNO_3 0.5% HCl	MFM 2/12/24	B	231748	232049	3/12/24	M36
Cal Std 2	AL	231913		2.50					C				
	AS								D				
	BA								E				
	BE								F				
	CD								G				
	CR								H				
	CO								I				
	CU								J				
	PB								K				
	MN								L				
	NI								M				
	AG								N				
	TL								O				
	TH								P				
	V								Q				
	ZN								R				
	SE, U								S				
Cal Std 3	SR	—		2.50					T				
	W								U				
	PT								V				

ICP-MS ICSA SOLUTION
(PREPARED WEEKLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
ICSA	CL-	228511	10000	2.00	100	200000	1% HNO_3 0.5% HCl	MFM 2/8/24	A	231748	232049	2/15/24	M36
	AL		1000			20000	1% HNO_3 0.5% HCl	MFM 2/16/24	B	231748	232049	2/23/24	M40
	CA						1% HNO_3 0.5% HCl	MFM 2/27/24	C	231748	233283	3/5/24	M36
	FE						1% HNO_3 0.5% HCl	MFM 3/6/24	D	233477	233283	3/13/24	M36
	MG								E				
	P								F				
	K								G				
	NA								H				
	S								I				
	C		2000			40000			J				
	MO		20			400			K				
	TI		20			400			L				
									M				
									N				
									O				
									P				
									Q				
									R				
									S				
									T				

ICP-MS ICSAB SOLUTION
(PREPARED WEEKLY OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
ICSA	CL-	228S11	10000	2.00	100	200000	1% HNO_3 0.5% HCl	MFM 1/4/24	A	231798	232049	1/11/24	M36
	AL,CA		1000			20000	1% HNO_3 0.5% HCl	MFM 1/17/24	B	231798	232049	1/24/24	M36
	FE,MG		↓			↓	1% HNO_3 0.5% HCl	MFM 1/24/24	C	231798	232049	1/31/24	M36
	P,K		↓			↓	1% HNO_3 0.5% HCl	MM 1/31/24	D	231798	232049	2/6/24	M36
	NA,S		↓			↓	1% HNO_3 0.5% HCl	MFM 2/8/24	E	231798	232049	2/15/24	M36
	C		2000			40000	1% HNO_3 0.5% HCl	MFM 2/16/24	F	231798	232049	2/23/24	M40
	MO,TI		20			400	1% HNO_3 0.5% HCl	MFM 2/27/24	G	231798	233283	3/5/24	M36
AB Int.	Be, V	M84S0108A	2	1.00		20	1% HNO_3 0.5% HCl	MFM 3/6/24	H	233477	233283	3/13/24	M36
	Se, Sb		2			20			I				
	Ba, Tl		2			20			J				
	Sr, W		2			20			K				
	Pt, Pb		2			20			L				
	U		2			20			M				
ICSAB	NI	230958	2	1.00		20.0			N				
	MN		2			↓			O				
	CR		2			↓			P				
	AS		2			↓			Q				
	CO,CU		2			↓			R				
	AG,CD		2			↓			S				
	ZN		2		↓	↓			T				

ICP-MS HLCCV2 STANDARD
(PREPARED MONTHLY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	231912	20000	0.500	50	200	1% HNO_3 0.5% HCl	MFM 1/2/24	A	231748	232049	2/2/24	M36
	BA						1% HNO_3 0.5% HCl	NM 1/22/24	B	231748	232049	2/22/24	M36
	AS						1% HNO_3 0.5% HCl	MFM 2/8/24	C	231748	232049	3/8/24	M36
	BE								D				
	CD								E				
	CR								F				
	CO								G				
	CU								H				
	PB								I				
	MN								J				
	AG								K				
	NI								L				
	TL								M				
	V								N				
	ZN								O				
	SE								P				
Cal Std 2	SB	231913		0.500					Q				
	MO	—							R				
Cal Std 3	SR	—		0.500					S				
	W								T				
	PT								U				

ICP-MS HLCCV3 STANDARD
(PREPARED MONTHLY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
Cal Std 1	AL	231912	20000	1.000	50	400	1% HNO3 0.5% HCl	MFM 1/2/24	A	231748	232049	2/2/24	M36
	BA						1% HNO3 0.5% HCl	NM 1/22/24	B	231748	232049	2/22/24	M36
	AS						1% HNO3 0.5% HCl	MFM 2/8/24	C	231748	232049	3/8/24	M36
	BE								D				
	CD								E				
	CR								F				
	CO								G				
	CU								H				
	PB								I				
	MN								J				
	AG								K				
	NI								L				
	TL								M				
	V								N				
	ZN								O				
	SE								P				
Cal Std 2	SB	231913		1.000					Q				
	MO	———							R				
Cal Std 3	SR	—		1.000					S				
	W								T				
	PT		▼		▼	▼			U				

ICP-MS INTERNAL STANDARD SOLUTION
(PREPARED EVERY 6 MONTHS OR AS NECESSARY)

	Metal	CAS Lot #	Conc. (ppb)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
I.S. STD	BI	231911	10000	50.0	500	1000	1%-HNO3	NM 1/31/24	A	231748	232049	7/31/24	M36
	HO								B				
	IN								C				
	LI +6								D				
	RH					▼			E				
	SC					Below			F				
	TB					1000			G				
	Y		▼			1000			H				
Single Element	SC	232724	100000	5.00		2000			I				
	GE	228287	1000000	2.5	▼	5000			J				
									K				
									L				
									M				
									N				
									O				
									P				
									Q				
									R				
									S				
									T				

MISCELLANEOUS STANDARDS

Type of Standard	Metal	CAS Lot #	Conc. (ppm)	Vol. (mls)	Final Vol. (mls)	Final Conc. (ppb)	Matrix	Analyst / Date	Letter ID	Nitric Acid Lot #	HCL Lot #	Expiration Date	Pipet ID
MS Mass Cal	BaBeCeCo InMgPb RbU	228201	0.01	1000	1000	10	1% HNO3	NM 5/1/23	A	—	—	8/30/24	M37
	Cd	227603	1000	0.01		10			B				
	Cu	222428	1000	0.01		10			C				
	Li	223753	1000	0.01		10			D				
	Tl	226708	1000	0.01		10			E				
	Y	226709	1000	0.01	↓	10			F				
									G				
SIC	Cl	233254	2121.5	1	10	2121.5	1% HNO3 0.5% HCl	NM 1/16/24	H	231748	232049	4/23/24	M40
	Ca		3000			300	1% HNO3 0.5% HCl	NM 1/24/24	I	231748	232049	1/31/24	M40
	Fe Na		2500			250	1% HNO3 0.5% HCl	NM 1/25/24	J	231748	232049	2/1/24	M40
	C		2000			200	1% HNO3 0.5% HCl	NM 1/29/24	K	231748	232049	2/5/24	M40
	Al K Mg P S		1000			100	1% HNO3 0.5% HCl	NM 2/1/24	L	231748	232049	2/8/24	M40
	Mo Ti		20			2			M				
									N				
Single	Ag	226100	1000	0.100 ~~0.01~~	10	1000 ~~100~~	1% HNO3 0.5% HCl	NM 1/17/24	O				
Single	Ba	227183	1000	0.100 ~~0.01~~	10	1000 ~~100~~	1% HNO3 0.5% HCl	NM 1/17/24	P	231748	232049		
									Q				
	Ag	M8450127O	100 ~~ppb~~	0.05	100	50			R				
	Ba	M8450127P	100 ~~ppb~~	0.05		50			S				
	Al Sb As Be Cd Cr Co Cu Fe Pb Mn Mo Ni Se Tl Th V Zn	232728	10 ~~ppb~~	0.500		50			T				
		↓							U				

Preparation Information Benchsheet

Prep Run#: 434955
Team: Metals/CDISTEFANO
Prep WorkFlow: MetDigAqMS
Prep Method:
Status: Prepped
Prep Date/Time: 3/5/24 10:09

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402358-01	MB		10mL	6020A/As T, Co T DOD, Mn T DOD, Sb T, Tl T	<2			10.00mL	Colorless-Clear		HB:10 Well:E7 Temp:93.0C/93.9C
2	RQ2402358-02	LCS		10mL	6020A/As T, Co T DOD, Mn T DOD, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	On HB:11:12 Off HB:13:12 Pipet/Repipettor:M33,M39
3	R2401701-001	BETHP-S4-MW08	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear		Tier IV
4	RQ2402358-03	R2401701-001 MS	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	
5	RQ2402358-04	R2401701-001 DMS	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/233423; 0.0200 mL/230559	
6	R2401701-002	BETHP-S4-MW09	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear		
7	R2401701-003	BETHP-S4-EB-01	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear		
8	R2401701-004	BETHP-S4-MW07	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear		
9	R2401701-005	BETHP-S4-MW06	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
10	R2401701-006	BETHP-S4-MW07-DUP	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear		
11	R2401701-007	BETHP-S4-MW04	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		
12	R2401701-008	BETHP-S4-MW10	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
13	R2401701-009	BETHP-S4-MW11	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Clear		
14	R2401701-010	BETHP-S4-MW03	.06	10mL	6020A/Co T DOD, Mn T DOD	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
15	R2401721-001	2403010941A WW-1-452	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
16	R2401721-006	2403011050C BLM-13-300	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
17	R2401721-007	2403011051C BLM-13-300	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Information Benchsheet

Prep Run#: 434955
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 3/5/24 10:09

Preparation Steps

Step: Digestion
Started: 3/5/24 10:09
Finished: 3/5/24 13:57
By: CDISTEFANO
Comments

1701 (N) 5/21 P.O.D.
1721 3/15
6020 only
MS

Comments: _____

Reviewed By: Molly Mellon Date: 3/6/24

Chain of Custody

Relinquished By:	CD	Date:	3/5/24	Extracts Examined
Received By:	R-A01	Date:	3/5/24	Yes No

Frequency:

Pipettes: 3 trials for both bias and precision

DOD Projects - Daily before use at each volume of use, or if more than 3 volumes of use, a high, medium, and low.

Non-DOD: Quarterly at high, medium, and low.

Repeaters, Dispensers, and Repipettors: Quarterly - 3 trials for both bias and precision

Calculations:

%Recovery = Mean/Nominal Volume*100

%RSD = Stdev/Volume*100

Limits: % Rec: 98-102 for Pipettes and others for dilutions

% Recovery: 90-110 (Repeaters, Dispensers, Repipettors not for dilutions)

%RSD: ≤1 (Pipets); ≤3 (Repeaters, Dispensers, and Repipettors)

Use a balance and DI for all except Dispensers and Repipettors which contain reagents. For these, dispense into a To Contain Class A grad cylinder and document the Max Volume of the cylinder instead of the Balance ID. Record to 1/10 the graduation of the cylinder.

Date	Init.	Equipment ID	Volume (mL)	Trial #1 (g/mL)	Trial #2 (g/mL)	Trial #3 (g/mL)	Bias %Recovery	Pass/ Fail	Precision %RSD	Pass/ Fail	Recal? Y/N	Balance ID or Class A (TC)	Comments/ Corrective Action
2/29/24	EC	M280	1.0000	0.9784	0.9843	0.9891	98.39	P	0.535	P	N	R-19	Quarterly Pipet Check
↓	↓	↓	5.0000	4.9541	4.9340	4.9815	99.13	P	0.476	P	N	↓	↓
↓	↓	↓	10.0000	9.9534	9.9508	9.9589	99.54	P	0.041	P	N	↓	↓
3/5/24	CO	M39	0.0200	0.0200	0.0200	0.0201	100.166	P	0.288	P	N	R-19	D.O.D. Pipet check

Preparation Information Benchsheet

Prep Run#: 434947
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method: EPA 200.2

Status: Prepped
Prep Date/Time: 3/5/24 08:09

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402359-01	MB		10mL	200.8/Al T, As T, Cu T, Se T, Zn T	<2			10.00mL	Colorless-Clear		HB:10 Well:E7 Temp:93.0C/93.9C
2	RQ2402359-02	LCS		10mL	200.8/Al T, As T, Cu T, Se T, Zn T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	On HB:11:12 Off HB:13:12 Pipet/Repipettor:M33,M39
3	R2401534-001	M33847-1-11 4766 Pilgrimport Road	.06	10mL	200.8/Se T	<2			10.00mL	Colorless-Clear		
4	R2401684-013	PS-240228-INF	.02	10mL	200.8/Al T, Cu T, Zn T	<2			10.00mL	Tan-Cloudy/Colorless-Cloudy		
5	R2401715-001	#6	.07	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
6	RQ2402359-03	R2401715-001 MS	.07	10mL	200.8/As T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/230559; 0.0200 mL/228122	
7	RQ2402359-04	R2401715-001 DMS	.07	10mL	200.8/As T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/228122; 0.0200 mL/230559	
8	R2401715-002	#5	.08	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
9	R2401715-007	#29	.02	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
10	R2401715-008	Dupe	.07	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
11	R2401716-001	RW2	.03	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
12	R2401716-002	RW10	.06	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/ml	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Steps

Step: Digestion
Started: 3/5/24 08:09
Finished: 3/5/24 13:52
By: CDISTEFANO
Comments

Comments: _____

Preparation Information Benchsheet

Prep Run#: 434947
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 3/5/24 08:09

1534 3|8 (Se repred)
1684 3|12
1715 3|15
1716 3|15

MS

Reviewed By: Molly Wallace Date: 3/6/24

Chain of Custody

Relinquished By:	CD	Date:	3|5|24	Extracts Examined
Received By:	R-Ao1	Date:	3|5|24	Yes No

Preparation Information Benchsheet

Prep Run#: 434762
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigSMS
Prep Method: EPA 3050B

Status: Prepped
Prep Date/Time: 3/1/24 08:45

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402229-01	MB		0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	White-Coarse/Colorless-Clear		HB:12 Well:G4 Temp:92.2C/92.7C
2	RQ2402229-02	LCS		0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	White-Coarse/Colorless-Clear	0.2500 mL/233423; 0.2500 mL/228122; 0.2500 mL/230559	On HB:10:14-10:29-10:30-11:00,11:01-11:31,12:26-12:41 Pip:M340,MA100,M380,M38,M33,M23,M27
3	RQ2402229-03	MDLV		0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	Colorless-Clear		
4	R2400831-025	ICPMS MDLv #1	.01	0.5g	6020A/As T, Ba T, Be T, Cd T, Co T, Cr T, Cu T, Mn T, Mo T, Ni T, Pb T, Se T, Tl T, V T, Zn T				50.00mL	Colorless-Clear		M8250109B

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/ml	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Boiling Stones PTFE	226047 (226047)	Hot Block Cups	50mL Lot 2304355 (232860)
Hydrogen Peroxide 30% Reagent Grade H2O2	233709 (233709)	Nitric Acid Metals Grade HNO3	231748 (231748)	Thermometer	462 (230832)

Preparation Steps

Step: Digestion
Started: 3/1/24 08:45
Finished: 3/1/24 13:05
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: 3/1/24

Received By: R-A01 Date: 3/1/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434760
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigSICP
Prep Method: EPA CLP-METALS ILM05.3

Status: Prepped
Prep Date/Time: 3/1/24 08:45

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402228-01	MB		1.0g	6020A/Ag T, Sb T				100.00mL	White-Coarse/Colorless-Clear		HB:12 Well:G4 Temp:92.2C/90.9C
2	RQ2402228-02	LCS		1.0g	6020A/Ag T, Sb T				100.00mL	White-Coarse/Colorless-Clear	0.2500 mL/228122; 0.2500 mL/233423; 0.2500 mL/230559	On HB:10:14-10:29-10:30-11:00,11:01-11:31,12:26-12:41,12:42-12:57 P:M340,MA100,M380,M38,M33,M23,M27
3	RQ2402228-03	MDLV		1.0g	6020A/Ag T, Sb T				100.00mL	Colorless-Clear		
4	R2400831-025	ICPMS MDLv #1	.01	1.0g	6020A/Ag T, Sb T				100.00mL	Colorless-Clear		M8250109A

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/ml	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 HCl Metals Grade	1:1 232049 (232050)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Boiling Stones PTFE	226047 (226047)
Hot Block Cups	50mL Lot 2304355 (232860)	Hydrogen Peroxide 30% Reagent Grade H2O2	233709 (233709)	Nitric Acid Metals Grade HNO3	231748 (231748)
Thermometer	462 (230832)				

Preparation Steps

Step: Digestion
Started: 3/1/24 08:45
Finished: 3/1/24 13:06
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: CD Date: 3/1/24

Received By: R. AO1 Date: 3/1/24

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 434823
Team: Metals/CDISTEFANO
Prep WorkFlow: MetDigAqMS
Prep Method:
Status: Prepped
Prep Date/Time: 3/1/24 09:13

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402262-01	MB		10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Pb T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		HB:10 Well:A3 Temp:94.2C/94.0C
2	RQ2402262-02	LCS		10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Pb T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/233423; 0.0200 mL/230559	On HB:11:29 Off HB:13:29 Pipet/Repipettor:M33,M39
3	R2401607-001	Ontario	.05	10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		
4	RQ2402262-03	R2401607-001 MS	.05	10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/230559; 0.0200 mL/228122; 0.0200 mL/233423	
5	RQ2402262-04	R2401607-001 DMS	.05	10mL	200.8/As T, Ba T, Be T, Cd T, Cr T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/228122; 0.0200 mL/230559	
6	R2401612-001	7210-03	.01	10mL	200.8/Pb T	<2			10.00mL	Colorless-Clear		
7	R2401613-001	Raw Water	.01	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
8	R2401613-002	Finished Water	.01	10mL	200.8/As T	<2			10.00mL	Colorless-Clear		
9	R2401669-001	H1,2,3	.01	10mL	200.8/Pb T	<2			10.00mL	Colorless-Clear		
10	R2401669-002	B1,2,3	.01	10mL	200.8/Pb T	<2			10.00mL	Colorless-Clear		

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/ml	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Steps

Step: Digestion
Started: 3/1/24 09:13
Finished: 3/1/24 14:37
By: CDISTEFANO
Comments

Comments: _____

Reviewed By: Holly Whitaker Date: 3/4/24

Preparation Information Benchsheet

Prep Run#: 434823
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 3/1/24 09:13

1607 3/11
1612 3/11
1613 3/11
1669 3/15

MS

Chain of Custody

Relinquished By:	CD	Date:	3/1/24	Extracts Examined
Received By:	R-01	Date:	3/1/24	Yes No

Preparation Information Benchsheet

Prep Run#: 434684 **Prep WorkFlow:** MetDigAqMS **Status:** Prepped
Team: Metals/CDISTEFANO **Prep Method:** **Prep Date/Time:** 2/28/24 10:18

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ2402157-01	MB		10mL	200.8/Ag T, Al T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T, Zn T, 6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		HB:10 Well:I1 Temp:90.2C/93.1C
2	RQ2402157-02	LCS		10mL	200.8/Ag T, Al T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T, Zn T, 6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	On HB:11:45 Off HB:13:45 Pipet/Repipettor:M33,M39
3	R2401517-005	YD16-2024-1X-CM	.01	10mL	200.8/Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Cloudy		
4	R2401523-001	OF002 - Internal - Effluent	.04	10mL	200.8/Cr T, Zn T	<2			10.00mL	Colorless-Cloudy/Colorless-Clear		
5	R2401527-015	PS-240221-INF	.02	10mL	200.8/Al T, ~~Cd T~~, Zn T Cu	<2			10.00mL	Tan-Cloudy/Colorless-Cloudy		
6	R2401534-001	M33847-1-11 4766 Pilgrimport Road	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear		
7	RQ2402157-03	R2401534-001 MS	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/228122; 0.0200 mL/230559	
8	RQ2402157-04	R2401534-001 DMS	.06	10mL	200.8/Ag T, As T, Ba T, Be T, Cd T, Cr T, Cu T, Ni T, Sb T, Se T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/233423; 0.0200 mL/230559; 0.0200 mL/228122	
9	R2401543-001	2402260903A 400-EV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
10	RQ2402157-05	R2401543-001 MS	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/230559; 0.0200 mL/228122; 0.0200 mL/233423	
11	RQ2402157-06	R2401543-001 DMS	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear	0.0200 mL/228122; 0.0200 mL/230559; 0.0200 mL/233423	
12	R2401543-002	2402260950C 400-FV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
13	R2401543-003	2402260959C 400-FV-131	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
14	R2401543-004	2402261008A 400-HV-147	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
15	R2401543-005	2402261050C 400-GV-125	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
16	R2401543-006	2402261052C 400-GV-125	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
17	R2401543-007	2402261318A 400-JV-150	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		
18	R2401543-008	2402261425C 400-IV-123	.02	10mL	6020A/As T, Sb T, Tl T	<2			10.00mL	Colorless-Clear		

Spiking Solutions

Name:	ICPMS Calibration Standard 1 (10 ug/mL	Inventory ID	228122	Logbook Ref:	228122	Expires On:	02/23/2025	Lot #:	222015048
Name:	ICPMS Calibration Standard 3 (10 ug/mL	Inventory ID	230559	Logbook Ref:	230559	Expires On:	05/01/2024		
Name:	ICPMS Calibration Standard 2 (10 ug/mL	Inventory ID	233423	Logbook Ref:	233423	Expires On:	03/10/2025	Lot #:	221015154

Preparation Information Benchsheet

Prep Run#: 434684
Team: Metals/CDISTEFANO

Prep WorkFlow: MetDigAqMS
Prep Method:

Status: Prepped
Prep Date/Time: 2/28/24 10:18

Preparation Materials

1:1 HCl Metals Grade	1:1 223283 (233826)	1:1 Nitric Acid Metals Grade	1:1 231748 (232391)	Hot Block Cups	10mL Lot J582688-8247 (232967)
Thermometer	402 (182588)				

Preparation Steps

Step: Digestion
Started: 2/28/24 10:18
Finished: 2/28/24 14:50
By: CDISTEFANO
Comments

1517 314
1523 315*
1527 318
1534 318
1543 318

MS

Comments: _____

Reviewed By: Molly Mellon Date: 2/29/24

Chain of Custody

Relinquished By: CD Date: 2/28/24
Received By: R-Aoi Date: 2/28/24

Extracts Examined
Yes No

right solutions.
right partner.

Form 2

Calibration Verifications

7470A, 6010C, 6020A

Workorder

R2401543

Client

NASA/WSTF/Navarro

Project

White Sands Test Facility

03/07/2024

ALS Environmental–Rochester Laboratory
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Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

7470A

RCVAA03_833741		ICV			CCV			LLCCV			CCV			CCV			LLCCV		
Units	Run Date	02/29/24			02/29/24			02/29/24			02/29/24			02/29/24			02/29/24		
mg/L	Run Time	09:45			11:45			12:10			12:13			12:41			13:09		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Mercury, Total		3.05	102		3	100		0.201	100		2.96	99		2.93	98		0.2	100	

RCVAA03_833741		CCV		
Units	Run Date	02/29/24		
ug/L	Run Time	13:11		
Analyte		Found	%R	Q
Mercury, Total		2.94	98	

Q - %Recovery Flag * - %Recovery (%R) Outside Limits

QC ID	%R Limits	Spike True Value ug/L
CCV	80 - 120	**3.0** - Hg
ICV	90 - 110	**3.0** - Hg
LLCCV	70 - 130	**0.2** - Hg

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Client NASA/WSTF/Navarro

Project White Sands Test Facility

Workorder **R2401543**

6010C

RPAES07_833939		ICV			LLCCV			CCV			CCV			CCV			CCV		
Units	Run Date	03/01/24			03/01/24			03/01/24			03/01/24			03/01/24			03/01/24		
mg/L	Run Time	14:40:00			14:47:00			15:33:00			16:09:00			16:47:00			17:26:00		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Aluminum, Total		9.92	99		0.195	98		9.92	99		10.1	101		10	100		9.89	99	
Barium, Total		10.2	102		0.205	102		10.2	102		10.3	103		10.2	102		10.3	103	
Beryllium, Total		0.241	96		0.0049	98		0.242	97		0.244	98		0.243	97		0.246	98	
Boron, Total		2.44	98		0.192	96		2.44	98		2.47	99		2.46	98		2.46	98	
Cadmium, Total		0.505	101		0.0101	101		0.505	101		0.51	102		0.506	101		0.519	104	
Calcium, Total		25.6	102		1.01	101		25.7	103		25.8	103		25.7	103		26.2	105	
Chromium, Total		0.516	103		0.0101	101		0.517	103		0.521	104		0.517	103		0.521	104	
Cobalt, Total		2.53	101		0.051	102		2.54	101		2.56	103		2.55	102		2.58	103	
Copper, Total		1.23	98		0.0247	99		1.24	99		1.26	100		1.24	99		1.23	98	
Iron, Total		5	100		0.106	106		5.03	101		5.06	101		5.01	100		5.08	102	
Lead, Total		0.505	101		0.0101	101		0.508	102		0.516	103		0.511	102		0.524	105	
Magnesium, Total		25.2	101		0.985	98		25.2	101		25.4	102		25.2	101		25.7	103	
Manganese, Total		0.745	99		0.0152	101		0.747	100		0.755	101		0.749	100		0.756	101	
Molybdenum, Total		2.52	101		0.0254	102		2.54	102		2.56	103		2.55	102		2.58	103	
Nickel, Total		2.09	105		0.0394	98		2.09	105		2.12	106		2.1	105		2.14	107	
Potassium, Total		24.1	96		0.926	93		24	96		24.5	98		24.3	97		24	96	
Selenium, Total		0.491	98		0.0118	118		0.484	97		0.494	99		0.493	99		0.489	98	
Silver, Total		0.518	104		0.0097	97		0.518	104		0.523	105		0.518	104		0.511	102	
Strontium, Total		2.49	100		0.1	100		2.5	100		2.51	101		2.5	100		2.55	102	
Tin, Total		5.03	101		0.502	100		5.03	101		5.1	102		5.05	101		5.15	103	
Vanadium, Total		2.5	100		0.0489	98		2.51	100		2.52	101		2.51	100		2.52	101	
Zinc, Total		0.992	99		0.0195	98		0.992	99		1	100		0.994	99		0.998	100	

QC ID	%R Limits	Spike True Value ppm
CCV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
ICV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
LLCCV	70 - 130	**0.2** - Al, Ba, B; **0.005** - Be; **0.01** - Cd, Cr, Pb, Se, Ag; **1.0** - Ca, Mg, K; **0.05** - Co, V; **0.0250** - Cu, Mo; **0.1** - Fe, Sr; **0.0150** - Mn; **0.04** - Ni; **0.5** - Sn; **0.02** - Zn

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6010C

RPAES07_833939		LLCCV			CCV			
Units	Run Date	03/01/24			03/01/24			
ppm	Run Time	17:33:00			17:52:00			
Analyte		Found	%R	Q	Found	%R	Q	
Aluminum, Total		0.191	95		9.94	99		
Barium, Total		0.208	104		10.2	102		
Beryllium, Total		0.005	100		0.243	97		
Boron, Total		0.192	96		2.45	98		
Cadmium, Total		0.0103	103		0.504	101		
Calcium, Total		1.03	103		25.7	103		
Chromium, Total		0.0105	105		0.515	103		
Cobalt, Total		0.0516	103		2.54	102		
Copper, Total		0.0248	99		1.24	99		
Iron, Total		0.108	108		5.02	100		
Lead, Total		0.0102	102		0.512	102		
Magnesium, Total		1	100		25.1	101		
Manganese, Total		0.0154	103		0.748	100		
Molybdenum, Total		0.0254	102		2.55	102		
Nickel, Total		0.0397	99		2.1	105		
Potassium, Total		1.11	111		24.3	97		
Selenium, Total		0.0095	95		0.482	96		
Silver, Total		0.0096	96		0.516	103		
Strontium, Total		0.103	103		2.49	100		
Tin, Total		0.512	102		5.04	101		
Vanadium, Total		0.0491	98		2.5	100		
Zinc, Total		0.0196	98		0.988	99		

QC ID	%R Limits	Spike True Value ppm
CCV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
ICV	90 - 110	**10.0** - Al, Ba; **0.250** - Be; **2.50** - B, Co, Mo, Sr, V; **0.5** - Cd, Cr, Pb, Se, Ag; **25.0** - Ca, Mg, K; **1.25** - Cu; **5.0** - Fe, Sn; **0.750** - Mn; **2.0** - Ni; **1.0** - Zn
LLCCV	70 - 130	**0.2** - Al, Ba, B; **0.005** - Be; **0.01** - Cd, Cr, Pb, Se, Ag; **1.0** - Ca, Mg, K; **0.05** - Co, V; **0.0250** - Cu, Mo; **0.1** - Fe, Sr; **0.0150** - Mn; **0.04** - Ni; **0.5** - Sn; **0.02** - Zn

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Workorder **R2401543**

6010C

RPAES07_834055		ICV			CCV			CCV			CCV			CCV			CCV		
Units	Run Date	03/04/24			03/04/24			03/04/24			03/04/24			03/04/24			03/04/24		
mg/L	Run Time	13:48:00			17:35:00			17:50:00			18:27:00			19:01:00			19:16:00		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Sodium, Total		24.9	100		24.7	99		24.6	99		24.7	99		24.8	99		24.6	99	
Strontium, Total		2.49	99		2.49	99		2.48	99		2.5	100		2.5	100		2.49	100	

QC ID	%R Limits	Spike True Value ppm
CCV	90 - 110	**25.0** - Na; **2.50** - Sr
ICV	90 - 110	**25.0** - Na; **2.50** - Sr

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6020A

RPMS02_833814		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	02/29/24			02/29/24			02/29/24			02/29/24			02/29/24			02/29/24		
mg/L	**Run Time**	10:50:39			11:01:42			11:24:34			11:47:39			11:55:19			12:04:03		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Antimony, Total		48.6	97		47.1	94		47.6	95		48.5	97		48.4	97		48.7	97	
Arsenic, Total		48.4	97		47.5	95		48.4	97		48.3	97		49.8	100		48.1	96	
Thallium, Total		49.5	99		48.1	96		49.3	99		49.3	99		51.1	102		50.7	101	

QC ID	%R Limits	Spike True Value ppb
CCV	90 - 110	**50.0** - Sb, As, Tl
ICV	90 - 110	**50.0** - Sb, As, Tl

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6020A

RPMS02_834067		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	03/04/24			03/04/24			03/04/24			03/04/24			03/04/24			03/04/24		
mg/L	**Run Time**	16:36:32			16:47:38			17:10:45			17:33:45			17:43:20			17:52:10		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Antimony, Total		49.4	99		47.5	95		46.6	93		46.6	93		46.8	94		49.6	99	
Arsenic, Total		48.7	97		49.7	99		50	100		48.7	97		49.3	99		51.5	103	
Thallium, Total		49.4	99		50.6	101		46.2	92		46.4	93		45.9	92		48.3	97	

QC ID	%R Limits	Spike True Value ppb
CCV	90 - 110	**50.0** - Sb, As, Tl
ICV	90 - 110	**50.0** - Sb, As, Tl

Form 2 - Calibration Verifications

Client	NASA/WSTF/Navarro	Workorder	
Project	White Sands Test Facility	**R2401543**	

6020A

RPMS02_834239		ICV			CCV			CCV			CCV			CCV			CCV		
Units	**Run Date**	03/06/24			03/06/24			03/06/24			03/06/24			03/06/24			03/06/24		
mg/L	**Run Time**	09:10:02			10:05:52			10:14:35			10:37:36			11:00:26			11:15:50		
Analyte		Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q	Found	%R	Q
Arsenic, Total		50.1	100		50.4	101		50.8	102		50.8	102		51.6	103		49.5	99	

RPMS02_834239		CCV		
Units	**Run Date**	03/06/24		
ppb	**Run Time**	11:21:32		
Analyte		Found	%R	Q
Arsenic, Total		49.5	99	

QC ID	%R Limits	Spike True Value ppb
CCV	90 - 110	**50.0** - As
ICV	90 - 110	**50.0** - As