National Aeronautics and
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February 25, 2025

Reply to Attn of: RE-25-033

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

Enclosed is the *NASA White Sands Test Facility (WSTF) 400 Area Supplemental Groundwater and Soil Vapor Monitoring Report – Third Quarter 2024*. This report is submitted in accordance with NMED's May 2, 2023 approval with modifications of the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan*, and the July 31, 2024 approval for rescheduling the submittal date for the third of four quarterly reports to February 28, 2025.

This submittal includes an Executive Summary as Enclosure 1, a printed, bound report (up to Appendix A) as Enclosure 2, and a PDF of the report on a CD-ROM as Enclosure 3.

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

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

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Executive Summary

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

The third quarter field sampling event was performed between August 26 and 28, 2024. Groundwater zones were accessible at all six of the multiport soil vapor and groundwater monitoring (MSVGM) wells (400-EV-131, 400-FV-131, 400-GV-125, 400-HV-147, 400-IV-123, and 400-JV-150). Following the inability to sample well 400-IV-123 during the second quarter 2024 event due to low groundwater level, the pump was lowered to enable the collection of a groundwater sample for the third quarter 2024 event. For the 54 available soil vapor ports within the 15 MSVGM and multiport soil vapor monitoring (MSVM) wells, four of the soil vapor ports were reported to be blocked and/or inaccessible. These comprised the soil vapor ports at 400-FV-131 (at 104 and 130 feet [ft] below ground surface [bgs]), 400-JV-150 (at 145 ft bgs), and 400-KV-142 (at 137 ft bgs).

Twenty-seven analytes were identified above detection limits in groundwater collected from the six MSVGM wells. These comprised of volatile organic compound(s) (VOCs) - six analytes including trichloroethene (TCE), semi-volatile organic compound(s) (SVOCs) - three analytes; N-Nitrodimethylamine (DMN), N-Nitrosodimethylamine (NDMA), and Bromacil, and metals - 19 analytes. Only NDMA was detected above White Sands Test Facility Groundwater Monitoring Plan cleanup levels (NASA 2023b) within all five of the sampled wells (400-EV-131, 400-FV-131, 400-GV-125, 400-HV-147, 400-IV-123, and 400-JV-150).

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

- 1,2,4-Trimethylbenzene (one location): 400-SV-03-10
- 1,3,5-Trimethylbenzene (one location): 400-SV-03-10
- 1,4-Dioxane (one location): 400-SV-03-50
- Freon 11 (four locations): 400-SV-10-125; 400-GV-125-105; 400-HV-147-130; and 400-IV-123-80
- TCE (two locations): 400-GV-125-120; and 400-IV-123-80

Soil vapor quality control samples indicated that most of the detected analytes were also identified in field blank and/or trip blank samples. Analytical reports from the off-site soil vapor laboratory using Environmental Protection Agency Method TO-15 also showed that dilutions were necessary for soil vapor samples with elevated concentrations of trichlorofluoromethane and 1,1,2-trichloro-1,2,2-trifluoroethane. This was specific to the soil vapor samples that exceeded the upper calibration limits for the laboratory equipment. This resulted in the method detection limits for other constituents increasing to above the corresponding NMED vapor intrusion screening level.

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

National Aeronautics and Space Administration

400 Area Supplemental Groundwater and Soil Vapor Monitoring Report

Third Quarter 2024

February 2025

NM8800019434

NASA Johnson Space Center White Sands Test Facility

400 Area Supplemental Groundwater and Soil Vapor Monitoring Report

Third Quarter 2024

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

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Executive Summary

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Table of Contents

Executive Summary iii
Table of Contents v
List of Acronyms vii
1.0 Introduction 1
1.1 Site Location and Description 1
1.2 Objective and Scope 1
2.0 Field Monitoring 2
2.1 Monitoring Well Network 2
2.2 Third Quarter 2024 Field Sampling Event 2
2.2.1 Groundwater Field and Sampling Activities 2
2.2.2 Soil Vapor Field and Sampling Activities 3
3.0 Quality Assurance/Quality Control 3
4.0 Groundwater and Soil Vapor Analytical Results 4
4.1 Groundwater Results 4
4.1.1 Issues Encountered 4
4.1.2 Groundwater Quality Parameter and Depth Measurements 5
4.1.3 Groundwater Chemical Analytical Results 5
4.1.4 Groundwater Statistical Trends 5
4.2 Soil Vapor Results 5
4.2.1 Issues Encountered 5
4.2.2 Soil Vapor Quality Parameter Measurements 6
4.2.3 Soil Vapor Chemical Analytical Results 6
4.2.4 Soil Vapor Statistical Trends 8
5.0 Conclusions and Recommendations 8
6.0 References 8
Figures 10
Figure 1.1 WSTF Location Map 11
Figure 1.2 White Sands Test Facility Industrial Area 12
Figure 2.1 400 Area Monitoring Well Locations 13
Figure 4.1 400 Area Potentiometric Surface Map 14
Figure 4.2 400 Area Groundwater Analytical Cleanup Level Exceedances 15
Figure 4.3 400 Area Soil Vapor Analytical NMED Residential VISL Exceedances 16
Tables 17
Table 1.1 List of Contaminants of Potential Concern for the 400 Area Closure 18
Table 2.1 400 Area Monitoring Well Summary 20

Table 4.1 MSVGM Well Initial Groundwater Quality Parameters for Third Quarter 2024 21
Table 4.2 Groundwater Analytical Results Above Laboratory Detection Limits for Third Quarter 2024 22
Table 4.3 Groundwater Analytical Results Above WSTF Cleanup-Screening Levels for Third Quarter 2024 24
Table 4.4 MSVM and MSVGM Well Soil Vapor Purge Parameters for Third Quarter 2024 25
Table 4.5 Soil Vapor Analytes and Concentration Ranges for Third Quarter 2024 27
Table 4.6 Soil Vapor Analytical Results Compared to Residential NMED VISLs and WSTF RBCs for Third Quarter 2024 30
Appendix A Logbook Entries and CoC Forms A-1
Appendix B Quality Assurance Report B-1
Appendix C Analytical Laboratory Reports C-1

List of Acronyms

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

1.0 Introduction

National Aeronautics and Space Administration (NASA) performed a field investigation of the White Sands Test Facility (WSTF) 400 Area Closure between September 2016 and September 2017. The purpose of the investigation was to determine the nature, extent, and potential migration pathways of contaminant releases at the 400 Area Closure (formerly the 400 Area hazardous waste impoundments). Investigation activities included the installation of soil borings that were subsequently converted to multiport soil vapor and groundwater monitoring (MSVGM) wells and multiport soil vapor monitoring (MSVM) wells, and the collection and analysis of soil, soil vapor, and groundwater samples. An initial comprehensive groundwater and soil vapor sampling event at the newly installed wells was performed as part of the 400 Area closure investigation fieldwork in July and August 2017. NASA submitted the *400 Area Closure Investigation Report* (IR) to the New Mexico Environment Department (NMED) on December 27, 2017 (NASA, 2017). Following comments and revisions, NMED provided the *Approval with Modifications 400 Area Closure Investigation Report – Revision 3* on May 2, 2023 (NMED, 2023b). One of the required components of the approved IR was to provide a minimum four quarterly groundwater and soil vapor monitoring reports (GWSVMR) documenting 400 Area supplemental groundwater and soil vapor monitoring. The *Supplemental Groundwater and Soil Vapor Monitoring Report – First Quarter 2024* was provided to NMED on August 30, 2024 (NASA, 2024b), and the *Supplemental Groundwater and Soil Vapor Monitoring Report – Second Quarter 2024* was provided to NMED on November 26, 2024 (NASA, 2024c). This *400 Area Supplemental Groundwater and Soil Vapor Monitoring Report – Third Quarter 2024* (Report) is the third of four planned quarterly reports intended to satisfy this requirement.

1.1 Site Location and Description

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

1.2 Objective and Scope

This third quarter 2024 report identifies the MSVGM and MSVM monitoring wells utilized for the supplemental monitoring, presents sampling methods performed at the monitoring wells and analytical requirements, and provides the groundwater and soil vapor analytical results collected for the monitoring event performed between August 26 and 28, 2024. The data presented and summarized within the report is intended to supplement data from the initial groundwater and soil vapor event collected during the 400 Area closure investigation (NASA, 2017), the first quarterly monitoring event (NASA, 2024b), and the second quarterly monitoring event (NASA, 2024c). The quarterly groundwater analysis provided includes volatile organic compounds (VOC), semi-volatile organic compounds (SVOC, including nitrosamines), inorganic compounds, and metals. The quarterly soil vapor analysis provided comprises only VOC. These data will be used to support evaluation of the vapor intrusion pathway in the 400 Area as required by NMED (NMED, 2018; Comments 17 and 18) and update the human health risk and hazard assessment at the 400 Area closure. The data collectively comprising the initial sampling event from 2017 and the four quarterly events will also be used to support evaluation for potential additional investigation at the 400 Area closure and future development of a corrective measures evaluation for the 400 and 300 Area closures contaminants of potential concern (COPCs). The fourth quarterly monitoring report will be used to evaluate and present all the 400 Area closure groundwater and soil vapor data collected to date.

Groundwater COPCs for the 400 Area closure include un-combusted hydrazine; monomethyl hydrazine; unsymmetrical dimethylhydrazine; Aerozine 50 and nitrogen tetroxide from static hot firing rocket engine tests. In addition, trichlorofluoromethane (Freon®[1] 11), 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113), and isopropyl alcohol were used as referee propellants during early cold flow firings.

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

2.0 Field Monitoring

2.1 Monitoring Well Network

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

2.2 Third Quarter 2024 Field Sampling Event

The third quarter field sampling event was performed at the 400 Area closure between August 26 and 28, 2024. Groundwater zones were accessible for all six of the MSVGM wells. The pump intake for well 400-IV-123 (not sampled during the second quarter 2024 event due to a decline in the water level) was lowered following that sampling event. Subsequently, groundwater from 400-IV-123 was sampled for the third quarter. A copy of the WSTF internal chain of custody (CoC) form for groundwater samples collected during the sampling event is provided in Appendix A.

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

2.2.1 Groundwater Field and Sampling Activities

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

Groundwater field and sampling activities were recorded in the appropriate field logbook (Appendix A). Prior to the collection of the groundwater samples, each well was purged of three well volumes and/or until dry using a dedicated low-flow bladder pump. Each pump is composed of polyvinyl chloride (PVC)

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

with Teflon bladders and has a Teflon-lined ¼-inch outer diameter air supply and groundwater sample tube. The water level was allowed to recover in each MSVGM well before groundwater samples were collected. The groundwater samples were then dispensed into laboratory-provided sample containers, which were uniquely labeled and placed in cold storage. Groundwater samples were preserved in accordance with NASA's contracted off-site analytical laboratories requirements and shipped for analysis.

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

Groundwater samples were collected for analysis of:

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

2.2.2 Soil Vapor Field and Sampling Activities

Soil vapor samples from 400 Area MSVM and MSVGM wells were collected between August 26 and August 28, 2024. A total of 50 of the 54 soil vapor ports in the 15 MSVM and MSVGM wells were utilized for the monitoring event. Of the four blocked ports, two of the ports at 400-FV-131 (at 130 ft bgs) and 400-JV-150 (at 145 ft bgs) were located beneath the potentiometric surface at their respective locations, and the inability to sample the soil vapor implants is attributed to the groundwater table rising above the implant depths. For both MSVGM well locations, the aquifer is semi-confined, and this layer was breached during drilling. Underlying pressurized groundwater continued to rise gradually until equilibrium was reached, which resulted in submergence of the deepest soil vapor implant at both MSVGM well locations.

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

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

3.0 Quality Assurance/Quality Control

A total of 14 quality control (QC) samples were collected for groundwater as follows:

- Duplicate samples (4): 400-FV-131 (2408261416C for Method 8260, 2408261419C for Method 607, and 2408261421C for Metals), and 400-GV-125 (2408260854C for Method 607).

- Field blanks (8): 400-EV-131 (2408261031A for Method 8260), 400-FV-131 (2408261417C for Method 8260), 400-GV-125 (2408260852C for Method 8260), 400-HV-147 (2408260916A for Method 8260 and 2408260918A for Method 607), 400-IV-123 (2408261356A for Method 8260 and 2408261359A for Metals), and 400-JV-150 (2408260952C for Method 8260).

- Trip blanks (2): 400-FV-131 (2408261300C for Method 8260) and 400-HV-147 (2408260730A for Method 8260).

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

A total of 17 QC samples were collected for soil vapor as follows:

- Duplicate samples (5) all for Method TO-15: 400-GV-125-46 (2408260848), 400-HV-147-12 (2408260936), 400-JV-150-12.5 (2408261026), 400-KV-142-100 (2408270847), and 400-SV-10-125 (2408280901).
- Field blanks (8) all for Method TO-15: 400-EV-131-100 (2408261435), 400-GV-125-120 (2408260904), 400-HV-147-130 (2408260959), 400-IV-123-80 (2408261344), 400-JV-150-100 (2408261048), 400-KV-142-50 (2408270838), 400-SV-03-50 (2408271339), and 400-SV-15-90 (2408281042).
- Trip blanks (4) all for Method TO-15: 400-EV-131-10 (2408261415), 400-IV-123-10 (2408261325), 400-LV-125-10 (2408270958), and 400-SV-05-10 (2408270900).

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

4.0 Groundwater and Soil Vapor Analytical Results

The results section includes any issues encountered, quality parameter measurements, analytical results, a comparison of analytical results to screening and/or cleanup levels. A total of four quarterly groundwater and soil vapor sampling field events have now been performed in February 2024 (first quarter), May 2024 (second quarter), August 2024 (third quarter), and December 2024 (fourth quarter).

Contaminant vertical profiles and a comprehensive statistical evaluation including a trend analysis will be included in the fourth quarterly report when a total of five sets of analytical results are available for groundwater and the majority of soil vapor port locations (the 2017 closure investigation report [NASA, 2017] combined with the four quarterly 2024 reports).

4.1 Groundwater Results

4.1.1 Issues Encountered

Following the inability to sample well 400-IV-123 during the second quarter 2024 event due to the groundwater level falling below the pump intake, the pump was lowered, which enabled the collection of a groundwater sample for the third quarter 2024 event. No issues were encountered during groundwater sampling for any of the six available MSVGM wells.

4.1.2 Groundwater Quality Parameter and Depth Measurements

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

4.1.3 Groundwater Chemical Analytical Results

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

- VOCs (6 constituents): Freon 113; 1,2-dichloro-1,1,2-trifluoroethane (Freon 123a); chloroform; Freon 21; trichloroethene (TCE); and Freon 11.
- SVOC Nitrosamines (2 constituents): N-Nitrodimethylamine (DMN; and N-Nitrosodimethylamine (NDMA).
- SVOC Bromacil (1 constituent): bromacil.
- Metals (19 constituents): aluminum, antimony; arsenic; barium; boron; calcium; chromium; cobalt; iron, magnesium; manganese; molybdenum; nickel; potassium; sodium; strontium; thallium; vanadium; and zinc.
- NO2, NO3 (1 constituent): nitrate +nitrite as nitrogen.

A summary of 400 Area groundwater analytical results above WSTF GMP cleanup levels is provided in Table 4.3. The only two analytes with detections above cleanup levels was 1) NDMA within the six wells: 400-EV-131; 400-FV-131; 400-GV-125; 400-HV-147; 400-IV-123; and 400-JV-150, and 2) nitrate + nitrite within well 400-JV-150 (Figure 4.2).

4.1.4 Groundwater Statistical Trends

For this quarterly report, no statistical evaluations were performed due to an insufficient sample size (<5) to make reliable decisions that affect human health and the environment (EPA, 2022). No statistical trends will be performed for 400 Area groundwater during this study until after all four quarterly sampling events have been completed. With the original 400 Area 2017 sampling event presented in the IR and the four proposed quarterly sampling events, the sample size will be five. Statistical trends will be completed following the final (fourth) quarterly sampling event.

4.2 Soil Vapor Results

4.2.1 Issues Encountered

Third quarter soil vapor samples were attempted at 54 available soil vapor ports in the 15 MSVGM and MSVM monitoring wells. Soil vapor samples were collected on the same day as groundwater samples from MSVGM wells, and all MSVGM wells were sampled on the same day (August 26, 2024). All soil

vapor samples were collected on schedule between August 26 and 28, 2024 as required by the GWSVMP (NASA, 2023a). Four blocked soil vapor ports were identified at 400-FV-131-104, 400-FV-131-130, 400-JV-150-145, and 400-KV-142-137 and were not sampled during the third quarter event.

4.2.2 Soil Vapor Quality Parameter Measurements

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

4.2.3 Soil Vapor Chemical Analytical Results

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

White Sands Test Facility Resource Conservation and Recovery Act Permit, Part 4, Investigation and Sampling Methods and Procedures, Section 4.5, Chemical Analyses, states, “The detection and reporting limits for each method shall be less than applicable background, screening, and regulatory cleanup levels. The preferred method reporting (practical quantitation) limits are a maximum of 20 percent of the cleanup, screening, or background levels. Analyses conducted with detection limits that are greater than applicable background, screening, or regulatory cleanup levels shall be considered data quality exceptions, and the reasons for the elevated detection limits shall be reported to the NMED” (NMED, 2023a). An evaluation of all soil vapor analytical datasets collected during 400 Area monitoring with respect to the impact of sample dilution will be provided in the fourth quarterly Report.

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

- A total of 65 analytes were tested using EPA Method TO-15.
- 48 analytes were detected above laboratory detection levels for either soil vapor within monitoring well sampling zones or within field blank and trip blank samples.
- 17 analytes were reported as non-detect (ND) within both monitoring well sampling zones and field blank/trip blank samples.
- 15 analytes were detected only in monitoring well sampling zones.
- 32 analytes were detected in both monitoring well sampling zones and field blank/trip blank samples.
- 1 analyte was detected only in field blank/trip blank samples.
- 32 analytes’ detection limits were higher than the regulatory screening level (RSL) due to dilution (bolded on Table 4.5).

Analytical reports from the off-site soil vapor laboratory (ALS Laboratory) indicate that dilutions were necessary for soil vapor samples with elevated concentrations of Freon 11 and Freon 113, which exceeded the upper calibration limits for the laboratory analytical equipment. Dilution is the total number of unit volumes in which the soil vapor was dissolved, calculated by dividing unit volume by the volume of soil vapor analyzed (liters) and multiplying by the container dilution factor. Soil vapor dilutions varied from 2.5 (400-EV-131-10, 400-IV-123-10, and 400-SV-05-10) for the lowest concentration sample up to 8,700 for the highest concentration sample (400-SV-10-125). For the samples with large dilutions and high concentrations reported for Freon 11 and Freon 113, elevated method detection limits (MDL) for other COPCs in the same samples potentially increase to above the corresponding NMED vapor intrusion screening level (VISL).

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

The term “non-detect” is not appropriate for specific COPCs for diluted samples where MDL are above the respective screening levels. The reporting strategy used in Table 4.5 identifies the modified COPC MDL due to dilution and compares it to the corresponding screening level. Bold font indicates where the MDL exceeds the VISL (NMED, 2022)/RSL (EPA, 2024)/RBC (NASA, 2022). Of the 65 analytes detected and reported as non-detect within the EPA Method TO-15 suite, the MDL increased above the corresponding regulatory screening level (either NMED VISL, EPA RSL, or WSTF RBC) for 32 of the analytes identified in bold in Table 4.5.

A summary of 400 Area soil vapor analytical results above NMED residential VISLs is provided in Table 4.6 and Figure 4.3. A total of 5 analytical results for three analytes (1,4-Dioxane, 2-Propanol, and Freon 11) exceeded the NMED VISLs and are described below.

Detected in monitoring well sampling ports:

- 1,4-Dioxane (one location): 400-SV-05-100.
- 2-Propanol (one location): 400-HV-147-95.
- Freon 11 (three locations): 400-SV-10-125; 400-GV-125-105; and 400-IV-123-80.

Detected in QC samples (field blanks):

- None for this quarter.

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

4.2.4 Soil Vapor Statistical Trends

For this quarterly report, no statistical evaluations were performed due to an insufficient sample size (<5) to make reliable decisions that affect human health and the environment. Therefore, no statistical trends will be performed for 400 Area soil vapor during this study until after all four quarterly sampling events have been completed. With the original 400 Area 2017 sampling event presented in the IR and the four proposed quarterly sampling events, the sample size will be five. Statistical trends will be completed following the final (fourth) quarterly sampling event.

5.0 Conclusions and Recommendations

In addition to the first (February 2024), second (May 2024), and third (August 2024) quarterly groundwater and soil vapor sampling field events, the fourth quarterly sampling event was performed in December 2024. NASA recommends providing contaminant vertical profiles and a comprehensive statistical evaluation including a trend analysis in the fourth quarterly report when a total of five sets of analytical results are available (the 2017 closure investigation report combined with the four quarterly 2024 reports).

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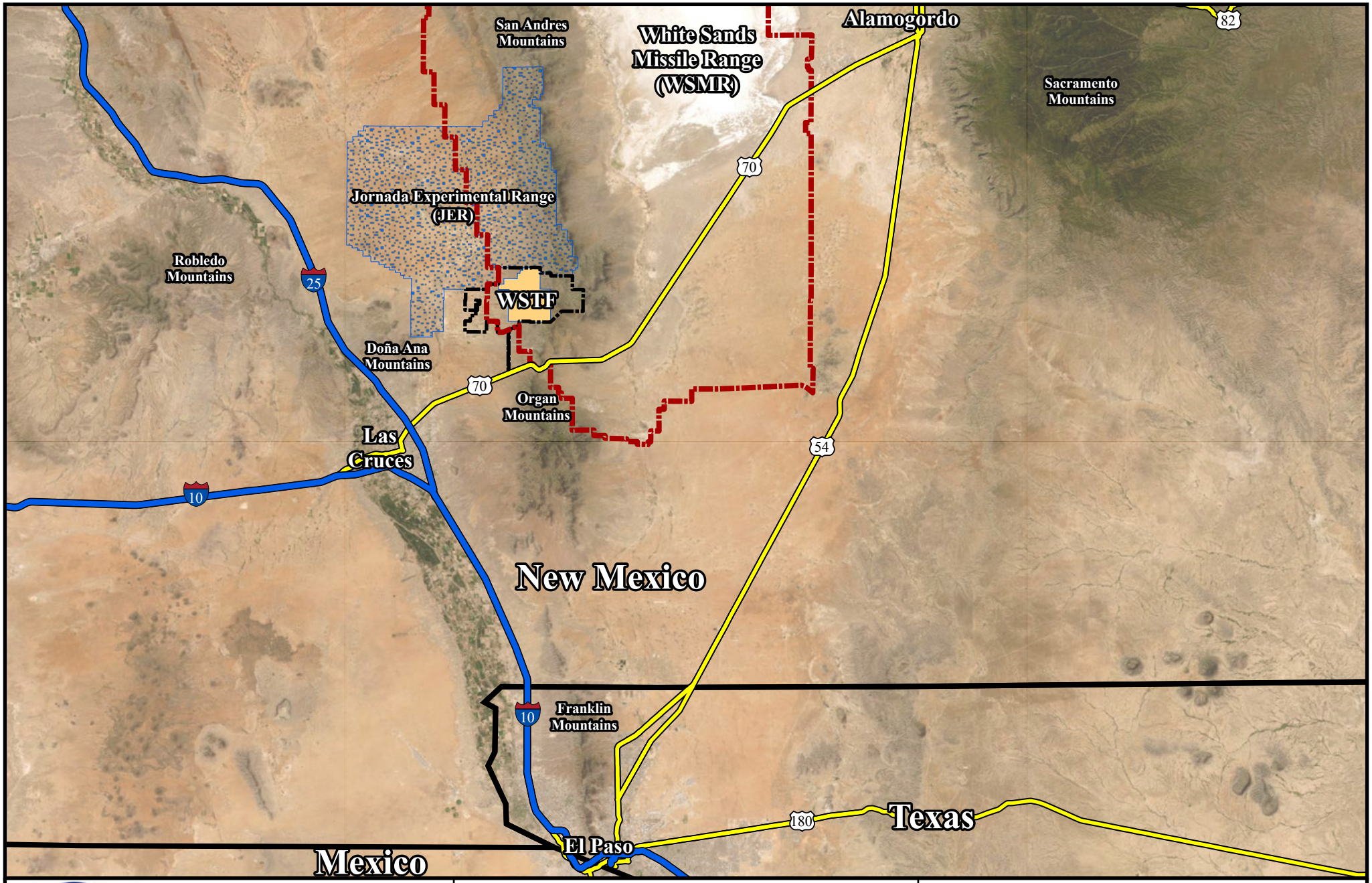
Figures

Figure 1.1 **WSTF Location Map**

(SEE NEXT PAGE)



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February 2025

Edited by: srees

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

WSTF Location Map

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

Coordinate System:
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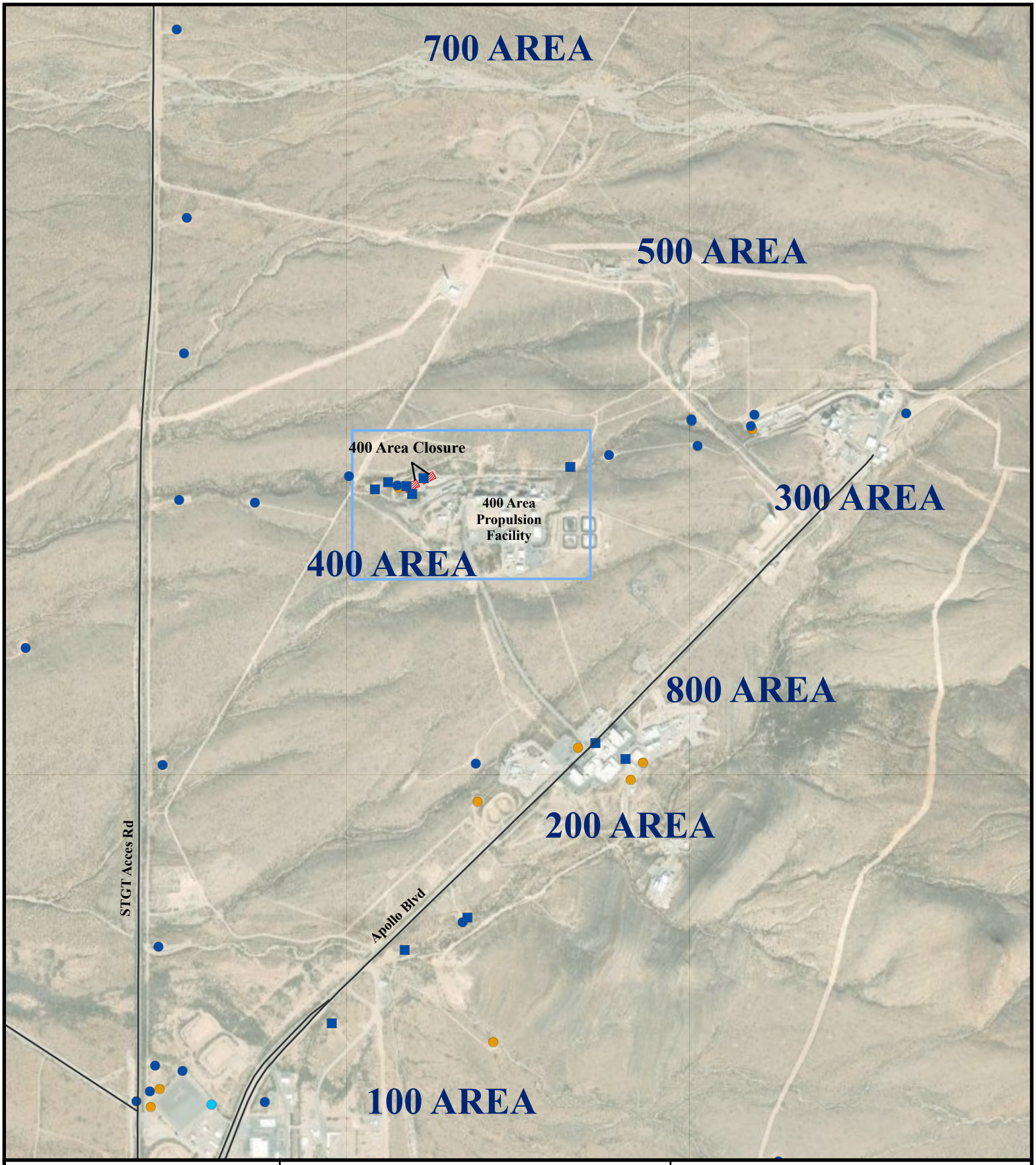
Figure 1.2 White Sands Test Facility Industrial Area

(SEE NEXT PAGE)



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Prepared by: srees

- Multiport Well
- Conventional Well
- Perched Well
- MSVGM Well
- Investigation Area Shown in Figure 2.1
- 400 Area Closure

White Sands Test Facility Industrial Area

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

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

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Figure 2.1 400 Area Monitoring Well Locations

(SEE NEXT PAGE)

400 Area Monitoring Well Locations

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

Coordinate System:
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Figure 4.1 **400 Area Potentiometric Surface Map**

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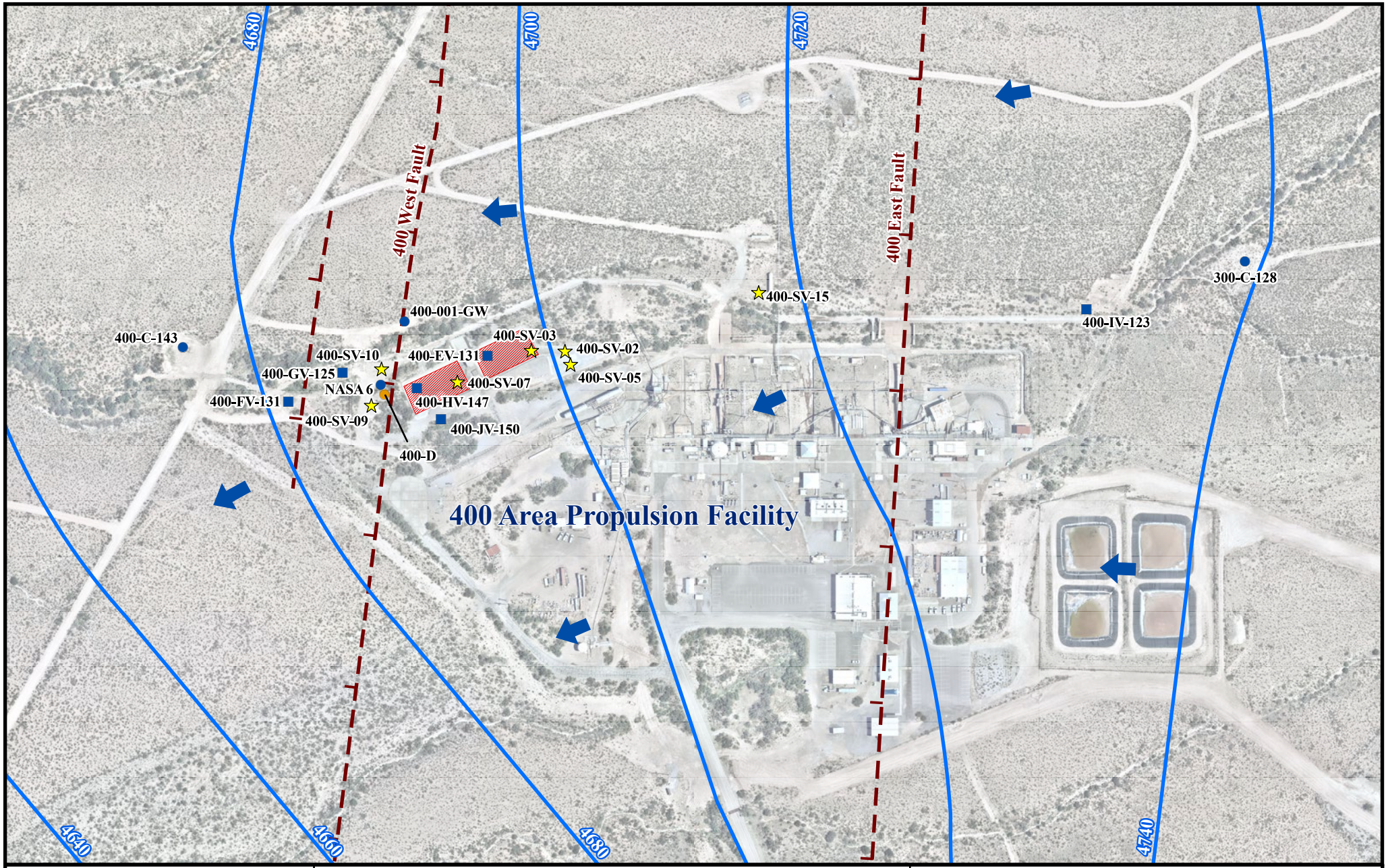

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Prepared by:srees

- Conventional Well
- Multiport Well
- MSVM Well
- MSVGM Well
- General Flow Direction
- Groundwater Elevation 20 Feet Contour
- Inferred Fault with Displacement
- 400 Area Closure

400 Area Potentiometric Surface Map

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

Coordinate System:
NAD 1983 StatePlane New Mexico Central FIPS 3002

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Figure 4.2 400 Area Groundwater Analytical Cleanup Level Exceedances

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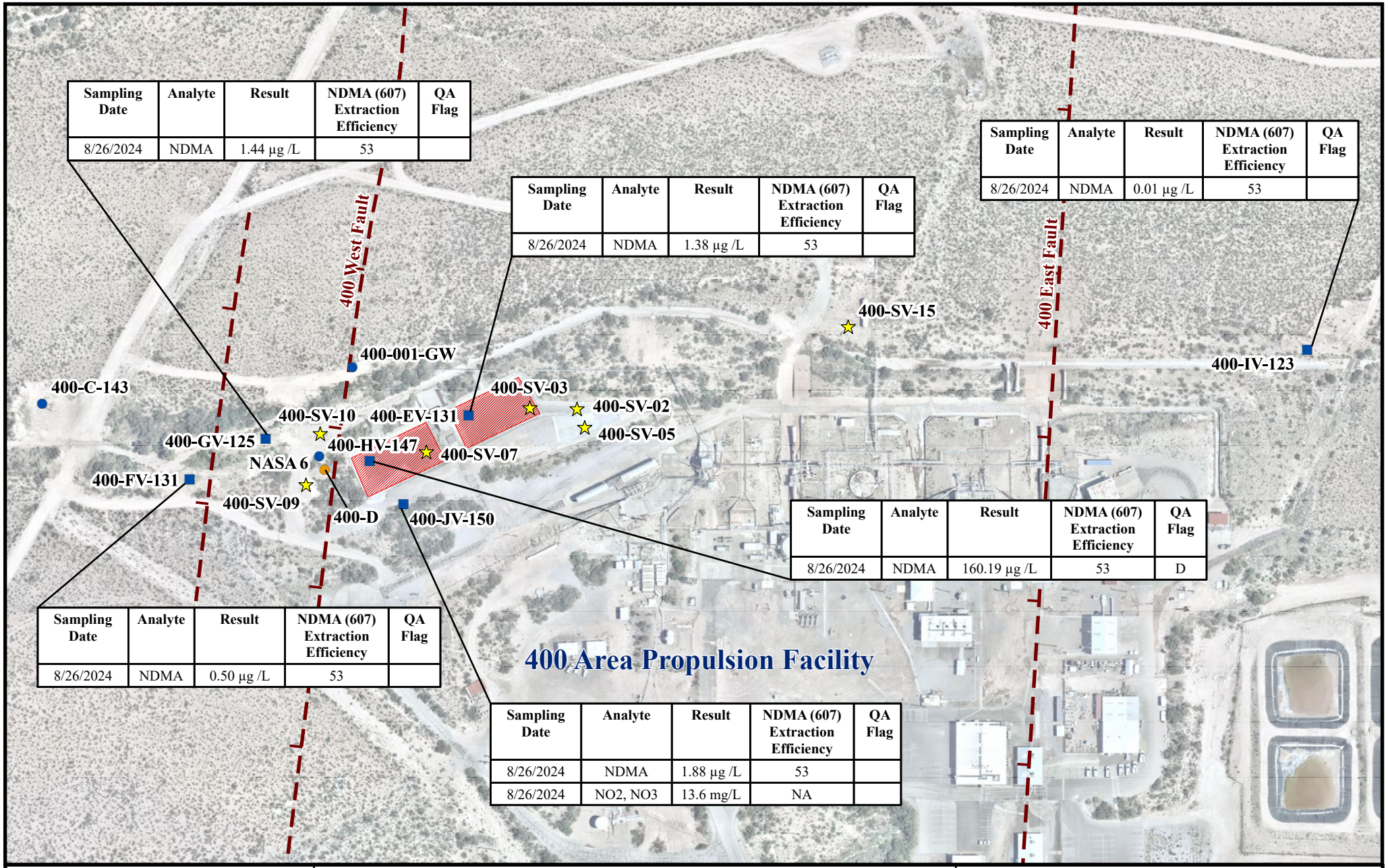

Sampling Date	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag
8/26/2024	NDMA	1.44 µg /L	53	

Sampling Date	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag
8/26/2024	NDMA	1.38 µg /L	53	

Sampling Date	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag
8/26/2024	NDMA	0.01 µg /L	53	

Sampling Date	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag
8/26/2024	NDMA	160.19 µg /L	53	D

Sampling Date	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag
8/26/2024	NDMA	0.50 µg /L	53	

Sampling Date	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag
8/26/2024	NDMA	1.88 µg /L	53	
8/26/2024	NO2, NO3	13.6 mg/L	NA	

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February 2025

0 50 100 200 300 Feet

Prepared by:srees

- Conventional Well
- Multiport Well
- MSVM Well
- MSVGM Well
- Inferred Fault with Displacement
- 400 Area Closure

NDMA Cleanup Level = 0.00491 ug/L

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

400 Area Groundwater Analytical Cleanup Level Exceedances

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

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

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Figure 4.3 400 Area Soil Vapor Analytical NMED Residential VISL Exceedances

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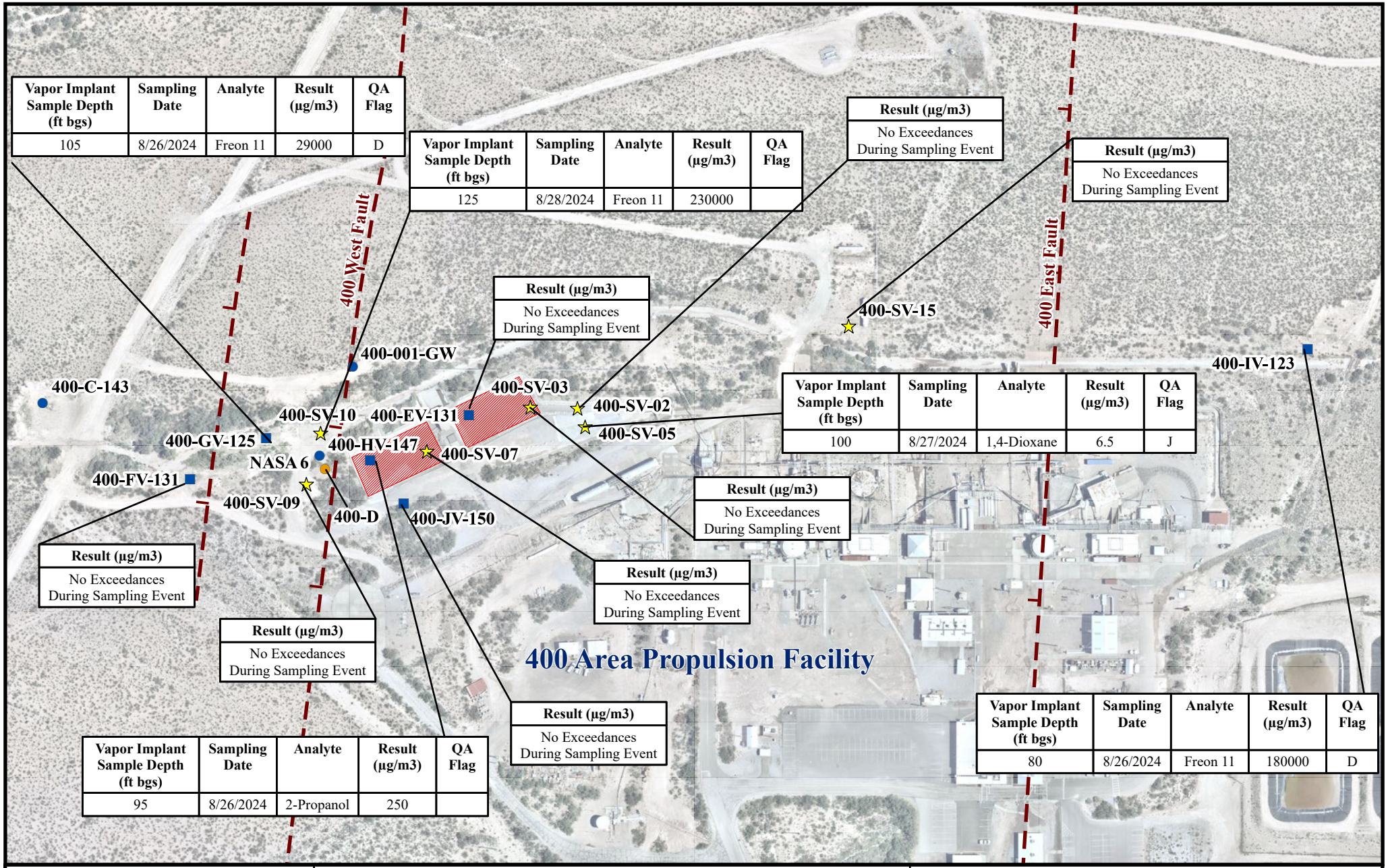

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0 50 100 200 300 Feet

Prepared by:srees

- Conventional Well
- Multiport Well
- MSVM Well
- MSVGM Well
- Inferred Fault with Displacement
- 400 Area Closure

Notes:
D = The reported result is from a dilution
J = The result is and estimated value less than the quantitation limit, but greater than or equal to the detection limit.

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

400 Area Soil Vapor Analytical NMED Residential VISL Exceedances

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

Coordinate System:
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Tables

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

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

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

Table 2.1 400 Area Monitoring Well Summary

Well ID (Screen ft bgs)	Well Type	SV Port Depths (ft bgs)	Brass Cap Elevation (ft amsl)	Depth to GW (ft bgs)[1]	Groundwater Sampling System	Observations During Third Quarter Sampling
400-EV-131 (131 – 146)	MSVGM	10, 50, 100, 130	4832.08	142.33	Dedicated Low-flow Bladder Pump	
400-FV-131 (130.5 – 145.5)	MSVGM	15, 63, 104, 130	4815.43	129.76	Dedicated Low-flow Bladder Pump	Soil vapor ports at 104’ and 130’ inaccessible
400-GV-125 (125 – 140)	MSVGM	10, 46, 105, 120	4818.86	131.47	Dedicated Low-flow Bladder Pump	
400-HV-147 (147 – 162)	MSVGM	12, 45, 95, 130	4829.26	NR	Dedicated Low-flow Bladder Pump	Transducer in groundwater zone
400-IV-123 (123 – 138)	MSVGM	10, 45, 80, 118	4864.22	131.74	Dedicated Low-flow Bladder Pump	
400-JV-150 (150 – 165)	MSVGM	12.5, 50, 100, 145	4835.71	147.72	Dedicated Low-flow Bladder Pump	Soil vapor port at 145’ inaccessible
400-KV-142 (142 – 157)[2]	MSVM[2]	12.5, 50, 100, 137	4839.53	P&A	P&A	Soil vapor port at 137’ inaccessible. Groundwater zone P&A
400-LV-125 (125 – 140)[2]	MSVM[2]	10, 50, 95, 122	4838.68	P&A	P&A	Groundwater zone P&A
400-SV-02	MSVM	10, 50, 100	4836.95	NA	NA	
400-SV-03	MSVM	10, 50, 92	4833.33	NA	NA	
400-SV-05	MSVM	10, 50, 100	4839.33	NA	NA	
400-SV-07	MSVM	10, 45, 100	4828.86	NA	NA	
400-SV-09	MSVM	10, 45, 104	4824.09	NA	NA	
400-SV-10	MSVM	10, 50, 100, 125	4821.69	NA	NA	
400-SV-15	MSVM	10, 50, 90	4845.56	NA	NA	

[1] Depth to groundwater measured during site-wide quarterly water level monitoring on July 24, 2024.
[2] Former groundwater screened interval, well converted from MSVGM to MSVM well on January 7, 2023.
NA Not available.
NR Not recorded.
P&A Well plugged and abandoned. Post-installation development indicated that groundwater recovery following well evacuation was less than 1/10 ft per day.

Table 4.1 MSVGM Well Initial Groundwater Quality Parameters for Third Quarter 2024

Well ID (Screen Ft)	Well Type	Date and Time Sampled (yr/mo/day/time)	Temperature (°C)	Conductivity (µmhos/cm)	pH	Turbidity (NTU)	Initial Depth to Water (ft)
400-EV-131 (131-146)	MSVGM	24/08/26/1015 24/08/26/1020 24/08/26/1025	28.03 28.16 28.27	1485 1489 1492	7.77 7.77 7.77	1.10 1.31 1.15	NR NR NR
400-FV-131 (130-5-145.5)	MSVGM	24/08/26/1400 24/08/26/1405 24/08/26/1410	22.30 22.31 23.39	1416 1420 1413	8.30 8.31 8.30	2.44 2.40 2.38	NR NR NR
400-GV-125 (125-140)	MSVGM	24/08/26/0840 24/08/26/0845 24/08/26/0850	21.82 22.69 22.80	1354 1375 1371	7.51 7.70 7.61	10.00 10.05 9.98	NR NR NR
400-HV-147 (147-162)	MSVGM	24/08/26/0850 24/08/26/0855 24/08/26/0900	25.93 25.83 25.80	2309 2304 2307	7.47 7.45 7.46	1.32 1.20 1.09	NA NA NA
400-IV-123 (123-138)	MSVGM	24/08/26/1340 24/08/26/1345 24/08/26/1350	25.45 25.24 25.51	412 410 411	9.07 9.09 9.03	3.00 3.11 2.21	NR NR NR
400-JV-150 (150-165)	MSVGM	24/08/26/0940 24/08/26/0945 24/08/26/0950	24.88 24.90 24.92	2170 2184 2177	7.95 7.74 7.79	1.81 1.64 1.51	NR NR NR
400-KV-142 (142-157)	MSVM	P&A	P&A	P&A	P&A	P&A	P&A
400-LV-125 (125-140)	MSVM	P&A	P&A	P&A	P&A	P&A	P&A

Notes:
NA Not Accessible (transducer in well).
NR Not recorded.
P&A Following the inability to sample groundwater, the groundwater screen was subsequently plugged and abandoned on January 7, 2023.
.

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

Analyte	Sampling Date	Analytical Method	Concentration Range	Laboratory Detection Limit (DL)	Number of Wells	Maximum Concentration Well	Current WSTF GMP Cleanup Level[1]	Is DL Above Cleanup Level?
Volatile Organic Compounds (VOCs, µg /L)								
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	08/26/24	8260	2.7 - 54	0.2	6/6	400-EV-131	NA	NA
1,2-Dichloro-1,1,2-trifluoroethane (Freon 123a)	08/26/24	8260	0.26 J – 4.0	0.2	4/6	400-FV-131	NA	NA
Chloroform	08/26/24	8260	0.84 J	0.51	1/6	400-HV-147	100	No
Dichlorofluoromethane (Freon 21)	08/26/24	8260	0.47 J – 3.9	0.2	6/6	400-FV-131	NA	NA
Trichloroethene (TCE)	08/26/24	8260	0.27 J – 1.1	0.2	5/6	400-EV-131	5	No
Trichlorofluoromethane (Freon 11)	08/26/24	8260	38 – 250 D	0.24 – 1.2	6/6	400-EV-131	1,140	No
Semi-volatile Organic Compounds (SVOCs) and Bromacil/Nitrosamines (µg /L)								
Bromacil	08/26/24	607	0.01 – 6.04 D (Ext Eff 108)	0.0094 – 0.0097	6/6	400-EV-131	NA	NA
N-Nitrodimethylamine (DMN)	08/26/24	607	0.03 – 377.67 D (Ext Eff 81)	0.0047 – 0.49	6/6	400-HV-147	NA	NA
N-Nitrosodimethylamine (NDMA)	08/26/24	607	0.01 – 160.19 D (Ext Eff 53)	0.0047 – 0.49	6/6	400-HV-147	0.00491	Yes
Metals (mg/L)								
Aluminum	08/26/24	METALS	0.62	0.03	1/6	400-GV-125	NA	NA
Antimony	08/26/24	METALS	0.0003 J – 0.003	0.0002	3/6	400-HV-147	6	No
Arsenic	08/26/24	METALS	0.0007 J – 0.0077	0.0004	6/6	400-IV-123	10	No
Barium	08/26/24	METALS	0.027 – 0.079	0.003	6/6	400-HV-147	2,000	No
Boron	08/26/24	METALS	0.14J – 1.12	0.02	6/6	400-JV-150	NA (3,950)[2]	No

Analyte	Sampling Date	Analytical Method	Concentration Range	Laboratory Detection Limit (DL)	Number of Wells	Maximum Concentration Well	Current WSTF GMP Cleanup Level[1]	Is DL Above Cleanup Level?
Calcium	08/26/24	METALS	15.1 - 158	0.3	6/6	400-HV-147	NA	NA
Chromium	08/26/24	METALS	0.002 J – 0.011	0.002	5/6	400-GV-125	50	No
Cobalt	08/26/24	METALS	0.001 J - 0.002 J	0.0009	3/6	400-HV-147	50	No
Iron	08/26/24	METALS	0.12 – 0.53	0.07	6/6	400-GV-125	NA	NA
Magnesium	08/26/24	METALS	28.2 - 123	0.03	6/6	400-HV-147	NA	NA
Manganese	08/26/24	METALS	0.007 J - 0.074	0.004	4/6	400-GV-125	NA (2,020)[2]	No
Molybdenum	08/26/24	METALS	0.006 J – 0.011 J	0.003	6/6	400-IV-123	NA (98.7)[2]	No
Nickel	08/26/24	METALS	0.022 J – 0.232	0.003	6/6	400-EV-131	200	No
Potassium	08/26/24	METALS	2.7 – 5.4	0.4	6/6	400-JV-150	NA	NA
Sodium	08/26/24	METALS	32.1 - 215	0.3	6/6	400-JV-150	NA	NA
Strontium	08/26/24	METALS	0.89 – 6.3	0.002	6/6	400-HV-147	NA (11,800)[2]	No
Thallium	08/26/24	METALS	0.00004 J – 0.0002 J	0.00004	4/6	400-GV-125	2	No
Vanadium	08/26/24	METALS	0.0007 J – 0.008 J	0.0007	5/6	400-IV-123	63.1	No
Zinc	008/26/24	METALS	0.003 J – 0.008 J	0.003	4/6	400-GV-125	10,000	No
NO2, NO3 (mg/L)								
Nitrate + Nitrite	08/26/24	353.2	4.29 – 13.6	0.008 – 0.03	3/6	400-JV-150	10	No

Notes:
[1] From the WSTF Groundwater Monitoring Plan (GMP; NASA, 2023b).
[2] No WSTF cleanup level; Cleanup level listed in parentheses is from the NMED Risk Assessment Guidance (2022).
D The reported result is from a dilution.
J The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NA Not applicable. No WSTF cleanup level.

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

Well Name	Sampling Date	Analytical Method	Analyte	Result	NDMA (607) Extraction Efficiency	QA Flag	WSTF GMP Cleanup Level[1]
400-EV-131	08/26/24	607	NDMA	1.38 µg /L	53		0.00491 µg /L
400-FV-131	08/26/24	607	NDMA	0.50 µg /L	53		0.00491 µg /L
400-GV-125	08/26/24	607	NDMA	1.44 µg /L	53		0.00491 µg /L
400-HV-147	08/26/24	607	NDMA	160.19 µg /L	53	D	0.00491 µg /L
400-IV-123	08/26/24	607	NDMA	0.01 µg /L	53		0.00491 µg /L
400-JV-150	08/26/24	607	NDMA	1.88 µg /L	53		0.00491 µg /L
400-JV-150	08/26/24	353.2	NO2, NO3	13.6 mg/L	NA		10 mg/L

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

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

Well Port ID – Depth (ft)	Well Type	Date and Time Sampled (yr/mo/day/time)	CH_4 (%)	CO_2 (%)	O_2 (%)	ALS Laboratory Canister ID	Final Canister Pressure (PSI)[1]
400-EV-131-10' (TB)	MSVGM	24/08/26/1415	NA	NA	NA	ISS01537	NA
400-EV-131-10'		24/08/26/1420	0.0	3.4	16.5	ISS00994	-1
400-EV-131-50'		24/08/26/1426	0.0	2.0	17.9	ISC00302	0
400-EV-131-100'		24/08/26/1434	0.0	1.9	17.6	ISS00905	-1
400-EV-131-100' (FB)		24/08/26/1435	NA	NA	NA	ISS00078	-1
400-EV-131-130'		24/08/26/1442	0.0	2.1	17.9	ISC01055	0
400-FV-131-15'	MSVGM	24/08/26/0820	0.0	1.2	19.0	ISS01455	0
400-FV-131-63'		24/08/26/0825	0.0	1.9	18.4	ISS01636	0
400-FV-131-104'		NS	NS	NS	NS	NS	NS
400-FV-131-130'		NS	NS	NS	NS	NS	NS
400-GV-125-10'	MSVGM	24/08/26/0840	0.0	2.4	17.8	ISS01654	0
400-GV-125-46'		24/08/26/0847	0.0	2.0	18.0	ISS01312	-1
400-GV-125-46' (D)		24/08/26/0848	0.0	1.9	18.1	ISS01514	0
400-GV-125-105'		24/08/26/0855	0.0	3.2	13.5	ISS01300	-1
400-GV-125-120'		24/08/26/0903	0.0	2.6	15.4	ISS01584	0
400-GV-125-120' (FB)		24/08/26/0904	NA	NA	NA	ISS01289	0
400-HV-147-12'	MSVGM	24/08/26/0935	0.0	2.1	17.9	ISC01055	0
400-HV-147-12' (D)		24/08/26/0936	0.0	2.4	17.9	ISS01335	0
400-HV-147-45'		24/08/26/0944	0.0	1.4	18.0	ISS01345	-1
400-HV-147-95'		24/08/26/0951	0.0	2.2	17.7	ISS01600	-1
400-HV-147-130'		24/08/26/0958	0.0	2.5	17.3	ISS01258	0
400-HV-147-130' (FB)		24/08/26/0959	NA	NA	NA	ISS01673	0
400-IV-123-10' (TB)	MSVGM	24/08/26/1325	NA	NA	NA	ISS01938	NA
400-IV-123-10'		24/08/26/1330	0.0	0.4	19.4	ISS00881	0
400-IV-123-45'		24/08/26/1336	0.0	0.4	19.2	ISS00508	-1
400-IV-123-80'		24/08/26/1343	0.0	0.1	18.3	ISS00874	0
400-IV-123-80' (FB)		24/08/26/1344	NA	NA	NA	ISC01205	0
400-IV-123-118'		24/08/26/1351	0.0	0.7	18.0	ISS01799	-1
400-JV-150-12.5'	MSVGM	24/08/26/1025	0.0	2.3	18.3	ISS00227	-1
400-JV-150-12.5' (D)		24/08/26/1026	0.0	2.4	18.5	ISS00155	-1
400-JV-150-50'		24/08/26/1038	0.0	2.8	18.1	ISS01932	0
400-JV-150-100'		24/08/26/1044	0.0	2.9	17.6	ISS01419	0
400-JV-150-100' (FB)		24/08/26/1048	NA	NA	NA	ISS01458	0
400-JV-150-145'		NS	NS	NS	NS	NS	NS
400-KV-142-12.5'	MSVGM	24/08/27/0830	0.0	1.1	19.7	ISS00848	0
400-KV-142-50'		24/08/27/0837[2]	0.0	1.9	19.0	ISS00999	0
400-KV-142-50' (FB)		24/08/27/0838	NA	NA	NA	ISC00280	0
400-KV-142-100'		24/08/27/0846	0.0	2.2	18.2	ISC00510	0
400-KV-142-100' (D)		24/08/27/0847	0.0	2.1	17.9	ISS00795	0
400-KV-142-137'		NS	NS	NS	NS	NS	NS
400-LV-125-10'	MSVGM	24/08/27/0957	0.0	1.3	18.9	ISS00138	0
400-LV-125-10' (TB)		24/08/27/0958	0.0	1.4	18.7	ISC01377	-1
400-LV-125-50'		24/08/27/1006	0.0	1.3	18.8	ISS00251	0
400-LV-125-95'		24/08/27/1014	0.0	1.6	18.1	ISC00193	-1
400-LV-125-122'		24/08/27/1022	0.0	1.5	18.3	ISS00250	0
400-SV-02-10'	MSVM	24/08/27/1400	0.0	1.3	18.5	ISS00245	-1
400-SV-02-50'		24/08/27/1409	0.0	1.4	18.1	ISC00605	0
400-SV-02-100'		24/08/27/1417	0.0	1.6	17.7	ISS00886	0
400-SV-03-10'	MSVM	24/08/27/1330	0.0	2.0	18.9	ISC00601	-1
400-SV-03-50'		24/08/27/1338	0.0	1.7	18.8	ISS00689	0
400-SV-03-50' (FB)		24/08/27/1339	NA	NA	NA	ISS00966	0
400-SV-03-92'		24/08/27/1346	0.0	2.2	18.2	ISC00400	0

Well Port ID – Depth (ft)	Well Type	Date and Time Sampled (yr/mo/day/time)	CH_4 (%)	CO_2 (%)	O_2 (%)	ALS Laboratory Canister ID	Final Canister Pressure (PSI)[1]
400-SV-05-10' (TB)	MSVM	24/08/27/0900	NA	NA	NA	ISS01188	NA
400-SV-05-10'		24/08/27/0905	0.0	1.0	18.8	ISS00771	0
400-SV-05-50'		24/08/27/0912	0.0	1.6	18.2	ISC00708	-1
400-SV-05-100'		24/08/27/0920	0.0	2.0	17.7	ISS00687	0
400-SV-07-10'	MSVM	24/08/28/0943	0.0	2.9	18.0	ISC00008	-1
400-SV-07-45'		24/08/28/0951	0.0	2.7	17.8	ISS01234	-1
400-SV-07-100'		24/08/28/1000	0.0	3.1	17.6	ISC00702	0
400-SV-09-10'	MSVM	24/08/28/0915	0.0	1.0	19.2	ISS01173	0
400-SV-09-45'		24/08/28/0923	0.0	1.7	18.8	ISS01669	0
400-SV-09-104'		24/08/28/0931	0.0	2.3	18.5	ISS01614	-1
400-SV-10-10'	MSVM	24/08/28/0830	0.0	1.8	18.6	ISS00950	0
400-SV-10-50'		24/08/28/0837	0.0	1.8	18.4	ISS01146	-1
400-SV-10-100'		24/08/28/0845	0.0	2.5	14.8	ISS01109	-1
400-SV-10-125'		24/08/28/0853	0.0	4.5	0.3	ISS00810	-1
400-SV-10-125' (D)		24/08/28/0901	0.0	4.8	0.2	ISC01250	0
400-SV-15-10'	MSVM	24/08/28/1025	0.0	0.6	19.5	ISS01467	0
400-SV-15-50'		24/08/28/1033	0.0	0.9	19.1	ISS01414	0
400-SV-15-90'		24/08/28/1041	0.0	1.1	18.9	ISS01020	0
400-SV-15-90' (FB)		24/08/28/1042	NA	NA	NA	ISC00534	0

Notes:
NA Not Applicable
NS Not Sampled (vapor port below water level or blocked)
TB Trip Blank
FB Field Blank
D Duplicate
[1] The initial pre-set pressure for all soil vapor canisters at the ALS laboratory is -14.3 PSI. Any initial canister pressure with a different reading will be recorded in the Field Notes (Appendix A) and presented in this table. All initial canister pressures were reported at -14.3 PSI for the 3QTR field event.
[2] Canister valve broken per ALS Laboratory for 400-KV-142-50 sample (2408270837). No analytical received.

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

Analyte	Concentration Range Within Soil Vapor Monitoring Well Sampling Zones		Concentration Range Within Field Blank and Trip Blank Samples		Range of MDL Due to Dilution (excludes Max)	Max MDL Due to Dilution	VISL[1], RSL[2], or RBC[3]	
	Minimum (µg/m³)	Maximum (µg/m³)	Minimum (µg/m³)	Maximum (µg/m³)	(µg/m³)	(µg/m³) (at Well 400-SV-10 at 125 ft)	Residential (µg/m³)	Industrial (µg/m³)
1,1,1-Trichloroethane*	ND	ND	ND	ND	0.17 – 5.8	570	174,000[1]	819,000[1]
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	0.19 – 6.5	**640**	16.1[1]	79.1[1]
1,1,2-Trichloroethane	ND	ND	ND	ND	0.14 – 4.8	**470**	6.95[1]	32.8[1]
1,1-Dichloroethane	ND	ND	ND	ND	0.20 – 6.9	**680**	585[1]	2,870[1]
1,1-Dichloroethene*	ND	ND	ND	ND	0.19 – 6.5	640	6,950[1]	32,800[1]
1,2,4-Trichlorobenzene	ND	ND	ND	ND	0.33 – 12	**1,100**	69.5[1]	328[1]
1,2,4-Trimethylbenzene	ND	3.2	ND	0.48 J FB	0.19 – 6.5	**640**	63[2]	260[2]
1,2-Dibromoethane (EDB)	ND	ND	ND	0.63 J FB	0.16 – **5.5**	**540**	1.56[1]	7.65[1]
1,2-Dichlorobenzene	ND	ND	ND	ND	0.20 – 7	690	6,950[1]	32,800[1]
1,2-Dichloroethane	ND	9.8 J	ND	0.47 J FB	0.15 – 5.2	**510**	36[1]	176[1]
1,2-Dichloropropane	ND	6.9 J	ND	0.89 J TB	0.17 – 5.8	**570**	93.6[1]	459[1]
1,3,5-Trimethylbenzene	ND	0.76 J	ND	ND	0.19 – 6.8	**670**	63[2]	260[2]
1,3-Butadiene	ND	ND	ND	ND	0.22 – 7.8	**770**	31.2[1]	153[1]
1,3-Dichlorobenzene	ND	ND	ND	ND	0.20 – 7.1	700	NA	NA
1,4-Dichlorobenzene	ND	0.75 J	ND	ND	0.21 – 7.3	**710**	85.1[1]	417[1]
1,4-Dioxane	ND	6.5 J	ND	0.62 J FB	0.16 – 5.6	**550**	5.6[2]	25[2]
2,2,4-Trimethylpentane	ND	120	ND	0.77 J TB	0.20 – 7.1	700	NA	NA
2-Butanone (MEK)*	ND	33	ND	29 TB	0.28 – 9.7	960	174,000[1]	819,000[1]
2-Hexanone*	ND	5	ND	3.1 TB	0.17 – 5.8	**570**	31[2]	130[2]
2-Propanol* (Isopropanol)	ND	250	ND	80 FB	0.55 – 19	**1,900**	210[2]	880[2]
3-Chloropropene (Allyl Chloride)	ND	ND	ND	ND	0.18 – **6.4**	**630**	4.7[2]	20[2]
4-Ethyltoluene	ND	0.55 J	ND	ND	0.21 – 7.5	740	NA	NA
4-Methyl-2-pentanone	ND	17	ND	3.3 FB	0.18 – 6.5	640	104,000[1]	492,000[1]

Analyte	Concentration Range Within Soil Vapor Monitoring Well Sampling Zones		Concentration Range Within Field Blank and Trip Blank Samples		Range of MDL Due to Dilution (excludes Max)	Max MDL Due to Dilution	VISL[1], RSL[2], or RBC[3]	
	Minimum (µg/m³)	Maximum (µg/m³)	Minimum (µg/m³)	Maximum (µg/m³)	(µg/m³)	(µg/m³) (at Well 400-SV-10 at 125 ft)	Residential (µg/m³)	Industrial (µg/m³)
Acetone*	ND	790	ND	140 TB	3 – 110	10,000	1,080,000[1]	5,080,000[1]
alpha-Chlorotoluene (benzyl chloride)	ND	ND	ND	ND	0.3 – **11**	**1,000**	0.57[2]	2.5[2]
Benzene	ND	9.3 J	ND	2.6 FB	0.19 – 6.8	**670**	120[1]	588[1]
Bromodichloromethane*	ND	2.2 J	ND	ND	0.19 – 6.8	**670**	25.3[1]	124[1]
Bromoform*	ND	0.62 J	ND	ND	0.28 – 9.7	**960**	26[2]	110[2]
Bromomethane	ND	3.6	ND	0.39 J FB	0.19 – 6.5	**640**	174[1]	819[1]
Carbon Disulfide	ND	92	ND	12 J FB	0.40 – 14	1,400	24,300[1]	115,000[1]
Carbon Tetrachloride	ND	4.4 J FB	ND	0.97 J FB	0.19 – 6.5	**640**	156[1]	765[1]
Chlorobenzene*	ND	0.41 J	ND	ND	0.18 – 6.3	620	1,740[1]	8,190[1]
Chloroethane (ethyl chloride)	ND	0.64 J	ND	ND	0.17 – 5.8	570	4,200[2]	18,000[2]
Chloroform*	ND	27	ND	1.5 J FB	0.18 – 6.3	**620**	40.7[1]	199[1]
Chloromethane*	ND	3.2	ND	2.1 J FB	0.22 – 7.6	**750**	520[1]	2,550[1]
cis-1,2-Dichloroethene	ND	ND	ND	ND	0.19 – 6.6	**650**	42[2]	180[2]
cis-1,3-Dichloropropene	ND	ND	ND	ND	0.21 – 7.3	720	NA	NA
Cumene	ND	1.9 J	ND	ND	0.19 – 6.8	670	13,900[1]	65,500[1]
Cyclohexane	ND	75	ND	9.2 TB	0.38 – 13	1,300	6,300[2]	26,000[2]
Dibromochloromethane*	ND	ND	ND	ND	0.18 – 6.2	**610**	34.7[1]	170[1]
Ethanol	ND	3,600 J	ND	41 TB	0.93 – 33	3,200	85,000,000[3]	1,500,000,000[3]
Ethyl Benzene	ND	12 J	ND	1.9 TB	0.19 – 6.6	**650**	374[1]	1,840[1]
Freon 11*	ND	230,000	ND	300 TB	0.20 – 630	700	24,300[1]	115,000[1]
Freon 113*	ND	510,000	ND	310 TB	0.19 – 590	660	1,040,000[1]	4,920,000[1]
Freon 114	ND	9.9 J	ND	ND	0.21 – 7.4	730	NA	NA

Analyte	Concentration Range Within Soil Vapor Monitoring Well Sampling Zones		Concentration Range Within Field Blank and Trip Blank Samples		Range of MDL Due to Dilution (excludes Max)	Max MDL Due to Dilution	VISL[1], RSL[2], or RBC[3]	
	Minimum (µg/m³)	Maximum (µg/m³)	Minimum (µg/m³)	Maximum (µg/m³)	(µg/m³)	(µg/m³) (at Well 400-SV-10 at 125 ft)	Residential (µg/m³)	Industrial (µg/m³)
Freon 12	ND	1,000	ND	2.7 J FB	0.22 – 7.7	760	3,480[1]	16,400[1]
Freon 123*	ND	2,500 J *	ND	ND	0.60 – 21	2,100	21,000,000[3]	240,000,000[3]
Freon 123a	ND	4,800 TIC	ND	ND	NA	NA	NA	NA
Freon 21*	ND	23,000 *	ND	ND	0.06 – 21	2,100	76,000[3]	910,000[3]
Heptane	ND	38	ND	4.6 TB	0.21 – 7.5	**740**	420[2]	1,800[2]
Hexachlorobutadiene	ND	ND	ND	ND	0.28 – **9.7**	**960**	1.3[2]	5.6[2]
Hexane	ND	55	ND	6.2 FB	0.28 – 9.7	960	24,300[1]	115,000[1]
m,p-Xylene*	ND	32 J	ND	5.2 TB	0.35 – 12	1,200	3,480[1]	16,400[1]
Methyl tert-butyl ether*	ND	4.6 J	ND	0.62 J TB	0.16 – 5.6	550	3,600[1]	17,600[1]
Methylene Chloride*	ND	9.2 J	ND	1.8 J TB	0.38 – 13	1,300	20,900[1]	98,300[1]
o-Xylene	ND	17 J	ND	2.5 TB	0.19 – 6.8	670	3,480[1]	16,400[1]
Propylbenzene	ND	3.8	ND	ND	0.19 – 6.8	670	1,000[2]	4,400[2]
Styrene	ND	12	ND	2 TB	0.22 – 7.6	750	34,800[1]	164,000[1]
Tetrachloroethene (PCE)*	ND	1,100 J	ND	0.33 J TB	0.17 – 6.1	600	1,390[1]	6,550[1]
Tetrahydrofuran	ND	10 J	ND	1.8 J FB	0.17 – 5.9	580	2,100[2]	8,800[2]
Toluene*	ND	1,000 J	ND	47 TB	0.16 – 5.8	570	174,000[1]	819,000[1]
trans-1,2-Dichloroethene*	ND	0.71 J	ND	ND	0.19 – 6.5	**640**	42[2]	180[2]
trans-1,3-Dichloropropene	ND	ND	ND	ND	0.28 – **9.7**	**960**	7[2]	31[2]
Trichloroethene (TCE)*	ND	68	ND	ND	0.18 – 6.4	**630**	69.5[1]	328[1]
Vinyl Chloride	ND	ND	ND	ND	0.14 – 5	**500**	55.9[1]	1,040[1]

Notes:
Shaded analytes are ND for sampling zone and field blank/trip blank samples for dataset.
Bold indicates MDL due to dilution was greater than the VISL/RSL/RBC for the constituent (residential, industrial, or both).
* = Analyte is on list of potential 400 Area COPCs identified in the IWP (NASA, 2011b – 400 Area IWP).

TIC = The analyte was tentatively identified by gas chromatography mass spectrometry library search and the amount reported is an estimated value.
TB = The analyte was detected in the trip blank.
FB = The analyte was detected in the field blank.
J = The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
ND = The analyte was not detected above the detection limit.
[1] VISL from NMED Risk Assessment Guidance (NMED, 2022).
[2] From RSL EPA (EPA, 2024).
[3] From latest approved version of WSTF RBCs (NASA, 2022).

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

Well ID	Vapor Implant Sample Depth (ft bgs)	Sampling Date	Analyte	Result[1] (µg/m^3)	QA Flag	NMED Residential VISL[2] or EPA RSL[3] (µg/m^3)	WSTF RBC[4] Residential (µg/m^3)	Factor, Result: RBC[5] (dimensionless)
Monitoring Well Soil Vapor Sampling Zones								
400-SV-05	100	8/27/24	1,4-Dioxane	6.5	J	5.6	NA	NA
400-HV-147	95	8/26/24	2-Propanol	250		210	1,200,000 @ 100’ bgs	4,800
400-SV-10	125	8/28/24	Freon 11	230,000		24,300	6,400,000 @ 100’ bgs	28
400-GV-125	105	8/26/24	Freon 11	29,000	D	24,300	6,400,000 @ 100’ bgs	221
400-IV-123	80	8/26/24	Freon 11	180,000	D	24,300	3,300,000 @ 50’ bgs	18.3
QA Samples								
None	--	--	None	--	--	--	--	--

Notes:
NA = Not available.
FB = The analyte was detected in the field blank.
J = The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
D = The ALS laboratory reported result is from a dilution that required more than one injection volume to differentiate the volumes.
[1] Results are provided for all analyte occurrences that exceed the equivalent NMED VISL.
[2] VISL from NMED Risk Assessment Guidance (NMED, 2022).
[3] RSL from EPA Regional Screening Levels (EPA, 2024).
[4] From latest approved version of WSTF RBCs (NASA, 2022). Value taken from nearest available RBC calculation depth above port depth for more conservative value.
[5] This value reflects the ratio of the soil vapor result (µg/m^3) to the equivalent RBC (µg/m^3). This is the factor by which the equivalent RBC exceeds the result.

Appendix A
Logbook Entries and CoC Forms

Craig DelFerraro & Tony Torrez present. Weather is clear & warm. Soil/Vapor samples will be collected from various locations throughout the 400 area. Samples will be collected using summa canisters while parameters will be monitored using the Landtech GA-5000 gas instrument. Calibrations performed on instrument prior to use.

400-EV-131-10' (FB)
Time - 240826 1415
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Atmos. reading: 12.34psia

Canister # 1SS01537
Final canister pressure: N/A

400-EV-131-10'
Time - 240826 1420
CH_4 - 0.0%
CO_2 - 3.4%
O_2 - 16.5%

Canister # 1SS00994
Final canister pressure: -1

400-EV-131-50' (47.5')
Time - 240826 1426
CH_4 - 0.0%
CO_2 - 2.0%
O_2 - 17.9%

CO 1SS00305
Canister # ~~1SS00994~~
Final canister pressure: 0

400-EV-131-100'
Time - 240826 1434
CH_4 - 0.0%
CO_2 - 1.9%
O_2 - 17.6%

Canister # 1SS00905
Final canister pressure: -1

400-EV-131-100' (FB)
Time - 240826 1435
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Canister # 1SS00078
Final canister pressure: -1

Continued from page N/A

Read and Understood By

Craig DelFerraro
Signed
8/26/24
Date

Signed
8/28/24
Date

400-EV-131-130'
Time - 240826 1442
CH4 - 0.0%
CO2 - 2.1%
O2 - 17.9%

1SC01055
Canister # 1SS GD
Final canister pressure: Ø

400-HV-147-~~45~~ 12' CO
Time - 240826 0935
CH4 - 0.0%
CO2 - 2.7%
O2 - 17.8%

Canister # 1SS01182
Final canister pressure: Ø

400-HV-147-~~45~~ 12' CO (Dup.)
Time - 240826 0936
CH4 - 0.0%
CO2 - 2.4%
O2 - 17.9%

Canister # 1SS01335
Final canister pressure: Ø

400-HV-147-45'
Time - 240826 0944
CH4 - 0.0%
CO2 - 1.4%
O2 - 18.0%

Canister # 1SS01345
Final canister pressure: -1

400-HV-147-95'
Time - 240826 0951
CH4 - 0.0%
CO2 - 2.2%
O2 - 17.7%

Canister # 1SS01600
Final canister pressure: -1

400-HV-147-130'
Time - 240826 0958
CH4 - 0.0%
CO2 - 2.5%
O2 - 17.3%

Canister # 1SS01258
Final canister pressure: Ø

Continued from page 14

Read and Understood By

Craig Del Terzo 8/26/24 Signed Date

A-8 8/28/24 Signed Date

400-HV-147-130' (FB)
Time - 240826 0959
Canister # ~~1550 1654~~ 1550 1673
final canister pressure: 0

400-GV-125-10'
Time - 240826 0840
CH_4 - 0.0%
CO_2 - 2.4%
O_2 - 17.8%
Canister # 1550 1654
final canister pressure: 0

400-GV-125-46'
Time - 240826 0847
CH_4 - 0.0%
CO_2 - 2.0%
O_2 - 18.0%
Canister # 1550 1312
final canister pressure: -1

400-GV-125-46' (Dupl.)
Time - 240826 0848
CH_4 - 0.0%
CO_2 - 1.9%
O_2 - 18.1%
Canister # 1550 1514
final canister pressure: 0

400-GV-125-105'
Time - 240826 0855
CH_4 - 0.0%
CO_2 - 3.2%
O_2 - 13.5%
Canister # 1550 1300
final canister pressure: -1

400-GV-125-120'
Time - 240826 0903
CH_4 - 0.0%
CO_2 - 2.6%
O_2 - 15.4%
Canister # 1550 1584
final canister pressure: 0

400-GV-125-120' (FB)
Time - 240826 0904
Canister # 1550 1289
final canister pressure: 0

Continued from page 15

400-IV-123-10' (TB)
Time - 240826 1325
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Canister # ISS01938
final canister pressure: N/A

400-IV-123-10'
Time - 240826 1330
CH_4 - 0.0%
CO_2 - 0.4%
O_2 - 19.4%

Canister # ISS00881
final canister pressure: 0

400-IV-123-45'
Time - 240826 1336
CH_4 - 0.0%
CO_2 - 0.4%
O_2 - 19.2%

Canister # ISS00508
final canister pressure: -1

400-IV-123-80'
Time - 240826 1343
CH_4 - 0.0%
CO_2 - 0.1%
O_2 - 18.3%

Canister # ISS00874
final canister pressure: 0

400-IV-123-80' (FB)
Time - 240826 1344
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Canister # ISC01205
final canister pressure: 0

400-IV-123-118'
Time - 240826 1351
CH_4 - 0.0%
CO_2 - 0.7%
O_2 - 18.0%

Canister # ISS01799
final canister pressure: -1

Continued from page 16

400-JV-150-12.5'
Time - 2408261025
CH_4 - 0.0%
CO_2 - 2.3%
O_2 - 18.3%
Canister # 1SS00227
final canister pressure: -1

400-JV-150-12.5' (Dupl.)
Time - 2408261026
CH_4 - 0.0%
CO_2 - 2.4%
O_2 - 18.5%
Canister # 1SS00155
final canister pressure: -1

400-JV-150-50'
Time - 2408261038
CH_4 - 0.0%
CO_2 - 2.8%
O_2 - 18.1%
Canister # 1SS01932
final canister pressure: 0

400-JV-150-100'
Time - 2408261044
CH_4 - 0.0%
CO_2 - 2.9%
O_2 - 17.6%
Canister # 1SS01419
final canister pressure: 0

400-JV-150-100' (FB)
Time - 2408261048
CH_4 - N/A
CO_2 - N/A
O_2 - N/A
Canister # 1SS01458
final canister pressure: 0

400-JV-150-145'
*N/A - well blocked and/or obstructed. Unable to obtain any readings from the Landtech.

Continued from page 17

Read and Understood By

Craig Del Terzo — Signed — 8/26/24 — Date

[signature] — Signed — 8/28/24 — Date

400-FV-131-15'
Time - 2408260820
CH_4 - 0.0%
CO_2 - 1.2%
O_2 - 19.0%
Canister # 1SS01455
final canister pressure: Ø

400-FV-131-63'
Time - 2408260825
CH_4 - 0.0%
CO_2 - 1.9%
O_2 - 18.4%
Canister # 1SS01636
final canister pressure: Ø

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

400-KV-142-12.5'
Time - 2408270830
CH_4 - 0.0%
CO_2 - 1.1%
O_2 - 19.7%
Canister # 1SS00848
final canister pressure: Ø

400-KV-142-50'
Time - 2408270837
CH_4 - 0.0%
CO_2 - 1.9%
O_2 - 19.0%
Canister # 1SS00999
final canister pressure: Ø

400-KV-142-50'(FB)
Time - 2408270838
Canister # 1SC00280
final canister pressure: Ø

400-KV-142-100'
Time - 2408270846
CH_4 - 0.0%
CO_2 - 2.2%
O_2 - 18.2%
Canister # 1SC00510
final canister pressure: Ø

Continued from page 18

Read and Understood By

Craig Del Favero 8/27/24 [signature] 8/28/2
Signed Date Signed Date

400-KV-142-100' (Dupl.)
Time - 2408270847
CH_4 - 0.0%
CO_2 - 2.1%
O_2 - 17.9%
Canister # 1SS00795
final canister pressure: ϕ

400-KV-142-137'
N/A - well blocked and/or obstructed - unable to obtain any readings.

400-LV-125-10'
Time - 2408270956 0957
CH_4 - 0.0%
CO_2 - 1.3%
O_2 - 18.9%
Canister # ϕ 1SS00138
final canister pressure: ϕ

400-LV-125-10' (Dupl.)
Time - 2408270958
CH_4 - 0.0%
CO_2 - 1.4%
O_2 - 18.7%
Canister # 1SC01377
final canister pressure: -1

400-LV-125-50'
Time - 2408271006
CH_4 - 0.0%
CO_2 - 1.3%
O_2 - 18.8%
Canister # 1SS00251
final canister pressure: ϕ

400-LV-125-95'
Time - 2408271014
CH_4 - 0.0%
CO_2 - 1.6%
O_2 - 18.1%
Canister # 1SC00193
final canister pressure: -1

Continued from page 19

Read and Understood By

Craig Del Terzo — Signed — 8/27/24 — Date

Signed — 8/28/2 — Date

400-LV-125-122'
Time - 240827 1022
CH_4 - 0.0%
CO_2 - 1.5%
O_2 - 18.3%

Canister # 1SS00250
final canister pressure: ϕ

400-SV-05-10' (TB)
Time - 240827 0900
CH_4 - N/A
CO_2 - N/A
O_2 - N/A

Canister # 1SS01188
final canister pressure: N/A

400-SV-05-10'
Time - 240827 0905
CH_4 - 0.0%
CO_2 - 1.0%
O_2 - 18.8%

Canister # 1SS00771
final canister pressure: ϕ

400-SV-05-50'
Time - 240827 0912
CH_4 - 0.0%
CO_2 - 1.6%
O_2 - 18.2%

Canister # 1SC00708
final canister pressure: -1

400-SV-05-100'
Time - 240827 0920
CH_4 - 0.0%
CO_2 - 2.0%
O_2 - 17.7%

Canister # 1SS00687
final canister pressure: ϕ

400-SV-02-10'
Time - 240827 1400
CH_4 - 0.0%
CO_2 - 1.3%
O_2 - 18.5%

Canister # 1SS00245
final canister pressure: -1

Continued from page 20

400-SV-02-50'
Time - 240827 1409
CH4 - 0.0%
CO2 - 1.4%
O2 - 18.1%

Canister # 1SC00605
final canister pressure: ø

400-SV-02-100'
Time - 240827 1417
CH4 - 0.0%
CO2 - 1.6%
O2 - 17.7%

Canister # 1SS00886
final canister pressure: ø

400-SV-03-10'
Time - 240827 1330
CH4 - 0.0%
CO2 - 2.0%
O2 - 18.9%

Canister # 1SC00601
final canister pressure: -1

400-SV-03-50'
Time - 240827 1338
CH4 - 0.0%
CO2 - 1.7%
O2 - 18.8%

Canister # 1SS00689
final canister pressure: ø

400-SV-03-50' (FB)
Time - 240827 1339

Canister # 1SS00966
final canister pressure: ø

400-SV-03-92'
Time - 240827 ~~1444~~ 1346
CH4 - 0.0%
CO2 - 2.2%
O2 - 18.2%

Canister # 1SC00400
final canister pressure: ø

Continued from page 21

Read and Understood By

Craig Del Terzo — Signed — 8/27/24 — Date

[signature] — Signed — 8/28/2 — Date

400-SV-07-10'
Time - 2408280943
CH_4 - 0.0%
CO_2 - 2.9%
O_2 - 18.0%

Canister # ISC00008
final canister pressure: -1

400-SV-07-45'
Time - 2408280951
CH_4 - 0.0%
CO_2 - 2.7%
O_2 - 17.8%

Canister # 1SS01234
final canister pressure: -1

400-SV-07-100'
Time - 2408281000
CH_4 - 0.0%
CO_2 - 3.1%
O_2 - 17.6%

Canister # 1SC00702
final canister pressure: Ø

400-SV-09-10'
Time - 2408280915
CH_4 - 0.0%
CO_2 - 1.0%
O_2 - 19.2%

Canister # 1SS01173
final canister pressure: Ø

400-SV-09-45'
Time - 2408280923
CH_4 - 0.0%
CO_2 - 1.7%
O_2 - 18.8%

Canister # 1SS01669
final canister pressure: Ø

400-SV-09-104'
Time - 2408280931
CH_4 - 0.0%
CO_2 - 2.0%
O_2 - 18.3%

Canister # 1SS01614
final canister pressure: -1

Continued from page 22

400-SV-10-10'
Time - 240828 0830
CH_4 - 0.0%
CO_2 - 1.8%
O_2 - 18.6%

Canister # 1SS00950
final canister pressure: ϕ

400-SV-10-50'
Time - 240828 0837
CH_4 - 0.0%
CO_2 - 1.8%
O_2 - 18.4%

Canister # 1SS01146
final canister pressure: -1

400-SV-10-100'
Time - 240828 0845
CH_4 - 0.0%
CO_2 - 2.5%
O_2 - 14.8%

Canister # 1SS01109
final canister pressure: -1

400-SV-10-125'
Time - 240828 0853
CH_4 - 0.0%
CO_2 - 4.5%
O_2 - 0.3%

Canister # 1SS00810
final canister pressure: -1

400-SV-10-125' (Dupl.)
Time - 240828 0901
CH_4 - 0.0%
CO_2 - 4.3%
O_2 - 0.2%

Canister # 1SC01250
final canister pressure: ϕ

400-SV-15-10
Time - 240828 1025
CH_4 - 0.0%
CO_2 - 0.6%
O_2 - 19.5%

Canister # 1SS01467
final canister pressure: ϕ

Continued from page 23

Read and Understood By

Craig Del Terro — Signed — 8/28/24 — Date

[illegible] C. [illegible] — Signed — 8/28/2[illegible] — Date

400-SV-15-50'
Time - 240828 1033
CH_4 - 0.0%
CO_2 - 0.9%
O_2 - 19.1%

Canister # ISS01414
final canister pressure: Ø

400-SV-15-90'
Time - 240828 1041
CH_4 - 0.0%
CO_2 - 1.1%
O_2 - 18.9%

Canister # ISS01020
final canister pressure: Ø

400-SV-15-90'(FB)
Time - 240828 1042

Canister # ISC00534
final canister pressure: Ø

Continued from page 24

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-FV-131

Pertinent Notes (if any): Soil / Vapor samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-FV-131 15'	Analytical Requirement: 400-FV-131 63'	Charge Number
2408260820	1	G	✓		HWMU
——— 0825	1	G		✓	4

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement	Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Delfeno	8/26/24 1120hrs		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-GV-125

Pertinent Notes (if any): Soil/Vapor Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-GV-125 10'	400-GV-125 46'	400-GV-125 105'	400-GV-125 120'				Charge Number
2408260840	1	G	✓							HWMU
——— 0847	1	G		✓						"
——— 0848 (Dupl.)	1	G		✓						"
——— 0855	1	G			✓					"
——— 0903	1	G				✓				"
——— 0904 (FB)	1	G				✓				

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Dell Zeno	8/26/24 / 1120hrs.		[signature]	8/28/24 1300

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-HV-147 ~~-152~~

Pertinent Notes (if any): Soil / Vapor Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-HV-147 12'	400-HV-147 45'	400-HV-147 95'	400-HV-147 130'				Charge Number
2408260935	1	G	✓							HWMU
——— 0936 (Dupl.)	1	G	✓							4
——— 0944	1	G		✓						4
——— 0951	1	G			✓					4
——— 0958	1	G				✓				4
——— 0959 (FB)	1	G				✓				4

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Tuno	8/26/24 1120hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-JV-150

Pertinent Notes (if any): Soil / Vapor Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-JV-150 12.5'	400-JV-150 50'	400-JV-150 100'					Charge Number
2408261025	1	G	✓							HWMU
1026 (Dup.)	1	G	✓							4
1038	1	G		✓						4
1044	1	G			✓					4
1048 (FB)	1	G			✓					4

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fenno	8/26/24 1120hrs		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-IV-123

Pertinent Notes (if any): Soil/Vapor Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-IV-123 10'	400-IV-123 45'	400-IV-123 80'	400-IV-123 118'				Charge Number
240826 1325 (TB)	1	G	✓							HWMU
" 1330	1	G	✓							"
" 1336	1	G		✓						"
" 1343	1	G			✓					"
" 1344 (FB)	1	G			✓					"
" 1351	1	G				✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DeStefano	8/26/24 / 1510 hrs.			8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-EV-131

Pertinent Notes (if any): Soil/Vapor Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-EV-131 10'	400-EV-131 50' (47.5')	400-EV-131 100'	400-EV-131 130'				Charge Number
240826 1415 (TB)	1	G	✓							HWMU
——— 1420	1	G	✓							"
——— 1426	1	G		✓						"
——— 1434	1	G			✓					"
——— 1435 (FB)	1	G			✓					"
——— 1442	1	G				✓				"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Torro	8/26/24/1510hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/27/24 Page 1 of 1

Sample Location: 400-KV-142

Pertinent Notes (if any): Soil / Vapor Samples

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	400-KV-142 12.5'	400-KV-142 50'	400-KV-142 100'					Charge Number
2408270830	1	G	✓							HWMU
——— 0837	1	G		✓						u
——— 0838 (FB)	1	G		✓						u
——— 0846	1	G			✓					u
——— 0847 (Dupl.)	1	G			✓					u

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Deltenre	8/27/24 1115hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/27/24 Page 1 of 1

Sample Location: 400 - SV-05

Pertinent Notes (if any): Soil Vapor Samples

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-05 10'	400-SV-05 50'	400-SV-05 100'					Charge Number
2408270900 (TB)	1	G	✓							HWMU
——— 0905	1	G	✓							"
——— 0912	1	G		✓						"
——— 0920	1	G			✓					"

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Deltenre	8/27/24 1115hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/27/24 Page 1 of 1

Sample Location: 400-LV-125

Pertinent Notes (if any): Soil | Vapor sampling

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*	400-LV-125 10'	400-LV-125 50'	400-LV-125 95'	400-LV-125 122'				Charge Number
2408270957	1	G	✓							HWMU
0958 (Dupl.)	1	G	✓							"
1006	1	G		✓						"
1014	1	G			✓					"
1022	1	G				✓				"

Sample Location:

Pertinent Notes (if any)

Analytical Requirement

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Zuno	8/27/24/1115hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/27/24 Page 1 of 1

Sample Location: 400-SV-03

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-03 10'	400-SV-03 50	400-SV-03 92'					Charge Number
2408271330	1	G	✓							HWMU
—— 1338	1	G		✓						4
—— 1339 (FB)	1	G		✓						4
—— 1346	1	G			✓					4

Sample Location:

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelTorro	8/27/24/1500hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/27/24 Page 1 of 1

Sample Location: 400-SV-02

Pertinent Notes (if any): Soil Vapor Sampling

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-02 10'	400-SV-02 50'	400-SV-02 100'					Charge Number
2408271400	1	G	✓							HWMU
——— 1409	1	G		✓						u
——— 1417	1	G			✓					u

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Deltenre	8/27/24/1500hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/28/24 Page 1 of 1

Sample Location: 400-SV-10

Pertinent Notes (if any): Soil / Vapor Sampling

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-10 10'	400-SV-10 50'	400-SV-10 100'	400-SV-10 125'				Charge Number
2408280830	1	G	✓							HWMU
—— 0837	1	G		✓						u
—— 0845	1	G			✓					u
—— 0853	1	G				✓				u
—— 0901 (Dupl.)	1	G				✓				u

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Fiorentino	8/28/24 / 1100hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/28/24 Page 1 of 1

Sample Location: 400-SV-09

Pertinent Notes (if any): Soil | Vapor Sampling

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-09 10'	400-SV-09 45'	400-SV-09 104'					Charge Number
2408280915	1	G	✓							HWMU
——— 0923	1	G		✓						u
——— 0931	1	G			✓					u

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Del Torro	8/28/24 1100hr.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/28/24 Page 1 of 1

Sample Location: 400-SV-07

Pertinent Notes (if any): Soil / Vapor Sampling

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-07 10'	400-SV-07 45'	400-SV-07 100'					Charge Number
2408280943	1	G	✓							HWMU
——— 0951	1	G		✓						u
——— 1000	1	G			✓					u

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig DelZoppo	8/28/24 1100hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/28/24 Page 1 of 1

Sample Location: 400-SV-15

Pertinent Notes (if any): Soil/Vapor Sampling

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 400-SV-15 10'	400-SV-15 50'	400-SV-15 90'					Charge Number
2408281025	1	G	✓							HWMU
——— 1033	1	G		✓						u
——— 1041	1	G			✓					u
——— 1042 (FB)	1	G			✓					u

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Craig Oldham	8/28/24 1100hrs.		[signature]	8/28/24 1200

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Matt Coccia & Marcus Avalos present. weather is clear & warm. This well will be Purged & sampled using dedicated bladder pump & Tube. Parameters monitored using Insitu Aquatroll 500. Earlby C

Calibrations
DO - 100% Sat Air
PH - 4, 7, 10 Buffers
Cond- 1413 us/cm STD
Turb - 10 NTU STD

Parameters	Cond. us/cm	Turb.	Temp.	PH	ORP	DO
240826 1015A	1,485	1.10	28.03	7.77	142.4	6.89
——— 1020A	1,489	1.31	28.16	7.77	142.8	6.86
——— 1025A	1,492	1.15	28.27	7.77	143.2	6.84

Samples

Sample	Analysis	Preserv.	Cont.	Lot	Lab
240826 1030A	8260	Ice/HCl	(3) 40mL vials	27591	ARS
——— 1031A	" (FB)	"	"	"	"
——— 1032A	6010	Ice	(1) 1L Amber	0133901	SRL
——— 1040A	T. Metals	Ice/HNO_3	(2) 125mL poly	NA	ALS
——— 1045A	Anions/ALK	Ice/Zero H.S.	"	"	"
——— 1050A	TDS	Ice	(1) 250mL Poly	"	"
——— 1055A	Perchlorate	Ice/1/3 H.S	(1) 125mL Poly	"	"
——— 1100A	$NO^2 NO^3$	Ice/H_2SO_4	(1) 250mL Poly	"	"

Continued from page

Read and Understood By

Matt Coccia 8/26/24 Marcus Avalos 8-27-24

PROJECT 400-FV-131

Notebook No. D 32 #139 (C) 23

Continued from page _____

TM Kondy + Robert Burrows present. Weather is 40+ windy
Well will be purged and sampled with a dedicated Bladder pump.
Water Quality parameters monitored using a Insitu Aqua TROLL 500.
Carboy - G2

Cal
DO - 100% Saturation
pH - 4, 7, 10 Buffers
Cond - 1413 uS/cm std
TURB - 10 NTU std

Parameters	Temp	Cond	pH	DO	ORP	TURB	DTW
240826 1400 C	22.30	1416	8.30	6.71	94.5	2.44	127.75
——— 1405 C	22.31	1420	8.31	6.72	94.8	2.40	127.80
——— 1410 C	23.39	1413	8.30	6.72	95.6	2.38	127.98

Samples

Sample #	Analysis	Preserv	Cont	Lab
240826 1300 G	8260 (TB)	Ice HCl	(3) 40 ml Vial	ALS
——— 1415	"	"	"	"
——— 1416	" (Dup)	"	"	"
——— 1417	" (FB)	"	"	"
——— 1418	NDMA	Ice	(1) 1LT Amber	SRL
——— 1419	" (Dup)	"	"	"
——— 1420	Metals	Ice, HNO3	(2) 125 poly	ALS
——— 1421	" (Dup)	"	"	"

Continued from page

Read and Understood By

T. Kondy 8-26-24 Tom Mundle 8-27-24

PROJECT 400-GW-125

Notebook No. D 32 # 134 (C) 21

Continued from page _____

Tim Kondy + Robert Burrows present- Weather is Hot, Breezy. Well will be purged and Sampled with a dedicated Bladder pump. Water Quality Parameters Monitored using Instru aquaTroll 500
Carboy - C-2

Cal
DO - 100 % Saturation
pH - 4, 7, 10 Buffers
Cond - 1413 us/cm Std
TURB - 10 ~~NTU~~ Std.

Parameters	Temp	cond	pH	DO	ORP	TURB	DTW
240826 0840 C	21.82	1354	7.51	4.96	123.7	10.00	129.35
— 0845 C	22.69	1375	7.20	4.96	117.3	10.05	129.60
— 0850 C	22.80	1371	7.61	4.96	120.5	9.98	129.99

Sample #	Analysis	Samples Preserv	cont.	CaS
240826 0851 C	8260	Ice, HCL	(3) 40 ml Vial	ALS
— 0852 C	" (FB)	"	"	"
— 0853 C	NDMA	Ice	(1) 1 LT Amber	SRL
— 0854 C	" (Dupl)	"	"	"
— 0855 C	Metals	Ice, HNO_3	(2) 125 poly	ALS
— 0856 C	Anions/Alk	Ice	"	"
— 0857 C	TDS	"	(1) ~~125~~ 250 ml poly	"
— 0858 C	perchlorate	"	(1) 125 ml poly	"
— 0859 C	NO_2/NO_3	Ice, H_2SO_4	(1) 250 poly	"

Continued from page

Read and Understood By

T Kondy
Signed

8-26-24
Date

A-31

Lori Wunderlich
Signed

8-27-24
Date

Matt Garcia & Marcus Avalos present. Weather is clear & warm. This well will be purged/sampled using dedicated Bladder pump & Tub Parameters monitored using Insitu Aquatroll 500. Carbay G1

Calibrations

DO - 100% Sat. air
PH - 4, 7, 10 Buffers
Cond - 1413 us/cm STD
Turb - 10 NTU STD

Transducer Readings 8/20/24

Pressure - 9.10 psi
Temp - 21.56 °C
Depth - 21.03 ft.

Parameters	Temp (°C)	Cond us/cm	DO mg/L	PH	ORP	Turb (NTUs)
240826 0850A	25.93	2309	5.12	7.47	131.9	1.32
——— 0855A	25.83	2304	4.88	7.45	132.2	1.20
——— 0900A	25.80	2307	4.51	7.46	131.1	1.09

Samples (Trip Blanks)

Sample	Analysis	Preserv	cont.	Lot	Lab
240826 0730A	8260	Ice/HCL	(3) 40 mL vials	27591	ALS

Samples

Sample	Analysis	Preserv	cont.	Lot	Lab
240826 0915A	8260	Ice/HCL	(3) 40mL vials	27591	ALS
——— 0916A	" (FB)	"	"	"	"
——— 0917A	6071	Ice	(1) 1L Amber	01339011	SRI
——— 0918A	" (FB)	"	"	"	"
——— 0919A	T. Metals	Ice/HNO_3	(2) 125mL Poly	NA	ALS

Continued from page

Read and Understood By

Matt Garcia 8/20/24 — Signed / Date

Ron Unruh 8-27-24 — Signed / Date

Matt Garcia & Marcus Arvalos present. The weather is clear & warm. This well will be purged / sampled using dedicated bladder pump & tube. Parameters monitored using Insitu Aquatroll 500. Carboy G1

Calibrations
DO - 100% Sat - Air
PH - 4, 7, 10 Buffers
Cond - 1413 uS/cm STD
Turb - 10 NTU STD

Parameters	cond (uS/cm)	Turb (NTUs)	Temp.	PH	ORP	DO (mg/L)
240826 1340A	412	3.60	25.45	9.07	64.6	4.49
——— 1345A	410	3.11	25.24	9.09	64.1	4.50
——— 1350A	411	2.21	25.51	9.03	64.9	4.49

Samples

Sample	Analysis	Preserv	Cont.	Lot	Lab
240826 1355A	8260	ICE/HCl	(3)40mL vials	27[illegible]91	ALS
——— 1356A	" (FB)	"	"	"	"
——— 1357A	6007	Ice	(1) 1L Amber	01339011	SRL
——— 1358A	T. Metals	Ice/HNO_3 (2)	125mL Poly	NA	ALS
——— 1359A	" (EB)	"	"	"	"

Continued from page

Read and Understood By

Matt Garcia 8/26/24 — Signed / Date

Ron Nunnelee 8-27-24 — Date

Tim Kowsy + Robert Burrows present. Weather is Hot, Breezy. Well will be purged and sampled with a dedicated Bladder pump. Water Quality parameters monitored using a In-Situ Aqua Troll 500.
Gatboy - G-2

Cal
DO - 100% saturation
pH - 4, 7, 10 Buffers
Cond - 1413 us/cm std.
TURB - 10 NTU std.

Parameters		Temp	cond.	pH	DO	ORP	TURB	DTW
240826	0940 c	24.88	2170	7.95	7.33	134.1	1.81	144.82
—	0945 c	24.90	2184	7.74	7.30	133.9	1.64	14/0.91
—	0950 c	24.92	2177	7.79	7.30	131.9	1.51	14/5.10

Sample #		Analysis	Sample Preserv	Cont.	Lab
240826	0951 c	8260	Ice HCL	(3) 40 ml Vial	ALS
—	0952 c	" FB	"	"	"
—	0953 c	NDMA	Ice	(1) 1LT Amber	SRI
—	0954 c	Metals	Ice, HNO3	(2) 125 poly	ALS
—	0955 c	Anions/ALK	Ice	"	"
—	0956 c	TDS	"	(1) 250 poly	"
—	0957 c	Perchlorate	"	(1) 125 poly	"
—	0958 c	NO2/NO3	Ice, H2SO4	(1) 250 poly	"

Continued from page

Read and Understood By

8-26-24 Tom Mumck 8-27-24

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-EV-131

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	8260	6007	T. metals	Anions / Nut	TDS	Perchlorate	NO_2/NO_3	Charge Number
										XGMD
240826 1030A	3	A	X							~~HWMO~~
1031A (FB)	3	↓	X							↓
1032A	1			X						
1040A	2				X					
1045A	2					X				
1050A	1						X			
1055A		↓						X		↓

Sample Location: 400-EV-131

Analytical Requirement

Pertinent Notes (if any) / Sample Number	# of Containers	Sample Matrix*	NO_2/NO_3	Charge Number
				XGMD
240826 1100A	1	A	X	~~HWMO~~

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
Matt Hall	8/26/24 1500hrs	[signature]	8-27-24 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-26-24 Page _____ of _____

Sample Location: 400 - FV - 131

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260	Analytical Requirement: VOA						Charge Number: AWMU
240826 1300 c (TB)		3	A	X							
— 1415 c		3		X							
— 1416 c (Dup)		3		X							
— 1417 c (FB)		3		X							
— 1418 c		1			X						
— 1419 c (Dup)		1			X						

Sample Location: 400 - FV - 131

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: MeHg							Charge Number
240826 1420 c		2	A	X							
— 1421 c (Dup)		2	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
[signature]	8-26-24		[signature]	8-27-24 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-26-24 Page _____ of _____

Sample Location: 400-GV-125

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: 8260	uPuA	Metals	Anions/IAK	TPS	Perchlorate	NO2/NO3	Charge Number
240826 0851 c	3	A	X							XGMD
— 0852 c FB	3		X							
— 0853 c	1			X						
— 0854 c DUP	1			X						
— 0855 c	2				X					
— 0856	2					X				
— 0857 c	1						X			

Sample Location: 400-GV-125

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement: Perchlorate	NO2/NO3	Charge Number
240826 0858 c	1	A	X		
— 0859 c	1	A		X	

Relinquished by:	Date / Time:	Accepted by:	Date / Time:
[signature]	8-26-24	[signature]	8-27-24 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-HV-147

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	607	T. metals					Charge Number
240826091 5A	3	A	X							~~GWMU~~ HWMU
0916A (FB)	2		X							
0917A	1			X						
0918A (FB)	1			X						
0919A	2				X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*								Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Matt Gross	8/26/24 1500hrs		Paul Munch	8-27-24 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8/26/24 Page 1 of 1

Sample Location: 400-IV-123

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	8260	6007	T. Metals					Charge Number
240826 1355A	3		X							HWMU
1356A (FB)	3		X							
1357A	1			X						
1358A	2				X					
1359A (FB)	2				X					

Sample Location:

Pertinent Notes (if any)

Sample Number	# of Containers	Sample Matrix*	Analytical Requirement							Charge Number

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
Matt Gonzales	8/26/24 1500hrs		[signature]	8-27-24 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

WSTF 381C (05/2016)

WSTF INTERNAL SAMPLE CHAIN OF CUSTODY RECORD

Date: 8-26-24 Page _____ of _____

Sample Location: 400-JV-150

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: 8260	VOMS	metals	Anions/Alk	TDS	perchlorate		Charge Number
											XGMD
240826 0951 c		3	A	X							
— 0952 FB		3		X							
— 0953 c		1			X						
— 0954 c		2				X					
— 0955 c		2					X				
— 0956 c		1						X			
0957 c		1							X		

Sample Location: 8-26-24

Sample Number	Pertinent Notes (if any)	# of Containers	Sample Matrix*	Analytical Requirement: VOA 1/103							Charge Number
240826 0958		1	A	X							

Relinquished by:	Date / Time:		Accepted by:	Date / Time:
	8-26-24			8-27-24 / 0930

* Sample Matrix Types: G – Gaseous; A – Aqueous; S – Solid; O – Other: _____

Appendix B
Quality Assurance Report

National Aeronautics and Space Administration

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

Third Quarter 2024

February 2025

NM 8800019434

Report Submitted: February 2025

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

1.0 Introduction

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

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

2.0 Data Quality

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

2.1 Notable Anomalies

The following notable anomalies were identified:

- The container valve for sample 2408270837 (P2403661-033) broke in-transit to the analytical laboratory, the sample was compromised, and analysis was cancelled.
- No field blanks were collected for Total Metals for this investigation in accordance with the NMED-approved AIWP and the Groundwater Monitoring Plan.
- Six results for nitrosamines by EPA Method 607 were identified for reanalysis due to calibration exceedances for N-nitrosodimethylamine (NDMA), dimethylnitrosamine (DMN), and Bromacil. Only one result is retained for each sample specific analyte. Results for original or diluted samples, identified in the laboratory report case narrative (SwRI M607-035) were qualified as rejected accordingly and received an “R” flag. Affected samples area as follows:
    - 2408261032A (400-EV-131)
    - 2408260917A (400-HV-147)

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

3.0 Data Tables

Table 1 summarizes the soil vapor and groundwater sample events for the third quarter collected in August 2024. This report is based on data quality issues related to the sample events listed in Table 1. Tables 2

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

Table 1 – Sample Events for August 2024

Sample Location	Depth (ft bgs)	Event Date	Sample Type
400-EV	10	8/26/2024	SV
	47.5	8/26/2024	SV
	100	8/26/2024	SV
	130	8/26/2024	SV
	131	8/26/2024	GW
400-FV	15	8/26/2024	SV
	63	8/26/2024	SV
	131	8/26/2024	GW
400-GV	10	8/26/2024	SV
	46	8/26/2024	SV
	105	8/26/2024	SV
	120	8/26/2024	SV
	125	8/26/2024	GW
400-HV	12	8/26/2024	SV
	45	8/26/2024	SV
	95	8/26/2024	SV
	130	8/26/2024	SV
	147	8/26/2024	GW
400-IV	10	8/26/2024	SV
	45	8/26/2024	SV
	80	8/26/2024	SV
	118	8/26/2024	SV
	123	8/26/2024	GW
400-JV	12.5	8/26/2024	SV
	50	8/26/2024	SV
	100	8/26/2024	SV
400-JV	150	8/26/2024	GW
400-KV	12.5	8/26/2024	SV
	50	8/26/2024	SV
	100	8/26/2024	SV
400-LV	10	8/26/2024	SV
	50	8/26/2024	SV
	95	8/26/2024	SV
	122	8/26/2024	SV
400-SV-02	10	8/26/2024	SV
	50	8/26/2024	SV
	100	8/26/2024	SV
400-SV-03	10	8/26/2024	SV
	50	8/26/2024	SV
	92	8/26/2024	SV
400-SV-05	10	8/26/2024	SV
	50	8/26/2024	SV
	100	8/26/2024	SV
400-SV-07	10	8/26/2024	SV
	45	8/26/2024	SV
	100	8/26/2024	SV
400-SV-09	10	8/26/2024	SV
	45	8/26/2024	SV
	104	8/26/2024	SV
400-SV-10	10	8/26/2024	SV
	50	8/26/2024	SV
	100	8/26/2024	SV
	125	8/26/2024	SV
400-SV-15	10	8/26/2024	SV
	50	8/26/2024	SV
	90	8/26/2024	SV

Table 2 – Quantity of Quality Control Samples

Method	Sample Type	Samples	Field Blanks	Trip Blanks	Duplicates	Matrix Spikes
Nitrosamines by EPA Method 607	**GW**	**6**	**1**	**---**	**2**	**---**
Volatile Organics by SW-846 Method 8260C	**GW**	**6**	**6**	**1**	**1**	**---**
Total Metals by Various SW-846 Methods	**GW**	**6**	**1**	**---**	**1**	**---**
Soil Gas - Volatile Organic Compounds	**SV**	**51**	**8**	**4**	**4**	**---**

Table 3 – Quality Control Sample Percentages

Quality Control Requirement	Requirement	Samp. Qty.	QC Qty.	QC %
Nitrosamines Field Blanks	2%	6	1	**17%**
Nitrosamines Trip Blanks	N/A	6	---	**N/A**
Nitrosamines Duplicates	10%	6	2	**33%**
Volatile Organics Field Blanks	1 per sample event	6	6	**100%**
Volatile Organics Trip Blanks	1 per shipment	6	1	**17%**
Volatile Organics Duplicates	10%	6	1	**17%**
Total Metals Field Blanks	5%	6	---	**---**
Total Metals Trip Blanks	N/A	6	---	**N/A**
Total Metals Duplicates	10%	6	1	**17%**
Soil Gas Field Blanks	NA	51	8	**16%**
Soil Gas Trip Blanks	NA	51	4	**8%**
Soil Gas Duplicates	NA	51	4	**8%**

Table 4 – Definitions of Data Qualifiers

Qualifier	Definition
*	User defined qualifier. See quality assurance narrative.
A	The result of an analyte for a laboratory control sample (LCS), initial calibration verification (ICV) or continuing calibration verification (CCV) was outside standard limits.
AD	Relative percent difference for analyst (laboratory) duplicates was outside standard limits.
D	The reported result is from a dilution.
EB	The analyte was detected in the equipment blank.
FB	The analyte was detected in the field blank.
G	The result is an estimated value greater than the upper calibration limit.
i	The result, quantitation limit, and/or detection limit may have been affected by matrix interference.
J	The result is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.
NA	The value/result was either not analyzed for or not applicable.
ND	The analyte was not detected above the detection limit.
Q	The result for a blind control sample was outside standard limits.
QD	The relative percent difference for a field duplicate was outside standard limits.
R	The result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
RB	The analyte was detected in the method blank.
S	The result was determined by the method of standard addition.
SP	The matrix spike recovery and/or the relative percent difference for matrix spike duplicates was outside standard limits.
T	The sample was analyzed outside the specified holding time or temperature.
TB	The analyte was detected in the trip blank.

Qualifier	Definition
TIC	The analyte was tentatively identified by a GC/MS library search and the amount reported is an estimated value.

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

Method	Total Result Records	FB	EB	TB	Q	QD	SP	R
Nitrosamines by EPA Method 607	**30**	---	---	---	---	**2**	---	**6**
Volatile Organics by SW-846 Method 8260C	**448**	---	---	---	---	---	---	---
Total Metals by Various SW-846 Methods	**189**	---	---	---	---	---	---	---
Soil Gas - Volatile Organic Compounds	**3510**	**27**	---	**34**	---	---	---	---

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

Method	Total Result Records	*	A	AD	G	RB	T	D	i	J
Nitrosamines by EPA Method 607	**30**	---	---	---	**3**	---	---	**6**	---	---
Volatile Organics by SW-846 Method 8260C	**448**	---	---	---	---	---	---	**1**	---	**10**
Total Metals by Various SW-846 Methods	**189**	---	---	---	---	---	---	---	---	**41**
Soil Gas - Volatile Organic Compounds	**3510**	**108**	**0**	---	---	**3**	---	**51**	---	**523**

Table 7 – Quality Assurance Narratives

Location Sample_ID	Event Date	Modified EPA Method 607
400-EV-131	**8/26/2024**	**For Modified EPA Method 607, sample 2408261032A was diluted 5-fold due to Bromacil exceeding calibration curve in the initial analysis. Original NDMA and DMN samples are retained and the diluted samples are flagged with an "R" and maintained in the Q_disk only.**
400-HV-147	8/26/2024	For Modified EPA Method 607, there were no detections in the field blank.
400-GV-125	8/26/2024	For Modified EPA Method 607, relative percent differences (RPD) for duplicate samples 2408260853C and 2408260854C were within control limits or below the calculable range.
400-FV-131	**8/26/2024**	**For Modified EPA Method 607, field duplicate samples 2408261418C and 2408261419C the relative percent difference for Bromacil was 27.9%. This value is outside the upper acceptance limit for relative percent difference of 25%.**
400-HV-147	**8/26/2024**	**For Modified EPA Method 607, sample 2408260917A was diluted 100-fold due to NDMA and DMN exceeding calibration curve in the initial analysis. Original Bromacil samples is retained and the diluted samples are flagged with an "R" and maintained in the Q_disk only.**
400-HV-147	**8/26/2024**	**For Modified EPA Method 607, origianl results for NDMA and DMN in sample 2408260917A exceeded the callibration curve and are rejected due to sample dilution 100-fold for reanalysis. Diluted NDMA and DMN samples are retained and the original samples are maintained in the Q_disk only.**
400-EV-131	**8/26/2024**	**For Modified EPA Method 607, origianl results for Bromacil in sample 2408261032A exceeded the callibration curve and are rejected due to sample dilution 10-fold for reanalysis. Diluted bromacil sample is retained and the original sample is maintained in the Q disk only.**

Location Sample_ID	Event Date	SW-846 Method 8260C
400-EV-131	**8/26/2024**	**For SW-846 Method 8260D, Trichlorofluoromethane (250 ug/L) in sample 2408261030A is a result of a 5-fold dilution.**

400-EV-131	8/26/2024	For SW-846 Method 8260D,The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-EV-131	**8/26/2024**	**For SW-846 Method 8260D, Dichlorofluoromethane (0.47 ug/L) in sample 2408261030A are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-EV-131	8/26/2024	For SW-846 Method 8260D, there were no detections in the field blank.
400-FV-131	**8/26/2024**	**For SW-846 Method 8260C, TCE (0.51 ug/L and 0.36 ug/L) in samples 2408261415C and 2408261415C is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.**
400-FV-131	8/26/2024	For SW-846 Method 8260D,The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-FV-131	8/26/2024	For SW-846 Method 8260C, there were no detections in the trip blank.
400-FV-131	8/26/2024	For SW-846 Method 8260C, there were no detections in the field blank.
400-FV-131	**8/26/2024**	**For SW-846 Method 8260C, field duplicate samples 2408261415C and 2408261416C the relative percent difference for Trichlorofluoromethane (CFC 11), and Trichloroethene (TCE) were 37% and 34%. All results are less than three times the reporting limit.**
400-GV-125	8/26/2024	For SW-846 Method 8260D,The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-GV-125	**8/26/2024**	**For SW-846 Method 8260C, TCE (0.8 ug/L) in samples 2408260851C is an estimated value less than the quantitation limit, but greater than or equal to the detection limit.**
400-GV-125	8/26/2024	For SW-846 Method 8260C, there were no detections in the field blank.
400-HV-147	8/26/2024	For SW-846 Method 8260D,The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-HV-147	**8/26/2024**	**For SW-846 Method 8260D, Chloroform (0.84 ug/L), CFC 123a (0.73 ug/L), and TCE (0.27 ug/L) in sample 2408260915A are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-HV-147	8/26/2024	For SW-846 Method 8260C, there were no detections in the trip blank.
400-HV-147	8/26/2024	For SW-846 Method 8260C, there were no detections in the field blank.
400-IV-123	8/26/2024	For SW-846 Method 8260D,The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-IV-123	8/26/2024	For SW-846 Method 8260C, there were no detections in the field blank.
400-JV-150	8/26/2024	For SW-846 Method 8260D, there were no detections in the field blank.
400-JV-150	8/26/2024	For SW-846 Method 8260D,The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field

		samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.
400-JV-150	**8/26/2024**	**For SW-846 Method 8260D, CFC 21 (0.67 ug/L), TCE (0.59 ug/L), and CFC 123a (0.26 ug/L) in sample 2408260951C are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**

Location Sample_ID	Event Date	Total Metals
400-EV-131	**8/26/2024**	**For Total Metals, multiple compounds in sample 2408261040A are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-FV-131	**8/26/2024**	**For Total Metals, multiple compounds in sample 2408261420C and 2408261421C are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-FV-131	8/26/2024	For Total Metals, relative percent differences (RPD) for duplicate samples 2408261420C and 2408261421C were within control limits or below the calculable range.
400-GV-125	**8/26/2024**	**For Total Metals, multiple compounds in sample 2408261420C and 2408261421C are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-HV-147	**8/26/2024**	**For Total Metals, multiple compounds in sample 2408260919A are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-IV-123	8/26/2024	For Total Metals, there were no detections in the field blank.
400-IV-123	**8/26/2024**	**For Total Metals, multiple compounds in sample 2408261358A are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**
400-JV-150	**8/26/2024**	**For Total Metals, multiple compounds in sample 2408260954C are estimated values less than the quantitation limit, but greater than or equal to the detection limit.**

Location Sample_ID	Event Date	EPA Method TO-15 for Air
400-EV-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-EV-010	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-EV-010	**08/26/24**	**For the Soil Gas Method, 2-Butanone (Methyl Ethyl Ketone) was detected in the trip blank (2408261415) at 0.39 ng/L. Ethanol was detected in the trip blank (2408261415) at 1.3 ng/L. Freon 113 was detected in the trip blank (2408261415) at 0.24 ng/L.**
400-EV-010	08/26/24	For SW-846 Method TO-15 (Air), for sample (2408261415) analytes Freon 123 and Freon 21 had values that were non detect, or under the detection limit.
400-EV-010	08/26/24	For SW-846 Method TO-15 (Air), analytes containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-EV-047.5	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-EV-047.5	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-EV-047.5	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-EV-100	**08/26/24**	**For the Soil Gas Method, 1,4-Dioxane was detected in the field blank (2408261435) at 0.62 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2408261435) at 1.9 ng/L. 2-Hexanone was detected in the field blank (2408261435) at 0.35 ng**
400-EV-100	**08/26/24**	**For SW-846 Method TO-15 (Air), for sample (2408261434), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-EV-100	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-EV-100	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-EV-100	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-EV-130	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results for the analytes Freon 113 and Freon 11 are from a dilution**
400-EV-130	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-EV-130	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-EV-130	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-FV-015	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-FV-015	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-FV-015	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-FV-063	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-FV-063	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-FV-063	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-GV-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-GV-010	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-GV-010	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-GV-046	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-GV-046	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analyte Freon 113 is from a dilution.**

400-GV-046	**08/26/24**	**For SW-846 Method TO-15 (Air), the samples were analyzed for volatile organic compounds and Freon 123a and as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Comp**
400-GV-046	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-GV-105	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-GV-105	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-GV-105	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-GV-105	**08/26/24**	**For SW-846 Method TO-15 (Air), the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds**
400-GV-120	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-GV-120	**08/26/24**	**For SW-846 Method TO-15 (Air), for sample (2408260903) the samples were analyzed for volatile organic compounds and Freon 123a as a tentatively identified compound in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination o**
400-GV-120	**08/26/24**	**For the Soil Gas Method, 1,2-Dichloroethane was detected in the field blank (2408260904) at 0.47 ng/L. 1,2-Dichloropropane was detected in the field blank (2408260904) at 0.86 ng/L. 2,2,4-Trimethylpentane was detected in the field blank (2408260904) at**
400-GV-120	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-GV-120	08/26/24	For SW-846 Method TO-15 (Air), for sample (2408260904), the analyte Freon 123a was searched for, but not found.
400-HV-012	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-HV-012	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-HV-012	08/26/24	For SW-846 Method 8021B, relative percent differences (RPD) for duplicate samples 2408260936 and 2408260936 were within control limits or below the calculable range.
400-HV-012	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-HV-045	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-HV-045	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-HV-045	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-HV-095	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-HV-095	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-HV-095	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-HV-095	**08/26/24**	**For SW-846 Method TO-15 (Air), for analytes Freon 113 and Freon 11, the reported result is from a dilution.**

400-HV-130	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-HV-130	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-HV-130	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-HV-130	**08/26/24**	**For the Soil Gas Method, 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2408260959) at 3.1 ng/L. 2-Hexanone was detected in the field blank (2408260959) at 0.32 ng/L. 2-Propanol was detected in the field blank (2408260959) at 80.0 ng/**
400-IV-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-IV-010	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-IV-010	**08/26/24**	**For the Soil Gas Method, 2-Butanone (Methyl Ethyl Ketone) was detected in the trip blank (2408261325) at 2.1 ng/L. 2-Hexanone was detected in the trip blank (2408261325) at 0.24 ng/L. Ethanol was detected in the trip blank (2408261325) at 4.9 ng/L.**
400-IV-010	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-IV-045	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-IV-045	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-IV-045	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-IV-045	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-IV-080	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-IV-080	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-IV-080	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-IV-080	**08/26/24**	**For the Soil Gas Method, 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2408261344) at 2.0 ng/L. Acetone was detected in the field blank (2408261344) at 20.0 ng/L. Carbon Tetrachloride was detected in the field blank (2408261344) at 0**
400-IV-080	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-IV-118	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-IV-118	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-IV-118	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was searched for, but not found.
400-IV-118	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-JV-012.5	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**

400-JV-012.5	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-JV-012.5	08/26/24	For SW-846 Method 8021B, relative percent differences (RPD) for duplicate samples 2408261026 and 2408261026 were within control limits or below the calculable range.
400-JV-012.5	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-JV-050	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-JV-050	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-JV-050	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-JV-100	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-JV-100	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-JV-100	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-JV-100	**08/26/24**	**For the Soil Gas Method, 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2408261048) at 1.4 ng/L. Acetone was detected in the field blank (2408261048) at 10.0 ng/L. Carbon Disulfide was detected in the field blank (2408261048) at 1.5 n**
400-JV-100	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-KV-012.5	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-KV-012.5	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-KV-012.5	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-KV-050	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-KV-050	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-KV-050	**08/26/24**	**For the Soil Gas Method, 1,2,4-Trimethylbenzene was detected in the field blank (2408270838) at 0.48 ng/L. 1,2-Dibromoethane (EDB) was detected in the field blank (2408270838) at 0.63 ng/L. 1,2-Dichloroethane was detected in the field blank (2408270838)**
400-KV-050	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-KV-050	**08/26/24**	**For SW-846 Method TO-15 (Air), for sample (2408270837), the analysis was cancelled for sample (P2403661-033) because the valve broke and compromised the sample.**
400-KV-100	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-KV-100	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-KV-100	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-KV-100	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-KV-100	08/26/24	For SW-846 Method 8021B, relative percent differences (RPD) for duplicate samples 2408270847 and 2408270847 were within control limits or below the calculable range.
400-LV-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-LV-010	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.

400-LV-010	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-LV-010	**08/26/24**	**For the Soil Gas Method, 1,2,4-Trimethylbenzene was detected in the trip blank (2408270958) at 0.39 ng/L. 1,2-Dichloroethane was detected in the trip blank (2408270958) at 0.46 ng/L. 1,2-Dichloropropane was detected in the trip blank (2408270958) at 0.8**
400-LV-010	**08/26/24**	**For SW-846 Method TO-15 (Air), for sample (2408270957) the reported result of analyte Freon 113 is from a dilution.**
400-LV-050	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-LV-050	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-LV-050	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-LV-050	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-LV-095	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-LV-095	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-LV-095	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-LV-095	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-LV-122	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-LV-122	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-LV-122	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-LV-122	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-02-010	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported result of analyte Freon 113 is from a dilution.**
400-SV-02-010	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-02-010	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-02-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-02-050	**08/26/24**	**For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-SV-02-050	**08/26/24**	**For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-02-050	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-02-050	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-02-100	08/26/24	For SW-846 Method TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.
400-SV-02-100	08/26/24	For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.

400-SV-02-100	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-02-100	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-03-010	08/26/24	For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.
400-SV-03-010	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-03-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-03-050	08/26/24	For SW-846 Method TO-15 (Air), for sample (2408271338) the reported results of analytes Freon 11 and Freon 113 are from a dilution.
400-SV-03-050	08/26/24	For SW-846 Method TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.
400-SV-03-050	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-03-050	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-03-050	08/26/24	For the Soil Gas Method, 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2408271339) at 1.3 ng/L. Acetone was detected in the field blank (2408271339) at 12.0 ng/L. Benzene was detected in the field blank (2408271339) at 0.4 ng/L. Car
400-SV-03-092	08/26/24	For SW-846 Method TO-15 (Air), analyte results for Chloroform (10ug/m) is an estimated value less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.
400-SV-03-092	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-03-092	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-05-010	08/26/24	For SW-846 Method TO-15 (Air),multiple analytes are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.
400-SV-05-010	08/26/24	For SW-846 Method TO-15 (Air), the analyte Freon 123a was not found.
400-SV-05-010	08/26/24	For SW-846 Method TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-05-010	**08/26/24**	**For the Soil Gas Method, 1,2-Dichloroethane was detected in the trip blank (2408270900) at 0.17 ng/L.**
400-SV-05-050	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-SV-05-050	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-05-050	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-05-050	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-05-100	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-SV-05-100	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-05-100	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.

400-SV-05-100	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-07-010	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-07-010	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-07-010	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-07-045	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-07-045	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-07-045	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-07-100	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-07-100	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-SV-07-100	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 11 was detected in the method blank.
400-SV-07-100	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-07-100	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-09-010	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-09-010	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-09-010	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-09-045	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-09-045	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-09-045	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-09-104	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported result of analyte Freon 113 is from a dilution.**
400-SV-09-104	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-09-104	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-09-104	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-10-010	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-10-010	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-10-010	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.

400-SV-10-050	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-10-050	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-10-050	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-10-100	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported result of analyte Freon 113 is from a dilution.**
400-SV-10-100	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-10-100	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-10-100	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-10-125	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-10-125	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-10-125	08/26/24	For SW-846 Method 8021B, relative percent differences (RPD) for duplicate samples 2408280901 and 2408280901 were within control limits or below the calculable range.
400-SV-10-125	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-15-010	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-15-010	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-15-010	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-15-050	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-SV-15-050	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 11 was detected in the method blank.
400-SV-15-050	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-15-050	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-15-050	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.
400-SV-15-090	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), the reported results of analytes Freon 11 and Freon 113 are from a dilution.**
400-SV-15-090	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 11 was detected in the method blank.
400-SV-15-090	**08/26/24**	**For the Soil Gas Method, TO-15 (Air), multiple analyte results are estimated values less than the quantitation limit, but greater than or equal to the detection limit. Affected data are appropriately qualified.**
400-SV-15-090	08/26/24	For the Soil Gas Method, TO-15 (Air), analyte(s) containing a '*' flag are not included on the NELAP or DoD-ELAP accreditation. See case narrative.
400-SV-15-090	**08/26/24**	**For the Soil Gas Method, 2,2,4-Trimethylpentane was detected in the field blank (2408281042) at 0.71 ng/L. 2-Butanone (Methyl Ethyl Ketone) was detected in the field blank (2408281042) at 3.5 ng/L. 2-Hexanone was detected in the field blank (2408281042)**

400-SV-15-090	08/26/24	For the Soil Gas Method, TO-15 (Air), the analyte Freon 123a was not found.

Appendix C Analytical Laboratory Reports

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LABORATORY REPORT

October 2, 2024

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

RE: NASA White Sands Test Facility (WSTF)

Dear Stephanie:

Enclosed are the results of the samples submitted to our laboratory on September 3, 2024. For your reference, these analyses have been assigned our service request number P2403661.

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

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

ALS | Environmental

By Sue Anderson at 4:18 pm, Oct 02, 2024

For Denise Posada
Project Manager

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

Service Request No: P2403661

CASE NARRATIVE

The samples were received intact under chain of custody on September 3, 2024 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Volatile Organic Compound Analysis

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

The upper control criteria were exceeded for Vinyl Chloride in the Continuing Calibration Verification (CCV) analyzed on September 9, 10 and 11, 2024 and for 1,3-Butadiene in the CCV analyzed on all analytical batches. Since the apparent problem equates to a potential high bias and the field samples did not contain the analytes in question, the data quality has not been affected. No corrective action was required.

The Method Blank associated with the samples analyzed on September 17, 2024 contained a concentration of Freon 11 below the Method Reporting Limit (MRL). Concentrations reported below the MRL are considered estimated and below what would generally be reported; therefore, the sample results are not significantly affected. However, the data is flagged to indicate the presence of the target analytes.

The upper control criteria were exceeded for Vinyl Chloride in the Laboratory Control Samples (LCS/LCSD) analyzed on September 12, 13 and 16 2024 and for 1,3-Butadiene in the LCS/DLCS analyzed on September 10, 13, 16, and 17, 2024 . The analytes in question were not detected in the associated field samples. Since the error associated with the elevated recovery equates to a high bias, the sample data has not been significantly affected. The data has been flagged accordingly. No corrective action was required.

The spike recovery of Bromomethane for the LCS/DLCS analyzed on September 13, 2024 was outside the laboratory generated control criterion. The recovery error equates to a potential high bias. However, the spike recovery of the analyte in question was within the method criteria; therefore, the data quality has not been significantly affected. The data has been flagged accordingly. No corrective action was required.

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The containers were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. For projects requiring DoD QSM 5.4 compliance canisters were cleaned to <1/2 the MRL. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

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

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

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CERTIFICATIONS, ACCREDITATIONS, AND REGISTRATIONS

Agency	Web Site	Number
Alaska DEC	https://dec.alaska.gov/spar/csp/lab-approval/list-of-approved-labs	17-019
Arizona DHS	http://www.azdhs.gov/preparedness/state-laboratory/lab-licensure-certification/index.php#laboratory-licensure-home	AZ0694
Florida DOH (NELAP)	http://www.floridahealth.gov/licensing-and-regulation/environmental-laboratories/index.html	E871020
Louisiana DEQ (NELAP)	https://internet.deq.louisiana.gov/portal/divisions/lelap/accredited-laboratories	05071
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	CA01627
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	006-999-456
New Jersey DEP (NELAP)	https://dep.nj.gov/dsr/oqa/certified-laboratories/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oklahoma DEQ (NELAP)	labaccreditation.deq.ok.gov/labaccreditation/	2207
Oregon PHD (NELAP)	http://www.oregon.gov/oha/ph/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	4068
Pennsylvania DEP	hhttp://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx	68-03307 (Registration)
PJLA (DoD ELAP)	http://www.pjlabs.com/search-accredited-labs	65818 (Testing)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/agency/qa/env_lab_accreditation.html	T104704413
Utah DOH (NELAP)	https://uphl.utah.gov/certifications/environmental-laboratory-certification/	CA01627
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

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

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

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: NASA White Sands Test Facility Service Request: P2403661
Project ID: NASA White Sands Test Facility (WSTF)

Date Received: 9/3/2024
Time Received: 10:14

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
2408260820	P2403661-001	Soil Gas	8/26/2024	08:20	1SS01455	-2.09	6.30	X
2408260825	P2403661-002	Soil Gas	8/26/2024	08:25	1SS01636	-2.66	6.16	X
2408260840	P2403661-003	Soil Gas	8/26/2024	08:40	1SS01654	-2.32	6.03	X
2408260847	P2403661-004	Soil Gas	8/26/2024	08:47	1SS01312	-2.38	5.97	X
2408260848	P2403661-005	Soil Gas	8/26/2024	08:48	1SS01514	-2.16	6.68	X
2408260855	P2403661-006	Soil Gas	8/26/2024	08:55	1SS01300	-2.26	6.30	X
2408260903	P2403661-007	Soil Gas	8/26/2024	09:03	1SS01584	-2.25	6.70	X
2408260904	P2403661-008	Soil Gas	8/26/2024	09:04	1SS01289	-1.73	6.10	X
2408260935	P2403661-009	Soil Gas	8/26/2024	09:35	1SS01182	-2.44	6.04	X
2408260936	P2403661-010	Soil Gas	8/26/2024	09:36	1SS01335	-2.19	6.74	X
2408260944	P2403661-011	Soil Gas	8/26/2024	09:44	1SS01345	-0.53	6.72	X
2408260951	P2403661-012	Soil Gas	8/26/2024	09:51	1SS01600	-2.47	6.24	X
2408260958	P2403661-013	Soil Gas	8/26/2024	09:58	1SS01258	-13.48	6.38	X
2408260959	P2403661-014	Soil Gas	8/26/2024	09:59	1SS01673	-2.52	6.11	X
2408261025	P2403661-015	Soil Gas	8/26/2024	10:25	1SS00227	-1.47	6.65	X
2408261026	P2403661-016	Soil Gas	8/26/2024	10:26	1SS00155	0.04	6.44	X
2408261038	P2403661-017	Soil Gas	8/26/2024	10:38	1SS01932	-2.55	6.33	X
2408261044	P2403661-018	Soil Gas	8/26/2024	10:44	1SS01419	-2.54	6.70	X
2408261048	P2403661-019	Soil Gas	8/26/2024	10:48	1SS01458	-2.44	7.50	X
2408261325	P2403661-020	Soil Gas	8/26/2024	13:25	1SS01938	6.46	6.46	X
2408261330	P2403661-021	Soil Gas	8/26/2024	13:30	1SS00881	-2.79	7.72	X
2408261336	P2403661-022	Soil Gas	8/26/2024	13:36	1SS00508	-2.57	7.63	X
2408261343	P2403661-023	Soil Gas	8/26/2024	13:43	1SS00874	-1.08	6.60	X
2408261344	P2403661-024	Soil Gas	8/26/2024	13:44	1SC01205	-2.62	6.07	X
2408261351	P2403661-025	Soil Gas	8/26/2024	13:51	1SS01799	-2.88	6.36	X
2408261415	P2403661-026	Soil Gas	8/26/2024	14:15	1SS01537	5.32	5.32	X
2408261420	P2403661-027	Soil Gas	8/26/2024	14:20	1SS00994	-2.39	6.43	X
2408261426	P2403661-028	Soil Gas	8/26/2024	14:26	1SC00302	0.01	6.16	X
2408261434	P2403661-029	Soil Gas	8/26/2024	14:34	1SS00905	-1.34	6.30	X
2408261435	P2403661-030	Soil Gas	8/26/2024	14:35	1SS00078	-2.53	6.20	X
2408261442	P2403661-031	Soil Gas	8/26/2024	14:42	1SC01055	-1.99	7.05	X
2408270830	P2403661-032	Soil Gas	8/27/2024	08:30	1SS00848	-1.93	6.80	X
2408270837	P2403661-033	Soil Gas	8/27/2024	08:37	1SS00999	-2.27	7.03	X
2408270838	P2403661-034	Soil Gas	8/27/2024	08:38	1SC00280	-0.87	6.12	X
2408270846	P2403661-035	Soil Gas	8/27/2024	08:46	1SC00510	-1.71	6.68	X
2408270847	P2403661-036	Soil Gas	8/27/2024	08:47	1SS00795	-2.57	6.09	X
2408270900	P2403661-037	Soil Gas	8/27/2024	09:00	1SS01188	5.97	5.97	X
2408270905	P2403661-038	Soil Gas	8/27/2024	09:05	1SS00771	-2.43	8.11	X
2408270912	P2403661-039	Soil Gas	8/27/2024	09:12	1SC00708	-1.65	6.87	X
2408270920	P2403661-040	Soil Gas	8/27/2024	09:20	1SS00687	-2.43	6.31	X

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: NASA White Sands Test Facility Service Request: P2403661
Project ID: NASA White Sands Test Facility (WSTF)

Date Received: 9/3/2024
Time Received: 10:14

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
2408270957	P2403661-041	Soil Gas	8/27/2024	09:57	1SS00138	-0.34	5.93	X
2408270958	P2403661-042	Soil Gas	8/27/2024	09:58	1SC01377	-1.40	5.80	X
2408271006	P2403661-043	Soil Gas	8/27/2024	10:06	1SS00251	-2.37	6.30	X
2408271014	P2403661-044	Soil Gas	8/27/2024	10:14	1SC00193	-0.40	6.18	X
2408271022	P2403661-045	Soil Gas	8/27/2024	10:22	1SS00250	-1.13	6.08	X
2408271330	P2403661-046	Soil Gas	8/27/2024	13:30	1SC00601	-2.17	6.43	X
2408271338	P2403661-047	Soil Gas	8/27/2024	13:38	1SS00689	-1.33	6.17	X
2408271339	P2403661-048	Soil Gas	8/27/2024	13:39	1SS00966	-2.27	7.35	X
2408271346	P2403661-049	Soil Gas	8/27/2024	13:46	1SC00400	-2.69	6.57	X
2408271400	P2403661-050	Soil Gas	8/27/2024	14:00	1SS00245	-2.63	6.53	X
2408271409	P2403661-051	Soil Gas	8/27/2024	14:09	1SC00605	-2.63	6.22	X
2408271417	P2403661-052	Soil Gas	8/27/2024	14:17	1SS00886	-2.86	6.47	X
2408280830	P2403661-053	Soil Gas	8/28/2024	08:30	1SS00950	-1.96	6.34	X
2408280837	P2403661-054	Soil Gas	8/28/2024	08:37	1SS01146	-1.46	5.96	X
2408280845	P2403661-055	Soil Gas	8/28/2024	08:45	1SS01129	-2.81	6.39	X
2408280853	P2403661-056	Soil Gas	8/28/2024	08:53	1SS00810	-2.52	6.55	X
2408280901	P2403661-057	Soil Gas	8/28/2024	09:01	1SC01250	-0.05	7.60	X
2408280915	P2403661-058	Soil Gas	8/28/2024	09:15	1SS01173	-2.24	5.98	X
2408280923	P2403661-059	Soil Gas	8/28/2024	09:23	1SS01669	-1.87	6.35	X
2408280931	P2403661-060	Soil Gas	8/28/2024	09:31	1SS01614	-2.08	6.40	X
2408280943	P2403661-061	Soil Gas	8/28/2024	09:43	1SC00008	-2.08	6.37	X
2408280951	P2403661-062	Soil Gas	8/28/2024	09:51	1SS01234	-2.38	6.53	X
2408281000	P2403661-063	Soil Gas	8/28/2024	10:00	1SC00702	-2.43	6.64	X
2408281025	P2403661-064	Soil Gas	8/28/2024	10:25	1SS01467	-1.96	6.53	X
2408281033	P2403661-065	Soil Gas	8/28/2024	10:33	1SS01414	-2.09	5.93	X
2408281041	P2403661-066	Soil Gas	8/28/2024	10:41	1SS01020	-2.29	6.63	X
2408281042	P2403661-067	Soil Gas	8/28/2024	10:42	1SC00534	-2.02	6.45	X

P2403661

WSTF CHAIN OF CUSTODY RECORD

Date 8/28/24

Laboratory: ALS PO# 23EC017B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

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

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO15; Analytes VOC

Special Instructions

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

Return Address:

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
1	2408260820	400-FV-131 15'	1	G	24EEHUMU	15501455 CANISTER FINAL PRESSURE = 0
2	2408260825	400-FV-131 63'	1	G		15501636 " " " = 0
3	2408260840	400-GV-125 10'	1	G		15501654 " " " = 0
4	2408260847	400-GV-125 46'	1	G		15501312 " " " = -1
5	2408260848	400-GV-125 46'	1	G		15501514 " " " = 0
6	2408260855	400-GV-125 105'	1	G		15501300 " " " = -1
7	2408260903	400-GV-125 120'	1	G		15501584 " " " = 0
8	2408260904	400-GV-125 120'	1	G		15501289 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FEDEX	8/28/24	FEDEX	
		[signature] 9-3-24 1014	

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

WSTF CHAIN OF CUSTODY RECORD

PJ403661

Date 8/28/24

Laboratory: ALS PO# 23ELO17B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

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

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO15, Analytes VOC

Special Instructions

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

Return Address:

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
9	2408260935	400-HV-147 12'	1	G	24EEHWMU	15501182 CANISTER FINAL PRESSURE = 0
10	2408260936	400-HV-147 12'	1	G		15501335 " " " = 0
11	2408260944	400-HV-147 45'	1	G		15501345 " " " = -1
12	2408260951	400-HV-147 95'	1	G		15501600 " " " = -1
13	2408260958	400-HV-147 130'	1	G		15501258 " " " = 0
14	2408260959	400-HV-147 130'	1	G		15501673 " " " = 0
15	2408261025	400-JV-150 12.5'	1	G		15500227 " " " = -1
16	2408261026	400-JV-150 12.5'	1	G		15500155 " " " = -1
17	2408261038	400-JV-150 50'	1	G		15501932 " " " = 0
18	2408261044	400-JV-150 100'	1	G		15501419 " " " = 0
19	2408261048	400-JV-150 100'	1	G		15501458 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
FEDEX	8/28/24	FEDEX	9-3-24 1074

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

B403EC1

WSTF CHAIN OF CUSTODY RECORD

Date 8/28/24

Laboratory: ALS PO# 23ECO17B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

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

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO15; Analytes VOC

Special Instructions

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

Return Address:

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Analytical Requirements	Charge Number (WSTF Use Only)	Comments
20	2408261325	400-IV-123 10'	1	G	X	24EEHWHG	15501938 CANISTER FINAL PRESSURE = NA
21	2408261330	400-IV-123 10'	1	G	X		15500881 " " " = 0
22	2408261336	400-IV-123 45'	1	G	X		15500508 " " " = -1
23	2408261343	400-IV-123 80'	1	G	X		15500874 " " " = 0
24	2408261344	400-IV-123 80'	1	G	X		15C01205 " " " = 0
25	2408261351	400-IV-123 118'	1	G	X		15501799 " " " = -1
26	2408261415	400-EV-131 10'	1	G	X		15501537 " " " = NA
27	2408261420	400-EV-131 10'	1	G	X		15500994 " " " = -1
28	2408261426	400-EV-131 47.5'	1	G	X		15C00302 " " " = 0
29	2408261434	400-EV-131 100'	1	G	X		15500905 " " " = -1
30	2408261435	400-EV-131 100'	1	G	X		15500078 " " " = -1
31	2408261442	400-EV-131 130'	1	G	X		15C01055 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FED	8/28/24	FED 09-3-24 [signature] 10:14	

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

RJ240366C1

Date 8/28/24

WSTF CHAIN OF CUSTODY RECORD

Laboratory: ALS PO# 23EC017B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

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

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO15, Analytes VOC

Special Instructions

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

Return Address:

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
32	2408270830	400-KV-142 12.5'	1	G	24EEHWJMG	1SS00848 CANISTER FINAL PRESSURE = 0
33	2408270837	400-KV-142 50'	1	G		1SS00199 " " " = 0
34	2408270838	400-KV-142 50'	1	G		1SC00280 " " " = 0
35	2408270846	400-KV-142 100'	1	G		1SC00510 " " " = 0
36	2408270847	400-KV-142 100'	1	G		1SS00795 " " " = 0
37	2408270900	400-SV-05 10'	1	G		1SS01188 " " " = NA
38	2408270905	400-SV-05 10'	1	G		1SS00771 " " " = 0
39	2408270912	400-SV-05 50'	1	G		1SC00708 " " " = -1
40	2408270920	400-SV-05 100'	1	G		1SS00687 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FTM	8/28/24	FTM 9-3-24 1014	

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

WSTF CHAIN OF CUSTODY RECORD

RJ240361C1

Date 8/28/24

Laboratory: ALS PO# 23EC017B

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

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

Analytical Requirements: Method TO15; Analytes VOC

Special Instructions

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

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
41	2408270957	400-LV-125 10'	1	G	24GEHWJKU	1SS00138 CANISTER FINAL PRESSURE = 0
42	2408270958	400-LV-125 10'	1	G		1SC01377 " " " = -1
43	2408271006	400-LV-125 50'	1	G		1SS00251 " " " = 0
44	2408271014	400-LV-125 95'	1	G		1SC00193 " " " = -1
45	2408271022	400-LV-125 122'	1	G		1SS00250 " " " = 0
46	2408271330	400-SV-03 10'	1	G		1SC00601 " " " = -1
47	2408271338	400-SV-03 50'	1	G		1SS00689 " " " = 0
48	2408271339	400-SV-03 50'	1	G		1SS00966 " " " = 0
49	2408271346	400-SV-03 92'	1	G		1SC00400 " " " = 0
50	2408271400	400-SV-02 10'	1	G		1SS00245 " " " = -1
51	2408271409	400-SV-02 50'	1	G		1SC00605 " " " = 0
52	2408271417	400-SV-02 100'	1	G		1SS00886 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature] FEDEX	8/28/24	FEDEX 9-3-24 DLY	

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

Date 8/28/24

WSTF CHAIN OF CUSTODY RECORD

RD403661

Laboratory: ALS PO# 23EC017B

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

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

Analytical Requirements: Method TO15, Analytes VOC

Special Instructions

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

Return Address:

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
53	2408280830	400-SV-10, 10'	1	G	24EEHWMV	15500950 CANISTER FINAL PRESSURE = 0
54	2408280837	400-SV-10, 50'	1	G		15501146 " " " = -1
55	2408280845	400-SV-10, 100'	1	G		15501129 " " " = -1
56	2408280853	400-SV-10, 125'	1	G		15500810 " " " = -1
57	2408280901	400-SV-10, 125'	1	G		15C01250 " " " = 0
58	2408280915	400-SV-09, 10'	1	G		15501173 " " " = 0
59	2408280923	400-SV-09, 45'	1	G		15501669 " " " = 0
60	2408280931	400-SV-09, 104'	1	G		15501814 " " " = -1
61	2408280943	400-SV-07, 10'	1	G		15C00008 " " " = -1
62	2408280951	400-SV-07, 45'	1	G		15501234 " " " = -1
63	2408281000	400-SV-07, 100'	1	G		15C00702 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
	8/28/24	9-3-24 1014	

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

WSTF CHAIN OF CUSTODY RECORD

RJ403661

Date 8/28/24

Laboratory: ALS PO# 23EC017B

Address shipping questions to:

☐ Lori Minnick, 575-524-5119

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

Send sample receipt confirmation and analytical reports to:

☒ Stephanie Portillo, stephanie.portillo@nasa.gov

☐ Other

☐ Other

Analytical Requirements: Method TO15, Analytes VOC

Special Instructions

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Return Address:

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

	Sample Number	Sample Location	# of Containers	Sample Matrix*	Charge Number (WSTF Use Only)	Comments
CY	2408281025	400-SV-15 10'	1	G	24EEHWJH0	1SS01467 CANISTER FINAL PRESSURE = 0
CY	2408281033	400-SV-15 50'	1	G		1SS01414 " " " = 0
GY	2408281041	400-SV-15 90'	1	G		1SS01020 " " " = 0
GY	2408281042	400-SV-15 90'	1	G		1SC00534 " " " = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
[signature]	8/28/24	[signature]	9-3-24

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

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2403661

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 9/3/24 Date opened: 9/3/24 by: ADAVID

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

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

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2403661-001.01	1.0 L Source Silonite Canister					
P2403661-002.01	1.0 L Source Silonite Canister					
P2403661-003.01	1.0 L Source Silonite Canister					
P2403661-004.01	1.0 L Source Silonite Canister					
P2403661-005.01	1.0 L Source Silonite Canister					
P2403661-006.01	1.0 L Source Silonite Canister					
P2403661-007.01	1.0 L Source Silonite Canister					
P2403661-008.01	1.0 L Source Silonite Canister					
P2403661-009.01	1.0 L Source Silonite Canister					
P2403661-010.01	1.0 L Source Silonite Canister					
P2403661-011.01	1.0 L Source Silonite Canister					
P2403661-012.01	1.0 L Source Silonite Canister					
P2403661-013.01	1.0 L Source Silonite Canister					

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

Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2403661

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 9/3/24 Date opened: 9/3/24 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2403661-014.01	1.0 L Source Silonite Canister					
P2403661-015.01	1.0 L Source Silonite Canister					
P2403661-016.01	1.0 L Source Silonite Canister					
P2403661-017.01	1.0 L Source Silonite Canister					
P2403661-018.01	1.0 L Source Silonite Canister					
P2403661-019.01	1.0 L Source Silonite Canister					
P2403661-020.01	1.0 L Source Silonite Canister					
P2403661-021.01	1.0 L Source Silonite Canister					
P2403661-022.01	1.0 L Source Silonite Canister					
P2403661-023.01	1.0 L Source Silonite Canister					
P2403661-024.01	1.0 L Source Can					
P2403661-025.01	1.0 L Source Silonite Canister					
P2403661-026.01	1.0 L Source Silonite Canister					
P2403661-027.01	1.0 L Source Silonite Canister					
P2403661-028.01	1.0 L Source Can					
P2403661-029.01	1.0 L Source Silonite Canister					
P2403661-030.01	1.0 L Source Silonite Canister					
P2403661-031.01	1.0 L Source Can					
P2403661-032.01	1.0 L Source Silonite Canister					
P2403661-033.01	1.0 L Source Silonite Canister					
P2403661-034.01	1.0 L Source Can					
P2403661-035.01	1.0 L Source Can					
P2403661-036.01	1.0 L Source Silonite Canister					
P2403661-037.01	1.0 L Source Silonite Canister					
P2403661-038.01	1.0 L Source Silonite Canister					
P2403661-039.01	1.0 L Source Can					
P2403661-040.01	1.0 L Source Silonite Canister					
P2403661-041.01	1.0 L Source Silonite Canister					
P2403661-042.01	1.0 L Source Can					
P2403661-043.01	1.0 L Source Silonite Canister					
P2403661-044.01	1.0 L Source Can					
P2403661-045.01	1.0 L Source Silonite Canister					
P2403661-046.01	1.0 L Source Can					
P2403661-047.01	1.0 L Source Silonite Canister					
P2403661-048.01	1.0 L Source Silonite Canister					
P2403661-049.01	1.0 L Source Can					
P2403661-050.01	1.0 L Source Silonite Canister					
P2403661-051.01	1.0 L Source Can					
P2403661-052.01	1.0 L Source Silonite Canister					
P2403661-053.01	1.0 L Source Silonite Canister					

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

Sulfur (pH>4)

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2403661

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 9/3/24 Date opened: 9/3/24 by: ADAVID

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P2403661-054.01	1.0 L Source Silonite Canister					
P2403661-055.01	1.0 L Source Silonite Canister					
P2403661-056.01	1.0 L Source Silonite Canister					
P2403661-057.01	1.0 L Source Can					
P2403661-058.01	1.0 L Source Silonite Canister					
P2403661-059.01	1.0 L Source Silonite Canister					
P2403661-060.01	1.0 L Source Silonite Canister					
P2403661-061.01	1.0 L Source Can					
P2403661-062.01	1.0 L Source Silonite Canister					
P2403661-063.01	1.0 L Source Can					
P2403661-064.01	1.0 L Source Silonite Canister					
P2403661-065.01	1.0 L Source Silonite Canister					
P2403661-066.01	1.0 L Source Silonite Canister					
P2403661-067.01	1.0 L Source Can					
P2403661-068.01	1.0 L Source Silonite Canister					Return Unused
P2403661-069.01	1.0 L Source Silonite Canister					Return Unused
P2403661-070.01	1.0 L Source Can					Return Unused
P2403661-071.01	1.0 L Source Can					Return Unused

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

Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260820** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-001

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01455

Initial Pressure (psig): -2.09 Final Pressure (psig): 6.30

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.38	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.7**	21	0.46	**0.59**	7.1	0.16	**J**
591-78-6	2-Hexanone	**0.30**	2.1	0.28	**0.073**	0.51	0.067	**J**
67-63-0	2-Propanol	**1.5**	4.2	0.92	**0.60**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260820** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-001

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01455

Initial Pressure (psig): -2.09 Final Pressure (psig): 6.30

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	**11**	21	5.0	**4.4**	8.8	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.097	
71-43-2	Benzene	ND	2.1	0.32	ND	0.65	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	**4.5**	21	0.67	**1.4**	6.7	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.79	0.10	
67-66-3	Chloroform	**0.95**	2.1	0.30	**0.20**	0.43	0.061	**J**
74-87-3	Chloromethane	ND	2.1	0.36	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.034	
64-17-5	Ethanol	**6.1**	21	1.5	**3.3**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**11**	2.1	0.34	**2.0**	0.37	0.060	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260820** ALS Sample ID: P2403661-001
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01455

Initial Pressure (psig): -2.09 Final Pressure (psig): 6.30

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**28**	2.1	0.32	**3.6**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.5**	2.1	0.36	**0.51**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.087	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**1.3**	2.1	0.27	**0.35**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.093	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260820** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-001

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01455		

Initial Pressure (psig): -2.09 Final Pressure (psig): 6.30

Container Dilution Factor: 1.67

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260825** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-002

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01636

Initial Pressure (psig): -2.66 Final Pressure (psig): 6.16

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.40	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.32	0.047	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.40	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.53	0.083	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.56	ND	0.29	0.076	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.32	ND	0.44	0.065	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.53	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.47	0.062	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.068	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.98	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.058	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.059	
123-91-1	1,4-Dioxane	ND	2.2	0.27	ND	0.60	0.076	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.46	0.074	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.2**	22	0.48	**0.42**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.75**	2.2	0.29	**0.18**	0.53	0.070	**J**
67-63-0	2-Propanol	**1.3**	4.3	0.95	**0.53**	1.8	0.39	**J**
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.69	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.075	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260825** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-002

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01636

Initial Pressure (psig): -2.66 Final Pressure (psig): 6.16

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.53	0.077	
67-64-1	Acetone	**6.7**	22	5.2	**2.8**	9.1	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**0.46**	2.2	0.33	**0.14**	0.68	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.33	ND	0.32	0.050	
75-25-2	Bromoform	ND	2.2	0.48	ND	0.21	0.046	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.56	0.082	
75-15-0	Carbon Disulfide	**0.70**	22	0.69	**0.23**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.2	0.32	ND	0.34	0.051	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.067	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.82	0.11	
67-66-3	Chloroform	**0.36**	2.2	0.31	**0.074**	0.44	0.063	**J**
74-87-3	Chloromethane	ND	2.2	0.37	ND	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.082	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.48	0.079	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.068	
110-82-7	Cyclohexane	ND	4.3	0.65	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.25	0.036	
64-17-5	Ethanol	**3.7**	22	1.6	**2.0**	11	0.85	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.32	ND	0.50	0.075	
75-69-4	Freon 11	**26**	2.2	0.35	**4.7**	0.38	0.062	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260825** ALS Sample ID: P2403661-002
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01636

Initial Pressure (psig): -2.66 Final Pressure (psig): 6.16

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**31**	2.2	0.33	**4.0**	0.28	0.043	
76-14-2	Freon 114	ND	2.2	0.36	ND	0.31	0.052	
75-71-8	Freon 12	**2.4**	2.2	0.38	**0.49**	0.44	0.076	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.35	0.17	**X**
75-43-4	Freon 21	ND	2.2	1.0	ND	0.51	0.25	**X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.53	0.090	
87-68-3	Hexachlorobutadiene	ND	2.2	0.48	ND	0.20	0.045	
110-54-3	Hexane	ND	2.2	0.48	ND	0.61	0.14	
179601-23-1	m,p-Xylene	ND	4.3	0.61	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.076	
75-09-2	Methylene Chloride	ND	2.2	0.65	ND	0.62	0.19	
95-47-6	o-Xylene	ND	2.2	0.33	ND	0.50	0.077	
103-65-1	Propylbenzene	ND	2.2	0.33	ND	0.44	0.068	
100-42-5	Styrene	ND	2.2	0.37	ND	0.51	0.087	
127-18-4	Tetrachloroethene	ND	2.2	0.30	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	ND	2.2	0.29	ND	0.73	0.098	
108-88-3	Toluene	ND	2.2	0.28	ND	0.57	0.075	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.48	ND	0.48	0.10	
79-01-6	Trichloroethene	ND	2.2	0.31	ND	0.40	0.058	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.85	0.096	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260825** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-002

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01636		

Initial Pressure (psig): -2.66 Final Pressure (psig): 6.16

Container Dilution Factor: 1.73

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260840** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-003

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01654

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.03

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.38	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.1**	21	0.46	**0.70**	7.1	0.16	**J**
591-78-6	2-Hexanone	**0.33**	2.1	0.28	**0.080**	0.51	0.067	**J**
67-63-0	2-Propanol	**12**	4.2	0.92	**5.0**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260840** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-003

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01654

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.03

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	**19**	21	5.0	**8.2**	8.8	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.097	
71-43-2	Benzene	**0.35**	2.1	0.32	**0.11**	0.65	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	**4.4**	21	0.67	**1.4**	6.7	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.79	0.10	
67-66-3	Chloroform	**1.5**	2.1	0.30	**0.30**	0.43	0.061	**J**
74-87-3	Chloromethane	**0.63**	2.1	0.36	**0.30**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.034	
64-17-5	Ethanol	**8.4**	21	1.5	**4.5**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**16**	2.1	0.34	**2.9**	0.37	0.060	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260840** ALS Sample ID: P2403661-003
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01654

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.03

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**3.1**	2.1	0.32	**0.41**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.5**	2.1	0.36	**0.50**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.087	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**0.86**	2.1	0.27	**0.23**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.093	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260840** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-003

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01654		

Initial Pressure (psig): -2.32 Final Pressure (psig): 6.03

Container Dilution Factor: 1.67

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260847** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-004

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01312

Initial Pressure (psig): -2.38 Final Pressure (psig): 5.97

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.081	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.28	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.43	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.066	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.95	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.0**	21	0.46	**0.67**	7.1	0.16	**J**
591-78-6	2-Hexanone	**0.39**	2.1	0.28	**0.094**	0.51	0.068	**J**
67-63-0	2-Propanol	**1.5**	4.2	0.92	**0.60**	1.7	0.38	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.097	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.073	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260847** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-004

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01312

Initial Pressure (psig): -2.38 Final Pressure (psig): 5.97

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.51	0.075	
67-64-1	Acetone	**11**	21	5.0	**4.7**	8.8	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.41	0.097	
71-43-2	Benzene	**0.51**	2.1	0.32	**0.16**	0.66	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.045	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	ND	21	0.67	ND	6.7	0.22	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.065	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.80	0.11	
67-66-3	Chloroform	**3.1**	2.1	0.30	**0.64**	0.43	0.061	
74-87-3	Chloromethane	ND	2.1	0.36	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.077	
98-82-8	Cumene	ND	2.1	0.32	ND	0.43	0.066	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.035	
64-17-5	Ethanol	**6.5**	21	1.6	**3.5**	11	0.83	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.48	0.073	
75-69-4	Freon 11	**380**	2.1	0.34	**68**	0.37	0.061	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260847** ALS Sample ID: P2403661-004
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01312

Initial Pressure (psig): -2.38 Final Pressure (psig): 5.97

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**520**	21	3.2	**68**	2.7	0.42	**D**
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.37	**0.52**	0.42	0.074	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**4.9**	2.1	1.0	**1.2**	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.51	0.087	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.60	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.59	ND	0.97	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.43	0.066	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.085	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**0.97**	2.1	0.27	**0.26**	0.56	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.094	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260847** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-004

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9 - 9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		0.040 Liter(s)
Container ID:	1SS01312		

Initial Pressure (psig): -2.38 Final Pressure (psig): 5.97

Container Dilution Factor: 1.68

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**41**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260848** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-005

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01514

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.68

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.54	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.29	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.28	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.53	0.062	
78-87-5	1,2-Dichloropropane	**0.31**	2.1	0.28	**0.068**	0.46	0.061	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.96	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.35	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.074	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**7.1**	21	0.47	**2.4**	7.2	0.16	**J**
591-78-6	2-Hexanone	**0.71**	2.1	0.28	**0.17**	0.52	0.069	**J**
67-63-0	2-Propanol	**9.0**	4.3	0.94	**3.7**	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260848** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-005

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01514

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.68

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**33**	21	5.1	**14**	8.9	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	**0.94**	2.1	0.33	**0.29**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.1	0.47	ND	0.21	0.045	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.55	0.081	
75-15-0	Carbon Disulfide	ND	21	0.68	ND	6.8	0.22	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	**3.0**	2.1	0.30	**0.62**	0.44	0.062	
74-87-3	Chloromethane	ND	2.1	0.37	ND	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	**3.4**	4.3	0.64	**0.99**	1.2	0.19	**J**
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**24**	21	1.6	**13**	11	0.83	
100-41-4	Ethyl Benzene	**0.66**	2.1	0.32	**0.15**	0.49	0.073	**J**
75-69-4	Freon 11	**350**	2.1	0.34	**62**	0.38	0.061	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260848** ALS Sample ID: P2403661-005
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01514

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.68

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**480**	21	3.2	**63**	2.8	0.42	**D**
76-14-2	Freon 114	ND	2.1	0.36	ND	0.30	0.051	
75-71-8	Freon 12	**2.5**	2.1	0.37	**0.50**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**4.7**	2.1	1.0	**1.1**	0.51	0.24	**X**
142-82-5	Heptane	**2.2**	2.1	0.36	**0.55**	0.52	0.088	
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	**3.7**	2.1	0.47	**1.0**	0.60	0.13	
179601-23-1	m,p-Xylene	**1.8**	4.3	0.60	**0.41**	0.98	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.074	
75-09-2	Methylene Chloride	ND	2.1	0.64	ND	0.61	0.18	
95-47-6	o-Xylene	**0.88**	2.1	0.33	**0.20**	0.49	0.075	**J**
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	**0.61**	2.1	0.37	**0.14**	0.50	0.086	**J**
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.72	0.097	
108-88-3	Toluene	**17**	2.1	0.28	**4.6**	0.56	0.073	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.54	0.079	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.1	0.31	ND	0.40	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.83	0.095	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260848** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-005

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9 - 9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		0.040 Liter(s)
Container ID:	1SS01514		

Initial Pressure (psig): -2.16 Final Pressure (psig): 6.68

Container Dilution Factor: 1.70

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.60	Freon 123a	**34**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260855** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-006

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SS01300

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.30

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	42	5.6	ND	7.7	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	ND	42	6.3	ND	6.2	0.91	
79-00-5	1,1,2-Trichloroethane	ND	42	4.6	ND	7.7	0.84	
75-34-3	1,1-Dichloroethane	ND	42	6.6	ND	10	1.6	
75-35-4	1,1-Dichloroethene	ND	42	6.3	ND	11	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	42	11	ND	5.7	1.5	
95-63-6	1,2,4-Trimethylbenzene	ND	42	6.3	ND	8.6	1.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	42	5.2	ND	5.5	0.68	
95-50-1	1,2-Dichlorobenzene	ND	42	6.7	ND	7.0	1.1	
107-06-2	1,2-Dichloroethane	ND	42	5.0	ND	10	1.2	
78-87-5	1,2-Dichloropropane	ND	42	5.6	ND	9.1	1.2	
108-67-8	1,3,5-Trimethylbenzene	ND	42	6.5	ND	8.6	1.3	
106-99-0	1,3-Butadiene	ND	42	7.4	ND	19	3.4	
541-73-1	1,3-Dichlorobenzene	ND	42	6.8	ND	7.0	1.1	
106-46-7	1,4-Dichlorobenzene	ND	42	6.9	ND	7.0	1.2	
123-91-1	1,4-Dioxane	ND	42	5.3	ND	12	1.5	
540-84-1	2,2,4-Trimethylpentane	ND	42	6.8	ND	9.0	1.4	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	420	9.3	ND	140	3.2	
591-78-6	2-Hexanone	ND	42	5.6	ND	10	1.4	
67-63-0	2-Propanol	ND	85	19	ND	34	7.6	
107-05-1	3-Chloropropene	ND	42	6.1	ND	14	1.9	
622-96-8	4-Ethyltoluene	ND	42	7.2	ND	8.6	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260855** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-006

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SS01300

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.30

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	42	6.2	ND	10	1.5	
67-64-1	Acetone	ND	420	100	ND	180	43	
100-44-7	alpha-Chlorotoluene	ND	42	10	ND	8.2	2.0	
71-43-2	Benzene	ND	42	6.5	ND	13	2.0	
75-27-4	Bromodichloromethane	ND	42	6.5	ND	6.3	0.97	
75-25-2	Bromoform	ND	42	9.3	ND	4.1	0.90	
74-83-9	Bromomethane	ND	42	6.3	ND	11	1.6	
75-15-0	Carbon Disulfide	ND	420	14	ND	140	4.3	
56-23-5	Carbon Tetrachloride	ND	42	6.3	ND	6.7	0.99	
108-90-7	Chlorobenzene	ND	42	6.0	ND	9.2	1.3	
75-00-3	Chloroethane	ND	42	5.6	ND	16	2.1	
67-66-3	Chloroform	**6.3**	42	6.0	**1.3**	8.7	1.2	**J**
74-87-3	Chloromethane	ND	42	7.3	ND	20	3.5	
156-59-2	cis-1,2-Dichloroethene	ND	42	6.3	ND	11	1.6	
10061-01-5	cis-1,3-Dichloropropene	ND	42	7.0	ND	9.3	1.5	
98-82-8	Cumene	ND	42	6.5	ND	8.6	1.3	
110-82-7	Cyclohexane	ND	85	13	ND	25	3.7	
124-48-1	Dibromochloromethane	ND	42	5.9	ND	5.0	0.69	
64-17-5	Ethanol	**100**	420	31	**55**	220	17	**J**
100-41-4	Ethyl Benzene	ND	42	6.3	ND	9.7	1.5	
75-69-4	Freon 11	**29,000**	1,700	270	**5,100**	300	49	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260855** ALS Sample ID: P2403661-006
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.00050 Liter(s)
Container ID: 1SS01300

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.30

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**170,000**	1,700	260	**22,000**	220	34	**D**
76-14-2	Freon 114	**9.9**	42	7.1	**1.4**	6.0	1.0	**J**
75-71-8	Freon 12	**1,000**	42	7.4	**210**	8.5	1.5	
306-83-2	Freon 123	ND	42	20	ND	6.8	3.2	**X**
75-43-4	Freon 21	**1,700**	42	20	**400**	10	4.8	**X**
142-82-5	Heptane	ND	42	7.2	ND	10	1.8	
87-68-3	Hexachlorobutadiene	ND	42	9.3	ND	4.0	0.87	
110-54-3	Hexane	ND	42	9.3	ND	12	2.6	
179601-23-1	m,p-Xylene	ND	85	12	ND	19	2.7	
1634-04-4	Methyl tert-butyl ether	ND	42	5.3	ND	12	1.5	
75-09-2	Methylene Chloride	ND	42	13	ND	12	3.6	
95-47-6	o-Xylene	ND	42	6.5	ND	9.7	1.5	
103-65-1	Propylbenzene	ND	42	6.5	ND	8.6	1.3	
100-42-5	Styrene	ND	42	7.3	ND	9.9	1.7	
127-18-4	Tetrachloroethene	ND	42	5.8	ND	6.2	0.86	
109-99-9	Tetrahydrofuran	ND	42	5.7	ND	14	1.9	
108-88-3	Toluene	ND	42	5.5	ND	11	1.5	
156-60-5	trans-1,2-Dichloroethene	ND	42	6.3	ND	11	1.6	
10061-02-6	trans-1,3-Dichloropropene	ND	42	9.3	ND	9.3	2.0	
79-01-6	Trichloroethene	**9.2**	42	6.1	**1.7**	7.9	1.1	**J**
75-01-4	Vinyl Chloride	ND	42	4.8	ND	17	1.9	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260855** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-006

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9 - 9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:	**T**		0.00050 Liter(s)
Container ID:	1SS01300		

Initial Pressure (psig): -2.26 Final Pressure (psig): 6.30

Container Dilution Factor: 1.69

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.60	Freon 123a	**4,800**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260903** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-007

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.0020 Liter(s)
Container ID: 1SS01584

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.70

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	43	5.7	ND	7.9	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	ND	43	6.4	ND	6.3	0.93	
79-00-5	1,1,2-Trichloroethane	ND	43	4.6	ND	7.9	0.85	
75-34-3	1,1-Dichloroethane	ND	43	6.7	ND	11	1.7	
75-35-4	1,1-Dichloroethene	ND	43	6.4	ND	11	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	43	11	ND	5.8	1.5	
95-63-6	1,2,4-Trimethylbenzene	ND	43	6.4	ND	8.8	1.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	43	5.3	ND	5.6	0.69	
95-50-1	1,2-Dichlorobenzene	ND	43	6.8	ND	7.2	1.1	
107-06-2	1,2-Dichloroethane	ND	43	5.1	ND	11	1.3	
78-87-5	1,2-Dichloropropane	ND	43	5.7	ND	9.3	1.2	
108-67-8	1,3,5-Trimethylbenzene	ND	43	6.6	ND	8.8	1.3	
106-99-0	1,3-Butadiene	ND	43	7.6	ND	19	3.4	
541-73-1	1,3-Dichlorobenzene	ND	43	6.9	ND	7.2	1.1	
106-46-7	1,4-Dichlorobenzene	ND	43	7.1	ND	7.2	1.2	
123-91-1	1,4-Dioxane	ND	43	5.4	ND	12	1.5	
540-84-1	2,2,4-Trimethylpentane	ND	43	6.9	ND	9.2	1.5	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	430	9.5	ND	150	3.2	
591-78-6	2-Hexanone	ND	43	5.7	ND	11	1.4	
67-63-0	2-Propanol	ND	86	19	ND	35	7.7	
107-05-1	3-Chloropropene	ND	43	6.2	ND	14	2.0	
622-96-8	4-Ethyltoluene	ND	43	7.3	ND	8.8	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260903** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-007

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.0020 Liter(s)
Container ID: 1SS01584

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.70

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	43	6.3	ND	10	1.5	
67-64-1	Acetone	ND	430	100	ND	180	43	
100-44-7	alpha-Chlorotoluene	ND	43	10	ND	8.3	2.0	
71-43-2	Benzene	ND	43	6.6	ND	13	2.1	
75-27-4	Bromodichloromethane	ND	43	6.6	ND	6.4	0.99	
75-25-2	Bromoform	ND	43	9.5	ND	4.2	0.92	
74-83-9	Bromomethane	ND	43	6.4	ND	11	1.6	
75-15-0	Carbon Disulfide	ND	430	14	ND	140	4.4	
56-23-5	Carbon Tetrachloride	ND	43	6.4	ND	6.8	1.0	
108-90-7	Chlorobenzene	ND	43	6.1	ND	9.3	1.3	
75-00-3	Chloroethane	ND	43	5.7	ND	16	2.2	
67-66-3	Chloroform	ND	43	6.1	ND	8.8	1.3	
74-87-3	Chloromethane	ND	43	7.4	ND	21	3.6	
156-59-2	cis-1,2-Dichloroethene	ND	43	6.5	ND	11	1.6	
10061-01-5	cis-1,3-Dichloropropene	ND	43	7.1	ND	9.5	1.6	
98-82-8	Cumene	ND	43	6.6	ND	8.8	1.3	
110-82-7	Cyclohexane	ND	86	13	ND	25	3.7	
124-48-1	Dibromochloromethane	ND	43	6.0	ND	5.0	0.71	
64-17-5	Ethanol	ND	430	32	ND	230	17	
100-41-4	Ethyl Benzene	ND	43	6.5	ND	9.9	1.5	
75-69-4	Freon 11	**10,000**	430	70	**1,800**	77	12	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260903** ALS Sample ID: P2403661-007
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.0020 Liter(s)
Container ID: 1SS01584

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.70

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**40,000**	430	65	**5,200**	56	8.5	**D**
76-14-2	Freon 114	ND	43	7.2	ND	6.2	1.0	
75-71-8	Freon 12	**230**	43	7.5	**47**	8.7	1.5	
306-83-2	Freon 123	ND	43	21	ND	6.9	3.3	**X**
75-43-4	Freon 21	**160**	43	21	**39**	10	4.9	**X**
142-82-5	Heptane	ND	43	7.3	ND	10	1.8	
87-68-3	Hexachlorobutadiene	ND	43	9.5	ND	4.0	0.89	
110-54-3	Hexane	ND	43	9.5	ND	12	2.7	
179601-23-1	m,p-Xylene	ND	86	12	ND	20	2.8	
1634-04-4	Methyl tert-butyl ether	ND	43	5.4	ND	12	1.5	
75-09-2	Methylene Chloride	ND	43	13	ND	12	3.7	
95-47-6	o-Xylene	ND	43	6.6	ND	9.9	1.5	
103-65-1	Propylbenzene	ND	43	6.6	ND	8.8	1.3	
100-42-5	Styrene	ND	43	7.4	ND	10	1.7	
127-18-4	Tetrachloroethene	ND	43	5.9	ND	6.3	0.88	
109-99-9	Tetrahydrofuran	ND	43	5.8	ND	15	2.0	
108-88-3	Toluene	ND	43	5.6	ND	11	1.5	
156-60-5	trans-1,2-Dichloroethene	ND	43	6.4	ND	11	1.6	
10061-02-6	trans-1,3-Dichloropropene	ND	43	9.5	ND	9.5	2.1	
79-01-6	Trichloroethene	ND	43	6.2	ND	8.0	1.2	
75-01-4	Vinyl Chloride	ND	43	4.9	ND	17	1.9	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260903** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-007

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:	**T**		0.0020 Liter(s)
Container ID:	1SS01584		

Initial Pressure (psig): -2.25 Final Pressure (psig): 6.70

Container Dilution Factor: 1.72

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**1,000**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260904** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-008

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01289

Initial Pressure (psig): -1.73 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.37	0.048	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.077	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.52	ND	0.27	0.070	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.30	ND	0.41	0.060	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
107-06-2	1,2-Dichloroethane	**0.47**	2.0	0.24	**0.12**	0.49	0.058	**J**
78-87-5	1,2-Dichloropropane	**0.86**	2.0	0.26	**0.19**	0.43	0.057	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.90	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.33	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.56	0.070	
540-84-1	2,2,4-Trimethylpentane	**0.50**	2.0	0.32	**0.11**	0.43	0.069	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.9**	20	0.44	**1.3**	6.8	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.26	ND	0.49	0.064	
67-63-0	2-Propanol	**16**	4.0	0.88	**6.4**	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.64	0.092	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.069	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260904** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-008

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01289

Initial Pressure (psig): -1.73 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.0	0.29	ND	0.49	0.071	
67-64-1	Acetone	**64**	20	4.8	**27**	8.4	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.48	ND	0.39	0.093	
71-43-2	Benzene	**1.1**	2.0	0.31	**0.34**	0.63	0.096	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.046	
75-25-2	Bromoform	ND	2.0	0.44	ND	0.19	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.076	
75-15-0	Carbon Disulfide	**8.4**	20	0.64	**2.7**	6.4	0.21	**J**
56-23-5	Carbon Tetrachloride	**0.97**	2.0	0.30	**0.15**	0.32	0.047	**J**
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.062	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.76	0.10	
67-66-3	Chloroform	**0.29**	2.0	0.28	**0.059**	0.41	0.058	**J**
74-87-3	Chloromethane	**1.4**	2.0	0.34	**0.70**	0.97	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.076	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.073	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	**8.8**	4.0	0.60	**2.6**	1.2	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.23	0.033	
64-17-5	Ethanol	**22**	20	1.5	**12**	11	0.79	
100-41-4	Ethyl Benzene	**1.5**	2.0	0.30	**0.36**	0.46	0.069	**J**
75-69-4	Freon 11	**1.2**	2.0	0.32	**0.22**	0.36	0.058	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260904** ALS Sample ID: P2403661-008
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01289

Initial Pressure (psig): -1.73 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.60**	2.0	0.30	**0.079**	0.26	0.040	**J**
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.048	
75-71-8	Freon 12	**2.5**	2.0	0.35	**0.51**	0.40	0.070	
306-83-2	Freon 123	ND	2.0	0.96	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.96	ND	0.48	0.23	**X**
142-82-5	Heptane	**4.3**	2.0	0.34	**1.1**	0.49	0.083	
87-68-3	Hexachlorobutadiene	ND	2.0	0.44	ND	0.19	0.041	
110-54-3	Hexane	**6.2**	2.0	0.44	**1.8**	0.57	0.12	
179601-23-1	m,p-Xylene	**4.2**	4.0	0.56	**0.97**	0.92	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.55	0.070	
75-09-2	Methylene Chloride	**1.4**	2.0	0.60	**0.41**	0.58	0.17	**J**
95-47-6	o-Xylene	**2.1**	2.0	0.31	**0.49**	0.46	0.071	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	**1.3**	2.0	0.34	**0.30**	0.47	0.081	**J**
127-18-4	Tetrachloroethene	ND	2.0	0.28	ND	0.30	0.041	
109-99-9	Tetrahydrofuran	**1.2**	2.0	0.27	**0.41**	0.68	0.091	**J**
108-88-3	Toluene	**41**	2.0	0.26	**11**	0.53	0.069	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.50	0.075	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.44	ND	0.44	0.097	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.37	0.054	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.78	0.089	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260904** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-008

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01289		

Initial Pressure (psig): -1.73 Final Pressure (psig): 6.10

Container Dilution Factor: 1.60

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260935** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-009

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01182

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.04

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.081	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.28	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.066	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.96	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.35	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.074	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.9**	21	0.46	**0.98**	7.2	0.16	**J**
591-78-6	2-Hexanone	**0.42**	2.1	0.28	**0.10**	0.52	0.068	**J**
67-63-0	2-Propanol	**3.1**	4.2	0.93	**1.3**	1.7	0.38	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.68	0.097	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.073	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260935** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-009

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01182

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.04

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.075	
67-64-1	Acetone	**21**	21	5.1	**9.0**	8.9	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.098	
71-43-2	Benzene	**0.52**	2.1	0.33	**0.16**	0.66	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.045	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.081	
75-15-0	Carbon Disulfide	**3.5**	21	0.68	**1.1**	6.8	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.065	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.80	0.11	
67-66-3	Chloroform	**2.5**	2.1	0.30	**0.52**	0.43	0.061	
74-87-3	Chloromethane	**0.63**	2.1	0.36	**0.30**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.53	0.080	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.077	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.066	
110-82-7	Cyclohexane	**1.3**	4.2	0.63	**0.38**	1.2	0.18	**J**
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**8.4**	21	1.6	**4.5**	11	0.83	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.49	0.073	
75-69-4	Freon 11	**28**	2.1	0.34	**5.0**	0.38	0.061	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260935** ALS Sample ID: P2403661-009
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01182

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.04

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**42**	2.1	0.32	**5.5**	0.28	0.042	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.051	
75-71-8	Freon 12	**2.4**	2.1	0.37	**0.49**	0.43	0.074	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**2.3**	2.1	1.0	**0.55**	0.50	0.24	**X**
142-82-5	Heptane	**0.58**	2.1	0.36	**0.14**	0.52	0.088	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.044	
110-54-3	Hexane	**1.3**	2.1	0.46	**0.36**	0.60	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.2	0.59	ND	0.97	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.074	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.61	0.18	
95-47-6	o-Xylene	ND	2.1	0.33	ND	0.49	0.075	
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.066	
100-42-5	Styrene	ND	2.1	0.36	ND	0.50	0.085	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.72	0.096	
108-88-3	Toluene	**5.6**	2.1	0.27	**1.5**	0.56	0.073	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.83	0.094	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260935** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-009

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01182		

Initial Pressure (psig): -2.44 Final Pressure (psig): 6.04

Container Dilution Factor: 1.69

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260936** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-010

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01335

Initial Pressure (psig): -2.19 Final Pressure (psig): 6.74

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.53	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.36	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.4**	21	0.47	**0.80**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.42**	2.1	0.28	**0.10**	0.52	0.069	**J**
67-63-0	2-Propanol	**4.8**	4.3	0.94	**1.9**	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260936** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-010

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01335

Initial Pressure (psig): -2.19 Final Pressure (psig): 6.74

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**22**	21	5.1	**9.1**	9.0	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	**0.66**	2.1	0.33	**0.21**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.1	0.47	ND	0.21	0.045	
74-83-9	Bromomethane	ND	2.1	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	**4.9**	21	0.68	**1.6**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.32	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	**2.8**	2.1	0.30	**0.57**	0.44	0.062	
74-87-3	Chloromethane	ND	2.1	0.37	ND	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	**2.2**	4.3	0.64	**0.62**	1.2	0.19	**J**
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**12**	21	1.6	**6.2**	11	0.84	**J**
100-41-4	Ethyl Benzene	**0.32**	2.1	0.32	**0.075**	0.49	0.074	**J**
75-69-4	Freon 11	**29**	2.1	0.35	**5.1**	0.38	0.062	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260936** ALS Sample ID: P2403661-010
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01335

Initial Pressure (psig): -2.19 Final Pressure (psig): 6.74

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**37**	2.1	0.32	**4.8**	0.28	0.042	
76-14-2	Freon 114	ND	2.1	0.36	ND	0.31	0.051	
75-71-8	Freon 12	**2.6**	2.1	0.37	**0.53**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**2.5**	2.1	1.0	**0.59**	0.51	0.24	**X**
142-82-5	Heptane	**0.97**	2.1	0.36	**0.24**	0.52	0.089	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	**1.8**	2.1	0.47	**0.52**	0.61	0.13	**J**
179601-23-1	m,p-Xylene	**0.84**	4.3	0.60	**0.19**	0.98	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.075	
75-09-2	Methylene Chloride	ND	2.1	0.64	ND	0.62	0.18	
95-47-6	o-Xylene	**0.45**	2.1	0.33	**0.10**	0.49	0.076	**J**
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	ND	2.1	0.37	ND	0.50	0.086	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	ND	2.1	0.29	ND	0.73	0.097	
108-88-3	Toluene	**9.4**	2.1	0.28	**2.5**	0.57	0.074	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.1	0.31	ND	0.40	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.84	0.095	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260936** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-010

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01335		

Initial Pressure (psig): -2.19 Final Pressure (psig): 6.74

Container Dilution Factor: 1.71

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260944** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-011

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01345

Initial Pressure (psig): -0.53 Final Pressure (psig): 6.72

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.25	ND	0.35	0.046	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.28	ND	0.27	0.041	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.20	ND	0.35	0.037	
75-34-3	1,1-Dichloroethane	ND	1.9	0.29	ND	0.47	0.073	
75-35-4	1,1-Dichloroethene	ND	1.9	0.28	ND	0.48	0.070	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.49	ND	0.25	0.066	
95-63-6	1,2,4-Trimethylbenzene	**1.1**	1.9	0.28	**0.22**	0.38	0.057	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.9	0.23	ND	0.25	0.030	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.30	ND	0.31	0.050	
107-06-2	1,2-Dichloroethane	**1.1**	1.9	0.22	**0.26**	0.47	0.055	**J**
78-87-5	1,2-Dichloropropane	**2.0**	1.9	0.25	**0.44**	0.41	0.054	
108-67-8	1,3,5-Trimethylbenzene	**0.40**	1.9	0.29	**0.082**	0.38	0.059	**J**
106-99-0	1,3-Butadiene	ND	1.9	0.33	ND	0.85	0.15	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.30	ND	0.31	0.050	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.31	ND	0.31	0.052	
123-91-1	1,4-Dioxane	ND	1.9	0.24	ND	0.52	0.066	
540-84-1	2,2,4-Trimethylpentane	**1.1**	1.9	0.30	**0.23**	0.40	0.065	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**15**	19	0.42	**5.2**	6.4	0.14	**J**
591-78-6	2-Hexanone	ND	1.9	0.25	ND	0.46	0.061	
67-63-0	2-Propanol	**47**	3.8	0.83	**19**	1.5	0.34	
107-05-1	3-Chloropropene	ND	1.9	0.27	ND	0.60	0.087	
622-96-8	4-Ethyltoluene	ND	1.9	0.32	ND	0.38	0.065	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260944** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-011

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01345

Initial Pressure (psig): -0.53 Final Pressure (psig): 6.72

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**2.2**	1.9	0.28	**0.54**	0.46	0.067	
67-64-1	Acetone	**180**	19	4.5	**75**	7.9	1.9	
100-44-7	alpha-Chlorotoluene	ND	1.9	0.45	ND	0.36	0.088	
71-43-2	Benzene	**4.5**	1.9	0.29	**1.4**	0.59	0.091	
75-27-4	Bromodichloromethane	ND	1.9	0.29	ND	0.28	0.043	
75-25-2	Bromoform	ND	1.9	0.42	ND	0.18	0.040	
74-83-9	Bromomethane	ND	1.9	0.28	ND	0.49	0.072	
75-15-0	Carbon Disulfide	**26**	19	0.60	**8.5**	6.1	0.19	
56-23-5	Carbon Tetrachloride	**1.4**	1.9	0.28	**0.22**	0.30	0.044	**J**
108-90-7	Chlorobenzene	ND	1.9	0.27	ND	0.41	0.058	
75-00-3	Chloroethane	ND	1.9	0.25	ND	0.72	0.094	
67-66-3	Chloroform	**5.9**	1.9	0.27	**1.2**	0.39	0.055	
74-87-3	Chloromethane	**1.2**	1.9	0.32	**0.61**	0.91	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.28	ND	0.48	0.071	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.31	ND	0.42	0.069	
98-82-8	Cumene	**0.29**	1.9	0.29	**0.060**	0.38	0.059	**J**
110-82-7	Cyclohexane	**22**	3.8	0.57	**6.5**	1.1	0.16	
124-48-1	Dibromochloromethane	ND	1.9	0.26	ND	0.22	0.031	
64-17-5	Ethanol	**64**	19	1.4	**34**	10	0.74	
100-41-4	Ethyl Benzene	**3.8**	1.9	0.28	**0.87**	0.43	0.065	
75-69-4	Freon 11	**95**	1.9	0.31	**17**	0.34	0.054	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260944** ALS Sample ID: P2403661-011
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01345

Initial Pressure (psig): -0.53 Final Pressure (psig): 6.72

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**85**	1.9	0.29	**11**	0.25	0.037	
76-14-2	Freon 114	ND	1.9	0.32	ND	0.27	0.045	
75-71-8	Freon 12	**2.5**	1.9	0.33	**0.50**	0.38	0.066	
306-83-2	Freon 123	ND	1.9	0.91	ND	0.30	0.14	**X**
75-43-4	Freon 21	**0.93**	1.9	0.91	**0.22**	0.45	0.22	**J, X**
142-82-5	Heptane	**11**	1.9	0.32	**2.7**	0.46	0.078	
87-68-3	Hexachlorobutadiene	ND	1.9	0.42	ND	0.18	0.039	
110-54-3	Hexane	**16**	1.9	0.42	**4.6**	0.54	0.12	
179601-23-1	m,p-Xylene	**12**	3.8	0.53	**2.8**	0.87	0.12	
1634-04-4	Methyl tert-butyl ether	**1.6**	1.9	0.24	**0.44**	0.52	0.066	**J**
75-09-2	Methylene Chloride	**3.0**	1.9	0.57	**0.87**	0.54	0.16	
95-47-6	o-Xylene	**5.6**	1.9	0.29	**1.3**	0.43	0.067	
103-65-1	Propylbenzene	ND	1.9	0.29	ND	0.38	0.059	
100-42-5	Styrene	**4.0**	1.9	0.32	**0.93**	0.44	0.076	
127-18-4	Tetrachloroethene	**0.68**	1.9	0.26	**0.10**	0.28	0.038	**J**
109-99-9	Tetrahydrofuran	ND	1.9	0.25	ND	0.64	0.086	
108-88-3	Toluene	**120**	1.9	0.25	**32**	0.50	0.065	
156-60-5	trans-1,2-Dichloroethene	**0.35**	1.9	0.28	**0.089**	0.48	0.070	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.42	ND	0.42	0.092	
79-01-6	Trichloroethene	ND	1.9	0.27	ND	0.35	0.051	
75-01-4	Vinyl Chloride	ND	1.9	0.22	ND	0.74	0.084	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260944** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-011

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01345		

Initial Pressure (psig): -0.53 Final Pressure (psig): 6.72

Container Dilution Factor: 1.51

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260951** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-012

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01600

Initial Pressure (psig): -2.47 Final Pressure (psig): 6.24

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.53	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.36	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**5.2**	21	0.47	**1.7**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.61**	2.1	0.28	**0.15**	0.52	0.069	**J**
67-63-0	2-Propanol	**250**	4.3	0.94	**100**	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260951** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-012

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01600

Initial Pressure (psig): -2.47 Final Pressure (psig): 6.24

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**53**	21	5.1	**22**	9.0	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	**1.2**	2.1	0.33	**0.39**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.33	ND	0.32	0.049	
75-25-2	Bromoform	**0.62**	2.1	0.47	**0.060**	0.21	0.045	**J**
74-83-9	Bromomethane	ND	2.1	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	ND	21	0.68	ND	6.9	0.22	
56-23-5	Carbon Tetrachloride	ND	2.1	0.32	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	**10**	2.1	0.30	**2.1**	0.44	0.062	
74-87-3	Chloromethane	**0.40**	2.1	0.37	**0.19**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	ND	4.3	0.64	ND	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**17**	21	1.6	**9.0**	11	0.84	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.49	0.074	
75-69-4	Freon 11	**1,500**	21	3.5	**270**	3.8	0.62	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260951** ALS Sample ID: P2403661-012
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9 - 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01600

Initial Pressure (psig): -2.47 Final Pressure (psig): 6.24

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,500**	21	3.2	**190**	2.8	0.42	**D**
76-14-2	Freon 114	ND	2.1	0.36	ND	0.31	0.051	
75-71-8	Freon 12	**2.2**	2.1	0.37	**0.44**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**1.9**	2.1	1.0	**0.45**	0.51	0.24	**J, X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	**0.86**	2.1	0.47	**0.24**	0.61	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.98	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.075	
75-09-2	Methylene Chloride	ND	2.1	0.64	ND	0.62	0.18	
95-47-6	o-Xylene	ND	2.1	0.33	ND	0.49	0.076	
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	ND	2.1	0.37	ND	0.50	0.086	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	ND	2.1	0.29	ND	0.73	0.097	
108-88-3	Toluene	**2.2**	2.1	0.28	**0.59**	0.57	0.074	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	**2.2**	2.1	0.31	**0.41**	0.40	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.84	0.095	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260951** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-012

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9 - 9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01600		

Initial Pressure (psig): -2.47 Final Pressure (psig): 6.24

Container Dilution Factor: 1.71

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260958** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-013

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01258

Initial Pressure (psig): -13.48 Final Pressure (psig): 6.38

Container Dilution Factor: 17.28

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	22	2.9	ND	4.0	0.52	
79-34-5	1,1,2,2-Tetrachloroethane	ND	22	3.2	ND	3.1	0.47	
79-00-5	1,1,2-Trichloroethane	ND	22	2.3	ND	4.0	0.43	
75-34-3	1,1-Dichloroethane	ND	22	3.4	ND	5.3	0.83	
75-35-4	1,1-Dichloroethene	ND	22	3.2	ND	5.5	0.81	
120-82-1	1,2,4-Trichlorobenzene	ND	22	5.6	ND	2.9	0.76	
95-63-6	1,2,4-Trimethylbenzene	**3.2**	22	3.2	**0.65**	4.4	0.65	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	22	2.7	ND	2.8	0.35	
95-50-1	1,2-Dichlorobenzene	ND	22	3.4	ND	3.6	0.57	
107-06-2	1,2-Dichloroethane	**3.2**	22	2.5	**0.78**	5.3	0.63	**J**
78-87-5	1,2-Dichloropropane	**6.9**	22	2.9	**1.5**	4.7	0.62	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	22	3.3	ND	4.4	0.68	
106-99-0	1,3-Butadiene	ND	22	3.8	ND	9.8	1.7	
541-73-1	1,3-Dichlorobenzene	ND	22	3.5	ND	3.6	0.58	
106-46-7	1,4-Dichlorobenzene	ND	22	3.5	ND	3.6	0.59	
123-91-1	1,4-Dioxane	ND	22	2.7	ND	6.0	0.76	
540-84-1	2,2,4-Trimethylpentane	ND	22	3.5	ND	4.6	0.74	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**31**	220	4.8	**11**	73	1.6	**J**
591-78-6	2-Hexanone	ND	22	2.9	ND	5.3	0.70	
67-63-0	2-Propanol	**150**	43	9.5	**60**	18	3.9	
107-05-1	3-Chloropropene	ND	22	3.1	ND	6.9	0.99	
622-96-8	4-Ethyltoluene	ND	22	3.7	ND	4.4	0.75	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260958** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-013

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01258

Initial Pressure (psig): -13.48 Final Pressure (psig): 6.38

Container Dilution Factor: 17.28

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**4.0**	22	3.2	**0.98**	5.3	0.77	**J**
67-64-1	Acetone	**510**	220	52	**210**	91	22	
100-44-7	alpha-Chlorotoluene	ND	22	5.2	ND	4.2	1.0	
71-43-2	Benzene	**9.3**	22	3.3	**2.9**	6.8	1.0	**J**
75-27-4	Bromodichloromethane	ND	22	3.3	ND	3.2	0.50	
75-25-2	Bromoform	ND	22	4.8	ND	2.1	0.46	
74-83-9	Bromomethane	ND	22	3.2	ND	5.6	0.82	
75-15-0	Carbon Disulfide	**35**	220	6.9	**11**	69	2.2	**J**
56-23-5	Carbon Tetrachloride	**4.4**	22	3.2	**0.71**	3.4	0.51	**J**
108-90-7	Chlorobenzene	ND	22	3.1	ND	4.7	0.67	
75-00-3	Chloroethane	ND	22	2.9	ND	8.2	1.1	
67-66-3	Chloroform	ND	22	3.1	ND	4.4	0.63	
74-87-3	Chloromethane	ND	22	3.7	ND	10	1.8	
156-59-2	cis-1,2-Dichloroethene	ND	22	3.2	ND	5.5	0.82	
10061-01-5	cis-1,3-Dichloropropene	ND	22	3.6	ND	4.8	0.79	
98-82-8	Cumene	ND	22	3.3	ND	4.4	0.68	
110-82-7	Cyclohexane	**75**	43	6.5	**22**	13	1.9	
124-48-1	Dibromochloromethane	ND	22	3.0	ND	2.5	0.36	
64-17-5	Ethanol	**210**	220	16	**110**	110	8.5	**J**
100-41-4	Ethyl Benzene	**12**	22	3.2	**2.7**	5.0	0.75	**J**
75-69-4	Freon 11	ND	22	3.5	ND	3.8	0.62	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260958** ALS Sample ID: P2403661-013
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01258

Initial Pressure (psig): -13.48 Final Pressure (psig): 6.38

Container Dilution Factor: 17.28

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	22	3.3	ND	2.8	0.43	
76-14-2	Freon 114	ND	22	3.6	ND	3.1	0.52	
75-71-8	Freon 12	ND	22	3.8	ND	4.4	0.76	
306-83-2	Freon 123	ND	22	10	ND	3.5	1.7	**X**
75-43-4	Freon 21	ND	22	10	ND	5.1	2.5	**X**
142-82-5	Heptane	**38**	22	3.7	**9.3**	5.3	0.90	
87-68-3	Hexachlorobutadiene	ND	22	4.8	ND	2.0	0.45	
110-54-3	Hexane	**55**	22	4.8	**16**	6.1	1.3	
179601-23-1	m,p-Xylene	**32**	43	6.0	**7.4**	9.9	1.4	**J**
1634-04-4	Methyl tert-butyl ether	**4.6**	22	2.7	**1.3**	6.0	0.76	**J**
75-09-2	Methylene Chloride	**9.2**	22	6.5	**2.7**	6.2	1.9	**J**
95-47-6	o-Xylene	**17**	22	3.3	**3.8**	5.0	0.77	**J**
103-65-1	Propylbenzene	ND	22	3.3	ND	4.4	0.68	
100-42-5	Styrene	**11**	22	3.7	**2.5**	5.1	0.87	**J**
127-18-4	Tetrachloroethene	ND	22	3.0	ND	3.2	0.44	
109-99-9	Tetrahydrofuran	**10**	22	2.9	**3.4**	7.3	0.98	**J**
108-88-3	Toluene	**370**	22	2.8	**98**	5.7	0.75	
156-60-5	trans-1,2-Dichloroethene	ND	22	3.2	ND	5.5	0.81	
10061-02-6	trans-1,3-Dichloropropene	ND	22	4.8	ND	4.8	1.0	
79-01-6	Trichloroethene	ND	22	3.1	ND	4.0	0.58	
75-01-4	Vinyl Chloride	ND	22	2.5	ND	8.5	0.96	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260958** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-013

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01258		

Initial Pressure (psig): -13.48 Final Pressure (psig): 6.38

Container Dilution Factor: 17.28

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260959** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-014

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01673

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.11

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.53	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.36	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.1**	21	0.47	**1.0**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.32**	2.1	0.28	**0.077**	0.52	0.069	**J**
67-63-0	2-Propanol	**80**	4.3	0.94	**32**	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408260959** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-014

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01673

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.11

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**18**	21	5.1	**7.5**	9.0	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	ND	2.1	0.33	ND	0.67	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.1	0.47	ND	0.21	0.045	
74-83-9	Bromomethane	ND	2.1	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	**0.94**	21	0.68	**0.30**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	**0.45**	2.1	0.32	**0.072**	0.34	0.050	**J**
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	ND	2.1	0.30	ND	0.44	0.062	
74-87-3	Chloromethane	**1.4**	2.1	0.37	**0.67**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	ND	4.3	0.64	ND	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**5.2**	21	1.6	**2.8**	11	0.84	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.49	0.074	
75-69-4	Freon 11	**1.3**	2.1	0.35	**0.23**	0.38	0.062	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408260959** ALS Sample ID: P2403661-014
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01673

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.11

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.59**	2.1	0.32	**0.078**	0.28	0.042	**J**
76-14-2	Freon 114	ND	2.1	0.36	ND	0.31	0.051	
75-71-8	Freon 12	**2.7**	2.1	0.37	**0.54**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.51	0.24	**X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	ND	2.1	0.47	ND	0.61	0.13	
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.98	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.075	
75-09-2	Methylene Chloride	ND	2.1	0.64	ND	0.62	0.18	
95-47-6	o-Xylene	ND	2.1	0.33	ND	0.49	0.076	
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	ND	2.1	0.37	ND	0.50	0.086	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	ND	2.1	0.29	ND	0.73	0.097	
108-88-3	Toluene	**0.32**	2.1	0.28	**0.086**	0.57	0.074	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.1	0.31	ND	0.40	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.84	0.095	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408260959** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-014

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01673		

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.11

Container Dilution Factor: 1.71

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261025** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-015

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -1.47 Final Pressure (psig): 6.65

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.27	ND	0.37	0.049	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.30	ND	0.29	0.043	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.22	ND	0.37	0.040	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.50	0.078	
75-35-4	1,1-Dichloroethene	ND	2.0	0.30	ND	0.51	0.075	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.52	ND	0.27	0.071	
95-63-6	1,2,4-Trimethylbenzene	**0.58**	2.0	0.30	**0.12**	0.41	0.061	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.25	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.053	
107-06-2	1,2-Dichloroethane	**0.63**	2.0	0.24	**0.16**	0.50	0.059	**J**
78-87-5	1,2-Dichloropropane	**1.2**	2.0	0.27	**0.27**	0.44	0.058	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.31	ND	0.41	0.063	
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.91	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.33	ND	0.33	0.055	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.56	0.070	
540-84-1	2,2,4-Trimethylpentane	**0.74**	2.0	0.32	**0.16**	0.43	0.069	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**12**	20	0.44	**4.1**	6.8	0.15	**J**
591-78-6	2-Hexanone	**1.2**	2.0	0.27	**0.29**	0.49	0.065	**J**
67-63-0	2-Propanol	**30**	4.0	0.89	**12**	1.6	0.36	
107-05-1	3-Chloropropene	ND	2.0	0.29	ND	0.64	0.093	
622-96-8	4-Ethyltoluene	ND	2.0	0.34	ND	0.41	0.070	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261025** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-015

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -1.47 Final Pressure (psig): 6.65

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.1**	2.0	0.29	**0.26**	0.49	0.072	**J**
67-64-1	Acetone	**120**	20	4.8	**53**	8.5	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.48	ND	0.39	0.093	
71-43-2	Benzene	**1.8**	2.0	0.31	**0.56**	0.63	0.097	**J**
75-27-4	Bromodichloromethane	ND	2.0	0.31	ND	0.30	0.046	
75-25-2	Bromoform	ND	2.0	0.44	ND	0.19	0.043	
74-83-9	Bromomethane	ND	2.0	0.30	ND	0.52	0.077	
75-15-0	Carbon Disulfide	**18**	20	0.64	**5.7**	6.5	0.21	**J**
56-23-5	Carbon Tetrachloride	**1.0**	2.0	0.30	**0.17**	0.32	0.047	**J**
108-90-7	Chlorobenzene	ND	2.0	0.29	ND	0.44	0.062	
75-00-3	Chloroethane	ND	2.0	0.27	ND	0.76	0.10	
67-66-3	Chloroform	**0.97**	2.0	0.29	**0.20**	0.41	0.059	**J**
74-87-3	Chloromethane	**1.0**	2.0	0.35	**0.51**	0.97	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.076	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.44	0.074	
98-82-8	Cumene	ND	2.0	0.31	ND	0.41	0.063	
110-82-7	Cyclohexane	**14**	4.0	0.60	**4.1**	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.0	0.28	ND	0.24	0.033	
64-17-5	Ethanol	**43**	20	1.5	**23**	11	0.79	
100-41-4	Ethyl Benzene	**2.2**	2.0	0.30	**0.51**	0.46	0.070	
75-69-4	Freon 11	**11**	2.0	0.33	**2.0**	0.36	0.058	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261025** ALS Sample ID: P2403661-015
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00227

Initial Pressure (psig): -1.47 Final Pressure (psig): 6.65

Container Dilution Factor: 1.61

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**11**	2.0	0.31	**1.4**	0.26	0.040	
76-14-2	Freon 114	ND	2.0	0.34	ND	0.29	0.048	
75-71-8	Freon 12	**2.4**	2.0	0.35	**0.49**	0.41	0.071	
306-83-2	Freon 123	ND	2.0	0.97	ND	0.32	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.97	ND	0.48	0.23	**X**
142-82-5	Heptane	**7.1**	2.0	0.34	**1.7**	0.49	0.084	
87-68-3	Hexachlorobutadiene	ND	2.0	0.44	ND	0.19	0.042	
110-54-3	Hexane	**9.7**	2.0	0.44	**2.8**	0.57	0.13	
179601-23-1	m,p-Xylene	**6.2**	4.0	0.56	**1.4**	0.93	0.13	
1634-04-4	Methyl tert-butyl ether	**0.93**	2.0	0.25	**0.26**	0.56	0.070	**J**
75-09-2	Methylene Chloride	**1.9**	2.0	0.60	**0.55**	0.58	0.17	**J**
95-47-6	o-Xylene	**3.2**	2.0	0.31	**0.74**	0.46	0.071	
103-65-1	Propylbenzene	ND	2.0	0.31	ND	0.41	0.063	
100-42-5	Styrene	**2.3**	2.0	0.35	**0.55**	0.47	0.081	
127-18-4	Tetrachloroethene	**0.41**	2.0	0.28	**0.061**	0.30	0.041	**J**
109-99-9	Tetrahydrofuran	**2.1**	2.0	0.27	**0.70**	0.68	0.091	
108-88-3	Toluene	**67**	2.0	0.26	**18**	0.53	0.069	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.30	ND	0.51	0.075	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.44	ND	0.44	0.098	
79-01-6	Trichloroethene	ND	2.0	0.29	ND	0.37	0.054	
75-01-4	Vinyl Chloride	ND	2.0	0.23	ND	0.79	0.090	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261025** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-015

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00227		

Initial Pressure (psig): -1.47 Final Pressure (psig): 6.65

Container Dilution Factor: 1.61

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261026** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-016

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): 0.04 Final Pressure (psig): 6.44

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.24	ND	0.33	0.043	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.26	0.039	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.33	0.035	
75-34-3	1,1-Dichloroethane	ND	1.8	0.28	ND	0.44	0.069	
75-35-4	1,1-Dichloroethene	ND	1.8	0.26	ND	0.45	0.067	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.46	ND	0.24	0.063	
95-63-6	1,2,4-Trimethylbenzene	**2.1**	1.8	0.26	**0.43**	0.36	0.054	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.8	0.22	ND	0.23	0.029	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
107-06-2	1,2-Dichloroethane	**2.4**	1.8	0.21	**0.59**	0.44	0.052	
78-87-5	1,2-Dichloropropane	**4.3**	1.8	0.24	**0.94**	0.39	0.051	
108-67-8	1,3,5-Trimethylbenzene	**0.76**	1.8	0.28	**0.15**	0.36	0.056	**J**
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.81	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.29	ND	0.30	0.048	
106-46-7	1,4-Dichlorobenzene	**0.75**	1.8	0.29	**0.13**	0.30	0.049	**J**
123-91-1	1,4-Dioxane	ND	1.8	0.23	ND	0.50	0.063	
540-84-1	2,2,4-Trimethylpentane	**2.7**	1.8	0.29	**0.57**	0.38	0.061	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**20**	18	0.39	**6.7**	6.1	0.13	
591-78-6	2-Hexanone	ND	1.8	0.24	ND	0.44	0.058	
67-63-0	2-Propanol	**160**	3.6	0.79	**65**	1.5	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.26	ND	0.57	0.082	
622-96-8	4-Ethyltoluene	**0.55**	1.8	0.30	**0.11**	0.36	0.062	**J**

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261026** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-016

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): 0.04 Final Pressure (psig): 6.44

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**4.7**	1.8	0.26	**1.2**	0.44	0.064	
67-64-1	Acetone	**790**	18	4.3	**330**	7.5	1.8	
100-44-7	alpha-Chlorotoluene	ND	1.8	0.43	ND	0.35	0.083	
71-43-2	Benzene	**6.9**	1.8	0.28	**2.2**	0.56	0.086	
75-27-4	Bromodichloromethane	ND	1.8	0.28	ND	0.27	0.041	
75-25-2	Bromoform	ND	1.8	0.39	ND	0.17	0.038	
74-83-9	Bromomethane	ND	1.8	0.26	ND	0.46	0.068	
75-15-0	Carbon Disulfide	**18**	18	0.57	**5.6**	5.7	0.18	**J**
56-23-5	Carbon Tetrachloride	**2.8**	1.8	0.26	**0.45**	0.28	0.042	
108-90-7	Chlorobenzene	**0.41**	1.8	0.25	**0.089**	0.39	0.055	**J**
75-00-3	Chloroethane	ND	1.8	0.24	ND	0.68	0.089	
67-66-3	Chloroform	**1.7**	1.8	0.25	**0.34**	0.37	0.052	**J**
74-87-3	Chloromethane	**1.9**	1.8	0.31	**0.92**	0.87	0.15	
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.27	ND	0.45	0.068	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.30	ND	0.39	0.065	
98-82-8	Cumene	**0.73**	1.8	0.28	**0.15**	0.36	0.056	**J**
110-82-7	Cyclohexane	**53**	3.6	0.54	**15**	1.0	0.16	
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.029	
64-17-5	Ethanol	**160**	18	1.3	**84**	9.5	0.70	
100-41-4	Ethyl Benzene	**11**	1.8	0.27	**2.4**	0.41	0.062	
75-69-4	Freon 11	**6.6**	1.8	0.29	**1.2**	0.32	0.052	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261026** ALS Sample ID: P2403661-016
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00155

Initial Pressure (psig): 0.04 Final Pressure (psig): 6.44

Container Dilution Factor: 1.43

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**5.4**	1.8	0.27	**0.70**	0.23	0.035	
76-14-2	Freon 114	ND	1.8	0.30	ND	0.26	0.043	
75-71-8	Freon 12	**2.1**	1.8	0.31	**0.42**	0.36	0.063	
306-83-2	Freon 123	ND	1.8	0.86	ND	0.29	0.14	**X**
75-43-4	Freon 21	ND	1.8	0.86	ND	0.42	0.20	**X**
142-82-5	Heptane	**28**	1.8	0.30	**6.7**	0.44	0.074	
87-68-3	Hexachlorobutadiene	ND	1.8	0.39	ND	0.17	0.037	
110-54-3	Hexane	**45**	1.8	0.39	**13**	0.51	0.11	
179601-23-1	m,p-Xylene	**29**	3.6	0.50	**6.6**	0.82	0.12	
1634-04-4	Methyl tert-butyl ether	**3.3**	1.8	0.23	**0.91**	0.50	0.062	
75-09-2	Methylene Chloride	**7.9**	1.8	0.54	**2.3**	0.51	0.15	
95-47-6	o-Xylene	**14**	1.8	0.28	**3.3**	0.41	0.063	
103-65-1	Propylbenzene	**0.67**	1.8	0.28	**0.14**	0.36	0.056	**J**
100-42-5	Styrene	**12**	1.8	0.31	**2.8**	0.42	0.072	
127-18-4	Tetrachloroethene	**1.6**	1.8	0.25	**0.24**	0.26	0.036	**J**
109-99-9	Tetrahydrofuran	ND	1.8	0.24	ND	0.61	0.081	
108-88-3	Toluene	**250**	1.8	0.23	**67**	0.47	0.062	
156-60-5	trans-1,2-Dichloroethene	**0.71**	1.8	0.26	**0.18**	0.45	0.067	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.39	ND	0.39	0.087	
79-01-6	Trichloroethene	ND	1.8	0.26	ND	0.33	0.048	
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.70	0.080	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261026** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-016

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00155		

Initial Pressure (psig): 0.04 Final Pressure (psig): 6.44

Container Dilution Factor: 1.43

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261038** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-017

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01932

Initial Pressure (psig): -2.55 Final Pressure (psig): 6.33

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.40	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.32	0.047	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.40	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.53	0.083	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.56	ND	0.29	0.076	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.32	ND	0.44	0.065	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.53	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.47	0.062	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.068	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.98	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.058	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.059	
123-91-1	1,4-Dioxane	ND	2.2	0.27	ND	0.60	0.076	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.46	0.074	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.3**	22	0.48	**1.1**	7.3	0.16	**J**
591-78-6	2-Hexanone	ND	2.2	0.29	ND	0.53	0.070	
67-63-0	2-Propanol	ND	4.3	0.95	ND	1.8	0.39	
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.69	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.075	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261038** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-017

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01932

Initial Pressure (psig): -2.55 Final Pressure (psig): 6.33

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.53	0.077	
67-64-1	Acetone	**29**	22	5.2	**12**	9.1	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**0.41**	2.2	0.33	**0.13**	0.68	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.33	ND	0.32	0.050	
75-25-2	Bromoform	ND	2.2	0.48	ND	0.21	0.046	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.56	0.082	
75-15-0	Carbon Disulfide	**2.9**	22	0.69	**0.93**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.2	0.32	ND	0.34	0.051	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.067	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.82	0.11	
67-66-3	Chloroform	**4.7**	2.2	0.31	**0.97**	0.44	0.063	
74-87-3	Chloromethane	ND	2.2	0.37	ND	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.082	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.48	0.079	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.068	
110-82-7	Cyclohexane	ND	4.3	0.65	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.25	0.036	
64-17-5	Ethanol	ND	22	1.6	ND	11	0.85	
100-41-4	Ethyl Benzene	ND	2.2	0.32	ND	0.50	0.075	
75-69-4	Freon 11	**150**	2.2	0.35	**26**	0.38	0.062	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261038** ALS Sample ID: P2403661-017
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01932

Initial Pressure (psig): -2.55 Final Pressure (psig): 6.33

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**120**	2.2	0.33	**16**	0.28	0.043	
76-14-2	Freon 114	ND	2.2	0.36	ND	0.31	0.052	
75-71-8	Freon 12	**2.5**	2.2	0.38	**0.50**	0.44	0.076	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.35	0.17	**X**
75-43-4	Freon 21	ND	2.2	1.0	ND	0.51	0.25	**X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.53	0.090	
87-68-3	Hexachlorobutadiene	ND	2.2	0.48	ND	0.20	0.045	
110-54-3	Hexane	ND	2.2	0.48	ND	0.61	0.14	
179601-23-1	m,p-Xylene	ND	4.3	0.61	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.076	
75-09-2	Methylene Chloride	ND	2.2	0.65	ND	0.62	0.19	
95-47-6	o-Xylene	ND	2.2	0.33	ND	0.50	0.077	
103-65-1	Propylbenzene	ND	2.2	0.33	ND	0.44	0.068	
100-42-5	Styrene	ND	2.2	0.37	ND	0.51	0.087	
127-18-4	Tetrachloroethene	ND	2.2	0.30	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	ND	2.2	0.29	ND	0.73	0.098	
108-88-3	Toluene	ND	2.2	0.28	ND	0.57	0.075	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.48	ND	0.48	0.10	
79-01-6	Trichloroethene	ND	2.2	0.31	ND	0.40	0.058	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.85	0.096	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261038** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-017

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01932		

Initial Pressure (psig): -2.55 Final Pressure (psig): 6.33

Container Dilution Factor: 1.73

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261044** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-018

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01419

Initial Pressure (psig): -2.54 Final Pressure (psig): 6.70

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.40	0.053	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.33	ND	0.32	0.047	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.24	ND	0.40	0.044	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.54	0.085	
75-35-4	1,1-Dichloroethene	ND	2.2	0.33	ND	0.56	0.082	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.57	ND	0.30	0.077	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.33	ND	0.45	0.066	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.29	0.036	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.058	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.54	0.064	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.48	0.063	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.34	ND	0.45	0.069	
106-99-0	1,3-Butadiene	ND	2.2	0.39	ND	0.99	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.059	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.060	
123-91-1	1,4-Dioxane	ND	2.2	0.28	ND	0.61	0.077	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.47	0.075	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.1**	22	0.48	**0.70**	7.5	0.16	**J**
591-78-6	2-Hexanone	**0.36**	2.2	0.29	**0.088**	0.54	0.071	**J**
67-63-0	2-Propanol	**2.2**	4.4	0.97	**0.90**	1.8	0.39	**J**
107-05-1	3-Chloropropene	ND	2.2	0.32	ND	0.70	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.45	0.076	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261044** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-018

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01419

Initial Pressure (psig): -2.54 Final Pressure (psig): 6.70

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.54	0.078	
67-64-1	Acetone	**13**	22	5.3	**5.5**	9.3	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.53	ND	0.43	0.10	
71-43-2	Benzene	**0.77**	2.2	0.34	**0.24**	0.69	0.11	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.34	ND	0.33	0.051	
75-25-2	Bromoform	ND	2.2	0.48	ND	0.21	0.047	
74-83-9	Bromomethane	ND	2.2	0.33	ND	0.57	0.084	
75-15-0	Carbon Disulfide	ND	22	0.70	ND	7.1	0.23	
56-23-5	Carbon Tetrachloride	ND	2.2	0.33	ND	0.35	0.052	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.48	0.068	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.83	0.11	
67-66-3	Chloroform	**8.6**	2.2	0.31	**1.8**	0.45	0.064	
74-87-3	Chloromethane	ND	2.2	0.38	ND	1.1	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.37	ND	0.48	0.080	
98-82-8	Cumene	ND	2.2	0.34	ND	0.45	0.069	
110-82-7	Cyclohexane	ND	4.4	0.66	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.31	ND	0.26	0.036	
64-17-5	Ethanol	**11**	22	1.6	**5.8**	12	0.86	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.33	ND	0.51	0.076	
75-69-4	Freon 11	**1,500**	22	3.6	**270**	3.9	0.63	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261044** ALS Sample ID: P2403661-018
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01419

Initial Pressure (psig): -2.54 Final Pressure (psig): 6.70

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,300**	22	3.3	**170**	2.9	0.44	**D**
76-14-2	Freon 114	ND	2.2	0.37	ND	0.31	0.053	
75-71-8	Freon 12	**2.5**	2.2	0.38	**0.51**	0.45	0.077	
306-83-2	Freon 123	ND	2.2	1.1	ND	0.35	0.17	**X**
75-43-4	Freon 21	**1.9**	2.2	1.1	**0.44**	0.52	0.25	**J, X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.54	0.091	
87-68-3	Hexachlorobutadiene	ND	2.2	0.48	ND	0.21	0.045	
110-54-3	Hexane	ND	2.2	0.48	ND	0.62	0.14	
179601-23-1	m,p-Xylene	ND	4.4	0.62	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.28	ND	0.61	0.077	
75-09-2	Methylene Chloride	ND	2.2	0.66	ND	0.63	0.19	
95-47-6	o-Xylene	ND	2.2	0.34	ND	0.51	0.078	
103-65-1	Propylbenzene	ND	2.2	0.34	ND	0.45	0.069	
100-42-5	Styrene	ND	2.2	0.38	ND	0.52	0.089	
127-18-4	Tetrachloroethene	ND	2.2	0.30	ND	0.32	0.045	
109-99-9	Tetrahydrofuran	ND	2.2	0.29	ND	0.75	0.10	
108-88-3	Toluene	**1.5**	2.2	0.29	**0.41**	0.58	0.076	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.082	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.48	ND	0.48	0.11	
79-01-6	Trichloroethene	**1.1**	2.2	0.32	**0.21**	0.41	0.059	**J**
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.86	0.098	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261044** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-018

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01419		

Initial Pressure (psig): -2.54 Final Pressure (psig): 6.70

Container Dilution Factor: 1.76

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261048** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-019

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01458

Initial Pressure (psig): -2.44 Final Pressure (psig): 7.50

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.30	ND	0.41	0.055	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.33	ND	0.33	0.049	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.24	ND	0.41	0.045	
75-34-3	1,1-Dichloroethane	ND	2.3	0.35	ND	0.56	0.087	
75-35-4	1,1-Dichloroethene	ND	2.3	0.33	ND	0.57	0.084	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	0.59	ND	0.30	0.079	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.33	ND	0.46	0.068	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.3	0.28	ND	0.29	0.037	
95-50-1	1,2-Dichlorobenzene	ND	2.3	0.36	ND	0.38	0.059	
107-06-2	1,2-Dichloroethane	ND	2.3	0.27	ND	0.56	0.066	
78-87-5	1,2-Dichloropropane	ND	2.3	0.30	ND	0.49	0.065	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.35	ND	0.46	0.071	
106-99-0	1,3-Butadiene	ND	2.3	0.40	ND	1.0	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.3	0.36	ND	0.38	0.060	
106-46-7	1,4-Dichlorobenzene	ND	2.3	0.37	ND	0.38	0.062	
123-91-1	1,4-Dioxane	ND	2.3	0.29	ND	0.63	0.079	
540-84-1	2,2,4-Trimethylpentane	ND	2.3	0.36	ND	0.48	0.078	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.4**	23	0.50	**0.47**	7.7	0.17	**J**
591-78-6	2-Hexanone	ND	2.3	0.30	ND	0.55	0.073	
67-63-0	2-Propanol	ND	4.5	1.0	ND	1.8	0.41	
107-05-1	3-Chloropropene	ND	2.3	0.33	ND	0.72	0.10	
622-96-8	4-Ethyltoluene	ND	2.3	0.38	ND	0.46	0.078	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261048** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-019

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01458

Initial Pressure (psig): -2.44 Final Pressure (psig): 7.50

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.3	0.33	ND	0.55	0.081	
67-64-1	Acetone	**10**	23	5.4	**4.3**	9.5	2.3	**J**
100-44-7	alpha-Chlorotoluene	ND	2.3	0.54	ND	0.44	0.10	
71-43-2	Benzene	ND	2.3	0.35	ND	0.71	0.11	
75-27-4	Bromodichloromethane	ND	2.3	0.35	ND	0.34	0.052	
75-25-2	Bromoform	ND	2.3	0.50	ND	0.22	0.048	
74-83-9	Bromomethane	ND	2.3	0.33	ND	0.58	0.086	
75-15-0	Carbon Disulfide	**1.5**	23	0.72	**0.47**	7.3	0.23	**J**
56-23-5	Carbon Tetrachloride	**0.42**	2.3	0.33	**0.066**	0.36	0.053	**J**
108-90-7	Chlorobenzene	ND	2.3	0.32	ND	0.49	0.070	
75-00-3	Chloroethane	ND	2.3	0.30	ND	0.86	0.11	
67-66-3	Chloroform	ND	2.3	0.32	ND	0.46	0.066	
74-87-3	Chloromethane	**1.5**	2.3	0.39	**0.71**	1.1	0.19	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.3	0.34	ND	0.57	0.086	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.38	ND	0.50	0.083	
98-82-8	Cumene	ND	2.3	0.35	ND	0.46	0.071	
110-82-7	Cyclohexane	ND	4.5	0.68	ND	1.3	0.20	
124-48-1	Dibromochloromethane	ND	2.3	0.32	ND	0.27	0.037	
64-17-5	Ethanol	**3.7**	23	1.7	**2.0**	12	0.89	**J**
100-41-4	Ethyl Benzene	ND	2.3	0.34	ND	0.52	0.078	
75-69-4	Freon 11	**1.2**	2.3	0.37	**0.21**	0.40	0.065	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261048** ALS Sample ID: P2403661-019
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01458

Initial Pressure (psig): -2.44 Final Pressure (psig): 7.50

Container Dilution Factor: 1.81

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.63**	2.3	0.34	**0.082**	0.30	0.045	**J**
76-14-2	Freon 114	ND	2.3	0.38	ND	0.32	0.054	
75-71-8	Freon 12	**2.5**	2.3	0.39	**0.50**	0.46	0.080	
306-83-2	Freon 123	ND	2.3	1.1	ND	0.36	0.17	**X**
75-43-4	Freon 21	ND	2.3	1.1	ND	0.54	0.26	**X**
142-82-5	Heptane	ND	2.3	0.38	ND	0.55	0.094	
87-68-3	Hexachlorobutadiene	ND	2.3	0.50	ND	0.21	0.047	
110-54-3	Hexane	ND	2.3	0.50	ND	0.64	0.14	
179601-23-1	m,p-Xylene	ND	4.5	0.63	ND	1.0	0.15	
1634-04-4	Methyl tert-butyl ether	ND	2.3	0.29	ND	0.63	0.079	
75-09-2	Methylene Chloride	ND	2.3	0.68	ND	0.65	0.20	
95-47-6	o-Xylene	ND	2.3	0.35	ND	0.52	0.080	
103-65-1	Propylbenzene	ND	2.3	0.35	ND	0.46	0.071	
100-42-5	Styrene	ND	2.3	0.39	ND	0.53	0.091	
127-18-4	Tetrachloroethene	ND	2.3	0.31	ND	0.33	0.046	
109-99-9	Tetrahydrofuran	ND	2.3	0.30	ND	0.77	0.10	
108-88-3	Toluene	ND	2.3	0.29	ND	0.60	0.078	
156-60-5	trans-1,2-Dichloroethene	ND	2.3	0.33	ND	0.57	0.084	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.50	ND	0.50	0.11	
79-01-6	Trichloroethene	ND	2.3	0.33	ND	0.42	0.061	
75-01-4	Vinyl Chloride	ND	2.3	0.26	ND	0.89	0.10	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261048** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-019

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01458		

Initial Pressure (psig): -2.44 Final Pressure (psig): 7.50

Container Dilution Factor: 1.81

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261325** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-020

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01938

Initial Pressure (psig): 6.46 Final Pressure (psig): 6.46

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.3	0.17	ND	0.23	0.030	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	0.19	ND	0.18	0.027	
79-00-5	1,1,2-Trichloroethane	ND	1.3	0.14	ND	0.23	0.025	
75-34-3	1,1-Dichloroethane	ND	1.3	0.20	ND	0.31	0.048	
75-35-4	1,1-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	0.33	ND	0.17	0.044	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.038	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.3	0.16	ND	0.16	0.020	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
107-06-2	1,2-Dichloroethane	ND	1.3	0.15	ND	0.31	0.036	
78-87-5	1,2-Dichloropropane	ND	1.3	0.17	ND	0.27	0.036	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.039	
106-99-0	1,3-Butadiene	ND	1.3	0.22	ND	0.57	0.099	
541-73-1	1,3-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.21	ND	0.21	0.034	
123-91-1	1,4-Dioxane	ND	1.3	0.16	ND	0.35	0.044	
540-84-1	2,2,4-Trimethylpentane	ND	1.3	0.20	ND	0.27	0.043	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.1**	13	0.28	**0.72**	4.2	0.093	**J**
591-78-6	2-Hexanone	**0.24**	1.3	0.17	**0.058**	0.31	0.040	**J**
67-63-0	2-Propanol	ND	2.5	0.55	ND	1.0	0.22	
107-05-1	3-Chloropropene	ND	1.3	0.18	ND	0.40	0.058	
622-96-8	4-Ethyltoluene	ND	1.3	0.21	ND	0.25	0.043	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261325** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-020

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01938

Initial Pressure (psig): 6.46 Final Pressure (psig): 6.46

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	1.3	0.18	ND	0.31	0.045	
67-64-1	Acetone	ND	13	3.0	ND	5.3	1.3	
100-44-7	alpha-Chlorotoluene	ND	1.3	0.30	ND	0.24	0.058	
71-43-2	Benzene	ND	1.3	0.19	ND	0.39	0.060	
75-27-4	Bromodichloromethane	ND	1.3	0.19	ND	0.19	0.029	
75-25-2	Bromoform	ND	1.3	0.28	ND	0.12	0.027	
74-83-9	Bromomethane	ND	1.3	0.19	ND	0.32	0.048	
75-15-0	Carbon Disulfide	ND	13	0.40	ND	4.0	0.13	
56-23-5	Carbon Tetrachloride	ND	1.3	0.19	ND	0.20	0.029	
108-90-7	Chlorobenzene	ND	1.3	0.18	ND	0.27	0.039	
75-00-3	Chloroethane	ND	1.3	0.17	ND	0.47	0.063	
67-66-3	Chloroform	ND	1.3	0.18	ND	0.26	0.036	
74-87-3	Chloromethane	ND	1.3	0.22	ND	0.61	0.10	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	0.21	ND	0.28	0.046	
98-82-8	Cumene	ND	1.3	0.19	ND	0.25	0.039	
110-82-7	Cyclohexane	ND	2.5	0.38	ND	0.73	0.11	
124-48-1	Dibromochloromethane	ND	1.3	0.18	ND	0.15	0.021	
64-17-5	Ethanol	**4.9**	13	0.93	**2.6**	6.6	0.49	**J**
100-41-4	Ethyl Benzene	ND	1.3	0.19	ND	0.29	0.043	
75-69-4	Freon 11	ND	1.3	0.20	ND	0.22	0.036	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261325** ALS Sample ID: P2403661-020
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01938

Initial Pressure (psig): 6.46 Final Pressure (psig): 6.46

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	1.3	0.19	ND	0.16	0.025	
76-14-2	Freon 114	ND	1.3	0.21	ND	0.18	0.030	
75-71-8	Freon 12	ND	1.3	0.22	ND	0.25	0.044	
306-83-2	Freon 123	ND	1.3	0.60	ND	0.20	0.096	**X**
75-43-4	Freon 21	ND	1.3	0.60	ND	0.30	0.14	**X**
142-82-5	Heptane	ND	1.3	0.21	ND	0.31	0.052	
87-68-3	Hexachlorobutadiene	ND	1.3	0.28	ND	0.12	0.026	
110-54-3	Hexane	ND	1.3	0.28	ND	0.35	0.078	
179601-23-1	m,p-Xylene	ND	2.5	0.35	ND	0.58	0.081	
1634-04-4	Methyl tert-butyl ether	ND	1.3	0.16	ND	0.35	0.044	
75-09-2	Methylene Chloride	ND	1.3	0.38	ND	0.36	0.11	
95-47-6	o-Xylene	ND	1.3	0.19	ND	0.29	0.044	
103-65-1	Propylbenzene	ND	1.3	0.19	ND	0.25	0.039	
100-42-5	Styrene	ND	1.3	0.22	ND	0.29	0.051	
127-18-4	Tetrachloroethene	ND	1.3	0.17	ND	0.18	0.025	
109-99-9	Tetrahydrofuran	ND	1.3	0.17	ND	0.42	0.057	
108-88-3	Toluene	ND	1.3	0.16	ND	0.33	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	0.28	ND	0.28	0.061	
79-01-6	Trichloroethene	ND	1.3	0.18	ND	0.23	0.034	
75-01-4	Vinyl Chloride	ND	1.3	0.14	ND	0.49	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261325** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-020

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01938		

Initial Pressure (psig): 6.46 Final Pressure (psig): 6.46

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261330** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-021

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00881

Initial Pressure (psig): -2.79 Final Pressure (psig): 7.72

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.4	0.31	ND	0.43	0.057	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	0.35	ND	0.34	0.051	
79-00-5	1,1,2-Trichloroethane	ND	2.4	0.25	ND	0.43	0.047	
75-34-3	1,1-Dichloroethane	ND	2.4	0.37	ND	0.58	0.091	
75-35-4	1,1-Dichloroethene	ND	2.4	0.35	ND	0.59	0.088	
120-82-1	1,2,4-Trichlorobenzene	ND	2.4	0.61	ND	0.32	0.082	
95-63-6	1,2,4-Trimethylbenzene	ND	2.4	0.35	ND	0.48	0.071	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.4	0.29	ND	0.31	0.038	
95-50-1	1,2-Dichlorobenzene	ND	2.4	0.37	ND	0.39	0.062	
107-06-2	1,2-Dichloroethane	ND	2.4	0.28	ND	0.58	0.069	
78-87-5	1,2-Dichloropropane	ND	2.4	0.31	ND	0.51	0.067	
108-67-8	1,3,5-Trimethylbenzene	ND	2.4	0.36	ND	0.48	0.074	
106-99-0	1,3-Butadiene	ND	2.4	0.41	ND	1.1	0.19	
541-73-1	1,3-Dichlorobenzene	ND	2.4	0.38	ND	0.39	0.063	
106-46-7	1,4-Dichlorobenzene	ND	2.4	0.39	ND	0.39	0.064	
123-91-1	1,4-Dioxane	**1.6**	2.4	0.30	**0.44**	0.65	0.082	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.4	0.38	ND	0.50	0.081	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**10**	24	0.52	**3.4**	8.0	0.18	**J**
591-78-6	2-Hexanone	**1.7**	2.4	0.31	**0.41**	0.57	0.076	**J**
67-63-0	2-Propanol	**6.1**	4.7	1.0	**2.5**	1.9	0.42	
107-05-1	3-Chloropropene	ND	2.4	0.34	ND	0.75	0.11	
622-96-8	4-Ethyltoluene	ND	2.4	0.40	ND	0.48	0.081	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261330** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-021

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00881

Initial Pressure (psig): -2.79 Final Pressure (psig): 7.72

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.4	0.34	ND	0.57	0.084	
67-64-1	Acetone	**72**	24	5.6	**30**	9.9	2.4	
100-44-7	alpha-Chlorotoluene	ND	2.4	0.56	ND	0.45	0.11	
71-43-2	Benzene	**1.1**	2.4	0.36	**0.34**	0.74	0.11	**J**
75-27-4	Bromodichloromethane	ND	2.4	0.36	ND	0.35	0.054	
75-25-2	Bromoform	ND	2.4	0.52	ND	0.23	0.050	
74-83-9	Bromomethane	**0.65**	2.4	0.35	**0.17**	0.61	0.090	**J**
75-15-0	Carbon Disulfide	**21**	24	0.75	**6.7**	7.5	0.24	**J**
56-23-5	Carbon Tetrachloride	ND	2.4	0.35	ND	0.37	0.055	
108-90-7	Chlorobenzene	ND	2.4	0.33	ND	0.51	0.072	
75-00-3	Chloroethane	**0.56**	2.4	0.31	**0.21**	0.89	0.12	**J**
67-66-3	Chloroform	**1.1**	2.4	0.33	**0.22**	0.48	0.068	**J**
74-87-3	Chloromethane	**2.8**	2.4	0.40	**1.4**	1.1	0.20	
156-59-2	cis-1,2-Dichloroethene	ND	2.4	0.35	ND	0.59	0.089	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	0.39	ND	0.52	0.086	
98-82-8	Cumene	ND	2.4	0.36	ND	0.48	0.074	
110-82-7	Cyclohexane	ND	4.7	0.71	ND	1.4	0.20	
124-48-1	Dibromochloromethane	ND	2.4	0.33	ND	0.28	0.039	
64-17-5	Ethanol	**27**	24	1.7	**14**	12	0.92	
100-41-4	Ethyl Benzene	ND	2.4	0.35	ND	0.54	0.081	
75-69-4	Freon 11	**180**	2.4	0.38	**33**	0.42	0.068	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261330** ALS Sample ID: P2403661-021
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00881

Initial Pressure (psig): -2.79 Final Pressure (psig): 7.72

Container Dilution Factor: 1.88

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**110**	2.4	0.36	**14**	0.31	0.047	
76-14-2	Freon 114	ND	2.4	0.39	ND	0.34	0.057	
75-71-8	Freon 12	**3.3**	2.4	0.41	**0.66**	0.48	0.083	
306-83-2	Freon 123	ND	2.4	1.1	ND	0.38	0.18	**X**
75-43-4	Freon 21	ND	2.4	1.1	ND	0.56	0.27	**X**
142-82-5	Heptane	ND	2.4	0.40	ND	0.57	0.098	
87-68-3	Hexachlorobutadiene	ND	2.4	0.52	ND	0.22	0.048	
110-54-3	Hexane	**1.2**	2.4	0.52	**0.33**	0.67	0.15	**J**
179601-23-1	m,p-Xylene	ND	4.7	0.66	ND	1.1	0.15	
1634-04-4	Methyl tert-butyl ether	ND	2.4	0.30	ND	0.65	0.082	
75-09-2	Methylene Chloride	**0.93**	2.4	0.71	**0.27**	0.68	0.20	**J**
95-47-6	o-Xylene	ND	2.4	0.36	ND	0.54	0.083	
103-65-1	Propylbenzene	ND	2.4	0.36	ND	0.48	0.074	
100-42-5	Styrene	ND	2.4	0.40	ND	0.55	0.095	
127-18-4	Tetrachloroethene	ND	2.4	0.32	ND	0.35	0.048	
109-99-9	Tetrahydrofuran	ND	2.4	0.31	ND	0.80	0.11	
108-88-3	Toluene	**1.2**	2.4	0.31	**0.32**	0.62	0.081	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.4	0.35	ND	0.59	0.088	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	0.52	ND	0.52	0.11	
79-01-6	Trichloroethene	**0.35**	2.4	0.34	**0.065**	0.44	0.063	**J**
75-01-4	Vinyl Chloride	ND	2.4	0.27	ND	0.92	0.10	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261330** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-021

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00881		

Initial Pressure (psig): -2.79 Final Pressure (psig): 7.72

Container Dilution Factor: 1.88

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261336** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-022

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00508

Initial Pressure (psig): -2.57 Final Pressure (psig): 7.63

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.30	ND	0.42	0.056	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.34	ND	0.34	0.050	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.25	ND	0.42	0.046	
75-34-3	1,1-Dichloroethane	ND	2.3	0.36	ND	0.57	0.089	
75-35-4	1,1-Dichloroethene	ND	2.3	0.34	ND	0.58	0.086	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	0.60	ND	0.31	0.081	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.34	ND	0.47	0.069	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.3	0.29	ND	0.30	0.037	
95-50-1	1,2-Dichlorobenzene	ND	2.3	0.36	ND	0.38	0.060	
107-06-2	1,2-Dichloroethane	ND	2.3	0.27	ND	0.57	0.067	
78-87-5	1,2-Dichloropropane	ND	2.3	0.30	ND	0.50	0.066	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.35	ND	0.47	0.072	
106-99-0	1,3-Butadiene	ND	2.3	0.40	ND	1.0	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.3	0.37	ND	0.38	0.061	
106-46-7	1,4-Dichlorobenzene	ND	2.3	0.38	ND	0.38	0.063	
123-91-1	1,4-Dioxane	ND	2.3	0.29	ND	0.64	0.080	
540-84-1	2,2,4-Trimethylpentane	ND	2.3	0.37	ND	0.49	0.079	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.8**	23	0.51	**0.96**	7.8	0.17	**J**
591-78-6	2-Hexanone	ND	2.3	0.30	ND	0.56	0.074	
67-63-0	2-Propanol	**7.3**	4.6	1.0	**3.0**	1.9	0.41	
107-05-1	3-Chloropropene	ND	2.3	0.33	ND	0.74	0.11	
622-96-8	4-Ethyltoluene	ND	2.3	0.39	ND	0.47	0.080	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261336** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-022

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00508

Initial Pressure (psig): -2.57 Final Pressure (psig): 7.63

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.3	0.34	ND	0.56	0.082	
67-64-1	Acetone	**35**	23	5.5	**15**	9.7	2.3	
100-44-7	alpha-Chlorotoluene	ND	2.3	0.55	ND	0.44	0.11	
71-43-2	Benzene	ND	2.3	0.35	ND	0.72	0.11	
75-27-4	Bromodichloromethane	ND	2.3	0.35	ND	0.34	0.053	
75-25-2	Bromoform	ND	2.3	0.51	ND	0.22	0.049	
74-83-9	Bromomethane	ND	2.3	0.34	ND	0.59	0.088	
75-15-0	Carbon Disulfide	ND	23	0.74	ND	7.4	0.24	
56-23-5	Carbon Tetrachloride	ND	2.3	0.34	ND	0.37	0.054	
108-90-7	Chlorobenzene	ND	2.3	0.33	ND	0.50	0.071	
75-00-3	Chloroethane	ND	2.3	0.30	ND	0.87	0.12	
67-66-3	Chloroform	ND	2.3	0.33	ND	0.47	0.067	
74-87-3	Chloromethane	ND	2.3	0.40	ND	1.1	0.19	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	0.35	ND	0.58	0.087	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.38	ND	0.51	0.084	
98-82-8	Cumene	ND	2.3	0.35	ND	0.47	0.072	
110-82-7	Cyclohexane	**1.7**	4.6	0.69	**0.51**	1.3	0.20	**J**
124-48-1	Dibromochloromethane	ND	2.3	0.32	ND	0.27	0.038	
64-17-5	Ethanol	**5.4**	23	1.7	**2.9**	12	0.90	**J**
100-41-4	Ethyl Benzene	ND	2.3	0.35	ND	0.53	0.079	
75-69-4	Freon 11	**4,100**	46	7.5	**720**	8.2	1.3	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261336** ALS Sample ID: P2403661-022
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS00508

Initial Pressure (psig): -2.57 Final Pressure (psig): 7.63

Container Dilution Factor: 1.84

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**530**	46	7.0	**70**	6.0	0.91	**D**
76-14-2	Freon 114	ND	2.3	0.39	ND	0.33	0.055	
75-71-8	Freon 12	**2.7**	2.3	0.40	**0.55**	0.47	0.081	
306-83-2	Freon 123	ND	2.3	1.1	ND	0.37	0.18	**X**
75-43-4	Freon 21	ND	2.3	1.1	ND	0.55	0.26	**X**
142-82-5	Heptane	ND	2.3	0.39	ND	0.56	0.095	
87-68-3	Hexachlorobutadiene	ND	2.3	0.51	ND	0.22	0.047	
110-54-3	Hexane	**1.6**	2.3	0.51	**0.45**	0.65	0.14	**J**
179601-23-1	m,p-Xylene	ND	4.6	0.64	ND	1.1	0.15	
1634-04-4	Methyl tert-butyl ether	ND	2.3	0.29	ND	0.64	0.080	
75-09-2	Methylene Chloride	ND	2.3	0.69	ND	0.66	0.20	
95-47-6	o-Xylene	ND	2.3	0.35	ND	0.53	0.082	
103-65-1	Propylbenzene	ND	2.3	0.35	ND	0.47	0.072	
100-42-5	Styrene	ND	2.3	0.40	ND	0.54	0.093	
127-18-4	Tetrachloroethene	ND	2.3	0.32	ND	0.34	0.047	
109-99-9	Tetrahydrofuran	**0.42**	2.3	0.31	**0.14**	0.78	0.10	**J**
108-88-3	Toluene	**0.47**	2.3	0.30	**0.13**	0.61	0.079	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.3	0.34	ND	0.58	0.086	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.51	ND	0.51	0.11	
79-01-6	Trichloroethene	ND	2.3	0.33	ND	0.43	0.062	
75-01-4	Vinyl Chloride	ND	2.3	0.26	ND	0.90	0.10	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261336** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-022

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10 - 9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.020 Liter(s)
Container ID:	1SS00508		

Initial Pressure (psig): -2.57 Final Pressure (psig): 7.63

Container Dilution Factor: 1.84

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261343** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-023

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.00020 Liter(s)
Container ID: 1SS00874

Initial Pressure (psig): -1.08 Final Pressure (psig): 6.60

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	39	5.1	ND	7.2	0.94	
79-34-5	1,1,2,2-Tetrachloroethane	ND	39	5.8	ND	5.7	0.84	
79-00-5	1,1,2-Trichloroethane	ND	39	4.2	ND	7.2	0.77	
75-34-3	1,1-Dichloroethane	ND	39	6.1	ND	9.6	1.5	
75-35-4	1,1-Dichloroethene	ND	39	5.8	ND	9.8	1.5	
120-82-1	1,2,4-Trichlorobenzene	ND	39	10	ND	5.3	1.4	
95-63-6	1,2,4-Trimethylbenzene	ND	39	5.8	ND	7.9	1.2	
106-93-4	1,2-Dibromoethane (EDB)	ND	39	4.8	ND	5.1	0.63	
95-50-1	1,2-Dichlorobenzene	ND	39	6.2	ND	6.5	1.0	
107-06-2	1,2-Dichloroethane	**9.8**	39	4.6	**2.4**	9.6	1.1	**J**
78-87-5	1,2-Dichloropropane	ND	39	5.1	ND	8.4	1.1	
108-67-8	1,3,5-Trimethylbenzene	ND	39	6.0	ND	7.9	1.2	
106-99-0	1,3-Butadiene	ND	39	6.9	ND	18	3.1	
541-73-1	1,3-Dichlorobenzene	ND	39	6.2	ND	6.5	1.0	
106-46-7	1,4-Dichlorobenzene	ND	39	6.4	ND	6.5	1.1	
123-91-1	1,4-Dioxane	ND	39	4.9	ND	11	1.4	
540-84-1	2,2,4-Trimethylpentane	ND	39	6.2	ND	8.4	1.3	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	390	8.6	ND	130	2.9	
591-78-6	2-Hexanone	ND	39	5.1	ND	9.5	1.3	
67-63-0	2-Propanol	ND	78	17	ND	32	7.0	
107-05-1	3-Chloropropene	ND	39	5.6	ND	12	1.8	
622-96-8	4-Ethyltoluene	ND	39	6.6	ND	7.9	1.3	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261343** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-023

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.00020 Liter(s)
Container ID: 1SS00874

Initial Pressure (psig): -1.08 Final Pressure (psig): 6.60

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	39	5.7	ND	9.5	1.4	
67-64-1	Acetone	ND	390	94	ND	160	39	
100-44-7	alpha-Chlorotoluene	ND	39	9.4	ND	7.5	1.8	
71-43-2	Benzene	**6.7**	39	6.0	**2.1**	12	1.9	**J**
75-27-4	Bromodichloromethane	ND	39	6.0	ND	5.8	0.90	
75-25-2	Bromoform	ND	39	8.6	ND	3.8	0.83	
74-83-9	Bromomethane	ND	39	5.8	ND	10	1.5	
75-15-0	Carbon Disulfide	ND	390	12	ND	130	4.0	
56-23-5	Carbon Tetrachloride	ND	39	5.8	ND	6.2	0.92	
108-90-7	Chlorobenzene	ND	39	5.5	ND	8.5	1.2	
75-00-3	Chloroethane	ND	39	5.1	ND	15	2.0	
67-66-3	Chloroform	ND	39	5.5	ND	8.0	1.1	
74-87-3	Chloromethane	ND	39	6.7	ND	19	3.2	
156-59-2	cis-1,2-Dichloroethene	ND	39	5.9	ND	9.8	1.5	
10061-01-5	cis-1,3-Dichloropropene	ND	39	6.5	ND	8.6	1.4	
98-82-8	Cumene	ND	39	6.0	ND	7.9	1.2	
110-82-7	Cyclohexane	ND	78	12	ND	23	3.4	
124-48-1	Dibromochloromethane	ND	39	5.5	ND	4.6	0.64	
64-17-5	Ethanol	**76**	390	29	**40**	210	15	**J**
100-41-4	Ethyl Benzene	ND	39	5.9	ND	9.0	1.3	
75-69-4	Freon 11	**180,000**	3,900	630	**32,000**	690	110	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261343** ALS Sample ID: P2403661-023
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.00020 Liter(s)
Container ID: 1SS00874

Initial Pressure (psig): -1.08 Final Pressure (psig): 6.60

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**16,000**	3,900	590	**2,000**	510	77	**D**
76-14-2	Freon 114	ND	39	6.6	ND	5.6	0.94	
75-71-8	Freon 12	**17**	39	6.8	**3.4**	7.9	1.4	**J**
306-83-2	Freon 123	ND	39	19	ND	6.2	3.0	**X**
75-43-4	Freon 21	**330**	39	19	**79**	9.3	4.4	**X**
142-82-5	Heptane	ND	39	6.6	ND	9.5	1.6	
87-68-3	Hexachlorobutadiene	ND	39	8.6	ND	3.7	0.80	
110-54-3	Hexane	ND	39	8.6	ND	11	2.4	
179601-23-1	m,p-Xylene	ND	78	11	ND	18	2.5	
1634-04-4	Methyl tert-butyl ether	ND	39	4.9	ND	11	1.4	
75-09-2	Methylene Chloride	ND	39	12	ND	11	3.4	
95-47-6	o-Xylene	ND	39	6.0	ND	9.0	1.4	
103-65-1	Propylbenzene	ND	39	6.0	ND	7.9	1.2	
100-42-5	Styrene	ND	39	6.7	ND	9.2	1.6	
127-18-4	Tetrachloroethene	ND	39	5.4	ND	5.8	0.79	
109-99-9	Tetrahydrofuran	ND	39	5.2	ND	13	1.8	
108-88-3	Toluene	**60**	39	5.1	**16**	10	1.3	
156-60-5	trans-1,2-Dichloroethene	ND	39	5.8	ND	9.8	1.5	
10061-02-6	trans-1,3-Dichloropropene	ND	39	8.6	ND	8.6	1.9	
79-01-6	Trichloroethene	**68**	39	5.6	**13**	7.3	1.0	
75-01-4	Vinyl Chloride	ND	39	4.4	ND	15	1.7	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261343** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-023

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10 - 9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:			0.00020 Liter(s)
Container ID:	1SS00874		

Initial Pressure (psig): -1.08 Final Pressure (psig): 6.60

Container Dilution Factor: 1.56

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261344** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-024

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01205

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.07
Initial Pressure 2 (psig): 0.03 Final Pressure 2 (psig): 6.38
Container Dilution Factor: 2.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	3.1	0.41	ND	0.56	0.074	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.1	0.46	ND	0.45	0.066	
79-00-5	1,1,2-Trichloroethane	ND	3.1	0.33	ND	0.56	0.061	
75-34-3	1,1-Dichloroethane	ND	3.1	0.48	ND	0.76	0.12	
75-35-4	1,1-Dichloroethene	ND	3.1	0.46	ND	0.78	0.11	
120-82-1	1,2,4-Trichlorobenzene	ND	3.1	0.80	ND	0.41	0.11	
95-63-6	1,2,4-Trimethylbenzene	ND	3.1	0.46	ND	0.63	0.093	
106-93-4	1,2-Dibromoethane (EDB)	ND	3.1	0.38	ND	0.40	0.050	
95-50-1	1,2-Dichlorobenzene	ND	3.1	0.49	ND	0.51	0.081	
107-06-2	1,2-Dichloroethane	ND	3.1	0.36	ND	0.76	0.090	
78-87-5	1,2-Dichloropropane	ND	3.1	0.41	ND	0.67	0.088	
108-67-8	1,3,5-Trimethylbenzene	ND	3.1	0.47	ND	0.63	0.096	
106-99-0	1,3-Butadiene	ND	3.1	0.54	ND	1.4	0.24	
541-73-1	1,3-Dichlorobenzene	ND	3.1	0.49	ND	0.51	0.082	
106-46-7	1,4-Dichlorobenzene	ND	3.1	0.50	ND	0.51	0.084	
123-91-1	1,4-Dioxane	ND	3.1	0.39	ND	0.85	0.11	
540-84-1	2,2,4-Trimethylpentane	ND	3.1	0.49	ND	0.66	0.11	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.0**	31	0.68	**0.67**	10	0.23	**J**
591-78-6	2-Hexanone	ND	3.1	0.41	ND	0.75	0.099	
67-63-0	2-Propanol	ND	6.2	1.4	ND	2.5	0.55	
107-05-1	3-Chloropropene	ND	3.1	0.44	ND	0.98	0.14	
622-96-8	4-Ethyltoluene	ND	3.1	0.52	ND	0.63	0.11	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261344** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-024

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01205

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.07
Initial Pressure 2 (psig): 0.03 Final Pressure 2 (psig): 6.38

Container Dilution Factor: 2.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	3.1	0.45	ND	0.75	0.11	
67-64-1	Acetone	**20**	31	7.4	**8.5**	13	3.1	**J**
100-44-7	alpha-Chlorotoluene	ND	3.1	0.74	ND	0.59	0.14	
71-43-2	Benzene	ND	3.1	0.47	ND	0.96	0.15	
75-27-4	Bromodichloromethane	ND	3.1	0.47	ND	0.46	0.071	
75-25-2	Bromoform	ND	3.1	0.68	ND	0.30	0.065	
74-83-9	Bromomethane	ND	3.1	0.46	ND	0.79	0.12	
75-15-0	Carbon Disulfide	ND	31	0.98	ND	9.9	0.32	
56-23-5	Carbon Tetrachloride	**0.47**	3.1	0.46	**0.075**	0.49	0.072	**J**
108-90-7	Chlorobenzene	ND	3.1	0.44	ND	0.67	0.095	
75-00-3	Chloroethane	ND	3.1	0.41	ND	1.2	0.15	
67-66-3	Chloroform	ND	3.1	0.44	ND	0.63	0.089	
74-87-3	Chloromethane	**1.6**	3.1	0.53	**0.77**	1.5	0.26	**J**
156-59-2	cis-1,2-Dichloroethene	ND	3.1	0.46	ND	0.78	0.12	
10061-01-5	cis-1,3-Dichloropropene	ND	3.1	0.51	ND	0.68	0.11	
98-82-8	Cumene	ND	3.1	0.47	ND	0.63	0.096	
110-82-7	Cyclohexane	ND	6.2	0.92	ND	1.8	0.27	
124-48-1	Dibromochloromethane	ND	3.1	0.43	ND	0.36	0.051	
64-17-5	Ethanol	**11**	31	2.3	**5.7**	16	1.2	**J**
100-41-4	Ethyl Benzene	ND	3.1	0.46	ND	0.71	0.11	
75-69-4	Freon 11	**1.8**	3.1	0.50	**0.32**	0.55	0.089	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261344** ALS Sample ID: P2403661-024
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01205

Initial Pressure (psig): -2.62 Final Pressure (psig): 6.07
Initial Pressure 2 (psig): 0.03 Final Pressure 2 (psig): 6.38

Container Dilution Factor: 2.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.56**	3.1	0.47	**0.073**	0.40	0.061	**J**
76-14-2	Freon 114	ND	3.1	0.52	ND	0.44	0.074	
75-71-8	Freon 12	**2.7**	3.1	0.54	**0.55**	0.62	0.11	**J**
306-83-2	Freon 123	ND	3.1	1.5	ND	0.49	0.24	**X**
75-43-4	Freon 21	ND	3.1	1.5	ND	0.73	0.35	**X**
142-82-5	Heptane	ND	3.1	0.52	ND	0.75	0.13	
87-68-3	Hexachlorobutadiene	ND	3.1	0.68	ND	0.29	0.063	
110-54-3	Hexane	ND	3.1	0.68	ND	0.87	0.19	
179601-23-1	m,p-Xylene	ND	6.2	0.86	ND	1.4	0.20	
1634-04-4	Methyl tert-butyl ether	ND	3.1	0.39	ND	0.85	0.11	
75-09-2	Methylene Chloride	ND	3.1	0.92	ND	0.89	0.27	
95-47-6	o-Xylene	ND	3.1	0.47	ND	0.71	0.11	
103-65-1	Propylbenzene	ND	3.1	0.47	ND	0.63	0.096	
100-42-5	Styrene	ND	3.1	0.53	ND	0.72	0.12	
127-18-4	Tetrachloroethene	ND	3.1	0.42	ND	0.45	0.063	
109-99-9	Tetrahydrofuran	ND	3.1	0.41	ND	1.0	0.14	
108-88-3	Toluene	ND	3.1	0.40	ND	0.82	0.11	
156-60-5	trans-1,2-Dichloroethene	ND	3.1	0.46	ND	0.78	0.11	
10061-02-6	trans-1,3-Dichloropropene	ND	3.1	0.68	ND	0.68	0.15	
79-01-6	Trichloroethene	ND	3.1	0.44	ND	0.57	0.082	
75-01-4	Vinyl Chloride	ND	3.1	0.35	ND	1.2	0.14	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261344** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-024

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC01205		

Initial Pressure (psig):	-2.62	Final Pressure (psig):	6.07
Initial Pressure 2 (psig):	0.03	Final Pressure 2 (psig):	6.38

Container Dilution Factor: 2.46

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261351** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-025

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS01799

Initial Pressure (psig): -2.88 Final Pressure (psig): 6.36

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.41	0.054	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.33	ND	0.32	0.048	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.24	ND	0.41	0.044	
75-34-3	1,1-Dichloroethane	ND	2.2	0.35	ND	0.55	0.086	
75-35-4	1,1-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.58	ND	0.30	0.078	
95-63-6	1,2,4-Trimethylbenzene	**0.53**	2.2	0.33	**0.11**	0.45	0.067	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.28	ND	0.29	0.036	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.058	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.55	0.065	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.48	0.064	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.34	ND	0.45	0.070	
106-99-0	1,3-Butadiene	ND	2.2	0.39	ND	1.0	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.059	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.061	
123-91-1	1,4-Dioxane	**1.2**	2.2	0.28	**0.34**	0.62	0.078	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.36	ND	0.48	0.076	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.4**	22	0.49	**0.46**	7.5	0.17	**J**
591-78-6	2-Hexanone	**0.32**	2.2	0.29	**0.079**	0.54	0.072	**J**
67-63-0	2-Propanol	**7.1**	4.5	0.98	**2.9**	1.8	0.40	
107-05-1	3-Chloropropene	ND	2.2	0.32	ND	0.71	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.38	ND	0.45	0.077	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261351** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-025

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS01799

Initial Pressure (psig): -2.88 Final Pressure (psig): 6.36

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.54	0.079	
67-64-1	Acetone	**11**	22	5.3	**4.8**	9.4	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.53	ND	0.43	0.10	
71-43-2	Benzene	**8.5**	2.2	0.34	**2.7**	0.70	0.11	
75-27-4	Bromodichloromethane	ND	2.2	0.34	ND	0.33	0.051	
75-25-2	Bromoform	ND	2.2	0.49	ND	0.22	0.047	
74-83-9	Bromomethane	ND	2.2	0.33	ND	0.57	0.085	
75-15-0	Carbon Disulfide	ND	22	0.71	ND	7.1	0.23	
56-23-5	Carbon Tetrachloride	ND	2.2	0.33	ND	0.35	0.052	
108-90-7	Chlorobenzene	ND	2.2	0.32	ND	0.48	0.069	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.84	0.11	
67-66-3	Chloroform	**1.5**	2.2	0.32	**0.30**	0.46	0.065	**J**
74-87-3	Chloromethane	ND	2.2	0.38	ND	1.1	0.19	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.084	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.37	ND	0.49	0.081	
98-82-8	Cumene	ND	2.2	0.34	ND	0.45	0.070	
110-82-7	Cyclohexane	ND	4.5	0.67	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.31	ND	0.26	0.037	
64-17-5	Ethanol	**6.0**	22	1.6	**3.2**	12	0.87	**J**
100-41-4	Ethyl Benzene	**0.53**	2.2	0.33	**0.12**	0.51	0.077	**J**
75-69-4	Freon 11	**11,000**	89	14	**2,000**	16	2.6	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261351** ALS Sample ID: P2403661-025
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.010 Liter(s)
Container ID: 1SS01799

Initial Pressure (psig): -2.88 Final Pressure (psig): 6.36

Container Dilution Factor: 1.78

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2,200**	89	14	**290**	12	1.8	**D**
76-14-2	Freon 114	ND	2.2	0.37	ND	0.32	0.053	
75-71-8	Freon 12	**2.9**	2.2	0.39	**0.58**	0.45	0.078	
306-83-2	Freon 123	ND	2.2	1.1	ND	0.36	0.17	**X**
75-43-4	Freon 21	**8.5**	2.2	1.1	**2.0**	0.53	0.25	**X**
142-82-5	Heptane	ND	2.2	0.38	ND	0.54	0.092	
87-68-3	Hexachlorobutadiene	ND	2.2	0.49	ND	0.21	0.046	
110-54-3	Hexane	ND	2.2	0.49	ND	0.63	0.14	
179601-23-1	m,p-Xylene	**3.1**	4.5	0.62	**0.71**	1.0	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.28	ND	0.62	0.078	
75-09-2	Methylene Chloride	ND	2.2	0.67	ND	0.64	0.19	
95-47-6	o-Xylene	**1.3**	2.2	0.34	**0.29**	0.51	0.079	**J**
103-65-1	Propylbenzene	ND	2.2	0.34	ND	0.45	0.070	
100-42-5	Styrene	ND	2.2	0.38	ND	0.52	0.090	
127-18-4	Tetrachloroethene	**0.35**	2.2	0.31	**0.052**	0.33	0.045	**J**
109-99-9	Tetrahydrofuran	ND	2.2	0.30	ND	0.75	0.10	
108-88-3	Toluene	**1.8**	2.2	0.29	**0.47**	0.59	0.077	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.49	ND	0.49	0.11	
79-01-6	Trichloroethene	**2.0**	2.2	0.32	**0.38**	0.41	0.060	**J**
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.87	0.099	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261351** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-025

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10 - 9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.010 Liter(s)
Container ID:	1SS01799		

Initial Pressure (psig): -2.88 Final Pressure (psig): 6.36

Container Dilution Factor: 1.78

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261415** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-026

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01537

Initial Pressure (psig): 5.32 Final Pressure (psig): 5.32

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.3	0.17	ND	0.23	0.030	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	0.19	ND	0.18	0.027	
79-00-5	1,1,2-Trichloroethane	ND	1.3	0.14	ND	0.23	0.025	
75-34-3	1,1-Dichloroethane	ND	1.3	0.20	ND	0.31	0.048	
75-35-4	1,1-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	0.33	ND	0.17	0.044	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.038	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.3	0.16	ND	0.16	0.020	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
107-06-2	1,2-Dichloroethane	ND	1.3	0.15	ND	0.31	0.036	
78-87-5	1,2-Dichloropropane	ND	1.3	0.17	ND	0.27	0.036	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.039	
106-99-0	1,3-Butadiene	ND	1.3	0.22	ND	0.57	0.099	
541-73-1	1,3-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.21	ND	0.21	0.034	
123-91-1	1,4-Dioxane	ND	1.3	0.16	ND	0.35	0.044	
540-84-1	2,2,4-Trimethylpentane	ND	1.3	0.20	ND	0.27	0.043	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**0.39**	13	0.28	**0.13**	4.2	0.093	**J**
591-78-6	2-Hexanone	ND	1.3	0.17	ND	0.31	0.040	
67-63-0	2-Propanol	ND	2.5	0.55	ND	1.0	0.22	
107-05-1	3-Chloropropene	ND	1.3	0.18	ND	0.40	0.058	
622-96-8	4-Ethyltoluene	ND	1.3	0.21	ND	0.25	0.043	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261415** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-026

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01537

Initial Pressure (psig): 5.32 Final Pressure (psig): 5.32

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	1.3	0.18	ND	0.31	0.045	
67-64-1	Acetone	ND	13	3.0	ND	5.3	1.3	
100-44-7	alpha-Chlorotoluene	ND	1.3	0.30	ND	0.24	0.058	
71-43-2	Benzene	ND	1.3	0.19	ND	0.39	0.060	
75-27-4	Bromodichloromethane	ND	1.3	0.19	ND	0.19	0.029	
75-25-2	Bromoform	ND	1.3	0.28	ND	0.12	0.027	
74-83-9	Bromomethane	ND	1.3	0.19	ND	0.32	0.048	
75-15-0	Carbon Disulfide	ND	13	0.40	ND	4.0	0.13	
56-23-5	Carbon Tetrachloride	ND	1.3	0.19	ND	0.20	0.029	
108-90-7	Chlorobenzene	ND	1.3	0.18	ND	0.27	0.039	
75-00-3	Chloroethane	ND	1.3	0.17	ND	0.47	0.063	
67-66-3	Chloroform	ND	1.3	0.18	ND	0.26	0.036	
74-87-3	Chloromethane	ND	1.3	0.22	ND	0.61	0.10	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	0.21	ND	0.28	0.046	
98-82-8	Cumene	ND	1.3	0.19	ND	0.25	0.039	
110-82-7	Cyclohexane	ND	2.5	0.38	ND	0.73	0.11	
124-48-1	Dibromochloromethane	ND	1.3	0.18	ND	0.15	0.021	
64-17-5	Ethanol	**1.3**	13	0.93	**0.71**	6.6	0.49	**J**
100-41-4	Ethyl Benzene	ND	1.3	0.19	ND	0.29	0.043	
75-69-4	Freon 11	ND	1.3	0.20	ND	0.22	0.036	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261415** ALS Sample ID: P2403661-026
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01537

Initial Pressure (psig): 5.32 Final Pressure (psig): 5.32

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.24**	1.3	0.19	**0.031**	0.16	0.025	**J**
76-14-2	Freon 114	ND	1.3	0.21	ND	0.18	0.030	
75-71-8	Freon 12	ND	1.3	0.22	ND	0.25	0.044	
306-83-2	Freon 123	ND	1.3	0.60	ND	0.20	0.096	**X**
75-43-4	Freon 21	ND	1.3	0.60	ND	0.30	0.14	**X**
142-82-5	Heptane	ND	1.3	0.21	ND	0.31	0.052	
87-68-3	Hexachlorobutadiene	ND	1.3	0.28	ND	0.12	0.026	
110-54-3	Hexane	ND	1.3	0.28	ND	0.35	0.078	
179601-23-1	m,p-Xylene	ND	2.5	0.35	ND	0.58	0.081	
1634-04-4	Methyl tert-butyl ether	ND	1.3	0.16	ND	0.35	0.044	
75-09-2	Methylene Chloride	ND	1.3	0.38	ND	0.36	0.11	
95-47-6	o-Xylene	ND	1.3	0.19	ND	0.29	0.044	
103-65-1	Propylbenzene	ND	1.3	0.19	ND	0.25	0.039	
100-42-5	Styrene	ND	1.3	0.22	ND	0.29	0.051	
127-18-4	Tetrachloroethene	ND	1.3	0.17	ND	0.18	0.025	
109-99-9	Tetrahydrofuran	ND	1.3	0.17	ND	0.42	0.057	
108-88-3	Toluene	ND	1.3	0.16	ND	0.33	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	0.28	ND	0.28	0.061	
79-01-6	Trichloroethene	ND	1.3	0.18	ND	0.23	0.034	
75-01-4	Vinyl Chloride	ND	1.3	0.14	ND	0.49	0.056	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261415** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-026

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01537		

Initial Pressure (psig): 5.32 Final Pressure (psig): 5.32

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261420** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-027

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00994

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.43

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.39	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.53	0.083	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.32	ND	0.44	0.065	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.25	ND	0.53	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.28	ND	0.47	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.067	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.059	
123-91-1	1,4-Dioxane	ND	2.2	0.27	ND	0.60	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.34	ND	0.46	0.074	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.6**	22	0.47	**0.55**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.33**	2.2	0.28	**0.081**	0.53	0.069	**J**
67-63-0	2-Propanol	**8.8**	4.3	0.95	**3.6**	1.8	0.39	
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.69	0.099	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261420** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-027

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00994

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.43

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.31	ND	0.52	0.077	
67-64-1	Acetone	**8.8**	22	5.2	**3.7**	9.1	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**0.42**	2.2	0.33	**0.13**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.2	0.47	ND	0.21	0.046	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	ND	22	0.69	ND	6.9	0.22	
56-23-5	Carbon Tetrachloride	ND	2.2	0.32	ND	0.34	0.051	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.066	
75-00-3	Chloroethane	ND	2.2	0.28	ND	0.82	0.11	
67-66-3	Chloroform	**2.7**	2.2	0.31	**0.55**	0.44	0.063	
74-87-3	Chloromethane	ND	2.2	0.37	ND	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.47	0.079	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.067	
110-82-7	Cyclohexane	ND	4.3	0.65	ND	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**4.7**	22	1.6	**2.5**	11	0.84	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.32	ND	0.50	0.074	
75-69-4	Freon 11	**160**	2.2	0.35	**28**	0.38	0.062	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261420** ALS Sample ID: P2403661-027
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00994

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.43

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**230**	2.2	0.33	**30**	0.28	0.043	
76-14-2	Freon 114	ND	2.2	0.36	ND	0.31	0.052	
75-71-8	Freon 12	**2.6**	2.2	0.37	**0.54**	0.43	0.076	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.34	0.17	**X**
75-43-4	Freon 21	**13**	2.2	1.0	**3.1**	0.51	0.25	**X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.2	0.47	ND	0.20	0.044	
110-54-3	Hexane	ND	2.2	0.47	ND	0.61	0.13	
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.99	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.075	
75-09-2	Methylene Chloride	ND	2.2	0.65	ND	0.62	0.19	
95-47-6	o-Xylene	ND	2.2	0.33	ND	0.50	0.076	
103-65-1	Propylbenzene	**0.61**	2.2	0.33	**0.13**	0.44	0.067	**J**
100-42-5	Styrene	ND	2.2	0.37	ND	0.51	0.087	
127-18-4	Tetrachloroethene	ND	2.2	0.30	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	ND	2.2	0.29	ND	0.73	0.098	
108-88-3	Toluene	**0.58**	2.2	0.28	**0.15**	0.57	0.074	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	**0.73**	2.2	0.31	**0.14**	0.40	0.058	**J**
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.84	0.096	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261420** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-027

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:	**T**		
Container ID:	1SS00994		

Initial Pressure (psig): -2.39 Final Pressure (psig): 6.43

Container Dilution Factor: 1.72

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.59	Freon 123a	**41**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261426** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-028

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00302

Initial Pressure (psig): 0.01 Final Pressure (psig): 6.16

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.23	ND	0.33	0.043	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.26	ND	0.26	0.038	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.33	0.035	
75-34-3	1,1-Dichloroethane	ND	1.8	0.28	ND	0.44	0.068	
75-35-4	1,1-Dichloroethene	ND	1.8	0.26	ND	0.45	0.066	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.46	ND	0.24	0.062	
95-63-6	1,2,4-Trimethylbenzene	**0.65**	1.8	0.26	**0.13**	0.36	0.053	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.8	0.22	ND	0.23	0.029	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
107-06-2	1,2-Dichloroethane	**0.59**	1.8	0.21	**0.14**	0.44	0.052	**J**
78-87-5	1,2-Dichloropropane	**1.2**	1.8	0.23	**0.26**	0.38	0.051	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	1.8	0.27	ND	0.36	0.056	
106-99-0	1,3-Butadiene	ND	1.8	0.31	ND	0.80	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.29	ND	0.30	0.048	
123-91-1	1,4-Dioxane	ND	1.8	0.22	ND	0.49	0.062	
540-84-1	2,2,4-Trimethylpentane	**0.82**	1.8	0.28	**0.17**	0.38	0.061	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**9.6**	18	0.39	**3.3**	6.0	0.13	**J**
591-78-6	2-Hexanone	**1.8**	1.8	0.23	**0.45**	0.43	0.057	
67-63-0	2-Propanol	**29**	3.6	0.78	**12**	1.4	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.26	ND	0.57	0.082	
622-96-8	4-Ethyltoluene	ND	1.8	0.30	ND	0.36	0.061	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261426** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-028

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00302

Initial Pressure (psig): 0.01 Final Pressure (psig): 6.16

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.1**	1.8	0.26	**0.27**	0.43	0.063	**J**
67-64-1	Acetone	**110**	18	4.3	**47**	7.5	1.8	
100-44-7	alpha-Chlorotoluene	ND	1.8	0.43	ND	0.34	0.082	
71-43-2	Benzene	**1.8**	1.8	0.27	**0.56**	0.56	0.086	
75-27-4	Bromodichloromethane	ND	1.8	0.27	ND	0.27	0.041	
75-25-2	Bromoform	ND	1.8	0.39	ND	0.17	0.038	
74-83-9	Bromomethane	**0.59**	1.8	0.26	**0.15**	0.46	0.068	**J**
75-15-0	Carbon Disulfide	**7.1**	18	0.57	**2.3**	5.7	0.18	**J**
56-23-5	Carbon Tetrachloride	**0.86**	1.8	0.26	**0.14**	0.28	0.042	**J**
108-90-7	Chlorobenzene	ND	1.8	0.25	ND	0.39	0.055	
75-00-3	Chloroethane	**0.35**	1.8	0.23	**0.13**	0.67	0.089	**J**
67-66-3	Chloroform	**3.8**	1.8	0.25	**0.77**	0.36	0.052	
74-87-3	Chloromethane	**1.0**	1.8	0.31	**0.48**	0.86	0.15	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.27	ND	0.45	0.067	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.29	ND	0.39	0.065	
98-82-8	Cumene	ND	1.8	0.27	ND	0.36	0.056	
110-82-7	Cyclohexane	**13**	3.6	0.53	**3.9**	1.0	0.15	
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.029	
64-17-5	Ethanol	**56**	18	1.3	**30**	9.4	0.70	
100-41-4	Ethyl Benzene	**2.2**	1.8	0.27	**0.50**	0.41	0.061	
75-69-4	Freon 11	**210**	1.8	0.29	**38**	0.32	0.051	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261426** ALS Sample ID: P2403661-028
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00302

Initial Pressure (psig): 0.01 Final Pressure (psig): 6.16

Container Dilution Factor: 1.42

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**240**	1.8	0.27	**32**	0.23	0.035	
76-14-2	Freon 114	ND	1.8	0.30	ND	0.25	0.043	
75-71-8	Freon 12	**2.4**	1.8	0.31	**0.49**	0.36	0.062	
306-83-2	Freon 123	ND	1.8	0.85	ND	0.28	0.14	**X**
75-43-4	Freon 21	**5.4**	1.8	0.85	**1.3**	0.42	0.20	**X**
142-82-5	Heptane	**6.3**	1.8	0.30	**1.5**	0.43	0.074	
87-68-3	Hexachlorobutadiene	ND	1.8	0.39	ND	0.17	0.037	
110-54-3	Hexane	**9.7**	1.8	0.39	**2.8**	0.50	0.11	
179601-23-1	m,p-Xylene	**6.0**	3.6	0.50	**1.4**	0.82	0.11	
1634-04-4	Methyl tert-butyl ether	ND	1.8	0.22	ND	0.49	0.062	
75-09-2	Methylene Chloride	**4.7**	1.8	0.53	**1.4**	0.51	0.15	
95-47-6	o-Xylene	**3.1**	1.8	0.27	**0.71**	0.41	0.063	
103-65-1	Propylbenzene	ND	1.8	0.27	ND	0.36	0.056	
100-42-5	Styrene	**2.4**	1.8	0.31	**0.55**	0.42	0.072	
127-18-4	Tetrachloroethene	**0.50**	1.8	0.24	**0.073**	0.26	0.036	**J**
109-99-9	Tetrahydrofuran	ND	1.8	0.24	ND	0.60	0.081	
108-88-3	Toluene	**61**	1.8	0.23	**16**	0.47	0.061	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	0.26	ND	0.45	0.066	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.39	ND	0.39	0.086	
79-01-6	Trichloroethene	ND	1.8	0.26	ND	0.33	0.048	
75-01-4	Vinyl Chloride	ND	1.8	0.20	ND	0.69	0.079	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261426** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-028

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00302		

Initial Pressure (psig): 0.01 Final Pressure (psig): 6.16

Container Dilution Factor: 1.42

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261434** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-029

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00905

Initial Pressure (psig): -1.34 Final Pressure (psig): 6.30

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.29	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.31	ND	0.49	0.076	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.50	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.069	
95-63-6	1,2,4-Trimethylbenzene	**1.0**	2.0	0.29	**0.21**	0.40	0.059	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.26	0.032	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
107-06-2	1,2-Dichloroethane	ND	2.0	0.23	ND	0.49	0.057	
78-87-5	1,2-Dichloropropane	ND	2.0	0.26	ND	0.42	0.056	
108-67-8	1,3,5-Trimethylbenzene	**0.31**	2.0	0.30	**0.062**	0.40	0.062	**J**
106-99-0	1,3-Butadiene	ND	2.0	0.35	ND	0.89	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.33	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.33	0.054	
123-91-1	1,4-Dioxane	**3.2**	2.0	0.25	**0.87**	0.54	0.069	
540-84-1	2,2,4-Trimethylpentane	ND	2.0	0.31	ND	0.42	0.067	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**33**	20	0.43	**11**	6.7	0.15	
591-78-6	2-Hexanone	**1.5**	2.0	0.26	**0.38**	0.48	0.063	**J**
67-63-0	2-Propanol	**30**	3.9	0.86	**12**	1.6	0.35	
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.63	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.068	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261434** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-029

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00905

Initial Pressure (psig): -1.34 Final Pressure (psig): 6.30

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**17**	2.0	0.29	**4.2**	0.48	0.070	
67-64-1	Acetone	**230**	20	4.7	**97**	8.3	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.091	
71-43-2	Benzene	**2.9**	2.0	0.30	**0.92**	0.61	0.095	
75-27-4	Bromodichloromethane	**0.64**	2.0	0.30	**0.096**	0.29	0.045	**J**
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.51	0.075	
75-15-0	Carbon Disulfide	**88**	20	0.63	**28**	6.3	0.20	
56-23-5	Carbon Tetrachloride	**0.31**	2.0	0.29	**0.050**	0.31	0.046	**J**
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.43	0.061	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	**8.1**	2.0	0.28	**1.7**	0.40	0.057	
74-87-3	Chloromethane	**0.38**	2.0	0.34	**0.18**	0.95	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.33	ND	0.43	0.072	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.062	
110-82-7	Cyclohexane	**3.9**	3.9	0.59	**1.1**	1.1	0.17	**J**
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**61**	20	1.5	**32**	10	0.77	
100-41-4	Ethyl Benzene	**1.5**	2.0	0.29	**0.35**	0.45	0.068	**J**
75-69-4	Freon 11	**990**	20	3.2	**180**	3.5	0.57	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261434** ALS Sample ID: P2403661-029
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00905

Initial Pressure (psig): -1.34 Final Pressure (psig): 6.30

Container Dilution Factor: 1.57

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,400**	20	3.0	**180**	2.6	0.39	**D**
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.3**	2.0	0.34	**0.46**	0.40	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	**4.5**	2.0	0.94	**1.1**	0.47	0.22	**X**
142-82-5	Heptane	**3.8**	2.0	0.33	**0.92**	0.48	0.081	
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	**11**	2.0	0.43	**3.2**	0.56	0.12	
179601-23-1	m,p-Xylene	**6.2**	3.9	0.55	**1.4**	0.90	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.0	0.25	ND	0.54	0.069	
75-09-2	Methylene Chloride	**1.6**	2.0	0.59	**0.47**	0.57	0.17	**J**
95-47-6	o-Xylene	**2.1**	2.0	0.30	**0.48**	0.45	0.070	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.062	
100-42-5	Styrene	**1.3**	2.0	0.34	**0.30**	0.46	0.079	**J**
127-18-4	Tetrachloroethene	ND	2.0	0.27	ND	0.29	0.040	
109-99-9	Tetrahydrofuran	ND	2.0	0.26	ND	0.67	0.089	
108-88-3	Toluene	**26**	2.0	0.26	**7.0**	0.52	0.068	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.50	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	**0.87**	2.0	0.28	**0.16**	0.37	0.053	**J**
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.77	0.088	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261434** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-029

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10 - 9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00905		

Initial Pressure (psig): -1.34 Final Pressure (psig): 6.30

Container Dilution Factor: 1.57

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261435** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-030

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00078

Initial Pressure (psig): -2.53 Final Pressure (psig): 6.20

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.39	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.53	0.083	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.32	ND	0.44	0.065	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.25	ND	0.53	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.28	ND	0.47	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.067	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.059	
123-91-1	1,4-Dioxane	**0.62**	2.2	0.27	**0.17**	0.60	0.075	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.34	ND	0.46	0.074	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.9**	22	0.47	**0.64**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.35**	2.2	0.28	**0.085**	0.53	0.069	**J**
67-63-0	2-Propanol	**11**	4.3	0.95	**4.6**	1.8	0.39	
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.69	0.099	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261435** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-030

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00078

Initial Pressure (psig): -2.53 Final Pressure (psig): 6.20

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.31	ND	0.52	0.077	
67-64-1	Acetone	**22**	22	5.2	**9.3**	9.1	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**0.61**	2.2	0.33	**0.19**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.2	0.47	ND	0.21	0.046	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	**12**	22	0.69	**3.7**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	**0.44**	2.2	0.32	**0.070**	0.34	0.051	**J**
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.066	
75-00-3	Chloroethane	ND	2.2	0.28	ND	0.82	0.11	
67-66-3	Chloroform	**1.5**	2.2	0.31	**0.31**	0.44	0.063	**J**
74-87-3	Chloromethane	**2.1**	2.2	0.37	**1.0**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.47	0.079	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.067	
110-82-7	Cyclohexane	**0.68**	4.3	0.65	**0.20**	1.2	0.19	**J**
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**7.2**	22	1.6	**3.8**	11	0.84	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.32	ND	0.50	0.074	
75-69-4	Freon 11	**1.4**	2.2	0.35	**0.25**	0.38	0.062	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261435** ALS Sample ID: P2403661-030
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00078

Initial Pressure (psig): -2.53 Final Pressure (psig): 6.20

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.88**	2.2	0.33	**0.12**	0.28	0.043	**J**
76-14-2	Freon 114	ND	2.2	0.36	ND	0.31	0.052	
75-71-8	Freon 12	**2.5**	2.2	0.37	**0.51**	0.43	0.076	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.34	0.17	**X**
75-43-4	Freon 21	ND	2.2	1.0	ND	0.51	0.25	**X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.2	0.47	ND	0.20	0.044	
110-54-3	Hexane	ND	2.2	0.47	ND	0.61	0.13	
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.99	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.075	
75-09-2	Methylene Chloride	ND	2.2	0.65	ND	0.62	0.19	
95-47-6	o-Xylene	ND	2.2	0.33	ND	0.50	0.076	
103-65-1	Propylbenzene	ND	2.2	0.33	ND	0.44	0.067	
100-42-5	Styrene	ND	2.2	0.37	ND	0.51	0.087	
127-18-4	Tetrachloroethene	**0.30**	2.2	0.30	**0.044**	0.32	0.044	**J**
109-99-9	Tetrahydrofuran	ND	2.2	0.29	ND	0.73	0.098	
108-88-3	Toluene	**4.1**	2.2	0.28	**1.1**	0.57	0.074	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.2	0.31	ND	0.40	0.058	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.84	0.096	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261435** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-030

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00078		

Initial Pressure (psig): -2.53 Final Pressure (psig): 6.20

Container Dilution Factor: 1.72

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261442** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-031

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01055

Initial Pressure (psig): -1.99 Final Pressure (psig): 7.05

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	**0.32**	2.1	0.32	**0.064**	0.43	0.064	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.056	
107-06-2	1,2-Dichloroethane	**0.33**	2.1	0.25	**0.082**	0.53	0.062	**J**
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.36	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**6.2**	21	0.47	**2.1**	7.3	0.16	**J**
591-78-6	2-Hexanone	ND	2.1	0.28	ND	0.52	0.069	
67-63-0	2-Propanol	**14**	4.3	0.94	**5.8**	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408261442** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-031

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01055

Initial Pressure (psig): -1.99 Final Pressure (psig): 7.05

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**56**	21	5.1	**24**	9.0	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	**1.8**	2.1	0.33	**0.57**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	**0.52**	2.1	0.33	**0.078**	0.32	0.049	**J**
75-25-2	Bromoform	ND	2.1	0.47	ND	0.21	0.045	
74-83-9	Bromomethane	**0.60**	2.1	0.32	**0.15**	0.55	0.082	**J**
75-15-0	Carbon Disulfide	ND	21	0.68	ND	6.9	0.22	
56-23-5	Carbon Tetrachloride	**0.49**	2.1	0.32	**0.078**	0.34	0.050	**J**
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	**8.9**	2.1	0.30	**1.8**	0.44	0.062	
74-87-3	Chloromethane	**0.40**	2.1	0.37	**0.19**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	**7.6**	4.3	0.64	**2.2**	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**21**	21	1.6	**11**	11	0.84	**J**
100-41-4	Ethyl Benzene	**1.2**	2.1	0.32	**0.28**	0.49	0.074	**J**
75-69-4	Freon 11	**1,100**	21	3.5	**190**	3.8	0.62	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408261442** ALS Sample ID: P2403661-031
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/26/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC01055

Initial Pressure (psig): -1.99 Final Pressure (psig): 7.05

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,600**	21	3.2	**200**	2.8	0.42	**D**
76-14-2	Freon 114	ND	2.1	0.36	ND	0.31	0.051	
75-71-8	Freon 12	**2.5**	2.1	0.37	**0.51**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**4.9**	2.1	1.0	**1.2**	0.51	0.24	**X**
142-82-5	Heptane	**5.0**	2.1	0.36	**1.2**	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	**13**	2.1	0.47	**3.8**	0.61	0.13	
179601-23-1	m,p-Xylene	**3.3**	4.3	0.60	**0.76**	0.98	0.14	**J**
1634-04-4	Methyl tert-butyl ether	**0.47**	2.1	0.27	**0.13**	0.59	0.075	**J**
75-09-2	Methylene Chloride	**1.2**	2.1	0.64	**0.35**	0.62	0.18	**J**
95-47-6	o-Xylene	**1.6**	2.1	0.33	**0.38**	0.49	0.076	**J**
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	**1.1**	2.1	0.37	**0.27**	0.50	0.086	**J**
127-18-4	Tetrachloroethene	**0.61**	2.1	0.29	**0.090**	0.32	0.044	**J**
109-99-9	Tetrahydrofuran	ND	2.1	0.29	ND	0.73	0.097	
108-88-3	Toluene	**34**	2.1	0.28	**9.1**	0.57	0.074	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	**1.7**	2.1	0.31	**0.31**	0.40	0.057	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.84	0.095	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408261442** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-031

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/26/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10 - 9/11/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC01055		

Initial Pressure (psig): -1.99 Final Pressure (psig): 7.05

Container Dilution Factor: 1.71

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270830** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-032

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -1.93 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.081	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.28	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.43	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.066	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.95	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	**0.66**	2.1	0.26	**0.18**	0.58	0.073	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.7**	21	0.46	**0.91**	7.1	0.16	**J**
591-78-6	2-Hexanone	**0.42**	2.1	0.28	**0.10**	0.51	0.068	**J**
67-63-0	2-Propanol	ND	4.2	0.92	ND	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.097	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.073	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270830** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-032

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -1.93 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.51	0.075	
67-64-1	Acetone	**15**	21	5.0	**6.4**	8.8	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.41	0.097	
71-43-2	Benzene	ND	2.1	0.32	ND	0.66	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.045	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	**44**	21	0.67	**14**	6.7	0.22	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.065	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.80	0.11	
67-66-3	Chloroform	**0.59**	2.1	0.30	**0.12**	0.43	0.061	**J**
74-87-3	Chloromethane	**1.1**	2.1	0.36	**0.51**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.077	
98-82-8	Cumene	ND	2.1	0.32	ND	0.43	0.066	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.035	
64-17-5	Ethanol	**4.7**	21	1.6	**2.5**	11	0.83	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.48	0.073	
75-69-4	Freon 11	**71**	2.1	0.34	**13**	0.37	0.061	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270830** ALS Sample ID: P2403661-032
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00848

Initial Pressure (psig): -1.93 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**68**	2.1	0.32	**8.9**	0.27	0.042	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.5**	2.1	0.37	**0.50**	0.42	0.074	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.51	0.087	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.60	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.59	ND	0.97	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.43	0.066	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.085	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**0.30**	2.1	0.27	**0.079**	0.56	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.094	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270830** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-032

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00848		

Initial Pressure (psig): -1.93 Final Pressure (psig): 6.80

Container Dilution Factor: 1.68

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270838** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-034

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -0.87 Final Pressure (psig): 6.12

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.25	ND	0.35	0.046	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.28	ND	0.27	0.041	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.20	ND	0.35	0.037	
75-34-3	1,1-Dichloroethane	ND	1.9	0.29	ND	0.47	0.073	
75-35-4	1,1-Dichloroethene	ND	1.9	0.28	ND	0.48	0.070	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.49	ND	0.25	0.066	
95-63-6	1,2,4-Trimethylbenzene	**0.48**	1.9	0.28	**0.097**	0.38	0.057	**J**
106-93-4	1,2-Dibromoethane (EDB)	**0.63**	1.9	0.23	**0.082**	0.25	0.030	**J**
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.30	ND	0.31	0.050	
107-06-2	1,2-Dichloroethane	**0.29**	1.9	0.22	**0.073**	0.47	0.055	**J**
78-87-5	1,2-Dichloropropane	**0.34**	1.9	0.25	**0.074**	0.41	0.054	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.29	ND	0.38	0.059	
106-99-0	1,3-Butadiene	ND	1.9	0.33	ND	0.85	0.15	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.30	ND	0.31	0.050	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.31	ND	0.31	0.052	
123-91-1	1,4-Dioxane	ND	1.9	0.24	ND	0.52	0.066	
540-84-1	2,2,4-Trimethylpentane	**0.32**	1.9	0.30	**0.069**	0.40	0.065	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**5.8**	19	0.42	**2.0**	6.4	0.14	**J**
591-78-6	2-Hexanone	**1.0**	1.9	0.25	**0.25**	0.46	0.061	**J**
67-63-0	2-Propanol	**15**	3.8	0.83	**6.0**	1.5	0.34	
107-05-1	3-Chloropropene	ND	1.9	0.27	ND	0.60	0.087	
622-96-8	4-Ethyltoluene	ND	1.9	0.32	ND	0.38	0.065	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270838** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-034

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -0.87 Final Pressure (psig): 6.12

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**3.3**	1.9	0.28	**0.81**	0.46	0.067	
67-64-1	Acetone	**59**	19	4.5	**25**	7.9	1.9	
100-44-7	alpha-Chlorotoluene	ND	1.9	0.45	ND	0.36	0.088	
71-43-2	Benzene	**0.69**	1.9	0.29	**0.22**	0.59	0.091	**J**
75-27-4	Bromodichloromethane	ND	1.9	0.29	ND	0.28	0.043	
75-25-2	Bromoform	ND	1.9	0.42	ND	0.18	0.040	
74-83-9	Bromomethane	**0.39**	1.9	0.28	**0.10**	0.49	0.072	**J**
75-15-0	Carbon Disulfide	**4.5**	19	0.60	**1.5**	6.1	0.19	**J**
56-23-5	Carbon Tetrachloride	**0.62**	1.9	0.28	**0.098**	0.30	0.044	**J**
108-90-7	Chlorobenzene	ND	1.9	0.27	ND	0.41	0.058	
75-00-3	Chloroethane	ND	1.9	0.25	ND	0.72	0.094	
67-66-3	Chloroform	ND	1.9	0.27	ND	0.39	0.055	
74-87-3	Chloromethane	**1.9**	1.9	0.32	**0.91**	0.91	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.28	ND	0.48	0.071	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.31	ND	0.42	0.069	
98-82-8	Cumene	ND	1.9	0.29	ND	0.38	0.059	
110-82-7	Cyclohexane	**3.4**	3.8	0.57	**0.99**	1.1	0.16	**J**
124-48-1	Dibromochloromethane	ND	1.9	0.26	ND	0.22	0.031	
64-17-5	Ethanol	**38**	19	1.4	**20**	10	0.74	
100-41-4	Ethyl Benzene	**1.0**	1.9	0.28	**0.24**	0.43	0.065	**J**
75-69-4	Freon 11	**1.3**	1.9	0.31	**0.24**	0.34	0.054	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270838** ALS Sample ID: P2403661-034
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00280

Initial Pressure (psig): -0.87 Final Pressure (psig): 6.12

Container Dilution Factor: 1.51

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.61**	1.9	0.29	**0.080**	0.25	0.037	**J**
76-14-2	Freon 114	ND	1.9	0.32	ND	0.27	0.045	
75-71-8	Freon 12	**2.7**	1.9	0.33	**0.54**	0.38	0.066	
306-83-2	Freon 123	ND	1.9	0.91	ND	0.30	0.14	**X**
75-43-4	Freon 21	ND	1.9	0.91	ND	0.45	0.22	**X**
142-82-5	Heptane	**1.8**	1.9	0.32	**0.44**	0.46	0.078	**J**
87-68-3	Hexachlorobutadiene	ND	1.9	0.42	ND	0.18	0.039	
110-54-3	Hexane	**2.3**	1.9	0.42	**0.65**	0.54	0.12	
179601-23-1	m,p-Xylene	**3.1**	3.8	0.53	**0.70**	0.87	0.12	**J**
1634-04-4	Methyl tert-butyl ether	ND	1.9	0.24	ND	0.52	0.066	
75-09-2	Methylene Chloride	**1.7**	1.9	0.57	**0.50**	0.54	0.16	**J**
95-47-6	o-Xylene	**1.7**	1.9	0.29	**0.39**	0.43	0.067	**J**
103-65-1	Propylbenzene	ND	1.9	0.29	ND	0.38	0.059	
100-42-5	Styrene	**1.4**	1.9	0.32	**0.33**	0.44	0.076	**J**
127-18-4	Tetrachloroethene	ND	1.9	0.26	ND	0.28	0.038	
109-99-9	Tetrahydrofuran	**1.8**	1.9	0.25	**0.62**	0.64	0.086	**J**
108-88-3	Toluene	**21**	1.9	0.25	**5.7**	0.50	0.065	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.28	ND	0.48	0.070	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.42	ND	0.42	0.092	
79-01-6	Trichloroethene	ND	1.9	0.27	ND	0.35	0.051	
75-01-4	Vinyl Chloride	ND	1.9	0.22	ND	0.74	0.084	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270838** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-034

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00280		

Initial Pressure (psig): -0.87 Final Pressure (psig): 6.12

Container Dilution Factor: 1.51

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270846** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-035

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00510

Initial Pressure (psig): -1.71 Final Pressure (psig): 6.68

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	**0.66**	2.1	0.31	**0.14**	0.42	0.062	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	**0.69**	2.1	0.24	**0.17**	0.51	0.060	**J**
78-87-5	1,2-Dichloropropane	**1.3**	2.1	0.27	**0.28**	0.45	0.059	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**11**	21	0.45	**3.7**	7.0	0.15	**J**
591-78-6	2-Hexanone	**1.9**	2.1	0.27	**0.46**	0.50	0.066	**J**
67-63-0	2-Propanol	**32**	4.1	0.91	**13**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.095	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270846** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-035

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00510

Initial Pressure (psig): -1.71 Final Pressure (psig): 6.68

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.4**	2.1	0.30	**0.33**	0.50	0.074	**J**
67-64-1	Acetone	**120**	21	5.0	**50**	8.7	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	**2.7**	2.1	0.32	**0.84**	0.65	0.099	
75-27-4	Bromodichloromethane	**0.46**	2.1	0.32	**0.068**	0.31	0.047	**J**
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	ND	21	0.66	ND	6.6	0.21	
56-23-5	Carbon Tetrachloride	**0.92**	2.1	0.31	**0.15**	0.33	0.049	**J**
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**12**	2.1	0.29	**2.5**	0.42	0.060	
74-87-3	Chloromethane	**1.9**	2.1	0.35	**0.93**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	**14**	4.1	0.62	**4.0**	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**46**	21	1.5	**24**	11	0.81	
100-41-4	Ethyl Benzene	**2.4**	2.1	0.31	**0.54**	0.48	0.071	
75-69-4	Freon 11	**1,600**	21	3.3	**290**	3.7	0.59	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270846** ALS Sample ID: P2403661-035
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/10 - 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00510

Initial Pressure (psig): -1.71 Final Pressure (psig): 6.68

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,700**	21	3.1	**220**	2.7	0.41	**D**
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.7**	2.1	0.36	**0.54**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	0.99	ND	0.33	0.16	**X**
75-43-4	Freon 21	**5.7**	2.1	0.99	**1.4**	0.49	0.24	**X**
142-82-5	Heptane	**7.2**	2.1	0.35	**1.8**	0.50	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.043	
110-54-3	Hexane	**11**	2.1	0.45	**3.2**	0.59	0.13	
179601-23-1	m,p-Xylene	**6.5**	4.1	0.58	**1.5**	0.95	0.13	
1634-04-4	Methyl tert-butyl ether	**0.99**	2.1	0.26	**0.27**	0.57	0.072	**J**
75-09-2	Methylene Chloride	**2.1**	2.1	0.62	**0.60**	0.59	0.18	
95-47-6	o-Xylene	**3.3**	2.1	0.32	**0.75**	0.48	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	**2.4**	2.1	0.35	**0.57**	0.48	0.083	
127-18-4	Tetrachloroethene	**0.57**	2.1	0.28	**0.083**	0.30	0.042	**J**
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	**67**	2.1	0.27	**18**	0.55	0.071	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.092	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270846** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-035

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/10 - 9/11/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC00510		

Initial Pressure (psig): -1.71 Final Pressure (psig): 6.68

Container Dilution Factor: 1.65

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270847** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-036

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00795

Initial Pressure (psig): -2.57 Final Pressure (psig): 6.09

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.32	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.53	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.36	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.8**	21	0.47	**0.95**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.38**	2.1	0.28	**0.094**	0.52	0.069	**J**
67-63-0	2-Propanol	**1.4**	4.3	0.94	**0.59**	1.7	0.38	**J**
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270847** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-036

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00795

Initial Pressure (psig): -2.57 Final Pressure (psig): 6.09

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**22**	21	5.1	**9.2**	9.0	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	**1.2**	2.1	0.33	**0.37**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	**0.44**	2.1	0.33	**0.066**	0.32	0.049	**J**
75-25-2	Bromoform	ND	2.1	0.47	ND	0.21	0.045	
74-83-9	Bromomethane	ND	2.1	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	**16**	21	0.68	**5.0**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.32	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	**12**	2.1	0.30	**2.6**	0.44	0.062	
74-87-3	Chloromethane	**1.2**	2.1	0.37	**0.60**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	ND	4.3	0.64	ND	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	ND	21	1.6	ND	11	0.84	
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.49	0.074	
75-69-4	Freon 11	**1,100**	21	3.5	**200**	3.8	0.62	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270847** ALS Sample ID: P2403661-036
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00795

Initial Pressure (psig): -2.57 Final Pressure (psig): 6.09

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,600**	21	3.2	**210**	2.8	0.42	**D**
76-14-2	Freon 114	ND	2.1	0.36	ND	0.31	0.051	
75-71-8	Freon 12	**2.7**	2.1	0.37	**0.55**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**6.1**	2.1	1.0	**1.4**	0.51	0.24	**X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	**1.8**	2.1	0.47	**0.50**	0.61	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.98	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.075	
75-09-2	Methylene Chloride	ND	2.1	0.64	ND	0.62	0.18	
95-47-6	o-Xylene	ND	2.1	0.33	ND	0.49	0.076	
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	ND	2.1	0.37	ND	0.50	0.086	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	**0.47**	2.1	0.29	**0.16**	0.73	0.097	**J**
108-88-3	Toluene	**0.68**	2.1	0.28	**0.18**	0.57	0.074	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	**1.8**	2.1	0.31	**0.33**	0.40	0.057	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.84	0.095	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270847** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-036

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00795		

Initial Pressure (psig): -2.57 Final Pressure (psig): 6.09

Container Dilution Factor: 1.71

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270900** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-037

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01188

Initial Pressure (psig): 5.97 Final Pressure (psig): 5.97

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.3	0.17	ND	0.23	0.030	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.3	0.19	ND	0.18	0.027	
79-00-5	1,1,2-Trichloroethane	ND	1.3	0.14	ND	0.23	0.025	
75-34-3	1,1-Dichloroethane	ND	1.3	0.20	ND	0.31	0.048	
75-35-4	1,1-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
120-82-1	1,2,4-Trichlorobenzene	ND	1.3	0.33	ND	0.17	0.044	
95-63-6	1,2,4-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.038	
106-93-4	1,2-Dibromoethane (EDB)	ND	1.3	0.16	ND	0.16	0.020	
95-50-1	1,2-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
107-06-2	1,2-Dichloroethane	**0.17**	1.3	0.15	**0.042**	0.31	0.036	**J**
78-87-5	1,2-Dichloropropane	ND	1.3	0.17	ND	0.27	0.036	
108-67-8	1,3,5-Trimethylbenzene	ND	1.3	0.19	ND	0.25	0.039	
106-99-0	1,3-Butadiene	ND	1.3	0.22	ND	0.57	0.099	
541-73-1	1,3-Dichlorobenzene	ND	1.3	0.20	ND	0.21	0.033	
106-46-7	1,4-Dichlorobenzene	ND	1.3	0.21	ND	0.21	0.034	
123-91-1	1,4-Dioxane	ND	1.3	0.16	ND	0.35	0.044	
540-84-1	2,2,4-Trimethylpentane	ND	1.3	0.20	ND	0.27	0.043	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	13	0.28	ND	4.2	0.093	
591-78-6	2-Hexanone	ND	1.3	0.17	ND	0.31	0.040	
67-63-0	2-Propanol	ND	2.5	0.55	ND	1.0	0.22	
107-05-1	3-Chloropropene	ND	1.3	0.18	ND	0.40	0.058	
622-96-8	4-Ethyltoluene	ND	1.3	0.21	ND	0.25	0.043	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270900** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-037

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01188

Initial Pressure (psig): 5.97 Final Pressure (psig): 5.97

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	1.3	0.18	ND	0.31	0.045	
67-64-1	Acetone	ND	13	3.0	ND	5.3	1.3	
100-44-7	alpha-Chlorotoluene	ND	1.3	0.30	ND	0.24	0.058	
71-43-2	Benzene	ND	1.3	0.19	ND	0.39	0.060	
75-27-4	Bromodichloromethane	ND	1.3	0.19	ND	0.19	0.029	
75-25-2	Bromoform	ND	1.3	0.28	ND	0.12	0.027	
74-83-9	Bromomethane	ND	1.3	0.19	ND	0.32	0.048	
75-15-0	Carbon Disulfide	ND	13	0.40	ND	4.0	0.13	
56-23-5	Carbon Tetrachloride	ND	1.3	0.19	ND	0.20	0.029	
108-90-7	Chlorobenzene	ND	1.3	0.18	ND	0.27	0.039	
75-00-3	Chloroethane	ND	1.3	0.17	ND	0.47	0.063	
67-66-3	Chloroform	ND	1.3	0.18	ND	0.26	0.036	
74-87-3	Chloromethane	ND	1.3	0.22	ND	0.61	0.10	
156-59-2	cis-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-01-5	cis-1,3-Dichloropropene	ND	1.3	0.21	ND	0.28	0.046	
98-82-8	Cumene	ND	1.3	0.19	ND	0.25	0.039	
110-82-7	Cyclohexane	ND	2.5	0.38	ND	0.73	0.11	
124-48-1	Dibromochloromethane	ND	1.3	0.18	ND	0.15	0.021	
64-17-5	Ethanol	ND	13	0.93	ND	6.6	0.49	
100-41-4	Ethyl Benzene	ND	1.3	0.19	ND	0.29	0.043	
75-69-4	Freon 11	ND	1.3	0.20	ND	0.22	0.036	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270900** ALS Sample ID: P2403661-037
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01188

Initial Pressure (psig): 5.97 Final Pressure (psig): 5.97

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	1.3	0.19	ND	0.16	0.025	
76-14-2	Freon 114	ND	1.3	0.21	ND	0.18	0.030	
75-71-8	Freon 12	ND	1.3	0.22	ND	0.25	0.044	
306-83-2	Freon 123	ND	1.3	0.60	ND	0.20	0.096	**X**
75-43-4	Freon 21	ND	1.3	0.60	ND	0.30	0.14	**X**
142-82-5	Heptane	ND	1.3	0.21	ND	0.31	0.052	
87-68-3	Hexachlorobutadiene	ND	1.3	0.28	ND	0.12	0.026	
110-54-3	Hexane	ND	1.3	0.28	ND	0.35	0.078	
179601-23-1	m,p-Xylene	ND	2.5	0.35	ND	0.58	0.081	
1634-04-4	Methyl tert-butyl ether	ND	1.3	0.16	ND	0.35	0.044	
75-09-2	Methylene Chloride	ND	1.3	0.38	ND	0.36	0.11	
95-47-6	o-Xylene	ND	1.3	0.19	ND	0.29	0.044	
103-65-1	Propylbenzene	ND	1.3	0.19	ND	0.25	0.039	
100-42-5	Styrene	ND	1.3	0.22	ND	0.29	0.051	
127-18-4	Tetrachloroethene	ND	1.3	0.17	ND	0.18	0.025	
109-99-9	Tetrahydrofuran	ND	1.3	0.17	ND	0.42	0.057	
108-88-3	Toluene	ND	1.3	0.16	ND	0.33	0.043	
156-60-5	trans-1,2-Dichloroethene	ND	1.3	0.19	ND	0.32	0.047	
10061-02-6	trans-1,3-Dichloropropene	ND	1.3	0.28	ND	0.28	0.061	
79-01-6	Trichloroethene	ND	1.3	0.18	ND	0.23	0.034	
75-01-4	Vinyl Chloride	ND	1.3	0.14	ND	0.49	0.056	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270900** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-037

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01188		

Initial Pressure (psig): 5.97 Final Pressure (psig): 5.97

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270905** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-038

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00771

Initial Pressure (psig): -2.43 Final Pressure (psig): 8.11

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.3	0.31	ND	0.43	0.056	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.3	0.34	ND	0.34	0.050	
79-00-5	1,1,2-Trichloroethane	ND	2.3	0.25	ND	0.43	0.046	
75-34-3	1,1-Dichloroethane	ND	2.3	0.36	ND	0.57	0.090	
75-35-4	1,1-Dichloroethene	ND	2.3	0.34	ND	0.59	0.087	
120-82-1	1,2,4-Trichlorobenzene	ND	2.3	0.60	ND	0.31	0.081	
95-63-6	1,2,4-Trimethylbenzene	ND	2.3	0.34	ND	0.47	0.070	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.3	0.29	ND	0.30	0.038	
95-50-1	1,2-Dichlorobenzene	ND	2.3	0.37	ND	0.39	0.061	
107-06-2	1,2-Dichloroethane	ND	2.3	0.27	ND	0.57	0.068	
78-87-5	1,2-Dichloropropane	ND	2.3	0.31	ND	0.50	0.066	
108-67-8	1,3,5-Trimethylbenzene	ND	2.3	0.36	ND	0.47	0.073	
106-99-0	1,3-Butadiene	ND	2.3	0.41	ND	1.1	0.19	
541-73-1	1,3-Dichlorobenzene	ND	2.3	0.37	ND	0.39	0.062	
106-46-7	1,4-Dichlorobenzene	ND	2.3	0.38	ND	0.39	0.063	
123-91-1	1,4-Dioxane	ND	2.3	0.29	ND	0.65	0.081	
540-84-1	2,2,4-Trimethylpentane	ND	2.3	0.37	ND	0.50	0.080	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**16**	23	0.51	**5.5**	7.9	0.17	**J**
591-78-6	2-Hexanone	**0.79**	2.3	0.31	**0.19**	0.57	0.075	**J**
67-63-0	2-Propanol	ND	4.7	1.0	ND	1.9	0.42	
107-05-1	3-Chloropropene	ND	2.3	0.33	ND	0.74	0.11	
622-96-8	4-Ethyltoluene	ND	2.3	0.40	ND	0.47	0.080	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270905** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-038

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00771

Initial Pressure (psig): -2.43 Final Pressure (psig): 8.11

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.3	0.34	ND	0.57	0.083	
67-64-1	Acetone	**81**	23	5.6	**34**	9.8	2.3	
100-44-7	alpha-Chlorotoluene	ND	2.3	0.56	ND	0.45	0.11	
71-43-2	Benzene	**0.66**	2.3	0.36	**0.21**	0.73	0.11	**J**
75-27-4	Bromodichloromethane	ND	2.3	0.36	ND	0.35	0.053	
75-25-2	Bromoform	ND	2.3	0.51	ND	0.22	0.049	
74-83-9	Bromomethane	**0.66**	2.3	0.34	**0.17**	0.60	0.089	**J**
75-15-0	Carbon Disulfide	**2.5**	23	0.74	**0.81**	7.5	0.24	**J**
56-23-5	Carbon Tetrachloride	ND	2.3	0.34	ND	0.37	0.055	
108-90-7	Chlorobenzene	ND	2.3	0.33	ND	0.51	0.072	
75-00-3	Chloroethane	**0.50**	2.3	0.31	**0.19**	0.88	0.12	**J**
67-66-3	Chloroform	**0.60**	2.3	0.33	**0.12**	0.48	0.068	**J**
74-87-3	Chloromethane	**2.4**	2.3	0.40	**1.1**	1.1	0.19	
156-59-2	cis-1,2-Dichloroethene	ND	2.3	0.35	ND	0.59	0.088	
10061-01-5	cis-1,3-Dichloropropene	ND	2.3	0.39	ND	0.51	0.085	
98-82-8	Cumene	ND	2.3	0.36	ND	0.47	0.073	
110-82-7	Cyclohexane	ND	4.7	0.70	ND	1.4	0.20	
124-48-1	Dibromochloromethane	ND	2.3	0.33	ND	0.27	0.038	
64-17-5	Ethanol	**3.2**	23	1.7	**1.7**	12	0.91	**J**
100-41-4	Ethyl Benzene	ND	2.3	0.35	ND	0.54	0.080	
75-69-4	Freon 11	**140**	2.3	0.38	**25**	0.41	0.067	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270905** ALS Sample ID: P2403661-038
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00771

Initial Pressure (psig): -2.43 Final Pressure (psig): 8.11

Container Dilution Factor: 1.86

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**120**	2.3	0.35	**16**	0.30	0.046	
76-14-2	Freon 114	ND	2.3	0.39	ND	0.33	0.056	
75-71-8	Freon 12	**2.5**	2.3	0.40	**0.51**	0.47	0.082	
306-83-2	Freon 123	ND	2.3	1.1	ND	0.37	0.18	**X**
75-43-4	Freon 21	ND	2.3	1.1	ND	0.55	0.27	**X**
142-82-5	Heptane	ND	2.3	0.40	ND	0.57	0.096	
87-68-3	Hexachlorobutadiene	ND	2.3	0.51	ND	0.22	0.048	
110-54-3	Hexane	ND	2.3	0.51	ND	0.66	0.15	
179601-23-1	m,p-Xylene	ND	4.7	0.65	ND	1.1	0.15	
1634-04-4	Methyl tert-butyl ether	ND	2.3	0.29	ND	0.65	0.081	
75-09-2	Methylene Chloride	ND	2.3	0.70	ND	0.67	0.20	
95-47-6	o-Xylene	ND	2.3	0.36	ND	0.54	0.082	
103-65-1	Propylbenzene	ND	2.3	0.36	ND	0.47	0.073	
100-42-5	Styrene	ND	2.3	0.40	ND	0.55	0.094	
127-18-4	Tetrachloroethene	ND	2.3	0.32	ND	0.34	0.047	
109-99-9	Tetrahydrofuran	ND	2.3	0.31	ND	0.79	0.11	
108-88-3	Toluene	**0.33**	2.3	0.30	**0.089**	0.62	0.080	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.3	0.34	ND	0.59	0.087	
10061-02-6	trans-1,3-Dichloropropene	ND	2.3	0.51	ND	0.51	0.11	
79-01-6	Trichloroethene	ND	2.3	0.33	ND	0.43	0.062	
75-01-4	Vinyl Chloride	ND	2.3	0.27	ND	0.91	0.10	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270905** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-038

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00771		

Initial Pressure (psig): -2.43 Final Pressure (psig): 8.11

Container Dilution Factor: 1.86

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270912** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-039

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00708

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.87

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	**0.40**	2.1	0.31	**0.081**	0.42	0.062	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	**0.32**	2.1	0.24	**0.080**	0.51	0.060	**J**
78-87-5	1,2-Dichloropropane	**0.61**	2.1	0.27	**0.13**	0.45	0.059	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	**0.59**	2.1	0.33	**0.13**	0.44	0.071	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**10**	21	0.45	**3.6**	7.0	0.15	**J**
591-78-6	2-Hexanone	**2.2**	2.1	0.27	**0.53**	0.50	0.066	
67-63-0	2-Propanol	**59**	4.1	0.91	**24**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.095	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270912** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-039

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00708

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.87

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.9**	2.1	0.30	**0.47**	0.50	0.074	**J**
67-64-1	Acetone	**100**	21	5.0	**44**	8.7	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	**3.0**	2.1	0.32	**0.94**	0.65	0.099	
75-27-4	Bromodichloromethane	**0.59**	2.1	0.32	**0.088**	0.31	0.047	**J**
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**23**	21	0.66	**7.2**	6.6	0.21	
56-23-5	Carbon Tetrachloride	**0.51**	2.1	0.31	**0.081**	0.33	0.049	**J**
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	**0.30**	2.1	0.27	**0.11**	0.78	0.10	**J**
67-66-3	Chloroform	**5.2**	2.1	0.29	**1.1**	0.42	0.060	
74-87-3	Chloromethane	**1.6**	2.1	0.35	**0.77**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	**6.7**	4.1	0.62	**1.9**	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**46**	21	1.5	**24**	11	0.81	
100-41-4	Ethyl Benzene	**1.4**	2.1	0.31	**0.32**	0.48	0.071	**J**
75-69-4	Freon 11	**1,500**	21	3.3	**280**	3.7	0.59	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270912** ALS Sample ID: P2403661-039
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00708

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.87

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,900**	21	3.1	**250**	2.7	0.41	**D**
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.36	**0.53**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	0.99	ND	0.33	0.16	**X**
75-43-4	Freon 21	**1.8**	2.1	0.99	**0.43**	0.49	0.24	**J, X**
142-82-5	Heptane	**4.0**	2.1	0.35	**0.97**	0.50	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.043	
110-54-3	Hexane	**5.2**	2.1	0.45	**1.5**	0.59	0.13	
179601-23-1	m,p-Xylene	**3.9**	4.1	0.58	**0.90**	0.95	0.13	**J**
1634-04-4	Methyl tert-butyl ether	**0.45**	2.1	0.26	**0.12**	0.57	0.072	**J**
75-09-2	Methylene Chloride	**1.4**	2.1	0.62	**0.42**	0.59	0.18	**J**
95-47-6	o-Xylene	**1.8**	2.1	0.32	**0.42**	0.48	0.073	**J**
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	**1.9**	2.1	0.35	**0.44**	0.48	0.083	**J**
127-18-4	Tetrachloroethene	**0.44**	2.1	0.28	**0.065**	0.30	0.042	**J**
109-99-9	Tetrahydrofuran	**0.87**	2.1	0.28	**0.30**	0.70	0.094	**J**
108-88-3	Toluene	**37**	2.1	0.27	**9.8**	0.55	0.071	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.10	
79-01-6	Trichloroethene	**2.1**	2.1	0.30	**0.39**	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.092	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270912** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-039

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC00708		

Initial Pressure (psig): -1.65 Final Pressure (psig): 6.87

Container Dilution Factor: 1.65

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270920** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-040

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS00687

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.31

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	21	2.8	ND	3.9	0.52	
79-34-5	1,1,2,2-Tetrachloroethane	ND	21	3.2	ND	3.1	0.46	
79-00-5	1,1,2-Trichloroethane	ND	21	2.3	ND	3.9	0.42	
75-34-3	1,1-Dichloroethane	ND	21	3.3	ND	5.3	0.82	
75-35-4	1,1-Dichloroethene	ND	21	3.2	ND	5.4	0.80	
120-82-1	1,2,4-Trichlorobenzene	ND	21	5.6	ND	2.9	0.75	
95-63-6	1,2,4-Trimethylbenzene	ND	21	3.2	ND	4.3	0.64	
106-93-4	1,2-Dibromoethane (EDB)	ND	21	2.7	ND	2.8	0.35	
95-50-1	1,2-Dichlorobenzene	ND	21	3.4	ND	3.6	0.56	
107-06-2	1,2-Dichloroethane	ND	21	2.5	ND	5.3	0.62	
78-87-5	1,2-Dichloropropane	ND	21	2.8	ND	4.6	0.61	
108-67-8	1,3,5-Trimethylbenzene	ND	21	3.3	ND	4.3	0.67	
106-99-0	1,3-Butadiene	ND	21	3.8	ND	9.7	1.7	
541-73-1	1,3-Dichlorobenzene	ND	21	3.4	ND	3.6	0.57	
106-46-7	1,4-Dichlorobenzene	ND	21	3.5	ND	3.6	0.58	
123-91-1	1,4-Dioxane	**6.5**	21	2.7	**1.8**	5.9	0.75	**J**
540-84-1	2,2,4-Trimethylpentane	ND	21	3.4	ND	4.6	0.73	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	210	4.7	ND	73	1.6	
591-78-6	2-Hexanone	ND	21	2.8	ND	5.2	0.69	
67-63-0	2-Propanol	ND	43	9.4	ND	17	3.8	
107-05-1	3-Chloropropene	ND	21	3.1	ND	6.8	0.98	
622-96-8	4-Ethyltoluene	ND	21	3.6	ND	4.3	0.74	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270920** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-040

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS00687

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.31

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	21	3.1	ND	5.2	0.76	
67-64-1	Acetone	ND	210	51	ND	90	22	
100-44-7	alpha-Chlorotoluene	ND	21	5.1	ND	4.1	0.99	
71-43-2	Benzene	ND	21	3.3	ND	6.7	1.0	
75-27-4	Bromodichloromethane	ND	21	3.3	ND	3.2	0.49	
75-25-2	Bromoform	ND	21	4.7	ND	2.1	0.45	
74-83-9	Bromomethane	ND	21	3.2	ND	5.5	0.82	
75-15-0	Carbon Disulfide	ND	210	6.8	ND	69	2.2	
56-23-5	Carbon Tetrachloride	ND	21	3.2	ND	3.4	0.50	
108-90-7	Chlorobenzene	ND	21	3.0	ND	4.6	0.66	
75-00-3	Chloroethane	ND	21	2.8	ND	8.1	1.1	
67-66-3	Chloroform	**13**	21	3.0	**2.6**	4.4	0.62	**J**
74-87-3	Chloromethane	ND	21	3.7	ND	10	1.8	
156-59-2	cis-1,2-Dichloroethene	ND	21	3.2	ND	5.4	0.81	
10061-01-5	cis-1,3-Dichloropropene	ND	21	3.5	ND	4.7	0.78	
98-82-8	Cumene	ND	21	3.3	ND	4.3	0.67	
110-82-7	Cyclohexane	ND	43	6.4	ND	12	1.9	
124-48-1	Dibromochloromethane	ND	21	3.0	ND	2.5	0.35	
64-17-5	Ethanol	ND	210	16	ND	110	8.4	
100-41-4	Ethyl Benzene	ND	21	3.2	ND	4.9	0.74	
75-69-4	Freon 11	**8,500**	210	35	**1,500**	38	6.2	**D**

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270920** ALS Sample ID: P2403661-040
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS00687

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.31

Container Dilution Factor: 1.71

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**12,000**	210	32	**1,500**	28	4.2	**D**
76-14-2	Freon 114	ND	21	3.6	ND	3.1	0.51	
75-71-8	Freon 12	ND	21	3.7	ND	4.3	0.75	
306-83-2	Freon 123	ND	21	10	ND	3.4	1.6	**X**
75-43-4	Freon 21	ND	21	10	ND	5.1	2.4	**X**
142-82-5	Heptane	ND	21	3.6	ND	5.2	0.89	
87-68-3	Hexachlorobutadiene	ND	21	4.7	ND	2.0	0.44	
110-54-3	Hexane	ND	21	4.7	ND	6.1	1.3	
179601-23-1	m,p-Xylene	ND	43	6.0	ND	9.8	1.4	
1634-04-4	Methyl tert-butyl ether	ND	21	2.7	ND	5.9	0.75	
75-09-2	Methylene Chloride	ND	21	6.4	ND	6.2	1.8	
95-47-6	o-Xylene	ND	21	3.3	ND	4.9	0.76	
103-65-1	Propylbenzene	ND	21	3.3	ND	4.3	0.67	
100-42-5	Styrene	ND	21	3.7	ND	5.0	0.86	
127-18-4	Tetrachloroethene	ND	21	2.9	ND	3.2	0.44	
109-99-9	Tetrahydrofuran	ND	21	2.9	ND	7.3	0.97	
108-88-3	Toluene	ND	21	2.8	ND	5.7	0.74	
156-60-5	trans-1,2-Dichloroethene	ND	21	3.2	ND	5.4	0.80	
10061-02-6	trans-1,3-Dichloropropene	ND	21	4.7	ND	4.7	1.0	
79-01-6	Trichloroethene	**5.5**	21	3.1	**1.0**	4.0	0.57	**J**
75-01-4	Vinyl Chloride	ND	21	2.4	ND	8.4	0.95	

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

D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270920** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-040

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.040 Liter(s)
Test Notes:			0.0040 Liter(s)
Container ID:	1SS00687		

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.31

Container Dilution Factor: 1.71

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270957** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-041

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00138

Initial Pressure (psig): -0.34 Final Pressure (psig): 5.93

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.8	0.24	ND	0.33	0.044	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	0.27	ND	0.26	0.039	
79-00-5	1,1,2-Trichloroethane	ND	1.8	0.19	ND	0.33	0.036	
75-34-3	1,1-Dichloroethane	ND	1.8	0.28	ND	0.44	0.069	
75-35-4	1,1-Dichloroethene	ND	1.8	0.27	ND	0.45	0.067	
120-82-1	1,2,4-Trichlorobenzene	ND	1.8	0.47	ND	0.24	0.063	
95-63-6	1,2,4-Trimethylbenzene	**1.1**	1.8	0.27	**0.22**	0.37	0.054	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.8	0.22	ND	0.23	0.029	
95-50-1	1,2-Dichlorobenzene	ND	1.8	0.28	ND	0.30	0.047	
107-06-2	1,2-Dichloroethane	**0.94**	1.8	0.21	**0.23**	0.44	0.052	**J**
78-87-5	1,2-Dichloropropane	**2.0**	1.8	0.24	**0.43**	0.39	0.051	
108-67-8	1,3,5-Trimethylbenzene	**0.39**	1.8	0.28	**0.078**	0.37	0.056	**J**
106-99-0	1,3-Butadiene	ND	1.8	0.32	ND	0.81	0.14	
541-73-1	1,3-Dichlorobenzene	ND	1.8	0.29	ND	0.30	0.048	
106-46-7	1,4-Dichlorobenzene	ND	1.8	0.30	ND	0.30	0.049	
123-91-1	1,4-Dioxane	ND	1.8	0.23	ND	0.50	0.063	
540-84-1	2,2,4-Trimethylpentane	**1.1**	1.8	0.29	**0.23**	0.39	0.062	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**11**	18	0.40	**3.9**	6.1	0.13	**J**
591-78-6	2-Hexanone	**1.6**	1.8	0.24	**0.39**	0.44	0.058	**J**
67-63-0	2-Propanol	**47**	3.6	0.79	**19**	1.5	0.32	
107-05-1	3-Chloropropene	ND	1.8	0.26	ND	0.58	0.083	
622-96-8	4-Ethyltoluene	ND	1.8	0.31	ND	0.37	0.062	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270957** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-041

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00138

Initial Pressure (psig): -0.34 Final Pressure (psig): 5.93

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**2.0**	1.8	0.26	**0.48**	0.44	0.064	
67-64-1	Acetone	**160**	18	4.3	**68**	7.6	1.8	
100-44-7	alpha-Chlorotoluene	ND	1.8	0.43	ND	0.35	0.083	
71-43-2	Benzene	**4.9**	1.8	0.28	**1.5**	0.56	0.087	
75-27-4	Bromodichloromethane	ND	1.8	0.28	ND	0.27	0.041	
75-25-2	Bromoform	ND	1.8	0.40	ND	0.17	0.038	
74-83-9	Bromomethane	**3.6**	1.8	0.27	**0.93**	0.46	0.069	
75-15-0	Carbon Disulfide	**7.5**	18	0.58	**2.4**	5.8	0.19	**J**
56-23-5	Carbon Tetrachloride	**1.4**	1.8	0.27	**0.23**	0.29	0.042	**J**
108-90-7	Chlorobenzene	ND	1.8	0.26	ND	0.39	0.056	
75-00-3	Chloroethane	**0.39**	1.8	0.24	**0.15**	0.68	0.090	**J**
67-66-3	Chloroform	**1.4**	1.8	0.26	**0.29**	0.37	0.052	**J**
74-87-3	Chloromethane	**1.7**	1.8	0.31	**0.80**	0.87	0.15	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.8	0.27	ND	0.45	0.068	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	0.30	ND	0.40	0.066	
98-82-8	Cumene	ND	1.8	0.28	ND	0.37	0.056	
110-82-7	Cyclohexane	**22**	3.6	0.54	**6.3**	1.0	0.16	
124-48-1	Dibromochloromethane	ND	1.8	0.25	ND	0.21	0.030	
64-17-5	Ethanol	**56**	18	1.3	**30**	9.6	0.71	
100-41-4	Ethyl Benzene	**3.6**	1.8	0.27	**0.83**	0.41	0.062	
75-69-4	Freon 11	**360**	1.8	0.29	**64**	0.32	0.052	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270957** ALS Sample ID: P2403661-041
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00138

Initial Pressure (psig): -0.34 Final Pressure (psig): 5.93

Container Dilution Factor: 1.44

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**340**	18	2.7	**44**	2.3	0.36	**D**
76-14-2	Freon 114	ND	1.8	0.30	ND	0.26	0.043	
75-71-8	Freon 12	**2.3**	1.8	0.31	**0.47**	0.36	0.063	
306-83-2	Freon 123	ND	1.8	0.86	ND	0.29	0.14	**X**
75-43-4	Freon 21	ND	1.8	0.86	ND	0.43	0.21	**X**
142-82-5	Heptane	**11**	1.8	0.31	**2.7**	0.44	0.075	
87-68-3	Hexachlorobutadiene	ND	1.8	0.40	ND	0.17	0.037	
110-54-3	Hexane	**16**	1.8	0.40	**4.4**	0.51	0.11	
179601-23-1	m,p-Xylene	**10**	3.6	0.50	**2.3**	0.83	0.12	
1634-04-4	Methyl tert-butyl ether	**1.4**	1.8	0.23	**0.40**	0.50	0.063	**J**
75-09-2	Methylene Chloride	**2.9**	1.8	0.54	**0.85**	0.52	0.16	
95-47-6	o-Xylene	**5.1**	1.8	0.28	**1.2**	0.41	0.064	
103-65-1	Propylbenzene	ND	1.8	0.28	ND	0.37	0.056	
100-42-5	Styrene	**3.8**	1.8	0.31	**0.90**	0.42	0.073	
127-18-4	Tetrachloroethene	**0.77**	1.8	0.25	**0.11**	0.27	0.037	**J**
109-99-9	Tetrahydrofuran	ND	1.8	0.24	ND	0.61	0.082	
108-88-3	Toluene	**110**	1.8	0.23	**28**	0.48	0.062	
156-60-5	trans-1,2-Dichloroethene	**0.30**	1.8	0.27	**0.076**	0.45	0.067	**J**
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	0.40	ND	0.40	0.087	
79-01-6	Trichloroethene	ND	1.8	0.26	ND	0.34	0.048	
75-01-4	Vinyl Chloride	ND	1.8	0.21	ND	0.70	0.080	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270957** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-041

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00138		

Initial Pressure (psig): -0.34 Final Pressure (psig): 5.93

Container Dilution Factor: 1.44

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270958** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-042

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01377

Initial Pressure (psig): -1.40 Final Pressure (psig): 5.80

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.25	ND	0.35	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.28	ND	0.28	0.042	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.21	ND	0.35	0.038	
75-34-3	1,1-Dichloroethane	ND	1.9	0.30	ND	0.48	0.074	
75-35-4	1,1-Dichloroethene	ND	1.9	0.28	ND	0.49	0.072	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.50	ND	0.26	0.067	
95-63-6	1,2,4-Trimethylbenzene	**0.39**	1.9	0.28	**0.080**	0.39	0.058	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.9	0.24	ND	0.25	0.031	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.30	ND	0.32	0.051	
107-06-2	1,2-Dichloroethane	**0.46**	1.9	0.23	**0.11**	0.48	0.056	**J**
78-87-5	1,2-Dichloropropane	**0.89**	1.9	0.25	**0.19**	0.42	0.055	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.30	ND	0.39	0.060	
106-99-0	1,3-Butadiene	ND	1.9	0.34	ND	0.87	0.15	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.31	ND	0.32	0.051	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.32	ND	0.32	0.053	
123-91-1	1,4-Dioxane	ND	1.9	0.24	ND	0.53	0.067	
540-84-1	2,2,4-Trimethylpentane	**0.77**	1.9	0.31	**0.17**	0.41	0.066	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**29**	19	0.42	**9.9**	6.5	0.14	
591-78-6	2-Hexanone	**3.1**	1.9	0.25	**0.77**	0.47	0.062	
67-63-0	2-Propanol	**41**	3.9	0.85	**17**	1.6	0.34	
107-05-1	3-Chloropropene	ND	1.9	0.28	ND	0.62	0.089	
622-96-8	4-Ethyltoluene	ND	1.9	0.33	ND	0.39	0.067	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408270958** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-042

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01377

Initial Pressure (psig): -1.40 Final Pressure (psig): 5.80

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**2.3**	1.9	0.28	**0.55**	0.47	0.069	
67-64-1	Acetone	**140**	19	4.6	**58**	8.1	1.9	
100-44-7	alpha-Chlorotoluene	ND	1.9	0.46	ND	0.37	0.089	
71-43-2	Benzene	**2.5**	1.9	0.30	**0.79**	0.60	0.093	
75-27-4	Bromodichloromethane	ND	1.9	0.30	ND	0.29	0.044	
75-25-2	Bromoform	ND	1.9	0.42	ND	0.19	0.041	
74-83-9	Bromomethane	**0.31**	1.9	0.28	**0.080**	0.50	0.073	**J**
75-15-0	Carbon Disulfide	**5.1**	19	0.62	**1.6**	6.2	0.20	**J**
56-23-5	Carbon Tetrachloride	**0.71**	1.9	0.28	**0.11**	0.31	0.045	**J**
108-90-7	Chlorobenzene	ND	1.9	0.27	ND	0.42	0.059	
75-00-3	Chloroethane	ND	1.9	0.25	ND	0.73	0.096	
67-66-3	Chloroform	**1.1**	1.9	0.27	**0.22**	0.39	0.056	**J**
74-87-3	Chloromethane	**0.77**	1.9	0.33	**0.37**	0.93	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.29	ND	0.49	0.073	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.32	ND	0.42	0.070	
98-82-8	Cumene	ND	1.9	0.30	ND	0.39	0.060	
110-82-7	Cyclohexane	**9.2**	3.9	0.58	**2.7**	1.1	0.17	
124-48-1	Dibromochloromethane	ND	1.9	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**41**	19	1.4	**22**	10	0.76	
100-41-4	Ethyl Benzene	**1.9**	1.9	0.29	**0.45**	0.44	0.067	
75-69-4	Freon 11	**300**	1.9	0.31	**53**	0.34	0.056	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408270958** ALS Sample ID: P2403661-042
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC01377

Initial Pressure (psig): -1.40 Final Pressure (psig): 5.80

Container Dilution Factor: 1.54

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**310**	1.9	0.29	**41**	0.25	0.038	
76-14-2	Freon 114	ND	1.9	0.32	ND	0.28	0.046	
75-71-8	Freon 12	**2.4**	1.9	0.33	**0.49**	0.39	0.068	
306-83-2	Freon 123	ND	1.9	0.92	ND	0.31	0.15	**X**
75-43-4	Freon 21	ND	1.9	0.92	ND	0.46	0.22	**X**
142-82-5	Heptane	**4.6**	1.9	0.33	**1.1**	0.47	0.080	
87-68-3	Hexachlorobutadiene	ND	1.9	0.42	ND	0.18	0.040	
110-54-3	Hexane	**5.9**	1.9	0.42	**1.7**	0.55	0.12	
179601-23-1	m,p-Xylene	**5.2**	3.9	0.54	**1.2**	0.89	0.12	
1634-04-4	Methyl tert-butyl ether	**0.62**	1.9	0.24	**0.17**	0.53	0.067	**J**
75-09-2	Methylene Chloride	**1.8**	1.9	0.58	**0.53**	0.55	0.17	**J**
95-47-6	o-Xylene	**2.5**	1.9	0.30	**0.58**	0.44	0.068	
103-65-1	Propylbenzene	ND	1.9	0.30	ND	0.39	0.060	
100-42-5	Styrene	**2.0**	1.9	0.33	**0.48**	0.45	0.078	
127-18-4	Tetrachloroethene	**0.33**	1.9	0.27	**0.049**	0.28	0.039	**J**
109-99-9	Tetrahydrofuran	**1.2**	1.9	0.26	**0.42**	0.65	0.087	**J**
108-88-3	Toluene	**47**	1.9	0.25	**12**	0.51	0.066	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.28	ND	0.49	0.072	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.42	ND	0.42	0.093	
79-01-6	Trichloroethene	ND	1.9	0.28	ND	0.36	0.052	
75-01-4	Vinyl Chloride	ND	1.9	0.22	ND	0.75	0.086	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408270958** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-042

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC01377		

Initial Pressure (psig): -1.40 Final Pressure (psig): 5.80

Container Dilution Factor: 1.54

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271006** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-043

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00251

Initial Pressure (psig): -2.37 Final Pressure (psig): 6.30

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.53	0.082	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.54	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.29	0.074	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.43	0.064	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.28	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.53	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.067	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.96	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.35	0.058	
123-91-1	1,4-Dioxane	**0.55**	2.1	0.27	**0.15**	0.59	0.074	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.34	ND	0.46	0.073	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.5**	21	0.47	**0.50**	7.2	0.16	**J**
591-78-6	2-Hexanone	**0.31**	2.1	0.28	**0.077**	0.52	0.069	**J**
67-63-0	2-Propanol	**0.94**	4.3	0.94	**0.38**	1.7	0.38	**J**
107-05-1	3-Chloropropene	ND	2.1	0.31	ND	0.68	0.098	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271006** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-043

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00251

Initial Pressure (psig): -2.37 Final Pressure (psig): 6.30

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.31	ND	0.52	0.076	
67-64-1	Acetone	**11**	21	5.1	**4.7**	8.9	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.099	
71-43-2	Benzene	**0.45**	2.1	0.33	**0.14**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	**0.62**	2.1	0.33	**0.093**	0.32	0.049	**J**
75-25-2	Bromoform	ND	2.1	0.47	ND	0.21	0.045	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.55	0.081	
75-15-0	Carbon Disulfide	**16**	21	0.68	**5.1**	6.8	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.066	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.81	0.11	
67-66-3	Chloroform	**5.1**	2.1	0.30	**1.1**	0.44	0.062	
74-87-3	Chloromethane	ND	2.1	0.37	ND	1.0	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.54	0.080	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.078	
98-82-8	Cumene	ND	2.1	0.33	ND	0.43	0.067	
110-82-7	Cyclohexane	ND	4.3	0.64	ND	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**2.8**	21	1.6	**1.5**	11	0.83	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.32	ND	0.49	0.073	
75-69-4	Freon 11	**2,000**	21	3.4	**350**	3.8	0.61	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271006** ALS Sample ID: P2403661-043
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00251

Initial Pressure (psig): -2.37 Final Pressure (psig): 6.30

Container Dilution Factor: 1.70

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**2,300**	21	3.2	**300**	2.8	0.42	**D**
76-14-2	Freon 114	ND	2.1	0.36	ND	0.30	0.051	
75-71-8	Freon 12	**2.5**	2.1	0.37	**0.51**	0.43	0.075	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**1.5**	2.1	1.0	**0.36**	0.51	0.24	**J, X**
142-82-5	Heptane	ND	2.1	0.36	ND	0.52	0.088	
87-68-3	Hexachlorobutadiene	ND	2.1	0.47	ND	0.20	0.044	
110-54-3	Hexane	ND	2.1	0.47	ND	0.60	0.13	
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.98	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.074	
75-09-2	Methylene Chloride	ND	2.1	0.64	ND	0.61	0.18	
95-47-6	o-Xylene	ND	2.1	0.33	ND	0.49	0.075	
103-65-1	Propylbenzene	ND	2.1	0.33	ND	0.43	0.067	
100-42-5	Styrene	ND	2.1	0.37	ND	0.50	0.086	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.72	0.097	
108-88-3	Toluene	**0.28**	2.1	0.28	**0.073**	0.56	0.073	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.54	0.079	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	**2.4**	2.1	0.31	**0.44**	0.40	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.83	0.095	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271006** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-043

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00251		

Initial Pressure (psig): -2.37 Final Pressure (psig): 6.30

Container Dilution Factor: 1.70

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271014** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-044

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00193

Initial Pressure (psig): -0.40 Final Pressure (psig): 6.18

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	18	2.4	ND	3.3	0.44	
79-34-5	1,1,2,2-Tetrachloroethane	ND	18	2.7	ND	2.7	0.39	
79-00-5	1,1,2-Trichloroethane	ND	18	2.0	ND	3.3	0.36	
75-34-3	1,1-Dichloroethane	ND	18	2.8	ND	4.5	0.70	
75-35-4	1,1-Dichloroethene	ND	18	2.7	ND	4.6	0.68	
120-82-1	1,2,4-Trichlorobenzene	ND	18	4.7	ND	2.5	0.64	
95-63-6	1,2,4-Trimethylbenzene	ND	18	2.7	ND	3.7	0.55	
106-93-4	1,2-Dibromoethane (EDB)	ND	18	2.3	ND	2.4	0.29	
95-50-1	1,2-Dichlorobenzene	ND	18	2.9	ND	3.0	0.48	
107-06-2	1,2-Dichloroethane	ND	18	2.2	ND	4.5	0.53	
78-87-5	1,2-Dichloropropane	**2.5**	18	2.4	**0.54**	4.0	0.52	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	18	2.8	ND	3.7	0.57	
106-99-0	1,3-Butadiene	ND	18	3.2	ND	8.3	1.5	
541-73-1	1,3-Dichlorobenzene	ND	18	2.9	ND	3.0	0.49	
106-46-7	1,4-Dichlorobenzene	ND	18	3.0	ND	3.0	0.50	
123-91-1	1,4-Dioxane	ND	18	2.3	ND	5.1	0.64	
540-84-1	2,2,4-Trimethylpentane	ND	18	2.9	ND	3.9	0.63	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**11**	180	4.0	**3.9**	62	1.4	**J**
591-78-6	2-Hexanone	ND	18	2.4	ND	4.5	0.59	
67-63-0	2-Propanol	**61**	37	8.0	**25**	15	3.3	
107-05-1	3-Chloropropene	ND	18	2.6	ND	5.8	0.84	
622-96-8	4-Ethyltoluene	ND	18	3.1	ND	3.7	0.63	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271014** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-044

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00193

Initial Pressure (psig): -0.40 Final Pressure (psig): 6.18

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	18	2.7	ND	4.5	0.65	
67-64-1	Acetone	**250**	180	44	**100**	77	18	
100-44-7	alpha-Chlorotoluene	ND	18	4.4	ND	3.5	0.85	
71-43-2	Benzene	**3.0**	18	2.8	**0.94**	5.7	0.88	**J**
75-27-4	Bromodichloromethane	ND	18	2.8	ND	2.7	0.42	
75-25-2	Bromoform	ND	18	4.0	ND	1.8	0.39	
74-83-9	Bromomethane	ND	18	2.7	ND	4.7	0.70	
75-15-0	Carbon Disulfide	**31**	180	5.8	**10**	59	1.9	**J**
56-23-5	Carbon Tetrachloride	ND	18	2.7	ND	2.9	0.43	
108-90-7	Chlorobenzene	ND	18	2.6	ND	4.0	0.56	
75-00-3	Chloroethane	ND	18	2.4	ND	6.9	0.91	
67-66-3	Chloroform	**9.1**	18	2.6	**1.9**	3.7	0.53	**J**
74-87-3	Chloromethane	ND	18	3.1	ND	8.8	1.5	
156-59-2	cis-1,2-Dichloroethene	ND	18	2.7	ND	4.6	0.69	
10061-01-5	cis-1,3-Dichloropropene	ND	18	3.0	ND	4.0	0.67	
98-82-8	Cumene	ND	18	2.8	ND	3.7	0.57	
110-82-7	Cyclohexane	**22**	37	5.5	**6.3**	11	1.6	**J**
124-48-1	Dibromochloromethane	ND	18	2.6	ND	2.1	0.30	
64-17-5	Ethanol	**62**	180	14	**33**	97	7.2	**J**
100-41-4	Ethyl Benzene	**4.0**	18	2.7	**0.92**	4.2	0.63	**J**
75-69-4	Freon 11	**5,300**	180	30	**950**	32	5.3	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271014** ALS Sample ID: P2403661-044
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC00193

Initial Pressure (psig): -0.40 Final Pressure (psig): 6.18

Container Dilution Factor: 1.46

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**6,900**	180	28	**900**	24	3.6	**D**
76-14-2	Freon 114	ND	18	3.1	ND	2.6	0.44	
75-71-8	Freon 12	ND	18	3.2	ND	3.7	0.64	
306-83-2	Freon 123	ND	18	8.8	ND	2.9	1.4	**X**
75-43-4	Freon 21	ND	18	8.8	ND	4.3	2.1	**X**
142-82-5	Heptane	**11**	18	3.1	**2.6**	4.5	0.76	**J**
87-68-3	Hexachlorobutadiene	ND	18	4.0	ND	1.7	0.38	
110-54-3	Hexane	**18**	18	4.0	**5.1**	5.2	1.1	**J**
179601-23-1	m,p-Xylene	**11**	37	5.1	**2.5**	8.4	1.2	**J**
1634-04-4	Methyl tert-butyl ether	ND	18	2.3	ND	5.1	0.64	
75-09-2	Methylene Chloride	ND	18	5.5	ND	5.3	1.6	
95-47-6	o-Xylene	**5.6**	18	2.8	**1.3**	4.2	0.65	**J**
103-65-1	Propylbenzene	ND	18	2.8	ND	3.7	0.57	
100-42-5	Styrene	**5.0**	18	3.1	**1.2**	4.3	0.74	**J**
127-18-4	Tetrachloroethene	ND	18	2.5	ND	2.7	0.37	
109-99-9	Tetrahydrofuran	ND	18	2.4	ND	6.2	0.83	
108-88-3	Toluene	**120**	18	2.4	**32**	4.8	0.63	
156-60-5	trans-1,2-Dichloroethene	ND	18	2.7	ND	4.6	0.68	
10061-02-6	trans-1,3-Dichloropropene	ND	18	4.0	ND	4.0	0.88	
79-01-6	Trichloroethene	ND	18	2.6	ND	3.4	0.49	
75-01-4	Vinyl Chloride	ND	18	2.1	ND	7.1	0.81	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271014** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-044

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.040 Liter(s)
Test Notes:			0.0040 Liter(s)
Container ID:	1SC00193		

Initial Pressure (psig): -0.40 Final Pressure (psig): 6.18

Container Dilution Factor: 1.46

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271022** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-045

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00250

Initial Pressure (psig): -1.13 Final Pressure (psig): 6.08

Container Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	1.9	0.25	ND	0.35	0.046	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	0.28	ND	0.28	0.041	
79-00-5	1,1,2-Trichloroethane	ND	1.9	0.21	ND	0.35	0.038	
75-34-3	1,1-Dichloroethane	ND	1.9	0.30	ND	0.47	0.074	
75-35-4	1,1-Dichloroethene	ND	1.9	0.28	ND	0.48	0.071	
120-82-1	1,2,4-Trichlorobenzene	ND	1.9	0.50	ND	0.26	0.067	
95-63-6	1,2,4-Trimethylbenzene	**0.64**	1.9	0.28	**0.13**	0.39	0.058	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	1.9	0.24	ND	0.25	0.031	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.30	ND	0.32	0.050	
107-06-2	1,2-Dichloroethane	**0.75**	1.9	0.23	**0.19**	0.47	0.056	**J**
78-87-5	1,2-Dichloropropane	**1.7**	1.9	0.25	**0.37**	0.41	0.055	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	1.9	0.29	ND	0.39	0.060	
106-99-0	1,3-Butadiene	ND	1.9	0.34	ND	0.86	0.15	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.31	ND	0.32	0.051	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.31	ND	0.32	0.052	
123-91-1	1,4-Dioxane	ND	1.9	0.24	ND	0.53	0.067	
540-84-1	2,2,4-Trimethylpentane	**1.2**	1.9	0.31	**0.26**	0.41	0.066	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**9.8**	19	0.42	**3.3**	6.5	0.14	**J**
591-78-6	2-Hexanone	**1.3**	1.9	0.25	**0.31**	0.47	0.062	**J**
67-63-0	2-Propanol	**33**	3.8	0.84	**14**	1.6	0.34	
107-05-1	3-Chloropropene	ND	1.9	0.28	ND	0.61	0.088	
622-96-8	4-Ethyltoluene	ND	1.9	0.33	ND	0.39	0.066	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271022** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-045

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00250

Initial Pressure (psig): -1.13 Final Pressure (psig): 6.08

Container Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.4**	1.9	0.28	**0.34**	0.47	0.068	**J**
67-64-1	Acetone	**140**	19	4.6	**58**	8.1	1.9	
100-44-7	alpha-Chlorotoluene	ND	1.9	0.46	ND	0.37	0.089	
71-43-2	Benzene	**2.6**	1.9	0.29	**0.82**	0.60	0.092	
75-27-4	Bromodichloromethane	ND	1.9	0.29	ND	0.29	0.044	
75-25-2	Bromoform	ND	1.9	0.42	ND	0.19	0.041	
74-83-9	Bromomethane	**0.61**	1.9	0.28	**0.16**	0.49	0.073	**J**
75-15-0	Carbon Disulfide	**7.0**	19	0.61	**2.2**	6.1	0.20	**J**
56-23-5	Carbon Tetrachloride	**1.2**	1.9	0.28	**0.19**	0.30	0.045	**J**
108-90-7	Chlorobenzene	ND	1.9	0.27	ND	0.42	0.059	
75-00-3	Chloroethane	**0.49**	1.9	0.25	**0.19**	0.73	0.096	**J**
67-66-3	Chloroform	**2.0**	1.9	0.27	**0.42**	0.39	0.056	
74-87-3	Chloromethane	**3.2**	1.9	0.33	**1.5**	0.93	0.16	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.29	ND	0.48	0.072	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	0.32	ND	0.42	0.070	
98-82-8	Cumene	ND	1.9	0.29	ND	0.39	0.060	
110-82-7	Cyclohexane	**19**	3.8	0.57	**5.5**	1.1	0.17	
124-48-1	Dibromochloromethane	ND	1.9	0.27	ND	0.22	0.031	
64-17-5	Ethanol	**46**	19	1.4	**25**	10	0.75	
100-41-4	Ethyl Benzene	**3.0**	1.9	0.29	**0.69**	0.44	0.066	
75-69-4	Freon 11	**860**	19	3.1	**150**	3.4	0.55	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271022** ALS Sample ID: P2403661-045
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00250

Initial Pressure (psig): -1.13 Final Pressure (psig): 6.08

Container Dilution Factor: 1.53

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**890**	19	2.9	**120**	2.5	0.38	**D**
76-14-2	Freon 114	ND	1.9	0.32	ND	0.27	0.046	
75-71-8	Freon 12	**2.3**	1.9	0.33	**0.47**	0.39	0.067	
306-83-2	Freon 123	ND	1.9	0.92	ND	0.31	0.15	**X**
75-43-4	Freon 21	ND	1.9	0.92	ND	0.45	0.22	**X**
142-82-5	Heptane	**9.3**	1.9	0.33	**2.3**	0.47	0.079	
87-68-3	Hexachlorobutadiene	ND	1.9	0.42	ND	0.18	0.039	
110-54-3	Hexane	**14**	1.9	0.42	**4.0**	0.54	0.12	
179601-23-1	m,p-Xylene	**8.1**	3.8	0.54	**1.9**	0.88	0.12	
1634-04-4	Methyl tert-butyl ether	**1.1**	1.9	0.24	**0.31**	0.53	0.067	**J**
75-09-2	Methylene Chloride	**2.4**	1.9	0.57	**0.70**	0.55	0.17	
95-47-6	o-Xylene	**4.2**	1.9	0.29	**0.96**	0.44	0.068	
103-65-1	Propylbenzene	ND	1.9	0.29	ND	0.39	0.060	
100-42-5	Styrene	**3.2**	1.9	0.33	**0.76**	0.45	0.077	
127-18-4	Tetrachloroethene	**1.1**	1.9	0.26	**0.16**	0.28	0.039	**J**
109-99-9	Tetrahydrofuran	**2.6**	1.9	0.26	**0.88**	0.65	0.087	
108-88-3	Toluene	**93**	1.9	0.25	**25**	0.51	0.066	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.28	ND	0.48	0.071	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	0.42	ND	0.42	0.093	
79-01-6	Trichloroethene	ND	1.9	0.28	ND	0.36	0.051	
75-01-4	Vinyl Chloride	ND	1.9	0.22	ND	0.75	0.085	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271022** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-045

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00250		

Initial Pressure (psig): -1.13 Final Pressure (psig): 6.08

Container Dilution Factor: 1.53

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271330** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-046

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.17 Final Pressure (psig): 6.43

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.39	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.39	0.042	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.081	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.55	ND	0.28	0.074	
95-63-6	1,2,4-Trimethylbenzene	**0.46**	2.1	0.31	**0.095**	0.43	0.064	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.062	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.46	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.33	ND	0.43	0.066	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.96	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.35	ND	0.35	0.058	
123-91-1	1,4-Dioxane	ND	2.1	0.27	ND	0.59	0.074	
540-84-1	2,2,4-Trimethylpentane	**120**	2.1	0.34	**26**	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**11**	21	0.46	**3.7**	7.2	0.16	**J**
591-78-6	2-Hexanone	**2.0**	2.1	0.28	**0.48**	0.52	0.068	**J**
67-63-0	2-Propanol	**13**	4.2	0.93	**5.3**	1.7	0.38	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.68	0.097	
622-96-8	4-Ethyltoluene	ND	2.1	0.36	ND	0.43	0.073	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271330** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-046

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.17 Final Pressure (psig): 6.43

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.4**	2.1	0.31	**0.35**	0.52	0.075	**J**
67-64-1	Acetone	**77**	21	5.1	**33**	8.9	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.51	ND	0.41	0.098	
71-43-2	Benzene	**1.3**	2.1	0.33	**0.42**	0.66	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.045	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.081	
75-15-0	Carbon Disulfide	**25**	21	0.68	**8.1**	6.8	0.22	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.34	0.050	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.46	0.065	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.80	0.11	
67-66-3	Chloroform	**1.9**	2.1	0.30	**0.39**	0.43	0.061	**J**
74-87-3	Chloromethane	**0.77**	2.1	0.36	**0.37**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.32	ND	0.53	0.080	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.47	0.077	
98-82-8	Cumene	**1.9**	2.1	0.33	**0.40**	0.43	0.066	**J**
110-82-7	Cyclohexane	**1.4**	4.2	0.63	**0.40**	1.2	0.18	**J**
124-48-1	Dibromochloromethane	ND	2.1	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**15**	21	1.6	**7.9**	11	0.83	**J**
100-41-4	Ethyl Benzene	**0.55**	2.1	0.32	**0.13**	0.49	0.073	**J**
75-69-4	Freon 11	**220**	2.1	0.34	**40**	0.38	0.061	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271330** ALS Sample ID: P2403661-046
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00601

Initial Pressure (psig): -2.17 Final Pressure (psig): 6.43

Container Dilution Factor: 1.69

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**220**	2.1	0.32	**29**	0.28	0.042	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.051	
75-71-8	Freon 12	**2.3**	2.1	0.37	**0.47**	0.43	0.074	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.34	0.16	**X**
75-43-4	Freon 21	**2.4**	2.1	1.0	**0.58**	0.50	0.24	**X**
142-82-5	Heptane	**0.96**	2.1	0.36	**0.24**	0.52	0.088	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.044	
110-54-3	Hexane	**1.4**	2.1	0.46	**0.39**	0.60	0.13	**J**
179601-23-1	m,p-Xylene	**1.3**	4.2	0.59	**0.31**	0.97	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.27	ND	0.59	0.074	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.61	0.18	
95-47-6	o-Xylene	**0.57**	2.1	0.33	**0.13**	0.49	0.075	**J**
103-65-1	Propylbenzene	**3.8**	2.1	0.33	**0.78**	0.43	0.066	
100-42-5	Styrene	**0.48**	2.1	0.36	**0.11**	0.50	0.085	**J**
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.043	
109-99-9	Tetrahydrofuran	**0.37**	2.1	0.28	**0.13**	0.72	0.096	**J**
108-88-3	Toluene	**5.3**	2.1	0.27	**1.4**	0.56	0.073	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.057	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.83	0.094	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271330** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-046

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00601		

Initial Pressure (psig): -2.17 Final Pressure (psig): 6.43

Container Dilution Factor: 1.69

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271338** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-047

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00689

Initial Pressure (psig): -1.33 Final Pressure (psig): 6.17

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.28	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.30	ND	0.48	0.075	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.068	
95-63-6	1,2,4-Trimethylbenzene	**0.86**	2.0	0.29	**0.18**	0.40	0.059	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.25	0.031	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.051	
107-06-2	1,2-Dichloroethane	**0.66**	2.0	0.23	**0.16**	0.48	0.057	**J**
78-87-5	1,2-Dichloropropane	**1.4**	2.0	0.26	**0.30**	0.42	0.056	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.061	
106-99-0	1,3-Butadiene	ND	2.0	0.34	ND	0.88	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.32	0.053	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.54	0.068	
540-84-1	2,2,4-Trimethylpentane	**1.3**	2.0	0.31	**0.27**	0.42	0.067	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**7.5**	20	0.43	**2.5**	6.6	0.15	**J**
591-78-6	2-Hexanone	ND	2.0	0.26	ND	0.48	0.063	
67-63-0	2-Propanol	**94**	3.9	0.86	**38**	1.6	0.35	
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.62	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.067	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271338** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-047

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00689

Initial Pressure (psig): -1.33 Final Pressure (psig): 6.17

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**4.6**	2.0	0.28	**1.1**	0.48	0.069	
67-64-1	Acetone	**110**	20	4.7	**45**	8.2	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.090	
71-43-2	Benzene	**4.3**	2.0	0.30	**1.3**	0.61	0.094	
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.50	0.074	
75-15-0	Carbon Disulfide	**5.8**	20	0.62	**1.9**	6.3	0.20	**J**
56-23-5	Carbon Tetrachloride	**1.1**	2.0	0.29	**0.17**	0.31	0.046	**J**
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.42	0.060	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	**3.3**	2.0	0.28	**0.68**	0.40	0.057	
74-87-3	Chloromethane	**0.92**	2.0	0.34	**0.45**	0.94	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.32	ND	0.43	0.071	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.061	
110-82-7	Cyclohexane	**15**	3.9	0.59	**4.3**	1.1	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**64**	20	1.4	**34**	10	0.77	
100-41-4	Ethyl Benzene	**3.0**	2.0	0.29	**0.69**	0.45	0.067	
75-69-4	Freon 11	**460**	20	3.2	**82**	3.5	0.56	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271338** ALS Sample ID: P2403661-047
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/11 - 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00689

Initial Pressure (psig): -1.33 Final Pressure (psig): 6.17

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**510**	20	3.0	**67**	2.5	0.39	**D**
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.3**	2.0	0.34	**0.46**	0.39	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	**1.8**	2.0	0.94	**0.42**	0.46	0.22	**J, X**
142-82-5	Heptane	**8.4**	2.0	0.33	**2.0**	0.48	0.081	
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	**11**	2.0	0.43	**3.1**	0.55	0.12	
179601-23-1	m,p-Xylene	**8.4**	3.9	0.55	**1.9**	0.90	0.13	
1634-04-4	Methyl tert-butyl ether	**1.0**	2.0	0.25	**0.28**	0.54	0.068	**J**
75-09-2	Methylene Chloride	**2.3**	2.0	0.59	**0.66**	0.56	0.17	
95-47-6	o-Xylene	**4.0**	2.0	0.30	**0.93**	0.45	0.069	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.061	
100-42-5	Styrene	**4.3**	2.0	0.34	**1.0**	0.46	0.079	
127-18-4	Tetrachloroethene	**0.61**	2.0	0.27	**0.090**	0.29	0.040	**J**
109-99-9	Tetrahydrofuran	**1.8**	2.0	0.26	**0.62**	0.66	0.089	**J**
108-88-3	Toluene	**75**	2.0	0.25	**20**	0.52	0.067	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	ND	2.0	0.28	ND	0.36	0.052	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.76	0.087	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271338** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-047

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/11 - 9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00689		

Initial Pressure (psig): -1.33 Final Pressure (psig): 6.17

Container Dilution Factor: 1.56

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271339** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-048

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00966

Initial Pressure (psig): -2.27 Final Pressure (psig): 7.35

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.41	0.054	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.33	ND	0.32	0.048	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.24	ND	0.41	0.044	
75-34-3	1,1-Dichloroethane	ND	2.2	0.35	ND	0.55	0.085	
75-35-4	1,1-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.58	ND	0.30	0.078	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.33	ND	0.45	0.067	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.29	0.036	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.058	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.55	0.065	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.48	0.063	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.34	ND	0.45	0.069	
106-99-0	1,3-Butadiene	ND	2.2	0.39	ND	1.0	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.059	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.060	
123-91-1	1,4-Dioxane	ND	2.2	0.28	ND	0.61	0.077	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.47	0.076	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.3**	22	0.49	**0.45**	7.5	0.17	**J**
591-78-6	2-Hexanone	ND	2.2	0.29	ND	0.54	0.071	
67-63-0	2-Propanol	ND	4.4	0.97	ND	1.8	0.40	
107-05-1	3-Chloropropene	ND	2.2	0.32	ND	0.71	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.38	ND	0.45	0.077	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271339** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-048

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00966

Initial Pressure (psig): -2.27 Final Pressure (psig): 7.35

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.54	0.079	
67-64-1	Acetone	**12**	22	5.3	**5.2**	9.3	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.53	ND	0.43	0.10	
71-43-2	Benzene	**0.40**	2.2	0.34	**0.13**	0.69	0.11	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.34	ND	0.33	0.051	
75-25-2	Bromoform	ND	2.2	0.49	ND	0.21	0.047	
74-83-9	Bromomethane	ND	2.2	0.33	ND	0.57	0.084	
75-15-0	Carbon Disulfide	ND	22	0.71	ND	7.1	0.23	
56-23-5	Carbon Tetrachloride	**0.42**	2.2	0.33	**0.067**	0.35	0.052	**J**
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.48	0.068	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.84	0.11	
67-66-3	Chloroform	ND	2.2	0.31	ND	0.45	0.064	
74-87-3	Chloromethane	**1.2**	2.2	0.38	**0.60**	1.1	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.084	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.37	ND	0.49	0.081	
98-82-8	Cumene	ND	2.2	0.34	ND	0.45	0.069	
110-82-7	Cyclohexane	ND	4.4	0.66	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.31	ND	0.26	0.036	
64-17-5	Ethanol	**2.8**	22	1.6	**1.5**	12	0.87	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.33	ND	0.51	0.076	
75-69-4	Freon 11	**1.2**	2.2	0.36	**0.21**	0.39	0.064	**J**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271339** ALS Sample ID: P2403661-048
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00966

Initial Pressure (psig): -2.27 Final Pressure (psig): 7.35

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**0.50**	2.2	0.34	**0.066**	0.29	0.044	**J**
76-14-2	Freon 114	ND	2.2	0.37	ND	0.32	0.053	
75-71-8	Freon 12	**2.5**	2.2	0.38	**0.50**	0.45	0.078	
306-83-2	Freon 123	ND	2.2	1.1	ND	0.35	0.17	**X**
75-43-4	Freon 21	ND	2.2	1.1	ND	0.53	0.25	**X**
142-82-5	Heptane	ND	2.2	0.38	ND	0.54	0.092	
87-68-3	Hexachlorobutadiene	ND	2.2	0.49	ND	0.21	0.046	
110-54-3	Hexane	ND	2.2	0.49	ND	0.63	0.14	
179601-23-1	m,p-Xylene	ND	4.4	0.62	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.28	ND	0.61	0.077	
75-09-2	Methylene Chloride	ND	2.2	0.66	ND	0.64	0.19	
95-47-6	o-Xylene	ND	2.2	0.34	ND	0.51	0.078	
103-65-1	Propylbenzene	ND	2.2	0.34	ND	0.45	0.069	
100-42-5	Styrene	ND	2.2	0.38	ND	0.52	0.089	
127-18-4	Tetrachloroethene	ND	2.2	0.31	ND	0.33	0.045	
109-99-9	Tetrahydrofuran	ND	2.2	0.30	ND	0.75	0.10	
108-88-3	Toluene	**0.35**	2.2	0.29	**0.092**	0.59	0.076	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.49	ND	0.49	0.11	
79-01-6	Trichloroethene	ND	2.2	0.32	ND	0.41	0.059	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.87	0.099	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271339** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-048

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00966		

Initial Pressure (psig): -2.27 Final Pressure (psig): 7.35

Container Dilution Factor: 1.77

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271346** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-049

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00400

Initial Pressure (psig): -2.69 Final Pressure (psig): 6.57

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	44	5.8	ND	8.1	1.1	
79-34-5	1,1,2,2-Tetrachloroethane	ND	44	6.5	ND	6.4	0.95	
79-00-5	1,1,2-Trichloroethane	ND	44	4.8	ND	8.1	0.88	
75-34-3	1,1-Dichloroethane	ND	44	6.9	ND	11	1.7	
75-35-4	1,1-Dichloroethene	ND	44	6.5	ND	11	1.7	
120-82-1	1,2,4-Trichlorobenzene	ND	44	12	ND	6.0	1.6	
95-63-6	1,2,4-Trimethylbenzene	ND	44	6.5	ND	9.0	1.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	44	5.5	ND	5.8	0.71	
95-50-1	1,2-Dichlorobenzene	ND	44	7.0	ND	7.4	1.2	
107-06-2	1,2-Dichloroethane	ND	44	5.2	ND	11	1.3	
78-87-5	1,2-Dichloropropane	ND	44	5.8	ND	9.6	1.3	
108-67-8	1,3,5-Trimethylbenzene	ND	44	6.8	ND	9.0	1.4	
106-99-0	1,3-Butadiene	ND	44	7.8	ND	20	3.5	
541-73-1	1,3-Dichlorobenzene	ND	44	7.1	ND	7.4	1.2	
106-46-7	1,4-Dichlorobenzene	ND	44	7.3	ND	7.4	1.2	
123-91-1	1,4-Dioxane	ND	44	5.6	ND	12	1.5	
540-84-1	2,2,4-Trimethylpentane	ND	44	7.1	ND	9.5	1.5	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	440	9.7	ND	150	3.3	
591-78-6	2-Hexanone	ND	44	5.8	ND	11	1.4	
67-63-0	2-Propanol	ND	89	19	ND	36	7.9	
107-05-1	3-Chloropropene	ND	44	6.4	ND	14	2.0	
622-96-8	4-Ethyltoluene	ND	44	7.5	ND	9.0	1.5	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271346** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-049

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00400

Initial Pressure (psig): -2.69 Final Pressure (psig): 6.57

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	44	6.5	ND	11	1.6	
67-64-1	Acetone	ND	440	110	ND	190	45	
100-44-7	alpha-Chlorotoluene	ND	44	11	ND	8.6	2.1	
71-43-2	Benzene	ND	44	6.8	ND	14	2.1	
75-27-4	Bromodichloromethane	ND	44	6.8	ND	6.6	1.0	
75-25-2	Bromoform	ND	44	9.7	ND	4.3	0.94	
74-83-9	Bromomethane	ND	44	6.5	ND	11	1.7	
75-15-0	Carbon Disulfide	ND	440	14	ND	140	4.5	
56-23-5	Carbon Tetrachloride	ND	44	6.5	ND	7.0	1.0	
108-90-7	Chlorobenzene	ND	44	6.3	ND	9.6	1.4	
75-00-3	Chloroethane	ND	44	5.8	ND	17	2.2	
67-66-3	Chloroform	**10**	44	6.3	**2.1**	9.1	1.3	**J**
74-87-3	Chloromethane	ND	44	7.6	ND	21	3.7	
156-59-2	cis-1,2-Dichloroethene	ND	44	6.6	ND	11	1.7	
10061-01-5	cis-1,3-Dichloropropene	ND	44	7.3	ND	9.8	1.6	
98-82-8	Cumene	ND	44	6.8	ND	9.0	1.4	
110-82-7	Cyclohexane	ND	89	13	ND	26	3.9	
124-48-1	Dibromochloromethane	ND	44	6.2	ND	5.2	0.73	
64-17-5	Ethanol	ND	440	33	ND	230	17	
100-41-4	Ethyl Benzene	ND	44	6.6	ND	10	1.5	
75-69-4	Freon 11	**4,300**	44	7.2	**760**	7.9	1.3	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271346** ALS Sample ID: P2403661-049
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes:
Container ID: 1SC00400

Initial Pressure (psig): -2.69 Final Pressure (psig): 6.57

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**6,300**	44	6.7	**820**	5.8	0.88	
76-14-2	Freon 114	ND	44	7.4	ND	6.3	1.1	
75-71-8	Freon 12	ND	44	7.7	ND	9.0	1.6	
306-83-2	Freon 123	ND	44	21	ND	7.1	3.4	**X**
75-43-4	Freon 21	ND	44	21	ND	11	5.0	**X**
142-82-5	Heptane	ND	44	7.5	ND	11	1.8	
87-68-3	Hexachlorobutadiene	ND	44	9.7	ND	4.2	0.91	
110-54-3	Hexane	ND	44	9.7	ND	13	2.8	
179601-23-1	m,p-Xylene	ND	89	12	ND	20	2.9	
1634-04-4	Methyl tert-butyl ether	ND	44	5.6	ND	12	1.5	
75-09-2	Methylene Chloride	ND	44	13	ND	13	3.8	
95-47-6	o-Xylene	ND	44	6.8	ND	10	1.6	
103-65-1	Propylbenzene	ND	44	6.8	ND	9.0	1.4	
100-42-5	Styrene	ND	44	7.6	ND	10	1.8	
127-18-4	Tetrachloroethene	ND	44	6.1	ND	6.5	0.90	
109-99-9	Tetrahydrofuran	ND	44	5.9	ND	15	2.0	
108-88-3	Toluene	ND	44	5.8	ND	12	1.5	
156-60-5	trans-1,2-Dichloroethene	ND	44	6.5	ND	11	1.7	
10061-02-6	trans-1,3-Dichloropropene	ND	44	9.7	ND	9.8	2.1	
79-01-6	Trichloroethene	ND	44	6.4	ND	8.2	1.2	
75-01-4	Vinyl Chloride	ND	44	5.0	ND	17	2.0	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271346** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-049

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/12/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:			
Container ID:	1SC00400		

Initial Pressure (psig): -2.69 Final Pressure (psig): 6.57

Container Dilution Factor: 1.77

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271400** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-050

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00245

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.53

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.40	0.053	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.33	ND	0.32	0.047	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.24	ND	0.40	0.044	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.54	0.085	
75-35-4	1,1-Dichloroethene	ND	2.2	0.33	ND	0.56	0.082	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.57	ND	0.30	0.077	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.33	ND	0.45	0.066	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.29	0.036	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.058	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.54	0.064	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.48	0.063	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.34	ND	0.45	0.069	
106-99-0	1,3-Butadiene	ND	2.2	0.39	ND	0.99	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.059	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.060	
123-91-1	1,4-Dioxane	ND	2.2	0.28	ND	0.61	0.077	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.47	0.075	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.6**	22	0.48	**1.2**	7.5	0.16	**J**
591-78-6	2-Hexanone	**0.42**	2.2	0.29	**0.10**	0.54	0.071	**J**
67-63-0	2-Propanol	ND	4.4	0.97	ND	1.8	0.39	
107-05-1	3-Chloropropene	ND	2.2	0.32	ND	0.70	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.45	0.076	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271400** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-050

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00245

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.53

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.54	0.078	
67-64-1	Acetone	**21**	22	5.3	**8.8**	9.3	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.53	ND	0.43	0.10	
71-43-2	Benzene	**0.46**	2.2	0.34	**0.14**	0.69	0.11	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.34	ND	0.33	0.051	
75-25-2	Bromoform	ND	2.2	0.48	ND	0.21	0.047	
74-83-9	Bromomethane	ND	2.2	0.33	ND	0.57	0.084	
75-15-0	Carbon Disulfide	**47**	22	0.70	**15**	7.1	0.23	
56-23-5	Carbon Tetrachloride	ND	2.2	0.33	ND	0.35	0.052	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.48	0.068	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.83	0.11	
67-66-3	Chloroform	**1.9**	2.2	0.31	**0.38**	0.45	0.064	**J**
74-87-3	Chloromethane	ND	2.2	0.38	ND	1.1	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.37	ND	0.48	0.080	
98-82-8	Cumene	ND	2.2	0.34	ND	0.45	0.069	
110-82-7	Cyclohexane	ND	4.4	0.66	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.31	ND	0.26	0.036	
64-17-5	Ethanol	**5.3**	22	1.6	**2.8**	12	0.86	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.33	ND	0.51	0.076	
75-69-4	Freon 11	**410**	2.2	0.36	**72**	0.39	0.063	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271400** ALS Sample ID: P2403661-050
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS00245

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.53

Container Dilution Factor: 1.76

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**360**	22	3.3	**48**	2.9	0.44	**D**
76-14-2	Freon 114	ND	2.2	0.37	ND	0.31	0.053	
75-71-8	Freon 12	**2.6**	2.2	0.38	**0.53**	0.45	0.077	
306-83-2	Freon 123	ND	2.2	1.1	ND	0.35	0.17	**X**
75-43-4	Freon 21	ND	2.2	1.1	ND	0.52	0.25	**X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.54	0.091	
87-68-3	Hexachlorobutadiene	ND	2.2	0.48	ND	0.21	0.045	
110-54-3	Hexane	ND	2.2	0.48	ND	0.62	0.14	
179601-23-1	m,p-Xylene	ND	4.4	0.62	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.28	ND	0.61	0.077	
75-09-2	Methylene Chloride	ND	2.2	0.66	ND	0.63	0.19	
95-47-6	o-Xylene	ND	2.2	0.34	ND	0.51	0.078	
103-65-1	Propylbenzene	ND	2.2	0.34	ND	0.45	0.069	
100-42-5	Styrene	ND	2.2	0.38	ND	0.52	0.089	
127-18-4	Tetrachloroethene	**0.31**	2.2	0.30	**0.046**	0.32	0.045	**J**
109-99-9	Tetrahydrofuran	ND	2.2	0.29	ND	0.75	0.10	
108-88-3	Toluene	**0.29**	2.2	0.29	**0.076**	0.58	0.076	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.082	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.48	ND	0.48	0.11	
79-01-6	Trichloroethene	ND	2.2	0.32	ND	0.41	0.059	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.86	0.098	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271400** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-050

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/13/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS00245		

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.53

Container Dilution Factor: 1.76

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271409** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-051

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12 - 9/13/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00605

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.22

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.40	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.32	0.047	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.40	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.53	0.083	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.56	ND	0.29	0.076	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.32	ND	0.44	0.065	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.53	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.47	0.062	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.068	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.98	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.058	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.059	
123-91-1	1,4-Dioxane	**0.96**	2.2	0.27	**0.27**	0.60	0.076	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.46	0.074	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**13**	22	0.48	**4.5**	7.3	0.16	**J**
591-78-6	2-Hexanone	**1.9**	2.2	0.29	**0.47**	0.53	0.070	**J**
67-63-0	2-Propanol	**13**	4.3	0.95	**5.3**	1.8	0.39	
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.69	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.075	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271409** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-051

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12 - 9/13/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00605

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.22

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.95**	2.2	0.32	**0.23**	0.53	0.077	**J**
67-64-1	Acetone	**83**	22	5.2	**35**	9.1	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**1.6**	2.2	0.33	**0.51**	0.68	0.10	**J**
75-27-4	Bromodichloromethane	**0.34**	2.2	0.33	**0.051**	0.32	0.050	**J**
75-25-2	Bromoform	ND	2.2	0.48	ND	0.21	0.046	
74-83-9	Bromomethane	**0.39**	2.2	0.32	**0.10**	0.56	0.082	**J**
75-15-0	Carbon Disulfide	**13**	22	0.69	**4.3**	6.9	0.22	**J**
56-23-5	Carbon Tetrachloride	ND	2.2	0.32	ND	0.34	0.051	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.067	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.82	0.11	
67-66-3	Chloroform	**5.3**	2.2	0.31	**1.1**	0.44	0.063	
74-87-3	Chloromethane	**0.68**	2.2	0.37	**0.33**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.082	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.48	0.079	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.068	
110-82-7	Cyclohexane	ND	4.3	0.65	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.25	0.036	
64-17-5	Ethanol	**27**	22	1.6	**14**	11	0.85	
100-41-4	Ethyl Benzene	ND	2.2	0.32	ND	0.50	0.075	
75-69-4	Freon 11	**1,600**	22	3.5	**280**	3.8	0.62	**D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271409** ALS Sample ID: P2403661-051
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12 - 9/13/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00605

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.22

Container Dilution Factor: 1.73

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,800**	22	3.3	**230**	2.8	0.43	**D**
76-14-2	Freon 114	ND	2.2	0.36	ND	0.31	0.052	
75-71-8	Freon 12	**2.6**	2.2	0.38	**0.54**	0.44	0.076	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.35	0.17	**X**
75-43-4	Freon 21	**1.4**	2.2	1.0	**0.33**	0.51	0.25	**J, X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.53	0.090	
87-68-3	Hexachlorobutadiene	ND	2.2	0.48	ND	0.20	0.045	
110-54-3	Hexane	ND	2.2	0.48	ND	0.61	0.14	
179601-23-1	m,p-Xylene	ND	4.3	0.61	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.076	
75-09-2	Methylene Chloride	ND	2.2	0.65	ND	0.62	0.19	
95-47-6	o-Xylene	ND	2.2	0.33	ND	0.50	0.077	
103-65-1	Propylbenzene	ND	2.2	0.33	ND	0.44	0.068	
100-42-5	Styrene	**0.61**	2.2	0.37	**0.14**	0.51	0.087	**J**
127-18-4	Tetrachloroethene	**0.32**	2.2	0.30	**0.048**	0.32	0.044	**J**
109-99-9	Tetrahydrofuran	**0.53**	2.2	0.29	**0.18**	0.73	0.098	**J**
108-88-3	Toluene	**2.0**	2.2	0.28	**0.52**	0.57	0.075	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.48	ND	0.48	0.10	
79-01-6	Trichloroethene	**1.4**	2.2	0.31	**0.27**	0.40	0.058	**J**
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.85	0.096	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271409** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-051

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/12 - 9/13/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC00605		

Initial Pressure (psig): -2.63 Final Pressure (psig): 6.22

Container Dilution Factor: 1.73

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271417** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-052

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12 - 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS00886

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.47

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.30	ND	0.41	0.054	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.33	ND	0.33	0.048	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.24	ND	0.41	0.044	
75-34-3	1,1-Dichloroethane	ND	2.2	0.35	ND	0.55	0.086	
75-35-4	1,1-Dichloroethene	ND	2.2	0.33	ND	0.56	0.084	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.58	ND	0.30	0.078	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.33	ND	0.46	0.067	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.28	ND	0.29	0.036	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.059	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.55	0.065	
78-87-5	1,2-Dichloropropane	ND	2.2	0.30	ND	0.48	0.064	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.34	ND	0.46	0.070	
106-99-0	1,3-Butadiene	ND	2.2	0.39	ND	1.0	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.060	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.37	ND	0.37	0.061	
123-91-1	1,4-Dioxane	ND	2.2	0.28	ND	0.62	0.078	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.36	ND	0.48	0.077	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.7**	22	0.49	**0.90**	7.6	0.17	**J**
591-78-6	2-Hexanone	**0.32**	2.2	0.30	**0.078**	0.55	0.072	**J**
67-63-0	2-Propanol	ND	4.5	0.98	ND	1.8	0.40	
107-05-1	3-Chloropropene	ND	2.2	0.32	ND	0.72	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.38	ND	0.46	0.077	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408271417** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-052

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12 - 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS00886

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.47

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.33	ND	0.55	0.080	
67-64-1	Acetone	**30**	22	5.4	**13**	9.4	2.3	
100-44-7	alpha-Chlorotoluene	ND	2.2	0.54	ND	0.43	0.10	
71-43-2	Benzene	**0.67**	2.2	0.34	**0.21**	0.70	0.11	**J**
75-27-4	Bromodichloromethane	**0.71**	2.2	0.34	**0.11**	0.33	0.051	**J**
75-25-2	Bromoform	ND	2.2	0.49	ND	0.22	0.048	
74-83-9	Bromomethane	ND	2.2	0.33	ND	0.58	0.085	
75-15-0	Carbon Disulfide	ND	22	0.72	ND	7.2	0.23	
56-23-5	Carbon Tetrachloride	ND	2.2	0.33	ND	0.36	0.053	
108-90-7	Chlorobenzene	ND	2.2	0.32	ND	0.49	0.069	
75-00-3	Chloroethane	ND	2.2	0.30	ND	0.85	0.11	
67-66-3	Chloroform	**14**	2.2	0.32	**2.9**	0.46	0.065	
74-87-3	Chloromethane	ND	2.2	0.38	ND	1.1	0.19	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.34	ND	0.56	0.085	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.37	ND	0.49	0.082	
98-82-8	Cumene	ND	2.2	0.34	ND	0.46	0.070	
110-82-7	Cyclohexane	ND	4.5	0.67	ND	1.3	0.20	
124-48-1	Dibromochloromethane	ND	2.2	0.31	ND	0.26	0.037	
64-17-5	Ethanol	**16**	22	1.7	**8.3**	12	0.88	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.34	ND	0.52	0.077	
75-69-4	Freon 11	**13,000**	220	36	**2,300**	40	6.5	**D**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
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J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
D = The reported result is from a dilution.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408271417** ALS Sample ID: P2403661-052
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/27/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12 - 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS00886

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.47

Container Dilution Factor: 1.79

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**17,000**	220	34	**2,200**	29	4.4	**D**
76-14-2	Freon 114	**0.83**	2.2	0.38	**0.12**	0.32	0.054	**J**
75-71-8	Freon 12	**4.0**	2.2	0.39	**0.81**	0.45	0.079	
306-83-2	Freon 123	ND	2.2	1.1	ND	0.36	0.17	**X**
75-43-4	Freon 21	**9.8**	2.2	1.1	**2.3**	0.53	0.26	**X**
142-82-5	Heptane	ND	2.2	0.38	ND	0.55	0.093	
87-68-3	Hexachlorobutadiene	ND	2.2	0.49	ND	0.21	0.046	
110-54-3	Hexane	**0.63**	2.2	0.49	**0.18**	0.64	0.14	**J**
179601-23-1	m,p-Xylene	ND	4.5	0.63	ND	1.0	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.28	ND	0.62	0.078	
75-09-2	Methylene Chloride	**0.84**	2.2	0.67	**0.24**	0.64	0.19	**J**
95-47-6	o-Xylene	ND	2.2	0.34	ND	0.52	0.079	
103-65-1	Propylbenzene	ND	2.2	0.34	ND	0.46	0.070	
100-42-5	Styrene	**0.67**	2.2	0.38	**0.16**	0.53	0.090	**J**
127-18-4	Tetrachloroethene	ND	2.2	0.31	ND	0.33	0.046	
109-99-9	Tetrahydrofuran	ND	2.2	0.30	ND	0.76	0.10	
108-88-3	Toluene	**0.45**	2.2	0.29	**0.12**	0.59	0.077	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.084	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.49	ND	0.49	0.11	
79-01-6	Trichloroethene	**5.9**	2.2	0.32	**1.1**	0.42	0.060	
75-01-4	Vinyl Chloride	ND	2.2	0.26	ND	0.88	0.10	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408271417** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-052

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/27/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/12 - 9/13/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.0040 Liter(s)
Container ID:	1SS00886		

Initial Pressure (psig): -2.86 Final Pressure (psig): 6.47

Container Dilution Factor: 1.79

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280830** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-053

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00950

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.34

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	**1.6**	2.1	0.26	**0.44**	0.57	0.072	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.071	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**1.4**	21	0.45	**0.47**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.50	0.066	
67-63-0	2-Propanol	**1.7**	4.1	0.91	**0.71**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.095	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280830** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-053

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00950

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.34

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.074	
67-64-1	Acetone	**9.9**	21	5.0	**4.2**	8.7	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	**0.57**	2.1	0.32	**0.18**	0.65	0.099	**J**
75-27-4	Bromodichloromethane	**0.70**	2.1	0.32	**0.10**	0.31	0.047	**J**
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**9.0**	21	0.66	**2.9**	6.6	0.21	**J**
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	**0.64**	2.1	0.27	**0.24**	0.78	0.10	**J**
67-66-3	Chloroform	**8.2**	2.1	0.29	**1.7**	0.42	0.060	
74-87-3	Chloromethane	ND	2.1	0.35	ND	1.0	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**3.2**	21	1.5	**1.7**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.071	
75-69-4	Freon 11	**94**	2.1	0.33	**17**	0.37	0.059	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280830** ALS Sample ID: P2403661-053
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS00950

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.34

Container Dilution Factor: 1.65

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**74**	2.1	0.31	**9.6**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.36	**0.52**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	0.99	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	0.99	ND	0.49	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.086	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.043	
110-54-3	Hexane	ND	2.1	0.45	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.58	ND	0.95	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	**0.31**	2.1	0.27	**0.081**	0.55	0.071	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.092	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280830** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-053

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS00950		

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.34

Container Dilution Factor: 1.65

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280837** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-054

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01146

Initial Pressure (psig): -1.46 Final Pressure (psig): 5.96

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.26	ND	0.36	0.047	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.29	ND	0.28	0.042	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.21	ND	0.36	0.039	
75-34-3	1,1-Dichloroethane	ND	2.0	0.30	ND	0.48	0.075	
75-35-4	1,1-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
120-82-1	1,2,4-Trichlorobenzene	ND	2.0	0.51	ND	0.26	0.068	
95-63-6	1,2,4-Trimethylbenzene	**0.45**	2.0	0.29	**0.092**	0.40	0.059	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.0	0.24	ND	0.25	0.031	
95-50-1	1,2-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.051	
107-06-2	1,2-Dichloroethane	**0.57**	2.0	0.23	**0.14**	0.48	0.057	**J**
78-87-5	1,2-Dichloropropane	**0.99**	2.0	0.26	**0.21**	0.42	0.056	**J**
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.30	ND	0.40	0.061	
106-99-0	1,3-Butadiene	ND	2.0	0.34	ND	0.88	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.0	0.31	ND	0.32	0.052	
106-46-7	1,4-Dichlorobenzene	ND	2.0	0.32	ND	0.32	0.053	
123-91-1	1,4-Dioxane	ND	2.0	0.25	ND	0.54	0.068	
540-84-1	2,2,4-Trimethylpentane	**0.72**	2.0	0.31	**0.15**	0.42	0.067	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**7.5**	20	0.43	**2.5**	6.6	0.15	**J**
591-78-6	2-Hexanone	**1.4**	2.0	0.26	**0.34**	0.48	0.063	**J**
67-63-0	2-Propanol	**47**	3.9	0.86	**19**	1.6	0.35	
107-05-1	3-Chloropropene	ND	2.0	0.28	ND	0.62	0.090	
622-96-8	4-Ethyltoluene	ND	2.0	0.33	ND	0.40	0.067	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280837** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-054

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01146

Initial Pressure (psig): -1.46 Final Pressure (psig): 5.96

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**1.1**	2.0	0.28	**0.26**	0.48	0.069	**J**
67-64-1	Acetone	**89**	20	4.7	**38**	8.2	2.0	
100-44-7	alpha-Chlorotoluene	ND	2.0	0.47	ND	0.38	0.090	
71-43-2	Benzene	**2.2**	2.0	0.30	**0.69**	0.61	0.094	
75-27-4	Bromodichloromethane	ND	2.0	0.30	ND	0.29	0.045	
75-25-2	Bromoform	ND	2.0	0.43	ND	0.19	0.042	
74-83-9	Bromomethane	ND	2.0	0.29	ND	0.50	0.074	
75-15-0	Carbon Disulfide	**37**	20	0.62	**12**	6.3	0.20	
56-23-5	Carbon Tetrachloride	**0.77**	2.0	0.29	**0.12**	0.31	0.046	**J**
108-90-7	Chlorobenzene	ND	2.0	0.28	ND	0.42	0.060	
75-00-3	Chloroethane	ND	2.0	0.26	ND	0.74	0.098	
67-66-3	Chloroform	**6.4**	2.0	0.28	**1.3**	0.40	0.057	
74-87-3	Chloromethane	**0.44**	2.0	0.34	**0.22**	0.94	0.16	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.074	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.32	ND	0.43	0.071	
98-82-8	Cumene	ND	2.0	0.30	ND	0.40	0.061	
110-82-7	Cyclohexane	**11**	3.9	0.59	**3.2**	1.1	0.17	
124-48-1	Dibromochloromethane	ND	2.0	0.27	ND	0.23	0.032	
64-17-5	Ethanol	**53**	20	1.4	**28**	10	0.77	
100-41-4	Ethyl Benzene	**1.8**	2.0	0.29	**0.41**	0.45	0.067	**J**
75-69-4	Freon 11	**30**	2.0	0.32	**5.4**	0.35	0.056	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280837** ALS Sample ID: P2403661-054
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01146

Initial Pressure (psig): -1.46 Final Pressure (psig): 5.96

Container Dilution Factor: 1.56

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**33**	2.0	0.30	**4.4**	0.25	0.039	
76-14-2	Freon 114	ND	2.0	0.33	ND	0.28	0.047	
75-71-8	Freon 12	**2.4**	2.0	0.34	**0.48**	0.39	0.069	
306-83-2	Freon 123	ND	2.0	0.94	ND	0.31	0.15	**X**
75-43-4	Freon 21	ND	2.0	0.94	ND	0.46	0.22	**X**
142-82-5	Heptane	**5.4**	2.0	0.33	**1.3**	0.48	0.081	
87-68-3	Hexachlorobutadiene	ND	2.0	0.43	ND	0.18	0.040	
110-54-3	Hexane	**7.4**	2.0	0.43	**2.1**	0.55	0.12	
179601-23-1	m,p-Xylene	**4.9**	3.9	0.55	**1.1**	0.90	0.13	
1634-04-4	Methyl tert-butyl ether	**0.73**	2.0	0.25	**0.20**	0.54	0.068	**J**
75-09-2	Methylene Chloride	**1.8**	2.0	0.59	**0.52**	0.56	0.17	**J**
95-47-6	o-Xylene	**2.4**	2.0	0.30	**0.55**	0.45	0.069	
103-65-1	Propylbenzene	ND	2.0	0.30	ND	0.40	0.061	
100-42-5	Styrene	**1.4**	2.0	0.34	**0.33**	0.46	0.079	**J**
127-18-4	Tetrachloroethene	**0.46**	2.0	0.27	**0.068**	0.29	0.040	**J**
109-99-9	Tetrahydrofuran	**2.2**	2.0	0.26	**0.74**	0.66	0.089	
108-88-3	Toluene	**52**	2.0	0.25	**14**	0.52	0.067	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	0.29	ND	0.49	0.073	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.43	ND	0.43	0.095	
79-01-6	Trichloroethene	ND	2.0	0.28	ND	0.36	0.052	
75-01-4	Vinyl Chloride	ND	2.0	0.22	ND	0.76	0.087	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280837** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-054

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01146		

Initial Pressure (psig): -1.46 Final Pressure (psig): 5.96

Container Dilution Factor: 1.56

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280845** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-055

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01129

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.39

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.41	0.054	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.33	ND	0.32	0.048	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.24	ND	0.41	0.044	
75-34-3	1,1-Dichloroethane	ND	2.2	0.35	ND	0.55	0.085	
75-35-4	1,1-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.58	ND	0.30	0.078	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.33	ND	0.45	0.067	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.29	0.036	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.058	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.55	0.065	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.48	0.063	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.34	ND	0.45	0.069	
106-99-0	1,3-Butadiene	ND	2.2	0.39	ND	1.0	0.18	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.37	0.059	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.36	ND	0.37	0.060	
123-91-1	1,4-Dioxane	**0.42**	2.2	0.28	**0.12**	0.61	0.077	**J**
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.35	ND	0.47	0.076	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.7**	22	0.49	**0.91**	7.5	0.17	**J**
591-78-6	2-Hexanone	**0.42**	2.2	0.29	**0.10**	0.54	0.071	**J**
67-63-0	2-Propanol	ND	4.4	0.97	ND	1.8	0.40	
107-05-1	3-Chloropropene	ND	2.2	0.32	ND	0.71	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.38	ND	0.45	0.077	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280845** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-055

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01129

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.39

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.54	0.079	
67-64-1	Acetone	**17**	22	5.3	**7.3**	9.3	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.53	ND	0.43	0.10	
71-43-2	Benzene	**0.34**	2.2	0.34	**0.11**	0.69	0.11	**J**
75-27-4	Bromodichloromethane	**2.2**	2.2	0.34	**0.33**	0.33	0.051	**J**
75-25-2	Bromoform	ND	2.2	0.49	ND	0.21	0.047	
74-83-9	Bromomethane	ND	2.2	0.33	ND	0.57	0.084	
75-15-0	Carbon Disulfide	**43**	22	0.71	**14**	7.1	0.23	
56-23-5	Carbon Tetrachloride	ND	2.2	0.33	ND	0.35	0.052	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.48	0.068	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.84	0.11	
67-66-3	Chloroform	**27**	2.2	0.31	**5.6**	0.45	0.064	
74-87-3	Chloromethane	ND	2.2	0.38	ND	1.1	0.18	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.084	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.37	ND	0.49	0.081	
98-82-8	Cumene	ND	2.2	0.34	ND	0.45	0.069	
110-82-7	Cyclohexane	ND	4.4	0.66	ND	1.3	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.31	ND	0.26	0.036	
64-17-5	Ethanol	**4.7**	22	1.6	**2.5**	12	0.87	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.33	ND	0.51	0.076	
75-69-4	Freon 11	**240**	2.2	0.36	**43**	0.39	0.064	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280845** ALS Sample ID: P2403661-055
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01129

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.39

Container Dilution Factor: 1.77

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**990**	22	3.4	**130**	2.9	0.44	**D**
76-14-2	Freon 114	ND	2.2	0.37	ND	0.32	0.053	
75-71-8	Freon 12	**2.6**	2.2	0.38	**0.52**	0.45	0.078	
306-83-2	Freon 123	ND	2.2	1.1	ND	0.35	0.17	**X**
75-43-4	Freon 21	ND	2.2	1.1	ND	0.53	0.25	**X**
142-82-5	Heptane	ND	2.2	0.38	ND	0.54	0.092	
87-68-3	Hexachlorobutadiene	ND	2.2	0.49	ND	0.21	0.046	
110-54-3	Hexane	ND	2.2	0.49	ND	0.63	0.14	
179601-23-1	m,p-Xylene	**0.73**	4.4	0.62	**0.17**	1.0	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.28	ND	0.61	0.077	
75-09-2	Methylene Chloride	ND	2.2	0.66	ND	0.64	0.19	
95-47-6	o-Xylene	ND	2.2	0.34	ND	0.51	0.078	
103-65-1	Propylbenzene	ND	2.2	0.34	ND	0.45	0.069	
100-42-5	Styrene	ND	2.2	0.38	ND	0.52	0.089	
127-18-4	Tetrachloroethene	ND	2.2	0.31	ND	0.33	0.045	
109-99-9	Tetrahydrofuran	ND	2.2	0.30	ND	0.75	0.10	
108-88-3	Toluene	**0.33**	2.2	0.29	**0.088**	0.59	0.076	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.33	ND	0.56	0.083	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.49	ND	0.49	0.11	
79-01-6	Trichloroethene	ND	2.2	0.32	ND	0.41	0.059	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.87	0.099	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280845** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-055

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16 - 9/17/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01129		

Initial Pressure (psig): -2.81 Final Pressure (psig): 6.39

Container Dilution Factor: 1.77

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280853** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-056

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00810

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.55

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	4,400	570	ND	800	110	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4,400	640	ND	630	94	
79-00-5	1,1,2-Trichloroethane	ND	4,400	470	ND	800	86	
75-34-3	1,1-Dichloroethane	ND	4,400	680	ND	1,100	170	
75-35-4	1,1-Dichloroethene	ND	4,400	640	ND	1,100	160	
120-82-1	1,2,4-Trichlorobenzene	ND	4,400	1,100	ND	590	150	
95-63-6	1,2,4-Trimethylbenzene	ND	4,400	640	ND	890	130	
106-93-4	1,2-Dibromoethane (EDB)	ND	4,400	540	ND	570	70	
95-50-1	1,2-Dichlorobenzene	ND	4,400	690	ND	720	110	
107-06-2	1,2-Dichloroethane	ND	4,400	510	ND	1,100	130	
78-87-5	1,2-Dichloropropane	ND	4,400	570	ND	940	120	
108-67-8	1,3,5-Trimethylbenzene	ND	4,400	670	ND	890	140	
106-99-0	1,3-Butadiene	ND	4,400	770	ND	2,000	350	
541-73-1	1,3-Dichlorobenzene	ND	4,400	700	ND	720	120	
106-46-7	1,4-Dichlorobenzene	ND	4,400	710	ND	720	120	
123-91-1	1,4-Dioxane	ND	4,400	550	ND	1,200	150	
540-84-1	2,2,4-Trimethylpentane	ND	4,400	700	ND	930	150	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	44,000	960	ND	15,000	320	
591-78-6	2-Hexanone	ND	4,400	570	ND	1,100	140	
67-63-0	2-Propanol	ND	8,700	1,900	ND	3,500	780	
107-05-1	3-Chloropropene	ND	4,400	630	ND	1,400	200	
622-96-8	4-Ethyltoluene	ND	4,400	740	ND	890	150	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280853** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-056

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00810

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.55

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	4,400	640	ND	1,100	160	
67-64-1	Acetone	ND	44,000	10,000	ND	18,000	4,400	
100-44-7	alpha-Chlorotoluene	ND	4,400	1,000	ND	840	200	
71-43-2	Benzene	ND	4,400	670	ND	1,400	210	
75-27-4	Bromodichloromethane	ND	4,400	670	ND	650	100	
75-25-2	Bromoform	ND	4,400	960	ND	420	93	
74-83-9	Bromomethane	ND	4,400	640	ND	1,100	170	
75-15-0	Carbon Disulfide	ND	44,000	1,400	ND	14,000	450	
56-23-5	Carbon Tetrachloride	ND	4,400	640	ND	690	100	
108-90-7	Chlorobenzene	ND	4,400	620	ND	940	130	
75-00-3	Chloroethane	ND	4,400	570	ND	1,600	220	
67-66-3	Chloroform	ND	4,400	620	ND	890	130	
74-87-3	Chloromethane	ND	4,400	750	ND	2,100	360	
156-59-2	cis-1,2-Dichloroethene	ND	4,400	650	ND	1,100	160	
10061-01-5	cis-1,3-Dichloropropene	ND	4,400	720	ND	960	160	
98-82-8	Cumene	ND	4,400	670	ND	890	140	
110-82-7	Cyclohexane	ND	8,700	1,300	ND	2,500	380	
124-48-1	Dibromochloromethane	ND	4,400	610	ND	510	72	
64-17-5	Ethanol	**3,600**	44,000	3,200	**1,900**	23,000	1,700	**J**
100-41-4	Ethyl Benzene	ND	4,400	650	ND	1,000	150	
75-69-4	Freon 11	**230,000**	4,400	700	**41,000**	770	130	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280853** ALS Sample ID: P2403661-056
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: 1SS00810

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.55

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**510,000**	4,400	660	**66,000**	570	86	
76-14-2	Freon 114	ND	4,400	730	ND	620	100	
75-71-8	Freon 12	ND	4,400	760	ND	880	150	
306-83-2	Freon 123	**2,500**	4,400	2,100	**400**	700	330	**J, X**
75-43-4	Freon 21	**23,000**	4,400	2,100	**5,500**	1,000	500	**X**
142-82-5	Heptane	ND	4,400	740	ND	1,100	180	
87-68-3	Hexachlorobutadiene	ND	4,400	960	ND	410	90	
110-54-3	Hexane	ND	4,400	960	ND	1,200	270	
179601-23-1	m,p-Xylene	ND	8,700	1,200	ND	2,000	280	
1634-04-4	Methyl tert-butyl ether	ND	4,400	550	ND	1,200	150	
75-09-2	Methylene Chloride	ND	4,400	1,300	ND	1,300	380	
95-47-6	o-Xylene	ND	4,400	670	ND	1,000	150	
103-65-1	Propylbenzene	ND	4,400	670	ND	890	140	
100-42-5	Styrene	ND	4,400	750	ND	1,000	180	
127-18-4	Tetrachloroethene	**1,100**	4,400	600	**160**	640	89	**J**
109-99-9	Tetrahydrofuran	ND	4,400	580	ND	1,500	200	
108-88-3	Toluene	**1,000**	4,400	570	**270**	1,200	150	**J**
156-60-5	trans-1,2-Dichloroethene	ND	4,400	640	ND	1,100	160	
10061-02-6	trans-1,3-Dichloropropene	ND	4,400	960	ND	960	210	
79-01-6	Trichloroethene	ND	4,400	630	ND	810	120	
75-01-4	Vinyl Chloride	ND	4,400	500	ND	1,700	190	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280853** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-056

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.00020 Liter(s)
Test Notes:			
Container ID:	1SS00810		

Initial Pressure (psig): -2.52 Final Pressure (psig): 6.55

Container Dilution Factor: 1.74

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280901** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-057

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01250

Initial Pressure (psig): -0.05 Final Pressure (psig): 7.60

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	38	5.0	ND	7.0	0.92	
79-34-5	1,1,2,2-Tetrachloroethane	ND	38	5.6	ND	5.5	0.82	
79-00-5	1,1,2-Trichloroethane	ND	38	4.1	ND	7.0	0.75	
75-34-3	1,1-Dichloroethane	ND	38	5.9	ND	9.4	1.5	
75-35-4	1,1-Dichloroethene	ND	38	5.6	ND	9.6	1.4	
120-82-1	1,2,4-Trichlorobenzene	ND	38	9.9	ND	5.1	1.3	
95-63-6	1,2,4-Trimethylbenzene	ND	38	5.6	ND	7.7	1.1	
106-93-4	1,2-Dibromoethane (EDB)	ND	38	4.7	ND	4.9	0.61	
95-50-1	1,2-Dichlorobenzene	ND	38	6.0	ND	6.3	1.0	
107-06-2	1,2-Dichloroethane	ND	38	4.5	ND	9.4	1.1	
78-87-5	1,2-Dichloropropane	ND	38	5.0	ND	8.2	1.1	
108-67-8	1,3,5-Trimethylbenzene	ND	38	5.9	ND	7.7	1.2	
106-99-0	1,3-Butadiene	ND	38	6.7	ND	17	3.0	
541-73-1	1,3-Dichlorobenzene	ND	38	6.1	ND	6.3	1.0	
106-46-7	1,4-Dichlorobenzene	ND	38	6.2	ND	6.3	1.0	
123-91-1	1,4-Dioxane	ND	38	4.8	ND	11	1.3	
540-84-1	2,2,4-Trimethylpentane	ND	38	6.1	ND	8.1	1.3	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	380	8.4	ND	130	2.8	
591-78-6	2-Hexanone	ND	38	5.0	ND	9.3	1.2	
67-63-0	2-Propanol	**38**	76	17	**15**	31	6.8	**J**
107-05-1	3-Chloropropene	ND	38	5.5	ND	12	1.7	
622-96-8	4-Ethyltoluene	ND	38	6.5	ND	7.7	1.3	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280901** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-057

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01250

Initial Pressure (psig): -0.05 Final Pressure (psig): 7.60

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	38	5.5	ND	9.3	1.4	
67-64-1	Acetone	**190**	380	91	**79**	160	38	**J**
100-44-7	alpha-Chlorotoluene	ND	38	9.1	ND	7.3	1.8	
71-43-2	Benzene	**9.0**	38	5.9	**2.8**	12	1.8	**J**
75-27-4	Bromodichloromethane	ND	38	5.9	ND	5.7	0.87	
75-25-2	Bromoform	ND	38	8.4	ND	3.7	0.81	
74-83-9	Bromomethane	ND	38	5.6	ND	9.8	1.4	
75-15-0	Carbon Disulfide	ND	380	12	ND	120	3.9	
56-23-5	Carbon Tetrachloride	ND	38	5.6	ND	6.0	0.89	
108-90-7	Chlorobenzene	ND	38	5.4	ND	8.3	1.2	
75-00-3	Chloroethane	ND	38	5.0	ND	14	1.9	
67-66-3	Chloroform	ND	38	5.4	ND	7.8	1.1	
74-87-3	Chloromethane	ND	38	6.5	ND	18	3.2	
156-59-2	cis-1,2-Dichloroethene	ND	38	5.7	ND	9.6	1.4	
10061-01-5	cis-1,3-Dichloropropene	ND	38	6.3	ND	8.4	1.4	
98-82-8	Cumene	ND	38	5.9	ND	7.7	1.2	
110-82-7	Cyclohexane	**14**	76	11	**3.9**	22	3.3	**J**
124-48-1	Dibromochloromethane	ND	38	5.3	ND	4.5	0.62	
64-17-5	Ethanol	**53**	380	28	**28**	200	15	**J**
100-41-4	Ethyl Benzene	ND	38	5.7	ND	8.8	1.3	
75-69-4	Freon 11	ND	38	6.2	ND	6.8	1.1	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280901** ALS Sample ID: P2403661-057
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SC01250

Initial Pressure (psig): -0.05 Final Pressure (psig): 7.60

Container Dilution Factor: 1.52

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**11,000**	190	29	**1,500**	25	3.8	**D**
76-14-2	Freon 114	ND	38	6.4	ND	5.4	0.91	
75-71-8	Freon 12	**17**	38	6.6	**3.4**	7.7	1.3	**J**
306-83-2	Freon 123	ND	38	18	ND	6.1	2.9	**X**
75-43-4	Freon 21	**1,100**	38	18	**270**	9.0	4.3	**X**
142-82-5	Heptane	ND	38	6.5	ND	9.3	1.6	
87-68-3	Hexachlorobutadiene	ND	38	8.4	ND	3.6	0.78	
110-54-3	Hexane	**13**	38	8.4	**3.8**	11	2.4	**J**
179601-23-1	m,p-Xylene	ND	76	11	ND	18	2.5	
1634-04-4	Methyl tert-butyl ether	ND	38	4.8	ND	11	1.3	
75-09-2	Methylene Chloride	ND	38	11	ND	11	3.3	
95-47-6	o-Xylene	ND	38	5.9	ND	8.8	1.3	
103-65-1	Propylbenzene	ND	38	5.9	ND	7.7	1.2	
100-42-5	Styrene	ND	38	6.5	ND	8.9	1.5	
127-18-4	Tetrachloroethene	ND	38	5.2	ND	5.6	0.77	
109-99-9	Tetrahydrofuran	ND	38	5.1	ND	13	1.7	
108-88-3	Toluene	**73**	38	4.9	**19**	10	1.3	
156-60-5	trans-1,2-Dichloroethene	ND	38	5.6	ND	9.6	1.4	
10061-02-6	trans-1,3-Dichloropropene	ND	38	8.4	ND	8.4	1.8	
79-01-6	Trichloroethene	ND	38	5.5	ND	7.1	1.0	
75-01-4	Vinyl Chloride	ND	38	4.3	ND	15	1.7	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280901** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-057

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16 - 9/17/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:			0.0040 Liter(s)
Container ID:	1SC01250		

Initial Pressure (psig): -0.05 Final Pressure (psig): 7.60

Container Dilution Factor: 1.52

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280915** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-058

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01173

Initial Pressure (psig): -2.24 Final Pressure (psig): 5.98

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	**0.57**	2.1	0.31	**0.12**	0.42	0.062	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.45	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	**0.51**	2.1	0.33	**0.11**	0.44	0.071	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.3**	21	0.46	**1.1**	7.0	0.15	**J**
591-78-6	2-Hexanone	**0.62**	2.1	0.27	**0.15**	0.51	0.067	**J**
67-63-0	2-Propanol	**80**	4.2	0.91	**33**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280915** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-058

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01173

Initial Pressure (psig): -2.24 Final Pressure (psig): 5.98

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	**30**	21	5.0	**13**	8.7	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	**2.8**	2.1	0.32	**0.86**	0.65	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	ND	21	0.66	ND	6.7	0.21	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.79	0.10	
67-66-3	Chloroform	**1.3**	2.1	0.29	**0.27**	0.43	0.060	**J**
74-87-3	Chloromethane	**0.61**	2.1	0.36	**0.30**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	**0.99**	4.2	0.62	**0.29**	1.2	0.18	**J**
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**77**	21	1.5	**41**	11	0.82	
100-41-4	Ethyl Benzene	**0.63**	2.1	0.31	**0.15**	0.48	0.072	**J**
75-69-4	Freon 11	**58**	2.1	0.34	**10**	0.37	0.060	**B**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280915** ALS Sample ID: P2403661-058
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01173

Initial Pressure (psig): -2.24 Final Pressure (psig): 5.98

Container Dilution Factor: 1.66

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**110**	2.1	0.32	**14**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.36	**0.53**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	**4.8**	2.1	1.0	**1.1**	0.49	0.24	**X**
142-82-5	Heptane	**0.93**	2.1	0.35	**0.23**	0.51	0.086	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.19	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	**2.1**	4.2	0.58	**0.48**	0.96	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	**0.90**	2.1	0.62	**0.26**	0.60	0.18	**J**
95-47-6	o-Xylene	**0.88**	2.1	0.32	**0.20**	0.48	0.074	**J**
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	**1.2**	2.1	0.36	**0.28**	0.49	0.084	**J**
127-18-4	Tetrachloroethene	**0.46**	2.1	0.29	**0.069**	0.31	0.042	**J**
109-99-9	Tetrahydrofuran	**2.1**	2.1	0.28	**0.70**	0.70	0.094	**J**
108-88-3	Toluene	**10**	2.1	0.27	**2.7**	0.55	0.072	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.81	0.093	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280915** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-058

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/17/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01173		

Initial Pressure (psig): -2.24 Final Pressure (psig): 5.98

Container Dilution Factor: 1.66

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280923** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-059

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01669

Initial Pressure (psig): -1.87 Final Pressure (psig): 6.35

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.079	
75-35-4	1,1-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.53	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.30	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.44	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.064	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.8**	21	0.45	**0.94**	7.0	0.15	**J**
591-78-6	2-Hexanone	ND	2.1	0.27	ND	0.50	0.066	
67-63-0	2-Propanol	**1.5**	4.1	0.90	**0.60**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.094	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280923** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-059

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01669

Initial Pressure (psig): -1.87 Final Pressure (psig): 6.35

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.073	
67-64-1	Acetone	**23**	21	4.9	**9.9**	8.6	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	**0.37**	2.1	0.32	**0.12**	0.64	0.099	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.047	
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.30	ND	0.53	0.078	
75-15-0	Carbon Disulfide	ND	21	0.66	ND	6.6	0.21	
56-23-5	Carbon Tetrachloride	**0.46**	2.1	0.30	**0.072**	0.33	0.048	**J**
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.063	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	ND	2.1	0.29	ND	0.42	0.060	
74-87-3	Chloromethane	**1.2**	2.1	0.35	**0.58**	0.99	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.064	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**7.1**	21	1.5	**3.8**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**7.3**	2.1	0.33	**1.3**	0.36	0.059	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280923** ALS Sample ID: P2403661-059
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01669

Initial Pressure (psig): -1.87 Final Pressure (psig): 6.35

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**8.0**	2.1	0.31	**1.0**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	ND	2.1	0.36	ND	0.41	0.072	
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	0.98	ND	0.49	0.23	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.1	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.47	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.064	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.27	ND	0.70	0.093	
108-88-3	Toluene	**0.77**	2.1	0.27	**0.21**	0.54	0.071	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.38	0.055	
75-01-4	Vinyl Chloride	ND	2.1	0.23	ND	0.80	0.091	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280923** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-059

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01669		

Initial Pressure (psig): -1.87 Final Pressure (psig): 6.35

Container Dilution Factor: 1.64

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280931** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-060

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01614

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	8.4	1.1	ND	1.5	0.20	
79-34-5	1,1,2,2-Tetrachloroethane	ND	8.4	1.2	ND	1.2	0.18	
79-00-5	1,1,2-Trichloroethane	ND	8.4	0.90	ND	1.5	0.17	
75-34-3	1,1-Dichloroethane	ND	8.4	1.3	ND	2.1	0.32	
75-35-4	1,1-Dichloroethene	ND	8.4	1.2	ND	2.1	0.31	
120-82-1	1,2,4-Trichlorobenzene	ND	8.4	2.2	ND	1.1	0.29	
95-63-6	1,2,4-Trimethylbenzene	ND	8.4	1.2	ND	1.7	0.25	
106-93-4	1,2-Dibromoethane (EDB)	ND	8.4	1.0	ND	1.1	0.13	
95-50-1	1,2-Dichlorobenzene	ND	8.4	1.3	ND	1.4	0.22	
107-06-2	1,2-Dichloroethane	ND	8.4	0.99	ND	2.1	0.24	
78-87-5	1,2-Dichloropropane	ND	8.4	1.1	ND	1.8	0.24	
108-67-8	1,3,5-Trimethylbenzene	ND	8.4	1.3	ND	1.7	0.26	
106-99-0	1,3-Butadiene	ND	8.4	1.5	ND	3.8	0.66	
541-73-1	1,3-Dichlorobenzene	ND	8.4	1.3	ND	1.4	0.22	
106-46-7	1,4-Dichlorobenzene	ND	8.4	1.4	ND	1.4	0.23	
123-91-1	1,4-Dioxane	ND	8.4	1.1	ND	2.3	0.29	
540-84-1	2,2,4-Trimethylpentane	ND	8.4	1.3	ND	1.8	0.29	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.9**	84	1.8	**1.3**	28	0.62	**J**
591-78-6	2-Hexanone	ND	8.4	1.1	ND	2.0	0.27	
67-63-0	2-Propanol	**120**	17	3.7	**51**	6.8	1.5	
107-05-1	3-Chloropropene	ND	8.4	1.2	ND	2.7	0.38	
622-96-8	4-Ethyltoluene	ND	8.4	1.4	ND	1.7	0.29	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280931** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-060

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01614

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	8.4	1.2	ND	2.0	0.30	
67-64-1	Acetone	**26**	84	20	**11**	35	8.4	**J**
100-44-7	alpha-Chlorotoluene	ND	8.4	2.0	ND	1.6	0.39	
71-43-2	Benzene	**3.5**	8.4	1.3	**1.1**	2.6	0.40	**J**
75-27-4	Bromodichloromethane	ND	8.4	1.3	ND	1.2	0.19	
75-25-2	Bromoform	ND	8.4	1.8	ND	0.81	0.18	
74-83-9	Bromomethane	ND	8.4	1.2	ND	2.2	0.32	
75-15-0	Carbon Disulfide	ND	84	2.7	ND	27	0.86	
56-23-5	Carbon Tetrachloride	ND	8.4	1.2	ND	1.3	0.20	
108-90-7	Chlorobenzene	ND	8.4	1.2	ND	1.8	0.26	
75-00-3	Chloroethane	ND	8.4	1.1	ND	3.2	0.42	
67-66-3	Chloroform	**3.7**	8.4	1.2	**0.75**	1.7	0.24	**J**
74-87-3	Chloromethane	ND	8.4	1.4	ND	4.0	0.70	
156-59-2	cis-1,2-Dichloroethene	ND	8.4	1.3	ND	2.1	0.32	
10061-01-5	cis-1,3-Dichloropropene	ND	8.4	1.4	ND	1.8	0.31	
98-82-8	Cumene	ND	8.4	1.3	ND	1.7	0.26	
110-82-7	Cyclohexane	ND	17	2.5	ND	4.9	0.73	
124-48-1	Dibromochloromethane	ND	8.4	1.2	ND	0.98	0.14	
64-17-5	Ethanol	**90**	84	6.2	**48**	44	3.3	
100-41-4	Ethyl Benzene	ND	8.4	1.3	ND	1.9	0.29	
75-69-4	Freon 11	**1,300**	8.4	1.4	**240**	1.5	0.24	**B**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280931** ALS Sample ID: P2403661-060
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.10 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01614

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,800**	21	3.2	**230**	2.7	0.41	**D**
76-14-2	Freon 114	ND	8.4	1.4	ND	1.2	0.20	
75-71-8	Freon 12	**2.6**	8.4	1.5	**0.52**	1.7	0.29	**J**
306-83-2	Freon 123	ND	8.4	4.0	ND	1.3	0.64	**X**
75-43-4	Freon 21	ND	8.4	4.0	ND	2.0	0.95	**X**
142-82-5	Heptane	ND	8.4	1.4	ND	2.0	0.35	
87-68-3	Hexachlorobutadiene	ND	8.4	1.8	ND	0.78	0.17	
110-54-3	Hexane	ND	8.4	1.8	ND	2.4	0.52	
179601-23-1	m,p-Xylene	ND	17	2.3	ND	3.8	0.54	
1634-04-4	Methyl tert-butyl ether	ND	8.4	1.1	ND	2.3	0.29	
75-09-2	Methylene Chloride	ND	8.4	2.5	ND	2.4	0.72	
95-47-6	o-Xylene	ND	8.4	1.3	ND	1.9	0.30	
103-65-1	Propylbenzene	ND	8.4	1.3	ND	1.7	0.26	
100-42-5	Styrene	ND	8.4	1.4	ND	2.0	0.34	
127-18-4	Tetrachloroethene	ND	8.4	1.2	ND	1.2	0.17	
109-99-9	Tetrahydrofuran	ND	8.4	1.1	ND	2.8	0.38	
108-88-3	Toluene	**11**	8.4	1.1	**2.8**	2.2	0.29	
156-60-5	trans-1,2-Dichloroethene	ND	8.4	1.2	ND	2.1	0.31	
10061-02-6	trans-1,3-Dichloropropene	ND	8.4	1.8	ND	1.8	0.40	
79-01-6	Trichloroethene	ND	8.4	1.2	ND	1.6	0.22	
75-01-4	Vinyl Chloride	ND	8.4	0.95	ND	3.3	0.37	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280931** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-060

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16 - 9/17/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.10 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01614		

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.40

Container Dilution Factor: 1.67

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280943** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-061

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00008

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.37

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.38	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	**2.9**	2.1	0.26	**0.80**	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**13**	21	0.46	**4.4**	7.1	0.16	**J**
591-78-6	2-Hexanone	**1.9**	2.1	0.28	**0.46**	0.51	0.067	**J**
67-63-0	2-Propanol	**190**	4.2	0.92	**76**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280943** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-061

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00008

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.37

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	**0.66**	2.1	0.30	**0.16**	0.51	0.074	**J**
67-64-1	Acetone	**120**	21	5.0	**49**	8.8	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.097	
71-43-2	Benzene	**0.85**	2.1	0.32	**0.27**	0.65	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	**60**	21	0.67	**19**	6.7	0.21	
56-23-5	Carbon Tetrachloride	ND	2.1	0.31	ND	0.33	0.049	
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.45	0.064	
75-00-3	Chloroethane	**0.29**	2.1	0.28	**0.11**	0.79	0.10	**J**
67-66-3	Chloroform	**2.5**	2.1	0.30	**0.51**	0.43	0.061	
74-87-3	Chloromethane	**1.2**	2.1	0.36	**0.56**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.034	
64-17-5	Ethanol	**14**	21	1.5	**7.3**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**64**	2.1	0.34	**11**	0.37	0.060	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280943** ALS Sample ID: P2403661-061
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00008

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.37

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**200**	2.1	0.32	**26**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.36	**0.52**	0.42	0.073	
306-83-2	Freon 123	**1.2**	2.1	1.0	**0.19**	0.33	0.16	**J, X**
75-43-4	Freon 21	**8.7**	2.1	1.0	**2.1**	0.50	0.24	**X**
142-82-5	Heptane	**0.36**	2.1	0.35	**0.088**	0.51	0.087	**J**
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	ND	2.1	0.46	ND	0.59	0.13	
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	**0.35**	2.1	0.29	**0.052**	0.31	0.042	**J**
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**0.95**	2.1	0.27	**0.25**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.093	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280943** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-061

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00008		

Initial Pressure (psig): -2.08 Final Pressure (psig): 6.37

Container Dilution Factor: 1.67

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280951** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-062

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01234

Initial Pressure (psig): -2.38 Final Pressure (psig): 6.53

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.28	ND	0.39	0.052	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.31	0.046	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.39	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.53	0.083	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.54	0.080	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.56	ND	0.29	0.075	
95-63-6	1,2,4-Trimethylbenzene	ND	2.2	0.32	ND	0.44	0.065	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.25	ND	0.53	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.28	ND	0.47	0.061	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.067	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.97	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.059	
123-91-1	1,4-Dioxane	ND	2.2	0.27	ND	0.60	0.075	
540-84-1	2,2,4-Trimethylpentane	ND	2.2	0.34	ND	0.46	0.074	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**4.5**	22	0.47	**1.5**	7.3	0.16	**J**
591-78-6	2-Hexanone	**0.59**	2.2	0.28	**0.14**	0.53	0.069	**J**
67-63-0	2-Propanol	**1.4**	4.3	0.95	**0.56**	1.8	0.39	**J**
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.69	0.099	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.074	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408280951** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-062

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01234

Initial Pressure (psig): -2.38 Final Pressure (psig): 6.53

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.31	ND	0.52	0.077	
67-64-1	Acetone	**17**	22	5.2	**7.1**	9.1	2.2	**J**
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**0.67**	2.2	0.33	**0.21**	0.67	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.2	0.33	ND	0.32	0.049	
75-25-2	Bromoform	ND	2.2	0.47	ND	0.21	0.046	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.55	0.082	
75-15-0	Carbon Disulfide	**92**	22	0.69	**30**	6.9	0.22	
56-23-5	Carbon Tetrachloride	ND	2.2	0.32	ND	0.34	0.051	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.066	
75-00-3	Chloroethane	ND	2.2	0.28	ND	0.82	0.11	
67-66-3	Chloroform	**4.5**	2.2	0.31	**0.91**	0.44	0.063	
74-87-3	Chloromethane	**0.43**	2.2	0.37	**0.21**	1.0	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.32	ND	0.54	0.081	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.47	0.079	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.067	
110-82-7	Cyclohexane	ND	4.3	0.65	ND	1.2	0.19	
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.25	0.035	
64-17-5	Ethanol	**5.5**	22	1.6	**2.9**	11	0.84	**J**
100-41-4	Ethyl Benzene	ND	2.2	0.32	ND	0.50	0.074	
75-69-4	Freon 11	**130**	2.2	0.35	**24**	0.38	0.062	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408280951** ALS Sample ID: P2403661-062
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01234

Initial Pressure (psig): -2.38 Final Pressure (psig): 6.53

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**210**	2.2	0.33	**27**	0.28	0.043	
76-14-2	Freon 114	ND	2.2	0.36	ND	0.31	0.052	
75-71-8	Freon 12	**2.6**	2.2	0.37	**0.53**	0.43	0.076	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.34	0.17	**X**
75-43-4	Freon 21	**5.3**	2.2	1.0	**1.3**	0.51	0.25	**X**
142-82-5	Heptane	ND	2.2	0.37	ND	0.52	0.089	
87-68-3	Hexachlorobutadiene	ND	2.2	0.47	ND	0.20	0.044	
110-54-3	Hexane	**1.1**	2.2	0.47	**0.30**	0.61	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.3	0.60	ND	0.99	0.14	
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.075	
75-09-2	Methylene Chloride	ND	2.2	0.65	ND	0.62	0.19	
95-47-6	o-Xylene	ND	2.2	0.33	ND	0.50	0.076	
103-65-1	Propylbenzene	ND	2.2	0.33	ND	0.44	0.067	
100-42-5	Styrene	ND	2.2	0.37	ND	0.51	0.087	
127-18-4	Tetrachloroethene	ND	2.2	0.30	ND	0.32	0.044	
109-99-9	Tetrahydrofuran	**0.38**	2.2	0.29	**0.13**	0.73	0.098	**J**
108-88-3	Toluene	**0.43**	2.2	0.28	**0.12**	0.57	0.074	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.54	0.080	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.47	ND	0.47	0.10	
79-01-6	Trichloroethene	ND	2.2	0.31	ND	0.40	0.058	
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.84	0.096	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408280951** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-062

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01234		

Initial Pressure (psig): -2.38 Final Pressure (psig): 6.53

Container Dilution Factor: 1.72

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281000** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-063

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00702

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.64

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.2	0.29	ND	0.40	0.053	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	0.32	ND	0.32	0.047	
79-00-5	1,1,2-Trichloroethane	ND	2.2	0.23	ND	0.40	0.043	
75-34-3	1,1-Dichloroethane	ND	2.2	0.34	ND	0.54	0.084	
75-35-4	1,1-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	0.57	ND	0.29	0.076	
95-63-6	1,2,4-Trimethylbenzene	**0.63**	2.2	0.32	**0.13**	0.44	0.066	**J**
106-93-4	1,2-Dibromoethane (EDB)	ND	2.2	0.27	ND	0.28	0.035	
95-50-1	1,2-Dichlorobenzene	ND	2.2	0.34	ND	0.36	0.057	
107-06-2	1,2-Dichloroethane	ND	2.2	0.26	ND	0.54	0.063	
78-87-5	1,2-Dichloropropane	ND	2.2	0.29	ND	0.47	0.062	
108-67-8	1,3,5-Trimethylbenzene	ND	2.2	0.33	ND	0.44	0.068	
106-99-0	1,3-Butadiene	ND	2.2	0.38	ND	0.98	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.2	0.35	ND	0.36	0.058	
106-46-7	1,4-Dichlorobenzene	ND	2.2	0.36	ND	0.36	0.059	
123-91-1	1,4-Dioxane	**1.3**	2.2	0.27	**0.36**	0.60	0.076	**J**
540-84-1	2,2,4-Trimethylpentane	**6.1**	2.2	0.35	**1.3**	0.47	0.075	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**19**	22	0.48	**6.4**	7.4	0.16	**J**
591-78-6	2-Hexanone	**5.0**	2.2	0.29	**1.2**	0.53	0.070	
67-63-0	2-Propanol	**63**	4.4	0.96	**26**	1.8	0.39	
107-05-1	3-Chloropropene	ND	2.2	0.31	ND	0.70	0.10	
622-96-8	4-Ethyltoluene	ND	2.2	0.37	ND	0.44	0.075	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281000** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-063

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00702

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.64

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.2	0.32	ND	0.53	0.078	
67-64-1	Acetone	**100**	22	5.2	**44**	9.2	2.2	
100-44-7	alpha-Chlorotoluene	ND	2.2	0.52	ND	0.42	0.10	
71-43-2	Benzene	**3.9**	2.2	0.33	**1.2**	0.68	0.10	
75-27-4	Bromodichloromethane	**0.48**	2.2	0.33	**0.071**	0.32	0.050	**J**
75-25-2	Bromoform	ND	2.2	0.48	ND	0.21	0.046	
74-83-9	Bromomethane	ND	2.2	0.32	ND	0.56	0.083	
75-15-0	Carbon Disulfide	**33**	22	0.70	**11**	7.0	0.22	
56-23-5	Carbon Tetrachloride	ND	2.2	0.32	ND	0.35	0.051	
108-90-7	Chlorobenzene	ND	2.2	0.31	ND	0.47	0.067	
75-00-3	Chloroethane	ND	2.2	0.29	ND	0.82	0.11	
67-66-3	Chloroform	**12**	2.2	0.31	**2.4**	0.45	0.063	
74-87-3	Chloromethane	**1.3**	2.2	0.37	**0.61**	1.1	0.18	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.2	0.33	ND	0.55	0.082	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	0.36	ND	0.48	0.080	
98-82-8	Cumene	ND	2.2	0.33	ND	0.44	0.068	
110-82-7	Cyclohexane	**0.81**	4.4	0.65	**0.24**	1.3	0.19	**J**
124-48-1	Dibromochloromethane	ND	2.2	0.30	ND	0.26	0.036	
64-17-5	Ethanol	**44**	22	1.6	**23**	12	0.85	
100-41-4	Ethyl Benzene	**0.42**	2.2	0.33	**0.097**	0.50	0.075	**J**
75-69-4	Freon 11	**1,600**	22	3.5	**280**	3.9	0.63	**B, D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408281000** ALS Sample ID: P2403661-063
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SC00702

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.64

Container Dilution Factor: 1.74

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,600**	22	3.3	**210**	2.8	0.43	**D**
76-14-2	Freon 114	ND	2.2	0.37	ND	0.31	0.052	
75-71-8	Freon 12	**2.6**	2.2	0.38	**0.52**	0.44	0.077	
306-83-2	Freon 123	ND	2.2	1.0	ND	0.35	0.17	**X**
75-43-4	Freon 21	**3.0**	2.2	1.0	**0.71**	0.52	0.25	**X**
142-82-5	Heptane	**1.0**	2.2	0.37	**0.25**	0.53	0.090	**J**
87-68-3	Hexachlorobutadiene	ND	2.2	0.48	ND	0.20	0.045	
110-54-3	Hexane	**1.8**	2.2	0.48	**0.50**	0.62	0.14	**J**
179601-23-1	m,p-Xylene	**1.3**	4.4	0.61	**0.31**	1.0	0.14	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.2	0.27	ND	0.60	0.076	
75-09-2	Methylene Chloride	**0.76**	2.2	0.65	**0.22**	0.63	0.19	**J**
95-47-6	o-Xylene	**0.63**	2.2	0.33	**0.14**	0.50	0.077	**J**
103-65-1	Propylbenzene	**0.37**	2.2	0.33	**0.074**	0.44	0.068	**J**
100-42-5	Styrene	**0.58**	2.2	0.37	**0.14**	0.51	0.088	**J**
127-18-4	Tetrachloroethene	**0.34**	2.2	0.30	**0.051**	0.32	0.044	**J**
109-99-9	Tetrahydrofuran	**2.4**	2.2	0.29	**0.82**	0.74	0.099	
108-88-3	Toluene	**5.9**	2.2	0.28	**1.6**	0.58	0.075	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	0.32	ND	0.55	0.081	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	0.48	ND	0.48	0.11	
79-01-6	Trichloroethene	**1.7**	2.2	0.31	**0.31**	0.40	0.058	**J**
75-01-4	Vinyl Chloride	ND	2.2	0.25	ND	0.85	0.097	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408281000** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-063

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16 - 9/17/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SC00702		

Initial Pressure (psig): -2.43 Final Pressure (psig): 6.64

Container Dilution Factor: 1.74

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281025** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-064

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01467

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.53

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.38	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.45	0.072	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.2**	21	0.46	**1.1**	7.1	0.16	**J**
591-78-6	2-Hexanone	**0.31**	2.1	0.28	**0.075**	0.51	0.067	**J**
67-63-0	2-Propanol	**5.0**	4.2	0.92	**2.0**	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281025** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-064

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01467

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.53

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	**23**	21	5.0	**9.6**	8.8	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.097	
71-43-2	Benzene	**0.55**	2.1	0.32	**0.17**	0.65	0.10	**J**
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	ND	21	0.67	ND	6.7	0.21	
56-23-5	Carbon Tetrachloride	**0.41**	2.1	0.31	**0.066**	0.33	0.049	**J**
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.79	0.10	
67-66-3	Chloroform	ND	2.1	0.30	ND	0.43	0.061	
74-87-3	Chloromethane	**1.2**	2.1	0.36	**0.56**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.034	
64-17-5	Ethanol	**12**	21	1.5	**6.3**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**47**	2.1	0.34	**8.4**	0.37	0.060	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408281025** ALS Sample ID: P2403661-064
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01467

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.53

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**16**	2.1	0.32	**2.1**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.36	**0.52**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.087	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	**0.72**	2.1	0.46	**0.20**	0.59	0.13	**J**
179601-23-1	m,p-Xylene	ND	4.2	0.58	ND	0.96	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**1.1**	2.1	0.27	**0.29**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.093	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408281025** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-064

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01467		

Initial Pressure (psig): -1.96 Final Pressure (psig): 6.53

Container Dilution Factor: 1.67

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281033** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-065

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS01414

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.27	ND	0.38	0.050	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.30	ND	0.30	0.044	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.22	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.32	ND	0.51	0.079	
75-35-4	1,1-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.53	ND	0.28	0.072	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.30	ND	0.42	0.062	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.25	ND	0.27	0.033	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.32	ND	0.34	0.054	
107-06-2	1,2-Dichloroethane	ND	2.1	0.24	ND	0.51	0.060	
78-87-5	1,2-Dichloropropane	ND	2.1	0.27	ND	0.44	0.059	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.064	
106-99-0	1,3-Butadiene	ND	2.1	0.36	ND	0.93	0.16	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.34	0.055	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.34	0.056	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.57	0.072	
540-84-1	2,2,4-Trimethylpentane	ND	2.1	0.33	ND	0.44	0.070	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**2.1**	21	0.45	**0.71**	7.0	0.15	**J**
591-78-6	2-Hexanone	**0.43**	2.1	0.27	**0.11**	0.50	0.066	**J**
67-63-0	2-Propanol	ND	4.1	0.90	ND	1.7	0.37	
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.66	0.094	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.071	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281033** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-065

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS01414

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.50	0.073	
67-64-1	Acetone	**15**	21	4.9	**6.4**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	ND	2.1	0.32	ND	0.64	0.099	
75-27-4	Bromodichloromethane	**1.4**	2.1	0.32	**0.21**	0.31	0.047	**J**
75-25-2	Bromoform	ND	2.1	0.45	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.30	ND	0.53	0.078	
75-15-0	Carbon Disulfide	ND	21	0.66	ND	6.6	0.21	
56-23-5	Carbon Tetrachloride	ND	2.1	0.30	ND	0.33	0.048	
108-90-7	Chlorobenzene	ND	2.1	0.29	ND	0.45	0.063	
75-00-3	Chloroethane	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**5.0**	2.1	0.29	**1.0**	0.42	0.060	
74-87-3	Chloromethane	ND	2.1	0.35	ND	0.99	0.17	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.52	0.078	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.34	ND	0.45	0.075	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.064	
110-82-7	Cyclohexane	ND	4.1	0.62	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.24	0.034	
64-17-5	Ethanol	**7.6**	21	1.5	**4.0**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**3,400**	41	6.6	**600**	7.3	1.2	**B, D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408281033** ALS Sample ID: P2403661-065
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS01414

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**1,200**	41	6.2	**150**	5.4	0.81	**D**
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.8**	2.1	0.36	**0.58**	0.41	0.072	
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	0.98	ND	0.49	0.23	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.50	0.085	
87-68-3	Hexachlorobutadiene	ND	2.1	0.45	ND	0.19	0.042	
110-54-3	Hexane	ND	2.1	0.45	ND	0.58	0.13	
179601-23-1	m,p-Xylene	ND	4.1	0.57	ND	0.94	0.13	
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.57	0.072	
75-09-2	Methylene Chloride	ND	2.1	0.62	ND	0.59	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.47	0.073	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.064	
100-42-5	Styrene	ND	2.1	0.35	ND	0.48	0.083	
127-18-4	Tetrachloroethene	ND	2.1	0.28	ND	0.30	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.27	ND	0.70	0.093	
108-88-3	Toluene	ND	2.1	0.27	ND	0.54	0.071	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.30	ND	0.52	0.077	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.45	ND	0.45	0.099	
79-01-6	Trichloroethene	**1.1**	2.1	0.30	**0.21**	0.38	0.055	**J**
75-01-4	Vinyl Chloride	ND	2.1	0.23	ND	0.80	0.091	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408281033** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-065

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16 - 9/17/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.020 Liter(s)
Container ID:	1SS01414		

Initial Pressure (psig): -2.09 Final Pressure (psig): 5.93

Container Dilution Factor: 1.64

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281041** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-066

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS01020

Initial Pressure (psig): -2.29 Final Pressure (psig): 6.63

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	22	2.8	ND	3.9	0.52	
79-34-5	1,1,2,2-Tetrachloroethane	ND	22	3.2	ND	3.1	0.46	
79-00-5	1,1,2-Trichloroethane	ND	22	2.3	ND	3.9	0.43	
75-34-3	1,1-Dichloroethane	ND	22	3.4	ND	5.3	0.83	
75-35-4	1,1-Dichloroethene	ND	22	3.2	ND	5.4	0.80	
120-82-1	1,2,4-Trichlorobenzene	ND	22	5.6	ND	2.9	0.75	
95-63-6	1,2,4-Trimethylbenzene	ND	22	3.2	ND	4.4	0.65	
106-93-4	1,2-Dibromoethane (EDB)	ND	22	2.7	ND	2.8	0.35	
95-50-1	1,2-Dichlorobenzene	ND	22	3.4	ND	3.6	0.57	
107-06-2	1,2-Dichloroethane	ND	22	2.5	ND	5.3	0.63	
78-87-5	1,2-Dichloropropane	ND	22	2.8	ND	4.7	0.61	
108-67-8	1,3,5-Trimethylbenzene	ND	22	3.3	ND	4.4	0.67	
106-99-0	1,3-Butadiene	ND	22	3.8	ND	9.7	1.7	
541-73-1	1,3-Dichlorobenzene	ND	22	3.4	ND	3.6	0.57	
106-46-7	1,4-Dichlorobenzene	ND	22	3.5	ND	3.6	0.59	
123-91-1	1,4-Dioxane	ND	22	2.7	ND	6.0	0.75	
540-84-1	2,2,4-Trimethylpentane	ND	22	3.4	ND	4.6	0.74	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	220	4.7	ND	73	1.6	
591-78-6	2-Hexanone	ND	22	2.8	ND	5.3	0.69	
67-63-0	2-Propanol	ND	43	9.5	ND	18	3.9	
107-05-1	3-Chloropropene	ND	22	3.1	ND	6.9	0.99	
622-96-8	4-Ethyltoluene	ND	22	3.7	ND	4.4	0.74	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281041** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-066

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS01020

Initial Pressure (psig): -2.29 Final Pressure (psig): 6.63

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	22	3.1	ND	5.2	0.77	
67-64-1	Acetone	ND	220	52	ND	91	22	
100-44-7	alpha-Chlorotoluene	ND	22	5.2	ND	4.2	1.0	
71-43-2	Benzene	ND	22	3.3	ND	6.7	1.0	
75-27-4	Bromodichloromethane	ND	22	3.3	ND	3.2	0.49	
75-25-2	Bromoform	ND	22	4.7	ND	2.1	0.46	
74-83-9	Bromomethane	ND	22	3.2	ND	5.5	0.82	
75-15-0	Carbon Disulfide	**56**	220	6.9	**18**	69	2.2	**J**
56-23-5	Carbon Tetrachloride	ND	22	3.2	ND	3.4	0.51	
108-90-7	Chlorobenzene	ND	22	3.1	ND	4.7	0.66	
75-00-3	Chloroethane	ND	22	2.8	ND	8.2	1.1	
67-66-3	Chloroform	ND	22	3.1	ND	4.4	0.63	
74-87-3	Chloromethane	ND	22	3.7	ND	10	1.8	
156-59-2	cis-1,2-Dichloroethene	ND	22	3.2	ND	5.4	0.81	
10061-01-5	cis-1,3-Dichloropropene	ND	22	3.6	ND	4.7	0.79	
98-82-8	Cumene	ND	22	3.3	ND	4.4	0.67	
110-82-7	Cyclohexane	ND	43	6.5	ND	12	1.9	
124-48-1	Dibromochloromethane	ND	22	3.0	ND	2.5	0.35	
64-17-5	Ethanol	ND	220	16	ND	110	8.4	
100-41-4	Ethyl Benzene	ND	22	3.2	ND	5.0	0.74	
75-69-4	Freon 11	**21,000**	220	35	**3,800**	38	6.2	**B, D**

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408281041** ALS Sample ID: P2403661-066
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/16 - 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.040 Liter(s)
Test Notes: 0.0040 Liter(s)
Container ID: 1SS01020

Initial Pressure (psig): -2.29 Final Pressure (psig): 6.63

Container Dilution Factor: 1.72

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**9,300**	220	33	**1,200**	28	4.3	**D**
76-14-2	Freon 114	ND	22	3.6	ND	3.1	0.52	
75-71-8	Freon 12	**3.8**	22	3.7	**0.77**	4.3	0.76	**J**
306-83-2	Freon 123	ND	22	10	ND	3.4	1.7	**X**
75-43-4	Freon 21	ND	22	10	ND	5.1	2.5	**X**
142-82-5	Heptane	ND	22	3.7	ND	5.2	0.89	
87-68-3	Hexachlorobutadiene	ND	22	4.7	ND	2.0	0.44	
110-54-3	Hexane	ND	22	4.7	ND	6.1	1.3	
179601-23-1	m,p-Xylene	ND	43	6.0	ND	9.9	1.4	
1634-04-4	Methyl tert-butyl ether	ND	22	2.7	ND	6.0	0.75	
75-09-2	Methylene Chloride	ND	22	6.5	ND	6.2	1.9	
95-47-6	o-Xylene	ND	22	3.3	ND	5.0	0.76	
103-65-1	Propylbenzene	ND	22	3.3	ND	4.4	0.67	
100-42-5	Styrene	ND	22	3.7	ND	5.1	0.87	
127-18-4	Tetrachloroethene	ND	22	3.0	ND	3.2	0.44	
109-99-9	Tetrahydrofuran	ND	22	2.9	ND	7.3	0.98	
108-88-3	Toluene	ND	22	2.8	ND	5.7	0.74	
156-60-5	trans-1,2-Dichloroethene	ND	22	3.2	ND	5.4	0.80	
10061-02-6	trans-1,3-Dichloropropene	ND	22	4.7	ND	4.7	1.0	
79-01-6	Trichloroethene	ND	22	3.1	ND	4.0	0.58	
75-01-4	Vinyl Chloride	ND	22	2.5	ND	8.4	0.96	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408281041** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-066

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/16 - 9/17/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.040 Liter(s)
Test Notes:			0.0040 Liter(s)
Container ID:	1SS01020		

Initial Pressure (psig): -2.29 Final Pressure (psig): 6.63

Container Dilution Factor: 1.72

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281042** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-067

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00534

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.45

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	2.1	0.28	ND	0.38	0.051	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	0.31	ND	0.30	0.045	
79-00-5	1,1,2-Trichloroethane	ND	2.1	0.23	ND	0.38	0.041	
75-34-3	1,1-Dichloroethane	ND	2.1	0.33	ND	0.52	0.080	
75-35-4	1,1-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
120-82-1	1,2,4-Trichlorobenzene	ND	2.1	0.54	ND	0.28	0.073	
95-63-6	1,2,4-Trimethylbenzene	ND	2.1	0.31	ND	0.42	0.063	
106-93-4	1,2-Dibromoethane (EDB)	ND	2.1	0.26	ND	0.27	0.034	
95-50-1	1,2-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.055	
107-06-2	1,2-Dichloroethane	ND	2.1	0.25	ND	0.52	0.061	
78-87-5	1,2-Dichloropropane	ND	2.1	0.28	ND	0.45	0.060	
108-67-8	1,3,5-Trimethylbenzene	ND	2.1	0.32	ND	0.42	0.065	
106-99-0	1,3-Butadiene	ND	2.1	0.37	ND	0.94	0.17	
541-73-1	1,3-Dichlorobenzene	ND	2.1	0.33	ND	0.35	0.056	
106-46-7	1,4-Dichlorobenzene	ND	2.1	0.34	ND	0.35	0.057	
123-91-1	1,4-Dioxane	ND	2.1	0.26	ND	0.58	0.073	
540-84-1	2,2,4-Trimethylpentane	**0.71**	2.1	0.33	**0.15**	0.45	0.072	**J**
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**3.5**	21	0.46	**1.2**	7.1	0.16	**J**
591-78-6	2-Hexanone	**0.64**	2.1	0.28	**0.16**	0.51	0.067	**J**
67-63-0	2-Propanol	**1.8**	4.2	0.92	**0.72**	1.7	0.37	**J**
107-05-1	3-Chloropropene	ND	2.1	0.30	ND	0.67	0.096	
622-96-8	4-Ethyltoluene	ND	2.1	0.35	ND	0.42	0.072	

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2408281042** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-067

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00534

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.45

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	2.1	0.30	ND	0.51	0.074	
67-64-1	Acetone	**30**	21	5.0	**12**	8.8	2.1	
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.097	
71-43-2	Benzene	**2.6**	2.1	0.32	**0.80**	0.65	0.10	
75-27-4	Bromodichloromethane	ND	2.1	0.32	ND	0.31	0.048	
75-25-2	Bromoform	ND	2.1	0.46	ND	0.20	0.044	
74-83-9	Bromomethane	ND	2.1	0.31	ND	0.54	0.080	
75-15-0	Carbon Disulfide	**1.3**	21	0.67	**0.41**	6.7	0.21	**J**
56-23-5	Carbon Tetrachloride	**0.46**	2.1	0.31	**0.073**	0.33	0.049	**J**
108-90-7	Chlorobenzene	ND	2.1	0.30	ND	0.45	0.064	
75-00-3	Chloroethane	ND	2.1	0.28	ND	0.79	0.10	
67-66-3	Chloroform	ND	2.1	0.30	ND	0.43	0.061	
74-87-3	Chloromethane	**1.6**	2.1	0.36	**0.79**	1.0	0.17	**J**
156-59-2	cis-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.079	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	0.35	ND	0.46	0.076	
98-82-8	Cumene	ND	2.1	0.32	ND	0.42	0.065	
110-82-7	Cyclohexane	ND	4.2	0.63	ND	1.2	0.18	
124-48-1	Dibromochloromethane	ND	2.1	0.29	ND	0.25	0.034	
64-17-5	Ethanol	**9.8**	21	1.5	**5.2**	11	0.82	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.072	
75-69-4	Freon 11	**13**	2.1	0.34	**2.3**	0.37	0.060	

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

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **2408281042** ALS Sample ID: P2403661-067
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 8/28/24
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 9/3/24
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SC00534

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.45

Container Dilution Factor: 1.67

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**5.7**	2.1	0.32	**0.74**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.6**	2.1	0.36	**0.53**	0.42	0.073	
306-83-2	Freon 123	ND	2.1	1.0	ND	0.33	0.16	**X**
75-43-4	Freon 21	ND	2.1	1.0	ND	0.50	0.24	**X**
142-82-5	Heptane	ND	2.1	0.35	ND	0.51	0.087	
87-68-3	Hexachlorobutadiene	ND	2.1	0.46	ND	0.20	0.043	
110-54-3	Hexane	**1.1**	2.1	0.46	**0.30**	0.59	0.13	**J**
179601-23-1	m,p-Xylene	**0.60**	4.2	0.58	**0.14**	0.96	0.13	**J**
1634-04-4	Methyl tert-butyl ether	ND	2.1	0.26	ND	0.58	0.073	
75-09-2	Methylene Chloride	ND	2.1	0.63	ND	0.60	0.18	
95-47-6	o-Xylene	ND	2.1	0.32	ND	0.48	0.074	
103-65-1	Propylbenzene	ND	2.1	0.32	ND	0.42	0.065	
100-42-5	Styrene	ND	2.1	0.36	ND	0.49	0.084	
127-18-4	Tetrachloroethene	ND	2.1	0.29	ND	0.31	0.042	
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.71	0.095	
108-88-3	Toluene	**2.1**	2.1	0.27	**0.55**	0.55	0.072	**J**
156-60-5	trans-1,2-Dichloroethene	ND	2.1	0.31	ND	0.53	0.078	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	0.46	ND	0.46	0.10	
79-01-6	Trichloroethene	ND	2.1	0.30	ND	0.39	0.056	
75-01-4	Vinyl Chloride	ND	2.1	0.24	ND	0.82	0.093	

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

Client: **NASA White Sands Test Facility**

Client Sample ID: **2408281042** ALS Project ID: P2403661

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2403661-067

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	8/28/24
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	9/3/24
Analyst:	Simon Cao	Date Analyzed:	9/17/24
Sampling Media:	1.0 L Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SC00534		

Initial Pressure (psig): -2.02 Final Pressure (psig): 6.45

Container Dilution Factor: 1.67

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240909-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240909-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **Method Blank** ALS Sample ID: P240909-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2403661
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240909-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	9/9/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240910-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240910-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **Method Blank** ALS Sample ID: P240910-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2403661
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240910-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	9/10/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240911-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240911-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **Method Blank** ALS Sample ID: P240911-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2403661
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240911-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	9/11/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240912-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240912-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **Method Blank** ALS Sample ID: P240912-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/12/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2403661
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240912-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	9/12/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240916-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240916-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	ND	0.50	0.081	ND	0.089	0.014	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **Method Blank** ALS Sample ID: P240916-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2403661
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240916-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	9/16/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240917-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
71-55-6	1,1,1-Trichloroethane	ND	0.50	0.066	ND	0.092	0.012	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	0.074	ND	0.073	0.011	
79-00-5	1,1,2-Trichloroethane	ND	0.50	0.054	ND	0.092	0.0099	
75-34-3	1,1-Dichloroethane	ND	0.50	0.078	ND	0.12	0.019	
75-35-4	1,1-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
120-82-1	1,2,4-Trichlorobenzene	ND	0.50	0.13	ND	0.067	0.018	
95-63-6	1,2,4-Trimethylbenzene	ND	0.50	0.074	ND	0.10	0.015	
106-93-4	1,2-Dibromoethane (EDB)	ND	0.50	0.062	ND	0.065	0.0081	
95-50-1	1,2-Dichlorobenzene	ND	0.50	0.079	ND	0.083	0.013	
107-06-2	1,2-Dichloroethane	ND	0.50	0.059	ND	0.12	0.015	
78-87-5	1,2-Dichloropropane	ND	0.50	0.066	ND	0.11	0.014	
108-67-8	1,3,5-Trimethylbenzene	ND	0.50	0.077	ND	0.10	0.016	
106-99-0	1,3-Butadiene	ND	0.50	0.088	ND	0.23	0.040	
541-73-1	1,3-Dichlorobenzene	ND	0.50	0.080	ND	0.083	0.013	
106-46-7	1,4-Dichlorobenzene	ND	0.50	0.082	ND	0.083	0.014	
123-91-1	1,4-Dioxane	ND	0.50	0.063	ND	0.14	0.017	
540-84-1	2,2,4-Trimethylpentane	ND	0.50	0.080	ND	0.11	0.017	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	5.0	0.11	ND	1.7	0.037	
591-78-6	2-Hexanone	ND	0.50	0.066	ND	0.12	0.016	
67-63-0	2-Propanol	ND	1.0	0.22	ND	0.41	0.090	
107-05-1	3-Chloropropene	ND	0.50	0.072	ND	0.16	0.023	
622-96-8	4-Ethyltoluene	ND	0.50	0.085	ND	0.10	0.017	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240917-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
108-10-1	4-Methyl-2-pentanone	ND	0.50	0.073	ND	0.12	0.018	
67-64-1	Acetone	ND	5.0	1.2	ND	2.1	0.51	
100-44-7	alpha-Chlorotoluene	ND	0.50	0.12	ND	0.097	0.023	
71-43-2	Benzene	ND	0.50	0.077	ND	0.16	0.024	
75-27-4	Bromodichloromethane	ND	0.50	0.077	ND	0.075	0.011	
75-25-2	Bromoform	ND	0.50	0.11	ND	0.048	0.011	
74-83-9	Bromomethane	ND	0.50	0.074	ND	0.13	0.019	
75-15-0	Carbon Disulfide	ND	5.0	0.16	ND	1.6	0.051	
56-23-5	Carbon Tetrachloride	ND	0.50	0.074	ND	0.080	0.012	
108-90-7	Chlorobenzene	ND	0.50	0.071	ND	0.11	0.015	
75-00-3	Chloroethane	ND	0.50	0.066	ND	0.19	0.025	
67-66-3	Chloroform	ND	0.50	0.071	ND	0.10	0.015	
74-87-3	Chloromethane	ND	0.50	0.086	ND	0.24	0.042	
156-59-2	cis-1,2-Dichloroethene	ND	0.50	0.075	ND	0.13	0.019	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	0.083	ND	0.11	0.018	
98-82-8	Cumene	ND	0.50	0.077	ND	0.10	0.016	
110-82-7	Cyclohexane	ND	1.0	0.15	ND	0.29	0.044	
124-48-1	Dibromochloromethane	ND	0.50	0.070	ND	0.059	0.0082	
64-17-5	Ethanol	ND	5.0	0.37	ND	2.7	0.20	
100-41-4	Ethyl Benzene	ND	0.50	0.075	ND	0.12	0.017	
75-69-4	Freon 11	**0.082**	0.50	0.081	**0.015**	0.089	0.014	**J**

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Sample ID: **Method Blank** ALS Sample ID: P240917-MB
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Container Dilution Factor: 1.00

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	ND	0.50	0.076	ND	0.065	0.0099	
76-14-2	Freon 114	ND	0.50	0.084	ND	0.072	0.012	
75-71-8	Freon 12	ND	0.50	0.087	ND	0.10	0.018	
306-83-2	Freon 123	ND	0.50	0.24	ND	0.080	0.038	**X**
75-43-4	Freon 21	ND	0.50	0.24	ND	0.12	0.057	**X**
142-82-5	Heptane	ND	0.50	0.085	ND	0.12	0.021	
87-68-3	Hexachlorobutadiene	ND	0.50	0.11	ND	0.047	0.010	
110-54-3	Hexane	ND	0.50	0.11	ND	0.14	0.031	
179601-23-1	m,p-Xylene	ND	1.0	0.14	ND	0.23	0.032	
1634-04-4	Methyl tert-butyl ether	ND	0.50	0.063	ND	0.14	0.017	
75-09-2	Methylene Chloride	ND	0.50	0.15	ND	0.14	0.043	
95-47-6	o-Xylene	ND	0.50	0.077	ND	0.12	0.018	
103-65-1	Propylbenzene	ND	0.50	0.077	ND	0.10	0.016	
100-42-5	Styrene	ND	0.50	0.086	ND	0.12	0.020	
127-18-4	Tetrachloroethene	ND	0.50	0.069	ND	0.074	0.010	
109-99-9	Tetrahydrofuran	ND	0.50	0.067	ND	0.17	0.023	
108-88-3	Toluene	ND	0.50	0.065	ND	0.13	0.017	
156-60-5	trans-1,2-Dichloroethene	ND	0.50	0.074	ND	0.13	0.019	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	0.11	ND	0.11	0.024	
79-01-6	Trichloroethene	ND	0.50	0.072	ND	0.093	0.013	
75-01-4	Vinyl Chloride	ND	0.50	0.057	ND	0.20	0.022	

ND = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
X = See case narrative.

Client:	**NASA White Sands Test Facility**		
Client Sample ID:	**Method Blank**	ALS Project ID:	P2403661
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P240917-MB

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	NA
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	NA
Analyst:	Simon Cao	Date Analyzed:	9/17/24
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	1.00 Liter(s)
Test Notes:			

Container Dilution Factor: 1.00

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

NF = Compound was searched for, but not found.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **NASA White Sands Test Facility**
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Project ID: P2403661

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 8/26 - 8/28/24
Analyst: Simon Cao Date(s) Received: 9/3/24
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 9/9 - 9/17/24
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P240909-MB	**102**	**96**	**87**	70-130	
Method Blank	P240910-MB	**105**	**91**	**87**	70-130	
Method Blank	P240911-MB	**110**	**89**	**87**	70-130	
Method Blank	P240912-MB	**101**	**95**	**92**	70-130	
Method Blank	P240916-MB	**106**	**95**	**94**	70-130	
Method Blank	P240917-MB	**113**	**86**	**88**	70-130	
Lab Control Sample	P240909-LCS	**103**	**95**	**87**	70-130	
Lab Control Sample	P240910-LCS	**107**	**91**	**89**	70-130	
Lab Control Sample	P240911-LCS	**108**	**88**	**88**	70-130	
Lab Control Sample	P240912-LCS	**106**	**92**	**91**	70-130	
Lab Control Sample	P240916-LCS	**107**	**93**	**93**	70-130	
Lab Control Sample	P240917-LCS	**114**	**85**	**89**	70-130	
Duplicate Lab Control Sample	P240909-DLCS	**101**	**94**	**91**	70-130	
Duplicate Lab Control Sample	P240910-DLCS	**105**	**92**	**87**	70-130	
Duplicate Lab Control Sample	P240911-DLCS	**107**	**90**	**88**	70-130	
Duplicate Lab Control Sample	P240912-DLCS	**109**	**85**	**88**	70-130	
Duplicate Lab Control Sample	P240916-DLCS	**105**	**93**	**94**	70-130	
Duplicate Lab Control Sample	P240917-DLCS	**113**	**87**	**90**	70-130	
2408260820	P2403661-001	**104**	**92**	**87**	70-130	
2408260825	P2403661-002	**104**	**91**	**88**	70-130	
2408260840	P2403661-003	**111**	**86**	**85**	70-130	
2408260847	P2403661-004	**109**	**87**	**86**	70-130	
2408260848	P2403661-005	**111**	**86**	**87**	70-130	
2408260855	P2403661-006	**102**	**95**	**89**	70-130	
2408260903	P2403661-007	**104**	**93**	**89**	70-130	
2408260904	P2403661-008	**109**	**85**	**86**	70-130	
2408260935	P2403661-009	**110**	**86**	**90**	70-130	
2408260936	P2403661-010	**111**	**85**	**88**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **NASA White Sands Test Facility**
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Project ID: P2403661

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 8/26 - 8/28/24
Analyst: Simon Cao Date(s) Received: 9/3/24
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 9/9 - 9/17/24
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
2408260944	P2403661-011	**111**	**82**	**87**	70-130	
2408260951	P2403661-012	**107**	**86**	**91**	70-130	
2408260958	P2403661-013	**105**	**89**	**91**	70-130	
2408260959	P2403661-014	**110**	**85**	**87**	70-130	
2408261025	P2403661-015	**109**	**84**	**85**	70-130	
2408261026	P2403661-016	**103**	**90**	**85**	70-130	
2408261038	P2403661-017	**110**	**88**	**84**	70-130	
2408261044	P2403661-018	**104**	**92**	**89**	70-130	
2408261048	P2403661-019	**105**	**90**	**87**	70-130	
2408261325	P2403661-020	**108**	**89**	**86**	70-130	
2408261330	P2403661-021	**109**	**87**	**86**	70-130	
2408261336	P2403661-022	**110**	**88**	**85**	70-130	
2408261343	P2403661-023	**113**	**86**	**84**	70-130	
2408261344	P2403661-024	**110**	**88**	**86**	70-130	
2408261351	P2403661-025	**110**	**88**	**86**	70-130	
2408261415	P2403661-026	**109**	**87**	**86**	70-130	
2408261420	P2403661-027	**111**	**86**	**85**	70-130	
2408261426	P2403661-028	**110**	**83**	**87**	70-130	
2408261434	P2403661-029	**107**	**87**	**90**	70-130	
2408261435	P2403661-030	**105**	**89**	**90**	70-130	
2408261442	P2403661-031	**104**	**88**	**90**	70-130	
2408270830	P2403661-032	**105**	**88**	**90**	70-130	
2408270838	P2403661-034	**108**	**87**	**89**	70-130	
2408270846	P2403661-035	**112**	**85**	**84**	70-130	
2408270847	P2403661-036	**108**	**89**	**88**	70-130	
2408270900	P2403661-037	**108**	**88**	**85**	70-130	
2408270905	P2403661-038	**111**	**86**	**86**	70-130	
2408270912	P2403661-039	**110**	**88**	**89**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **NASA White Sands Test Facility**
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Project ID: P2403661

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 8/26 - 8/28/24
Analyst: Simon Cao Date(s) Received: 9/3/24
Sampling Media: 1.0 L Silonite Summa Canister(s) / 1.0 L Summa Canister(s) Date(s) Analyzed: 9/9 - 9/17/24
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
2408270920	P2403661-040	**107**	**90**	**88**	70-130	
2408270957	P2403661-041	**106**	**86**	**87**	70-130	
2408270958	P2403661-042	**106**	**88**	**91**	70-130	
2408271006	P2403661-043	**104**	**90**	**92**	70-130	
2408271014	P2403661-044	**102**	**88**	**90**	70-130	
2408271022	P2403661-045	**105**	**87**	**89**	70-130	
2408271330	P2403661-046	**106**	**88**	**92**	70-130	
2408271338	P2403661-047	**106**	**89**	**91**	70-130	
2408271339	P2403661-048	**106**	**91**	**88**	70-130	
2408271346	P2403661-049	**105**	**90**	**89**	70-130	
2408271400	P2403661-050	**109**	**88**	**88**	70-130	
2408271409	P2403661-051	**109**	**89**	**90**	70-130	
2408271417	P2403661-052	**112**	**87**	**90**	70-130	
2408280830	P2403661-053	**111**	**85**	**88**	70-130	
2408280837	P2403661-054	**110**	**84**	**89**	70-130	
2408280845	P2403661-055	**108**	**90**	**92**	70-130	
2408280853	P2403661-056	**107**	**93**	**94**	70-130	
2408280901	P2403661-057	**111**	**90**	**91**	70-130	
2408280915	P2403661-058	**111**	**87**	**91**	70-130	
2408280923	P2403661-059	**115**	**86**	**91**	70-130	
2408280931	P2403661-060	**110**	**90**	**90**	70-130	
2408280943	P2403661-061	**115**	**86**	**92**	70-130	
2408280951	P2403661-062	**117**	**84**	**90**	70-130	
2408281000	P2403661-063	**120**	**83**	**92**	70-130	
2408281025	P2403661-064	**111**	**88**	**92**	70-130	
2408281033	P2403661-065	**111**	**89**	**93**	70-130	
2408281041	P2403661-066	**109**	**88**	**90**	70-130	
2408281042	P2403661-067	**113**	**88**	**92**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240909-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	184	183	**88**	**87**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	183	191	**85**	**88**	71-128	3	25	
79-00-5	1,1,2-Trichloroethane	216	203	194	**94**	**90**	71-119	4	25	
75-34-3	1,1-Dichloroethane	216	210	203	**97**	**94**	66-120	3	25	
75-35-4	1,1-Dichloroethene	208	209	203	**100**	**98**	75-120	2	25	
120-82-1	1,2,4-Trichlorobenzene	440	309	335	**70**	**76**	50-137	8	25	
95-63-6	1,2,4-Trimethylbenzene	212	168	172	**79**	**81**	67-130	3	25	
106-93-4	1,2-Dibromoethane (EDB)	206	187	184	**91**	**89**	69-129	2	25	
95-50-1	1,2-Dichlorobenzene	212	158	164	**75**	**77**	57-138	3	25	
107-06-2	1,2-Dichloroethane	206	188	179	**91**	**87**	64-138	4	25	
78-87-5	1,2-Dichloropropane	214	210	201	**98**	**94**	68-121	4	25	
108-67-8	1,3,5-Trimethylbenzene	218	174	175	**80**	**80**	66-125	0	25	
106-99-0	1,3-Butadiene	212	266	261	**125**	**123**	62-132	2	25	
541-73-1	1,3-Dichlorobenzene	214	161	165	**75**	**77**	57-135	3	25	
106-46-7	1,4-Dichlorobenzene	214	159	164	**74**	**77**	56-129	4	25	
123-91-1	1,4-Dioxane	214	214	208	**100**	**97**	76-127	3	25	
540-84-1	2,2,4-Trimethylpentane	214	214	204	**100**	**95**	62-124	5	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	409	397	**99**	**96**	70-125	3	25	
591-78-6	2-Hexanone	426	440	435	**103**	**102**	70-136	1	25	
67-63-0	2-Propanol	418	476	455	**114**	**109**	59-132	4	25	
107-05-1	3-Chloropropene	214	230	223	**107**	**104**	50-118	3	25	
622-96-8	4-Ethyltoluene	218	179	181	**82**	**83**	67-128	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240909-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	444	426	**104**	**100**	67-137	4	25	
67-64-1	Acetone	1,060	1060	988	**100**	**93**	61-120	7	25	
100-44-7	alpha-Chlorotoluene	430	415	430	**97**	**100**	58-151	3	25	
71-43-2	Benzene	206	182	179	**88**	**87**	73-128	1	25	
75-27-4	Bromodichloromethane	218	211	205	**97**	**94**	70-125	3	25	
75-25-2	Bromoform	218	195	196	**89**	**90**	63-132	1	25	
74-83-9	Bromomethane	210	227	212	**108**	**101**	72-120	7	25	
75-15-0	Carbon Disulfide	430	435	420	**101**	**98**	69-115	3	25	
56-23-5	Carbon Tetrachloride	210	183	180	**87**	**86**	71-134	1	25	
108-90-7	Chlorobenzene	218	174	173	**80**	**79**	63-124	1	25	
75-00-3	Chloroethane	212	218	211	**103**	**100**	67-123	3	25	
67-66-3	Chloroform	216	203	197	**94**	**91**	64-121	3	25	
74-87-3	Chloromethane	208	244	227	**117**	**109**	56-131	7	25	
156-59-2	cis-1,2-Dichloroethene	216	212	204	**98**	**94**	64-120	4	25	
10061-01-5	cis-1,3-Dichloropropene	212	207	201	**98**	**95**	87-137	3	25	
98-82-8	Cumene	212	172	175	**81**	**83**	66-126	2	25	
110-82-7	Cyclohexane	428	399	386	**93**	**90**	71-118	3	25	
124-48-1	Dibromochloromethane	214	183	182	**86**	**85**	67-128	1	25	
64-17-5	Ethanol	1,110	1170	1110	**105**	**100**	52-120	5	25	
100-41-4	Ethyl Benzene	218	175	174	**80**	**80**	64-119	0	25	
75-69-4	Freon 11	210	179	174	**85**	**83**	65-122	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240909-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/9/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	195	189	**93**	**90**	65-121	3	25	
76-14-2	Freon 114	208	216	204	**104**	**98**	63-120	6	25	
75-71-8	Freon 12	204	181	172	**89**	**84**	66-122	6	25	
142-82-5	Heptane	214	207	198	**97**	**93**	72-121	4	25	
87-68-3	Hexachlorobutadiene	214	143	151	**67**	**71**	50-133	6	25	
110-54-3	Hexane	212	215	206	**101**	**97**	60-125	4	25	
179601-23-1	m,p-Xylene	432	344	344	**80**	**80**	64-121	0	25	
1634-04-4	Methyl tert-butyl ether	216	206	200	**95**	**93**	65-124	2	25	
75-09-2	Methylene Chloride	208	196	189	**94**	**91**	71-123	3	25	
95-47-6	o-Xylene	216	171	176	**79**	**81**	66-122	3	25	
103-65-1	Propylbenzene	214	176	179	**82**	**84**	67-126	2	25	
100-42-5	Styrene	214	186	188	**87**	**88**	71-125	1	25	
127-18-4	Tetrachloroethene	214	171	169	**80**	**79**	55-132	1	25	
109-99-9	Tetrahydrofuran	404	390	375	**97**	**93**	67-117	4	25	
108-88-3	Toluene	214	164	163	**77**	**76**	64-121	1	25	
156-60-5	trans-1,2-Dichloroethene	218	221	212	**101**	**97**	67-123	4	25	
10061-02-6	trans-1,3-Dichloropropene	196	195	192	**99**	**98**	73-127	1	25	
79-01-6	Trichloroethene	214	185	181	**86**	**85**	68-124	1	25	
75-01-4	Vinyl Chloride	212	253	238	**119**	**112**	57-129	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240910-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	187	185	**89**	**88**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	174	182	**81**	**84**	71-128	4	25	
79-00-5	1,1,2-Trichloroethane	216	193	196	**89**	**91**	71-119	2	25	
75-34-3	1,1-Dichloroethane	216	198	201	**92**	**93**	66-120	1	25	
75-35-4	1,1-Dichloroethene	208	194	198	**93**	**95**	75-120	2	25	
120-82-1	1,2,4-Trichlorobenzene	440	302	337	**69**	**77**	50-137	11	25	
95-63-6	1,2,4-Trimethylbenzene	212	162	168	**76**	**79**	67-130	4	25	
106-93-4	1,2-Dibromoethane (EDB)	206	174	180	**84**	**87**	69-129	4	25	
95-50-1	1,2-Dichlorobenzene	212	152	162	**72**	**76**	57-138	5	25	
107-06-2	1,2-Dichloroethane	206	184	186	**89**	**90**	64-138	1	25	
78-87-5	1,2-Dichloropropane	214	197	201	**92**	**94**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	165	173	**76**	**79**	66-125	4	25	
106-99-0	1,3-Butadiene	212	286	285	**135**	**134**	62-132	0.7	25	**L**
541-73-1	1,3-Dichlorobenzene	214	153	161	**71**	**75**	57-135	5	25	
106-46-7	1,4-Dichlorobenzene	214	152	162	**71**	**76**	56-129	7	25	
123-91-1	1,4-Dioxane	214	204	207	**95**	**97**	76-127	2	25	
540-84-1	2,2,4-Trimethylpentane	214	203	207	**95**	**97**	62-124	2	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	378	389	**91**	**94**	70-125	3	25	
591-78-6	2-Hexanone	426	418	431	**98**	**101**	70-136	3	25	
67-63-0	2-Propanol	418	447	453	**107**	**108**	59-132	0.9	25	
107-05-1	3-Chloropropene	214	216	223	**101**	**104**	50-118	3	25	
622-96-8	4-Ethyltoluene	218	171	177	**78**	**81**	67-128	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240910-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	421	429	**99**	**101**	67-137	2	25	
67-64-1	Acetone	1,060	970	981	**92**	**93**	61-120	1	25	
100-44-7	alpha-Chlorotoluene	430	404	424	**94**	**99**	58-151	5	25	
71-43-2	Benzene	206	176	179	**85**	**87**	73-128	2	25	
75-27-4	Bromodichloromethane	218	206	206	**94**	**94**	70-125	0	25	
75-25-2	Bromoform	218	185	189	**85**	**87**	63-132	2	25	
74-83-9	Bromomethane	210	222	219	**106**	**104**	72-120	2	25	
75-15-0	Carbon Disulfide	430	404	410	**94**	**95**	69-115	1	25	
56-23-5	Carbon Tetrachloride	210	184	183	**88**	**87**	71-134	1	25	
108-90-7	Chlorobenzene	218	163	167	**75**	**77**	63-124	3	25	
75-00-3	Chloroethane	212	208	207	**98**	**98**	67-123	0	25	
67-66-3	Chloroform	216	196	198	**91**	**92**	64-121	1	25	
74-87-3	Chloromethane	208	227	225	**109**	**108**	56-131	0.9	25	
156-59-2	cis-1,2-Dichloroethene	216	200	201	**93**	**93**	64-120	0	25	
10061-01-5	cis-1,3-Dichloropropene	212	198	203	**93**	**96**	87-137	3	25	
98-82-8	Cumene	212	166	171	**78**	**81**	66-126	4	25	
110-82-7	Cyclohexane	428	381	389	**89**	**91**	71-118	2	25	
124-48-1	Dibromochloromethane	214	174	177	**81**	**83**	67-128	2	25	
64-17-5	Ethanol	1,110	1100	1110	**99**	**100**	52-120	1	25	
100-41-4	Ethyl Benzene	218	162	168	**74**	**77**	64-119	4	25	
75-69-4	Freon 11	210	176	177	**84**	**84**	65-122	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240910-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	185	187	**88**	**89**	65-121	1	25	
76-14-2	Freon 114	208	207	202	**100**	**97**	63-120	3	25	
75-71-8	Freon 12	204	177	175	**87**	**86**	66-122	1	25	
142-82-5	Heptane	214	195	201	**91**	**94**	72-121	3	25	
87-68-3	Hexachlorobutadiene	214	139	150	**65**	**70**	50-133	7	25	
110-54-3	Hexane	212	199	202	**94**	**95**	60-125	1	25	
179601-23-1	m,p-Xylene	432	322	333	**75**	**77**	64-121	3	25	
1634-04-4	Methyl tert-butyl ether	216	196	199	**91**	**92**	65-124	1	25	
75-09-2	Methylene Chloride	208	180	184	**87**	**88**	71-123	1	25	
95-47-6	o-Xylene	216	165	169	**76**	**78**	66-122	3	25	
103-65-1	Propylbenzene	214	170	175	**79**	**82**	67-126	4	25	
100-42-5	Styrene	214	173	179	**81**	**84**	71-125	4	25	
127-18-4	Tetrachloroethene	214	160	164	**75**	**77**	55-132	3	25	
109-99-9	Tetrahydrofuran	404	365	374	**90**	**93**	67-117	3	25	
108-88-3	Toluene	214	154	159	**72**	**74**	64-121	3	25	
156-60-5	trans-1,2-Dichloroethene	218	208	212	**95**	**97**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	190	194	**97**	**99**	73-127	2	25	
79-01-6	Trichloroethene	214	178	180	**83**	**84**	68-124	1	25	
75-01-4	Vinyl Chloride	212	256	242	**121**	**114**	57-129	6	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240911-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	186	184	**89**	**88**	67-125	1	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	163	171	**75**	**79**	71-128	5	25	
79-00-5	1,1,2-Trichloroethane	216	188	190	**87**	**88**	71-119	1	25	
75-34-3	1,1-Dichloroethane	216	191	194	**88**	**90**	66-120	2	25	
75-35-4	1,1-Dichloroethene	208	188	193	**90**	**93**	75-120	3	25	
120-82-1	1,2,4-Trichlorobenzene	440	296	323	**67**	**73**	50-137	9	25	
95-63-6	1,2,4-Trimethylbenzene	212	155	161	**73**	**76**	67-130	4	25	
106-93-4	1,2-Dibromoethane (EDB)	206	163	171	**79**	**83**	69-129	5	25	
95-50-1	1,2-Dichlorobenzene	212	146	153	**69**	**72**	57-138	4	25	
107-06-2	1,2-Dichloroethane	206	185	184	**90**	**89**	64-138	1	25	
78-87-5	1,2-Dichloropropane	214	190	194	**89**	**91**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	159	165	**73**	**76**	66-125	4	25	
106-99-0	1,3-Butadiene	212	275	279	**130**	**132**	62-132	2	25	
541-73-1	1,3-Dichlorobenzene	214	147	154	**69**	**72**	57-135	4	25	
106-46-7	1,4-Dichlorobenzene	214	146	153	**68**	**71**	56-129	4	25	
123-91-1	1,4-Dioxane	214	198	201	**93**	**94**	76-127	1	25	
540-84-1	2,2,4-Trimethylpentane	214	196	199	**92**	**93**	62-124	1	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	362	374	**87**	**90**	70-125	3	25	
591-78-6	2-Hexanone	426	394	408	**92**	**96**	70-136	4	25	
67-63-0	2-Propanol	418	432	440	**103**	**105**	59-132	2	25	
107-05-1	3-Chloropropene	214	210	211	**98**	**99**	50-118	1	25	
622-96-8	4-Ethyltoluene	218	163	166	**75**	**76**	67-128	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240911-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	411	415	**96**	**97**	67-137	1	25	
67-64-1	Acetone	1,060	931	954	**88**	**90**	61-120	2	25	
100-44-7	alpha-Chlorotoluene	430	386	407	**90**	**95**	58-151	5	25	
71-43-2	Benzene	206	171	173	**83**	**84**	73-128	1	25	
75-27-4	Bromodichloromethane	218	204	205	**94**	**94**	70-125	0	25	
75-25-2	Bromoform	218	178	181	**82**	**83**	63-132	1	25	
74-83-9	Bromomethane	210	215	211	**102**	**100**	72-120	2	25	
75-15-0	Carbon Disulfide	430	389	398	**90**	**93**	69-115	3	25	
56-23-5	Carbon Tetrachloride	210	185	182	**88**	**87**	71-134	1	25	
108-90-7	Chlorobenzene	218	152	159	**70**	**73**	63-124	4	25	
75-00-3	Chloroethane	212	197	200	**93**	**94**	67-123	1	25	
67-66-3	Chloroform	216	193	196	**89**	**91**	64-121	2	25	
74-87-3	Chloromethane	208	217	213	**104**	**102**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	216	194	197	**90**	**91**	64-120	1	25	
10061-01-5	cis-1,3-Dichloropropene	212	193	195	**91**	**92**	87-137	1	25	
98-82-8	Cumene	212	157	163	**74**	**77**	66-126	4	25	
110-82-7	Cyclohexane	428	372	376	**87**	**88**	71-118	1	25	
124-48-1	Dibromochloromethane	214	166	171	**78**	**80**	67-128	3	25	
64-17-5	Ethanol	1,110	1060	1080	**95**	**97**	52-120	2	25	
100-41-4	Ethyl Benzene	218	154	160	**71**	**73**	64-119	3	25	
75-69-4	Freon 11	210	176	177	**84**	**84**	65-122	0	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240911-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/11/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	183	182	**87**	**87**	65-121	0	25	
76-14-2	Freon 114	208	203	199	**98**	**96**	63-120	2	25	
75-71-8	Freon 12	204	173	171	**85**	**84**	66-122	1	25	
142-82-5	Heptane	214	190	189	**89**	**88**	72-121	1	25	
87-68-3	Hexachlorobutadiene	214	137	146	**64**	**68**	50-133	6	25	
110-54-3	Hexane	212	192	196	**91**	**92**	60-125	1	25	
179601-23-1	m,p-Xylene	432	307	317	**71**	**73**	64-121	3	25	
1634-04-4	Methyl tert-butyl ether	216	192	195	**89**	**90**	65-124	1	25	
75-09-2	Methylene Chloride	208	175	179	**84**	**86**	71-123	2	25	
95-47-6	o-Xylene	216	156	161	**72**	**75**	66-122	4	25	
103-65-1	Propylbenzene	214	161	168	**75**	**79**	67-126	5	25	
100-42-5	Styrene	214	163	169	**76**	**79**	71-125	4	25	
127-18-4	Tetrachloroethene	214	152	156	**71**	**73**	55-132	3	25	
109-99-9	Tetrahydrofuran	404	352	360	**87**	**89**	67-117	2	25	
108-88-3	Toluene	214	144	150	**67**	**70**	64-121	4	25	
156-60-5	trans-1,2-Dichloroethene	218	203	207	**93**	**95**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	186	188	**95**	**96**	73-127	1	25	
79-01-6	Trichloroethene	214	174	176	**81**	**82**	68-124	1	25	
75-01-4	Vinyl Chloride	212	245	233	**116**	**110**	57-129	5	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240912-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	215	225	**102**	**107**	67-125	5	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	203	192	**94**	**89**	71-128	5	25	
79-00-5	1,1,2-Trichloroethane	216	225	227	**104**	**105**	71-119	1	25	
75-34-3	1,1-Dichloroethane	216	232	231	**107**	**107**	66-120	0	25	
75-35-4	1,1-Dichloroethene	208	232	225	**112**	**108**	75-120	4	25	
120-82-1	1,2,4-Trichlorobenzene	440	364	371	**83**	**84**	50-137	1	25	
95-63-6	1,2,4-Trimethylbenzene	212	192	183	**91**	**86**	67-130	6	25	
106-93-4	1,2-Dibromoethane (EDB)	206	205	191	**100**	**93**	69-129	7	25	
95-50-1	1,2-Dichlorobenzene	212	179	173	**84**	**82**	57-138	2	25	
107-06-2	1,2-Dichloroethane	206	217	226	**105**	**110**	64-138	5	25	
78-87-5	1,2-Dichloropropane	214	231	231	**108**	**108**	68-121	0	25	
108-67-8	1,3,5-Trimethylbenzene	218	194	185	**89**	**85**	66-125	5	25	
106-99-0	1,3-Butadiene	212	337	340	**159**	**160**	62-132	0.6	25	**L**
541-73-1	1,3-Dichlorobenzene	214	182	174	**85**	**81**	57-135	5	25	
106-46-7	1,4-Dichlorobenzene	214	183	175	**86**	**82**	56-129	5	25	
123-91-1	1,4-Dioxane	214	255	256	**119**	**120**	76-127	0.8	25	
540-84-1	2,2,4-Trimethylpentane	214	235	237	**110**	**111**	62-124	0.9	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	450	442	**109**	**107**	70-125	2	25	
591-78-6	2-Hexanone	426	495	475	**116**	**112**	70-136	4	25	
67-63-0	2-Propanol	418	524	528	**125**	**126**	59-132	0.8	25	
107-05-1	3-Chloropropene	214	248	249	**116**	**116**	50-118	0	25	
622-96-8	4-Ethyltoluene	218	199	189	**91**	**87**	67-128	4	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240912-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	506	513	**119**	**120**	67-137	0.8	25	
67-64-1	Acetone	1,060	1140	1110	**108**	**105**	61-120	3	25	
100-44-7	alpha-Chlorotoluene	430	467	468	**109**	**109**	58-151	0	25	
71-43-2	Benzene	206	205	207	**100**	**100**	73-128	0	25	
75-27-4	Bromodichloromethane	218	241	249	**111**	**114**	70-125	3	25	
75-25-2	Bromoform	218	217	208	**100**	**95**	63-132	5	25	
74-83-9	Bromomethane	210	262	254	**125**	**121**	72-120	3	25	**L**
75-15-0	Carbon Disulfide	430	477	469	**111**	**109**	69-115	2	25	
56-23-5	Carbon Tetrachloride	210	212	225	**101**	**107**	71-134	6	25	
108-90-7	Chlorobenzene	218	190	178	**87**	**82**	63-124	6	25	
75-00-3	Chloroethane	212	241	233	**114**	**110**	67-123	4	25	
67-66-3	Chloroform	216	230	233	**106**	**108**	64-121	2	25	
74-87-3	Chloromethane	208	260	256	**125**	**123**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	216	234	237	**108**	**110**	64-120	2	25	
10061-01-5	cis-1,3-Dichloropropene	212	233	238	**110**	**112**	87-137	2	25	
98-82-8	Cumene	212	192	182	**91**	**86**	66-126	6	25	
110-82-7	Cyclohexane	428	445	447	**104**	**104**	71-118	0	25	
124-48-1	Dibromochloromethane	214	202	193	**94**	**90**	67-128	4	25	
64-17-5	Ethanol	1,110	1280	1260	**115**	**114**	52-120	0.9	25	
100-41-4	Ethyl Benzene	218	189	179	**87**	**82**	64-119	6	25	
75-69-4	Freon 11	210	205	210	**98**	**100**	65-122	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240912-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/13/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	219	219	**104**	**104**	65-121	0	25	
76-14-2	Freon 114	208	242	240	**116**	**115**	63-120	0.9	25	
75-71-8	Freon 12	204	200	201	**98**	**99**	66-122	1	25	
142-82-5	Heptane	214	229	229	**107**	**107**	72-121	0	25	
87-68-3	Hexachlorobutadiene	214	162	165	**76**	**77**	50-133	1	25	
110-54-3	Hexane	212	234	230	**110**	**108**	60-125	2	25	
179601-23-1	m,p-Xylene	432	378	360	**88**	**83**	64-121	6	25	
1634-04-4	Methyl tert-butyl ether	216	230	236	**106**	**109**	65-124	3	25	
75-09-2	Methylene Chloride	208	214	209	**103**	**100**	71-123	3	25	
95-47-6	o-Xylene	216	192	182	**89**	**84**	66-122	6	25	
103-65-1	Propylbenzene	214	197	188	**92**	**88**	67-126	4	25	
100-42-5	Styrene	214	203	192	**95**	**90**	71-125	5	25	
127-18-4	Tetrachloroethene	214	187	176	**87**	**82**	55-132	6	25	
109-99-9	Tetrahydrofuran	404	439	429	**109**	**106**	67-117	3	25	
108-88-3	Toluene	214	181	167	**85**	**78**	64-121	9	25	
156-60-5	trans-1,2-Dichloroethene	218	247	245	**113**	**112**	67-123	0.9	25	
10061-02-6	trans-1,3-Dichloropropene	196	224	232	**114**	**118**	73-127	3	25	
79-01-6	Trichloroethene	214	208	209	**97**	**98**	68-124	1	25	
75-01-4	Vinyl Chloride	212	292	289	**138**	**136**	57-129	1	25	**L**

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240916-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	219	222	**104**	**106**	67-125	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	200	204	**93**	**94**	71-128	1	25	
79-00-5	1,1,2-Trichloroethane	216	220	222	**102**	**103**	71-119	1	25	
75-34-3	1,1-Dichloroethane	216	221	222	**102**	**103**	66-120	1	25	
75-35-4	1,1-Dichloroethene	208	221	223	**106**	**107**	75-120	0.9	25	
120-82-1	1,2,4-Trichlorobenzene	440	392	413	**89**	**94**	50-137	5	25	
95-63-6	1,2,4-Trimethylbenzene	212	197	200	**93**	**94**	67-130	1	25	
106-93-4	1,2-Dibromoethane (EDB)	206	204	207	**99**	**100**	69-129	1	25	
95-50-1	1,2-Dichlorobenzene	212	183	188	**86**	**89**	57-138	3	25	
107-06-2	1,2-Dichloroethane	206	214	215	**104**	**104**	64-138	0	25	
78-87-5	1,2-Dichloropropane	214	216	219	**101**	**102**	68-121	1	25	
108-67-8	1,3,5-Trimethylbenzene	218	200	203	**92**	**93**	66-125	1	25	
106-99-0	1,3-Butadiene	212	312	316	**147**	**149**	62-132	1	25	**L**
541-73-1	1,3-Dichlorobenzene	214	187	190	**87**	**89**	57-135	2	25	
106-46-7	1,4-Dichlorobenzene	214	186	189	**87**	**88**	56-129	1	25	
123-91-1	1,4-Dioxane	214	246	248	**115**	**116**	76-127	0.9	25	
540-84-1	2,2,4-Trimethylpentane	214	219	222	**102**	**104**	62-124	2	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	422	429	**102**	**104**	70-125	2	25	
591-78-6	2-Hexanone	426	470	480	**110**	**113**	70-136	3	25	
67-63-0	2-Propanol	418	479	481	**115**	**115**	59-132	0	25	
107-05-1	3-Chloropropene	214	225	226	**105**	**106**	50-118	0.9	25	
622-96-8	4-Ethyltoluene	218	204	207	**94**	**95**	67-128	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240916-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	479	483	**112**	**113**	67-137	0.9	25	
67-64-1	Acetone	1,060	1050	1050	**99**	**99**	61-120	0	25	
100-44-7	alpha-Chlorotoluene	430	498	510	**116**	**119**	58-151	3	25	
71-43-2	Benzene	206	197	199	**96**	**97**	73-128	1	25	
75-27-4	Bromodichloromethane	218	240	242	**110**	**111**	70-125	0.9	25	
75-25-2	Bromoform	218	226	230	**104**	**106**	63-132	2	25	
74-83-9	Bromomethane	210	245	242	**117**	**115**	72-120	2	25	
75-15-0	Carbon Disulfide	430	453	455	**105**	**106**	69-115	0.9	25	
56-23-5	Carbon Tetrachloride	210	220	223	**105**	**106**	71-134	0.9	25	
108-90-7	Chlorobenzene	218	190	194	**87**	**89**	63-124	2	25	
75-00-3	Chloroethane	212	223	222	**105**	**105**	67-123	0	25	
67-66-3	Chloroform	216	226	227	**105**	**105**	64-121	0	25	
74-87-3	Chloromethane	208	236	235	**113**	**113**	56-131	0	25	
156-59-2	cis-1,2-Dichloroethene	216	222	225	**103**	**104**	64-120	1	25	
10061-01-5	cis-1,3-Dichloropropene	212	228	229	**108**	**108**	87-137	0	25	
98-82-8	Cumene	212	196	200	**92**	**94**	66-126	2	25	
110-82-7	Cyclohexane	428	431	438	**101**	**102**	71-118	1	25	
124-48-1	Dibromochloromethane	214	210	212	**98**	**99**	67-128	1	25	
64-17-5	Ethanol	1,110	1150	1150	**104**	**104**	52-120	0	25	
100-41-4	Ethyl Benzene	218	191	194	**88**	**89**	64-119	1	25	
75-69-4	Freon 11	210	206	207	**98**	**99**	65-122	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240916-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/16/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	219	220	**104**	**105**	65-121	1	25	
76-14-2	Freon 114	208	236	238	**113**	**114**	63-120	0.9	25	
75-71-8	Freon 12	204	199	199	**98**	**98**	66-122	0	25	
142-82-5	Heptane	214	216	222	**101**	**104**	72-121	3	25	
87-68-3	Hexachlorobutadiene	214	181	187	**85**	**87**	50-133	2	25	
110-54-3	Hexane	212	219	222	**103**	**105**	60-125	2	25	
179601-23-1	m,p-Xylene	432	385	392	**89**	**91**	64-121	2	25	
1634-04-4	Methyl tert-butyl ether	216	227	230	**105**	**106**	65-124	0.9	25	
75-09-2	Methylene Chloride	208	202	206	**97**	**99**	71-123	2	25	
95-47-6	o-Xylene	216	194	198	**90**	**92**	66-122	2	25	
103-65-1	Propylbenzene	214	199	203	**93**	**95**	67-126	2	25	
100-42-5	Styrene	214	203	207	**95**	**97**	71-125	2	25	
127-18-4	Tetrachloroethene	214	192	195	**90**	**91**	55-132	1	25	
109-99-9	Tetrahydrofuran	404	405	413	**100**	**102**	67-117	2	25	
108-88-3	Toluene	214	179	181	**84**	**85**	64-121	1	25	
156-60-5	trans-1,2-Dichloroethene	218	232	235	**106**	**108**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	222	224	**113**	**114**	73-127	0.9	25	
79-01-6	Trichloroethene	214	205	208	**96**	**97**	68-124	1	25	
75-01-4	Vinyl Chloride	212	272	275	**128**	**130**	57-129	2	25	**L**

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240917-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
71-55-6	1,1,1-Trichloroethane	210	225	226	**107**	**108**	67-125	0.9	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	182	188	**84**	**87**	71-128	4	25	
79-00-5	1,1,2-Trichloroethane	216	214	219	**99**	**101**	71-119	2	25	
75-34-3	1,1-Dichloroethane	216	217	222	**100**	**103**	66-120	3	25	
75-35-4	1,1-Dichloroethene	208	216	219	**104**	**105**	75-120	1	25	
120-82-1	1,2,4-Trichlorobenzene	440	379	388	**86**	**88**	50-137	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	185	188	**87**	**89**	67-130	2	25	
106-93-4	1,2-Dibromoethane (EDB)	206	184	191	**89**	**93**	69-129	4	25	
95-50-1	1,2-Dichlorobenzene	212	172	176	**81**	**83**	57-138	2	25	
107-06-2	1,2-Dichloroethane	206	226	223	**110**	**108**	64-138	2	25	
78-87-5	1,2-Dichloropropane	214	209	215	**98**	**100**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	218	186	190	**85**	**87**	66-125	2	25	
106-99-0	1,3-Butadiene	212	329	328	**155**	**155**	62-132	0	25	**L**
541-73-1	1,3-Dichlorobenzene	214	174	177	**81**	**83**	57-135	2	25	
106-46-7	1,4-Dichlorobenzene	214	172	177	**80**	**83**	56-129	4	25	
123-91-1	1,4-Dioxane	214	239	242	**112**	**113**	76-127	0.9	25	
540-84-1	2,2,4-Trimethylpentane	214	215	220	**100**	**103**	62-124	3	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	414	409	420	**99**	**101**	70-125	2	25	
591-78-6	2-Hexanone	426	447	460	**105**	**108**	70-136	3	25	
67-63-0	2-Propanol	418	487	492	**117**	**118**	59-132	0.9	25	
107-05-1	3-Chloropropene	214	228	231	**107**	**108**	50-118	0.9	25	
622-96-8	4-Ethyltoluene	218	189	193	**87**	**89**	67-128	2	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.
L = Laboratory control sample recovery outside the specified limits, results may be biased high.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240917-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
108-10-1	4-Methyl-2-pentanone	426	470	480	**110**	**113**	67-137	3	25	
67-64-1	Acetone	1,060	1020	1050	**96**	**99**	61-120	3	25	
100-44-7	alpha-Chlorotoluene	430	467	476	**109**	**111**	58-151	2	25	
71-43-2	Benzene	206	190	195	**92**	**95**	73-128	3	25	
75-27-4	Bromodichloromethane	218	243	244	**111**	**112**	70-125	0.9	25	
75-25-2	Bromoform	218	211	214	**97**	**98**	63-132	1	25	
74-83-9	Bromomethane	210	239	237	**114**	**113**	72-120	0.9	25	
75-15-0	Carbon Disulfide	430	440	447	**102**	**104**	69-115	2	25	
56-23-5	Carbon Tetrachloride	210	228	227	**109**	**108**	71-134	0.9	25	
108-90-7	Chlorobenzene	218	173	177	**79**	**81**	63-124	3	25	
75-00-3	Chloroethane	212	212	217	**100**	**102**	67-123	2	25	
67-66-3	Chloroform	216	228	229	**106**	**106**	64-121	0	25	
74-87-3	Chloromethane	208	236	233	**113**	**112**	56-131	0.9	25	
156-59-2	cis-1,2-Dichloroethene	216	222	226	**103**	**105**	64-120	2	25	
10061-01-5	cis-1,3-Dichloropropene	212	222	228	**105**	**108**	87-137	3	25	
98-82-8	Cumene	212	181	185	**85**	**87**	66-126	2	25	
110-82-7	Cyclohexane	428	414	425	**97**	**99**	71-118	2	25	
124-48-1	Dibromochloromethane	214	195	198	**91**	**93**	67-128	2	25	
64-17-5	Ethanol	1,110	1150	1170	**104**	**105**	52-120	1	25	
100-41-4	Ethyl Benzene	218	174	178	**80**	**82**	64-119	2	25	
75-69-4	Freon 11	210	214	212	**102**	**101**	65-122	1	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P240917-DLCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount LCS / DLCS µg/m³	Result LCS µg/m³	Result DLCS µg/m³	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
76-13-1	Freon 113	210	217	217	**103**	**103**	65-121	0	25	
76-14-2	Freon 114	208	237	232	**114**	**112**	63-120	2	25	
75-71-8	Freon 12	204	205	201	**100**	**99**	66-122	1	25	
142-82-5	Heptane	214	210	217	**98**	**101**	72-121	3	25	
87-68-3	Hexachlorobutadiene	214	174	176	**81**	**82**	50-133	1	25	
110-54-3	Hexane	212	214	219	**101**	**103**	60-125	2	25	
179601-23-1	m,p-Xylene	432	354	361	**82**	**84**	64-121	2	25	
1634-04-4	Methyl tert-butyl ether	216	226	228	**105**	**106**	65-124	0.9	25	
75-09-2	Methylene Chloride	208	195	201	**94**	**97**	71-123	3	25	
95-47-6	o-Xylene	216	179	184	**83**	**85**	66-122	2	25	
103-65-1	Propylbenzene	214	185	188	**86**	**88**	67-126	2	25	
100-42-5	Styrene	214	183	190	**86**	**89**	71-125	3	25	
127-18-4	Tetrachloroethene	214	175	178	**82**	**83**	55-132	1	25	
109-99-9	Tetrahydrofuran	404	394	405	**98**	**100**	67-117	2	25	
108-88-3	Toluene	214	160	167	**75**	**78**	64-121	4	25	
156-60-5	trans-1,2-Dichloroethene	218	232	234	**106**	**107**	67-123	0.9	25	
10061-02-6	trans-1,3-Dichloropropene	196	221	224	**113**	**114**	73-127	0.9	25	
79-01-6	Trichloroethene	214	202	205	**94**	**96**	68-124	2	25	
75-01-4	Vinyl Chloride	212	273	265	**129**	**125**	57-129	3	25	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661

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

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09092402.D

Analyst: Simon Cao Date Analyzed: 9/9/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:15

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	172281	7.27	779950	9.33	210669	14.85
	Upper Limit	241193	7.60	1091930	9.66	294937	15.18
	Lower Limit	103369	6.94	467970	9.00	126401	14.52
	Client Sample ID						
01	Method Blank	165133	7.23	753408	9.30	199052	14.84
02	Lab Control Sample	163954	7.28	735999	9.33	201759	14.85
03	Duplicate Lab Control Sample	167642	7.27	743663	9.33	202122	14.85
04	2408260855	159627	7.23	702309	9.30	191022	14.84
05	2408260903	145219	7.23	643673	9.30	174569	14.84
06	2408260820	146955	7.23	644781	9.30	183353	14.84
07	2408260825	149229	7.22	652922	9.30	185240	14.84
08	2408260903 (Dilution)	140636	7.22	625083	9.30	178040	14.84
09	2408261038	131592	7.23	583665	9.30	168520	14.84
10	2408260840	131053	7.23	577385	9.30	174984	14.84
11	2408260847	134286	7.22	587517	9.30	177116	14.84
12	2408260848	134642	7.23	588859	9.30	180734	14.84
13	2408260959	131926	7.23	571456	9.30	177104	14.84
14	2408261025	134423	7.24	577476	9.30	185417	14.84
15	2408260904	138532	7.23	603214	9.30	189490	14.84
16	2408260935	134663	7.23	588809	9.30	182753	14.84
17	2408260936	133403	7.23	581119	9.30	180509	14.84
18	2408260944	130698	7.24	569428	9.31	184624	14.84
19	2408260951	140725	7.23	614541	9.30	188738	14.84
20	2408260958	144898	7.23	642838	9.30	188957	14.84
21	2408260855 (Dilution)	162290	7.21	712386	9.29	196526	14.83

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661

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

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09102402.D

Analyst: Simon Cao Date Analyzed: 9/10/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:42

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	141801	7.28	631796	9.33	181883	14.85
	Upper Limit	198521	7.61	884514	9.66	254636	15.18
	Lower Limit	85081	6.95	379078	9.00	109130	14.52
	Client Sample ID						
01	Method Blank	141596	7.23	627961	9.30	177653	14.84
02	Lab Control Sample	147384	7.27	650458	9.33	185328	14.85
03	Duplicate Lab Control Sample	148693	7.27	662686	9.33	185783	14.85
04	2408261026	149358	7.26	673765	9.32	193079	14.85
05	2408260847 (Dilution)	153428	7.23	692415	9.30	192085	14.84
06	2408260848 (Dilution)	155635	7.23	691040	9.30	190749	14.84
07	2408260951 (Dilution)	152949	7.23	683813	9.30	191371	14.84
08	2408261044	150272	7.23	658117	9.30	186573	14.84
09	2408261048	145194	7.23	633691	9.30	183397	14.84
10	2408261325	135717	7.23	603831	9.30	176063	14.84
11	2408261044 (Dilution)	131029	7.22	575447	9.30	166924	14.84
12	2408261330	136343	7.22	586831	9.30	175073	14.84
13	2408261336	130593	7.23	570256	9.30	168380	14.84
14	2408261343	119477	7.25	527813	9.31	158519	14.84
15	2408270846	120106	7.24	530853	9.31	161837	14.84
16	2408261351	132957	7.24	592320	9.30	176320	14.84
17	2408261415	134151	7.22	590508	9.30	175009	14.84
18	2408261420	127825	7.23	556966	9.30	169463	14.84
19	2408261426	128787	7.24	556315	9.31	181084	14.85
20	2408261434	143799	7.25	634486	9.32	197174	14.85

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09102402.D
Analyst: Simon Cao Date Analyzed: 9/10/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:42
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	141801	7.28	631796	9.33	181883	14.85
	Upper Limit	198521	7.61	884514	9.66	254636	15.18
	Lower Limit	85081	6.95	379078	9.00	109130	14.52
	Client Sample ID						
21	2408261435	145117	7.23	637964	9.30	190583	14.84
22	2408261442	145455	7.23	634064	9.30	190797	14.84
23	2408270830	140725	7.23	616044	9.30	183132	14.84
24	2408270838	133328	7.23	587707	9.30	176943	14.84
25	2408261336 (Dilution)	154529	7.22	669918	9.29	183954	14.83
26	2408270846 (Dilution)	137351	7.22	605756	9.30	170837	14.84
27							
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38							
39							
40							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661

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

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09112402.D

Analyst: Simon Cao Date Analyzed: 9/11/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 10:17

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	132069	7.28	586791	9.33	174609	14.85
	Upper Limit	184897	7.61	821507	9.66	244453	15.18
	Lower Limit	79241	6.95	352075	9.00	104765	14.52
	Client Sample ID						
01	Method Blank	132703	7.23	590808	9.30	172055	14.84
02	Lab Control Sample	140782	7.28	618841	9.34	182441	14.85
03	Duplicate Lab Control Sample	144456	7.27	645084	9.33	185326	14.85
04	2408261434 (Dilution)	142006	7.23	624262	9.30	179385	14.84
05	2408261442 (Dilution)	138108	7.23	611263	9.30	173674	14.84
06	2408261344	128675	7.23	568386	9.30	166628	14.84
07	2408261351 (Dilution)	142988	7.23	624702	9.30	180831	14.84
08	2408261343 (Dilution)	133129	7.23	588175	9.30	170331	14.84
09	2408270847	132564	7.23	584064	9.30	170889	14.84
10	2408270900	128405	7.22	562273	9.30	165242	14.84
11	2408270905	125591	7.23	553101	9.30	167753	14.84
12	2408270912	130906	7.24	582465	9.32	172887	14.84
13	2408270920	138493	7.22	605839	9.30	175424	14.84
14	2408270957	138874	7.24	602407	9.31	185387	14.84
15	2408270958	143899	7.24	637785	9.32	191326	14.84
16	2408271006	147002	7.23	644935	9.30	190604	14.84
17	2408271014	145156	7.23	631904	9.30	188436	14.84
18	2408271022	142646	7.24	626531	9.31	191130	14.85
19	2408271330	142049	7.23	624691	9.31	190381	14.84
20	2408271338	144106	7.25	644908	9.31	191716	14.84
21	2408271014 (Dilution)	166423	7.22	757937	9.30	209500	14.84

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
AREA LOWER LIMIT = 60% of internal standard area
RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
I = Internal standard not within the speicified limits.

Client: **NASA White Sands Test Facility** ALS Project ID: P2403661

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

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09122402.D

Analyst: Simon Cao Date Analyzed: 9/12/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 11:12

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	160637	7.27	713109	9.33	198686	14.85
	Upper Limit	224892	7.60	998353	9.66	278160	15.18
	Lower Limit	96382	6.94	427865	9.00	119212	14.52
	Client Sample ID						
01	Method Blank	150547	7.23	670142	9.30	183451	14.84
02	2408270847 (Dilution)	164838	7.23	741020	9.30	204927	14.84
03	2408270912 (Dilution)	151318	7.23	665812	9.30	186422	14.84
04	2408270920 (Dilution)	143368	7.23	643924	9.30	180806	14.84
05	2408270957 (Dilution)	143409	7.23	634592	9.30	180107	14.84
06	Lab Control Sample	146344	7.28	656239	9.33	185355	14.85
07	2408271006 (Dilution)	159683	7.23	714982	9.30	201930	14.84
08	2408271022 (Dilution)	141547	7.22	632968	9.30	178675	14.84
09	2408271338 (Dilution)	138173	7.23	614554	9.30	171429	14.84
10	2408271339	137243	7.23	605938	9.30	174205	14.84
11	2408271346	136470	7.23	593641	9.30	171370	14.84
12	2408271409	129738	7.23	567332	9.31	168581	14.84
13	2408271417	123069	7.24	557210	9.31	169790	14.84
14	2408280830	127773	7.23	563231	9.30	173721	14.84
15	2408280837	127977	7.24	556825	9.31	175332	14.84
16	Duplicate Lab Control Sample	132874	7.27	586257	9.33	181812	14.85
17	2408271417 (Dilution)	158916	7.23	694892	9.30	195035	14.83
18	2408271409 (Dilution)	135769	7.23	598950	9.30	175386	14.84
19	2408271400	133214	7.23	579420	9.30	172525	14.84
20	2408271400 (Dilution)	133314	7.23	584305	9.30	170914	14.84

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
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RT UPPER LIMIT = 0.33 minutes of internal standard RT
RT LOWER LIMIT = 0.33 minutes of internal standard RT

# Column used to flag values outside QC limits with an I.
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Client: **NASA White Sands Test Facility** ALS Project ID: P2403661

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

Internal Standard Area and RT Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09162402.D

Analyst: Simon Cao Date Analyzed: 9/16/24

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:15

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	151402	7.27	670623	9.33	184456	14.85
	Upper Limit	211963	7.60	938872	9.66	258238	15.18
	Lower Limit	90841	6.94	402374	9.00	110674	14.52
	Client Sample ID						
01	Method Blank	137364	7.23	616857	9.30	168036	14.84
02	Lab Control Sample	143742	7.28	638232	9.33	178579	14.85
03	Duplicate Lab Control Sample	144493	7.28	640020	9.34	177971	14.85
04	2408280853	140846	7.23	619341	9.30	172626	14.84
05	2408280845	129400	7.23	564697	9.30	162099	14.84
06	2408280901	124277	7.23	544277	9.30	156013	14.84
07	2408280923	117687	7.23	514963	9.30	154712	14.84
08	2408280931 (Lab Dup - Dilution)	115313	7.23	504480	9.30	149956	14.84
09	2408280943	114284	7.24	496835	9.31	153704	14.84
10	2408280951	111191	7.23	489160	9.30	151839	14.84
11	2408281000	108609	7.25	481507	9.32	153938	14.85
12	2408281025	124950	7.23	554497	9.30	165800	14.84
13	2408281033	127579	7.23	565868	9.30	167234	14.84
14	2408281041	124937	7.23	539105	9.30	160294	14.84
15	2408281042	120842	7.23	525235	9.30	157705	14.84
16							
17							
18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = 140% of internal standard area
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Client: **NASA White Sands Test Facility** ALS Project ID: P2403661
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Internal Standard Area and RT Summary

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 09172402.D
Analyst: Simon Cao Date Analyzed: 9/17/24
Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 09:33
Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	118938	7.27	520898	9.33	161358	14.85
	Upper Limit	166513	7.60	729257	9.66	225901	15.18
	Lower Limit	71363	6.94	312539	9.00	96815	14.52
	Client Sample ID						
01	Method Blank	120602	7.23	528010	9.30	156896	14.84
02	Lab Control Sample	124055	7.28	551539	9.33	167258	14.85
03	Duplicate Lab Control Sample	129287	7.27	573370	9.33	171701	14.85
04	2408280845 (Dilution)	129013	7.23	576624	9.30	167129	14.84
05	2408280915	129152	7.26	574190	9.32	171391	14.85
06	2408280931	132178	7.24	586681	9.31	169790	14.84
07	2408281000 (Dilution)	128634	7.23	573021	9.30	167887	14.84
08	2408281033 (Dilution)	127627	7.23	557053	9.30	162006	14.84
09	2408280901 (Dilution)	125367	7.23	551428	9.30	162534	14.84
10	2408281041 (Dilution)	118592	7.23	520904	9.30	157731	14.84
11							
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18							
19							
20							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
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RT LOWER LIMIT = 0.33 minutes of internal standard RT

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Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:04:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	146955	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	644781	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	183353	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	358457	13.035	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
57) Toluene-d8 (SS2)	12.43	98	739195	11.492	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
73) Bromofluorobenzene (SS3)	16.82	174	234804	10.915	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	21459m	0.601	ng		
4) Chloromethane	3.50	50	1045	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	449	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	23488	1.473	ng		75
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.55	56	3045	0.250	ng		97
13) Acetone	4.64	58	33932	2.521	ng		97
14) Trichlorofluoromethane	4.76	101	92297	2.712	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	18649	0.352	ng		81
16) Acrylonitrile	5.04	53	65	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.34	59	1038	N.D.			
19) Methylene Chloride	5.36	84	602	N.D.			
20) 3-Chloro-1-propene (Al...	5.35	41	252	N.D.			
21) Trichlorotrifluoroethane	5.58	151	90042	6.679	ng		92
22) Carbon Disulfide	5.60	76	56657	1.078	ng		86
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	1075	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.69	72	3968	0.416	ng	#	66
28) cis-1,2-Dichloroethene	7.07	61	1441	0.057	ng		93
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	3149	0.492	ng		98
31) n-Hexane	7.30	57	1585	0.054	ng	#	95
32) Chloroform	7.36	83	6689	0.228	ng		97
34) Tetrahydrofuran (THF)	7.78	72	339	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	7.99	62	133	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	1137	No Calib		#	
40) 1-Butanol	8.81	56	10317	No Calib		#	
41) Benzene	8.89	78	3198	0.053	ng		94
42) Carbon Tetrachloride	9.08	117	457	N.D.			
43) Cyclohexane	0.00	84	0	N.D. d			
44) tert-Amyl Methyl Ether	9.63	73	106	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.15	130	329	N.D.			
48) 1,4-Dioxane	10.13	88	271	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	398	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:04:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

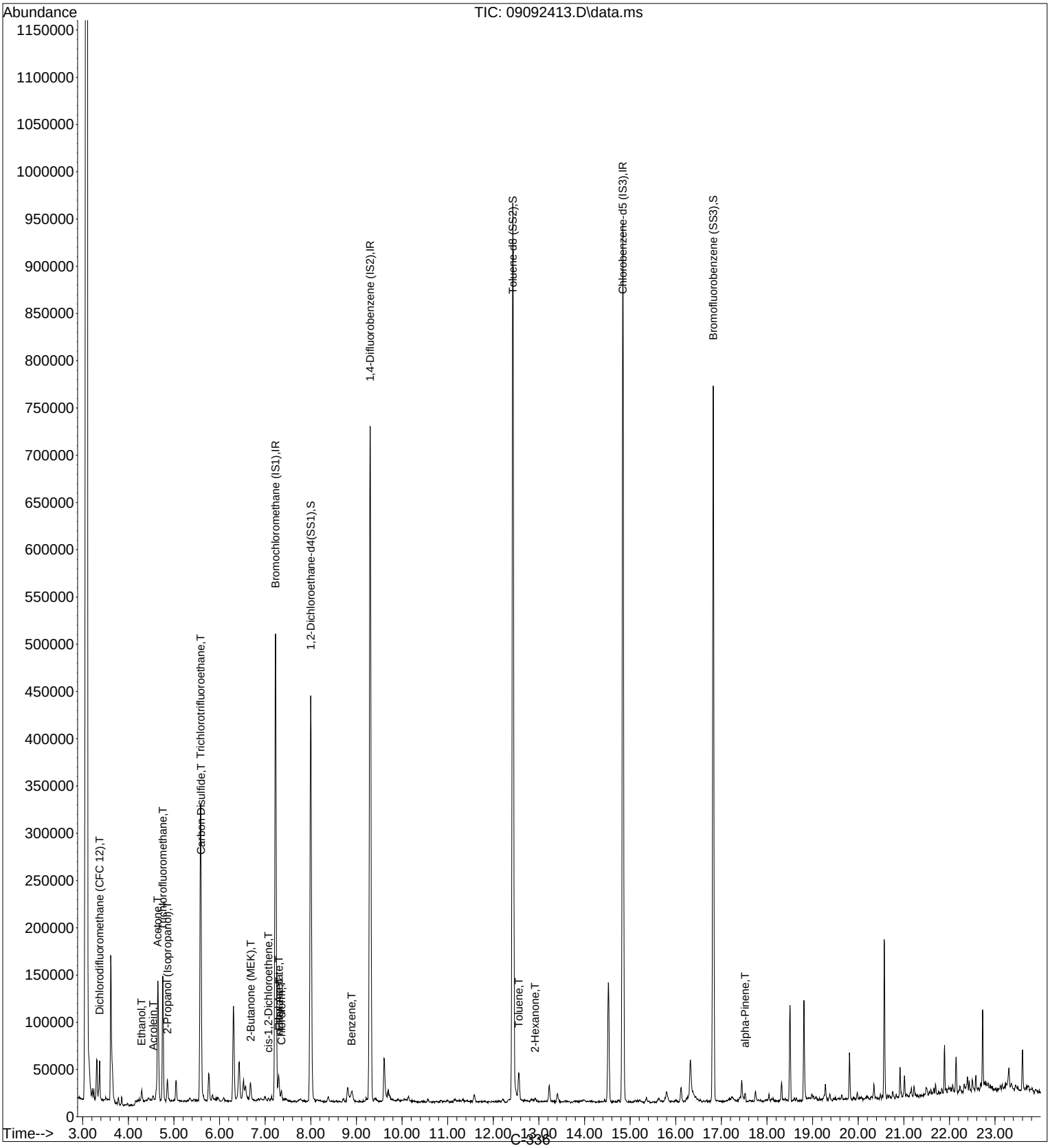
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.57	71	336	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.33	58	412	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	22205	0.319	ng		93
59) 2-Hexanone	12.92	43	3112	0.072	ng	#	66
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.78	43	1772	N.D.			
63) n-Octane	0.00	57	0	N.D.			
64) Tetrachloroethene	0.00	166	0	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	15.41	91	1292	N.D.			
67) m- & p-Xylenes	15.63	91	2851	N.D.			
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.11	104	738	N.D.			
70) o-Xylene	16.25	91	1417	N.D.			
71) n-Nonane	16.62	43	803	N.D.			
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.02	105	120	N.D.			
75) alpha-Pinene	17.52	93	3265	0.085	ng		83
76) n-Propylbenzene	17.67	91	583	N.D.			
77) 3-Ethyltoluene	17.02	105	120	No Calib		#	
78) 4-Ethyltoluene	17.86	105	279	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	139	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.02	105	120	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.43	105	504	N.D.			
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.56	91	348	N.D.			
85) 1,3-Dichlorobenzene	18.58	146	291	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	275	N.D.			
87) sec-Butylbenzene	18.74	105	245	N.D.			
88) 4-Isopropyltoluene (p-...	18.92	119	1360	N.D.			
89) 1,2,3-Trimethylbenzene	17.02	105	120	No Calib		#	
90) 1,2-Dichlorobenzene	19.03	146	248	N.D.			
91) d-Limonene	19.09	68	452	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	20.84	180	746	N.D.			
95) Naphthalene	20.94	128	1393	N.D.			
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	21.30	225	382	N.D.			
98) Cyclohexanone	15.20	55	425	No Calib		#	
99) tert-Butylbenzene	18.42	119	166	N.D.			
100) n-Butylbenzene	19.38	91	891	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:04:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:04:09 2024 9/9/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

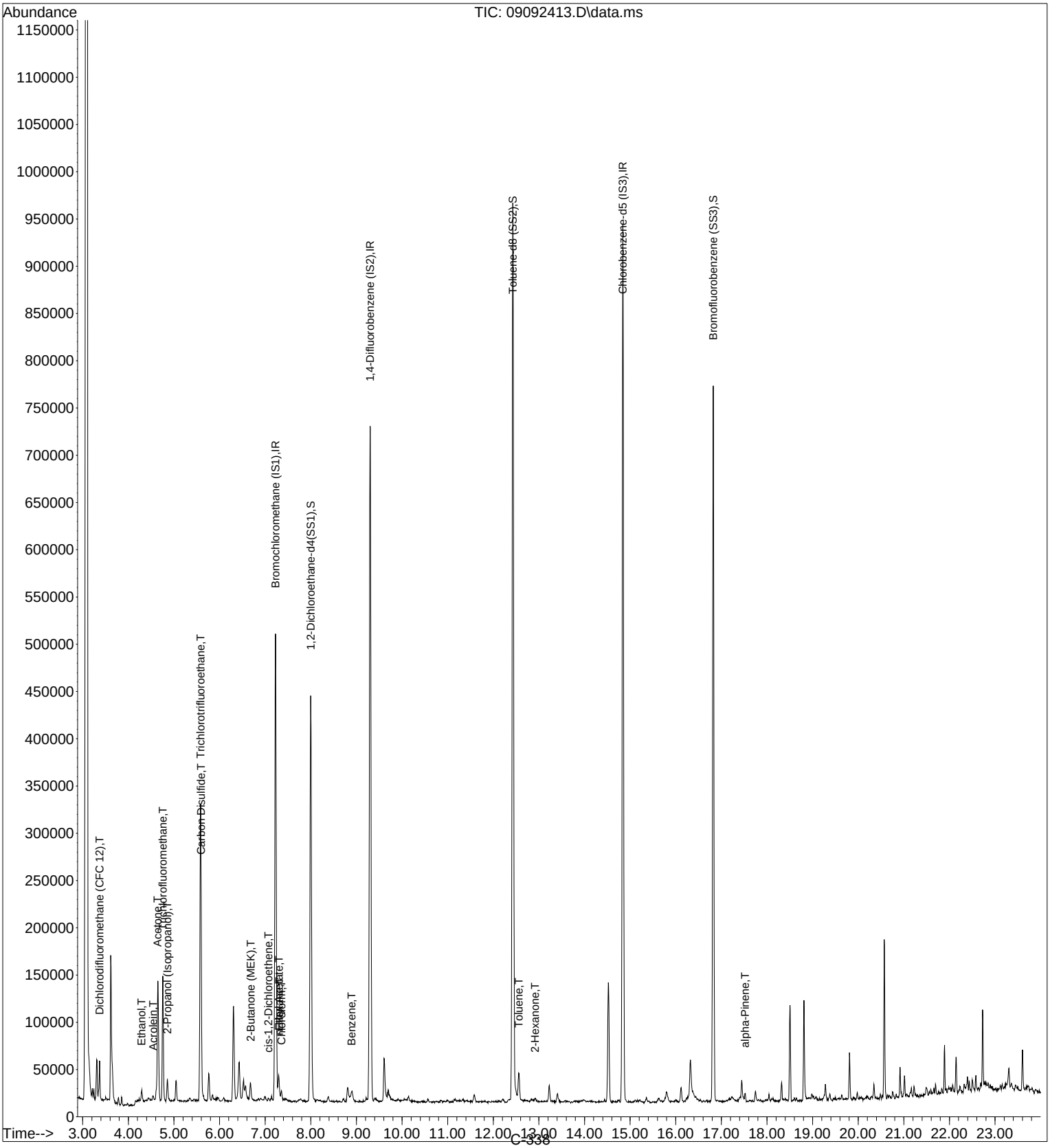
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	146955	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	644781	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	183353	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	358457	13.035	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
57) Toluene-d8 (SS2)	12.43	98	739195	11.492	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
73) Bromofluorobenzene (SS3)	16.82	174	234804	10.915	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.36%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	21459m	0.601	ng		
10) Ethanol	4.29	45	23488	1.473	ng		75
12) Acrolein	4.55	56	3045	0.250	ng		97
13) Acetone	4.64	58	33932	2.521	ng		97
14) Trichlorofluoromethane	4.76	101	92297	2.712	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	18649	0.352	ng		81
21) Trichlorotrifluoroethane	5.58	151	90042	6.679	ng		92
22) Carbon Disulfide	5.60	76	56657	1.078	ng		86
27) 2-Butanone (MEK)	6.69	72	3968	0.416	ng	#	66
28) cis-1,2-Dichloroethene	7.07	61	1441	0.057	ng		93
30) Ethyl Acetate	7.30	61	3149	0.492	ng		98
31) n-Hexane	7.30	57	1585	0.054	ng	#	95
32) Chloroform	7.36	83	6689	0.228	ng		97
41) Benzene	8.89	78	3198	0.053	ng		94
58) Toluene	12.56	91	22205	0.319	ng		93
59) 2-Hexanone	12.92	43	3112	0.072	ng	#	66
75) alpha-Pinene	17.52	93	3265	0.085	ng		83

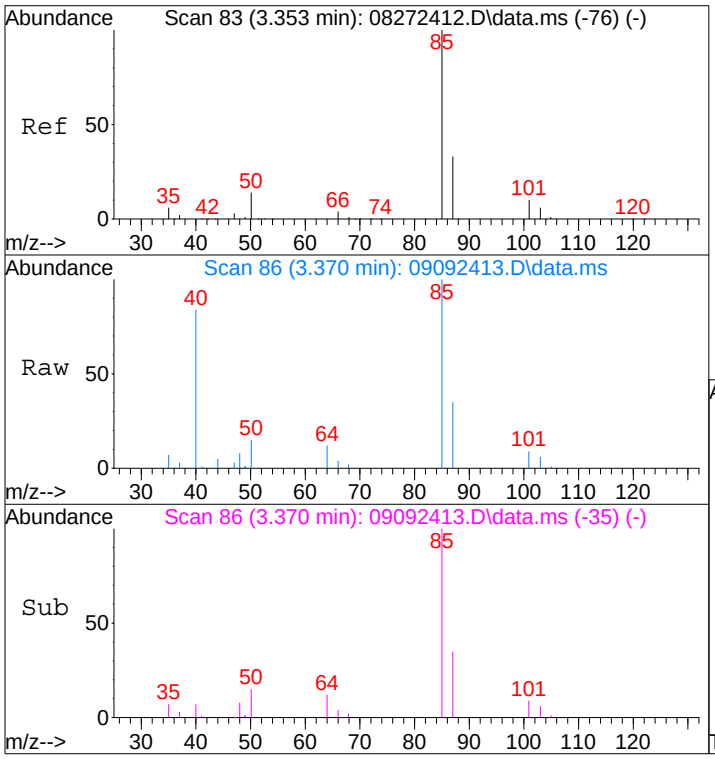
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:04:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

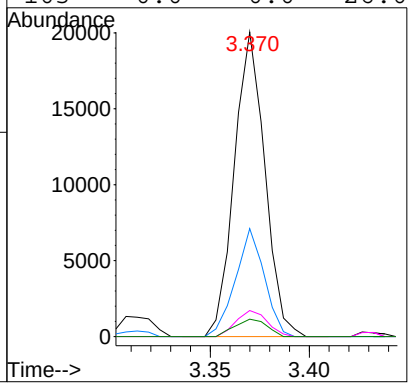


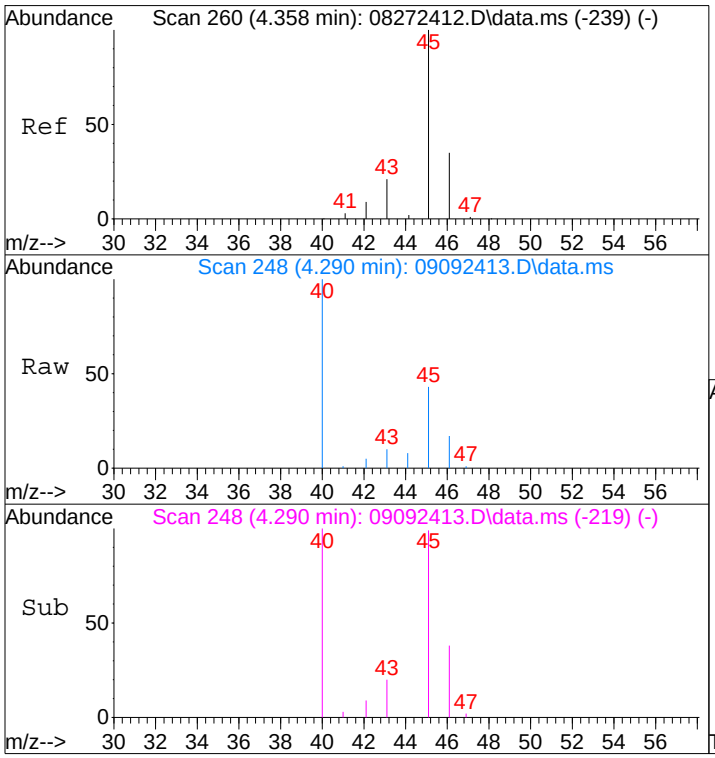


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.042 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 85 Resp: 21459

Ion	Ratio	Lower	Upper
85	100		
87	1.8	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

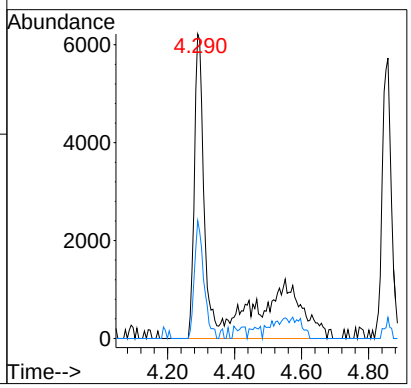


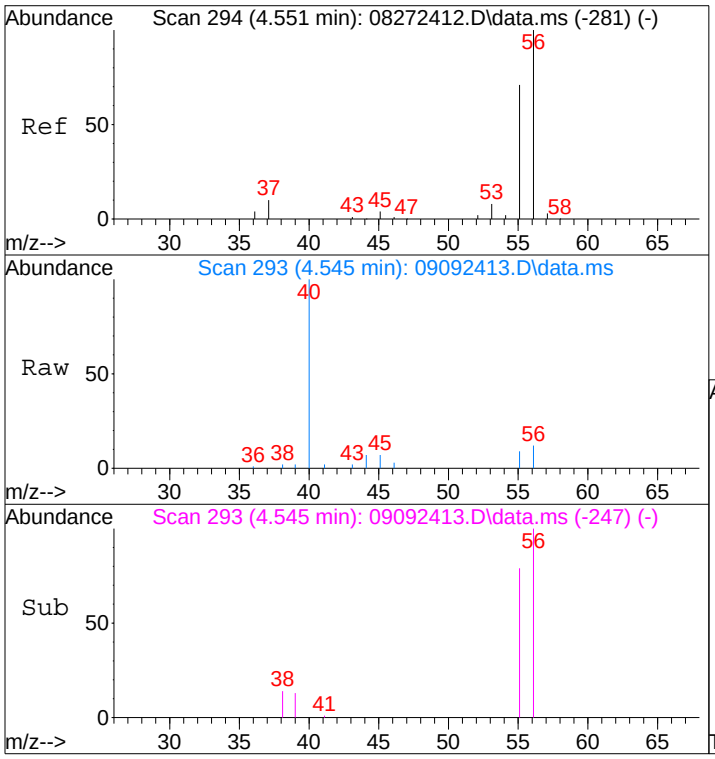


#10
Ethanol
Concen: 1.47 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.083 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 45 Resp: 23488

Ion	Ratio	Lower	Upper
45	100		
46	20.0	14.2	54.2

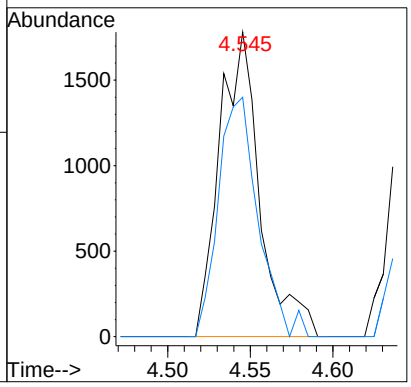


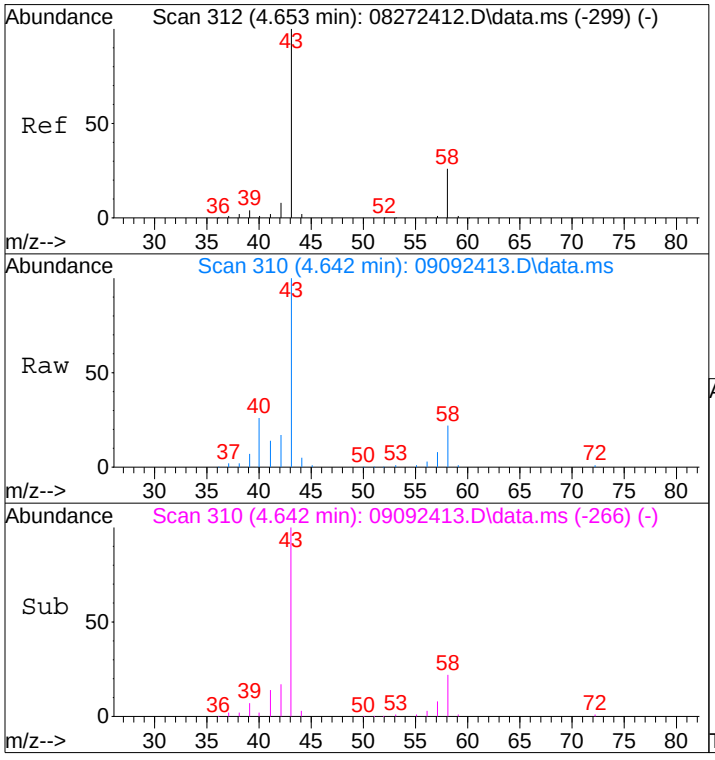


#12
Acrolein
Concen: 0.25 ng
RT: 4.55 min Scan# 293
Delta R.T. 0.010 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 56 Resp: 3045

Ion	Ratio	Lower	Upper
56	100		
55	77.0	54.7	94.7

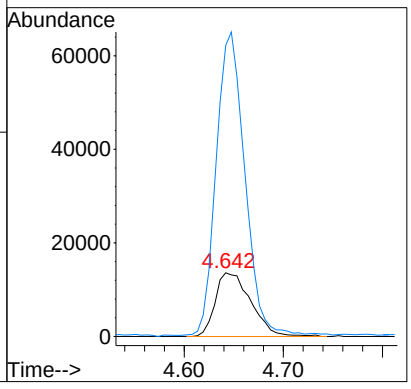


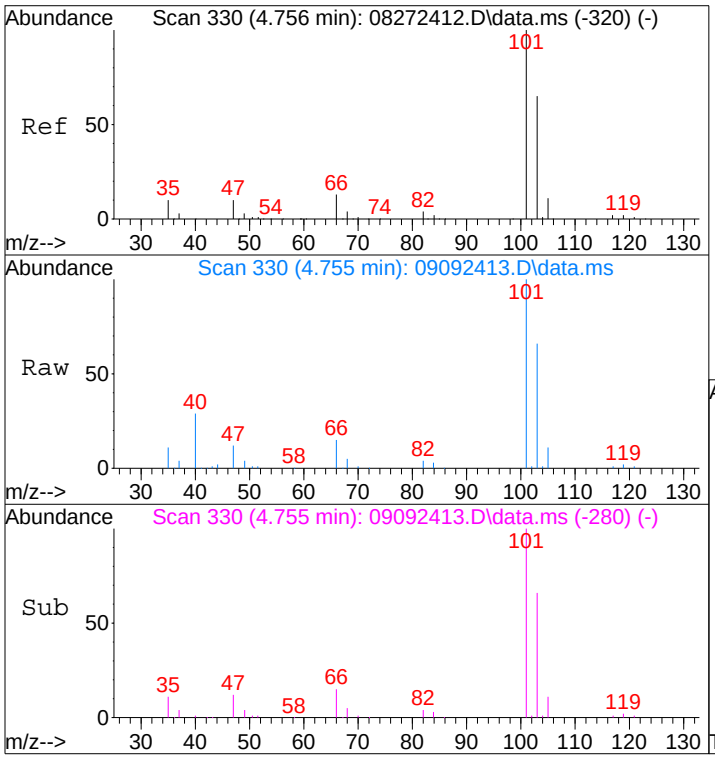


#13
Acetone
Concen: 2.52 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.000 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 58 Resp: 33932

Ion	Ratio	Lower	Upper
58	100		
43	384.4	347.3	407.3

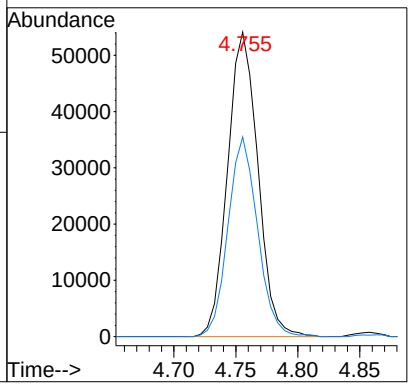


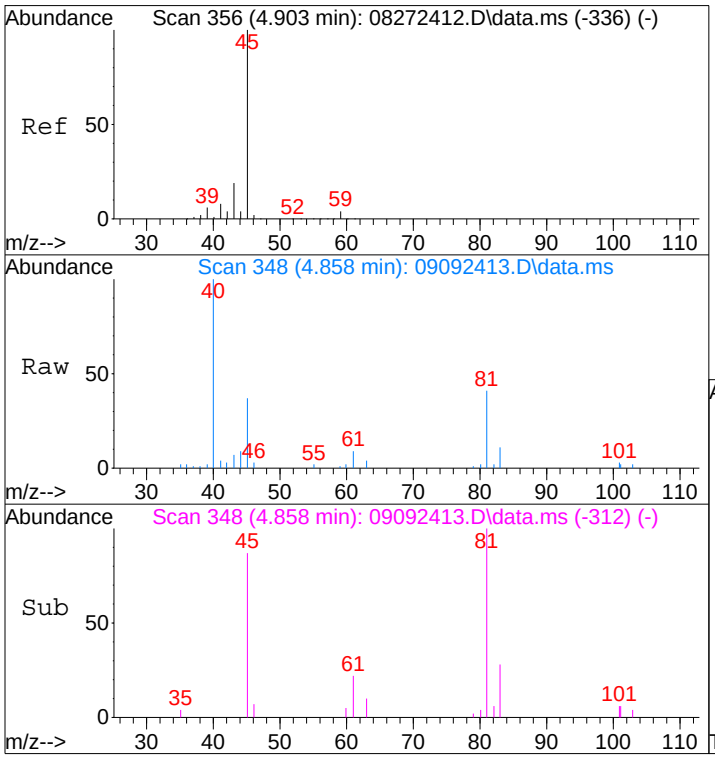


#14
Trichlorofluoromethane
Concen: 2.71 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion:101 Resp: 92297

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.9	84.9

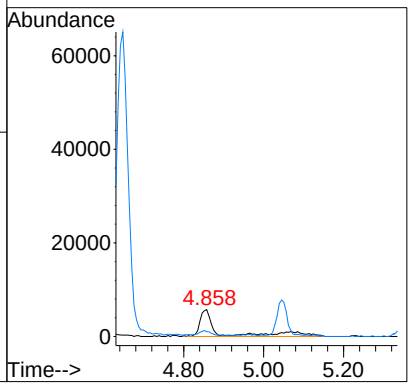


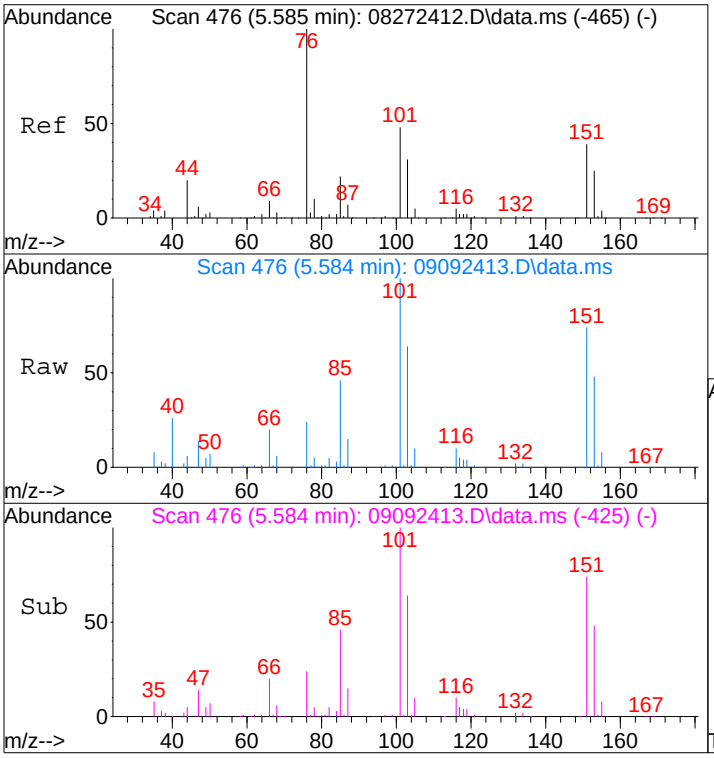


#15
2-Propanol (Isopropanol)
Concen: 0.35 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.048 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 45 Resp: 18649

Ion	Ratio	Lower	Upper
45	100		
43	11.2	0.0	40.0

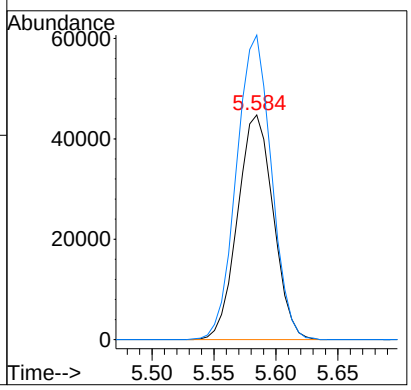


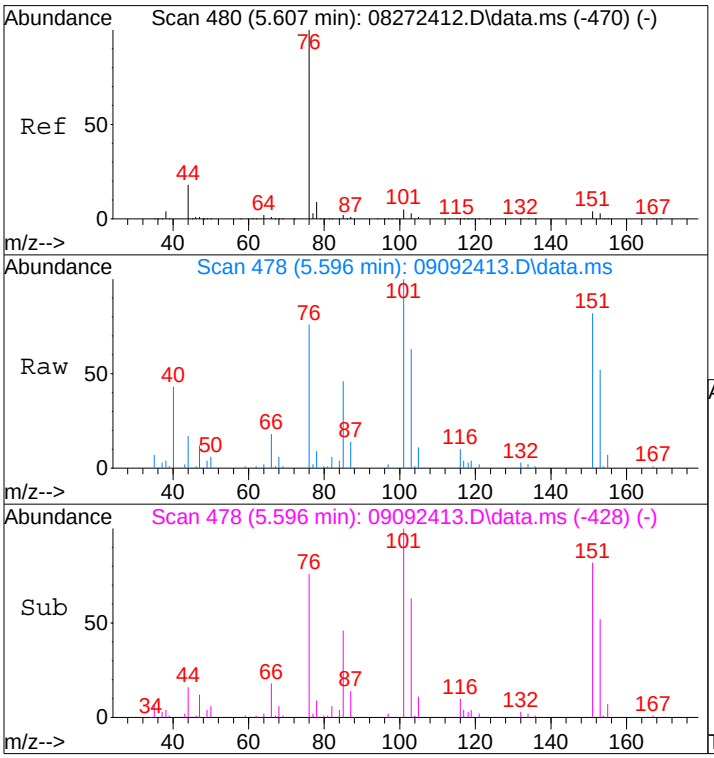


#21
Trichlorotrifluoroethane
Concen: 6.68 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion:151 Resp: 90042

Ion	Ratio	Lower	Upper
151	100		
101	132.7	103.4	143.4

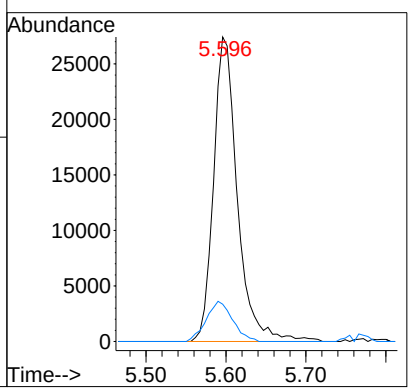


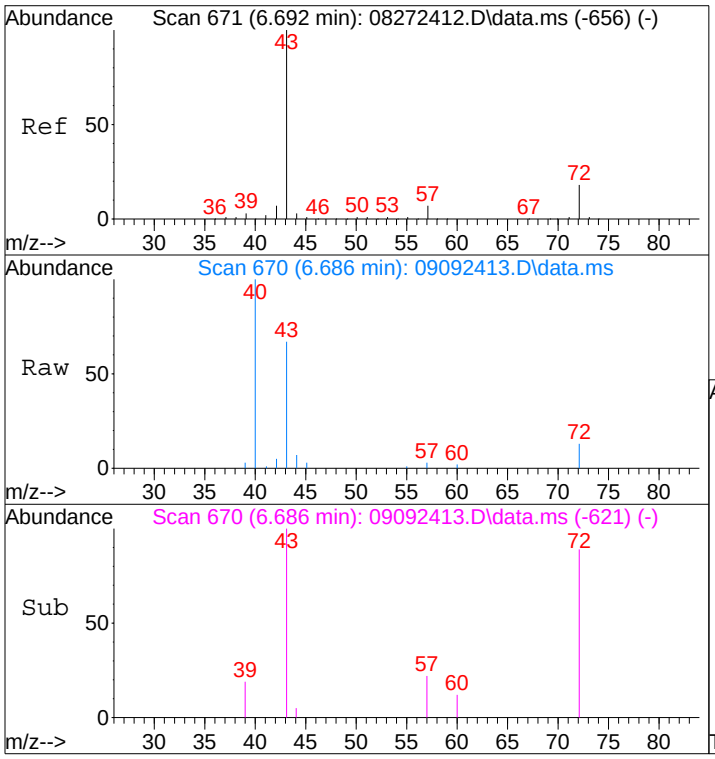


#22
Carbon Disulfide
Concen: 1.08 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 76 Resp: 56657

Ion	Ratio	Lower	Upper
76	100		
78	14.6	0.0	29.6

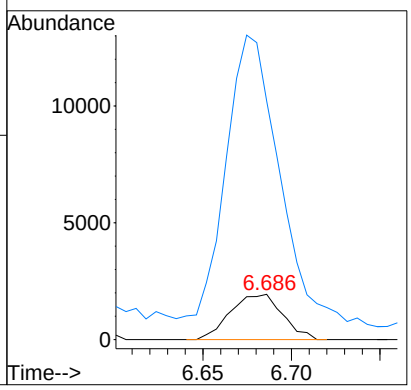


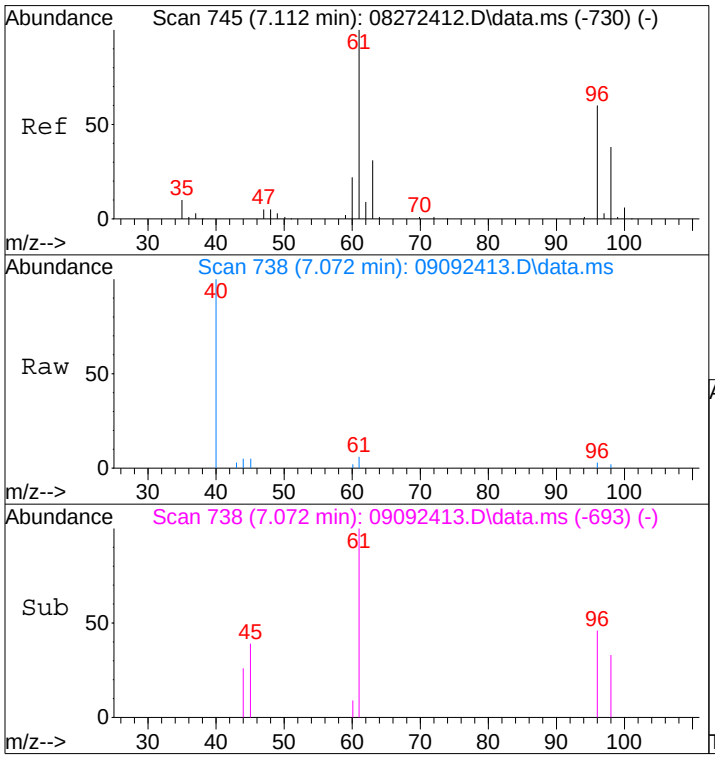


#27
2-Butanone (MEK)
Concen: 0.42 ng
RT: 6.69 min Scan# 670
Delta R.T. 0.028 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 72 Resp: 3968

Ion	Ratio	Lower	Upper
72	100		
43	668.9	548.0	588.0#

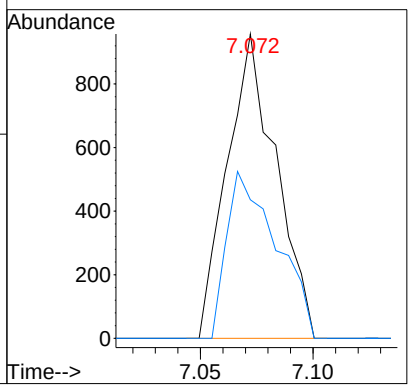


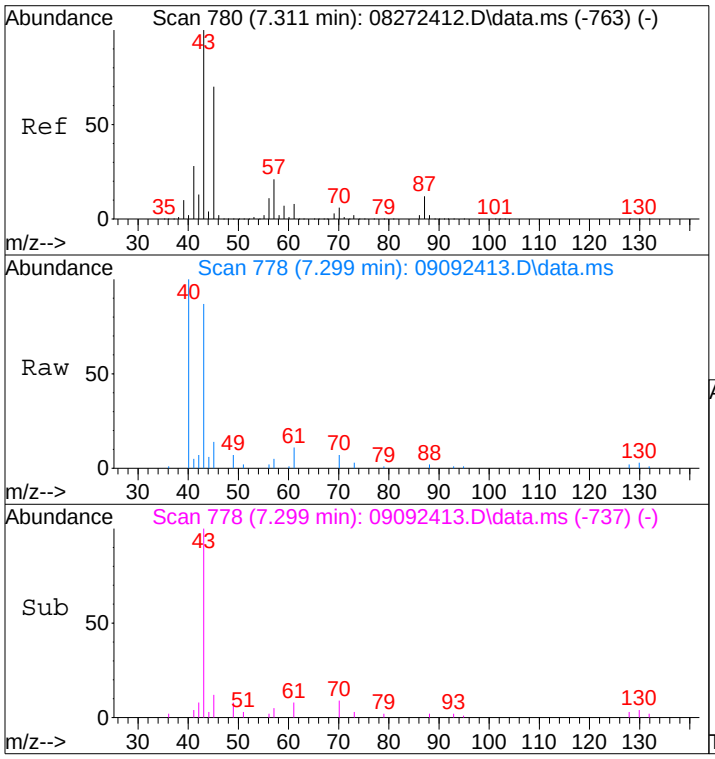


#28
cis-1,2-Dichloroethene
Concen: 0.06 ng
RT: 7.07 min Scan# 738
Delta R.T. 0.004 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 61 Resp: 1441

Ion	Ratio	Lower	Upper
61	100		
96	56.0	41.1	81.1

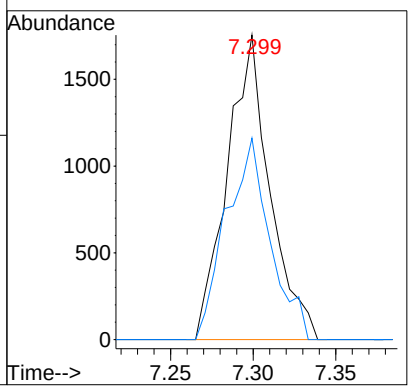


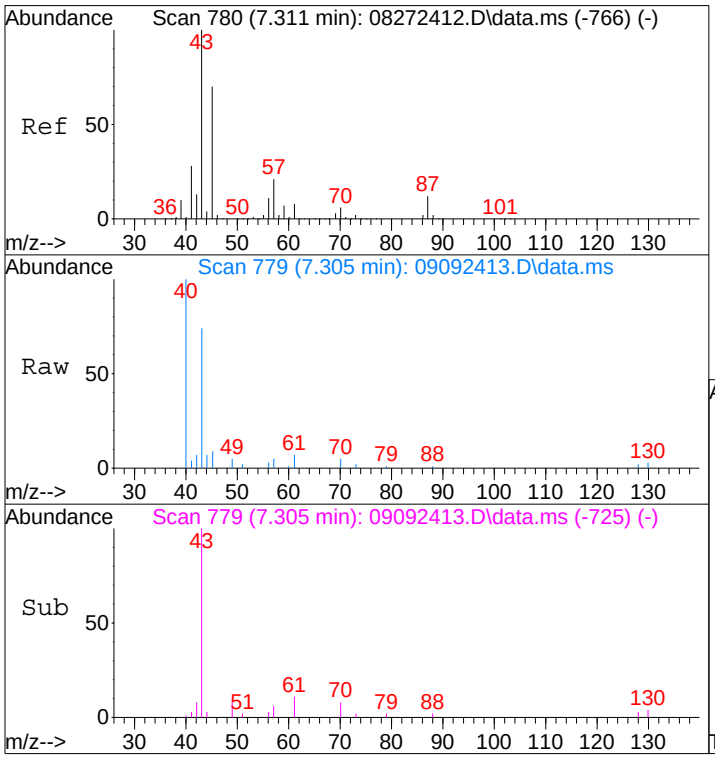


#30
Ethyl Acetate
Concen: 0.49 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.034 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 61 Resp: 3149

Ion	Ratio	Lower	Upper
61	100		
70	68.1	49.9	89.9

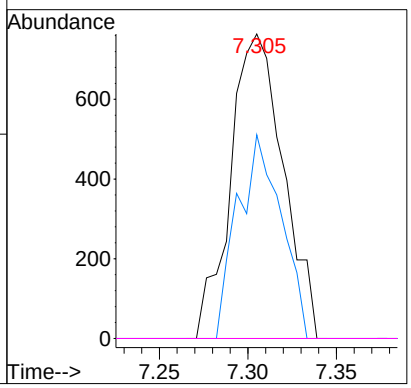


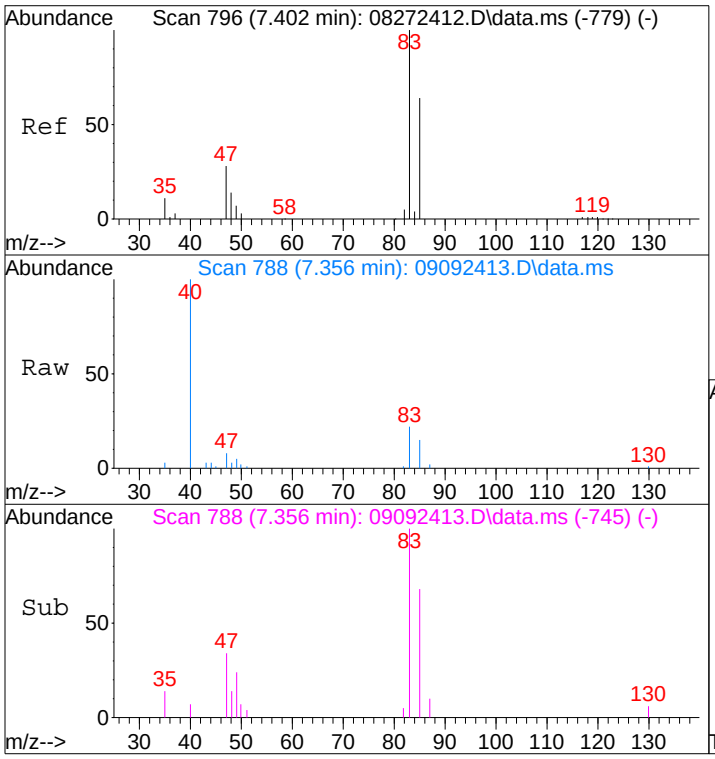


#31
n-Hexane
Concen: 0.05 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 57 Resp: 1585

Ion	Ratio	Lower	Upper
57	100		
56	55.3	44.2	66.2
86	0.0	9.3	13.9#

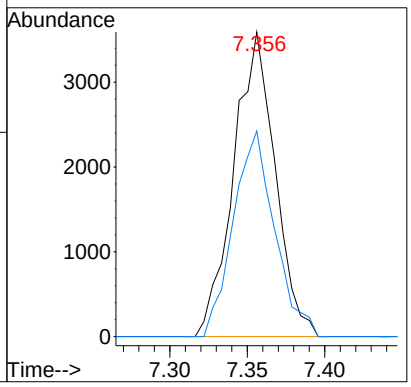


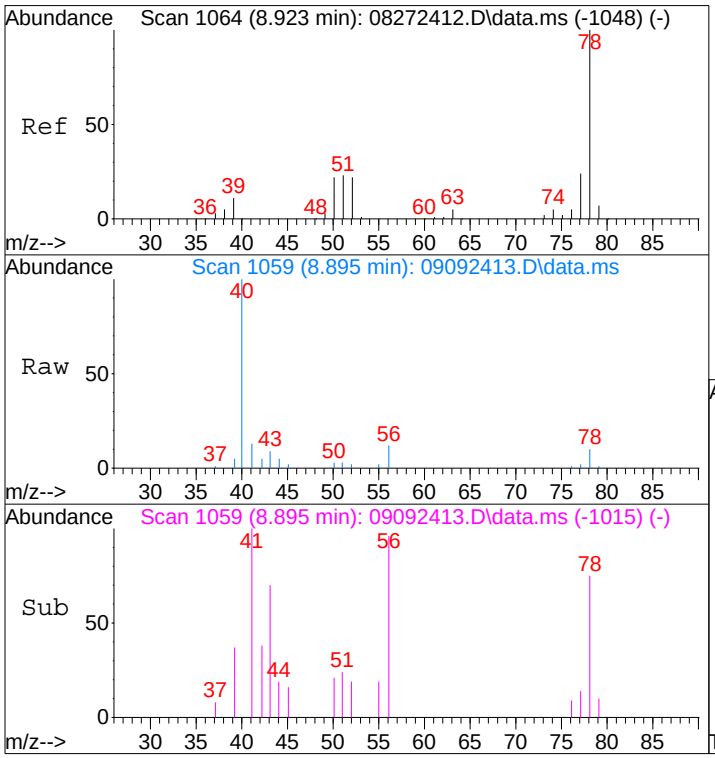


#32
Chloroform
Concen: 0.23 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.004 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 83 Resp: 6689

Ion	Ratio	Lower	Upper
83	100		
85	67.3	45.3	85.3

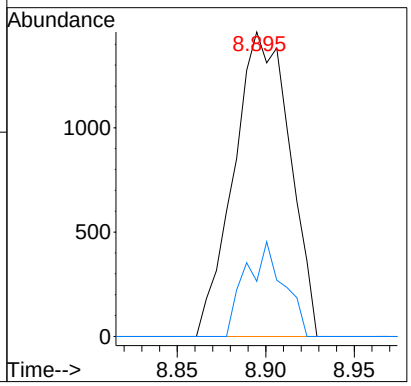


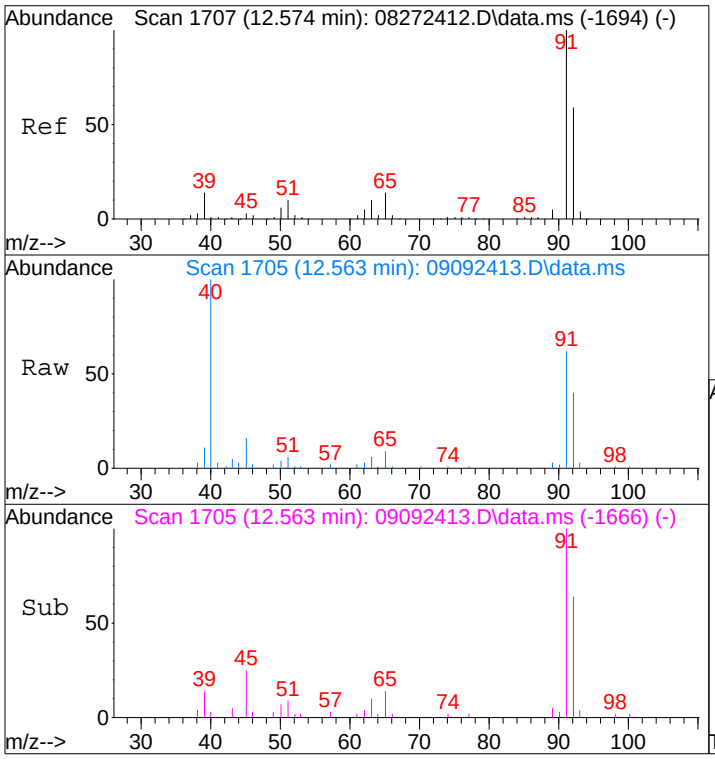


#41
Benzene
Concen: 0.05 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 78 Resp: 3198

Ion	Ratio	Lower	Upper
78	100		
77	21.1	3.9	43.9

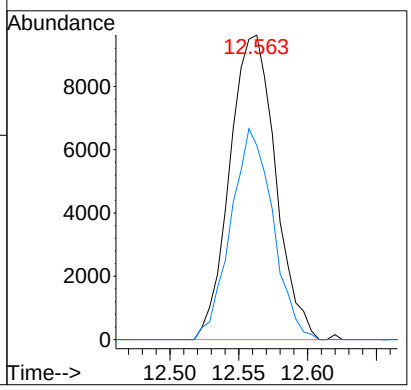


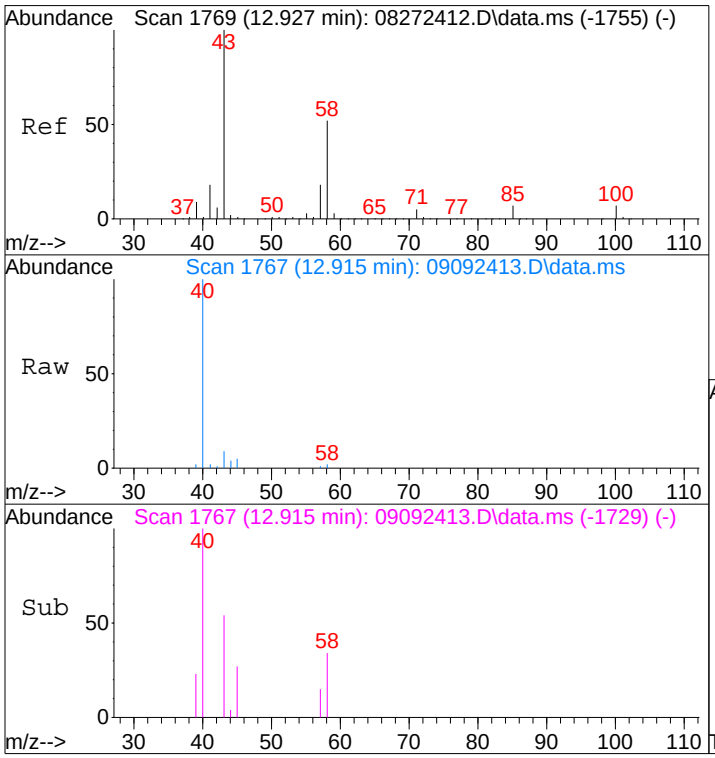


#58
Toluene
Concen: 0.32 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 91 Resp: 22205

Ion	Ratio	Lower	Upper
91	100		
92	63.8	38.5	78.5

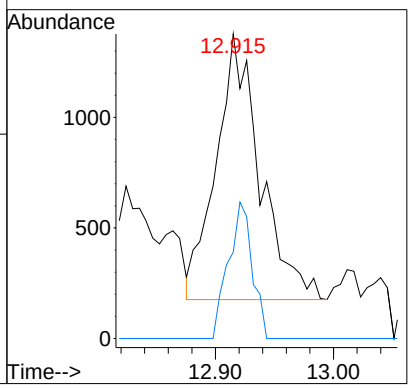


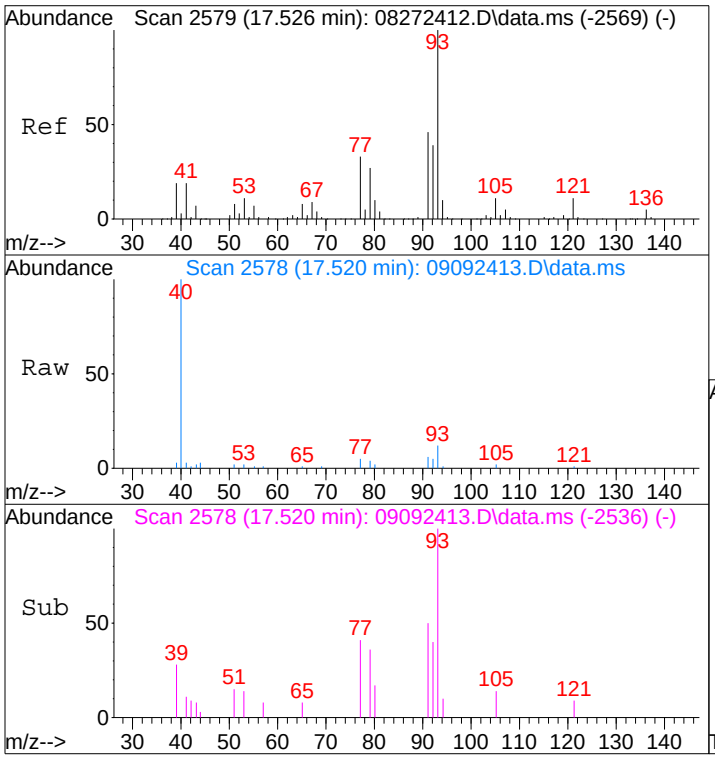


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 43 Resp: 3112

Ion	Ratio	Lower	Upper
43	100		
58	27.8	31.1	71.1#

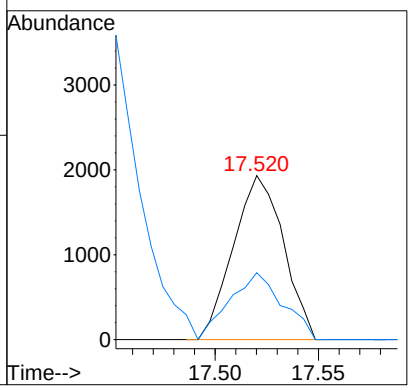




#75
alpha-Pinene
Concen: 0.09 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092413.D
Acq: 9 Sep 2024 15:40

Tgt Ion: 93 Resp: 3265

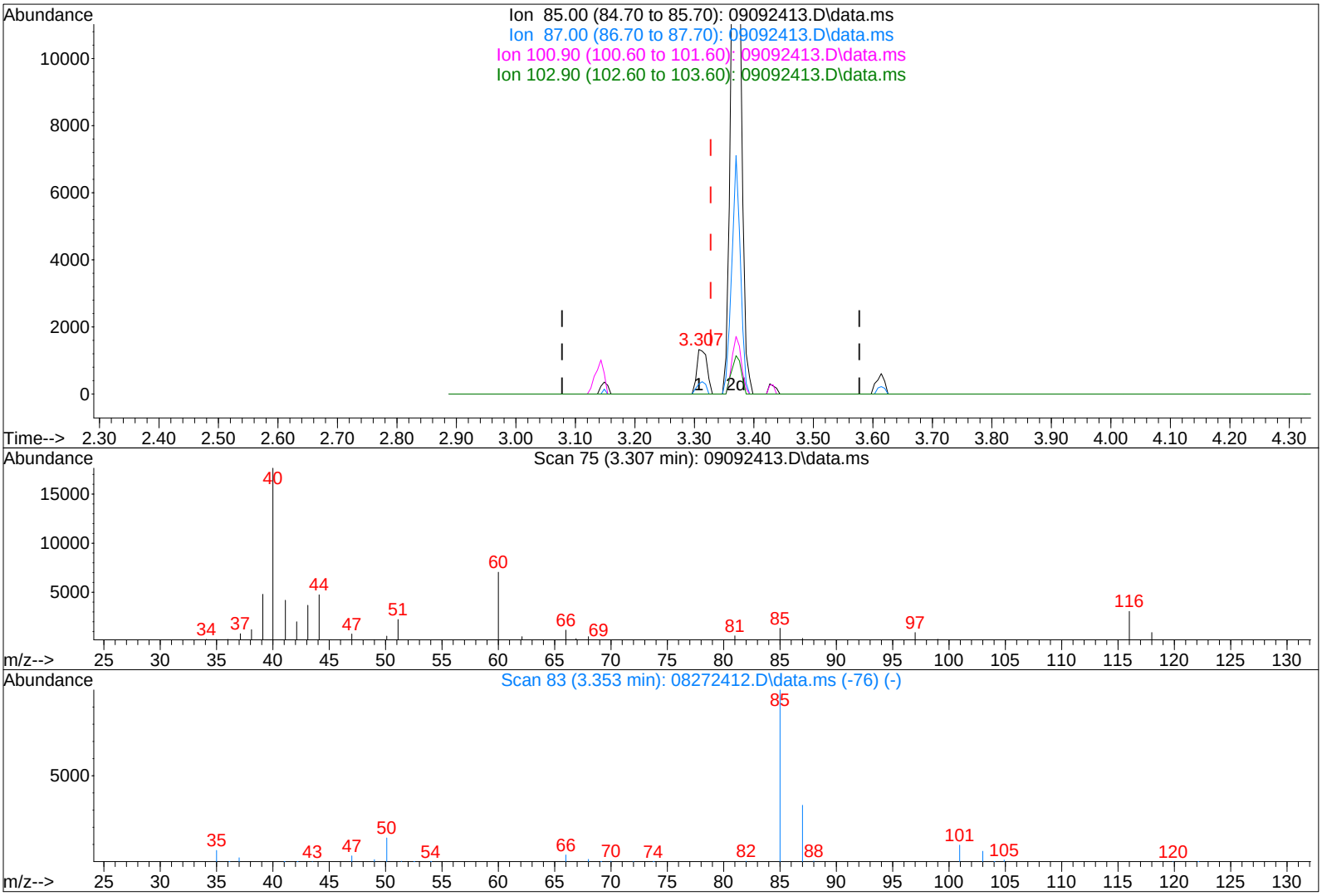
Ion	Ratio	Lower	Upper
93	100		
77	42.9	13.1	53.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:02:38 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092413.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.020) 0.04ng

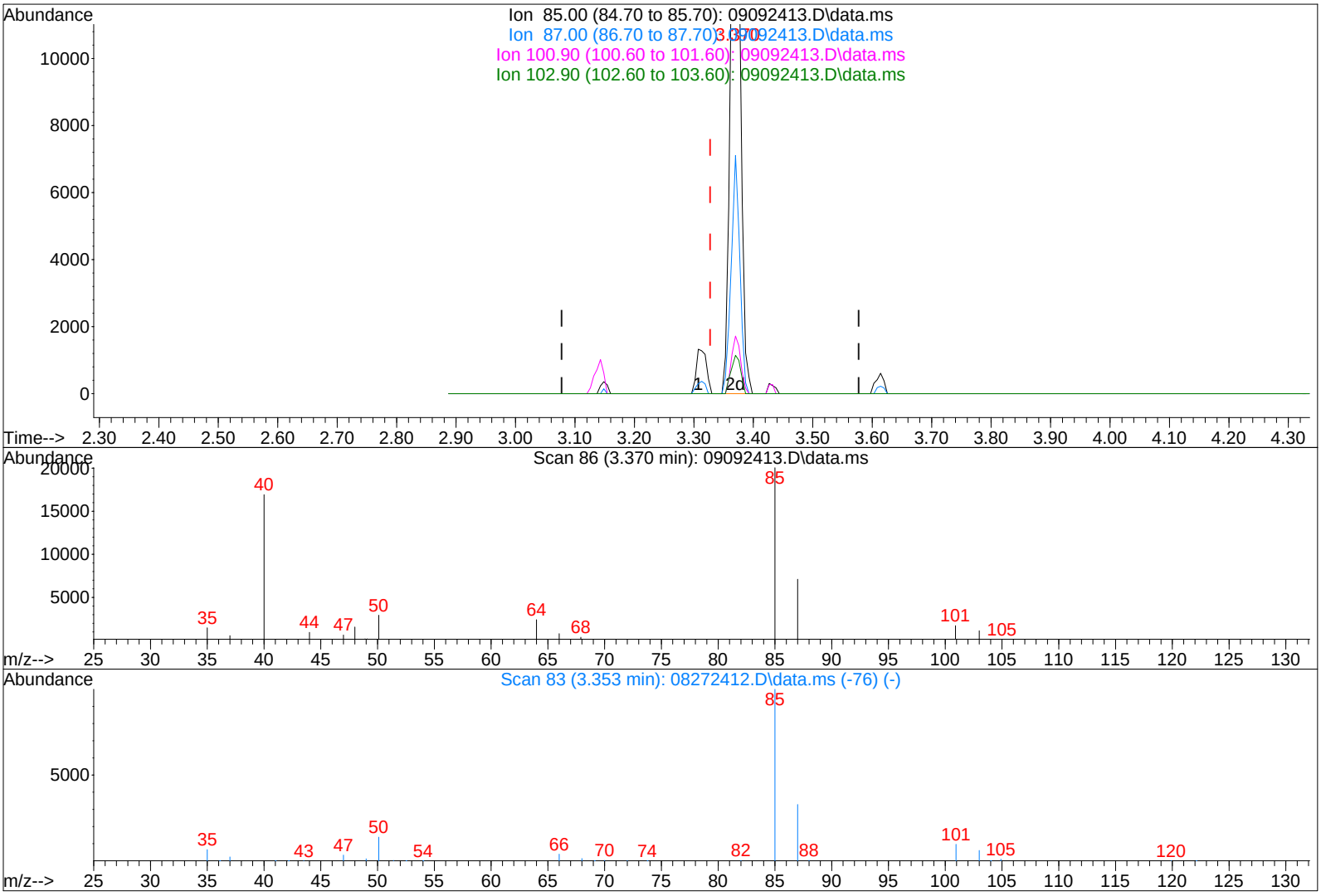
response 1580

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	24.43
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:02:38 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092413.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.042) 0.60ng m

response 21459

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	1.80#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/9/24

9/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:05:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

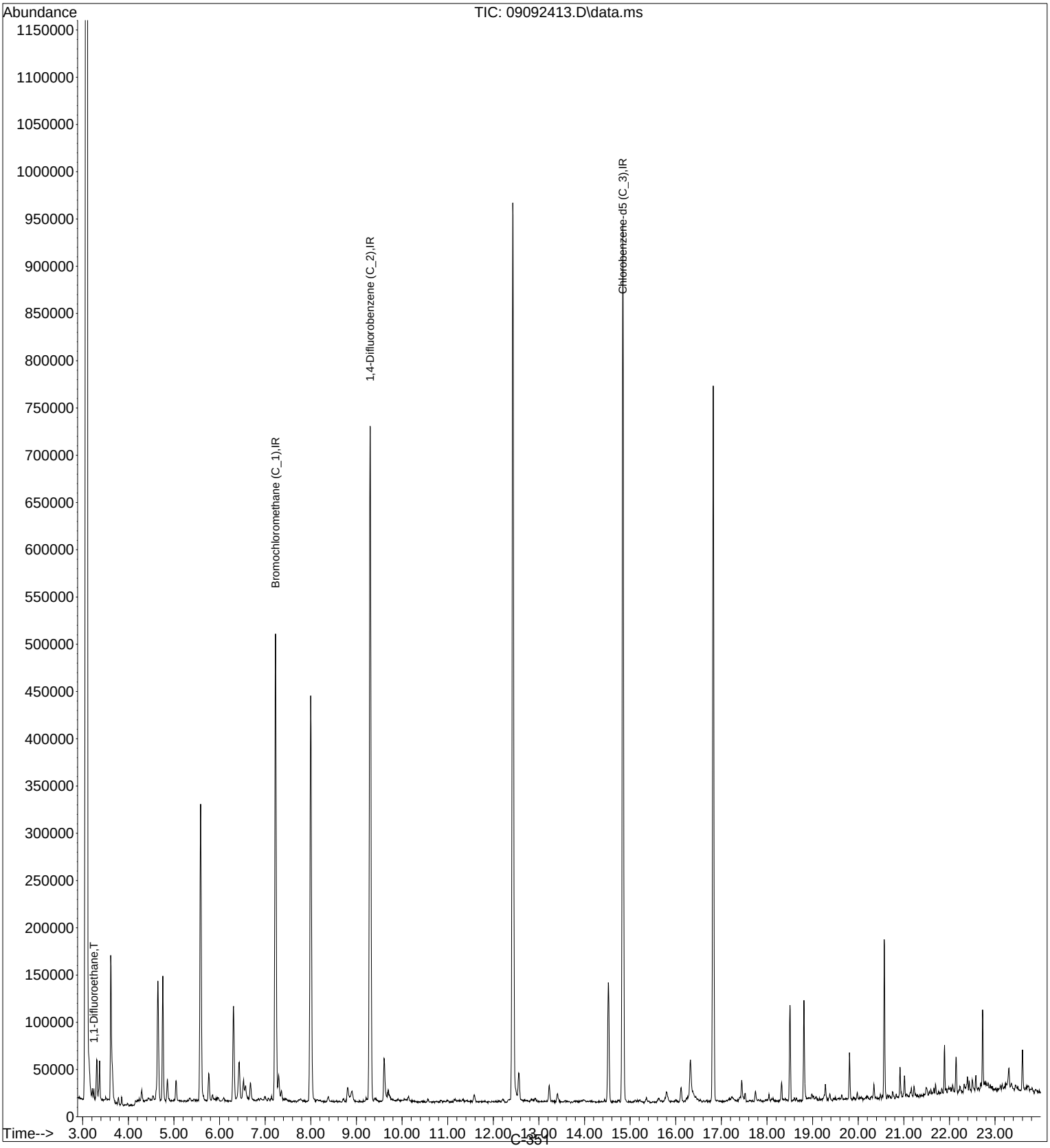
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	149335	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	644781	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	183353	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.15	85	292	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.25	65	2384	0.183 ng	93
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.51	65	544	N.D.	
7) Dichlorofluoromethane ...	4.24	67	1537	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.62	83	268	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.30	43	52	N.D.	
12) 2-Methylpentane	6.48	71	139	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	9.53	56	72	N.D.	
18) Dibromomethane	9.78	174	52	N.D.	
20) Methyl Cyclohexane	11.40	55	267	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	16.32	75	1861	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.61	91	211	N.D.	
27) 4-Chlorotoluene	17.67	91	583	N.D.	
28) Indane	19.01	117	162	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	20.23	119	59	N.D.	
31) 1,2,3,4-Tetramethylben...	20.23	119	59	N.D.	
32) 1,2,3,5-Tetramethylben...	20.61	119	257	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092413.D Vial: 4
Acq On : 9 Sep 2024 15:40 Operator: SC
Sample : P2403661-001 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:05:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092413.D
Acq On : 9 Sep 2024 15:40
Operator : SC
Sample : P2403661-001 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092413.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.245	61	64	69	rVB2	11538	12960	0.60%	0.094%
2	3.307	69	75	80	rVV3	42656	75038	3.45%	0.543%
3	3.370	80	86	95	rVB2	42157	62796	2.88%	0.454%
4	3.614	124	129	148	rVB2	156909	314776	14.46%	2.276%
5	3.784	154	159	162	rBV3	7309	10248	0.47%	0.074%
6	3.853	165	171	175	rBV2	8912	11939	0.55%	0.086%
7	4.295	244	249	255	rVB2	12309	21200	0.97%	0.153%
8	4.648	301	311	320	rVB2	126838	270116	12.41%	1.953%
9	4.755	323	330	340	rVV	132264	219789	10.09%	1.589%
10	4.858	342	348	359	rBV4	22934	44039	2.02%	0.318%
11	5.045	376	381	387	rBV2	20883	35846	1.65%	0.259%
12	5.584	468	476	491	rBV2	313804	661860	30.40%	4.786%
13	5.760	500	507	516	rBV	29563	61162	2.81%	0.442%
14	5.851	517	523	527	rBV3	5677	10352	0.48%	0.075%
15	6.306	595	603	612	rBV	100924	220410	10.12%	1.594%
16	6.430	613	625	633	rVV2	40400	103387	4.75%	0.748%
17	6.527	635	642	646	rVV	21068	45730	2.10%	0.331%
18	6.567	646	649	658	rVB3	13814	28113	1.29%	0.203%
19	6.675	663	668	676	rVB3	17380	34952	1.61%	0.253%
20	6.993	720	724	734	rVB4	4639	10343	0.48%	0.075%
21	7.225	756	765	773	rBV	493551	1054920	48.45%	7.628%
22	7.294	773	777	784	rVV	26341	57277	2.63%	0.414%
23	7.356	784	788	795	rVB3	9912	18099	0.83%	0.131%
24	7.998	892	901	920	rVB	429796	970736	44.59%	7.019%
25	8.384	963	969	975	rBV5	5403	11260	0.52%	0.081%
26	8.810	1038	1044	1051	rBV3	14901	38982	1.79%	0.282%
27	8.906	1051	1061	1073	rVB5	11499	42327	1.94%	0.306%
28	9.298	1120	1130	1143	rVB	714659	1671972	76.79%	12.090%
29	9.605	1178	1184	1195	rBV	44641	102336	4.70%	0.740%
30	9.695	1195	1200	1208	rVB5	8170	19088	0.88%	0.138%
31	11.581	1525	1532	1540	rBV4	7950	20335	0.93%	0.147%
32	12.427	1672	1681	1697	rBV	948811	2177265	100.00%	15.743%
33	12.557	1699	1704	1716	rVB4	28947	66534	3.06%	0.481%
34	13.227	1815	1822	1828	rBV2	17272	34244	1.57%	0.248%
35	13.409	1848	1854	1861	rVB6	8734	18812	0.86%	0.136%
36	14.522	2042	2050	2061	rVB	126914	283777	13.03%	2.052%
37	14.840	2096	2106	2127	rVB	929793	1900413	87.28%	13.741%
38	15.357	2189	2197	2202	rBV3	5806	12526	0.58%	0.091%
39	15.794	2270	2274	2289	rVB7	11078	33177	1.52%	0.240%
40	16.118	2323	2331	2341	rBV8	15365	33563	1.54%	0.243%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092413.D
Acq On : 9 Sep 2024 15:40
Operator : SC
Sample : P2403661-001 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	16.322	2357	2367	2387	rBV	40686	120003	5.51%	0.868%
42	16.822	2446	2455	2464	rBV	756695	1420177	65.23%	10.269%
43	17.446	2561	2565	2575	rVV5	19776	35999	1.65%	0.260%
44	17.520	2575	2578	2583	rVB5	9061	14562	0.67%	0.105%
45	17.747	2612	2618	2626	rBV5	11140	22246	1.02%	0.161%
46	18.042	2664	2670	2676	rVB4	7573	11639	0.53%	0.084%
47	18.321	2712	2719	2723	rBV2	19383	30597	1.41%	0.221%
48	18.502	2744	2751	2757	rVB2	101766	163657	7.52%	1.183%
49	18.809	2799	2805	2816	rBV	106251	167304	7.68%	1.210%
50	19.280	2876	2888	2896	rBV3	17220	37860	1.74%	0.274%
51	19.377	2899	2905	2916	rVB4	7568	16416	0.75%	0.119%
52	19.808	2976	2981	2987	rVB2	48906	67785	3.11%	0.490%
53	19.979	3007	3011	3018	rVB3	7583	11416	0.52%	0.083%
54	20.342	3070	3075	3080	rVB4	15000	22742	1.04%	0.164%
55	20.569	3110	3115	3125	rVB2	168816	242759	11.15%	1.755%
56	20.751	3144	3147	3156	rVB5	7817	15273	0.70%	0.110%
57	20.916	3170	3176	3184	rBV4	32473	49481	2.27%	0.358%
58	21.012	3187	3193	3197	rVV3	22211	32632	1.50%	0.236%
59	21.166	3217	3220	3226	rVB3	9385	12748	0.59%	0.092%
60	21.222	3226	3230	3235	rBV5	10940	16663	0.77%	0.120%
61	21.489	3273	3277	3286	rVB8	8144	17751	0.82%	0.128%
62	21.694	3310	3313	3321	rVB3	10929	14881	0.68%	0.108%
63	21.892	3343	3348	3352	rBV	50814	65252	3.00%	0.472%
64	22.142	3385	3392	3398	rVB	38252	63568	2.92%	0.460%
65	22.324	3420	3424	3430	rBV8	9074	20371	0.94%	0.147%
66	22.392	3433	3436	3440	rVV4	15959	23480	1.08%	0.170%
67	22.432	3440	3443	3451	rVB5	11217	16701	0.77%	0.121%
68	22.500	3451	3455	3465	rBV4	12762	25636	1.18%	0.185%
69	22.579	3465	3469	3475	rBV3	16183	22913	1.05%	0.166%
70	22.727	3490	3495	3500	rBV	80944	107381	4.93%	0.776%
71	23.306	3590	3597	3602	rVB3	19746	37709	1.73%	0.273%
72	23.601	3644	3649	3659	rVB2	42715	66309	3.05%	0.479%
73	23.891	3694	3700	3707	rBV9	4632	13289	0.61%	0.096%

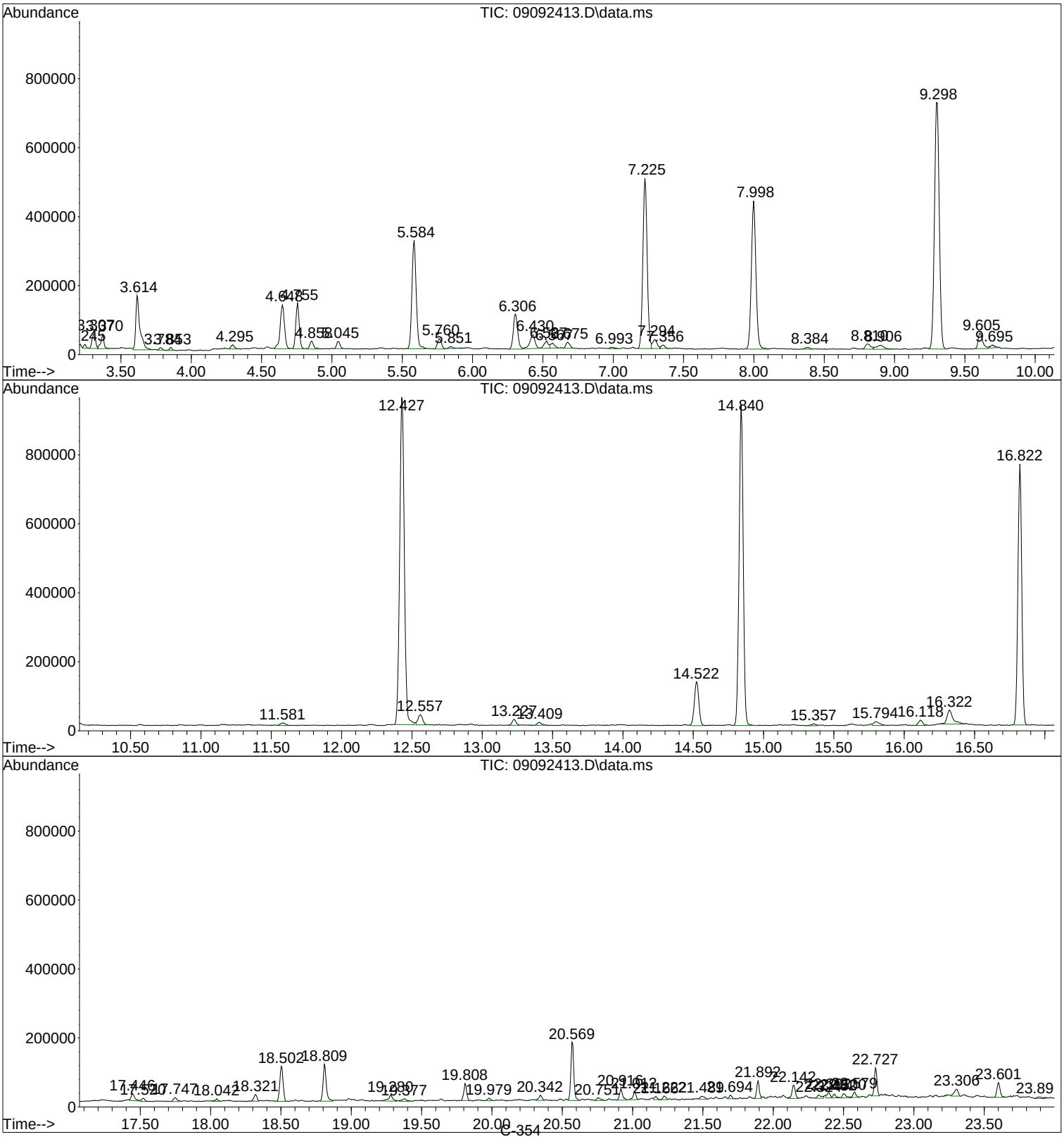
Sum of corrected areas: 13829899

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092413.D
Acq On : 9 Sep 2024 15:40
Operator : SC
Sample : P2403661-001 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092413.D
Acq On : 9 Sep 2024 15:400
Operator : SCC
Sample : P2403661-001 (400mL))
Misc : S37-060624022
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

9/9/24

Quant Time: Sep 09 16:36:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	149229	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	652922	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	185240	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	361899	12.960	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	12.43	98	736898	11.340	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%				
73) Bromofluorobenzene (SS3)	16.82	174	239800	11.034	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	20156m	0.556	ng		
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	274	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	523	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	13845m	0.855	ng		
11) Acetonitrile	4.48	41	59	N.D.			
12) Acrolein	4.54	56	1188	0.096	ng		96
13) Acetone	4.63	58	21216	1.553	ng	#	86
14) Trichlorofluoromethane	4.74	101	209416	6.060	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	16268m	0.302	ng		
16) Acrylonitrile	4.99	53	94	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	248	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.57	151	97649	7.132	ng		92
22) Carbon Disulfide	5.60	76	8668	0.162	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	603	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	2775	0.286	ng	#	32
28) cis-1,2-Dichloroethene	7.07	61	130	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	134	N.D.			
31) n-Hexane	7.29	57	1300	N.D.			
32) Chloroform	7.35	83	2468	0.083	ng		90
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.01	62	139	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	5520	No Calib		#	
40) 1-Butanol	8.81	56	5329	No Calib		#	
41) Benzene	8.89	78	6508	0.106	ng		97
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.16	84	311	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:36:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

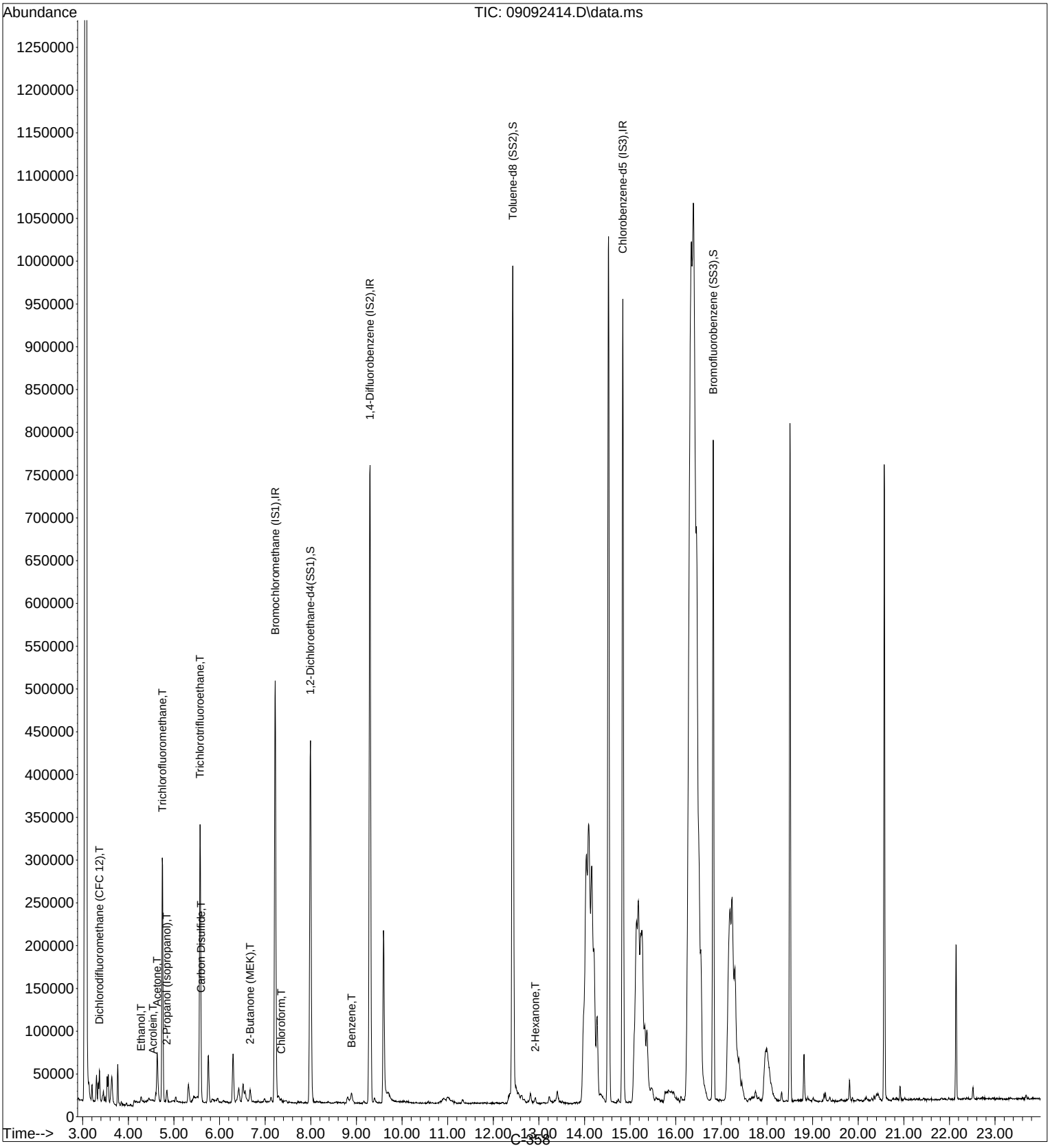
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.56	71	298	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1464	N.D.	
59) 2-Hexanone	12.92	43	7570	0.174 ng	77
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	594	N.D.	
63) n-Octane	13.93	57	217	N.D.	
64) Tetrachloroethene	14.03	166	555	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	634	N.D.	
67) m- & p-Xylenes	15.66	91	149	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.10	104	125	N.D.	
70) o-Xylene	16.24	91	590	N.D.	
71) n-Nonane	16.61	43	1009	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	104	N.D.	
74) Cumene	17.02	105	205	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	588	N.D.	
77) 3-Ethyltoluene	17.02	105	205	No Calib	#
78) 4-Ethyltoluene	17.86	105	225	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.02	105	205	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	136	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	122	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	192	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	274	N.D.	
87) sec-Butylbenzene	18.74	105	315	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1289	N.D.	
89) 1,2,3-Trimethylbenzene	17.02	105	205	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.83	180	558	N.D.	
95) Naphthalene	20.93	128	789	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	320	N.D.	
98) Cyclohexanone	15.20	55	349	No Calib	#
99) tert-Butylbenzene	18.42	119	1012	N.D.	
100) n-Butylbenzene	19.38	91	717	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:36:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:36:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

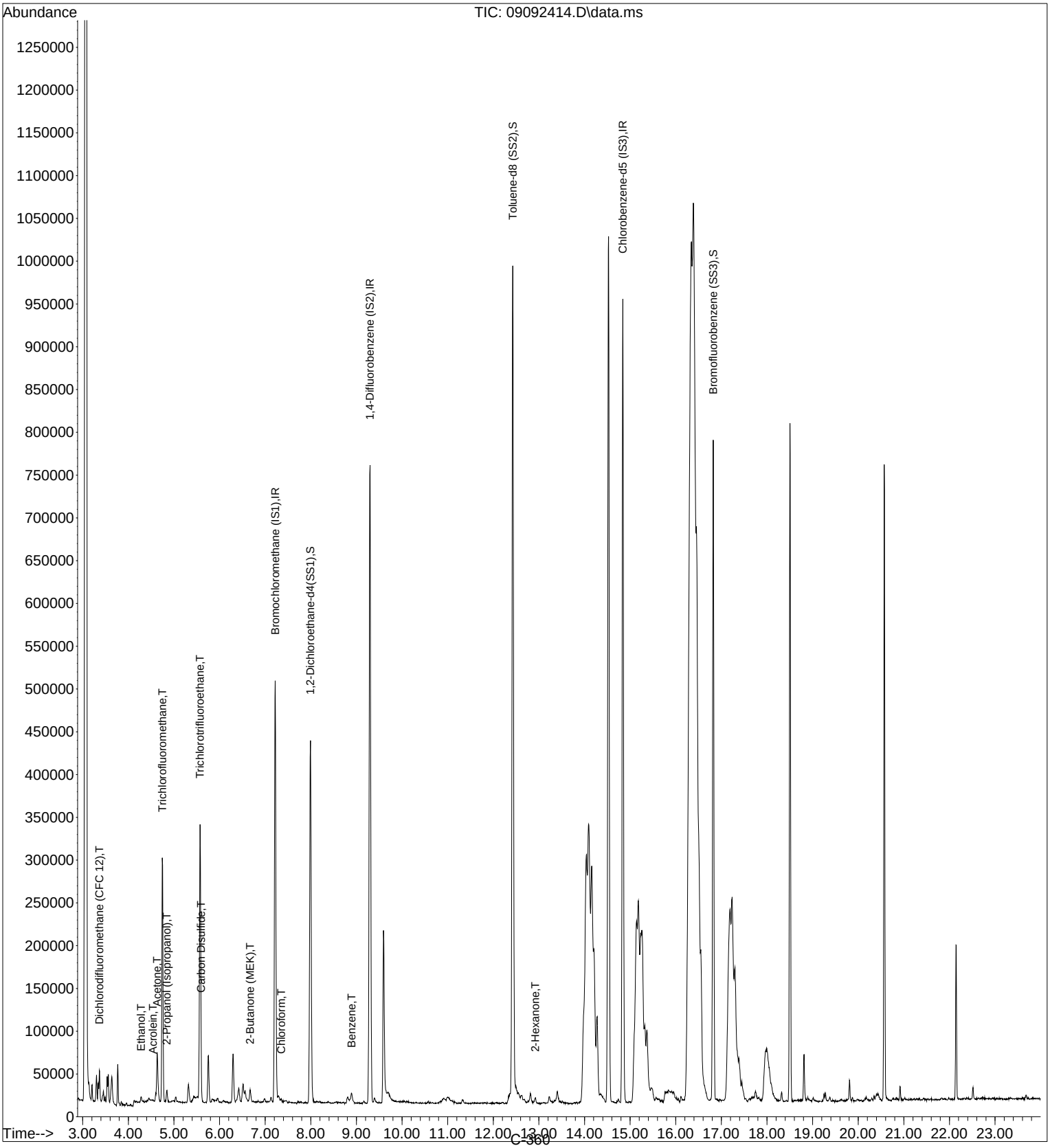
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	149229	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	652922	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	185240	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	361899	12.960	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%				
57) Toluene-d8 (SS2)	12.43	98	736898	11.340	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.72%				
73) Bromofluorobenzene (SS3)	16.82	174	239800	11.034	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	20156m	0.556	ng		
10) Ethanol	4.28	45	13845m	0.855	ng		
12) Acrolein	4.54	56	1188	0.096	ng		96
13) Acetone	4.63	58	21216	1.553	ng	#	86
14) Trichlorofluoromethane	4.74	101	209416	6.060	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	16268m	0.302	ng		
21) Trichlorotrifluoroethane	5.57	151	97649	7.132	ng		92
22) Carbon Disulfide	5.60	76	8668	0.162	ng	#	1
27) 2-Butanone (MEK)	6.67	72	2775	0.286	ng	#	32
32) Chloroform	7.35	83	2468	0.083	ng		90
41) Benzene	8.89	78	6508	0.106	ng		97
59) 2-Hexanone	12.92	43	7570	0.174	ng		77

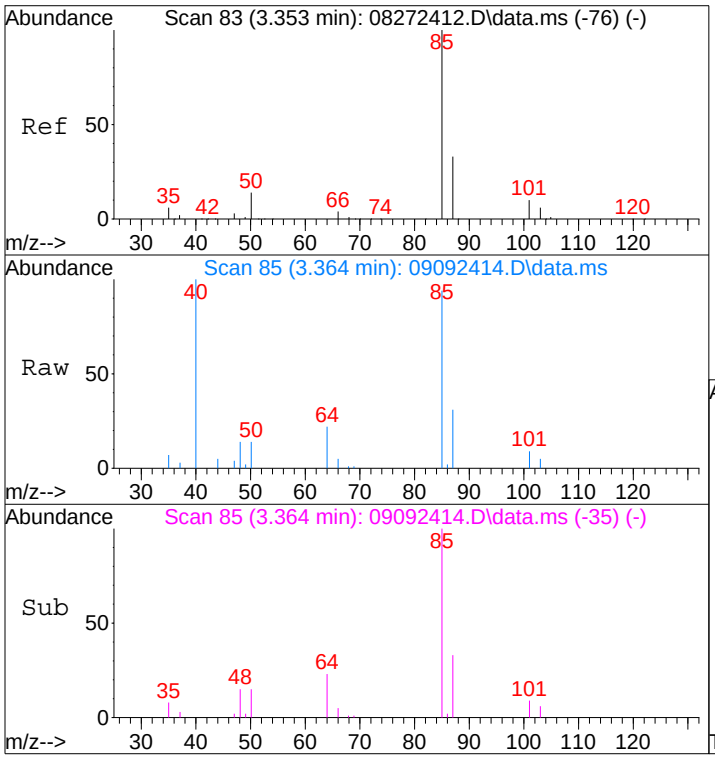
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:36:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

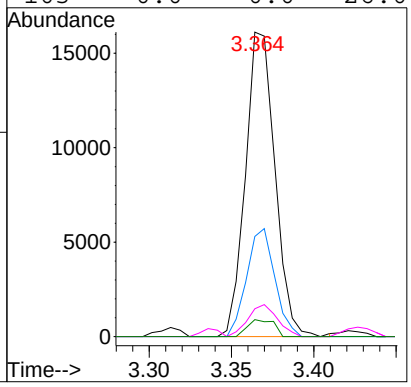


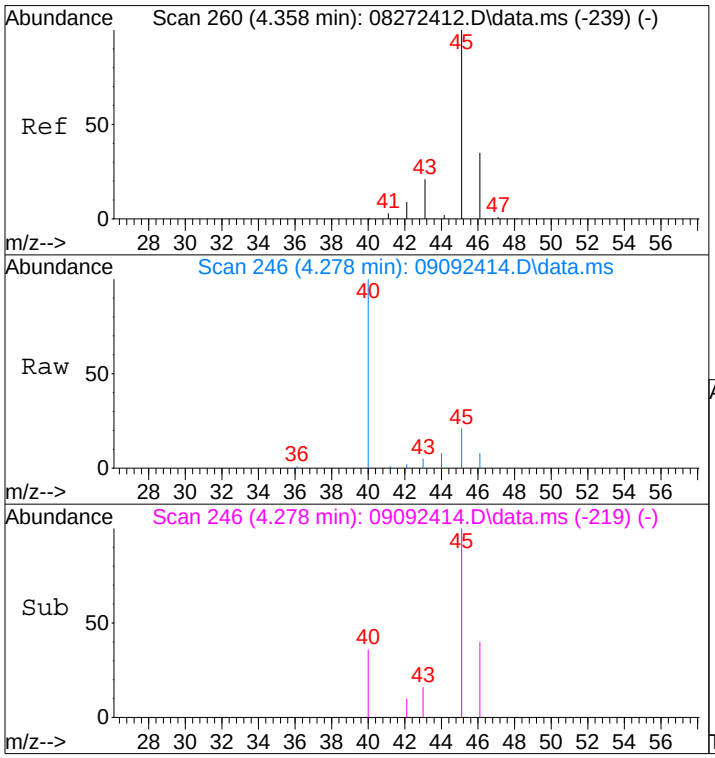


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.56 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.037 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 85 Resp: 20156

Ion	Ratio	Lower	Upper
85	100		
87	0.0	13.1	53.1#
101	1.6	0.0	29.4
103	0.0	0.0	26.0

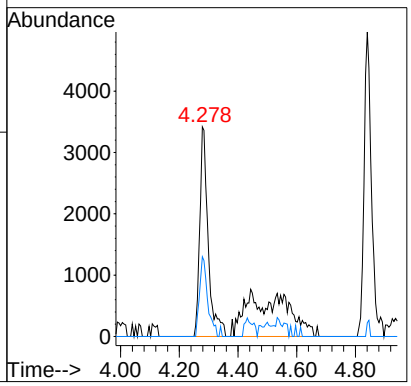


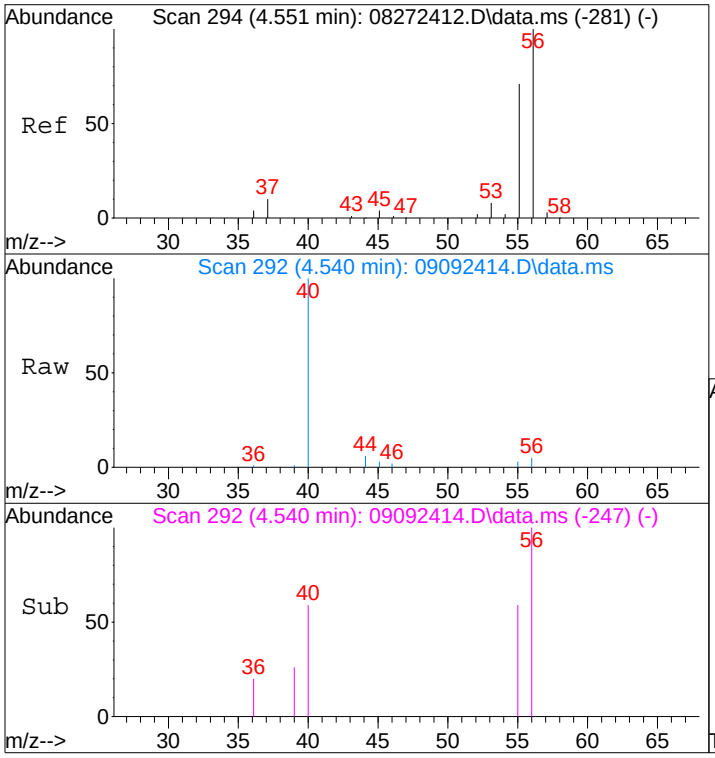


#10
Ethanol
Concen: 0.85 ng m
RT: 4.28 min Scan# 246
Delta R.T. -0.094 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 45 Resp: 13845

Ion	Ratio	Lower	Upper
45	100		
46	0.4	14.2	54.2#

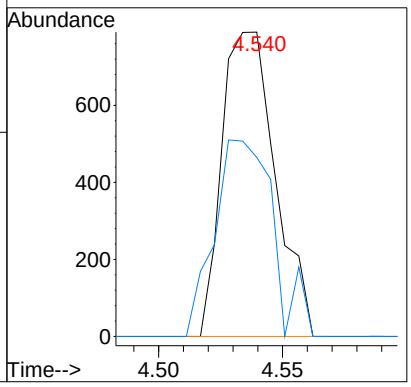


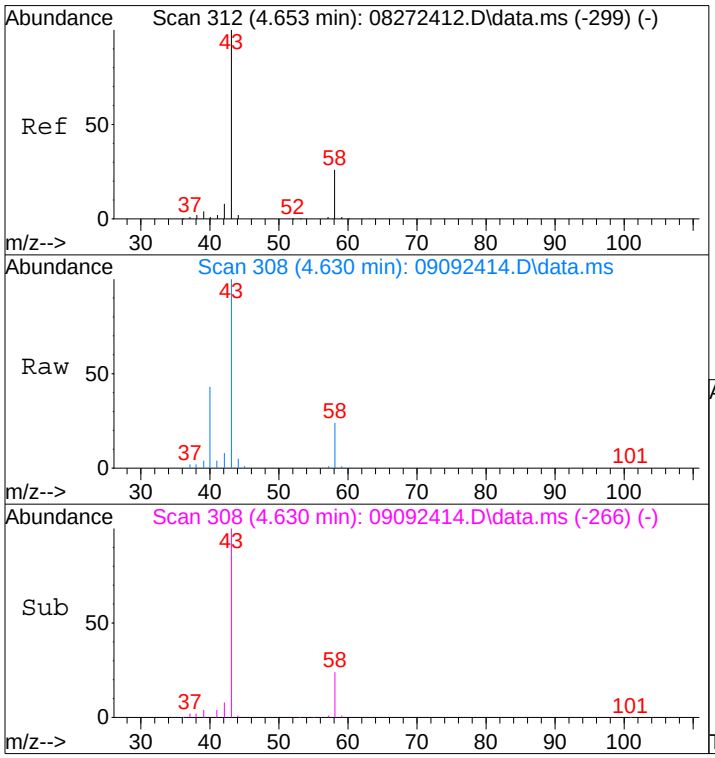


#12
Acrolein
Concen: 0.10 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.004 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 56 Resp: 1188

Ion	Ratio	Lower	Upper
56	100		
55	71.0	54.7	94.7

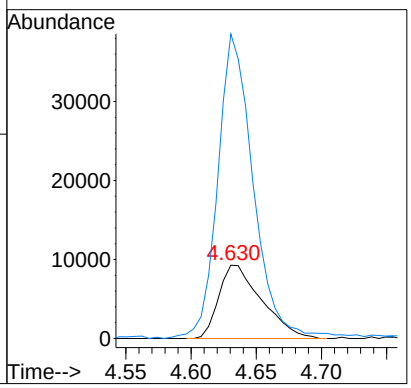


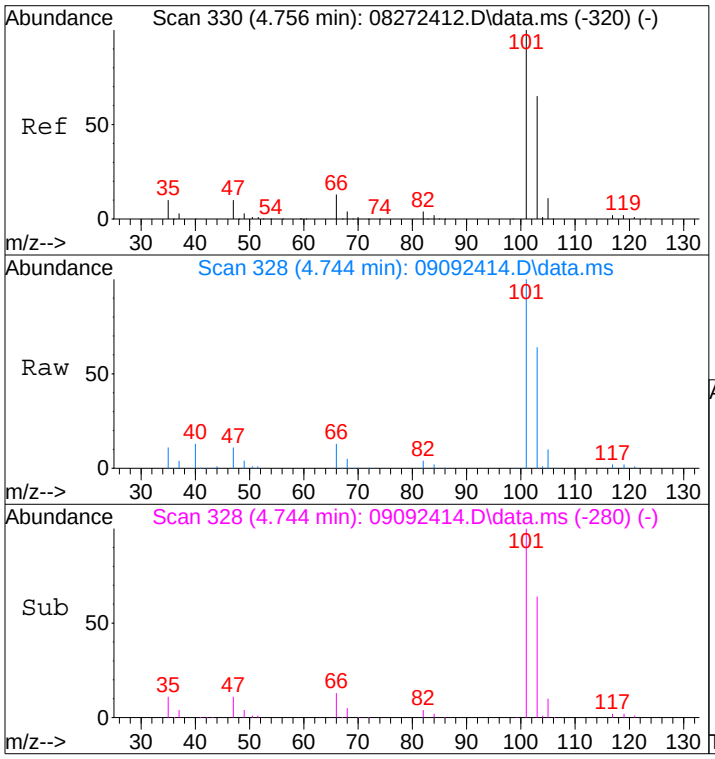


#13
Acetone
Concen: 1.55 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.012 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 58 Resp: 21216

Ion	Ratio	Lower	Upper
58	100		
43	346.4	347.3	407.3#

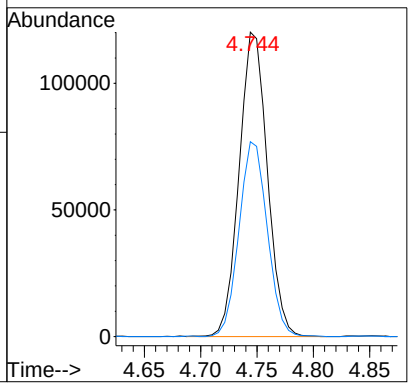


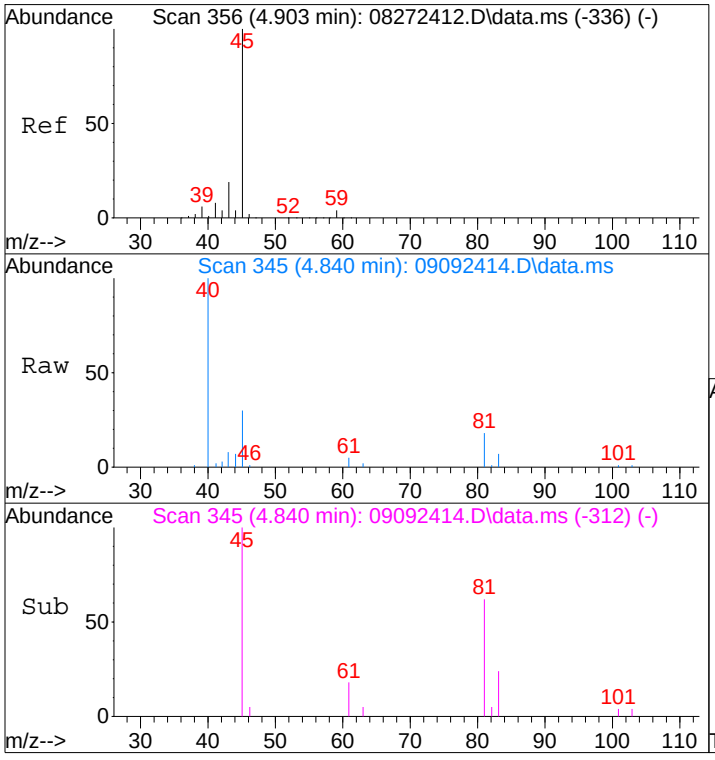


#14
Trichlorofluoromethane
Concen: 6.06 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.023 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion:101 Resp: 209416

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

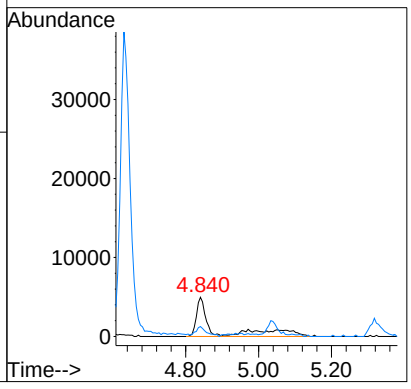


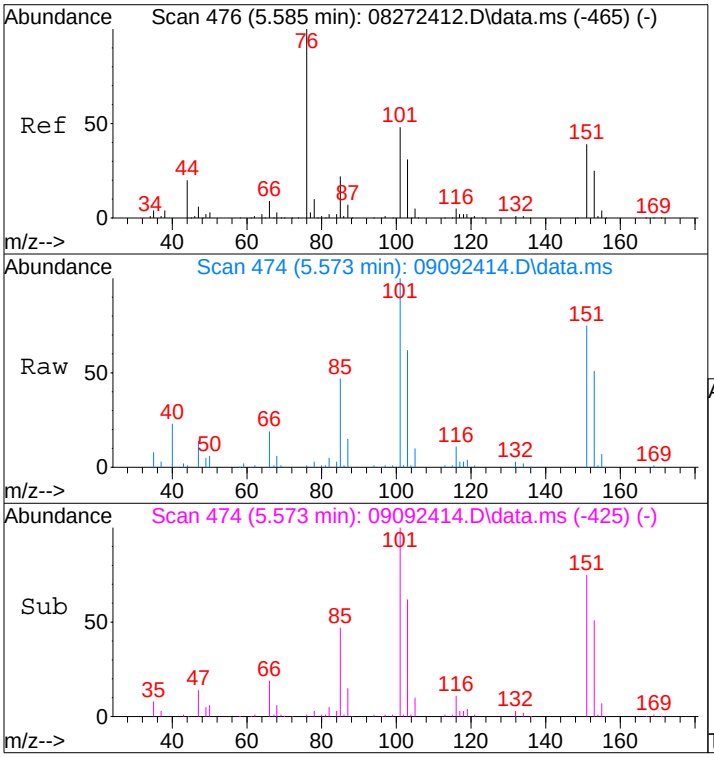


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng m
RT: 4.84 min Scan# 345
Delta R.T. -0.065 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 45 Resp: 16268

Ion	Ratio	Lower	Upper
45	100		
43	12.0	0.0	40.0

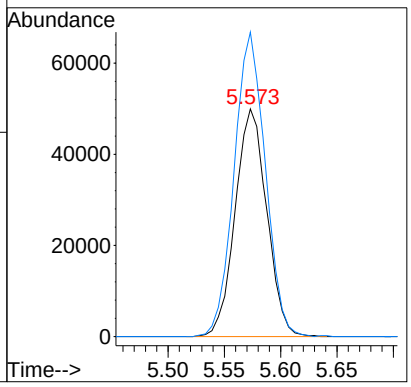


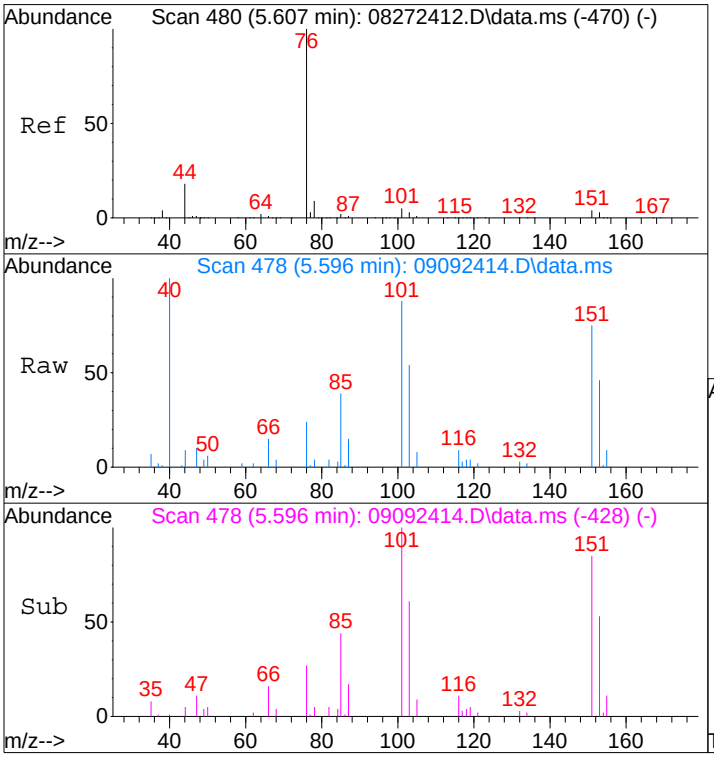


#21
Trichlorotrifluoroethane
Concen: 7.13 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.027 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion:151 Resp: 97649

Ion	Ratio	Lower	Upper
151	100		
101	131.9	103.4	143.4

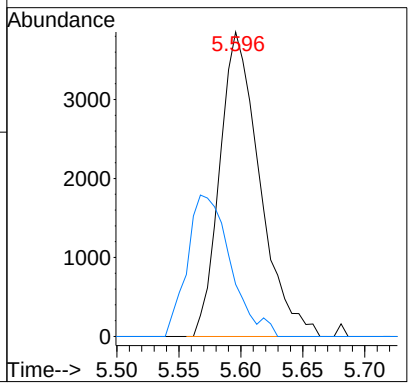


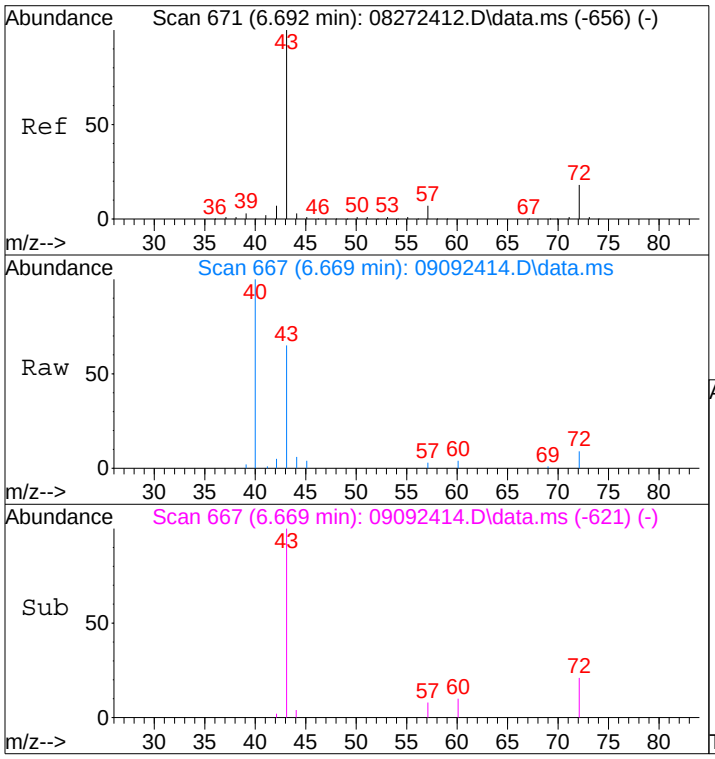


#22
Carbon Disulfide
Concen: 0.16 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 76 Resp: 8668

Ion	Ratio	Lower	Upper
76	100		
78	50.2	0.0	29.6#

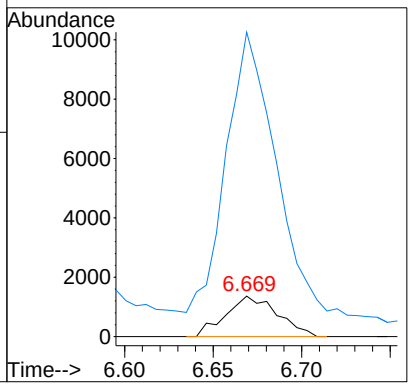


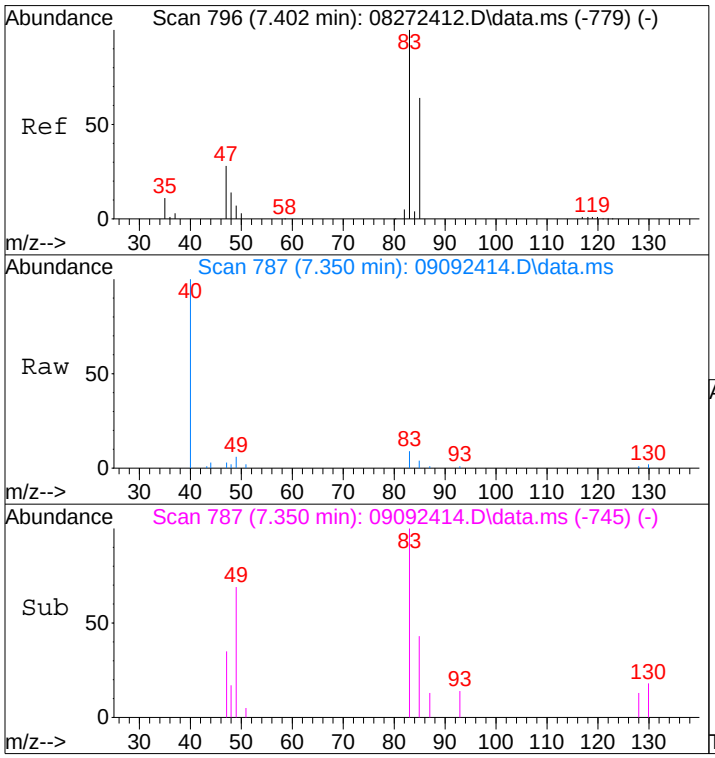


#27
2-Butanone (MEK)
Concen: 0.29 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 72 Resp: 2775

Ion	Ratio	Lower	Upper
72	100		
43	772.0	548.0	588.0#

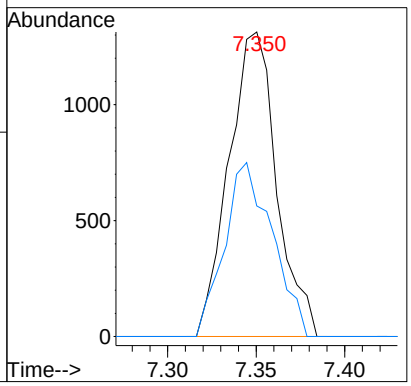


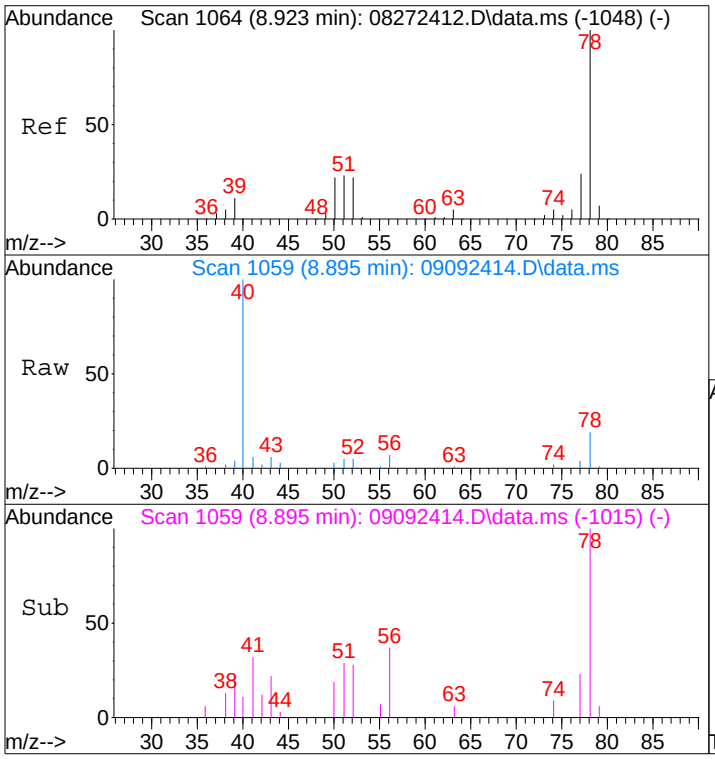


#32
Chloroform
Concen: 0.08 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 83 Resp: 2468

Ion	Ratio	Lower	Upper
83	100		
85	57.1	45.3	85.3

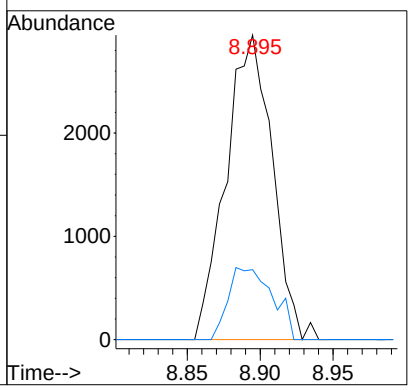


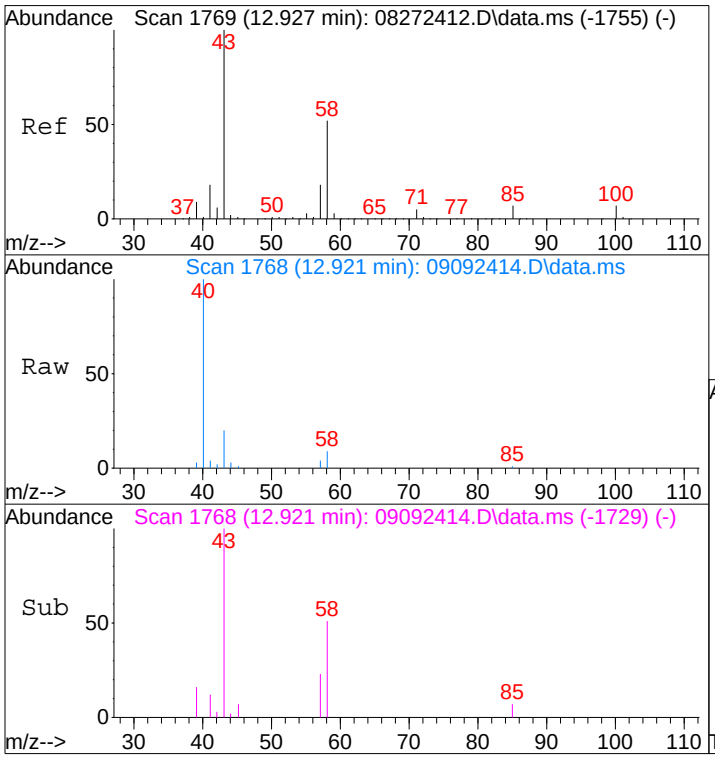


#41
Benzene
Concen: 0.11 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 78 Resp: 6508

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.9	43.9

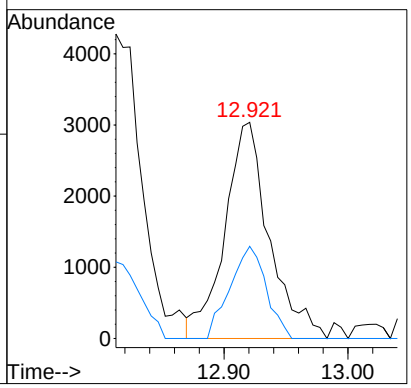




#59
2-Hexanone
Concen: 0.17 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09092414.D
Acq: 9 Sep 2024 16:12

Tgt Ion: 43 Resp: 7570

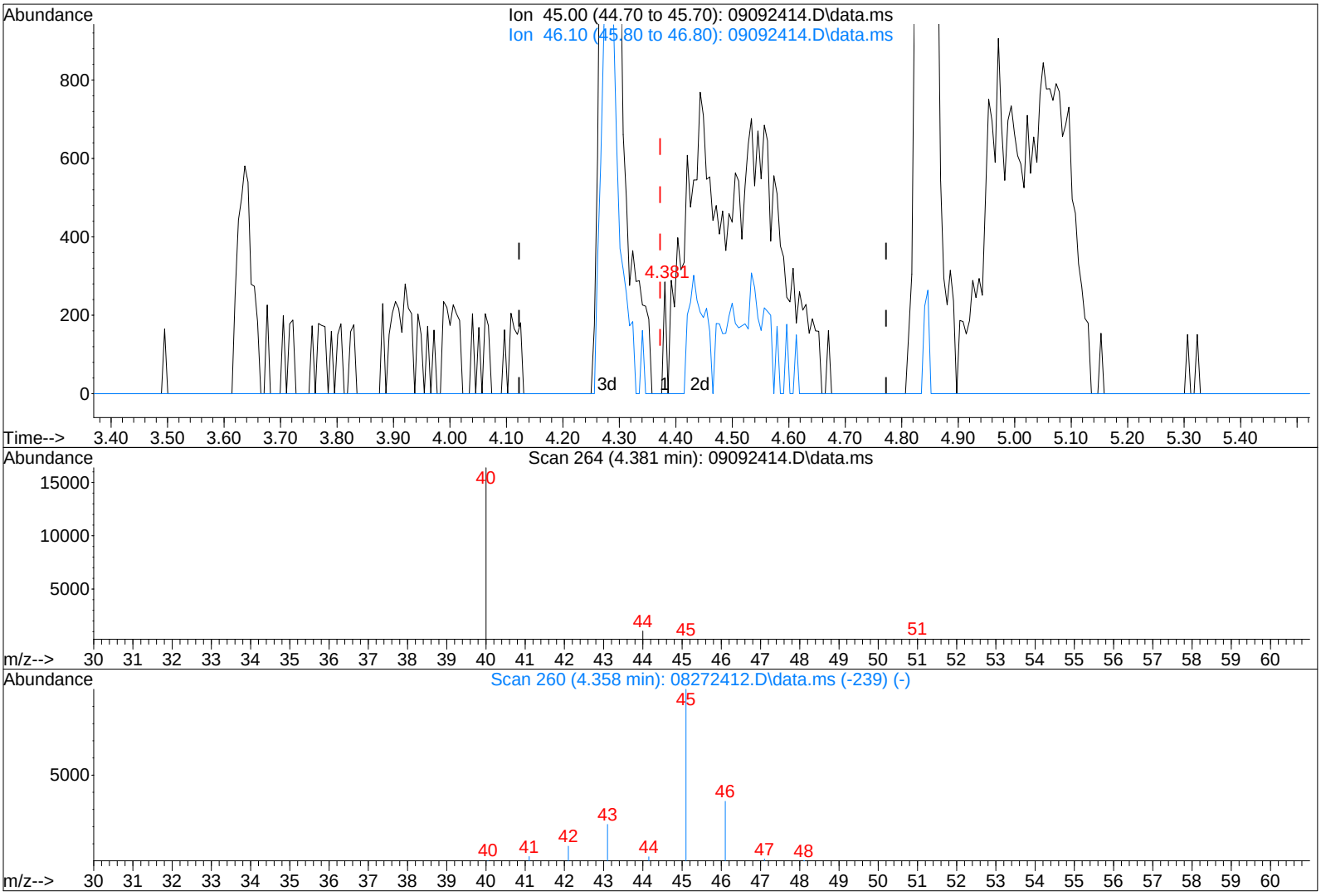
Ion	Ratio	Lower	Upper
43	100		
58	34.8	31.1	71.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:34:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092414.D\data.ms

(10) Ethanol (T)

4.381min (+0.008) 0.01ng

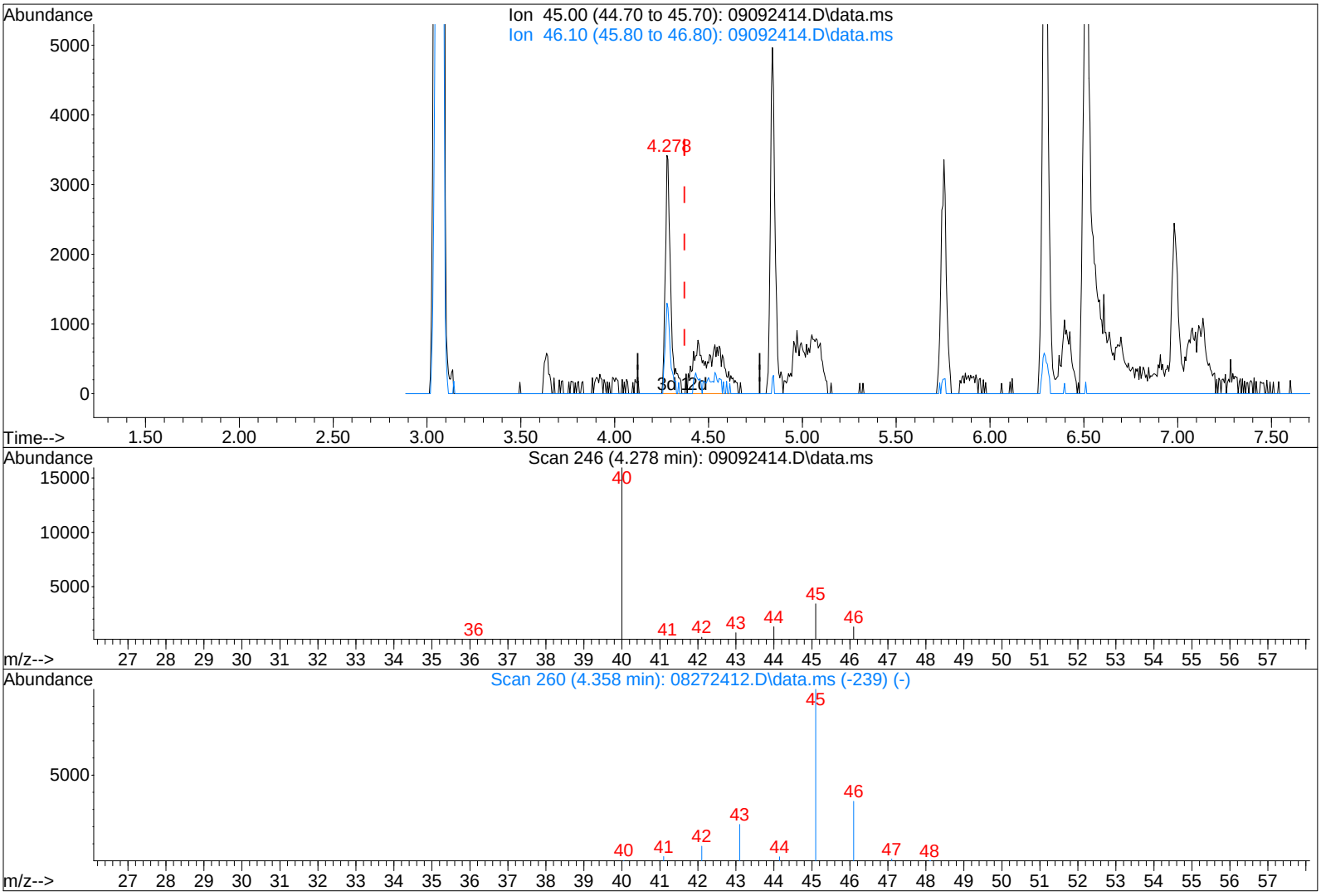
response 97

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	56.70#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:34:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092414.D\data.ms

(10) Ethanol (T)

4.278min (-0.094) 0.85ng m

response 13845

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.40#
0.00	0.00	0.00
0.00	0.00	0.00

MP

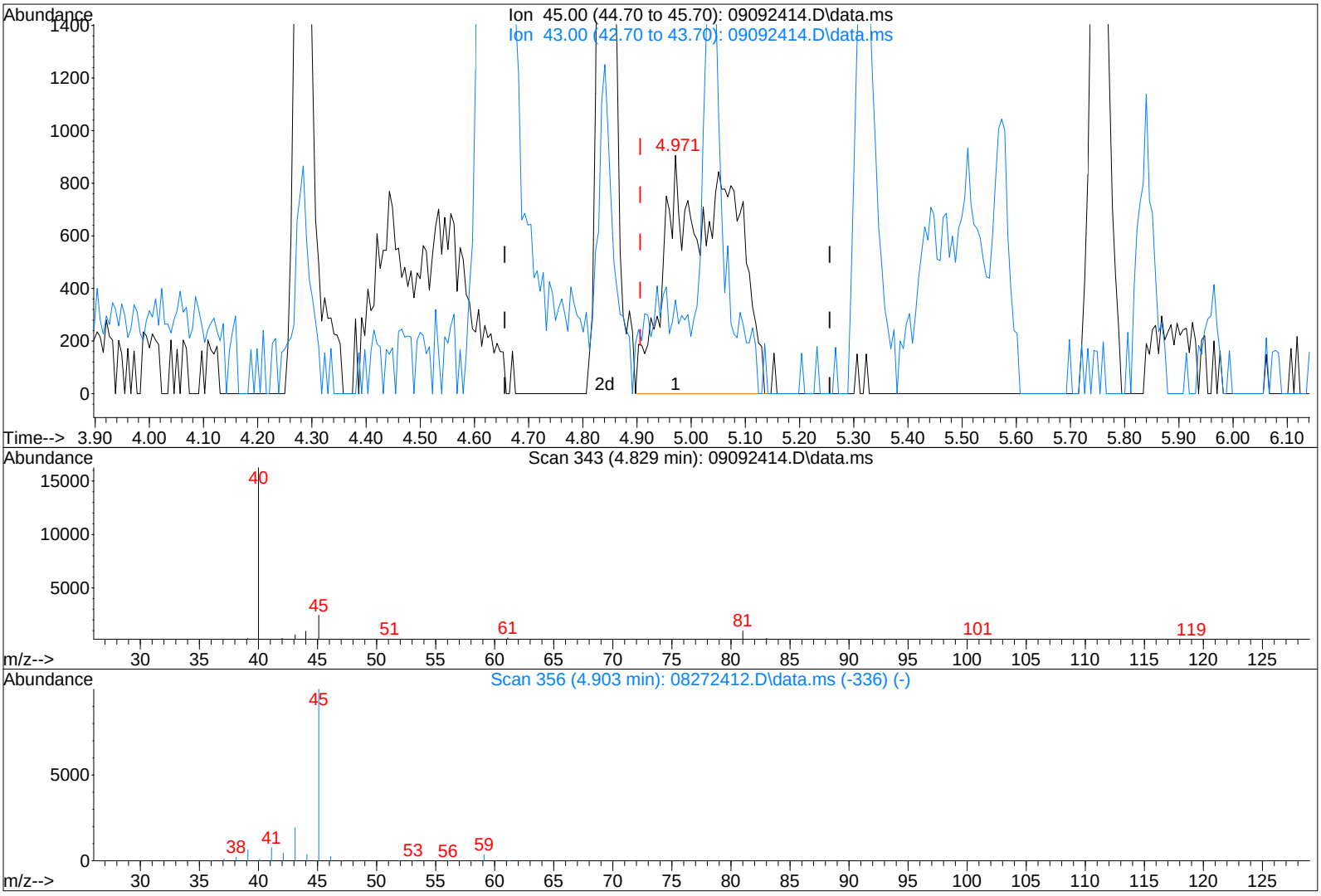
9/9/24

TZ 9/21/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:34:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092414.D\data.ms

(15) 2-Propanol (Isopropanol) (T)

4.971min (+0.065) 0.14ng

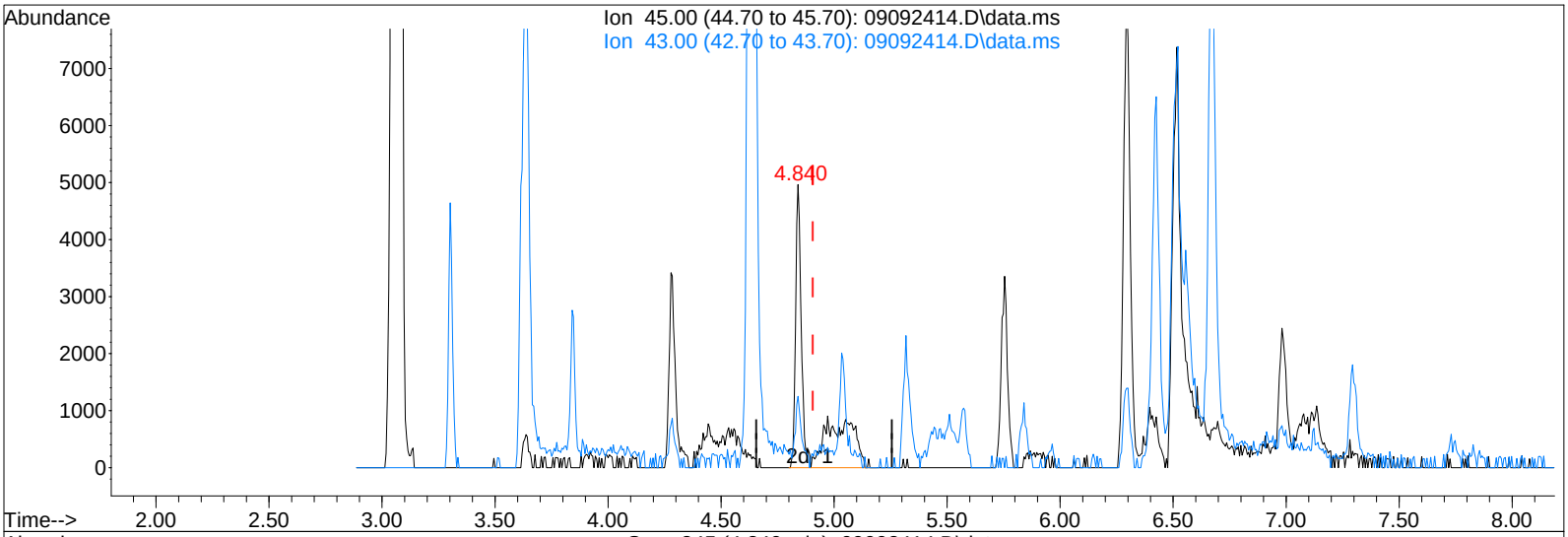
response 7586

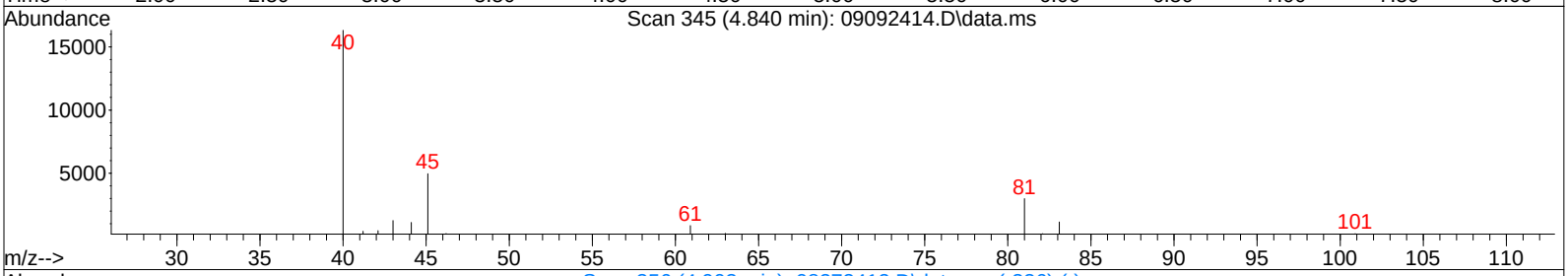
Ion	Exp%	Act%
45.00	100	100
43.00	20.00	25.65
0.00	0.00	0.00
0.00	0.00	0.00

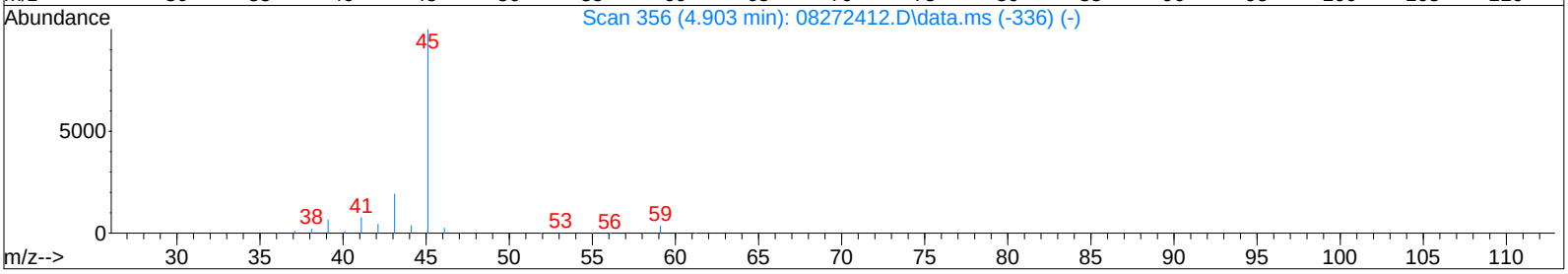
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:34:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09092414.D\data.ms

(15) 2-Propanol (Isopropanol) (T)

4.840min (-0.065) 0.30ng m

response 16268

Ion	Exp%	Act%
45.00	100	100
43.00	20.00	11.96
0.00	0.00	0.00
0.00	0.00	0.00

WP

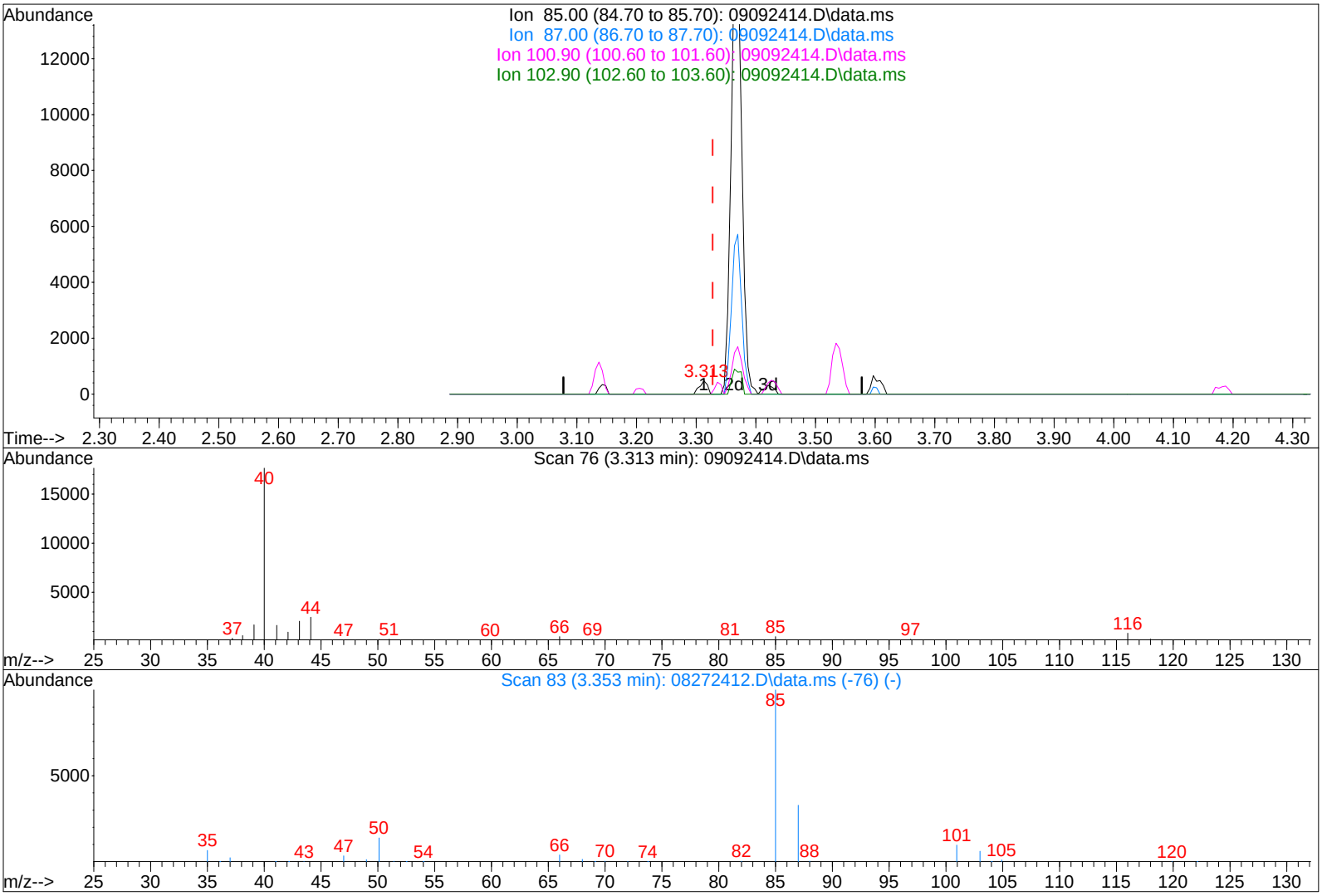
9/9/24

9/21/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:34:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092414.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.015) 0.01ng

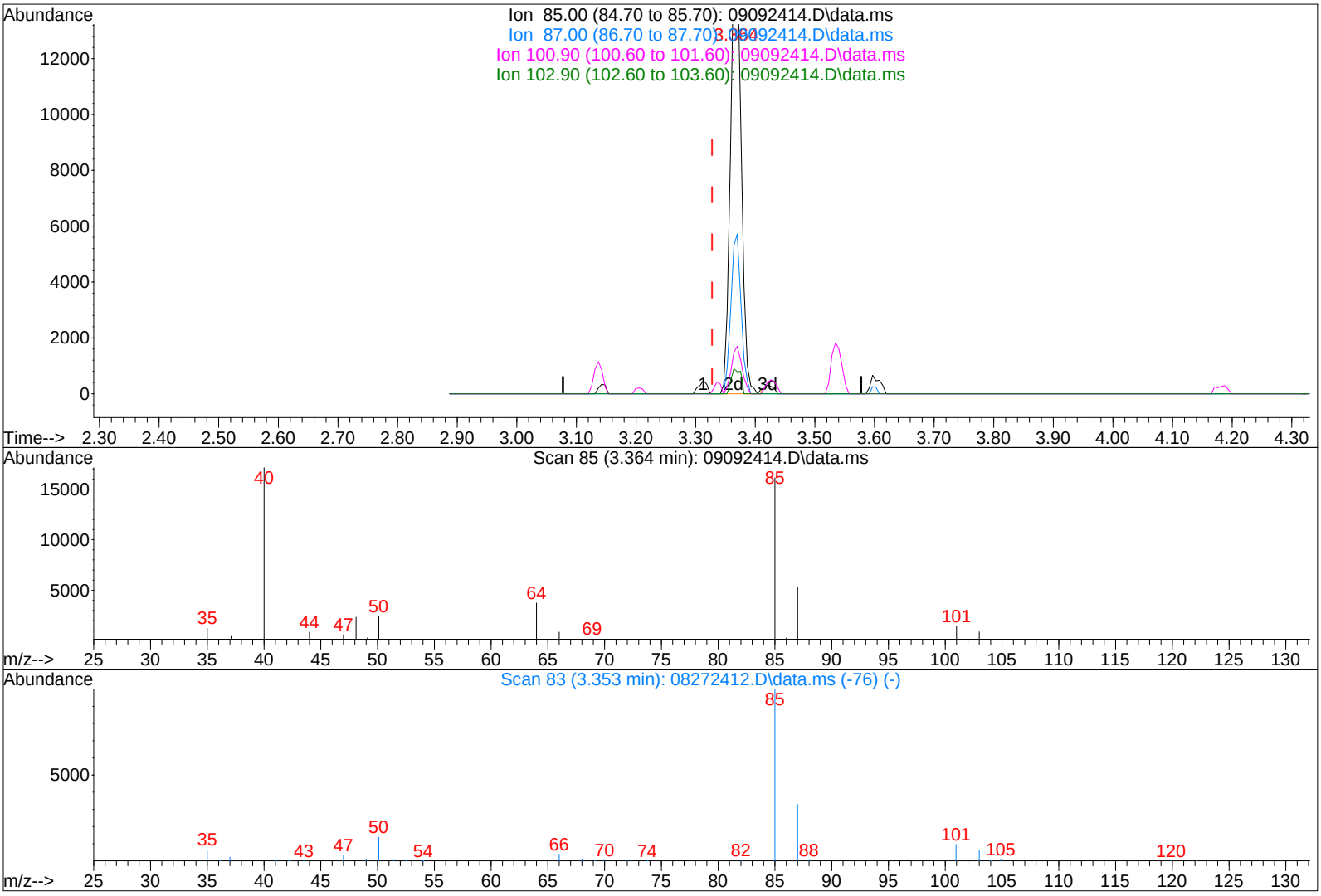
response 445

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	72.36#
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:34:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092414.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.037) 0.56ng m

response 20156

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	1.60
102.90	6.00	0.00

MP

9/9/24

TR 9/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:39:00 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

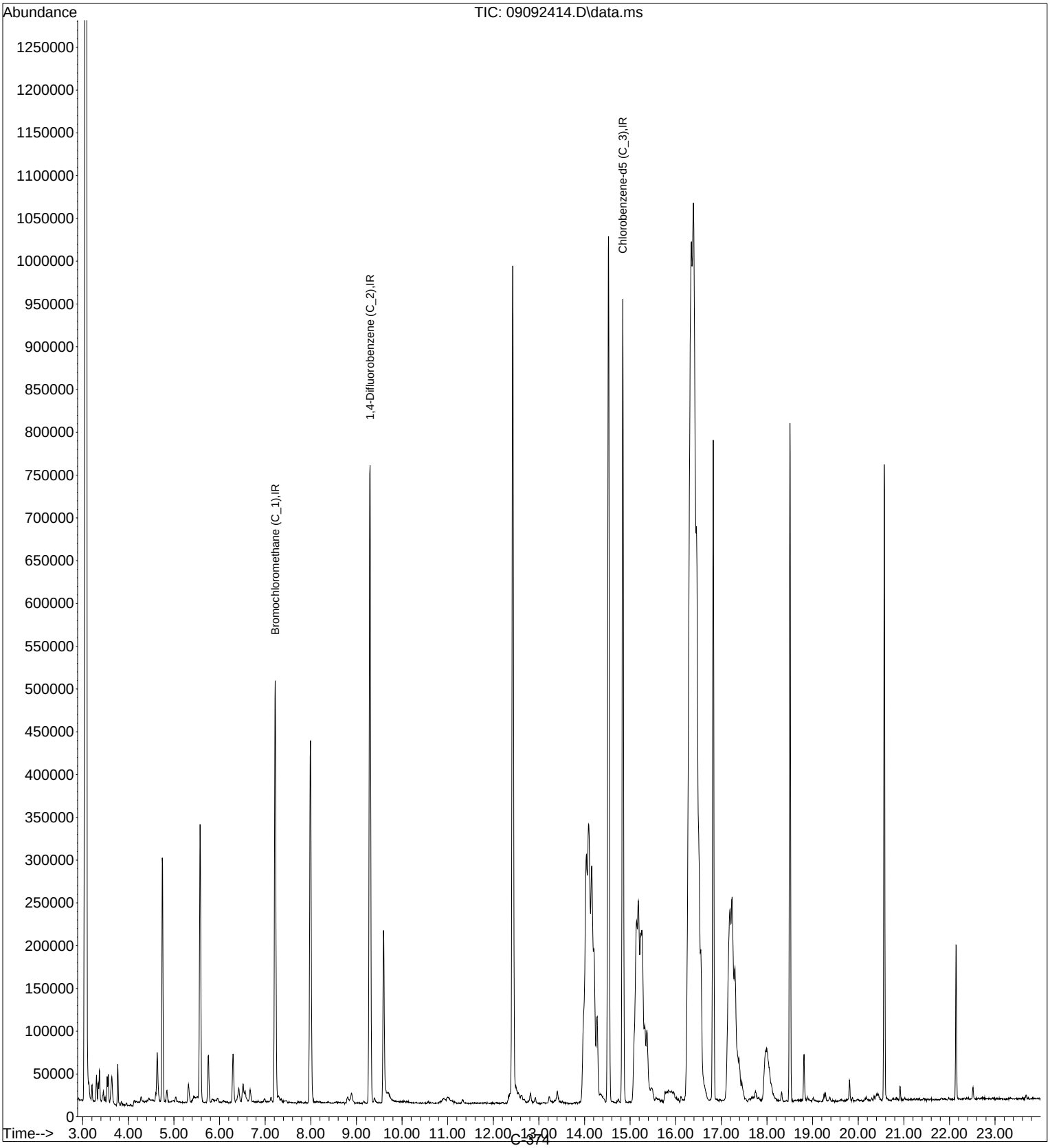
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	149767	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	654336	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	185240	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	293	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1333	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	301	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.60	83	84	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.32	43	4770	N.D.		
12) 2-Methylpentane	6.49	71	58	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.59	56	509	N.D.		
18) Dibromomethane	9.80	174	52	N.D.		
20) Methyl Cyclohexane	11.59	55	169	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d	
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.62	91	53	N.D.		
27) 4-Chlorotoluene	17.68	91	588	N.D.		
28) Indane	19.01	117	61	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.25	119	58	N.D.		
31) 1,2,3,4-Tetramethylben...	20.25	119	58	N.D.		
32) 1,2,3,5-Tetramethylben...	20.57	119	2738	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092414.D Vial: 5
Acq On : 9 Sep 2024 16:12 Operator: SC
Sample : P2403661-002 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:39:00 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092414.D
Acq On : 9 Sep 2024 16:12
Operator : SC
Sample : P2403661-002 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092414.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	69	74	78	rBV3	30513	43148	0.36%	0.130%
2	3.341	78	81	82	rVV2	21034	22183	0.18%	0.067%
3	3.364	82	85	92	rVB	36417	50560	0.42%	0.152%
4	3.455	92	101	104	rBV5	12213	20880	0.17%	0.063%
5	3.535	110	115	117	rBV	29545	36064	0.30%	0.108%
6	3.557	117	119	125	rVV	32852	39816	0.33%	0.120%
7	3.637	125	133	145	rVB2	32666	80075	0.66%	0.240%
8	3.767	151	156	161	rBV2	48608	63595	0.53%	0.191%
9	4.131	215	220	224	rBV3	6961	15428	0.13%	0.046%
10	4.278	240	246	251	rBV2	6562	12170	0.10%	0.037%
11	4.602	298	303	304	rBV3	9656	11988	0.10%	0.036%
12	4.630	304	308	321	rVV	57553	116029	0.96%	0.348%
13	4.744	321	328	337	rVV	285146	494816	4.10%	1.486%
14	4.846	341	346	354	rVB4	13956	25121	0.21%	0.075%
15	5.317	422	429	439	rBV	21490	48180	0.40%	0.145%
16	5.573	466	474	483	rVB	323718	634626	5.25%	1.906%
17	5.755	498	506	515	rBV	55320	110285	0.91%	0.331%
18	6.294	593	601	610	rBV	56952	119101	0.99%	0.358%
19	6.419	616	623	633	rVB5	15762	37267	0.31%	0.112%
20	6.516	633	640	645	rVV2	20650	50823	0.42%	0.153%
21	6.561	645	648	659	rVV4	12836	27558	0.23%	0.083%
22	6.669	661	667	675	rVB2	13978	29603	0.25%	0.089%
23	7.220	755	764	773	rBV	492322	1055934	8.74%	3.171%
24	7.992	890	900	915	rBV	423849	973210	8.06%	2.923%
25	8.810	1037	1044	1050	rBV4	7574	20656	0.17%	0.062%
26	8.889	1050	1058	1070	rVB6	12199	38821	0.32%	0.117%
27	9.298	1119	1130	1141	rBV	745754	1706573	14.13%	5.125%
28	9.389	1143	1146	1155	rVB4	4936	10465	0.09%	0.031%
29	9.593	1175	1182	1198	rBV	201365	444667	3.68%	1.335%
30	12.336	1659	1665	1666	rBV2	8917	11585	0.10%	0.035%
31	12.427	1671	1681	1692	rVV	969304	2216119	18.35%	6.655%
32	12.540	1699	1701	1710	rVB6	6198	13881	0.11%	0.042%
33	12.625	1710	1716	1724	rVB4	5248	13466	0.11%	0.040%
34	12.813	1742	1749	1758	rVB3	11066	25448	0.21%	0.076%
35	12.926	1760	1769	1774	rVB3	6539	14614	0.12%	0.044%
36	13.233	1814	1823	1829	rBV6	7530	18163	0.15%	0.055%
37	13.403	1846	1853	1860	rVB3	12196	28648	0.24%	0.086%
38	14.045	1939	1966	1969	rBV2	290124	1250819	10.35%	3.756%
39	14.090	1970	1974	1981	rVB3	113944	348619	2.89%	1.047%
40	14.278	2002	2007	2019	rVB2	91140	218899	1.81%	0.657%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092414.D
Acq On : 9 Sep 2024 16:12
Operator : SC
Sample : P2403661-002 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	14.528	2040	2051	2064	rBV	1011873	2277299	18.85%	6.839%
42	14.840	2097	2106	2118	rBV	939178	1912219	15.83%	5.743%
43	15.141	2138	2159	2162	rBV2	212267	792345	6.56%	2.380%
44	15.368	2195	2199	2212	rVB3	70440	184099	1.52%	0.553%
45	15.765	2262	2269	2271	rBV4	12494	22426	0.19%	0.067%
46	15.953	2300	2302	2312	rVB6	8230	15942	0.13%	0.048%
47	16.112	2325	2330	2335	rBV5	6698	13980	0.12%	0.042%
48	16.384	2344	2378	2440	rVB3	1048919	12079705	100.00%	36.278%
49	16.822	2444	2455	2464	rBV	771444	1442588	11.94%	4.332%
50	17.191	2499	2520	2523	rBV2	222540	950158	7.87%	2.854%
51	17.446	2563	2565	2577	rVB8	21550	47695	0.39%	0.143%
52	17.747	2614	2618	2623	rBV6	8015	14632	0.12%	0.044%
53	17.980	2642	2659	2660	rBV4	60218	198032	1.64%	0.595%
54	18.321	2713	2719	2725	rVB3	10566	18001	0.15%	0.054%
55	18.502	2744	2751	2760	rVB	793187	1300641	10.77%	3.906%
56	18.815	2799	2806	2814	rBV	54201	89241	0.74%	0.268%
57	19.013	2835	2841	2847	rBV6	5111	11422	0.09%	0.034%
58	19.252	2877	2883	2886	rBV4	8957	13921	0.12%	0.042%
59	19.280	2886	2888	2893	rVB2	9176	11391	0.09%	0.034%
60	19.808	2977	2981	2986	rVB3	23449	32837	0.27%	0.099%
61	20.569	3109	3115	3127	rBV2	741736	1052083	8.71%	3.160%
62	20.916	3172	3176	3182	rVB3	16125	23103	0.19%	0.069%
63	22.142	3386	3392	3400	rBV	180982	260228	2.15%	0.782%
64	22.517	3453	3458	3467	rVB	14121	22254	0.18%	0.067%
65	23.681	3657	3663	3666	rBV3	5751	11458	0.09%	0.034%

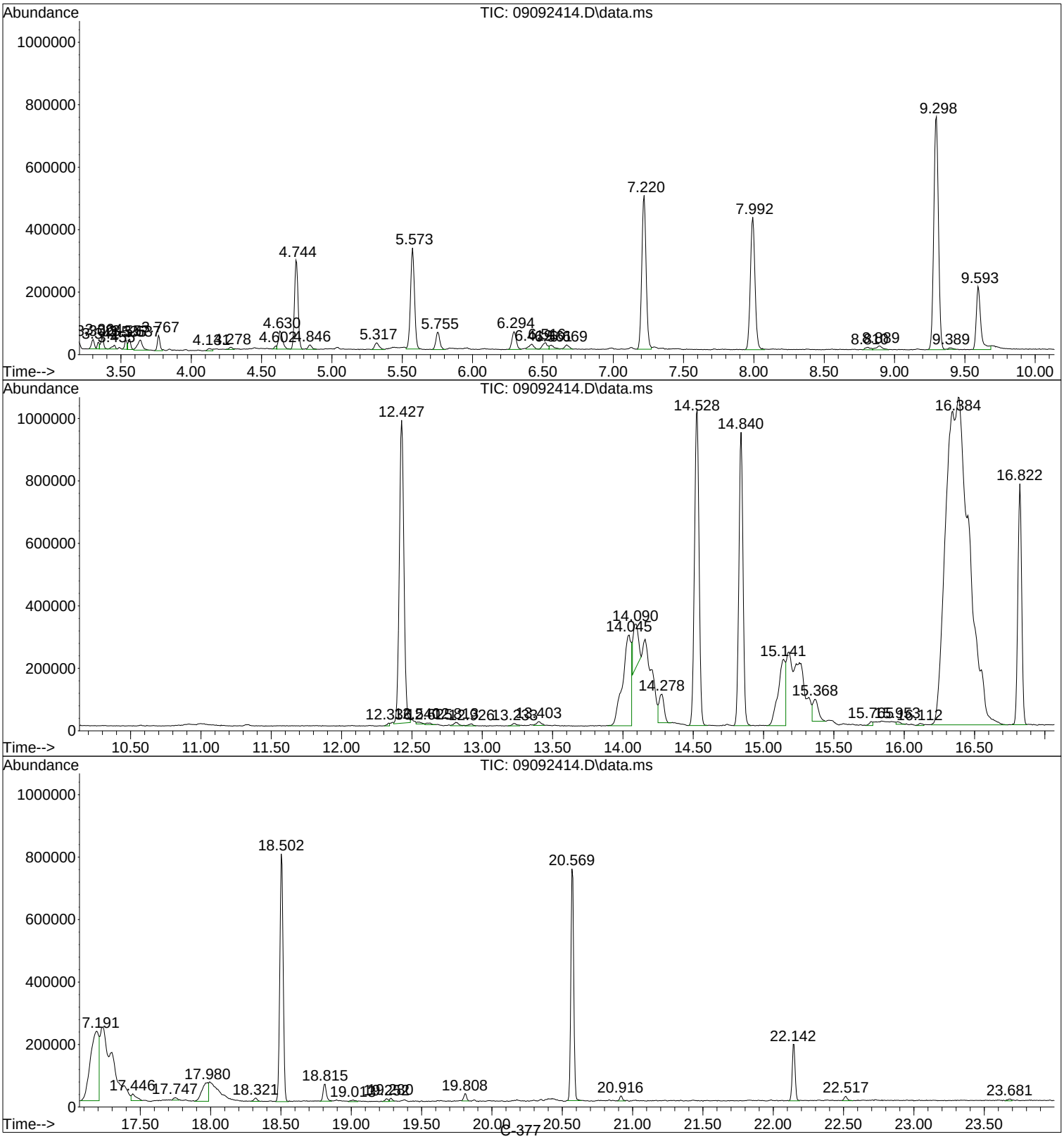
Sum of corrected areas: 33297603

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092414.D
Acq On : 9 Sep 2024 16:12
Operator : SC
Sample : P2403661-002 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092414.D
Acq On : 9 Sep 2024 16:122
Operator : SCC
Sample : P2403661-002 (400mL))
Misc : S37-060624022
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:25:10 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131053	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	577385	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	174984	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	338842	13.817	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%				
57) Toluene-d8 (SS2)	12.43	98	656816	10.700	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.60%				
73) Bromofluorobenzene (SS3)	16.82	174	217956	10.616	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%				
Target Compounds							Qvalue
2) Propene	3.29	42	9854	0.498	ng	#	74
3) Dichlorodifluoromethan...	3.37	85	18925m	0.595	ng		
4) Chloromethane	3.50	50	3732	0.150	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	246	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	28591	2.010	ng		86
11) Acetonitrile	4.51	41	265	N.D.			
12) Acrolein	4.53	56	3241	0.298	ng		95
13) Acetone	4.62	58	55871	4.655	ng		100
14) Trichlorofluoromethane	4.75	101	116950	3.854	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	139657	2.956	ng		91
16) Acrylonitrile	5.05	53	771	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.34	59	921	N.D.			
19) Methylene Chloride	5.35	84	1013	0.072	ng	#	53
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	9014	0.750	ng		88
22) Carbon Disulfide	5.59	76	48918	1.044	ng		100
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	293	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	4185	0.492	ng	#	36
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.28	87	296	N.D.			
30) Ethyl Acetate	7.28	61	39391	6.905	ng		91
31) n-Hexane	7.30	57	437	N.D.			
32) Chloroform	7.36	83	9252	0.354	ng		93
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.61	61	1881	No Calib		#	
40) 1-Butanol	8.81	56	8867	No Calib		#	
41) Benzene	8.89	78	4543	0.084	ng		98
42) Carbon Tetrachloride	9.05	117	497	N.D.			
43) Cyclohexane	9.17	84	133	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.09	83	176	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.21	57	109	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:25:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.35	58	346	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	13661	0.206 ng	99
59) 2-Hexanone	12.93	43	3215	0.078 ng	74
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	785	N.D.	
63) n-Octane	13.92	57	177	N.D.	
64) Tetrachloroethene	14.06	166	841	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	987	N.D.	
67) m- & p-Xylenes	15.63	91	2042	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.10	104	619	N.D.	
70) o-Xylene	16.24	91	903	N.D.	
71) n-Nonane	16.60	43	949	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	196	N.D.	
75) alpha-Pinene	17.52	93	1059	N.D.	
76) n-Propylbenzene	17.68	91	393	N.D.	
77) 3-Ethyltoluene	17.03	105	196	No Calib	#
78) 4-Ethyltoluene	17.86	105	348	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	196	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	767	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	121	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	255	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	455	N.D.	
87) sec-Butylbenzene	18.73	105	506	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	12089	0.177 ng	99
89) 1,2,3-Trimethylbenzene	17.03	105	196	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.08	68	2062	0.099 ng	88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.83	180	465	N.D.	
95) Naphthalene	20.94	128	1861	N.D.	
96) n-Dodecane	18.92	58	513	No Calib	#
97) Hexachlorobutadiene	21.30	225	298	N.D.	
98) Cyclohexanone	15.21	55	174	No Calib	#
99) tert-Butylbenzene	18.41	119	474	N.D.	
100) n-Butylbenzene	19.39	91	520	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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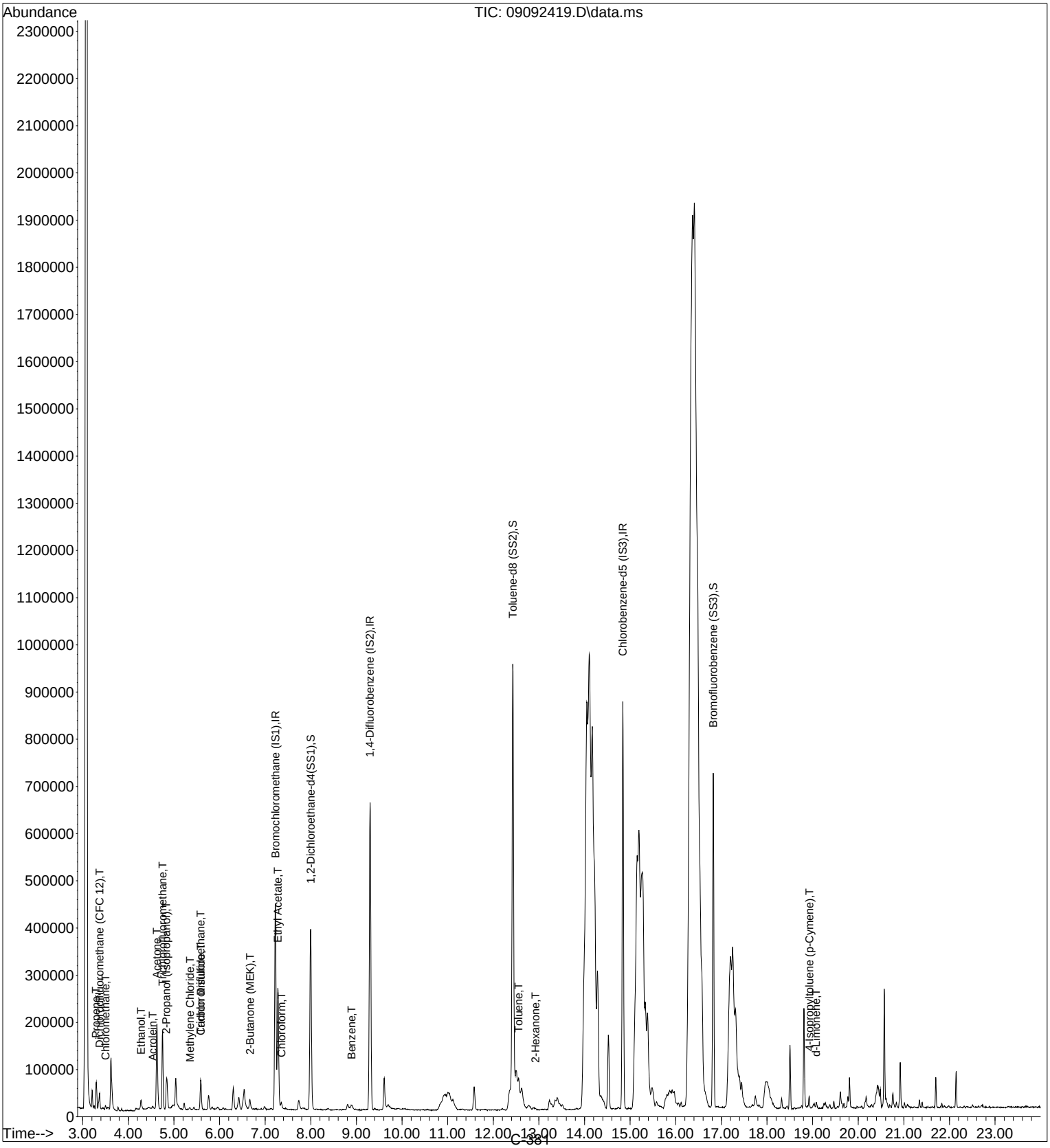
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:25:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



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Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131053	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	577385	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	174984	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	338842	13.817	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%				
57) Toluene-d8 (SS2)	12.43	98	656816	10.700	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.60%				
73) Bromofluorobenzene (SS3)	16.82	174	217956	10.616	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%				
Target Compounds							Qvalue
2) Propene	3.29	42	9854	0.498	ng	#	74
3) Dichlorodifluoromethan...	3.37	85	18925m	0.595	ng		
4) Chloromethane	3.50	50	3732	0.150	ng		97
10) Ethanol	4.28	45	28591	2.010	ng		86
12) Acrolein	4.53	56	3241	0.298	ng		95
13) Acetone	4.62	58	55871	4.655	ng		100
14) Trichlorofluoromethane	4.75	101	116950	3.854	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	139657	2.956	ng		91
19) Methylene Chloride	5.35	84	1013	0.072	ng	#	53
21) Trichlorotrifluoroethane	5.58	151	9014	0.750	ng		88
22) Carbon Disulfide	5.59	76	48918	1.044	ng		100
27) 2-Butanone (MEK)	6.67	72	4185	0.492	ng	#	36
30) Ethyl Acetate	7.28	61	39391	6.905	ng		91
32) Chloroform	7.36	83	9252	0.354	ng		93
41) Benzene	8.89	78	4543	0.084	ng		98
58) Toluene	12.56	91	13661	0.206	ng		99
59) 2-Hexanone	12.93	43	3215	0.078	ng		74
88) 4-Isopropyltoluene (p-...	18.93	119	12089	0.177	ng		99
91) d-Limonene	19.08	68	2062	0.099	ng		88

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
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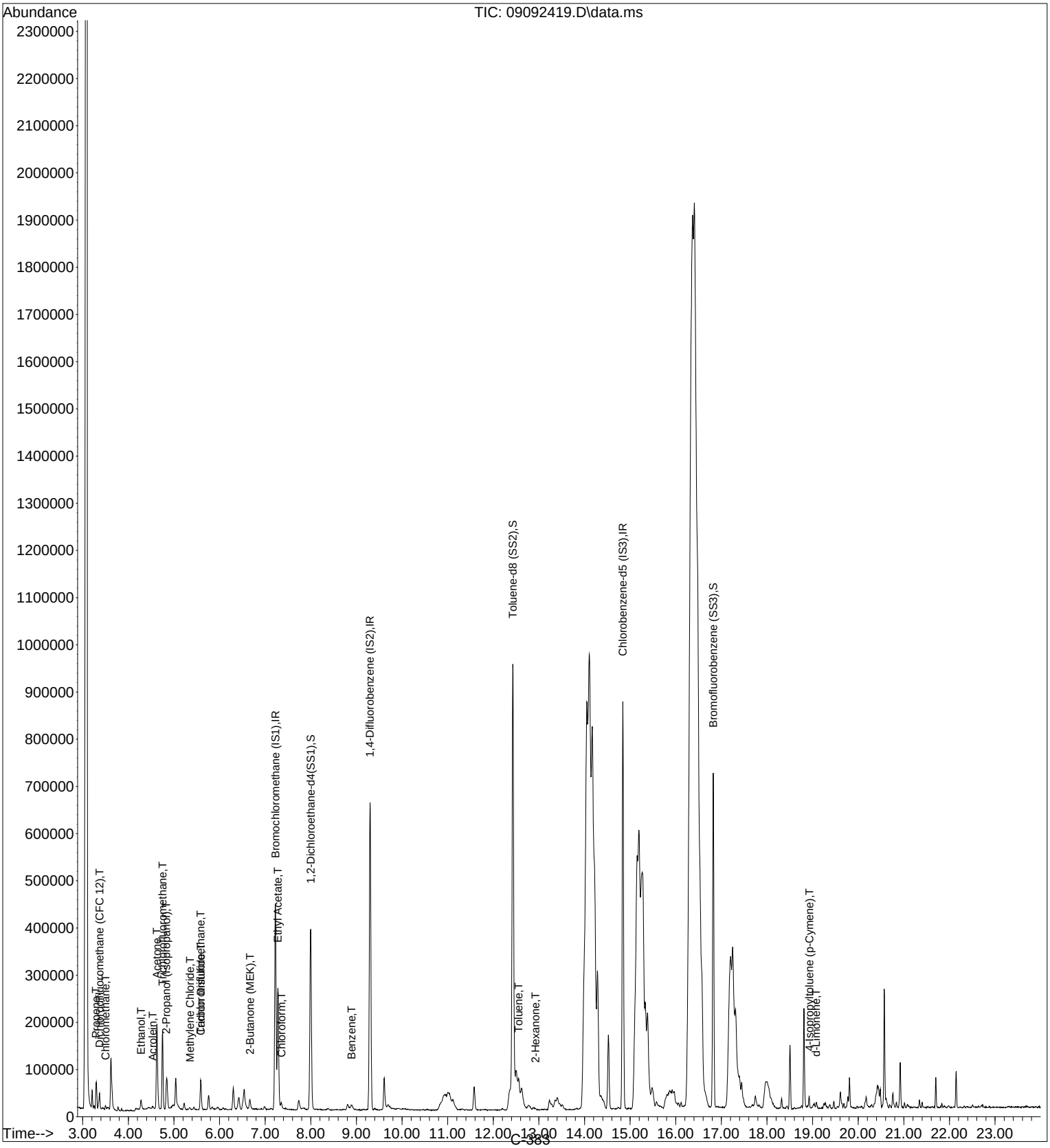
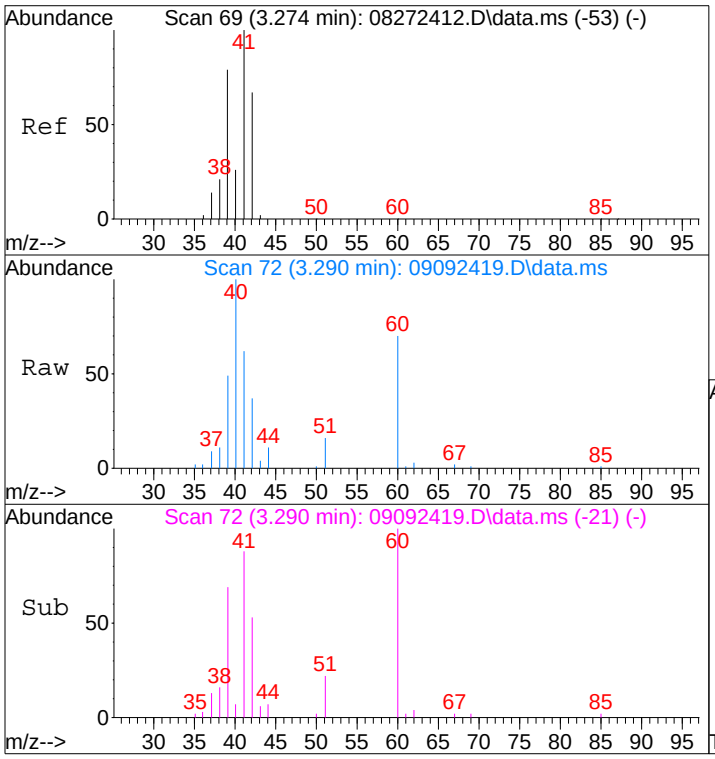
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

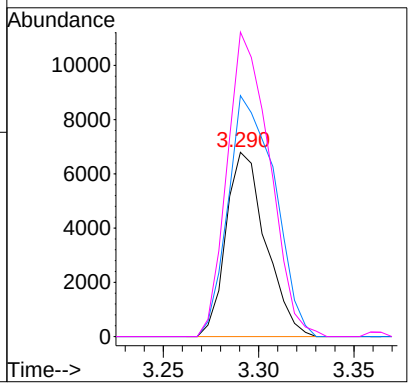


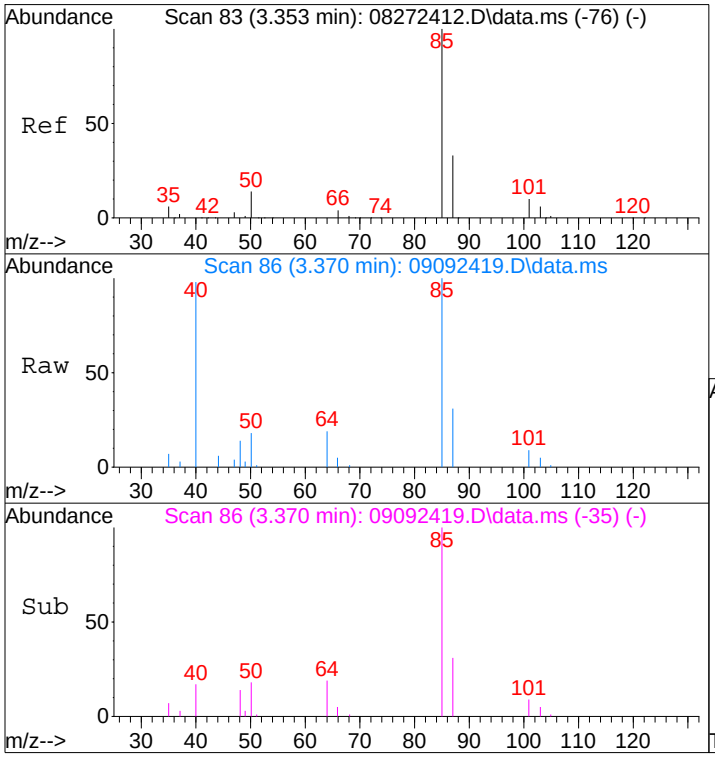


#2
Propene
Concen: 0.50 ng
RT: 3.29 min Scan# 72
Delta R.T. 0.041 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 42 Resp: 9854

Ion	Ratio	Lower	Upper
42	100		
39	153.5	98.2	138.2#
41	176.7	130.1	170.1#

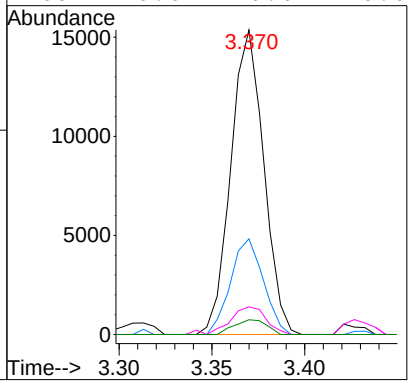


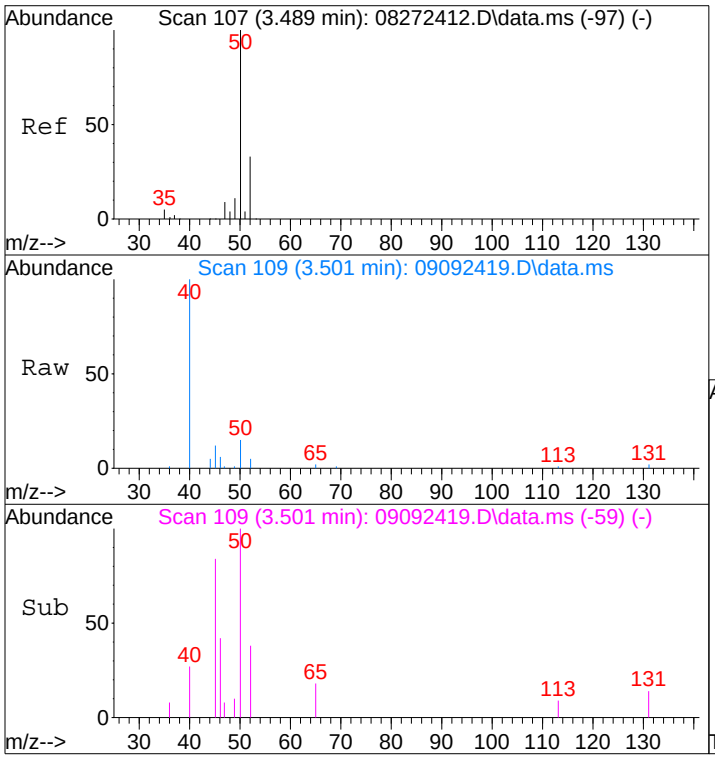


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.042 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 85 Resp: 18925

Ion	Ratio	Lower	Upper
85	100		
87	0.0	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

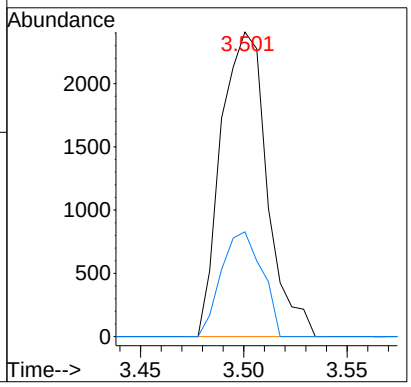


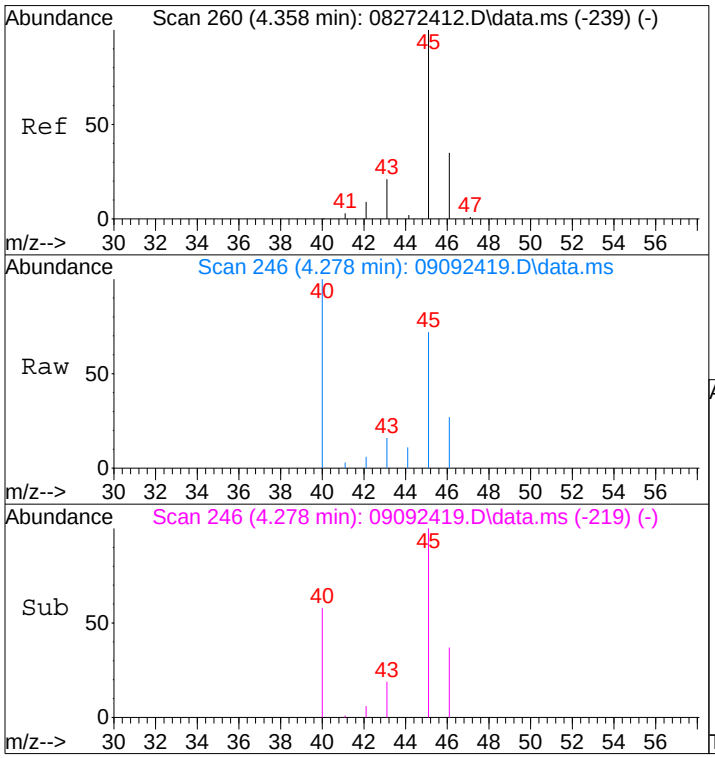


#4
Chloromethane
Concen: 0.15 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.032 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 50 Resp: 3732

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.4	52.4

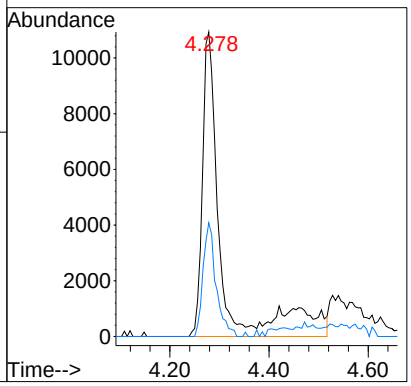


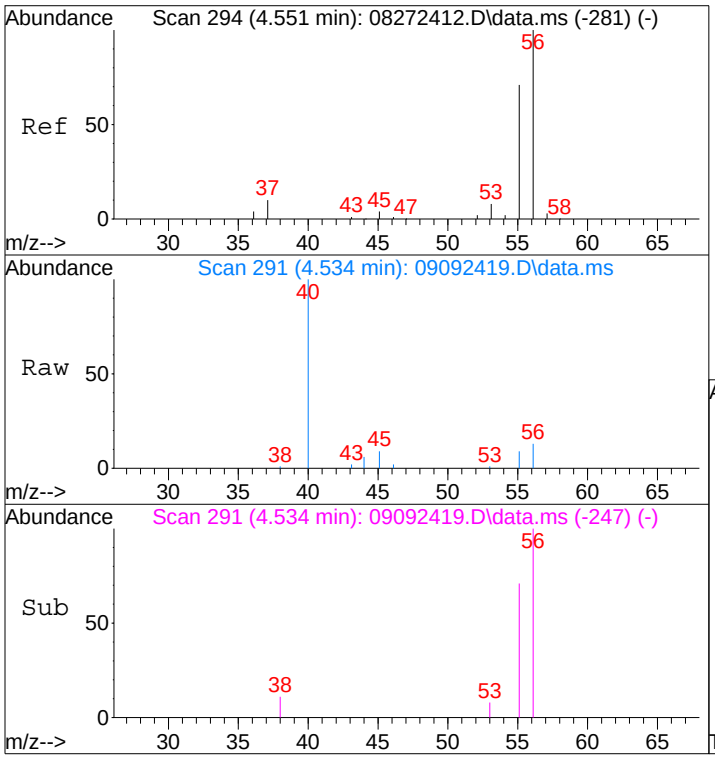


#10
Ethanol
Concen: 2.01 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.094 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 45 Resp: 28591

Ion	Ratio	Lower	Upper
45	100		
46	26.0	14.2	54.2

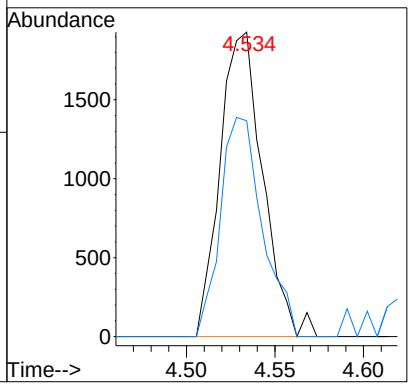


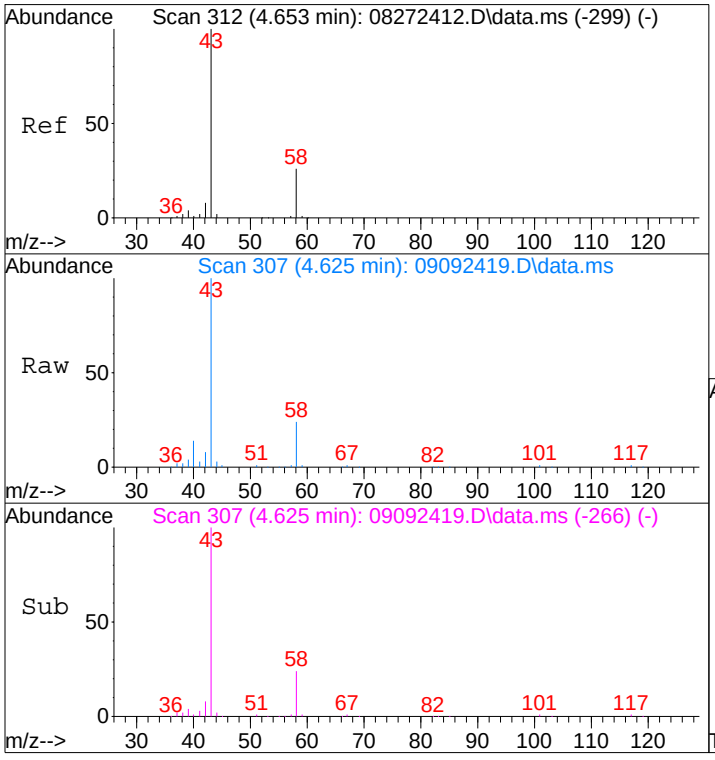


#12
Acrolein
Concen: 0.30 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.001 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 56 Resp: 3241

Ion	Ratio	Lower	Upper
56	100		
55	70.7	54.7	94.7

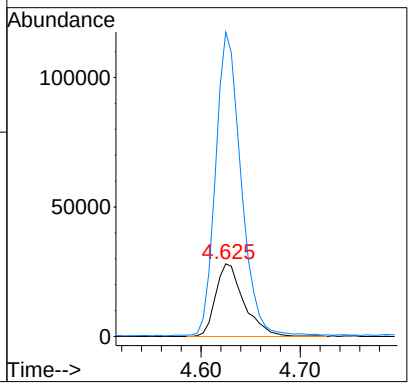


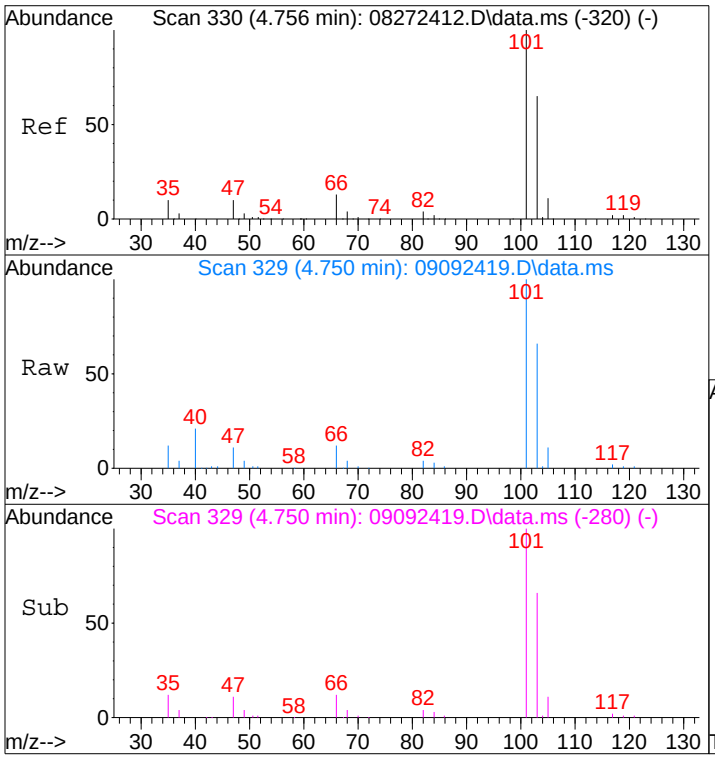


#13
Acetone
Concen: 4.66 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.017 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 58 Resp: 55871

Ion	Ratio	Lower	Upper
58	100		
43	376.7	347.3	407.3

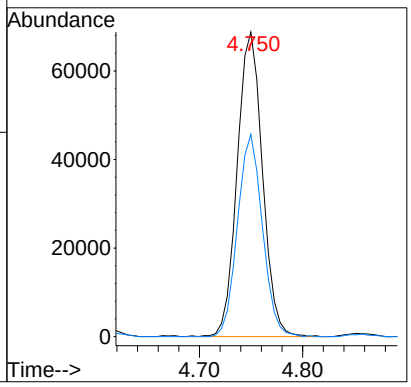


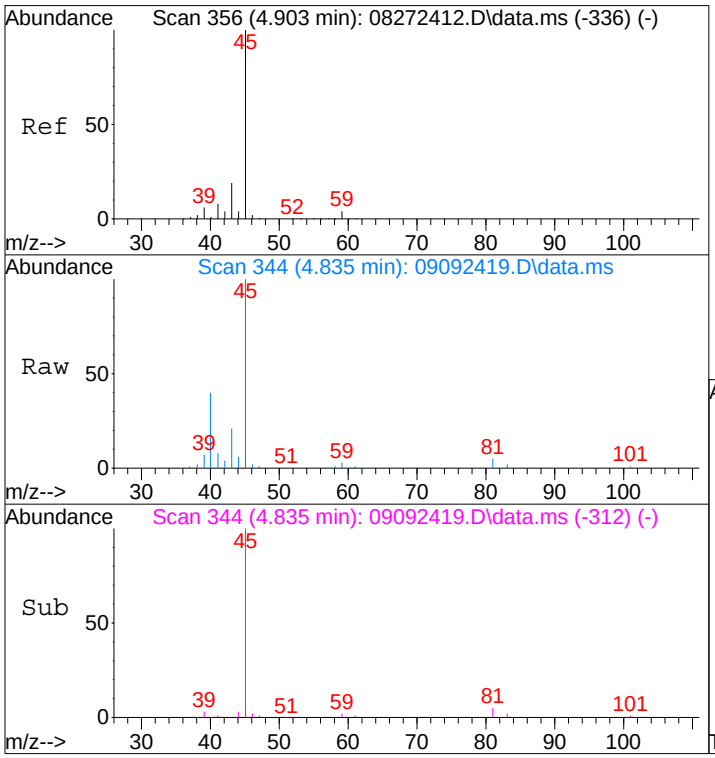


#14
Trichlorofluoromethane
Concen: 3.85 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion:101 Resp: 116950

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.9	84.9

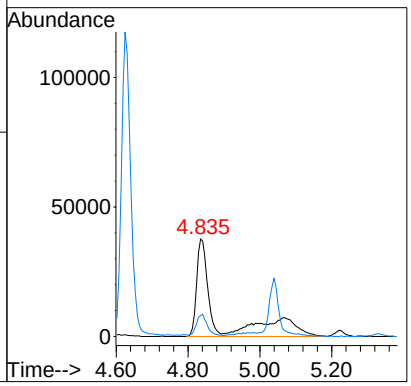


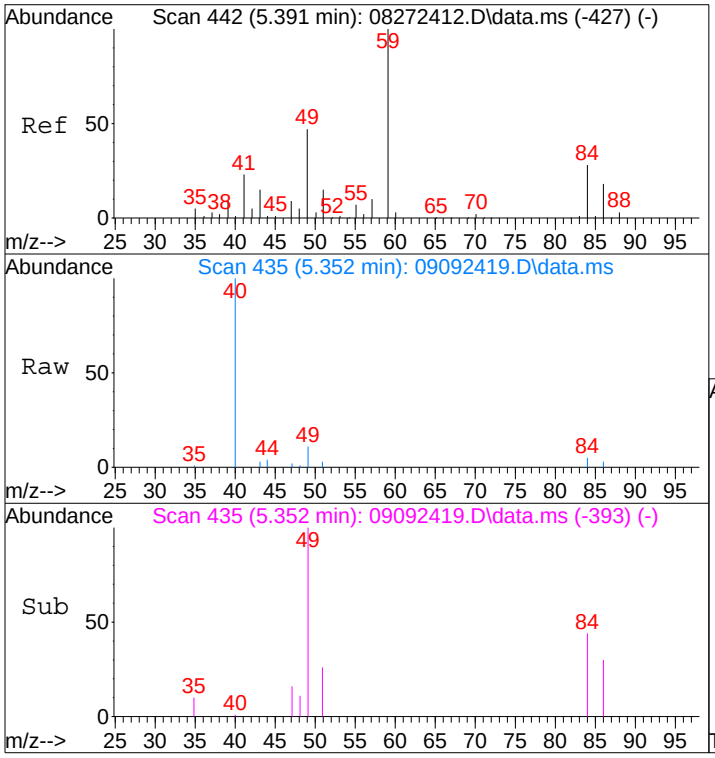


#15
2-Propanol (Isopropanol)
Concen: 2.96 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.071 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 45 Resp: 139657

Ion	Ratio	Lower	Upper
45	100		
43	16.0	0.0	40.0

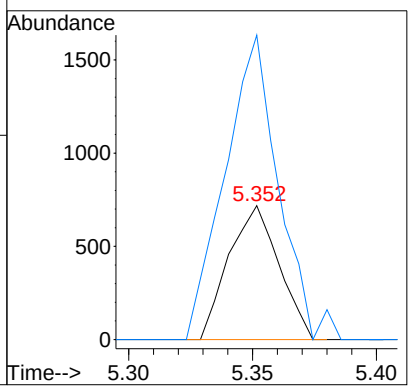


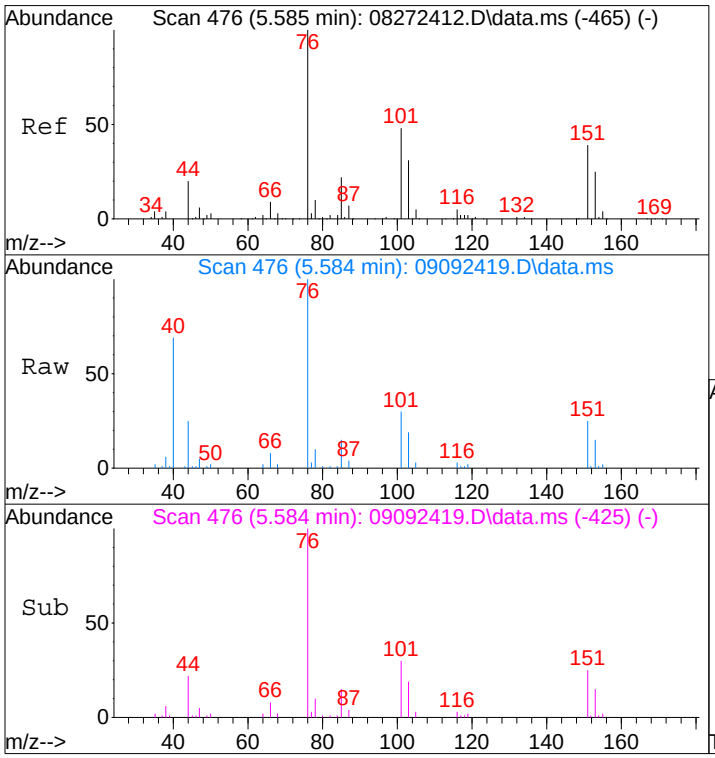


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 84 Resp: 1013

Ion	Ratio	Lower	Upper
84	100		
49	242.5	151.1	201.1#

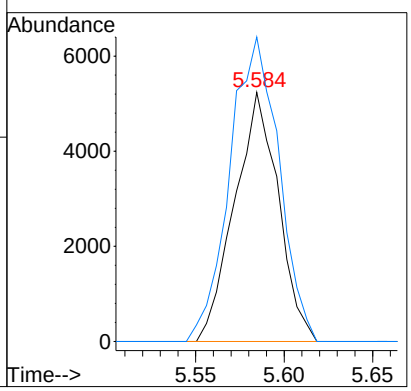


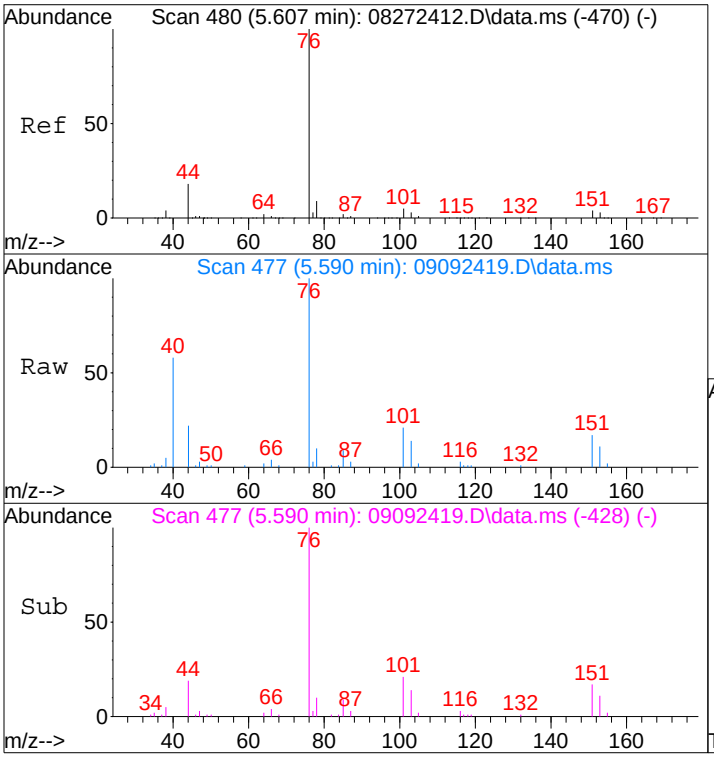


#21
Trichlorotrifluoroethane
Concen: 0.75 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion:151 Resp: 9014

Ion	Ratio	Lower	Upper
151	100		
101	137.0	103.4	143.4

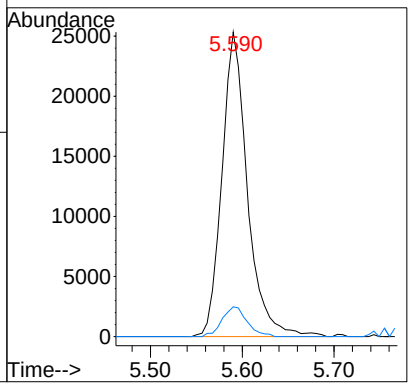


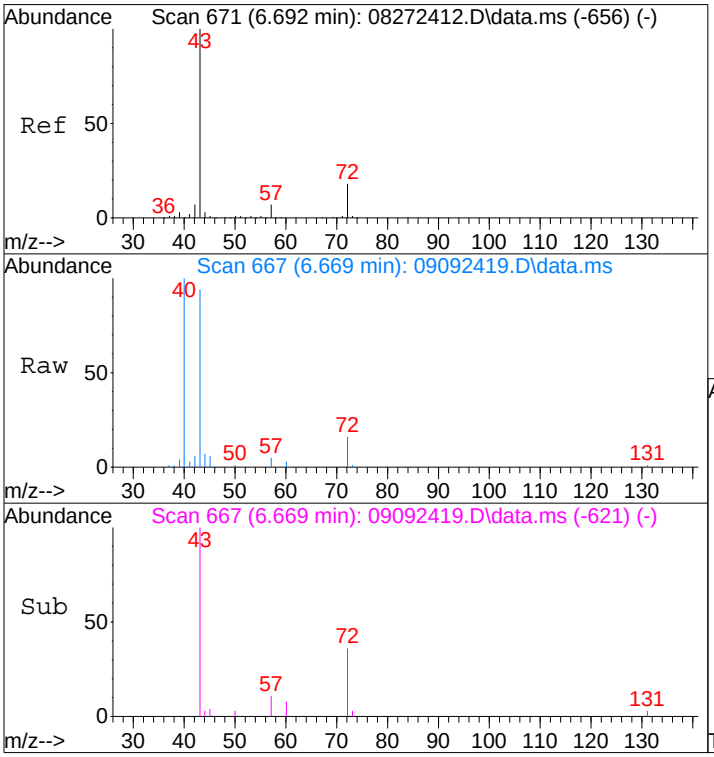


#22
Carbon Disulfide
Concen: 1.04 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 76 Resp: 48918

Ion	Ratio	Lower	Upper
76	100		
78	9.6	0.0	29.6

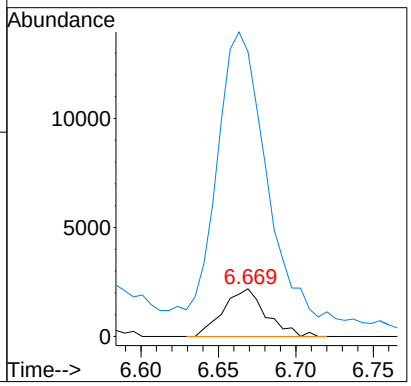


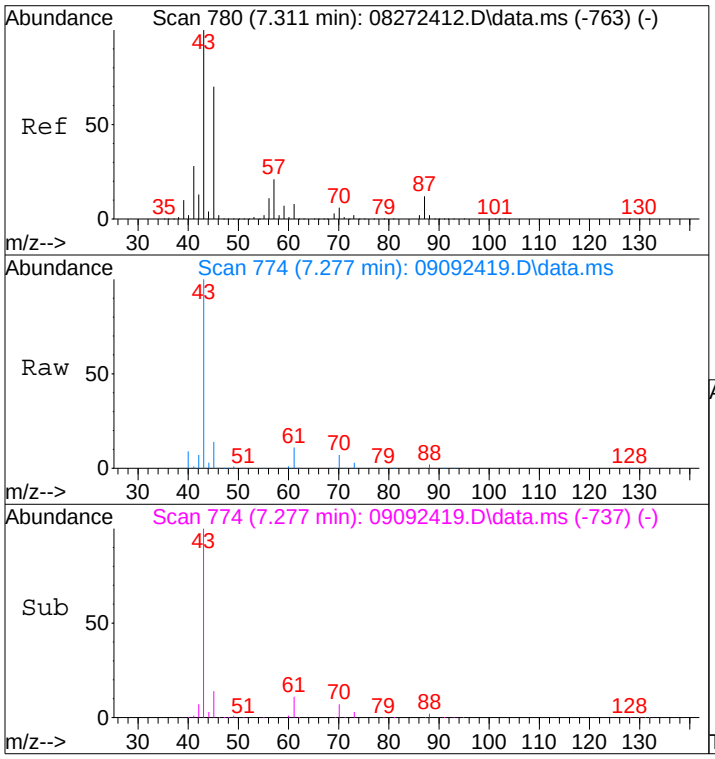


#27
2-Butanone (MEK)
Concen: 0.49 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 72 Resp: 4185

Ion	Ratio	Lower	Upper
72	100		
43	761.0	548.0	588.0#

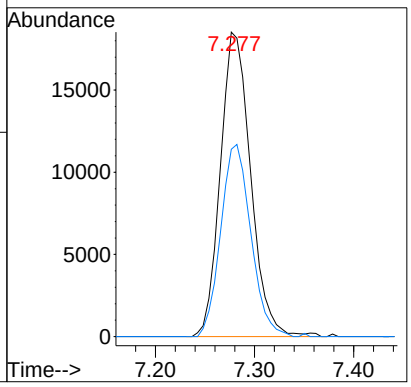


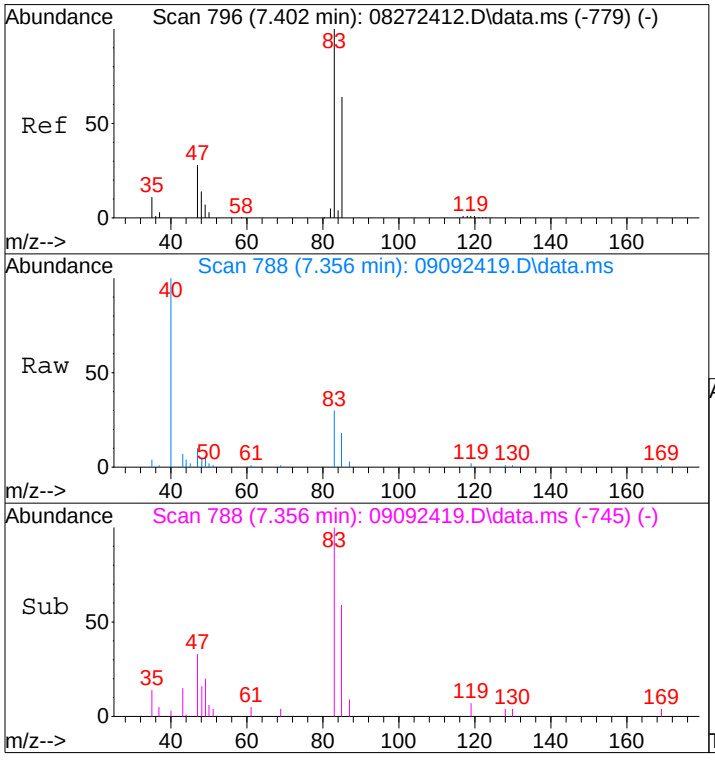


#30
Ethyl Acetate
Concen: 6.90 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.012 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 61 Resp: 39391

Ion	Ratio	Lower	Upper
61	100		
70	62.6	49.9	89.9

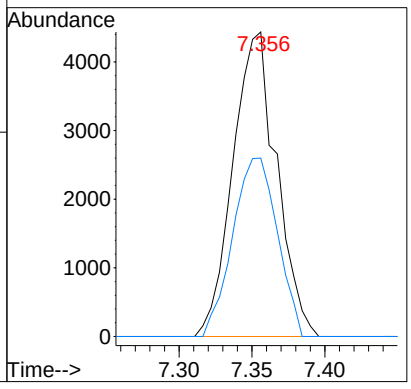


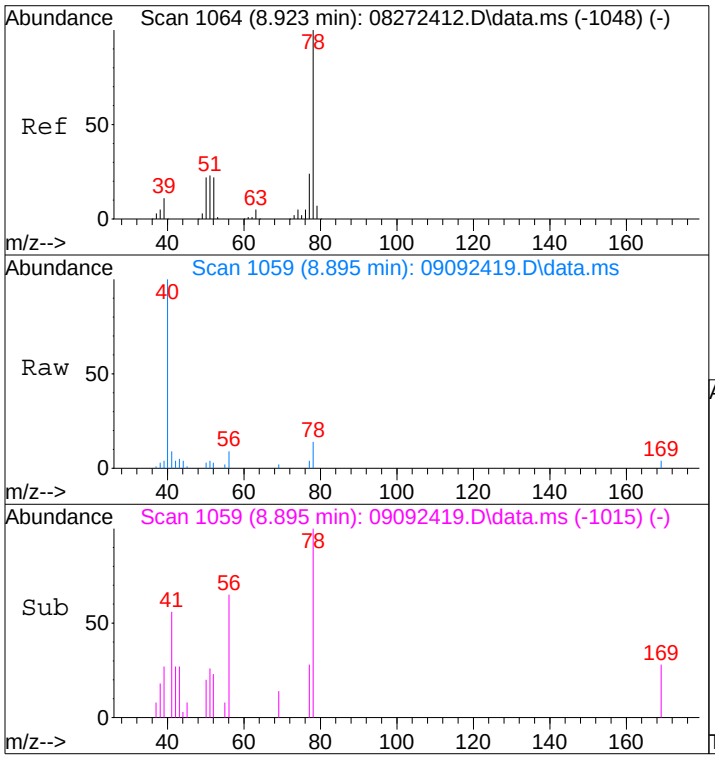


#32
Chloroform
Concen: 0.35 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.004 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 83 Resp: 9252

Ion	Ratio	Lower	Upper
83	100		
85	59.8	45.3	85.3

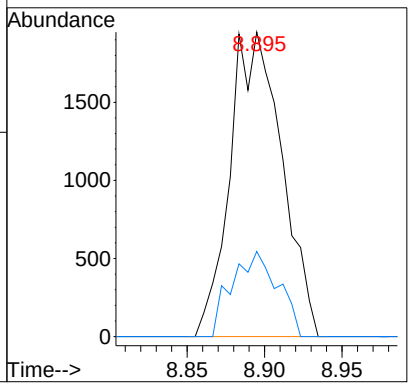


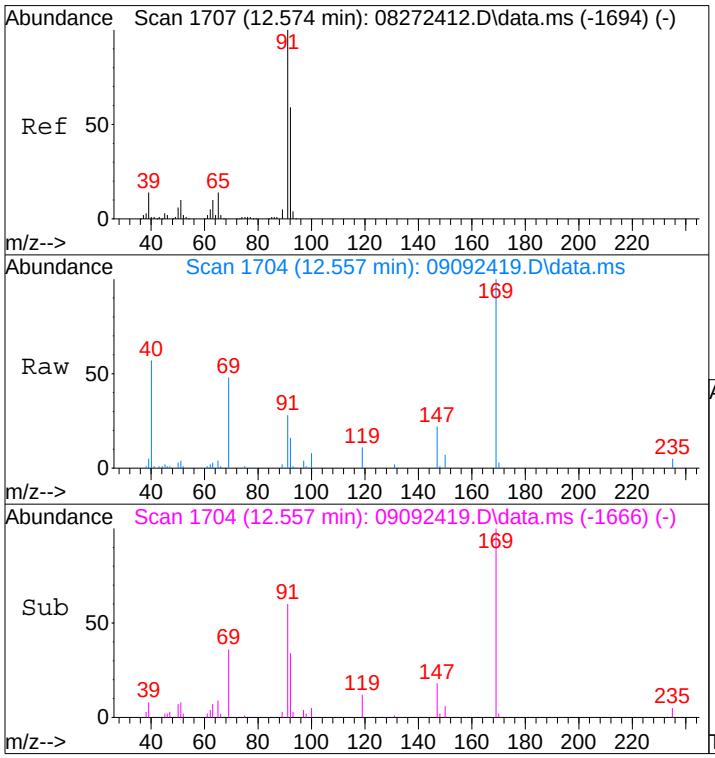


#41
Benzene
Concen: 0.08 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 78 Resp: 4543

Ion	Ratio	Lower	Upper
78	100		
77	24.9	3.9	43.9

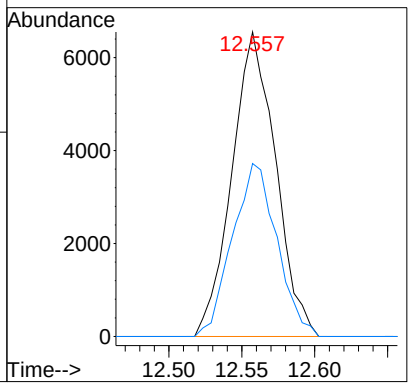


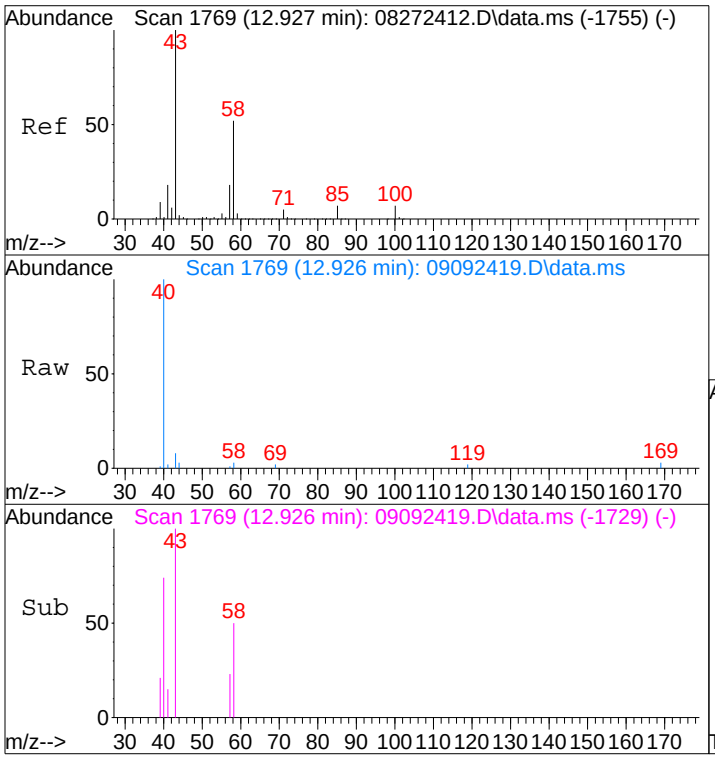


#58
Toluene
Concen: 0.21 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 91 Resp: 13661

Ion	Ratio	Lower	Upper
91	100		
92	57.9	38.5	78.5

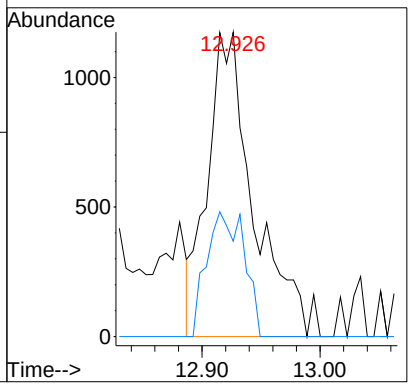


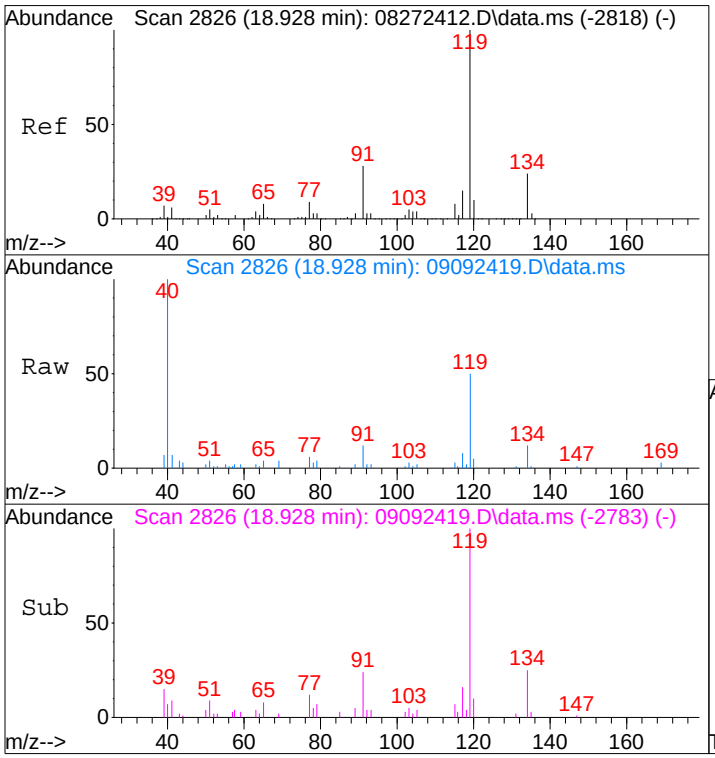


#59
2-Hexanone
Concen: 0.08 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 43 Resp: 3215

Ion	Ratio	Lower	Upper
43	100		
58	33.1	31.1	71.1

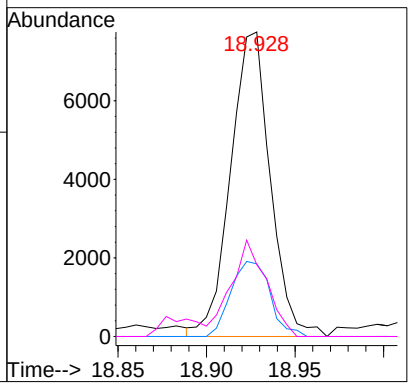


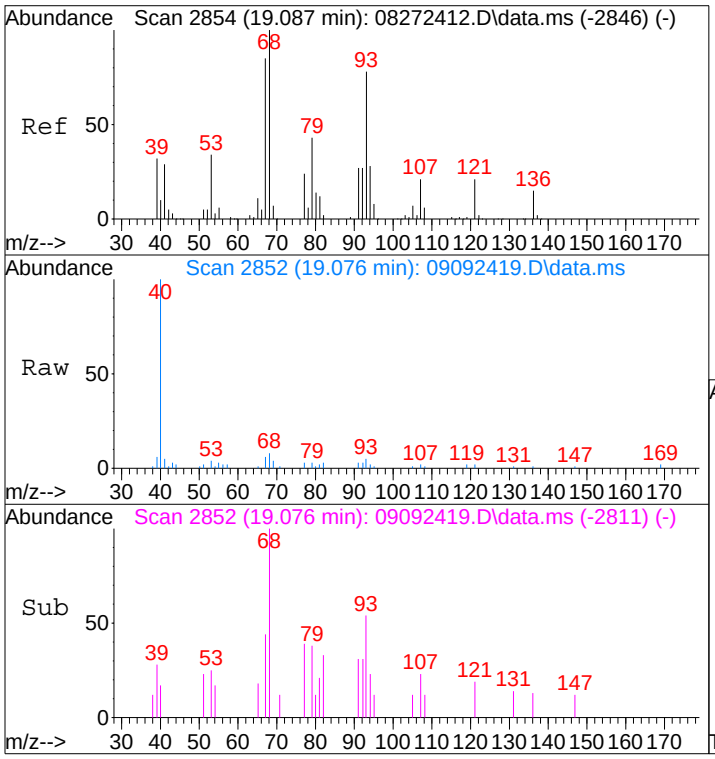


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.18 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.006 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion:119 Resp: 12089

Ion	Ratio	Lower	Upper
119	100		
134	24.3	4.7	44.7
91	27.9	8.1	48.1

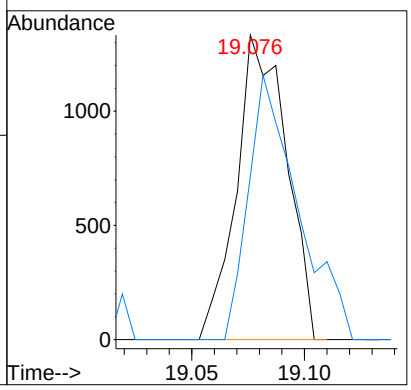




#91
d-Limonene
Concen: 0.10 ng
RT: 19.08 min Scan# 2852
Delta R.T. -0.017 min
Lab File: 09092419.D
Acq: 9 Sep 2024 18:54

Tgt Ion: 68 Resp: 2062

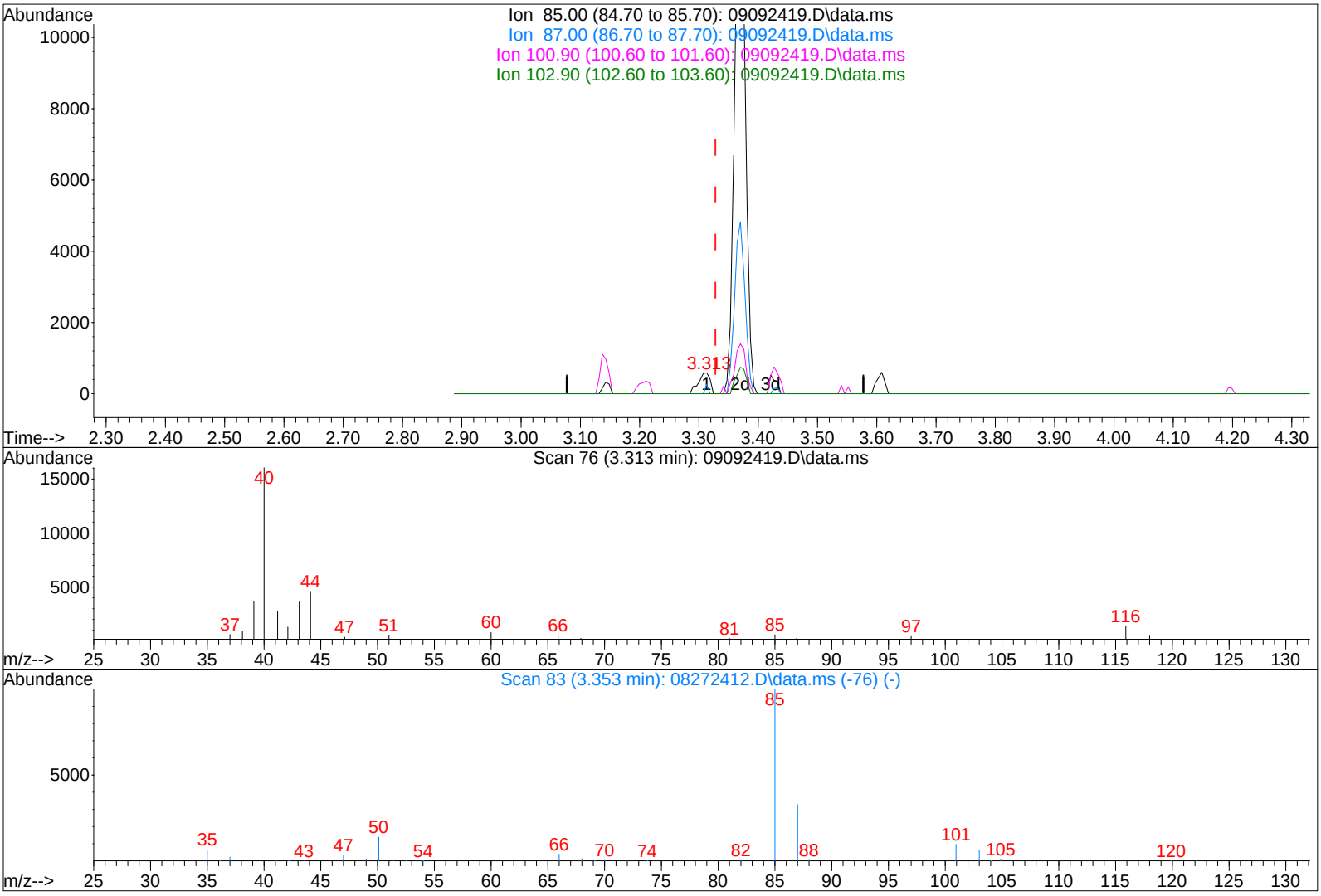
Ion	Ratio	Lower	Upper
68	100		
93	86.2	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:35:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.014) 0.03ng

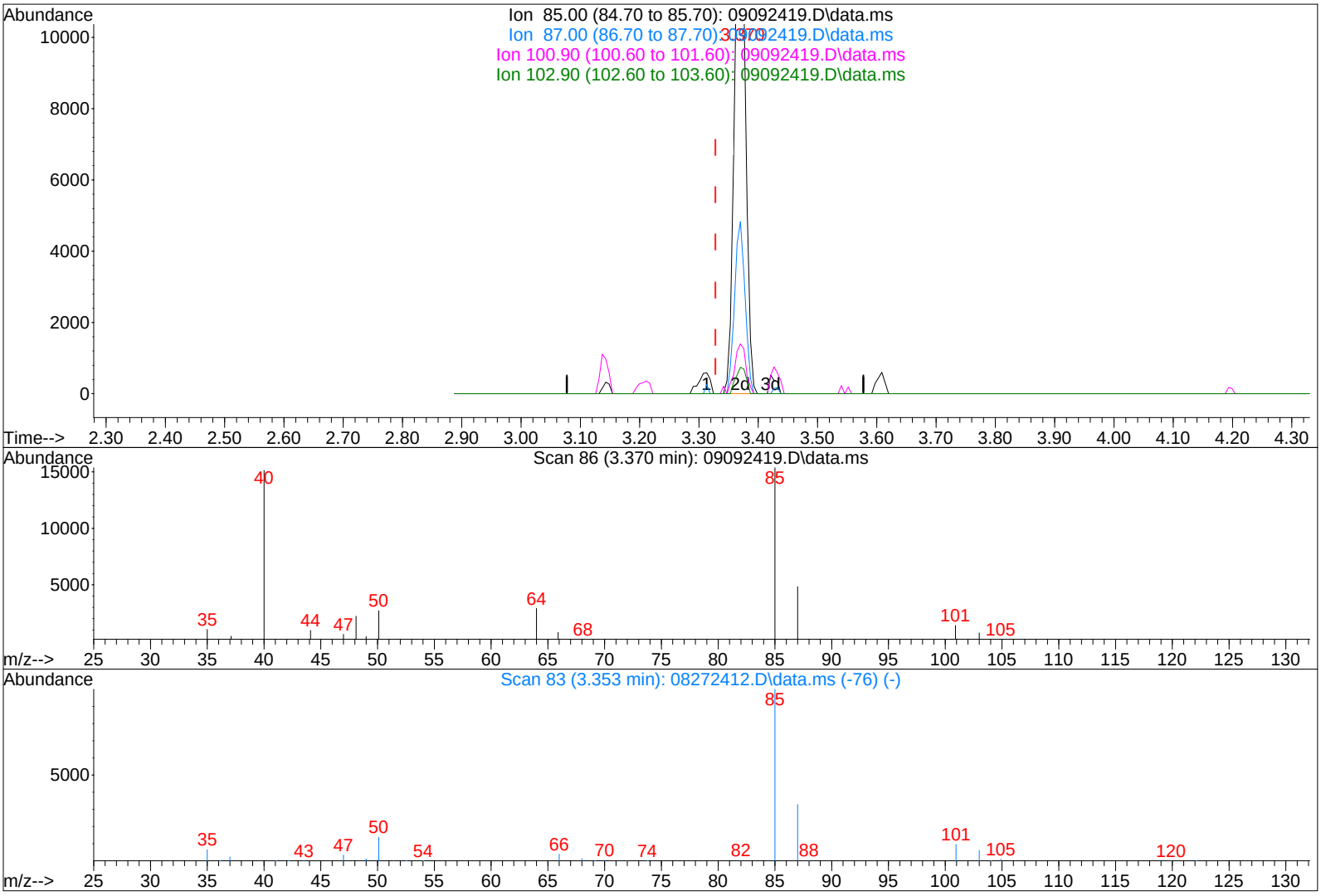
response 803

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:35:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.042) 0.59ng m

response 18925

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/10/24

TZ 9/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 12:23:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

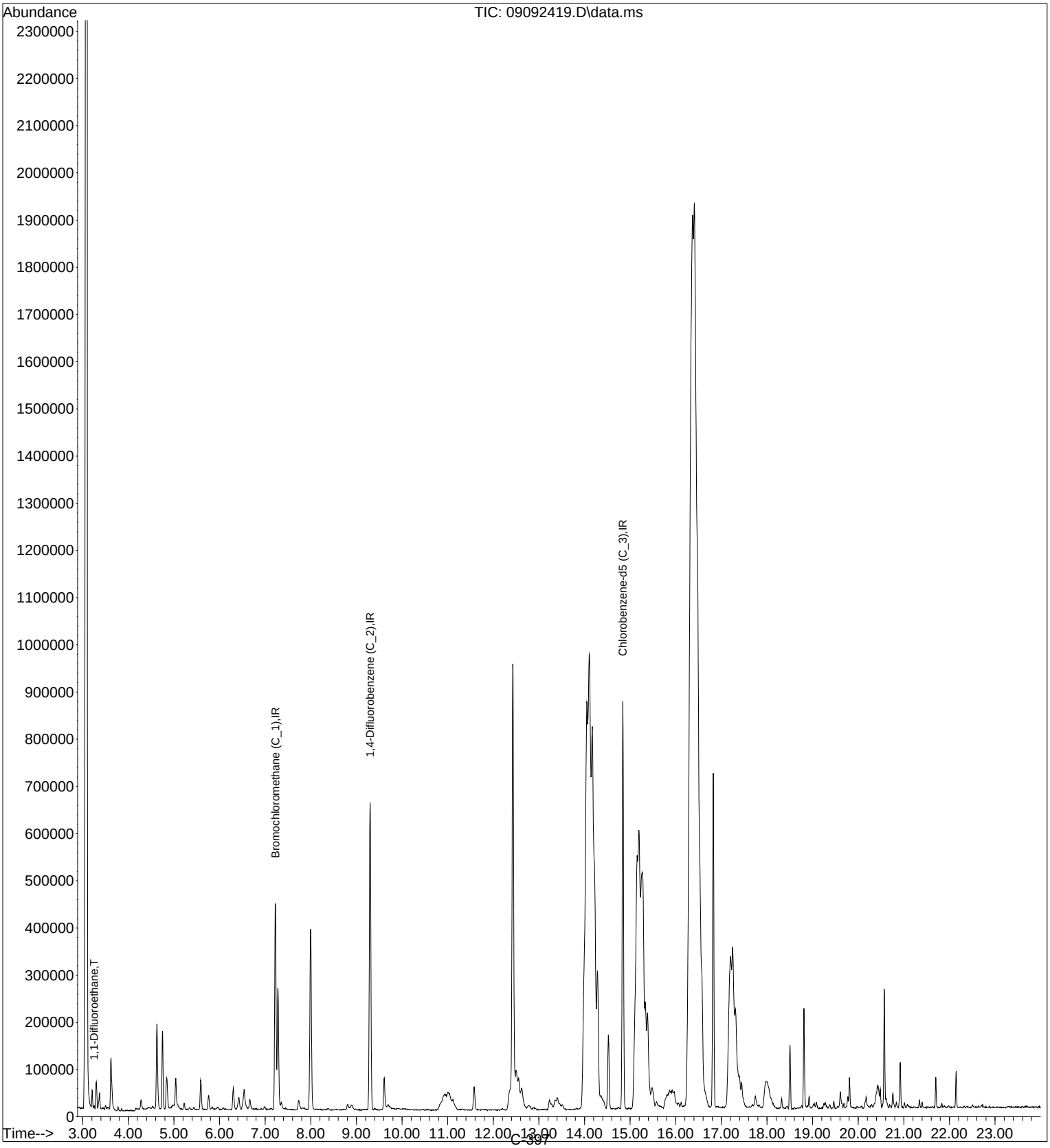
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	131614	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	577385	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	174984	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	257	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d	
4) 1,1-Difluoroethane	3.25	65	1718	0.150	ng	92
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	408	N.D.		
7) Dichlorofluoromethane ...	4.24	67	235	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.62	83	295	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.33	43	2587	N.D.		
12) 2-Methylpentane	6.56	71	72	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.52	56	61	N.D.		
18) Dibromomethane	9.79	174	51	N.D.		
20) Methyl Cyclohexane	11.42	55	256	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d	
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.60	91	225	N.D.		
27) 4-Chlorotoluene	17.68	91	393	N.D.		
28) Indane	19.12	117	54	N.D.		
29) Indene	19.21	115	68	N.D.		
30) 1,2,4,5-Tetramethylben...	20.19	119	117	N.D.		
31) 1,2,3,4-Tetramethylben...	20.23	119	681	N.D.		
32) 1,2,3,5-Tetramethylben...	20.57	119	1754	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

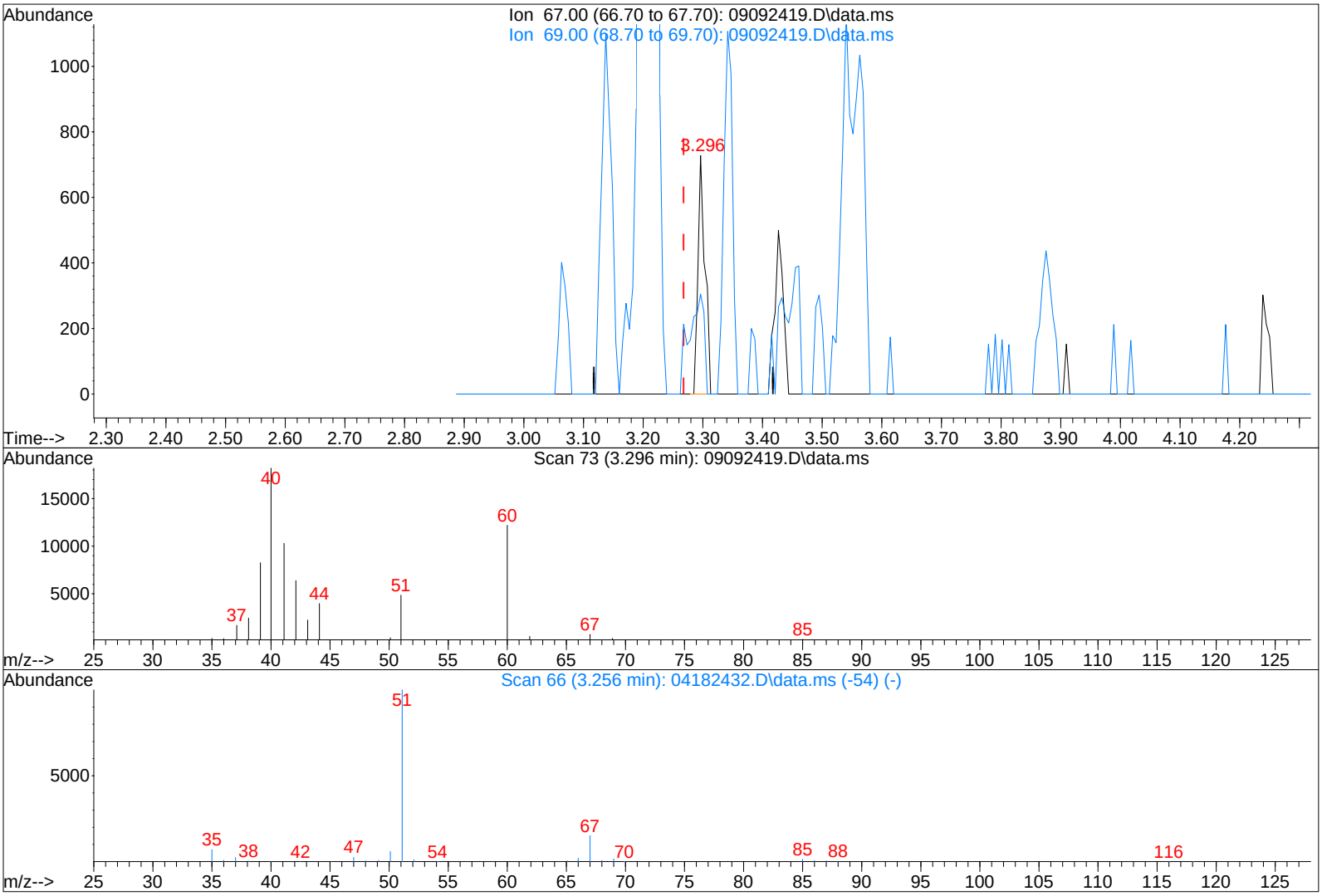
Quant Time: Sep 10 12:23:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092419.D Vial: 6
Acq On : 9 Sep 2024 18:54 Operator: SC
Sample : P2403661-003 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:22:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092419.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.296min (+0.028) 0.13ng

response 594

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	89.73#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092419.D
Acq On : 9 Sep 2024 18:54
Operator : SC
Sample : P2403661-003 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092419.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	68	73	78	rBV3	56445	93687	0.41%	0.202%
2	3.370	78	86	92	rVB2	33475	60478	0.27%	0.130%
3	3.501	105	109	112	rBV3	8665	12710	0.06%	0.027%
4	3.620	124	130	144	rVB	110162	232280	1.03%	0.501%
5	3.773	154	157	165	rVB2	8527	12767	0.06%	0.028%
6	4.278	240	246	254	rVB	19055	36279	0.16%	0.078%
7	4.625	300	307	319	rVB	179932	348936	1.54%	0.752%
8	4.750	322	329	338	rVB	164928	280840	1.24%	0.605%
9	4.841	338	345	358	rBV2	66171	158556	0.70%	0.342%
10	4.977	359	369	372	rVV4	8203	25136	0.11%	0.054%
11	5.039	374	380	398	rVB2	65238	145167	0.64%	0.313%
12	5.227	406	413	421	rVB3	13831	26853	0.12%	0.058%
13	5.584	468	476	485	rBV2	63346	126200	0.56%	0.272%
14	5.755	499	506	515	rBV	29952	62129	0.27%	0.134%
15	6.300	595	602	611	rBV2	46911	99670	0.44%	0.215%
16	6.419	614	623	633	rVV4	25610	67757	0.30%	0.146%
17	6.538	633	644	657	rVV2	42546	133561	0.59%	0.288%
18	6.663	660	666	676	rVB2	20525	46461	0.21%	0.100%
19	6.987	717	723	729	rVB3	6289	14538	0.06%	0.031%
20	7.225	755	765	770	rBV	436037	963381	4.26%	2.076%
21	7.277	770	774	783	rVV	255940	539724	2.39%	1.163%
22	7.350	783	787	796	rVB3	13461	27930	0.12%	0.060%
23	7.737	848	855	864	rBV4	20050	54135	0.24%	0.117%
24	7.998	889	901	916	rBV	382417	894705	3.95%	1.928%
25	8.804	1035	1043	1050	rBV4	11625	32046	0.14%	0.069%
26	9.298	1118	1130	1143	rVB	651185	1521529	6.72%	3.279%
27	9.610	1174	1185	1194	rBV	67127	147484	0.65%	0.318%
28	9.701	1194	1201	1206	rVB5	5422	15298	0.07%	0.033%
29	10.950	1392	1421	1426	rBV5	31045	225508	1.00%	0.486%
30	11.581	1523	1532	1543	rBV	49833	115839	0.51%	0.250%
31	12.427	1671	1681	1691	rBV	902306	2120937	9.37%	4.570%
32	12.495	1691	1693	1701	rVB2	24654	53001	0.23%	0.114%
33	12.625	1712	1716	1732	rVB	41911	131100	0.58%	0.282%
34	12.779	1738	1743	1754	rVB6	8275	27768	0.12%	0.060%
35	13.233	1816	1823	1837	rBV7	20595	82309	0.36%	0.177%
36	13.352	1837	1844	1849	rVV5	19836	60745	0.27%	0.131%
37	13.398	1849	1852	1868	rVV4	25169	99357	0.44%	0.214%
38	13.517	1868	1873	1883	rVB5	9742	25907	0.11%	0.056%
39	14.051	1940	1967	1972	rBV	861754	4075362	18.01%	8.782%
40	14.284	2004	2008	2019	rVB	266210	642944	2.84%	1.385%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092419.D
Acq On : 9 Sep 2024 18:54
Operator : SC
Sample : P2403661-003 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	14.522	2042	2050	2063	rVB	157029	353130	1.56%	0.761%
42	14.840	2097	2106	2121	rVB	863858	1761263	7.78%	3.795%
43	15.152	2138	2161	2164	rBV2	537408	1993620	8.81%	4.296%
44	15.482	2215	2219	2230	rVB3	38673	118914	0.53%	0.256%
45	15.578	2230	2236	2242	rBV4	8866	18795	0.08%	0.040%
46	15.811	2262	2277	2280	rBV6	29674	114725	0.51%	0.247%
47	16.055	2318	2320	2326	rVB5	8538	13724	0.06%	0.030%
48	16.118	2326	2331	2336	rBV5	9294	14579	0.06%	0.031%
49	16.407	2347	2382	2443	rVB	1916302	22628351	100.00%	48.760%
50	16.822	2445	2455	2465	rVB	707927	1338874	5.92%	2.885%
51	17.202	2498	2522	2526	rBV2	320837	1405318	6.21%	3.028%
52	17.446	2561	2565	2581	rVB5	51527	141520	0.63%	0.305%
53	17.685	2599	2607	2609	rBV7	5369	11212	0.05%	0.024%
54	17.747	2612	2618	2630	rVB5	22147	52881	0.23%	0.114%
55	17.974	2643	2658	2685	rBV5	55571	449989	1.99%	0.970%
56	18.321	2714	2719	2724	rBV3	20757	31232	0.14%	0.067%
57	18.440	2735	2740	2745	rVB6	6388	12493	0.06%	0.027%
58	18.502	2745	2751	2758	rVB	135579	221587	0.98%	0.477%
59	18.809	2799	2805	2816	rBV	210791	323641	1.43%	0.697%
60	18.923	2820	2825	2832	rVB2	25184	39381	0.17%	0.085%
61	19.082	2850	2853	2861	rVB5	13794	26414	0.12%	0.057%
62	19.246	2878	2882	2885	rBV4	10498	17345	0.08%	0.037%
63	19.280	2885	2888	2893	rVB2	9996	15212	0.07%	0.033%
64	19.371	2898	2904	2912	rVB3	8836	19956	0.09%	0.043%
65	19.468	2916	2921	2925	rVB	14627	21340	0.09%	0.046%
66	19.542	2928	2934	2939	rBV8	4750	11519	0.05%	0.025%
67	19.610	2939	2946	2956	rVV7	33380	80058	0.35%	0.173%
68	19.689	2956	2960	2963	rVV3	9669	13177	0.06%	0.028%
69	19.774	2965	2975	2977	rVV7	23704	43255	0.19%	0.093%
70	19.808	2977	2981	2993	rVB3	64210	96460	0.43%	0.208%
71	20.172	3036	3045	3055	rBV7	23692	62427	0.28%	0.135%
72	20.354	3072	3077	3078	rBV4	7728	10697	0.05%	0.023%
73	20.427	3078	3090	3097	rVV5	42461	170102	0.75%	0.367%
74	20.484	3097	3100	3105	rVB2	39426	55894	0.25%	0.120%
75	20.569	3105	3115	3121	rBV2	251432	378802	1.67%	0.816%
76	20.689	3133	3136	3143	rBV4	6866	11489	0.05%	0.025%
77	20.762	3143	3149	3157	rBV4	31214	58516	0.26%	0.126%
78	20.836	3158	3162	3166	rVB5	10453	13440	0.06%	0.029%
79	20.921	3170	3177	3186	rVB4	96076	152772	0.68%	0.329%
80	21.012	3189	3193	3198	rBV5	11210	16248	0.07%	0.035%
81	21.075	3200	3204	3207	rBV3	6517	10000	0.04%	0.022%
82	21.342	3246	3251	3257	rBV3	16378	24271	0.11%	0.052%
83	21.404	3257	3262	3265	rBV2	11624	15262	0.07%	0.033%
84	21.699	3310	3314	3322	rVB3	64385	84880	0.38%	0.183%
85	22.148	3387	3393	3402	rVB	77621	112101	0.50%	0.242%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092419.D
Acq On : 9 Sep 2024 18:54
Operator : SC
Sample : P2403661-003 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

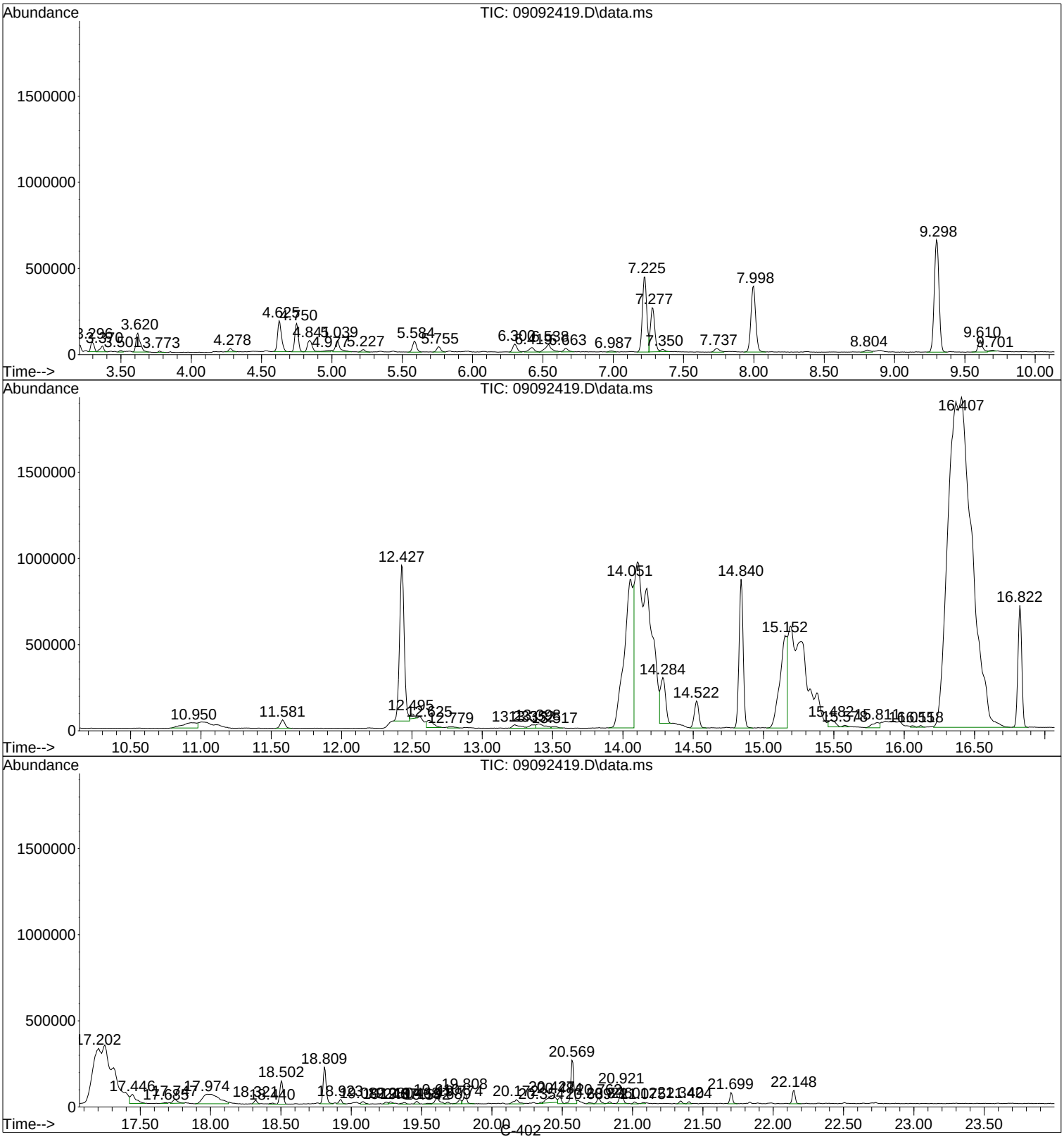
Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Sum of corrected areas: 46407880

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092419.D
Acq On : 9 Sep 2024 18:54
Operator : SC
Sample : P2403661-003 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092419.D
Acq On : 9 Sep 2024 18:544
Operator : SCC
Sample : P2403661-003 (400mL))
Misc : S37-060624022
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	134286	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	587517	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	177116	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	343483	13.669	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
57) Toluene-d8 (SS2)	12.43	98	676481	10.888	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
73) Bromofluorobenzene (SS3)	16.82	174	222151	10.691	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.52%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	19841m	0.609	ng		
4) Chloromethane	3.50	50	1360	0.053	ng		79
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	464	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	22626	1.553	ng		98
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	2668	0.240	ng		98
13) Acetone	4.64	58	32867	2.673	ng	#	78
14) Trichlorofluoromethane	4.75	101	2821946	90.746	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	17072	0.353	ng		85
16) Acrylonitrile	5.03	53	144	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	442	N.D.			
19) Methylene Chloride	5.36	84	411	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1755817	142.519	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	488	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	4123	0.473	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	5246	0.897	ng		91
31) n-Hexane	7.29	57	343	N.D.			
32) Chloroform	7.34	83	19880	0.743	ng		98
34) Tetrahydrofuran (THF)	7.78	72	322	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.58	61	11601	No Calib		#	
40) 1-Butanol	8.80	56	11296	No Calib		#	
41) Benzene	8.89	78	6678	0.121	ng		96
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.16	84	471	N.D.			
44) tert-Amyl Methyl Ether	9.63	73	392	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	867	N.D.			
47) Trichloroethene	10.14	130	538	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.23	57	681	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

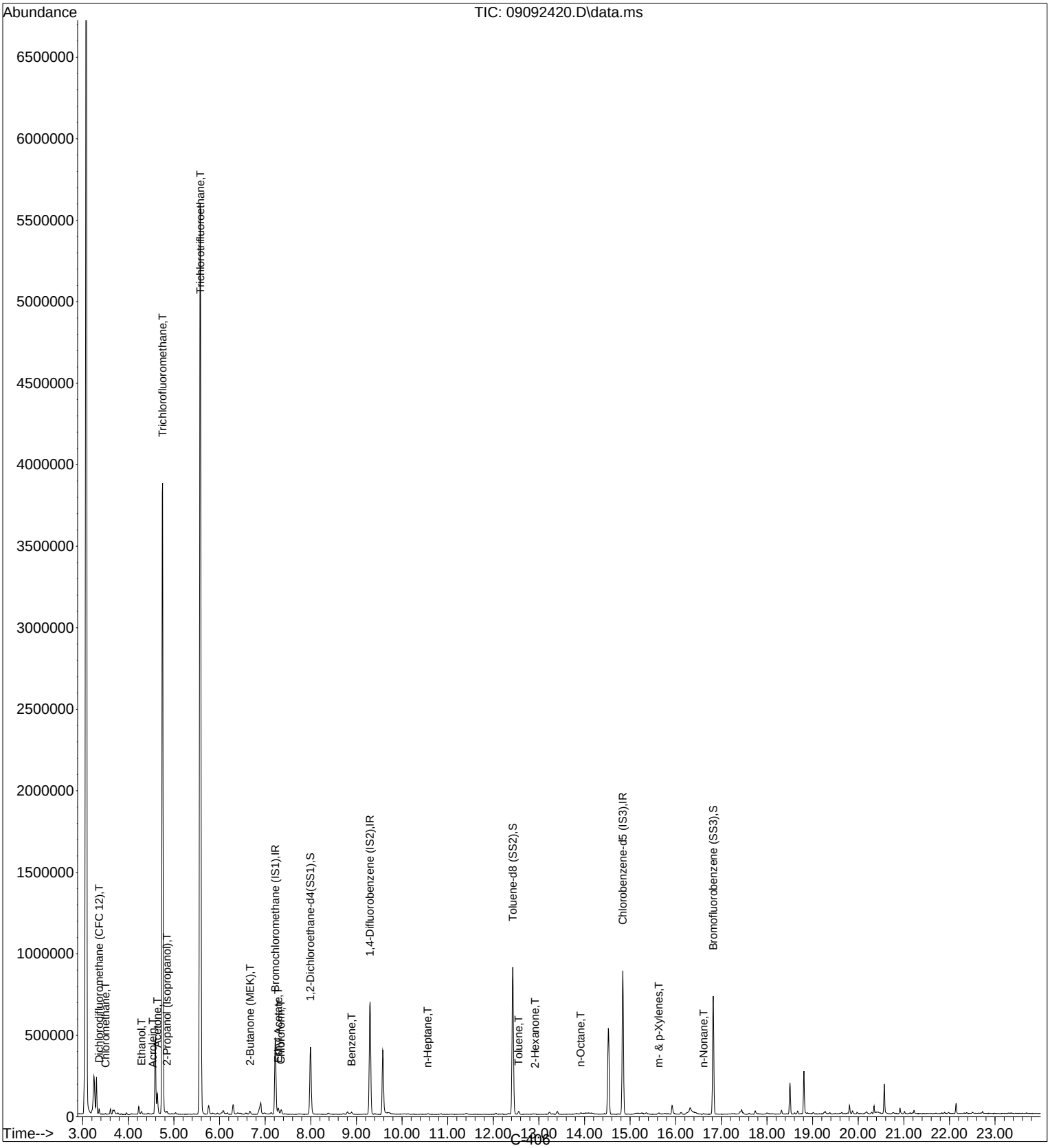
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	991	0.081 ng	#	80
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	451	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	15530	0.231 ng		100
59) 2-Hexanone	12.92	43	3818	0.092 ng		73
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.82	43	369	N.D.		
63) n-Octane	13.91	57	1416	0.090 ng		91
64) Tetrachloroethene	14.02	166	111	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	2315	N.D.		
67) m- & p-Xylenes	15.63	91	5436	0.087 ng		94
68) Bromoform	15.67	173	117	N.D.		
69) Styrene	16.11	104	640	N.D.		
70) o-Xylene	16.24	91	1809	N.D.		
71) n-Nonane	16.61	43	2921	0.073 ng	#	71
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	445	N.D.		
75) alpha-Pinene	17.52	93	481	N.D.		
76) n-Propylbenzene	17.68	91	927	N.D.		
77) 3-Ethyltoluene	17.03	105	445	No Calib	#	
78) 4-Ethyltoluene	17.85	105	706	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	485	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	445	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1621	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	438	N.D.		
85) 1,3-Dichlorobenzene	18.66	146	387	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	387	N.D.		
87) sec-Butylbenzene	18.74	105	595	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	892	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	445	No Calib	#	
90) 1,2-Dichlorobenzene	19.02	146	192	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.83	180	648	N.D.		
95) Naphthalene	20.94	128	1627	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	359	N.D.		
98) Cyclohexanone	15.21	55	250	No Calib	#	
99) tert-Butylbenzene	18.43	119	458	N.D.		
100) n-Butylbenzene	19.38	91	720	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-406

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

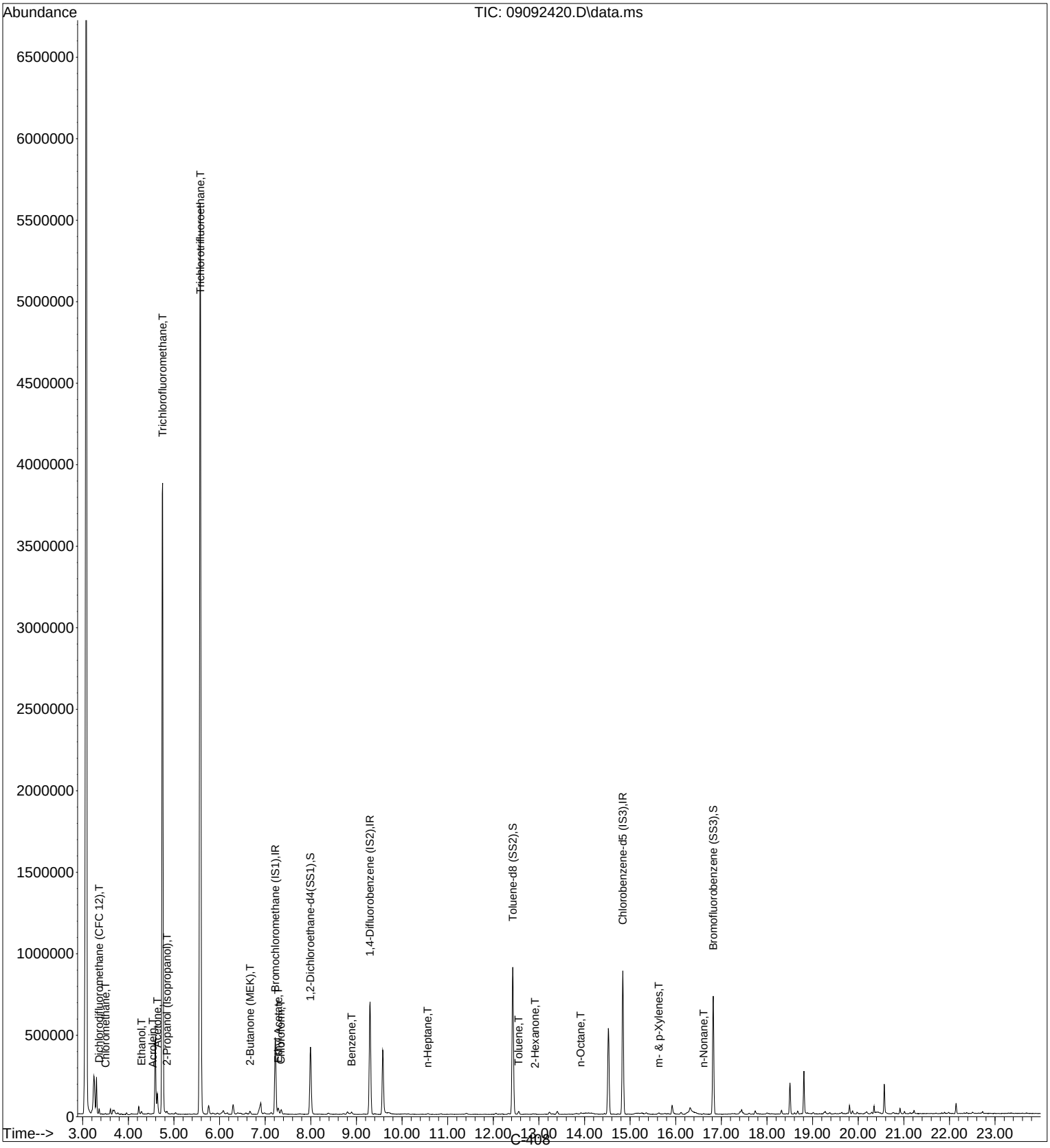
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	134286	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	587517	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	177116	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	343483	13.669	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.36%				
57) Toluene-d8 (SS2)	12.43	98	676481	10.888	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
73) Bromofluorobenzene (SS3)	16.82	174	222151	10.691	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.52%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	19841m	0.609	ng		
4) Chloromethane	3.50	50	1360	0.053	ng		79
10) Ethanol	4.29	45	22626	1.553	ng		98
12) Acrolein	4.53	56	2668	0.240	ng		98
13) Acetone	4.64	58	32867	2.673	ng	#	78
14) Trichlorofluoromethane	4.75	101	2821946	90.746	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	17072	0.353	ng		85
21) Trichlorotrifluoroethane	5.58	151	1755817	142.519	ng		94
27) 2-Butanone (MEK)	6.67	72	4123	0.473	ng	#	71
30) Ethyl Acetate	7.29	61	5246	0.897	ng		91
32) Chloroform	7.34	83	19880	0.743	ng		98
41) Benzene	8.89	78	6678	0.121	ng		96
51) n-Heptane	10.56	71	991	0.081	ng	#	80
58) Toluene	12.56	91	15530	0.231	ng		100
59) 2-Hexanone	12.92	43	3818	0.092	ng		73
63) n-Octane	13.91	57	1416	0.090	ng		91
67) m- & p-Xylenes	15.63	91	5436	0.087	ng		94
71) n-Nonane	16.61	43	2921	0.073	ng	#	71

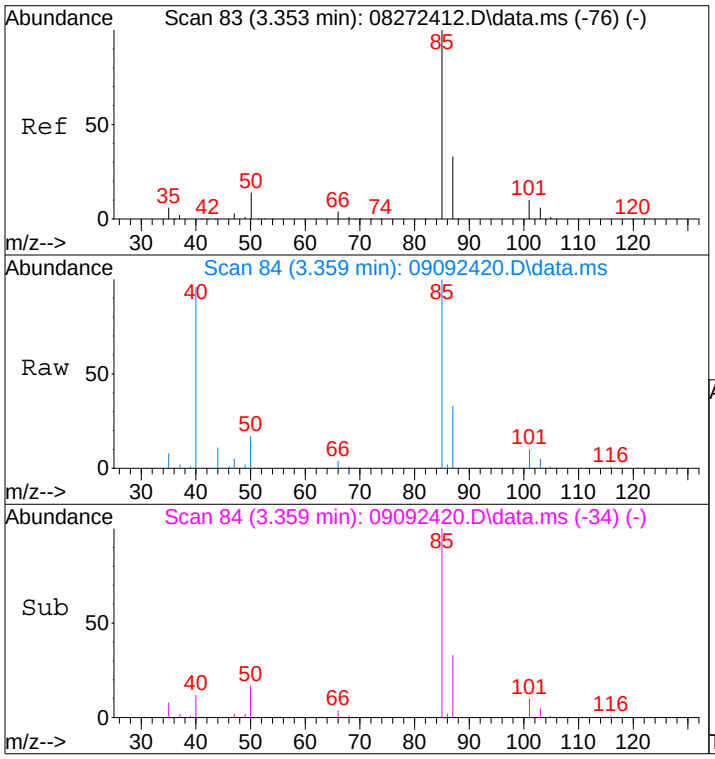
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

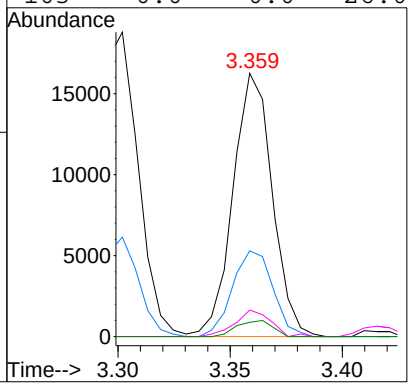


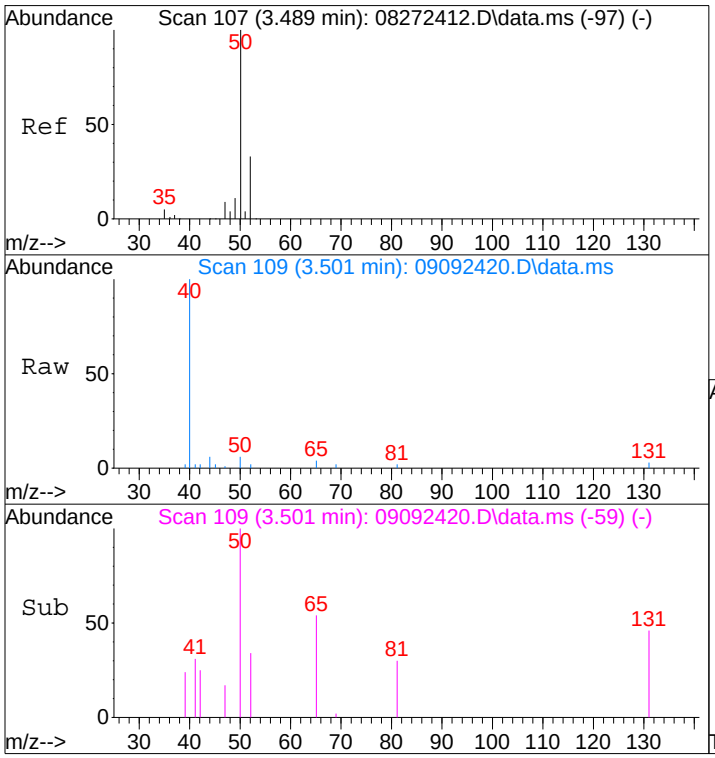


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.031 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 85 Resp: 19841

Ion	Ratio	Lower	Upper
85	100		
87	36.6	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

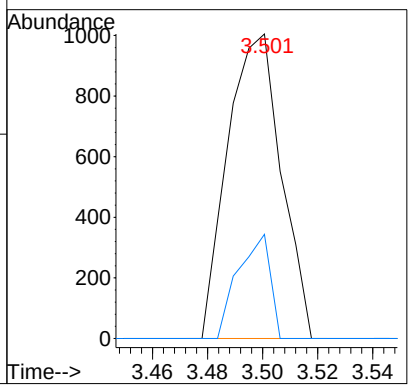


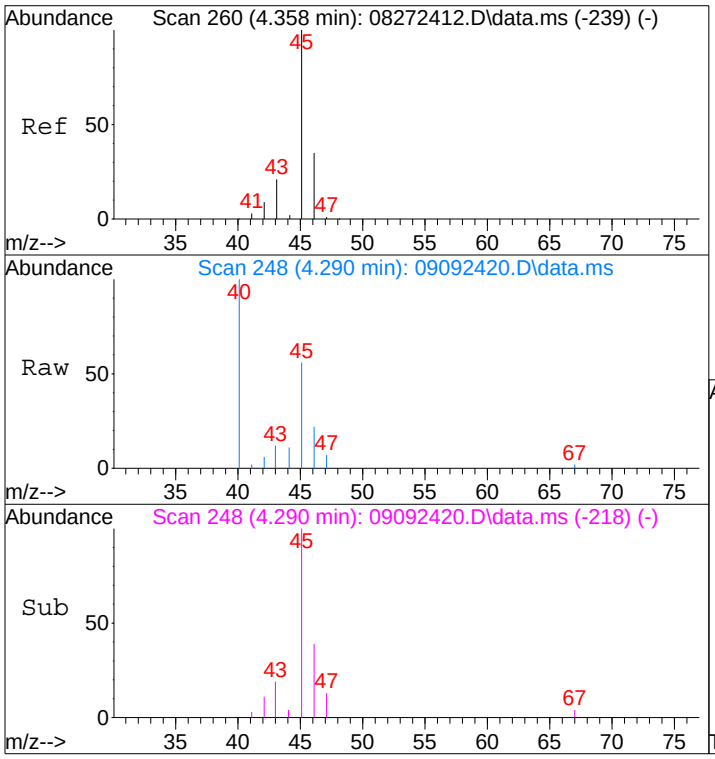


#4
Chloromethane
Concen: 0.05 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.033 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 50 Resp: 1360

Ion	Ratio	Lower	Upper
50	100		
52	20.5	12.4	52.4

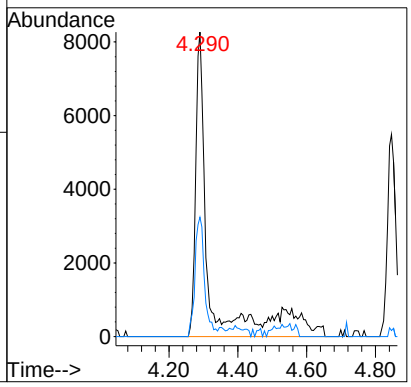


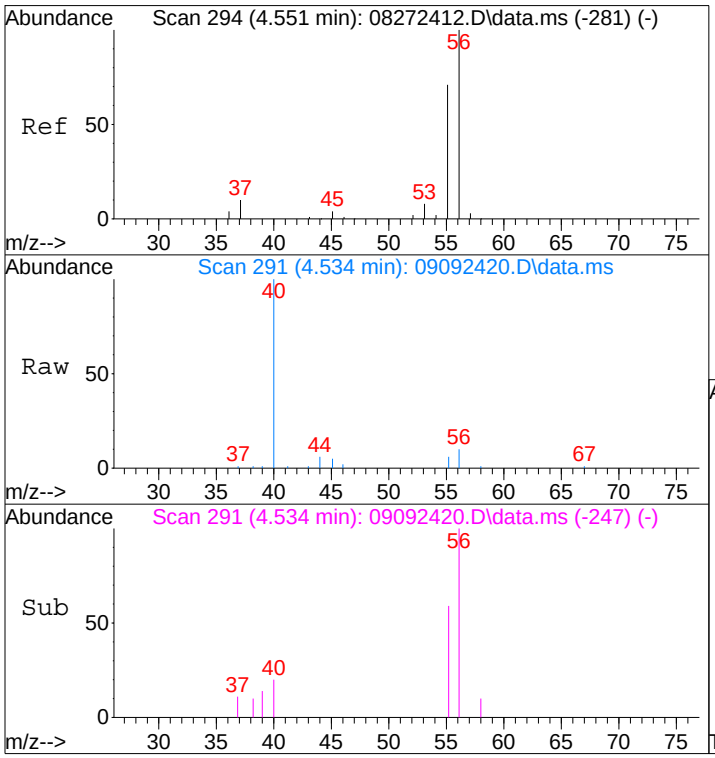


#10
Ethanol
Concen: 1.55 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.082 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 45 Resp: 22626

Ion	Ratio	Lower	Upper
45	100		
46	32.9	14.2	54.2

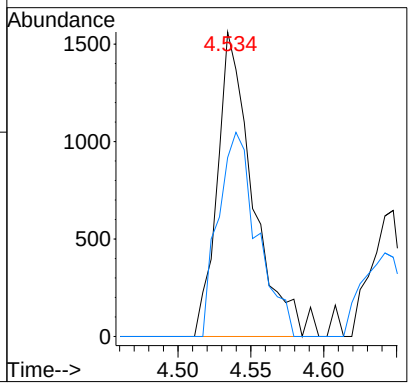


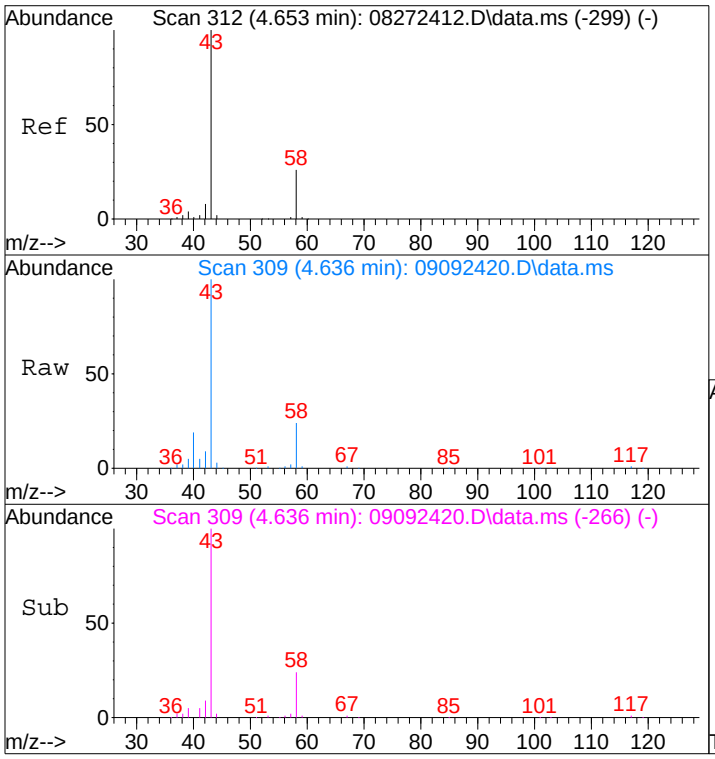


#12
Acrolein
Concen: 0.24 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.001 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 56 Resp: 2668

Ion	Ratio	Lower	Upper
56	100		
55	73.0	54.7	94.7

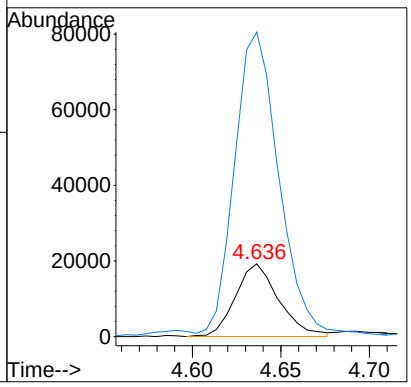


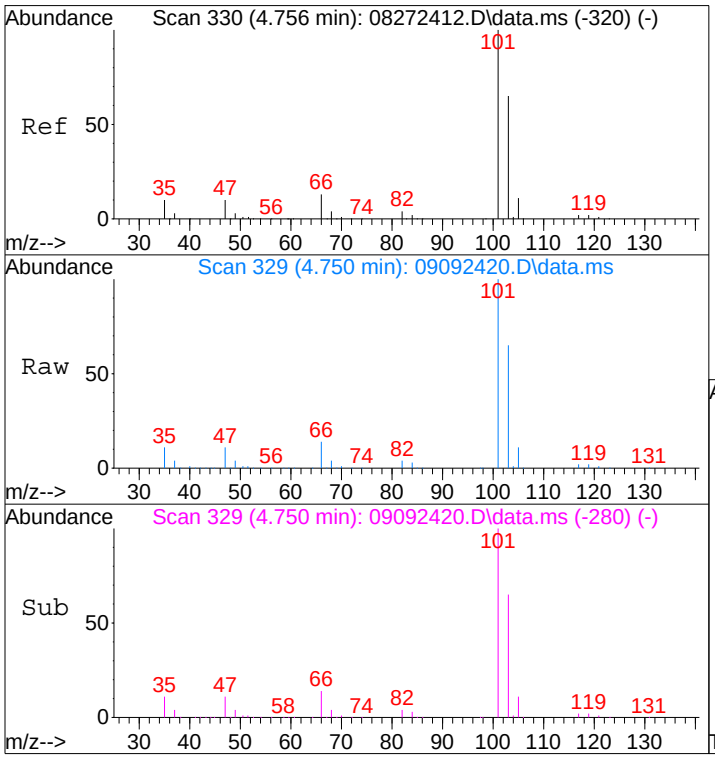


#13
Acetone
Concen: 2.67 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 58 Resp: 32867

Ion	Ratio	Lower	Upper
58	100		
43	426.6	347.3	407.3#

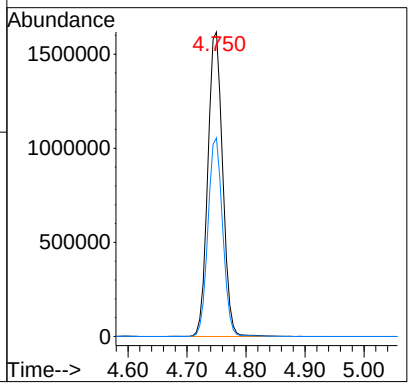


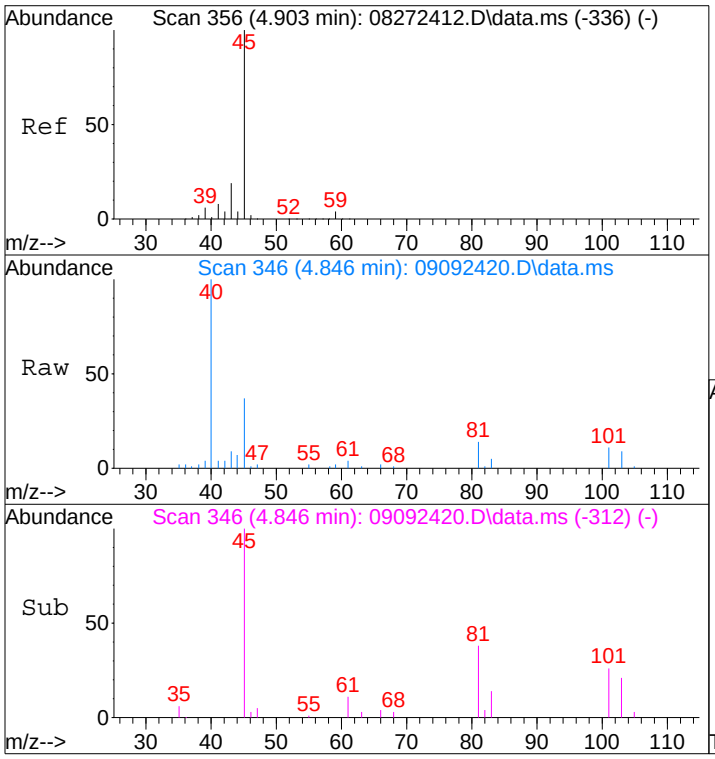


#14
Trichlorofluoromethane
Concen: 90.75 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion:101 Resp: 2821946

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.9	84.9

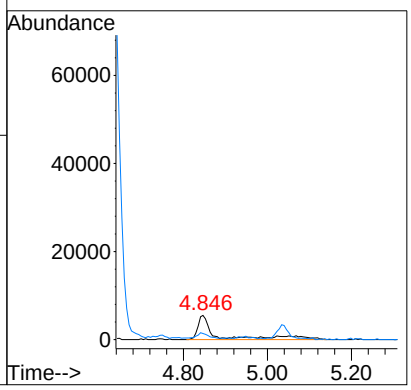


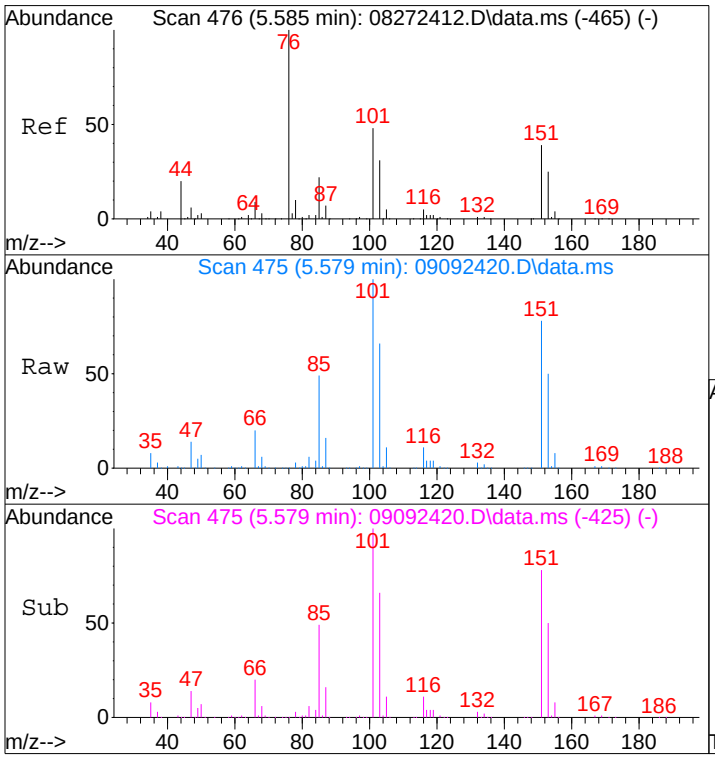


#15
2-Propanol (Isopropanol)
Concen: 0.35 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.059 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 45 Resp: 17072

Ion	Ratio	Lower	Upper
45	100		
43	13.1	0.0	40.0

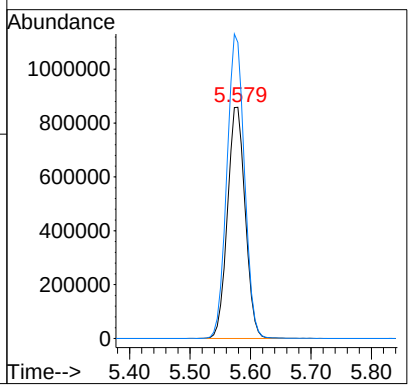


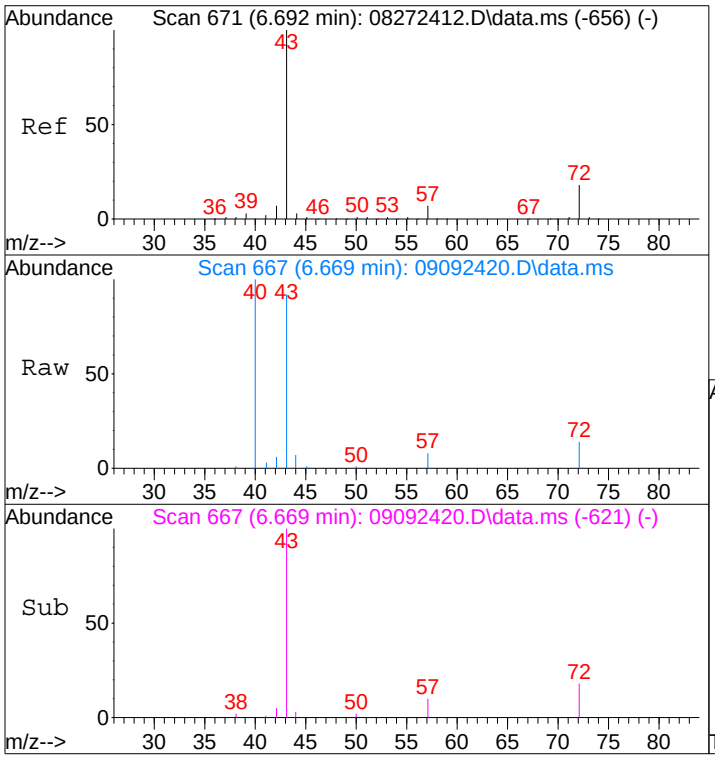


#21
Trichlorotrifluoroethane
Concen: 142.52 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion:151 Resp: 1755817

Ion	Ratio	Lower	Upper
151	100		
101	130.3	103.4	143.4

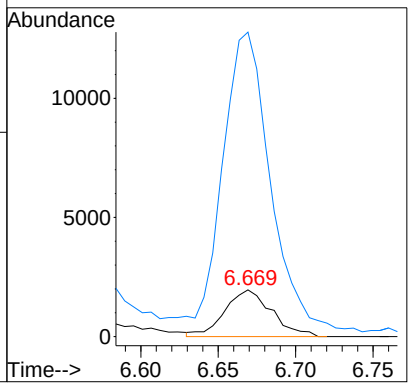


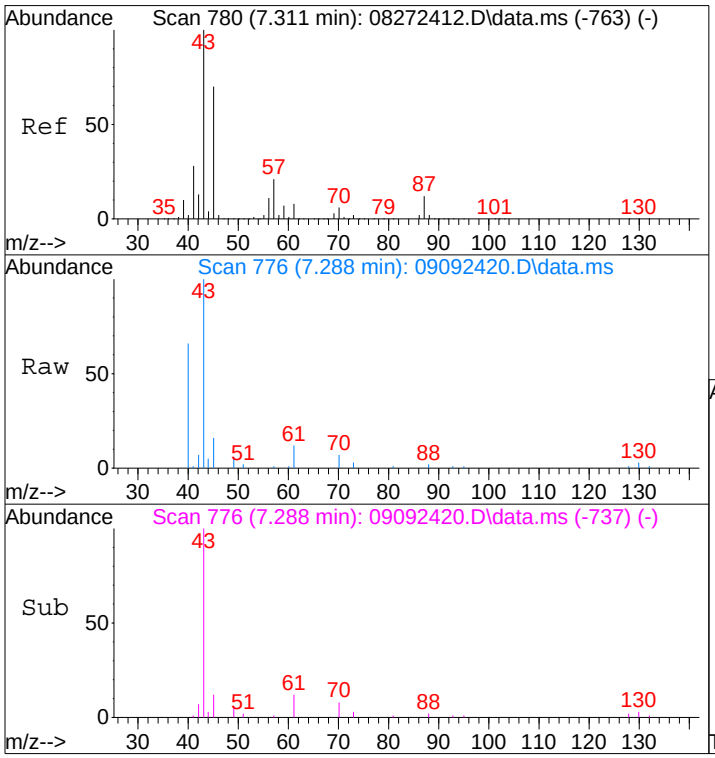


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 72 Resp: 4123

Ion	Ratio	Lower	Upper
72	100		
43	654.6	548.0	588.0#

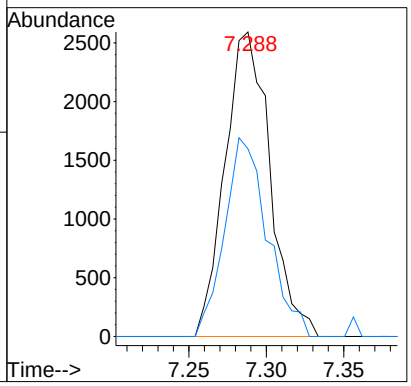


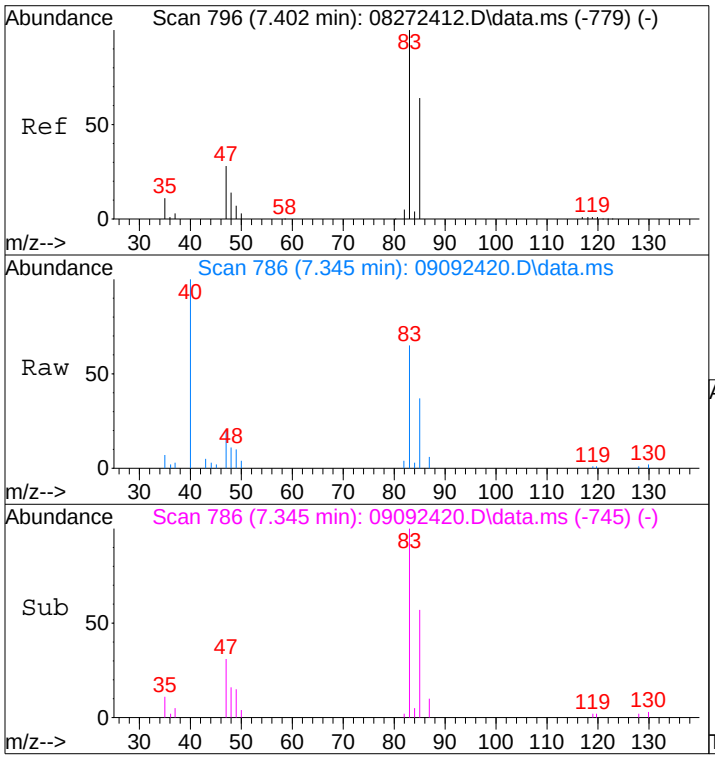


#30
Ethyl Acetate
Concen: 0.90 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 61 Resp: 5246

Ion	Ratio	Lower	Upper
61	100		
70	62.2	49.9	89.9

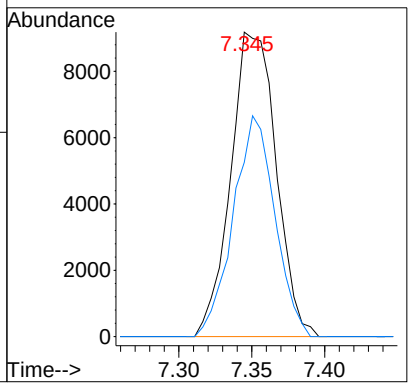


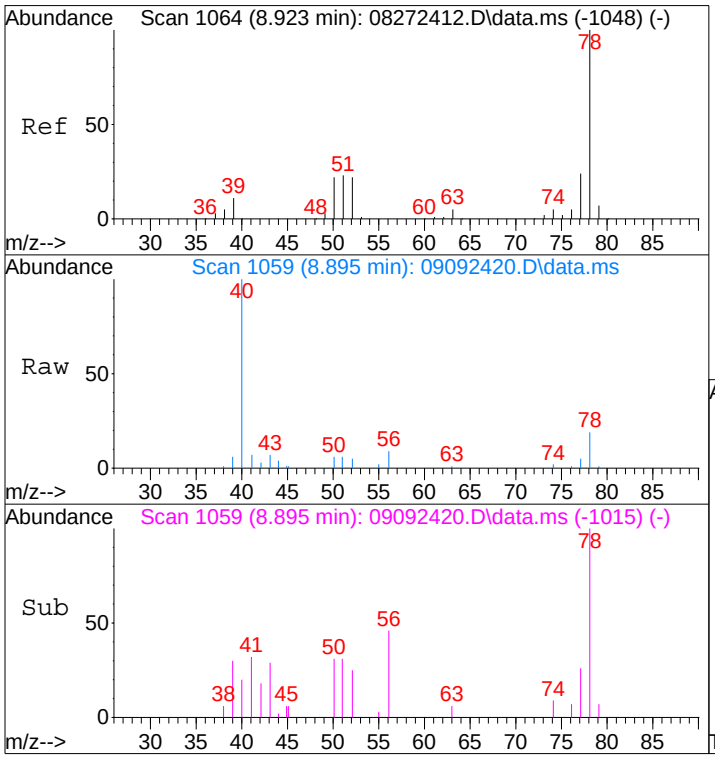


#32
Chloroform
Concen: 0.74 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.016 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 83 Resp: 19880

Ion	Ratio	Lower	Upper
83	100		
85	66.6	45.3	85.3

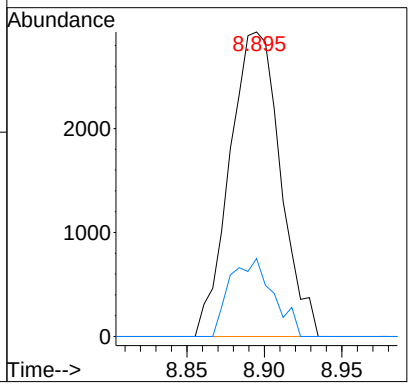


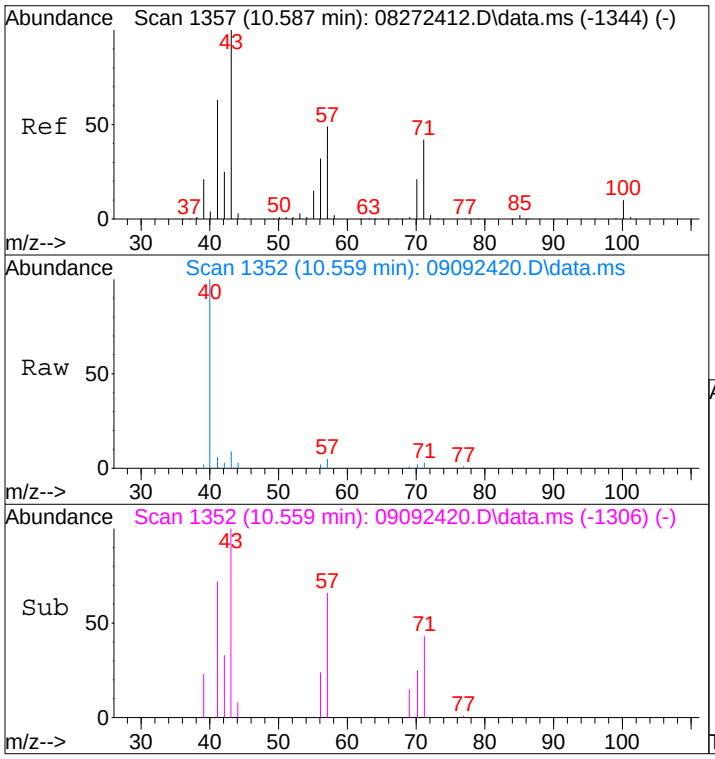


#41
Benzene
Concen: 0.12 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 78 Resp: 6678

Ion	Ratio	Lower	Upper
78	100		
77	21.8	3.9	43.9

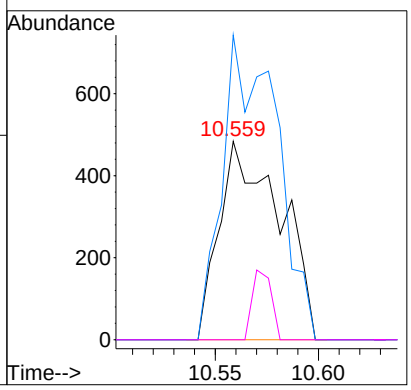


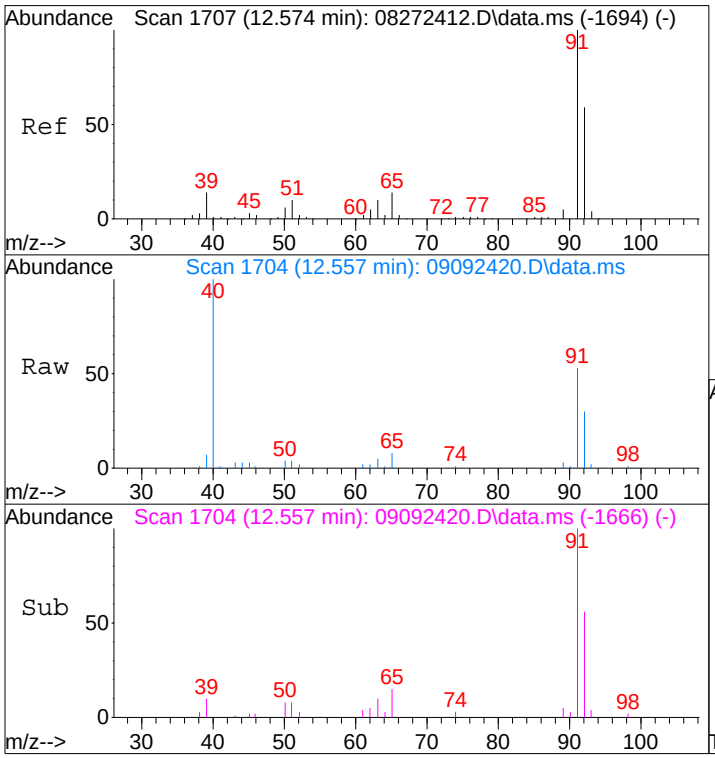


#51
n-Heptane
Concen: 0.08 ng
RT: 10.56 min Scan# 1352
Delta R.T. 0.013 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 71 Resp: 991

Ion	Ratio	Lower	Upper
71	100		
57	137.2	97.1	137.1#
100	11.0	5.0	45.0

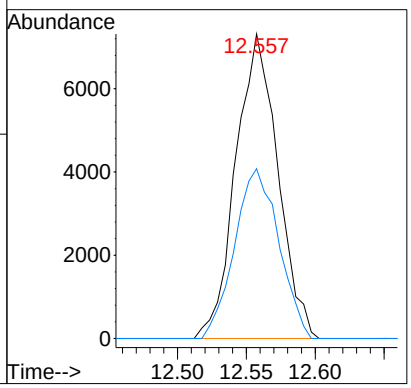


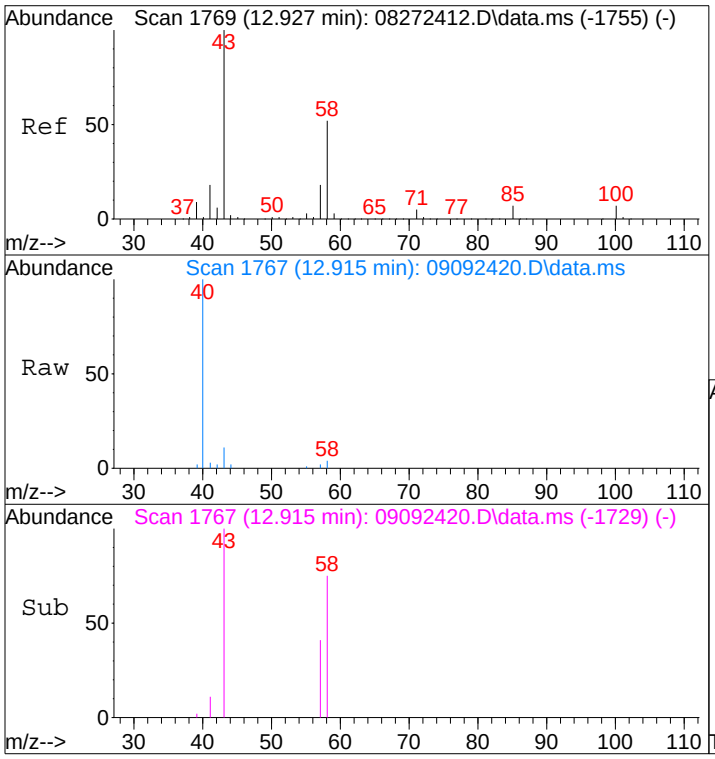


#58
Toluene
Concen: 0.23 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 91 Resp: 15530

Ion	Ratio	Lower	Upper
91	100		
92	58.6	38.5	78.5

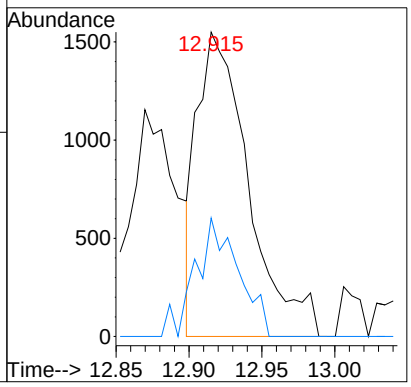


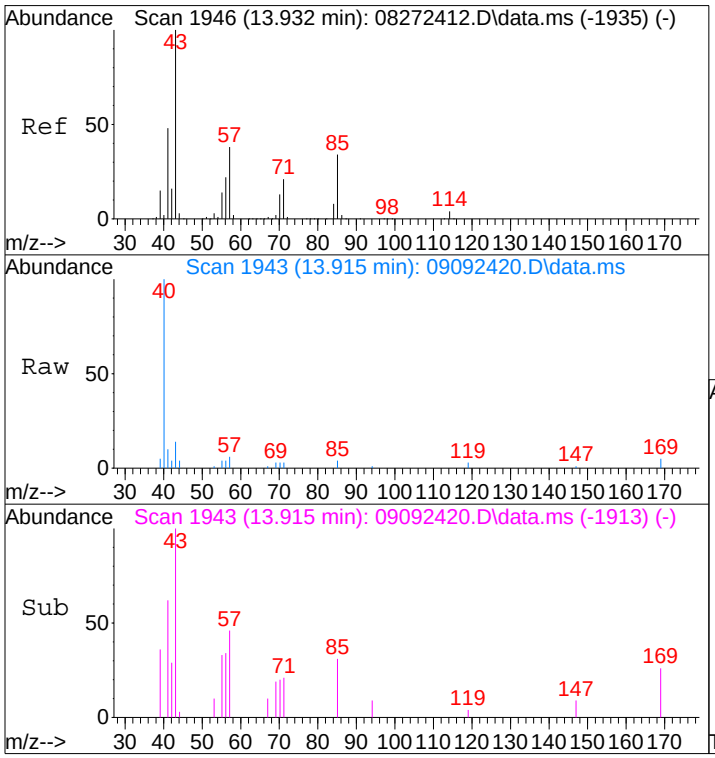


#59
2-Hexanone
Concen: 0.09 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 43 Resp: 3818

Ion	Ratio	Lower	Upper
43	100		
58	32.5	31.1	71.1

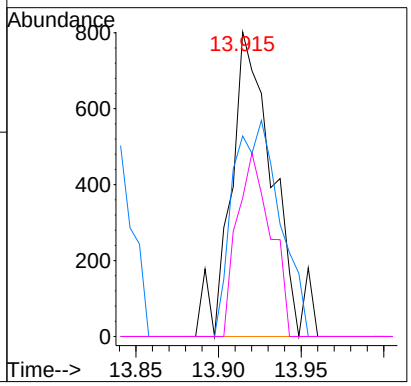


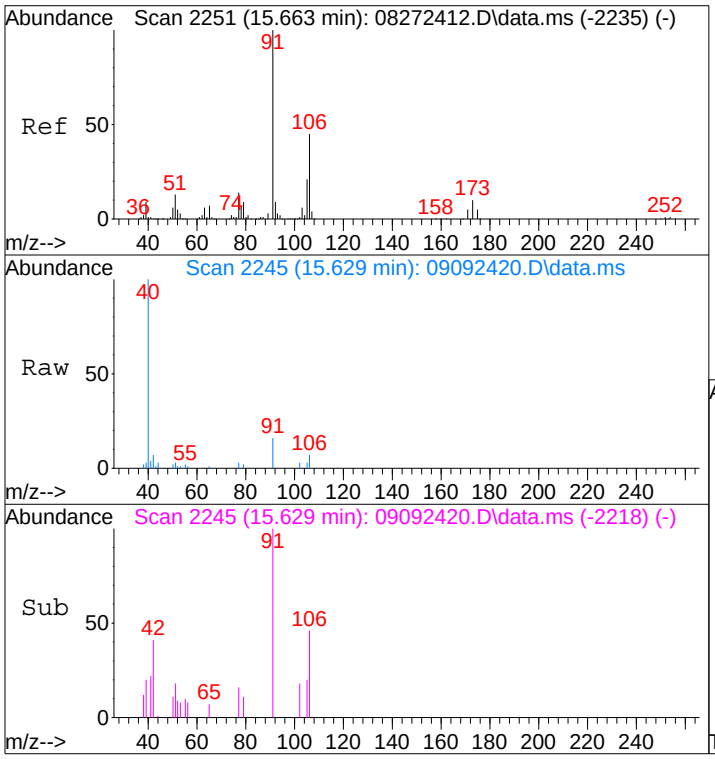


#63
n-Octane
Concen: 0.09 ng
RT: 13.91 min Scan# 1943
Delta R.T. -0.028 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 57 Resp: 1416

Ion	Ratio	Lower	Upper
57	100		
85	79.7	71.2	106.8
71	48.4	43.3	64.9

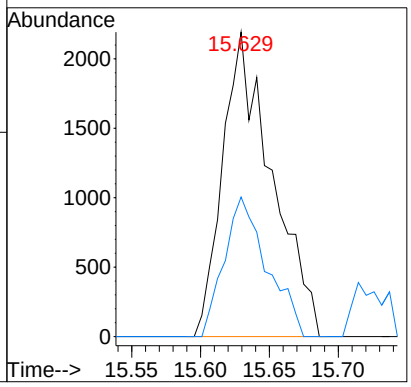


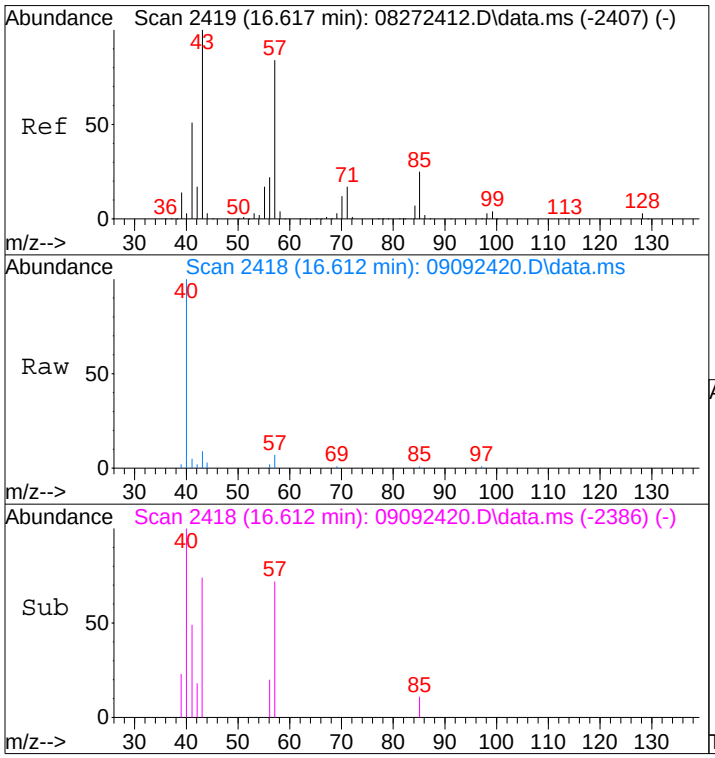


#67
m- & p-Xylenes
Concen: 0.09 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 91 Resp: 5436

Ion	Ratio	Lower	Upper
91	100		
106	40.0	23.8	63.8

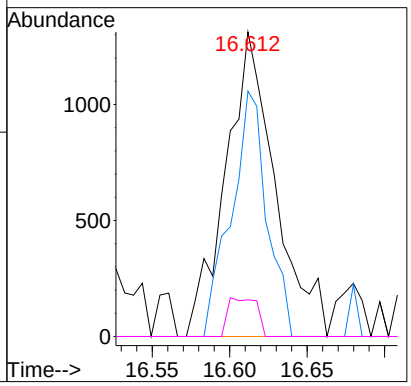




#71
n-Nonane
Concen: 0.07 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09092420.D
Acq: 9 Sep 2024 19:26

Tgt Ion: 43 Resp: 2921

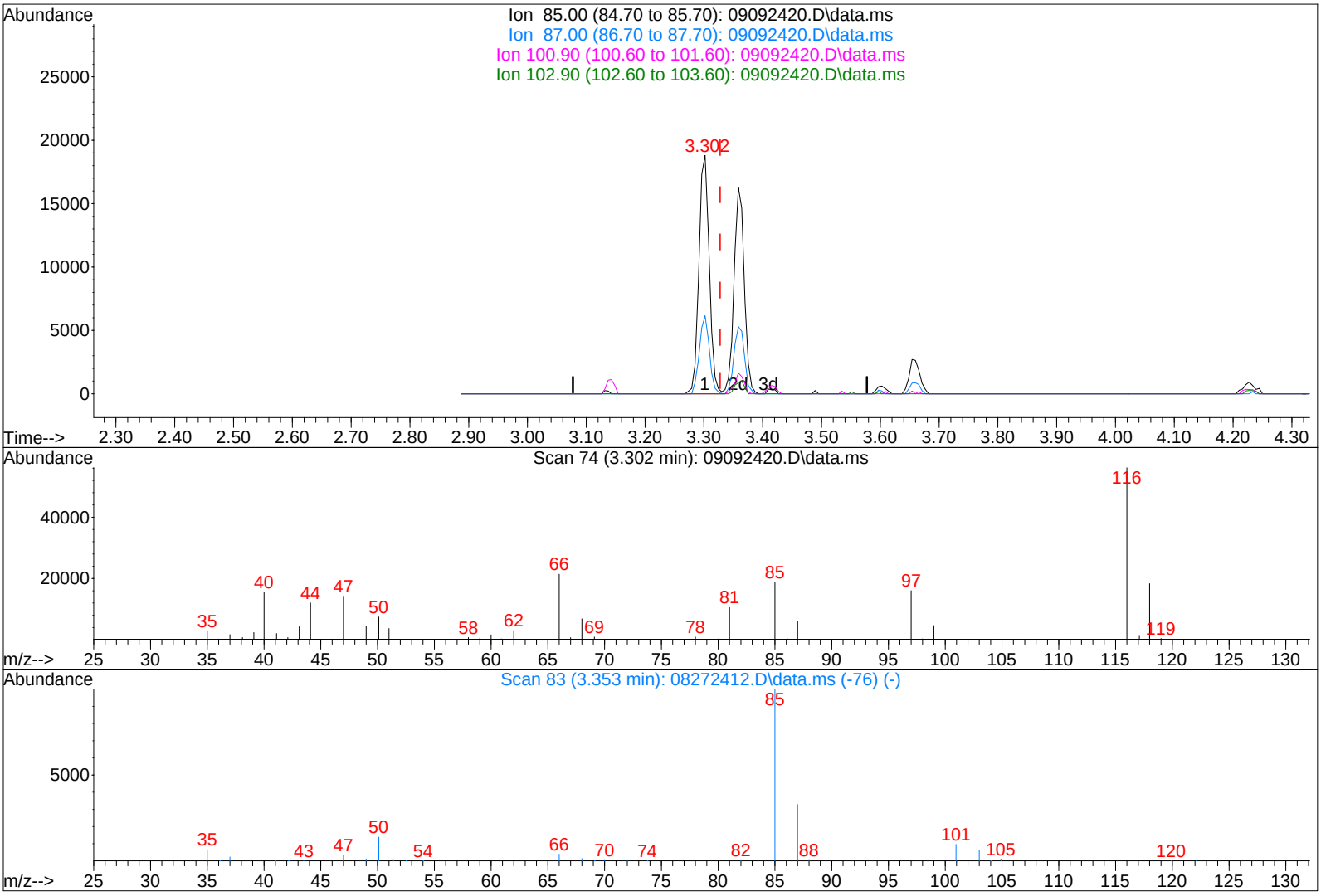
Ion	Ratio	Lower	Upper
43	100		
57	58.2	63.3	103.3#
85	7.4	4.5	44.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:36:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.026) 0.70ng

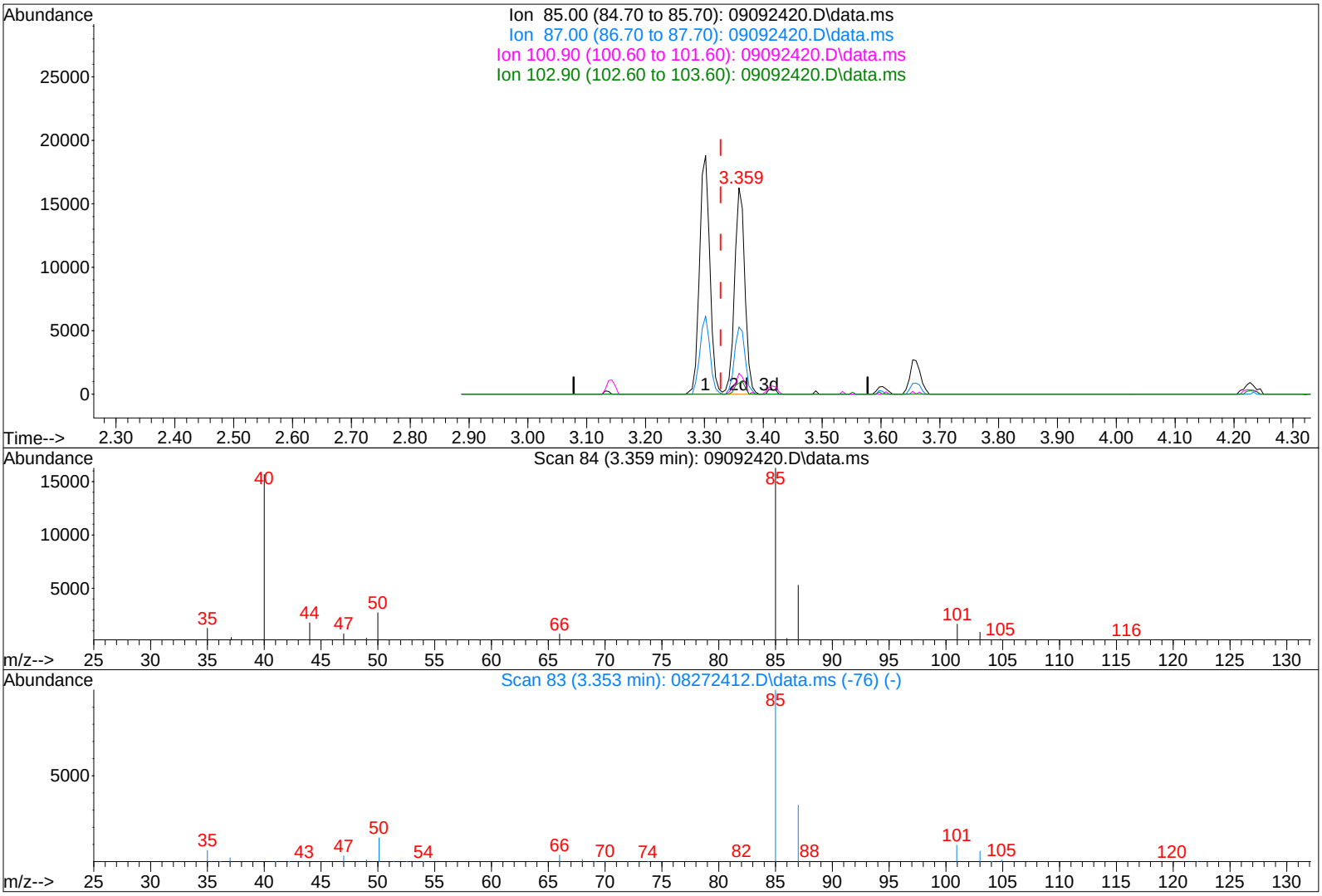
response 22815

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.81
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:36:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.359min (+0.031) 0.61ng m

response 19841

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	36.58
100.90	9.40	0.00
102.90	6.00	0.00

WP

9/10/24

9/21/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 12:27:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

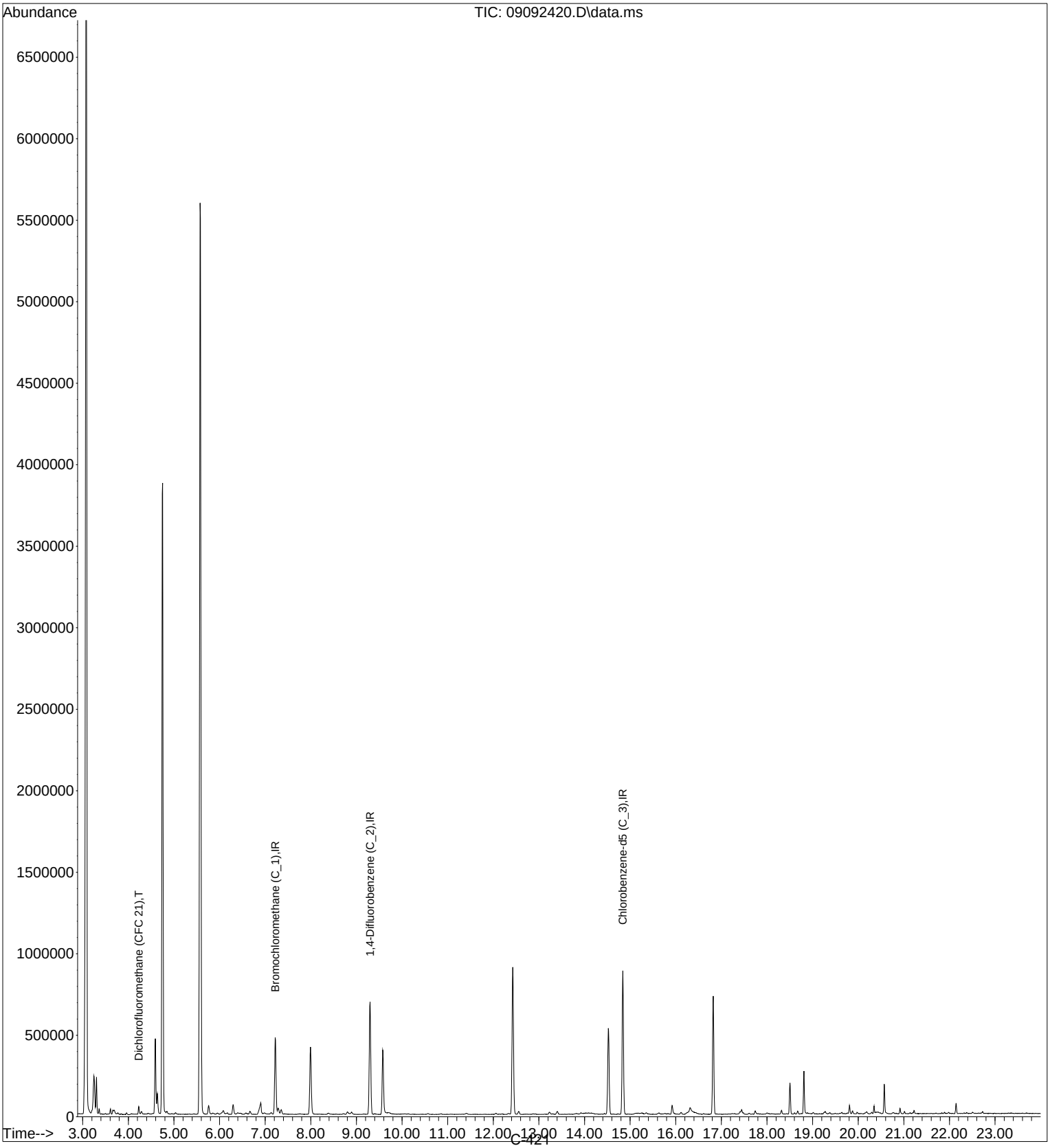
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	134286	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	587803	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	177116	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	157	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d	
4) 1,1-Difluoroethane	3.24	65	372	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	533	N.D.		
7) Dichlorofluoromethane ...	4.23	67	36229	1.177	ng	98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d	
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.33	43	1312	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.53	56	53	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.41	55	2596	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.32	75	1145	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	129	N.D.		
27) 4-Chlorotoluene	17.68	91	927	N.D.		
28) Indane	19.12	117	195	N.D.		
29) Indene	19.20	115	105	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	423	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	423	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	754	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

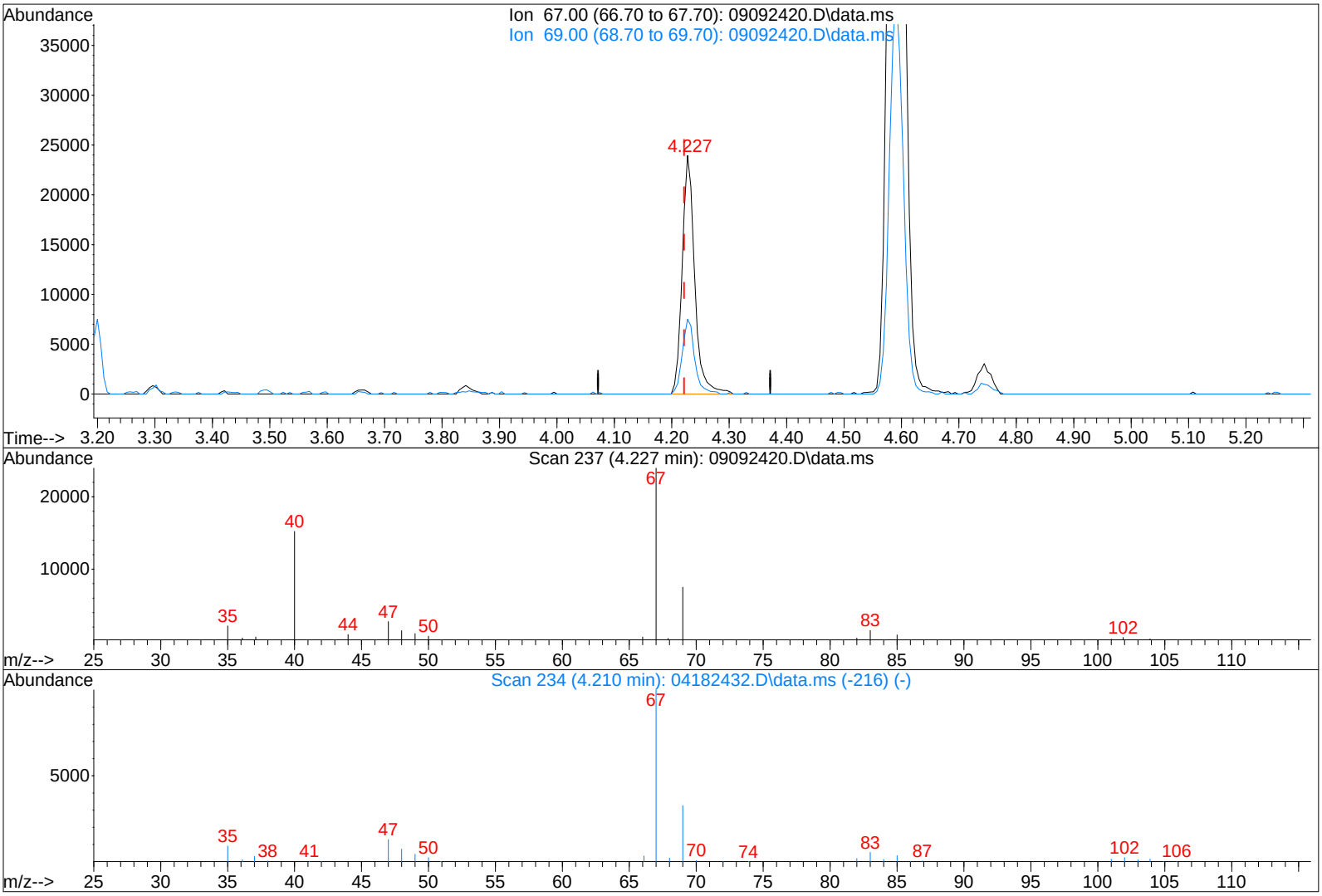
Quant Time: Sep 10 12:27:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092420.D Vial: 7
Acq On : 9 Sep 2024 19:26 Operator: SC
Sample : P2403661-004 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:24:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092420.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.18ng

response 36229

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.20
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102408.D Vial: 7
Acq On : 10 Sep 2024 12:55 Operator: SC
Sample : P2403661-004Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:36:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	153428	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	692415	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	192085	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	368299	12.828	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	12.43	98	790638	11.733	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
73) Bromofluorobenzene (SS3)	16.82	174	251412	11.156	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
Target Compounds							Qvalue
2) Propene	3.32	42	499	N.D.			
3) Dichlorodifluoromethan...	3.33	85	2389	0.064	ng	#	89
4) Chloromethane	3.52	50	130	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.38	45	80	N.D.			
11) Acetonitrile	4.47	41	1047	N.D.			
12) Acrolein	4.56	56	296	N.D.			
13) Acetone	4.65	58	6209	0.442	ng		92
14) Trichlorofluoromethane	4.76	101	264382	7.441	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	1827	N.D.			
16) Acrylonitrile	5.00	53	333	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	332	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	175871	12.494	ng		94
22) Carbon Disulfide	5.62	76	1940	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	459	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.31	61	570	0.085	ng	#	55
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	2062	0.067	ng		97
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.88	56	1959	No Calib		#	
41) Benzene	8.89	78	2098	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	898	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102408.D Vial: 7
Acq On : 10 Sep 2024 12:55 Operator: SC
Sample : P2403661-004Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:36:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

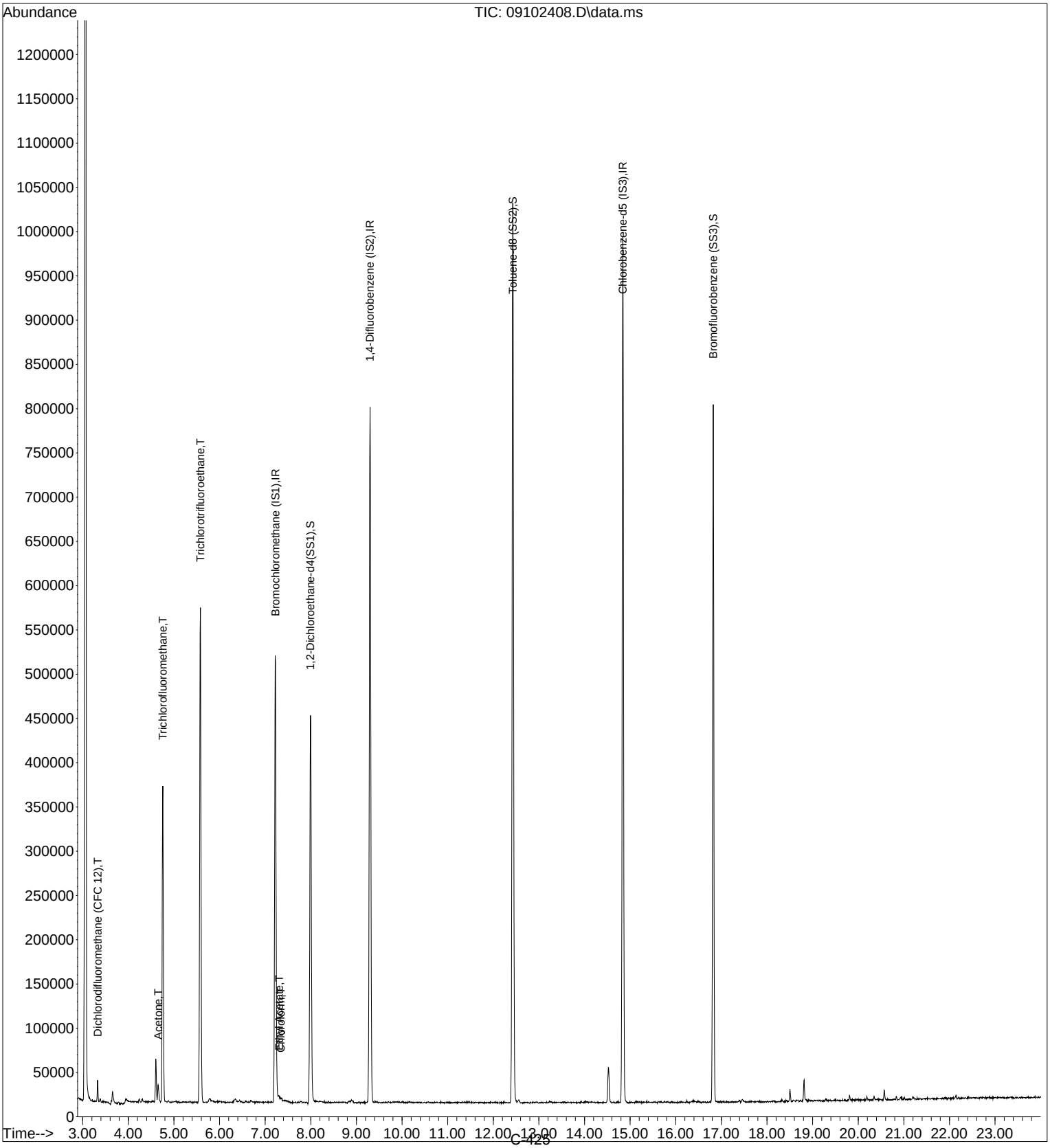
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.55	91	3577	N.D.		
59) 2-Hexanone	12.93	43	747	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.80	43	222	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.89	112	142	N.D.		
66) Ethylbenzene	15.40	91	919	N.D.		
67) m- & p-Xylenes	15.64	91	1626	N.D.		
68) Bromoform	15.68	173	117	N.D.		
69) Styrene	16.11	104	181	N.D.		
70) o-Xylene	16.24	91	571	N.D.		
71) n-Nonane	16.61	43	509	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	138	N.D.		
74) Cumene	17.03	105	510	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	629	N.D.		
77) 3-Ethyltoluene	17.03	105	510	No Calib		#
78) 4-Ethyltoluene	17.86	105	250	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	310	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	510	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	447	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	667	N.D.		
85) 1,3-Dichlorobenzene	18.59	146	503	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	658	N.D.		
87) sec-Butylbenzene	18.74	105	317	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	292	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	510	No Calib		#
90) 1,2-Dichlorobenzene	19.04	146	320	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	19.51	157	136	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	1181	N.D.		
95) Naphthalene	20.93	128	2204	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	373	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	226	N.D.		
100) n-Butylbenzene	19.38	91	498	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102408.D Vial: 7
Acq On : 10 Sep 2024 12:55 Operator: SC
Sample : P2403661-004Dil (40mL) Inst : MS09
Misc : S37-06062402

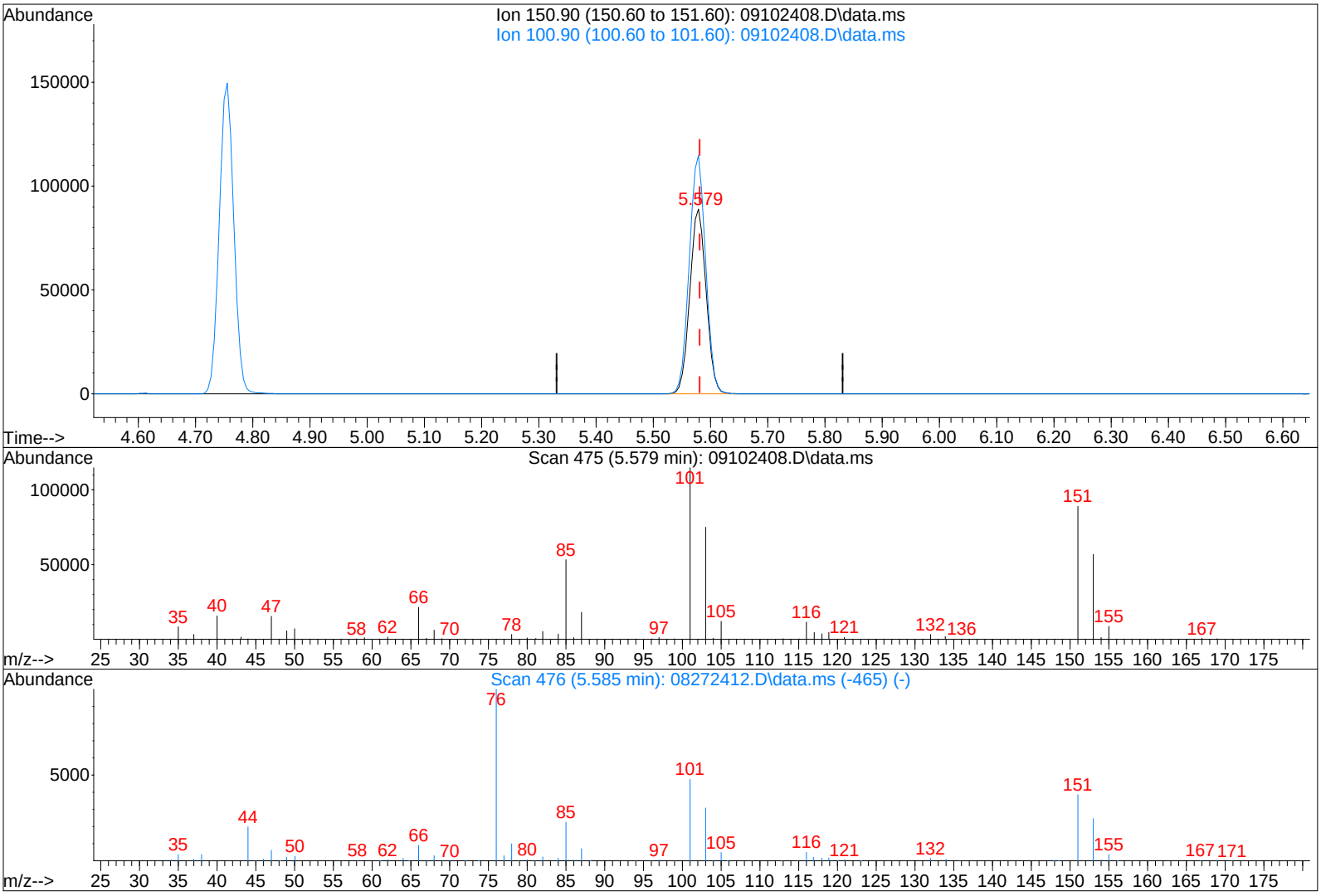
Quant Time: Sep 10 13:36:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102408.D Vial: 7
Acq On : 10 Sep 2024 12:55 Operator: SC
Sample : P2403661-004Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:36:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102408.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.002) 12.49ng

response 175871

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.75
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092420.D
Acq On : 9 Sep 2024 19:26
Operator : SC
Sample : P2403661-004 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092420.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.245	59	64	70	rVV	194763	392891	3.45%	1.153%
2	3.302	70	74	80	rVB	222672	278308	2.44%	0.817%
3	3.359	80	84	90	rVB	32573	40257	0.35%	0.118%
4	3.609	121	128	133	rVV	32438	41399	0.36%	0.122%
5	3.660	133	137	139	rVV2	25340	34622	0.30%	0.102%
6	3.688	139	142	153	rVV2	25124	59952	0.53%	0.176%
7	3.773	153	157	164	rVB4	9922	18118	0.16%	0.053%
8	3.961	186	190	198	rVB3	11234	17298	0.15%	0.051%
9	4.068	203	209	215	rBV3	5343	13880	0.12%	0.041%
10	4.227	232	237	243	rBV	47190	70699	0.62%	0.208%
11	4.290	243	248	254	rVB	15115	27134	0.24%	0.080%
12	4.591	294	301	306	rBV	459836	774262	6.80%	2.273%
13	4.636	306	309	317	rVV	123843	199360	1.75%	0.585%
14	4.750	320	329	342	rVV	3869768	6750588	59.25%	19.815%
15	4.846	342	346	353	rVB2	16034	28302	0.25%	0.083%
16	5.034	374	379	389	rVB2	9245	17234	0.15%	0.051%
17	5.573	465	474	489	rBV	5589182	11393470	100.00%	33.444%
18	5.761	499	507	514	rBV	52201	104181	0.91%	0.306%
19	5.851	518	523	532	rVV6	6769	16671	0.15%	0.049%
20	5.959	535	542	548	rVV6	7010	16734	0.15%	0.049%
21	6.079	548	563	571	rVV	22711	72890	0.64%	0.214%
22	6.175	571	580	585	rVB3	9429	24520	0.22%	0.072%
23	6.294	595	601	611	rBV	59323	124465	1.09%	0.365%
24	6.408	611	621	624	rBV5	6991	16682	0.15%	0.049%
25	6.573	644	650	651	rBV2	7298	10856	0.10%	0.032%
26	6.663	661	666	677	rVB	18495	39147	0.34%	0.115%
27	6.902	694	708	715	rBV	71103	202036	1.77%	0.593%
28	6.976	719	721	732	rVB4	6430	14765	0.13%	0.043%
29	7.135	743	749	755	rVB5	8734	17949	0.16%	0.053%
30	7.220	755	764	772	rVV	469448	988290	8.67%	2.901%
31	7.282	772	775	782	rVV2	37029	77235	0.68%	0.227%
32	7.351	782	787	795	rVB2	27587	56842	0.50%	0.167%
33	7.992	891	900	913	rBV	412242	904624	7.94%	2.655%
34	8.390	962	970	975	rBV4	7173	18215	0.16%	0.053%
35	8.804	1037	1043	1051	rBV5	15472	40684	0.36%	0.119%
36	8.895	1053	1059	1069	rVB3	14010	32690	0.29%	0.096%
37	9.298	1119	1130	1140	rBV	688941	1548382	13.59%	4.545%
38	9.576	1171	1179	1196	rBV	394742	868631	7.62%	2.550%
39	9.696	1198	1200	1211	rVB7	7000	21442	0.19%	0.063%
40	10.564	1347	1353	1361	rBV5	5166	13132	0.12%	0.039%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092420.D
Acq On : 9 Sep 2024 19:26
Operator : SC
Sample : P2403661-004 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	10.848	1399	1403	1412	rVB3	4618	10332	0.09%	0.030%
42	11.422	1502	1504	1514	rVB2	6818	10024	0.09%	0.029%
43	12.052	1611	1615	1623	rBV3	6555	13848	0.12%	0.041%
44	12.325	1658	1663	1670	rBV5	5990	16705	0.15%	0.049%
45	12.427	1671	1681	1694	rVV	903637	2015488	17.69%	5.916%
46	12.557	1697	1704	1713	rVB2	18905	43129	0.38%	0.127%
47	13.233	1816	1823	1830	rBV3	12727	28516	0.25%	0.084%
48	13.404	1846	1853	1862	rBV4	17819	41034	0.36%	0.120%
49	13.818	1913	1926	1928	rBV4	6178	14233	0.12%	0.042%
50	13.920	1938	1944	1953	rBV7	8517	23532	0.21%	0.069%
51	14.147	1979	1984	2002	rVB3	6493	25374	0.22%	0.074%
52	14.437	2029	2035	2040	rBV4	5812	10971	0.10%	0.032%
53	14.522	2040	2050	2060	rVB	526898	1169378	10.26%	3.433%
54	14.840	2095	2106	2116	rBV	880686	1782078	15.64%	5.231%
55	15.118	2146	2155	2156	rBV3	5130	10373	0.09%	0.030%
56	15.351	2190	2196	2204	rVB5	7371	15280	0.13%	0.045%
57	15.635	2236	2246	2253	rBV8	8239	27233	0.24%	0.080%
58	15.919	2290	2296	2309	rBV	54818	117135	1.03%	0.344%
59	16.118	2322	2331	2337	rBV6	11024	24240	0.21%	0.071%
60	16.254	2344	2355	2356	rBV6	10954	26201	0.23%	0.077%
61	16.316	2356	2366	2383	rVB5	33428	138319	1.21%	0.406%
62	16.612	2412	2418	2423	rBV2	5474	10337	0.09%	0.030%
63	16.822	2446	2455	2465	rVB	724270	1369594	12.02%	4.020%
64	17.412	2552	2559	2561	rBV6	13751	26072	0.23%	0.077%
65	17.446	2561	2565	2569	rVV	27599	48006	0.42%	0.141%
66	17.480	2569	2571	2578	rVB3	9042	12748	0.11%	0.037%
67	17.611	2586	2594	2601	rBV5	6774	16965	0.15%	0.050%
68	17.742	2612	2617	2625	rBV2	20412	39634	0.35%	0.116%
69	17.997	2657	2662	2666	rBV2	6633	12039	0.11%	0.035%
70	18.321	2712	2719	2728	rVB4	23127	39732	0.35%	0.117%
71	18.503	2744	2751	2760	rBV	192081	311676	2.74%	0.915%
72	18.605	2765	2769	2774	rVB2	7863	10724	0.09%	0.031%
73	18.673	2774	2781	2786	rBV2	18334	30753	0.27%	0.090%
74	18.809	2799	2805	2814	rBV	261818	382041	3.35%	1.121%
75	19.014	2835	2841	2847	rVB5	9766	18899	0.17%	0.055%
76	19.252	2878	2883	2885	rBV4	10332	16496	0.14%	0.048%
77	19.275	2885	2887	2894	rVB2	13784	20450	0.18%	0.060%
78	19.377	2902	2905	2910	rVB4	8040	12071	0.11%	0.035%
79	19.644	2945	2952	2957	rVB7	7825	14209	0.12%	0.042%
80	19.809	2976	2981	2988	rVB4	50725	72777	0.64%	0.214%
81	19.877	2988	2993	2999	rVB3	18471	29027	0.25%	0.085%
82	19.973	3006	3010	3015	rBV3	9392	14725	0.13%	0.043%
83	20.183	3043	3047	3059	rVB7	12509	26905	0.24%	0.079%
84	20.297	3059	3067	3071	rBV3	9441	16830	0.15%	0.049%
85	20.348	3071	3076	3080	rBV	46114	60015	0.53%	0.176%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092420.D
Acq On : 9 Sep 2024 19:26
Operator : SC
Sample : P2403661-004 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

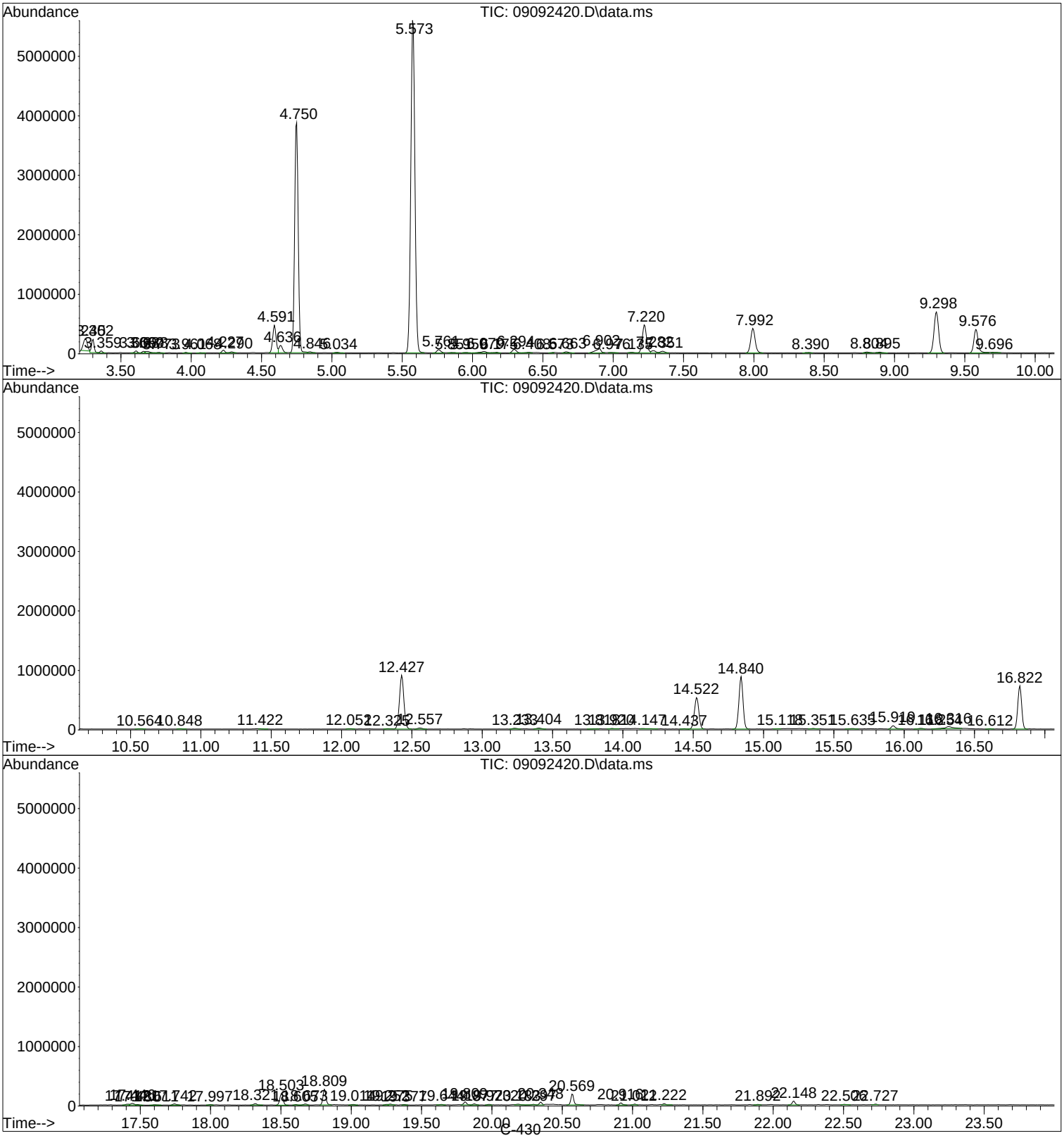
86	20.569	3108	3115	3130	rVB2	181544	268088	2.35%	0.787%
87	20.916	3170	3176	3184	rBV4	34076	50098	0.44%	0.147%
88	21.012	3188	3193	3198	rVB2	13785	18339	0.16%	0.054%
89	21.222	3227	3230	3241	rVB	20087	28978	0.25%	0.085%
90	21.892	3342	3348	3352	rBV4	7563	11035	0.10%	0.032%
91	22.148	3385	3393	3400	rBV	62545	92292	0.81%	0.271%
92	22.506	3451	3456	3464	rBV5	8170	15587	0.14%	0.046%
93	22.727	3490	3495	3499	rVB4	12251	18359	0.16%	0.054%

Sum of corrected areas: 34067761

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092420.D
Acq On : 9 Sep 2024 19:26
Operator : SC
Sample : P2403661-004 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092420.D
Acq On : 9 Sep 2024 19:26
Operator : SC
Sample : P2403661-004 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

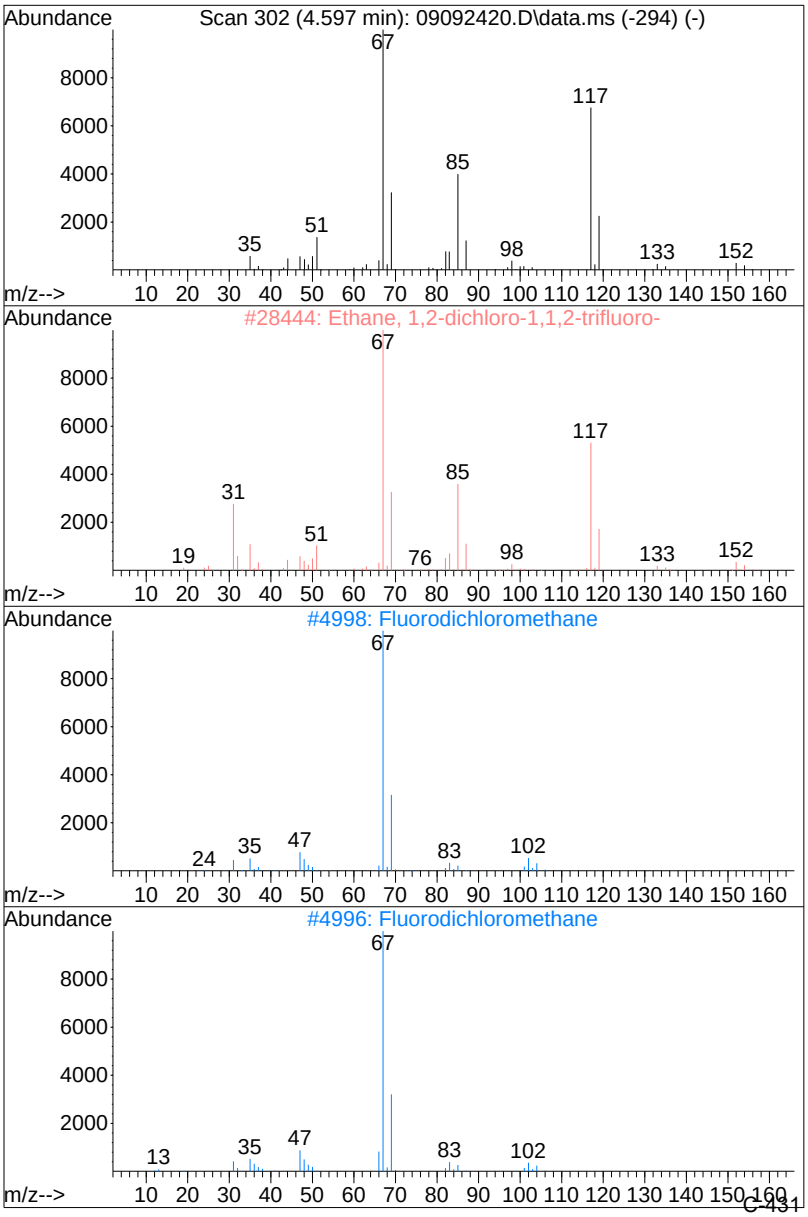
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

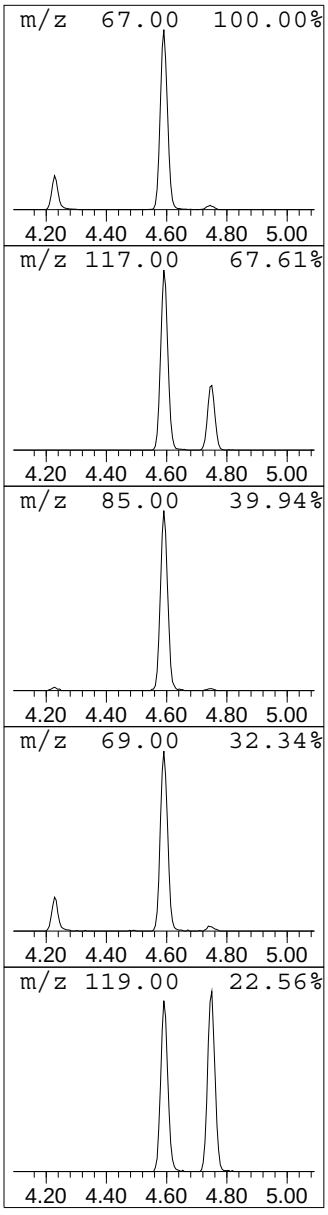
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 7 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	9.79 ng	774262	Bromochloromethane (IS1)	7.220

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	91
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	16
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	Fluorodichloromethane	102	CHCl2F	000075-43-4	10





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_09\09\
Data File : 09092420.D
Acq On : 9 Sep 2024 19:26
Operator : SC
Sample : P2403661-004 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.591	9.8	ng	774262	1	7.220	988290	12.5

TR 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 11:20:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	134642	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	588859	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	180734	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	348203	13.820	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%				
57) Toluene-d8 (SS2)	12.43	98	680638	10.735	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	229881	10.841	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.35	85	18957	0.580	ng		96
4) Chloromethane	3.49	50	1578	0.062	ng		83
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	394	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.76	54	569	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	81857	5.602	ng		100
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	7236	0.648	ng		95
13) Acetone	4.62	58	95093	7.712	ng	#	1
14) Trichlorofluoromethane	4.74	101	2560985	82.136	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	102613	2.114	ng		93
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.35	84	2123	0.146	ng	#	73
20) 3-Chloro-1-propene (Al...	5.43	41	252	N.D.			
21) Trichlorotrifluoroethane	5.57	151	1593016	128.963	ng		94
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	6.13	61	195	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	735	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	14642	1.674	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	63682	10.865	ng		88
31) n-Hexane	7.30	57	23088	0.864	ng		99
32) Chloroform	7.35	83	19179	0.715	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	1197	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	4392	No Calib		#	
40) 1-Butanol	8.80	56	22917	No Calib		#	
41) Benzene	8.89	78	12165	0.220	ng		99
42) Carbon Tetrachloride	9.07	117	1179	0.052	ng		84
43) Cyclohexane	9.22	84	14943	0.802	ng		88
44) tert-Amyl Methyl Ether	0.00	73	0	N.D. d			
45) 1,2-Dichloropropane	9.85	63	1076	0.074	ng		85
46) Bromodichloromethane	10.07	83	876	N.D.			
47) Trichloroethene	10.14	130	639	N.D.			
48) 1,4-Dioxane	10.11	88	125	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	3200	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:20:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

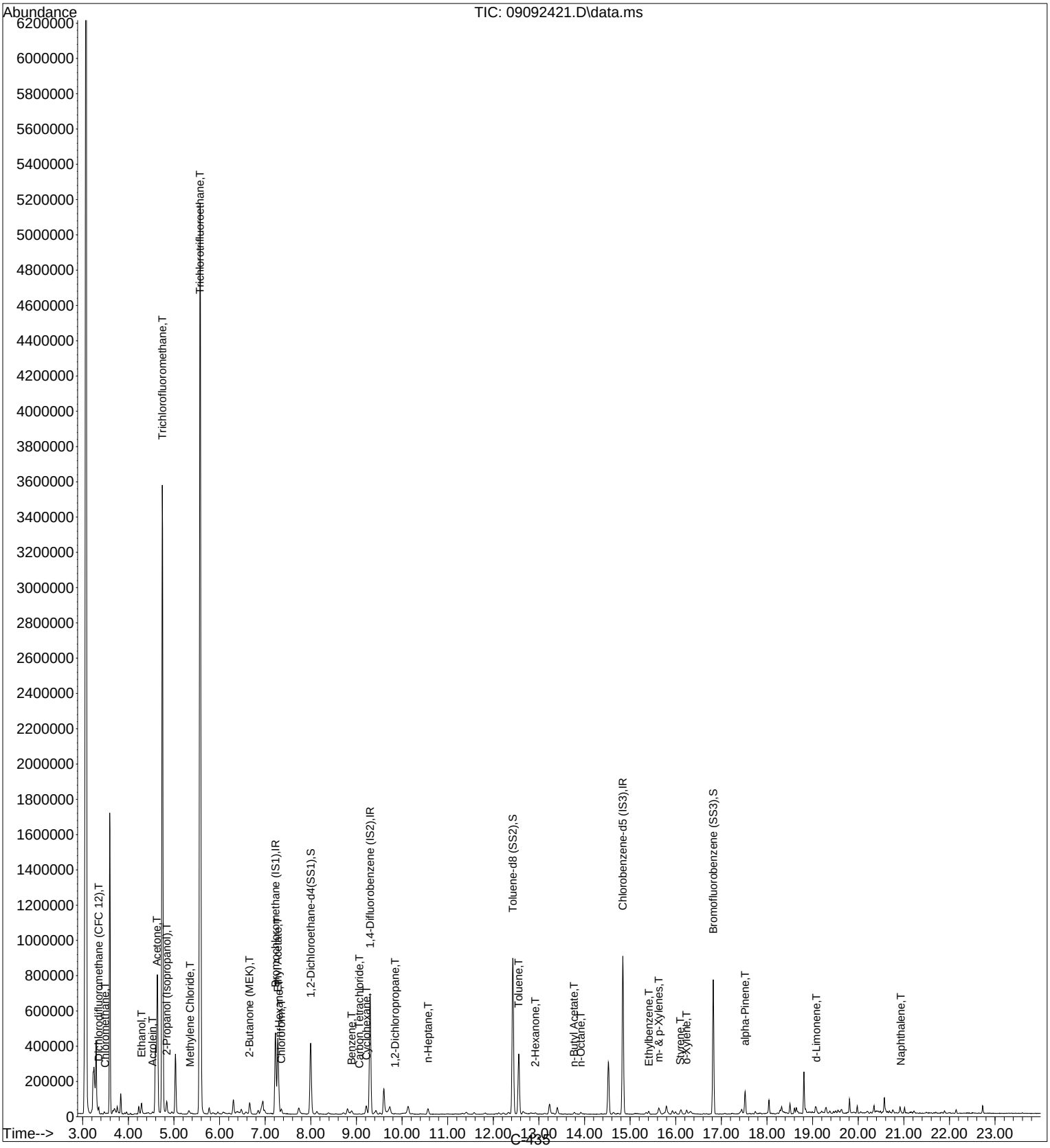
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	6469	0.526 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.31	58	393	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	280862	4.098 ng		100
59) 2-Hexanone	12.92	43	7052	0.166 ng	#	61
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	11506	0.242 ng		88
63) n-Octane	13.92	57	2219	0.138 ng	#	73
64) Tetrachloroethene	14.03	166	573	N.D.		
65) Chlorobenzene	14.90	112	260	N.D.		
66) Ethylbenzene	15.41	91	12197	0.155 ng		98
67) m- & p-Xylenes	15.63	91	26831	0.418 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	5954	0.144 ng		98
70) o-Xylene	16.24	91	12929	0.207 ng		94
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	860	N.D.		
75) alpha-Pinene	17.52	93	49597	1.314 ng		97
76) n-Propylbenzene	17.67	91	1262	N.D.		
77) 3-Ethyltoluene	17.04	105	860	No Calib	#	
78) 4-Ethyltoluene	17.87	105	613	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	545	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	860	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	2055	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	168	N.D.		
85) 1,3-Dichlorobenzene	18.65	146	769	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	769	N.D.		
87) sec-Butylbenzene	18.74	105	393	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	3193	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	860	No Calib	#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.08	68	5642	0.262 ng		96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	105	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	526	N.D.		
95) Naphthalene	20.94	128	3663	0.054 ng		97
96) n-Dodecane	18.96	58	147	No Calib	#	
97) Hexachlorobutadiene	21.30	225	389	N.D.		
98) Cyclohexanone	15.28	55	202	No Calib	#	
99) tert-Butylbenzene	18.43	119	490	N.D.		
100) n-Butylbenzene	19.38	91	767	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:20:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 11:20:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	134642	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	588859	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	180734	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	348203	13.820	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%				
57) Toluene-d8 (SS2)	12.43	98	680638	10.735	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	229881	10.841	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	18957	0.580	ng		96
4) Chloromethane	3.49	50	1578	0.062	ng		83
10) Ethanol	4.29	45	81857	5.602	ng		100
12) Acrolein	4.53	56	7236	0.648	ng		95
13) Acetone	4.62	58	95093	7.712	ng	#	1
14) Trichlorofluoromethane	4.74	101	2560985	82.136	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	102613	2.114	ng		93
19) Methylene Chloride	5.35	84	2123	0.146	ng	#	73
21) Trichlorotrifluoroethane	5.57	151	1593016	128.963	ng		94
27) 2-Butanone (MEK)	6.66	72	14642	1.674	ng	#	71
30) Ethyl Acetate	7.28	61	63682	10.865	ng		88
31) n-Hexane	7.30	57	23088	0.864	ng		99
32) Chloroform	7.35	83	19179	0.715	ng		98
41) Benzene	8.89	78	12165	0.220	ng		99
42) Carbon Tetrachloride	9.07	117	1179	0.052	ng		84
43) Cyclohexane	9.22	84	14943	0.802	ng		88
45) 1,2-Dichloropropane	9.85	63	1076	0.074	ng		85
51) n-Heptane	10.57	71	6469	0.526	ng		94
58) Toluene	12.56	91	280862	4.098	ng		100
59) 2-Hexanone	12.92	43	7052	0.166	ng	#	61
62) n-Butyl Acetate	13.77	43	11506	0.242	ng		88
63) n-Octane	13.92	57	2219	0.138	ng	#	73
66) Ethylbenzene	15.41	91	12197	0.155	ng		98
67) m- & p-Xylenes	15.63	91	26831	0.418	ng		100
69) Styrene	16.10	104	5954	0.144	ng		98
70) o-Xylene	16.24	91	12929	0.207	ng		94
75) alpha-Pinene	17.52	93	49597	1.314	ng		97
91) d-Limonene	19.08	68	5642	0.262	ng		96
95) Naphthalene	20.94	128	3663	0.054	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:20:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
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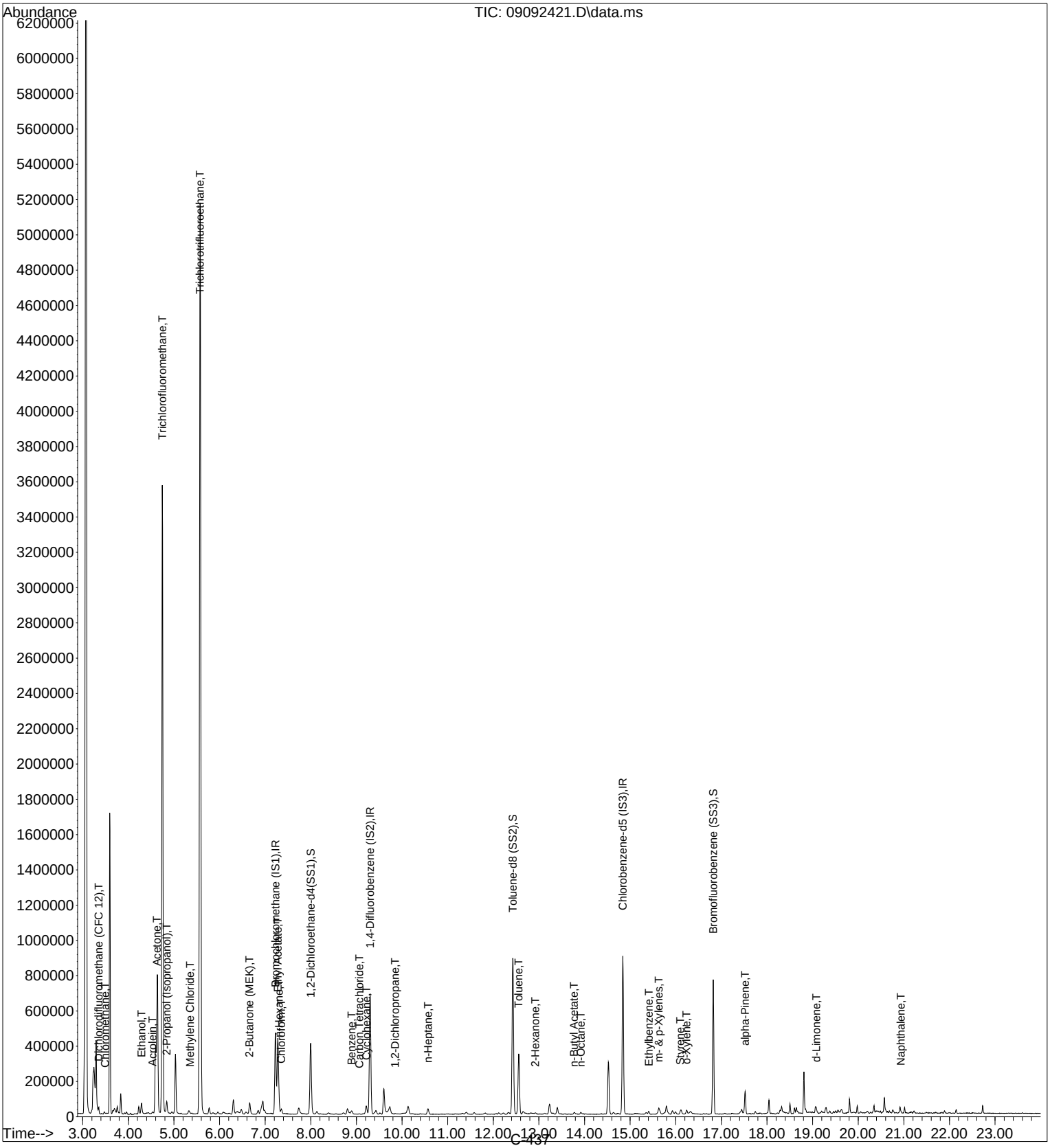
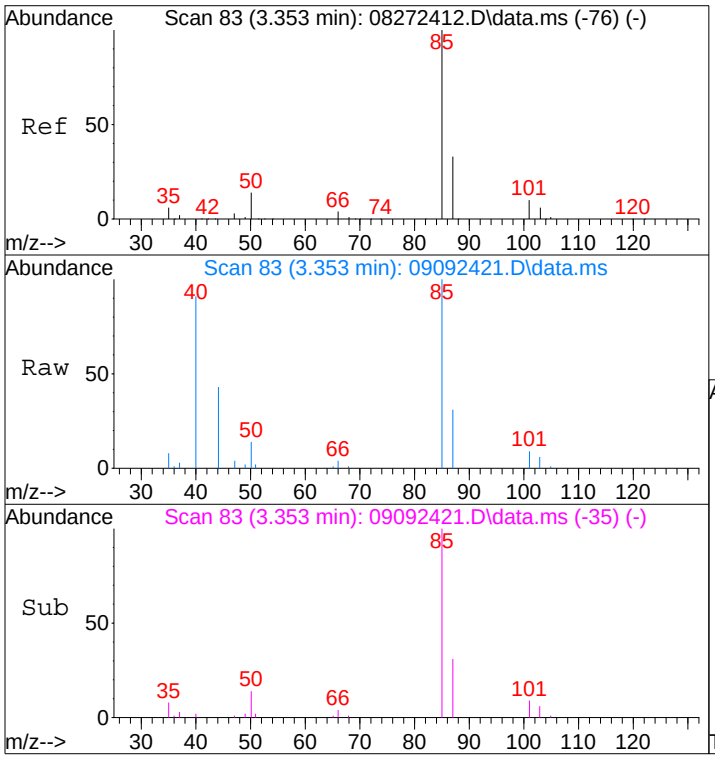
DataAcq Meth:TO15.M

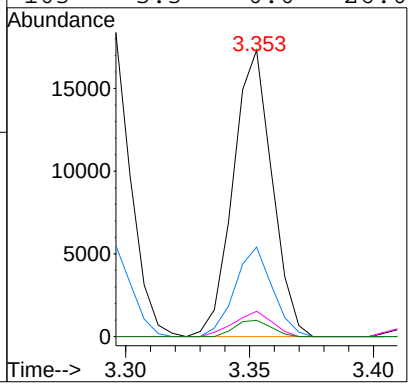


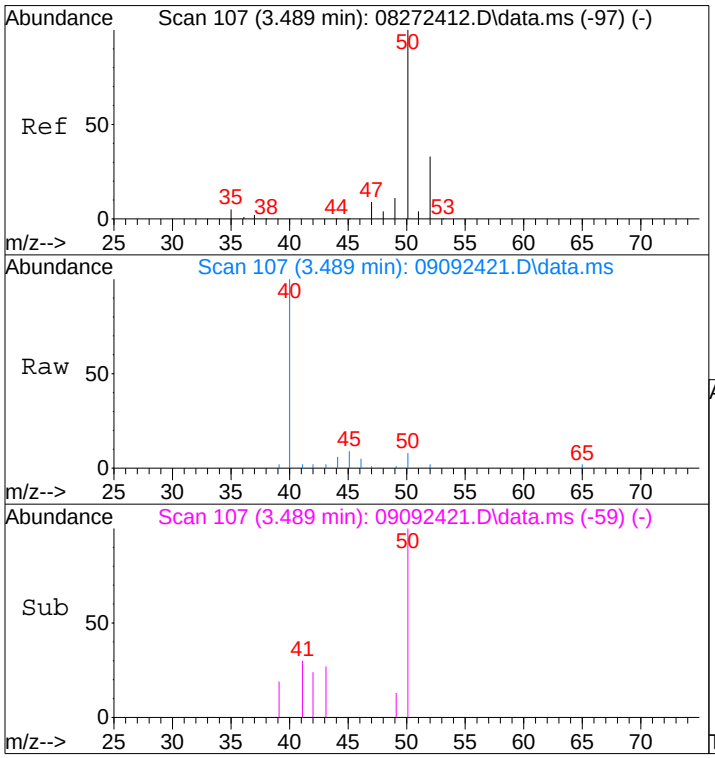


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.025 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 85 Resp: 18957

Ion	Ratio	Lower	Upper
85	100		
87	30.2	13.1	53.1
101	8.7	0.0	29.4
103	5.3	0.0	26.0

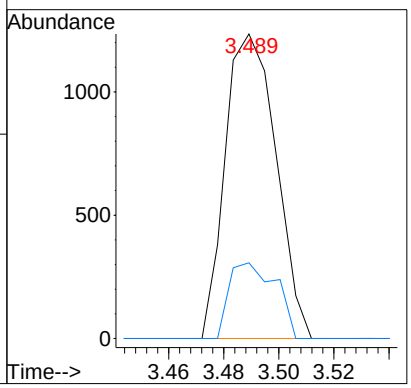


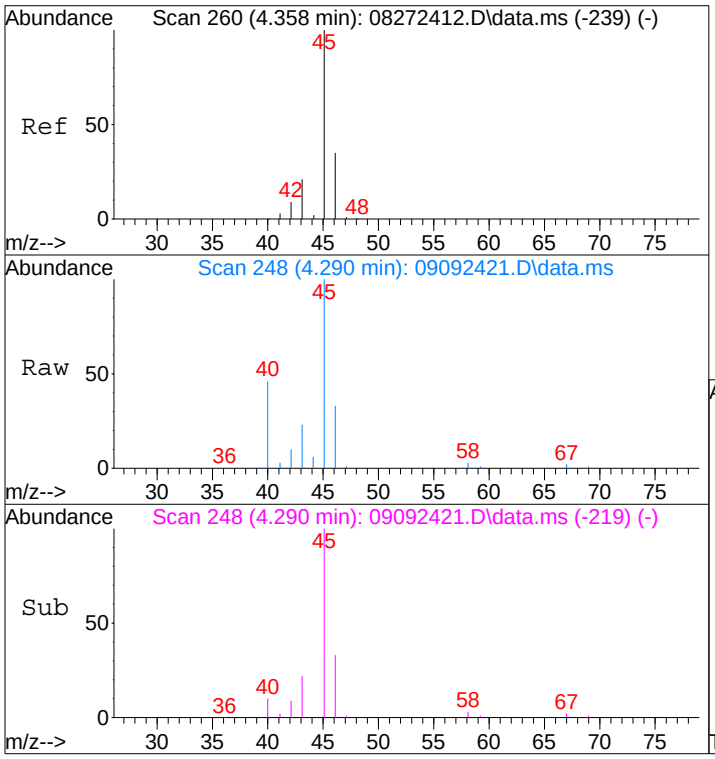


#4
Chloromethane
Concen: 0.06 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.021 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 50 Resp: 1578

Ion	Ratio	Lower	Upper
50	100		
52	22.9	12.4	52.4

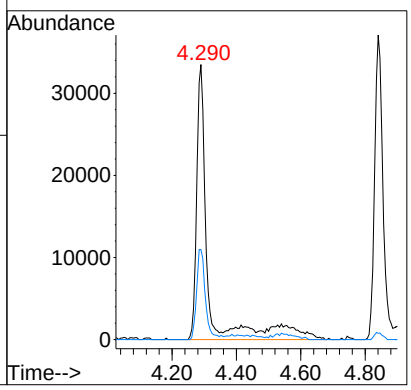


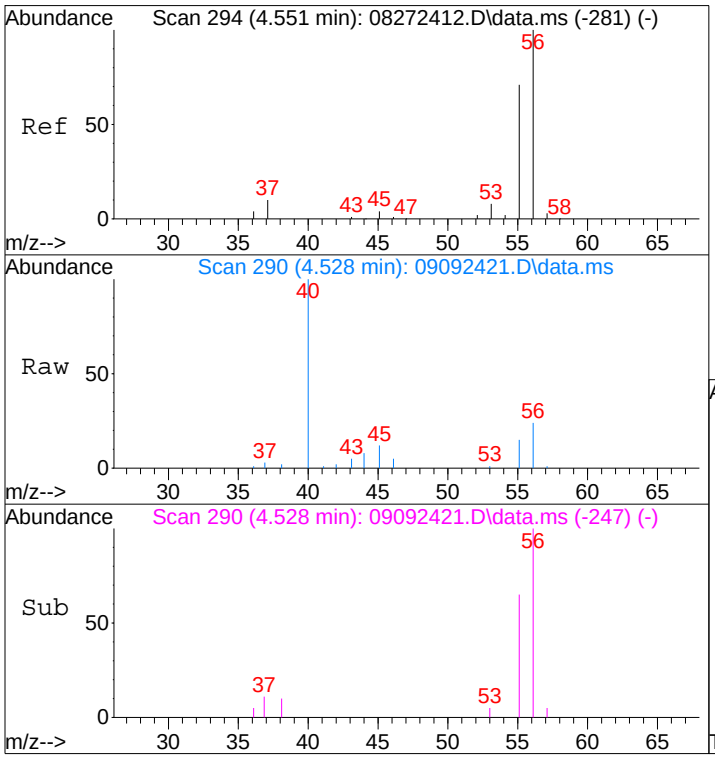


#10
Ethanol
Concen: 5.60 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.083 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 45 Resp: 81857

Ion	Ratio	Lower	Upper
45	100		
46	34.1	14.2	54.2

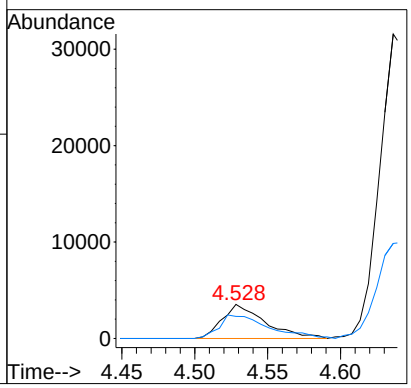


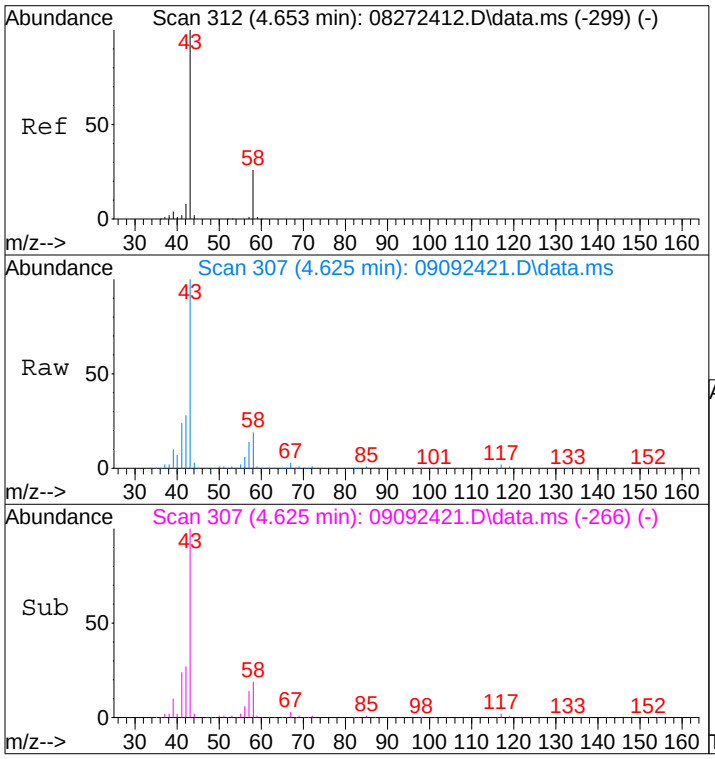


#12
Acrolein
Concen: 0.65 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.007 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 56 Resp: 7236

Ion	Ratio	Lower	Upper
56	100		
55	78.8	54.7	94.7

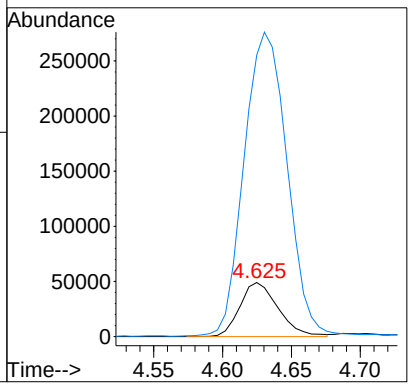


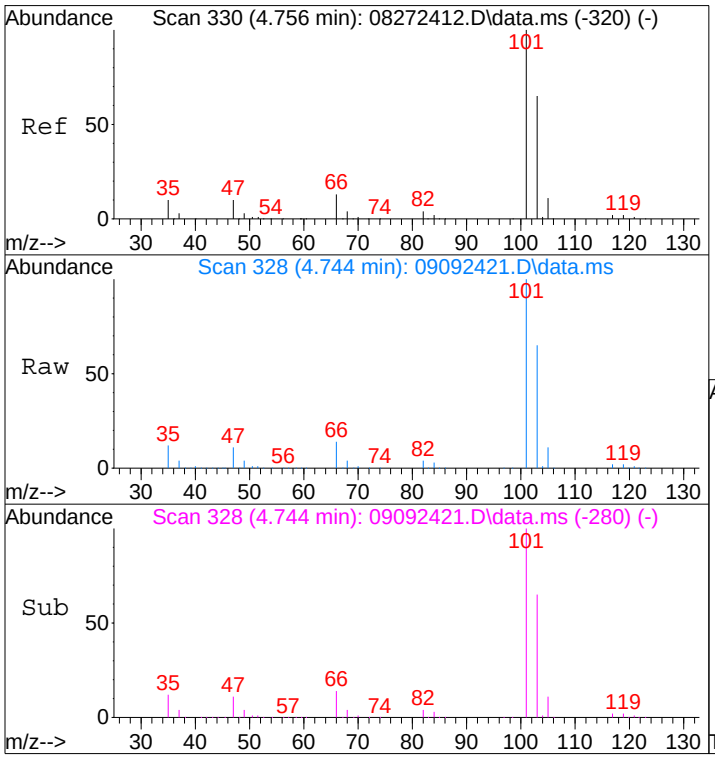


#13
Acetone
Concen: 7.71 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.017 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 58 Resp: 95093

Ion	Ratio	Lower	Upper
58	100		
43	635.3	347.3	407.3#

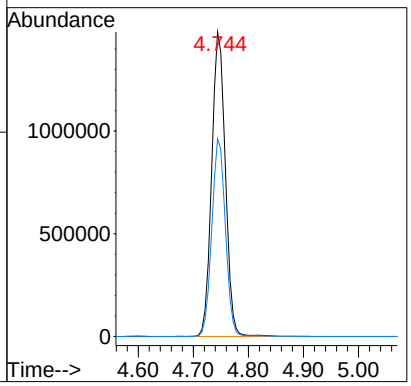


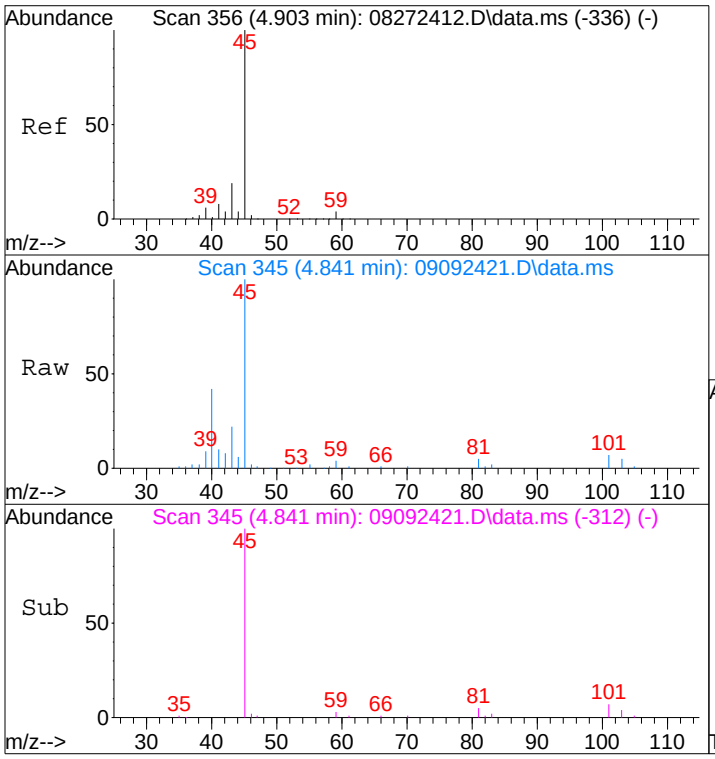


#14
Trichlorofluoromethane
Concen: 82.14 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.023 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion:101 Resp: 2560985

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.9	84.9

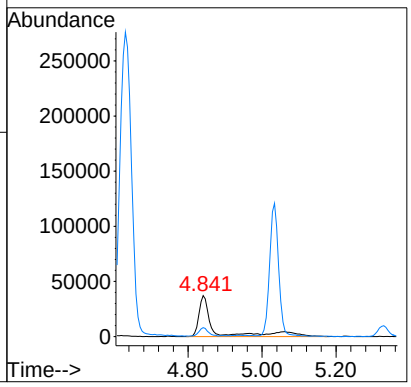


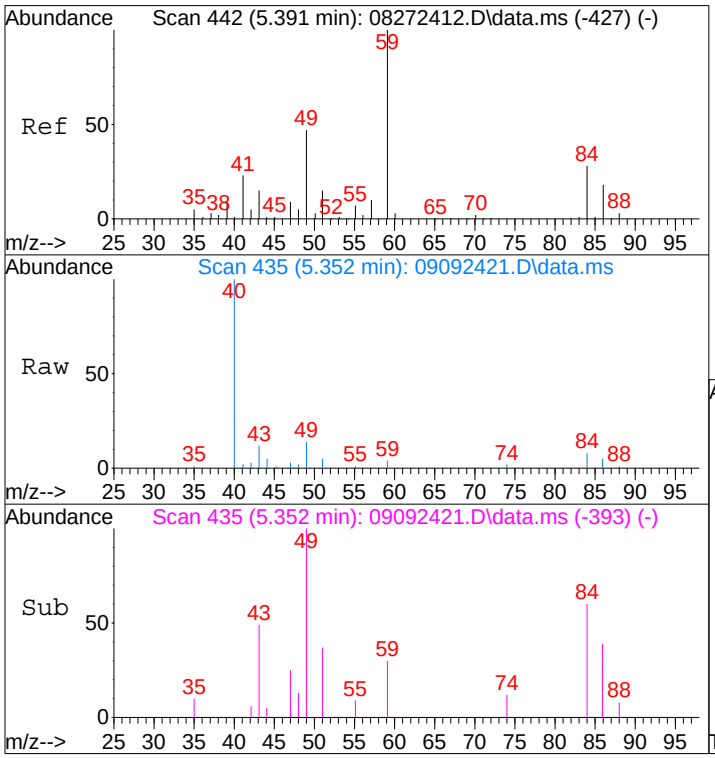


#15
2-Propanol (Isopropanol)
Concen: 2.11 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.065 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 45 Resp: 102613

Ion	Ratio	Lower	Upper
45	100		
43	16.8	0.0	40.0

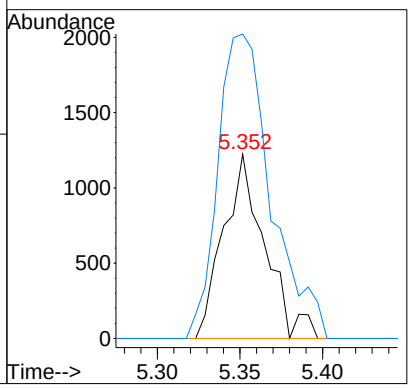


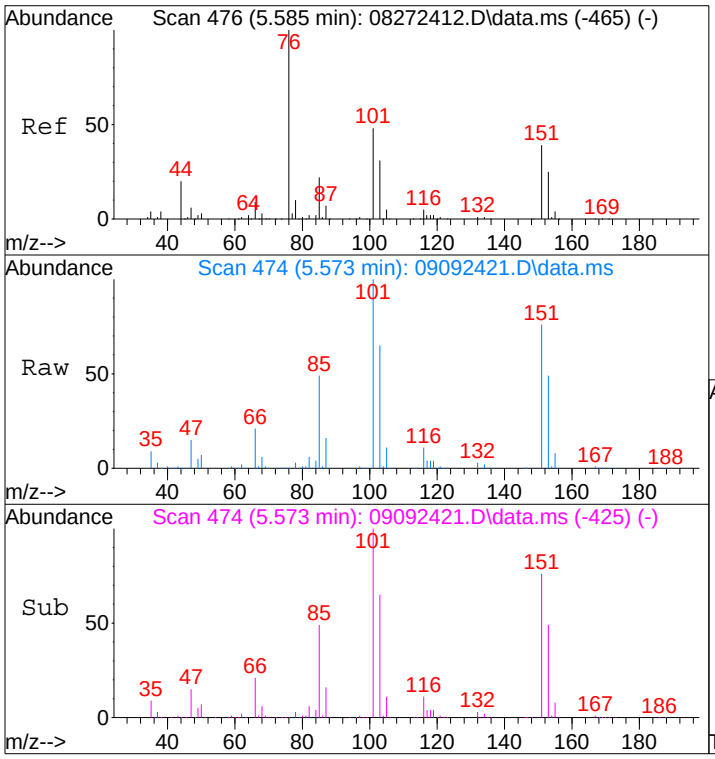


#19
Methylene Chloride
Concen: 0.15 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 84 Resp: 2123

Ion	Ratio	Lower	Upper
84	100		
49	213.2	151.1	201.1#

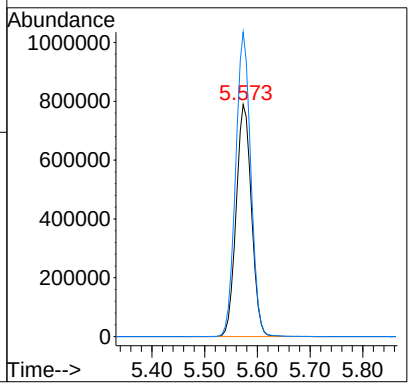


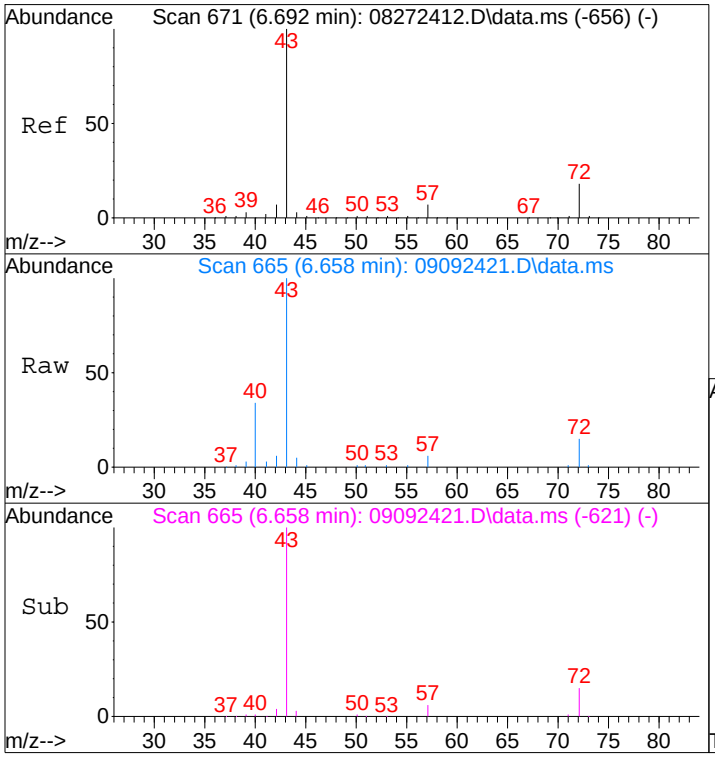


#21
Trichlorotrifluoroethane
Concen: 128.96 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.027 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion:151 Resp: 1593016

Ion	Ratio	Lower	Upper
151	100		
101	129.8	103.4	143.4

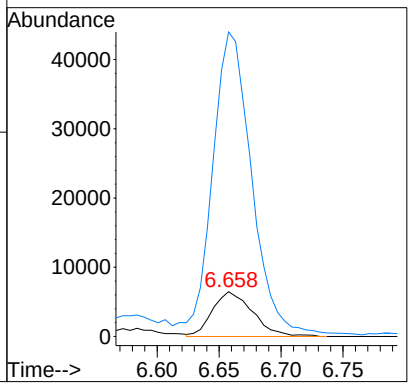


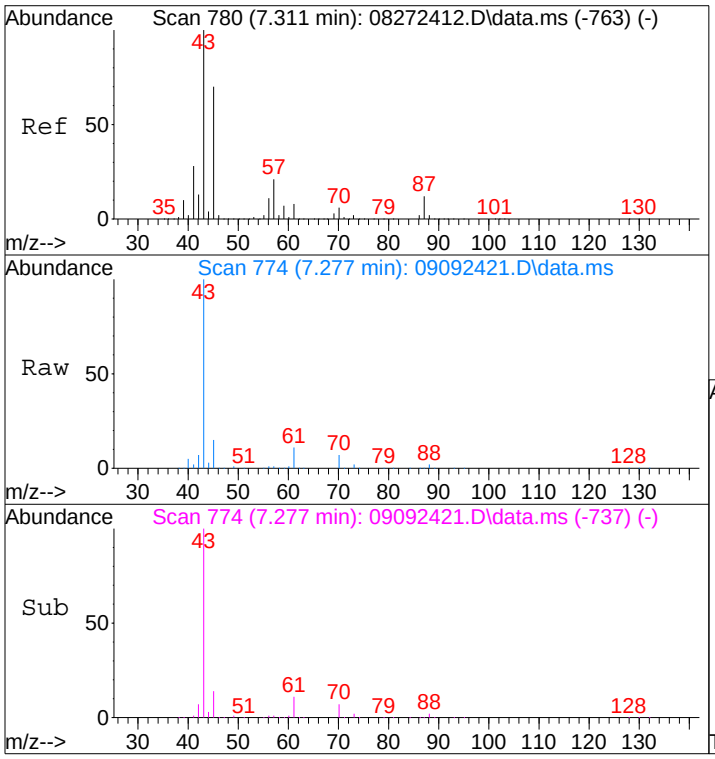


#27
2-Butanone (MEK)
Concen: 1.67 ng
RT: 6.66 min Scan# 665
Delta R.T. -0.001 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 72 Resp: 14642

Ion	Ratio	Lower	Upper
72	100		
43	656.7	548.0	588.0#

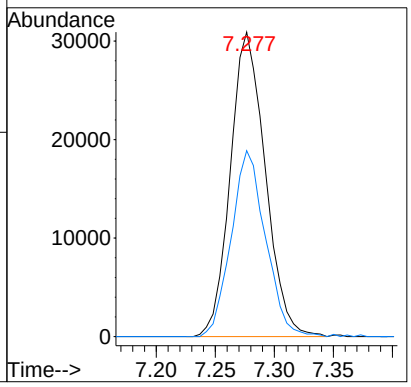


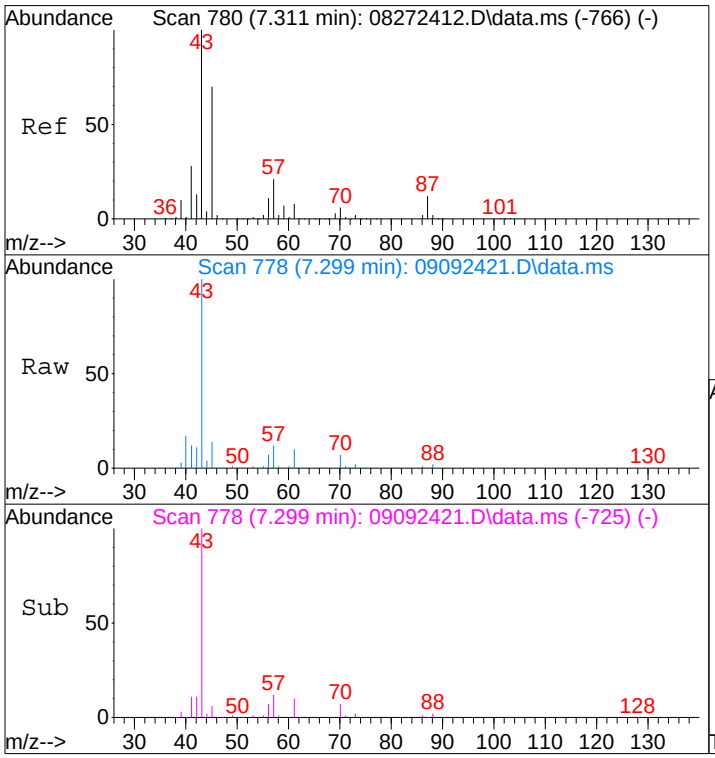


#30
Ethyl Acetate
Concen: 10.87 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.012 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 61 Resp: 63682

Ion	Ratio	Lower	Upper
61	100		
70	60.0	49.9	89.9

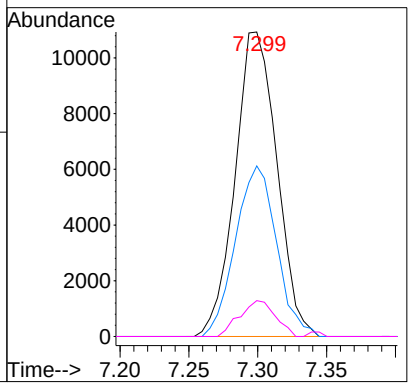


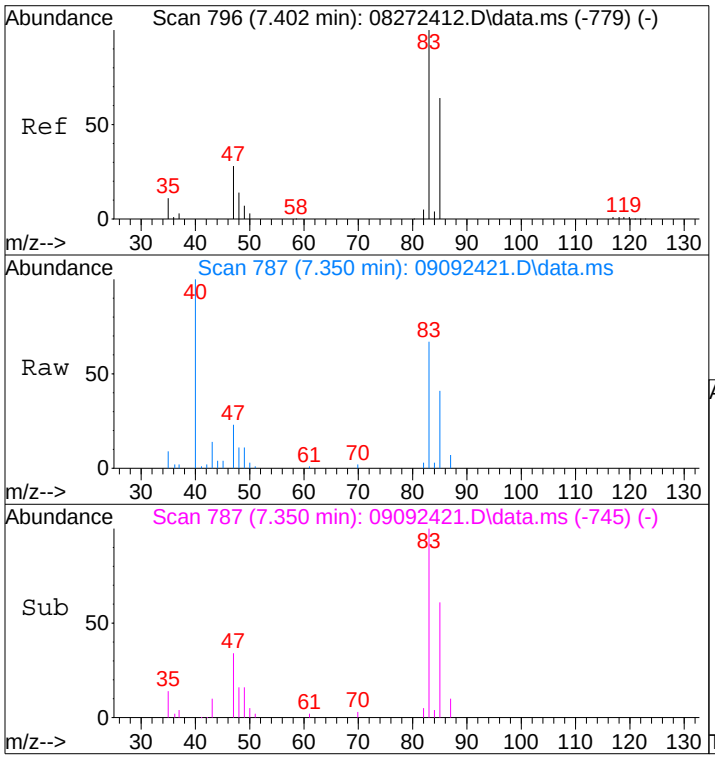


#31
n-Hexane
Concen: 0.86 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.051 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 57 Resp: 23088

Ion	Ratio	Lower	Upper
57	100		
56	55.0	44.2	66.2
86	10.1	9.3	13.9

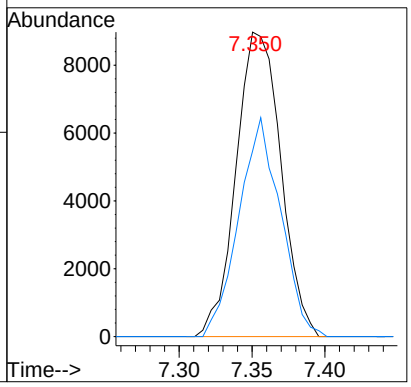


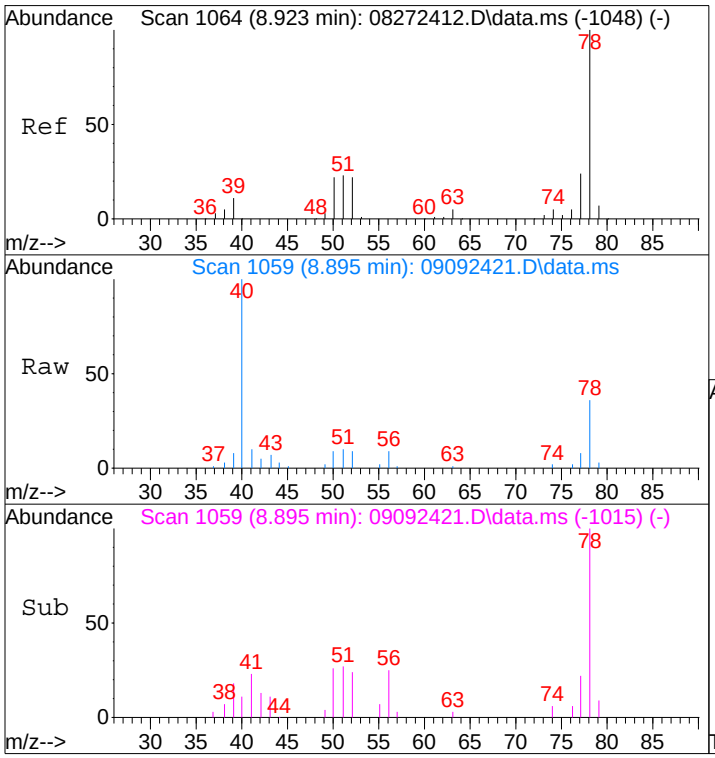


#32
Chloroform
Concen: 0.71 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 83 Resp: 19179

Ion	Ratio	Lower	Upper
83	100		
85	67.1	45.3	85.3

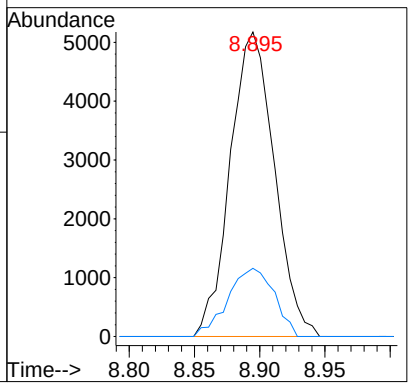


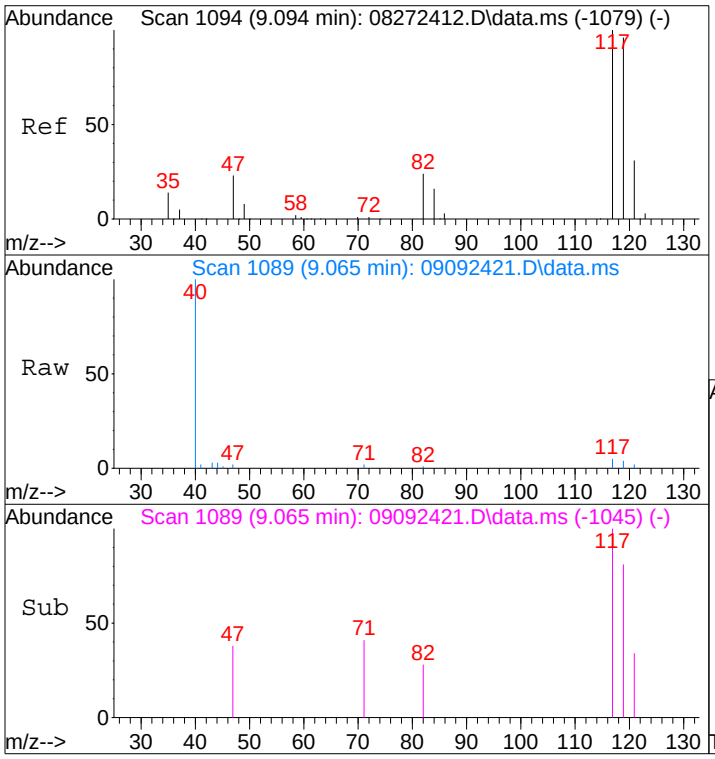


#41
Benzene
Concen: 0.22 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 78 Resp: 12165

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.9	43.9

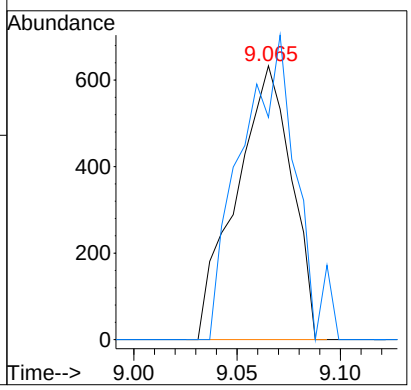


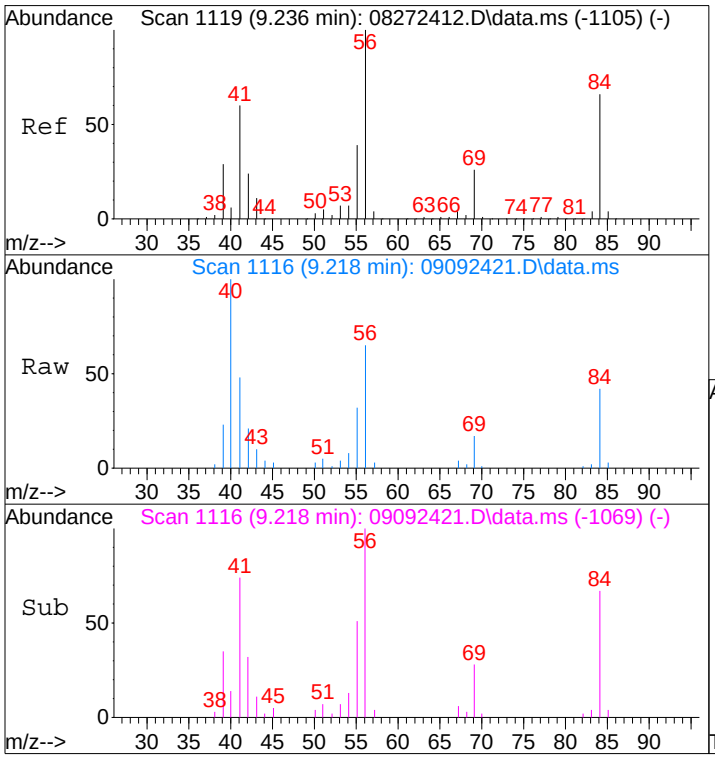


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion:117 Resp: 1179

Ion	Ratio	Lower	Upper
117	100		
119	110.7	75.1	115.1

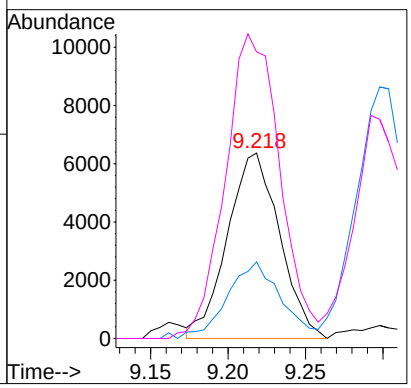


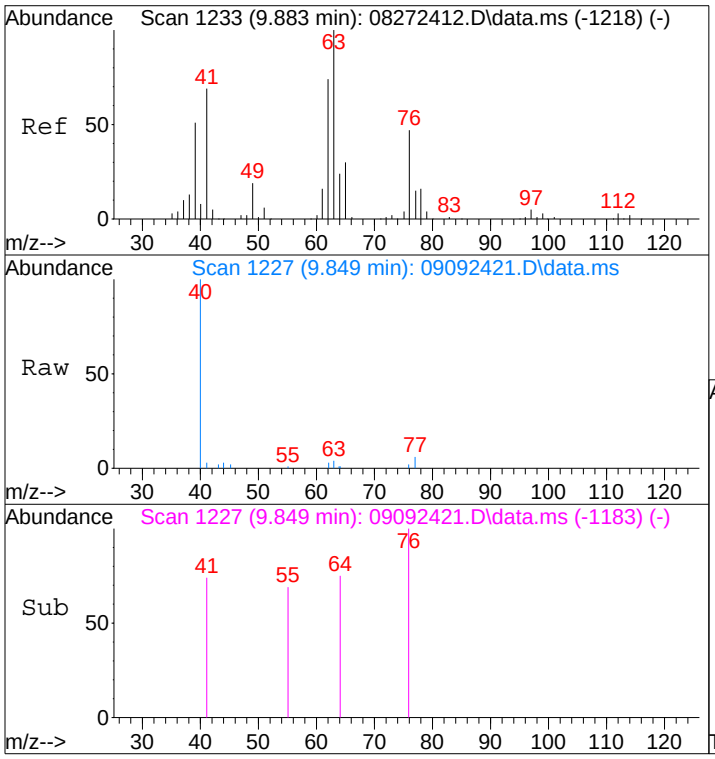


#43
Cyclohexane
Concen: 0.80 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.016 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 84 Resp: 14943

Ion	Ratio	Lower	Upper
84	100		
69	42.7	18.8	58.8
56	171.2	134.5	174.5

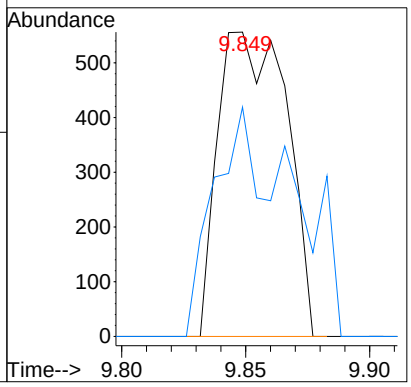


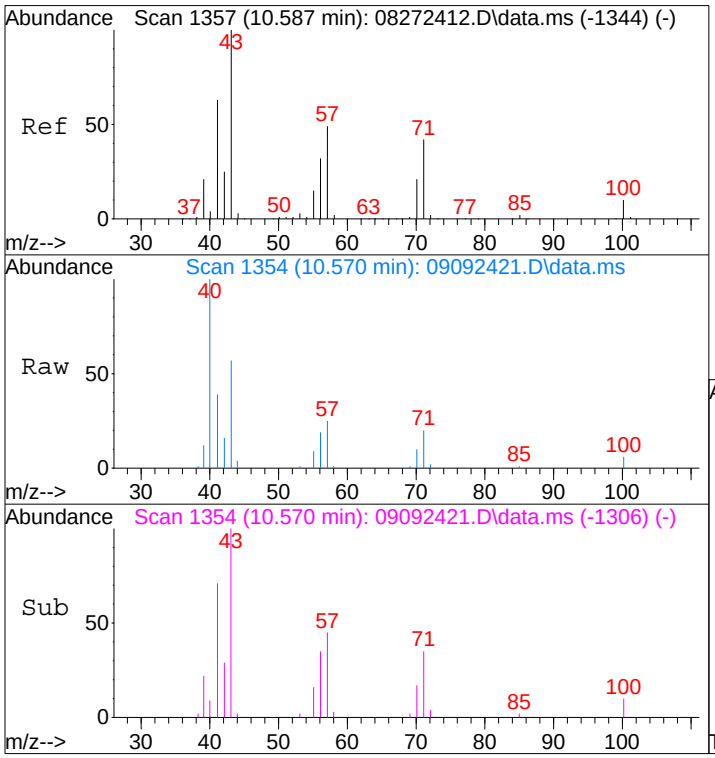


#45
1,2-Dichloropropane
Concen: 0.07 ng
RT: 9.85 min Scan# 1227
Delta R.T. -0.003 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 63 Resp: 1076

Ion	Ratio	Lower	Upper
63	100		
62	86.8	54.2	94.2

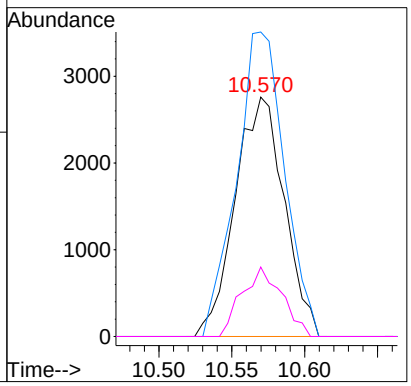


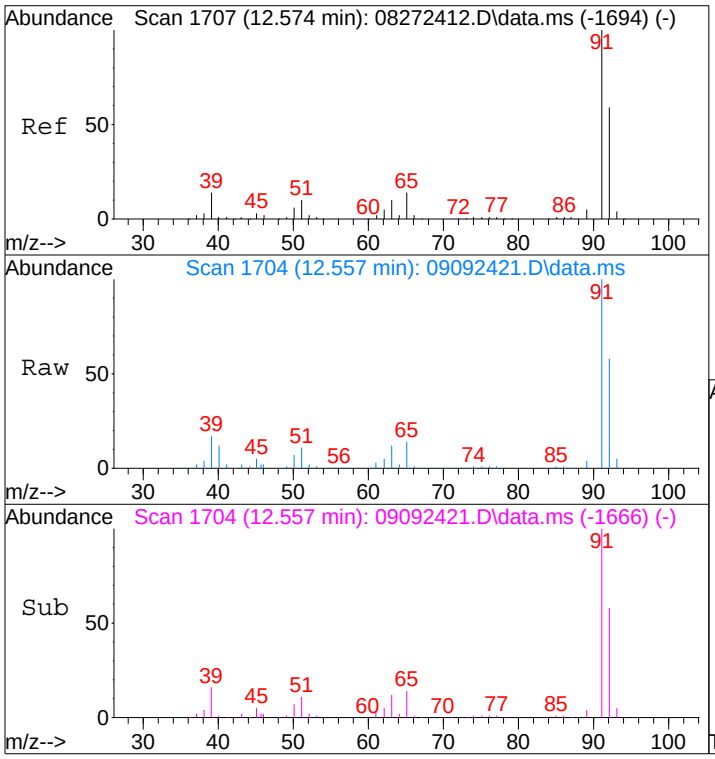


#51
n-Heptane
Concen: 0.53 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.024 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 71 Resp: 6469

Ion	Ratio	Lower	Upper
71	100		
57	124.4	97.1	137.1
100	23.6	5.0	45.0

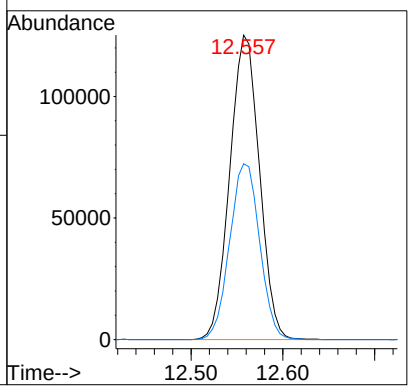


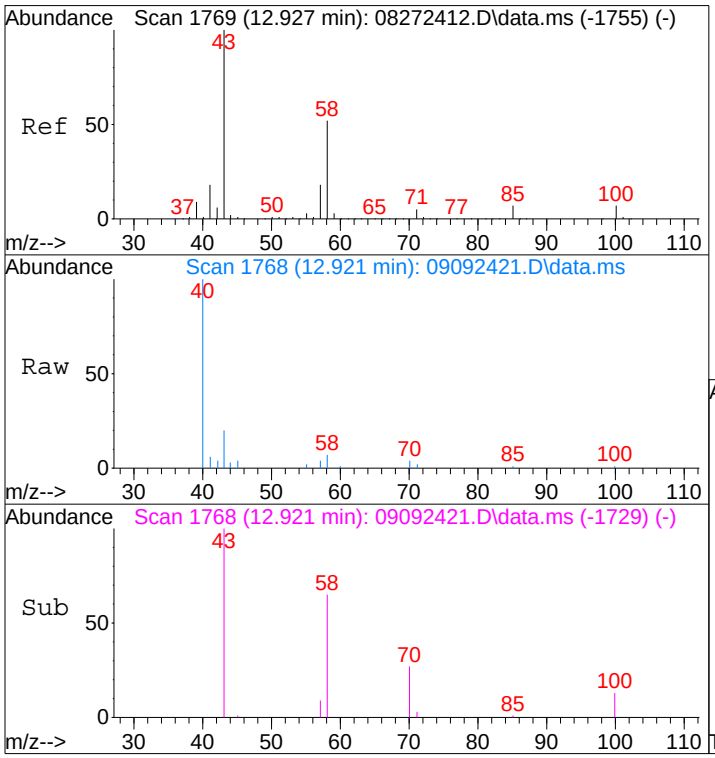


#58
Toluene
Concen: 4.10 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 91 Resp: 280862

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.5	78.5

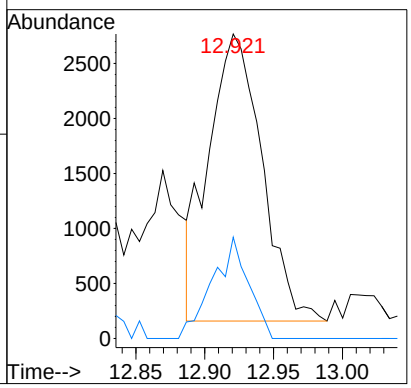


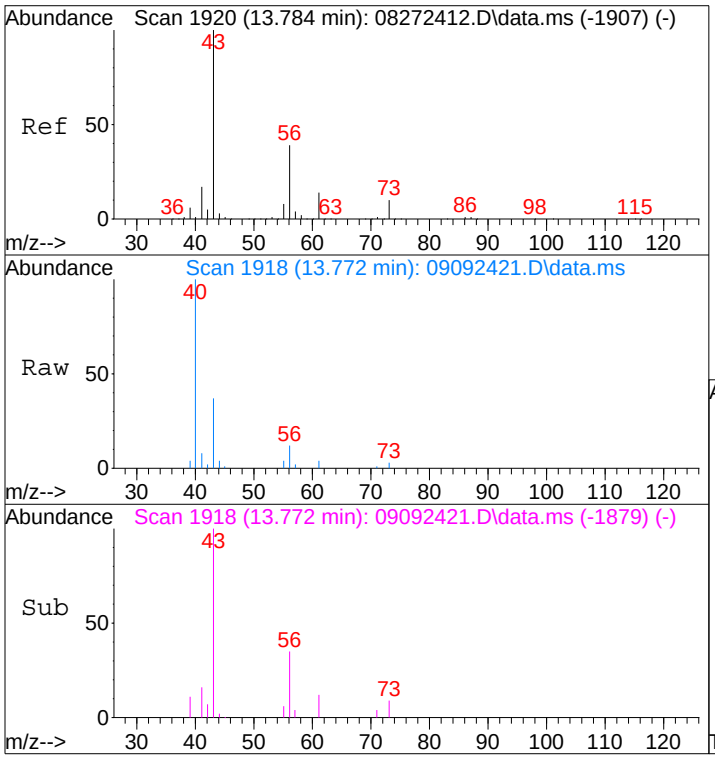


#59
2-Hexanone
Concen: 0.17 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 43 Resp: 7052

Ion	Ratio	Lower	Upper
43	100		
58	23.7	31.1	71.1#

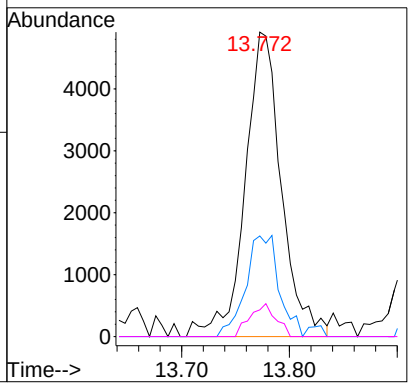


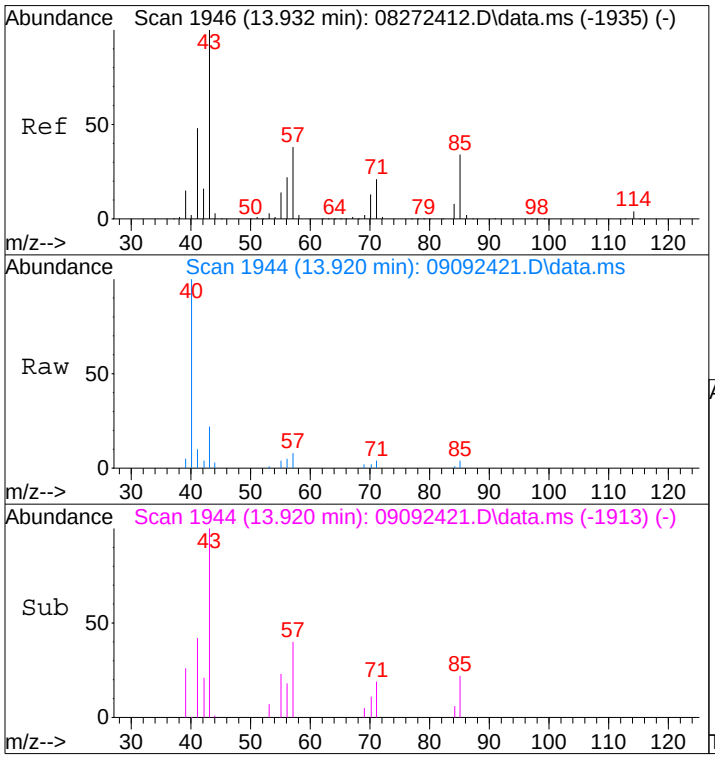


#62
n-Butyl Acetate
Concen: 0.24 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 43 Resp: 11506

Ion	Ratio	Lower	Upper
43	100		
56	30.4	18.2	58.2
73	7.8	0.0	30.1

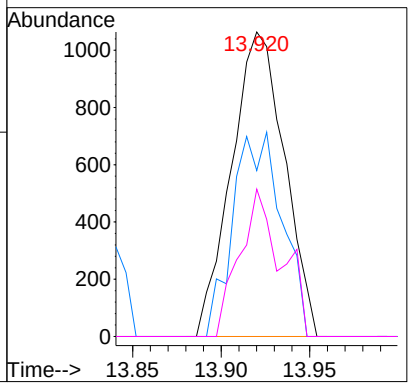


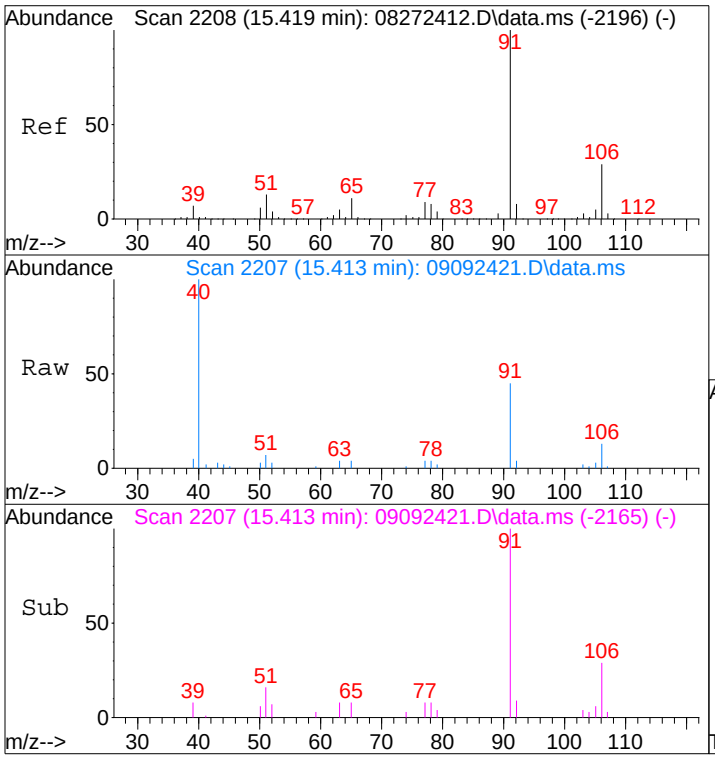


#63
n-Octane
Concen: 0.14 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 57 Resp: 2219

Ion	Ratio	Lower	Upper
57	100		
85	61.8	71.2	106.8#
71	38.1	43.3	64.9#

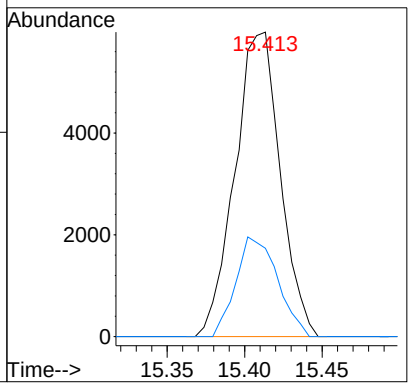


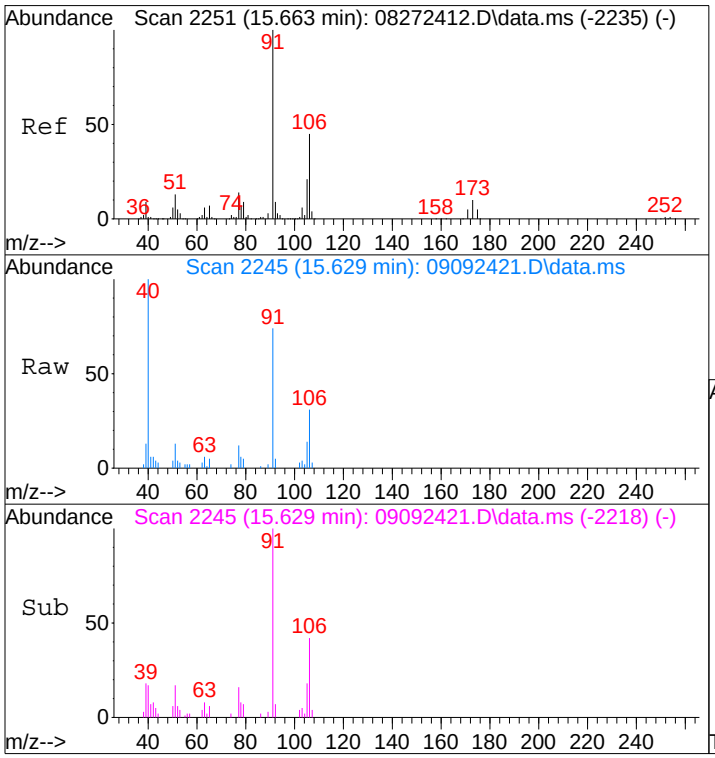


#66
Ethylbenzene
Concen: 0.15 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 91 Resp: 12197

Ion	Ratio	Lower	Upper
91	100		
106	30.1	9.2	49.2

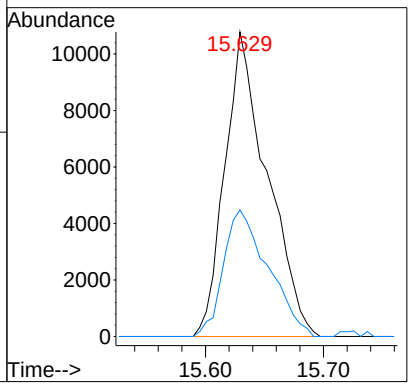


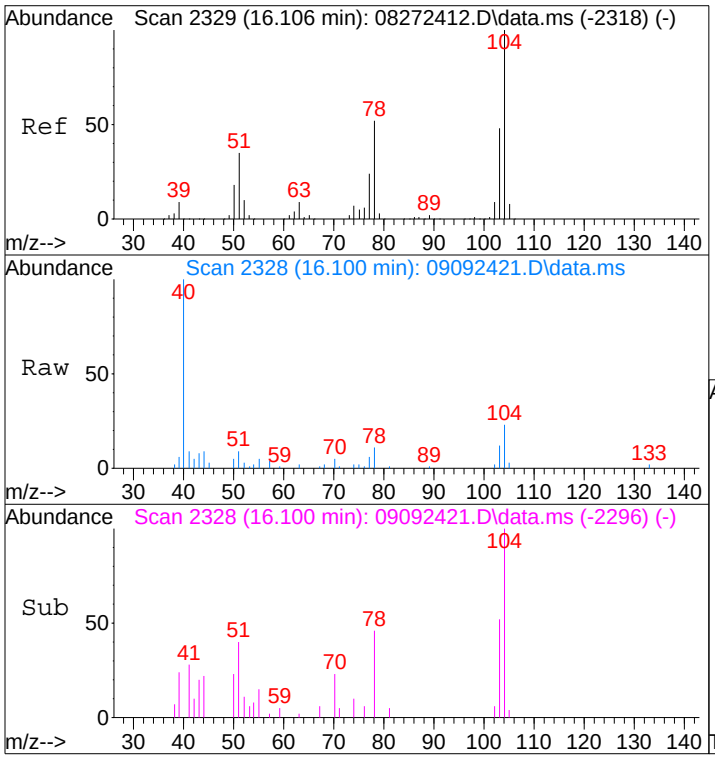


#67
m- & p-Xylenes
Concen: 0.42 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 91 Resp: 26831

Ion	Ratio	Lower	Upper
91	100		
106	44.0	23.8	63.8

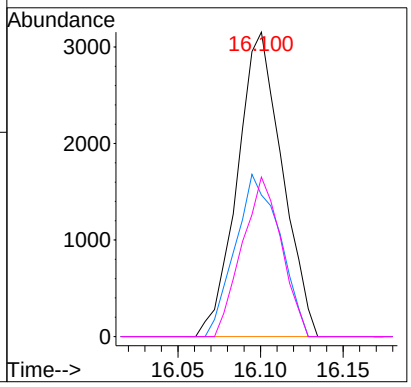


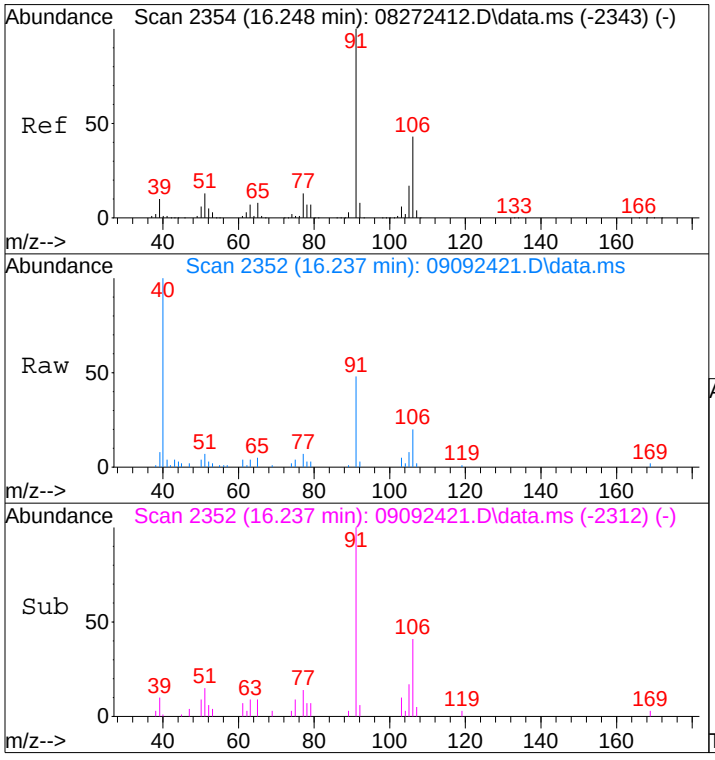


#69
Styrene
Concen: 0.14 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion:104 Resp: 5954

Ion	Ratio	Lower	Upper
104	100		
78	53.0	32.2	72.2
103	45.9	28.3	68.3

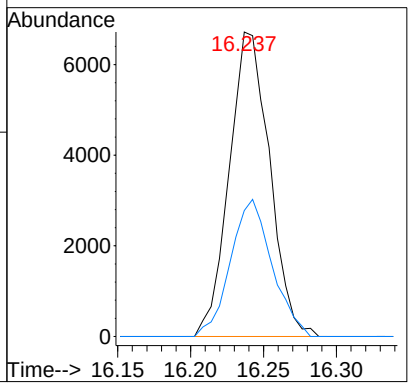


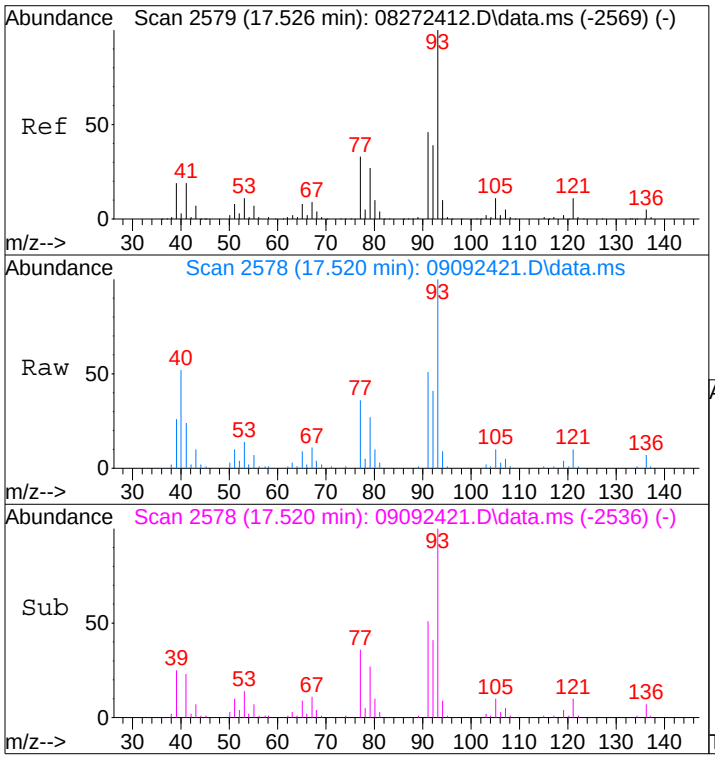


#70
o-Xylene
Concen: 0.21 ng
RT: 16.24 min Scan# 2352
Delta R.T. -0.023 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 91 Resp: 12929

Ion	Ratio	Lower	Upper
91	100		
106	46.3	22.5	62.5

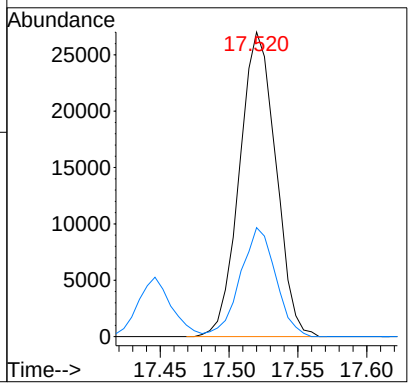


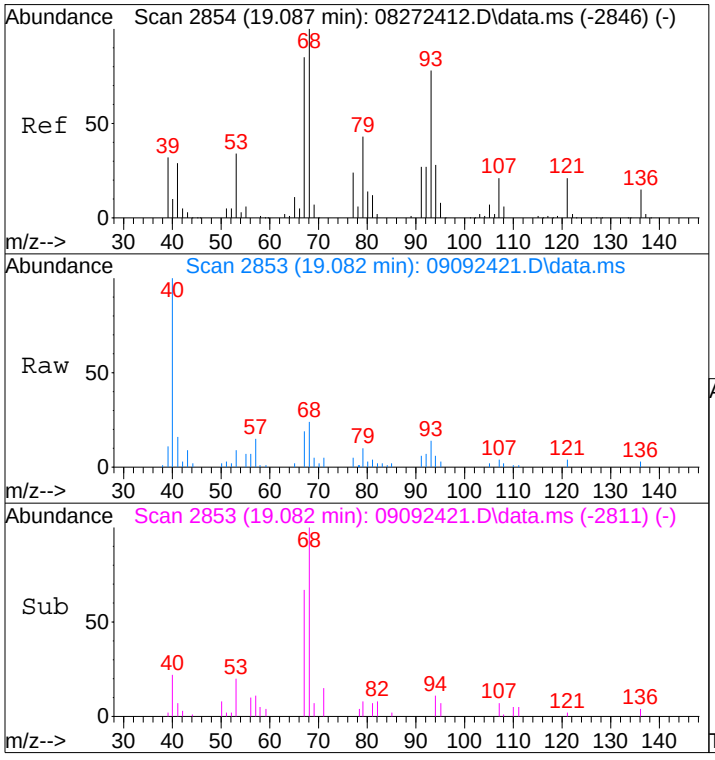


#75
alpha-Pinene
Concen: 1.31 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 93 Resp: 49597

Ion	Ratio	Lower	Upper
93	100		
77	35.0	13.1	53.1

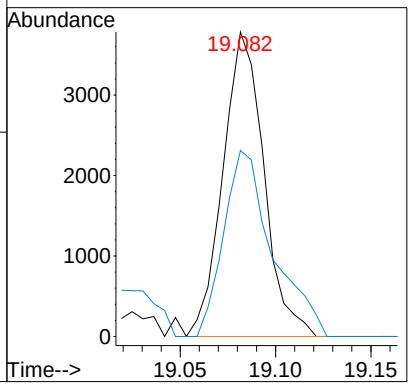


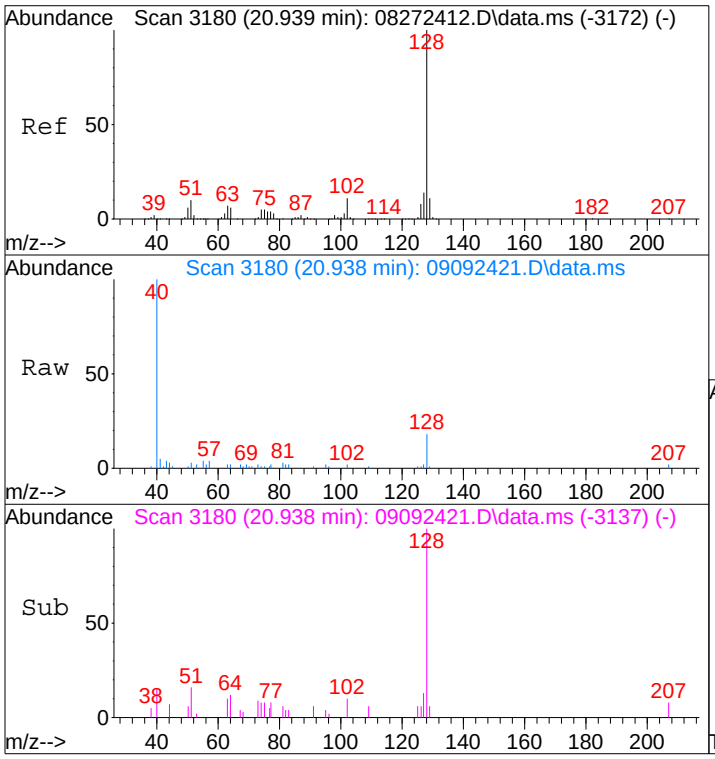


#91
d-Limonene
Concen: 0.26 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion: 68 Resp: 5642

Ion	Ratio	Lower	Upper
68	100		
93	73.0	56.2	96.2

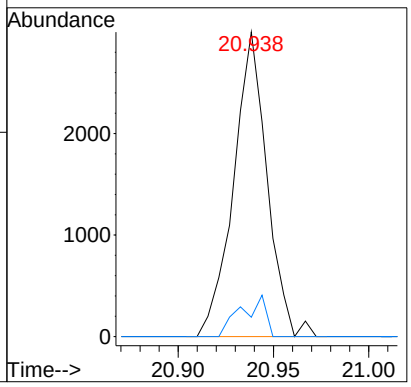




#95
Naphthalene
Concen: 0.05 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09092421.D
Acq: 9 Sep 2024 19:58

Tgt Ion:128 Resp: 3663

Ion	Ratio	Lower	Upper
128	100		
129	10.1	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:28:53 2024 9/10/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

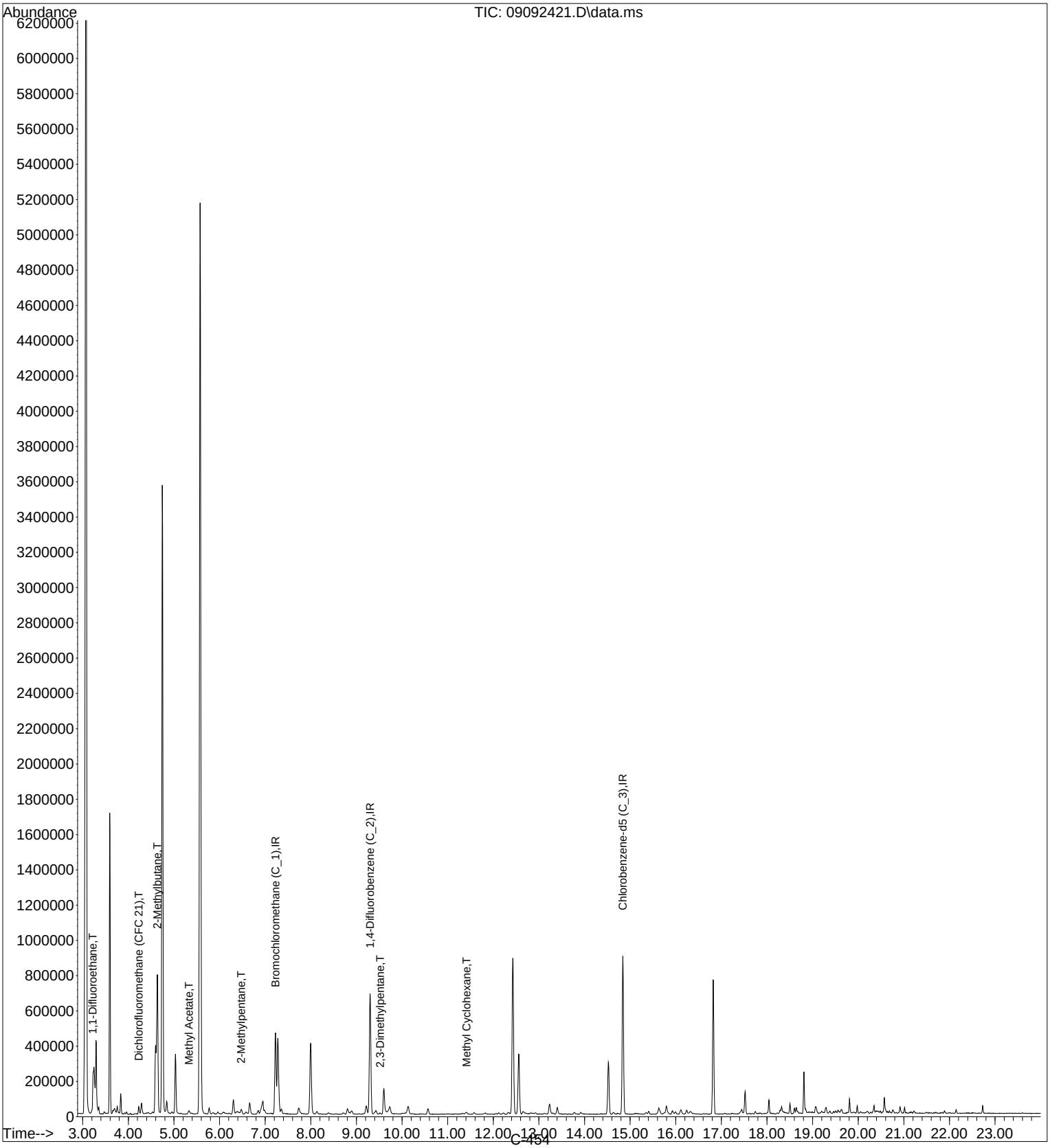
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	135139	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	589269	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	180734	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	206	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.22	65	27199	2.305 ng		97
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d		
6) 1-Chloro-1,1-Difluoroe...	3.49	65	539	N.D.		
7) Dichlorofluoromethane ...	4.23	67	34288	1.106 ng		98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d		
10) 2-Methylbutane	4.64	57	139370	8.647 ng		92
11) Methyl Acetate	5.33	43	21454	0.471 ng	#	65
12) 2-Methylpentane	6.48	71	3846	0.329 ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	8.60	75	52	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.52	56	3992	0.140 ng	#	85
18) Dibromomethane	9.80	174	118	N.D.		
20) Methyl Cyclohexane	11.42	55	4515	0.146 ng	#	73
21) 1,3-Dichloropropane	12.55	76	1440	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.34	75	599	N.D.		
25) Bromobenzene	17.03	77	62	N.D.		
26) 2-Chlorotoluene	17.61	91	329	N.D.		
27) 4-Chlorotoluene	17.67	91	1262	N.D.		
28) Indane	19.10	117	55	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	250	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	444	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	520	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

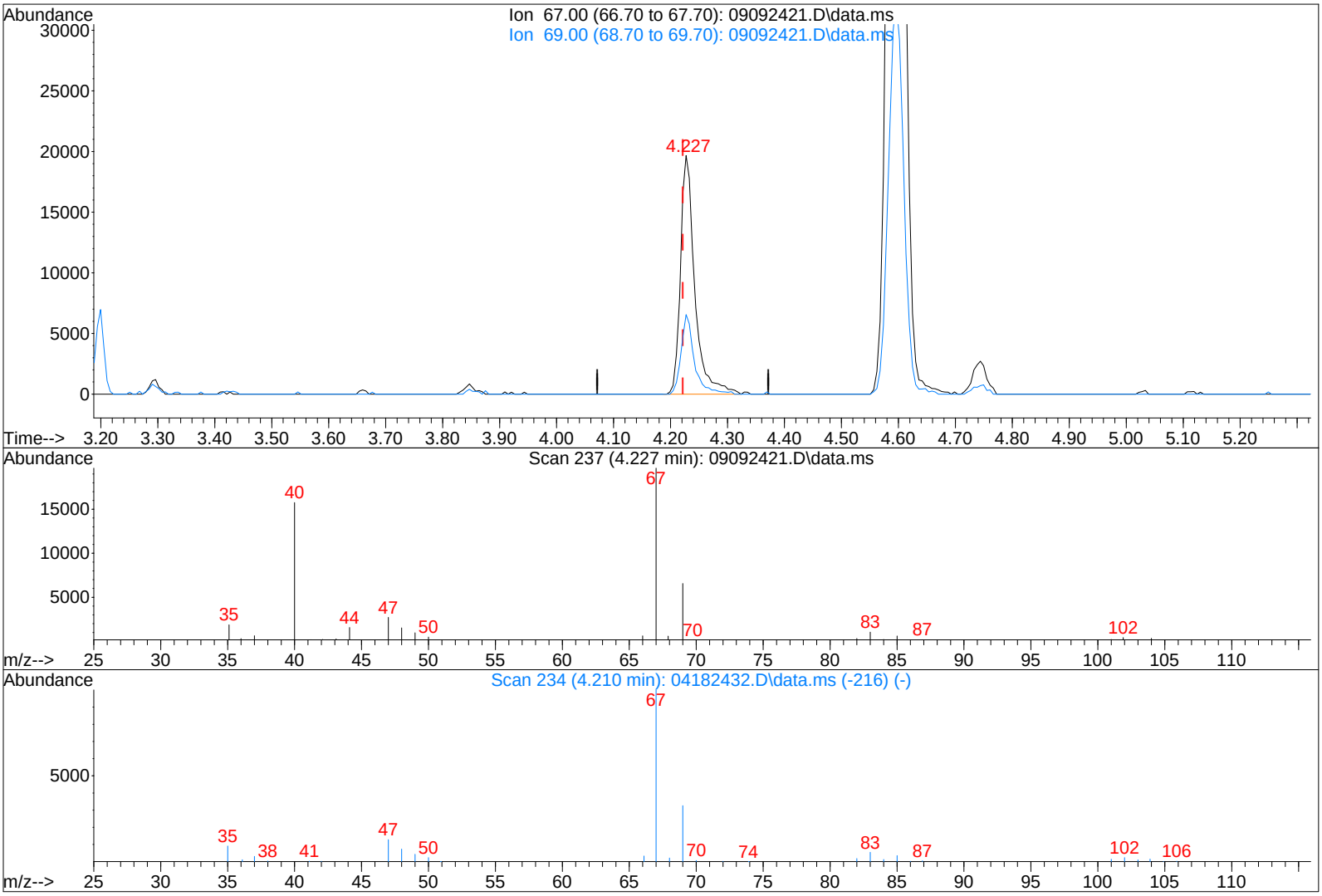
Quant Time: Sep 10 12:28:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092421.D Vial: 8
Acq On : 9 Sep 2024 19:58 Operator: SC
Sample : P2403661-005 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:27:48 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092421.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.11ng

response 34288

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.07
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102409.D Vial: 8
Acq On : 10 Sep 2024 13:27 Operator: SC
Sample : P2403661-005Dil (40mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 13:49:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	155635	12.500 ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	691040	12.500 ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	190749	12.500 ng		-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	371032	12.740 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
57) Toluene-d8 (SS2)	12.43	98	778185	11.629 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%			
73) Bromofluorobenzene (SS3)	16.82	174	246618	11.020 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.32	85	2359	0.062 ng	#	91
4) Chloromethane	3.52	50	277	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.29	45	7611	0.451 ng		97
11) Acetonitrile	4.44	41	841	N.D.		
12) Acrolein	4.55	56	794	0.062 ng		90
13) Acetone	4.64	58	13462	0.945 ng	#	41
14) Trichlorofluoromethane	4.76	101	248306	6.890 ng		100
15) 2-Propanol (Isopropanol)	4.87	45	6987	0.125 ng		83
16) Acrylonitrile	5.01	53	334	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.39	59	1196	N.D.		
19) Methylene Chloride	5.36	84	459	N.D.		
20) 3-Chloro-1-propene (Al...	5.40	41	116	N.D.		
21) Trichlorotrifluoroethane	5.58	151	162520	11.382 ng		94
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.43	86	116	N.D.		
27) 2-Butanone (MEK)	6.67	72	1569	0.155 ng	#	50
28) cis-1,2-Dichloroethene	7.07	61	111	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.29	61	6334	0.935 ng		88
31) n-Hexane	0.00	57	0	N.D. d		
32) Chloroform	7.36	83	2047	0.066 ng		90
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.85	56	1820	No Calib		
41) Benzene	8.89	78	2672	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.22	84	1410	0.064 ng		90
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102409.D Vial: 8
Acq On : 10 Sep 2024 13:27 Operator: SC
Sample : P2403661-005Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:49:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

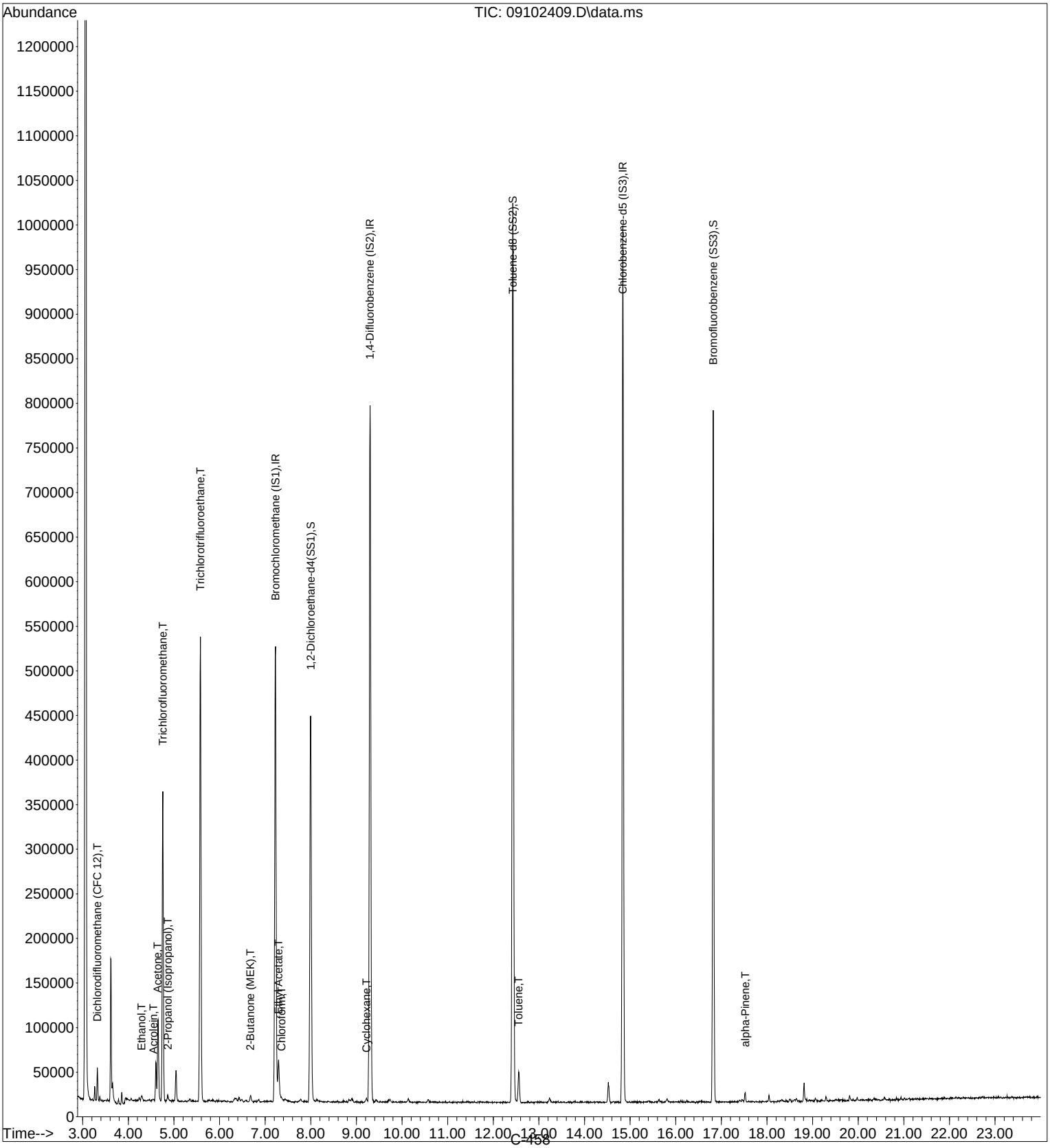
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	464	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	29400	0.406 ng	97
59) 2-Hexanone	12.93	43	901	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1076	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	282	N.D.	
66) Ethylbenzene	15.41	91	1747	N.D.	
67) m- & p-Xylenes	15.64	91	3323	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	532	N.D.	
70) o-Xylene	16.24	91	1536	N.D.	
71) n-Nonane	16.61	43	311	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.02	105	137	N.D.	
75) alpha-Pinene	17.53	93	4313	0.108 ng	96
76) n-Propylbenzene	17.68	91	521	N.D.	
77) 3-Ethyltoluene	17.02	105	137	No Calib #	
78) 4-Ethyltoluene	17.86	105	224	N.D.	
79) 1,3,5-Trimethylbenzene	17.86	105	224	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.02	105	137	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	159	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.57	91	212	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	358	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	461	N.D.	
87) sec-Butylbenzene	18.74	105	288	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	529	N.D.	
89) 1,2,3-Trimethylbenzene	17.02	105	137	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	140	N.D.	
91) d-Limonene	19.08	68	415	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	878	N.D.	
95) Naphthalene	20.94	128	1718	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	301	N.D.	
98) Cyclohexanone	15.20	55	108	No Calib #	
99) tert-Butylbenzene	18.42	119	375	N.D.	
100) n-Butylbenzene	19.39	91	368	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102409.D Vial: 8
Acq On : 10 Sep 2024 13:27 Operator: SC
Sample : P2403661-005Dil (40mL) Inst : MS09
Misc : S37-06062402

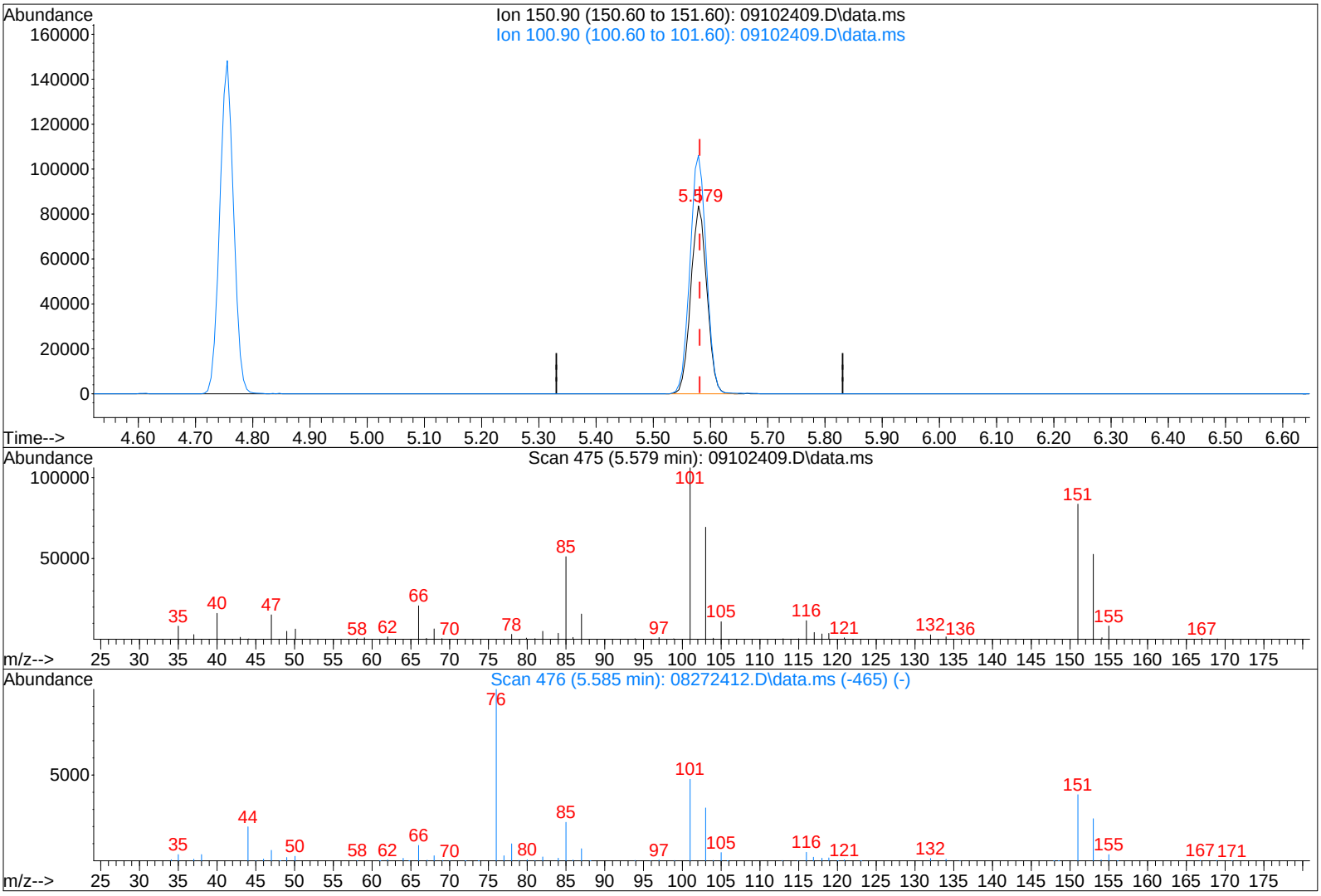
Quant Time: Sep 10 13:49:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102409.D Vial: 8
Acq On : 10 Sep 2024 13:27 Operator: SC
Sample : P2403661-005Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:48:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102409.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.002) 11.38ng

response 162520

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.16
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092421.D
Acq On : 9 Sep 2024 19:58
Operator : SC
Sample : P2403661-005 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092421.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.245	59	64	69	rBV2	163559	416014	4.01%	1.047%
2	3.290	69	72	80	rVB2	393668	540331	5.21%	1.361%
3	3.353	80	83	90	rVB	39708	48678	0.47%	0.123%
4	3.472	100	104	110	rBV2	12381	21800	0.21%	0.055%
5	3.591	119	125	133	rVB	1705019	2170197	20.94%	5.464%
6	3.659	133	137	139	rVV2	17997	26084	0.25%	0.066%
7	3.694	139	143	150	rVV3	29051	73130	0.71%	0.184%
8	3.756	150	154	159	rVV	42150	68704	0.66%	0.173%
9	3.835	163	168	173	rVB	113747	160636	1.55%	0.404%
10	3.960	187	190	196	rVB2	13827	21123	0.20%	0.053%
11	4.136	214	221	225	rBV2	5866	13506	0.13%	0.034%
12	4.227	231	237	242	rBV	41812	64477	0.62%	0.162%
13	4.290	242	248	256	rVB	58642	106578	1.03%	0.268%
14	4.443	270	275	279	rVB3	5785	10399	0.10%	0.026%
15	4.528	285	290	295	rBV3	8536	18417	0.18%	0.046%
16	4.596	295	302	304	rVV	386487	661690	6.39%	1.666%
17	4.636	304	309	320	rVV3	786721	1584003	15.29%	3.988%
18	4.744	320	328	340	rVV	3559891	6106176	58.93%	15.375%
19	4.841	340	345	352	rVB	66117	117626	1.14%	0.296%
20	4.954	360	365	371	rBV6	9088	17018	0.16%	0.043%
21	5.034	372	379	390	rVB	337166	571234	5.51%	1.438%
22	5.329	422	431	438	rBV2	19149	52437	0.51%	0.132%
23	5.573	464	474	491	rBV	5163054	10361641	100.00%	26.090%
24	5.772	501	509	518	rBV	34432	63837	0.62%	0.161%
25	5.857	518	524	531	rVB5	6493	15221	0.15%	0.038%
26	5.965	537	543	548	rBV5	10658	21192	0.20%	0.053%
27	6.078	555	563	564	rBV3	9484	15147	0.15%	0.038%
28	6.220	585	588	594	rVB2	6060	10130	0.10%	0.026%
29	6.300	594	602	610	rBV	81469	173531	1.67%	0.437%
30	6.379	610	616	617	rVV2	13873	27751	0.27%	0.070%
31	6.396	617	619	627	rVV7	15342	37706	0.36%	0.095%
32	6.476	627	633	644	rVV2	27848	67481	0.65%	0.170%
33	6.578	644	651	658	rVV3	12080	35189	0.34%	0.089%
34	6.658	658	665	678	rVB	63277	140864	1.36%	0.355%
35	6.845	691	698	703	rBV2	21211	44911	0.43%	0.113%
36	6.947	703	716	720	rVV2	71965	213165	2.06%	0.537%
37	6.981	720	722	733	rVB	20591	38974	0.38%	0.098%
38	7.225	756	765	770	rBV	459792	1023077	9.87%	2.576%
39	7.277	770	774	783	rVV	429035	940678	9.08%	2.369%
40	7.356	783	788	796	rVB	26527	56228	0.54%	0.142%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092421.D
Acq On : 9 Sep 2024 19:58
Operator : SC
Sample : P2403661-005 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	7.736	846	855	865	rBV2	34956	96605	0.93%	0.243%
42	7.998	886	901	915	rBV	403230	940890	9.08%	2.369%
43	8.134	918	925	935	rVB4	14979	36940	0.36%	0.093%
44	8.384	961	969	978	rBV4	8135	24646	0.24%	0.062%
45	8.713	1017	1027	1035	rBV6	8333	24610	0.24%	0.062%
46	8.804	1035	1043	1050	rVV3	31158	77518	0.75%	0.195%
47	8.895	1053	1059	1070	rVB5	18329	50245	0.48%	0.127%
48	9.218	1108	1116	1121	rBV	43748	98962	0.96%	0.249%
49	9.298	1121	1130	1142	rVV	682031	1556859	15.03%	3.920%
50	9.423	1142	1152	1162	rVB3	20402	59546	0.57%	0.150%
51	9.599	1175	1183	1195	rBV	144303	342621	3.31%	0.863%
52	9.729	1195	1206	1215	rVB6	38792	129693	1.25%	0.327%
53	10.133	1267	1277	1286	rVB2	42439	120100	1.16%	0.302%
54	10.570	1347	1354	1362	rVB3	31323	71911	0.69%	0.181%
55	11.319	1481	1486	1493	rBV7	5326	12512	0.12%	0.032%
56	11.410	1493	1502	1514	rVB9	10895	35307	0.34%	0.089%
57	11.581	1524	1532	1541	rBV5	9136	21829	0.21%	0.055%
58	11.825	1565	1575	1580	rBV4	6985	17929	0.17%	0.045%
59	12.114	1622	1626	1635	rVB4	8088	19407	0.19%	0.049%
60	12.217	1637	1644	1652	rVB4	7162	19595	0.19%	0.049%
61	12.330	1658	1664	1672	rBV5	9057	23971	0.23%	0.060%
62	12.427	1672	1681	1692	rVV	882536	2023944	19.53%	5.096%
63	12.557	1695	1704	1715	rVB	341618	766897	7.40%	1.931%
64	12.654	1715	1721	1728	rBV4	14548	40707	0.39%	0.102%
65	12.926	1763	1769	1777	rVB6	7793	19056	0.18%	0.048%
66	13.233	1815	1823	1833	rBV4	55089	133613	1.29%	0.336%
67	13.312	1833	1837	1845	rVB6	6348	12633	0.12%	0.032%
68	13.403	1845	1853	1862	rBV4	36414	79655	0.77%	0.201%
69	13.772	1912	1918	1926	rBV3	9602	23339	0.23%	0.059%
70	13.914	1938	1943	1951	rBV3	10032	21229	0.20%	0.053%
71	14.522	2040	2050	2060	rVB	294922	648364	6.26%	1.633%
72	14.636	2064	2070	2077	rBV5	9798	24411	0.24%	0.061%
73	14.732	2080	2087	2094	rBV4	5294	13914	0.13%	0.035%
74	14.840	2097	2106	2118	rBV	896127	1829961	17.66%	4.608%
75	15.357	2188	2197	2201	rBV3	9069	22122	0.21%	0.056%
76	15.408	2201	2206	2214	rVB3	16223	31854	0.31%	0.080%
77	15.629	2235	2245	2257	rVB2	34589	97541	0.94%	0.246%
78	15.754	2257	2267	2268	rBV6	7879	16434	0.16%	0.041%
79	15.794	2268	2274	2288	rVV3	45861	113669	1.10%	0.286%
80	15.930	2290	2298	2305	rBV4	19851	46909	0.45%	0.118%
81	15.993	2305	2309	2318	rVV4	12827	25913	0.25%	0.065%
82	16.112	2322	2330	2342	rVB7	23856	63089	0.61%	0.159%
83	16.237	2348	2352	2359	rBV	19675	36899	0.36%	0.093%
84	16.322	2361	2367	2376	rVB6	12051	33915	0.33%	0.085%
85	16.822	2446	2455	2464	rVB	760854	1405716	13.57%	3.539%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092421.D
Acq On : 9 Sep 2024 19:58
Operator : SC
Sample : P2403661-005 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

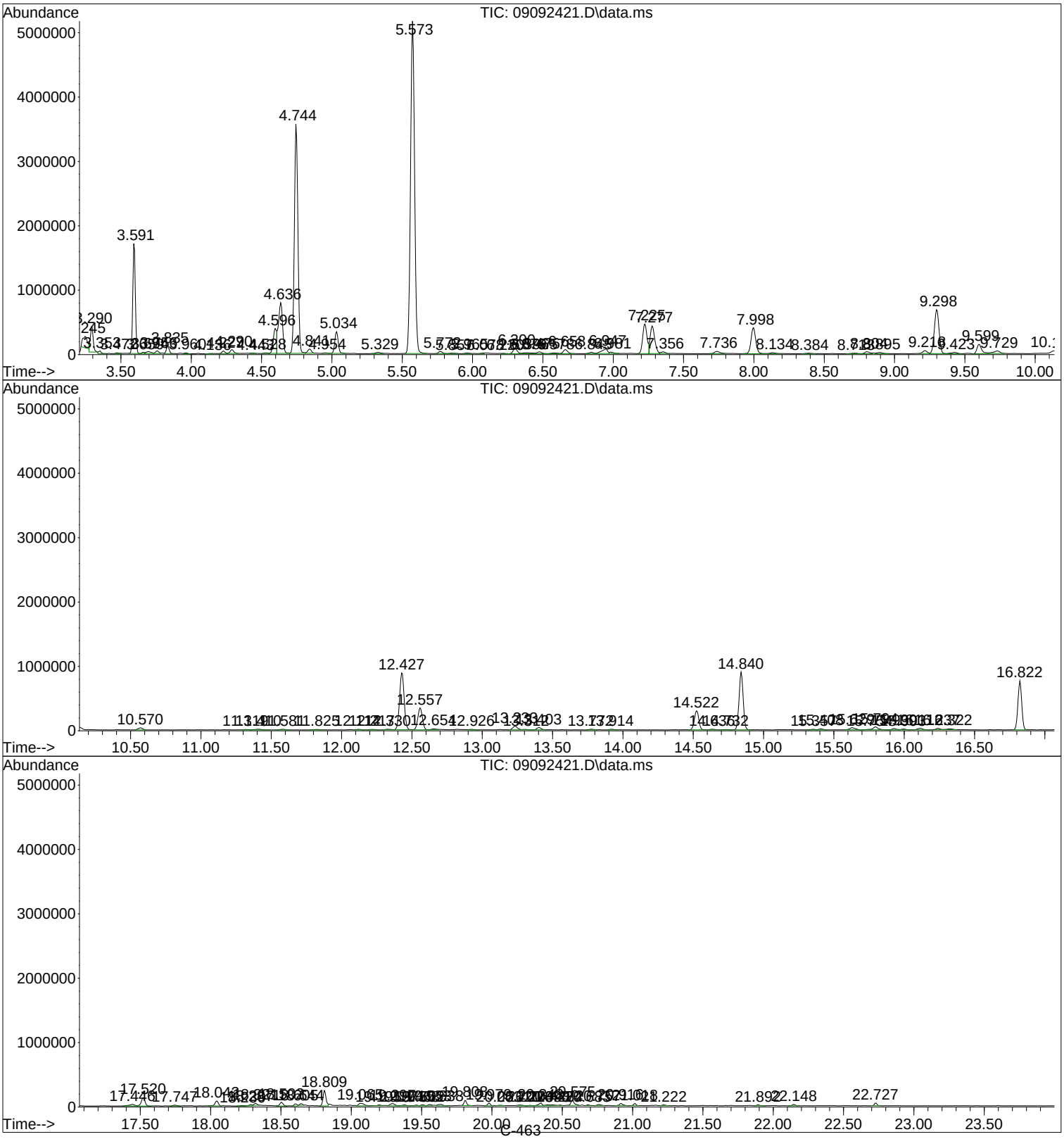
86	17.446	2552	2565	2571	rBV6	25806	71192	0.69%	0.179%
87	17.520	2571	2578	2588	rVB	127949	239716	2.31%	0.604%
88	17.747	2612	2618	2625	rBV5	13831	27636	0.27%	0.070%
89	18.042	2660	2670	2676	rVB	76709	127365	1.23%	0.321%
90	18.230	2695	2703	2706	rBV3	6140	13369	0.13%	0.034%
91	18.287	2706	2713	2715	rBV4	19648	31401	0.30%	0.079%
92	18.321	2715	2719	2724	rVB3	30706	48068	0.46%	0.121%
93	18.502	2745	2751	2758	rVB	58725	91596	0.88%	0.231%
94	18.605	2764	2769	2772	rBV2	31642	47771	0.46%	0.120%
95	18.644	2772	2776	2780	rVV	25067	38673	0.37%	0.097%
96	18.809	2799	2805	2810	rBV	237779	354529	3.42%	0.893%
97	19.065	2845	2850	2861	rVB3	39207	103353	1.00%	0.260%
98	19.195	2865	2873	2879	rBV3	11862	23665	0.23%	0.060%
99	19.297	2884	2891	2898	rVV2	34187	79674	0.77%	0.201%
100	19.377	2898	2905	2913	rVV7	13957	28202	0.27%	0.071%
101	19.468	2915	2921	2924	rVV4	10276	18048	0.17%	0.045%
102	19.502	2924	2927	2932	rVV4	14231	25695	0.25%	0.065%
103	19.553	2932	2936	2941	rVV3	18629	36947	0.36%	0.093%
104	19.638	2945	2951	2960	rVB6	21793	52296	0.50%	0.132%
105	19.808	2976	2981	2990	rVB	78549	107635	1.04%	0.271%
106	19.979	3005	3011	3016	rVB	42372	56122	0.54%	0.141%
107	20.053	3020	3024	3031	rVB7	7566	15244	0.15%	0.038%
108	20.200	3045	3050	3058	rVB4	11991	28407	0.27%	0.072%
109	20.274	3058	3063	3068	rBV5	7263	11992	0.12%	0.030%
110	20.348	3068	3076	3080	rVV	42505	73018	0.70%	0.184%
111	20.393	3080	3084	3088	rVV4	13986	29496	0.28%	0.074%
112	20.427	3088	3090	3096	rVV4	12160	25960	0.25%	0.065%
113	20.484	3098	3100	3104	rVB3	11562	12449	0.12%	0.031%
114	20.575	3110	3116	3125	rVB2	83614	141099	1.36%	0.355%
115	20.683	3132	3135	3139	rBV3	11347	14062	0.14%	0.035%
116	20.757	3143	3148	3155	rBV5	17937	34350	0.33%	0.086%
117	20.916	3168	3176	3185	rVB4	35226	61582	0.59%	0.155%
118	21.018	3188	3194	3199	rBV2	32717	42934	0.41%	0.108%
119	21.222	3225	3230	3236	rBV4	12158	19765	0.19%	0.050%
120	21.892	3344	3348	3358	rVB3	14551	22464	0.22%	0.057%
121	22.148	3385	3393	3398	rBV	21254	31576	0.30%	0.080%
122	22.727	3489	3495	3501	rBV	42650	57645	0.56%	0.145%

Sum of corrected areas: 39715457

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092421.D
Acq On : 9 Sep 2024 19:58
Operator : SC
Sample : P2403661-005 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092421.D
Acq On : 9 Sep 2024 19:58
Operator : SC
Sample : P2403661-005 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

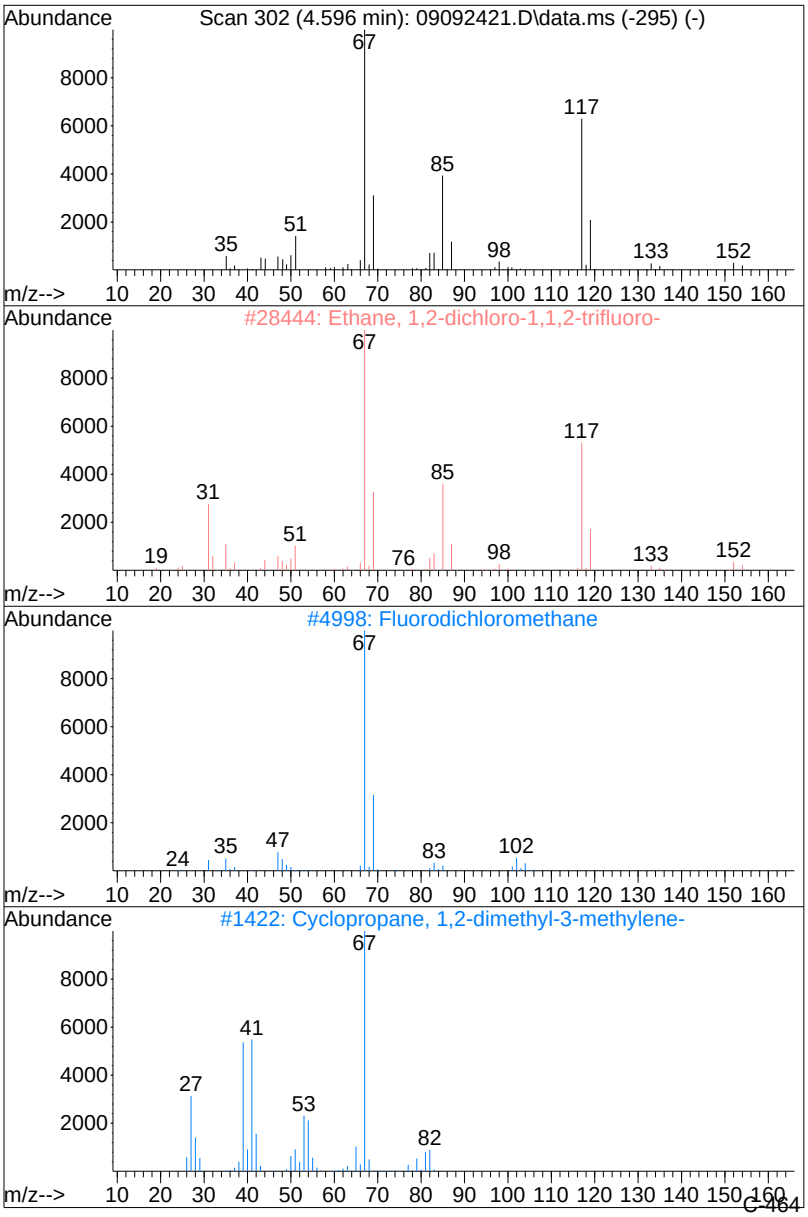
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

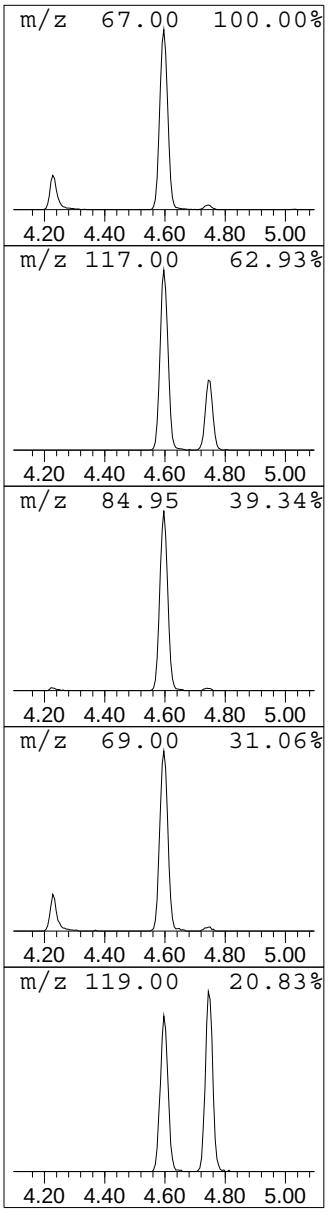
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 8 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.596	8.08 ng	661690	Bromochloromethane (IS1)	7.225

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	93
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
4	Fluorodichloromethane	102	CHCl2F	000075-43-4	16
5	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_09\09\
Data File : 09092421.D
Acq On : 9 Sep 2024 19:58
Operator : SC
Sample : P2403661-005 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.596	8.1	ng	661690	1	7.225	1023080	12.5

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

9/9/24

Quant Time: Sep 09 16:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	159627	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	702309	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	191022	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	381900	12.785	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
57) Toluene-d8 (SS2)	12.43	98	792593	11.828	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	16.82	174	249979	11.154	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%				
Target Compounds							Qvalue
2) Propene	3.30	42	1108	N.D.			
3) Dichlorodifluoromethan...	3.30	85	477117	12.312	ng	#	92
4) Chloromethane	3.52	50	562	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	1639	0.117	ng		98
6) Vinyl Chloride	3.65	62	373	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	21075	1.217	ng		71
11) Acetonitrile	4.45	41	811	N.D.			
12) Acrolein	4.55	56	762	0.058	ng		96
13) Acetone	4.65	58	10900	0.746	ng		90
14) Trichlorofluoromethane	4.77	101	12171145m	329.256	ng		
15) 2-Propanol (Isopropanol)	4.85	45	5242	0.091	ng		62
16) Acrylonitrile	4.99	53	453	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.36	59	1135	N.D.			
19) Methylene Chloride	5.35	84	848	N.D.			
20) 3-Chloro-1-propene (Al...	5.52	41	173	N.D.			
21) Trichlorotrifluoroethane	5.61	151	22004392m	1502.547	ng		
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	699	0.067	ng	#	39
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	1155	0.166	ng		86
31) n-Hexane	7.30	57	1100	N.D.			
32) Chloroform	7.35	83	2351	0.074	ng		95
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.85	56	2105	No Calib		#	
41) Benzene	8.91	78	2930	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	212	N.D.			
47) Trichloroethene	10.14	130	1777	0.109	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	297	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.57	91	2488	N.D.	
59) 2-Hexanone	12.93	43	431	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.80	43	234	N.D.	
63) n-Octane	13.93	57	222	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	158	N.D.	
66) Ethylbenzene	15.40	91	680	N.D.	
67) m- & p-Xylenes	15.63	91	1478	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.10	104	362	N.D.	
70) o-Xylene	16.23	91	515	N.D.	
71) n-Nonane	16.61	43	981	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	123	N.D.	
74) Cumene	17.03	105	129	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.69	91	772	N.D.	
77) 3-Ethyltoluene	17.03	105	129	No Calib	#
78) 4-Ethyltoluene	17.86	105	461	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	129	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	474	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	729	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	481	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	869	N.D.	
87) sec-Butylbenzene	18.73	105	202	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	413	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	129	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	503	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1842	0.061 ng	89
95) Naphthalene	20.94	128	3336	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	282	N.D.	
98) Cyclohexanone	15.29	55	111	No Calib	#
99) tert-Butylbenzene	18.42	119	185	N.D.	
100) n-Butylbenzene	19.39	91	639	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 9 Sep 2024 14:36 Operator: SC
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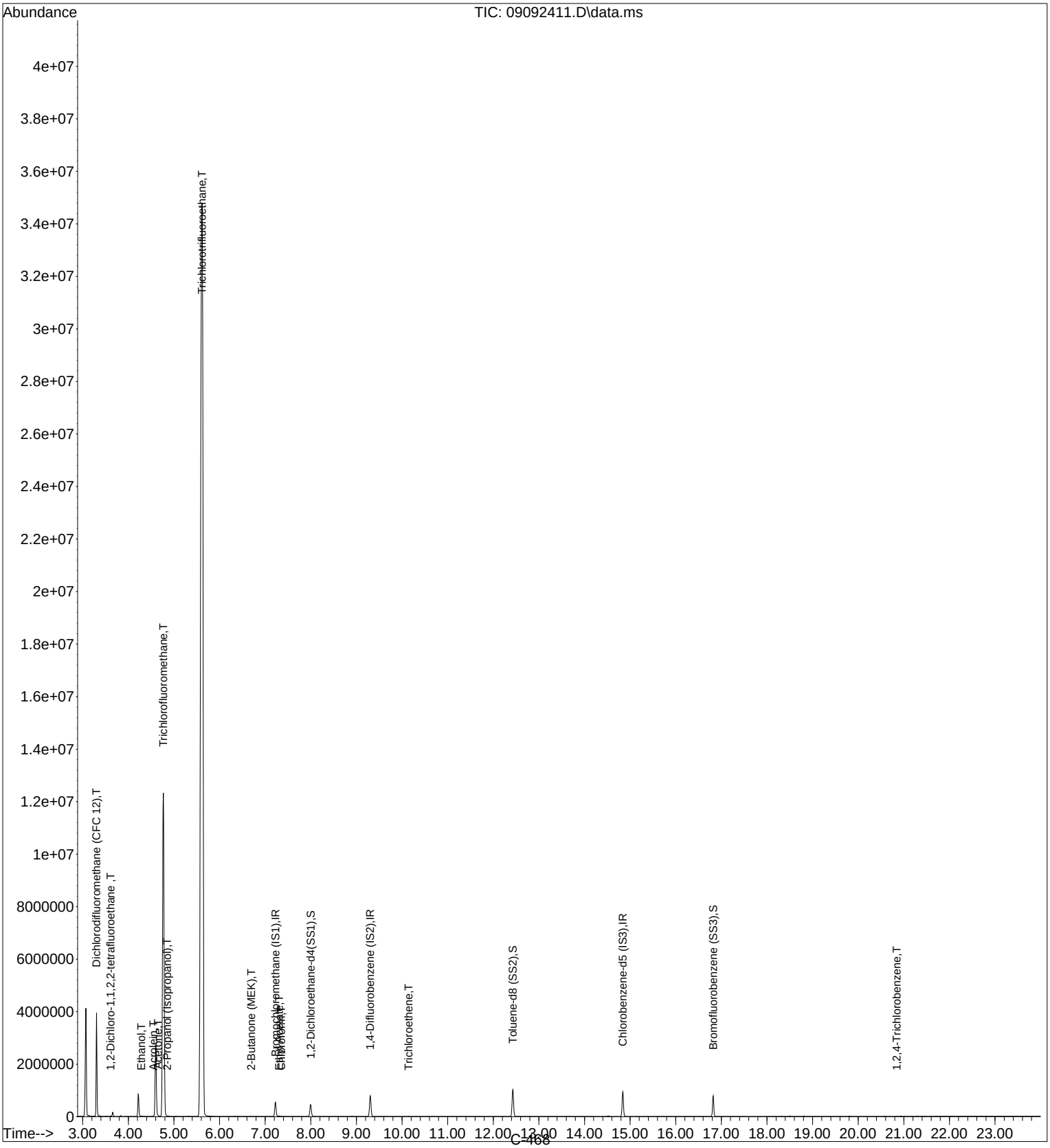
Misc : S37-06062402

Quant Time: Sep 09 16:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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Acq On : 9 Sep 2024 14:36 Operator: SC
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QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

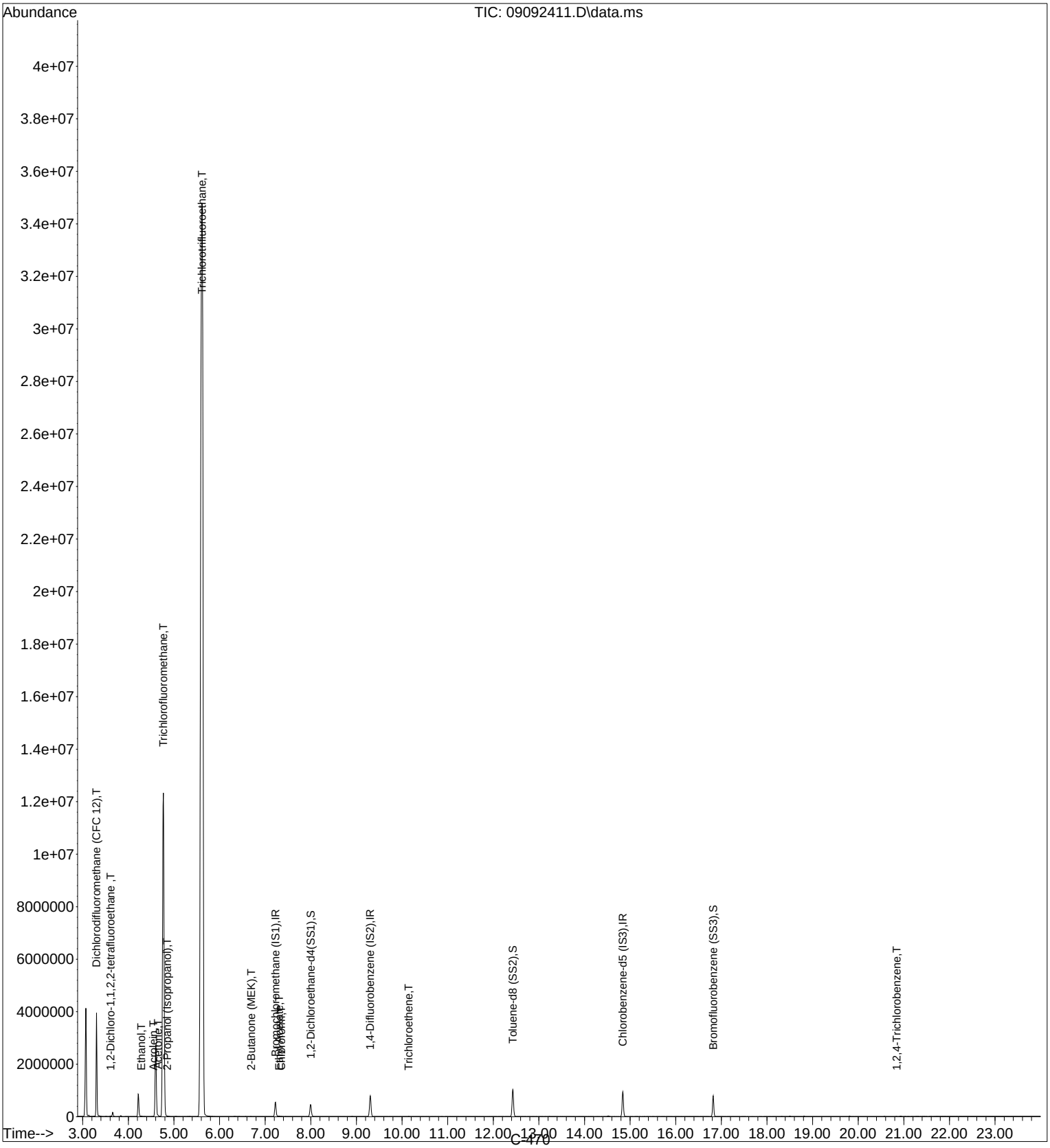
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	159627	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	702309	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	191022	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	381900	12.785	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.32%				
57) Toluene-d8 (SS2)	12.43	98	792593	11.828	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.64%				
73) Bromofluorobenzene (SS3)	16.82	174	249979	11.154	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.30	85	477117	12.312	ng	#	92
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	1639	0.117	ng		98
10) Ethanol	4.28	45	21075	1.217	ng		71
12) Acrolein	4.55	56	762	0.058	ng		96
13) Acetone	4.65	58	10900	0.746	ng		90
14) Trichlorofluoromethane	4.77	101	12171145m	329.256	ng		
15) 2-Propanol (Isopropanol)	4.85	45	5242	0.091	ng		62
21) Trichlorotrifluoroethane	5.61	151	22004392m	1502.547	ng		
27) 2-Butanone (MEK)	6.69	72	699	0.067	ng	#	39
30) Ethyl Acetate	7.30	61	1155	0.166	ng		86
32) Chloroform	7.35	83	2351	0.074	ng		95
47) Trichloroethene	10.14	130	1777	0.109	ng		100
94) 1,2,4-Trichlorobenzene	20.84	180	1842	0.061	ng		89

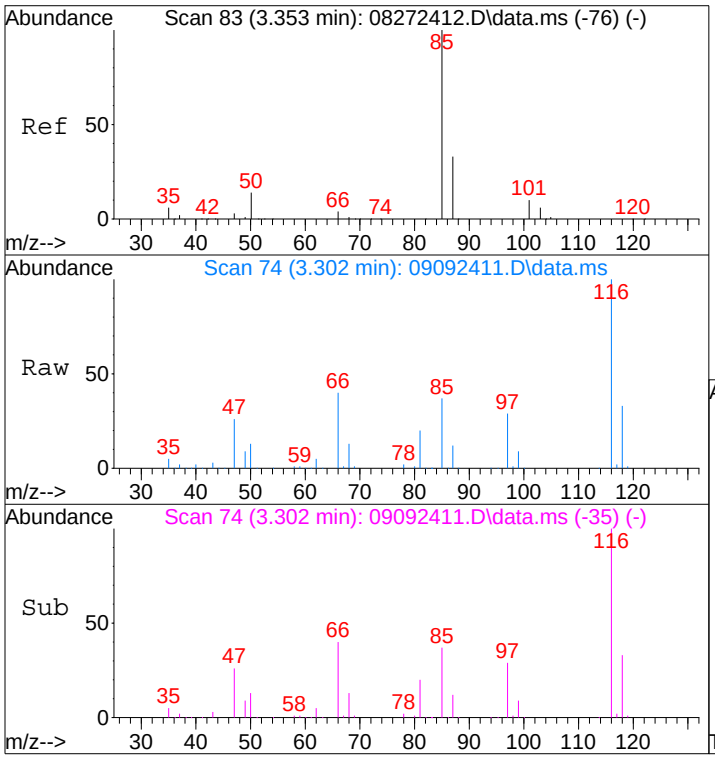
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

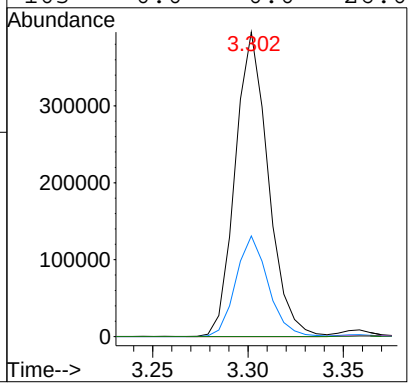


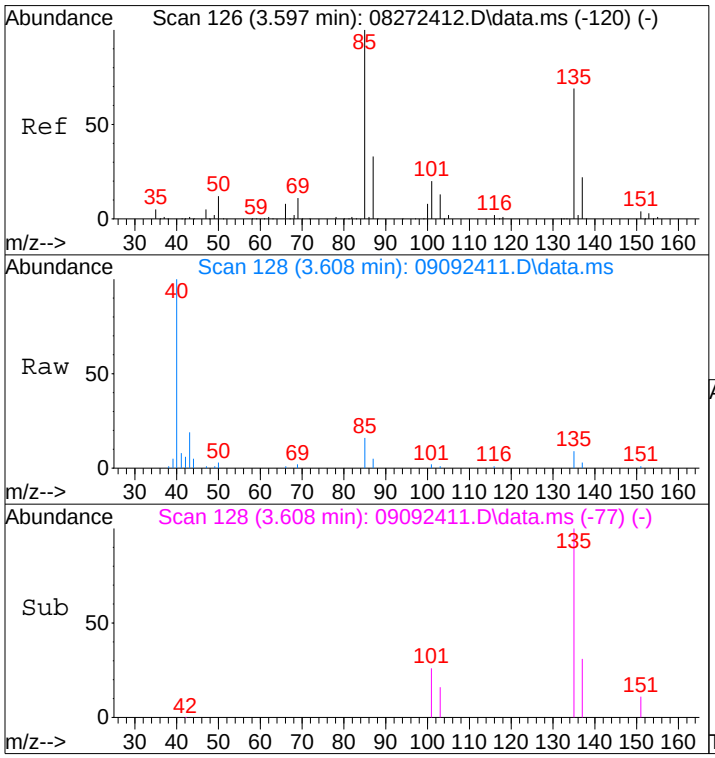


#3
Dichlorodifluoromethane (CFC 12)
Concen: 12.31 ng
RT: 3.30 min Scan# 74
Delta R.T. -0.026 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 85 Resp: 477117

Ion	Ratio	Lower	Upper
85	100		
87	32.4	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

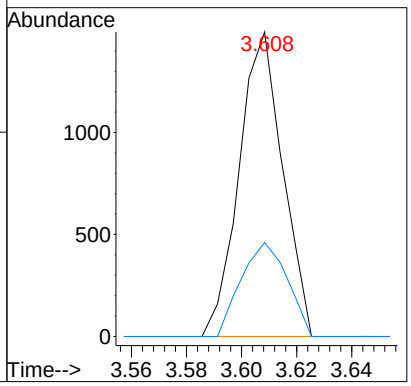


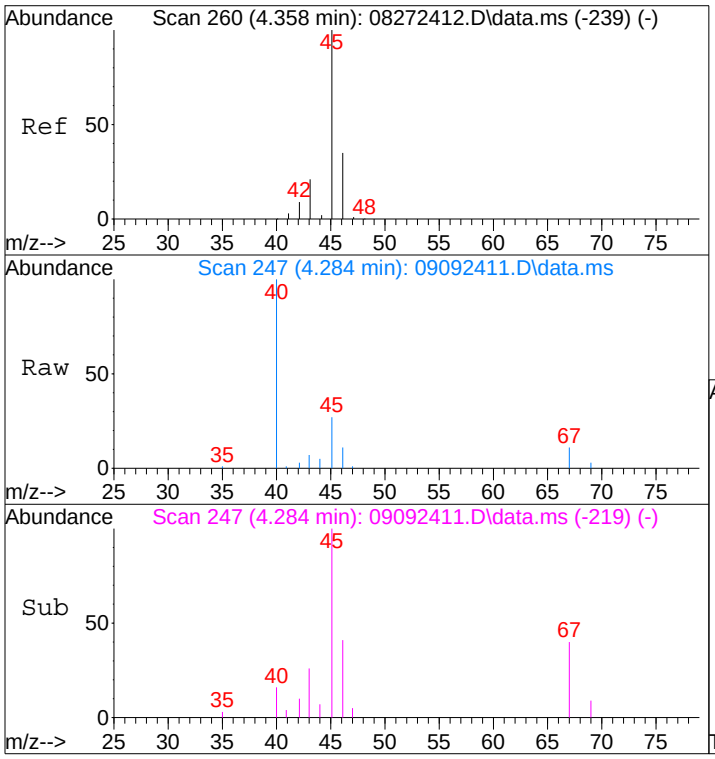


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.12 ng
RT: 3.61 min Scan# 128
Delta R.T. 0.039 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion:135 Resp: 1639

Ion	Ratio	Lower	Upper
135	100		
137	32.6	11.6	51.6

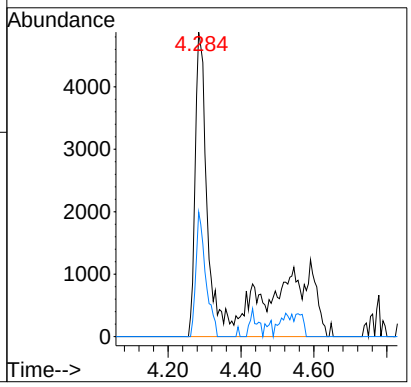


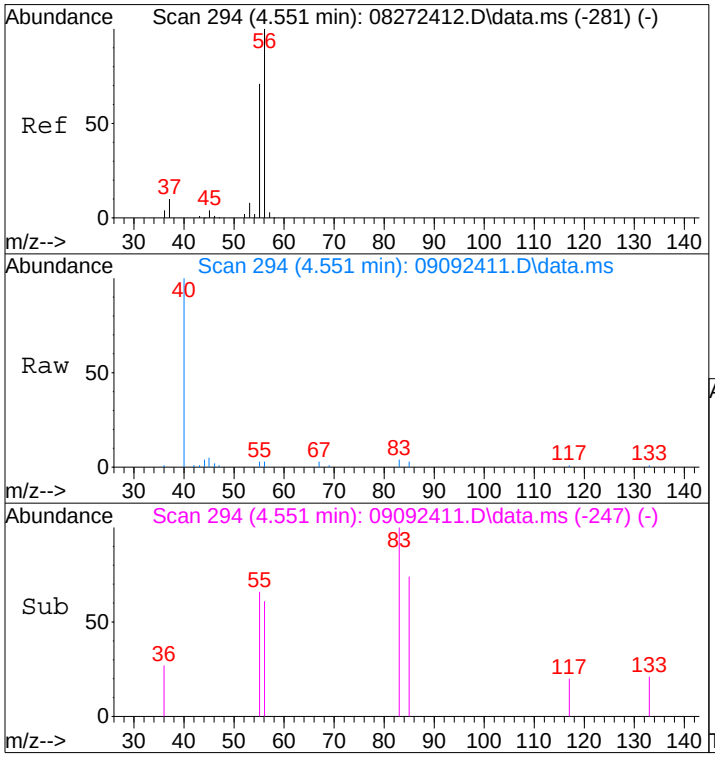


#10
Ethanol
Concen: 1.22 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 45 Resp: 21075

Ion	Ratio	Lower	Upper
45	100		
46	17.7	14.2	54.2

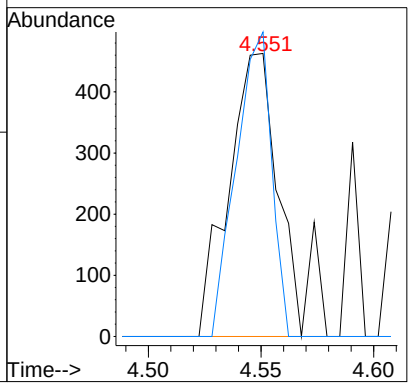


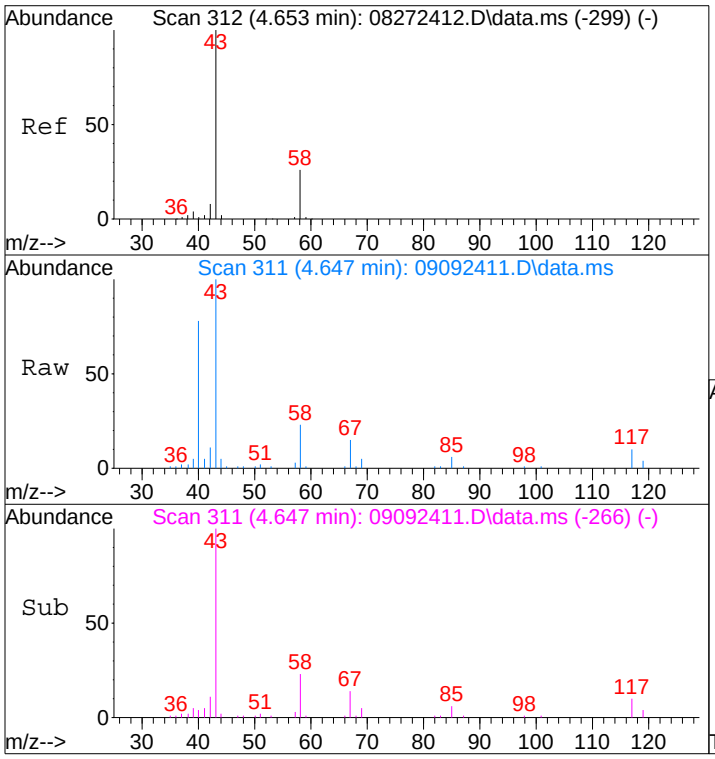


#12
Acrolein
Concen: 0.06 ng
RT: 4.55 min Scan# 294
Delta R.T. 0.016 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 56 Resp: 762

Ion	Ratio	Lower	Upper
56	100		
55	71.5	54.7	94.7

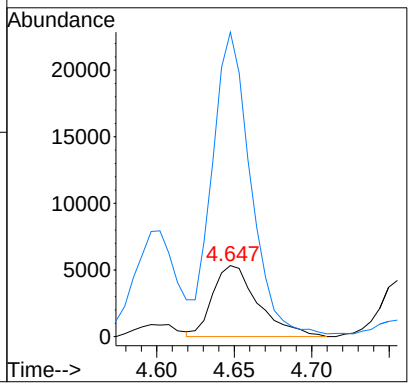


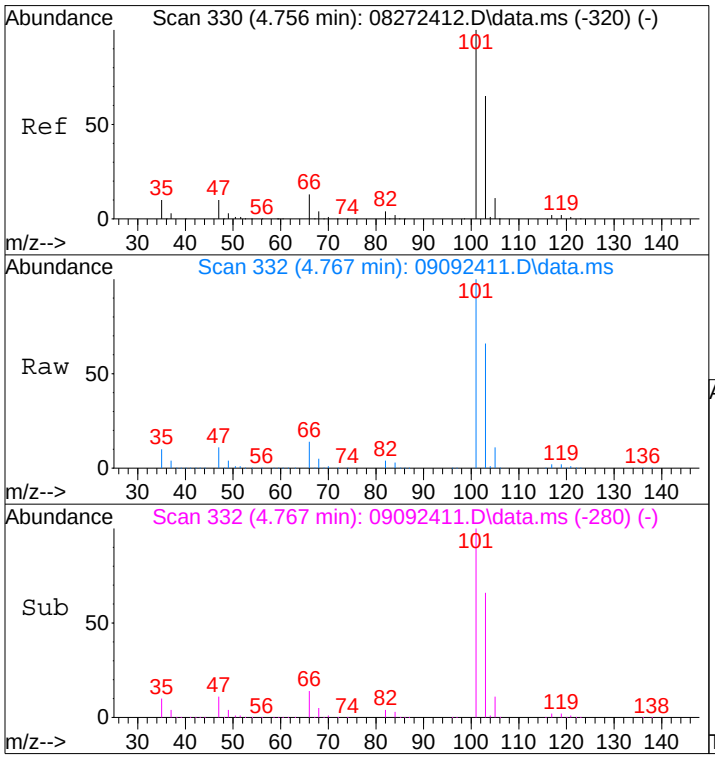


#13
Acetone
Concen: 0.75 ng
RT: 4.65 min Scan# 311
Delta R.T. 0.006 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 58 Resp: 10900

Ion	Ratio	Lower	Upper
58	100		
43	354.6	347.3	407.3

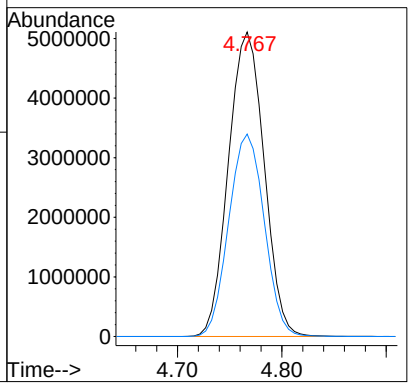


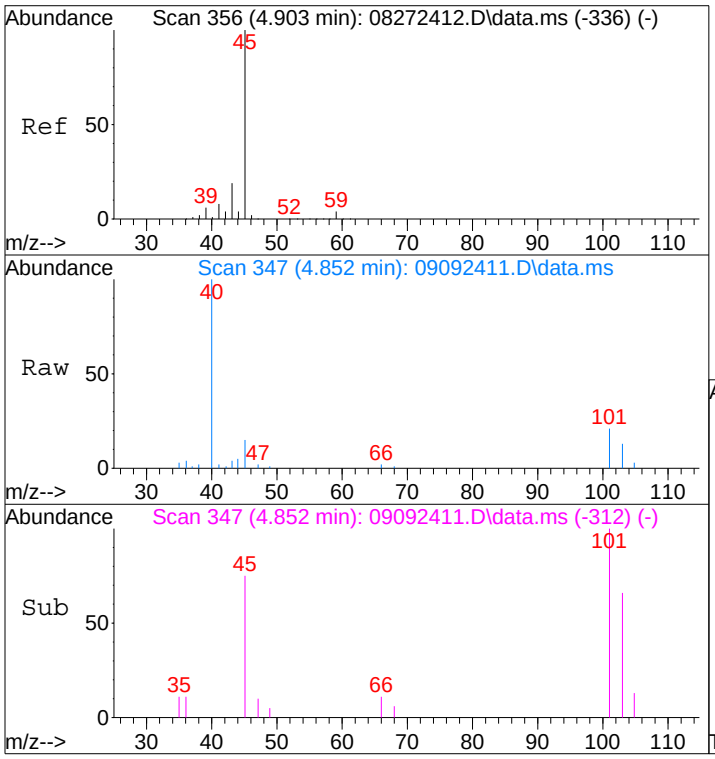


#14
Trichlorofluoromethane
Concen: 329.26 ng m
RT: 4.77 min Scan# 332
Delta R.T. 0.046 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion:101 Resp:12171145

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#

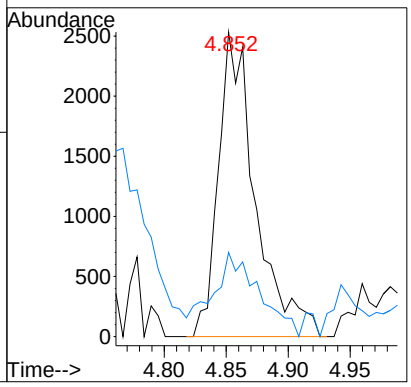


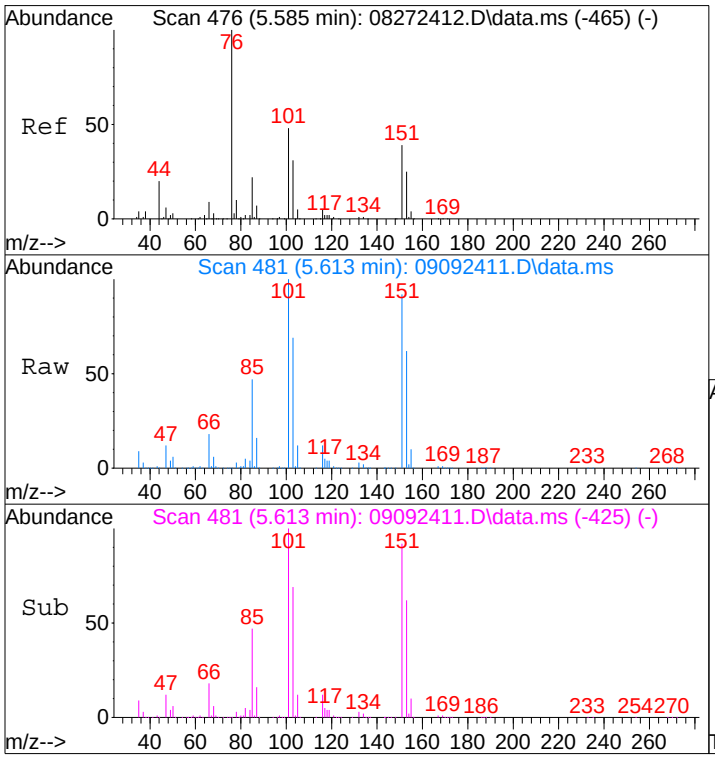


#15
2-Propanol (Isopropanol)
Concen: 0.09 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.054 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 45 Resp: 5242

Ion	Ratio	Lower	Upper
45	100		
43	2.5	0.0	40.0

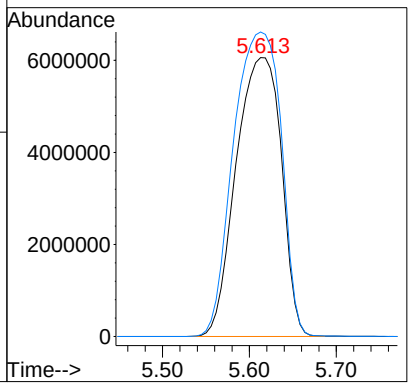


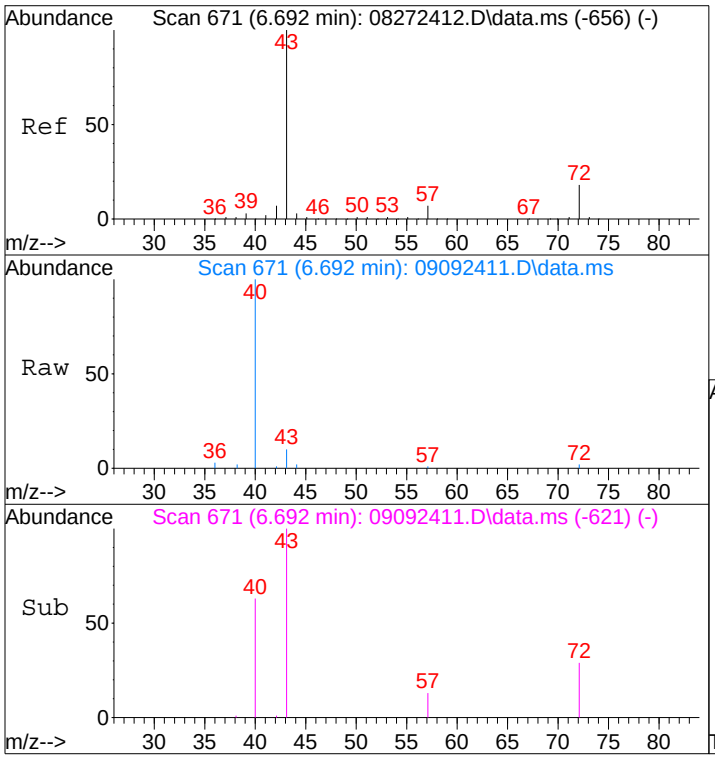


#21
Trichlorotrifluoroethane
Concen: 1502.55 ng m
RT: 5.61 min Scan# 481
Delta R.T. 0.067 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion:151 Resp:22004392

Ion	Ratio	Lower	Upper
151	100		
101	0.0	103.4	143.4#

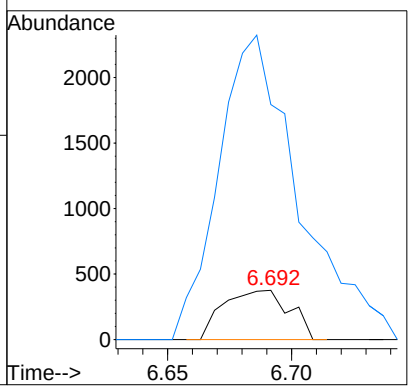


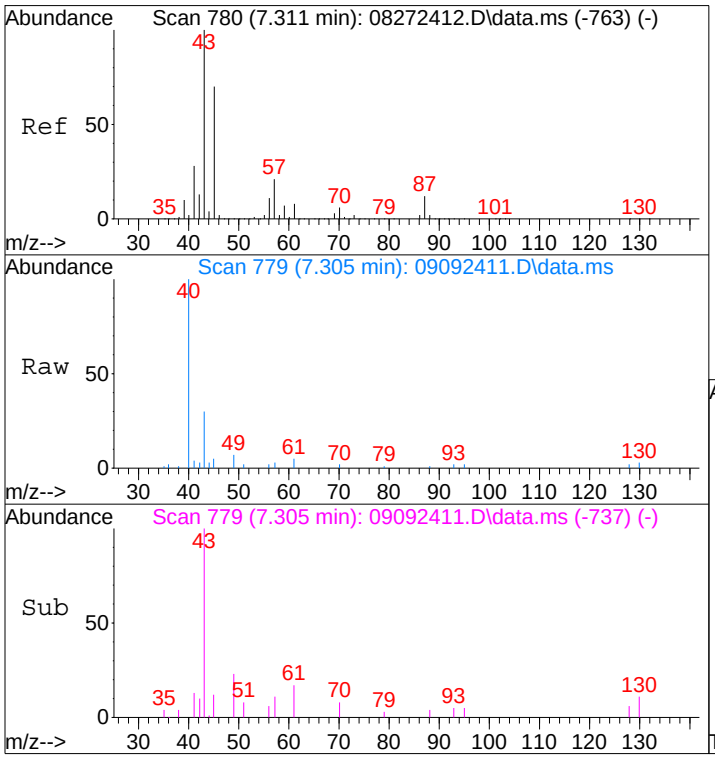


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 6.69 min Scan# 671
Delta R.T. 0.033 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 72 Resp: 699

Ion	Ratio	Lower	Upper
72	100		
43	751.4	548.0	588.0#

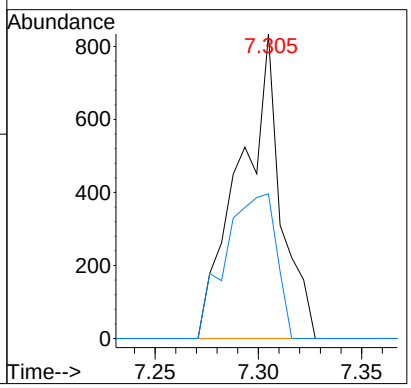


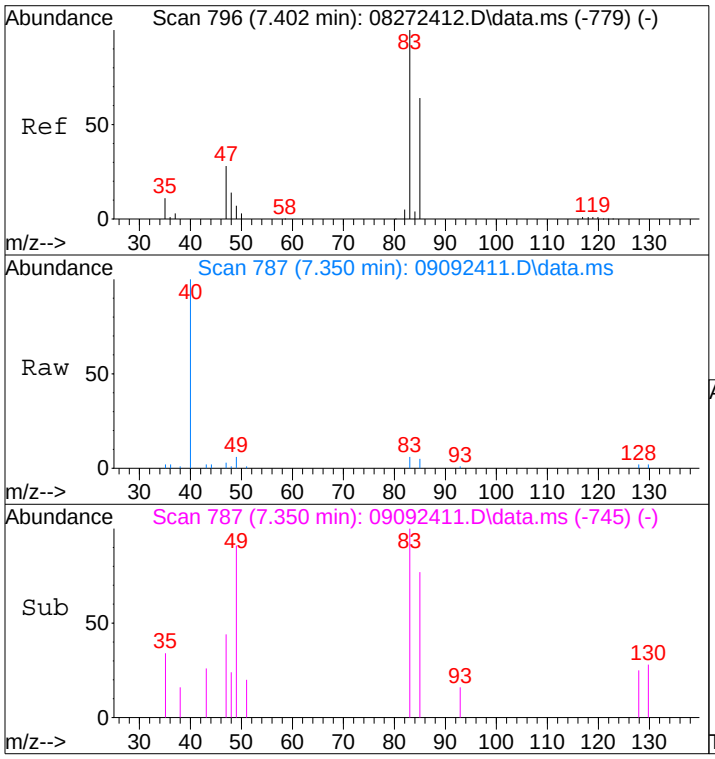


#30
Ethyl Acetate
Concen: 0.17 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.040 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 61 Resp: 1155

Ion	Ratio	Lower	Upper
61	100		
70	58.7	49.9	89.9

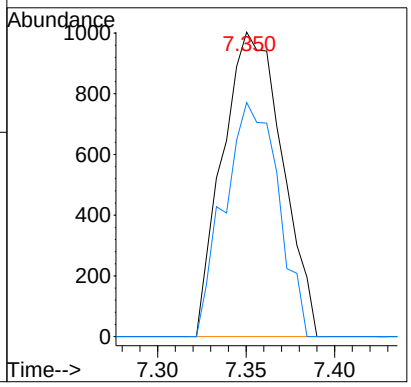


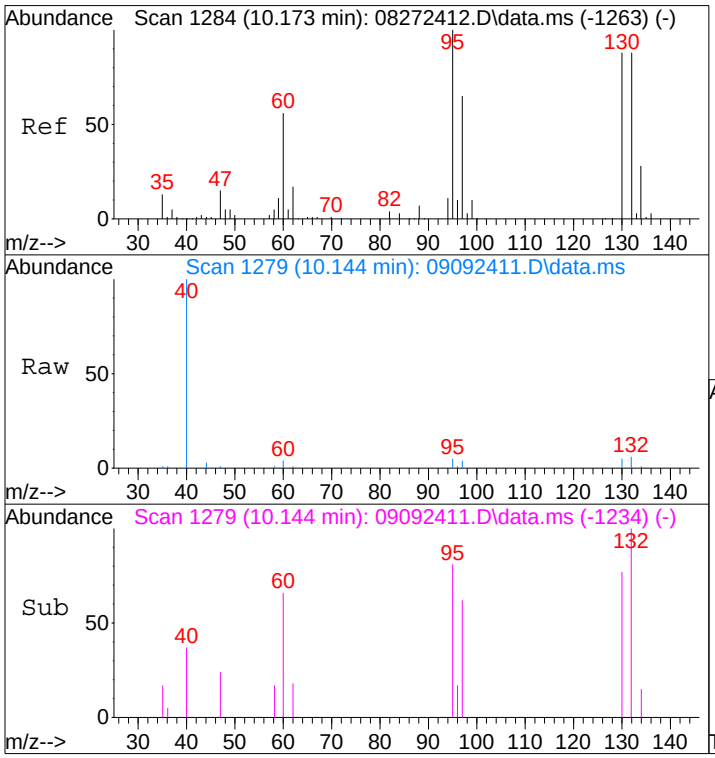


#32
Chloroform
Concen: 0.07 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion: 83 Resp: 2351

Ion	Ratio	Lower	Upper
83	100		
85	69.6	45.3	85.3

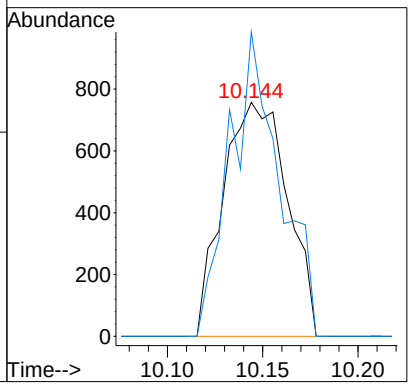


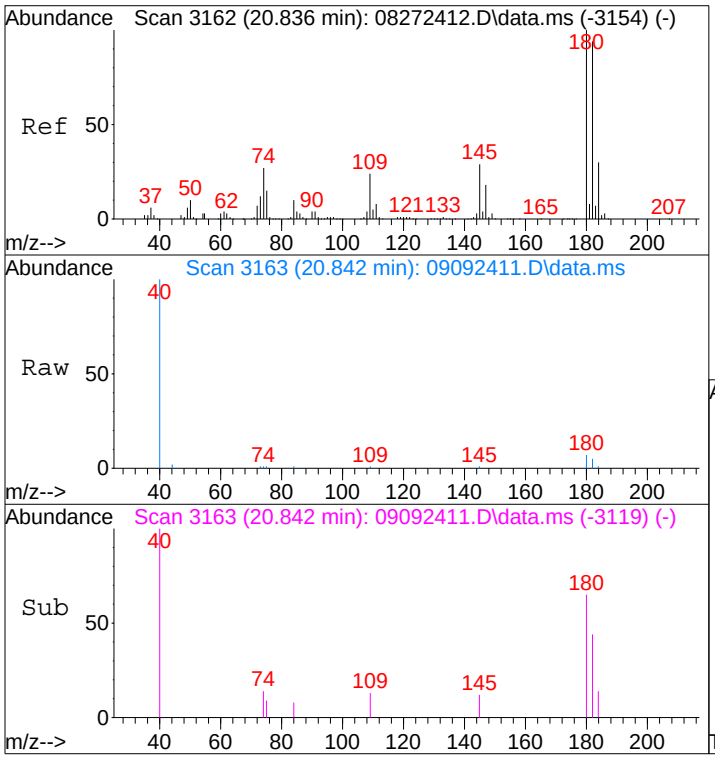


#47
Trichloroethene
Concen: 0.11 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.005 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion:130 Resp: 1777

Ion	Ratio	Lower	Upper
130	100		
132	100.7	80.8	120.8

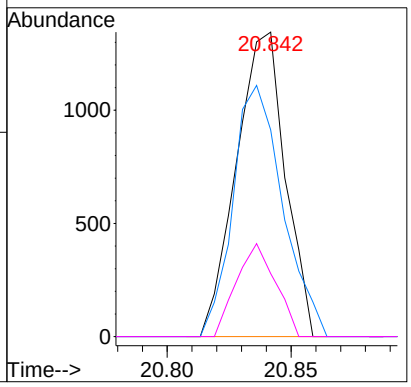




#94
1,2,4-Trichlorobenzene
Concen: 0.06 ng
RT: 20.84 min Scan# 3163
Delta R.T. 0.000 min
Lab File: 09092411.D
Acq: 9 Sep 2024 14:36

Tgt Ion:180 Resp: 1842

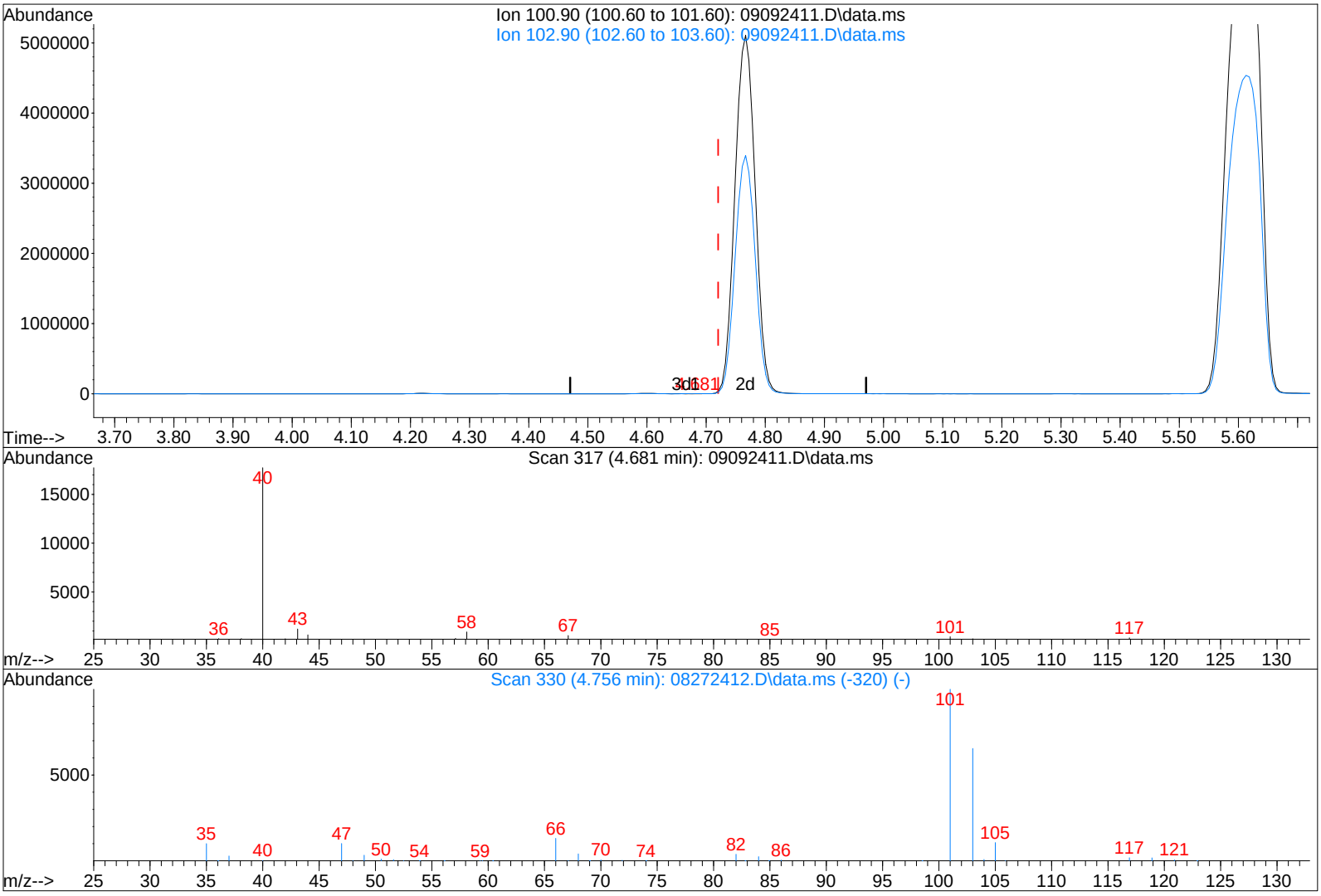
Ion	Ratio	Lower	Upper
180	100		
182	84.0	76.2	114.2
184	24.5	24.3	36.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 14:58:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092411.D\data.ms

(14) Trichlorofluoromethane (T)

4.681min (-0.039) 0.01ng

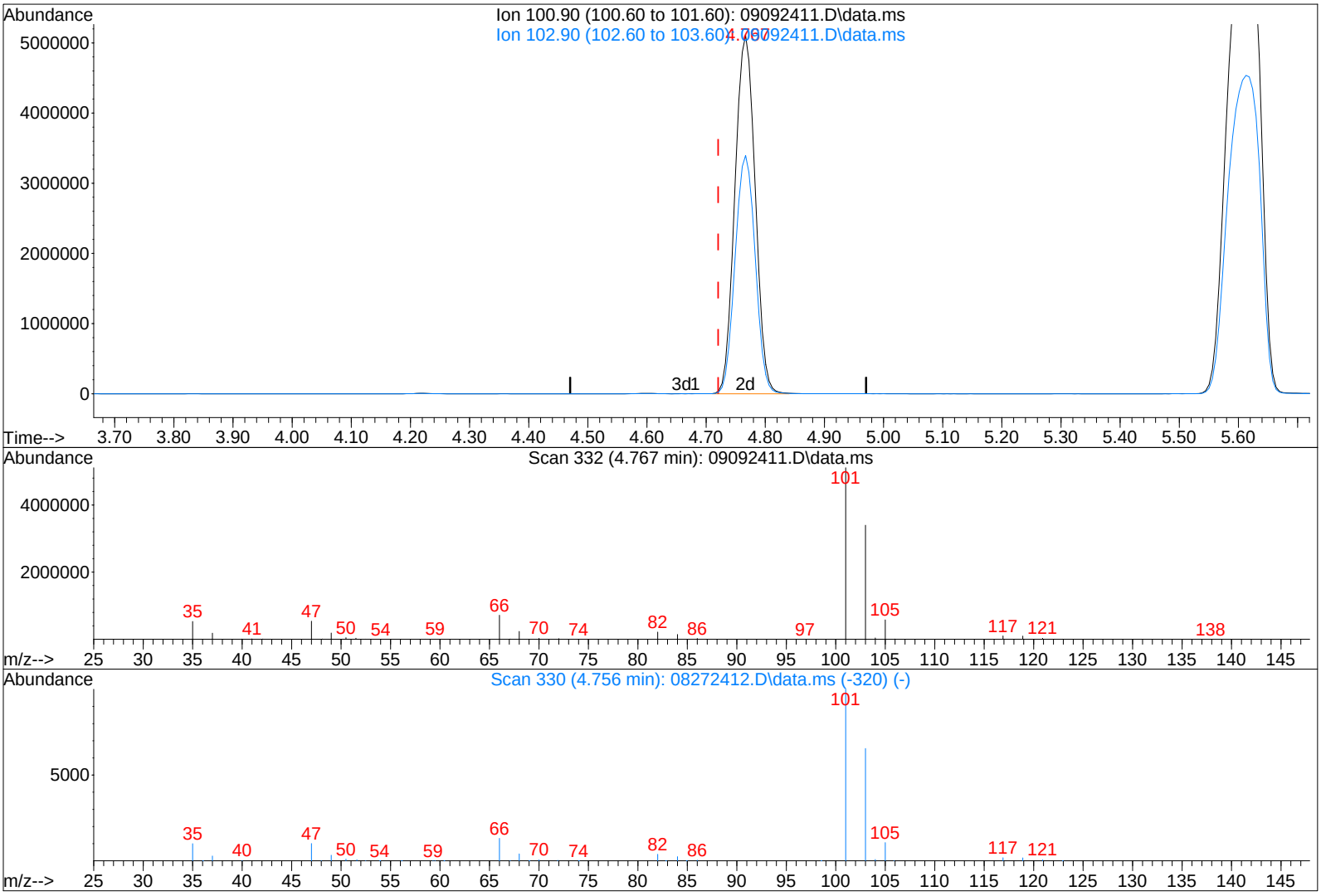
response 551

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	53.36
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 14:58:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092411.D\data.ms

(14) Trichlorofluoromethane (T)

4.767min (+0.046) 329.26ng m

response 12171145

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

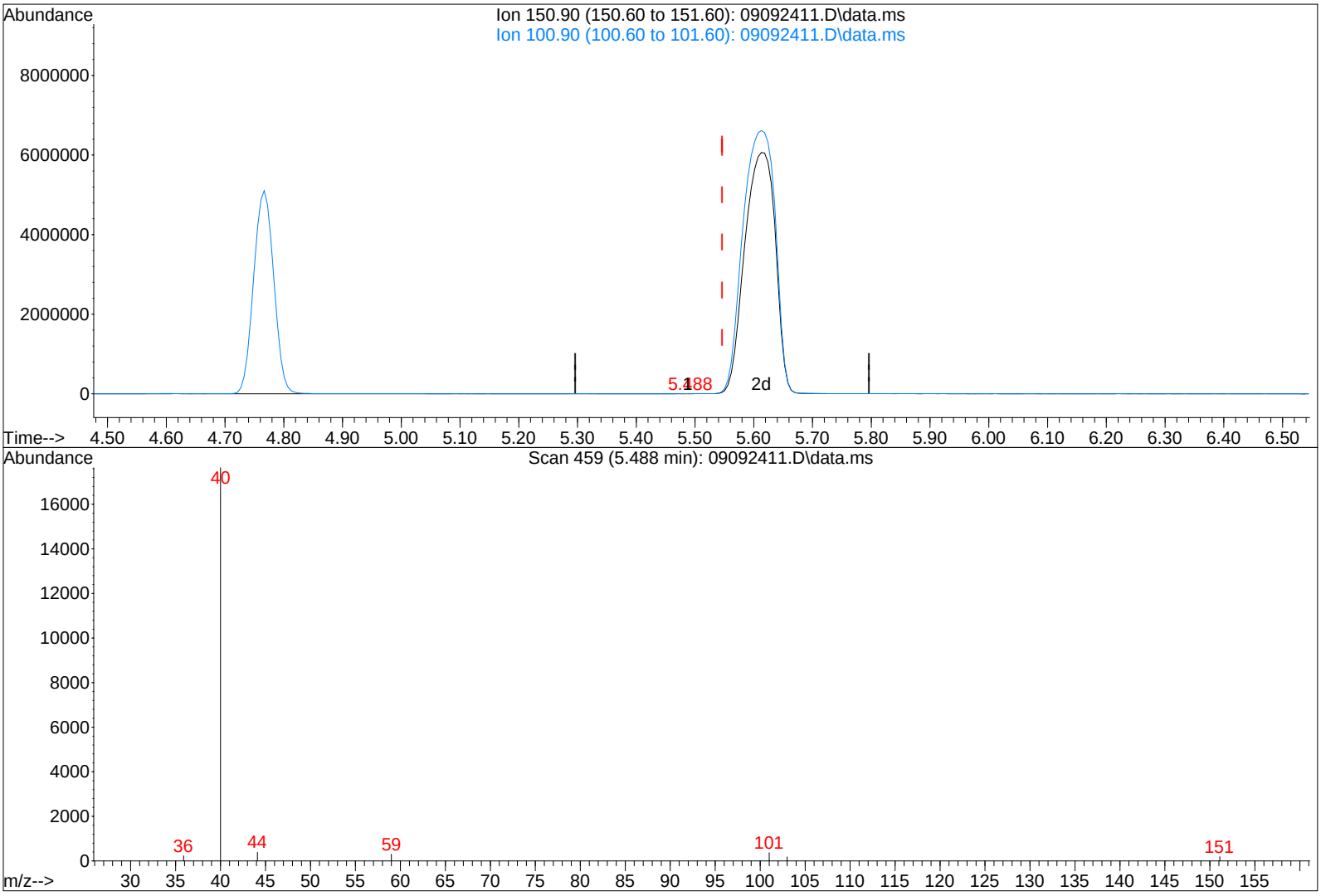
9/9/24

9/22/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:50:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092411.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.488min (-0.058) 0.01ng

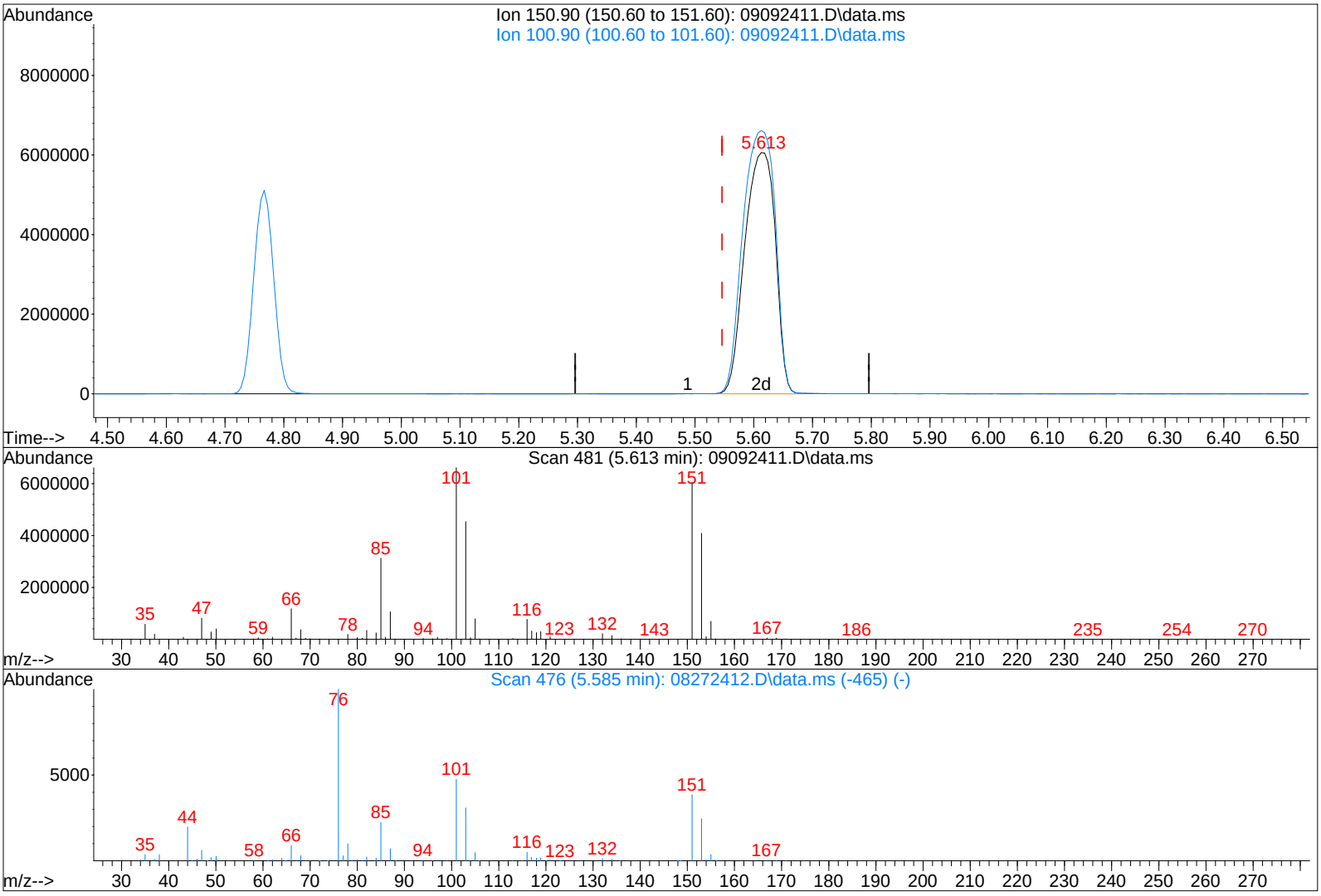
response 117

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	518.80#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:50:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092411.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.613min (+0.067) 1502.55ng m

response 22004392

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

9/9/24

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:01:43 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

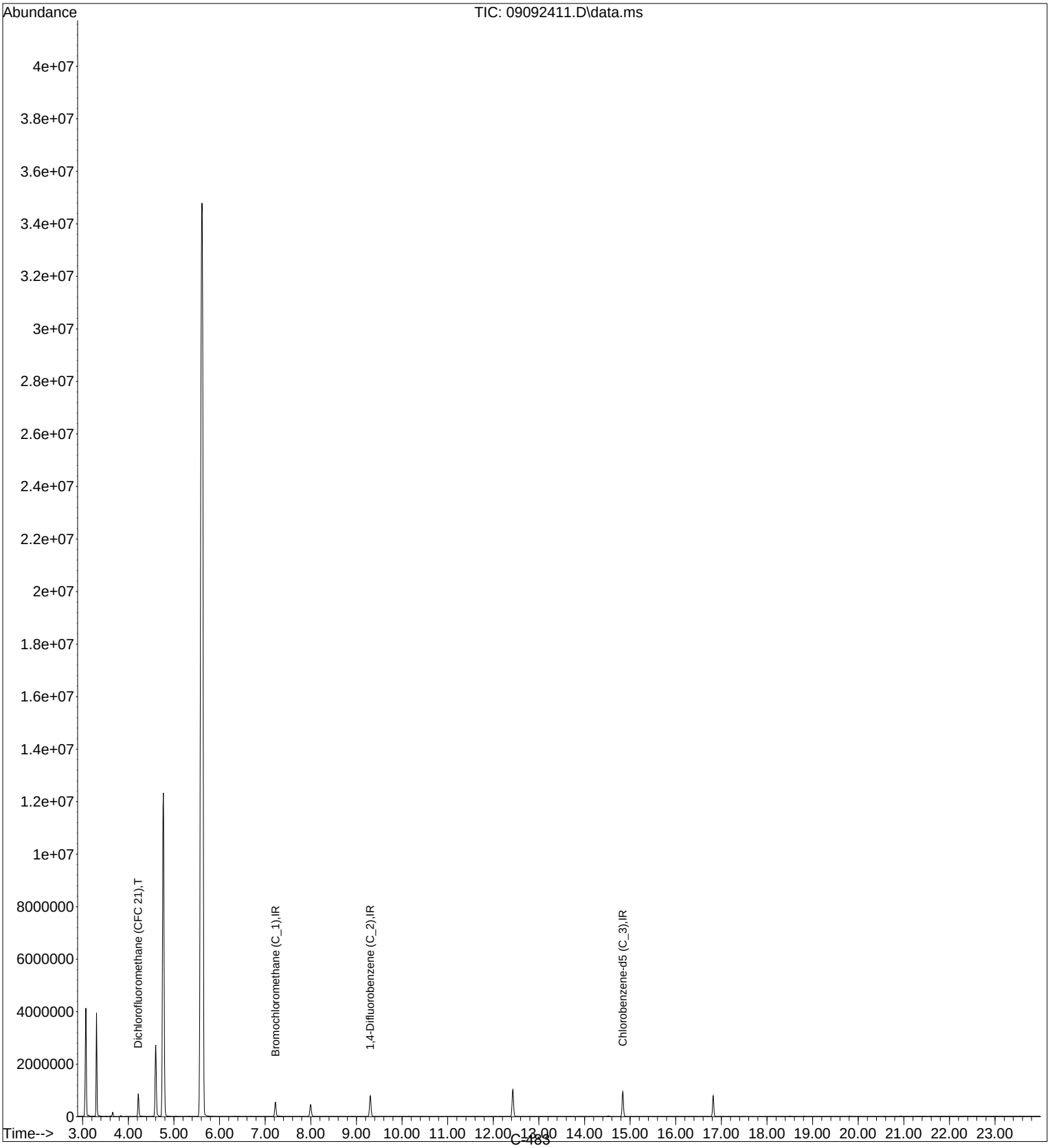
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	159627	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	704025	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	191022	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	159	N.D.	
4) 1,1-Difluoroethane	0.00	65	0	N.D. d	
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.22	67	722306	19.733 ng	99
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d	
10) 2-Methylbutane	4.65	57	1570	N.D.	
11) Methyl Acetate	5.35	43	1014	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	0.00	174	0	N.D.	
20) Methyl Cyclohexane	11.43	55	56	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.60	91	191	N.D.	
27) 4-Chlorotoluene	17.69	91	772	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

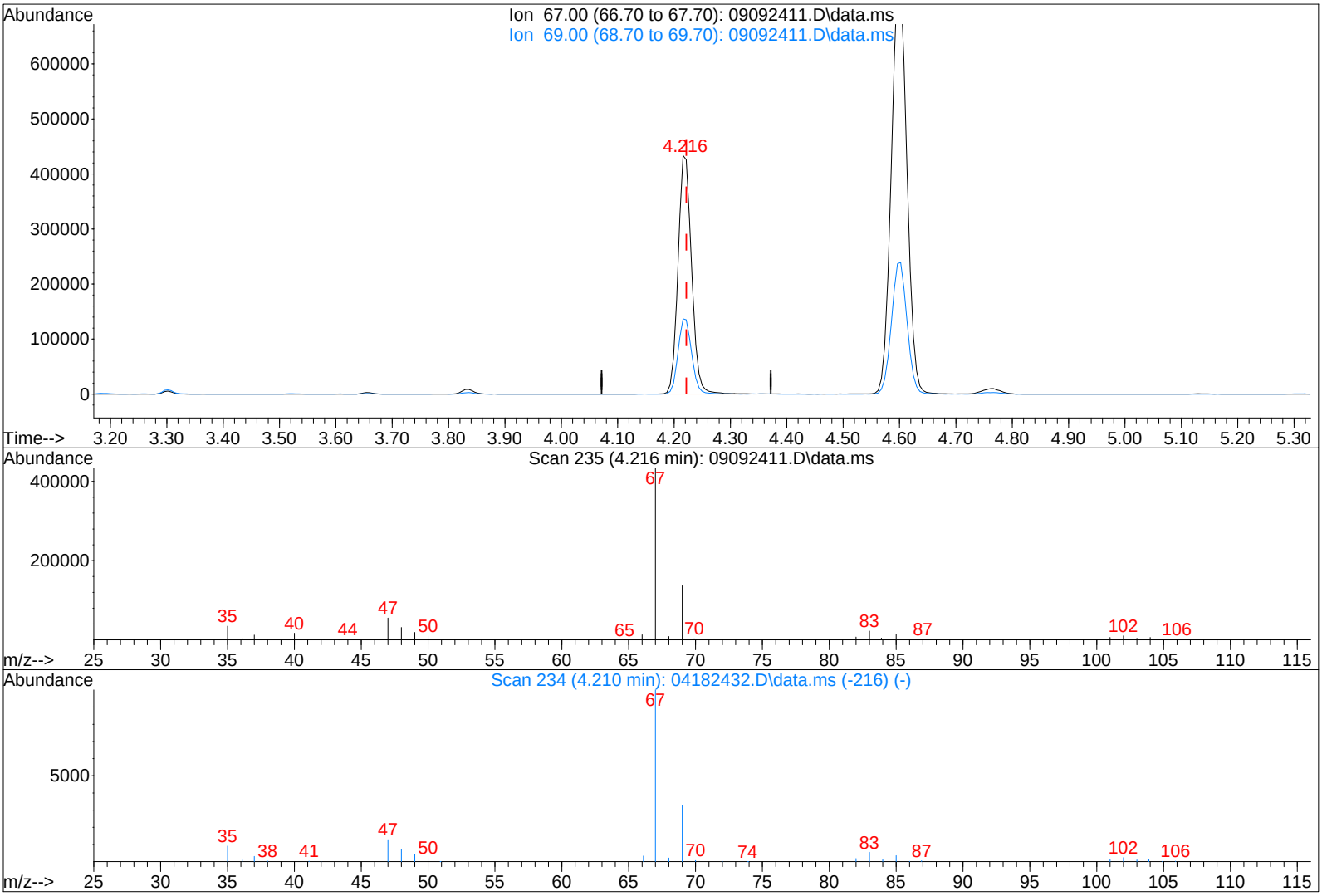
Quant Time: Sep 09 15:01:43 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092411.D Vial: 9
Acq On : 9 Sep 2024 14:36 Operator: SC
Sample : P2403661-006 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:00:05 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092411.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 19.73ng

response 722306

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092430.D Vial: 1
Acq On : 10 Sep 2024 8:38 Operator: SC
Sample : P2403661-006Dil (0.5mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:45:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.21	130	162290	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.29	114	712386	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.83	54	196526	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	398873	13.134	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	12.43	98	790820	11.471	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
73) Bromofluorobenzene (SS3)	16.82	174	244843	10.619	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%				
Target Compounds							Qvalue
2) Propene	3.31	42	702	N.D.			
3) Dichlorodifluoromethan...	3.32	85	10762	0.273	ng	#	91
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.81	54	203	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	2026	0.115	ng		100
11) Acetonitrile	4.45	41	111	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.66	58	2209	0.149	ng	#	81
14) Trichlorofluoromethane	4.75	101	317492	8.448	ng		100
15) 2-Propanol (Isopropanol)	4.90	45	1571	N.D.			
16) Acrylonitrile	5.01	53	300	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.41	59	54	N.D.			
19) Methylene Chloride	5.35	84	465	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	732640	49.207	ng		95
22) Carbon Disulfide	5.61	76	1154	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.00	62	113	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.85	56	2095	No Calib		#	
41) Benzene	8.89	78	2146	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.	d		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.22	57	254	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092430.D Vial: 1
Acq On : 10 Sep 2024 8:38 Operator: SC
Sample : P2403661-006Dil (0.5mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:45:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

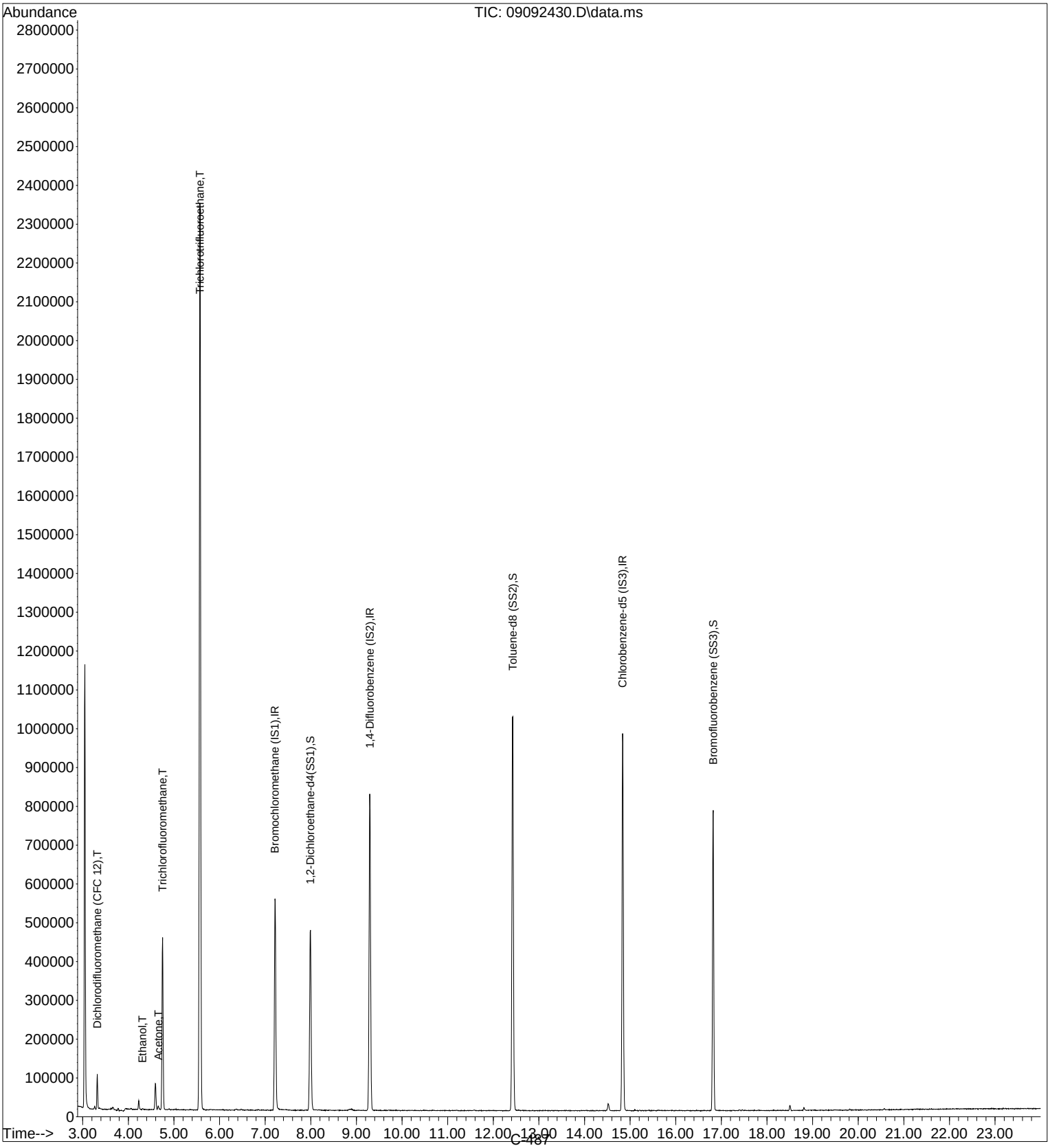
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2166	N.D.	
59) 2-Hexanone	12.94	43	185	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	285	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.40	91	1003	N.D.	
67) m- & p-Xylenes	15.63	91	1097	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	377	N.D.	
71) n-Nonane	16.61	43	144	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	131	N.D.	
74) Cumene	17.03	105	248	N.D.	
75) alpha-Pinene	17.51	93	534	N.D.	
76) n-Propylbenzene	17.68	91	373	N.D.	
77) 3-Ethyltoluene	17.03	105	248	No Calib	#
78) 4-Ethyltoluene	17.86	105	120	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	248	No Calib	#
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	131	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	107	N.D.	
87) sec-Butylbenzene	18.74	105	316	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	383	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	248	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	131	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	374	N.D.	
95) Naphthalene	20.94	128	267	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	349	N.D.	
98) Cyclohexanone	15.21	55	413	No Calib	#
99) tert-Butylbenzene	18.49	119	115	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092430.D Vial: 1
Acq On : 10 Sep 2024 8:38 Operator: SC
Sample : P2403661-006Dil (0.5mL) Inst : MS09
Misc : S37-06062402

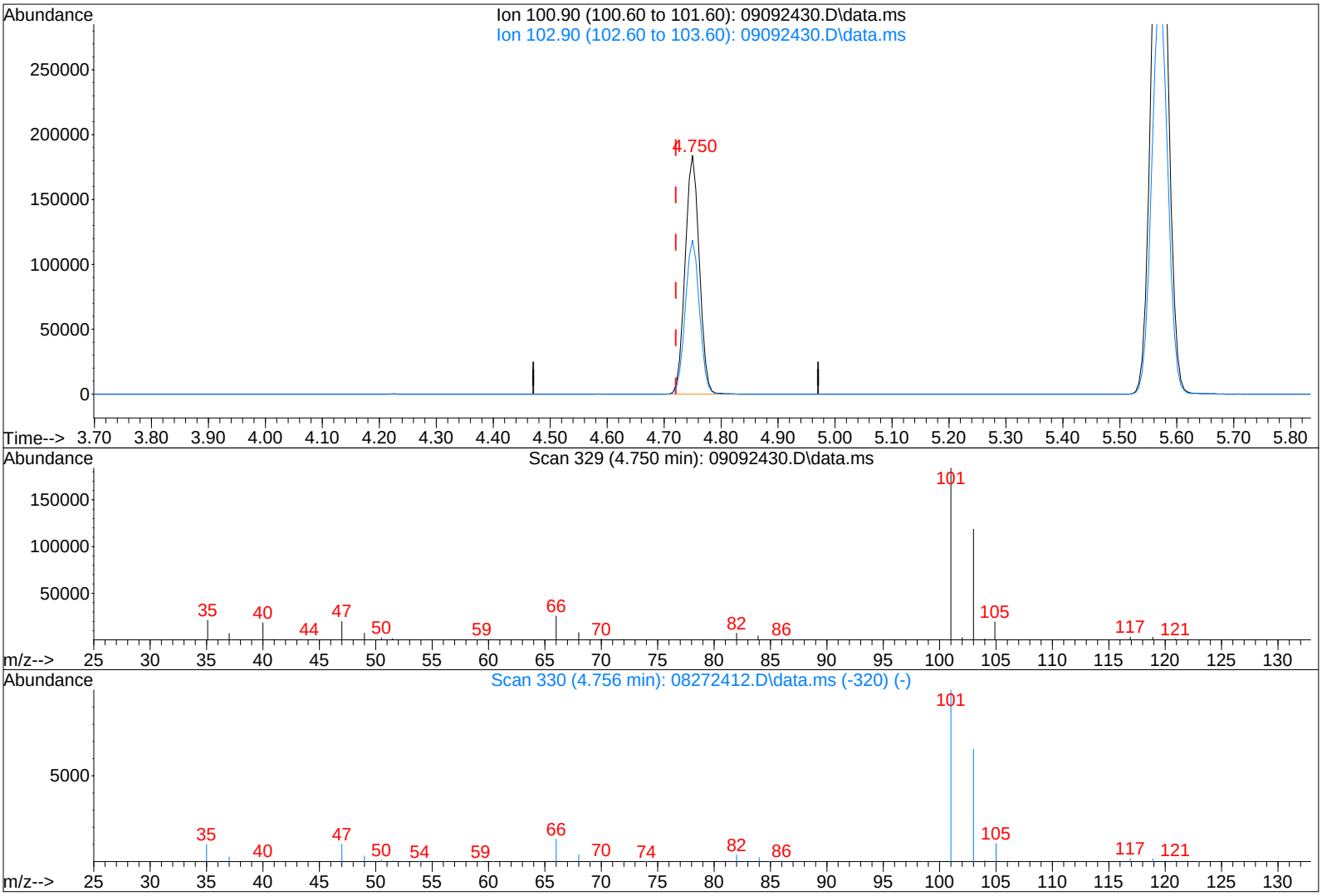
Quant Time: Sep 10 10:45:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092430.D Vial: 1
Acq On : 10 Sep 2024 8:38 Operator: SC
Sample : P2403661-006Dil (0.5mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 09:00:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092430.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.029) 8.45ng

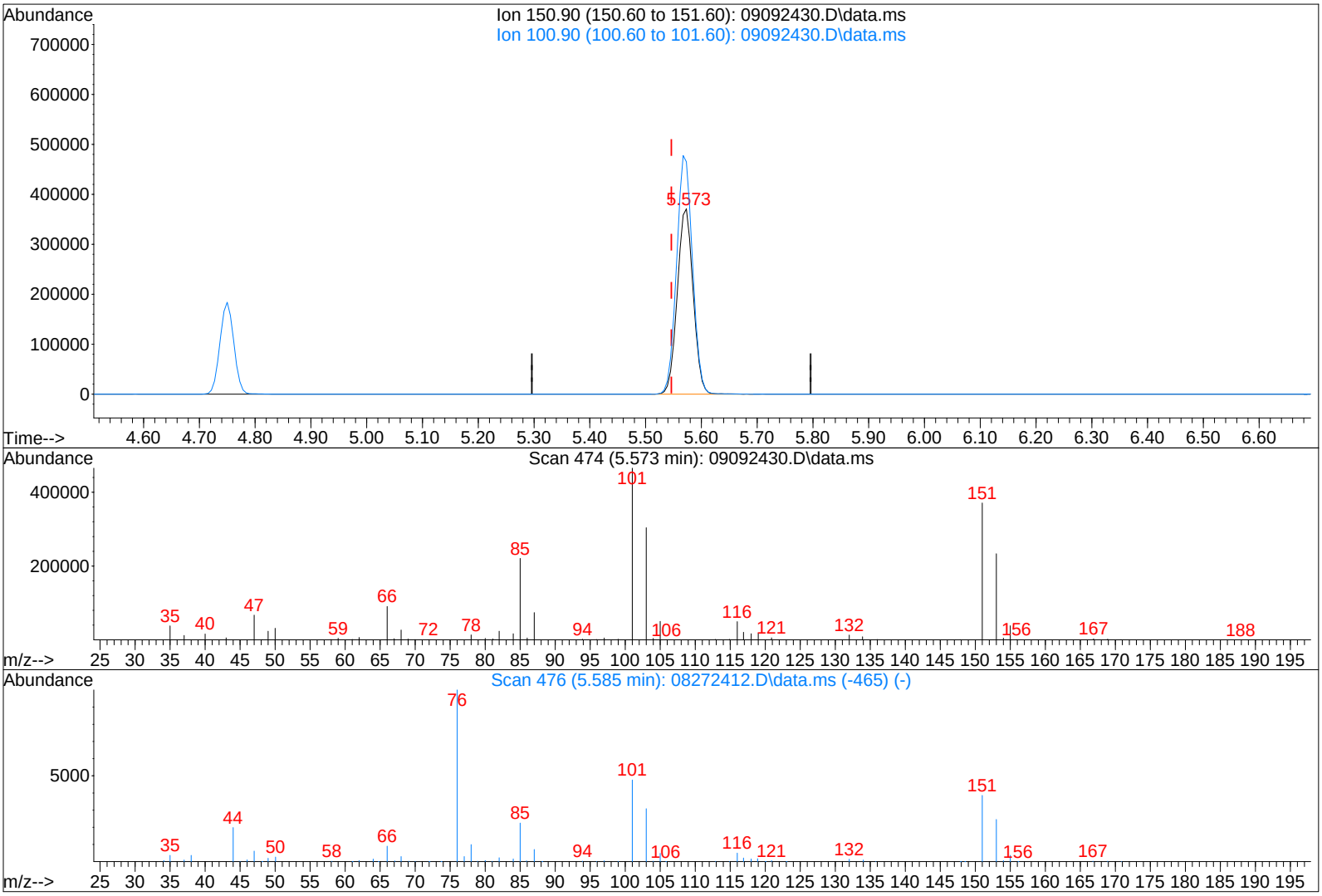
response 317492

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092430.D Vial: 1
Acq On : 10 Sep 2024 8:38 Operator: SC
Sample : P2403661-006Dil (0.5mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 09:00:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092430.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (+0.027) 49.21ng

response 732640

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.49
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092411.D
Acq On : 9 Sep 2024 14:36
Operator : SC
Sample : P2403661-006 (20mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092411.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.251	60	65	69	rBV3	6363	13333	0.01%	0.007%
2	3.302	69	74	81	rVV	3940393	4764697	3.67%	2.635%
3	3.358	81	84	99	rVB3	26618	57939	0.04%	0.032%
4	3.529	104	114	119	rBV6	4247	12216	0.01%	0.007%
5	3.608	124	128	132	rVV3	17317	32200	0.02%	0.018%
6	3.654	132	136	151	rVB	157426	227445	0.18%	0.126%
7	3.835	162	168	175	rVB2	33405	55676	0.04%	0.031%
8	4.216	229	235	244	rBV	846250	1402982	1.08%	0.776%
9	4.284	244	247	256	rVB	11909	22592	0.02%	0.012%
10	4.602	291	303	321	rVB	2710734	5267000	4.06%	2.912%
11	4.767	321	332	355	rBV	12311957	29310848	22.60%	16.208%
12	5.613	465	481	518	rBV	34775079	129692211	100.00%	71.716%
13	6.572	644	650	662	rBV6	4601	10648	0.01%	0.006%
14	7.225	755	765	775	rBV	538567	1148313	0.89%	0.635%
15	7.299	775	778	785	rVB3	10431	19668	0.02%	0.011%
16	7.992	890	900	914	rBV	448845	1033037	0.80%	0.571%
17	9.304	1121	1131	1143	rBV	780841	1819667	1.40%	1.006%
18	10.144	1274	1279	1286	rVB4	5502	12156	0.01%	0.007%
19	12.427	1672	1681	1699	rVB	1021202	2329847	1.80%	1.288%
20	13.227	1816	1822	1829	rBV3	5064	11733	0.01%	0.006%
21	14.528	2042	2051	2059	rVB	21212	48360	0.04%	0.027%
22	14.840	2095	2106	2119	rBV	942117	1976544	1.52%	1.093%
23	16.822	2447	2455	2465	rVB	781182	1488610	1.15%	0.823%
24	18.502	2747	2751	2758	rBV3	14437	21953	0.02%	0.012%
25	18.815	2800	2806	2815	rBV3	12878	23206	0.02%	0.013%
26	19.814	2977	2982	2988	rBV2	12835	18689	0.01%	0.010%
27	20.921	3173	3177	3184	rBV3	9679	20860	0.02%	0.012%

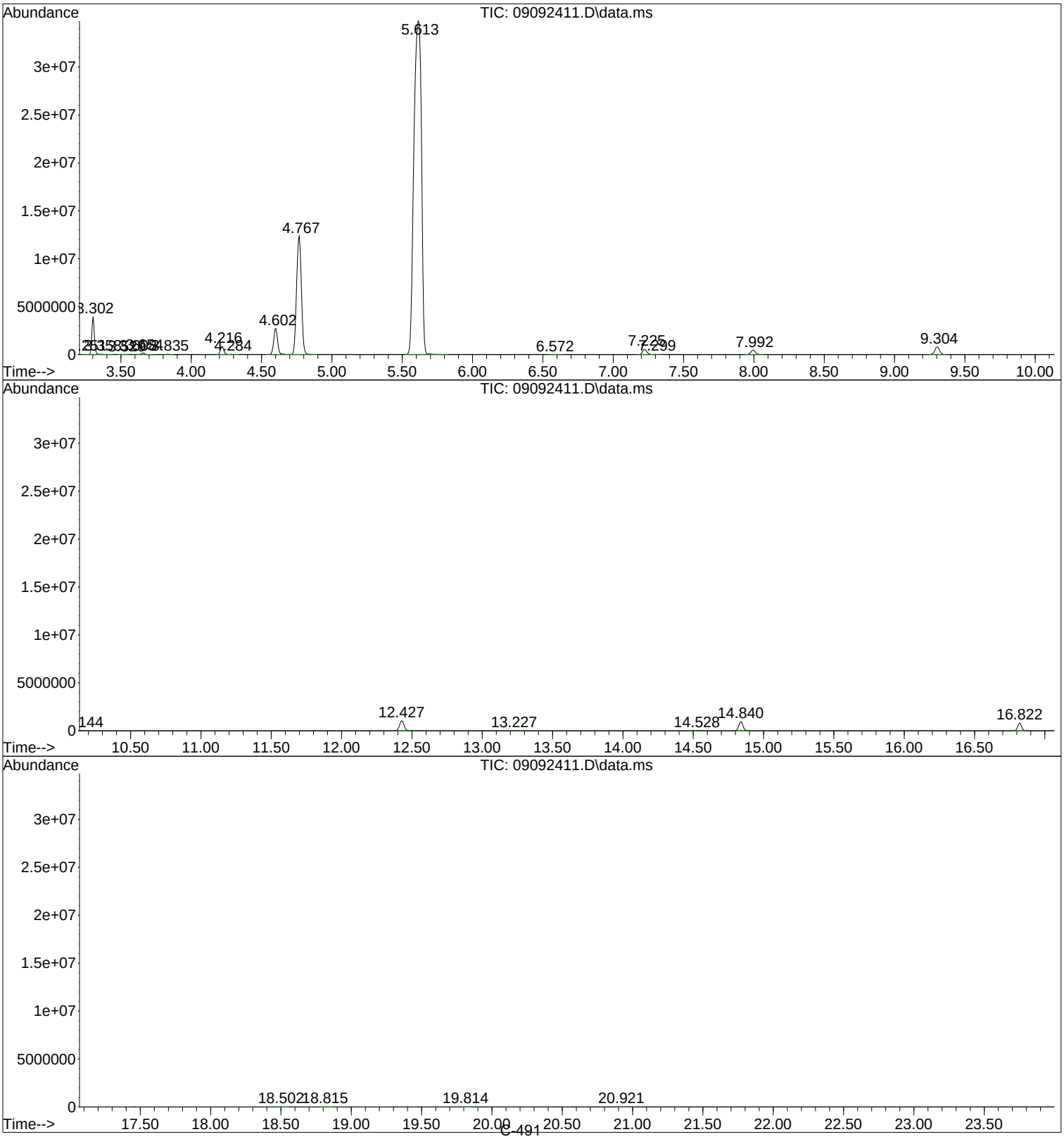
Sum of corrected areas: 180842430

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092411.D
Acq On : 9 Sep 2024 14:36
Operator : SC
Sample : P2403661-006 (20mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092411.D
Acq On : 9 Sep 2024 14:36
Operator : SC
Sample : P2403661-006 (20mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

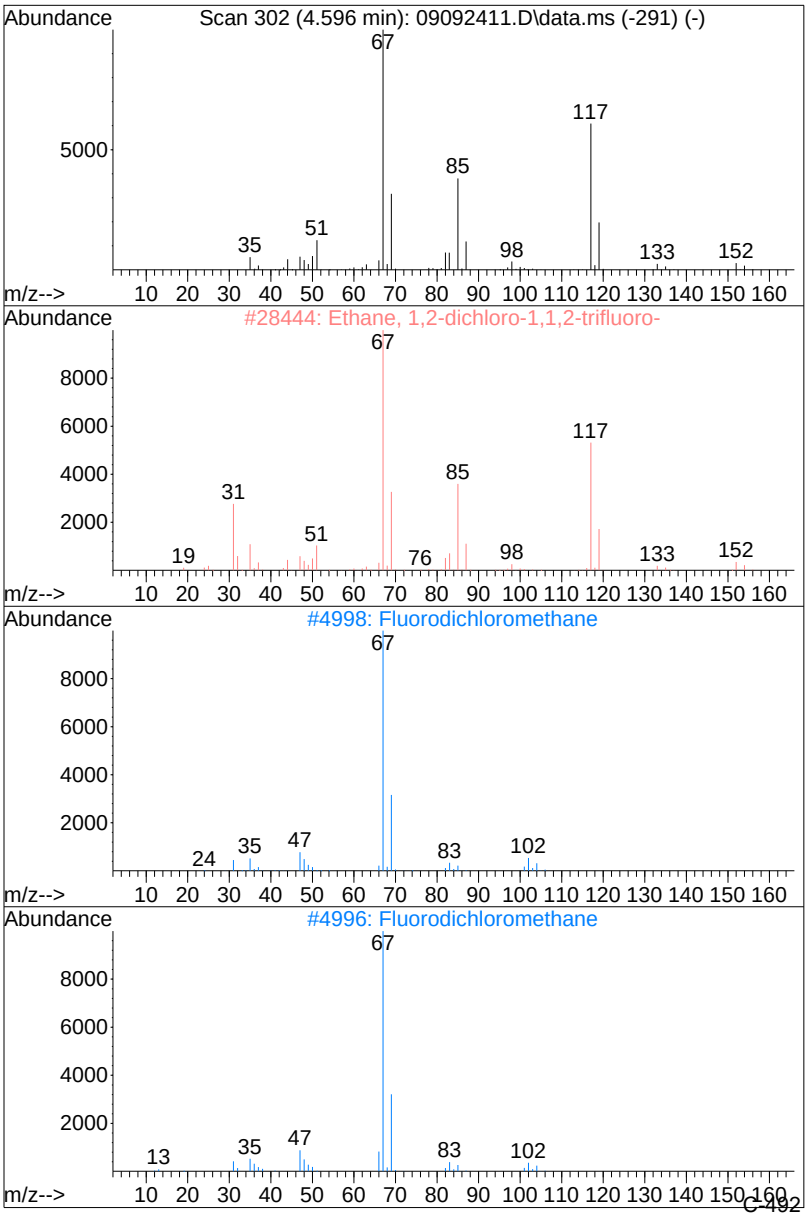
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

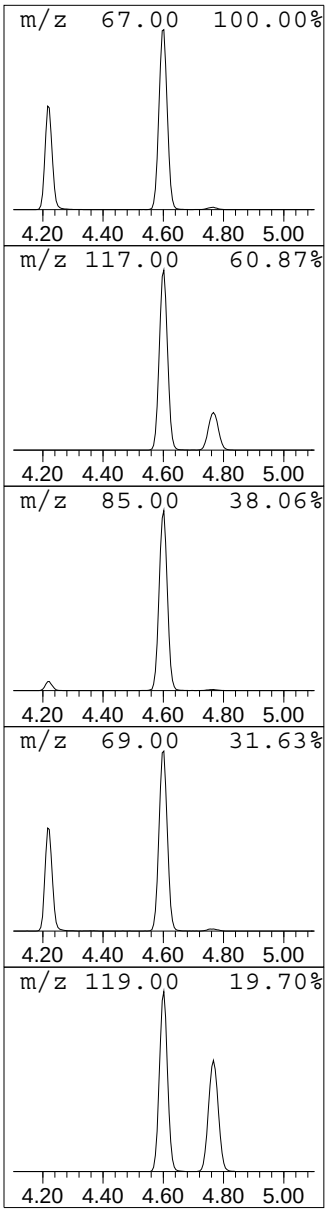
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.602	57.33 ng	5267000	Bromochloromethane (IS1)	7.225

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	93
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_09\09\
Data File : 09092411.D
Acq On : 9 Sep 2024 14:36
Operator : SC
Sample : P2403661-006 (20mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.602	57.3	ng	5267000	1	7.225	1148310	12.5

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:54:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145219	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	643673	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	174569	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	354147	13.033	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%				
57) Toluene-d8 (SS2)	12.43	98	714395	11.666	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%				
73) Bromofluorobenzene (SS3)	16.82	174	228539	11.158	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
Target Compounds							Qvalue
2) Propene	3.30	42	482	N.D.			
3) Dichlorodifluoromethan...	3.31	85	94715	2.687	ng	#	92
4) Chloromethane	3.53	50	335	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	245	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	181	N.D.			
11) Acetonitrile	4.47	41	55	N.D.			
12) Acrolein	4.56	56	414	N.D.			
13) Acetone	4.65	58	4480	0.337	ng	#	74
14) Trichlorofluoromethane	4.76	101	4201258m	124.929	ng		
15) 2-Propanol (Isopropanol)	4.89	45	1469	N.D.			
16) Acrylonitrile	5.01	53	88	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.34	84	352	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.59	151	6502930	488.102	ng		96
22) Carbon Disulfide	5.60	76	2385	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	337	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	143	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.36	83	1889	0.065	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.01	62	153	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	1526	No Calib		#	
41) Benzene	8.90	78	693	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.28	84	552	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.13	130	384	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:54:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

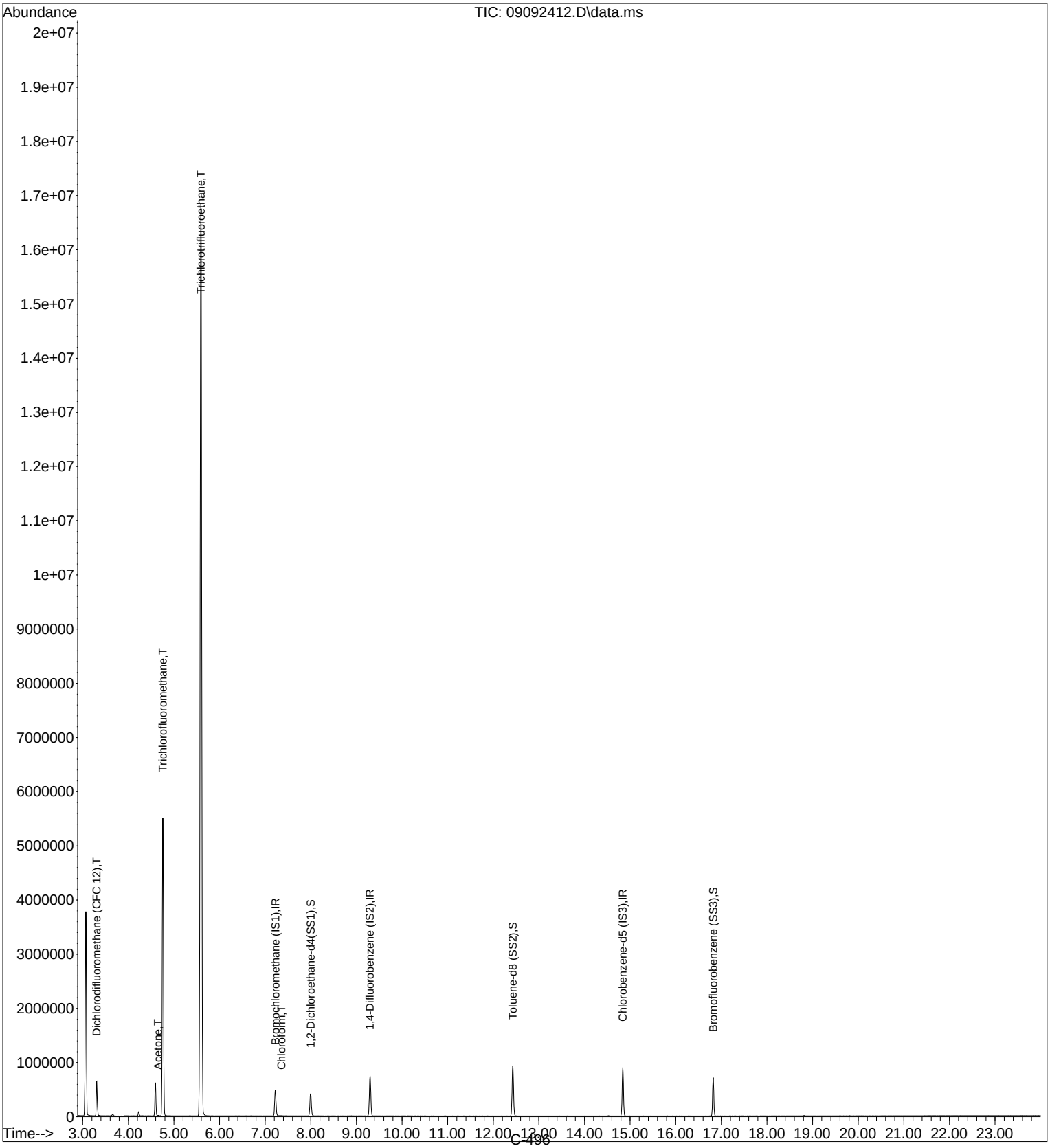
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	212	N.D.		
59) 2-Hexanone	12.95	43	198	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	15.65	91	497	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	258	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.43	105	179	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	143	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	115	N.D.		
87) sec-Butylbenzene	18.74	105	219	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.04	146	144	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	482	N.D.		
95) Naphthalene	20.95	128	353	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	206	N.D.		
98) Cyclohexanone	15.21	55	118	No Calib	#	
99) tert-Butylbenzene	18.43	119	126	N.D.		
100) n-Butylbenzene	19.39	91	117	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:54:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:54:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

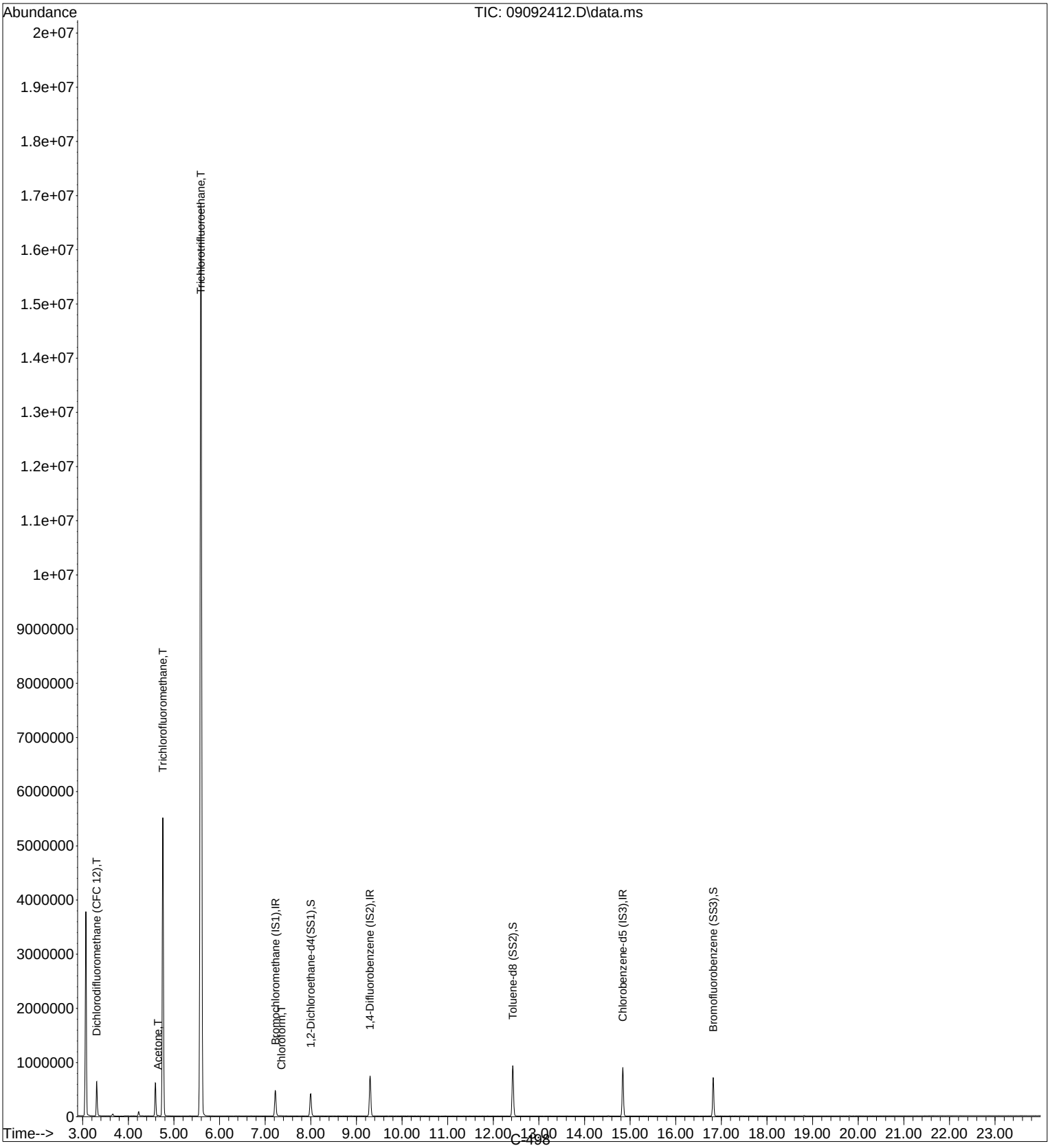
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145219	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	643673	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	174569	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	354147	13.033	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.24%			
57) Toluene-d8 (SS2)	12.43	98	714395	11.666	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.36%			
73) Bromofluorobenzene (SS3)	16.82	174	228539	11.158	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%			
Target Compounds						Qvalue
3) Dichlorodifluoromethan...	3.31	85	94715	2.687	ng	# 92
13) Acetone	4.65	58	4480	0.337	ng	# 74
14) Trichlorofluoromethane	4.76	101	4201258m	124.929	ng	
21) Trichlorotrifluoroethane	5.59	151	6502930	488.102	ng	96
32) Chloroform	7.36	83	1889	0.065	ng	98

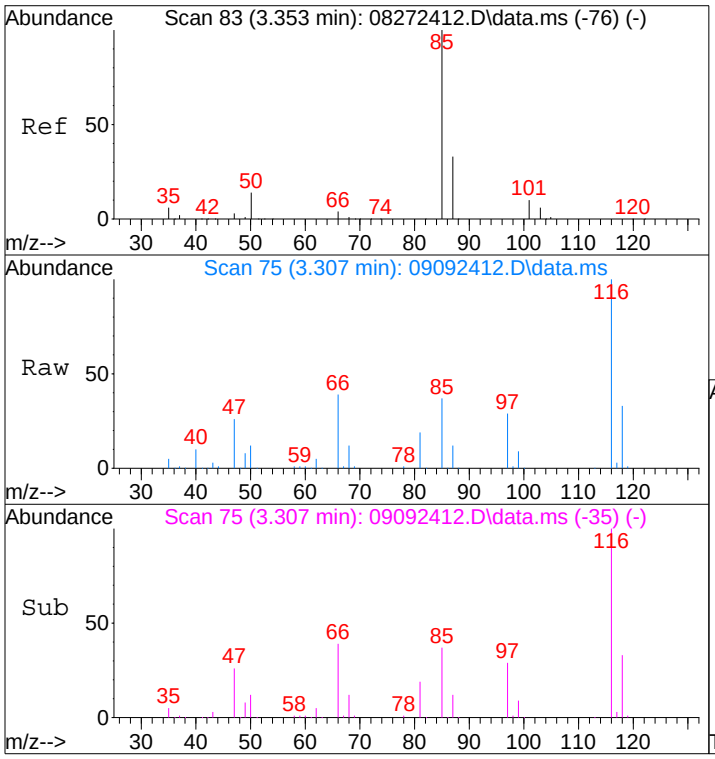
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 16:54:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

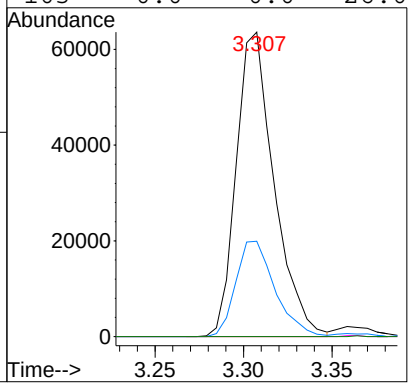


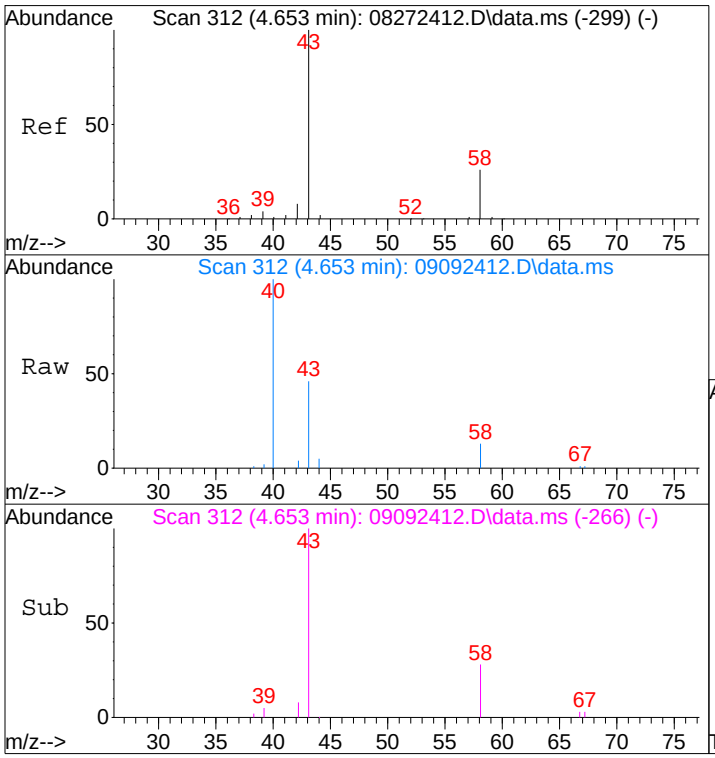


#3
Dichlorodifluoromethane (CFC 12)
Concen: 2.69 ng
RT: 3.31 min Scan# 75
Delta R.T. -0.020 min
Lab File: 09092412.D
Acq: 9 Sep 2024 15:08

Tgt Ion: 85 Resp: 94715

Ion	Ratio	Lower	Upper
85	100		
87	32.4	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

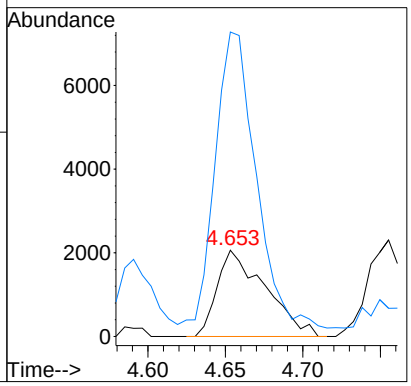


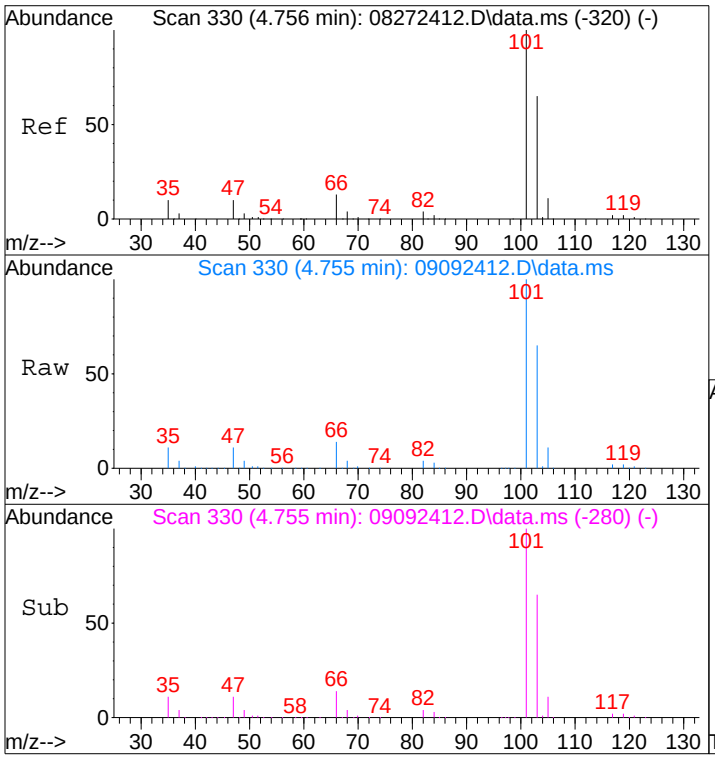


#13
Acetone
Concen: 0.34 ng
RT: 4.65 min Scan# 312
Delta R.T. 0.011 min
Lab File: 09092412.D
Acq: 9 Sep 2024 15:08

Tgt Ion: 58 Resp: 4480

Ion	Ratio	Lower	Upper
58	100		
43	317.3	347.3	407.3#

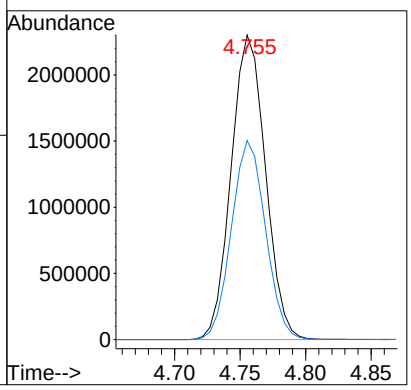


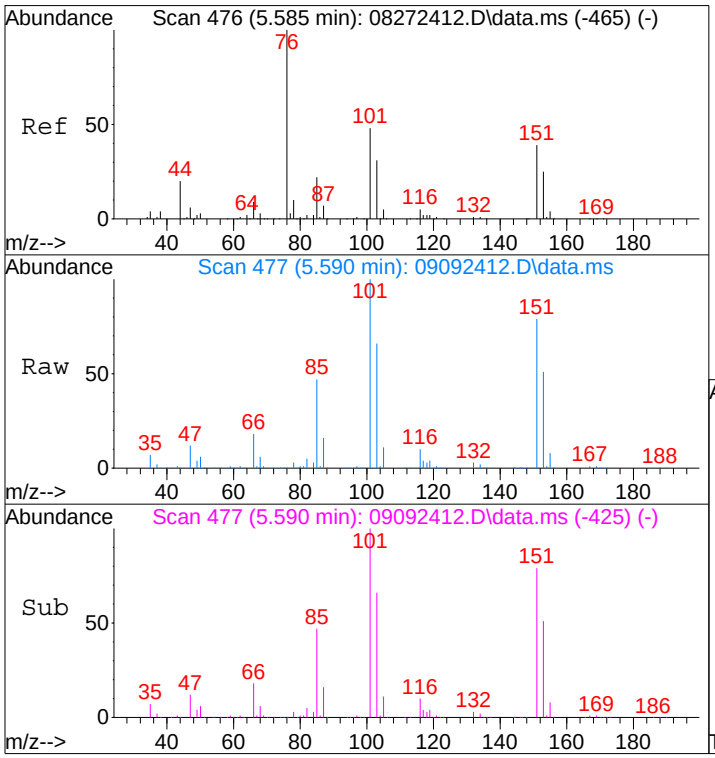


#14
Trichlorofluoromethane
Concen: 124.93 ng m
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09092412.D
Acq: 9 Sep 2024 15:08

Tgt Ion:101 Resp: 4201258

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#

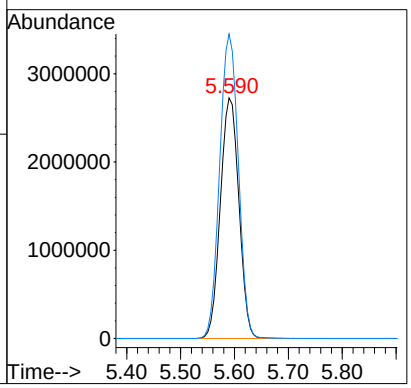


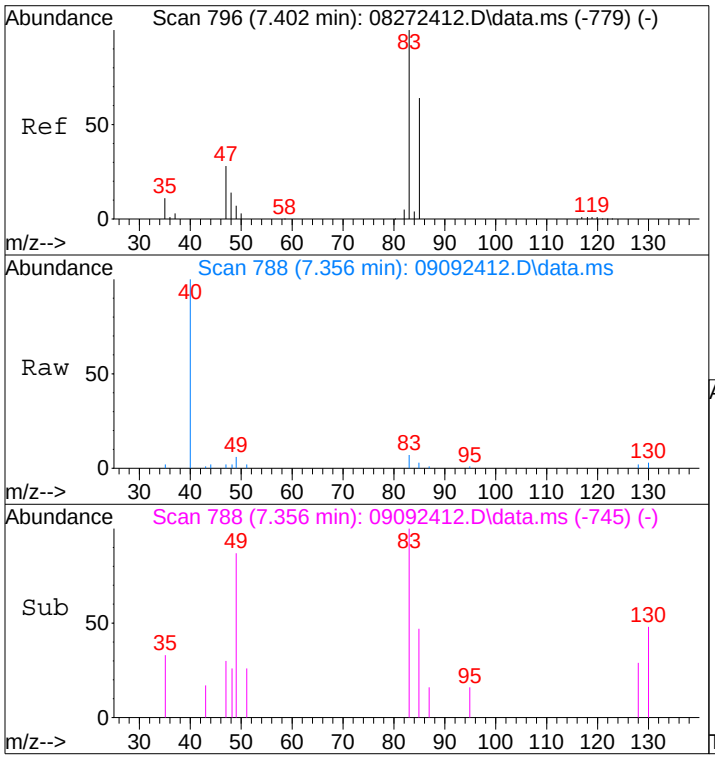


#21
Trichlorotrifluoroethane
Concen: 488.10 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.044 min
Lab File: 09092412.D
Acq: 9 Sep 2024 15:08

Tgt Ion:151 Resp: 6502930

Ion	Ratio	Lower	Upper
151	100		
101	127.7	103.4	143.4

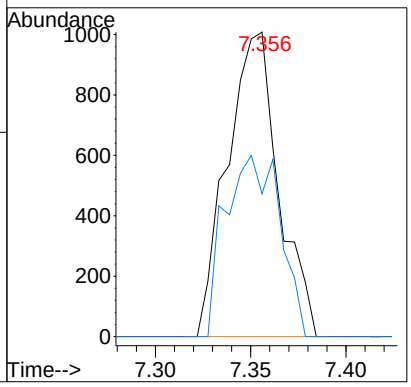




#32
Chloroform
Concen: 0.07 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.004 min
Lab File: 09092412.D
Acq: 9 Sep 2024 15:08

Tgt Ion: 83 Resp: 1889

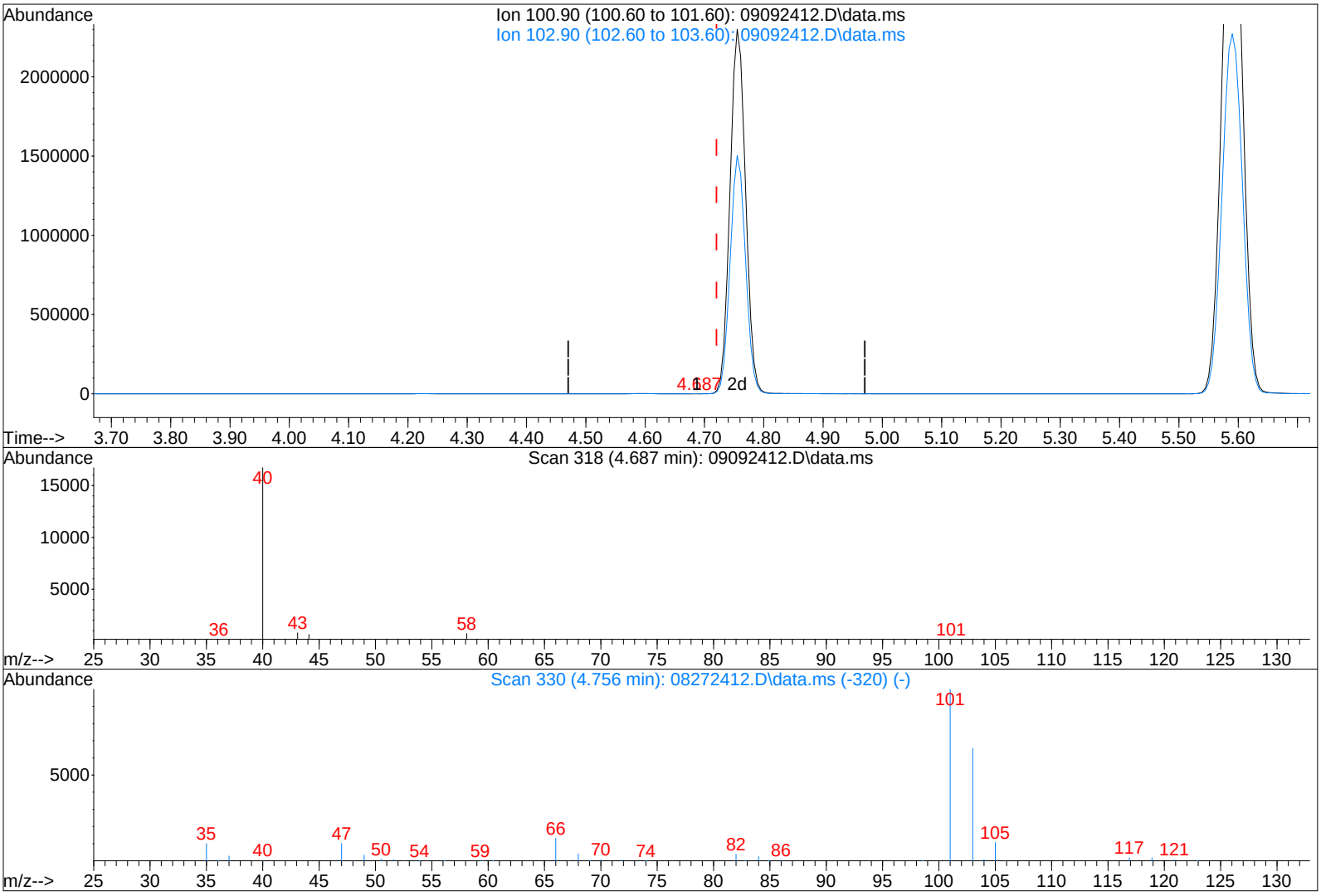
Ion	Ratio	Lower	Upper
83	100		
85	63.4	45.3	85.3



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:46:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092412.D\data.ms

(14) Trichlorofluoromethane (T)

4.687min (-0.033) 0.00ng

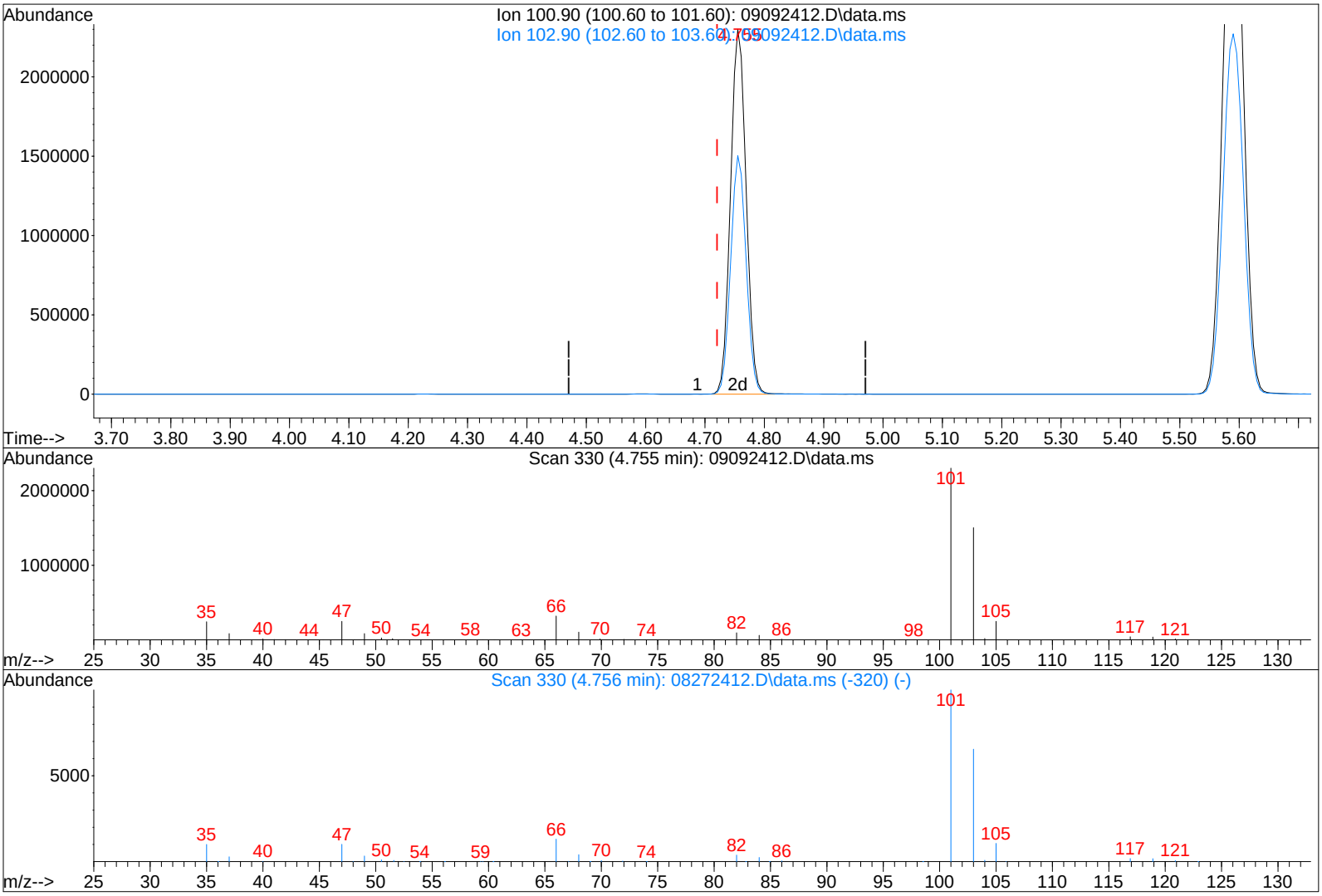
response 120

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:46:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092412.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.035) 124.93ng m

response 4201258

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

9/9/24

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

9/9/24

Quant Time: Sep 09 15:48:55 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

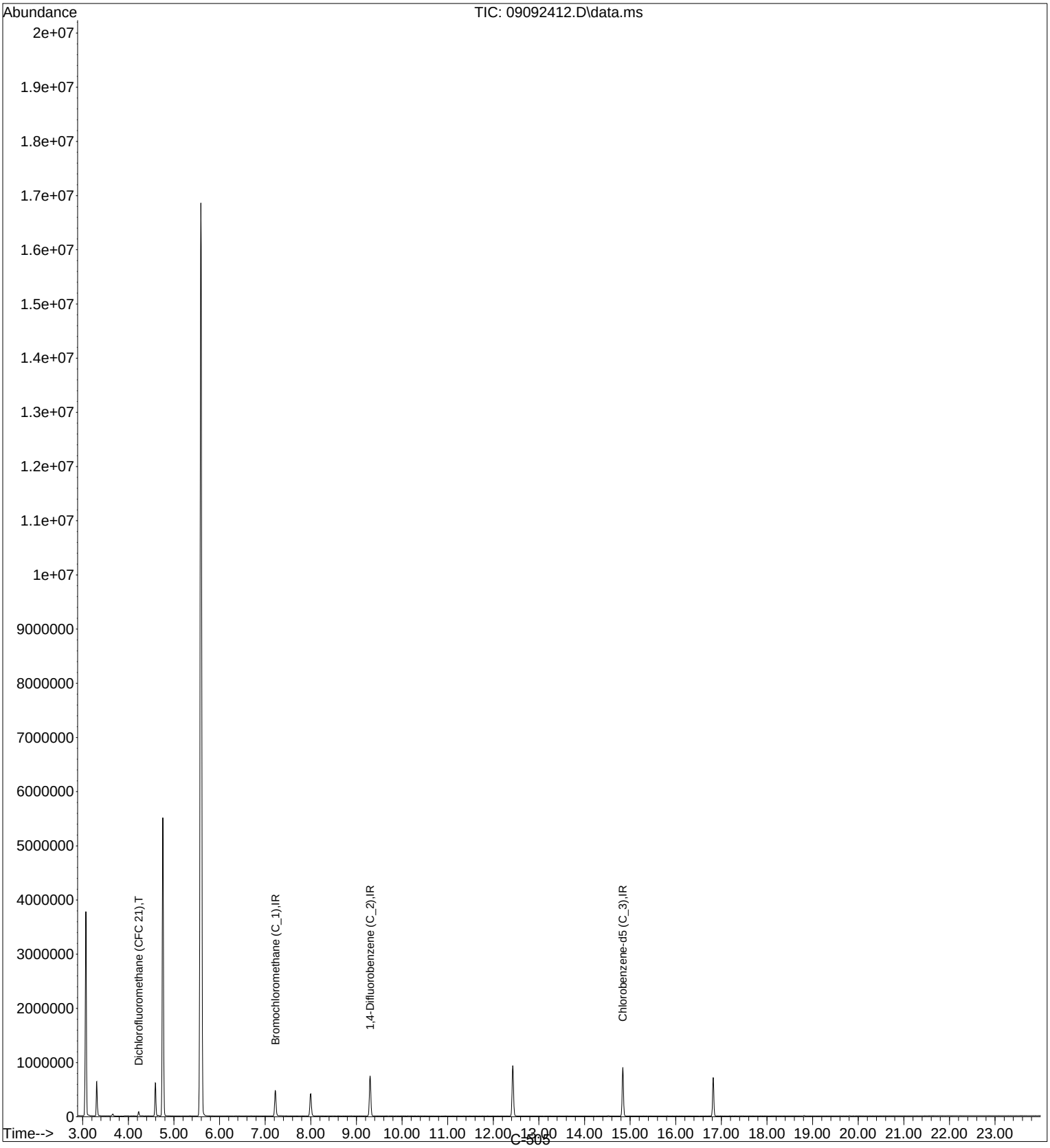
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	146169	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	645255	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	174569	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	0.00	65	0	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	63956	1.908	ng	99
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d	
10) 2-Methylbutane	4.67	57	174	N.D.		
11) Methyl Acetate	0.00	43	0	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	211	N.D.		
27) 4-Chlorotoluene	17.68	91	258	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:48:55 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

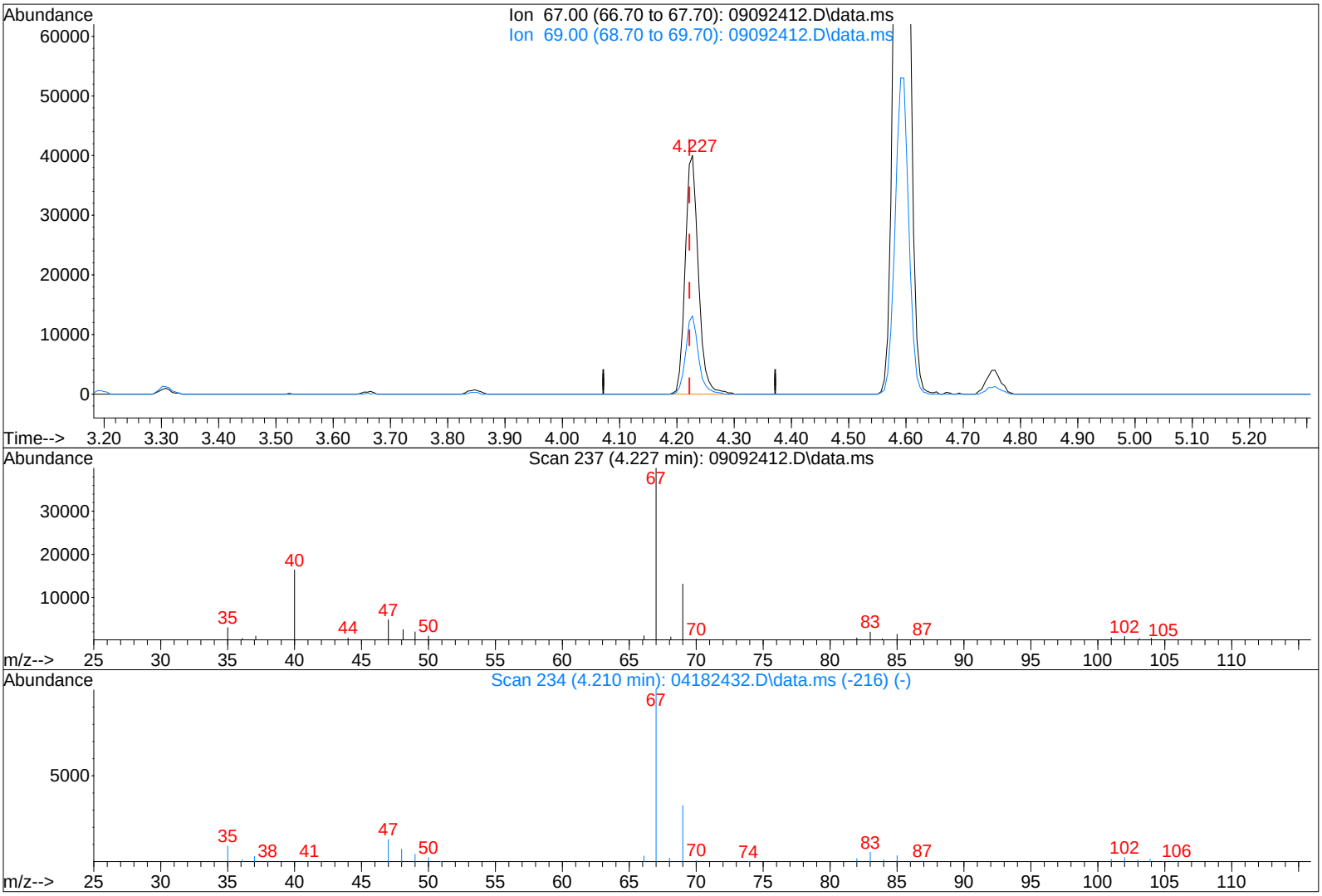


C-505

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092412.D Vial: 10
Acq On : 9 Sep 2024 15:08 Operator: SC
Sample : P2403661-007 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 09 15:48:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092412.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.91ng

response 63956

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.77
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092416.D Vial: 1
Acq On : 9 Sep 2024 17:17 Operator: SC
Sample : P2403661-007Dil (2.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:29:35 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	140636	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	625083	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	178040	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	355600	13.512	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.08%				
57) Toluene-d8 (SS2)	12.43	98	707556	11.329	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
73) Bromofluorobenzene (SS3)	16.82	174	225086	10.776	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.24%				
Target Compounds							Qvalue
2) Propene	3.32	42	1009	N.D.			
3) Dichlorodifluoromethan...	3.32	85	7668	0.225	ng	#	92
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	1621	0.106	ng		98
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.75	101	384044	11.792	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	1272	N.D.			
16) Acrylonitrile	5.01	53	54	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	223	N.D.			
20) 3-Chloro-1-propene (Al...	5.40	41	855	N.D.			
21) Trichlorotrifluoroethane	5.57	151	599652	46.476	ng		94
22) Carbon Disulfide	5.62	76	238	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.29	57	1245	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	758	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	729	No Calib		#	
41) Benzene	8.90	78	4660	0.080	ng		94
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.21	84	487	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	2631	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092416.D Vial: 1
Acq On : 9 Sep 2024 17:17 Operator: SC
Sample : P2403661-007Dil (2.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:29:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

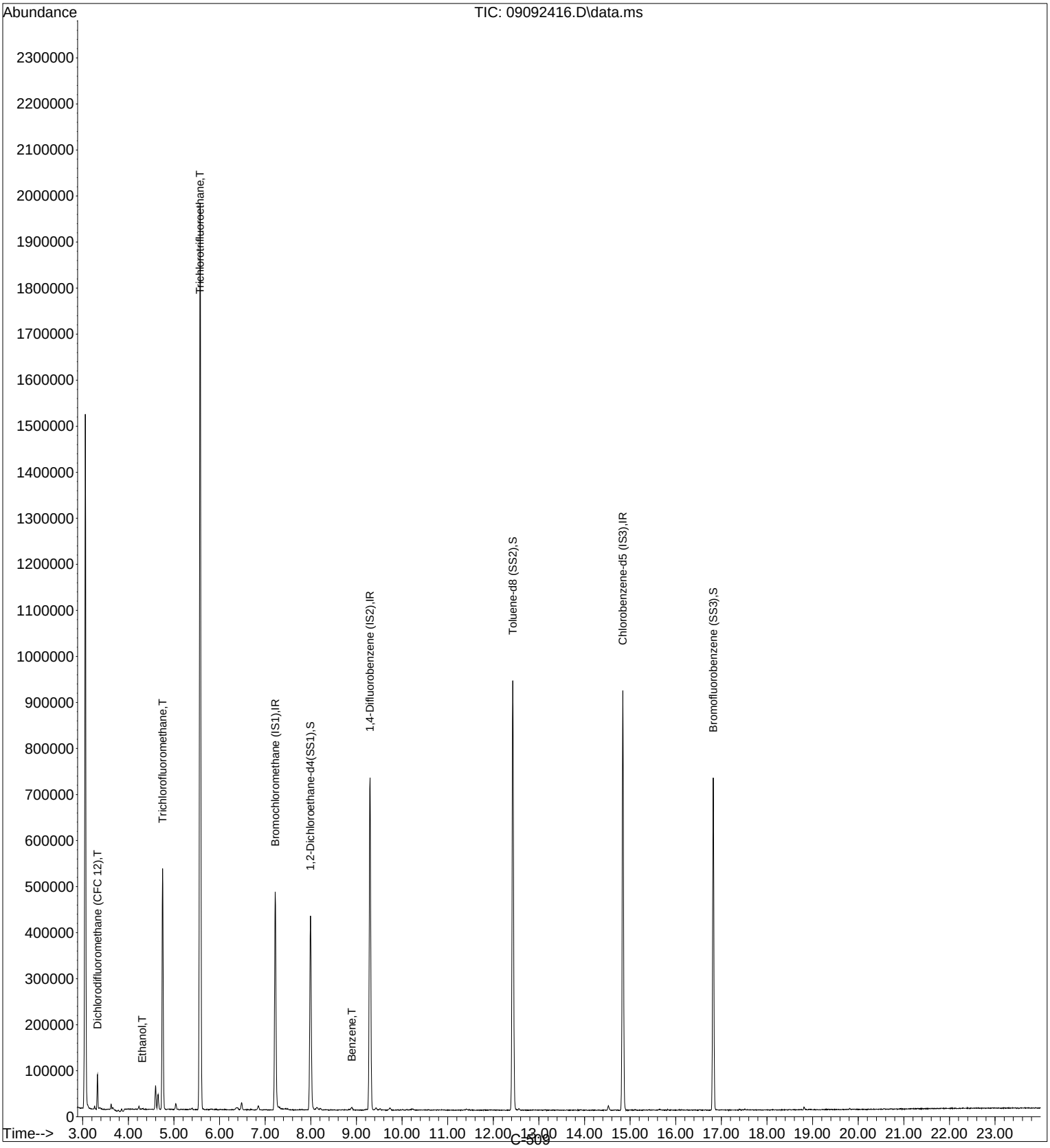
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2818	N.D.		
59) 2-Hexanone	12.92	43	390	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	183	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	1446	N.D.		
67) m- & p-Xylenes	15.66	91	2680	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	393	N.D.		
71) n-Nonane	16.60	43	123	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.02	105	233	N.D.		
75) alpha-Pinene	17.52	93	913	N.D.		
76) n-Propylbenzene	17.68	91	344	N.D.		
77) 3-Ethyltoluene	17.02	105	233	No Calib		#
78) 4-Ethyltoluene	17.86	105	132	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.02	105	233	No Calib		#
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.67	146	162	N.D.		
86) 1,4-Dichlorobenzene	18.67	146	162	N.D.		
87) sec-Butylbenzene	18.74	105	131	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	430	N.D.		
89) 1,2,3-Trimethylbenzene	17.02	105	233	No Calib		#
90) 1,2-Dichlorobenzene	19.04	146	121	N.D.		
91) d-Limonene	19.08	68	127	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	281	N.D.		
95) Naphthalene	20.94	128	157	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	274	N.D.		
98) Cyclohexanone	15.19	55	169	No Calib		#
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.38	91	157	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092416.D Vial: 1
Acq On : 9 Sep 2024 17:17 Operator: SC
Sample : P2403661-007Dil (2.0mL) Inst : MS09
Misc : S37-06062402

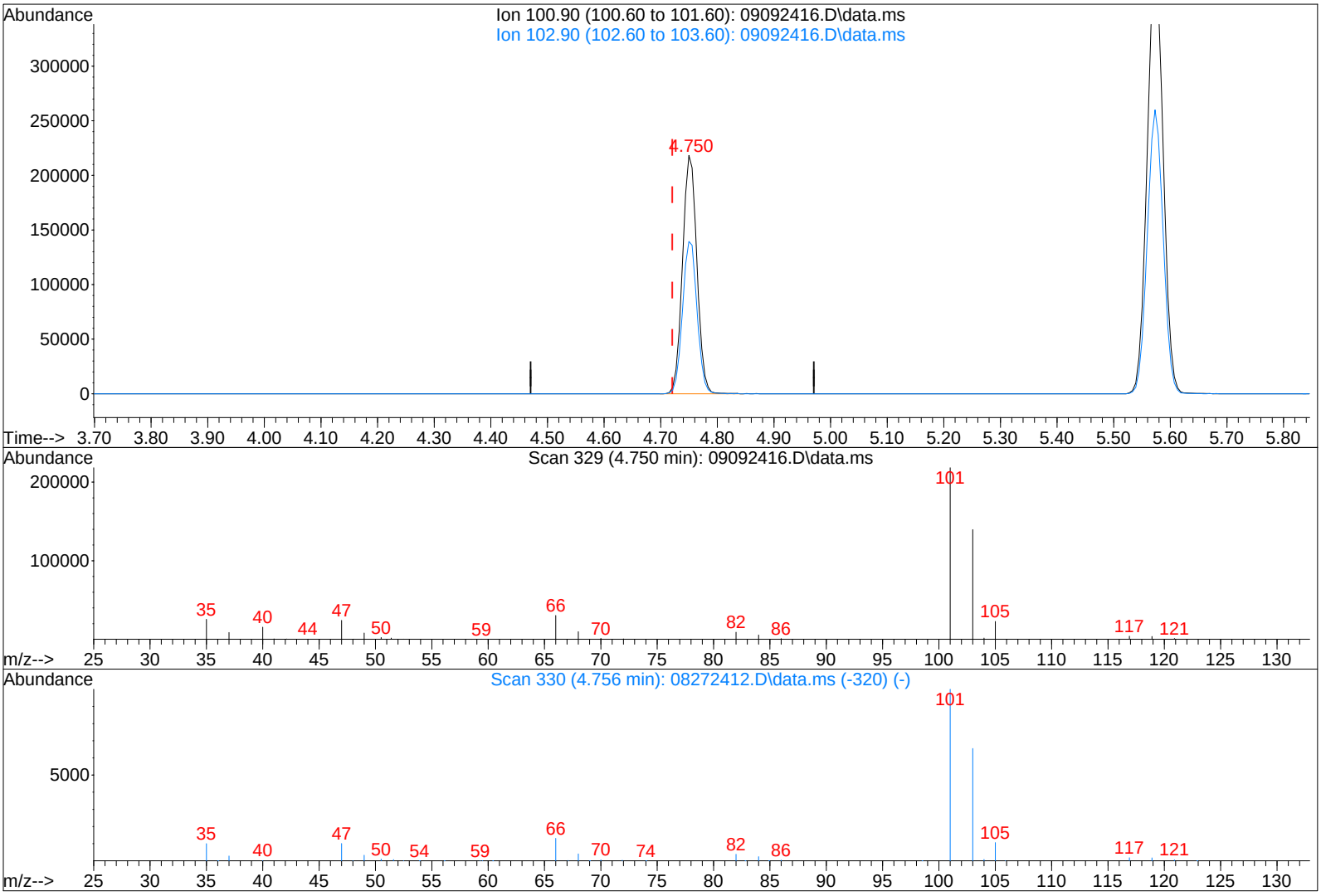
Quant Time: Sep 10 11:29:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092416.D Vial: 1
Acq On : 9 Sep 2024 17:17 Operator: SC
Sample : P2403661-007Dil (2.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:34:38 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092416.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.029) 11.79ng

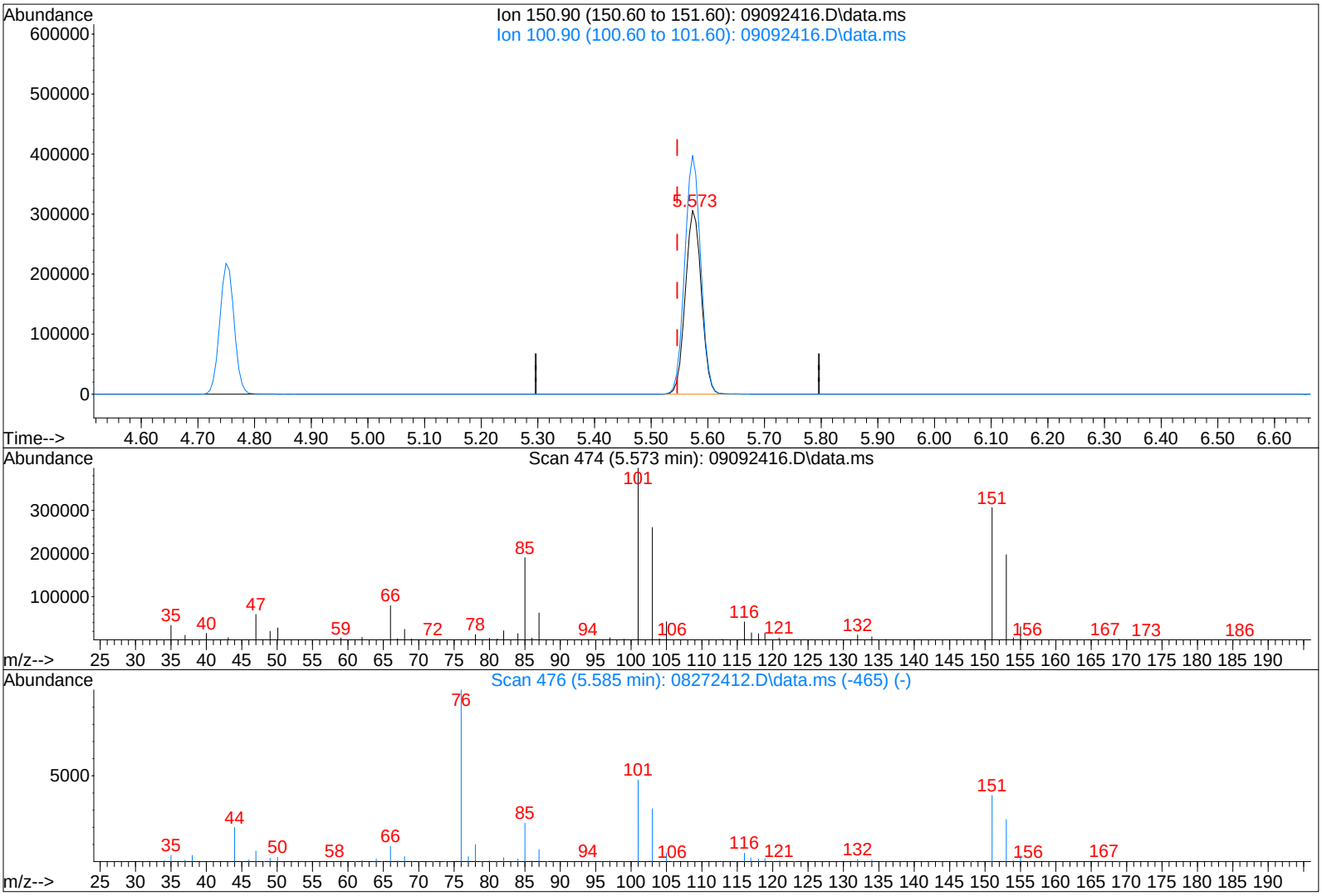
response 384044

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.44
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092416.D Vial: 1
Acq On : 9 Sep 2024 17:17 Operator: SC
Sample : P2403661-007Dil (2.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:34:38 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092416.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (+0.027) 46.48ng

response 599652

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.76
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092412.D
Acq On : 9 Sep 2024 15:08
Operator : SC
Sample : P2403661-007 (20mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092412.D\data.ms

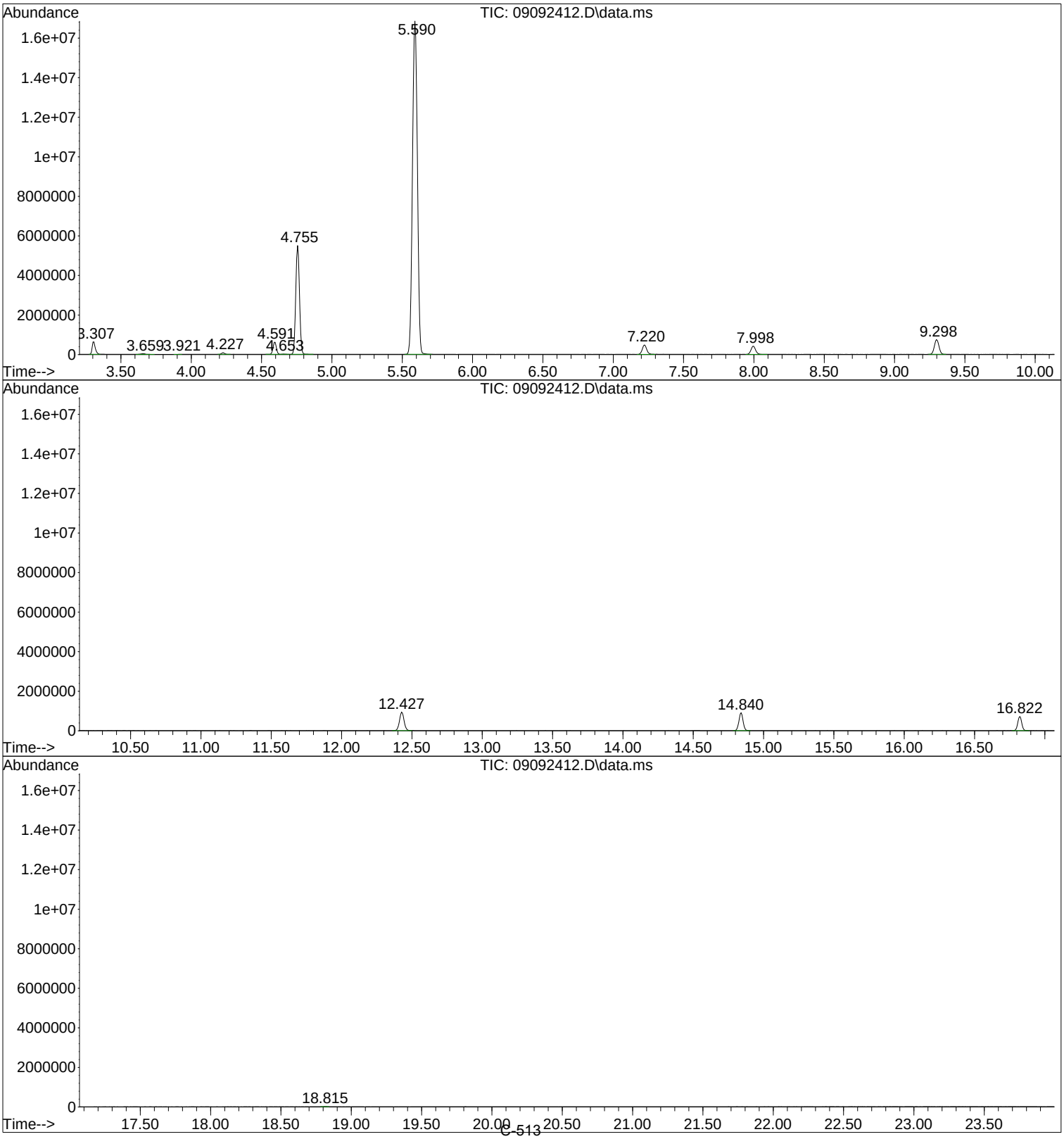
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	69	75	83	rBV	627385	950972	2.34%	1.536%
2	3.659	128	137	151	rVB3	37926	90030	0.22%	0.145%
3	3.921	175	183	185	rBV2	6802	11979	0.03%	0.019%
4	4.227	230	237	246	rBV	79137	125281	0.31%	0.202%
5	4.591	290	301	309	rBV	608916	1007418	2.47%	1.627%
6	4.653	309	312	320	rVB2	10422	20023	0.05%	0.032%
7	4.755	321	330	350	rVV	5502650	10013925	24.60%	16.173%
8	5.590	464	477	498	rBV	16847453	40711850	100.00%	65.752%
9	7.220	755	764	778	rBV	468127	1044652	2.57%	1.687%
10	7.998	891	901	918	rBV	410475	951113	2.34%	1.536%
11	9.298	1120	1130	1142	rBV	740989	1676295	4.12%	2.707%
12	12.427	1669	1681	1694	rBV	932629	2103201	5.17%	3.397%
13	14.840	2096	2106	2118	rBV	897857	1825607	4.48%	2.948%
14	16.822	2445	2455	2467	rBV	712047	1370089	3.37%	2.213%
15	18.815	2800	2806	2811	rBV3	8688	15206	0.04%	0.025%

Sum of corrected areas: 61917641

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092412.D
Acq On : 9 Sep 2024 15:08
Operator : SC
Sample : P2403661-007 (20mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092412.D
Acq On : 9 Sep 2024 15:08
Operator : SC
Sample : P2403661-007 (20mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

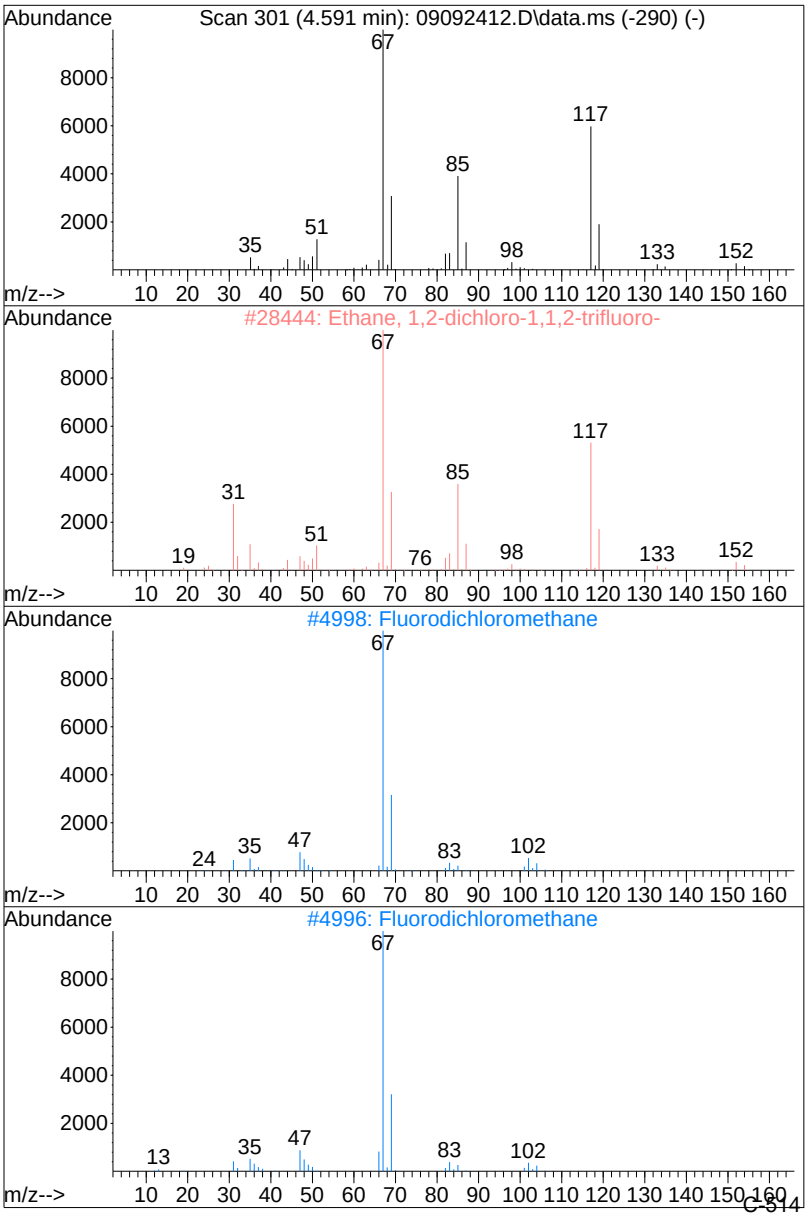
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

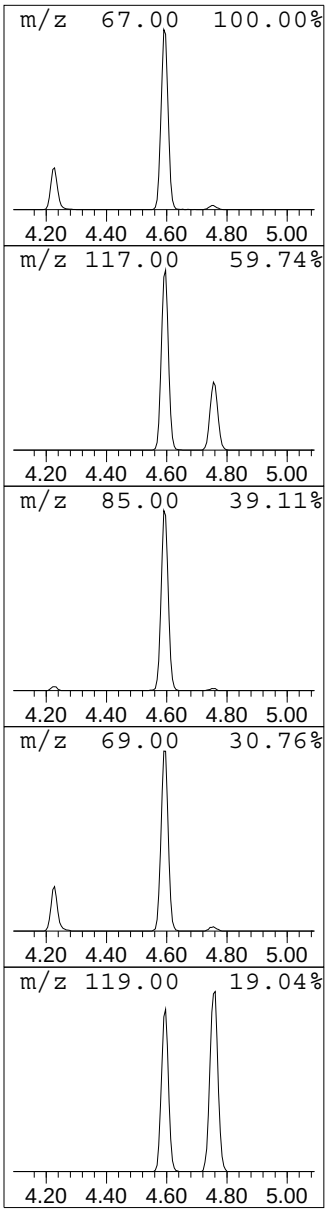
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	12.05 ng	1007420	Bromochloromethane (IS1)	7.225

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	94
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_09\09\
Data File : 09092412.D
Acq On : 9 Sep 2024 15:08
Operator : SC
Sample : P2403661-007 (20mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.591	12.1	ng	1007420	1	7.225	1044650	12.5

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:08:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	138532	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	603214	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	189490	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	352092	13.582	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
57) Toluene-d8 (SS2)	12.43	98	704766	10.602	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
73) Bromofluorobenzene (SS3)	16.83	174	238683	10.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	21125	0.628	ng		99
4) Chloromethane	3.49	50	9490	0.361	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	350	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	549	N.D.			
8) Bromomethane	4.02	94	153	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	81767	5.439	ng		97
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	4372	0.381	ng		90
13) Acetone	4.62	58	202264	15.944	ng	#	1
14) Trichlorofluoromethane	4.75	101	9955	0.310	ng		95
15) 2-Propanol (Isopropanol)	4.84	45	197886	3.962	ng		90
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.35	84	5385	0.360	ng	#	81
20) 3-Chloro-1-propene (Al...	5.43	41	973	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1914	0.151	ng		97
22) Carbon Disulfide	5.60	76	103869	2.097	ng		98
23) trans-1,2-Dichloroethene	6.13	61	666	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	647	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	8715	0.968	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.30	87	298	N.D.			
30) Ethyl Acetate	7.28	61	17337	2.875	ng		88
31) n-Hexane	7.30	57	42804	1.557	ng		97
32) Chloroform	7.35	83	1999	0.072	ng		86
34) Tetrahydrofuran (THF)	7.76	72	2539	0.299	ng	#	1
35) Ethyl tert-Butyl Ether	7.84	87	110	N.D.			
36) 1,2-Dichloroethane	8.12	62	3204	0.117	ng		95
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.57	61	1909	No Calib		#	
40) 1-Butanol	8.81	56	12243	No Calib		#	
41) Benzene	8.90	78	15389	0.272	ng		98
42) Carbon Tetrachloride	9.07	117	5670	0.242	ng		99
43) Cyclohexane	9.21	84	42076	2.203	ng		91
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.86	63	3199	0.214	ng		92
46) Bromodichloromethane	10.13	83	176	N.D.			
47) Trichloroethene	10.14	130	382	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	10.24	57	8277	0.124	ng		88
50) Methyl Methacrylate	10.38	100	119	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:08:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

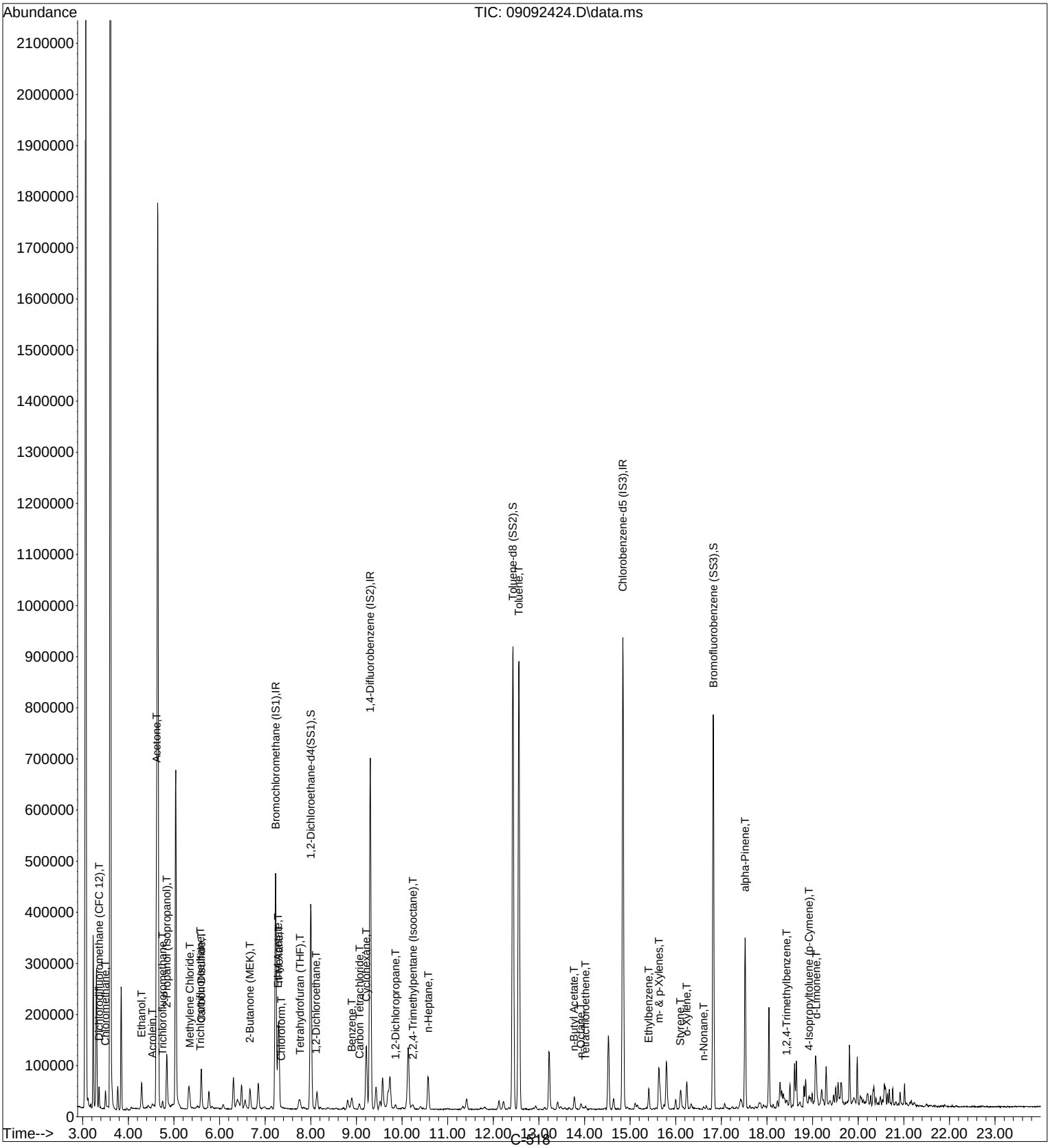
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	13681	1.086 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	728919	10.144 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	25122	0.504 ng		92
63) n-Octane	13.92	57	2388	0.141 ng	#	79
64) Tetrachloroethene	14.02	166	1177	0.059 ng		83
65) Chlorobenzene	14.90	112	686	N.D.		
66) Ethylbenzene	15.41	91	32036	0.387 ng		99
67) m- & p-Xylenes	15.63	91	70502	1.049 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	13702	0.315 ng		93
70) o-Xylene	16.24	91	34973	0.533 ng		99
71) n-Nonane	16.61	43	2977	0.069 ng	#	76
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	2104	N.D.		
75) alpha-Pinene	17.52	93	130660	3.303 ng		98
76) n-Propylbenzene	17.68	91	2292	N.D.		
77) 3-Ethyltoluene	17.03	105	2104	No Calib		
78) 4-Ethyltoluene	17.86	105	1147	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1120	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	2104	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	3856	0.057 ng		91
83) n-Decane	17.09	58	275	No Calib	#	
84) Benzyl Chloride	18.56	91	151	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	249	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	610	N.D.		
87) sec-Butylbenzene	18.74	105	545	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	5807	0.078 ng		86
89) 1,2,3-Trimethylbenzene	17.03	105	2104	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	246	N.D.		
91) d-Limonene	19.08	68	13123	0.581 ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	4871	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	888	N.D.		
95) Naphthalene	20.94	128	1157	N.D.		
96) n-Dodecane	18.92	58	218	No Calib	#	
97) Hexachlorobutadiene	21.29	225	377	N.D.		
98) Cyclohexanone	15.28	55	396	No Calib	#	
99) tert-Butylbenzene	18.43	119	742	N.D.		
100) n-Butylbenzene	19.38	91	1500	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:08:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 11:08:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

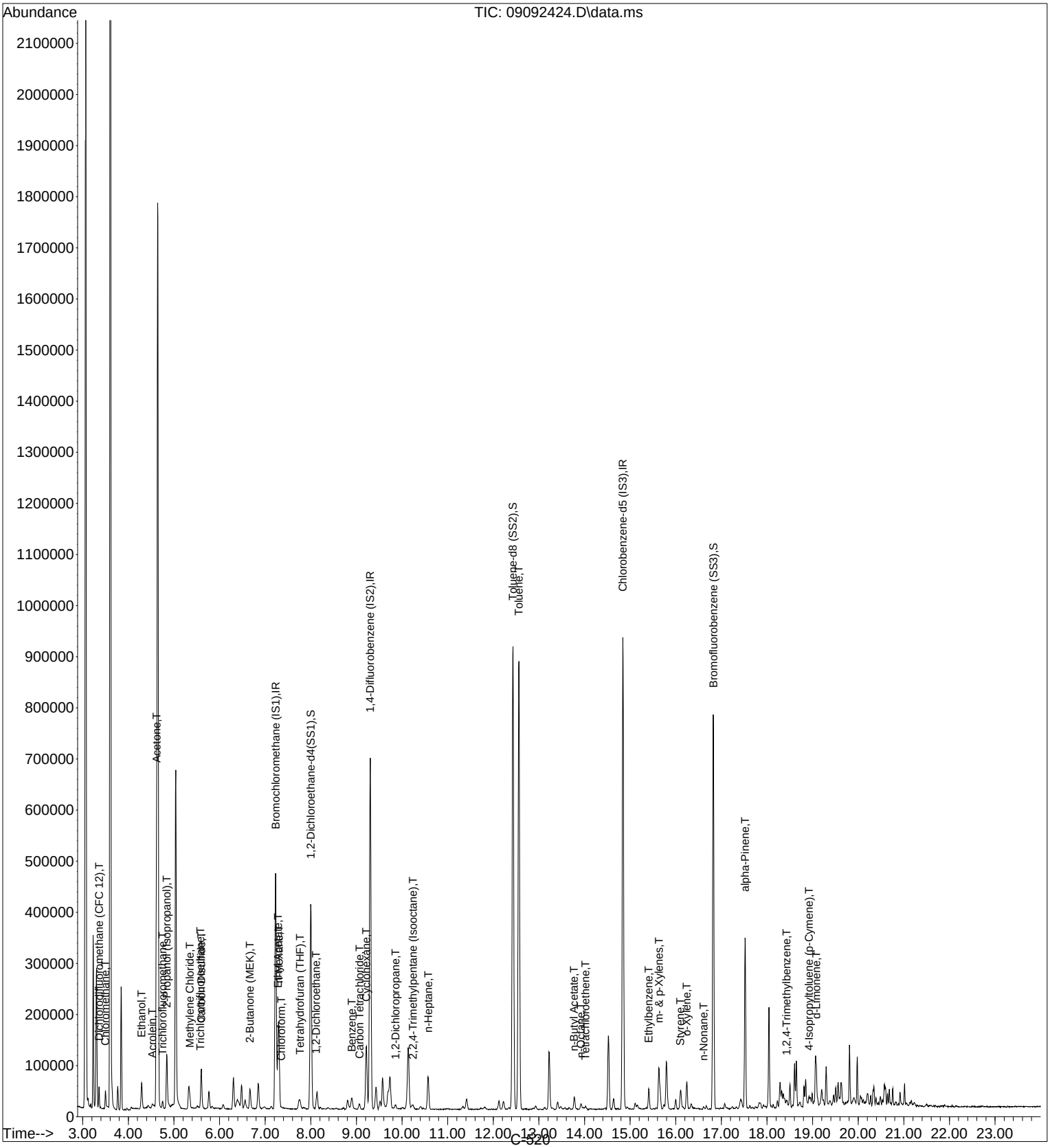
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	138532	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	603214	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	189490	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	352092	13.582	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.64%				
57) Toluene-d8 (SS2)	12.43	98	704766	10.602	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
73) Bromofluorobenzene (SS3)	16.83	174	238683	10.736	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	21125	0.628	ng		99
4) Chloromethane	3.49	50	9490	0.361	ng		95
10) Ethanol	4.29	45	81767	5.439	ng		97
12) Acrolein	4.52	56	4372	0.381	ng		90
13) Acetone	4.62	58	202264	15.944	ng	#	1
14) Trichlorofluoromethane	4.75	101	9955	0.310	ng		95
15) 2-Propanol (Isopropanol)	4.84	45	197886	3.962	ng		90
19) Methylene Chloride	5.35	84	5385	0.360	ng	#	81
21) Trichlorotrifluoroethane	5.58	151	1914	0.151	ng		97
22) Carbon Disulfide	5.60	76	103869	2.097	ng		98
27) 2-Butanone (MEK)	6.66	72	8715	0.968	ng	#	66
30) Ethyl Acetate	7.28	61	17337	2.875	ng		88
31) n-Hexane	7.30	57	42804	1.557	ng		97
32) Chloroform	7.35	83	1999	0.072	ng		86
34) Tetrahydrofuran (THF)	7.76	72	2539	0.299	ng	#	1
36) 1,2-Dichloroethane	8.12	62	3204	0.117	ng		95
41) Benzene	8.90	78	15389	0.272	ng		98
42) Carbon Tetrachloride	9.07	117	5670	0.242	ng		99
43) Cyclohexane	9.21	84	42076	2.203	ng		91
45) 1,2-Dichloropropane	9.86	63	3199	0.214	ng		92
49) 2,2,4-Trimethylpentane...	10.24	57	8277	0.124	ng		88
51) n-Heptane	10.58	71	13681	1.086	ng		94
58) Toluene	12.56	91	728919	10.144	ng		100
62) n-Butyl Acetate	13.77	43	25122	0.504	ng		92
63) n-Octane	13.92	57	2388	0.141	ng	#	79
64) Tetrachloroethene	14.02	166	1177	0.059	ng		83
66) Ethylbenzene	15.41	91	32036	0.387	ng		99
67) m- & p-Xylenes	15.63	91	70502	1.049	ng		98
69) Styrene	16.10	104	13702	0.315	ng		93
70) o-Xylene	16.24	91	34973	0.533	ng		99
71) n-Nonane	16.61	43	2977	0.069	ng	#	76
75) alpha-Pinene	17.52	93	130660	3.303	ng		98
82) 1,2,4-Trimethylbenzene	18.43	105	3856	0.057	ng		91
88) 4-Isopropyltoluene (p-...	18.92	119	5807	0.078	ng		86
91) d-Limonene	19.08	68	13123	0.581	ng		98

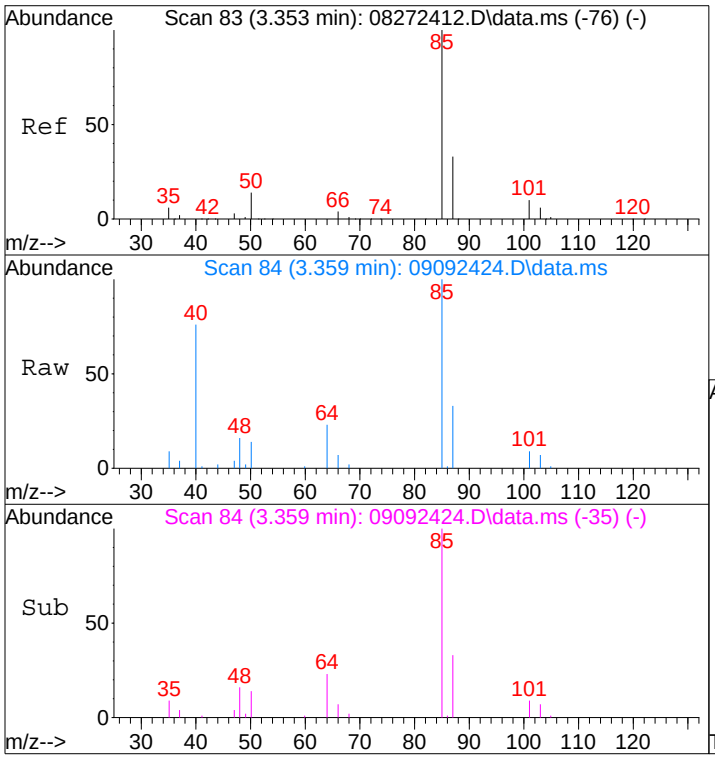
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:08:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

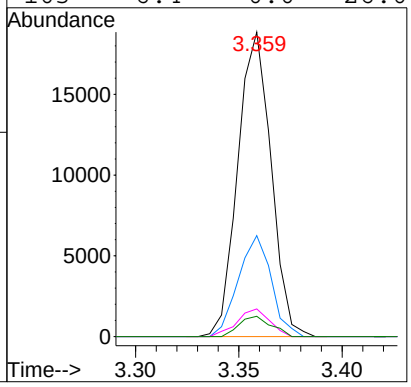


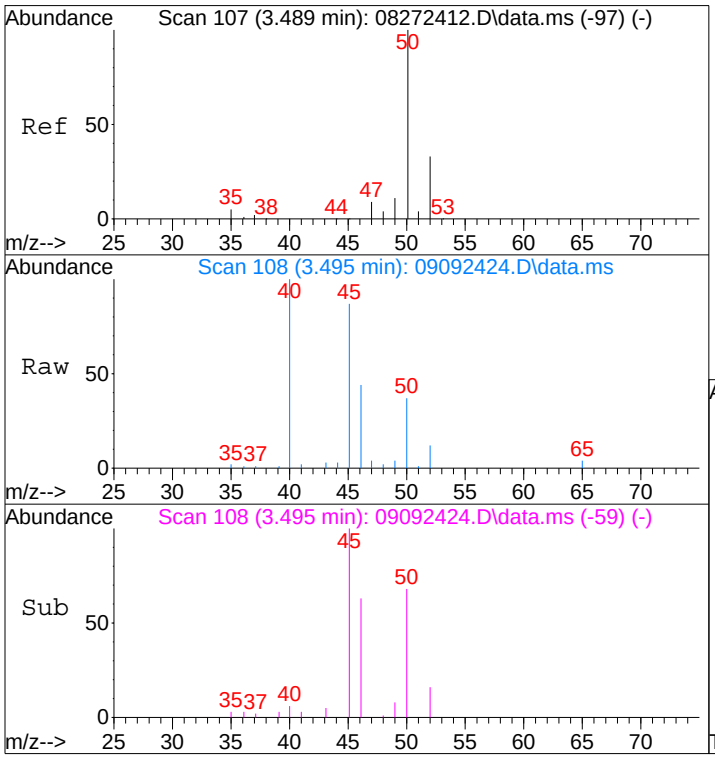


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.031 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 85 Resp: 21125

Ion	Ratio	Lower	Upper
85	100		
87	32.8	13.1	53.1
101	8.9	0.0	29.4
103	6.4	0.0	26.0

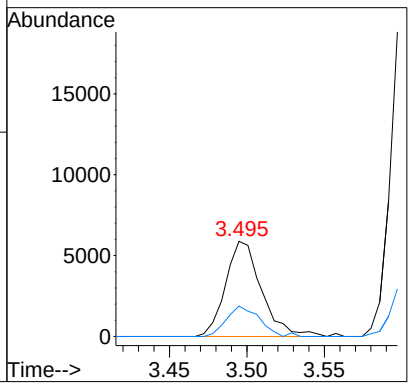


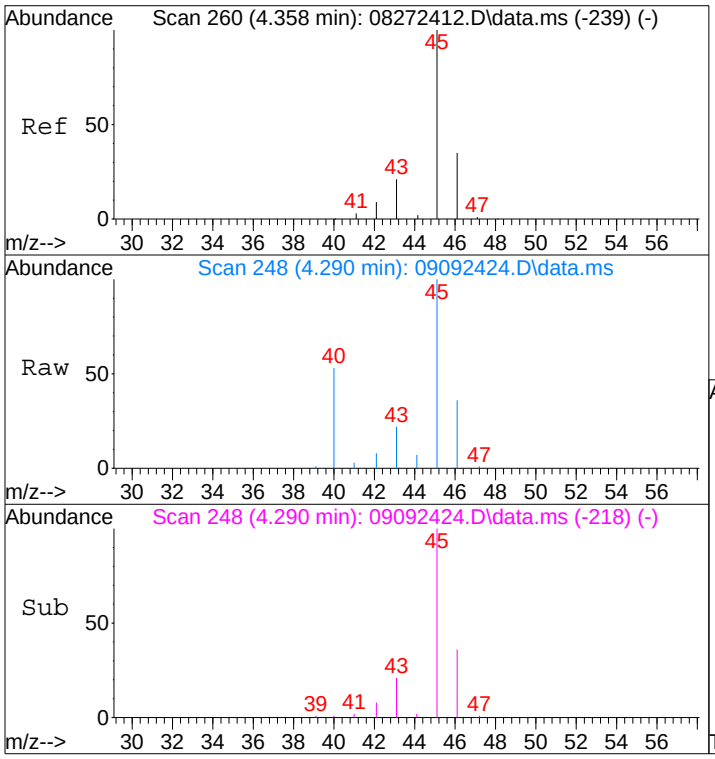


#4
Chloromethane
Concen: 0.36 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.027 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 50 Resp: 9490

Ion	Ratio	Lower	Upper
50	100		
52	29.5	12.4	52.4

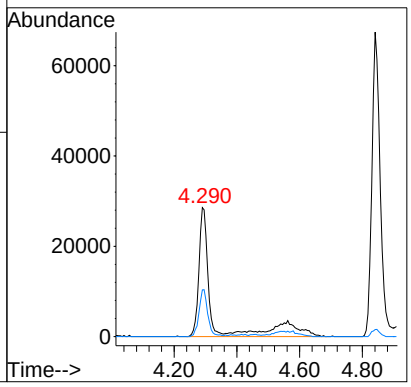


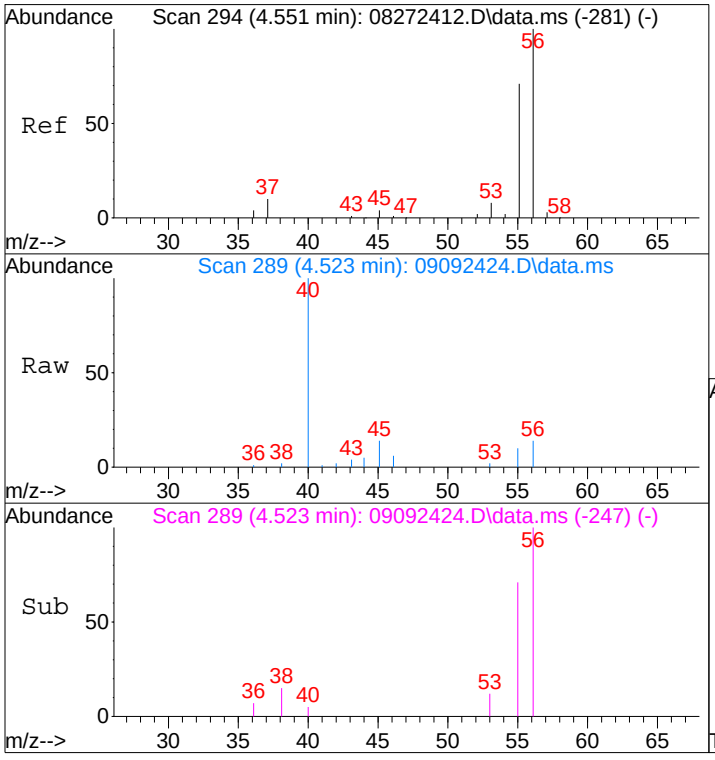


#10
Ethanol
Concen: 5.44 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.082 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 45 Resp: 81767

Ion	Ratio	Lower	Upper
45	100		
46	36.0	14.2	54.2

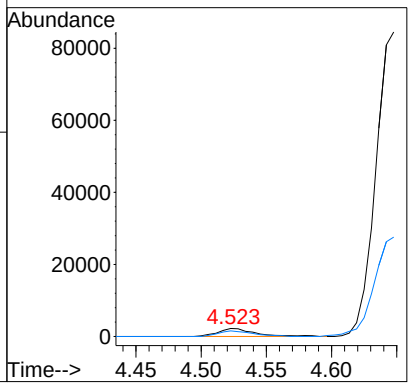


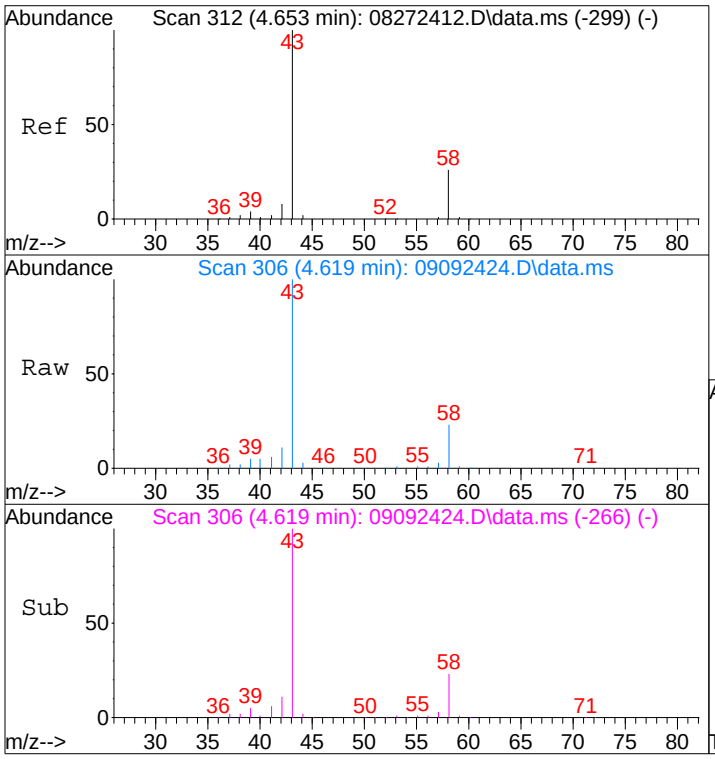


#12
Acrolein
Concen: 0.38 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.013 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 56 Resp: 4372

Ion	Ratio	Lower	Upper
56	100		
55	65.9	54.7	94.7

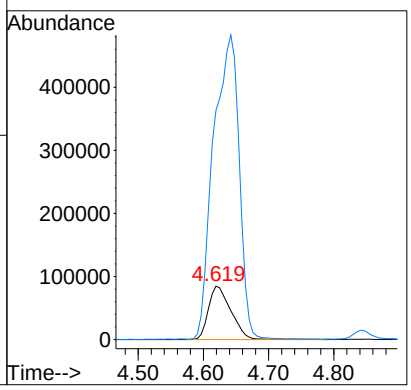


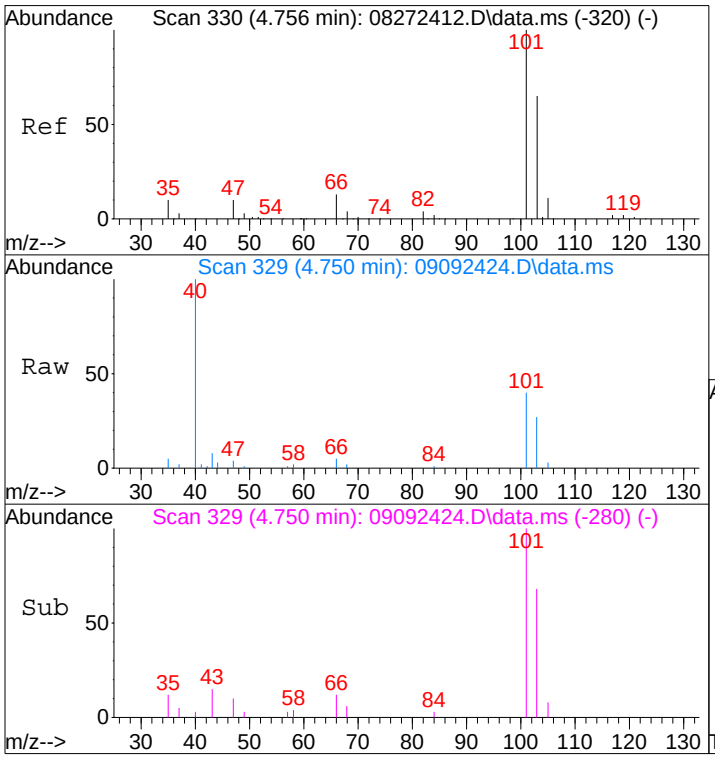


#13
Acetone
Concen: 15.94 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.023 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 58 Resp: 202264

Ion	Ratio	Lower	Upper
58	100		
43	651.9	347.3	407.3#

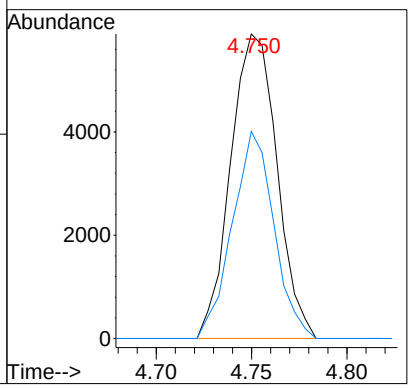


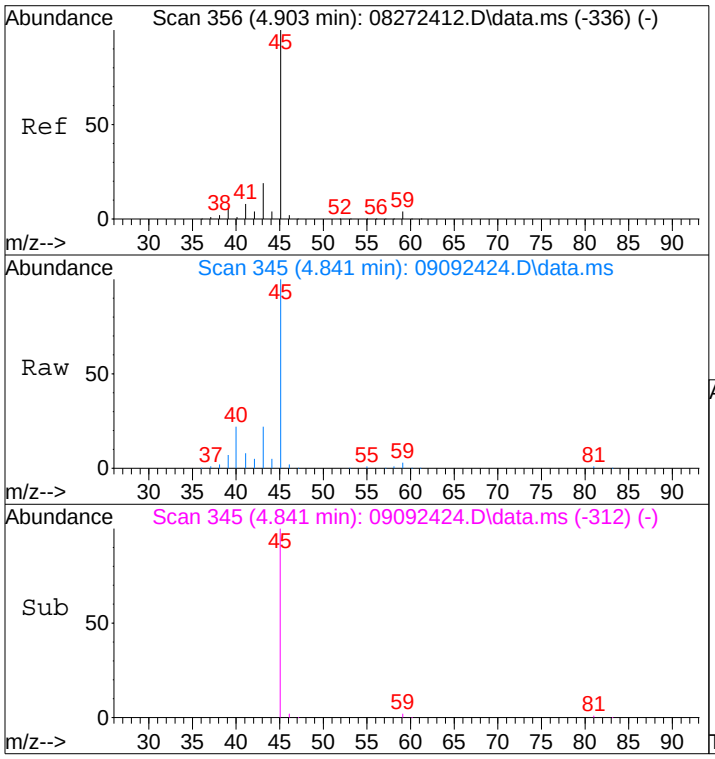


#14
Trichlorofluoromethane
Concen: 0.31 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:101 Resp: 9955

Ion	Ratio	Lower	Upper
101	100		
103	61.2	44.9	84.9

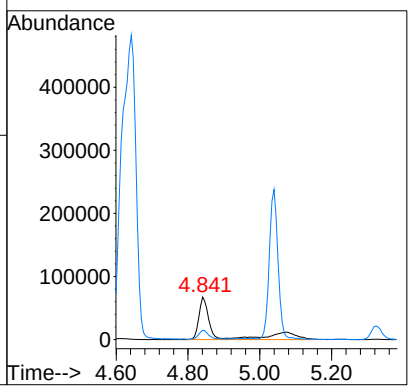


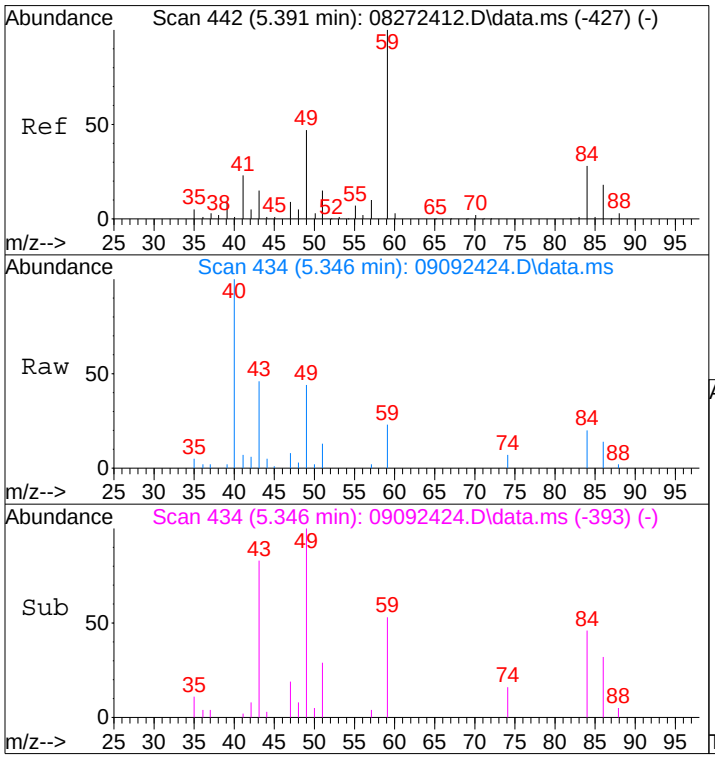


#15
2-Propanol (Isopropanol)
Concen: 3.96 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.065 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 45 Resp: 197886

Ion	Ratio	Lower	Upper
45	100		
43	15.6	0.0	40.0

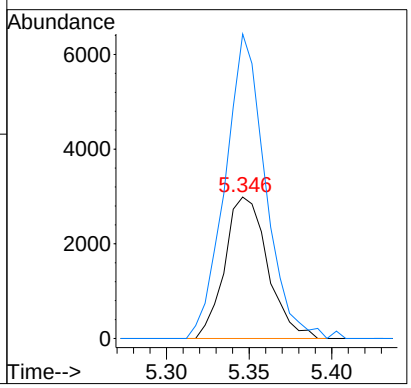


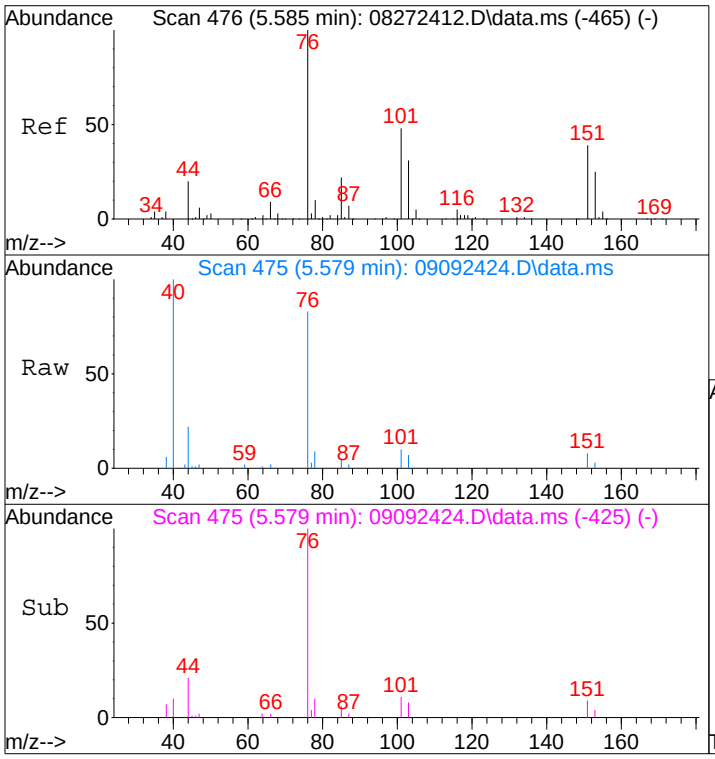


#19
Methylene Chloride
Concen: 0.36 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.015 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 84 Resp: 5385

Ion	Ratio	Lower	Upper
84	100		
49	203.4	151.1	201.1#

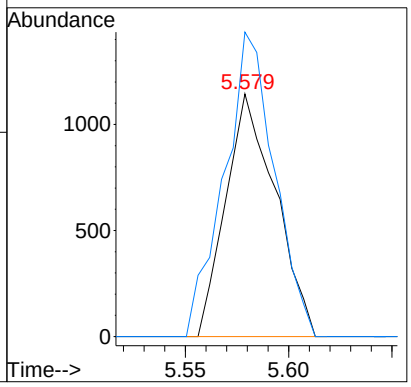


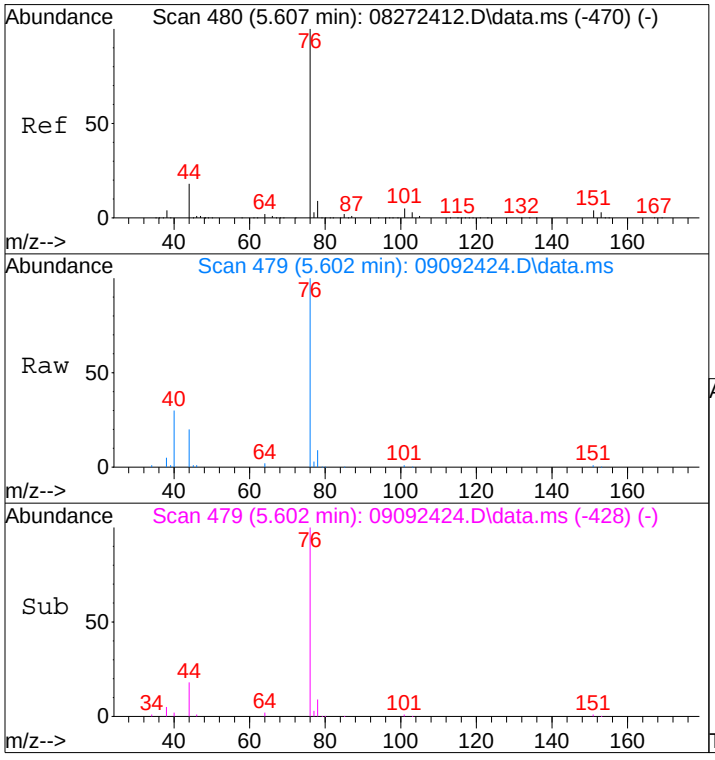


#21
Trichlorotrifluoroethane
Concen: 0.15 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:151 Resp: 1914

Ion	Ratio	Lower	Upper
151	100		
101	126.9	103.4	143.4

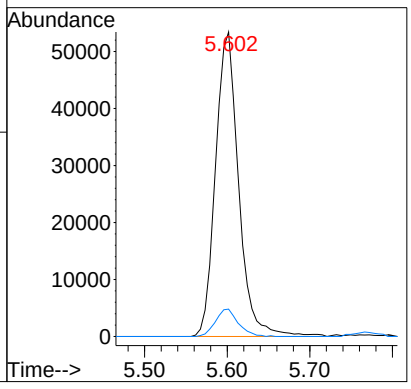


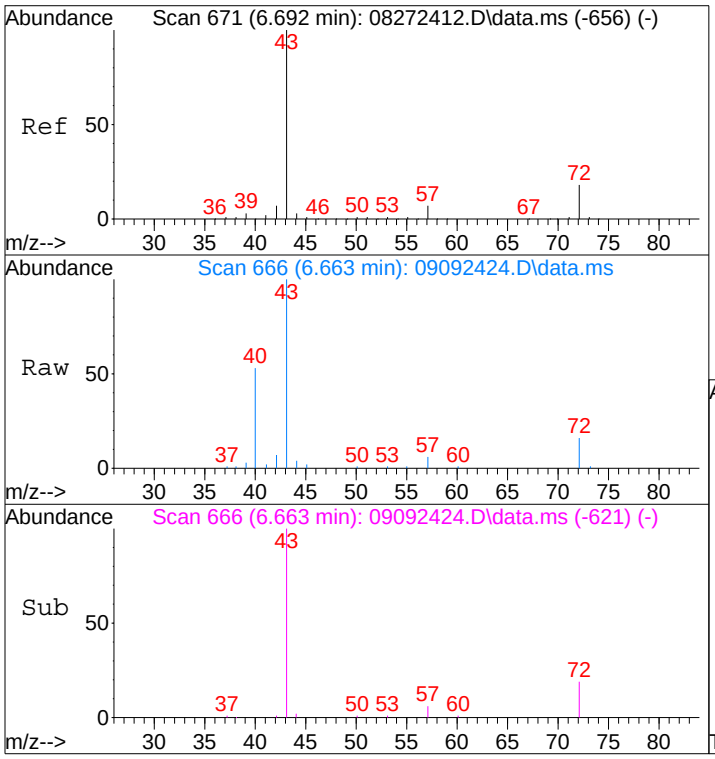


#22
Carbon Disulfide
Concen: 2.10 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 76 Resp: 103869

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.6

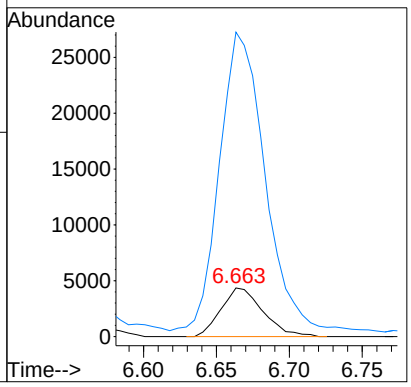


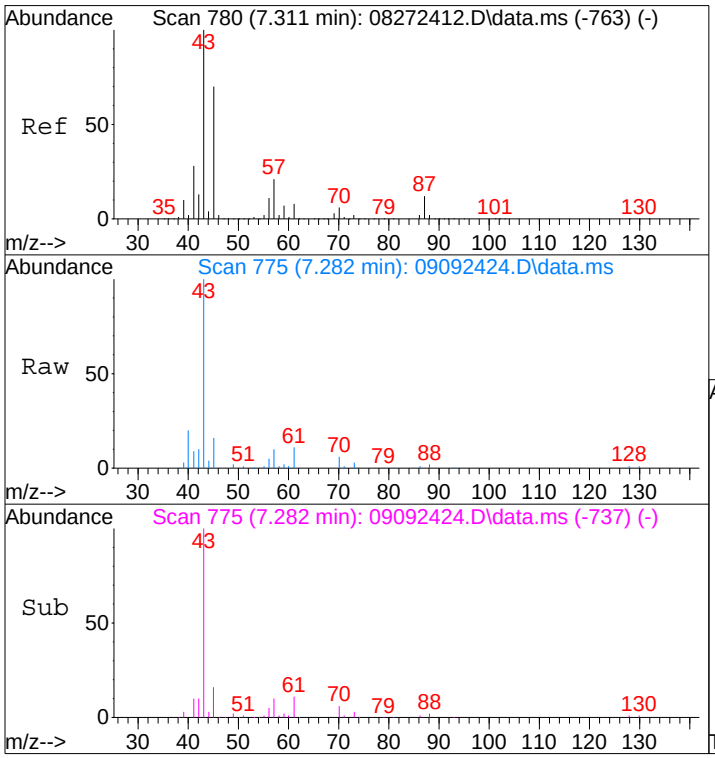


#27
2-Butanone (MEK)
Concen: 0.97 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 72 Resp: 8715

Ion	Ratio	Lower	Upper
72	100		
43	671.7	548.0	588.0#

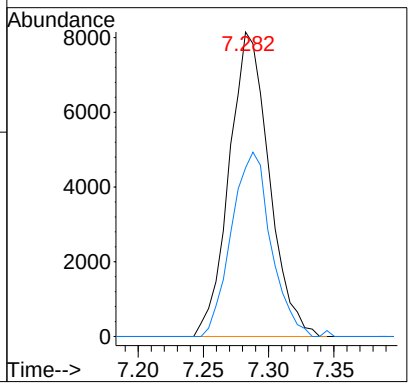


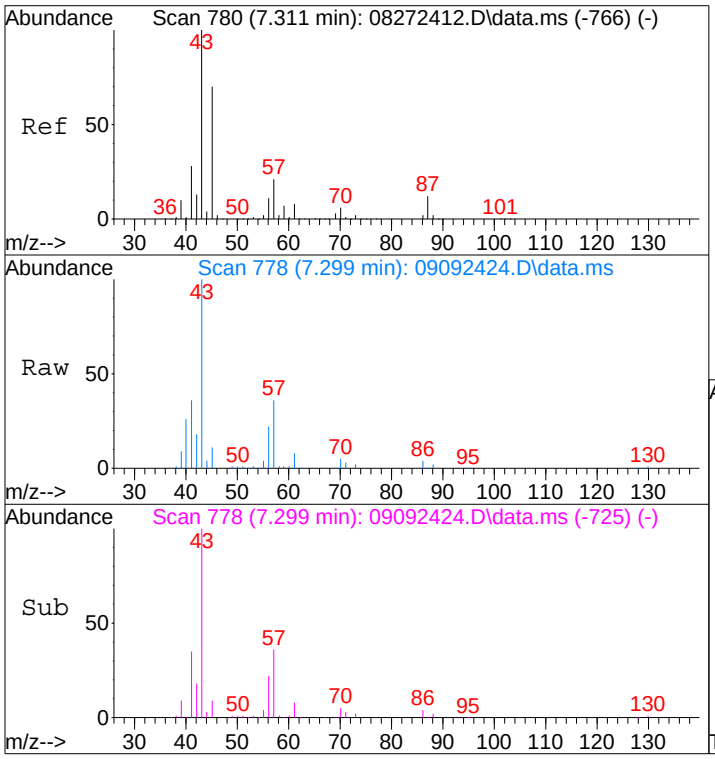


#30
Ethyl Acetate
Concen: 2.87 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 61 Resp: 17337

Ion	Ratio	Lower	Upper
61	100		
70	59.8	49.9	89.9

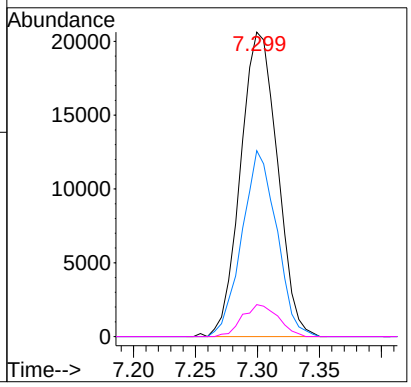


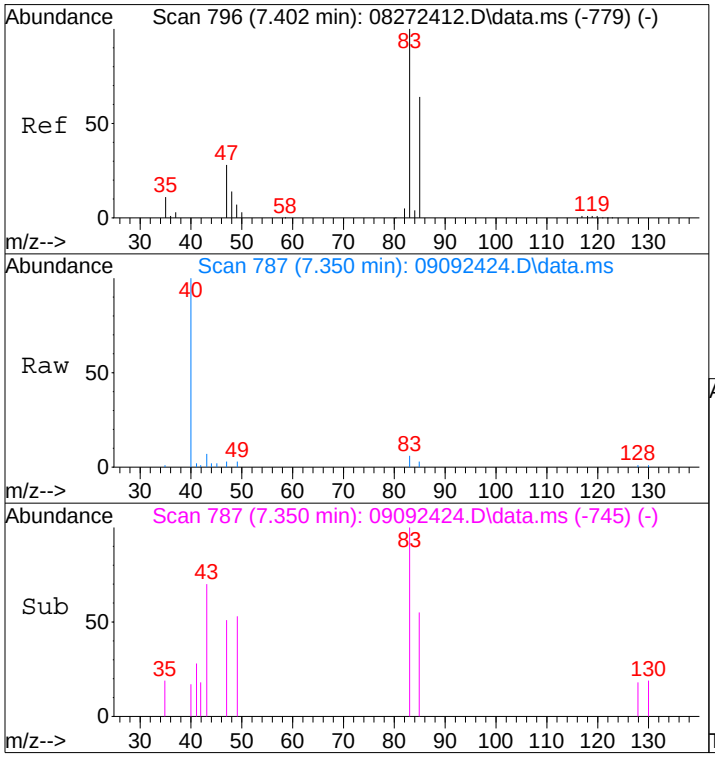


#31
n-Hexane
Concen: 1.56 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.051 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 57 Resp: 42804

Ion	Ratio	Lower	Upper
57	100		
56	57.6	44.2	66.2
86	10.3	9.3	13.9

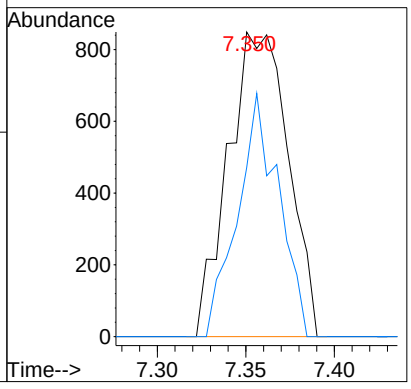


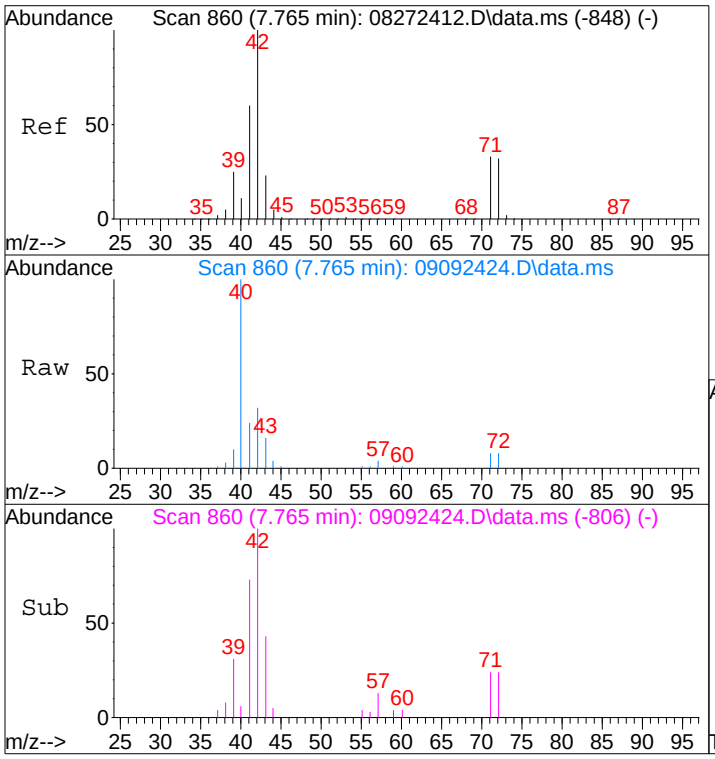


#32
Chloroform
Concen: 0.07 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 83 Resp: 1999

Ion	Ratio	Lower	Upper
83	100		
85	54.6	45.3	85.3

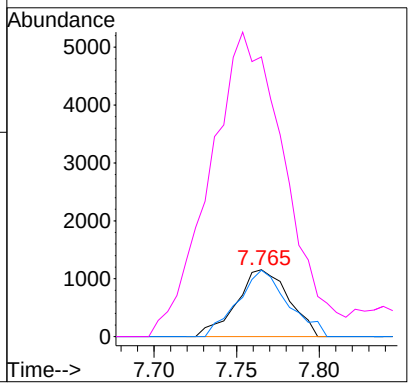


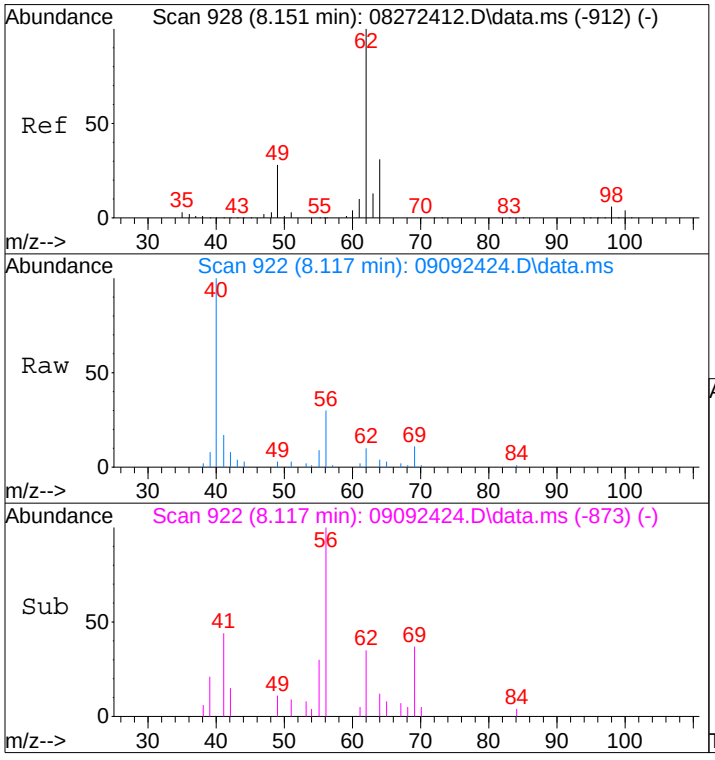


#34
Tetrahydrofuran (THF)
Concen: 0.30 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.056 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 72 Resp: 2539

Ion	Ratio	Lower	Upper
72	100		
71	95.1	78.4	118.4
42	656.1	285.2	325.2#

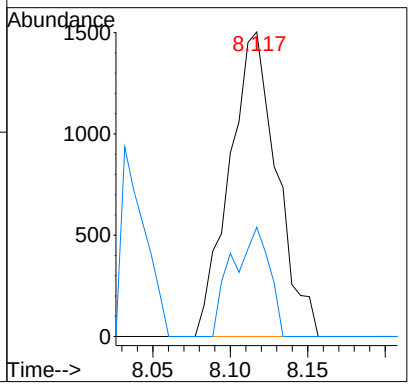


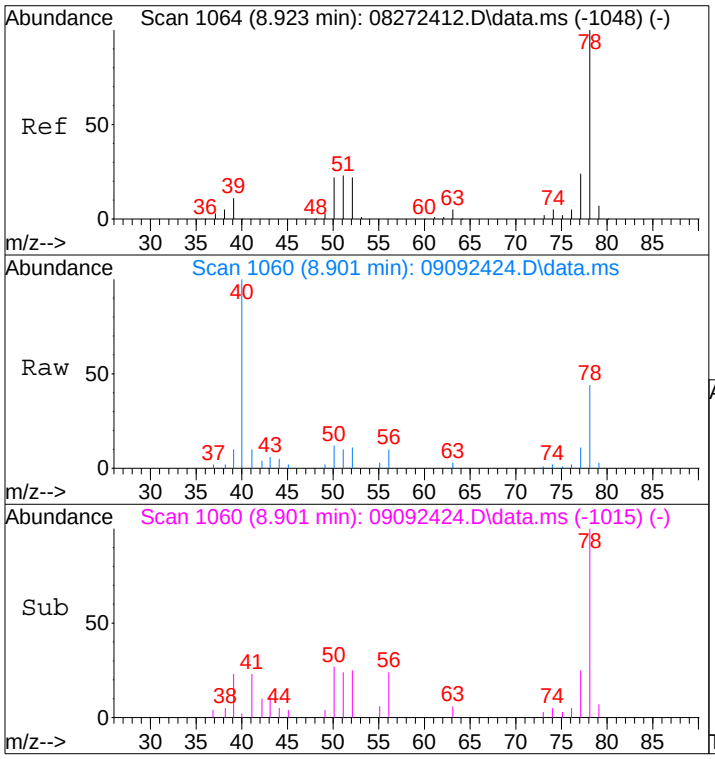


#36
1,2-Dichloroethane
Concen: 0.12 ng
RT: 8.12 min Scan# 922
Delta R.T. 0.026 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 62 Resp: 3204

Ion	Ratio	Lower	Upper
62	100		
64	28.2	11.0	51.0

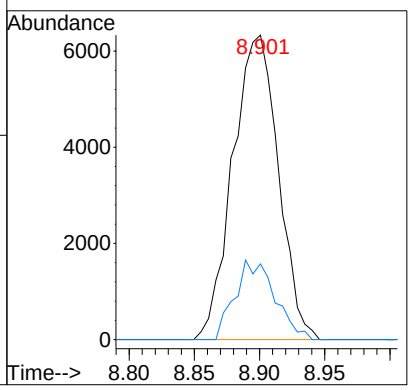


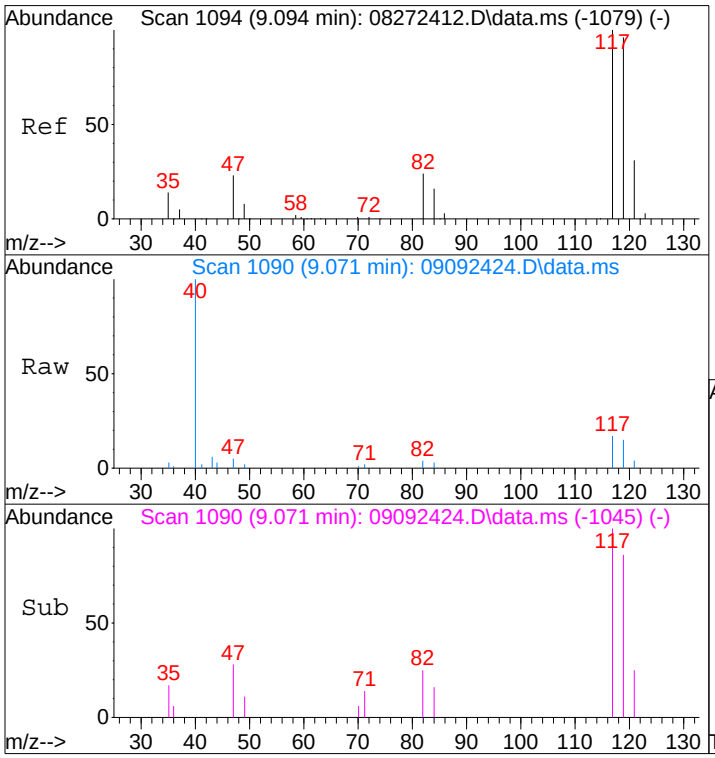


#41
Benzene
Concen: 0.27 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.004 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 78 Resp: 15389

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.9	43.9

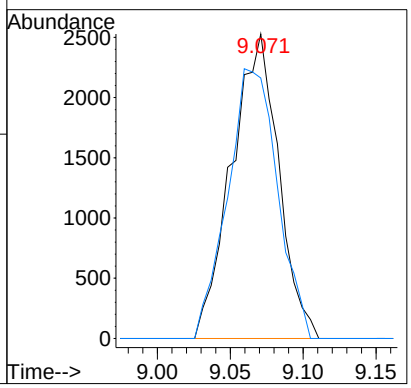


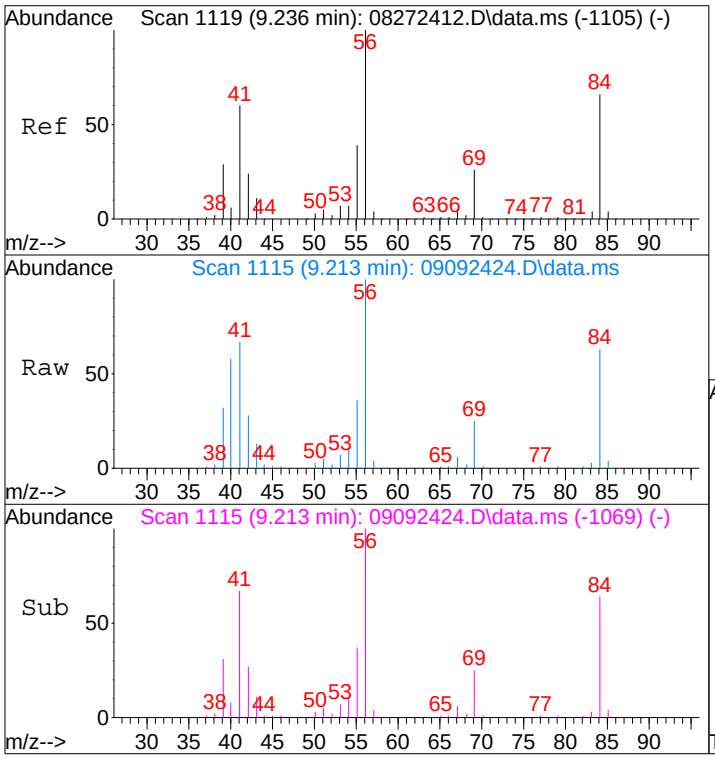


#42
Carbon Tetrachloride
Concen: 0.24 ng
RT: 9.07 min Scan# 1090
Delta R.T. 0.004 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:117 Resp: 5670

Ion	Ratio	Lower	Upper
117	100		
119	94.0	75.1	115.1

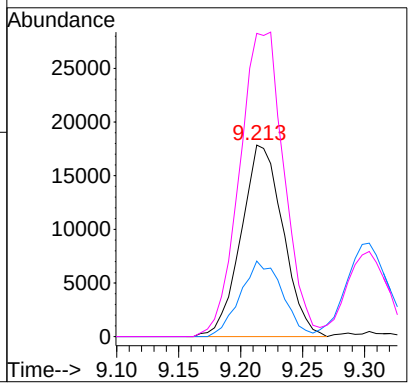


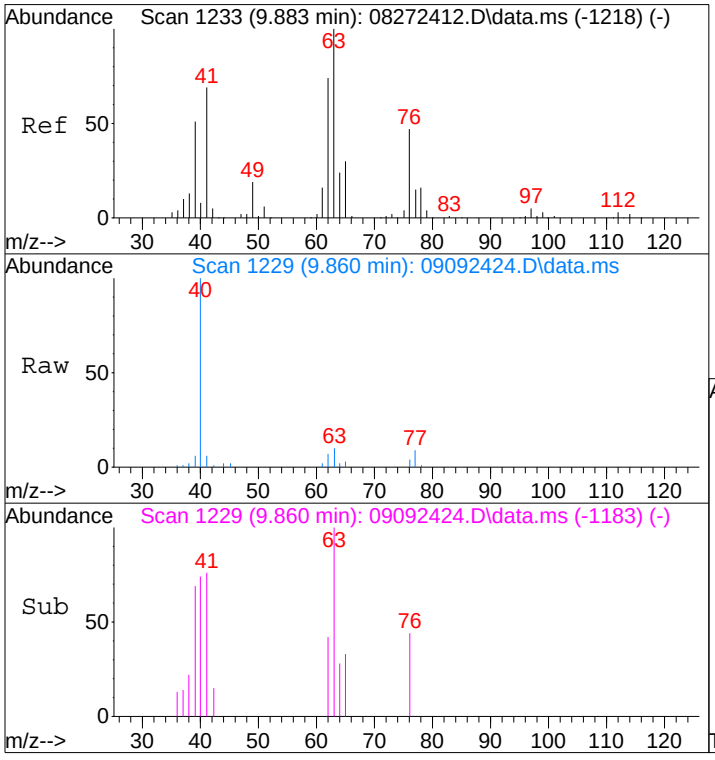


#43
Cyclohexane
Concen: 2.20 ng
RT: 9.21 min Scan# 1115
Delta R.T. 0.011 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 84 Resp: 42076

Ion	Ratio	Lower	Upper
84	100		
69	39.5	18.8	58.8
56	168.7	134.5	174.5

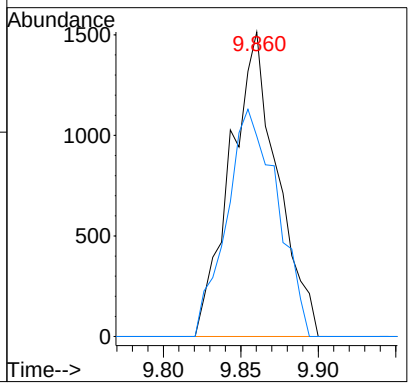


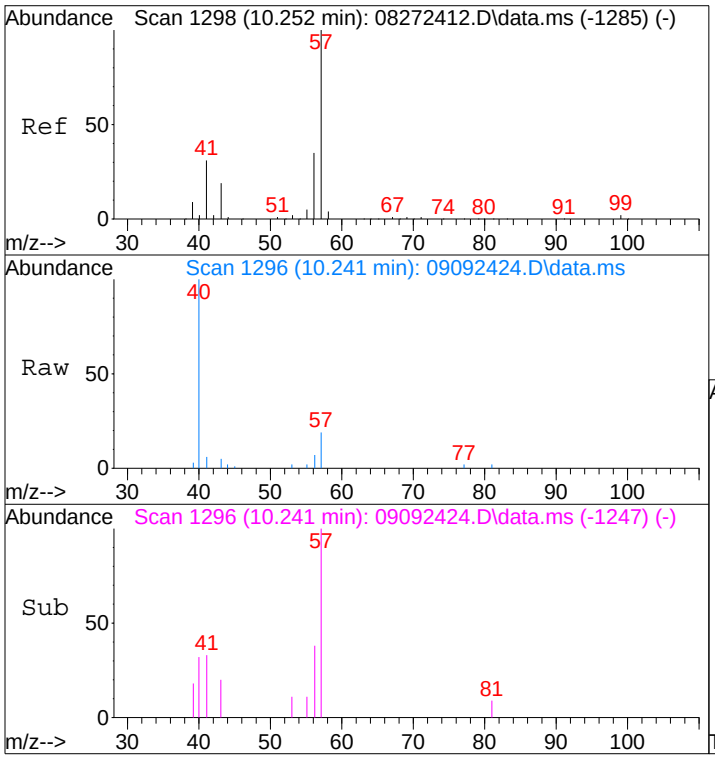


#45
1,2-Dichloropropane
Concen: 0.21 ng
RT: 9.86 min Scan# 1229
Delta R.T. 0.009 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 63 Resp: 3199

Ion	Ratio	Lower	Upper
63	100		
62	80.6	54.2	94.2

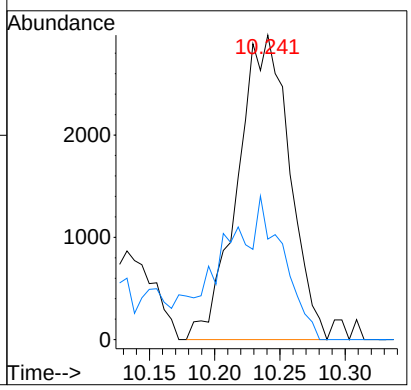


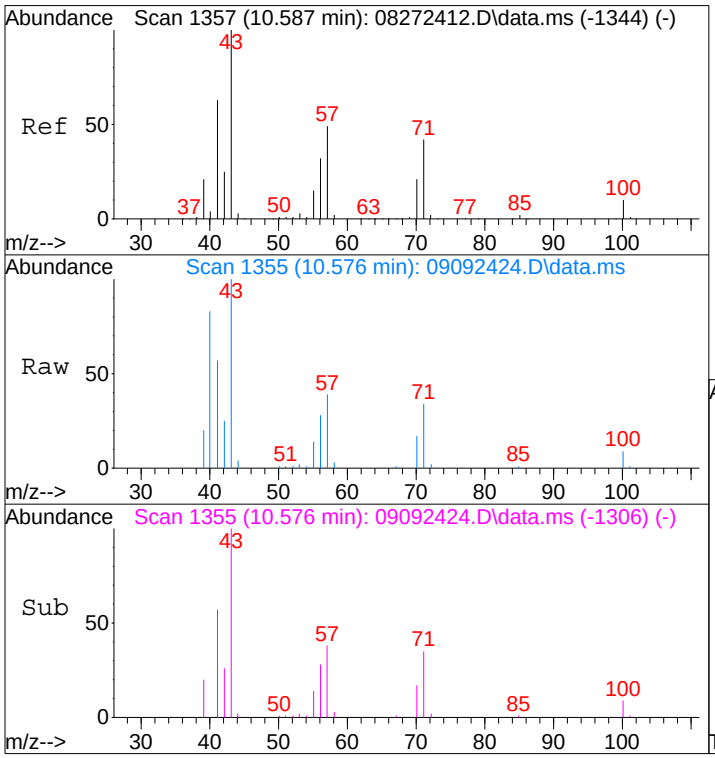


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.12 ng
RT: 10.24 min Scan# 1296
Delta R.T. 0.028 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 57 Resp: 8277

Ion	Ratio	Lower	Upper
57	100		
41	24.0	10.5	50.5

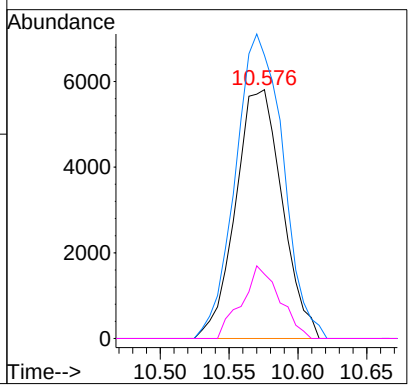


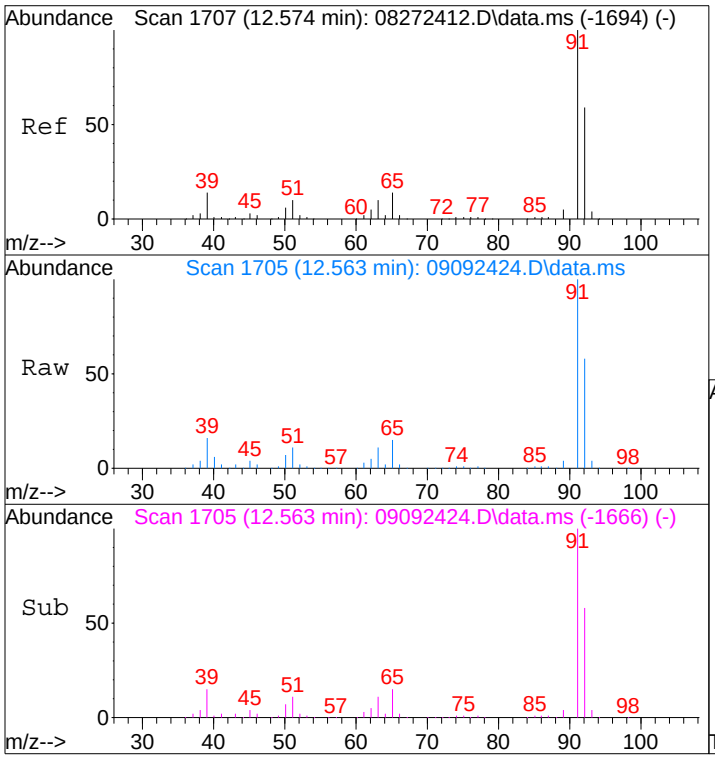


#51
n-Heptane
Concen: 1.09 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.030 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 71 Resp: 13681

Ion	Ratio	Lower	Upper
71	100		
57	124.8	97.1	137.1
100	23.7	5.0	45.0

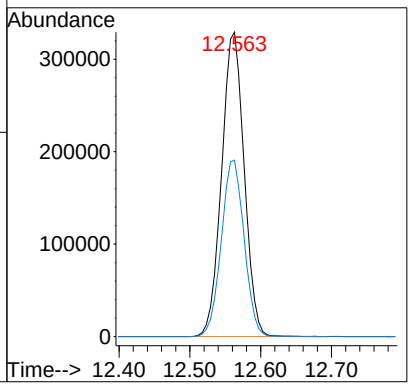


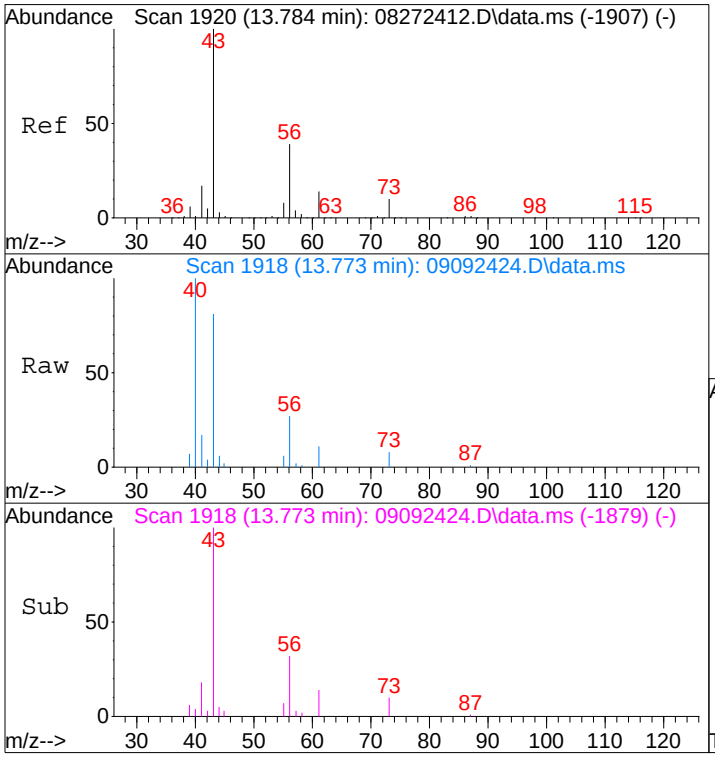


#58
Toluene
Concen: 10.14 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 91 Resp: 728919

Ion	Ratio	Lower	Upper
91	100		
92	58.6	38.5	78.5

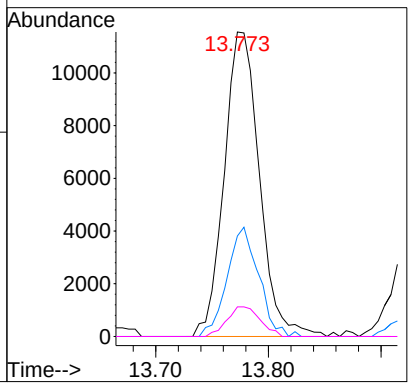


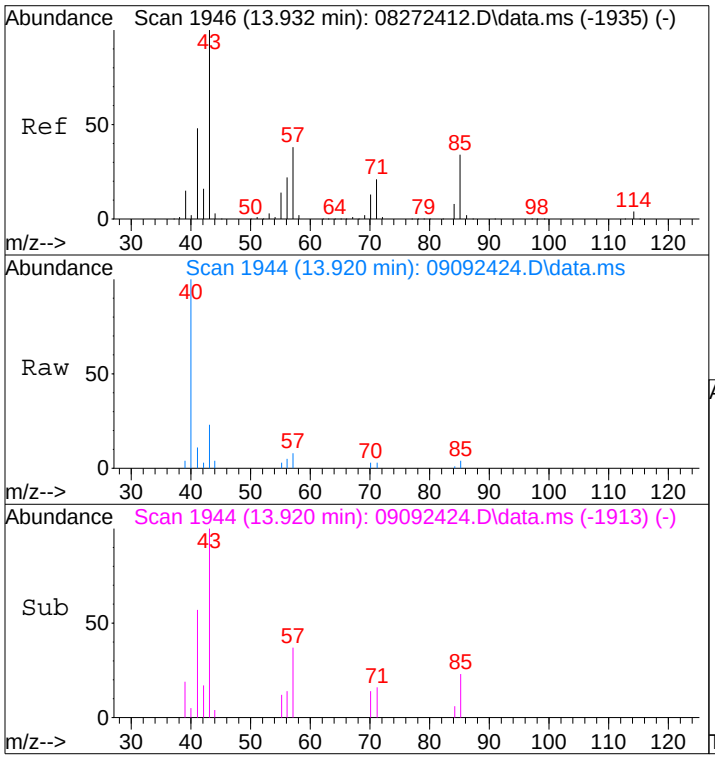


#62
n-Butyl Acetate
Concen: 0.50 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 43 Resp: 25122

Ion	Ratio	Lower	Upper
43	100		
56	32.2	18.2	58.2
73	9.2	0.0	30.1

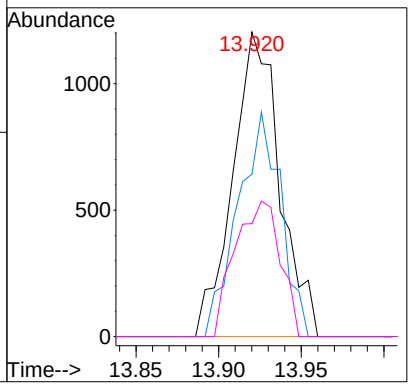


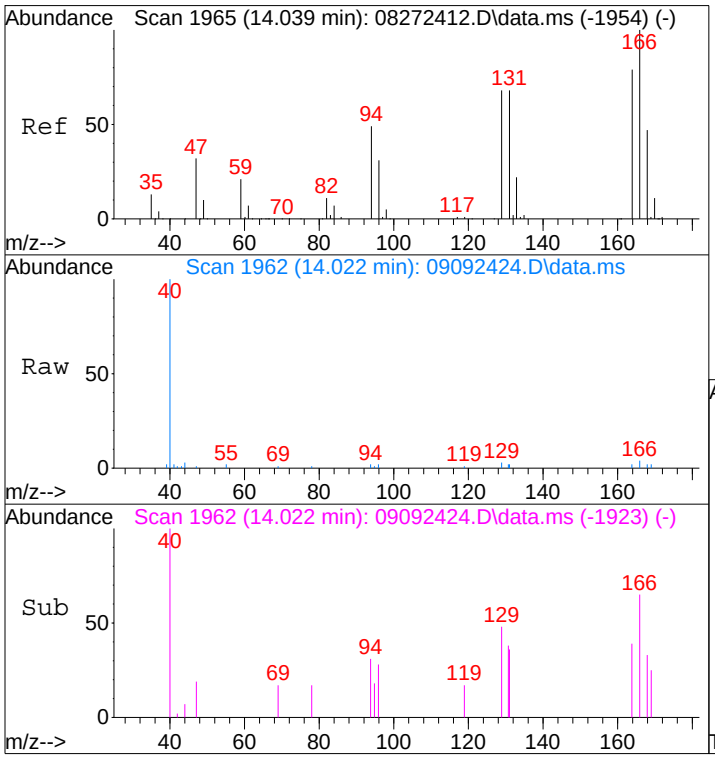


#63
n-Octane
Concen: 0.14 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 57 Resp: 2388

Ion	Ratio	Lower	Upper
57	100		
85	67.0	71.2	106.8#
71	42.9	43.3	64.9#

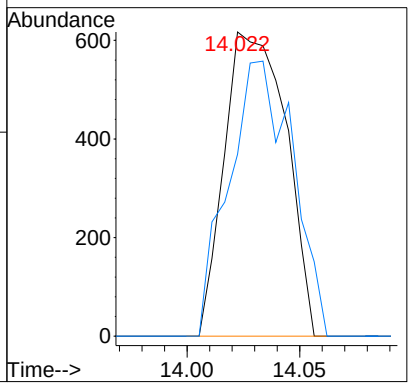


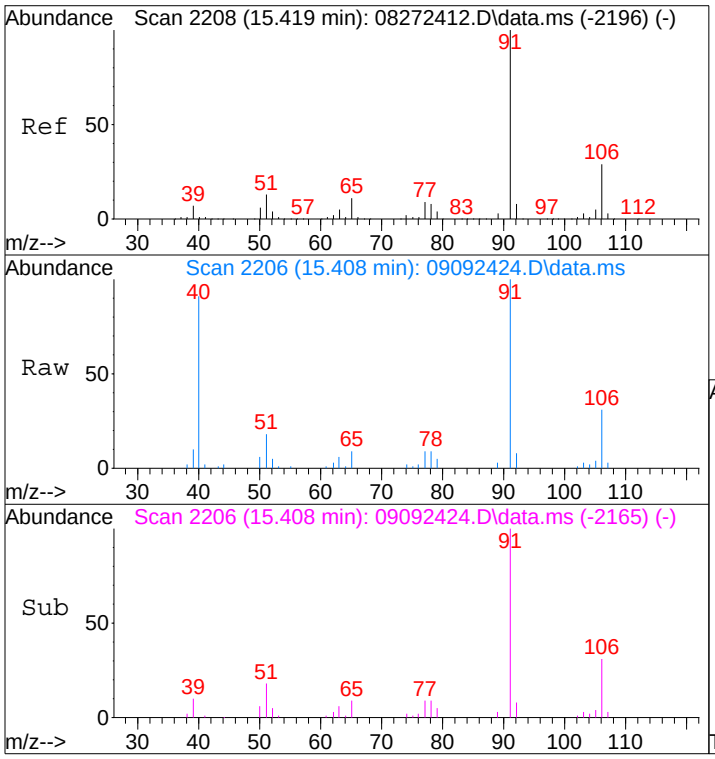


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.02 min Scan# 1962
Delta R.T. -0.028 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:166 Resp: 1177

Ion	Ratio	Lower	Upper
166	100		
164	93.8	59.0	99.0

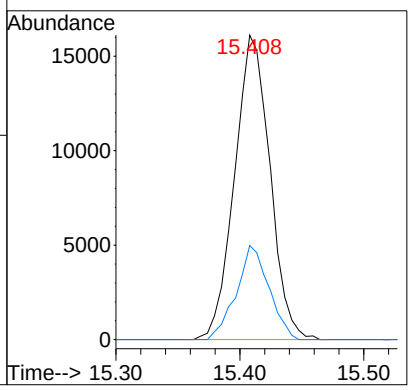


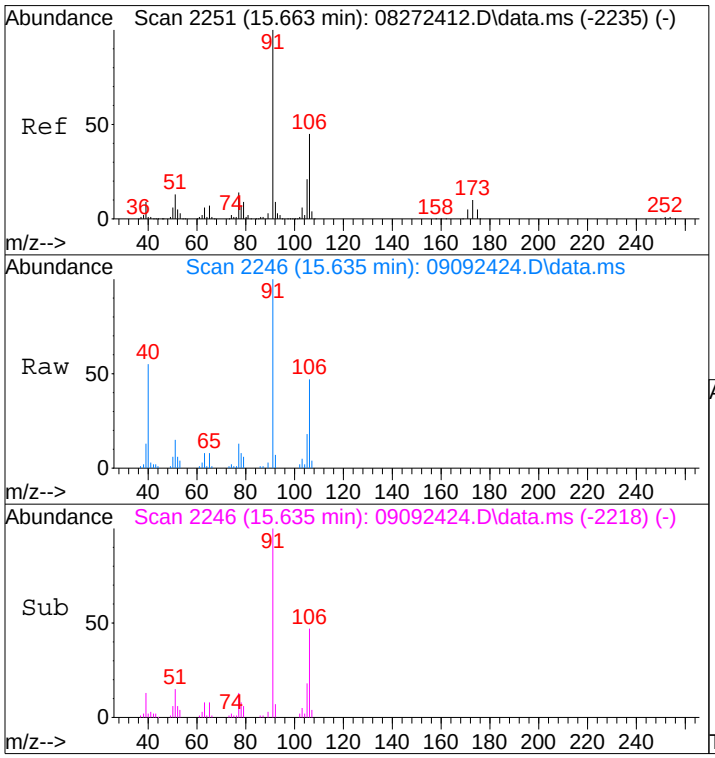


#66
Ethylbenzene
Concen: 0.39 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 91 Resp: 32036

Ion	Ratio	Lower	Upper
91	100		
106	28.5	9.2	49.2

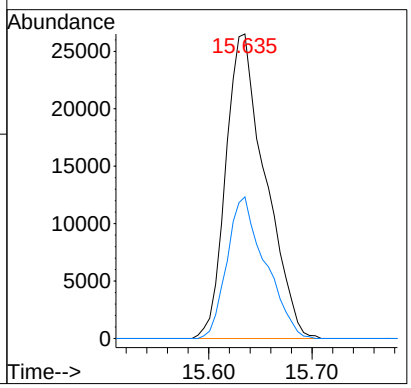


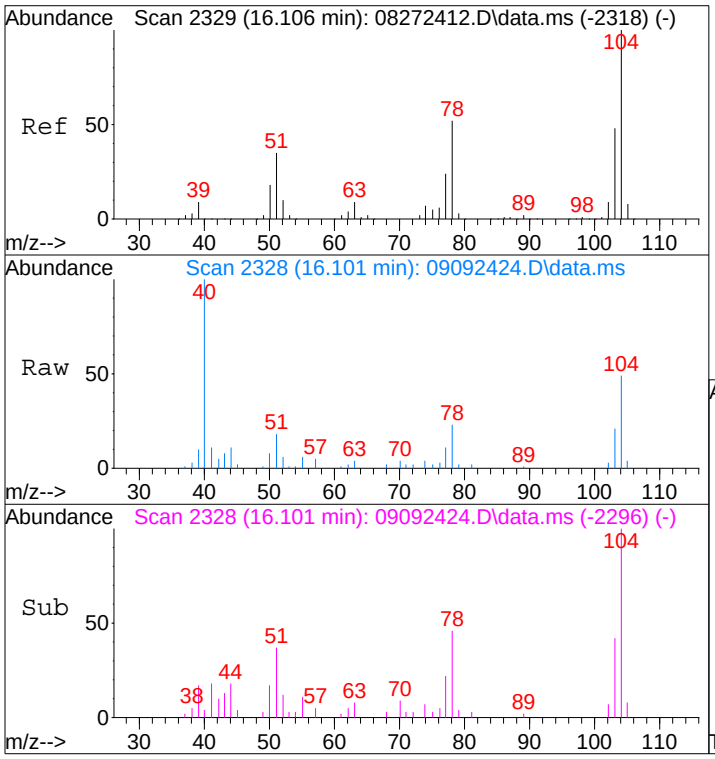


#67
m- & p-Xylenes
Concen: 1.05 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 91 Resp: 70502

Ion	Ratio	Lower	Upper
91	100		
106	45.1	23.8	63.8

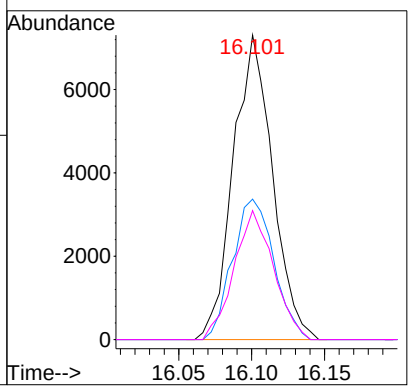


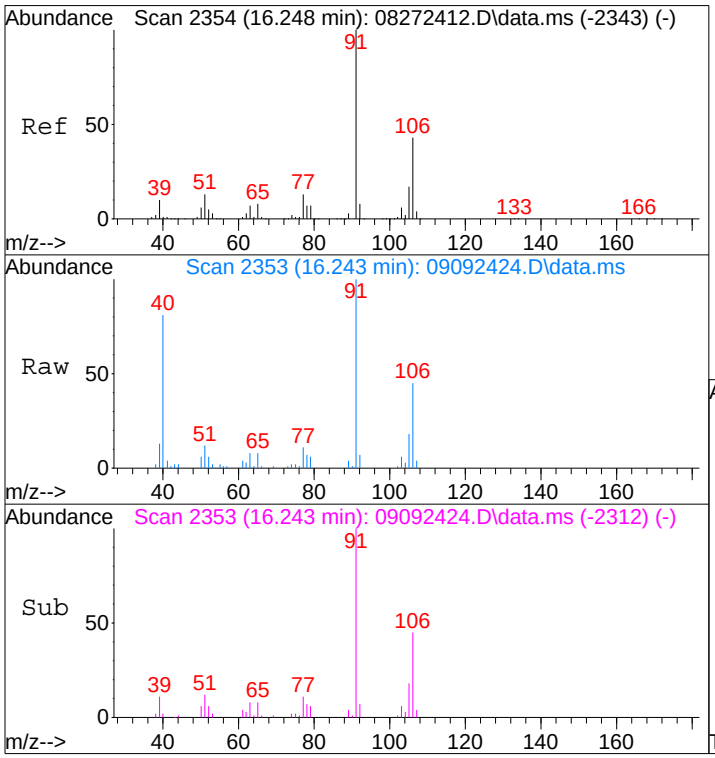


#69
Styrene
Concen: 0.32 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:104 Resp: 13702

Ion	Ratio	Lower	Upper
104	100		
78	48.6	32.2	72.2
103	42.6	28.3	68.3

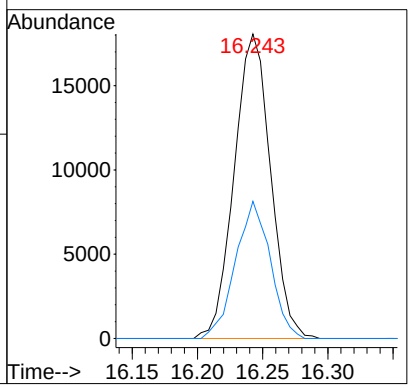


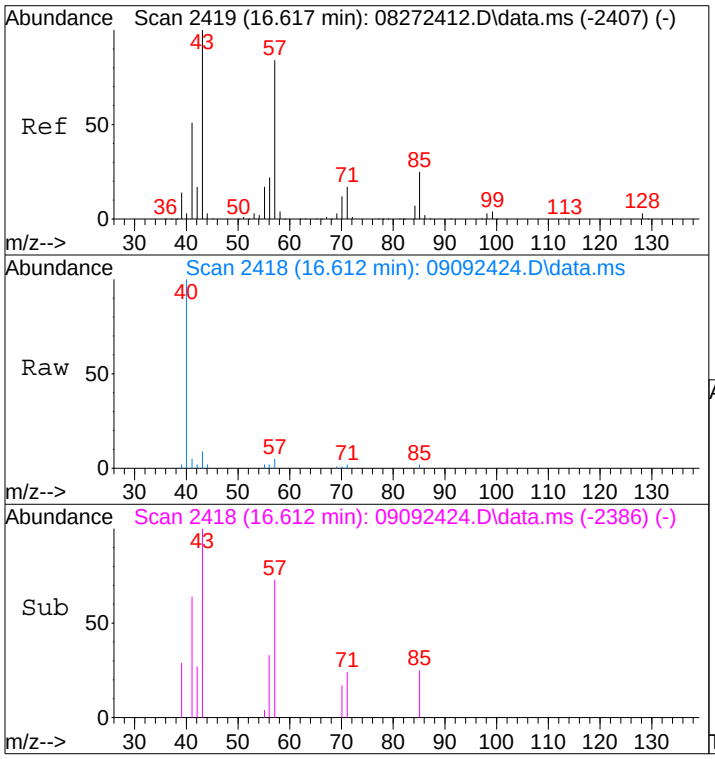


#70
o-Xylene
Concen: 0.53 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 91 Resp: 34973

Ion	Ratio	Lower	Upper
91	100		
106	43.2	22.5	62.5

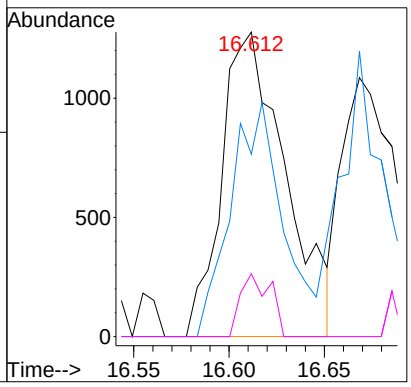


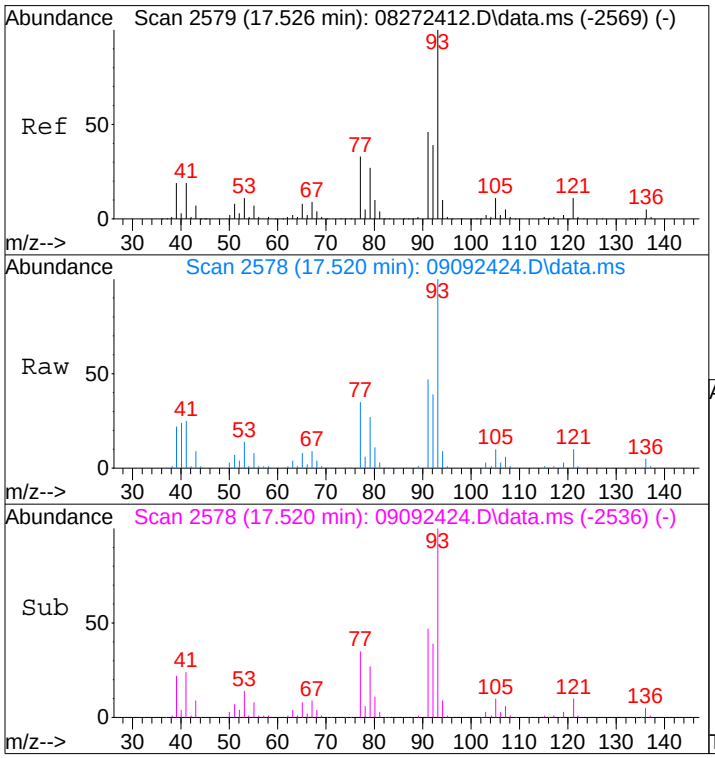


#71
n-Nonane
Concen: 0.07 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 43 Resp: 2977

Ion	Ratio	Lower	Upper
43	100		
57	62.8	63.3	103.3#
85	9.7	4.5	44.5

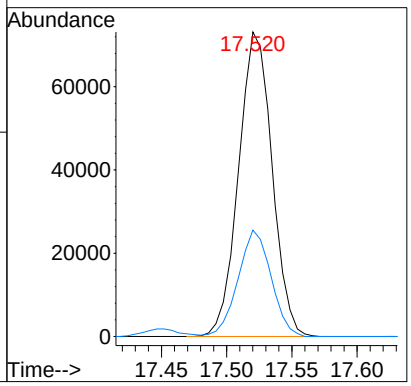


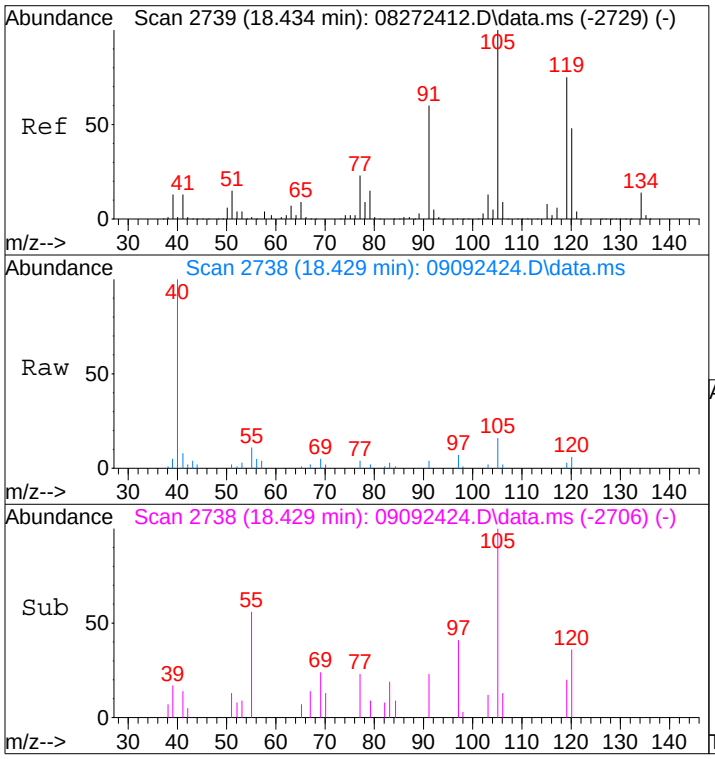


#75
alpha-Pinene
Concen: 3.30 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 93 Resp: 130660

Ion	Ratio	Lower	Upper
93	100		
77	34.4	13.1	53.1

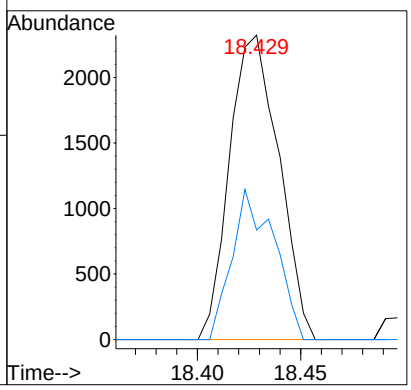


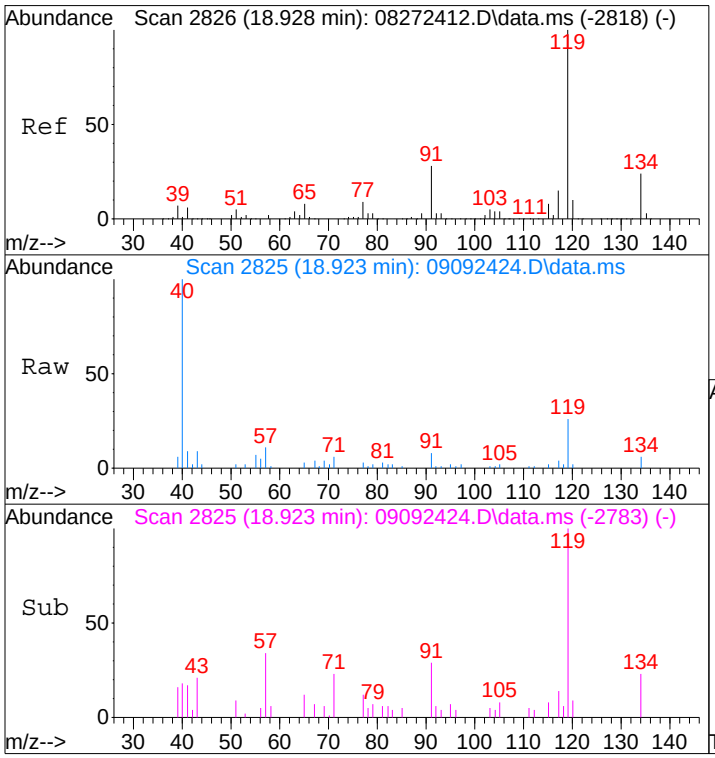


#82
1,2,4-Trimethylbenzene
Concen: 0.06 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:105 Resp: 3856

Ion	Ratio	Lower	Upper
105	100		
120	42.3	28.8	68.8

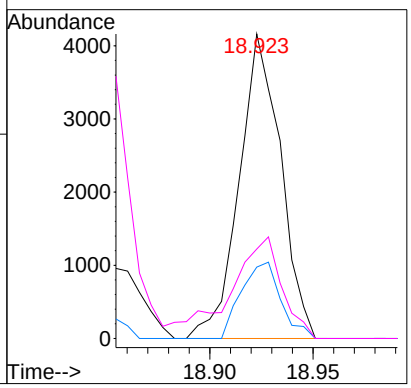


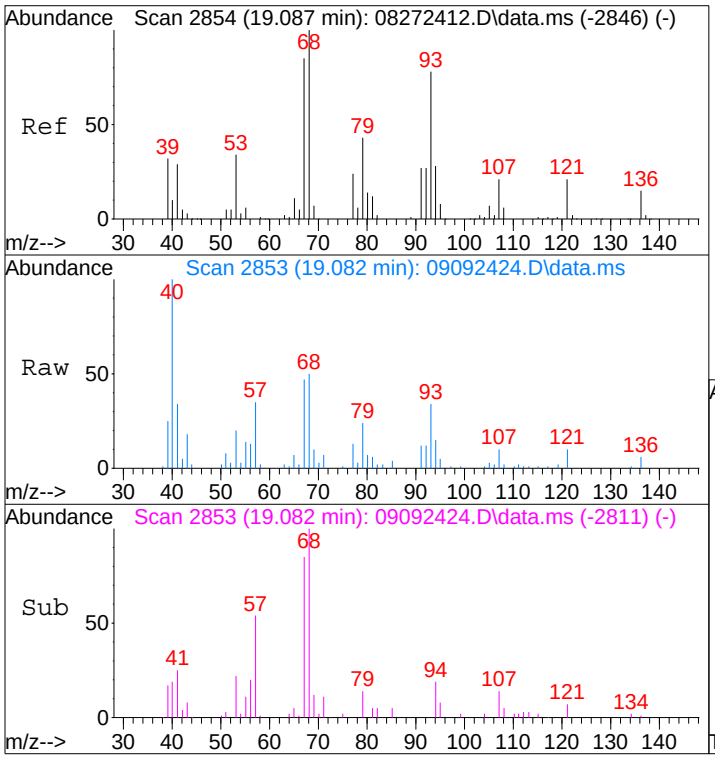


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.08 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion:119 Resp: 5807

Ion	Ratio	Lower	Upper
119	100		
134	23.9	4.7	44.7
91	40.9	8.1	48.1

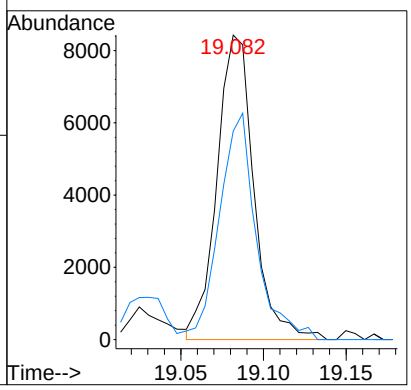




#91
d-Limonene
Concen: 0.58 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092424.D
Acq: 9 Sep 2024 21:35

Tgt Ion: 68 Resp: 13123

Ion	Ratio	Lower	Upper
68	100		
93	74.1	56.2	96.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:32:11 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

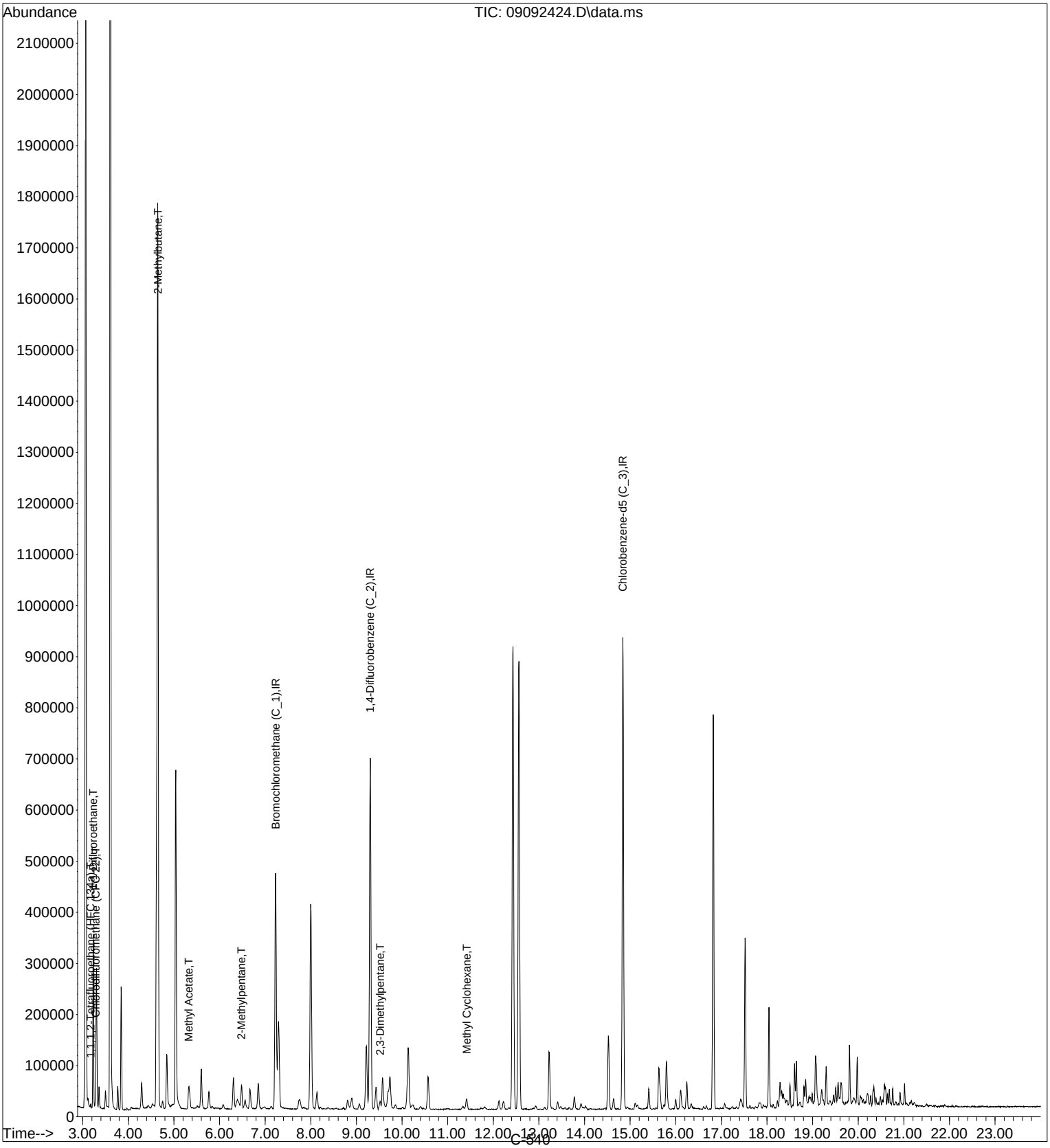
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	138532	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	603790	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	189490	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	230	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	3638	0.256 ng		90
4) 1,1-Difluoroethane	3.23	65	78986	6.530 ng		96
5) Chlorodifluoromethane ...	3.28	67	2254	0.477 ng		94
6) 1-Chloro-1,1-Difluoroe...	3.48	65	930	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.65	57	363751	22.015 ng		93
11) Methyl Acetate	5.32	43	47561	1.019 ng	#	69
12) 2-Methylpentane	6.48	71	7671	0.640 ng		98
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.06	84	836	N.D.		
17) 2,3-Dimethylpentane	9.52	56	8230	0.282 ng		90
18) Dibromomethane	9.80	174	59	N.D.		
20) Methyl Cyclohexane	11.42	55	9962	0.306 ng		88
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	378	N.D.		
25) Bromobenzene	17.04	77	201	N.D.		
26) 2-Chlorotoluene	17.61	91	371	N.D.		
27) 4-Chlorotoluene	17.68	91	2292	N.D.		
28) Indane	19.11	117	168	N.D.		
29) Indene	19.09	115	177	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	371	N.D.		
31) 1,2,3,4-Tetramethylben...	20.18	119	371	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	548	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

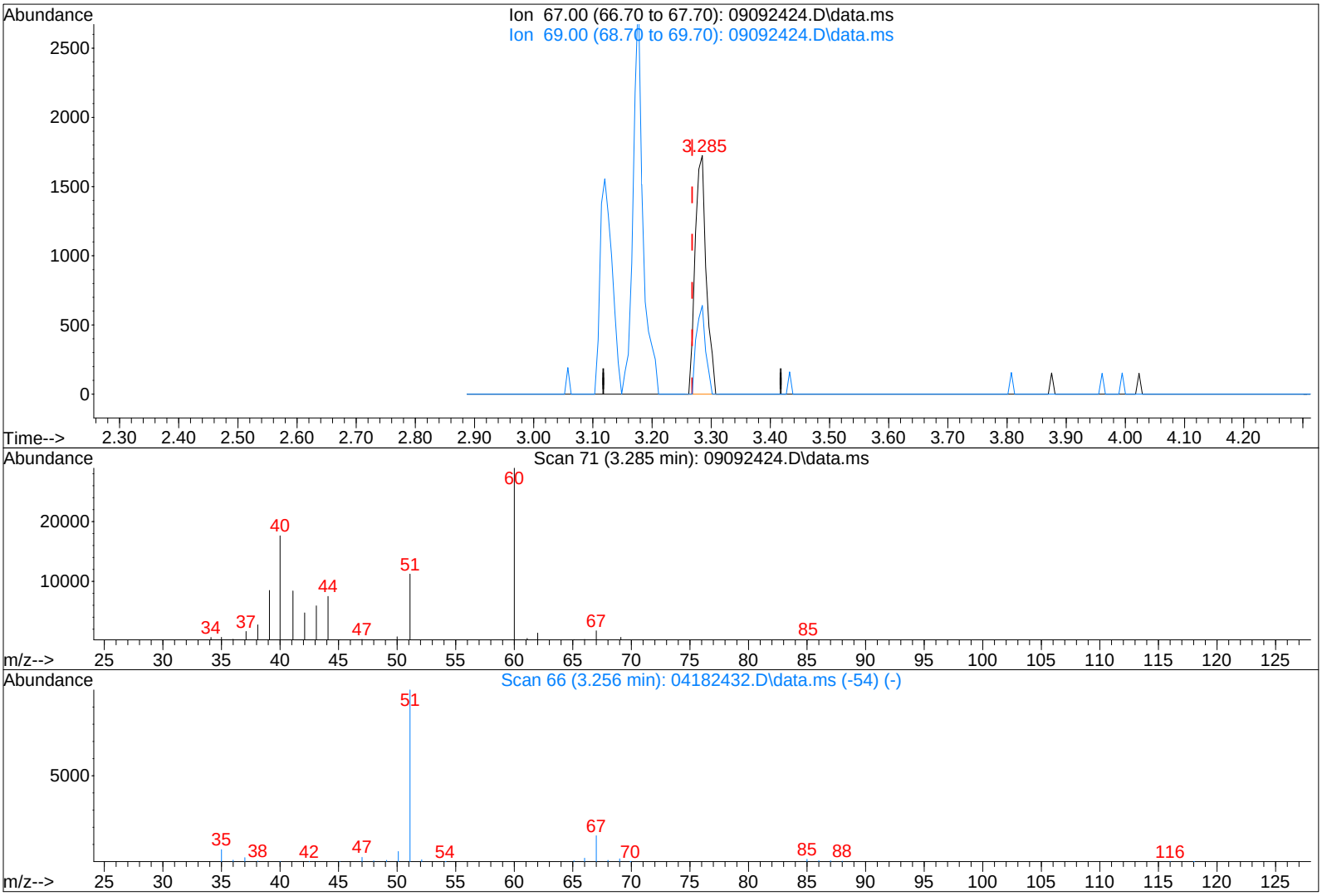
Quant Time: Sep 10 12:32:11 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092424.D Vial: 11
Acq On : 9 Sep 2024 21:35 Operator: SC
Sample : P2403661-008 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:31:36 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092424.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.285min (+0.017) 0.48ng

response 2254

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	30.92
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092424.D
Acq On : 9 Sep 2024 21:35
Operator : SC
Sample : P2403661-008 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092424.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	67	rVB	333511	354512	6.25%	1.138%
2	3.302	67	74	80	rVV3	271737	410069	7.23%	1.317%
3	3.359	80	84	88	rVB	40698	47068	0.83%	0.151%
4	3.501	104	109	115	rBV	34766	53510	0.94%	0.172%
5	3.603	121	127	150	rVB	4186927	5670651	100.00%	18.209%
6	3.767	152	156	162	rVV	46407	64894	1.14%	0.208%
7	3.841	162	169	179	rVB	241217	325776	5.74%	1.046%
8	4.068	203	209	213	rBV3	5578	13049	0.23%	0.042%
9	4.290	239	248	258	rBV	51003	101207	1.78%	0.325%
10	4.432	267	273	280	rBV2	4856	10576	0.19%	0.034%
11	4.523	284	289	299	rBV4	8128	26302	0.46%	0.084%
12	4.642	299	310	324	rVB3	1769714	3719225	65.59%	11.943%
13	4.750	324	329	335	rVB3	14401	25929	0.46%	0.083%
14	4.841	338	345	360	rBV	106484	213404	3.76%	0.685%
15	5.039	373	380	404	rVB	662024	1173986	20.70%	3.770%
16	5.329	422	431	441	rBV2	44112	117709	2.08%	0.378%
17	5.602	470	479	489	rVB	77398	153176	2.70%	0.492%
18	5.766	498	508	516	rBV	32429	66536	1.17%	0.214%
19	6.079	558	563	569	rVB5	7836	16295	0.29%	0.052%
20	6.306	595	603	610	rBV	61040	132748	2.34%	0.426%
21	6.391	610	618	628	rVV7	18897	77211	1.36%	0.248%
22	6.482	628	634	640	rVV	46535	95455	1.68%	0.307%
23	6.561	640	648	658	rVV5	17317	45572	0.80%	0.146%
24	6.663	660	666	677	rVB	38432	82977	1.46%	0.266%
25	6.845	690	698	707	rBV4	49023	110202	1.94%	0.354%
26	7.135	741	749	754	rBV2	5241	11973	0.21%	0.038%
27	7.226	757	765	772	rBV	460683	1048095	18.48%	3.366%
28	7.294	772	777	786	rVB3	166897	403784	7.12%	1.297%
29	7.754	847	858	868	rBV5	18481	65281	1.15%	0.210%
30	7.998	890	901	912	rBV	400589	935802	16.50%	3.005%
31	8.134	918	925	933	rVB5	32967	75300	1.33%	0.242%
32	8.804	1034	1043	1051	rBV3	18157	46927	0.83%	0.151%
33	8.901	1051	1060	1068	rVB4	20975	58062	1.02%	0.186%
34	9.060	1083	1088	1097	rVB5	10232	23953	0.42%	0.077%
35	9.219	1105	1116	1122	rBV2	123674	303119	5.35%	0.973%
36	9.304	1122	1131	1143	rVB	686466	1591536	28.07%	5.111%
37	9.429	1145	1153	1161	rVB	43234	103395	1.82%	0.332%
38	9.520	1161	1169	1173	rBV3	15815	37421	0.66%	0.120%
39	9.571	1173	1178	1189	rVB	56083	120889	2.13%	0.388%
40	9.735	1202	1207	1216	rVB2	61481	148495	2.62%	0.477%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092424.D
Acq On : 9 Sep 2024 21:35
Operator : SC
Sample : P2403661-008 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	9.860	1220	1229	1234	rVB5	7195	16123	0.28%	0.052%
42	10.133	1265	1277	1287	rBV	119421	329185	5.81%	1.057%
43	10.405	1317	1325	1332	rBV3	5387	14039	0.25%	0.045%
44	10.570	1345	1354	1365	rVB	63683	151370	2.67%	0.486%
45	11.337	1481	1489	1495	rBV5	6002	14917	0.26%	0.048%
46	11.416	1495	1503	1511	rVB4	20381	52007	0.92%	0.167%
47	12.126	1618	1628	1638	rBV2	16984	39705	0.70%	0.127%
48	12.222	1638	1645	1653	rVB3	15254	38446	0.68%	0.123%
49	12.432	1671	1682	1693	rVV	904771	2096672	36.97%	6.733%
50	12.563	1693	1705	1718	rVB	876546	1965402	34.66%	6.311%
51	12.932	1763	1770	1777	rVB4	6867	16542	0.29%	0.053%
52	13.222	1813	1821	1830	rBV	112451	241041	4.25%	0.774%
53	13.409	1845	1854	1861	rBV6	14895	35474	0.63%	0.114%
54	13.483	1861	1867	1872	rVB3	4701	10650	0.19%	0.034%
55	13.773	1911	1918	1926	rBV	24059	49638	0.88%	0.159%
56	13.926	1938	1945	1953	rBV5	10753	27322	0.48%	0.088%
57	14.022	1958	1962	1970	rVB5	6717	12867	0.23%	0.041%
58	14.522	2041	2050	2060	rVB	144226	321445	5.67%	1.032%
59	14.636	2063	2070	2077	rBV3	20984	44971	0.79%	0.144%
60	14.840	2097	2106	2119	rBV	922910	1905091	33.60%	6.117%
61	15.113	2148	2154	2159	rBV4	11681	25124	0.44%	0.081%
62	15.164	2159	2163	2170	rVB2	6685	12494	0.22%	0.040%
63	15.408	2200	2206	2213	rVB	39063	72305	1.28%	0.232%
64	15.629	2238	2245	2258	rVB	80355	207474	3.66%	0.666%
65	15.743	2258	2265	2267	rBV4	8403	14802	0.26%	0.048%
66	15.794	2267	2274	2286	rVB	92239	210008	3.70%	0.674%
67	15.998	2303	2310	2318	rVB	18976	36466	0.64%	0.117%
68	16.106	2320	2329	2337	rBV4	36776	87811	1.55%	0.282%
69	16.243	2345	2353	2360	rBV2	53718	105922	1.87%	0.340%
70	16.339	2363	2370	2377	rVV3	9175	19491	0.34%	0.063%
71	16.606	2412	2417	2423	rBV3	5706	11268	0.20%	0.036%
72	16.668	2424	2428	2436	rVB2	6987	11671	0.21%	0.037%
73	16.822	2446	2455	2464	rBV	772762	1478512	26.07%	4.748%
74	17.072	2495	2499	2509	rBV4	9977	20112	0.35%	0.065%
75	17.424	2551	2561	2570	rBV6	18898	64192	1.13%	0.206%
76	17.520	2570	2578	2585	rVB	332099	596150	10.51%	1.914%
77	17.827	2625	2632	2644	rVB10	10845	39787	0.70%	0.128%
78	17.923	2644	2649	2654	rBV5	6877	13858	0.24%	0.044%
79	18.043	2661	2670	2677	rBV	196743	330154	5.82%	1.060%
80	18.133	2683	2686	2691	rVB5	6976	10011	0.18%	0.032%
81	18.230	2696	2703	2707	rBV3	14240	25648	0.45%	0.082%
82	18.287	2707	2713	2717	rBV2	47499	91938	1.62%	0.295%
83	18.321	2717	2719	2722	rVV3	18190	23807	0.42%	0.076%
84	18.355	2722	2725	2728	rVB3	9793	13231	0.23%	0.042%
85	18.502	2746	2751	2757	rVB3	45509	75022	1.32%	0.241%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092424.D
Acq On : 9 Sep 2024 21:35
Operator : SC
Sample : P2403661-008 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

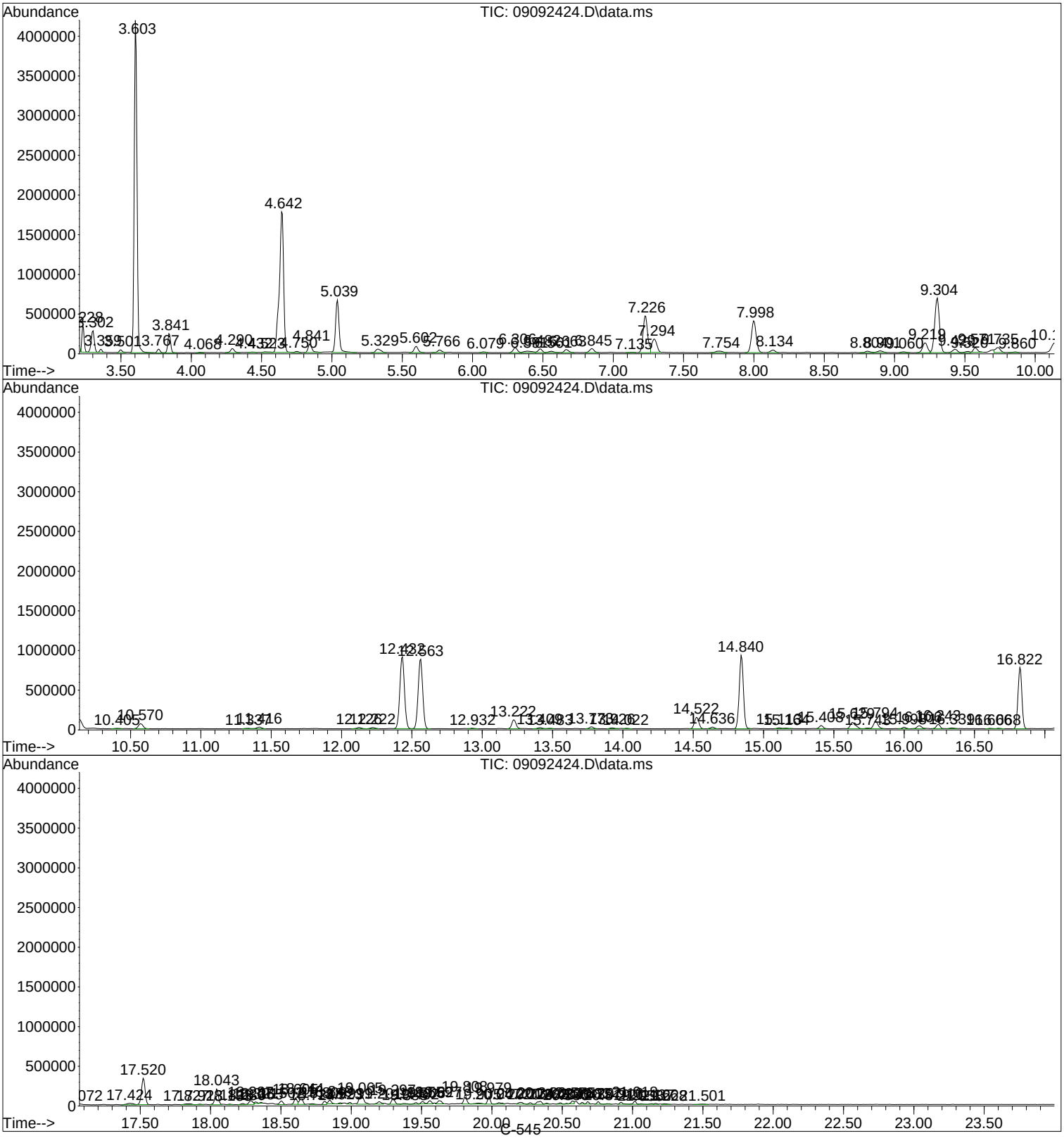
86	18.605	2763	2769	2772	rBV	83158	123276	2.17%	0.396%
87	18.644	2772	2776	2782	rVV	88447	135738	2.39%	0.436%
88	18.724	2786	2790	2796	rVB7	9182	18004	0.32%	0.058%
89	18.809	2801	2805	2808	rBV	40464	61459	1.08%	0.197%
90	18.849	2808	2812	2820	rVB3	46765	73818	1.30%	0.237%
91	18.923	2821	2825	2827	rBV5	14089	19802	0.35%	0.064%
92	18.991	2833	2837	2841	rVB3	20322	26393	0.47%	0.085%
93	19.065	2845	2850	2862	rVB2	96748	242342	4.27%	0.778%
94	19.201	2866	2874	2879	rBV4	28520	60492	1.07%	0.194%
95	19.297	2884	2891	2900	rBV2	75517	126836	2.24%	0.407%
96	19.383	2900	2906	2912	rVB9	8790	21235	0.37%	0.068%
97	19.462	2912	2920	2924	rBV3	19447	35882	0.63%	0.115%
98	19.508	2924	2928	2932	rVV3	30082	46110	0.81%	0.148%
99	19.559	2932	2937	2941	rVV2	40455	67171	1.18%	0.216%
100	19.627	2944	2949	2956	rVB4	39402	82727	1.46%	0.266%
101	19.808	2977	2981	2989	rVB	115047	163262	2.88%	0.524%
102	19.905	2989	2998	3006	rBV	12003	35657	0.63%	0.114%
103	19.979	3006	3011	3018	rVB	93924	126027	2.22%	0.405%
104	20.047	3018	3023	3031	rBV4	17489	44888	0.79%	0.144%
105	20.200	3045	3050	3058	rVB3	21075	48859	0.86%	0.157%
106	20.274	3058	3063	3067	rVB2	19878	28197	0.50%	0.091%
107	20.342	3067	3075	3080	rBV5	37755	87345	1.54%	0.280%
108	20.388	3080	3083	3088	rVB3	13246	16956	0.30%	0.054%
109	20.484	3095	3100	3105	rBV7	15541	25675	0.45%	0.082%
110	20.530	3105	3108	3111	rBV3	9409	12715	0.22%	0.041%
111	20.575	3111	3116	3118	rBV	34801	52790	0.93%	0.170%
112	20.643	3124	3128	3131	rBV2	20626	25122	0.44%	0.081%
113	20.683	3131	3135	3139	rVV2	30194	38877	0.69%	0.125%
114	20.757	3143	3148	3155	rVV2	32591	41896	0.74%	0.135%
115	20.819	3155	3159	3165	rVB5	6908	13571	0.24%	0.044%
116	20.916	3172	3176	3187	rBV4	24526	41123	0.73%	0.132%
117	21.018	3187	3194	3198	rVV	43488	58229	1.03%	0.187%
118	21.058	3198	3201	3208	rVV5	5853	10443	0.18%	0.034%
119	21.137	3208	3215	3217	rVV3	7756	14258	0.25%	0.046%
120	21.166	3217	3220	3224	rVV4	11396	17242	0.30%	0.055%
121	21.228	3227	3231	3239	rVB6	7911	19195	0.34%	0.062%
122	21.501	3267	3279	3286	rBV5	5752	16212	0.29%	0.052%

Sum of corrected areas: 31142060

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092424.D
Acq On : 9 Sep 2024 21:35
Operator : SC
Sample : P2403661-008 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092424.D
Acq On : 9 Sep 2024 21:355
Operator : SCC
Sample : P2403661-008 (400mL))
Misc : S37-060624022
ALS Vial : 11 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					|--Internal Standard---|		
TIC Top Hit name	RT	EstConc	Units	Response	# RT Resp Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:05:40 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	134663	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	588809	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	182753	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347344	13.784	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.24%				
57) Toluene-d8 (SS2)	12.43	98	688651	10.742	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	240059	11.196	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.35	85	18931	0.579	ng		99
4) Chloromethane	3.48	50	3785	0.148	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	305	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.76	54	130	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	207	N.D.			
10) Ethanol	4.28	45	29182	1.997	ng		76
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	4172	0.374	ng		98
13) Acetone	4.62	58	62074	5.034	ng	#	53
14) Trichlorofluoromethane	4.74	101	206902	6.635	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	35433	0.730	ng		94
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.40	59	193	N.D.			
19) Methylene Chloride	5.35	84	1275	0.088	ng		90
20) 3-Chloro-1-propene (Al...	5.44	41	184	N.D.			
21) Trichlorotrifluoroethane	5.57	151	122601	9.924	ng		94
22) Carbon Disulfide	5.59	76	40303	0.837	ng		68
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	402	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	5974	0.683	ng	#	58
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.28	61	4065	0.693	ng		84
31) n-Hexane	7.30	57	8138	0.304	ng	#	94
32) Chloroform	7.35	83	15998	0.596	ng		99
34) Tetrahydrofuran (THF)	7.78	72	464	0.056	ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	288	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.62	61	18116	No Calib		#	
40) 1-Butanol	8.81	56	11921	No Calib		#	
41) Benzene	8.89	78	6726	0.122	ng		98
42) Carbon Tetrachloride	9.07	117	864	N.D.			
43) Cyclohexane	9.21	84	5718	0.307	ng		97
44) tert-Amyl Methyl Ether	9.61	73	401	N.D.			
45) 1,2-Dichloropropane	9.85	63	501	N.D.			
46) Bromodichloromethane	10.08	83	139	N.D.			
47) Trichloroethene	10.14	130	201	N.D.			
48) 1,4-Dioxane	10.12	88	283	N.D.			
49) 2,2,4-Trimethylpentane...	10.22	57	1060	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:05:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

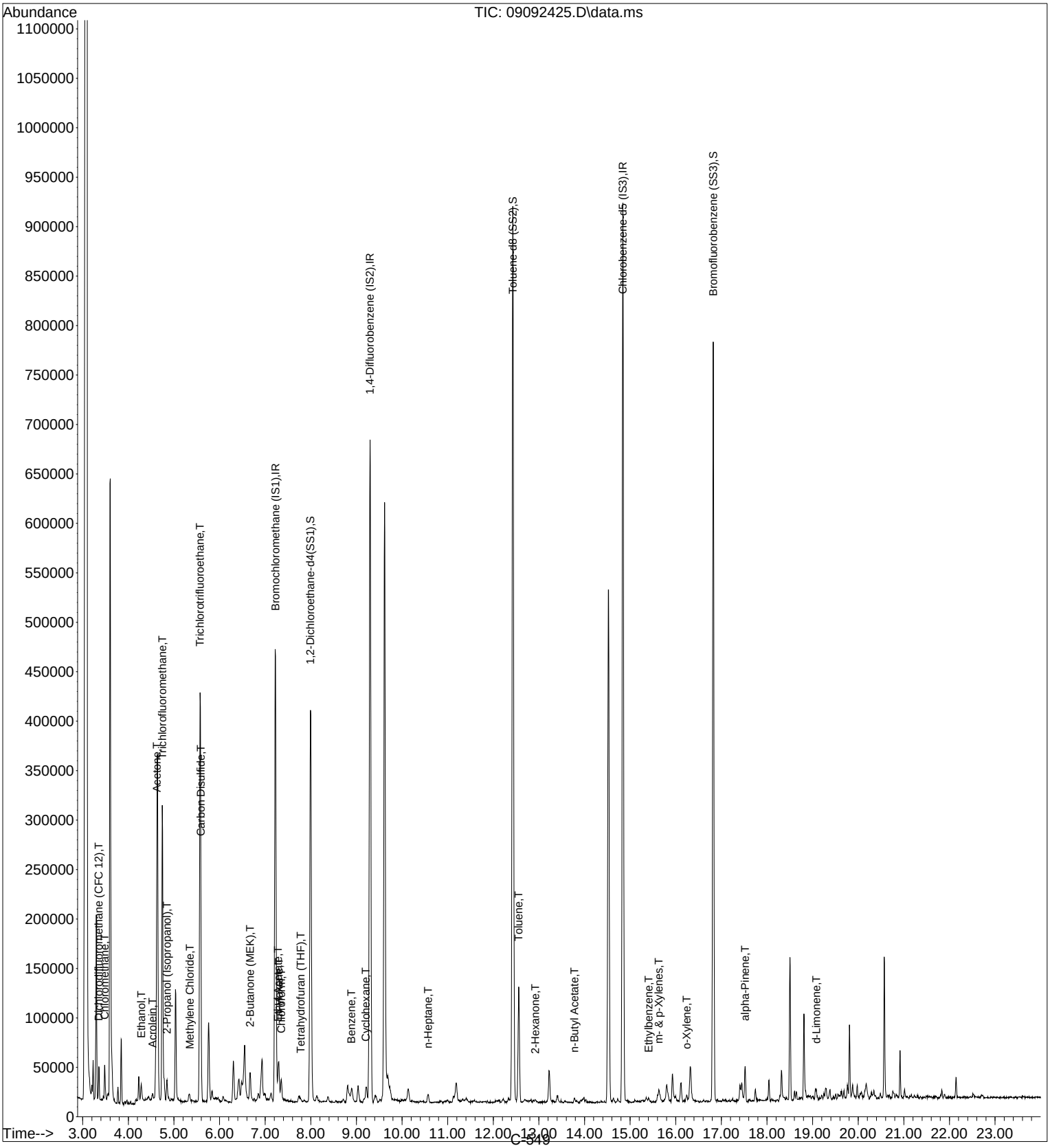
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	1703	0.138 ng	#	83
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	91533	1.321 ng		97
59) 2-Hexanone	12.92	43	4269	0.100 ng	#	62
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	5836	0.121 ng		71
63) n-Octane	13.91	57	158	N.D.		
64) Tetrachloroethene	14.03	166	638	N.D.		
65) Chlorobenzene	14.90	112	200	N.D.		
66) Ethylbenzene	15.41	91	4001	0.050 ng		94
67) m- & p-Xylenes	15.63	91	8461	0.130 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	1673	N.D.		
70) o-Xylene	16.24	91	4237	0.067 ng		98
71) n-Nonane	16.61	43	759	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	405	N.D.		
75) alpha-Pinene	17.52	93	13921	0.365 ng		96
76) n-Propylbenzene	17.68	91	942	N.D.		
77) 3-Ethyltoluene	17.04	105	405	No Calib	#	
78) 4-Ethyltoluene	17.86	105	547	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	274	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	405	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.42	105	1313	N.D.		
83) n-Decane	17.01	58	106	No Calib	#	
84) Benzyl Chloride	18.56	91	393	N.D.		
85) 1,3-Dichlorobenzene	18.65	146	246	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	246	N.D.		
87) sec-Butylbenzene	18.75	105	291	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1341	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	405	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	211	N.D.		
91) d-Limonene	19.08	68	1270	0.058 ng		90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	529	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	576	N.D.		
95) Naphthalene	20.94	128	542	N.D.		
96) n-Dodecane	18.87	58	180	No Calib	#	
97) Hexachlorobutadiene	21.30	225	234	N.D.		
98) Cyclohexanone	15.21	55	334	No Calib	#	
99) tert-Butylbenzene	18.42	119	286	N.D.		
100) n-Butylbenzene	19.38	91	1065	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:05:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 11:05:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

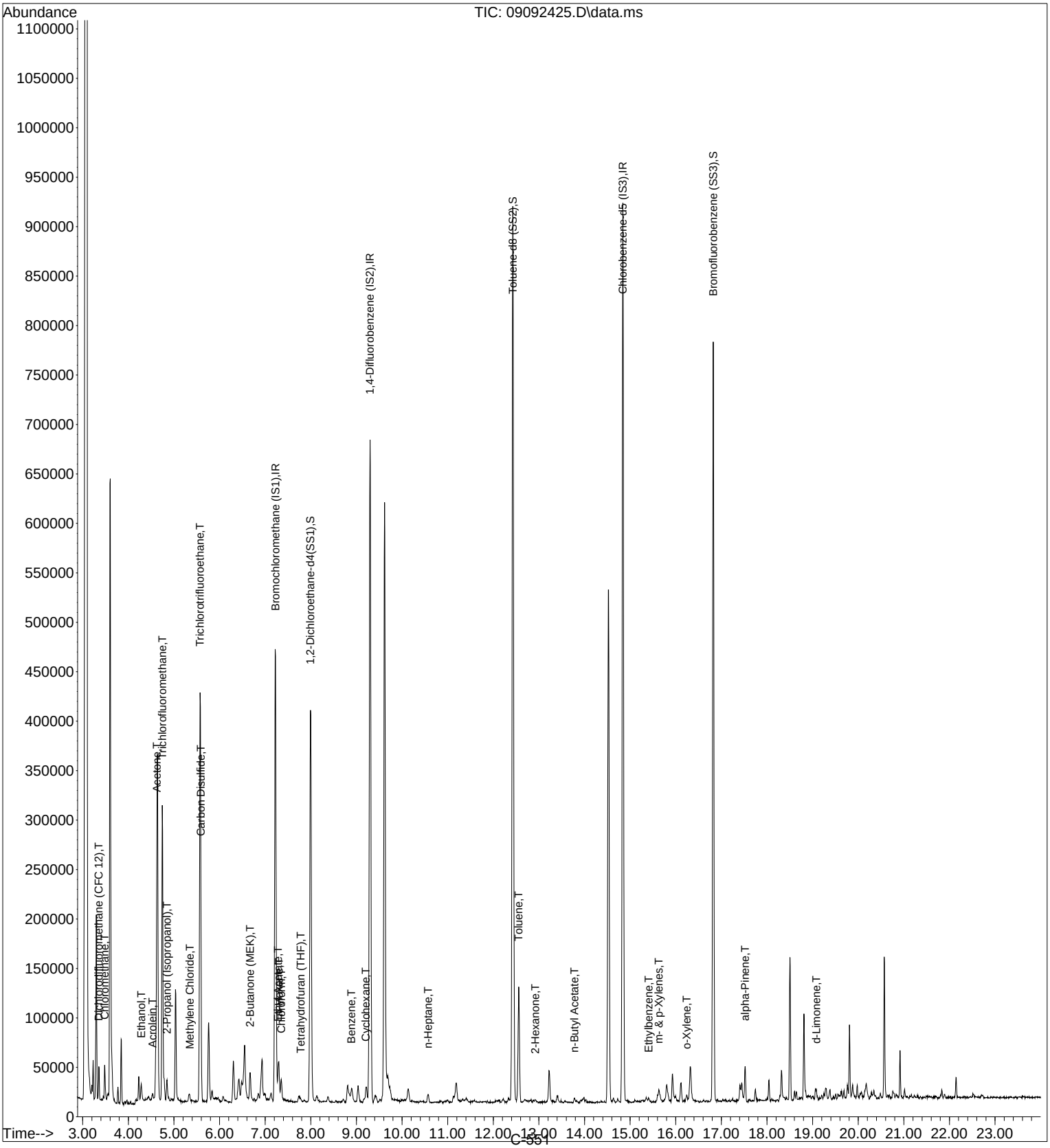
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	134663	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	588809	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	182753	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347344	13.784	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.24%				
57) Toluene-d8 (SS2)	12.43	98	688651	10.742	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	240059	11.196	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	18931	0.579	ng		99
4) Chloromethane	3.48	50	3785	0.148	ng		95
10) Ethanol	4.28	45	29182	1.997	ng		76
12) Acrolein	4.53	56	4172	0.374	ng		98
13) Acetone	4.62	58	62074	5.034	ng	#	53
14) Trichlorofluoromethane	4.74	101	206902	6.635	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	35433	0.730	ng		94
19) Methylene Chloride	5.35	84	1275	0.088	ng		90
21) Trichlorotrifluoroethane	5.57	151	122601	9.924	ng		94
22) Carbon Disulfide	5.59	76	40303	0.837	ng		68
27) 2-Butanone (MEK)	6.67	72	5974	0.683	ng	#	58
30) Ethyl Acetate	7.28	61	4065	0.693	ng		84
31) n-Hexane	7.30	57	8138	0.304	ng	#	94
32) Chloroform	7.35	83	15998	0.596	ng		99
34) Tetrahydrofuran (THF)	7.78	72	464	0.056	ng	#	1
41) Benzene	8.89	78	6726	0.122	ng		98
43) Cyclohexane	9.21	84	5718	0.307	ng		97
51) n-Heptane	10.57	71	1703	0.138	ng	#	83
58) Toluene	12.56	91	91533	1.321	ng		97
59) 2-Hexanone	12.92	43	4269	0.100	ng	#	62
62) n-Butyl Acetate	13.78	43	5836	0.121	ng		71
66) Ethylbenzene	15.41	91	4001	0.050	ng		94
67) m- & p-Xylenes	15.63	91	8461	0.130	ng		97
70) o-Xylene	16.24	91	4237	0.067	ng		98
75) alpha-Pinene	17.52	93	13921	0.365	ng		96
91) d-Limonene	19.08	68	1270	0.058	ng		90

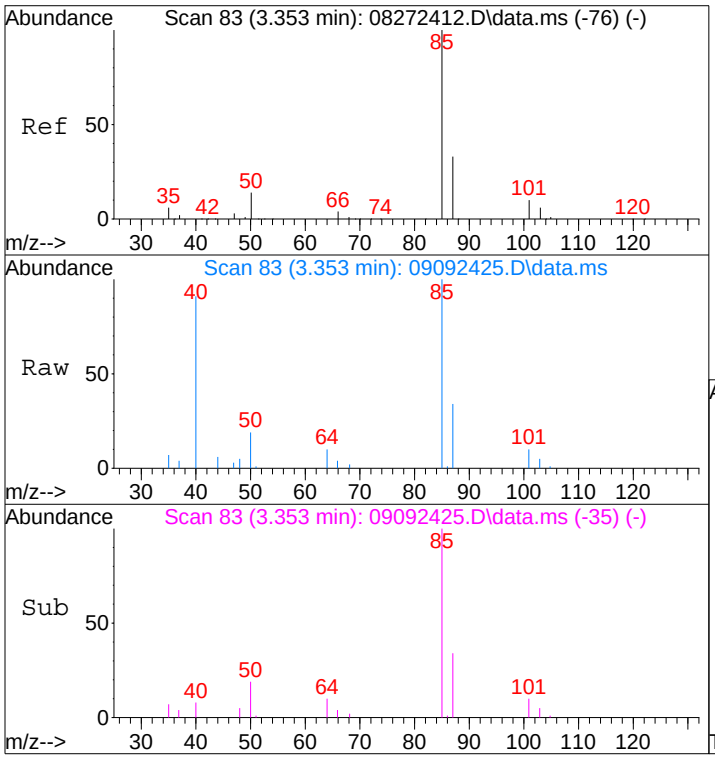
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:05:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

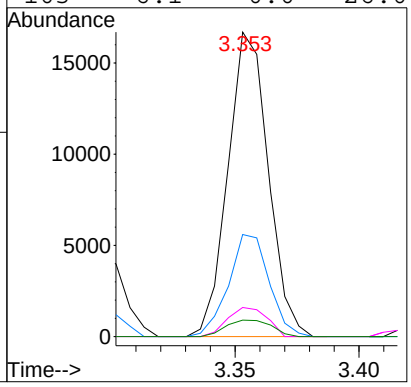


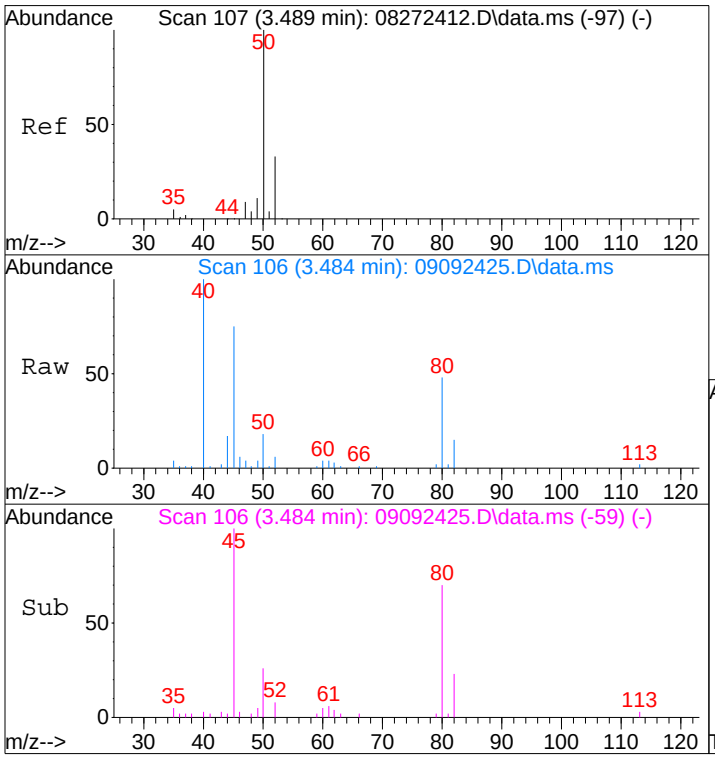


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.025 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 85 Resp: 18931

Ion	Ratio	Lower	Upper
85	100		
87	33.7	13.1	53.1
101	9.4	0.0	29.4
103	6.1	0.0	26.0

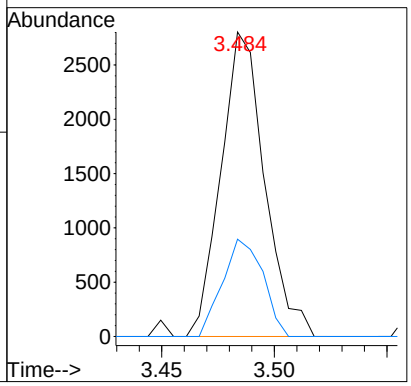


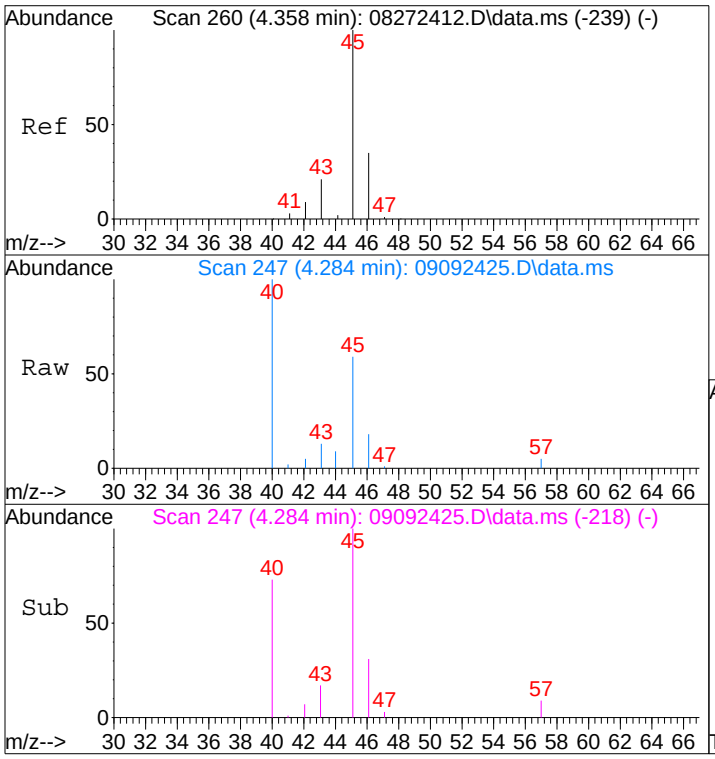


#4
Chloromethane
Concen: 0.15 ng
RT: 3.48 min Scan# 106
Delta R.T. 0.016 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 50 Resp: 3785

Ion	Ratio	Lower	Upper
50	100		
52	29.6	12.4	52.4

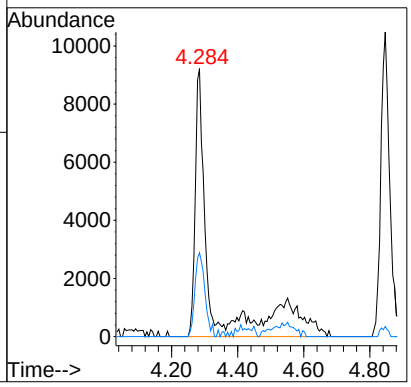


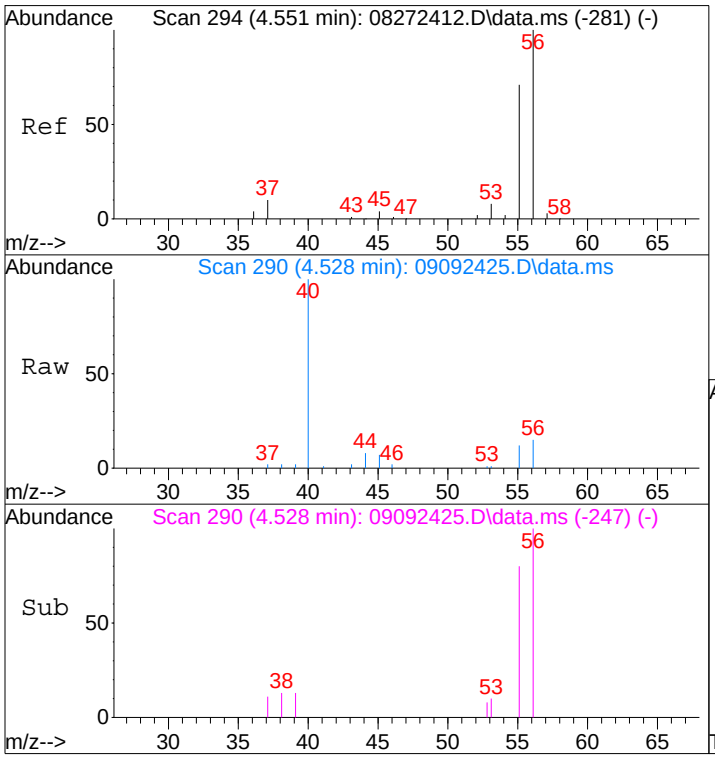


#10
Ethanol
Concen: 2.00 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 45 Resp: 29182

Ion	Ratio	Lower	Upper
45	100		
46	20.6	14.2	54.2

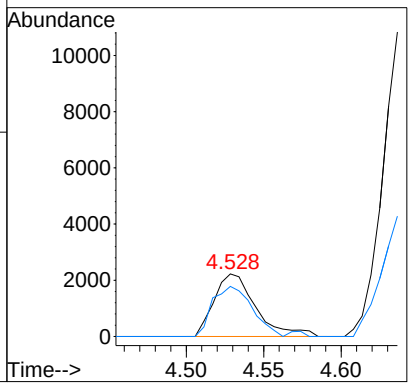


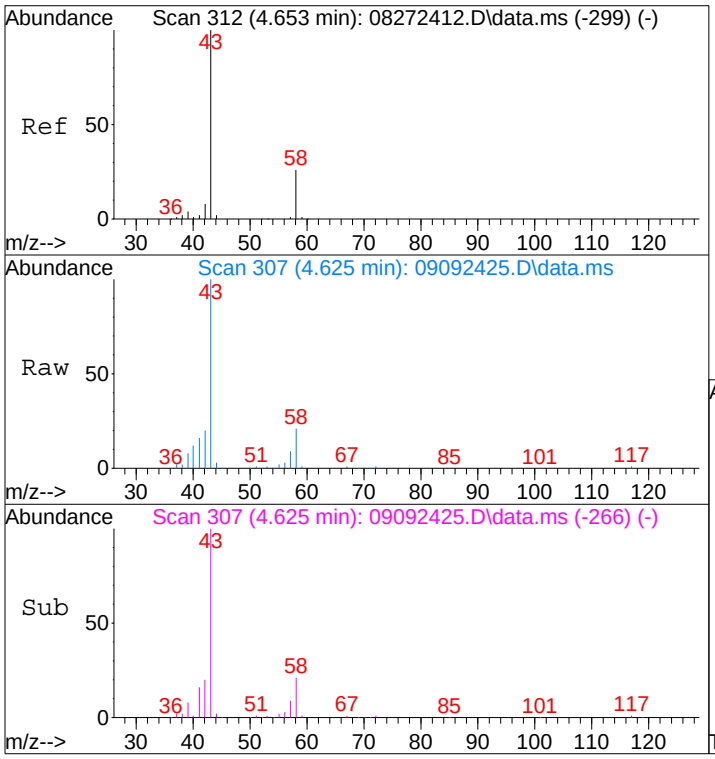


#12
Acrolein
Concen: 0.37 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.007 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 56 Resp: 4172

Ion	Ratio	Lower	Upper
56	100		
55	76.2	54.7	94.7

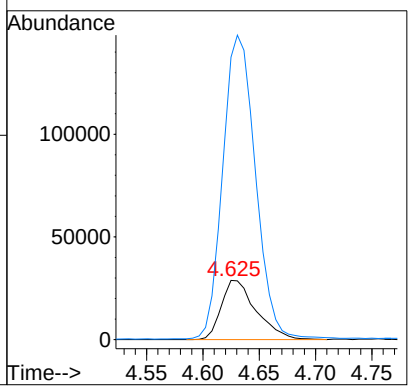


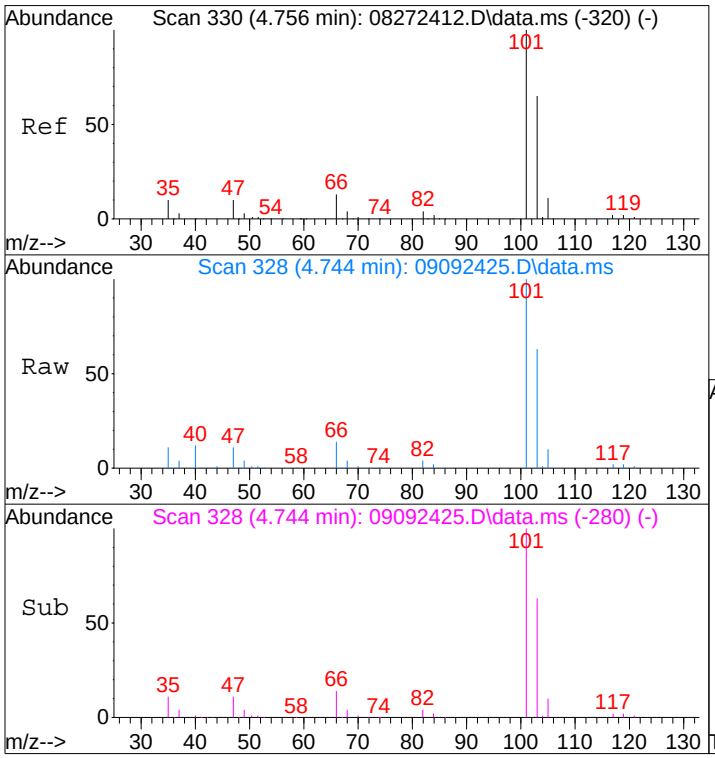


#13
Acetone
Concen: 5.03 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.017 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 58 Resp: 62074

Ion	Ratio	Lower	Upper
58	100		
43	484.8	347.3	407.3#

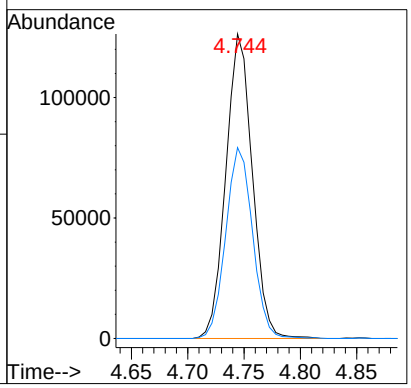


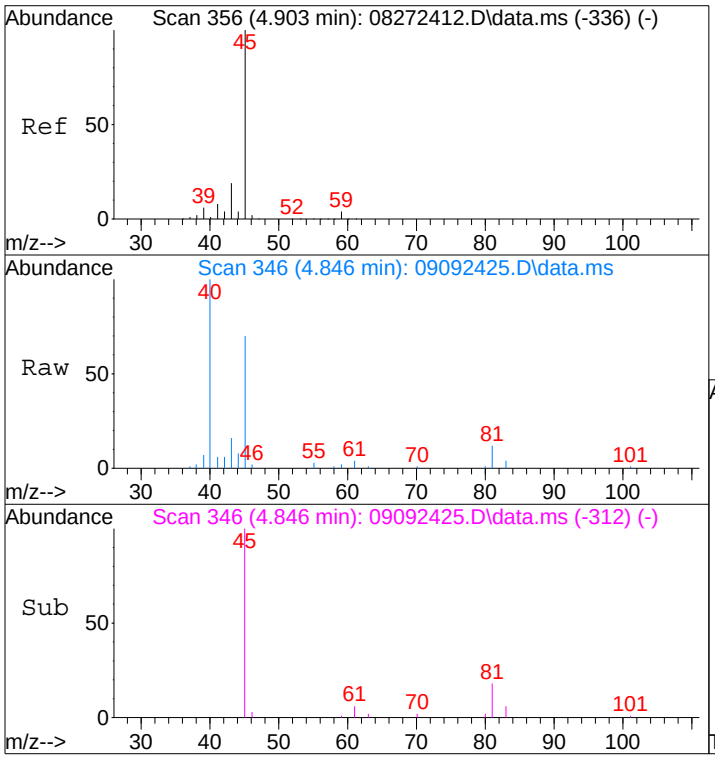


#14
Trichlorofluoromethane
Concen: 6.63 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.024 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion:101 Resp: 206902

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.9	84.9

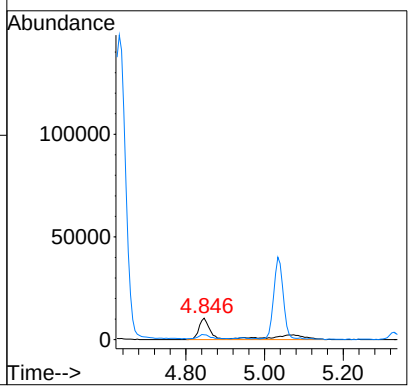


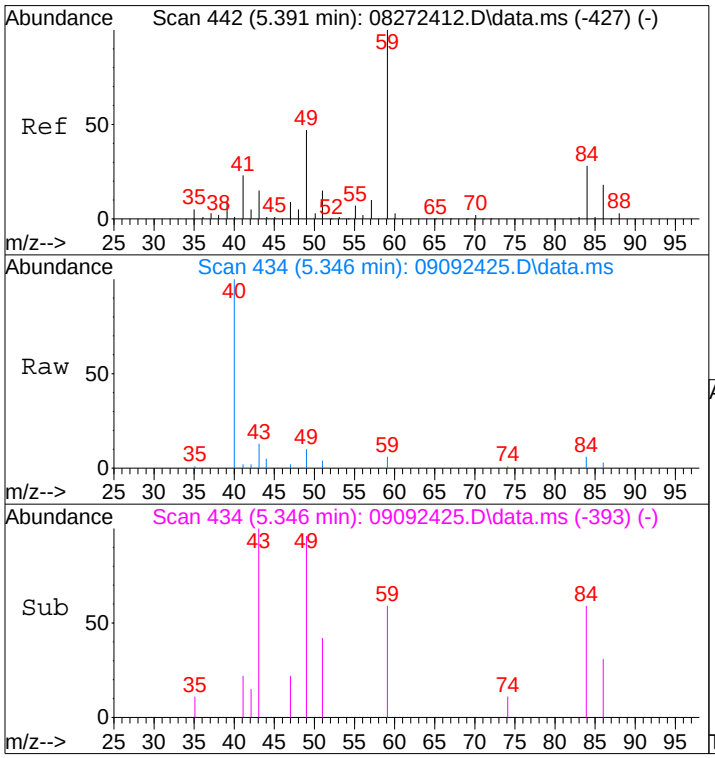


#15
2-Propanol (Isopropanol)
Concen: 0.73 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.059 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 45 Resp: 35433

Ion	Ratio	Lower	Upper
45	100		
43	17.4	0.0	40.0

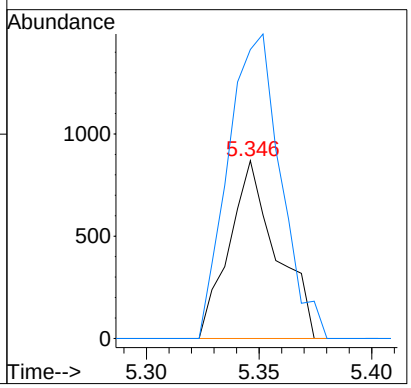


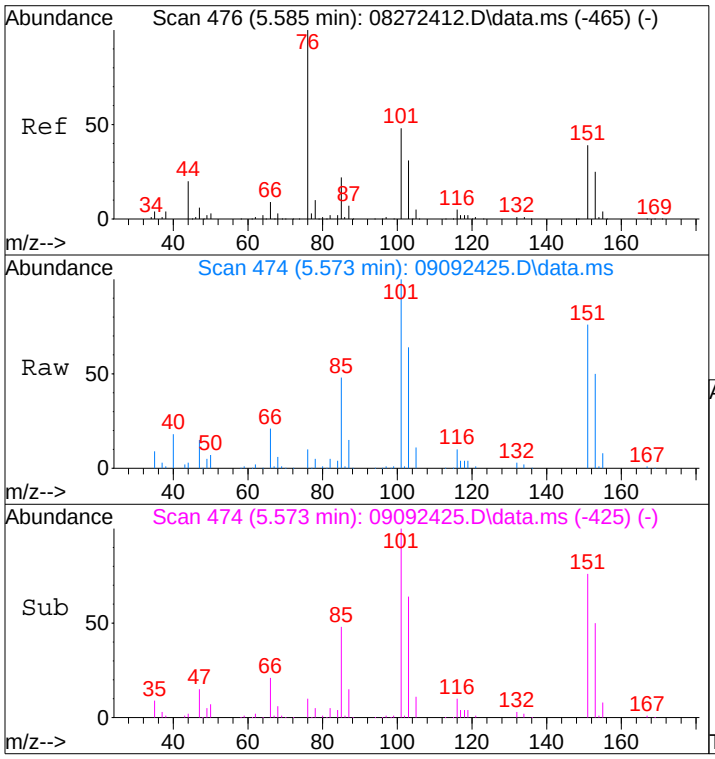


#19
Methylene Chloride
Concen: 0.09 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.015 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 84 Resp: 1275

Ion	Ratio	Lower	Upper
84	100		
49	190.5	151.1	201.1

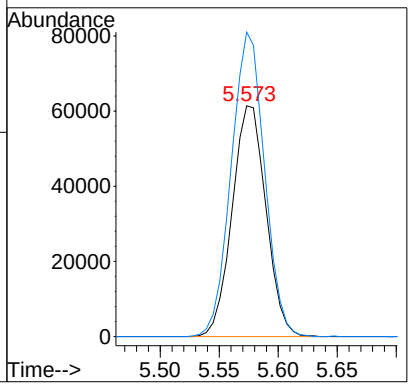


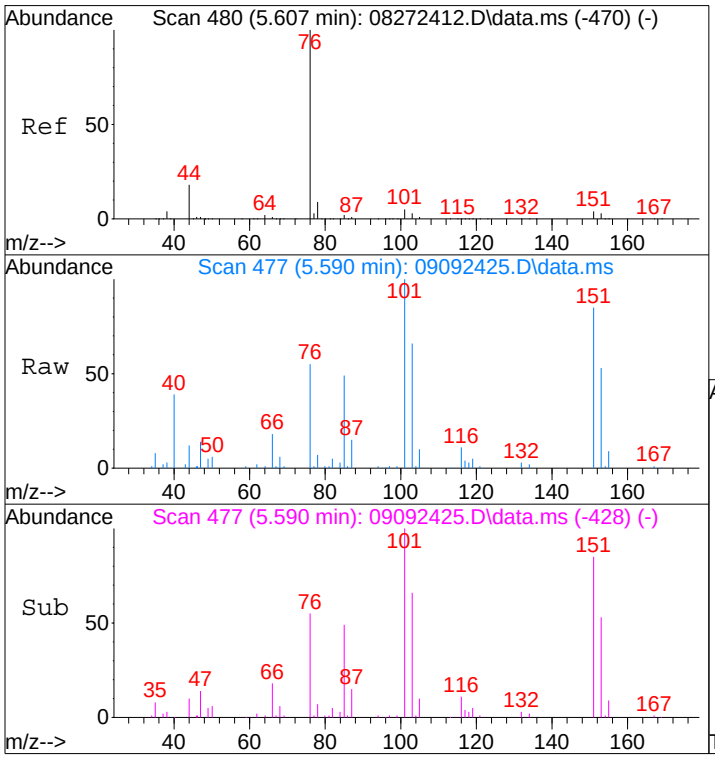


#21
Trichlorotrifluoroethane
Concen: 9.92 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.027 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion:151 Resp: 122601

Ion	Ratio	Lower	Upper
151	100		
101	130.0	103.4	143.4

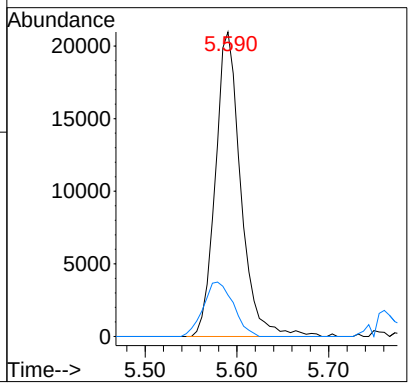


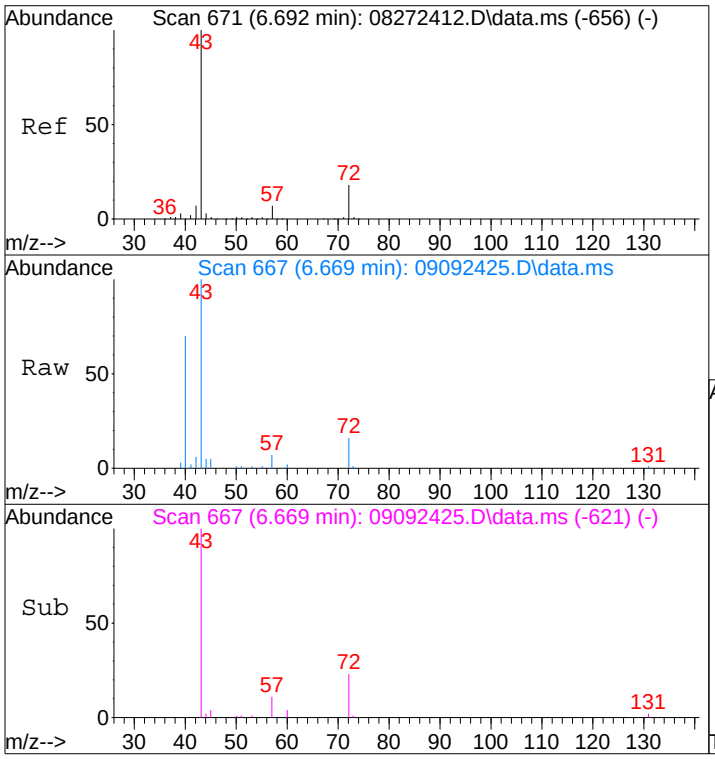


#22
Carbon Disulfide
Concen: 0.84 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.027 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 76 Resp: 40303

Ion	Ratio	Lower	Upper
76	100		
78	21.2	0.0	29.6

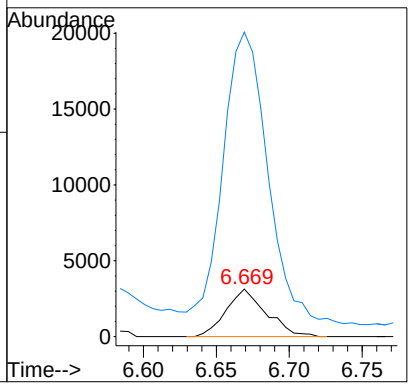


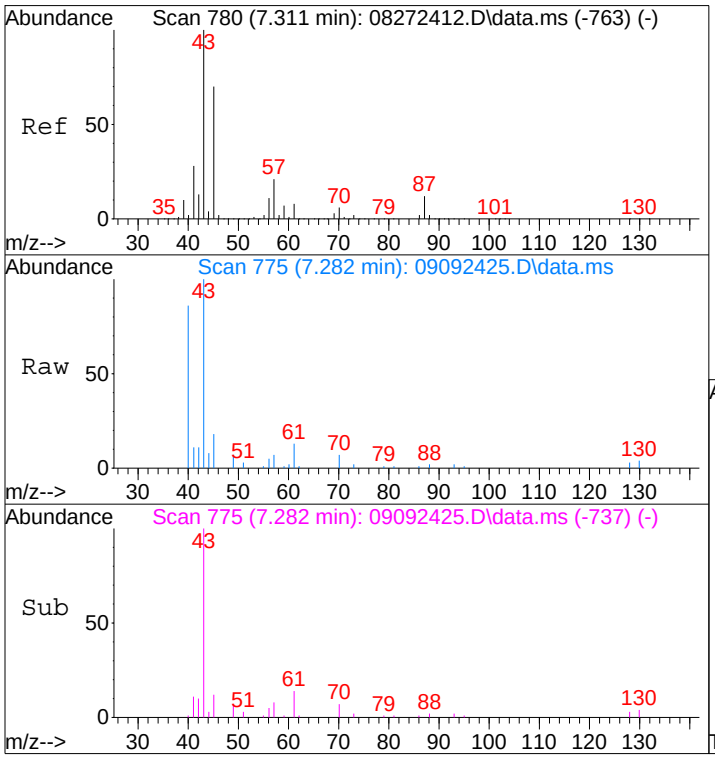


#27
2-Butanone (MEK)
Concen: 0.68 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 72 Resp: 5974

Ion	Ratio	Lower	Upper
72	100		
43	693.1	548.0	588.0#

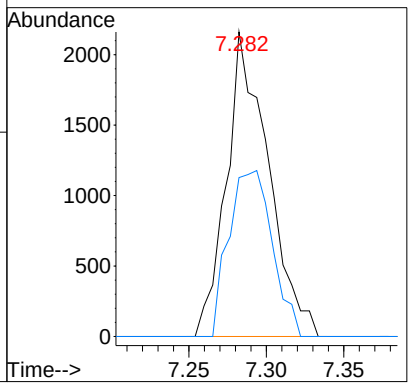


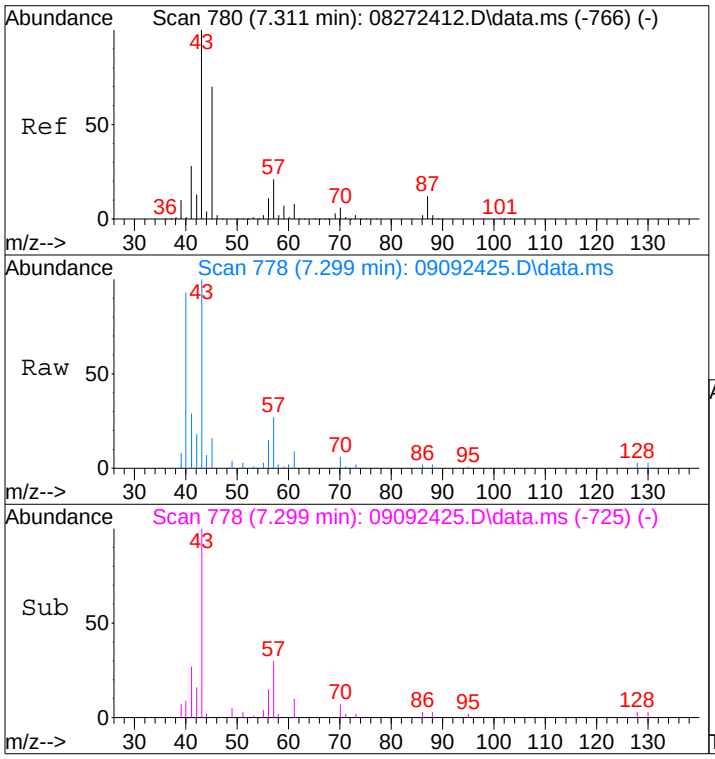


#30
Ethyl Acetate
Concen: 0.69 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 61 Resp: 4065

Ion	Ratio	Lower	Upper
61	100		
70	56.7	49.9	89.9

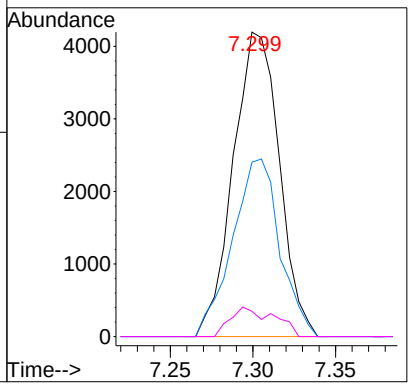


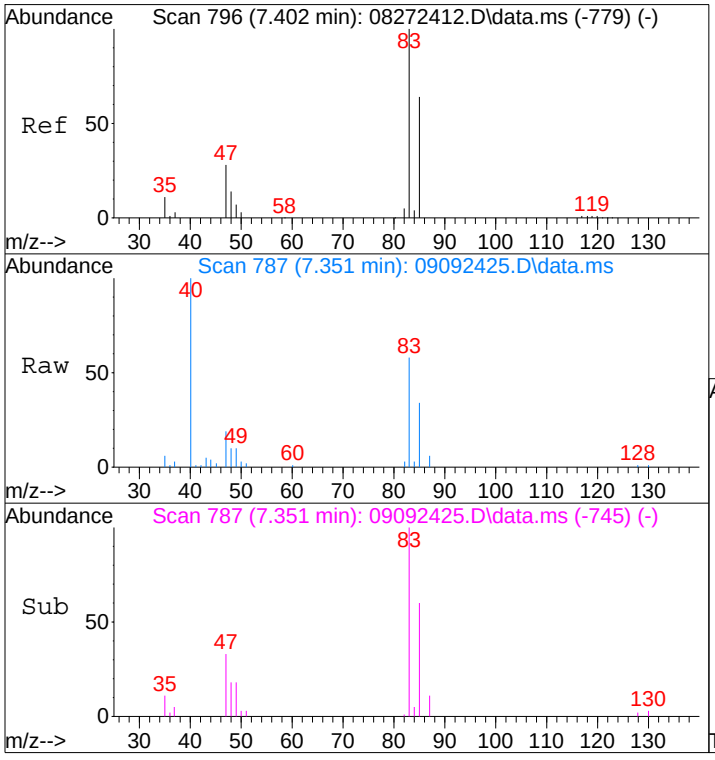


#31
n-Hexane
Concen: 0.30 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.051 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 57 Resp: 8138

Ion	Ratio	Lower	Upper
57	100		
56	59.9	44.2	66.2
86	9.2	9.3	13.9#

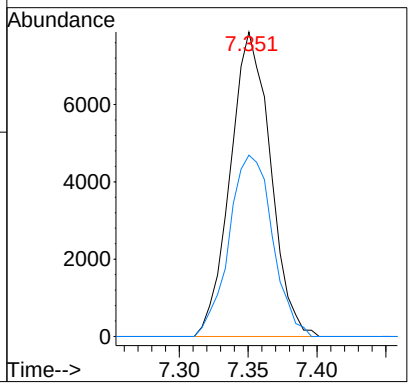


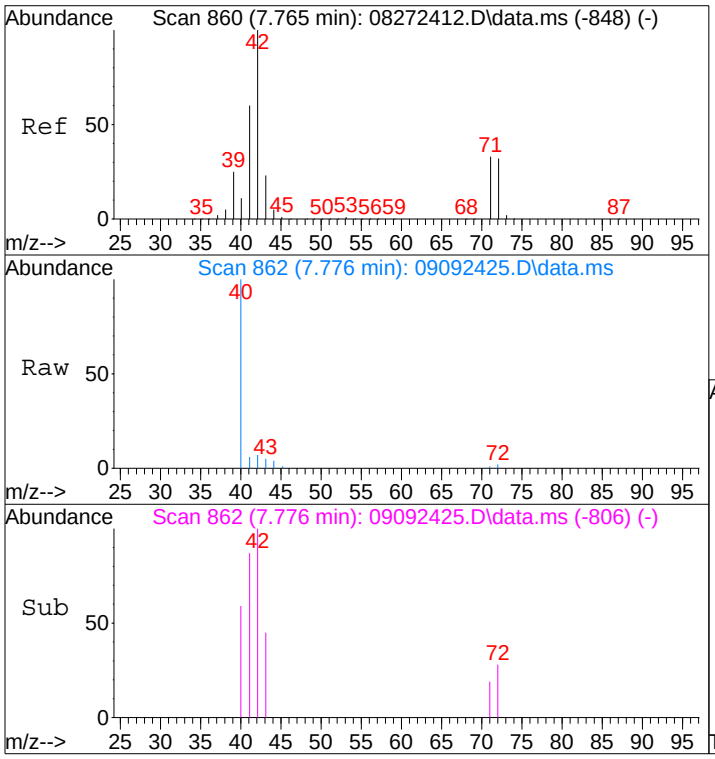


#32
Chloroform
Concen: 0.60 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 83 Resp: 15998

Ion	Ratio	Lower	Upper
83	100		
85	64.3	45.3	85.3

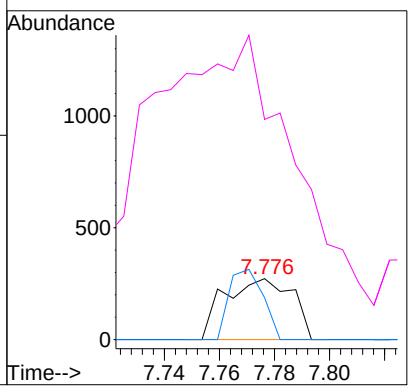


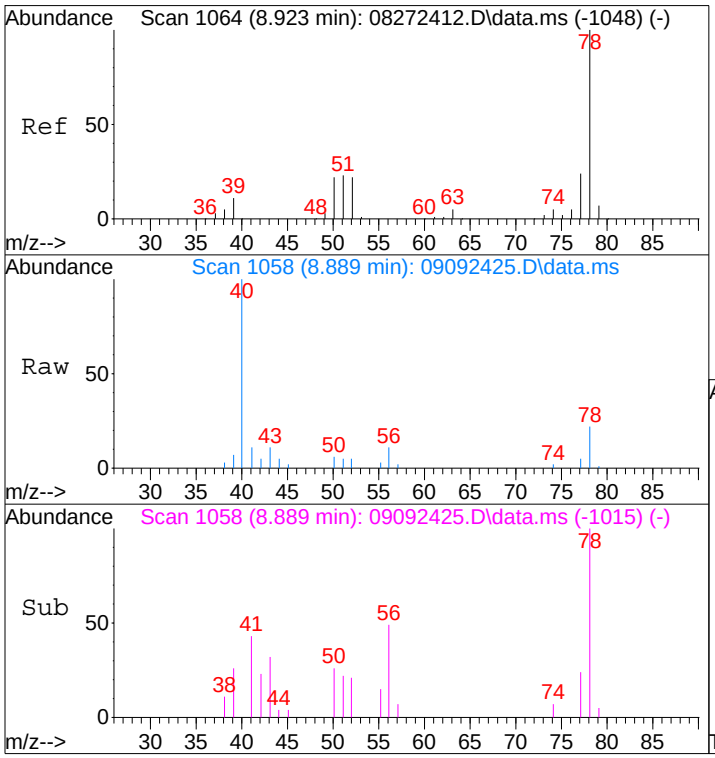


#34
Tetrahydrofuran (THF)
Concen: 0.06 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.068 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 72 Resp: 464

Ion	Ratio	Lower	Upper
72	100		
71	57.8	78.4	118.4#
42	1164.2	285.2	325.2#

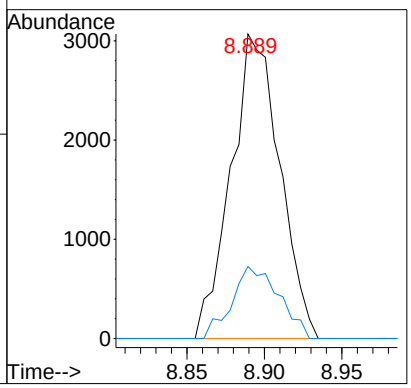


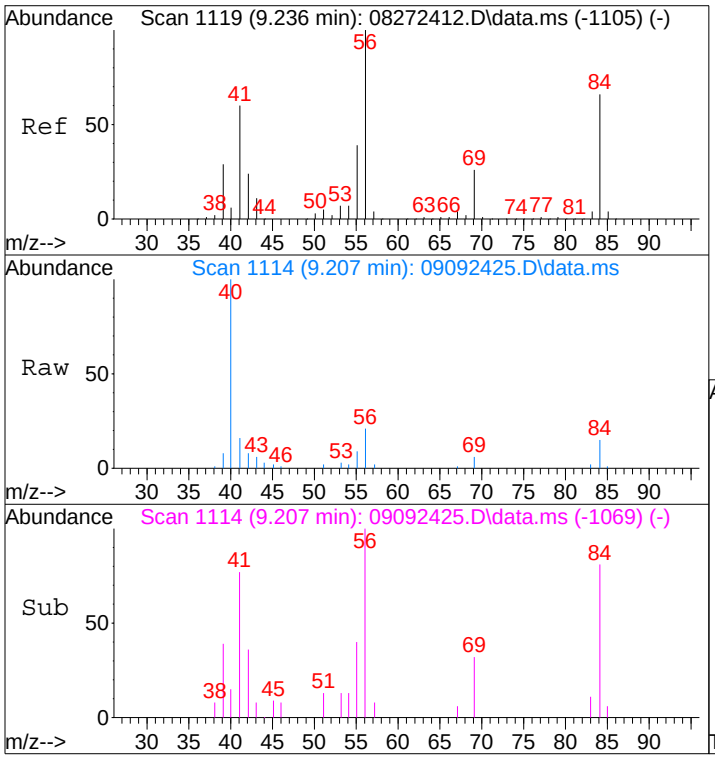


#41
Benzene
Concen: 0.12 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.008 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 78 Resp: 6726

Ion	Ratio	Lower	Upper
78	100		
77	22.7	3.9	43.9

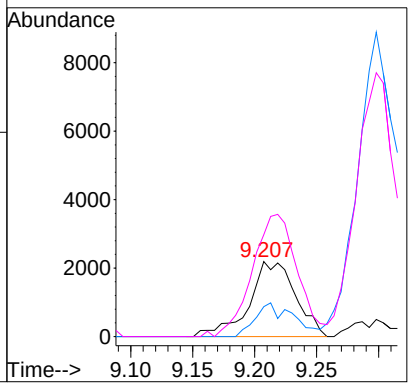


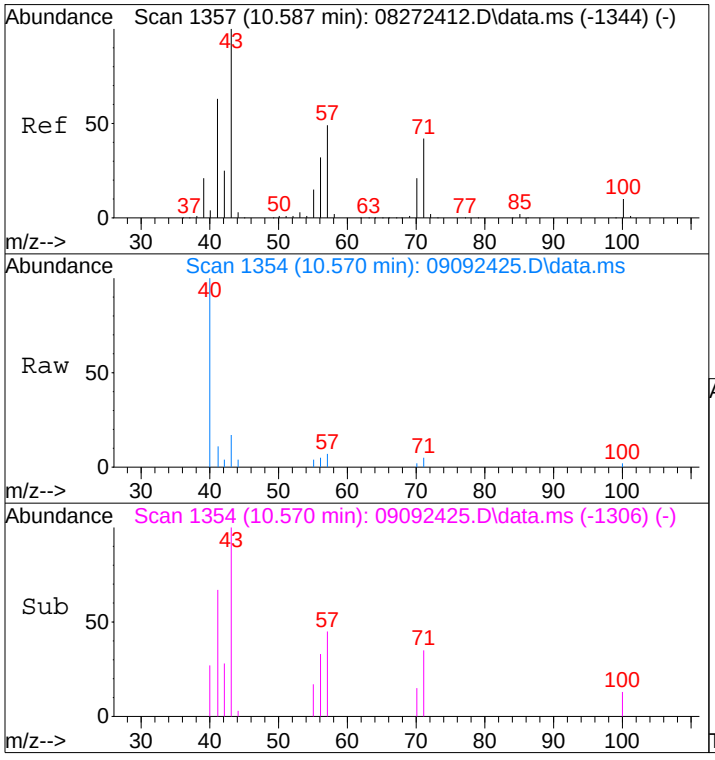


#43
Cyclohexane
Concen: 0.31 ng
RT: 9.21 min Scan# 1114
Delta R.T. 0.005 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 84 Resp: 5718

Ion	Ratio	Lower	Upper
84	100		
69	37.0	18.8	58.8
56	158.9	134.5	174.5

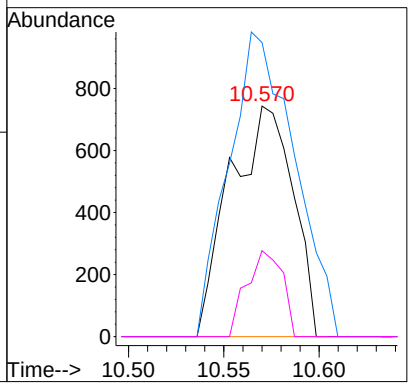


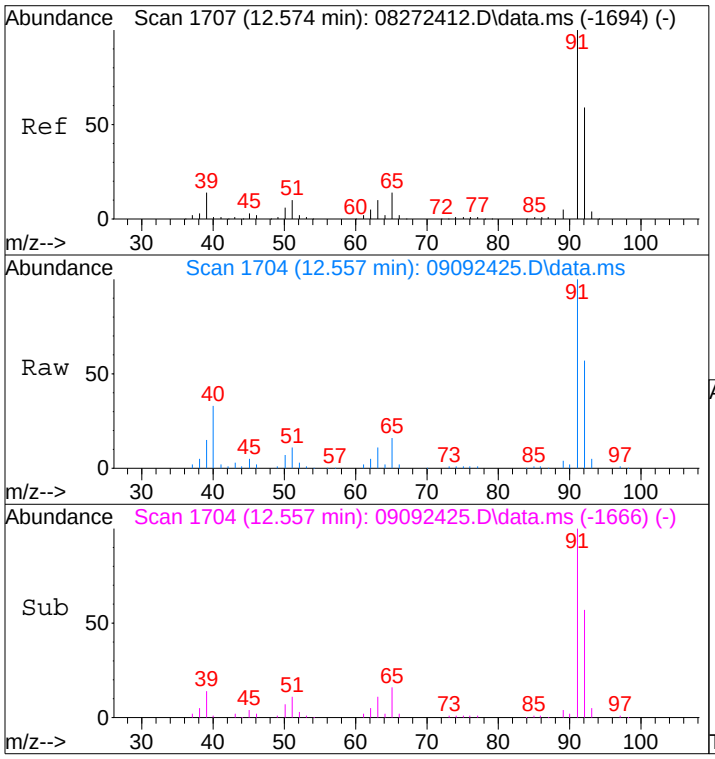


#51
n-Heptane
Concen: 0.14 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.024 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 71 Resp: 1703

Ion	Ratio	Lower	Upper
71	100		
57	138.2	97.1	137.1#
100	21.1	5.0	45.0

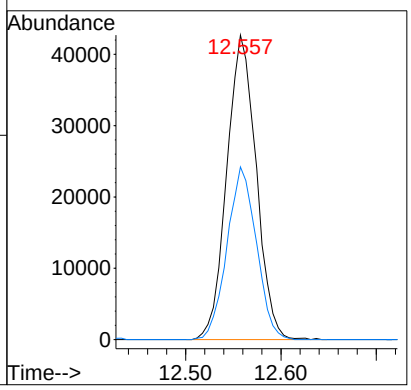


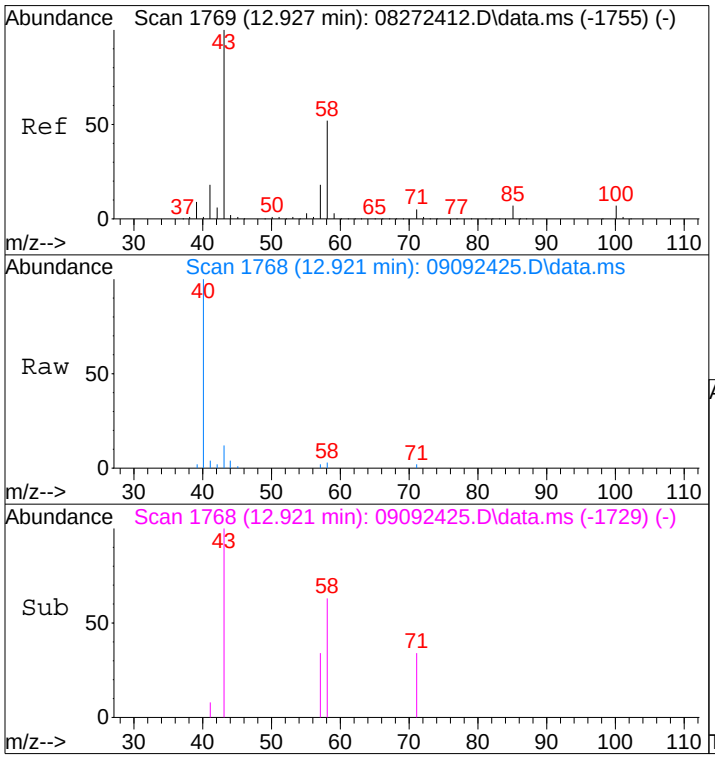


#58
Toluene
Concen: 1.32 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 91 Resp: 91533

Ion	Ratio	Lower	Upper
91	100		
92	56.5	38.5	78.5

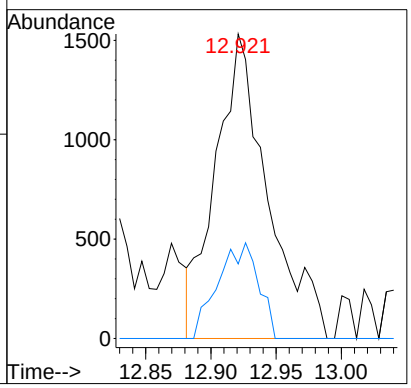


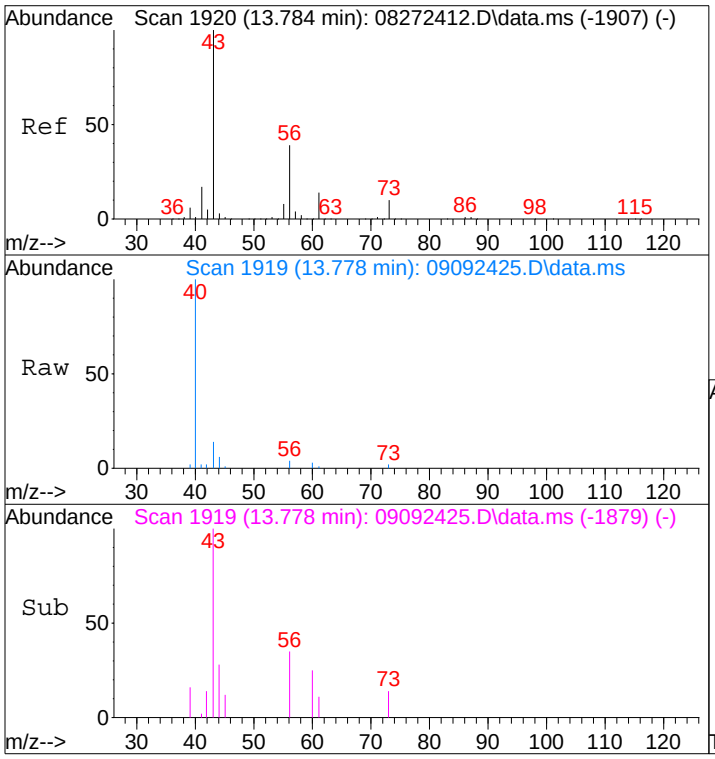


#59
2-Hexanone
Concen: 0.10 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 43 Resp: 4269

Ion	Ratio	Lower	Upper
43	100		
58	24.4	31.1	71.1#

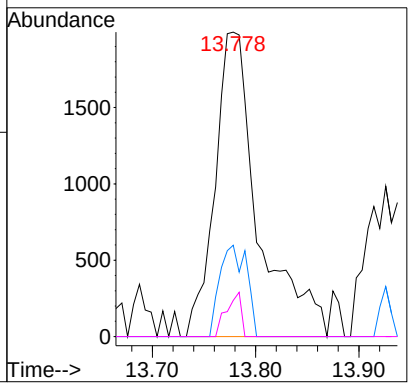


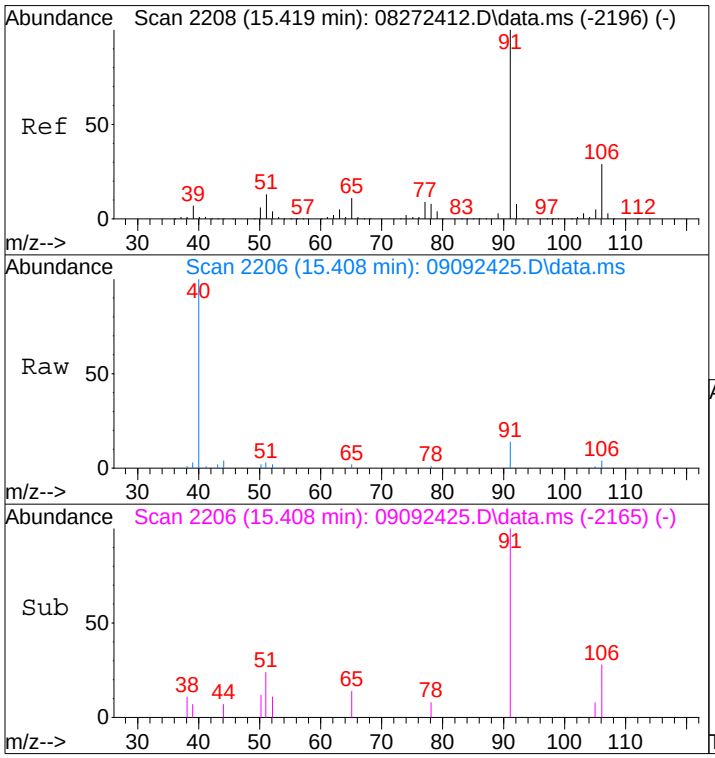


#62
n-Butyl Acetate
Concen: 0.12 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.022 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 43 Resp: 5836

Ion	Ratio	Lower	Upper
43	100		
56	18.4	18.2	58.2
73	4.9	0.0	30.1

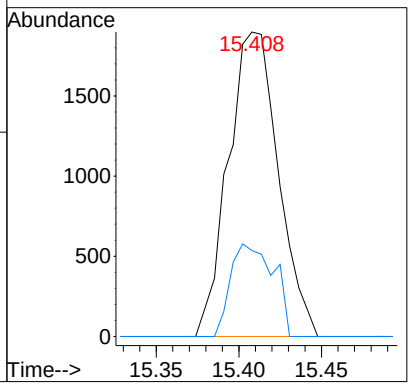


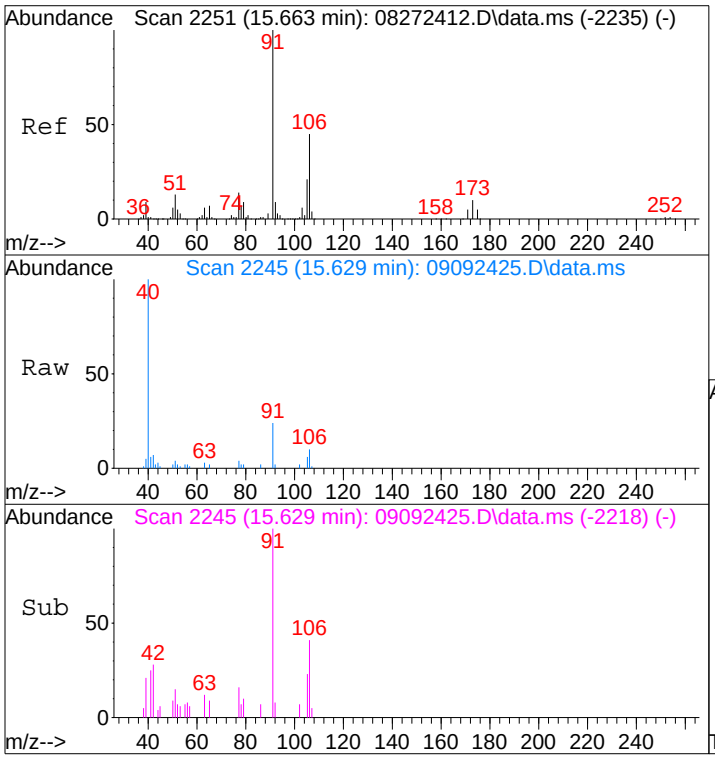


#66
Ethylbenzene
Concen: 0.05 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 91 Resp: 4001

Ion	Ratio	Lower	Upper
91	100		
106	26.2	9.2	49.2

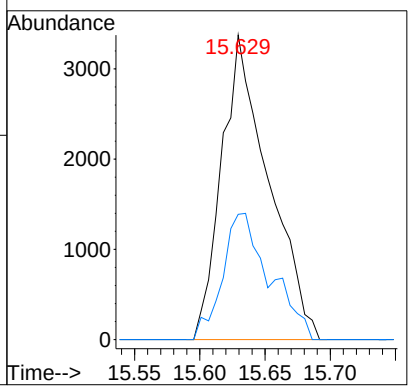


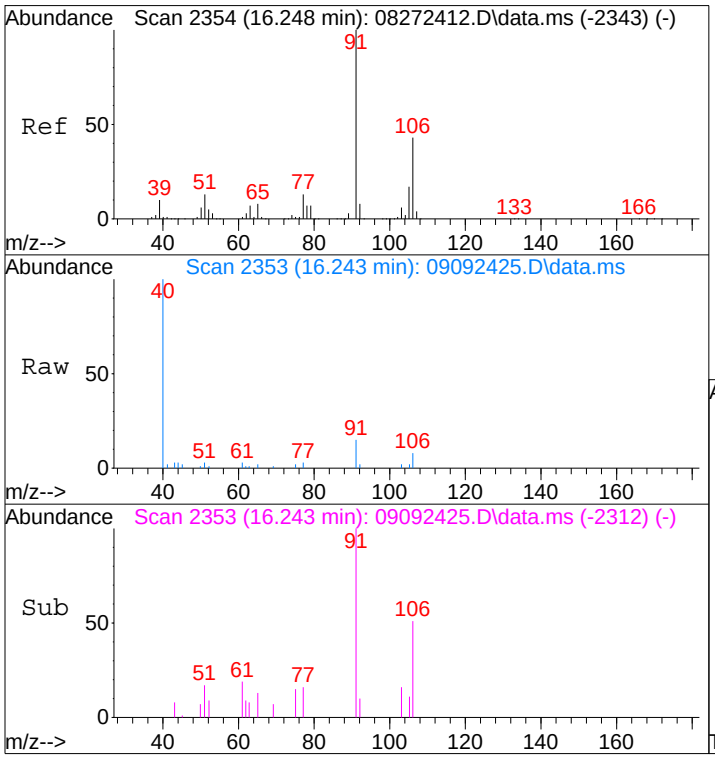


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 91 Resp: 8461

Ion	Ratio	Lower	Upper
91	100		
106	41.7	23.8	63.8

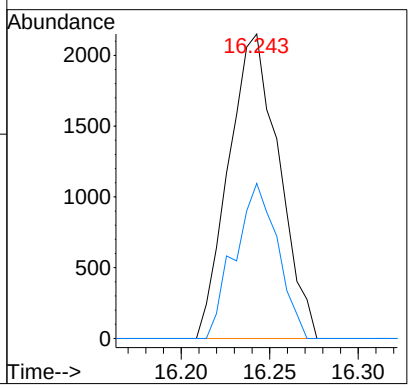


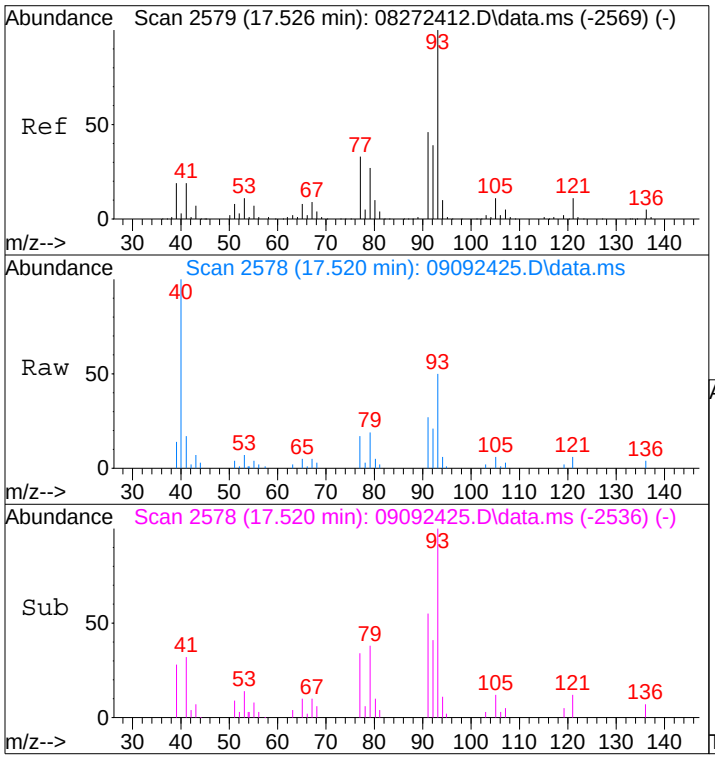


#70
o-Xylene
Concen: 0.07 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 91 Resp: 4237

Ion	Ratio	Lower	Upper
91	100		
106	43.6	22.5	62.5

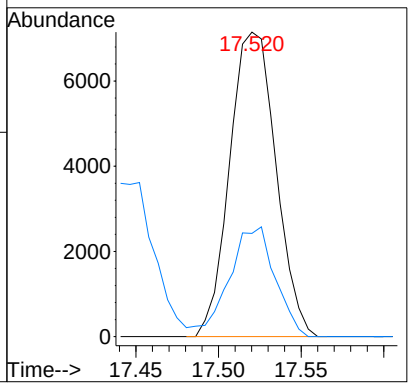


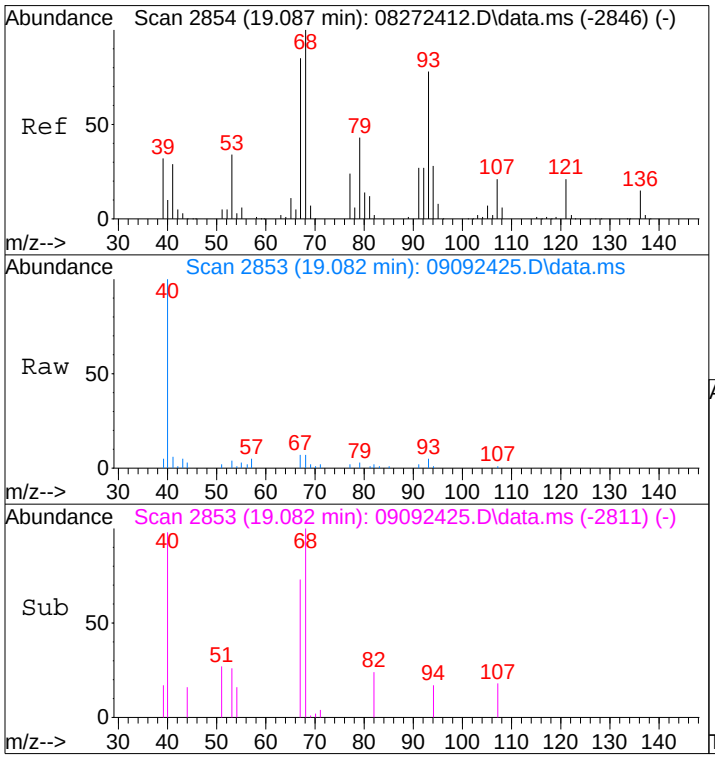


#75
alpha-Pinene
Concen: 0.36 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 93 Resp: 13921

Ion	Ratio	Lower	Upper
93	100		
77	35.2	13.1	53.1

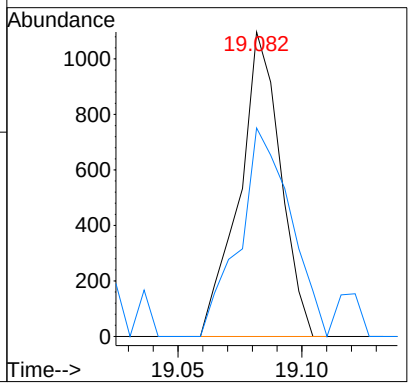




#91
d-Limonene
Concen: 0.06 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092425.D
Acq: 9 Sep 2024 22:08

Tgt Ion: 68 Resp: 1270

Ion	Ratio	Lower	Upper
68	100		
93	85.0	56.2	96.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:34:31 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

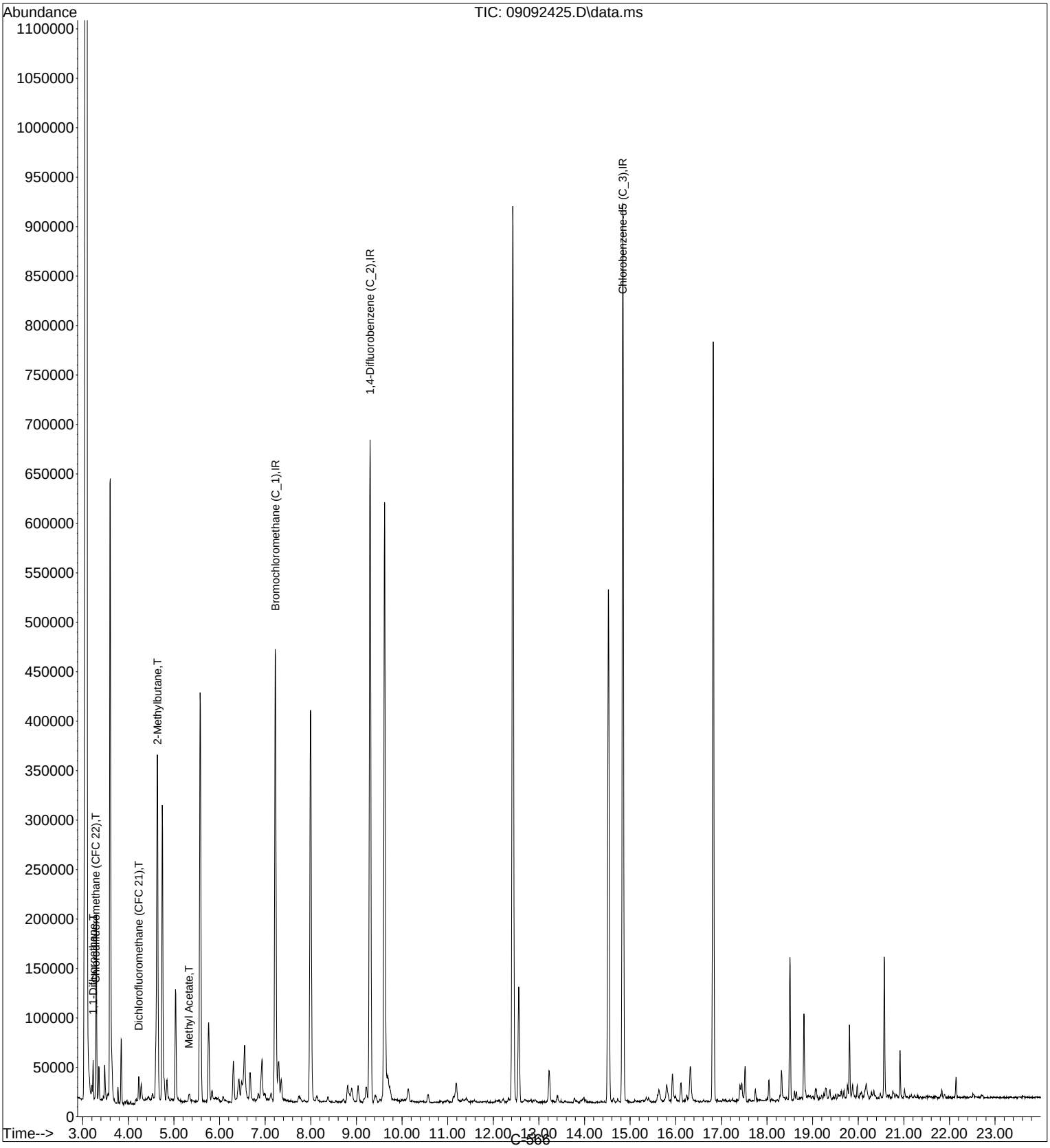
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	134663	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	590151	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	182753	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	89	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	8281	0.704 ng		97
5) Chlorodifluoromethane ...	3.28	67	1796	0.391 ng		97
6) 1-Chloro-1,1-Difluoroe...	3.50	65	563	N.D.		
7) Dichlorofluoromethane ...	4.23	67	16961	0.549 ng		98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	801	N.D.		
10) 2-Methylbutane	4.64	57	51572	3.211 ng		87
11) Methyl Acetate	5.33	43	7048	0.155 ng	#	62
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.03	84	656	N.D.		
17) 2,3-Dimethylpentane	9.51	56	1278	N.D.		
18) Dibromomethane	9.80	174	105	N.D.		
20) Methyl Cyclohexane	11.42	55	1403	N.D.		
21) 1,3-Dichloropropane	12.56	76	414	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.32	75	1994	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	197	N.D.		
27) 4-Chlorotoluene	17.68	91	942	N.D.		
28) Indane	19.12	117	203	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	113	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	58	N.D.		
32) 1,2,3,5-Tetramethylben...	20.57	119	512	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

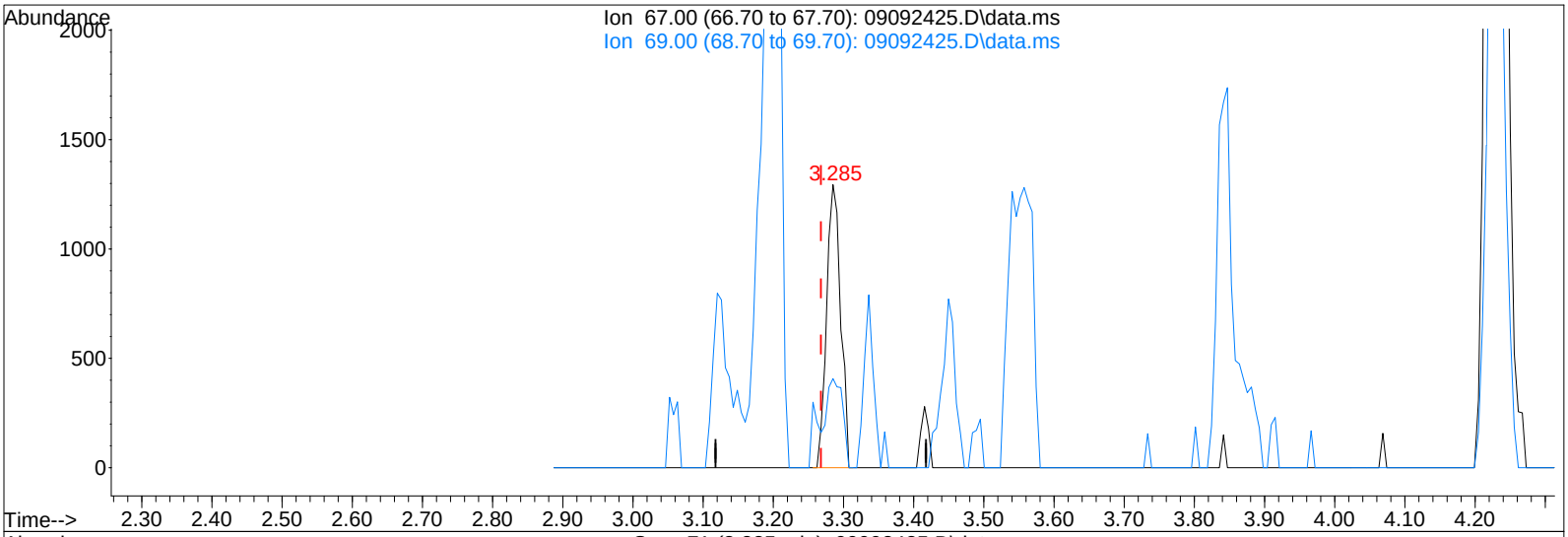
Quant Time: Sep 10 12:34:31 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

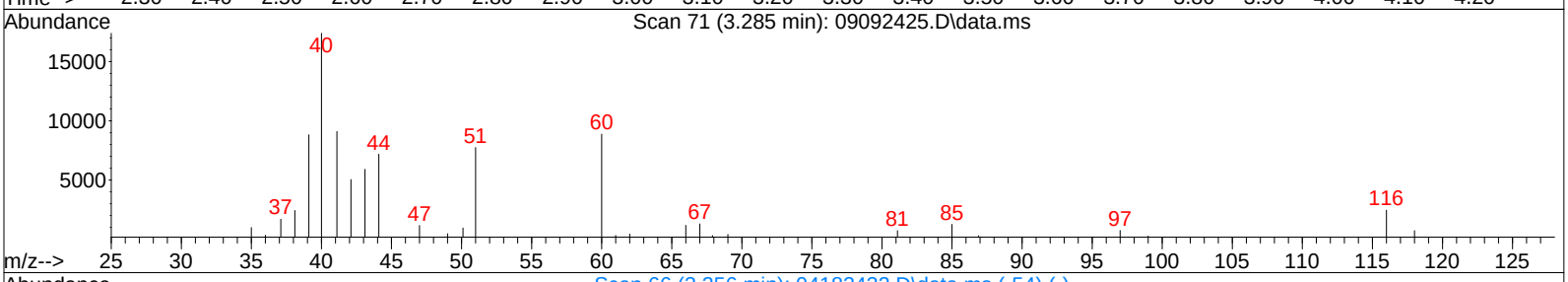


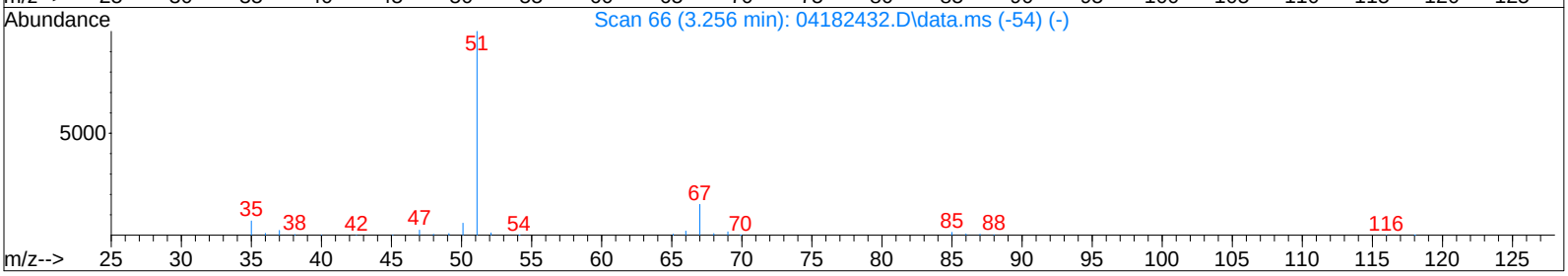
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:32:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09092425.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.285min (+0.017) 0.39ng

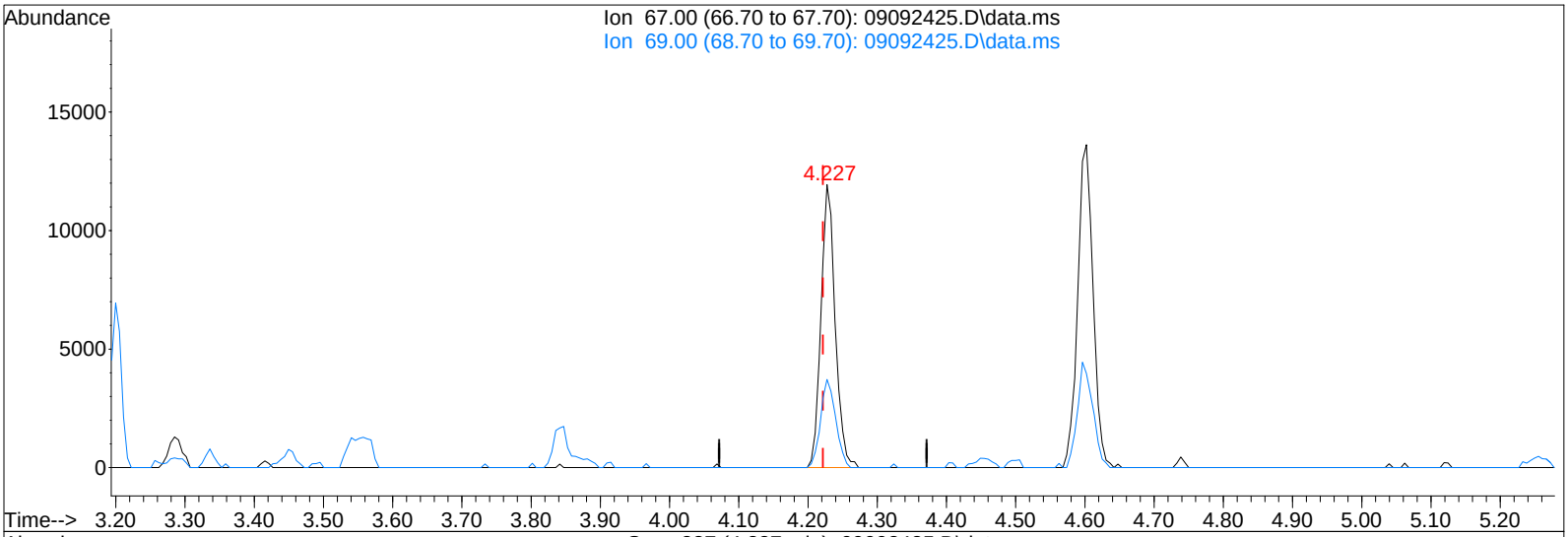
response 1796

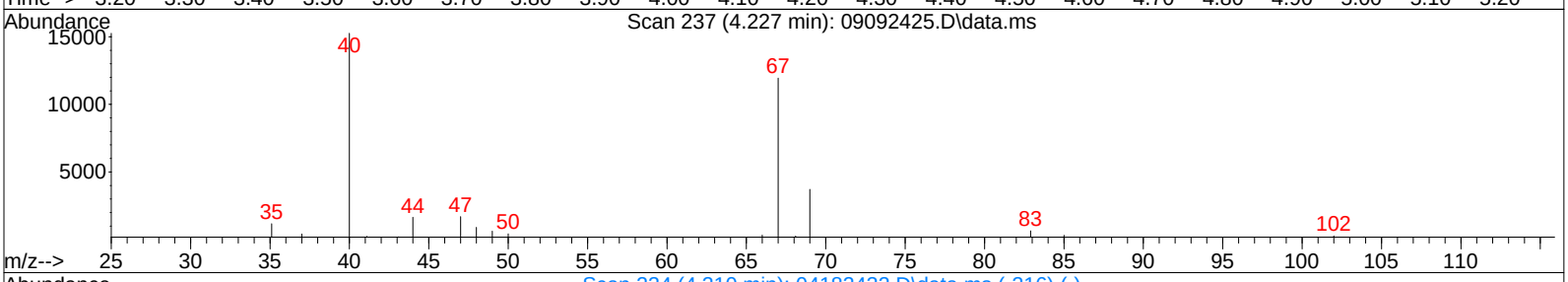
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	36.14
0.00	0.00	0.00
0.00	0.00	0.00

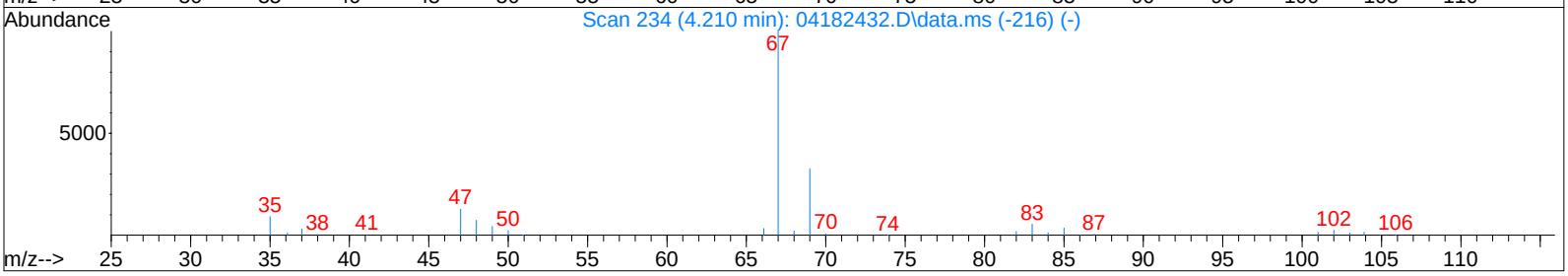
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092425.D Vial: 12
Acq On : 9 Sep 2024 22:08 Operator: SC
Sample : P2403661-009 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:32:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09092425.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.55ng

response 16961

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	33.28
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092425.D
Acq On : 9 Sep 2024 22:08
Operator : SC
Sample : P2403661-009 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092425.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	65	rVB	39336	37099	1.82%	0.201%
2	3.296	65	73	78	rVV2	186725	237485	11.65%	1.285%
3	3.353	78	83	88	rVB	33435	41675	2.04%	0.226%
4	3.484	102	106	113	rVB3	34504	50277	2.47%	0.272%
5	3.603	121	127	142	rVB2	628822	1031753	50.62%	5.584%
6	3.773	153	157	160	rBV	16396	19360	0.95%	0.105%
7	3.841	164	169	176	rBV	65443	88441	4.34%	0.479%
8	4.227	232	237	242	rBV	24203	32855	1.61%	0.178%
9	4.284	242	247	258	rVB2	16900	31482	1.54%	0.170%
10	4.528	284	290	295	rBV5	6630	13081	0.64%	0.071%
11	4.636	295	309	320	rVB3	349218	767445	37.66%	4.153%
12	4.744	321	328	341	rVB	297981	521085	25.57%	2.820%
13	4.846	341	346	352	rBV2	20308	34863	1.71%	0.189%
14	5.034	372	379	391	rBV	112306	190901	9.37%	1.033%
15	5.340	426	433	440	rVB5	7763	19633	0.96%	0.106%
16	5.573	464	474	484	rBV2	413712	842316	41.33%	4.558%
17	5.761	500	507	515	rBV	79746	165148	8.10%	0.894%
18	5.840	515	521	527	rVV2	8248	16222	0.80%	0.088%
19	6.073	557	562	571	rBV4	5316	12089	0.59%	0.065%
20	6.300	594	602	612	rBV	42087	96039	4.71%	0.520%
21	6.425	616	624	629	rVV4	23344	64451	3.16%	0.349%
22	6.482	629	634	637	rVV3	20730	43124	2.12%	0.233%
23	6.550	639	646	659	rVV4	56920	157374	7.72%	0.852%
24	6.669	661	667	680	rVB	28502	64377	3.16%	0.348%
25	6.845	691	698	704	rBV4	7199	17402	0.85%	0.094%
26	6.930	704	713	721	rVV2	41187	109462	5.37%	0.592%
27	6.981	721	722	733	rVB5	6732	12677	0.62%	0.069%
28	7.129	741	748	755	rVB5	8389	20690	1.02%	0.112%
29	7.220	755	764	772	rBV	457256	987596	48.46%	5.345%
30	7.299	772	778	783	rVV3	38994	95343	4.68%	0.516%
31	7.351	783	787	795	rVB2	20672	41657	2.04%	0.225%
32	7.742	849	856	869	rBV5	6269	21897	1.07%	0.119%
33	7.992	889	900	918	rBV	396084	924012	45.34%	5.001%
34	8.128	919	924	930	rVB6	5336	11668	0.57%	0.063%
35	8.373	962	967	976	rVB4	5582	13152	0.65%	0.071%
36	8.810	1036	1044	1053	rBV3	17437	55217	2.71%	0.299%
37	8.895	1054	1059	1072	rVV6	14410	41378	2.03%	0.224%
38	9.037	1075	1084	1094	rVB	16969	38520	1.89%	0.208%
39	9.219	1107	1116	1121	rBV3	12717	30530	1.50%	0.165%
40	9.298	1121	1130	1142	rVB	670422	1553692	76.23%	8.408%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092425.D
Acq On : 9 Sep 2024 22:08
Operator : SC
Sample : P2403661-009 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	9.417	1142	1151	1160	rBV5	7547	26135	1.28%	0.141%
42	9.616	1173	1186	1197	rBV	605654	1320311	64.78%	7.145%
43	10.133	1268	1277	1285	rVB2	12893	36204	1.78%	0.196%
44	10.570	1349	1354	1361	rVB4	8382	19321	0.95%	0.105%
45	11.127	1447	1452	1454	rBV2	6340	10675	0.52%	0.058%
46	11.189	1455	1463	1470	rVB	17977	49792	2.44%	0.269%
47	12.427	1671	1681	1693	rBV	903761	2038072	100.00%	11.030%
48	12.557	1695	1704	1715	rVB	116806	249833	12.26%	1.352%
49	13.222	1810	1821	1831	rBV3	32562	76113	3.73%	0.412%
50	13.404	1848	1853	1863	rVB5	6800	15088	0.74%	0.082%
51	13.778	1914	1919	1925	rBV4	4864	10549	0.52%	0.057%
52	14.522	2041	2050	2062	rBV	518526	1158728	56.85%	6.271%
53	14.840	2097	2106	2116	rBV	909538	1862672	91.39%	10.080%
54	15.402	2202	2205	2217	rVB4	5211	13179	0.65%	0.071%
55	15.629	2241	2245	2254	rVB4	11323	28061	1.38%	0.152%
56	15.805	2264	2276	2286	rBV6	16591	48194	2.36%	0.261%
57	15.930	2292	2298	2306	rBV2	28703	64345	3.16%	0.348%
58	15.998	2306	2310	2318	rVB4	5759	11522	0.57%	0.062%
59	16.118	2323	2331	2337	rVB5	19250	42649	2.09%	0.231%
60	16.237	2346	2352	2356	rBV5	7260	15046	0.74%	0.081%
61	16.322	2359	2367	2378	rVB2	34445	91523	4.49%	0.495%
62	16.822	2446	2455	2465	rVB	767008	1454155	71.35%	7.870%
63	17.407	2551	2558	2562	rBV3	16104	32656	1.60%	0.177%
64	17.446	2562	2565	2572	rVV4	18292	35265	1.73%	0.191%
65	17.520	2572	2578	2584	rVB2	35736	66036	3.24%	0.357%
66	17.747	2613	2618	2624	rVB3	12475	22339	1.10%	0.121%
67	18.043	2665	2670	2677	rVB2	21539	36154	1.77%	0.196%
68	18.315	2714	2718	2730	rVB4	29090	52709	2.59%	0.285%
69	18.503	2745	2751	2758	rVB2	144623	234045	11.48%	1.267%
70	18.605	2764	2769	2772	rBV4	9081	13242	0.65%	0.072%
71	18.645	2772	2776	2781	rVB3	8086	12795	0.63%	0.069%
72	18.809	2800	2805	2816	rBV	86693	145141	7.12%	0.785%
73	19.065	2845	2850	2861	rVB4	11734	32165	1.58%	0.174%
74	19.286	2885	2889	2897	rVB4	10710	24575	1.21%	0.133%
75	19.383	2899	2906	2914	rVB5	10287	21229	1.04%	0.115%
76	19.763	2967	2973	2977	rBV3	13761	23622	1.16%	0.128%
77	19.809	2977	2981	2987	rVV	73327	101616	4.99%	0.550%
78	19.877	2987	2993	3000	rVB3	12516	22227	1.09%	0.120%
79	19.979	3006	3011	3017	rBV2	13572	20742	1.02%	0.112%
80	20.178	3034	3046	3059	rVB7	15381	51863	2.54%	0.281%
81	20.569	3109	3115	3125	rVV2	142271	206515	10.13%	1.118%
82	20.757	3145	3148	3156	rBV8	6699	14399	0.71%	0.078%
83	20.916	3171	3176	3181	rBV2	48132	61413	3.01%	0.332%
84	21.018	3190	3194	3199	rVB3	8185	10678	0.52%	0.058%
85	21.830	3334	3337	3342	rVB2	8751	11655	0.57%	0.063%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092425.D
Acq On : 9 Sep 2024 22:08
Operator : SC
Sample : P2403661-009 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

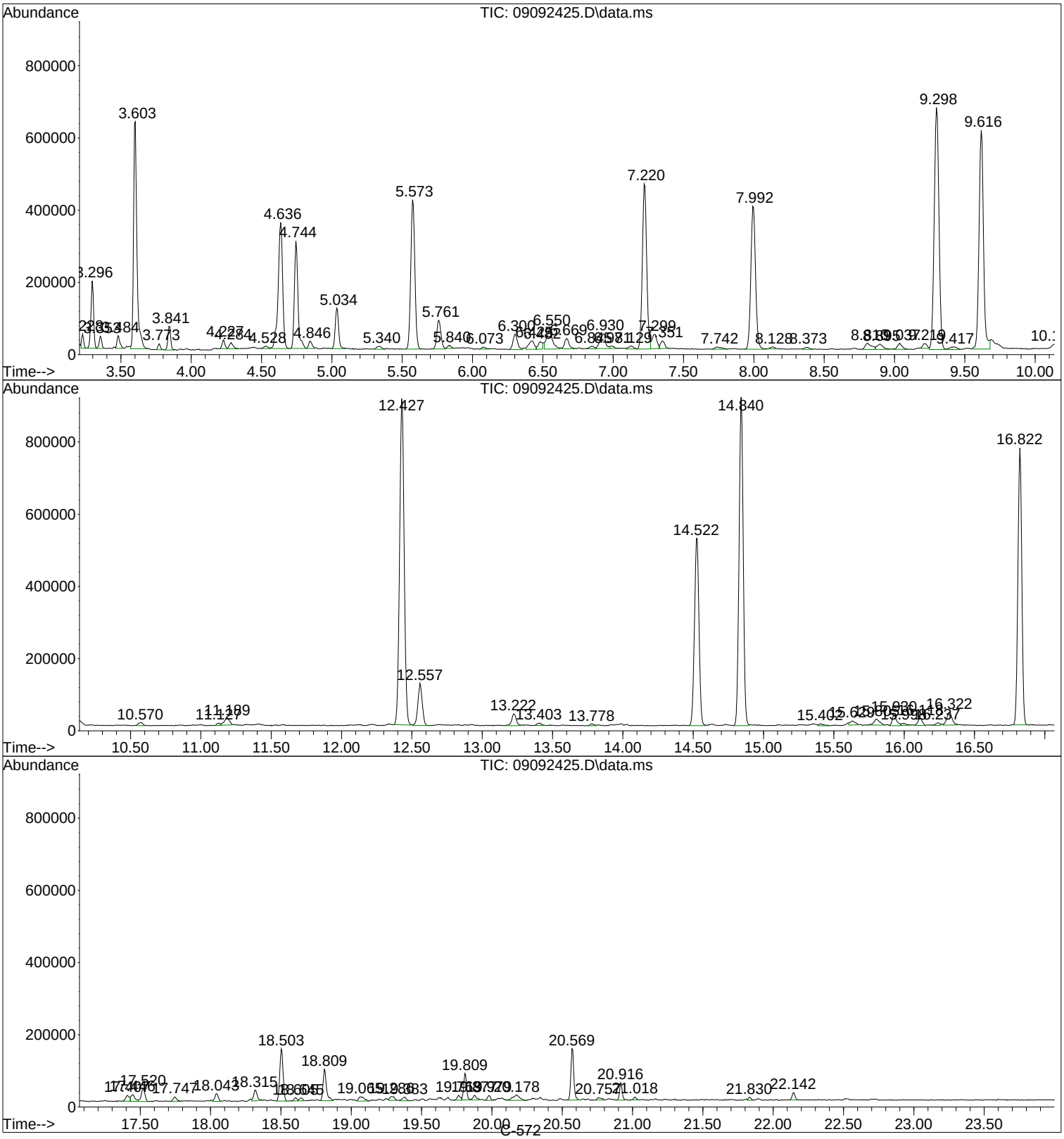
86	22.142	3388	3392	3397	rVB	20527	29587	1.45%	0.160%

Sum of corrected areas: 18478303

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092425.D
Acq On : 9 Sep 2024 22:08
Operator : SC
Sample : P2403661-009 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092425.D
Acq On : 9 Sep 2024 22:088
Operator : SCC
Sample : P2403661-009 (400mL))
Misc : S37-060624022
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:02:24 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133403	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	581119	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	180509	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	345218	13.829	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.64%				
57) Toluene-d8 (SS2)	12.43	98	673356	10.634	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%				
73) Bromofluorobenzene (SS3)	16.82	174	232177	10.963	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	19710m	0.609	ng		
4) Chloromethane	3.49	50	1680	0.066	ng		82
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	330	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	237	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	39722	2.744	ng		80
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	2722	0.246	ng		90
13) Acetone	4.63	58	61819	5.060	ng	#	17
14) Trichlorofluoromethane	4.75	101	208394	6.746	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	53529	1.113	ng		89
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.40	59	174	N.D.			
19) Methylene Chloride	5.35	84	1333	0.093	ng	#	68
20) 3-Chloro-1-propene (Al...	5.48	41	264	N.D.			
21) Trichlorotrifluoroethane	5.58	151	105822	8.646	ng		92
22) Carbon Disulfide	5.60	76	54460	1.142	ng		82
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	1368	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	4798	0.554	ng	#	46
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	4333	0.746	ng		94
31) n-Hexane	7.30	57	11344	0.428	ng	#	96
32) Chloroform	7.35	83	17157	0.646	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	506	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.61	61	7255	No Calib		#	
40) 1-Butanol	8.80	56	15390	No Calib		#	
41) Benzene	8.90	78	8409	0.154	ng		95
42) Carbon Tetrachloride	9.07	117	1151	0.051	ng		87
43) Cyclohexane	9.22	84	9246	0.503	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	577	N.D.			
46) Bromodichloromethane	10.08	83	128	N.D.			
47) Trichloroethene	10.15	130	147	N.D.			
48) 1,4-Dioxane	10.13	88	446	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	1885	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

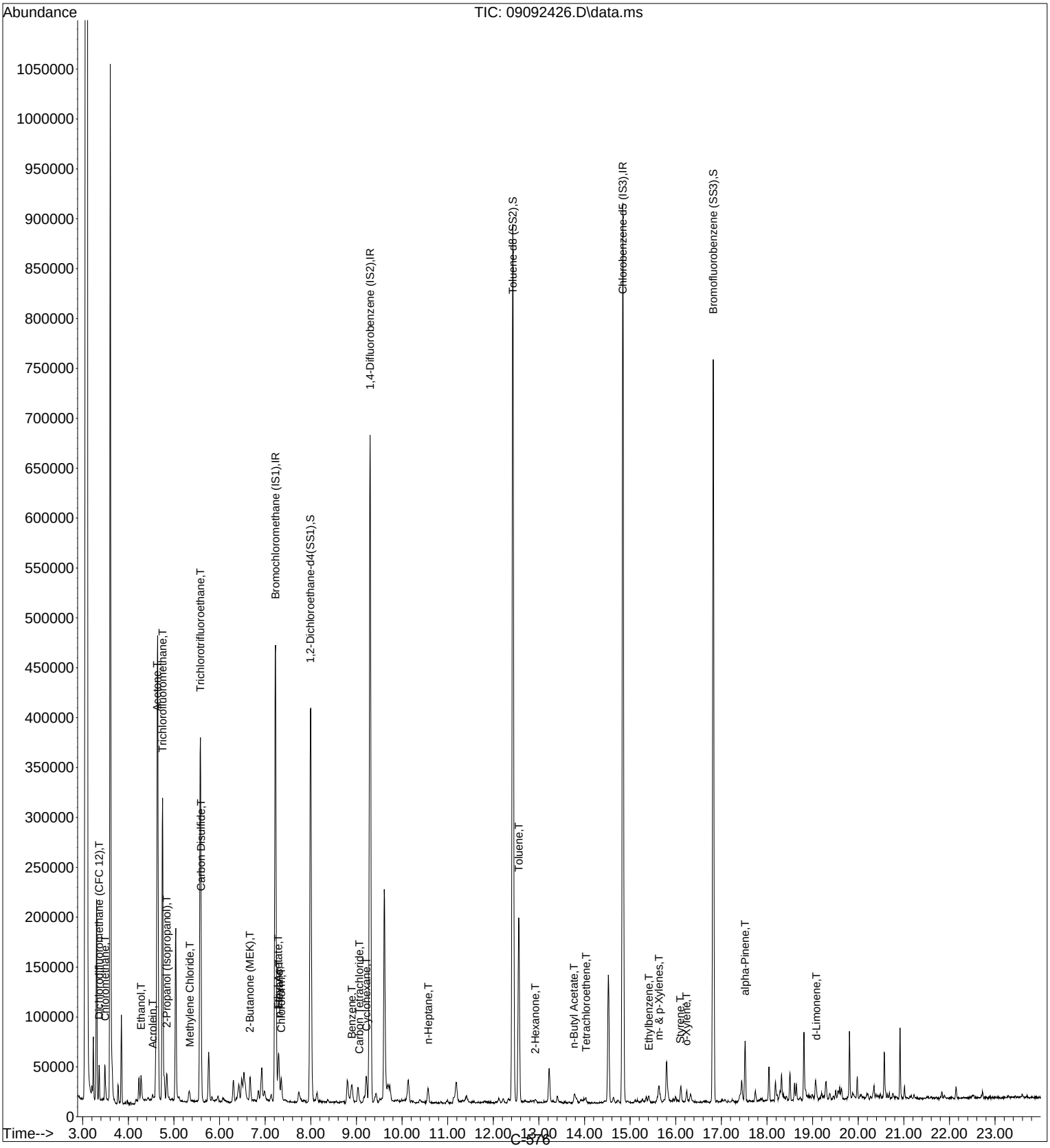
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	2749	0.226 ng		84
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	603	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	151307	2.210 ng		99
59) 2-Hexanone	12.92	43	4157	0.098 ng	#	56
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	9680	0.204 ng		75
63) n-Octane	13.92	57	613	N.D.		
64) Tetrachloroethene	14.03	166	1053	0.055 ng		98
65) Chlorobenzene	14.89	112	204	N.D.		
66) Ethylbenzene	15.41	91	5975	0.076 ng		99
67) m- & p-Xylenes	15.63	91	12543	0.196 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	3074	0.074 ng		97
70) o-Xylene	16.24	91	6630	0.106 ng		99
71) n-Nonane	16.61	43	1411	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	124	N.D.		
74) Cumene	17.03	105	574	N.D.		
75) alpha-Pinene	17.52	93	22403	0.594 ng		93
76) n-Propylbenzene	17.68	91	854	N.D.		
77) 3-Ethyltoluene	17.03	105	574	No Calib	#	
78) 4-Ethyltoluene	17.85	105	523	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	394	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	574	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1331	N.D.		
83) n-Decane	17.01	58	421	No Calib	#	
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	193	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	421	N.D.		
87) sec-Butylbenzene	18.75	105	283	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1557	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	574	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	230	N.D.		
91) d-Limonene	19.08	68	2321	0.108 ng		95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	901	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	516	N.D.		
95) Naphthalene	20.93	128	1067	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	255	N.D.		
98) Cyclohexanone	15.23	55	215	No Calib	#	
99) tert-Butylbenzene	18.42	119	260	N.D.		
100) n-Butylbenzene	19.38	91	815	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133403	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	581119	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	180509	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	345218	13.829	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.64%				
57) Toluene-d8 (SS2)	12.43	98	673356	10.634	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%				
73) Bromofluorobenzene (SS3)	16.82	174	232177	10.963	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	19710m	0.609	ng		
4) Chloromethane	3.49	50	1680	0.066	ng		82
10) Ethanol	4.28	45	39722	2.744	ng		80
12) Acrolein	4.53	56	2722	0.246	ng		90
13) Acetone	4.63	58	61819	5.060	ng	#	17
14) Trichlorofluoromethane	4.75	101	208394	6.746	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	53529	1.113	ng		89
19) Methylene Chloride	5.35	84	1333	0.093	ng	#	68
21) Trichlorotrifluoroethane	5.58	151	105822	8.646	ng		92
22) Carbon Disulfide	5.60	76	54460	1.142	ng		82
27) 2-Butanone (MEK)	6.66	72	4798	0.554	ng	#	46
30) Ethyl Acetate	7.29	61	4333	0.746	ng		94
31) n-Hexane	7.30	57	11344	0.428	ng	#	96
32) Chloroform	7.35	83	17157	0.646	ng		99
41) Benzene	8.90	78	8409	0.154	ng		95
42) Carbon Tetrachloride	9.07	117	1151	0.051	ng		87
43) Cyclohexane	9.22	84	9246	0.503	ng		93
51) n-Heptane	10.58	71	2749	0.226	ng		84
58) Toluene	12.56	91	151307	2.210	ng		99
59) 2-Hexanone	12.92	43	4157	0.098	ng	#	56
62) n-Butyl Acetate	13.77	43	9680	0.204	ng		75
64) Tetrachloroethene	14.03	166	1053	0.055	ng		98
66) Ethylbenzene	15.41	91	5975	0.076	ng		99
67) m- & p-Xylenes	15.63	91	12543	0.196	ng		96
69) Styrene	16.10	104	3074	0.074	ng		97
70) o-Xylene	16.24	91	6630	0.106	ng		99
75) alpha-Pinene	17.52	93	22403	0.594	ng		93
91) d-Limonene	19.08	68	2321	0.108	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
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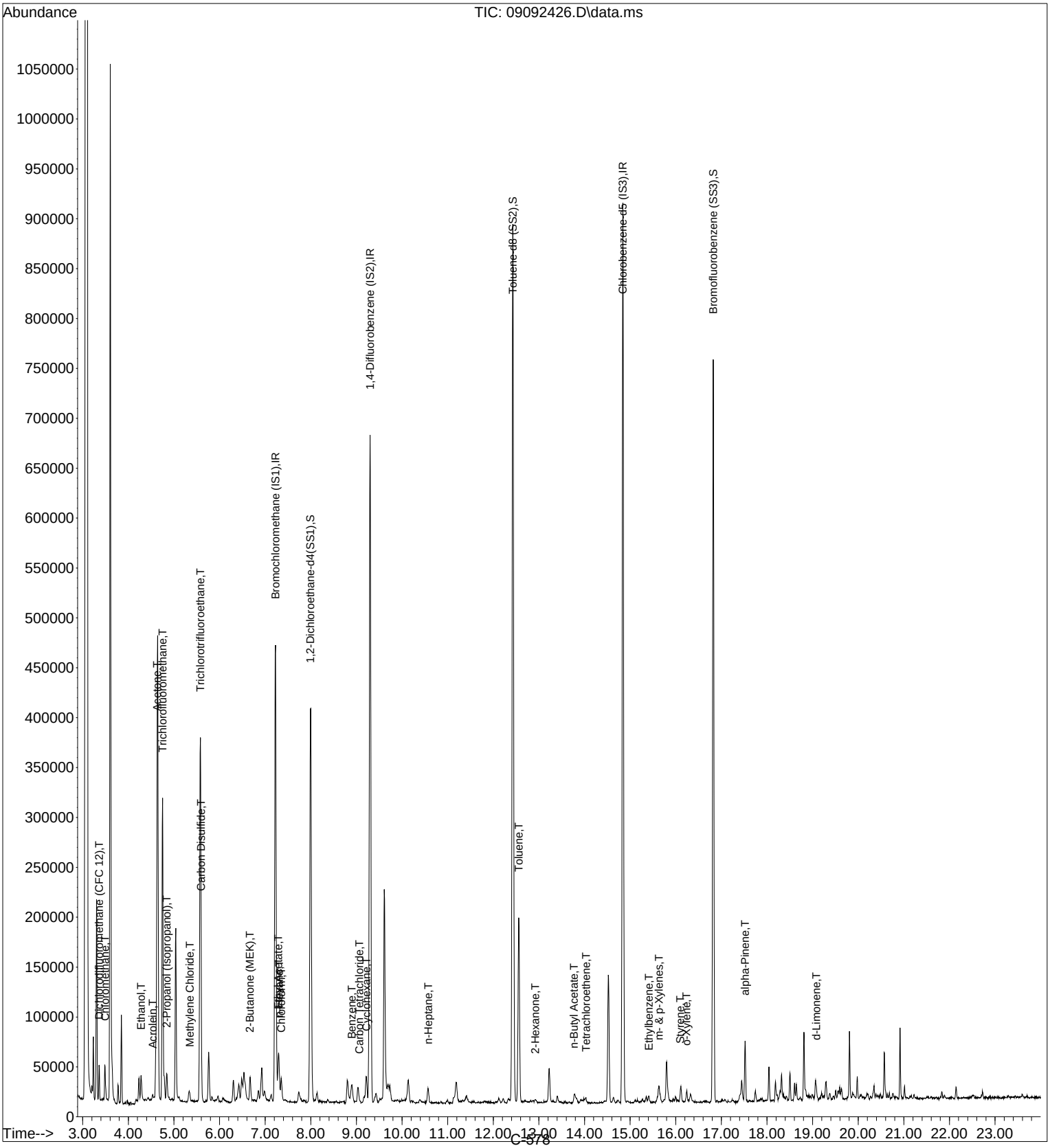
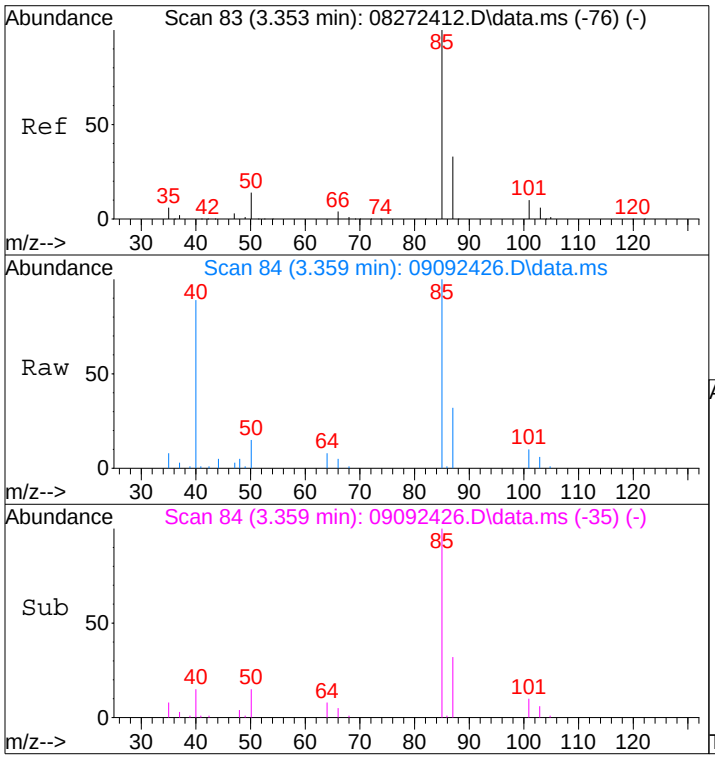
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

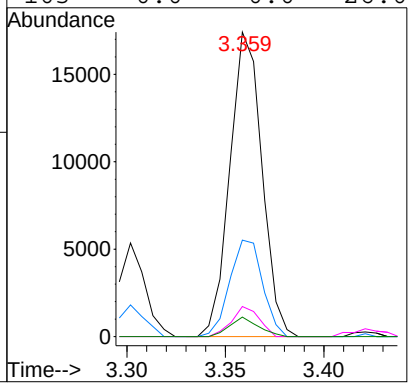


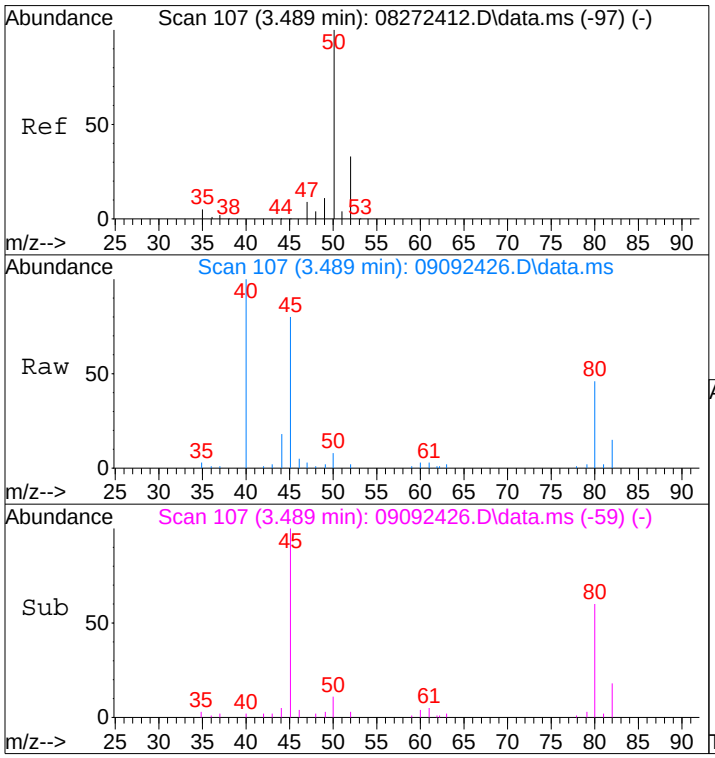


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.031 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 85 Resp: 19710

Ion	Ratio	Lower	Upper
85	100		
87	8.6	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

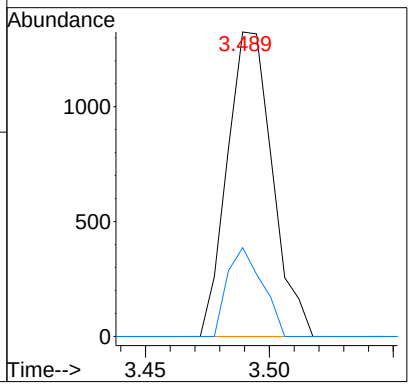


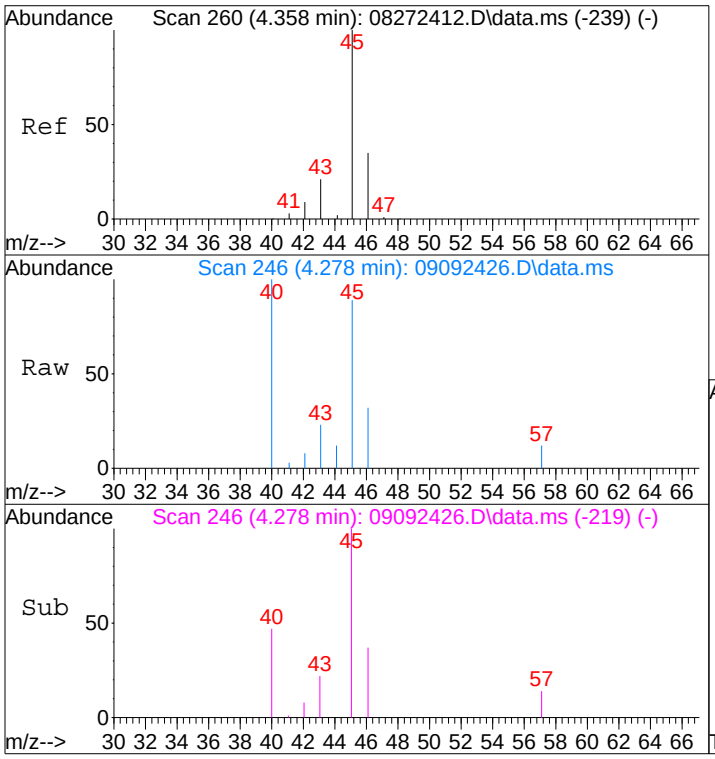


#4
Chloromethane
Concen: 0.07 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.021 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 50 Resp: 1680

Ion	Ratio	Lower	Upper
50	100		
52	22.6	12.4	52.4

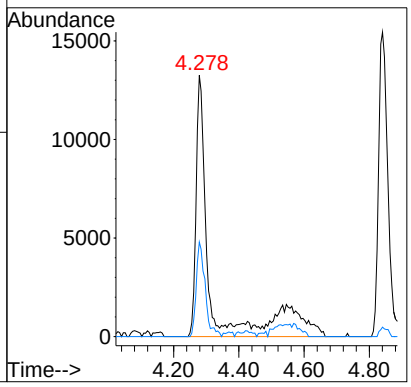


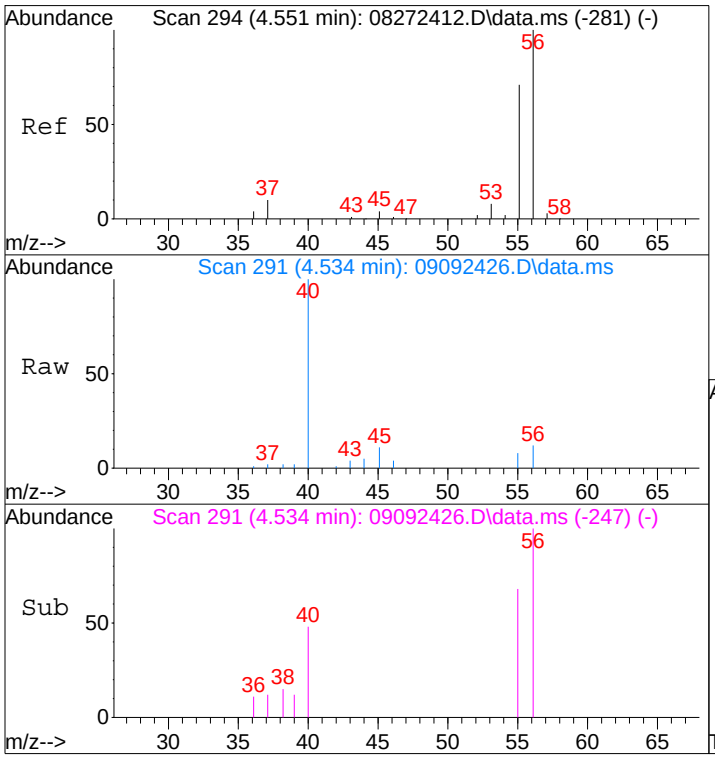


#10
Ethanol
Concen: 2.74 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.094 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 45 Resp: 39722

Ion	Ratio	Lower	Upper
45	100		
46	22.9	14.2	54.2

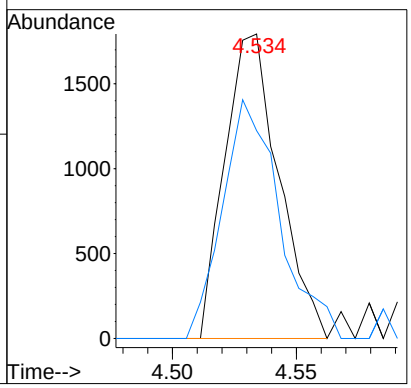


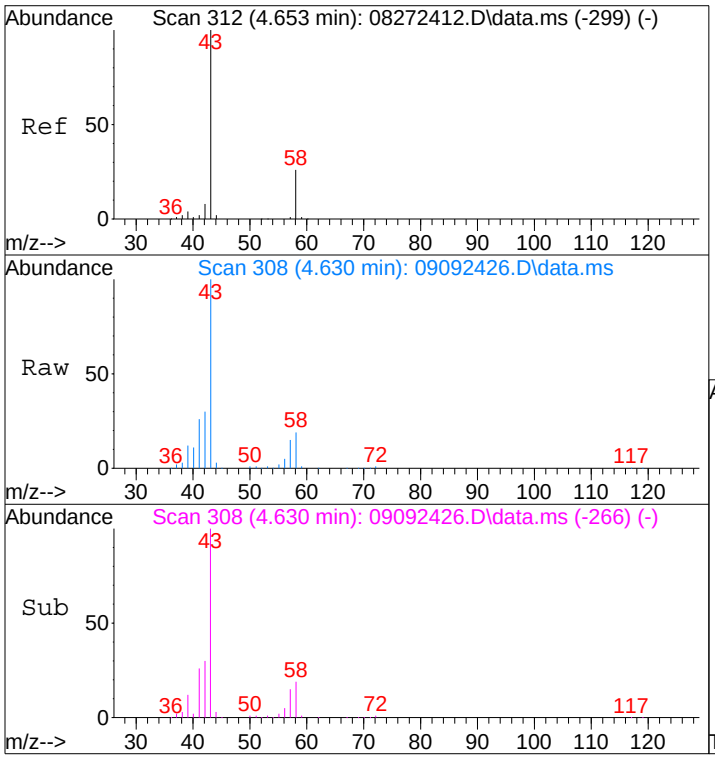


#12
Acrolein
Concen: 0.25 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.001 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 56 Resp: 2722

Ion	Ratio	Lower	Upper
56	100		
55	83.2	54.7	94.7

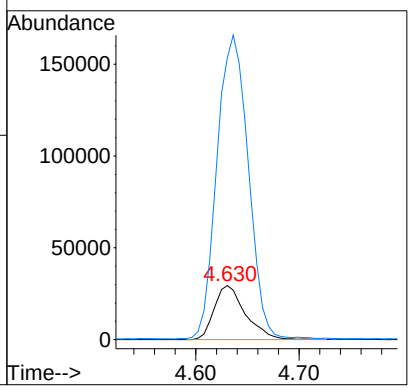


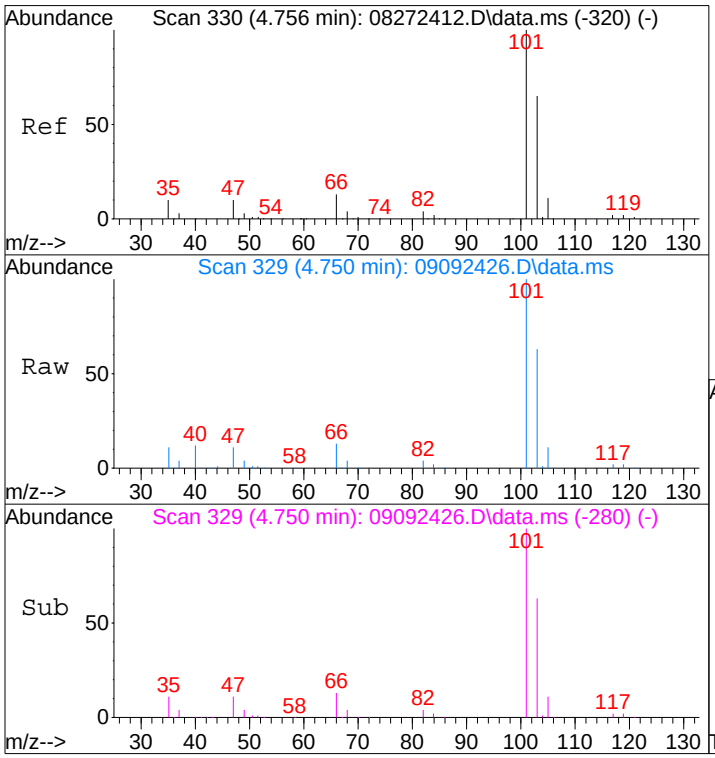


#13
Acetone
Concen: 5.06 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.011 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 58 Resp: 61819

Ion	Ratio	Lower	Upper
58	100		
43	566.6	347.3	407.3#

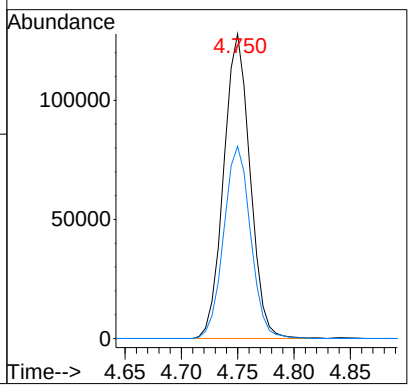


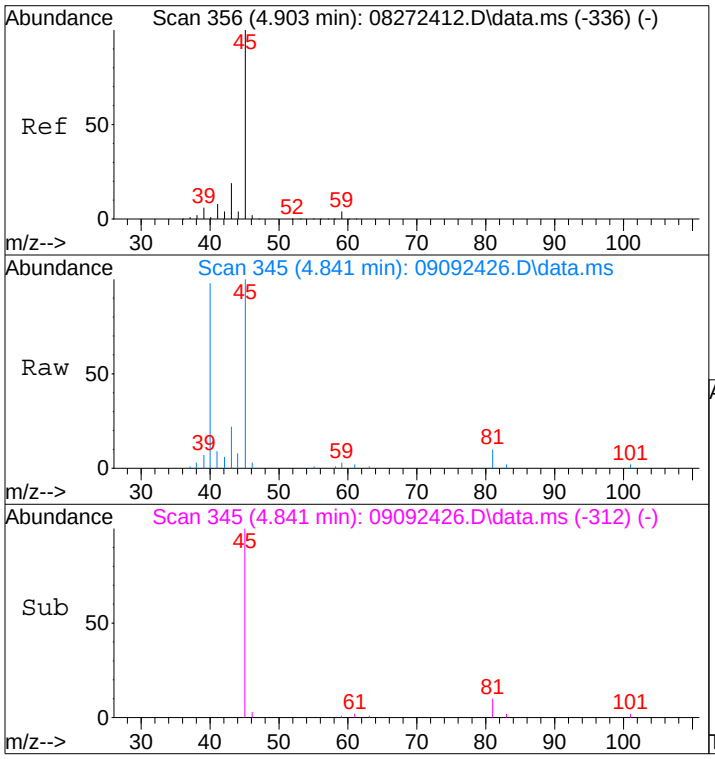


#14
Trichlorofluoromethane
Concen: 6.75 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion:101 Resp: 208394

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.9	84.9

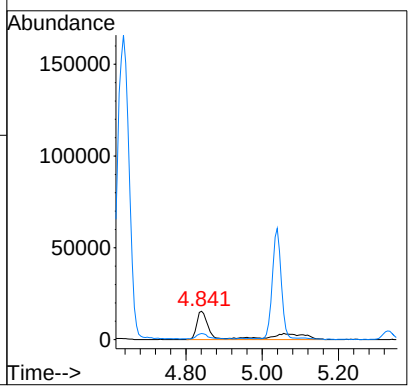


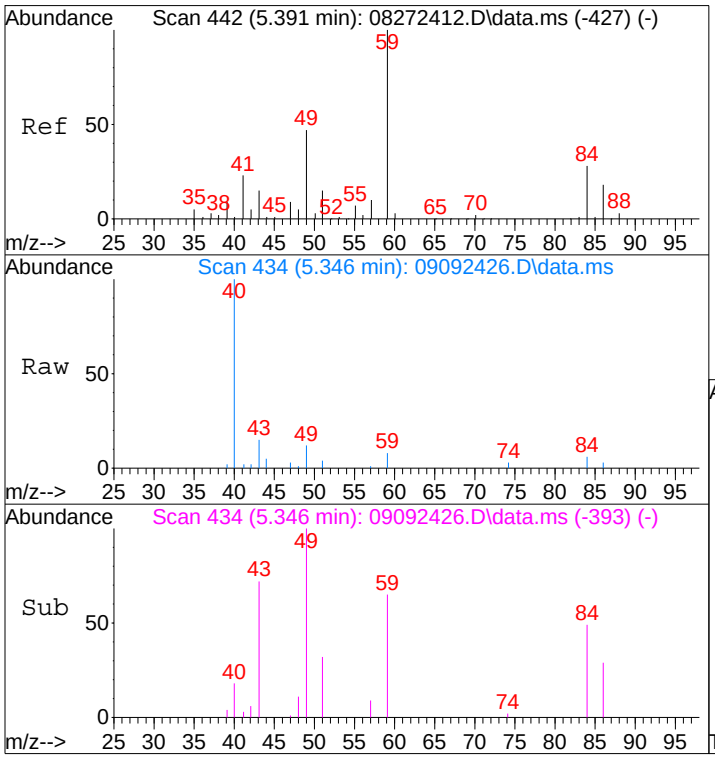


#15
2-Propanol (Isopropanol)
Concen: 1.11 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.065 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 45 Resp: 53529

Ion	Ratio	Lower	Upper
45	100		
43	14.9	0.0	40.0

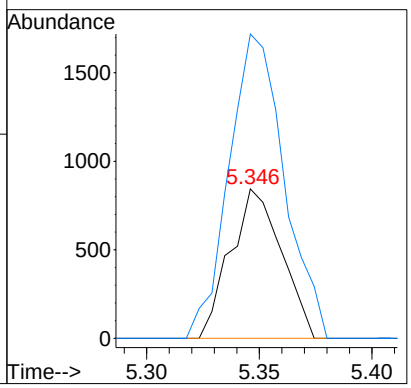


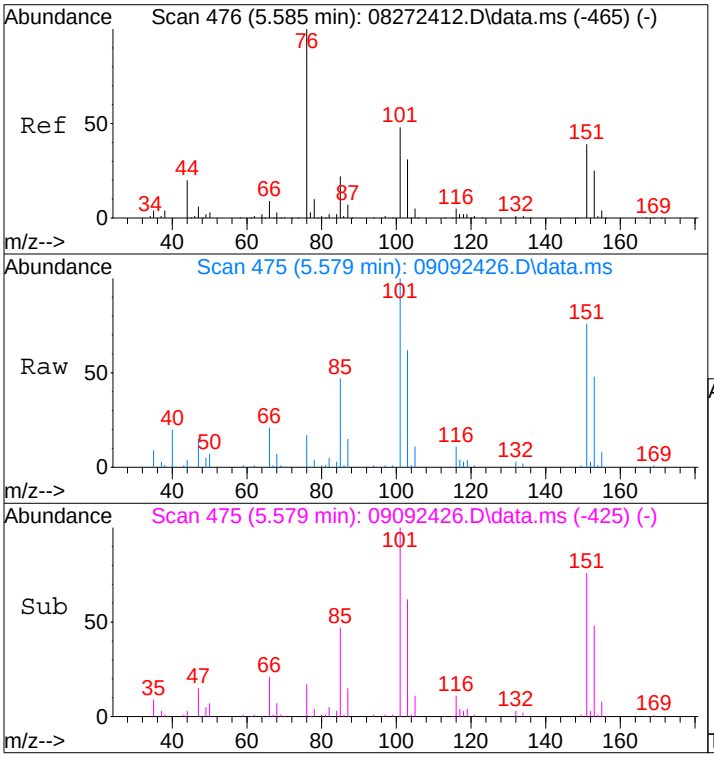


#19
Methylene Chloride
Concen: 0.09 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.015 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 84 Resp: 1333

Ion	Ratio	Lower	Upper
84	100		
49	220.4	151.1	201.1#

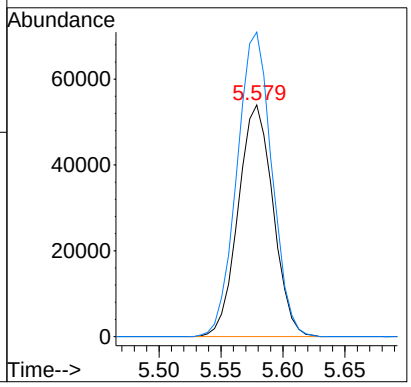


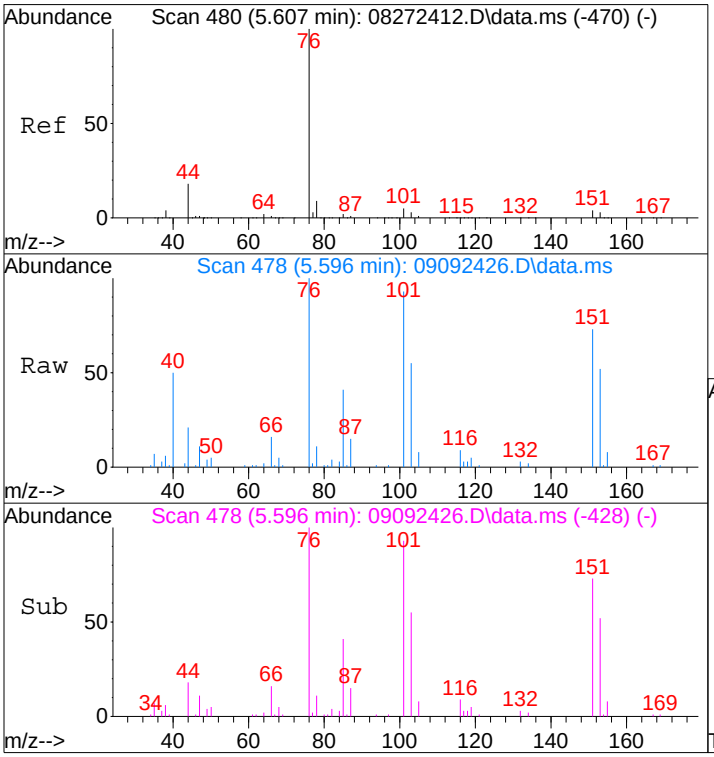


#21
Trichlorotrifluoroethane
Concen: 8.65 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion:151 Resp: 105822

Ion	Ratio	Lower	Upper
151	100		
101	132.0	103.4	143.4

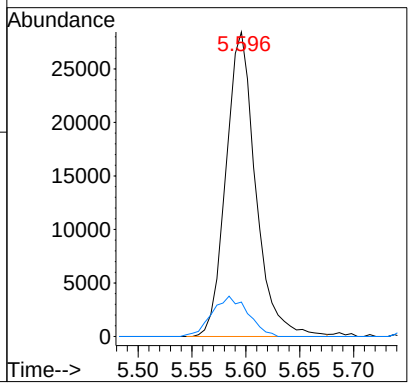


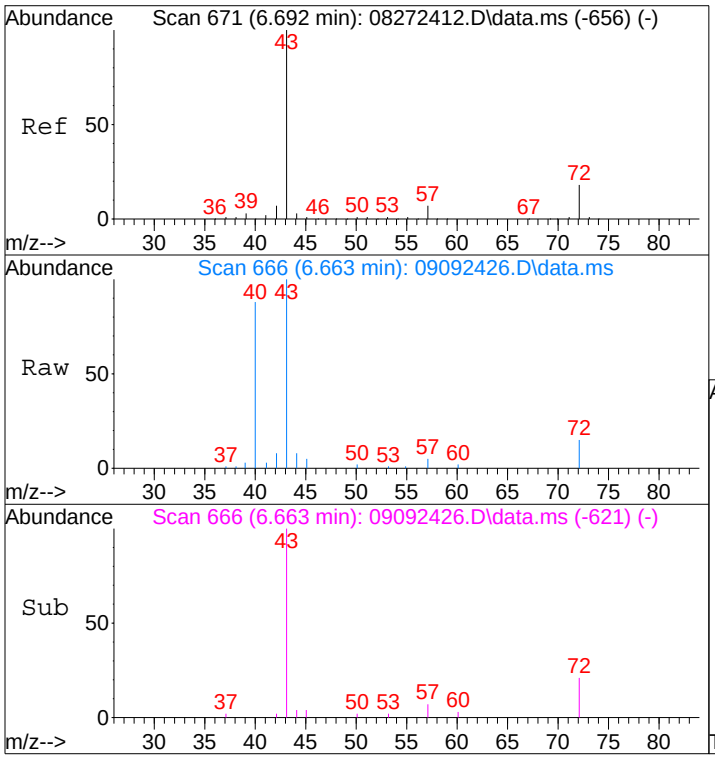


#22
Carbon Disulfide
Concen: 1.14 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 76 Resp: 54460

Ion	Ratio	Lower	Upper
76	100		
78	16.1	0.0	29.6

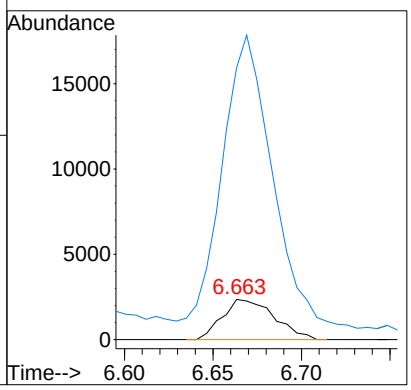


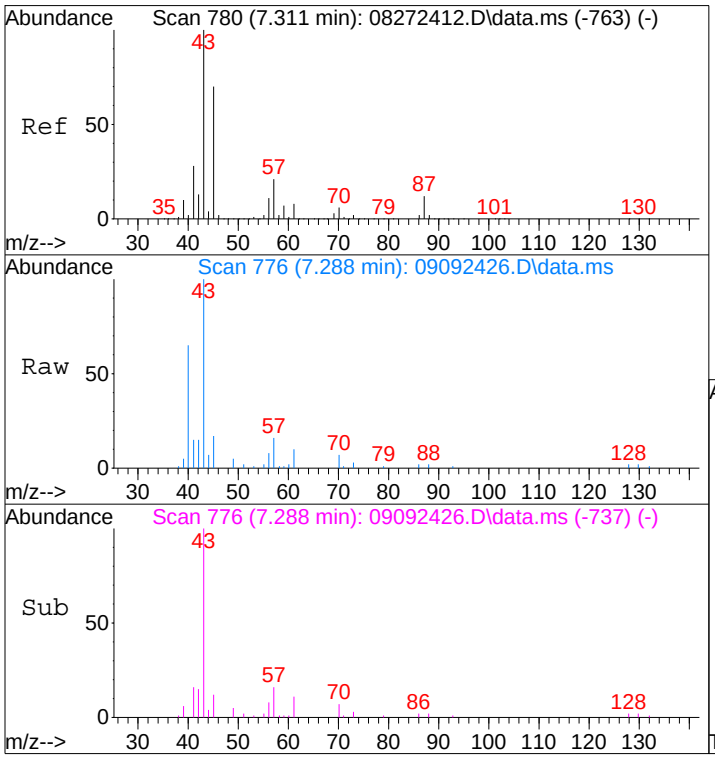


#27
2-Butanone (MEK)
Concen: 0.55 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 72 Resp: 4798

Ion	Ratio	Lower	Upper
72	100		
43	731.6	548.0	588.0#

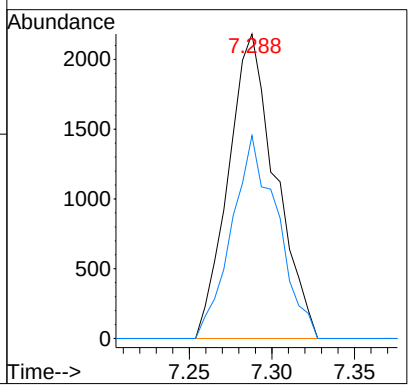


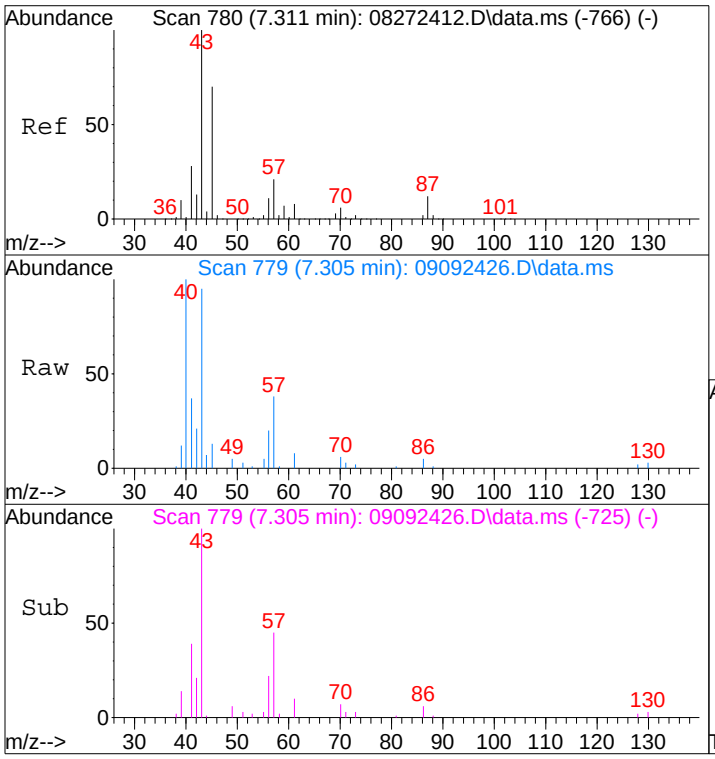


#30
Ethyl Acetate
Concen: 0.75 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 61 Resp: 4333

Ion	Ratio	Lower	Upper
61	100		
70	64.8	49.9	89.9

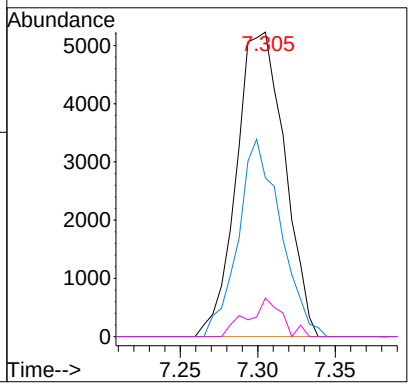


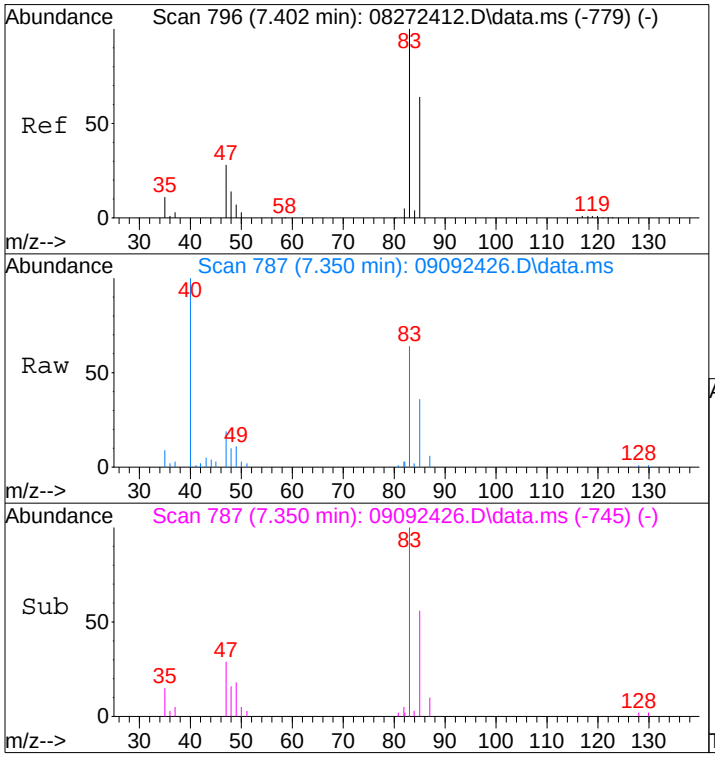


#31
n-Hexane
Concen: 0.43 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 57 Resp: 11344

Ion	Ratio	Lower	Upper
57	100		
56	57.2	44.2	66.2
86	8.9	9.3	13.9#

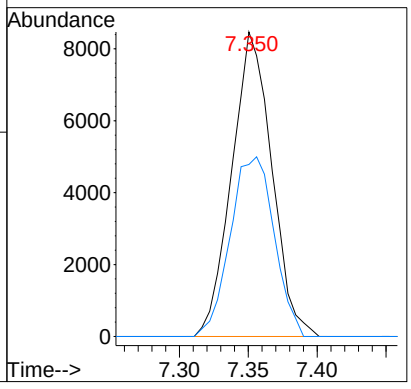


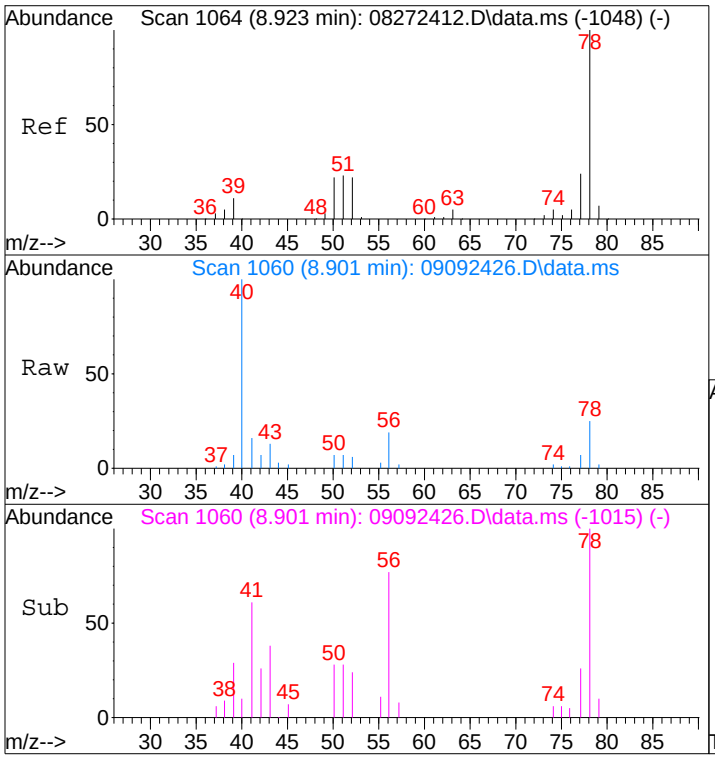


#32
Chloroform
Concen: 0.65 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 83 Resp: 17157

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.3	85.3

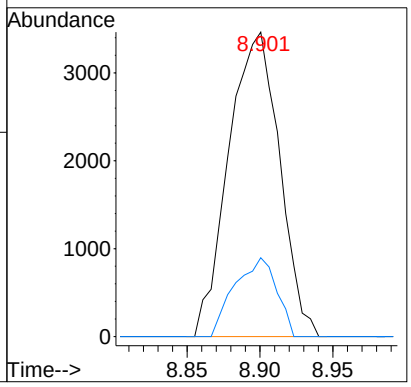


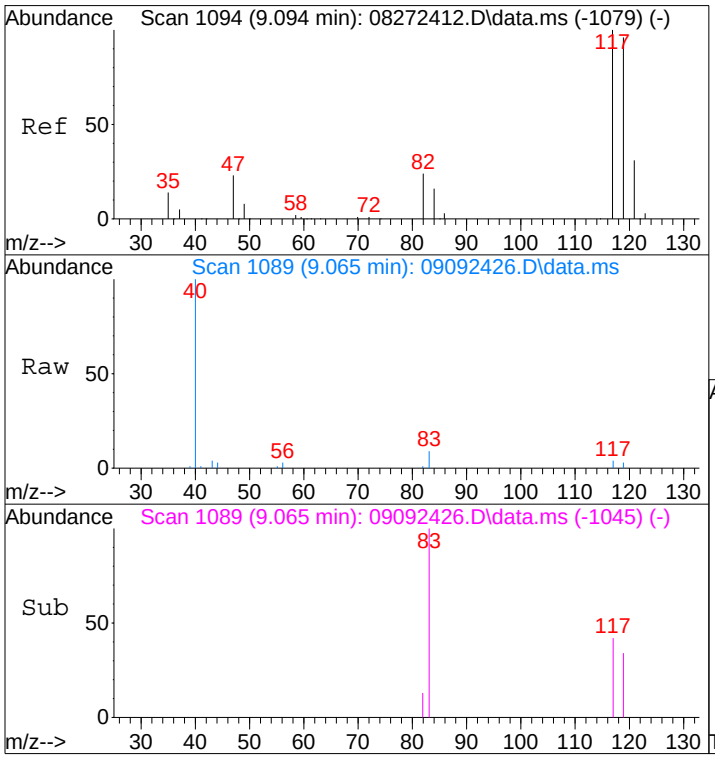


#41
Benzene
Concen: 0.15 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.003 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 78 Resp: 8409

Ion	Ratio	Lower	Upper
78	100		
77	21.4	3.9	43.9

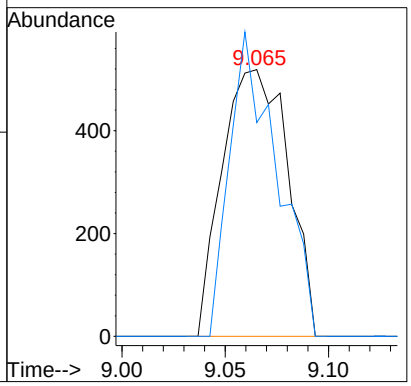


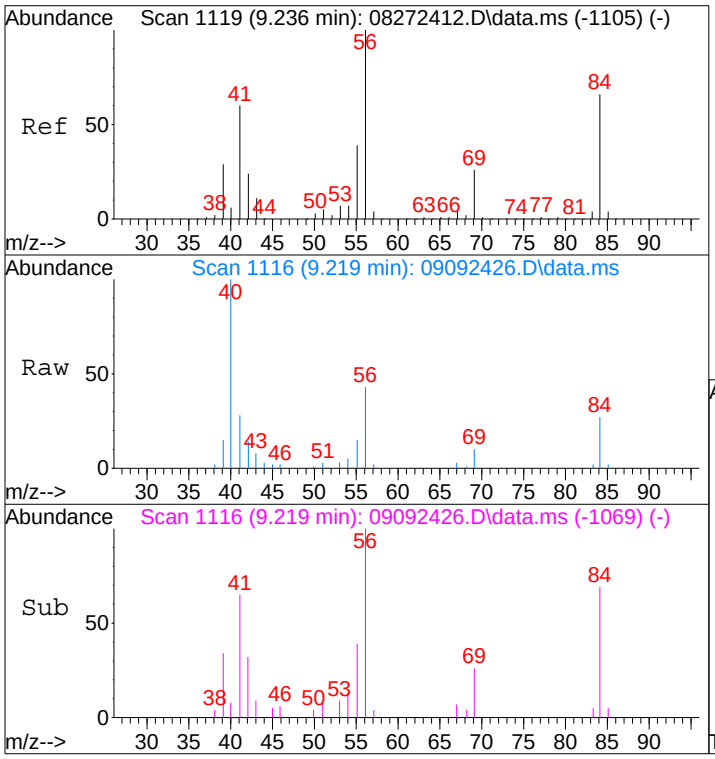


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion:117 Resp: 1151

Ion	Ratio	Lower	Upper
117	100		
119	82.2	75.1	115.1

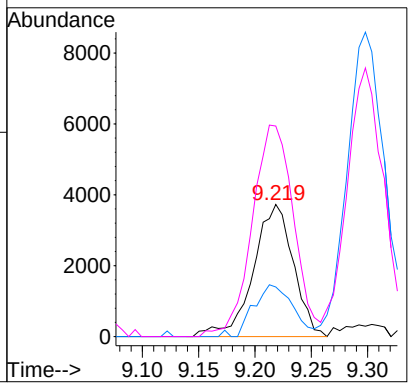


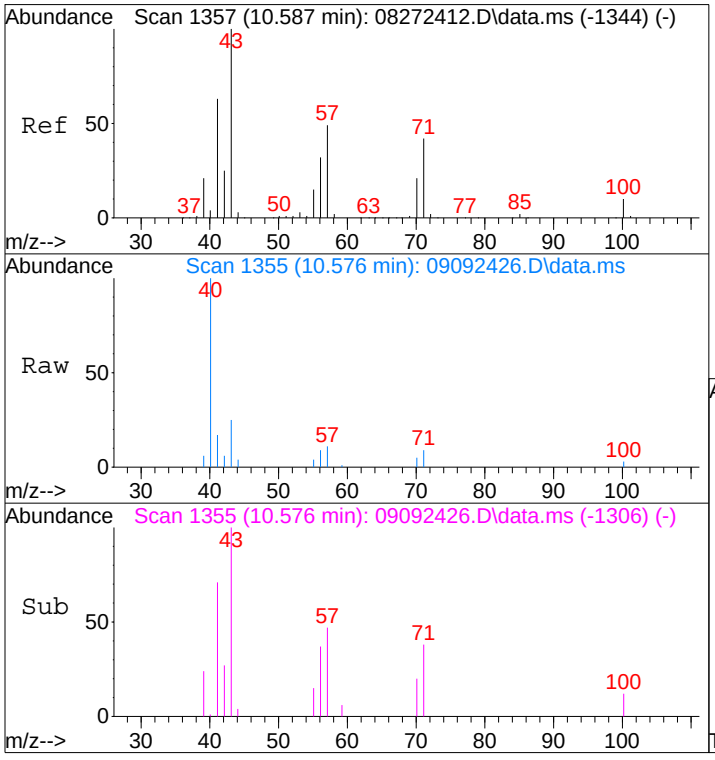


#43
Cyclohexane
Concen: 0.50 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.017 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 84 Resp: 9246

Ion	Ratio	Lower	Upper
84	100		
69	38.4	18.8	58.8
56	165.3	134.5	174.5

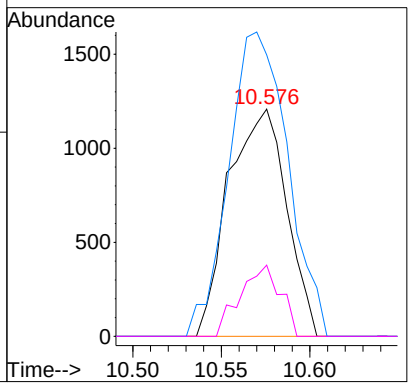


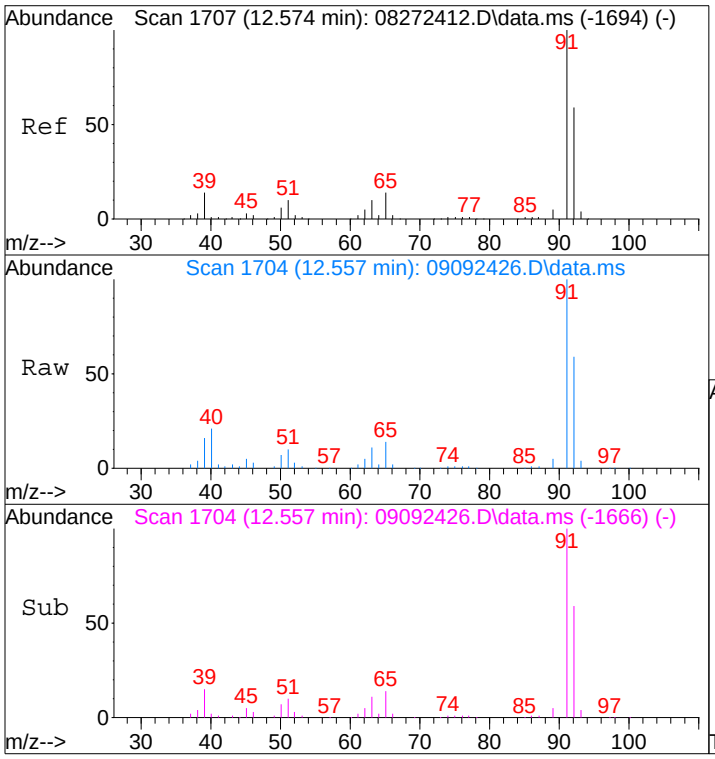


#51
n-Heptane
Concen: 0.23 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.030 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 71 Resp: 2749

Ion	Ratio	Lower	Upper
71	100		
57	137.0	97.1	137.1
100	21.8	5.0	45.0

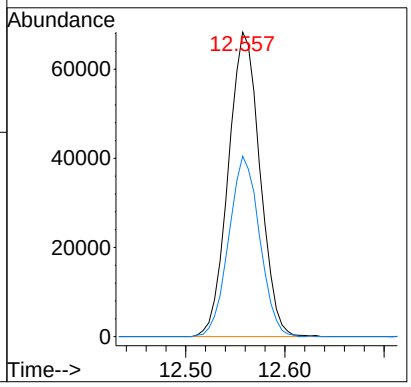


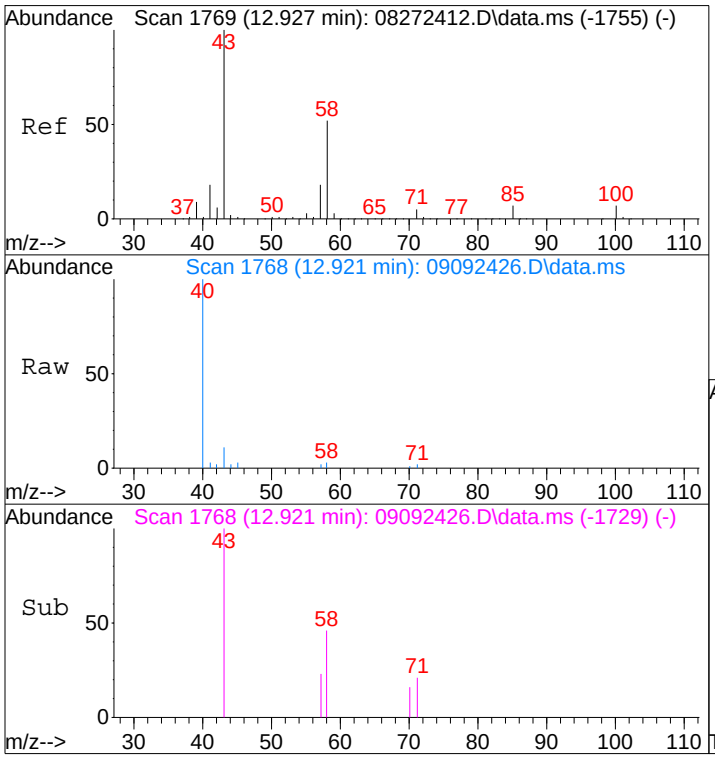


#58
Toluene
Concen: 2.21 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 91 Resp: 151307

Ion	Ratio	Lower	Upper
91	100		
92	57.8	38.5	78.5

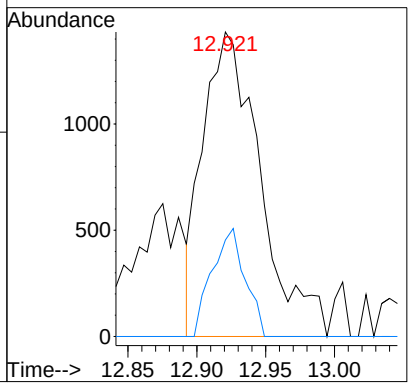


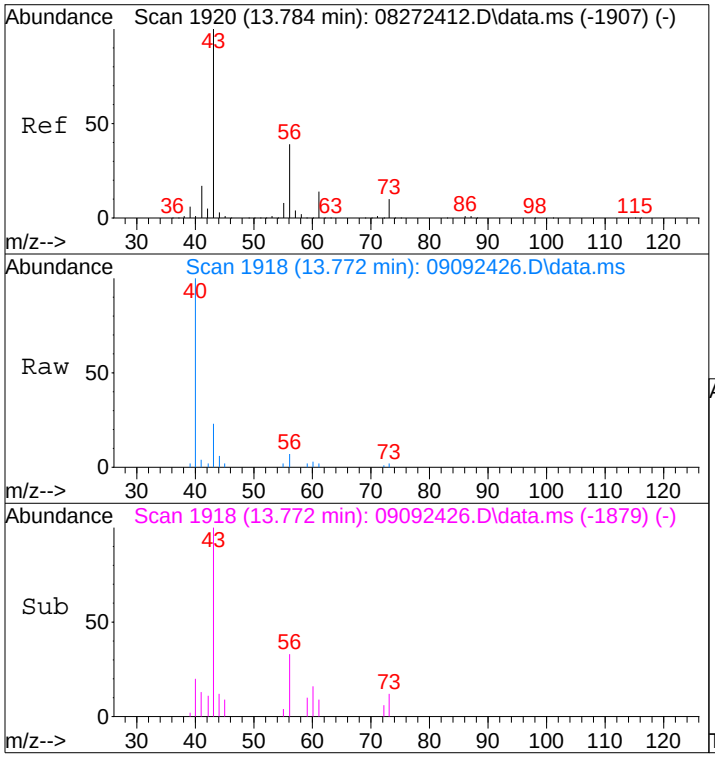


#59
2-Hexanone
Concen: 0.10 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 43 Resp: 4157

Ion	Ratio	Lower	Upper
43	100		
58	20.5	31.1	71.1#

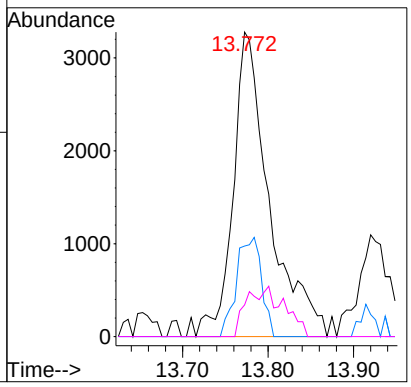


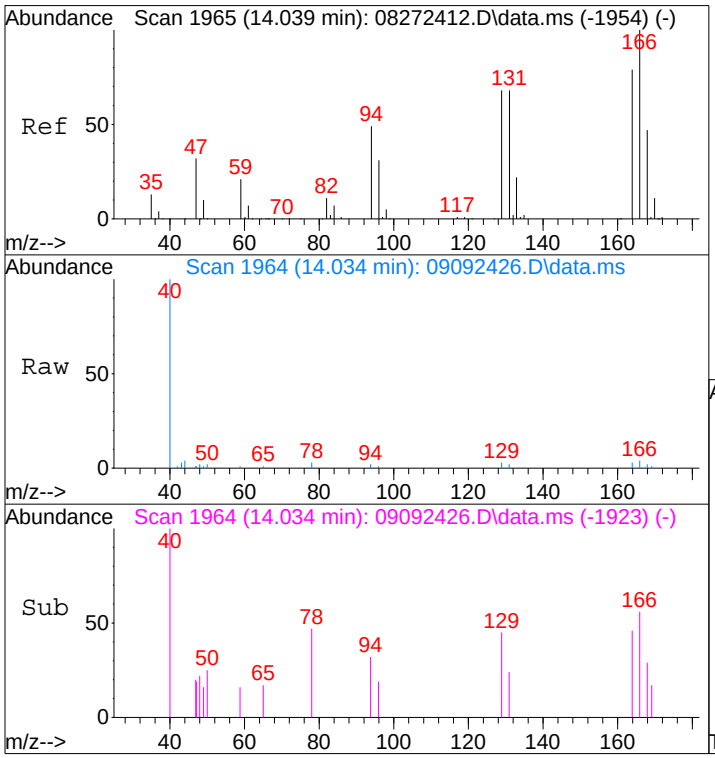


#62
n-Butyl Acetate
Concen: 0.20 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 43 Resp: 9680

Ion	Ratio	Lower	Upper
43	100		
56	22.4	18.2	58.2
73	17.0	0.0	30.1

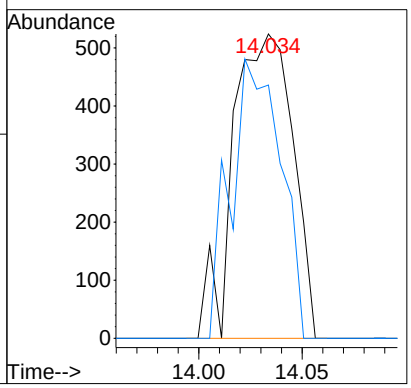


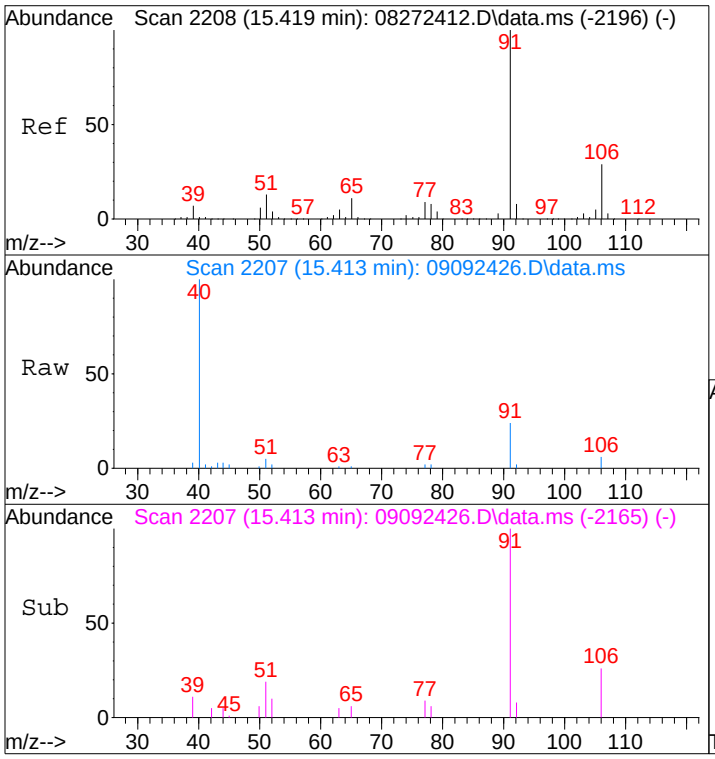


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion:166 Resp: 1053

Ion	Ratio	Lower	Upper
166	100		
164	77.2	59.0	99.0

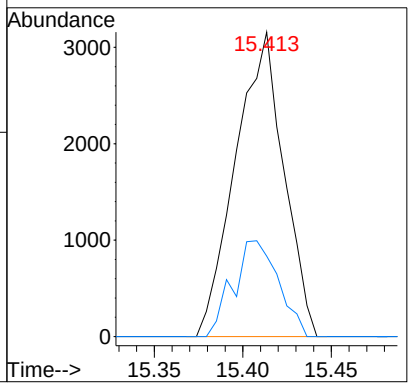


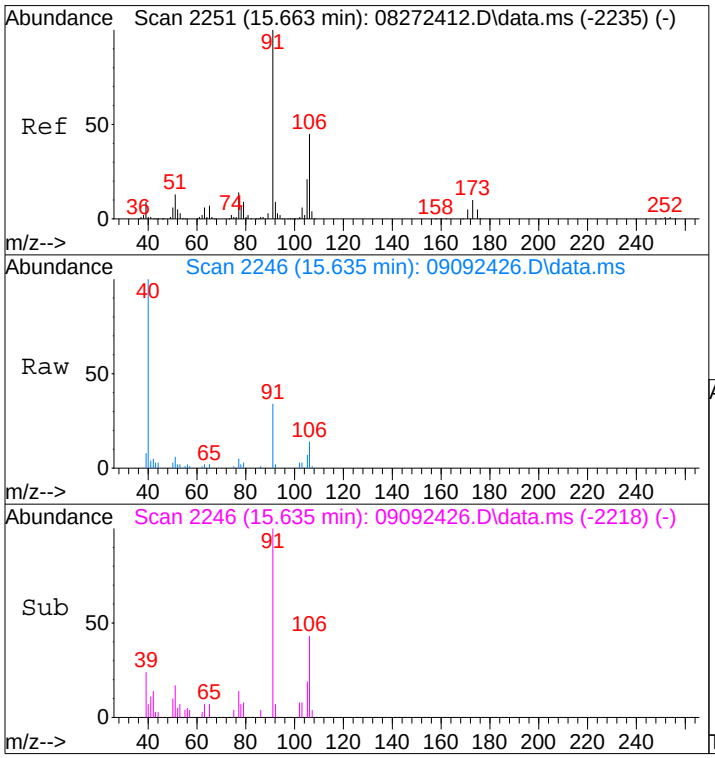


#66
Ethylbenzene
Concen: 0.08 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 91 Resp: 5975

Ion	Ratio	Lower	Upper
91	100		
106	29.5	9.2	49.2

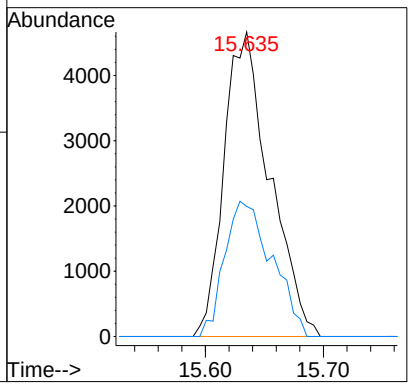


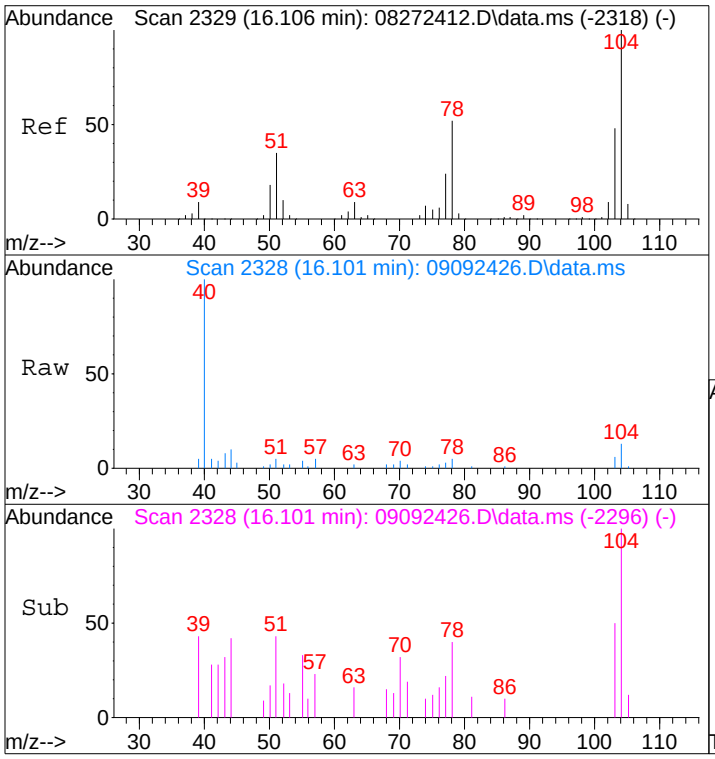


#67
m- & p-Xylenes
Concen: 0.20 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 91 Resp: 12543

Ion	Ratio	Lower	Upper
91	100		
106	46.1	23.8	63.8

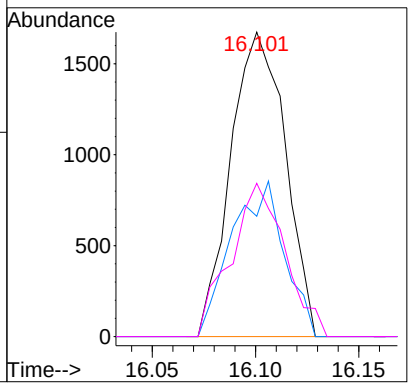


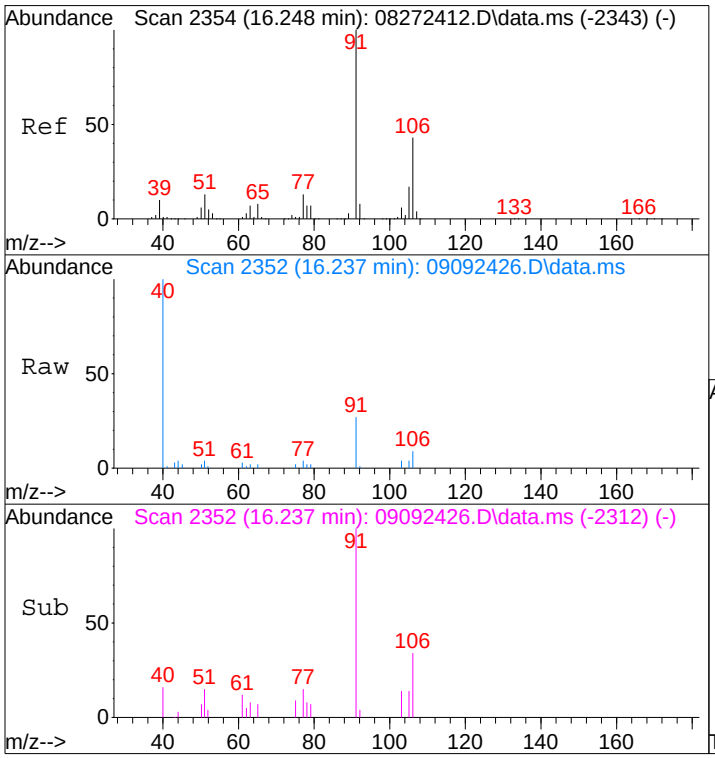


#69
Styrene
Concen: 0.07 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion:104 Resp: 3074

Ion	Ratio	Lower	Upper
104	100		
78	49.3	32.2	72.2
103	50.1	28.3	68.3

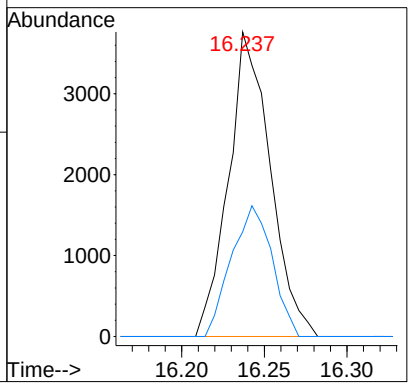


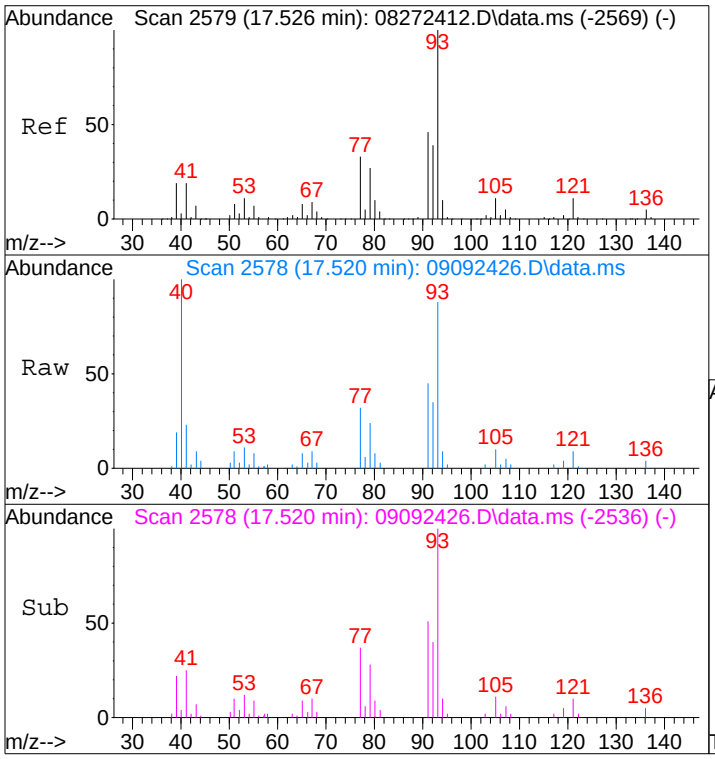


#70
o-Xylene
Concen: 0.11 ng
RT: 16.24 min Scan# 2352
Delta R.T. -0.023 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 91 Resp: 6630

Ion	Ratio	Lower	Upper
91	100		
106	41.9	22.5	62.5

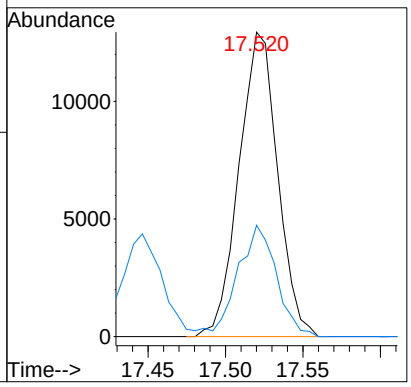


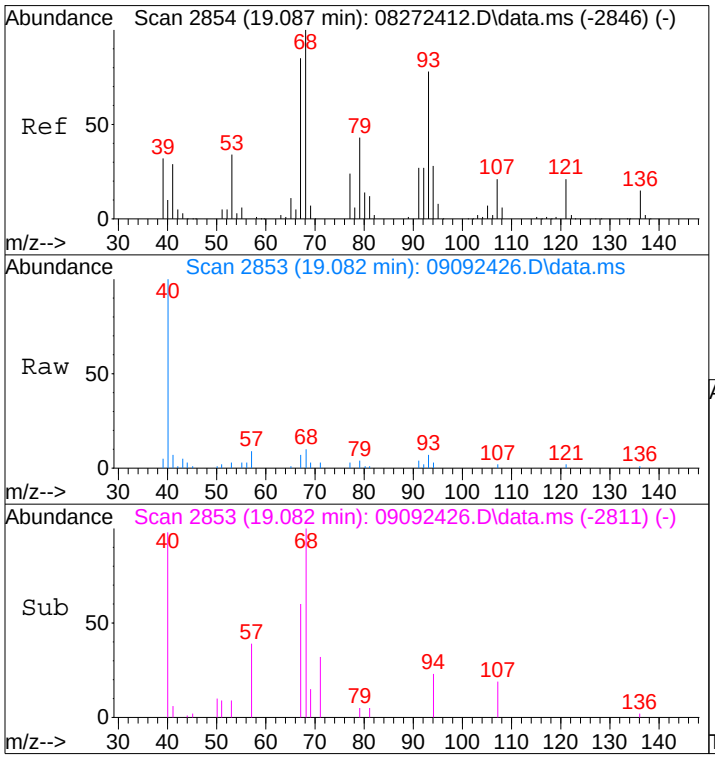


#75
alpha-Pinene
Concen: 0.59 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 93 Resp: 22403

Ion	Ratio	Lower	Upper
93	100		
77	36.9	13.1	53.1

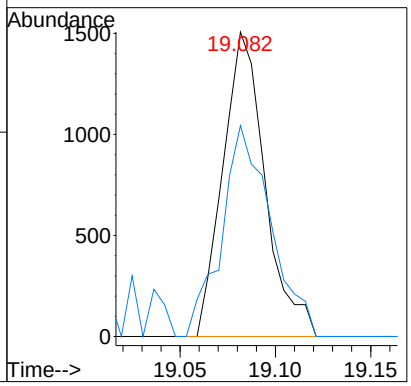




#91
d-Limonene
Concen: 0.11 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092426.D
Acq: 9 Sep 2024 22:40

Tgt Ion: 68 Resp: 2321

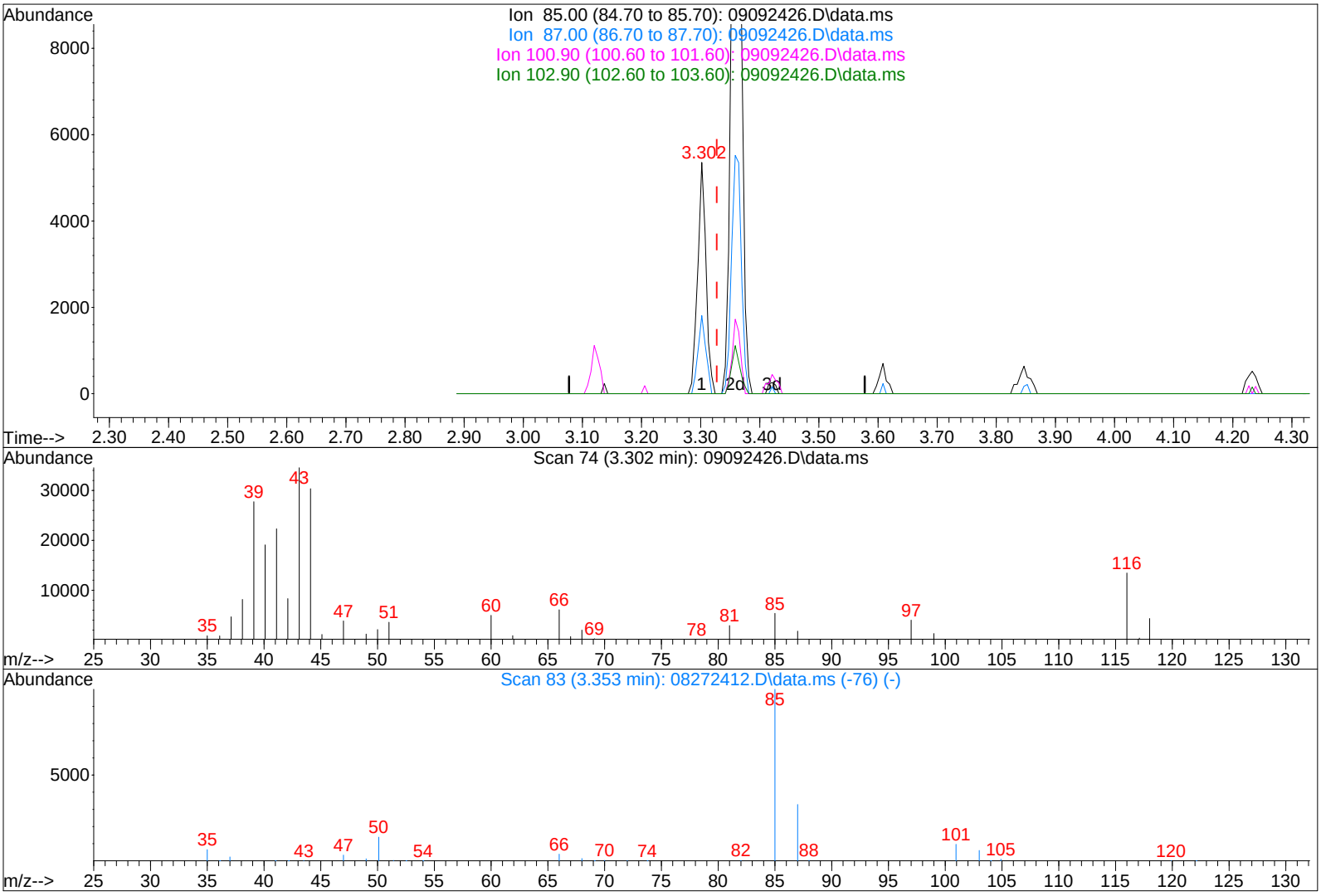
Ion	Ratio	Lower	Upper
68	100		
93	80.7	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:38:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.026) 0.16ng

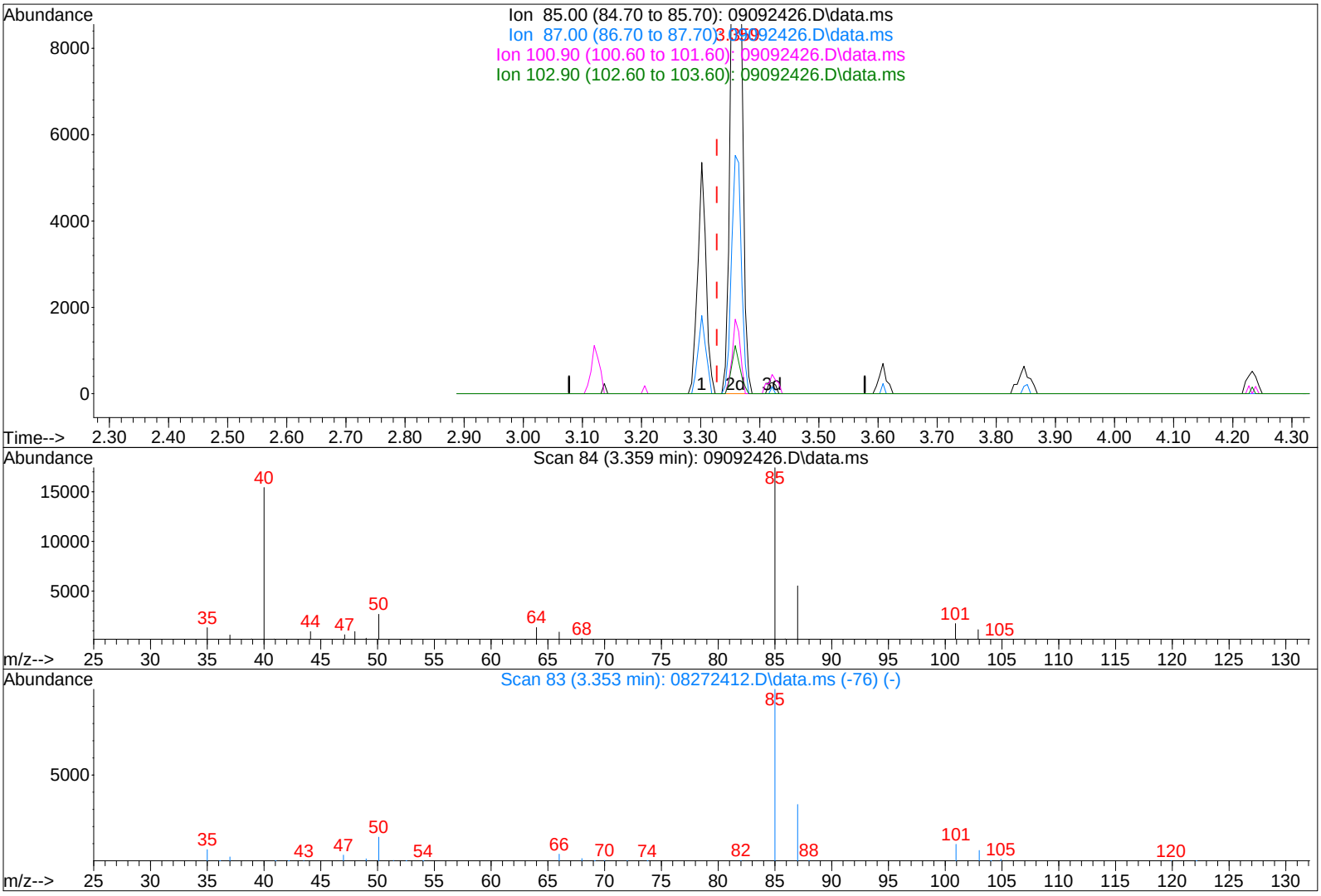
response 5292

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	32.12
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:38:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.359min (+0.031) 0.61ng m

response 19710

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	8.63#
100.90	9.40	0.00
102.90	6.00	0.00

WP

9/10/24

9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:35:05 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

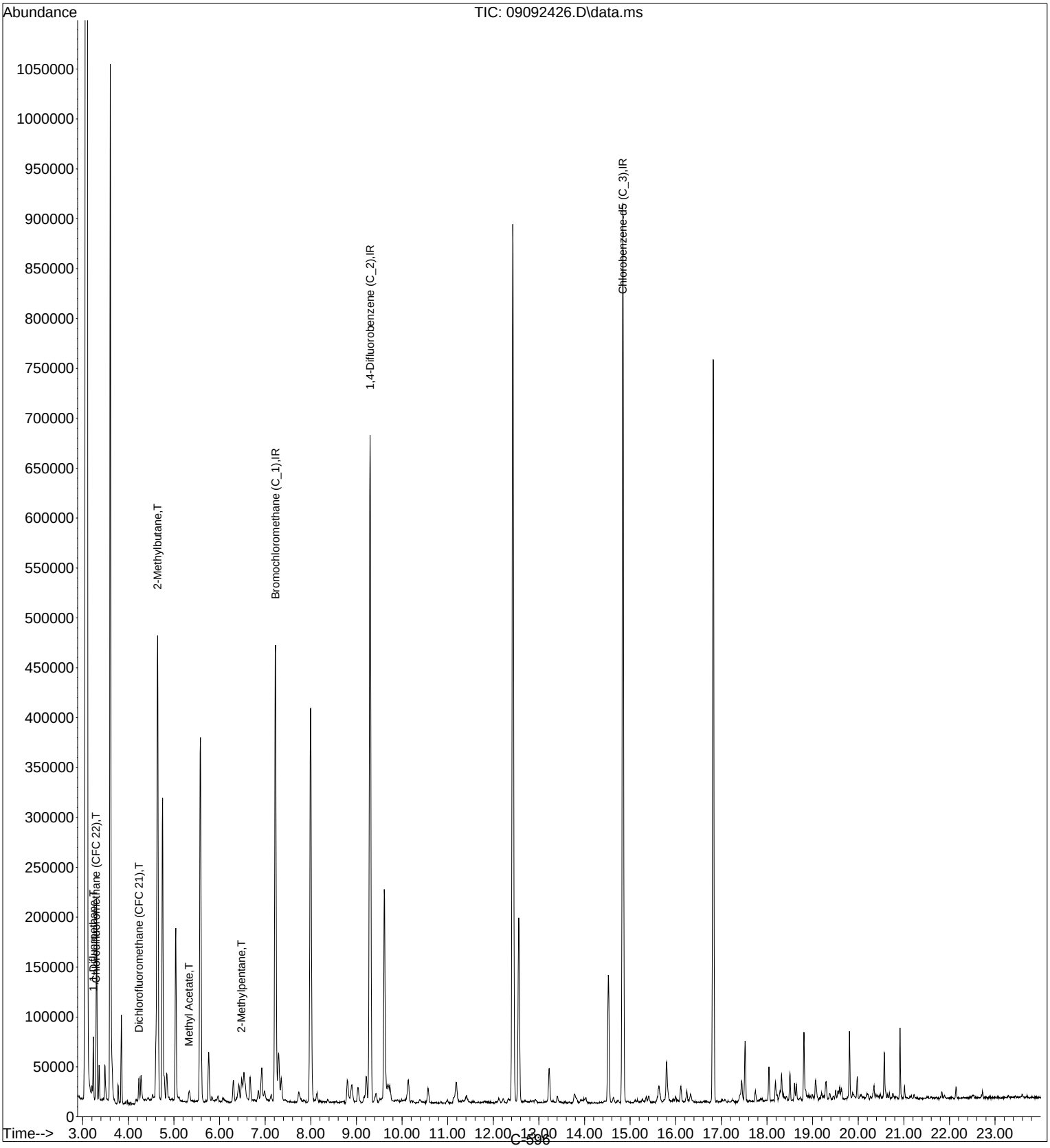
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	133690	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	582152	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	180509	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	80	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d		
4) 1,1-Difluoroethane	3.23	65	13870	1.188	ng		94
5) Chlorodifluoromethane ...	3.29	67	1778	0.390	ng		98
6) 1-Chloro-1,1-Difluoroe...	3.50	65	565	N.D.			
7) Dichlorofluoromethane ...	4.23	67	17695	0.577	ng		98
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	688	N.D.			
10) 2-Methylbutane	4.64	57	81079	5.085	ng		91
11) Methyl Acetate	5.33	43	10075	0.224	ng	#	58
12) 2-Methylpentane	6.48	71	3623	0.313	ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.04	84	917	N.D.			
17) 2,3-Dimethylpentane	9.51	56	2114	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.41	55	2504	N.D.			
21) 1,3-Dichloropropane	12.56	76	866	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.33	75	395	N.D.			
25) Bromobenzene	17.03	77	53	N.D.			
26) 2-Chlorotoluene	17.61	91	201	N.D.			
27) 4-Chlorotoluene	17.68	91	854	N.D.			
28) Indane	19.10	117	63	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	51	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	227	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	116	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

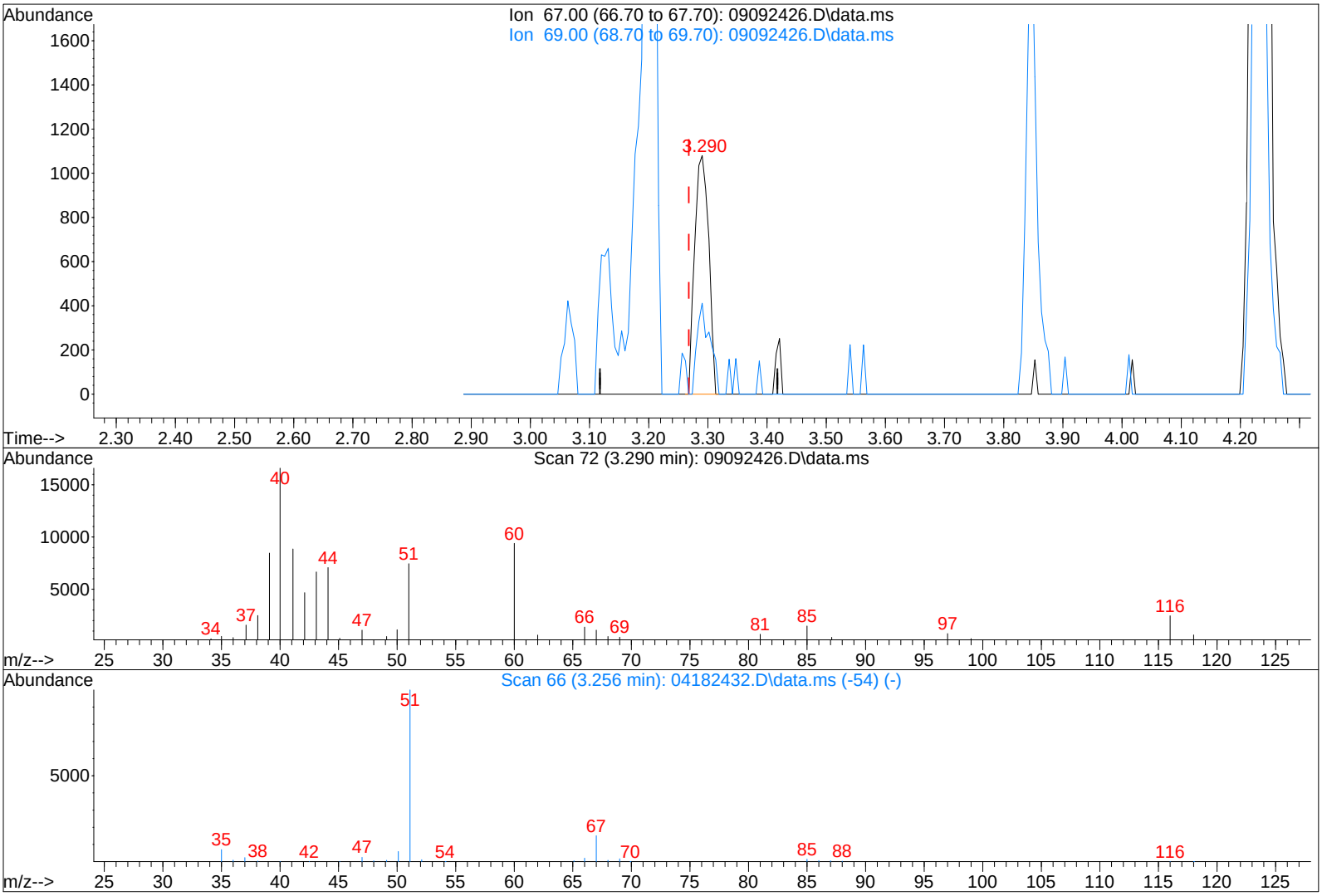
Quant Time: Sep 10 12:35:05 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:34:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092426.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.290min (+0.023) 0.39ng

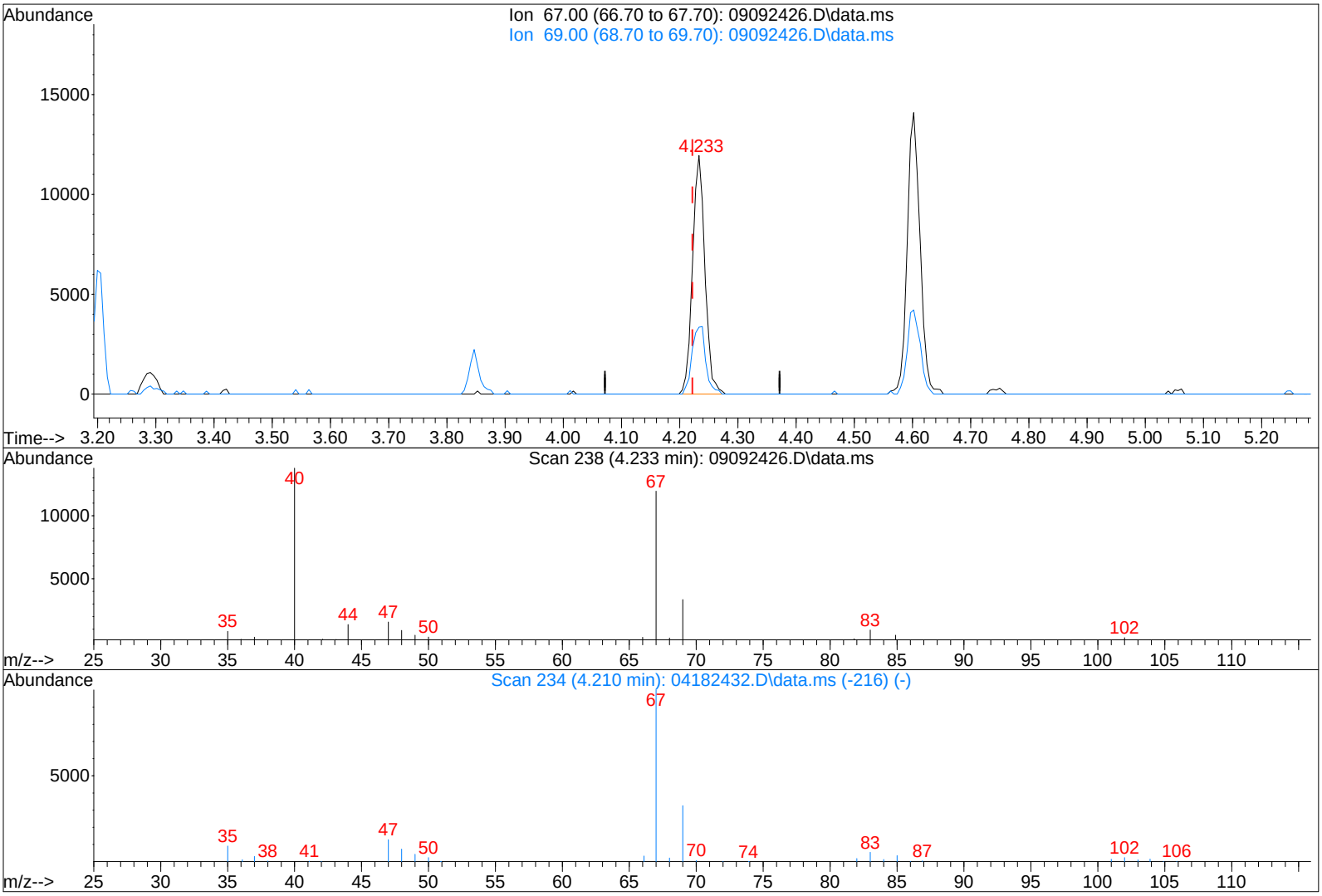
response 1778

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	35.21
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092426.D Vial: 13
Acq On : 9 Sep 2024 22:40 Operator: SC
Sample : P2403661-010 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:34:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092426.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 0.58ng

response 17695

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.52
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092426.D
Acq On : 9 Sep 2024 22:40
Operator : SC
Sample : P2403661-010 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092426.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	67	rVB	63059	67199	3.36%	0.391%
2	3.302	67	74	81	rVV3	200785	260942	13.03%	1.517%
3	3.359	81	84	89	rVB	34916	40609	2.03%	0.236%
4	3.484	102	106	114	rBV2	34901	52321	2.61%	0.304%
5	3.603	121	127	142	rVB	1038096	1484667	74.15%	8.629%
6	3.773	152	157	163	rBV	19396	26451	1.32%	0.154%
7	3.847	165	170	177	rVB	89581	115774	5.78%	0.673%
8	4.233	233	238	242	rBV2	22883	34947	1.75%	0.203%
9	4.278	242	246	257	rVB	25165	46176	2.31%	0.268%
10	4.642	298	310	322	rVB3	465422	987529	49.32%	5.740%
11	4.750	322	329	340	rBV	302484	526882	26.31%	3.062%
12	4.841	340	345	353	rBV	24478	43482	2.17%	0.253%
13	5.039	373	380	389	rBV	172199	282595	14.11%	1.642%
14	5.335	425	432	439	rBV2	10383	24069	1.20%	0.140%
15	5.579	464	475	489	rVB2	365481	766401	38.28%	4.454%
16	5.760	499	507	516	rBV	49431	98231	4.91%	0.571%
17	6.300	594	602	609	rBV	21843	46498	2.32%	0.270%
18	6.419	615	623	628	rBV4	14919	33516	1.67%	0.195%
19	6.482	628	634	639	rVV2	21317	48241	2.41%	0.280%
20	6.533	639	643	661	rVV5	27645	83987	4.19%	0.488%
21	6.669	661	667	674	rVB	23528	47696	2.38%	0.277%
22	6.851	691	699	703	rBV3	10947	23709	1.18%	0.138%
23	6.925	703	712	718	rVV	32532	74458	3.72%	0.433%
24	6.981	719	722	729	rVB3	7956	16126	0.81%	0.094%
25	7.135	742	749	755	rVB4	6653	13990	0.70%	0.081%
26	7.225	755	765	772	rBV	457110	985497	49.22%	5.728%
27	7.294	772	777	784	rVV3	47903	120485	6.02%	0.700%
28	7.350	784	787	796	rVB3	22495	42845	2.14%	0.249%
29	7.737	847	855	862	rBV5	10437	28716	1.43%	0.167%
30	7.998	886	901	914	rBV	395223	921334	46.02%	5.355%
31	8.140	919	926	932	rVB3	9731	21333	1.07%	0.124%
32	8.798	1035	1042	1052	rBV4	23573	64864	3.24%	0.377%
33	8.901	1052	1060	1070	rVB4	17726	54074	2.70%	0.314%
34	9.031	1078	1083	1095	rVB2	15925	41279	2.06%	0.240%
35	9.213	1108	1115	1121	rVV2	21692	45213	2.26%	0.263%
36	9.298	1121	1130	1142	rVB	668729	1533151	76.57%	8.911%
37	9.429	1142	1153	1159	rBV4	9069	26680	1.33%	0.155%
38	9.610	1177	1185	1196	rBV	209695	448785	22.41%	2.608%
39	9.730	1204	1206	1215	rVB3	15726	28656	1.43%	0.167%
40	10.138	1267	1278	1286	rVB	22743	63924	3.19%	0.372%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092426.D
Acq On : 9 Sep 2024 22:40
Operator : SC
Sample : P2403661-010 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	10.570	1346	1354	1366	rVB5	15079	35809	1.79%	0.208%
42	11.183	1456	1462	1472	rVB2	19399	53203	2.66%	0.309%
43	11.416	1500	1503	1511	rVB5	6704	13221	0.66%	0.077%
44	12.336	1658	1665	1668	rBV3	4726	10744	0.54%	0.062%
45	12.427	1671	1681	1695	rVV	880344	2002233	100.00%	11.637%
46	12.557	1695	1704	1714	rVB	184703	413939	20.67%	2.406%
47	13.227	1813	1822	1832	rVB	33485	73459	3.67%	0.427%
48	13.403	1848	1853	1860	rBV5	6410	13186	0.66%	0.077%
49	13.784	1913	1920	1932	rBV7	8852	32331	1.61%	0.188%
50	14.522	2042	2050	2061	rVB	127785	284277	14.20%	1.652%
51	14.636	2063	2070	2078	rVB4	5777	13858	0.69%	0.081%
52	14.840	2097	2106	2119	rBV	902165	1828804	91.34%	10.629%
53	15.357	2189	2197	2200	rBV3	6237	12015	0.60%	0.070%
54	15.408	2200	2206	2211	rVB3	5492	10833	0.54%	0.063%
55	15.629	2231	2245	2257	rBV6	17381	62423	3.12%	0.363%
56	15.800	2268	2275	2286	rVB4	38869	88275	4.41%	0.513%
57	16.112	2323	2330	2336	rBV5	15580	32407	1.62%	0.188%
58	16.243	2345	2353	2357	rBV4	11650	21574	1.08%	0.125%
59	16.322	2362	2367	2377	rVB5	7027	15915	0.79%	0.093%
60	16.822	2441	2455	2466	rBV	745115	1435216	71.68%	8.342%
61	17.446	2550	2565	2572	rBV6	21226	58458	2.92%	0.340%
62	17.520	2572	2578	2583	rVB	59317	99647	4.98%	0.579%
63	17.747	2610	2618	2624	rBV5	11490	22527	1.13%	0.131%
64	18.043	2663	2670	2676	rVB	34602	58238	2.91%	0.338%
65	18.184	2690	2695	2701	rBV	20171	37995	1.90%	0.221%
66	18.287	2707	2713	2715	rBV4	8614	13851	0.69%	0.081%
67	18.321	2715	2719	2724	rVB3	22818	34379	1.72%	0.200%
68	18.502	2745	2751	2757	rVB5	27635	42989	2.15%	0.250%
69	18.605	2764	2769	2773	rBV3	17639	26941	1.35%	0.157%
70	18.644	2773	2776	2780	rVB2	15195	21015	1.05%	0.122%
71	18.809	2799	2805	2816	rBV	68644	125760	6.28%	0.731%
72	19.065	2844	2850	2861	rVB2	20306	49982	2.50%	0.291%
73	19.297	2884	2891	2898	rVB3	17923	39012	1.95%	0.227%
74	19.377	2901	2905	2911	rVB4	6578	13142	0.66%	0.076%
75	19.507	2923	2928	2932	rBV4	8766	13156	0.66%	0.076%
76	19.564	2932	2938	2940	rBV5	6901	12566	0.63%	0.073%
77	19.627	2946	2949	2957	rVB5	10299	20017	1.00%	0.116%
78	19.808	2974	2981	2988	rBV2	66805	90844	4.54%	0.528%
79	19.877	2990	2993	3006	rVV9	5678	13736	0.69%	0.080%
80	19.979	3006	3011	3017	rVB	22198	29982	1.50%	0.174%
81	20.206	3049	3051	3058	rVB3	6237	10340	0.52%	0.060%
82	20.348	3067	3076	3080	rBV5	12927	24485	1.22%	0.142%
83	20.569	3110	3115	3125	rVB2	45456	72448	3.62%	0.421%
84	20.762	3145	3149	3156	rVB6	5873	11955	0.60%	0.069%
85	20.916	3171	3176	3183	rBV2	71533	89455	4.47%	0.520%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092426.D
Acq On : 9 Sep 2024 22:40
Operator : SC
Sample : P2403661-010 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

86	21.018	3189	3194	3198	rBV2	12212	15281	0.76%	0.089%
87	22.142	3387	3392	3398	rBV2	12107	19974	1.00%	0.116%
88	22.721	3492	3494	3499	rVB3	7634	10119	0.51%	0.059%

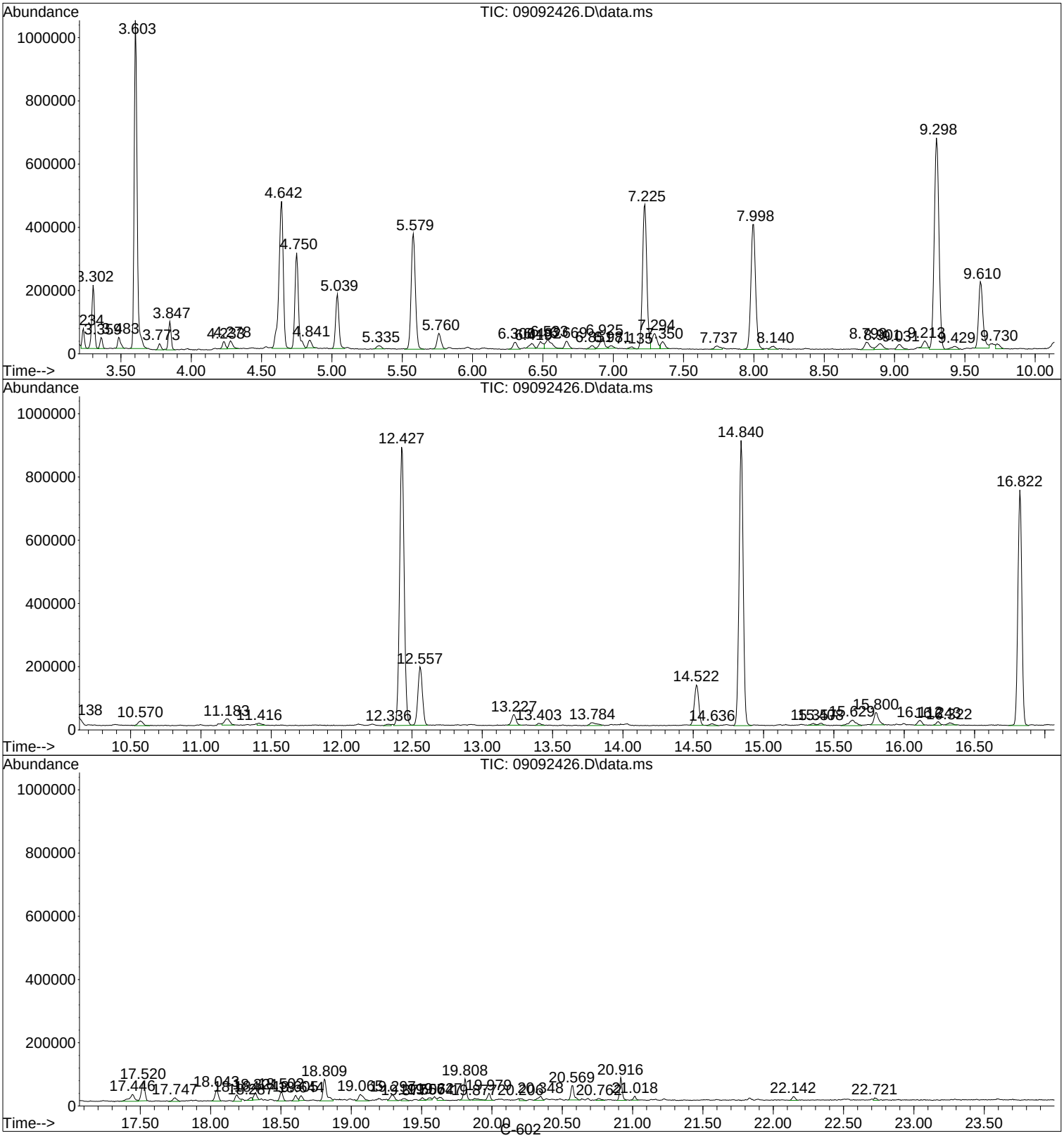
Sum of corrected areas: 17205348

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092426.D
Acq On : 9 Sep 2024 22:40
Operator : SC
Sample : P2403661-010 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092426.D
Acq On : 9 Sep 2024 22:400
Operator : SCC
Sample : P2403661-010 (400mL))
Misc : S37-060624022
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:00:02 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	130698	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	569428	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	184624	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	339481	13.881	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
57) Toluene-d8 (SS2)	12.43	98	667054	10.299	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.40%				
73) Bromofluorobenzene (SS3)	16.83	174	236654	10.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
2) Propene	3.23	42	312	N.D.			
3) Dichlorodifluoromethan...	3.35	85	20646	0.651	ng		98
4) Chloromethane	3.50	50	8210	0.331	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	207	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	414	N.D.			
9) Chloroethane	4.14	64	367	N.D.			
10) Ethanol	4.31	45	240501	16.955	ng		99
11) Acetonitrile	4.44	41	21554	0.672	ng		99
12) Acrolein	4.52	56	9242	0.853	ng		97
13) Acetone	4.62	58	567763	47.438	ng	#	1
14) Trichlorofluoromethane	4.76	101	762267	25.185	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	581706	12.344	ng		93
16) Acrylonitrile	5.00	53	570816	25.564	ng		100
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	11266	0.799	ng	#	79
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	271389	22.633	ng		94
22) Carbon Disulfide	5.60	76	327450	7.008	ng		93
23) trans-1,2-Dichloroethene	6.14	61	2131	0.093	ng		87
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	17467	0.419	ng		94
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	34205	4.028	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	37915	6.664	ng		90
31) n-Hexane	7.30	57	111826	4.311	ng		99
32) Chloroform	7.37	83	40873	1.570	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	7.83	87	721	N.D.			
36) 1,2-Dichloroethane	8.12	62	7233	0.280	ng		100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.62	61	11093	No Calib		#	
40) 1-Butanol	8.81	56	130298	No Calib		#	
41) Benzene	8.90	78	63843	1.196	ng		99
42) Carbon Tetrachloride	9.08	117	8144	0.368	ng		95
43) Cyclohexane	9.22	84	107412	5.959	ng		92
44) tert-Amyl Methyl Ether	9.63	73	513	N.D.			
45) 1,2-Dichloropropane	9.86	63	7581	0.536	ng		98
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.24	57	17688	0.280	ng	#	63
50) Methyl Methacrylate	10.41	100	2087	0.450	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:00:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

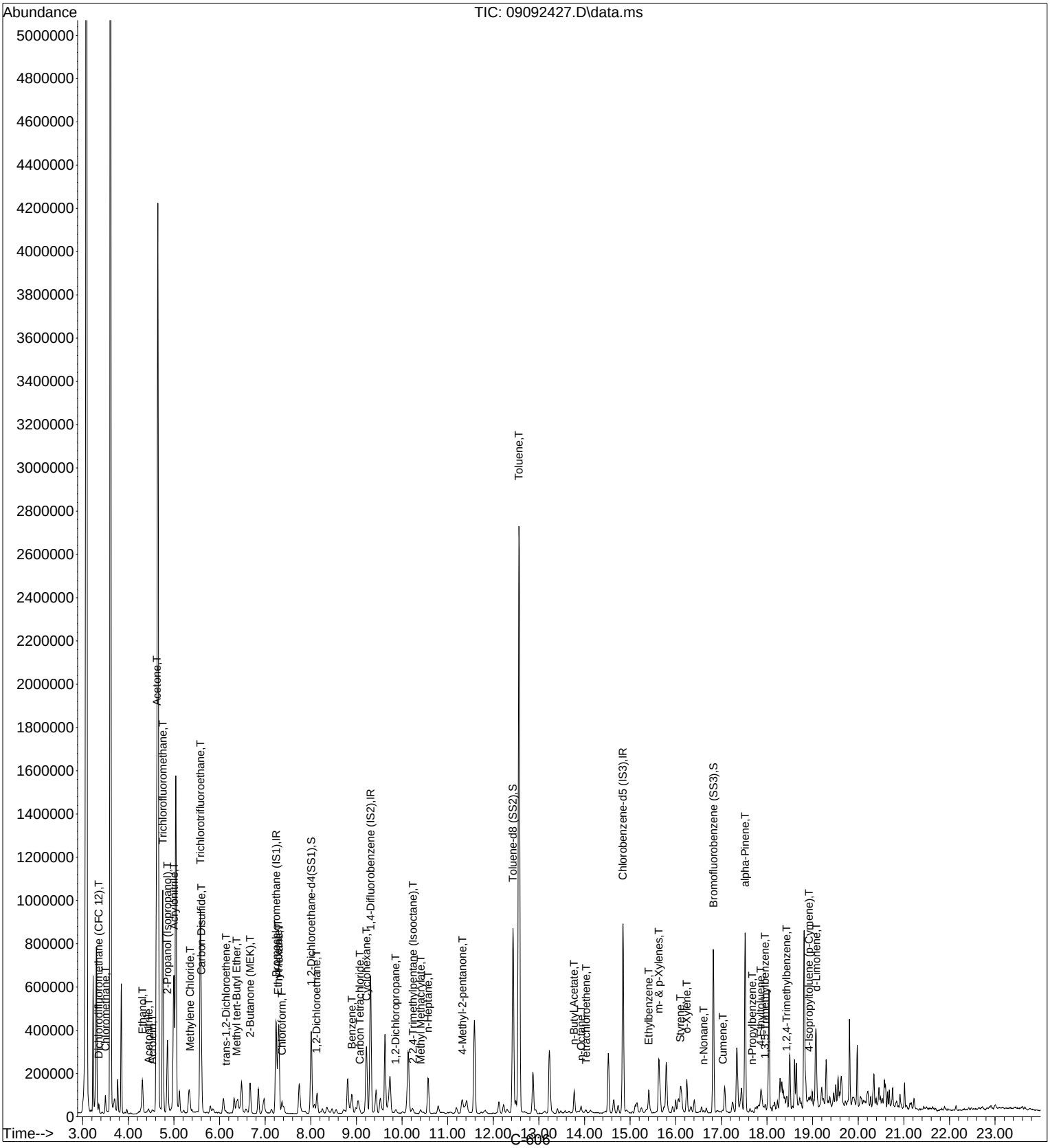
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	35308	2.968 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	8239	0.584 ng	#	1
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2260160	32.282 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	88892	1.831 ng		96
63) n-Octane	13.93	57	6283	0.382 ng		84
64) Tetrachloroethene	14.03	166	3469	0.179 ng		98
65) Chlorobenzene	14.90	112	1118	N.D.		
66) Ethylbenzene	15.41	91	80826	1.003 ng		99
67) m- & p-Xylenes	15.63	91	210407	3.212 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	44359	1.047 ng		97
70) o-Xylene	16.24	91	95463	1.493 ng		98
71) n-Nonane	16.61	43	5958	0.142 ng		97
72) 1,1,2,2-Tetrachloroethane	16.21	83	122	N.D.		
74) Cumene	17.03	105	5778	0.078 ng		95
75) alpha-Pinene	17.52	93	326294	8.465 ng		97
76) n-Propylbenzene	17.68	91	6039	0.066 ng		92
77) 3-Ethyltoluene	17.03	105	5778	No Calib		
78) 4-Ethyltoluene	17.86	105	4835	0.067 ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	6752	0.107 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	5778	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	18894	0.287 ng		90
83) n-Decane	17.08	58	2725	No Calib	#	
84) Benzyl Chloride	18.57	91	667	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	295	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	1265	N.D.		
87) sec-Butylbenzene	18.74	105	1936	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	12383	0.172 ng		95
89) 1,2,3-Trimethylbenzene	17.03	105	5778	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	283	N.D.		
91) d-Limonene	19.08	68	37625	1.709 ng		90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.96	58	1383	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	638	N.D.		
95) Naphthalene	20.94	128	3071	N.D.		
96) n-Dodecane	18.95	58	947	No Calib	#	
97) Hexachlorobutadiene	21.30	225	411	N.D.		
98) Cyclohexanone	15.20	55	1485	No Calib	#	
99) tert-Butylbenzene	18.42	119	2703	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:00:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:00:02 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

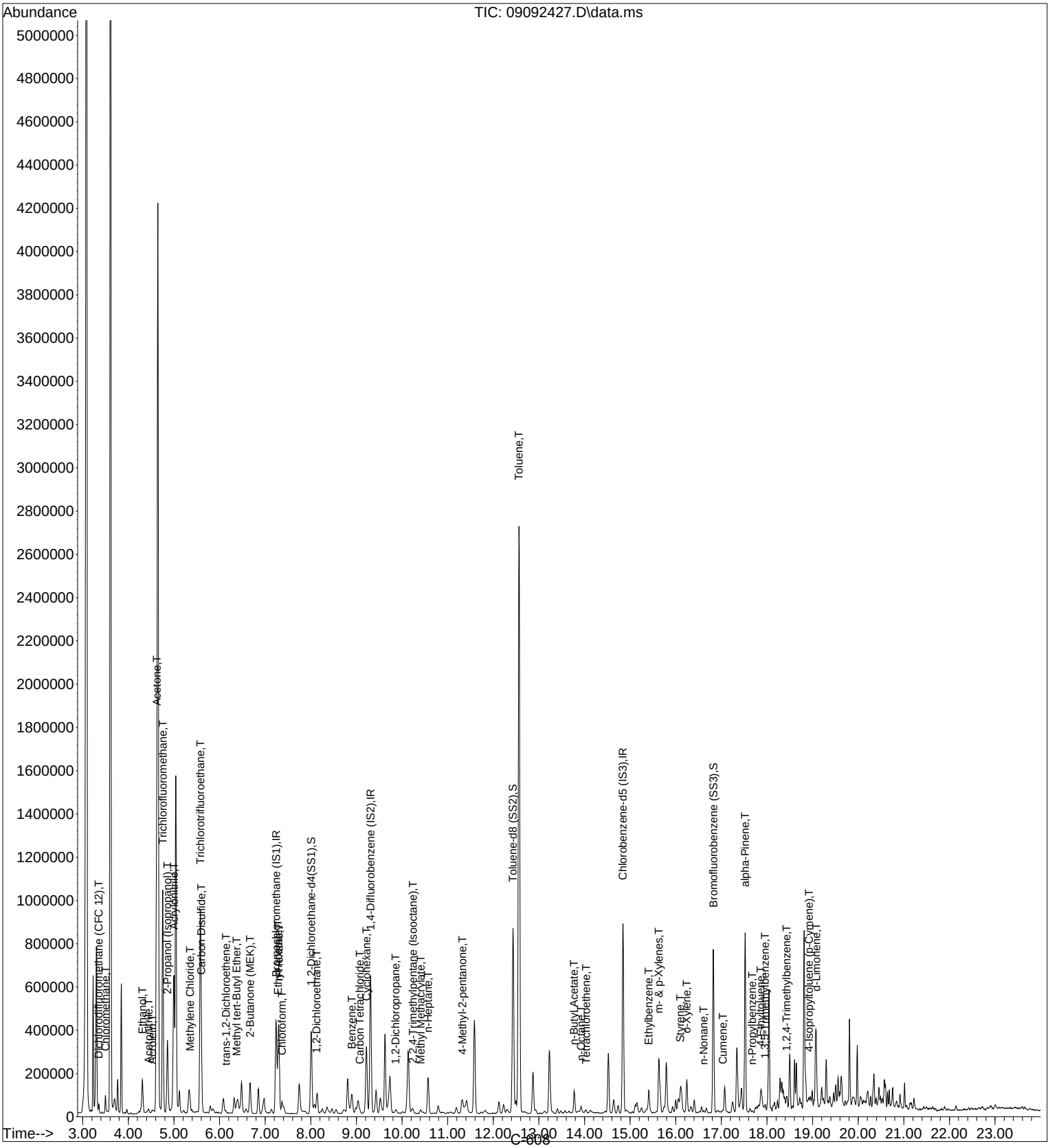
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	130698	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	569428	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	184624	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	339481	13.881	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
57) Toluene-d8 (SS2)	12.43	98	667054	10.299	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.40%				
73) Bromofluorobenzene (SS3)	16.83	174	236654	10.925	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	20646	0.651	ng		98
4) Chloromethane	3.50	50	8210	0.331	ng		94
10) Ethanol	4.31	45	240501	16.955	ng		99
11) Acetonitrile	4.44	41	21554	0.672	ng		99
12) Acrolein	4.52	56	9242	0.853	ng		97
13) Acetone	4.62	58	567763	47.438	ng	#	1
14) Trichlorofluoromethane	4.76	101	762267	25.185	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	581706	12.344	ng		93
16) Acrylonitrile	5.00	53	570816	25.564	ng		100
19) Methylene Chloride	5.35	84	11266	0.799	ng	#	79
21) Trichlorotrifluoroethane	5.58	151	271389	22.633	ng		94
22) Carbon Disulfide	5.60	76	327450	7.008	ng		93
23) trans-1,2-Dichloroethene	6.14	61	2131	0.093	ng		87
25) Methyl tert-Butyl Ether	6.37	73	17467	0.419	ng		94
27) 2-Butanone (MEK)	6.67	72	34205	4.028	ng	#	73
30) Ethyl Acetate	7.28	61	37915	6.664	ng		90
31) n-Hexane	7.30	57	111826	4.311	ng		99
32) Chloroform	7.37	83	40873	1.570	ng		98
36) 1,2-Dichloroethane	8.12	62	7233	0.280	ng		100
41) Benzene	8.90	78	63843	1.196	ng		99
42) Carbon Tetrachloride	9.08	117	8144	0.368	ng		95
43) Cyclohexane	9.22	84	107412	5.959	ng		92
45) 1,2-Dichloropropane	9.86	63	7581	0.536	ng		98
49) 2,2,4-Trimethylpentane...	10.24	57	17688	0.280	ng	#	63
50) Methyl Methacrylate	10.41	100	2087	0.450	ng		94
51) n-Heptane	10.57	71	35308	2.968	ng		93
53) 4-Methyl-2-pentanone	11.33	58	8239	0.584	ng	#	1
58) Toluene	12.56	91	2260160	32.282	ng		100
62) n-Butyl Acetate	13.77	43	88892	1.831	ng		96
63) n-Octane	13.93	57	6283	0.382	ng		84
64) Tetrachloroethene	14.03	166	3469	0.179	ng		98
66) Ethylbenzene	15.41	91	80826	1.003	ng		99
67) m- & p-Xylenes	15.63	91	210407	3.212	ng		98
69) Styrene	16.10	104	44359	1.047	ng		97
70) o-Xylene	16.24	91	95463	1.493	ng		98
71) n-Nonane	16.61	43	5958	0.142	ng		97
74) Cumene	17.03	105	5778	0.078	ng		95
75) alpha-Pinene	17.52	93	326294	8.465	ng		97
76) n-Propylbenzene	17.68	91	6039	0.066	ng		92
78) 4-Ethyltoluene	17.86	105	4835	0.067	ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	6752	0.107	ng		99
82) 1,2,4-Trimethylbenzene	18.43	105	18894	0.287	ng		90
88) 4-Isopropyltoluene (p-...	18.92	119	12383	0.172	ng		95
91) d-Limonene	19.08	68	37625	1.709	ng		90

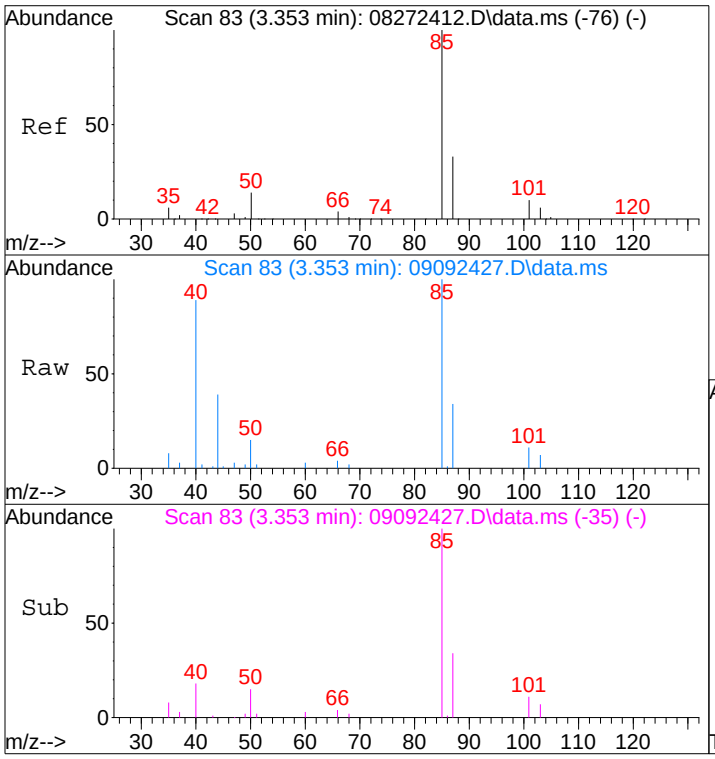
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:00:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

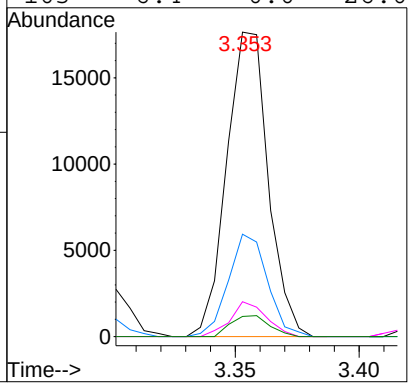


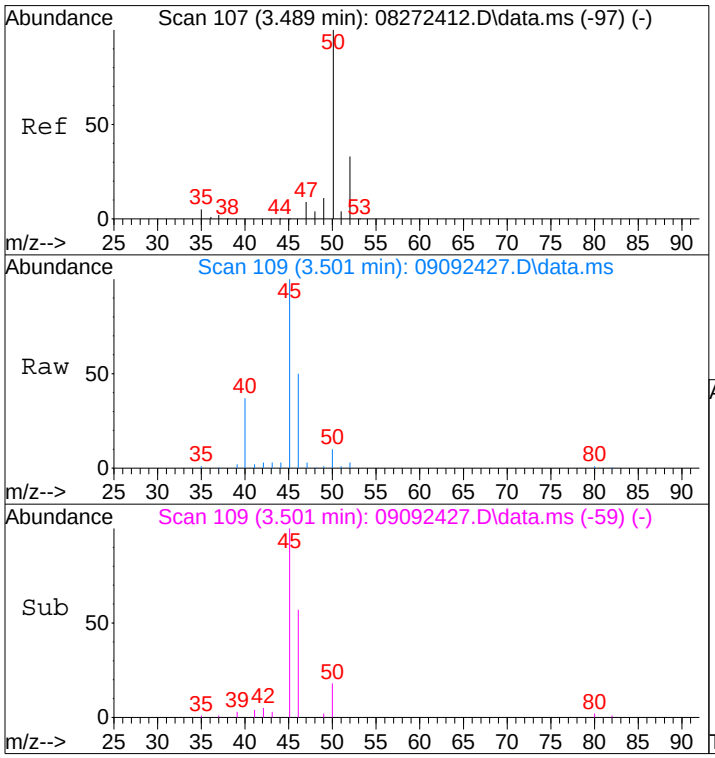


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.65 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.025 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 85 Resp: 20646

Ion	Ratio	Lower	Upper
85	100		
87	31.7	13.1	53.1
101	10.0	0.0	29.4
103	6.4	0.0	26.0

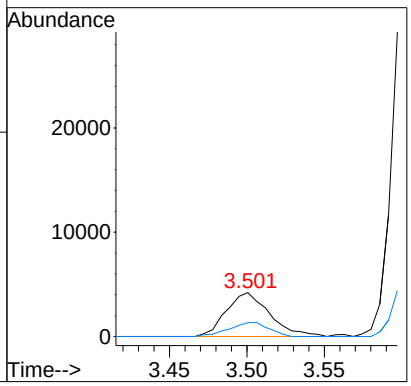


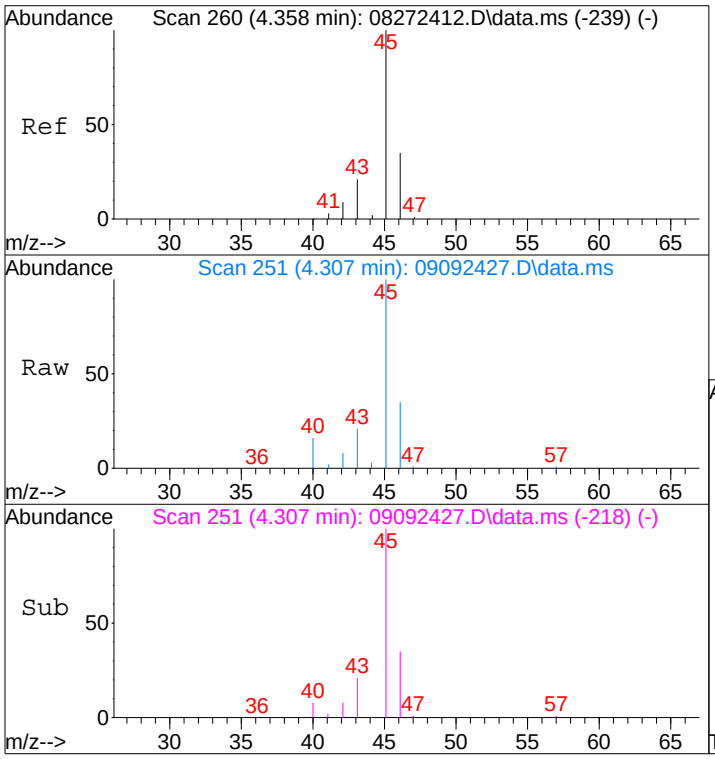


#4
Chloromethane
Concen: 0.33 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.033 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 50 Resp: 8210

Ion	Ratio	Lower	Upper
50	100		
52	29.3	12.4	52.4

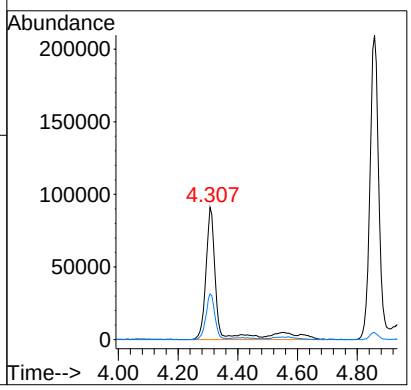


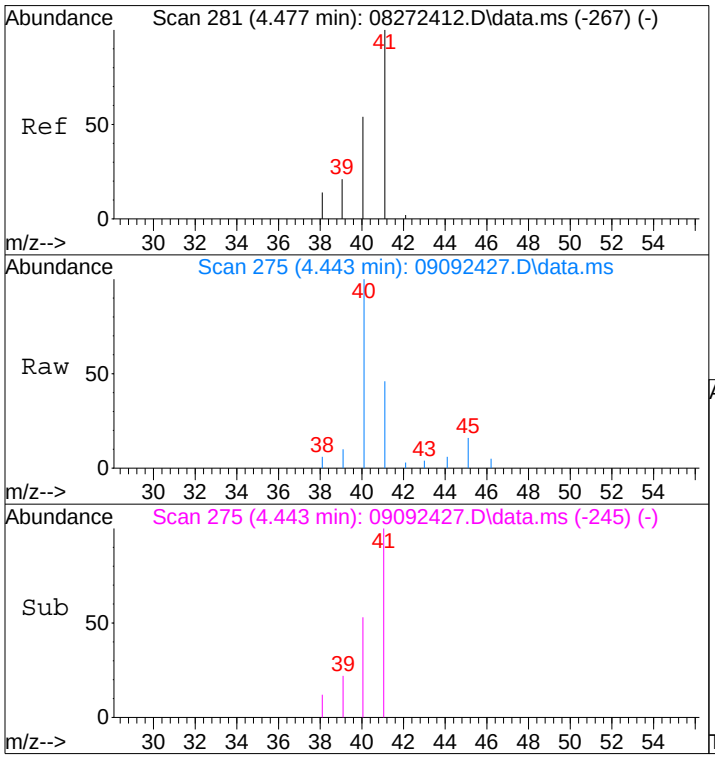


#10
Ethanol
Concen: 16.96 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.065 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 45 Resp: 240501

Ion	Ratio	Lower	Upper
45	100		
46	34.8	14.2	54.2

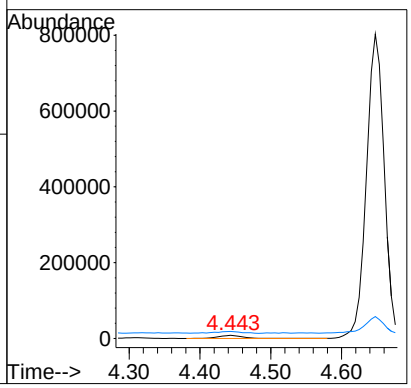


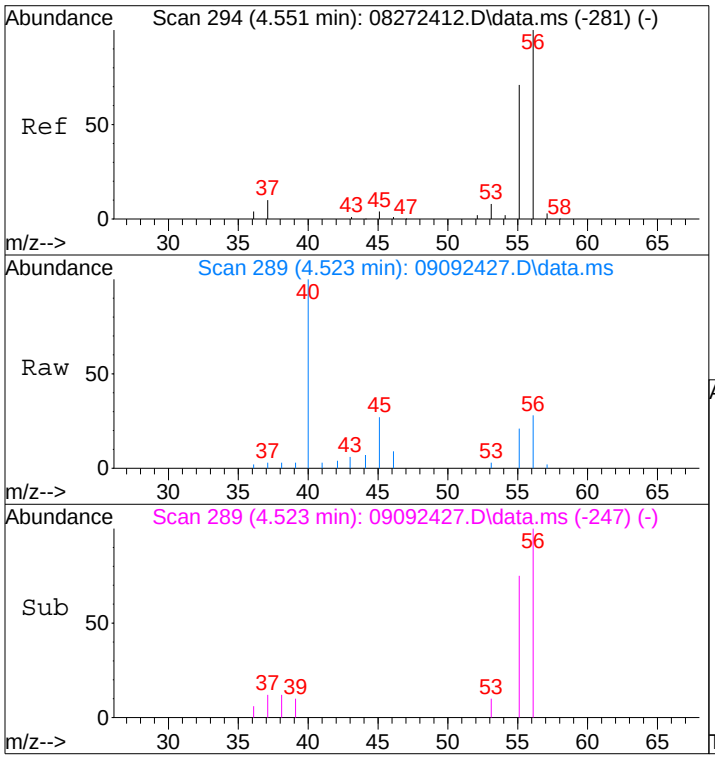


#11
Acetonitrile
Concen: 0.67 ng
RT: 4.44 min Scan# 275
Delta R.T. -0.030 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 41 Resp: 21554

Ion	Ratio	Lower	Upper
41	100		
40	54.4	33.9	73.9

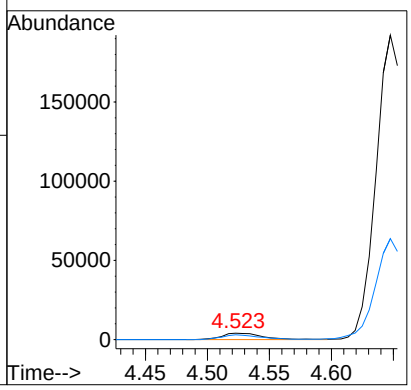


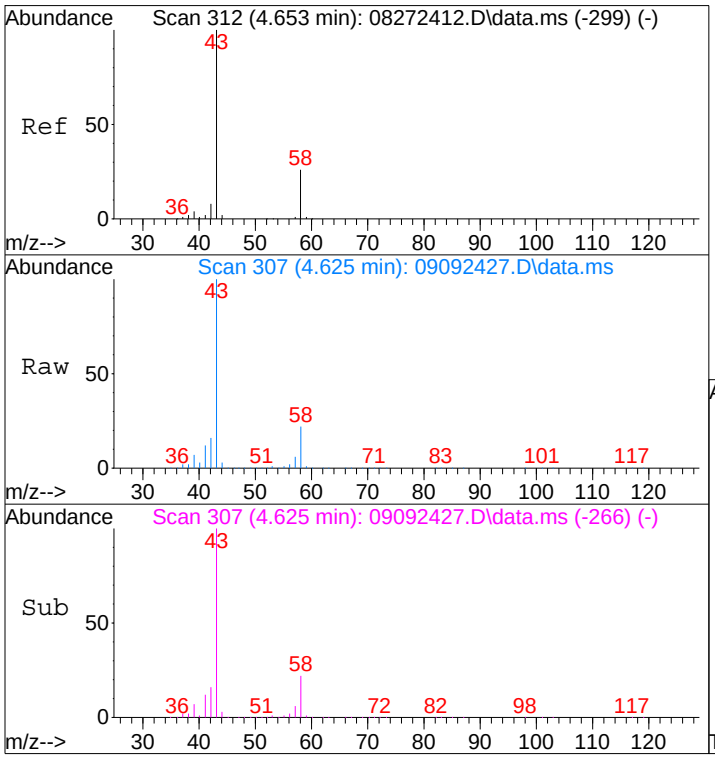


#12
Acrolein
Concen: 0.85 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.013 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 56 Resp: 9242

Ion	Ratio	Lower	Upper
56	100		
55	72.1	54.7	94.7

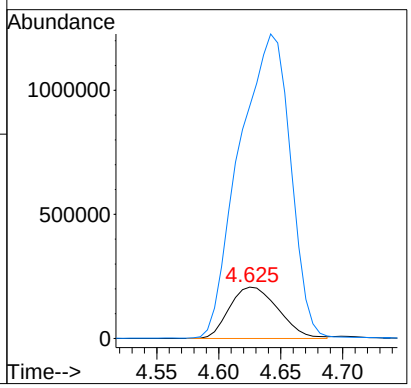


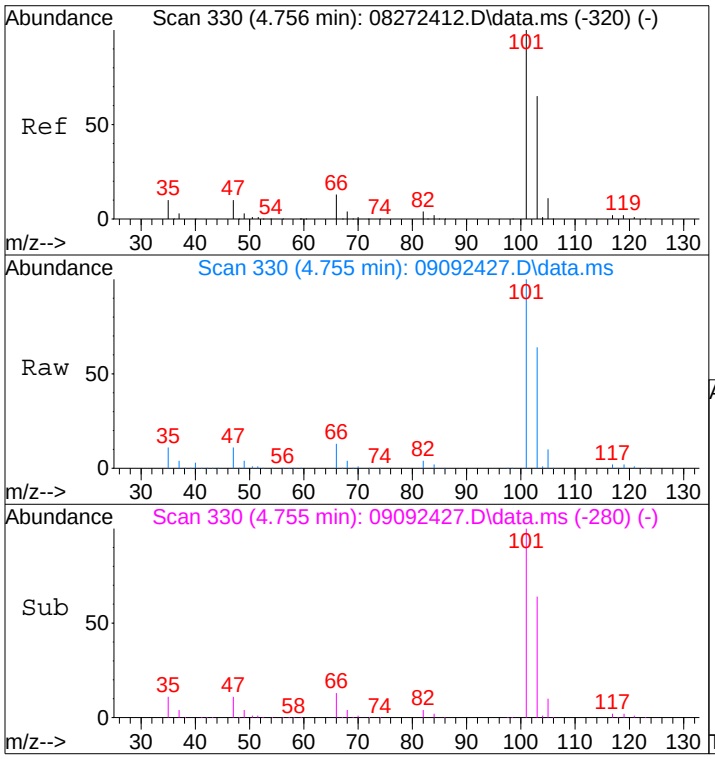


#13
Acetone
Concen: 47.44 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 58 Resp: 567763

Ion	Ratio	Lower	Upper
58	100		
43	619.5	347.3	407.3#

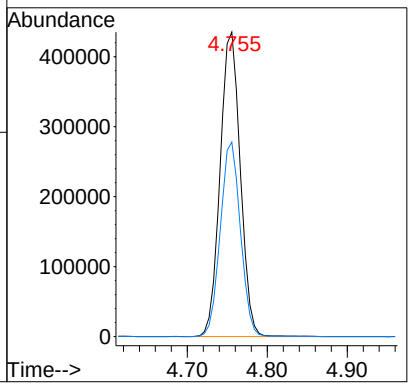


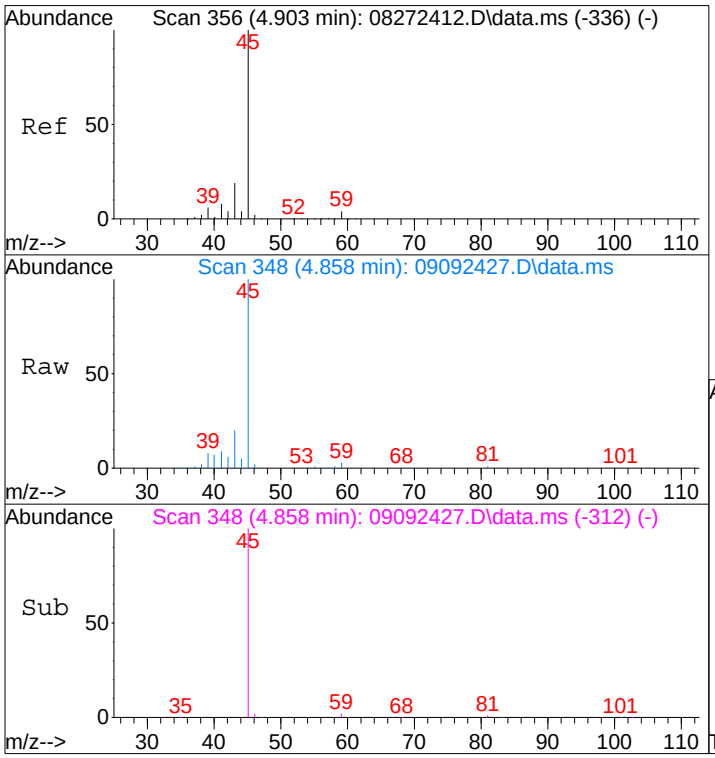


#14
Trichlorofluoromethane
Concen: 25.19 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:101 Resp: 762267

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.9	84.9

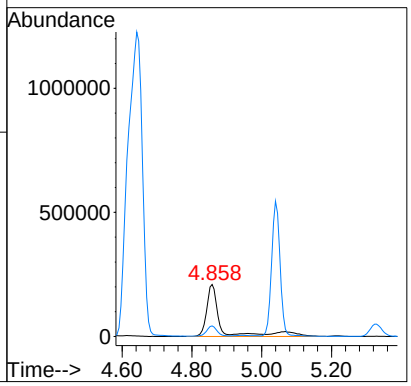


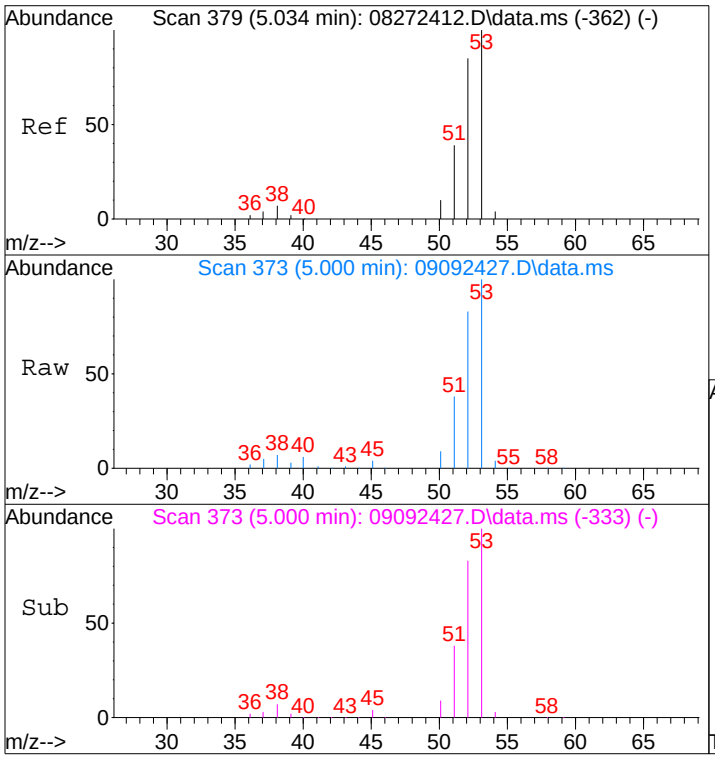


#15
2-Propanol (Isopropanol)
Concen: 12.34 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.048 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 45 Resp: 581706

Ion	Ratio	Lower	Upper
45	100		
43	16.9	0.0	40.0

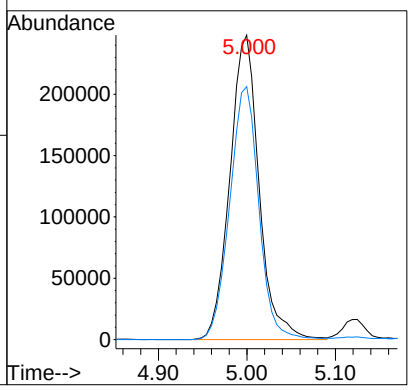


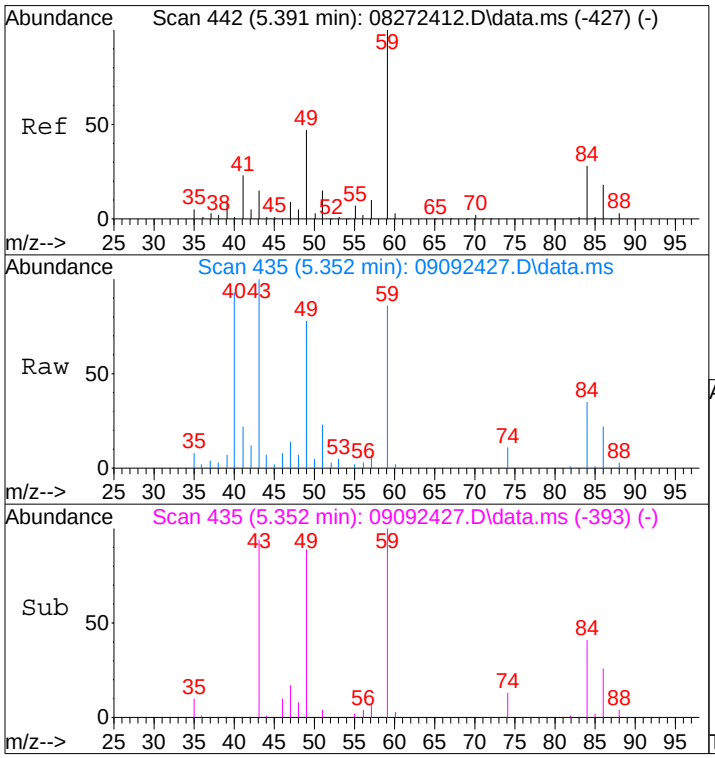


#16
Acrylonitrile
Concen: 25.56 ng
RT: 5.00 min Scan# 373
Delta R.T. -0.024 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 53 Resp: 570816

Ion	Ratio	Lower	Upper
53	100		
52	85.4	65.2	105.2

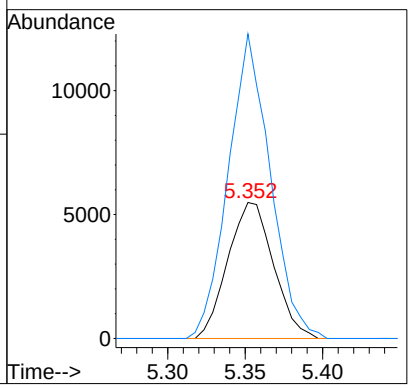


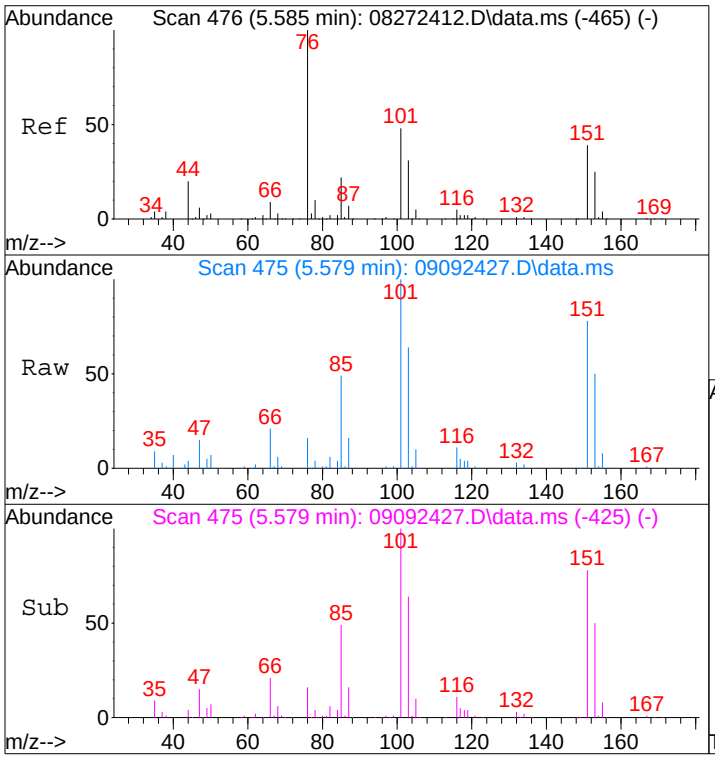


#19
Methylene Chloride
Concen: 0.80 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 84 Resp: 11266

Ion	Ratio	Lower	Upper
84	100		
49	205.8	151.1	201.1#

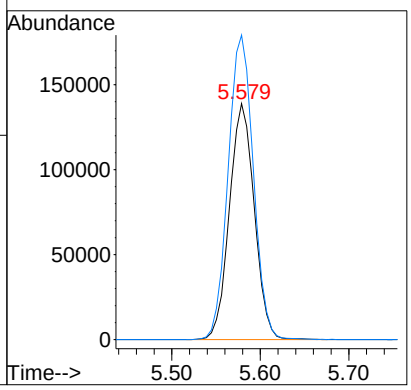


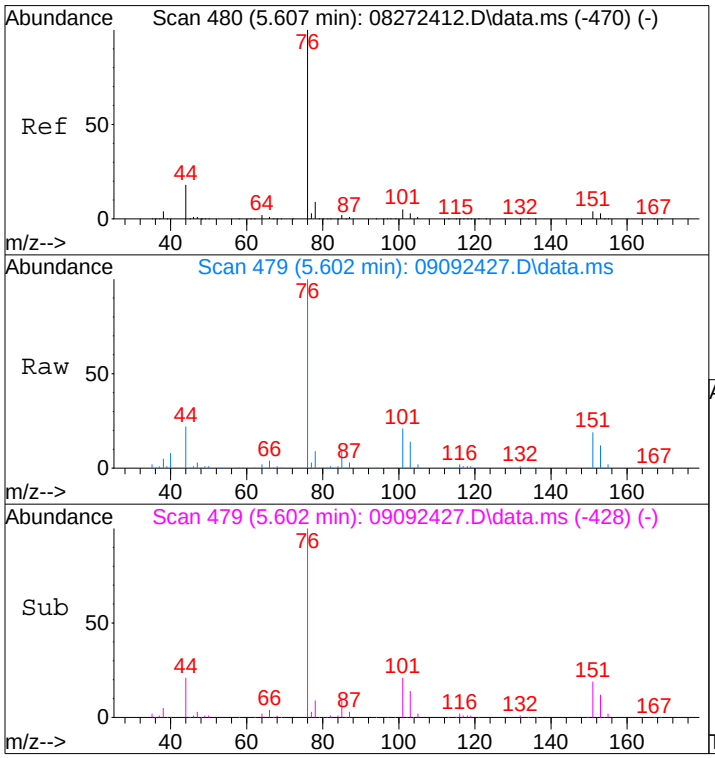


#21
Trichlorotrifluoroethane
Concen: 22.63 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:151 Resp: 271389

Ion	Ratio	Lower	Upper
151	100		
101	130.6	103.4	143.4

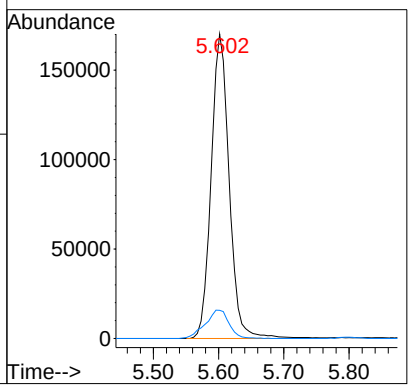


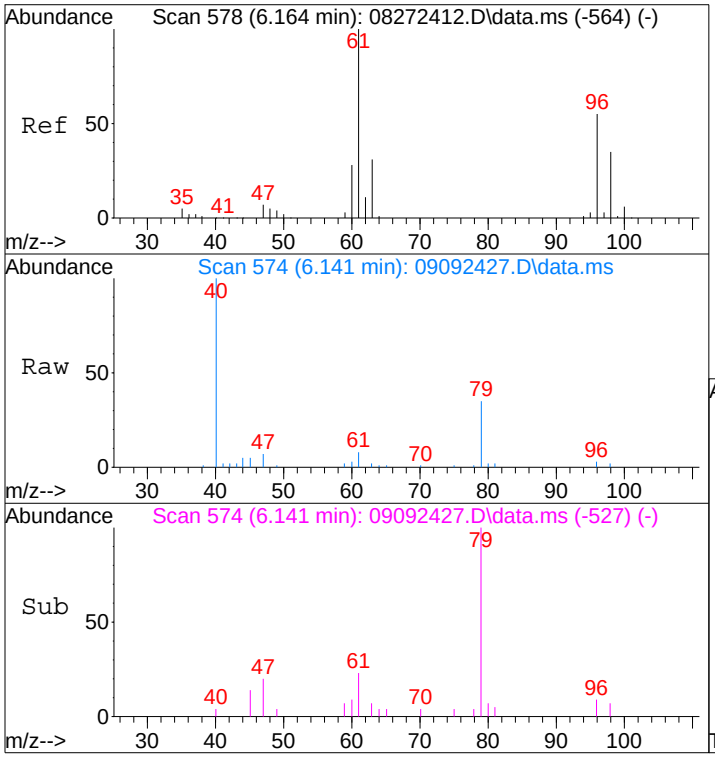


#22
Carbon Disulfide
Concen: 7.01 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 76 Resp: 327450

Ion	Ratio	Lower	Upper
76	100		
78	12.3	0.0	29.6

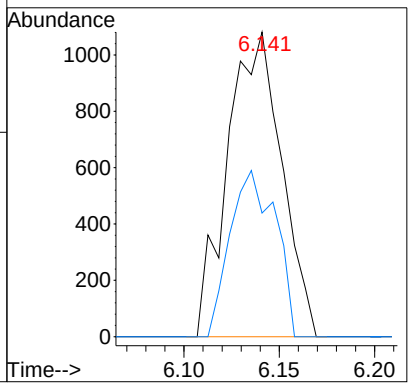


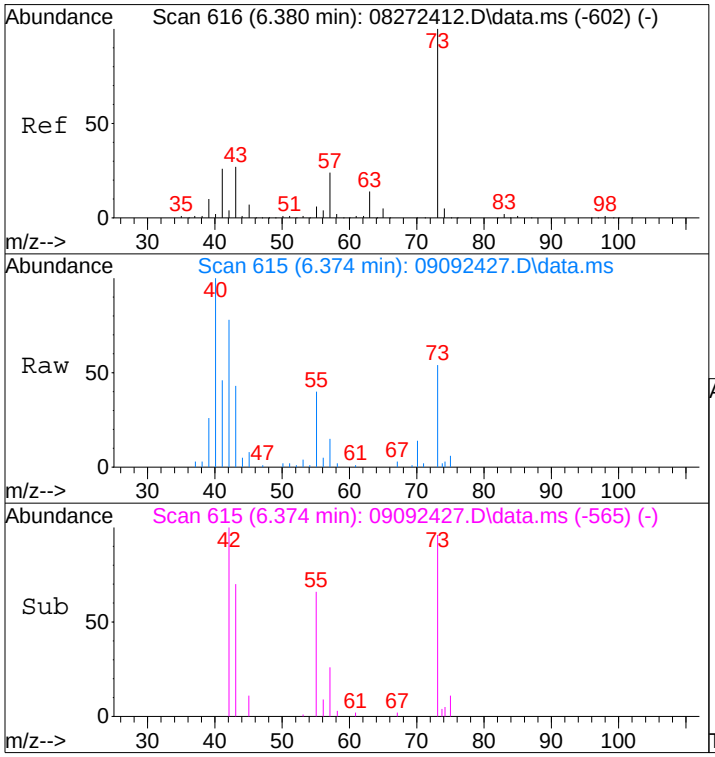


#23
trans-1,2-Dichloroethene
Concen: 0.09 ng
RT: 6.14 min Scan# 574
Delta R.T. 0.016 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 61 Resp: 2131

Ion	Ratio	Lower	Upper
61	100		
96	45.9	35.5	75.5

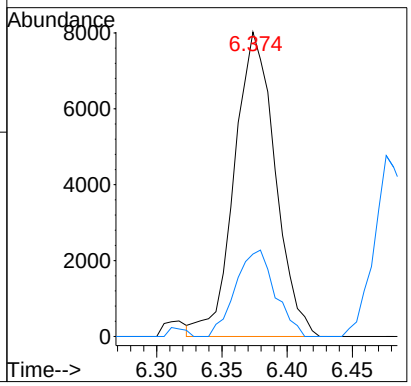


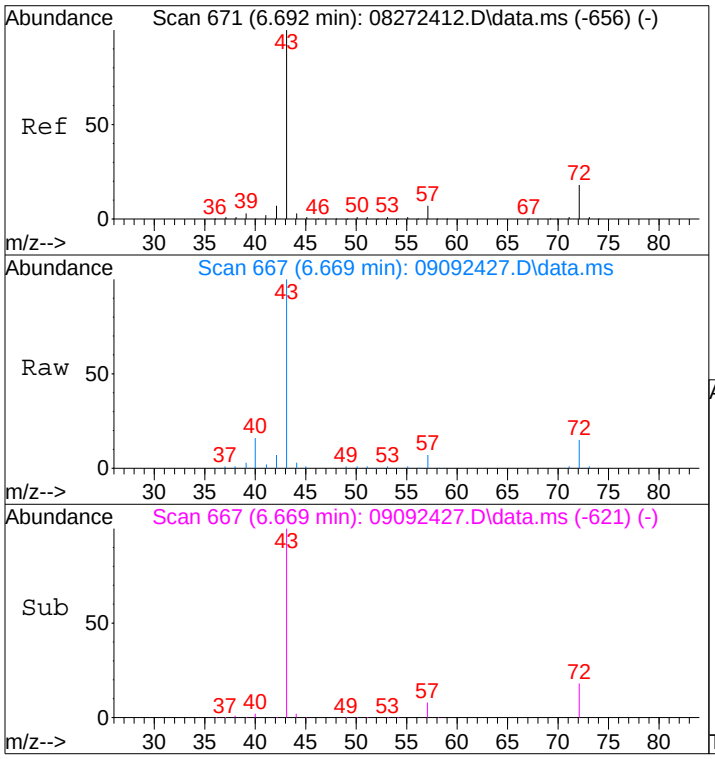


#25
Methyl tert-Butyl Ether
Concen: 0.42 ng
RT: 6.37 min Scan# 615
Delta R.T. 0.036 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 73 Resp: 17467

Ion	Ratio	Lower	Upper
73	100		
57	27.5	4.7	44.7

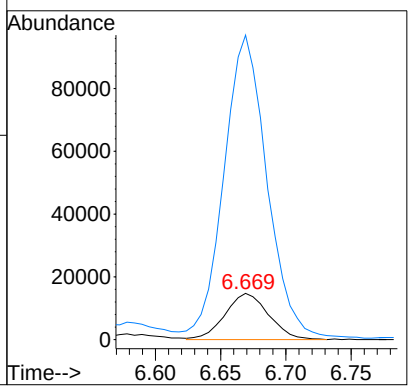


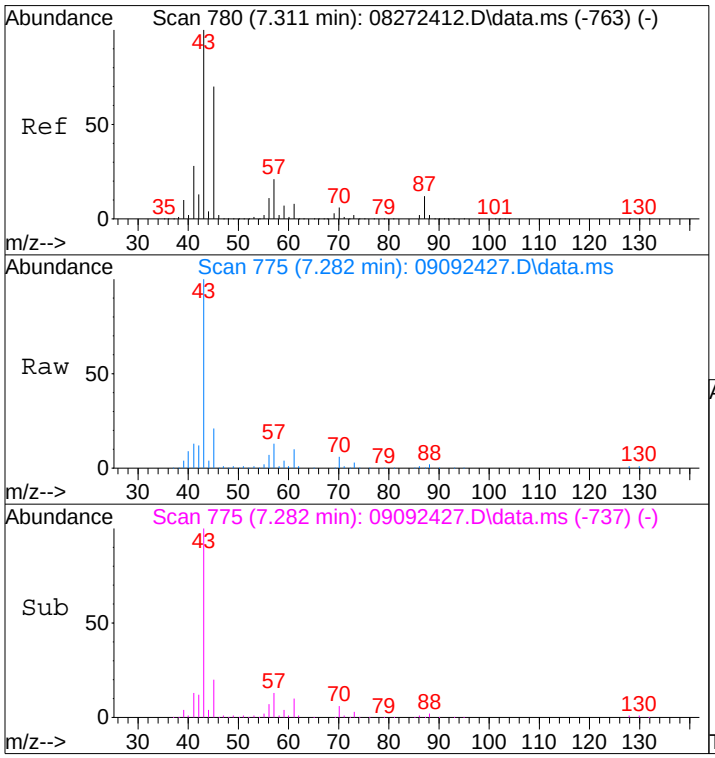


#27
2-Butanone (MEK)
Concen: 4.03 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 72 Resp: 34205

Ion	Ratio	Lower	Upper
72	100		
43	648.2	548.0	588.0#

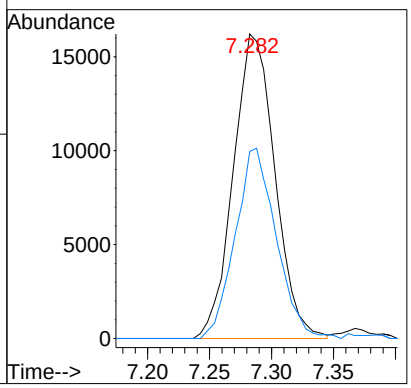


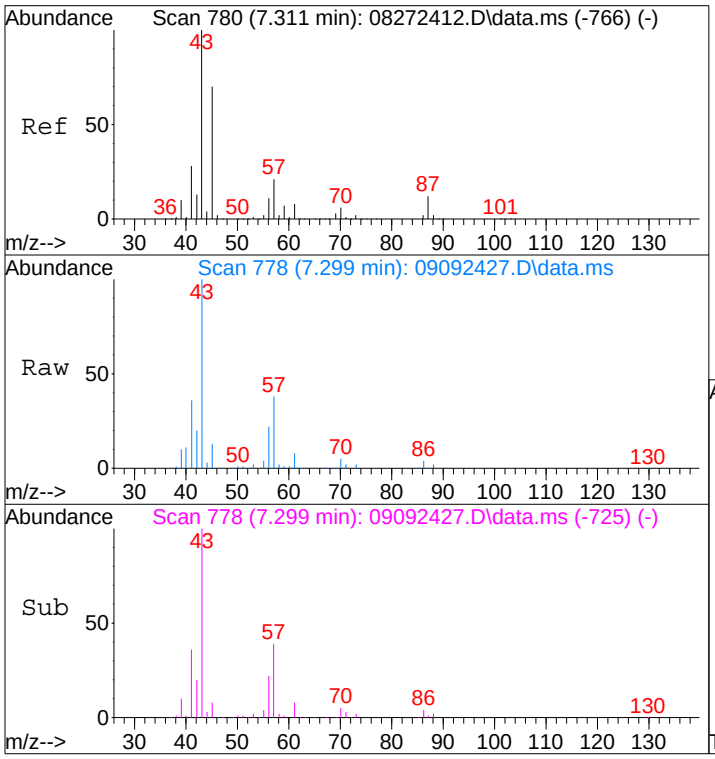


#30
Ethyl Acetate
Concen: 6.66 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 61 Resp: 37915

Ion	Ratio	Lower	Upper
61	100		
70	61.6	49.9	89.9

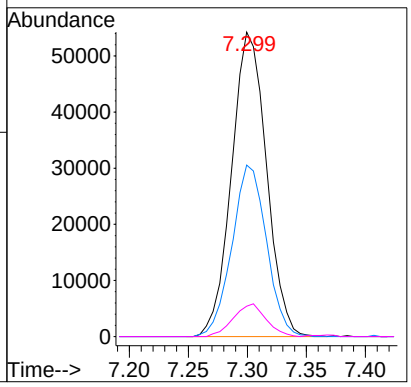


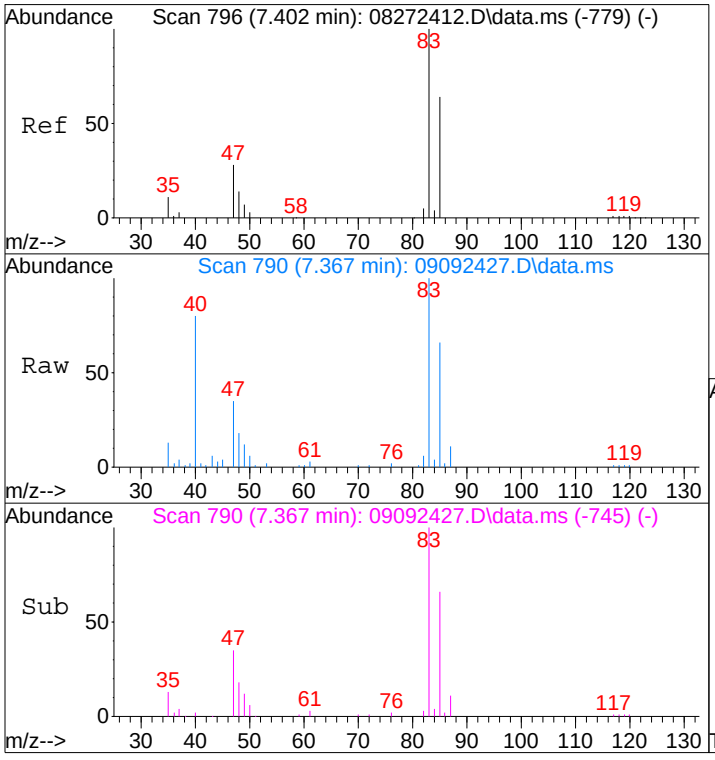


#31
n-Hexane
Concen: 4.31 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.051 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 57 Resp: 111826

Ion	Ratio	Lower	Upper
57	100		
56	55.7	44.2	66.2
86	10.1	9.3	13.9

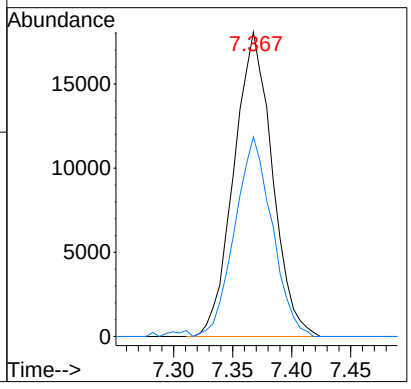


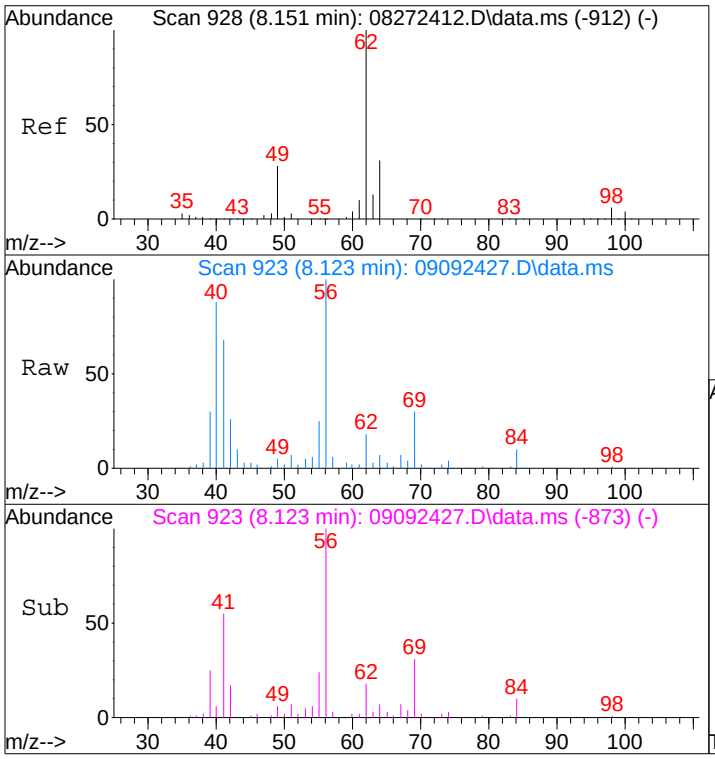


#32
Chloroform
Concen: 1.57 ng
RT: 7.37 min Scan# 790
Delta R.T. 0.007 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 83 Resp: 40873

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.3	85.3

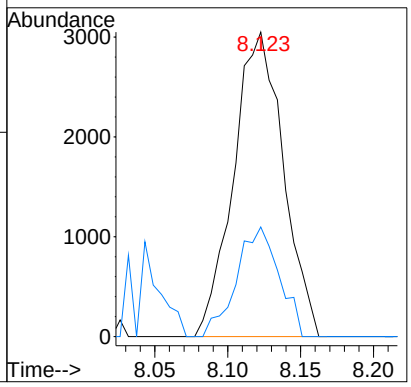


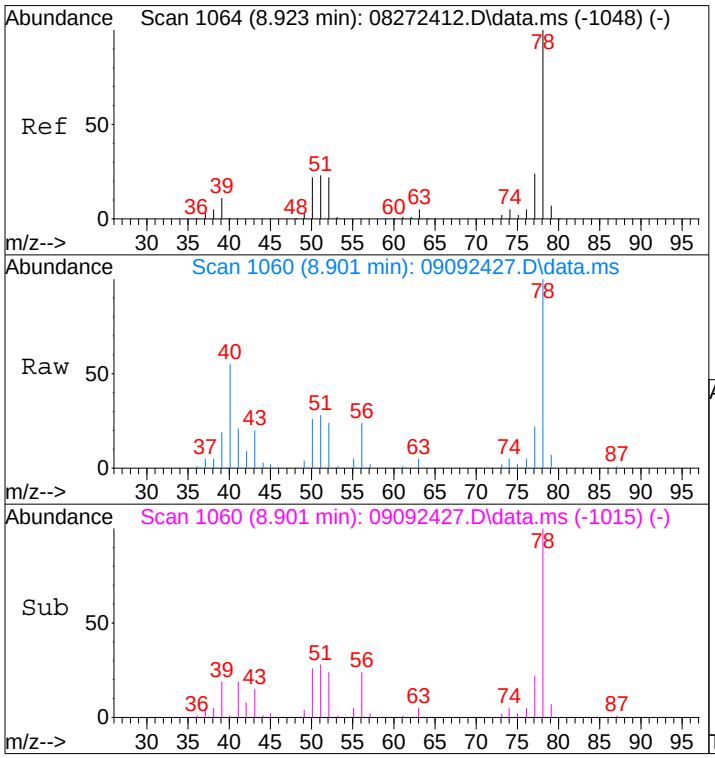


#36
1,2-Dichloroethane
Concen: 0.28 ng
RT: 8.12 min Scan# 923
Delta R.T. 0.032 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 62 Resp: 7233

Ion	Ratio	Lower	Upper
62	100		
64	30.8	11.0	51.0

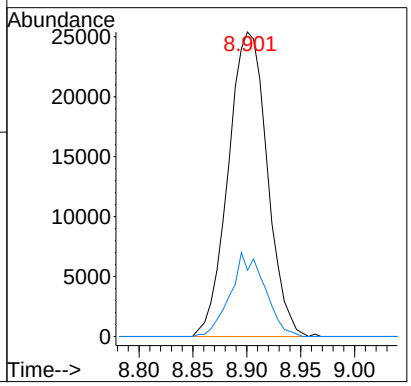


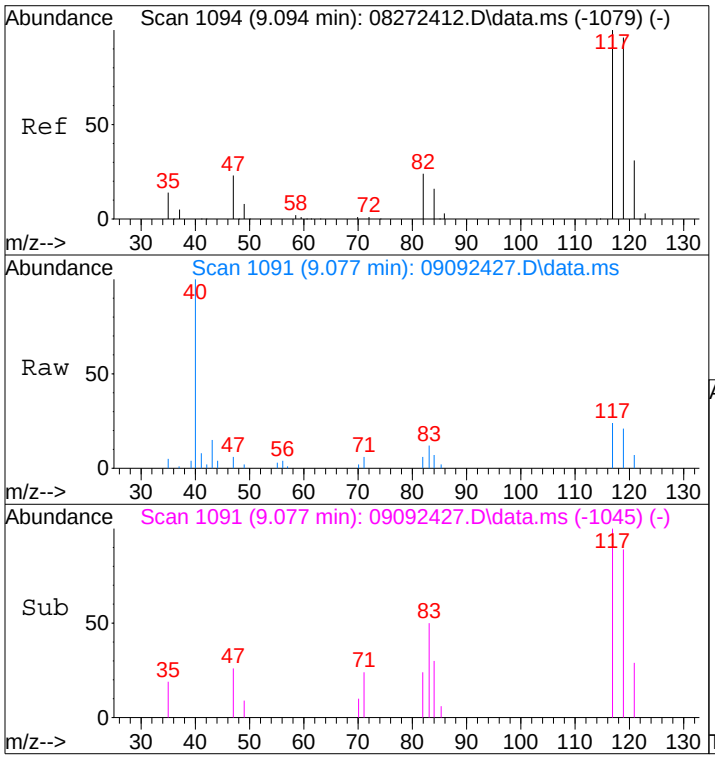


#41
Benzene
Concen: 1.20 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.004 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 78 Resp: 63843

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.9	43.9

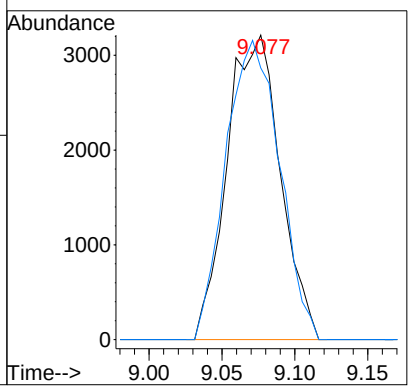


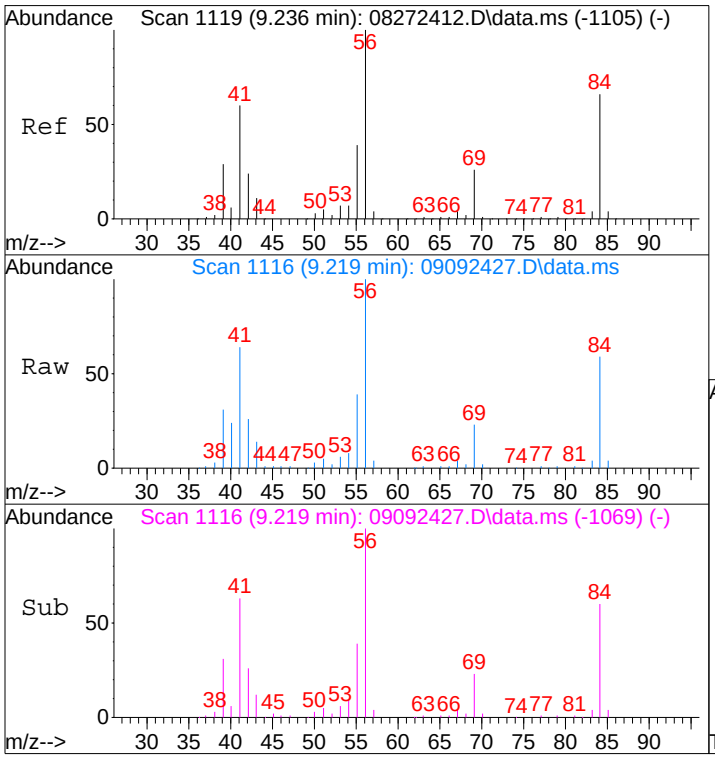


#42
Carbon Tetrachloride
Concen: 0.37 ng
RT: 9.08 min Scan# 1091
Delta R.T. 0.010 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:117 Resp: 8144

Ion	Ratio	Lower	Upper
117	100		
119	99.5	75.1	115.1

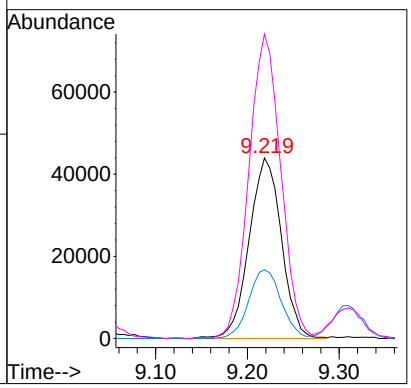


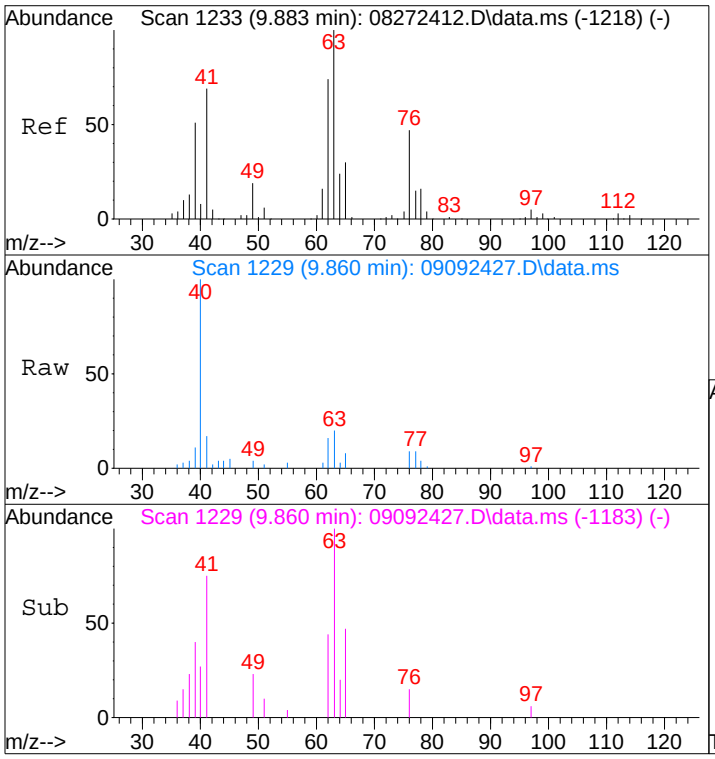


#43
Cyclohexane
Concen: 5.96 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 84 Resp: 107412

Ion	Ratio	Lower	Upper
84	100		
69	38.3	18.8	58.8
56	166.6	134.5	174.5

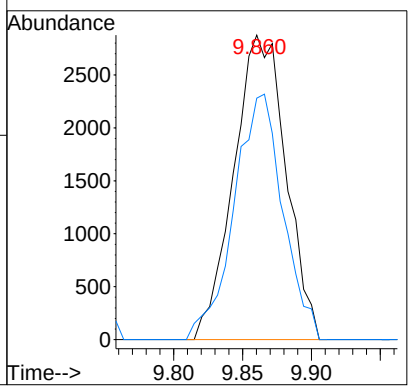


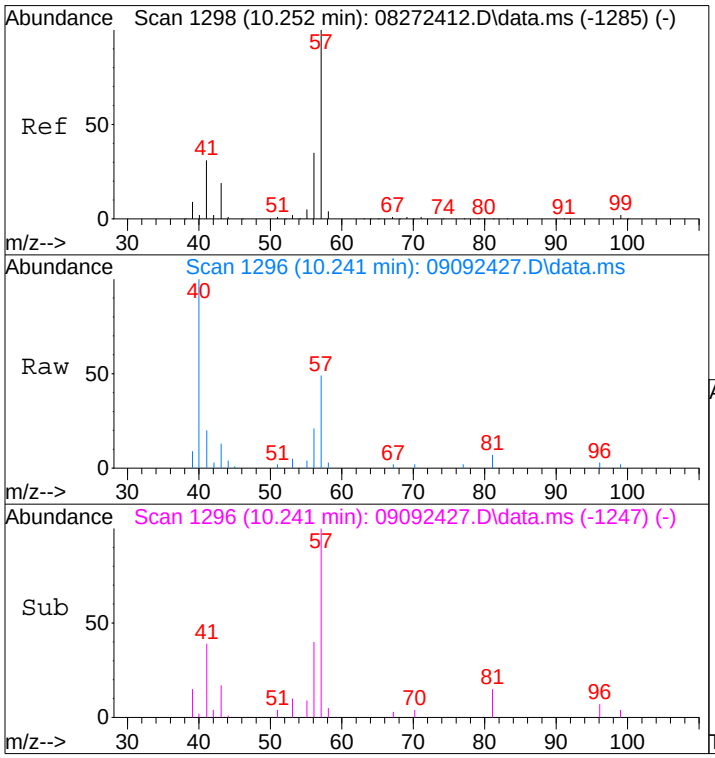


#45
1,2-Dichloropropane
Concen: 0.54 ng
RT: 9.86 min Scan# 1229
Delta R.T. 0.009 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 63 Resp: 7581

Ion	Ratio	Lower	Upper
63	100		
62	75.5	54.2	94.2

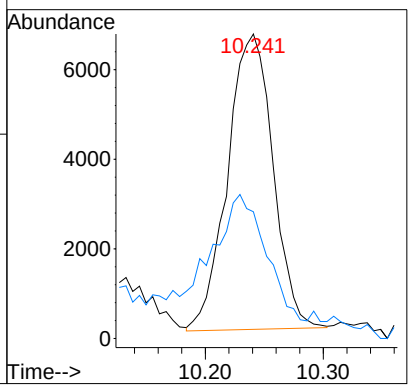


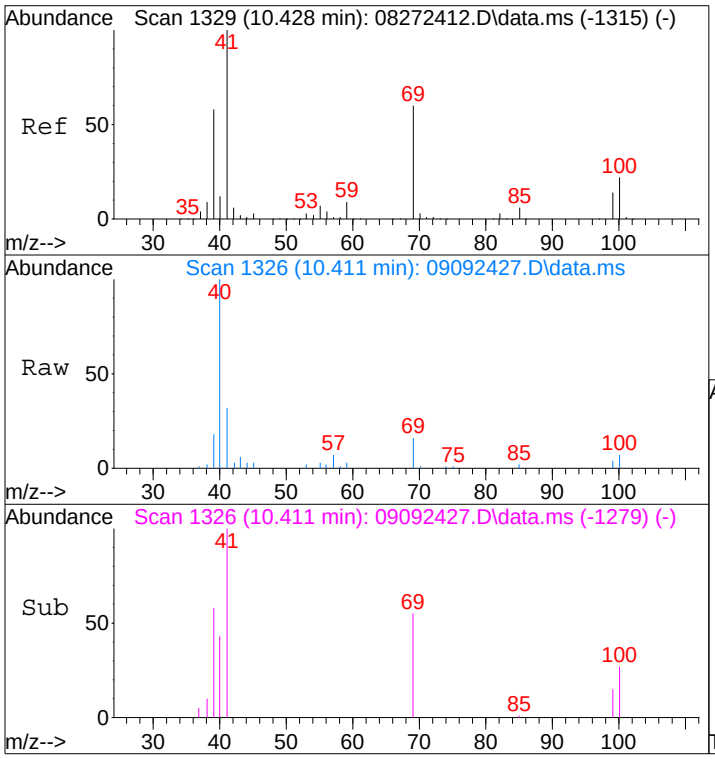


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.28 ng
RT: 10.24 min Scan# 1296
Delta R.T. 0.028 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 57 Resp: 17688

Ion	Ratio	Lower	Upper
57	100		
41	51.0	10.5	50.5#

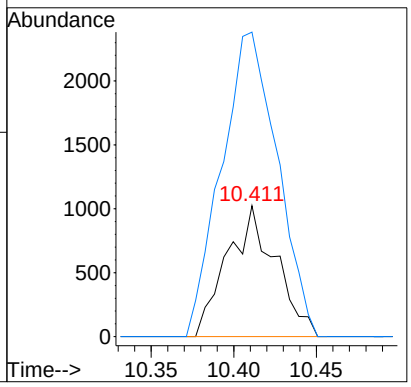


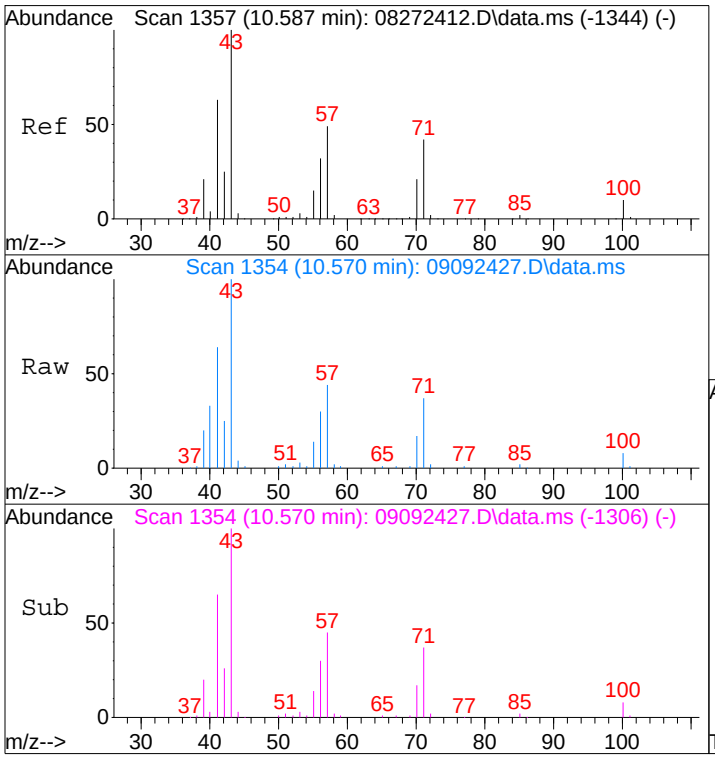


#50
Methyl Methacrylate
Concen: 0.45 ng
RT: 10.41 min Scan# 1326
Delta R.T. 0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:100 Resp: 2087

Ion	Ratio	Lower	Upper
100	100		
69	268.9	260.7	300.7

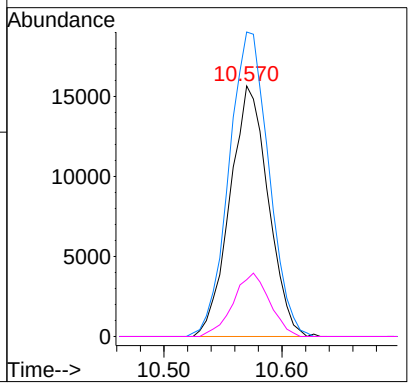


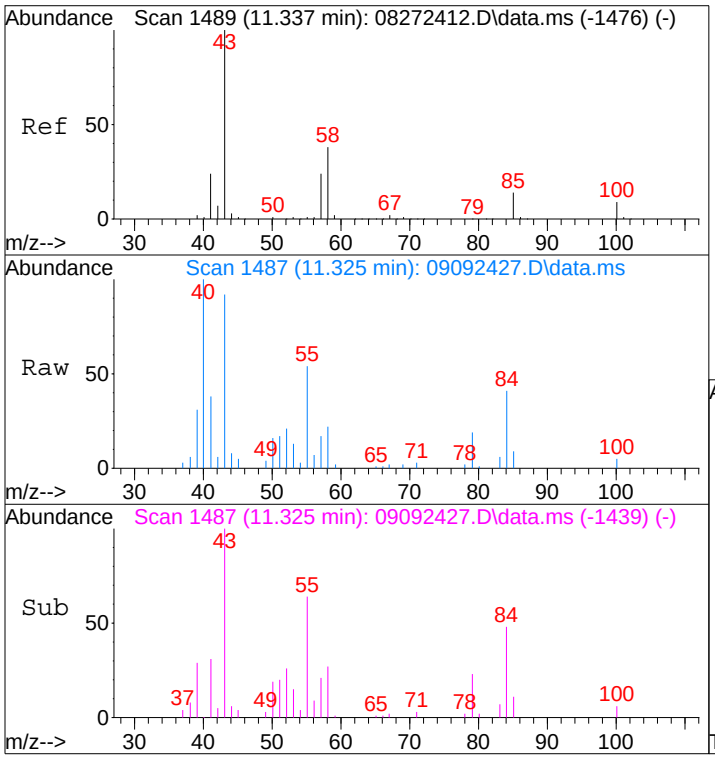


#51
n-Heptane
Concen: 2.97 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.024 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 71 Resp: 35308

Ion	Ratio	Lower	Upper
71	100		
57	126.5	97.1	137.1
100	24.1	5.0	45.0

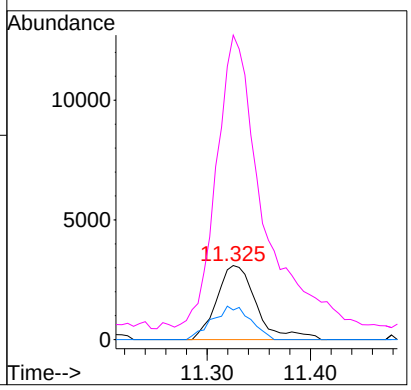


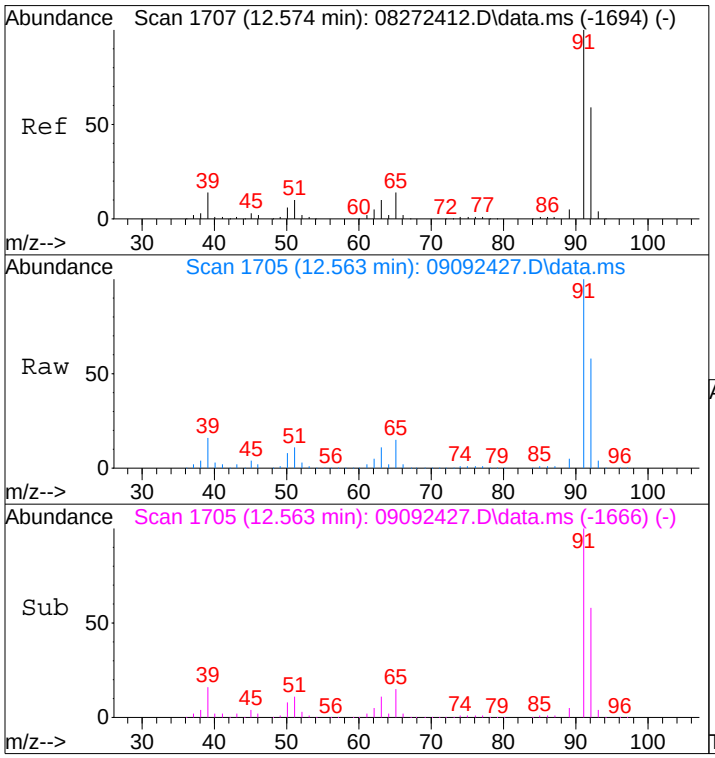


#53
4-Methyl-2-pentanone
Concen: 0.58 ng
RT: 11.33 min Scan# 1487
Delta R.T. 0.022 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 58 Resp: 8239

Ion	Ratio	Lower	Upper
58	100		
85	43.5	30.2	45.2
43	480.7	215.1	322.7#

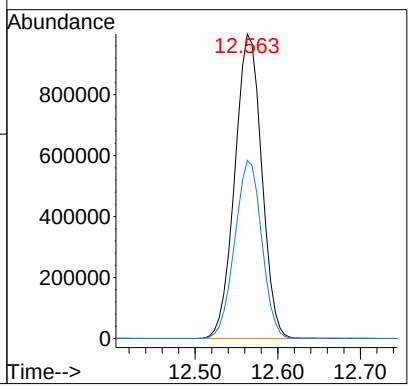


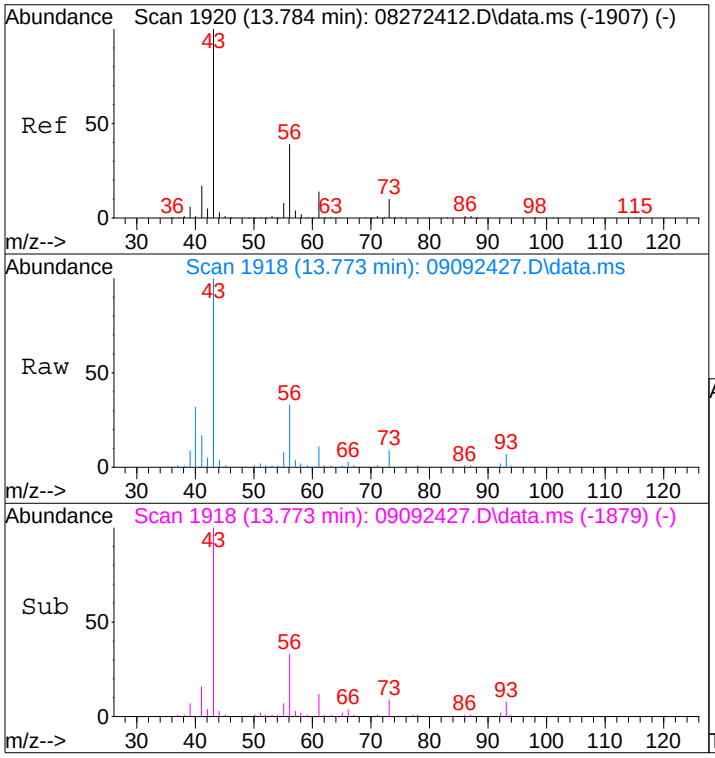


#58
Toluene
Concen: 32.28 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 91 Resp: 2260160

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

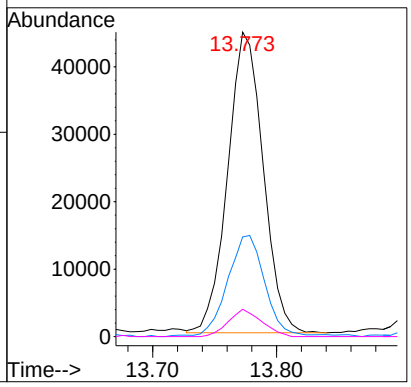


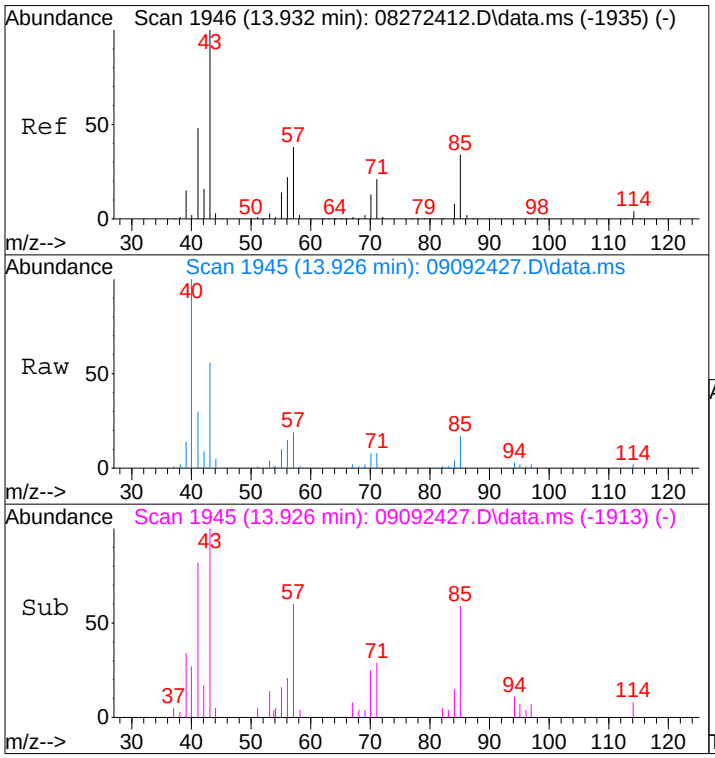


#62
n-Butyl Acetate
Concen: 1.83 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 43 Resp: 88892

Ion	Ratio	Lower	Upper
43	100		
56	35.9	18.2	58.2
73	8.5	0.0	30.1

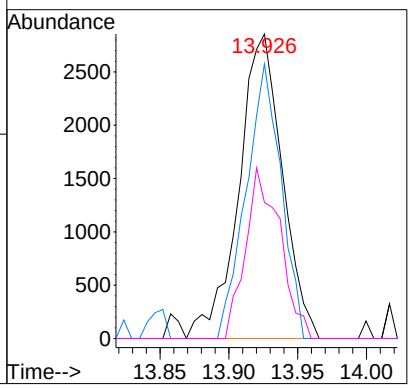


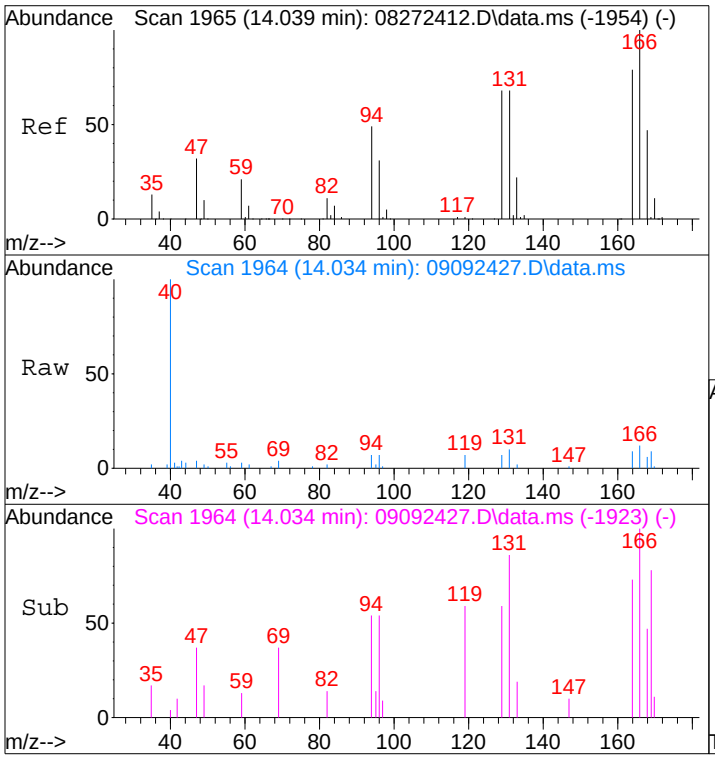


#63
n-Octane
Concen: 0.38 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 57 Resp: 6283

Ion	Ratio	Lower	Upper
57	100		
85	72.4	71.2	106.8
71	44.3	43.3	64.9

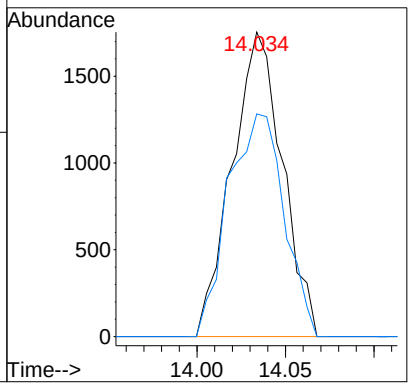


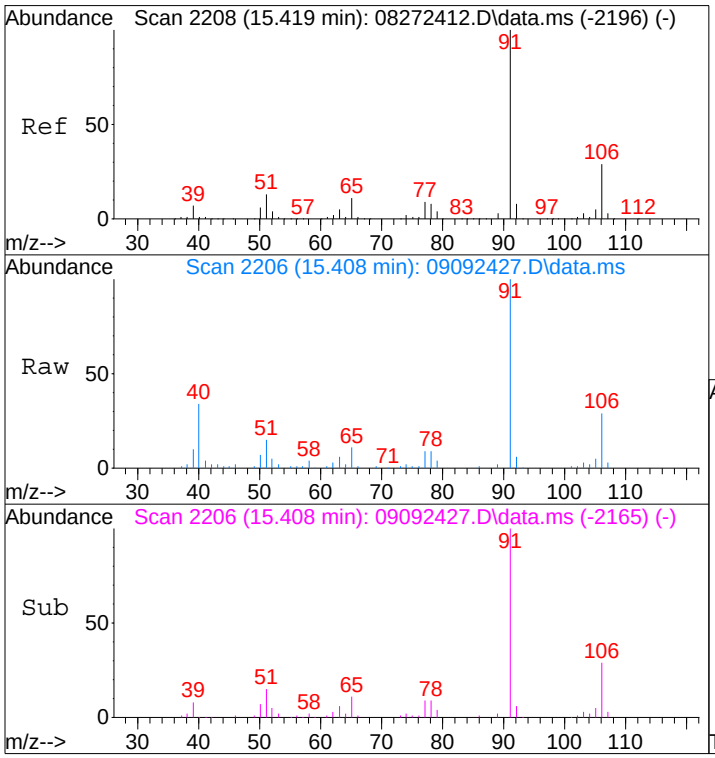


#64
Tetrachloroethene
Concen: 0.18 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:166 Resp: 3469

Ion	Ratio	Lower	Upper
166	100		
164	81.0	59.0	99.0

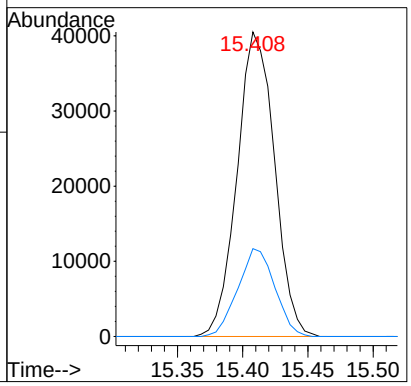


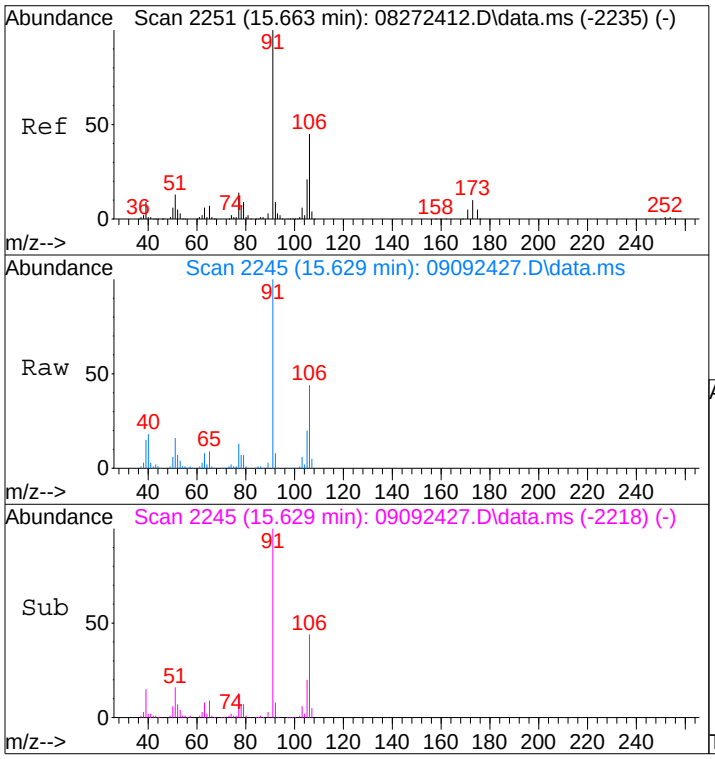


#66
Ethylbenzene
Concen: 1.00 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 91 Resp: 80826

Ion	Ratio	Lower	Upper
91	100		
106	28.5	9.2	49.2

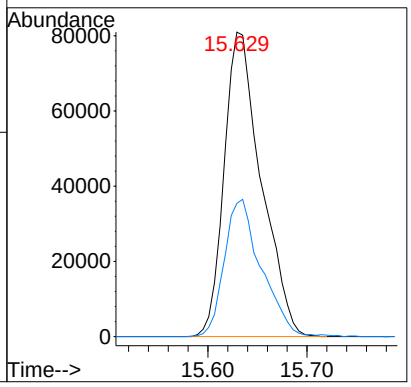


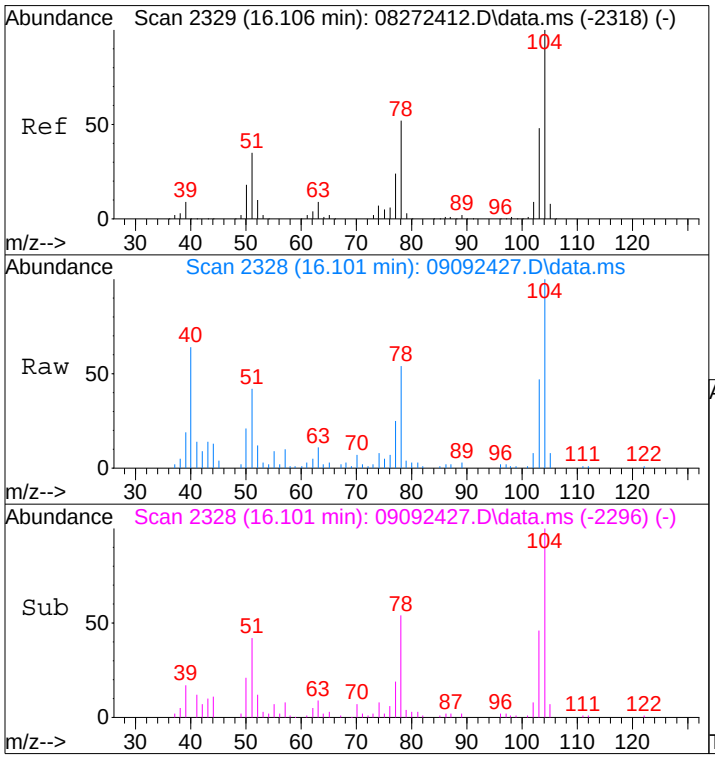


#67
m- & p-Xylenes
Concen: 3.21 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 91 Resp: 210407

Ion	Ratio	Lower	Upper
91	100		
106	45.0	23.8	63.8

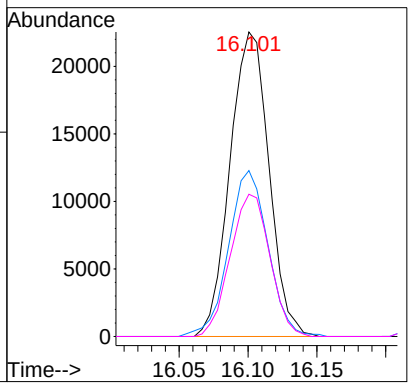


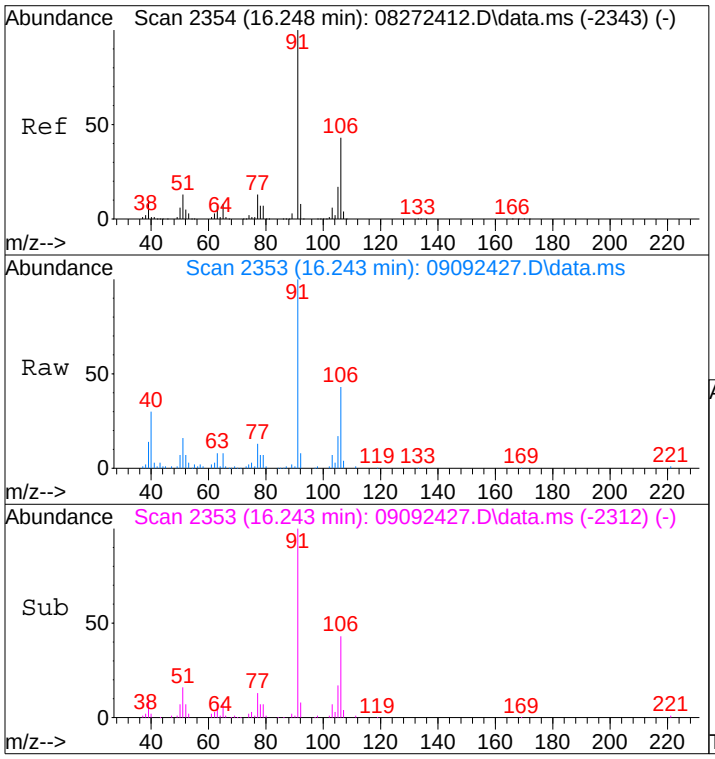


#69
Styrene
Concen: 1.05 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:104 Resp: 44359

Ion	Ratio	Lower	Upper
104	100		
78	55.2	32.2	72.2
103	47.6	28.3	68.3

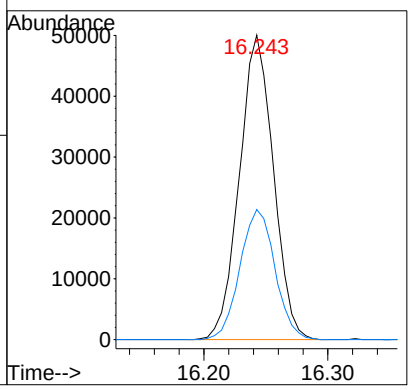


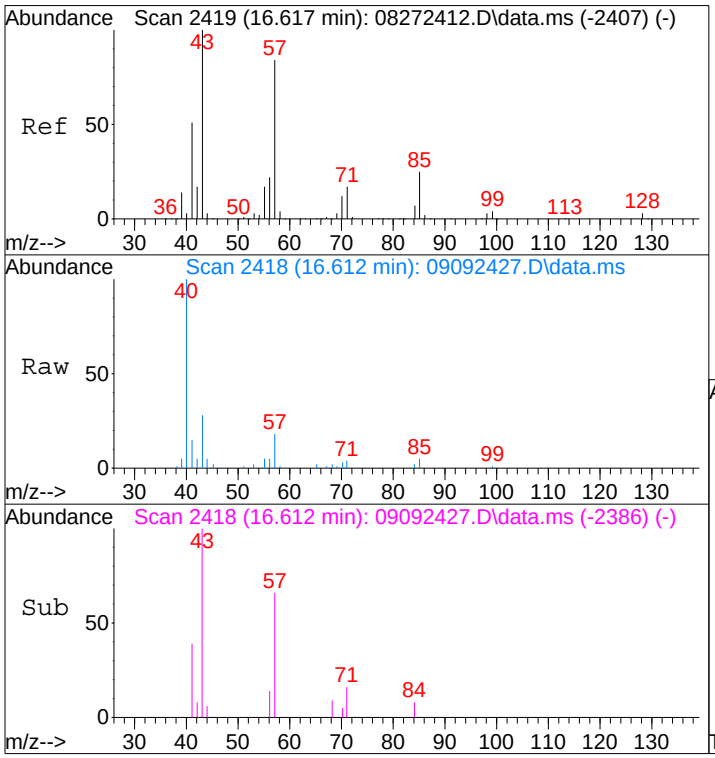


#70
o-Xylene
Concen: 1.49 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 91 Resp: 95463

Ion	Ratio	Lower	Upper
91	100		
106	44.1	22.5	62.5

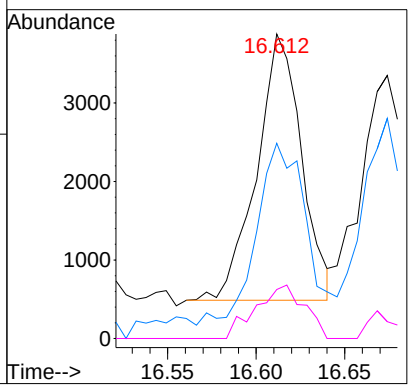


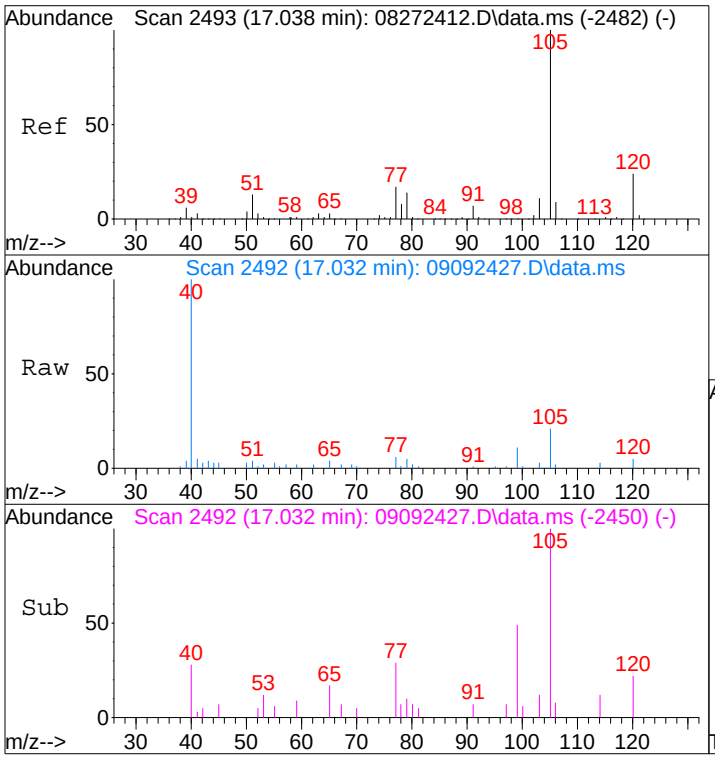


#71
n-Nonane
Concen: 0.14 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 43 Resp: 5958

Ion	Ratio	Lower	Upper
43	100		
57	84.7	63.3	103.3
85	21.7	4.5	44.5

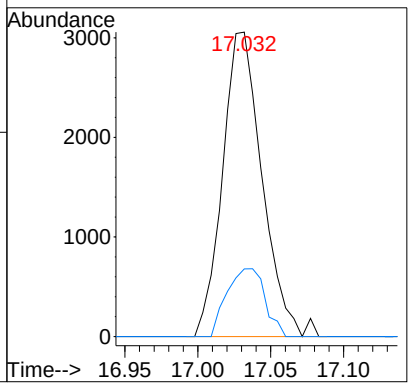


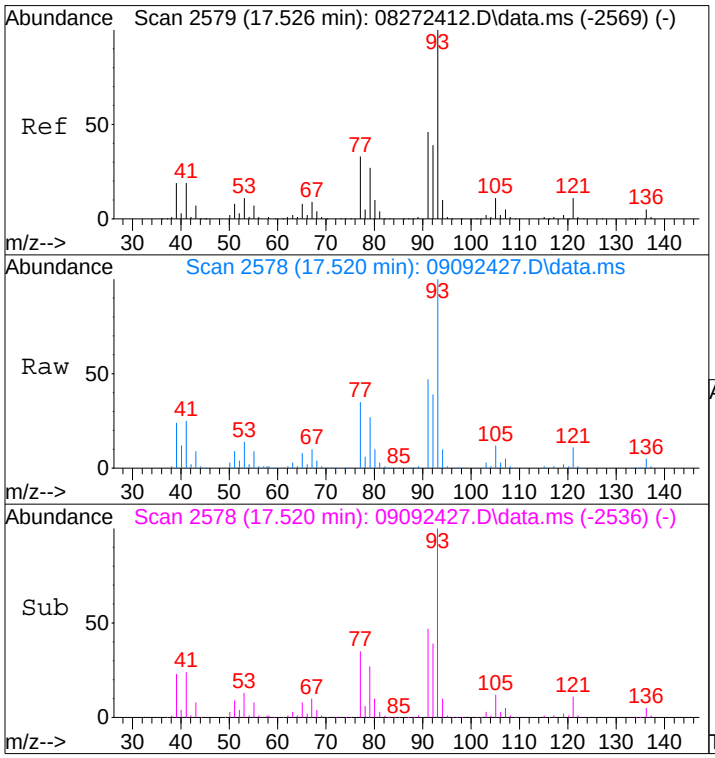


#74
Cumene
Concen: 0.08 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:105 Resp: 5778

Ion	Ratio	Lower	Upper
105	100		
120	21.4	3.7	43.7

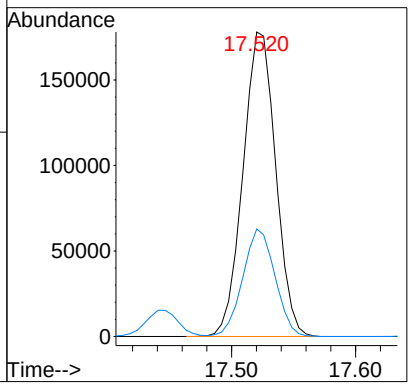


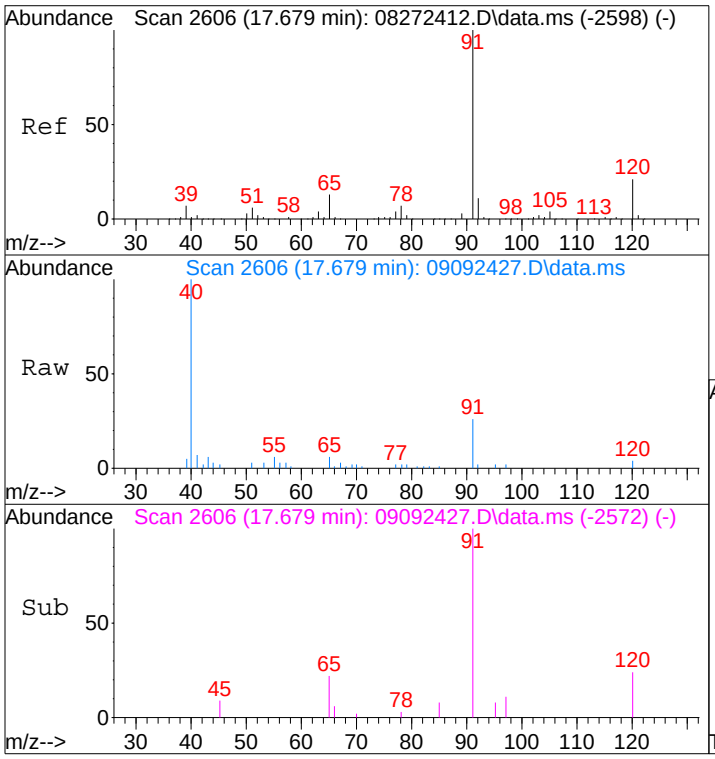


#75
alpha-Pinene
Concen: 8.47 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 93 Resp: 326294

Ion	Ratio	Lower	Upper
93	100		
77	34.9	13.1	53.1

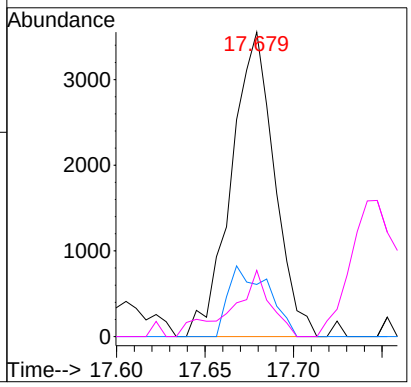


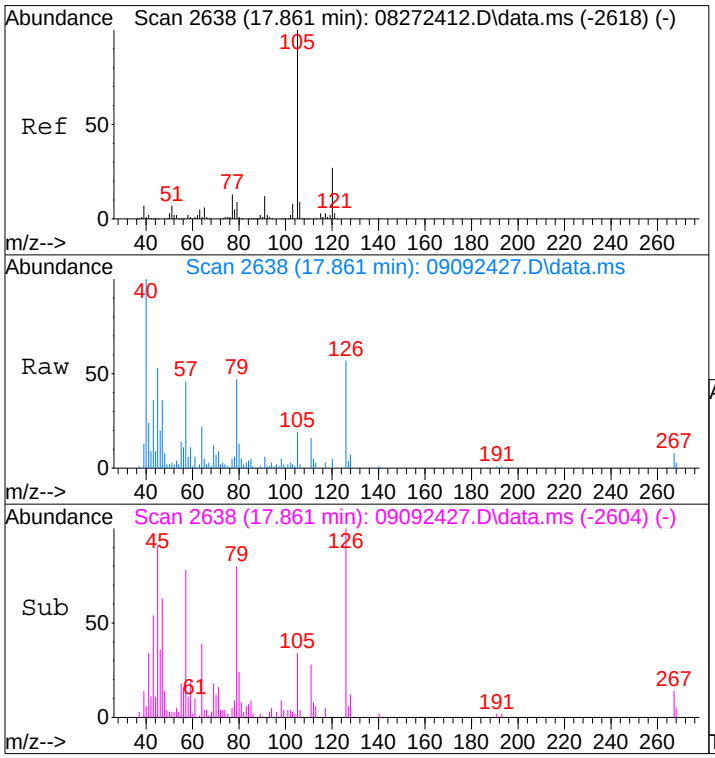


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 91 Resp: 6039

Ion	Ratio	Lower	Upper
91	100		
120	21.3	0.5	40.5
65	19.5	0.0	32.5

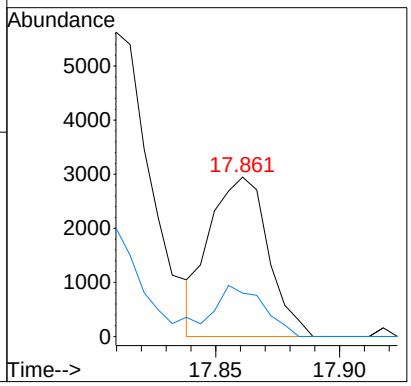


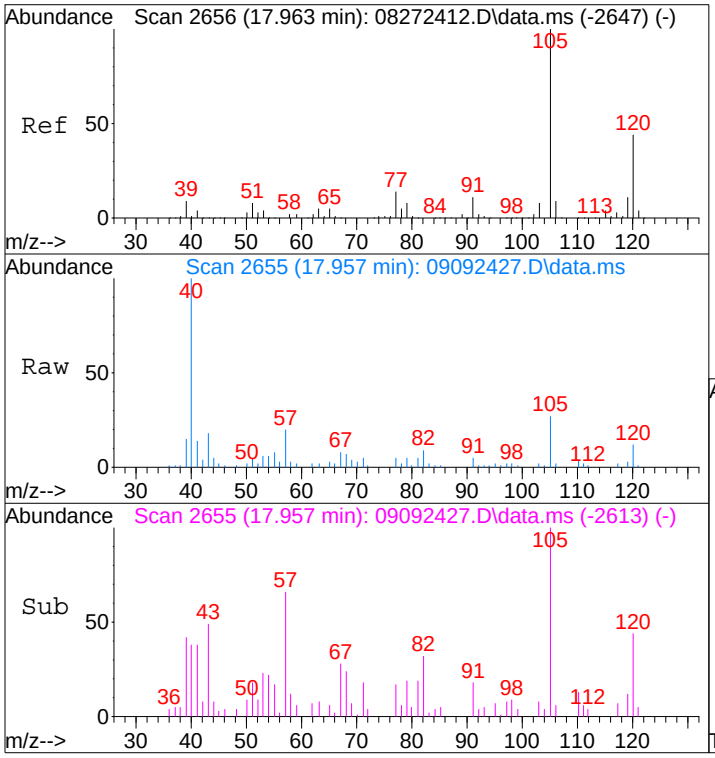


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.86 min Scan# 2638
Delta R.T. -0.006 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:105 Resp: 4835

Ion	Ratio	Lower	Upper
105	100		
120	25.2	6.9	46.9

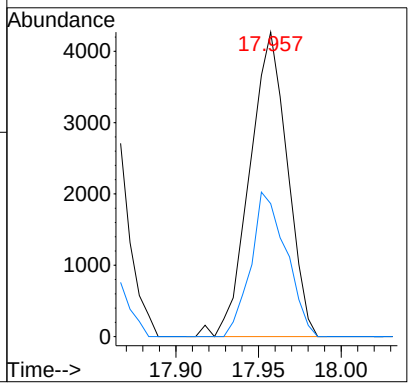


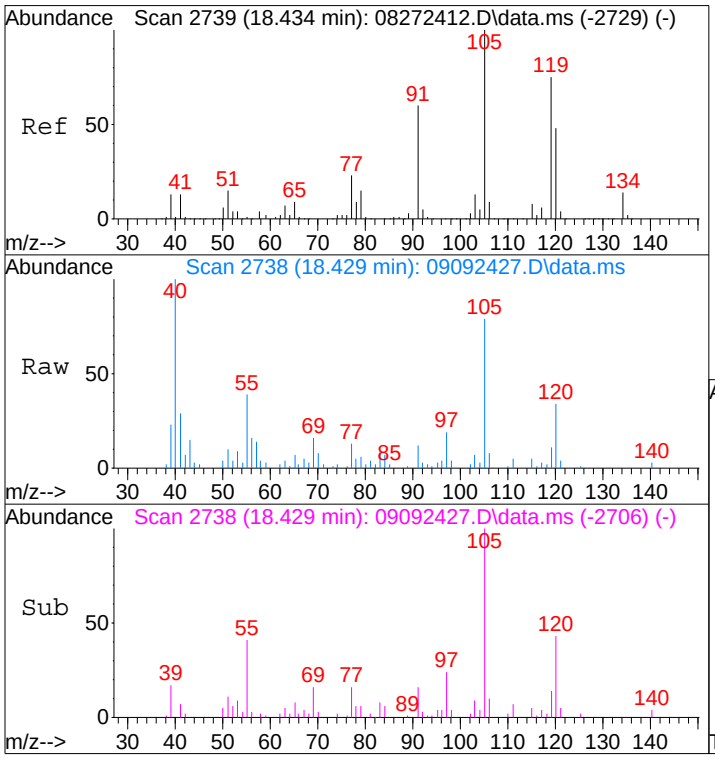


#79
1,3,5-Trimethylbenzene
Concen: 0.11 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:105 Resp: 6752

Ion	Ratio	Lower	Upper
105	100		
120	44.8	24.0	64.0

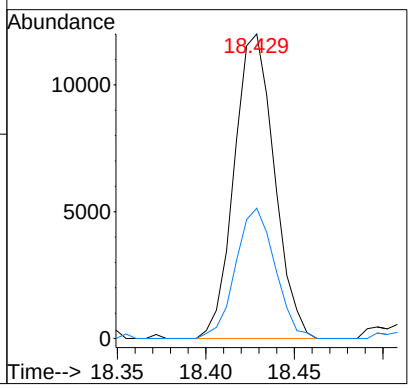


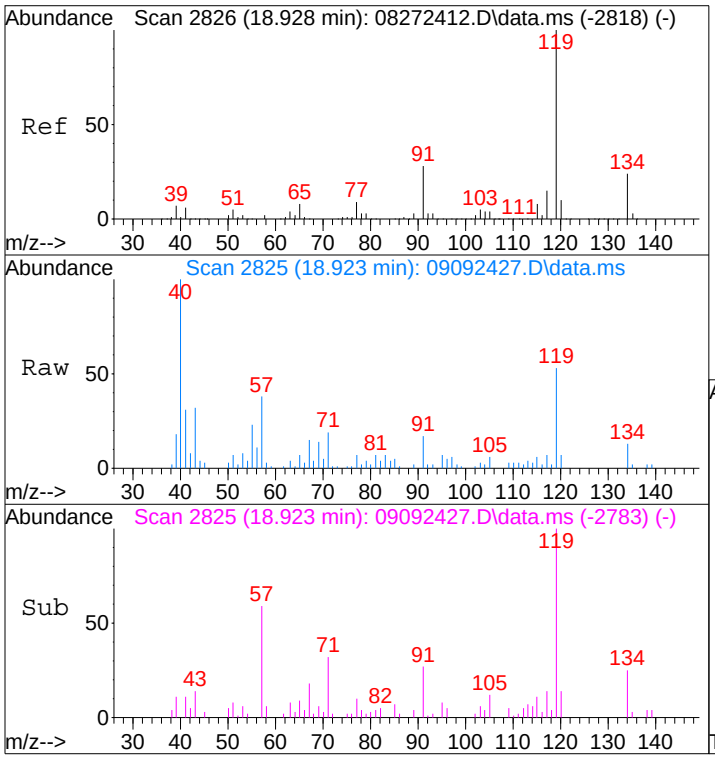


#82
1,2,4-Trimethylbenzene
Concen: 0.29 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:105 Resp: 18894

Ion	Ratio	Lower	Upper
105	100		
120	42.1	28.8	68.8

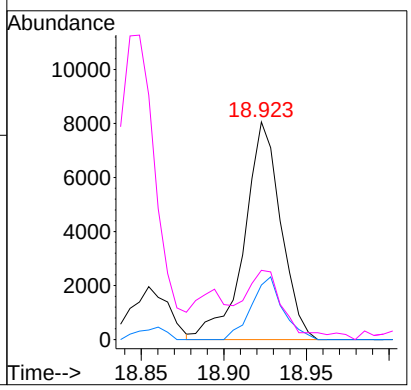


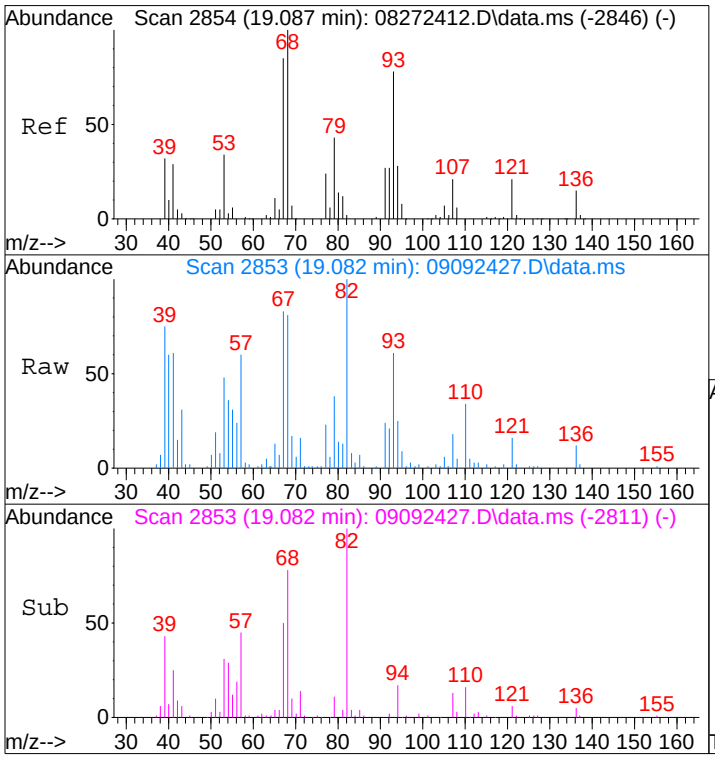


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.17 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion:119 Resp: 12383

Ion	Ratio	Lower	Upper
119	100		
134	24.9	4.7	44.7
91	33.3	8.1	48.1

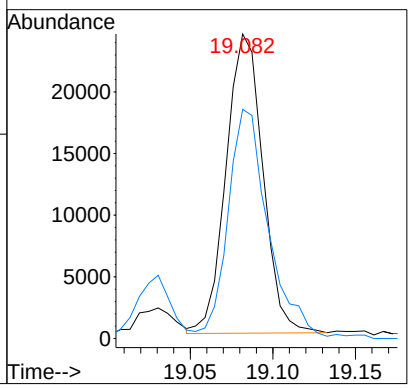




#91
d-Limonene
Concen: 1.71 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092427.D
Acq: 9 Sep 2024 23:12

Tgt Ion: 68 Resp: 37625

Ion	Ratio	Lower	Upper
68	100		
93	84.6	56.2	96.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:36:52 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

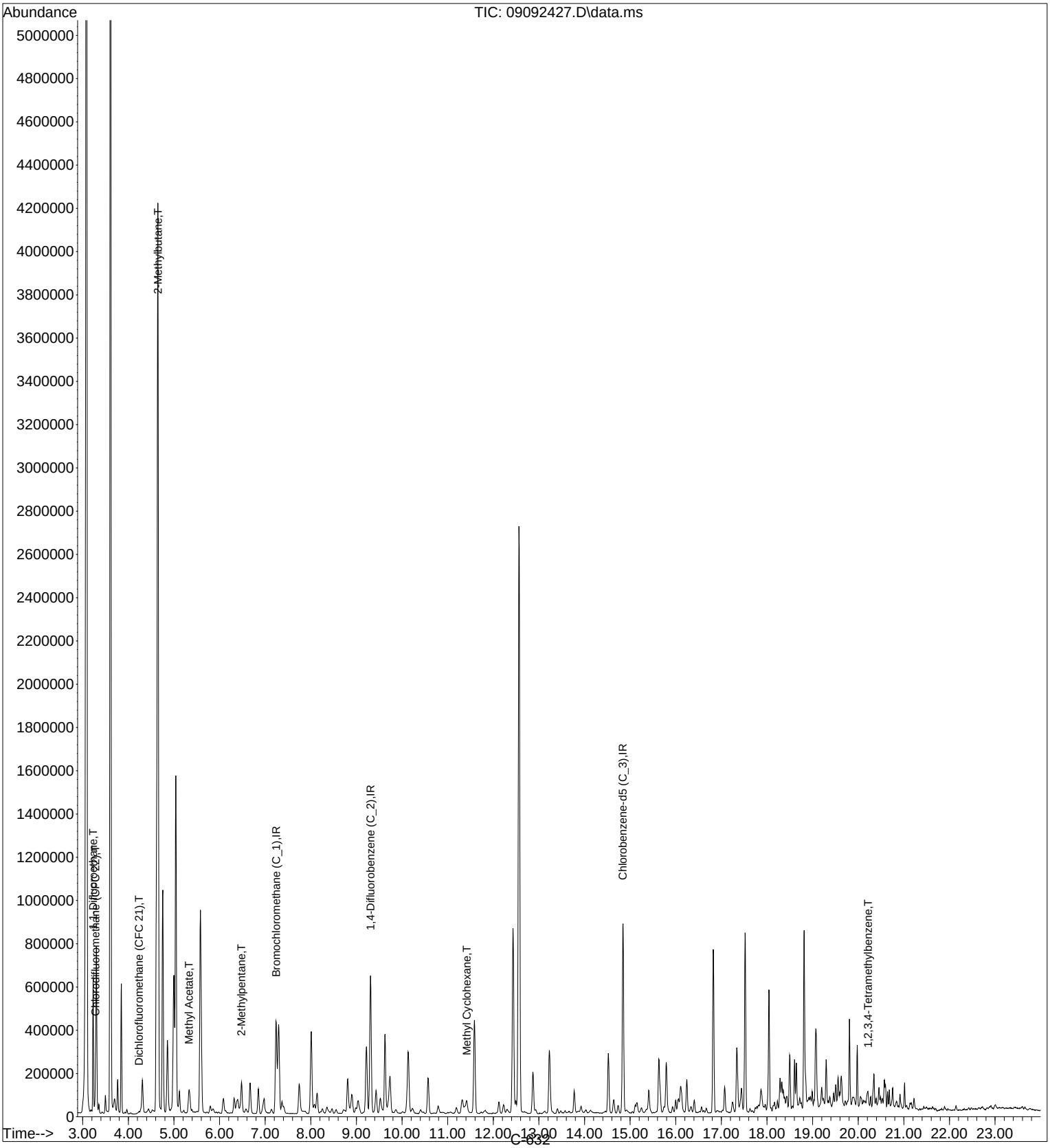
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	130698	12.500 ng		-0.01
16) 1,4-Difluorobenzene (C 2)	9.31	114	569428	12.500 ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	184624	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.12	85	302	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	146745	12.860 ng		96
5) Chlorodifluoromethane ...	3.28	67	3909	0.878 ng		98
6) 1-Chloro-1,1-Difluoroe...	3.48	65	587	N.D.		
7) Dichlorofluoromethane ...	4.23	67	7379	0.246 ng		96
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	678	N.D.		
10) 2-Methylbutane	4.65	57	847214	54.349 ng		93
11) Methyl Acetate	5.33	43	123456	2.803 ng	#	34
12) 2-Methylpentane	6.48	71	18823	1.663 ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	0.00	56	0	N.D. d		
18) Dibromomethane	9.80	174	114	N.D.		
20) Methyl Cyclohexane	11.42	55	29037	0.917 ng	#	80
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.16	91	54	N.D.		
24) 1,2,3-Trichloropropane	16.41	75	59	N.D.		
25) Bromobenzene	17.08	77	537	N.D.		
26) 2-Chlorotoluene	17.61	91	744	N.D.		
27) 4-Chlorotoluene	17.72	91	61	N.D.		
28) Indane	19.10	117	1820	N.D.		
29) Indene	19.21	115	664	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	1680	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	6780	0.106 ng		97
32) 1,2,3,5-Tetramethylben...	20.59	119	4192	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

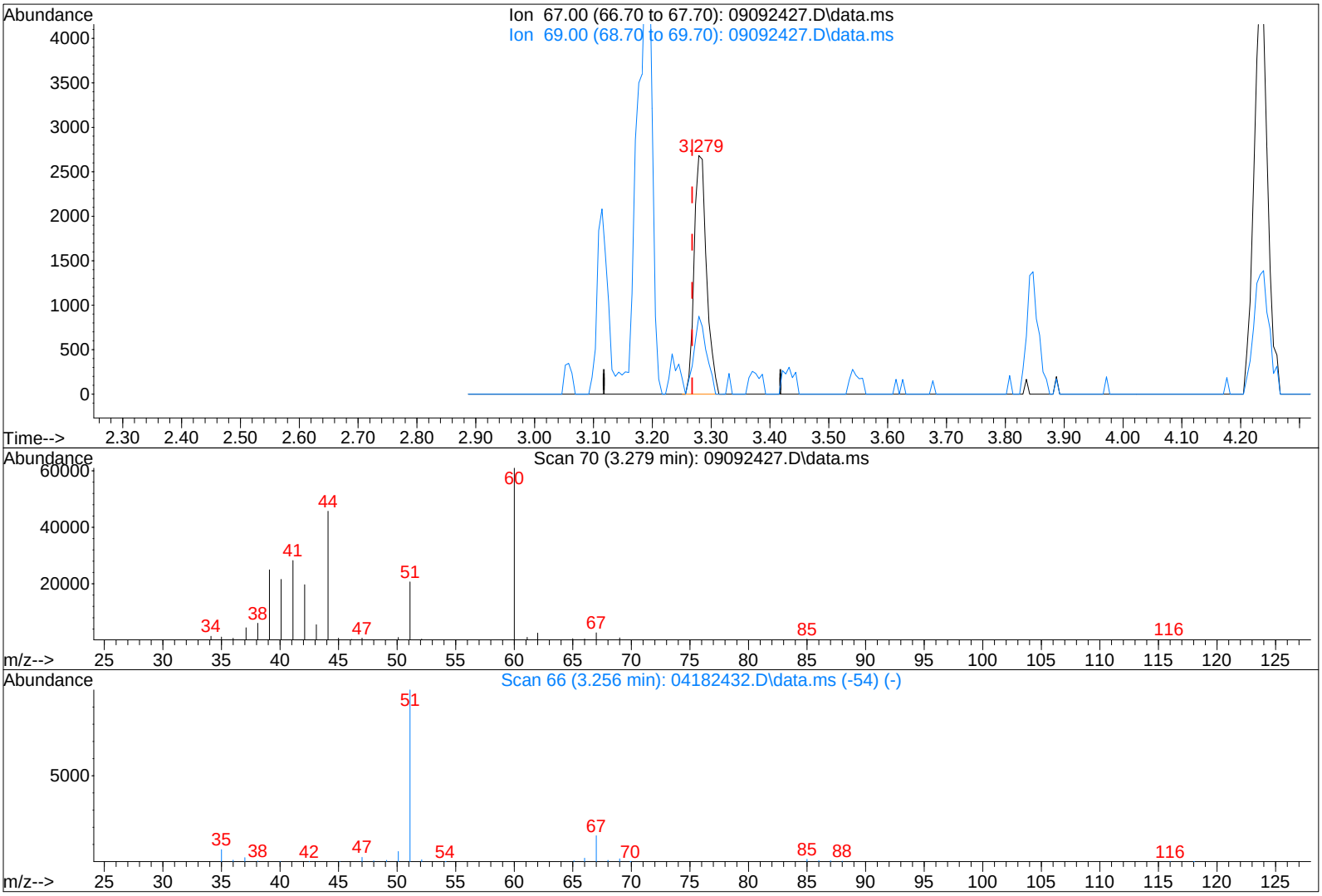
Quant Time: Sep 10 12:36:52 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:36:07 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092427.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 0.88ng

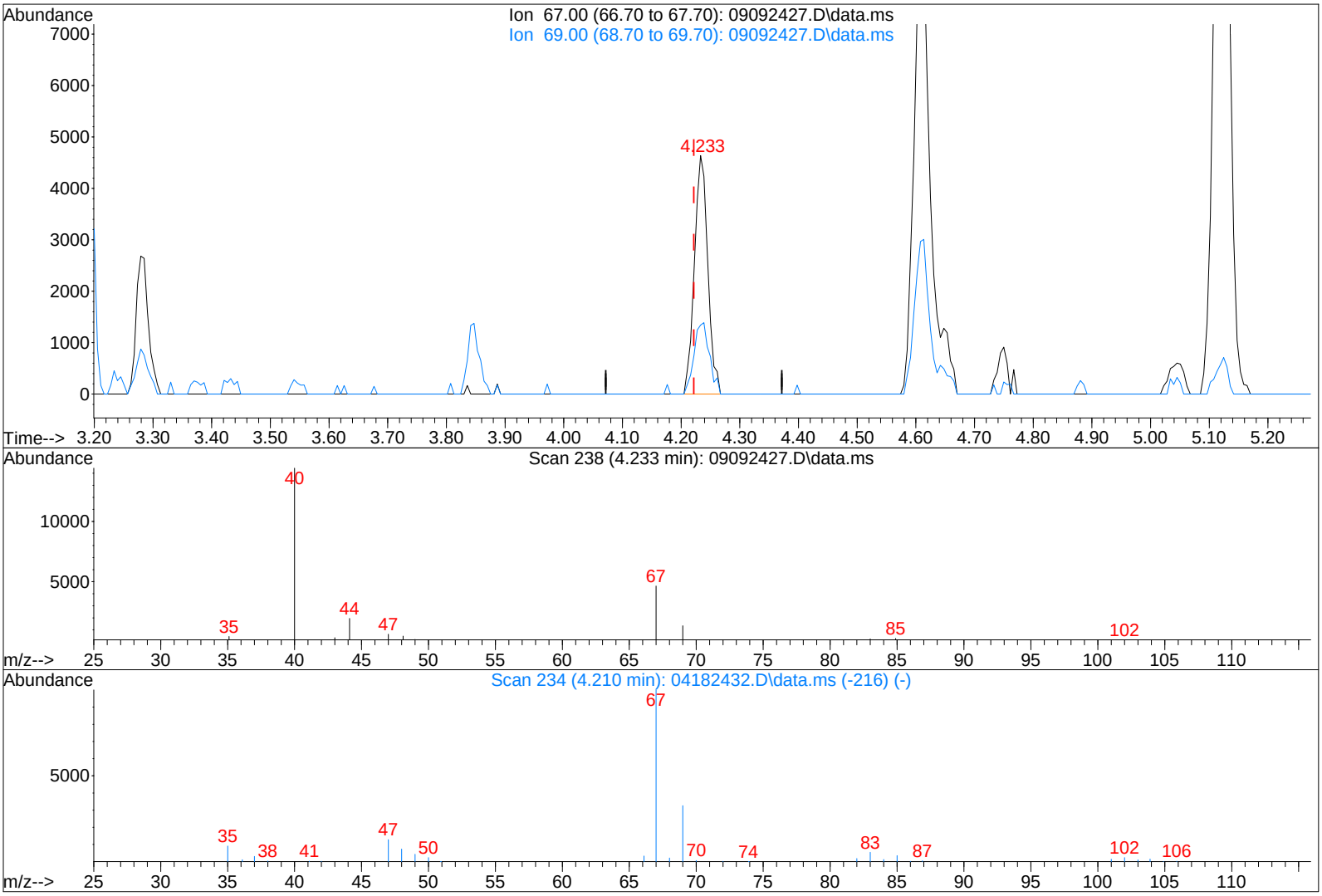
response 3909

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	32.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092427.D Vial: 14
Acq On : 9 Sep 2024 23:12 Operator: SC
Sample : P2403661-011 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:36:07 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092427.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 0.25ng

response 7379

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	34.52
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:12
Operator : SC
Sample : P2403661-011 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092427.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	65	rVB	605019	587243	4.75%	0.731%
2	3.296	65	73	80	rVV2	754962	1219227	9.86%	1.518%
3	3.353	80	83	92	rVB	41483	54484	0.44%	0.068%
4	3.495	101	108	119	rBV	82581	136549	1.10%	0.170%
5	3.608	121	128	137	rVV	8378403	12363918	100.00%	15.392%
6	3.699	137	144	150	rVV	66853	187714	1.52%	0.234%
7	3.767	151	156	164	rVV	157178	233279	1.89%	0.290%
8	3.847	164	170	179	rVB	599300	794020	6.42%	0.988%
9	3.966	187	191	197	rVB	20673	30587	0.25%	0.038%
10	4.233	226	238	241	rBV3	11709	27540	0.22%	0.034%
11	4.307	241	251	260	rVB	151281	323924	2.62%	0.403%
12	4.443	265	275	282	rVV3	21482	68092	0.55%	0.085%
13	4.523	282	289	298	rVV5	17325	62083	0.50%	0.077%
14	4.648	298	311	323	rVV3	4209340	9451168	76.44%	11.766%
15	4.755	323	330	340	rVV	1032312	1859499	15.04%	2.315%
16	4.858	340	348	358	rVV	337437	702246	5.68%	0.874%
17	5.000	358	373	376	rVV	637553	1478242	11.96%	1.840%
18	5.039	376	380	389	rVV	1560119	2658604	21.50%	3.310%
19	5.119	389	394	405	rVV	99905	195407	1.58%	0.243%
20	5.215	405	411	416	rVB3	12088	22655	0.18%	0.028%
21	5.335	422	432	440	rBV3	106222	297256	2.40%	0.370%
22	5.391	440	442	447	rVB2	12906	16429	0.13%	0.020%
23	5.579	467	475	489	rVB2	936114	2193672	17.74%	2.731%
24	5.800	506	514	519	rBV	32789	76993	0.62%	0.096%
25	5.851	520	523	533	rVB3	18323	43389	0.35%	0.054%
26	6.084	555	564	571	rBV	67503	168717	1.36%	0.210%
27	6.317	597	605	610	rBV	69852	157329	1.27%	0.196%
28	6.396	610	619	625	rVV3	63254	225217	1.82%	0.280%
29	6.482	626	634	645	rVV	144236	357424	2.89%	0.445%
30	6.578	645	651	659	rVV4	20750	59029	0.48%	0.073%
31	6.669	659	667	680	rVB	141807	323830	2.62%	0.403%
32	6.851	690	699	708	rVB	114961	242479	1.96%	0.302%
33	6.976	708	721	729	rBV2	70328	210558	1.70%	0.262%
34	7.135	742	749	757	rVB4	18451	43629	0.35%	0.054%
35	7.237	757	767	772	rBV	426448	1039221	8.41%	1.294%
36	7.294	772	777	785	rVV3	409591	1015210	8.21%	1.264%
37	7.367	785	790	807	rVB3	55189	185323	1.50%	0.231%
38	7.748	846	857	874	rBV	137126	401886	3.25%	0.500%
39	8.009	892	903	911	rBV	379309	922399	7.46%	1.148%
40	8.083	911	916	920	rVV	40943	101494	0.82%	0.126%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:12
Operator : SC
Sample : P2403661-011 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	8.140	920	926	935	rVB	91464	213138	1.72%	0.265%
42	8.253	941	946	955	rVB4	20600	47893	0.39%	0.060%
43	8.350	955	963	977	rVV8	28361	93079	0.75%	0.116%
44	8.469	977	984	991	rVV3	20717	50155	0.41%	0.062%
45	8.554	991	999	1009	rVB	17683	43804	0.35%	0.055%
46	8.719	1021	1028	1036	rBV4	16685	57938	0.47%	0.072%
47	8.810	1036	1044	1053	rVV	158219	406756	3.29%	0.506%
48	8.895	1053	1059	1069	rVV2	86728	238379	1.93%	0.297%
49	8.986	1069	1075	1078	rVV2	24708	52402	0.42%	0.065%
50	9.031	1078	1083	1099	rVB4	58759	184176	1.49%	0.229%
51	9.219	1099	1116	1124	rBV	308638	777989	6.29%	0.969%
52	9.309	1124	1132	1142	rVV	633802	1509249	12.21%	1.879%
53	9.429	1143	1153	1161	rVB	102099	243248	1.97%	0.303%
54	9.525	1161	1170	1180	rBV5	66316	195936	1.58%	0.244%
55	9.627	1180	1188	1196	rVV	362596	779594	6.31%	0.970%
56	9.735	1196	1207	1216	rVB2	167889	505173	4.09%	0.629%
57	9.866	1222	1230	1238	rVB7	15317	40291	0.33%	0.050%
58	10.019	1250	1257	1263	rBV5	6902	17181	0.14%	0.021%
59	10.133	1263	1277	1287	rVV	282765	816745	6.61%	1.017%
60	10.229	1287	1294	1303	rVB5	21241	63718	0.52%	0.079%
61	10.405	1319	1325	1332	rBV3	17334	44678	0.36%	0.056%
62	10.570	1343	1354	1366	rVB2	164104	393624	3.18%	0.490%
63	10.791	1386	1393	1401	rBV2	33992	83021	0.67%	0.103%
64	11.189	1454	1463	1473	rBV	26530	70143	0.57%	0.087%
65	11.320	1477	1486	1492	rBV4	61569	190248	1.54%	0.237%
66	11.416	1498	1503	1519	rVB4	55910	154288	1.25%	0.192%
67	11.586	1521	1533	1548	rVB	431134	1048669	8.48%	1.305%
68	11.734	1551	1559	1564	rBV4	7682	17868	0.14%	0.022%
69	11.825	1564	1575	1587	rVB4	15126	53727	0.43%	0.067%
70	12.120	1616	1627	1636	rVB2	52418	128664	1.04%	0.160%
71	12.222	1636	1645	1653	rBV2	39820	102298	0.83%	0.127%
72	12.302	1653	1659	1671	rVV3	15977	47341	0.38%	0.059%
73	12.432	1671	1682	1690	rVV	853148	2018102	16.32%	2.512%
74	12.495	1690	1693	1696	rVV	53786	93396	0.76%	0.116%
75	12.563	1696	1705	1722	rVB	2709169	6167144	49.88%	7.677%
76	12.870	1748	1759	1767	rBV	192232	438514	3.55%	0.546%
77	12.932	1767	1770	1779	rVB3	18749	36361	0.29%	0.045%
78	13.131	1793	1805	1813	rBV6	12336	42958	0.35%	0.053%
79	13.227	1813	1822	1842	rVB	289290	737934	5.97%	0.919%
80	13.409	1847	1854	1859	rBV4	21157	43136	0.35%	0.054%
81	13.477	1859	1866	1872	rBV4	10529	24179	0.20%	0.030%
82	13.574	1877	1883	1888	rVV3	11614	21042	0.17%	0.026%
83	13.665	1888	1899	1903	rVB3	7426	20046	0.16%	0.025%
84	13.773	1910	1918	1927	rBV	101815	206781	1.67%	0.257%
85	13.926	1938	1945	1954	rVB4	28897	61539	0.50%	0.077%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:12
Operator : SC
Sample : P2403661-011 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

86	14.034	1954	1964	1970	rVB8	14262	35664	0.29%	0.044%
87	14.136	1980	1982	1988	rVB5	9195	12368	0.10%	0.015%
88	14.460	2027	2039	2042	rBV5	10544	29334	0.24%	0.037%
89	14.522	2042	2050	2062	rVV	277364	601945	4.87%	0.749%
90	14.641	2062	2071	2080	rVV3	62437	150261	1.22%	0.187%
91	14.738	2080	2088	2095	rVV3	35664	79974	0.65%	0.100%
92	14.846	2095	2107	2116	rVV	875897	1851230	14.97%	2.305%
93	14.920	2116	2120	2138	rVB	14477	49921	0.40%	0.062%
94	15.050	2138	2143	2147	rBV6	7284	12672	0.10%	0.016%
95	15.113	2147	2154	2156	rVV	37426	65739	0.53%	0.082%
96	15.152	2156	2161	2169	rVV	47865	119854	0.97%	0.149%
97	15.249	2169	2178	2187	rVV3	24110	68250	0.55%	0.085%
98	15.357	2189	2197	2198	rVV4	16926	33506	0.27%	0.042%
99	15.408	2200	2206	2218	rVB	103840	247302	2.00%	0.308%
100	15.629	2237	2245	2257	rVB	245312	633658	5.13%	0.789%
101	15.743	2257	2265	2267	rVV3	25829	49791	0.40%	0.062%
102	15.794	2267	2274	2287	rVB	231313	530557	4.29%	0.660%
103	15.930	2292	2298	2304	rBV3	27783	56752	0.46%	0.071%
104	15.998	2304	2310	2314	rVV	55595	102072	0.83%	0.127%
105	16.061	2314	2321	2324	rVV4	62901	164284	1.33%	0.205%
106	16.106	2324	2329	2343	rVV4	120825	377305	3.05%	0.470%
107	16.243	2346	2353	2362	rVV	153453	317671	2.57%	0.395%
108	16.333	2362	2369	2375	rVV3	27351	70454	0.57%	0.088%
109	16.407	2375	2382	2394	rVB2	58151	118833	0.96%	0.148%
110	16.566	2405	2410	2415	rBV2	23596	39714	0.32%	0.049%
111	16.612	2415	2418	2423	rVV3	8697	13553	0.11%	0.017%
112	16.668	2423	2428	2437	rVB2	22002	43529	0.35%	0.054%
113	16.822	2447	2455	2464	rBV	754998	1461736	11.82%	1.820%
114	17.032	2486	2492	2493	rBV5	10012	16796	0.14%	0.021%
115	17.072	2493	2499	2516	rVB2	118773	245047	1.98%	0.305%
116	17.248	2520	2530	2539	rBV3	48794	128333	1.04%	0.160%
117	17.338	2539	2546	2555	rBV2	295241	683448	5.53%	0.851%
118	17.441	2555	2564	2570	rVB4	97689	220950	1.79%	0.275%
119	17.520	2570	2578	2592	rVB	829234	1524332	12.33%	1.898%
120	17.628	2592	2597	2602	rBV3	16693	29373	0.24%	0.037%
121	17.673	2602	2605	2613	rVB4	8300	15561	0.13%	0.019%
122	17.742	2613	2617	2620	rBV2	22641	39636	0.32%	0.049%
123	17.781	2620	2624	2626	rBV4	10431	14303	0.12%	0.018%
124	17.815	2626	2630	2632	rBV5	14190	21078	0.17%	0.026%
125	17.867	2633	2639	2652	rVB9	83768	220129	1.78%	0.274%
126	17.963	2652	2656	2660	rVB4	24592	39682	0.32%	0.049%
127	18.043	2660	2670	2677	rBV	555139	994898	8.05%	1.239%
128	18.088	2677	2678	2682	rVB3	16192	14214	0.11%	0.018%
129	18.133	2682	2686	2688	rBV2	25708	36518	0.30%	0.045%

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:12
Operator : SC
Sample : P2403661-011 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

130	18.167	2688	2692	2696	rVB	30823	47244	0.38%	0.059%
131	18.230	2696	2703	2707	rBV	37278	55640	0.45%	0.069%
132	18.287	2707	2713	2716	rBV	137942	243790	1.97%	0.303%
133	18.326	2716	2720	2723	rVV3	77368	130600	1.06%	0.163%
134	18.355	2723	2725	2729	rVB	39599	44835	0.36%	0.056%
135	18.434	2734	2739	2744	rVB4	47743	99703	0.81%	0.124%
136	18.497	2744	2750	2757	rVB3	247372	449383	3.63%	0.559%
137	18.554	2757	2760	2764	rBV6	11353	18132	0.15%	0.023%
138	18.605	2764	2769	2772	rBV	222626	326645	2.64%	0.407%
139	18.644	2772	2776	2782	rVB	195340	292383	2.36%	0.364%
140	18.718	2785	2789	2793	rBV3	27796	36742	0.30%	0.046%
141	18.815	2799	2806	2817	rBV3	822231	1588683	12.85%	1.978%
142	18.917	2822	2824	2827	rVV3	47887	72357	0.59%	0.090%
143	18.951	2827	2830	2833	rVV2	50819	85160	0.69%	0.106%
144	18.991	2833	2837	2841	rVV	73987	113562	0.92%	0.141%
145	19.031	2841	2844	2845	rVV	33427	36319	0.29%	0.045%
146	19.070	2845	2851	2862	rVB3	361233	872114	7.05%	1.086%
147	19.201	2864	2874	2878	rVV3	87619	183028	1.48%	0.228%
148	19.235	2878	2880	2885	rVV5	36840	59508	0.48%	0.074%
149	19.297	2885	2891	2897	rVV	214376	374700	3.03%	0.466%
150	19.377	2901	2905	2912	rVB6	46710	86545	0.70%	0.108%
151	19.462	2912	2920	2923	rBV4	61674	112563	0.91%	0.140%
152	19.508	2923	2928	2932	rVV2	94736	166593	1.35%	0.207%
153	19.559	2932	2937	2941	rVV2	127622	230977	1.87%	0.288%
154	19.593	2941	2943	2945	rVV3	56982	69849	0.56%	0.087%
155	19.627	2945	2949	2961	rVB3	136351	309864	2.51%	0.386%
156	19.718	2961	2965	2969	rBV6	22011	36469	0.29%	0.045%
157	19.808	2969	2981	2988	rBV	395630	584718	4.73%	0.728%
158	19.882	2988	2994	3005	rBV8	34603	118890	0.96%	0.148%
159	19.979	3005	3011	3016	rVB	282763	385158	3.12%	0.479%
160	20.053	3018	3024	3030	rBV3	42804	106842	0.86%	0.133%
161	20.109	3032	3034	3037	rBV4	14238	15986	0.13%	0.020%
162	20.212	3044	3052	3059	rVB3	65874	172507	1.40%	0.215%
163	20.274	3059	3063	3067	rVB4	45963	62912	0.51%	0.078%
164	20.342	3067	3075	3080	rBV3	149839	300041	2.43%	0.374%
165	20.393	3080	3084	3088	rVB	30199	35642	0.29%	0.044%
166	20.456	3088	3095	3098	rBV2	81012	130222	1.05%	0.162%
167	20.490	3098	3101	3103	rVB3	27169	27408	0.22%	0.034%
168	20.524	3103	3107	3111	rBV4	21604	30134	0.24%	0.038%
169	20.575	3111	3116	3118	rBV2	105991	161805	1.31%	0.201%
170	20.643	3124	3128	3131	rBV2	69341	84278	0.68%	0.105%
171	20.683	3131	3135	3139	rVV	78981	96077	0.78%	0.120%
172	20.757	3141	3148	3155	rVV3	88511	153176	1.24%	0.191%
173	20.842	3157	3163	3168	rVV6	28441	63934	0.52%	0.080%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:12
Operator : SC
Sample : P2403661-011 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

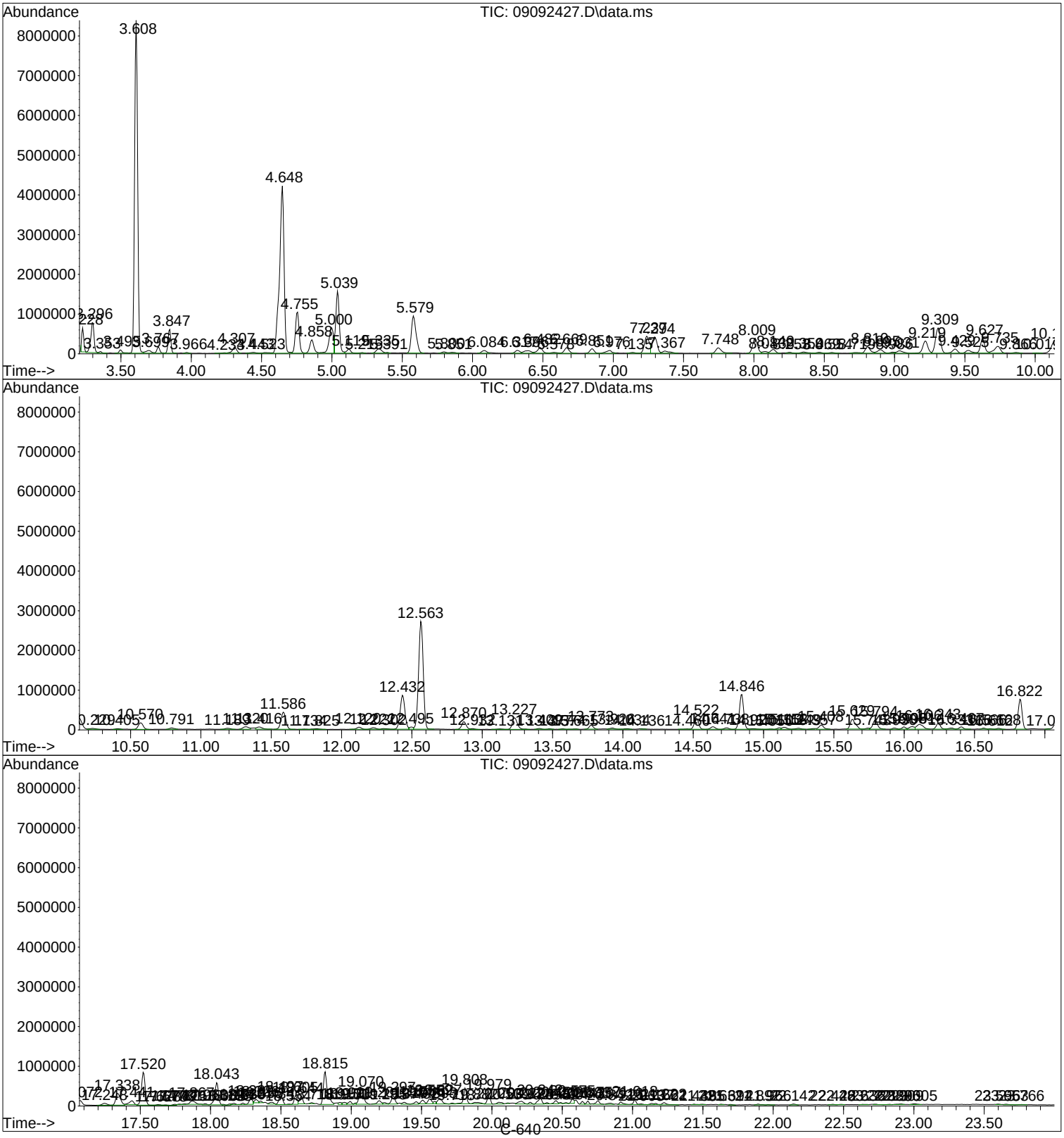
174	20.916	3172	3176	3186	rVB3	65975	110430	0.89%	0.137%
175	21.018	3187	3194	3199	rVV	118973	160384	1.30%	0.200%
176	21.063	3199	3202	3209	rVB7	18861	32514	0.26%	0.040%
177	21.137	3209	3215	3218	rBV4	30104	58426	0.47%	0.073%
178	21.166	3218	3220	3225	rVV2	30149	35663	0.29%	0.044%
179	21.222	3225	3230	3249	rVB5	53221	120920	0.98%	0.151%
180	21.438	3264	3268	3274	rBV6	12921	19739	0.16%	0.025%
181	21.495	3274	3278	3283	rVB7	10744	19267	0.16%	0.024%
182	21.631	3298	3302	3306	rBV5	11246	14959	0.12%	0.019%
183	21.694	3311	3313	3320	rVB6	12118	19530	0.16%	0.024%
184	21.892	3343	3348	3358	rVB10	18074	38005	0.31%	0.047%
185	21.966	3358	3361	3369	rBV9	7887	14782	0.12%	0.018%
186	22.142	3387	3392	3399	rVB3	21118	35705	0.29%	0.044%
187	22.426	3435	3442	3447	rBV9	10571	22155	0.18%	0.028%
188	22.483	3447	3452	3457	rBV6	9039	17027	0.14%	0.021%
189	22.636	3474	3479	3487	rBV9	7927	21958	0.18%	0.027%
190	22.721	3492	3494	3507	rVB8	14132	29411	0.24%	0.037%
191	22.829	3507	3513	3516	rBV7	10183	19604	0.16%	0.024%
192	22.886	3517	3523	3524	rVV6	8624	15022	0.12%	0.019%
193	22.909	3524	3527	3532	rVB7	12602	20261	0.16%	0.025%
194	23.005	3537	3544	3553	rBV4	19291	54107	0.44%	0.067%
195	23.596	3645	3648	3653	rVB6	11502	18460	0.15%	0.023%
196	23.653	3655	3658	3669	rVB9	14537	31485	0.25%	0.039%
197	23.766	3669	3678	3685	rBV9	7139	23450	0.19%	0.029%

Sum of corrected areas: 80329119

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:12
Operator : SC
Sample : P2403661-011 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092427.D
Acq On : 9 Sep 2024 23:122
Operator : SCC
Sample : P2403661-011 (400mL))
Misc : S37-060624022
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TR 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:51:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140725	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	614541	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	188738	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	351015	13.330	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.43	98	714385	10.790	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.32%				
73) Bromofluorobenzene (SS3)	16.82	174	252620	11.408	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	3.28	42	85161	4.006	ng	#	75
3) Dichlorodifluoromethan...	3.36	85	17207m	0.504	ng		
4) Chloromethane	3.51	50	2510	0.094	ng		78
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	530	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	439	N.D.			
8) Bromomethane	4.02	94	127	N.D.			
9) Chloroethane	4.07	64	121	N.D.			
10) Ethanol	4.30	45	60560	3.965	ng		91
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	4493	0.385	ng		94
13) Acetone	4.62	58	159216	12.355	ng		87
14) Trichlorofluoromethane	4.76	101	11509312	353.173	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	2940980	57.963	ng		93
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	1071	0.071	ng	#	62
20) 3-Chloro-1-propene (Al...	5.40	41	1368	N.D.			
21) Trichlorotrifluoroethane	5.58	151	4788540	370.900	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.32	73	245	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	11014	1.205	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	157096	25.645	ng		90
31) n-Hexane	7.31	57	5576	0.200	ng	#	83
32) Chloroform	7.36	83	67561	2.410	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.62	61	15463	No Calib		#	
40) 1-Butanol	8.80	56	21993	No Calib		#	
41) Benzene	8.90	78	16817	0.292	ng		100
42) Carbon Tetrachloride	9.07	117	458	N.D.			
43) Cyclohexane	9.21	84	2523	0.130	ng		89
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	1292	0.060	ng		100
47) Trichloroethene	10.14	130	7342	0.515	ng		97
48) 1,4-Dioxane	10.13	88	244	N.D.			
49) 2,2,4-Trimethylpentane...	10.22	57	1421	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:51:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

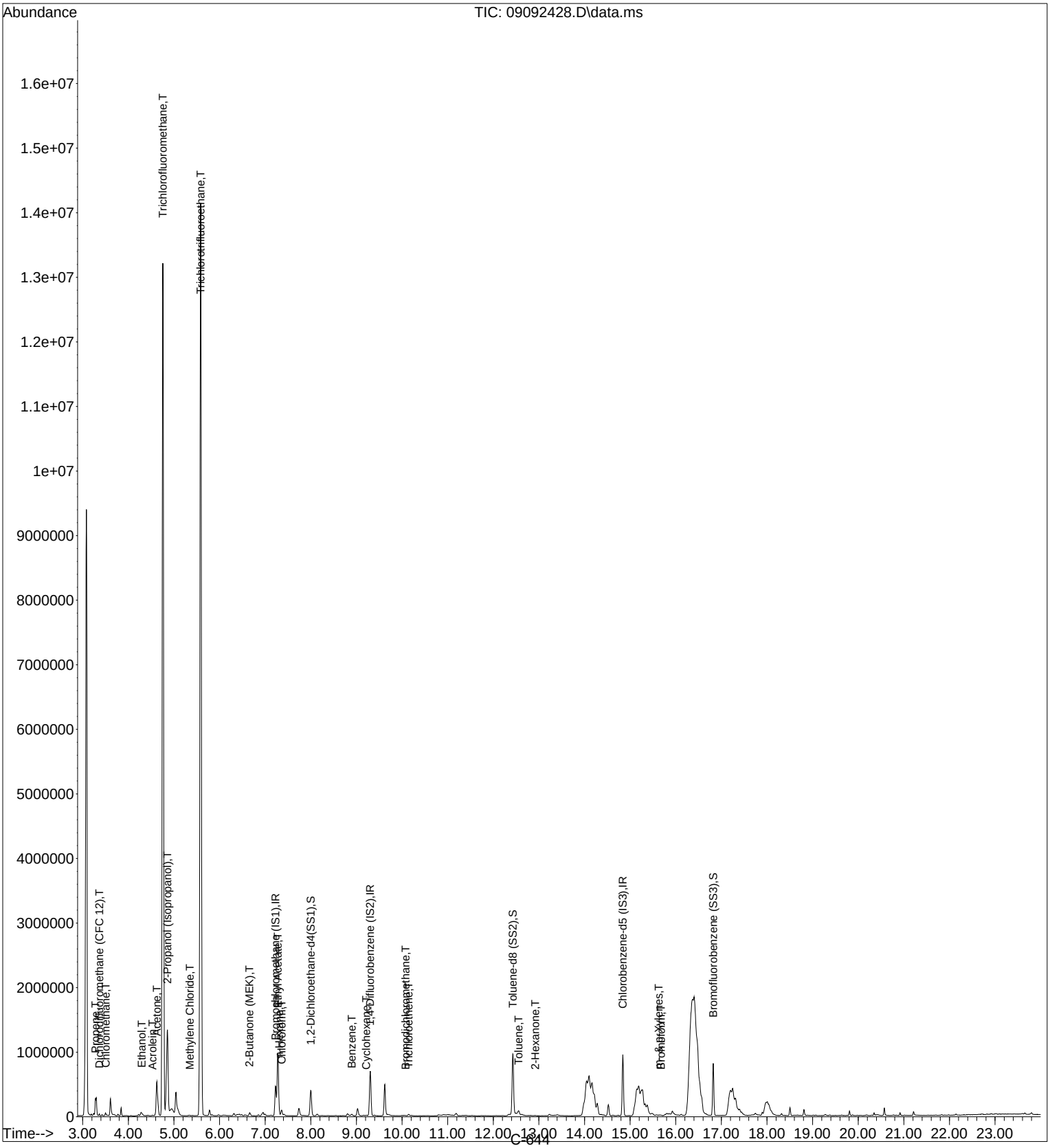
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	548	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	12.18	97	131	N.D.	
58) Toluene	12.56	91	37334	0.522 ng	99
59) 2-Hexanone	12.92	43	6345	0.143 ng	72
60) Dibromochloromethane	13.07	129	583	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D. d	
63) n-Octane	13.93	57	496	N.D.	
64) Tetrachloroethene	14.06	166	472	N.D.	
65) Chlorobenzene	14.90	112	279	N.D.	
66) Ethylbenzene	15.41	91	3281	N.D.	
67) m- & p-Xylenes	15.63	91	3675	0.055 ng	84
68) Bromoform	15.67	173	2641	0.146 ng	93
69) Styrene	16.09	104	648	N.D.	
70) o-Xylene	16.24	91	2542	N.D.	
71) n-Nonane	16.62	43	794	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	310	N.D.	
75) alpha-Pinene	17.51	93	262	N.D.	
76) n-Propylbenzene	17.67	91	698	N.D.	
77) 3-Ethyltoluene	17.03	105	310	No Calib	#
78) 4-Ethyltoluene	17.86	105	389	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	199	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	310	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	455	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	327	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	254	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	310	N.D.	
87) sec-Butylbenzene	18.74	105	334	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1024	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	310	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	278	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.04	58	207	No Calib	#
94) 1,2,4-Trichlorobenzene	20.83	180	575	N.D.	
95) Naphthalene	20.93	128	816	N.D.	
96) n-Dodecane	19.01	58	101	No Calib	#
97) Hexachlorobutadiene	21.30	225	290	N.D.	
98) Cyclohexanone	15.25	55	229	No Calib	#
99) tert-Butylbenzene	18.50	119	2816	N.D.	
100) n-Butylbenzene	19.38	91	463	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:51:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 10:51:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

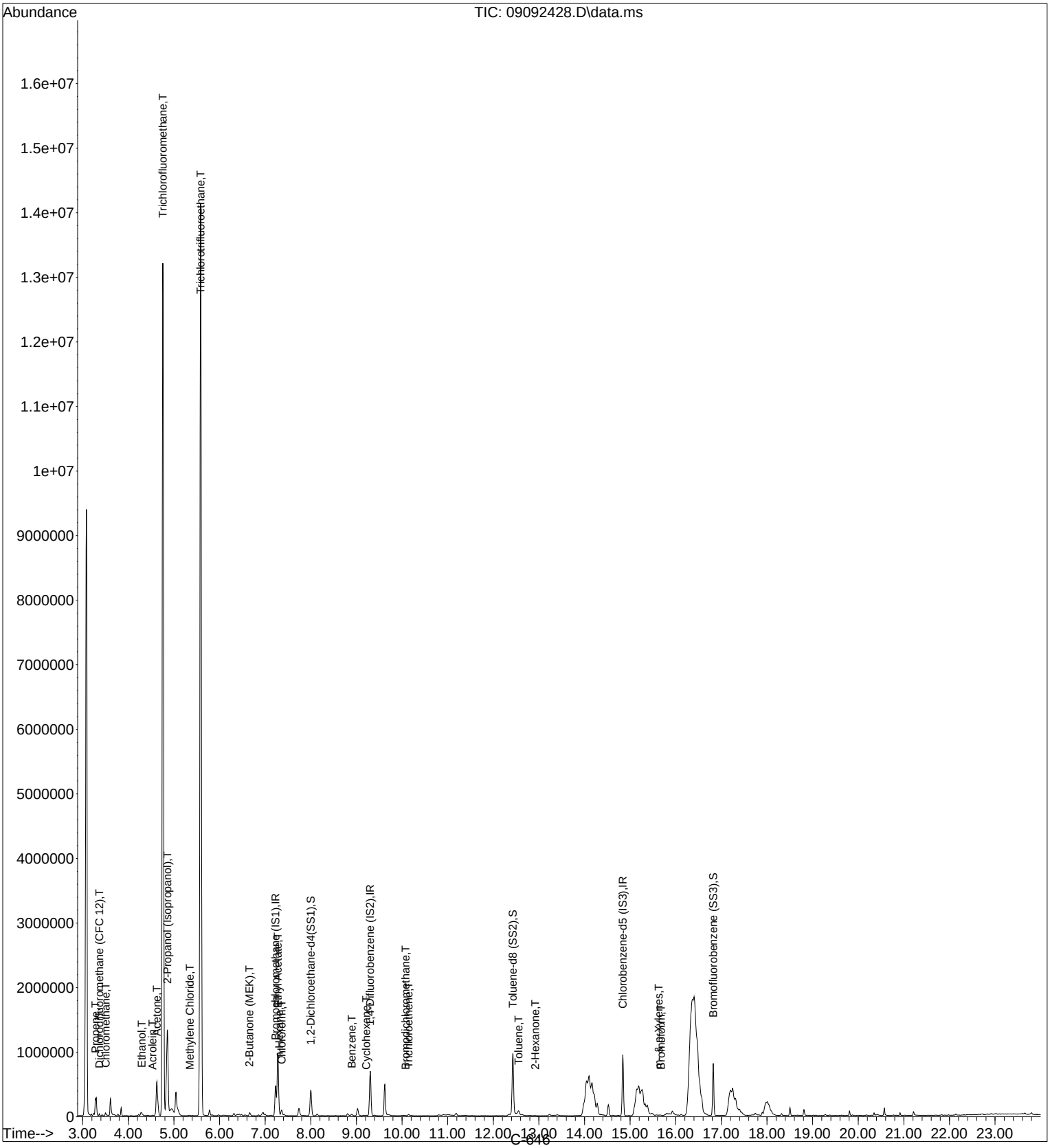
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140725	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	614541	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	188738	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	351015	13.330	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.43	98	714385	10.790	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.32%				
73) Bromofluorobenzene (SS3)	16.82	174	252620	11.408	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
Target Compounds							Qvalue
2) Propene	3.28	42	85161	4.006	ng	#	75
3) Dichlorodifluoromethan...	3.36	85	17207m	0.504	ng		
4) Chloromethane	3.51	50	2510	0.094	ng		78
10) Ethanol	4.30	45	60560	3.965	ng		91
12) Acrolein	4.53	56	4493	0.385	ng		94
13) Acetone	4.62	58	159216	12.355	ng		87
14) Trichlorofluoromethane	4.76	101	11509312	353.173	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	2940980	57.963	ng		93
19) Methylene Chloride	5.35	84	1071	0.071	ng	#	62
21) Trichlorotrifluoroethane	5.58	151	4788540	370.900	ng		94
27) 2-Butanone (MEK)	6.66	72	11014	1.205	ng	#	71
30) Ethyl Acetate	7.28	61	157096	25.645	ng		90
31) n-Hexane	7.31	57	5576	0.200	ng	#	83
32) Chloroform	7.36	83	67561	2.410	ng		99
41) Benzene	8.90	78	16817	0.292	ng		100
43) Cyclohexane	9.21	84	2523	0.130	ng		89
46) Bromodichloromethane	10.08	83	1292	0.060	ng		100
47) Trichloroethene	10.14	130	7342	0.515	ng		97
58) Toluene	12.56	91	37334	0.522	ng		99
59) 2-Hexanone	12.92	43	6345	0.143	ng		72
67) m- & p-Xylenes	15.63	91	3675	0.055	ng		84
68) Bromoform	15.67	173	2641	0.146	ng		93

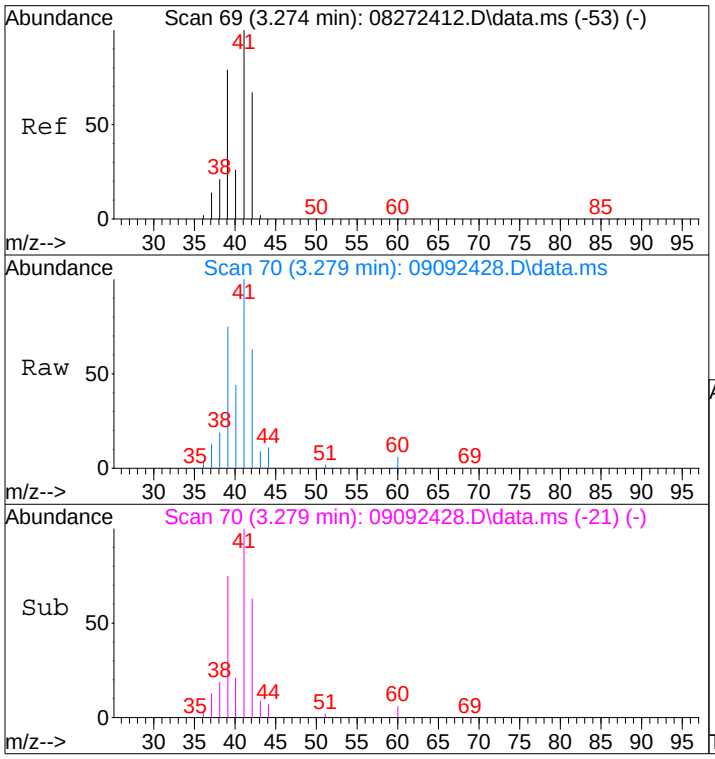
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:51:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

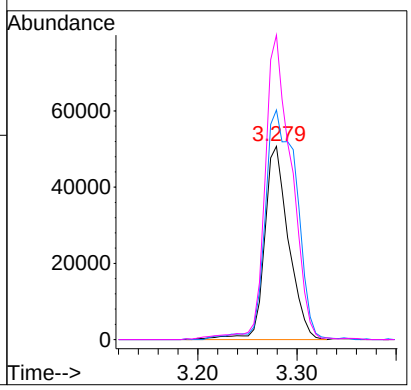


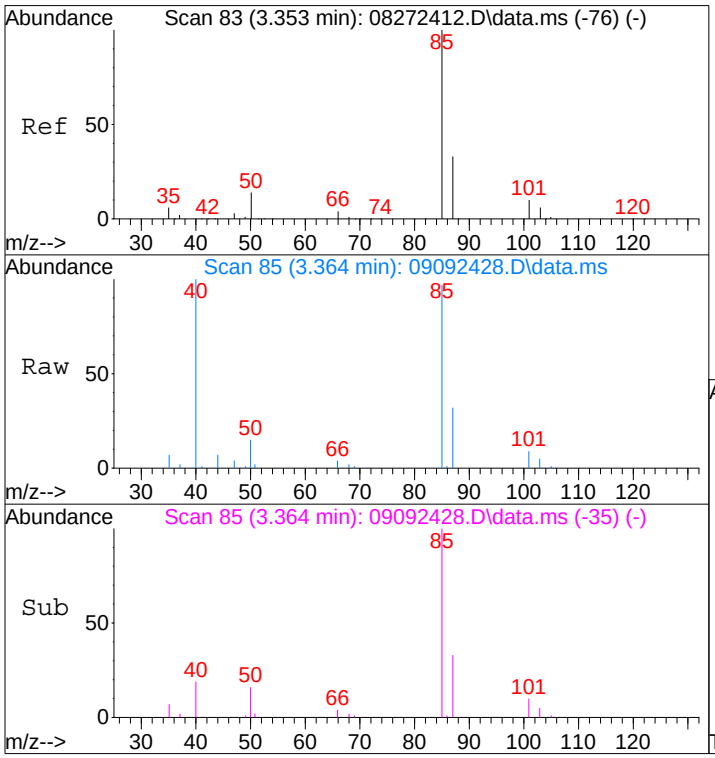


#2
Propene
Concen: 4.01 ng
RT: 3.28 min Scan# 70
Delta R.T. 0.030 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 42 Resp: 85161

Ion	Ratio	Lower	Upper
42	100		
39	155.6	98.2	138.2#
41	172.8	130.1	170.1#

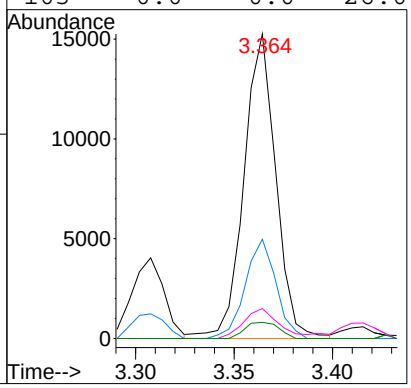


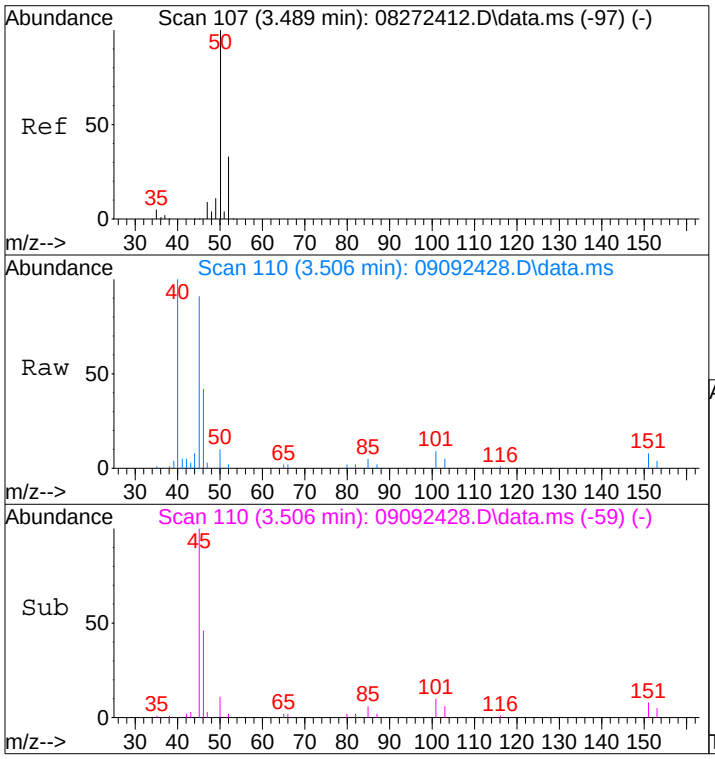


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.50 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.037 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 85 Resp: 17207

Ion	Ratio	Lower	Upper
85	100		
87	8.4	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

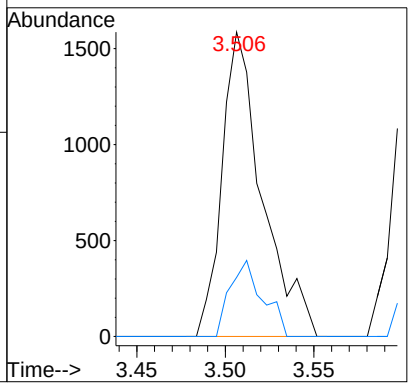


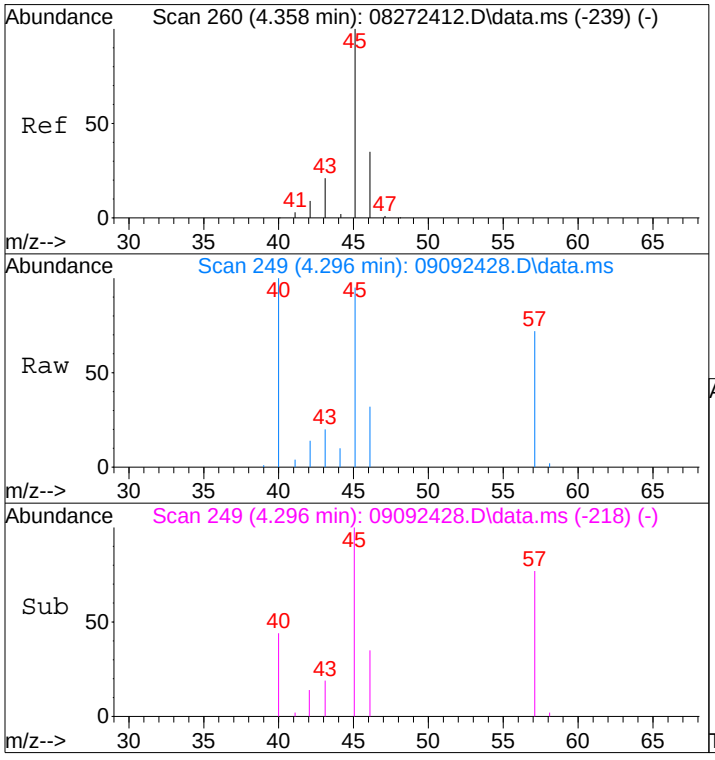


#4
Chloromethane
Concen: 0.09 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.038 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 50 Resp: 2510

Ion	Ratio	Lower	Upper
50	100		
52	20.3	12.4	52.4

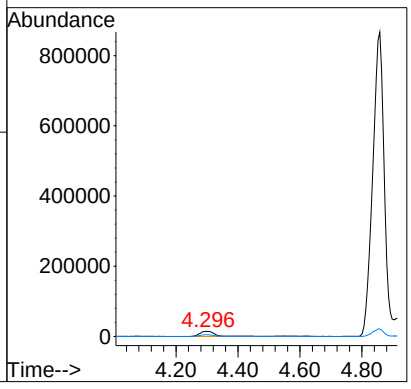


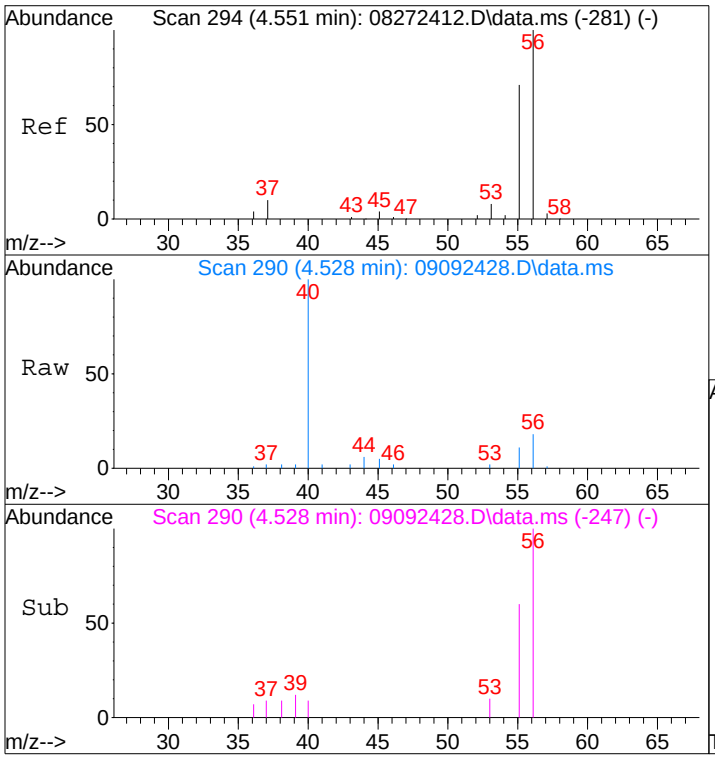


#10
Ethanol
Concen: 3.97 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.077 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 45 Resp: 60560

Ion	Ratio	Lower	Upper
45	100		
46	29.2	14.2	54.2

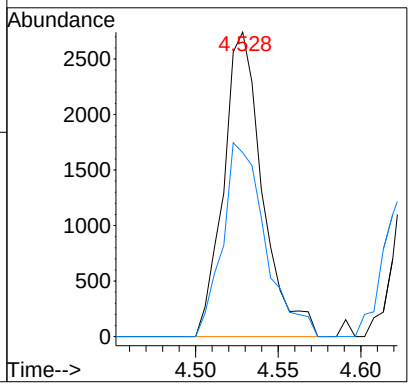


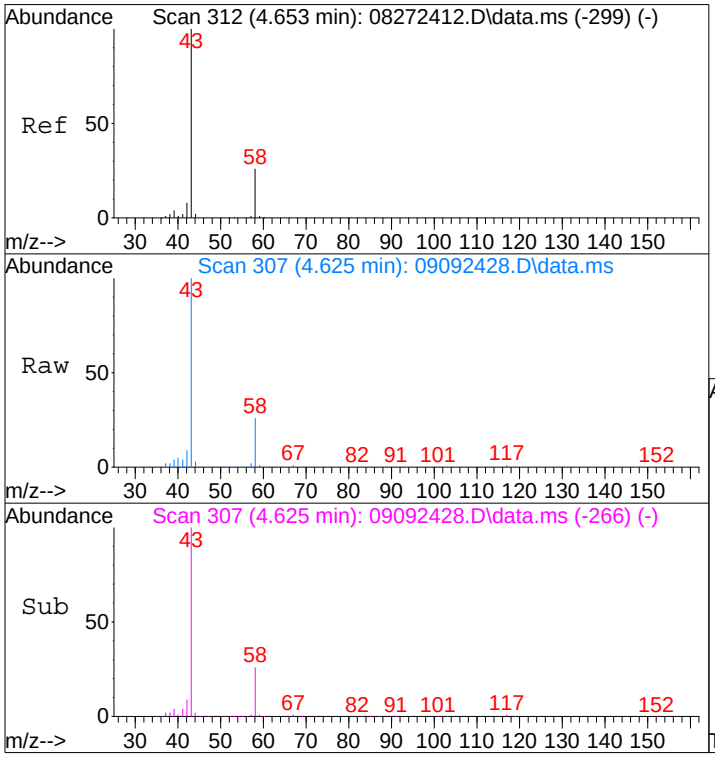


#12
Acrolein
Concen: 0.39 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.007 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 56 Resp: 4493

Ion	Ratio	Lower	Upper
56	100		
55	69.6	54.7	94.7

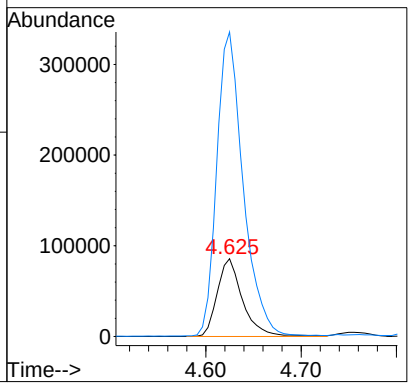


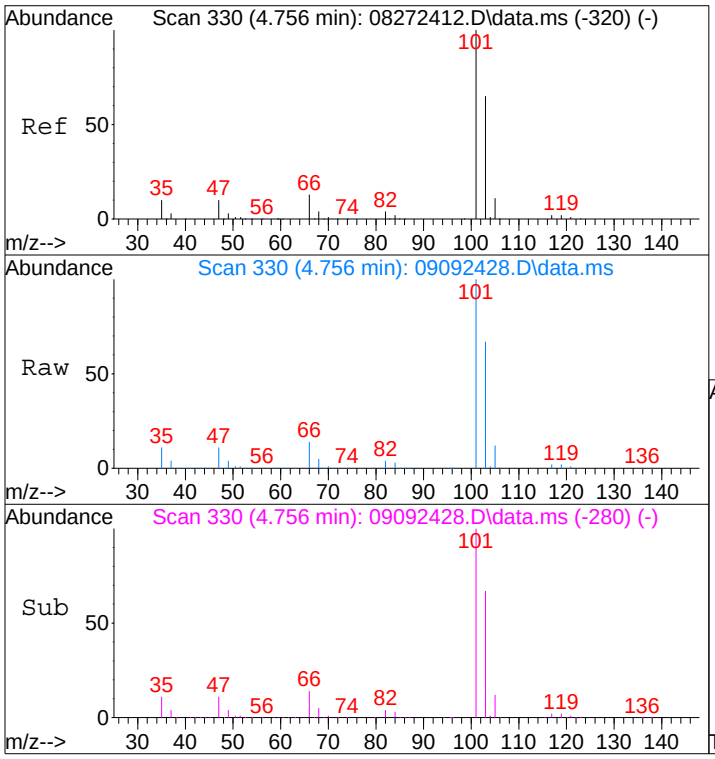


#13
Acetone
Concen: 12.35 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.017 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 58 Resp: 159216

Ion	Ratio	Lower	Upper
58	100		
43	406.9	347.3	407.3

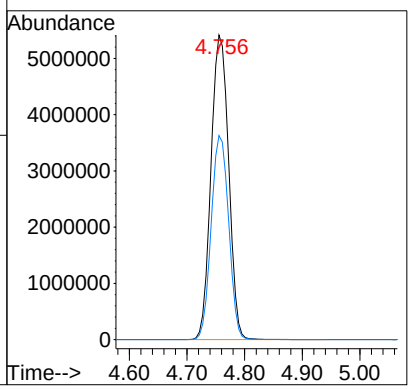


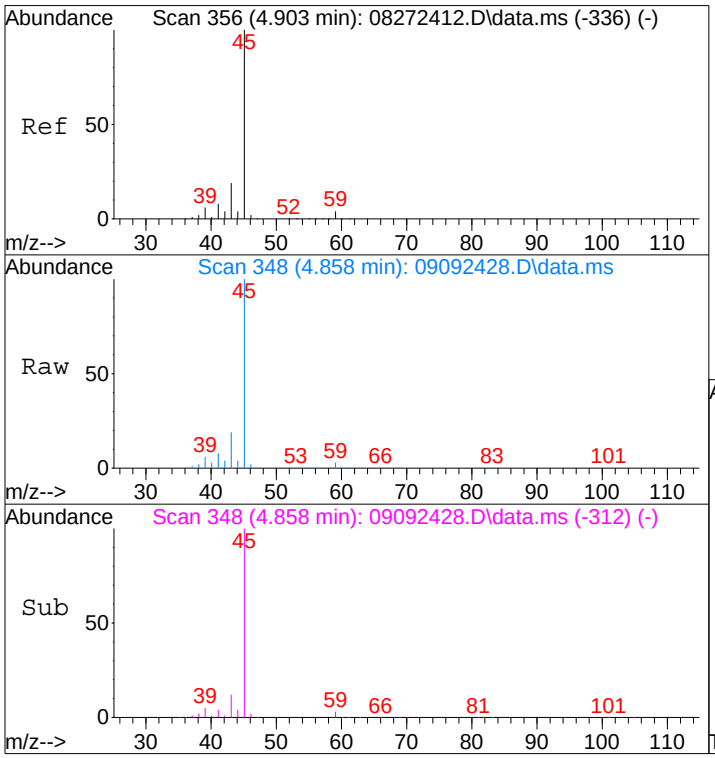


#14
Trichlorofluoromethane
Concen: 353.17 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion:101 Resp:11509312

Ion	Ratio	Lower	Upper
101	100		
103	66.4	44.9	84.9

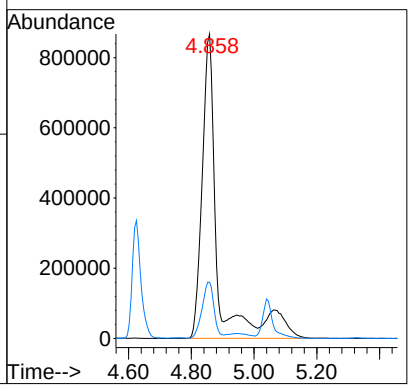


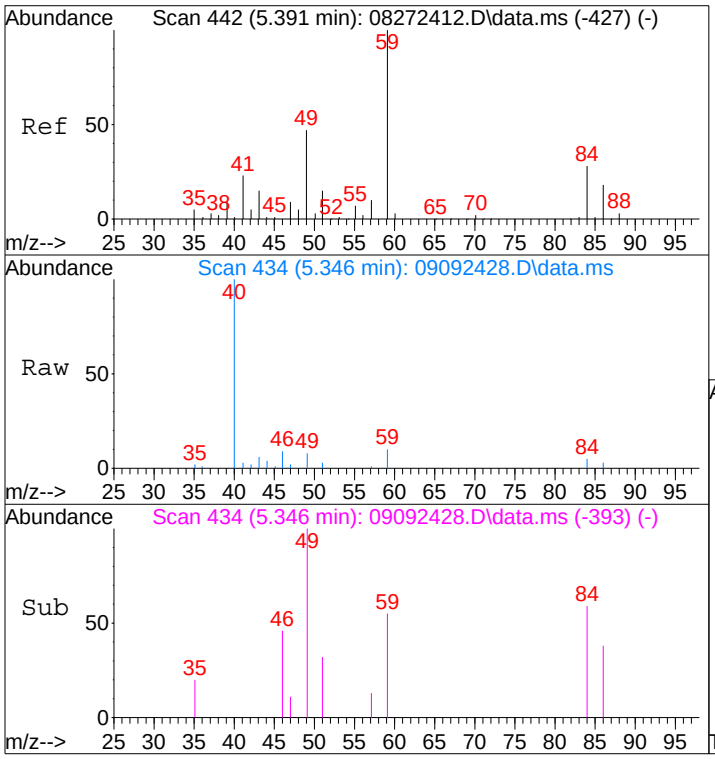


#15
2-Propanol (Isopropanol)
Concen: 57.96 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.048 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 45 Resp: 2940980

Ion	Ratio	Lower	Upper
45	100		
43	16.6	0.0	40.0

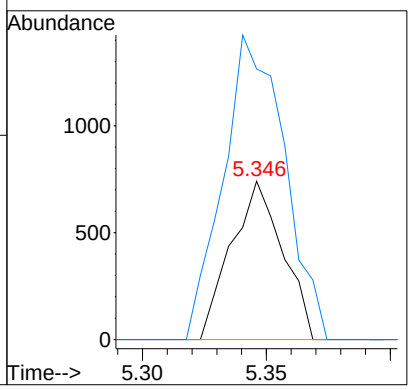


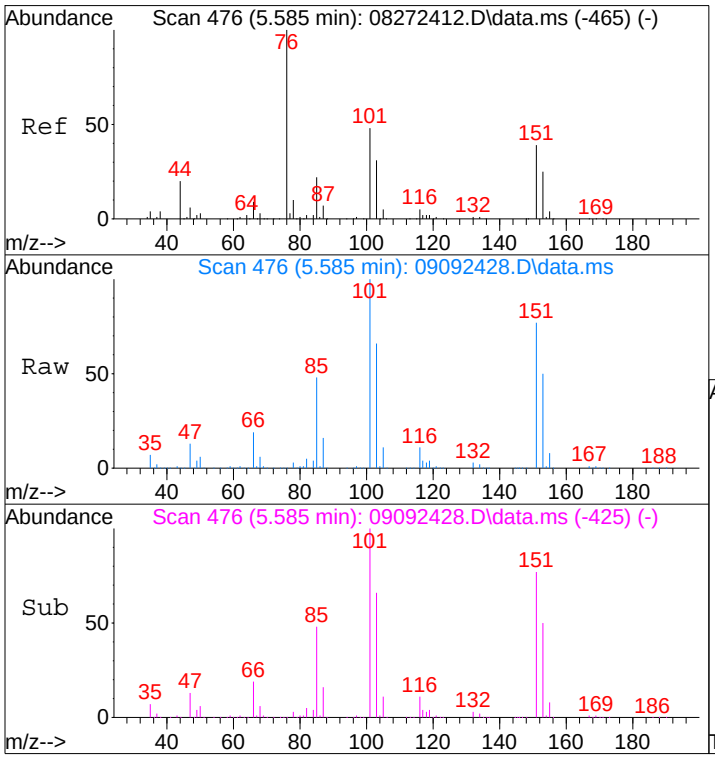


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.015 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 84 Resp: 1071

Ion	Ratio	Lower	Upper
84	100		
49	229.0	151.1	201.1#

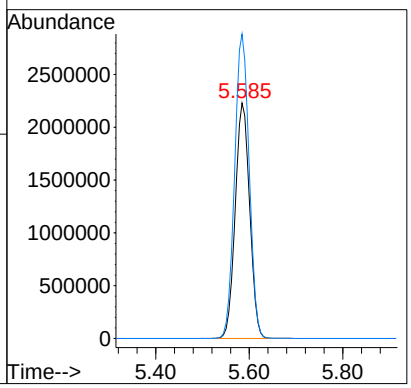


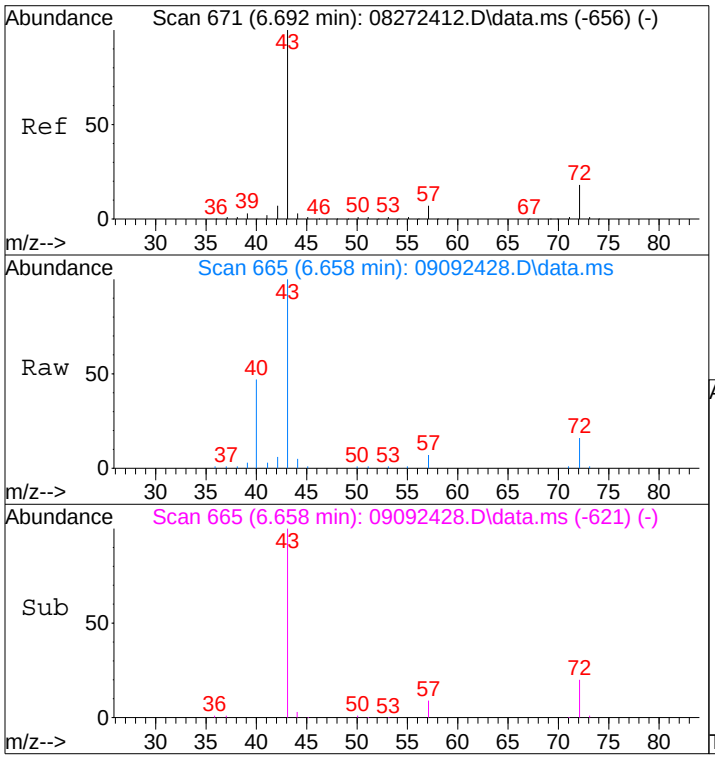


#21
Trichlorotrifluoroethane
Concen: 370.90 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion:151 Resp: 4788540

Ion	Ratio	Lower	Upper
151	100		
101	130.4	103.4	143.4

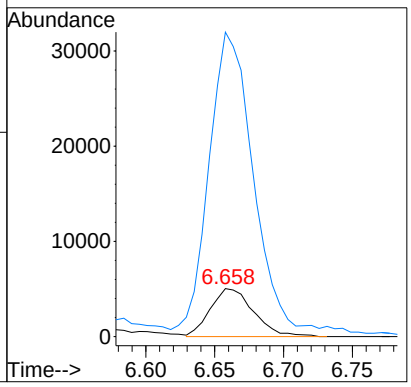


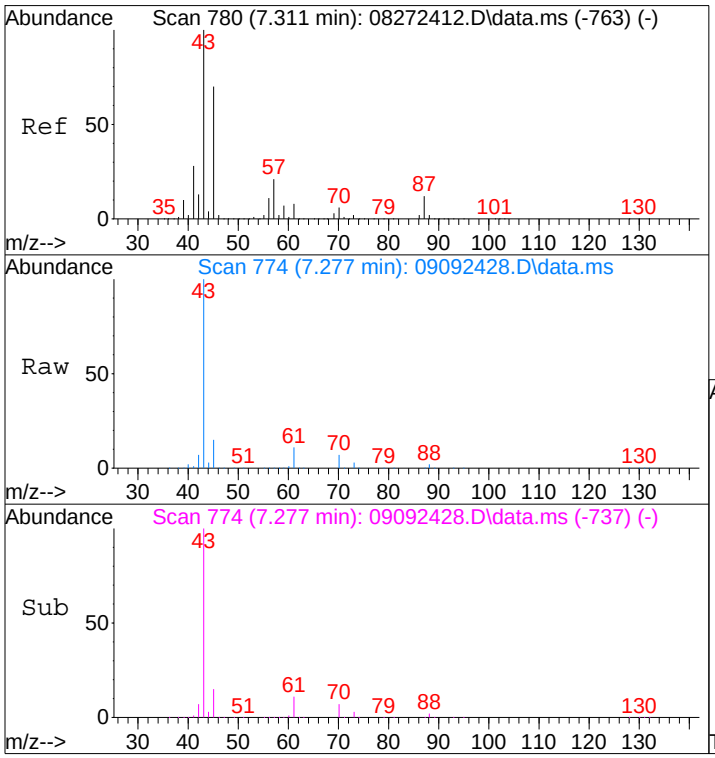


#27
2-Butanone (MEK)
Concen: 1.20 ng
RT: 6.66 min Scan# 665
Delta R.T. -0.001 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 72 Resp: 11014

Ion	Ratio	Lower	Upper
72	100		
43	656.2	548.0	588.0#

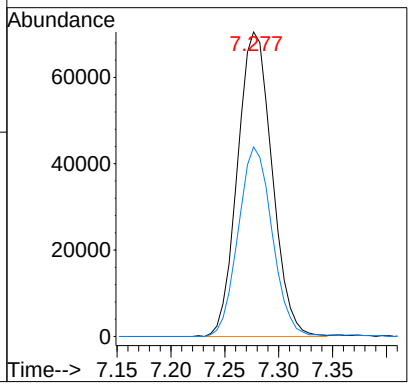


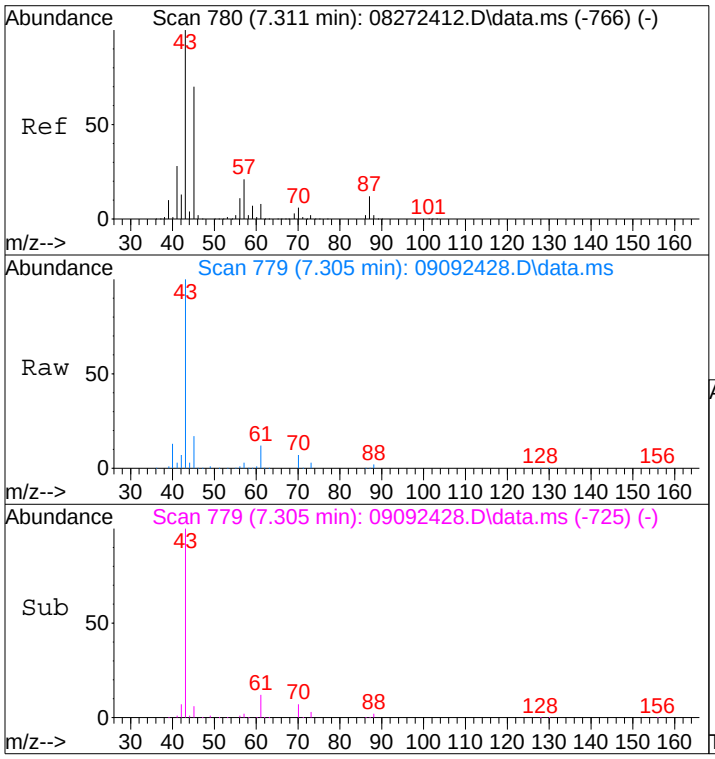


#30
Ethyl Acetate
Concen: 25.65 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.012 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 61 Resp: 157096

Ion	Ratio	Lower	Upper
61	100		
70	61.8	49.9	89.9

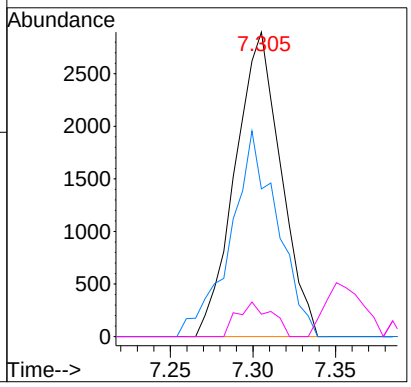


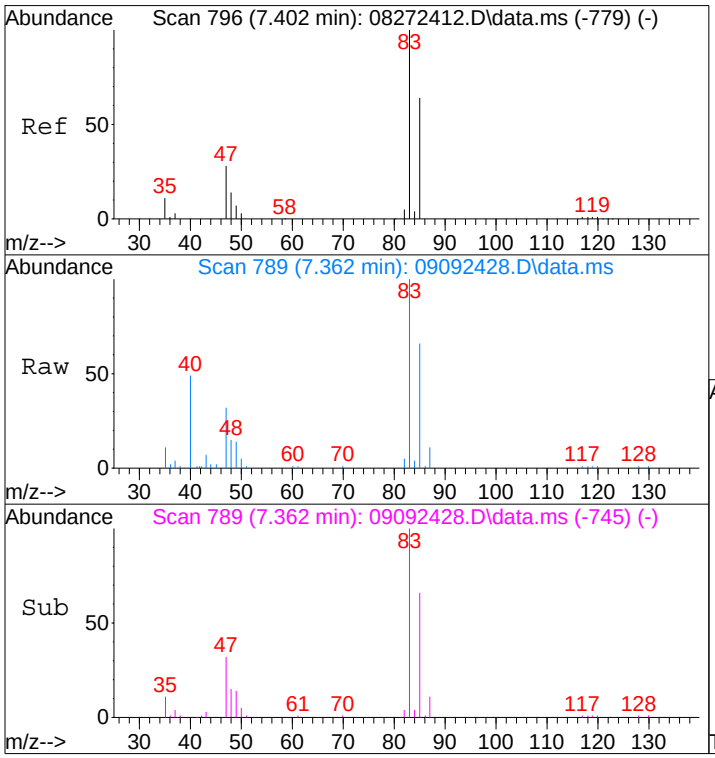


#31
n-Hexane
Concen: 0.20 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 57 Resp: 5576

Ion	Ratio	Lower	Upper
57	100		
56	69.1	44.2	66.2#
86	8.5	9.3	13.9#

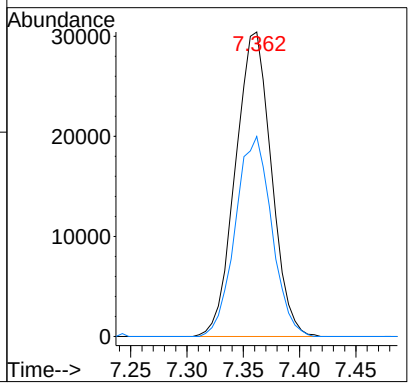


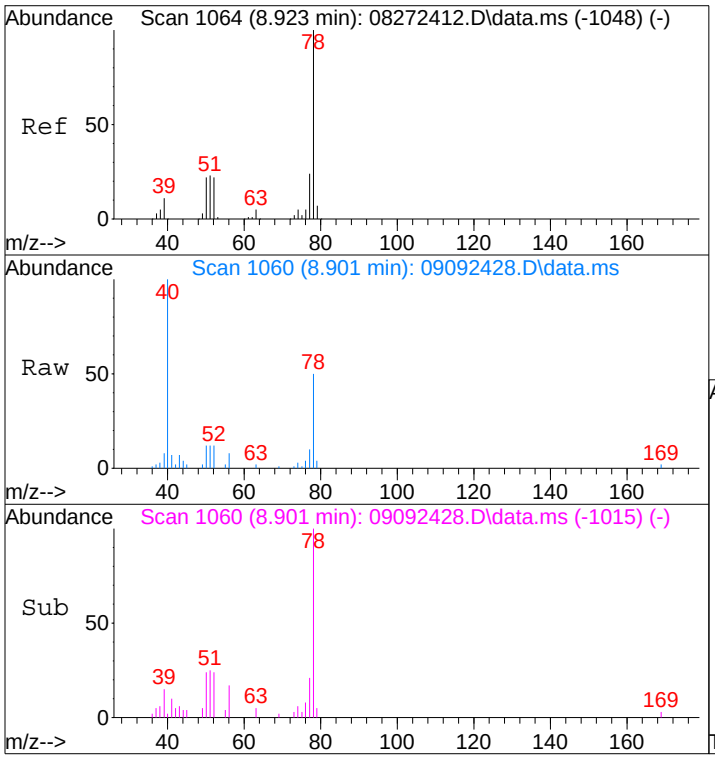


#32
Chloroform
Concen: 2.41 ng
RT: 7.36 min Scan# 789
Delta R.T. 0.001 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 83 Resp: 67561

Ion	Ratio	Lower	Upper
83	100		
85	66.5	45.3	85.3

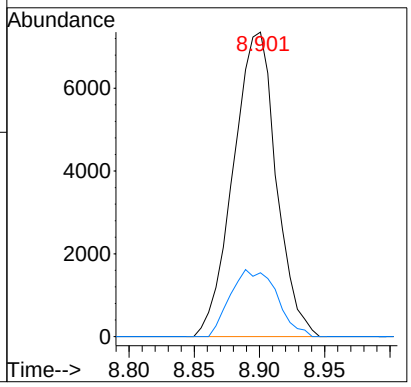


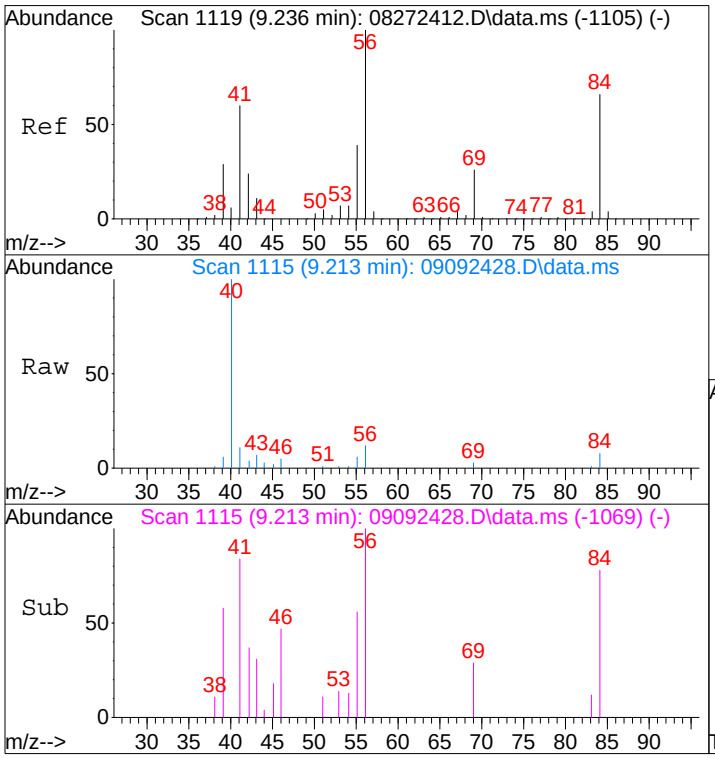


#41
Benzene
Concen: 0.29 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.004 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 78 Resp: 16817

Ion	Ratio	Lower	Upper
78	100		
77	23.9	3.9	43.9

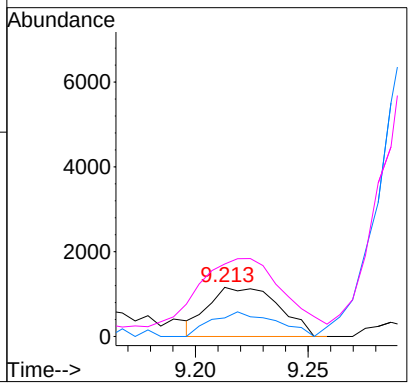


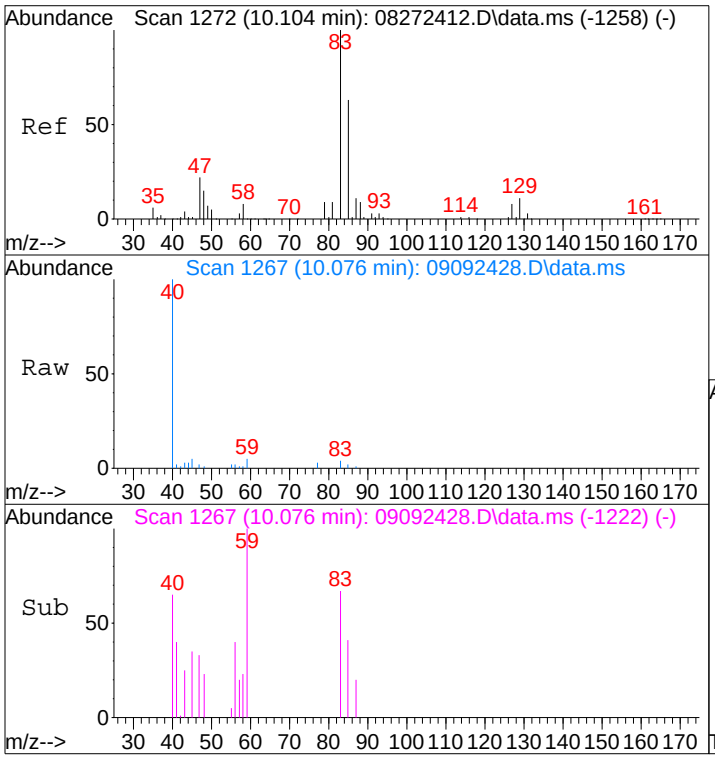


#43
Cyclohexane
Concen: 0.13 ng
RT: 9.21 min Scan# 1115
Delta R.T. 0.011 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 84 Resp: 2523

Ion	Ratio	Lower	Upper
84	100		
69	46.0	18.8	58.8
56	168.3	134.5	174.5

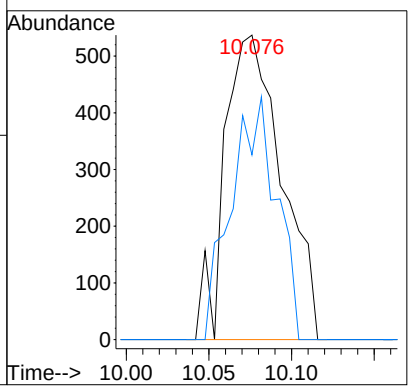


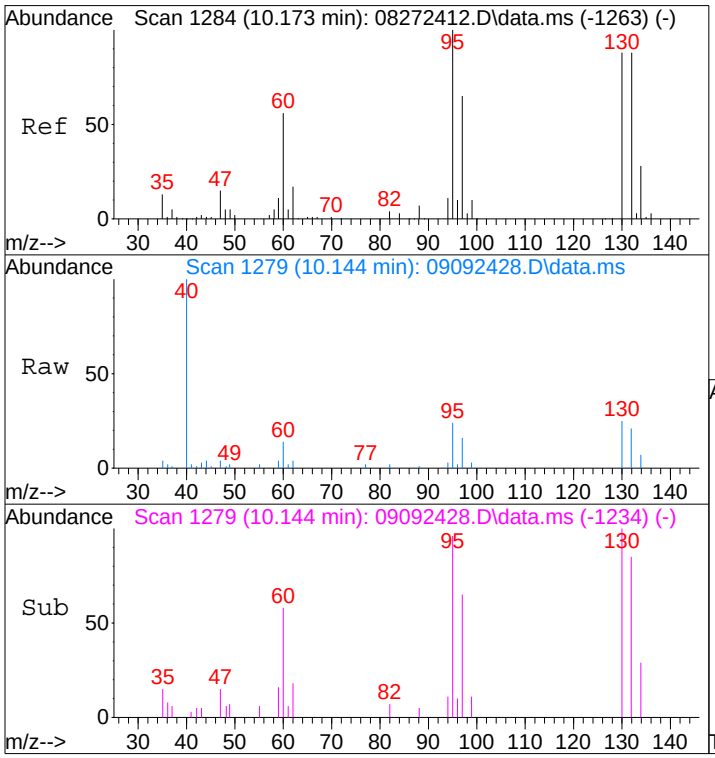


#46
Bromodichloromethane
Concen: 0.06 ng
RT: 10.08 min Scan# 1267
Delta R.T. 0.004 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 83 Resp: 1292

Ion	Ratio	Lower	Upper
83	100		
85	63.5	43.9	83.9

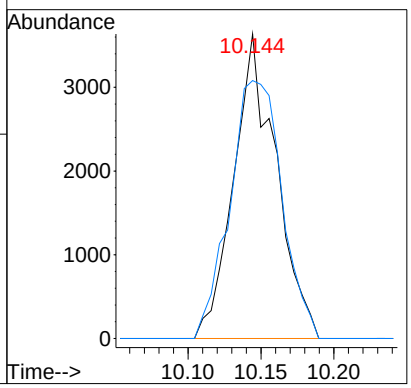


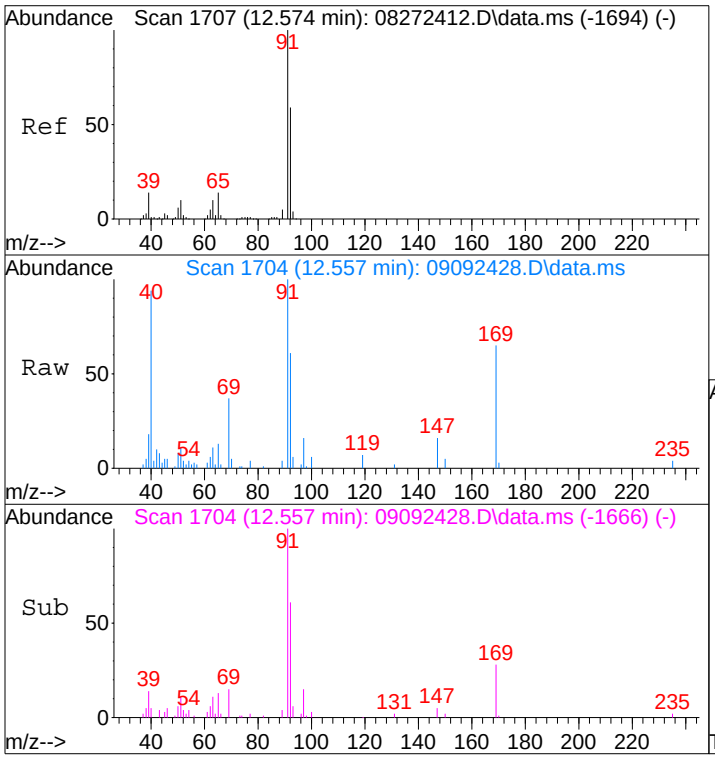


#47
Trichloroethene
Concen: 0.51 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.005 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion:130 Resp: 7342

Ion	Ratio	Lower	Upper
130	100		
132	104.2	80.8	120.8

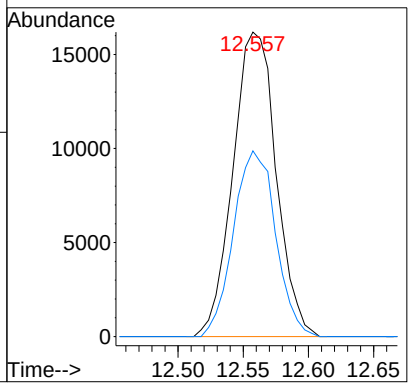


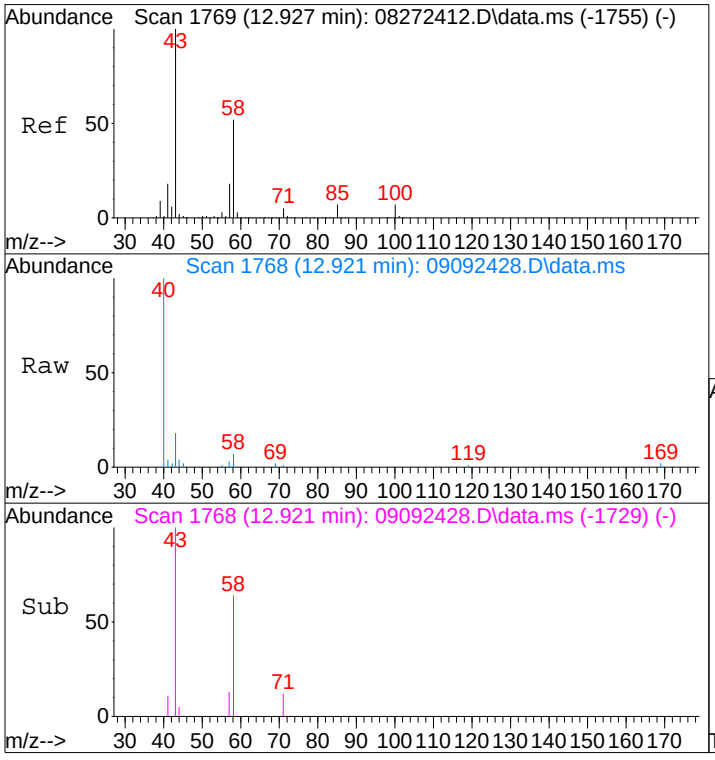


#58
Toluene
Concen: 0.52 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 91 Resp: 37334

Ion	Ratio	Lower	Upper
91	100		
92	59.4	38.5	78.5

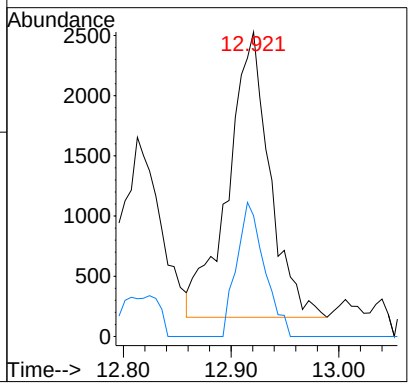


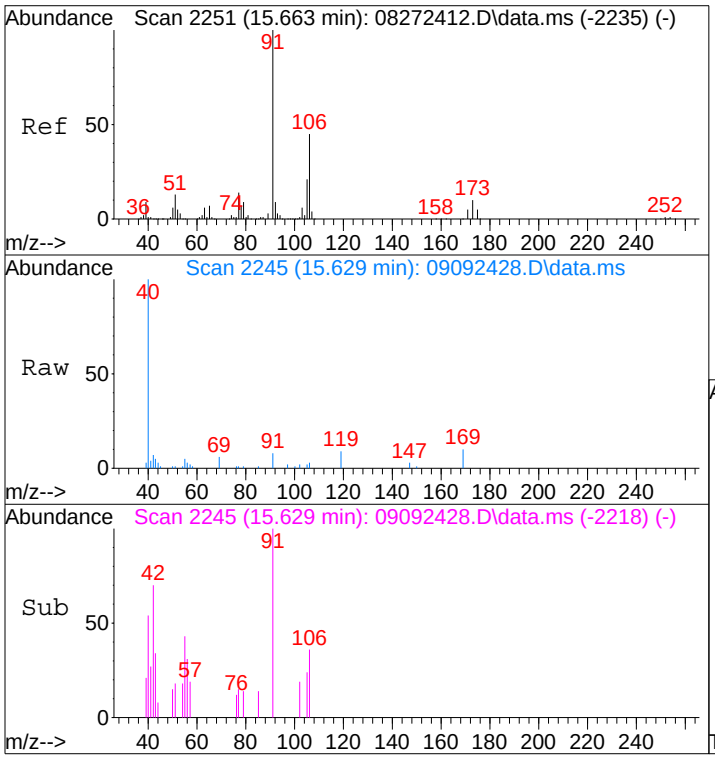


#59
2-Hexanone
Concen: 0.14 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 43 Resp: 6345

Ion	Ratio	Lower	Upper
43	100		
58	31.4	31.1	71.1

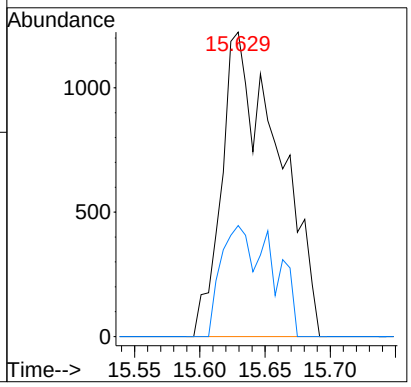


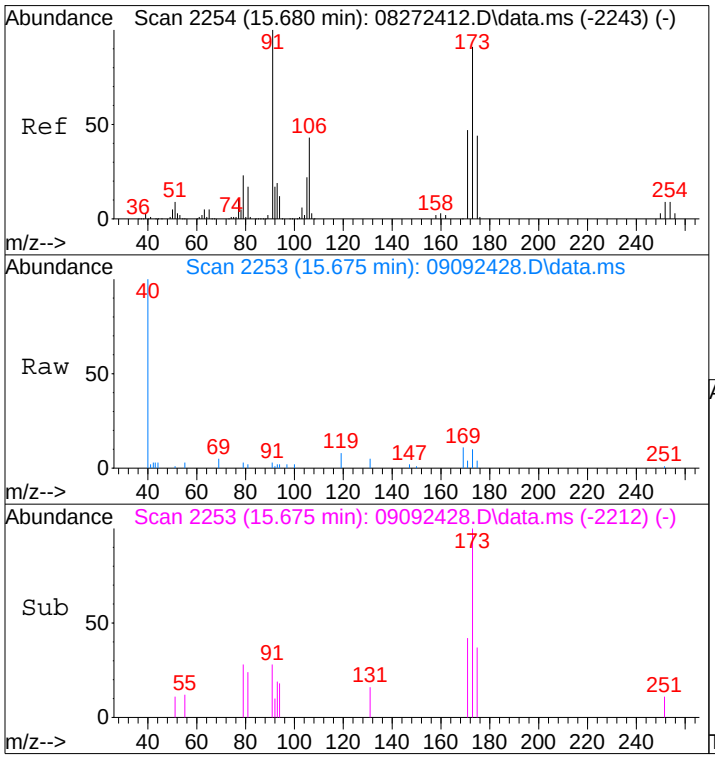


#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion: 91 Resp: 3675

Ion	Ratio	Lower	Upper
91	100		
106	33.3	23.8	63.8

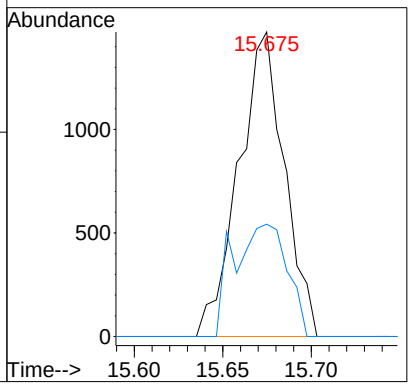




#68
Bromoform
Concen: 0.15 ng
RT: 15.67 min Scan# 2253
Delta R.T. -0.017 min
Lab File: 09092428.D
Acq: 9 Sep 2024 23:45

Tgt Ion:173 Resp: 2641

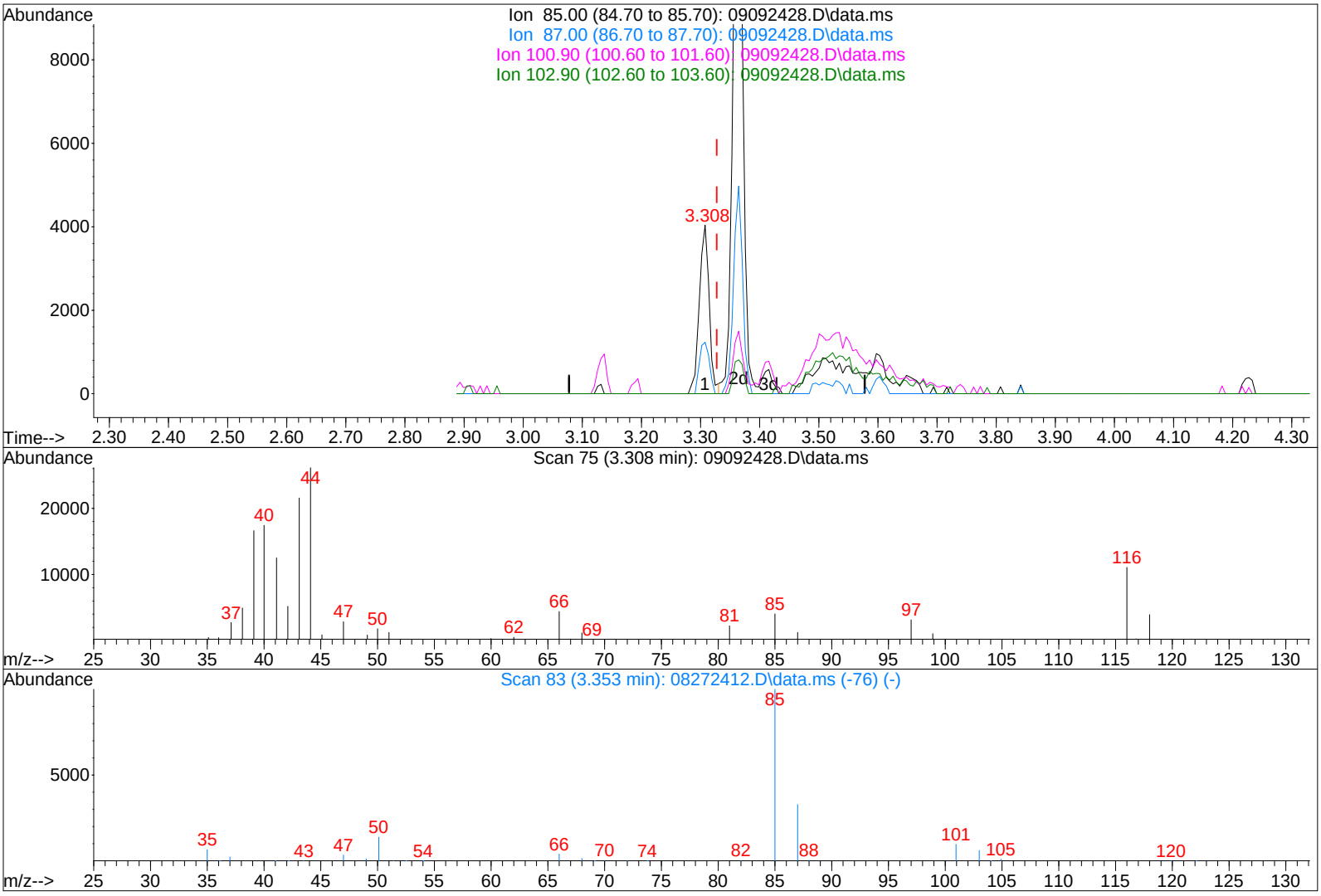
Ion	Ratio	Lower	Upper
173	100		
175	43.5	28.1	68.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:38:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092428.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.020) 0.14ng

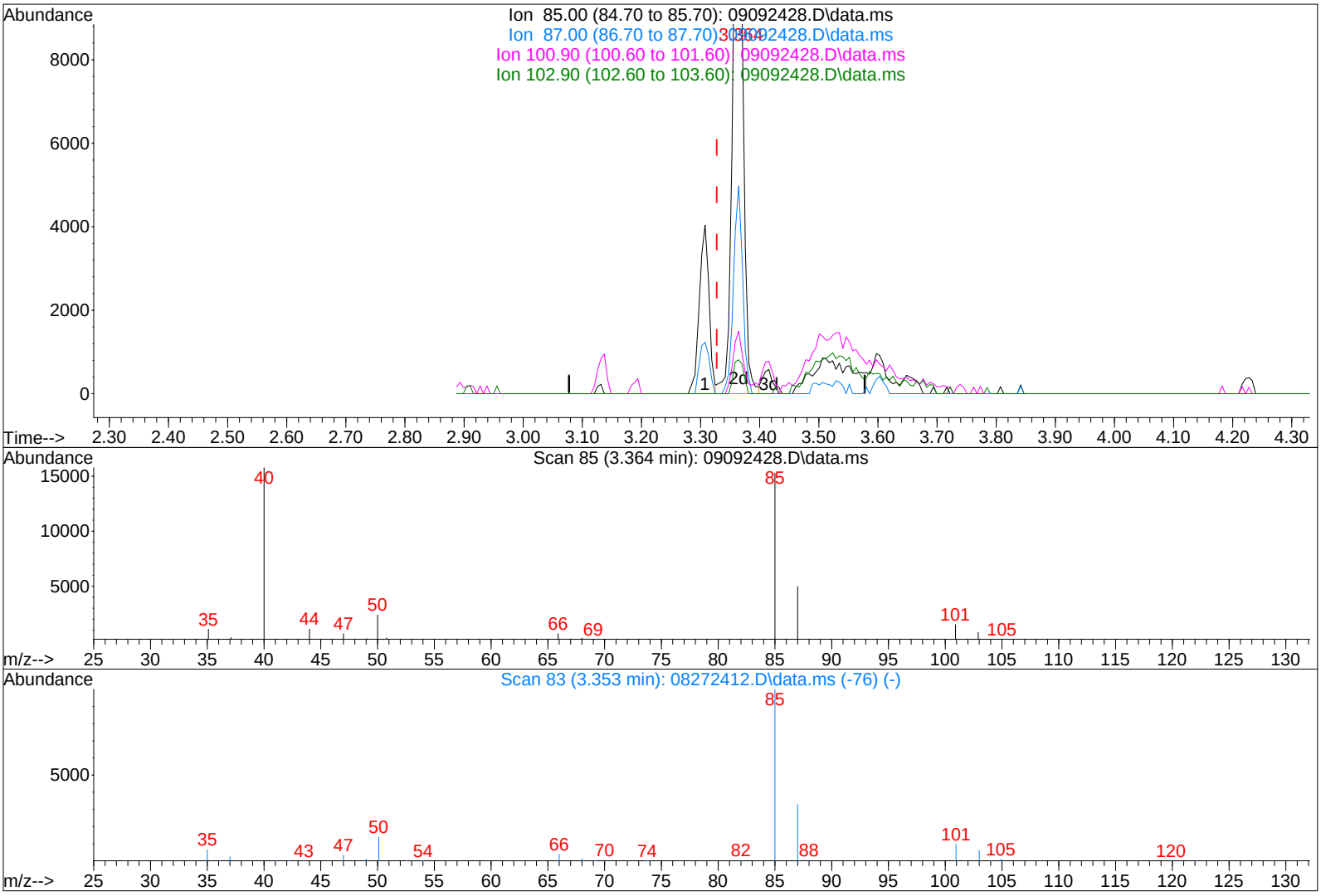
response 4717

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	30.70
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:38:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092428.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.037) 0.50ng m

response 17207

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	8.42#
100.90	9.40	0.00
102.90	6.00	0.00

WP

9/10/24

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:38:11 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

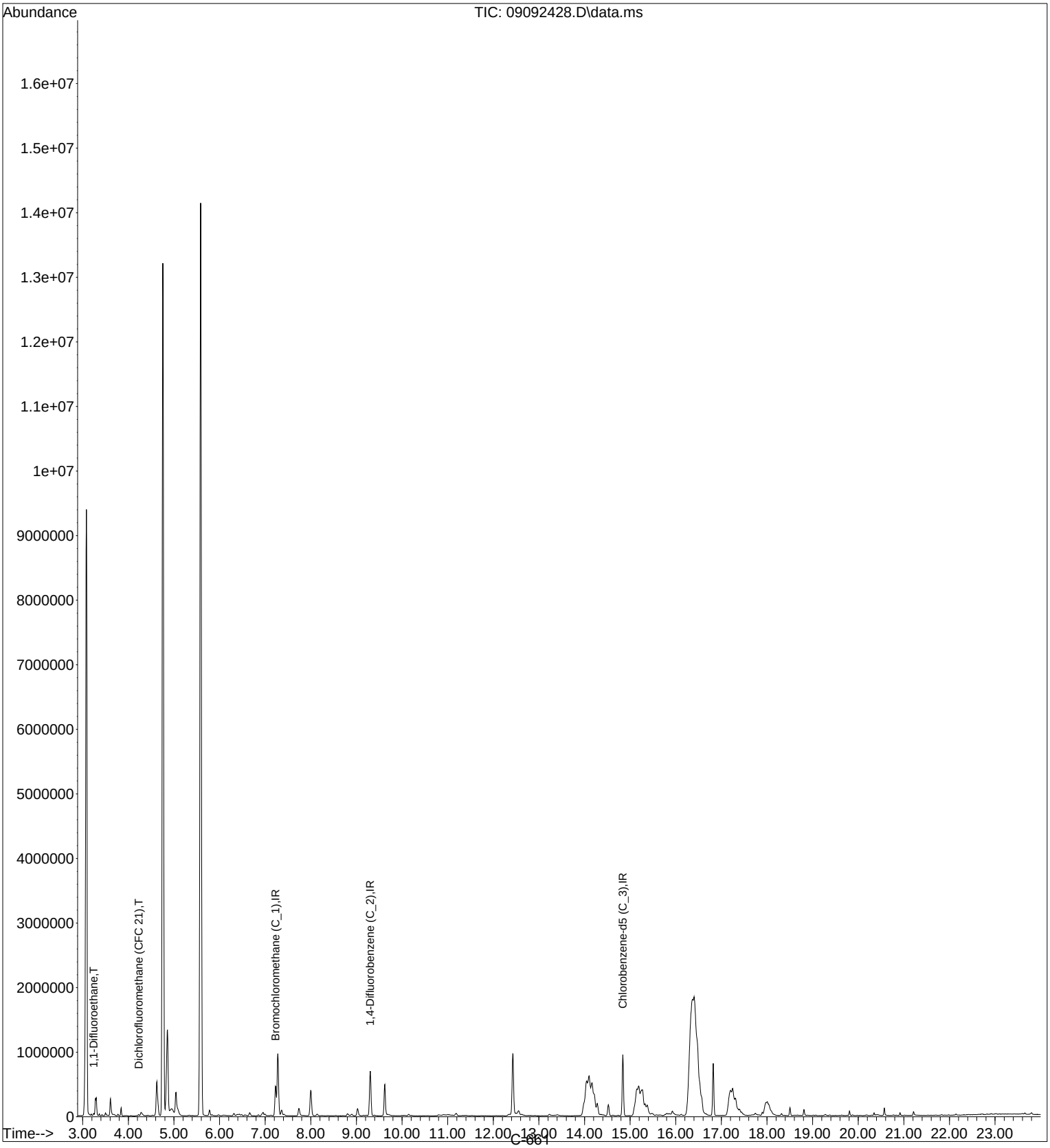
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	140725	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	615535	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	188738	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.13	85	137	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1138	N.D.	
4) 1,1-Difluoroethane	3.24	65	7300	0.594 ng	95
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	389	N.D.	
7) Dichlorofluoromethane ...	4.23	67	14349	0.445 ng	99
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1258	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.33	43	4336	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D. d	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D. d	
17) 2,3-Dimethylpentane	9.51	56	402	N.D.	
18) Dibromomethane	9.80	174	175	N.D.	
20) Methyl Cyclohexane	11.42	55	2285	N.D.	
21) 1,3-Dichloropropane	12.55	76	55	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D. d	
25) Bromobenzene	17.22	77	51	N.D.	
26) 2-Chlorotoluene	17.61	91	383	N.D.	
27) 4-Chlorotoluene	17.67	91	698	N.D.	
28) Indane	19.12	117	184	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	20.18	119	351	N.D.	
31) 1,2,3,4-Tetramethylben...	20.23	119	241	N.D.	
32) 1,2,3,5-Tetramethylben...	20.57	119	1076	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:38:11 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

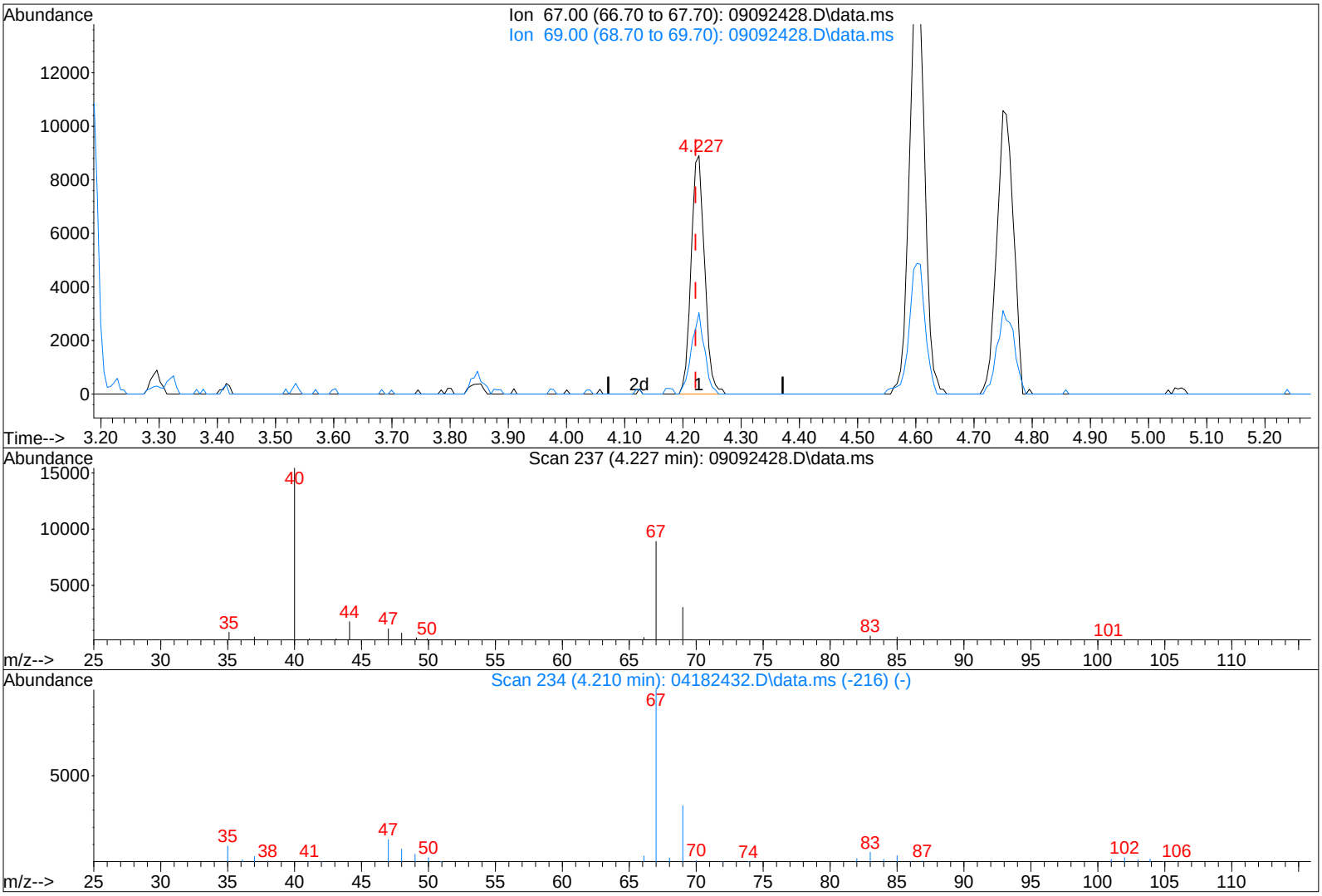


C-061

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092428.D Vial: 15
Acq On : 9 Sep 2024 23:45 Operator: SC
Sample : P2403661-012 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:37:18 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092428.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.44ng

response 14349

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	33.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102410.D Vial: 15
Acq On : 10 Sep 2024 13:59 Operator: SC
Sample : P2403661-012Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:27:02 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	152949	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	683813	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	191371	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	369764	12.920	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.36%			
57) Toluene-d8 (SS2)	12.43	98	767969	11.439	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%			
73) Bromofluorobenzene (SS3)	16.82	174	245694	10.943	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.33	85	433	N.D.		
4) Chloromethane	3.52	50	351	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.37	45	215	N.D.		
11) Acetonitrile	4.49	41	124	N.D.		
12) Acrolein	4.55	56	365	N.D.		
13) Acetone	4.65	58	16852	1.203	ng	99
14) Trichlorofluoromethane	4.75	101	1240444	35.022	ng	100
15) 2-Propanol (Isopropanol)	4.83	45	300909	5.457	ng	94
16) Acrylonitrile	5.01	53	317	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.35	59	76	N.D.		
19) Methylene Chloride	5.36	84	321	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	479619	34.180	ng	93
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.42	86	115	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D. d		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.29	61	14038	2.108	ng	89
31) n-Hexane	7.30	57	423	N.D.		
32) Chloroform	7.35	83	6359	0.209	ng	94
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.85	56	2391	No Calib		
41) Benzene	8.89	78	2585	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.28	84	679	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.15	130	636	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102410.D Vial: 15
Acq On : 10 Sep 2024 13:59 Operator: SC
Sample : P2403661-012Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:27:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

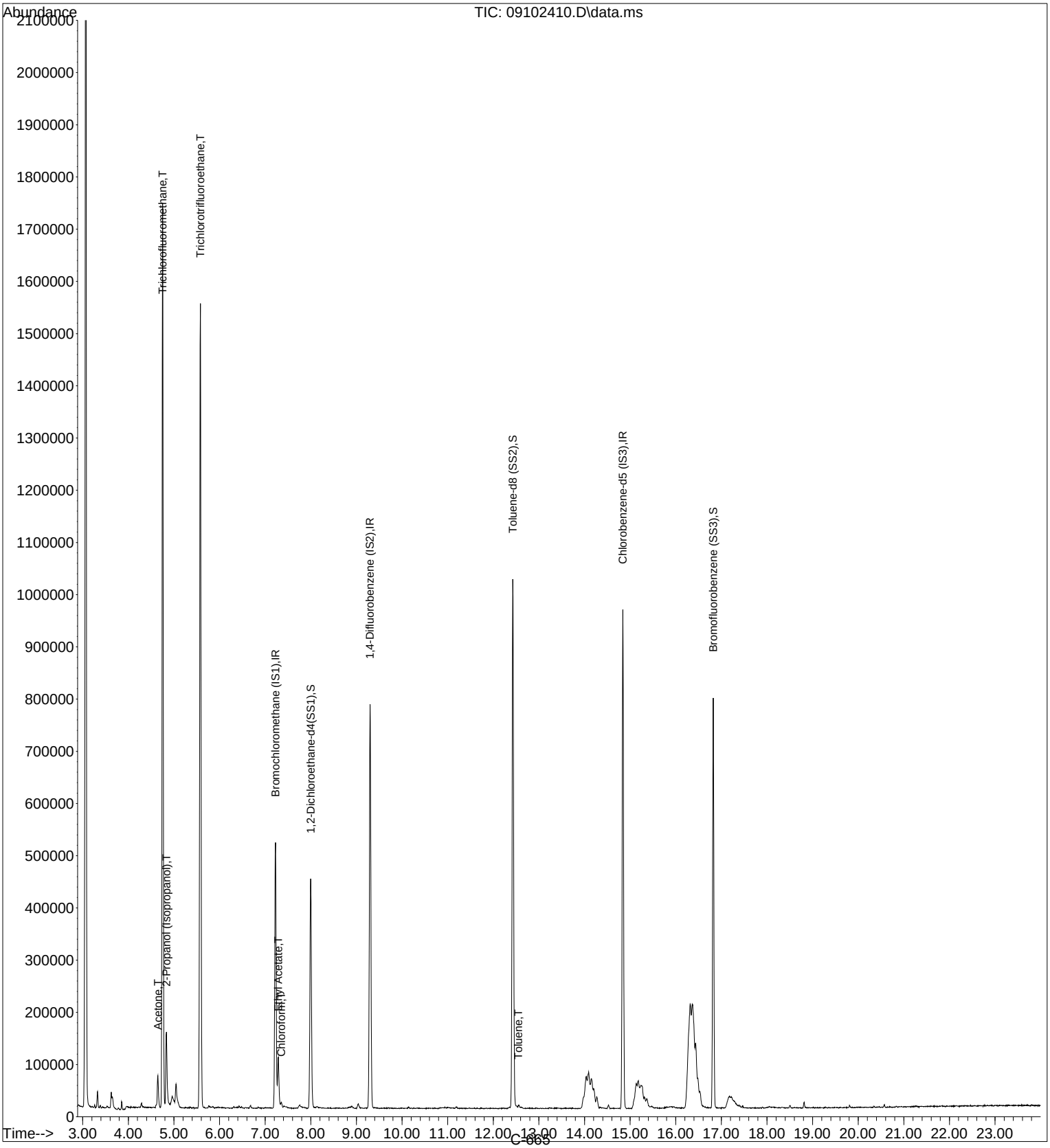
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	3689	0.051 ng	98
59) 2-Hexanone	12.94	43	541	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	123	N.D.	
66) Ethylbenzene	15.41	91	405	N.D.	
67) m- & p-Xylenes	15.66	91	220	N.D.	
68) Bromoform	15.68	173	170	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	187	N.D.	
71) n-Nonane	16.60	43	122	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	125	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	373	N.D.	
77) 3-Ethyltoluene	17.03	105	125	No Calib	#
78) 4-Ethyltoluene	17.86	105	126	N.D.	
79) 1,3,5-Trimethylbenzene	17.86	105	126	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	125	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	267	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	146	N.D.	
85) 1,3-Dichlorobenzene	18.59	146	298	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	272	N.D.	
87) sec-Butylbenzene	18.74	105	132	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	205	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	125	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	241	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	553	N.D.	
95) Naphthalene	20.94	128	860	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	359	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	376	N.D.	
100) n-Butylbenzene	19.39	91	266	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102410.D Vial: 15
Acq On : 10 Sep 2024 13:59 Operator: SC
Sample : P2403661-012Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:27:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

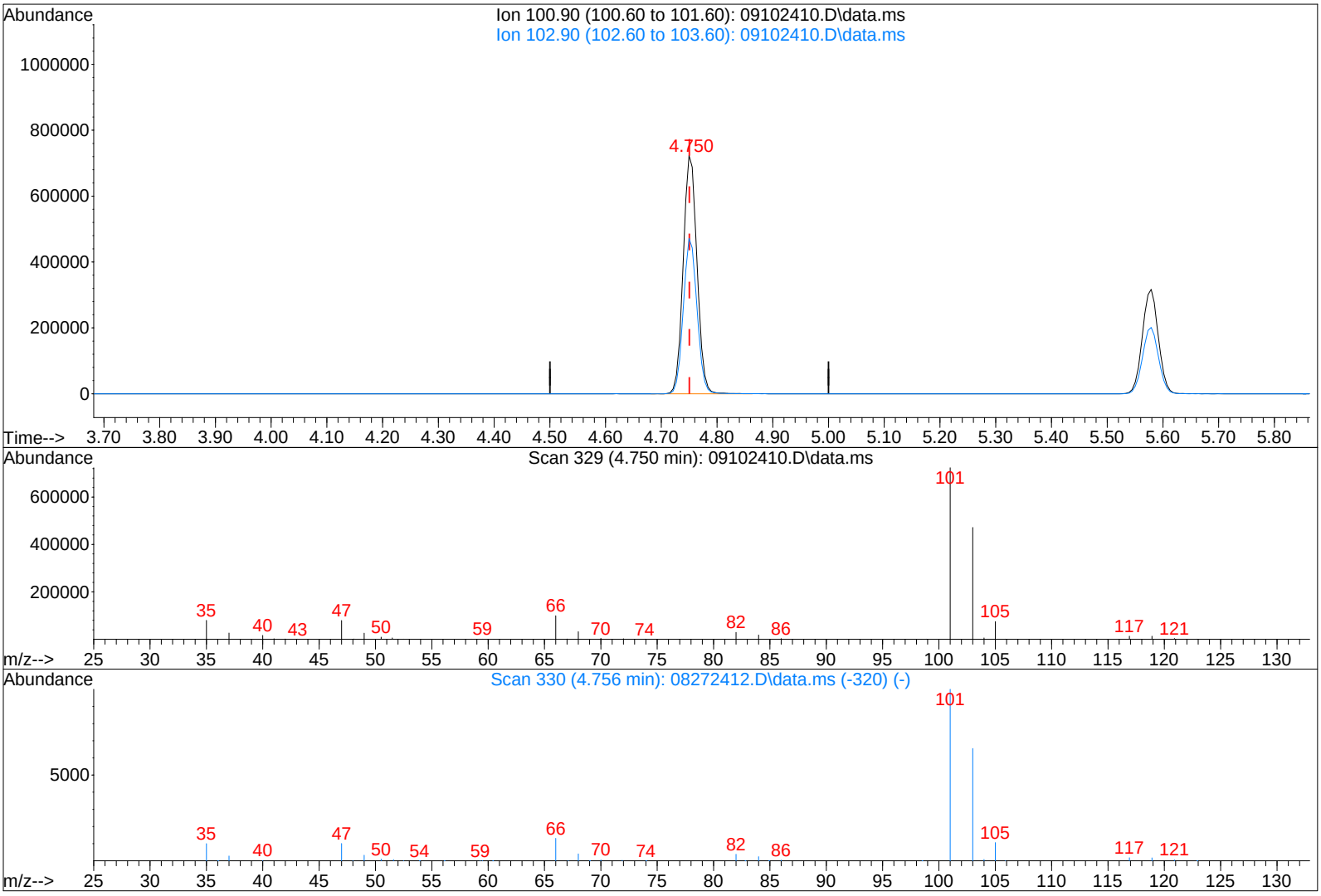


C-003

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102410.D Vial: 15
Acq On : 10 Sep 2024 13:59 Operator: SC
Sample : P2403661-012Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:26:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102410.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.001) 35.02ng

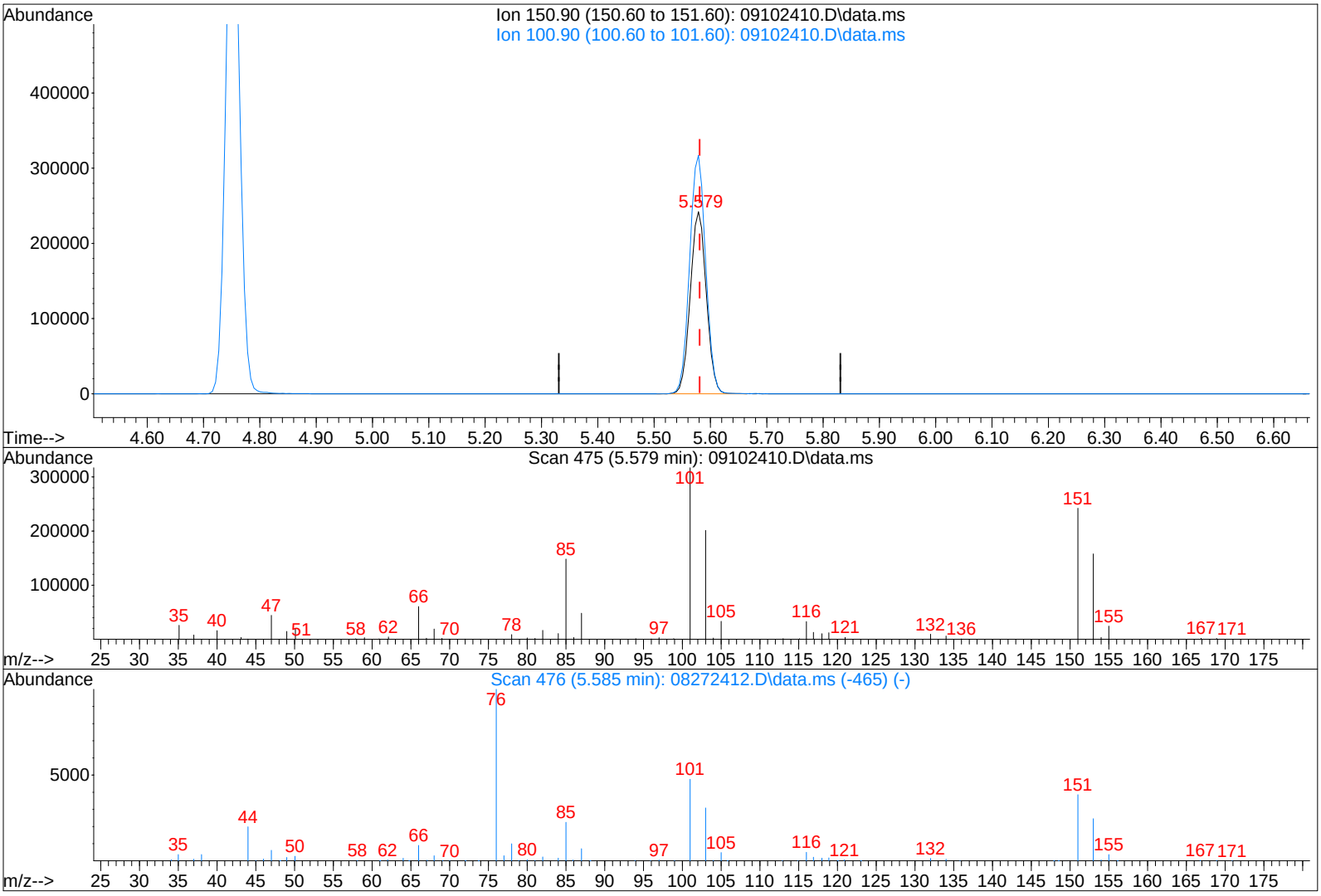
response 1240444

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.69
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102410.D Vial: 15
Acq On : 10 Sep 2024 13:59 Operator: SC
Sample : P2403661-012Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:26:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102410.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.002) 34.18ng

response 479619

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	131.13
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092428.D
Acq On : 9 Sep 2024 23:45
Operator : SC
Sample : P2403661-012 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092428.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.239	59	63	66	rBV	30882	44468	0.15%	0.040%
2	3.279	66	70	71	rVV	254120	301940	0.99%	0.271%
3	3.296	71	73	81	rVB3	275809	332976	1.09%	0.299%
4	3.364	81	85	88	rVB	27753	29299	0.10%	0.026%
5	3.421	91	95	103	rBV2	14855	21493	0.07%	0.019%
6	3.501	103	109	120	rBV	44746	82925	0.27%	0.074%
7	3.609	122	128	139	rBV2	257114	467887	1.53%	0.420%
8	3.773	152	157	162	rBV2	22591	32196	0.11%	0.029%
9	3.841	162	169	175	rVB	123710	161167	0.53%	0.145%
10	4.227	233	237	240	rBV2	17040	23038	0.08%	0.021%
11	4.284	240	247	259	rVB3	50007	133578	0.44%	0.120%
12	4.426	269	272	278	rVB3	6148	10077	0.03%	0.009%
13	4.534	285	291	293	rBV2	6900	11374	0.04%	0.010%
14	4.625	298	307	320	rBV	524103	1242096	4.05%	1.115%
15	4.756	320	330	339	rBV	13195993	27810730	90.76%	24.968%
16	4.858	339	348	356	rVB	1257374	3062164	9.99%	2.749%
17	5.045	374	381	405	rVB2	361949	1076197	3.51%	0.966%
18	5.340	421	433	439	rBV7	8481	24368	0.08%	0.022%
19	5.585	463	476	493	rBV	14132029	30642999	100.00%	27.510%
20	5.778	504	510	516	rBV	83637	153011	0.50%	0.137%
21	5.834	516	520	531	rVB	14037	30405	0.10%	0.027%
22	5.976	537	545	557	rVB5	13821	33450	0.11%	0.030%
23	6.079	557	563	565	rBV5	9344	15697	0.05%	0.014%
24	6.118	568	570	576	rVB2	6235	10480	0.03%	0.009%
25	6.317	596	605	611	rBV	34845	75782	0.25%	0.068%
26	6.397	611	619	622	rVV3	19471	54931	0.18%	0.049%
27	6.431	623	625	630	rVV	24446	40976	0.13%	0.037%
28	6.482	630	634	641	rVV3	16812	33726	0.11%	0.030%
29	6.550	641	646	658	rVV7	11471	33664	0.11%	0.030%
30	6.658	658	665	674	rVB	45585	97509	0.32%	0.088%
31	6.845	691	698	706	rVB3	13737	31193	0.10%	0.028%
32	6.953	706	717	721	rBV	53443	139994	0.46%	0.126%
33	6.987	721	723	731	rVB2	22900	43315	0.14%	0.039%
34	7.129	740	748	756	rVB5	7669	18901	0.06%	0.017%
35	7.226	756	765	769	rBV	456293	1007136	3.29%	0.904%
36	7.277	769	774	783	rVV	960806	2128867	6.95%	1.911%
37	7.362	783	789	795	rVV	86366	201997	0.66%	0.181%
38	7.413	795	798	806	rVB	21930	42517	0.14%	0.038%
39	7.737	845	855	866	rBV	114267	277289	0.90%	0.249%
40	7.998	891	901	913	rVV	390662	940354	3.07%	0.844%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092428.D
Acq On : 9 Sep 2024 23:45
Operator : SC
Sample : P2403661-012 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	8.140	917	926	935	rVB3	26025	64683	0.21%	0.058%
42	8.543	990	997	1005	rVB4	5582	13226	0.04%	0.012%
43	8.804	1035	1043	1052	rBV2	32300	81927	0.27%	0.074%
44	8.901	1053	1060	1066	rVB2	20963	49480	0.16%	0.044%
45	9.026	1073	1082	1097	rBV	110426	260681	0.85%	0.234%
46	9.162	1097	1106	1111	rBV5	7725	19144	0.06%	0.017%
47	9.213	1111	1115	1120	rVV4	8318	18064	0.06%	0.016%
48	9.304	1121	1131	1141	rVV	689818	1605621	5.24%	1.441%
49	9.389	1141	1146	1154	rVB3	8346	18102	0.06%	0.016%
50	9.622	1173	1187	1197	rBV	485541	1058598	3.45%	0.950%
51	9.997	1249	1253	1258	rBV4	4315	11242	0.04%	0.010%
52	10.042	1258	1261	1269	rVV7	5668	17295	0.06%	0.016%
53	10.144	1272	1279	1286	rVV3	21261	52344	0.17%	0.047%
54	10.207	1286	1290	1299	rVB4	6978	16873	0.06%	0.015%
55	10.803	1385	1395	1404	rBV6	14802	54534	0.18%	0.049%
56	10.911	1407	1414	1423	rVV6	8051	31166	0.10%	0.028%
57	11.189	1455	1463	1473	rVB2	36664	98904	0.32%	0.089%
58	11.393	1497	1499	1512	rVB6	6563	16922	0.06%	0.015%
59	11.740	1554	1560	1565	rBV4	5047	10517	0.03%	0.009%
60	12.205	1636	1642	1650	rVB8	4297	10578	0.03%	0.009%
61	12.359	1654	1669	1670	rBV5	22139	66978	0.22%	0.060%
62	12.427	1670	1681	1691	rBV	940526	2191078	7.15%	1.967%
63	12.552	1697	1703	1713	rVB4	59575	154653	0.50%	0.139%
64	12.915	1762	1767	1778	rVB4	6609	16879	0.06%	0.015%
65	13.227	1814	1822	1829	rBV4	21454	56506	0.18%	0.051%
66	13.409	1848	1854	1861	rVB7	9943	24192	0.08%	0.022%
67	14.045	1937	1966	1970	rBV2	537527	2351259	7.67%	2.111%
68	14.278	2003	2007	2018	rVB2	174114	419179	1.37%	0.376%
69	14.522	2041	2050	2061	rVB	170264	383668	1.25%	0.344%
70	14.613	2061	2066	2072	rBV5	7358	16513	0.05%	0.015%
71	14.732	2082	2087	2095	rVV7	6295	15210	0.05%	0.014%
72	14.840	2095	2106	2120	rVB	946993	1928571	6.29%	1.731%
73	15.152	2138	2161	2163	rBV3	414863	1550376	5.06%	1.392%
74	15.374	2197	2200	2213	rVB2	138160	331032	1.08%	0.297%
75	15.584	2230	2237	2241	rBV5	6421	16741	0.05%	0.015%
76	15.805	2261	2276	2281	rBV8	34436	134276	0.44%	0.121%
77	15.925	2292	2297	2317	rVB4	63178	196341	0.64%	0.176%
78	16.118	2326	2331	2343	rVB8	15626	31304	0.10%	0.028%
79	16.402	2343	2381	2442	rVB	1837754	21882112	71.41%	19.645%
80	16.822	2447	2455	2464	rVB	806447	1521770	4.97%	1.366%
81	17.202	2502	2522	2526	rBV2	385875	1732175	5.65%	1.555%
82	17.668	2598	2604	2610	rBV6	7253	21394	0.07%	0.019%
83	17.747	2612	2618	2626	rVB3	26305	64109	0.21%	0.058%
84	17.901	2637	2645	2647	rBV	49105	80724	0.26%	0.072%
85	17.974	2647	2658	2660	rBV2	169304	447338	1.46%	0.402%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092428.D
Acq On : 9 Sep 2024 23:45
Operator : SC
Sample : P2403661-012 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

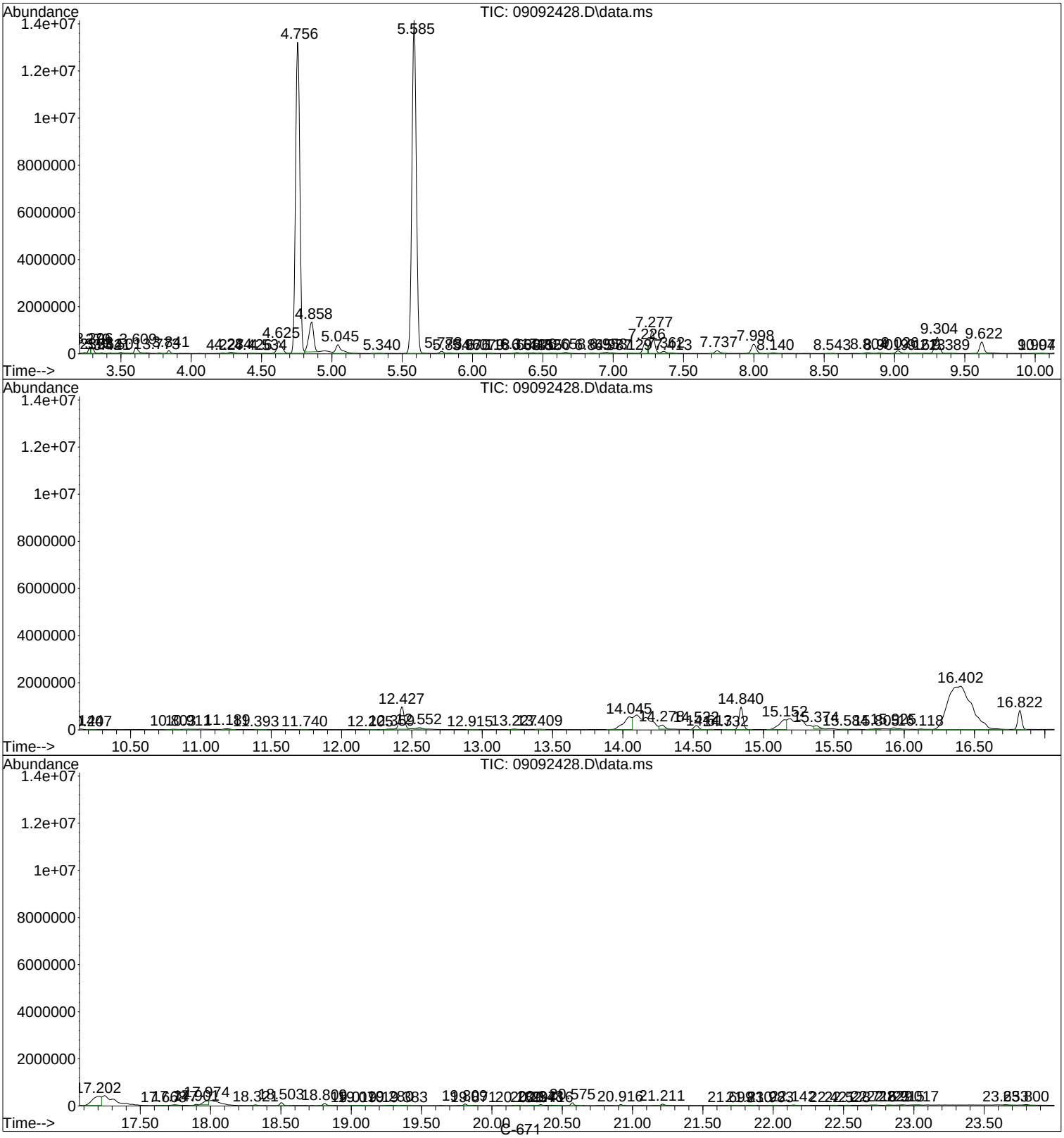
86	18.321	2714	2719	2724	rVB2	28202	43529	0.14%	0.039%
87	18.503	2745	2751	2759	rBV2	122326	194760	0.64%	0.175%
88	18.809	2799	2805	2814	rVB	89785	145461	0.47%	0.131%
89	19.019	2835	2842	2845	rVB6	6601	11676	0.04%	0.010%
90	19.070	2845	2851	2862	rVB5	7895	18355	0.06%	0.016%
91	19.280	2879	2888	2897	rBV7	16206	38452	0.13%	0.035%
92	19.383	2899	2906	2915	rVB6	8269	15879	0.05%	0.014%
93	19.809	2976	2981	2989	rVB2	69914	96531	0.32%	0.087%
94	19.871	2989	2992	2999	rBV5	9971	15676	0.05%	0.014%
95	20.189	3043	3048	3055	rVB6	8188	15805	0.05%	0.014%
96	20.297	3061	3067	3071	rBV4	6940	12520	0.04%	0.011%
97	20.348	3071	3076	3080	rBV	41103	54399	0.18%	0.049%
98	20.416	3086	3088	3104	rVB10	13158	37717	0.12%	0.034%
99	20.575	3109	3116	3128	rVB2	115314	178275	0.58%	0.160%
100	20.916	3172	3176	3180	rBV3	43429	53880	0.18%	0.048%
101	21.211	3223	3228	3237	rBV	59292	102317	0.33%	0.092%
102	21.699	3311	3314	3324	rBV7	7020	12408	0.04%	0.011%
103	21.830	3332	3337	3345	rVB8	10239	18149	0.06%	0.016%
104	21.983	3360	3364	3373	rVB5	8269	16772	0.05%	0.015%
105	22.142	3388	3392	3401	rVB	17773	29428	0.10%	0.026%
106	22.421	3438	3441	3448	rVB8	5937	10611	0.03%	0.010%
107	22.528	3456	3460	3464	rBV7	6196	10673	0.03%	0.010%
108	22.716	3487	3493	3499	rVB8	8668	20687	0.07%	0.019%
109	22.829	3506	3513	3518	rBV9	8486	19099	0.06%	0.017%
110	22.915	3524	3528	3530	rBV4	9722	12879	0.04%	0.012%
111	23.017	3540	3546	3552	rVB10	9519	24108	0.08%	0.022%
112	23.653	3655	3658	3671	rVB10	22569	45617	0.15%	0.041%
113	23.800	3678	3684	3696	rVB7	27645	64504	0.21%	0.058%

Sum of corrected areas: 111386612

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092428.D
Acq On : 9 Sep 2024 23:45
Operator : SC
Sample : P2403661-012 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092428.D
Acq On : 9 Sep 2024 23:455
Operator : SCC
Sample : P2403661-012 (400mL))
Misc : S37-060624022
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:47:44 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	144898	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	642838	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	188957	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	356563	13.151	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
57) Toluene-d8 (SS2)	12.43	98	740862	11.177	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%				
73) Bromofluorobenzene (SS3)	16.82	174	252667	11.397	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	1239	N.D.			
4) Chloromethane	3.51	50	1940	0.071	ng		83
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	555	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	75714	4.815	ng		99
11) Acetonitrile	4.44	41	1343	N.D.			
12) Acrolein	4.52	56	2032	0.169	ng		94
13) Acetone	4.62	58	156591	11.801	ng	#	1
14) Trichlorofluoromethane	4.75	101	1041	N.D.			
15) 2-Propanol (Isopropanol)	4.83	45	178844	3.423	ng		90
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	3342	0.214	ng	#	60
20) 3-Chloro-1-propene (Al...	5.45	41	436	N.D.			
21) Trichlorotrifluoroethane	5.59	151	394	N.D.			
22) Carbon Disulfide	5.60	76	42132	0.813	ng		97
23) trans-1,2-Dichloroethene	6.14	61	469	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	4913	0.106	ng		95
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	6822	0.725	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.29	87	163	N.D.			
30) Ethyl Acetate	7.29	61	12507	1.983	ng		90
31) n-Hexane	7.30	57	36429	1.267	ng		98
32) Chloroform	7.36	83	1200	N.D.			
34) Tetrahydrofuran (THF)	7.76	72	2082	0.235	ng	#	1
35) Ethyl tert-Butyl Ether	7.86	87	118	N.D.			
36) 1,2-Dichloroethane	8.12	62	2094	0.073	ng		89
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.80	56	24393	No Calib		#	
41) Benzene	8.89	78	12938	0.215	ng		95
42) Carbon Tetrachloride	9.06	117	2566	0.103	ng		81
43) Cyclohexane	9.22	84	35262	1.733	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	2553	0.160	ng		99
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	350	N.D.			
48) 1,4-Dioxane	10.14	88	423	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	10.41	100	543	0.104	ng	#	71

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:47:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

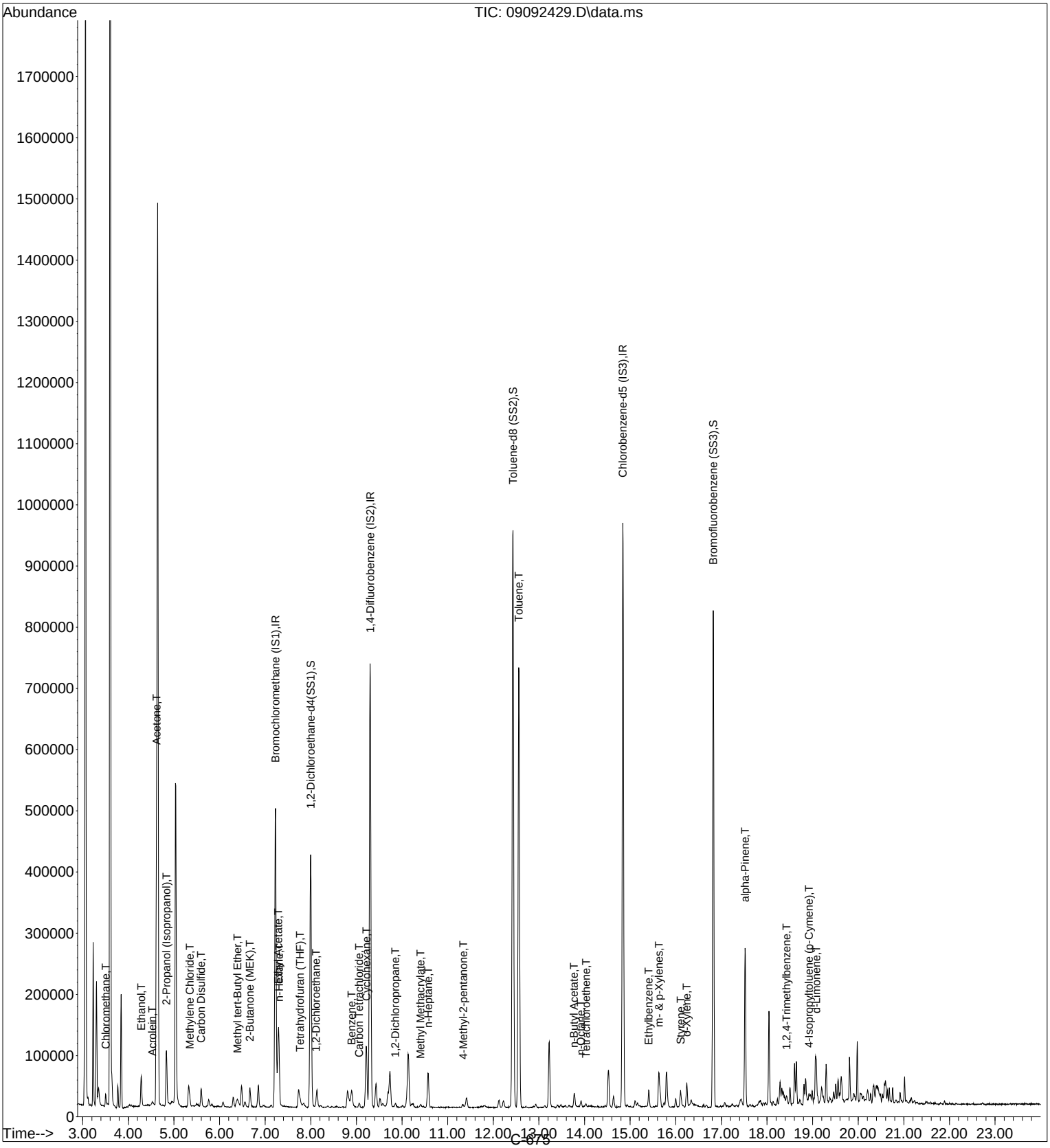
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	11818	0.880 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	1487	0.093 ng	#	49
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	609562	8.507 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	23178	0.466 ng		97
63) n-Octane	13.92	57	1532	0.091 ng	#	85
64) Tetrachloroethene	14.03	166	1159	0.058 ng		99
65) Chlorobenzene	14.90	112	330	N.D.		
66) Ethylbenzene	15.41	91	22463	0.272 ng		98
67) m- & p-Xylenes	15.63	91	49855	0.744 ng		98
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	10835	0.250 ng		95
70) o-Xylene	16.24	91	25152	0.384 ng		98
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	16.21	83	120	N.D.		
74) Cumene	17.03	105	1922	N.D.		
75) alpha-Pinene	17.52	93	103236	2.617 ng		98
76) n-Propylbenzene	17.68	91	2276	N.D.		
77) 3-Ethyltoluene	17.03	105	1922	No Calib		
78) 4-Ethyltoluene	17.86	105	1454	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	1580	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1922	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	4995	0.074 ng		83
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.64	91	113	N.D.		
85) 1,3-Dichlorobenzene	18.65	146	398	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	398	N.D.		
87) sec-Butylbenzene	18.74	105	622	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	5333	0.072 ng		79
89) 1,2,3-Trimethylbenzene	17.03	105	1922	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	159	N.D.		
91) d-Limonene	19.08	68	12074	0.536 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	4003	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	350	N.D.		
95) Naphthalene	20.94	128	582	N.D.		
96) n-Dodecane	18.95	58	507	No Calib	#	
97) Hexachlorobutadiene	21.30	225	342	N.D.		
98) Cyclohexanone	15.28	55	153	No Calib	#	
99) tert-Butylbenzene	18.43	119	760	N.D.		
100) n-Butylbenzene	19.39	91	1315	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:47:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:47:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

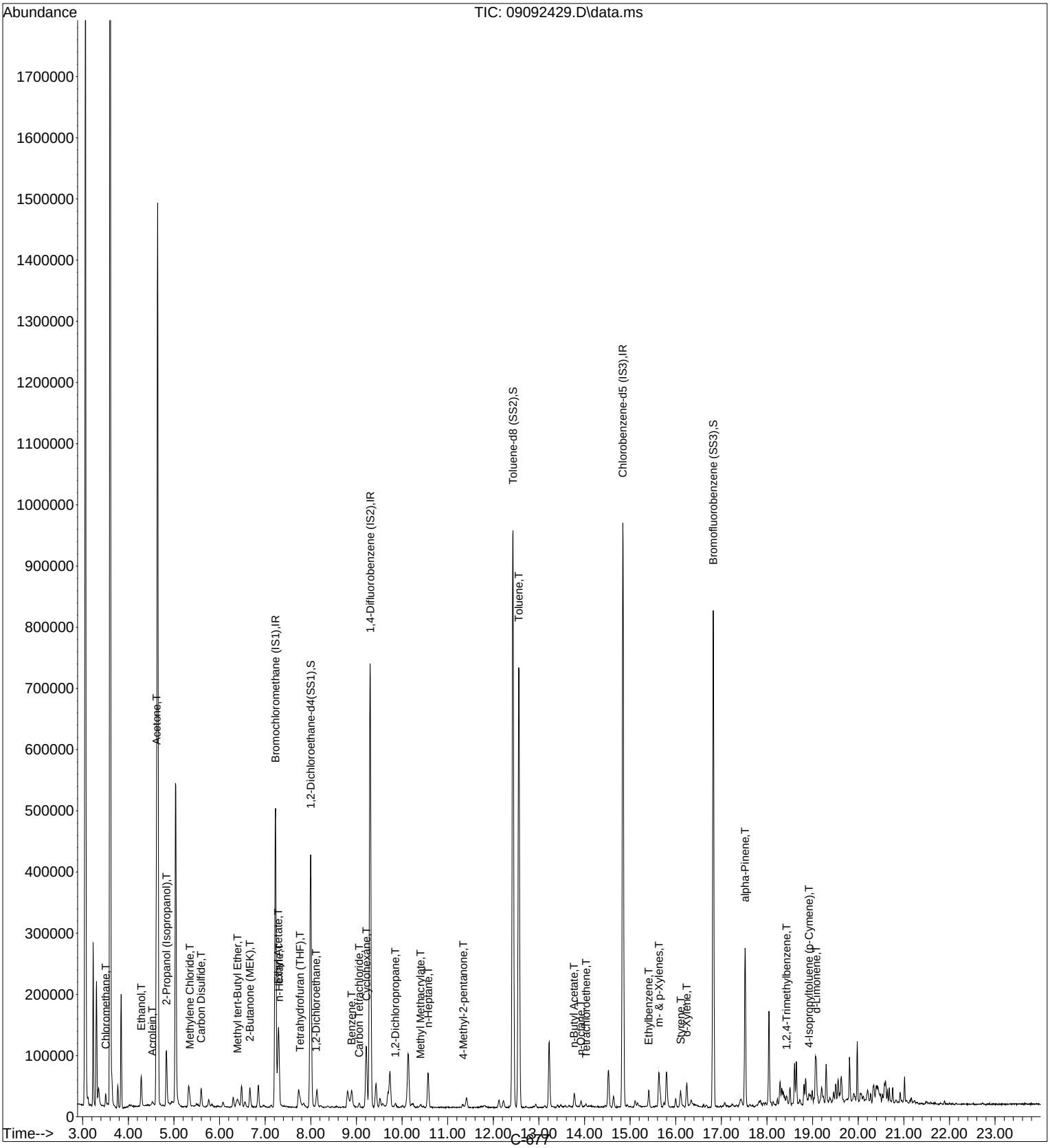
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	144898	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	642838	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	188957	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	356563	13.151	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
57) Toluene-d8 (SS2)	12.43	98	740862	11.177	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.44%				
73) Bromofluorobenzene (SS3)	16.82	174	252667	11.397	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
4) Chloromethane	3.51	50	1940	0.071	ng		83
10) Ethanol	4.28	45	75714	4.815	ng		99
12) Acrolein	4.52	56	2032	0.169	ng		94
13) Acetone	4.62	58	156591	11.801	ng	#	1
15) 2-Propanol (Isopropanol)	4.83	45	178844	3.423	ng		90
19) Methylene Chloride	5.35	84	3342	0.214	ng	#	60
22) Carbon Disulfide	5.60	76	42132	0.813	ng		97
25) Methyl tert-Butyl Ether	6.39	73	4913	0.106	ng		95
27) 2-Butanone (MEK)	6.66	72	6822	0.725	ng	#	66
30) Ethyl Acetate	7.29	61	12507	1.983	ng		90
31) n-Hexane	7.30	57	36429	1.267	ng		98
34) Tetrahydrofuran (THF)	7.76	72	2082	0.235	ng	#	1
36) 1,2-Dichloroethane	8.12	62	2094	0.073	ng		89
41) Benzene	8.89	78	12938	0.215	ng		95
42) Carbon Tetrachloride	9.06	117	2566	0.103	ng		81
43) Cyclohexane	9.22	84	35262	1.733	ng		94
45) 1,2-Dichloropropane	9.85	63	2553	0.160	ng		99
50) Methyl Methacrylate	10.41	100	543	0.104	ng	#	71
51) n-Heptane	10.58	71	11818	0.880	ng		93
53) 4-Methyl-2-pentanone	11.34	58	1487	0.093	ng	#	49
58) Toluene	12.56	91	609562	8.507	ng		99
62) n-Butyl Acetate	13.77	43	23178	0.466	ng		97
63) n-Octane	13.92	57	1532	0.091	ng	#	85
64) Tetrachloroethene	14.03	166	1159	0.058	ng		99
66) Ethylbenzene	15.41	91	22463	0.272	ng		98
67) m- & p-Xylenes	15.63	91	49855	0.744	ng		98
69) Styrene	16.11	104	10835	0.250	ng		95
70) o-Xylene	16.24	91	25152	0.384	ng		98
75) alpha-Pinene	17.52	93	103236	2.617	ng		98
82) 1,2,4-Trimethylbenzene	18.43	105	4995	0.074	ng		83
88) 4-Isopropyltoluene (p-...	18.92	119	5333	0.072	ng		79
91) d-Limonene	19.08	68	12074	0.536	ng		93

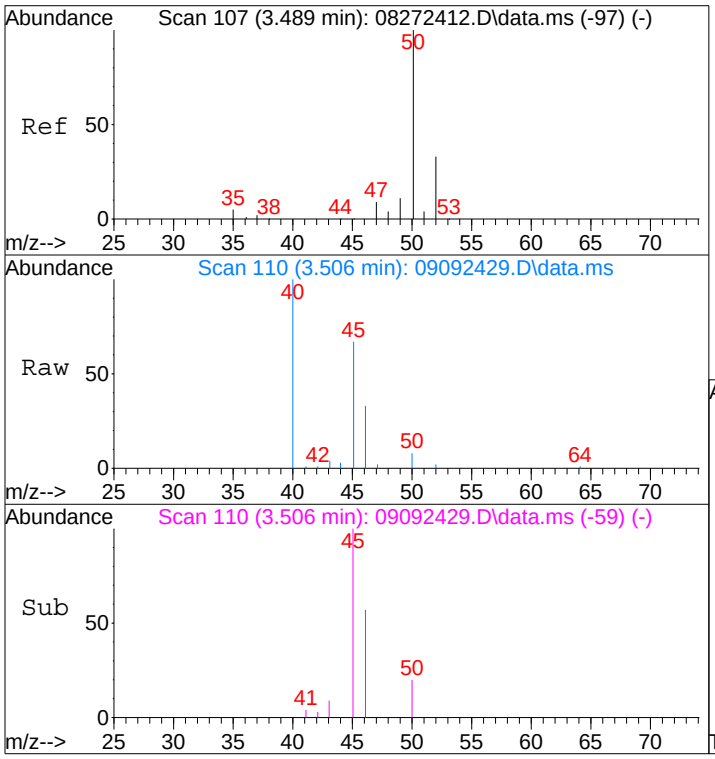
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 10:47:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

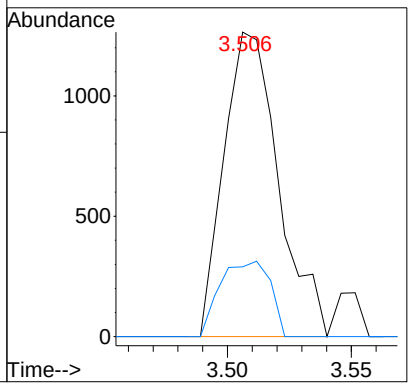


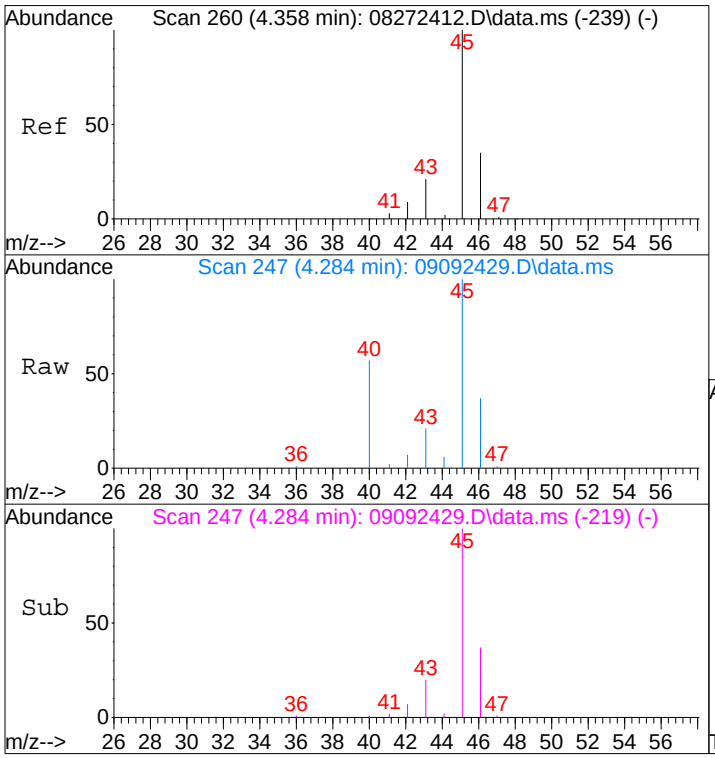


#4
Chloromethane
Concen: 0.07 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.038 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 50 Resp: 1940

Ion	Ratio	Lower	Upper
50	100		
52	22.7	12.4	52.4

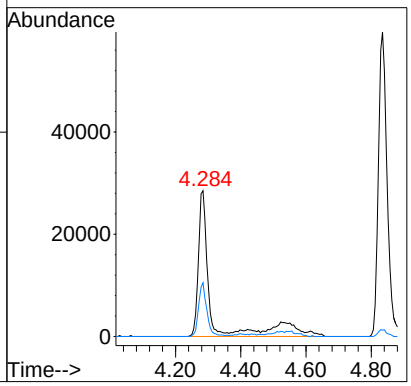


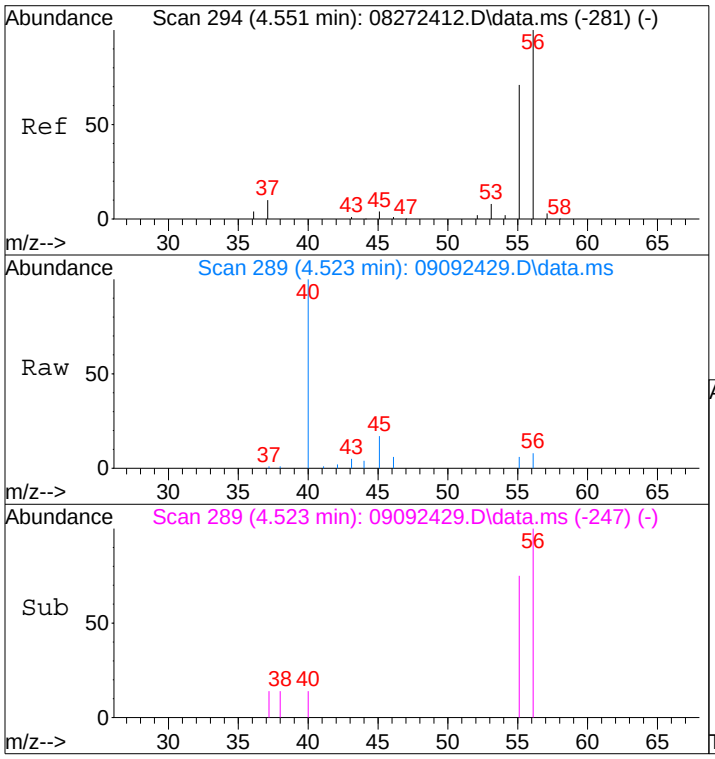


#10
Ethanol
Concen: 4.81 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 45 Resp: 75714

Ion	Ratio	Lower	Upper
45	100		
46	34.6	14.2	54.2

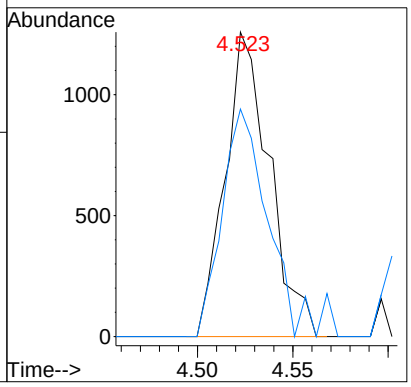


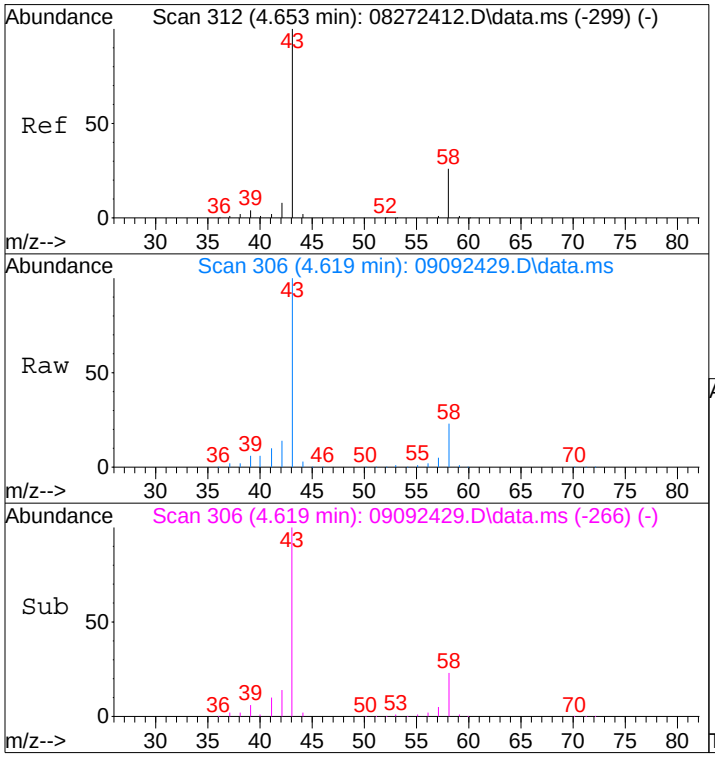


#12
Acrolein
Concen: 0.17 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.013 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 56 Resp: 2032

Ion	Ratio	Lower	Upper
56	100		
55	79.5	54.7	94.7

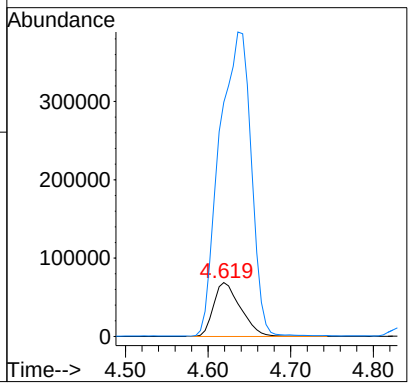


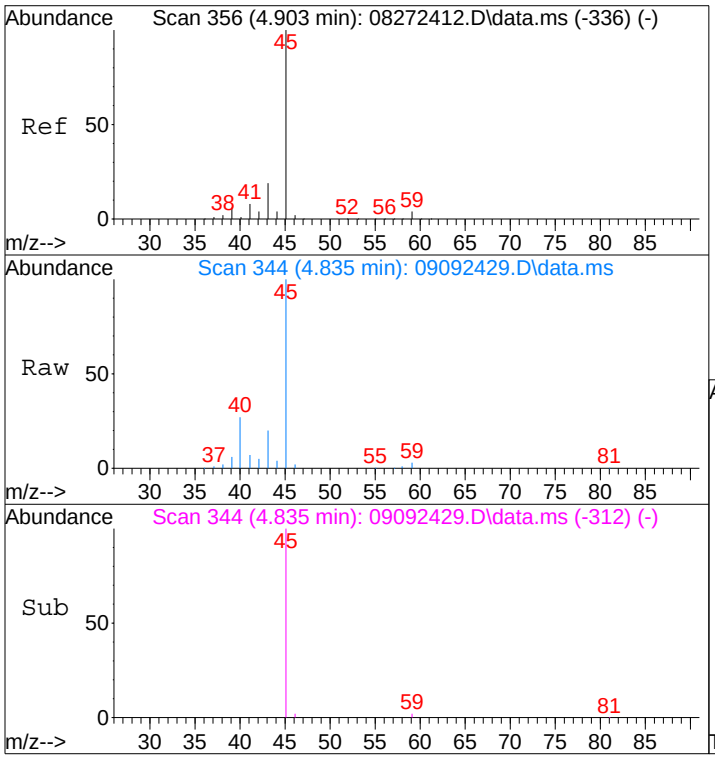


#13
Acetone
Concen: 11.80 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.023 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 58 Resp: 156591

Ion	Ratio	Lower	Upper
58	100		
43	659.2	347.3	407.3#

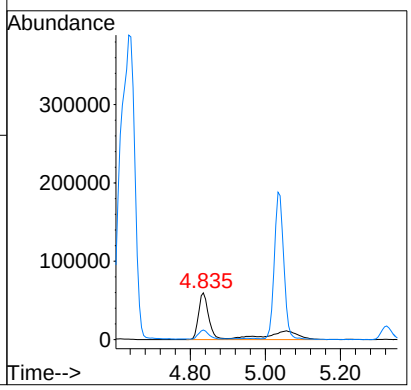


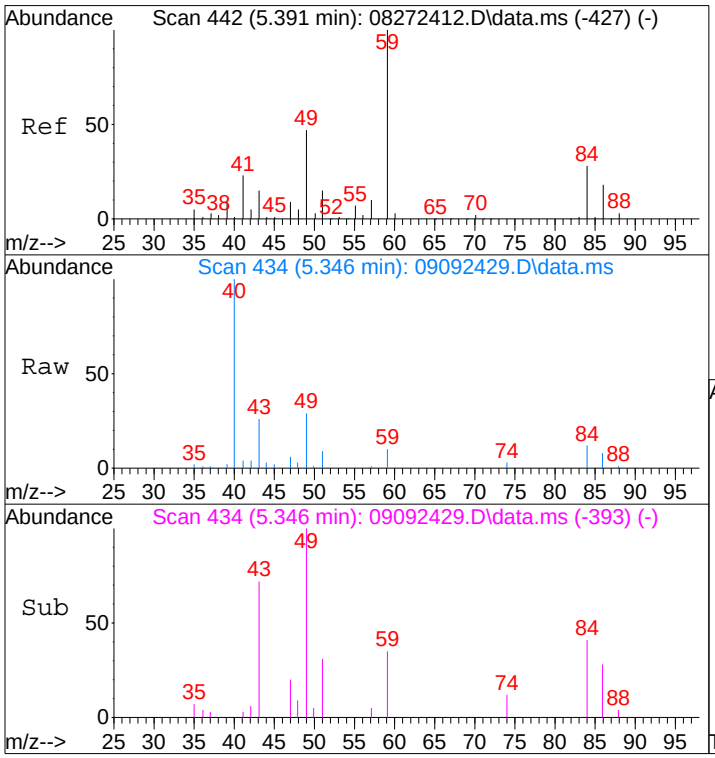


#15
2-Propanol (Isopropanol)
Concen: 3.42 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.071 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 45 Resp: 178844

Ion	Ratio	Lower	Upper
45	100		
43	15.2	0.0	40.0

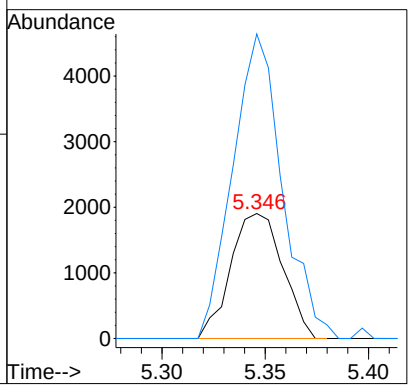


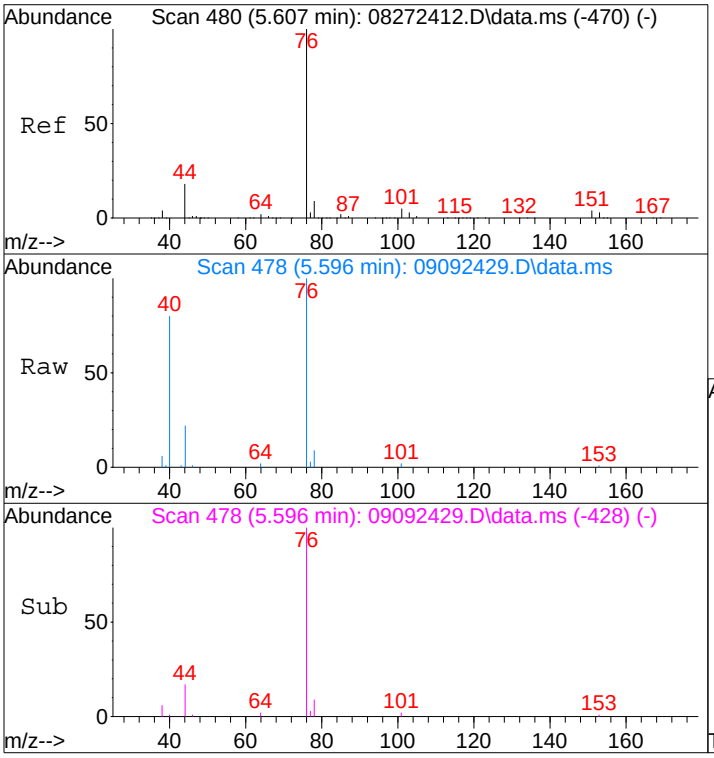


#19
Methylene Chloride
Concen: 0.21 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.015 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 84 Resp: 3342

Ion	Ratio	Lower	Upper
84	100		
49	231.7	151.1	201.1#

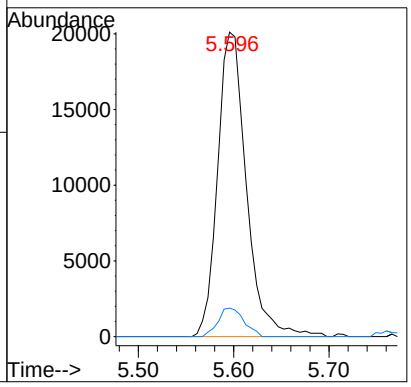


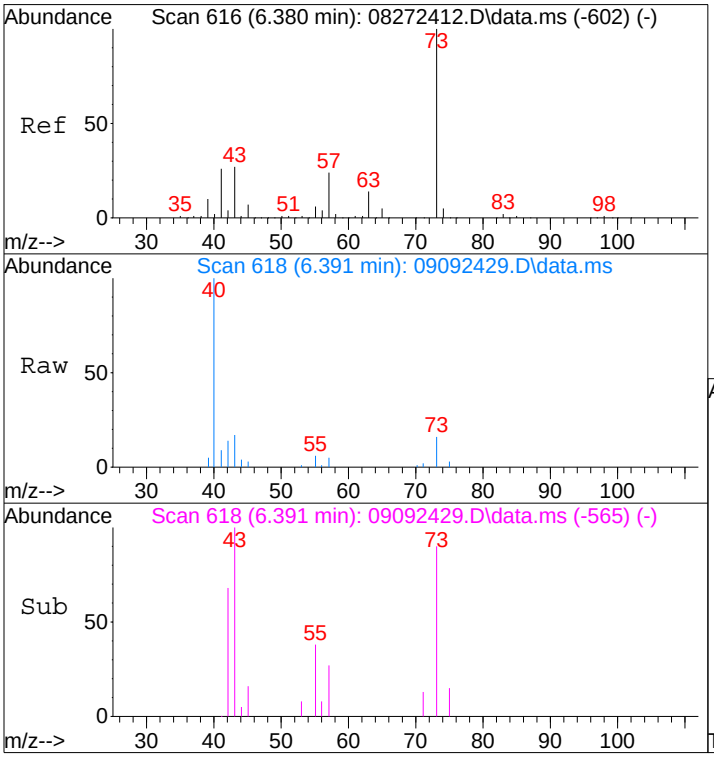


#22
Carbon Disulfide
Concen: 0.81 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 76 Resp: 42132

Ion	Ratio	Lower	Upper
76	100		
78	8.4	0.0	29.6

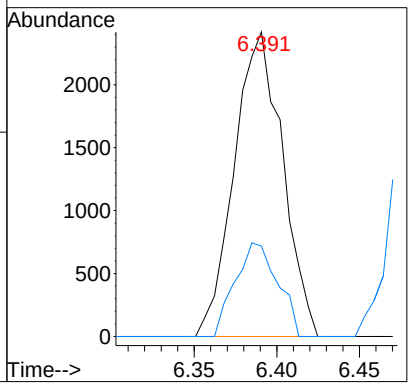


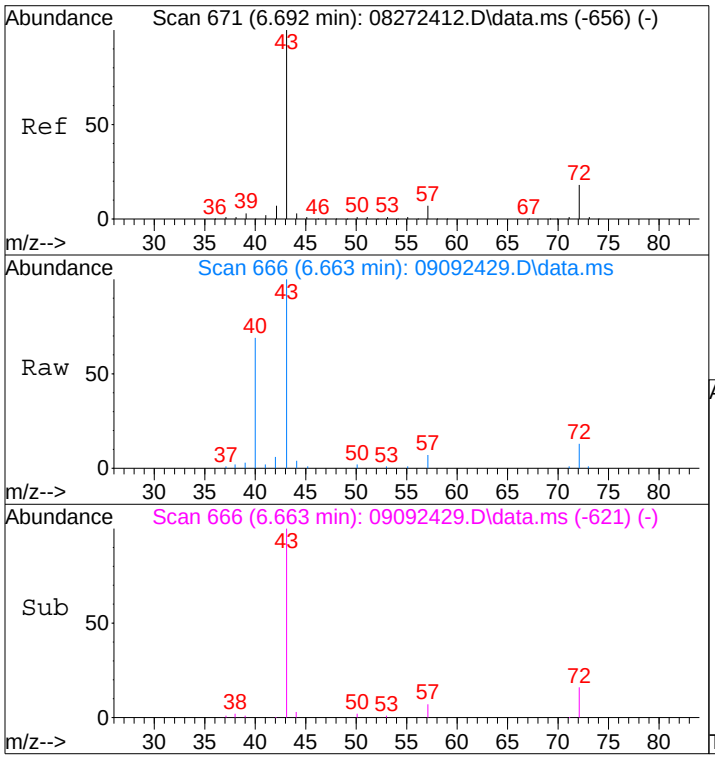


#25
Methyl tert-Butyl Ether
Concen: 0.11 ng
RT: 6.39 min Scan# 618
Delta R.T. 0.053 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 73 Resp: 4913

Ion	Ratio	Lower	Upper
73	100		
57	27.1	4.7	44.7

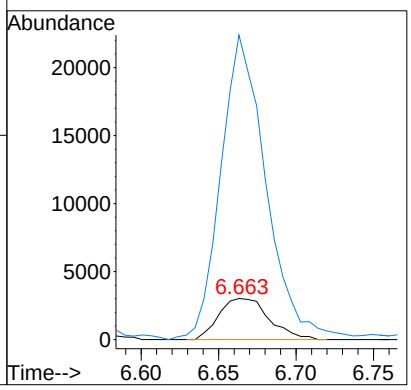


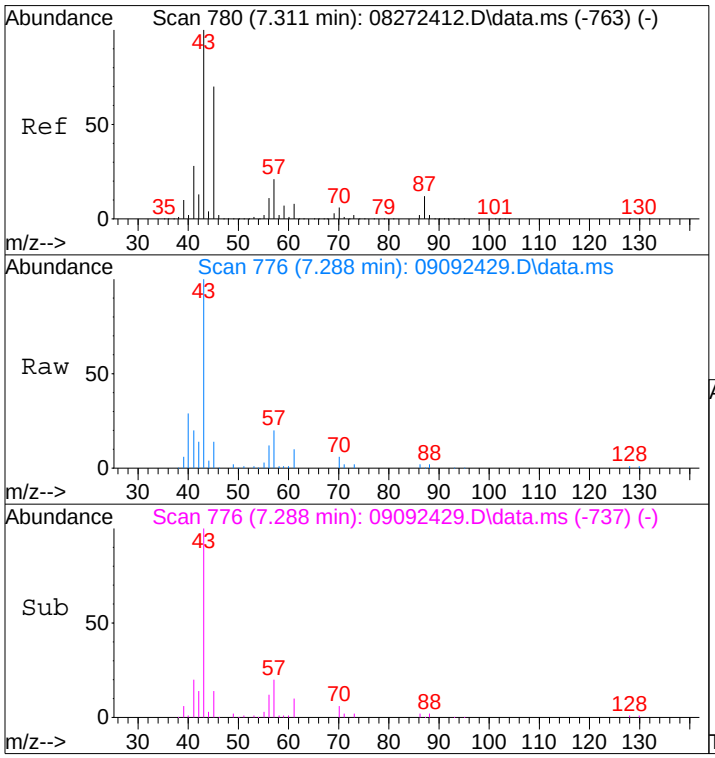


#27
2-Butanone (MEK)
Concen: 0.72 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 72 Resp: 6822

Ion	Ratio	Lower	Upper
72	100		
43	669.9	548.0	588.0#

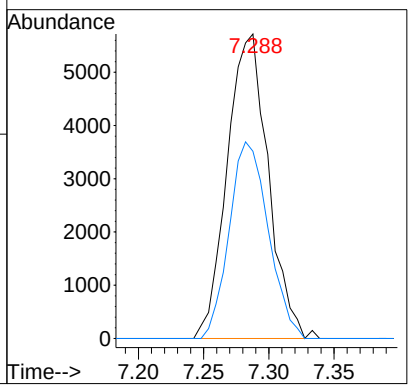


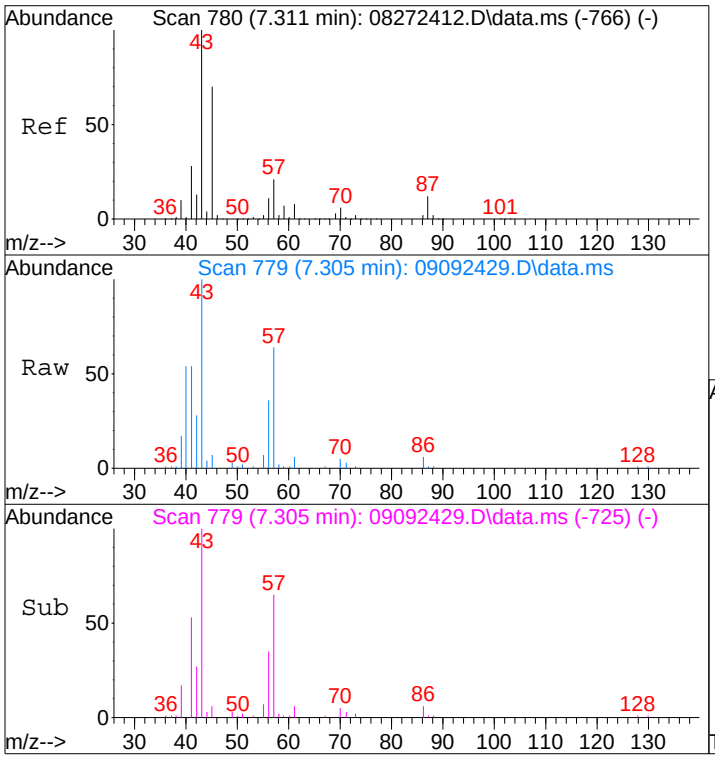


#30
Ethyl Acetate
Concen: 1.98 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 61 Resp: 12507

Ion	Ratio	Lower	Upper
61	100		
70	61.6	49.9	89.9

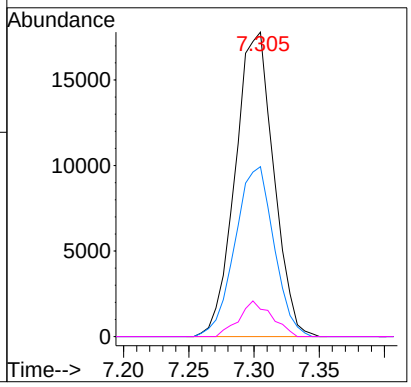


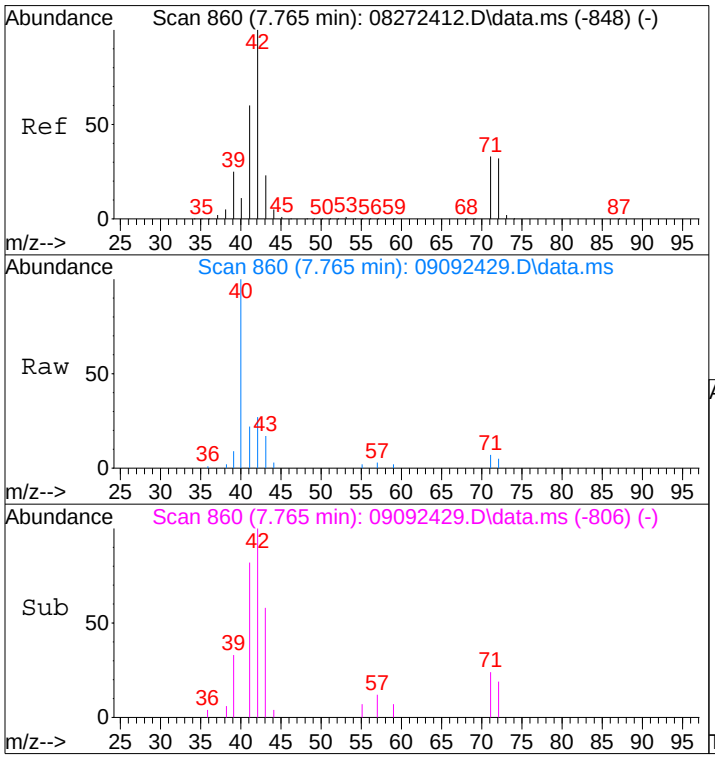


#31
n-Hexane
Concen: 1.27 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 57 Resp: 36429

Ion	Ratio	Lower	Upper
57	100		
56	56.6	44.2	66.2
86	10.0	9.3	13.9

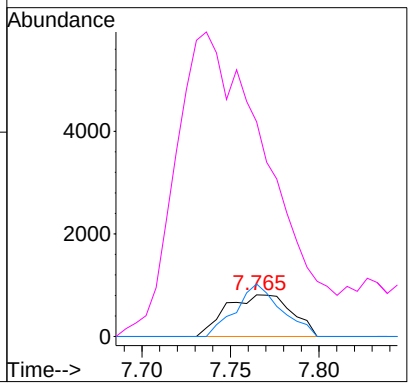


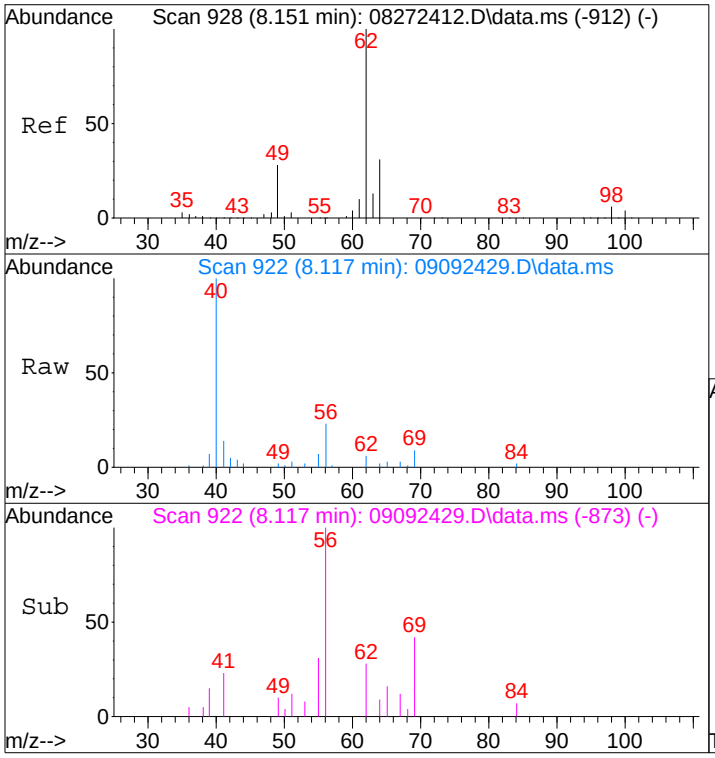


#34
Tetrahydrofuran (THF)
Concen: 0.23 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.056 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 72 Resp: 2082

Ion	Ratio	Lower	Upper
72	100		
71	87.4	78.4	118.4
42	1223.0	285.2	325.2#

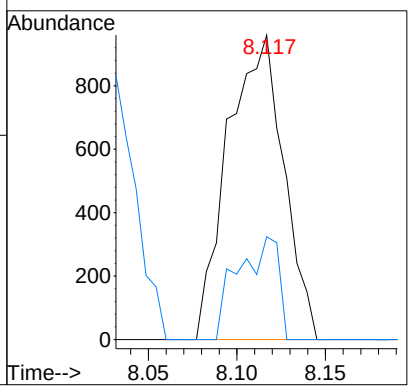


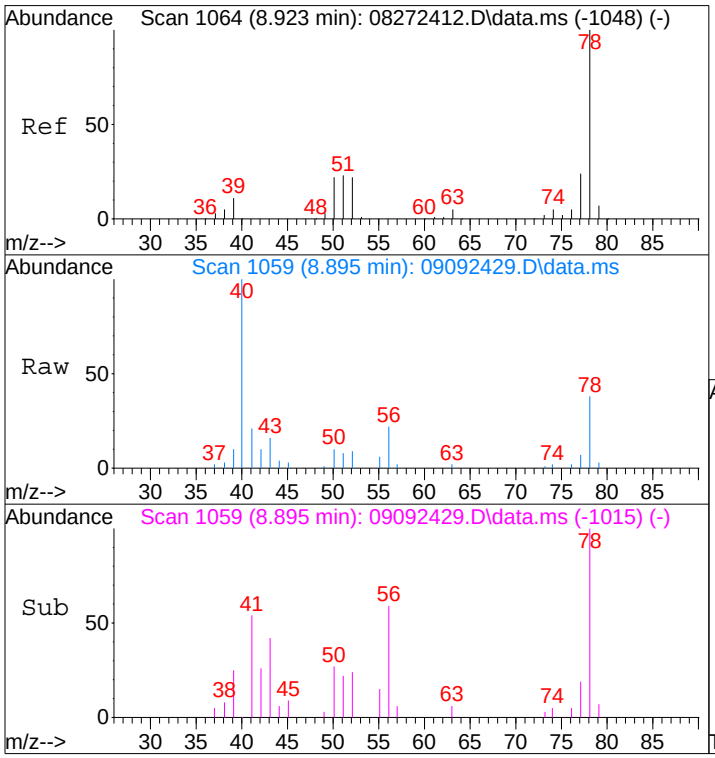


#36
1,2-Dichloroethane
Concen: 0.07 ng
RT: 8.12 min Scan# 922
Delta R.T. 0.026 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 62 Resp: 2094

Ion	Ratio	Lower	Upper
62	100		
64	24.7	11.0	51.0

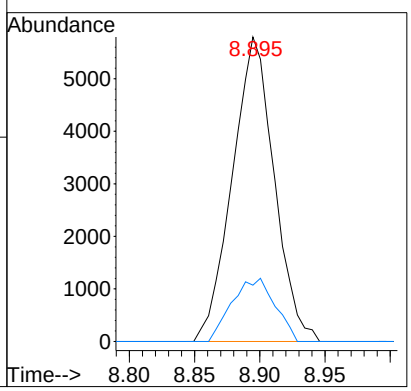


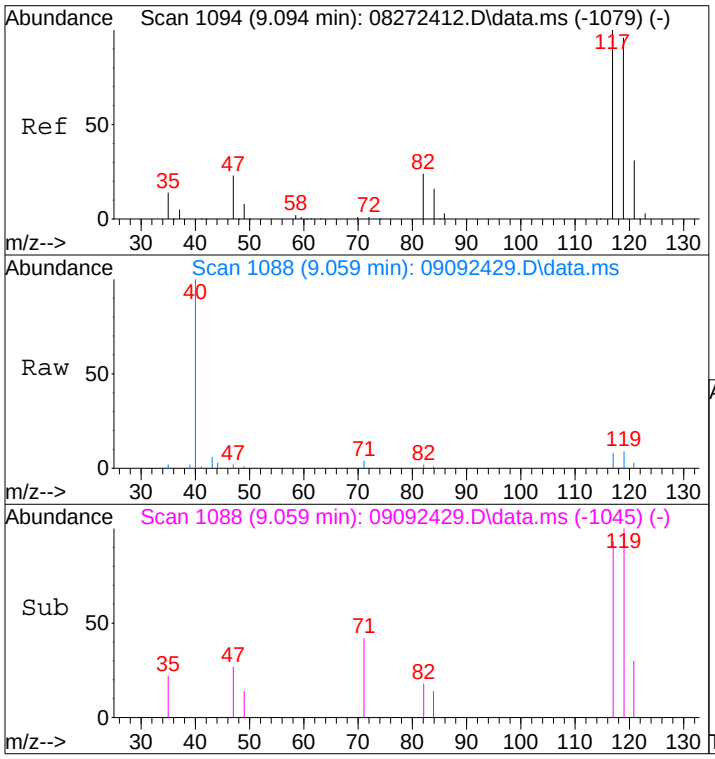


#41
Benzene
Concen: 0.21 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 78 Resp: 12938

Ion	Ratio	Lower	Upper
78	100		
77	21.3	3.9	43.9

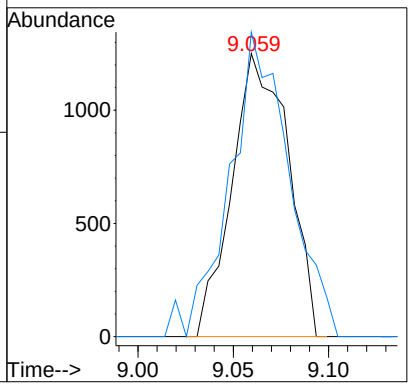


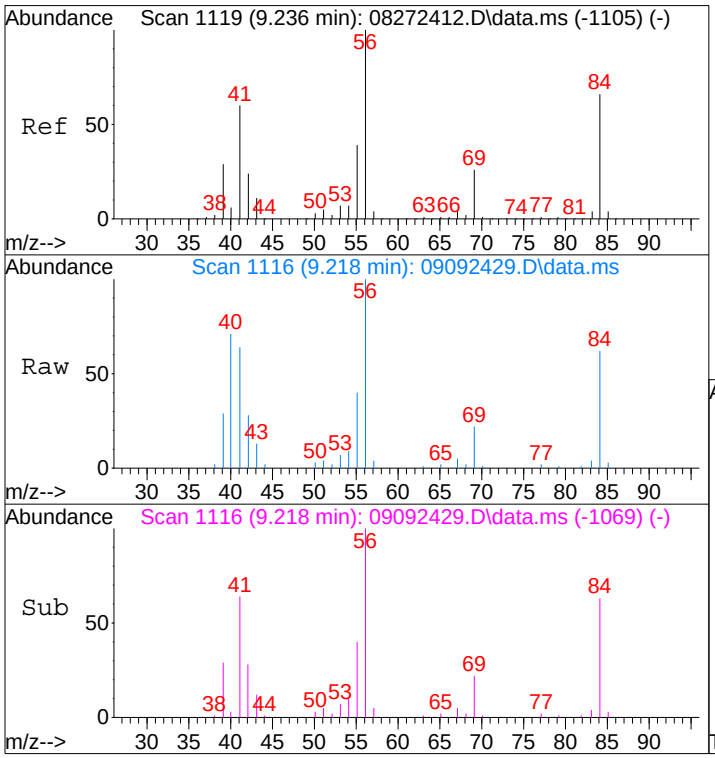


#42
Carbon Tetrachloride
Concen: 0.10 ng
RT: 9.06 min Scan# 1088
Delta R.T. -0.007 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion:117 Resp: 2566

Ion	Ratio	Lower	Upper
117	100		
119	114.0	75.1	115.1

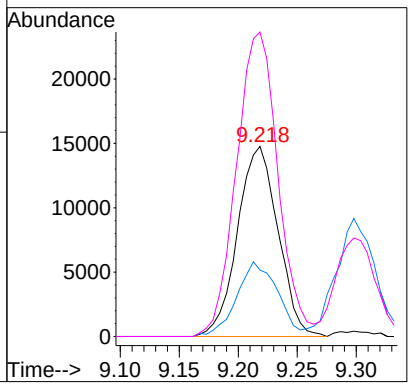


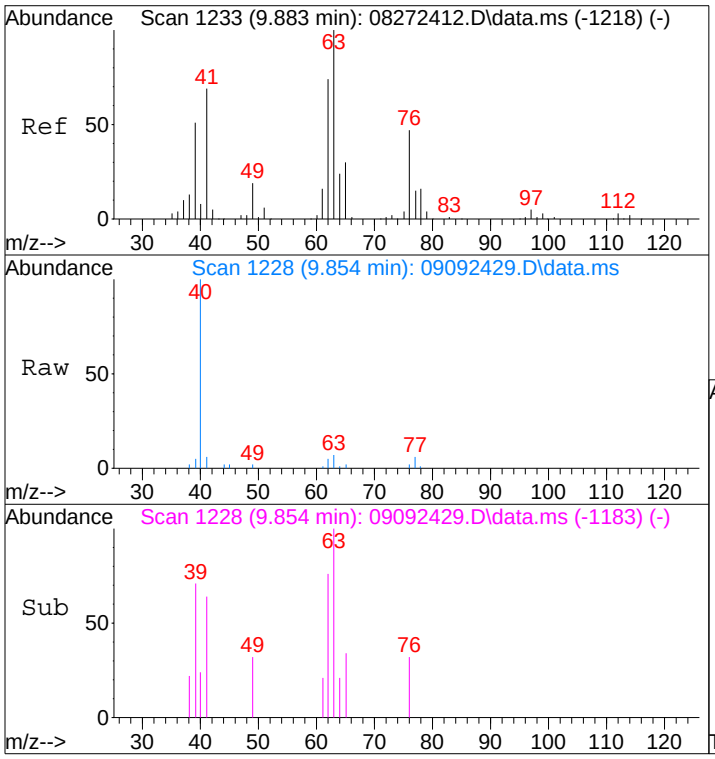


#43
Cyclohexane
Concen: 1.73 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.016 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 84 Resp: 35262

Ion	Ratio	Lower	Upper
84	100		
69	39.3	18.8	58.8
56	164.2	134.5	174.5

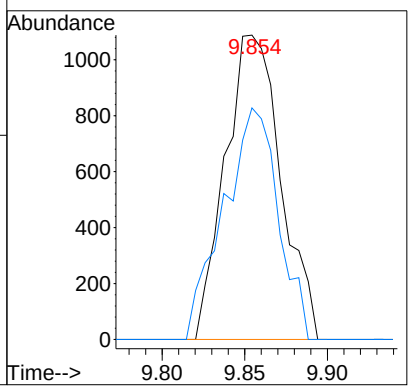


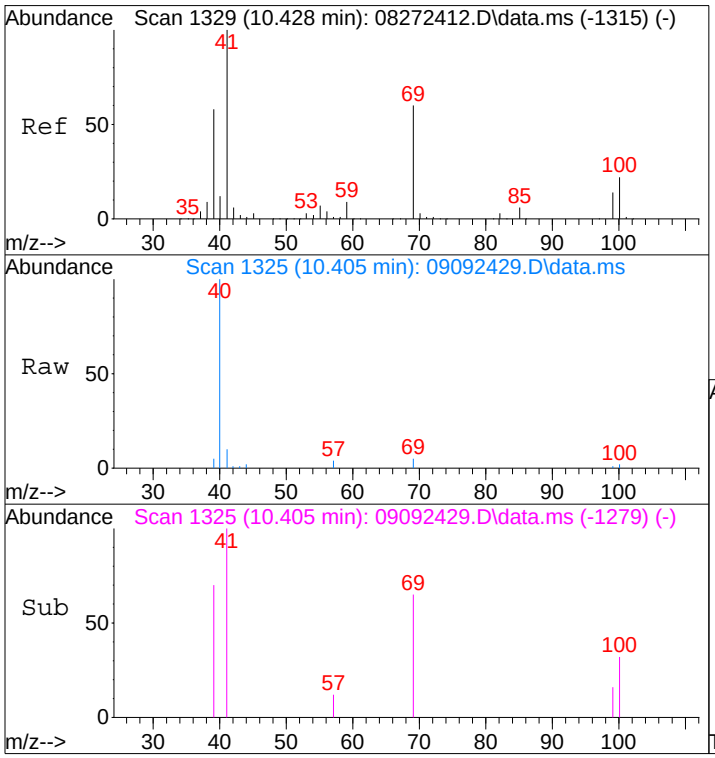


#45
1,2-Dichloropropane
Concen: 0.16 ng
RT: 9.85 min Scan# 1228
Delta R.T. 0.003 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 63 Resp: 2553

Ion	Ratio	Lower	Upper
63	100		
62	74.7	54.2	94.2

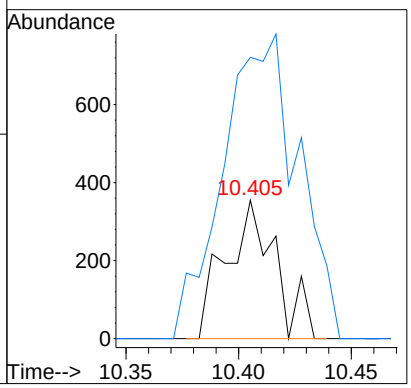


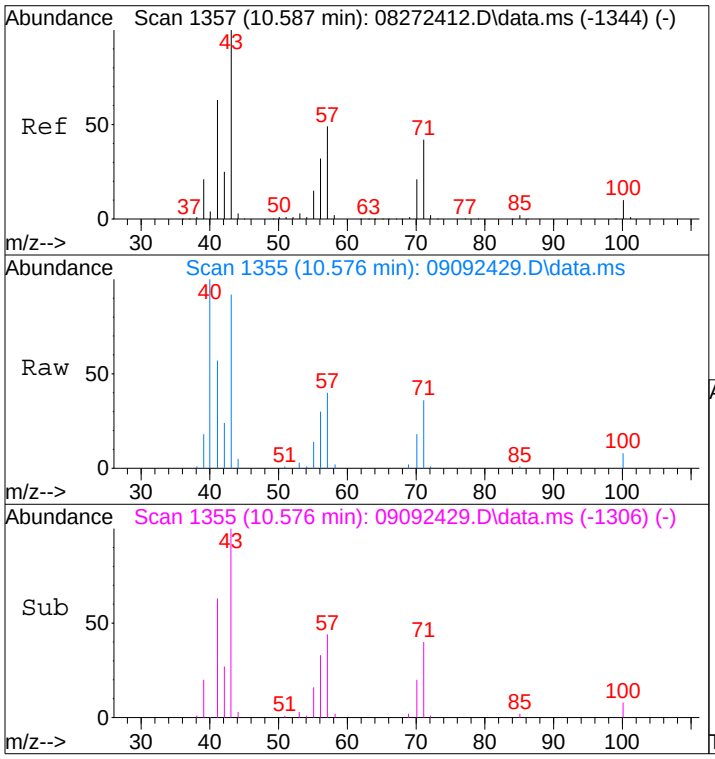


#50
Methyl Methacrylate
Concen: 0.10 ng
RT: 10.41 min Scan# 1325
Delta R.T. 0.012 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion:100 Resp: 543

Ion	Ratio	Lower	Upper
100	100		
69	334.4	260.7	300.7#

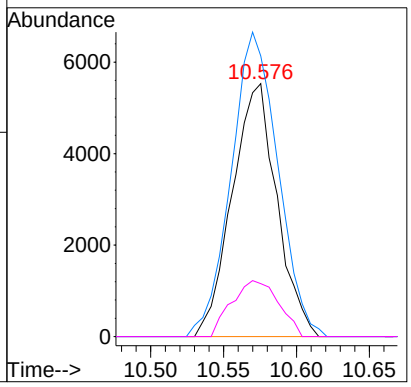


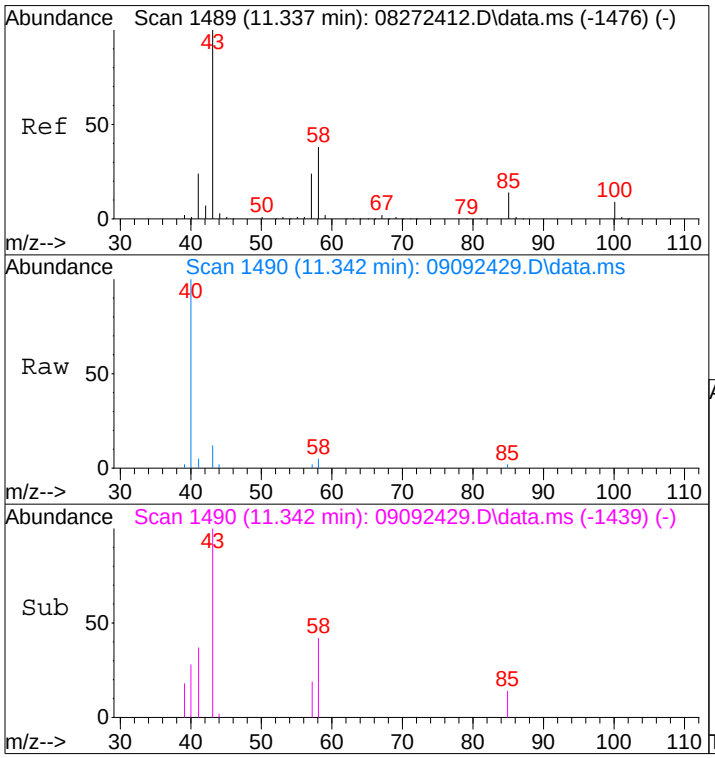


#51
n-Heptane
Concen: 0.88 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.029 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 71 Resp: 11818

Ion	Ratio	Lower	Upper
71	100		
57	125.8	97.1	137.1
100	23.2	5.0	45.0

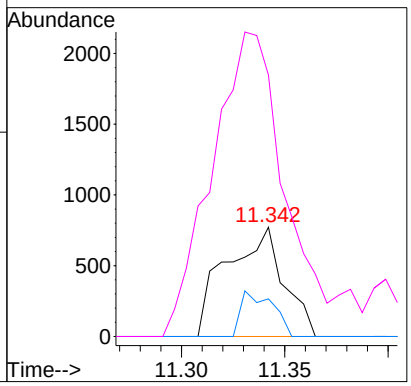


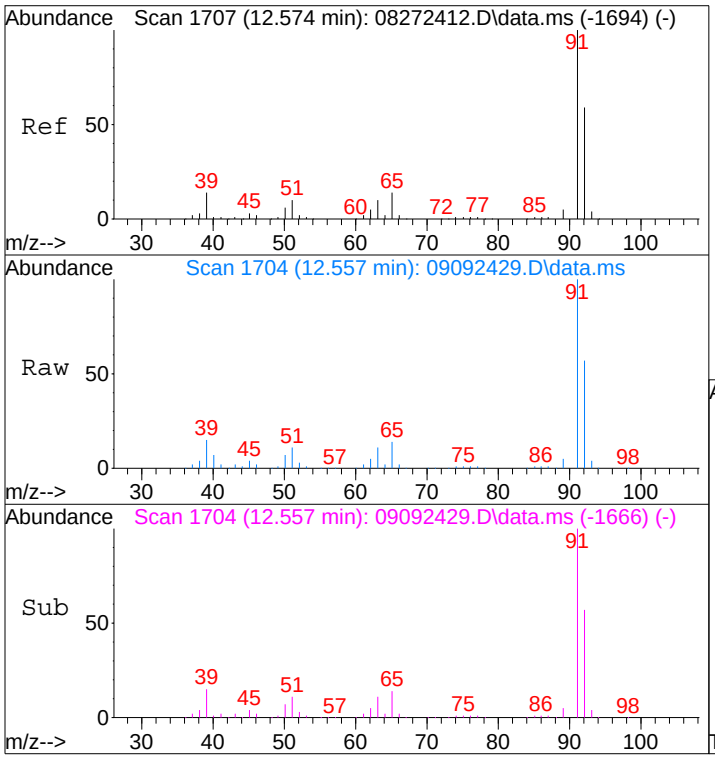


#53
4-Methyl-2-pentanone
Concen: 0.09 ng
RT: 11.34 min Scan# 1490
Delta R.T. 0.039 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 58 Resp: 1487

Ion	Ratio	Lower	Upper
58	100		
85	22.9	30.2	45.2#
43	368.3	215.1	322.7#

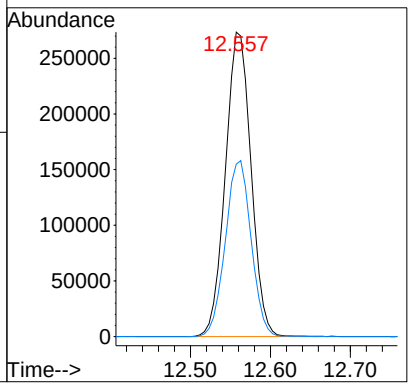


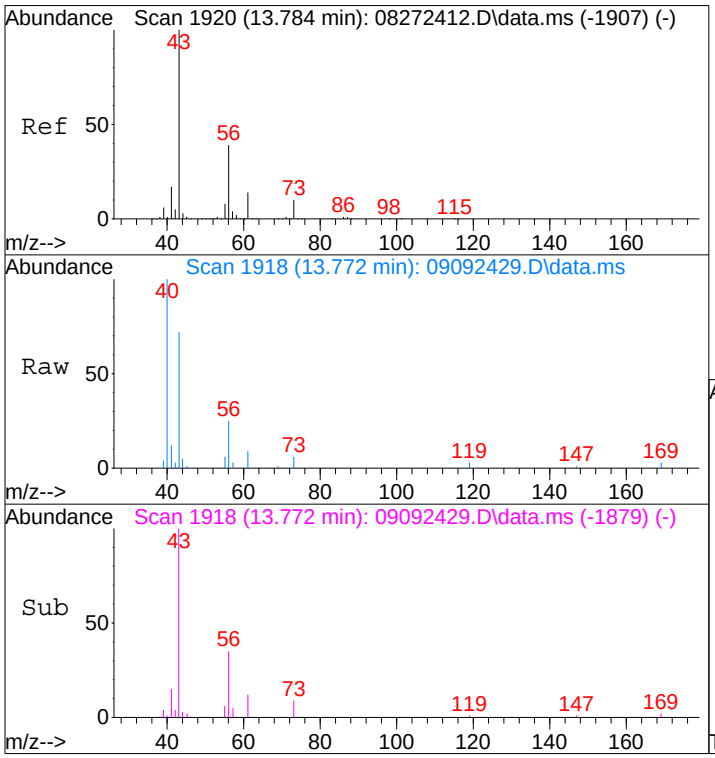


#58
Toluene
Concen: 8.51 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 91 Resp: 609562

Ion	Ratio	Lower	Upper
91	100		
92	58.1	38.5	78.5

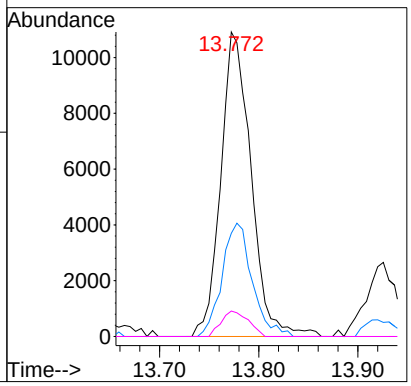


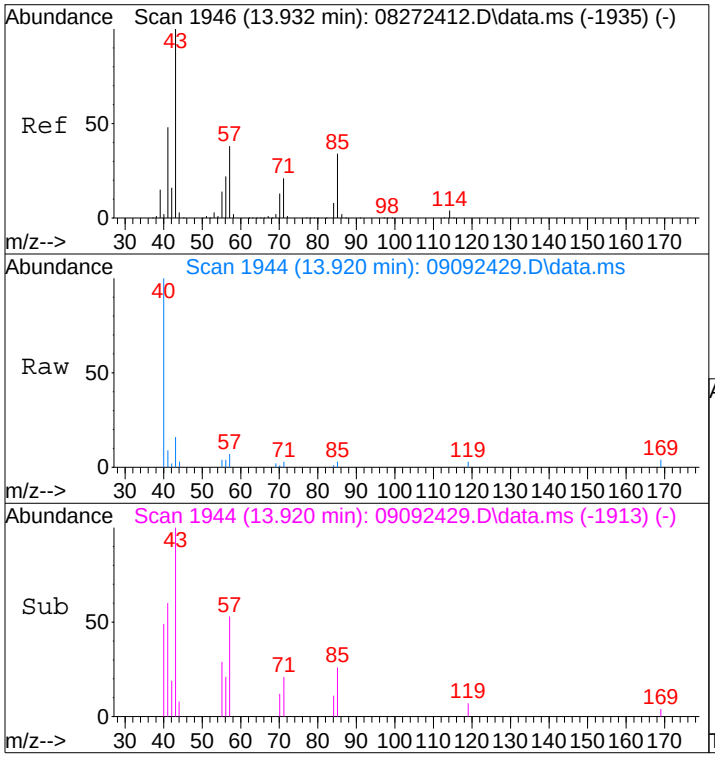


#62
n-Butyl Acetate
Concen: 0.47 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 43 Resp: 23178

Ion	Ratio	Lower	Upper
43	100		
56	36.9	18.2	58.2
73	7.5	0.0	30.1

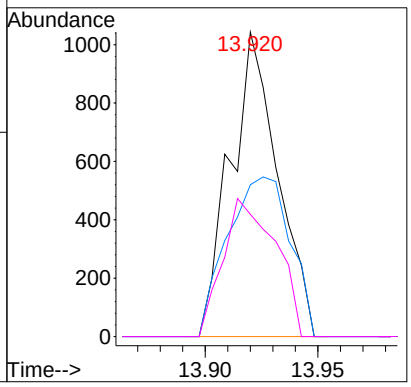


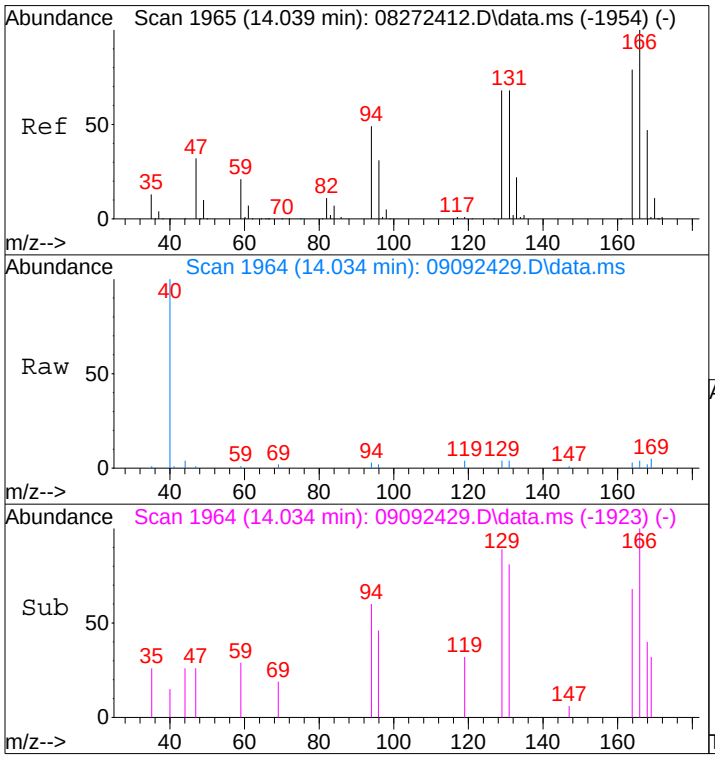


#63
n-Octane
Concen: 0.09 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 57 Resp: 1532

Ion	Ratio	Lower	Upper
57	100		
85	69.3	71.2	106.8#
71	50.4	43.3	64.9

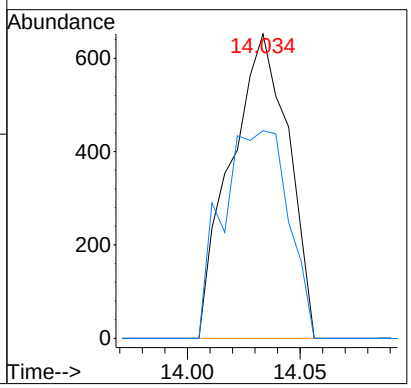


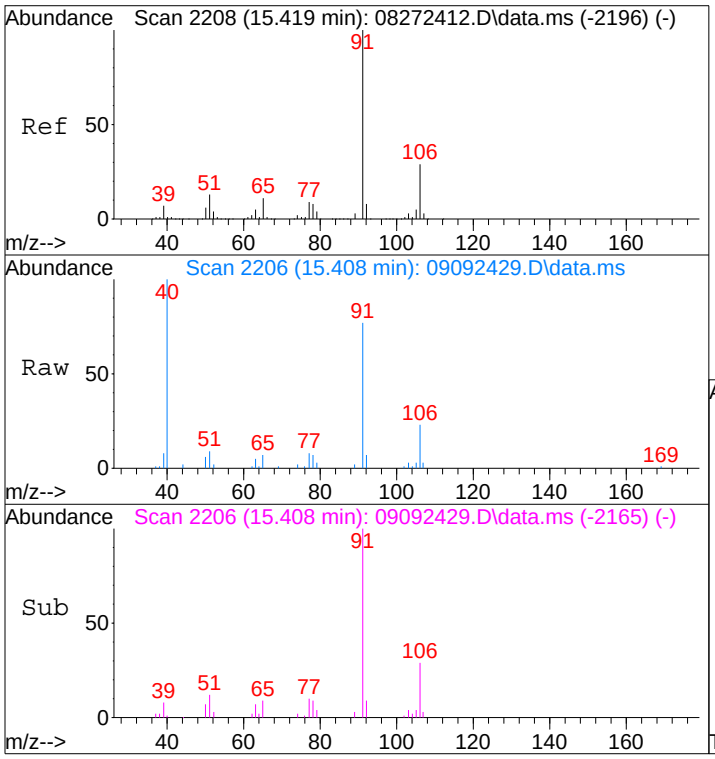


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion:166 Resp: 1159

Ion	Ratio	Lower	Upper
166	100		
164	78.4	59.0	99.0

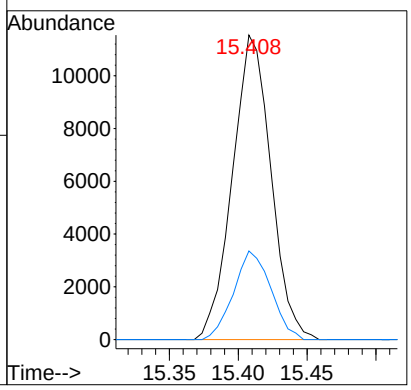


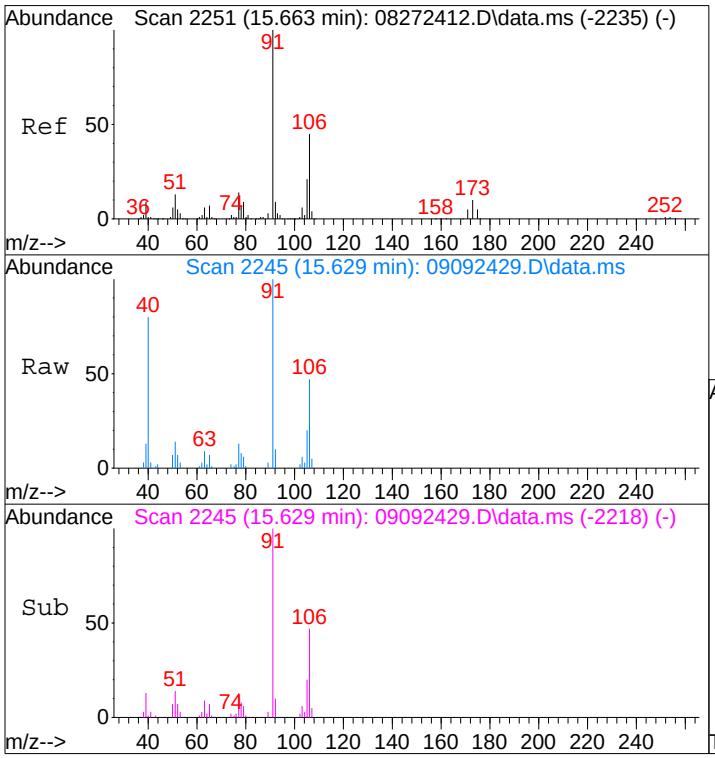


#66
Ethylbenzene
Concen: 0.27 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 91 Resp: 22463

Ion	Ratio	Lower	Upper
91	100		
106	28.2	9.2	49.2

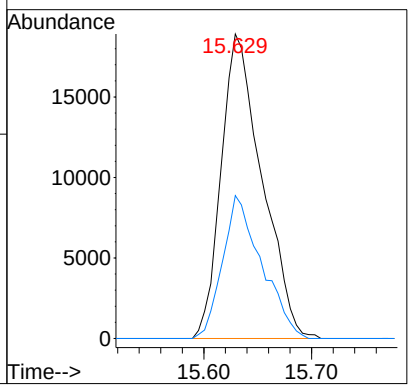


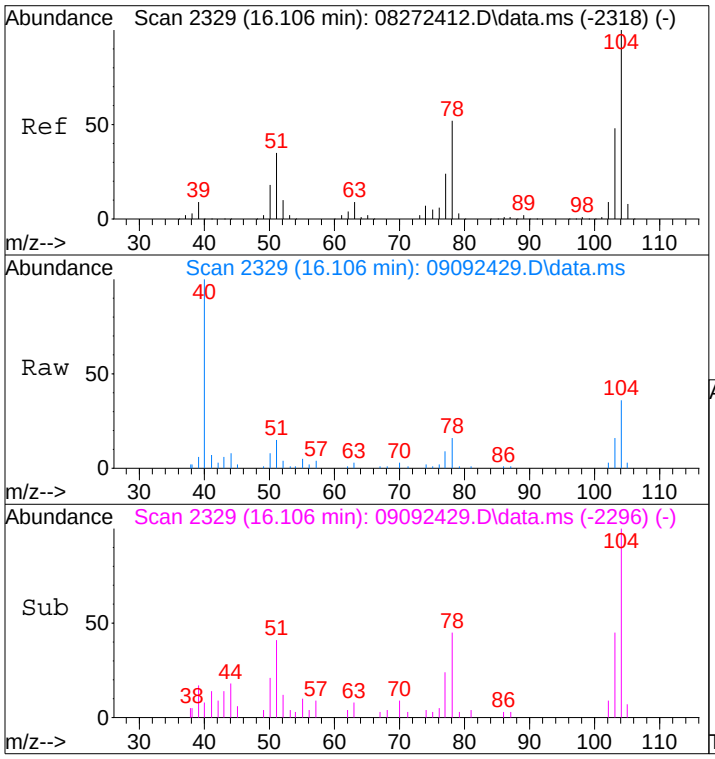


#67
m- & p-Xylenes
Concen: 0.74 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 91 Resp: 49855

Ion	Ratio	Lower	Upper
91	100		
106	44.8	23.8	63.8

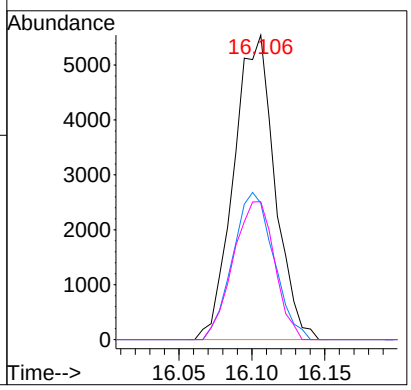


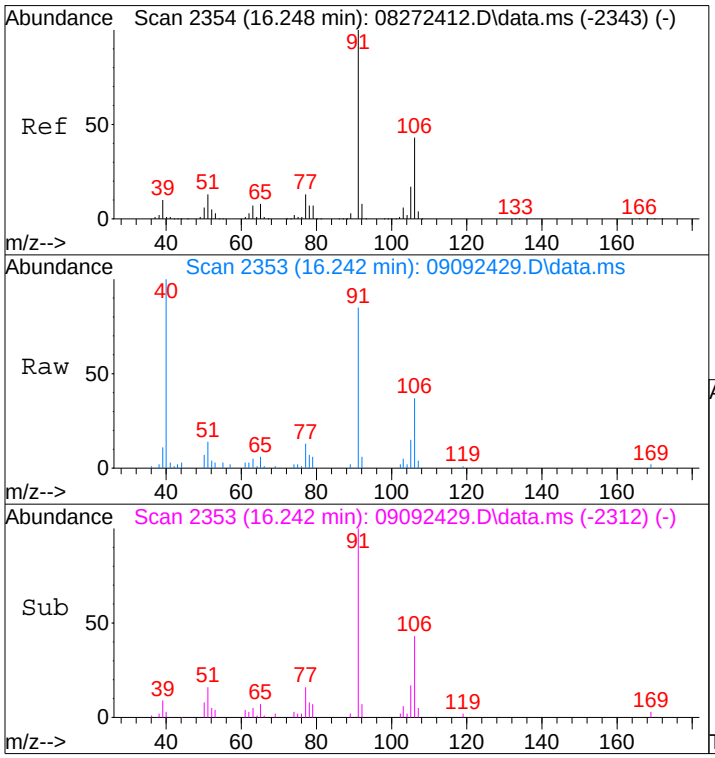


#69
Styrene
Concen: 0.25 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.011 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion:104 Resp: 10835

Ion	Ratio	Lower	Upper
104	100		
78	48.4	32.2	72.2
103	45.6	28.3	68.3

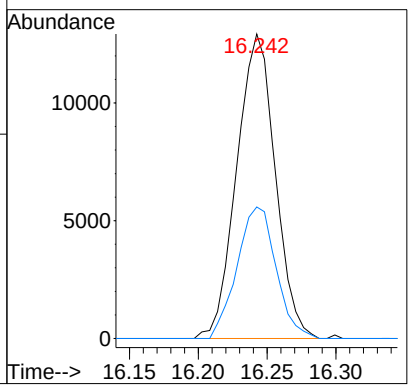


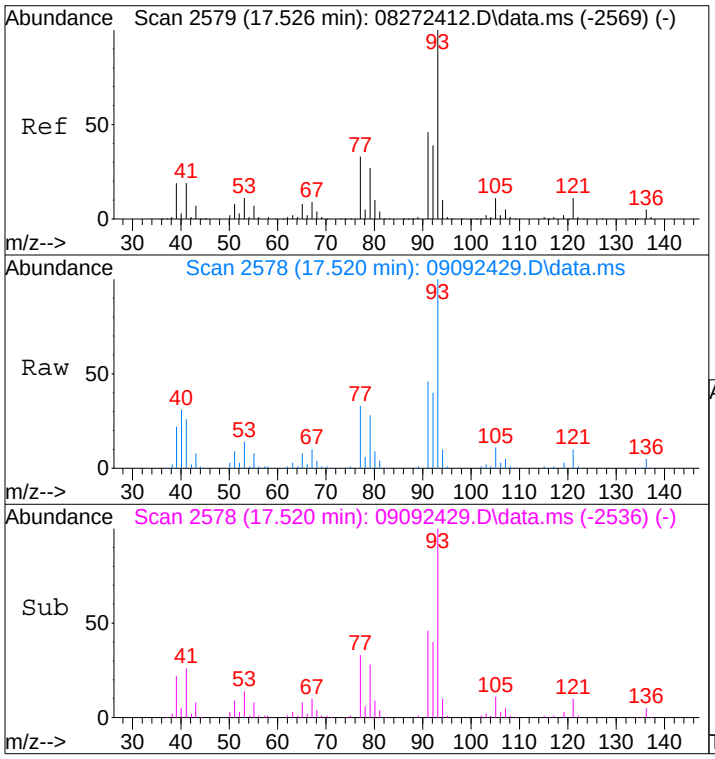


#70
o-Xylene
Concen: 0.38 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 91 Resp: 25152

Ion	Ratio	Lower	Upper
91	100		
106	43.8	22.5	62.5

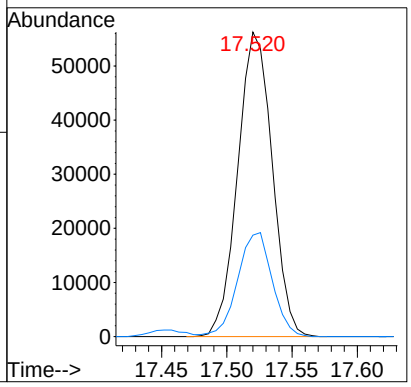


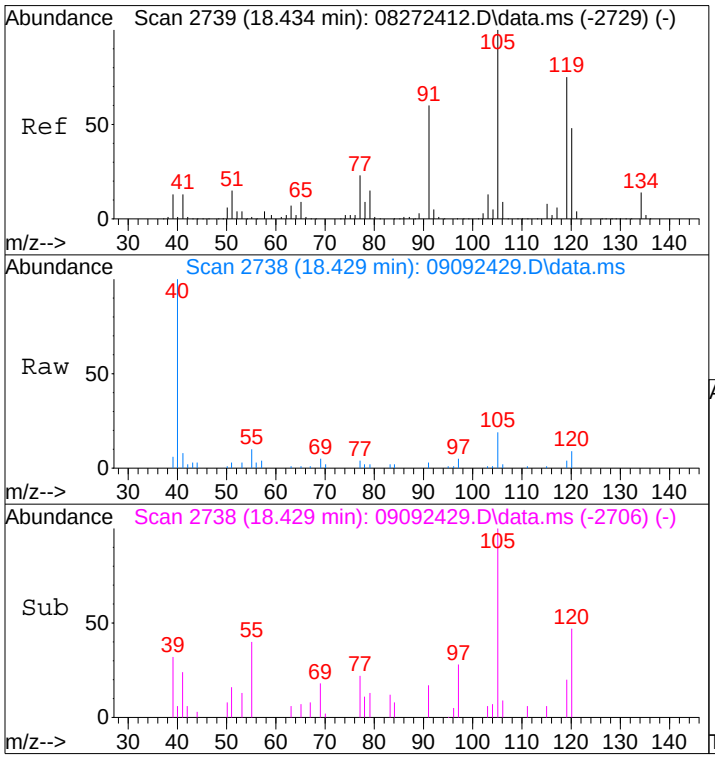


#75
alpha-Pinene
Concen: 2.62 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 93 Resp: 103236

Ion	Ratio	Lower	Upper
93	100		
77	34.3	13.1	53.1

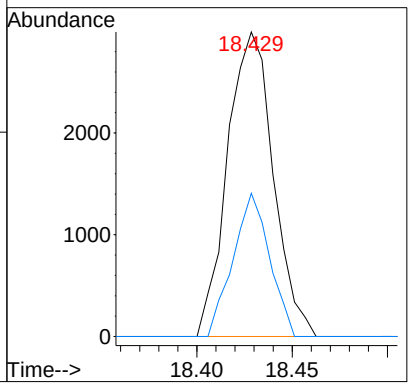


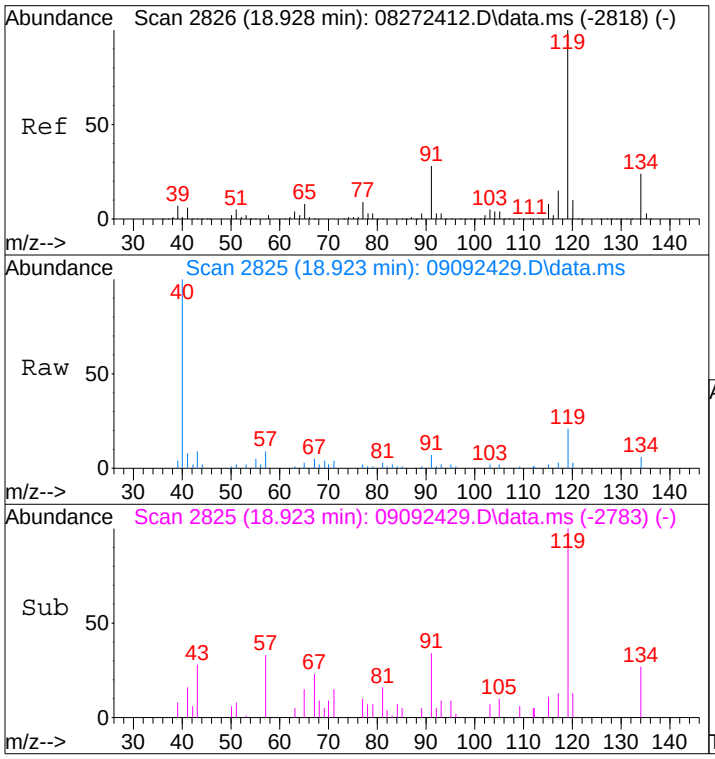


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion:105 Resp: 4995

Ion	Ratio	Lower	Upper
105	100		
120	37.5	28.8	68.8

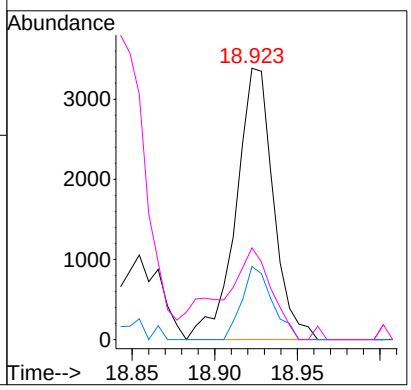


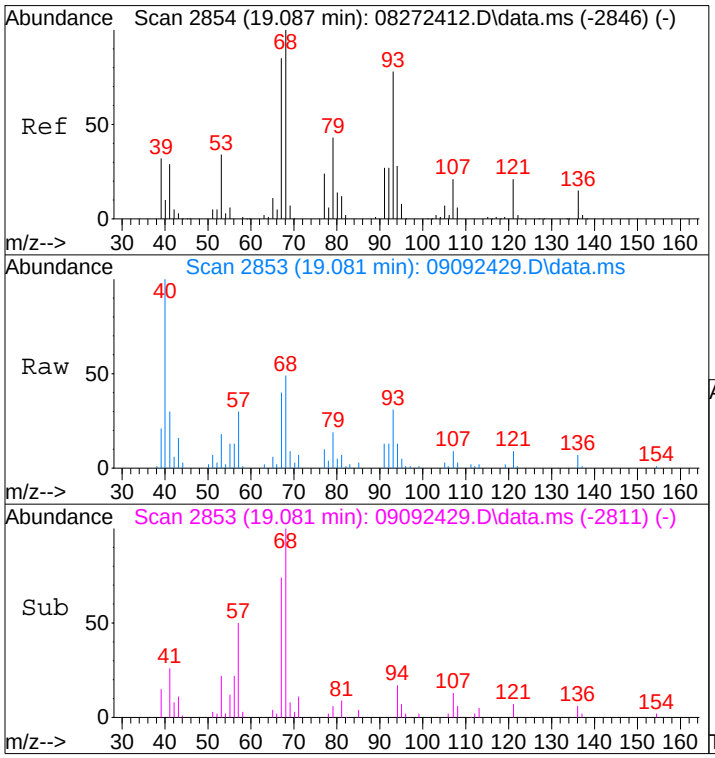


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.07 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion:119 Resp: 5333

Ion	Ratio	Lower	Upper
119	100		
134	21.9	4.7	44.7
91	46.3	8.1	48.1

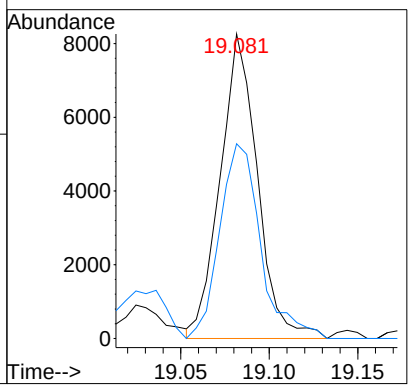




#91
d-Limonene
Concen: 0.54 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092429.D
Acq: 10 Sep 2024 00:17

Tgt Ion: 68 Resp: 12074

Ion	Ratio	Lower	Upper
68	100		
93	70.3	56.2	96.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:39:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

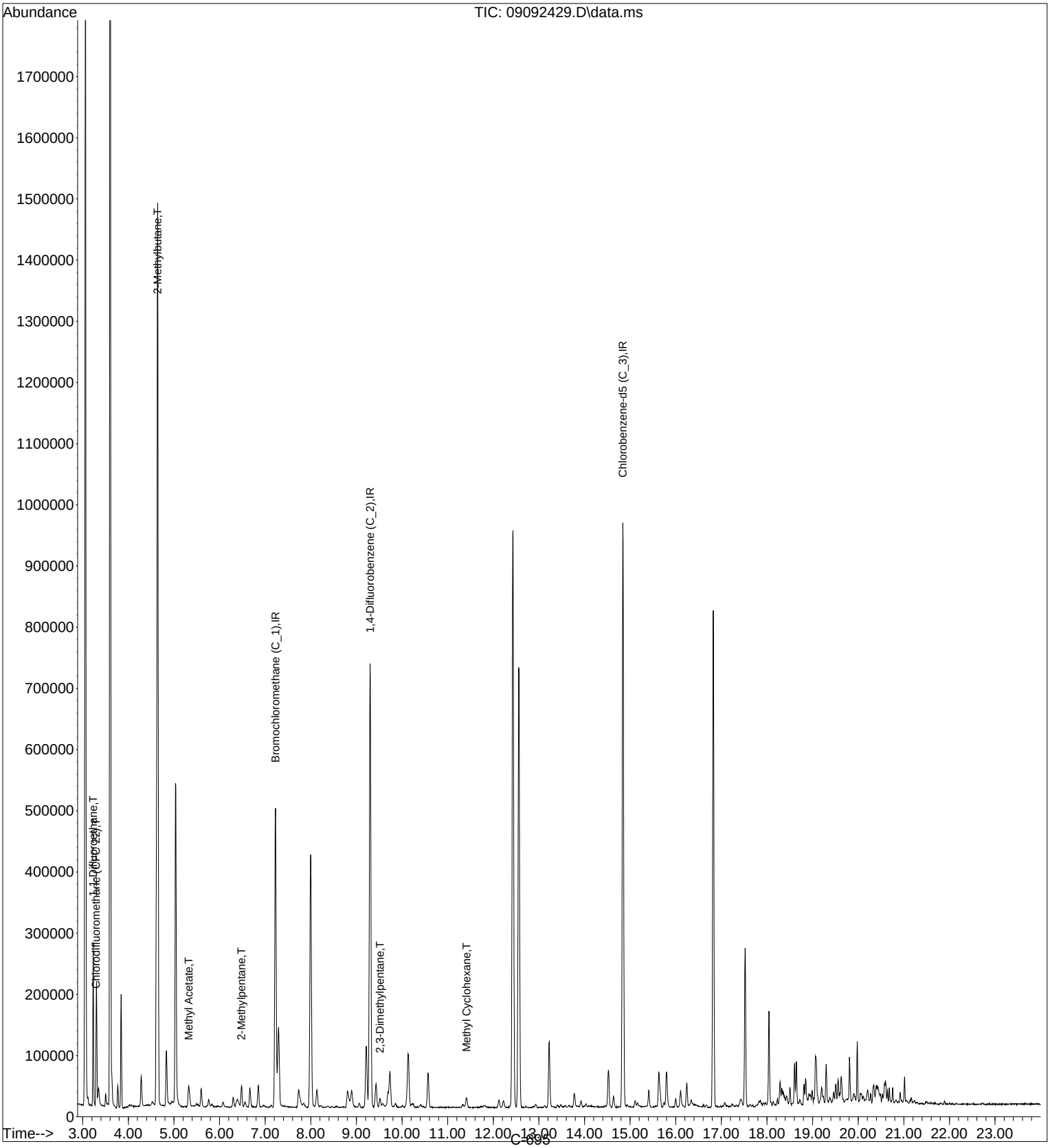
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145948	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	643410	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	188957	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1086	N.D.			
4) 1,1-Difluoroethane	3.23	65	62022	4.867	ng		92
5) Chlorodifluoromethane ...	3.29	67	912	0.183	ng		88
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.64	57	300097	17.240	ng		92
11) Methyl Acetate	5.32	43	36396	0.740	ng	#	62
12) 2-Methylpentane	6.48	71	5967	0.472	ng		97
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.05	84	379	N.D.			
17) 2,3-Dimethylpentane	9.51	56	7891	0.253	ng		92
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.42	55	7196	0.222	ng		94
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.20	91	51	N.D.			
24) 1,2,3-Trichloropropane	16.34	75	233	N.D.			
25) Bromobenzene	17.03	77	218	N.D.			
26) 2-Chlorotoluene	17.62	91	530	N.D.			
27) 4-Chlorotoluene	17.68	91	2276	N.D.			
28) Indane	19.11	117	502	N.D.			
29) Indene	19.21	115	54	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	865	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	865	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	936	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:39:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

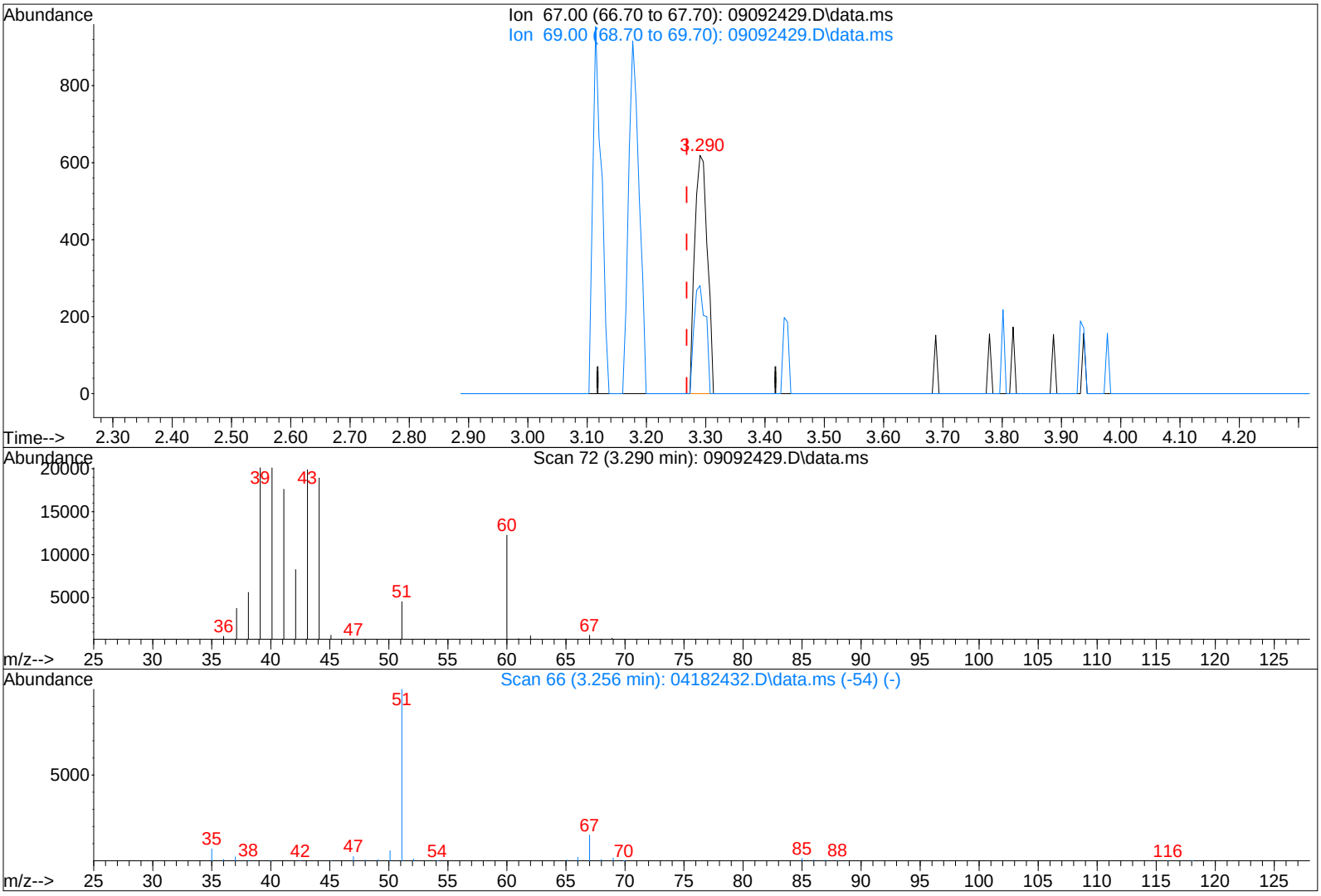


C-095

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092429.D Vial: 16
Acq On : 10 Sep 2024 00:17 Operator: SC
Sample : P2403661-013 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:38:37 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092429.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.290min (+0.023) 0.18ng

response 912

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	41.34
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092429.D
Acq On : 10 Sep 2024 00:17
Operator : SC
Sample : P2403661-013 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092429.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	68	rVB	266105	275678	5.84%	1.023%
2	3.302	68	74	78	rVV2	202412	291032	6.17%	1.080%
3	3.347	78	82	94	rVB	29240	65542	1.39%	0.243%
4	3.500	104	109	114	rBV	20657	32468	0.69%	0.121%
5	3.603	121	127	142	rVB	3555440	4719063	100.00%	17.518%
6	3.767	150	156	162	rBV	36966	53406	1.13%	0.198%
7	3.841	162	169	175	rVB	186142	249552	5.29%	0.926%
8	4.284	239	247	262	rBV	49373	92899	1.97%	0.345%
9	4.523	280	289	297	rBV4	6241	16967	0.36%	0.063%
10	4.642	300	310	327	rVB2	1475551	2965142	62.83%	11.007%
11	4.835	338	344	351	rBV	90039	167319	3.55%	0.621%
12	5.034	372	379	400	rVB	528498	965862	20.47%	3.585%
13	5.323	422	430	440	rBV2	35070	90880	1.93%	0.337%
14	5.596	472	478	488	rVB2	29286	57655	1.22%	0.214%
15	5.760	502	507	514	rVB2	10518	19485	0.41%	0.072%
16	6.078	557	563	570	rBV2	7546	14846	0.31%	0.055%
17	6.294	595	601	607	rBV2	16354	32467	0.69%	0.121%
18	6.391	609	618	628	rVV10	13170	50063	1.06%	0.186%
19	6.481	628	634	641	rVV	34790	70422	1.49%	0.261%
20	6.561	641	648	658	rVV3	8087	19825	0.42%	0.074%
21	6.663	660	666	678	rBV	32094	64916	1.38%	0.241%
22	6.851	690	699	706	rBV2	35475	74891	1.59%	0.278%
23	7.225	755	765	771	rBV	488532	1056048	22.38%	3.920%
24	7.293	771	777	787	rVB3	127846	323770	6.86%	1.202%
25	7.731	847	854	868	rBV2	29008	95686	2.03%	0.355%
26	7.844	868	874	885	rVB3	6895	20642	0.44%	0.077%
27	7.998	889	901	912	rBV	413766	962813	20.40%	3.574%
28	8.134	917	925	933	rVB	27745	64206	1.36%	0.238%
29	8.804	1036	1043	1052	rBV2	27086	84270	1.79%	0.313%
30	8.895	1052	1059	1070	rVB3	26320	75348	1.60%	0.280%
31	9.059	1083	1088	1094	rVB4	6766	13109	0.28%	0.049%
32	9.213	1105	1115	1122	rBV	99312	241767	5.12%	0.897%
33	9.298	1122	1130	1141	rVV	724679	1666306	35.31%	6.186%
34	9.428	1143	1153	1163	rBV2	38487	95211	2.02%	0.353%
35	9.514	1163	1168	1175	rBV4	13311	30429	0.64%	0.113%
36	9.576	1175	1179	1188	rVV3	5313	13487	0.29%	0.050%
37	9.695	1188	1200	1201	rVV4	23813	46282	0.98%	0.172%
38	9.735	1201	1207	1216	rVB2	57863	139298	2.95%	0.517%
39	9.860	1223	1229	1235	rVB4	6642	14888	0.32%	0.055%
40	10.133	1262	1277	1286	rBV	87828	253633	5.37%	0.942%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092429.D
Acq On : 10 Sep 2024 00:17
Operator : SC
Sample : P2403661-013 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	10.411	1317	1326	1333	rBV5	4764	11295	0.24%	0.042%
42	10.570	1343	1354	1362	rBV	56620	132747	2.81%	0.493%
43	11.336	1483	1489	1494	rBV4	4849	11273	0.24%	0.042%
44	11.416	1494	1503	1510	rVB5	15539	40155	0.85%	0.149%
45	12.222	1636	1645	1655	rVB3	11283	29330	0.62%	0.109%
46	12.432	1668	1682	1695	rBV	942879	2181182	46.22%	8.097%
47	12.557	1695	1704	1715	rVB	718788	1611614	34.15%	5.983%
48	12.932	1765	1770	1780	rVB4	6281	14139	0.30%	0.052%
49	13.227	1812	1822	1831	rBV	107567	226994	4.81%	0.843%
50	13.772	1911	1918	1926	rBV3	22788	51389	1.09%	0.191%
51	13.926	1938	1945	1950	rVB3	9698	18458	0.39%	0.069%
52	14.528	2042	2051	2063	rVB	60820	142528	3.02%	0.529%
53	14.635	2063	2070	2078	rVB4	18229	38118	0.81%	0.142%
54	14.840	2096	2106	2119	rBV	954528	1966042	41.66%	7.298%
55	15.107	2147	2153	2159	rBV7	10441	22605	0.48%	0.084%
56	15.408	2197	2206	2215	rVB2	27789	58795	1.25%	0.218%
57	15.629	2238	2245	2256	rVB2	56410	146985	3.11%	0.546%
58	15.743	2259	2265	2268	rBV4	7663	14005	0.30%	0.052%
59	15.799	2268	2275	2286	rVB2	56858	132535	2.81%	0.492%
60	15.998	2304	2310	2318	rVB4	14206	25811	0.55%	0.096%
61	16.106	2322	2329	2338	rBV4	26899	57363	1.22%	0.213%
62	16.242	2345	2353	2360	rBV2	40573	82763	1.75%	0.307%
63	16.339	2364	2370	2376	rVV3	7903	16519	0.35%	0.061%
64	16.668	2423	2428	2434	rVB4	4515	10868	0.23%	0.040%
65	16.822	2446	2455	2465	rBV	812030	1516865	32.14%	5.631%
66	17.071	2494	2499	2506	rVB4	6909	14980	0.32%	0.056%
67	17.435	2553	2563	2570	rBV5	10961	34458	0.73%	0.128%
68	17.520	2570	2578	2586	rVB	258299	473489	10.03%	1.758%
69	17.832	2625	2633	2634	rBV4	7143	13299	0.28%	0.049%
70	18.042	2662	2670	2676	rBV	153085	259898	5.51%	0.965%
71	18.133	2682	2686	2690	rBV5	7084	11669	0.25%	0.043%
72	18.230	2697	2703	2706	rBV2	10584	14509	0.31%	0.054%
73	18.287	2707	2713	2717	rBV2	35818	66695	1.41%	0.248%
74	18.321	2717	2719	2723	rVV4	18291	28905	0.61%	0.107%
75	18.355	2723	2725	2729	rVB2	10385	13313	0.28%	0.049%
76	18.429	2734	2738	2745	rVV5	15516	36184	0.77%	0.134%
77	18.502	2745	2751	2757	rVB7	28844	50724	1.07%	0.188%
78	18.605	2763	2769	2772	rBV2	65442	97783	2.07%	0.363%
79	18.644	2772	2776	2781	rVB	68831	104911	2.22%	0.389%
80	18.718	2786	2789	2800	rVB8	9139	19084	0.40%	0.071%
81	18.809	2800	2805	2808	rBV	34346	53955	1.14%	0.200%
82	18.849	2808	2812	2819	rVB3	34561	55628	1.18%	0.207%
83	18.923	2821	2825	2828	rBV4	10542	17393	0.37%	0.065%
84	18.991	2833	2837	2841	rVB2	18696	28261	0.60%	0.105%
85	19.064	2845	2850	2863	rVB2	77043	210458	4.46%	0.781%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092429.D
Acq On : 10 Sep 2024 00:17
Operator : SC
Sample : P2403661-013 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

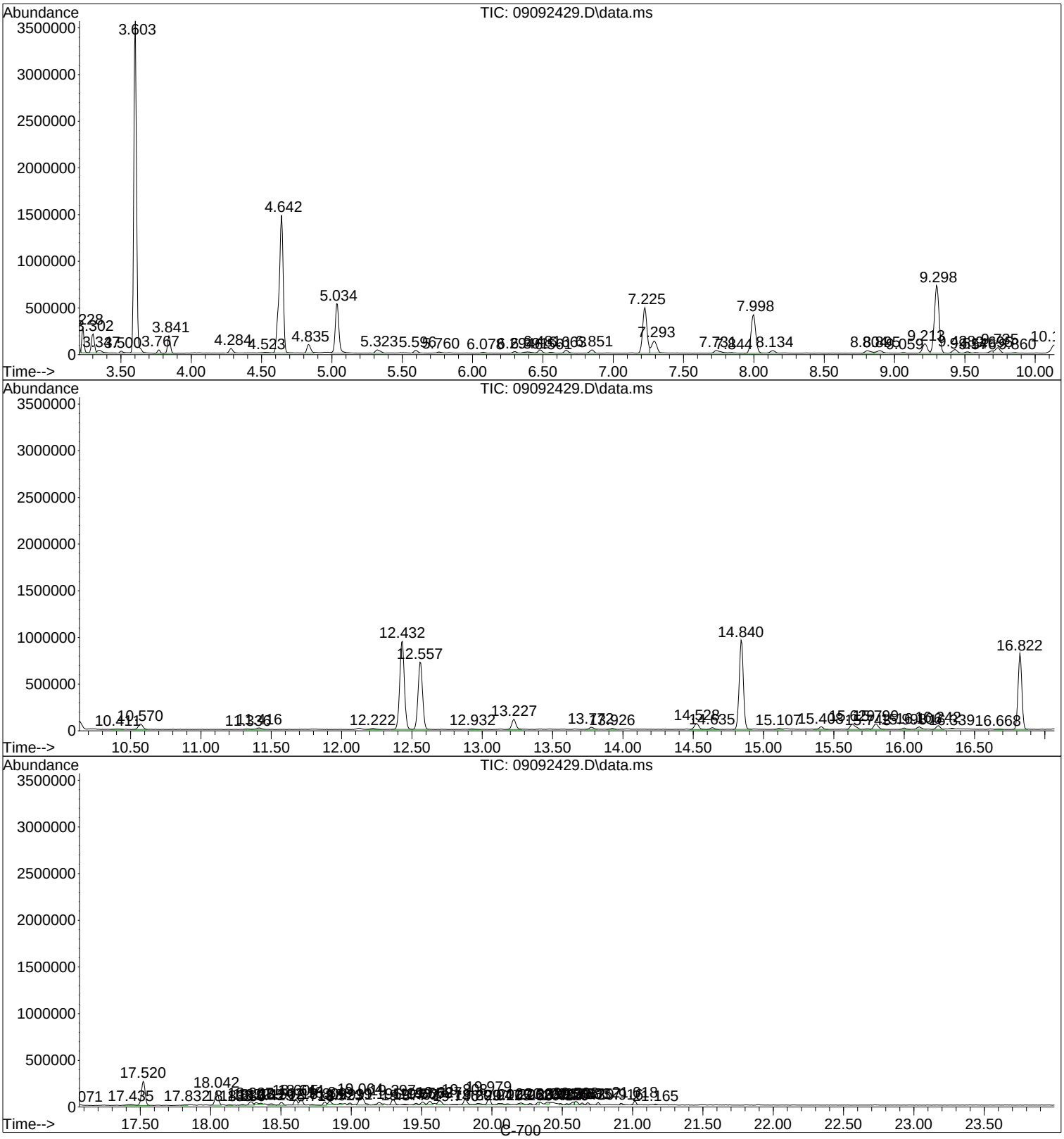
86	19.195	2863	2873	2879	rBV4	26271	65770	1.39%	0.244%
87	19.297	2885	2891	2899	rBV	63241	106397	2.25%	0.395%
88	19.377	2899	2905	2912	rVB8	8888	19388	0.41%	0.072%
89	19.462	2913	2920	2924	rBV3	16329	29830	0.63%	0.111%
90	19.507	2924	2928	2932	rVV4	27840	47379	1.00%	0.176%
91	19.558	2932	2937	2941	rVV4	35105	62441	1.32%	0.232%
92	19.627	2945	2949	2956	rVV4	38809	76971	1.63%	0.286%
93	19.746	2960	2970	2972	rBV8	5249	14540	0.31%	0.054%
94	19.808	2977	2981	2989	rVV2	72569	108141	2.29%	0.401%
95	19.899	2989	2997	3006	rVV8	12825	35146	0.74%	0.130%
96	19.979	3006	3011	3017	rVB	98310	128265	2.72%	0.476%
97	20.047	3019	3023	3030	rVV7	12788	32555	0.69%	0.121%
98	20.115	3031	3035	3038	rVB5	7662	11801	0.25%	0.044%
99	20.206	3045	3051	3057	rVB4	17594	37464	0.79%	0.139%
100	20.268	3059	3062	3067	rVB3	15243	22019	0.47%	0.082%
101	20.331	3067	3073	3074	rBV2	27555	39080	0.83%	0.145%
102	20.399	3080	3085	3087	rBV4	18409	32433	0.69%	0.120%
103	20.484	3099	3100	3104	rVB3	13052	13338	0.28%	0.050%
104	20.529	3104	3108	3111	rVV4	12338	17723	0.38%	0.066%
105	20.575	3111	3116	3118	rVV	29578	48941	1.04%	0.182%
106	20.598	3118	3120	3125	rVV3	34929	52695	1.12%	0.196%
107	20.643	3125	3128	3131	rVV2	20045	23768	0.50%	0.088%
108	20.683	3131	3135	3139	rVV2	24402	31877	0.68%	0.118%
109	20.757	3143	3148	3153	rVB3	25357	32963	0.70%	0.122%
110	20.916	3172	3176	3181	rBV5	16681	25347	0.54%	0.094%
111	21.018	3186	3194	3198	rBV	42460	56935	1.21%	0.211%
112	21.165	3217	3220	3224	rVB3	8282	11550	0.24%	0.043%

Sum of corrected areas: 26938304

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092429.D
Acq On : 10 Sep 2024 00:17
Operator : SC
Sample : P2403661-013 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092429.D
Acq On : 10 Sep 2024 00:177
Operator : SCC
Sample : P2403661-013 (400mL))
Misc : S37-060624022
ALS Vial : 16 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected

****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:14:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131926	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	571456	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	177104	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	339136	13.738	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.92%				
57) Toluene-d8 (SS2)	12.43	98	661451	10.646	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
73) Bromofluorobenzene (SS3)	16.82	174	224969	10.827	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	19890	0.621	ng		97
4) Chloromethane	3.52	50	8146	0.325	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.63	135	243	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	103	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	17552	1.226	ng		76
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.54	56	1714	0.157	ng		91
13) Acetone	4.64	58	50354	4.168	ng		90
14) Trichlorofluoromethane	4.77	101	9136	0.299	ng		98
15) 2-Propanol (Isopropanol)	4.84	45	886040	18.627	ng		93
16) Acrylonitrile	5.05	53	441	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	515	N.D.			
19) Methylene Chloride	5.36	84	996	0.070	ng	#	74
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.59	151	1681	0.139	ng		98
22) Carbon Disulfide	5.61	76	10313	0.219	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	6159	0.719	ng	#	65
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	17515	3.050	ng		89
31) n-Hexane	7.30	57	1530	0.058	ng	#	92
32) Chloroform	7.36	83	218	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.00	62	116	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	5146	No Calib			
41) Benzene	8.89	78	3309	0.062	ng		96
42) Carbon Tetrachloride	9.07	117	2357	0.106	ng		97
43) Cyclohexane	9.22	84	430	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:14:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

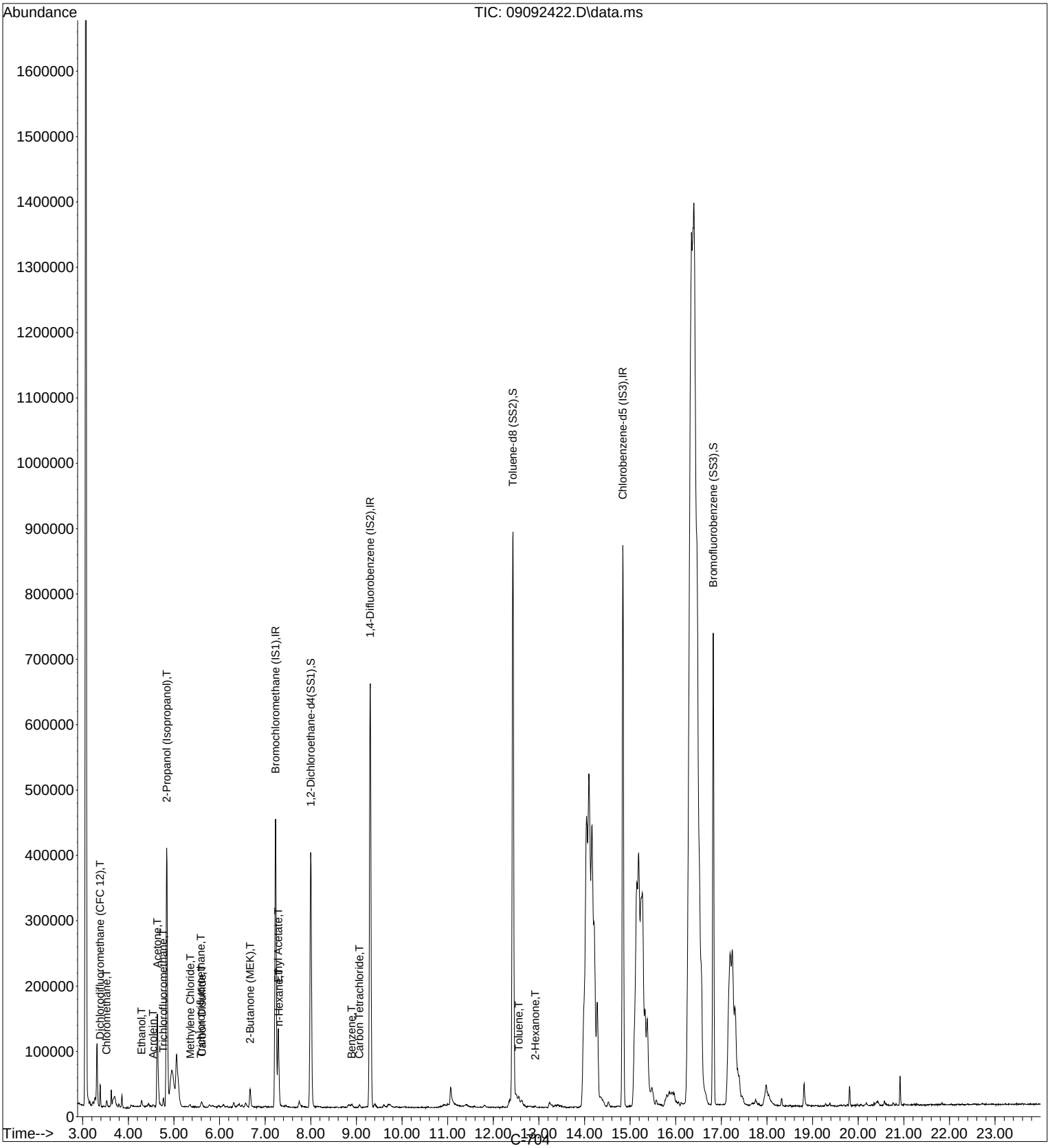
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5091	0.076 ng	95
59) 2-Hexanone	12.92	43	3058	0.074 ng	73
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.80	43	215	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D. d	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.42	91	368	N.D.	
67) m- & p-Xylenes	15.66	91	277	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	308	N.D.	
71) n-Nonane	16.62	43	947	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	111	N.D.	
74) Cumene	17.03	105	132	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	419	N.D.	
77) 3-Ethyltoluene	17.03	105	132	No Calib	#
78) 4-Ethyltoluene	17.86	105	120	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	132	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	278	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	181	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	131	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1316	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	132	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	121	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.98	58	772	No Calib	#
94) 1,2,4-Trichlorobenzene	20.83	180	332	N.D.	
95) Naphthalene	20.94	128	554	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	246	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	523	N.D.	
100) n-Butylbenzene	19.38	91	340	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:14:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:14:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

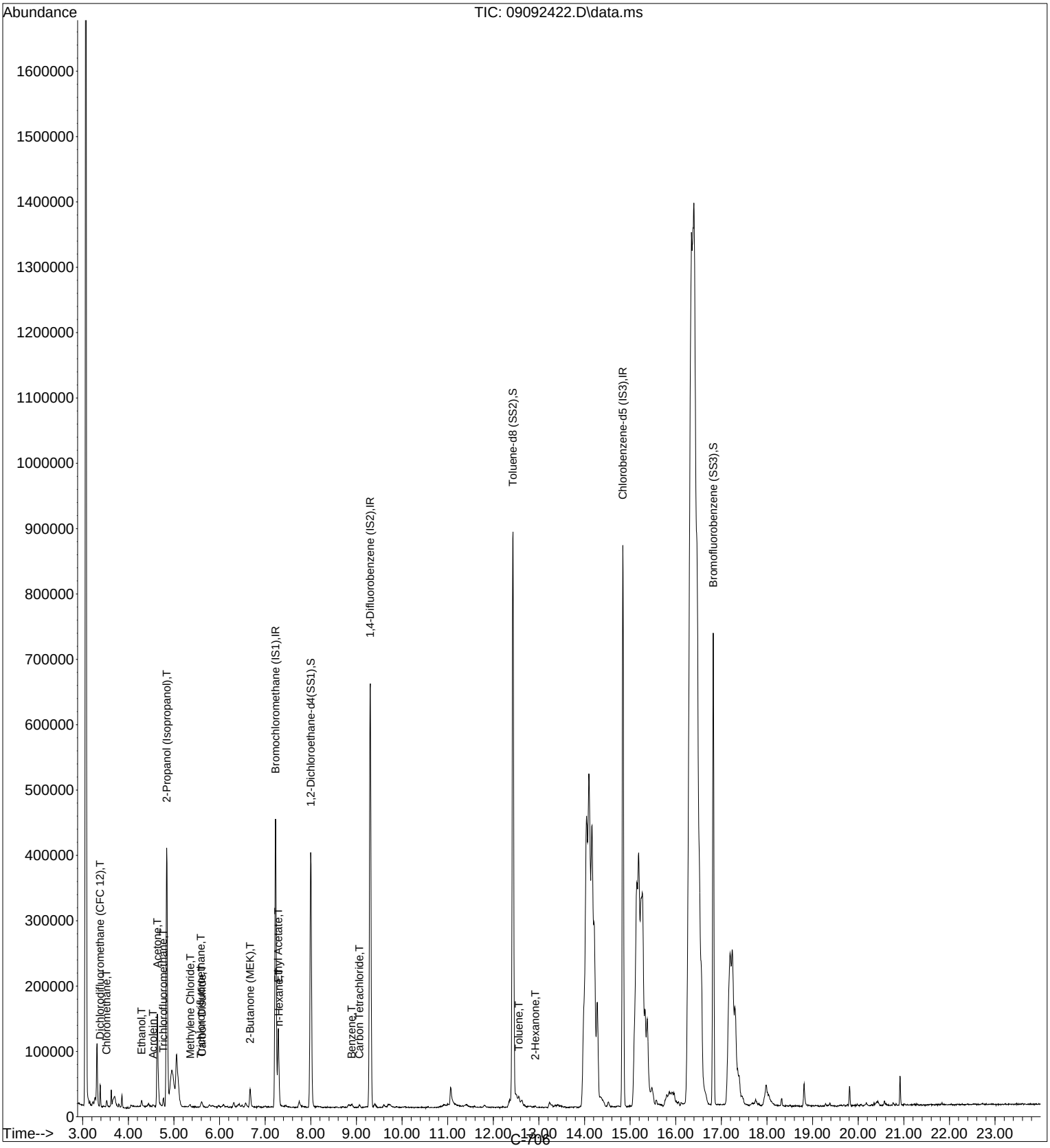
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131926	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	571456	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	177104	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	339136	13.738	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.92%				
57) Toluene-d8 (SS2)	12.43	98	661451	10.646	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.20%				
73) Bromofluorobenzene (SS3)	16.82	174	224969	10.827	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	19890	0.621	ng		97
4) Chloromethane	3.52	50	8146	0.325	ng		93
10) Ethanol	4.29	45	17552	1.226	ng		76
12) Acrolein	4.54	56	1714	0.157	ng		91
13) Acetone	4.64	58	50354	4.168	ng		90
14) Trichlorofluoromethane	4.77	101	9136	0.299	ng		98
15) 2-Propanol (Isopropanol)	4.84	45	886040	18.627	ng		93
19) Methylene Chloride	5.36	84	996	0.070	ng	#	74
21) Trichlorotrifluoroethane	5.59	151	1681	0.139	ng		98
22) Carbon Disulfide	5.61	76	10313	0.219	ng		97
27) 2-Butanone (MEK)	6.67	72	6159	0.719	ng	#	65
30) Ethyl Acetate	7.29	61	17515	3.050	ng		89
31) n-Hexane	7.30	57	1530	0.058	ng	#	92
41) Benzene	8.89	78	3309	0.062	ng		96
42) Carbon Tetrachloride	9.07	117	2357	0.106	ng		97
58) Toluene	12.56	91	5091	0.076	ng		95
59) 2-Hexanone	12.92	43	3058	0.074	ng		73

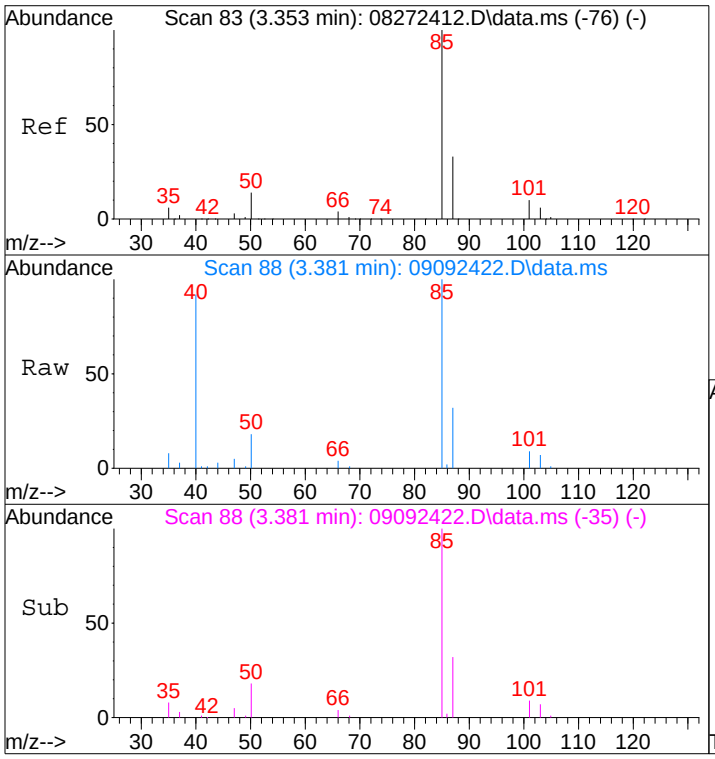
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:14:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

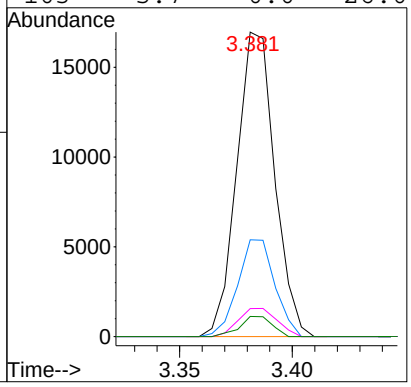


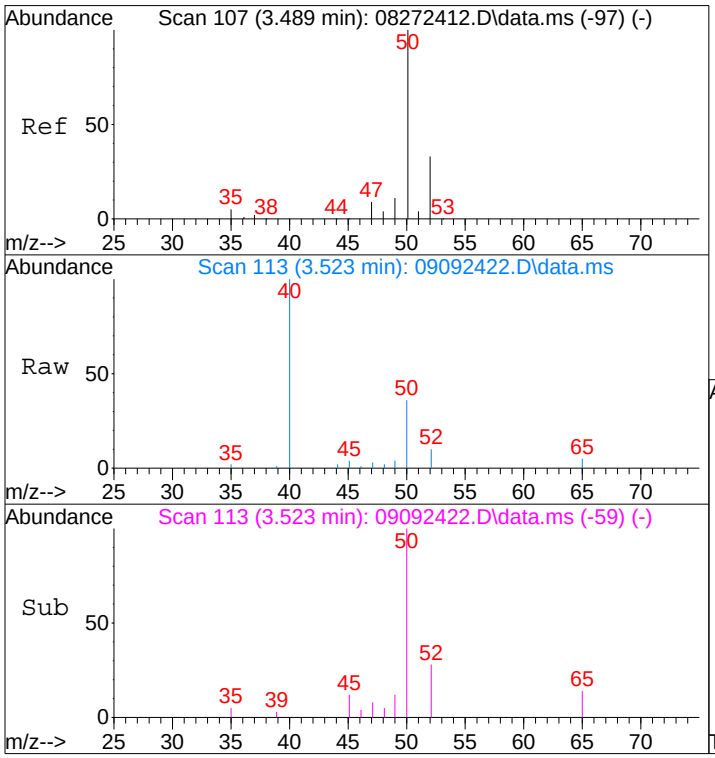


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.62 ng
RT: 3.38 min Scan# 88
Delta R.T. 0.054 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 85 Resp: 19890

Ion	Ratio	Lower	Upper
85	100		
87	31.2	13.1	53.1
101	9.5	0.0	29.4
103	5.7	0.0	26.0

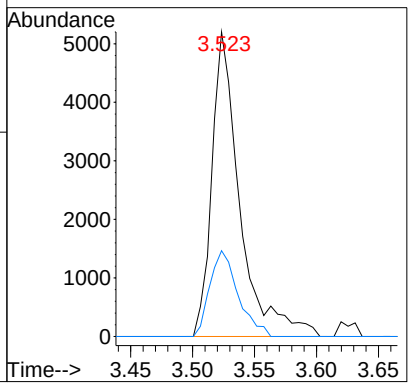


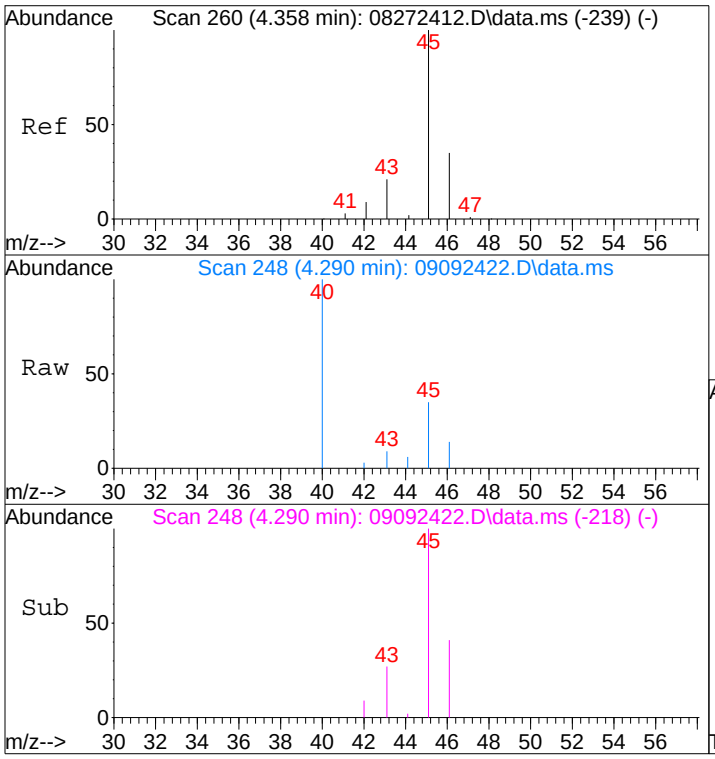


#4
Chloromethane
Concen: 0.33 ng
RT: 3.52 min Scan# 113
Delta R.T. 0.055 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 50 Resp: 8146

Ion	Ratio	Lower	Upper
50	100		
52	28.5	12.4	52.4

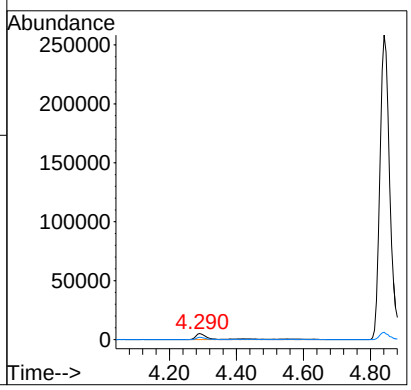


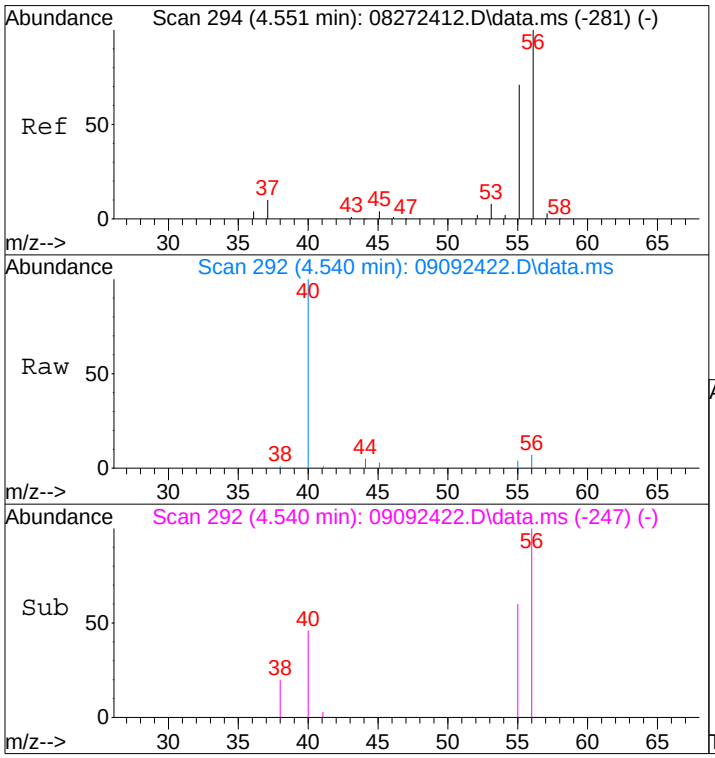


#10
Ethanol
Concen: 1.23 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.082 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 45 Resp: 17552

Ion	Ratio	Lower	Upper
45	100		
46	20.6	14.2	54.2

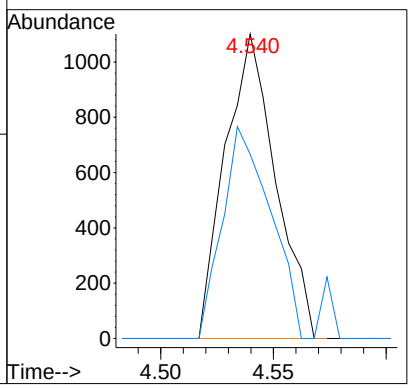


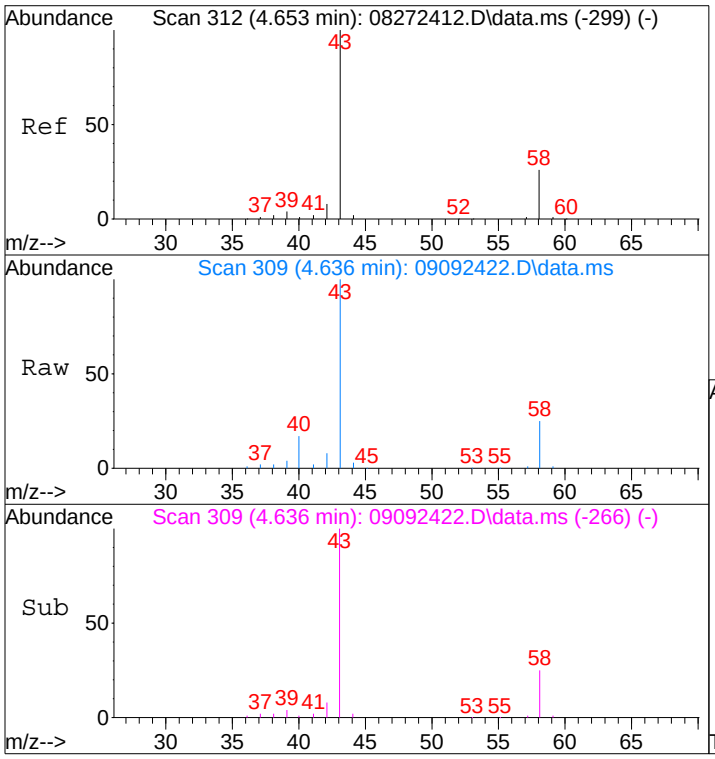


#12
Acrolein
Concen: 0.16 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.005 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 56 Resp: 1714

Ion	Ratio	Lower	Upper
56	100		
55	66.7	54.7	94.7

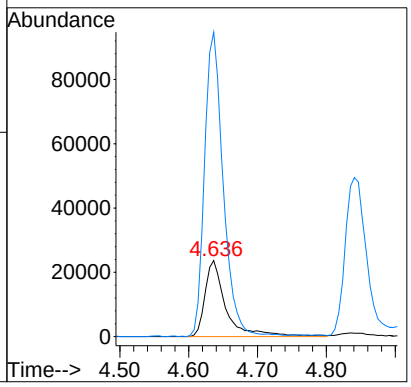


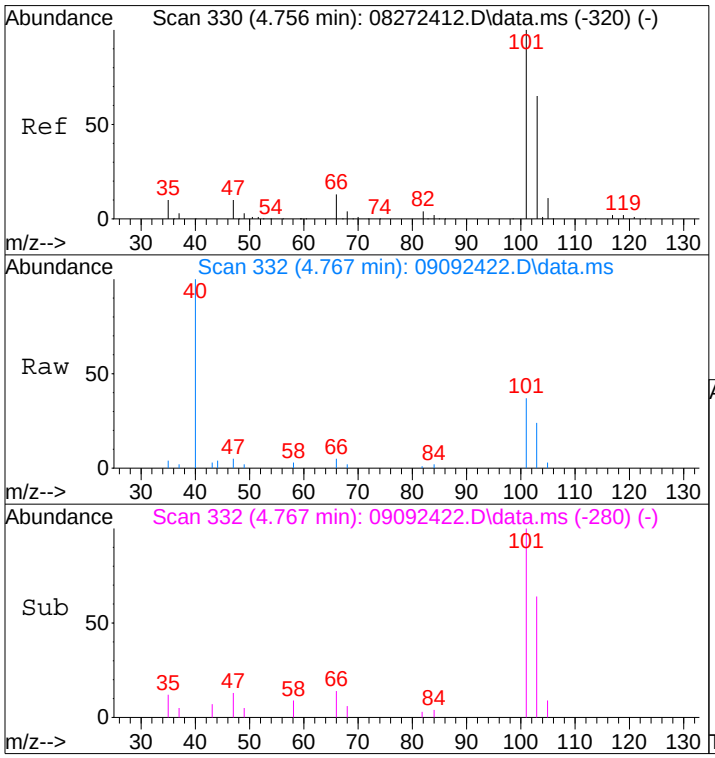


#13
Acetone
Concen: 4.17 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 58 Resp: 50354

Ion	Ratio	Lower	Upper
58	100		
43	354.7	347.3	407.3

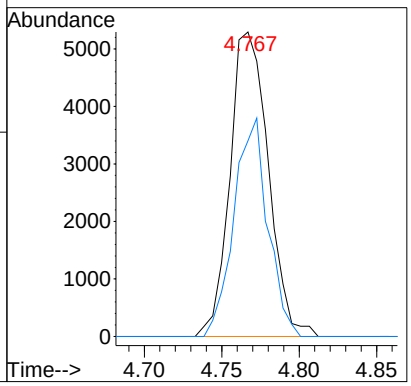


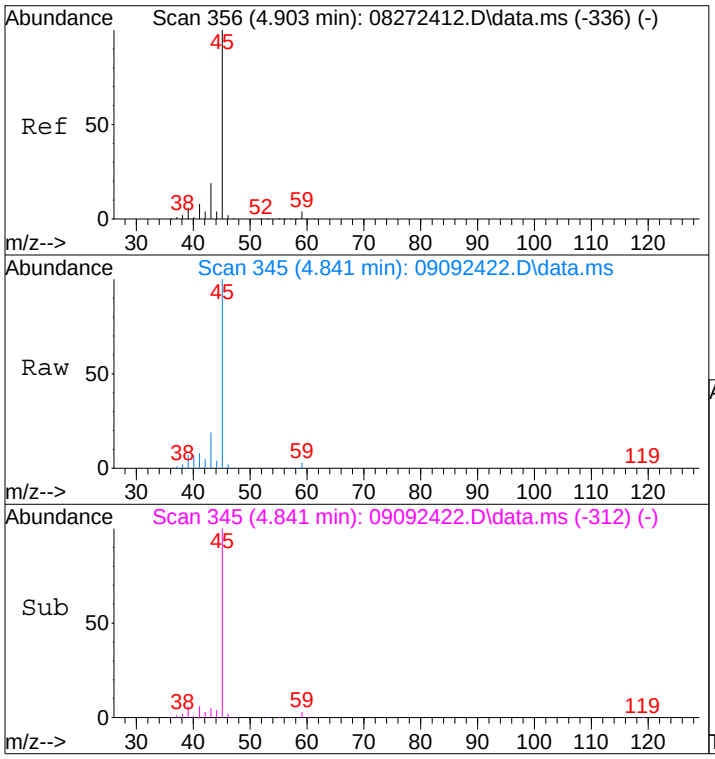


#14
Trichlorofluoromethane
Concen: 0.30 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.046 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion:101 Resp: 9136

Ion	Ratio	Lower	Upper
101	100		
103	63.2	44.9	84.9

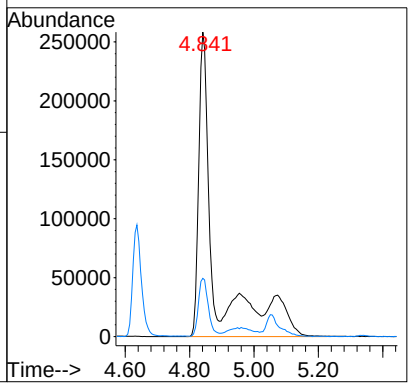


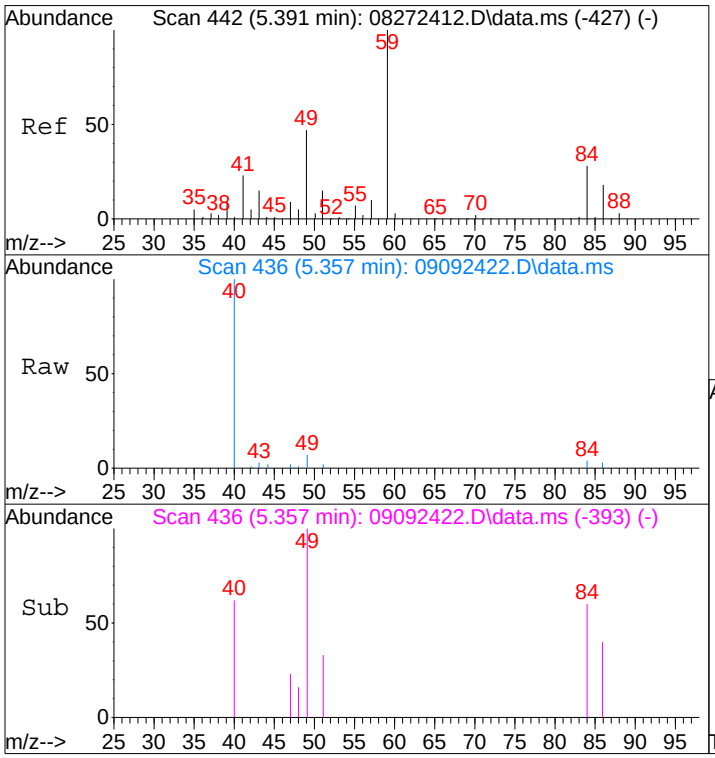


#15
2-Propanol (Isopropanol)
Concen: 18.63 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.065 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 45 Resp: 886040

Ion	Ratio	Lower	Upper
45	100		
43	16.6	0.0	40.0

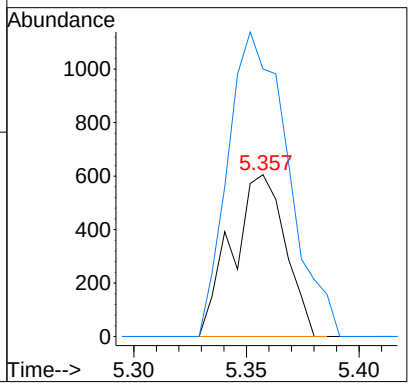


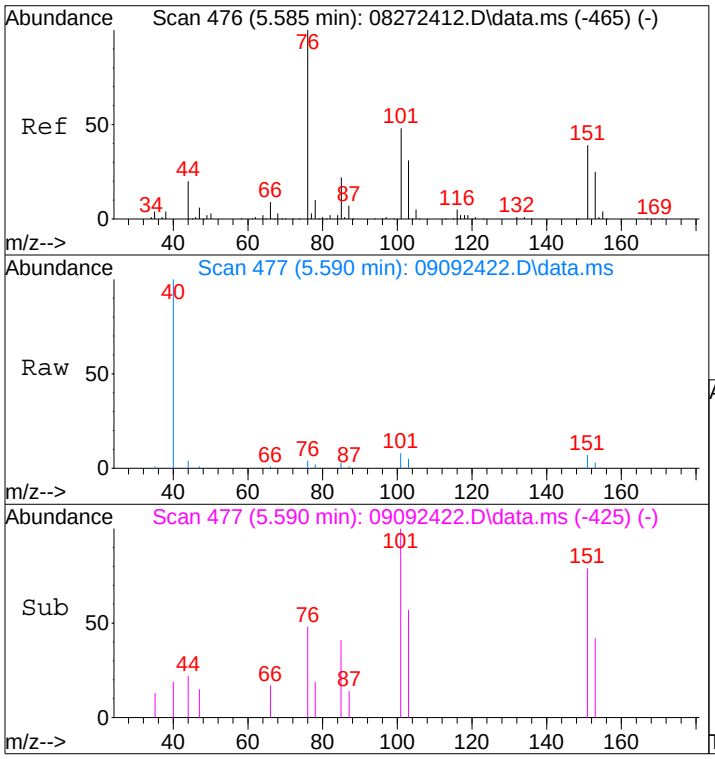


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.003 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 84 Resp: 996

Ion	Ratio	Lower	Upper
84	100		
49	212.3	151.1	201.1#

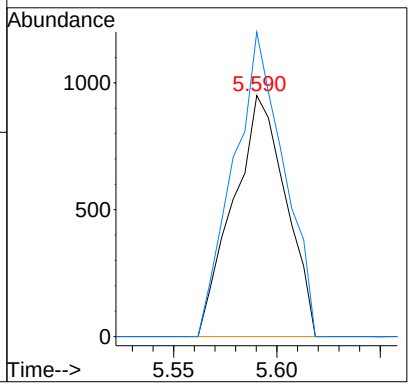


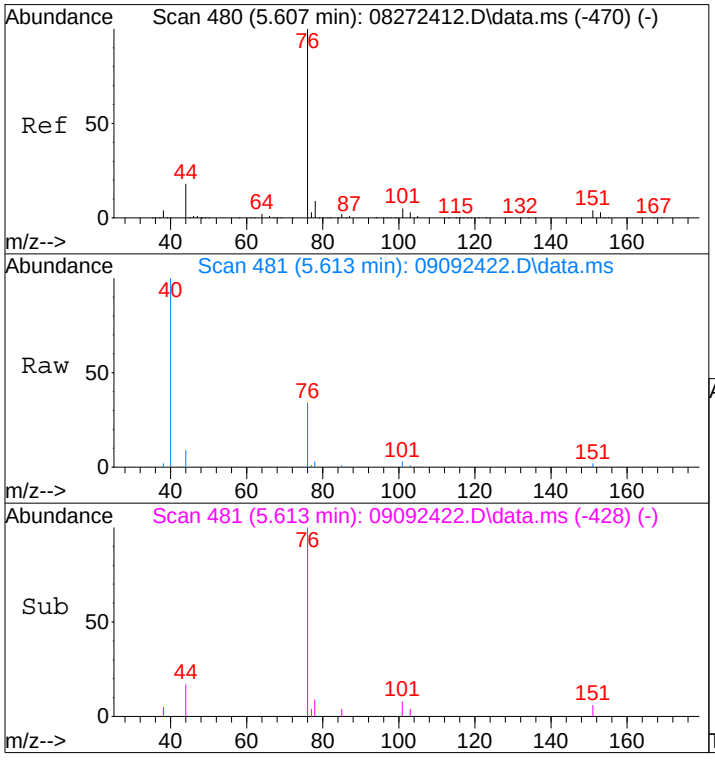


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.044 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion:151 Resp: 1681

Ion	Ratio	Lower	Upper
151	100		
101	121.2	103.4	143.4

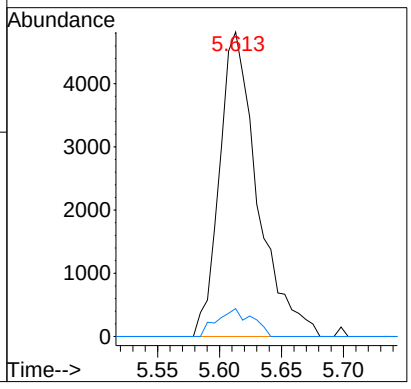


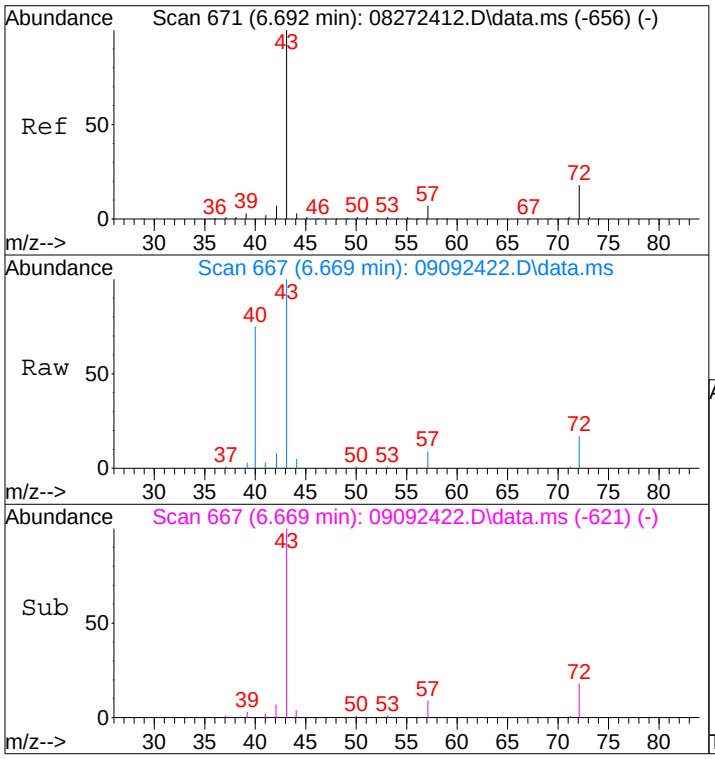


#22
Carbon Disulfide
Concen: 0.22 ng
RT: 5.61 min Scan# 481
Delta R.T. 0.050 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 76 Resp: 10313

Ion	Ratio	Lower	Upper
76	100		
78	8.4	0.0	29.6

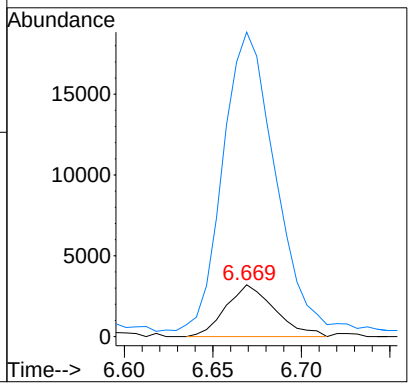


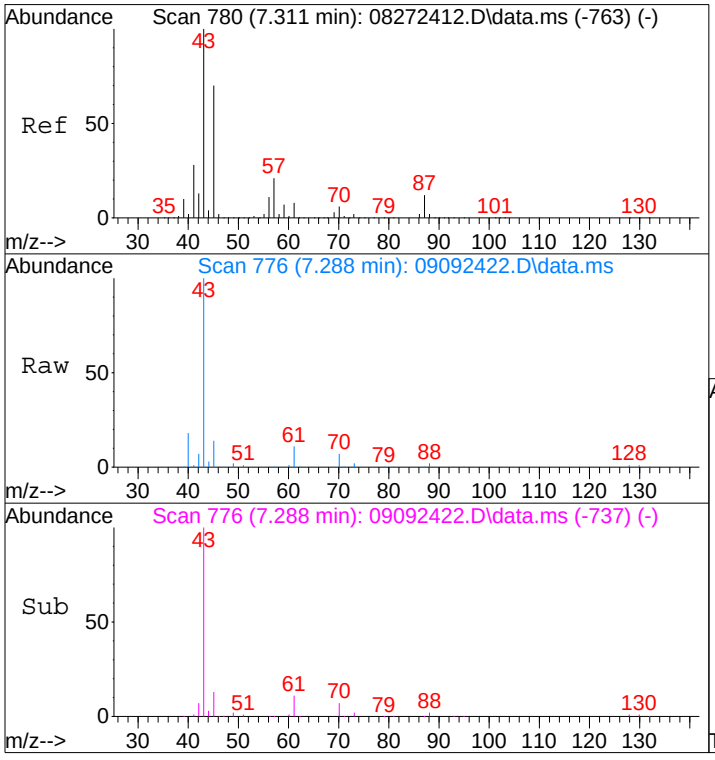


#27
2-Butanone (MEK)
Concen: 0.72 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 72 Resp: 6159

Ion	Ratio	Lower	Upper
72	100		
43	672.9	548.0	588.0#

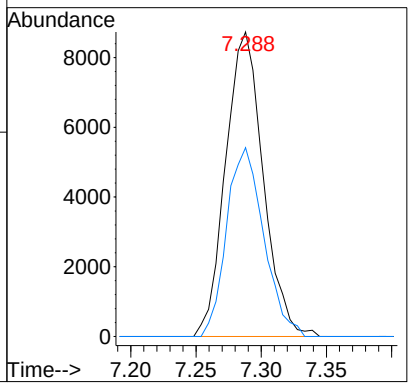


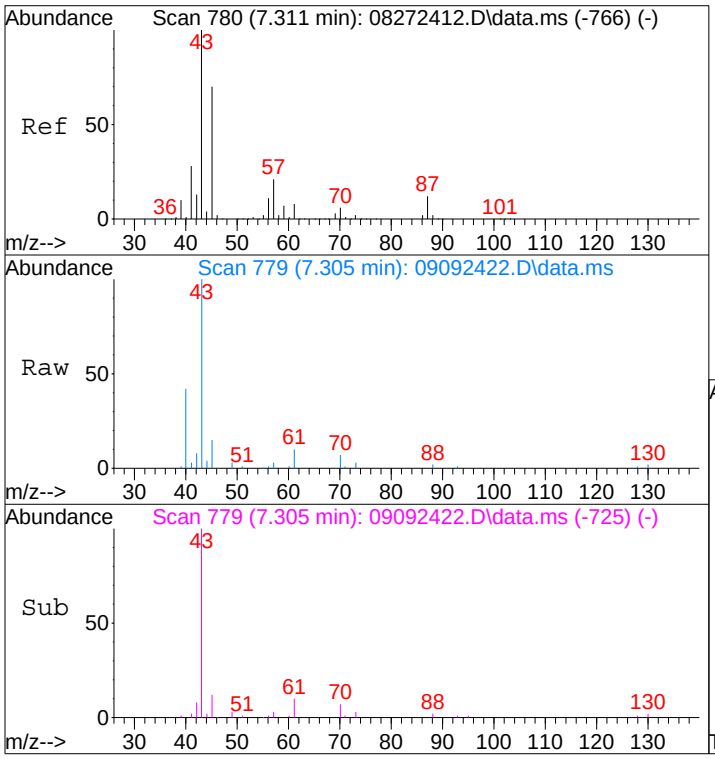


#30
Ethyl Acetate
Concen: 3.05 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 61 Resp: 17515

Ion	Ratio	Lower	Upper
61	100		
70	61.2	49.9	89.9

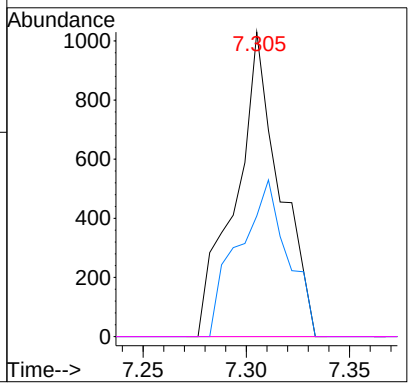


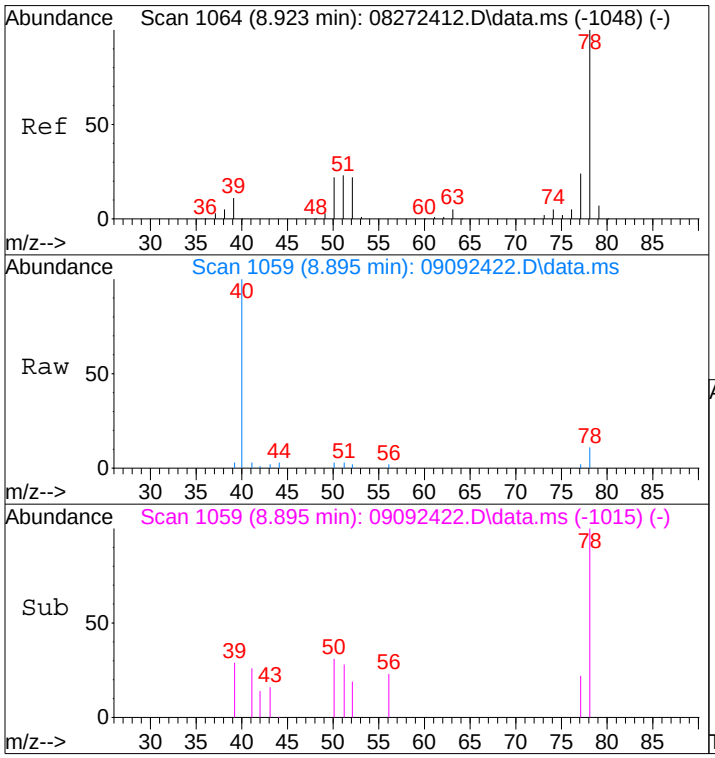


#31
n-Hexane
Concen: 0.06 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 57 Resp: 1530

Ion	Ratio	Lower	Upper
57	100		
56	57.4	44.2	66.2
86	0.0	9.3	13.9#

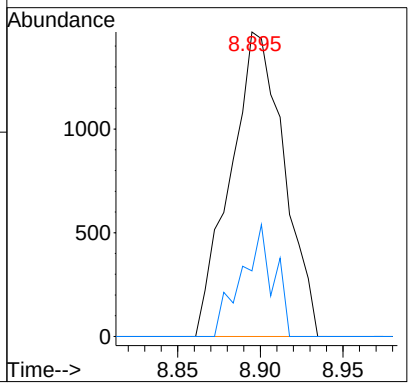


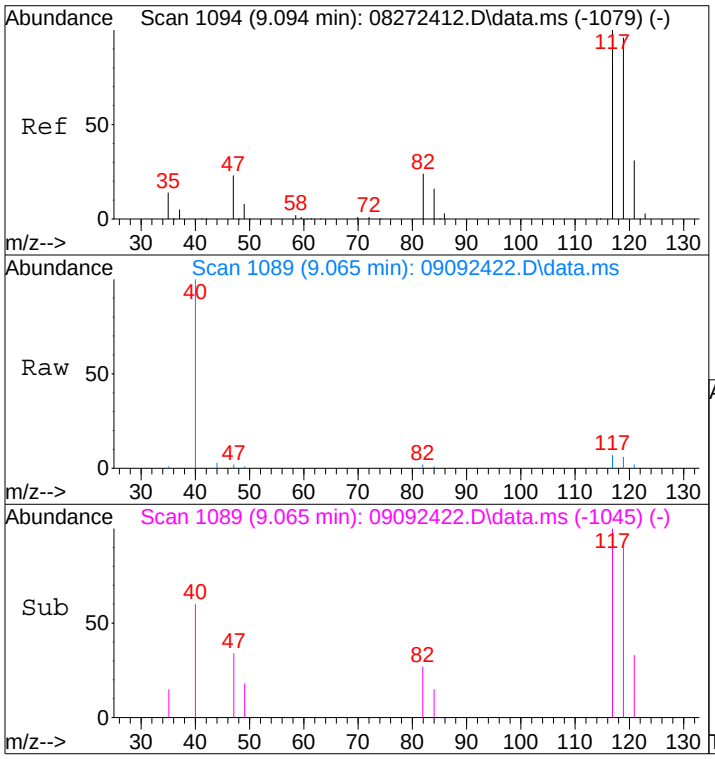


#41
Benzene
Concen: 0.06 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 78 Resp: 3309

Ion	Ratio	Lower	Upper
78	100		
77	22.0	3.9	43.9

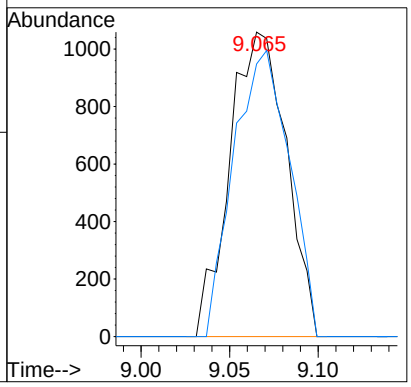


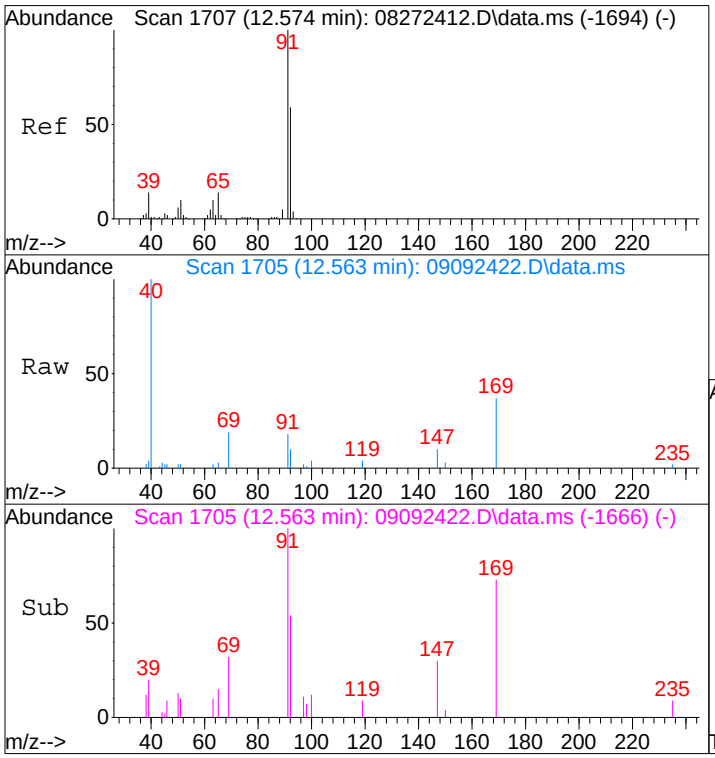


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion:117 Resp: 2357

Ion	Ratio	Lower	Upper
117	100		
119	92.4	75.1	115.1

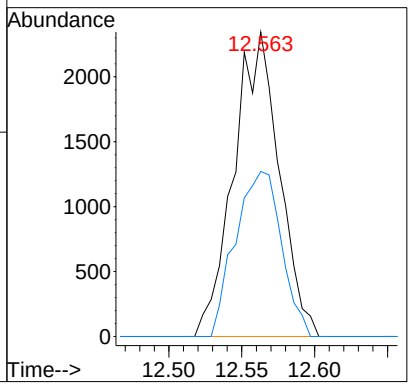


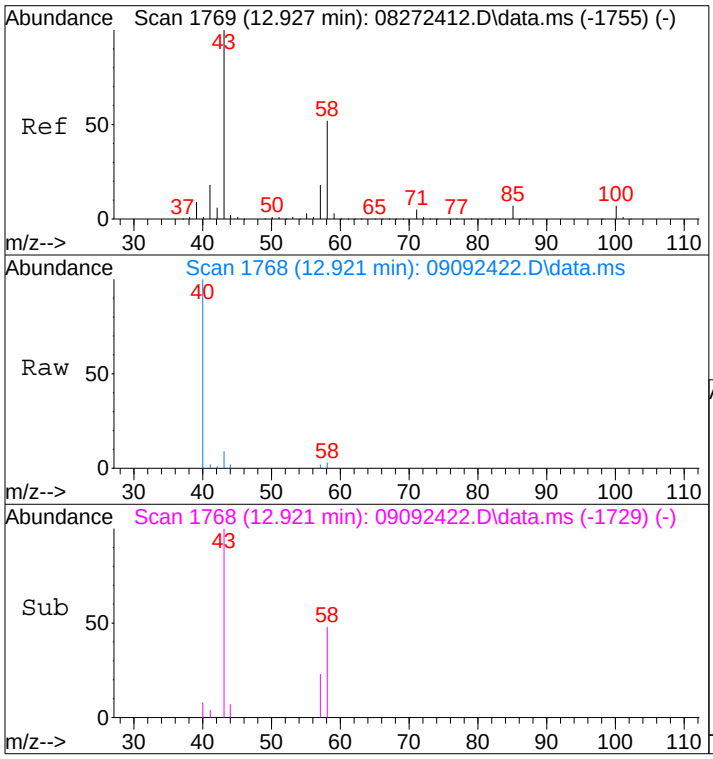


#58
Toluene
Concen: 0.08 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 91 Resp: 5091

Ion	Ratio	Lower	Upper
91	100		
92	54.8	38.5	78.5

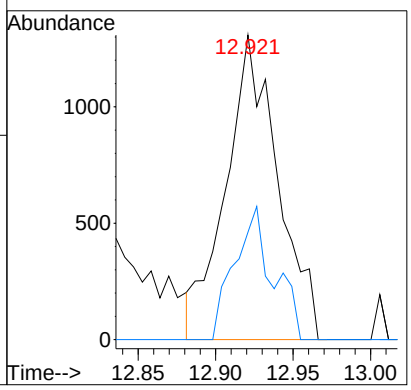




#59
2-Hexanone
Concen: 0.07 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09092422.D
Acq: 9 Sep 2024 20:30

Tgt Ion: 43 Resp: 3058

Ion	Ratio	Lower	Upper
43	100		
58	32.5	31.1	71.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 12:30:01 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

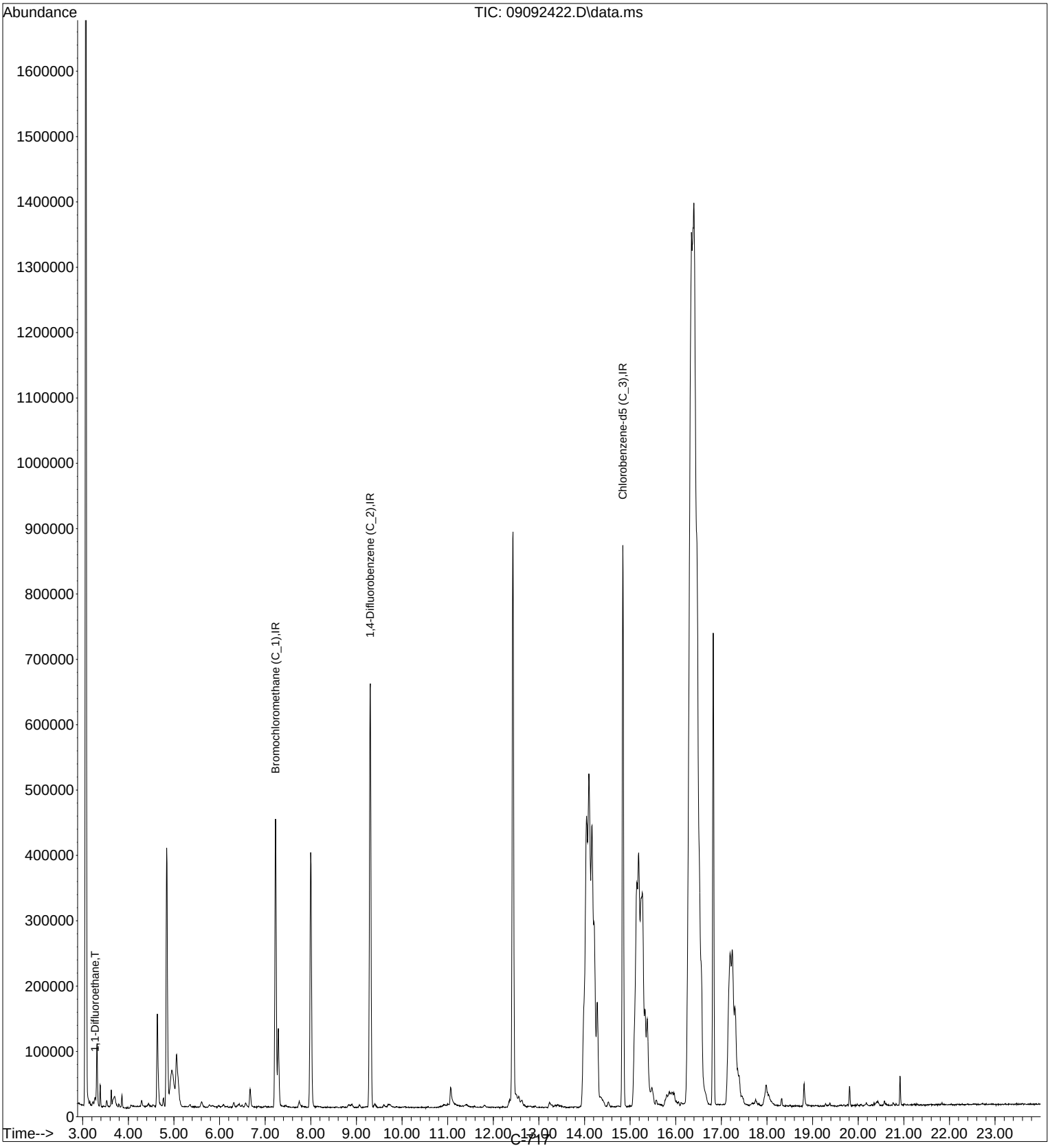
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	132761	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	572078	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	177104	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.16	85	236	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d		
4) 1,1-Difluoroethane	3.27	65	1275	0.110	ng	#	75
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d		
6) 1-Chloro-1,1-Difluoroe...	3.52	65	701	N.D.			
7) Dichlorofluoromethane ...	4.25	67	355	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	2435	N.D.			
12) 2-Methylpentane	6.49	71	399	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.08	84	306	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	9.79	174	126	N.D.			
20) Methyl Cyclohexane	11.41	55	720	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.36	75	2348	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.60	91	171	N.D.			
27) 4-Chlorotoluene	17.68	91	419	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.24	119	65	N.D.			
31) 1,2,3,4-Tetramethylben...	20.24	119	65	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	63	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092422.D Vial: 9
Acq On : 9 Sep 2024 20:30 Operator: SC
Sample : P2403661-014 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:30:01 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092422.D
Acq On : 9 Sep 2024 20:30
Operator : SC
Sample : P2403661-014 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092422.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.268	63	68	71	rBV3	9903	18231	0.11%	0.056%
2	3.313	71	76	84	rVB3	95837	150598	0.94%	0.464%
3	3.381	84	88	94	rVB	33672	39672	0.25%	0.122%
4	3.523	109	113	120	rBV3	9595	16231	0.10%	0.050%
5	3.626	127	131	134	rBV	24749	27820	0.17%	0.086%
6	3.699	134	144	151	rVB3	13642	48811	0.30%	0.150%
7	3.858	168	172	179	rVB	19642	26279	0.16%	0.081%
8	4.057	199	207	213	rBV2	5191	14241	0.09%	0.044%
9	4.290	244	248	259	rVB2	9692	19407	0.12%	0.060%
10	4.636	302	309	325	rBV	142153	291090	1.81%	0.896%
11	4.773	327	333	338	rVV3	13182	22681	0.14%	0.070%
12	4.841	338	345	354	rVV	395970	812428	5.05%	2.501%
13	4.954	354	365	377	rVV2	56035	318767	1.98%	0.981%
14	5.056	377	383	404	rVB2	79593	296958	1.84%	0.914%
15	5.607	472	480	487	rBV4	8172	21348	0.13%	0.066%
16	6.311	598	604	610	rBV3	7511	16638	0.10%	0.051%
17	6.573	642	650	661	rBV4	6461	16958	0.11%	0.052%
18	6.669	661	667	676	rBV	27538	56595	0.35%	0.174%
19	7.226	756	765	772	rBV	441272	968021	6.01%	2.980%
20	7.288	772	776	788	rVB	119431	237608	1.48%	0.731%
21	7.748	851	857	865	rBV2	9574	22796	0.14%	0.070%
22	7.998	892	901	916	rBV	390023	895341	5.56%	2.756%
23	9.304	1120	1131	1142	rVB	648238	1509024	9.37%	4.645%
24	9.400	1142	1148	1152	rBV2	5175	10591	0.07%	0.033%
25	11.064	1436	1441	1456	rBV	26459	69543	0.43%	0.214%
26	12.359	1660	1669	1672	rBV7	12030	29552	0.18%	0.091%
27	12.432	1672	1682	1700	rVV	876450	2086239	12.96%	6.421%
28	12.557	1702	1704	1710	rVB6	9163	15437	0.10%	0.048%
29	13.233	1816	1823	1825	rBV5	8672	16187	0.10%	0.050%
30	14.045	1944	1966	1970	rBV	444307	1902566	11.82%	5.856%
31	14.278	2003	2007	2017	rVB2	145325	344228	2.14%	1.060%
32	14.528	2046	2051	2058	rVB3	7724	17930	0.11%	0.055%
33	14.840	2097	2106	2121	rVB	859661	1777234	11.04%	5.470%
34	15.147	2140	2160	2163	rBV2	342380	1284998	7.98%	3.955%
35	15.476	2214	2218	2231	rVB3	25775	79503	0.49%	0.245%
36	15.573	2231	2235	2241	rVB5	7106	14176	0.09%	0.044%
37	15.805	2261	2276	2279	rBV5	18165	60424	0.38%	0.186%
38	15.862	2282	2286	2293	rVV4	6189	19788	0.12%	0.061%
39	15.953	2300	2302	2315	rVB6	15204	33495	0.21%	0.103%
40	16.396	2344	2380	2440	rVB2	1379625	16102200	100.00%	49.562%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092422.D
Acq On : 9 Sep 2024 20:30
Operator : SC
Sample : P2403661-014 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	16.822	2447	2455	2467	rBV	722069	1373282	8.53%	4.227%
42	17.191	2501	2520	2525	rBV2	231304	1045784	6.49%	3.219%
43	17.753	2614	2619	2627	rVB6	8207	17448	0.11%	0.054%
44	17.980	2644	2659	2667	rBV6	30866	125357	0.78%	0.386%
45	18.321	2711	2719	2724	rBV5	11060	18304	0.11%	0.056%
46	18.815	2799	2806	2815	rBV2	35054	70073	0.44%	0.216%
47	19.808	2976	2981	2987	rBV2	29972	45182	0.28%	0.139%
48	20.427	3089	3090	3098	rVB5	7374	11824	0.07%	0.036%
49	20.569	3110	3115	3119	rBV3	6996	11816	0.07%	0.036%
50	20.916	3172	3176	3181	rBV2	44754	58545	0.36%	0.180%

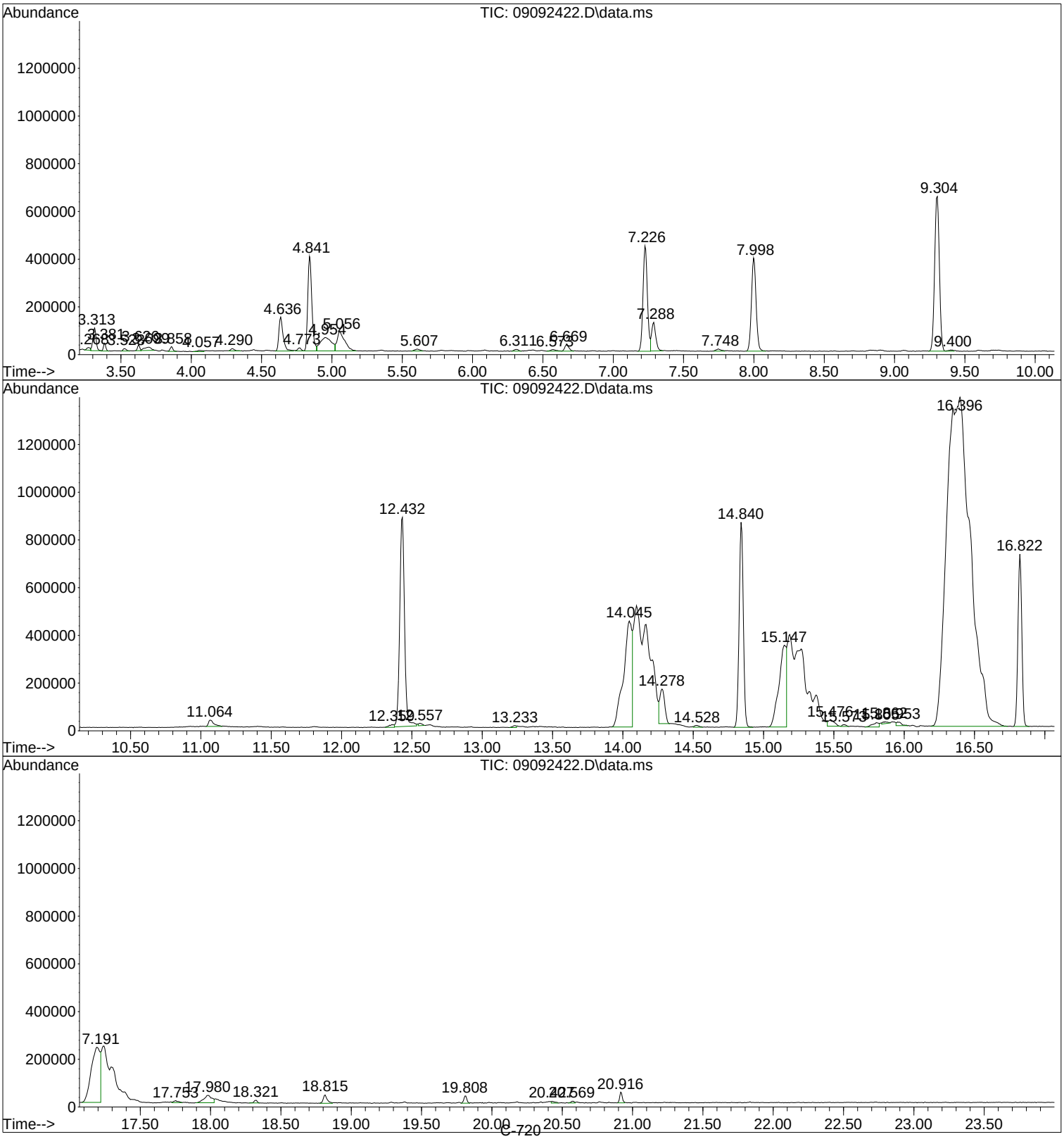
Sum of corrected areas: 32489249

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092422.D
Acq On : 9 Sep 2024 20:30
Operator : SC
Sample : P2403661-014 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092422.D
Acq On : 9 Sep 2024 20:300
Operator : SCC
Sample : P2403661-014 (400mL))
Misc : S37-060624022
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 11:11:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	134423	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	577476	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	185417	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	343233	13.645	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.20%				
57) Toluene-d8 (SS2)	12.43	98	680436	10.461	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.68%				
73) Bromofluorobenzene (SS3)	16.83	174	231868	10.659	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.28%				
Target Compounds							Qvalue
2) Propene	3.29	42	17914m	0.882	ng		
3) Dichlorodifluoromethan...	3.36	85	19462	0.596	ng		99
4) Chloromethane	3.49	50	6607	0.259	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	298	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	667	0.063	ng		87
9) Chloroethane	4.15	64	340	N.D.			
10) Ethanol	4.31	45	156718	10.742	ng		90
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	11415	1.024	ng		98
13) Acetone	4.62	58	382014	31.034	ng	#	1
14) Trichlorofluoromethane	4.76	101	86886	2.791	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	362980	7.489	ng		92
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	6903	0.476	ng	#	75
20) 3-Chloro-1-propene (Al...	5.45	41	789	N.D.			
21) Trichlorotrifluoroethane	5.58	151	33970	2.755	ng		93
22) Carbon Disulfide	5.60	76	212056	4.413	ng		99
23) trans-1,2-Dichloroethene	6.14	61	1193	0.051	ng		93
24) 1,1-Dichloroethane	6.31	63	120	N.D.			
25) Methyl tert-Butyl Ether	6.38	73	9936	0.231	ng		95
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	26035	2.981	ng	#	74
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	23237	3.971	ng		88
31) n-Hexane	7.30	57	64544	2.419	ng		99
32) Chloroform	7.36	83	6452	0.241	ng		98
34) Tetrahydrofuran (THF)	7.76	72	4220	0.512	ng	#	1
35) Ethyl tert-Butyl Ether	7.83	87	164	N.D.			
36) 1,2-Dichloroethane	8.12	62	4163	0.157	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	954	No Calib	#		
40) 1-Butanol	8.80	56	91454	No Calib	#		
41) Benzene	8.90	78	23860	0.441	ng		99
42) Carbon Tetrachloride	9.07	117	5809	0.259	ng		100
43) Cyclohexane	9.22	84	64044	3.503	ng		91
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.86	63	4424	0.309	ng		92
46) Bromodichloromethane	10.08	83	255	N.D.			
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.23	57	11818	0.184	ng		66
50) Methyl Methacrylate	10.41	100	1072	0.228	ng	#	56

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:11:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

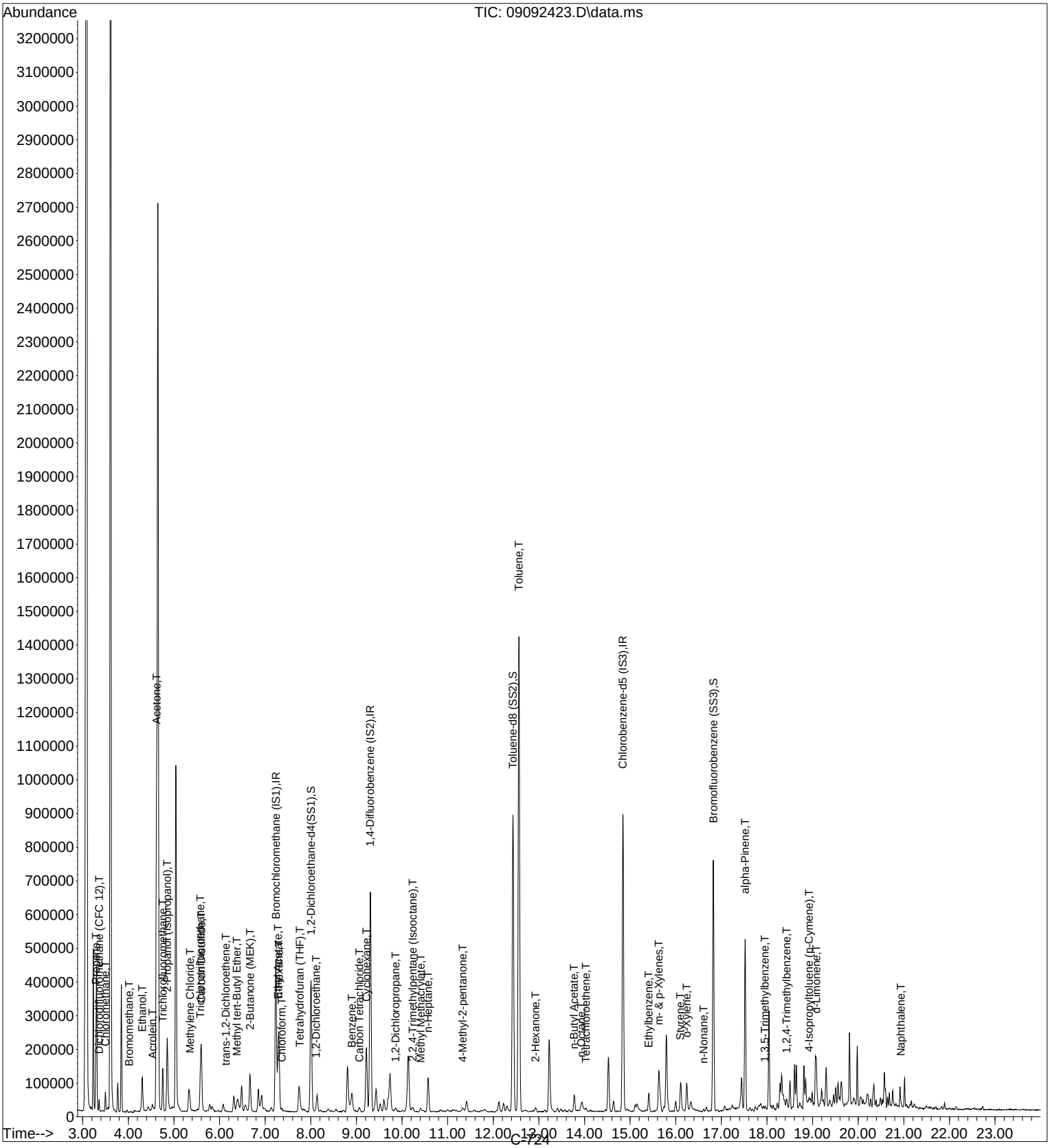
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.57	71	21139	1.752	ng		91
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.33	58	3766	0.263	ng	#	59
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	1162689	16.536	ng		100
59) 2-Hexanone	12.93	43	12700	0.292	ng	#	50
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.77	43	51033	1.046	ng		92
63) n-Octane	13.93	57	3355	0.203	ng		96
64) Tetrachloroethene	14.03	166	1988	0.102	ng		95
65) Chlorobenzene	14.89	112	721	N.D.			
66) Ethylbenzene	15.41	91	44462	0.550	ng		99
67) m- & p-Xylenes	15.63	91	101884	1.549	ng		99
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.10	104	24792	0.583	ng		99
70) o-Xylene	16.24	91	51566	0.803	ng		100
71) n-Nonane	16.61	43	3184	0.076	ng		94
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.03	105	3320	N.D.			
75) alpha-Pinene	17.52	93	198003	5.115	ng		97
76) n-Propylbenzene	17.67	91	3817	N.D.			
77) 3-Ethyltoluene	17.03	105	3320	No Calib			
78) 4-Ethyltoluene	17.86	105	2562	N.D.			
79) 1,3,5-Trimethylbenzene	17.95	105	3275	0.052	ng		92
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	3320	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	9570	0.145	ng		88
83) n-Decane	17.09	58	871	No Calib		#	
84) Benzyl Chloride	18.56	91	1108	N.D.			
85) 1,3-Dichlorobenzene	18.58	146	317	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	659	N.D.			
87) sec-Butylbenzene	18.74	105	919	N.D.			
88) 4-Isopropyltoluene (p-...	18.92	119	8847	0.122	ng		92
89) 1,2,3-Trimethylbenzene	17.03	105	3320	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	193	N.D.			
91) d-Limonene	19.08	68	24023	1.087	ng		96
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	17.97	58	273	No Calib		#	
94) 1,2,4-Trichlorobenzene	20.84	180	662	N.D.			
95) Naphthalene	20.94	128	4121	0.059	ng		93
96) n-Dodecane	18.96	58	1167	No Calib		#	
97) Hexachlorobutadiene	21.30	225	303	N.D.			
98) Cyclohexanone	15.23	55	975	No Calib		#	
99) tert-Butylbenzene	18.42	119	1397	N.D.			
100) n-Butylbenzene	19.38	91	1347	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:11:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:11:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

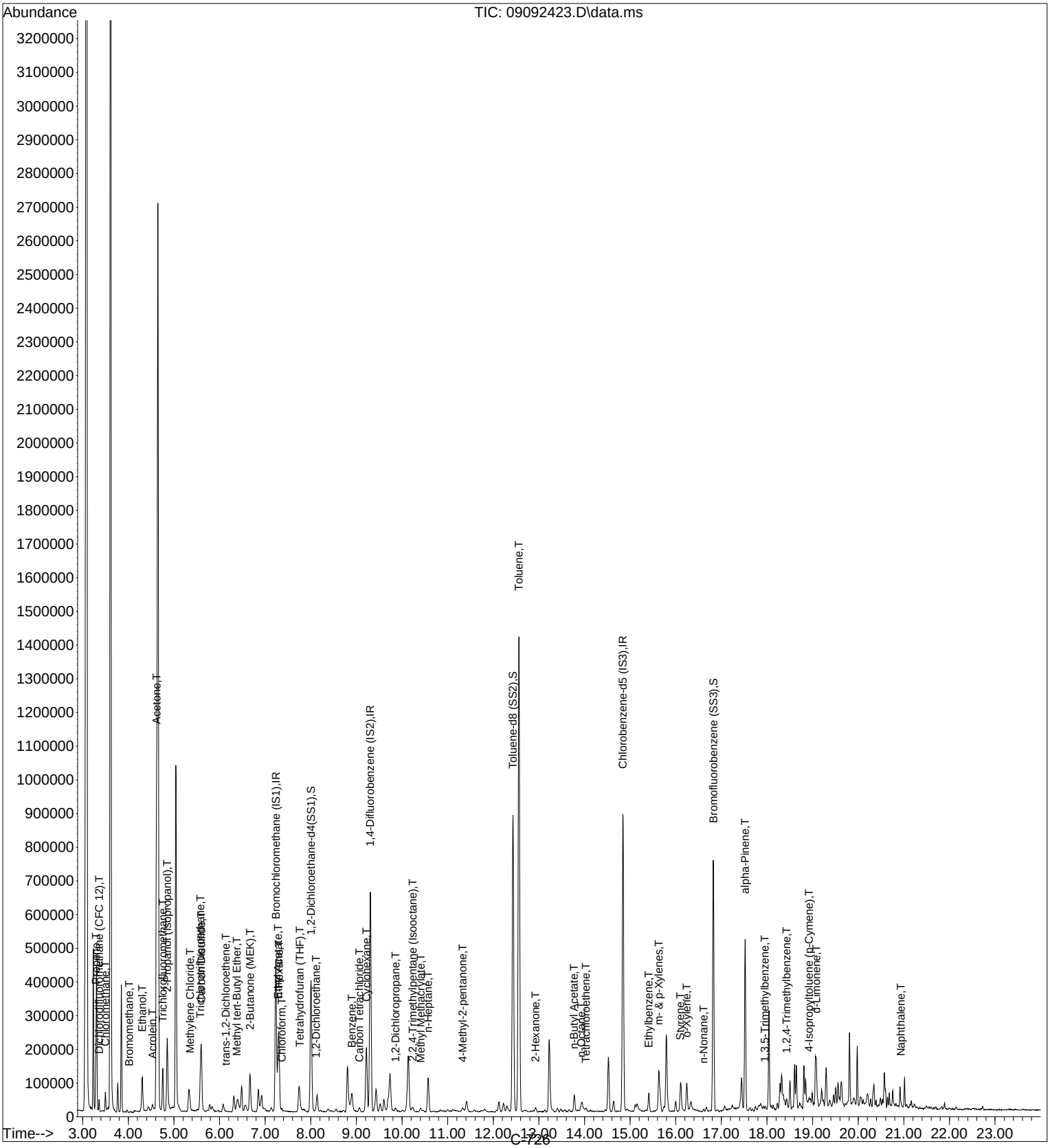
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	134423	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	577476	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	185417	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	343233	13.645	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.20%				
57) Toluene-d8 (SS2)	12.43	98	680436	10.461	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.68%				
73) Bromofluorobenzene (SS3)	16.83	174	231868	10.659	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.28%				
Target Compounds							Qvalue
2) Propene	3.29	42	17914m	0.882	ng		
3) Dichlorodifluoromethan...	3.36	85	19462	0.596	ng		99
4) Chloromethane	3.49	50	6607	0.259	ng		93
8) Bromomethane	4.02	94	667	0.063	ng		87
10) Ethanol	4.31	45	156718	10.742	ng		90
12) Acrolein	4.53	56	11415	1.024	ng		98
13) Acetone	4.62	58	382014	31.034	ng	#	1
14) Trichlorofluoromethane	4.76	101	86886	2.791	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	362980	7.489	ng		92
19) Methylene Chloride	5.35	84	6903	0.476	ng	#	75
21) Trichlorotrifluoroethane	5.58	151	33970	2.755	ng		93
22) Carbon Disulfide	5.60	76	212056	4.413	ng		99
23) trans-1,2-Dichloroethene	6.14	61	1193	0.051	ng		93
25) Methyl tert-Butyl Ether	6.38	73	9936	0.231	ng		95
27) 2-Butanone (MEK)	6.67	72	26035	2.981	ng	#	74
30) Ethyl Acetate	7.28	61	23237	3.971	ng		88
31) n-Hexane	7.30	57	64544	2.419	ng		99
32) Chloroform	7.36	83	6452	0.241	ng		98
34) Tetrahydrofuran (THF)	7.76	72	4220	0.512	ng	#	1
36) 1,2-Dichloroethane	8.12	62	4163	0.157	ng		99
41) Benzene	8.90	78	23860	0.441	ng		99
42) Carbon Tetrachloride	9.07	117	5809	0.259	ng		100
43) Cyclohexane	9.22	84	64044	3.503	ng		91
45) 1,2-Dichloropropane	9.86	63	4424	0.309	ng		92
49) 2,2,4-Trimethylpentane...	10.23	57	11818	0.184	ng		66
50) Methyl Methacrylate	10.41	100	1072	0.228	ng	#	56
51) n-Heptane	10.57	71	21139	1.752	ng		91
53) 4-Methyl-2-pentanone	11.33	58	3766	0.263	ng	#	59
58) Toluene	12.56	91	1162689	16.536	ng		100
59) 2-Hexanone	12.93	43	12700	0.292	ng	#	50
62) n-Butyl Acetate	13.77	43	51033	1.046	ng		92
63) n-Octane	13.93	57	3355	0.203	ng		96
64) Tetrachloroethene	14.03	166	1988	0.102	ng		95
66) Ethylbenzene	15.41	91	44462	0.550	ng		99
67) m- & p-Xylenes	15.63	91	101884	1.549	ng		99
69) Styrene	16.10	104	24792	0.583	ng		99
70) o-Xylene	16.24	91	51566	0.803	ng		100
71) n-Nonane	16.61	43	3184	0.076	ng		94
75) alpha-Pinene	17.52	93	198003	5.115	ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	3275	0.052	ng		92
82) 1,2,4-Trimethylbenzene	18.43	105	9570	0.145	ng		88
88) 4-Isopropyltoluene (p-...	18.92	119	8847	0.122	ng		92
91) d-Limonene	19.08	68	24023	1.087	ng		96
95) Naphthalene	20.94	128	4121	0.059	ng		93

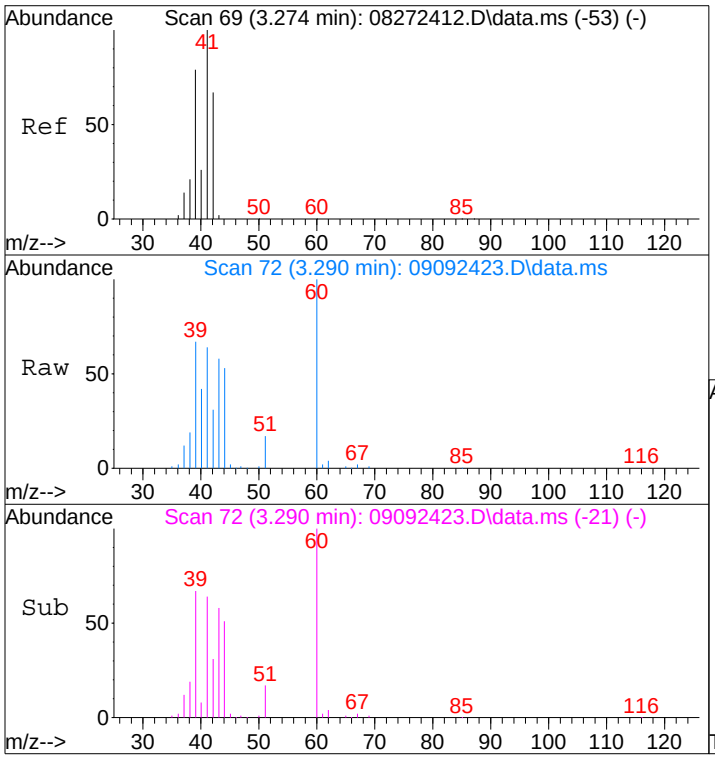
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:11:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

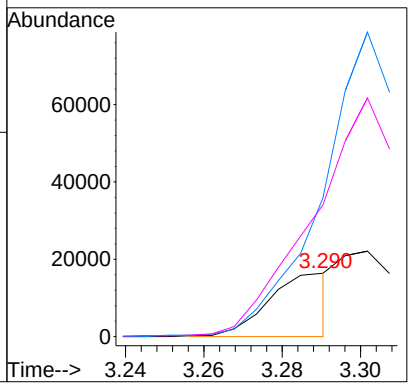


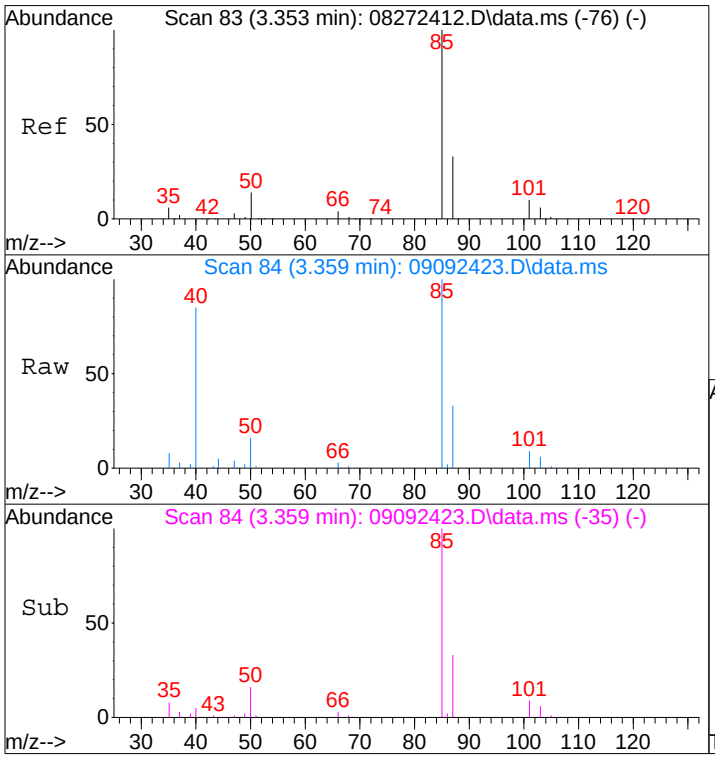


#2
Propene
Concen: 0.88 ng m
RT: 3.29 min Scan# 72
Delta R.T. 0.041 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 42 Resp: 17914

Ion	Ratio	Lower	Upper
42	100		
39	634.6	98.2	138.2#
41	550.8	130.1	170.1#

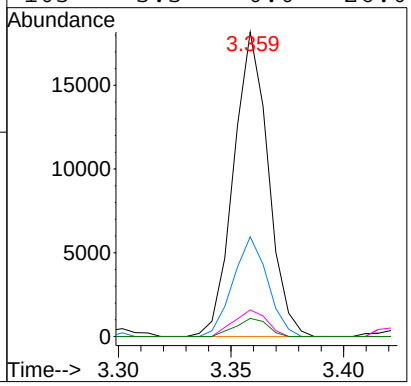


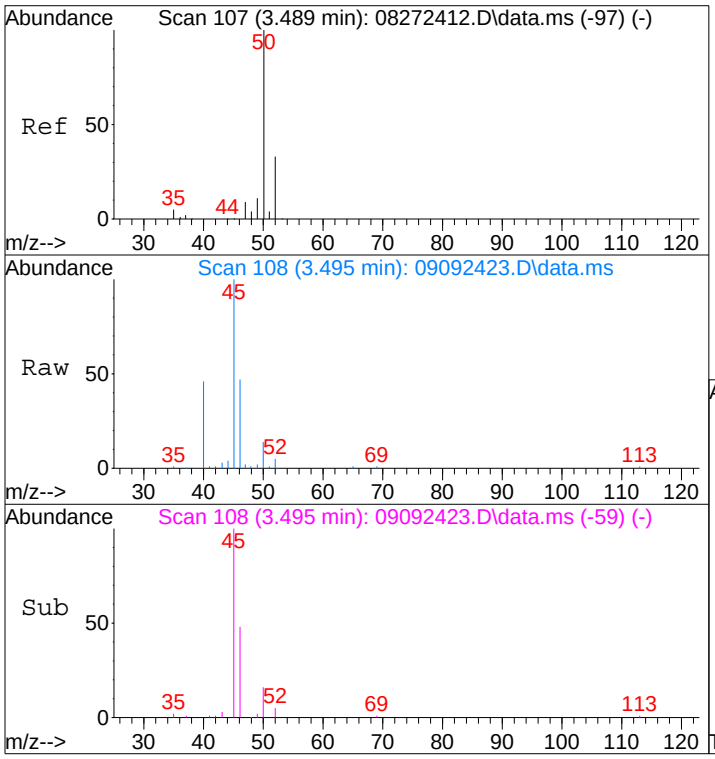


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.031 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 85 Resp: 19462

Ion	Ratio	Lower	Upper
85	100		
87	32.7	13.1	53.1
101	8.3	0.0	29.4
103	5.5	0.0	26.0

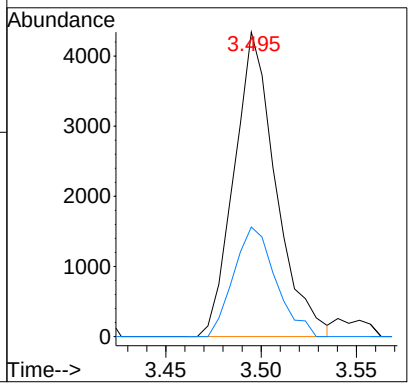


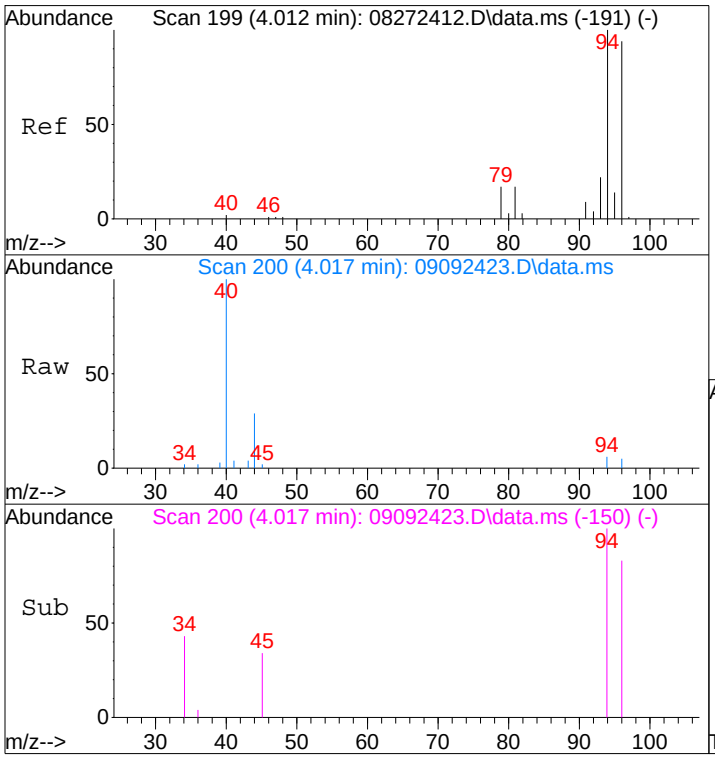


#4
Chloromethane
Concen: 0.26 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.027 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 50 Resp: 6607

Ion	Ratio	Lower	Upper
50	100		
52	36.3	12.4	52.4

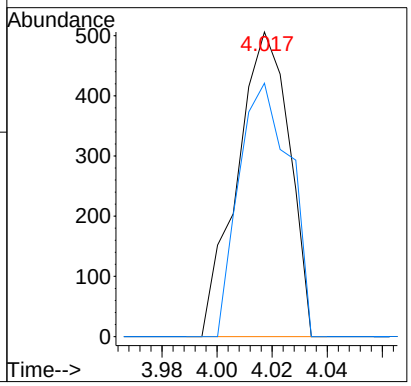


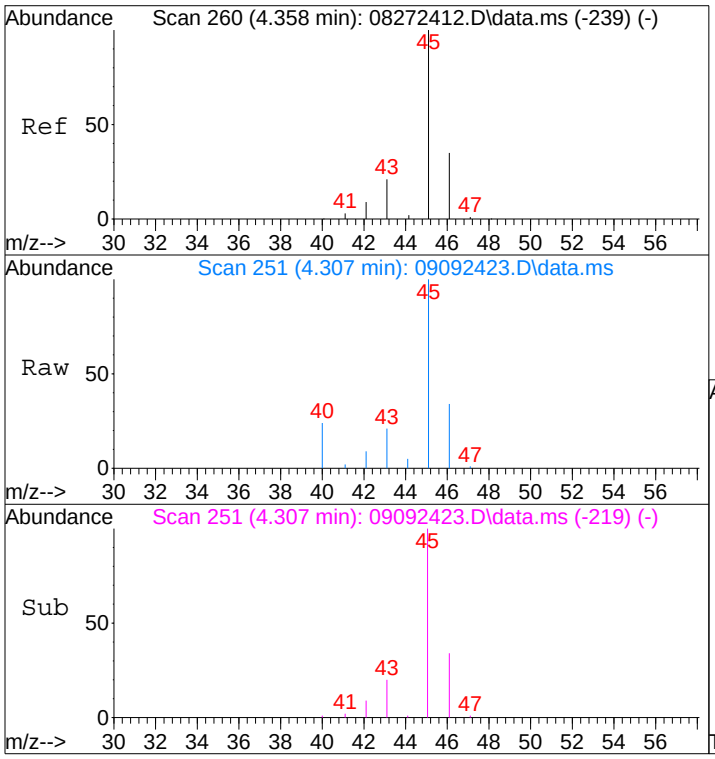


#8
Bromomethane
Concen: 0.06 ng
RT: 4.02 min Scan# 200
Delta R.T. 0.032 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 94 Resp: 667

Ion	Ratio	Lower	Upper
94	100		
96	81.7	74.2	114.2

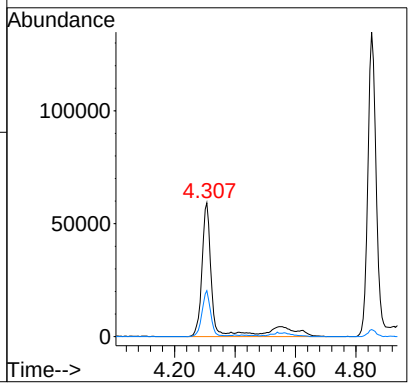


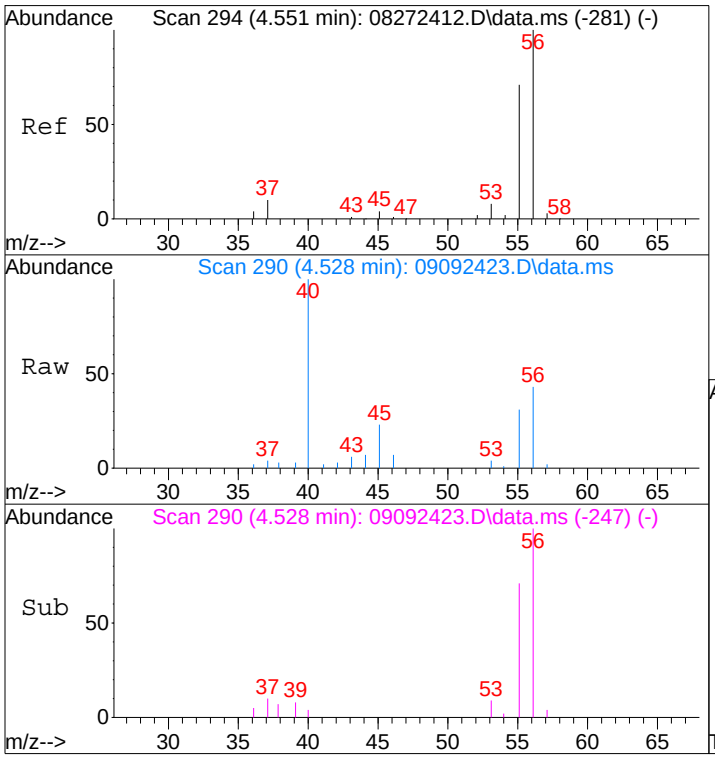


#10
Ethanol
Concen: 10.74 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.066 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 45 Resp: 156718

Ion	Ratio	Lower	Upper
45	100		
46	28.5	14.2	54.2

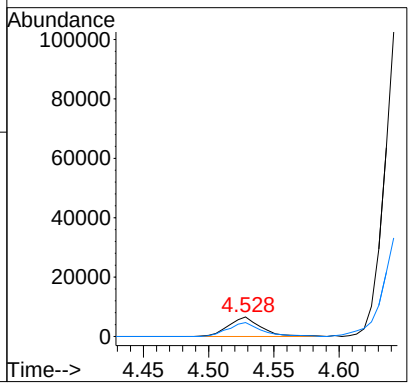


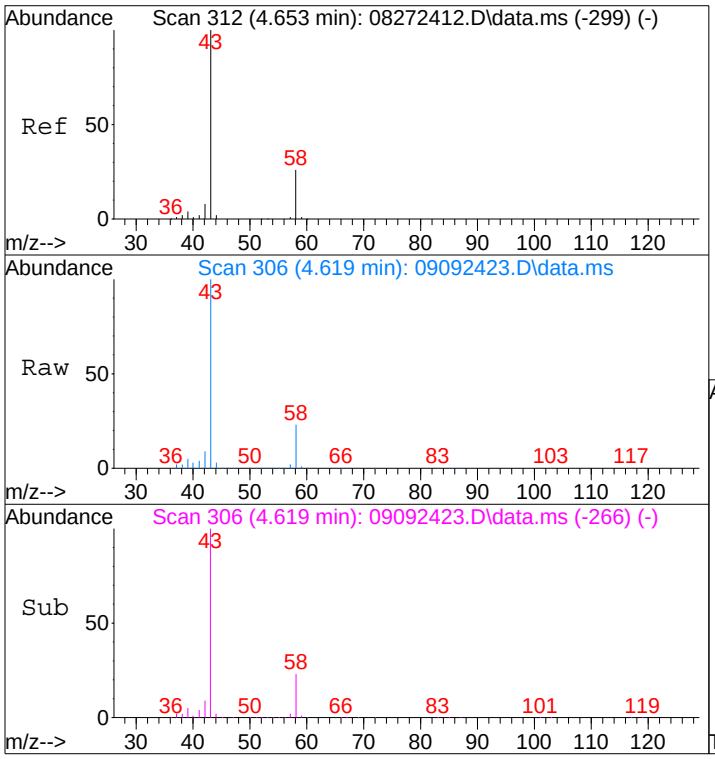


#12
Acrolein
Concen: 1.02 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.007 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 56 Resp: 11415

Ion	Ratio	Lower	Upper
56	100		
55	72.6	54.7	94.7

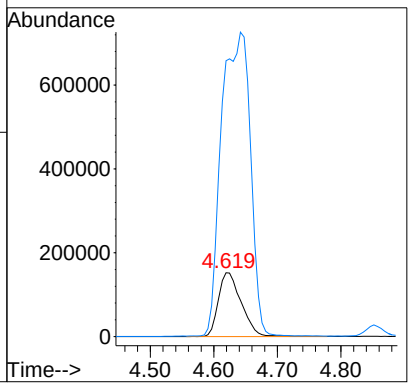


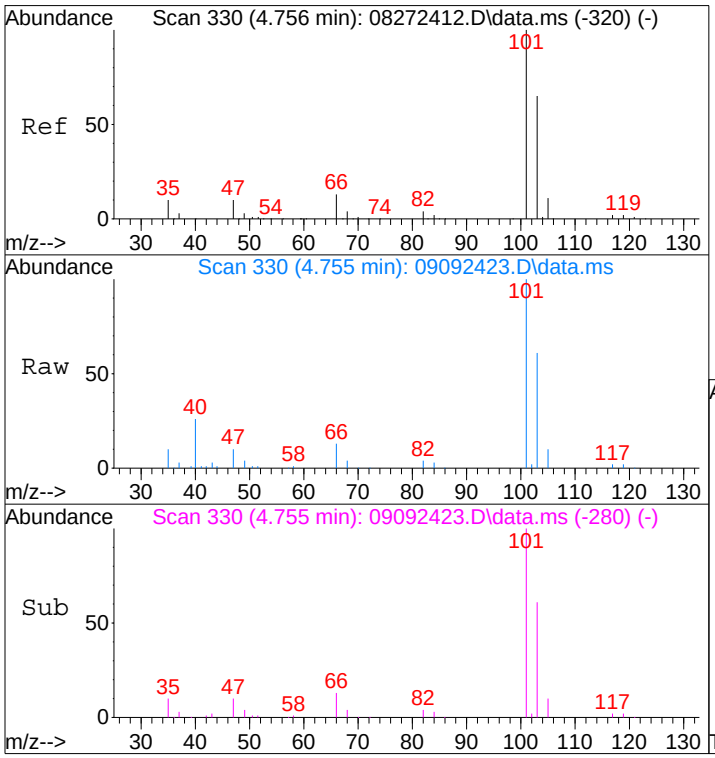


#13
Acetone
Concen: 31.03 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.023 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 58 Resp: 382014

Ion	Ratio	Lower	Upper
58	100		
43	604.2	347.3	407.3#

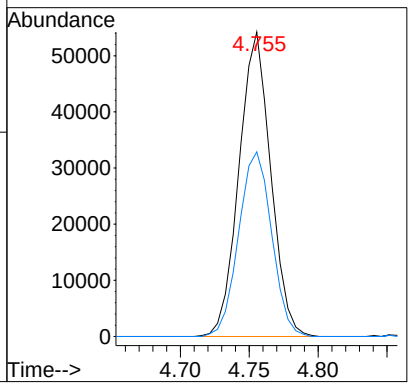


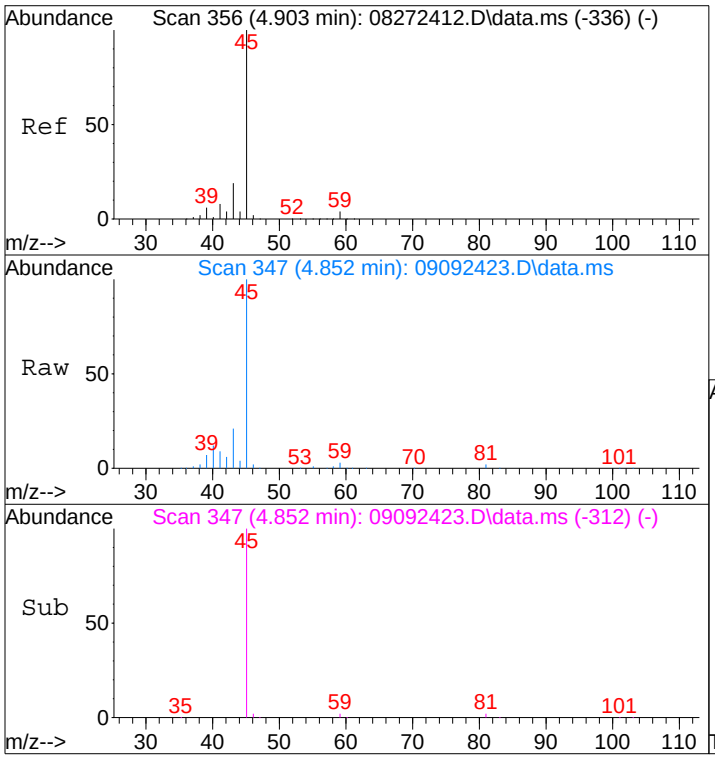


#14
Trichlorofluoromethane
Concen: 2.79 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:101 Resp: 86886

Ion	Ratio	Lower	Upper
101	100		
103	63.1	44.9	84.9

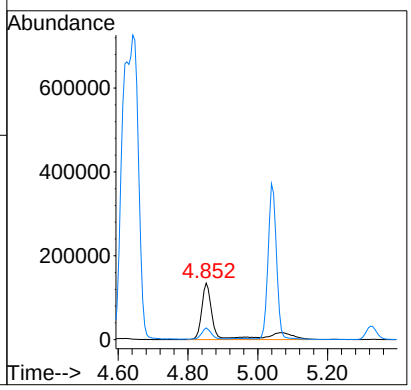


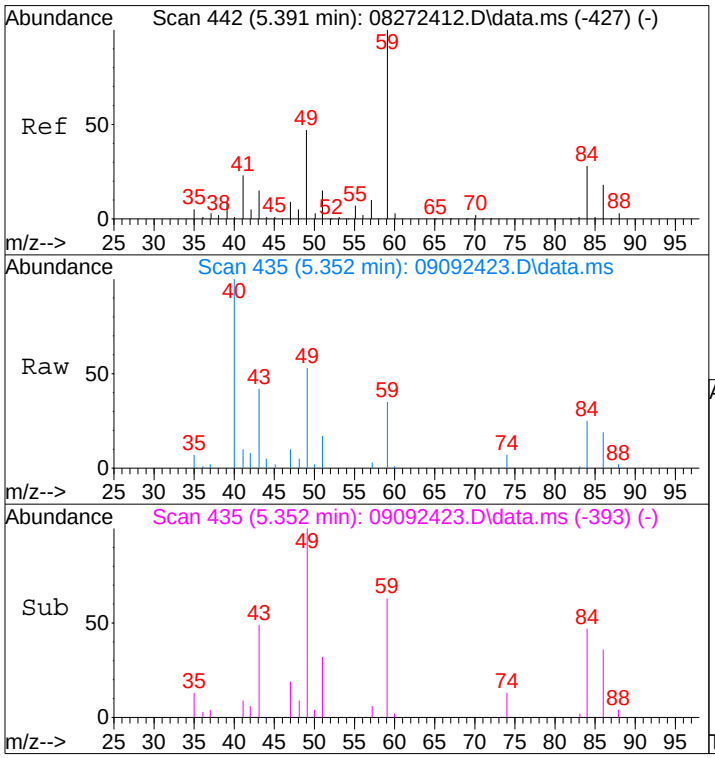


#15
2-Propanol (Isopropanol)
Concen: 7.49 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.054 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 45 Resp: 362980

Ion	Ratio	Lower	Upper
45	100		
43	16.4	0.0	40.0

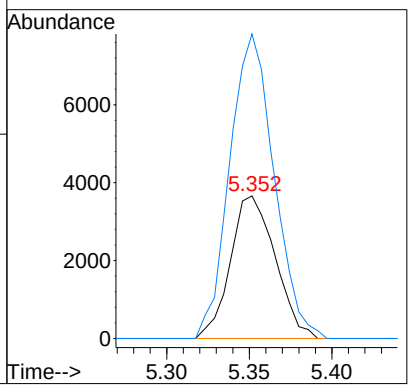


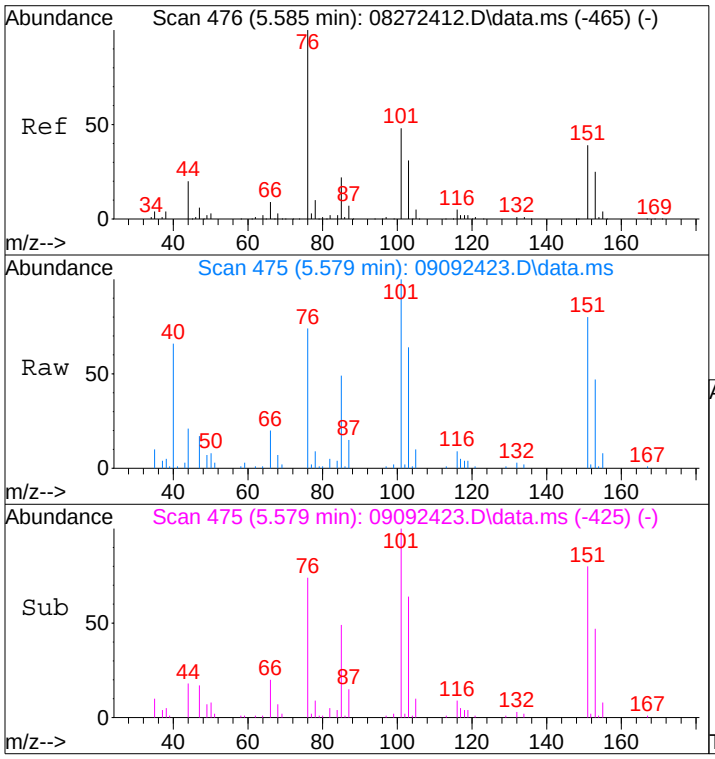


#19
Methylene Chloride
Concen: 0.48 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 84 Resp: 6903

Ion	Ratio	Lower	Upper
84	100		
49	211.2	151.1	201.1#

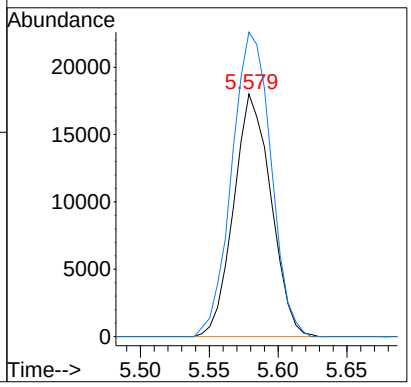


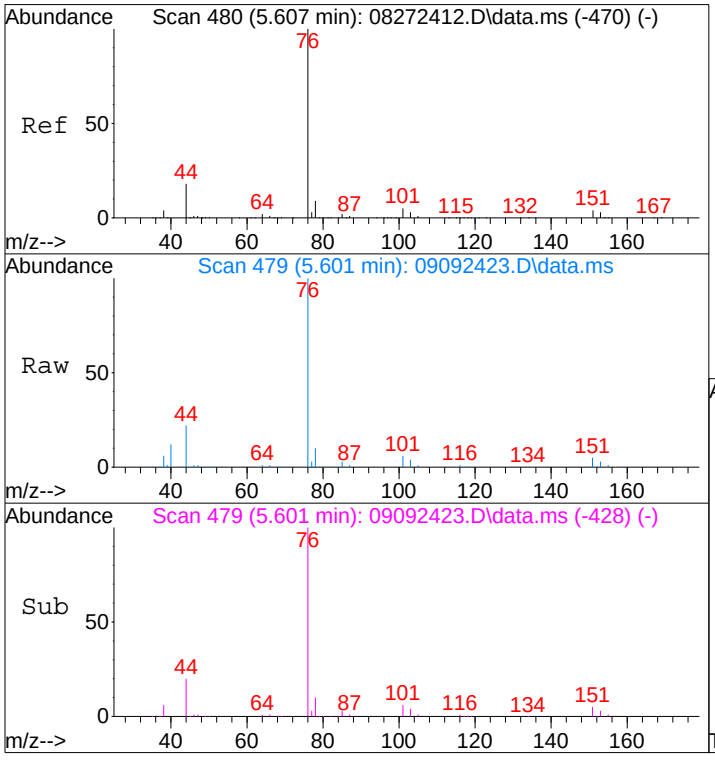


#21
Trichlorotrifluoroethane
Concen: 2.75 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.032 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:151 Resp: 33970

Ion	Ratio	Lower	Upper
151	100		
101	131.8	103.4	143.4

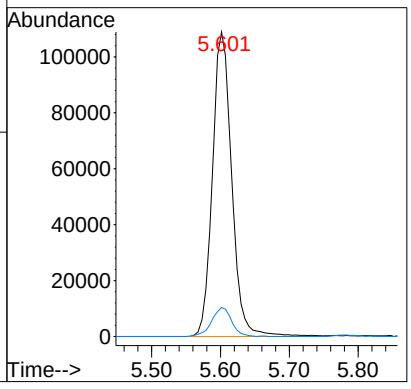


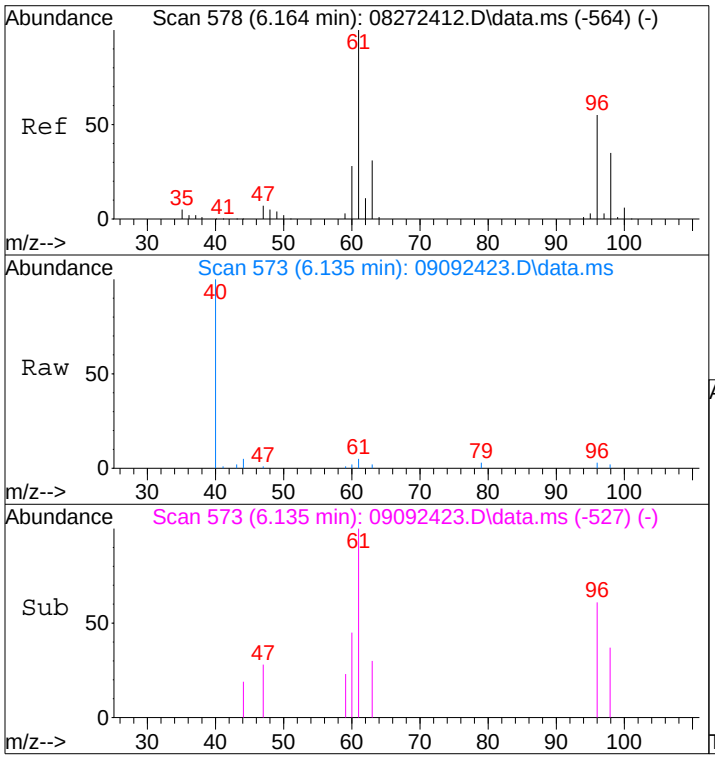


#22
Carbon Disulfide
Concen: 4.41 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 76 Resp: 212056

Ion	Ratio	Lower	Upper
76	100		
78	9.8	0.0	29.6

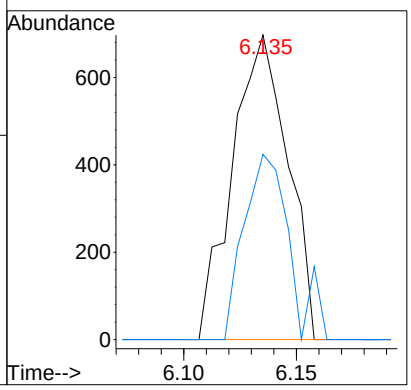


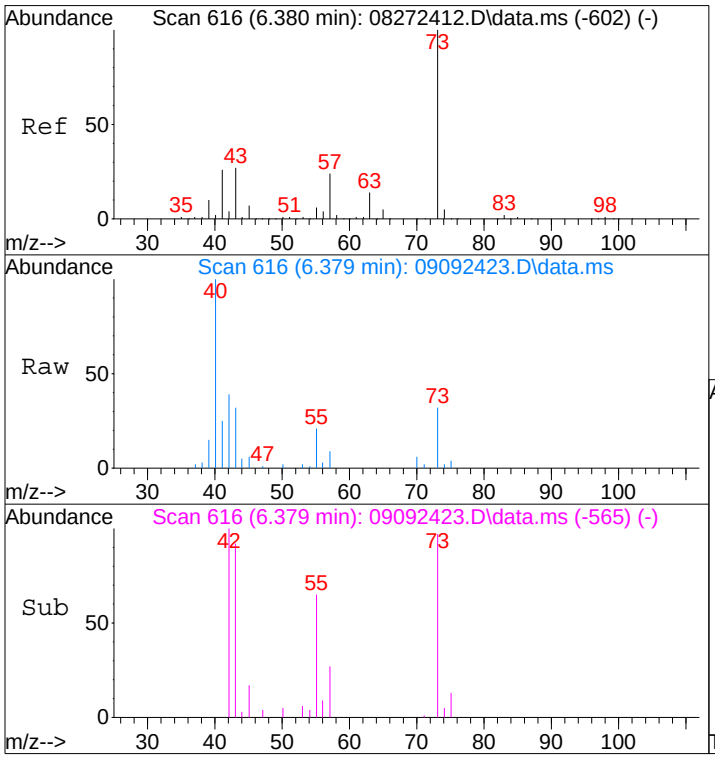


#23
trans-1,2-Dichloroethene
Concen: 0.05 ng
RT: 6.14 min Scan# 573
Delta R.T. 0.010 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 61 Resp: 1193

Ion	Ratio	Lower	Upper
61	100		
96	50.1	35.5	75.5

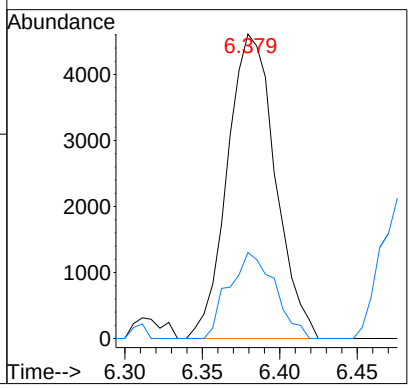


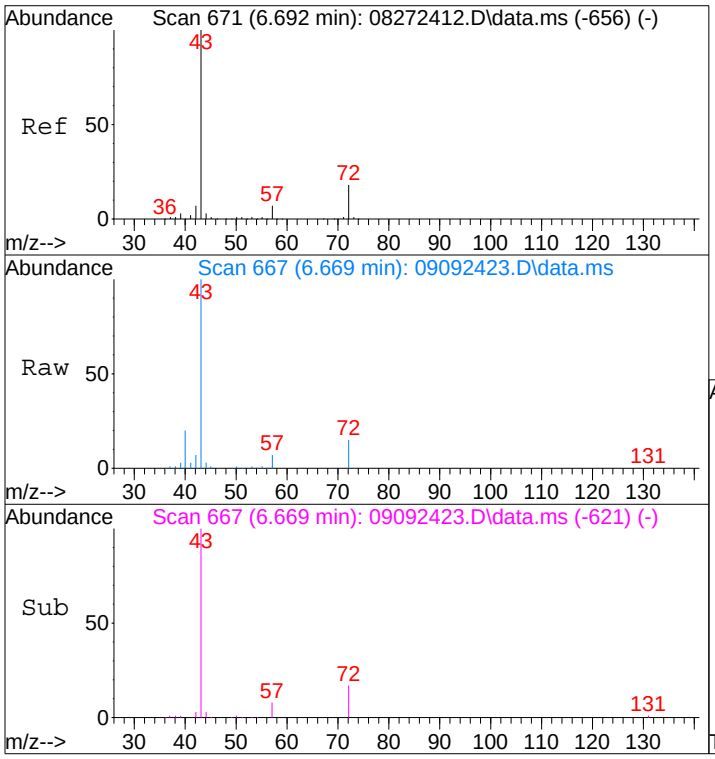


#25
Methyl tert-Butyl Ether
Concen: 0.23 ng
RT: 6.38 min Scan# 616
Delta R.T. 0.041 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 73 Resp: 9936

Ion	Ratio	Lower	Upper
73	100		
57	27.1	4.7	44.7

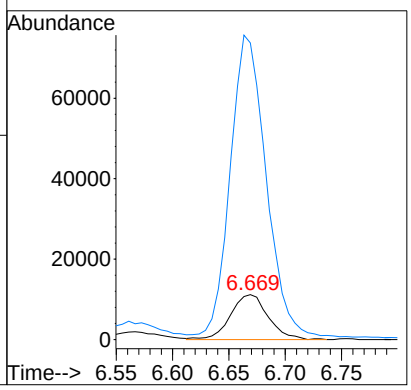


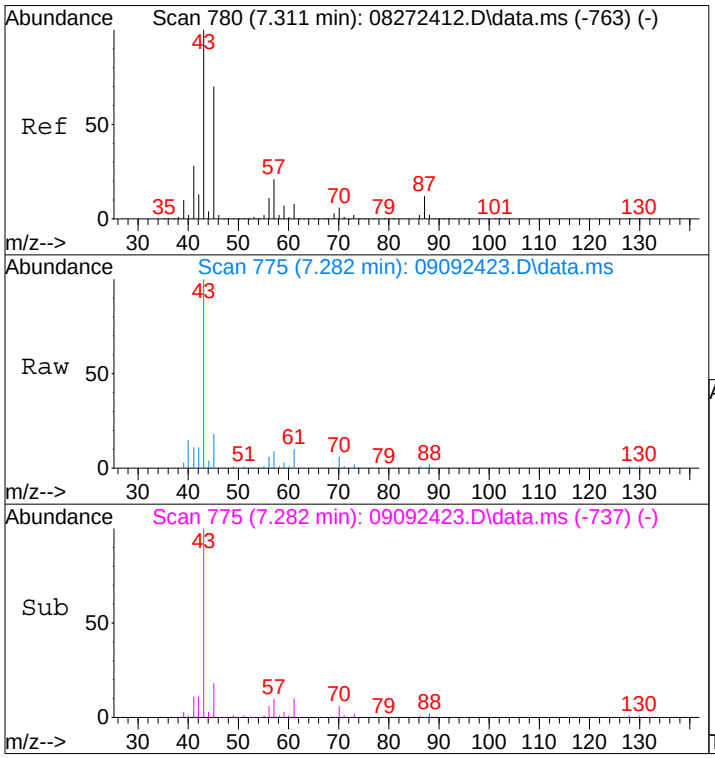


#27
2-Butanone (MEK)
Concen: 2.98 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 72 Resp: 26035

Ion	Ratio	Lower	Upper
72	100		
43	645.5	548.0	588.0#

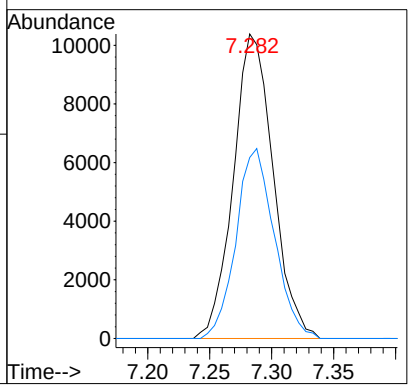


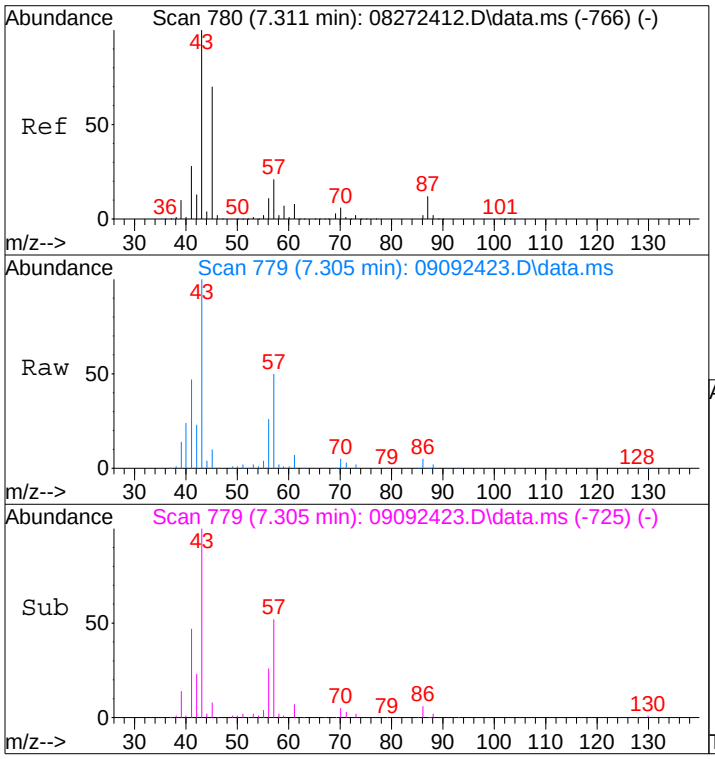


#30
Ethyl Acetate
Concen: 3.97 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 61 Resp: 23237

Ion	Ratio	Lower	Upper
61	100		
70	60.1	49.9	89.9

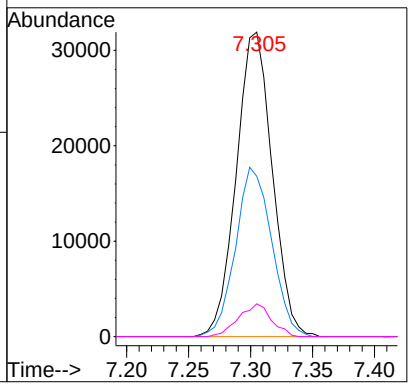


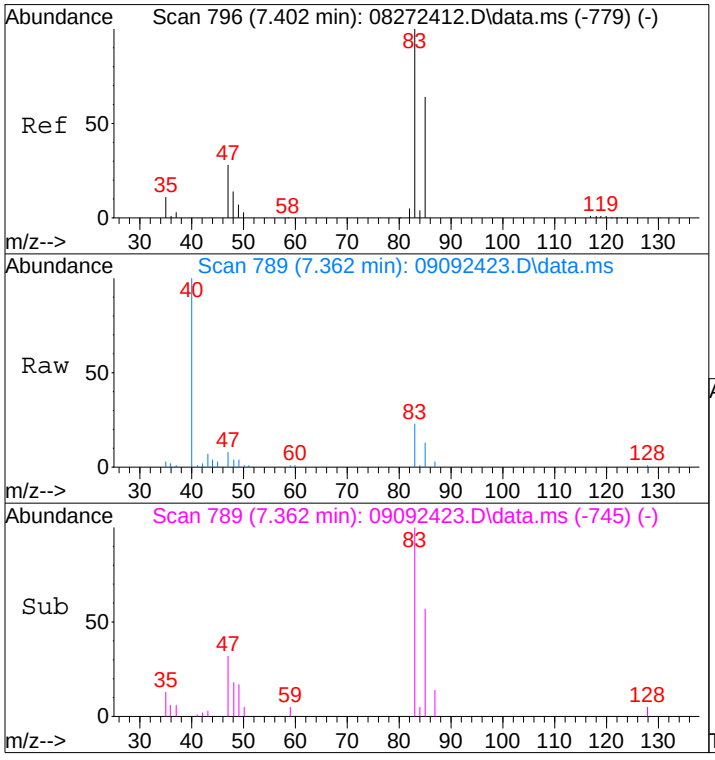


#31
n-Hexane
Concen: 2.42 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 57 Resp: 64544

Ion	Ratio	Lower	Upper
57	100		
56	55.8	44.2	66.2
86	9.8	9.3	13.9

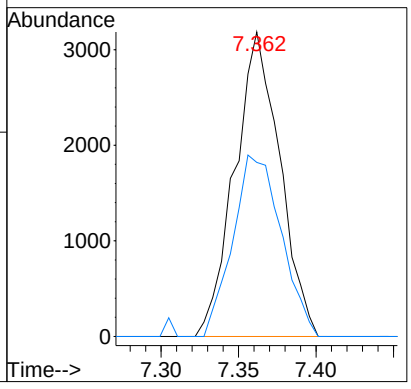


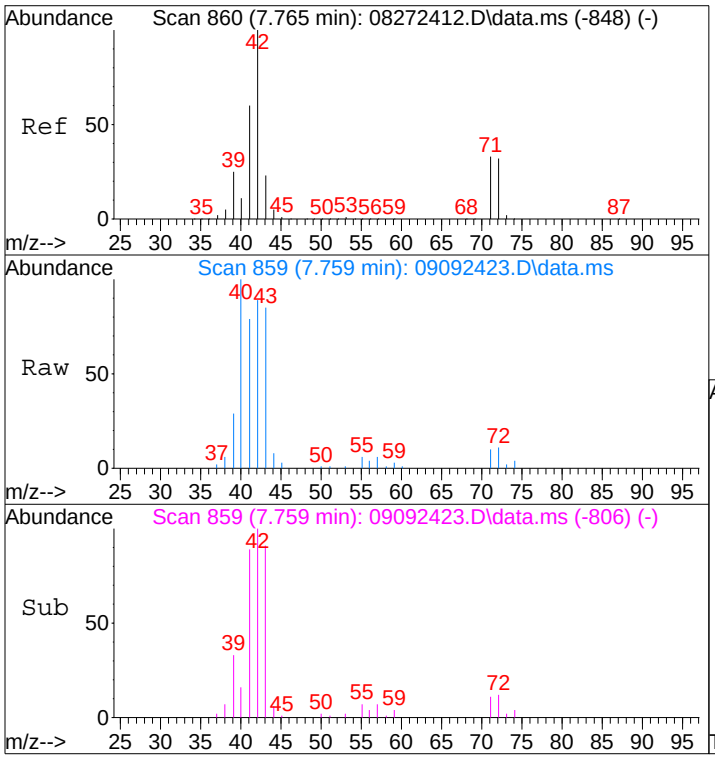


#32
Chloroform
Concen: 0.24 ng
RT: 7.36 min Scan# 789
Delta R.T. 0.001 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 83 Resp: 6452

Ion	Ratio	Lower	Upper
83	100		
85	63.9	45.3	85.3

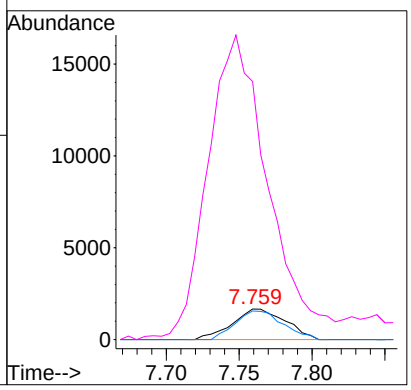


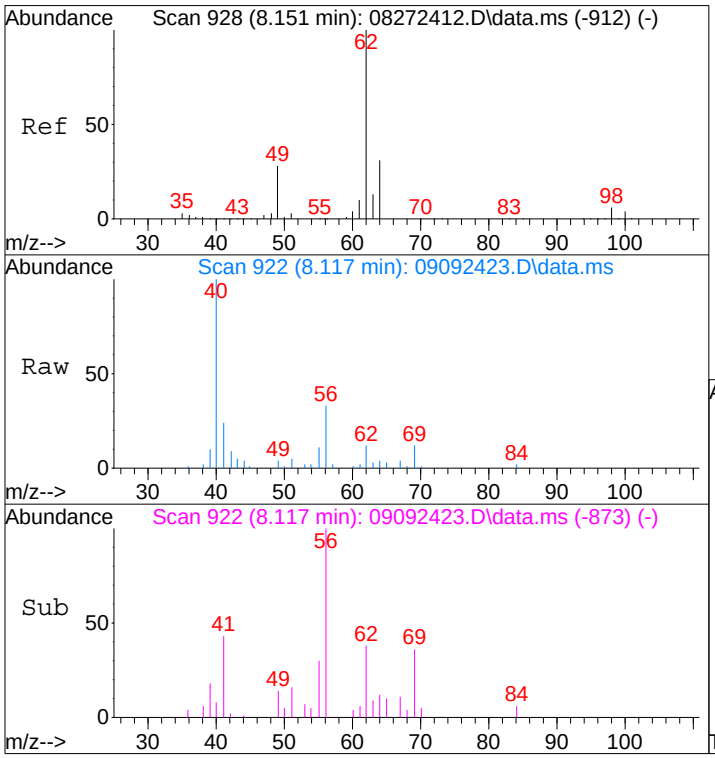


#34
Tetrahydrofuran (THF)
Concen: 0.51 ng
RT: 7.76 min Scan# 859
Delta R.T. 0.051 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 72 Resp: 4220

Ion	Ratio	Lower	Upper
72	100		
71	84.1	78.4	118.4
42	1243.5	285.2	325.2#

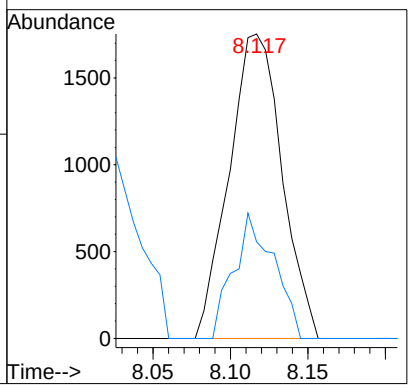


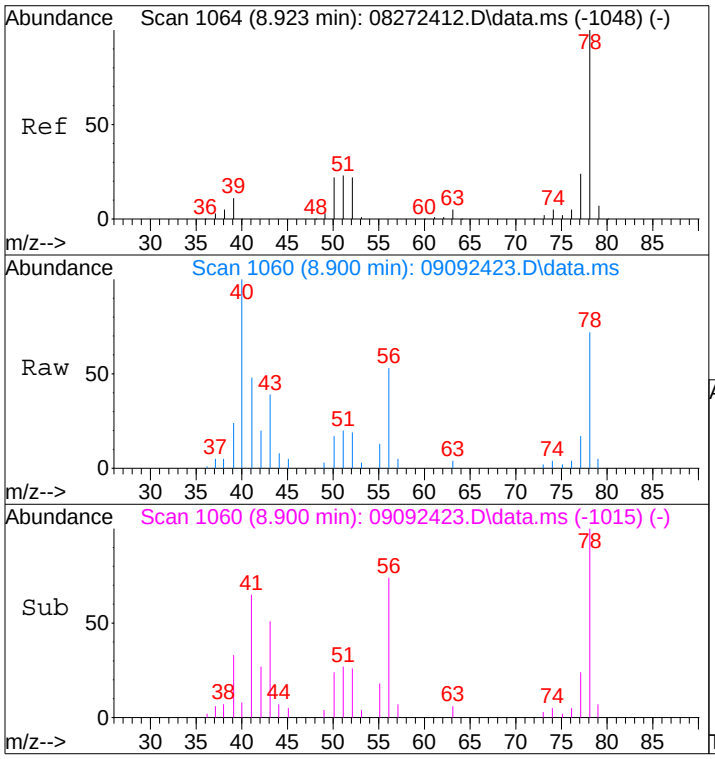


#36
1,2-Dichloroethane
Concen: 0.16 ng
RT: 8.12 min Scan# 922
Delta R.T. 0.026 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 62 Resp: 4163

Ion	Ratio	Lower	Upper
62	100		
64	31.3	11.0	51.0

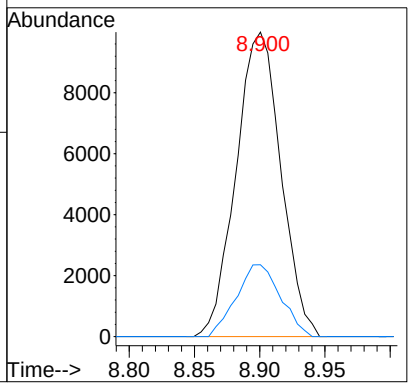


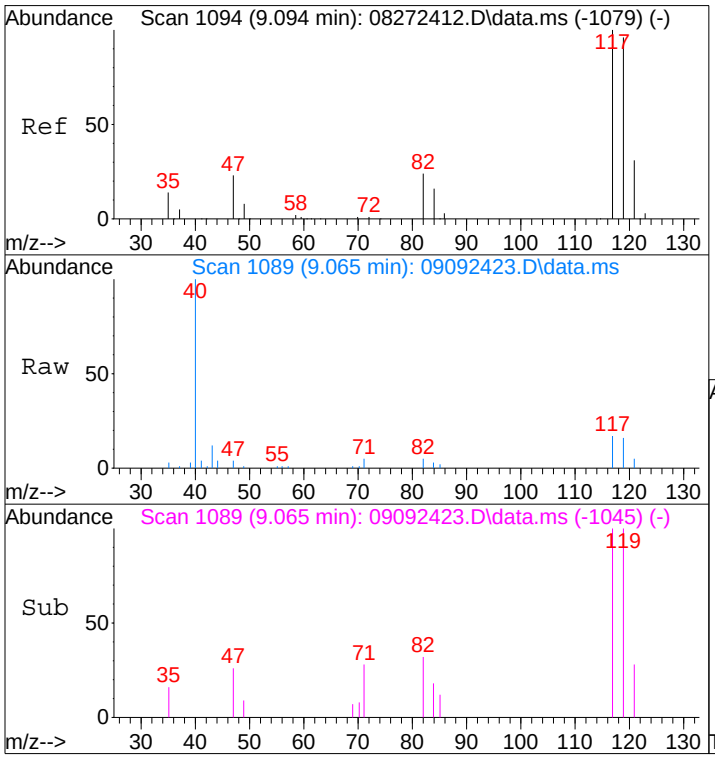


#41
Benzene
Concen: 0.44 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.003 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 78 Resp: 23860

Ion	Ratio	Lower	Upper
78	100		
77	23.3	3.9	43.9

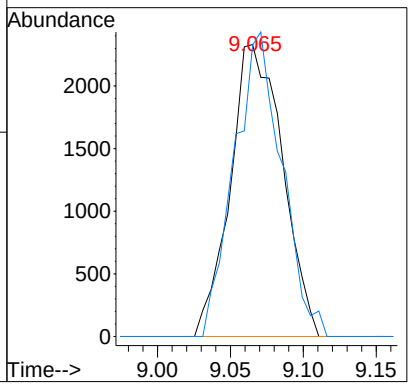


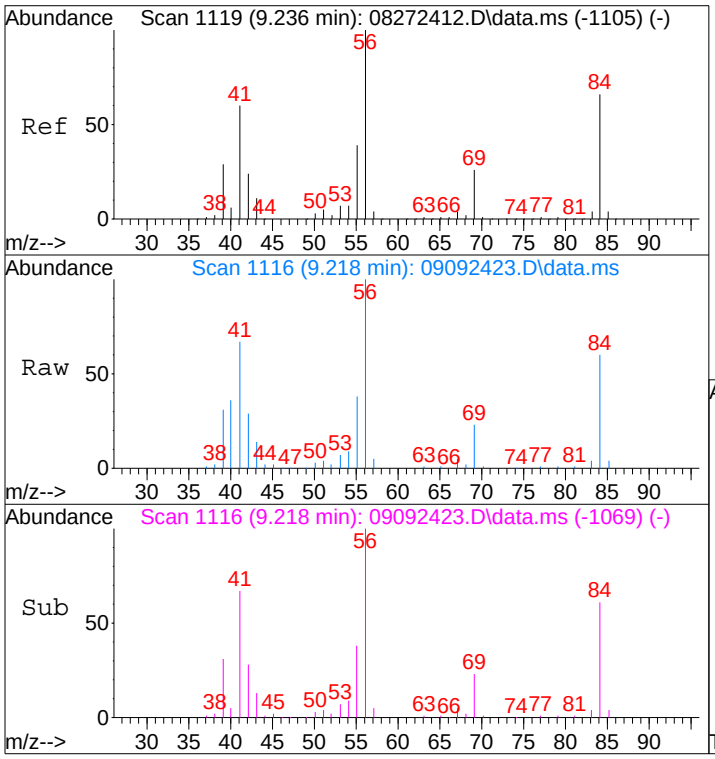


#42
Carbon Tetrachloride
Concen: 0.26 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:117 Resp: 5809

Ion	Ratio	Lower	Upper
117	100		
119	95.1	75.1	115.1

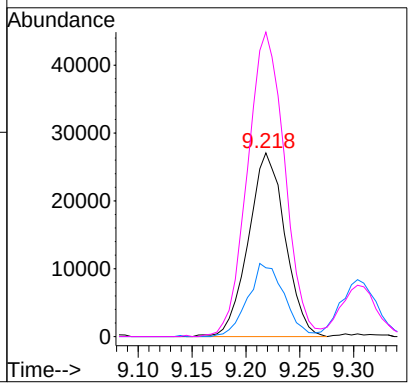


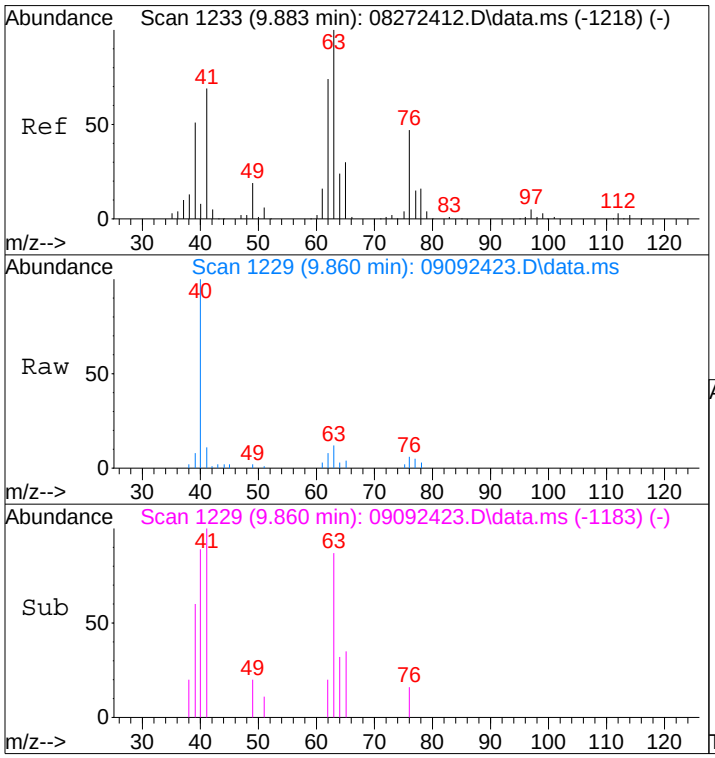


#43
Cyclohexane
Concen: 3.50 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.016 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 84 Resp: 64044

Ion	Ratio	Lower	Upper
84	100		
69	39.3	18.8	58.8
56	168.3	134.5	174.5

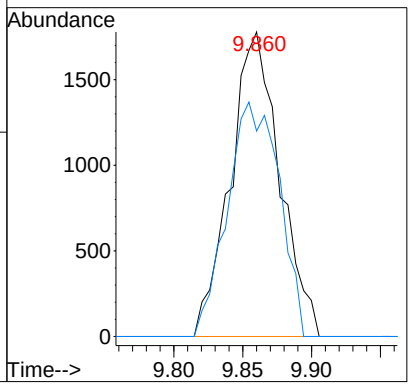


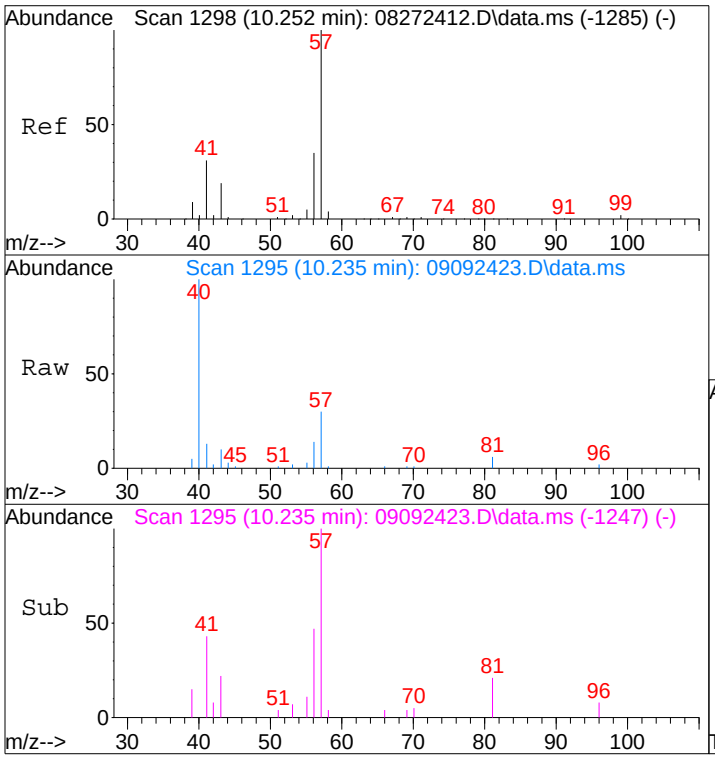


#45
1,2-Dichloropropane
Concen: 0.31 ng
RT: 9.86 min Scan# 1229
Delta R.T. 0.009 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 63 Resp: 4424

Ion	Ratio	Lower	Upper
63	100		
62	81.3	54.2	94.2

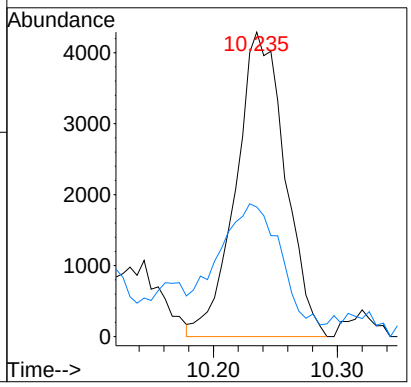


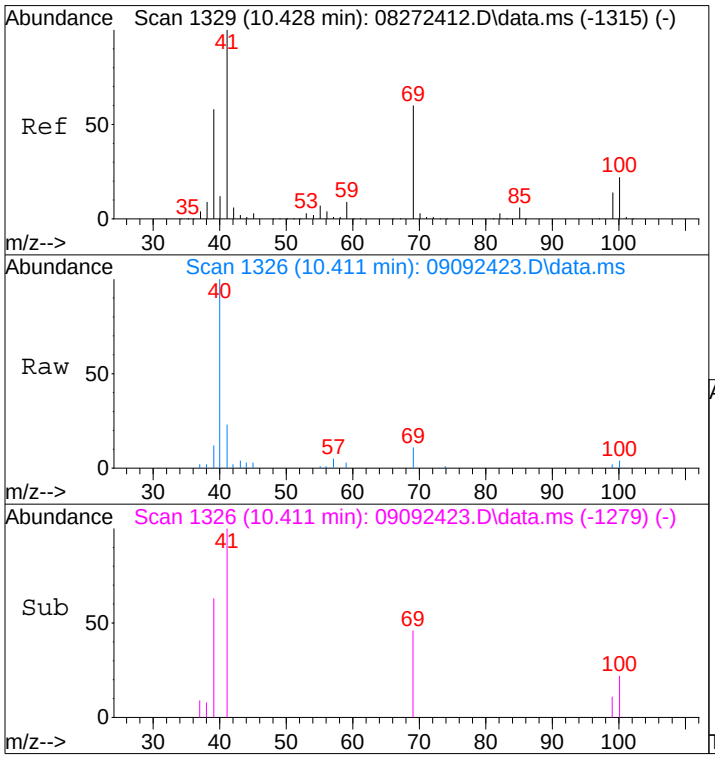


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.18 ng
RT: 10.23 min Scan# 1295
Delta R.T. 0.022 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 57 Resp: 11818

Ion	Ratio	Lower	Upper
57	100		
41	48.8	10.5	50.5

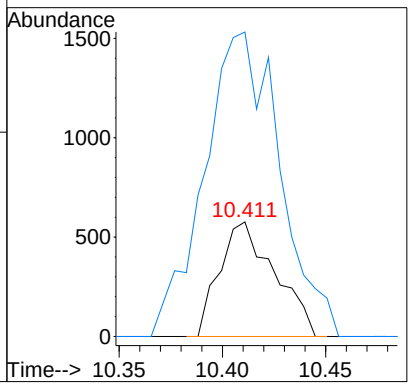


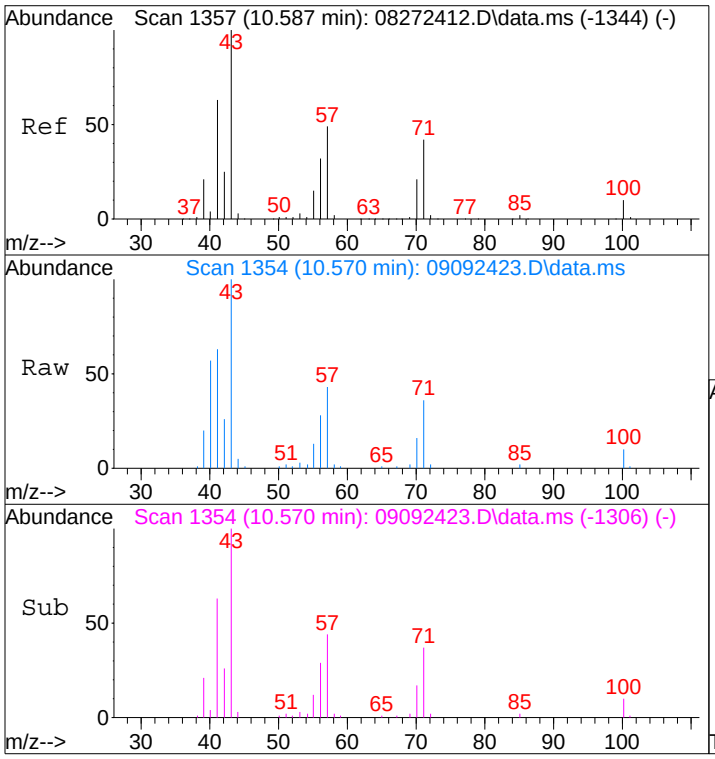


#50
Methyl Methacrylate
Concen: 0.23 ng
RT: 10.41 min Scan# 1326
Delta R.T. 0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:100 Resp: 1072

Ion	Ratio	Lower	Upper
100	100		
69	363.8	260.7	300.7#

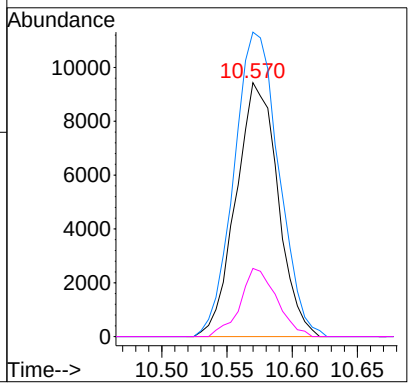


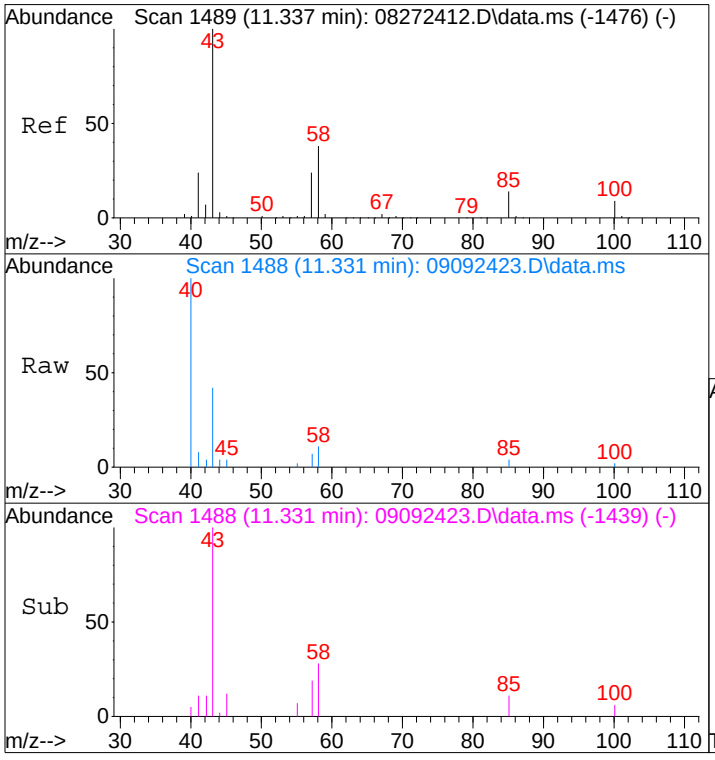


#51
n-Heptane
Concen: 1.75 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.024 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 71 Resp: 21139

Ion	Ratio	Lower	Upper
71	100		
57	127.8	97.1	137.1
100	23.4	5.0	45.0

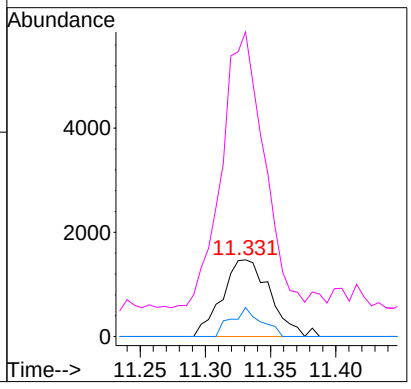


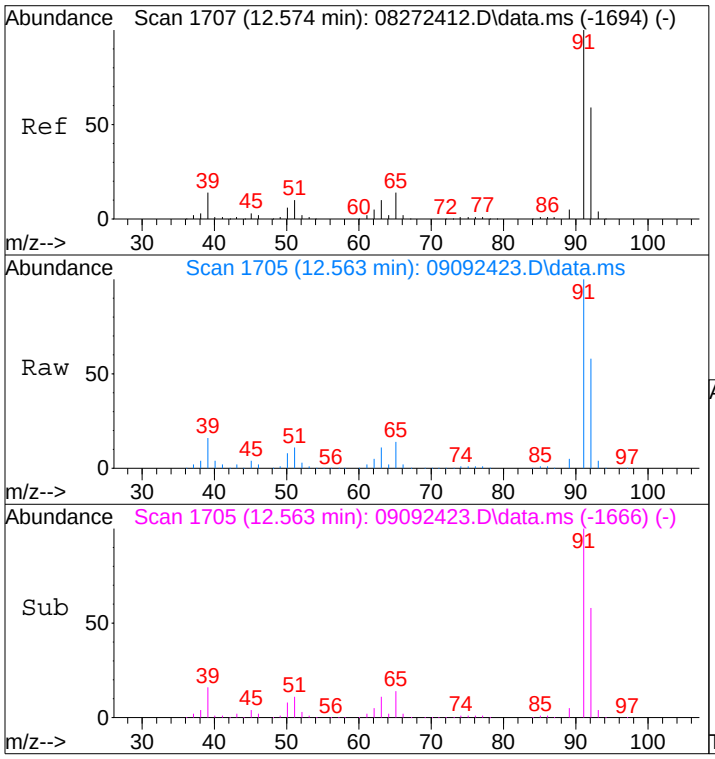


#53
4-Methyl-2-pentanone
Concen: 0.26 ng
RT: 11.33 min Scan# 1488
Delta R.T. 0.028 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 58 Resp: 3766

Ion	Ratio	Lower	Upper
58	100		
85	23.6	30.2	45.2#
43	347.7	215.1	322.7#

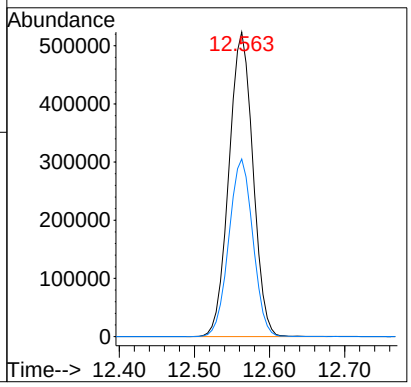


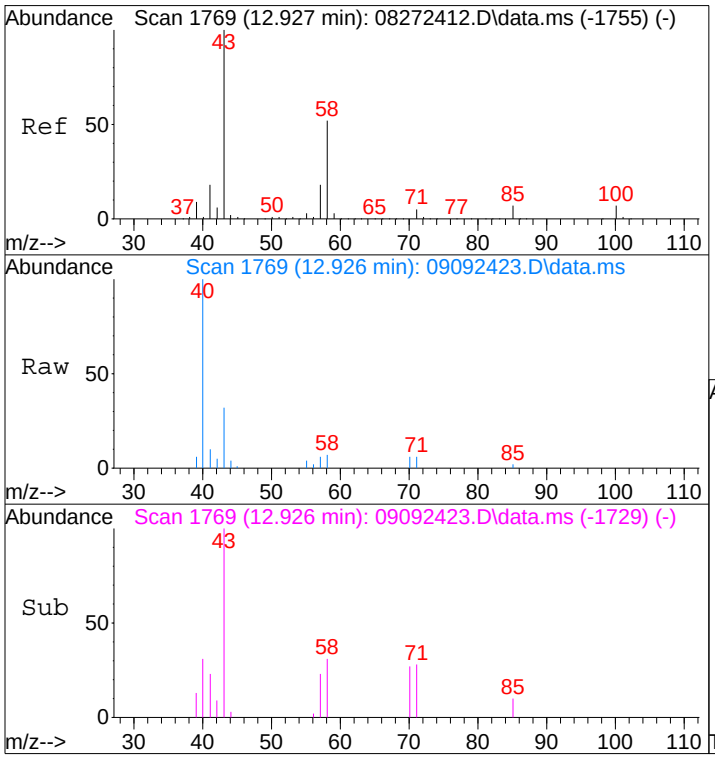


#58
Toluene
Concen: 16.54 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 91 Resp: 1162689

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.5	78.5

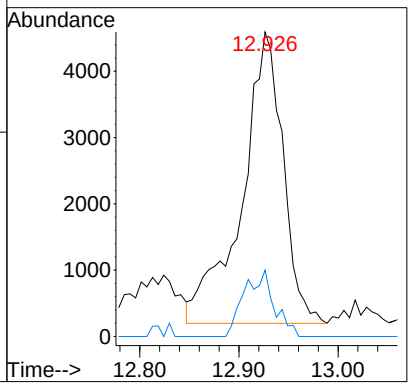


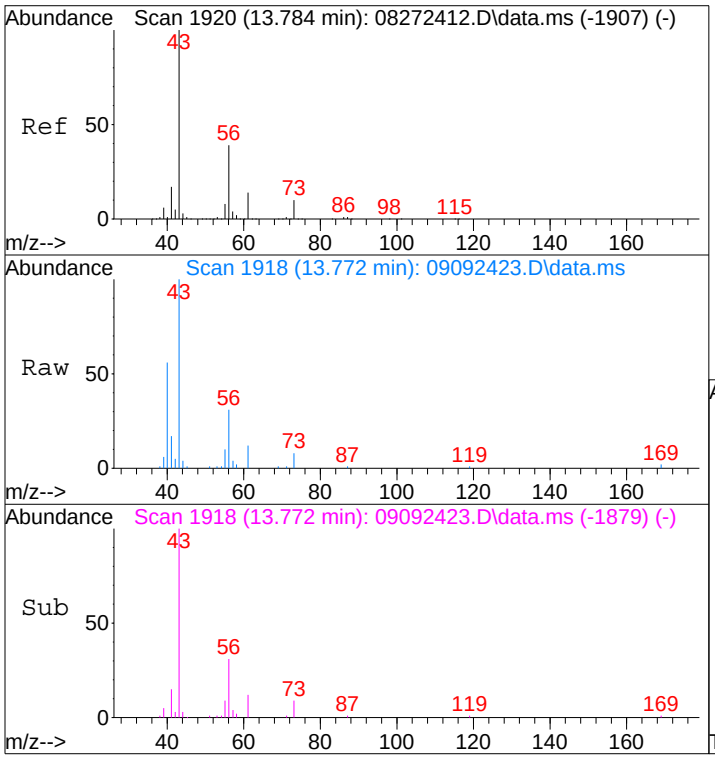


#59
2-Hexanone
Concen: 0.29 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 43 Resp: 12700

Ion	Ratio	Lower	Upper
43	100		
58	16.5	31.1	71.1#

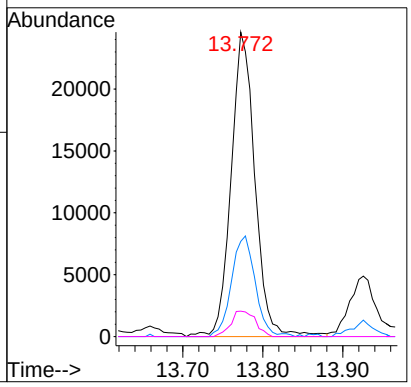


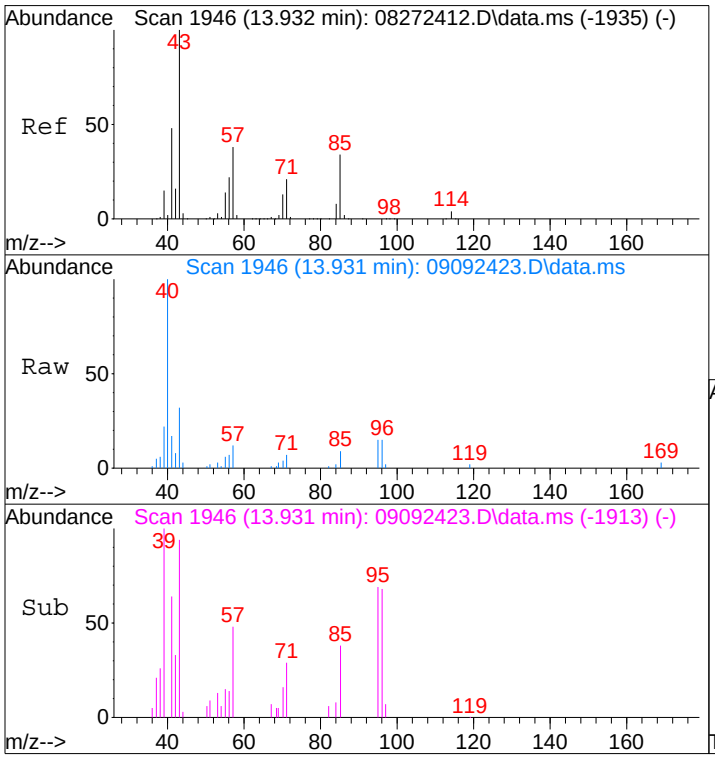


#62
n-Butyl Acetate
Concen: 1.05 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 43 Resp: 51033

Ion	Ratio	Lower	Upper
43	100		
56	32.9	18.2	58.2
73	8.7	0.0	30.1

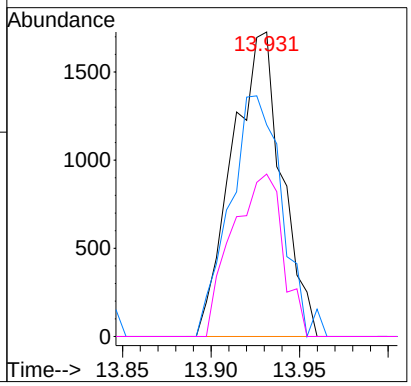


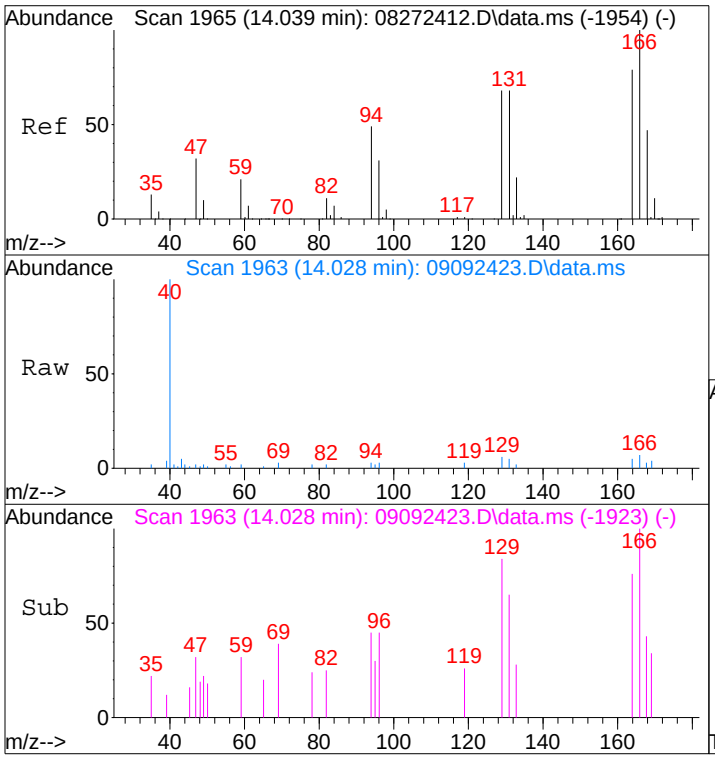


#63
n-Octane
Concen: 0.20 ng
RT: 13.93 min Scan# 1946
Delta R.T. -0.011 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 57 Resp: 3355

Ion	Ratio	Lower	Upper
57	100		
85	83.4	71.2	106.8
71	54.6	43.3	64.9

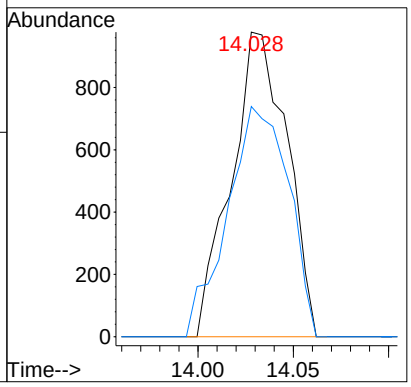


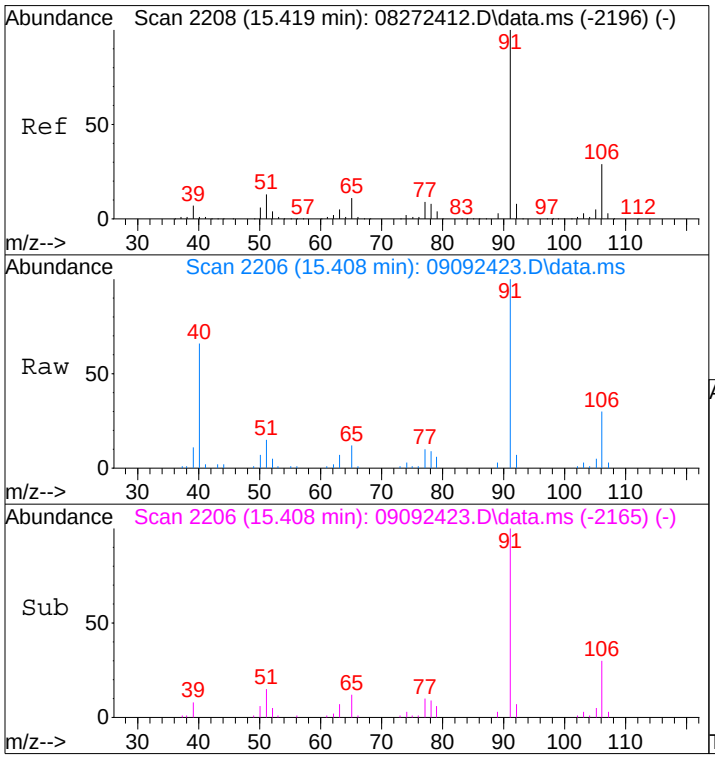


#64
Tetrachloroethene
Concen: 0.10 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:166 Resp: 1988

Ion	Ratio	Lower	Upper
166	100		
164	83.0	59.0	99.0

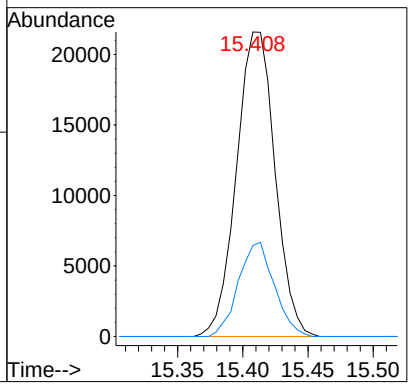


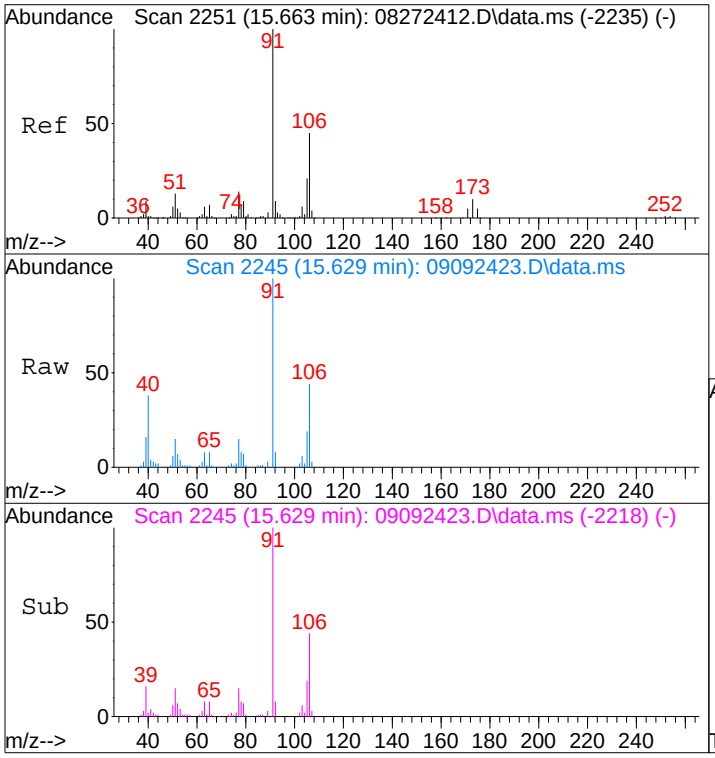


#66
Ethylbenzene
Concen: 0.55 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 91 Resp: 44462

Ion	Ratio	Lower	Upper
91	100		
106	28.8	9.2	49.2

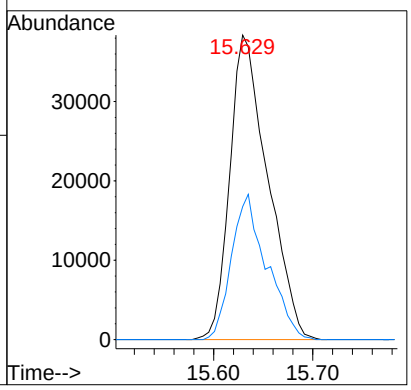


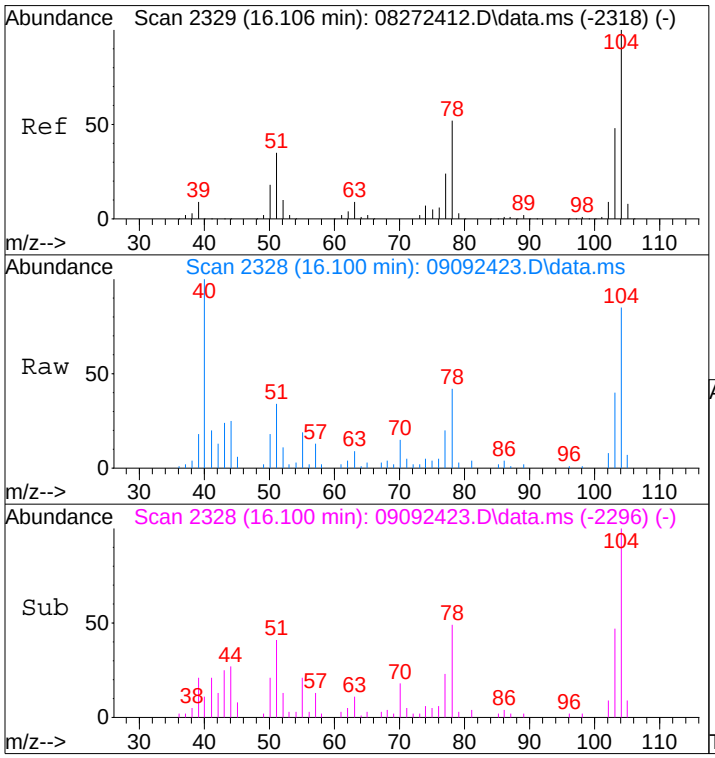


#67
m- & p-Xylenes
Concen: 1.55 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 91 Resp: 101884

Ion	Ratio	Lower	Upper
91	100		
106	44.4	23.8	63.8

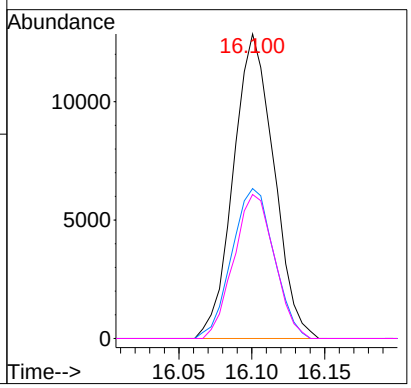


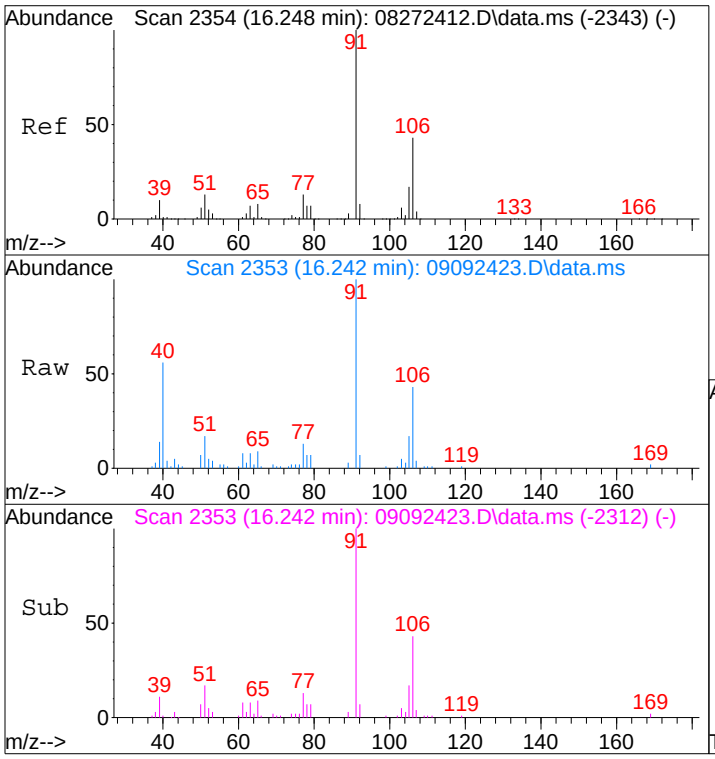


#69
Styrene
Concen: 0.58 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:104 Resp: 24792

Ion	Ratio	Lower	Upper
104	100		
78	51.3	32.2	72.2
103	47.3	28.3	68.3

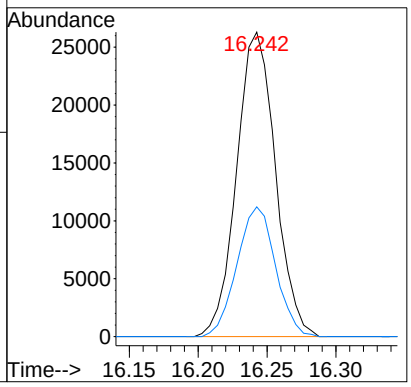


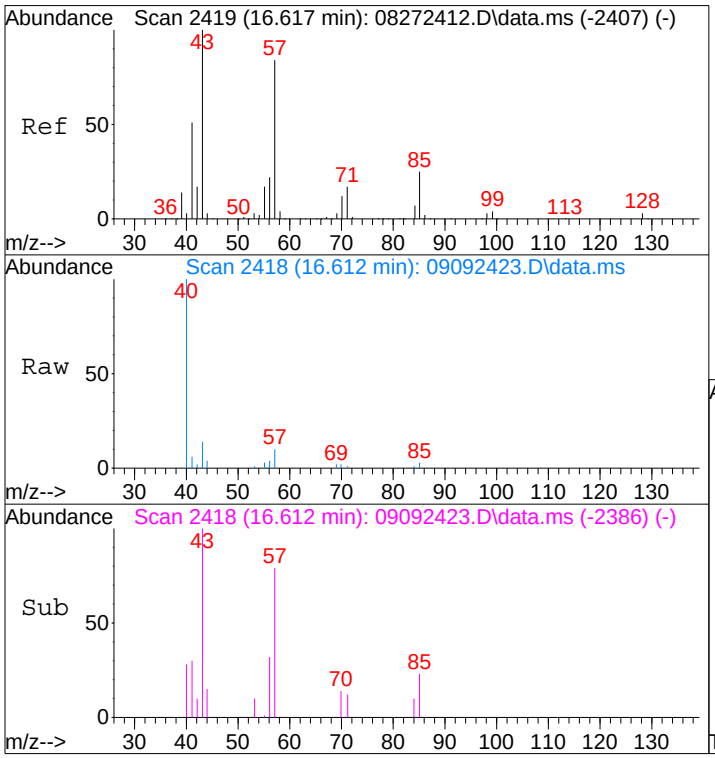


#70
o-Xylene
Concen: 0.80 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 91 Resp: 51566

Ion	Ratio	Lower	Upper
91	100		
106	42.3	22.5	62.5

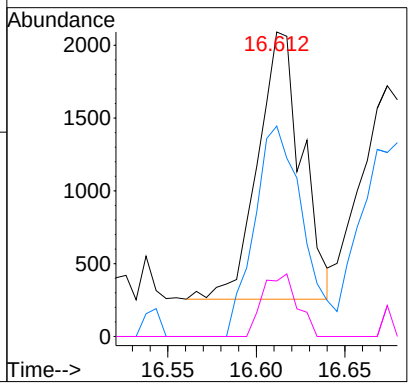


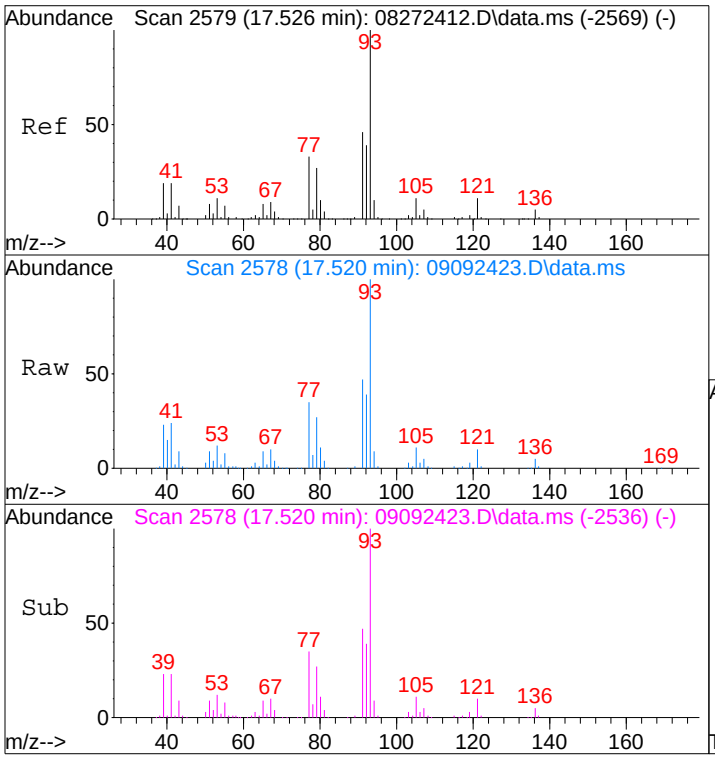


#71
n-Nonane
Concen: 0.08 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 43 Resp: 3184

Ion	Ratio	Lower	Upper
43	100		
57	87.2	63.3	103.3
85	18.4	4.5	44.5

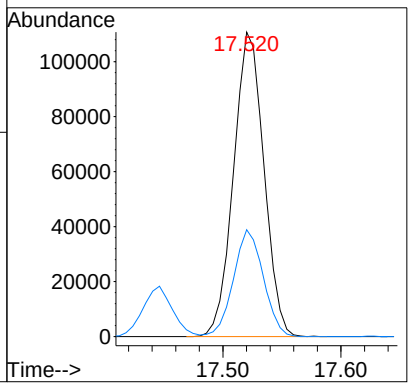


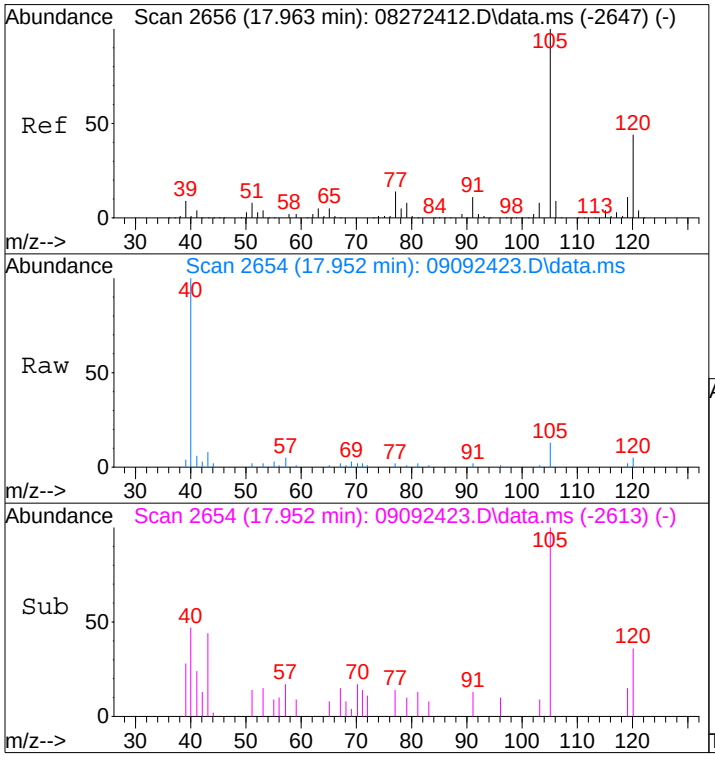


#75
alpha-Pinene
Concen: 5.11 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 93 Resp: 198003

Ion	Ratio	Lower	Upper
93	100		
77	34.6	13.1	53.1

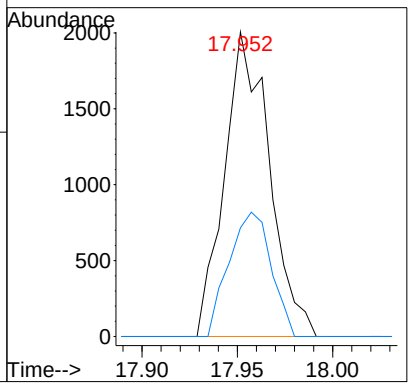


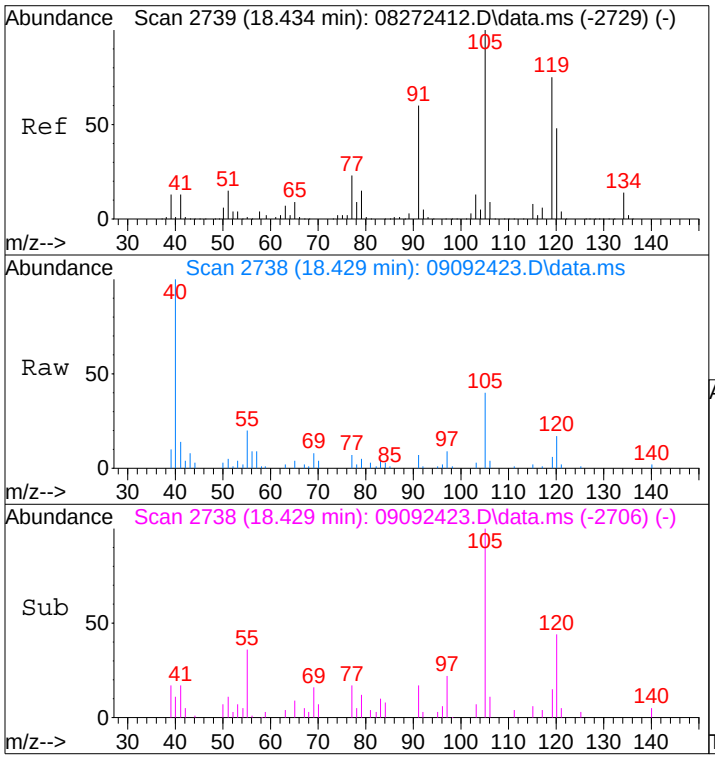


#79
1,3,5-Trimethylbenzene
Concen: 0.05 ng
RT: 17.95 min Scan# 2654
Delta R.T. -0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:105 Resp: 3275

Ion	Ratio	Lower	Upper
105	100		
120	38.5	24.0	64.0

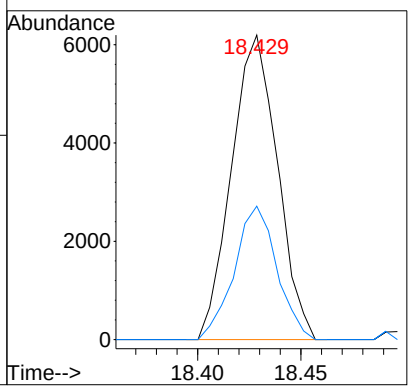


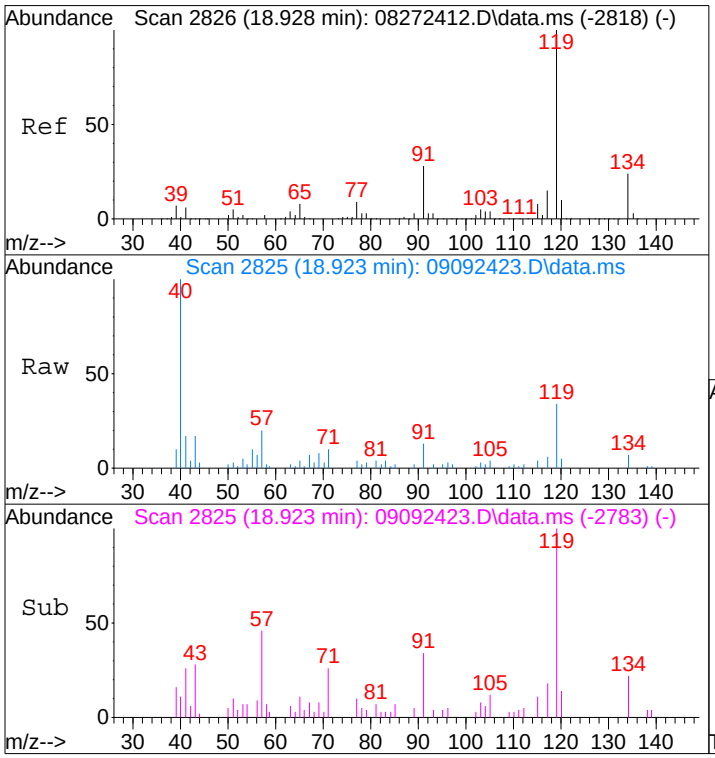


#82
1,2,4-Trimethylbenzene
Concen: 0.14 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:105 Resp: 9570

Ion	Ratio	Lower	Upper
105	100		
120	40.7	28.8	68.8

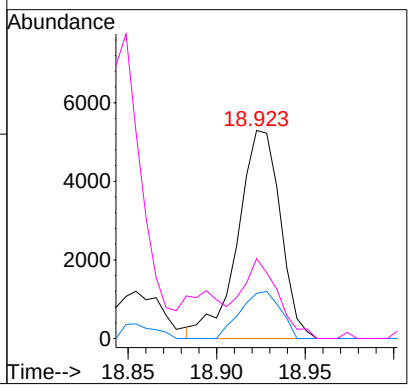


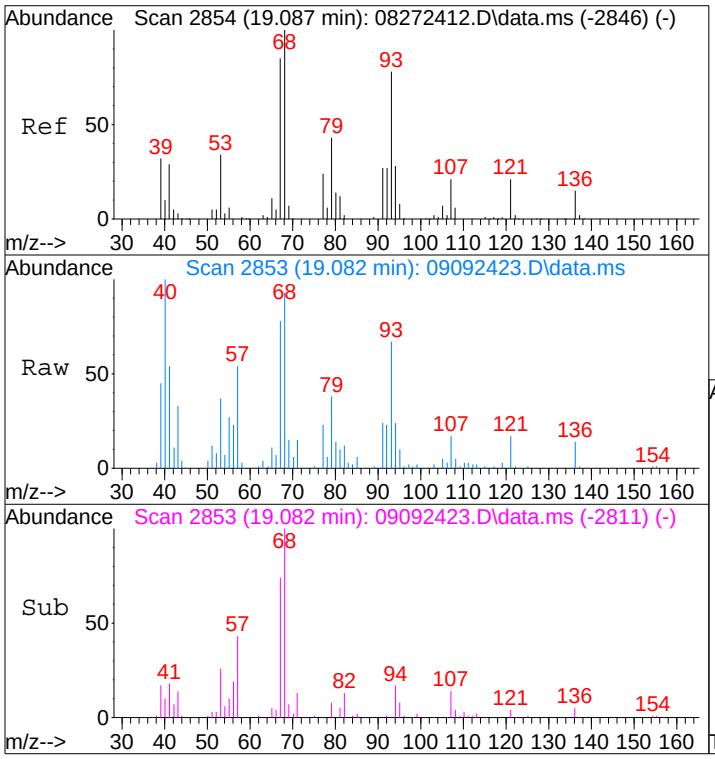


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.12 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:119 Resp: 8847

Ion	Ratio	Lower	Upper
119	100		
134	21.3	4.7	44.7
91	32.7	8.1	48.1

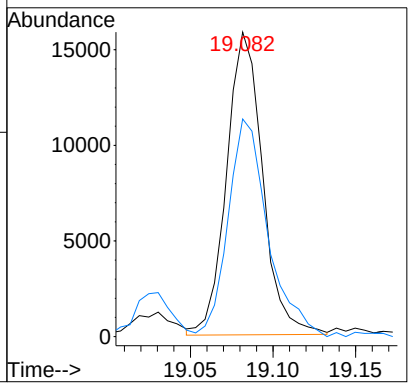


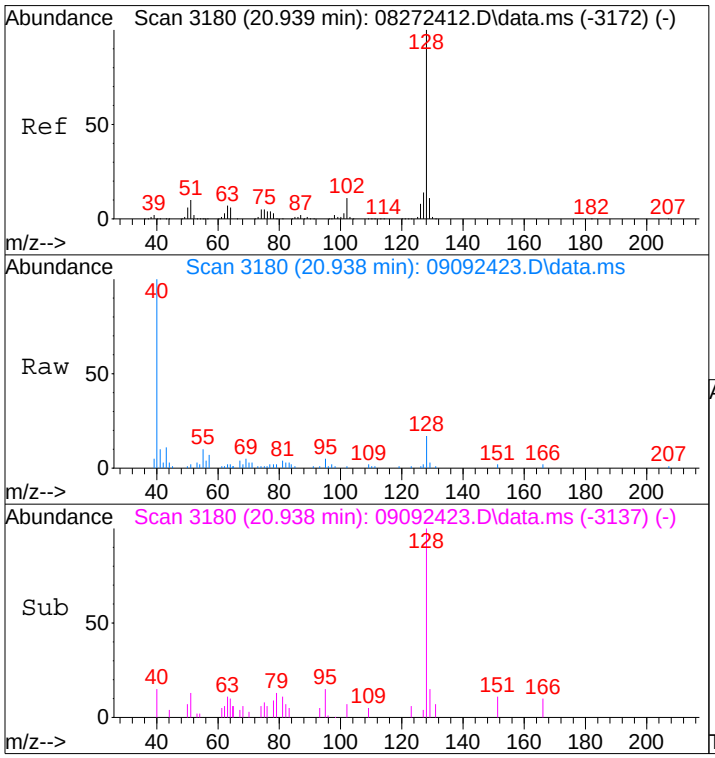


#91
d-Limonene
Concen: 1.09 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion: 68 Resp: 24023

Ion	Ratio	Lower	Upper
68	100		
93	79.6	56.2	96.2

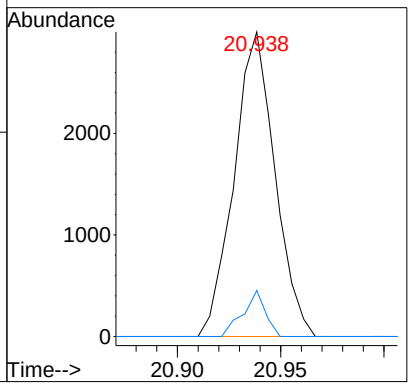




#95
Naphthalene
Concen: 0.06 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09092423.D
Acq: 9 Sep 2024 21:03

Tgt Ion:128 Resp: 4121

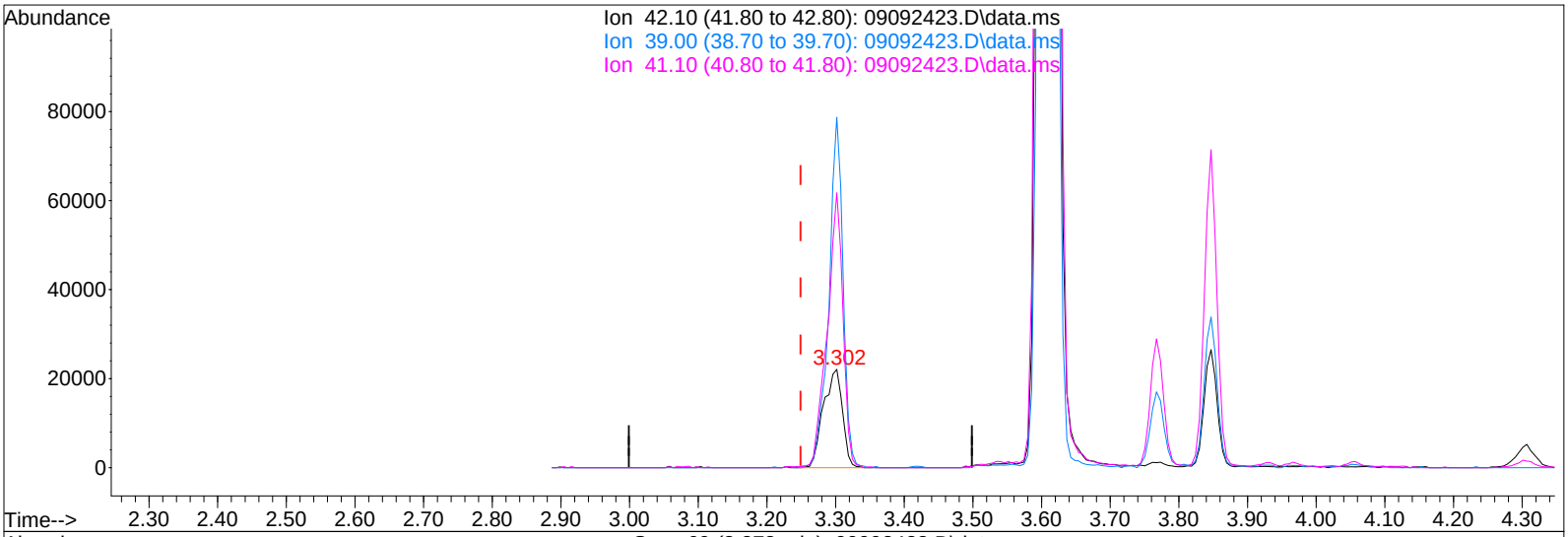
Ion	Ratio	Lower	Upper
128	100		
129	8.3	0.0	31.1

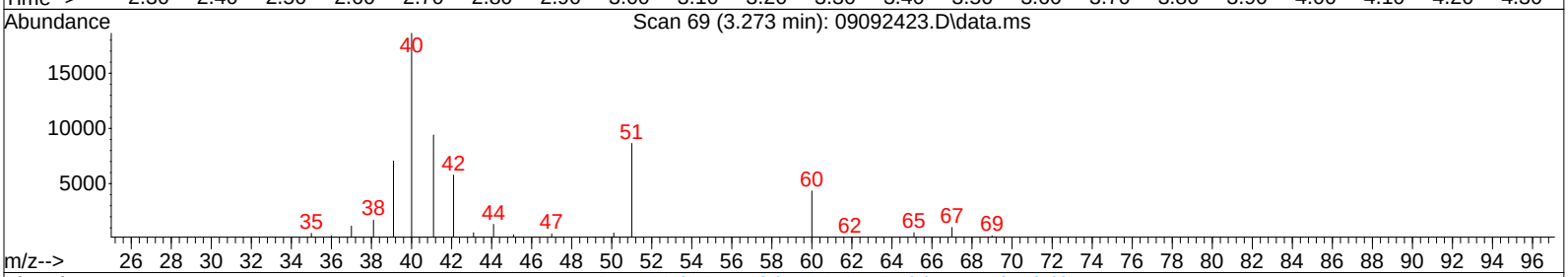


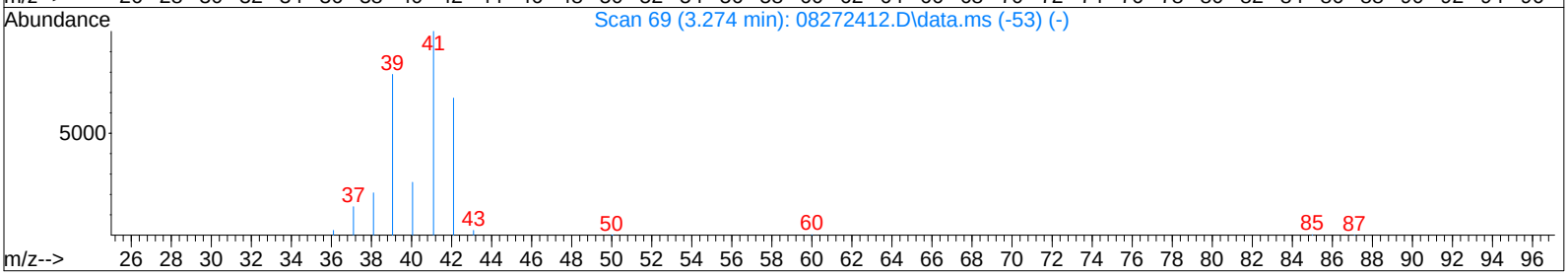
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:37:14 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09092423.D\data.ms

(2) Propene (T)

3.302min (+0.053) 2.09ng

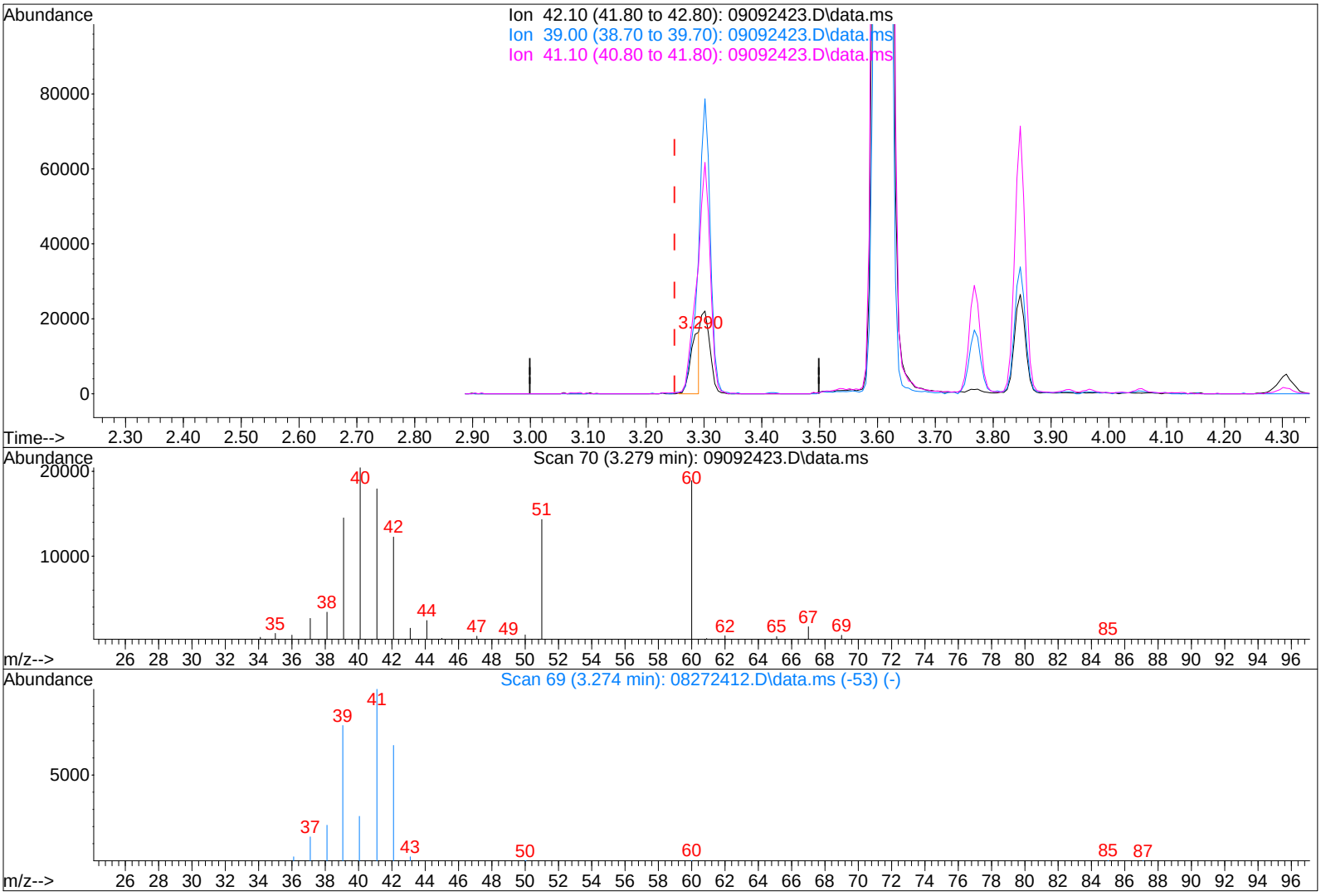
response 42519

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	267.38#
41.10	150.10	232.05#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:37:14 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092423.D\data.ms

(2) Propene (T)

3.290min (+0.041) 0.88ng m

response 17914

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	634.63#
41.10	150.10	550.76#
0.00	0.00	0.00

IPC
9/10/24
9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:31:12 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

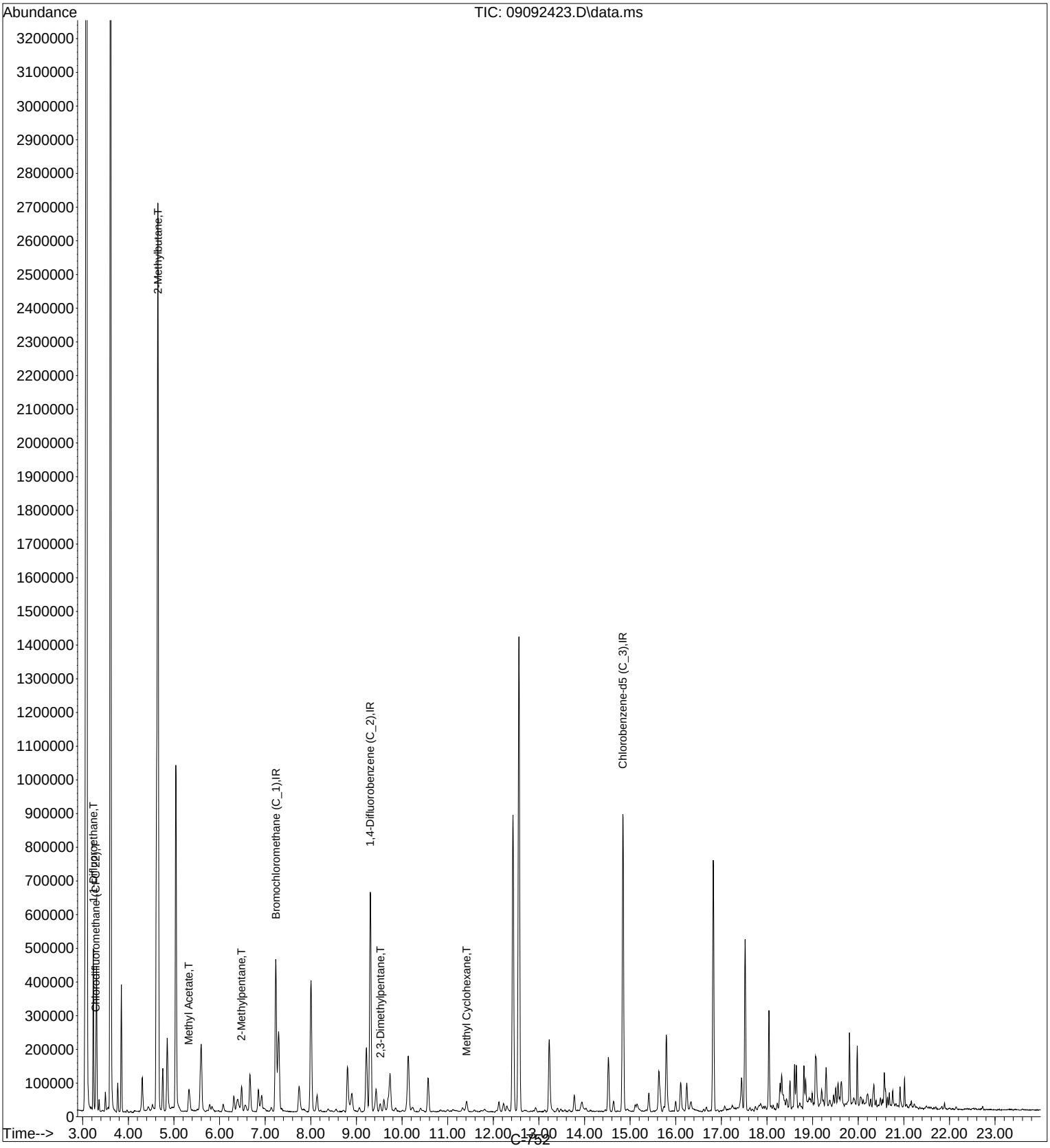
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	134423	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	577476	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	185417	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	149	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	112103	9.552 ng		99
5) Chlorodifluoromethane ...	3.28	67	2382	0.520 ng		94
6) 1-Chloro-1,1-Difluoroe...	3.49	65	509	N.D.		
7) Dichlorofluoromethane ...	4.23	67	59	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	59	N.D.		
10) 2-Methylbutane	4.65	57	551609	34.405 ng		93
11) Methyl Acetate	5.32	43	69996	1.545 ng	#	63
12) 2-Methylpentane	6.48	71	10880	0.935 ng	#	44
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.08	84	1078	N.D.		
17) 2,3-Dimethylpentane	9.53	56	12377	0.443 ng		88
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	14237	0.447 ng		91
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.34	75	1398	N.D.		
25) Bromobenzene	17.04	77	656	N.D.		
26) 2-Chlorotoluene	17.61	91	453	N.D.		
27) 4-Chlorotoluene	17.67	91	3817	N.D.		
28) Indane	19.11	117	962	N.D.		
29) Indene	19.20	115	299	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	746	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1547	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	1362	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

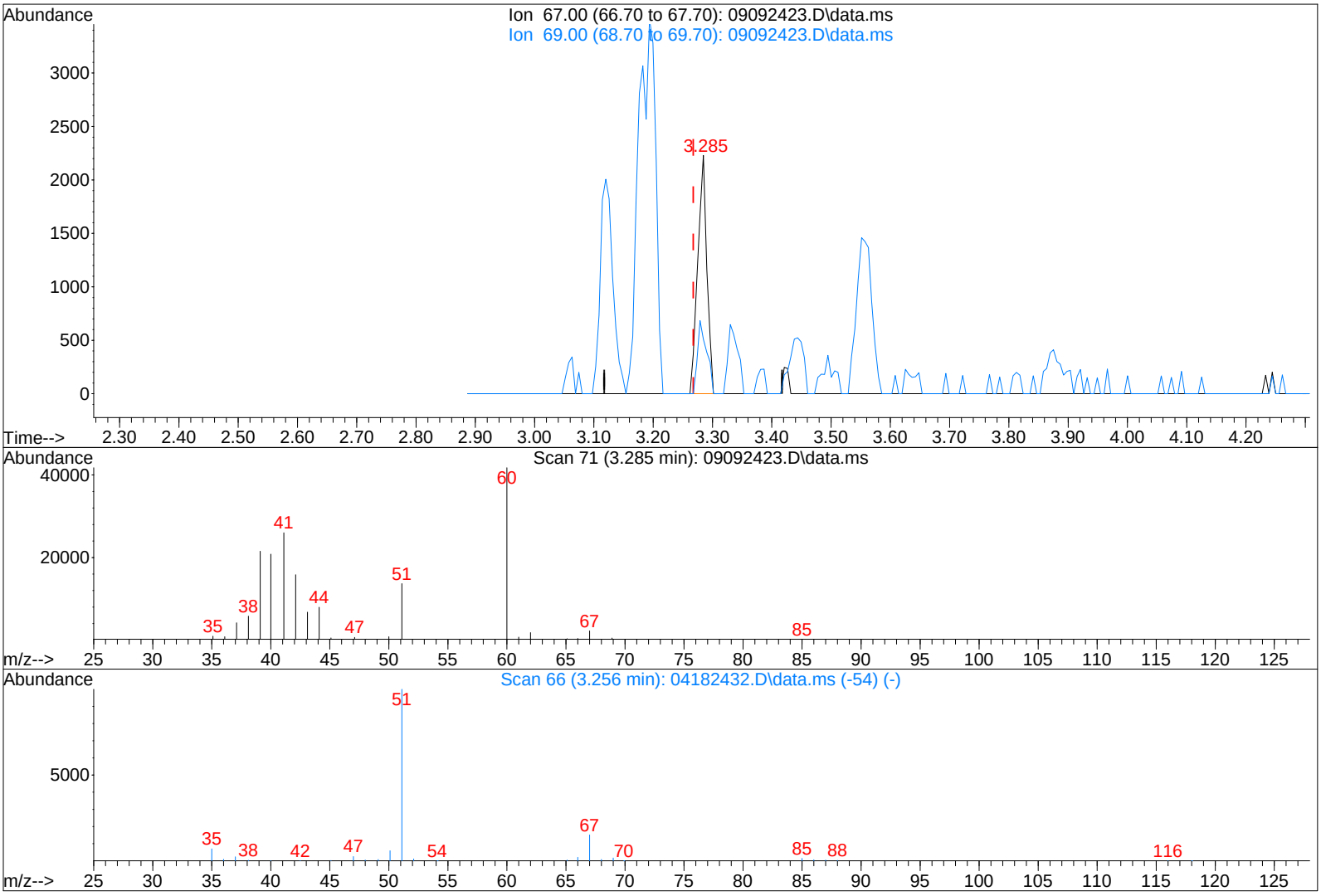
Quant Time: Sep 10 12:31:12 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092423.D Vial: 10
Acq On : 9 Sep 2024 21:03 Operator: SC
Sample : P2403661-015 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:30:25 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092423.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.285min (+0.017) 0.52ng

response 2382

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	30.73
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092423.D
Acq On : 9 Sep 2024 21:03
Operator : SC
Sample : P2403661-015 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092423.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	67	rVB	475195	518798	5.84%	1.122%
2	3.302	67	74	80	rVV2	428331	651857	7.34%	1.410%
3	3.359	80	84	91	rVB	35568	40390	0.45%	0.087%
4	3.495	103	108	114	rBV	57513	77840	0.88%	0.168%
5	3.563	114	120	122	rVV4	13034	28265	0.32%	0.061%
6	3.608	122	128	151	rVB	6312876	8877756	100.00%	19.201%
7	3.767	151	156	161	rBV	86829	115164	1.30%	0.249%
8	3.847	164	170	176	rVB	377903	479315	5.40%	1.037%
9	3.972	187	192	198	rBV3	6955	10559	0.12%	0.023%
10	4.307	242	251	258	rBV	99937	196707	2.22%	0.425%
11	4.437	266	274	281	rBV	11583	26683	0.30%	0.058%
12	4.528	281	290	295	rBV4	17892	38199	0.43%	0.083%
13	4.647	299	311	324	rVB3	2691659	6096833	68.68%	13.187%
14	4.755	324	330	338	rVB	126845	209789	2.36%	0.454%
15	4.852	338	347	360	rBV	216695	436287	4.91%	0.944%
16	5.039	373	380	403	rVB	1026965	1804641	20.33%	3.903%
17	5.329	423	431	442	rBV3	65027	175997	1.98%	0.381%
18	5.596	465	478	495	rVB2	200207	547710	6.17%	1.185%
19	5.783	505	511	516	rBV	18852	40710	0.46%	0.088%
20	5.834	516	520	530	rVB2	14703	35872	0.40%	0.078%
21	6.078	556	563	571	rBV3	22199	50815	0.57%	0.110%
22	6.311	597	604	610	rBV	46389	102542	1.16%	0.222%
23	6.391	610	618	627	rVV3	36620	136062	1.53%	0.294%
24	6.482	627	634	641	rVV2	74876	164241	1.85%	0.355%
25	6.561	641	648	658	rVV4	19429	62502	0.70%	0.135%
26	6.663	658	666	680	rVB	109372	247930	2.79%	0.536%
27	6.851	691	699	705	rBV	65028	149620	1.69%	0.324%
28	6.924	705	712	718	rVB	40042	92652	1.04%	0.200%
29	7.129	742	748	756	rVB5	11735	25822	0.29%	0.056%
30	7.231	757	766	772	rBV	450852	1027861	11.58%	2.223%
31	7.294	772	777	787	rVV3	235842	596564	6.72%	1.290%
32	7.362	787	789	794	rVB3	8108	11838	0.13%	0.026%
33	7.742	845	856	867	rBV2	74833	213084	2.40%	0.461%
34	7.850	873	875	887	rVB5	7420	16037	0.18%	0.035%
35	8.003	892	902	916	rBV	389334	926734	10.44%	2.004%
36	8.140	916	926	934	rVB	48677	113229	1.28%	0.245%
37	8.372	961	967	976	rBV4	8172	22421	0.25%	0.048%
38	8.554	992	999	1006	rVB	7848	16775	0.19%	0.036%
39	8.713	1020	1027	1033	rBV4	4752	12365	0.14%	0.027%
40	8.804	1035	1043	1052	rBV	134061	341599	3.85%	0.739%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092423.D
Acq On : 9 Sep 2024 21:03
Operator : SC
Sample : P2403661-015 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	8.900	1053	1060	1071	rVB2	51489	146000	1.64%	0.316%
42	9.065	1082	1089	1098	rVB7	12955	32708	0.37%	0.071%
43	9.218	1104	1116	1123	rBV	189703	457083	5.15%	0.989%
44	9.304	1123	1131	1142	rVB	650433	1534300	17.28%	3.318%
45	9.429	1142	1153	1162	rVB	65918	168183	1.89%	0.364%
46	9.525	1162	1170	1177	rBV4	22233	53536	0.60%	0.116%
47	9.599	1177	1183	1191	rBV	34034	73197	0.82%	0.158%
48	9.735	1193	1207	1216	rVB3	108890	336308	3.79%	0.727%
49	9.860	1223	1229	1235	rVB4	9445	22155	0.25%	0.048%
50	10.138	1264	1278	1287	rBV	164060	475000	5.35%	1.027%
51	10.235	1287	1295	1308	rVB6	13411	44452	0.50%	0.096%
52	10.405	1315	1325	1331	rBV2	11085	29401	0.33%	0.064%
53	10.570	1345	1354	1364	rBV	100374	234038	2.64%	0.506%
54	11.001	1421	1430	1437	rBV5	5825	16866	0.19%	0.036%
55	11.325	1480	1487	1494	rBV3	10490	27612	0.31%	0.060%
56	11.416	1494	1503	1513	rVB5	30308	84191	0.95%	0.182%
57	12.069	1611	1618	1621	rBV5	5553	12383	0.14%	0.027%
58	12.126	1621	1628	1636	rVV	30663	72171	0.81%	0.156%
59	12.222	1636	1645	1652	rVV2	25725	67640	0.76%	0.146%
60	12.302	1652	1659	1668	rVV	17293	50697	0.57%	0.110%
61	12.432	1670	1682	1693	rVV	880988	2043402	23.02%	4.420%
62	12.563	1693	1705	1718	rVB	1409557	3147570	35.45%	6.808%
63	12.926	1764	1769	1778	rVB3	13690	32686	0.37%	0.071%
64	13.125	1800	1804	1810	rVB4	6140	12923	0.15%	0.028%
65	13.227	1813	1822	1842	rVB	215365	515286	5.80%	1.114%
66	13.409	1844	1854	1860	rVB4	10889	25698	0.29%	0.056%
67	13.477	1860	1866	1873	rBV3	8252	19970	0.22%	0.043%
68	13.574	1876	1883	1888	rVB5	5528	11552	0.13%	0.025%
69	13.665	1893	1899	1904	rBV3	6396	14072	0.16%	0.030%
70	13.772	1911	1918	1928	rBV	49294	104248	1.17%	0.225%
71	13.943	1939	1948	1960	rBV5	25299	87859	0.99%	0.190%
72	14.034	1960	1964	1970	rVB6	8855	16847	0.19%	0.036%
73	14.454	2030	2038	2041	rBV5	6634	13053	0.15%	0.028%
74	14.522	2042	2050	2060	rVV	161951	356690	4.02%	0.771%
75	14.636	2060	2070	2077	rVV2	30718	66150	0.75%	0.143%
76	14.840	2095	2106	2118	rBV	882752	1848464	20.82%	3.998%
77	14.942	2118	2124	2129	rVB8	5250	13568	0.15%	0.029%
78	15.112	2147	2154	2157	rBV4	20249	40641	0.46%	0.088%
79	15.147	2157	2160	2179	rVB2	21970	70075	0.79%	0.152%
80	15.413	2199	2207	2214	rVB	54702	112541	1.27%	0.243%
81	15.629	2235	2245	2259	rVB	120035	330931	3.73%	0.716%
82	15.737	2259	2264	2267	rBV4	14840	29937	0.34%	0.065%
83	15.794	2267	2274	2288	rVB	227316	508774	5.73%	1.100%
84	15.998	2305	2310	2317	rVB2	29214	53828	0.61%	0.116%
85	16.106	2321	2329	2345	rBV2	84124	200848	2.26%	0.434%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092423.D
Acq On : 9 Sep 2024 21:03
Operator : SC
Sample : P2403661-015 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

86	16.242	2345	2353	2361	rBV	83483	177279	2.00%	0.383%
87	16.333	2361	2369	2375	rVV3	22253	52695	0.59%	0.114%
88	16.617	2411	2419	2422	rBV5	7753	15228	0.17%	0.033%
89	16.674	2422	2429	2435	rVV6	12534	26412	0.30%	0.057%
90	16.822	2447	2455	2464	rVV	744239	1425473	16.06%	3.083%
91	16.918	2466	2472	2477	rVB6	5325	13996	0.16%	0.030%
92	17.071	2495	2499	2507	rVB4	12563	23079	0.26%	0.050%
93	17.236	2521	2528	2535	rBV7	11409	25074	0.28%	0.054%
94	17.350	2543	2548	2552	rBV7	4838	10636	0.12%	0.023%
95	17.441	2553	2564	2570	rVV2	94220	216906	2.44%	0.469%
96	17.520	2570	2578	2586	rVB	506852	915584	10.31%	1.980%
97	17.628	2591	2597	2602	rVB5	9364	17062	0.19%	0.037%
98	17.685	2602	2607	2613	rVB4	6411	12854	0.14%	0.028%
99	17.747	2613	2618	2625	rBV5	14323	33183	0.37%	0.072%
100	17.827	2625	2632	2635	rBV6	12736	30198	0.34%	0.065%
101	17.861	2635	2638	2645	rVB5	14685	30440	0.34%	0.066%
102	17.957	2652	2655	2662	rVB5	9722	15912	0.18%	0.034%
103	18.042	2662	2670	2676	rBV	293955	485052	5.46%	1.049%
104	18.088	2676	2678	2682	rVV4	10460	14832	0.17%	0.032%
105	18.133	2682	2686	2691	rVB6	11479	16391	0.18%	0.035%
106	18.224	2696	2702	2706	rBV	20395	35678	0.40%	0.077%
107	18.287	2706	2713	2716	rBV2	74597	135896	1.53%	0.294%
108	18.321	2716	2719	2724	rVB3	60377	87030	0.98%	0.188%
109	18.429	2734	2738	2744	rVB3	24753	46982	0.53%	0.102%
110	18.502	2746	2751	2757	rVB3	82589	136337	1.54%	0.295%
111	18.565	2757	2762	2764	rBV4	7190	12760	0.14%	0.028%
112	18.605	2764	2769	2772	rVV	126553	182414	2.05%	0.395%
113	18.644	2772	2776	2782	rVB	126628	193667	2.18%	0.419%
114	18.718	2782	2789	2795	rBV5	14653	33005	0.37%	0.071%
115	18.809	2800	2805	2809	rBV	128145	204477	2.30%	0.442%
116	18.849	2809	2812	2822	rVV2	72340	115620	1.30%	0.250%
117	18.923	2822	2825	2829	rVV2	16804	29873	0.34%	0.065%
118	18.991	2833	2837	2841	rVB	34805	46388	0.52%	0.100%
119	19.065	2845	2850	2862	rVB2	148840	404650	4.56%	0.875%
120	19.195	2862	2873	2878	rBV3	50045	108650	1.22%	0.235%
121	19.297	2884	2891	2898	rVB3	114025	209500	2.36%	0.453%
122	19.377	2898	2905	2913	rVB9	19524	47147	0.53%	0.102%
123	19.462	2913	2920	2923	rBV2	34053	59698	0.67%	0.129%
124	19.507	2923	2928	2932	rVV3	50652	85459	0.96%	0.185%
125	19.559	2932	2937	2941	rVV3	65105	115353	1.30%	0.249%
126	19.632	2945	2950	2961	rVB5	73211	172093	1.94%	0.372%
127	19.712	2961	2964	2970	rBV5	7738	18665	0.21%	0.040%
128	19.808	2970	2981	2988	rBV	212497	314931	3.55%	0.681%
129	19.899	2993	2997	3006	rVV7	19948	45404	0.51%	0.098%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092423.D
Acq On : 9 Sep 2024 21:03
Operator : SC
Sample : P2403661-015 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

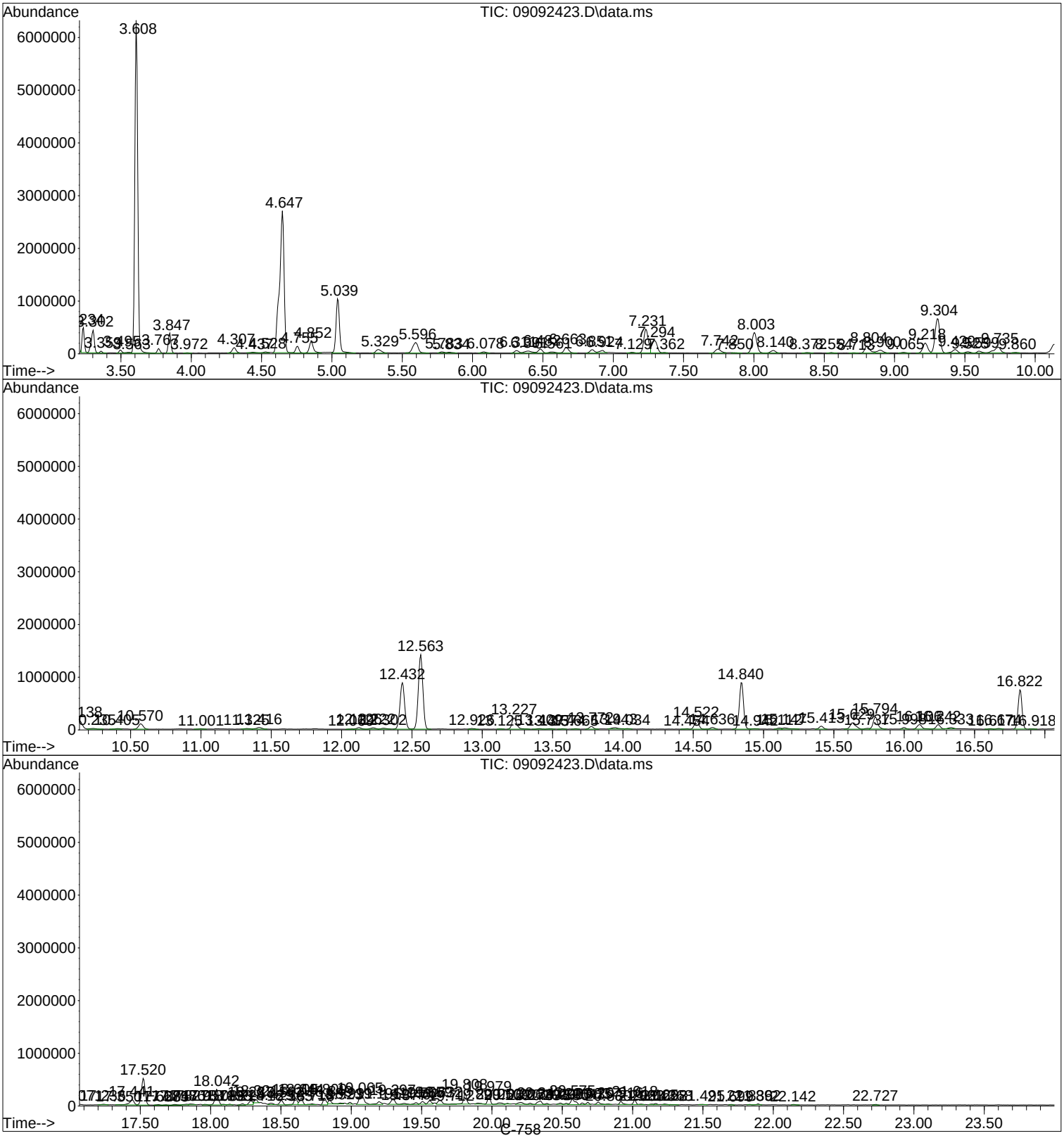
130	19.979	3006	3011	3017	rVB	177624	228186	2.57%	0.494%
131	20.053	3017	3024	3031	rBV6	26041	71013	0.80%	0.154%
132	20.109	3031	3034	3039	rVB5	12866	14725	0.17%	0.032%
133	20.206	3044	3051	3058	rVB5	36515	97354	1.10%	0.211%
134	20.274	3058	3063	3068	rVB3	22541	33689	0.38%	0.073%
135	20.342	3068	3075	3081	rBV4	65183	139642	1.57%	0.302%
136	20.393	3081	3084	3088	rVB	19148	21113	0.24%	0.046%
137	20.490	3095	3101	3104	rVV5	24793	40302	0.45%	0.087%
138	20.530	3104	3108	3110	rVV3	19739	25338	0.29%	0.055%
139	20.575	3110	3116	3124	rVB4	102345	224586	2.53%	0.486%
140	20.643	3124	3128	3131	rBV2	28801	37639	0.42%	0.081%
141	20.683	3131	3135	3139	rVV	40472	49306	0.56%	0.107%
142	20.757	3143	3148	3156	rVV3	46067	72276	0.81%	0.156%
143	20.830	3156	3161	3165	rVB5	8035	13048	0.15%	0.028%
144	20.916	3172	3176	3187	rVV3	60493	91503	1.03%	0.198%
145	21.018	3189	3194	3198	rVV	87153	114563	1.29%	0.248%
146	21.063	3198	3202	3206	rVV5	10162	16976	0.19%	0.037%
147	21.143	3210	3216	3217	rVV5	11481	19120	0.22%	0.041%
148	21.165	3217	3220	3224	rVV	21850	30085	0.34%	0.065%
149	21.228	3227	3231	3237	rVV4	13814	28781	0.32%	0.062%
150	21.268	3237	3238	3249	rVB8	6793	13859	0.16%	0.030%
151	21.495	3273	3278	3285	rBV8	6788	13546	0.15%	0.029%
152	21.699	3311	3314	3319	rVB5	7949	11990	0.14%	0.026%
153	21.836	3334	3338	3341	rVB5	8371	10990	0.12%	0.024%
154	21.892	3341	3348	3353	rBV	18973	25676	0.29%	0.056%
155	22.142	3389	3392	3400	rVB2	9146	17321	0.20%	0.037%
156	22.727	3491	3495	3500	rVB3	10840	17223	0.19%	0.037%

Sum of corrected areas: 46235413

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092423.D
Acq On : 9 Sep 2024 21:03
Operator : SC
Sample : P2403661-015 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092423.D
Acq On : 9 Sep 2024 21:033
Operator : SCC
Sample : P2403661-015 (400mL))
Misc : S37-060624022
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 13:33:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	149358	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.32	114	673765	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.85	54	193079	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	358304	12.820	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	12.44	98	763774	11.276	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
73) Bromofluorobenzene (SS3)	16.83	174	241096	10.643	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.12%				
Target Compounds							Qvalue
2) Propene	3.28	42	111988	4.964	ng	#	1
3) Dichlorodifluoromethan...	3.36	85	21247	0.586	ng		99
4) Chloromethane	3.49	50	15084	0.532	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	399	N.D.			
6) Vinyl Chloride	3.69	62	180	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	721	0.061	ng		80
9) Chloroethane	4.15	64	403	N.D.			
10) Ethanol	4.35	45	721576	44.515	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.55	56	32185	2.599	ng		96
13) Acetone	4.65	58	3023886	221.087	ng	#	70
14) Trichlorofluoromethane	4.77	101	63791	1.844	ng		98
15) 2-Propanol (Isopropanol)	4.89	45	2405605	44.671	ng		92
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	5.27	96	485	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.39	84	35501	2.203	ng		88
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.59	151	20639	1.506	ng		96
22) Carbon Disulfide	5.61	76	262159	4.910	ng		99
23) trans-1,2-Dichloroethene	6.16	61	5172	0.198	ng		93
24) 1,1-Dichloroethane	6.35	63	559	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	43826	0.919	ng		94
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.68	72	53703	5.534	ng	#	75
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.30	61	451527	69.449	ng		90
31) n-Hexane	7.31	57	377174	12.723	ng		99
32) Chloroform	7.39	83	13993	0.470	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.	d		
36) 1,2-Dichloroethane	8.13	62	19684	0.667	ng		100
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	5723	No Calib		#	
40) 1-Butanol	8.83	56	130883	No Calib		#	
41) Benzene	8.91	78	122283	1.936	ng		98
42) Carbon Tetrachloride	9.09	117	20658	0.789	ng		99
43) Cyclohexane	9.23	84	315230	14.779	ng		93
44) tert-Amyl Methyl Ether	9.62	73	207	N.D.			
45) 1,2-Dichloropropane	9.88	63	20262	1.212	ng		100
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.25	57	55974	0.749	ng		67
50) Methyl Methacrylate	10.42	100	6160	1.121	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:33:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

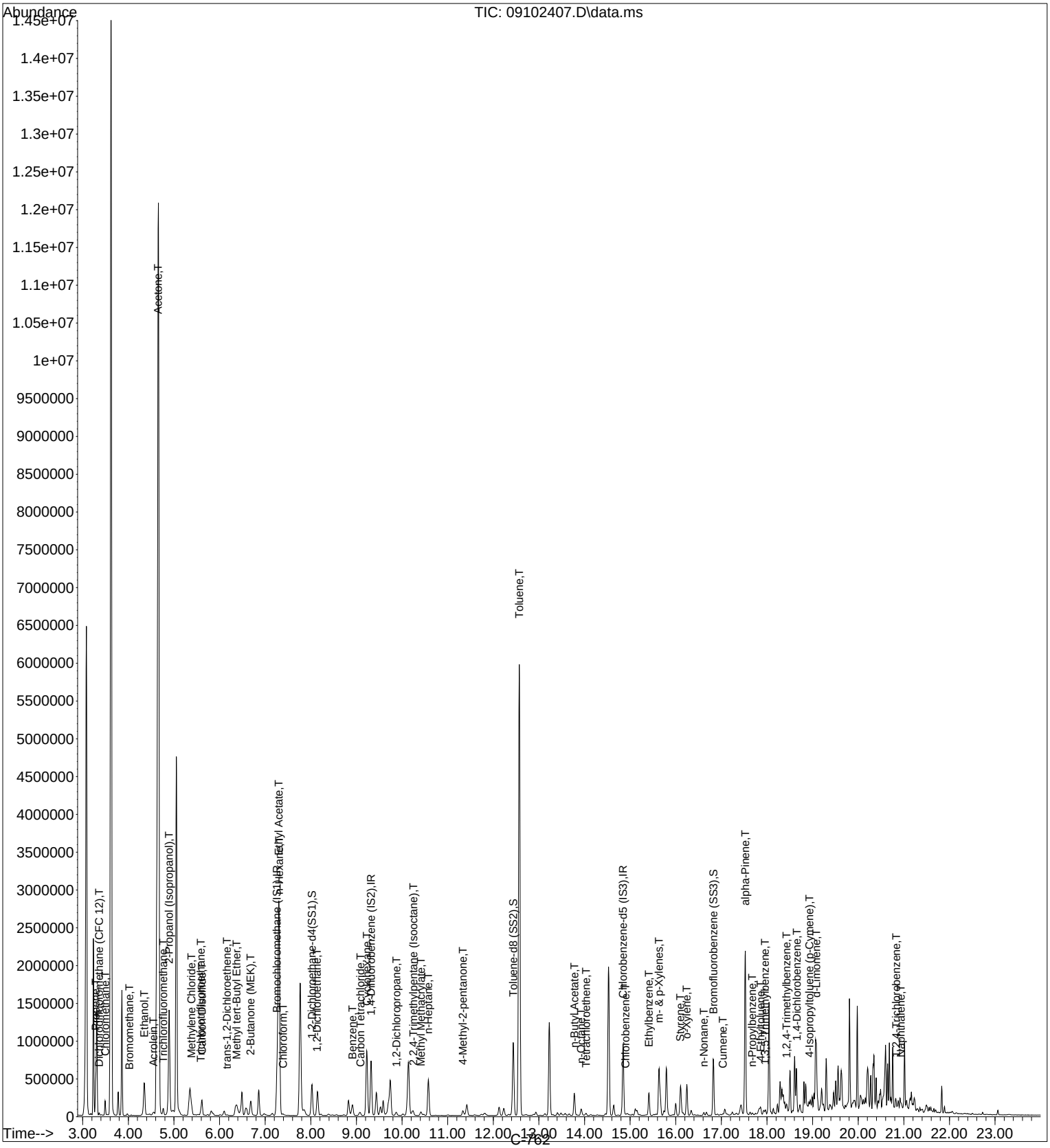
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	108544	7.711 ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	22143	1.327 ng		81
54) trans-1,3-Dichloropropene	11.97	75	196	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.57	91	5178261	70.723 ng		99
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	286881	5.649 ng		97
63) n-Octane	13.93	57	18476	1.073 ng		89
64) Tetrachloroethene	14.03	166	9084	0.448 ng		96
65) Chlorobenzene	14.90	112	5069	0.114 ng		92
66) Ethylbenzene	15.41	91	248055	2.944 ng		99
67) m- & p-Xylenes	15.63	91	546601	7.980 ng		98
68) Bromoform	15.69	173	543	N.D.		
69) Styrene	16.10	104	149676	3.379 ng		98
70) o-Xylene	16.24	91	266892	3.991 ng		100
71) n-Nonane	16.62	43	20890	0.476 ng		91
72) 1,1,2,2-Tetrachloroethane	16.22	83	942	N.D.		
74) Cumene	17.03	105	15804	0.204 ng		99
75) alpha-Pinene	17.53	93	897999	22.277 ng		99
76) n-Propylbenzene	17.68	91	18019	0.187 ng		98
77) 3-Ethyltoluene	17.03	105	15804	No Calib		
78) 4-Ethyltoluene	17.86	105	11693	0.155 ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	13944	0.212 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	15804	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	40915	0.594 ng		90
83) n-Decane	17.07	58	4598	No Calib	#	
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.58	146	1635	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	7956	0.211 ng		98
87) sec-Butylbenzene	18.74	105	3831	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	32294	0.428 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	15804	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	1434	N.D.		
91) d-Limonene	19.08	68	149692	6.502 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D. d		
93) n-Undecane	17.97	58	2154	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	3792	0.123 ng		94
95) Naphthalene	20.94	128	15531	0.214 ng		91
96) n-Dodecane	18.95	58	4782	No Calib	#	
97) Hexachlorobutadiene	21.30	225	613	N.D.		
98) Cyclohexanone	15.27	55	1084	No Calib	#	
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:33:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:33:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	149358	12.500	ng		-0.01
37) 1,4-Difluorobenzene (IS2)	9.32	114	673765	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.85	54	193079	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	358304	12.820	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.56%				
57) Toluene-d8 (SS2)	12.44	98	763774	11.276	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
73) Bromofluorobenzene (SS3)	16.83	174	241096	10.643	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.12%				
Target Compounds							Qvalue
2) Propene	3.28	42	111988	4.964	ng	#	1
3) Dichlorodifluoromethan...	3.36	85	21247	0.586	ng		99
4) Chloromethane	3.49	50	15084	0.532	ng		99
8) Bromomethane	4.02	94	721	0.061	ng		80
10) Ethanol	4.35	45	721576	44.515	ng		100
12) Acrolein	4.55	56	32185	2.599	ng		96
13) Acetone	4.65	58	3023886	221.087	ng	#	70
14) Trichlorofluoromethane	4.77	101	63791	1.844	ng		98
15) 2-Propanol (Isopropanol)	4.89	45	2405605	44.671	ng		92
19) Methylene Chloride	5.39	84	35501	2.203	ng		88
21) Trichlorotrifluoroethane	5.59	151	20639	1.506	ng		96
22) Carbon Disulfide	5.61	76	262159	4.910	ng		99
23) trans-1,2-Dichloroethene	6.16	61	5172	0.198	ng		93
25) Methyl tert-Butyl Ether	6.37	73	43826	0.919	ng		94
27) 2-Butanone (MEK)	6.68	72	53703	5.534	ng	#	75
30) Ethyl Acetate	7.30	61	451527	69.449	ng		90
31) n-Hexane	7.31	57	377174	12.723	ng		99
32) Chloroform	7.39	83	13993	0.470	ng		100
36) 1,2-Dichloroethane	8.13	62	19684	0.667	ng		100
41) Benzene	8.91	78	122283	1.936	ng		98
42) Carbon Tetrachloride	9.09	117	20658	0.789	ng		99
43) Cyclohexane	9.23	84	315230	14.779	ng		93
45) 1,2-Dichloropropane	9.88	63	20262	1.212	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	55974	0.749	ng		67
50) Methyl Methacrylate	10.42	100	6160	1.121	ng		97
51) n-Heptane	10.58	71	108544	7.711	ng		97
53) 4-Methyl-2-pentanone	11.34	58	22143	1.327	ng		81
58) Toluene	12.57	91	5178261	70.723	ng		99
62) n-Butyl Acetate	13.78	43	286881	5.649	ng		97
63) n-Octane	13.93	57	18476	1.073	ng		89
64) Tetrachloroethene	14.03	166	9084	0.448	ng		96
65) Chlorobenzene	14.90	112	5069	0.114	ng		92
66) Ethylbenzene	15.41	91	248055	2.944	ng		99
67) m- & p-Xylenes	15.63	91	546601	7.980	ng		98
69) Styrene	16.10	104	149676	3.379	ng		98
70) o-Xylene	16.24	91	266892	3.991	ng		100
71) n-Nonane	16.62	43	20890	0.476	ng		91
74) Cumene	17.03	105	15804	0.204	ng		99
75) alpha-Pinene	17.53	93	897999	22.277	ng		99
76) n-Propylbenzene	17.68	91	18019	0.187	ng		98
78) 4-Ethyltoluene	17.86	105	11693	0.155	ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	13944	0.212	ng		100
82) 1,2,4-Trimethylbenzene	18.43	105	40915	0.594	ng		90
86) 1,4-Dichlorobenzene	18.66	146	7956	0.211	ng		98
88) 4-Isopropyltoluene (p-...	18.93	119	32294	0.428	ng		99
91) d-Limonene	19.08	68	149692	6.502	ng		93
94) 1,2,4-Trichlorobenzene	20.84	180	3792	0.123	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:33:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) Naphthalene	20.94	128	15531	0.214	ng	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 13:33:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
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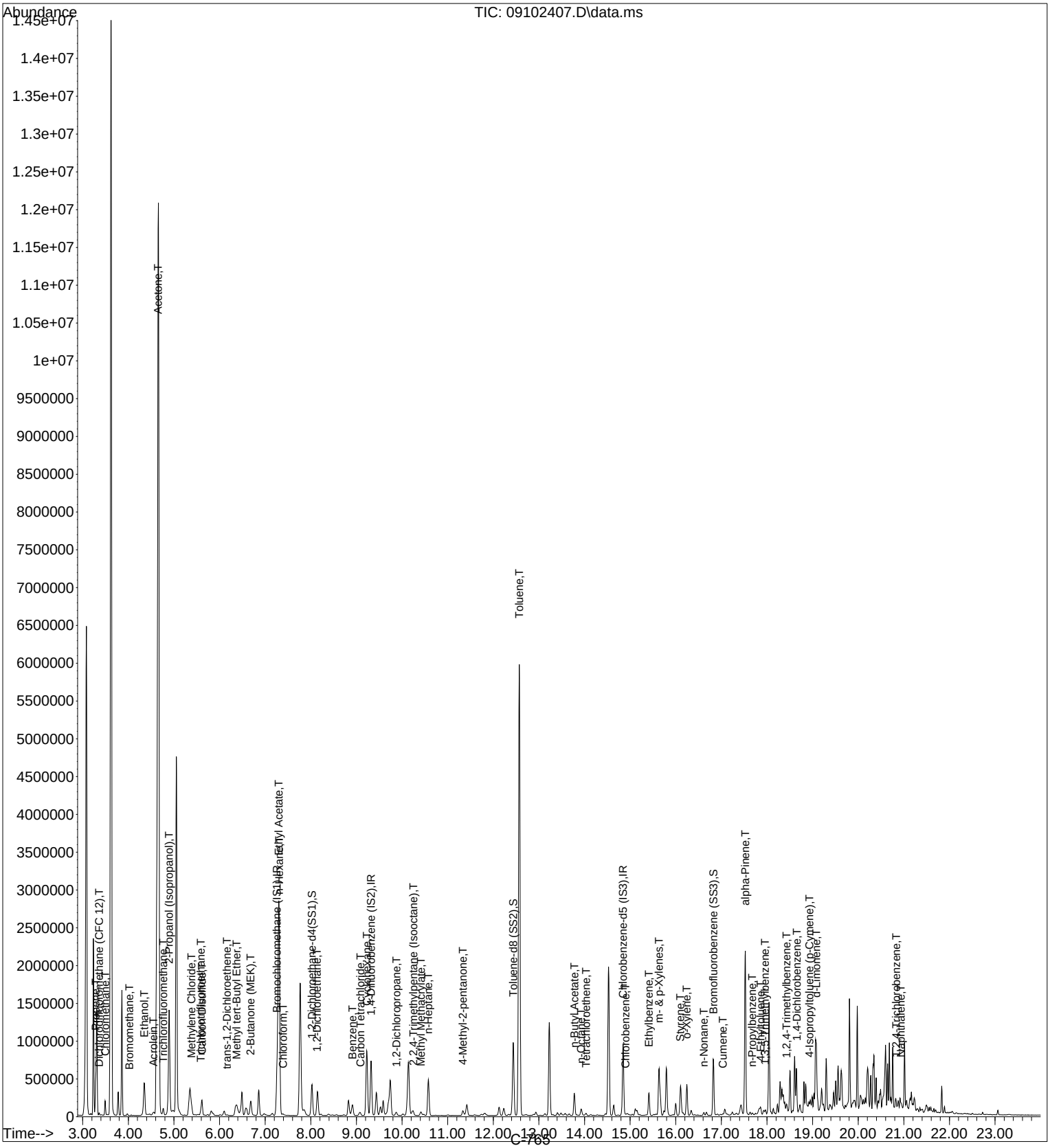
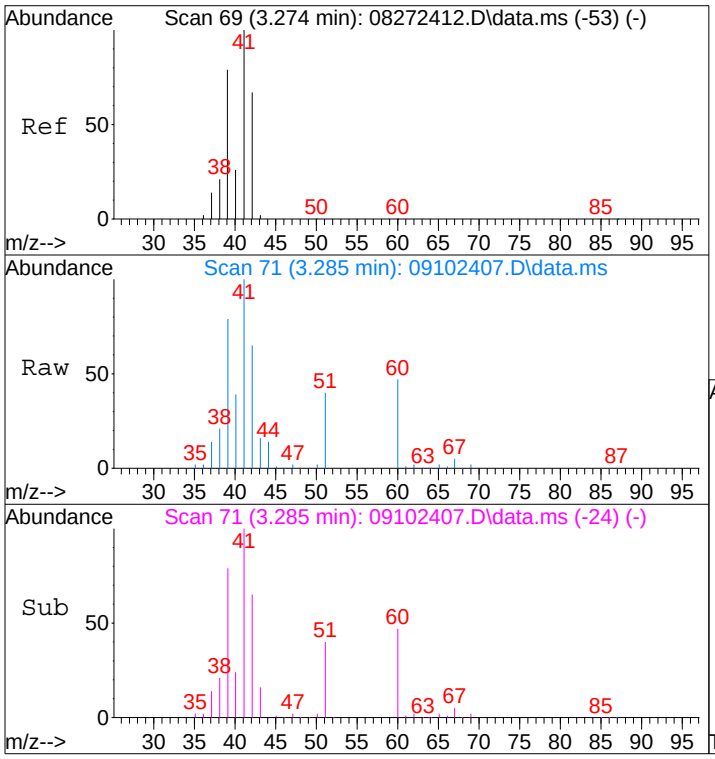
DataAcq Meth:TO15.M

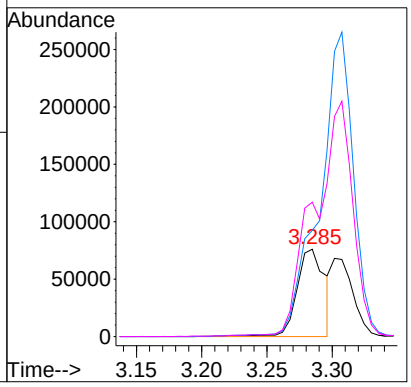


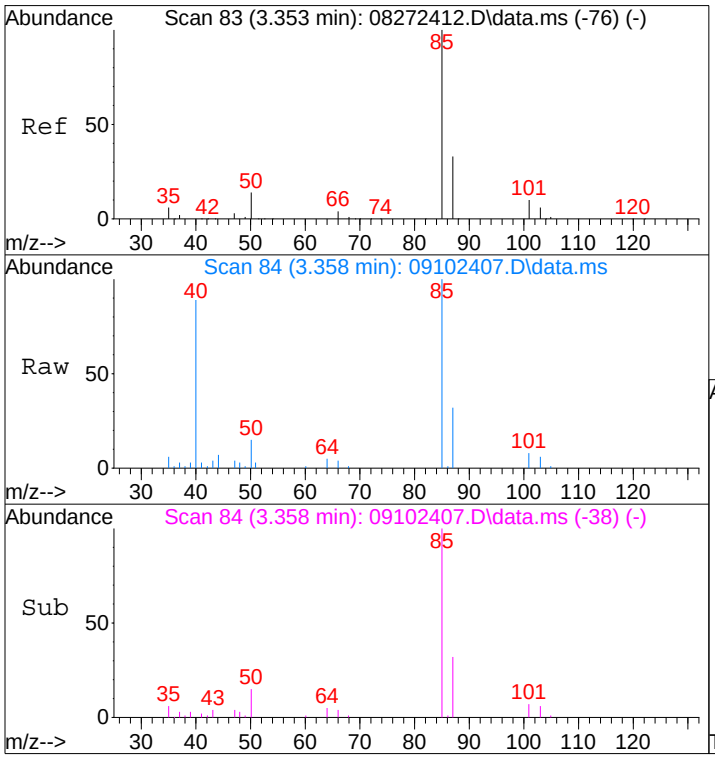


#2
Propene
Concen: 4.96 ng
RT: 3.28 min Scan# 71
Delta R.T. 0.015 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 42 Resp: 111988

Ion	Ratio	Lower	Upper
42	100		
39	427.0	98.2	138.2#
41	379.8	130.1	170.1#

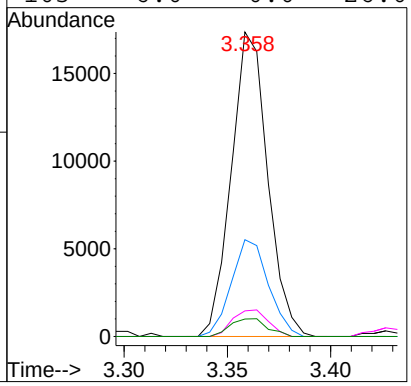


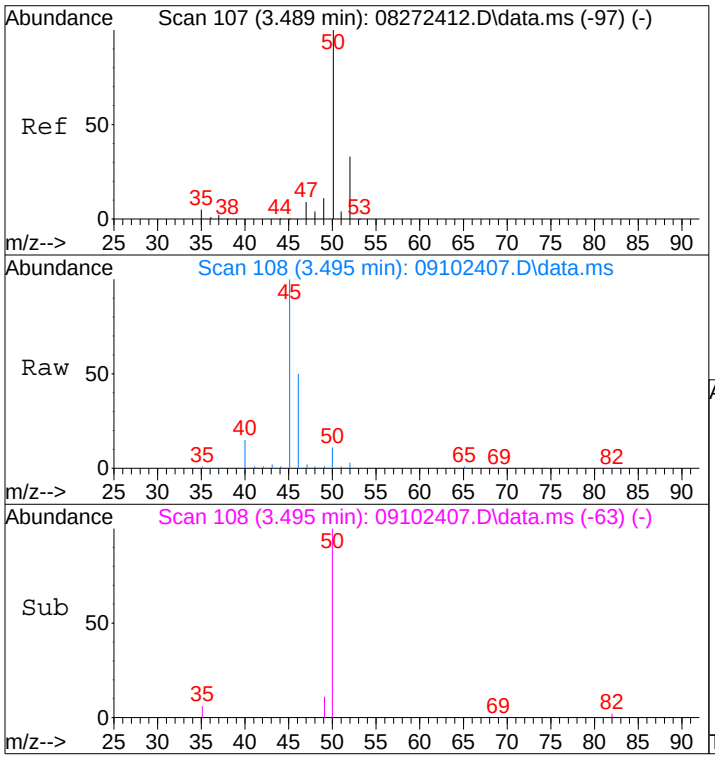


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.010 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 85 Resp: 21247

Ion	Ratio	Lower	Upper
85	100		
87	32.5	13.1	53.1
101	8.6	0.0	29.4
103	6.0	0.0	26.0

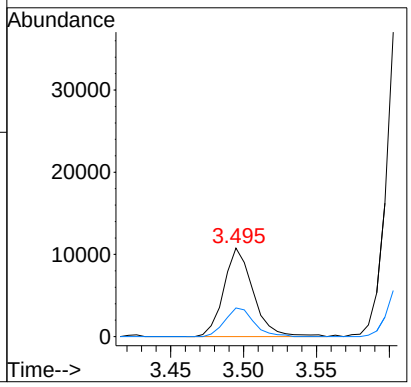


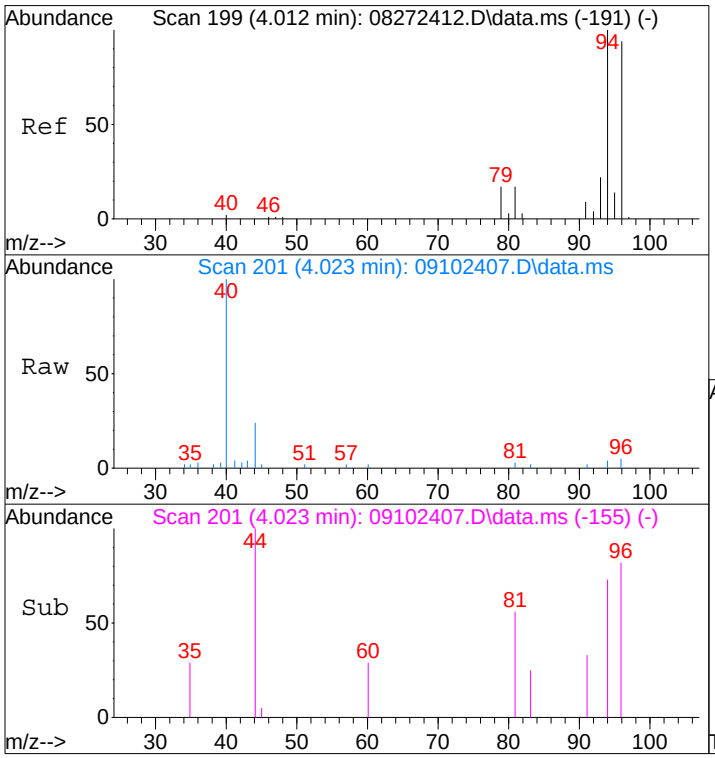


#4
Chloromethane
Concen: 0.53 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.005 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 50 Resp: 15084

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.4	52.4

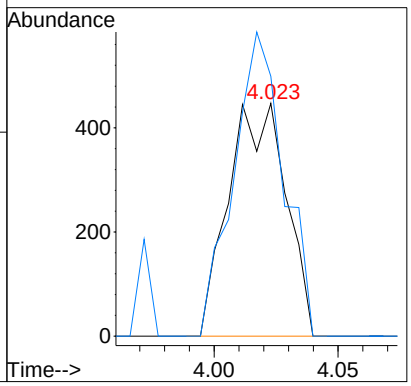


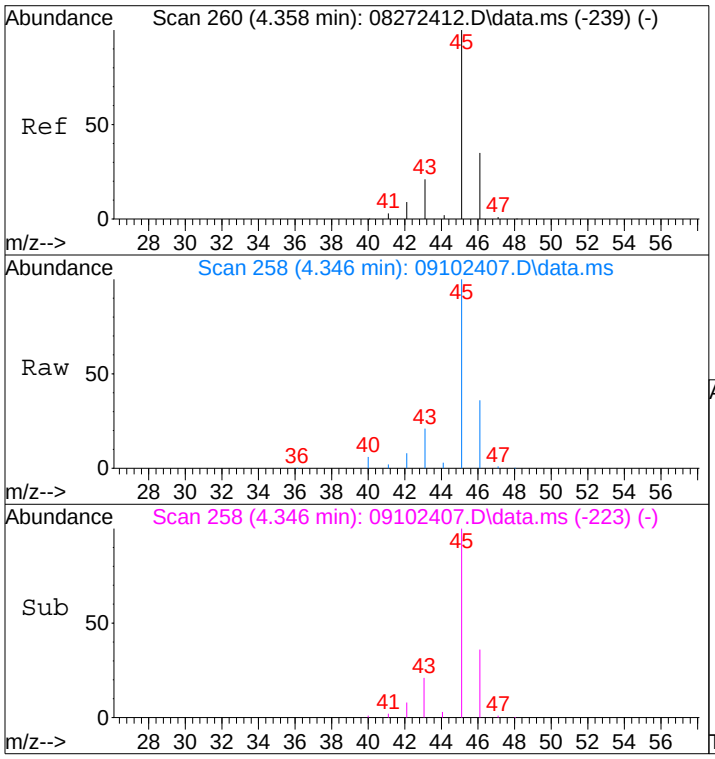


#8
Bromomethane
Concen: 0.06 ng
RT: 4.02 min Scan# 201
Delta R.T. 0.013 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 94 Resp: 721

Ion	Ratio	Lower	Upper
94	100		
96	113.5	74.2	114.2

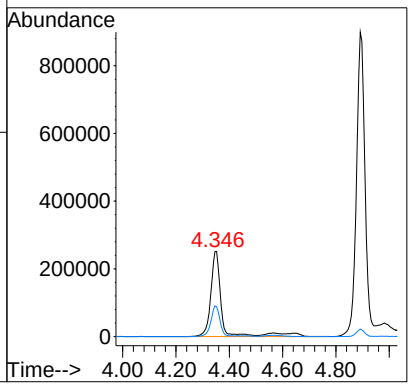


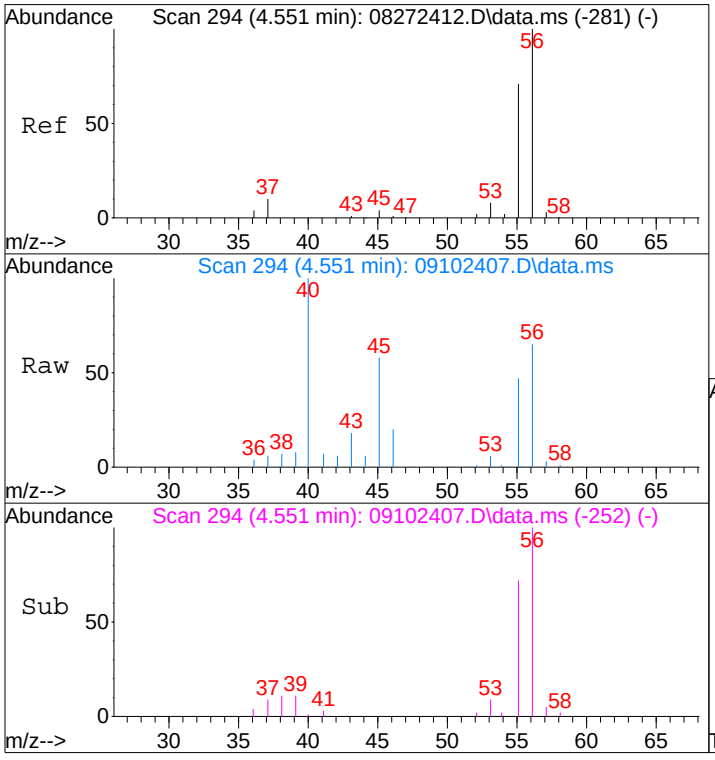


#10
Ethanol
Concen: 44.52 ng
RT: 4.35 min Scan# 258
Delta R.T. -0.053 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 45 Resp: 721576

Ion	Ratio	Lower	Upper
45	100		
46	34.1	14.2	54.2

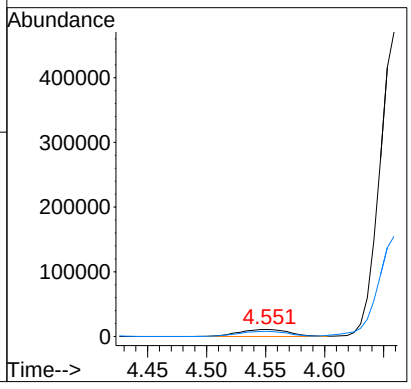


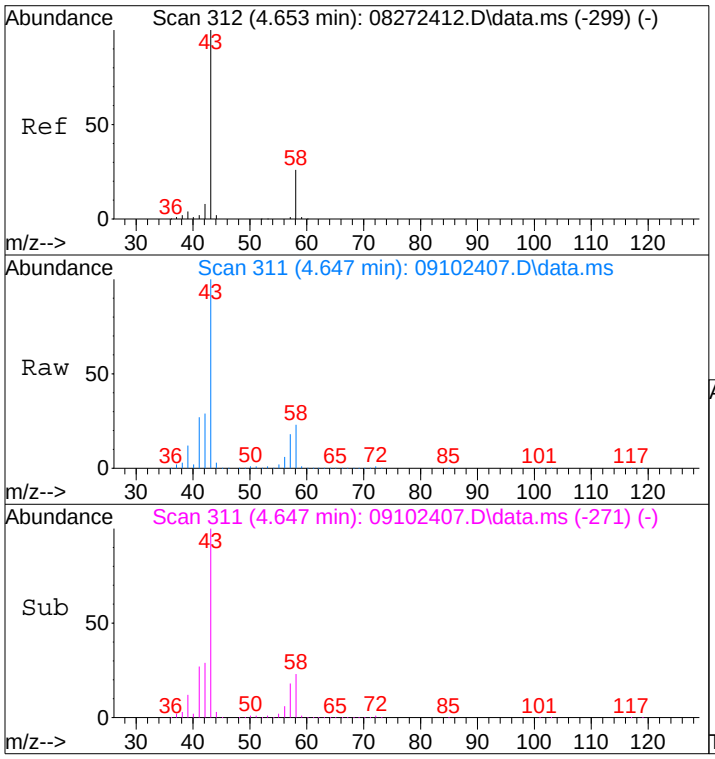


#12
Acrolein
Concen: 2.60 ng
RT: 4.55 min Scan# 294
Delta R.T. -0.013 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 56 Resp: 32185

Ion	Ratio	Lower	Upper
56	100		
55	71.4	54.7	94.7

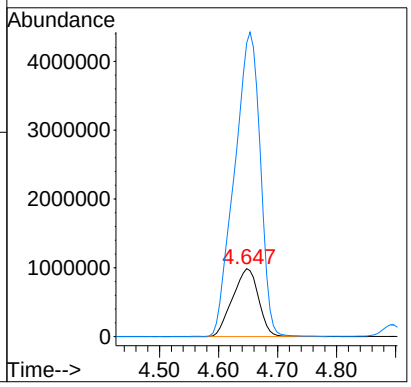


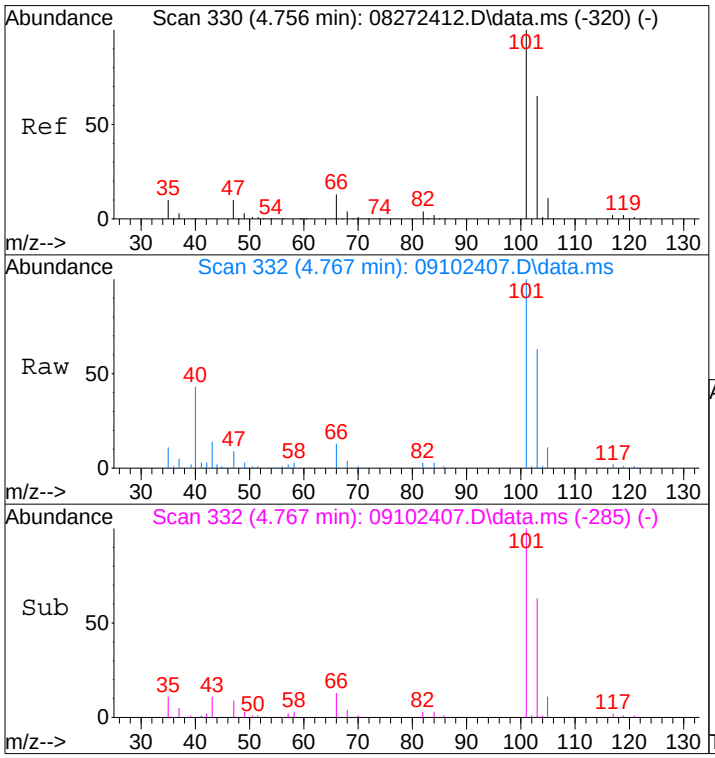


#13
Acetone
Concen: 221.09 ng
RT: 4.65 min Scan# 311
Delta R.T. -0.024 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 58 Resp: 3023886

Ion	Ratio	Lower	Upper
58	100		
43	446.2	347.3	407.3#

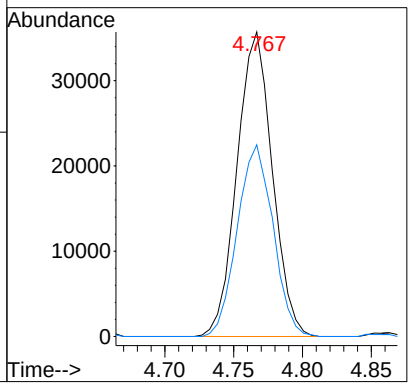


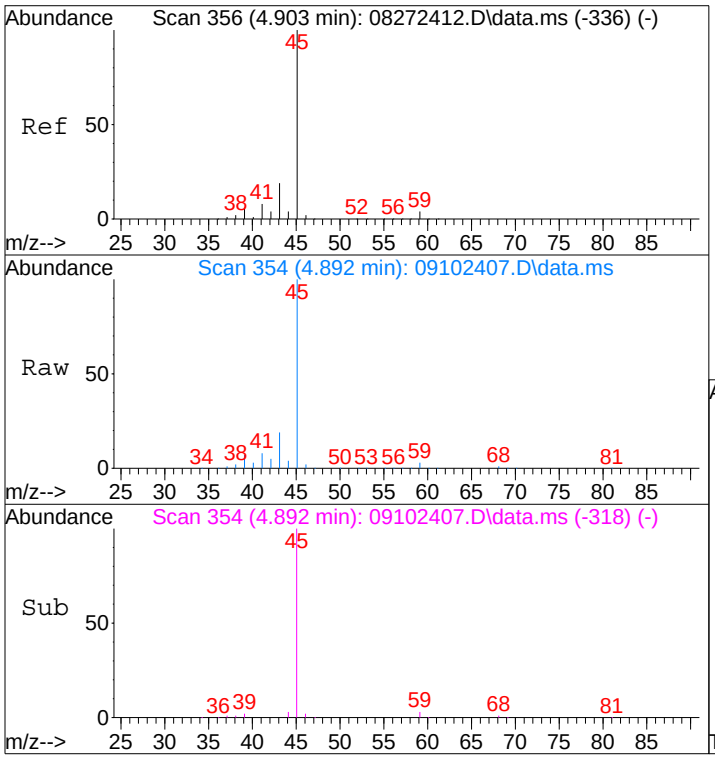


#14
Trichlorofluoromethane
Concen: 1.84 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.016 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:101 Resp: 63791

Ion	Ratio	Lower	Upper
101	100		
103	63.7	44.9	84.9

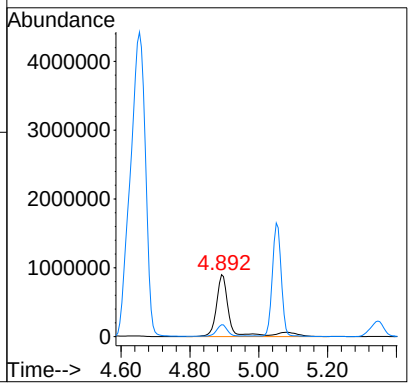


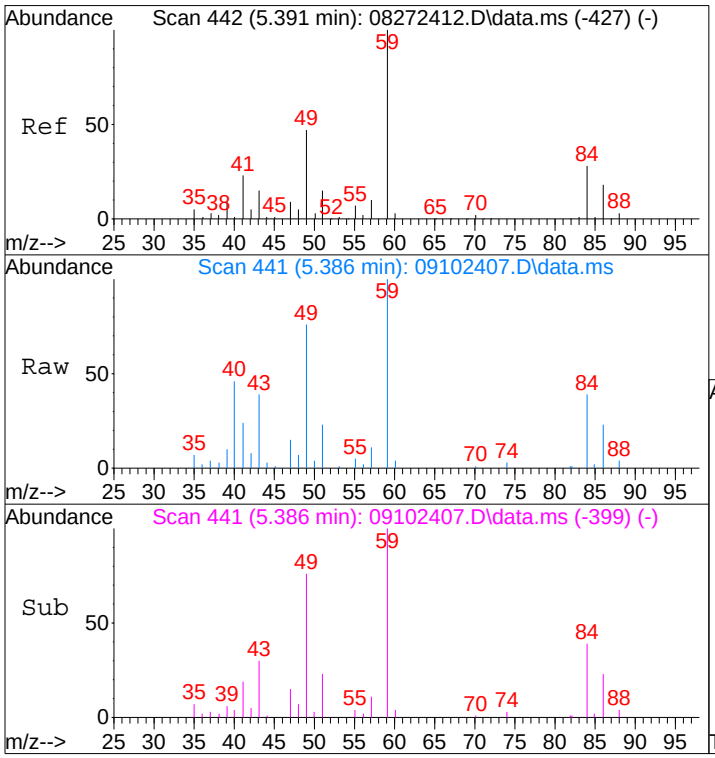


#15
2-Propanol (Isopropanol)
Concen: 44.67 ng
RT: 4.89 min Scan# 354
Delta R.T. -0.045 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 45 Resp: 2405605

Ion	Ratio	Lower	Upper
45	100		
43	16.5	0.0	40.0

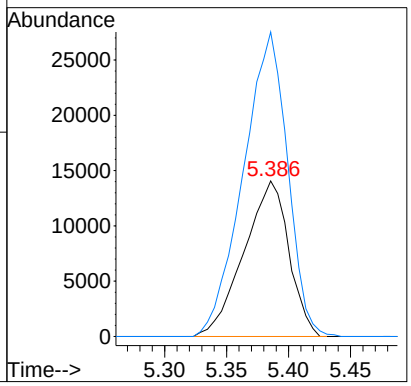


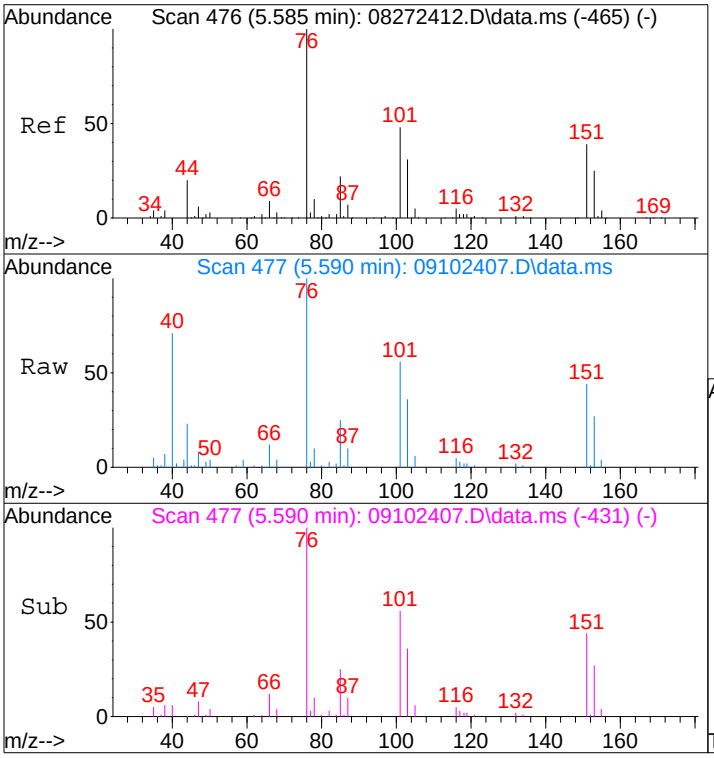


#19
Methylene Chloride
Concen: 2.20 ng
RT: 5.39 min Scan# 441
Delta R.T. -0.009 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 84 Resp: 35501

Ion	Ratio	Lower	Upper
84	100		
49	193.3	151.1	201.1

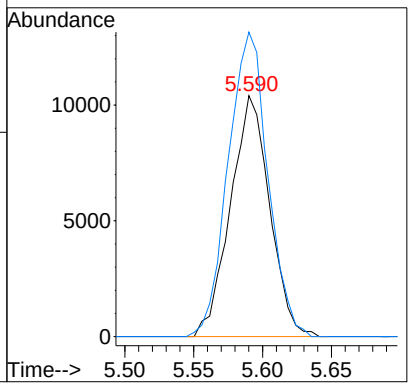


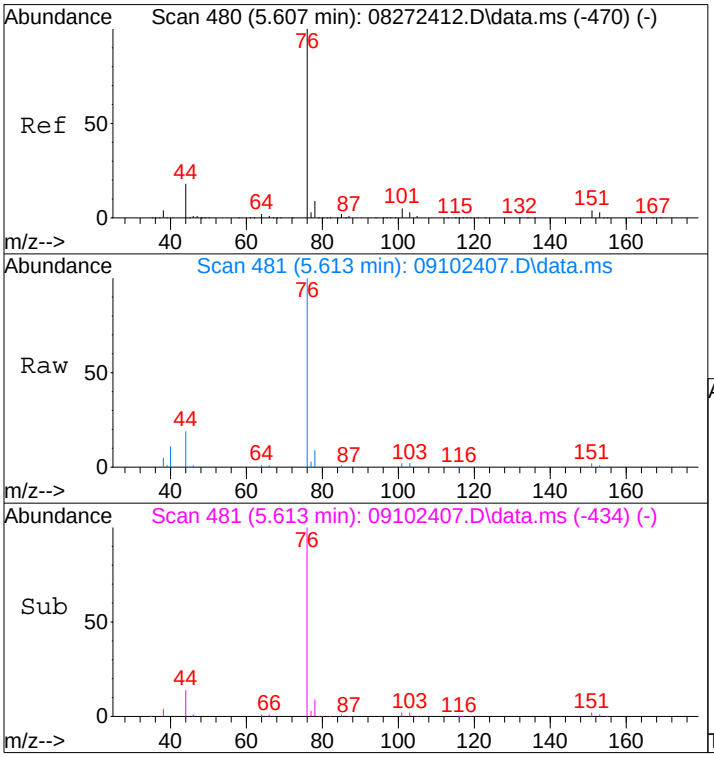


#21
Trichlorotrifluoroethane
Concen: 1.51 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.009 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:151 Resp: 20639

Ion	Ratio	Lower	Upper
151	100		
101	127.9	103.4	143.4

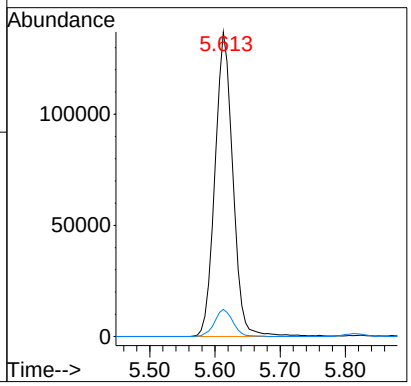


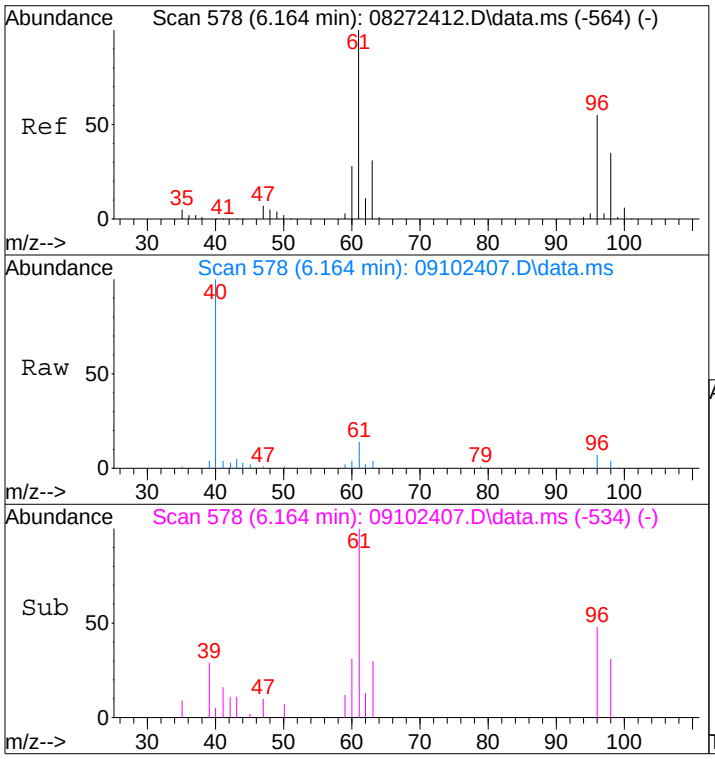


#22
Carbon Disulfide
Concen: 4.91 ng
RT: 5.61 min Scan# 481
Delta R.T. 0.015 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 76 Resp: 262159

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.6

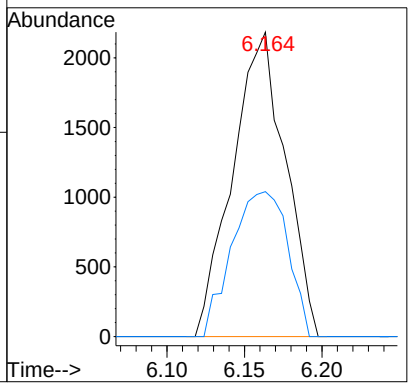


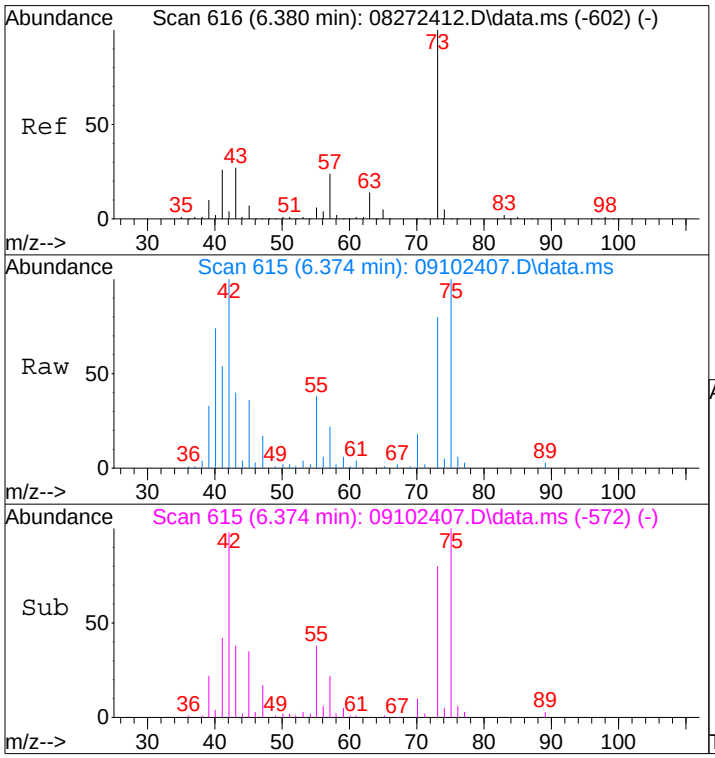


#23
trans-1,2-Dichloroethene
Concen: 0.20 ng
RT: 6.16 min Scan# 578
Delta R.T. 0.000 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 61 Resp: 5172

Ion	Ratio	Lower	Upper
61	100		
96	50.7	35.5	75.5

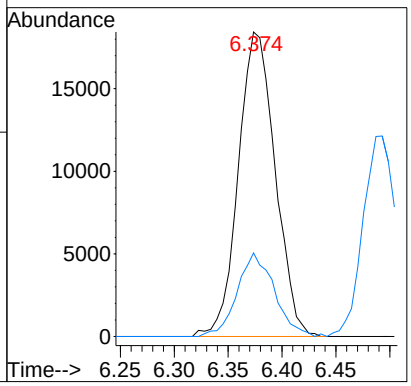


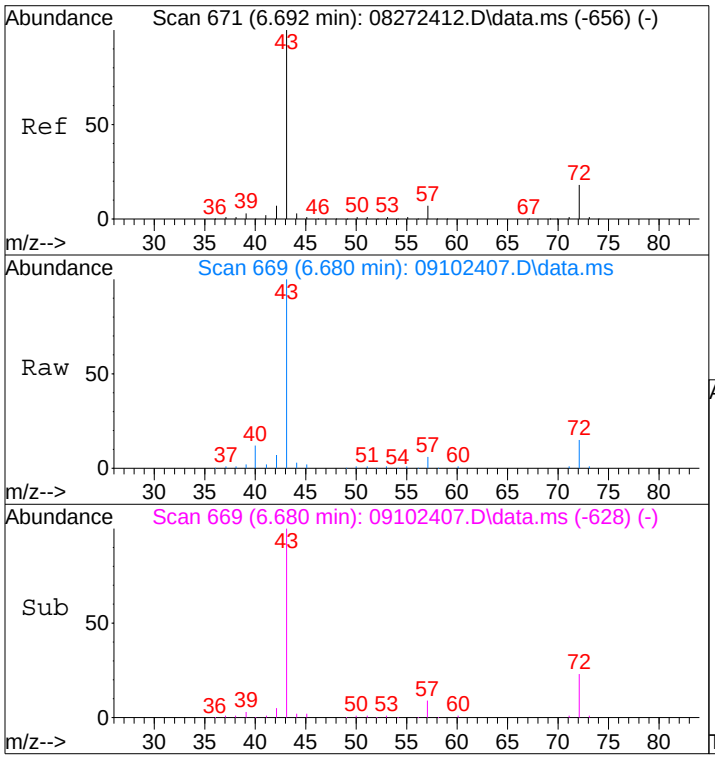


#25
Methyl tert-Butyl Ether
Concen: 0.92 ng
RT: 6.37 min Scan# 615
Delta R.T. -0.004 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 73 Resp: 43826

Ion	Ratio	Lower	Upper
73	100		
57	27.5	4.7	44.7

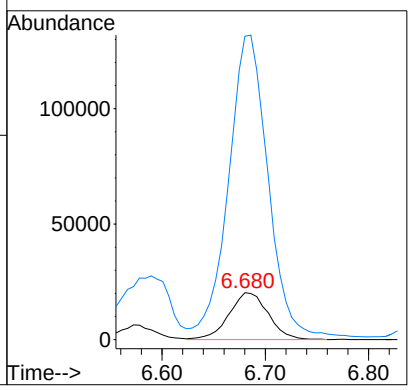


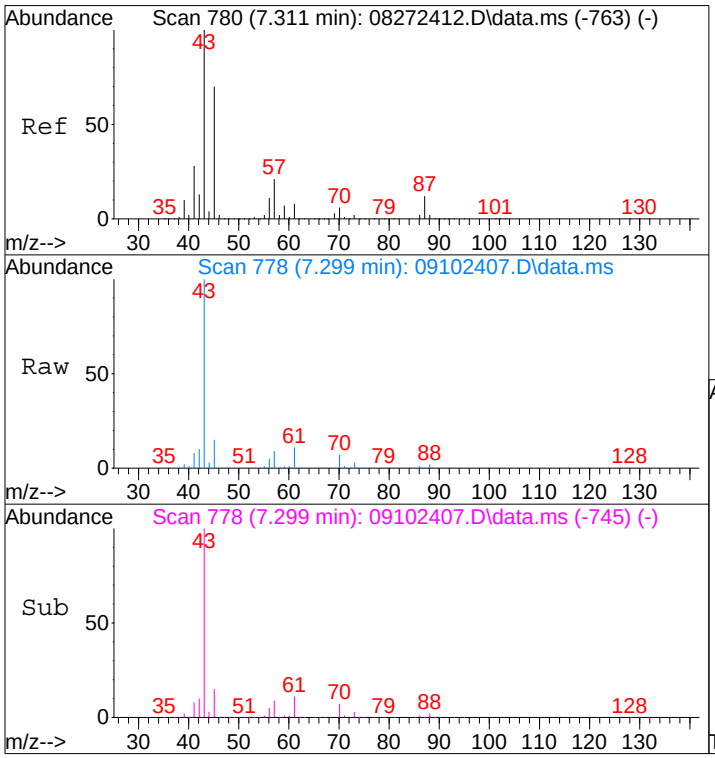


#27
2-Butanone (MEK)
Concen: 5.53 ng
RT: 6.68 min Scan# 669
Delta R.T. -0.020 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 72 Resp: 53703

Ion	Ratio	Lower	Upper
72	100		
43	641.9	548.0	588.0#

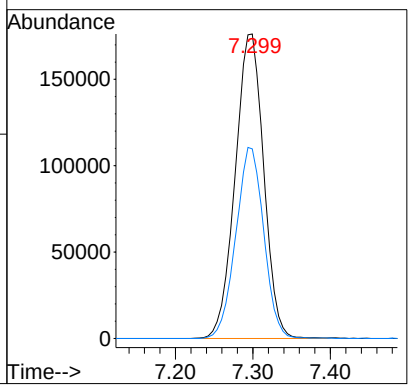


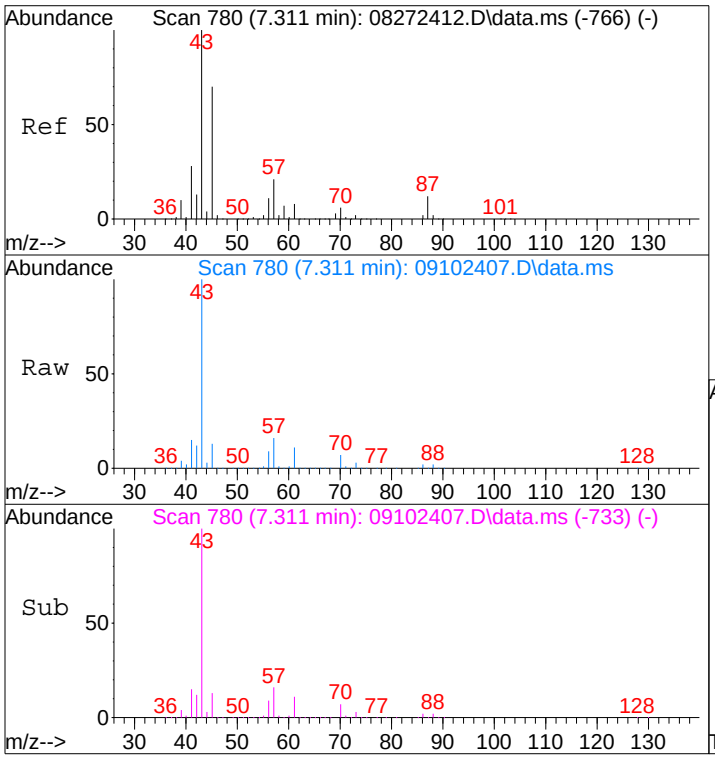


#30
Ethyl Acetate
Concen: 69.45 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 61 Resp: 451527

Ion	Ratio	Lower	Upper
61	100		
70	61.5	49.9	89.9

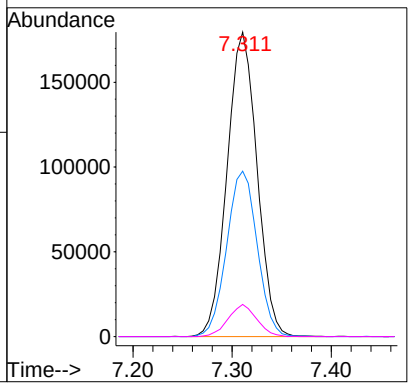


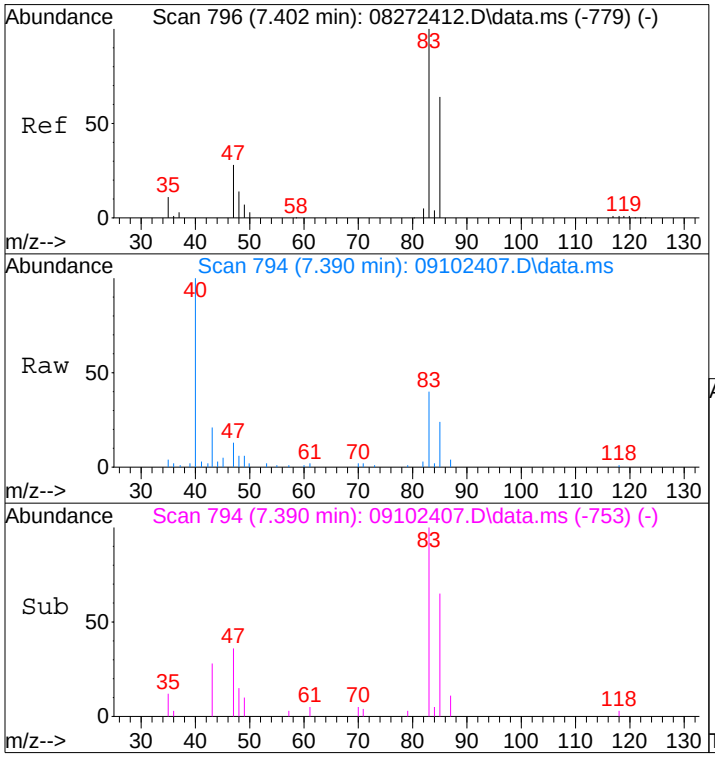


#31
n-Hexane
Concen: 12.72 ng
RT: 7.31 min Scan# 780
Delta R.T. 0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 57 Resp: 377174

Ion	Ratio	Lower	Upper
57	100		
56	55.3	44.2	66.2
86	10.1	9.3	13.9

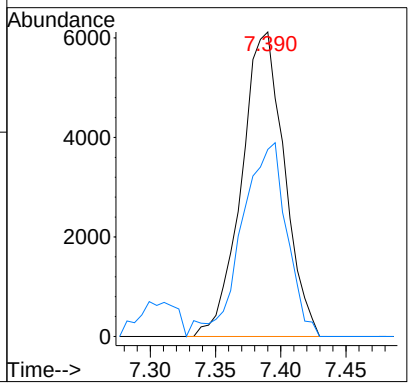


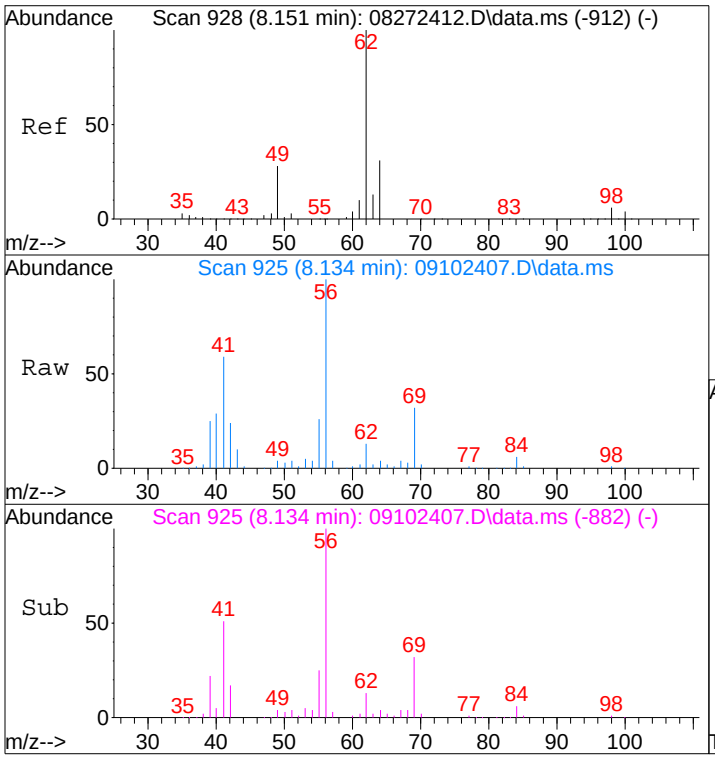


#32
Chloroform
Concen: 0.47 ng
RT: 7.39 min Scan# 794
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 83 Resp: 13993

Ion	Ratio	Lower	Upper
83	100		
85	65.5	45.3	85.3

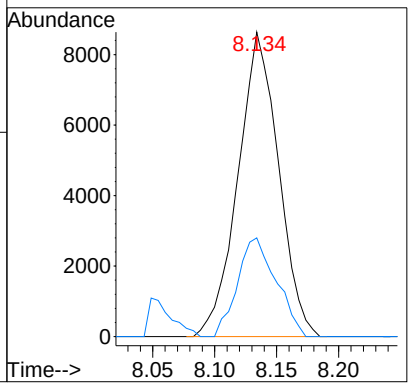


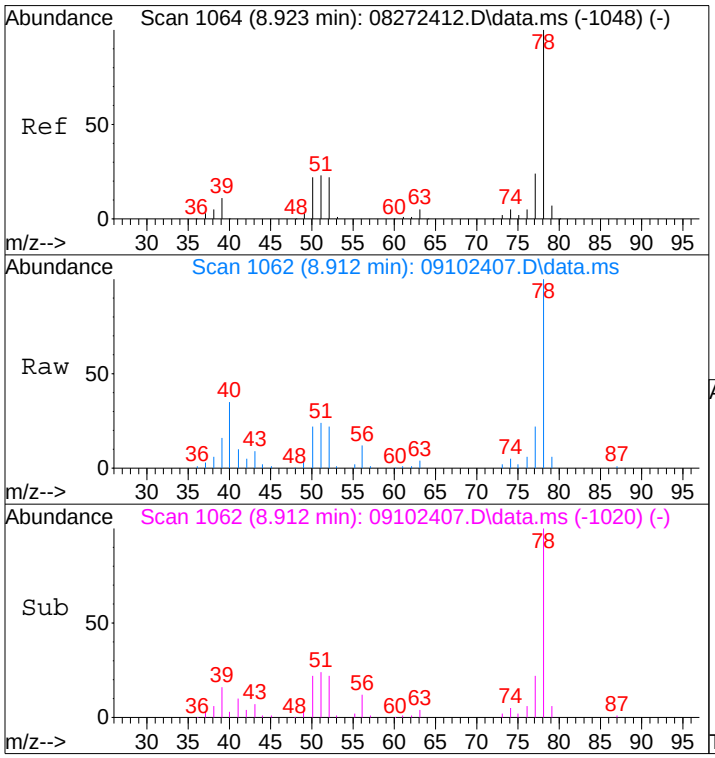


#36
1,2-Dichloroethane
Concen: 0.67 ng
RT: 8.13 min Scan# 925
Delta R.T. -0.008 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 62 Resp: 19684

Ion	Ratio	Lower	Upper
62	100		
64	30.9	11.0	51.0

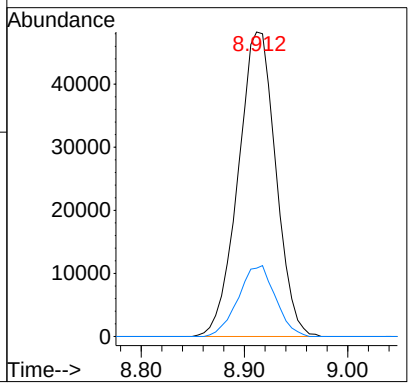


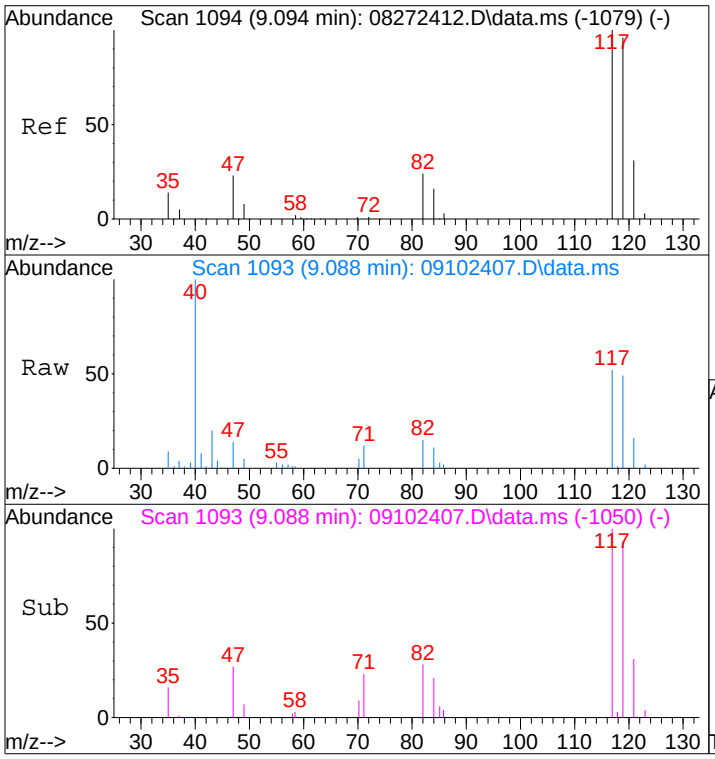


#41
Benzene
Concen: 1.94 ng
RT: 8.91 min Scan# 1062
Delta R.T. -0.012 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 78 Resp: 122283

Ion	Ratio	Lower	Upper
78	100		
77	22.9	3.9	43.9

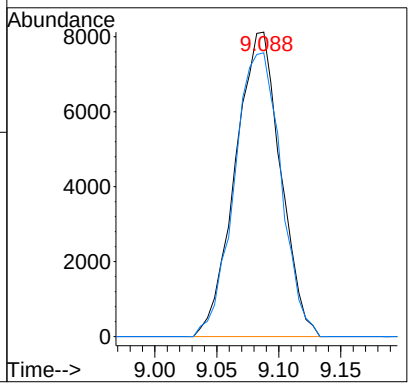


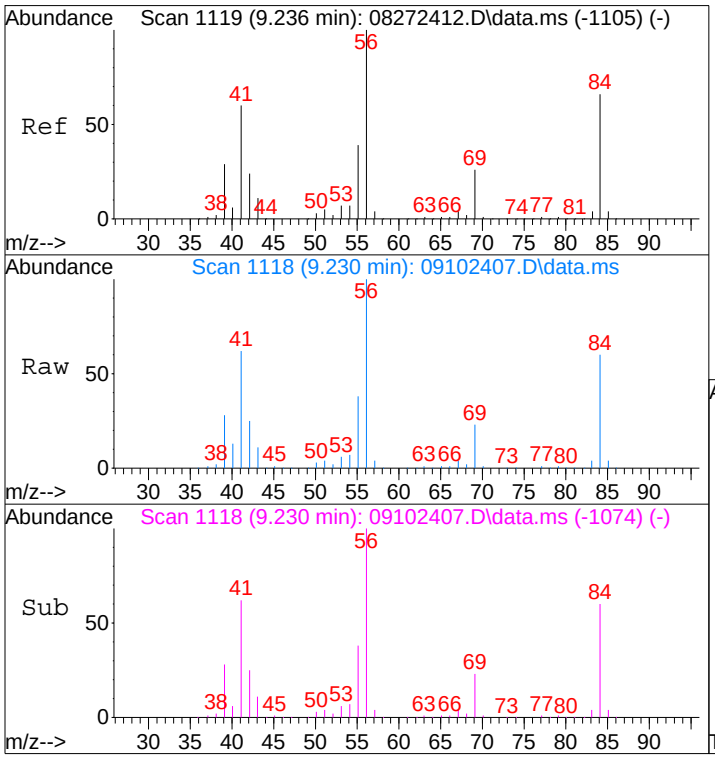


#42
Carbon Tetrachloride
Concen: 0.79 ng
RT: 9.09 min Scan# 1093
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:117 Resp: 20658

Ion	Ratio	Lower	Upper
117	100		
119	96.1	75.1	115.1

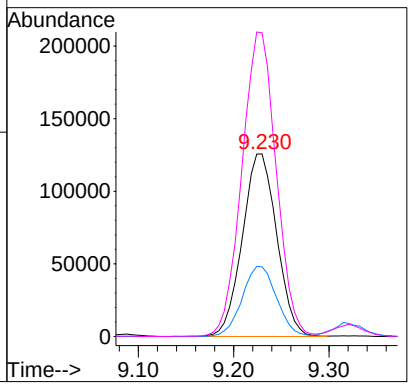


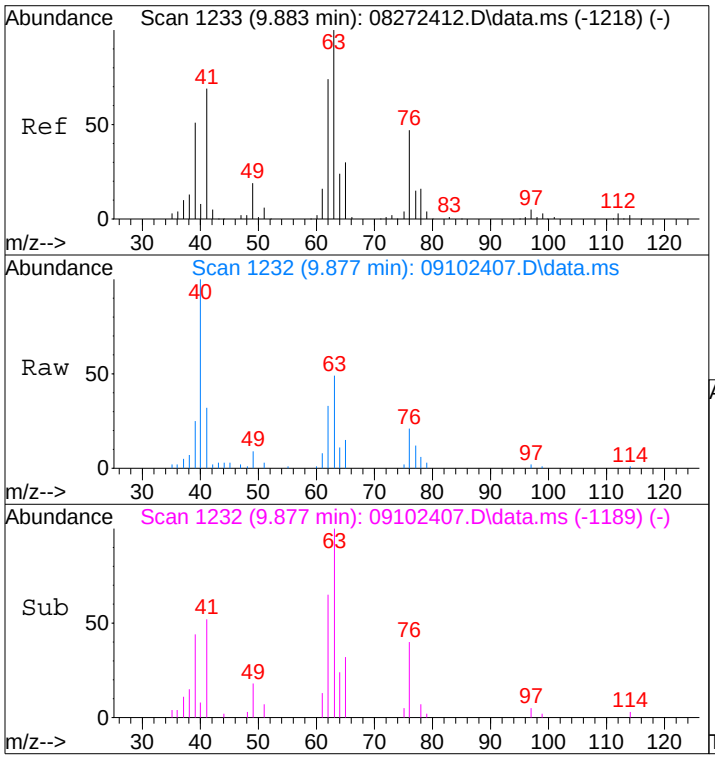


#43
Cyclohexane
Concen: 14.78 ng
RT: 9.23 min Scan# 1118
Delta R.T. -0.000 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 84 Resp: 315230

Ion	Ratio	Lower	Upper
84	100		
69	38.5	18.8	58.8
56	166.3	134.5	174.5

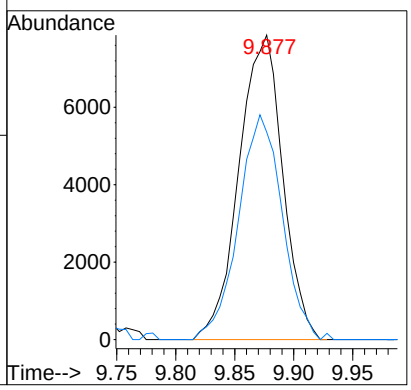


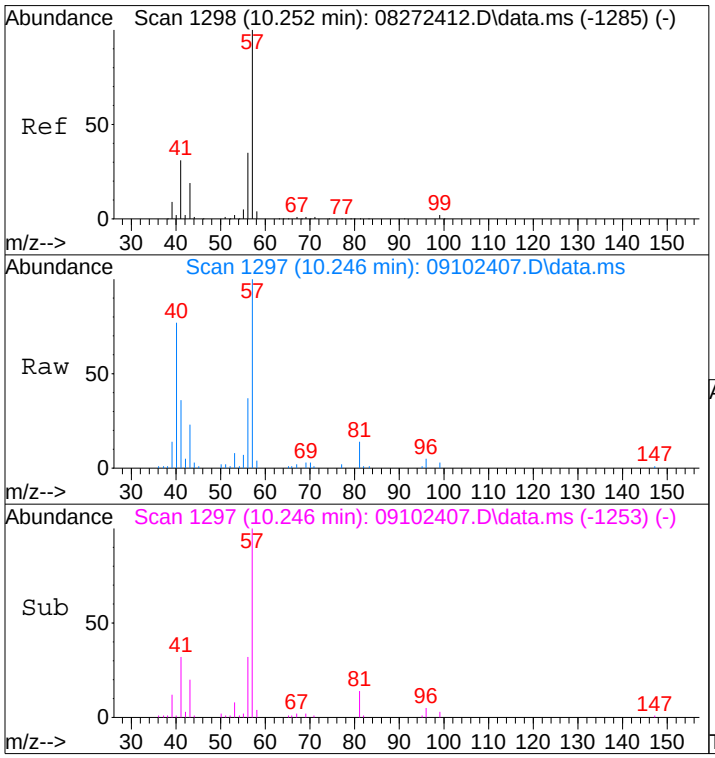


#45
1,2-Dichloropropane
Concen: 1.21 ng
RT: 9.88 min Scan# 1232
Delta R.T. -0.004 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 63 Resp: 20262

Ion	Ratio	Lower	Upper
63	100		
62	74.0	54.2	94.2

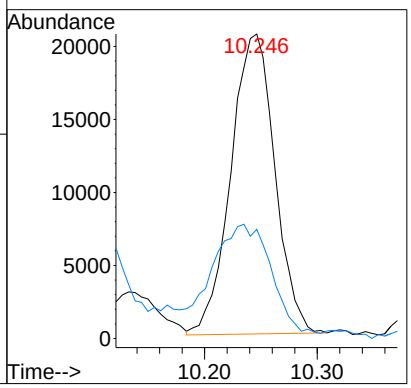


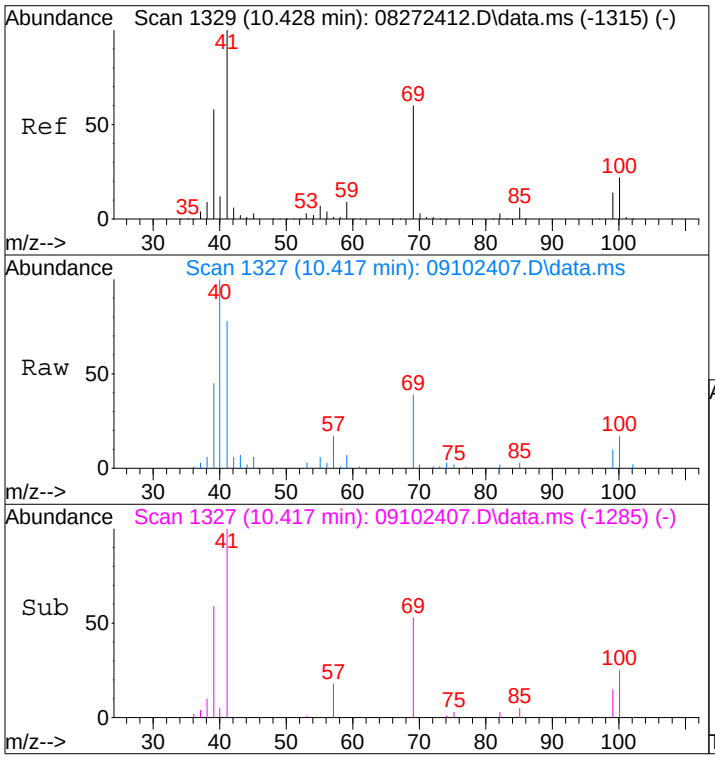


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.75 ng
RT: 10.25 min Scan# 1297
Delta R.T. 0.002 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 57 Resp: 55974

Ion	Ratio	Lower	Upper
57	100		
41	48.5	10.5	50.5

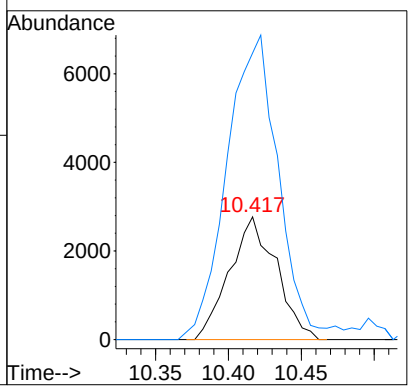


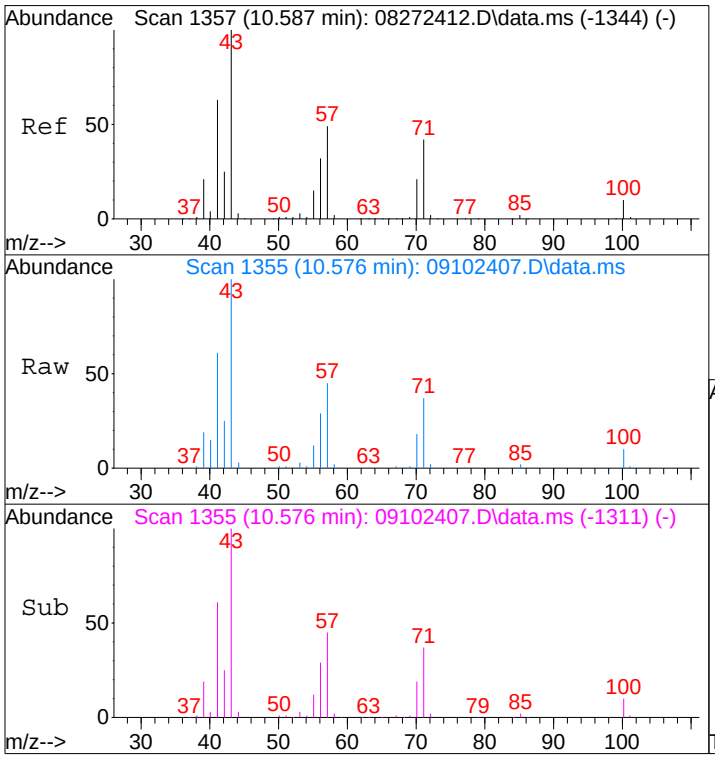


#50
Methyl Methacrylate
Concen: 1.12 ng
RT: 10.42 min Scan# 1327
Delta R.T. -0.009 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:100 Resp: 6160

Ion	Ratio	Lower	Upper
100	100		
69	275.6	260.7	300.7

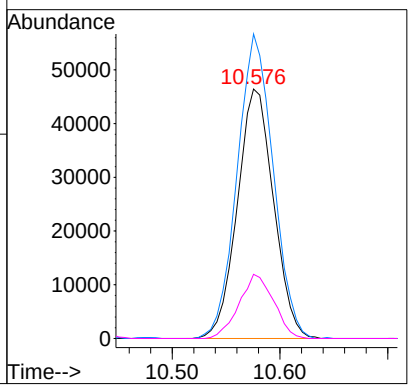


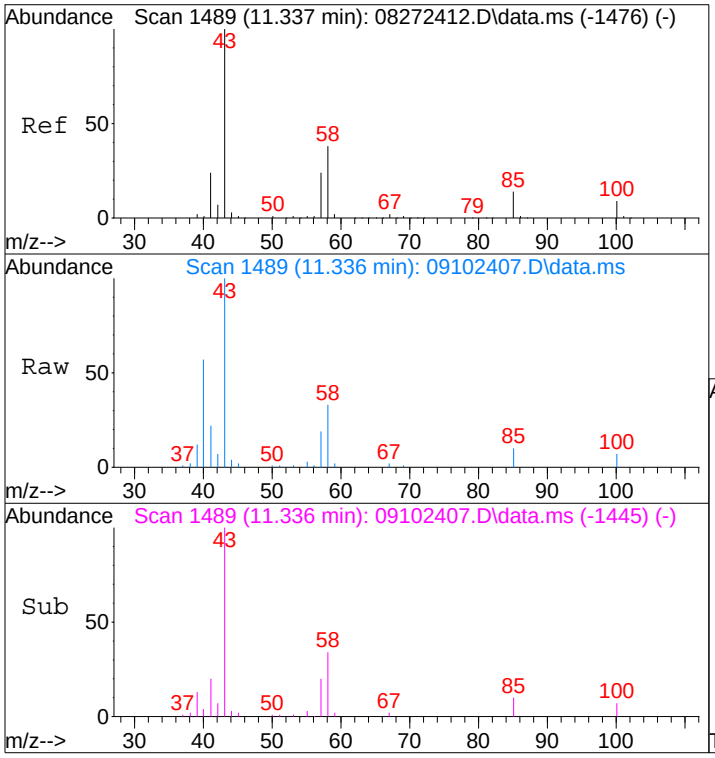


#51
n-Heptane
Concen: 7.71 ng
RT: 10.58 min Scan# 1355
Delta R.T. -0.003 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 71 Resp: 108544

Ion	Ratio	Lower	Upper
71	100		
57	121.1	97.1	137.1
100	24.5	5.0	45.0

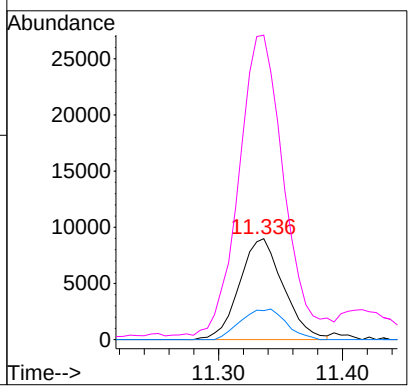


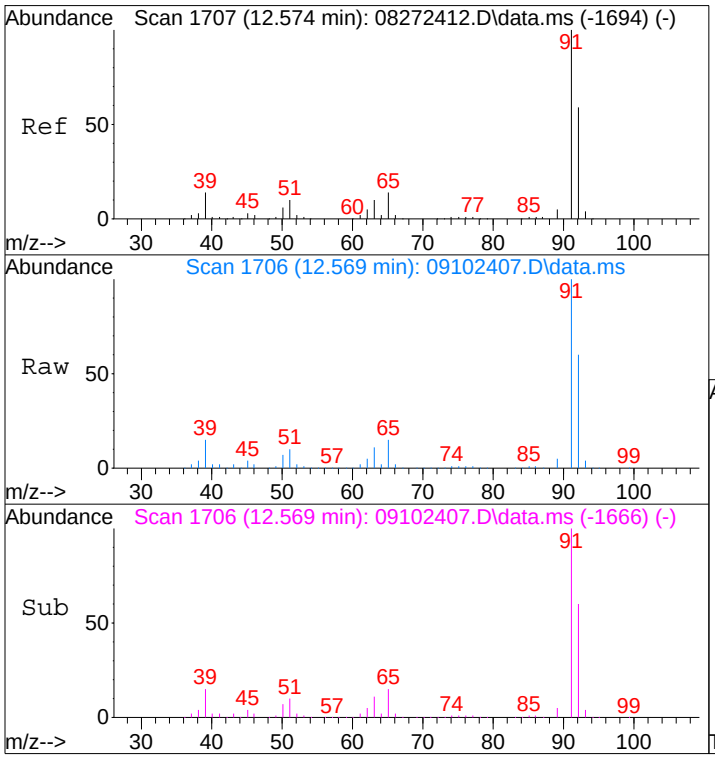


#53
4-Methyl-2-pentanone
Concen: 1.33 ng
RT: 11.34 min Scan# 1489
Delta R.T. -0.001 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 58 Resp: 22143

Ion	Ratio	Lower	Upper
58	100		
85	31.2	30.2	45.2
43	305.5	215.1	322.7

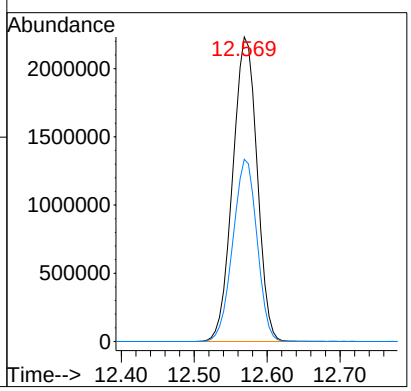


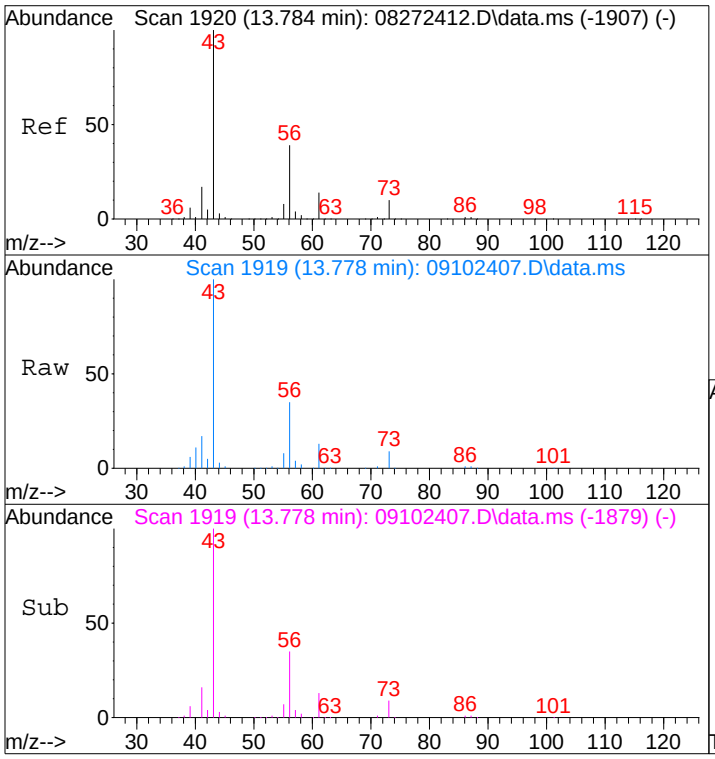


#58
Toluene
Concen: 70.72 ng
RT: 12.57 min Scan# 1706
Delta R.T. -0.023 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 91 Resp: 5178261

Ion	Ratio	Lower	Upper
91	100		
92	59.4	38.5	78.5

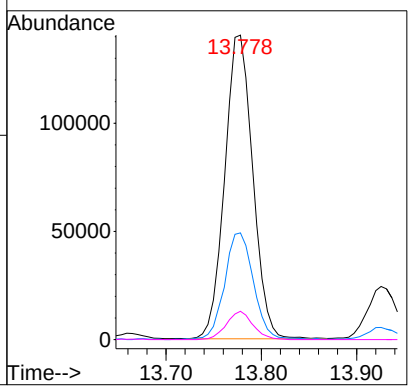


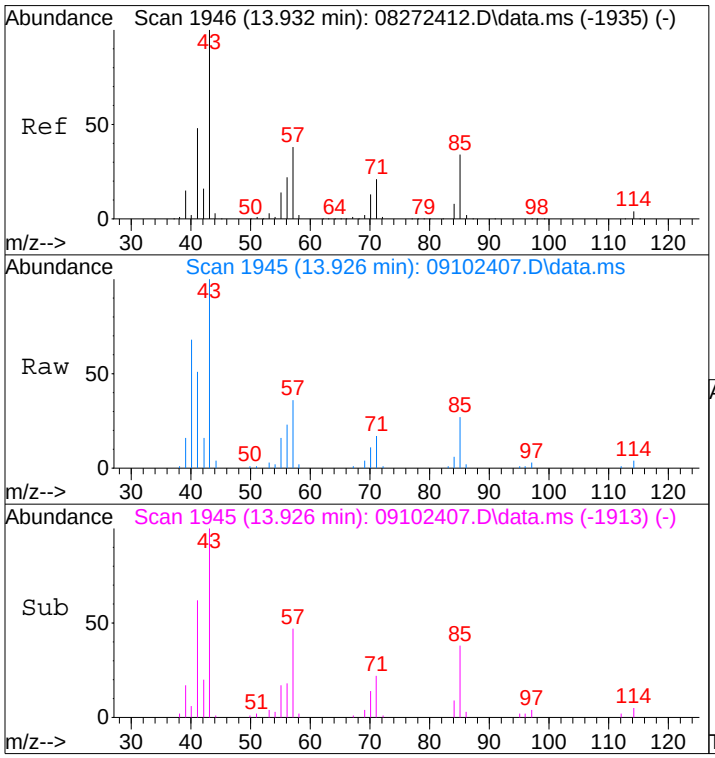


#62
n-Butyl Acetate
Concen: 5.65 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 43 Resp: 286881

Ion	Ratio	Lower	Upper
43	100		
56	36.3	18.2	58.2
73	8.8	0.0	30.1

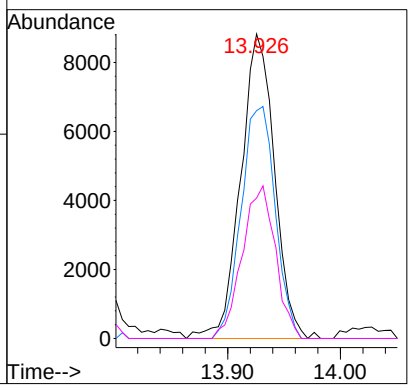


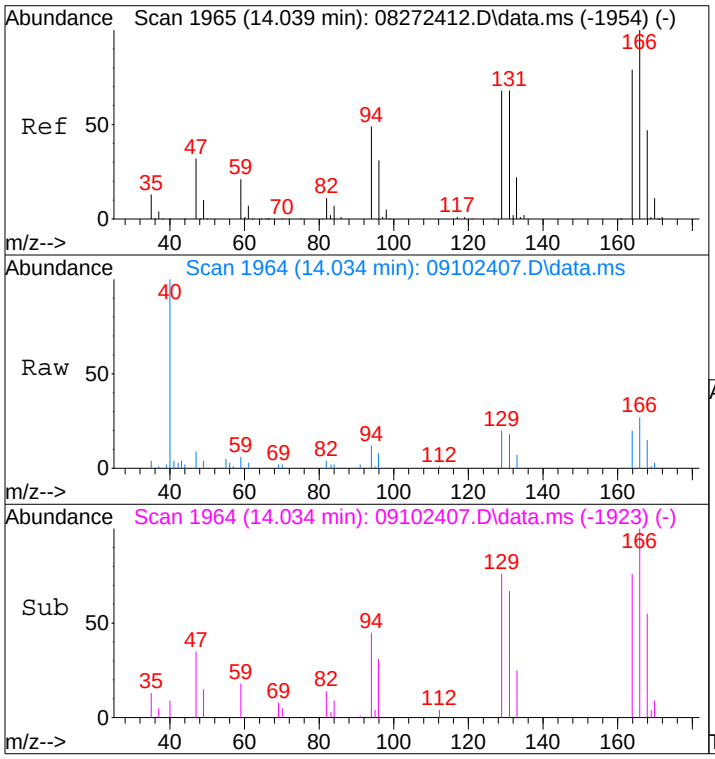


#63
n-Octane
Concen: 1.07 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 57 Resp: 18476

Ion	Ratio	Lower	Upper
57	100		
85	76.6	71.2	106.8
71	49.1	43.3	64.9

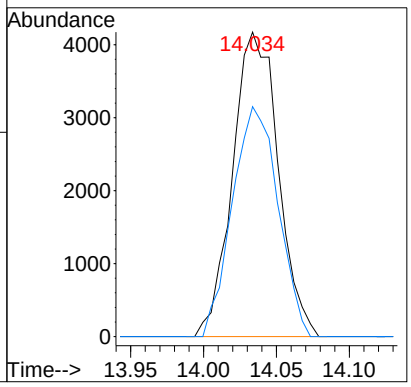


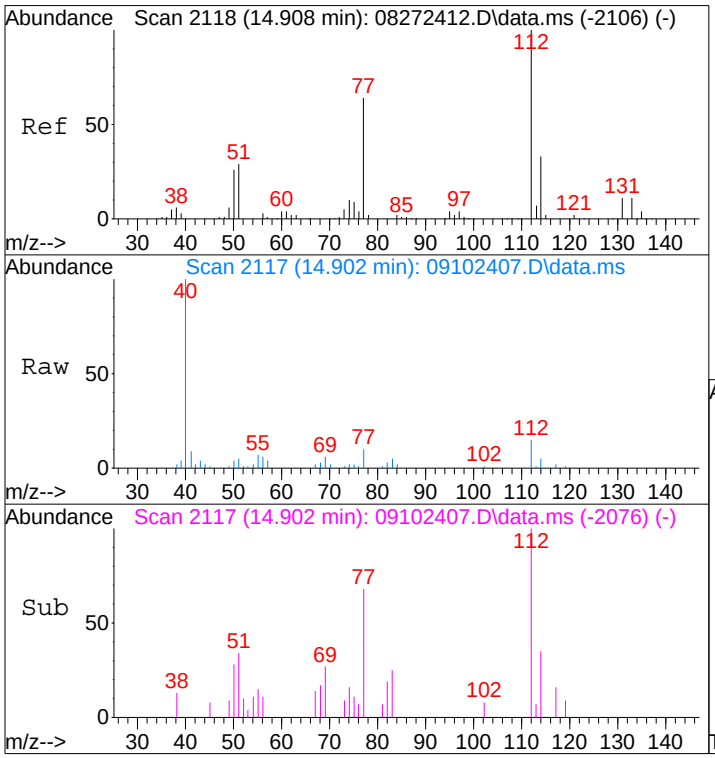


#64
Tetrachloroethene
Concen: 0.45 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:166 Resp: 9084

Ion	Ratio	Lower	Upper
166	100		
164	75.8	59.0	99.0

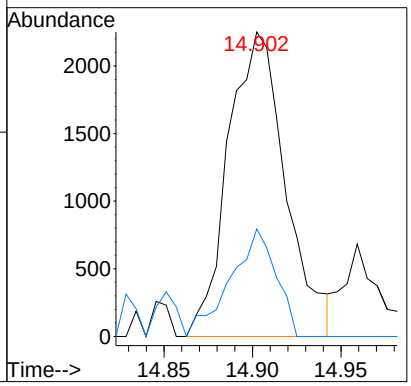


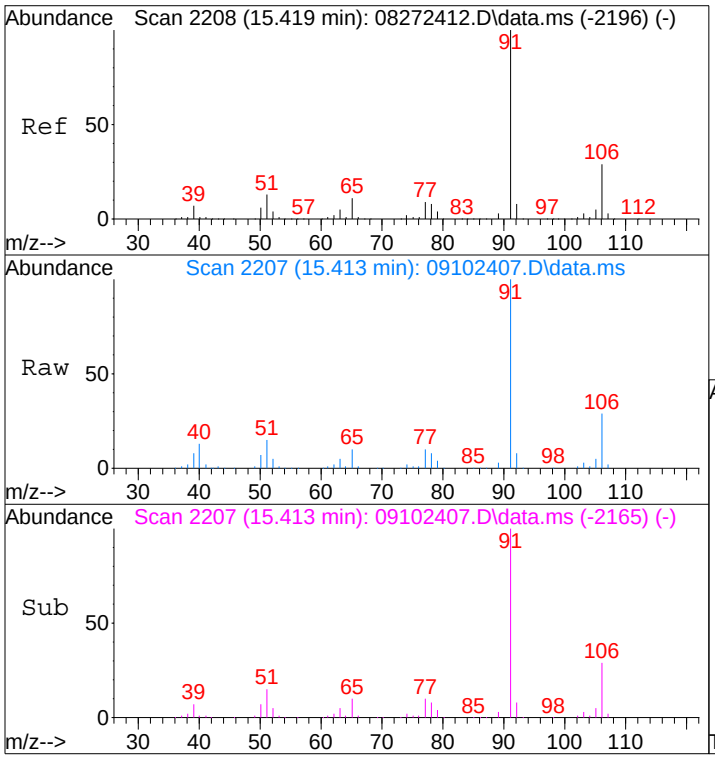


#65
Chlorobenzene
Concen: 0.11 ng
RT: 14.90 min Scan# 2117
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:112 Resp: 5069

Ion	Ratio	Lower	Upper
112	100		
114	27.9	12.7	52.7

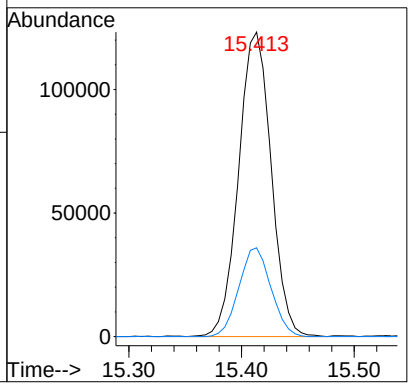


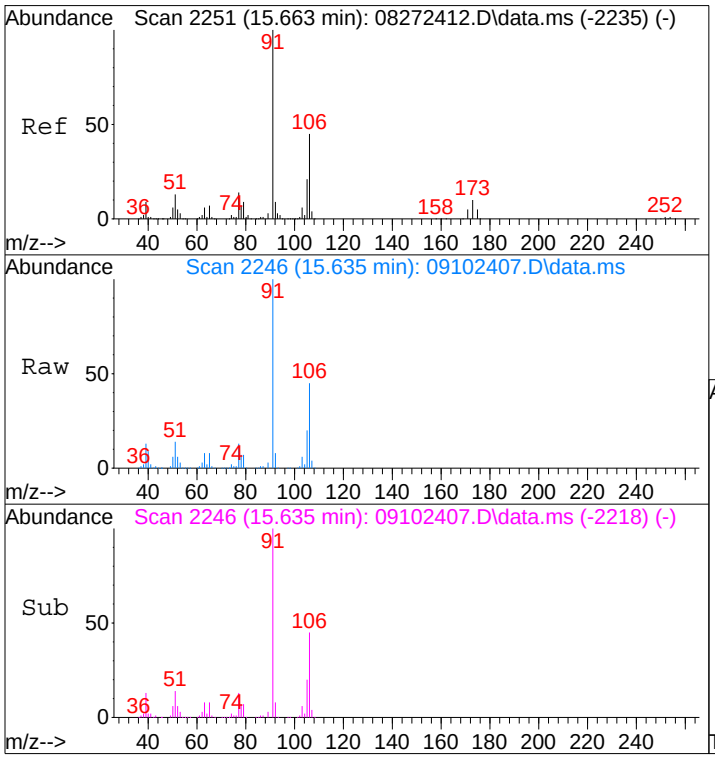


#66
Ethylbenzene
Concen: 2.94 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 91 Resp: 248055

Ion	Ratio	Lower	Upper
91	100		
106	28.7	9.2	49.2

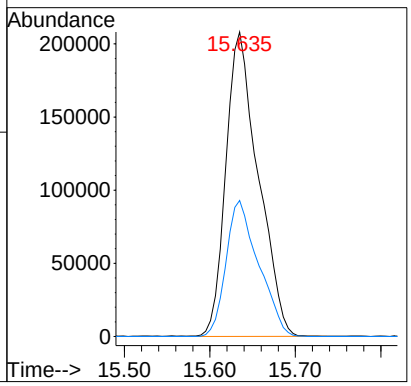


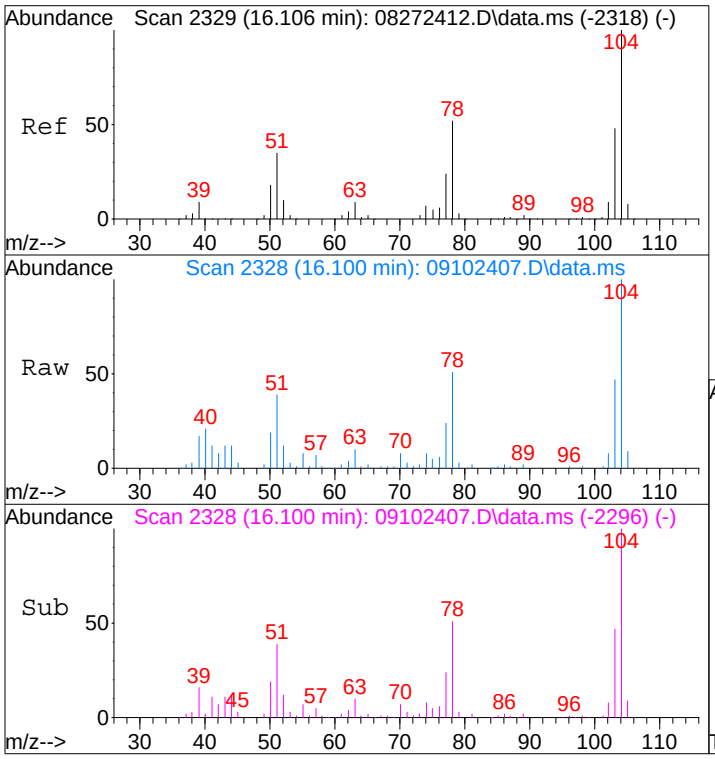


#67
m- & p-Xylenes
Concen: 7.98 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 91 Resp: 546601

Ion	Ratio	Lower	Upper
91	100		
106	44.9	23.8	63.8

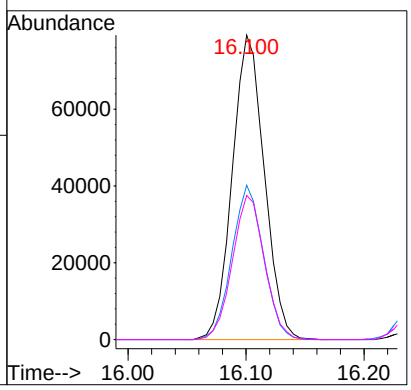


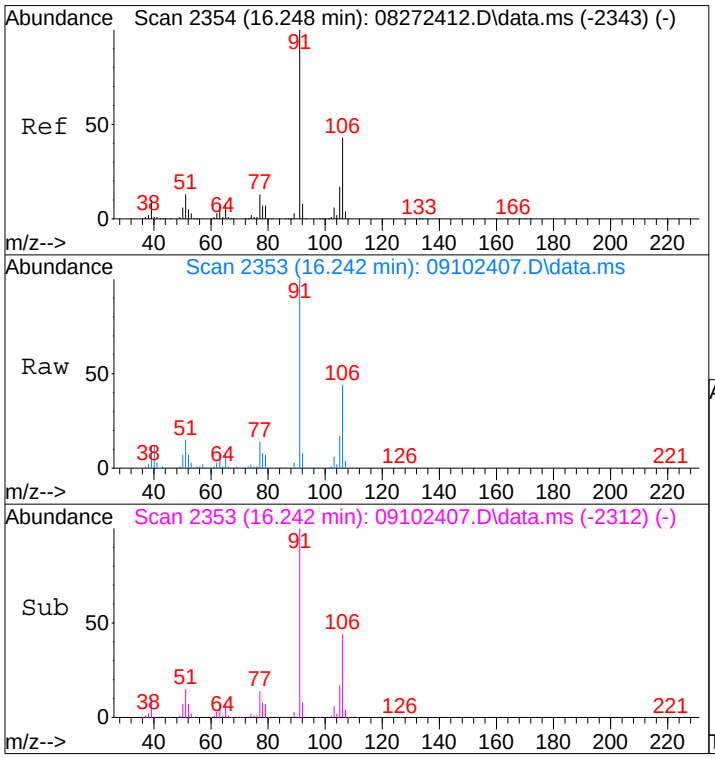


#69
Styrene
Concen: 3.38 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:104 Resp: 149676

Ion	Ratio	Lower	Upper
104	100		
78	50.1	32.2	72.2
103	47.4	28.3	68.3

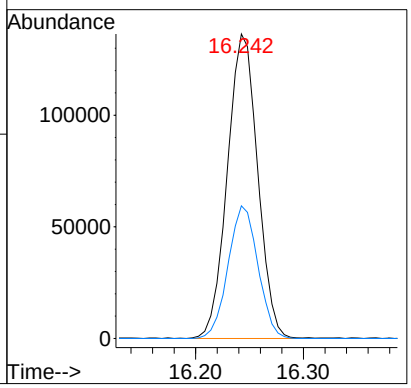


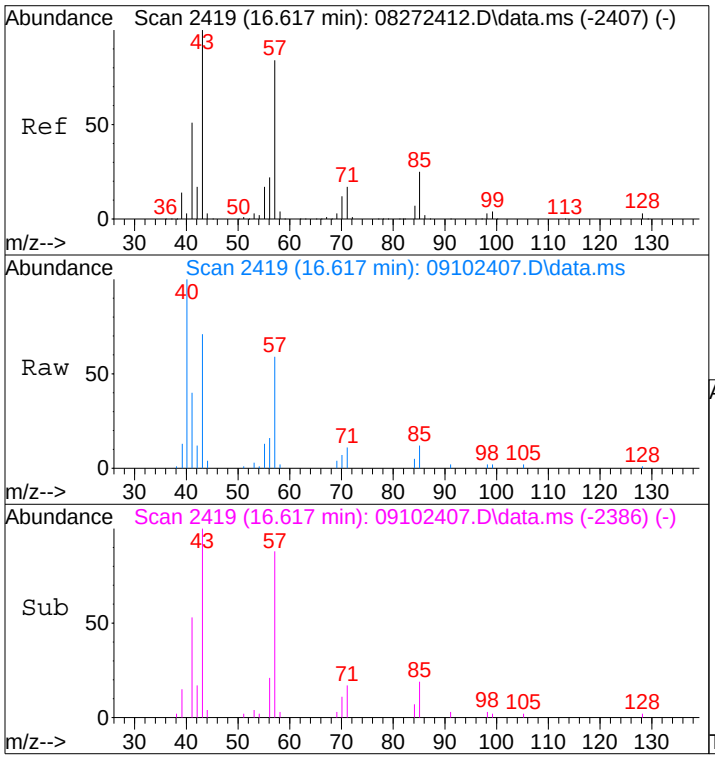


#70
o-Xylene
Concen: 3.99 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 91 Resp: 266892

Ion	Ratio	Lower	Upper
91	100		
106	42.7	22.5	62.5

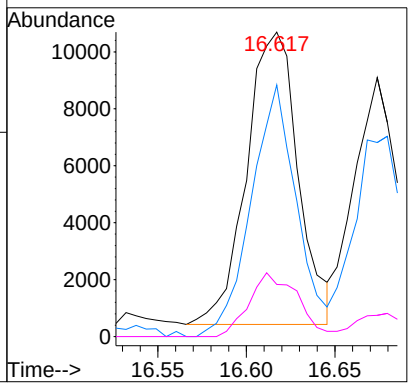


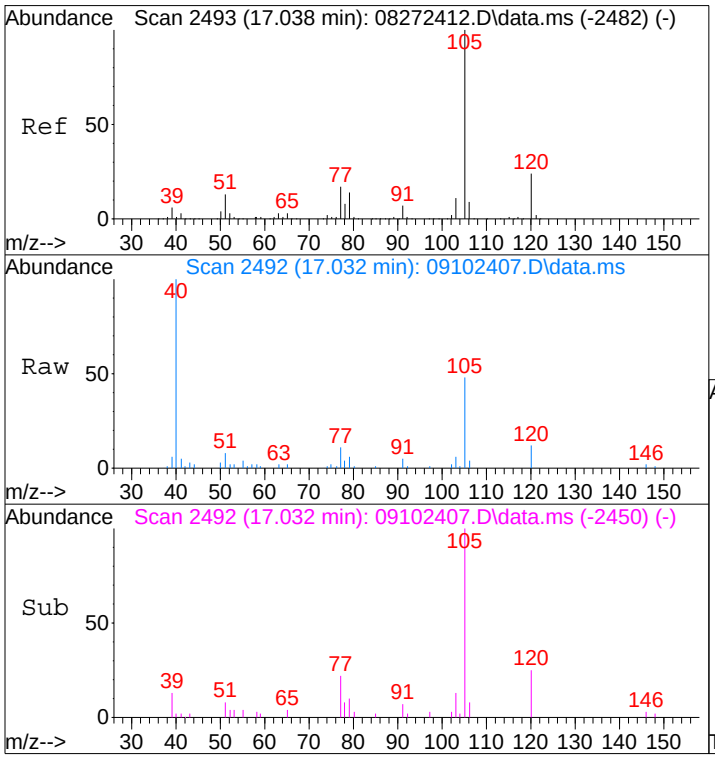


#71
n-Nonane
Concen: 0.48 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 43 Resp: 20890

Ion	Ratio	Lower	Upper
43	100		
57	75.7	63.3	103.3
85	20.1	4.5	44.5

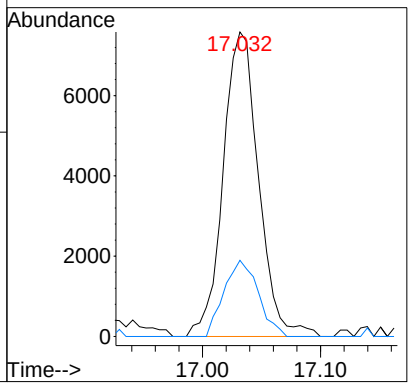


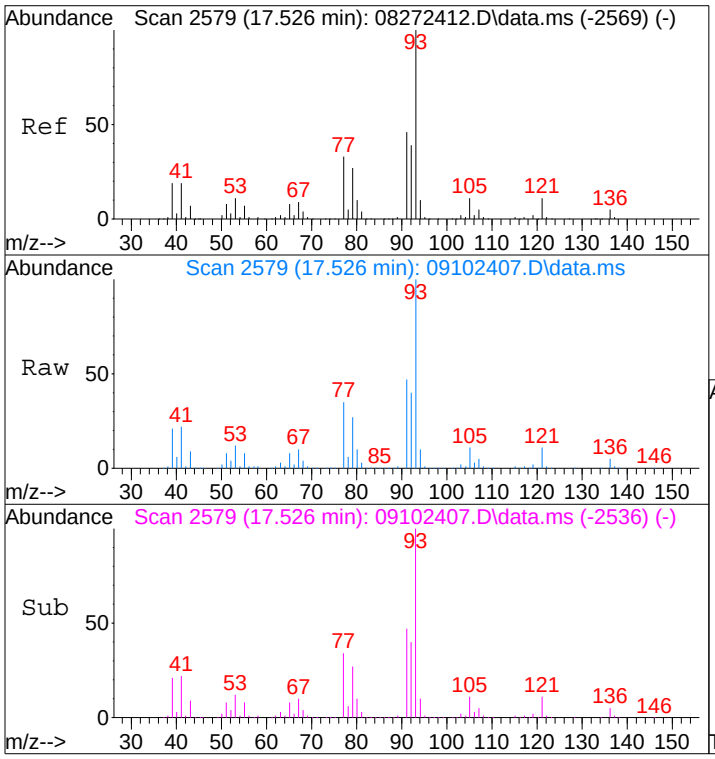


#74
Cumene
Concen: 0.20 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:105 Resp: 15804

Ion	Ratio	Lower	Upper
105	100		
120	24.2	3.7	43.7

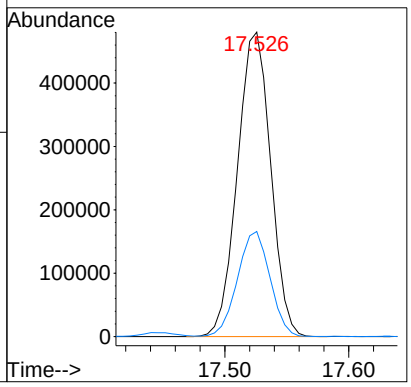


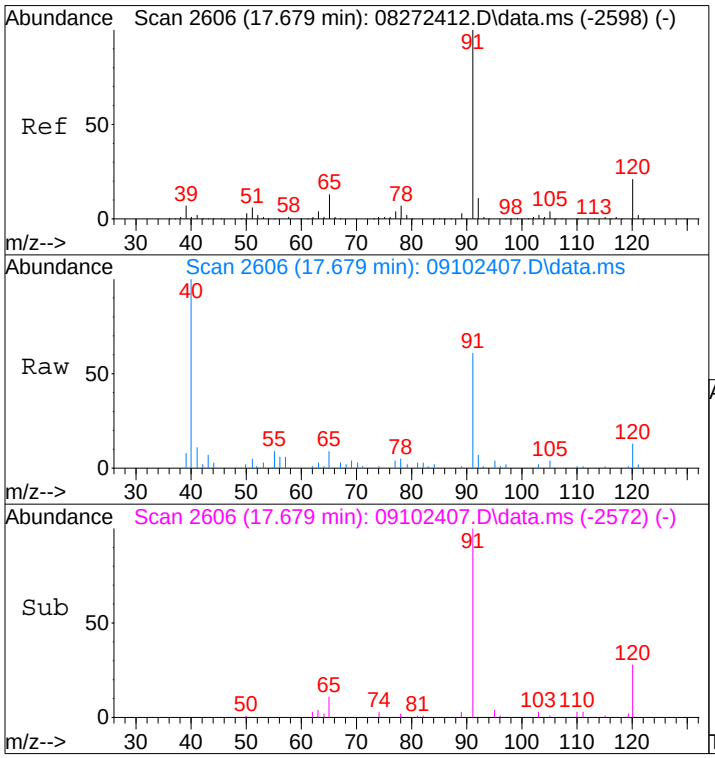


#75
alpha-Pinene
Concen: 22.28 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 93 Resp: 897999

Ion	Ratio	Lower	Upper
93	100		
77	33.7	13.1	53.1

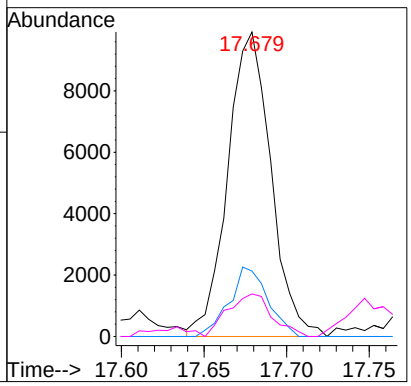


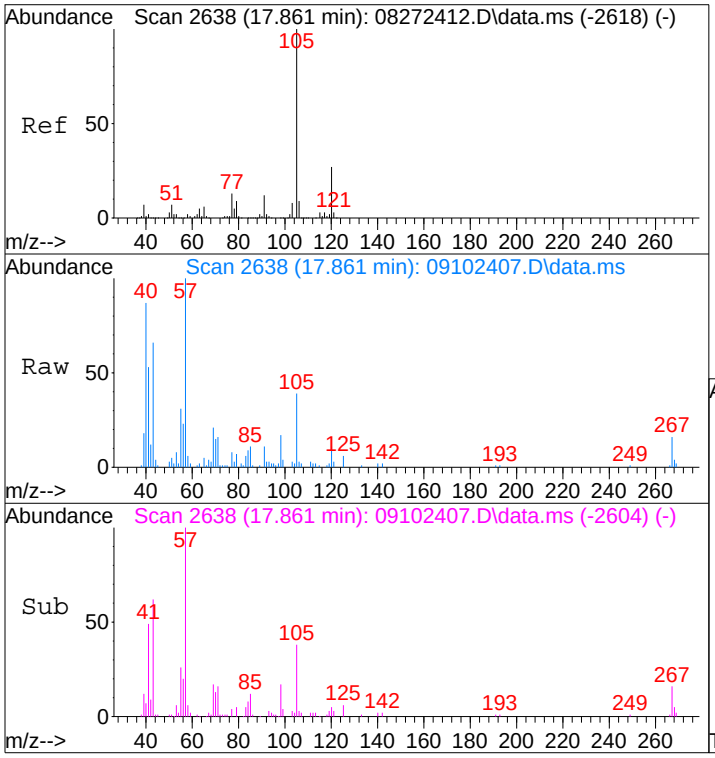


#76
n-Propylbenzene
Concen: 0.19 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 91 Resp: 18019

Ion	Ratio	Lower	Upper
91	100		
120	20.3	0.5	40.5
65	14.3	0.0	32.5

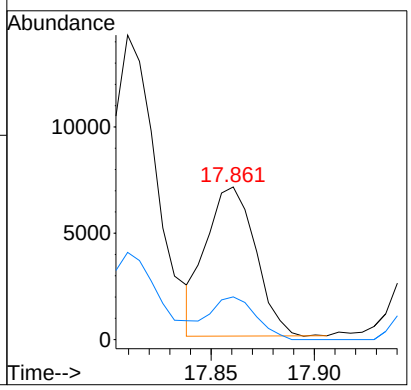


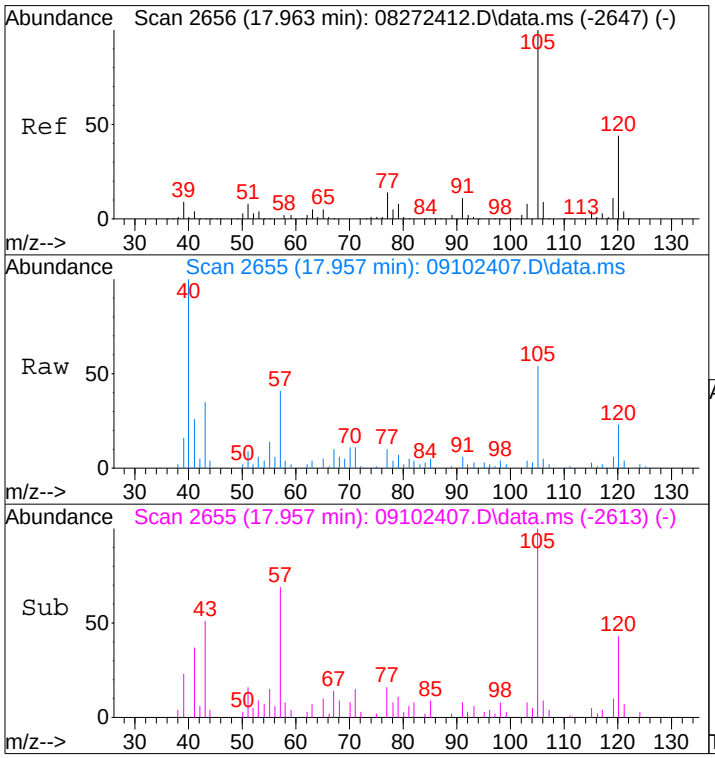


#78
4-Ethyltoluene
Concen: 0.16 ng
RT: 17.86 min Scan# 2638
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:105 Resp: 11693

Ion	Ratio	Lower	Upper
105	100		
120	25.2	6.9	46.9

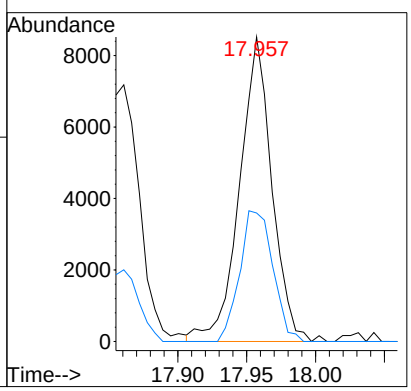


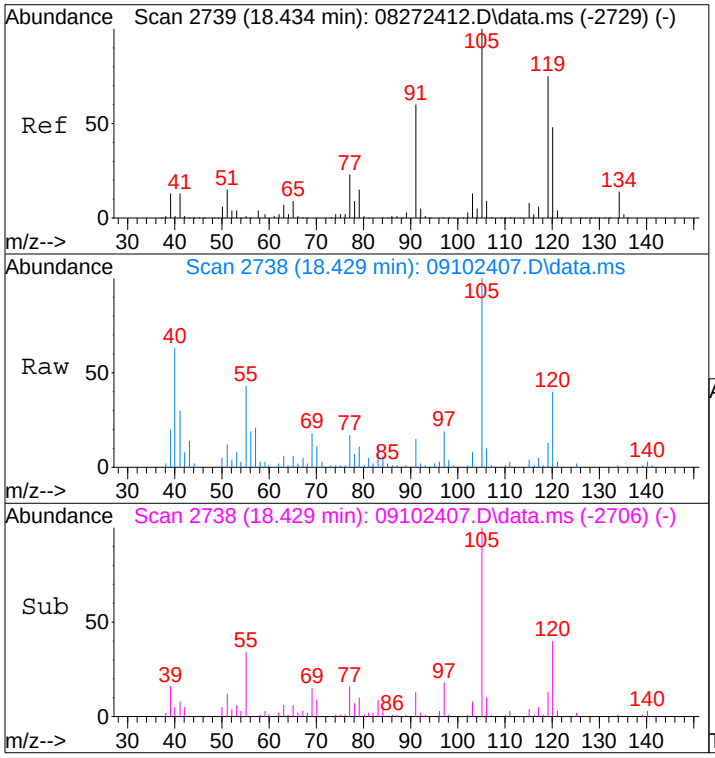


#79
1,3,5-Trimethylbenzene
Concen: 0.21 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:105 Resp: 13944

Ion	Ratio	Lower	Upper
105	100		
120	43.9	24.0	64.0

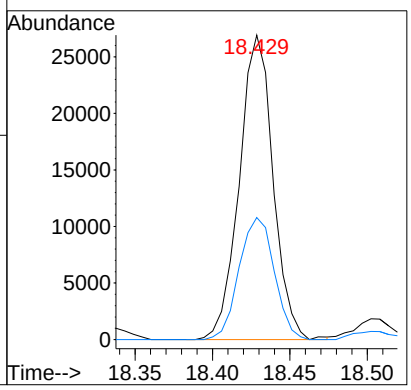


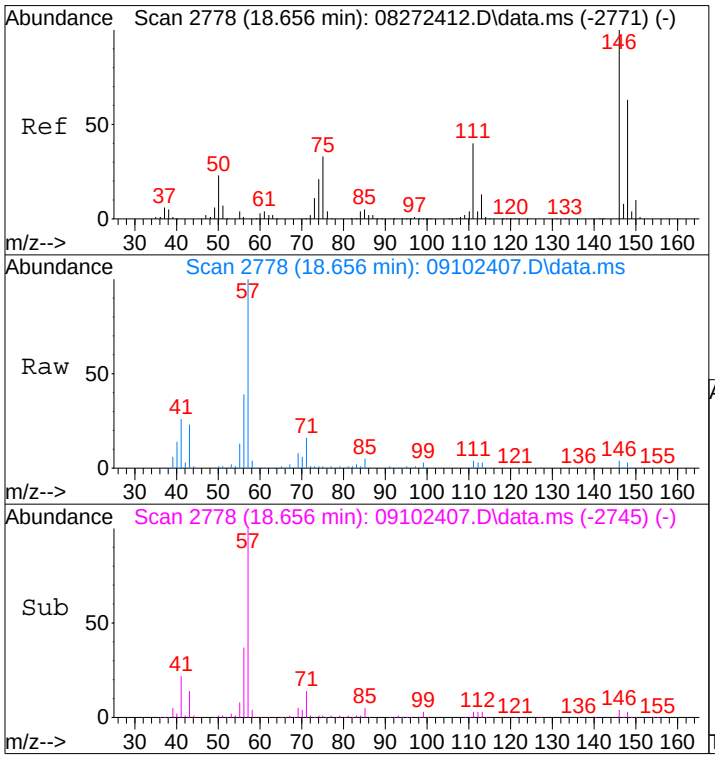


#82
1,2,4-Trimethylbenzene
Concen: 0.59 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:105 Resp: 40915

Ion	Ratio	Lower	Upper
105	100		
120	41.7	28.8	68.8

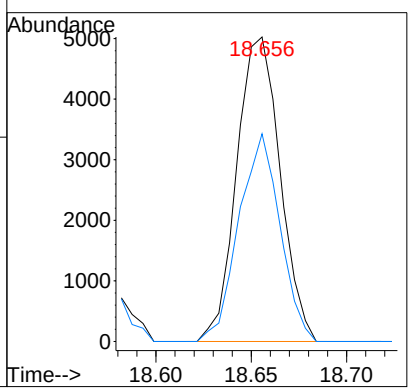


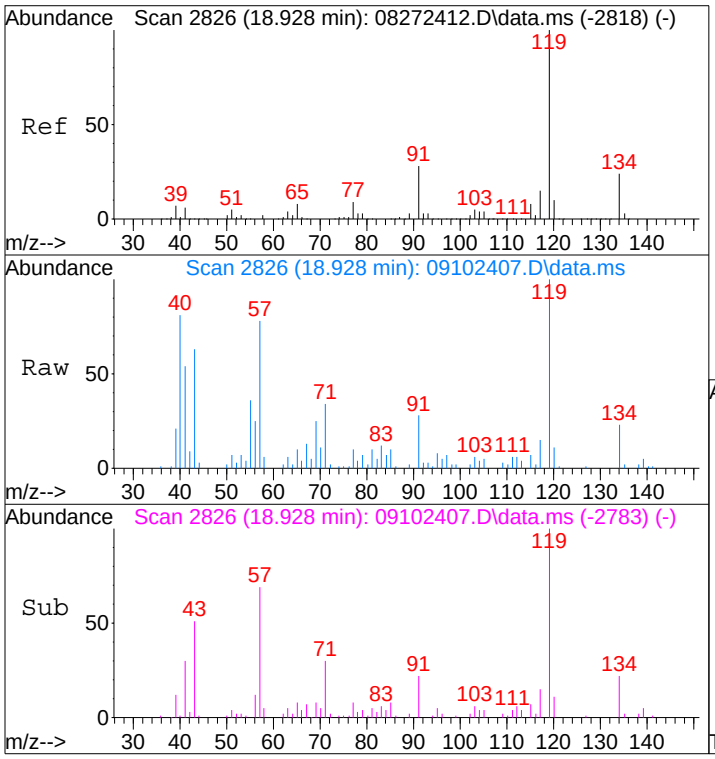


#86
1,4-Dichlorobenzene
Concen: 0.21 ng
RT: 18.66 min Scan# 2778
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:146 Resp: 7956

Ion	Ratio	Lower	Upper
146	100		
148	64.7	43.4	83.4

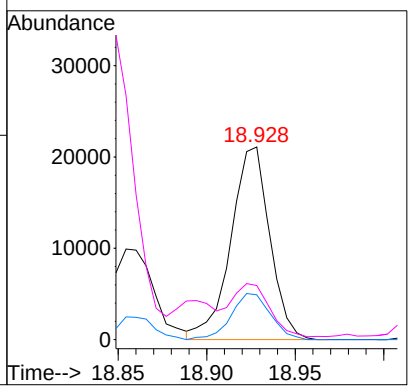


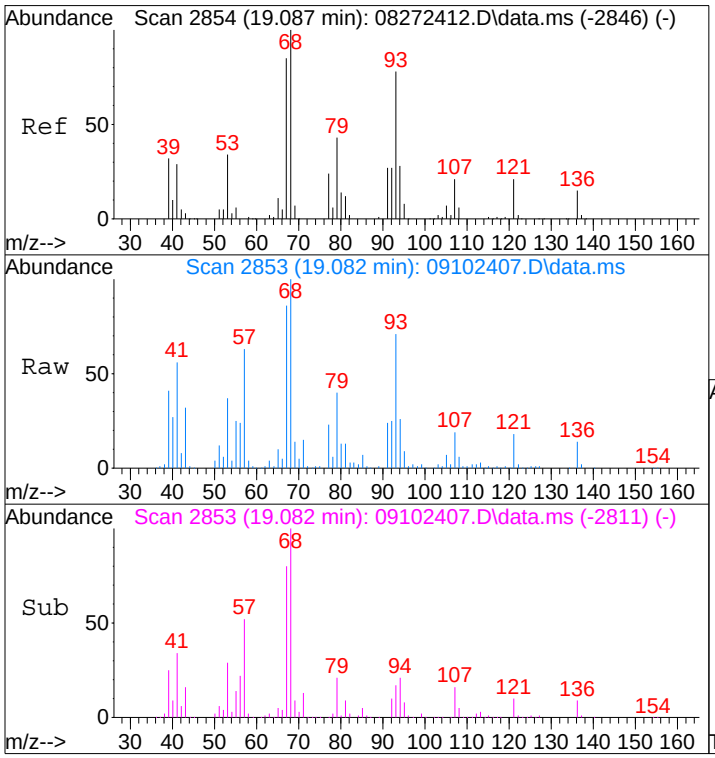


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.43 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:119 Resp: 32294

Ion	Ratio	Lower	Upper
119	100		
134	24.1	4.7	44.7
91	27.2	8.1	48.1

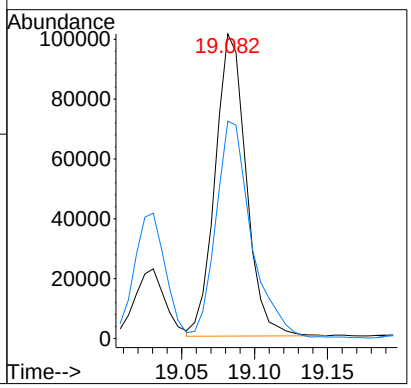


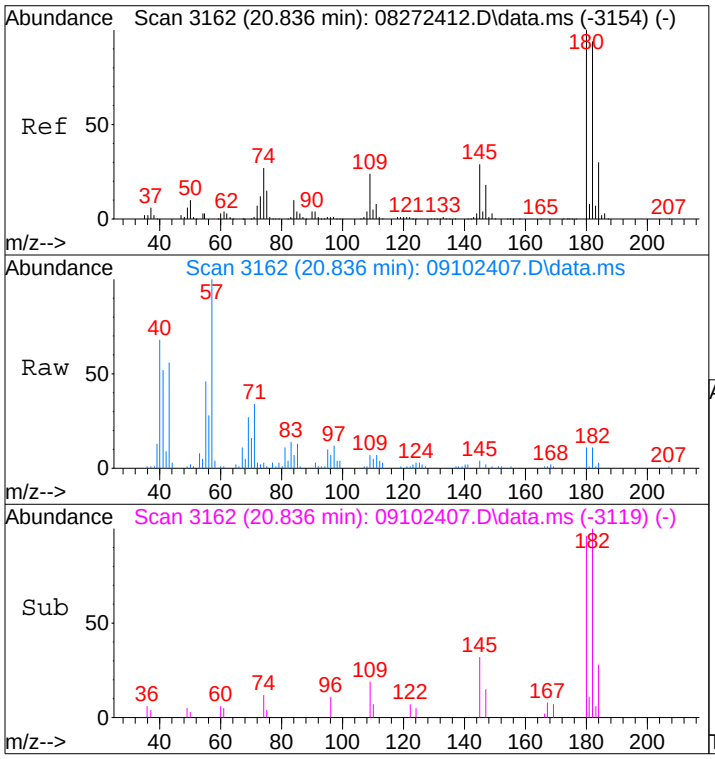


#91
d-Limonene
Concen: 6.50 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion: 68 Resp: 149692

Ion	Ratio	Lower	Upper
68	100		
93	82.4	56.2	96.2

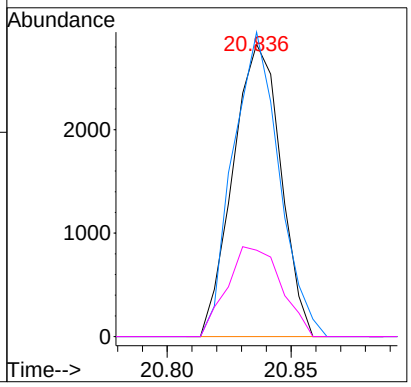


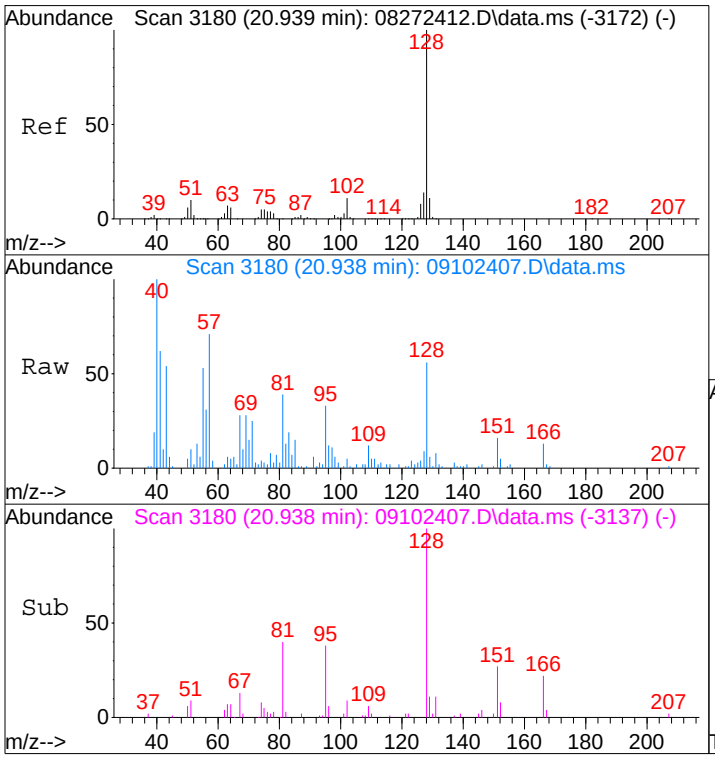


#94
1,2,4-Trichlorobenzene
Concen: 0.12 ng
RT: 20.84 min Scan# 3162
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:180 Resp: 3792

Ion	Ratio	Lower	Upper
180	100		
182	100.5	76.2	114.2
184	34.7	24.3	36.5

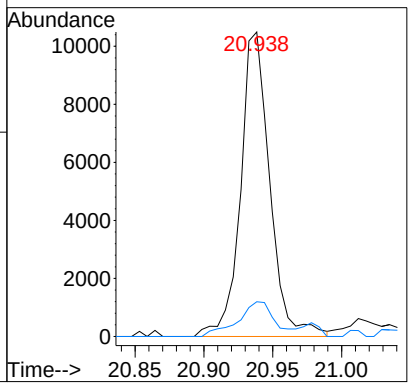




#95
Naphthalene
Concen: 0.21 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09102407.D
Acq: 10 Sep 2024 12:22

Tgt Ion:128 Resp: 15531

Ion	Ratio	Lower	Upper
128	100		
129	14.4	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 19 11:53:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/19/24

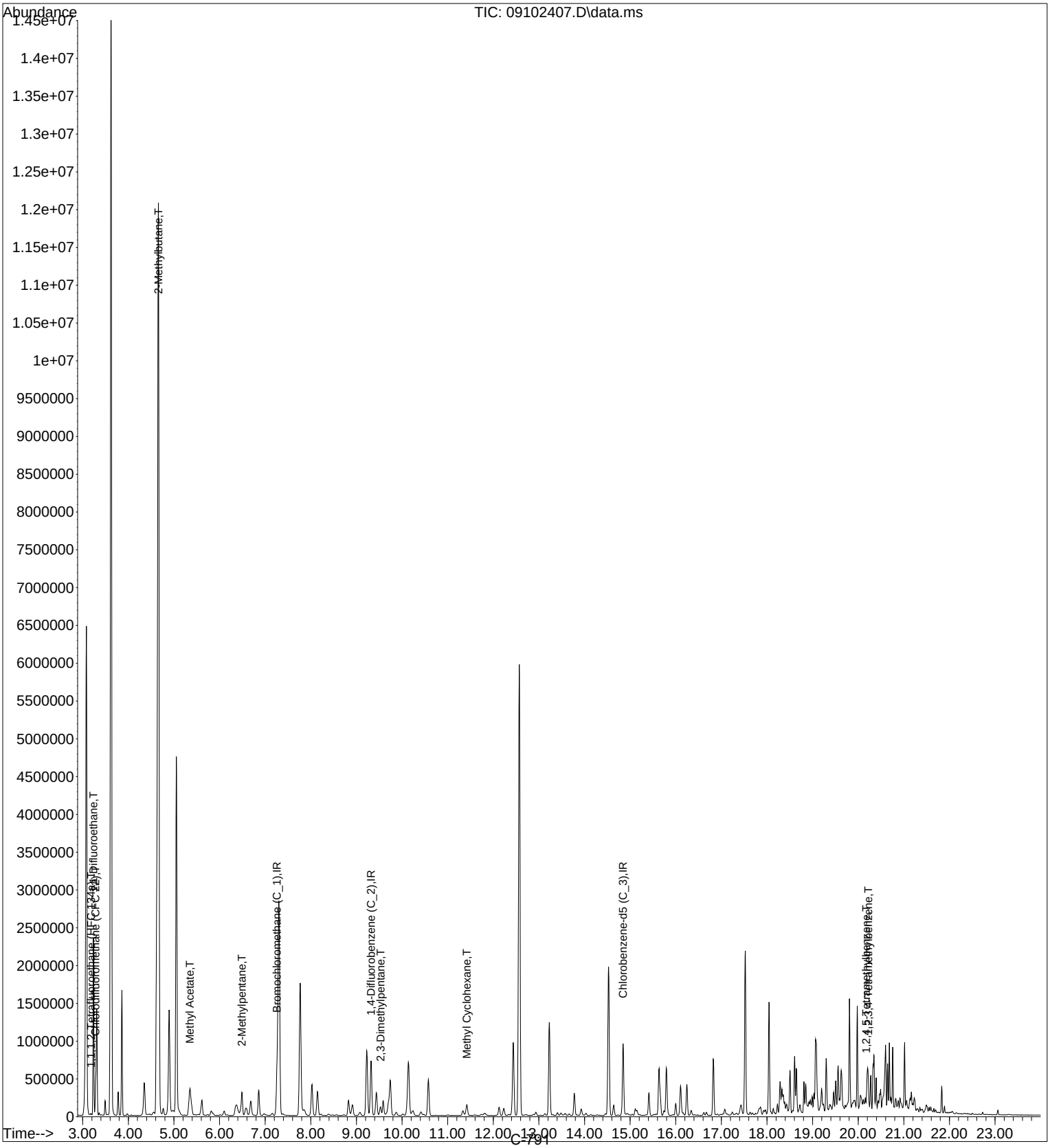
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.26	130	149358	12.500	ng		0.00
16) 1,4-Difluorobenzene (C 2)	9.32	114	673765	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	193079	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	245	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	11728	0.765	ng	#	76
4) 1,1-Difluoroethane	3.23	65	565490	43.364	ng		93
5) Chlorodifluoromethane ...	3.28	67	9044	1.777	ng		96
6) 1-Chloro-1,1-Difluoroe...	3.49	65	876	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.66	57	2344055	131.585	ng		89
11) Methyl Acetate	5.35	43	631224	12.541	ng	#	93
12) 2-Methylpentane	6.49	71	52433	4.054	ng	#	45
13) 2,2-Dichloropropane	7.31	77	211	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.	d		
17) 2,3-Dimethylpentane	9.53	56	64071	1.965	ng		96
18) Dibromomethane	9.80	174	254	N.D.			
20) Methyl Cyclohexane	11.42	55	72652	2.193	ng		91
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.22	91	682	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	17.17	77	233	N.D.			
26) 2-Chlorotoluene	17.61	91	1131	N.D.			
27) 4-Chlorotoluene	0.00	91	0	N.D.	d		
28) Indane	0.00	117	0	N.D.	d		
29) Indene	19.21	115	1688	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	8120	0.123	ng		98
31) 1,2,3,4-Tetramethylben...	20.22	119	15835	0.238	ng		97
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	d		
33) 1,2,3-Trichlorobenzene	21.18	180	138	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

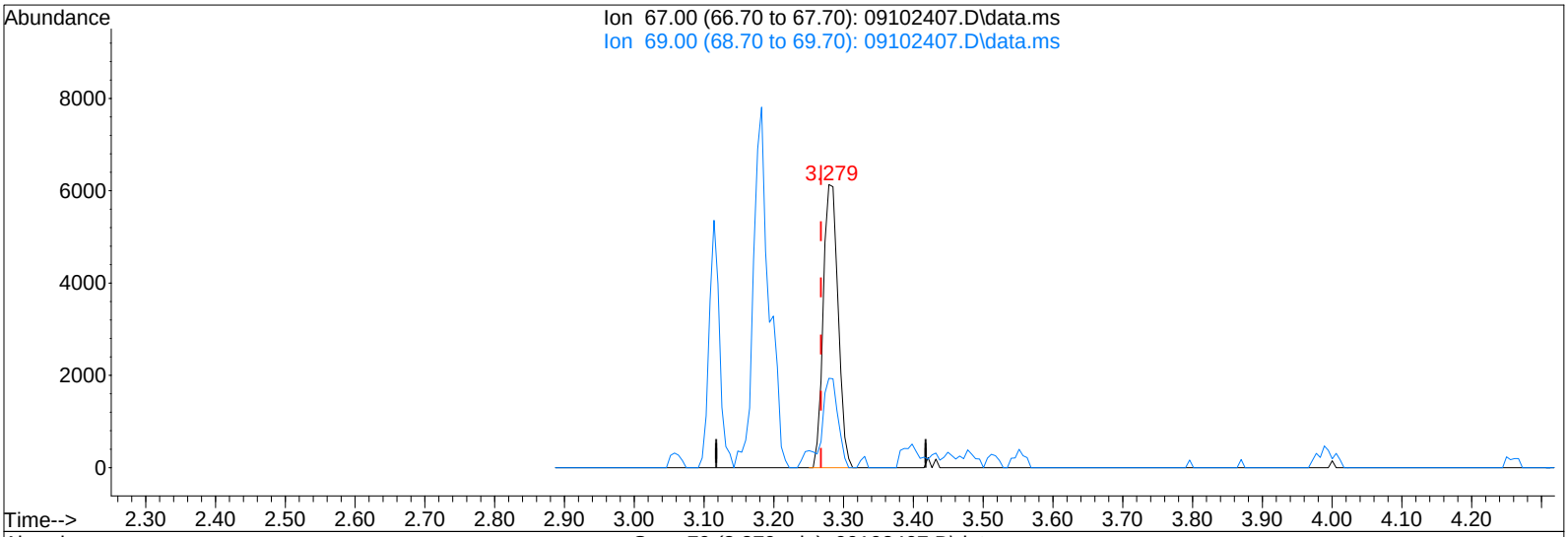
Quant Time: Sep 19 11:53:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

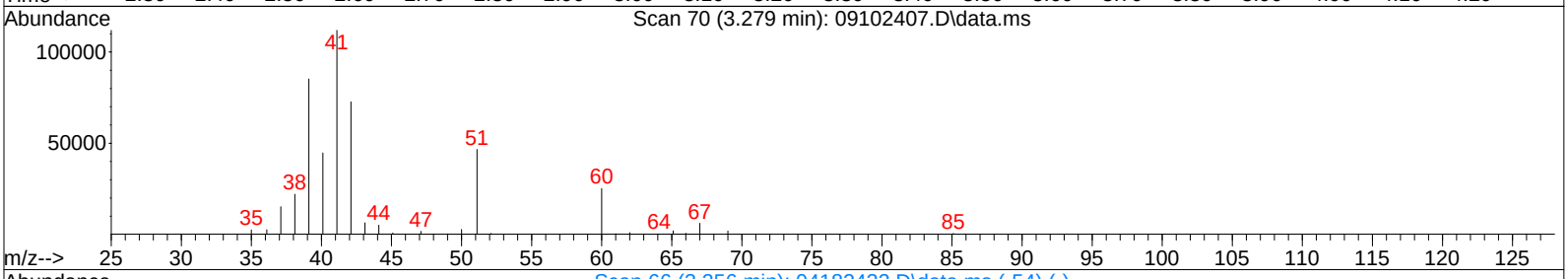


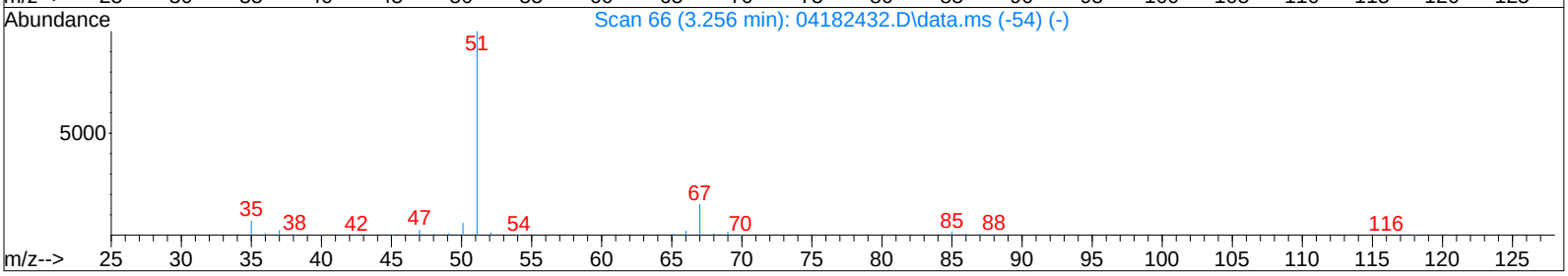
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102407.D Vial: 4
Acq On : 10 Sep 2024 12:22 Operator: SC
Sample : P2403661-016 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 19 11:52:23 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09102407.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 1.78ng

response 9044

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	36.44
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:22
Operator : SC
Sample : P2403661-016 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102407.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	67	rVB	2296177	2604181	8.47%	1.385%
2	3.307	67	75	81	rVB3	1402227	2522030	8.20%	1.341%
3	3.358	81	84	88	rVB	29959	34596	0.11%	0.018%
4	3.489	102	107	119	rBV	188920	272742	0.89%	0.145%
5	3.620	119	130	146	rVB	14781066	27617355	89.78%	14.686%
6	3.779	151	158	164	rVV	313422	459776	1.49%	0.244%
7	3.858	164	172	182	rVB	1659492	2180283	7.09%	1.159%
8	3.977	188	193	198	rVB	22592	33183	0.11%	0.018%
9	4.063	203	208	211	rBV4	10128	14204	0.05%	0.008%
10	4.346	242	258	268	rBV	430152	1027874	3.34%	0.547%
11	4.466	275	279	284	rVB2	13314	25768	0.08%	0.014%
12	4.551	286	294	299	rBV3	36275	101980	0.33%	0.054%
13	4.659	299	313	326	rVB3	12050617	30762266	100.00%	16.358%
14	4.767	326	332	339	rVB	86894	165237	0.54%	0.088%
15	4.892	339	354	365	rBV	1389930	3127810	10.17%	1.663%
16	5.051	374	382	408	rVB	4744901	8679758	28.22%	4.615%
17	5.352	423	435	450	rBV2	356743	1262577	4.10%	0.671%
18	5.528	459	466	470	rBV3	7785	18794	0.06%	0.010%
19	5.613	471	481	488	rVB	198642	459551	1.49%	0.244%
20	5.738	497	503	509	rBV3	10675	19883	0.06%	0.011%
21	5.817	509	517	533	rVB2	59064	196591	0.64%	0.105%
22	6.010	545	551	557	rBV4	10402	26105	0.08%	0.014%
23	6.101	557	567	574	rVV2	59887	152318	0.50%	0.081%
24	6.164	575	578	588	rVB5	9117	20877	0.07%	0.011%
25	6.368	599	614	625	rBV4	142104	630907	2.05%	0.335%
26	6.487	625	635	643	rVV	307287	771155	2.51%	0.410%
27	6.578	643	651	660	rVV5	100135	325913	1.06%	0.173%
28	6.686	660	670	690	rVV	189260	521887	1.70%	0.278%
29	6.856	690	700	712	rVV	334686	733917	2.39%	0.390%
30	6.976	714	721	736	rVB4	22999	73836	0.24%	0.039%
31	7.157	743	753	760	rBV5	28422	75348	0.24%	0.040%
32	7.299	760	778	790	rVV	2841513	8625562	28.04%	4.587%
33	7.390	790	794	808	rVV7	23398	65754	0.21%	0.035%
34	7.492	808	812	822	rVB4	4155	11488	0.04%	0.006%
35	7.765	845	860	871	rBV	1751133	4508362	14.66%	2.397%
36	8.026	894	906	916	rBV	408789	991830	3.22%	0.527%
37	8.145	916	927	936	rVV	315699	758925	2.47%	0.404%
38	8.225	936	941	949	rVB3	17441	39887	0.13%	0.021%
39	8.384	961	969	980	rBV5	17569	56382	0.18%	0.030%
40	8.480	980	986	990	rVV3	8155	18404	0.06%	0.010%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:22
Operator : SC
Sample : P2403661-016 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	8.554	994	999	1010	rVB4	9640	26329	0.09%	0.014%
42	8.724	1022	1029	1036	rBV4	8915	21980	0.07%	0.012%
43	8.827	1036	1047	1055	rVV	199830	481910	1.57%	0.256%
44	8.912	1055	1062	1074	rVB2	140480	373323	1.21%	0.199%
45	9.076	1080	1091	1100	rVB4	41080	119298	0.39%	0.063%
46	9.224	1100	1117	1126	rBV	858254	2159571	7.02%	1.148%
47	9.321	1126	1134	1144	rVV	722883	1727373	5.62%	0.919%
48	9.434	1144	1154	1163	rVV	304075	758049	2.46%	0.403%
49	9.531	1163	1171	1176	rVV	112429	287047	0.93%	0.153%
50	9.588	1176	1181	1189	rVV	193954	409078	1.33%	0.218%
51	9.741	1189	1208	1223	rVV2	465095	1591579	5.17%	0.846%
52	9.871	1223	1231	1242	rVB4	40878	106537	0.35%	0.057%
53	10.025	1249	1258	1264	rBV5	19489	47597	0.15%	0.025%
54	10.138	1264	1278	1288	rVV	702821	2076988	6.75%	1.104%
55	10.241	1288	1296	1311	rVB4	62899	205627	0.67%	0.109%
56	10.411	1314	1326	1334	rBV4	47843	137469	0.45%	0.073%
57	10.468	1334	1336	1345	rVV3	15321	31484	0.10%	0.017%
58	10.576	1345	1355	1368	rVB	474944	1121629	3.65%	0.596%
59	11.001	1423	1430	1431	rBV3	7880	13357	0.04%	0.007%
60	11.331	1480	1488	1495	rBV	62181	160653	0.52%	0.085%
61	11.422	1495	1504	1513	rVB3	141284	371968	1.21%	0.198%
62	11.592	1528	1534	1539	rBV5	8819	20021	0.07%	0.011%
63	11.740	1551	1560	1566	rBV4	16538	48648	0.16%	0.026%
64	11.819	1566	1574	1590	rVB7	31111	112602	0.37%	0.060%
65	12.126	1614	1628	1637	rBV	110405	271387	0.88%	0.144%
66	12.228	1637	1646	1656	rVV	92799	228638	0.74%	0.122%
67	12.336	1658	1665	1670	rBV2	14757	33662	0.11%	0.018%
68	12.438	1670	1683	1694	rVV	964270	2299822	7.48%	1.223%
69	12.569	1694	1706	1721	rVB	5966164	13832556	44.97%	7.355%
70	12.711	1728	1731	1746	rVB6	10969	33143	0.11%	0.018%
71	12.881	1754	1761	1764	rBV4	13409	27558	0.09%	0.015%
72	12.932	1764	1770	1778	rVB3	44205	105107	0.34%	0.056%
73	13.131	1798	1805	1812	rBV3	24669	57882	0.19%	0.031%
74	13.227	1812	1822	1832	rVV	1231259	2615594	8.50%	1.391%
75	13.312	1832	1837	1844	rVB7	10707	21151	0.07%	0.011%
76	13.403	1844	1853	1860	rBV5	35368	76365	0.25%	0.041%
77	13.488	1860	1868	1876	rBV2	29958	70293	0.23%	0.037%
78	13.574	1877	1883	1890	rVB3	24120	49218	0.16%	0.026%
79	13.664	1894	1899	1907	rVB	20784	42729	0.14%	0.023%
80	13.778	1907	1919	1926	rBV	292679	603019	1.96%	0.321%
81	13.926	1938	1945	1955	rBV3	83521	189385	0.62%	0.101%
82	14.034	1955	1964	1972	rVB7	30454	77473	0.25%	0.041%
83	14.141	1972	1983	1987	rBV4	12113	28882	0.09%	0.015%
84	14.283	2002	2008	2013	rVB5	6762	12669	0.04%	0.007%
85	14.459	2031	2039	2042	rBV2	23699	48882	0.16%	0.026%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:22
Operator : SC
Sample : P2403661-016 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

86	14.528	2042	2051	2062	rVB	1963136	4385670	14.26%	2.332%
87	14.641	2062	2071	2080	rVB	136892	286416	0.93%	0.152%
88	14.738	2080	2088	2094	rVB7	6931	17772	0.06%	0.009%
89	14.846	2094	2107	2117	rBV	950849	2017543	6.56%	1.073%
90	14.931	2119	2122	2138	rVB5	23253	68655	0.22%	0.037%
91	15.044	2138	2142	2148	rVB4	12574	20336	0.07%	0.011%
92	15.112	2148	2154	2158	rBV2	84958	179980	0.59%	0.096%
93	15.345	2189	2195	2199	rBV6	5468	14383	0.05%	0.008%
94	15.413	2199	2207	2218	rVB	298727	612288	1.99%	0.326%
95	15.521	2218	2226	2229	rBV5	14987	31967	0.10%	0.017%
96	15.567	2229	2234	2238	rBV3	10528	20779	0.07%	0.011%
97	15.635	2238	2246	2258	rVB	619349	1633512	5.31%	0.869%
98	15.743	2258	2265	2268	rBV2	59400	126983	0.41%	0.068%
99	15.794	2268	2274	2290	rVB	628414	1341466	4.36%	0.713%
100	15.947	2293	2301	2304	rBV4	9064	19788	0.06%	0.011%
101	15.998	2304	2310	2317	rVB	153796	286817	0.93%	0.153%
102	16.106	2317	2329	2337	rBV2	388100	881451	2.87%	0.469%
103	16.242	2345	2353	2362	rVB	409233	807567	2.63%	0.429%
104	16.339	2362	2370	2379	rVV	66621	150605	0.49%	0.080%
105	16.413	2381	2383	2389	rVV3	9553	14262	0.05%	0.008%
106	16.617	2409	2419	2424	rBV3	40402	85227	0.28%	0.045%
107	16.674	2424	2429	2437	rVB2	41817	84199	0.27%	0.045%
108	16.822	2446	2455	2465	rBV	744389	1464699	4.76%	0.779%
109	16.912	2465	2471	2477	rVB5	16172	37312	0.12%	0.020%
110	16.981	2477	2483	2488	rBV5	12442	26226	0.09%	0.014%
111	17.032	2488	2492	2494	rBV	14245	21229	0.07%	0.011%
112	17.071	2494	2499	2508	rVB	65303	127618	0.41%	0.068%
113	17.242	2519	2529	2534	rBV2	39158	82686	0.27%	0.044%
114	17.333	2537	2545	2550	rBV7	18056	39162	0.13%	0.021%
115	17.429	2552	2562	2570	rBV4	124297	346628	1.13%	0.184%
116	17.526	2570	2579	2592	rVB	2165982	4074664	13.25%	2.167%
117	17.628	2592	2597	2602	rBV3	32962	57668	0.19%	0.031%
118	17.679	2602	2606	2614	rVB	23563	45491	0.15%	0.024%
119	17.747	2614	2618	2622	rBV5	19360	35970	0.12%	0.019%
120	17.855	2624	2637	2644	rVB5	96913	342951	1.11%	0.182%
121	17.929	2644	2650	2653	rBV3	52378	100627	0.33%	0.054%
122	17.963	2653	2656	2661	rVB4	54208	88641	0.29%	0.047%
123	18.042	2661	2670	2682	rVB	1479031	2588027	8.41%	1.376%
124	18.139	2682	2687	2696	rBV3	71826	128118	0.42%	0.068%
125	18.230	2696	2703	2707	rBV	126425	208279	0.68%	0.111%
126	18.287	2707	2713	2717	rBV2	405038	755485	2.46%	0.402%
127	18.326	2717	2720	2723	rBV3	127640	154822	0.50%	0.082%
128	18.389	2729	2731	2734	rVB	84808	82536	0.27%	0.044%
129	18.429	2734	2738	2744	rVB2	91647	171541	0.56%	0.091%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:22
Operator : SC
Sample : P2403661-016 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

130	18.502	2745	2751	2757	rVB	554515	937477	3.05%	0.499%
131	18.565	2757	2762	2764	rBV5	30998	50770	0.17%	0.027%
132	18.605	2764	2769	2773	rBV	722042	1128630	3.67%	0.600%
133	18.644	2773	2776	2782	rVB	575435	845837	2.75%	0.450%
134	18.724	2782	2790	2800	rVB6	104340	244542	0.79%	0.130%
135	18.809	2800	2805	2808	rBV	411746	551149	1.79%	0.293%
136	18.849	2808	2812	2821	rVB3	298889	448134	1.46%	0.238%
137	18.923	2821	2825	2827	rBV3	60988	80478	0.26%	0.043%
138	18.951	2827	2830	2834	rVV	80944	104870	0.34%	0.056%
139	18.991	2834	2837	2840	rVB	131398	152931	0.50%	0.081%
140	19.030	2840	2844	2846	rBV	173332	226847	0.74%	0.121%
141	19.064	2846	2850	2863	rVB2	941295	2486736	8.08%	1.322%
142	19.195	2863	2873	2878	rBV2	288166	619352	2.01%	0.329%
143	19.297	2885	2891	2900	rBV	693467	1163942	3.78%	0.619%
144	19.377	2900	2905	2913	rVV8	69862	180382	0.59%	0.096%
145	19.462	2913	2920	2924	rBV2	222164	368244	1.20%	0.196%
146	19.507	2924	2928	2932	rVV2	358552	527376	1.71%	0.280%
147	19.558	2932	2937	2941	rVV2	548311	921955	3.00%	0.490%
148	19.593	2941	2943	2945	rVV3	108995	136051	0.44%	0.072%
149	19.627	2945	2949	2961	rVB3	506740	1113914	3.62%	0.592%
150	19.712	2961	2964	2967	rBV3	45243	58910	0.19%	0.031%
151	19.808	2968	2981	2988	rVB	1436984	2170377	7.06%	1.154%
152	19.876	2988	2993	2994	rBV5	58870	82068	0.27%	0.044%
153	19.979	3006	3011	3016	rVB	1356707	1760647	5.72%	0.936%
154	20.053	3016	3024	3031	rBV2	175513	504901	1.64%	0.268%
155	20.115	3031	3035	3038	rVV4	111739	192565	0.63%	0.102%
156	20.155	3039	3042	3045	rVV	128446	192649	0.63%	0.102%
157	20.206	3045	3051	3058	rVV2	529131	1315478	4.28%	0.700%
158	20.274	3058	3063	3067	rVB	440022	620701	2.02%	0.330%
159	20.325	3067	3072	3073	rBV	591120	687581	2.24%	0.366%
160	20.342	3073	3075	3080	rVV	691282	930934	3.03%	0.495%
161	20.393	3080	3084	3088	rVB	399587	488448	1.59%	0.260%
162	20.439	3088	3092	3094	rBV2	92818	139605	0.45%	0.074%
163	20.467	3094	3097	3098	rVV	167814	180042	0.59%	0.096%
164	20.490	3099	3101	3105	rVB2	235820	258753	0.84%	0.138%
165	20.598	3112	3120	3124	rVB4	800079	1578648	5.13%	0.839%
166	20.643	3124	3128	3131	rVV	557325	654394	2.13%	0.348%
167	20.683	3131	3135	3139	rVV	837743	1049323	3.41%	0.558%
168	20.717	3139	3141	3144	rVV3	115069	136797	0.44%	0.073%
169	20.757	3144	3148	3154	rVB	798172	976802	3.18%	0.519%
170	20.819	3155	3159	3164	rBV4	117265	196362	0.64%	0.104%
171	20.876	3165	3169	3173	rVB3	89293	129124	0.42%	0.069%
172	20.916	3173	3176	3186	rVB3	130361	263306	0.86%	0.140%
173	21.018	3187	3194	3198	rBV	867737	1154946	3.75%	0.614%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:22
Operator : SC
Sample : P2403661-016 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

174	21.058	3198	3201	3209	rVB4	110112	184273	0.60%	0.098%
175	21.137	3209	3215	3217	rBV2	138692	248352	0.81%	0.132%
176	21.165	3217	3220	3224	rVV	221446	306999	1.00%	0.163%
177	21.194	3224	3225	3227	rVV	67465	62494	0.20%	0.033%
178	21.228	3227	3231	3238	rVB2	169101	355119	1.15%	0.189%
179	21.285	3238	3241	3242	rBV	22692	21331	0.07%	0.011%
180	21.353	3249	3253	3256	rBV3	55663	73703	0.24%	0.039%
181	21.495	3268	3278	3285	rBV5	98275	288560	0.94%	0.153%
182	21.557	3285	3289	3292	rVV2	69013	105970	0.34%	0.056%
183	21.591	3292	3295	3303	rVV2	71846	134515	0.44%	0.072%
184	21.659	3303	3307	3310	rVV	53880	72384	0.24%	0.038%
185	21.699	3310	3314	3319	rVB4	36155	59589	0.19%	0.032%
186	21.830	3330	3337	3343	rVB	356344	459602	1.49%	0.244%
187	21.892	3343	3348	3352	rBV	85208	108891	0.35%	0.058%
188	21.966	3358	3361	3364	rVV5	12001	13993	0.05%	0.007%
189	22.017	3365	3370	3373	rVV6	13869	26073	0.08%	0.014%
190	22.057	3373	3377	3388	rVB6	31277	73386	0.24%	0.039%
191	22.148	3388	3393	3400	rVB2	11916	27580	0.09%	0.015%
192	22.426	3440	3442	3450	rVB6	9402	15252	0.05%	0.008%
193	22.506	3452	3456	3461	rVB5	15579	23140	0.08%	0.012%
194	22.647	3476	3481	3487	rBV9	6800	14568	0.05%	0.008%
195	22.727	3491	3495	3501	rVB	29483	38488	0.13%	0.020%
196	22.892	3521	3524	3532	rVB6	5625	12930	0.04%	0.007%
197	23.062	3548	3554	3562	rVB2	62617	93135	0.30%	0.050%
198	23.300	3591	3596	3607	rVB6	7848	26431	0.09%	0.014%

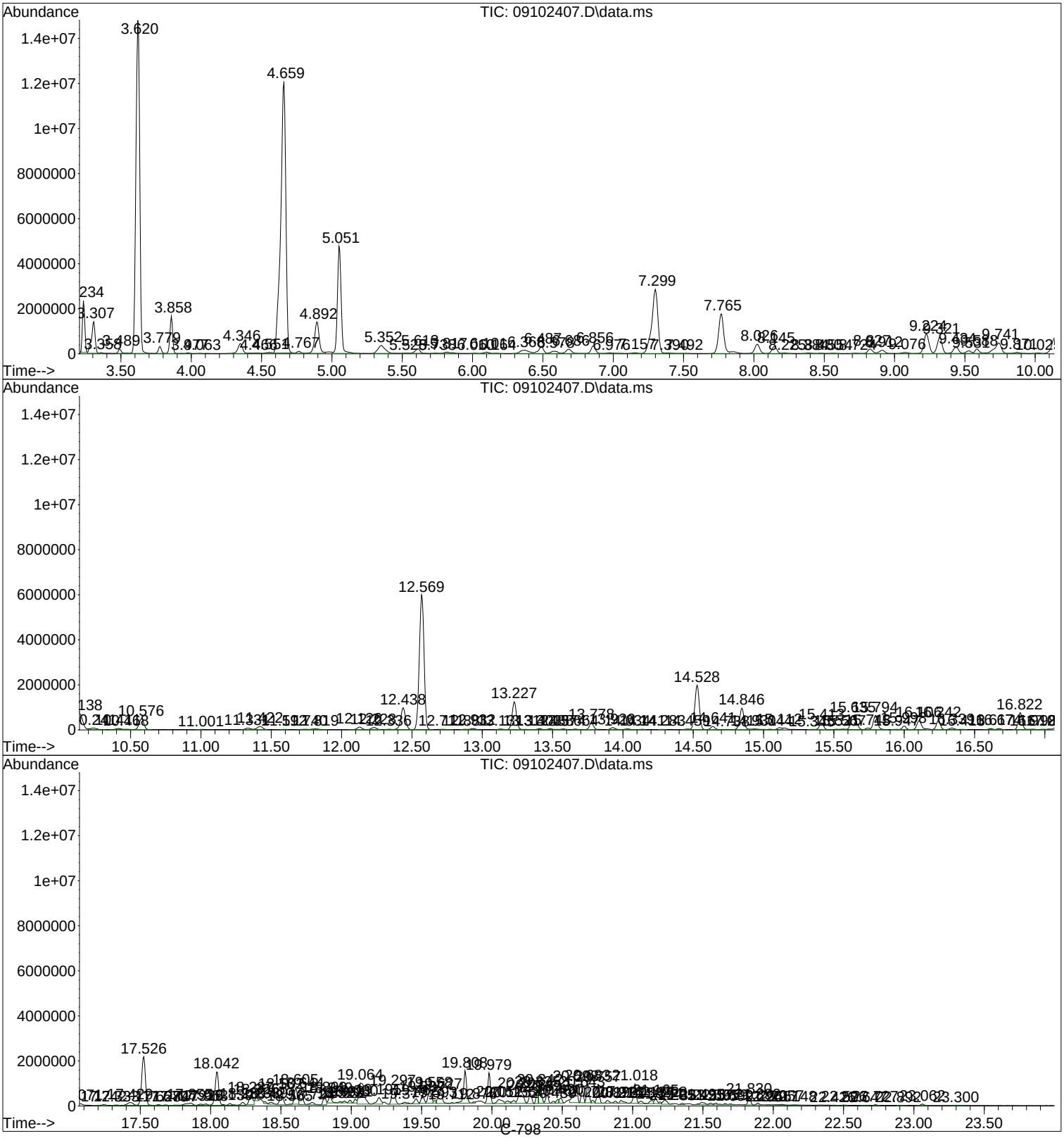
Sum of corrected areas: 188058610

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:22
Operator : SC
Sample : P2403661-016 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102407.D
Acq On : 10 Sep 2024 12:222
Operator : SCC
Sample : P2403661-016 (400mL))
Misc : S37-060624022
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 11:27:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131592	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	583665	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168520	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	338074	13.729	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	12.43	98	651048	11.013	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.82	174	207290	10.484	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	18165m	0.569	ng		
4) Chloromethane	3.52	50	584	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	343	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	121	N.D.			
10) Ethanol	4.43	45	227	N.D.			
11) Acetonitrile	4.49	41	61	N.D.			
12) Acrolein	4.53	56	129	N.D.			
13) Acetone	4.62	58	81294	6.746	ng		89
14) Trichlorofluoromethane	4.75	101	1036716	34.020	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	5879	0.124	ng	#	1
16) Acrylonitrile	5.01	53	57	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	684	N.D.			
19) Methylene Chloride	5.35	84	774	0.055	ng	#	67
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	347282	28.766	ng		95
22) Carbon Disulfide	5.60	76	31366	0.667	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	6574	0.769	ng	#	55
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	696	N.D.			
32) Chloroform	7.35	83	28680	1.094	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	912	No Calib		#	
41) Benzene	8.89	78	5215	0.095	ng		100
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	863	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	133	N.D.			
47) Trichloroethene	10.14	130	276	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.22	57	262	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 11:27:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units Dev(Min)
51) n-Heptane	0.00	71	0	N.D.
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.
53) 4-Methyl-2-pentanone	11.34	58	642	N.D.
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.
58) Toluene	12.56	91	2524	N.D.
59) 2-Hexanone	12.93	43	1503	N.D.
60) Dibromochloromethane	0.00	129	0	N.D.
61) 1,2-Dibromoethane	0.00	107	0	N.D.
62) n-Butyl Acetate	13.78	43	976	N.D.
63) n-Octane	0.00	57	0	N.D.
64) Tetrachloroethene	14.02	166	119	N.D.
65) Chlorobenzene	0.00	112	0	N.D.
66) Ethylbenzene	15.41	91	260	N.D.
67) m- & p-Xylenes	15.63	91	613	N.D.
68) Bromoform	0.00	173	0	N.D.
69) Styrene	0.00	104	0	N.D.
70) o-Xylene	16.24	91	593	N.D.
71) n-Nonane	16.60	43	724	N.D.
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.
74) Cumene	0.00	105	0	N.D.
75) alpha-Pinene	0.00	93	0	N.D.
76) n-Propylbenzene	17.68	91	336	N.D.
77) 3-Ethyltoluene	0.00	105	0	N.D.
78) 4-Ethyltoluene	0.00	105	0	N.D.
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.
80) alpha-Methylstyrene	0.00	118	0	N.D.
81) 2-Ethyltoluene	0.00	105	0	N.D.
82) 1,2,4-Trimethylbenzene	18.43	105	228	N.D.
83) n-Decane	17.10	58	219	No Calib #
84) Benzyl Chloride	0.00	91	0	N.D.
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.
87) sec-Butylbenzene	18.73	105	140	N.D.
88) 4-Isopropyltoluene (p-...	18.93	119	430	N.D.
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.
91) d-Limonene	0.00	68	0	N.D.
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.
93) n-Undecane	0.00	58	0	N.D.
94) 1,2,4-Trichlorobenzene	20.83	180	439	N.D.
95) Naphthalene	20.94	128	598	N.D.
96) n-Dodecane	18.88	58	275	No Calib #
97) Hexachlorobutadiene	21.30	225	222	N.D.
98) Cyclohexanone	15.32	55	1355	No Calib #
99) tert-Butylbenzene	18.50	119	312	N.D.
100) n-Butylbenzene	19.38	91	337	N.D.
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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Misc : S37-06062402

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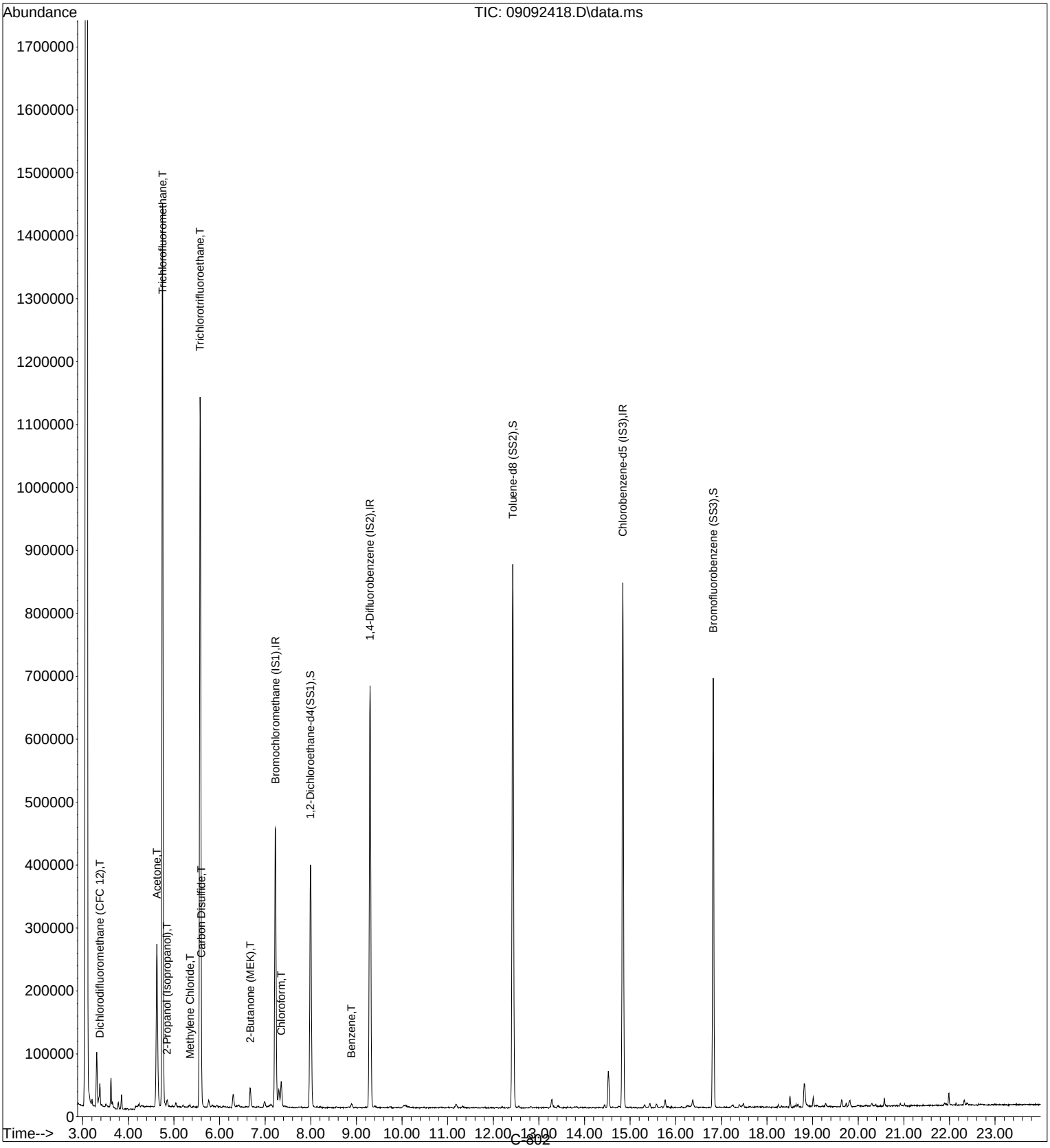
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	131592	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	583665	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168520	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	338074	13.729	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	12.43	98	651048	11.013	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.82	174	207290	10.484	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	18165m	0.569	ng		
13) Acetone	4.62	58	81294	6.746	ng		89
14) Trichlorofluoromethane	4.75	101	1036716	34.020	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	5879	0.124	ng	#	1
19) Methylene Chloride	5.35	84	774	0.055	ng	#	67
21) Trichlorotrifluoroethane	5.57	151	347282	28.766	ng		95
22) Carbon Disulfide	5.60	76	31366	0.667	ng	#	1
27) 2-Butanone (MEK)	6.67	72	6574	0.769	ng	#	55
32) Chloroform	7.35	83	28680	1.094	ng		100
41) Benzene	8.89	78	5215	0.095	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
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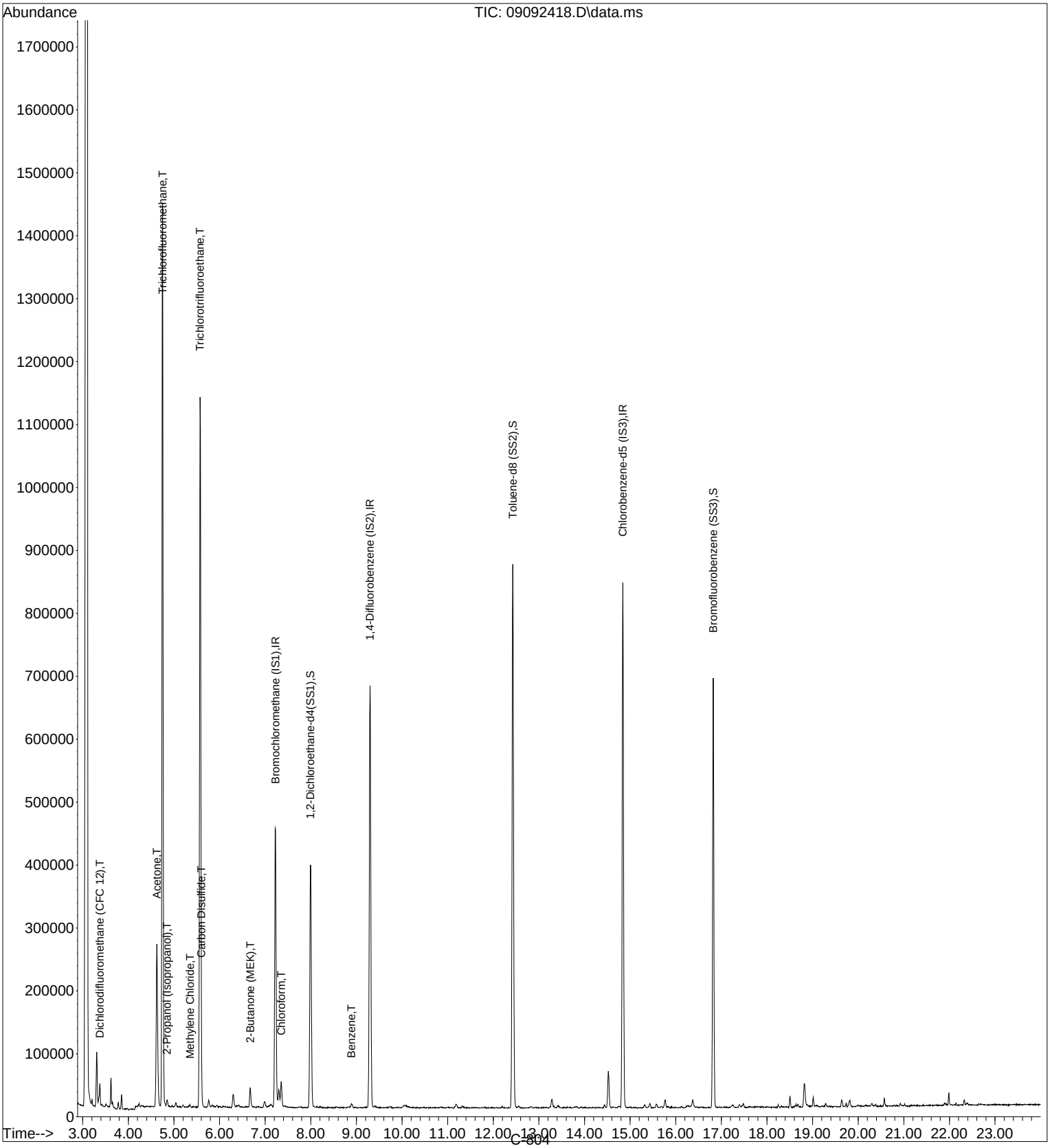
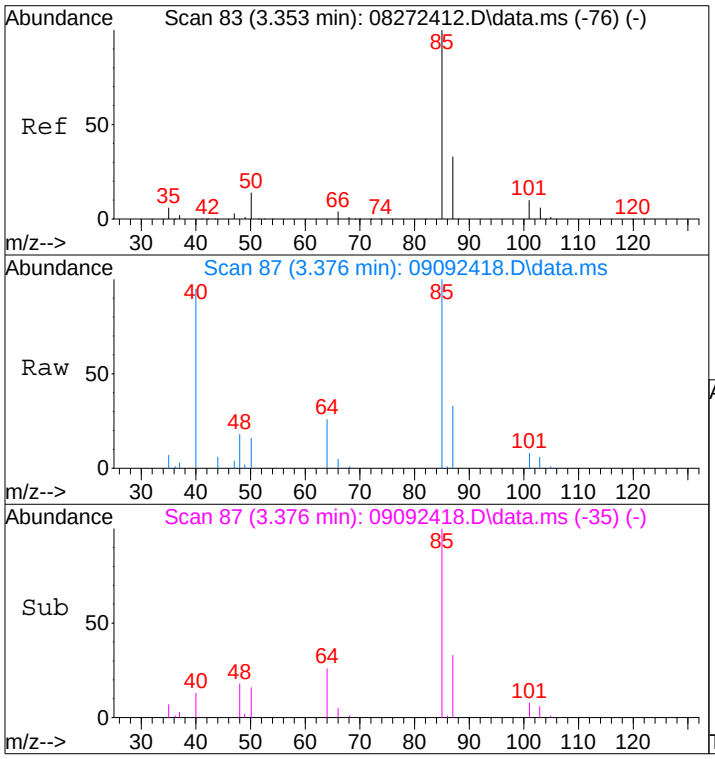
Response via : Initial Calibration
DataAcq Meth:TO15.M

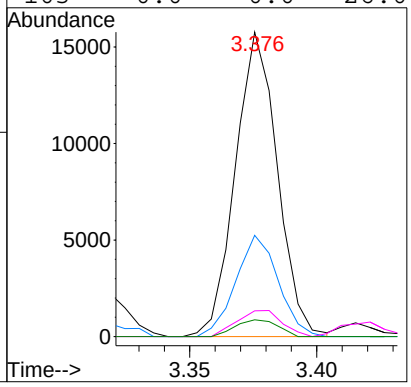


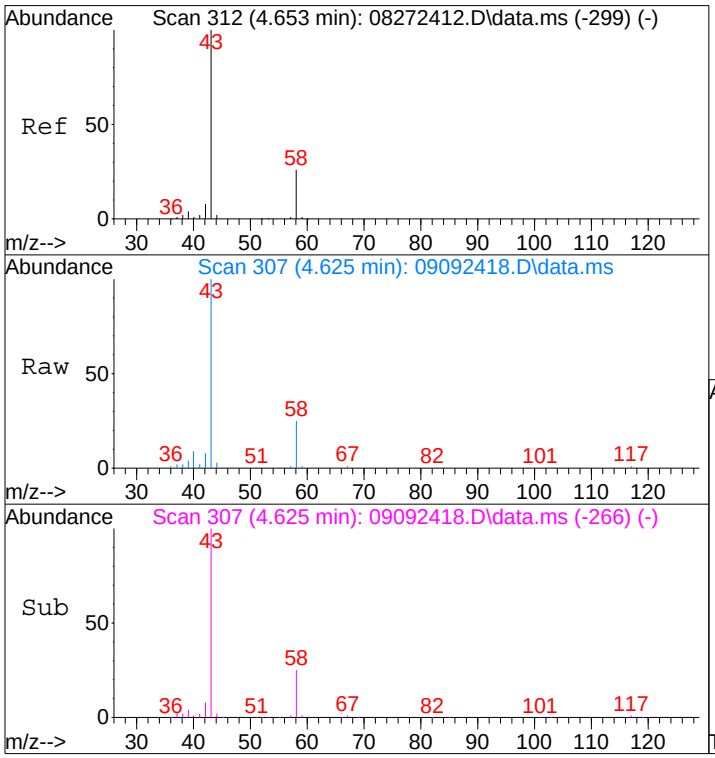


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.57 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.048 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 85 Resp: 18165

Ion	Ratio	Lower	Upper
85	100		
87	4.1	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

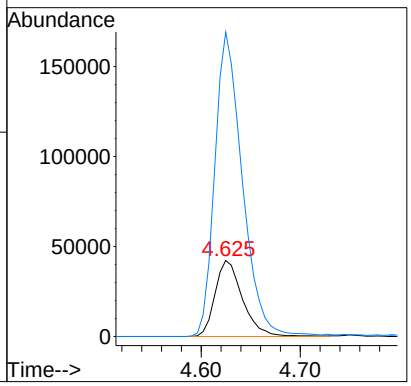


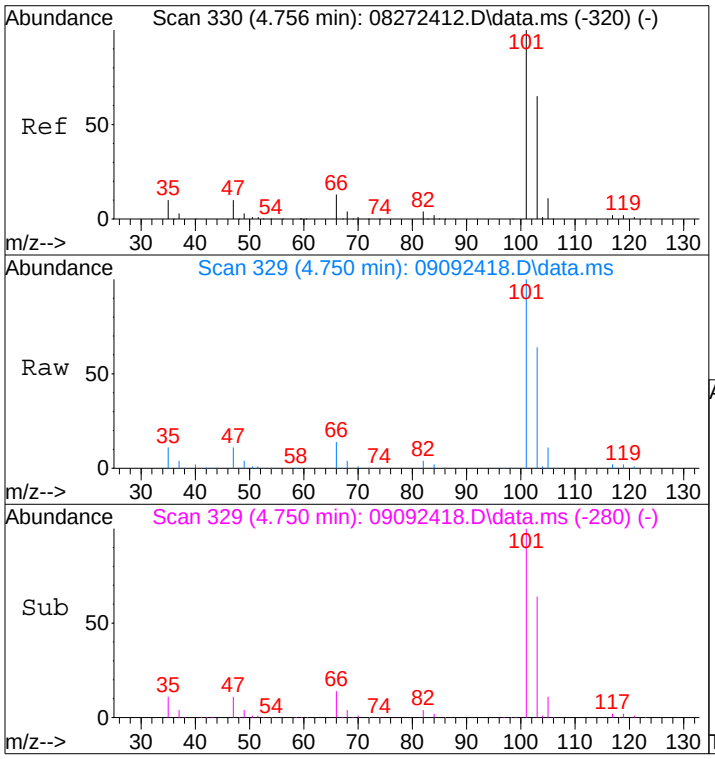


#13
Acetone
Concen: 6.75 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.017 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 58 Resp: 81294

Ion	Ratio	Lower	Upper
58	100		
43	401.5	347.3	407.3

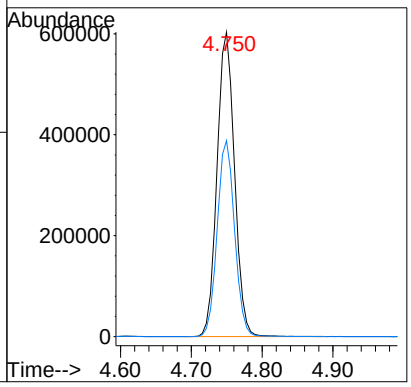


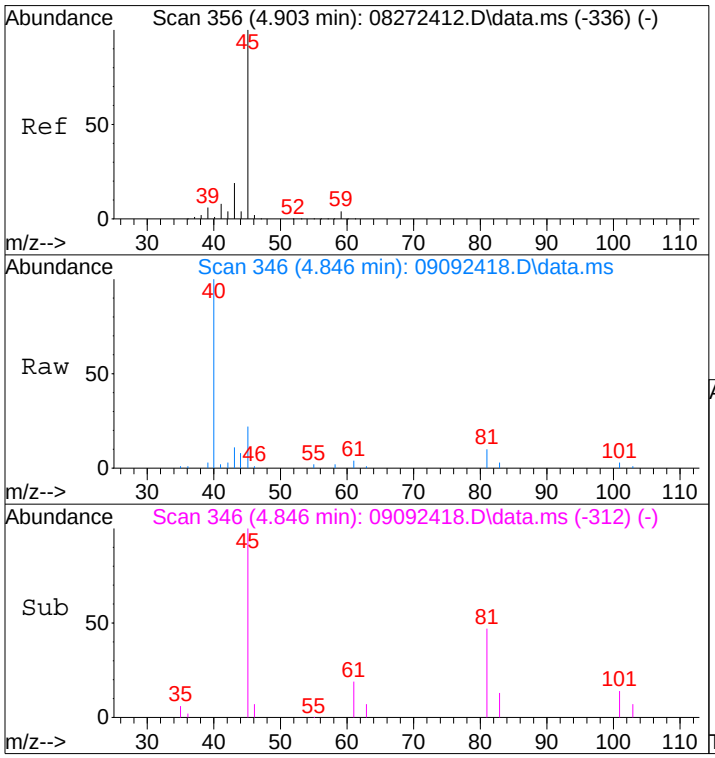


#14
Trichlorofluoromethane
Concen: 34.02 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion:101 Resp: 1036716

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.9	84.9

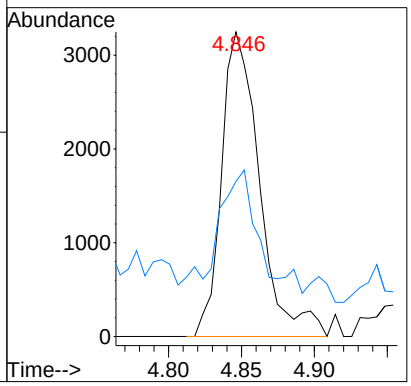


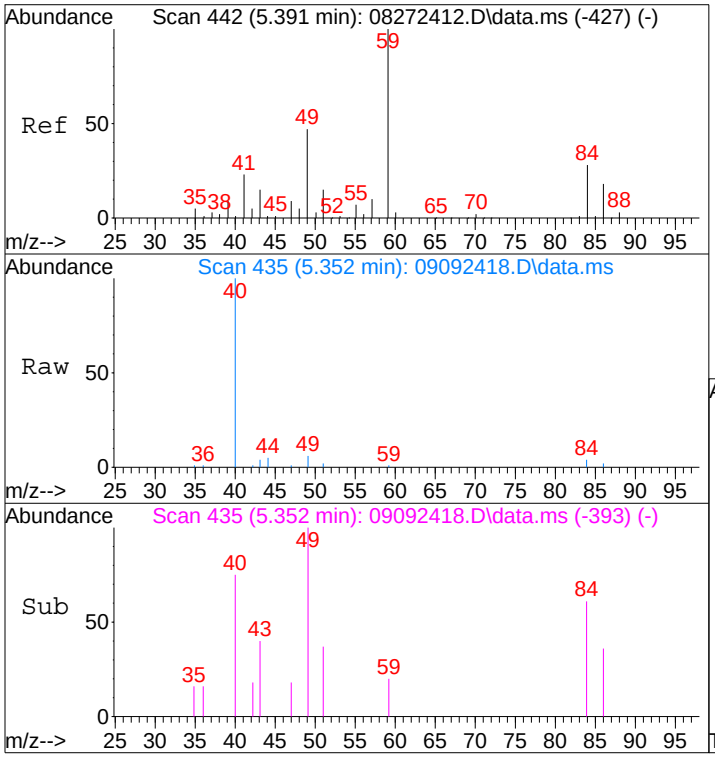


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.060 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 45 Resp: 5879

Ion	Ratio	Lower	Upper
45	100		
43	93.0	0.0	40.0#

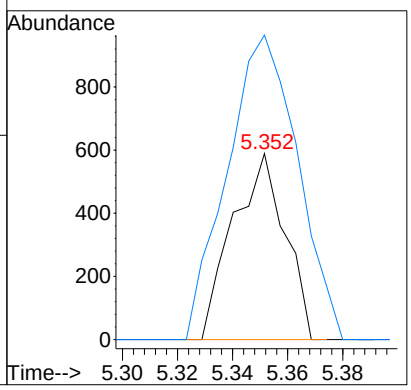


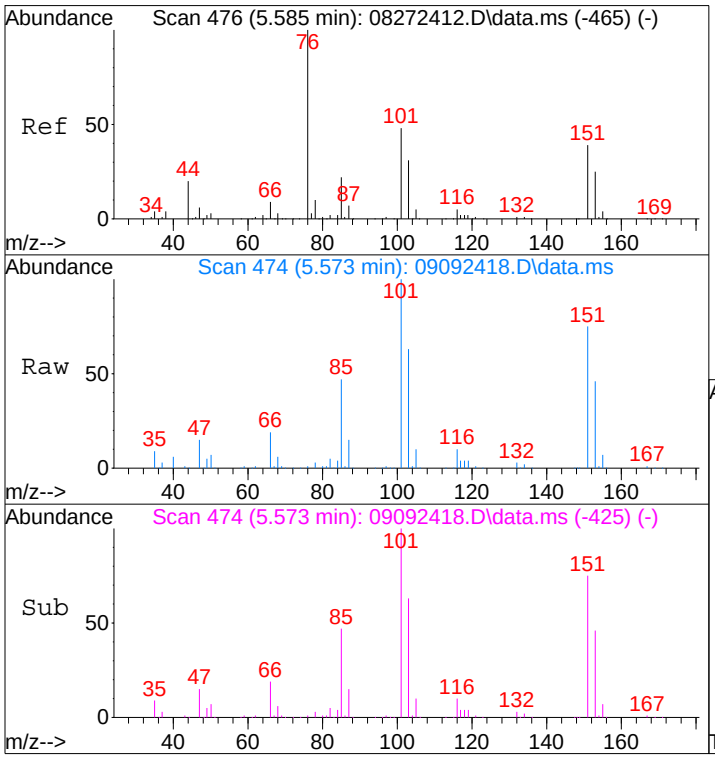


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 84 Resp: 774

Ion	Ratio	Lower	Upper
84	100		
49	221.8	151.1	201.1#

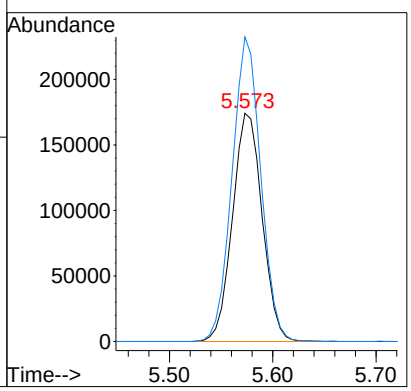


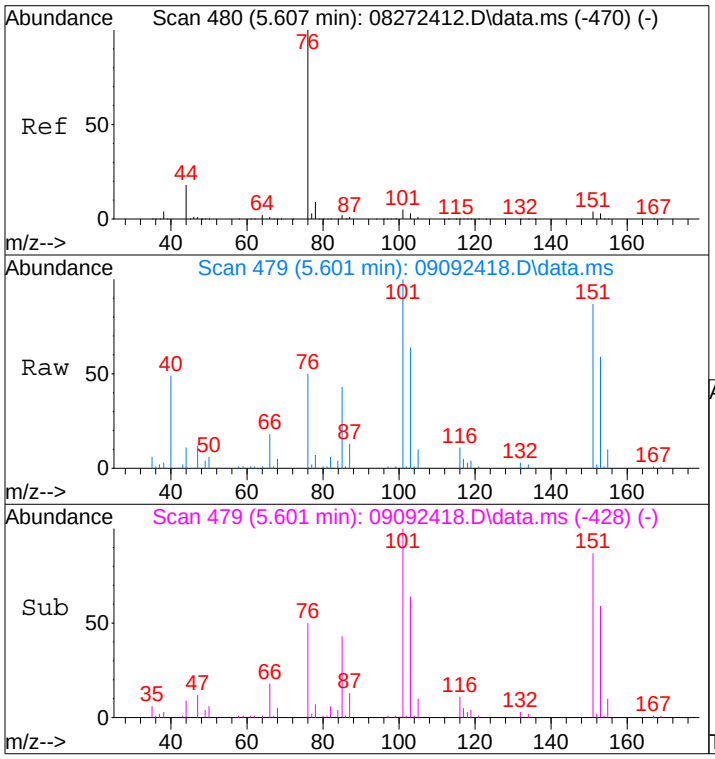


#21
Trichlorotrifluoroethane
Concen: 28.77 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.027 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion:151 Resp: 347282

Ion	Ratio	Lower	Upper
151	100		
101	129.5	103.4	143.4

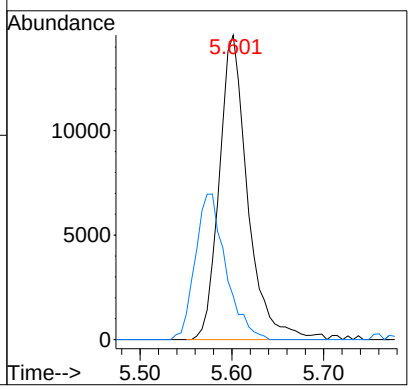


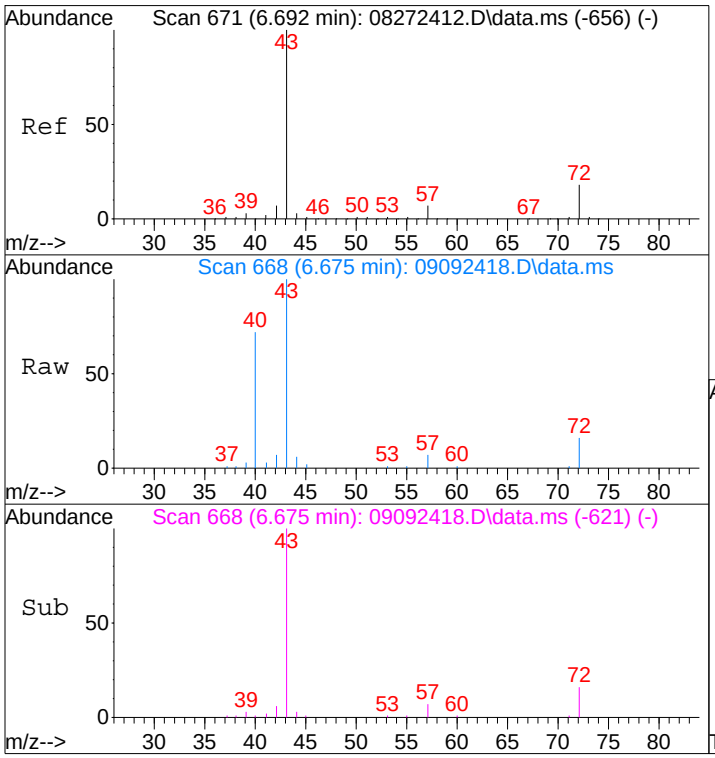


#22
Carbon Disulfide
Concen: 0.67 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 76 Resp: 31366

Ion	Ratio	Lower	Upper
76	100		
78	51.4	0.0	29.6#

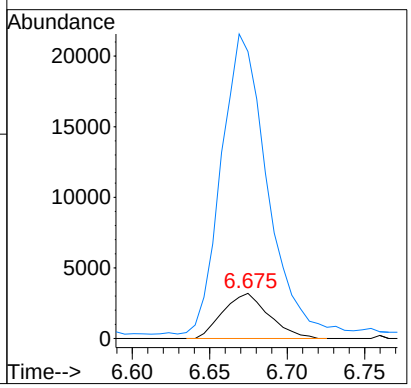


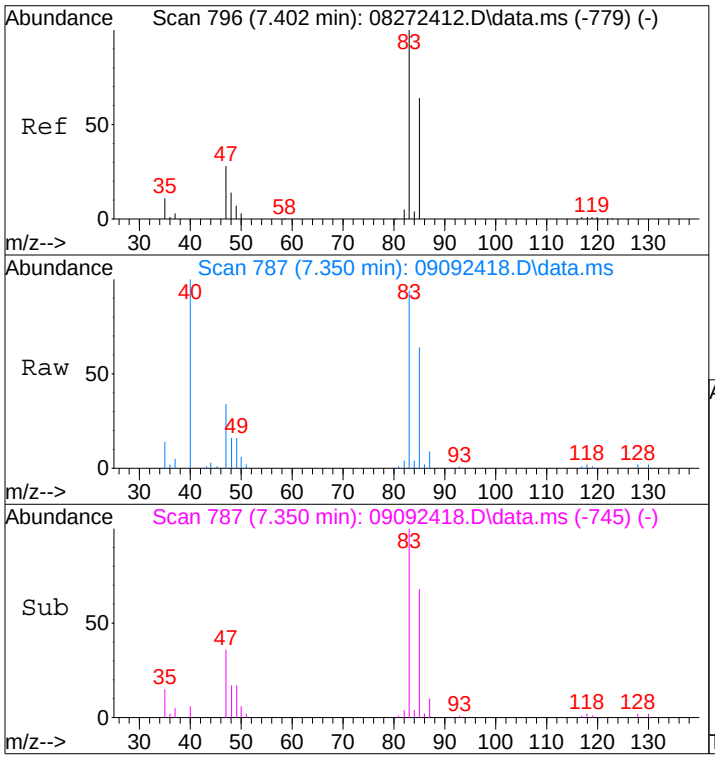


#27
2-Butanone (MEK)
Concen: 0.77 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.016 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 72 Resp: 6574

Ion	Ratio	Lower	Upper
72	100		
43	702.9	548.0	588.0#

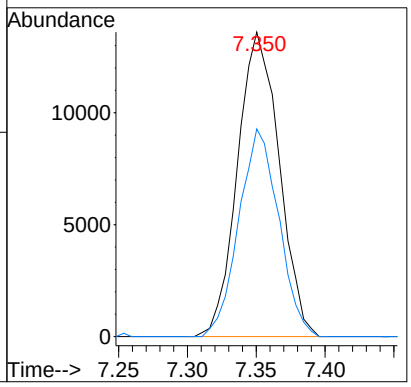


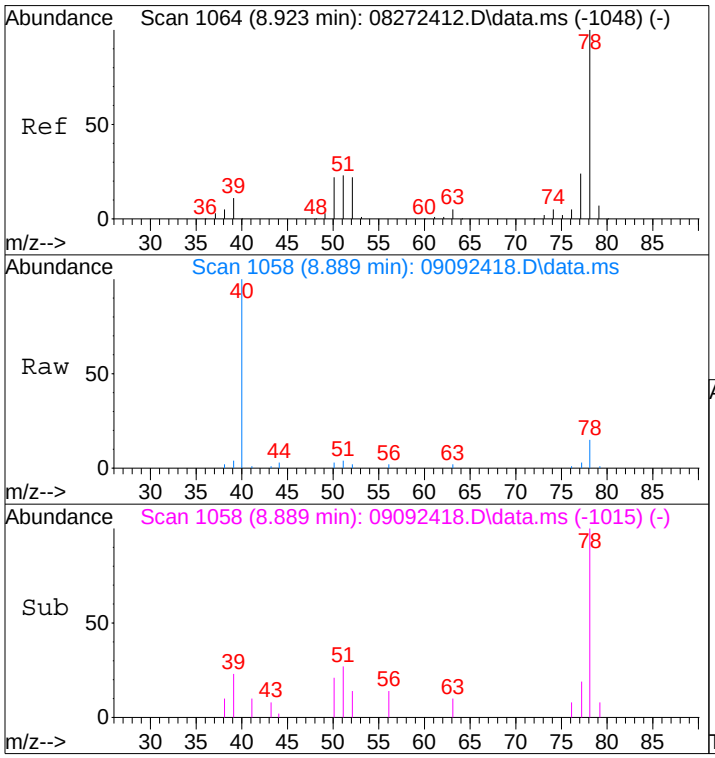


#32
Chloroform
Concen: 1.09 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 83 Resp: 28680

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.3	85.3

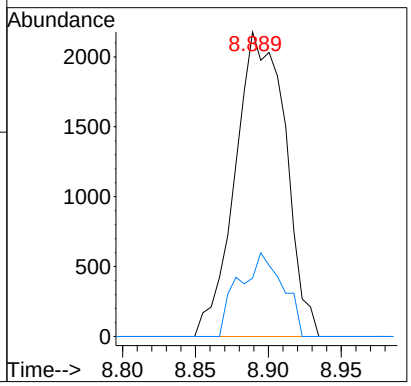




#41
Benzene
Concen: 0.10 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.008 min
Lab File: 09092418.D
Acq: 9 Sep 2024 18:21

Tgt Ion: 78 Resp: 5215

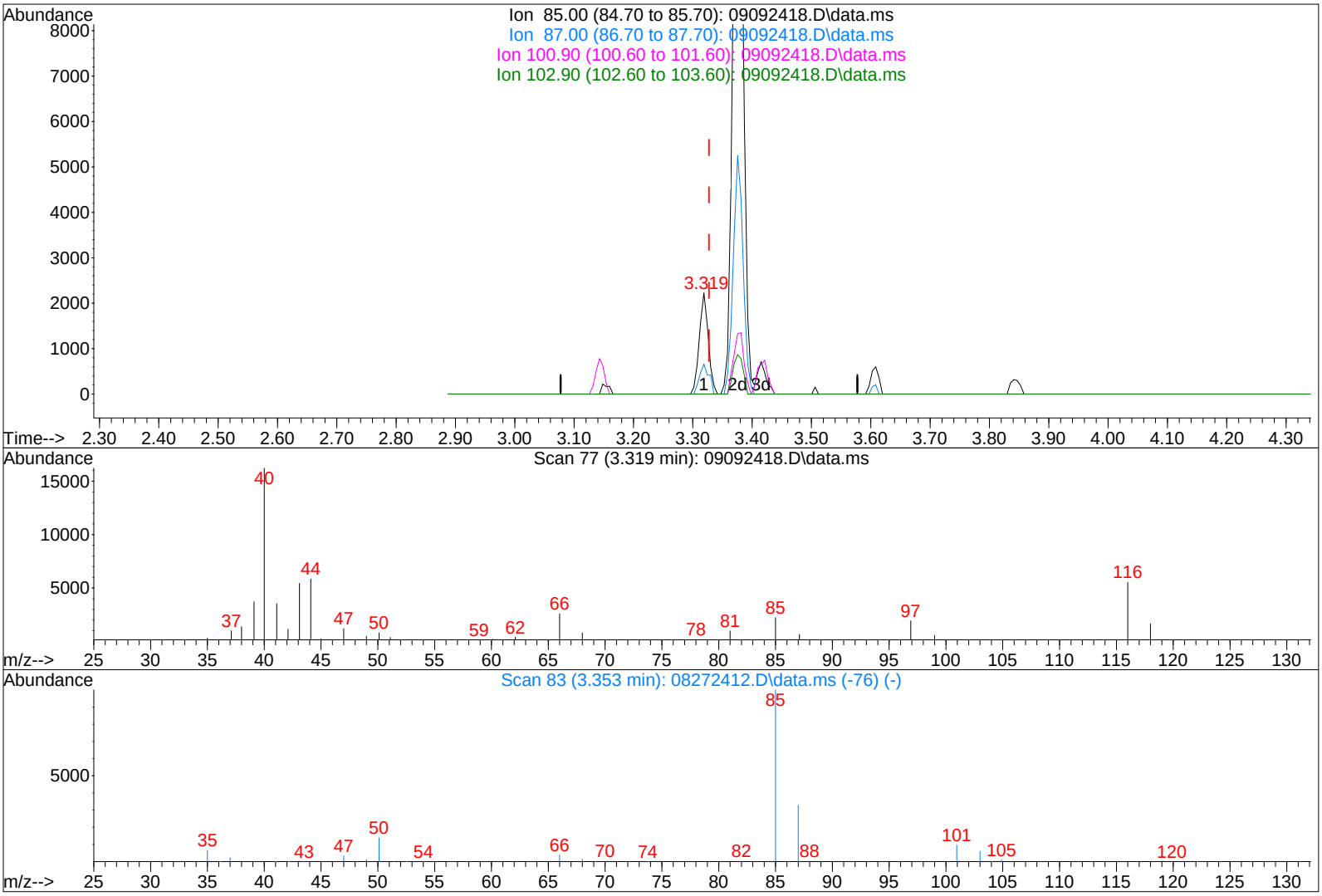
Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.9	43.9



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:35:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092418.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.319min (-0.009) 0.07ng

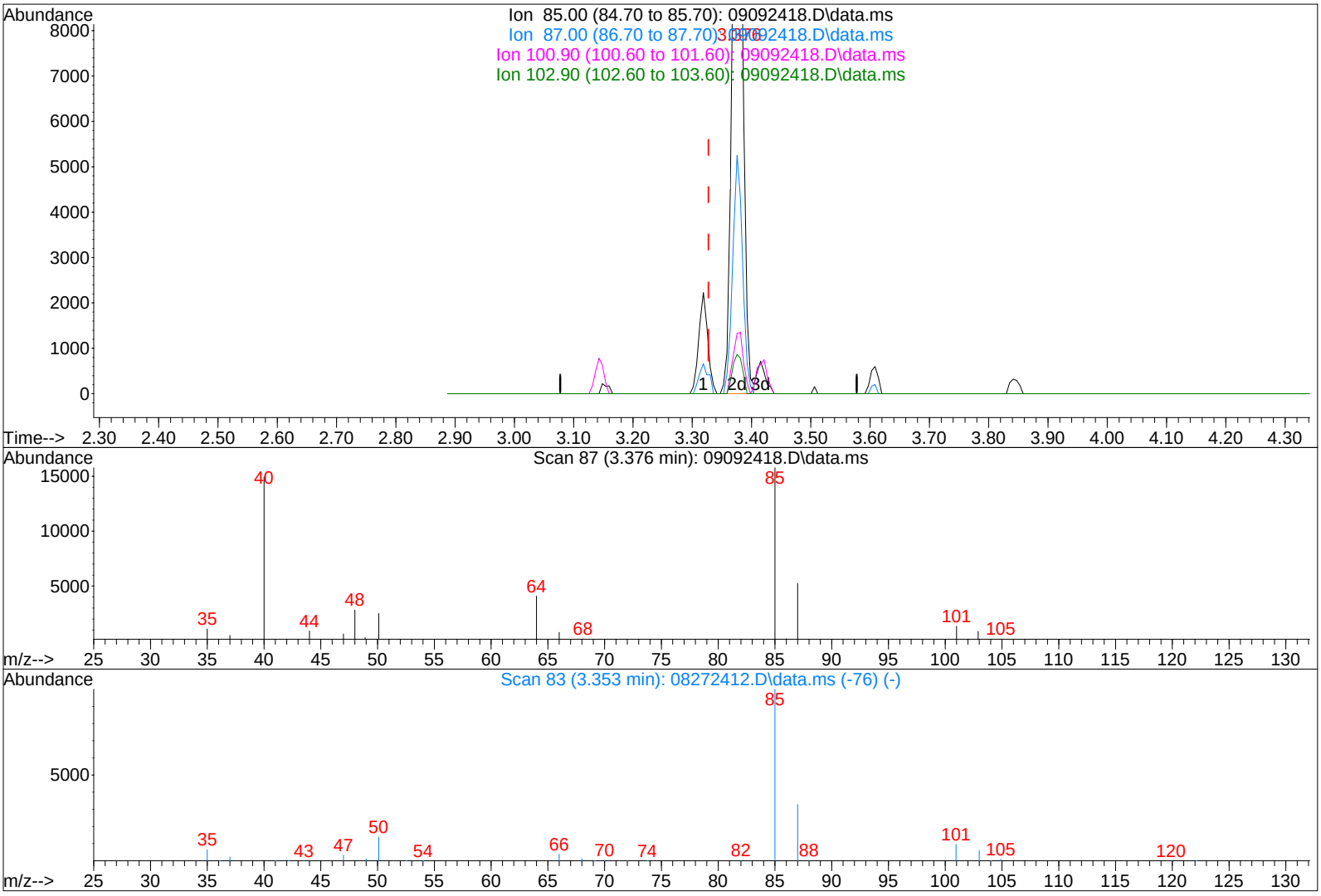
response 2343

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.54
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 08:35:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092418.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.048) 0.57ng m

response 18165

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	4.07#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/10/24

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:22:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

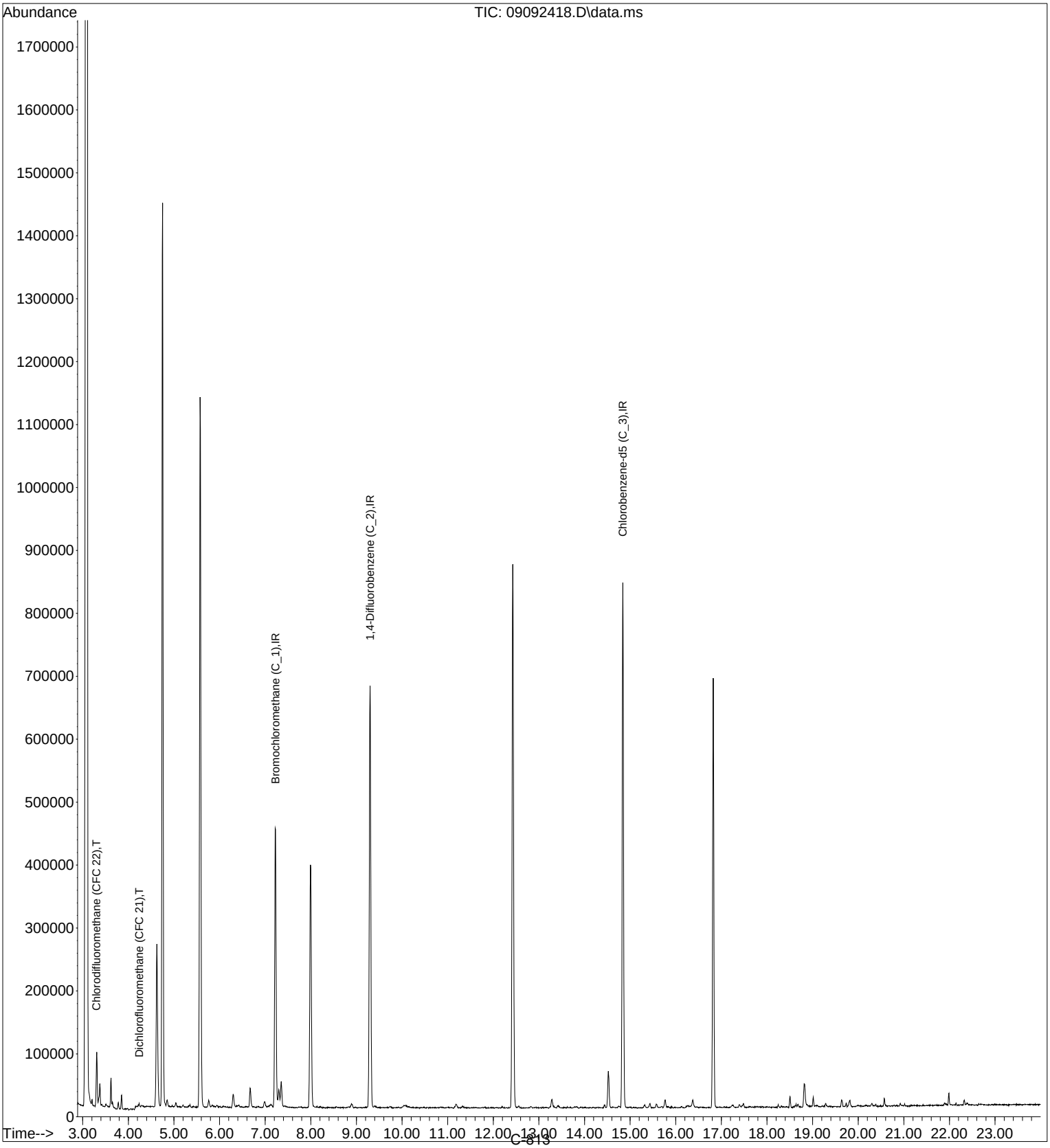
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	132709	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	583665	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	168520	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.15	85	192	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.26	65	75	N.D.	
5) Chlorodifluoromethane ...	3.30	67	1062	0.235 ng	100
6) 1-Chloro-1,1-Difluoroe...	3.50	65	572	N.D.	
7) Dichlorofluoromethane ...	4.24	67	4163	0.137 ng	95
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	531	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.33	43	2684	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	0.00	174	0	N.D.	
20) Methyl Cyclohexane	0.00	55	0	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.68	91	336	N.D.	
27) 4-Chlorotoluene	17.68	91	336	N.D.	
28) Indane	19.01	117	1035	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

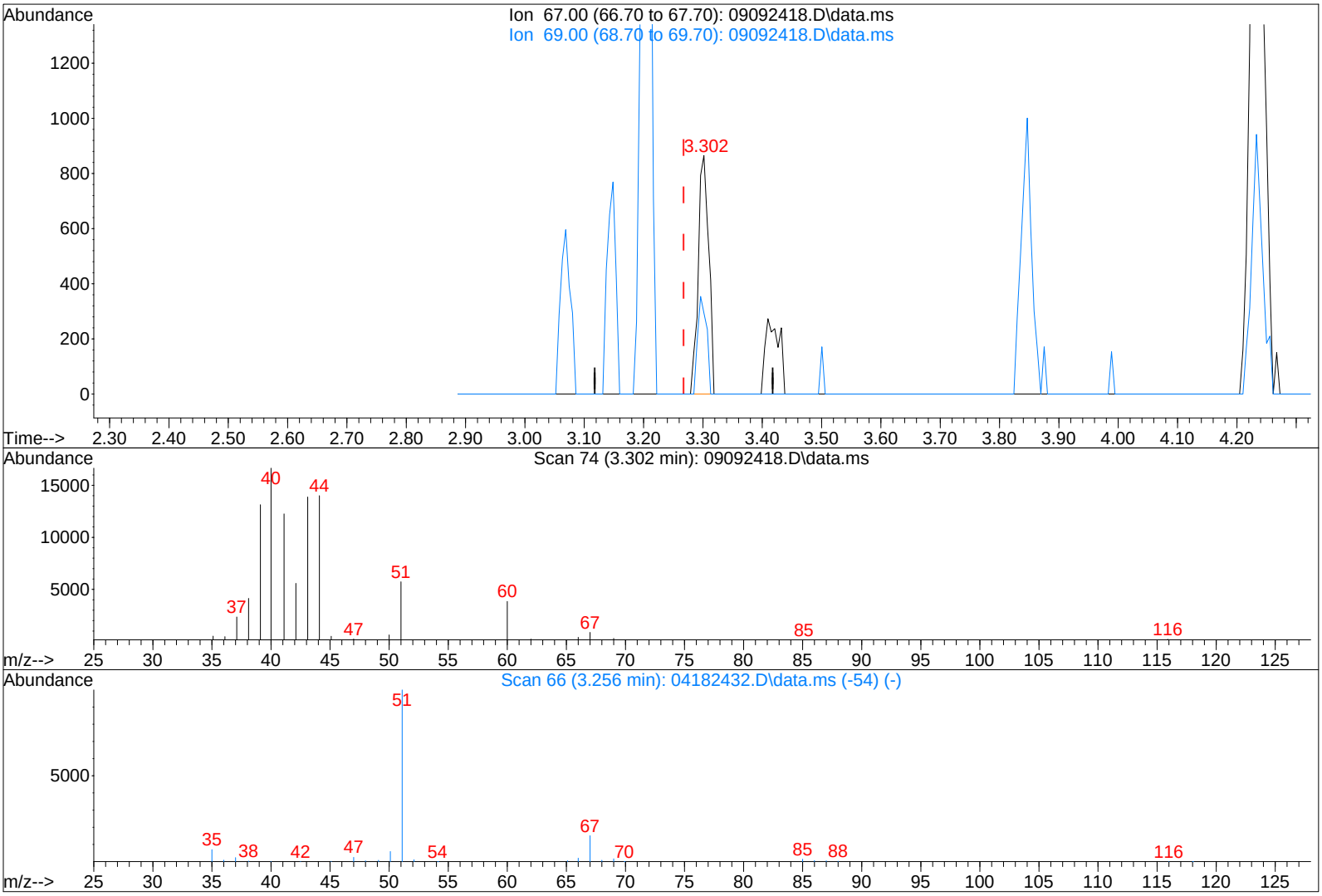
Quant Time: Sep 10 12:22:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:21:50 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092418.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.302min (+0.034) 0.23ng

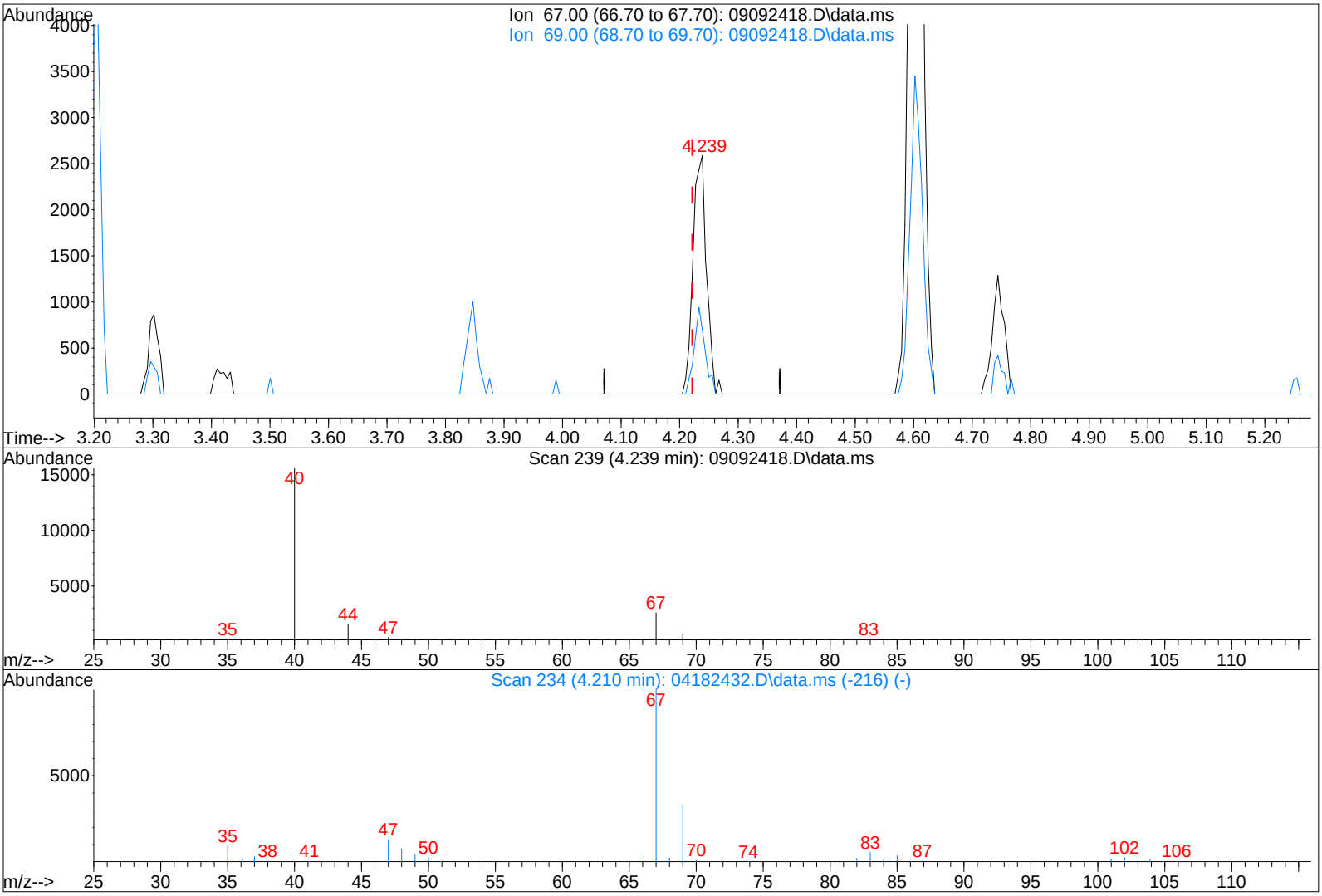
response 1062

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	34.46
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092418.D Vial: 5
Acq On : 9 Sep 2024 18:21 Operator: SC
Sample : P2403661-017 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 12:21:50 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092418.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.239min (+0.017) 0.14ng

response 4163

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	29.35
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092418.D
Acq On : 9 Sep 2024 18:21
Operator : SC
Sample : P2403661-017 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09092418.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	69	75	80	rBV4	86182	139385	5.65%	0.945%
2	3.376	80	87	92	rVB3	34632	58180	2.36%	0.394%
3	3.620	125	130	134	rBV	46137	59081	2.39%	0.401%
4	3.648	134	135	142	rVB	9491	10724	0.43%	0.073%
5	3.779	154	158	165	rVB3	10535	15150	0.61%	0.103%
6	3.853	165	171	176	rBV2	22395	30406	1.23%	0.206%
7	4.165	220	226	229	rBV2	6128	12686	0.51%	0.086%
8	4.239	232	239	245	rVB2	6313	14912	0.60%	0.101%
9	4.625	298	307	321	rBV	258210	554870	22.49%	3.761%
10	4.750	321	329	342	rVV	1435634	2467167	100.00%	16.725%
11	4.852	342	347	352	rVB3	10267	18568	0.75%	0.126%
12	5.039	372	380	388	rBV3	7035	14118	0.57%	0.096%
13	5.573	465	474	488	rBV	1128700	2267491	91.91%	15.371%
14	5.760	501	507	515	rBV2	10910	21080	0.85%	0.143%
15	6.300	595	602	610	rBV2	21422	51080	2.07%	0.346%
16	6.669	661	667	677	rVB	30227	61153	2.48%	0.415%
17	6.987	717	723	733	rBV4	8855	21432	0.87%	0.145%
18	7.220	756	764	774	rBV	443385	960615	38.94%	6.512%
19	7.299	774	778	782	rVV	27284	53686	2.18%	0.364%
20	7.350	782	787	796	rVB	40054	81130	3.29%	0.550%
21	7.992	889	900	918	rBV	386132	895191	36.28%	6.069%
22	8.889	1052	1058	1067	rVB5	6746	17772	0.72%	0.120%
23	9.298	1120	1130	1144	rBV	669672	1526728	61.88%	10.350%
24	11.177	1453	1461	1469	rBV4	6511	18205	0.74%	0.123%
25	12.427	1671	1681	1698	rVB	863198	1935888	78.47%	13.123%
26	13.284	1826	1832	1838	rBV2	12218	25524	1.03%	0.173%
27	14.522	2043	2050	2059	rVB3	57782	122974	4.98%	0.834%
28	14.840	2097	2106	2118	rBV	834563	1704281	69.08%	11.553%
29	15.436	2204	2211	2217	rVB3	7394	15918	0.65%	0.108%
30	15.765	2262	2269	2275	rBV3	11976	24590	1.00%	0.167%
31	16.373	2368	2376	2386	rVB3	11931	28678	1.16%	0.194%
32	16.822	2446	2455	2464	rBV	682413	1261935	51.15%	8.555%
33	17.486	2567	2572	2577	rVB3	6524	11880	0.48%	0.081%
34	18.502	2745	2751	2757	rBV3	18081	28514	1.16%	0.193%
35	18.815	2799	2806	2816	rBV6	37452	95185	3.86%	0.645%
36	19.013	2837	2841	2846	rVB2	14722	19817	0.80%	0.134%
37	19.638	2945	2951	2957	rBV4	11600	22951	0.93%	0.156%
38	19.820	2974	2983	2989	rVB4	10084	22952	0.93%	0.156%
39	20.569	3111	3115	3123	rVB3	12617	19639	0.80%	0.133%
40	21.989	3360	3365	3371	rBV3	18879	26984	1.09%	0.183%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092418.D
Acq On : 9 Sep 2024 18:21
Operator : SC
Sample : P2403661-017 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

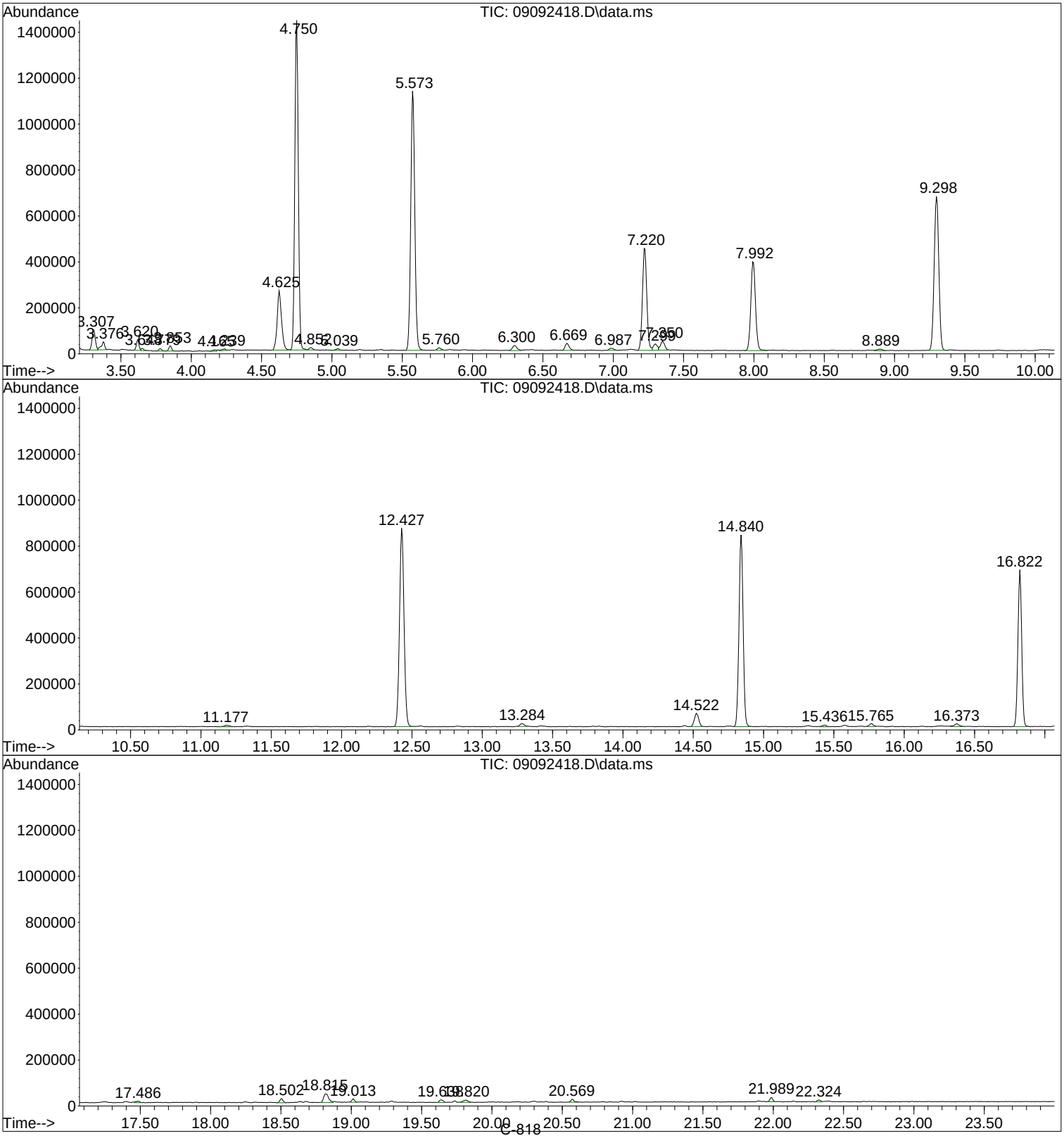
41	22.324	3420	3424	3428	rBV3	8110	12874	0.52%	0.087%

Sum of corrected areas: 14751394

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092418.D
Acq On : 9 Sep 2024 18:21
Operator : SC
Sample : P2403661-017 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\09\\
Data File : 09092418.D
Acq On : 9 Sep 2024 18:211
Operator : SCC
Sample : P2403661-017 (400mL))
Misc : S37-060624022
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 14:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	150272	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	658117	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	186573	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	364201	12.952	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	12.43	98	749550	11.452	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
73) Bromofluorobenzene (SS3)	16.82	174	243525	11.125	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.04%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	21002m	0.576	ng		
4) Chloromethane	3.50	50	2176	0.076	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	513	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	144	N.D.			
10) Ethanol	4.28	45	40678	2.494	ng		73
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.54	56	3435	0.276	ng		91
13) Acetone	4.64	58	41202	2.994	ng		89
14) Trichlorofluoromethane	4.76	101	10824870m	311.067	ng		
15) 2-Propanol (Isopropanol)	4.85	45	27272	0.503	ng		99
16) Acrylonitrile	5.05	53	541	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1011	N.D.			
19) Methylene Chloride	5.35	84	1330	0.082	ng	#	68
20) 3-Chloro-1-propene (Al...	5.40	41	549	N.D.			
21) Trichlorotrifluoroethane	5.59	151	4271655	309.844	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	126	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	4588	0.470	ng	#	29
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	24409	3.731	ng		94
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	7.36	83	58590	1.957	ng		100
34) Tetrahydrofuran (THF)	7.78	72	278	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.61	61	16407	No Calib		#	
40) 1-Butanol	8.82	56	7120	No Calib		#	
41) Benzene	8.90	78	10753	0.174	ng		99
42) Carbon Tetrachloride	9.07	117	318	N.D.			
43) Cyclohexane	9.23	84	1027	N.D.			
44) tert-Amyl Methyl Ether	9.60	73	1092	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	1235	0.053	ng		92
47) Trichloroethene	10.15	130	3965	0.260	ng		100
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.24	57	426	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

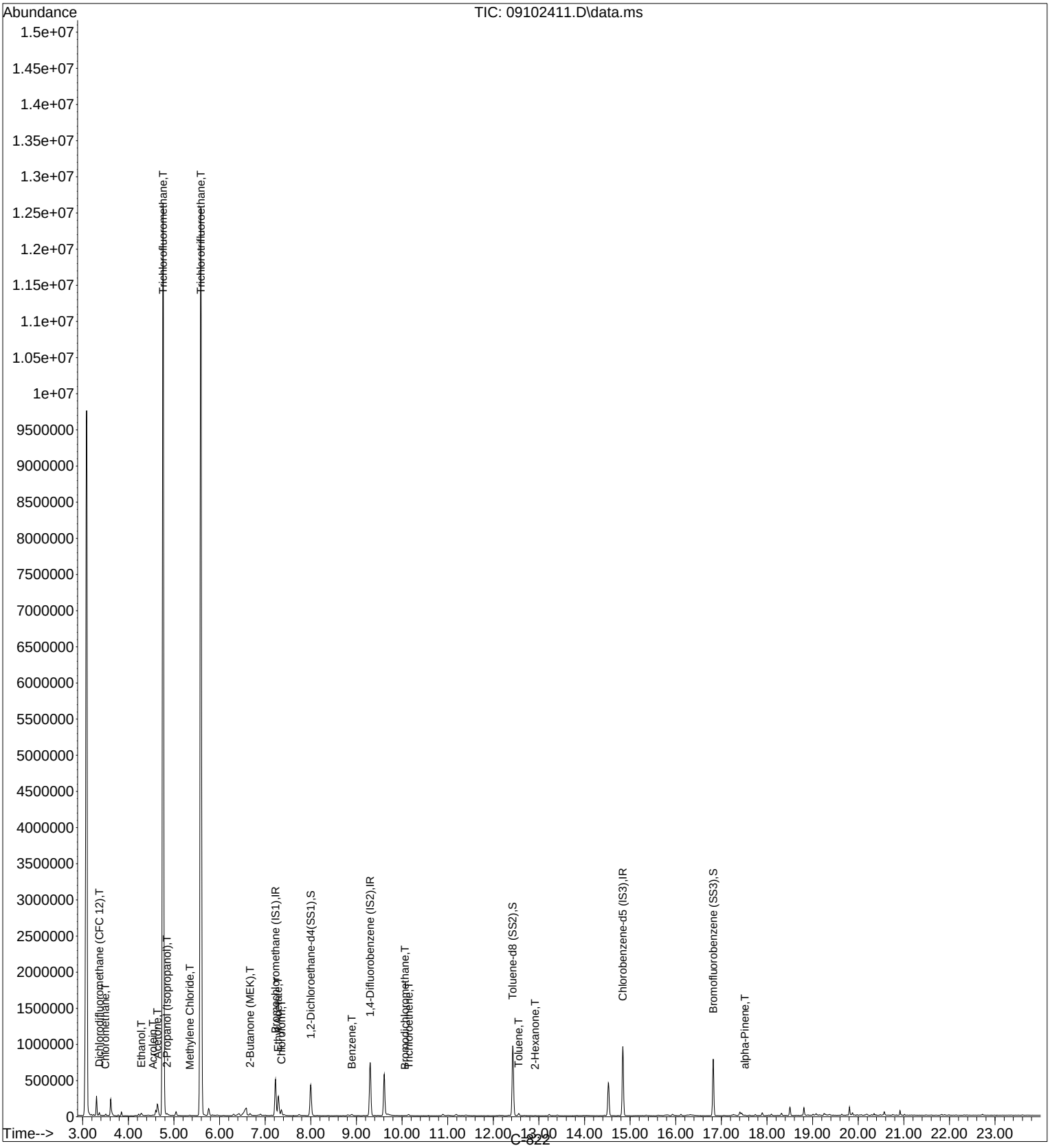
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	451	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	701	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	24866	0.351 ng	97
59) 2-Hexanone	12.92	43	3570	0.082 ng	90
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1733	N.D.	
63) n-Octane	13.93	57	162	N.D.	
64) Tetrachloroethene	14.03	166	307	N.D.	
65) Chlorobenzene	14.90	112	212	N.D.	
66) Ethylbenzene	15.40	91	1379	N.D.	
67) m- & p-Xylenes	15.64	91	2837	N.D.	
68) Bromoform	15.67	173	186	N.D.	
69) Styrene	16.09	104	708	N.D.	
70) o-Xylene	16.24	91	1540	N.D.	
71) n-Nonane	16.61	43	1709	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	213	N.D.	
75) alpha-Pinene	17.51	93	2964	0.076 ng	87
76) n-Propylbenzene	17.68	91	646	N.D.	
77) 3-Ethyltoluene	17.03	105	213	No Calib #	
78) 4-Ethyltoluene	17.85	105	401	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	213	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	591	N.D.	
83) n-Decane	17.09	58	135	No Calib #	
84) Benzyl Chloride	18.56	91	898	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	447	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	487	N.D.	
87) sec-Butylbenzene	18.74	105	321	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1593	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	213	No Calib #	
90) 1,2-Dichlorobenzene	19.02	146	410	N.D.	
91) d-Limonene	0.00	68	0	N.D. d	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.86	58	173	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	1048	N.D.	
95) Naphthalene	20.94	128	2190	N.D.	
96) n-Dodecane	18.89	58	906	No Calib #	
97) Hexachlorobutadiene	21.30	225	400	N.D.	
98) Cyclohexanone	15.21	55	330	No Calib #	
99) tert-Butylbenzene	18.42	119	332	N.D.	
100) n-Butylbenzene	19.37	91	2354	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
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Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

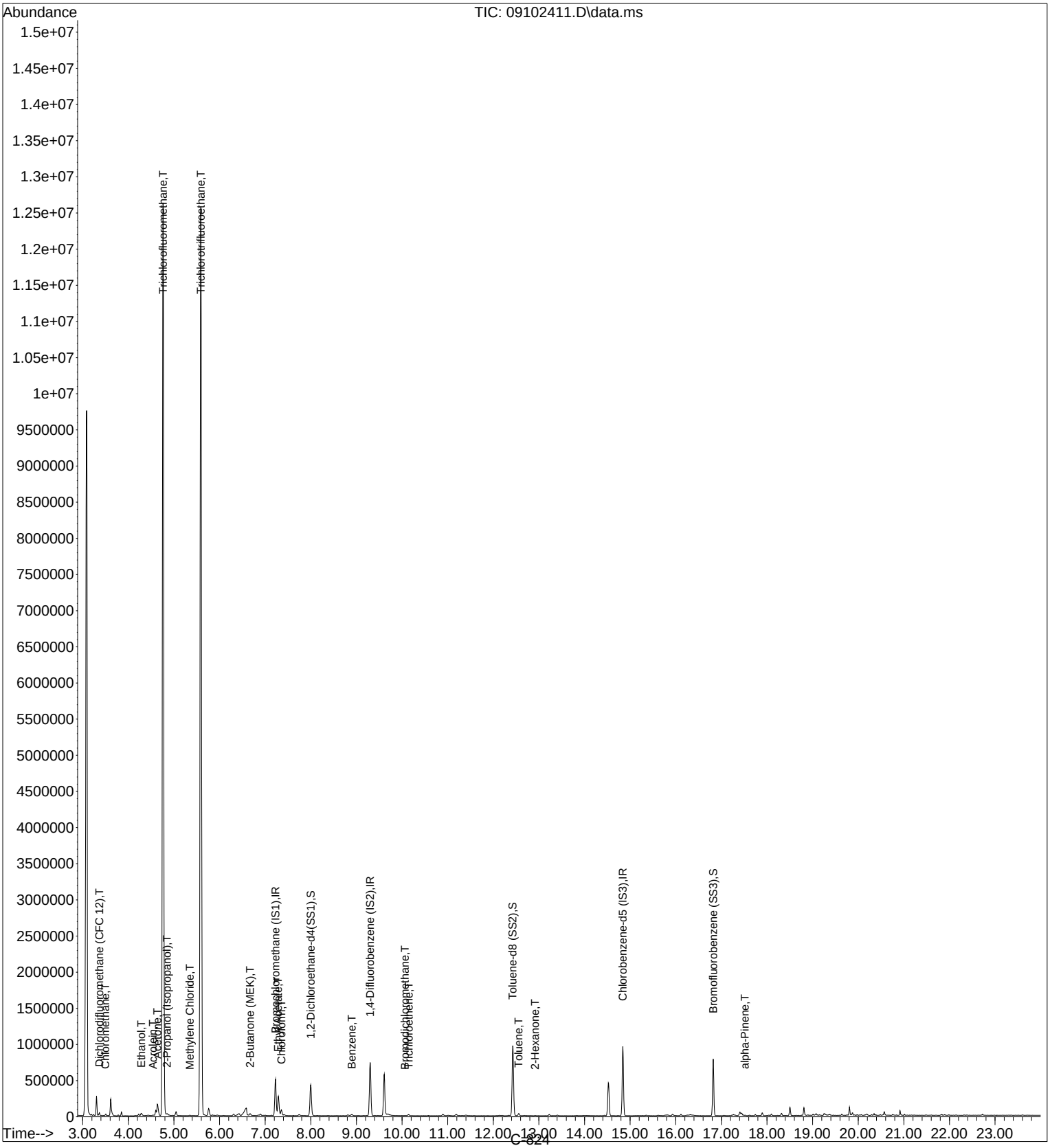
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	150272	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	658117	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	186573	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	364201	12.952	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.60%				
57) Toluene-d8 (SS2)	12.43	98	749550	11.452	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
73) Bromofluorobenzene (SS3)	16.82	174	243525	11.125	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.04%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	21002m	0.576	ng		
4) Chloromethane	3.50	50	2176	0.076	ng		95
10) Ethanol	4.28	45	40678	2.494	ng		73
12) Acrolein	4.54	56	3435	0.276	ng		91
13) Acetone	4.64	58	41202	2.994	ng		89
14) Trichlorofluoromethane	4.76	101	10824870m	311.067	ng		
15) 2-Propanol (Isopropanol)	4.85	45	27272	0.503	ng		99
19) Methylene Chloride	5.35	84	1330	0.082	ng	#	68
21) Trichlorotrifluoroethane	5.59	151	4271655	309.844	ng		94
27) 2-Butanone (MEK)	6.67	72	4588	0.470	ng	#	29
30) Ethyl Acetate	7.28	61	24409	3.731	ng		94
32) Chloroform	7.36	83	58590	1.957	ng		100
41) Benzene	8.90	78	10753	0.174	ng		99
46) Bromodichloromethane	10.06	83	1235	0.053	ng		92
47) Trichloroethene	10.15	130	3965	0.260	ng		100
58) Toluene	12.56	91	24866	0.351	ng		97
59) 2-Hexanone	12.92	43	3570	0.082	ng		90
75) alpha-Pinene	17.51	93	2964	0.076	ng		87

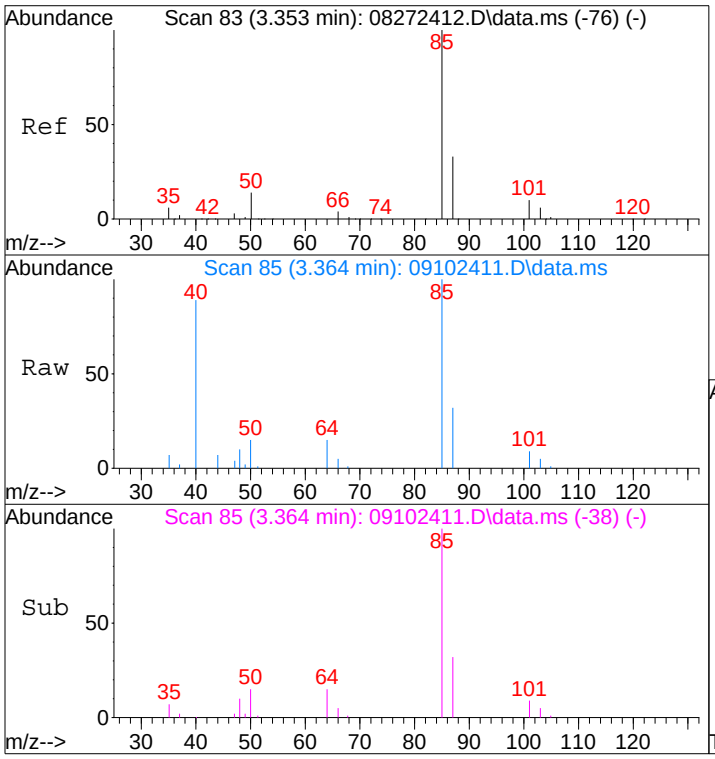
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

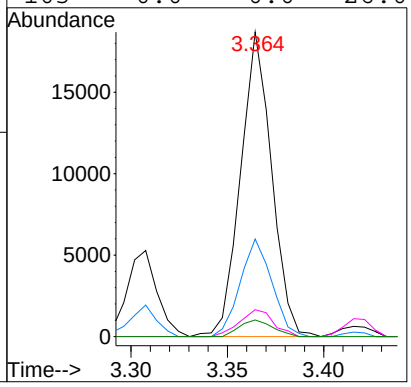


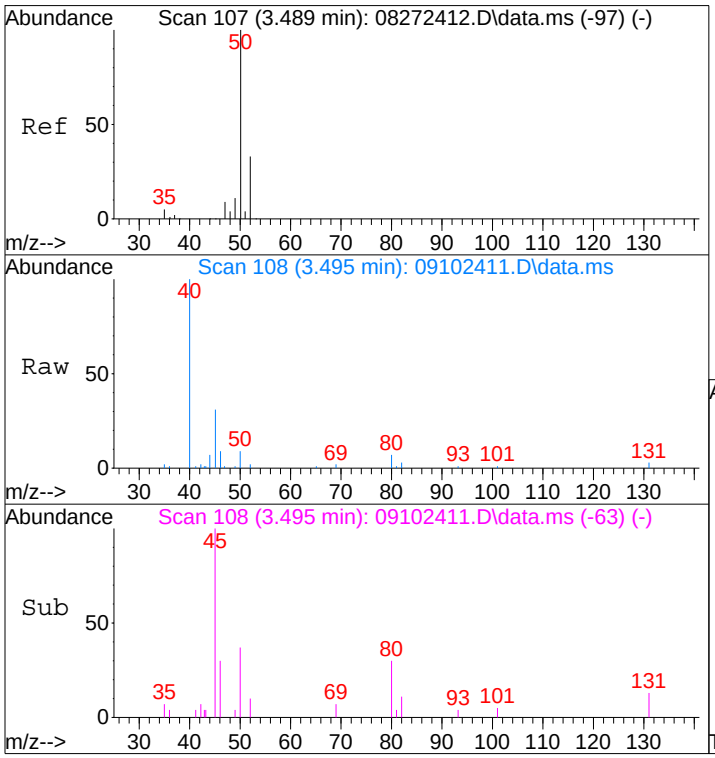


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.016 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 85 Resp: 21002

Ion	Ratio	Lower	Upper
85	100		
87	8.9	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

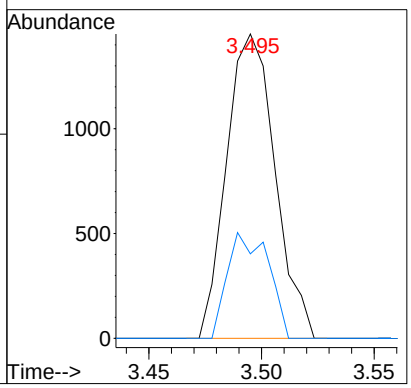


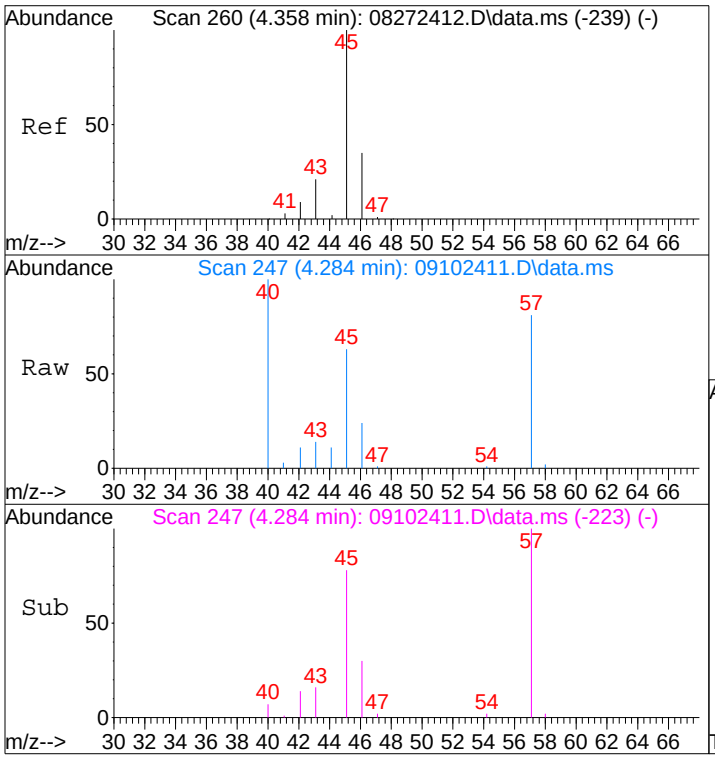


#4
Chloromethane
Concen: 0.08 ng
RT: 3.50 min Scan# 108
Delta R.T. 0.005 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 50 Resp: 2176

Ion	Ratio	Lower	Upper
50	100		
52	29.4	12.4	52.4

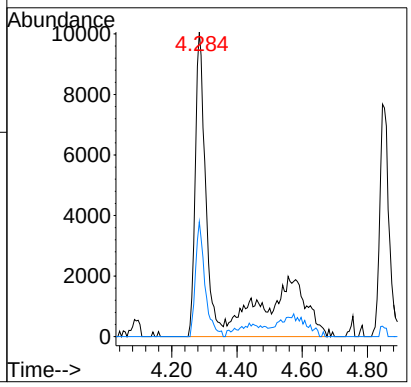


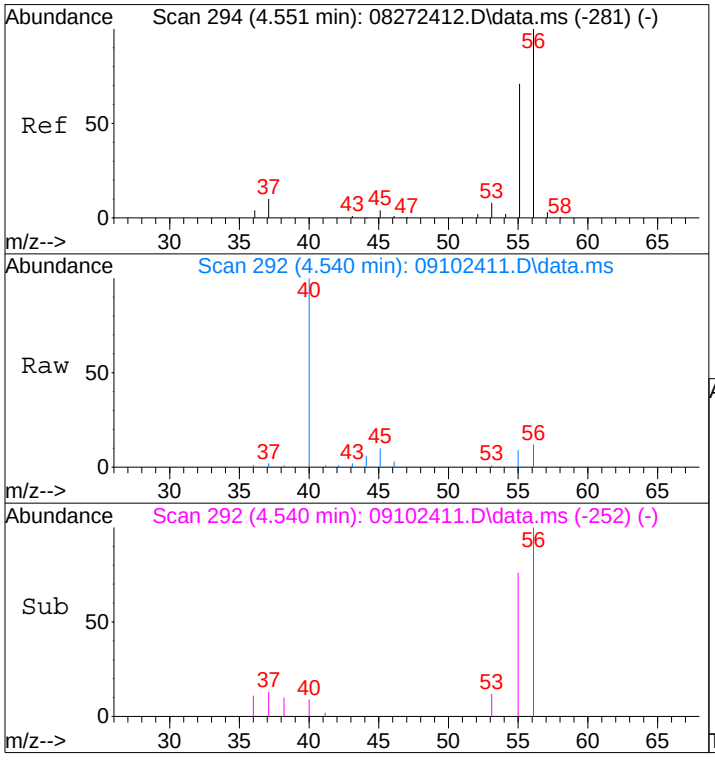


#10
Ethanol
Concen: 2.49 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.116 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 45 Resp: 40678

Ion	Ratio	Lower	Upper
45	100		
46	18.9	14.2	54.2

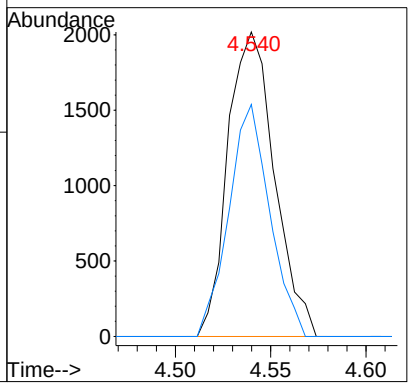


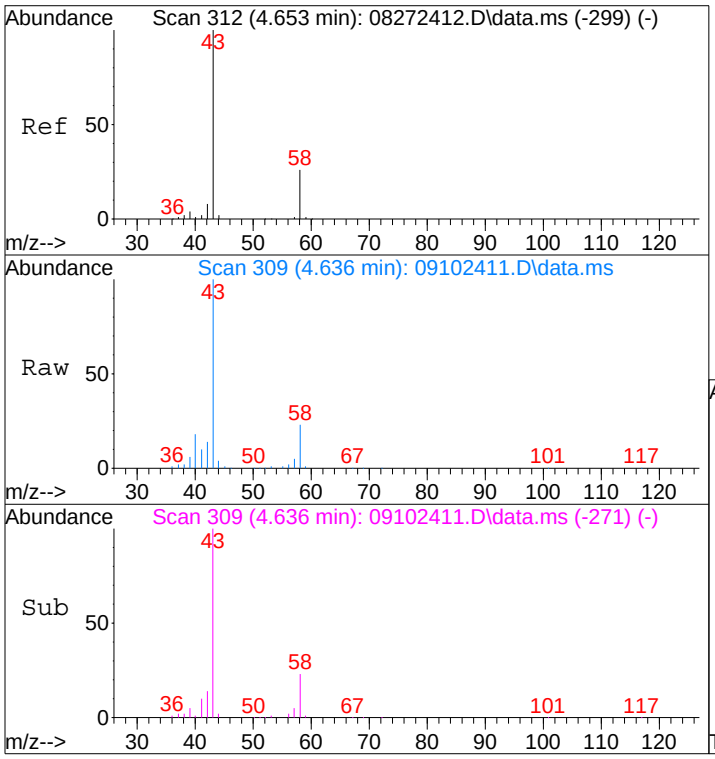


#12
Acrolein
Concen: 0.28 ng
RT: 4.54 min Scan# 292
Delta R.T. -0.024 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 56 Resp: 3435

Ion	Ratio	Lower	Upper
56	100		
55	67.0	54.7	94.7

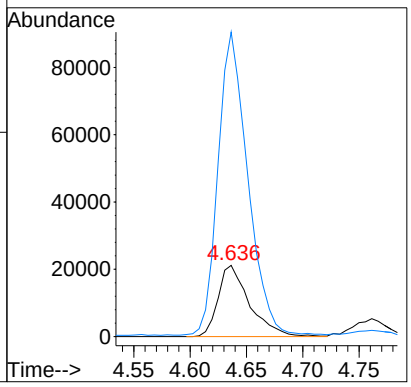


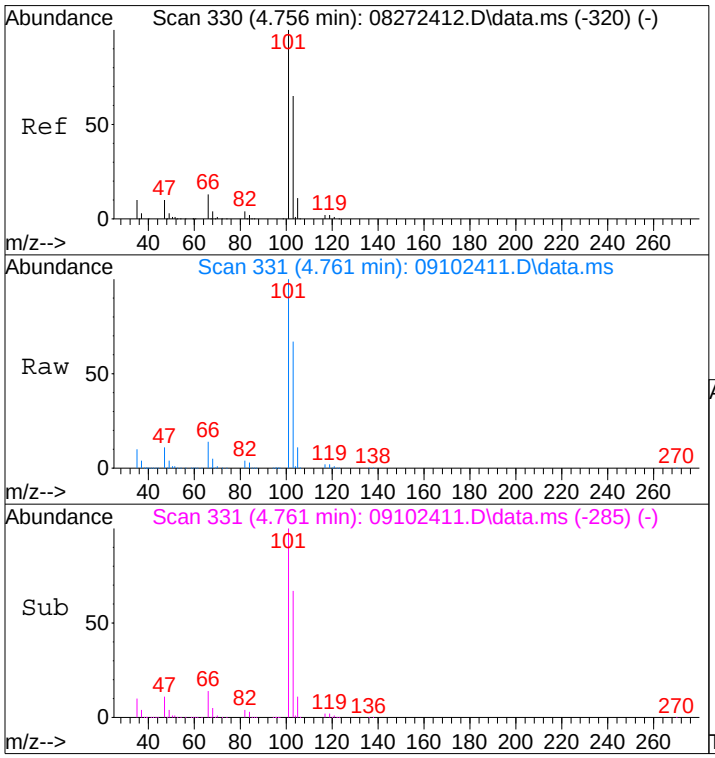


#13
Acetone
Concen: 2.99 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.035 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 58 Resp: 41202

Ion	Ratio	Lower	Upper
58	100		
43	401.3	347.3	407.3

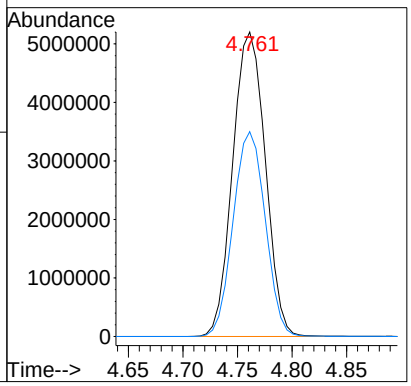


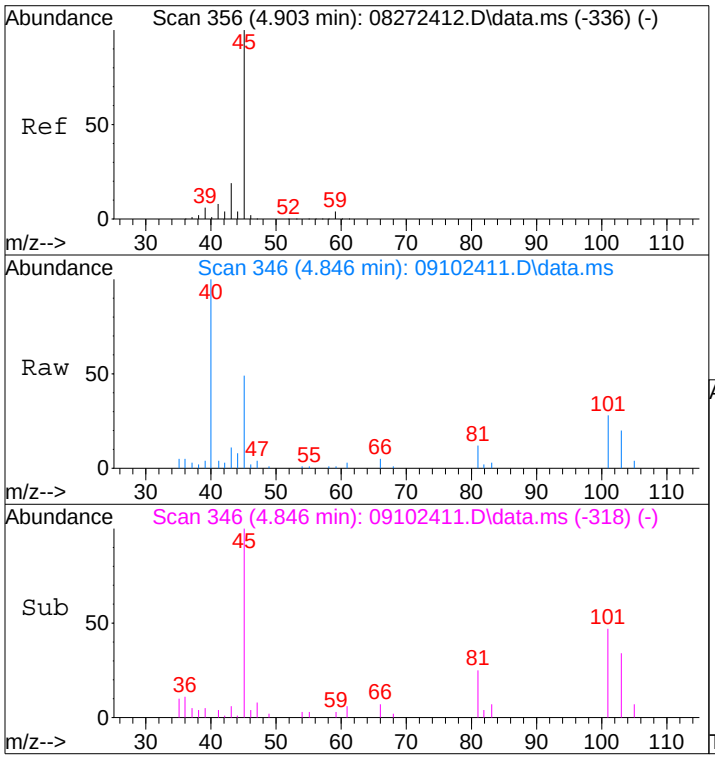


#14
Trichlorofluoromethane
Concen: 311.07 ng m
RT: 4.76 min Scan# 331
Delta R.T. 0.011 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion:101 Resp:10824870

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#

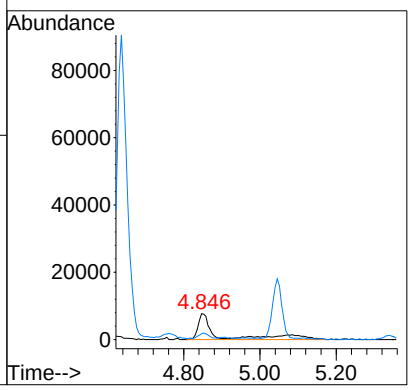


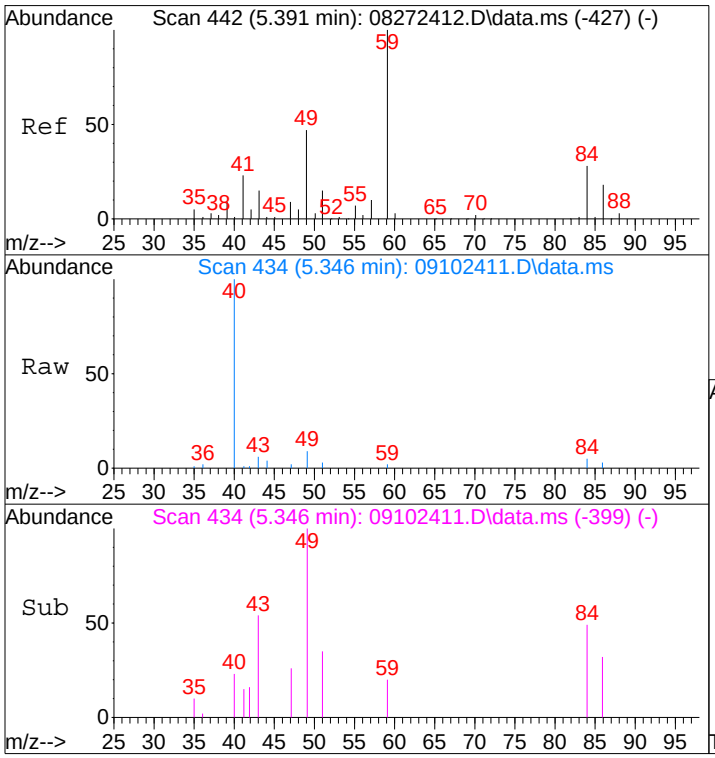


#15
2-Propanol (Isopropanol)
Concen: 0.50 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.090 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 45 Resp: 27272

Ion	Ratio	Lower	Upper
45	100		
43	19.6	0.0	40.0

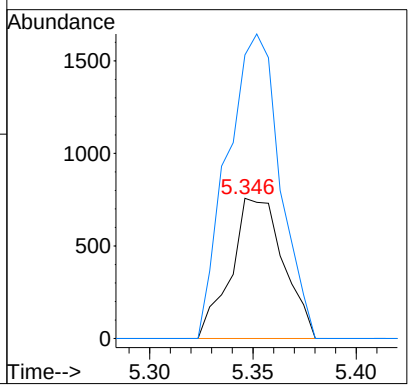


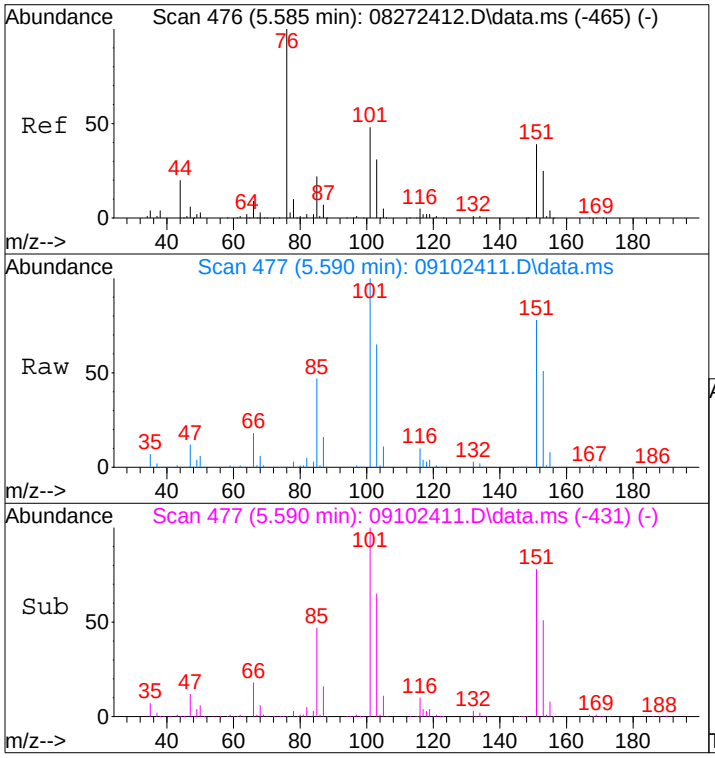


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.048 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 84 Resp: 1330

Ion	Ratio	Lower	Upper
84	100		
49	220.4	151.1	201.1#

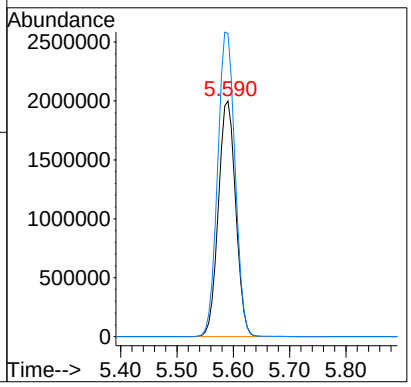


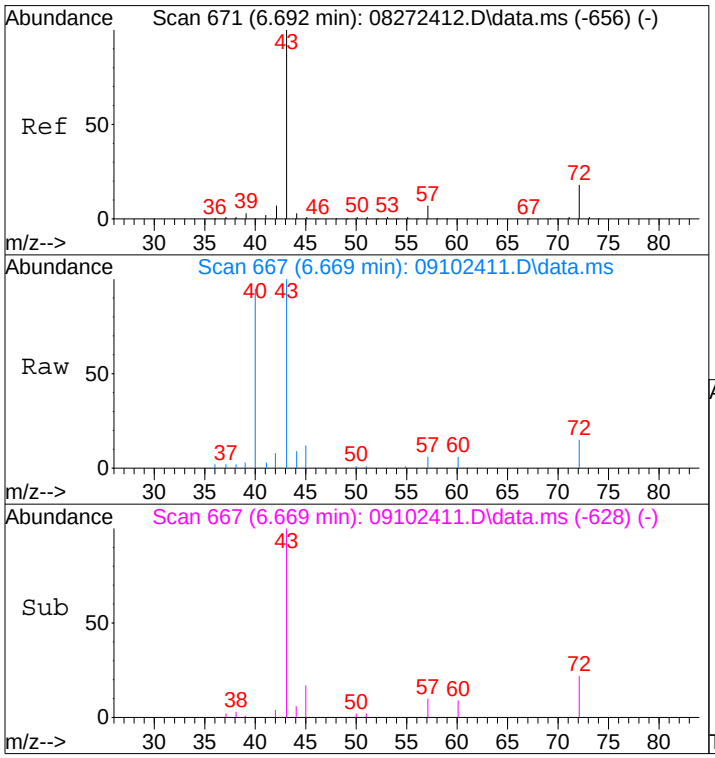


#21
Trichlorotrifluoroethane
Concen: 309.84 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.009 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion:151 Resp: 4271655

Ion	Ratio	Lower	Upper
151	100		
101	130.2	103.4	143.4

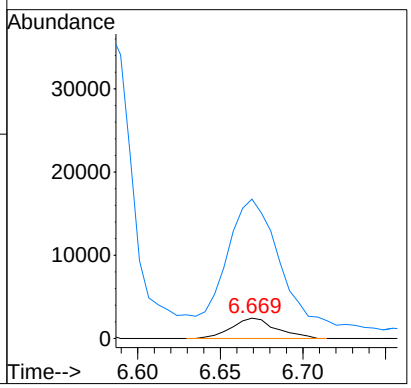


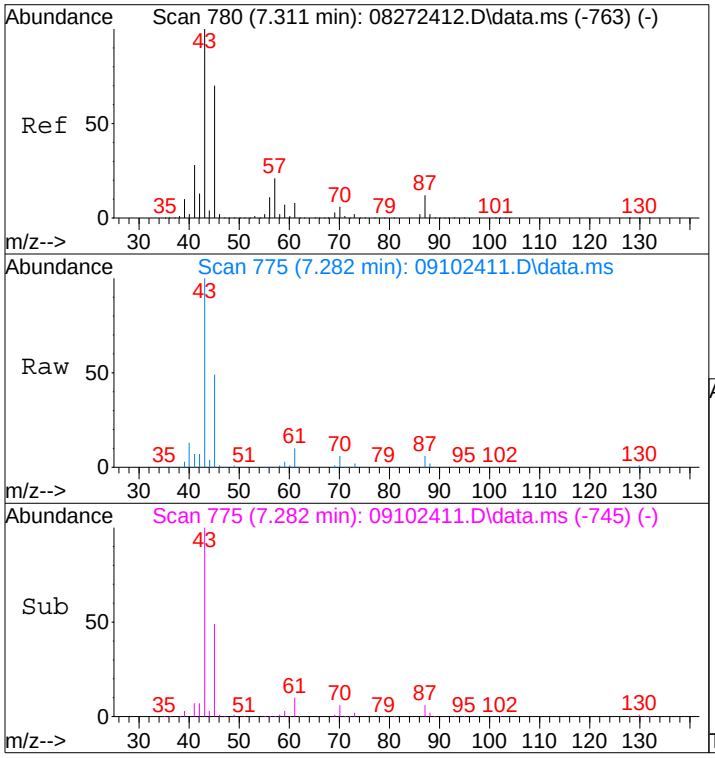


#27
2-Butanone (MEK)
Concen: 0.47 ng
RT: 6.67 min Scan# 667
Delta R.T. -0.031 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 72 Resp: 4588

Ion	Ratio	Lower	Upper
72	100		
43	781.1	548.0	588.0#

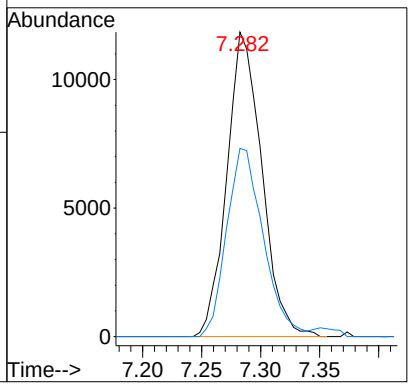


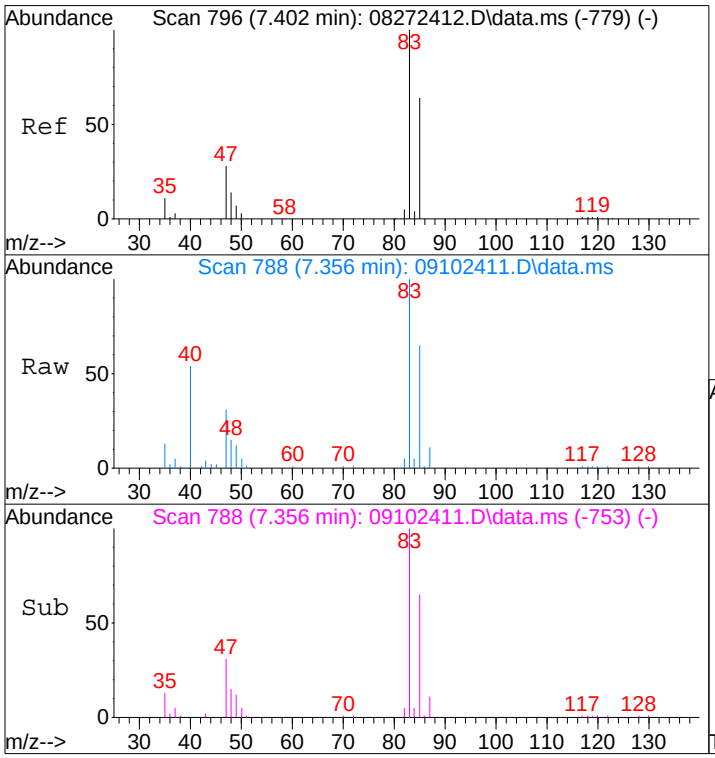


#30
Ethyl Acetate
Concen: 3.73 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.028 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 61 Resp: 24409

Ion	Ratio	Lower	Upper
61	100		
70	64.7	49.9	89.9

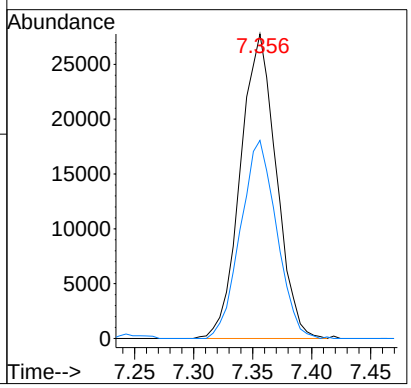


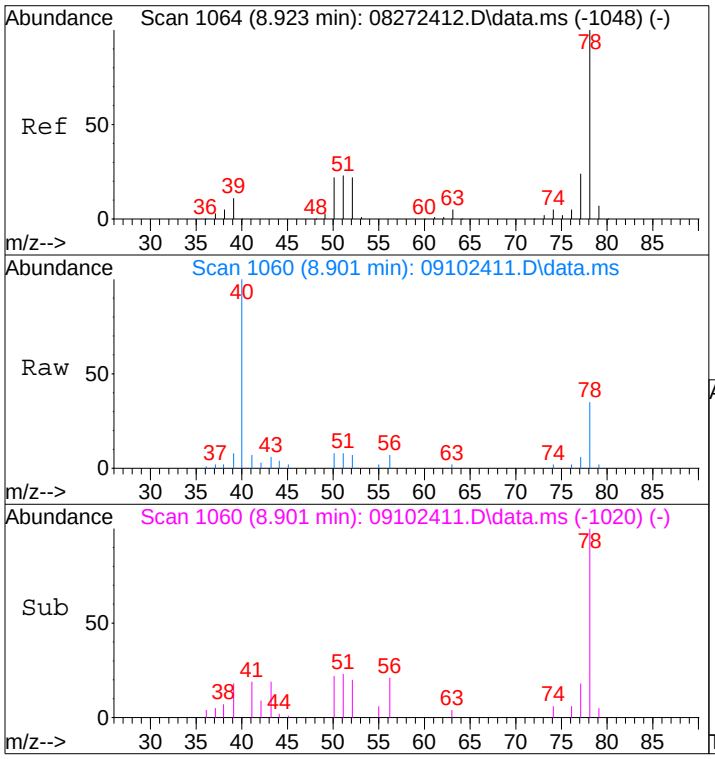


#32
Chloroform
Concen: 1.96 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.050 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 83 Resp: 58590

Ion	Ratio	Lower	Upper
83	100		
85	65.7	45.3	85.3

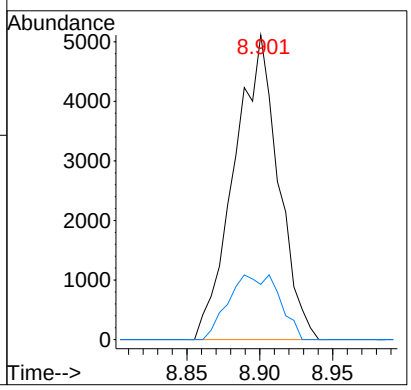


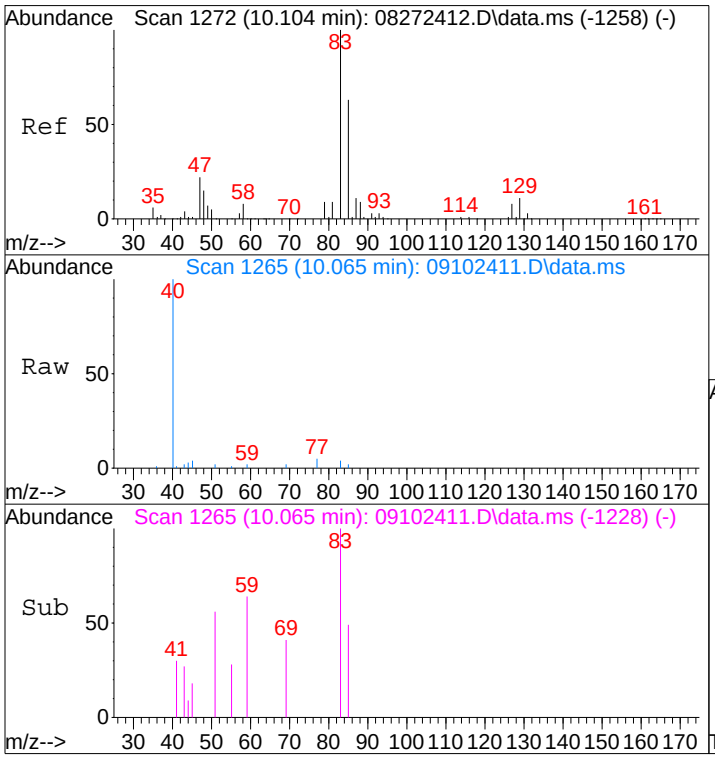


#41
Benzene
Concen: 0.17 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.024 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 78 Resp: 10753

Ion	Ratio	Lower	Upper
78	100		
77	24.5	3.9	43.9

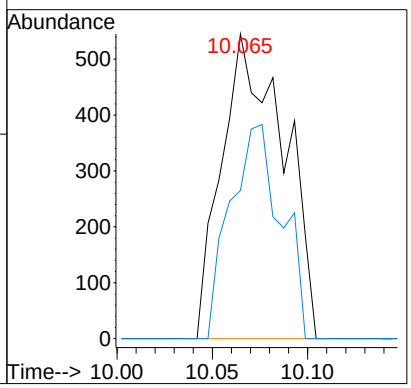


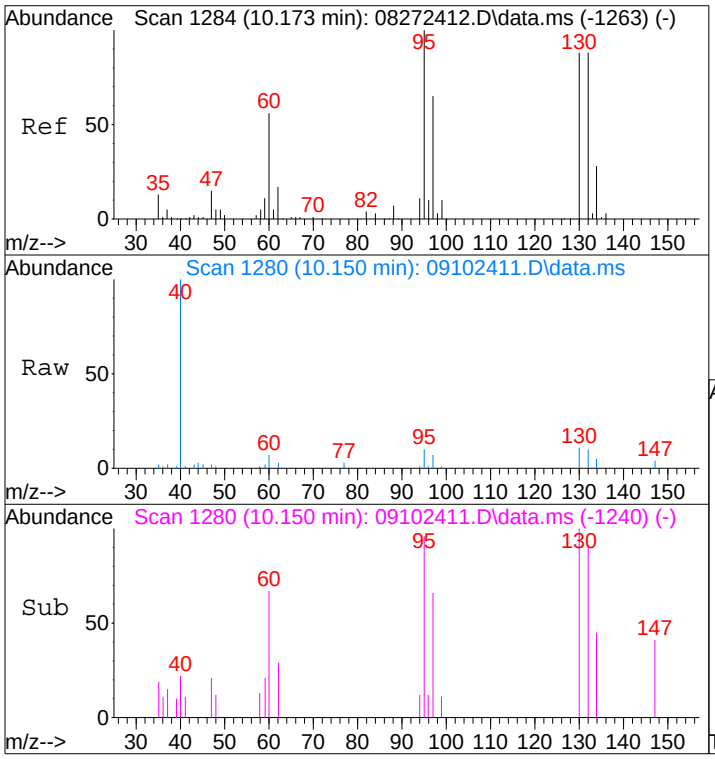


#46
Bromodichloromethane
Concen: 0.05 ng
RT: 10.06 min Scan# 1265
Delta R.T. -0.038 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 83 Resp: 1235

Ion	Ratio	Lower	Upper
83	100		
85	57.7	43.9	83.9

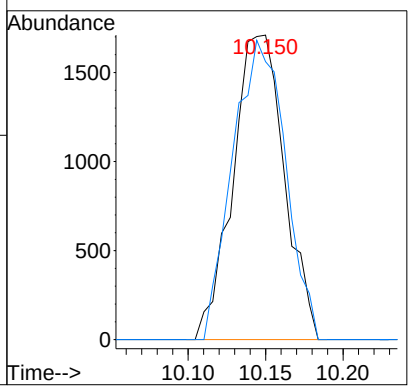


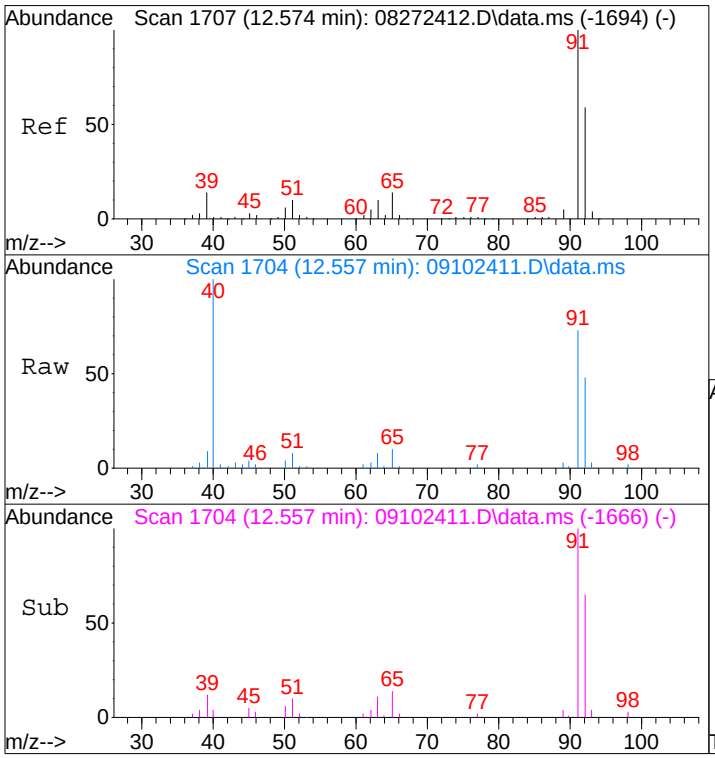


#47
Trichloroethene
Concen: 0.26 ng
RT: 10.15 min Scan# 1280
Delta R.T. -0.021 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion:130 Resp: 3965

Ion	Ratio	Lower	Upper
130	100		
132	100.7	80.8	120.8

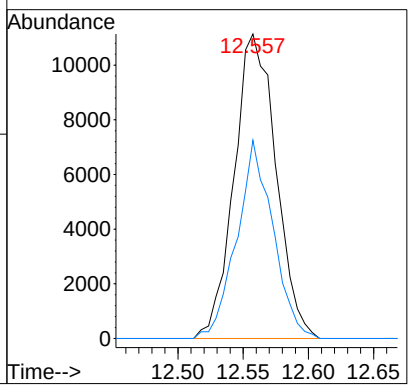


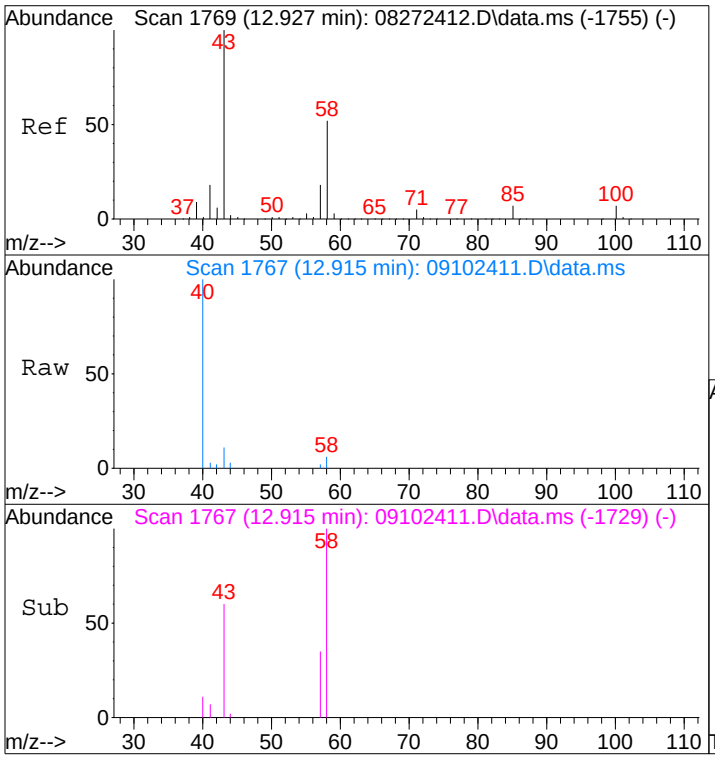


#58
Toluene
Concen: 0.35 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 91 Resp: 24866

Ion	Ratio	Lower	Upper
91	100		
92	56.3	38.5	78.5

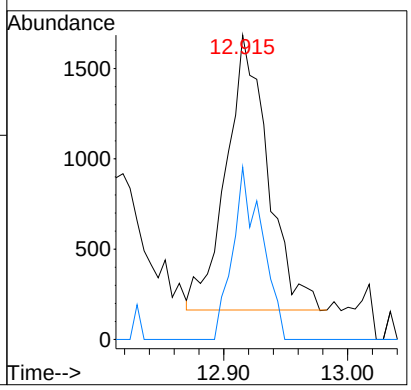


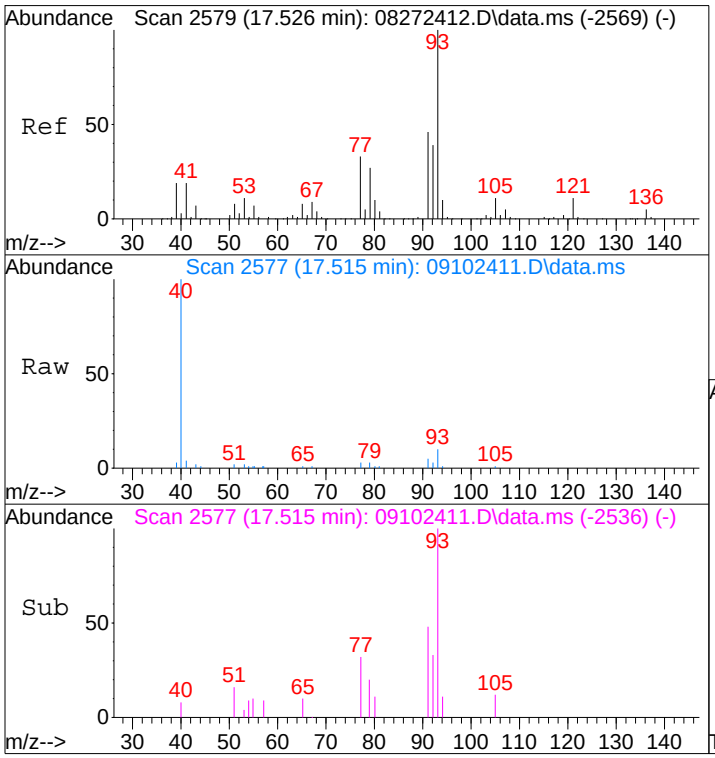


#59
2-Hexanone
Concen: 0.08 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 43 Resp: 3570

Ion	Ratio	Lower	Upper
43	100		
58	43.9	31.1	71.1

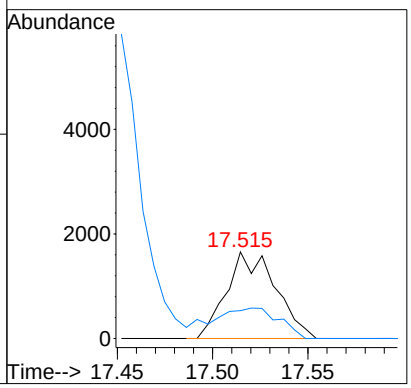




#75
alpha-Pinene
Concen: 0.08 ng
RT: 17.51 min Scan# 2577
Delta R.T. -0.017 min
Lab File: 09102411.D
Acq: 10 Sep 2024 14:31

Tgt Ion: 93 Resp: 2964

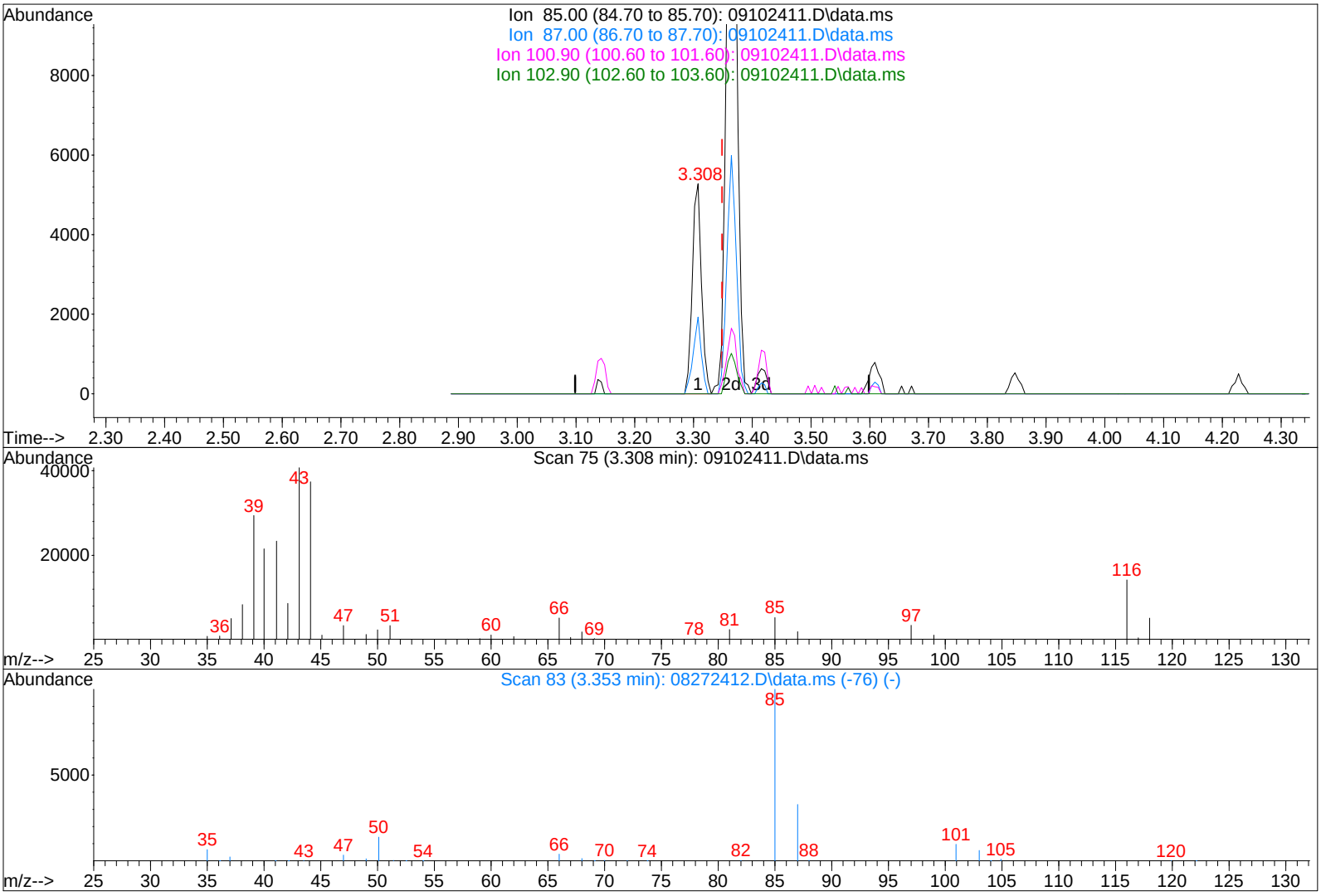
Ion	Ratio	Lower	Upper
93	100		
77	40.2	13.1	53.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:56:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102411.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.041) 0.16ng

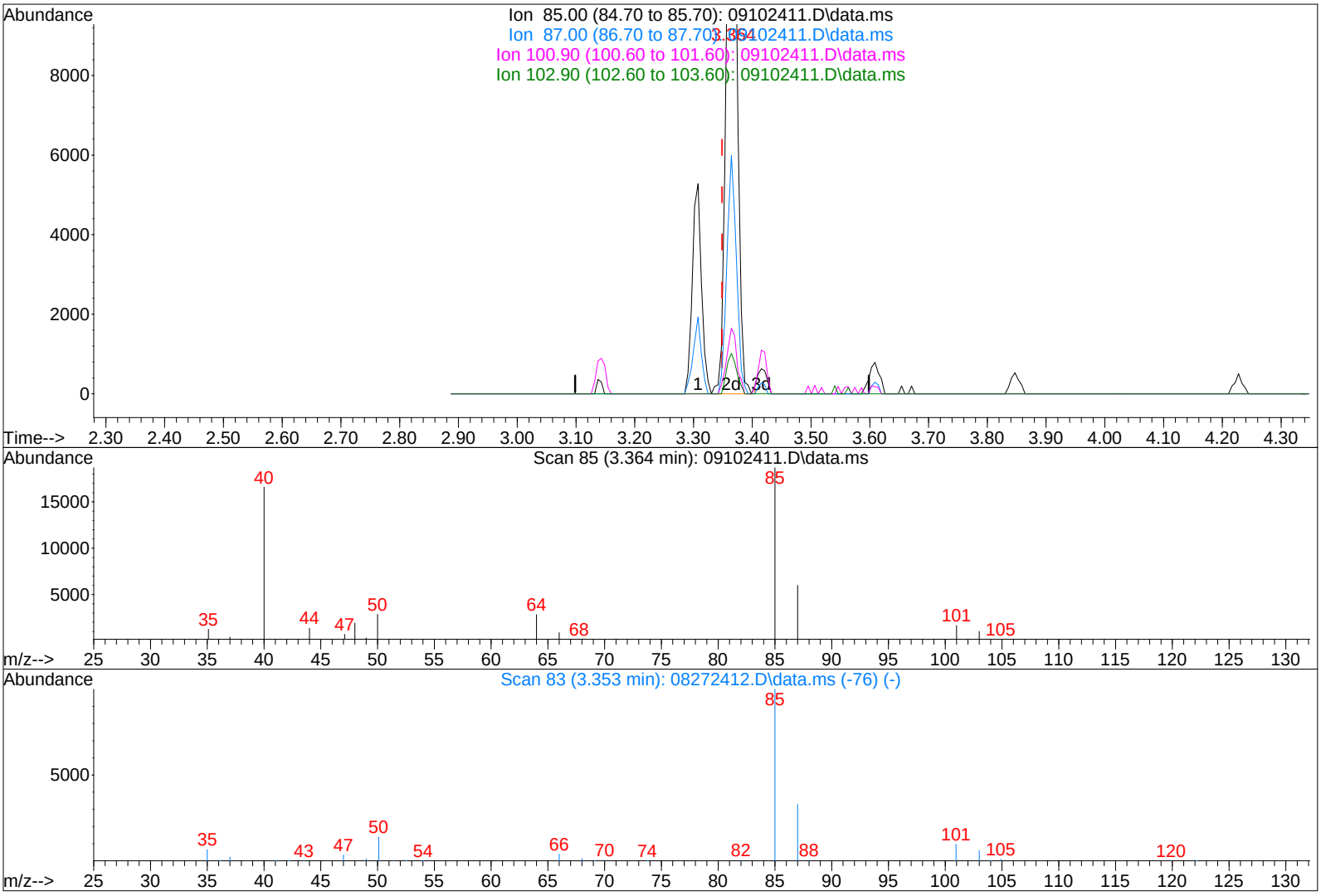
response 5707

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	32.75
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:56:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102411.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.016) 0.58ng m

response 21002

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	8.90#
100.90	9.40	0.00
102.90	6.00	0.00

MP

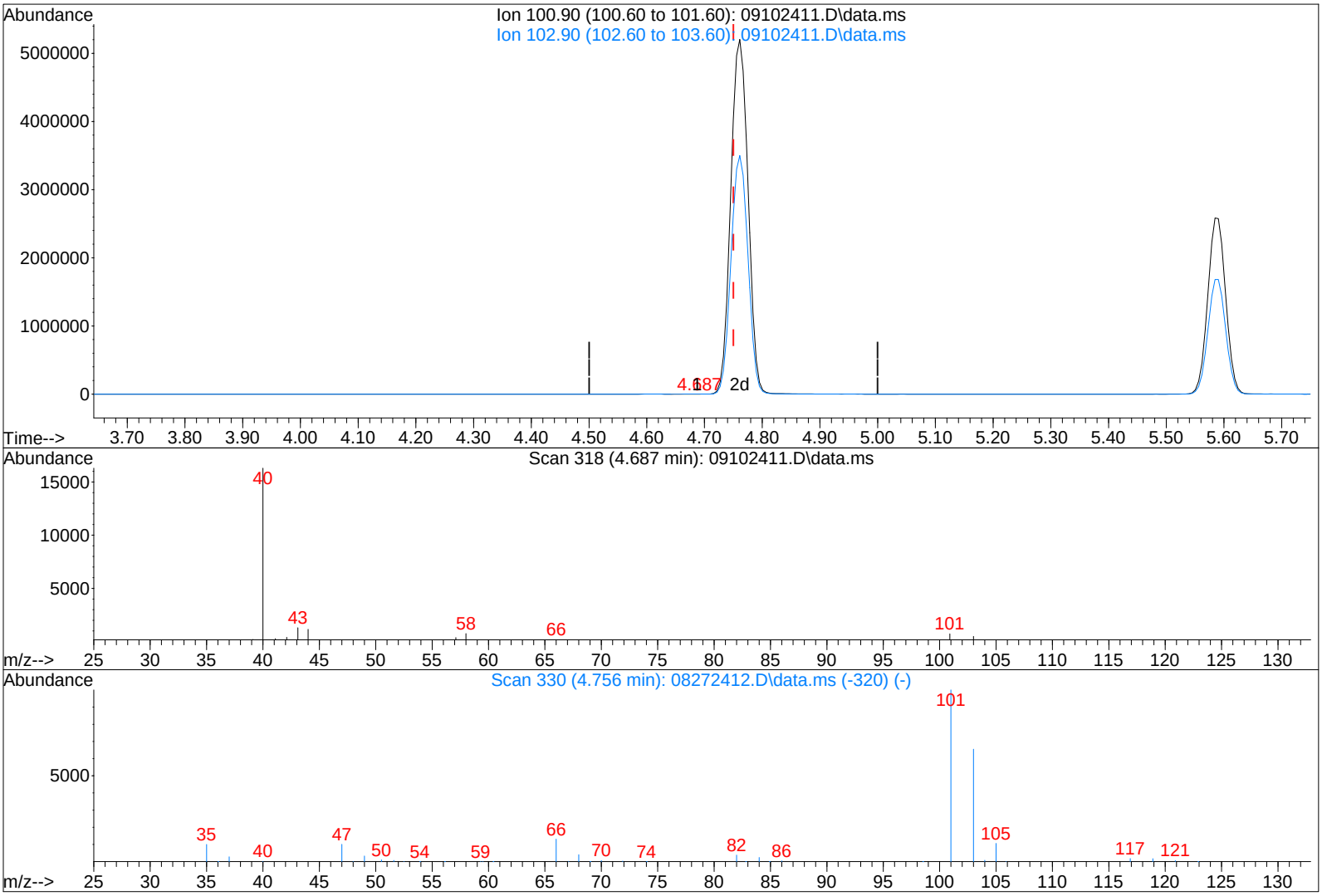
9/10/24

9/22/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:56:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102411.D\data.ms

(14) Trichlorofluoromethane (T)

4.687min (-0.063) 0.04ng

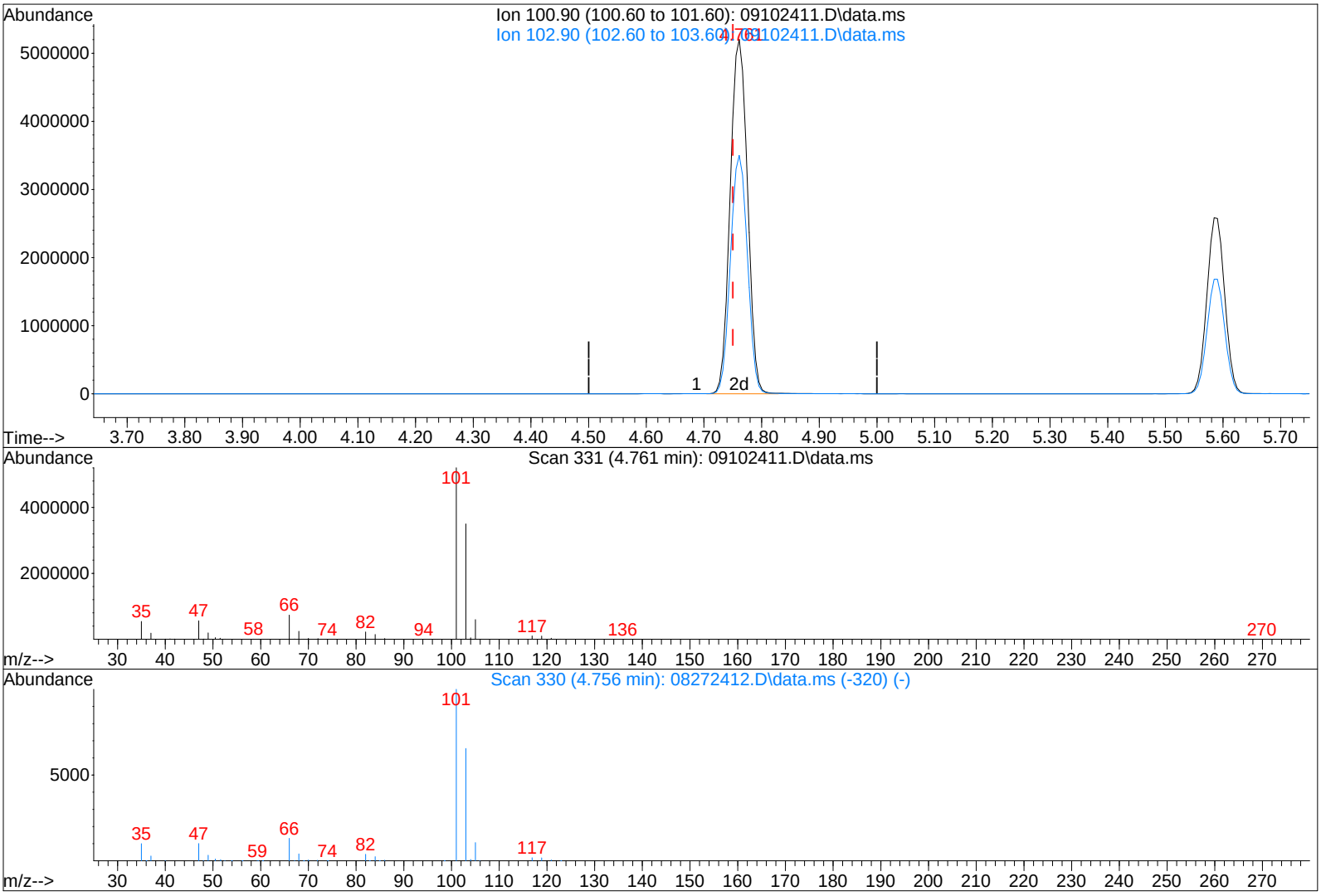
response 1252

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	82.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:56:09 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102411.D\data.ms

(14) Trichlorofluoromethane (T)

4.761min (+0.011) 311.07ng m

response 10824870

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.01#
0.00	0.00	0.00
0.00	0.00	0.00

MP
9/10/24
T2 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:00:29 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

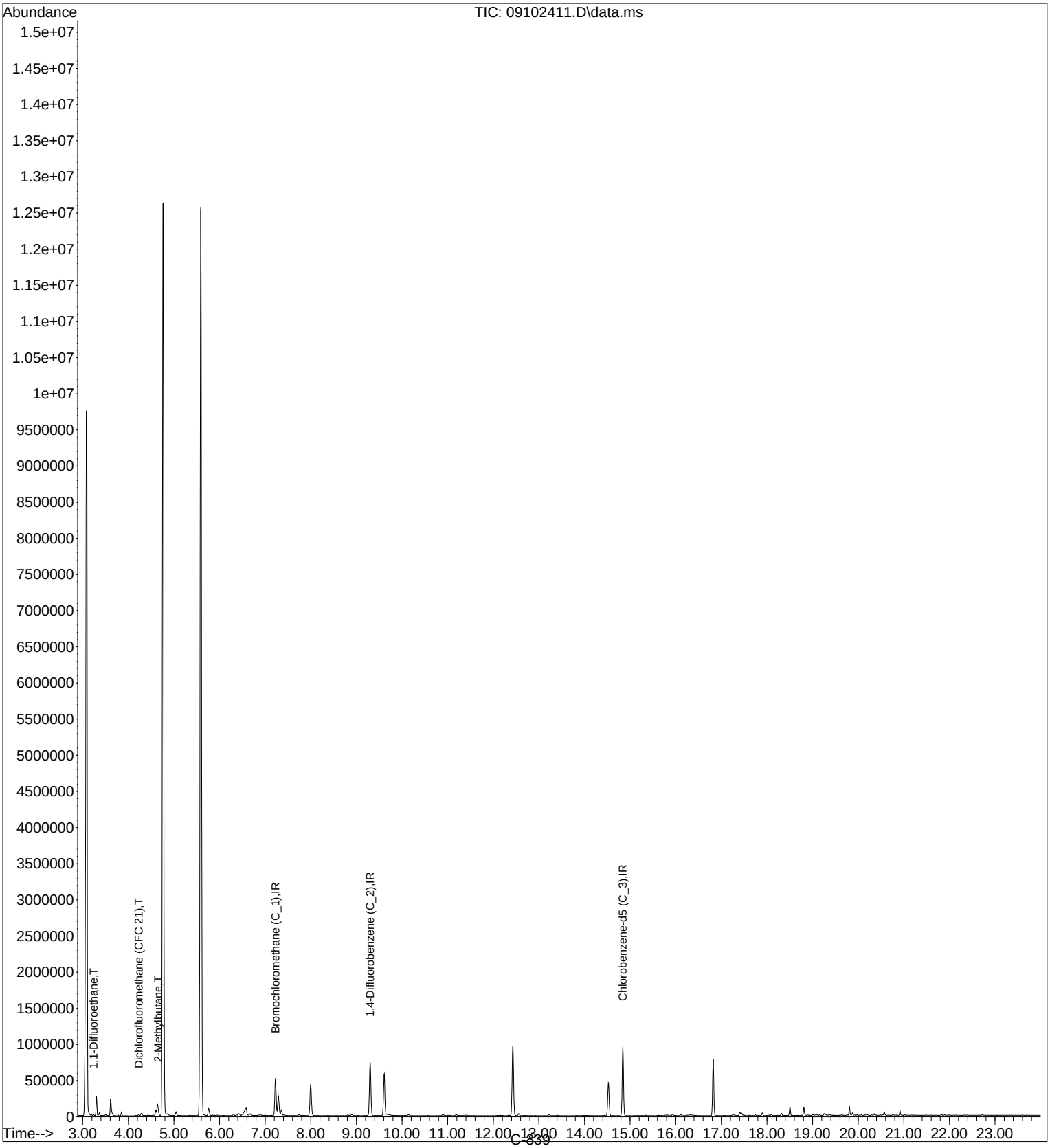
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	150656	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	658298	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	186573	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.14	85	222	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.24	65	2591	0.197 ng	96
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	510	N.D.	
7) Dichlorofluoromethane ...	4.23	67	14545	0.421 ng	99
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1398	N.D.	
10) 2-Methylbutane	4.65	57	19148	1.066 ng	82
11) Methyl Acetate	5.34	43	2629	N.D.	
12) 2-Methylpentane	6.49	71	892	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	9.06	84	52	N.D.	
17) 2,3-Dimethylpentane	9.54	56	677	N.D.	
18) Dibromomethane	9.80	174	134	N.D.	
20) Methyl Cyclohexane	11.44	55	115	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	16.32	75	75	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.61	91	356	N.D.	
27) 4-Chlorotoluene	17.68	91	646	N.D.	
28) Indane	19.01	117	603	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	20.18	119	53	N.D.	
31) 1,2,3,4-Tetramethylben...	20.21	119	61	N.D.	
32) 1,2,3,5-Tetramethylben...	20.59	119	215	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

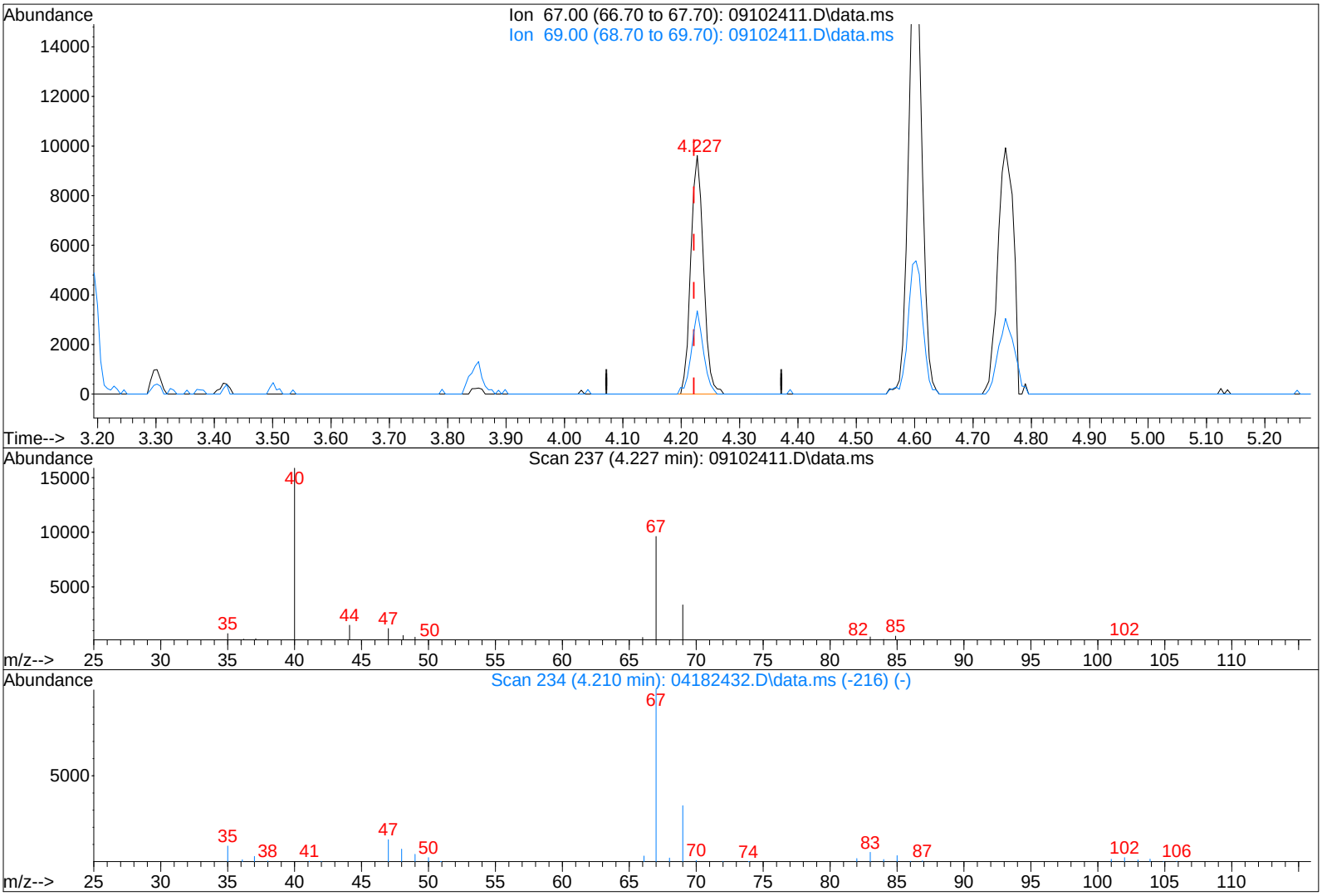
Quant Time: Sep 10 15:00:29 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102411.D Vial: 4
Acq On : 10 Sep 2024 14:31 Operator: SC
Sample : P2403661-018 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 14:59:59 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102411.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.42ng

response 14545

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	33.18
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102414.D Vial: 4
Acq On : 10 Sep 2024 16:08 Operator: SC
Sample : P2403661-018Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 16:32:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	131029	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	575447	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	166924	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	334851	13.657	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.28%				
57) Toluene-d8 (SS2)	12.43	98	652597	11.144	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
73) Bromofluorobenzene (SS3)	16.82	174	211488	10.799	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.33	85	242	N.D.			
4) Chloromethane	3.39	50	328	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.38	45	56	N.D.			
11) Acetonitrile	4.45	41	240	N.D.			
12) Acrolein	4.57	56	174	N.D.			
13) Acetone	4.65	58	3984	0.332	ng	#	80
14) Trichlorofluoromethane	4.74	101	1033730	34.068	ng		99
15) 2-Propanol (Isopropanol)	4.87	45	1625	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	239	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.57	151	358898	29.856	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	130	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.30	61	1551	0.272	ng		89
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	4590	0.176	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.85	56	863	No Calib		#	
41) Benzene	8.89	78	1771	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	802	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.15	130	234	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102414.D Vial: 4
Acq On : 10 Sep 2024 16:08 Operator: SC
Sample : P2403661-018Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 16:32:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

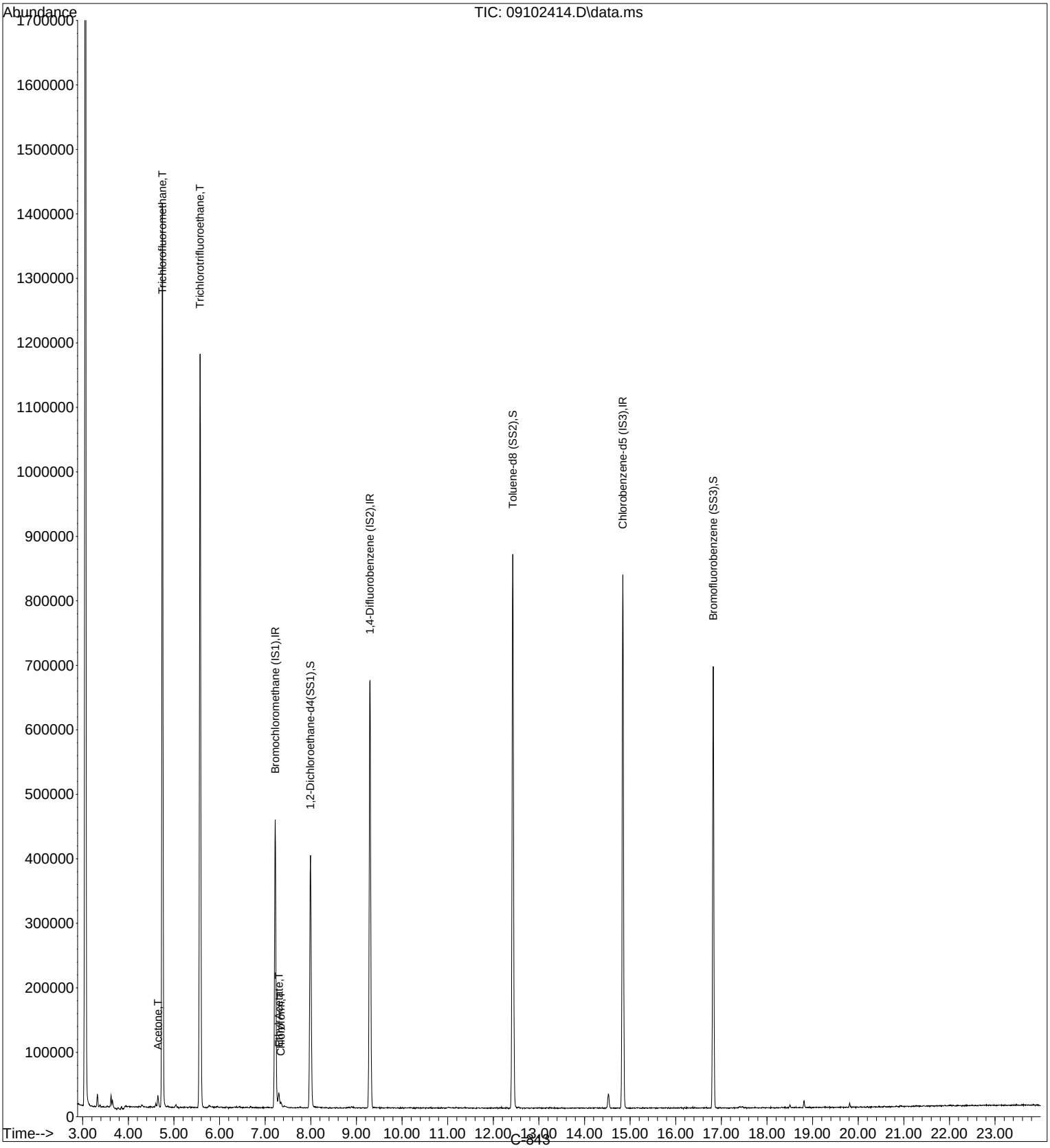
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1964	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	15.63	91	398	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	0.00	91	0	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	195	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	159	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	126	N.D.	
87) sec-Butylbenzene	18.73	105	166	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.04	146	129	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	441	N.D.	
95) Naphthalene	20.94	128	364	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	300	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	111	N.D.	
100) n-Butylbenzene	19.39	91	132	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102414.D Vial: 4
Acq On : 10 Sep 2024 16:08 Operator: SC
Sample : P2403661-018Dil (40mL) Inst : MS09
Misc : S37-06062402

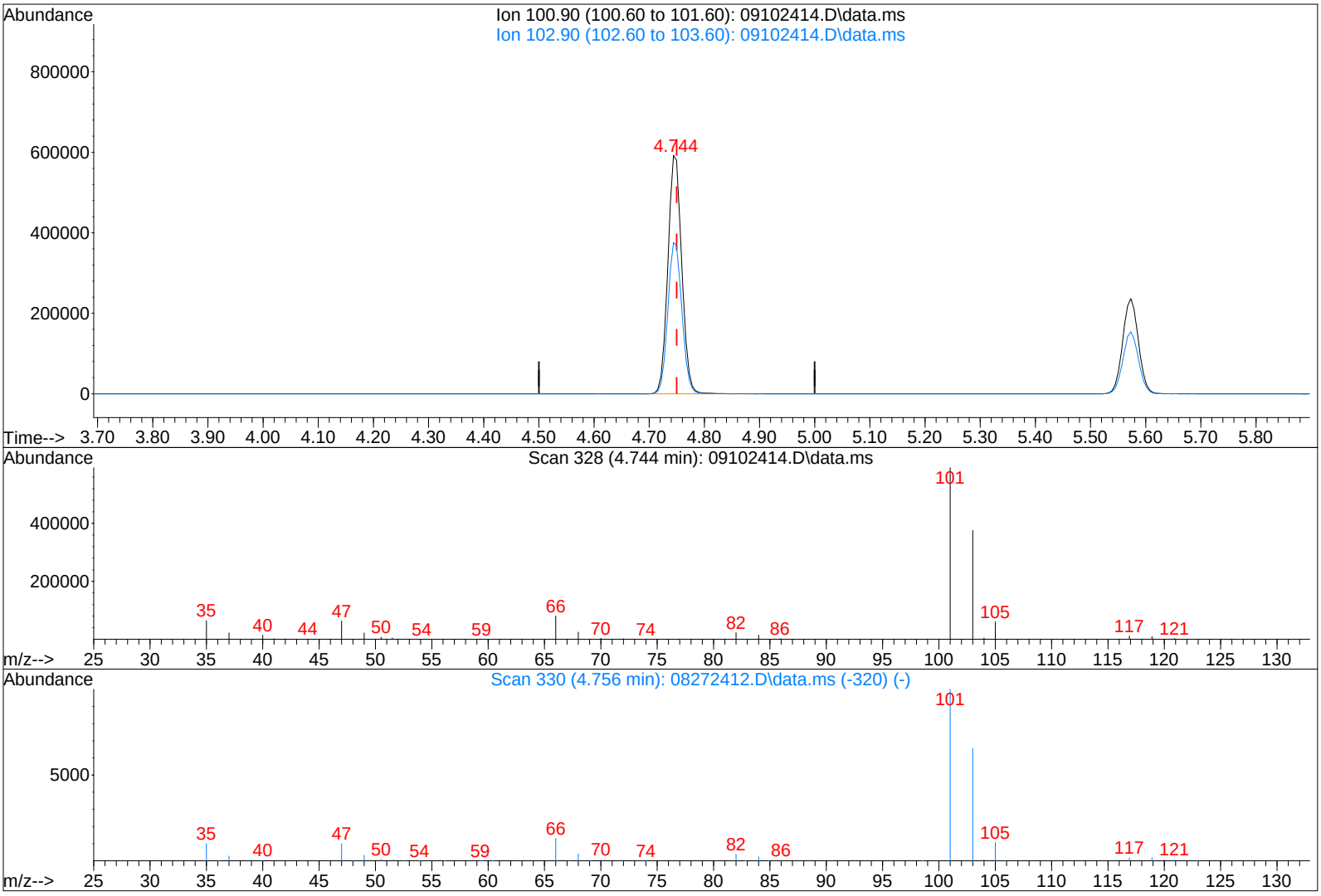
Quant Time: Sep 10 16:32:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102414.D Vial: 4
Acq On : 10 Sep 2024 16:08 Operator: SC
Sample : P2403661-018Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 16:31:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102414.D\data.ms

(14) Trichlorofluoromethane (T)

4.744min (-0.006) 34.07ng

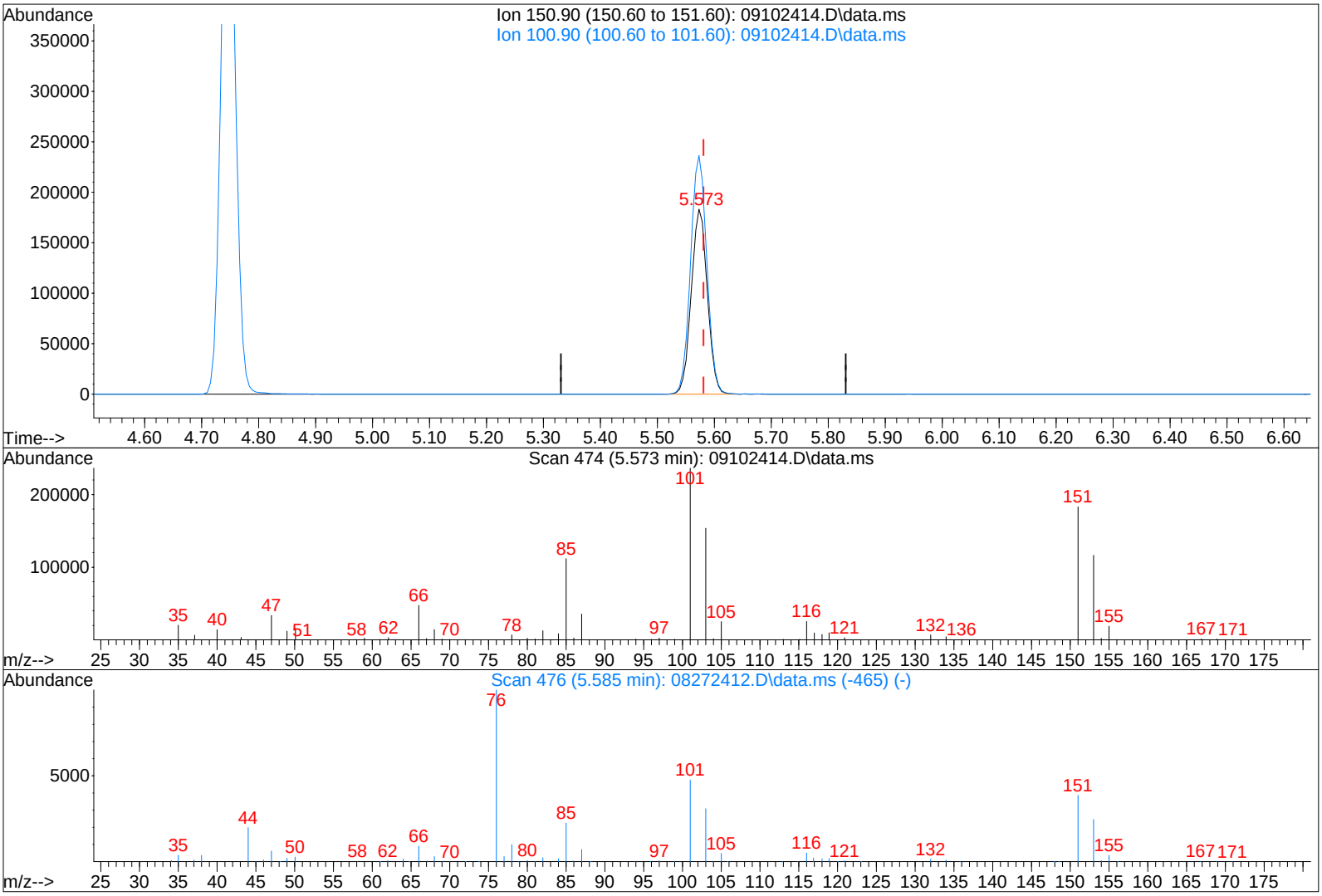
response 1033730

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.22
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102414.D Vial: 4
Acq On : 10 Sep 2024 16:08 Operator: SC
Sample : P2403661-018Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 16:31:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102414.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (-0.008) 29.86ng

response 358898

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.36
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102411.D
Acq On : 10 Sep 2024 14:31
Operator : SC
Sample : P2403661-018 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102411.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.239	59	63	68	rVB	11168	13864	0.05%	0.020%
2	3.302	68	74	79	rVV3	268292	345767	1.27%	0.491%
3	3.364	79	85	92	rVB2	38571	55337	0.20%	0.079%
4	3.506	103	110	114	rBV3	18875	28299	0.10%	0.040%
5	3.614	122	129	144	rVB2	227205	412529	1.52%	0.586%
6	3.779	154	158	164	rVB	14019	19528	0.07%	0.028%
7	3.847	164	170	177	rBV	53623	72607	0.27%	0.103%
8	4.159	217	225	227	rBV2	6318	14513	0.05%	0.021%
9	4.227	232	237	241	rVV2	20304	33375	0.12%	0.047%
10	4.284	241	247	259	rVB	31390	67637	0.25%	0.096%
11	4.540	287	292	297	rBV3	7140	16394	0.06%	0.023%
12	4.602	297	303	305	rVV2	71805	110458	0.41%	0.157%
13	4.636	305	309	320	rVV2	156406	340150	1.25%	0.483%
14	4.761	320	331	343	rVV	12619870	26087833	95.86%	37.033%
15	4.846	343	346	359	rVB5	25125	64677	0.24%	0.092%
16	5.045	374	381	390	rVB	51395	89903	0.33%	0.128%
17	5.346	428	434	438	rBV4	6539	12078	0.04%	0.017%
18	5.590	464	477	499	rBV	12570896	27214422	100.00%	38.632%
19	5.761	499	507	516	rBV	96273	201902	0.74%	0.287%
20	5.948	536	540	549	rVB8	7009	18499	0.07%	0.026%
21	6.311	596	604	610	rBV	18628	41981	0.15%	0.060%
22	6.431	612	625	632	rVV4	25616	86268	0.32%	0.122%
23	6.584	632	652	662	rVV2	104100	419753	1.54%	0.596%
24	6.669	662	667	678	rVB	25106	54929	0.20%	0.078%
25	6.896	702	707	711	rVB3	14327	22895	0.08%	0.033%
26	7.226	755	765	771	rBV	501129	1079263	3.97%	1.532%
27	7.288	771	776	783	rVV2	266380	590316	2.17%	0.838%
28	7.356	783	788	795	rVV	77846	164446	0.60%	0.233%
29	7.407	795	797	808	rVB2	12712	28750	0.11%	0.041%
30	7.742	848	856	866	rBV3	13246	36426	0.13%	0.052%
31	7.998	887	901	914	rBV	425883	985572	3.62%	1.399%
32	8.810	1036	1044	1052	rBV5	11197	31804	0.12%	0.045%
33	8.901	1054	1060	1071	rVB4	15323	41876	0.15%	0.059%
34	9.298	1121	1130	1142	rVB	732658	1700318	6.25%	2.414%
35	9.395	1142	1147	1156	rBV2	3889	10332	0.04%	0.015%
36	9.610	1175	1185	1196	rBV	570246	1227260	4.51%	1.742%
37	9.690	1196	1199	1214	rVB5	18021	56902	0.21%	0.081%
38	10.144	1270	1279	1286	rVB5	13827	32408	0.12%	0.046%
39	10.894	1403	1411	1424	rBV	17267	46244	0.17%	0.066%
40	11.002	1429	1430	1447	rVB4	6334	18287	0.07%	0.026%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102411.D
Acq On : 10 Sep 2024 14:31
Operator : SC
Sample : P2403661-018 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	11.189	1453	1463	1470	rBV4	16332	47750	0.18%	0.068%
42	11.405	1493	1501	1510	rBV7	8072	27797	0.10%	0.039%
43	12.132	1622	1629	1636	rBV5	5728	15802	0.06%	0.022%
44	12.427	1672	1681	1696	rVV	966526	2197339	8.07%	3.119%
45	12.557	1696	1704	1713	rVB3	30030	67687	0.25%	0.096%
46	12.688	1718	1727	1735	rBV6	3726	11086	0.04%	0.016%
47	13.228	1813	1822	1831	rBV3	16811	37775	0.14%	0.054%
48	13.404	1846	1853	1861	rBV6	8906	20497	0.08%	0.029%
49	14.443	2029	2036	2039	rBV3	5753	11474	0.04%	0.016%
50	14.522	2040	2050	2063	rVB	455423	1015662	3.73%	1.442%
51	14.840	2096	2106	2119	rBV	956220	1937041	7.12%	2.750%
52	15.345	2193	2195	2202	rVB5	6956	12105	0.04%	0.017%
53	15.607	2234	2241	2247	rBV6	6400	17500	0.06%	0.025%
54	15.760	2261	2268	2270	rBV4	7599	12933	0.05%	0.018%
55	15.822	2277	2279	2289	rVB2	9665	20041	0.07%	0.028%
56	15.925	2292	2297	2309	rBV4	16401	42339	0.16%	0.060%
57	16.112	2324	2330	2338	rVB7	17534	34784	0.13%	0.049%
58	16.322	2359	2367	2386	rVB7	9290	39587	0.15%	0.056%
59	16.822	2446	2455	2466	rVB	781441	1462220	5.37%	2.076%
60	17.225	2520	2526	2528	rBV3	7187	10178	0.04%	0.014%
61	17.265	2528	2533	2548	rVB8	13443	47427	0.17%	0.067%
62	17.407	2548	2558	2562	rBV4	48863	105354	0.39%	0.150%
63	17.446	2562	2565	2569	rVB	26124	38096	0.14%	0.054%
64	17.515	2574	2577	2586	rVB3	8024	14935	0.05%	0.021%
65	17.617	2589	2595	2601	rVB7	5689	12329	0.05%	0.018%
66	17.747	2612	2618	2622	rBV3	13833	23563	0.09%	0.033%
67	17.895	2639	2644	2653	rVB3	38671	63361	0.23%	0.090%
68	18.099	2675	2680	2689	rVB	19424	33573	0.12%	0.048%
69	18.315	2713	2718	2725	rVB	30802	47948	0.18%	0.068%
70	18.503	2743	2751	2761	rBV3	115606	198480	0.73%	0.282%
71	18.809	2800	2805	2815	rVB	104942	156548	0.58%	0.222%
72	18.894	2815	2820	2823	rBV5	6276	10550	0.04%	0.015%
73	19.014	2833	2841	2845	rBV7	13194	23882	0.09%	0.034%
74	19.076	2845	2852	2856	rBV4	19451	35661	0.13%	0.051%
75	19.150	2861	2865	2872	rVB7	8493	17151	0.06%	0.024%
76	19.252	2878	2883	2886	rBV2	25490	39782	0.15%	0.056%
77	19.371	2898	2904	2909	rVB6	10107	24213	0.09%	0.034%
78	19.638	2946	2951	2957	rBV5	14593	22948	0.08%	0.033%
79	19.809	2976	2981	2986	rBV2	110811	150915	0.55%	0.214%
80	19.871	2986	2992	2998	rVV	32870	51700	0.19%	0.073%
81	19.979	3005	3011	3016	rBV3	8938	15844	0.06%	0.022%
82	20.070	3024	3027	3033	rVB6	8820	12789	0.05%	0.018%
83	20.189	3043	3048	3058	rVB4	16408	43352	0.16%	0.062%
84	20.297	3060	3067	3071	rBV4	8891	15160	0.06%	0.022%
85	20.348	3071	3076	3081	rBV2	21952	29377	0.11%	0.042%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102411.D
Acq On : 10 Sep 2024 14:31
Operator : SC
Sample : P2403661-018 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

86	20.479	3095	3099	3105	rVB3	8360	13206	0.05%	0.019%
87	20.569	3111	3115	3124	rVB2	49139	76379	0.28%	0.108%
88	20.757	3143	3148	3151	rBV6	9076	14919	0.05%	0.021%
89	20.916	3172	3176	3186	rVB2	63941	82645	0.30%	0.117%
90	21.018	3188	3194	3199	rBV2	13655	19634	0.07%	0.028%
91	21.830	3334	3337	3343	rVB5	7961	10030	0.04%	0.014%
92	21.892	3345	3348	3356	rVB4	7721	13827	0.05%	0.020%
93	21.989	3360	3365	3376	rVB5	6909	15081	0.06%	0.021%
94	22.142	3387	3392	3397	rBV3	6388	10943	0.04%	0.016%
95	22.727	3492	3495	3502	rVB4	10798	15538	0.06%	0.022%

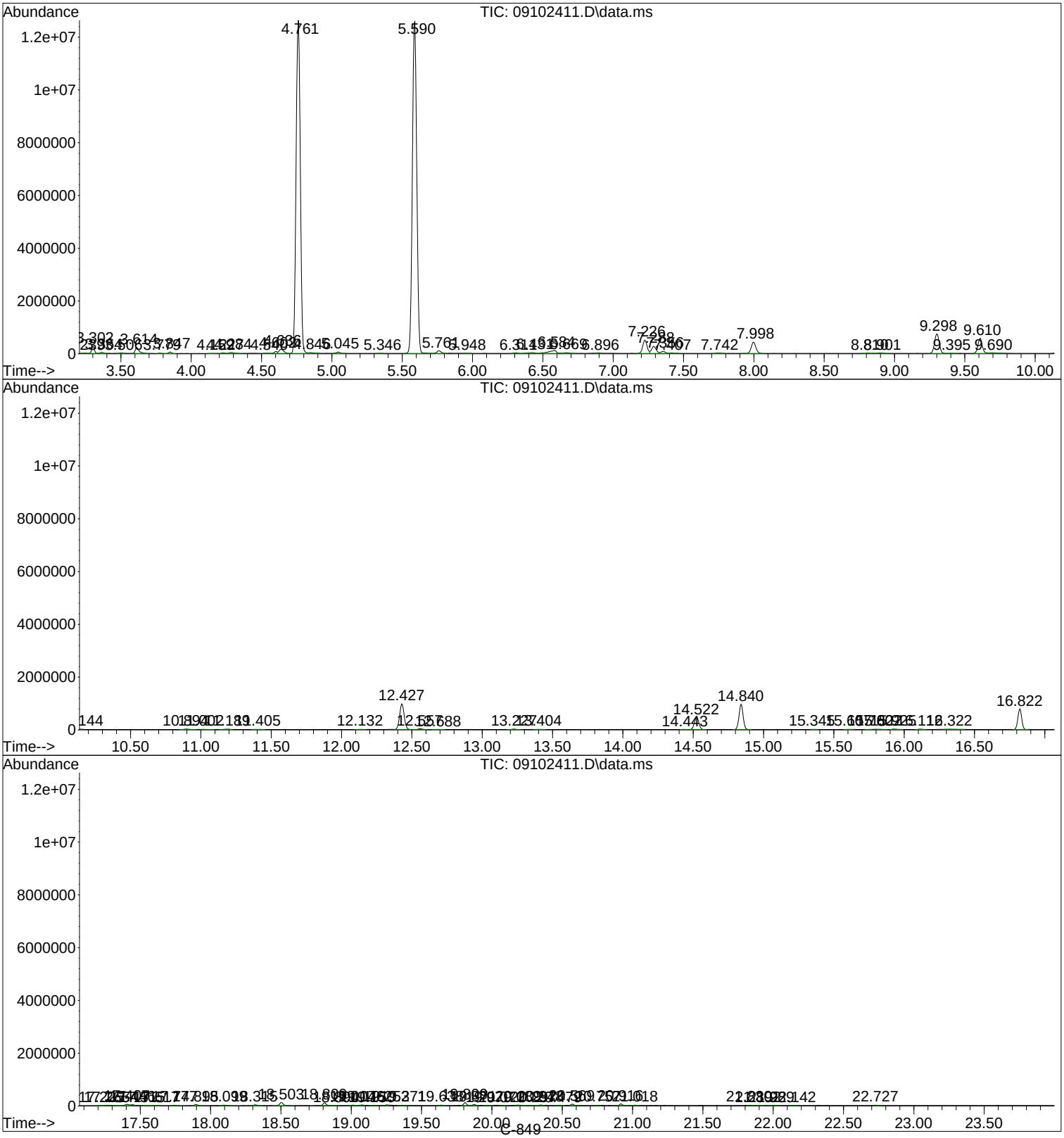
Sum of corrected areas: 70444539

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102411.D
Acq On : 10 Sep 2024 14:31
Operator : SC
Sample : P2403661-018 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102411.D
Acq On : 10 Sep 2024 14:311
Operator : SCC
Sample : P2403661-018 (400mL))
Misc : S37-060624022
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:45:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145194	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.30	114	633691	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	183397	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	355931	13.100	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
57) Toluene-d8 (SS2)	12.43	98	723625	11.247	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	16.82	174	233915	10.871	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.96%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	19171	0.544	ng		99
4) Chloromethane	3.52	50	8976	0.326	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.63	135	377	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.03	94	176	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	13011m	0.826	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	1509	0.125	ng		99
13) Acetone	4.64	58	29970m	2.254	ng		
14) Trichlorofluoromethane	4.77	101	8954	0.266	ng		91
15) 2-Propanol (Isopropanol)	4.86	45	6440	0.123	ng		88
16) Acrylonitrile	5.00	53	160	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.37	59	55	N.D.			
19) Methylene Chloride	5.36	84	1037	0.066	ng		87
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.59	151	1855	0.139	ng		95
22) Carbon Disulfide	5.61	76	16866	0.325	ng		94
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	2870	0.304	ng	#	25
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	2119	0.335	ng		82
31) n-Hexane	7.31	57	1182	N.D.			
32) Chloroform	7.36	83	200	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	167	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	4392	No Calib		#	
41) Benzene	8.89	78	3153	0.053	ng		100
42) Carbon Tetrachloride	9.07	117	2265	0.092	ng		98
43) Cyclohexane	9.23	84	238	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:45:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

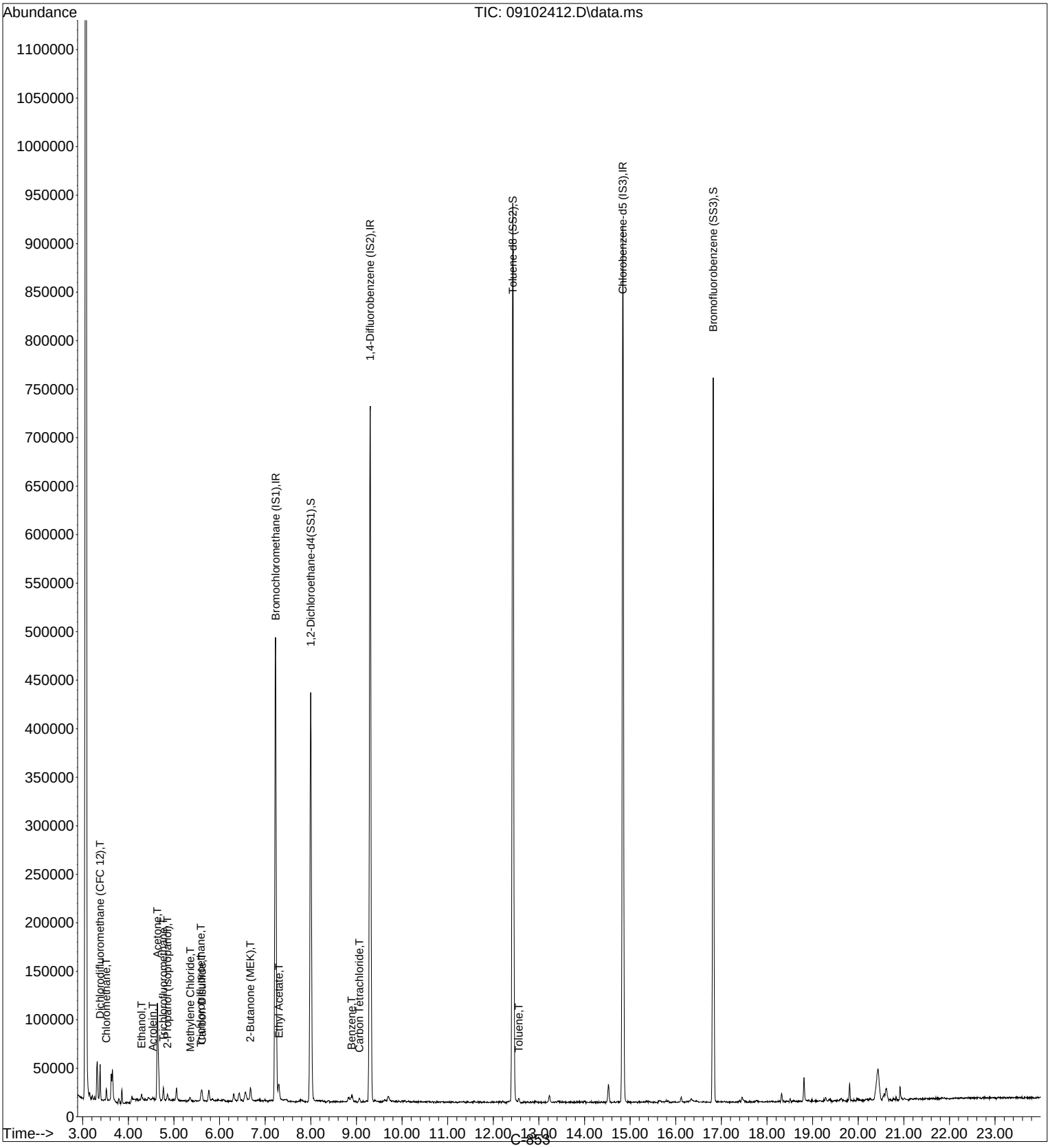
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.34	58	207	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	3818	0.055 ng	97
59) 2-Hexanone	12.93	43	1544	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	270	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	370	N.D.	
67) m- & p-Xylenes	15.63	91	1087	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.23	91	221	N.D.	
71) n-Nonane	16.61	43	537	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.02	105	127	N.D.	
75) alpha-Pinene	17.53	93	214	N.D.	
76) n-Propylbenzene	17.68	91	492	N.D.	
77) 3-Ethyltoluene	17.02	105	127	No Calib	#
78) 4-Ethyltoluene	17.86	105	143	N.D.	
79) 1,3,5-Trimethylbenzene	17.86	105	143	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.02	105	127	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	261	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.55	91	326	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	117	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	312	N.D.	
87) sec-Butylbenzene	18.74	105	144	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	777	N.D.	
89) 1,2,3-Trimethylbenzene	17.02	105	127	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	641	N.D.	
95) Naphthalene	20.93	128	1100	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	264	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	140	N.D.	
100) n-Butylbenzene	19.38	91	552	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:45:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

9/10/24

Quant Time: Sep 10 15:45:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

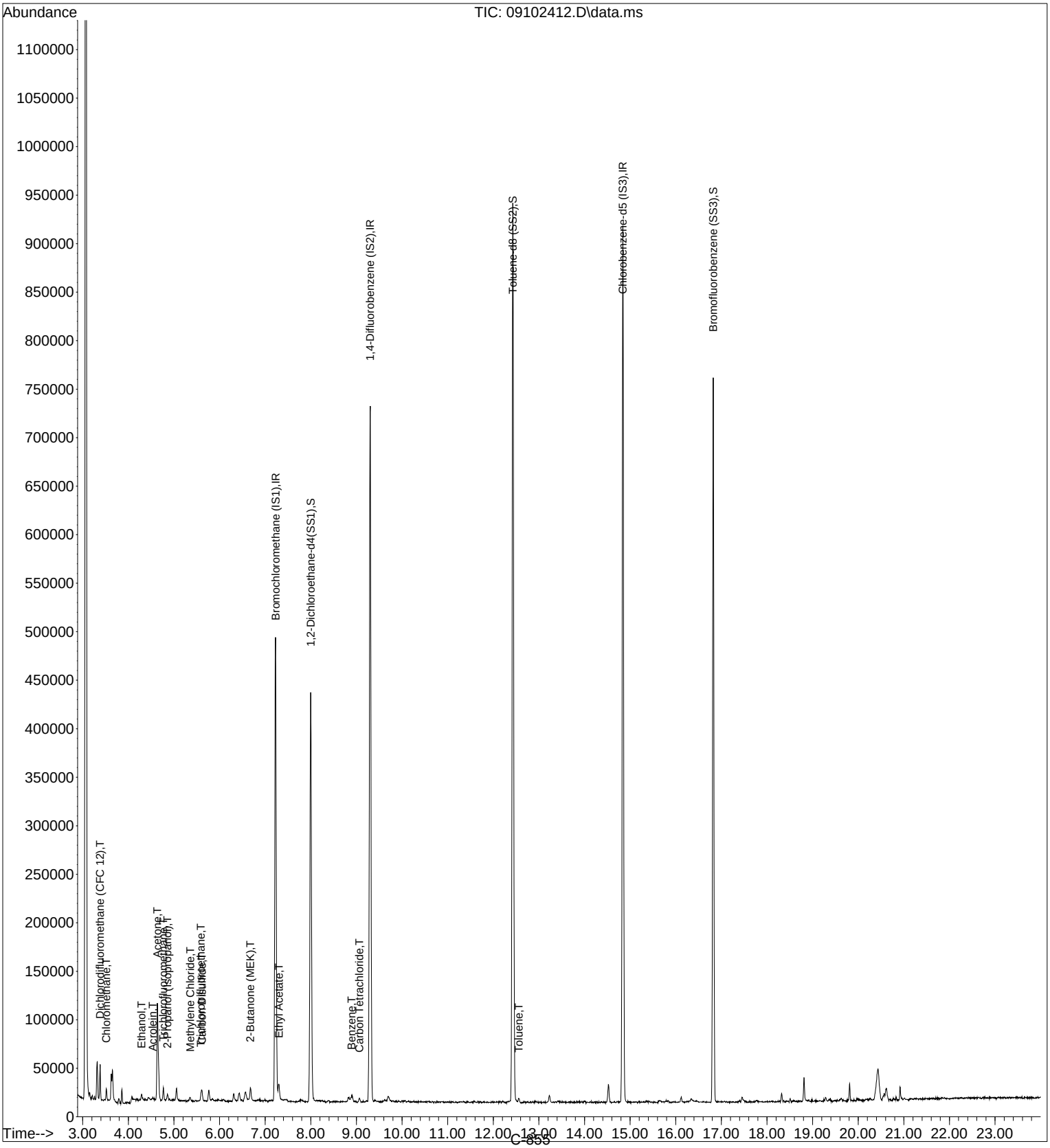
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145194	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.30	114	633691	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	183397	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	355931	13.100	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.80%				
57) Toluene-d8 (SS2)	12.43	98	723625	11.247	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	16.82	174	233915	10.871	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	19171	0.544	ng		99
4) Chloromethane	3.52	50	8976	0.326	ng		100
10) Ethanol	4.29	45	13011m	0.826	ng		
12) Acrolein	4.53	56	1509	0.125	ng		99
13) Acetone	4.64	58	29970m	2.254	ng		
14) Trichlorofluoromethane	4.77	101	8954	0.266	ng		91
15) 2-Propanol (Isopropanol)	4.86	45	6440	0.123	ng		88
19) Methylene Chloride	5.36	84	1037	0.066	ng		87
21) Trichlorotrifluoroethane	5.59	151	1855	0.139	ng		95
22) Carbon Disulfide	5.61	76	16866	0.325	ng		94
27) 2-Butanone (MEK)	6.67	72	2870	0.304	ng	#	25
30) Ethyl Acetate	7.30	61	2119	0.335	ng		82
41) Benzene	8.89	78	3153	0.053	ng		100
42) Carbon Tetrachloride	9.07	117	2265	0.092	ng		98
58) Toluene	12.56	91	3818	0.055	ng		97

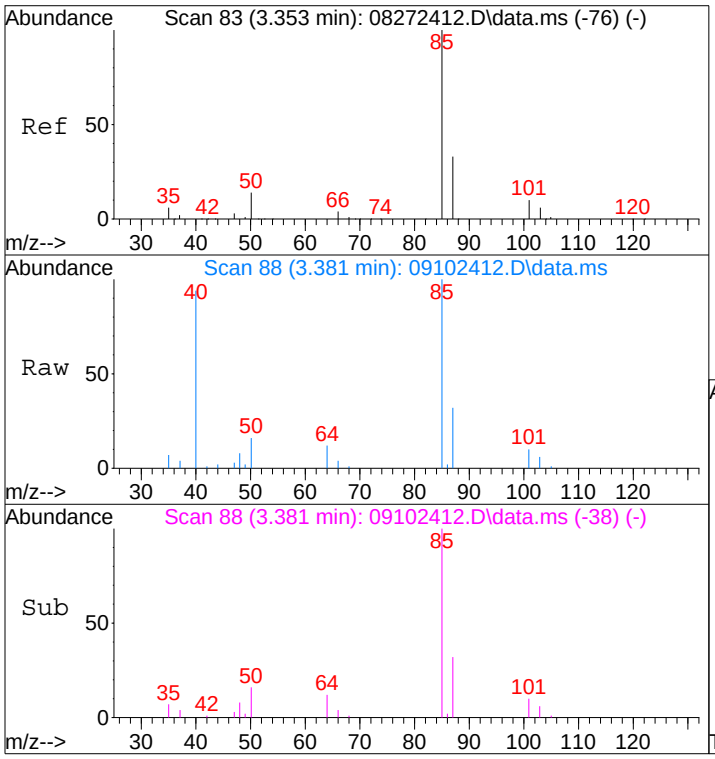
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:45:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

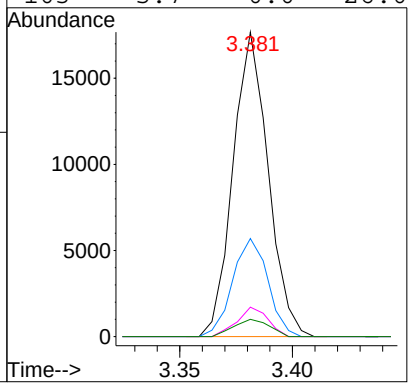


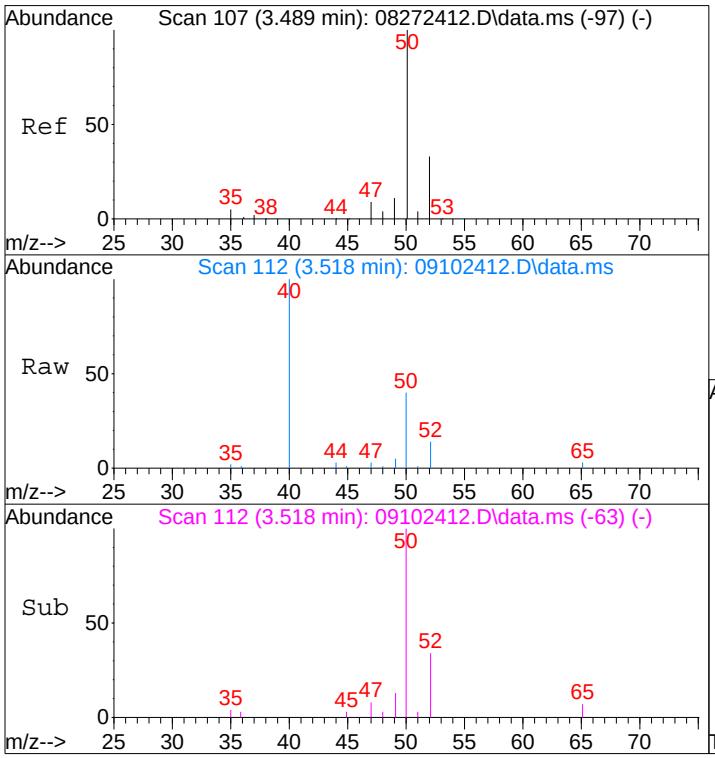


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.54 ng
RT: 3.38 min Scan# 88
Delta R.T. 0.033 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 85 Resp: 19171

Ion	Ratio	Lower	Upper
85	100		
87	32.4	13.1	53.1
101	8.5	0.0	29.4
103	5.7	0.0	26.0

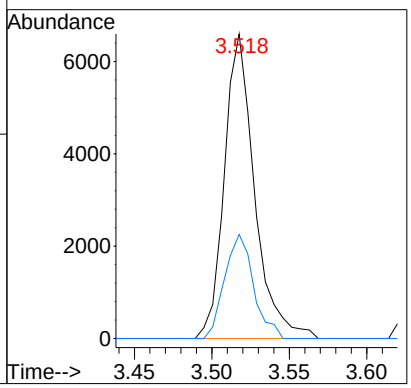


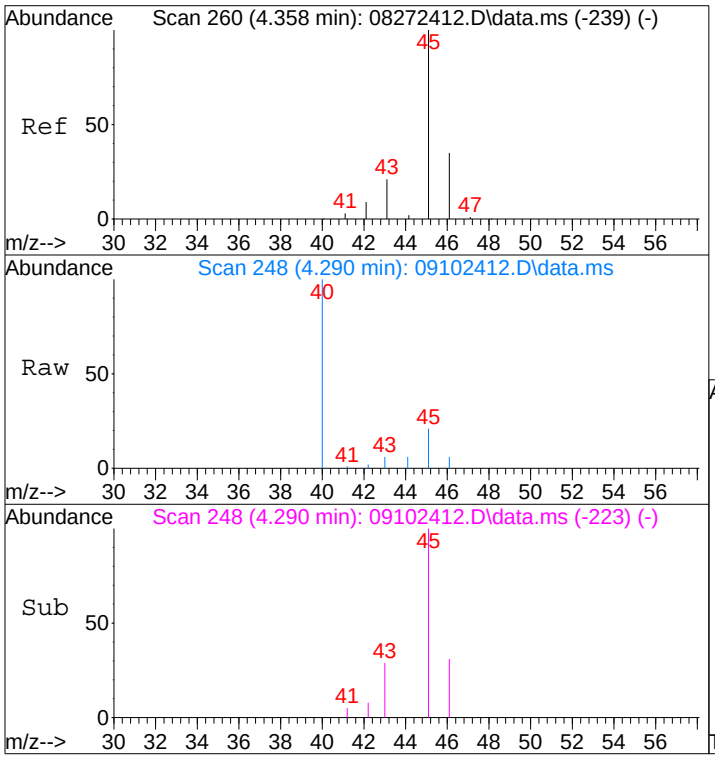


#4
Chloromethane
Concen: 0.33 ng
RT: 3.52 min Scan# 112
Delta R.T. 0.028 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 50 Resp: 8976

Ion	Ratio	Lower	Upper
50	100		
52	32.6	12.4	52.4

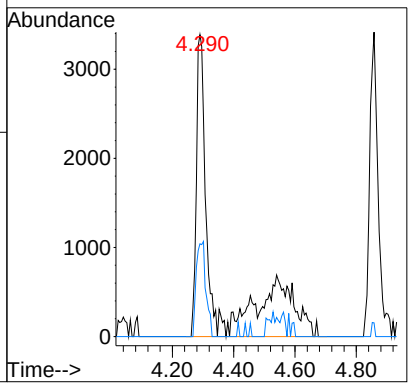


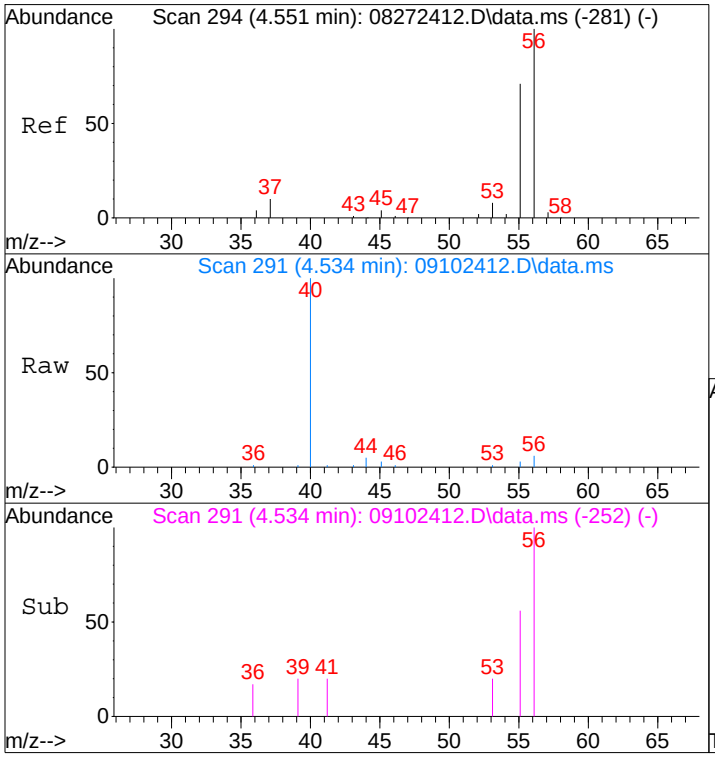


#10
Ethanol
Concen: 0.83 ng m
RT: 4.29 min Scan# 248
Delta R.T. -0.110 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 45 Resp: 13011

Ion	Ratio	Lower	Upper
45	100		
46	0.4	14.2	54.2#

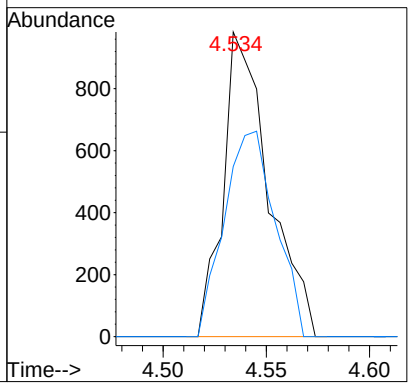


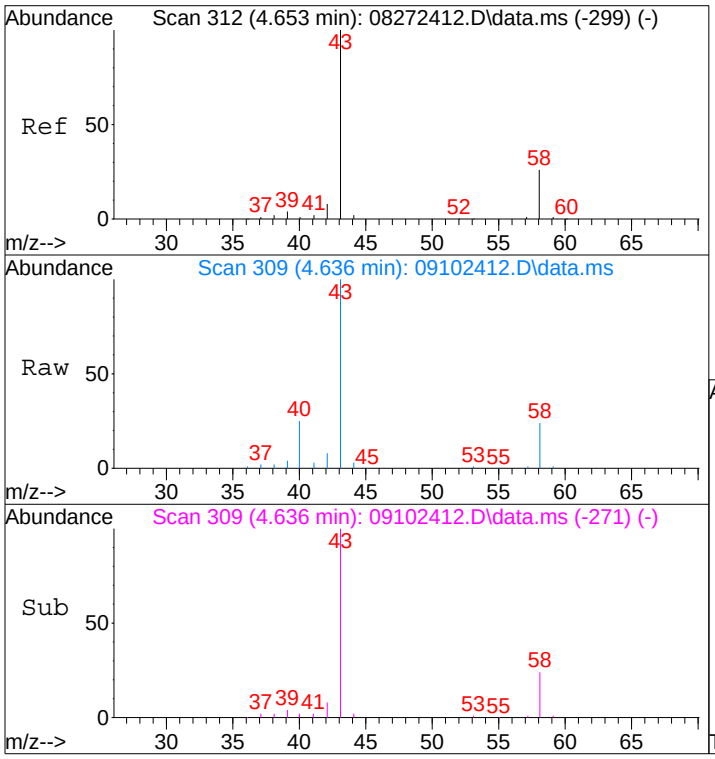


#12
Acrolein
Concen: 0.13 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.030 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 56 Resp: 1509

Ion	Ratio	Lower	Upper
56	100		
55	75.8	54.7	94.7

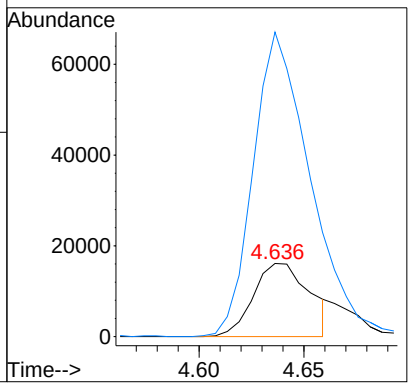


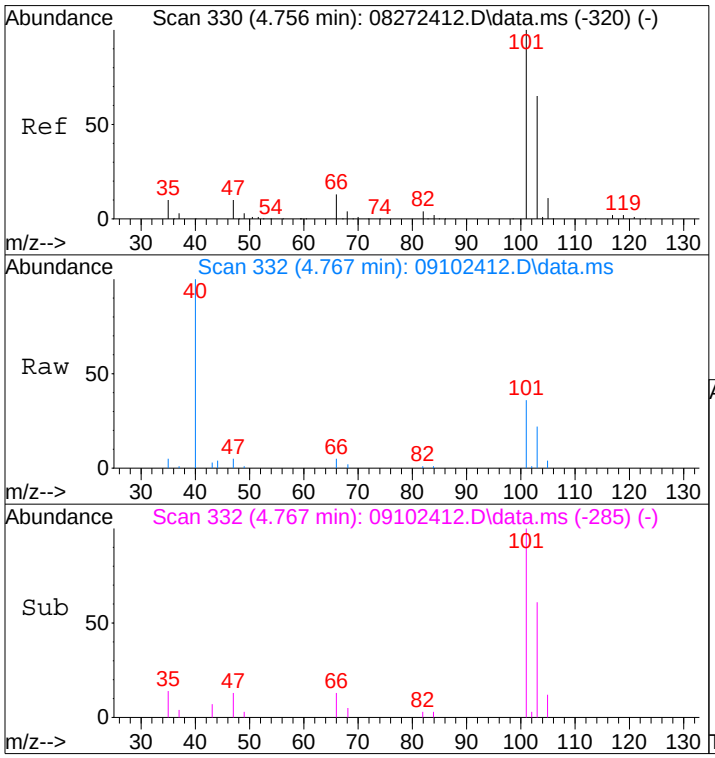


#13
Acetone
Concen: 2.25 ng m
RT: 4.64 min Scan# 309
Delta R.T. -0.035 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 58 Resp: 29970

Ion	Ratio	Lower	Upper
58	100		
43	432.2	347.3	407.3#

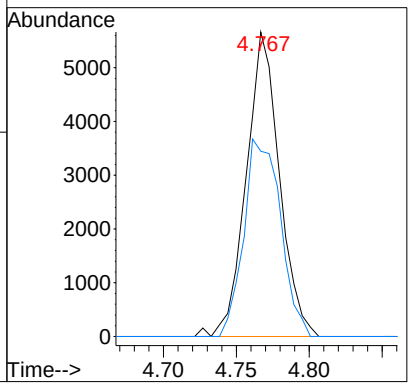


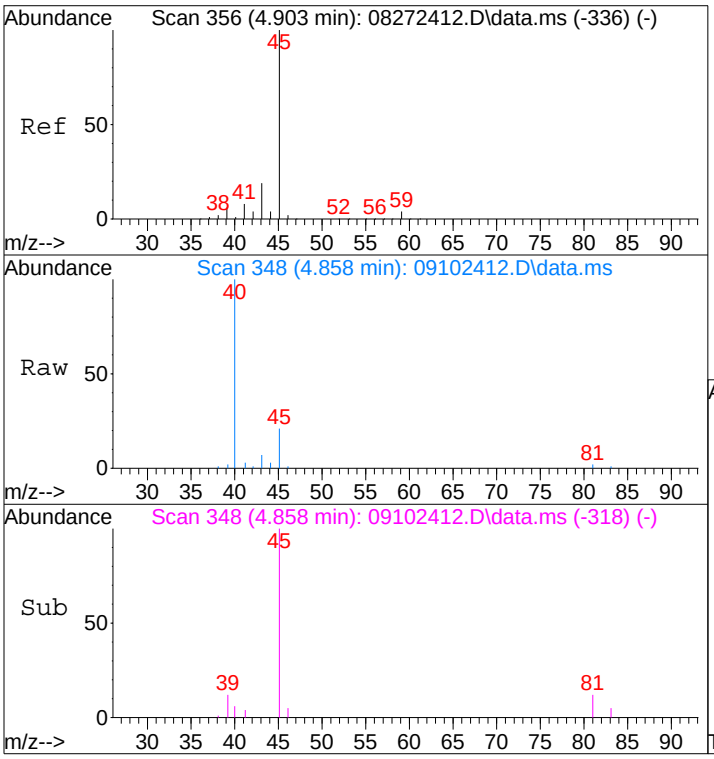


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.016 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion:101 Resp: 8954

Ion	Ratio	Lower	Upper
101	100		
103	71.6	44.9	84.9

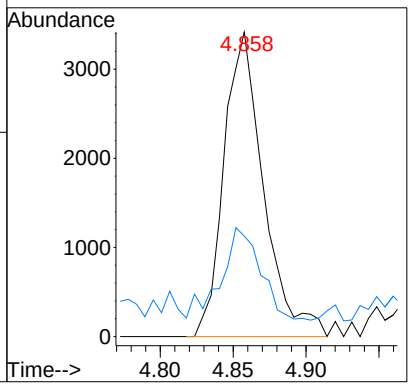


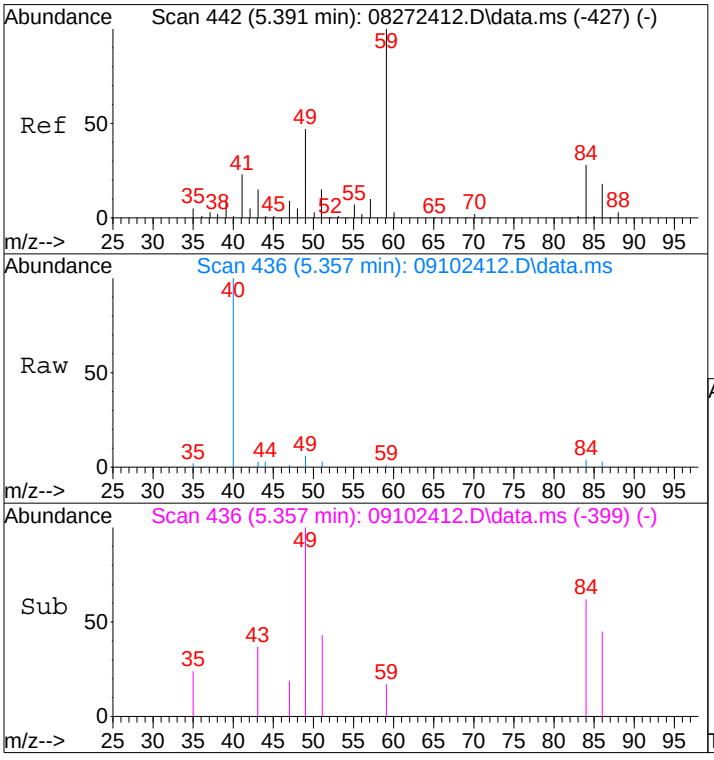


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.079 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 45 Resp: 6440

Ion	Ratio	Lower	Upper
45	100		
43	25.5	0.0	40.0

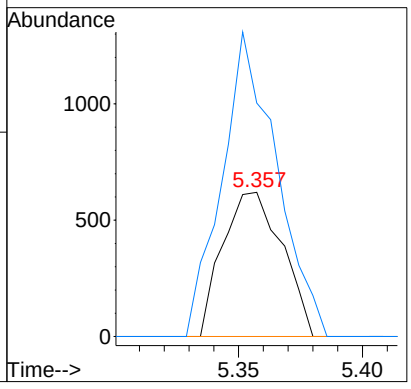


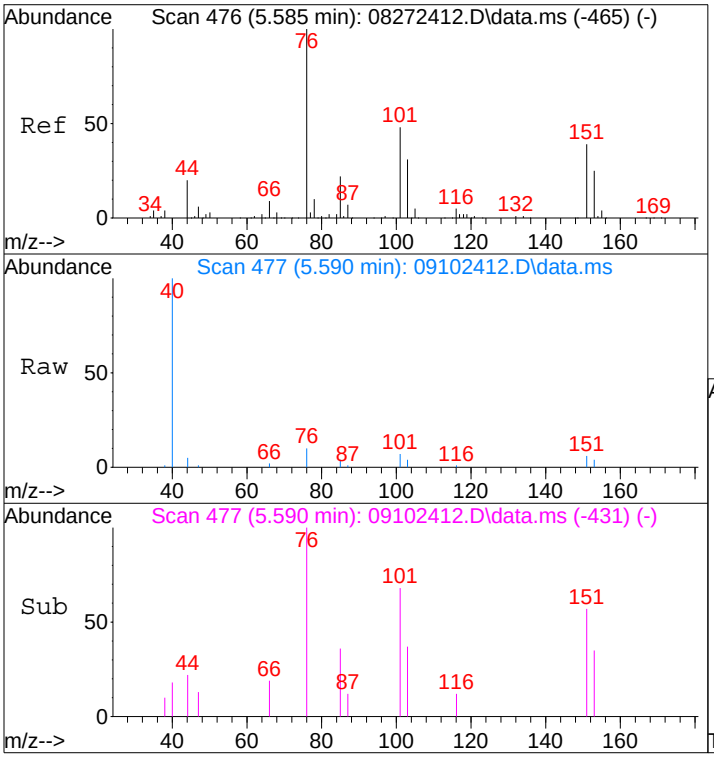


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.037 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 84 Resp: 1037

Ion	Ratio	Lower	Upper
84	100		
49	193.6	151.1	201.1

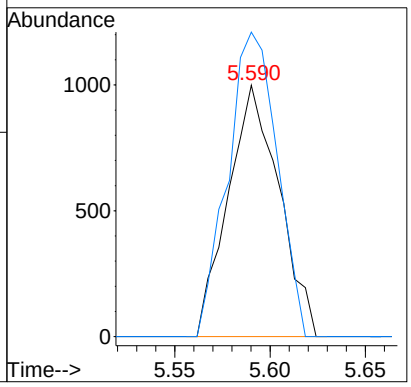


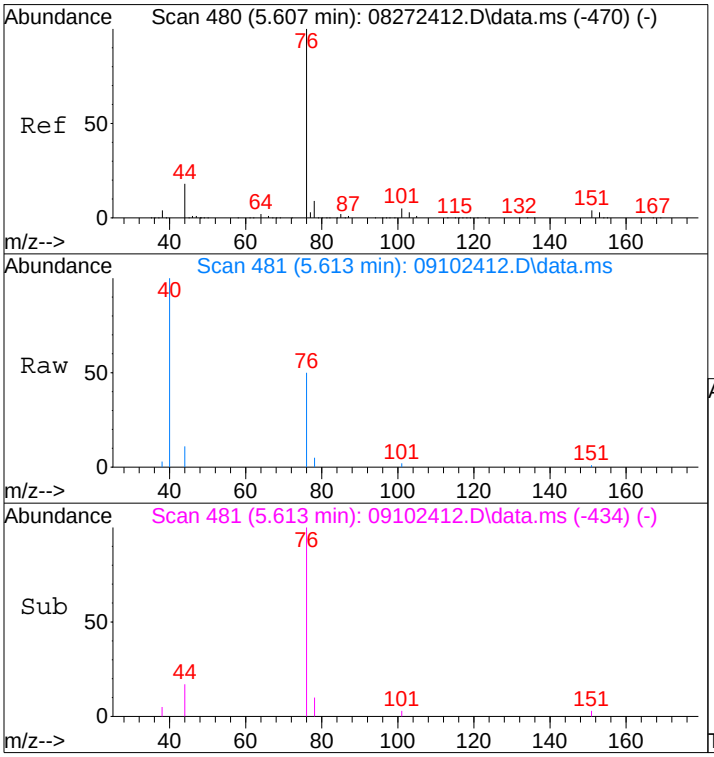


#21
Trichlorotrifluoroethane
Concen: 0.14 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.009 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion:151 Resp: 1855

Ion	Ratio	Lower	Upper
151	100		
101	117.8	103.4	143.4

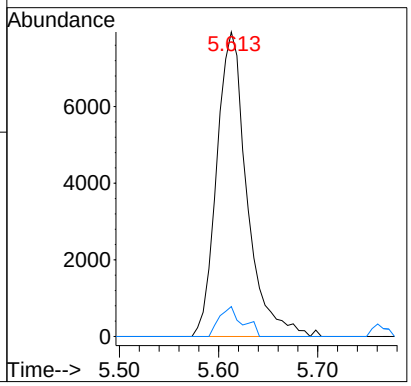


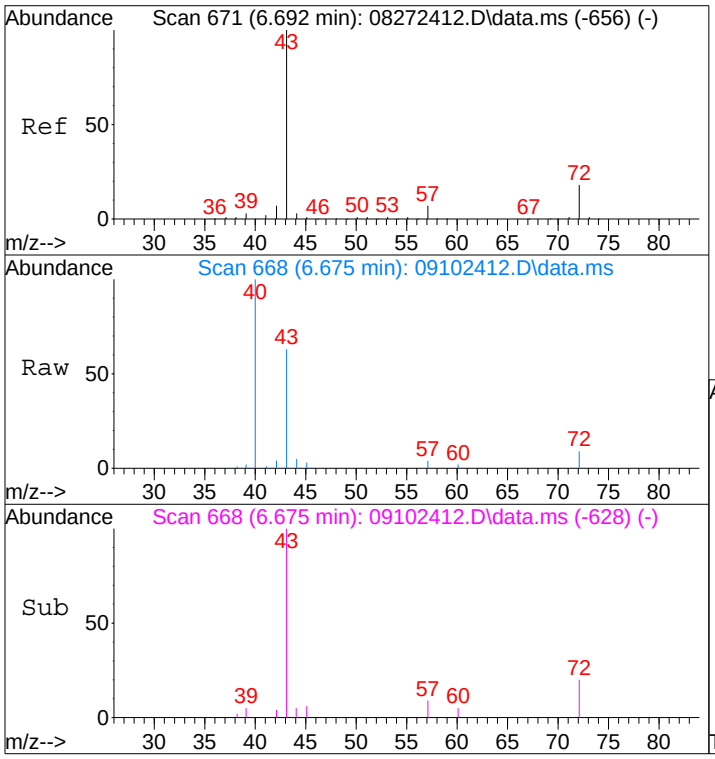


#22
Carbon Disulfide
Concen: 0.32 ng
RT: 5.61 min Scan# 481
Delta R.T. 0.015 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 76 Resp: 16866

Ion	Ratio	Lower	Upper
76	100		
78	7.5	0.0	29.6

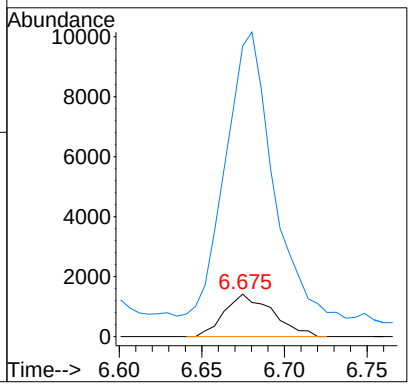


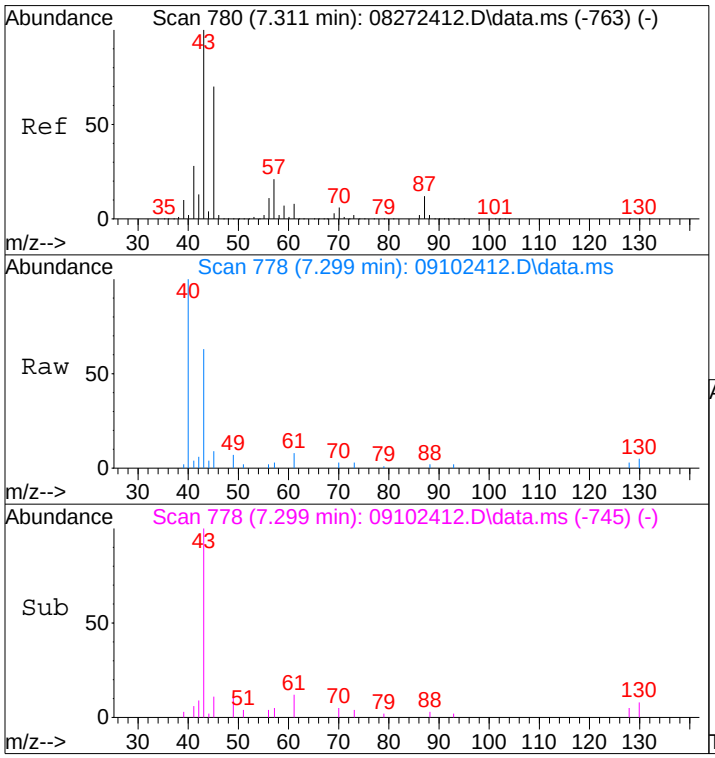


#27
2-Butanone (MEK)
Concen: 0.30 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.026 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 72 Resp: 2870

Ion	Ratio	Lower	Upper
72	100		
43	792.1	548.0	588.0#

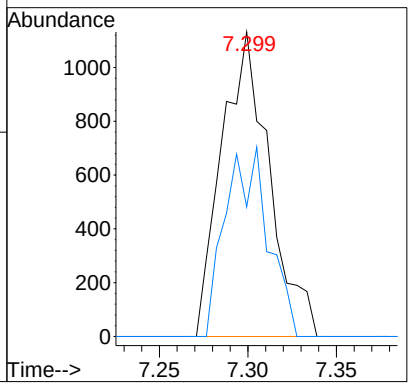


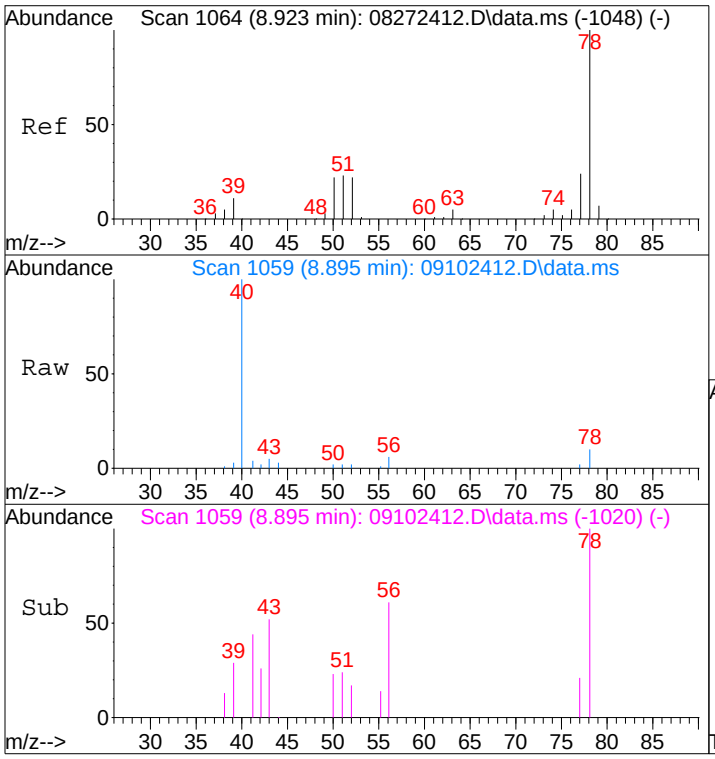


#30
Ethyl Acetate
Concen: 0.34 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.011 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 61 Resp: 2119

Ion	Ratio	Lower	Upper
61	100		
70	55.4	49.9	89.9

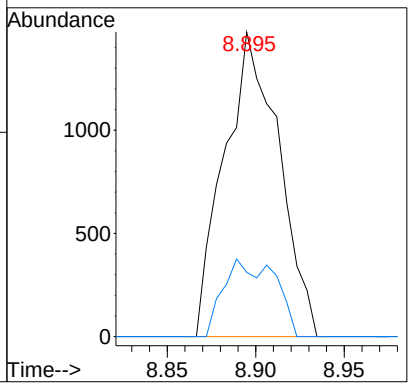


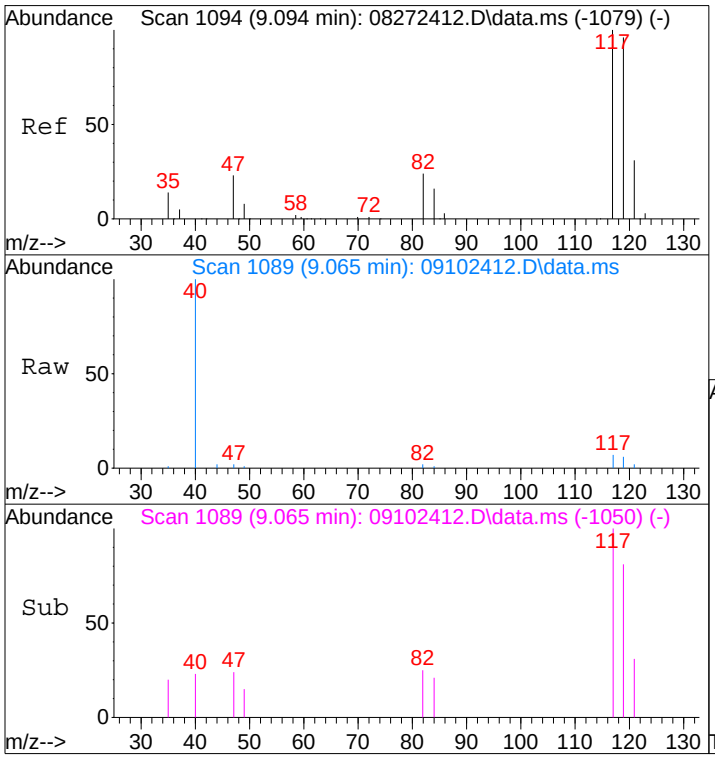


#41
Benzene
Concen: 0.05 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.029 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 78 Resp: 3153

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.9	43.9

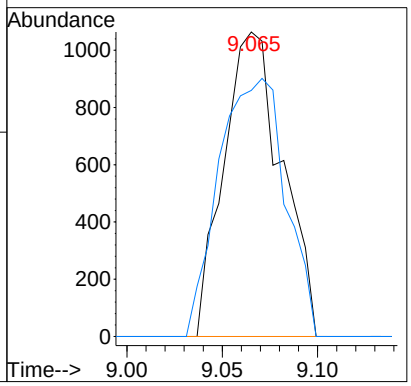


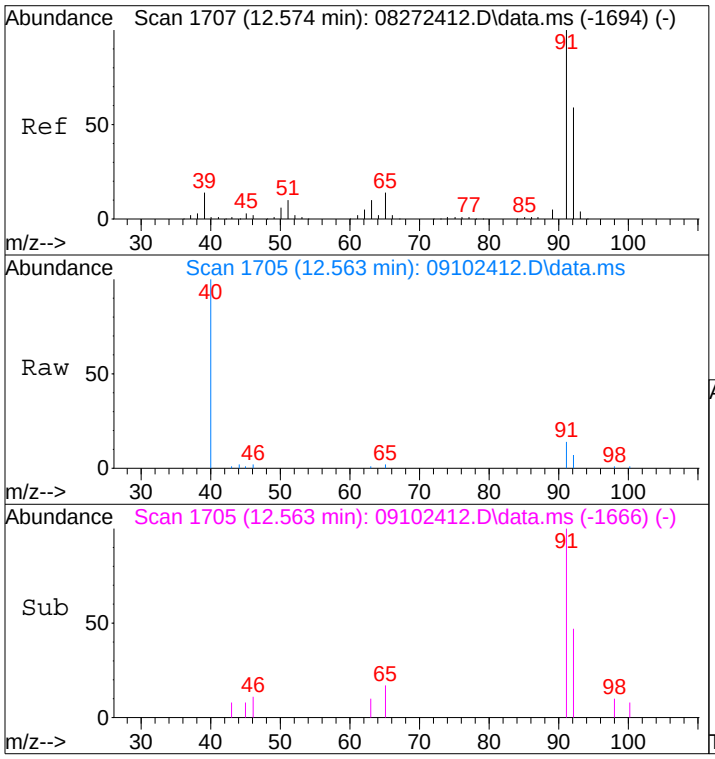


#42
Carbon Tetrachloride
Concen: 0.09 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.029 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion:117 Resp: 2265

Ion	Ratio	Lower	Upper
117	100		
119	96.9	75.1	115.1

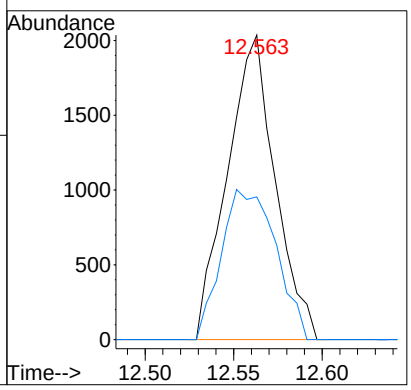




#58
Toluene
Concen: 0.05 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102412.D
Acq: 10 Sep 2024 15:03

Tgt Ion: 91 Resp: 3818

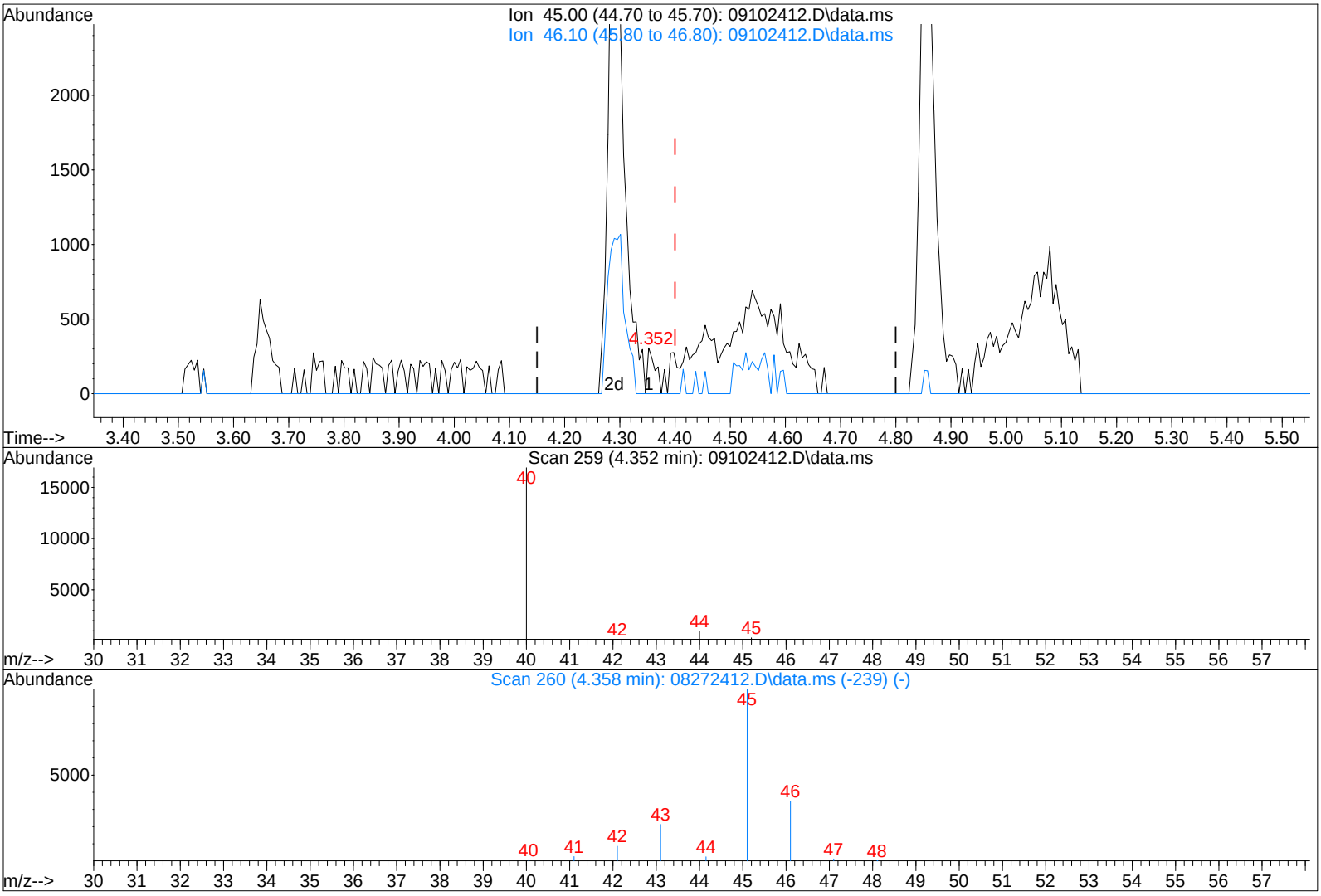
Ion	Ratio	Lower	Upper
91	100		
92	56.1	38.5	78.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:44:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102412.D\data.ms

(10) Ethanol (T)

4.352min (-0.048) 0.02ng

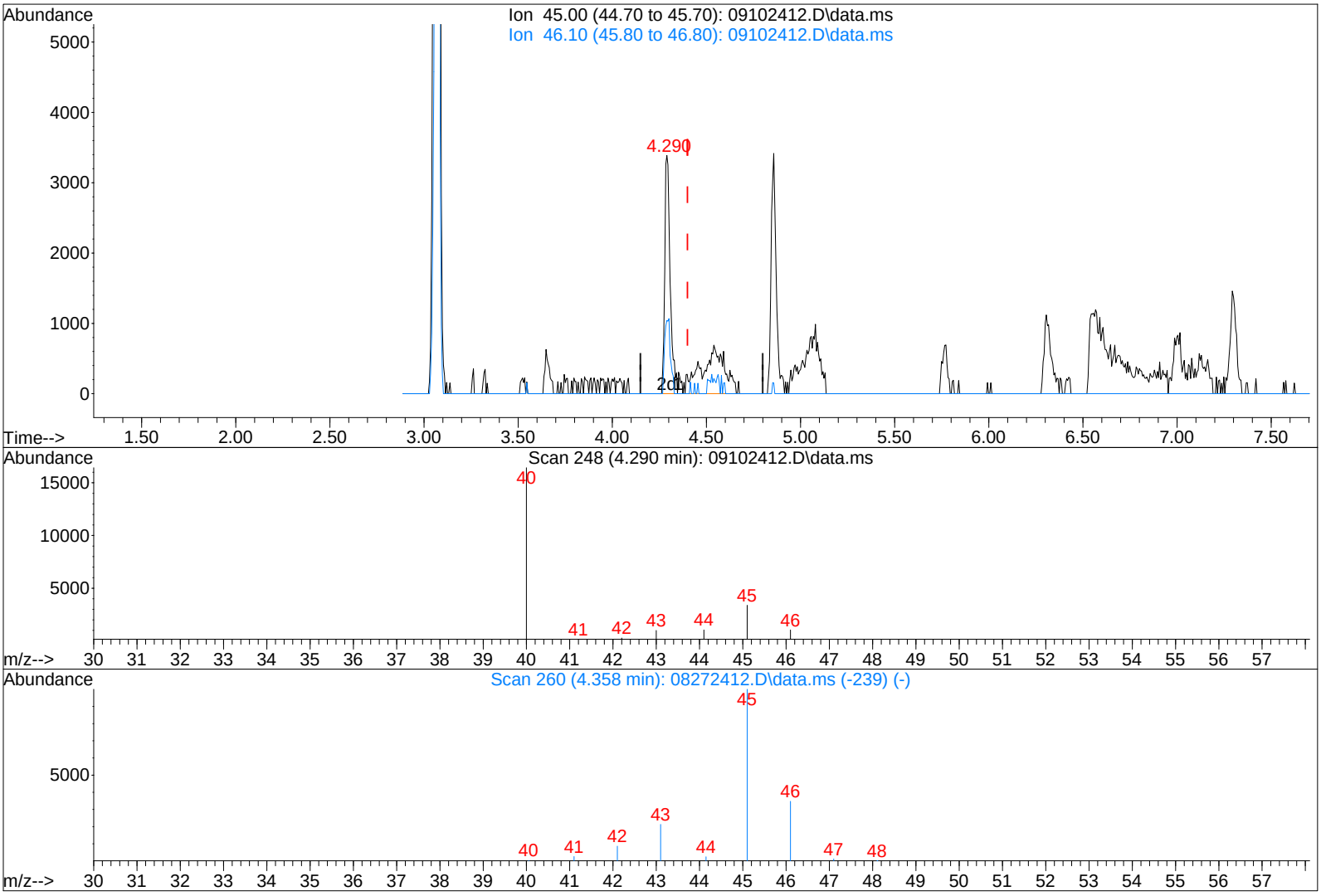
response 300

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	18.67
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:44:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102412.D\data.ms

(10) Ethanol (T)

4.290min (-0.110) 0.83ng m

response 13011

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.43#
0.00	0.00	0.00
0.00	0.00	0.00

MP

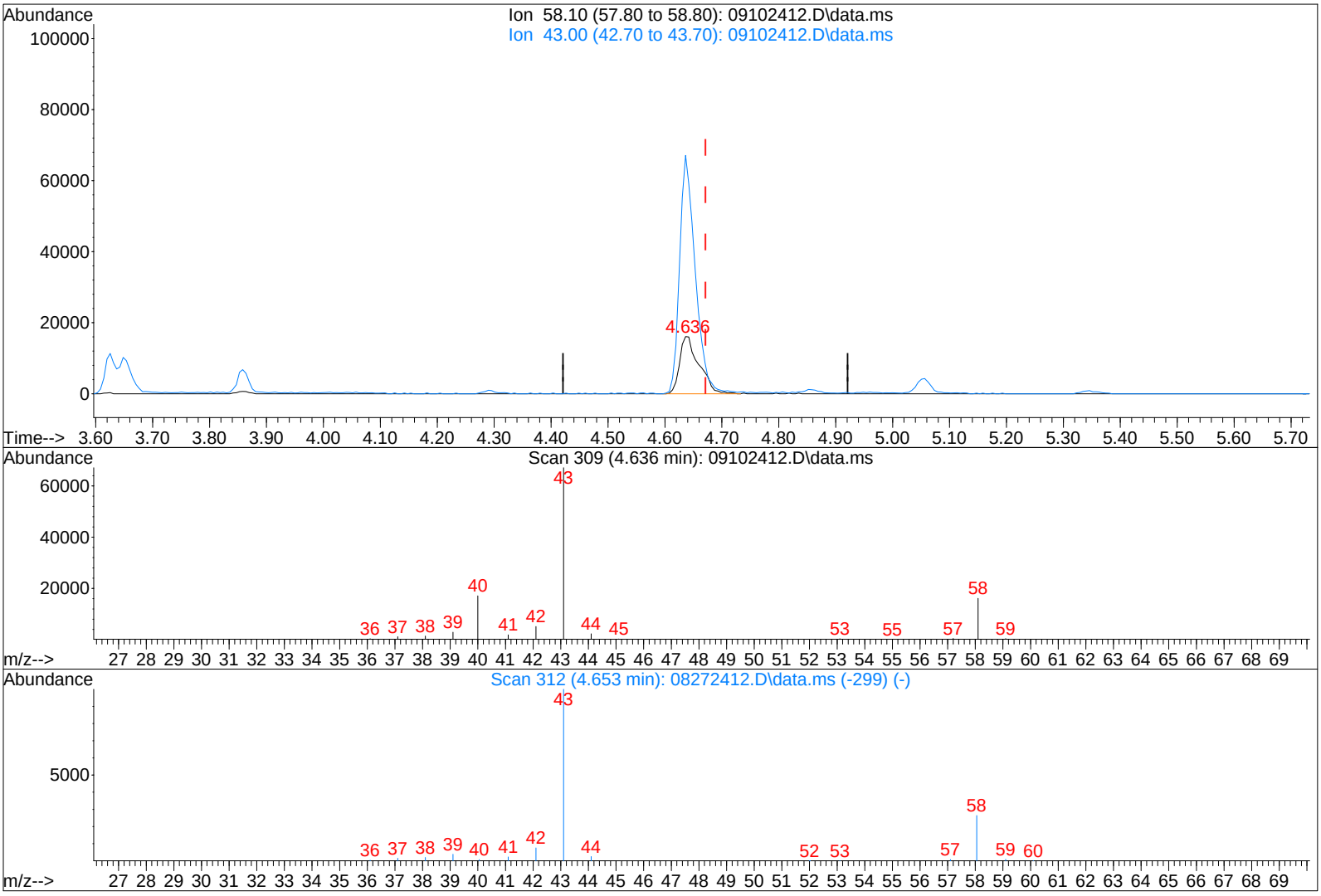
9/10/24

TZ 9/22/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:44:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102412.D\data.ms

(13) Acetone (T)

4.636min (-0.035) 2.85ng

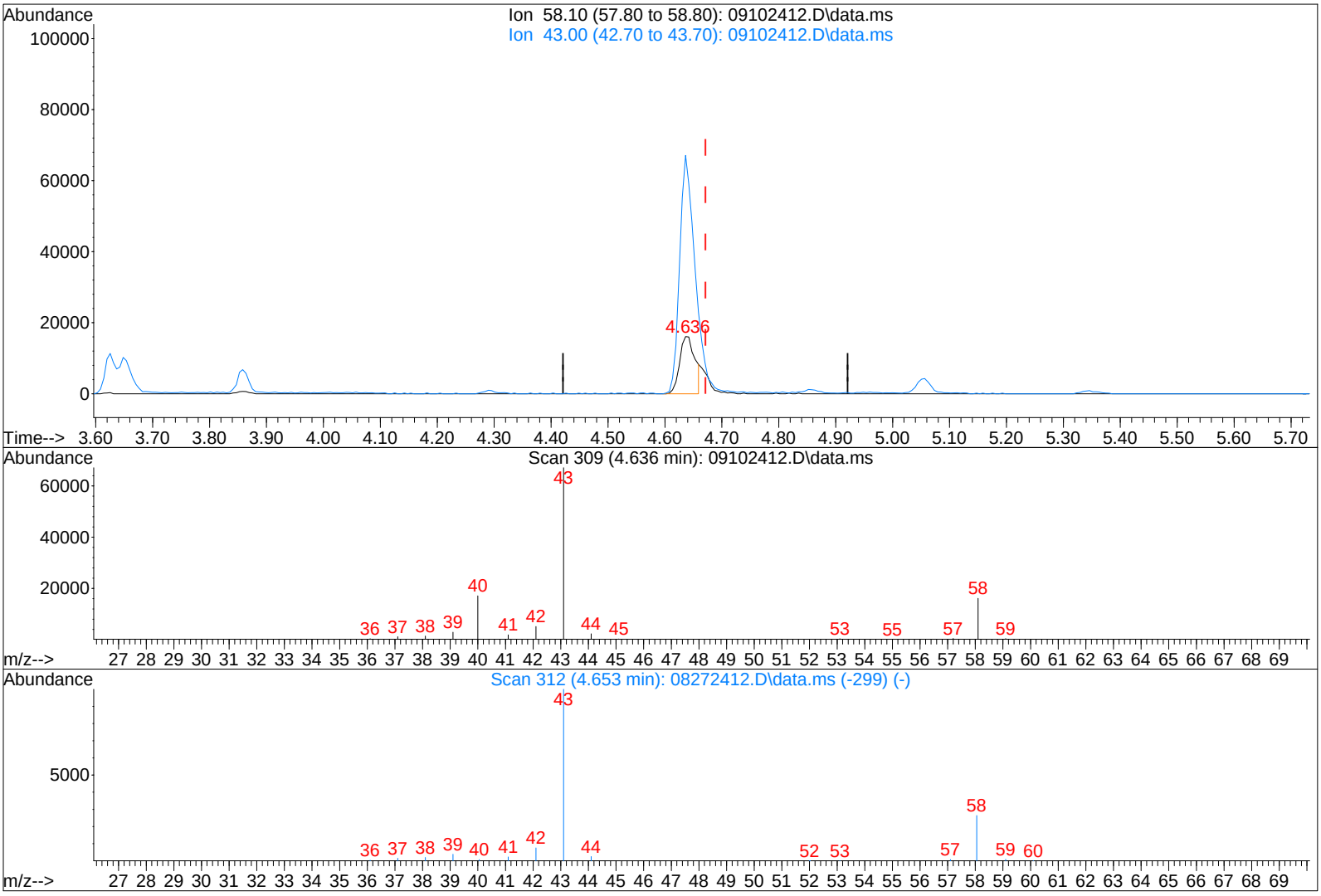
response 37913

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	341.65#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:44:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102412.D\data.ms

(13) Acetone (T)

4.636min (-0.035) 2.25ng m

response 29970

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	432.19#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/10/24

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:47:59 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

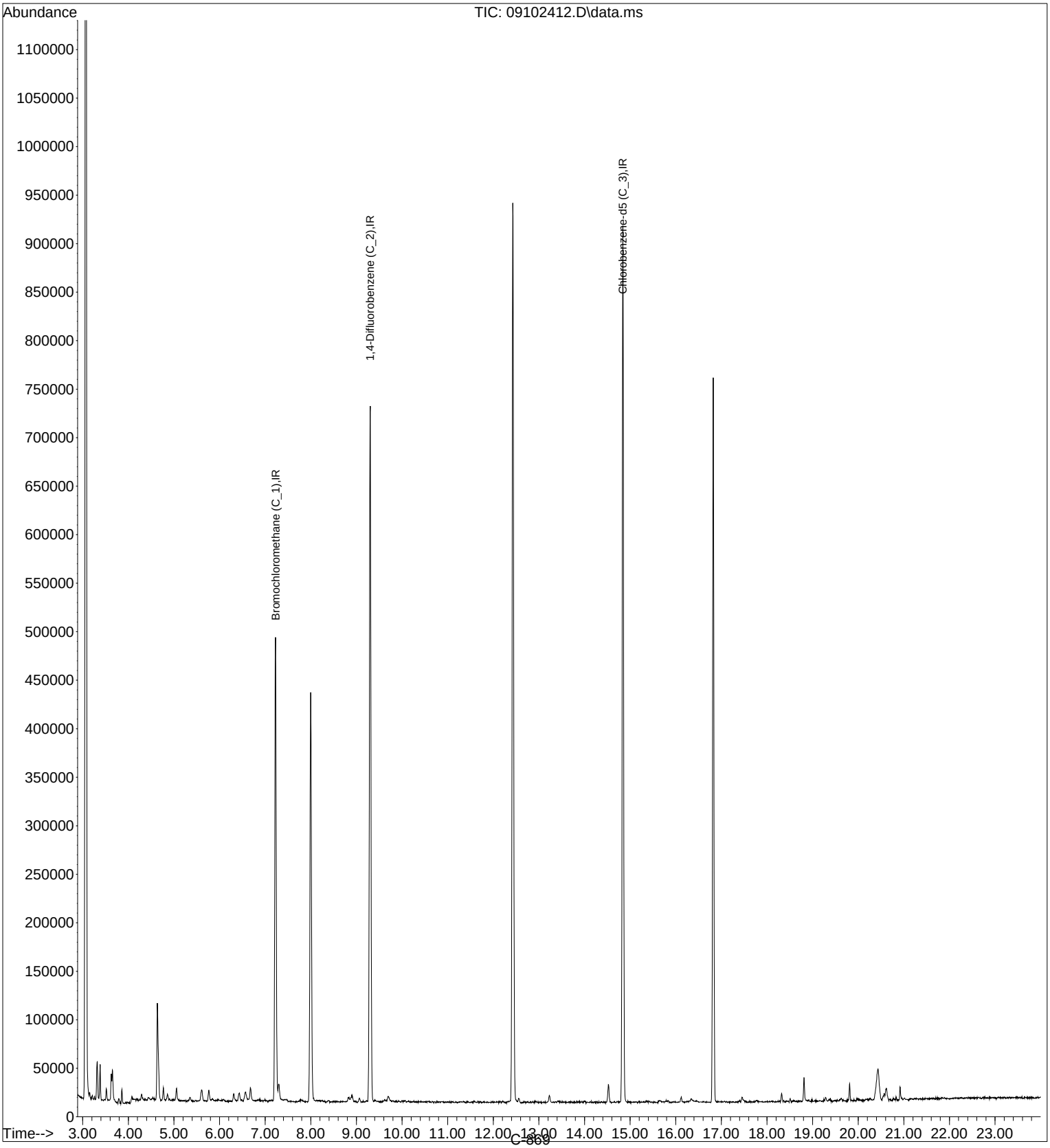
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	146540	12.500 ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	634995	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	183397	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.16	85	238	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.26	65	705	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.52	65	634	N.D.	
7) Dichlorofluoromethane ...	0.00	67	0	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.35	43	1749	N.D.	
12) 2-Methylpentane	6.48	71	128	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	9.08	84	276	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	9.79	174	58	N.D.	
20) Methyl Cyclohexane	11.42	55	266	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.60	91	52	N.D.	
27) 4-Chlorotoluene	17.68	91	492	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	20.59	119	135	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102412.D Vial: 5
Acq On : 10 Sep 2024 15:03 Operator: SC
Sample : P2403661-019 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:47:59 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102412.D
Acq On : 10 Sep 2024 15:03
Operator : SC
Sample : P2403661-019 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102412.D\data.ms

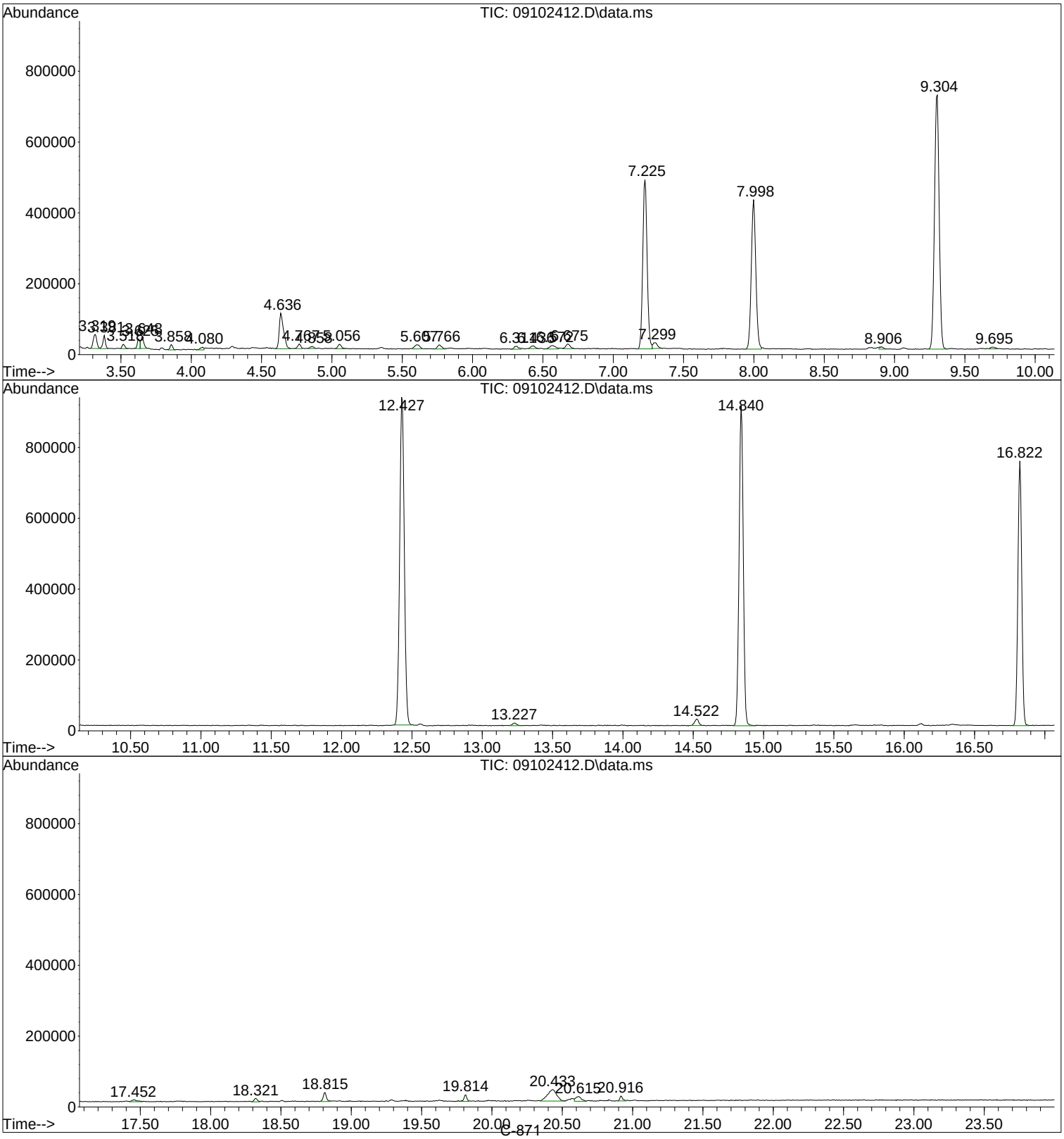
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	70	77	83	rBV2	39201	69855	3.30%	0.691%
2	3.381	83	88	93	rVB2	36950	44739	2.12%	0.443%
3	3.518	108	112	118	rVB2	12033	17183	0.81%	0.170%
4	3.625	125	131	133	rBV	27047	35798	1.69%	0.354%
5	3.648	133	135	142	rVB	30863	44572	2.11%	0.441%
6	3.858	168	172	177	rBV2	14940	19683	0.93%	0.195%
7	4.080	203	211	213	rBV	7516	13233	0.63%	0.131%
8	4.636	302	309	322	rVB	100715	215255	10.18%	2.129%
9	4.767	326	332	336	rBV3	13141	19946	0.94%	0.197%
10	4.858	342	348	353	rVB2	6200	11282	0.53%	0.112%
11	5.056	377	383	391	rVB3	12627	22851	1.08%	0.226%
12	5.607	474	480	488	rVB3	11421	28713	1.36%	0.284%
13	5.766	501	508	516	rBV3	11370	24281	1.15%	0.240%
14	6.311	597	604	610	rBV3	8338	18625	0.88%	0.184%
15	6.436	619	626	633	rBV4	7914	18174	0.86%	0.180%
16	6.572	641	650	657	rBV5	9795	29672	1.40%	0.294%
17	6.675	662	668	678	rVB2	13301	29606	1.40%	0.293%
18	7.225	756	765	774	rBV	477842	1037778	49.09%	10.266%
19	7.299	774	778	787	rVB	16246	36236	1.71%	0.358%
20	7.998	891	901	911	rBV	421777	944837	44.70%	9.347%
21	8.906	1058	1061	1067	rVB4	6651	11190	0.53%	0.111%
22	9.304	1121	1131	1143	rVB	716928	1647927	77.96%	16.302%
23	9.695	1195	1200	1207	rBV3	4776	12007	0.57%	0.119%
24	12.427	1672	1681	1694	rBV	925524	2113902	100.00%	20.912%
25	13.227	1815	1822	1832	rVB3	7352	15958	0.75%	0.158%
26	14.522	2043	2050	2057	rBV2	18275	37628	1.78%	0.372%
27	14.840	2096	2106	2124	rVB	904047	1873499	88.63%	18.534%
28	16.822	2446	2455	2467	rBV	747046	1410891	66.74%	13.958%
29	17.452	2561	2566	2577	rBV6	5396	15084	0.71%	0.149%
30	18.321	2714	2719	2724	rBV3	9361	15728	0.74%	0.156%
31	18.815	2798	2806	2813	rBV2	24810	40870	1.93%	0.404%
32	19.814	2974	2982	2986	rBV3	18307	26589	1.26%	0.263%
33	20.433	3075	3091	3107	rVB6	32416	147171	6.96%	1.456%
34	20.615	3118	3123	3133	rVB4	13330	37247	1.76%	0.368%
35	20.916	3172	3176	3183	rBV4	13679	20465	0.97%	0.202%

Sum of corrected areas: 10108475

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102412.D
Acq On : 10 Sep 2024 15:03
Operator : SC
Sample : P2403661-019 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102412.D
Acq On : 10 Sep 2024 15:033
Operator : SCC
Sample : P2403661-019 (400mL))
Misc : S37-060624022
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:59:13 2024 9/10/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	135717	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	603831	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	176063	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	342223	13.475	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
57) Toluene-d8 (SS2)	12.43	98	683801	11.071	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
73) Bromofluorobenzene (SS3)	16.82	174	221287	10.713	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.68%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.39	85	122	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	28826	1.957	ng		79
11) Acetonitrile	4.45	41	564	N.D.			
12) Acrolein	4.55	56	1174	0.104	ng		86
13) Acetone	4.64	58	10710m	0.862	ng		
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.85	45	5973	0.122	ng		84
16) Acrylonitrile	5.00	53	147	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	658	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.61	76	898	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	7527	0.854	ng	#	61
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	9420	No Calib		#	
41) Benzene	8.91	78	1434	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:59:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

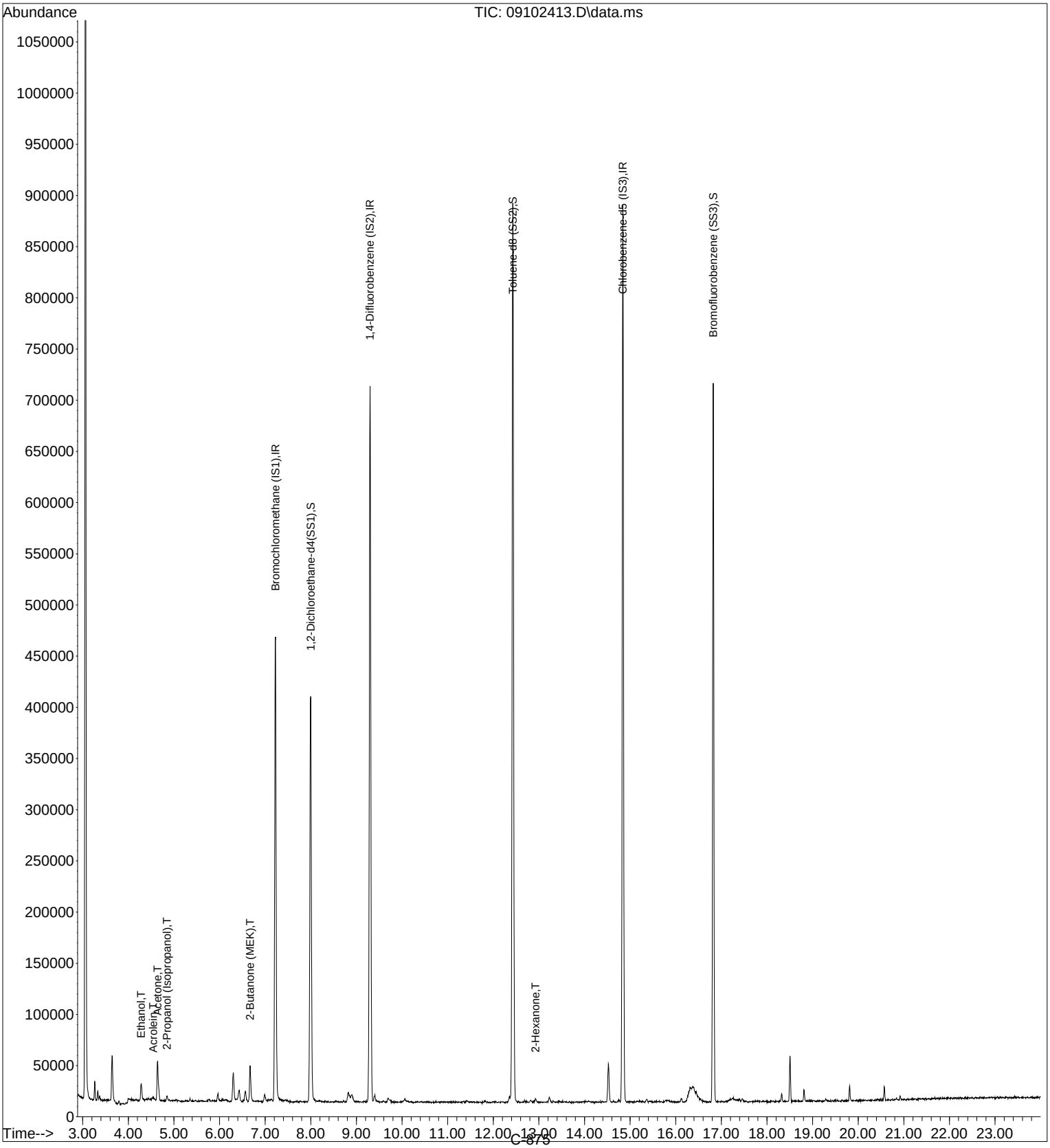
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	846	N.D.	
59) 2-Hexanone	12.93	43	3920	0.095 ng	84
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.42	91	264	N.D.	
67) m- & p-Xylenes	15.64	91	591	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	183	N.D.	
71) n-Nonane	16.61	43	101	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	249	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.43	105	115	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.65	146	337	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	337	N.D.	
87) sec-Butylbenzene	18.74	105	124	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	410	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	516	N.D.	
95) Naphthalene	20.94	128	502	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	122	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.50	119	932	N.D.	
100) n-Butylbenzene	19.39	91	177	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:59:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:59:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

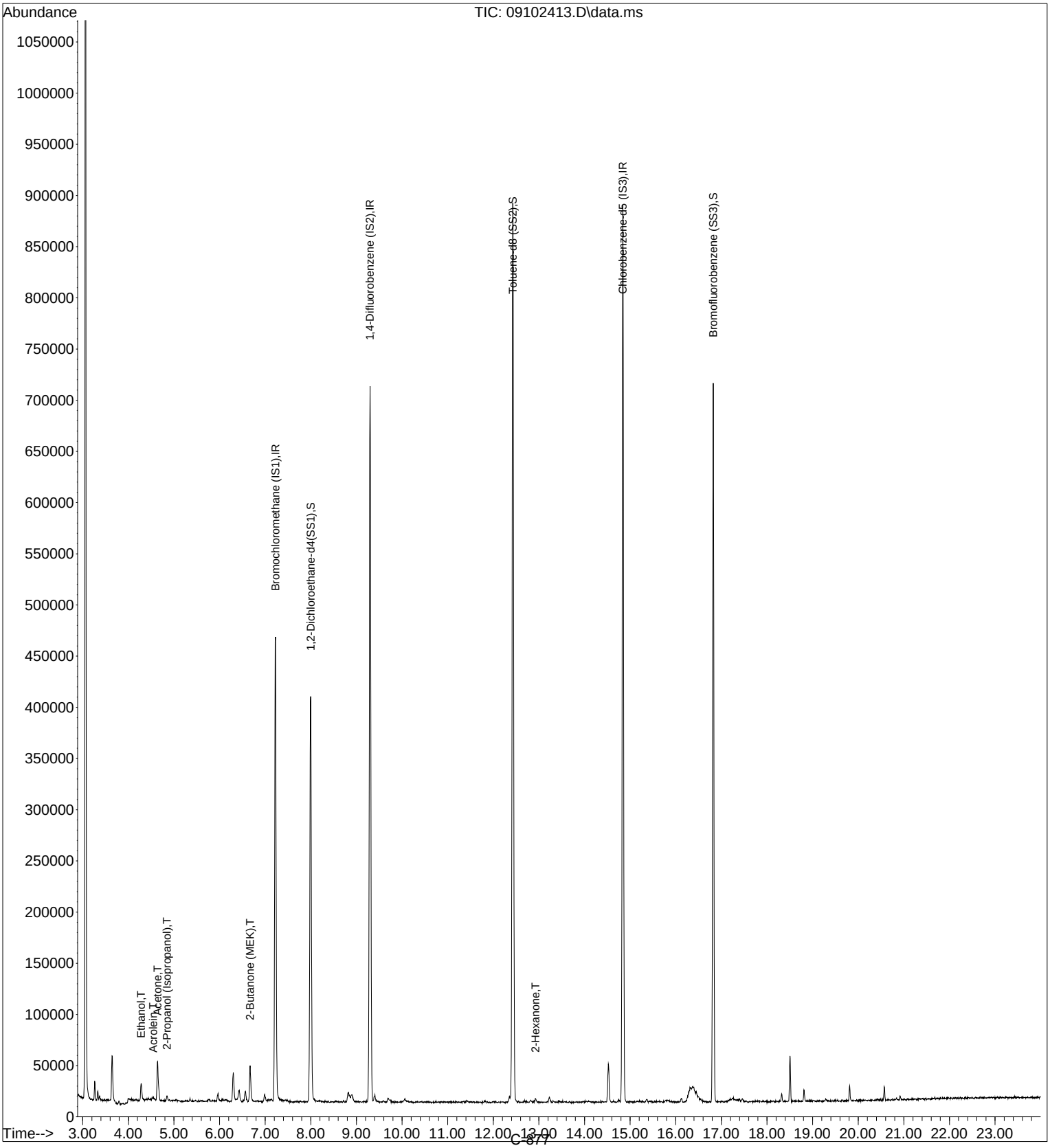
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	135717	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	603831	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	176063	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	342223	13.475	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
57) Toluene-d8 (SS2)	12.43	98	683801	11.071	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
73) Bromofluorobenzene (SS3)	16.82	174	221287	10.713	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.68%				
Target Compounds							Qvalue
10) Ethanol	4.28	45	28826	1.957	ng		79
12) Acrolein	4.55	56	1174	0.104	ng		86
13) Acetone	4.64	58	10710m	0.862	ng		
15) 2-Propanol (Isopropanol)	4.85	45	5973	0.122	ng		84
27) 2-Butanone (MEK)	6.67	72	7527	0.854	ng	#	61
59) 2-Hexanone	12.93	43	3920	0.095	ng		84

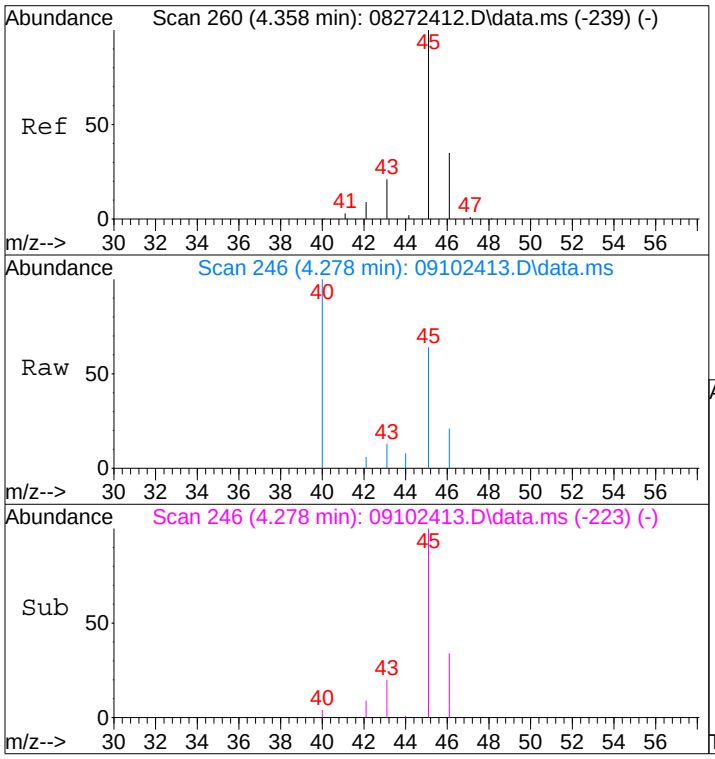
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:59:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

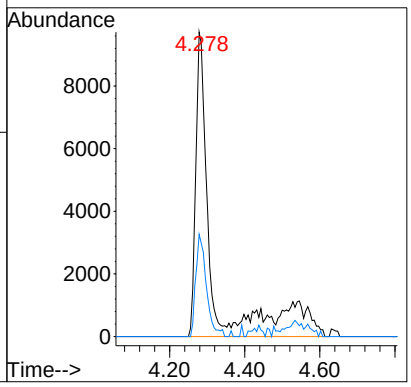


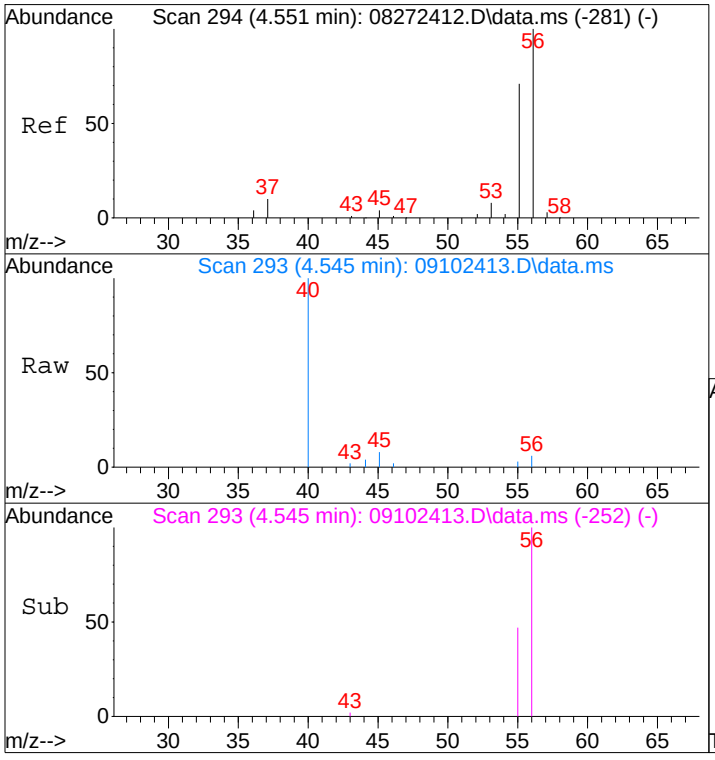


#10
Ethanol
Concen: 1.96 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.121 min
Lab File: 09102413.D
Acq: 10 Sep 2024 15:35

Tgt Ion: 45 Resp: 28826

Ion	Ratio	Lower	Upper
45	100		
46	22.2	14.2	54.2

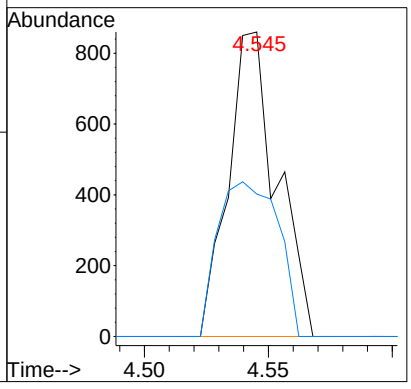


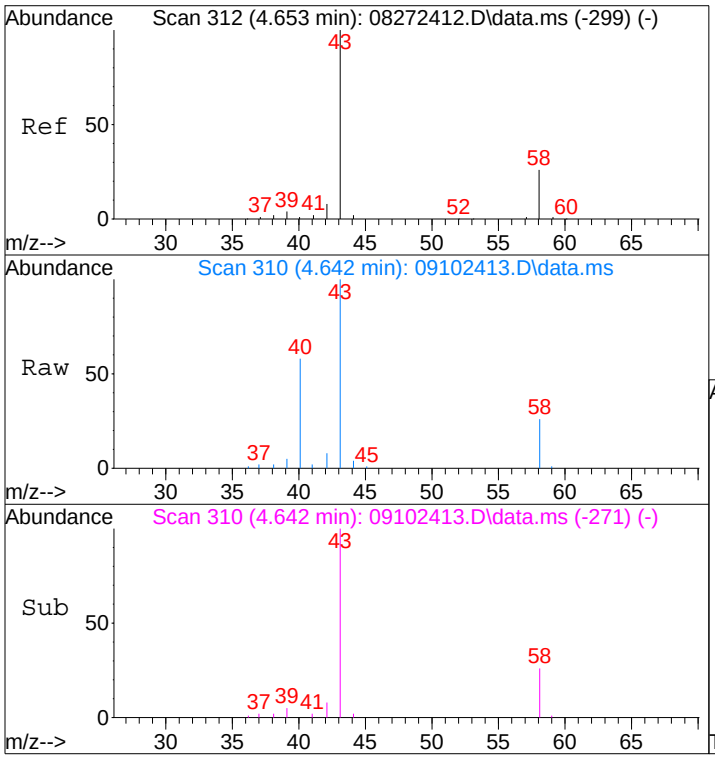


#12
Acrolein
Concen: 0.10 ng
RT: 4.55 min Scan# 293
Delta R.T. -0.018 min
Lab File: 09102413.D
Acq: 10 Sep 2024 15:35

Tgt Ion: 56 Resp: 1174

Ion	Ratio	Lower	Upper
56	100		
55	63.2	54.7	94.7

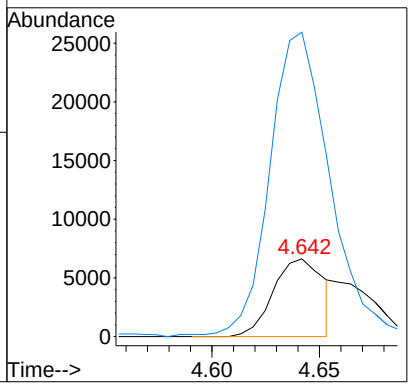


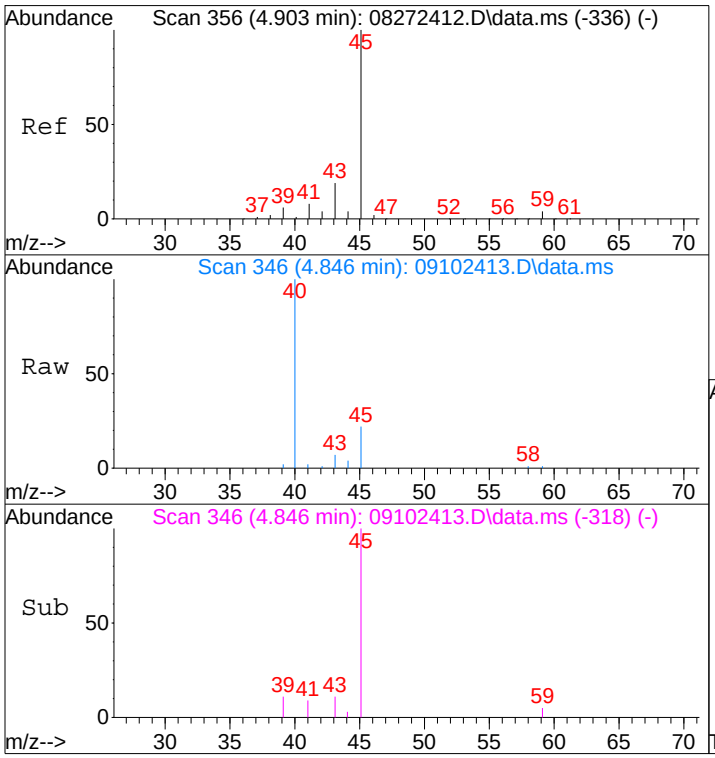


#13
Acetone
Concen: 0.86 ng m
RT: 4.64 min Scan# 310
Delta R.T. -0.029 min
Lab File: 09102413.D
Acq: 10 Sep 2024 15:35

Tgt Ion: 58 Resp: 10710

Ion	Ratio	Lower	Upper
58	100		
43	480.5	347.3	407.3#

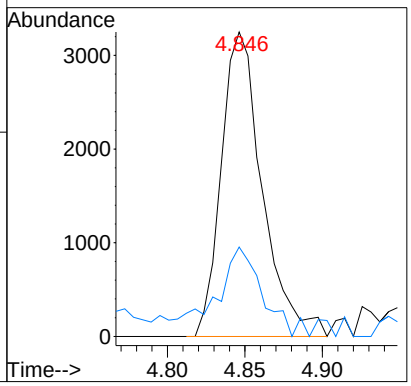


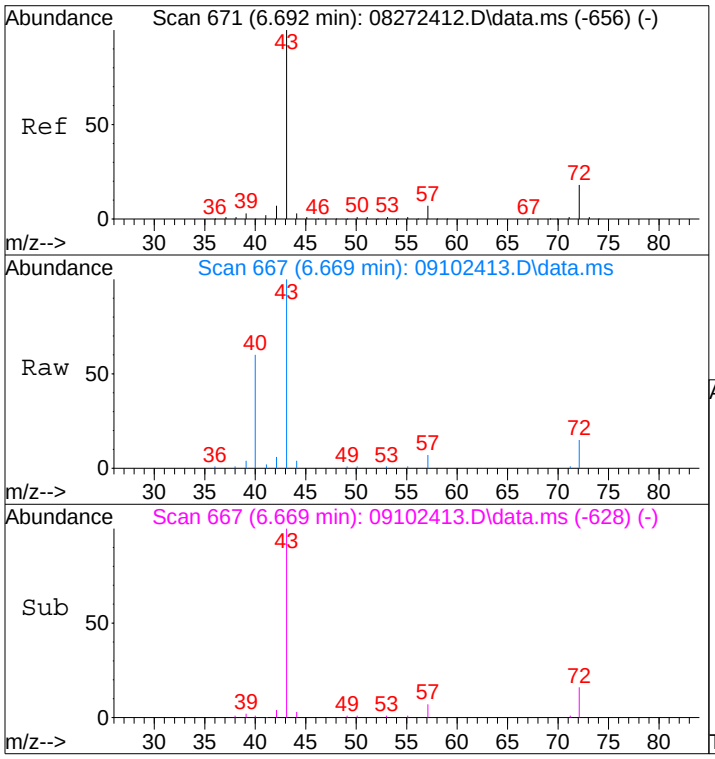


#15
2-Propanol (Isopropanol)
Concen: 0.12 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.091 min
Lab File: 09102413.D
Acq: 10 Sep 2024 15:35

Tgt Ion: 45 Resp: 5973

Ion	Ratio	Lower	Upper
45	100		
43	27.6	0.0	40.0

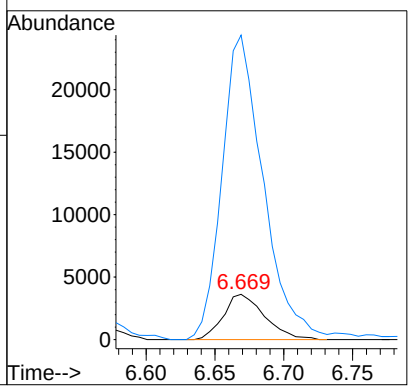


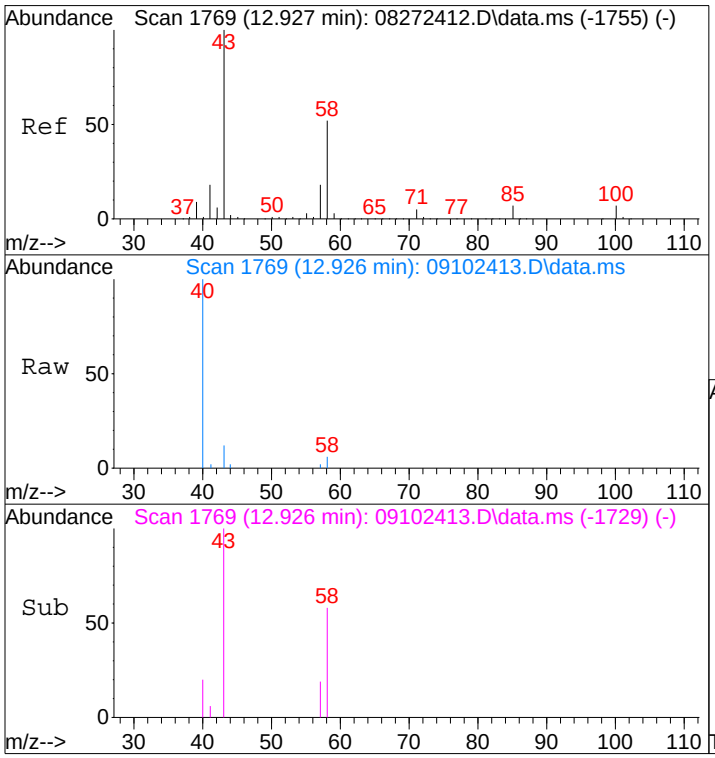


#27
2-Butanone (MEK)
Concen: 0.85 ng
RT: 6.67 min Scan# 667
Delta R.T. -0.031 min
Lab File: 09102413.D
Acq: 10 Sep 2024 15:35

Tgt Ion: 72 Resp: 7527

Ion	Ratio	Lower	Upper
72	100		
43	686.6	548.0	588.0#

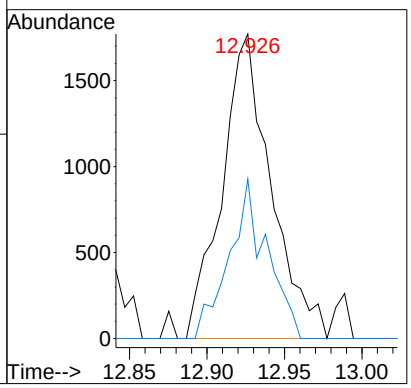




#59
2-Hexanone
Concen: 0.09 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09102413.D
Acq: 10 Sep 2024 15:35

Tgt Ion: 43 Resp: 3920

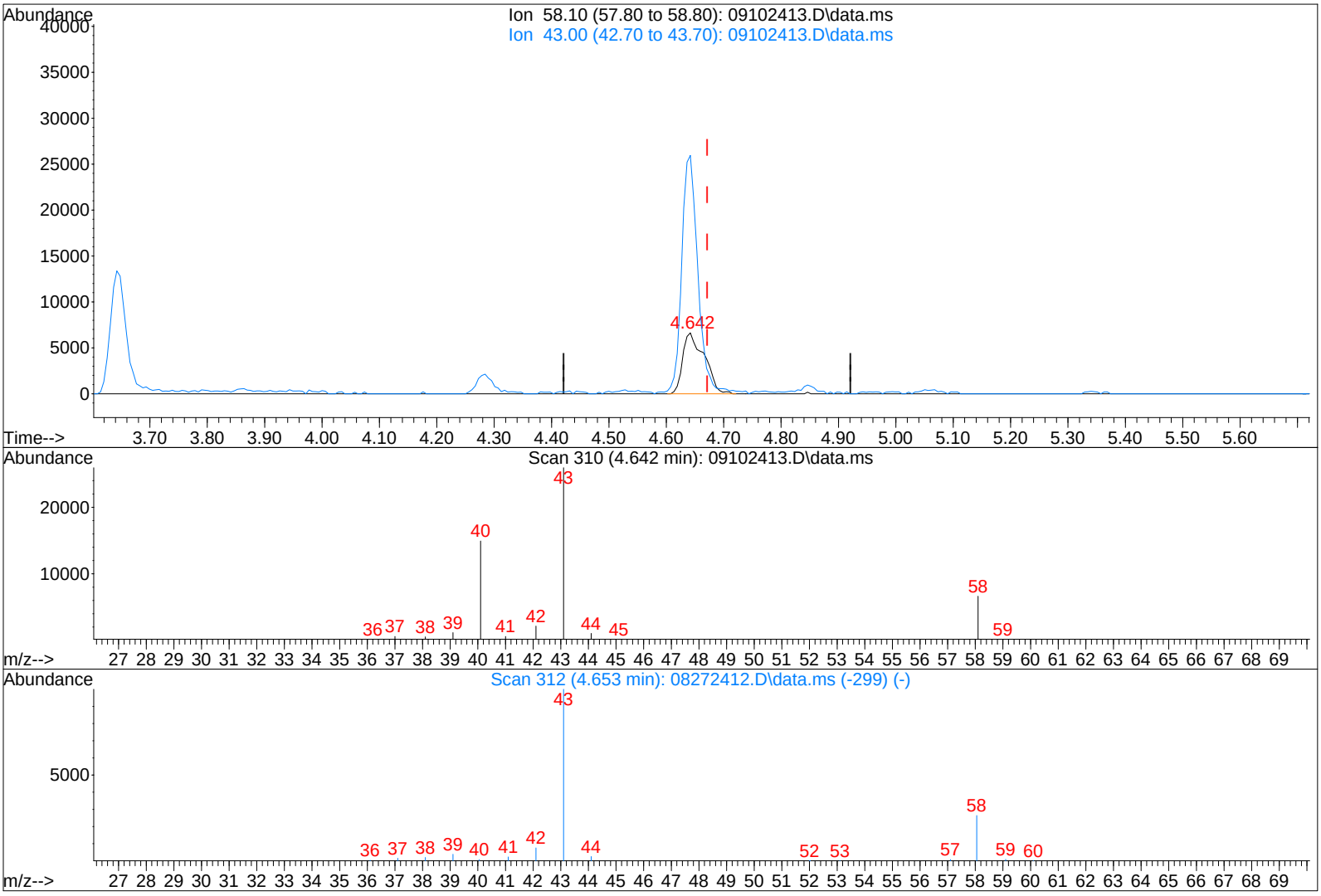
Ion	Ratio	Lower	Upper
43	100		
58	40.3	31.1	71.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:58:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102413.D\data.ms

(13) Acetone (T)

4.642min (-0.029) 1.39ng

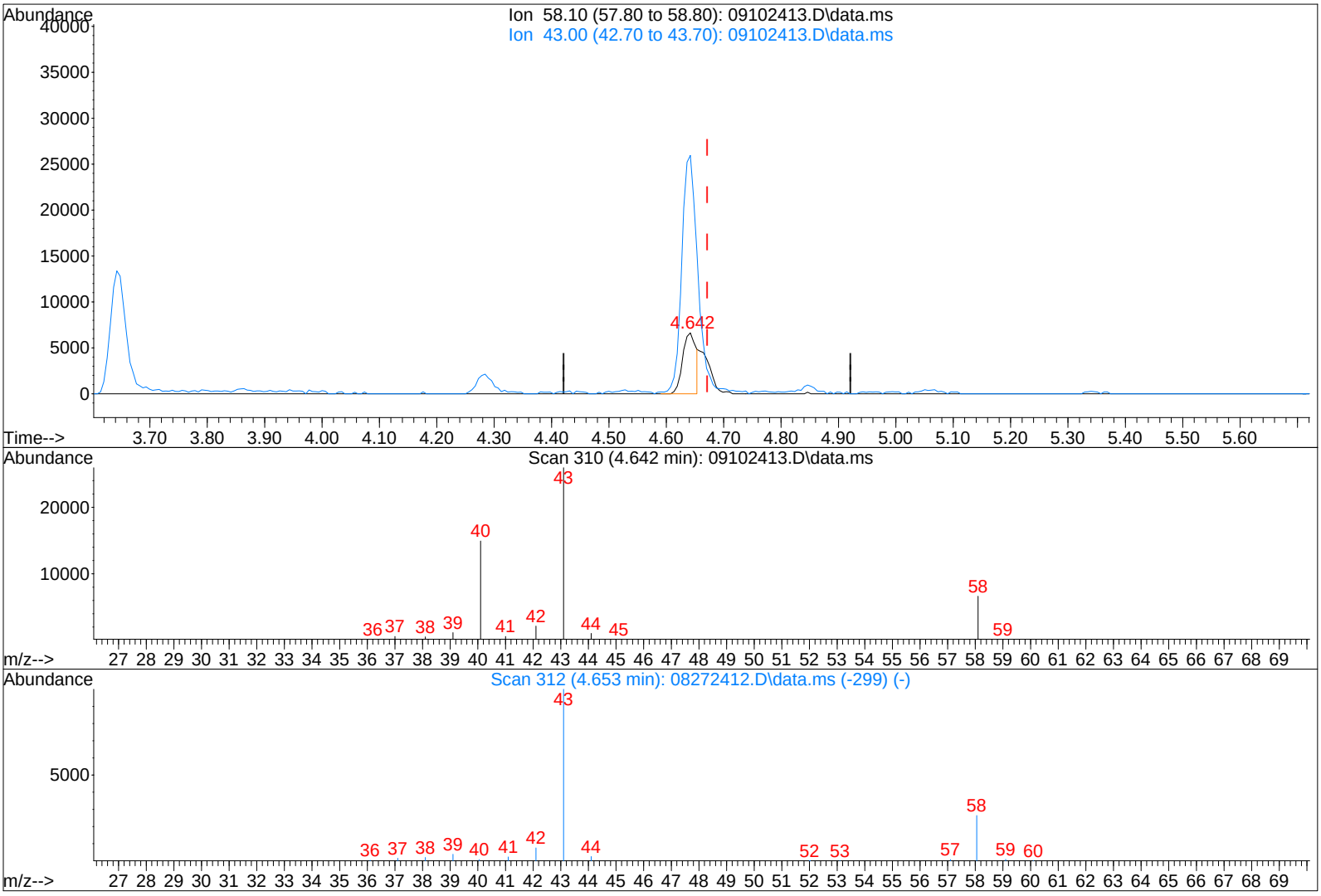
response 17275

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	297.89#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 15:58:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102413.D\data.ms

(13) Acetone (T)

4.642min (-0.029) 0.86ng m

response 10710

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	480.49#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/10/24

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 16:01:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

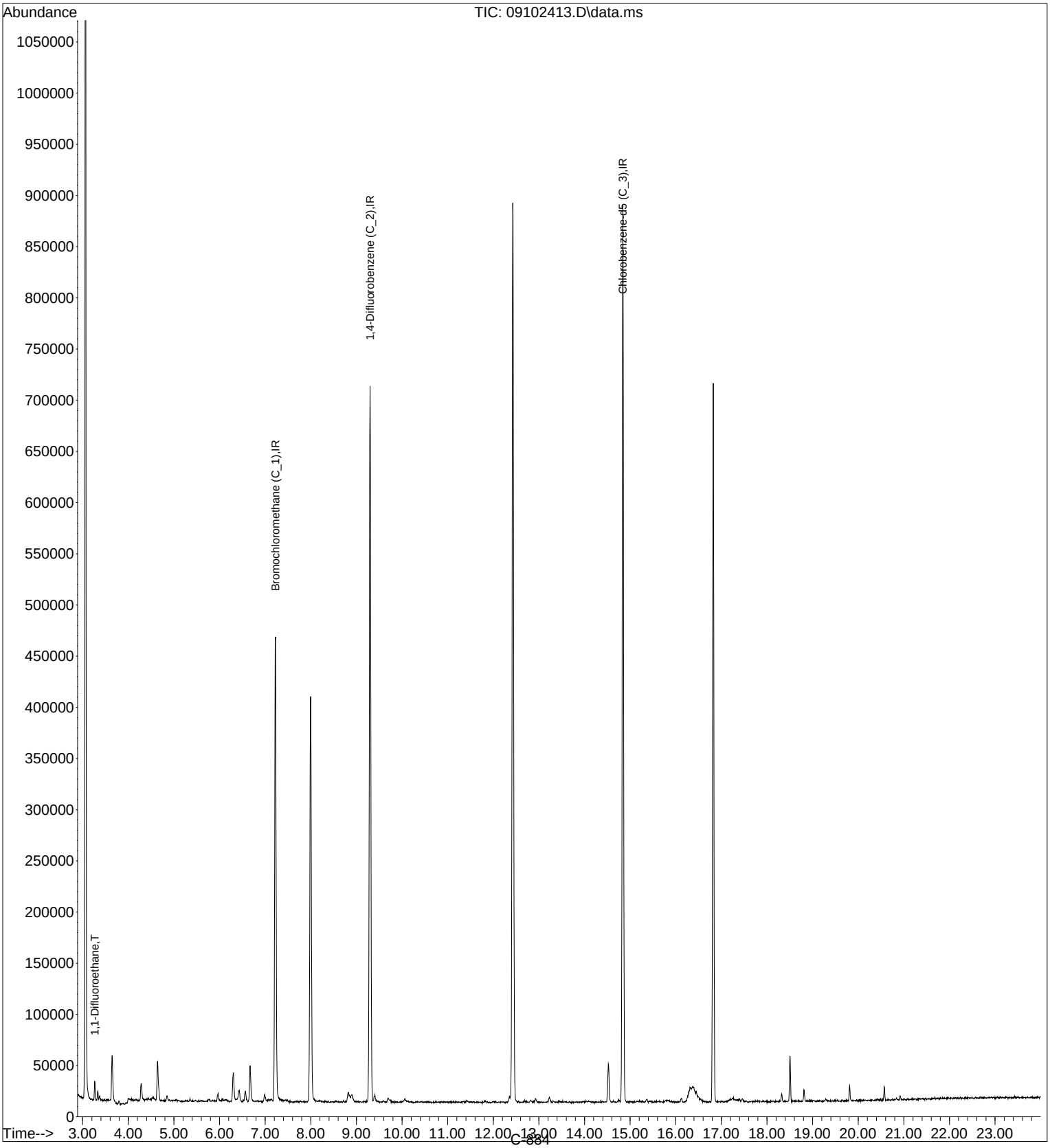
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	137954	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	605183	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	176063	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.26	65	4456	0.370	ng	86
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.63	57	53	N.D.		
11) Methyl Acetate	5.34	43	358	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	54	N.D.		
20) Methyl Cyclohexane	11.41	55	65	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.67	91	249	N.D.		
27) 4-Chlorotoluene	17.67	91	249	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102413.D Vial: 6
Acq On : 10 Sep 2024 15:35 Operator: SC
Sample : P2403661-020 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 10 16:01:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102413.D
Acq On : 10 Sep 2024 15:35
Operator : SC
Sample : P2403661-020 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102413.D\data.ms

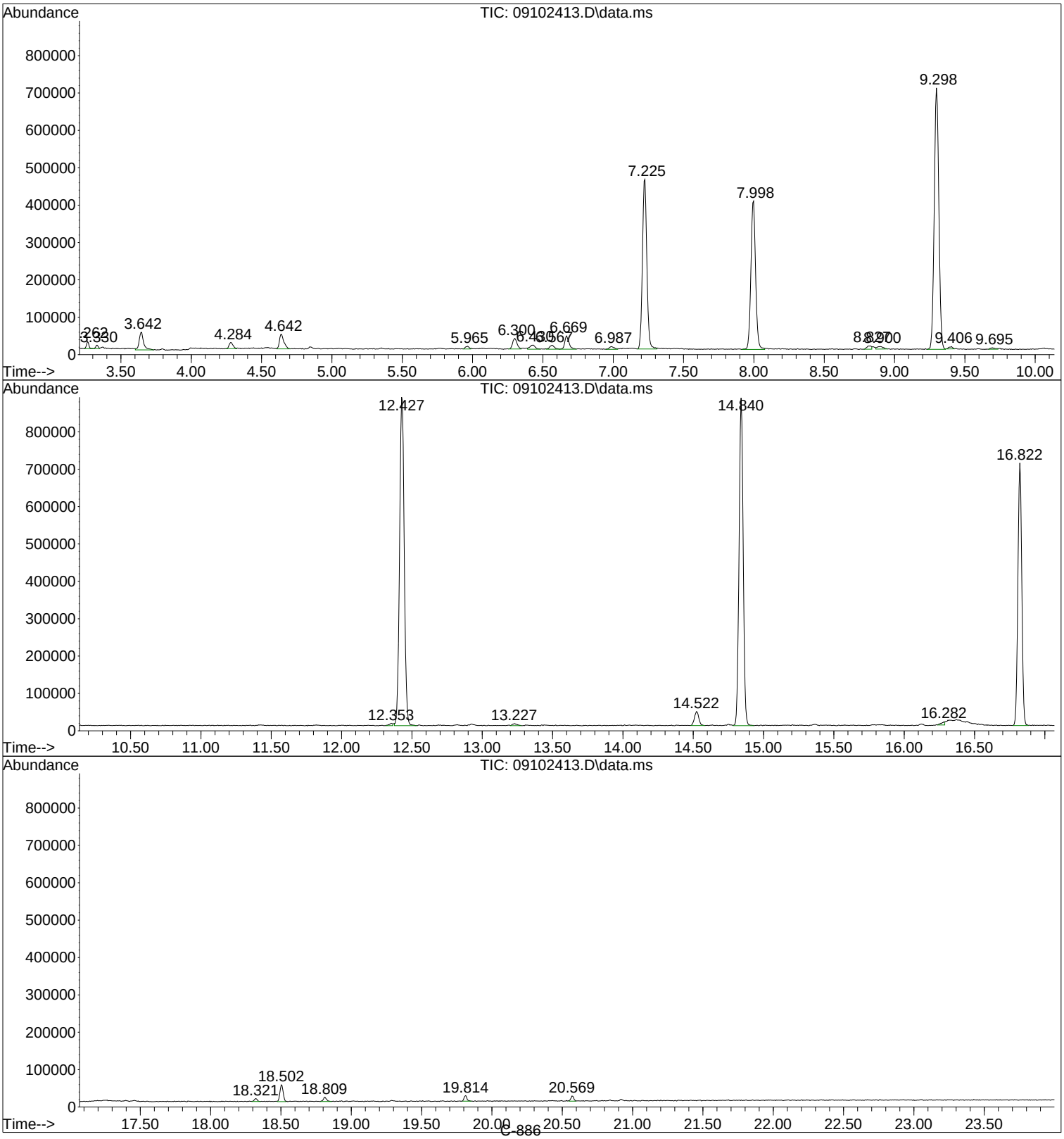
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.262	63	67	74	rVB	19029	22989	1.13%	0.244%
2	3.330	74	79	82	rBV2	9412	12173	0.60%	0.129%
3	3.642	127	134	150	rVB2	47083	104221	5.13%	1.104%
4	4.284	240	247	254	rBV	16304	32326	1.59%	0.343%
5	4.642	304	310	321	rVB	38636	83847	4.13%	0.889%
6	5.965	537	543	547	rBV3	7751	13714	0.68%	0.145%
7	6.300	594	602	610	rBV	28326	62892	3.10%	0.666%
8	6.430	618	625	634	rVB5	11098	28440	1.40%	0.301%
9	6.567	641	649	658	rVB3	10423	25532	1.26%	0.271%
10	6.669	658	667	679	rBV	35542	74682	3.68%	0.791%
11	6.987	716	723	731	rBV3	7555	17835	0.88%	0.189%
12	7.225	755	765	780	rBV	453669	988564	48.69%	10.476%
13	7.998	886	901	915	rBV	396645	917320	45.18%	9.721%
14	8.827	1039	1047	1049	rBV2	9231	20803	1.02%	0.220%
15	8.900	1054	1060	1069	rVB5	6760	20841	1.03%	0.221%
16	9.298	1118	1130	1141	rBV	699419	1575834	77.62%	16.699%
17	9.406	1141	1149	1153	rVV3	6141	11889	0.59%	0.126%
18	9.695	1195	1200	1207	rBV4	3972	10350	0.51%	0.110%
19	12.353	1661	1668	1670	rBV4	6087	10563	0.52%	0.112%
20	12.427	1672	1681	1700	rVB	878943	2030232	100.00%	21.514%
21	13.227	1817	1822	1831	rVB4	5565	12387	0.61%	0.131%
22	14.522	2043	2050	2061	rVB	37475	81373	4.01%	0.862%
23	14.840	2096	2106	2122	rVB	876667	1786885	88.01%	18.936%
24	16.282	2352	2360	2361	rBV2	8637	15137	0.75%	0.160%
25	16.822	2446	2455	2466	rBV	702558	1332734	65.64%	14.123%
26	18.321	2714	2719	2725	rVB3	7962	12166	0.60%	0.129%
27	18.502	2746	2751	2757	rVB3	45143	71632	3.53%	0.759%
28	18.809	2800	2805	2814	rBV3	11530	18803	0.93%	0.199%
29	19.814	2978	2982	2989	rVB3	14730	20944	1.03%	0.222%
30	20.569	3111	3115	3120	rVB3	13704	19497	0.96%	0.207%

Sum of corrected areas: 9436605

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102413.D
Acq On : 10 Sep 2024 15:35
Operator : SC
Sample : P2403661-020 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102413.D
Acq On : 10 Sep 2024 15:355
Operator : SCC
Sample : P2403661-020 (400mL))
Misc : S37-060624022
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

TZ 9/22/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 08:55:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	136343	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	586831	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	175073	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347021	13.602	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
57) Toluene-d8 (SS2)	12.43	98	665465	10.835	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	16.82	174	221860	10.801	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	23010m	0.695	ng		
4) Chloromethane	3.50	50	15417	0.596	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	422	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	383	N.D.			
8) Bromomethane	4.01	94	1490	0.139	ng		99
9) Chloroethane	4.15	64	1094	0.119	ng		66
10) Ethanol	4.29	45	85788	5.798	ng		100
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	11436	1.012	ng		100
13) Acetone	4.62	58	192021	15.379	ng		94
14) Trichlorofluoromethane	4.74	101	1229606	38.944	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	63705	1.296	ng		94
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	56	N.D.			
19) Methylene Chloride	5.34	84	2902	0.197	ng		85
20) 3-Chloro-1-propene (Al...	5.45	41	677	N.D.			
21) Trichlorotrifluoroethane	5.57	151	287483	22.983	ng		94
22) Carbon Disulfide	5.59	76	215704	4.426	ng		87
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.32	73	190	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	18830	2.126	ng	#	84
28) cis-1,2-Dichloroethene	7.06	61	130	N.D.			
29) Diisopropyl Ether	7.27	87	126	N.D.			
30) Ethyl Acetate	7.28	61	23774	4.006	ng		91
31) n-Hexane	7.29	57	6779	0.251	ng	#	92
32) Chloroform	7.35	83	6107	0.225	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	422	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	9834	No Calib		#	
40) 1-Butanol	8.80	56	27330	No Calib		#	
41) Benzene	8.89	78	12886	0.234	ng		98
42) Carbon Tetrachloride	9.05	117	1450	0.064	ng		87
43) Cyclohexane	9.21	84	352	N.D.			
44) tert-Amyl Methyl Ether	9.59	73	129	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.13	130	1002	0.074	ng		95
48) 1,4-Dioxane	10.12	88	3193	0.336	ng		94
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D. d			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:55:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

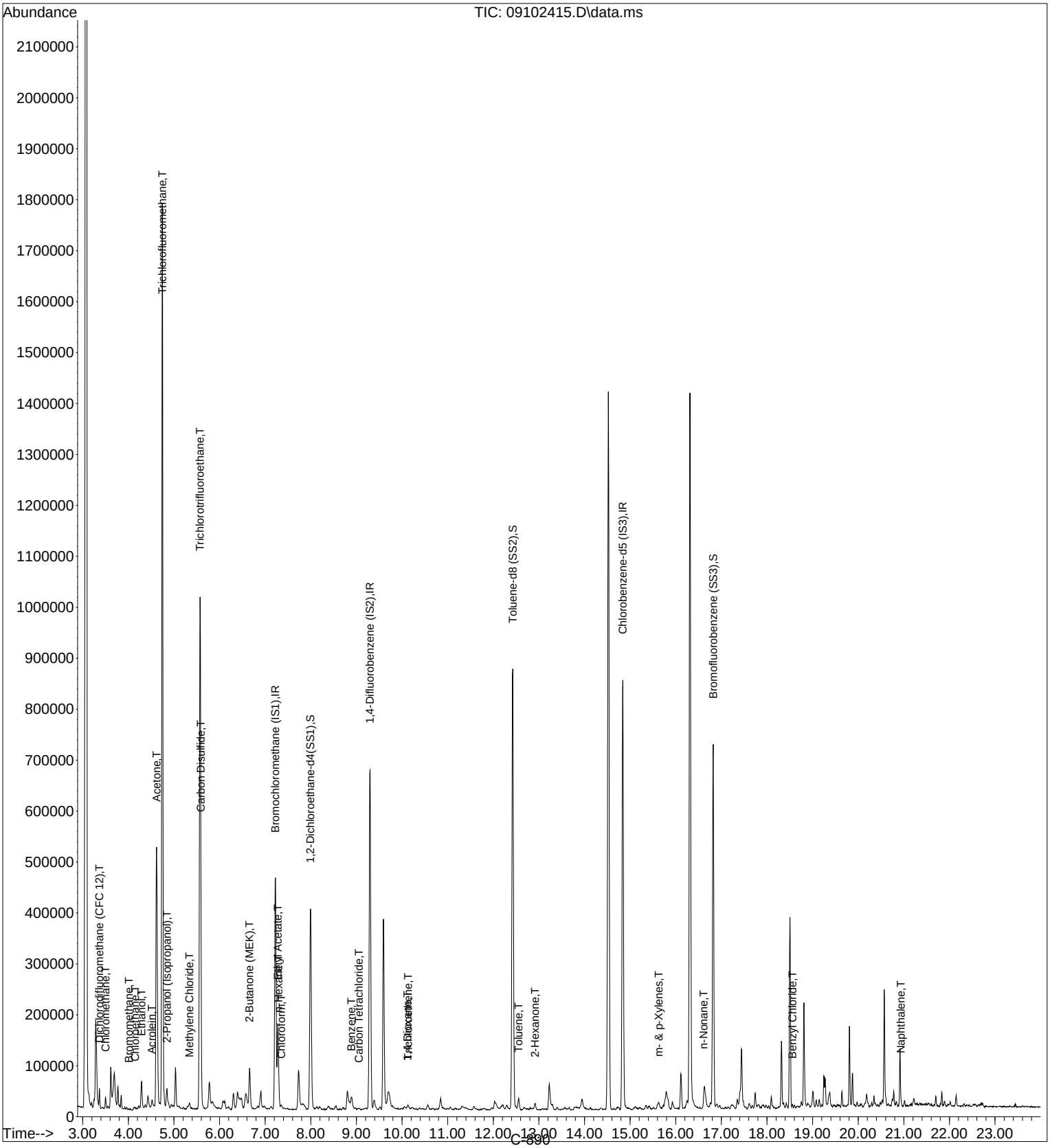
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	17229	0.260 ng		99
59) 2-Hexanone	12.91	43	14556	0.354 ng		80
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	1995	N.D.		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	14.03	166	308	N.D.		
65) Chlorobenzene	14.89	112	509	N.D.		
66) Ethylbenzene	15.40	91	2362	N.D.		
67) m- & p-Xylenes	15.63	91	7445	0.120 ng		95
68) Bromoform	15.67	173	109	N.D.		
69) Styrene	16.09	104	1441	N.D.		
70) o-Xylene	16.24	91	2633	N.D.		
71) n-Nonane	16.61	43	6267	0.158 ng	#	62
72) 1,1,2,2-Tetrachloroethane	16.20	83	118	N.D.		
74) Cumene	17.01	105	407	N.D.		
75) alpha-Pinene	17.52	93	1297	N.D.		
76) n-Propylbenzene	17.68	91	1629	N.D.		
77) 3-Ethyltoluene	17.01	105	407	No Calib	#	
78) 4-Ethyltoluene	17.85	105	813	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	525	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.01	105	407	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.42	105	2187	N.D.		
83) n-Decane	17.09	58	852	No Calib	#	
84) Benzyl Chloride	18.56	91	2714	0.058 ng		92
85) 1,3-Dichlorobenzene	18.57	146	316	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	770	N.D.		
87) sec-Butylbenzene	18.75	105	883	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	2047	N.D.		
89) 1,2,3-Trimethylbenzene	17.01	105	407	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	410	N.D.		
91) d-Limonene	19.10	68	171	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	324	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.83	180	1156	N.D.		
95) Naphthalene	20.94	128	5041	0.077 ng		97
96) n-Dodecane	18.88	58	875	No Calib	#	
97) Hexachlorobutadiene	21.30	225	312	N.D.		
98) Cyclohexanone	15.19	55	2005	No Calib	#	
99) tert-Butylbenzene	18.42	119	496	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:55:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:55:16 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

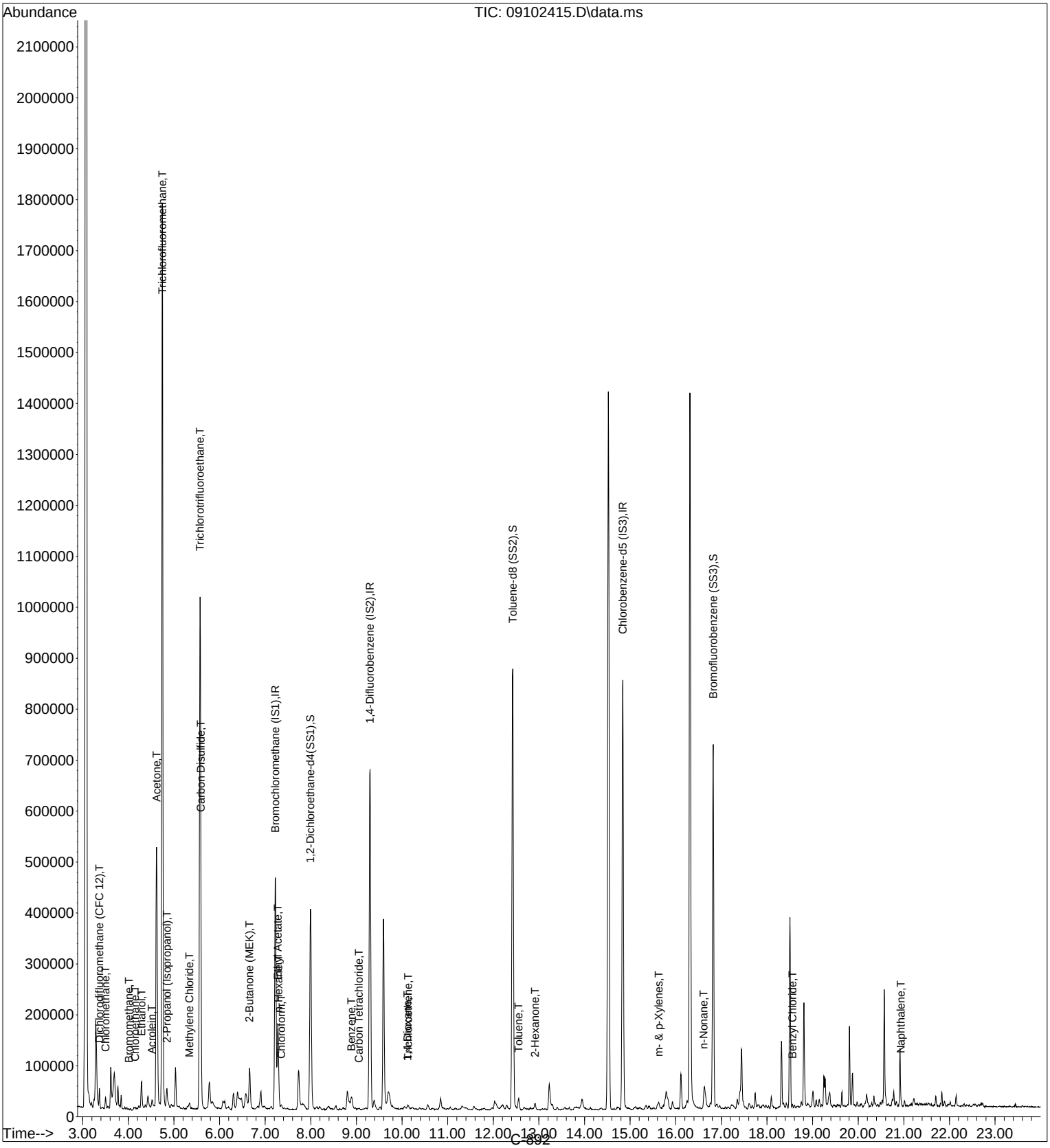
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	136343	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	586831	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	175073	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347021	13.602	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
57) Toluene-d8 (SS2)	12.43	98	665465	10.835	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	16.82	174	221860	10.801	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	23010m	0.695	ng		
4) Chloromethane	3.50	50	15417	0.596	ng		96
8) Bromomethane	4.01	94	1490	0.139	ng		99
9) Chloroethane	4.15	64	1094	0.119	ng		66
10) Ethanol	4.29	45	85788	5.798	ng		100
12) Acrolein	4.52	56	11436	1.012	ng		100
13) Acetone	4.62	58	192021	15.379	ng		94
14) Trichlorofluoromethane	4.74	101	1229606	38.944	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	63705	1.296	ng		94
19) Methylene Chloride	5.34	84	2902	0.197	ng		85
21) Trichlorotrifluoroethane	5.57	151	287483	22.983	ng		94
22) Carbon Disulfide	5.59	76	215704	4.426	ng		87
27) 2-Butanone (MEK)	6.66	72	18830	2.126	ng	#	84
30) Ethyl Acetate	7.28	61	23774	4.006	ng		91
31) n-Hexane	7.29	57	6779	0.251	ng	#	92
32) Chloroform	7.35	83	6107	0.225	ng		100
41) Benzene	8.89	78	12886	0.234	ng		98
42) Carbon Tetrachloride	9.05	117	1450	0.064	ng		87
47) Trichloroethene	10.13	130	1002	0.074	ng		95
48) 1,4-Dioxane	10.12	88	3193	0.336	ng		94
58) Toluene	12.56	91	17229	0.260	ng		99
59) 2-Hexanone	12.91	43	14556	0.354	ng		80
67) m- & p-Xylenes	15.63	91	7445	0.120	ng		95
71) n-Nonane	16.61	43	6267	0.158	ng	#	62
84) Benzyl Chloride	18.56	91	2714	0.058	ng		92
95) Naphthalene	20.94	128	5041	0.077	ng		97

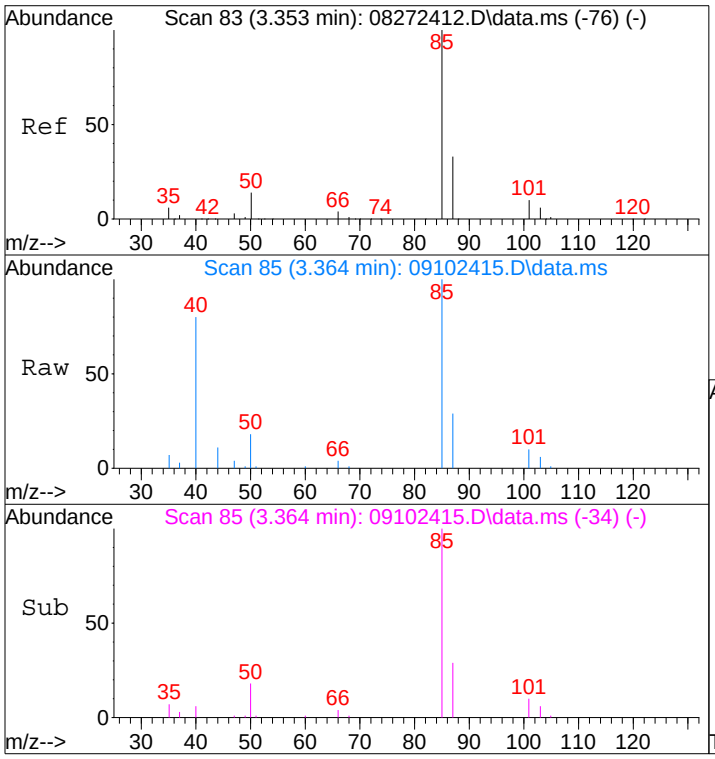
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:55:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

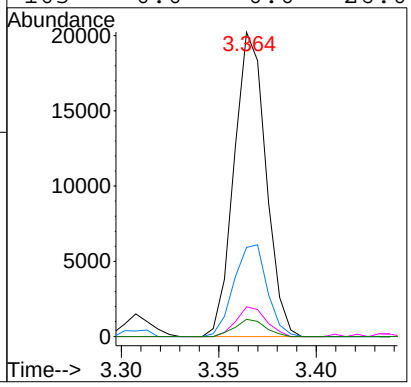


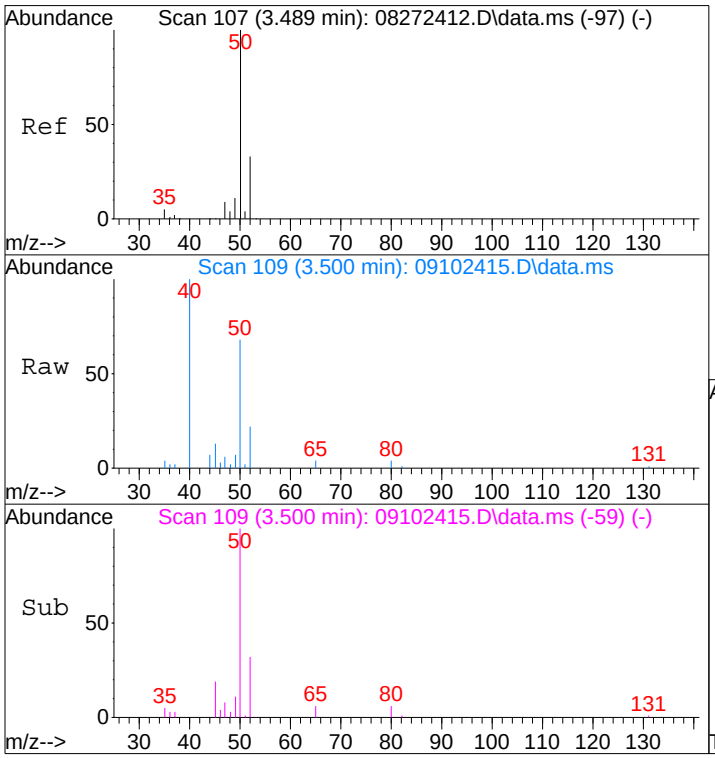


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.70 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.039 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 85 Resp: 23010

Ion	Ratio	Lower	Upper
85	100		
87	1.8	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

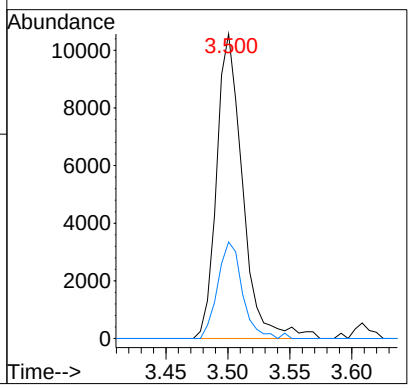


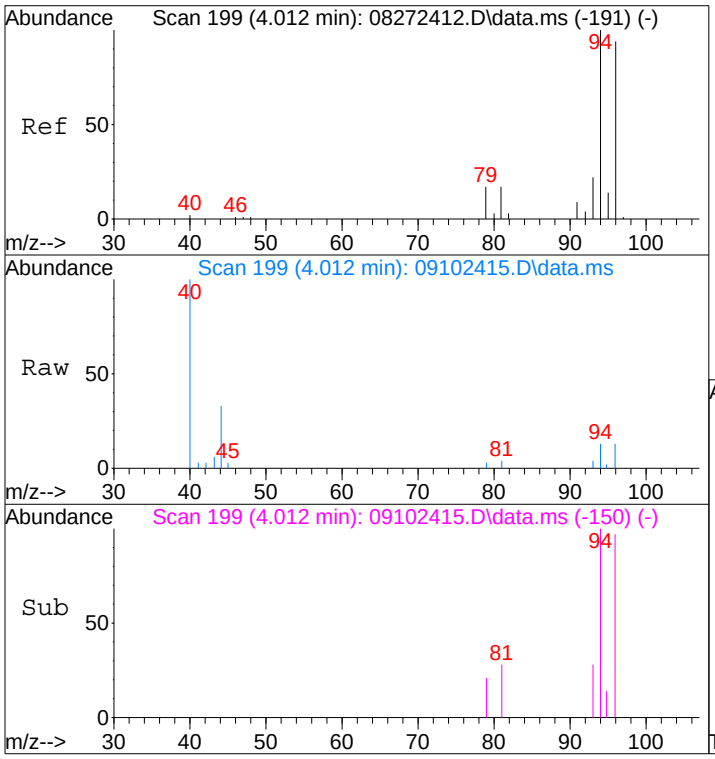


#4
Chloromethane
Concen: 0.60 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.035 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 50 Resp: 15417

Ion	Ratio	Lower	Upper
50	100		
52	30.2	12.4	52.4

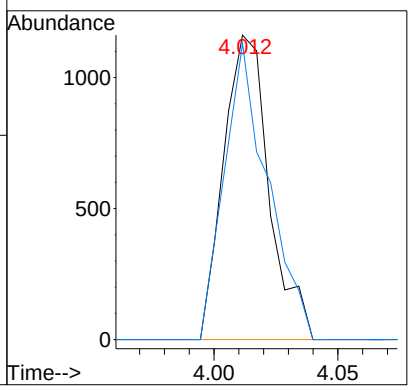


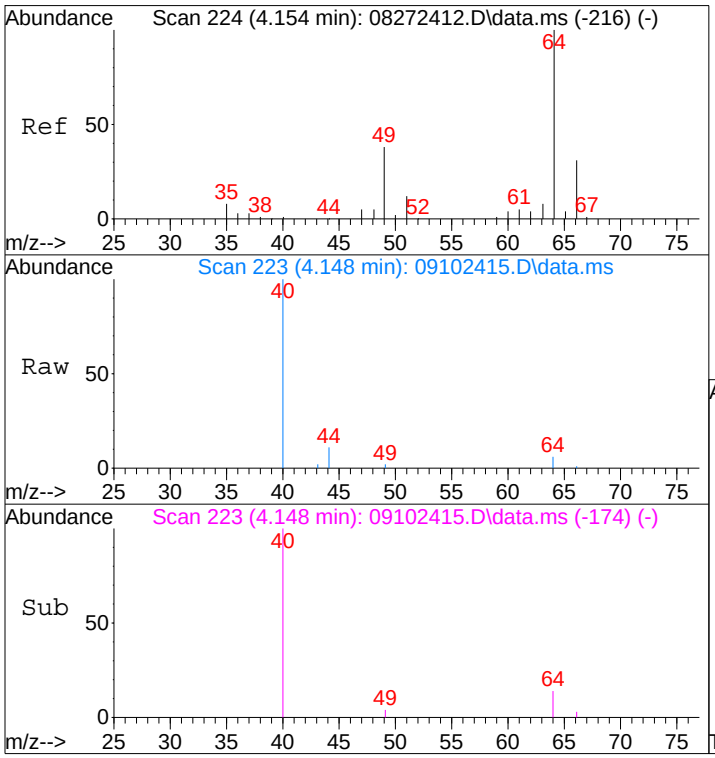


#8
Bromomethane
Concen: 0.14 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.030 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 94 Resp: 1490

Ion	Ratio	Lower	Upper
94	100		
96	92.8	74.2	114.2

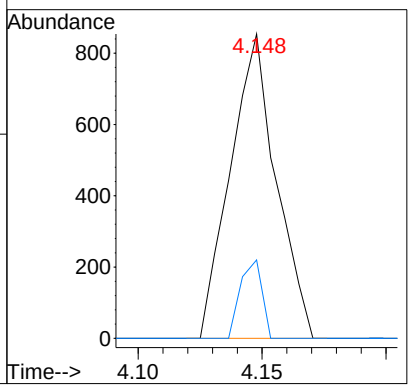


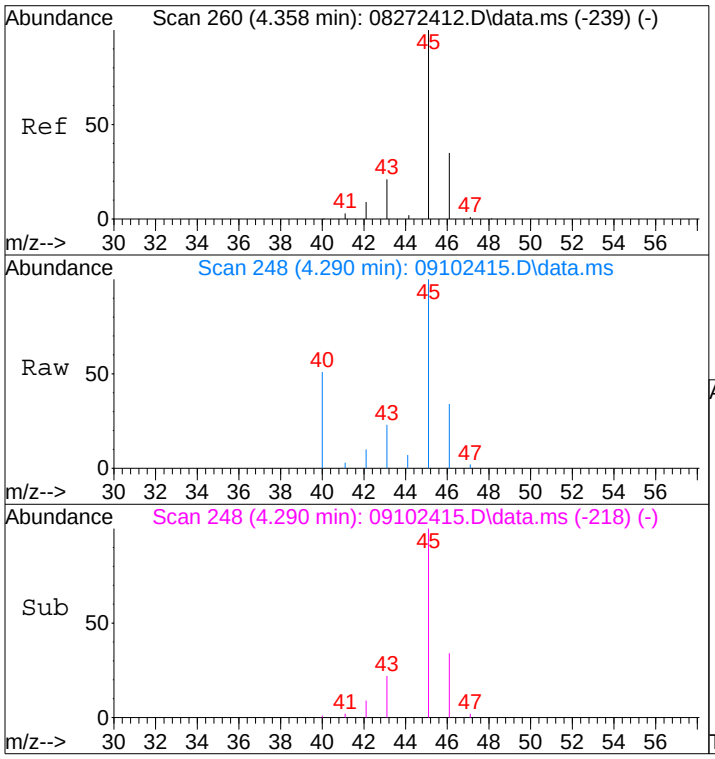


#9
Chloroethane
Concen: 0.12 ng
RT: 4.15 min Scan# 223
Delta R.T. 0.026 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 64 Resp: 1094

Ion	Ratio	Lower	Upper
64	100		
66	12.2	11.0	51.0

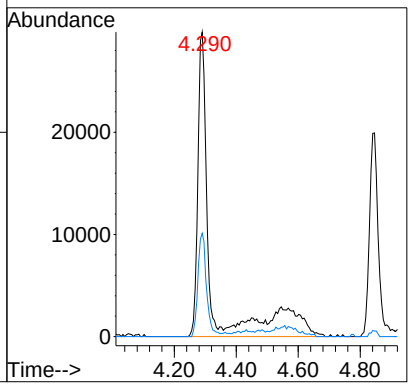


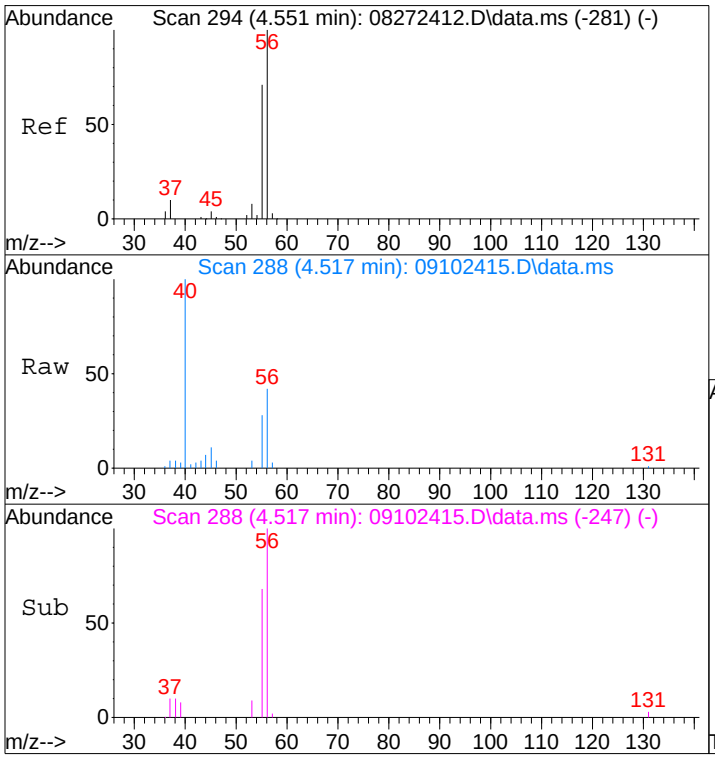


#10
Ethanol
Concen: 5.80 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.079 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 45 Resp: 85788

Ion	Ratio	Lower	Upper
45	100		
46	34.0	14.2	54.2

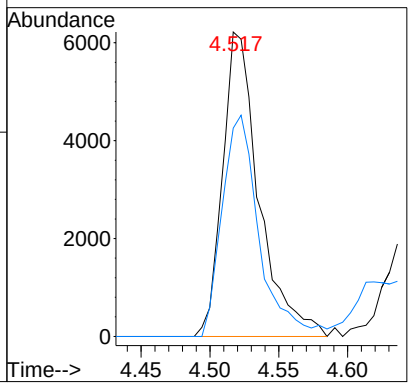


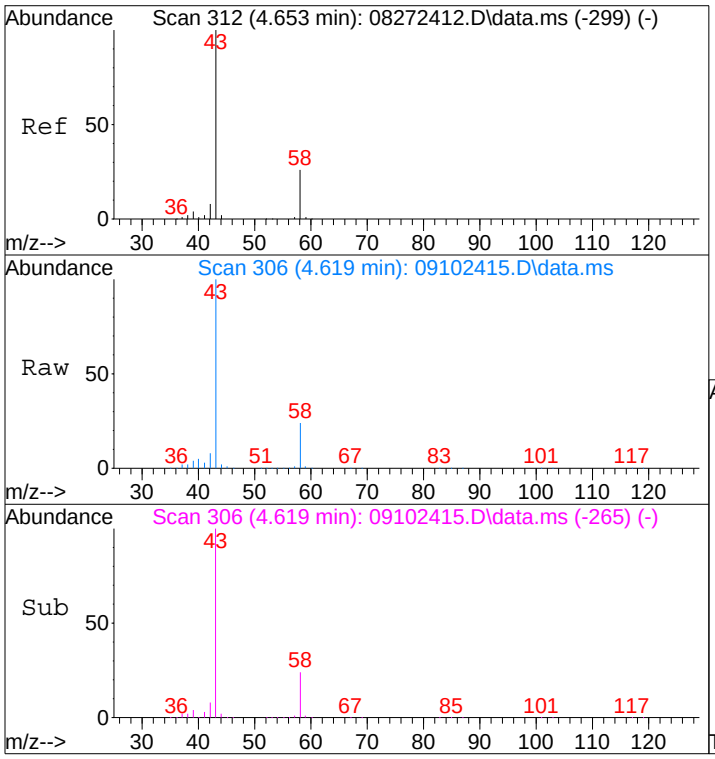


#12
Acrolein
Concen: 1.01 ng
RT: 4.52 min Scan# 288
Delta R.T. -0.015 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 56 Resp: 11436

Ion	Ratio	Lower	Upper
56	100		
55	74.5	54.7	94.7

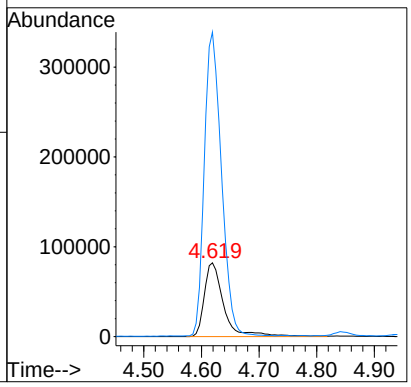


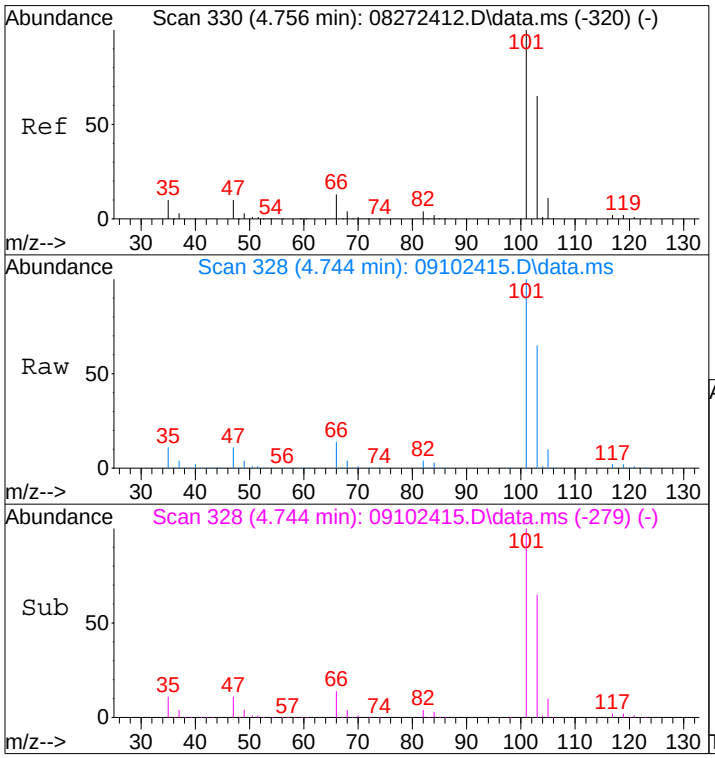


#13
Acetone
Concen: 15.38 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.019 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 58 Resp: 192021

Ion	Ratio	Lower	Upper
58	100		
43	363.2	347.3	407.3

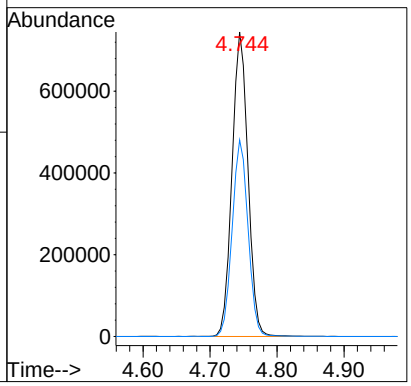


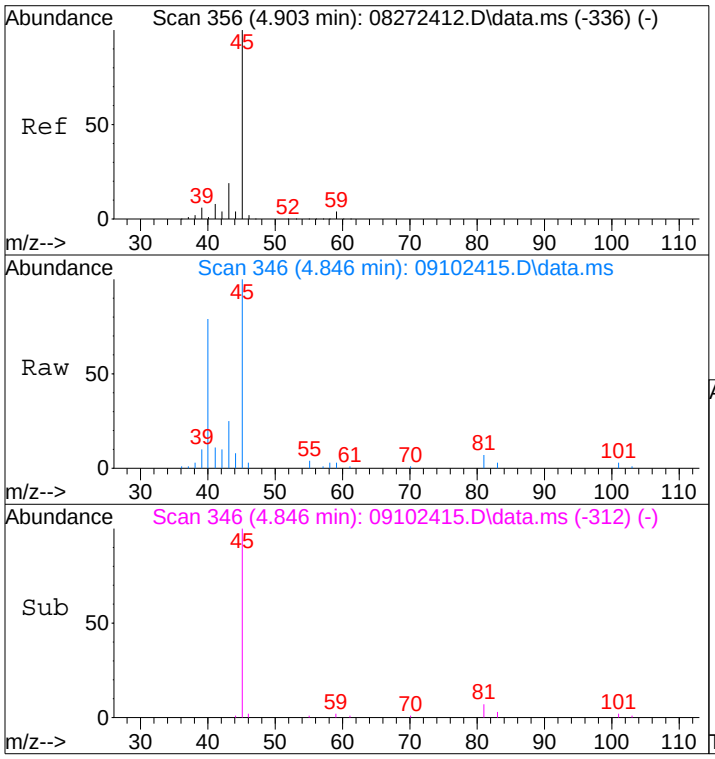


#14
Trichlorofluoromethane
Concen: 38.94 ng
RT: 4.74 min Scan# 328
Delta R.T. 0.027 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion:101 Resp: 1229606

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.9	84.9

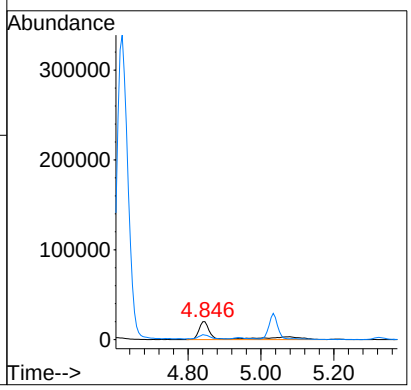


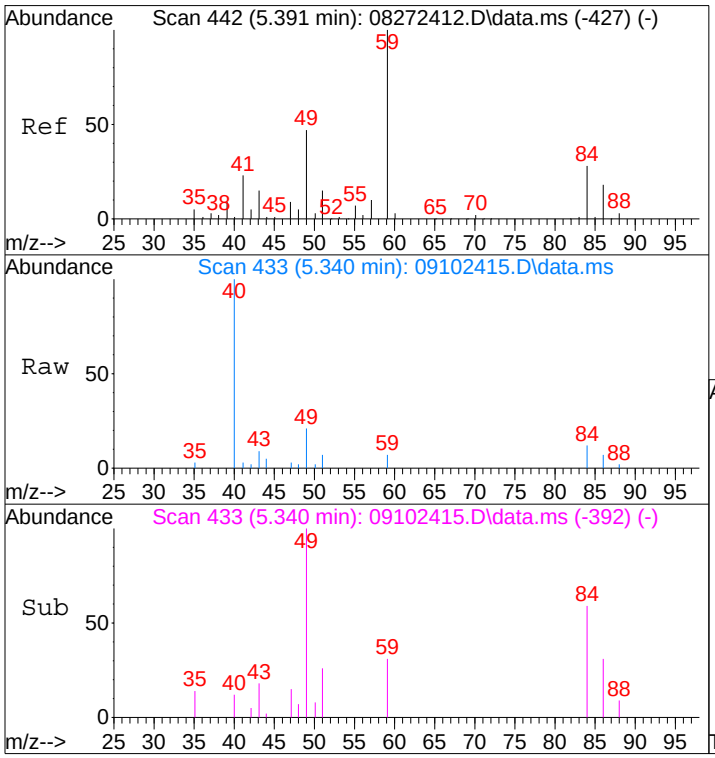


#15
2-Propanol (Isopropanol)
Concen: 1.30 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.056 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 45 Resp: 63705

Ion	Ratio	Lower	Upper
45	100		
43	22.8	0.0	40.0

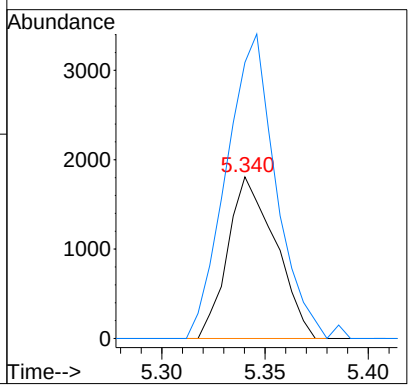


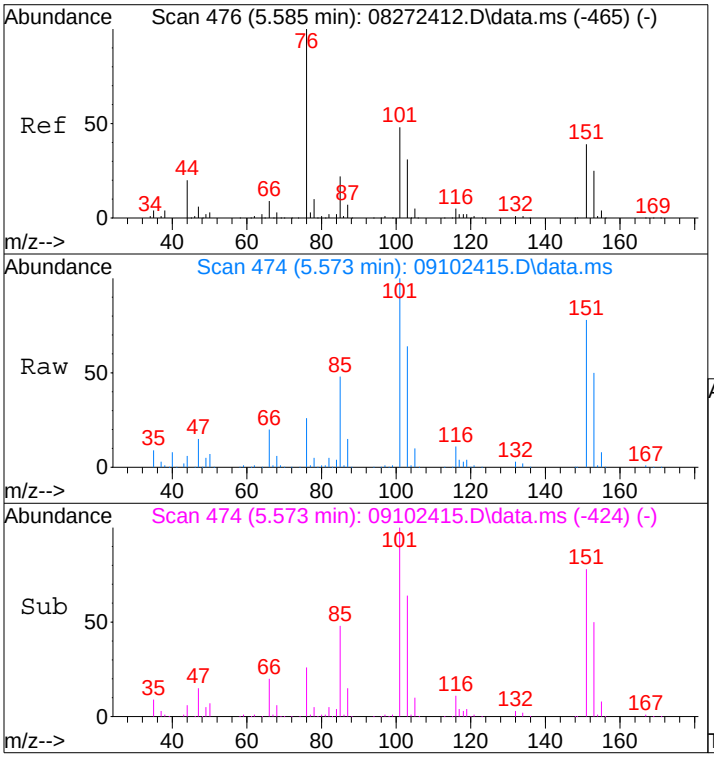


#19
Methylene Chloride
Concen: 0.20 ng
RT: 5.34 min Scan# 433
Delta R.T. -0.016 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 84 Resp: 2902

Ion	Ratio	Lower	Upper
84	100		
49	197.5	151.1	201.1

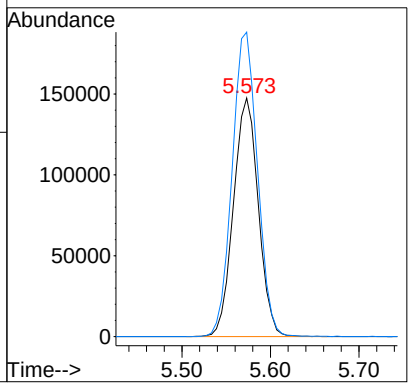


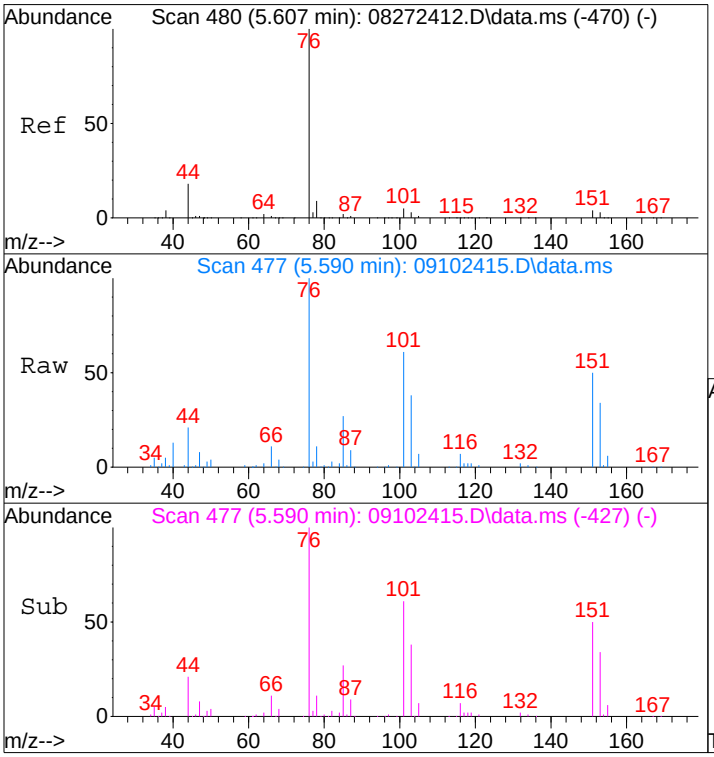


#21
Trichlorotrifluoroethane
Concen: 22.98 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.031 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion:151 Resp: 287483

Ion	Ratio	Lower	Upper
151	100		
101	130.1	103.4	143.4

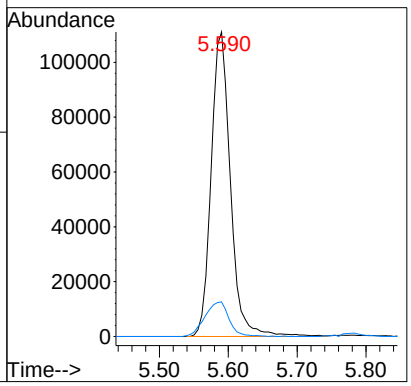


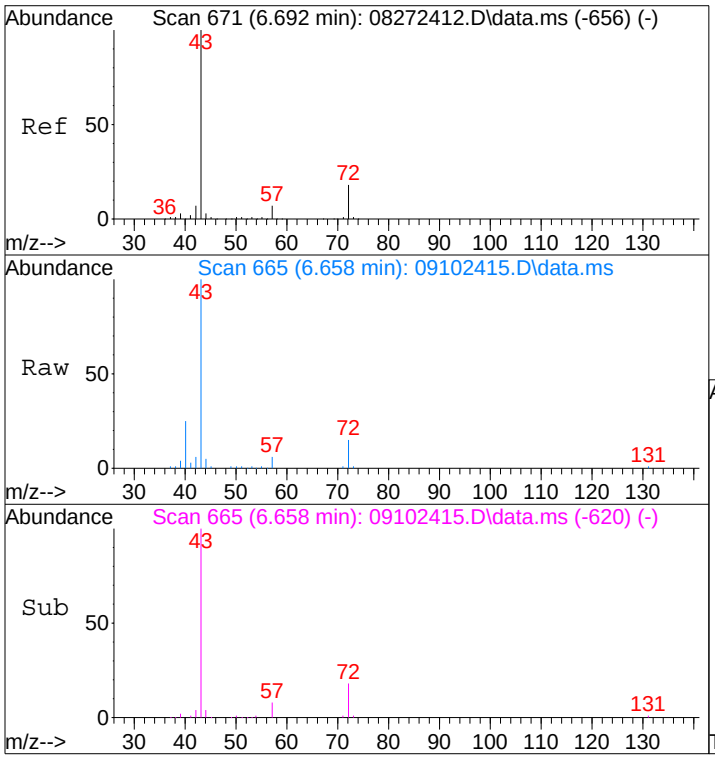


#22
Carbon Disulfide
Concen: 4.43 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.031 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 76 Resp: 215704

Ion	Ratio	Lower	Upper
76	100		
78	14.2	0.0	29.6

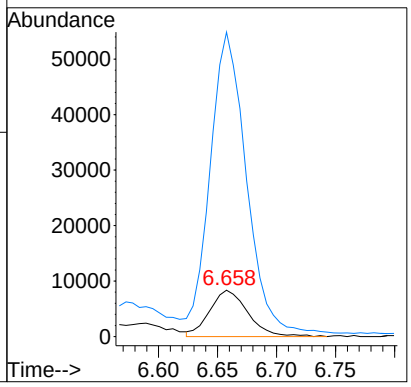


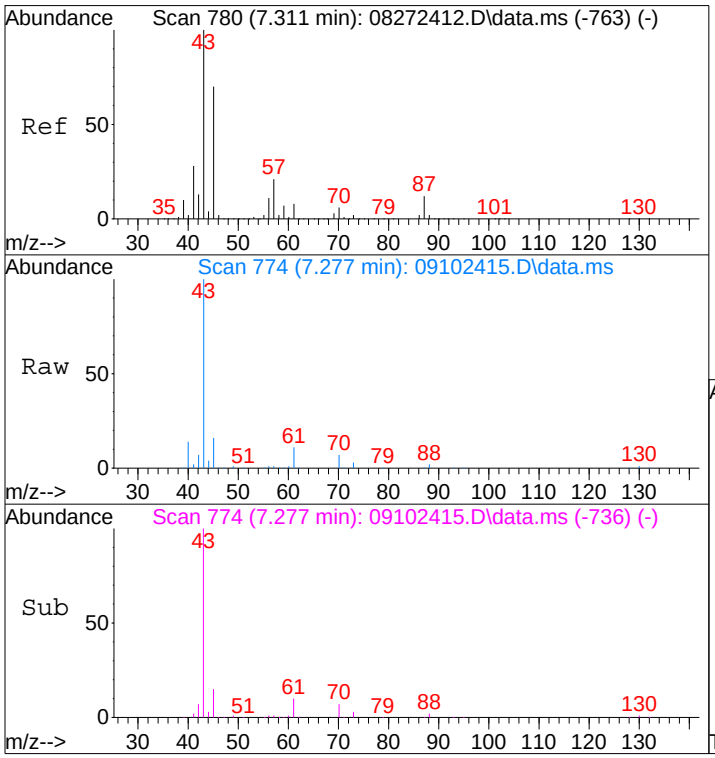


#27
2-Butanone (MEK)
Concen: 2.13 ng
RT: 6.66 min Scan# 665
Delta R.T. 0.005 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 72 Resp: 18830

Ion	Ratio	Lower	Upper
72	100		
43	616.3	548.0	588.0#

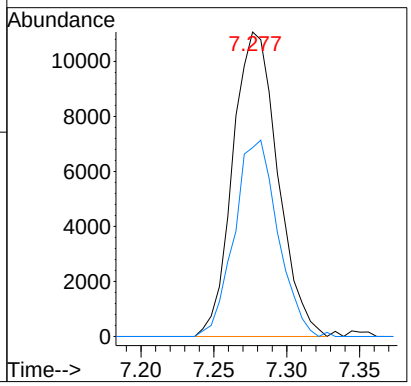


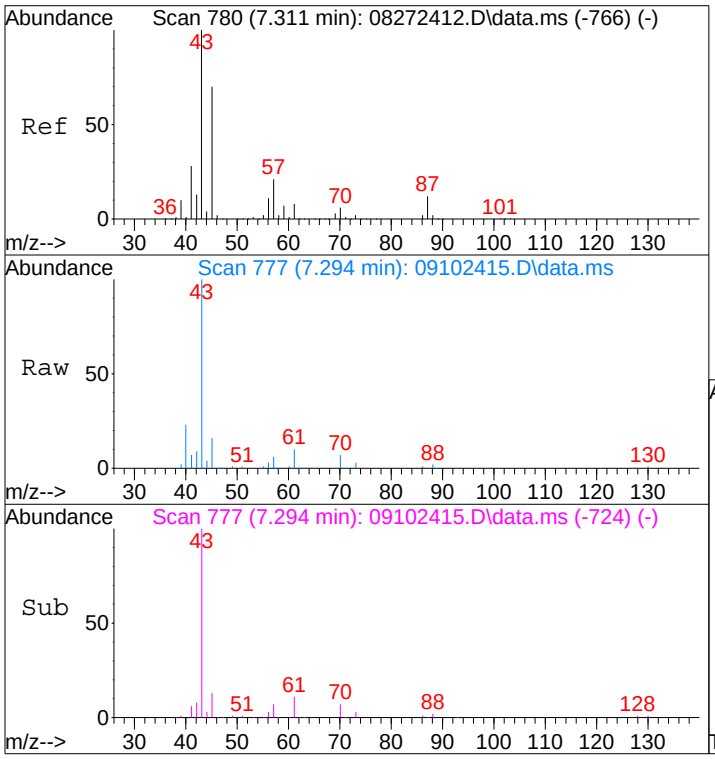


#30
Ethyl Acetate
Concen: 4.01 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.017 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 61 Resp: 23774

Ion	Ratio	Lower	Upper
61	100		
70	62.3	49.9	89.9

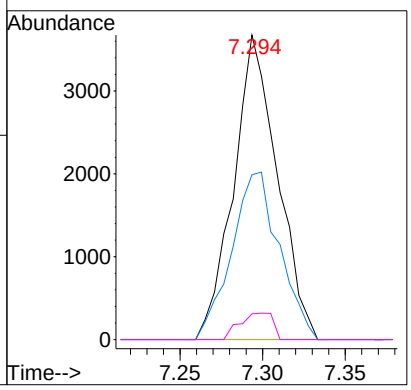


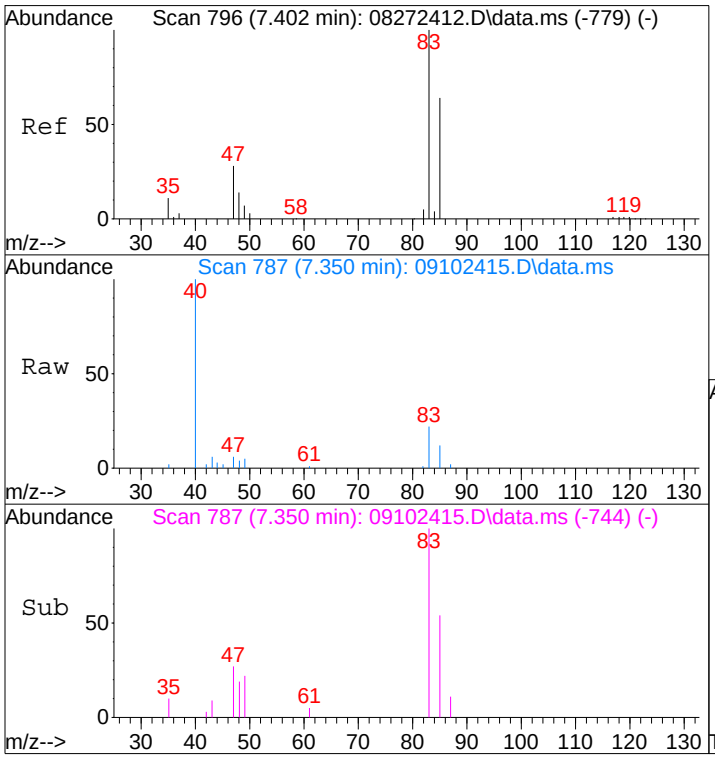


#31
n-Hexane
Concen: 0.25 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.051 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 57 Resp: 6779

Ion	Ratio	Lower	Upper
57	100		
56	59.8	44.2	66.2
86	6.6	9.3	13.9#

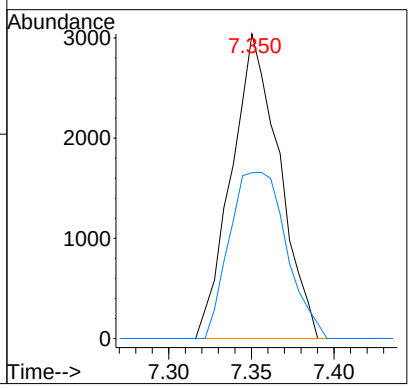


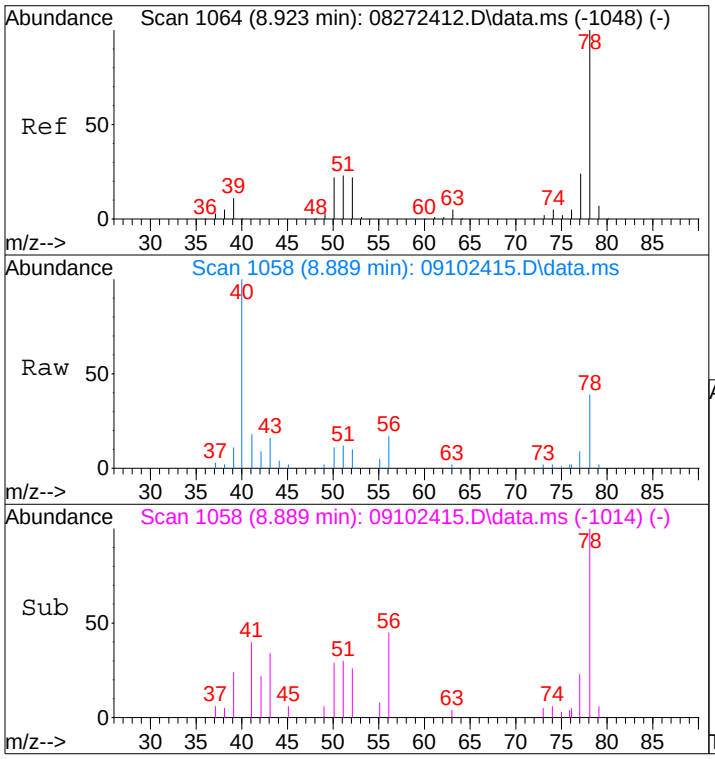


#32
Chloroform
Concen: 0.22 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.004 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 83 Resp: 6107

Ion	Ratio	Lower	Upper
83	100		
85	65.2	45.3	85.3

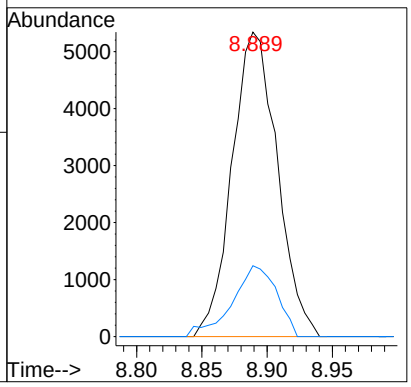


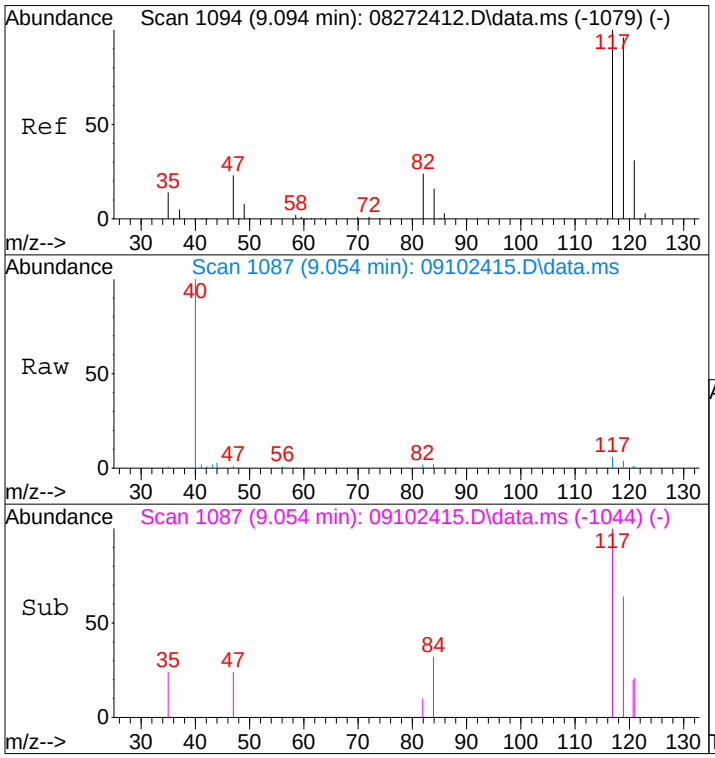


#41
Benzene
Concen: 0.23 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.002 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 78 Resp: 12886

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.9	43.9

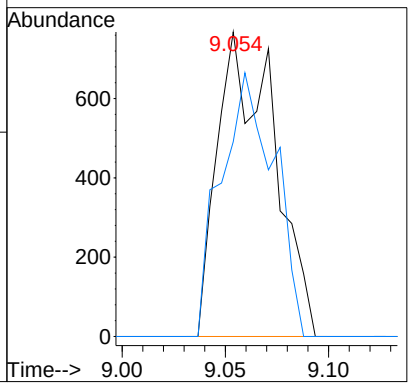


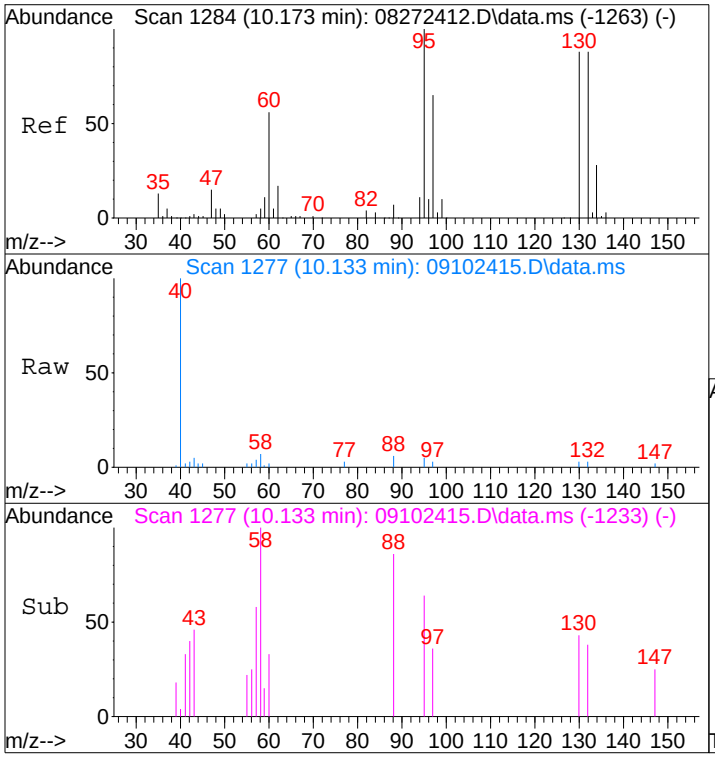


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 9.05 min Scan# 1087
Delta R.T. -0.007 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion:117 Resp: 1450

Ion	Ratio	Lower	Upper
117	100		
119	82.4	75.1	115.1

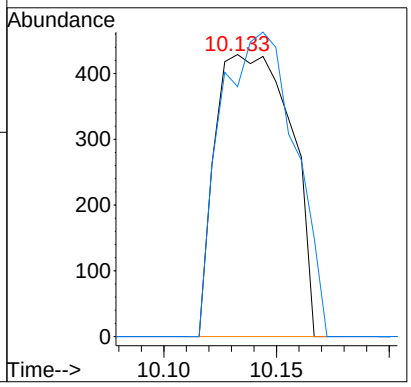


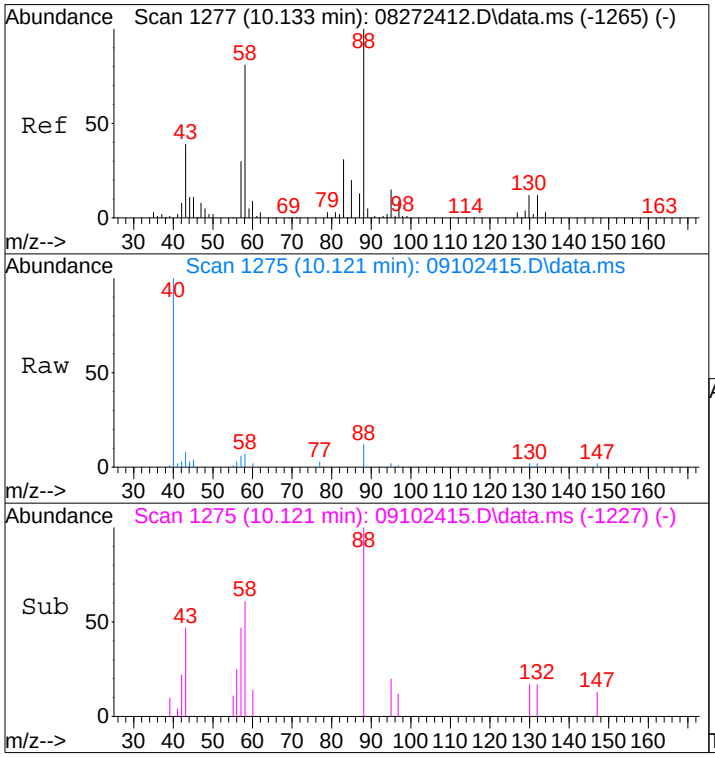


#47
Trichloroethene
Concen: 0.07 ng
RT: 10.13 min Scan# 1277
Delta R.T. -0.001 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion:130 Resp: 1002

Ion	Ratio	Lower	Upper
130	100		
132	106.1	80.8	120.8

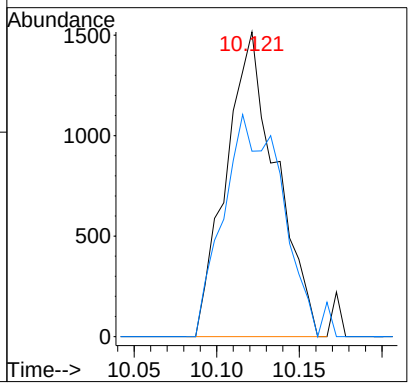


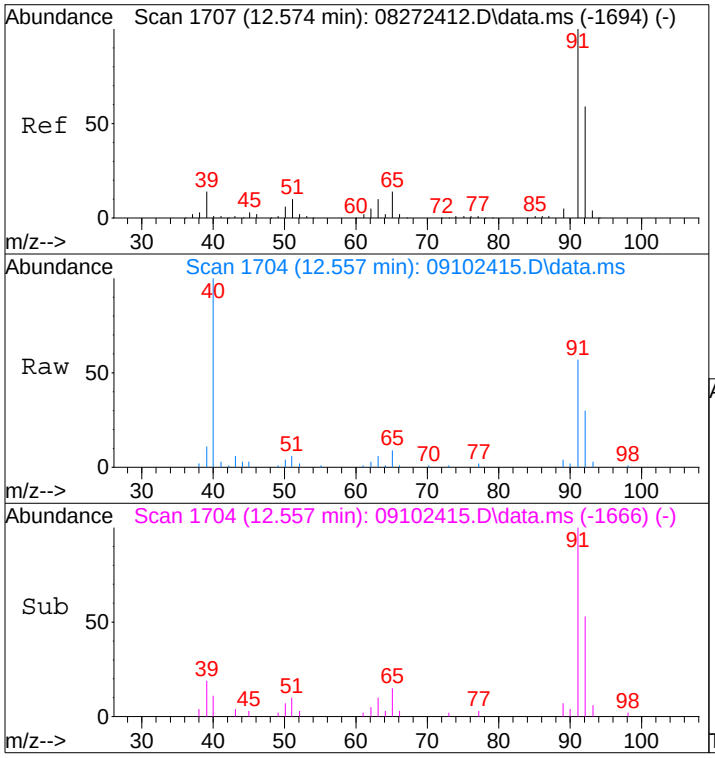


#48
1,4-Dioxane
Concen: 0.34 ng
RT: 10.12 min Scan# 1275
Delta R.T. 0.022 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 88 Resp: 3193

Ion	Ratio	Lower	Upper
88	100		
58	86.5	61.1	101.1

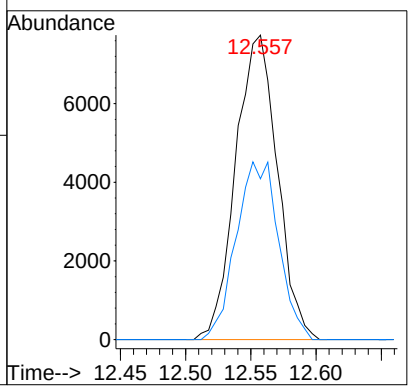


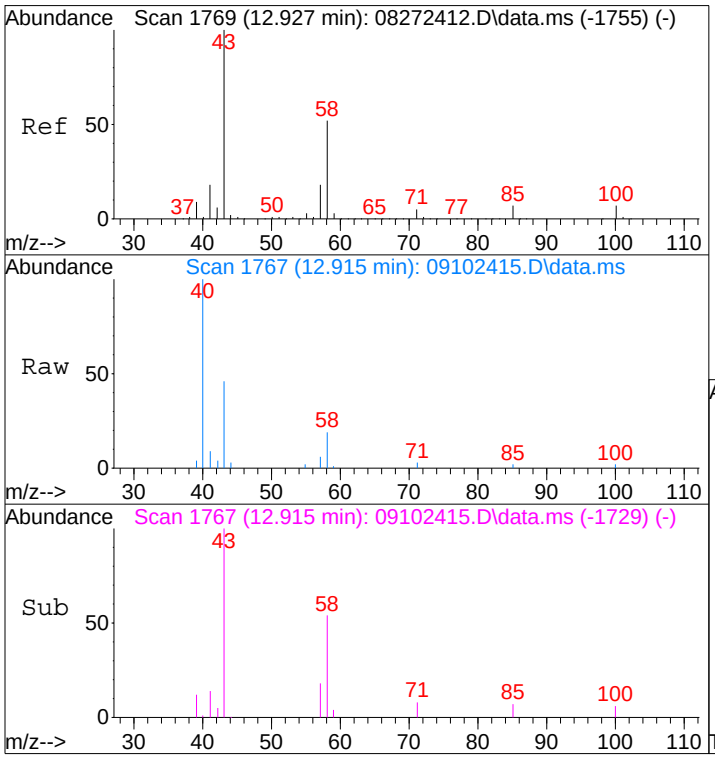


#58
Toluene
Concen: 0.26 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 91 Resp: 17229

Ion	Ratio	Lower	Upper
91	100		
92	59.5	38.5	78.5

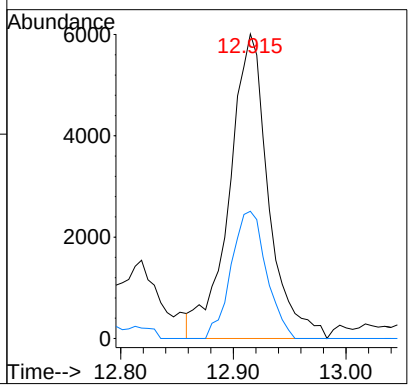


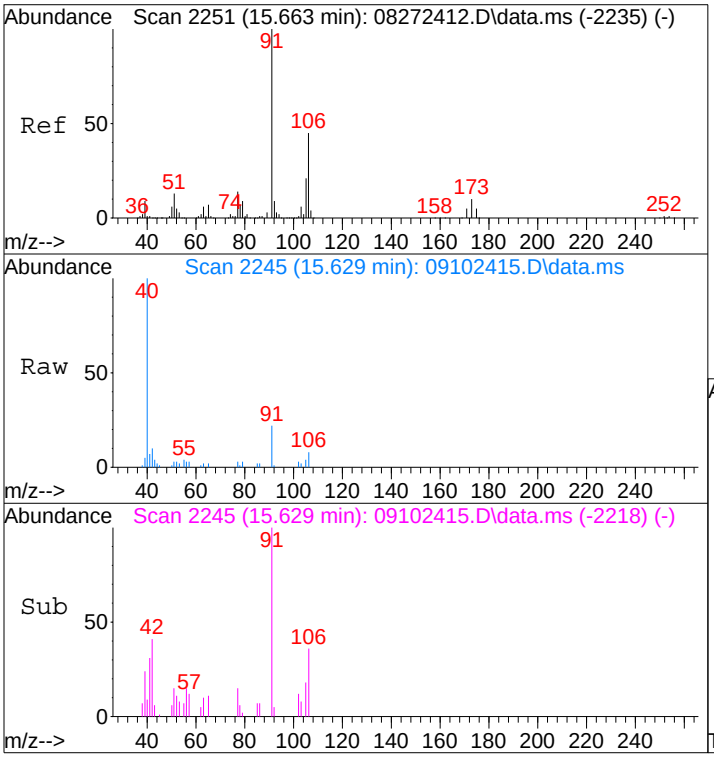


#59
2-Hexanone
Concen: 0.35 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 43 Resp: 14556

Ion	Ratio	Lower	Upper
43	100		
58	37.5	31.1	71.1

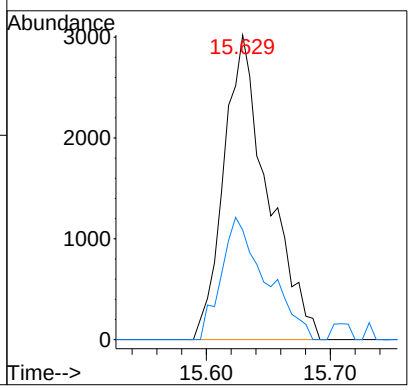


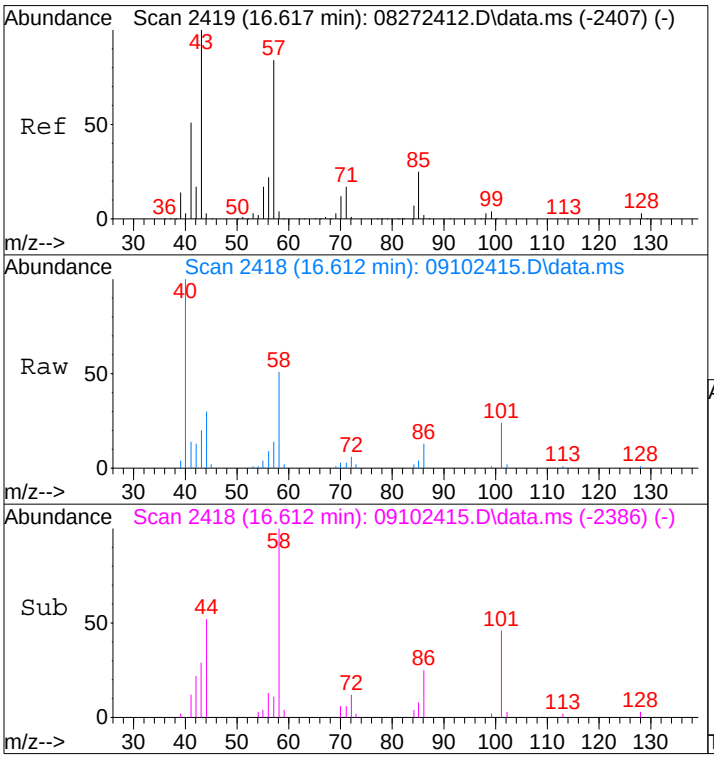


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 91 Resp: 7445

Ion	Ratio	Lower	Upper
91	100		
106	40.8	23.8	63.8

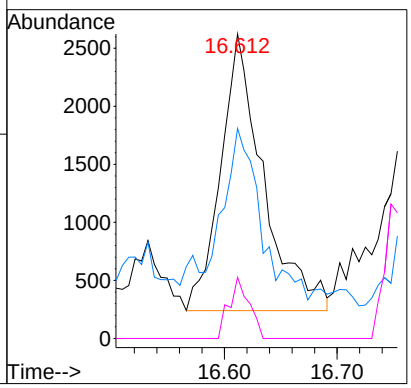


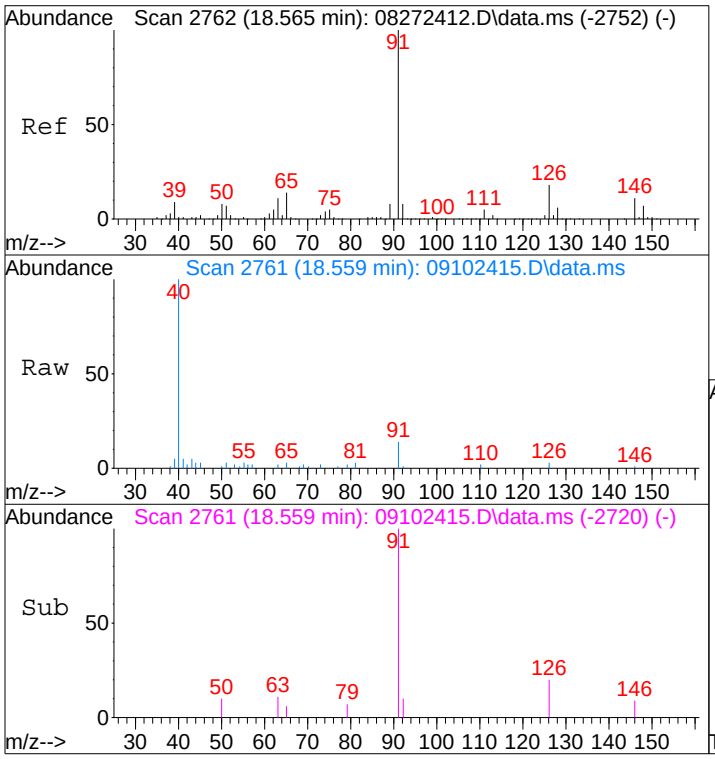


#71
n-Nonane
Concen: 0.16 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 43 Resp: 6267

Ion	Ratio	Lower	Upper
43	100		
57	46.5	63.3	103.3#
85	10.4	4.5	44.5

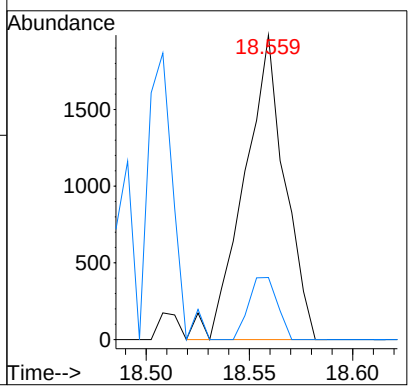


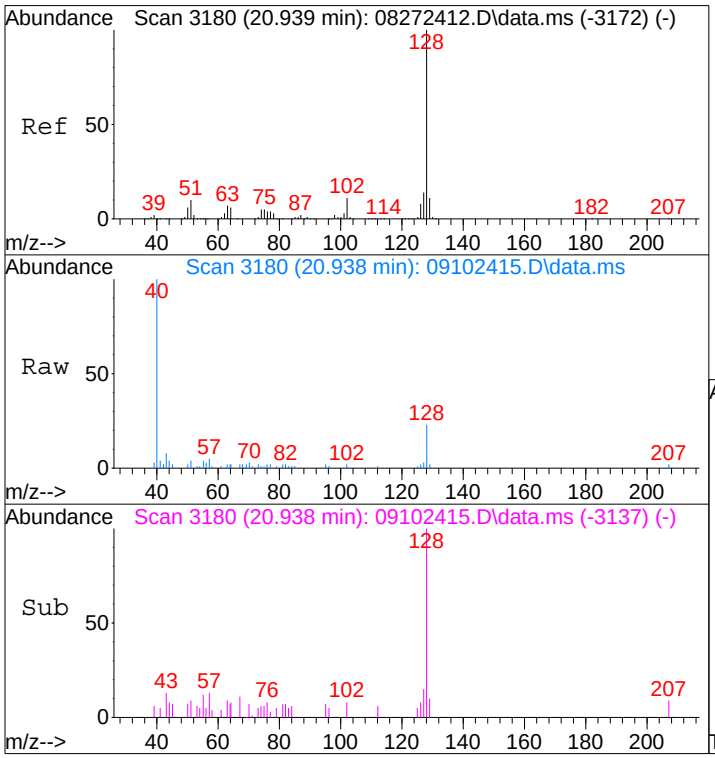


#84
Benzyl Chloride
Concen: 0.06 ng
RT: 18.56 min Scan# 2761
Delta R.T. -0.017 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion: 91 Resp: 2714

Ion	Ratio	Lower	Upper
91	100		
126	14.4	0.0	38.1

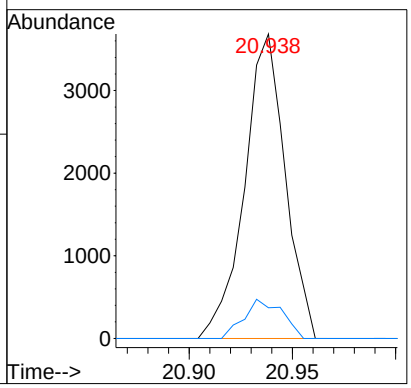




#95
Naphthalene
Concen: 0.08 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09102415.D
Acq: 10 Sep 2024 17:17

Tgt Ion:128 Resp: 5041

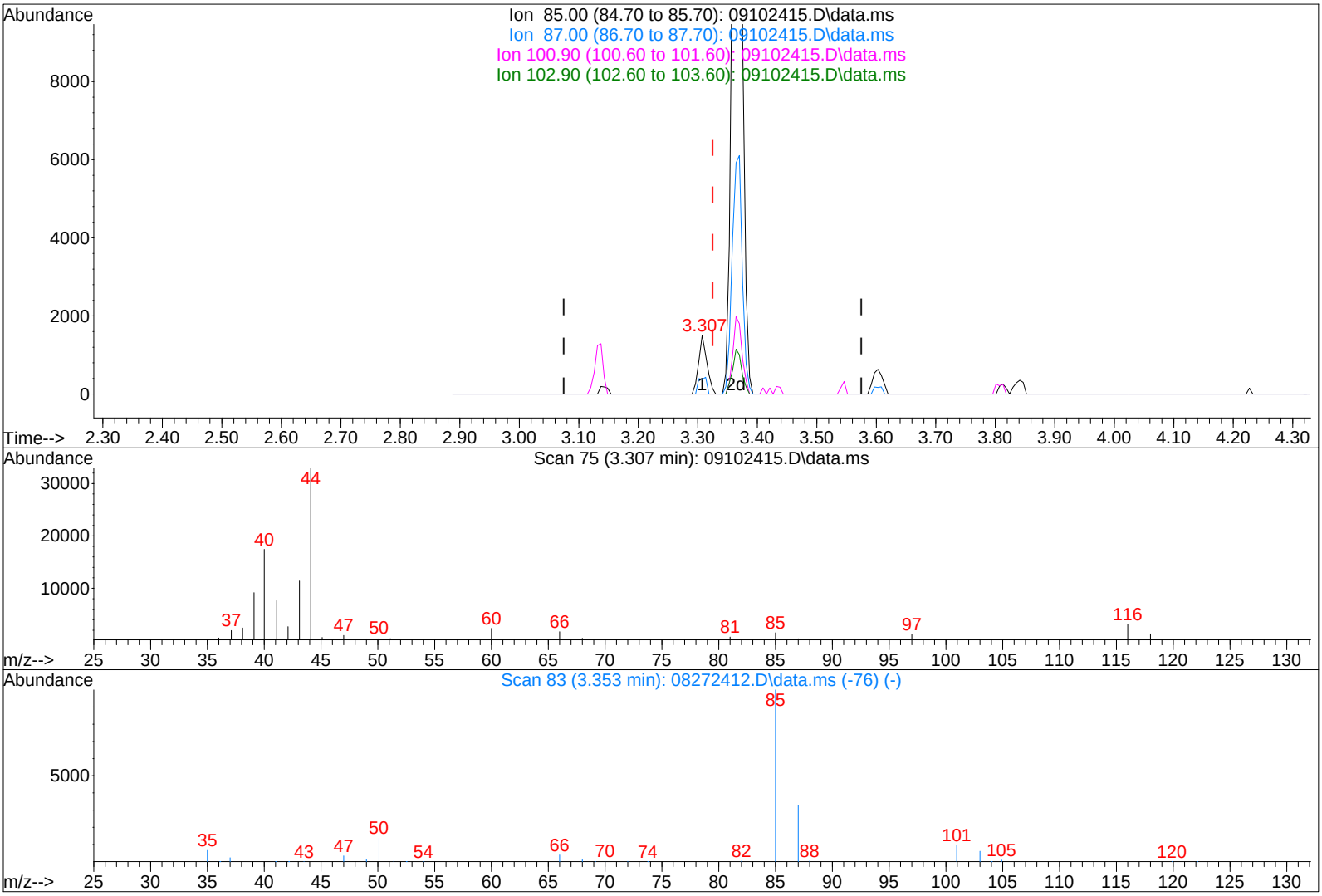
Ion	Ratio	Lower	Upper
128	100		
129	12.1	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:24:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102415.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.018) 0.04ng

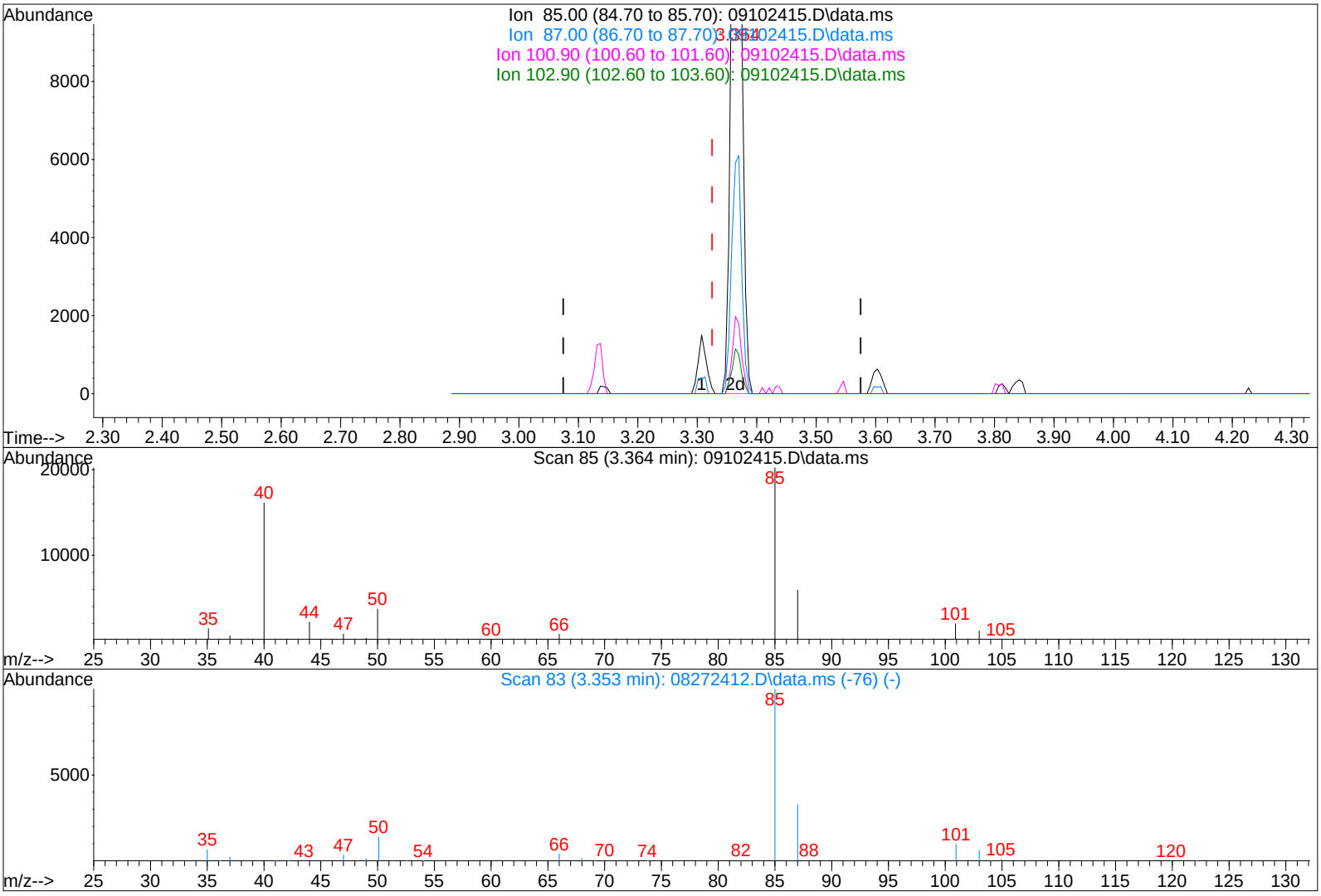
response 1451

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	28.19
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:24:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102415.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.039) 0.70ng m

response 23010

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	1.78#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:47:19 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

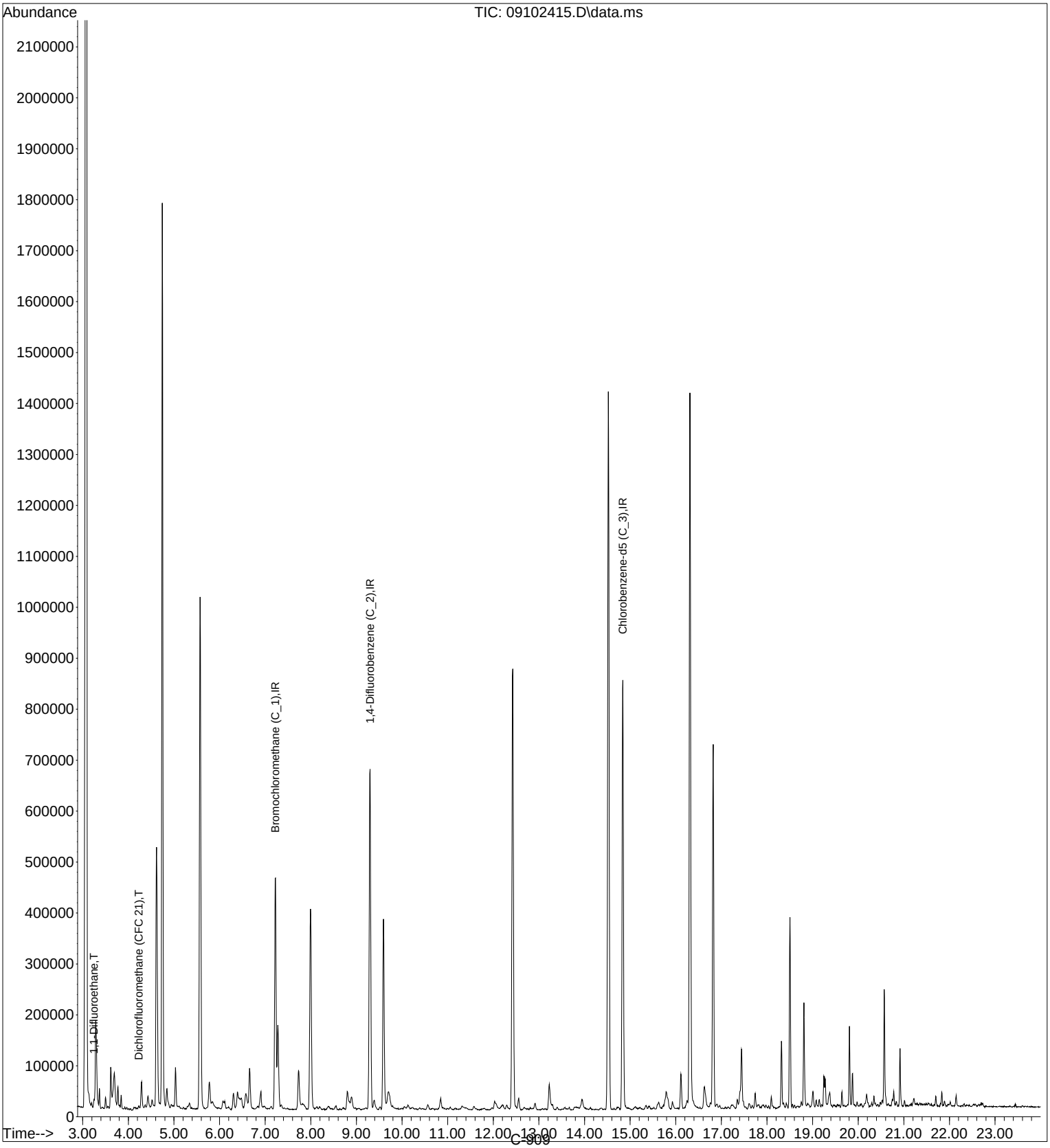
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	136343	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	587101	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	175073	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.14	85	180	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.24	65	2169	0.182 ng	94
5) Chlorodifluoromethane ...	3.29	67	453	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.50	65	678	N.D.	
7) Dichlorofluoromethane ...	4.23	67	4067	0.130 ng	95
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	60	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	0.00	43	0	N.D. d	
12) 2-Methylpentane	6.48	71	971	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	9.02	84	718	N.D.	
17) 2,3-Dimethylpentane	9.51	56	918	N.D.	
18) Dibromomethane	9.79	174	112	N.D.	
20) Methyl Cyclohexane	11.41	55	1124	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	15.19	91	252	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D. d	
25) Bromobenzene	17.03	77	53	N.D.	
26) 2-Chlorotoluene	17.61	91	141	N.D.	
27) 4-Chlorotoluene	17.68	91	1629	N.D.	
28) Indane	19.12	117	136	N.D.	
29) Indene	19.12	115	67	N.D.	
30) 1,2,4,5-Tetramethylben...	20.22	119	1669	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	1669	N.D.	
32) 1,2,3,5-Tetramethylben...	20.57	119	630	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

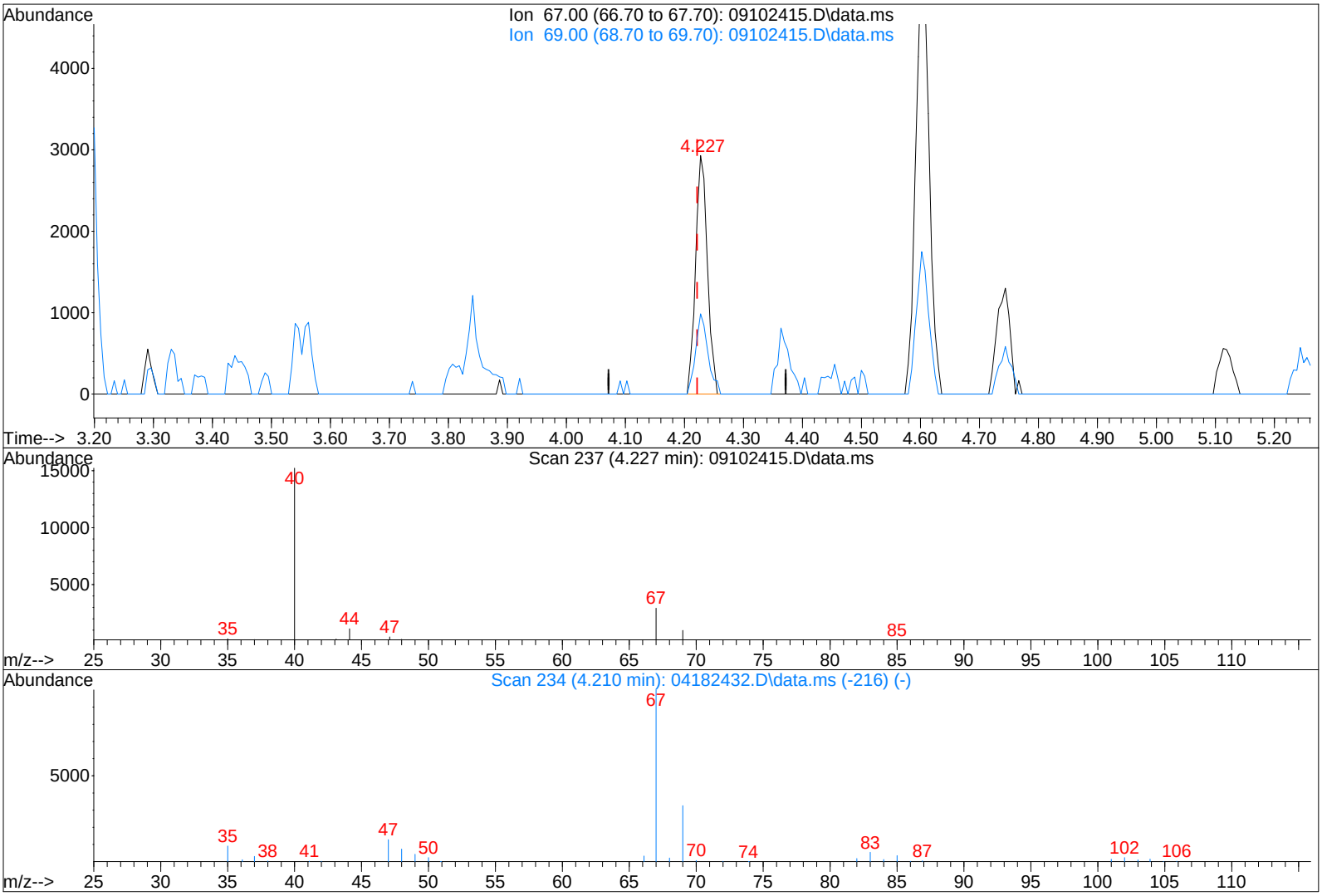
Quant Time: Sep 11 11:47:19 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102415.D Vial: 7
Acq On : 10 Sep 2024 17:17 Operator: SC
Sample : P2403661-021 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:46:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102415.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.13ng

response 4067

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	35.38
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102415.D
Acq On : 10 Sep 2024 17:17
Operator : SC
Sample : P2403661-021 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09091824.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102415.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.245	60	64	65	rBV2	14994	16005	0.54%	0.165%
2	3.285	65	71	82	rVV2	172030	374499	12.72%	3.865%
3	3.364	82	85	91	rVB	39742	48461	1.65%	0.500%
4	3.500	104	109	114	rBV2	22303	32139	1.09%	0.332%
5	3.614	123	129	134	rBV2	81087	139717	4.74%	1.442%
6	3.694	134	143	152	rVV	70353	223342	7.59%	2.305%
7	3.773	152	157	161	rVV	43100	67611	2.30%	0.698%
8	3.841	165	169	177	rVB	27291	35061	1.19%	0.362%
9	4.290	242	248	256	rVV	51345	92581	3.14%	0.955%
10	4.432	266	273	281	rVB	21645	45028	1.53%	0.465%
11	4.517	283	288	295	rVV2	13892	27098	0.92%	0.280%
12	4.619	298	306	321	rVV	509376	1112943	37.80%	11.486%
13	4.744	321	328	340	rVV	1773539	2944519	100.00%	30.388%
14	4.846	340	346	357	rVB2	37675	86825	2.95%	0.896%
15	4.943	359	363	368	rBV5	6257	12572	0.43%	0.130%
16	5.034	373	379	390	rVB	77328	123737	4.20%	1.277%
17	5.340	426	433	438	rVB4	10794	23920	0.81%	0.247%
18	5.573	465	474	494	rVB2	1004803	2157228	73.26%	22.263%
19	5.777	494	510	517	rBV2	52413	140532	4.77%	1.450%
20	5.834	517	520	535	rVB4	11251	38976	1.32%	0.402%
21	6.078	555	563	566	rBV3	15633	35161	1.19%	0.363%
22	6.198	582	584	593	rVB3	6022	10726	0.36%	0.111%
23	6.306	593	603	610	rBV2	32076	76576	2.60%	0.790%
24	6.391	610	618	629	rBV3	30780	109878	3.73%	1.134%
25	6.578	641	651	658	rBV4	28166	90685	3.08%	0.936%
26	6.658	659	665	677	rVB	78979	170112	5.78%	1.756%
27	6.907	701	709	716	rBV	31170	62487	2.12%	0.645%
28	7.129	742	748	755	rVB6	5356	11586	0.39%	0.120%
29	7.225	755	765	770	rBV	453616	1002143	34.03%	10.342%
30	7.277	770	774	783	rVV	164211	360279	12.24%	3.718%
31	7.350	783	787	796	rVB3	7766	17350	0.59%	0.179%

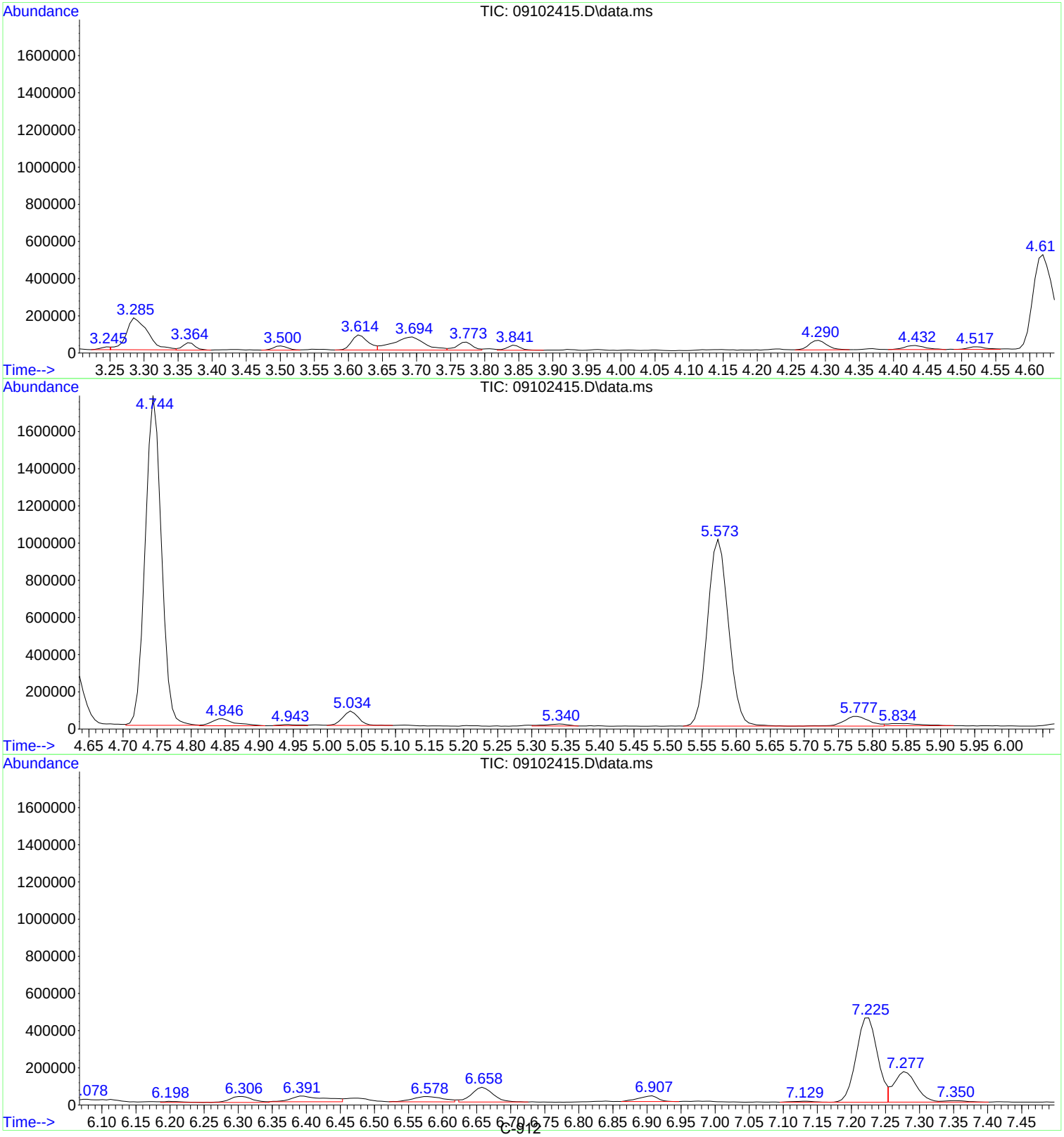
Sum of corrected areas: 9689777

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102415.D
Acq On : 10 Sep 2024 17:17
Operator : SC
Sample : P2403661-021 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102415.D
Acq On : 10 Sep 2024 17:177
Operator : SCC
Sample : P2403661-021 (400mL))
Misc : S37-060624022
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

NOA 9/28/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
No Library Search Compounds Detected									

****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:59:06 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	130593	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	570256	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168380	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	335480	13.728	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	12.43	98	646607	10.947	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
73) Bromofluorobenzene (SS3)	16.82	174	209660	10.613	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.88%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.35	85	18899m	0.596	ng		
4) Chloromethane	3.49	50	1842	0.074	ng		87
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	558	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.84	54	112	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	16594	1.171	ng		87
11) Acetonitrile	4.51	41	425	N.D.			
12) Acrolein	4.53	56	3099	0.286	ng		95
13) Acetone	4.62	58	89881	7.516	ng	#	53
14) Trichlorofluoromethane	4.76	101	21862058	722.903	ng		95
15) 2-Propanol (Isopropanol)	4.84	45	74500	1.582	ng		91
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	398	N.D.			
19) Methylene Chloride	5.35	84	1060	0.075	ng	#	62
20) 3-Chloro-1-propene (Al...	5.44	41	114	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1652966	137.965	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	6.14	61	117	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.29	73	1344	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.66	72	5229	0.616	ng	#	90
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	3934	0.692	ng		88
31) n-Hexane	7.30	57	8850	0.341	ng		97
32) Chloroform	7.35	83	1820	0.070	ng		94
34) Tetrahydrofuran (THF)	7.77	72	734	0.092	ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	576	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.62	61	1886	No Calib		#	
40) 1-Butanol	8.83	56	4876	No Calib		#	
41) Benzene	8.89	78	3666	0.069	ng		97
42) Carbon Tetrachloride	9.07	117	1574	0.071	ng		93
43) Cyclohexane	9.21	84	6858	0.380	ng		99
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	493	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.24	57	2137	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:59:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

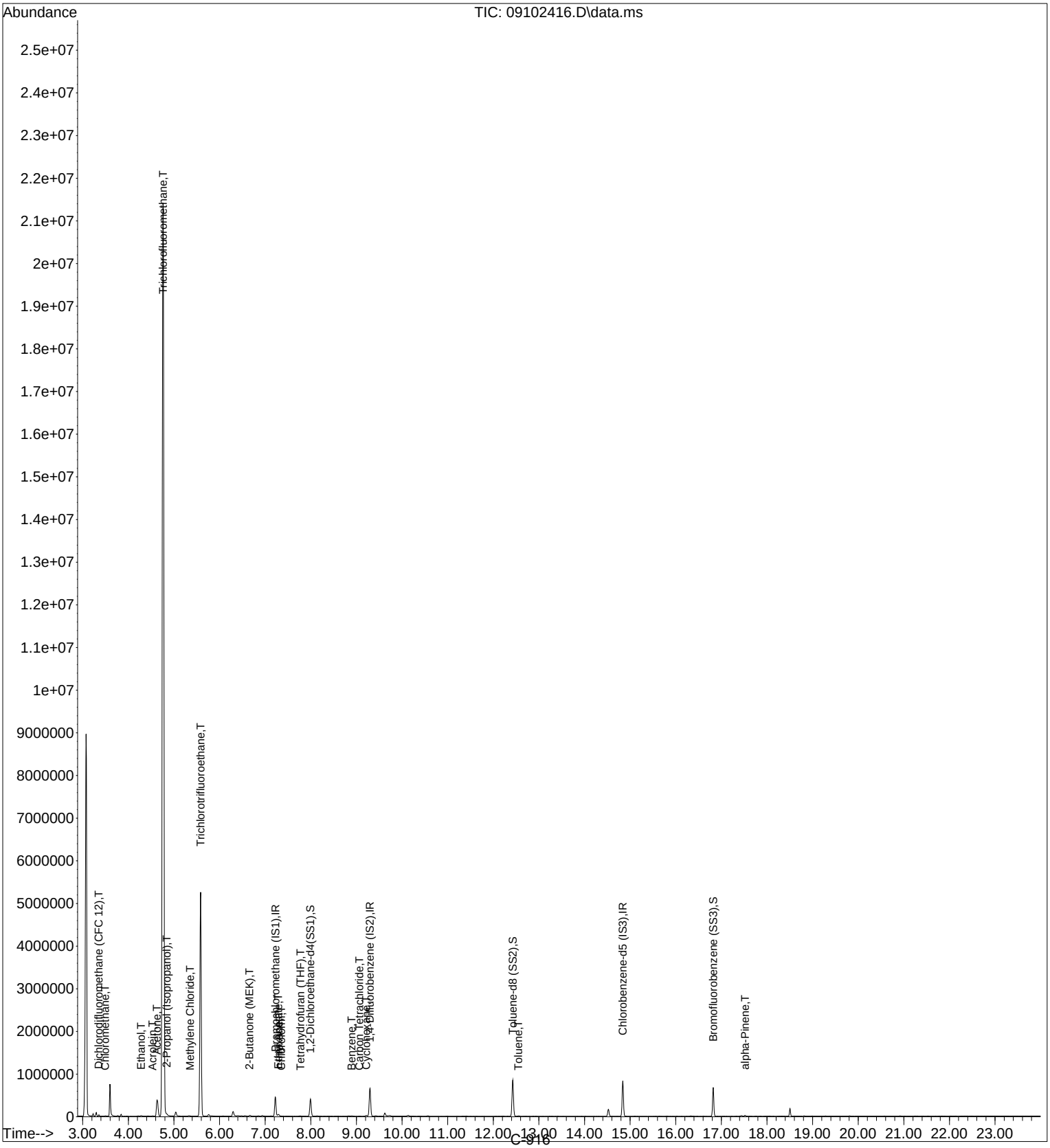
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	533	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	6552	0.103 ng	95
59) 2-Hexanone	12.93	43	1017	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	607	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	415	N.D.	
67) m- & p-Xylenes	15.66	91	278	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	106	N.D.	
71) n-Nonane	16.61	43	728	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.52	93	7997	0.227 ng	96
76) n-Propylbenzene	17.67	91	358	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.43	105	222	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	196	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	442	N.D.	
87) sec-Butylbenzene	18.74	105	150	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	136	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	385	N.D.	
95) Naphthalene	20.94	128	465	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.29	225	219	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	126	N.D.	
100) n-Butylbenzene	19.38	91	196	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:59:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 08:59:06 2024
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

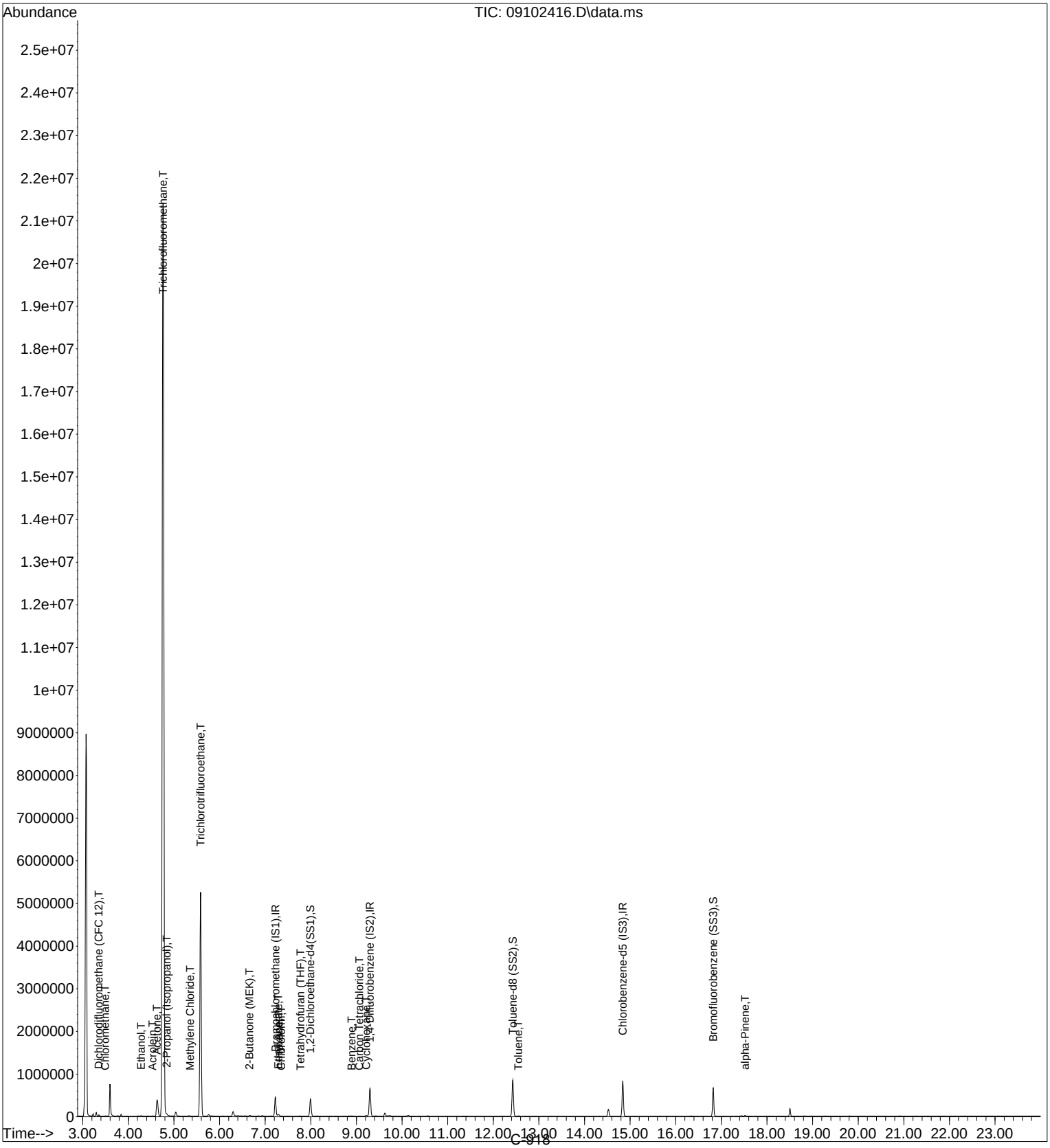
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	130593	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	570256	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168380	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	335480	13.728	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	12.43	98	646607	10.947	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
73) Bromofluorobenzene (SS3)	16.82	174	209660	10.613	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.88%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	18899m	0.596	ng		
4) Chloromethane	3.49	50	1842	0.074	ng		87
10) Ethanol	4.28	45	16594	1.171	ng		87
12) Acrolein	4.53	56	3099	0.286	ng		95
13) Acetone	4.62	58	89881	7.516	ng	#	53
14) Trichlorofluoromethane	4.76	101	21862058	722.903	ng		95
15) 2-Propanol (Isopropanol)	4.84	45	74500	1.582	ng		91
19) Methylene Chloride	5.35	84	1060	0.075	ng	#	62
21) Trichlorotrifluoroethane	5.58	151	1652966	137.965	ng		94
27) 2-Butanone (MEK)	6.66	72	5229	0.616	ng	#	90
30) Ethyl Acetate	7.29	61	3934	0.692	ng		88
31) n-Hexane	7.30	57	8850	0.341	ng		97
32) Chloroform	7.35	83	1820	0.070	ng		94
34) Tetrahydrofuran (THF)	7.77	72	734	0.092	ng	#	1
41) Benzene	8.89	78	3666	0.069	ng		97
42) Carbon Tetrachloride	9.07	117	1574	0.071	ng		93
43) Cyclohexane	9.21	84	6858	0.380	ng		99
58) Toluene	12.55	91	6552	0.103	ng		95
75) alpha-Pinene	17.52	93	7997	0.227	ng		96

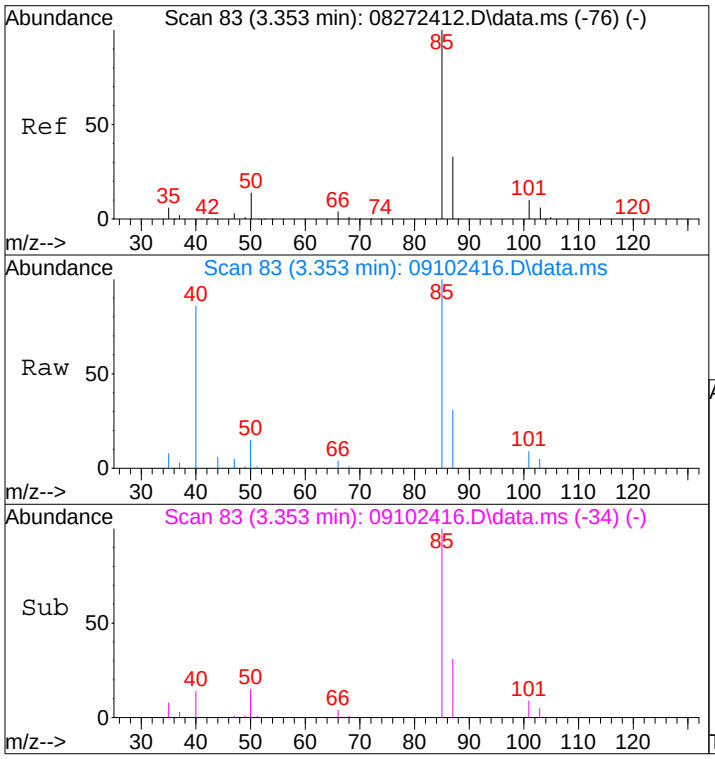
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:59:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

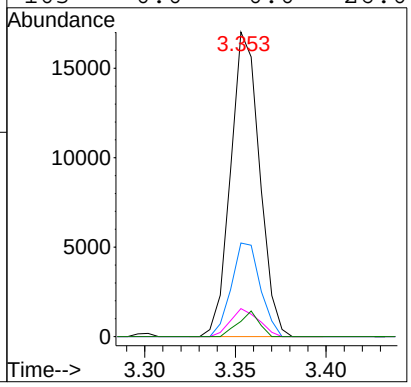


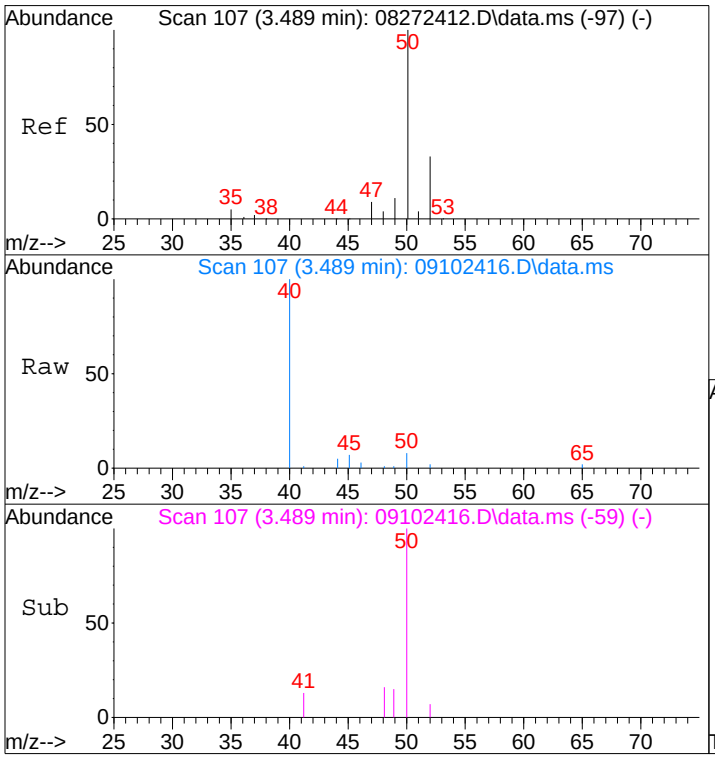


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng m
RT: 3.35 min Scan# 83
Delta R.T. 0.028 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 85 Resp: 18899

Ion	Ratio	Lower	Upper
85	100		
87	0.0	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

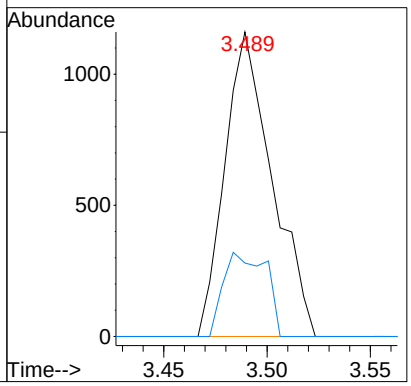


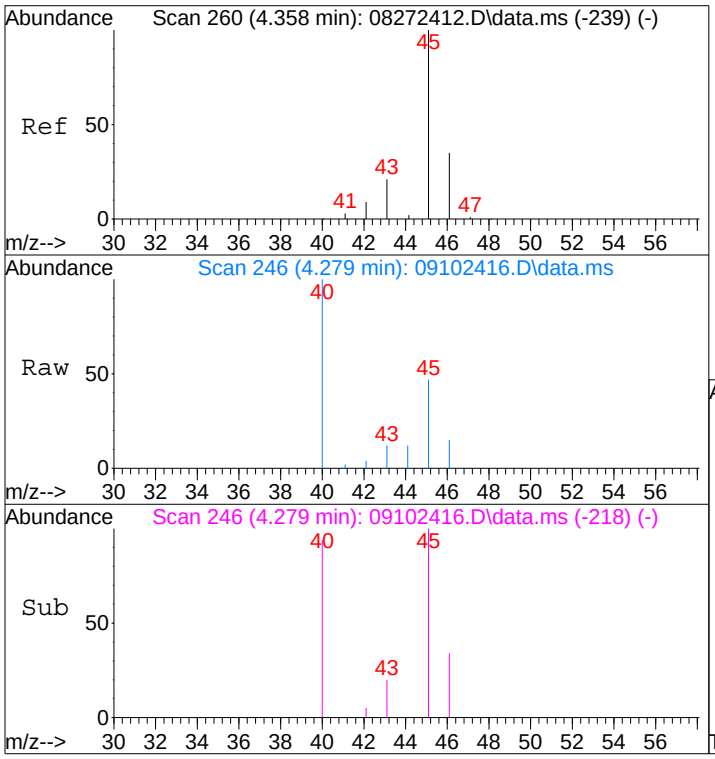


#4
Chloromethane
Concen: 0.07 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.024 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 50 Resp: 1842

Ion	Ratio	Lower	Upper
50	100		
52	24.9	12.4	52.4

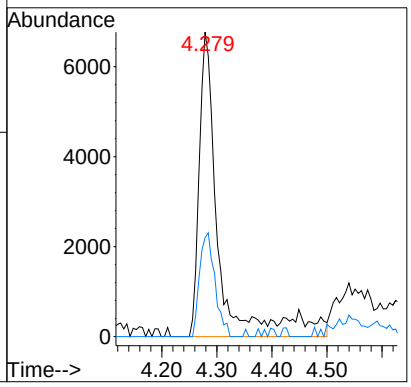


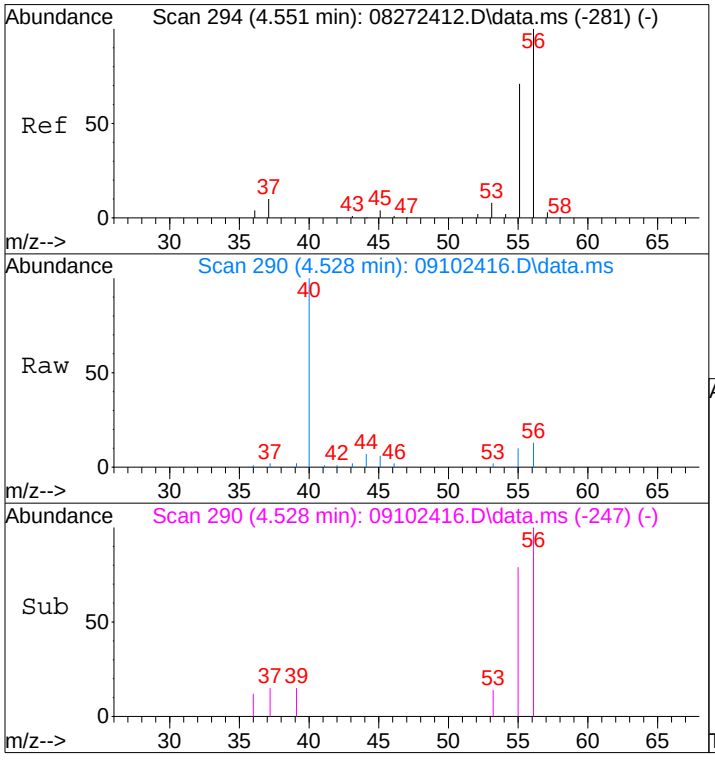


#10
Ethanol
Concen: 1.17 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.090 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 45 Resp: 16594

Ion	Ratio	Lower	Upper
45	100		
46	26.8	14.2	54.2

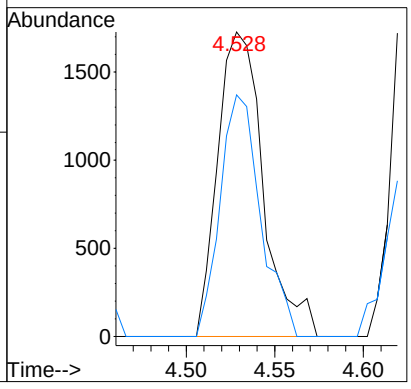


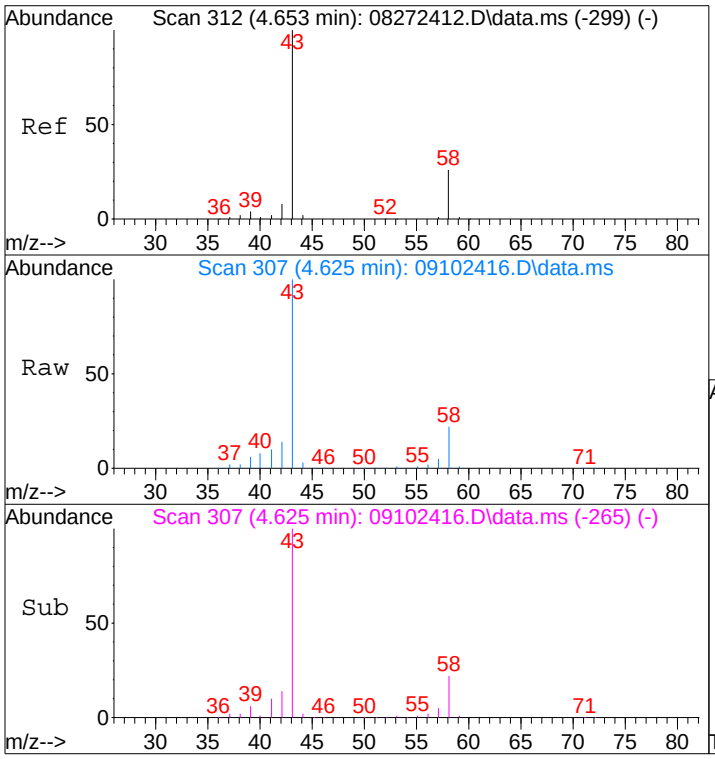


#12
Acrolein
Concen: 0.29 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.003 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 56 Resp: 3099

Ion	Ratio	Lower	Upper
56	100		
55	70.2	54.7	94.7

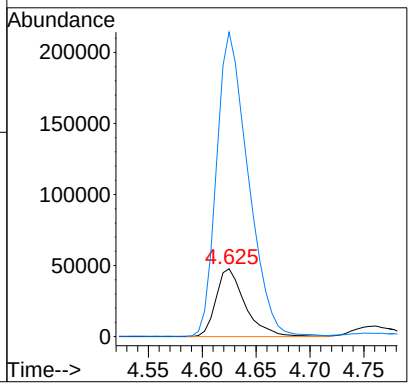


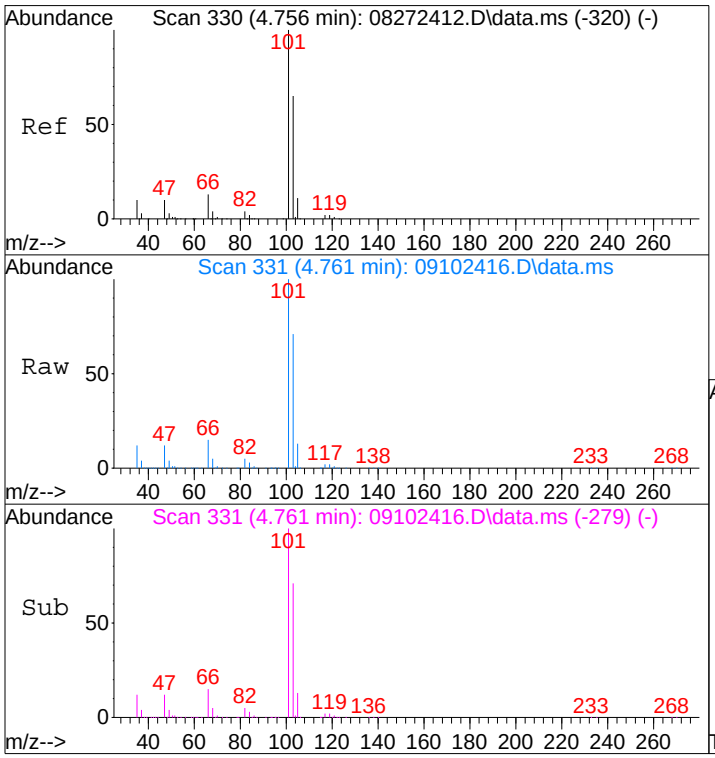


#13
Acetone
Concen: 7.52 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.013 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 58 Resp: 89881

Ion	Ratio	Lower	Upper
58	100		
43	485.2	347.3	407.3#

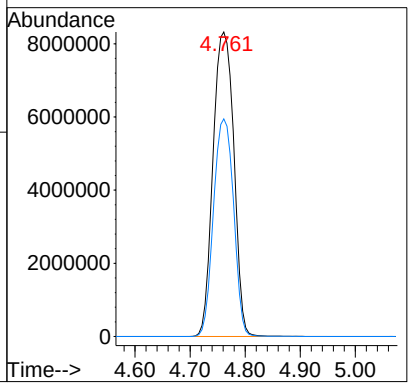


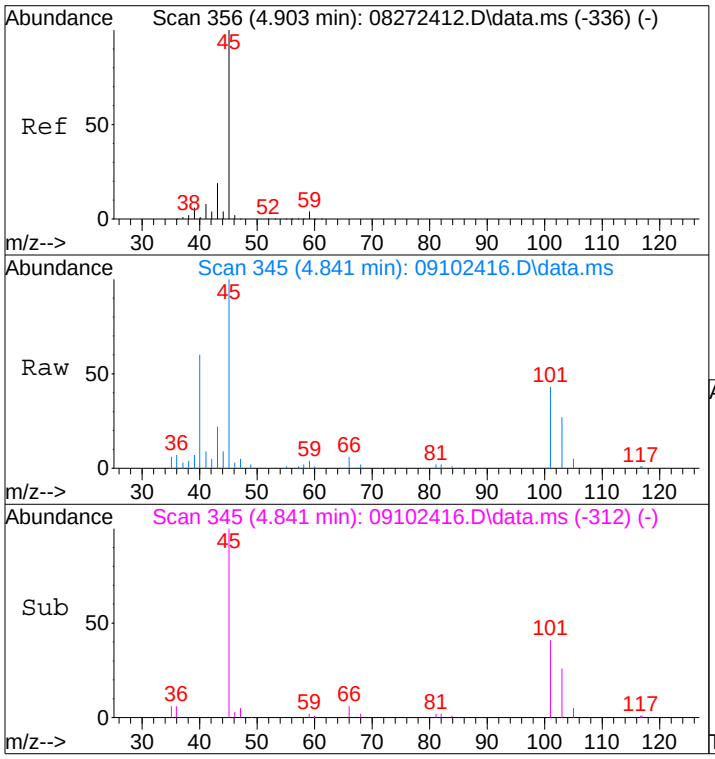


#14
Trichlorofluoromethane
Concen: 722.90 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.044 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion:101 Resp:21862058

Ion	Ratio	Lower	Upper
101	100		
103	69.0	44.9	84.9

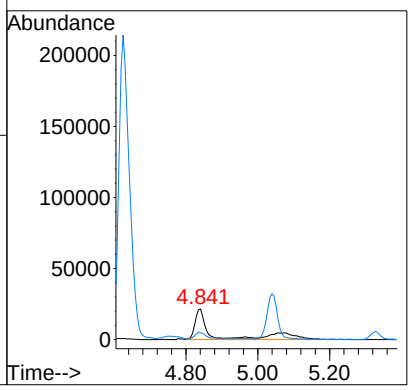


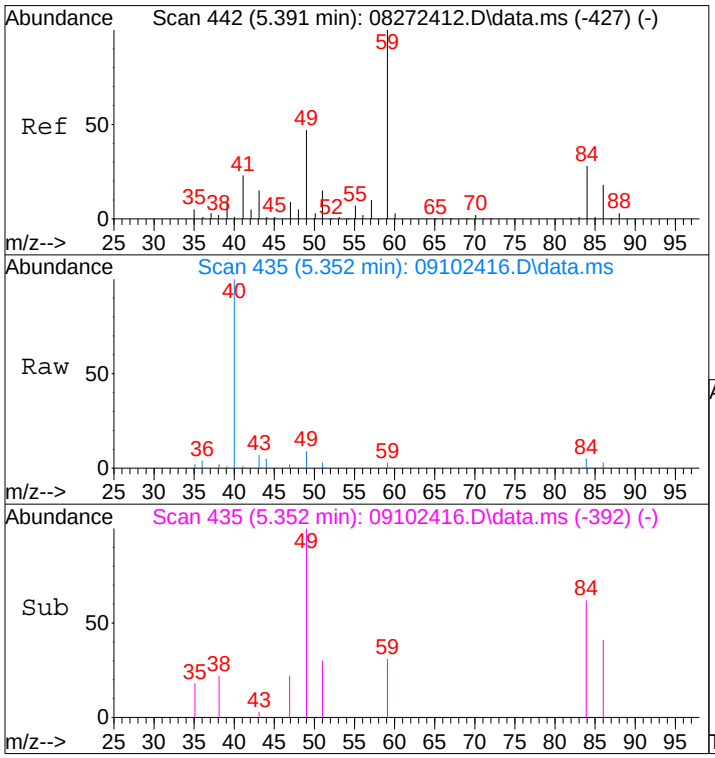


#15
2-Propanol (Isopropanol)
Concen: 1.58 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.061 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 45 Resp: 74500

Ion	Ratio	Lower	Upper
45	100		
43	15.7	0.0	40.0

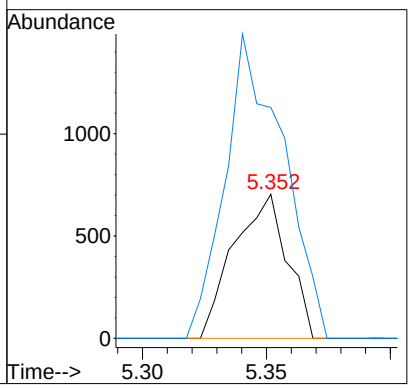


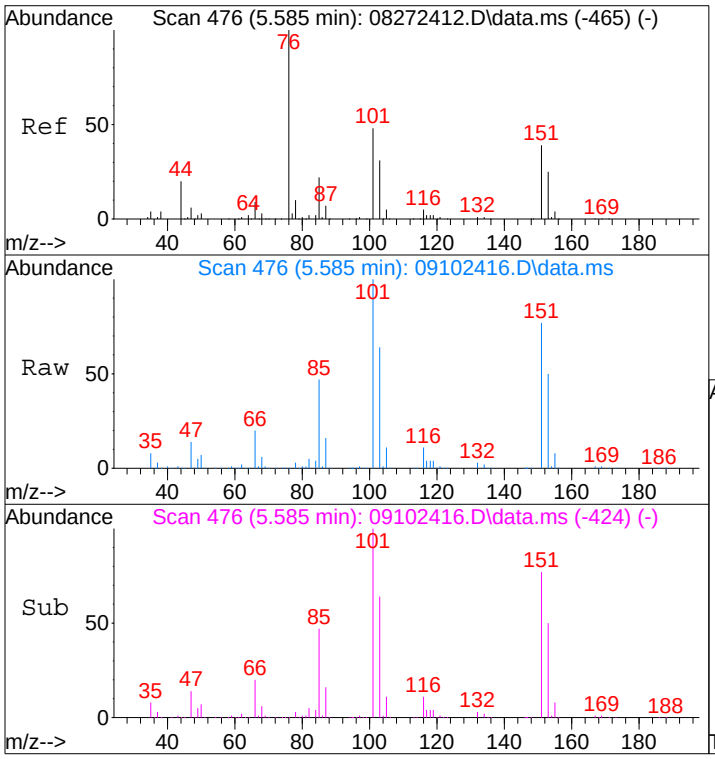


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.005 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 84 Resp: 1060

Ion	Ratio	Lower	Upper
84	100		
49	228.9	151.1	201.1#

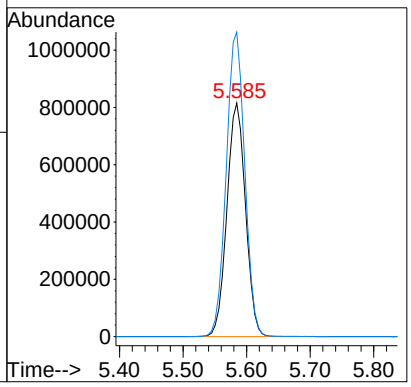


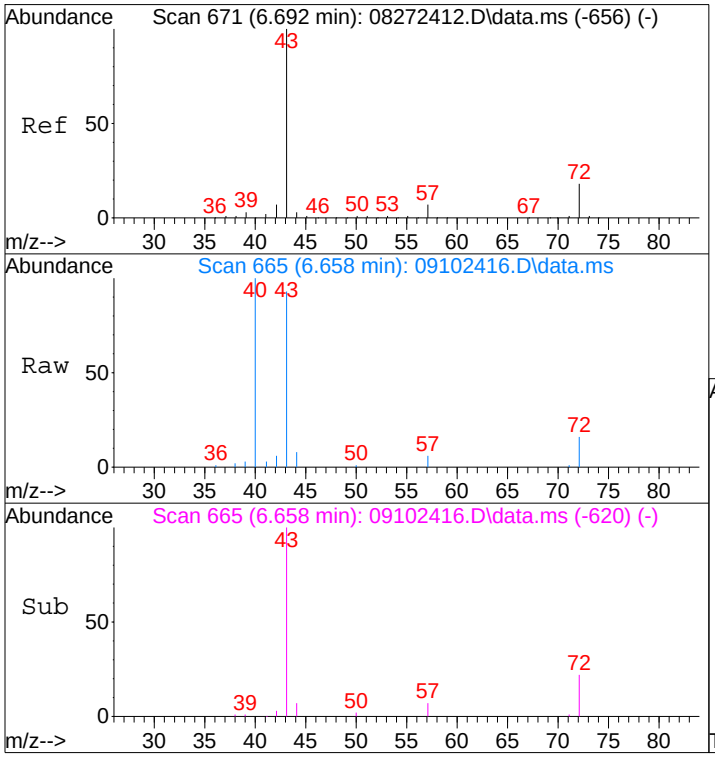


#21
Trichlorotrifluoroethane
Concen: 137.97 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.043 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion:151 Resp: 1652966

Ion	Ratio	Lower	Upper
151	100		
101	130.4	103.4	143.4

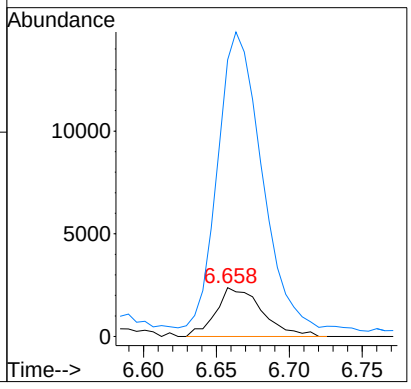


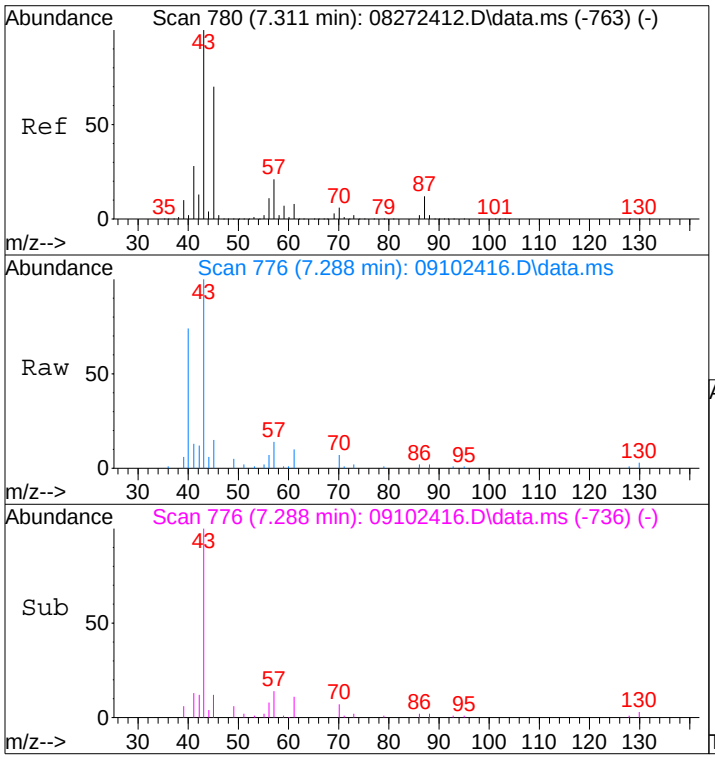


#27
2-Butanone (MEK)
Concen: 0.62 ng
RT: 6.66 min Scan# 665
Delta R.T. 0.005 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 72 Resp: 5229

Ion	Ratio	Lower	Upper
72	100		
43	596.8	548.0	588.0#

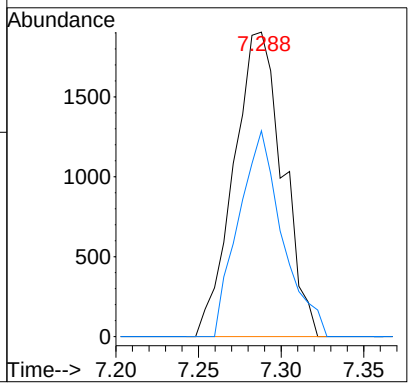


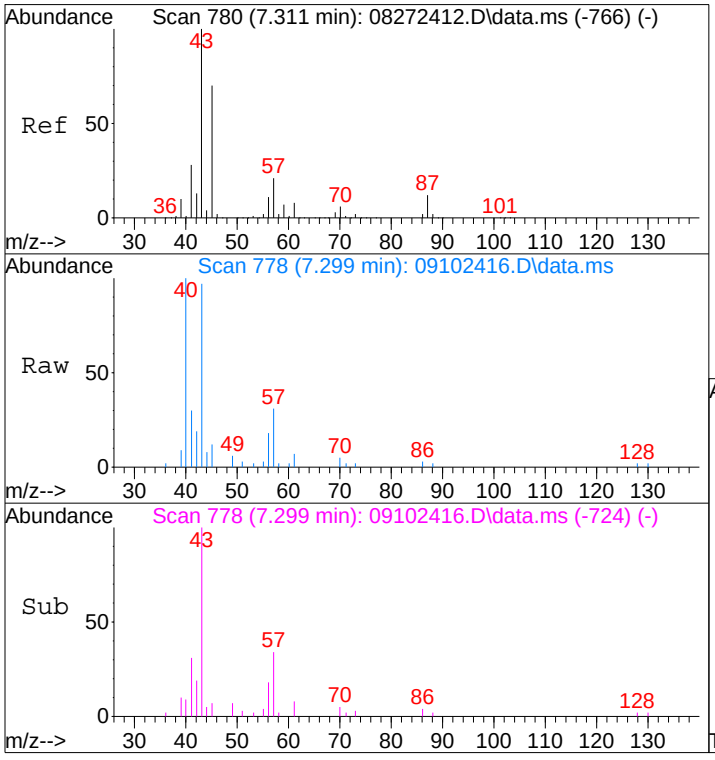


#30
Ethyl Acetate
Concen: 0.69 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.029 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 61 Resp: 3934

Ion	Ratio	Lower	Upper
61	100		
70	60.4	49.9	89.9

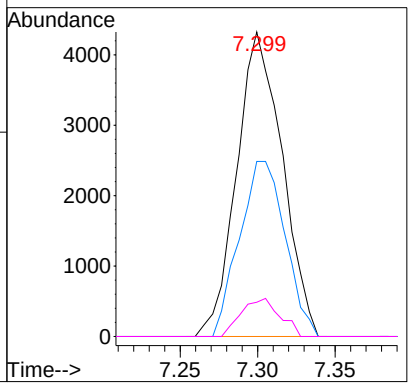


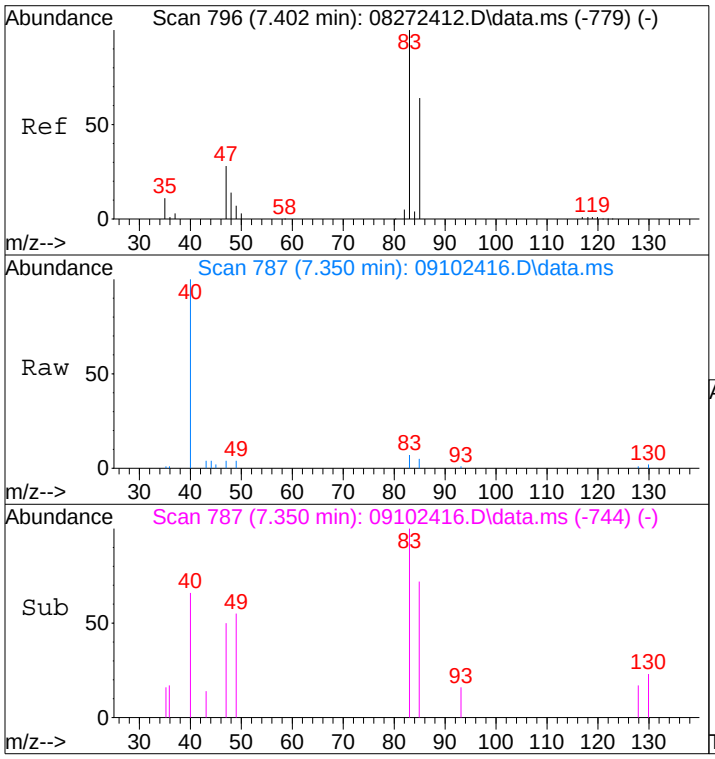


#31
n-Hexane
Concen: 0.34 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 57 Resp: 8850

Ion	Ratio	Lower	Upper
57	100		
56	57.7	44.2	66.2
86	10.6	9.3	13.9

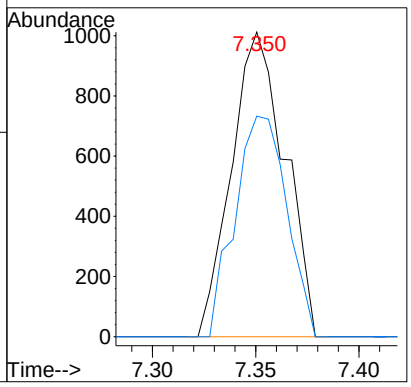


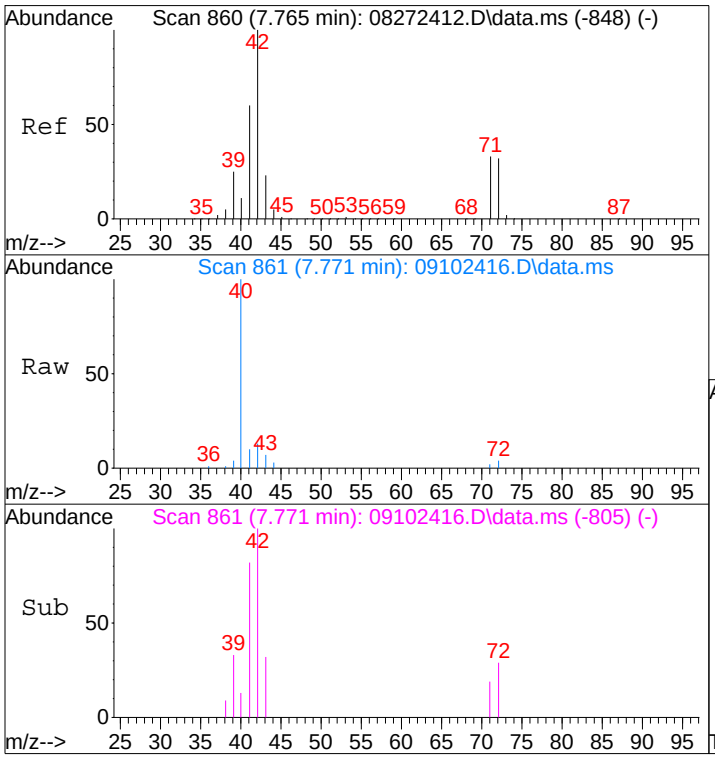


#32
Chloroform
Concen: 0.07 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.004 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 83 Resp: 1820

Ion	Ratio	Lower	Upper
83	100		
85	70.3	45.3	85.3

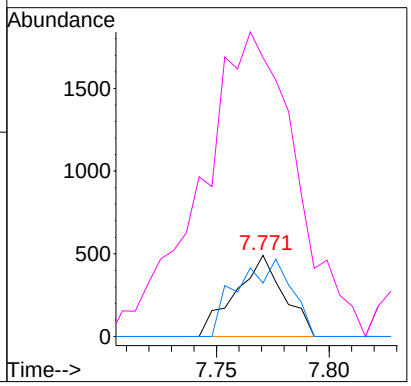


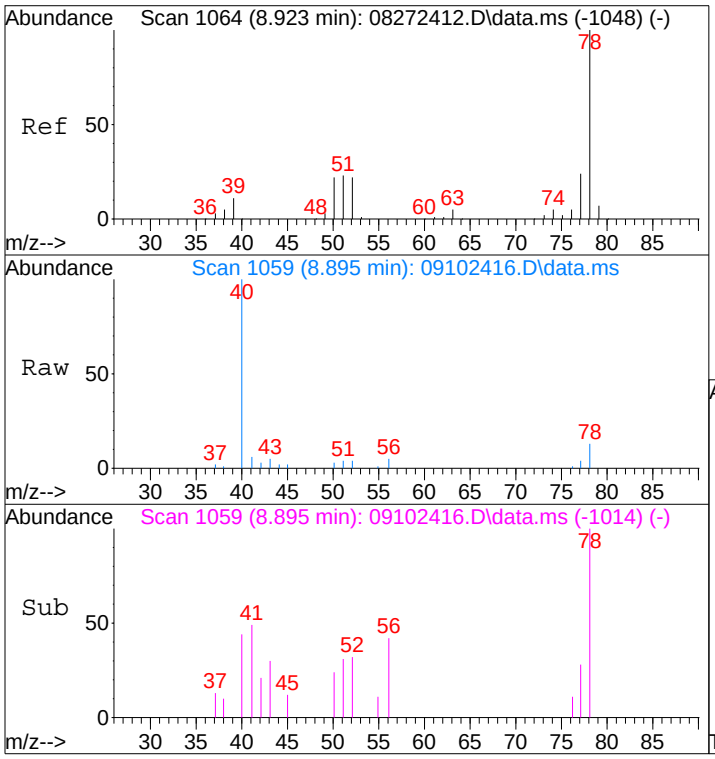


#34
Tetrahydrofuran (THF)
Concen: 0.09 ng
RT: 7.77 min Scan# 861
Delta R.T. 0.068 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 72 Resp: 734

Ion	Ratio	Lower	Upper
72	100		
71	106.7	78.4	118.4
42	743.7	285.2	325.2#

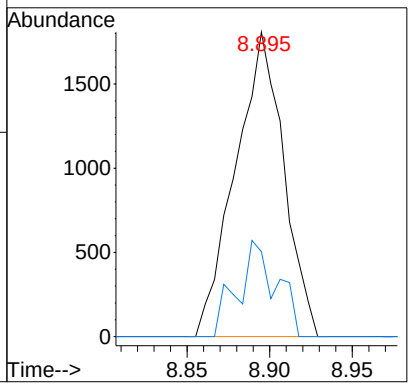


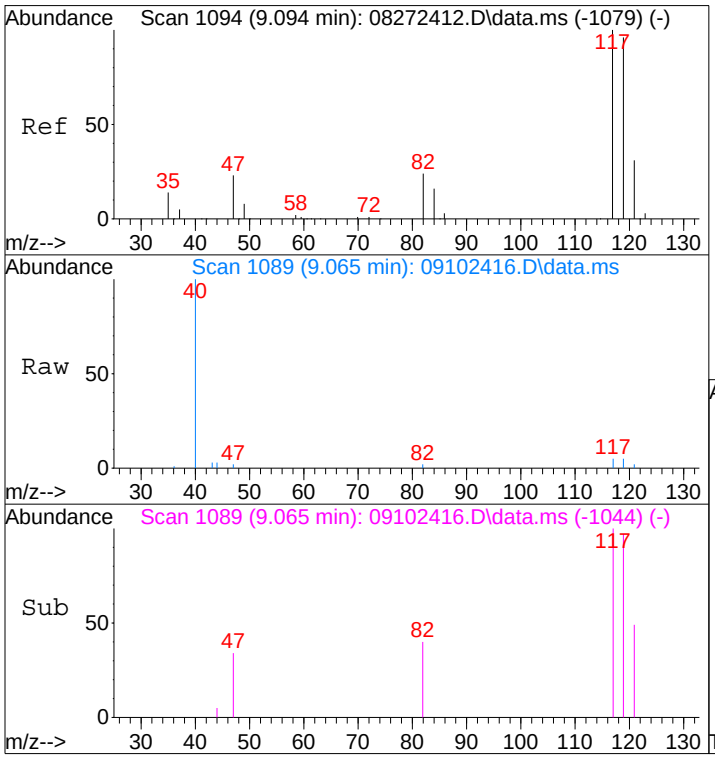


#41
Benzene
Concen: 0.07 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.003 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 78 Resp: 3666

Ion	Ratio	Lower	Upper
78	100		
77	25.3	3.9	43.9

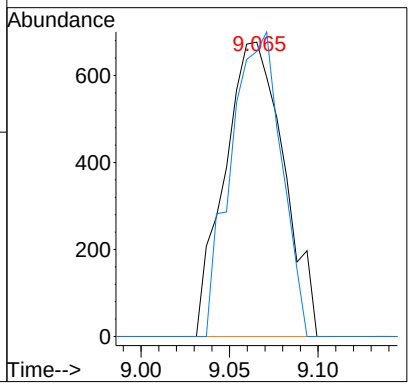


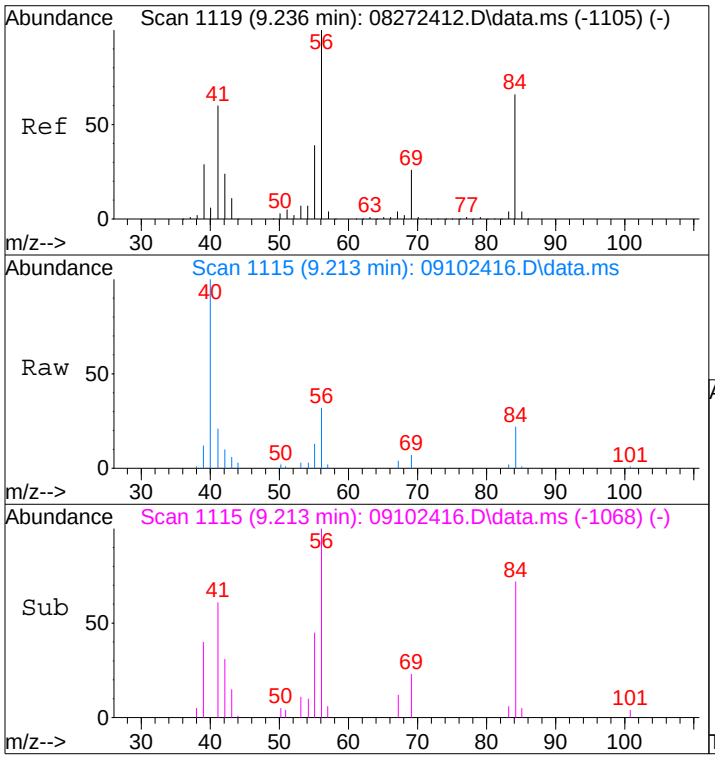


#42
Carbon Tetrachloride
Concen: 0.07 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.004 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion:117 Resp: 1574

Ion	Ratio	Lower	Upper
117	100		
119	87.9	75.1	115.1

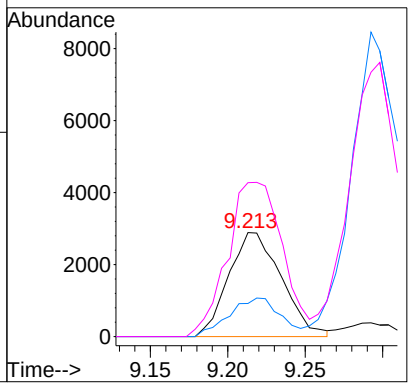


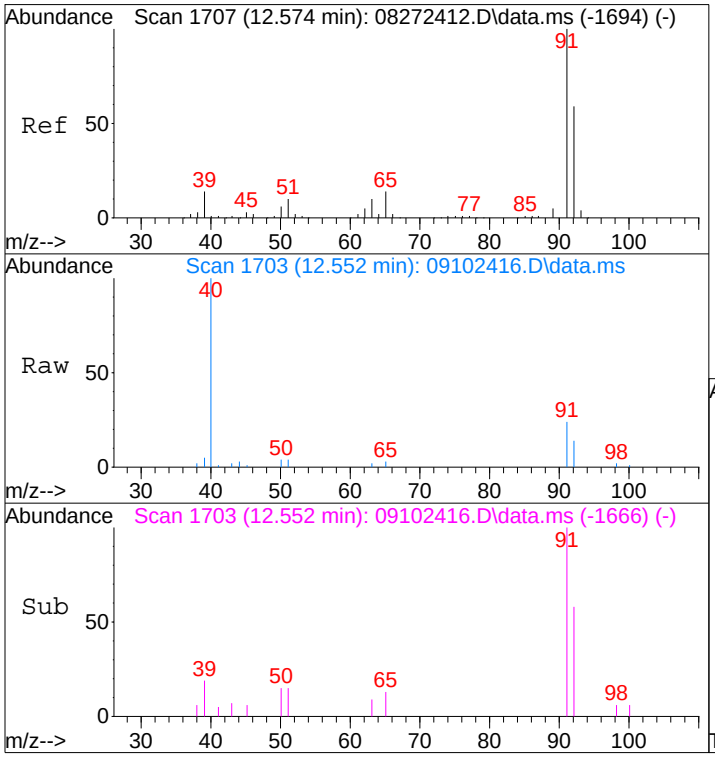


#43
Cyclohexane
Concen: 0.38 ng
RT: 9.21 min Scan# 1115
Delta R.T. 0.017 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 84 Resp: 6858

Ion	Ratio	Lower	Upper
84	100		
69	35.9	18.8	58.8
56	154.1	134.5	174.5

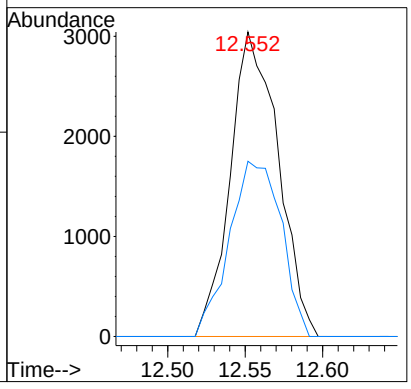


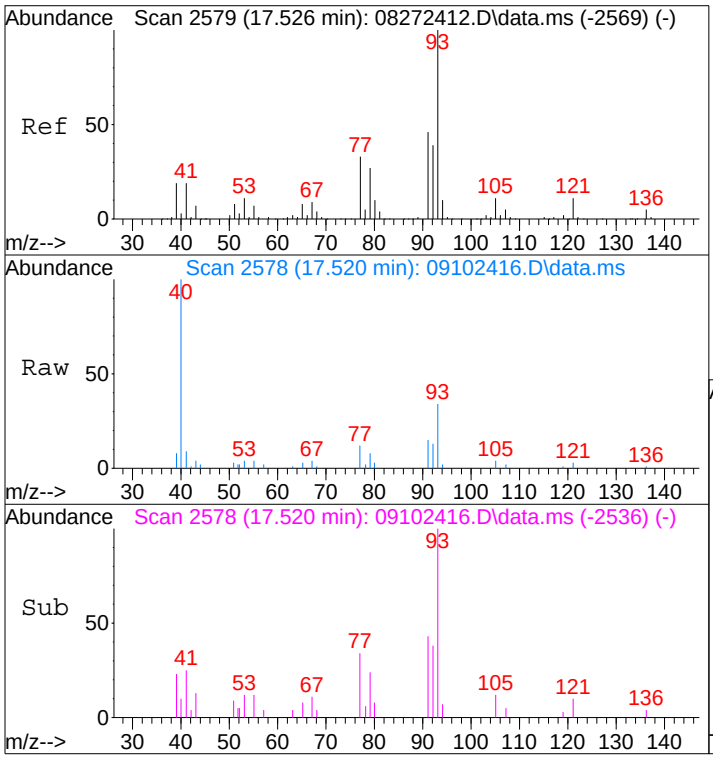


#58
Toluene
Concen: 0.10 ng
RT: 12.55 min Scan# 1703
Delta R.T. -0.040 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 91 Resp: 6552

Ion	Ratio	Lower	Upper
91	100		
92	62.1	38.5	78.5

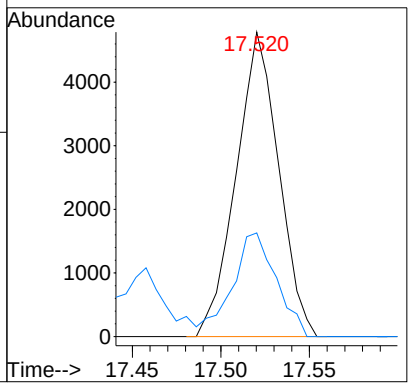




#75
alpha-Pinene
Concen: 0.23 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102416.D
Acq: 10 Sep 2024 17:49

Tgt Ion: 93 Resp: 7997

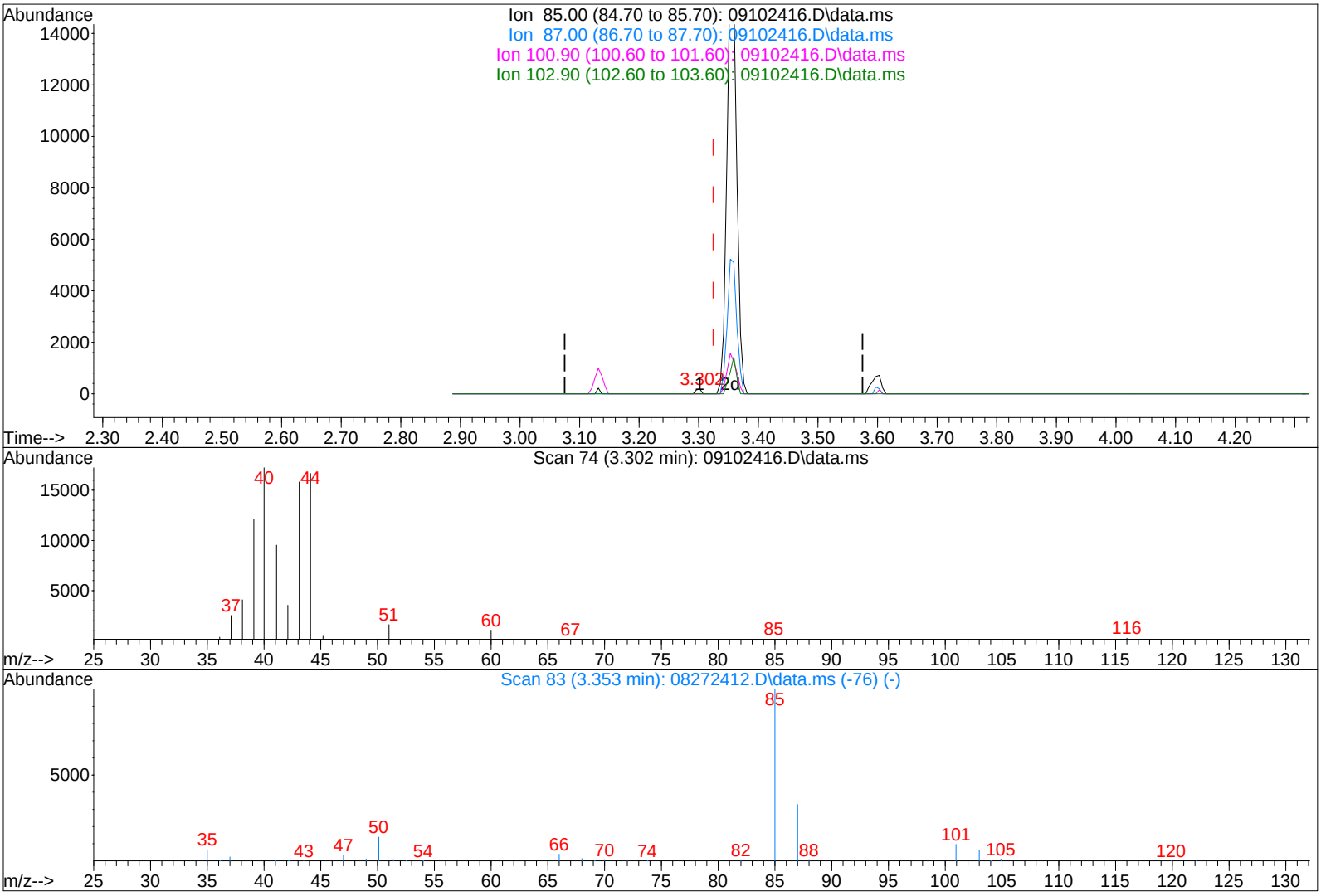
Ion	Ratio	Lower	Upper
93	100		
77	35.2	13.1	53.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:24:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102416.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.023) 0.00ng

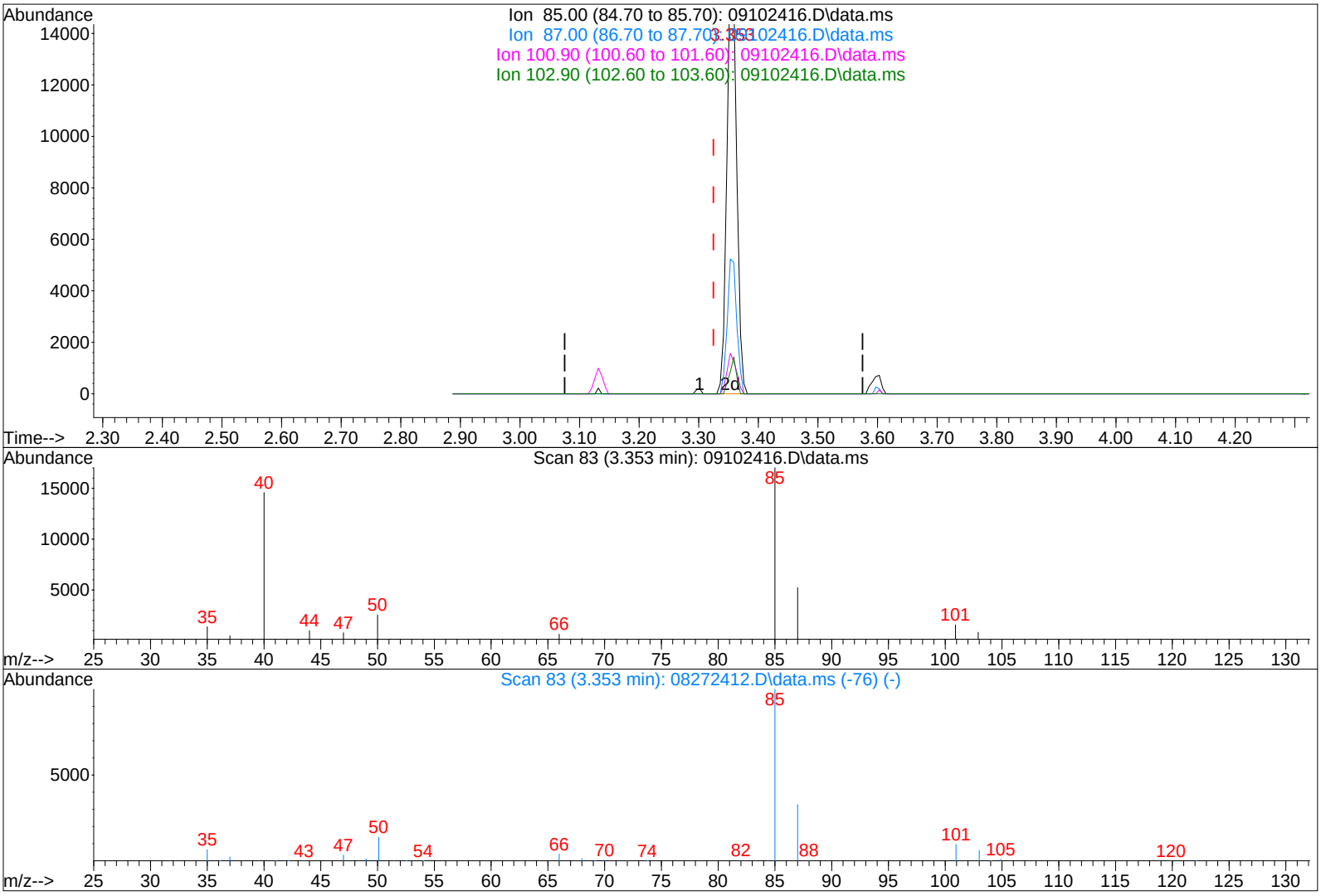
response 112

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:24:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102416.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.353min (+0.028) 0.60ng m

response 18899

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:48:07 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

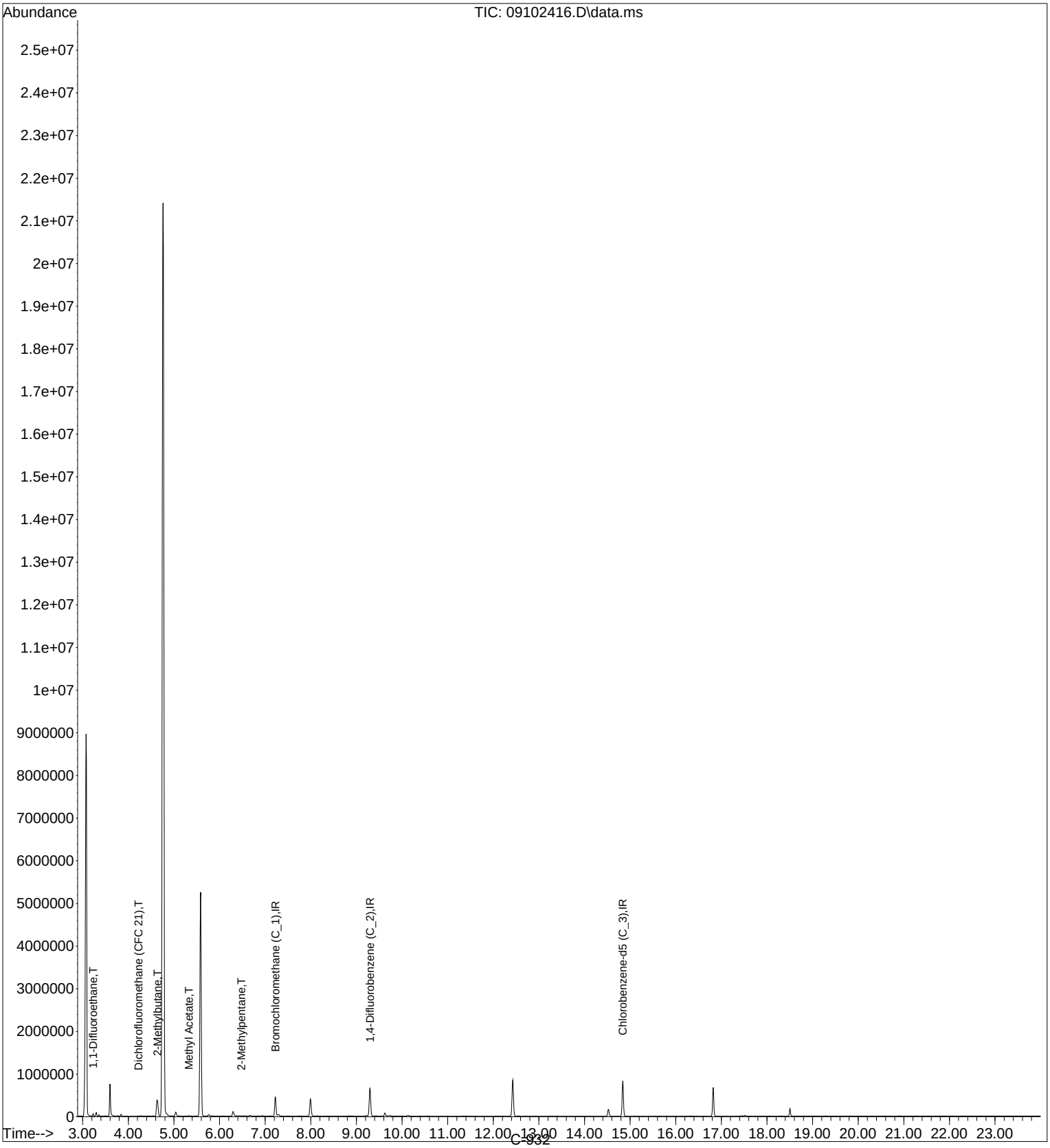
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	131278	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	571222	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	168610	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	74	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	11252	0.982 ng		99
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d		
6) 1-Chloro-1,1-Difluoroe...	3.49	65	501	N.D.		
7) Dichlorofluoromethane ...	4.22	67	4482	0.149 ng		96
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	136	N.D.		
10) 2-Methylbutane	4.64	57	63427	4.051 ng		86
11) Methyl Acetate	5.33	43	11129	0.252 ng	#	71
12) 2-Methylpentane	6.48	71	1262	0.111 ng	#	89
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.06	84	117	N.D.		
17) 2,3-Dimethylpentane	9.52	56	1879	N.D.		
18) Dibromomethane	9.79	174	60	N.D.		
20) Methyl Cyclohexane	11.42	55	1765	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	71	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.67	91	358	N.D.		
27) 4-Chlorotoluene	17.67	91	358	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

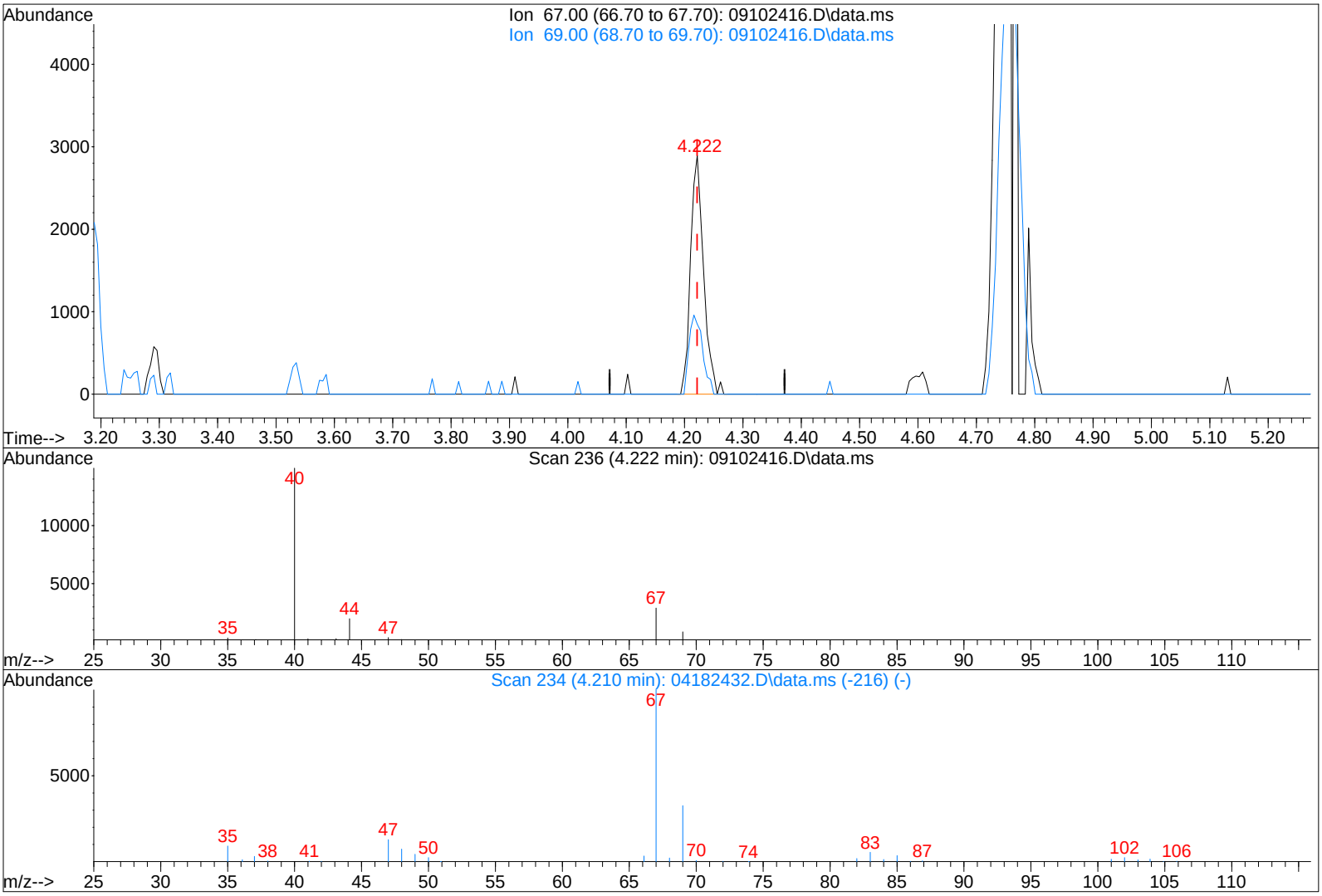
Quant Time: Sep 11 11:48:07 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102416.D Vial: 8
Acq On : 10 Sep 2024 17:49 Operator: SC
Sample : P2403661-022 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:47:42 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102416.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 0.15ng

response 4482

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	34.56
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102428.D Vial: 8
Acq On : 11 Sep 2024 8:42 Operator: SC
Sample : P2403661-022Dil (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:04:14 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	154529	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.29	114	669918	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.83	54	183954	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	379134	13.111	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.88%				
57) Toluene-d8 (SS2)	12.43	98	740444	11.474	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.76%				
73) Bromofluorobenzene (SS3)	16.82	174	232937	10.793	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.32%				
Target Compounds							Qvalue
2) Propene	3.32	42	810	N.D.			
3) Dichlorodifluoromethan...	3.38	85	823	N.D.			
4) Chloromethane	3.38	50	206	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	118	N.D.			
11) Acetonitrile	4.44	41	1408	N.D.			
12) Acrolein	4.55	56	548	N.D.			
13) Acetone	4.65	58	10825	0.765	ng	#	76
14) Trichlorofluoromethane	4.75	101	1575754	44.034	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	3151	0.057	ng	#	37
16) Acrylonitrile	4.99	53	416	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.36	59	53	N.D.			
19) Methylene Chloride	5.35	84	253	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	82156	5.795	ng		94
22) Carbon Disulfide	5.61	76	2169	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.68	72	851	0.085	ng	#	45
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	141	N.D.			
31) n-Hexane	7.30	57	335	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	3278	0.346	ng	#	77
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.02	62	111	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	9680	No Calib		#	
41) Benzene	8.89	78	2054	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.21	84	157	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102428.D Vial: 8
Acq On : 11 Sep 2024 8:42 Operator: SC
Sample : P2403661-022Dil (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:04:14 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

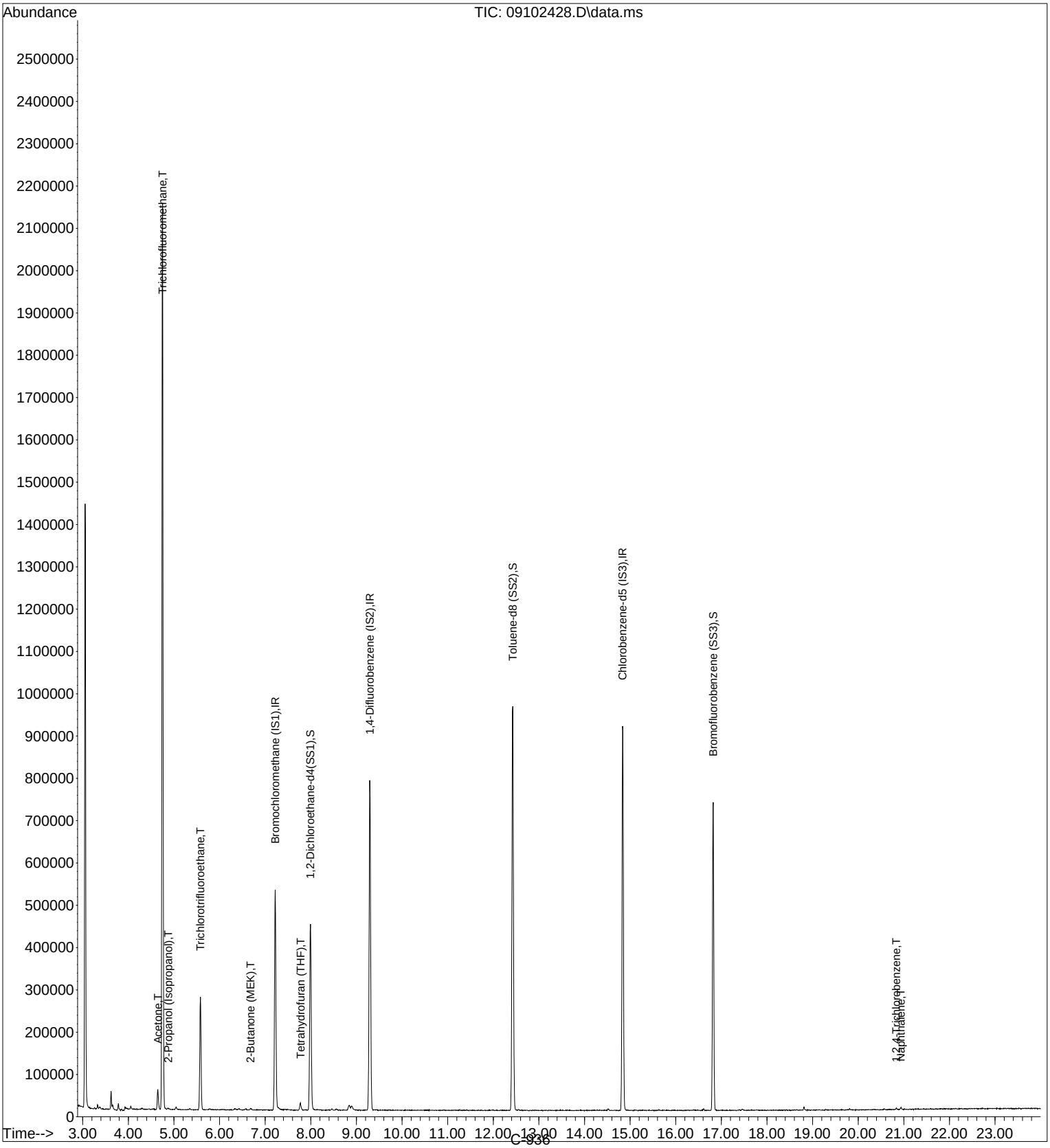
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1807	N.D.	
59) 2-Hexanone	12.94	43	173	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	108	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	501	N.D.	
67) m- & p-Xylenes	15.63	91	1348	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	184	N.D.	
70) o-Xylene	16.25	91	184	N.D.	
71) n-Nonane	16.62	43	1955	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	448	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.87	105	265	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	188	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.43	105	460	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	253	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	350	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	591	N.D.	
87) sec-Butylbenzene	18.74	105	357	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	390	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.03	146	374	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.51	157	119	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1547	0.053 ng #	92
95) Naphthalene	20.94	128	3607	0.052 ng	91
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	468	N.D.	
98) Cyclohexanone	15.20	55	122	No Calib #	
99) tert-Butylbenzene	18.42	119	137	N.D.	
100) n-Butylbenzene	19.39	91	530	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102428.D Vial: 8
Acq On : 11 Sep 2024 8:42 Operator: SC
Sample : P2403661-022Dil (20mL) Inst : MS09
Misc : S37-06062402

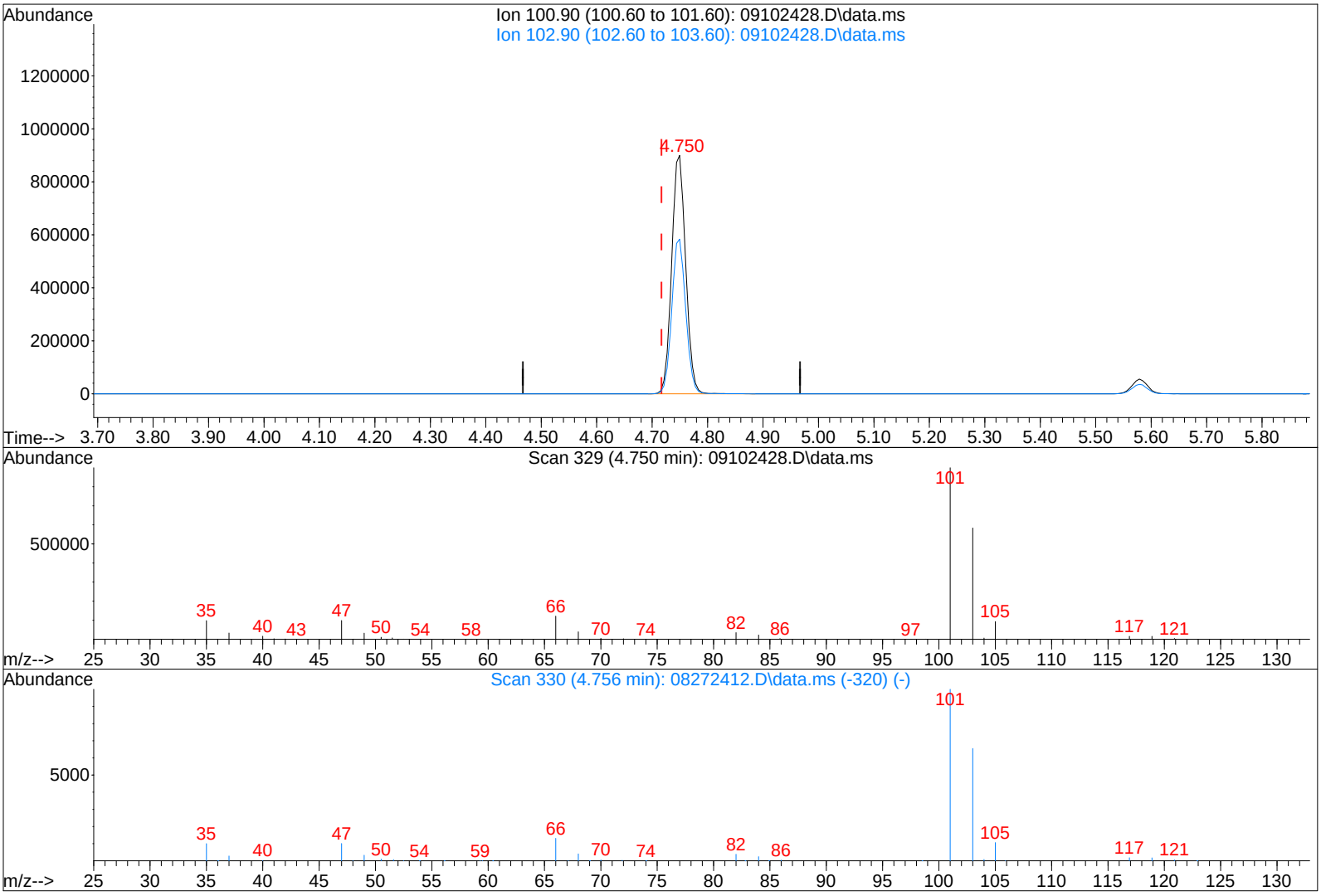
Quant Time: Sep 11 09:04:14 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102428.D Vial: 8
Acq On : 11 Sep 2024 8:42 Operator: SC
Sample : P2403661-022Dil (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:04:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102428.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.033) 44.03ng

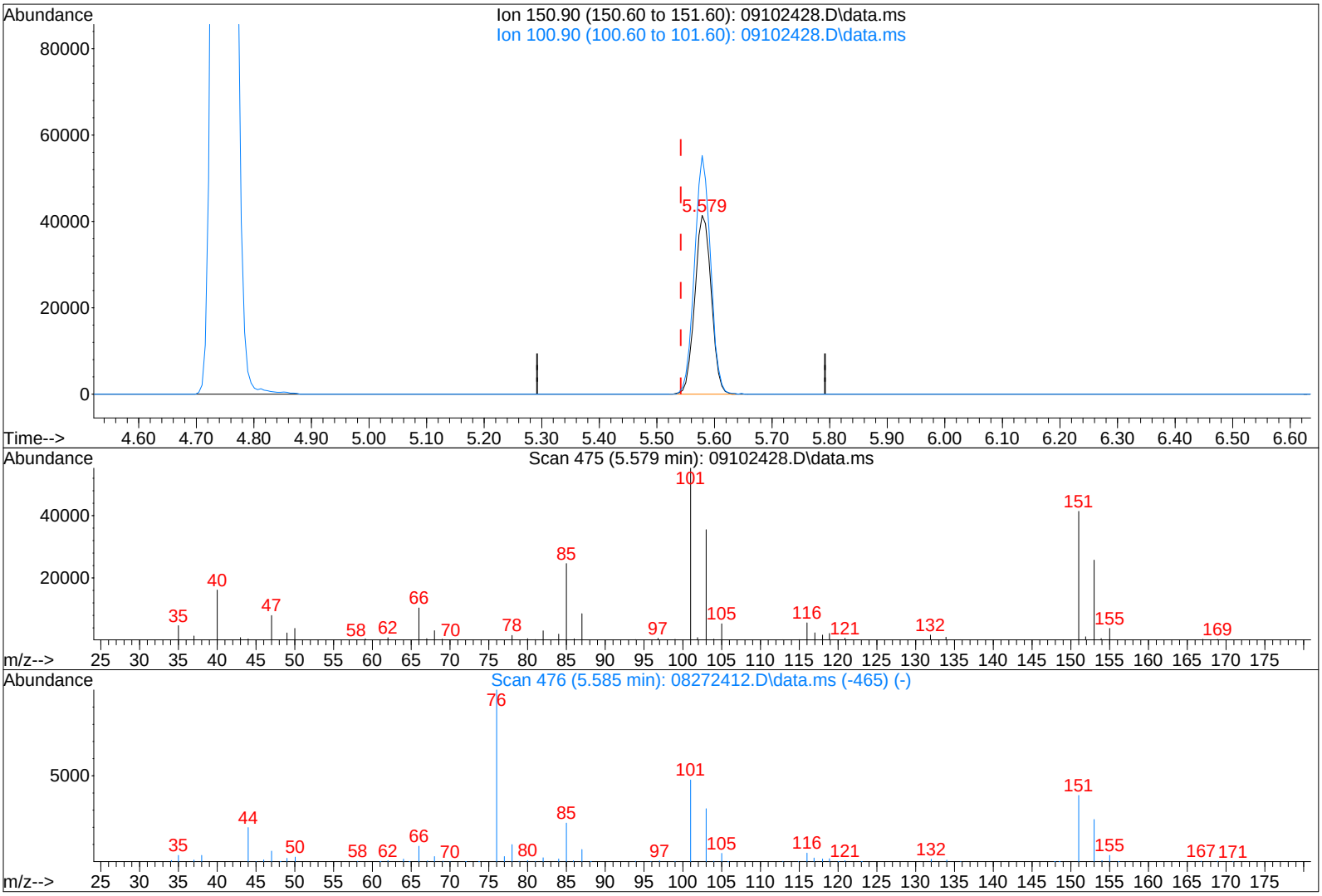
response 1575754

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.70
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102428.D Vial: 8
Acq On : 11 Sep 2024 8:42 Operator: SC
Sample : P2403661-022Dil (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:04:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102428.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.037) 5.80ng

response 82156

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.02
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102416.D
Acq On : 10 Sep 2024 17:49
Operator : SC
Sample : P2403661-022 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102416.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	68	rVB	54795	50864	0.09%	0.073%
2	3.296	68	73	80	rVV3	86236	118546	0.22%	0.171%
3	3.353	80	83	87	rVB	31340	35296	0.06%	0.051%
4	3.501	104	109	112	rBV4	7614	10034	0.02%	0.014%
5	3.597	120	126	148	rVV	751204	1136135	2.08%	1.634%
6	3.768	152	156	162	rVV2	15486	20890	0.04%	0.030%
7	3.841	164	169	175	rVB	47722	62711	0.11%	0.090%
8	4.222	224	236	239	rBV3	9919	19953	0.04%	0.029%
9	4.279	242	246	255	rVV2	12462	26477	0.05%	0.038%
10	4.534	284	291	296	rBV3	5242	11034	0.02%	0.016%
11	4.631	301	308	318	rBV2	378638	946846	1.74%	1.362%
12	4.761	320	331	359	rVB	21401027	54563547	100.00%	78.484%
13	5.039	373	380	390	rBV2	93790	187034	0.34%	0.269%
14	5.329	425	431	439	rVB5	10268	23048	0.04%	0.033%
15	5.585	464	476	499	rVB	5248767	10732262	19.67%	15.437%
16	5.761	500	507	517	rBV2	36131	88348	0.16%	0.127%
17	6.300	592	602	614	rBV	110722	268409	0.49%	0.386%
18	6.402	614	620	629	rVV7	11219	37029	0.07%	0.053%
19	6.482	629	634	640	rVB4	8592	16655	0.03%	0.024%
20	6.556	640	647	654	rBV5	9661	24124	0.04%	0.035%
21	6.663	660	666	676	rVB2	20932	47639	0.09%	0.069%
22	6.851	693	699	707	rVB3	9132	18897	0.03%	0.027%
23	6.936	709	714	720	rBV	17166	31194	0.06%	0.045%
24	7.220	756	764	772	rBV	449624	955175	1.75%	1.374%
25	7.294	772	777	785	rVB3	37540	89703	0.16%	0.129%

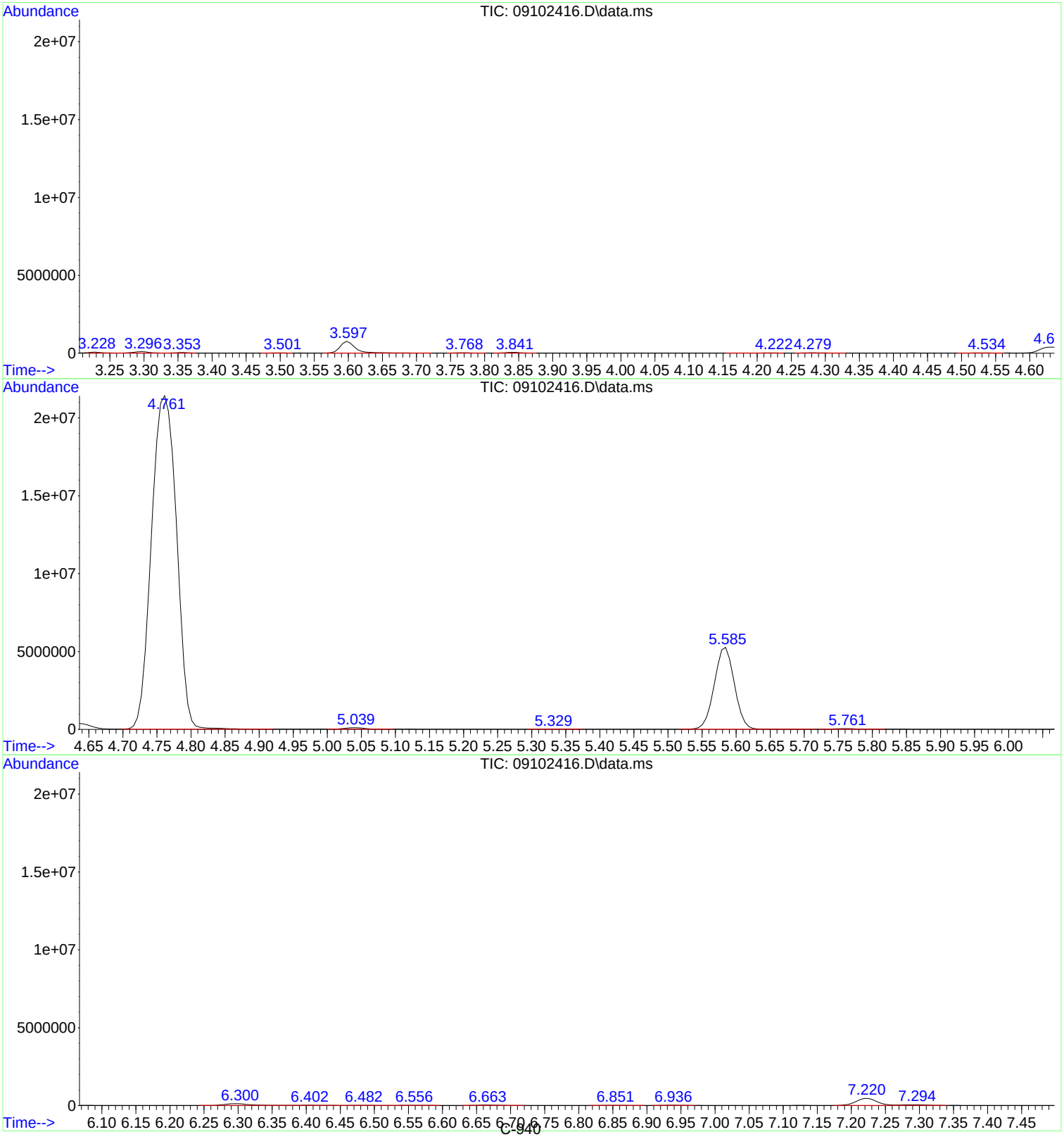
Sum of corrected areas: 69521850

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102416.D
Acq On : 10 Sep 2024 17:49
Operator : SC
Sample : P2403661-022 (400mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102416.D
Acq On : 10 Sep 2024 17:499
Operator : SCC
Sample : P2403661-022 (400mL))
Misc : S37-060624022
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

NOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:02:35 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	119477	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	527813	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	158519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	317002	14.179	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
57) Toluene-d8 (SS2)	12.43	98	601076	10.809	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%				
73) Bromofluorobenzene (SS3)	16.82	174	194665	10.467	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.76%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	6244	0.215	ng		83
4) Chloromethane	3.52	50	143	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	645	0.062	ng	#	43
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	12624m	0.974	ng		
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	4.55	56	362	N.D.			
13) Acetone	0.00	58	0	N.D. d			
14) Trichlorofluoromethane	4.76	101	50671078	1831.406	ng	#	72
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D. d			
16) Acrylonitrile	5.05	53	120	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	0.00	84	0	N.D. d			
20) 3-Chloro-1-propene (Al...	5.42	41	120	N.D.			
21) Trichlorotrifluoroethane	5.62	151	7383841	673.633	ng		97
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.42	73	146	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	574	0.074	ng	#	58
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	1593	0.306	ng	#	72
31) n-Hexane	0.00	57	0	N.D. d			
32) Chloroform	7.38	83	1108	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	2950	0.125	ng		94
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	2184	No Calib		#	
41) Benzene	8.91	78	4276	0.086	ng		98
42) Carbon Tetrachloride	9.08	117	698	N.D.			
43) Cyclohexane	9.24	84	2055	0.123	ng		90
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.16	130	10635	0.868	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	474	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:02:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

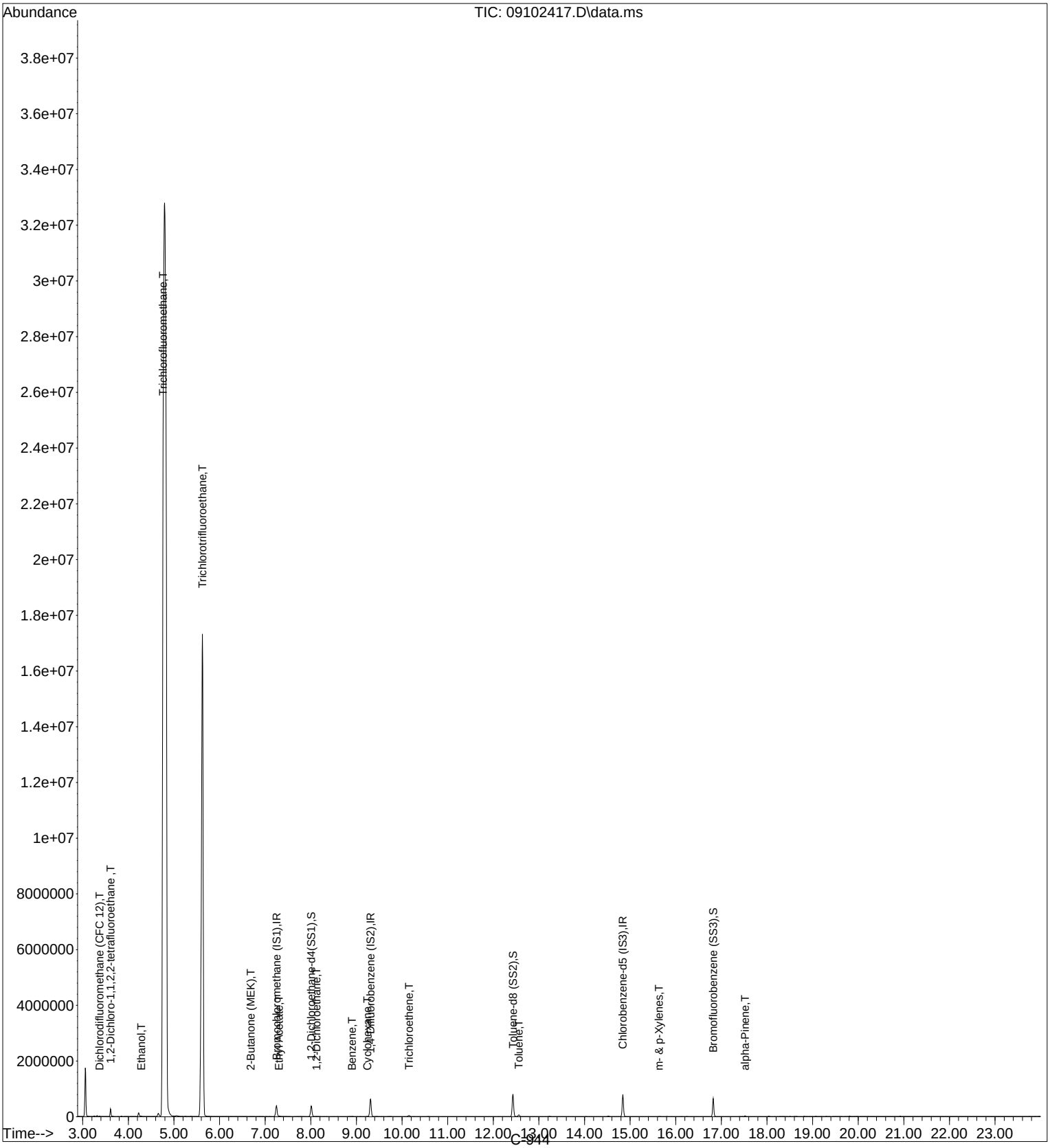
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	46315	0.770 ng	97
59) 2-Hexanone	12.93	43	253	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1376	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	766	N.D.	
65) Chlorobenzene	14.90	112	702	N.D.	
66) Ethylbenzene	15.41	91	1901	N.D.	
67) m- & p-Xylenes	15.63	91	4225	0.075 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	822	N.D.	
70) o-Xylene	16.24	91	2304	N.D.	
71) n-Nonane	16.62	43	213	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.52	93	8279	0.250 ng	91
76) n-Propylbenzene	17.67	91	311	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.86	105	147	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.43	105	445	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	18.74	105	253	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	398	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.08	68	775	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.04	58	113	No Calib	#
94) 1,2,4-Trichlorobenzene	20.84	180	330	N.D.	
95) Naphthalene	20.94	128	327	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	216	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.50	119	137	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:02:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
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Quant Time: Sep 11 09:02:35 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

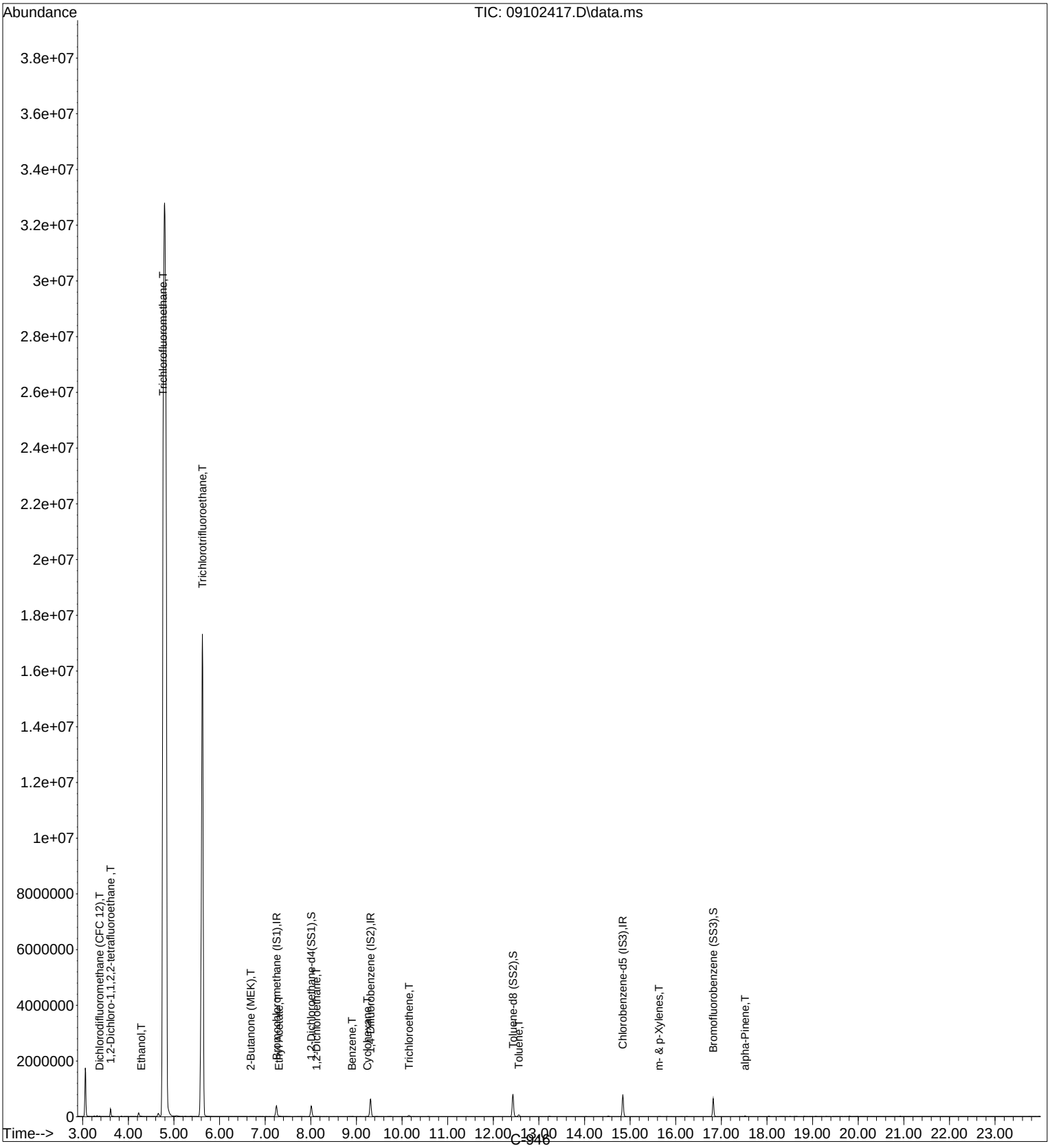
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	119477	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	527813	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	158519	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	317002	14.179	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.44%				
57) Toluene-d8 (SS2)	12.43	98	601076	10.809	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%				
73) Bromofluorobenzene (SS3)	16.82	174	194665	10.467	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.76%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	6244	0.215	ng		83
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	645	0.062	ng	#	43
10) Ethanol	4.28	45	12624m	0.974	ng		
14) Trichlorofluoromethane	4.76	101	50671078	1831.406	ng	#	72
21) Trichlorotrifluoroethane	5.62	151	7383841	673.633	ng		97
27) 2-Butanone (MEK)	6.69	72	574	0.074	ng	#	58
30) Ethyl Acetate	7.30	61	1593	0.306	ng	#	72
36) 1,2-Dichloroethane	8.12	62	2950	0.125	ng		94
41) Benzene	8.91	78	4276	0.086	ng		98
43) Cyclohexane	9.24	84	2055	0.123	ng		90
47) Trichloroethene	10.16	130	10635	0.868	ng		99
58) Toluene	12.56	91	46315	0.770	ng		97
67) m- & p-Xylenes	15.63	91	4225	0.075	ng		98
75) alpha-Pinene	17.52	93	8279	0.250	ng		91

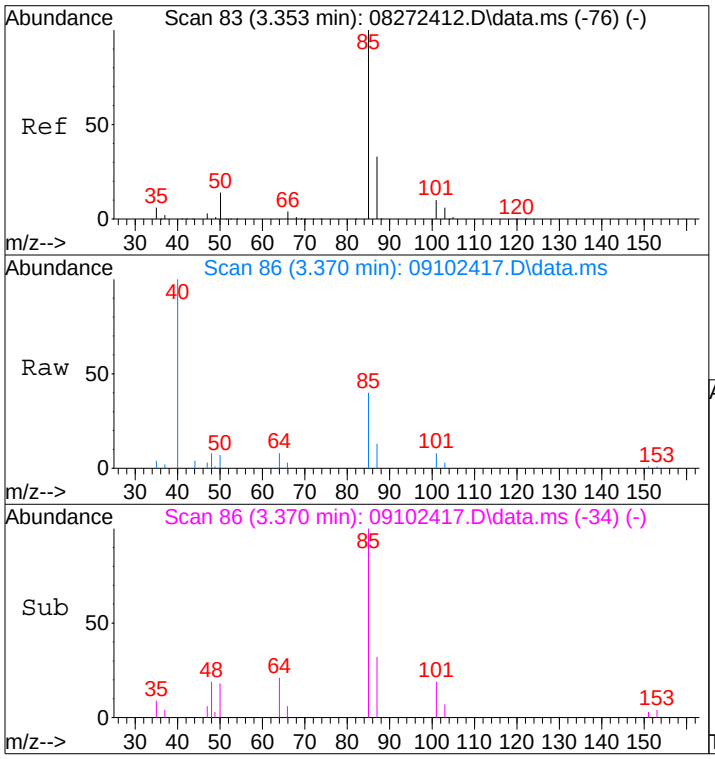
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:02:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

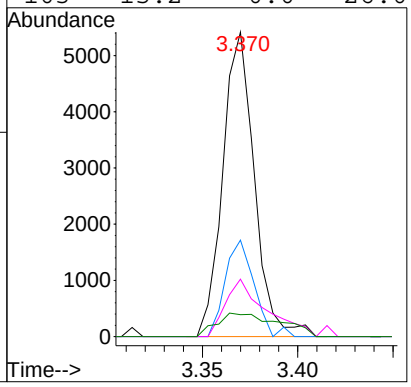


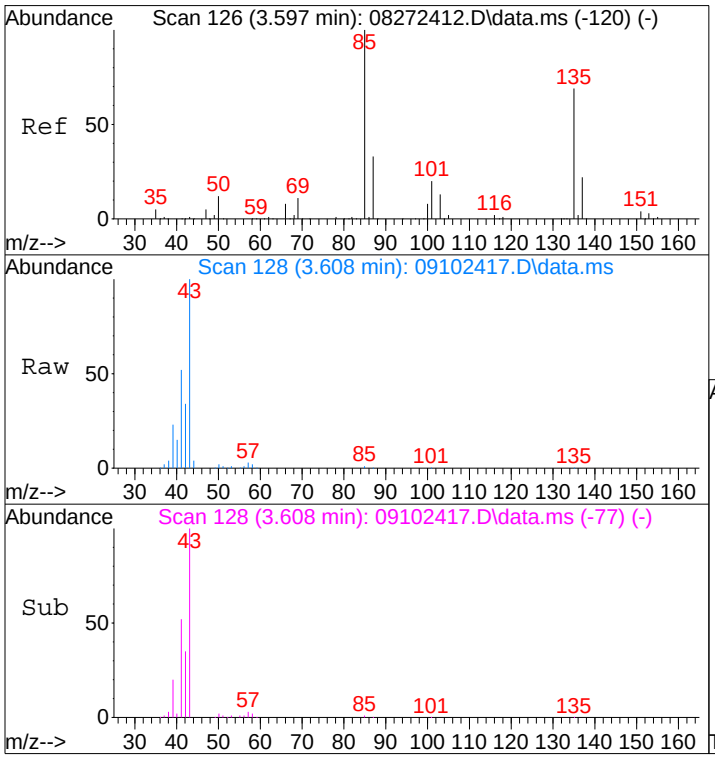


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.22 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.045 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 85 Resp: 6244

Ion	Ratio	Lower	Upper
85	100		
87	29.0	13.1	53.1
101	25.1	0.0	29.4
103	15.2	0.0	26.0

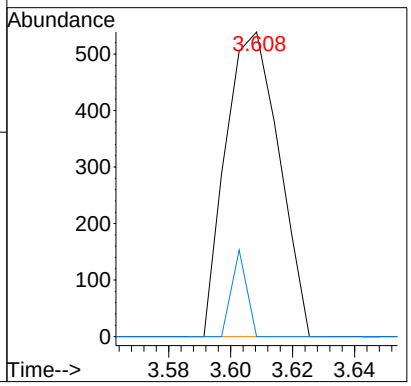


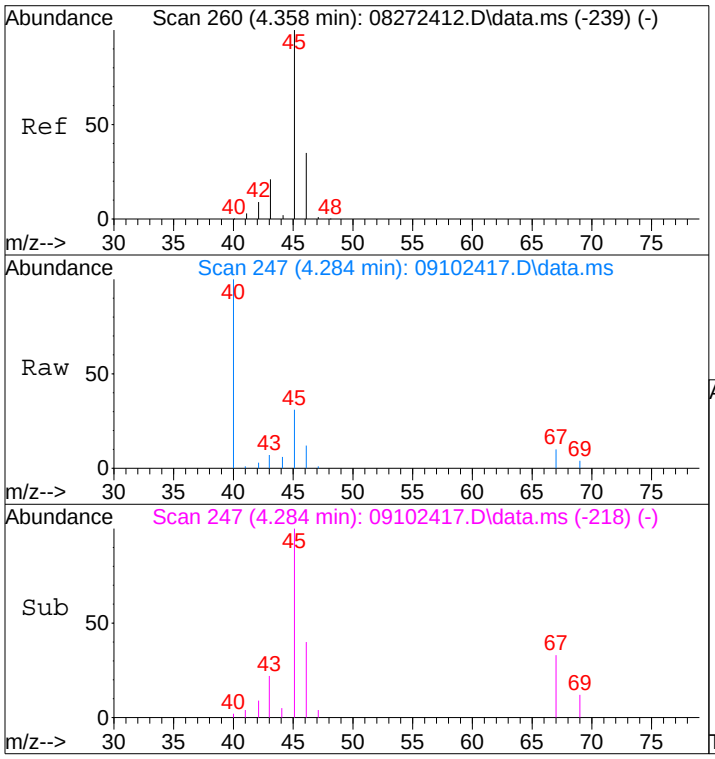


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.06 ng
RT: 3.61 min Scan# 128
Delta R.T. 0.042 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion:135 Resp: 645

Ion	Ratio	Lower	Upper
135	100		
137	0.0	11.6	51.6#

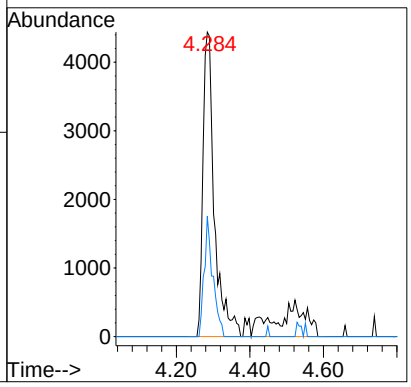


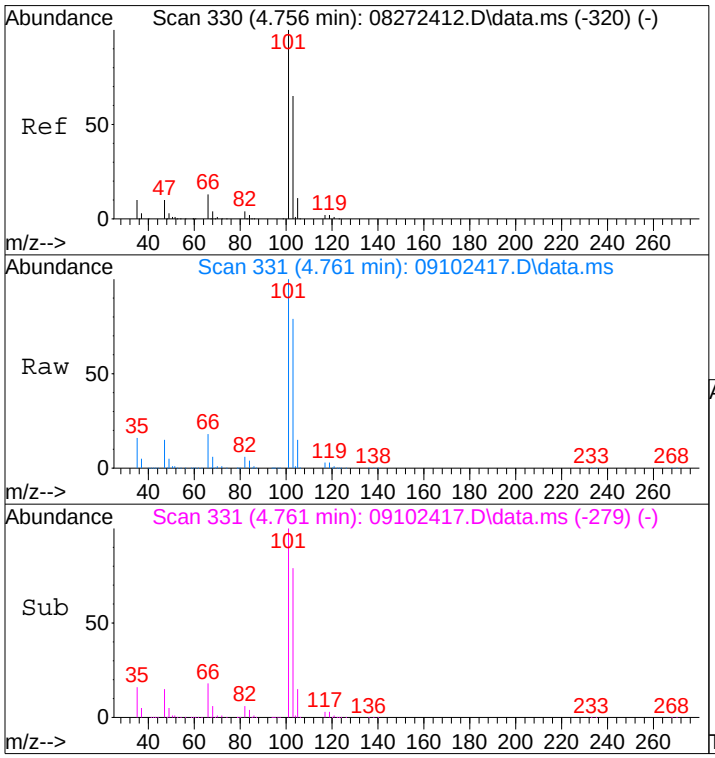


#10
Ethanol
Concen: 0.97 ng m
RT: 4.28 min Scan# 247
Delta R.T. -0.085 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 45 Resp: 12624

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.2	54.2#

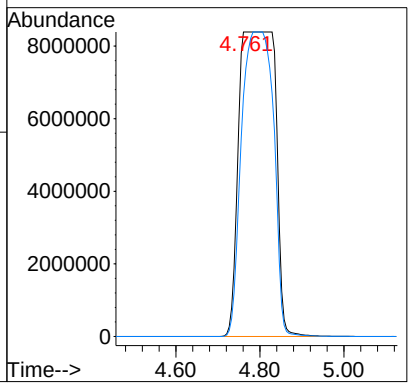


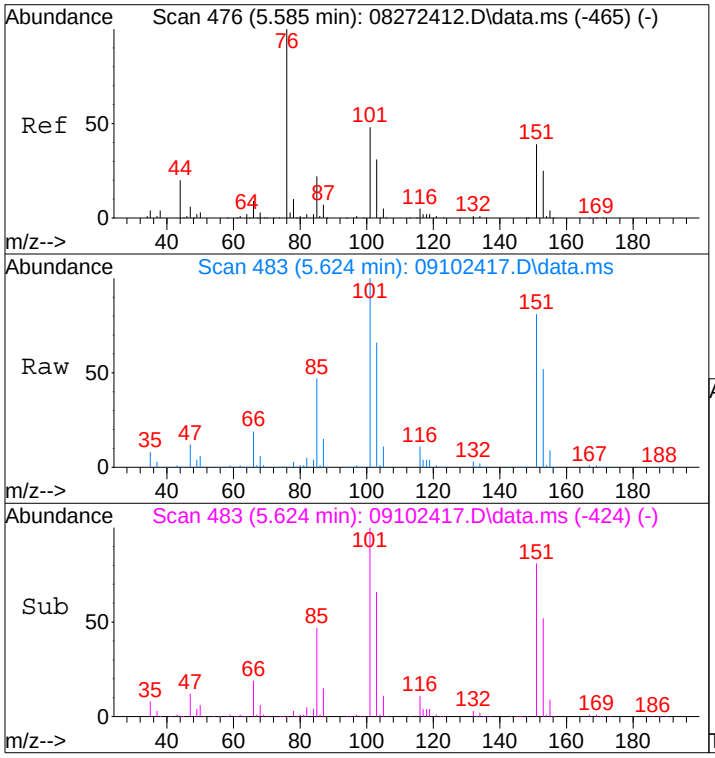


#14
Trichlorofluoromethane
Concen: 1831.41 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.044 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion:101 Resp:50671078

Ion	Ratio	Lower	Upper
101	100		
103	86.9	44.9	84.9#

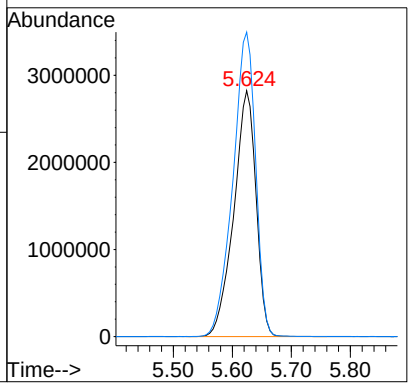


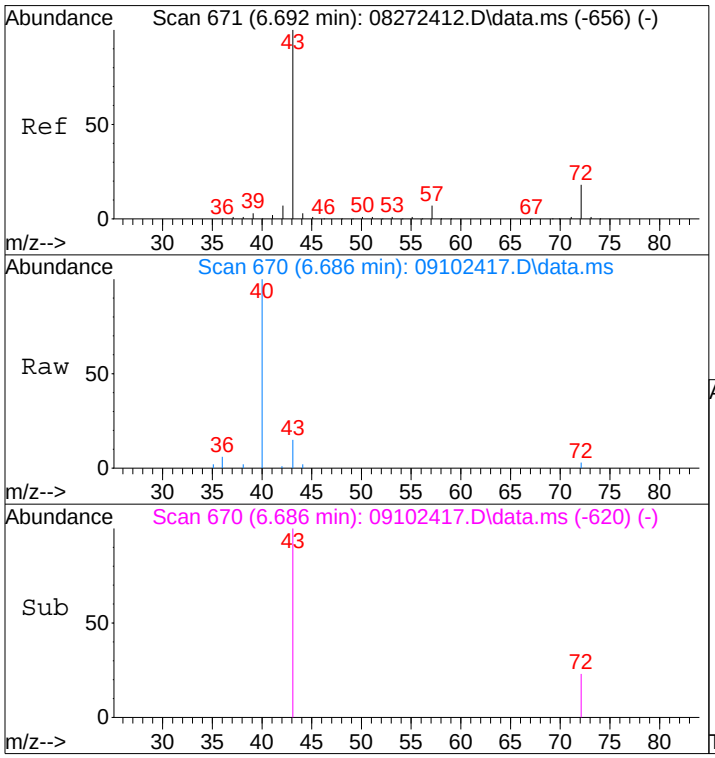


#21
Trichlorotrifluoroethane
Concen: 673.63 ng
RT: 5.62 min Scan# 483
Delta R.T. 0.082 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion:151 Resp: 7383841

Ion	Ratio	Lower	Upper
151	100		
101	126.8	103.4	143.4

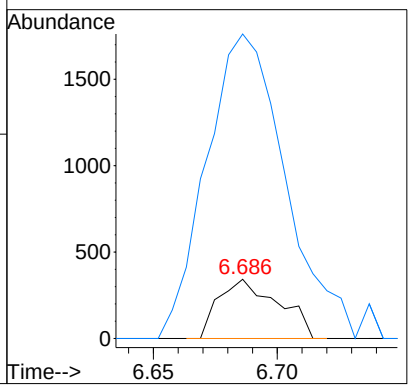


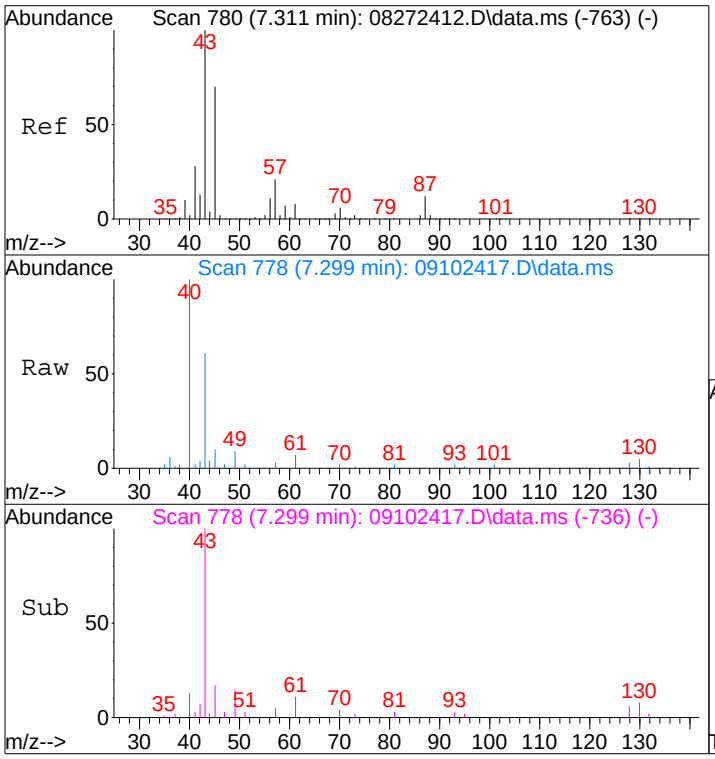


#27
2-Butanone (MEK)
Concen: 0.07 ng
RT: 6.69 min Scan# 670
Delta R.T. 0.033 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 72 Resp: 574

Ion	Ratio	Lower	Upper
72	100		
43	693.4	548.0	588.0#

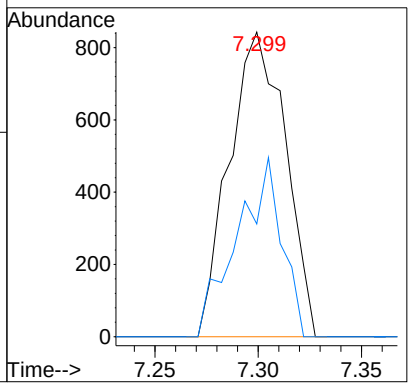


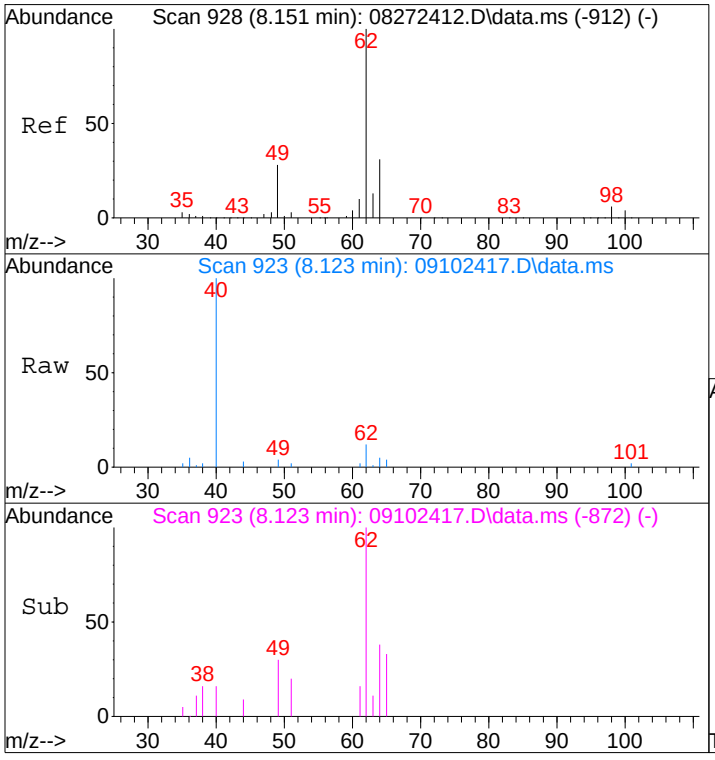


#30
Ethyl Acetate
Concen: 0.31 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.040 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 61 Resp: 1593

Ion	Ratio	Lower	Upper
61	100		
70	46.6	49.9	89.9#

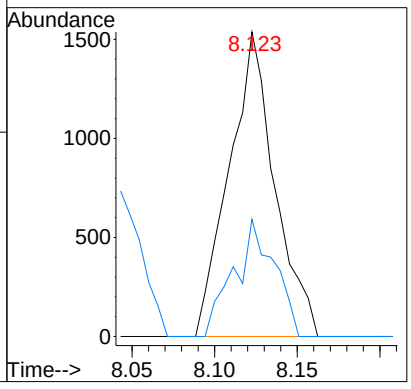


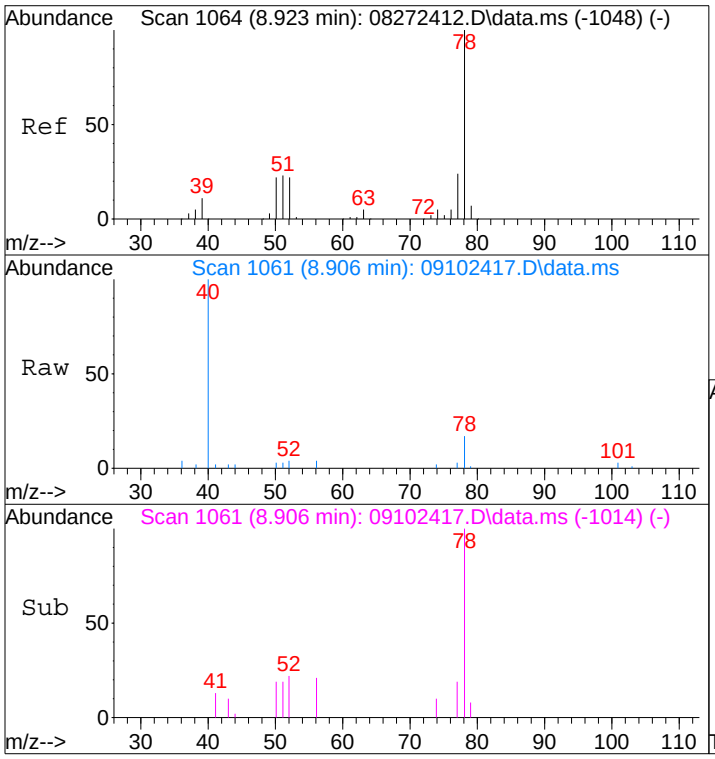


#36
1,2-Dichloroethane
Concen: 0.13 ng
RT: 8.12 min Scan# 923
Delta R.T. 0.038 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 62 Resp: 2950

Ion	Ratio	Lower	Upper
62	100		
64	34.2	11.0	51.0

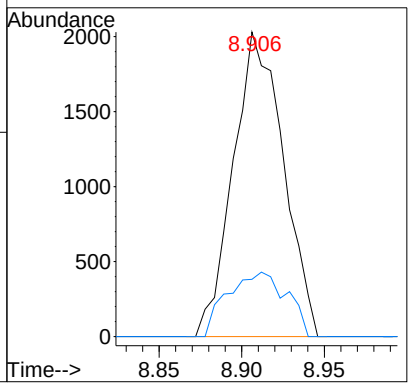


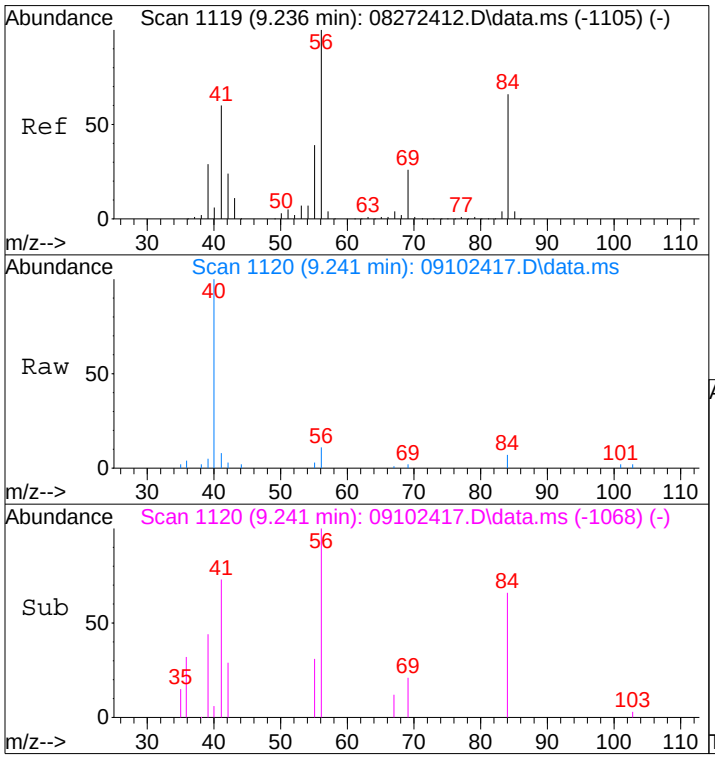


#41
Benzene
Concen: 0.09 ng
RT: 8.91 min Scan# 1061
Delta R.T. 0.015 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 78 Resp: 4276

Ion	Ratio	Lower	Upper
78	100		
77	25.0	3.9	43.9

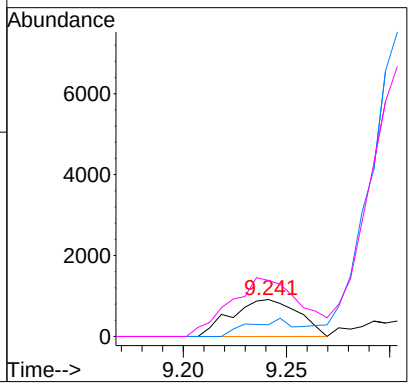


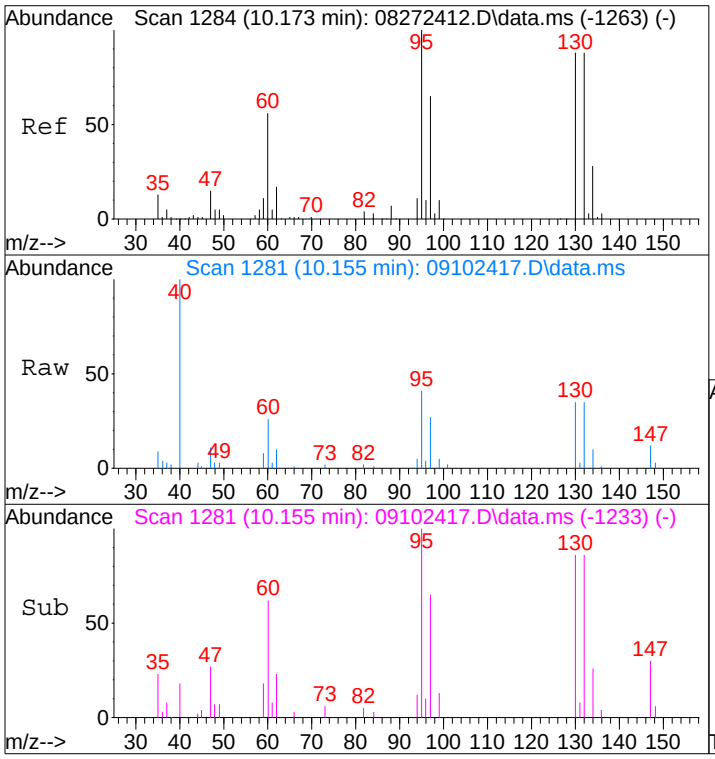


#43
Cyclohexane
Concen: 0.12 ng
RT: 9.24 min Scan# 1120
Delta R.T. 0.045 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 84 Resp: 2055

Ion	Ratio	Lower	Upper
84	100		
69	33.3	18.8	58.8
56	168.3	134.5	174.5

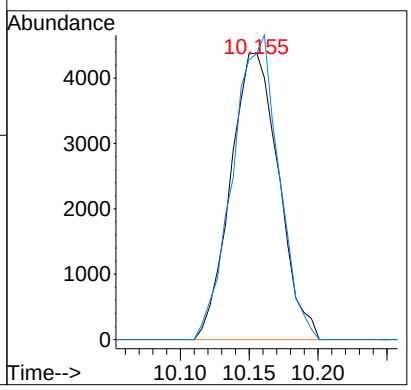


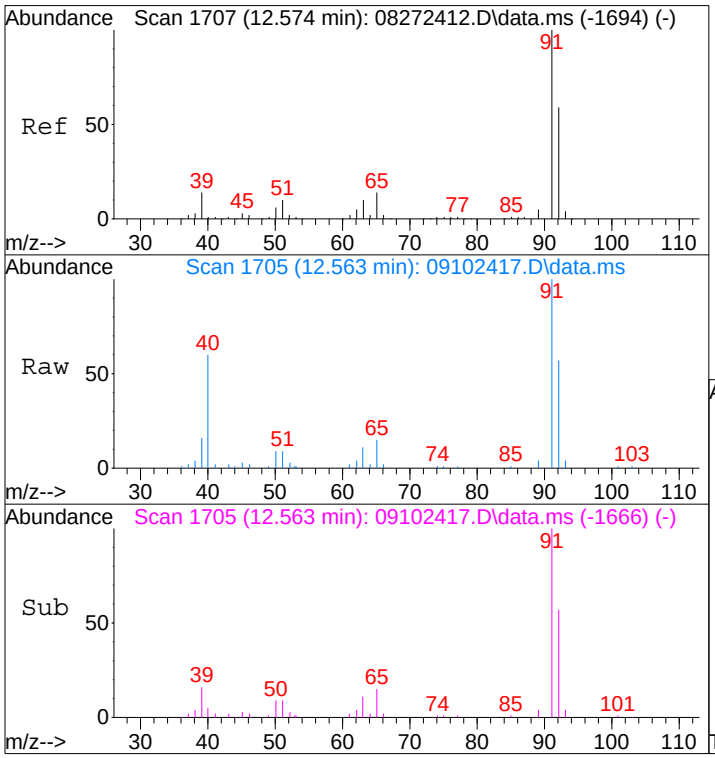


#47
Trichloroethene
Concen: 0.87 ng
RT: 10.16 min Scan# 1281
Delta R.T. 0.022 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion:130 Resp: 10635

Ion	Ratio	Lower	Upper
130	100		
132	102.0	80.8	120.8

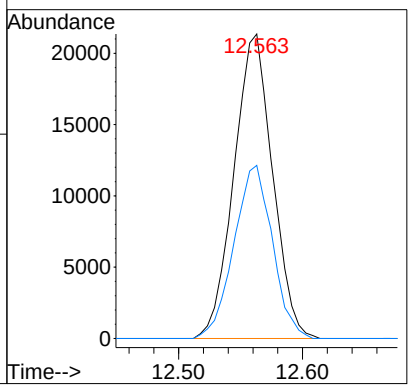


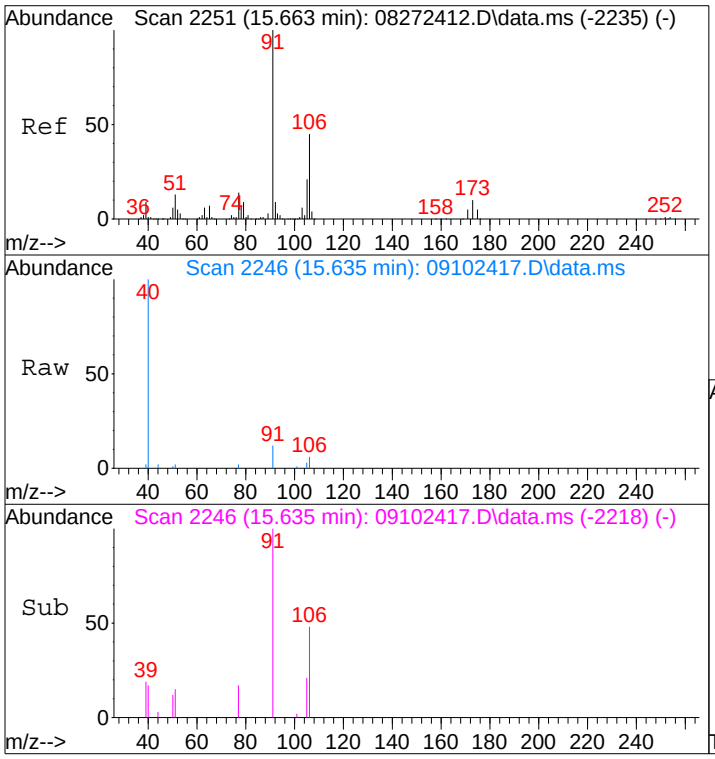


#58
Toluene
Concen: 0.77 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 91 Resp: 46315

Ion	Ratio	Lower	Upper
91	100		
92	56.6	38.5	78.5

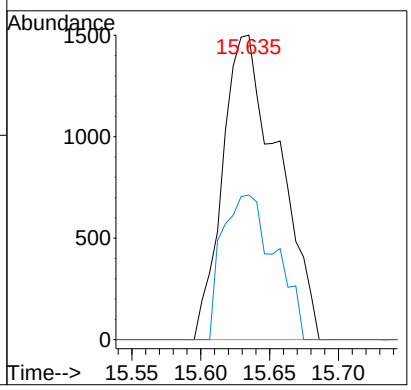


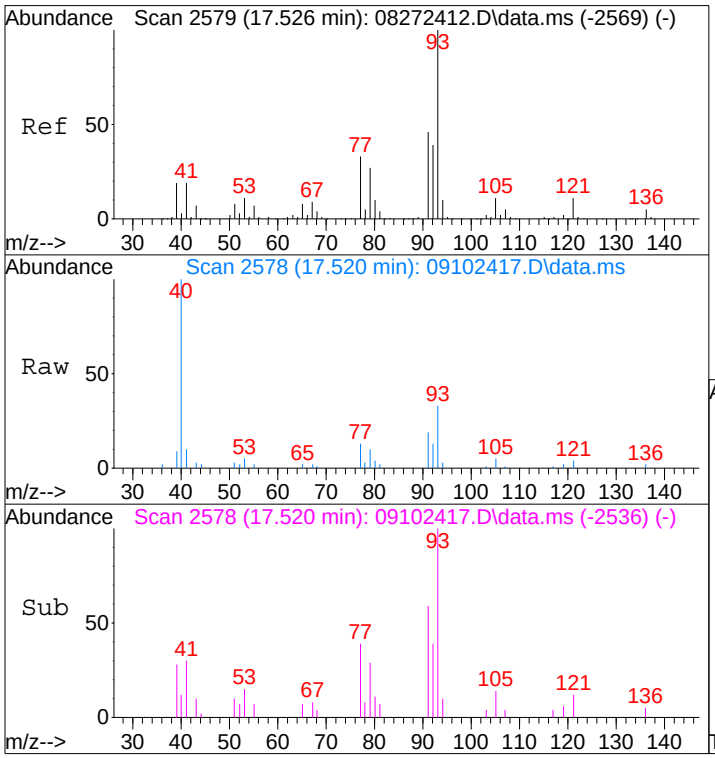


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 91 Resp: 4225

Ion	Ratio	Lower	Upper
91	100		
106	45.0	23.8	63.8

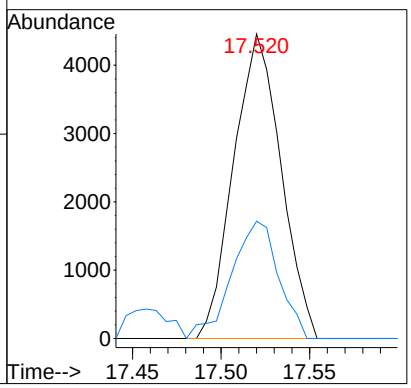




#75
alpha-Pinene
Concen: 0.25 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102417.D
Acq: 10 Sep 2024 18:21

Tgt Ion: 93 Resp: 8279

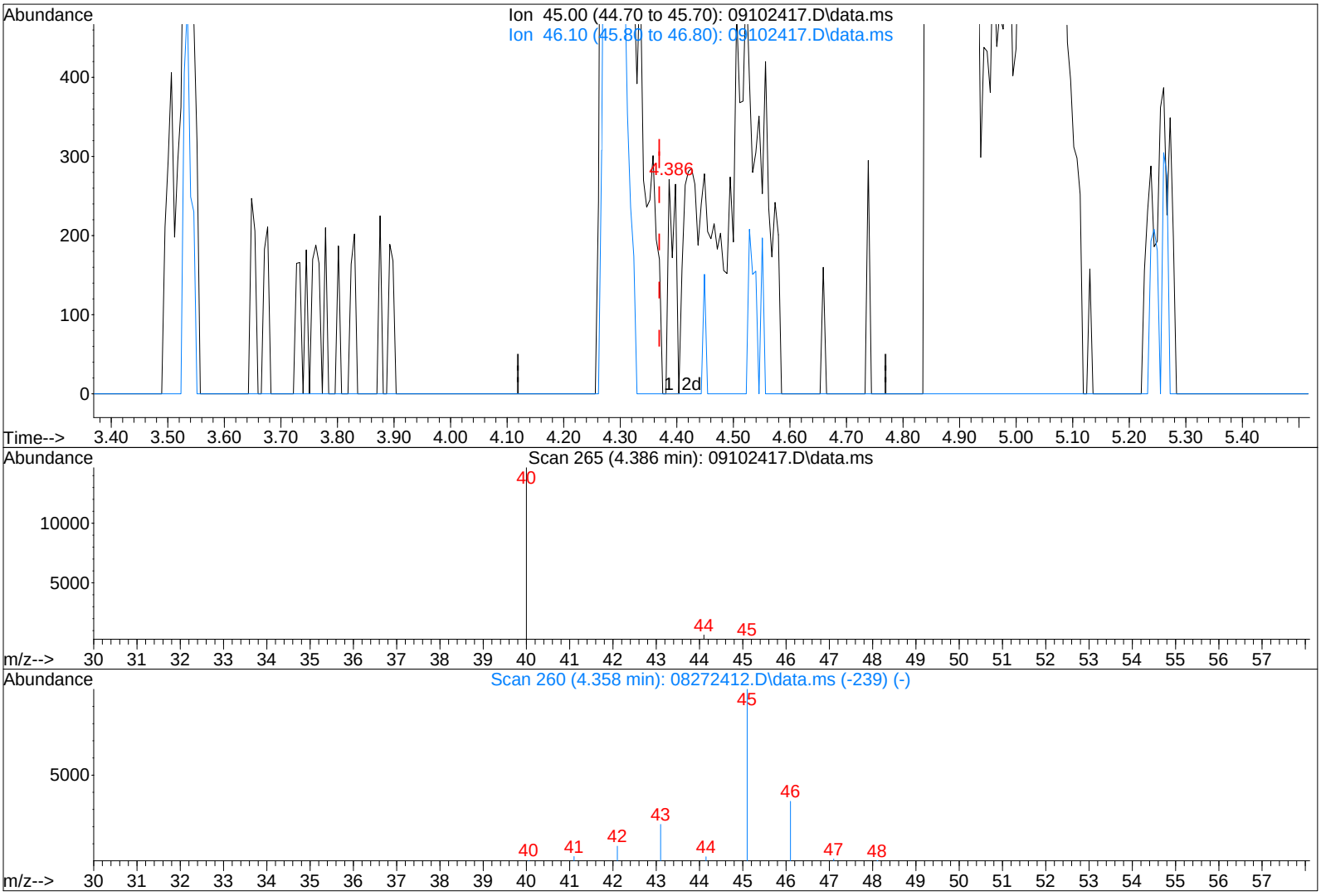
Ion	Ratio	Lower	Upper
93	100		
77	38.2	13.1	53.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:24:38 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102417.D\data.ms

(10) Ethanol (T)

4.386min (+0.017) 0.02ng

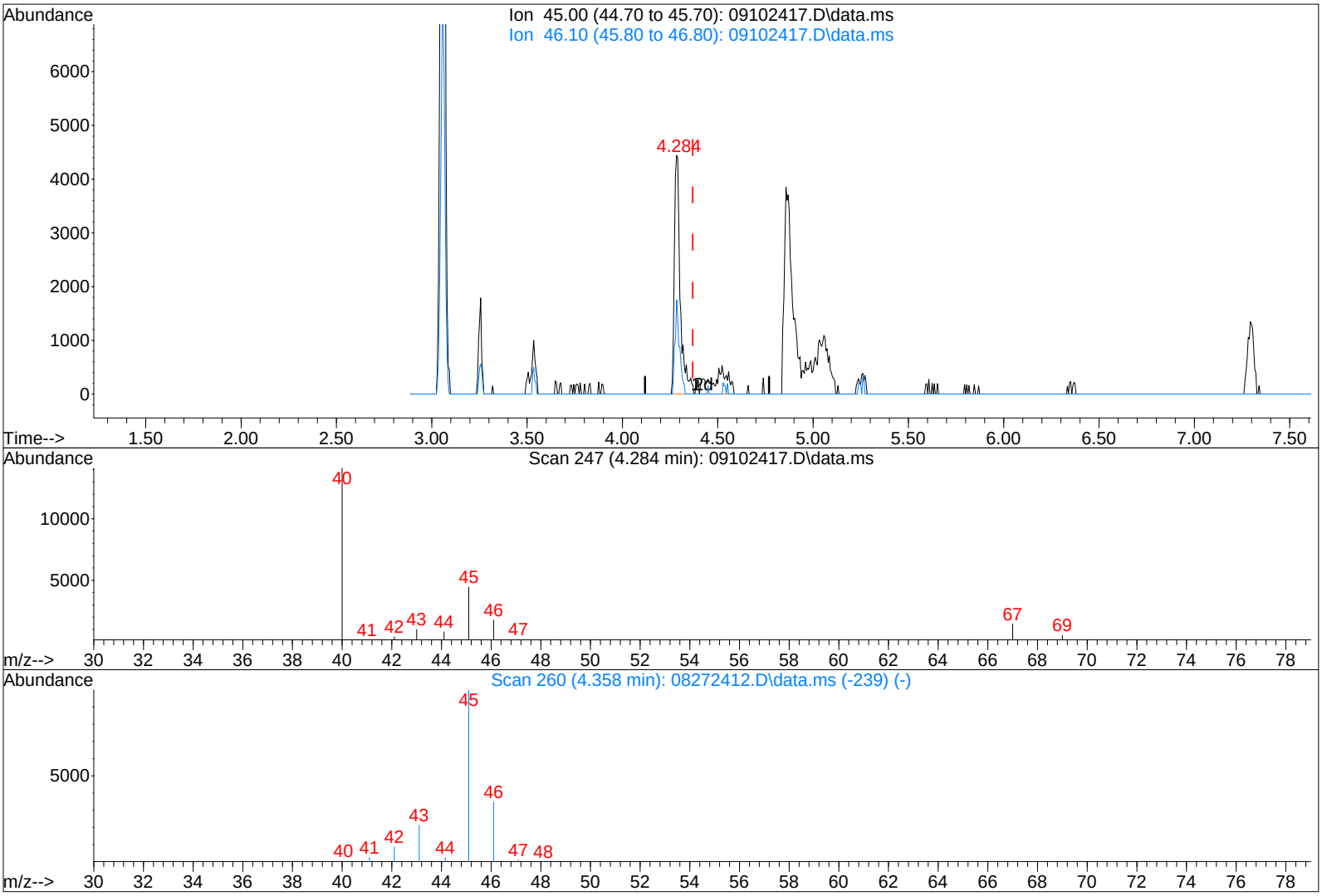
response 241

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:24:38 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102417.D\data.ms

(10) Ethanol (T)

4.284min (-0.085) 0.97ng m

response 12624

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:49:48 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

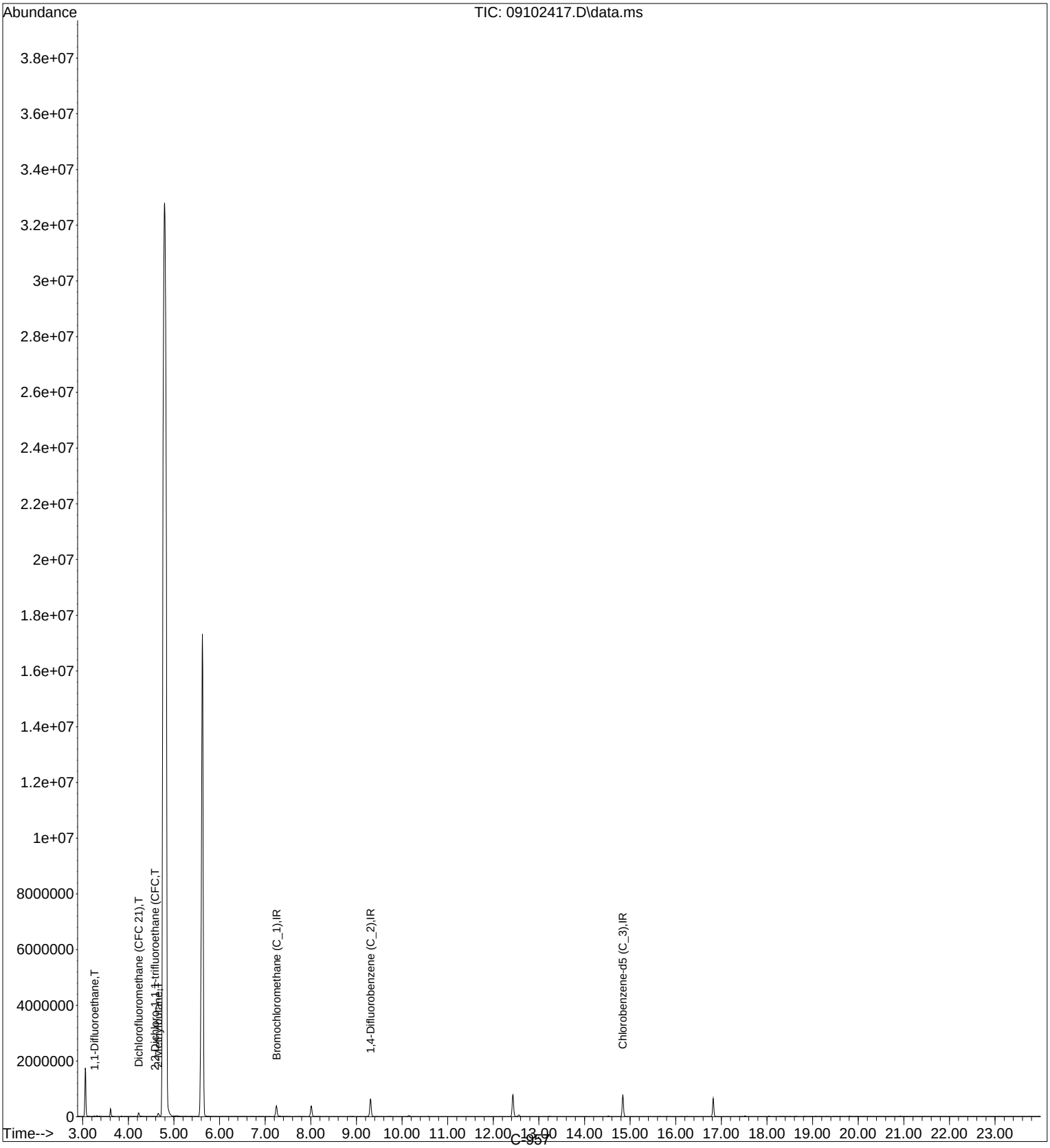
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.25	130	119849	12.500 ng		0.00
16) 1,4-Difluorobenzene (C 2)	9.31	114	528906	12.500 ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	158519	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	148	N.D.		
4) 1,1-Difluoroethane	3.26	65	4504	0.430 ng		95
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	116926	4.255 ng		98
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.59	83	1831	0.110 ng	#	60
10) 2-Methylbutane	4.65	57	22362	1.564 ng		92
11) Methyl Acetate	5.36	43	3193	N.D.		
12) 2-Methylpentane	6.52	71	254	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.54	56	637	N.D.		
18) Dibromomethane	9.79	174	53	N.D.		
20) Methyl Cyclohexane	11.43	55	421	N.D.		
21) 1,3-Dichloropropane	12.57	76	235	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.59	91	67	N.D.		
27) 4-Chlorotoluene	17.67	91	311	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

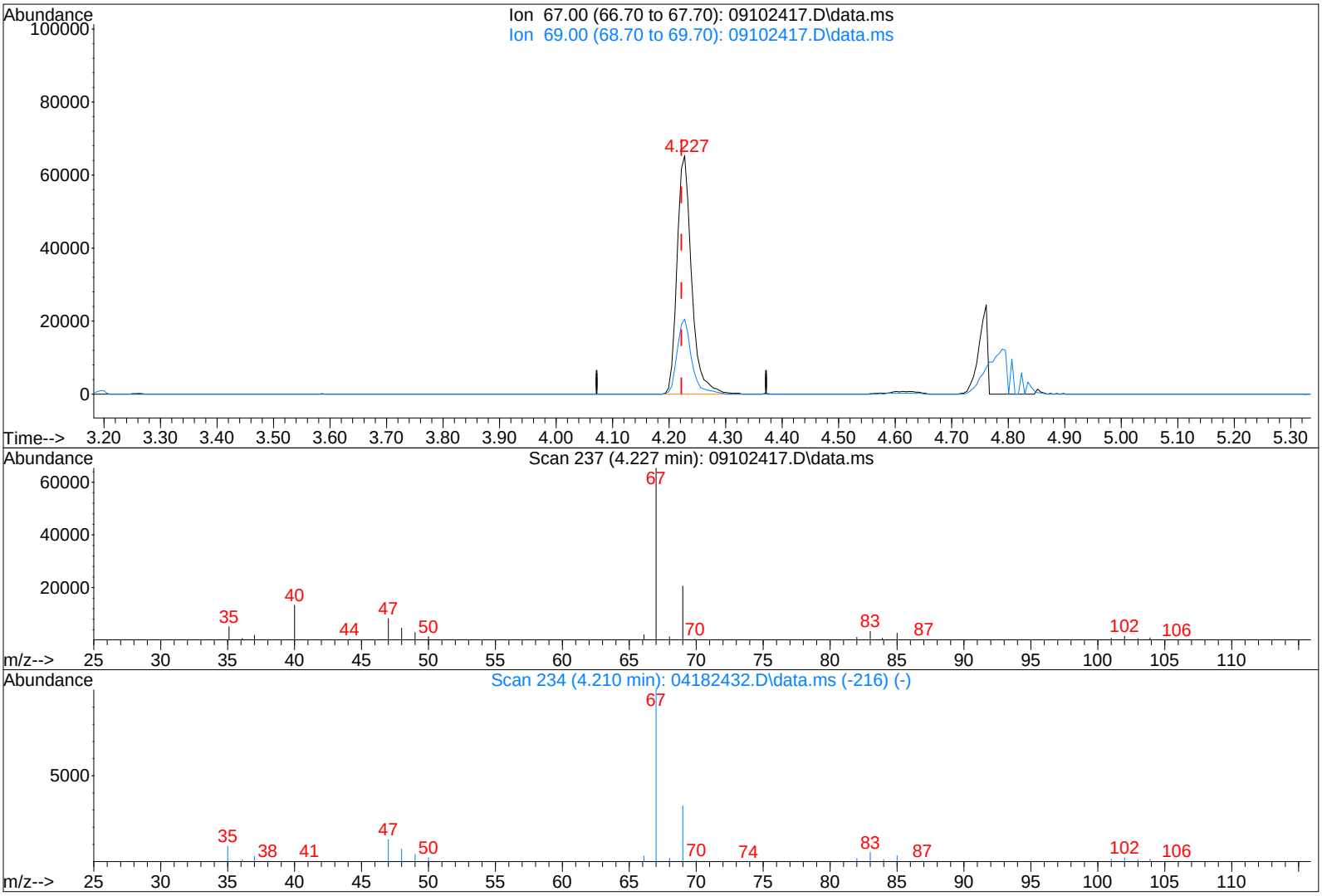
Quant Time: Sep 11 11:49:48 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102417.D Vial: 9
Acq On : 10 Sep 2024 18:21 Operator: SC
Sample : P2403661-023 (20mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:49:48 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102417.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 4.25ng

response 116926

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.20
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112415.D Vial: 1
Acq On : 11 Sep 2024 17:25 Operator: SC
Sample : P2403661-023Dil (0.2mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133129	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	588175	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	170331	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	333319	13.380	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%			
57) Toluene-d8 (SS2)	12.43	98	677025	11.330	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%			
73) Bromofluorobenzene (SS3)	16.82	174	216256	10.821	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.56%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.38	45	118	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.68	58	1098	0.090	ng	88
14) Trichlorofluoromethane	4.76	101	709219	23.005	ng	99
15) 2-Propanol (Isopropanol)	4.93	45	581	N.D.		
16) Acrylonitrile	0.00	53	0	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.37	84	179	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.59	151	24404	1.998	ng	90
22) Carbon Disulfide	5.64	76	245	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.90	78	786	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	726	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112415.D Vial: 1
Acq On : 11 Sep 2024 17:25 Operator: SC
Sample : P2403661-023Dil (0.2mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

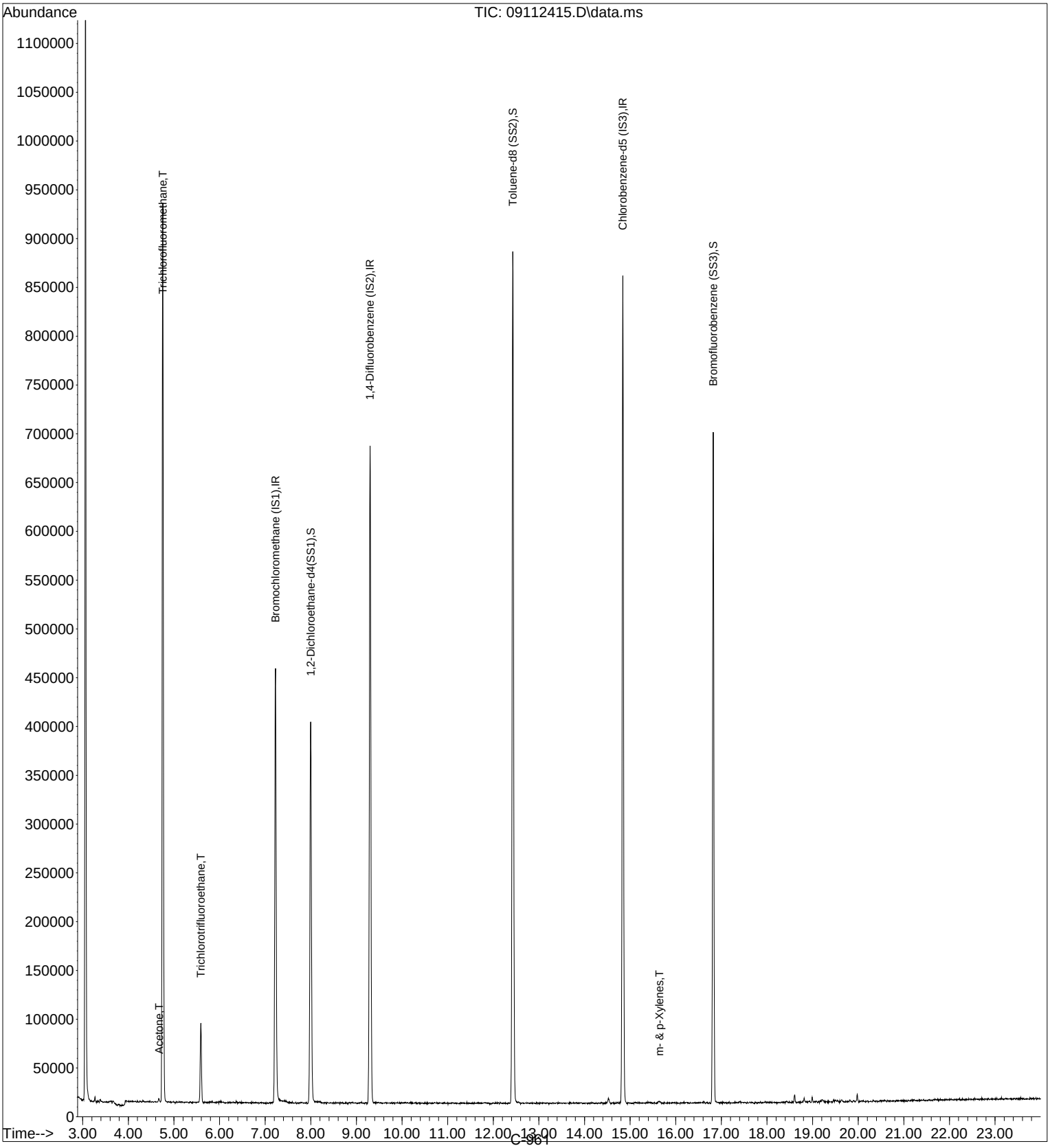
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	1691	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.81	43	243	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	1351	N.D.	
67) m- & p-Xylenes	15.64	91	3063	0.051 ng	89
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.25	91	1169	N.D.	
71) n-Nonane	16.61	43	874	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.51	93	530	N.D.	
76) n-Propylbenzene	17.68	91	261	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.86	105	115	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	143	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.42	105	357	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.	
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	236	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	258	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	205	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	170	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112415.D Vial: 1
Acq On : 11 Sep 2024 17:25 Operator: SC
Sample : P2403661-023Dil (0.2mL) Inst : MS09
Misc : S37-06062402

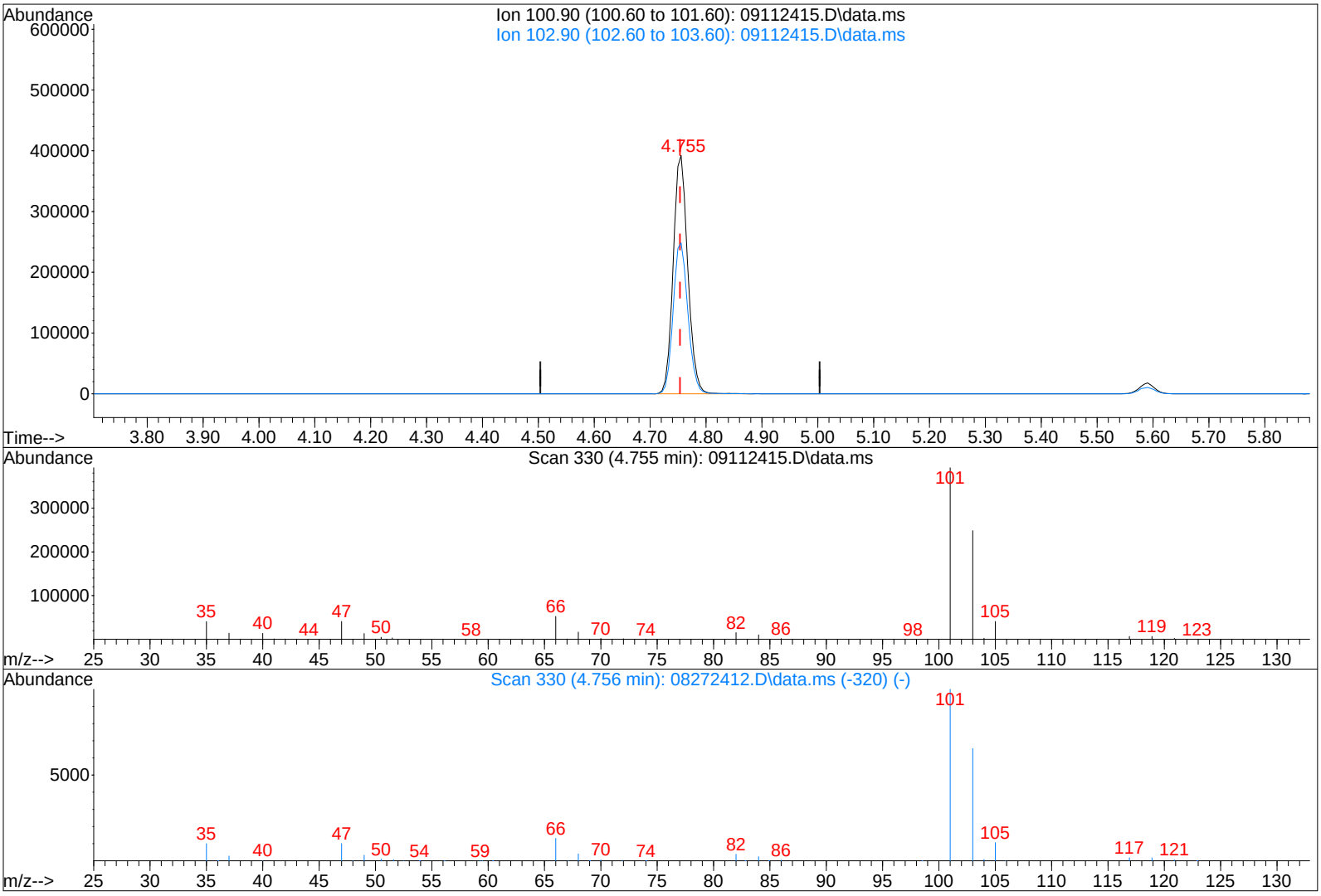
Quant Time: Sep 12 08:55:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112415.D Vial: 1
Acq On : 11 Sep 2024 17:25 Operator: SC
Sample : P2403661-023Dil (0.2mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112415.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.002) 23.00ng

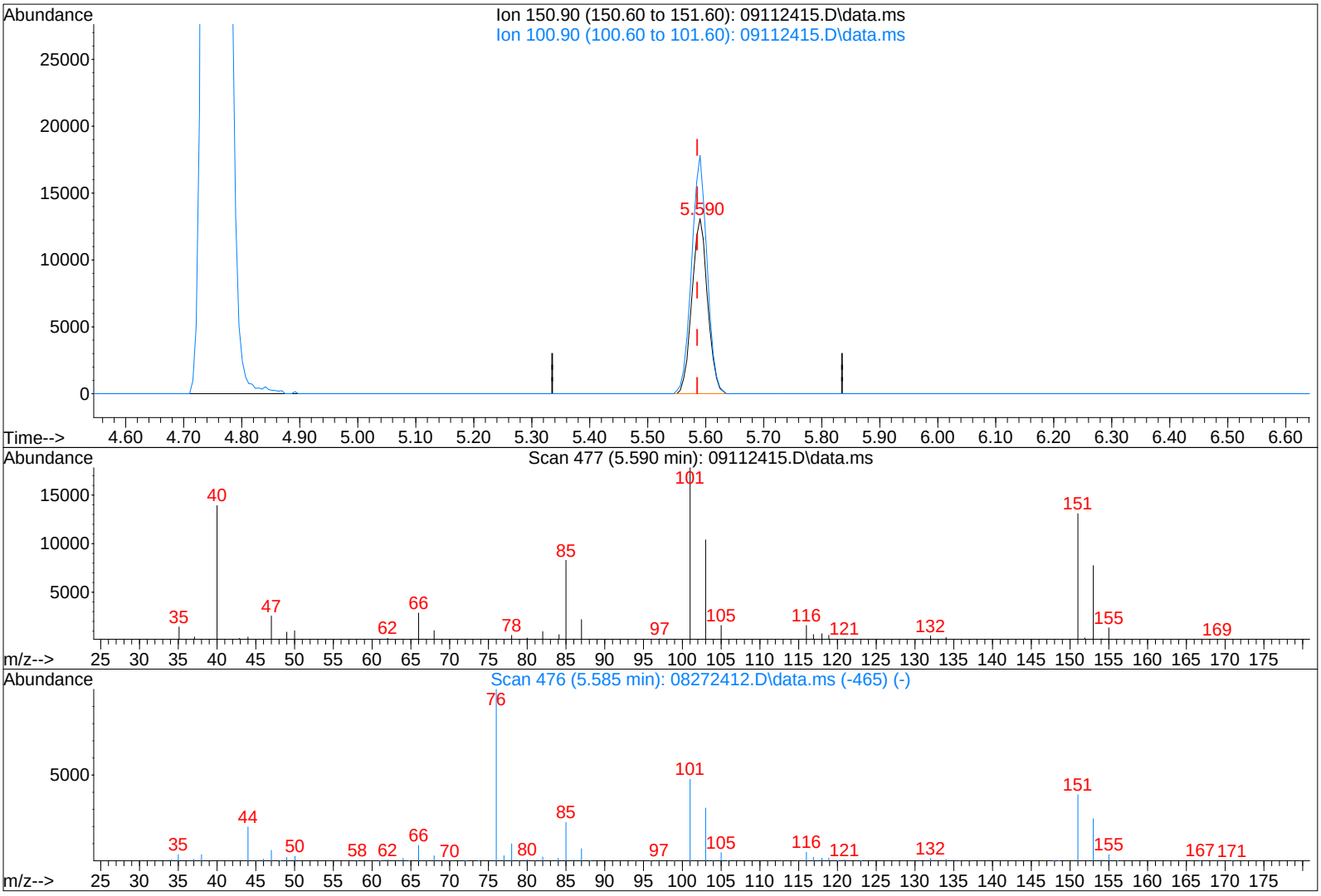
response 709219

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.25
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112415.D Vial: 1
Acq On : 11 Sep 2024 17:25 Operator: SC
Sample : P2403661-023Dil (0.2mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112415.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.590min (+0.005) 2.00ng

response 24404

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	134.53
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102417.D
Acq On : 10 Sep 2024 18:21
Operator : SC
Sample : P2403661-023 (20mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102417.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.251	60	65	70	rBV	17763	23297	0.01%	0.011%
2	3.313	71	76	82	rVV	28921	39428	0.02%	0.019%
3	3.370	82	86	95	rVB2	13162	19920	0.01%	0.009%
4	3.608	122	128	134	rBV	268922	363896	0.22%	0.172%
5	3.654	134	136	148	rVB2	11360	20365	0.01%	0.010%
6	3.847	165	170	178	rBV	19848	27660	0.02%	0.013%
7	3.921	178	183	187	rBV	5896	12193	0.01%	0.006%
8	4.227	230	237	244	rBV	127119	221564	0.14%	0.104%
9	4.659	306	313	321	rBV	105146	232314	0.14%	0.110%
10	4.795	321	337	376	rVV3	32781330	163539813	100.00%	77.088%
11	5.051	378	382	397	rVB2	24421	73901	0.05%	0.035%
12	5.624	463	483	505	rBV	17310315	46645723	28.52%	21.987%
13	7.248	757	769	789	rBV	385499	926891	0.57%	0.437%

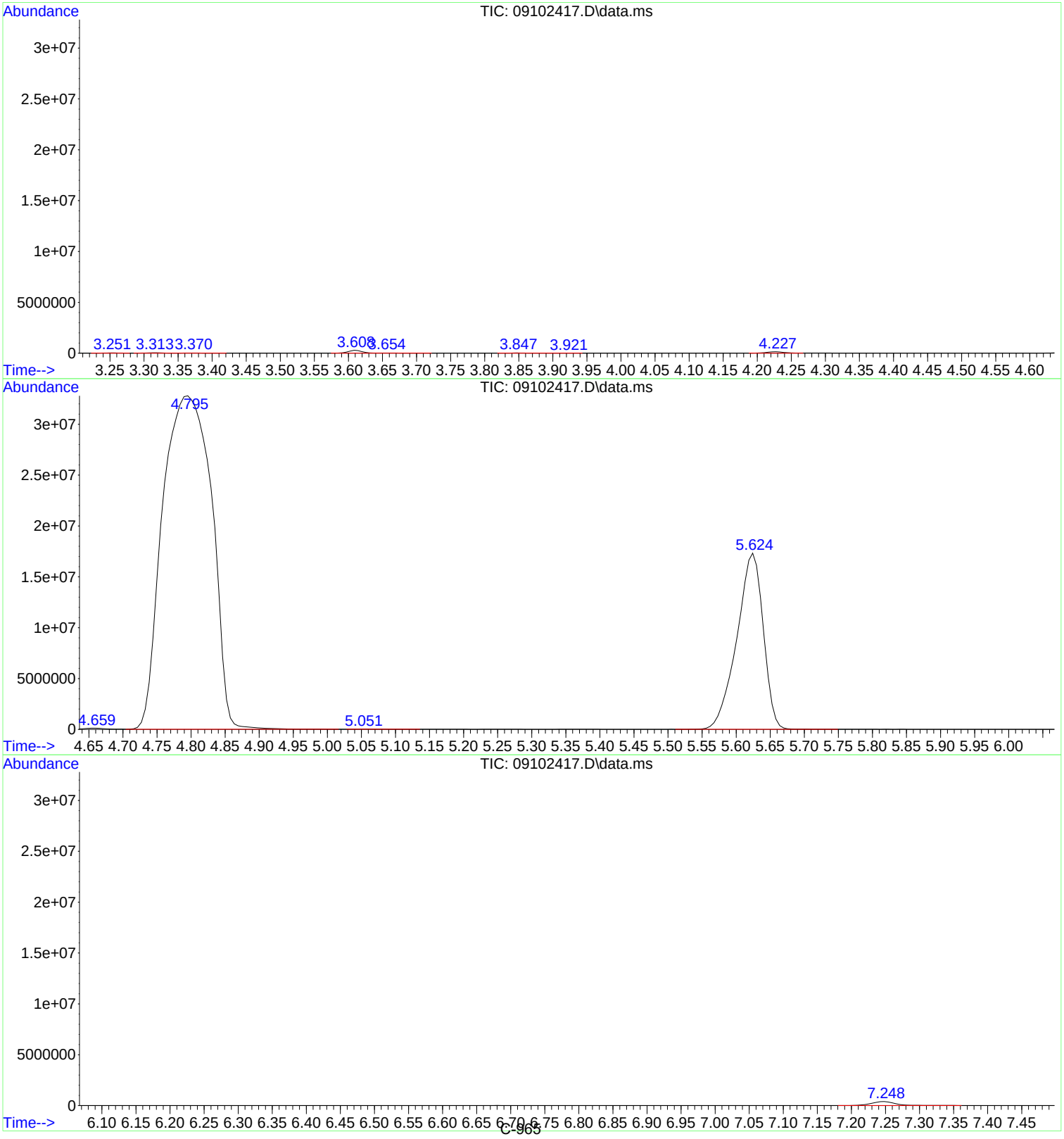
Sum of corrected areas: 212146965

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102417.D
Acq On : 10 Sep 2024 18:21
Operator : SC
Sample : P2403661-023 (20mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102417.D
Acq On : 10 Sep 2024 18:211
Operator : SCC
Sample : P2403661-023 (20mL))
Misc : S37-060624022
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

WA 9/29/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:37:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	128675	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	568386	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	166628	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	329666	13.691	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
57) Toluene-d8 (SS2)	12.43	98	644676	11.029	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
73) Bromofluorobenzene (SS3)	16.82	174	210205	10.752	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.00%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	13840	0.443	ng		99
4) Chloromethane	3.50	50	6333	0.259	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	144	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	24253	1.737	ng		72
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.54	56	1006	0.094	ng		100
13) Acetone	4.64	58	38594	3.275	ng		96
14) Trichlorofluoromethane	4.77	101	8668	0.291	ng		99
15) 2-Propanol (Isopropanol)	4.92	45	67	N.D.			
16) Acrylonitrile	5.00	53	206	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.37	59	51	N.D.			
19) Methylene Chloride	5.35	84	1496	0.108	ng	#	78
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.60	151	1076	0.091	ng		99
22) Carbon Disulfide	5.61	76	4397	0.096	ng		87
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	2677	0.320	ng	#	24
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.31	61	561	0.100	ng	#	63
31) n-Hexane	7.31	57	752	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	2222	No Calib		#	
41) Benzene	8.90	78	2714	0.051	ng		88
42) Carbon Tetrachloride	9.06	117	1698	0.077	ng		89
43) Cyclohexane	0.00	84	0	N.D. d			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	10.14	88	183	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	1174	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:37:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

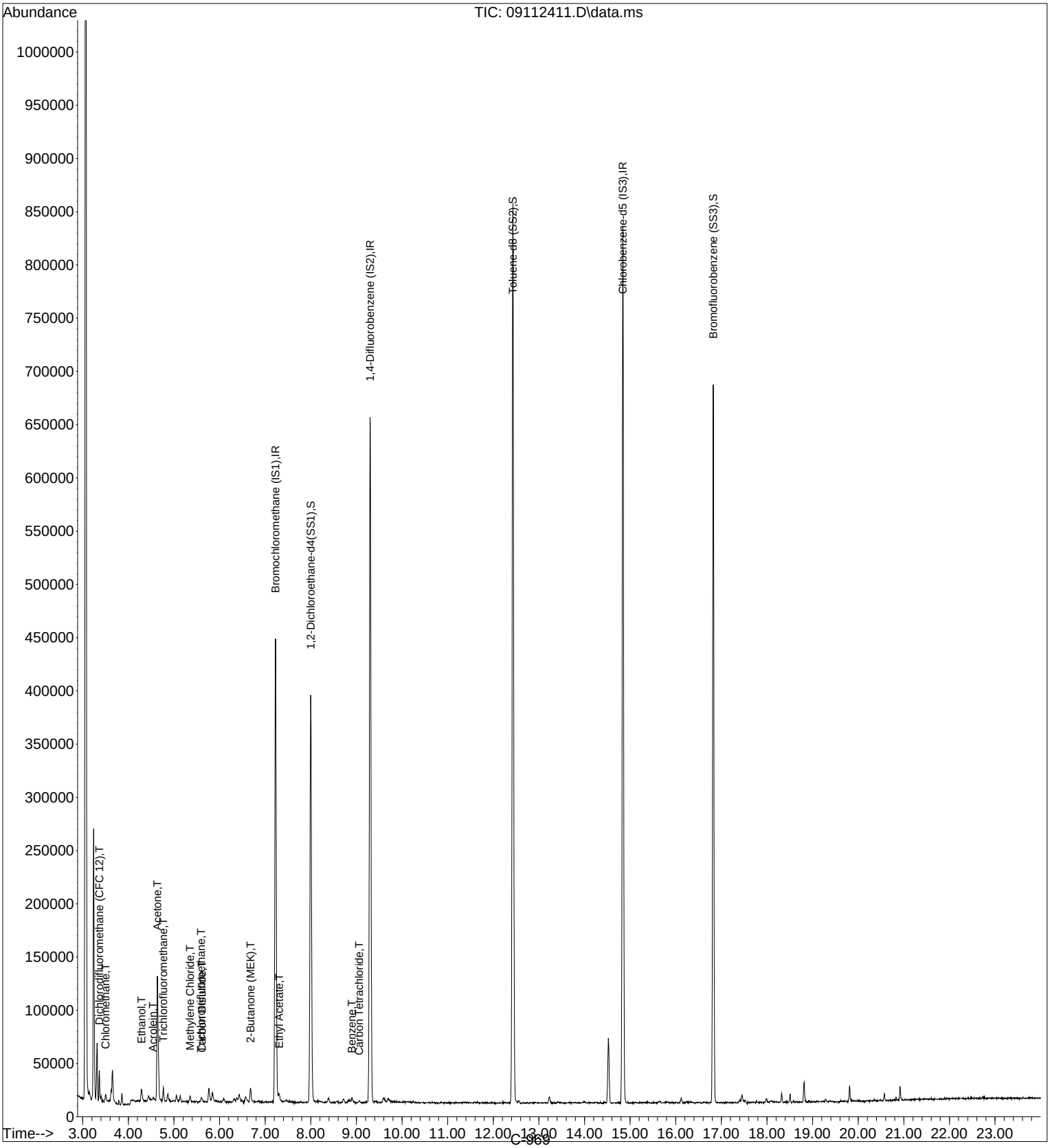
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	1853	N.D.		
59) 2-Hexanone	12.93	43	794	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.79	43	194	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.90	112	133	N.D.		
66) Ethylbenzene	15.40	91	687	N.D.		
67) m- & p-Xylenes	15.63	91	1439	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	482	N.D.		
71) n-Nonane	16.61	43	450	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	191	N.D.		
75) alpha-Pinene	17.53	93	1224	N.D.		
76) n-Propylbenzene	17.67	91	440	N.D.		
77) 3-Ethyltoluene	17.04	105	191	No Calib		#
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	191	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	284	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	212	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	190	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	287	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	739	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	191	No Calib		#
90) 1,2-Dichlorobenzene	19.04	146	139	N.D.		
91) d-Limonene	19.09	68	127	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.99	58	223	No Calib		#
94) 1,2,4-Trichlorobenzene	20.84	180	636	N.D.		
95) Naphthalene	20.94	128	945	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	107	N.D.		
98) Cyclohexanone	15.23	55	115	No Calib		#
99) tert-Butylbenzene	18.43	119	277	N.D.		
100) n-Butylbenzene	19.39	91	301	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:37:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:37:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

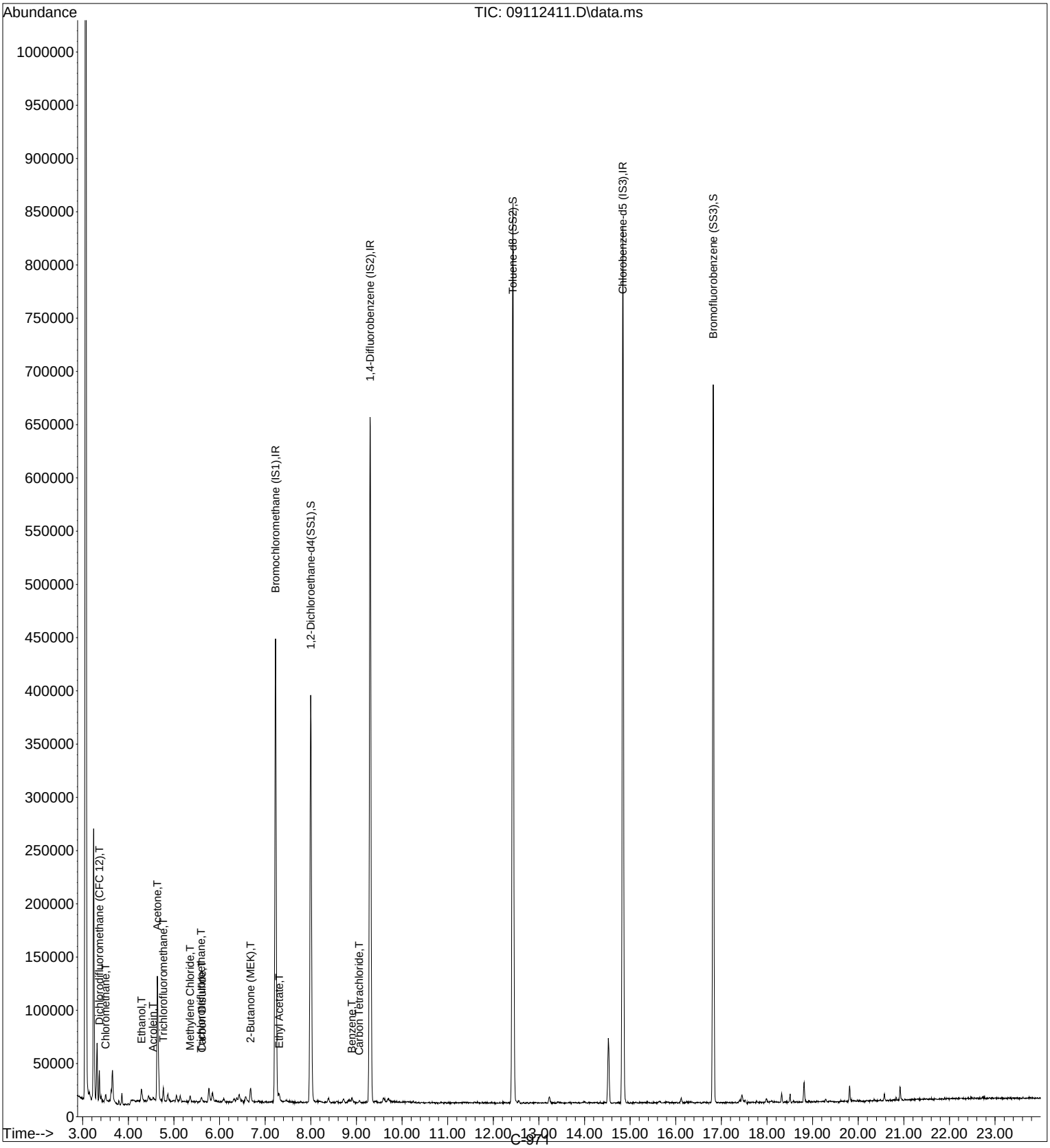
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	128675	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	568386	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	166628	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	329666	13.691	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.52%				
57) Toluene-d8 (SS2)	12.43	98	644676	11.029	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
73) Bromofluorobenzene (SS3)	16.82	174	210205	10.752	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	13840	0.443	ng		99
4) Chloromethane	3.50	50	6333	0.259	ng		97
10) Ethanol	4.29	45	24253	1.737	ng		72
12) Acrolein	4.54	56	1006	0.094	ng		100
13) Acetone	4.64	58	38594	3.275	ng		96
14) Trichlorofluoromethane	4.77	101	8668	0.291	ng		99
19) Methylene Chloride	5.35	84	1496	0.108	ng	#	78
21) Trichlorotrifluoroethane	5.60	151	1076	0.091	ng		99
22) Carbon Disulfide	5.61	76	4397	0.096	ng		87
27) 2-Butanone (MEK)	6.68	72	2677	0.320	ng	#	24
30) Ethyl Acetate	7.31	61	561	0.100	ng	#	63
41) Benzene	8.90	78	2714	0.051	ng		88
42) Carbon Tetrachloride	9.06	117	1698	0.077	ng		89

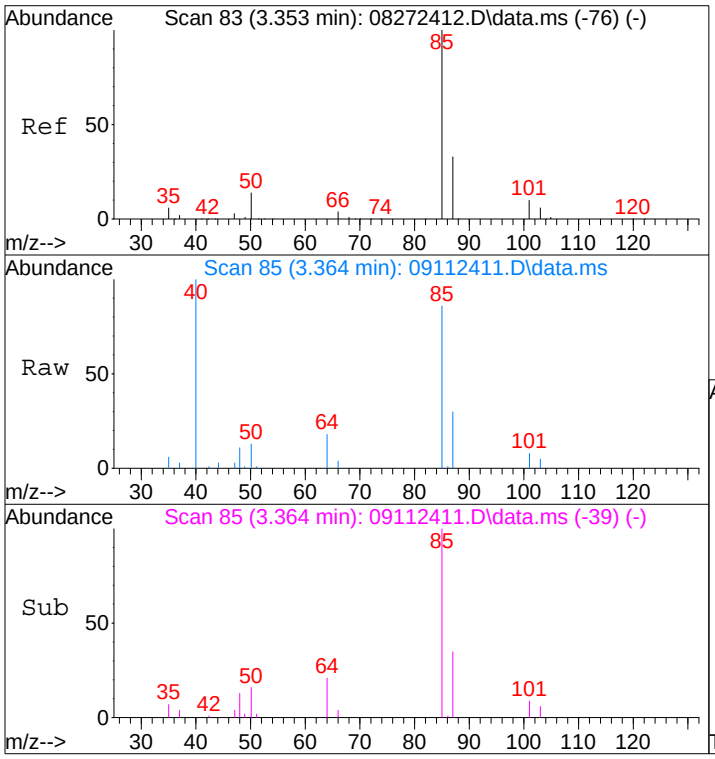
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:37:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

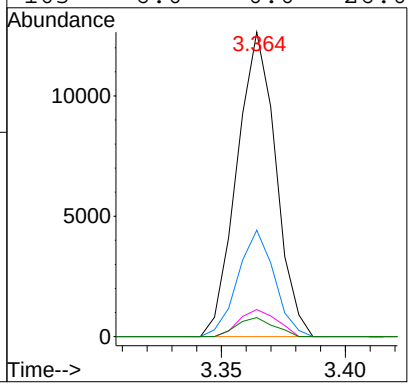


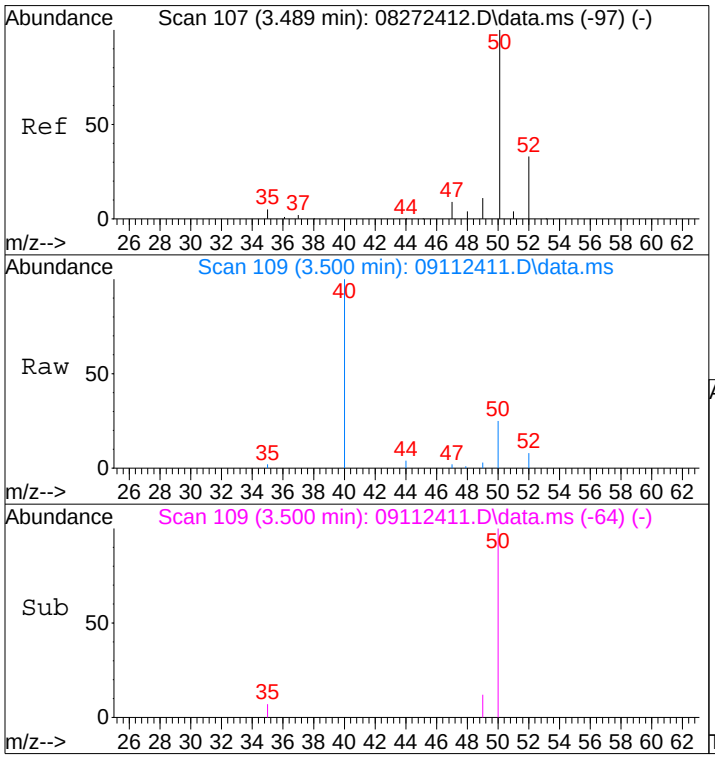


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.44 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.013 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 85 Resp: 13840

Ion	Ratio	Lower	Upper
85	100		
87	32.9	13.1	53.1
101	8.6	0.0	29.4
103	6.0	0.0	26.0

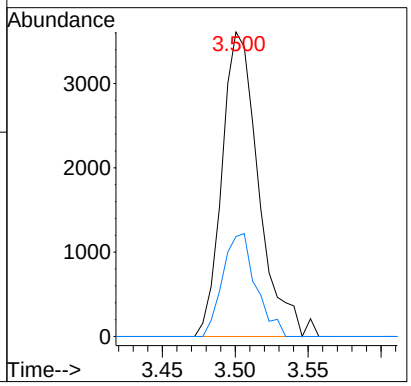


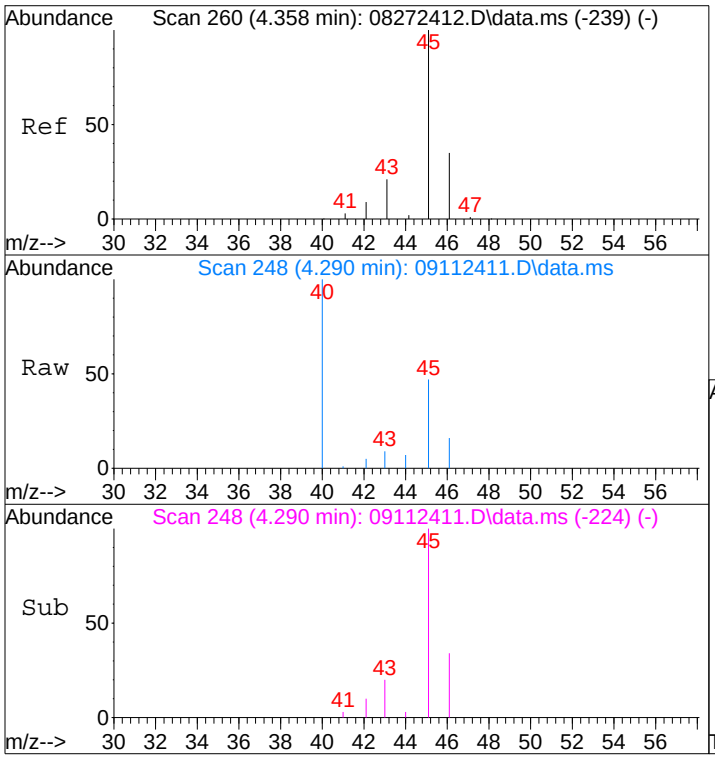


#4
Chloromethane
Concen: 0.26 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.008 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 50 Resp: 6333

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.4	52.4

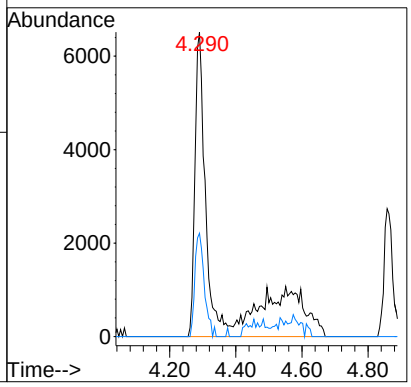


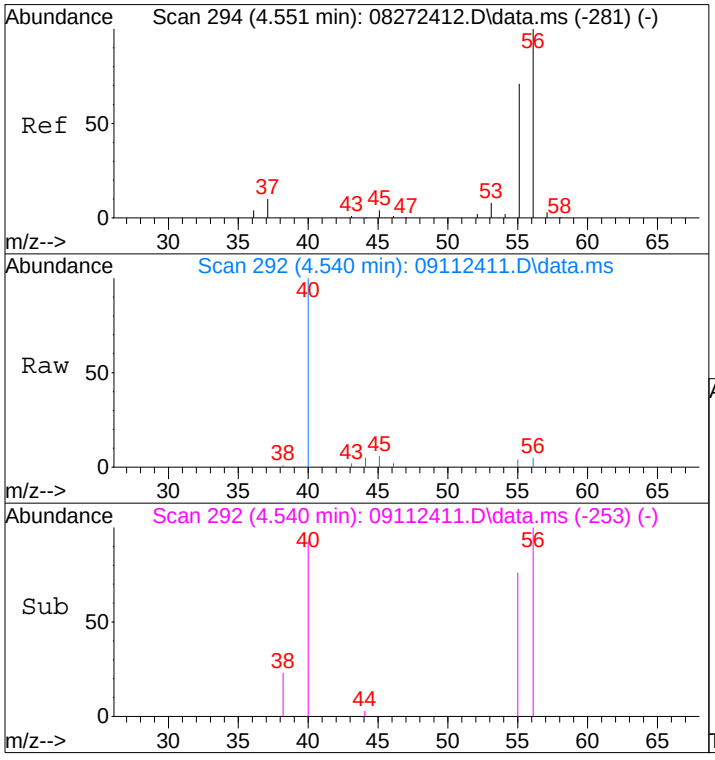


#10
Ethanol
Concen: 1.74 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.113 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 45 Resp: 24253

Ion	Ratio	Lower	Upper
45	100		
46	18.1	14.2	54.2

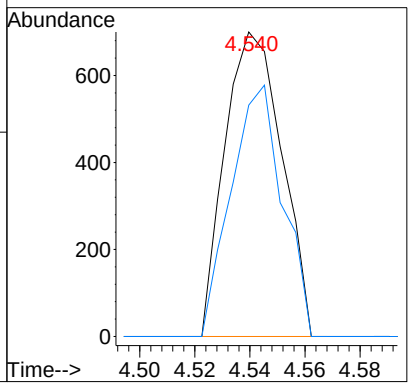


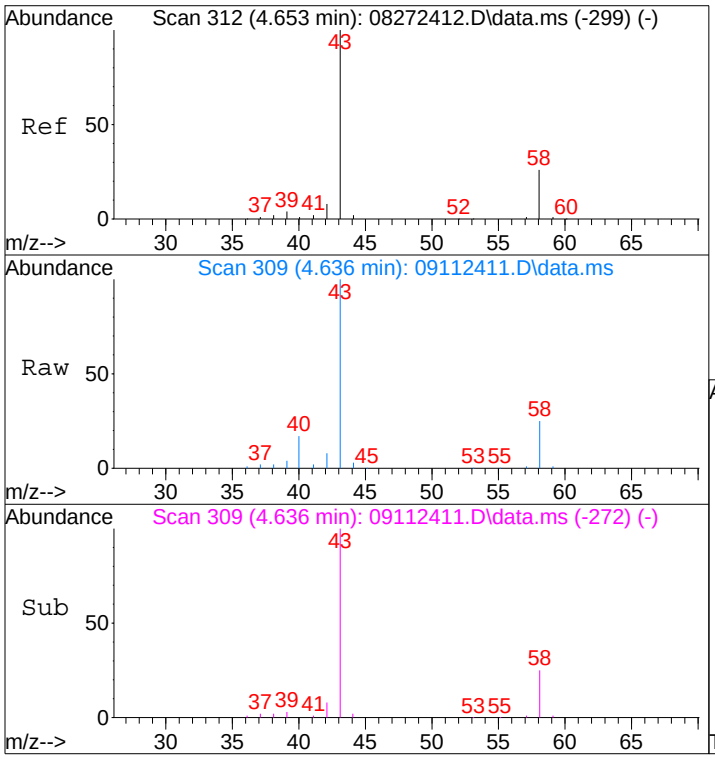


#12
Acrolein
Concen: 0.09 ng
RT: 4.54 min Scan# 292
Delta R.T. -0.028 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 56 Resp: 1006

Ion	Ratio	Lower	Upper
56	100		
55	74.9	54.7	94.7

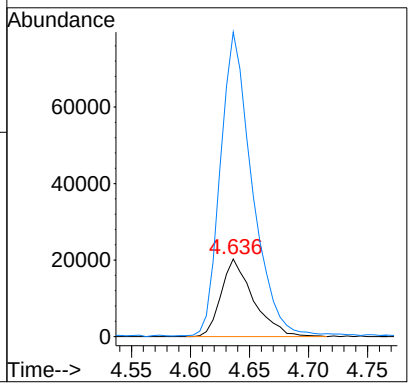


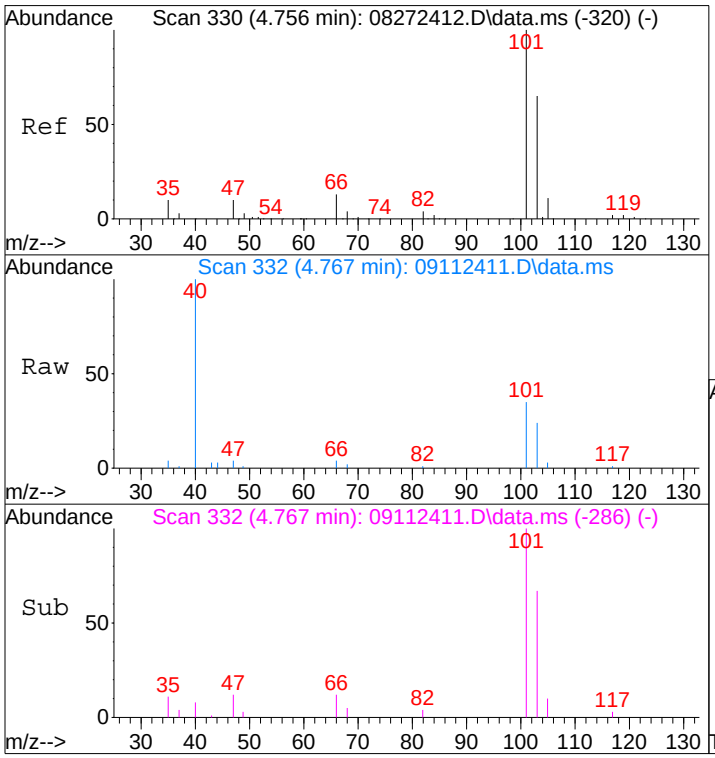


#13
Acetone
Concen: 3.28 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.039 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 58 Resp: 38594

Ion	Ratio	Lower	Upper
58	100		
43	386.2	347.3	407.3

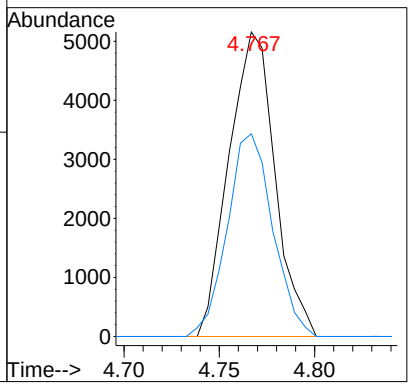


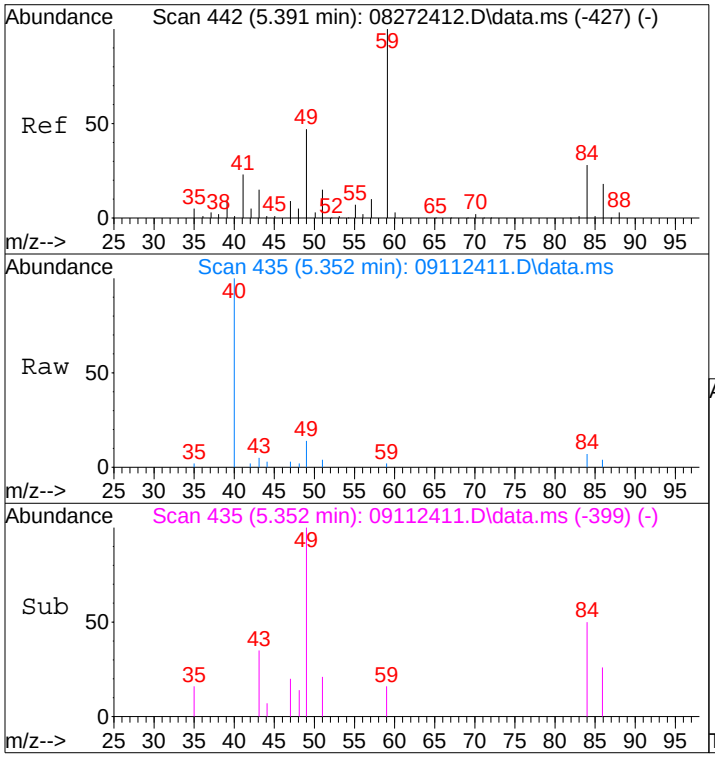


#14
Trichlorofluoromethane
Concen: 0.29 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.013 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion:101 Resp: 8668

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.9	84.9

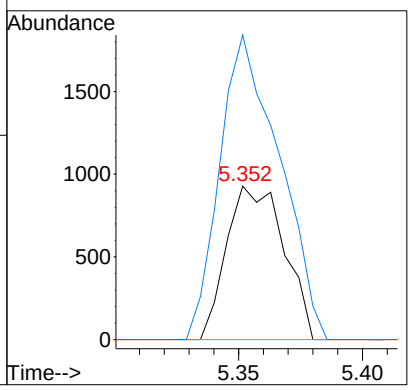


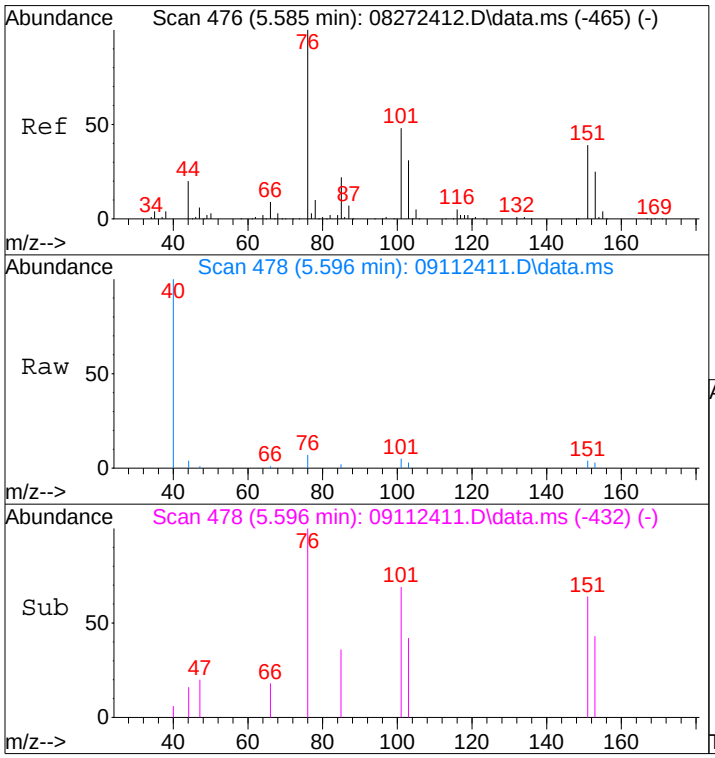


#19
Methylene Chloride
Concen: 0.11 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.047 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 84 Resp: 1496

Ion	Ratio	Lower	Upper
84	100		
49	206.4	151.1	201.1#

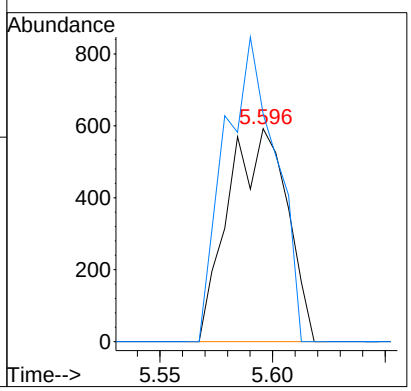


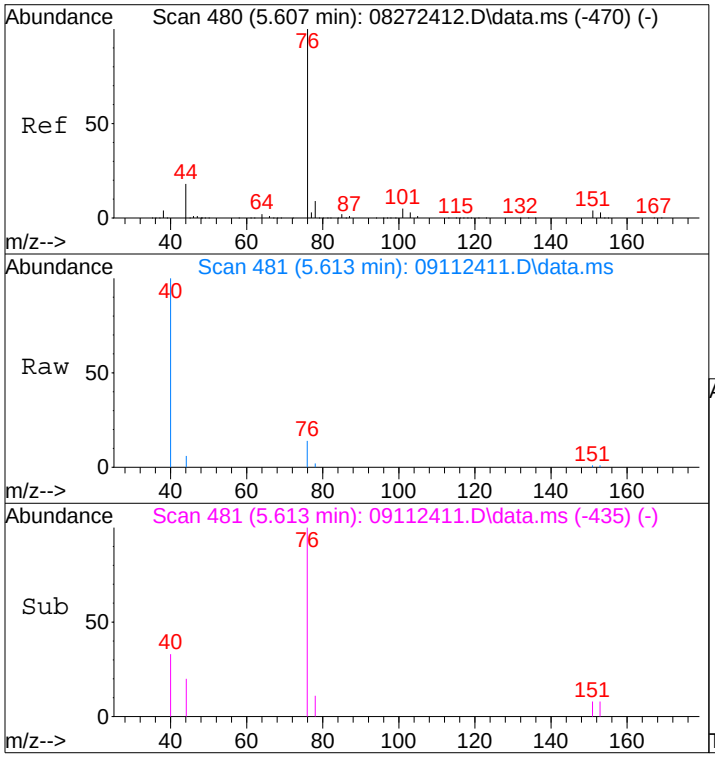


#21
Trichlorotrifluoroethane
Concen: 0.09 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.010 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion:151 Resp: 1076

Ion	Ratio	Lower	Upper
151	100		
101	124.3	103.4	143.4

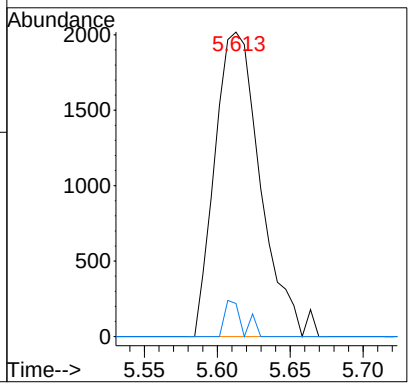


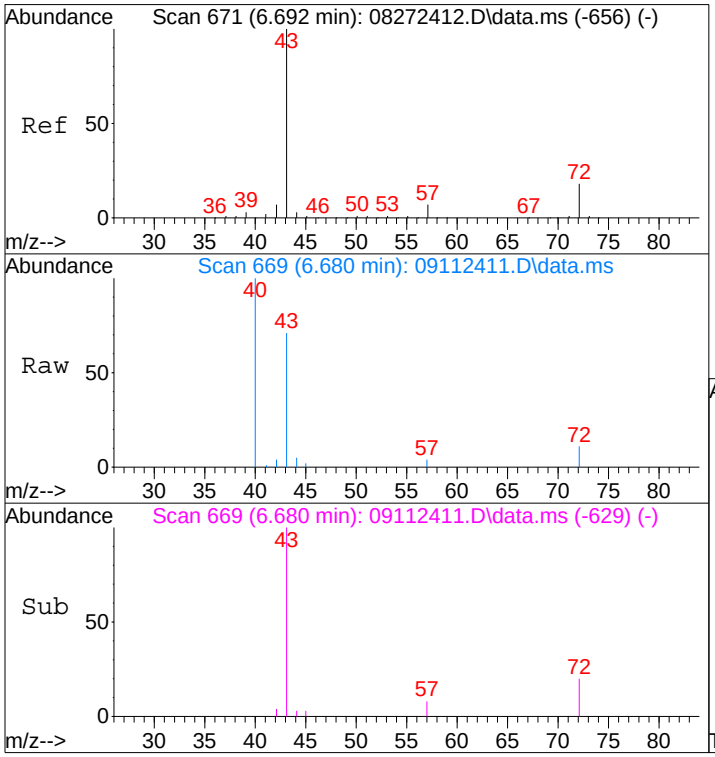


#22
Carbon Disulfide
Concen: 0.10 ng
RT: 5.61 min Scan# 481
Delta R.T. 0.010 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 76 Resp: 4397

Ion	Ratio	Lower	Upper
76	100		
78	4.7	0.0	29.6

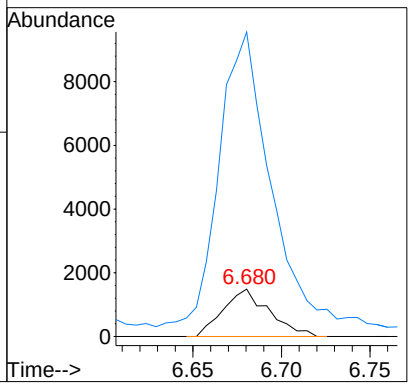


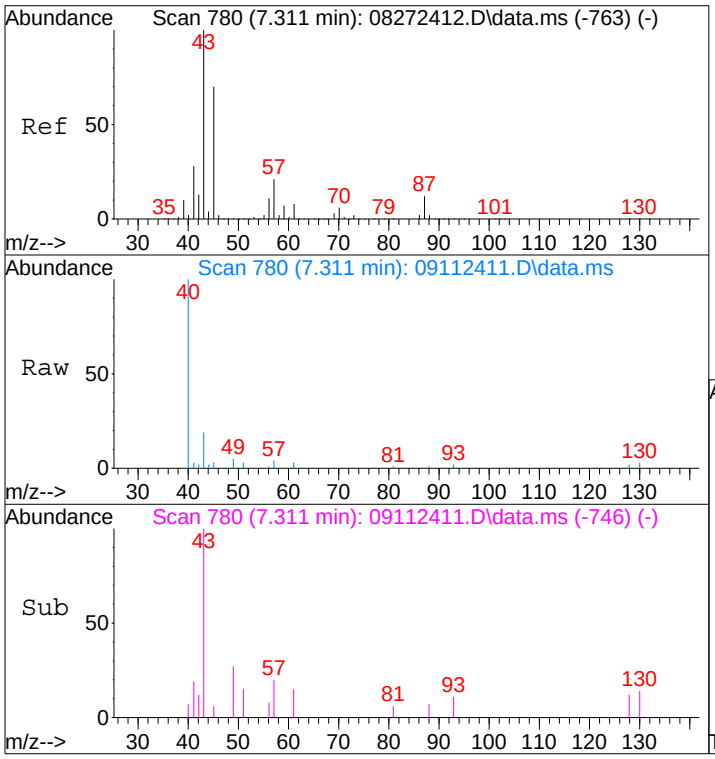


#27
2-Butanone (MEK)
Concen: 0.32 ng
RT: 6.68 min Scan# 669
Delta R.T. -0.025 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 72 Resp: 2677

Ion	Ratio	Lower	Upper
72	100		
43	797.9	548.0	588.0#

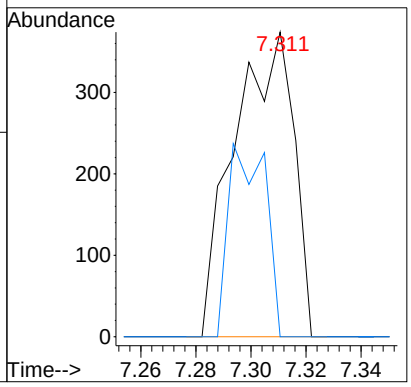


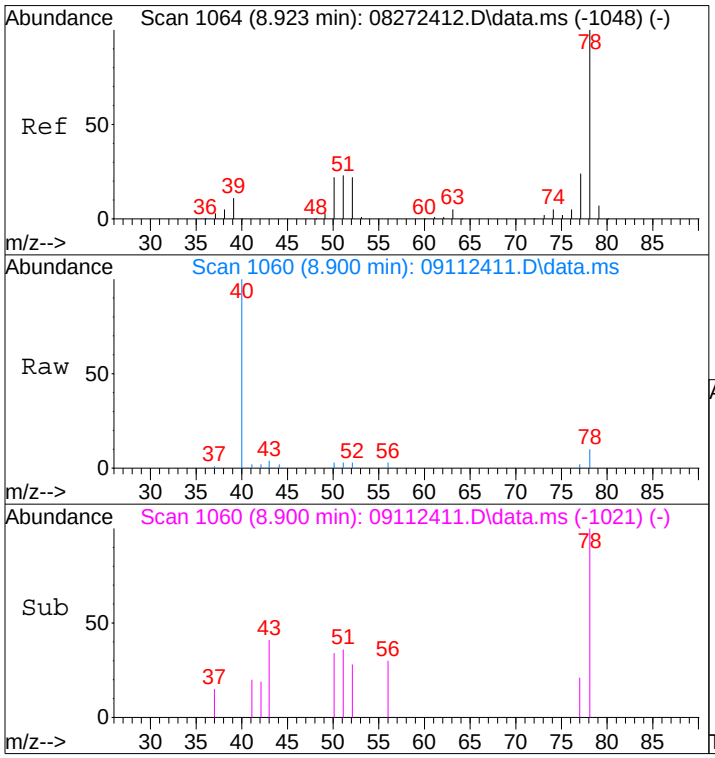


#30
Ethyl Acetate
Concen: 0.10 ng
RT: 7.31 min Scan# 780
Delta R.T. -0.006 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 61 Resp: 561

Ion	Ratio	Lower	Upper
61	100		
70	39.4	49.9	89.9#

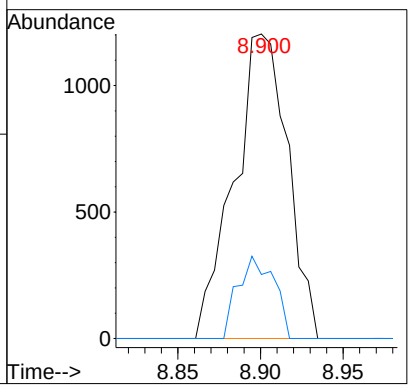


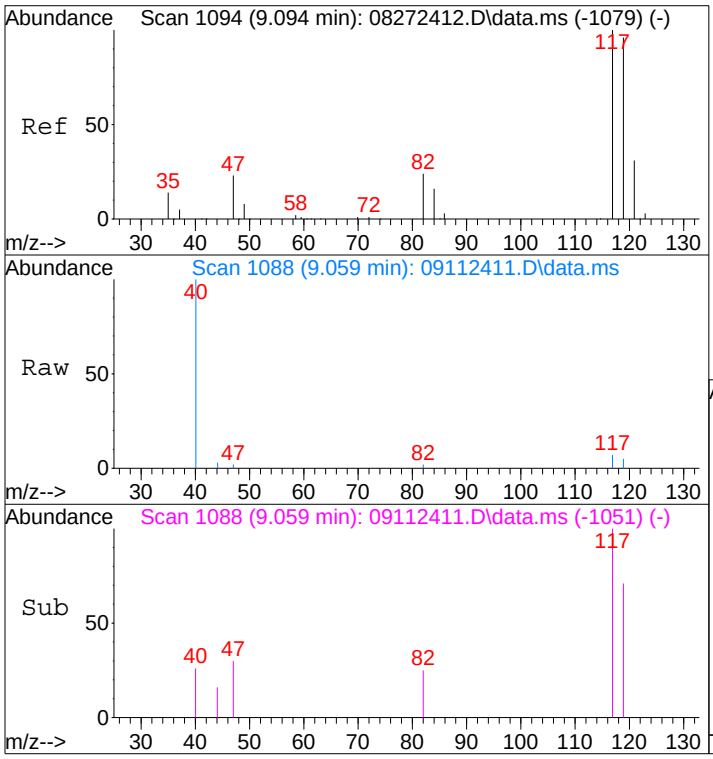


#41
Benzene
Concen: 0.05 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion: 78 Resp: 2714

Ion	Ratio	Lower	Upper
78	100		
77	18.2	3.9	43.9

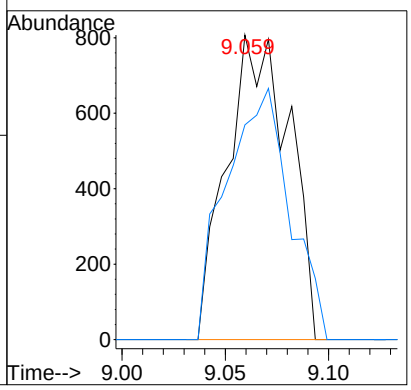




#42
Carbon Tetrachloride
Concen: 0.08 ng
RT: 9.06 min Scan# 1088
Delta R.T. -0.040 min
Lab File: 09112411.D
Acq: 11 Sep 2024 15:07

Tgt Ion:117 Resp: 1698

Ion	Ratio	Lower	Upper
117	100		
119	84.1	75.1	115.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:39:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

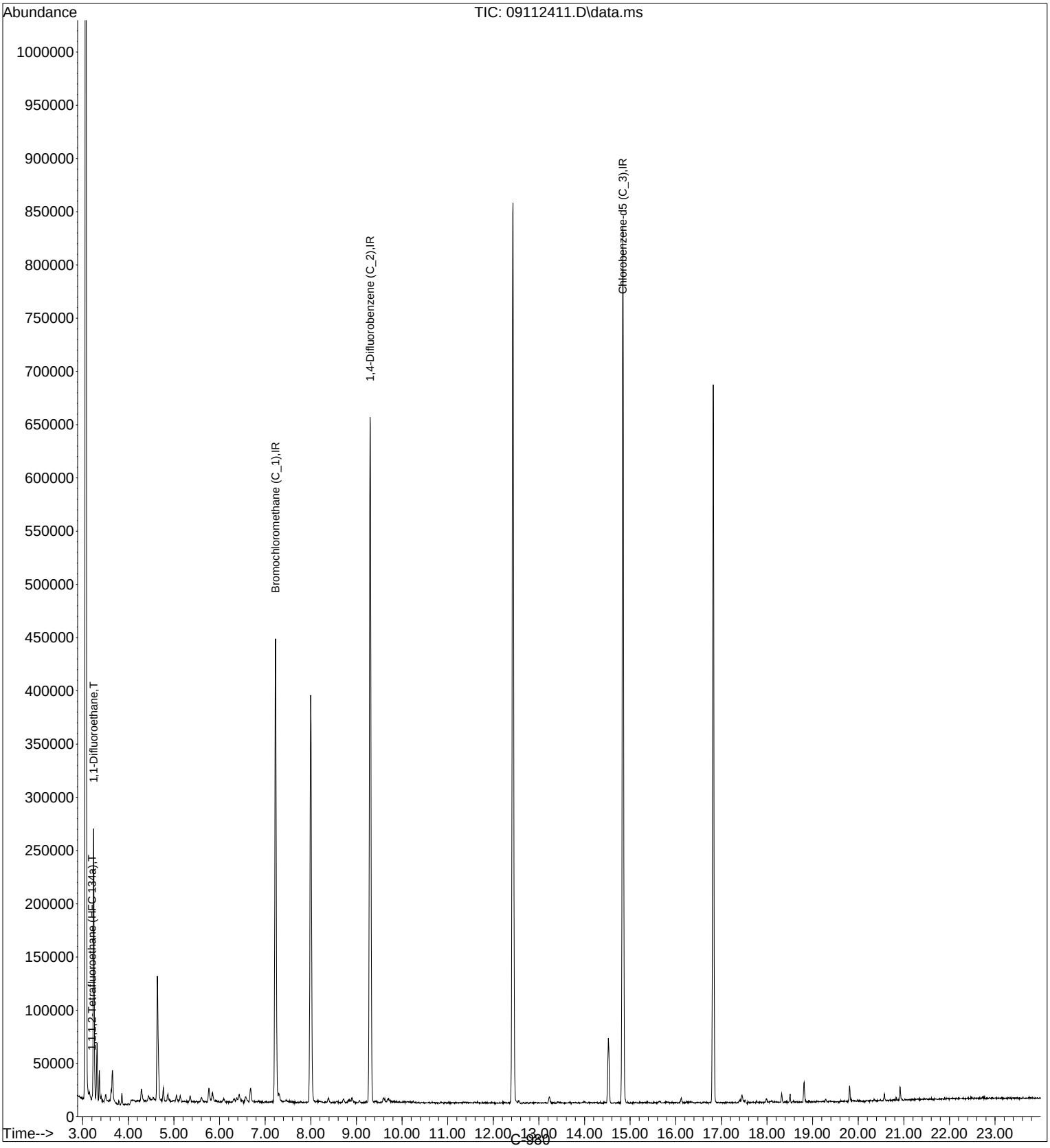
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	130150	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	568386	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	166628	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.14	85	143	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	2177	0.163 ng	86
4) 1,1-Difluoroethane	3.24	65	75433	6.638 ng	94
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.52	65	458	N.D.	
7) Dichlorofluoromethane ...	0.00	67	0	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.34	43	1715	N.D.	
12) 2-Methylpentane	6.48	71	68	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	9.08	84	62	N.D.	
17) 2,3-Dimethylpentane	9.52	56	182	N.D.	
18) Dibromomethane	0.00	174	0	N.D.	
20) Methyl Cyclohexane	11.43	55	80	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.60	91	187	N.D.	
27) 4-Chlorotoluene	17.67	91	440	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.	
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.	
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112411.D Vial: 9
Acq On : 11 Sep 2024 15:07 Operator: SC
Sample : P2403661-024 (400mL)PF2 Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 15:39:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112411.D
Acq On : 11 Sep 2024 15:07
Operator : SC
Sample : P2403661-024 (400mL)PF2
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112411.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.239	59	63	71	rVB	253578	366712	39.14%	18.721%
2	3.313	71	76	81	rVB2	53559	76326	8.15%	3.896%
3	3.364	81	85	90	rBV	27897	32125	3.43%	1.640%
4	3.506	103	110	115	rBV4	6994	14447	1.54%	0.738%
5	3.625	126	131	132	rBV2	10993	13853	1.48%	0.707%
6	3.648	132	135	151	rVB2	31049	59532	6.35%	3.039%
7	3.858	167	172	178	rBV3	11062	14338	1.53%	0.732%
8	4.284	242	247	257	rVB2	11460	24503	2.62%	1.251%
9	4.443	269	275	283	rBV4	5109	12680	1.35%	0.647%
10	4.636	303	309	323	rVV	116803	236050	25.19%	12.050%
11	4.767	327	332	338	rBV2	12736	19548	2.09%	0.998%
12	4.869	345	350	355	rBV3	6692	11336	1.21%	0.579%
13	5.051	377	382	389	rBV2	6364	12328	1.32%	0.629%
14	5.136	393	397	403	rVB4	6195	10286	1.10%	0.525%
15	5.357	429	436	440	rBV3	6005	11108	1.19%	0.567%
16	5.766	502	508	516	rBV3	13006	29600	3.16%	1.511%
17	5.851	516	523	532	rVB3	8011	19309	2.06%	0.986%
18	6.430	620	625	632	rVB3	6747	14476	1.55%	0.739%
19	6.680	662	669	677	rBV2	13020	28838	3.08%	1.472%
20	7.225	756	765	775	rBV	435612	936917	100.00%	47.830%
21	7.294	775	777	785	rVB4	6859	14546	1.55%	0.743%

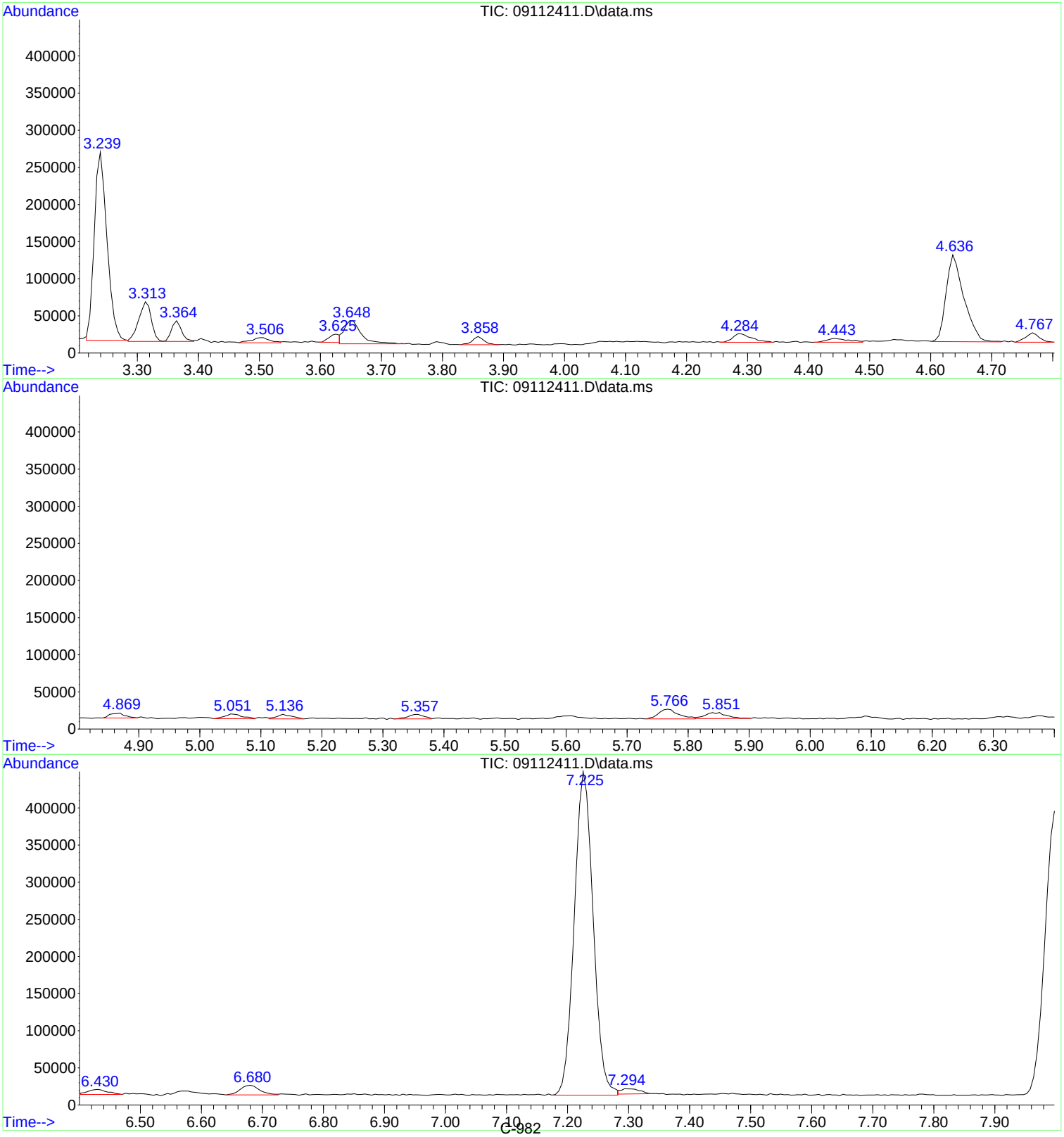
Sum of corrected areas: 1958858

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112411.D
Acq On : 11 Sep 2024 15:07
Operator : SC
Sample : P2403661-024 (400mL)PF2
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112411.D
Acq On : 11 Sep 2024 15:077
Operator : SCC
Sample : P2403661-024 (400mL)PF22
Misc : S37-060624022
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)) VOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 08:51:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	132957	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.30	114	592320	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	176320	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	341481	13.725	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	12.43	98	682791	11.039	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.82	174	223467	10.802	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	20894m	0.647	ng		
4) Chloromethane	3.50	50	1849	0.073	ng		70
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	888	0.076	ng		89
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	331	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	19596m	1.358	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.55	56	2721	0.247	ng		96
13) Acetone	4.65	58	31456	2.584	ng	#	55
14) Trichlorofluoromethane	4.77	101	36245737m	1177.212	ng		
15) 2-Propanol (Isopropanol)	4.84	45	76848	1.603	ng		88
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1668	N.D.			
19) Methylene Chloride	5.37	84	293	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D. d			
21) Trichlorotrifluoroethane	5.61	151	5230325	428.788	ng		94
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	522	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	2636	0.305	ng	#	15
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.27	87	246	N.D.			
30) Ethyl Acetate	7.28	61	67102	11.594	ng		87
31) n-Hexane	7.32	57	966	N.D.			
32) Chloroform	7.37	83	8810	0.333	ng		93
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	7.99	62	113	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.58	61	5537	No Calib		#	
40) 1-Butanol	8.82	56	6604	No Calib		#	
41) Benzene	8.90	78	106321	1.914	ng		99
42) Carbon Tetrachloride	9.08	117	1171	0.051	ng	#	77
43) Cyclohexane	9.17	84	138	N.D.			
44) tert-Amyl Methyl Ether	9.59	73	1059	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	205	N.D.			
47) Trichloroethene	10.15	130	6301	0.458	ng		96
48) 1,4-Dioxane	10.12	88	2618	0.273	ng		93
49) 2,2,4-Trimethylpentane...	10.23	57	235	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:51:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

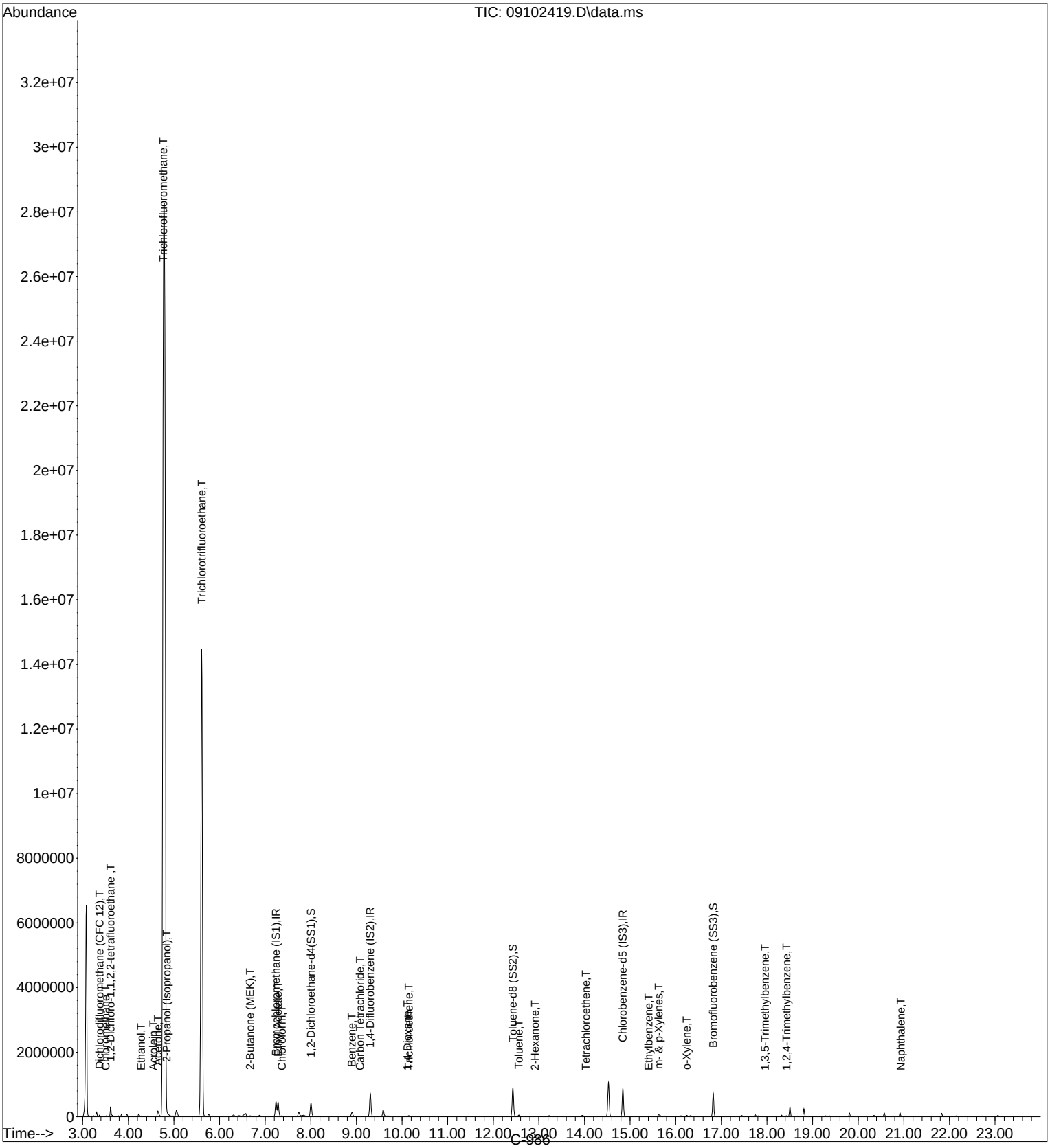
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.58	71	114	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	261	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	26650	0.399 ng	97
59) 2-Hexanone	12.91	43	3035	0.073 ng	75
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	2179	N.D.	
63) n-Octane	13.91	57	417	N.D.	
64) Tetrachloroethene	14.03	166	1466	0.079 ng	87
65) Chlorobenzene	14.90	112	944	N.D.	
66) Ethylbenzene	15.41	91	9226	0.120 ng	92
67) m- & p-Xylenes	15.63	91	43375	0.693 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.09	104	818	N.D.	
70) o-Xylene	16.24	91	17451	0.286 ng	99
71) n-Nonane	16.62	43	1599	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	991	N.D.	
75) alpha-Pinene	17.53	93	350	N.D.	
76) n-Propylbenzene	17.68	91	3356	N.D.	
77) 3-Ethyltoluene	17.03	105	991	No Calib #	
78) 4-Ethyltoluene	17.86	105	2724	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	3290	0.055 ng	90
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	991	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	7419	0.118 ng	86
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.57	91	441	N.D.	
85) 1,3-Dichlorobenzene	18.56	146	133	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	273	N.D.	
87) sec-Butylbenzene	18.75	105	563	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	2519	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	991	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	247	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	597	N.D.	
95) Naphthalene	20.94	128	3513	0.053 ng	88
96) n-Dodecane	18.87	58	111	No Calib #	
97) Hexachlorobutadiene	21.30	225	157	N.D.	
98) Cyclohexanone	15.22	55	227	No Calib #	
99) tert-Butylbenzene	0.00	119	0	N.D. d	
100) n-Butylbenzene	19.35	91	799	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:51:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:51:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

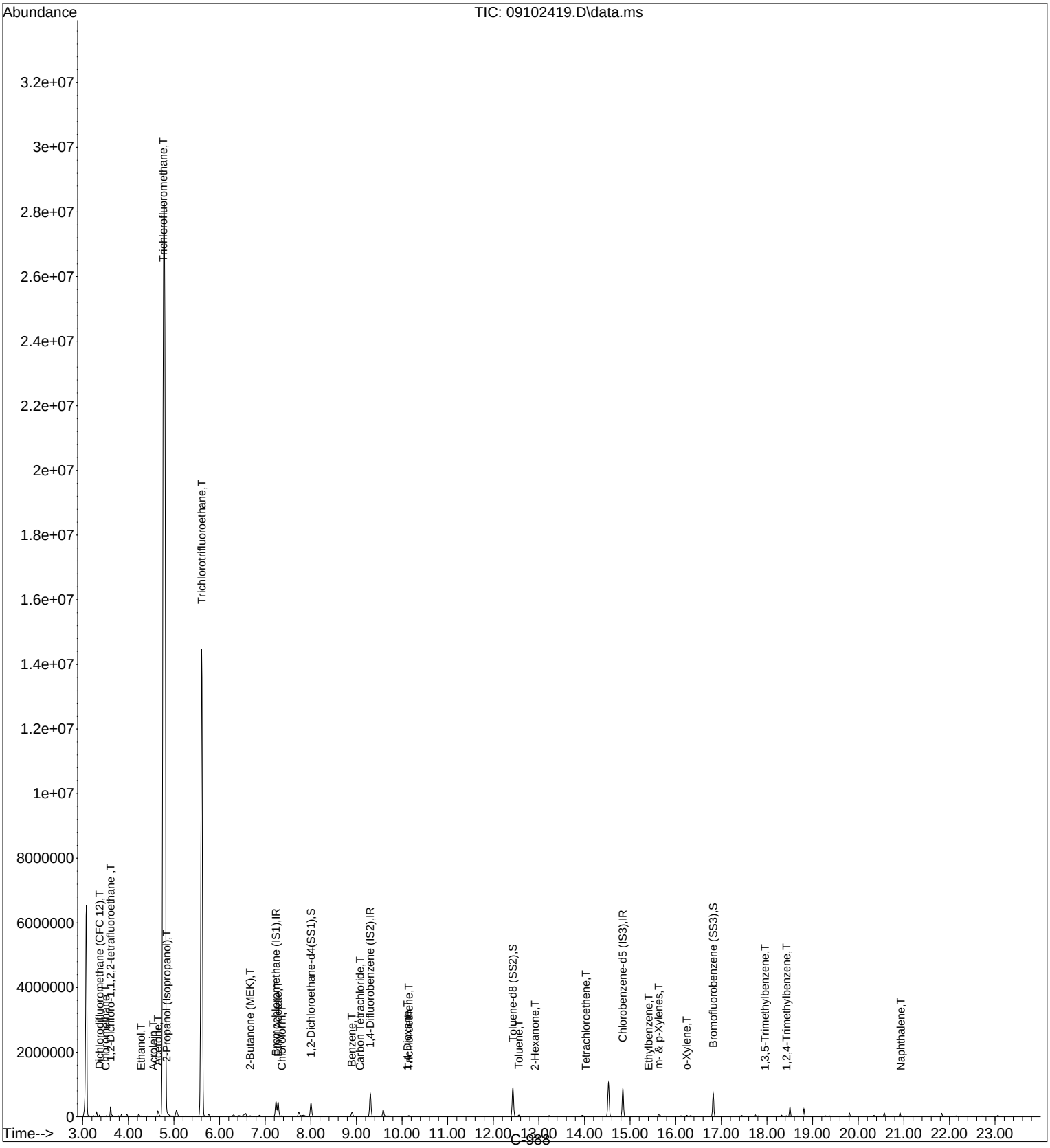
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	132957	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.30	114	592320	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	176320	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	341481	13.725	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.84%				
57) Toluene-d8 (SS2)	12.43	98	682791	11.039	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.82	174	223467	10.802	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.40%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	20894m	0.647	ng		
4) Chloromethane	3.50	50	1849	0.073	ng		70
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	888	0.076	ng		89
10) Ethanol	4.28	45	19596m	1.358	ng		
12) Acrolein	4.55	56	2721	0.247	ng		96
13) Acetone	4.65	58	31456	2.584	ng	#	55
14) Trichlorofluoromethane	4.77	101	36245737m	1177.212	ng		
15) 2-Propanol (Isopropanol)	4.84	45	76848	1.603	ng		88
21) Trichlorotrifluoroethane	5.61	151	5230325	428.788	ng		94
27) 2-Butanone (MEK)	6.67	72	2636	0.305	ng	#	15
30) Ethyl Acetate	7.28	61	67102	11.594	ng		87
32) Chloroform	7.37	83	8810	0.333	ng		93
41) Benzene	8.90	78	106321	1.914	ng		99
42) Carbon Tetrachloride	9.08	117	1171	0.051	ng	#	77
47) Trichloroethene	10.15	130	6301	0.458	ng		96
48) 1,4-Dioxane	10.12	88	2618	0.273	ng		93
58) Toluene	12.56	91	26650	0.399	ng		97
59) 2-Hexanone	12.91	43	3035	0.073	ng		75
64) Tetrachloroethene	14.03	166	1466	0.079	ng		87
66) Ethylbenzene	15.41	91	9226	0.120	ng		92
67) m- & p-Xylenes	15.63	91	43375	0.693	ng		98
70) o-Xylene	16.24	91	17451	0.286	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	3290	0.055	ng		90
82) 1,2,4-Trimethylbenzene	18.43	105	7419	0.118	ng		86
95) Naphthalene	20.94	128	3513	0.053	ng		88

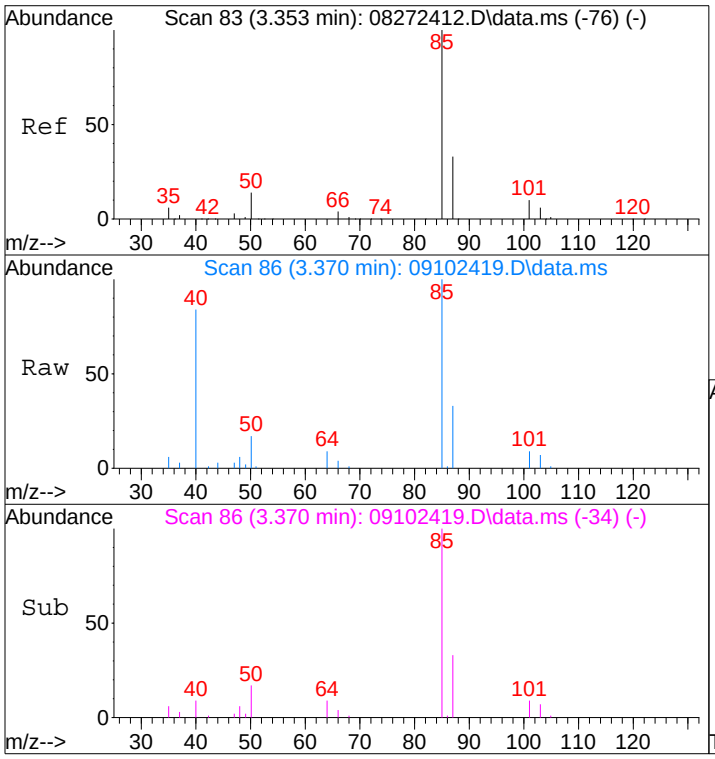
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:51:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

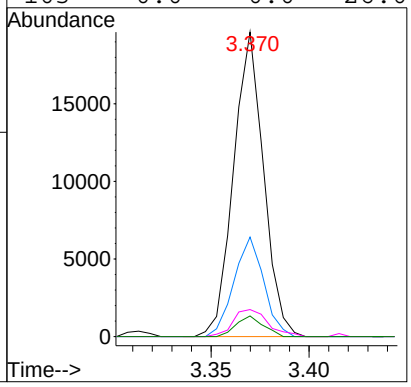


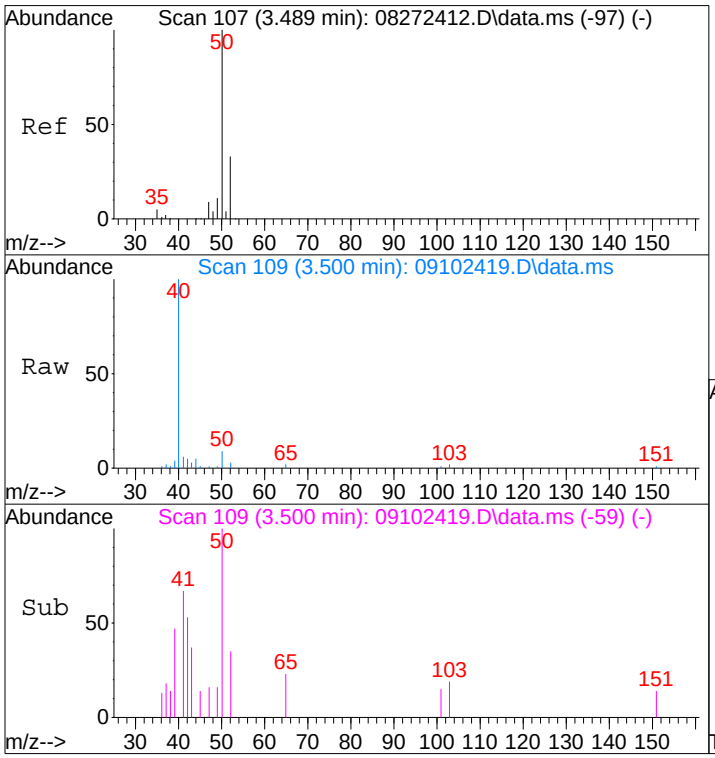


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.65 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.045 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 85 Resp: 20894

Ion	Ratio	Lower	Upper
85	100		
87	0.0	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

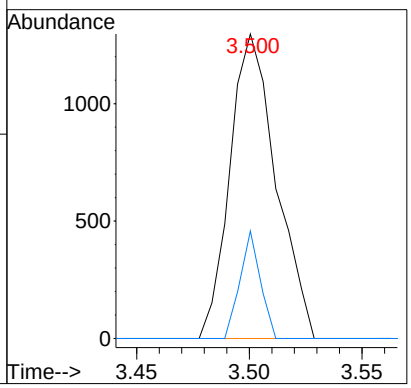


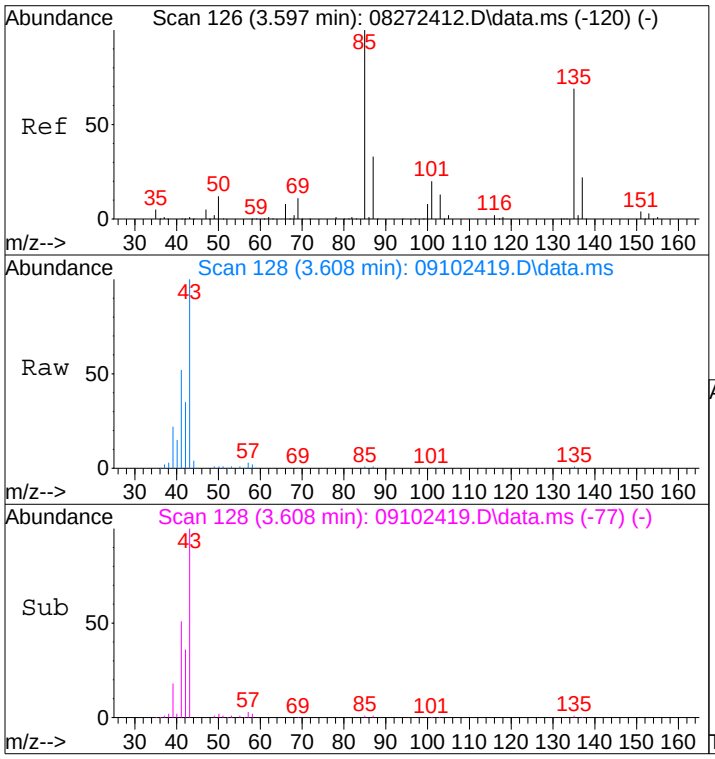


#4
Chloromethane
Concen: 0.07 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.035 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 50 Resp: 1849

Ion	Ratio	Lower	Upper
50	100		
52	15.6	12.4	52.4

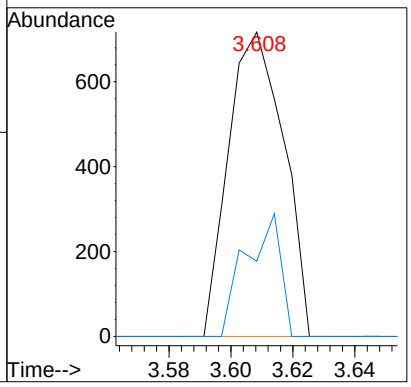


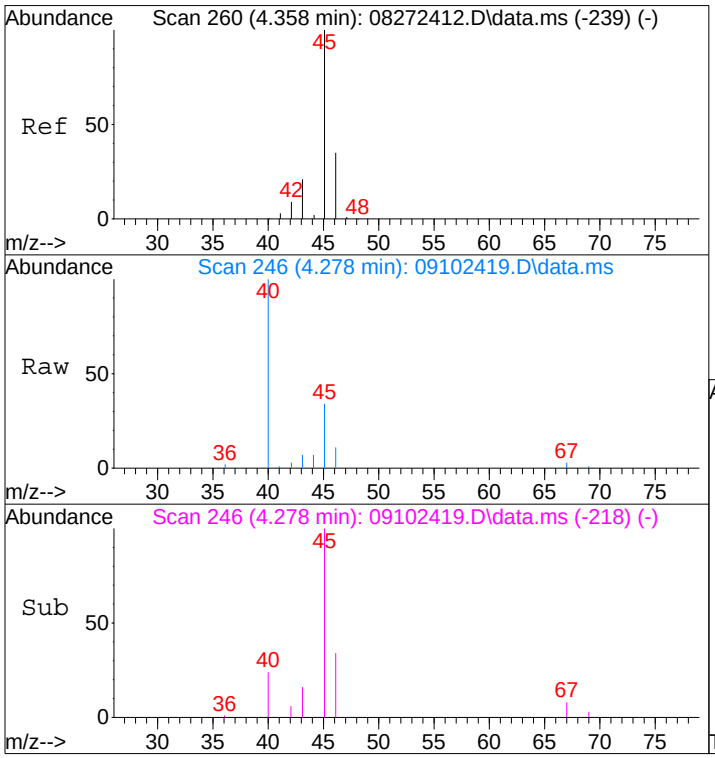


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.08 ng
RT: 3.61 min Scan# 128
Delta R.T. 0.042 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:135 Resp: 888

Ion	Ratio	Lower	Upper
135	100		
137	25.7	11.6	51.6

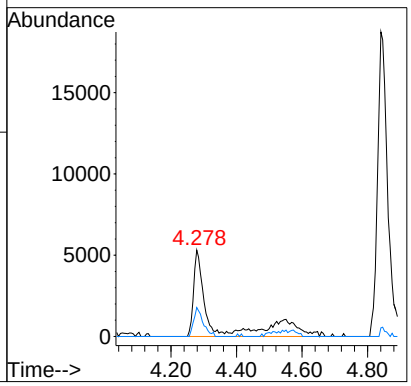


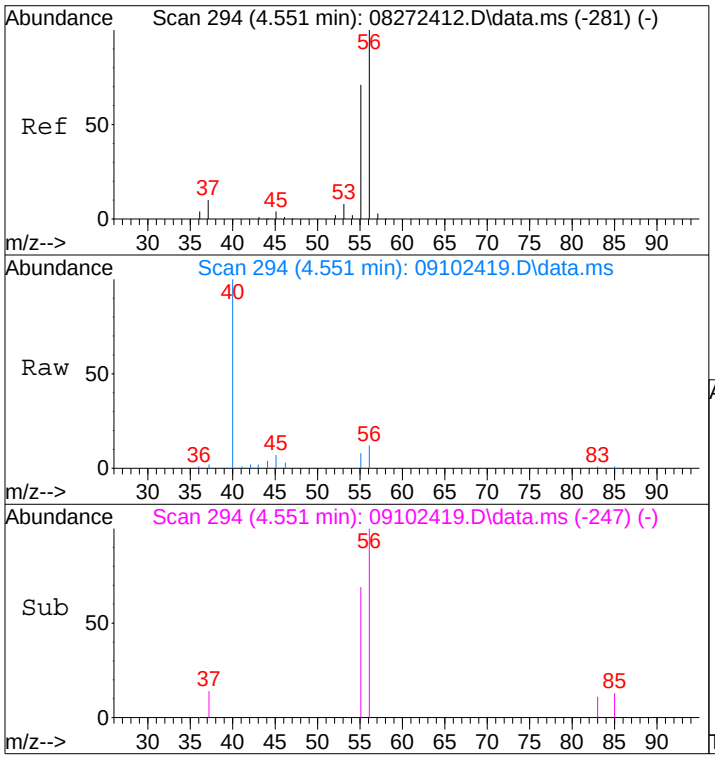


#10
Ethanol
Concen: 1.36 ng m
RT: 4.28 min Scan# 246
Delta R.T. -0.091 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 45 Resp: 19596

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.2	54.2#

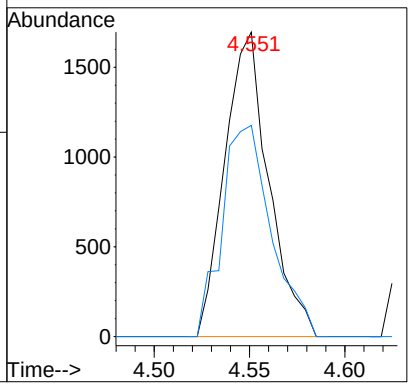


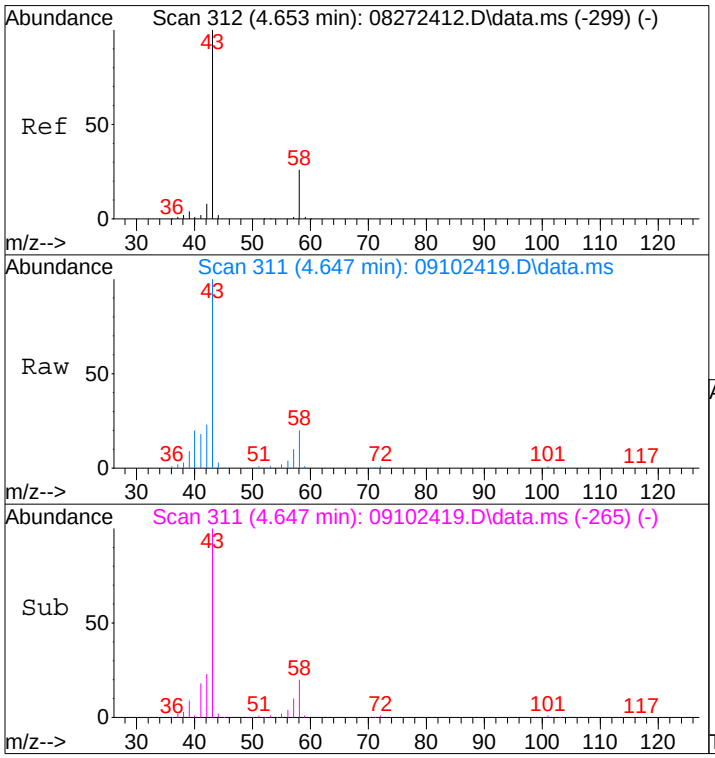


#12
Acrolein
Concen: 0.25 ng
RT: 4.55 min Scan# 294
Delta R.T. 0.019 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 56 Resp: 2721

Ion	Ratio	Lower	Upper
56	100		
55	77.7	54.7	94.7

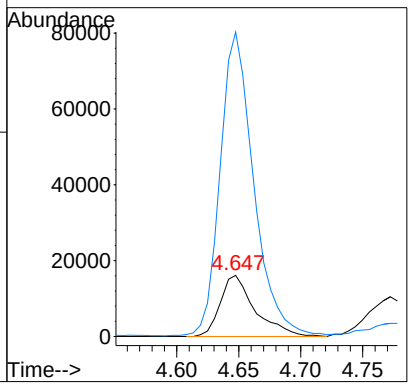


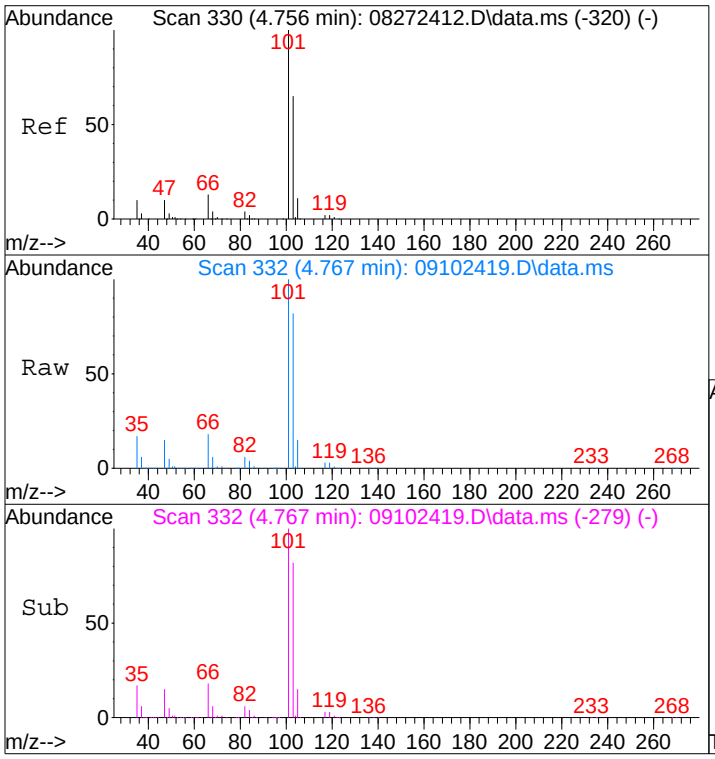


#13
Acetone
Concen: 2.58 ng
RT: 4.65 min Scan# 311
Delta R.T. 0.009 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 58 Resp: 31456

Ion	Ratio	Lower	Upper
58	100		
43	479.3	347.3	407.3#

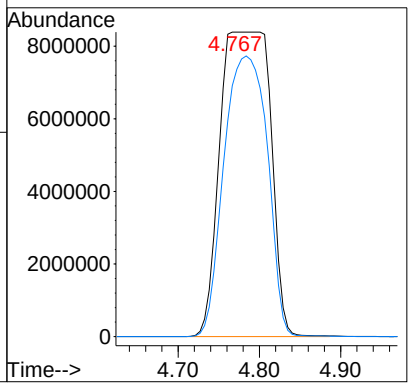


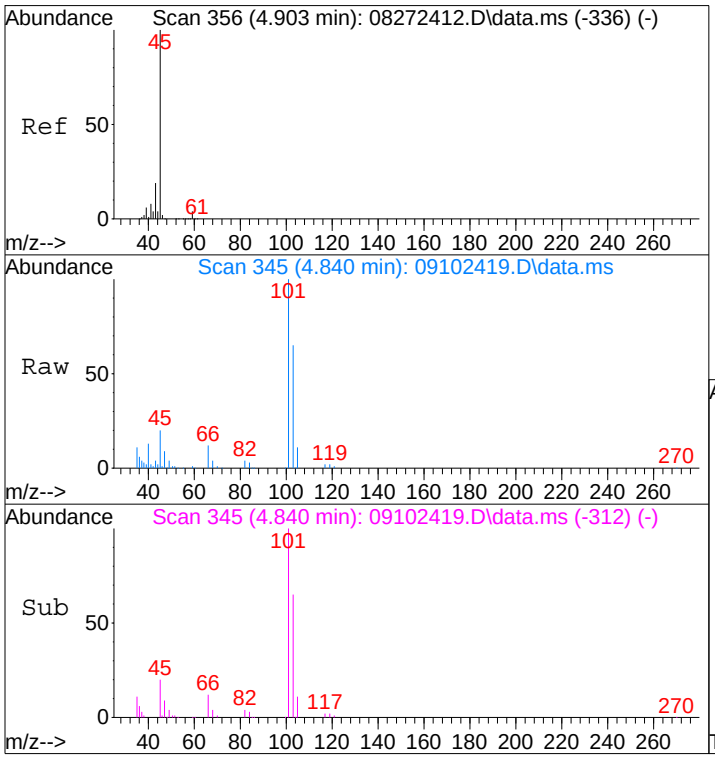


#14
Trichlorofluoromethane
Concen: 1177.21 ng m
RT: 4.77 min Scan# 332
Delta R.T. 0.050 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:101 Resp:36245737

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#

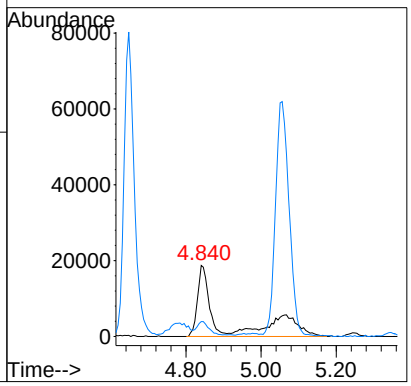


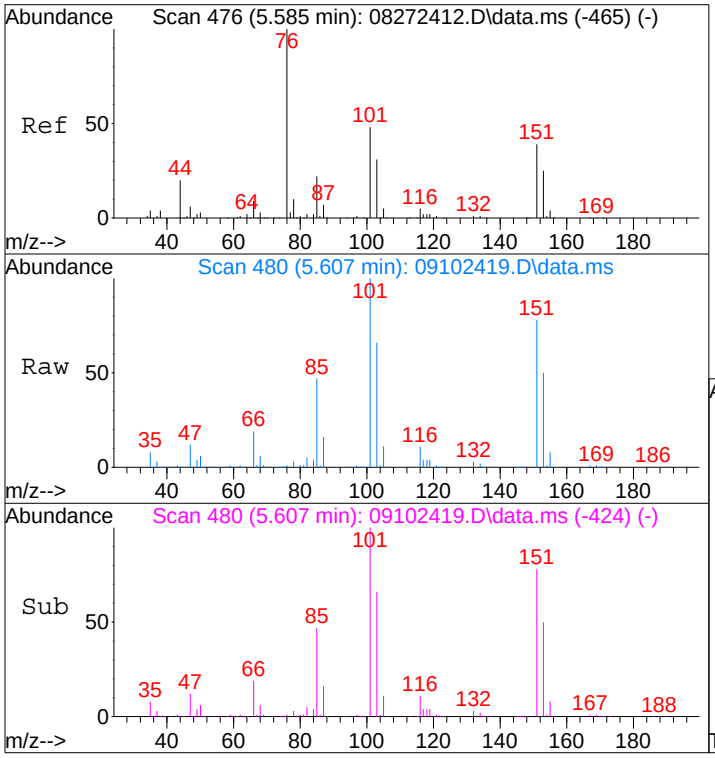


#15
2-Propanol (Isopropanol)
Concen: 1.60 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.062 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 45 Resp: 76848

Ion	Ratio	Lower	Upper
45	100		
43	25.3	0.0	40.0

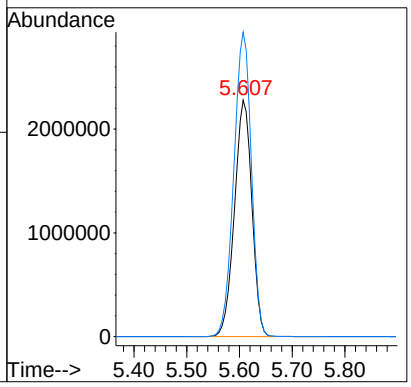


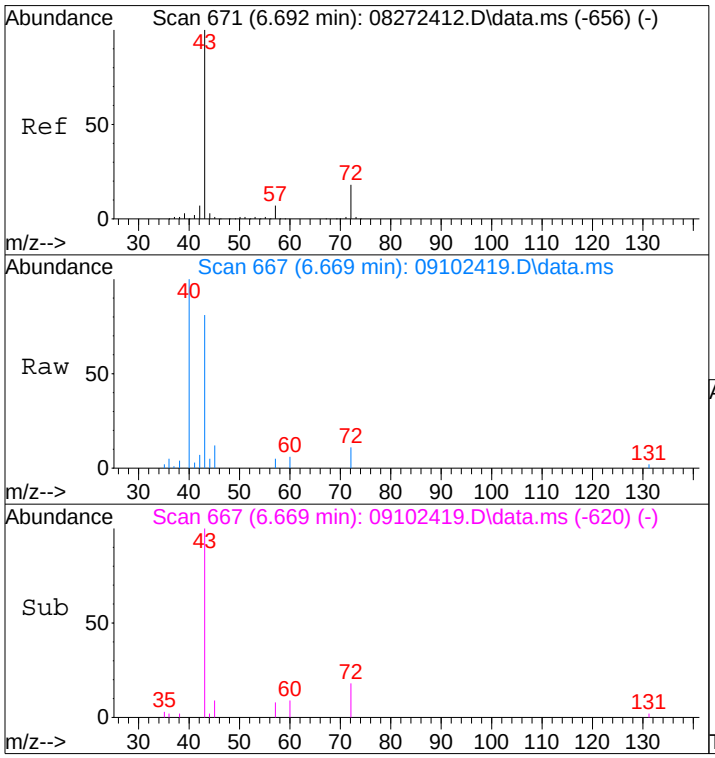


#21
Trichlorotrifluoroethane
Concen: 428.79 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.065 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:151 Resp: 5230325

Ion	Ratio	Lower	Upper
151	100		
101	129.8	103.4	143.4

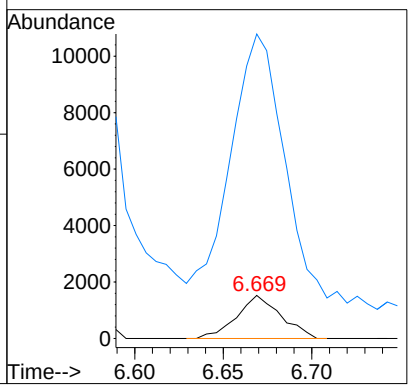


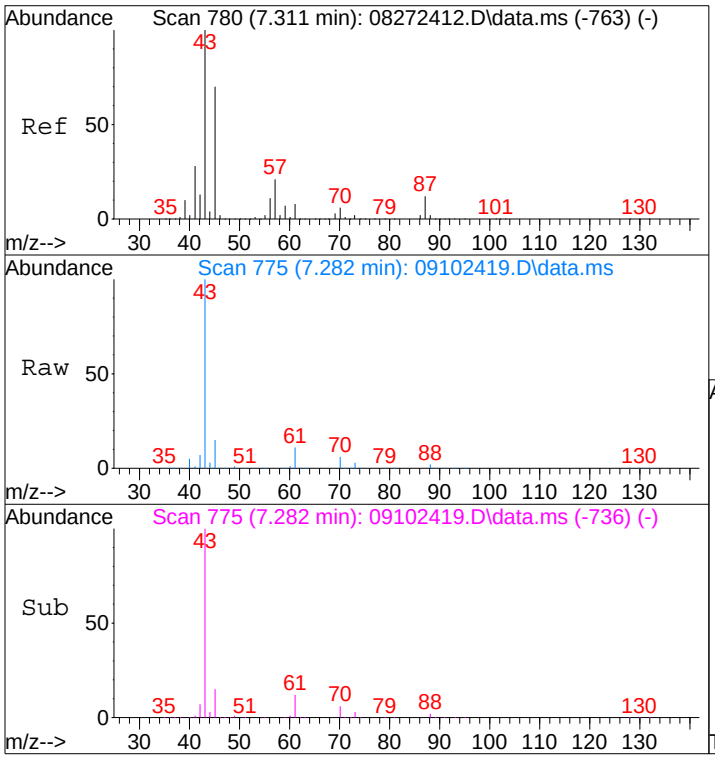


#27
2-Butanone (MEK)
Concen: 0.31 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 72 Resp: 2636

Ion	Ratio	Lower	Upper
72	100		
43	822.3	548.0	588.0#

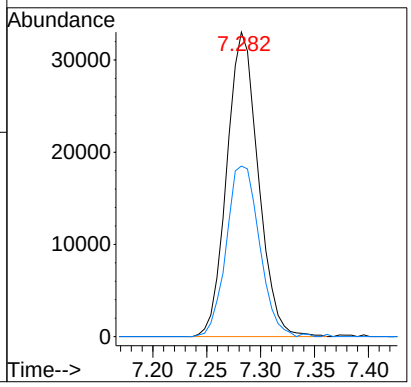


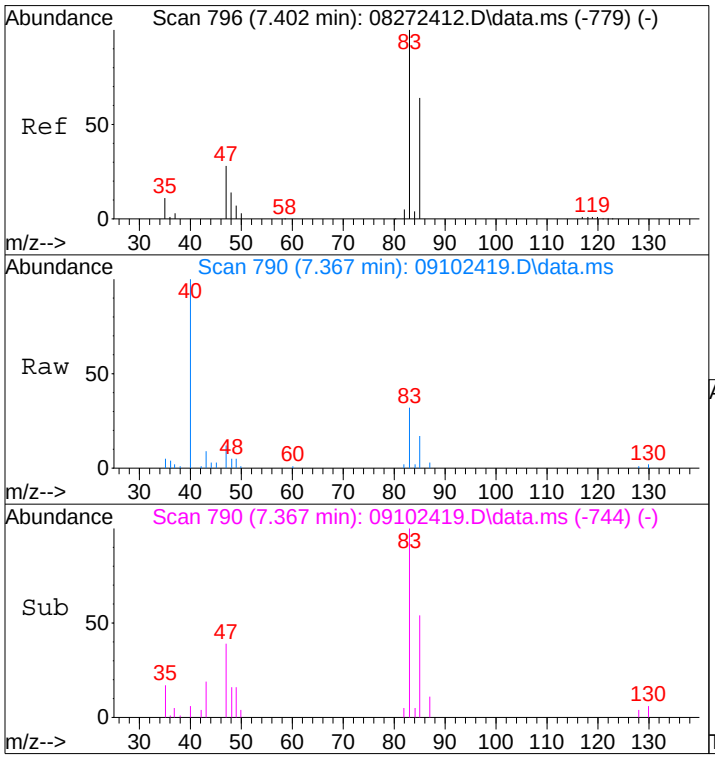


#30
Ethyl Acetate
Concen: 11.59 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 61 Resp: 67102

Ion	Ratio	Lower	Upper
61	100		
70	58.9	49.9	89.9

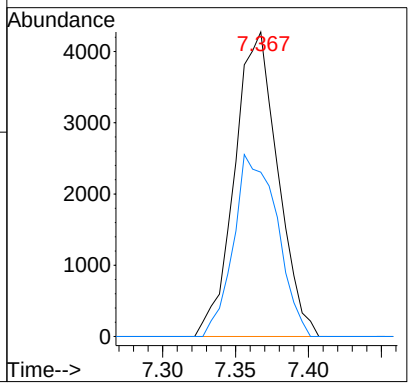


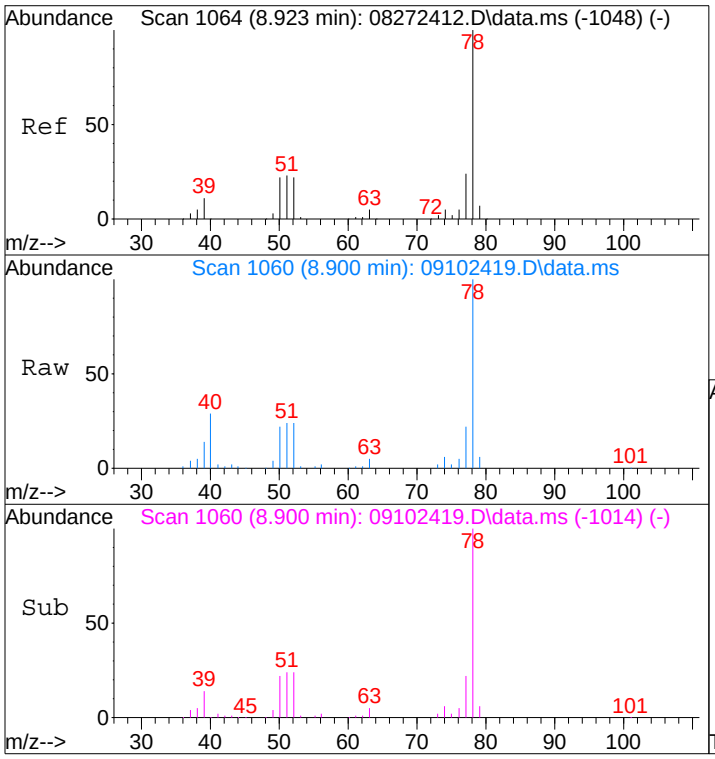


#32
Chloroform
Concen: 0.33 ng
RT: 7.37 min Scan# 790
Delta R.T. 0.013 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 83 Resp: 8810

Ion	Ratio	Lower	Upper
83	100		
85	60.1	45.3	85.3

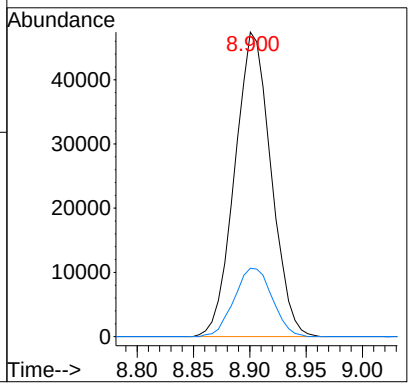


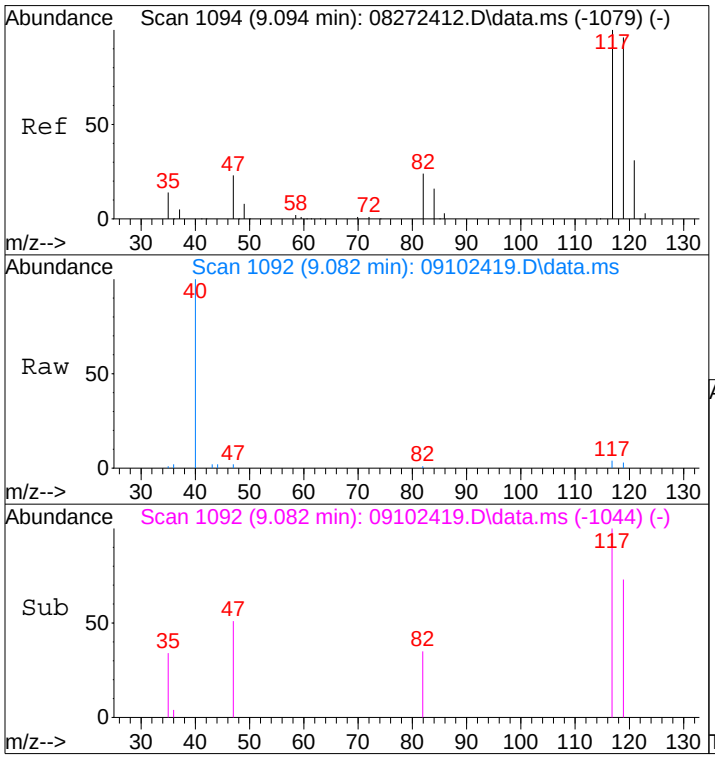


#41
Benzene
Concen: 1.91 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.009 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 78 Resp: 106321

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.9	43.9

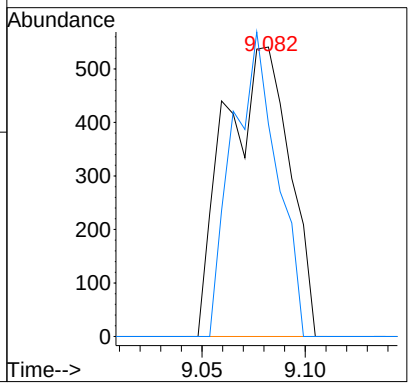


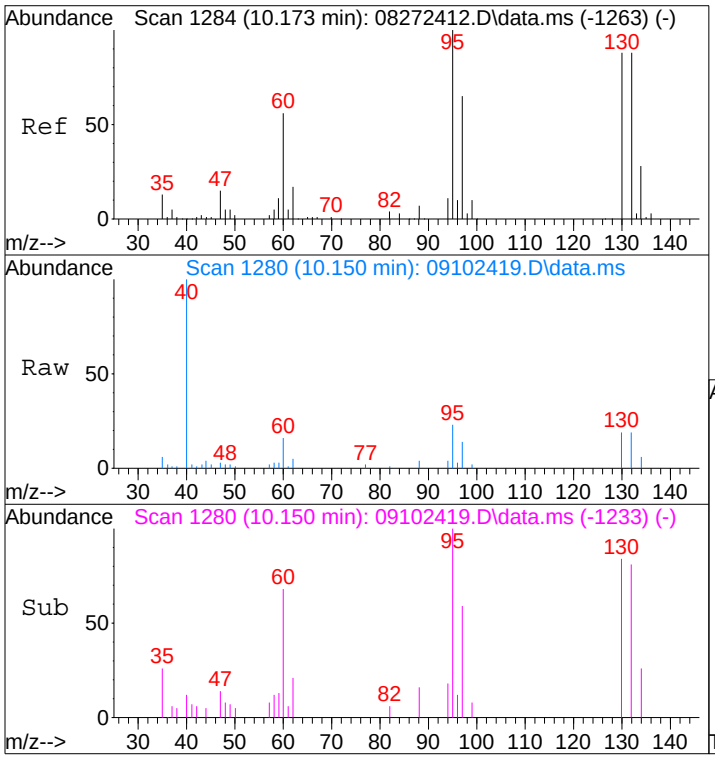


#42
Carbon Tetrachloride
Concen: 0.05 ng
RT: 9.08 min Scan# 1092
Delta R.T. 0.021 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:117 Resp: 1171

Ion	Ratio	Lower	Upper
117	100		
119	72.5	75.1	115.1#

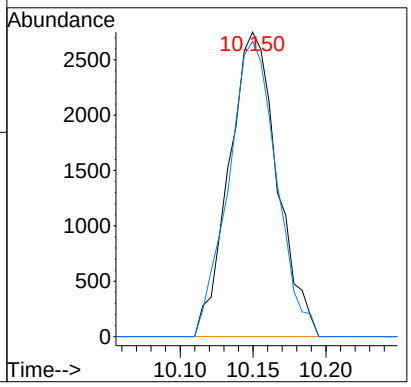


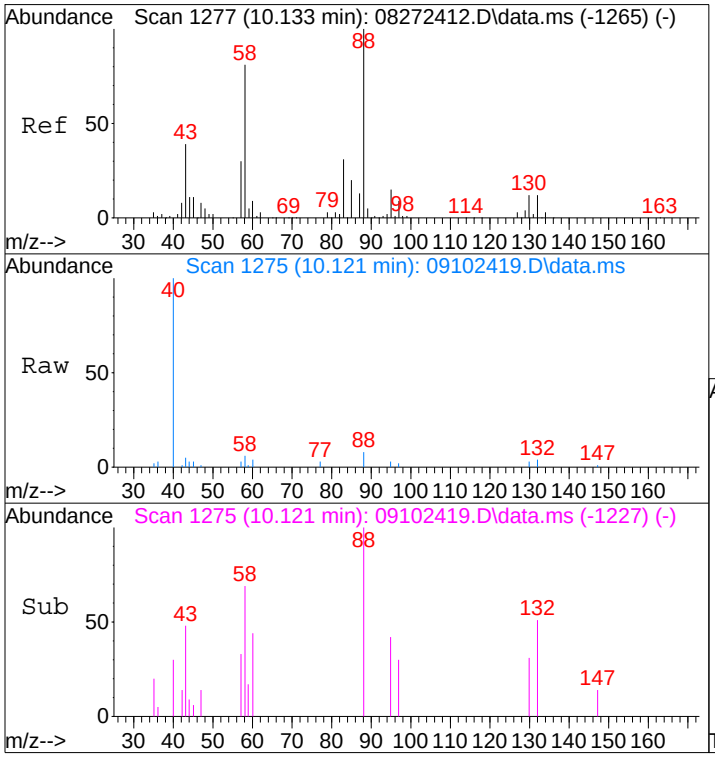


#47
Trichloroethene
Concen: 0.46 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.016 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:130 Resp: 6301

Ion	Ratio	Lower	Upper
130	100		
132	96.5	80.8	120.8

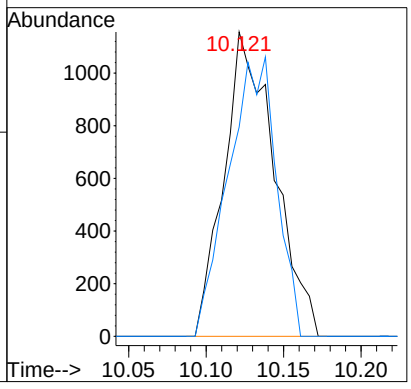


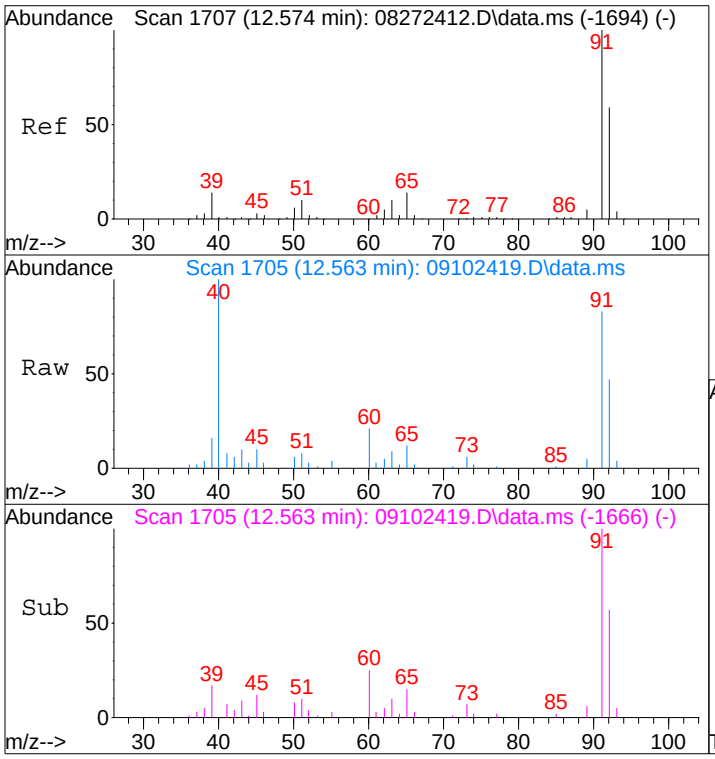


#48
1,4-Dioxane
Concen: 0.27 ng
RT: 10.12 min Scan# 1275
Delta R.T. 0.022 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 88 Resp: 2618

Ion	Ratio	Lower	Upper
88	100		
58	87.6	61.1	101.1

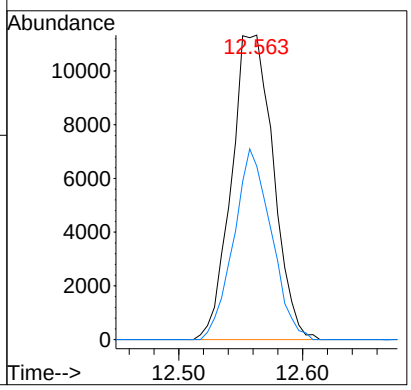


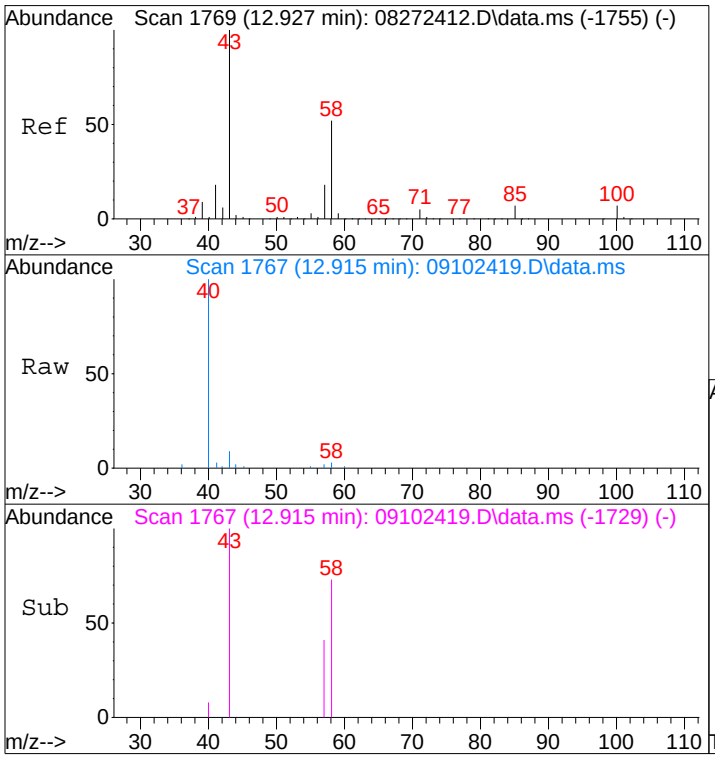


#58
Toluene
Concen: 0.40 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 91 Resp: 26650

Ion	Ratio	Lower	Upper
91	100		
92	56.3	38.5	78.5

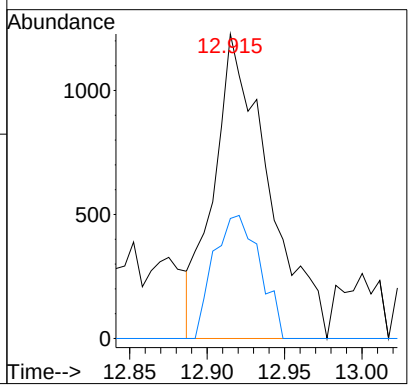


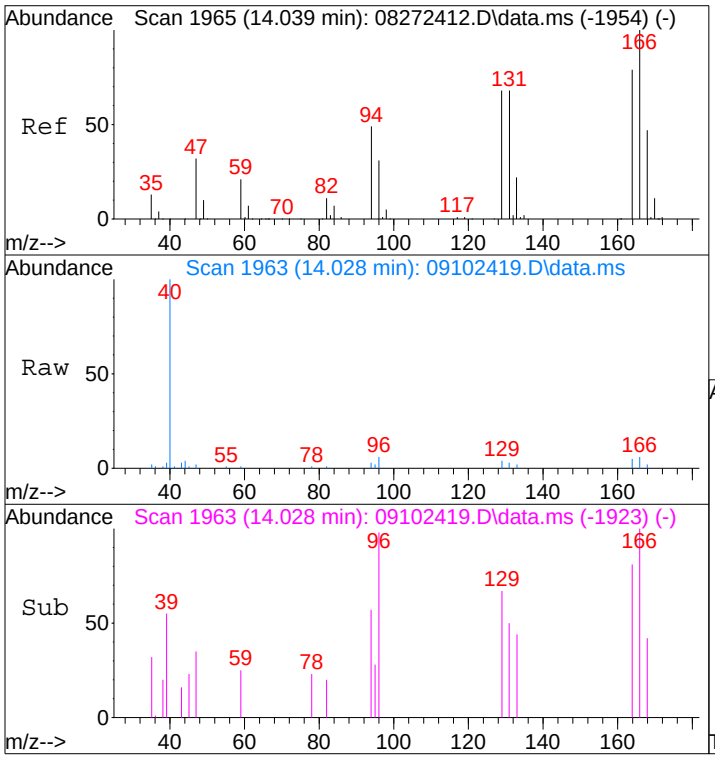


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 43 Resp: 3035

Ion	Ratio	Lower	Upper
43	100		
58	33.9	31.1	71.1

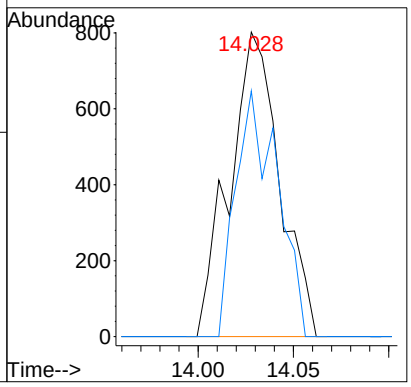


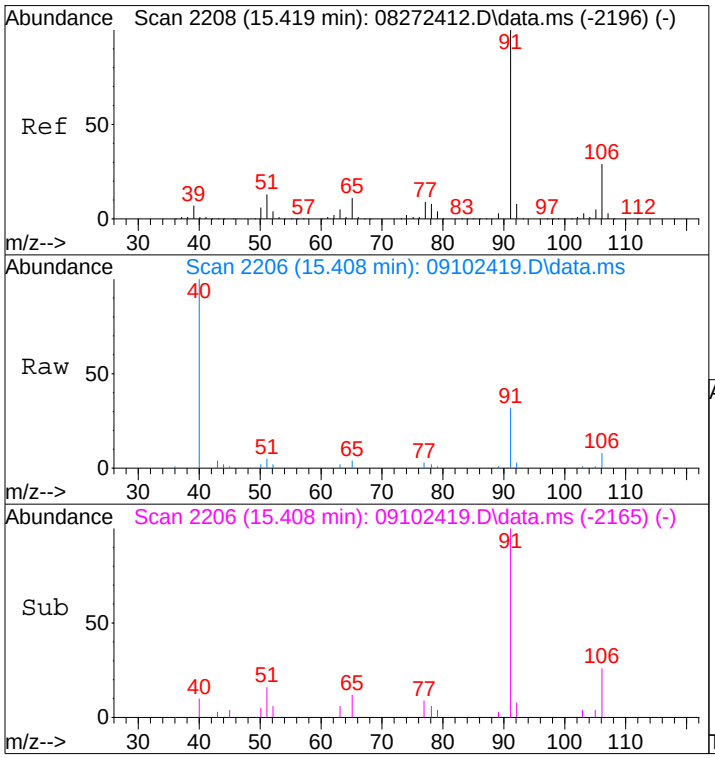


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:166 Resp: 1466

Ion	Ratio	Lower	Upper
166	100		
164	67.5	59.0	99.0

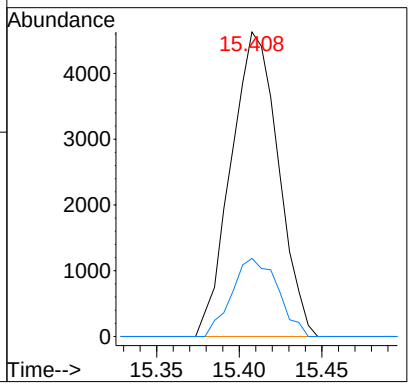


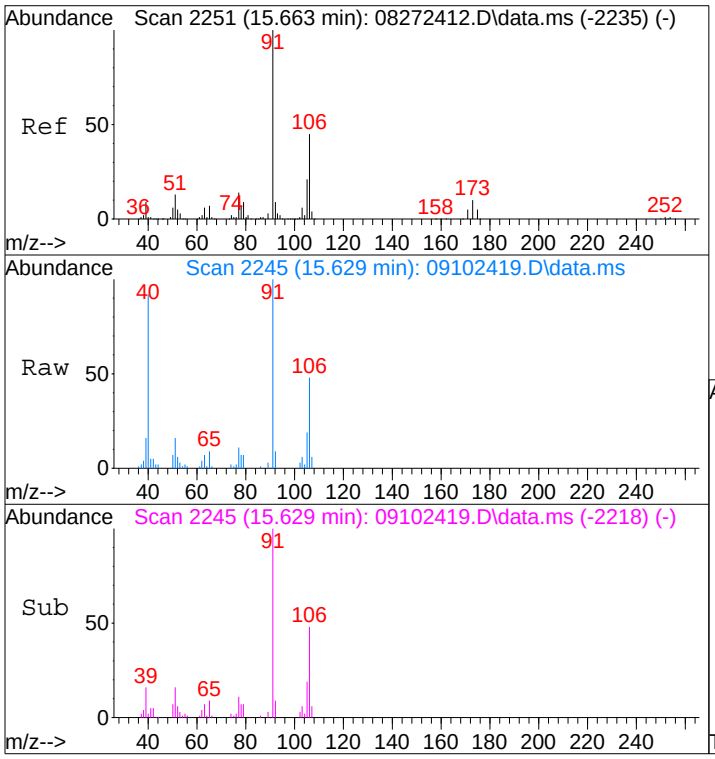


#66
Ethylbenzene
Concen: 0.12 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 91 Resp: 9226

Ion	Ratio	Lower	Upper
91	100		
106	24.9	9.2	49.2

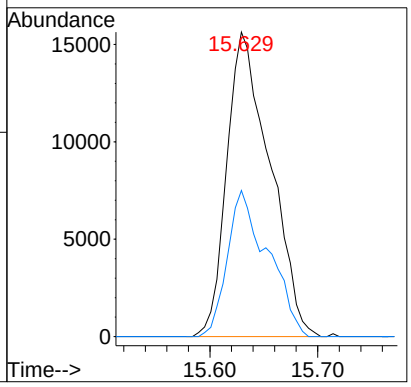


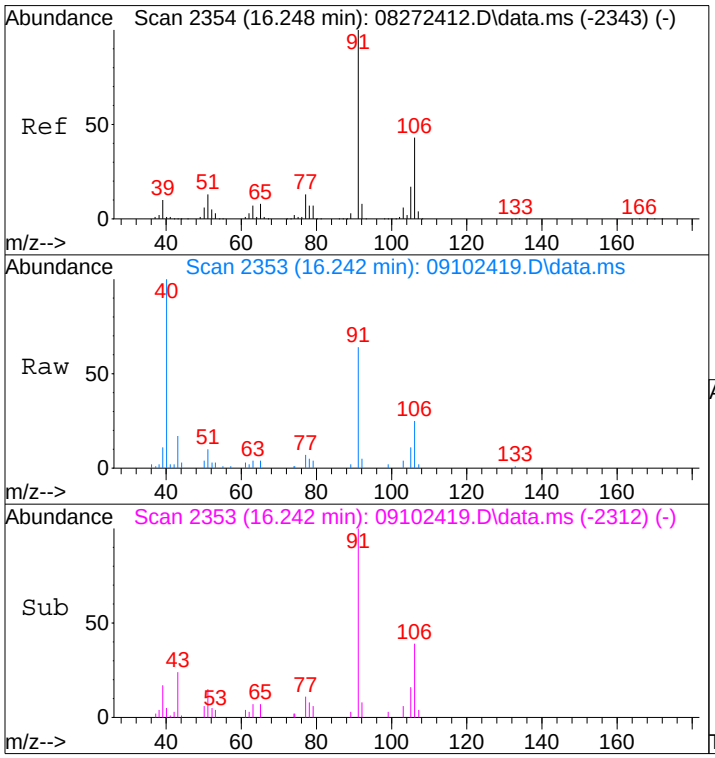


#67
m- & p-Xylenes
Concen: 0.69 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 91 Resp: 43375

Ion	Ratio	Lower	Upper
91	100		
106	45.2	23.8	63.8

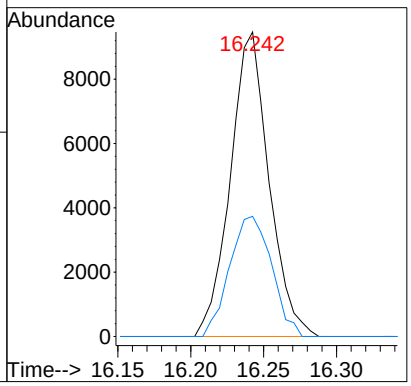


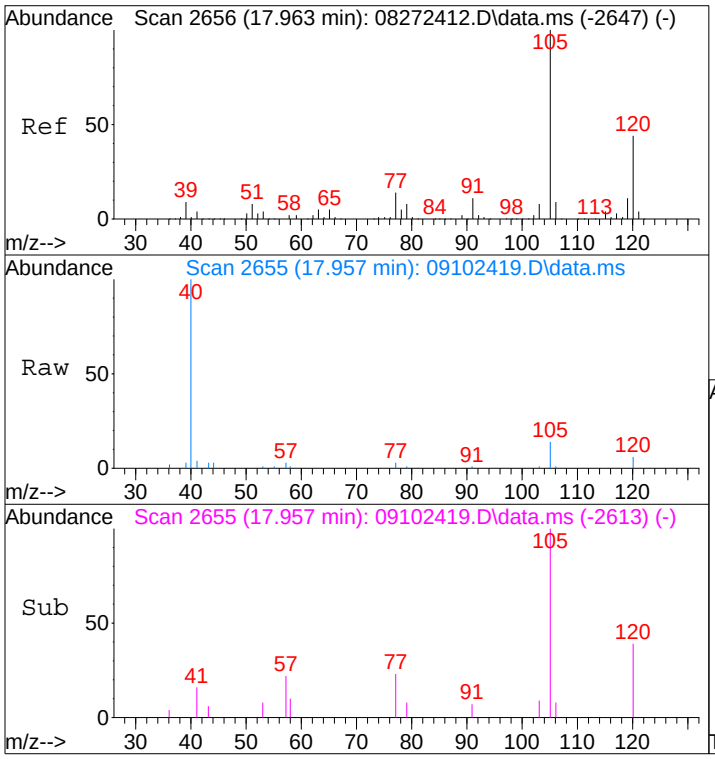


#70
o-Xylene
Concen: 0.29 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion: 91 Resp: 17451

Ion	Ratio	Lower	Upper
91	100		
106	42.8	22.5	62.5

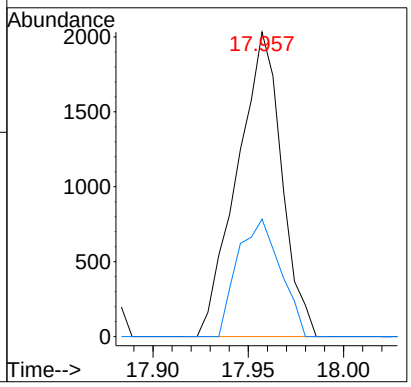


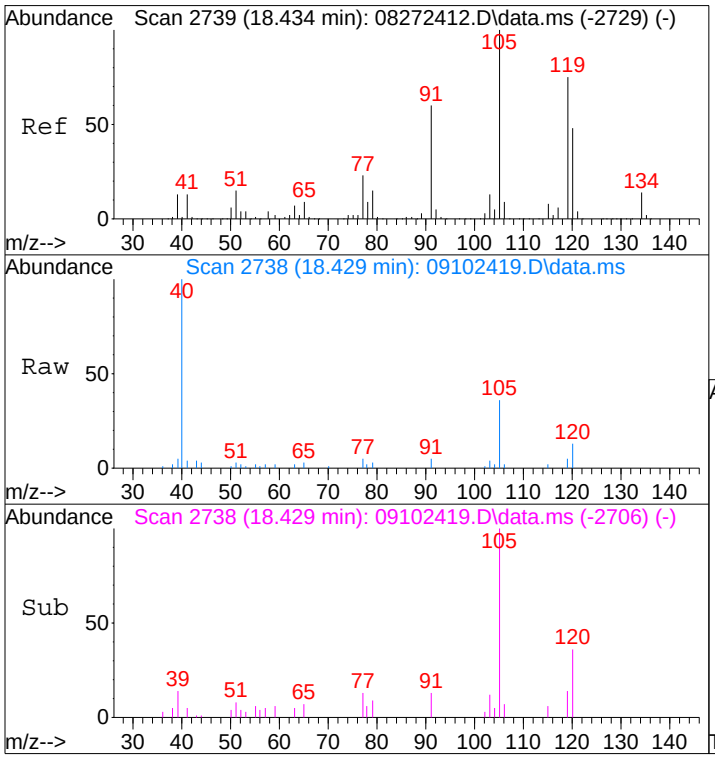


#79
1,3,5-Trimethylbenzene
Concen: 0.05 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:105 Resp: 3290

Ion	Ratio	Lower	Upper
105	100		
120	37.2	24.0	64.0

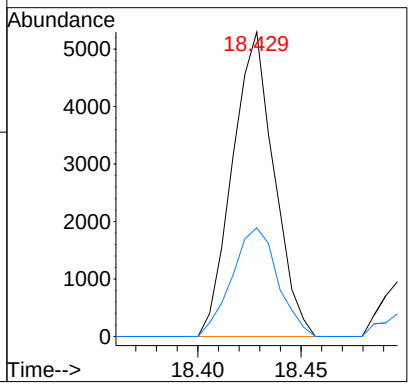


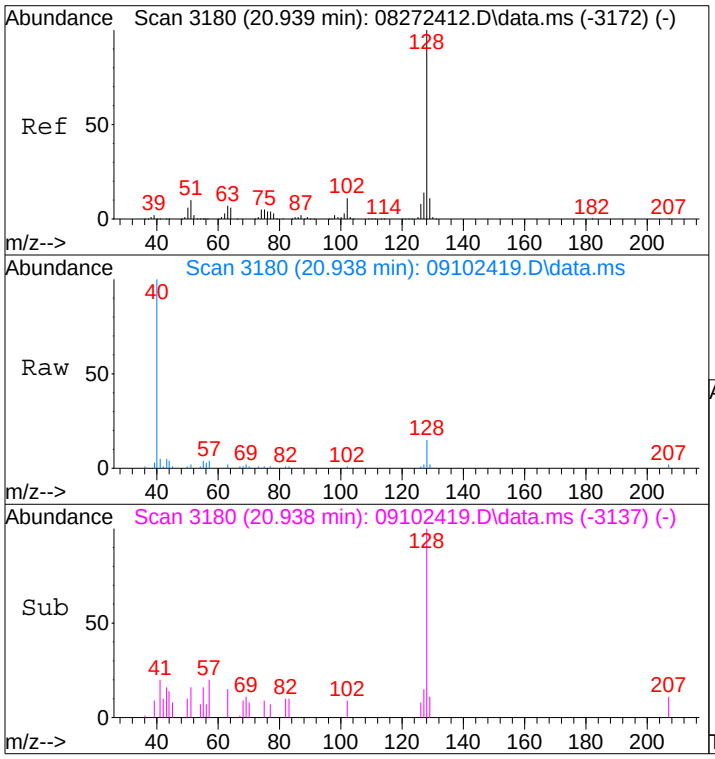


#82
1,2,4-Trimethylbenzene
Concen: 0.12 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:105 Resp: 7419

Ion	Ratio	Lower	Upper
105	100		
120	39.2	28.8	68.8

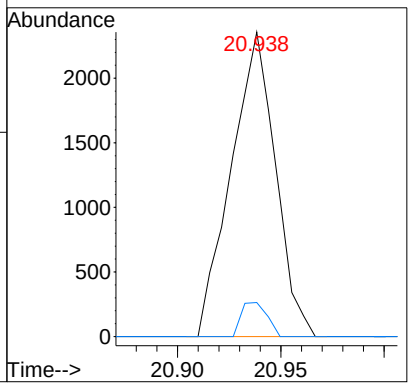




#95
Naphthalene
Concen: 0.05 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09102419.D
Acq: 10 Sep 2024 19:26

Tgt Ion:128 Resp: 3513

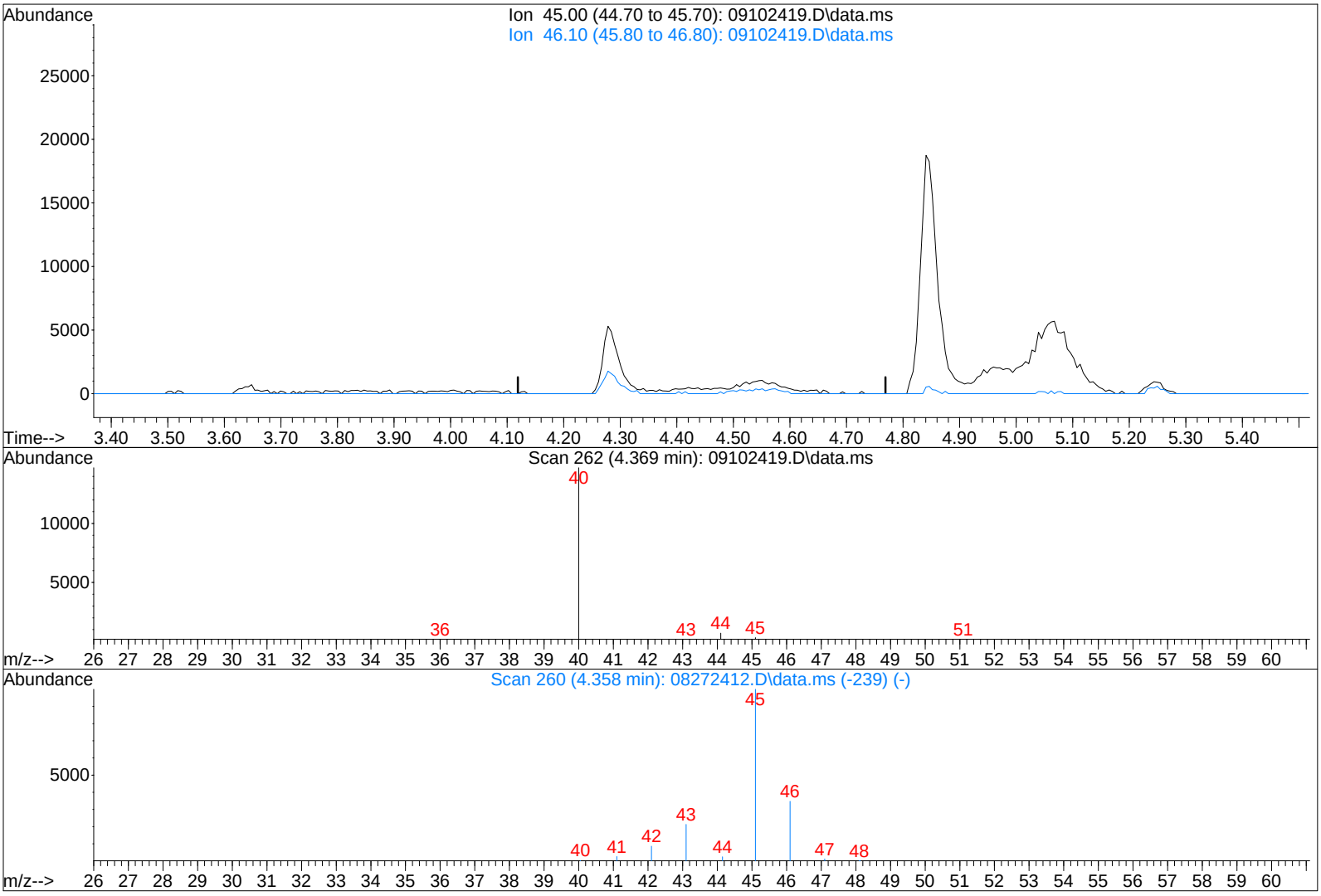
Ion	Ratio	Lower	Upper
128	100		
129	6.5	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(10) Ethanol (T)

4.369min (-4.369) 0.00ng

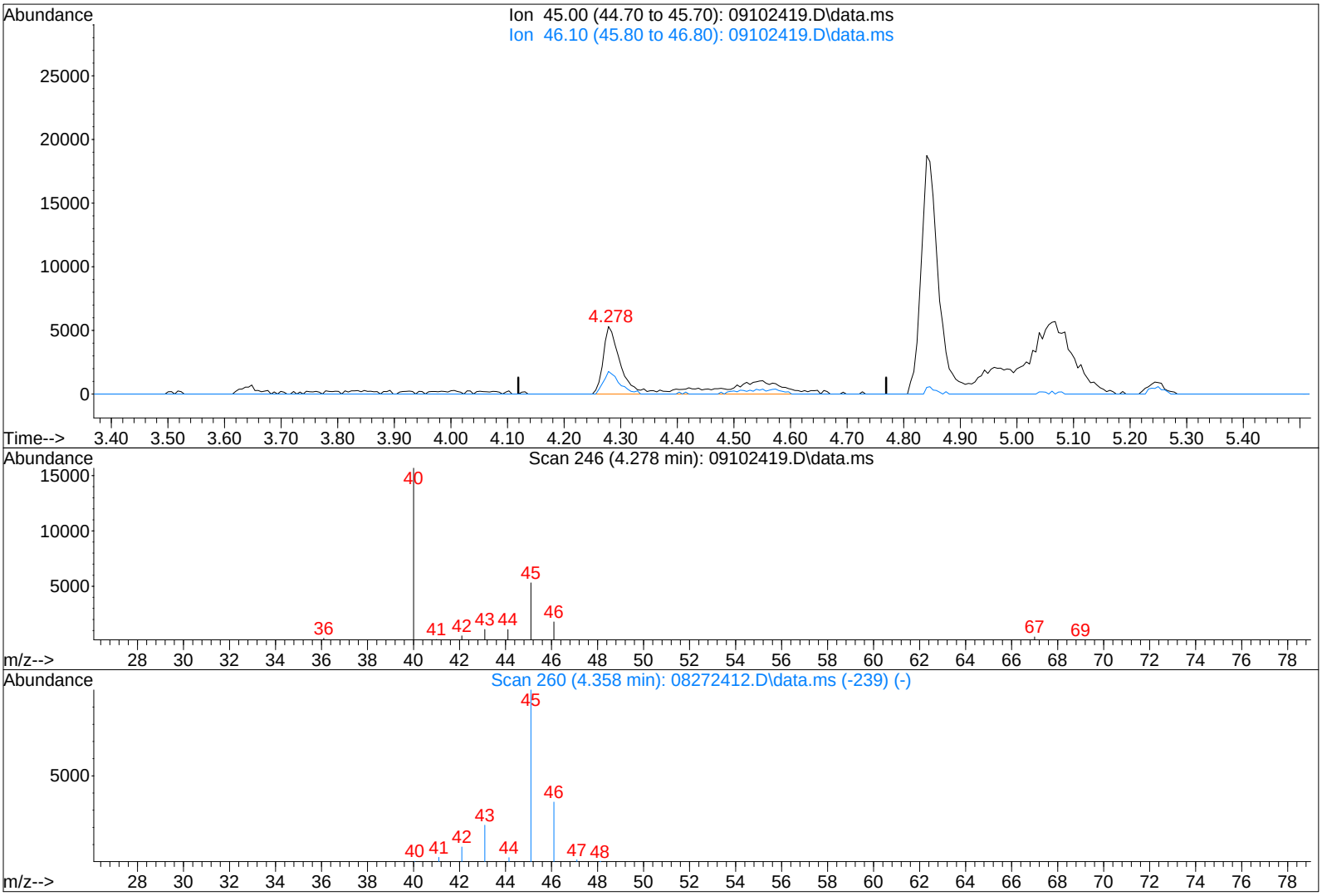
response 0

Ion	Exp%	Act%
45.00	100	0.00
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(10) Ethanol (T)

4.278min (-0.091) 1.36ng m

response 19596

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

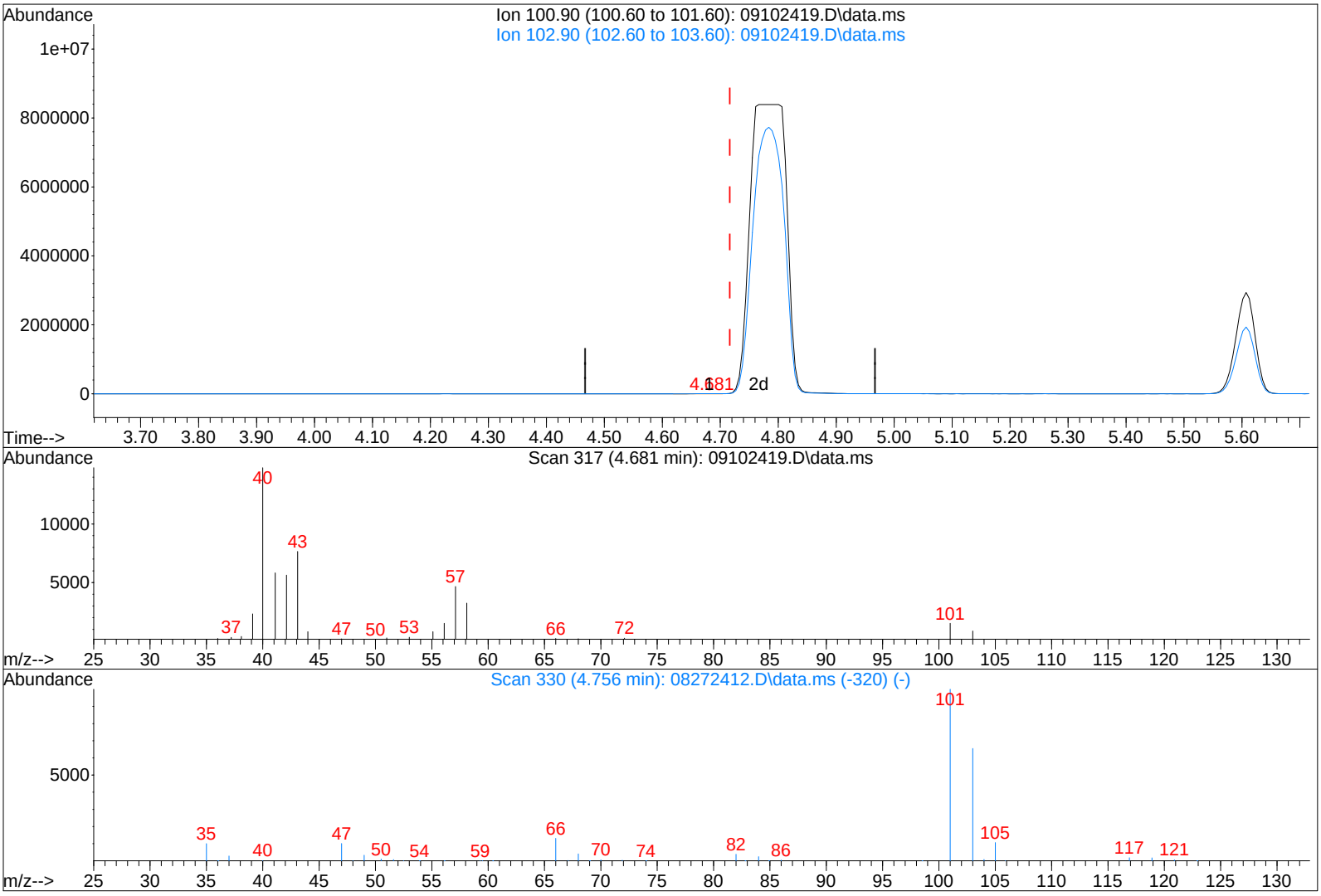
9/11/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(14) Trichlorofluoromethane (T)

4.681min (-0.035) 0.14ng

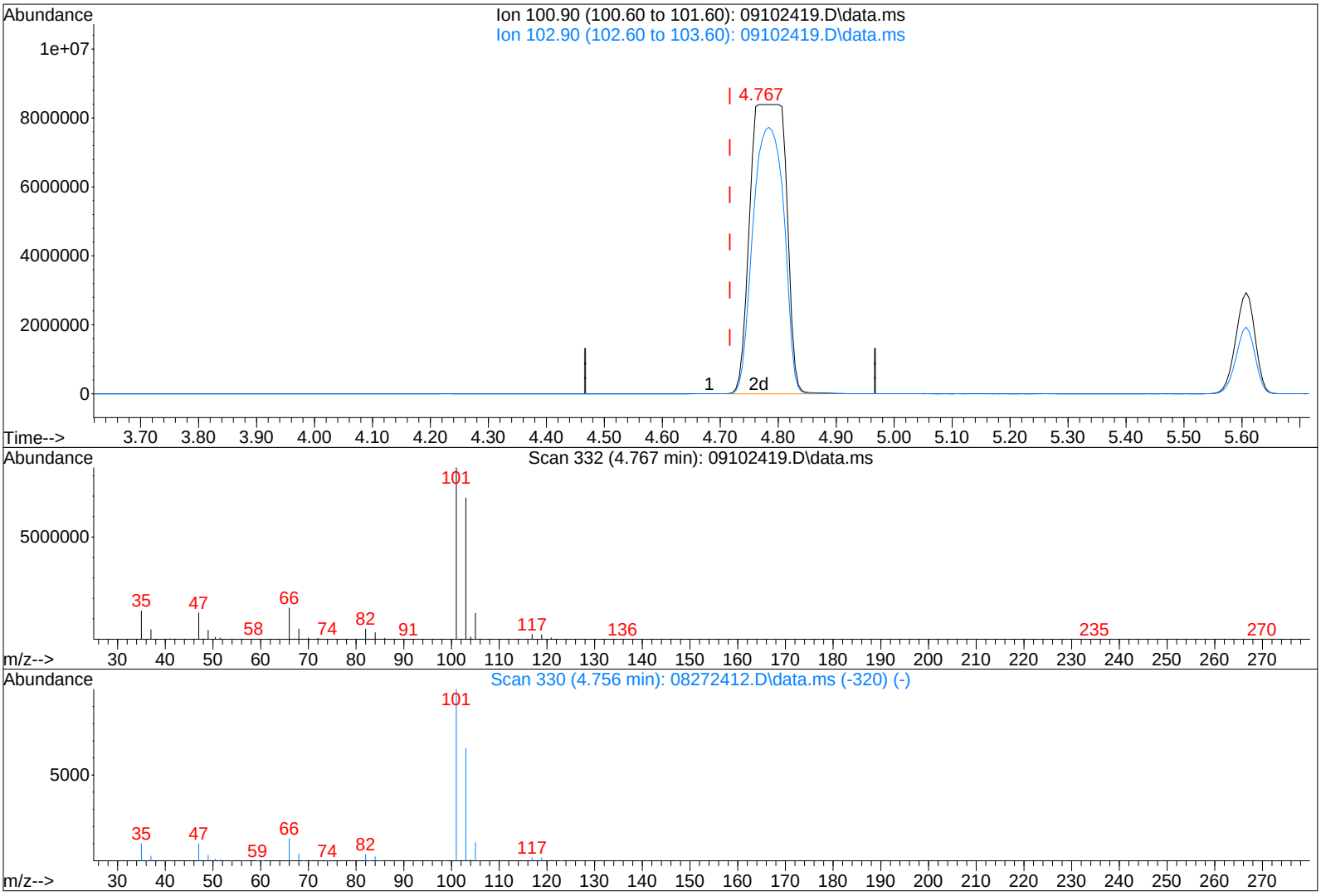
response 4214

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	53.96
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(14) Trichlorofluoromethane (T)

4.767min (+0.050) 1177.21ng m

response 36245737

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.01#
0.00	0.00	0.00
0.00	0.00	0.00

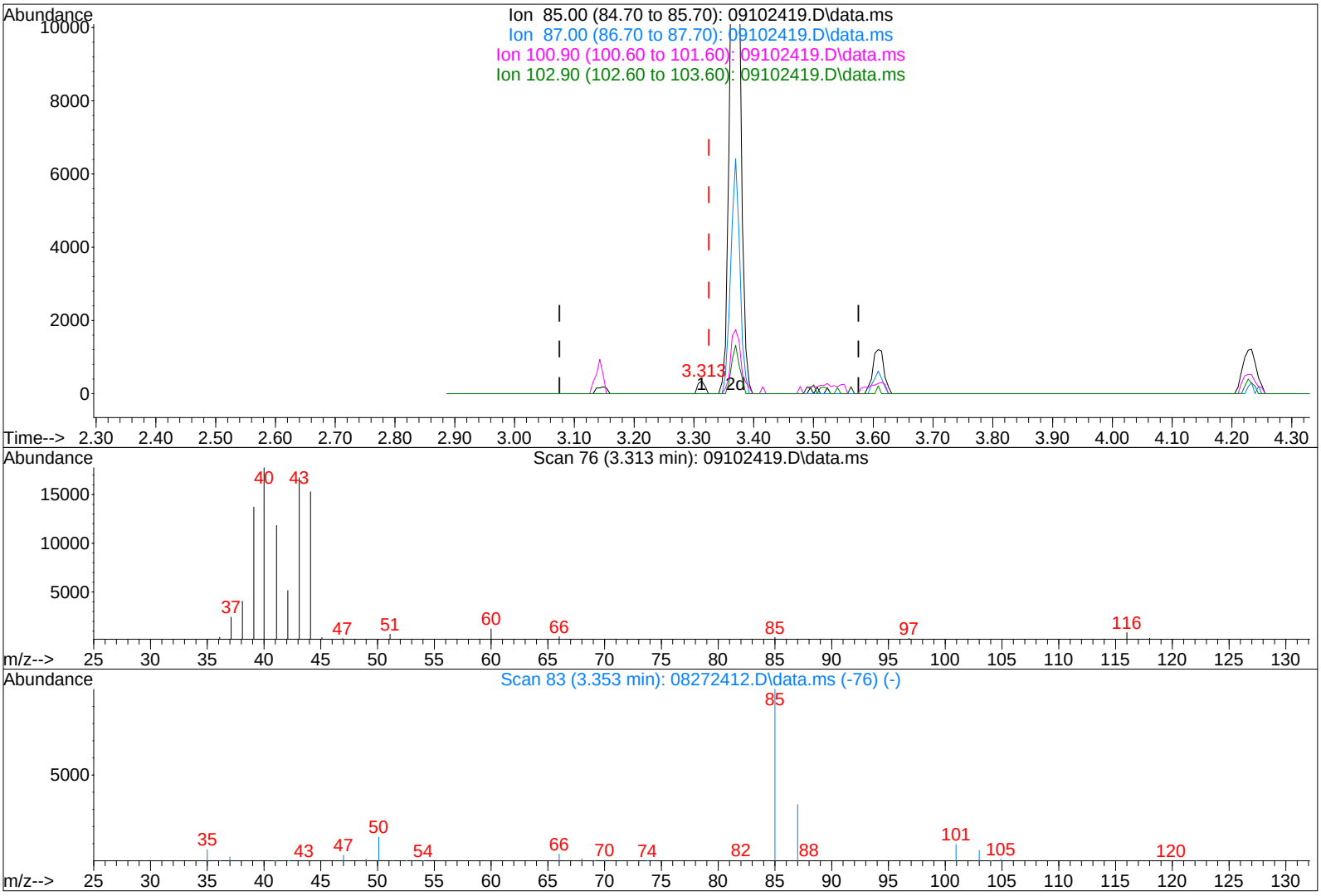
MP 9/11/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.012) 0.01ng

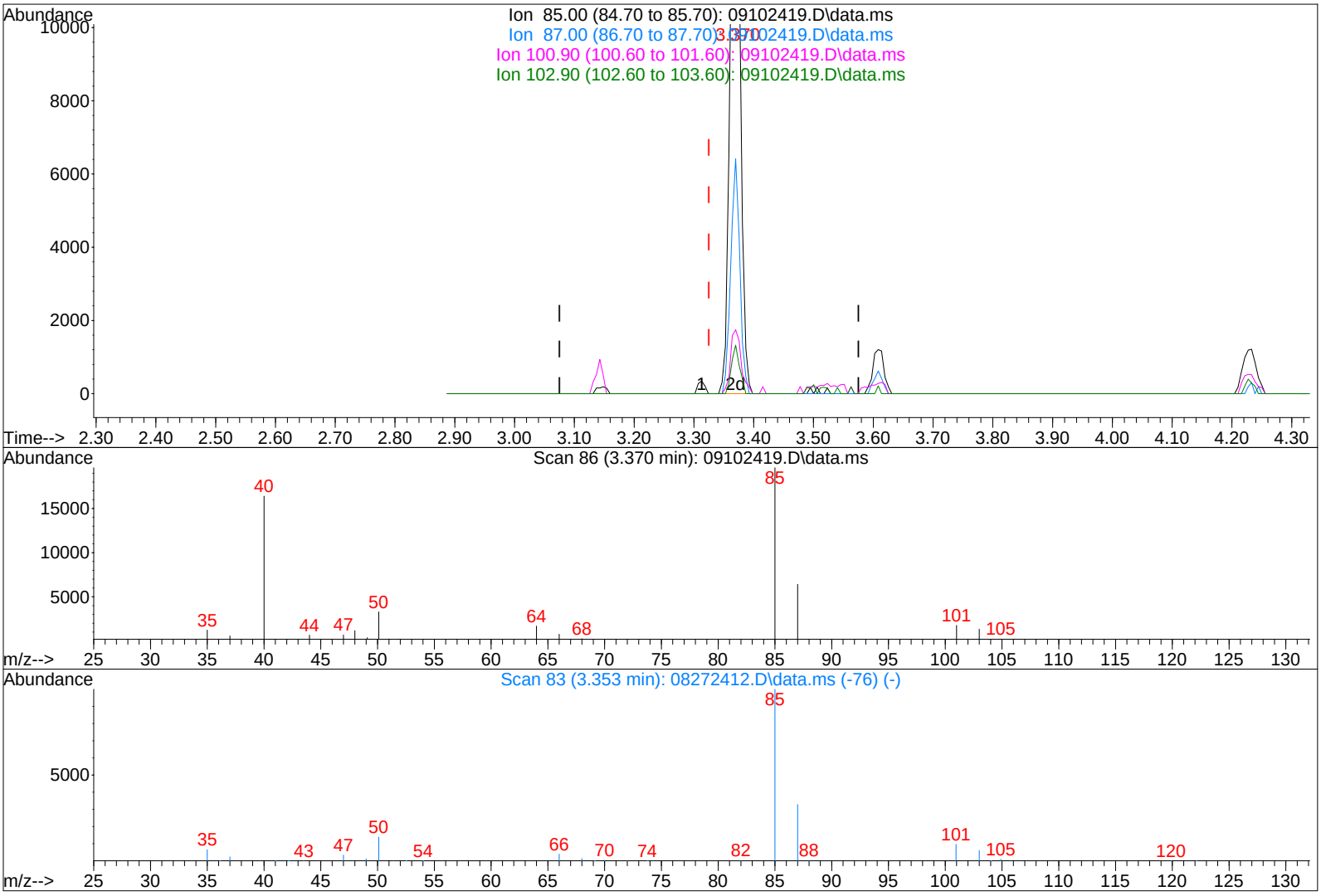
response 285

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.045) 0.65ng m

response 20894

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:53:58 2024 9/11/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

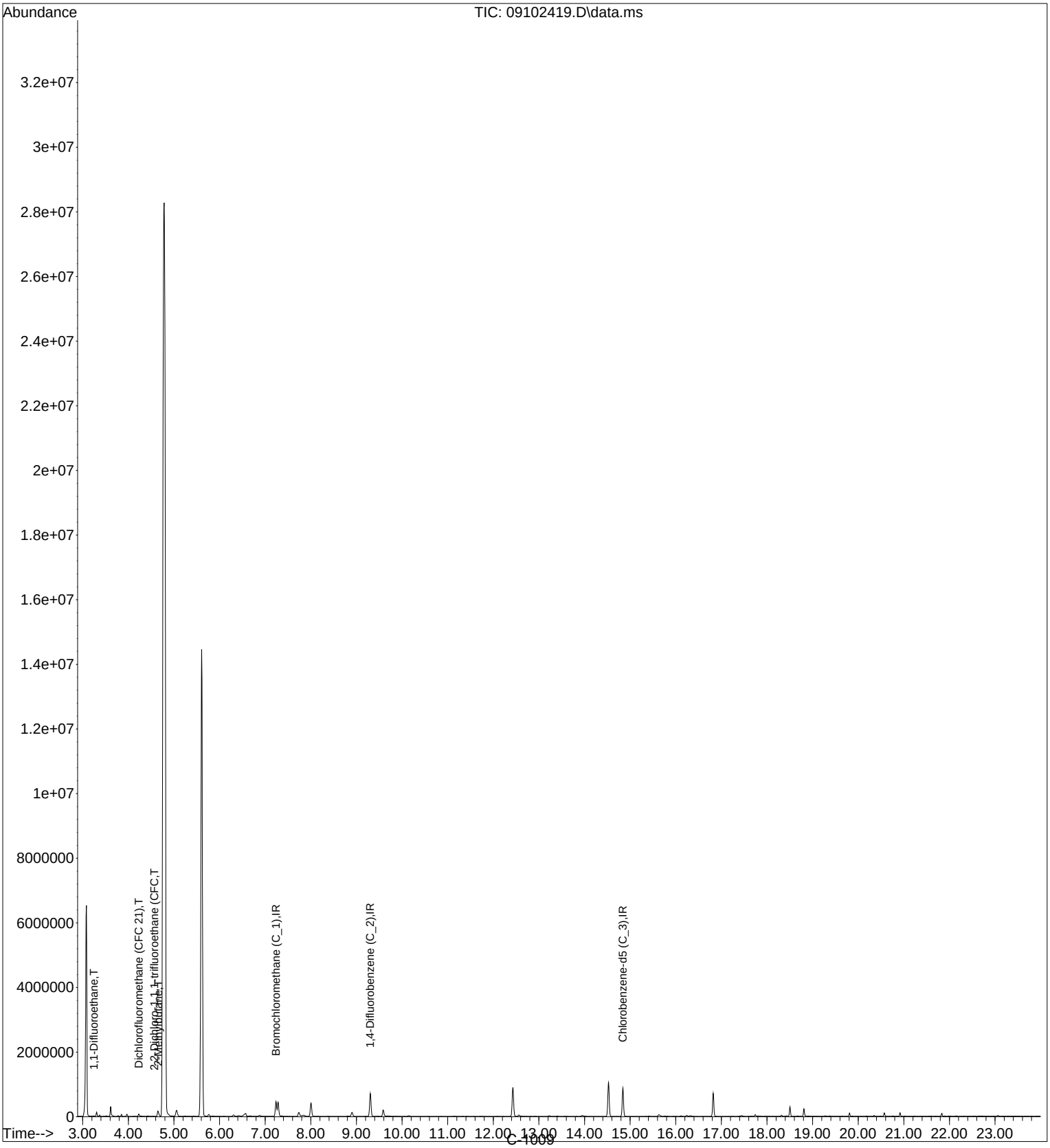
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	132957	12.500 ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	592801	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	176320	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.15	85	224	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.24	65	3660	0.315 ng	94
5) Chlorodifluoromethane ...	3.30	67	384	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.51	65	445	N.D.	
7) Dichlorofluoromethane ...	4.23	67	57984	1.902 ng	97
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	1886	0.102 ng	97
10) 2-Methylbutane	4.66	57	26192	1.652 ng	87
11) Methyl Acetate	5.35	43	2383	N.D.	
12) 2-Methylpentane	6.57	71	60	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	9.53	56	66	N.D.	
18) Dibromomethane	9.80	174	116	N.D.	
20) Methyl Cyclohexane	11.42	55	179	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	16.32	75	730	N.D.	
25) Bromobenzene	17.03	77	110	N.D.	
26) 2-Chlorotoluene	17.61	91	206	N.D.	
27) 4-Chlorotoluene	17.68	91	3356	N.D.	
28) Indane	19.11	117	183	N.D.	
29) Indene	19.21	115	60	N.D.	
30) 1,2,4,5-Tetramethylben...	20.17	119	158	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	423	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	616	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:53:58 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

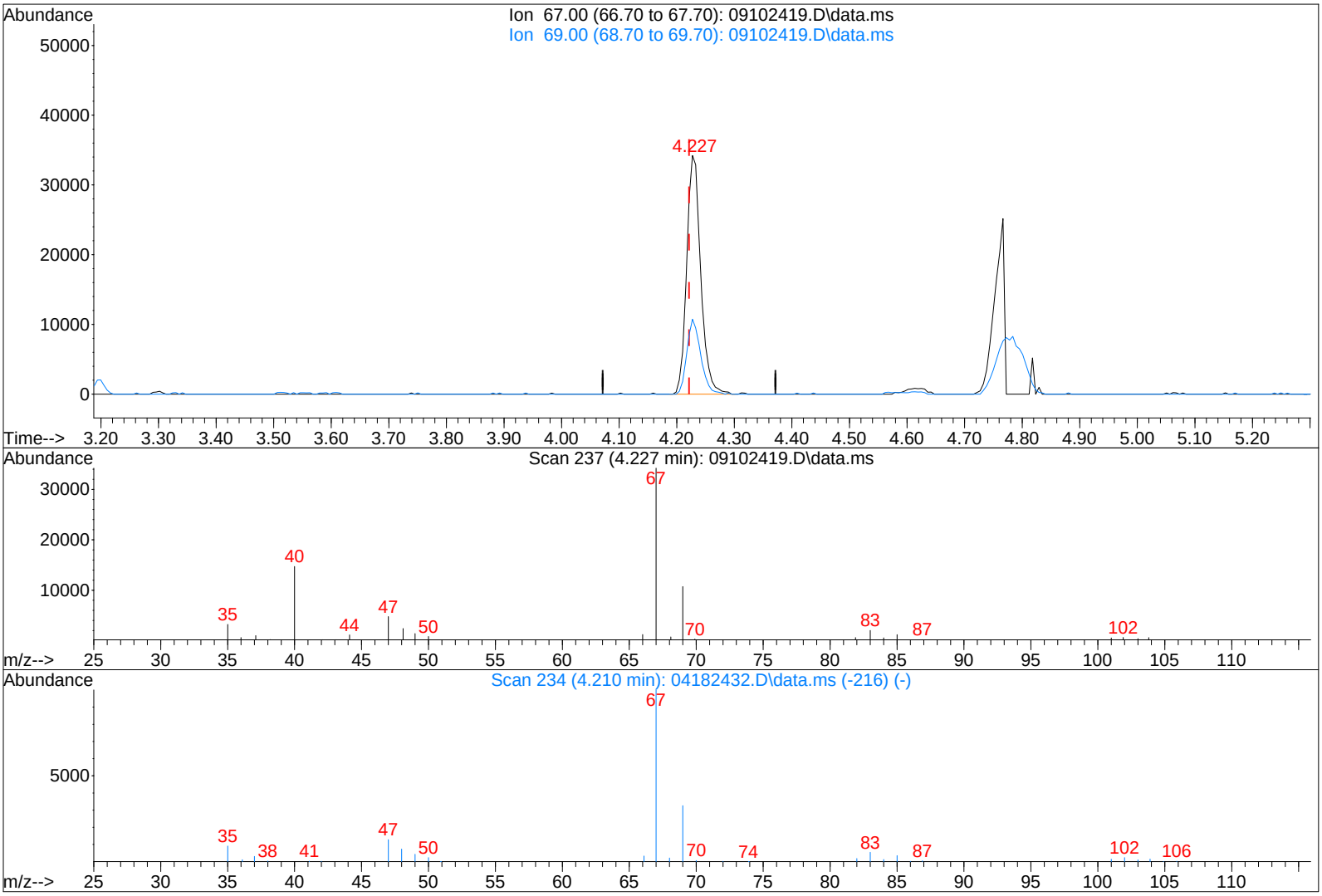


C-1009

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102419.D Vial: 11
Acq On : 10 Sep 2024 19:26 Operator: SC
Sample : P2403661-025 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:53:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102419.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.90ng

response 57984

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	30.94
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112414.D Vial: 1
Acq On : 11 Sep 2024 16:53 Operator: SC
Sample : P2403661-025Dil (10mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 09:02:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	142988	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	624702	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	180831	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	352855	13.188	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%				
57) Toluene-d8 (SS2)	12.43	98	713539	11.248	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
73) Bromofluorobenzene (SS3)	16.82	174	232316	10.950	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.39	85	734	N.D.			
4) Chloromethane	3.52	50	169	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	88	N.D.			
11) Acetonitrile	4.45	41	527	N.D.			
12) Acrolein	4.55	56	404	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.75	101	2102803	63.505	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	2921	0.057	ng		69
16) Acrylonitrile	5.03	53	126	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.36	84	662	N.D.			
20) 3-Chloro-1-propene (Al...	5.40	41	137	N.D.			
21) Trichlorotrifluoroethane	5.58	151	163045	12.429	ng		96
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.68	72	602	0.065	ng	#	39
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	2390	0.384	ng		79
31) n-Hexane	7.31	57	830	N.D.			
32) Chloroform	7.35	83	565	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	366	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.87	56	678	No Calib		#	
41) Benzene	8.89	78	5142	0.088	ng		97
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.20	84	122	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	437	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	1016	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112414.D Vial: 1
Acq On : 11 Sep 2024 16:53 Operator: SC
Sample : P2403661-025Dil (10mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 09:02:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

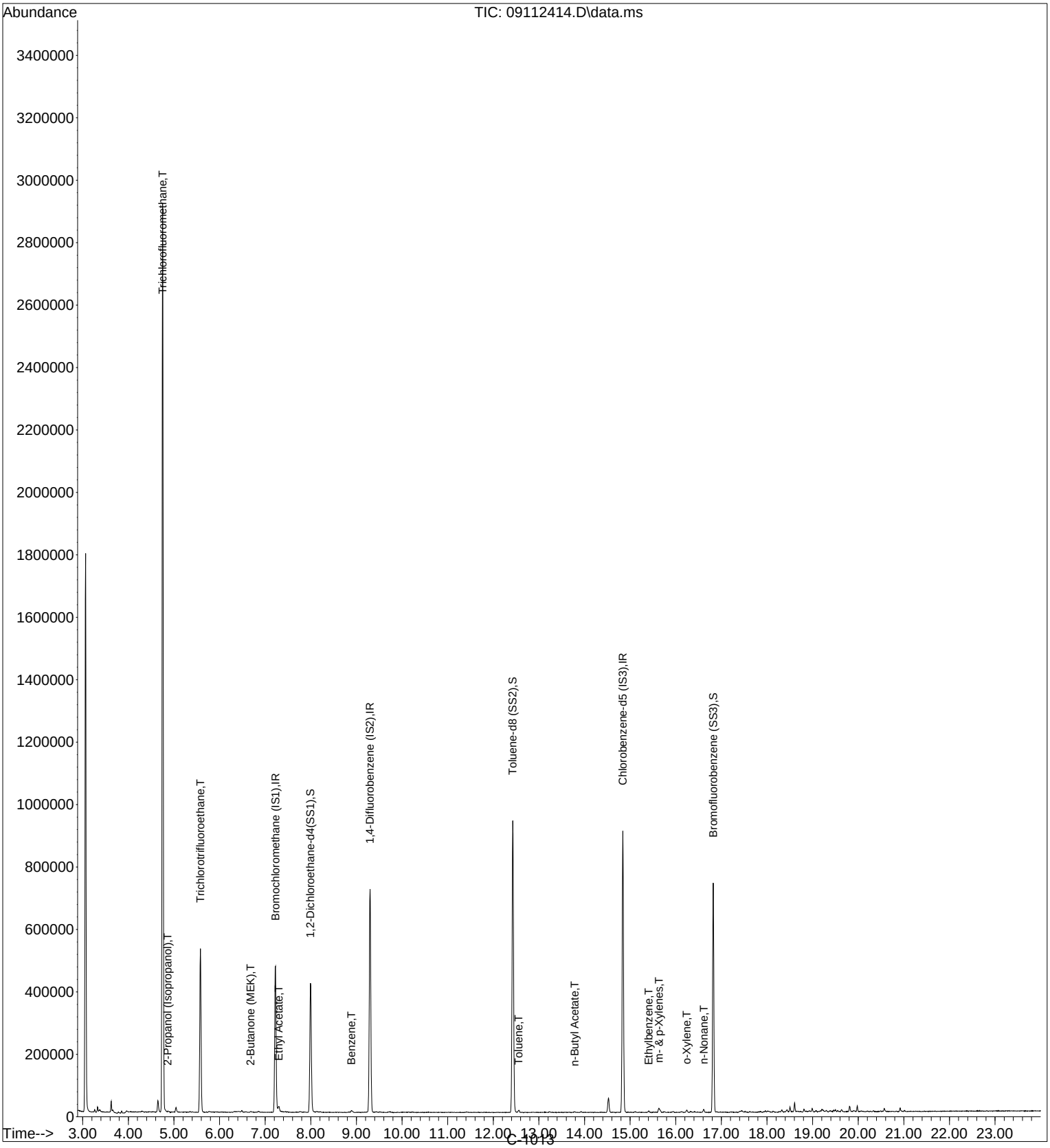
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	6766	0.099 ng		93
59) 2-Hexanone	12.93	43	518	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	2784	0.059 ng	#	86
63) n-Octane	13.92	57	272	N.D.		
64) Tetrachloroethene	14.03	166	220	N.D.		
65) Chlorobenzene	14.89	112	193	N.D.		
66) Ethylbenzene	15.41	91	4222	0.054 ng		92
67) m- & p-Xylenes	15.63	91	13295	0.207 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	203	N.D.		
70) o-Xylene	16.24	91	5880	0.094 ng		100
71) n-Nonane	16.62	43	5089	0.124 ng		87
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	529	N.D.		
75) alpha-Pinene	17.52	93	812	N.D.		
76) n-Propylbenzene	17.68	91	636	N.D.		
77) 3-Ethyltoluene	17.04	105	529	No Calib	#	
78) 4-Ethyltoluene	17.85	105	711	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	585	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	529	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	2051	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	122	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	562	N.D.		
87) sec-Butylbenzene	18.74	105	276	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	815	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	529	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	147	N.D.		
91) d-Limonene	19.09	68	118	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	547	N.D.		
95) Naphthalene	20.94	128	794	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	258	N.D.		
98) Cyclohexanone	15.20	55	261	No Calib	#	
99) tert-Butylbenzene	18.43	119	365	N.D.		
100) n-Butylbenzene	19.39	91	410	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112414.D Vial: 1
Acq On : 11 Sep 2024 16:53 Operator: SC
Sample : P2403661-025Dil (10mL) Inst : MS09
Misc : S37-06062402

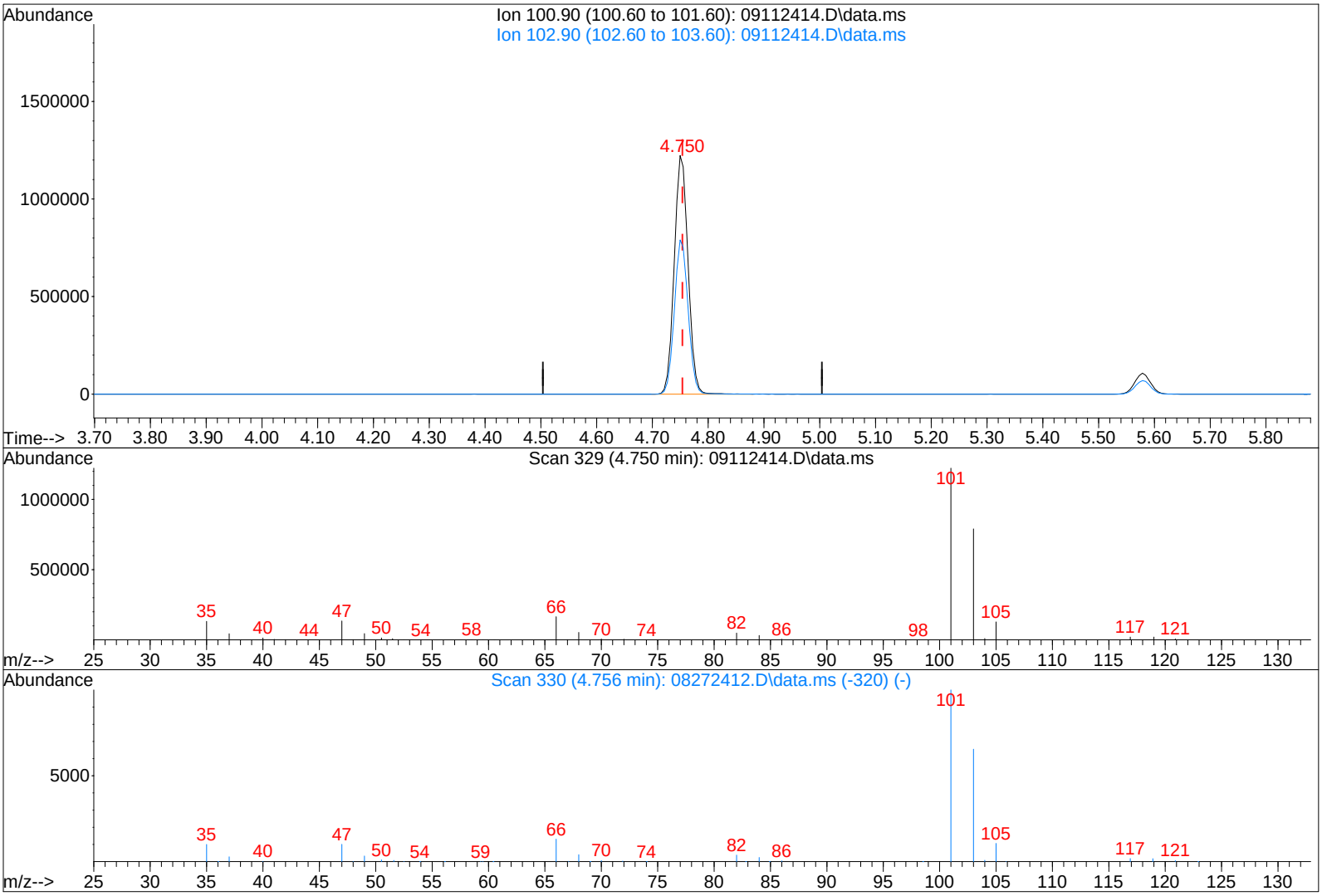
Quant Time: Sep 12 09:02:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112414.D Vial: 1
Acq On : 11 Sep 2024 16:53 Operator: SC
Sample : P2403661-025Dil (10mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112414.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 63.50ng

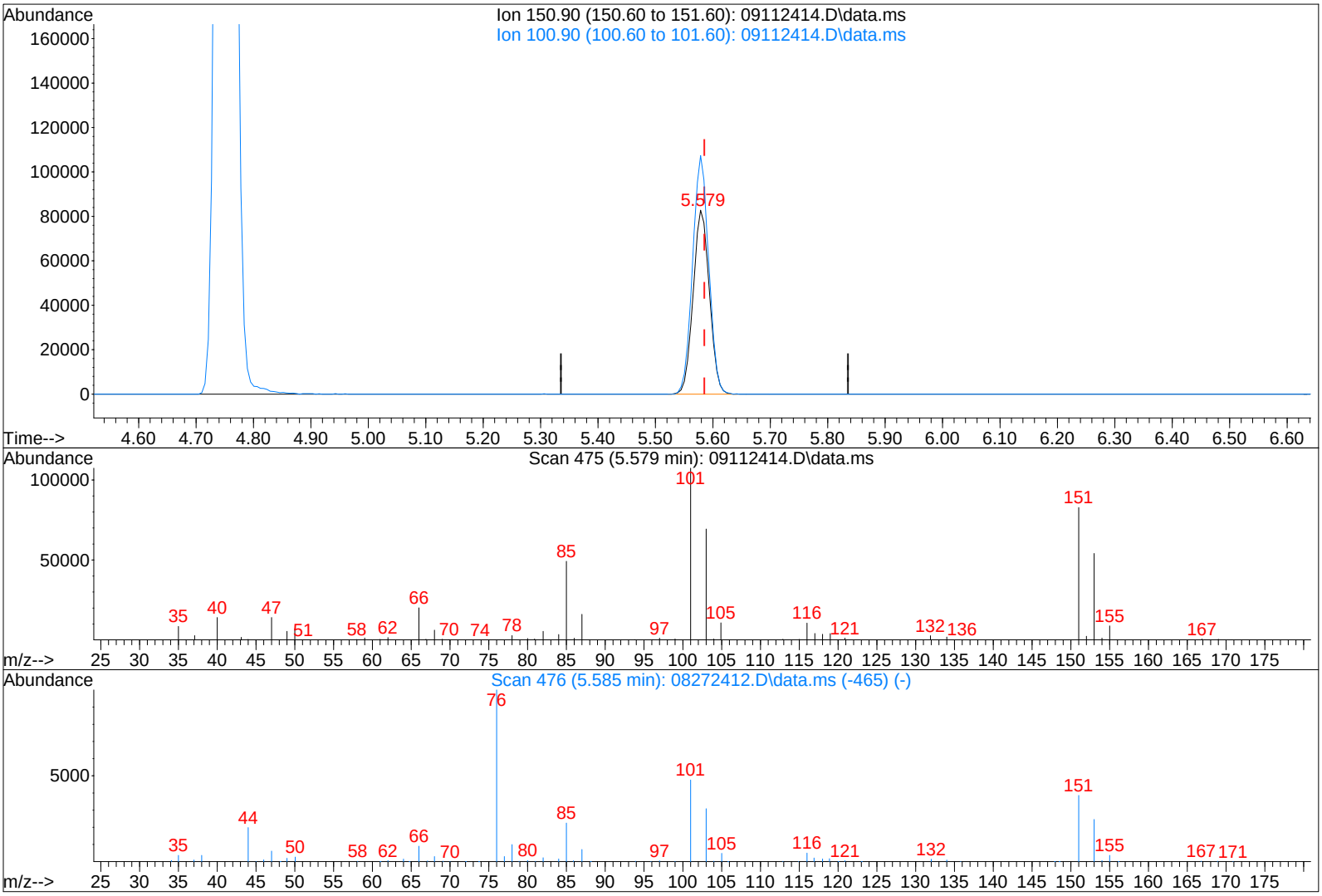
response 2102803

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.50
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112414.D Vial: 1
Acq On : 11 Sep 2024 16:53 Operator: SC
Sample : P2403661-025Dil (10mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112414.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.007) 12.43ng

response 163045

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	128.19
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102419.D
Acq On : 10 Sep 2024 19:26
Operator : SC
Sample : P2403661-025 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102419.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.245	60	64	69	rBV	15141	18310	0.02%	0.013%
2	3.302	69	74	81	rVV2	130986	180816	0.17%	0.127%
3	3.370	81	86	91	rVB	40201	45453	0.04%	0.032%
4	3.517	106	112	121	rBV2	16080	30251	0.03%	0.021%
5	3.614	123	129	150	rVB2	296428	480164	0.46%	0.336%
6	3.773	153	157	163	rBV	19605	26935	0.03%	0.019%
7	3.847	165	170	176	rVB	60010	75982	0.07%	0.053%
8	3.966	186	191	200	rVB	65250	100314	0.10%	0.070%
9	4.108	211	216	224	rBV2	4412	12232	0.01%	0.009%
10	4.227	231	237	243	rBV	68780	112844	0.11%	0.079%
11	4.278	243	246	256	rVB	10288	19350	0.02%	0.014%
12	4.426	264	272	280	rBV5	8392	26061	0.02%	0.018%
13	4.647	303	311	322	rBV3	159825	352792	0.34%	0.247%
14	4.784	322	335	364	rVV2	28256973	104348548	100.00%	73.008%
15	5.056	375	383	394	rVB	181927	455048	0.44%	0.318%
16	5.244	411	416	423	rVB3	6603	12934	0.01%	0.009%
17	5.425	441	448	456	rBV4	6323	14650	0.01%	0.010%
18	5.607	467	480	498	rBV	14449436	33553705	32.16%	23.476%
19	5.766	500	508	517	rVB	52906	116723	0.11%	0.082%
20	5.851	517	523	527	rBV3	6624	12402	0.01%	0.009%
21	6.305	596	603	611	rBV2	42749	101454	0.10%	0.071%
22	6.425	615	624	633	rVV3	19509	62695	0.06%	0.044%
23	6.572	633	650	661	rVV2	87073	312297	0.30%	0.219%
24	6.669	661	667	673	rVB	13292	28712	0.03%	0.020%
25	6.879	694	704	717	rBV3	30053	76961	0.07%	0.054%
26	7.237	758	767	771	rBV	461442	977408	0.94%	0.684%
27	7.282	771	775	785	rVV	439889	894913	0.86%	0.626%
28	7.367	785	790	796	rVB3	11915	26980	0.03%	0.019%
29	7.736	847	855	865	rBV	122432	319273	0.31%	0.223%
30	7.844	865	874	888	rVB2	33333	131306	0.13%	0.092%

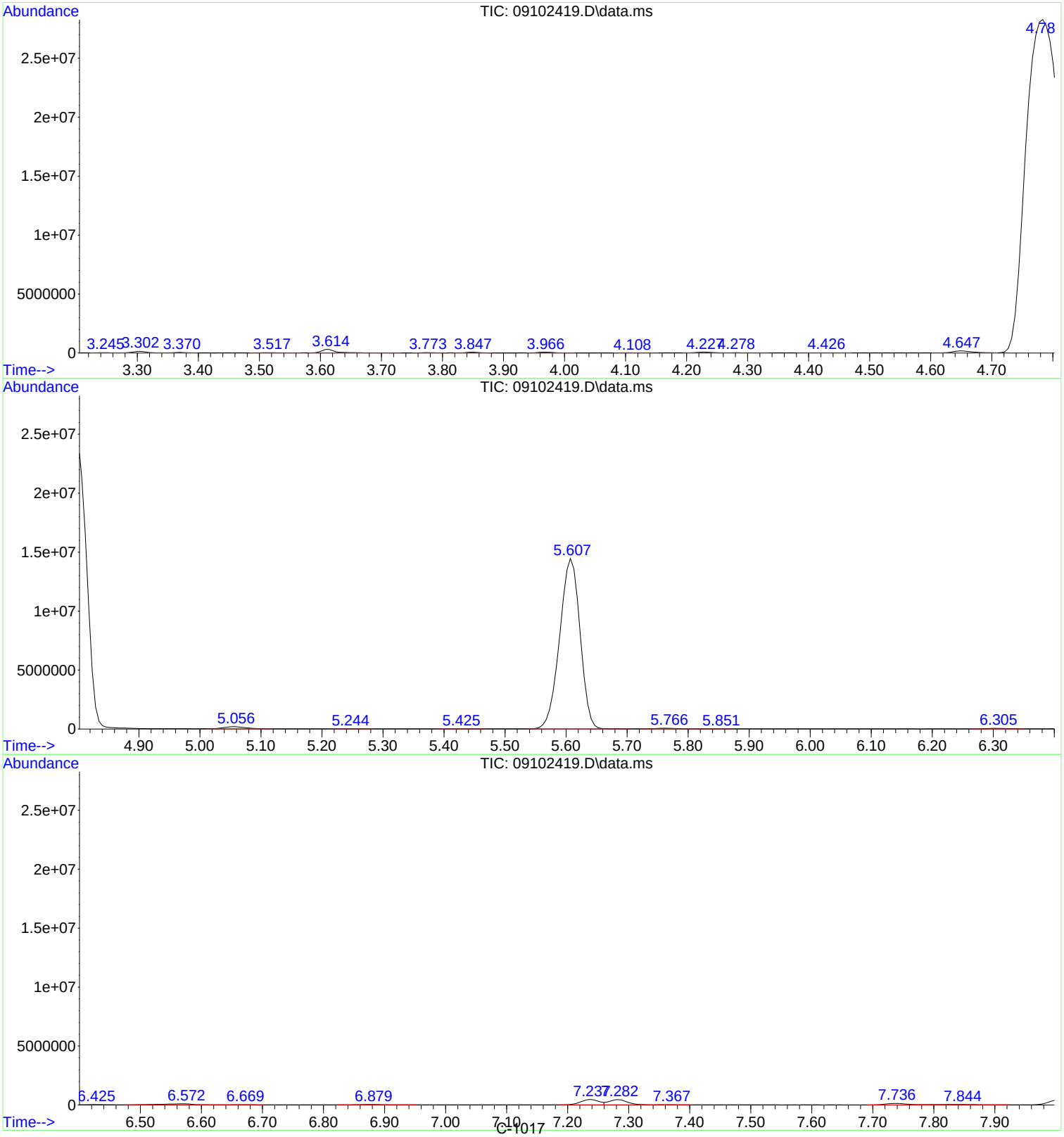
Sum of corrected areas: 142927513

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102419.D
Acq On : 10 Sep 2024 19:26
Operator : SC
Sample : P2403661-025 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102419.D
Acq On : 10 Sep 2024 19:266
Operator : SCC
Sample : P2403661-025 (400mL))
Misc : S37-060624022
ALS Vial : 11 Sample Multiplier: 11

MA 9/29/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:19:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	134151	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	590508	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	175009	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	341682	13.611	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
57) Toluene-d8 (SS2)	12.43	98	669511	10.905	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%				
73) Bromofluorobenzene (SS3)	16.82	174	220374	10.733	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.52	50	199	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	7765m	0.533	ng		
11) Acetonitrile	4.44	41	701	N.D.			
12) Acrolein	4.55	56	635	0.057	ng	#	49
13) Acetone	4.65	58	5350m	0.435	ng		
14) Trichlorofluoromethane	4.69	101	527	N.D.			
15) 2-Propanol (Isopropanol)	4.86	45	928	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	617	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1172	0.095	ng	#	80
22) Carbon Disulfide	5.62	76	1731	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	1340	0.154	ng	#	45
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D. d			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.01	62	104	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	1457	No Calib		#	
41) Benzene	8.89	78	2938	0.053	ng		89
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:19:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

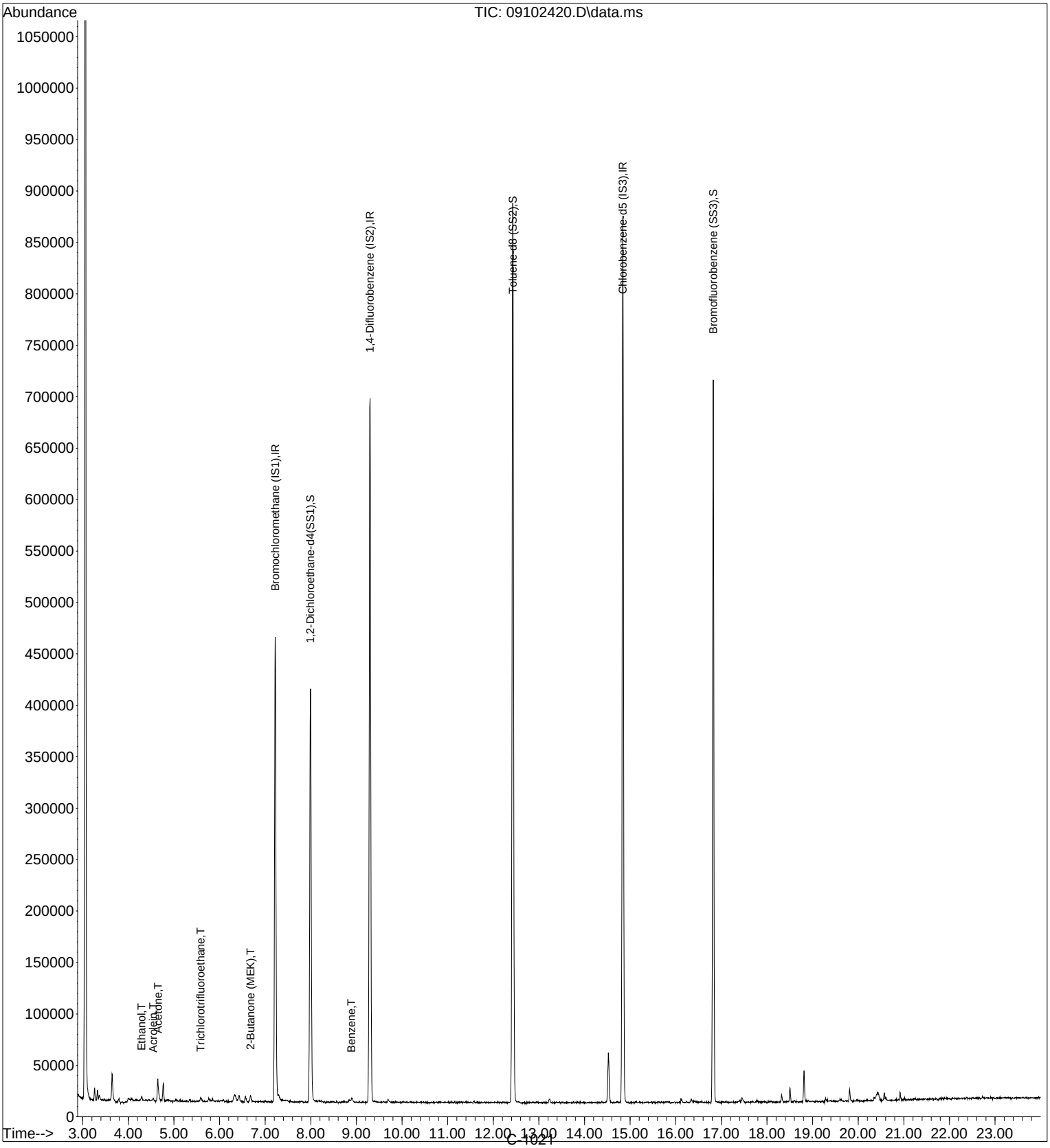
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	1513	N.D.		
59) 2-Hexanone	12.93	43	1014	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	306	N.D.		
67) m- & p-Xylenes	15.65	91	194	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	189	N.D.		
71) n-Nonane	16.61	43	183	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	289	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.43	105	128	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.66	146	137	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	137	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	260	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	396	N.D.		
95) Naphthalene	20.94	128	333	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	172	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.50	119	307	N.D.		
100) n-Butylbenzene	19.38	91	138	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:19:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:19:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

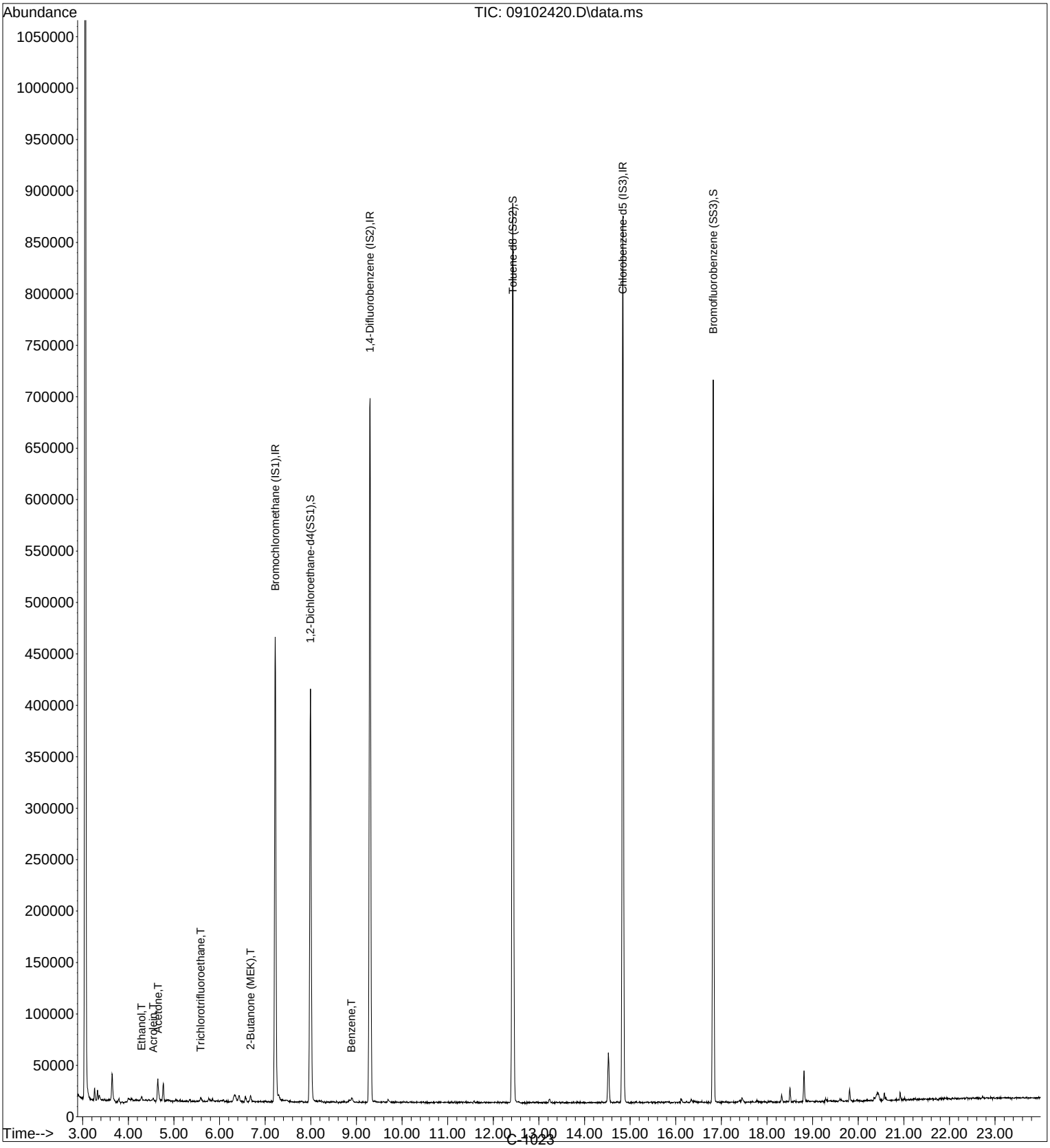
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	134151	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	590508	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	175009	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	341682	13.611	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
57) Toluene-d8 (SS2)	12.43	98	669511	10.905	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.28%				
73) Bromofluorobenzene (SS3)	16.82	174	220374	10.733	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.84%				
Target Compounds							Qvalue
10) Ethanol	4.29	45	7765m	0.533	ng		
12) Acrolein	4.55	56	635	0.057	ng	#	49
13) Acetone	4.65	58	5350m	0.435	ng		
21) Trichlorotrifluoroethane	5.58	151	1172	0.095	ng	#	80
27) 2-Butanone (MEK)	6.68	72	1340	0.154	ng	#	45
41) Benzene	8.89	78	2938	0.053	ng		89

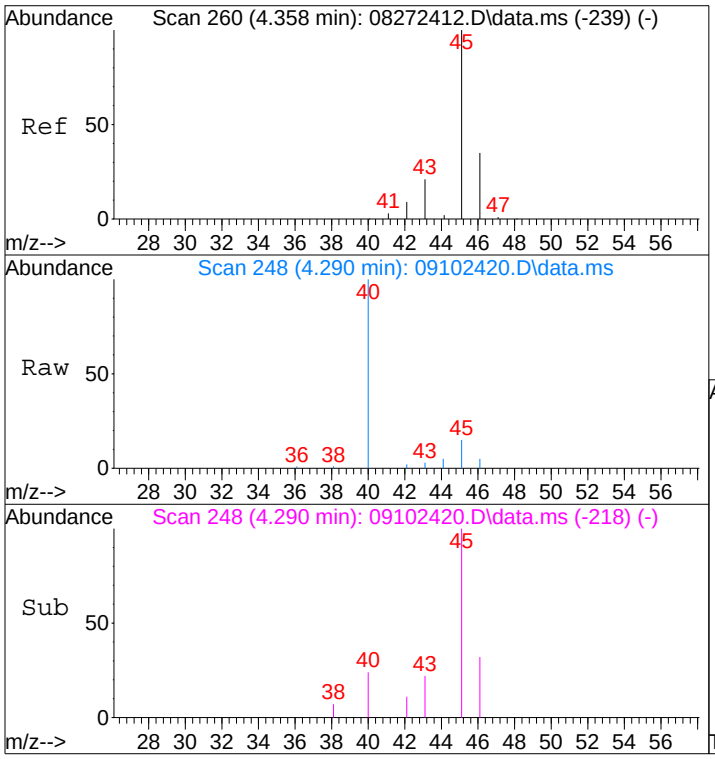
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:19:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

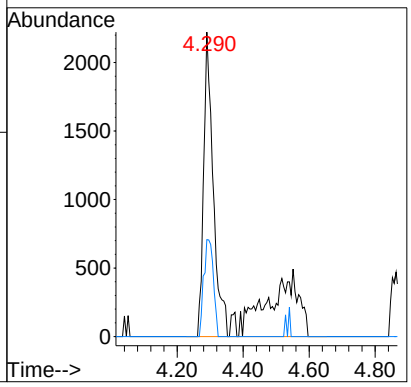


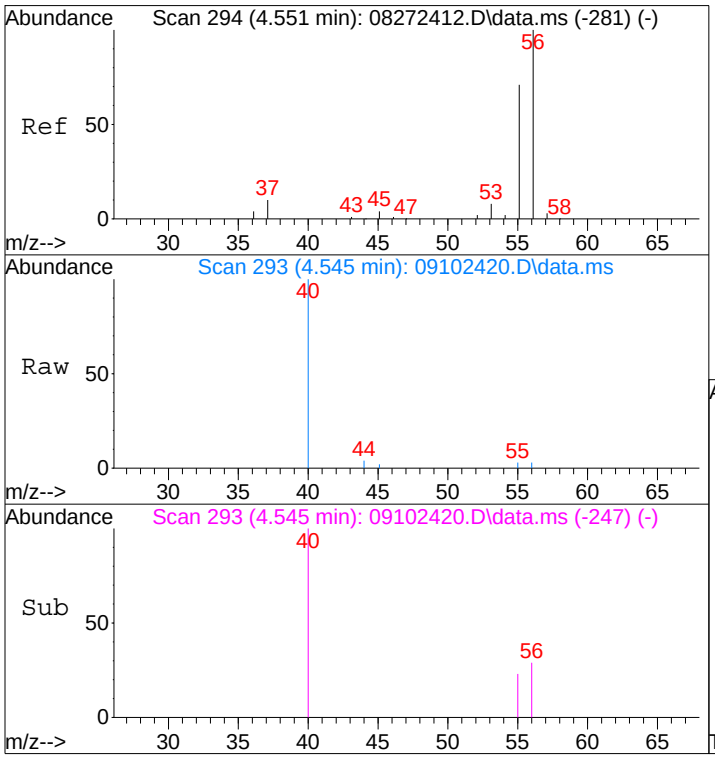


#10
Ethanol
Concen: 0.53 ng m
RT: 4.29 min Scan# 248
Delta R.T. -0.079 min
Lab File: 09102420.D
Acq: 10 Sep 2024 19:58

Tgt Ion: 45 Resp: 7765

Ion	Ratio	Lower	Upper
45	100		
46	0.0	14.2	54.2#

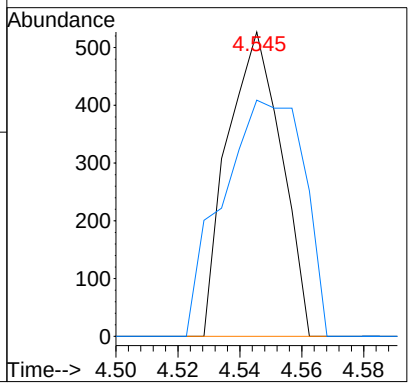


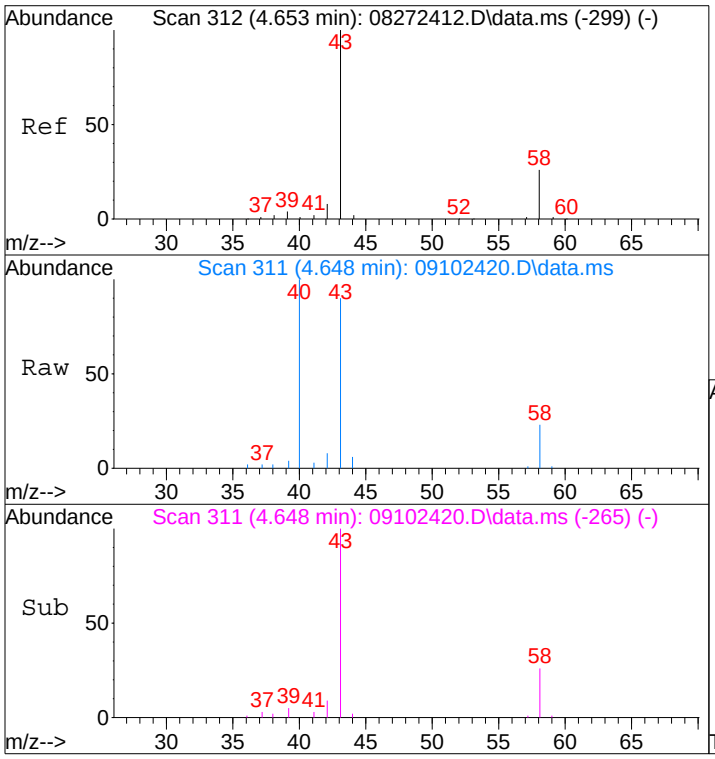


#12
Acrolein
Concen: 0.06 ng
RT: 4.55 min Scan# 293
Delta R.T. 0.014 min
Lab File: 09102420.D
Acq: 10 Sep 2024 19:58

Tgt Ion: 56 Resp: 635

Ion	Ratio	Lower	Upper
56	100		
55	118.0	54.7	94.7#

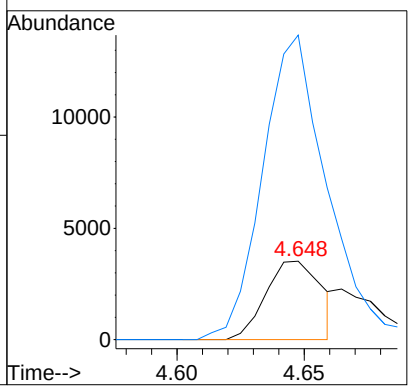


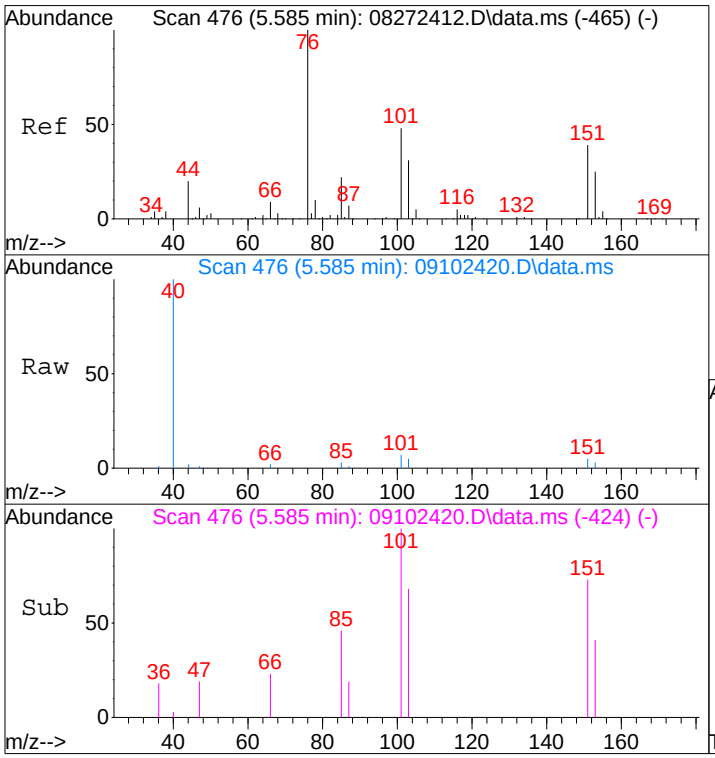


#13
Acetone
Concen: 0.44 ng m
RT: 4.65 min Scan# 311
Delta R.T. 0.009 min
Lab File: 09102420.D
Acq: 10 Sep 2024 19:58

Tgt Ion: 58 Resp: 5350

Ion	Ratio	Lower	Upper
58	100		
43	464.6	347.3	407.3#

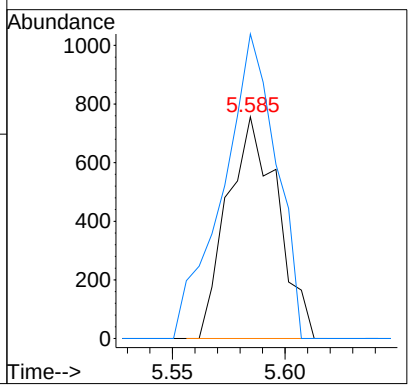


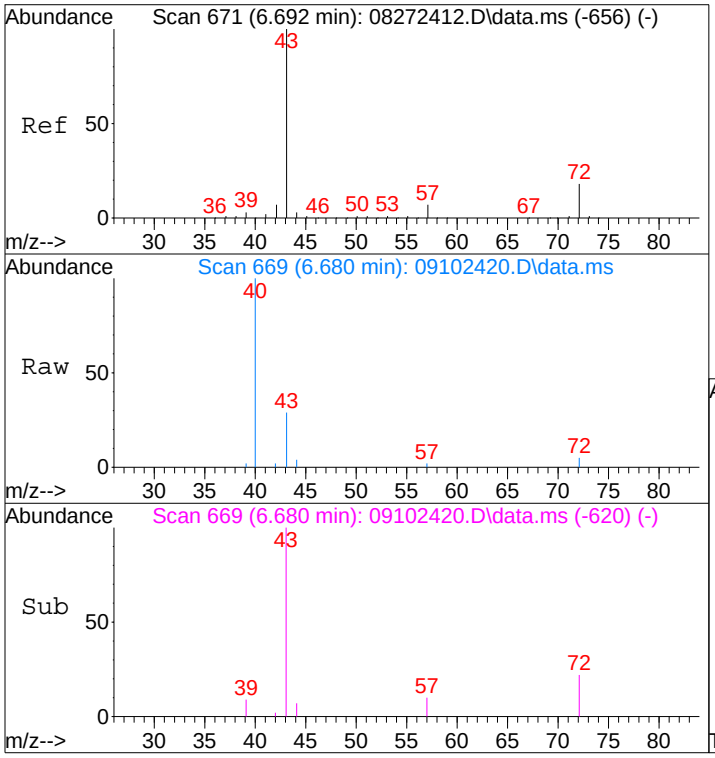


#21
Trichlorotrifluoroethane
Concen: 0.10 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.043 min
Lab File: 09102420.D
Acq: 10 Sep 2024 19:58

Tgt Ion:151 Resp: 1172

Ion	Ratio	Lower	Upper
151	100		
101	146.4	103.4	143.4#

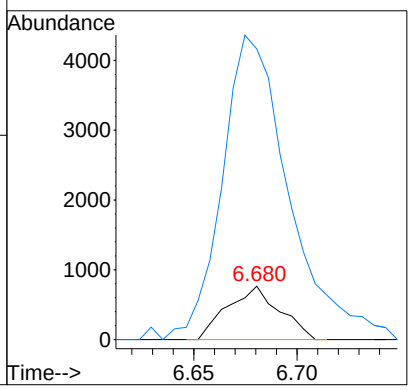


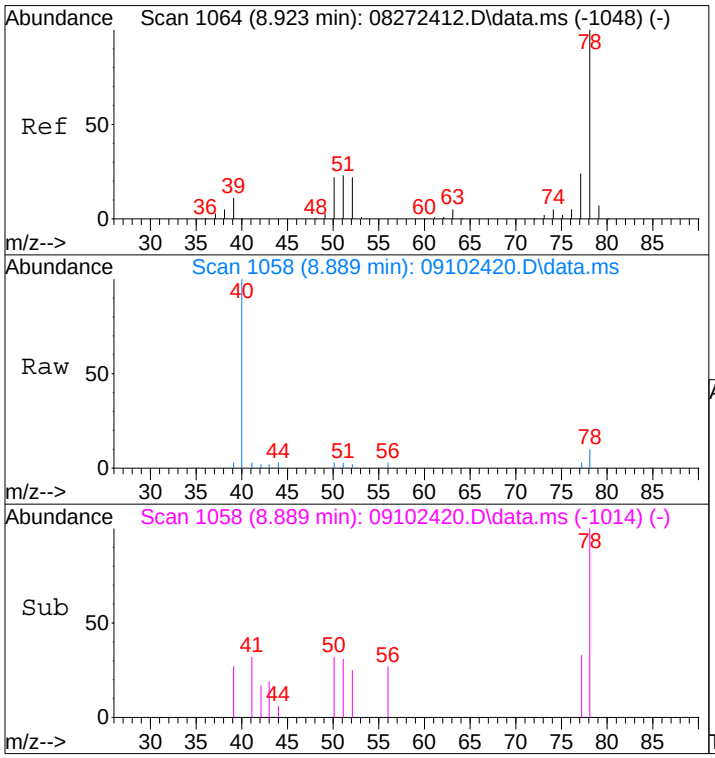


#27
2-Butanone (MEK)
Concen: 0.15 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.027 min
Lab File: 09102420.D
Acq: 10 Sep 2024 19:58

Tgt Ion: 72 Resp: 1340

Ion	Ratio	Lower	Upper
72	100		
43	732.6	548.0	588.0#

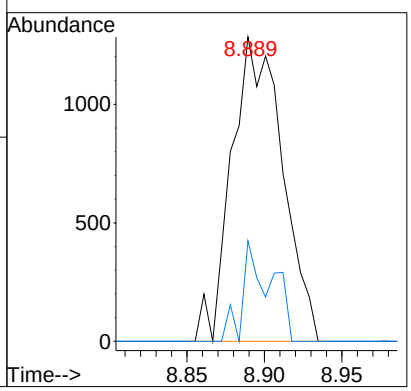




#41
Benzene
Concen: 0.05 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.002 min
Lab File: 09102420.D
Acq: 10 Sep 2024 19:58

Tgt Ion: 78 Resp: 2938

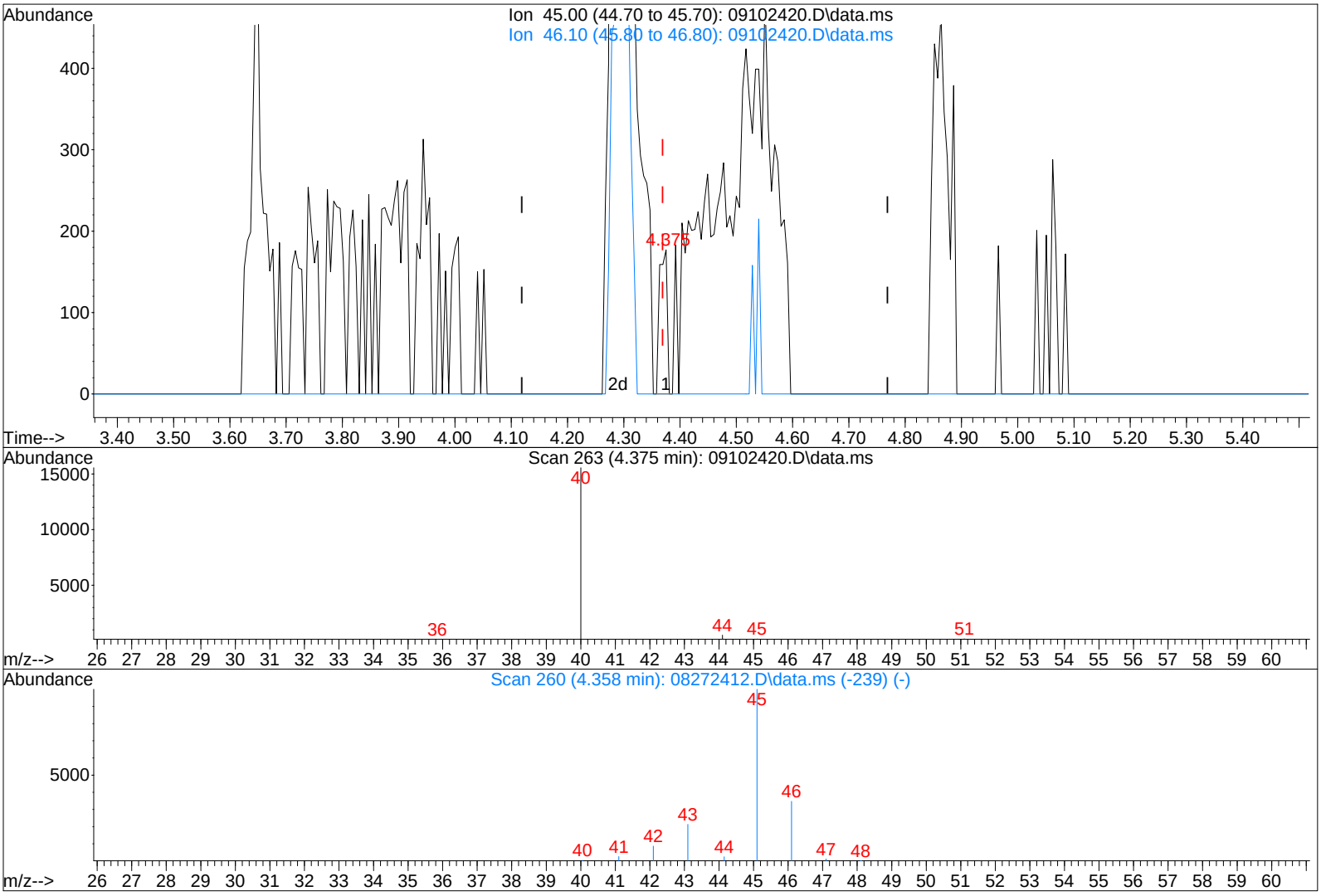
Ion	Ratio	Lower	Upper
78	100		
77	18.7	3.9	43.9



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102420.D\data.ms

(10) Ethanol (T)

4.375min (+0.006) 0.01ng

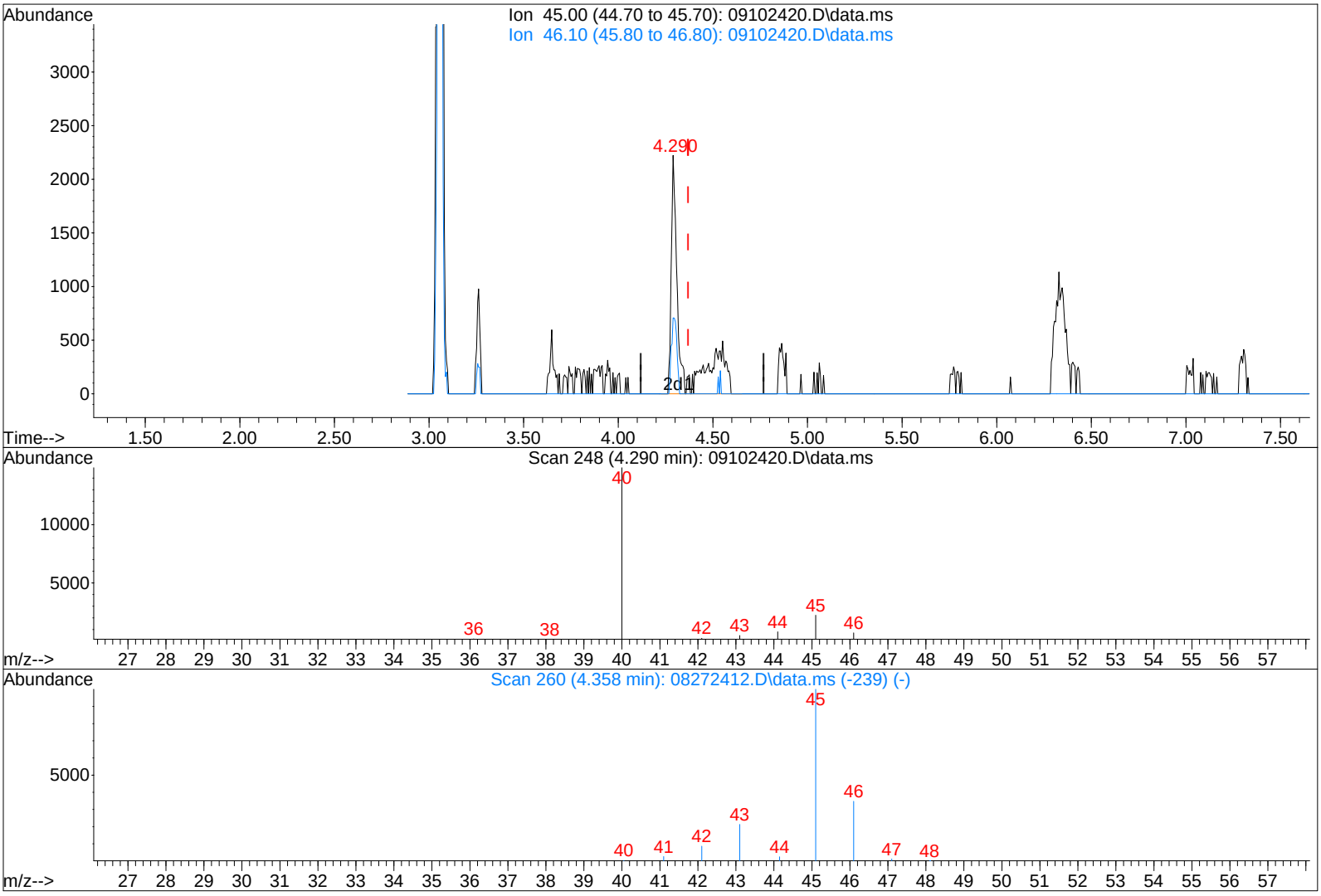
response 169

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102420.D\data.ms

(10) Ethanol (T)

4.290min (-0.079) 0.53ng m

response 7765

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

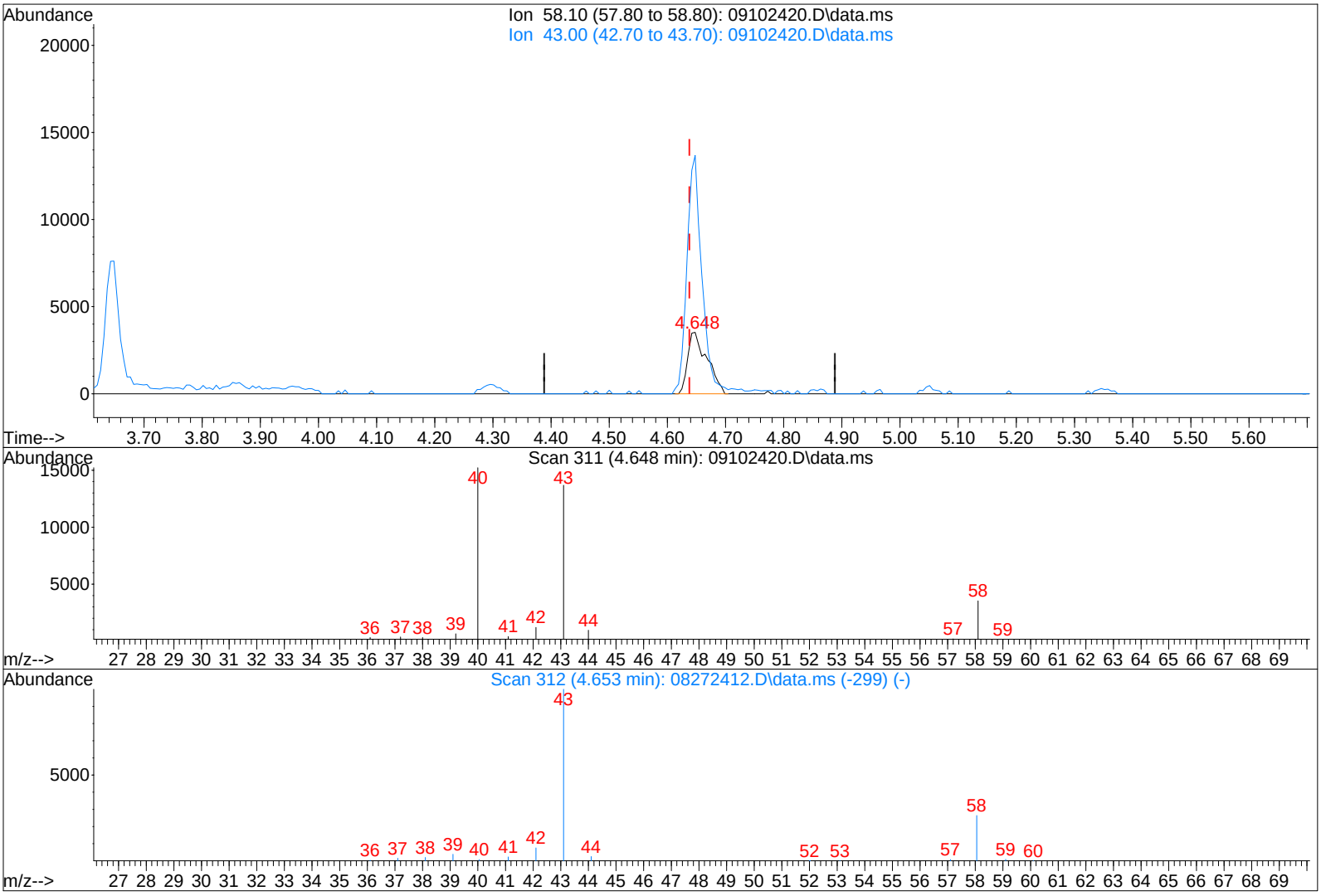
9/11/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102420.D\data.ms

(13) Acetone (T)

4.648min (+0.009) 0.66ng

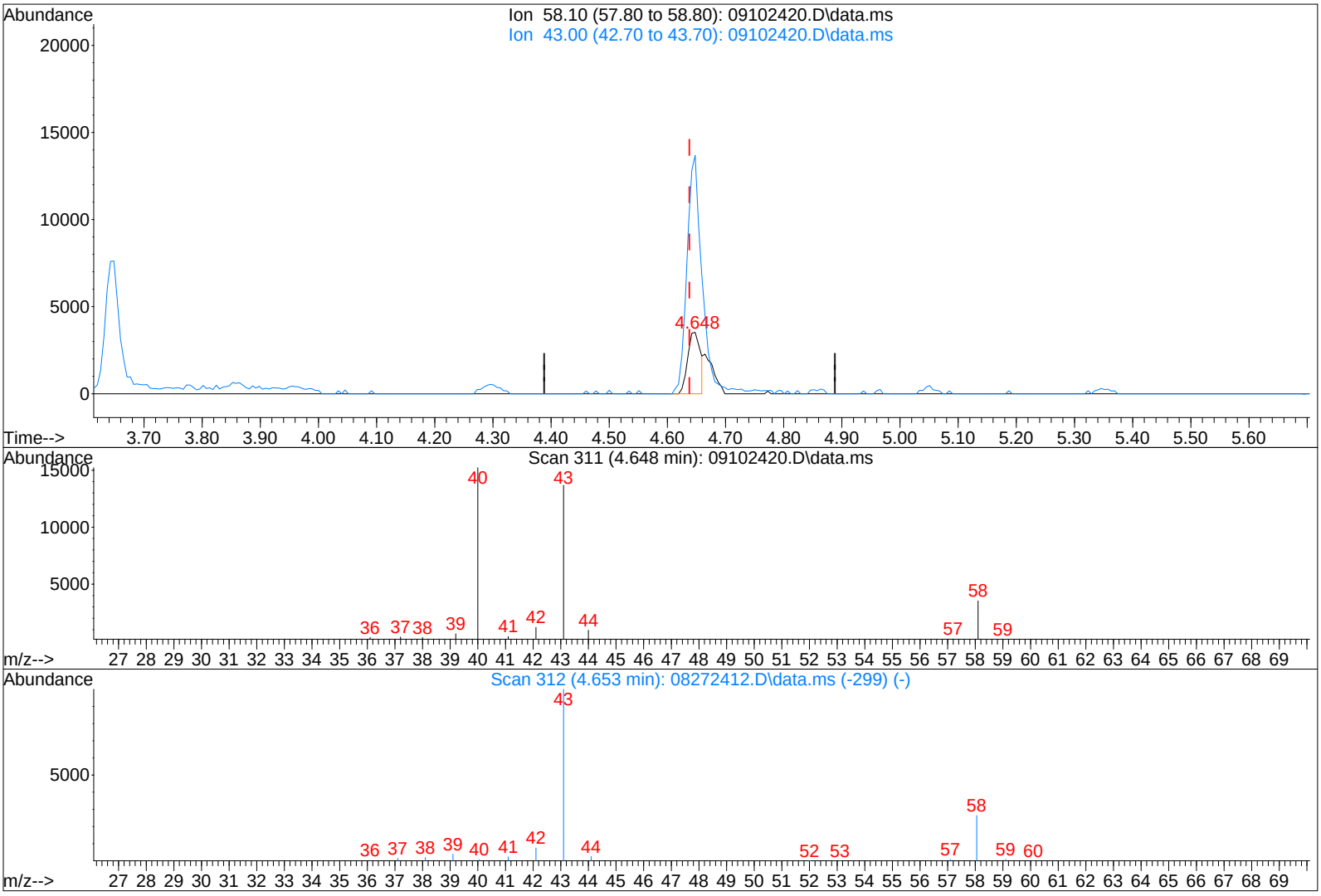
response 8089

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	307.27#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102420.D\data.ms

(13) Acetone (T)

4.648min (+0.009) 0.44ng m

response 5350

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	464.58#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:54:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

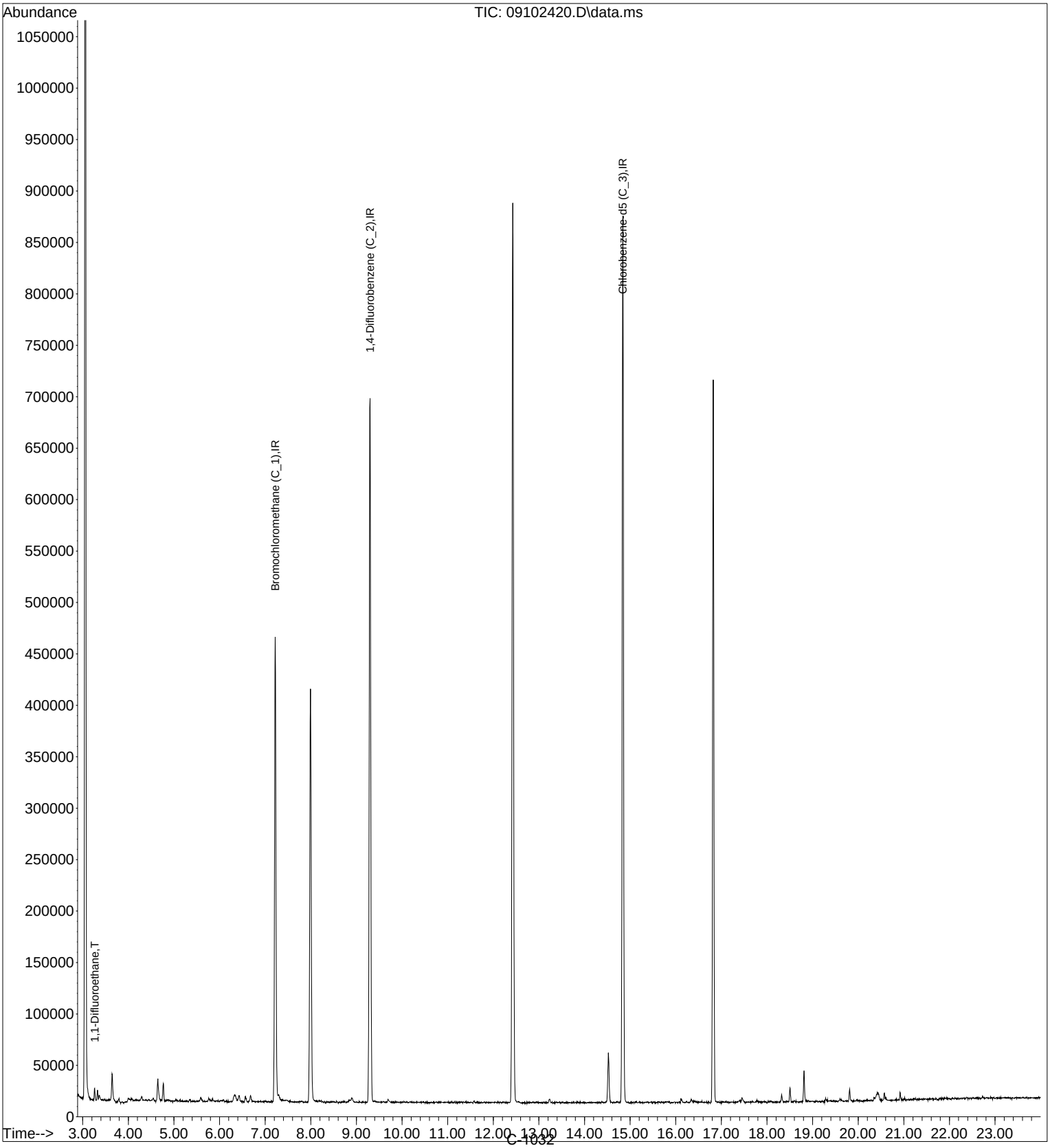
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	134990	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	592128	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	175009	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.26	65	2671	0.227	ng	94
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.67	57	780	N.D.		
11) Methyl Acetate	5.35	43	580	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	110	N.D.		
27) 4-Chlorotoluene	17.68	91	289	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102420.D Vial: 12
Acq On : 10 Sep 2024 19:58 Operator: SC
Sample : P2403661-026 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:54:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102420.D
Acq On : 10 Sep 2024 19:58
Operator : SC
Sample : P2403661-026 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102420.D\data.ms

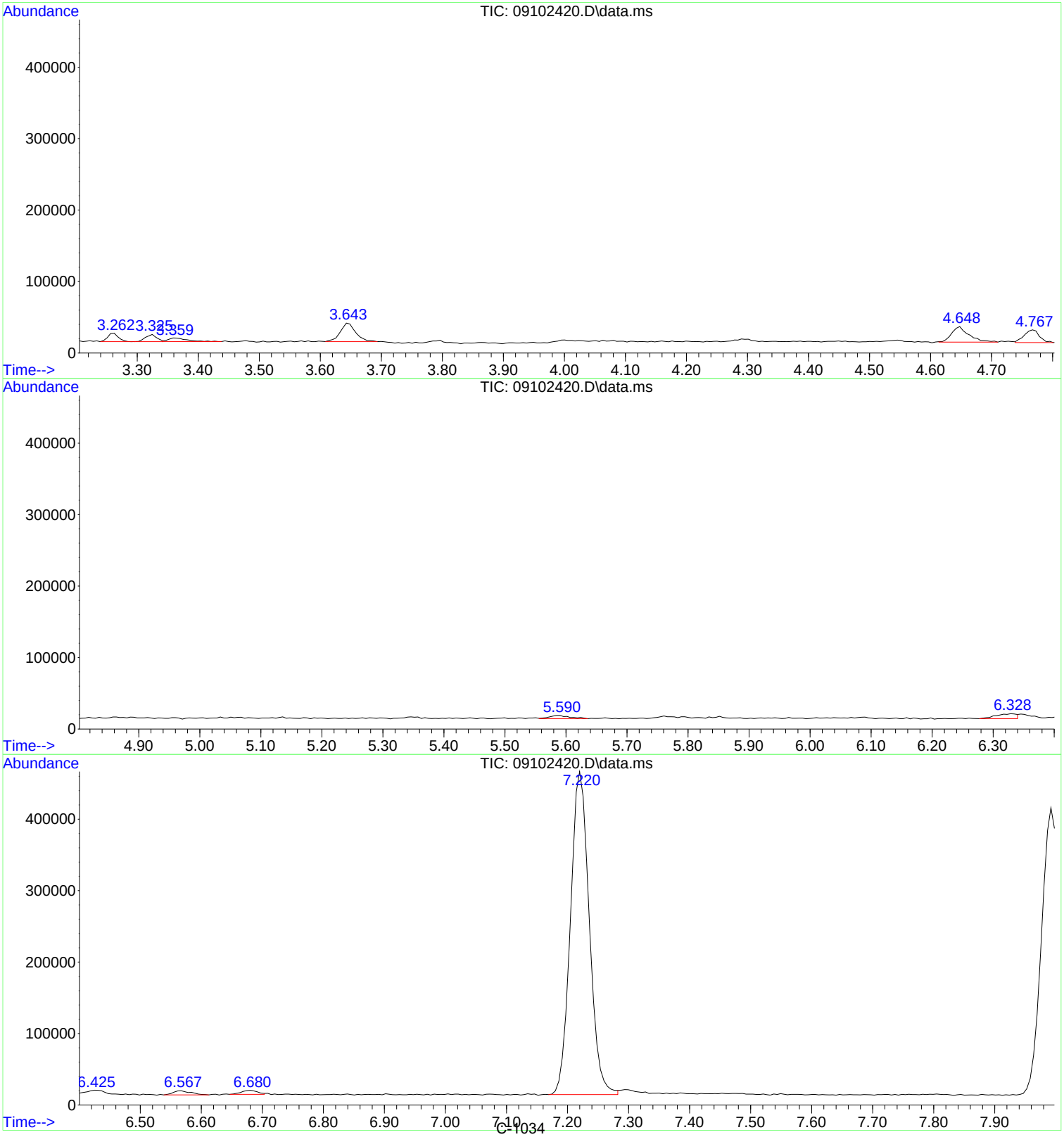
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.262	63	67	73	rBV	11902	14458	1.49%	1.217%
2	3.325	73	78	81	rVV2	10061	12758	1.32%	1.074%
3	3.359	81	84	98	rVB2	5001	10612	1.10%	0.893%
4	3.643	128	134	143	rVB2	25970	45965	4.75%	3.868%
5	4.648	305	311	322	rVB	21677	42698	4.41%	3.593%
6	4.767	327	332	338	rVB2	17753	30499	3.15%	2.566%
7	5.590	471	477	485	rVB4	4569	10602	1.10%	0.892%
8	6.328	598	607	609	rBV3	6999	16799	1.74%	1.414%
9	6.425	617	624	632	rVB4	6024	14077	1.45%	1.185%
10	6.567	644	649	657	rBV3	5846	11845	1.22%	0.997%
11	6.680	663	669	673	rBV2	5669	10423	1.08%	0.877%
12	7.220	755	764	775	rBV	451854	967660	100.00%	81.426%

Sum of corrected areas: 1188396

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102420.D
Acq On : 10 Sep 2024 19:58
Operator : SC
Sample : P2403661-026 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102420.D
Acq On : 10 Sep 2024 19:588
Operator : SCC
Sample : P2403661-026 (400mL))
Misc : S37-060624022
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

MOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127825	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	556966	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	169463	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	331303	13.851	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
57) Toluene-d8 (SS2)	12.43	98	640227	10.769	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%				
73) Bromofluorobenzene (SS3)	16.82	174	211127	10.619	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	19103m	0.616	ng		
4) Chloromethane	0.00	50	0	N.D.	d		
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	456	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	15130m	1.091	ng		
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	1653	0.156	ng		84
13) Acetone	4.63	58	23931m	2.044	ng		
14) Trichlorofluoromethane	4.75	101	1071184	36.187	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	94153	2.043	ng		85
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.36	59	51	N.D.			
19) Methylene Chloride	5.35	84	363	N.D.			
20) 3-Chloro-1-propene (Al...	5.39	41	120	N.D.			
21) Trichlorotrifluoroethane	5.58	151	634273	54.086	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	3115	0.375	ng	#	86
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.29	87	484	N.D.			
30) Ethyl Acetate	7.28	61	38797	6.973	ng		91
31) n-Hexane	7.31	57	731	N.D.			
32) Chloroform	7.36	83	15979	0.627	ng		96
34) Tetrahydrofuran (THF)	7.73	72	363	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.00	62	194	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	942	No Calib		#	
40) 1-Butanol	8.81	56	8204	No Calib		#	
41) Benzene	8.89	78	5089	0.097	ng		94
42) Carbon Tetrachloride	9.06	117	272	N.D.			
43) Cyclohexane	9.21	84	728	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	389	N.D.			
47) Trichloroethene	10.15	130	2195	0.170	ng		99
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	325	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

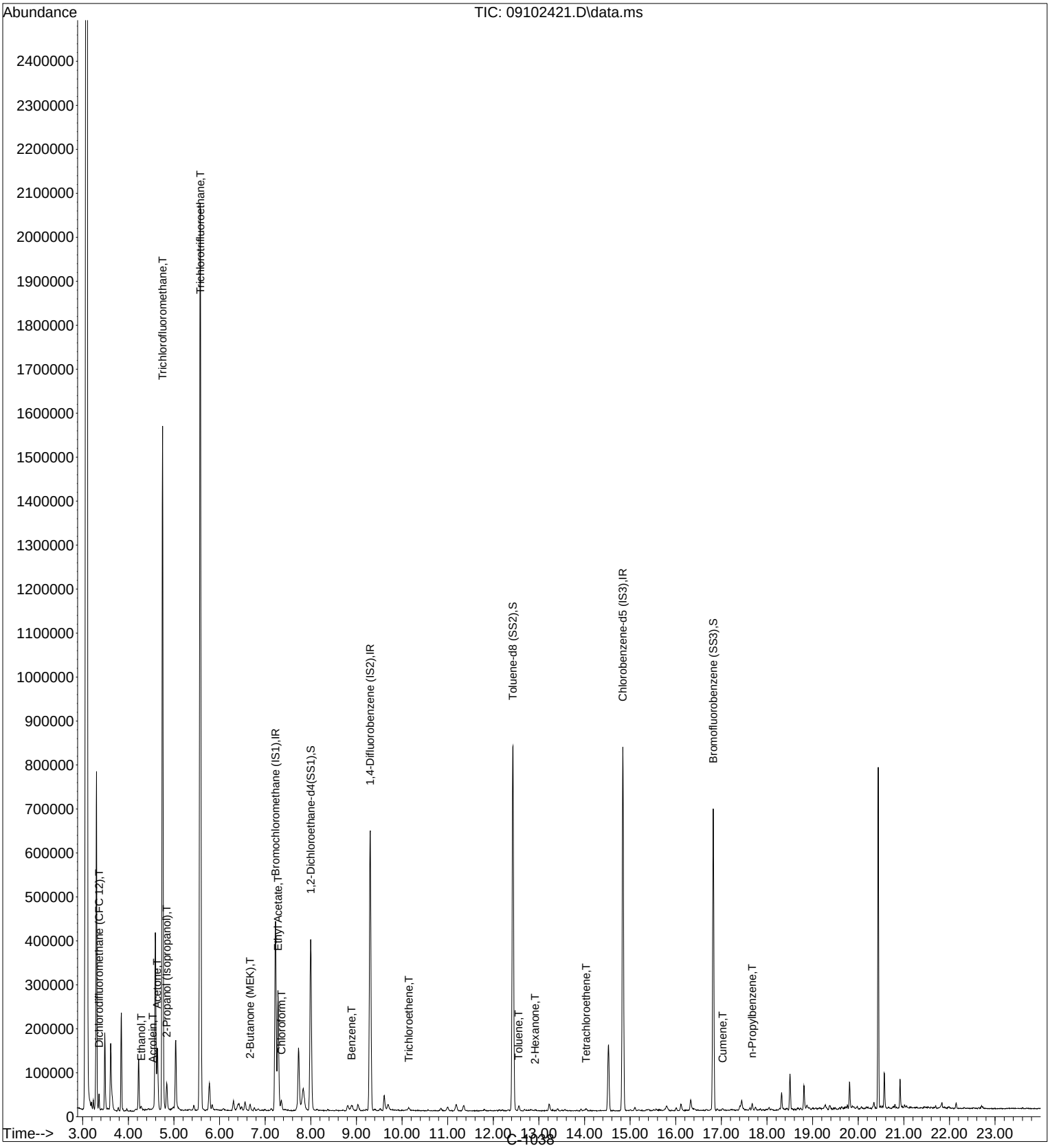
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.57	71	109	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	8702	0.135	ng		95
59) 2-Hexanone	12.92	43	3047	0.077	ng	#	55
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.78	43	685	N.D.			
63) n-Octane	13.92	57	287	N.D.			
64) Tetrachloroethene	14.03	166	1059	0.059	ng		82
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	15.41	91	605	N.D.			
67) m- & p-Xylenes	15.65	91	1373	N.D.			
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.11	104	297	N.D.			
70) o-Xylene	16.25	91	648	N.D.			
71) n-Nonane	16.61	43	1067	N.D.			
72) 1,1,2,2-Tetrachloroethane	16.15	83	120	N.D.			
74) Cumene	17.03	105	3552	0.052	ng		95
75) alpha-Pinene	17.52	93	128	N.D.			
76) n-Propylbenzene	17.68	91	12104	0.143	ng		98
77) 3-Ethyltoluene	17.03	105	3552	No Calib			
78) 4-Ethyltoluene	17.86	105	332	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	139	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	3552	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	739	N.D.			
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.56	91	119	N.D.			
85) 1,3-Dichlorobenzene	18.66	146	201	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	201	N.D.			
87) sec-Butylbenzene	18.74	105	1999	N.D.			
88) 4-Isopropyltoluene (p-...	18.93	119	495	N.D.			
89) 1,2,3-Trimethylbenzene	17.03	105	3552	No Calib			
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	19.07	68	125	N.D.			
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	0.00	58	0	N.D.			
94) 1,2,4-Trichlorobenzene	20.84	180	566	N.D.			
95) Naphthalene	20.94	128	1237	N.D.			
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	21.30	225	235	N.D.			
98) Cyclohexanone	15.25	55	578	No Calib		#	
99) tert-Butylbenzene	18.43	119	429	N.D.			
100) n-Butylbenzene	19.39	91	2122	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:02:24 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

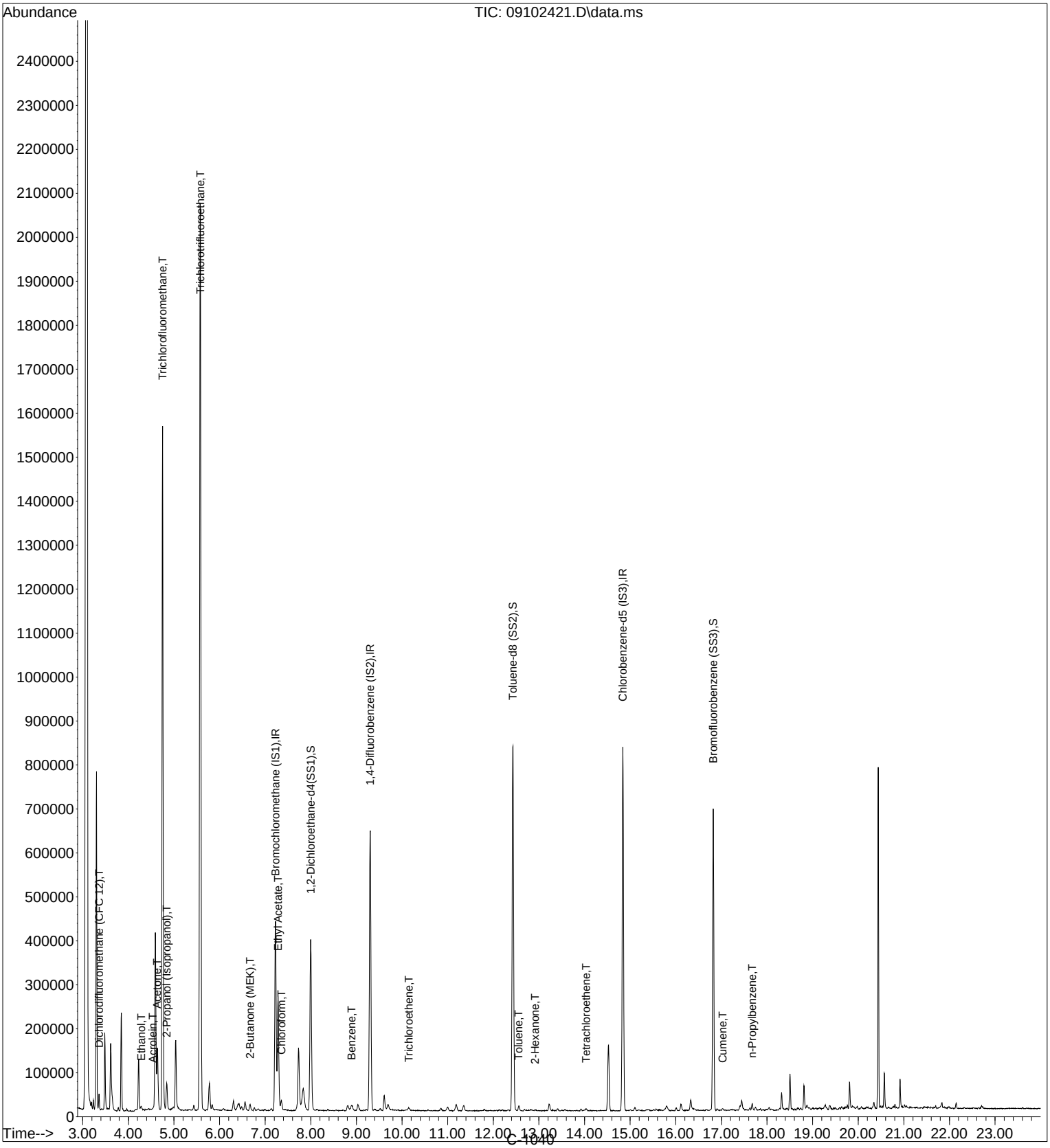
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127825	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	556966	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	169463	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	331303	13.851	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
57) Toluene-d8 (SS2)	12.43	98	640227	10.769	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.16%				
73) Bromofluorobenzene (SS3)	16.82	174	211127	10.619	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	19103m	0.616	ng		
10) Ethanol	4.28	45	15130m	1.091	ng		
12) Acrolein	4.53	56	1653	0.156	ng		84
13) Acetone	4.63	58	23931m	2.044	ng		
14) Trichlorofluoromethane	4.75	101	1071184	36.187	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	94153	2.043	ng		85
21) Trichlorotrifluoroethane	5.58	151	634273	54.086	ng		94
27) 2-Butanone (MEK)	6.67	72	3115	0.375	ng	#	86
30) Ethyl Acetate	7.28	61	38797	6.973	ng		91
32) Chloroform	7.36	83	15979	0.627	ng		96
41) Benzene	8.89	78	5089	0.097	ng		94
47) Trichloroethene	10.15	130	2195	0.170	ng		99
58) Toluene	12.56	91	8702	0.135	ng		95
59) 2-Hexanone	12.92	43	3047	0.077	ng	#	55
64) Tetrachloroethene	14.03	166	1059	0.059	ng		82
74) Cumene	17.03	105	3552	0.052	ng		95
76) n-Propylbenzene	17.68	91	12104	0.143	ng		98

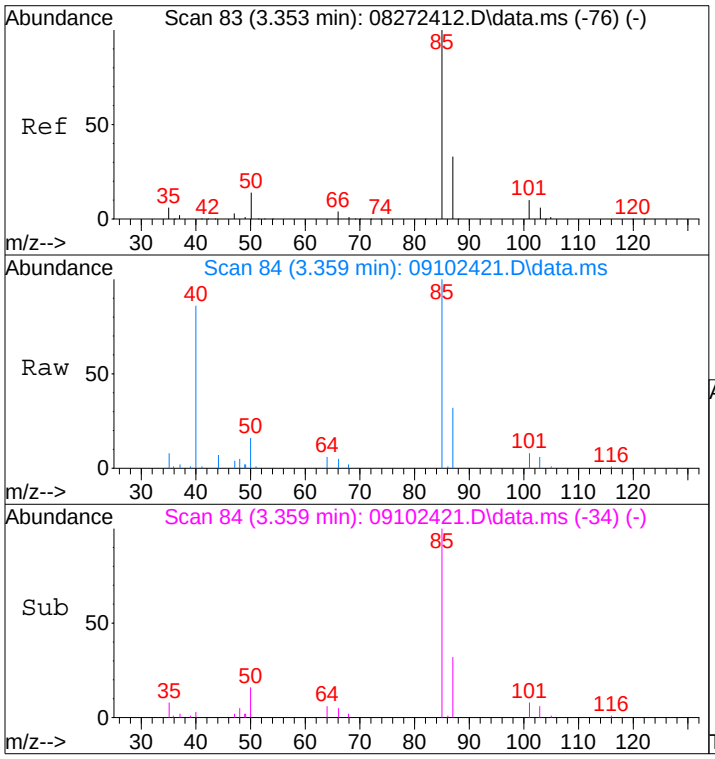
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:02:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

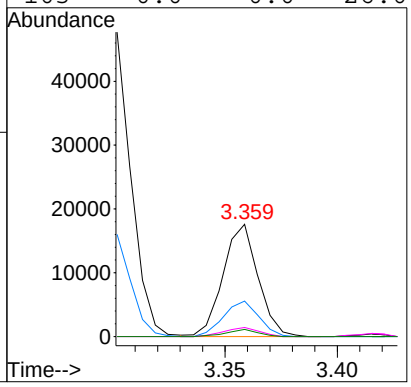


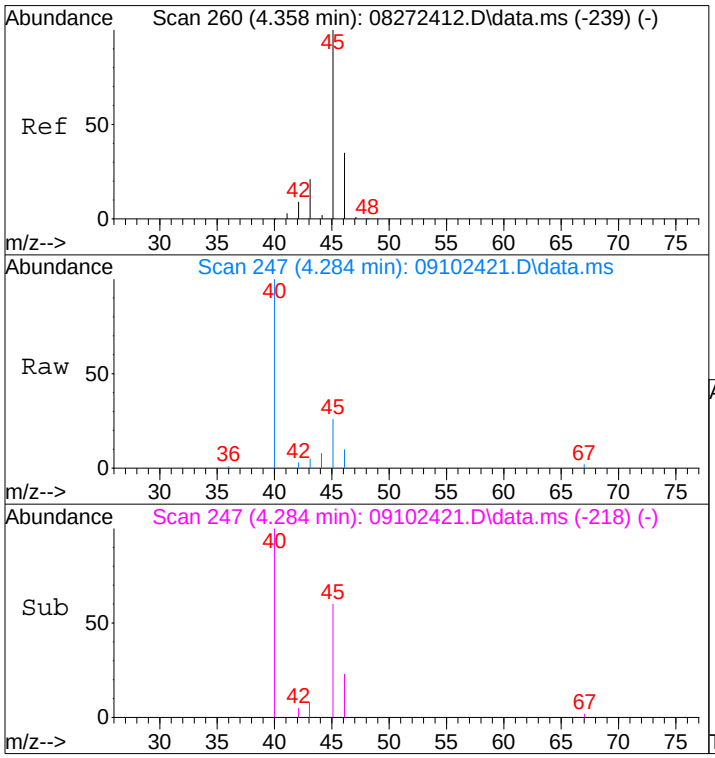


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.62 ng m
RT: 3.36 min Scan# 84
Delta R.T. 0.034 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 85 Resp: 19103

Ion	Ratio	Lower	Upper
85	100		
87	92.4	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

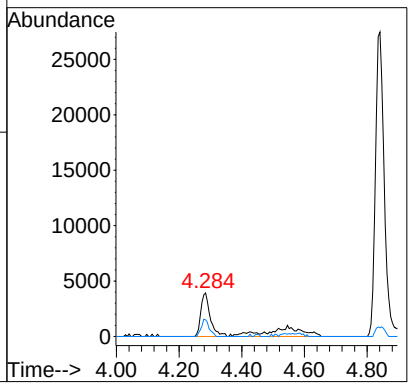


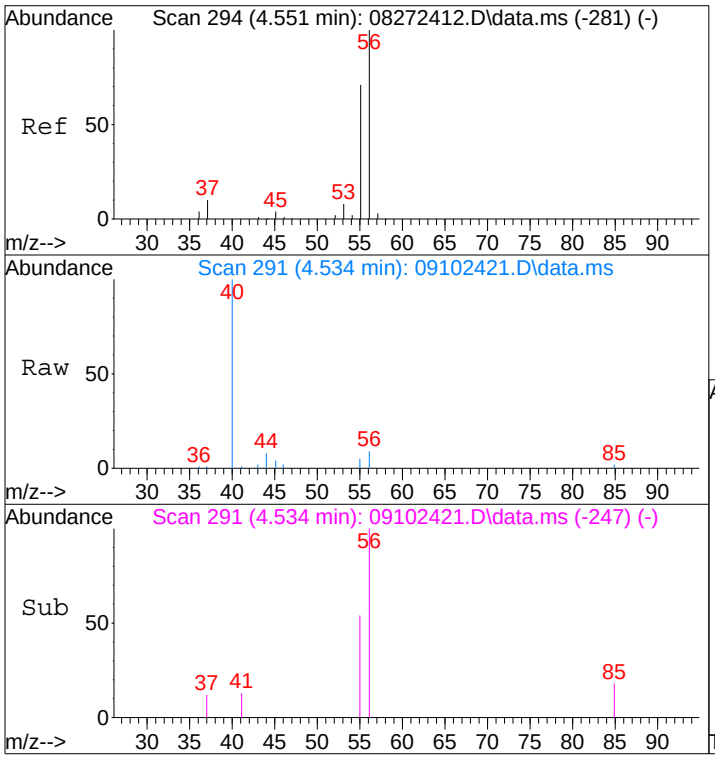


#10
Ethanol
Concen: 1.09 ng m
RT: 4.28 min Scan# 247
Delta R.T. -0.085 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 45 Resp: 15130

Ion	Ratio	Lower	Upper
45	100		
46	0.4	14.2	54.2#

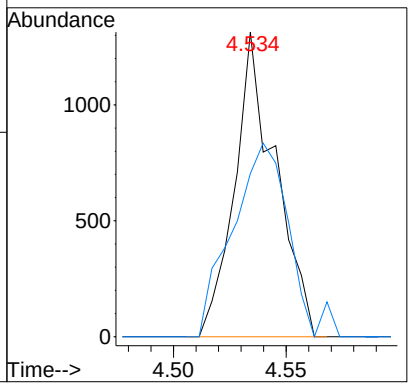


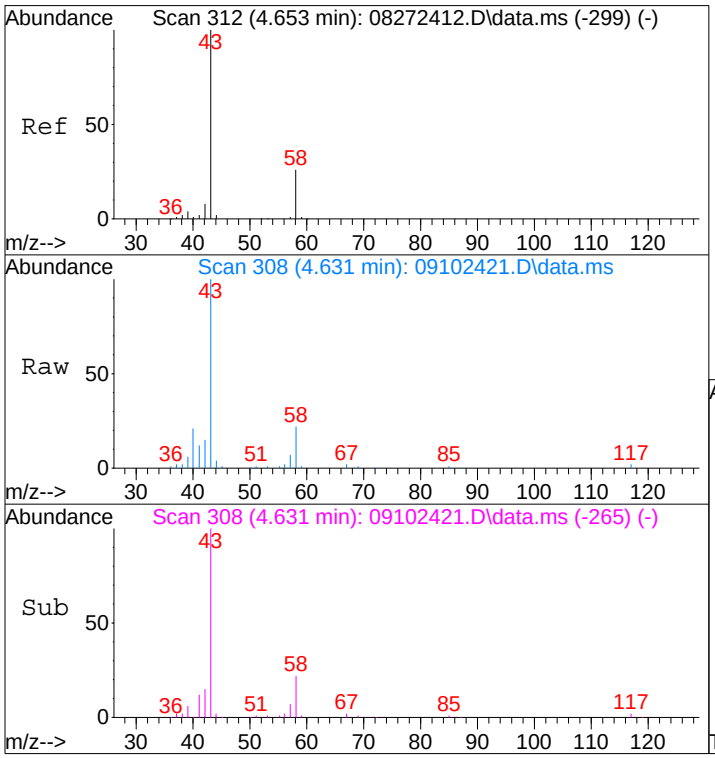


#12
Acrolein
Concen: 0.16 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.002 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 56 Resp: 1653

Ion	Ratio	Lower	Upper
56	100		
55	88.5	54.7	94.7

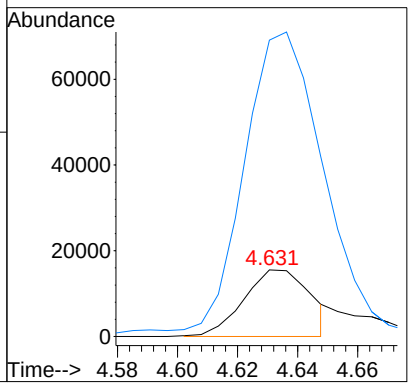


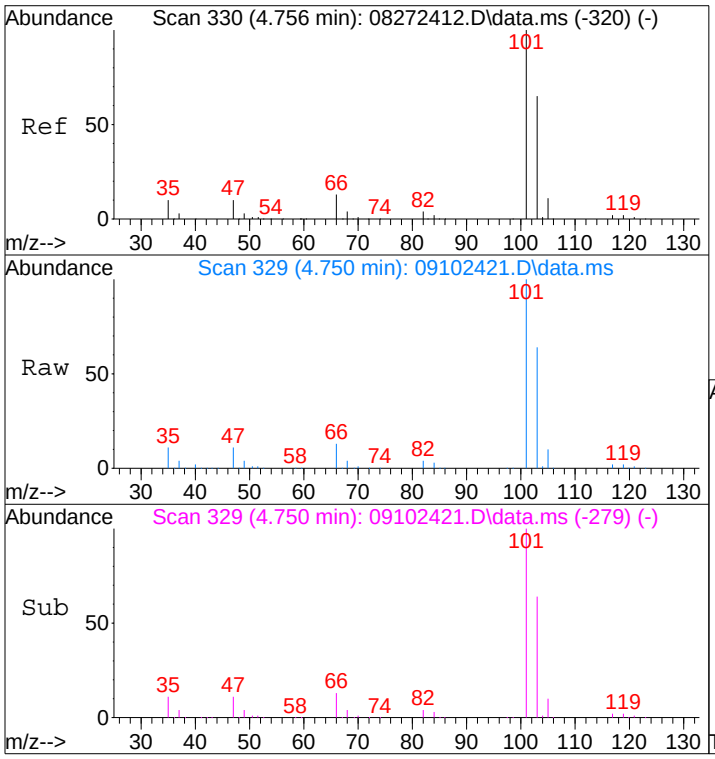


#13
Acetone
Concen: 2.04 ng m
RT: 4.63 min Scan# 308
Delta R.T. -0.008 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 58 Resp: 23931

Ion	Ratio	Lower	Upper
58	100		
43	558.0	347.3	407.3#

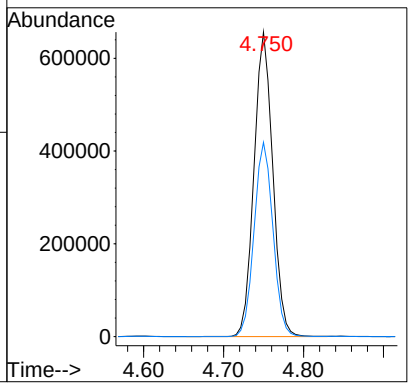


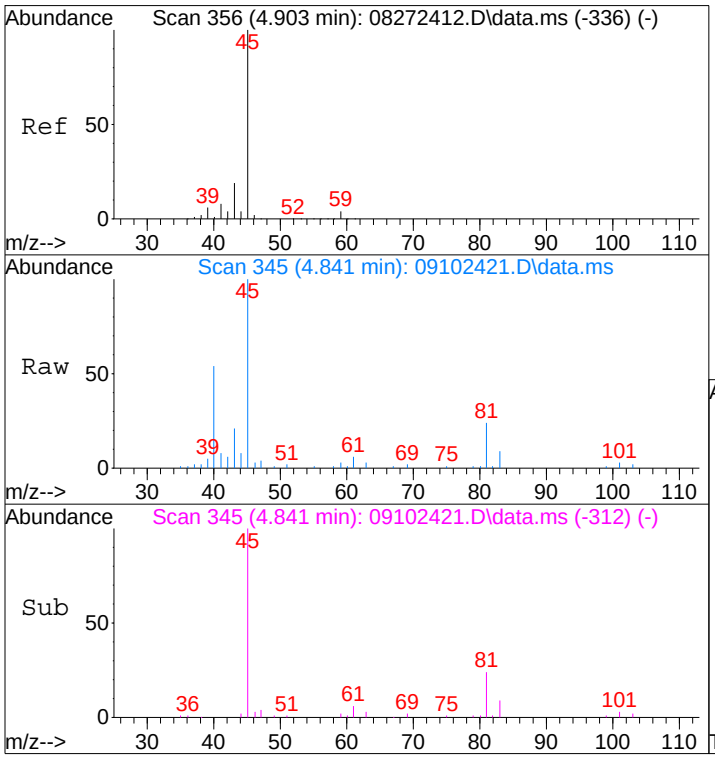


#14
Trichlorofluoromethane
Concen: 36.19 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.033 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion:101 Resp: 1071184

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.9	84.9

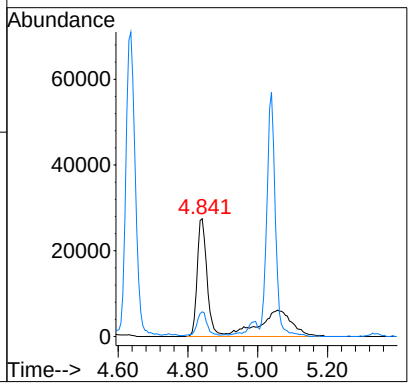


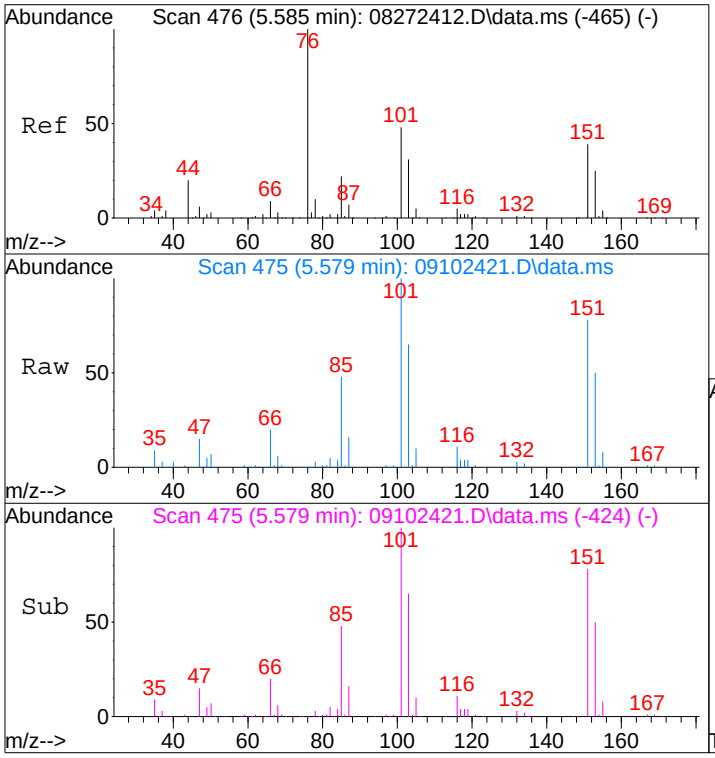


#15
2-Propanol (Isopropanol)
Concen: 2.04 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.061 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 45 Resp: 94153

Ion	Ratio	Lower	Upper
45	100		
43	13.2	0.0	40.0

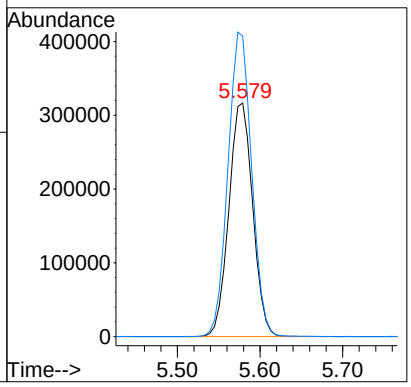


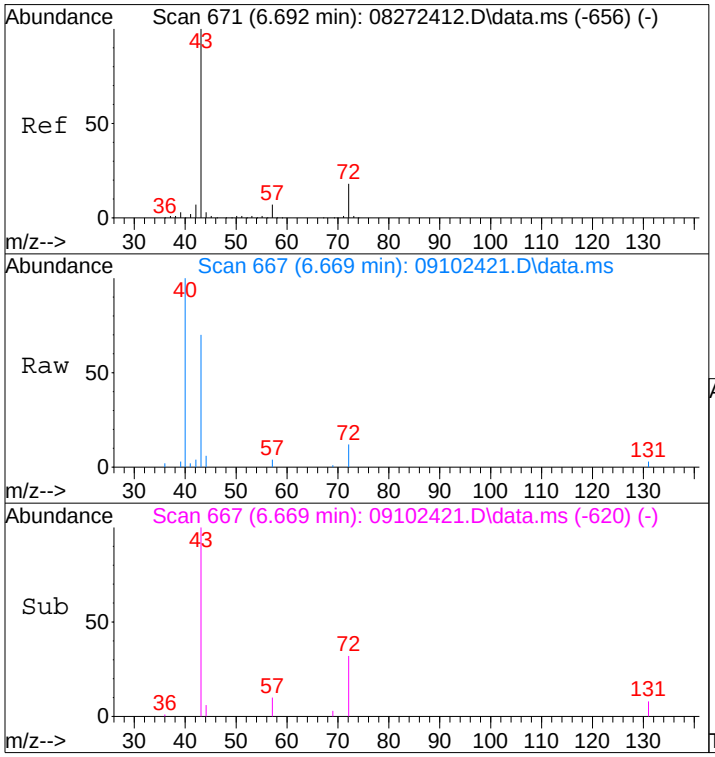


#21
Trichlorotrifluoroethane
Concen: 54.09 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.037 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion:151 Resp: 634273

Ion	Ratio	Lower	Upper
151	100		
101	129.6	103.4	143.4

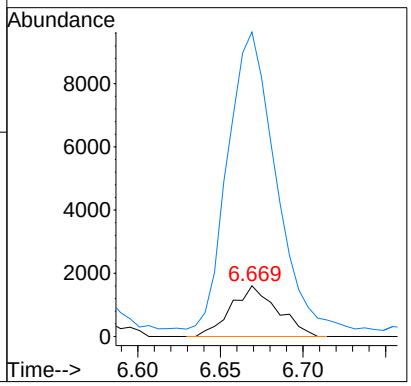


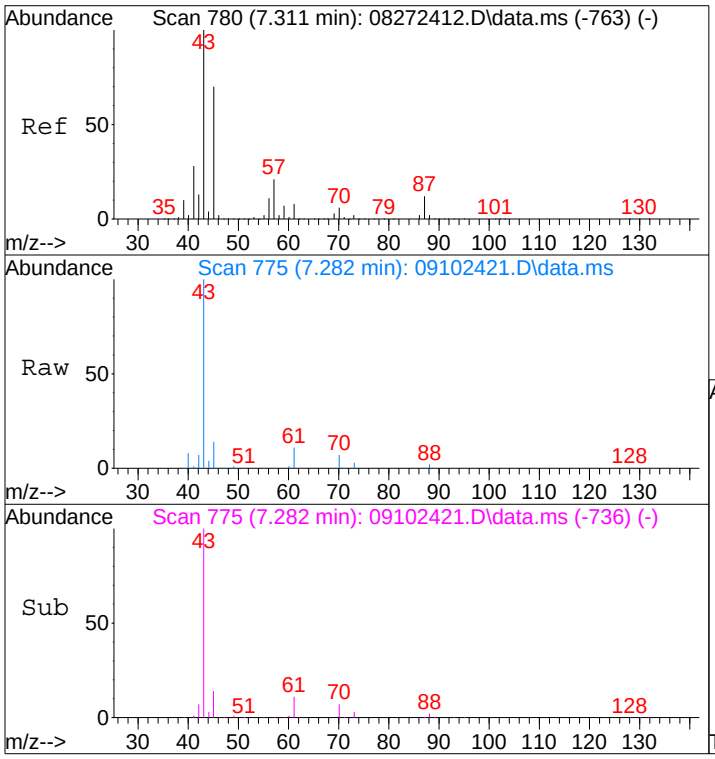


#27
2-Butanone (MEK)
Concen: 0.38 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 72 Resp: 3115

Ion	Ratio	Lower	Upper
72	100		
43	611.1	548.0	588.0#

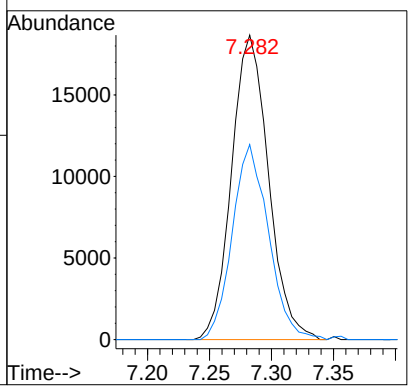


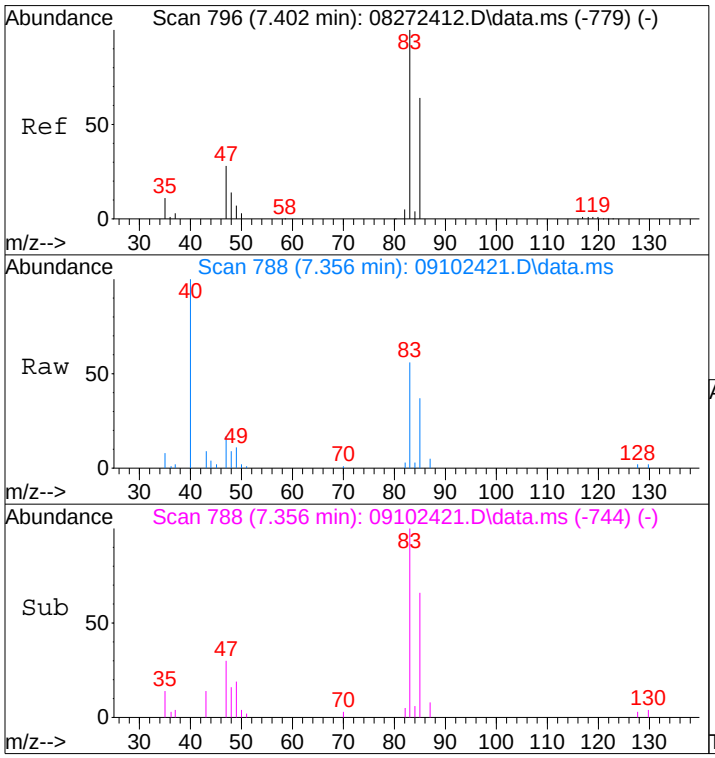


#30
Ethyl Acetate
Concen: 6.97 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 61 Resp: 38797

Ion	Ratio	Lower	Upper
61	100		
70	62.7	49.9	89.9

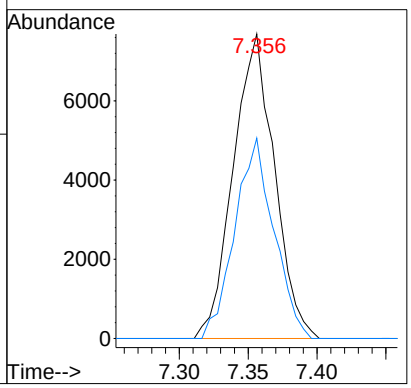


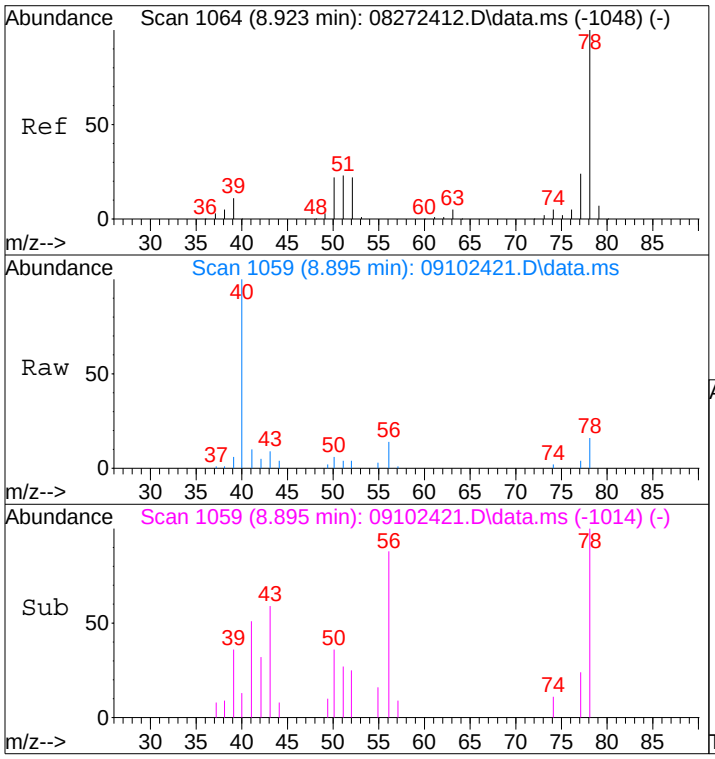


#32
Chloroform
Concen: 0.63 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.002 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 83 Resp: 15979

Ion	Ratio	Lower	Upper
83	100		
85	62.4	45.3	85.3

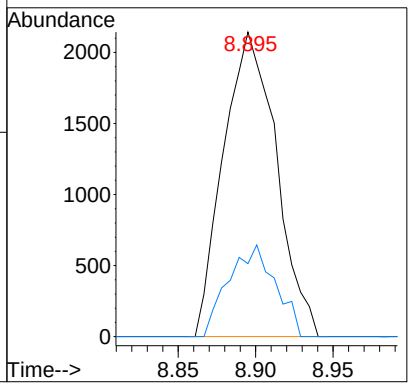


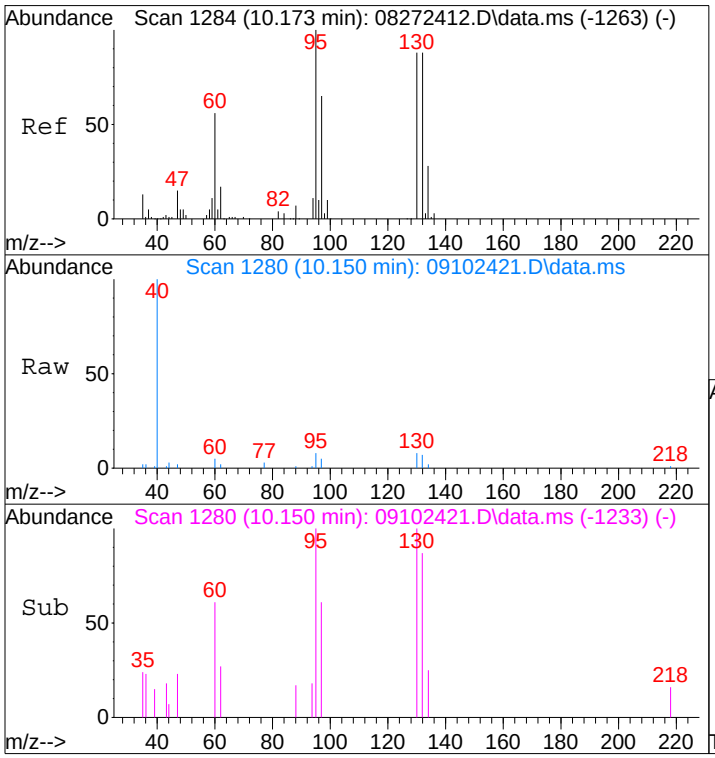


#41
Benzene
Concen: 0.10 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.003 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 78 Resp: 5089

Ion	Ratio	Lower	Upper
78	100		
77	26.7	3.9	43.9

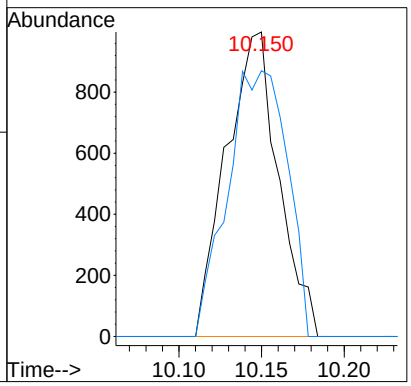


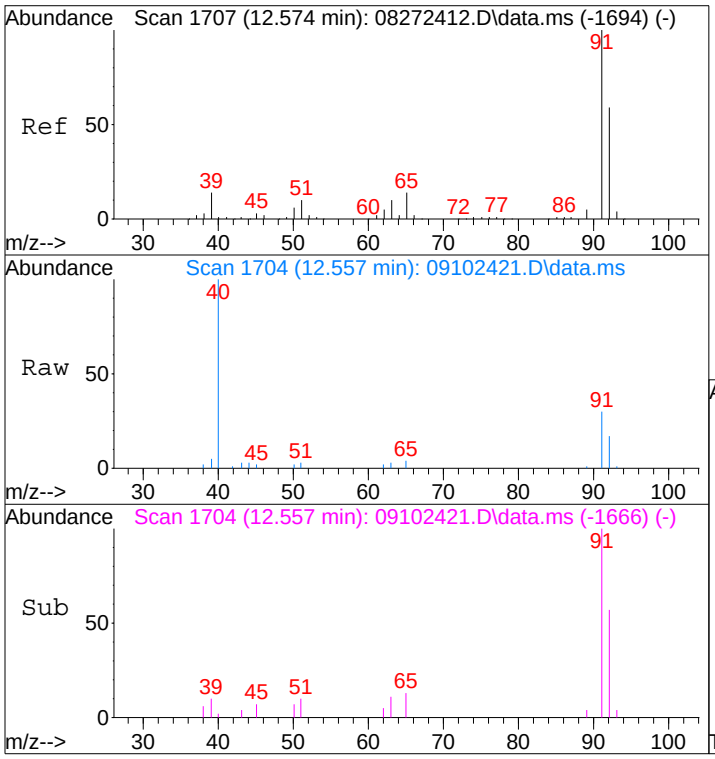


#47
Trichloroethene
Concen: 0.17 ng
RT: 10.15 min Scan# 1280
Delta R.T. 0.017 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion:130 Resp: 2195

Ion	Ratio	Lower	Upper
130	100		
132	100.0	80.8	120.8

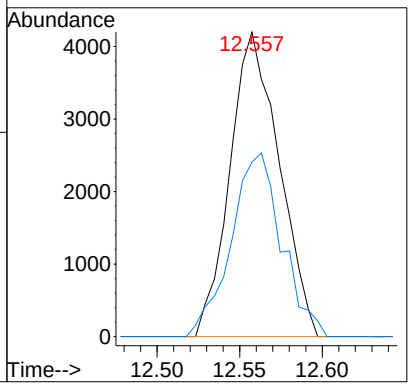


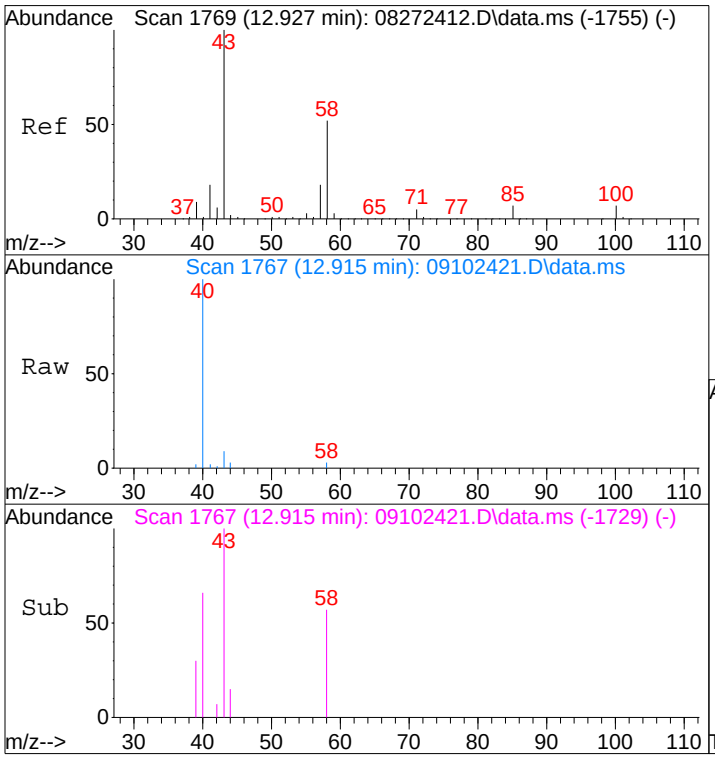


#58
Toluene
Concen: 0.14 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 91 Resp: 8702

Ion	Ratio	Lower	Upper
91	100		
92	62.1	38.5	78.5

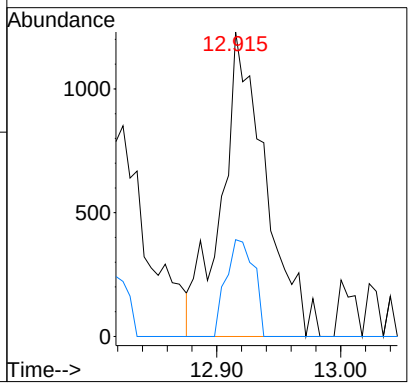


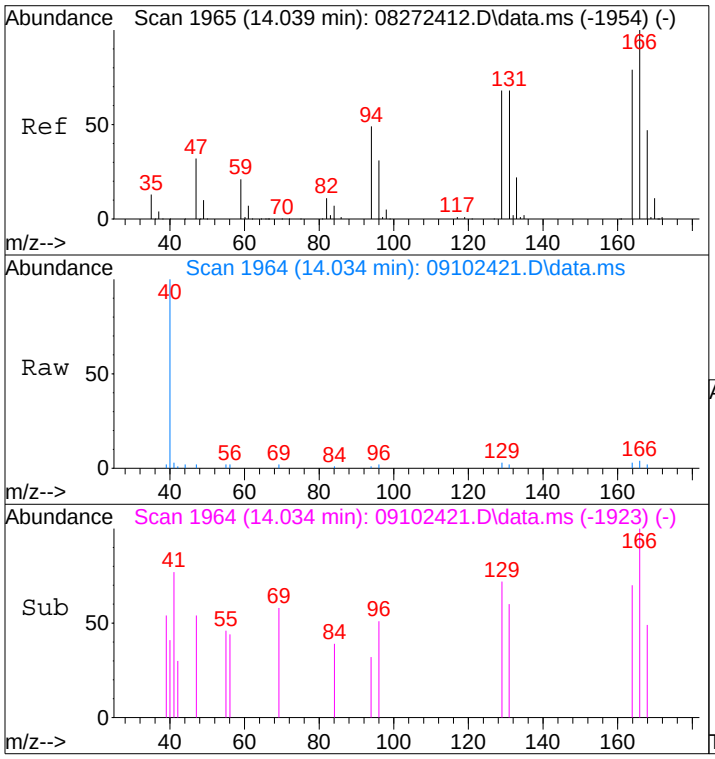


#59
2-Hexanone
Concen: 0.08 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 43 Resp: 3047

Ion	Ratio	Lower	Upper
43	100		
58	20.1	31.1	71.1#

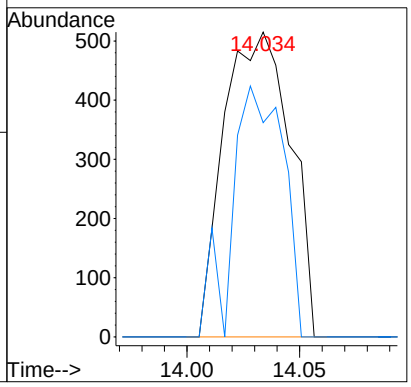


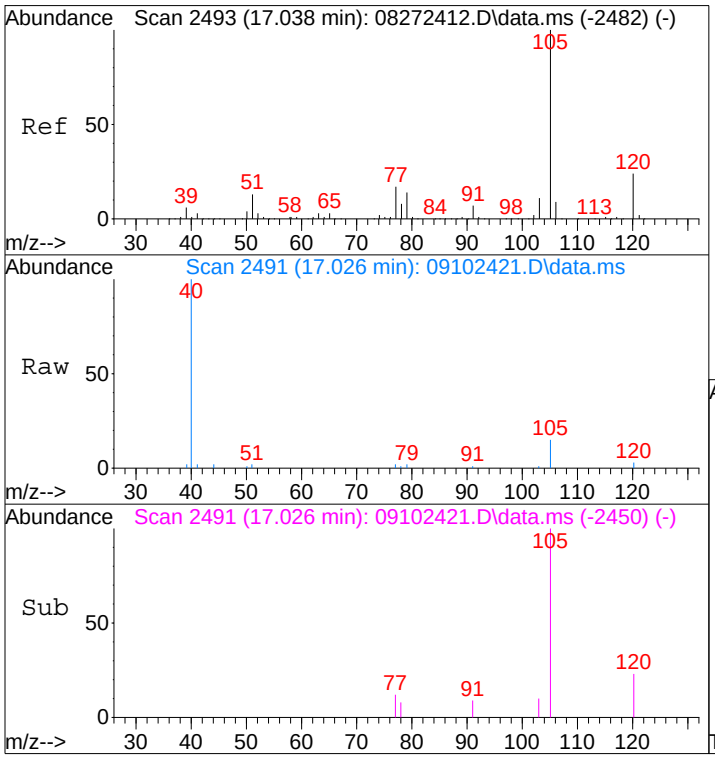


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion:166 Resp: 1059

Ion	Ratio	Lower	Upper
166	100		
164	63.6	59.0	99.0

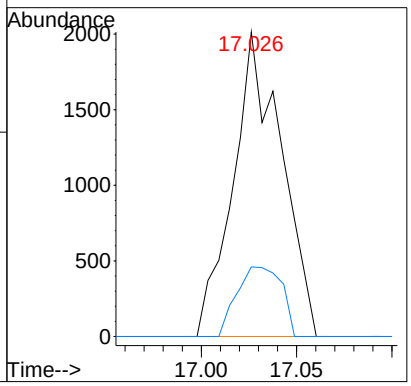


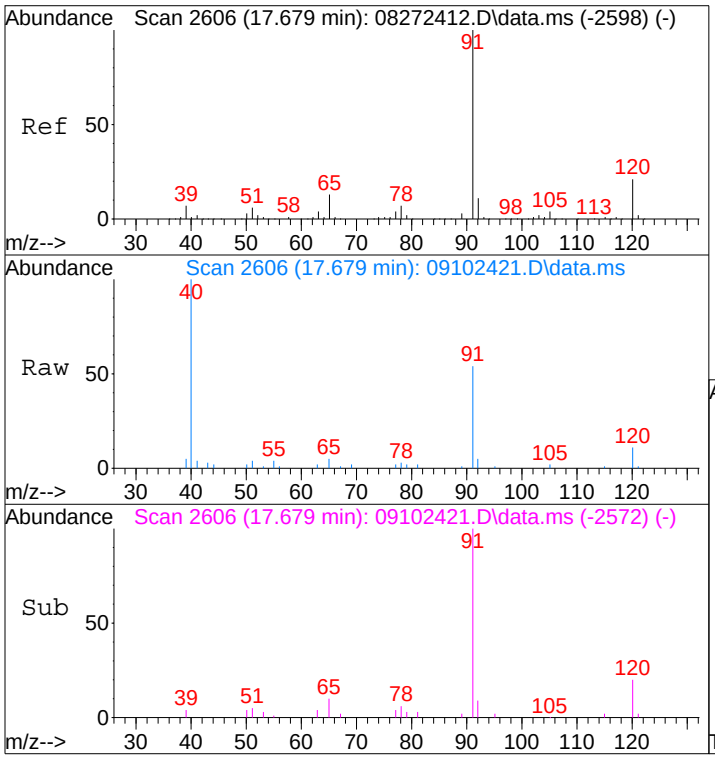


#74
Cumene
Concen: 0.05 ng
RT: 17.03 min Scan# 2491
Delta R.T. -0.017 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion:105 Resp: 3552

Ion	Ratio	Lower	Upper
105	100		
120	21.2	3.7	43.7

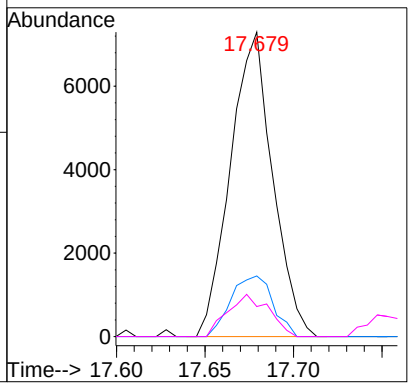




#76
n-Propylbenzene
Concen: 0.14 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.005 min
Lab File: 09102421.D
Acq: 10 Sep 2024 20:30

Tgt Ion: 91 Resp: 12104

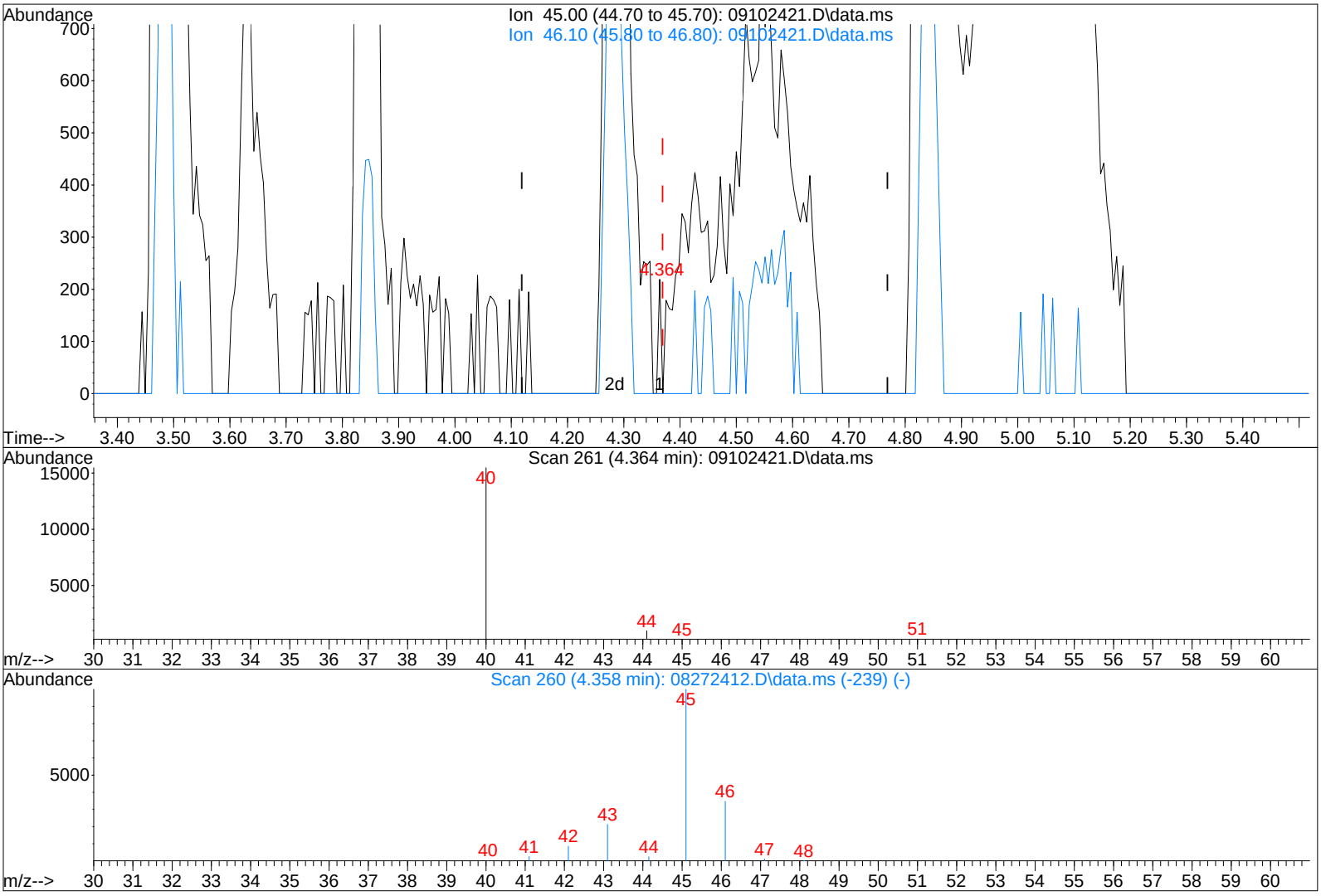
Ion	Ratio	Lower	Upper
91	100		
120	19.8	0.5	40.5
65	13.5	0.0	32.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(10) Ethanol (T)

4.364min (-0.005) 0.01ng

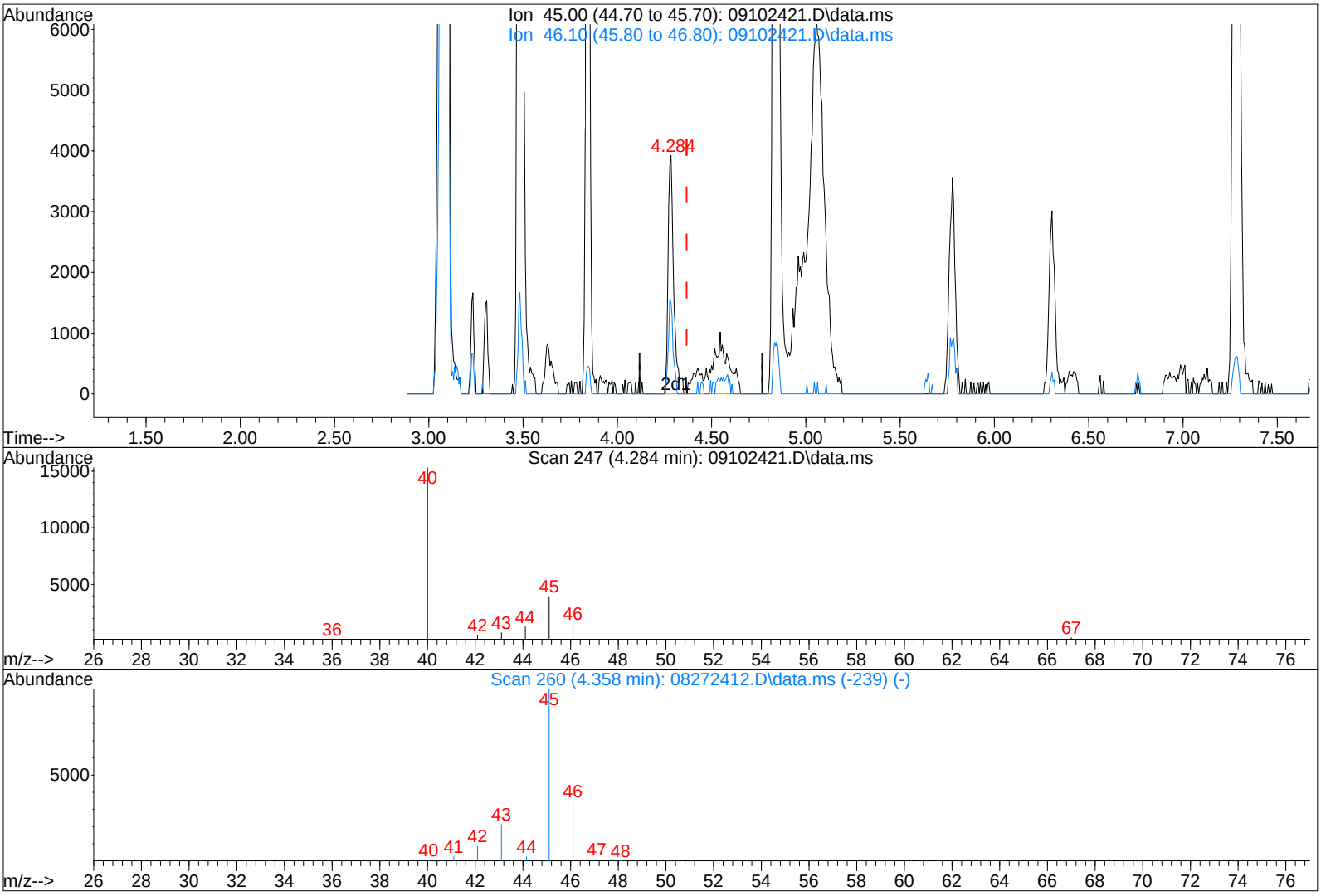
response 75

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	89.33#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(10) Ethanol (T)

4.284min (-0.085) 1.09ng m

response 15130

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.44#
0.00	0.00	0.00
0.00	0.00	0.00

MP

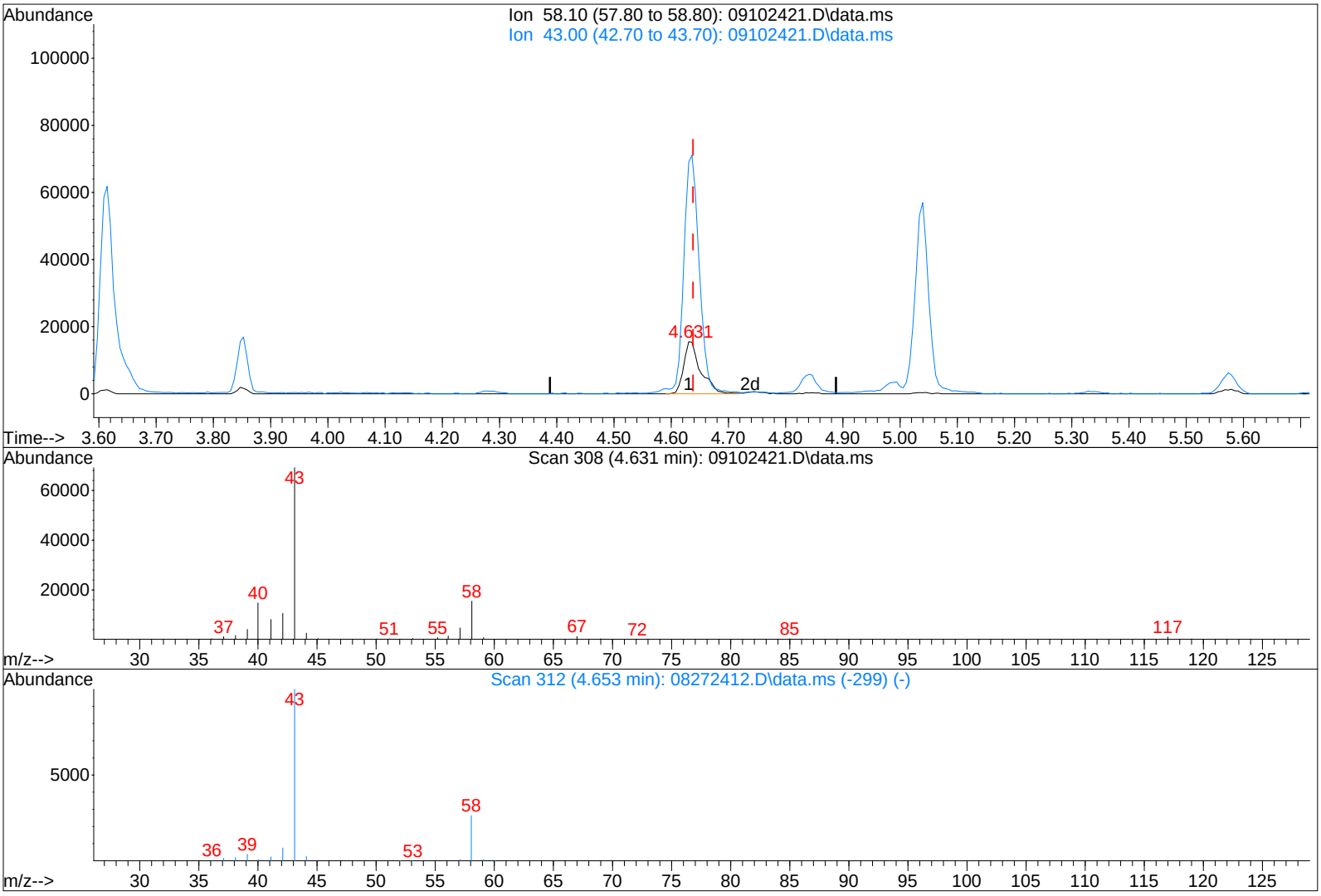
9/11/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(13) Acetone (T)

4.631min (-0.008) 2.71ng

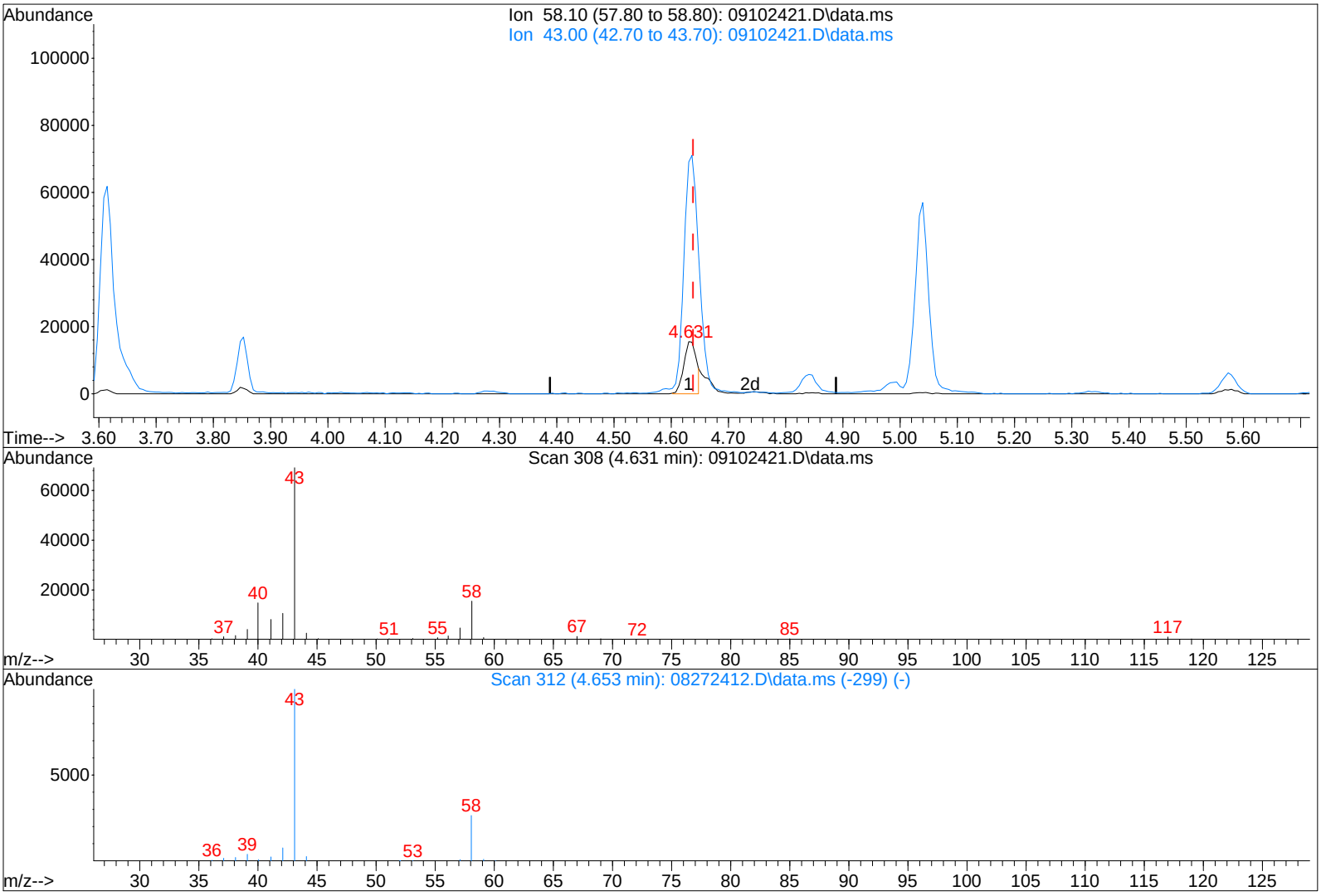
response 31731

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	420.83#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(13) Acetone (T)

4.631min (-0.008) 2.04ng m

response 23931

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	557.99#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

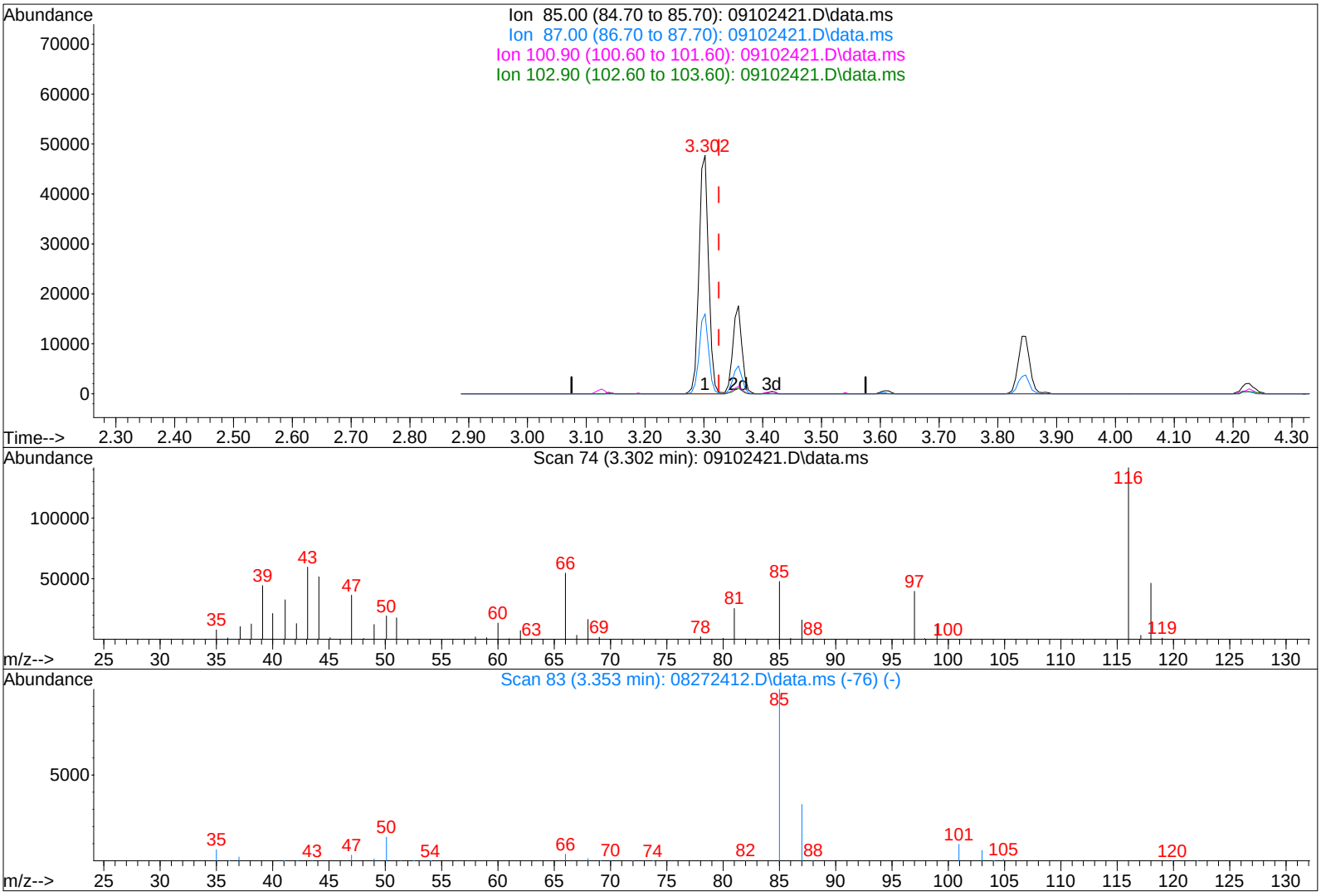
9/11/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.023) 1.74ng

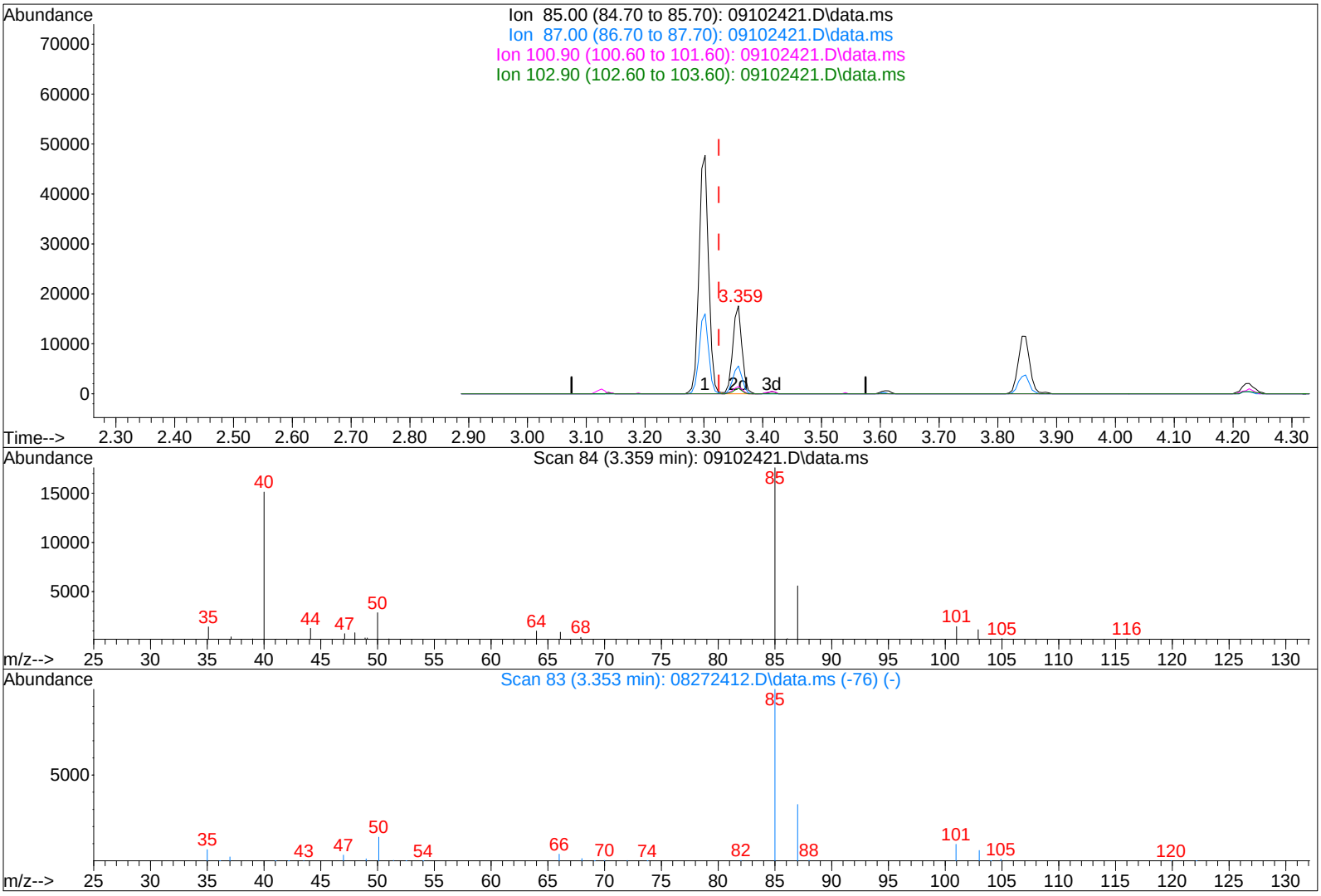
response 53963

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	32.73
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.359min (+0.034) 0.62ng m

response 19103

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	92.45#
100.90	9.40	0.00
102.90	6.00	0.00

WP

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:55:57 2024 9/11/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

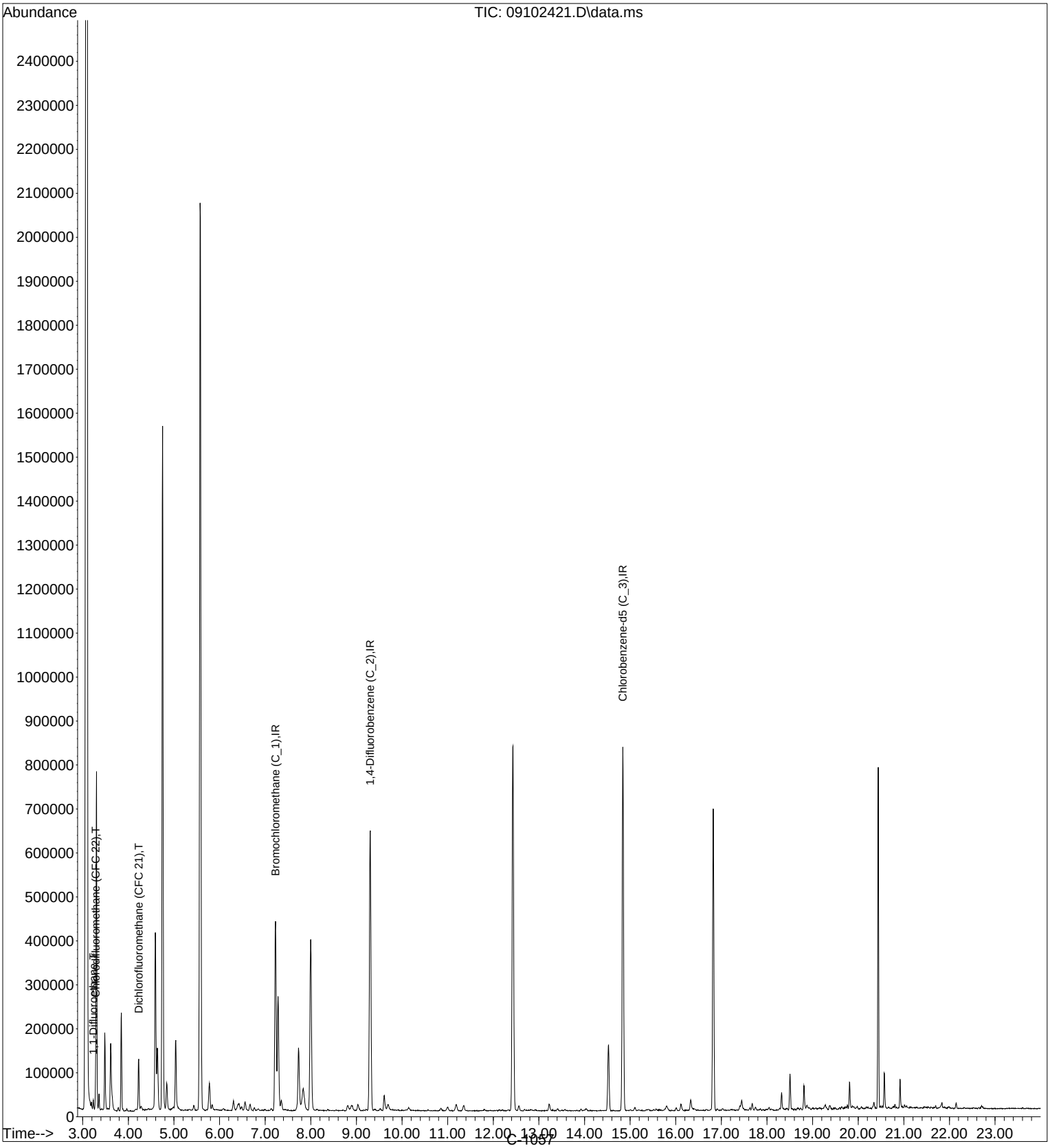
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	127825	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	558011	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	169463	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.14	85	144	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.23	65	4401	0.394 ng	99
5) Chlorodifluoromethane ...	3.28	67	9954	2.285 ng	88
6) 1-Chloro-1,1-Difluoroe...	3.50	65	645	N.D.	
7) Dichlorofluoromethane ...	4.23	67	90293	3.080 ng	99
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.33	43	1567	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D. d	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	9.04	84	549	N.D.	
17) 2,3-Dimethylpentane	9.52	56	2478	N.D.	
18) Dibromomethane	0.00	174	0	N.D.	
20) Methyl Cyclohexane	11.42	55	400	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	16.36	75	54	N.D.	
25) Bromobenzene	17.03	77	518	N.D.	
26) 2-Chlorotoluene	17.61	91	53	N.D.	
27) 4-Chlorotoluene	0.00	91	0	N.D. d	
28) Indane	19.11	117	1316	N.D.	
29) Indene	19.12	115	349	N.D.	
30) 1,2,4,5-Tetramethylben...	20.17	119	1824	N.D.	
31) 1,2,3,4-Tetramethylben...	20.17	119	1824	N.D.	
32) 1,2,3,5-Tetramethylben...	20.64	119	59	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

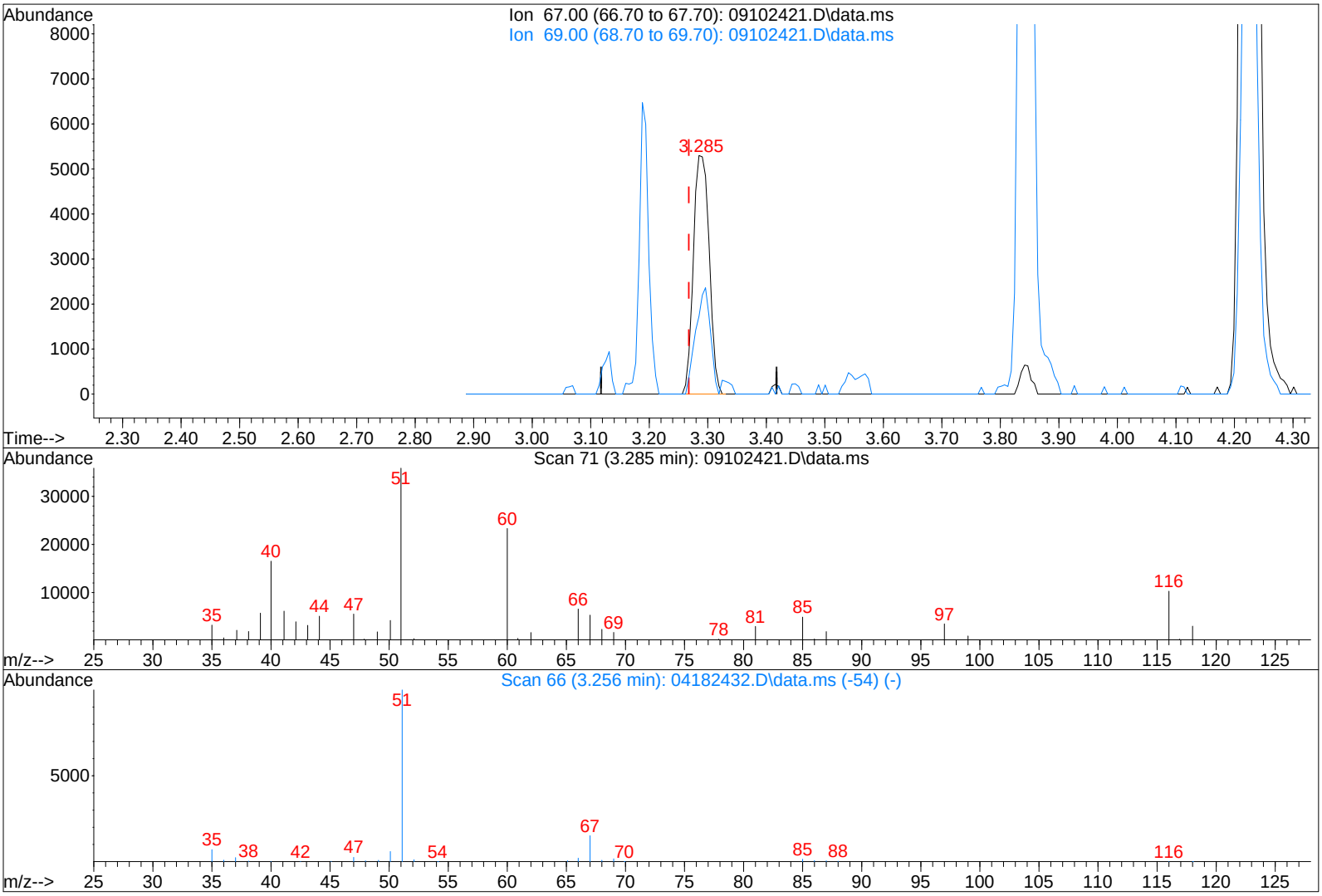
Quant Time: Sep 11 11:55:57 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:55:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.285min (+0.017) 2.29ng

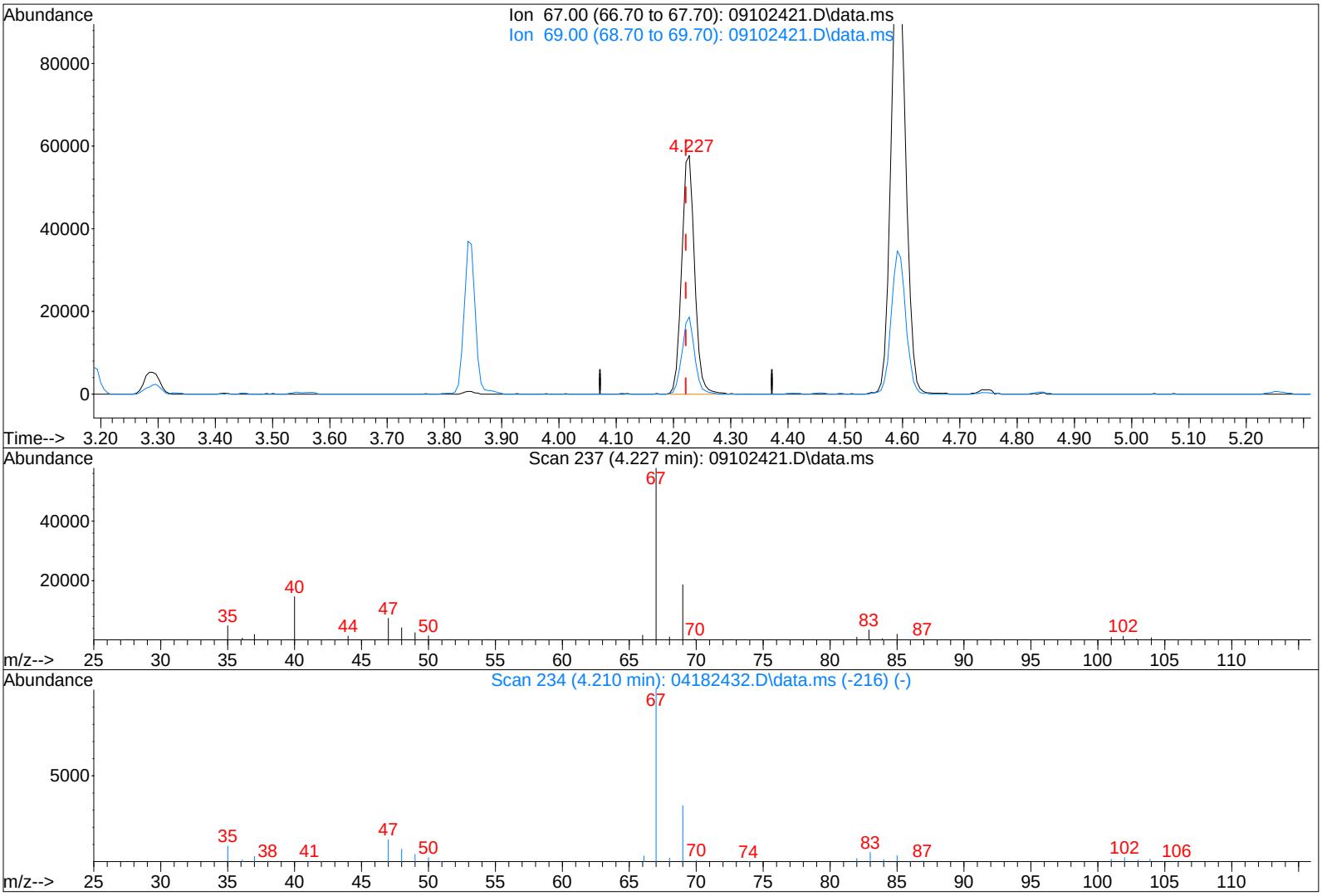
response 9954

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	41.23
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102421.D Vial: 13
Acq On : 10 Sep 2024 20:30 Operator: SC
Sample : P2403661-027 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:55:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102421.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 3.08ng

response 90293

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.70
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102421.D
Acq On : 10 Sep 2024 20:30
Operator : SC
Sample : P2403661-027 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102421.D\data.ms

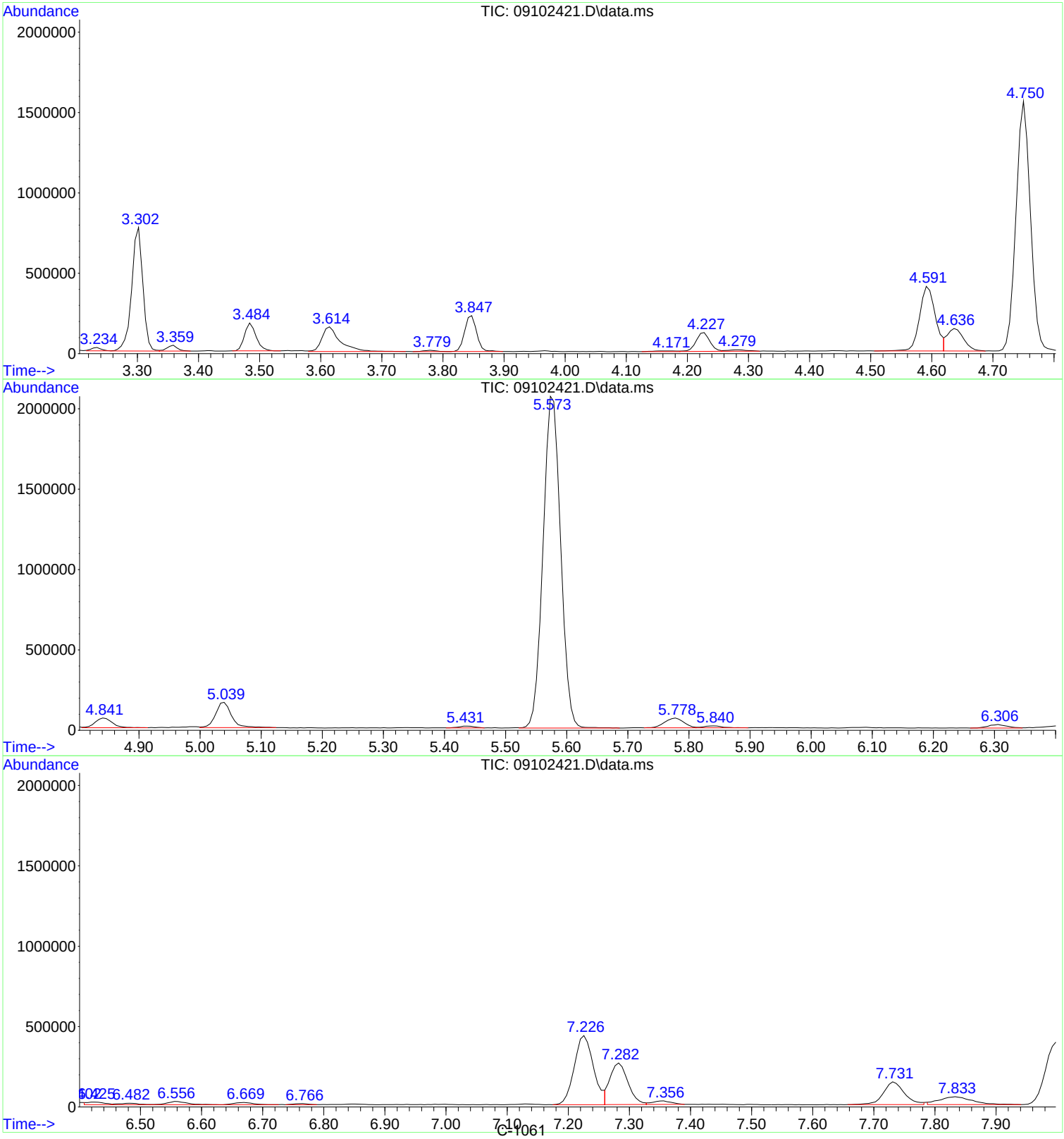
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	66	rVB	21020	22916	0.56%	0.182%
2	3.302	66	74	80	rVV3	768774	973631	23.59%	7.723%
3	3.359	80	84	89	rVB	36589	42182	1.02%	0.335%
4	3.484	101	106	115	rVB	173560	227958	5.52%	1.808%
5	3.614	123	129	151	rVB2	153996	318165	7.71%	2.524%
6	3.779	153	158	164	rBV2	7800	10979	0.27%	0.087%
7	3.847	164	170	179	rVV2	223106	305168	7.40%	2.421%
8	4.171	219	227	230	rBV2	4499	12697	0.31%	0.101%
9	4.227	230	237	242	rVV	117173	183270	4.44%	1.454%
10	4.279	242	246	253	rVB2	8617	18935	0.46%	0.150%
11	4.591	286	301	306	rBV	402200	727111	17.62%	5.768%
12	4.636	306	309	318	rVV2	139969	253356	6.14%	2.010%
13	4.750	321	329	339	rVV	1554699	2558205	61.99%	20.293%
14	4.841	339	345	358	rVB2	60893	118309	2.87%	0.938%
15	5.039	373	380	395	rVB	157383	284699	6.90%	2.258%
16	5.431	444	449	455	rVB3	11302	20873	0.51%	0.166%
17	5.573	465	474	494	rVB	2064116	4126517	100.00%	32.734%
18	5.778	501	510	516	rBV3	61054	132849	3.22%	1.054%
19	5.840	516	521	531	rVB2	12118	25427	0.62%	0.202%
20	6.306	595	603	610	rBV	22232	47407	1.15%	0.376%
21	6.402	610	620	621	rVV3	14088	27074	0.66%	0.215%
22	6.425	621	624	629	rVV3	16369	30981	0.75%	0.246%
23	6.482	629	634	640	rVV3	8687	18687	0.45%	0.148%
24	6.556	640	647	661	rVB5	19803	44149	1.07%	0.350%
25	6.669	661	667	677	rBV	13915	28755	0.70%	0.228%
26	6.766	679	684	688	rBV4	6829	11532	0.28%	0.091%
27	7.226	756	765	771	rBV	430216	953061	23.10%	7.560%
28	7.282	771	775	783	rVV	258421	517509	12.54%	4.105%
29	7.356	783	788	794	rVB2	21738	45784	1.11%	0.363%
30	7.731	841	854	863	rBV	142016	339077	8.22%	2.690%
31	7.833	864	872	891	rVB4	49188	179031	4.34%	1.420%

Sum of corrected areas: 12606294

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102421.D
Acq On : 10 Sep 2024 20:30
Operator : SC
Sample : P2403661-027 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Library Search Compound Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102421.D
Acq On : 10 Sep 2024 20:30
Operator : SC
Sample : P2403661-027 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

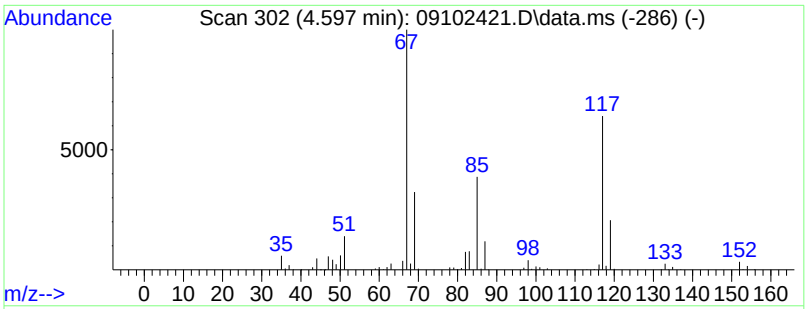
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

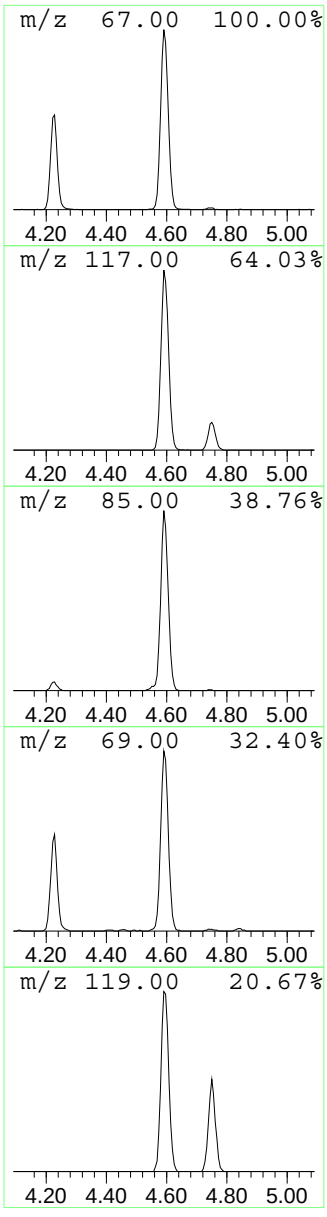
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 8 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.591	9.54 ng	727111	Bromochloromethane (IS1)	7.226

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,2-dichloro-1,1,2-trifl...	152	C2HCl2F3	000354-23-4	93
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
3	Fluorodichloromethane	102	CHCl2F	000075-43-4	35
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	16
5	Fluorodichloromethane	102	CHCl2F	000075-43-4	16





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024_09\10\
Data File : 09102421.D
Acq On : 10 Sep 2024 20:30
Operator : SC
Sample : P2403661-027 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

					Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
Ethane, 1,2-dic...	4.591	9.5	ng	727111	1	7.226	953061	12.5

9/29/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 10:56:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	128787	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	556315	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.85	54	181084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	332653	13.803	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.40%				
57) Toluene-d8 (SS2)	12.43	98	659049	10.375	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.96%				
73) Bromofluorobenzene (SS3)	16.83	174	232273	10.933	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.36	85	21167	0.677	ng		98
4) Chloromethane	3.49	50	6886	0.282	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	308	N.D.			
6) Vinyl Chloride	3.76	62	446	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D. d			
8) Bromomethane	4.02	94	1685	0.166	ng		97
9) Chloroethane	4.15	64	856	0.099	ng	#	44
10) Ethanol	4.31	45	222110	15.891	ng		99
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.52	56	14827	1.389	ng		96
13) Acetone	4.62	58	372305	31.568	ng	#	12
14) Trichlorofluoromethane	4.76	101	1774112	59.486	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	375371	8.084	ng		90
16) Acrylonitrile	0.00	53	0	N.D. d			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.35	84	18379	1.323	ng	#	77
20) 3-Chloro-1-propene (Al...	5.45	41	352	N.D.			
21) Trichlorotrifluoroethane	5.58	151	811374	68.671	ng		94
22) Carbon Disulfide	5.60	76	91824	1.994	ng	#	3
23) trans-1,2-Dichloroethene	6.14	61	1215	0.054	ng		94
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.33	73	1492	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	22606	2.702	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D. d			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	27253	4.861	ng		88
31) n-Hexane	7.30	57	69930	2.736	ng		98
32) Chloroform	7.36	83	27163	1.059	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	7.83	87	259	N.D.			
36) 1,2-Dichloroethane	8.12	62	4192	0.165	ng		93
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	9795	No Calib		#	
40) 1-Butanol	8.81	56	66080	No Calib		#	
41) Benzene	8.90	78	26322	0.505	ng		99
42) Carbon Tetrachloride	9.07	117	5226	0.242	ng		98
43) Cyclohexane	9.22	84	65974	3.746	ng		97
44) tert-Amyl Methyl Ether	9.59	73	1629	N.D.			
45) 1,2-Dichloropropane	9.85	63	4674	0.338	ng		97
46) Bromodichloromethane	0.00	83	0	N.D. d			
47) Trichloroethene	0.00	130	0	N.D. d			
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	10.24	57	14197	0.230	ng		71
50) Methyl Methacrylate	10.42	100	1130	0.249	ng	#	67

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:56:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

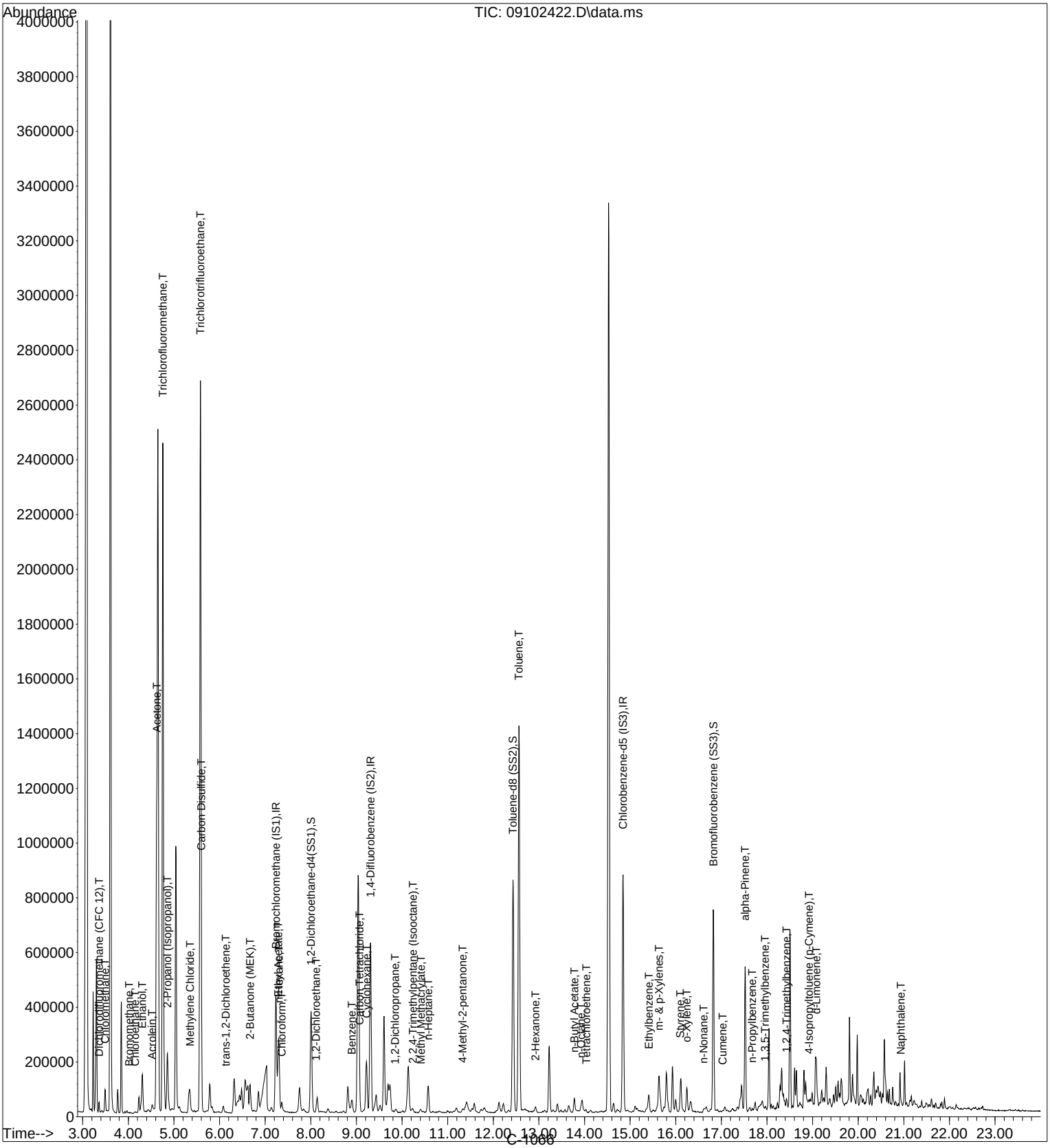
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.58	71	20600	1.772	ng		89
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.33	58	4287	0.311	ng	#	60
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	1176591	17.134	ng		100
59) 2-Hexanone	12.93	43	21959	0.517	ng	#	66
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.78	43	50614	1.063	ng		96
63) n-Octane	13.93	57	3847	0.238	ng		91
64) Tetrachloroethene	14.04	166	2669	0.140	ng		99
65) Chlorobenzene	14.90	112	1165	N.D.			
66) Ethylbenzene	15.41	91	48661	0.616	ng		97
67) m- & p-Xylenes	15.63	91	108534	1.689	ng		99
68) Bromoform	15.68	173	114	N.D.			
69) Styrene	16.10	104	27492	0.662	ng		99
70) o-Xylene	16.24	91	54769	0.873	ng		99
71) n-Nonane	16.61	43	5688	0.138	ng		100
72) 1,1,2,2-Tetrachloroethane	16.20	83	189	N.D.			
74) Cumene	17.03	105	3741	0.051	ng		98
75) alpha-Pinene	17.52	93	205824	5.444	ng		97
76) n-Propylbenzene	17.68	91	5448	0.060	ng		96
77) 3-Ethyltoluene	17.03	105	3741	No Calib			
78) 4-Ethyltoluene	17.86	105	3034	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	3904	0.063	ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	3741	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	11880	0.184	ng		92
83) n-Decane	17.08	58	1627	No Calib		#	
84) Benzyl Chloride	18.56	91	1426	N.D.			
85) 1,3-Dichlorobenzene	18.58	146	176	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	909	N.D.			
87) sec-Butylbenzene	18.74	105	1226	N.D.			
88) 4-Isopropyltoluene (p-...	18.92	119	8234	0.116	ng		97
89) 1,2,3-Trimethylbenzene	17.03	105	3741	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	250	N.D.			
91) d-Limonene	19.08	68	26991	1.250	ng		81
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	17.97	58	827	No Calib		#	
94) 1,2,4-Trichlorobenzene	20.84	180	740	N.D.			
95) Naphthalene	20.94	128	5319	0.078	ng		96
96) n-Dodecane	18.99	58	690	No Calib		#	
97) Hexachlorobutadiene	21.30	225	225	N.D.			
98) Cyclohexanone	15.29	55	306	No Calib		#	
99) tert-Butylbenzene	18.43	119	1603	N.D.			
100) n-Butylbenzene	19.38	91	2637	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:56:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:56:02 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

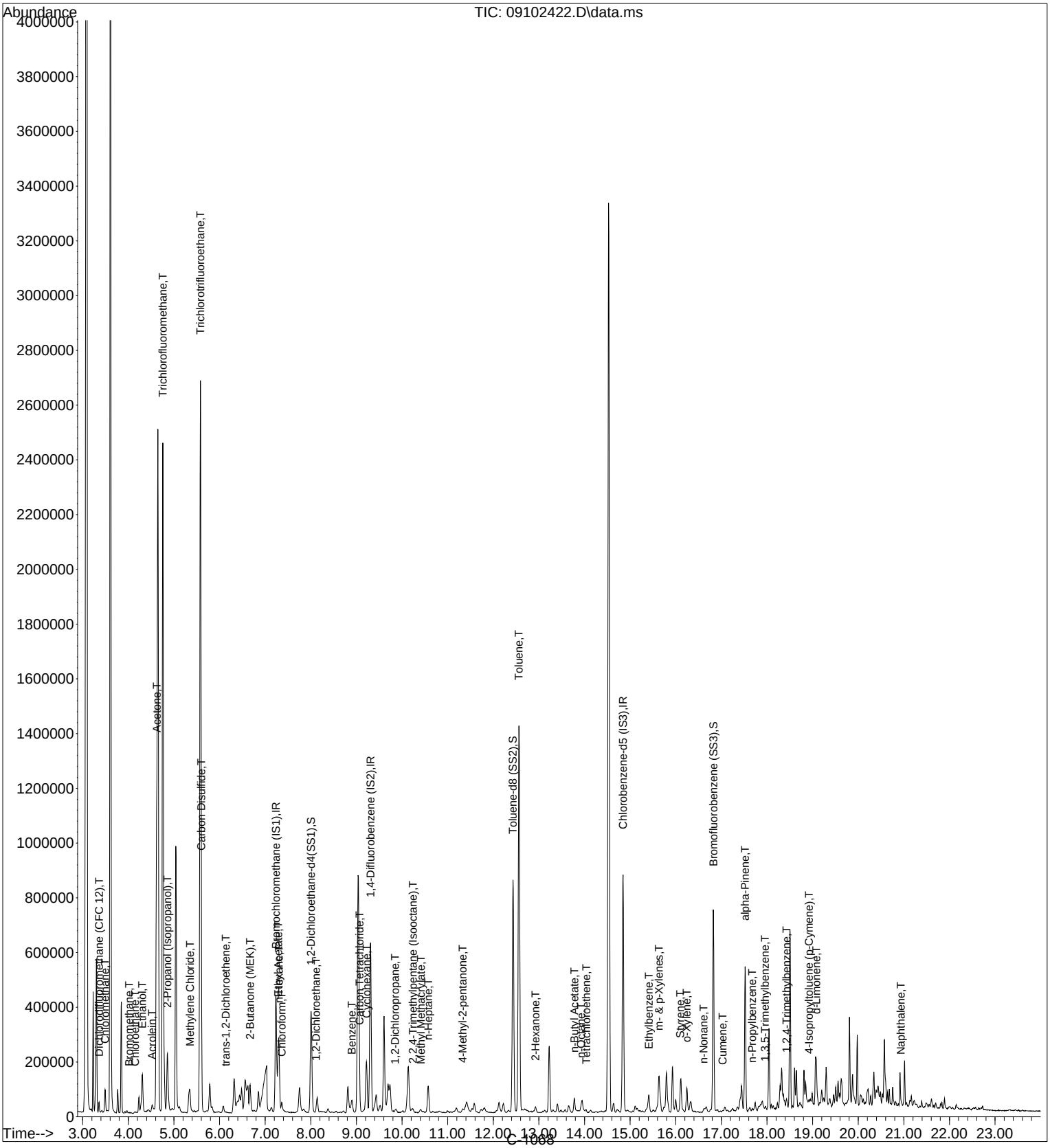
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	128787	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	556315	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.85	54	181084	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	332653	13.803	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.40%				
57) Toluene-d8 (SS2)	12.43	98	659049	10.375	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.96%				
73) Bromofluorobenzene (SS3)	16.83	174	232273	10.933	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	21167	0.677	ng		98
4) Chloromethane	3.49	50	6886	0.282	ng		93
8) Bromomethane	4.02	94	1685	0.166	ng		97
9) Chloroethane	4.15	64	856	0.099	ng	#	44
10) Ethanol	4.31	45	222110	15.891	ng		99
12) Acrolein	4.52	56	14827	1.389	ng		96
13) Acetone	4.62	58	372305	31.568	ng	#	12
14) Trichlorofluoromethane	4.76	101	1774112	59.486	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	375371	8.084	ng		90
19) Methylene Chloride	5.35	84	18379	1.323	ng	#	77
21) Trichlorotrifluoroethane	5.58	151	811374	68.671	ng		94
22) Carbon Disulfide	5.60	76	91824	1.994	ng	#	3
23) trans-1,2-Dichloroethene	6.14	61	1215	0.054	ng		94
27) 2-Butanone (MEK)	6.67	72	22606	2.702	ng	#	66
30) Ethyl Acetate	7.29	61	27253	4.861	ng		88
31) n-Hexane	7.30	57	69930	2.736	ng		98
32) Chloroform	7.36	83	27163	1.059	ng		100
36) 1,2-Dichloroethane	8.12	62	4192	0.165	ng		93
41) Benzene	8.90	78	26322	0.505	ng		99
42) Carbon Tetrachloride	9.07	117	5226	0.242	ng		98
43) Cyclohexane	9.22	84	65974	3.746	ng		97
45) 1,2-Dichloropropane	9.85	63	4674	0.338	ng		97
49) 2,2,4-Trimethylpentane...	10.24	57	14197	0.230	ng		71
50) Methyl Methacrylate	10.42	100	1130	0.249	ng	#	67
51) n-Heptane	10.58	71	20600	1.772	ng		89
53) 4-Methyl-2-pentanone	11.33	58	4287	0.311	ng	#	60
58) Toluene	12.56	91	1176591	17.134	ng		100
59) 2-Hexanone	12.93	43	21959	0.517	ng	#	66
62) n-Butyl Acetate	13.78	43	50614	1.063	ng		96
63) n-Octane	13.93	57	3847	0.238	ng		91
64) Tetrachloroethene	14.04	166	2669	0.140	ng		99
66) Ethylbenzene	15.41	91	48661	0.616	ng		97
67) m- & p-Xylenes	15.63	91	108534	1.689	ng		99
69) Styrene	16.10	104	27492	0.662	ng		99
70) o-Xylene	16.24	91	54769	0.873	ng		99
71) n-Nonane	16.61	43	5688	0.138	ng		100
74) Cumene	17.03	105	3741	0.051	ng		98
75) alpha-Pinene	17.52	93	205824	5.444	ng		97
76) n-Propylbenzene	17.68	91	5448	0.060	ng		96
79) 1,3,5-Trimethylbenzene	17.96	105	3904	0.063	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	11880	0.184	ng		92
88) 4-Isopropyltoluene (p-...	18.92	119	8234	0.116	ng		97
91) d-Limonene	19.08	68	26991	1.250	ng		81
95) Naphthalene	20.94	128	5319	0.078	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

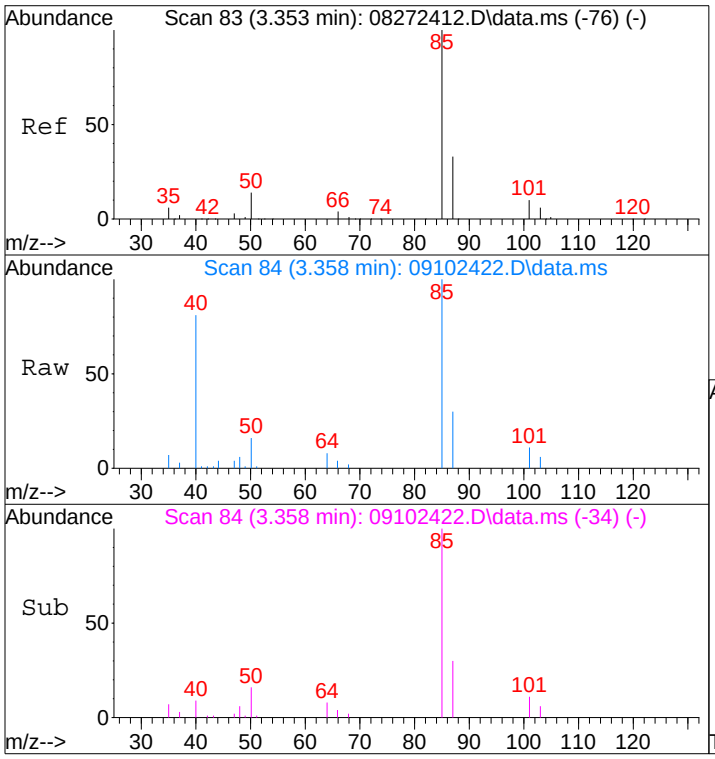
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:56:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



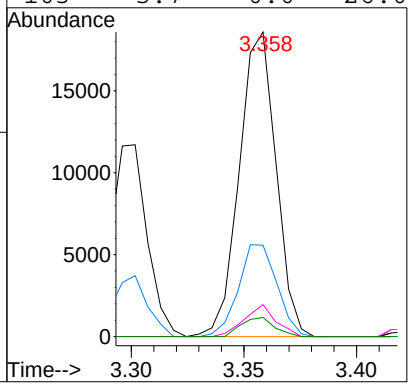
C-1008

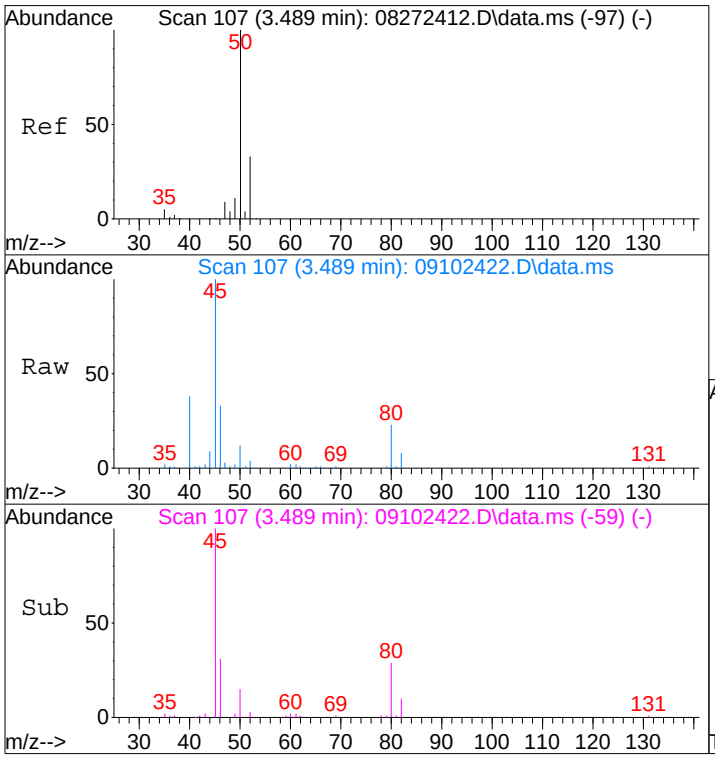


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.68 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.033 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 85 Resp: 21167

Ion	Ratio	Lower	Upper
85	100		
87	31.7	13.1	53.1
101	9.0	0.0	29.4
103	5.7	0.0	26.0

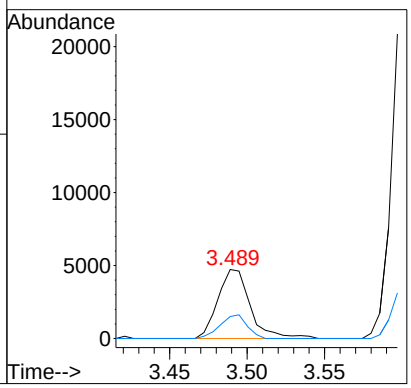


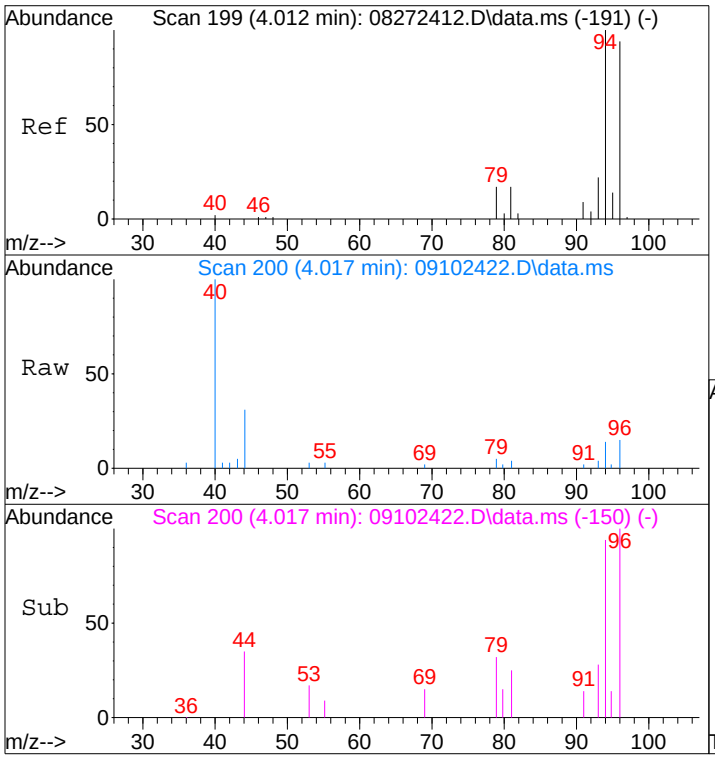


#4
Chloromethane
Concen: 0.28 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.024 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 50 Resp: 6886

Ion	Ratio	Lower	Upper
50	100		
52	28.5	12.4	52.4

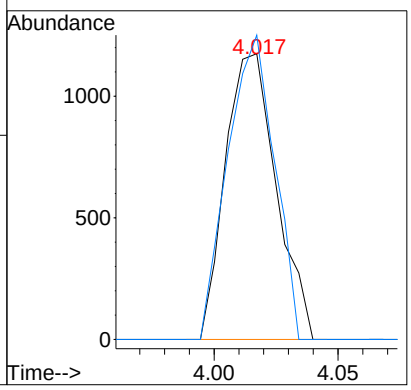


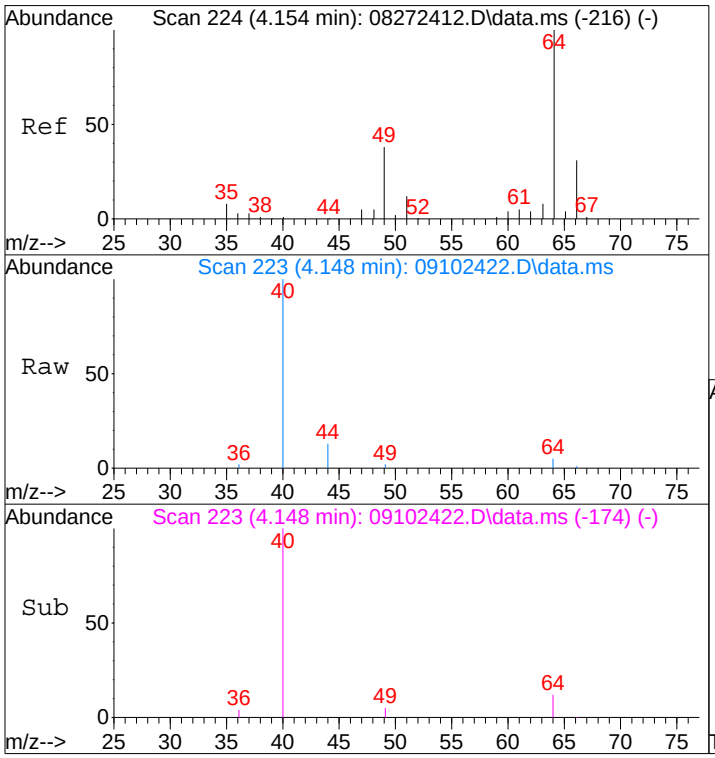


#8
Bromomethane
Concen: 0.17 ng
RT: 4.02 min Scan# 200
Delta R.T. 0.036 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 94 Resp: 1685

Ion	Ratio	Lower	Upper
94	100		
96	97.5	74.2	114.2

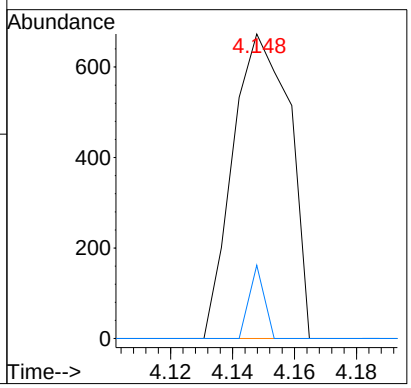


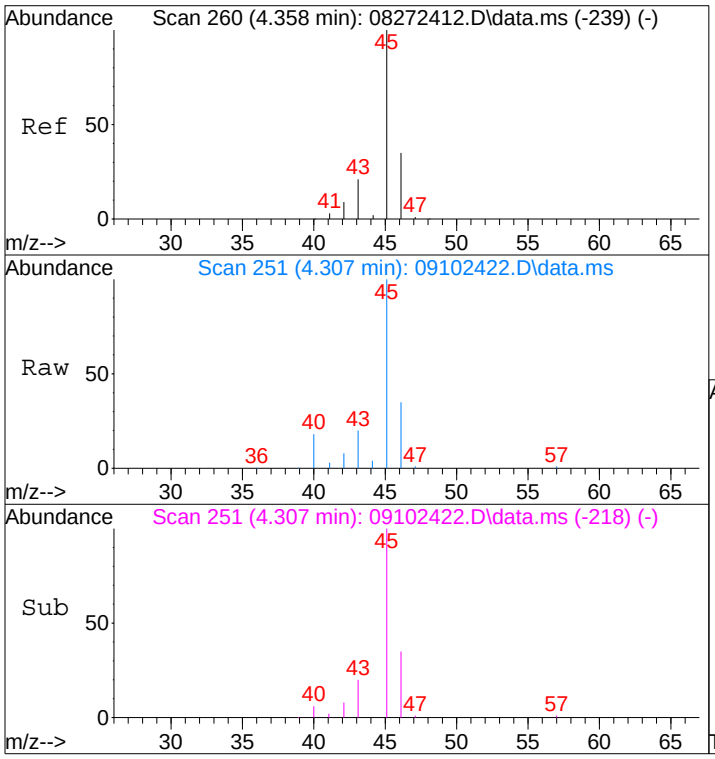


#9
Chloroethane
Concen: 0.10 ng
RT: 4.15 min Scan# 223
Delta R.T. 0.026 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 64 Resp: 856

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.0	51.0#

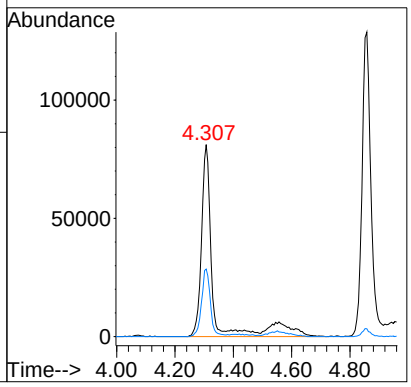


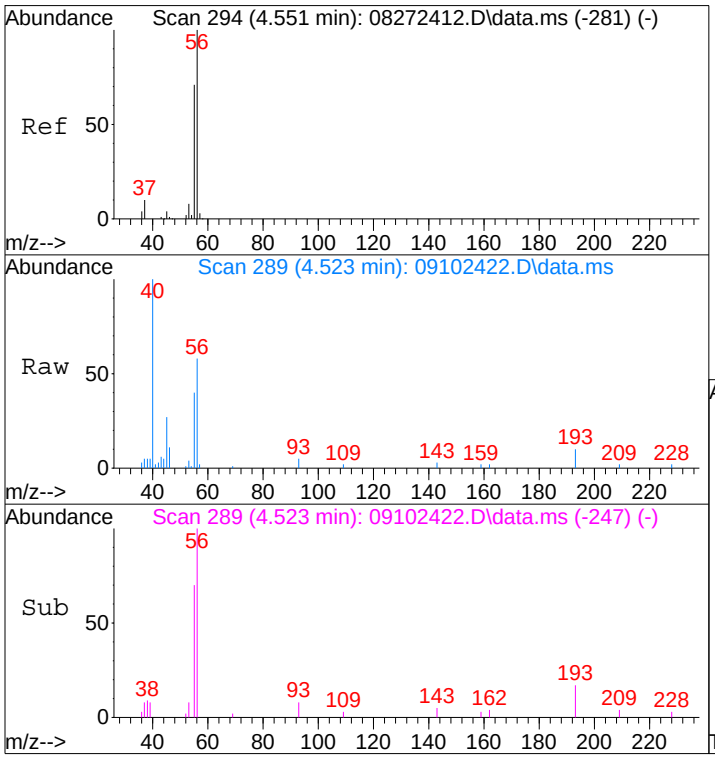


#10
Ethanol
Concen: 15.89 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.062 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 45 Resp: 222110

Ion	Ratio	Lower	Upper
45	100		
46	34.5	14.2	54.2

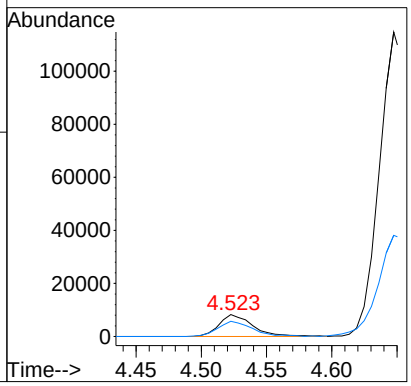


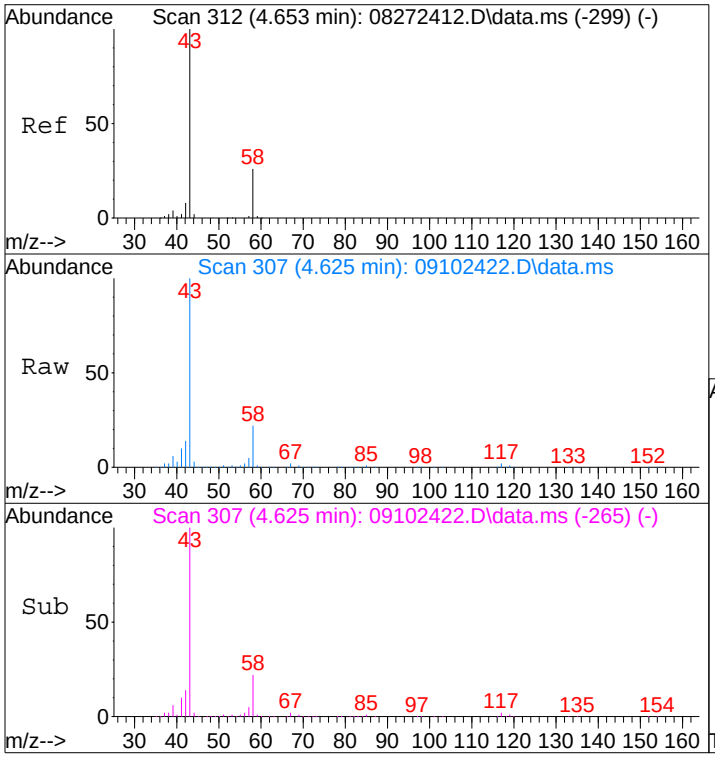


#12
Acrolein
Concen: 1.39 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.009 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 56 Resp: 14827

Ion	Ratio	Lower	Upper
56	100		
55	71.2	54.7	94.7

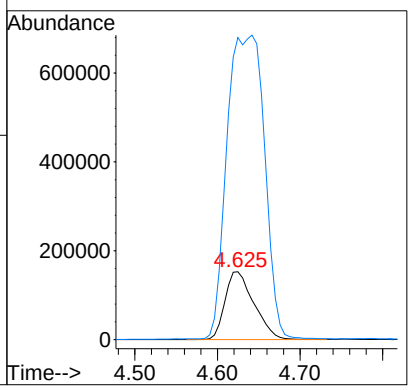


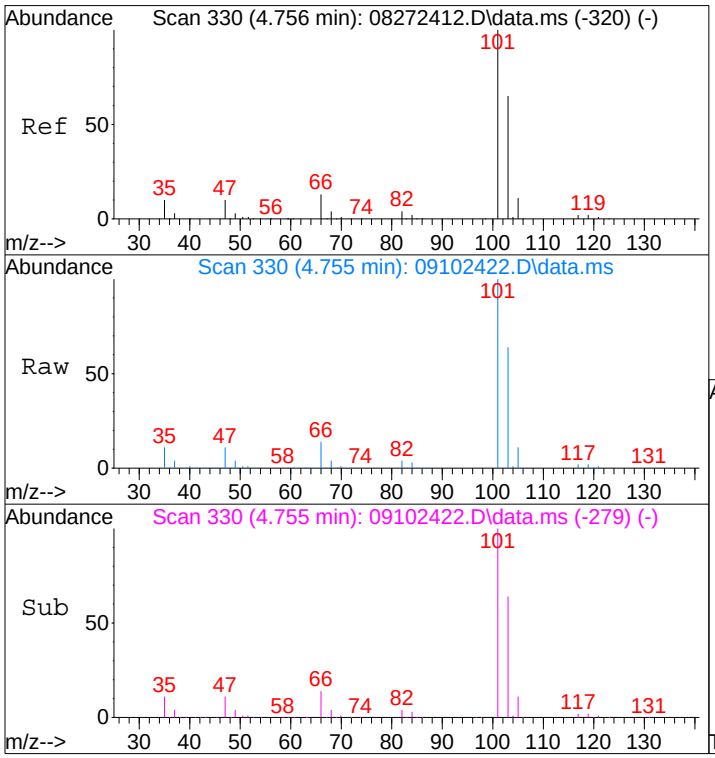


#13
Acetone
Concen: 31.57 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.014 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 58 Resp: 372305

Ion	Ratio	Lower	Upper
58	100		
43	578.8	347.3	407.3#

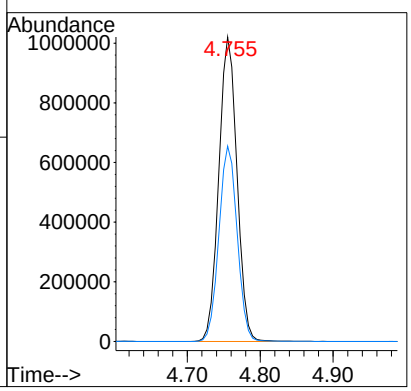


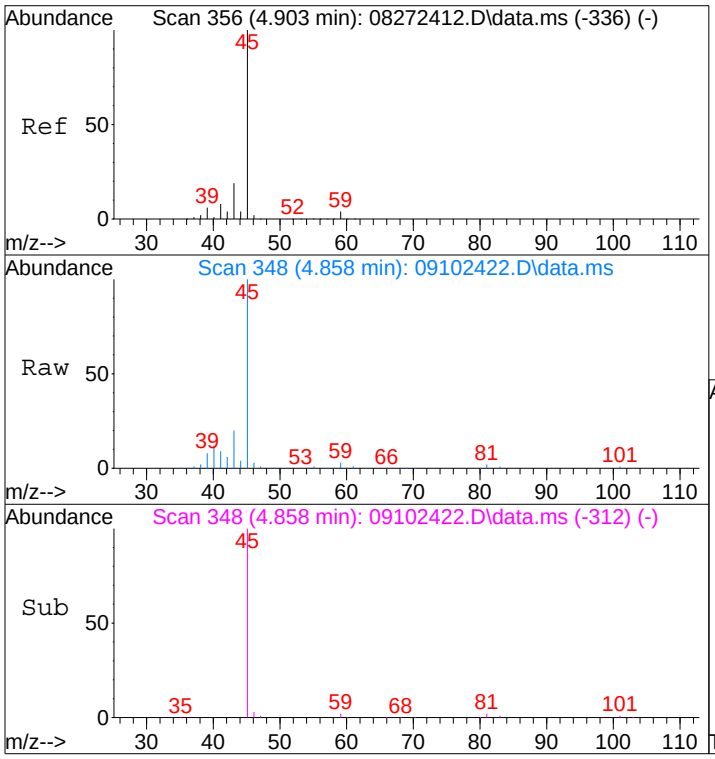


#14
Trichlorofluoromethane
Concen: 59.49 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.038 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:101 Resp: 1774112

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.9	84.9

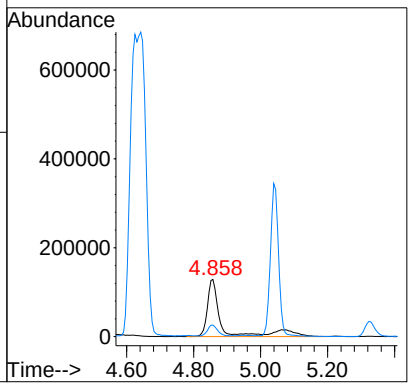


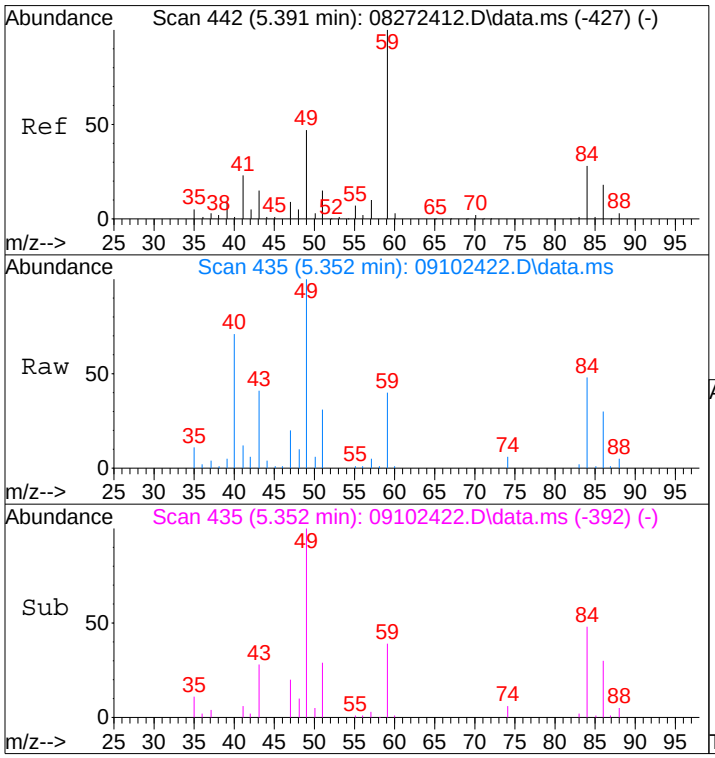


#15
2-Propanol (Isopropanol)
Concen: 8.08 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.045 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 45 Resp: 375371

Ion	Ratio	Lower	Upper
45	100		
43	15.5	0.0	40.0

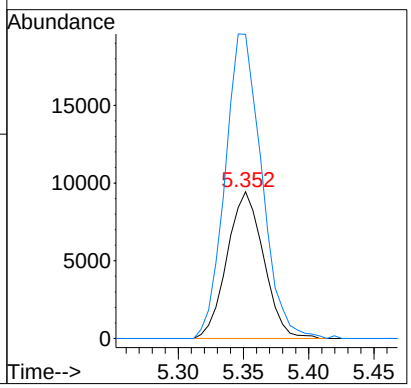


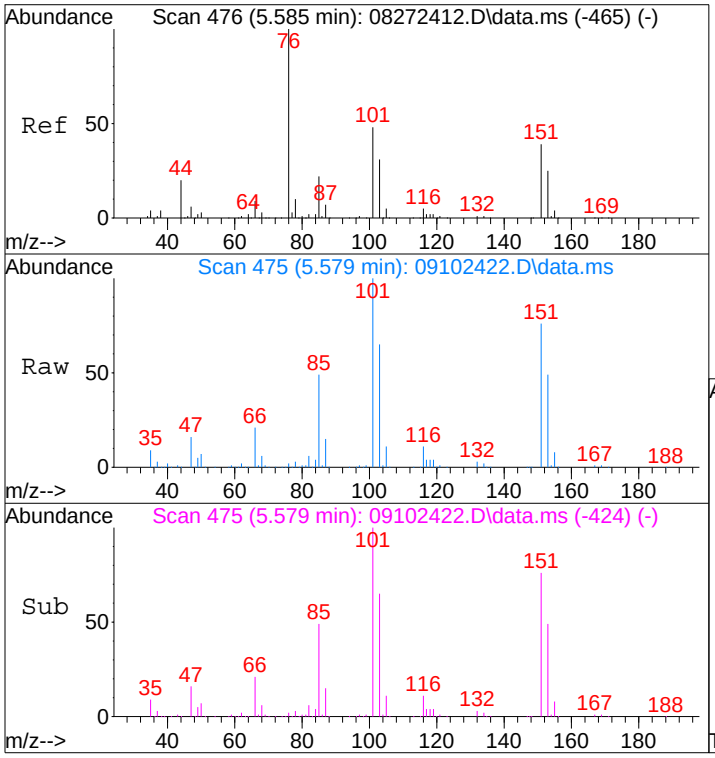


#19
Methylene Chloride
Concen: 1.32 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.005 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 84 Resp: 18379

Ion	Ratio	Lower	Upper
84	100		
49	208.8	151.1	201.1#

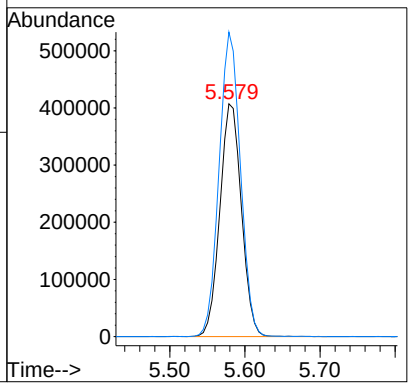


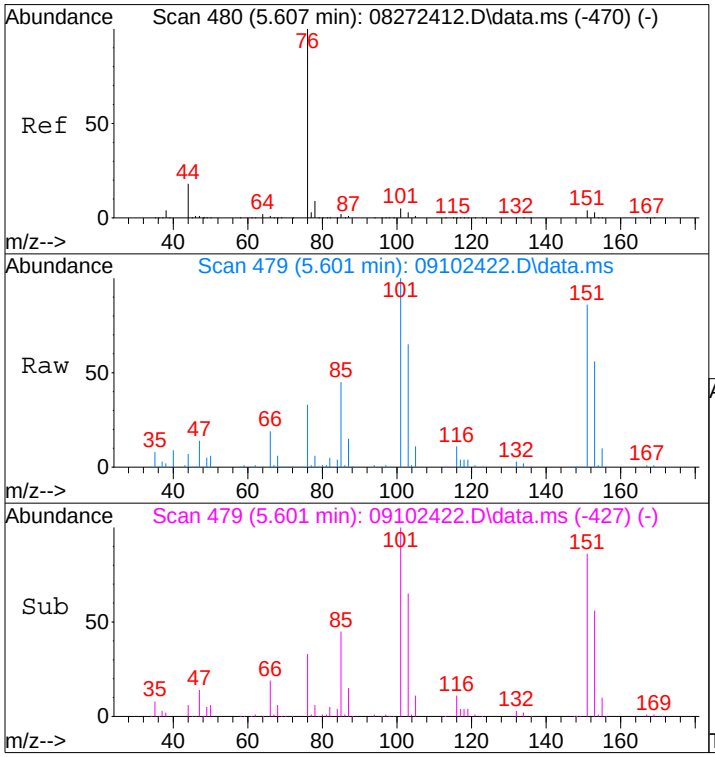


#21
Trichlorotrifluoroethane
Concen: 68.67 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.037 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:151 Resp: 811374

Ion	Ratio	Lower	Upper
151	100		
101	129.7	103.4	143.4

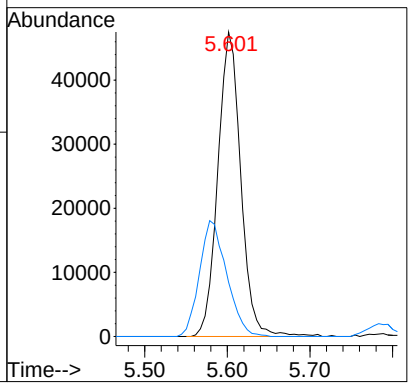


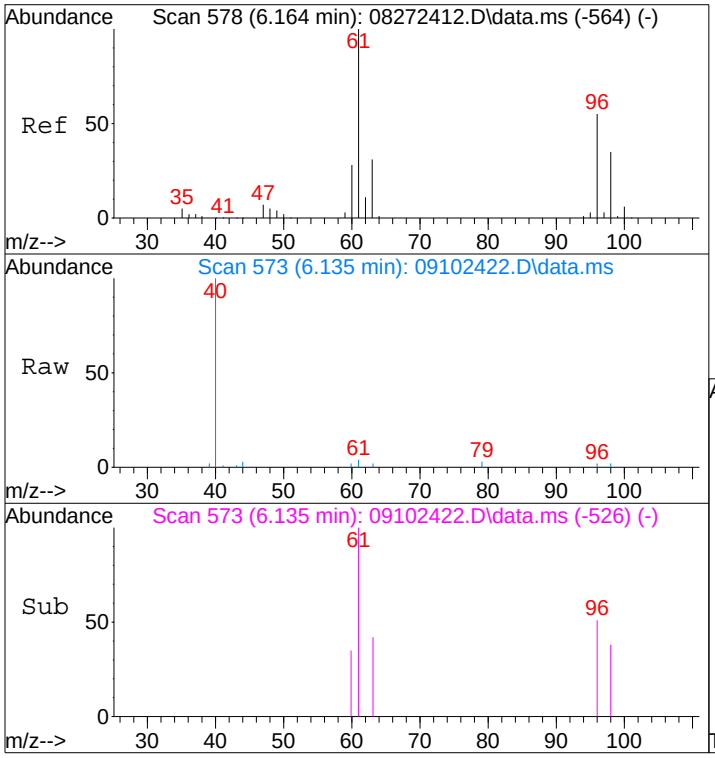


#22
Carbon Disulfide
Concen: 1.99 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.043 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 76 Resp: 91824

Ion	Ratio	Lower	Upper
76	100		
78	45.0	0.0	29.6#

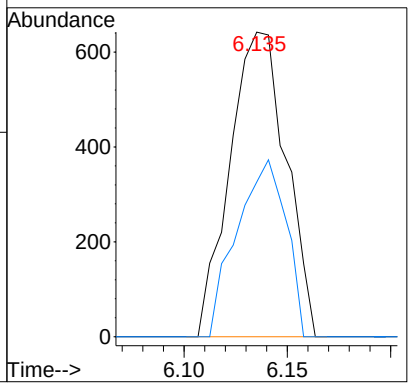


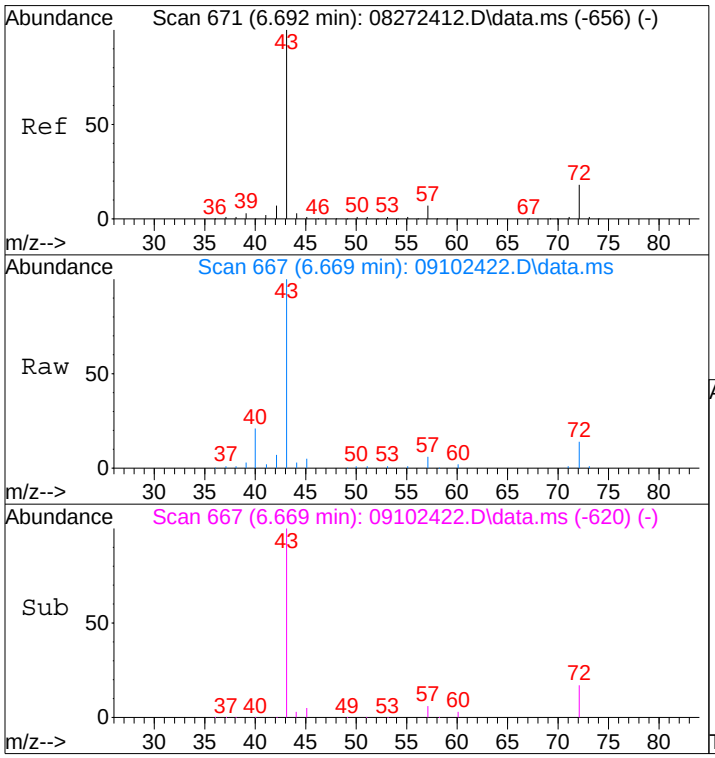


#23
trans-1,2-Dichloroethene
Concen: 0.05 ng
RT: 6.14 min Scan# 573
Delta R.T. 0.015 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 61 Resp: 1215

Ion	Ratio	Lower	Upper
61	100		
96	50.9	35.5	75.5

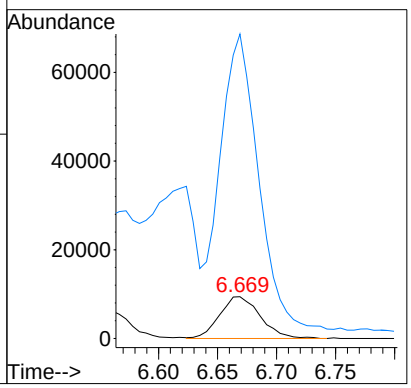


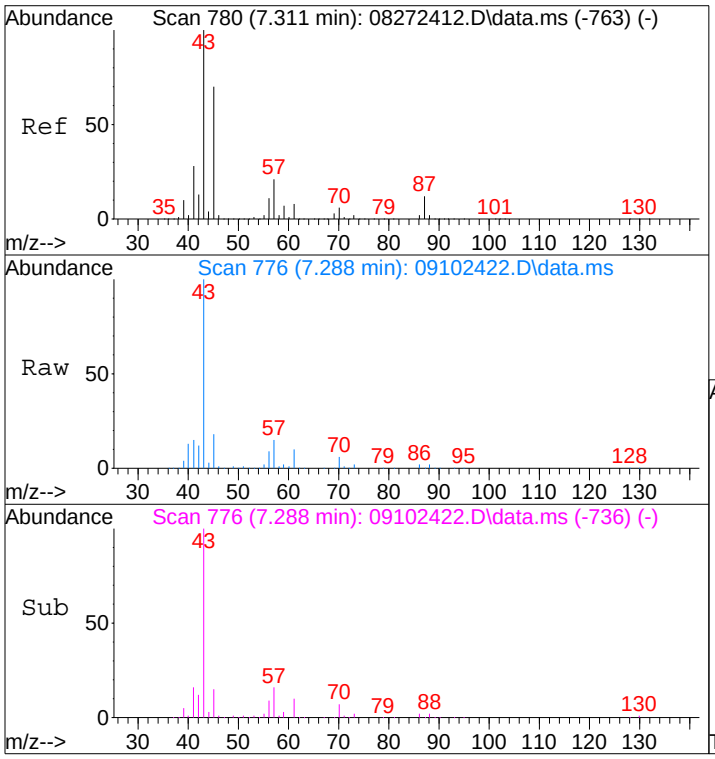


#27
2-Butanone (MEK)
Concen: 2.70 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 72 Resp: 22606

Ion	Ratio	Lower	Upper
72	100		
43	671.4	548.0	588.0#

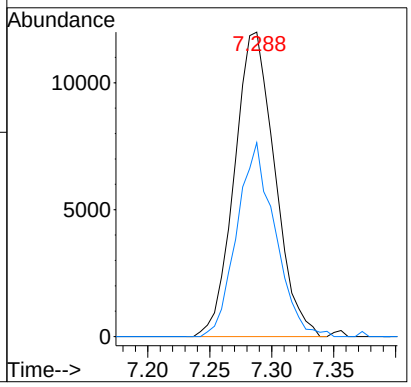


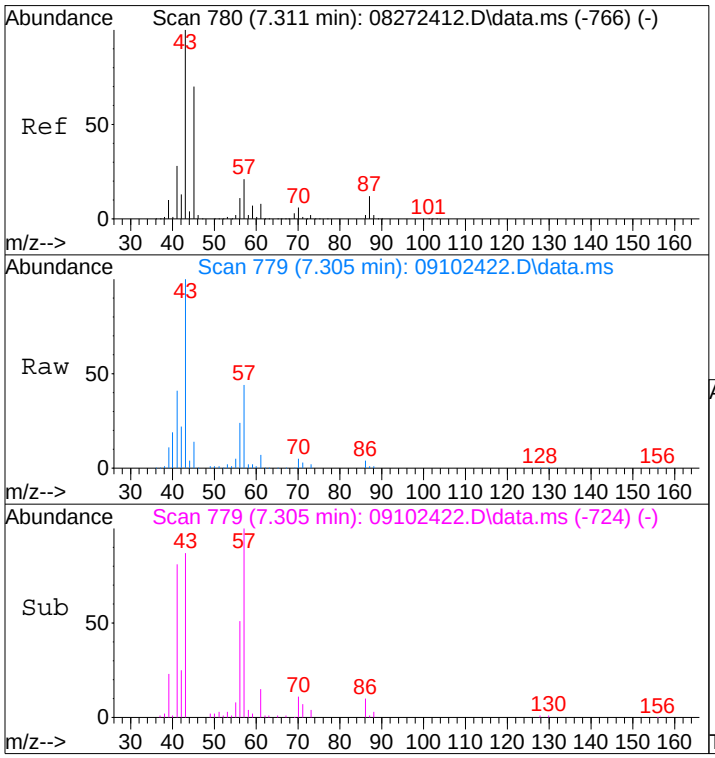


#30
Ethyl Acetate
Concen: 4.86 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.029 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 61 Resp: 27253

Ion	Ratio	Lower	Upper
61	100		
70	60.2	49.9	89.9

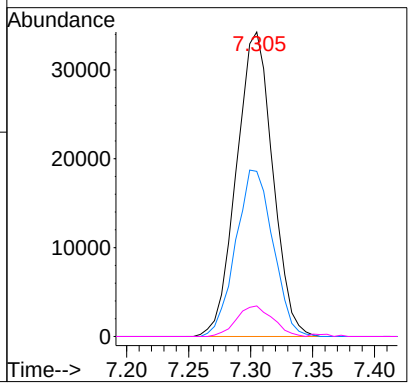


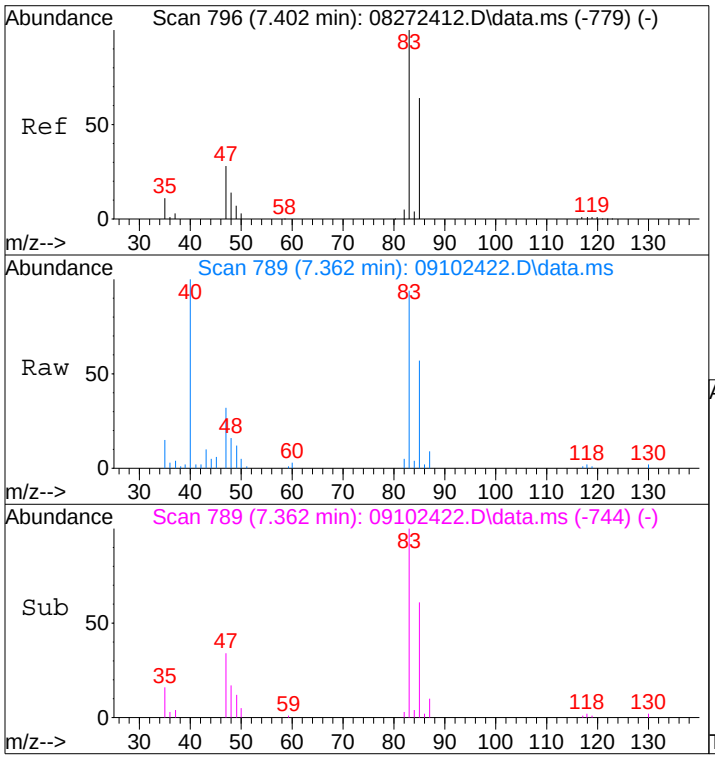


#31
n-Hexane
Concen: 2.74 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.063 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 57 Resp: 69930

Ion	Ratio	Lower	Upper
57	100		
56	56.3	44.2	66.2
86	10.1	9.3	13.9

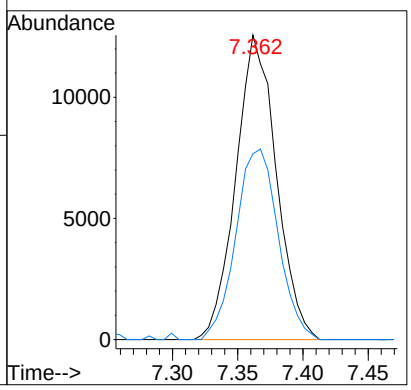


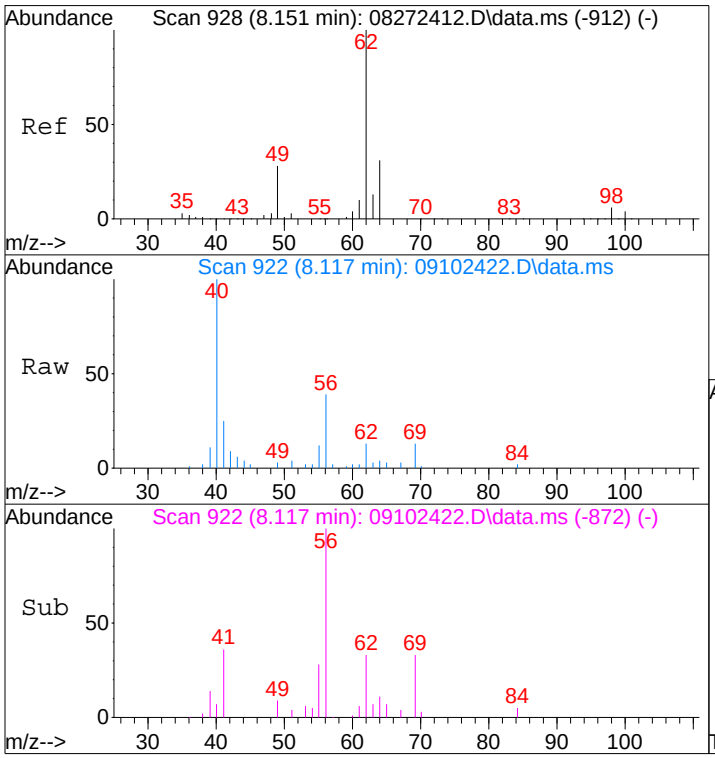


#32
Chloroform
Concen: 1.06 ng
RT: 7.36 min Scan# 789
Delta R.T. 0.007 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 83 Resp: 27163

Ion	Ratio	Lower	Upper
83	100		
85	65.5	45.3	85.3

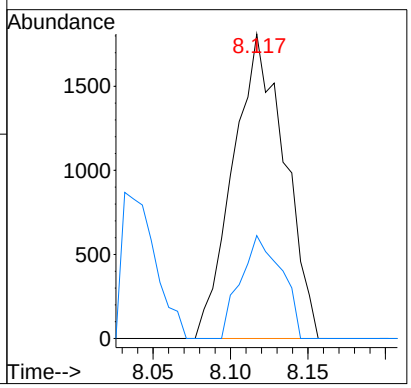


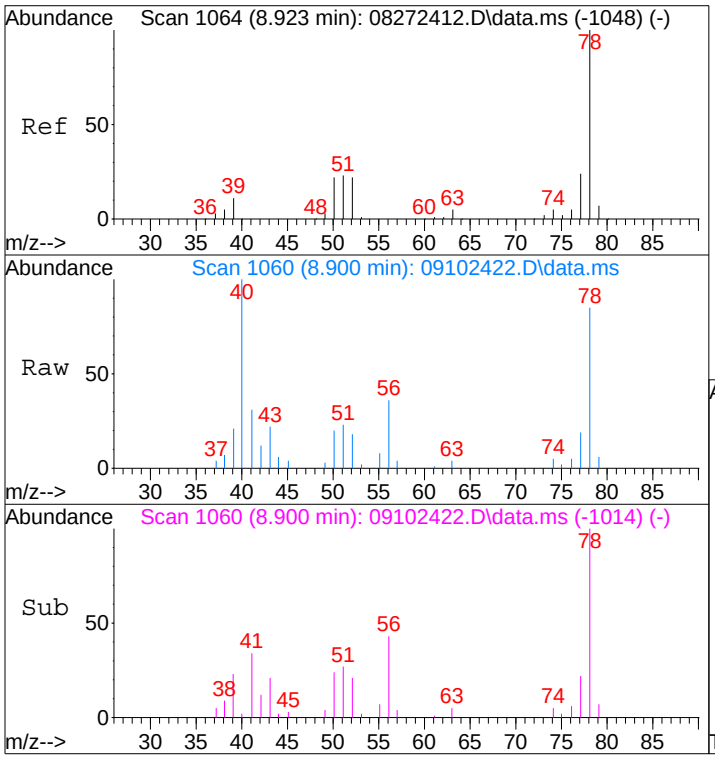


#36
1,2-Dichloroethane
Concen: 0.16 ng
RT: 8.12 min Scan# 922
Delta R.T. 0.033 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 62 Resp: 4192

Ion	Ratio	Lower	Upper
62	100		
64	27.0	11.0	51.0

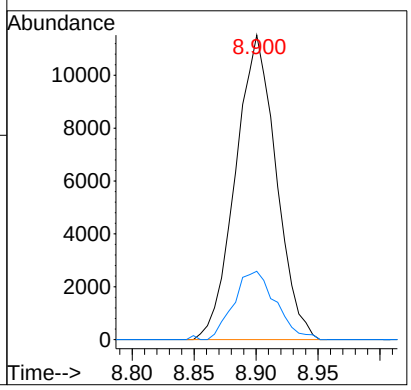


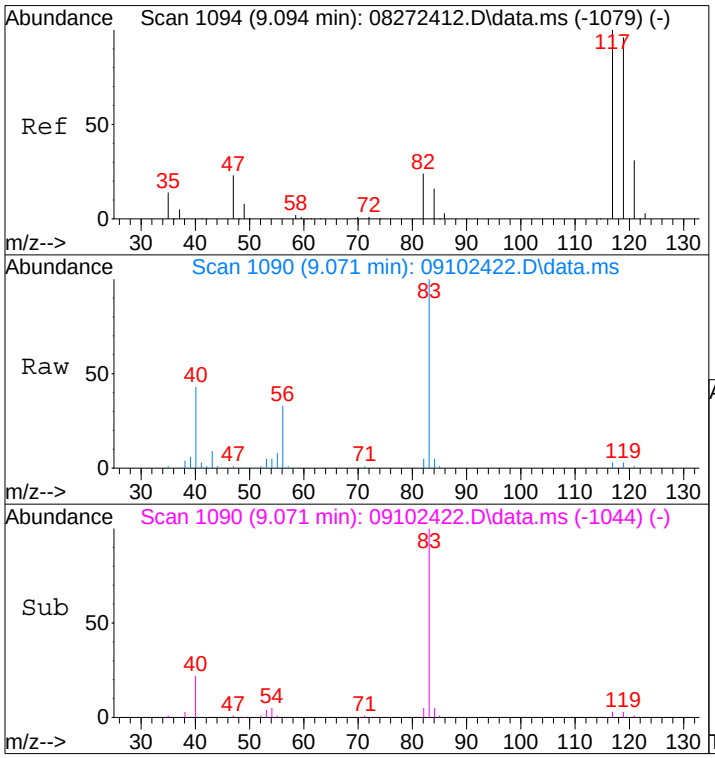


#41
Benzene
Concen: 0.50 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.009 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 78 Resp: 26322

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

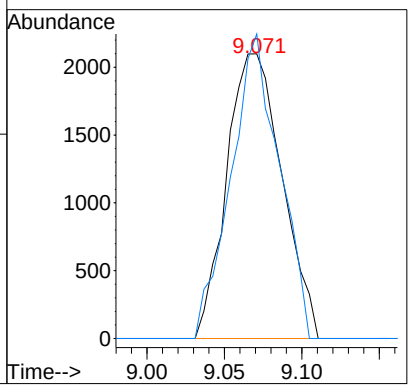


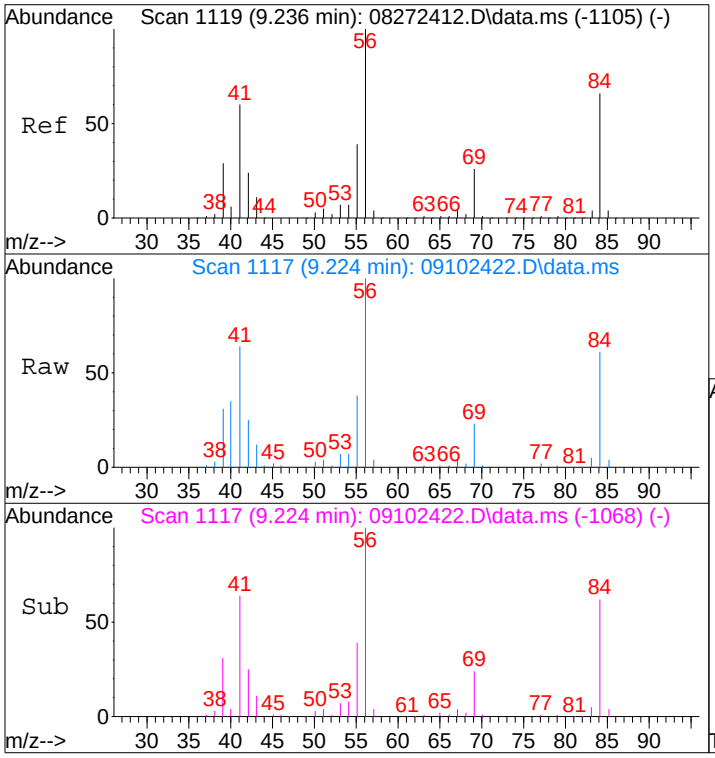


#42
Carbon Tetrachloride
Concen: 0.24 ng
RT: 9.07 min Scan# 1090
Delta R.T. 0.010 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:117 Resp: 5226

Ion	Ratio	Lower	Upper
117	100		
119	93.0	75.1	115.1

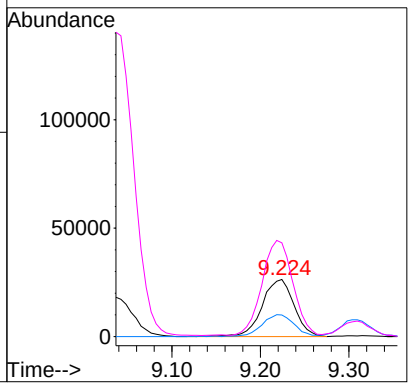


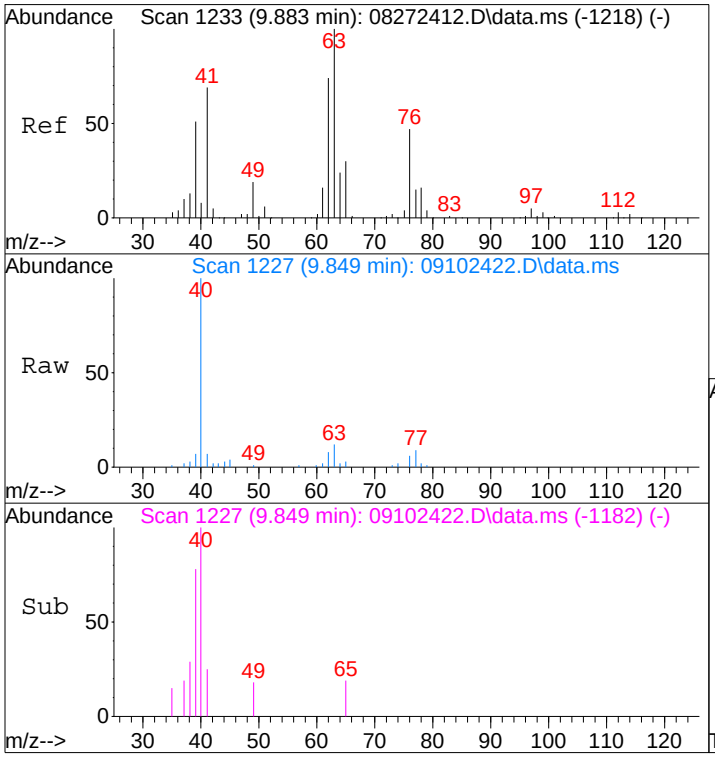


#43
Cyclohexane
Concen: 3.75 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.028 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 84 Resp: 65974

Ion	Ratio	Lower	Upper
84	100		
69	38.7	18.8	58.8
56	159.8	134.5	174.5

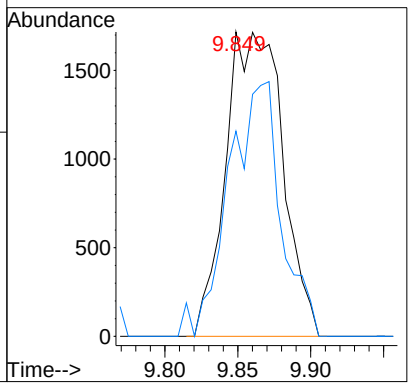


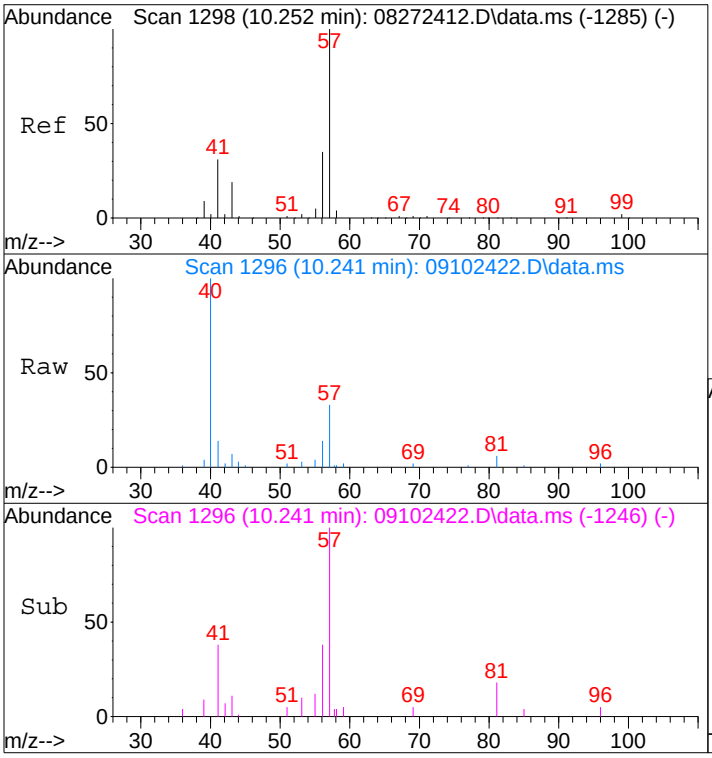


#45
1,2-Dichloropropane
Concen: 0.34 ng
RT: 9.85 min Scan# 1227
Delta R.T. 0.003 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 63 Resp: 4674

Ion	Ratio	Lower	Upper
63	100		
62	76.6	54.2	94.2

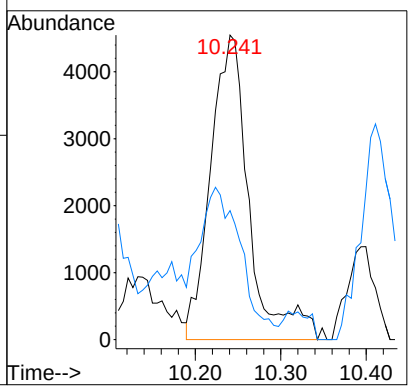


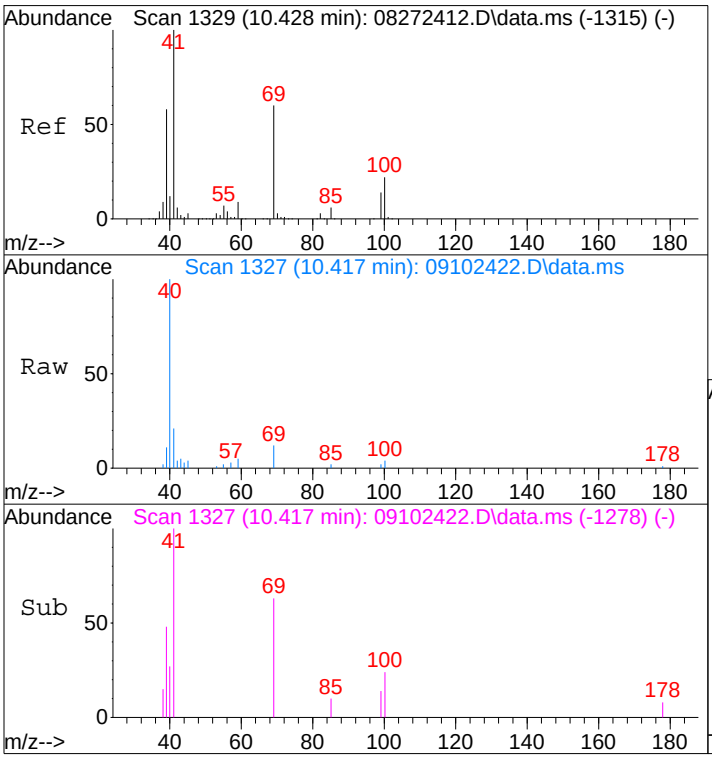


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.23 ng
RT: 10.24 min Scan# 1296
Delta R.T. 0.034 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 57 Resp: 14197

Ion	Ratio	Lower	Upper
57	100		
41	46.6	10.5	50.5

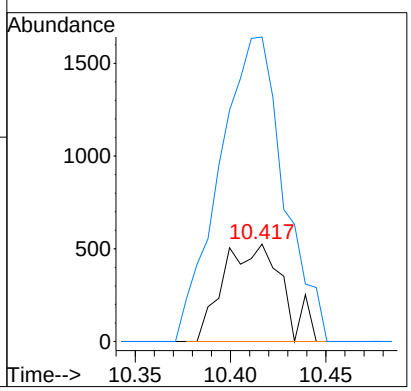


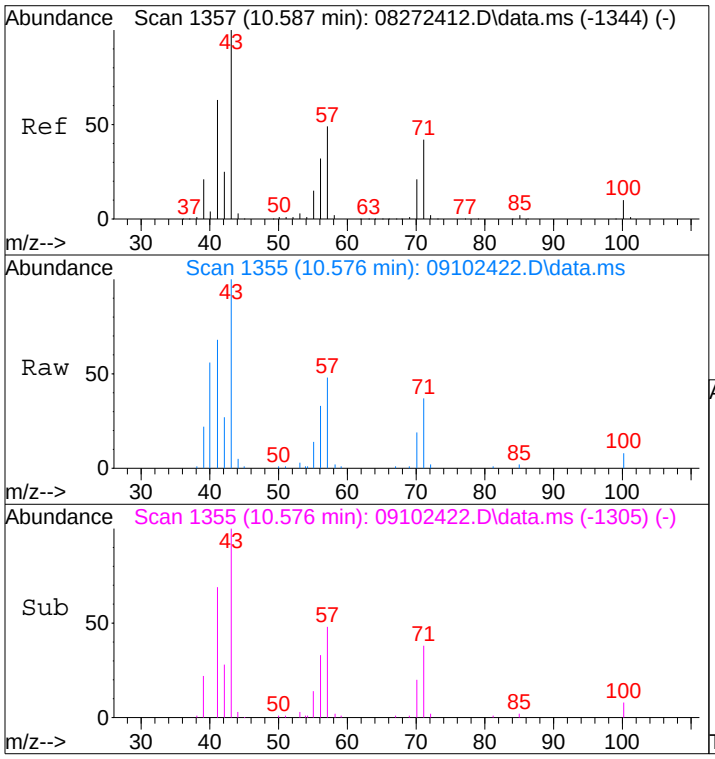


#50
Methyl Methacrylate
Concen: 0.25 ng
RT: 10.42 min Scan# 1327
Delta R.T. 0.029 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:100 Resp: 1130

Ion	Ratio	Lower	Upper
100	100		
69	342.2	260.7	300.7#

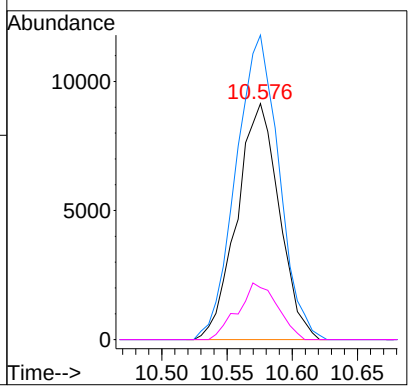


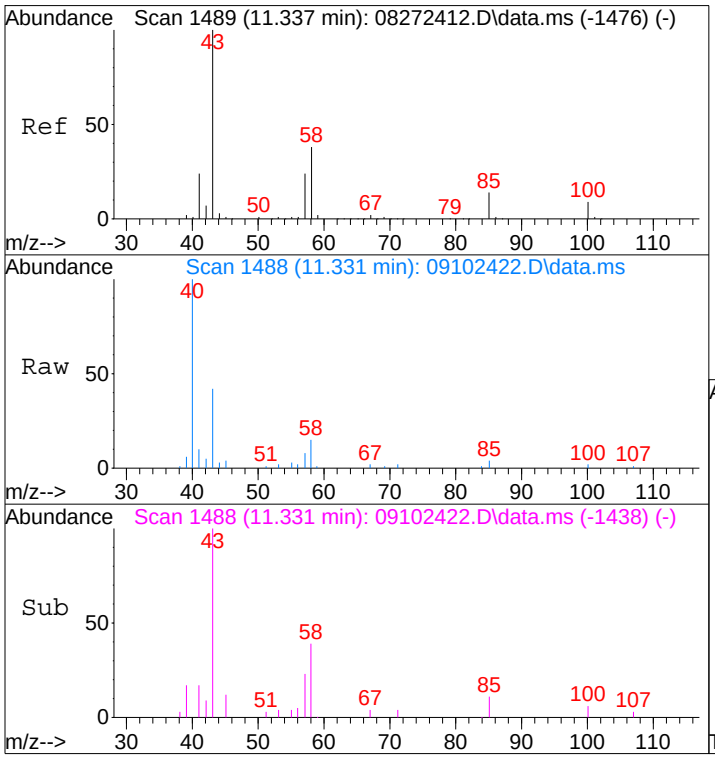


#51
n-Heptane
Concen: 1.77 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.036 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 71 Resp: 20600

Ion	Ratio	Lower	Upper
71	100		
57	131.1	97.1	137.1
100	22.4	5.0	45.0

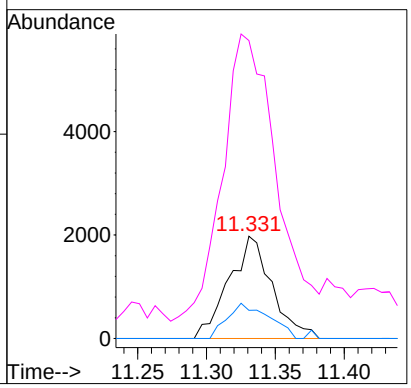


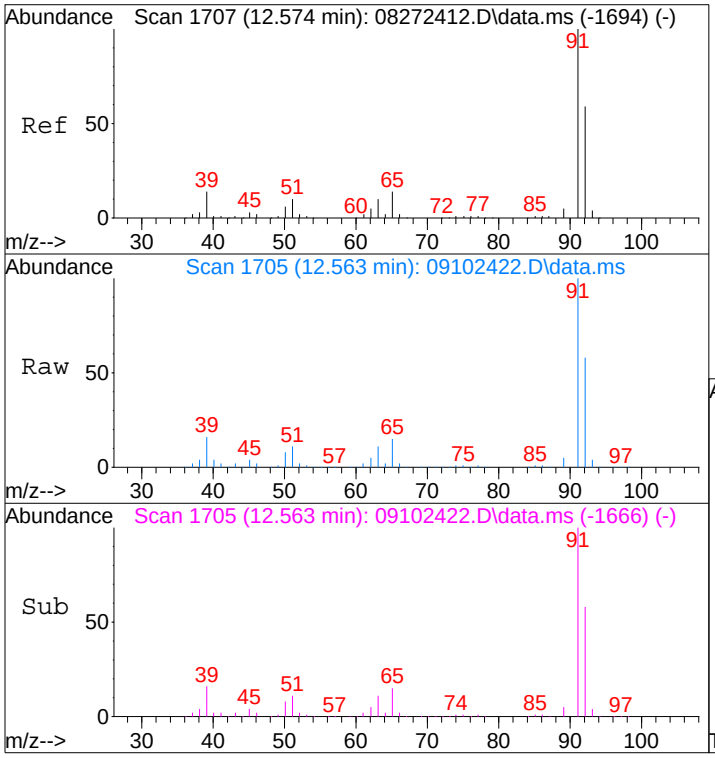


#53
4-Methyl-2-pentanone
Concen: 0.31 ng
RT: 11.33 min Scan# 1488
Delta R.T. 0.035 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 58 Resp: 4287

Ion	Ratio	Lower	Upper
58	100		
85	33.4	30.2	45.2
43	349.7	215.1	322.7#

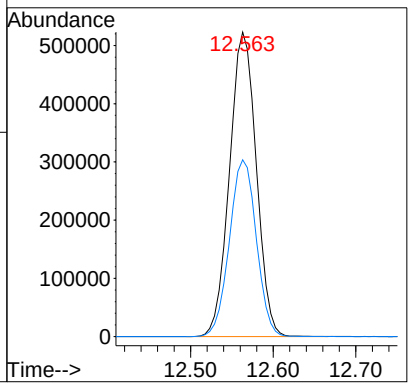


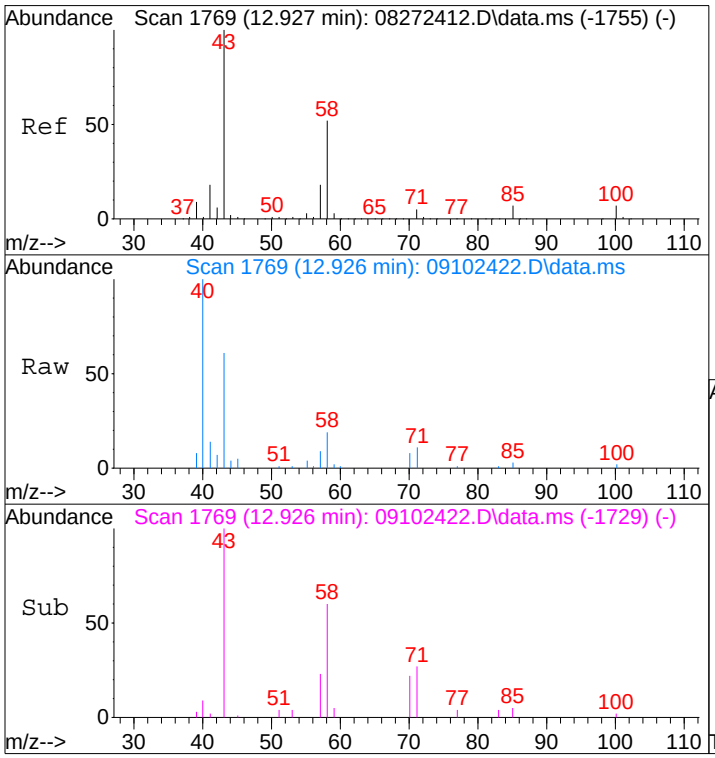


#58
Toluene
Concen: 17.13 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 91 Resp: 1176591

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.5	78.5

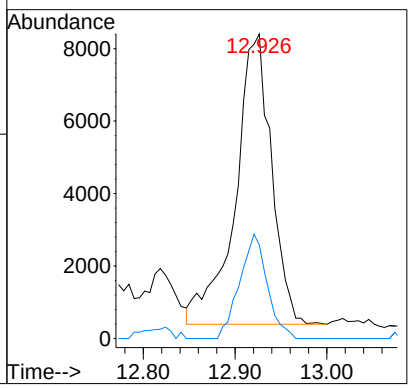


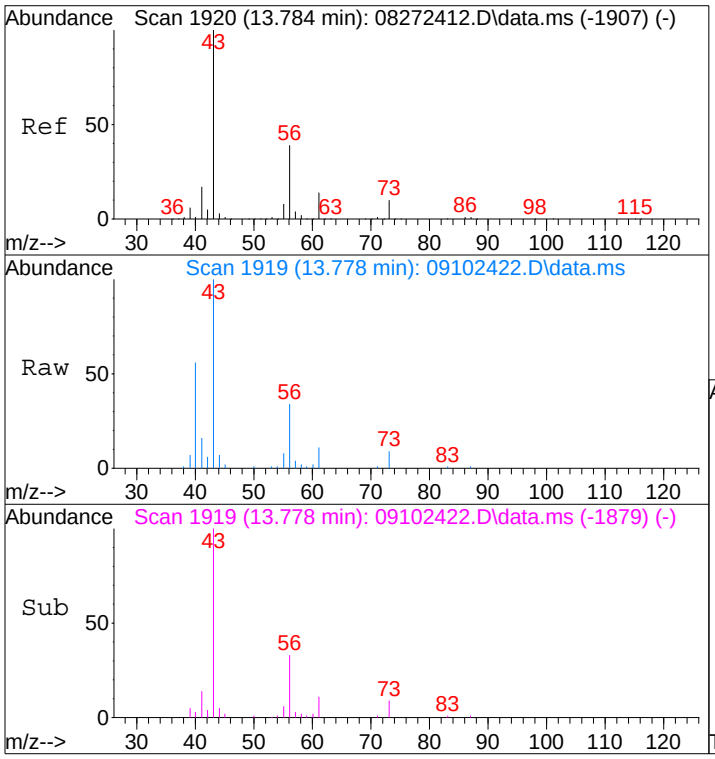


#59
2-Hexanone
Concen: 0.52 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 43 Resp: 21959

Ion	Ratio	Lower	Upper
43	100		
58	27.3	31.1	71.1#

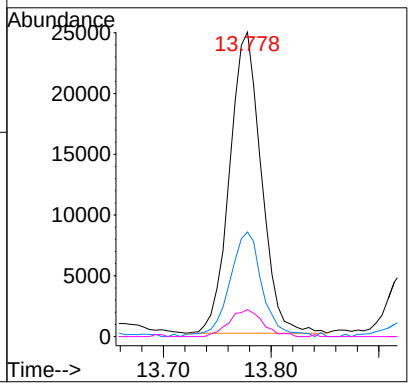


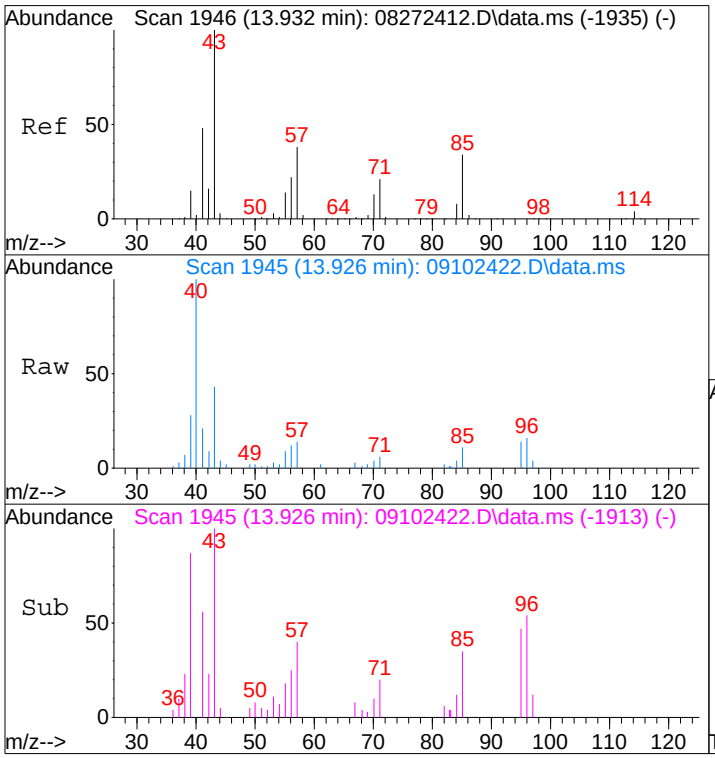


#62
n-Butyl Acetate
Concen: 1.06 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 43 Resp: 50614

Ion	Ratio	Lower	Upper
43	100		
56	35.6	18.2	58.2
73	9.5	0.0	30.1

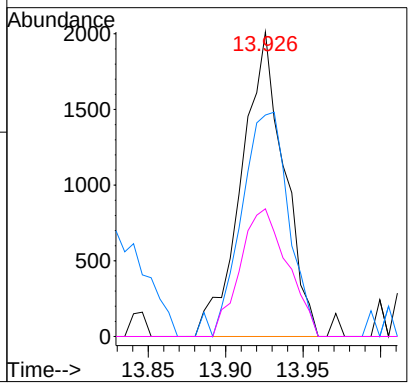


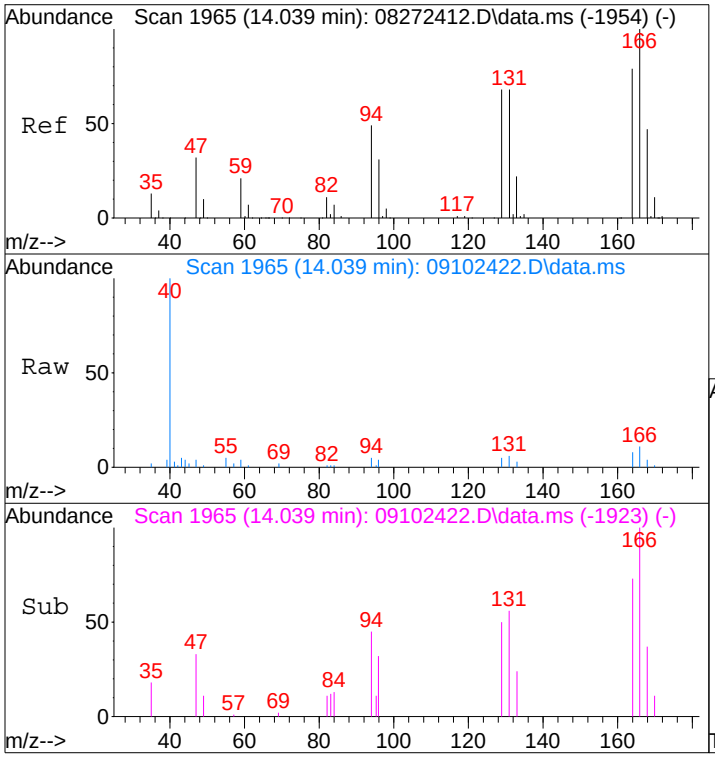


#63
n-Octane
Concen: 0.24 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 57 Resp: 3847

Ion	Ratio	Lower	Upper
57	100		
85	81.9	71.2	106.8
71	46.7	43.3	64.9

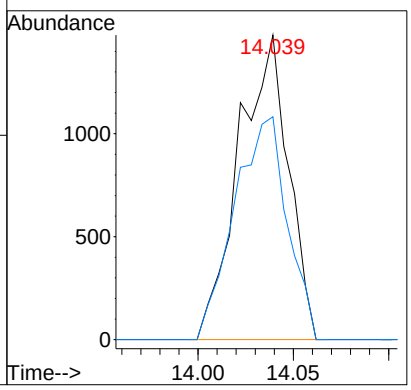


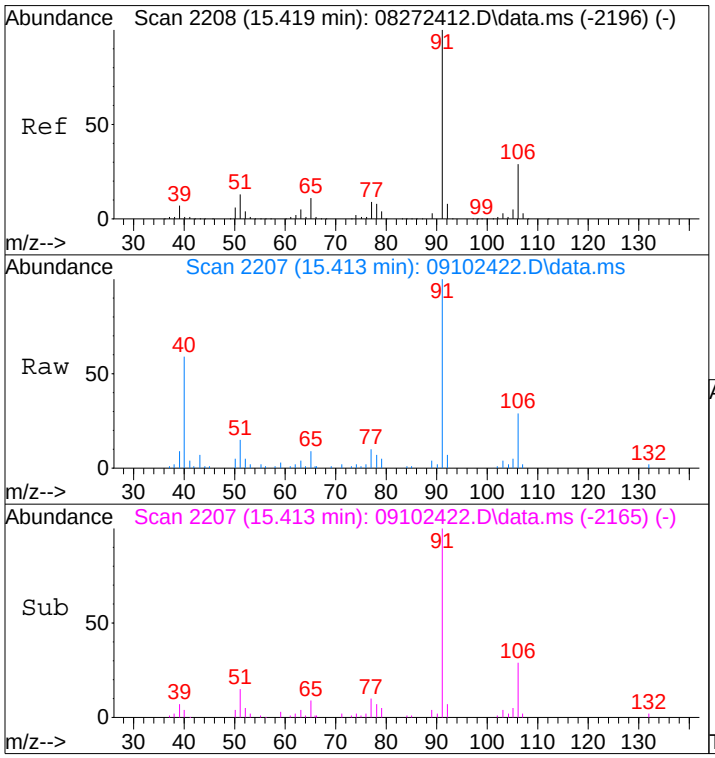


#64
Tetrachloroethene
Concen: 0.14 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:166 Resp: 2669

Ion	Ratio	Lower	Upper
166	100		
164	78.1	59.0	99.0

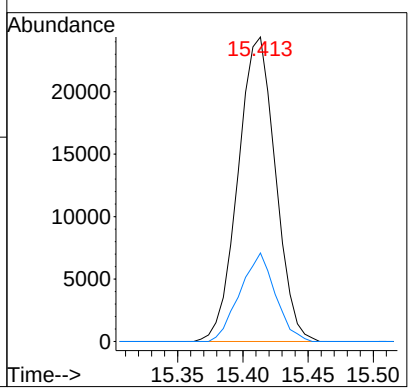


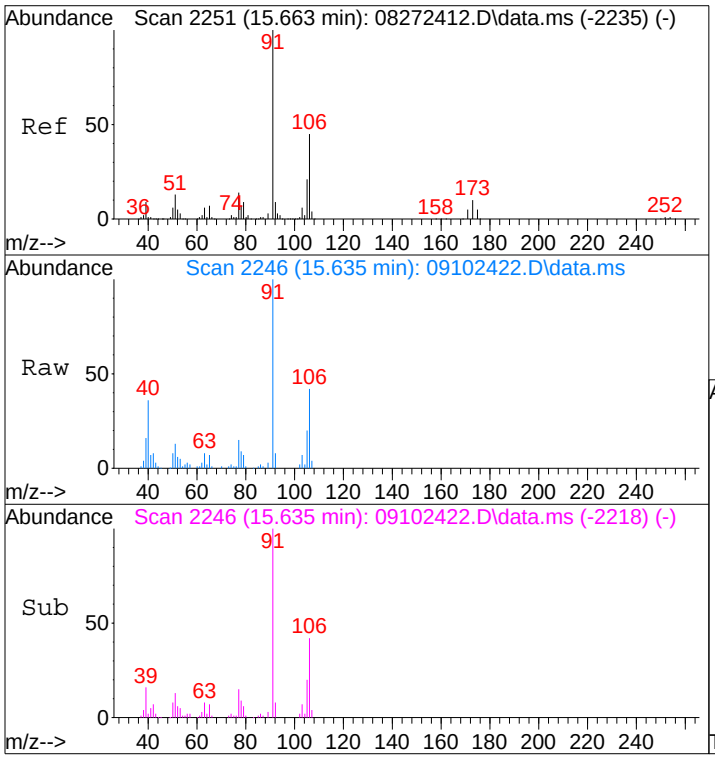


#66
Ethylbenzene
Concen: 0.62 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 91 Resp: 48661

Ion	Ratio	Lower	Upper
91	100		
106	27.5	9.2	49.2

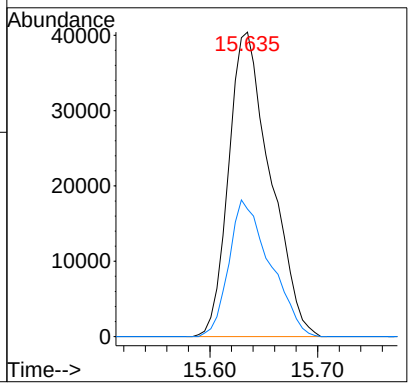


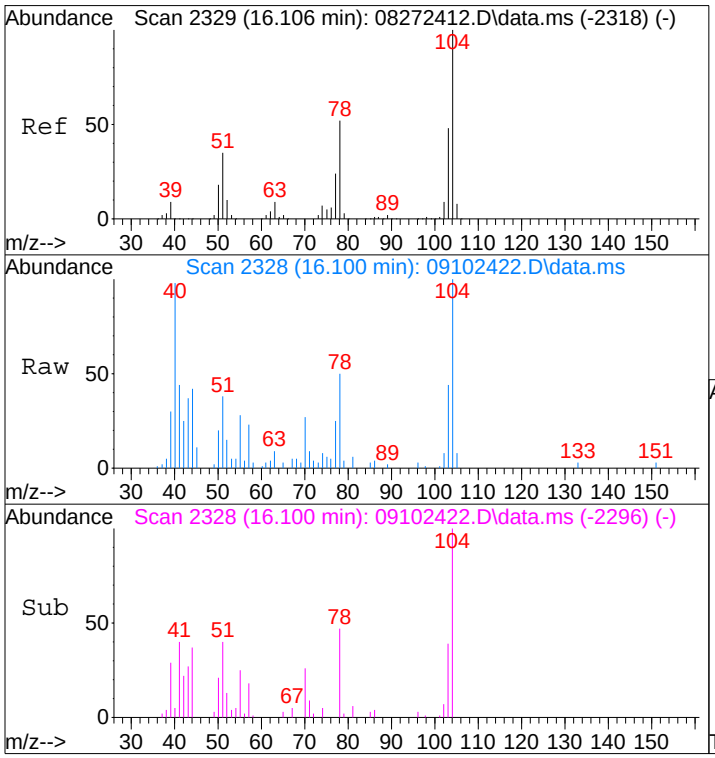


#67
m- & p-Xylenes
Concen: 1.69 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 91 Resp: 108534

Ion	Ratio	Lower	Upper
91	100		
106	44.3	23.8	63.8

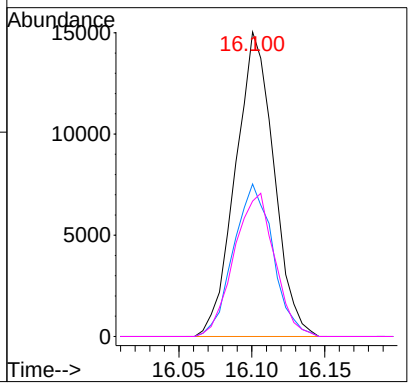


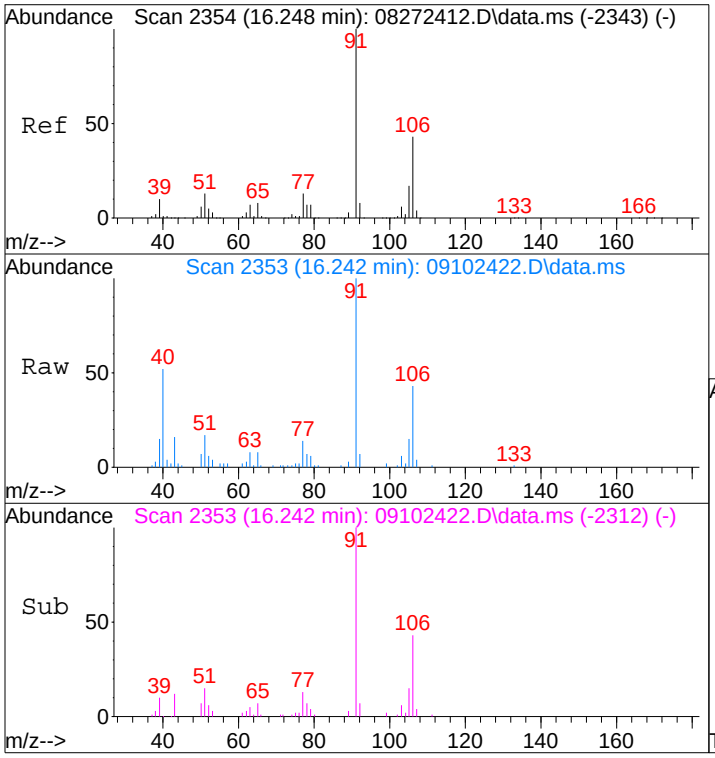


#69
Styrene
Concen: 0.66 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:104 Resp: 27492

Ion	Ratio	Lower	Upper
104	100		
78	51.6	32.2	72.2
103	49.7	28.3	68.3

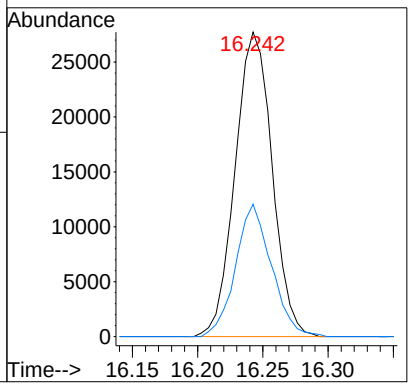


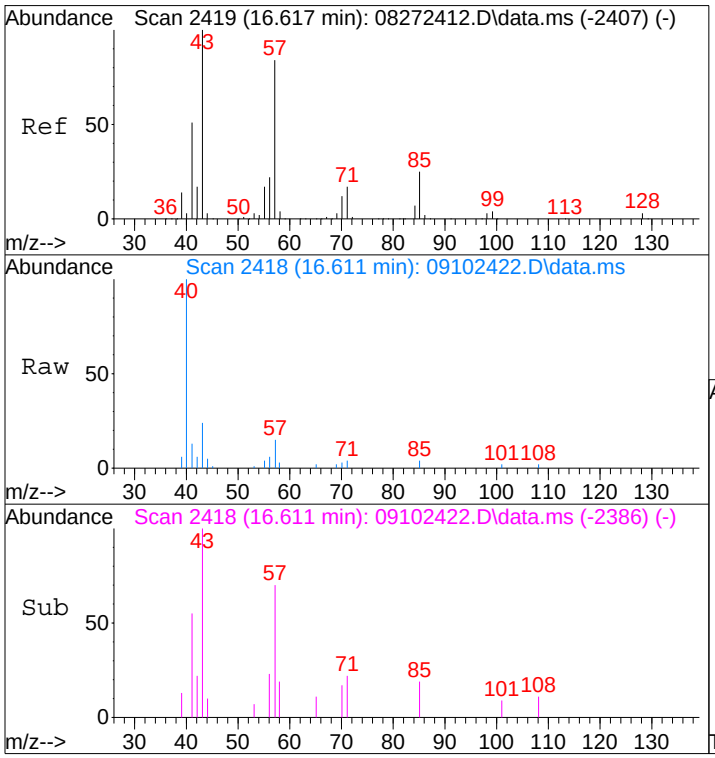


#70
o-Xylene
Concen: 0.87 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 91 Resp: 54769

Ion	Ratio	Lower	Upper
91	100		
106	42.1	22.5	62.5

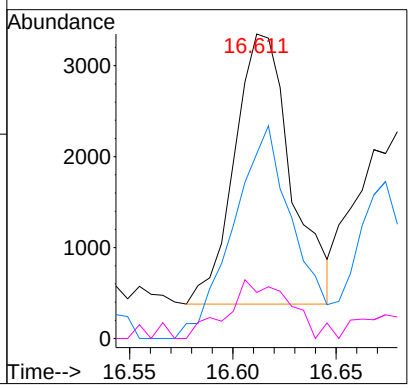


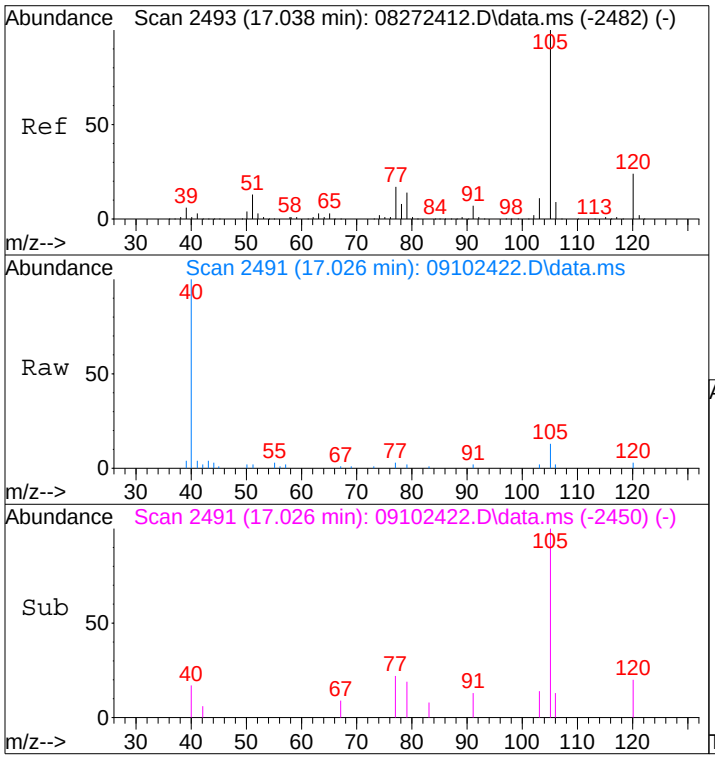


#71
n-Nonane
Concen: 0.14 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 43 Resp: 5688

Ion	Ratio	Lower	Upper
43	100		
57	83.4	63.3	103.3
85	23.8	4.5	44.5

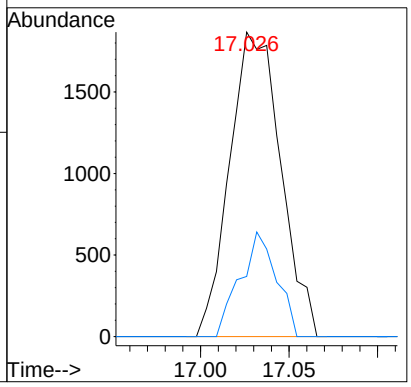


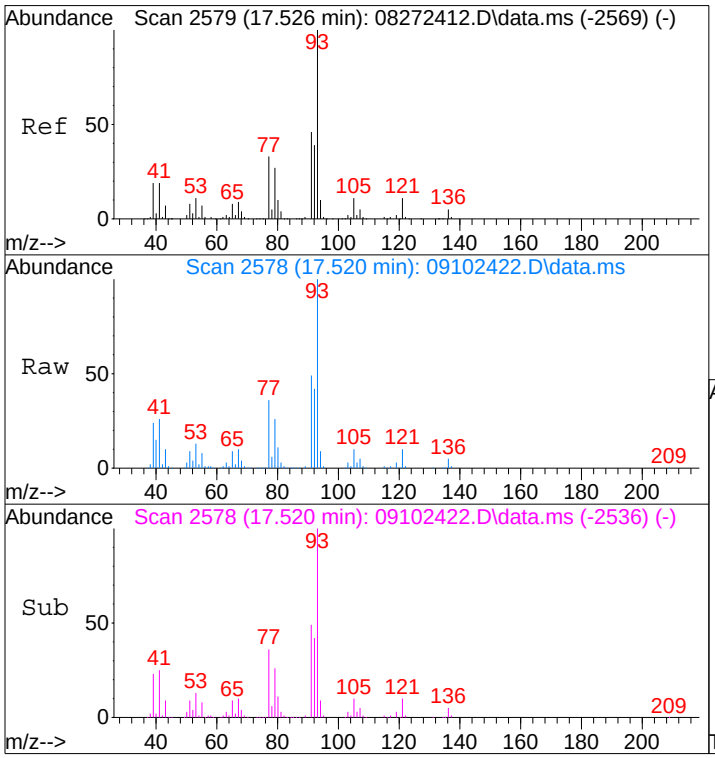


#74
Cumene
Concen: 0.05 ng
RT: 17.03 min Scan# 2491
Delta R.T. -0.017 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:105 Resp: 3741

Ion	Ratio	Lower	Upper
105	100		
120	24.5	3.7	43.7

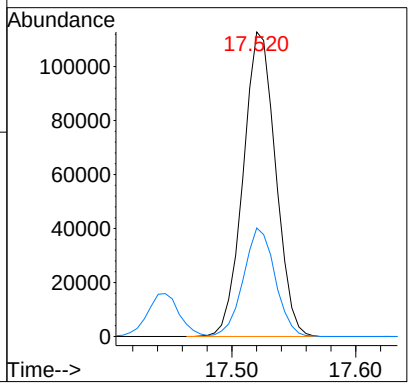


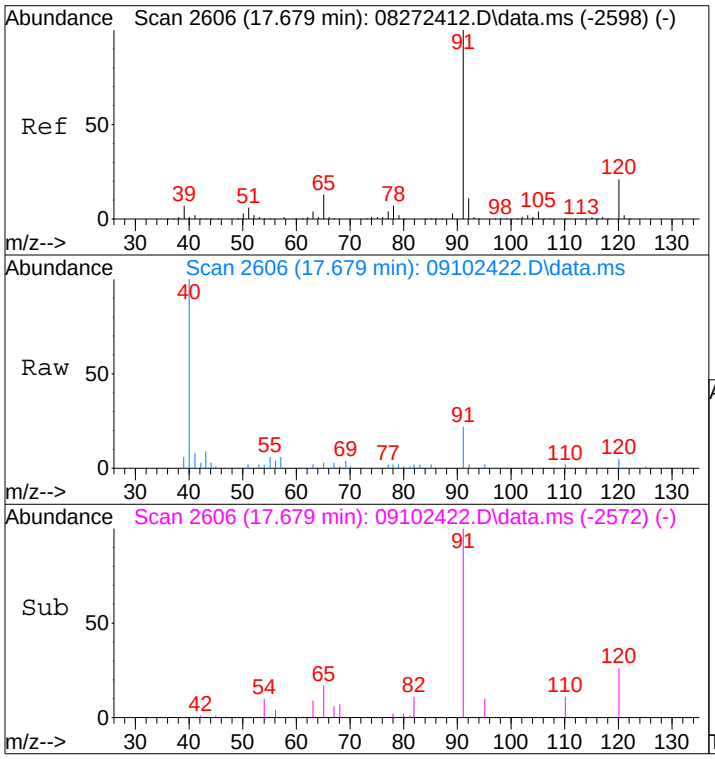


#75
alpha-Pinene
Concen: 5.44 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 93 Resp: 205824

Ion	Ratio	Lower	Upper
93	100		
77	34.8	13.1	53.1

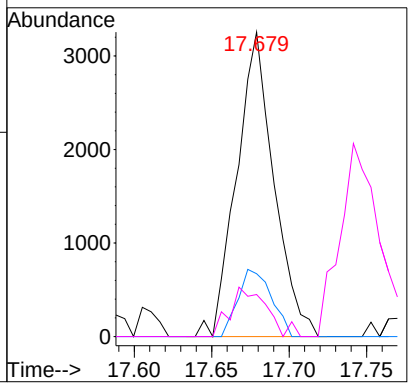


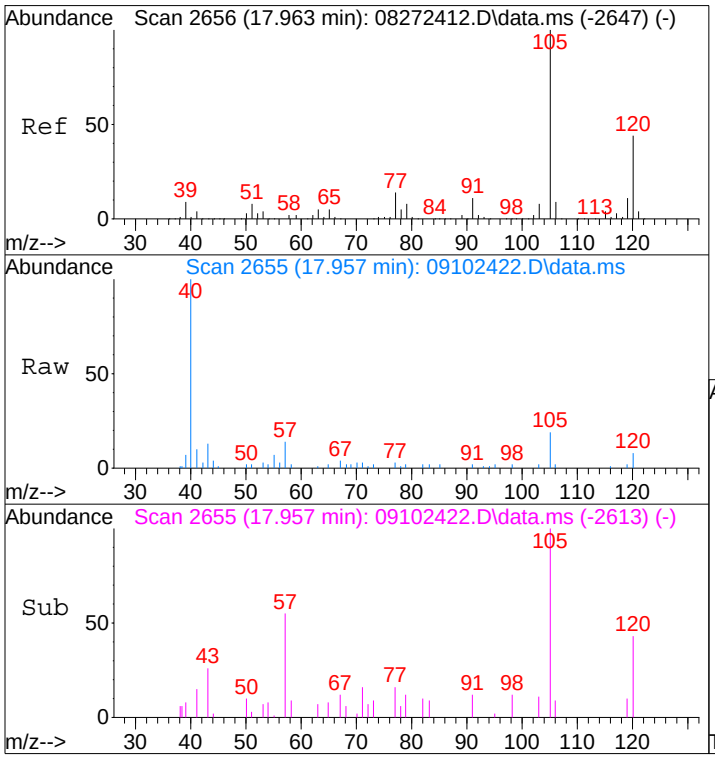


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 91 Resp: 5448

Ion	Ratio	Lower	Upper
91	100		
120	19.8	0.5	40.5
65	16.0	0.0	32.5

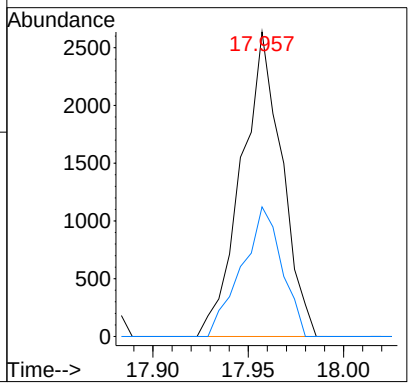


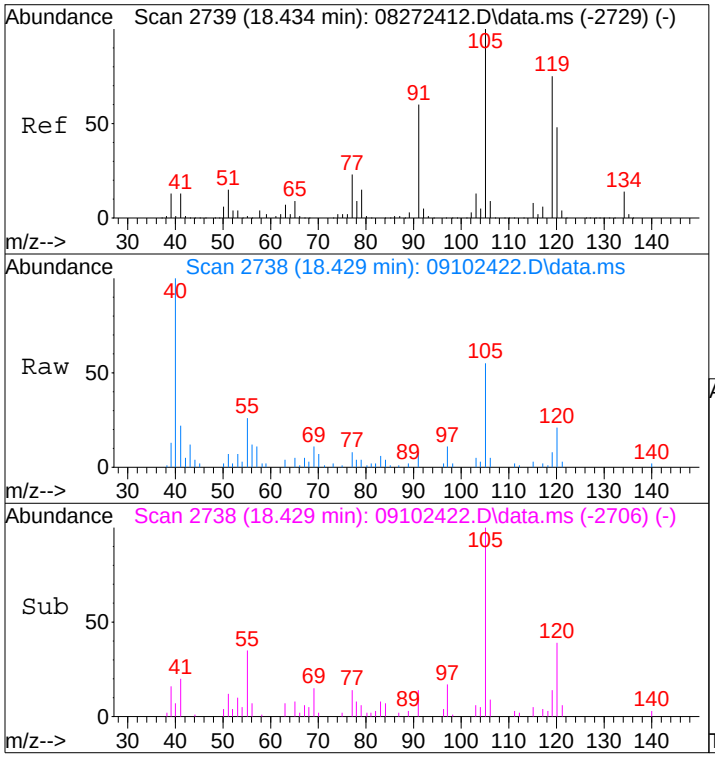


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:105 Resp: 3904

Ion	Ratio	Lower	Upper
105	100		
120	42.0	24.0	64.0

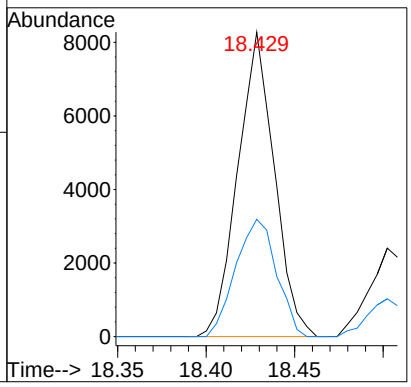


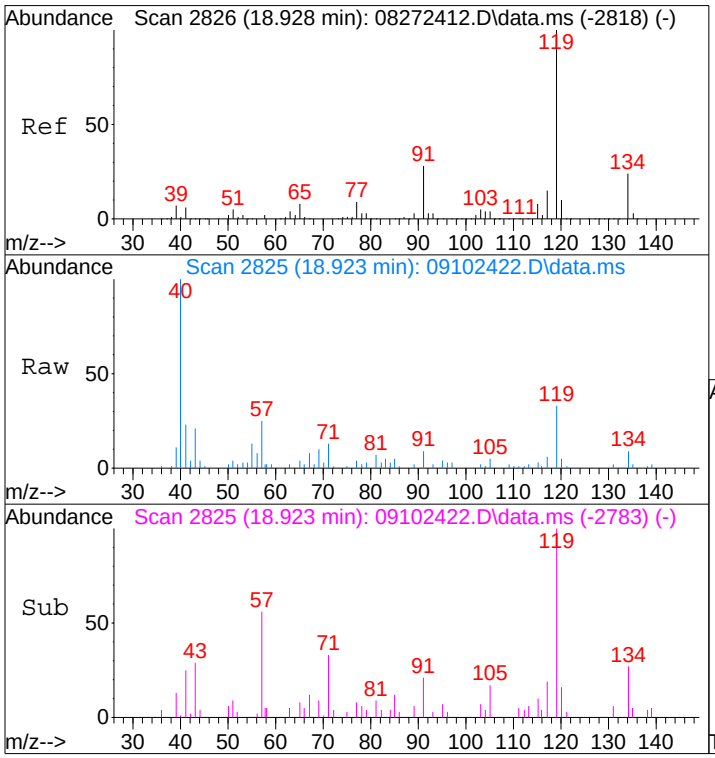


#82
1,2,4-Trimethylbenzene
Concen: 0.18 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:105 Resp: 11880

Ion	Ratio	Lower	Upper
105	100		
120	43.1	28.8	68.8

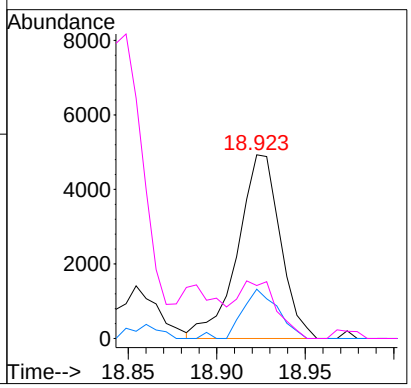


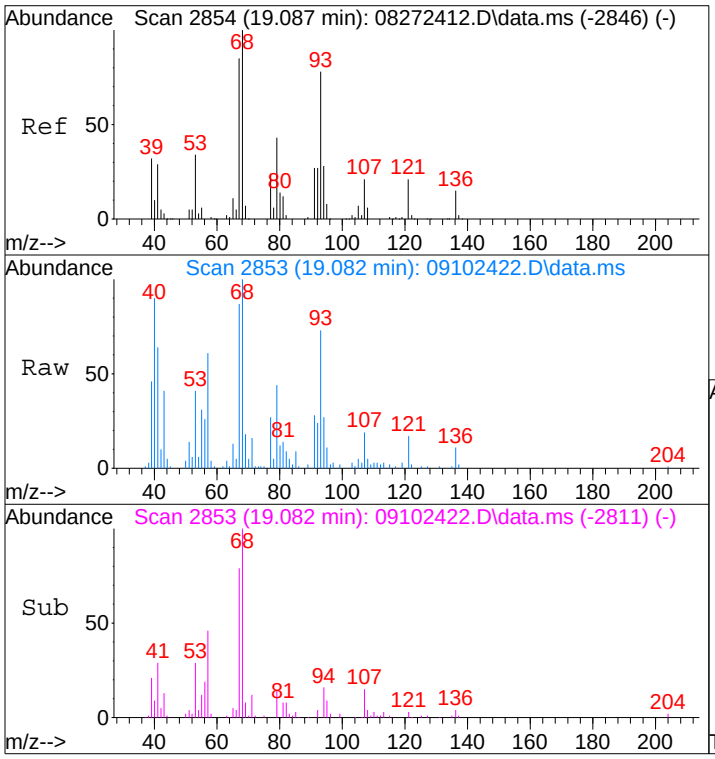


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.12 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:119 Resp: 8234

Ion	Ratio	Lower	Upper
119	100		
134	22.6	4.7	44.7
91	28.8	8.1	48.1

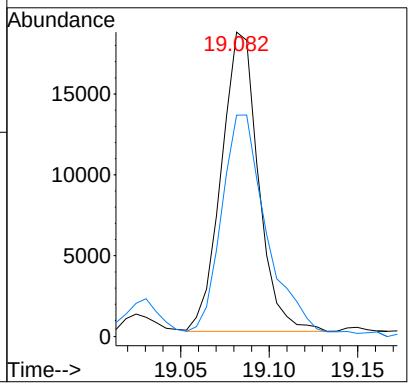


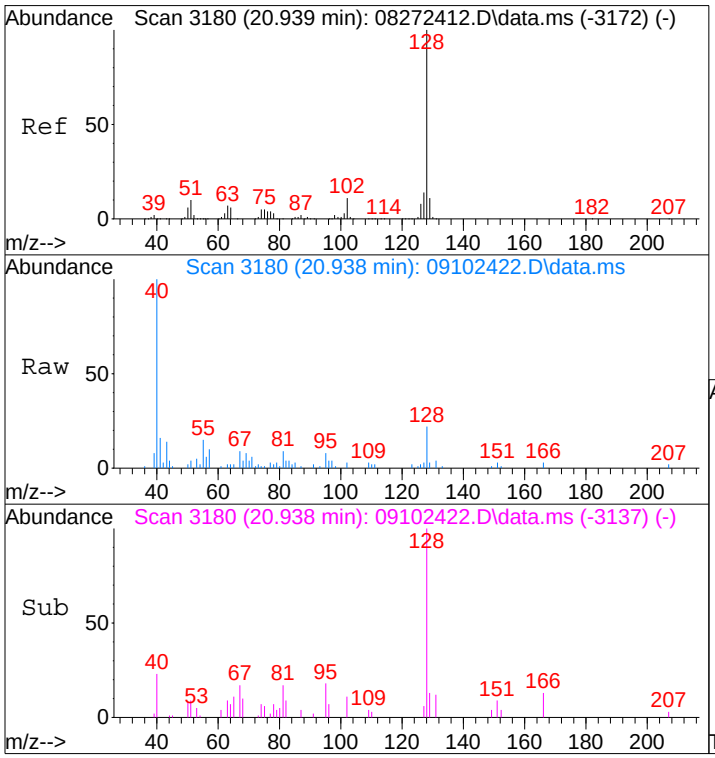


#91
d-Limonene
Concen: 1.25 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion: 68 Resp: 26991

Ion	Ratio	Lower	Upper
68	100		
93	92.7	56.2	96.2

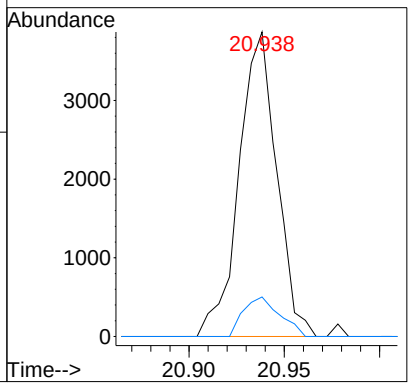




#95
Naphthalene
Concen: 0.08 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09102422.D
Acq: 10 Sep 2024 21:03

Tgt Ion:128 Resp: 5319

Ion	Ratio	Lower	Upper
128	100		
129	12.6	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:57:22 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

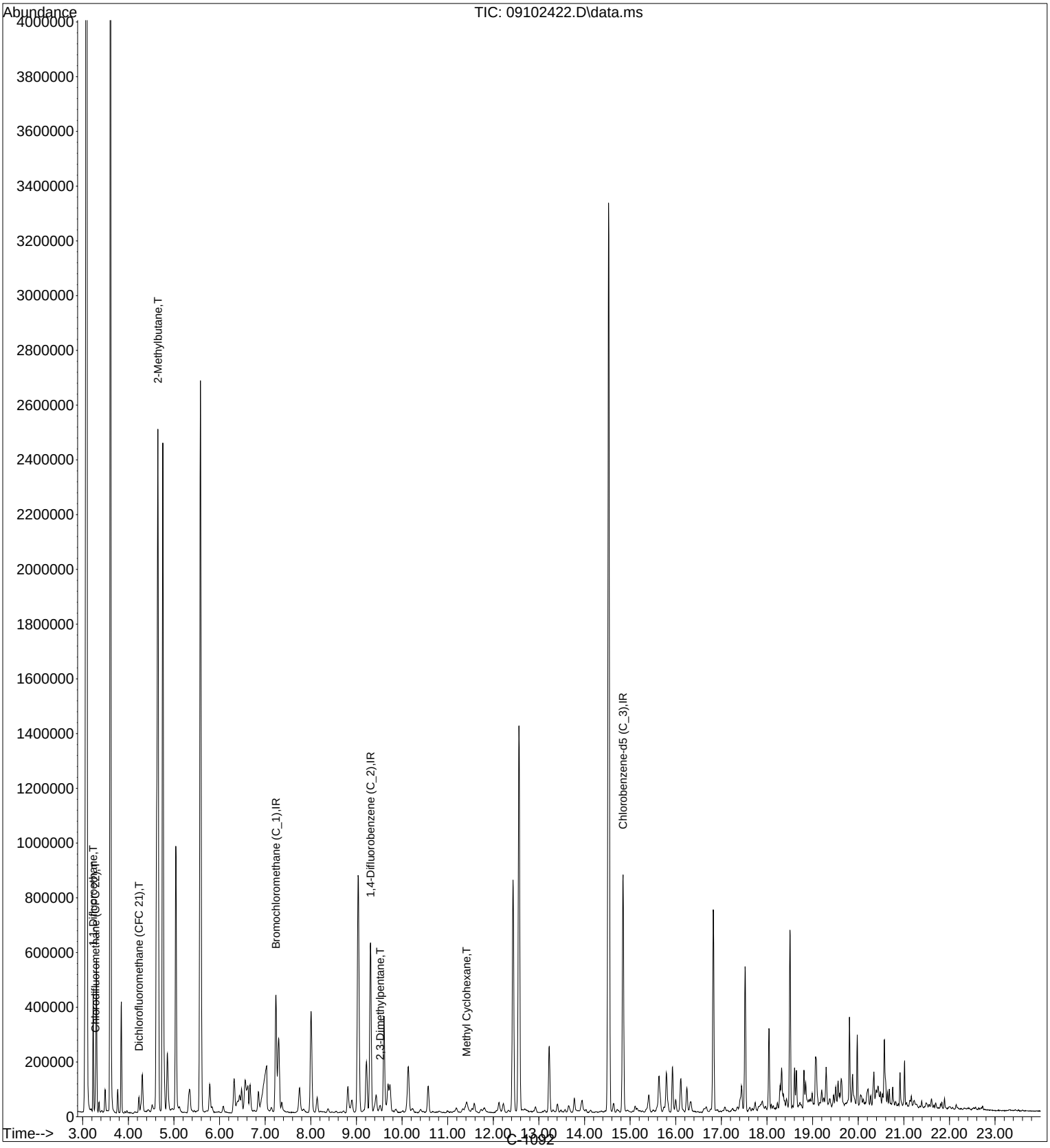
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	128787	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	556315	12.500 ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	181084	12.500 ng		0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	232	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	94631	8.416 ng		97
5) Chlorodifluoromethane ...	3.28	67	4538	1.034 ng		95
6) 1-Chloro-1,1-Difluoroe...	3.49	65	742	N.D.		
7) Dichlorofluoromethane ...	4.23	67	45051	1.525 ng		99
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	1398	N.D.		
10) 2-Methylbutane	4.65	57	519799	33.840 ng		93
11) Methyl Acetate	0.00	43	0	N.D. d		
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.52	56	12951	0.481 ng	#	88
18) Dibromomethane	9.81	174	56	N.D.		
20) Methyl Cyclohexane	11.42	55	17025	0.548 ng		88
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.20	91	290	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	2271	N.D.		
25) Bromobenzene	17.09	77	51	N.D.		
26) 2-Chlorotoluene	17.61	91	250	N.D.		
27) 4-Chlorotoluene	0.00	91	0	N.D. d		
28) Indane	19.12	117	1486	N.D.		
29) Indene	19.21	115	398	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	1640	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	3144	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	3430	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

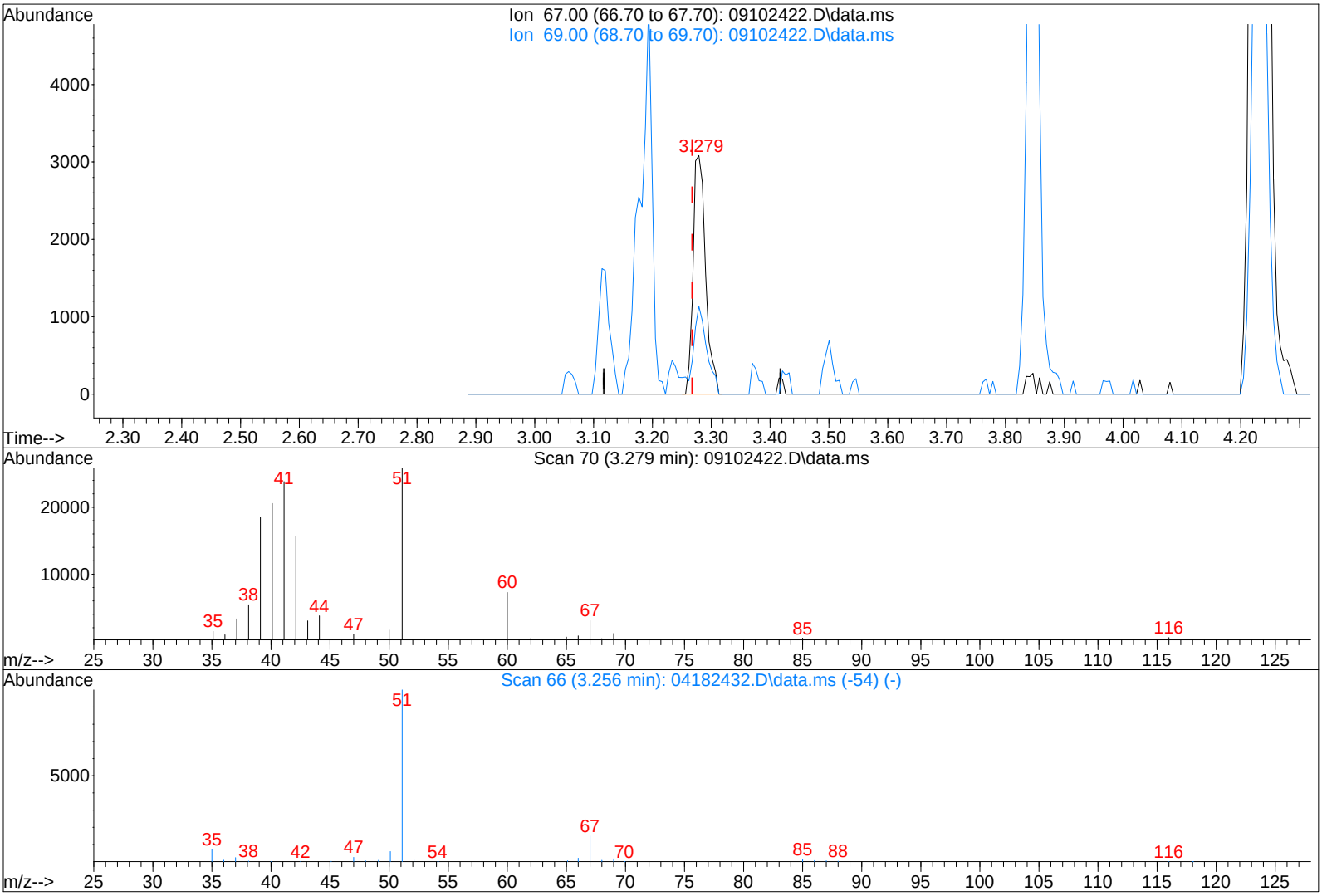
Quant Time: Sep 11 11:57:22 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:56:22 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102422.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 1.03ng

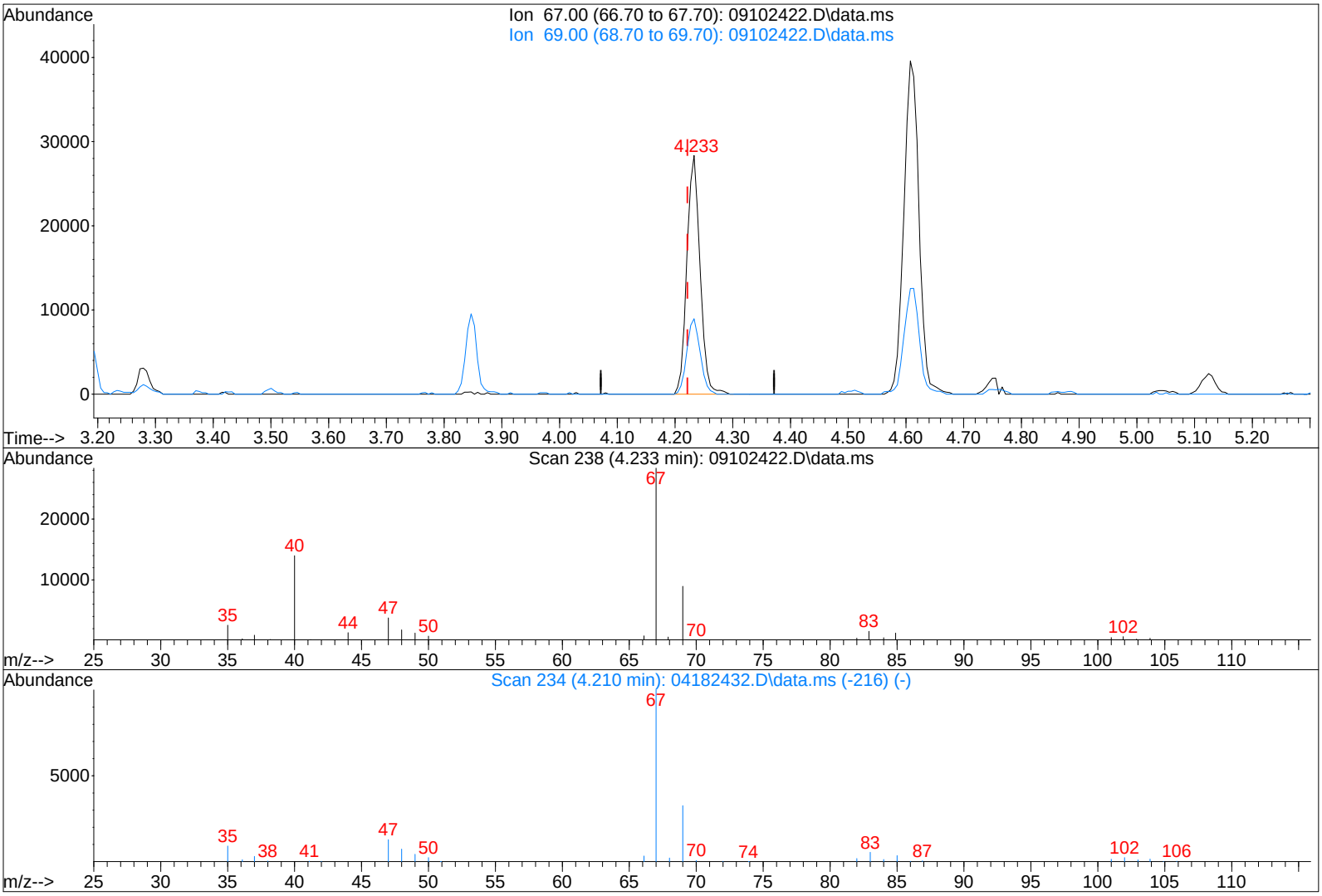
response 4538

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	37.37
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102422.D Vial: 14
Acq On : 10 Sep 2024 21:03 Operator: SC
Sample : P2403661-028 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:56:22 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102422.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 1.53ng

response 45051

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	32.10
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102422.D
Acq On : 10 Sep 2024 21:03
Operator : SC
Sample : P2403661-028 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102422.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	66	rVB	432846	425835	5.26%	1.275%
2	3.302	66	74	80	rVB3	559979	818462	10.11%	2.451%
3	3.358	80	84	89	rVB	36472	44817	0.55%	0.134%
4	3.489	101	107	113	rBV2	81673	131236	1.62%	0.393%
5	3.608	121	128	148	rVB	5729698	8097314	100.00%	24.247%
6	3.767	151	156	161	rVV	86428	116390	1.44%	0.349%
7	3.847	164	170	179	rVB	406456	549617	6.79%	1.646%
8	3.966	187	191	196	rVB5	8334	11156	0.14%	0.033%
9	4.142	215	222	226	rBV3	6189	13822	0.17%	0.041%
10	4.233	232	238	242	rBV	56430	91320	1.13%	0.273%
11	4.307	242	251	262	rVB2	136313	299214	3.70%	0.896%
12	4.437	270	274	281	rVB2	8130	18353	0.23%	0.055%
13	4.523	281	289	296	rBV4	25792	67087	0.83%	0.201%
14	4.647	298	311	322	rVB3	2491589	5988690	73.96%	17.933%
15	4.755	322	330	341	rBV	2440897	4411336	54.48%	13.209%
16	4.858	341	348	360	rVB	206657	433836	5.36%	1.299%
17	5.039	373	380	391	rBV	962806	1643080	20.29%	4.920%
18	5.119	391	394	409	rVB3	21119	48521	0.60%	0.145%
19	5.340	423	433	441	rBV3	86039	256261	3.16%	0.767%
20	5.579	466	475	490	rVB	2672439	5375769	66.39%	16.097%
21	5.721	492	500	503	rVV6	5516	14285	0.18%	0.043%
22	5.783	503	511	518	rVV	102279	230862	2.85%	0.691%
23	5.829	518	519	527	rVB3	20430	34877	0.43%	0.104%
24	6.084	556	564	571	rBV4	22817	50733	0.63%	0.152%
25	6.317	594	605	613	rBV	124863	332843	4.11%	0.997%
26	6.402	613	620	622	rBV7	17412	41508	0.51%	0.124%
27	6.436	622	626	630	rVV	23659	38352	0.47%	0.115%
28	6.482	630	634	640	rVB2	72255	127889	1.58%	0.383%
29	6.561	640	648	653	rBV3	104273	285071	3.52%	0.854%
30	6.669	662	667	677	rVB	95893	212594	2.63%	0.637%
31	6.851	691	699	705	rBV	71402	165073	2.04%	0.494%
32	7.032	705	731	743	rVV	166748	914980	11.30%	2.740%
33	7.135	743	749	757	rVV8	15944	36783	0.45%	0.110%
34	7.237	757	767	772	rVV	427686	1002889	12.39%	3.003%
35	7.294	772	777	785	rVV3	268991	687586	8.49%	2.059%
36	7.362	785	789	807	rVB3	36259	92563	1.14%	0.277%
37	7.753	843	858	867	rBV	90064	253013	3.12%	0.758%
38	7.839	870	873	885	rVB7	12166	31195	0.39%	0.093%

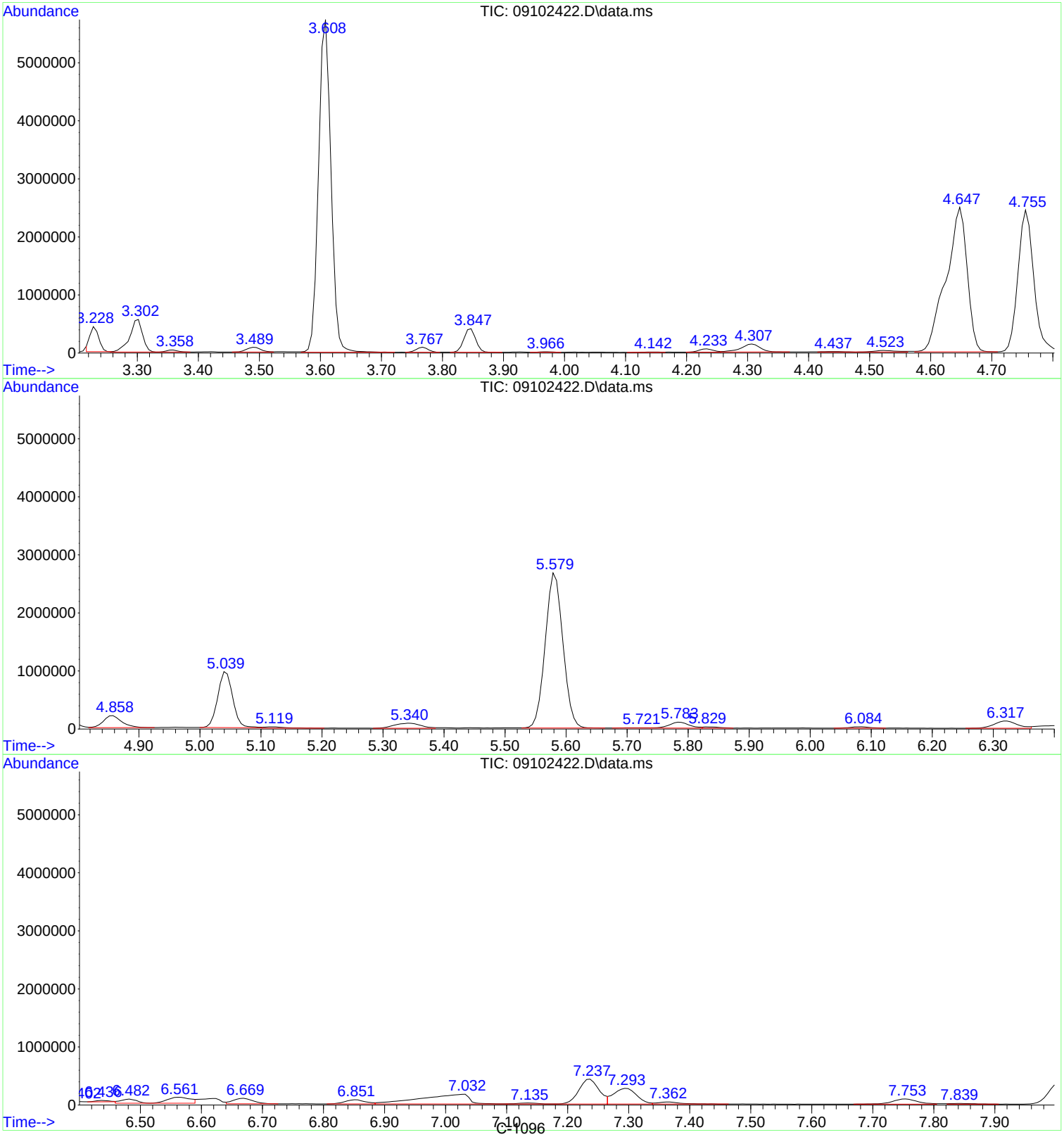
Sum of corrected areas: 33395212

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102422.D
Acq On : 10 Sep 2024 21:03
Operator : SC
Sample : P2403661-028 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102422.D
Acq On : 10 Sep 2024 21:033
Operator : SCC
Sample : P2403661-028 (400mL))
Misc : S37-060624022
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

NOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:52:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	143799	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	634486	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	197174	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	360273	13.389	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
57) Toluene-d8 (SS2)	12.44	98	749765	10.839	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	16.83	174	259885	11.234	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	202295	9.313	ng	#	83
3) Dichlorodifluoromethan...	3.36	85	20087	0.575	ng		97
4) Chloromethane	3.49	50	2612	0.096	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	557	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	236	N.D.			
9) Chloroethane	4.16	64	135	N.D.			
10) Ethanol	4.32	45	242460	15.536	ng		100
11) Acetonitrile	4.45	41	158426	4.491	ng	#	1
12) Acrolein	4.54	56	26328	2.208	ng		98
13) Acetone	4.64	58	772498	58.663	ng		98
14) Trichlorofluoromethane	4.77	101	8438662	253.412	ng		99
15) 2-Propanol (Isopropanol)	4.88	45	396376	7.645	ng		92
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.36	84	6451	0.416	ng	#	70
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.60	151	4905001	371.799	ng		94
22) Carbon Disulfide	5.61	76	1149159	22.355	ng		57
23) trans-1,2-Dichloroethene	6.14	61	465	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	6.45	86	108127	40.396	ng	#	29
27) 2-Butanone (MEK)	6.67	72	78437	8.396	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.29	61	272501	43.533	ng		91
31) n-Hexane	7.31	57	82150	2.878	ng		95
32) Chloroform	7.38	83	59070	2.062	ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	15611	No Calib		#	
40) 1-Butanol	8.84	56	354228	No Calib		#	
41) Benzene	8.91	78	44519	0.748	ng		99
42) Carbon Tetrachloride	9.08	117	1977	0.080	ng		95
43) Cyclohexane	9.22	84	19886	0.990	ng		94
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	10.09	83	3637	0.163	ng		78
47) Trichloroethene	10.16	130	3251	0.221	ng		96
48) 1,4-Dioxane	10.14	88	8235	0.803	ng	#	72
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	10.42	100	2236	0.432	ng	#	50

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:52:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

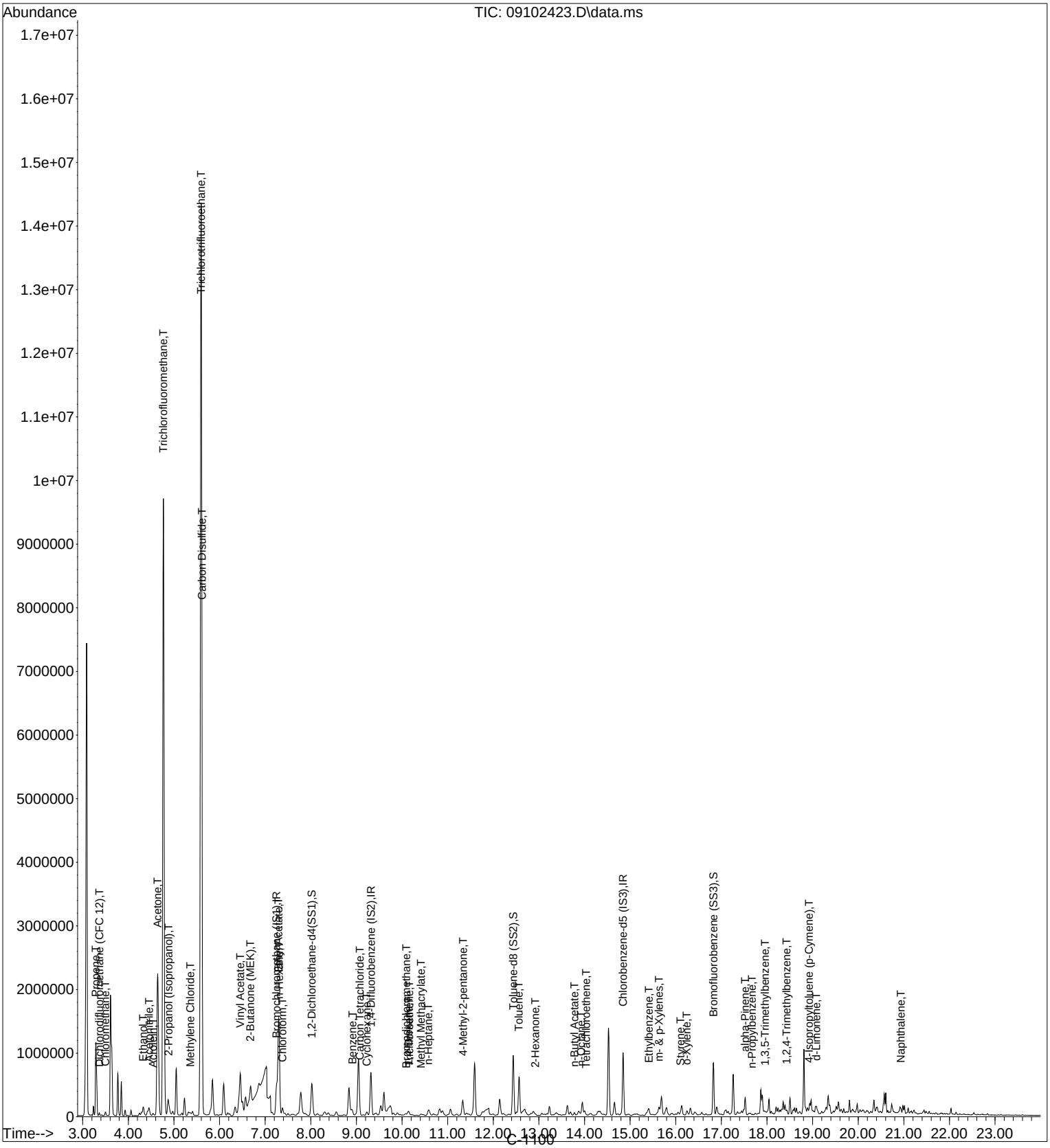
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	12759	0.963 ng	#	25
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	68288	4.347 ng	#	58
54) trans-1,3-Dichloropropene	0.00	75	0	N.D. d		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D. d		
58) Toluene	12.56	91	502052	6.714 ng		100
59) 2-Hexanone	12.92	43	18141	0.392 ng		79
60) Dibromochloromethane	13.07	129	509	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	36543	0.705 ng		95
63) n-Octane	13.93	57	4456	0.253 ng		88
64) Tetrachloroethene	14.03	166	1303	0.063 ng		96
65) Chlorobenzene	14.90	112	913	N.D.		
66) Ethylbenzene	15.41	91	33179	0.386 ng		90
67) m- & p-Xylenes	15.63	91	110307	1.577 ng		94
68) Bromoform	15.69	173	255	N.D.		
69) Styrene	16.11	104	14690	0.325 ng		94
70) o-Xylene	16.24	91	36515	0.535 ng		98
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	16.21	83	746	N.D.		
74) Cumene	17.04	105	3449	N.D.		
75) alpha-Pinene	17.52	93	111027	2.697 ng		99
76) n-Propylbenzene	17.67	91	5944	0.061 ng		90
77) 3-Ethyltoluene	17.04	105	3449	No Calib	#	
78) 4-Ethyltoluene	0.00	105	0	N.D. d		
79) 1,3,5-Trimethylbenzene	17.96	105	5214	0.078 ng		89
80) alpha-Methylstyrene	16.98	118	723	No Calib	#	
81) 2-Ethyltoluene	17.04	105	3449	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	18680	0.266 ng		93
83) n-Decane	17.09	58	2119	No Calib	#	
84) Benzyl Chloride	18.55	91	262	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	300	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	1329	N.D.		
87) sec-Butylbenzene	18.74	105	1525	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	18901	0.245 ng	#	1
89) 1,2,3-Trimethylbenzene	17.04	105	3449	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	324	N.D.		
91) d-Limonene	19.08	68	19290	0.820 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	5574	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	734	N.D.		
95) Naphthalene	20.94	128	43970	0.593 ng		100
96) n-Dodecane	18.97	58	5754	No Calib	#	
97) Hexachlorobutadiene	21.29	225	353	N.D.		
98) Cyclohexanone	15.27	55	830	No Calib	#	
99) tert-Butylbenzene	18.43	119	2839	N.D.		
100) n-Butylbenzene	19.45	91	1825	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:52:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 10:52:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

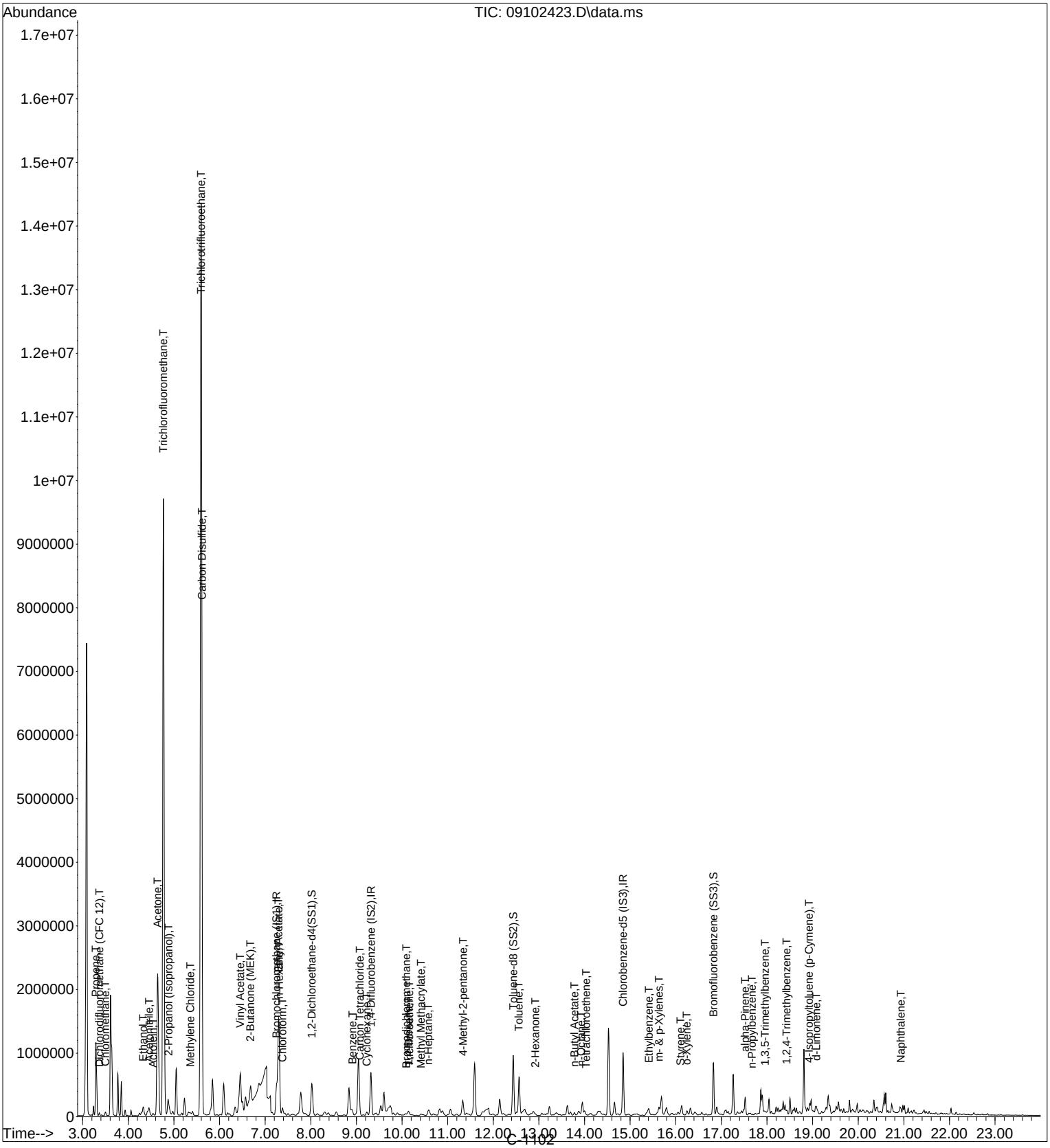
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	143799	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	634486	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	197174	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	360273	13.389	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.12%				
57) Toluene-d8 (SS2)	12.44	98	749765	10.839	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	16.83	174	259885	11.234	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	202295	9.313	ng	#	83
3) Dichlorodifluoromethan...	3.36	85	20087	0.575	ng		97
4) Chloromethane	3.49	50	2612	0.096	ng		92
10) Ethanol	4.32	45	242460	15.536	ng		100
11) Acetonitrile	4.45	41	158426	4.491	ng	#	1
12) Acrolein	4.54	56	26328	2.208	ng		98
13) Acetone	4.64	58	772498	58.663	ng		98
14) Trichlorofluoromethane	4.77	101	8438662	253.412	ng		99
15) 2-Propanol (Isopropanol)	4.88	45	396376	7.645	ng		92
19) Methylene Chloride	5.36	84	6451	0.416	ng	#	70
21) Trichlorotrifluoroethane	5.60	151	4905001	371.799	ng		94
22) Carbon Disulfide	5.61	76	1149159	22.355	ng		57
26) Vinyl Acetate	6.45	86	108127	40.396	ng	#	29
27) 2-Butanone (MEK)	6.67	72	78437	8.396	ng	#	1
30) Ethyl Acetate	7.29	61	272501	43.533	ng		91
31) n-Hexane	7.31	57	82150	2.878	ng		95
32) Chloroform	7.38	83	59070	2.062	ng		100
41) Benzene	8.91	78	44519	0.748	ng		99
42) Carbon Tetrachloride	9.08	117	1977	0.080	ng		95
43) Cyclohexane	9.22	84	19886	0.990	ng		94
46) Bromodichloromethane	10.09	83	3637	0.163	ng		78
47) Trichloroethene	10.16	130	3251	0.221	ng		96
48) 1,4-Dioxane	10.14	88	8235	0.803	ng	#	72
50) Methyl Methacrylate	10.42	100	2236	0.432	ng	#	50
51) n-Heptane	10.58	71	12759	0.963	ng	#	25
53) 4-Methyl-2-pentanone	11.34	58	68288	4.347	ng	#	58
58) Toluene	12.56	91	502052	6.714	ng		100
59) 2-Hexanone	12.92	43	18141	0.392	ng		79
62) n-Butyl Acetate	13.78	43	36543	0.705	ng		95
63) n-Octane	13.93	57	4456	0.253	ng		88
64) Tetrachloroethene	14.03	166	1303	0.063	ng		96
66) Ethylbenzene	15.41	91	33179	0.386	ng		90
67) m- & p-Xylenes	15.63	91	110307	1.577	ng		94
69) Styrene	16.11	104	14690	0.325	ng		94
70) o-Xylene	16.24	91	36515	0.535	ng		98
75) alpha-Pinene	17.52	93	111027	2.697	ng		99
76) n-Propylbenzene	17.67	91	5944	0.061	ng		90
79) 1,3,5-Trimethylbenzene	17.96	105	5214	0.078	ng		89
82) 1,2,4-Trimethylbenzene	18.43	105	18680	0.266	ng		93
88) 4-Isopropyltoluene (p-...	18.92	119	18901	0.245	ng	#	1
91) d-Limonene	19.08	68	19290	0.820	ng		93
95) Naphthalene	20.94	128	43970	0.593	ng		100

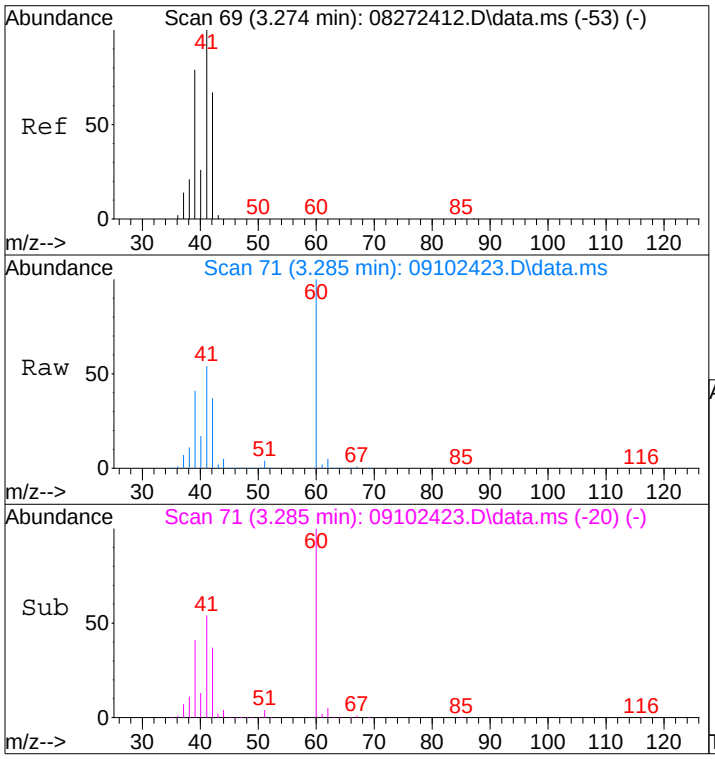
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:52:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

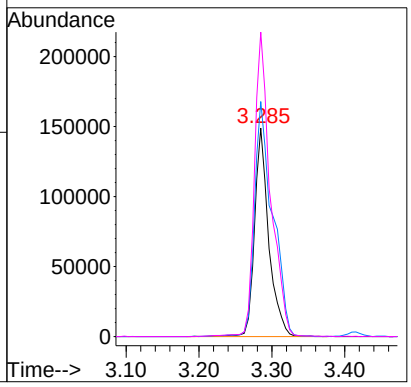


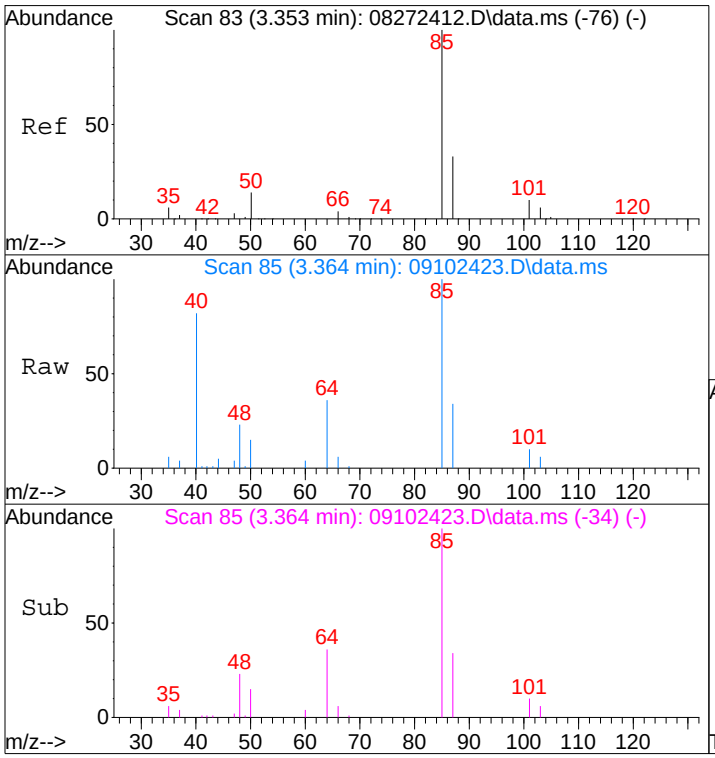


#2
Propene
Concen: 9.31 ng
RT: 3.28 min Scan# 71
Delta R.T. 0.038 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 42 Resp: 202295

Ion	Ratio	Lower	Upper
42	100		
39	143.5	98.2	138.2#
41	166.0	130.1	170.1

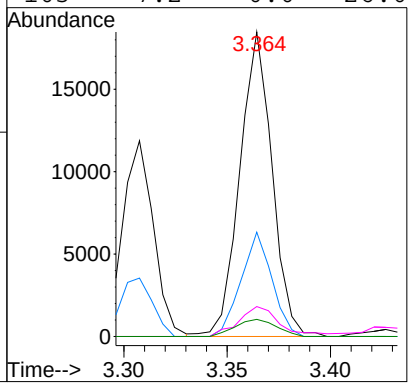


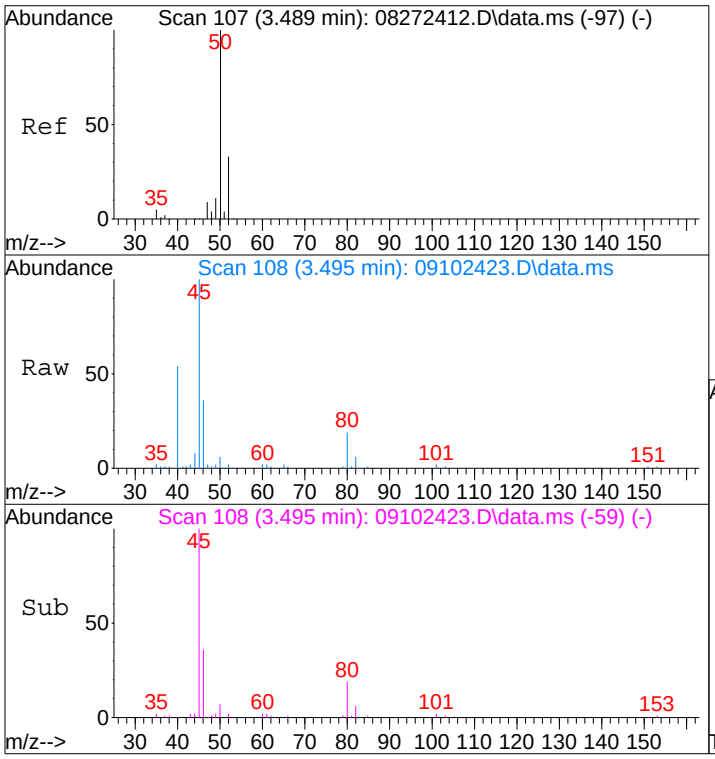


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.039 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 85 Resp: 20087

Ion	Ratio	Lower	Upper
85	100		
87	32.8	13.1	53.1
101	12.7	0.0	29.4
103	7.2	0.0	26.0

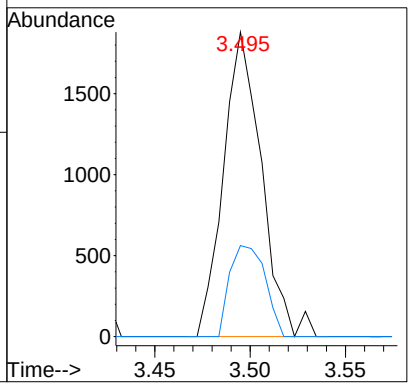


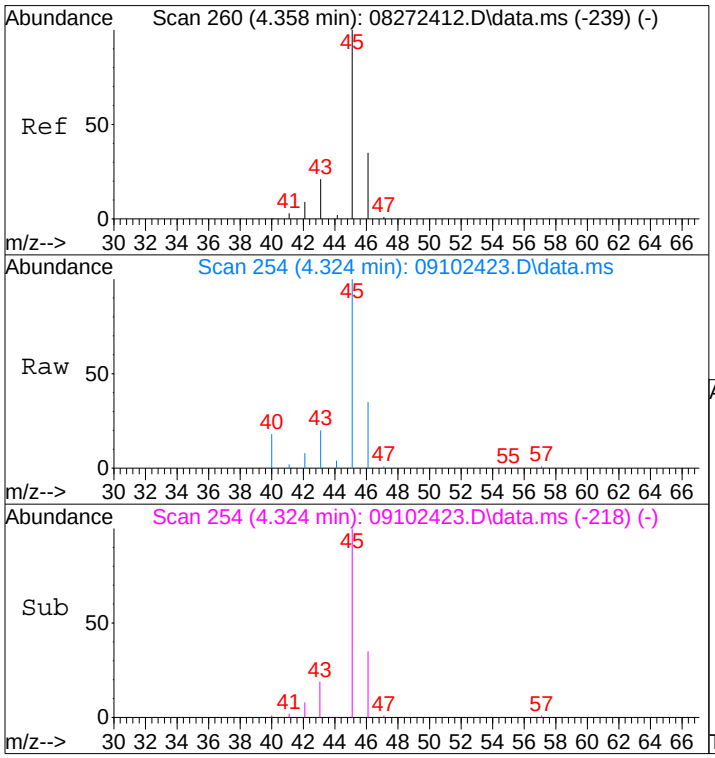


#4
Chloromethane
Concen: 0.10 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.030 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 50 Resp: 2612

Ion	Ratio	Lower	Upper
50	100		
52	27.8	12.4	52.4

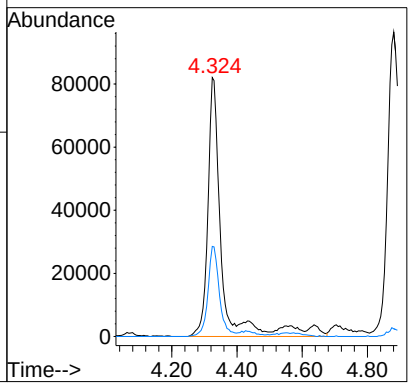


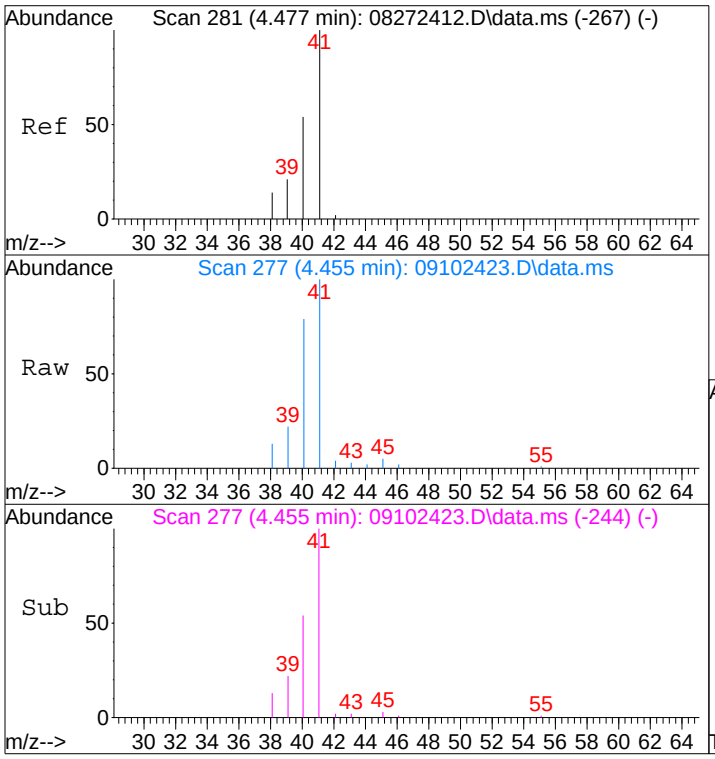


#10
Ethanol
Concen: 15.54 ng
RT: 4.32 min Scan# 254
Delta R.T. -0.045 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 45 Resp: 242460

Ion	Ratio	Lower	Upper
45	100		
46	34.1	14.2	54.2

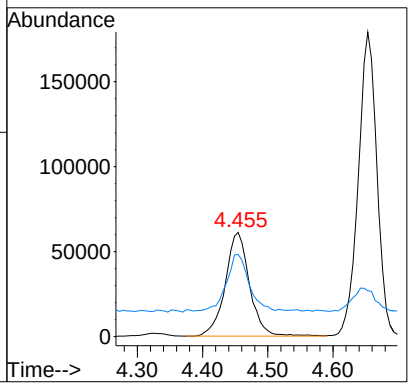


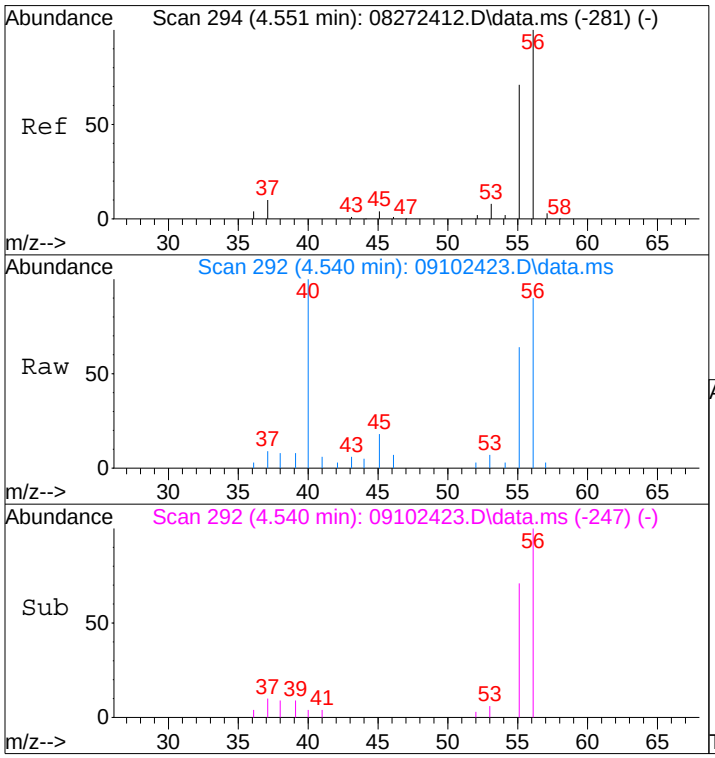


#11
Acetonitrile
Concen: 4.49 ng
RT: 4.45 min Scan# 277
Delta R.T. -0.015 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 41 Resp: 158426

Ion	Ratio	Lower	Upper
41	100		
40	144.0	33.9	73.9#

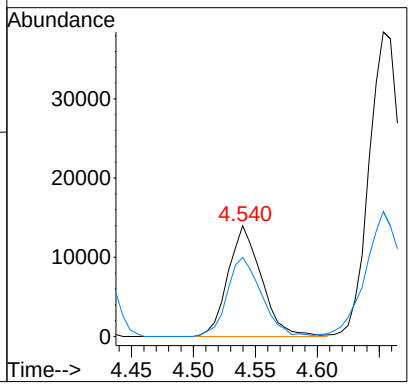


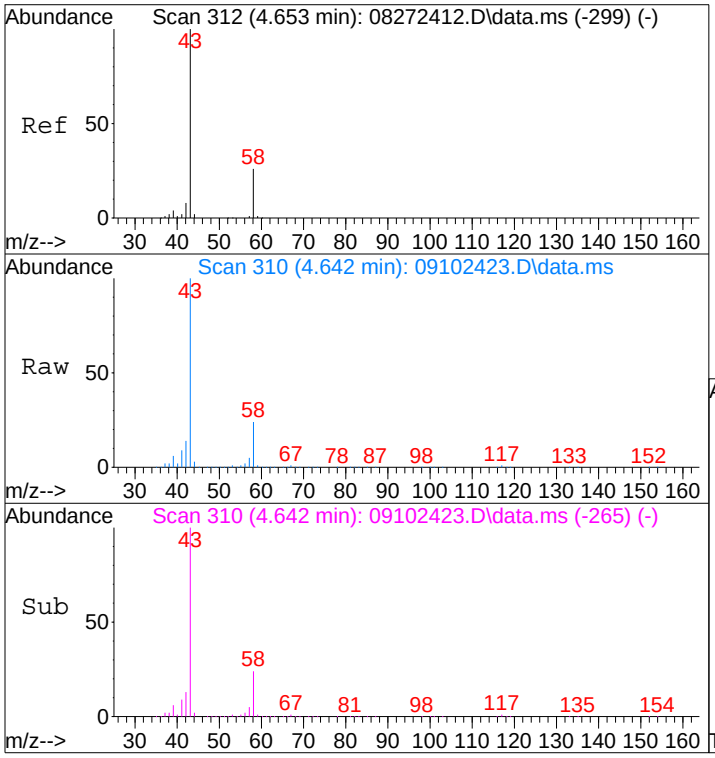


#12
Acrolein
Concen: 2.21 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.008 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 56 Resp: 26328

Ion	Ratio	Lower	Upper
56	100		
55	72.8	54.7	94.7

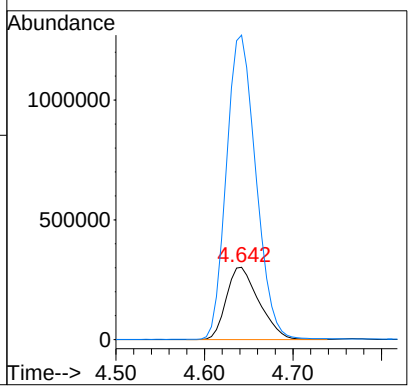


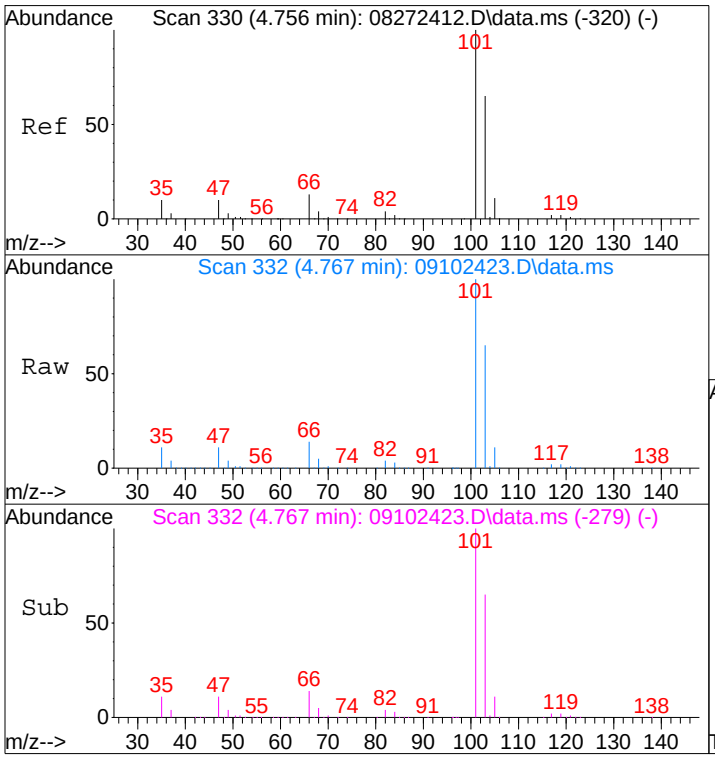


#13
Acetone
Concen: 58.66 ng
RT: 4.64 min Scan# 310
Delta R.T. 0.004 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 58 Resp: 772498

Ion	Ratio	Lower	Upper
58	100		
43	381.4	347.3	407.3

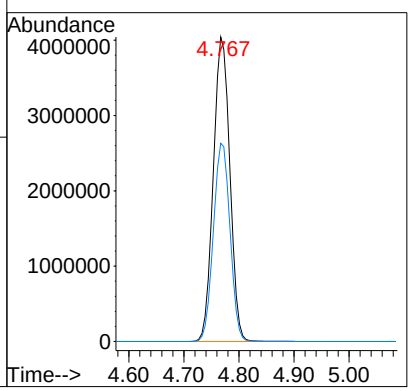


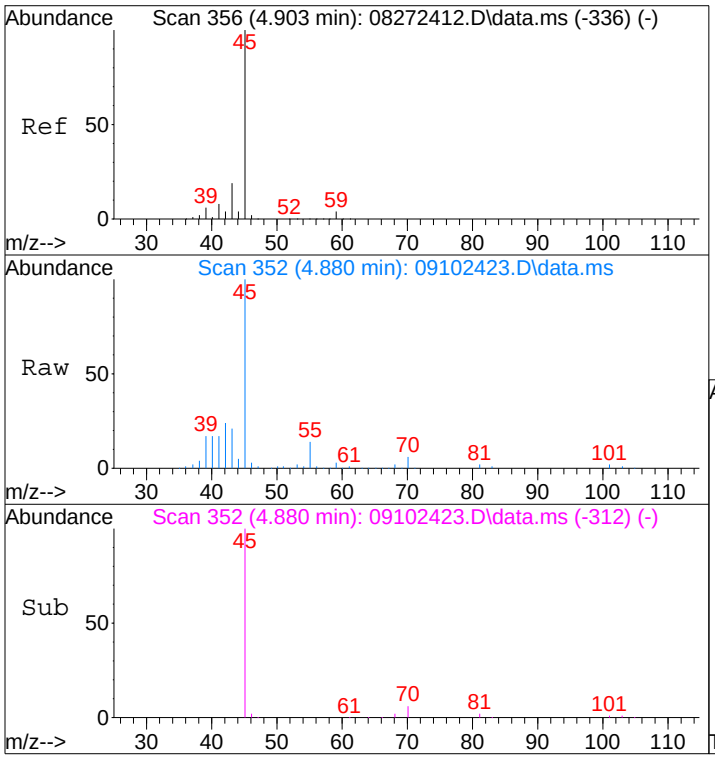


#14
Trichlorofluoromethane
Concen: 253.41 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.050 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:101 Resp: 8438662

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.9	84.9

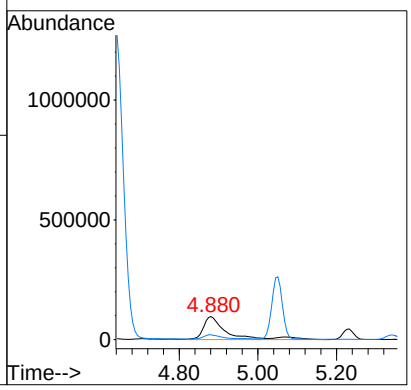


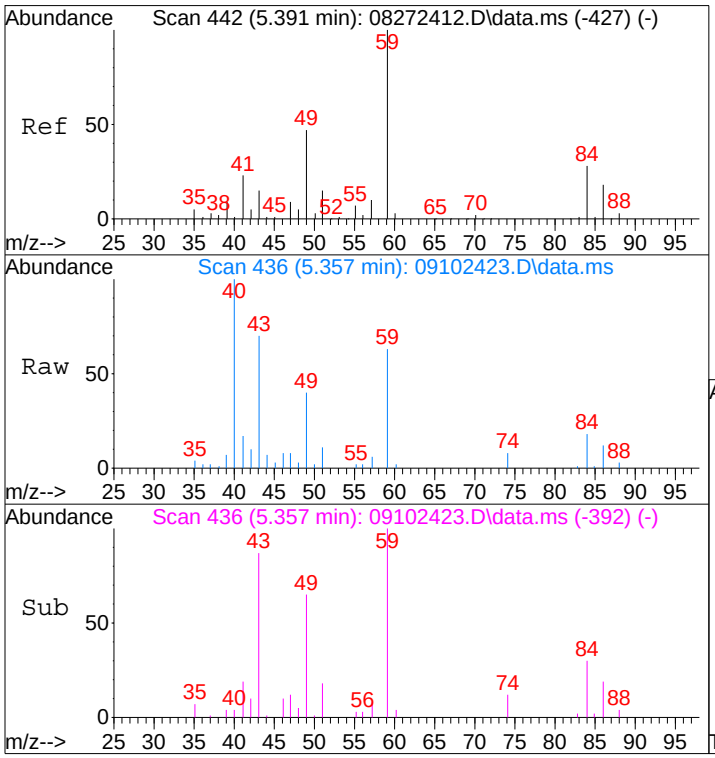


#15
2-Propanol (Isopropanol)
Concen: 7.65 ng
RT: 4.88 min Scan# 352
Delta R.T. -0.022 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 45 Resp: 396376

Ion	Ratio	Lower	Upper
45	100		
43	16.1	0.0	40.0

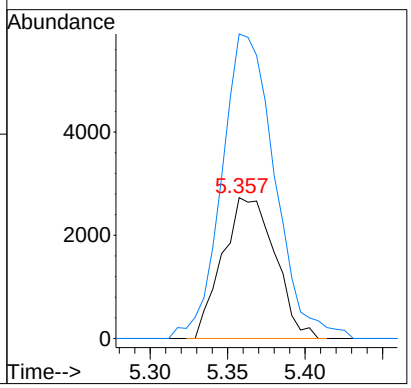


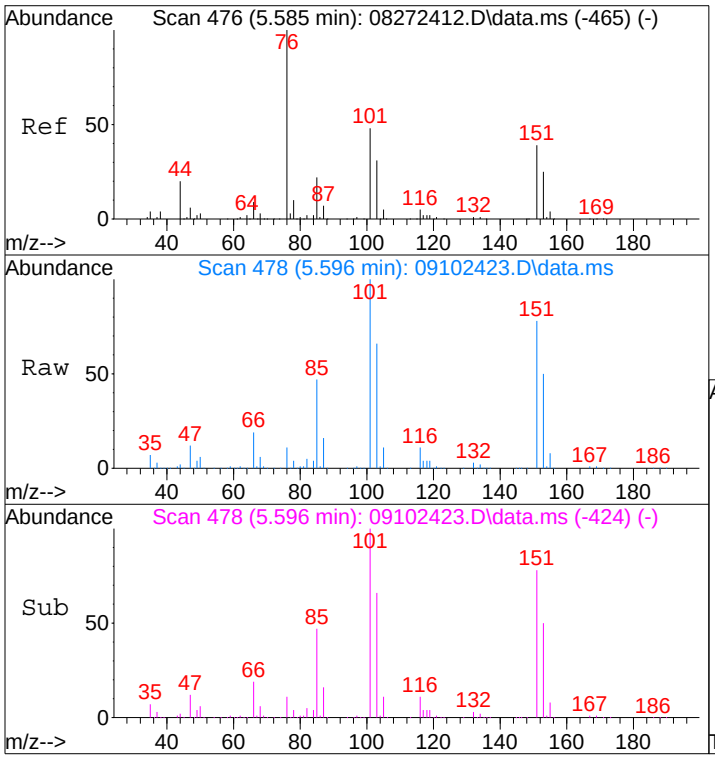


#19
Methylene Chloride
Concen: 0.42 ng
RT: 5.36 min Scan# 436
Delta R.T. 0.001 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 84 Resp: 6451

Ion	Ratio	Lower	Upper
84	100		
49	218.5	151.1	201.1#

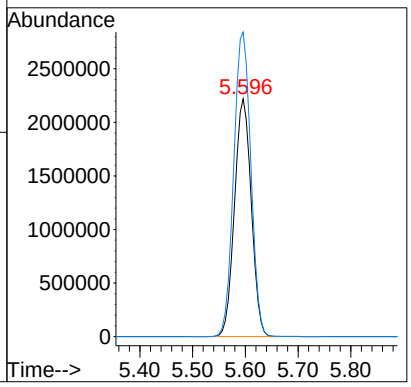


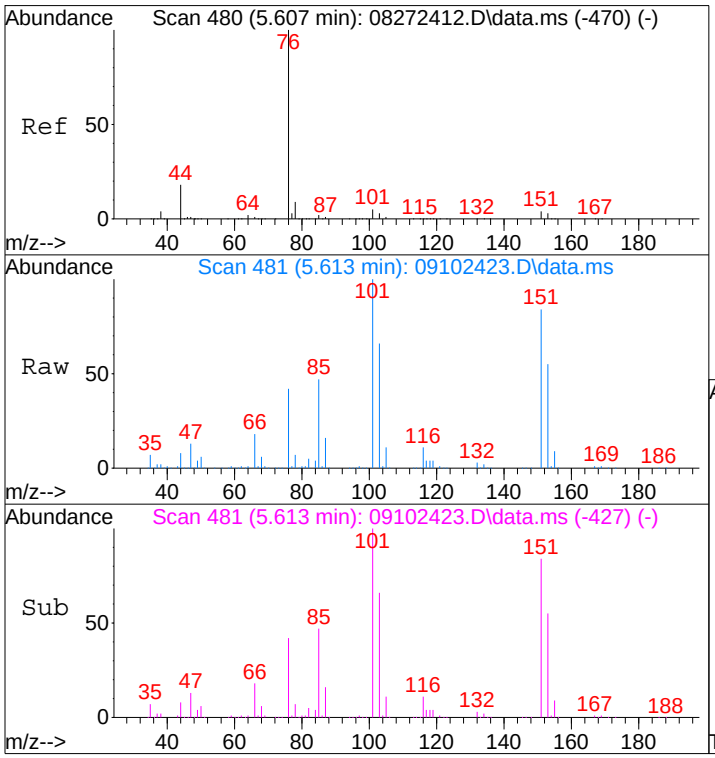


#21
Trichlorotrifluoroethane
Concen: 371.80 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.054 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:151 Resp: 4905001

Ion	Ratio	Lower	Upper
151	100		
101	130.3	103.4	143.4

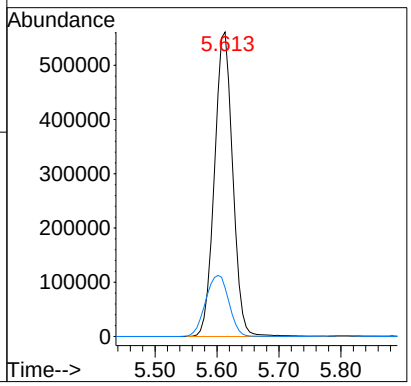


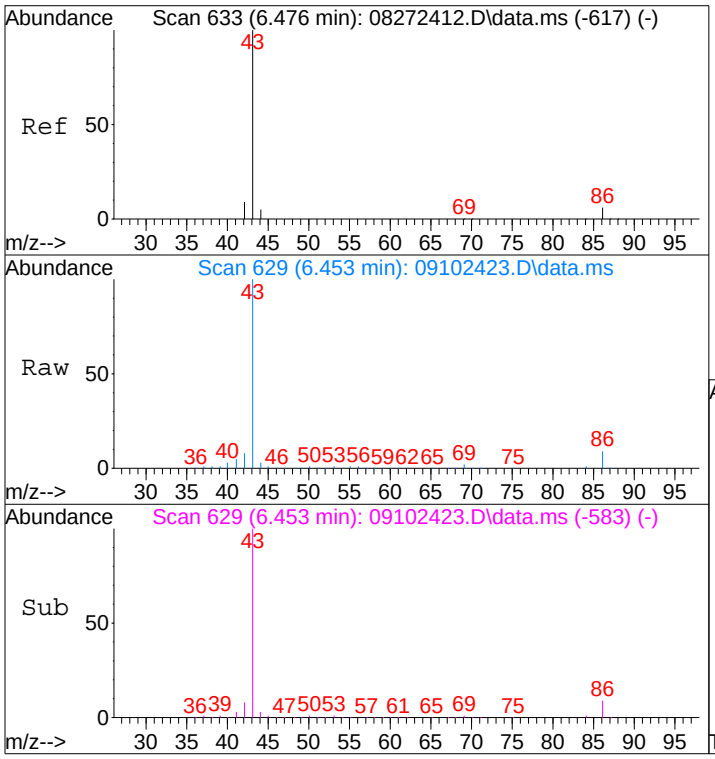


#22
Carbon Disulfide
Concen: 22.35 ng
RT: 5.61 min Scan# 481
Delta R.T. 0.054 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 76 Resp: 1149159

Ion	Ratio	Lower	Upper
76	100		
78	25.5	0.0	29.6

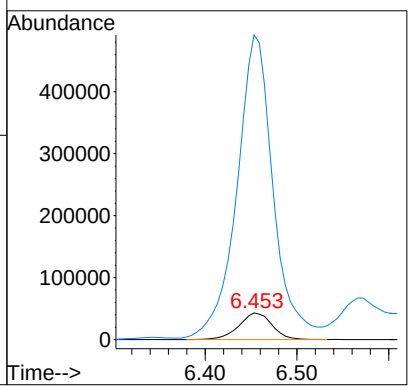


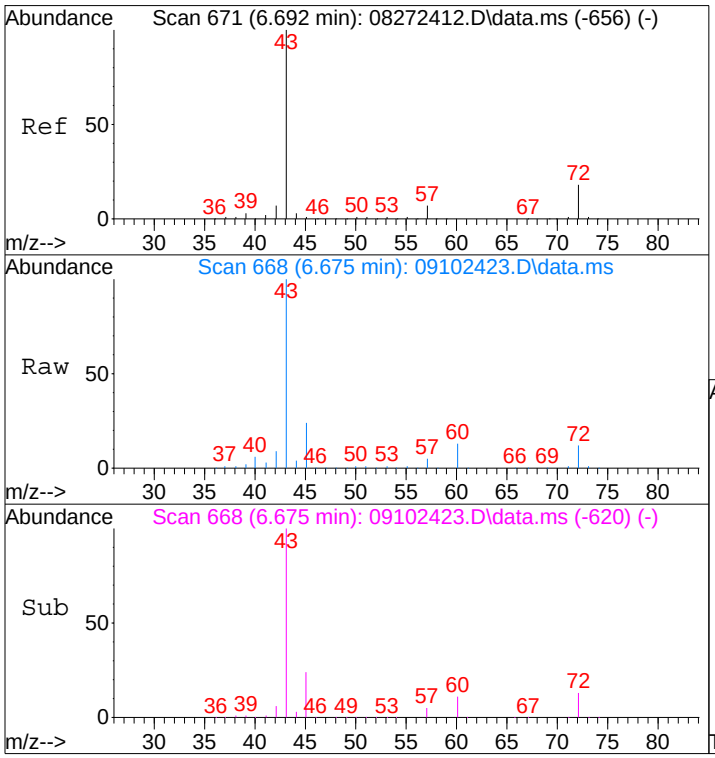


#26
Vinyl Acetate
Concen: 40.40 ng
RT: 6.45 min Scan# 629
Delta R.T. 0.013 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 86 Resp: 108127

Ion	Ratio	Lower	Upper
86	100		
43	1238.9	1687.9	1727.9#

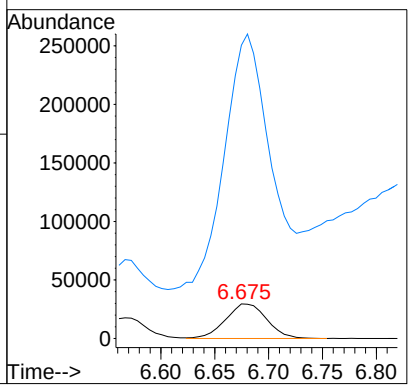


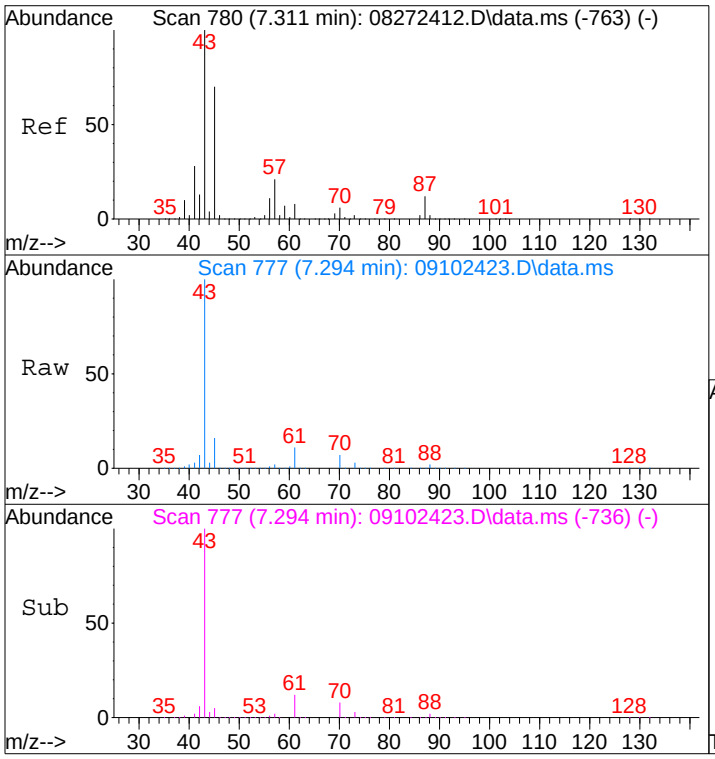


#27
2-Butanone (MEK)
Concen: 8.40 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.022 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 72 Resp: 78437

Ion	Ratio	Lower	Upper
72	100		
43	2022.4	548.0	588.0#

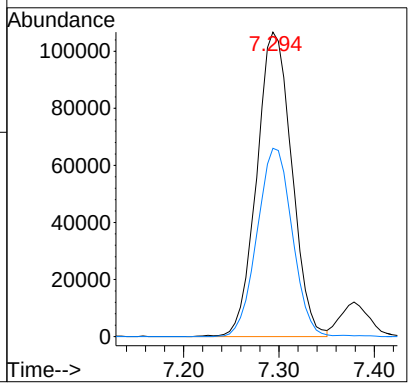


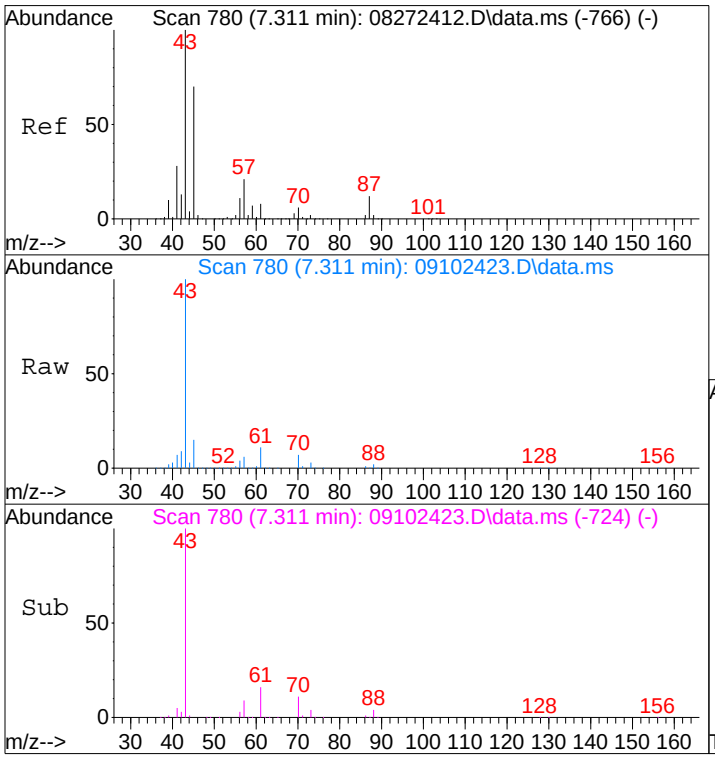


#30
Ethyl Acetate
Concen: 43.53 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 61 Resp: 272501

Ion	Ratio	Lower	Upper
61	100		
70	62.2	49.9	89.9

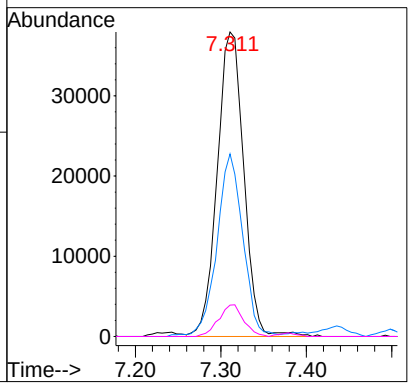


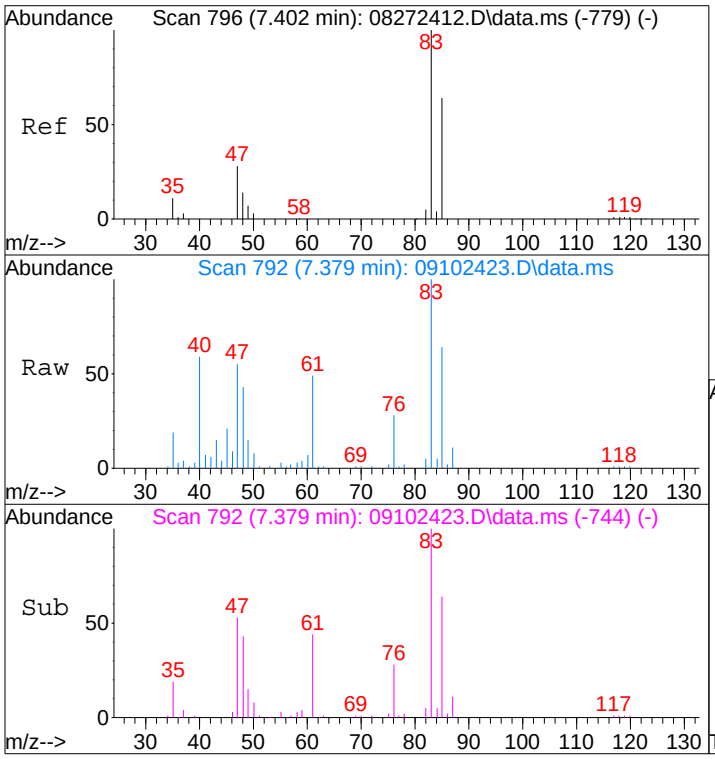


#31
n-Hexane
Concen: 2.88 ng
RT: 7.31 min Scan# 780
Delta R.T. 0.068 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 57 Resp: 82150

Ion	Ratio	Lower	Upper
57	100		
56	58.5	44.2	66.2
86	9.8	9.3	13.9

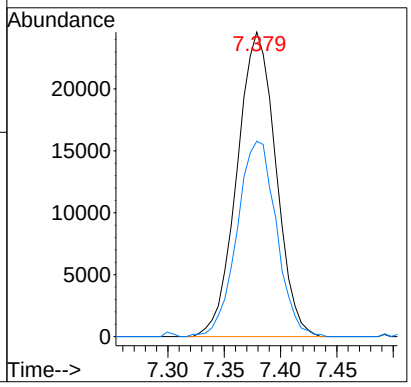


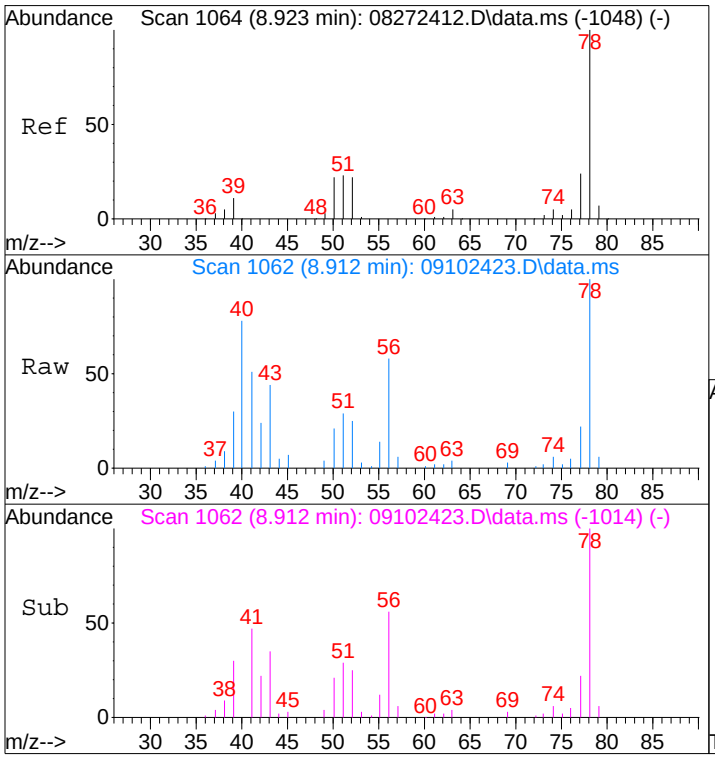


#32
Chloroform
Concen: 2.06 ng
RT: 7.38 min Scan# 792
Delta R.T. 0.024 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 83 Resp: 59070

Ion	Ratio	Lower	Upper
83	100		
85	65.1	45.3	85.3

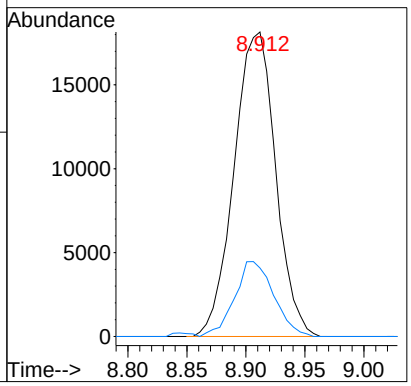


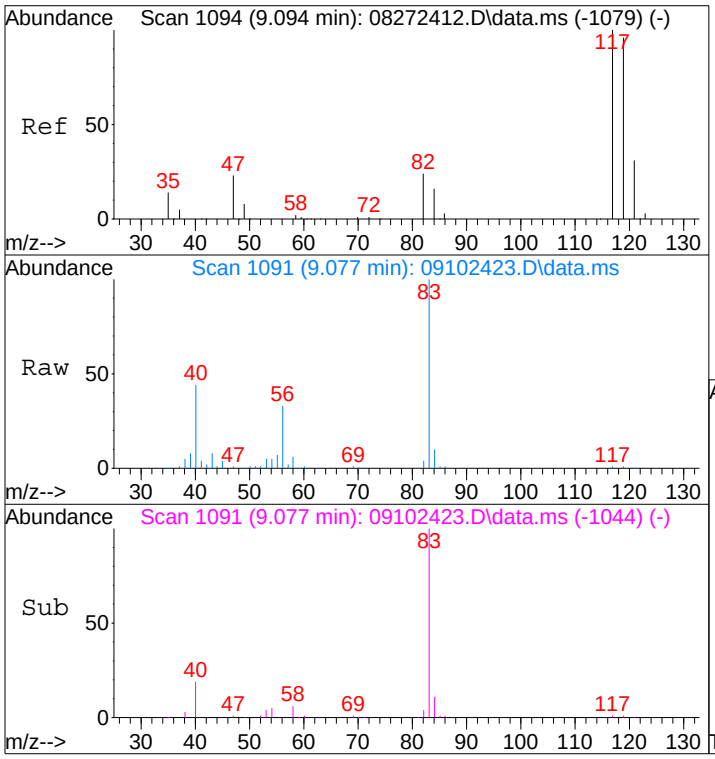


#41
Benzene
Concen: 0.75 ng
RT: 8.91 min Scan# 1062
Delta R.T. 0.020 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 78 Resp: 44519

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

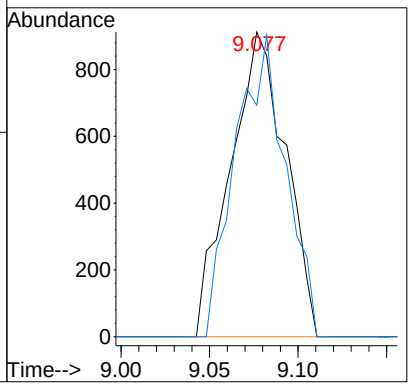


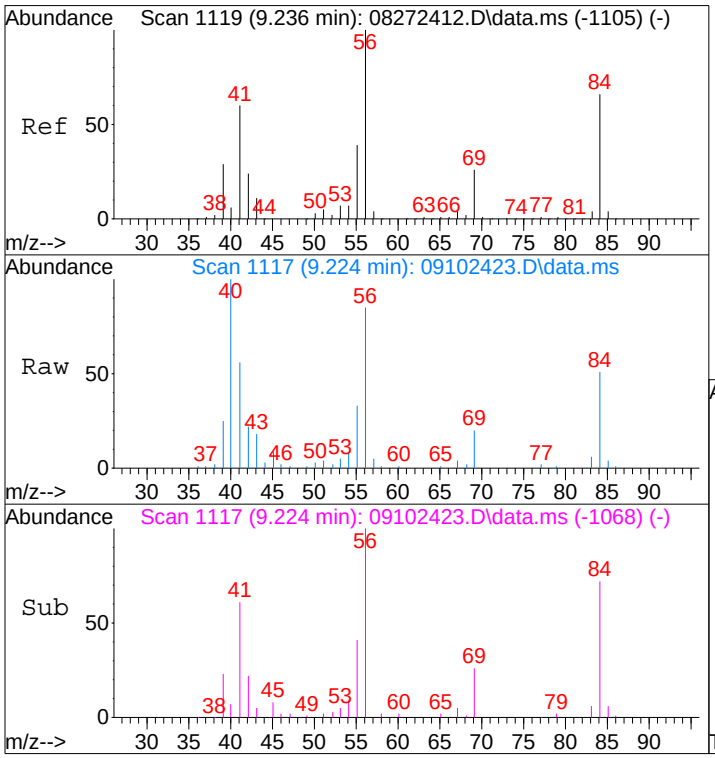


#42
Carbon Tetrachloride
Concen: 0.08 ng
RT: 9.08 min Scan# 1091
Delta R.T. 0.016 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:117 Resp: 1977

Ion	Ratio	Lower	Upper
117	100		
119	89.9	75.1	115.1

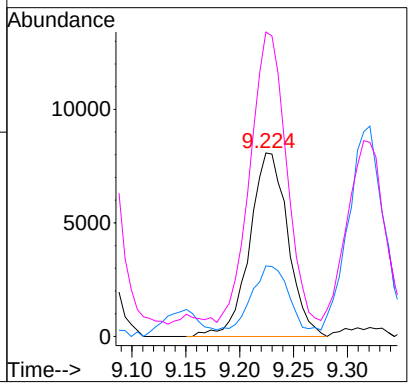


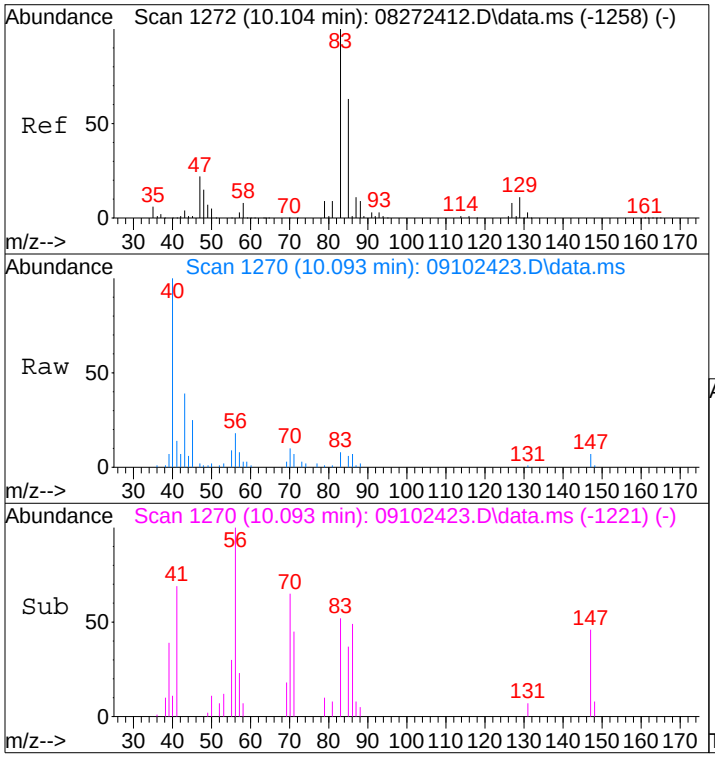


#43
Cyclohexane
Concen: 0.99 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.028 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 84 Resp: 19886

Ion	Ratio	Lower	Upper
84	100		
69	32.0	18.8	58.8
56	148.2	134.5	174.5

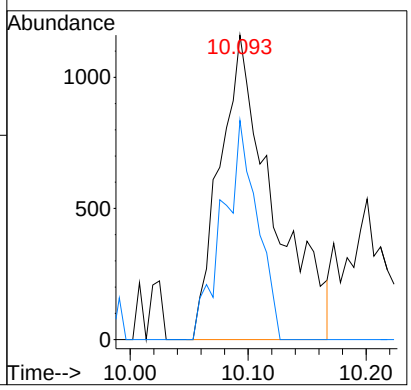


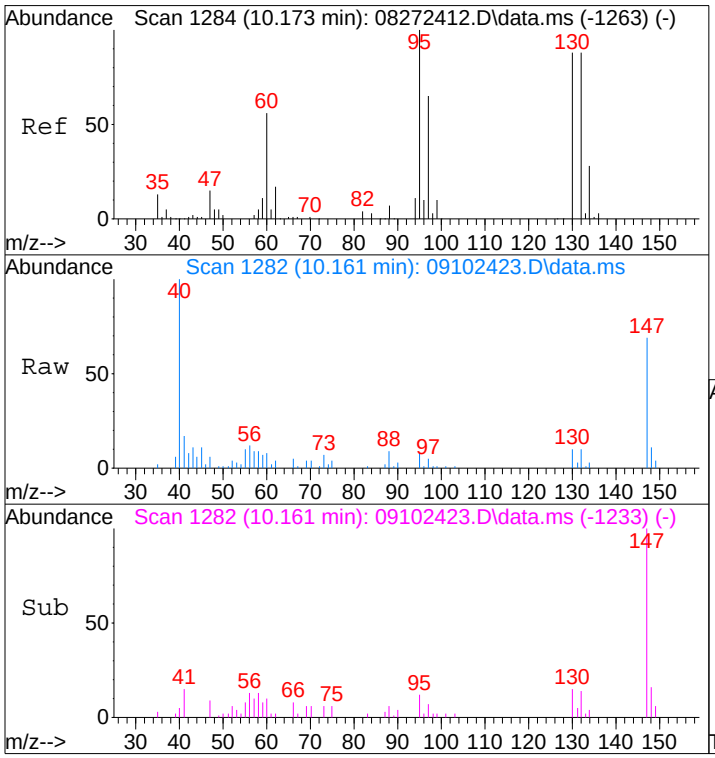


#46
Bromodichloromethane
Concen: 0.16 ng
RT: 10.09 min Scan# 1270
Delta R.T. 0.027 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 83 Resp: 3637

Ion	Ratio	Lower	Upper
83	100		
85	46.7	43.9	83.9

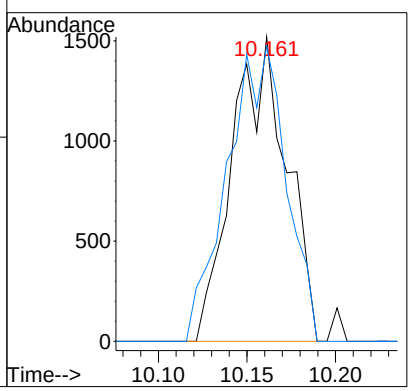


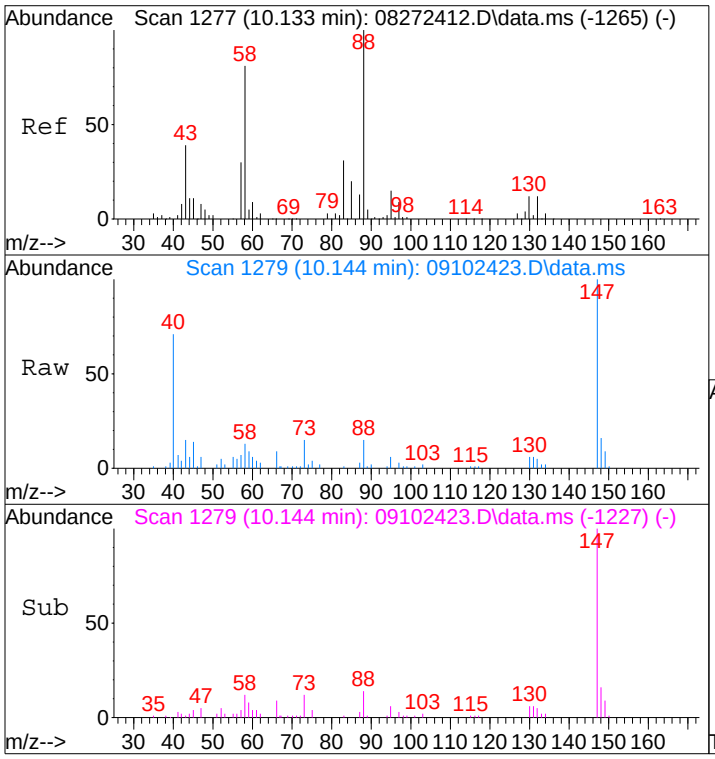


#47
Trichloroethene
Concen: 0.22 ng
RT: 10.16 min Scan# 1282
Delta R.T. 0.028 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:130 Resp: 3251

Ion	Ratio	Lower	Upper
130	100		
132	104.4	80.8	120.8

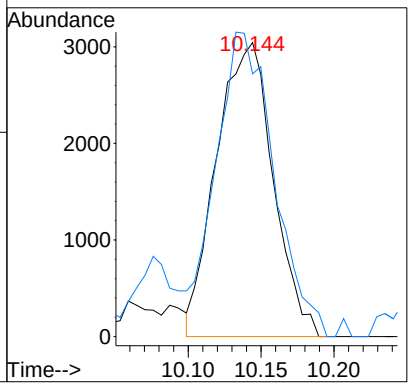


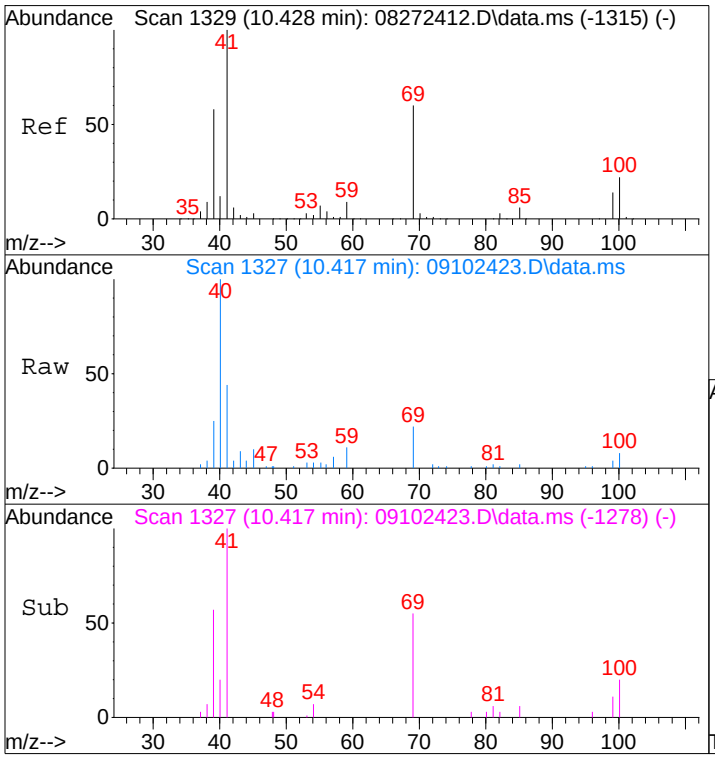


#48
1,4-Dioxane
Concen: 0.80 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.045 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 88 Resp: 8235

Ion	Ratio	Lower	Upper
88	100		
58	105.8	61.1	101.1#

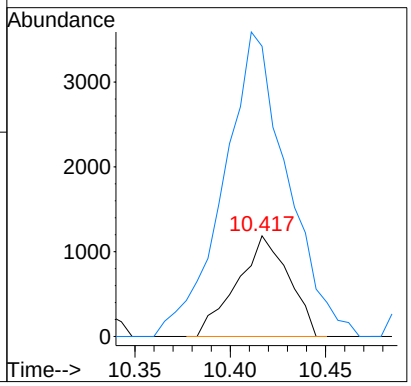


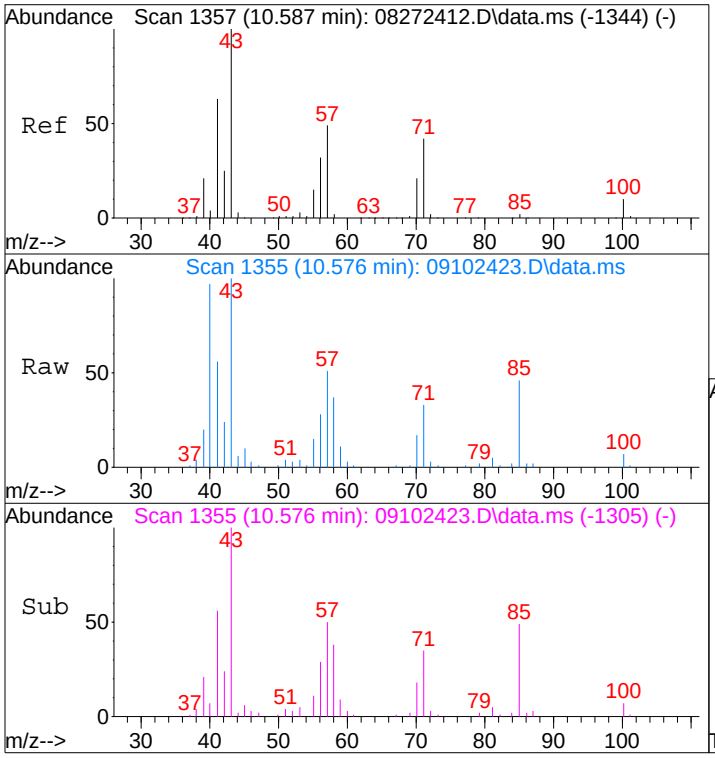


#50
Methyl Methacrylate
Concen: 0.43 ng
RT: 10.42 min Scan# 1327
Delta R.T. 0.029 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:100 Resp: 2236

Ion	Ratio	Lower	Upper
100	100		
69	375.3	260.7	300.7#

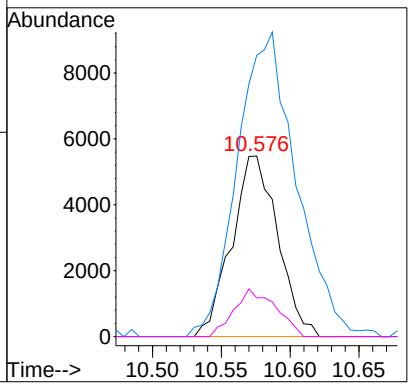


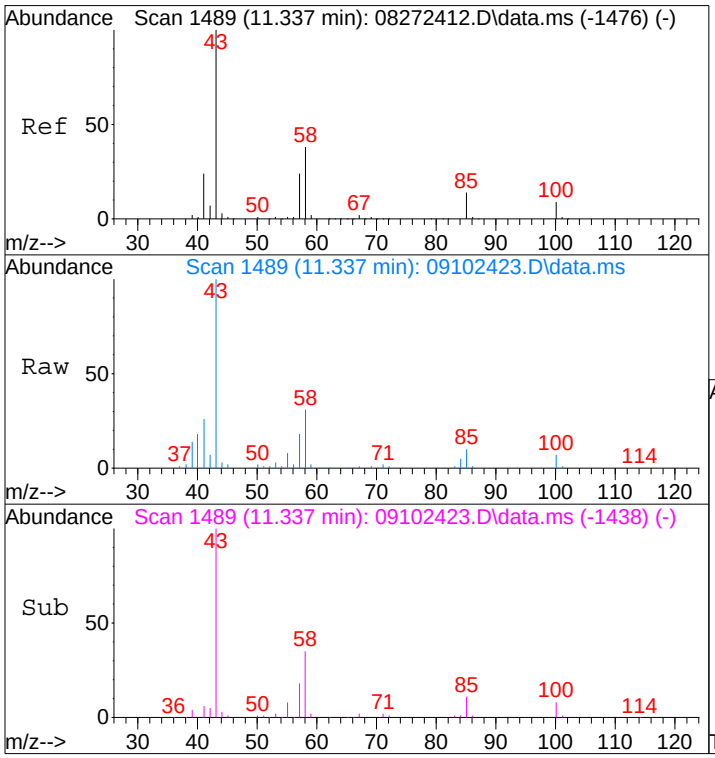


#51
n-Heptane
Concen: 0.96 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.036 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 71 Resp: 12759

Ion	Ratio	Lower	Upper
71	100		
57	216.3	97.1	137.1#
100	23.8	5.0	45.0

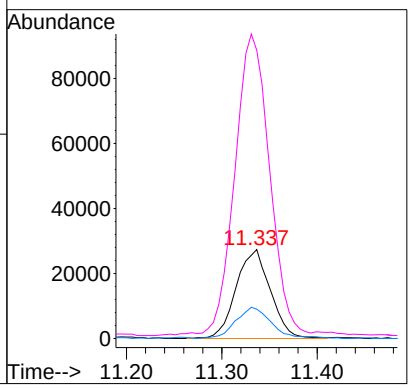


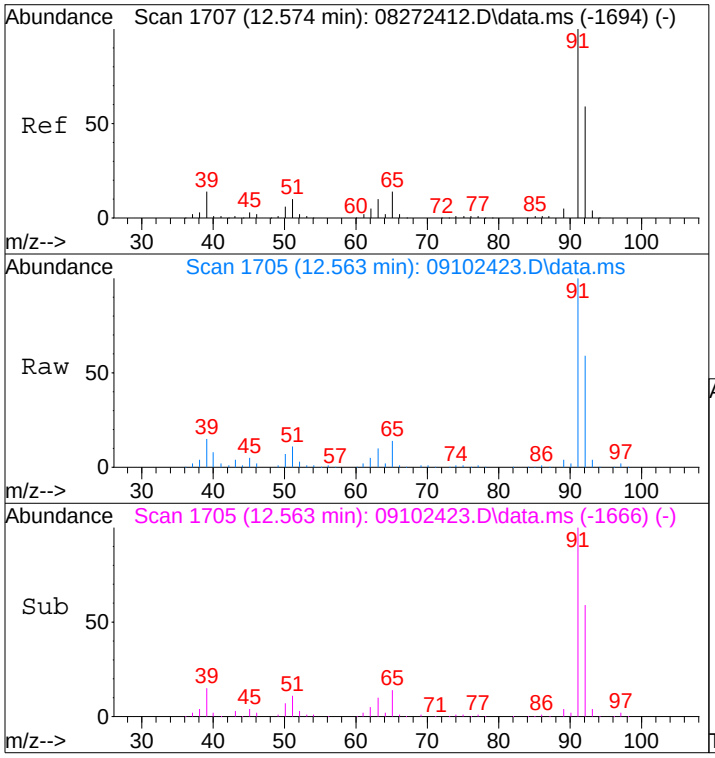


#53
4-Methyl-2-pentanone
Concen: 4.35 ng
RT: 11.34 min Scan# 1489
Delta R.T. 0.041 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 58 Resp: 68288

Ion	Ratio	Lower	Upper
58	100		
85	36.6	30.2	45.2
43	355.1	215.1	322.7#

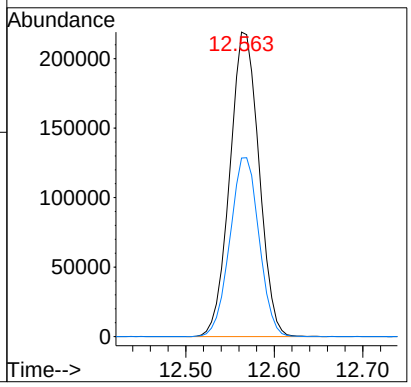


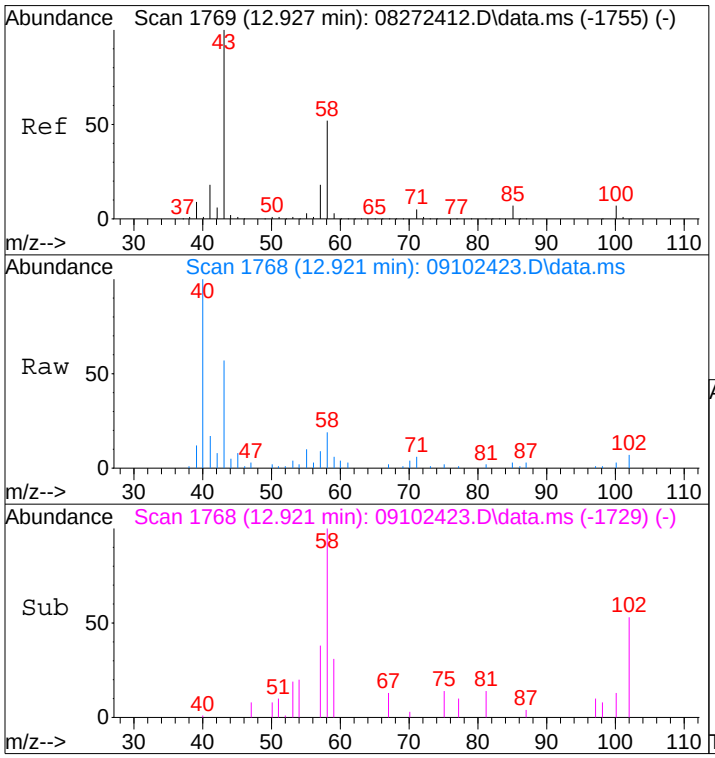


#58
Toluene
Concen: 6.71 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 91 Resp: 502052

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

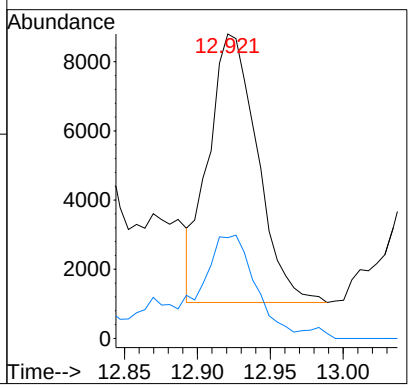


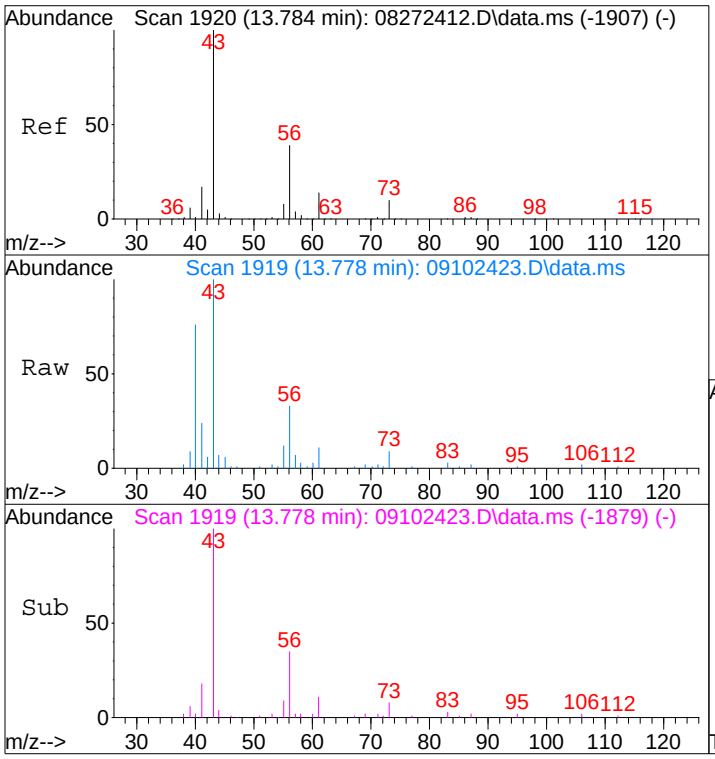


#59
2-Hexanone
Concen: 0.39 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 43 Resp: 18141

Ion	Ratio	Lower	Upper
43	100		
58	36.7	31.1	71.1

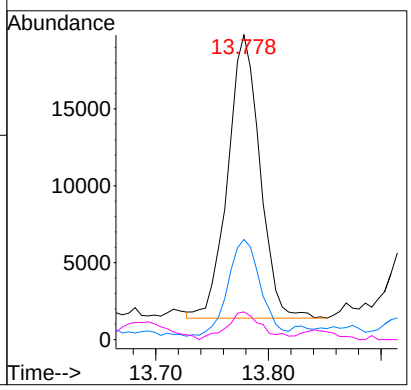


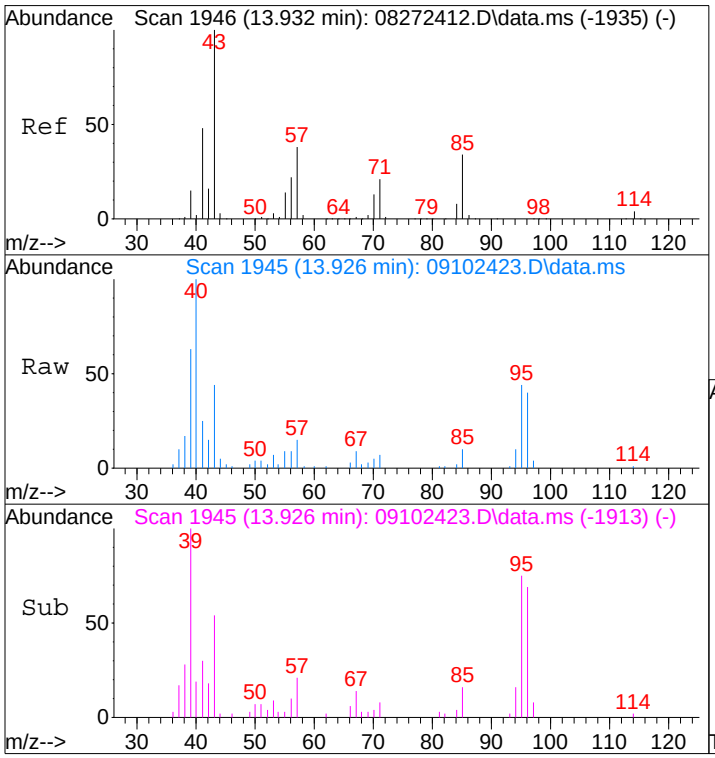


#62
n-Butyl Acetate
Concen: 0.70 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 43 Resp: 36543

Ion	Ratio	Lower	Upper
43	100		
56	34.7	18.2	58.2
73	10.6	0.0	30.1

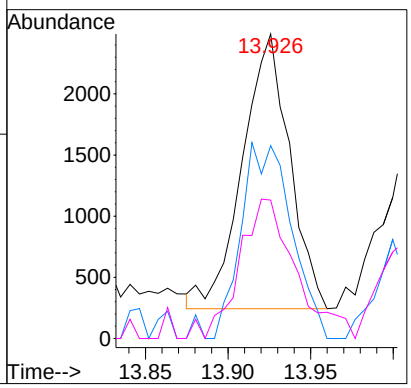


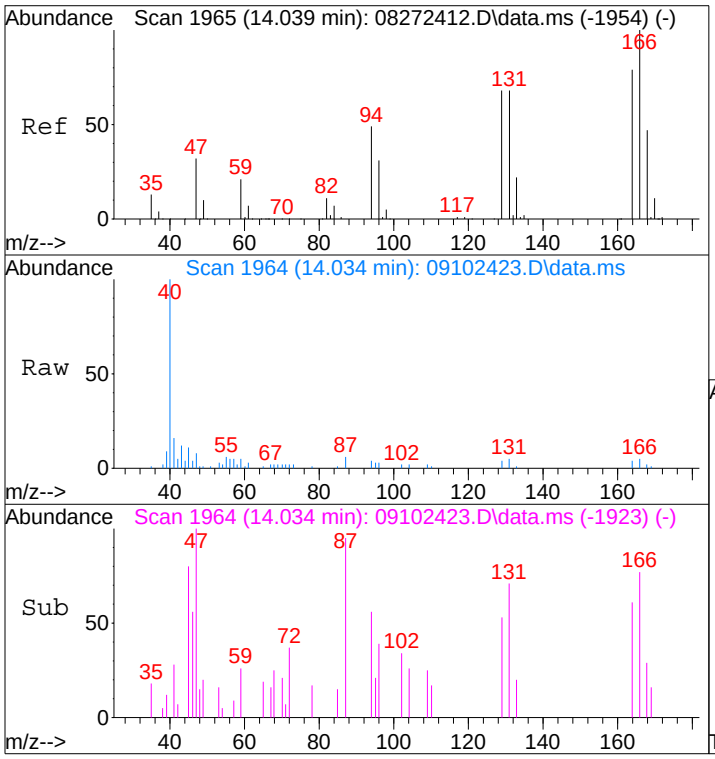


#63
n-Octane
Concen: 0.25 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 57 Resp: 4456

Ion	Ratio	Lower	Upper
57	100		
85	75.9	71.2	106.8
71	60.8	43.3	64.9

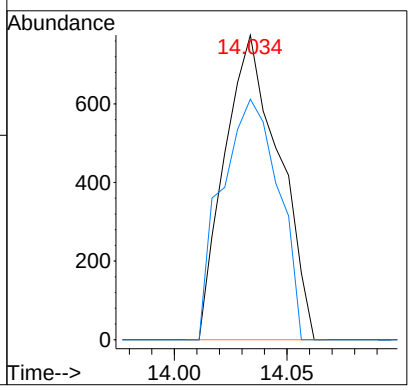


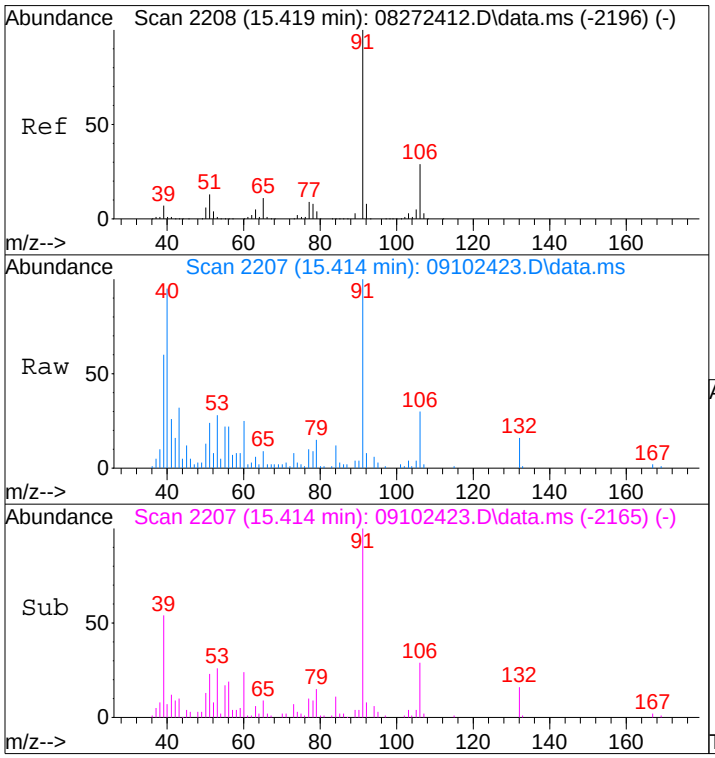


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:166 Resp: 1303

Ion	Ratio	Lower	Upper
166	100		
164	82.7	59.0	99.0

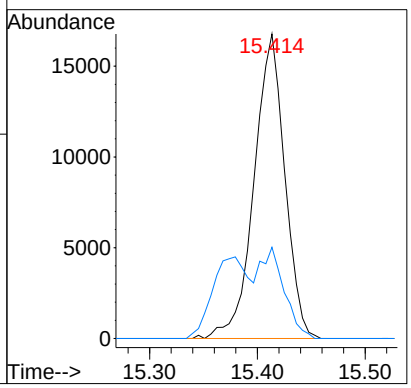


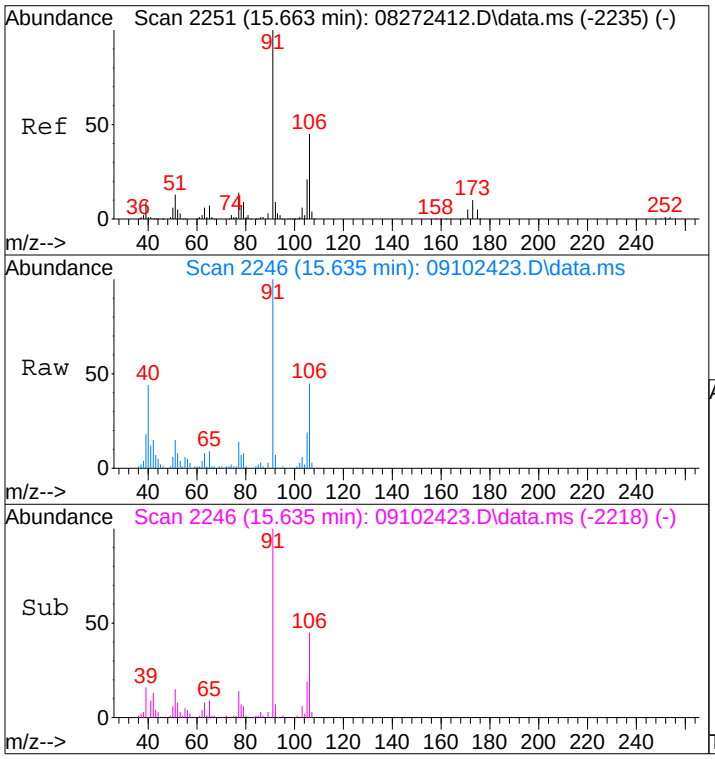


#66
Ethylbenzene
Concen: 0.39 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 91 Resp: 33179

Ion	Ratio	Lower	Upper
91	100		
106	23.8	9.2	49.2

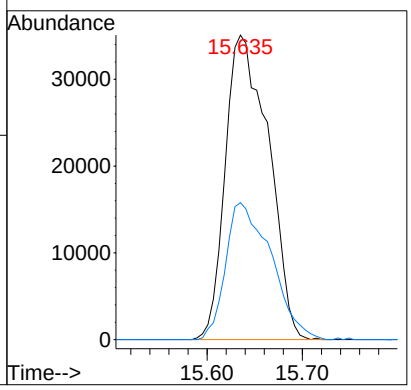


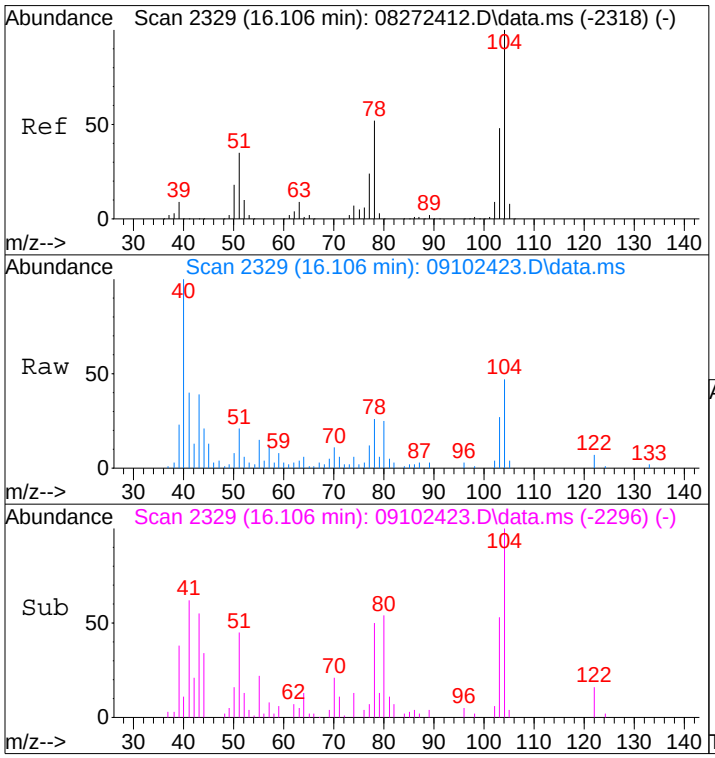


#67
m- & p-Xylenes
Concen: 1.58 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 91 Resp: 110307

Ion	Ratio	Lower	Upper
91	100		
106	47.5	23.8	63.8

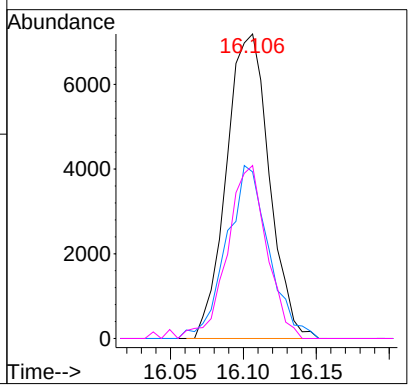


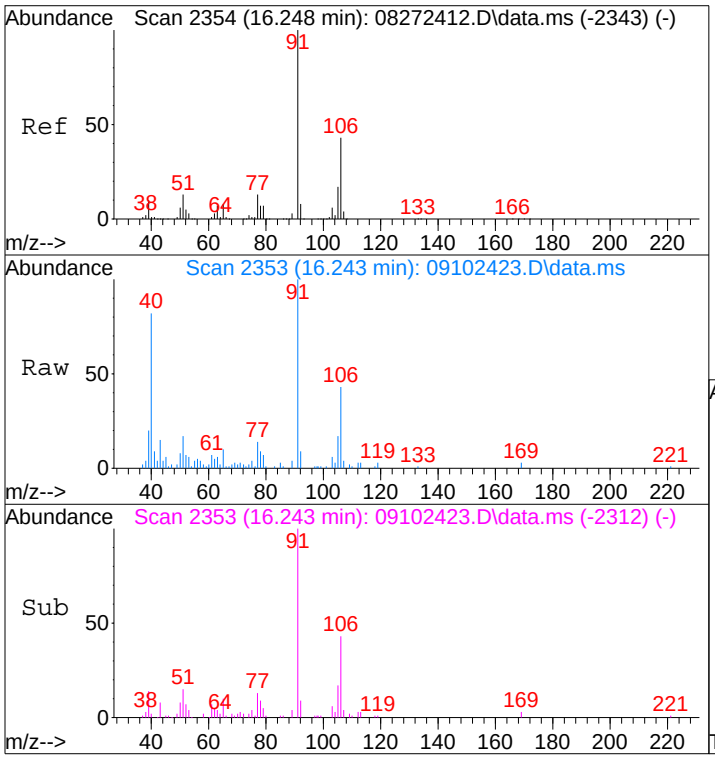


#69
Styrene
Concen: 0.32 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:104 Resp: 14690

Ion	Ratio	Lower	Upper
104	100		
78	56.2	32.2	72.2
103	52.6	28.3	68.3

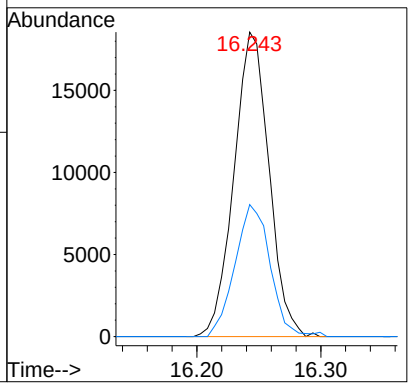


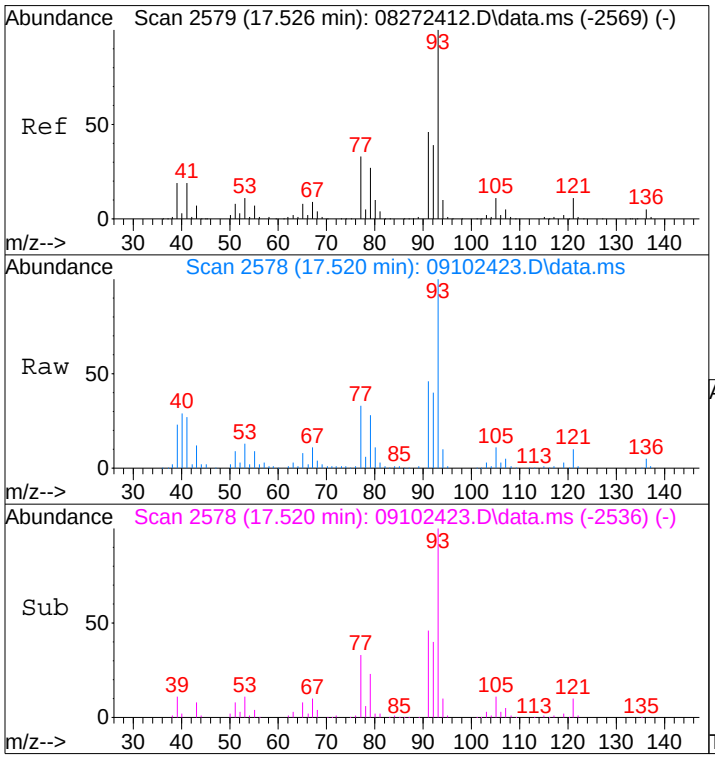


#70
o-Xylene
Concen: 0.53 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 91 Resp: 36515

Ion	Ratio	Lower	Upper
91	100		
106	43.7	22.5	62.5

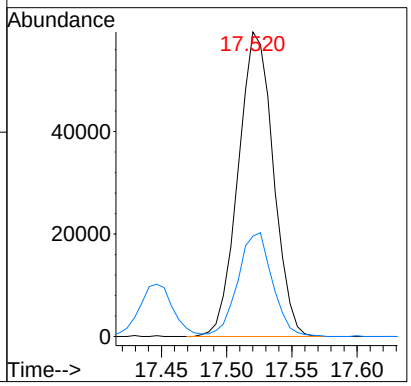


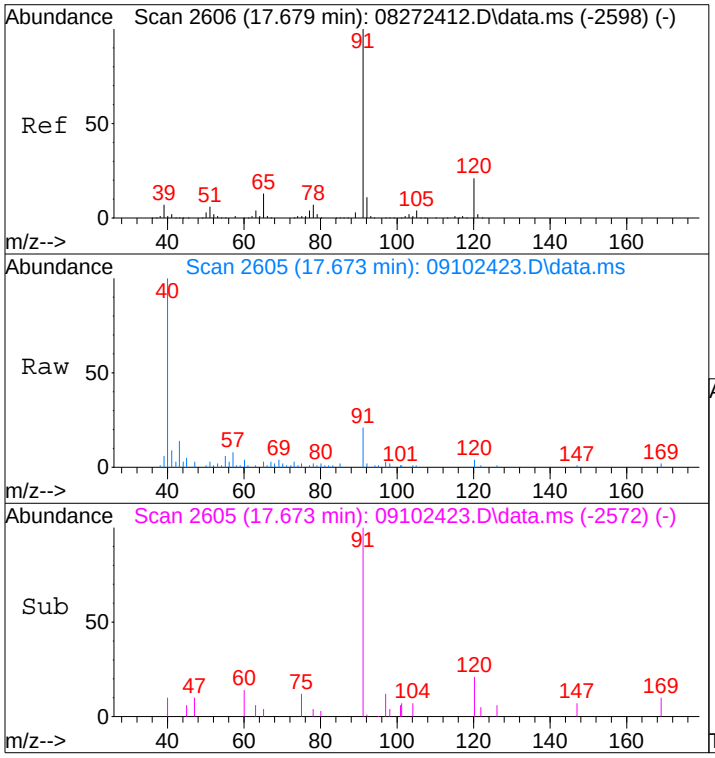


#75
alpha-Pinene
Concen: 2.70 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 93 Resp: 111027

Ion	Ratio	Lower	Upper
93	100		
77	33.7	13.1	53.1

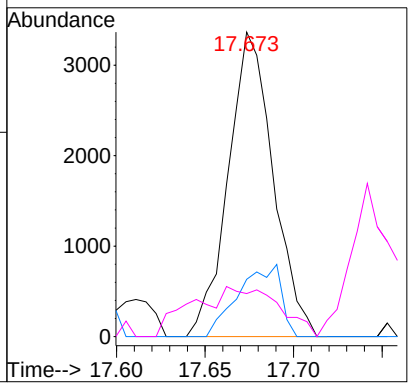


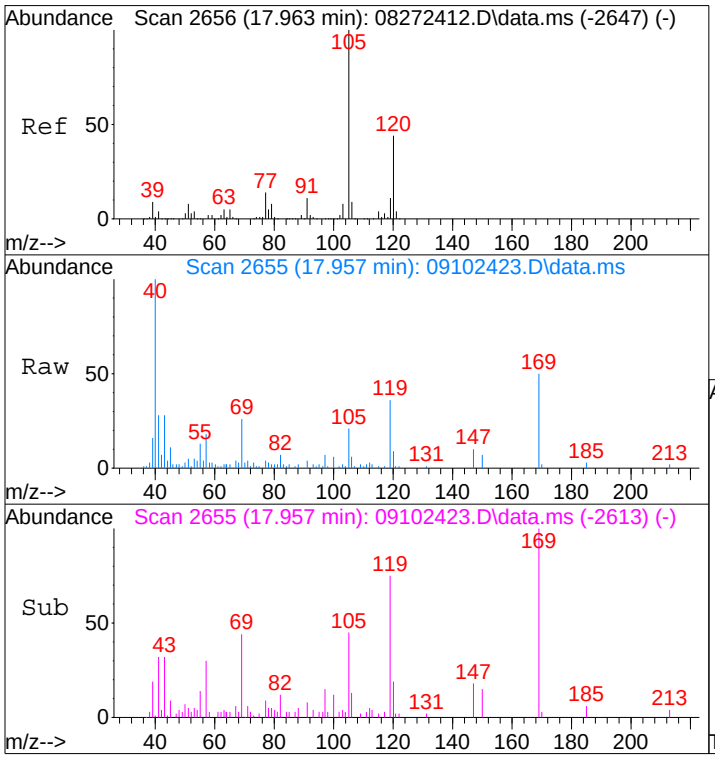


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.67 min Scan# 2605
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 91 Resp: 5944

Ion	Ratio	Lower	Upper
91	100		
120	22.4	0.5	40.5
65	19.9	0.0	32.5

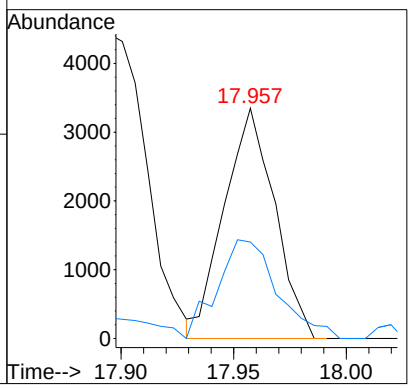


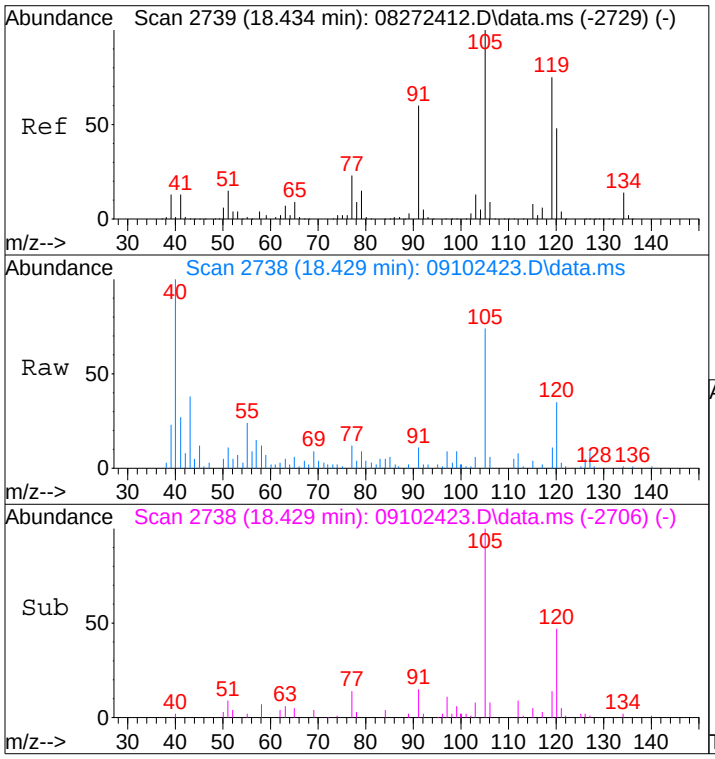


#79
1,3,5-Trimethylbenzene
Concen: 0.08 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:105 Resp: 5214

Ion	Ratio	Lower	Upper
105	100		
120	51.1	24.0	64.0

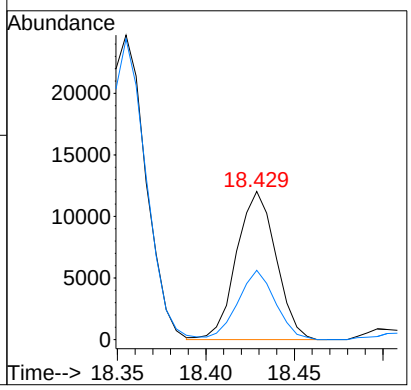


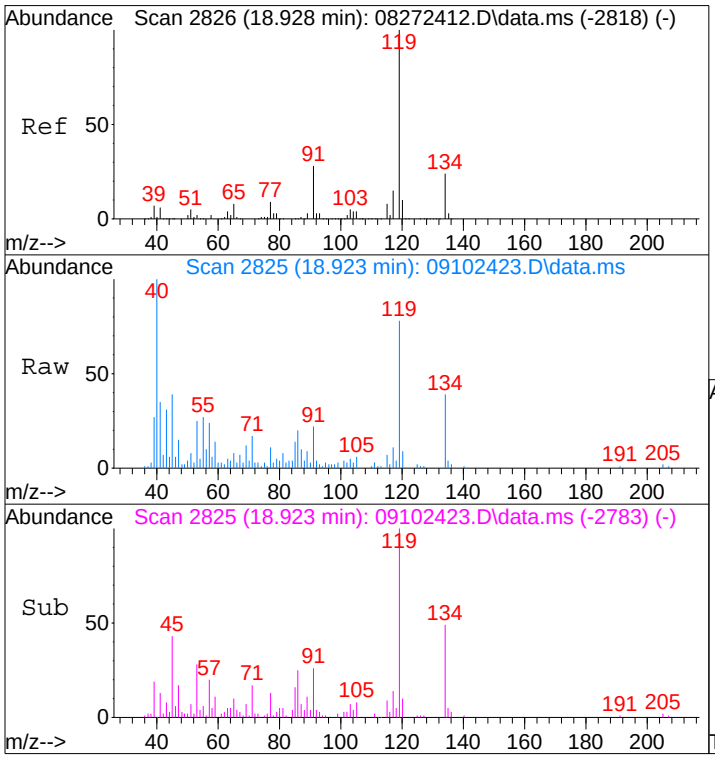


#82
1,2,4-Trimethylbenzene
Concen: 0.27 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:105 Resp: 18680

Ion	Ratio	Lower	Upper
105	100		
120	44.3	28.8	68.8

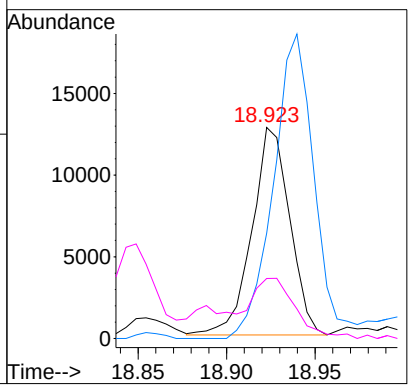


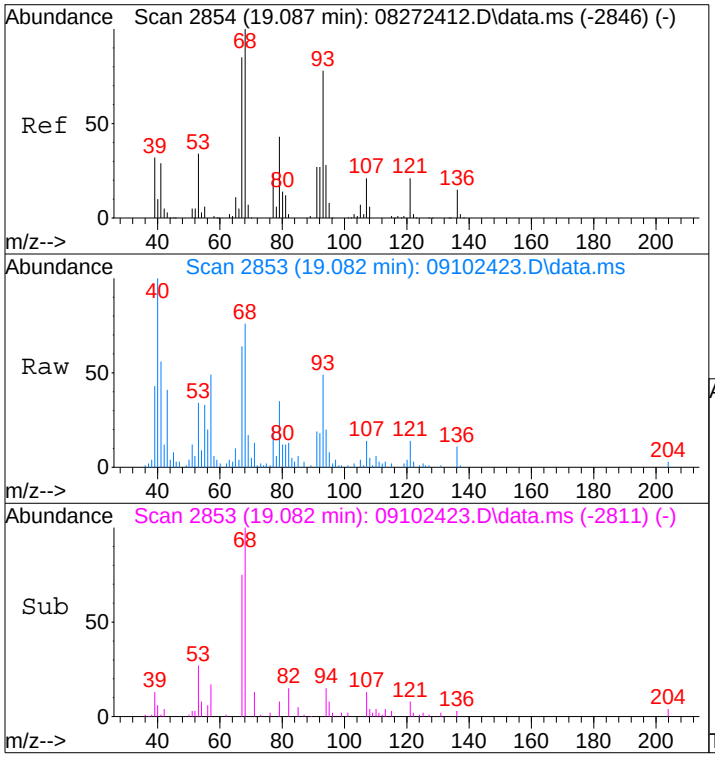


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.25 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:119 Resp: 18901

Ion	Ratio	Lower	Upper
119	100		
134	157.4	4.7	44.7#
91	33.8	8.1	48.1

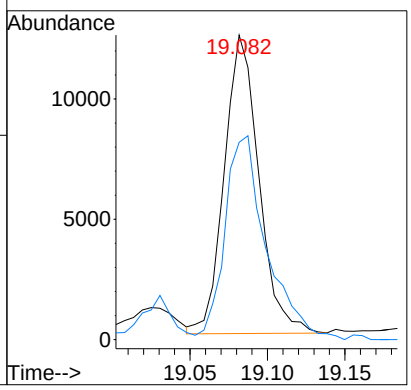


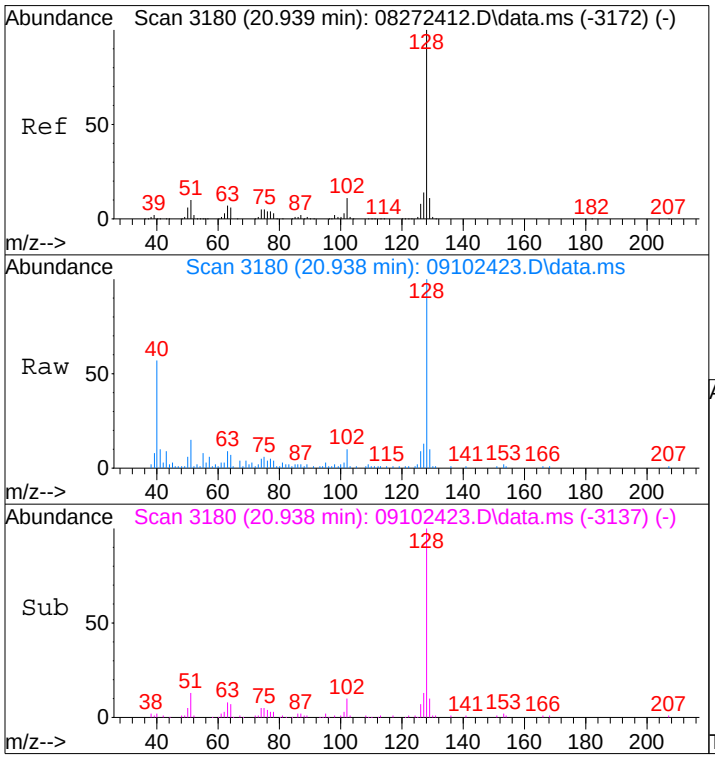


#91
d-Limonene
Concen: 0.82 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion: 68 Resp: 19290

Ion	Ratio	Lower	Upper
68	100		
93	81.8	56.2	96.2

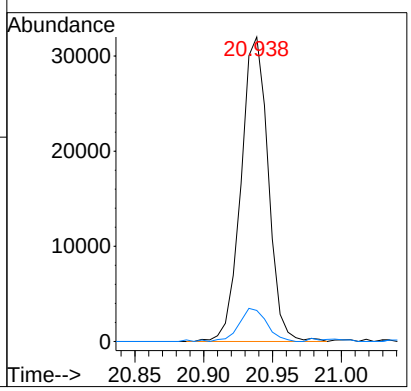




#95
Naphthalene
Concen: 0.59 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09102423.D
Acq: 10 Sep 2024 21:35

Tgt Ion:128 Resp: 43970

Ion	Ratio	Lower	Upper
128	100		
129	11.2	0.0	31.1



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:58:44 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

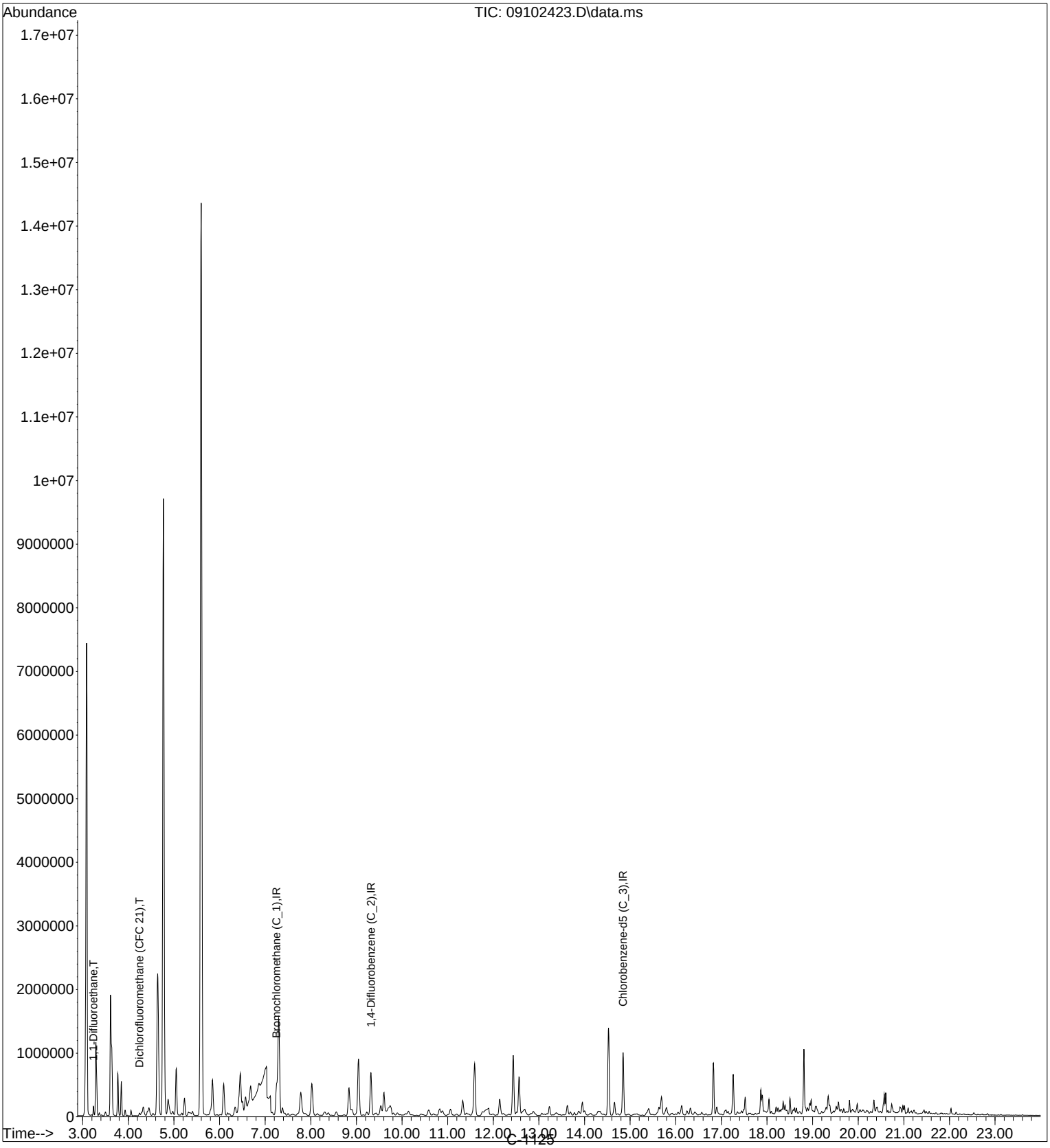
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.25	130	143799	12.500 ng	0.00
16) 1,4-Difluorobenzene (C 2)	9.32	114	634486	12.500 ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	197248	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.14	85	163	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.23	65	30048	2.393 ng	93
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.49	65	660	N.D.	
7) Dichlorofluoromethane ...	4.24	67	37669	1.142 ng	98
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.59	83	1920	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	0.00	43	0	N.D. d	
12) 2-Methylpentane	0.00	71	0	N.D. d	
13) 2,2-Dichloropropane	7.43	77	62	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D. d	
17) 2,3-Dimethylpentane	0.00	56	0	N.D. d	
18) Dibromomethane	9.82	174	56	N.D.	
20) Methyl Cyclohexane	0.00	55	0	N.D. d	
21) 1,3-Dichloropropane	12.57	76	2592	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	15.14	91	106	N.D.	
24) 1,2,3-Trichloropropane	16.41	75	514	N.D.	
25) Bromobenzene	17.09	77	1378	N.D.	
26) 2-Chlorotoluene	17.61	91	1009	N.D.	
27) 4-Chlorotoluene	0.00	91	0	N.D. d	
28) Indane	19.11	117	1835	N.D.	
29) Indene	19.20	115	753	N.D.	
30) 1,2,4,5-Tetramethylben...	20.09	119	236	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	4060	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	5297	N.D.	
33) 1,2,3-Trichlorobenzene	21.09	180	299	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

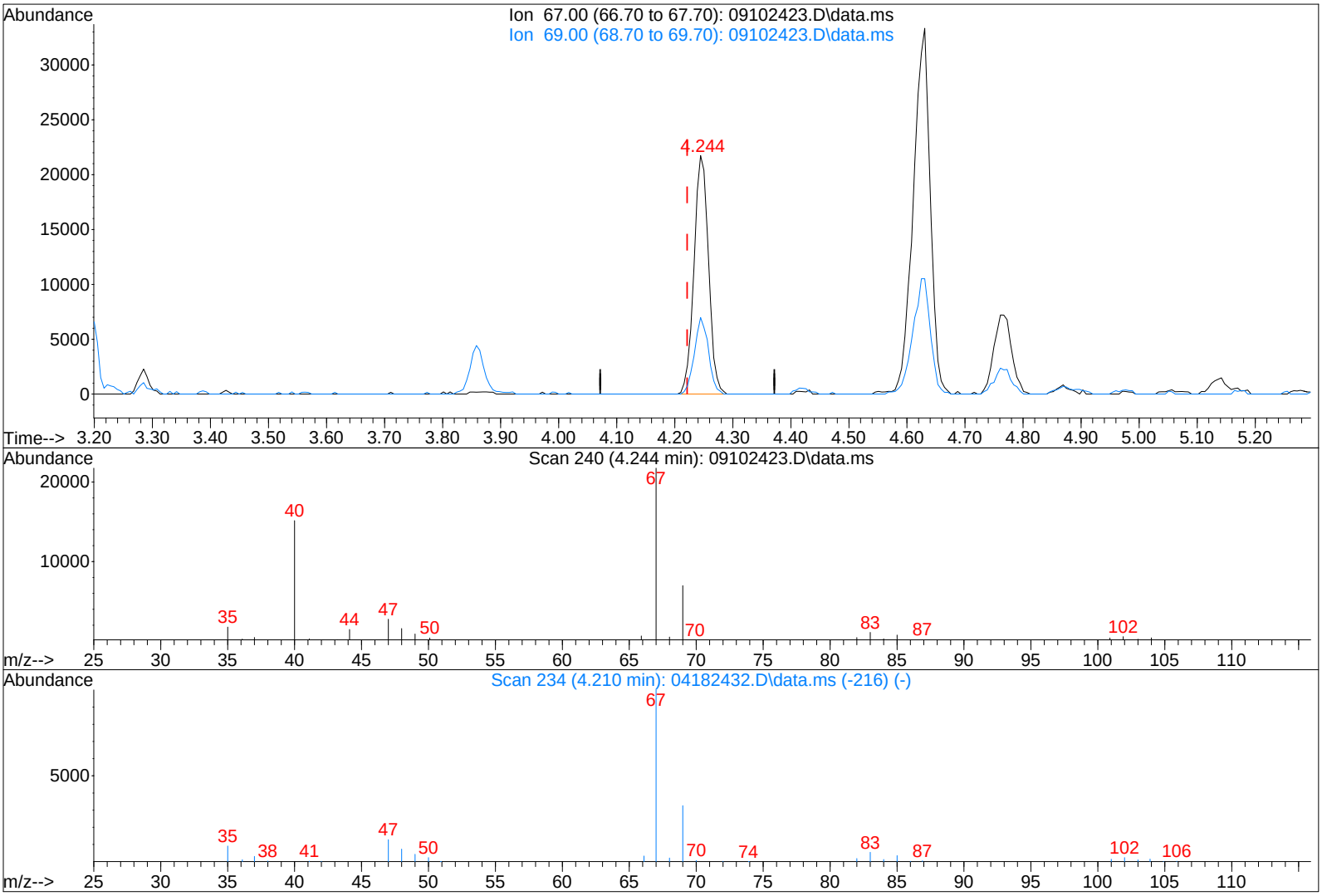
Quant Time: Sep 11 11:58:44 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102423.D Vial: 15
Acq On : 10 Sep 2024 21:35 Operator: SC
Sample : P2403661-029 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:57:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102423.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.244min (+0.023) 1.14ng

response 37669

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.18
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 13:59:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	142006	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	624262	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	179385	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	345610	13.006	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
57) Toluene-d8 (SS2)	12.43	98	715728	11.374	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
73) Bromofluorobenzene (SS3)	16.82	174	233146	11.078	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%				
Target Compounds							Qvalue
2) Propene	3.31	42	18033	0.841	ng	#	82
3) Dichlorodifluoromethan...	3.32	85	1298	N.D.			
4) Chloromethane	3.51	50	349	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	27136	1.761	ng		77
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.54	56	2196	0.187	ng		93
13) Acetone	4.64	58	60534m	4.655	ng		
14) Trichlorofluoromethane	4.76	101	830010	25.240	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	39580	0.773	ng		99
16) Acrylonitrile	5.04	53	760	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.36	84	884	0.058	ng	#	81
20) 3-Chloro-1-propene (Al...	5.45	41	177	N.D.			
21) Trichlorotrifluoroethane	5.58	151	468051	35.926	ng		93
22) Carbon Disulfide	5.60	76	105757	2.083	ng		54
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	251	N.D.			
26) Vinyl Acetate	6.43	86	9904	3.747	ng	#	15
27) 2-Butanone (MEK)	6.67	72	6899	0.748	ng	#	78
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.29	87	417	N.D.			
30) Ethyl Acetate	7.29	61	24064	3.893	ng		89
31) n-Hexane	7.31	57	7217	0.256	ng		95
32) Chloroform	7.36	83	5267	0.186	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.81	56	18194	No Calib		#	
41) Benzene	8.91	78	4345	0.074	ng		87
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	1819	0.092	ng		88
44) tert-Amyl Methyl Ether	9.63	73	126	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	193	N.D.			
47) Trichloroethene	10.15	130	288	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.25	57	790	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 13:59:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

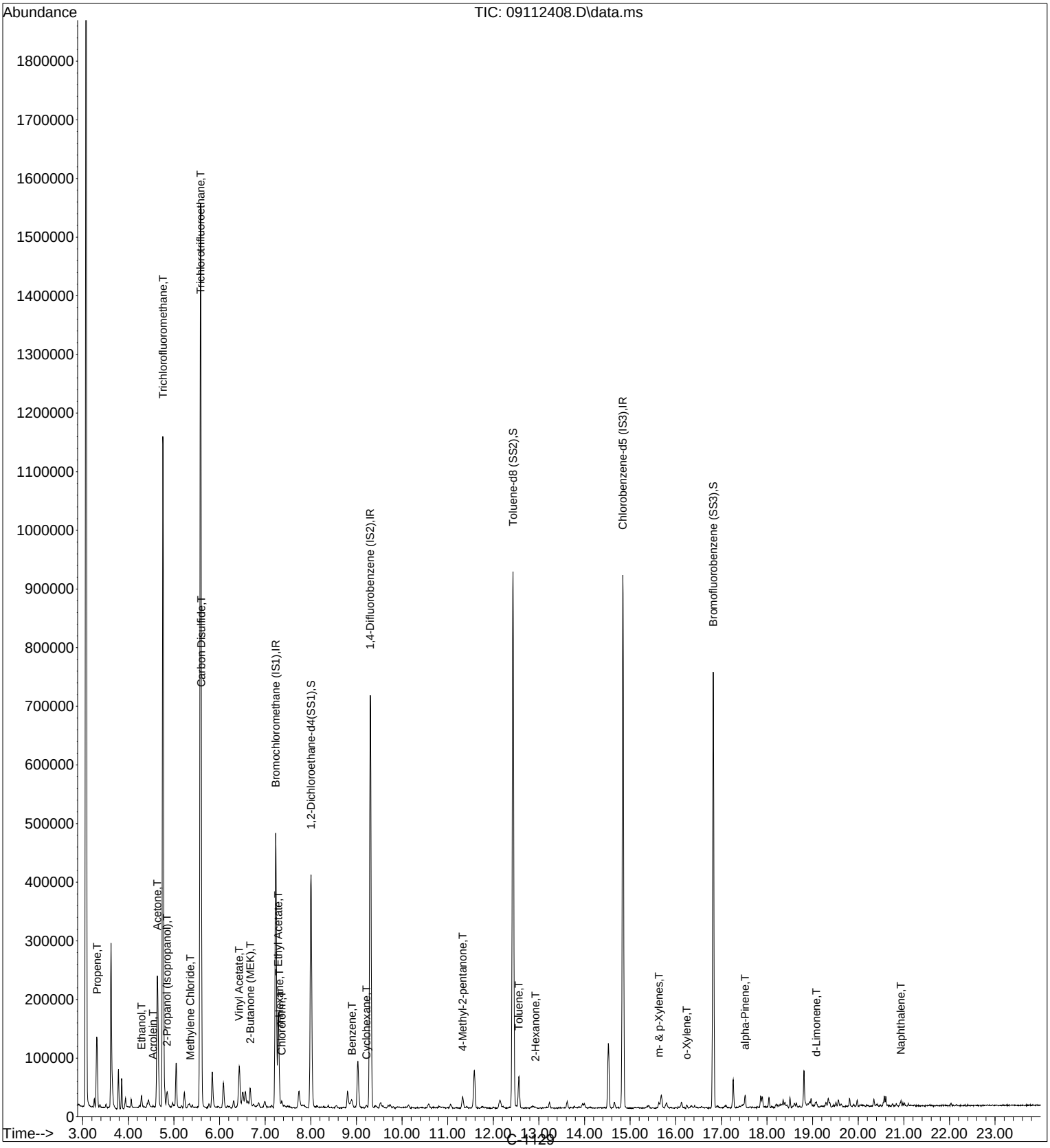
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.56	71	440	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	5589	0.362 ng	#	60
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	44493	0.654 ng		97
59) 2-Hexanone	12.93	43	2283	0.054 ng	#	61
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.93	57	139	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.90	112	237	N.D.		
66) Ethylbenzene	15.41	91	3004	N.D.		
67) m- & p-Xylenes	15.63	91	9089	0.143 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.09	104	1190	N.D.		
70) o-Xylene	16.24	91	3221	0.052 ng		99
71) n-Nonane	16.61	43	1059	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	236	N.D.		
74) Cumene	17.03	105	579	N.D.		
75) alpha-Pinene	17.52	93	8922	0.238 ng		100
76) n-Propylbenzene	17.67	91	1131	N.D.		
77) 3-Ethyltoluene	17.03	105	579	No Calib	#	
78) 4-Ethyltoluene	17.85	105	992	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	584	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	579	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1572	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	788	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	413	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	643	N.D.		
87) sec-Butylbenzene	18.74	105	399	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1711	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	579	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	405	N.D.		
91) d-Limonene	19.08	68	1311	0.061 ng		83
92) 1,2-Dibromo-3-Chloropr...	19.51	157	122	N.D.		
93) n-Undecane	17.90	58	665	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	1248	N.D.		
95) Naphthalene	20.94	128	4701	0.070 ng		100
96) n-Dodecane	18.96	58	249	No Calib	#	
97) Hexachlorobutadiene	21.30	225	352	N.D.		
98) Cyclohexanone	15.21	55	227	No Calib	#	
99) tert-Butylbenzene	18.42	119	440	N.D.		
100) n-Butylbenzene	19.38	91	981	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

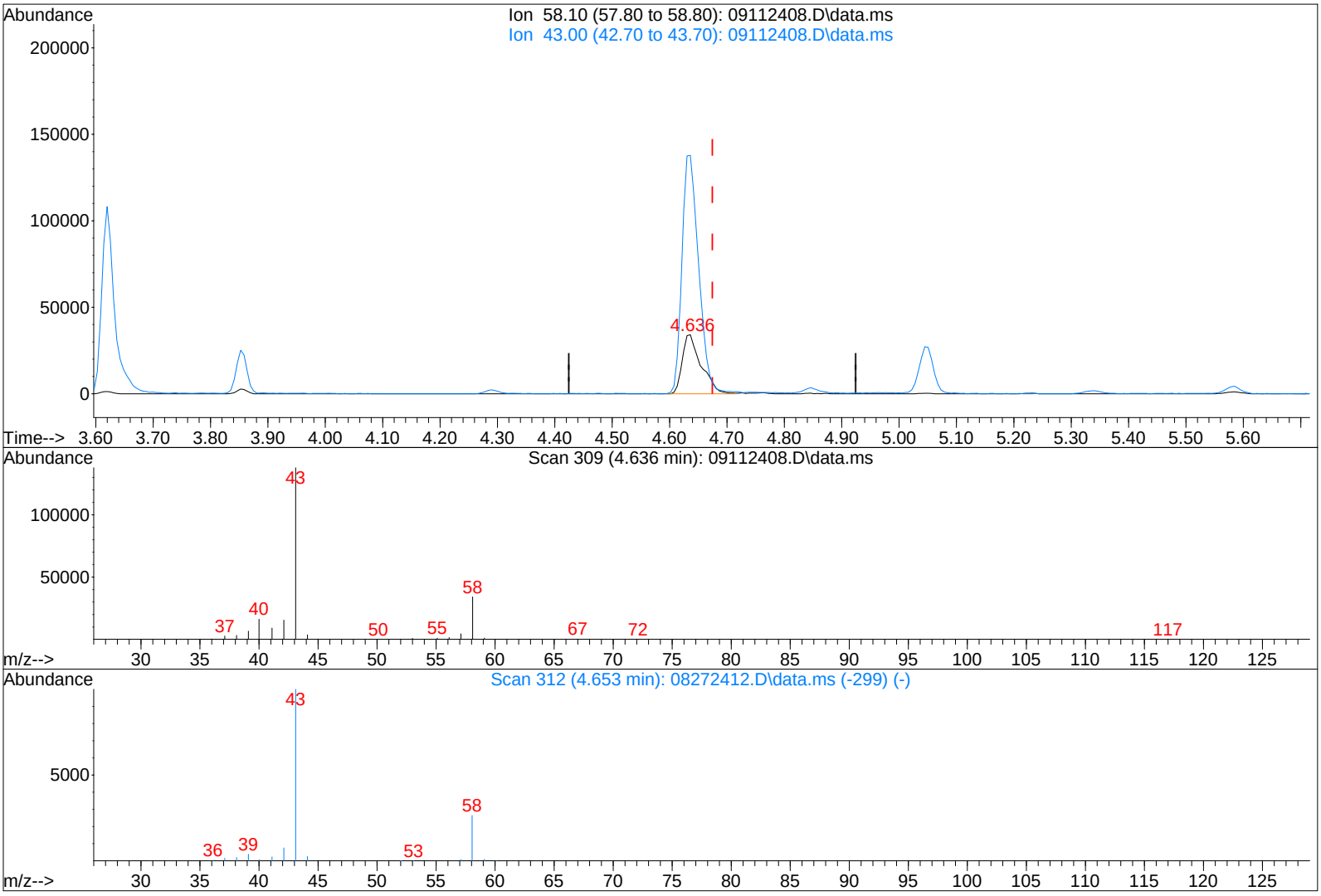
Quant Time: Sep 11 13:59:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 13:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112408.D\data.ms

(13) Acetone (T)

4.636min (-0.039) 5.96ng

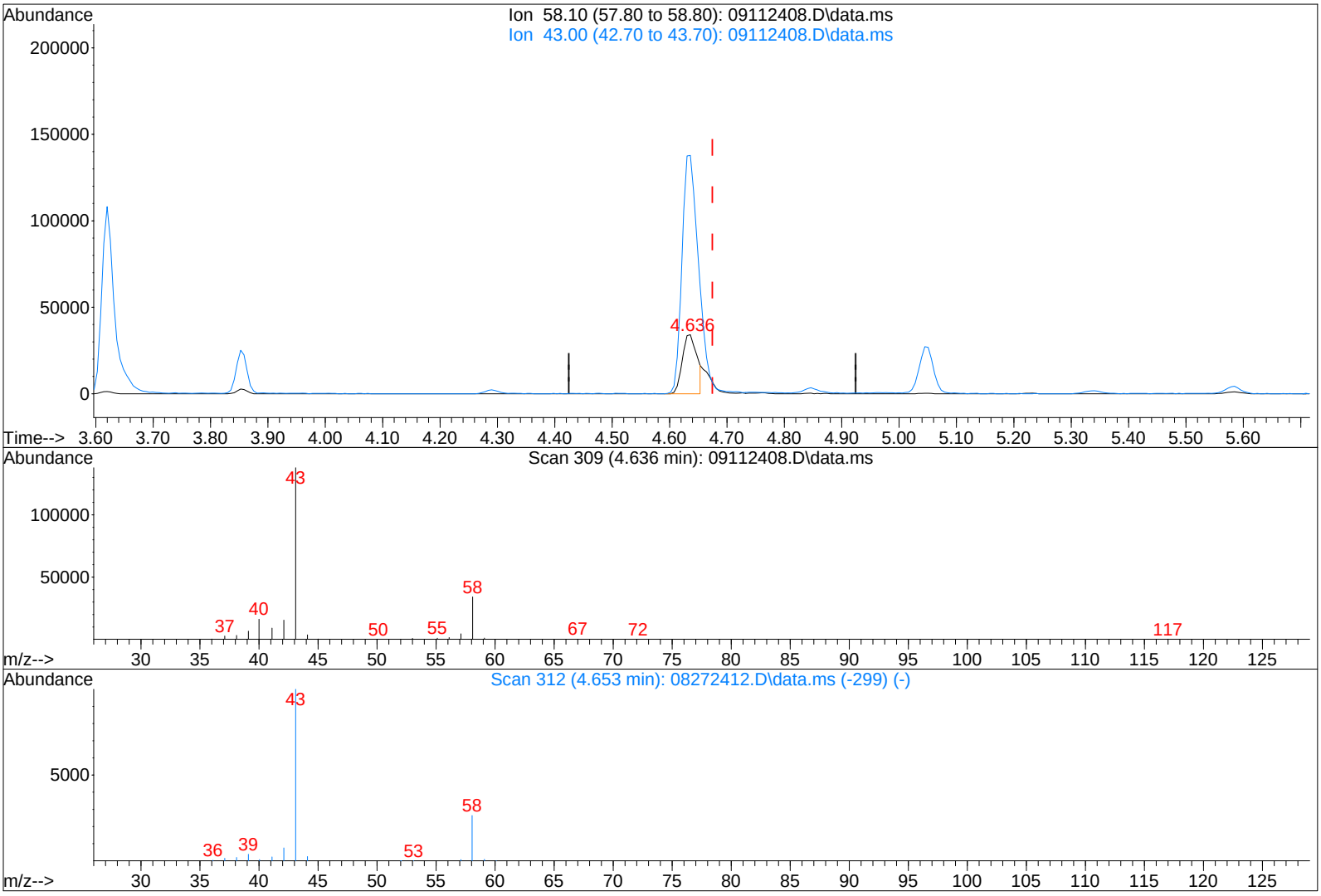
response 77457

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	361.91
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 13:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112408.D\data.ms

(13) Acetone (T)

4.636min (-0.039) 4.65ng m

response 60534

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	463.09#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

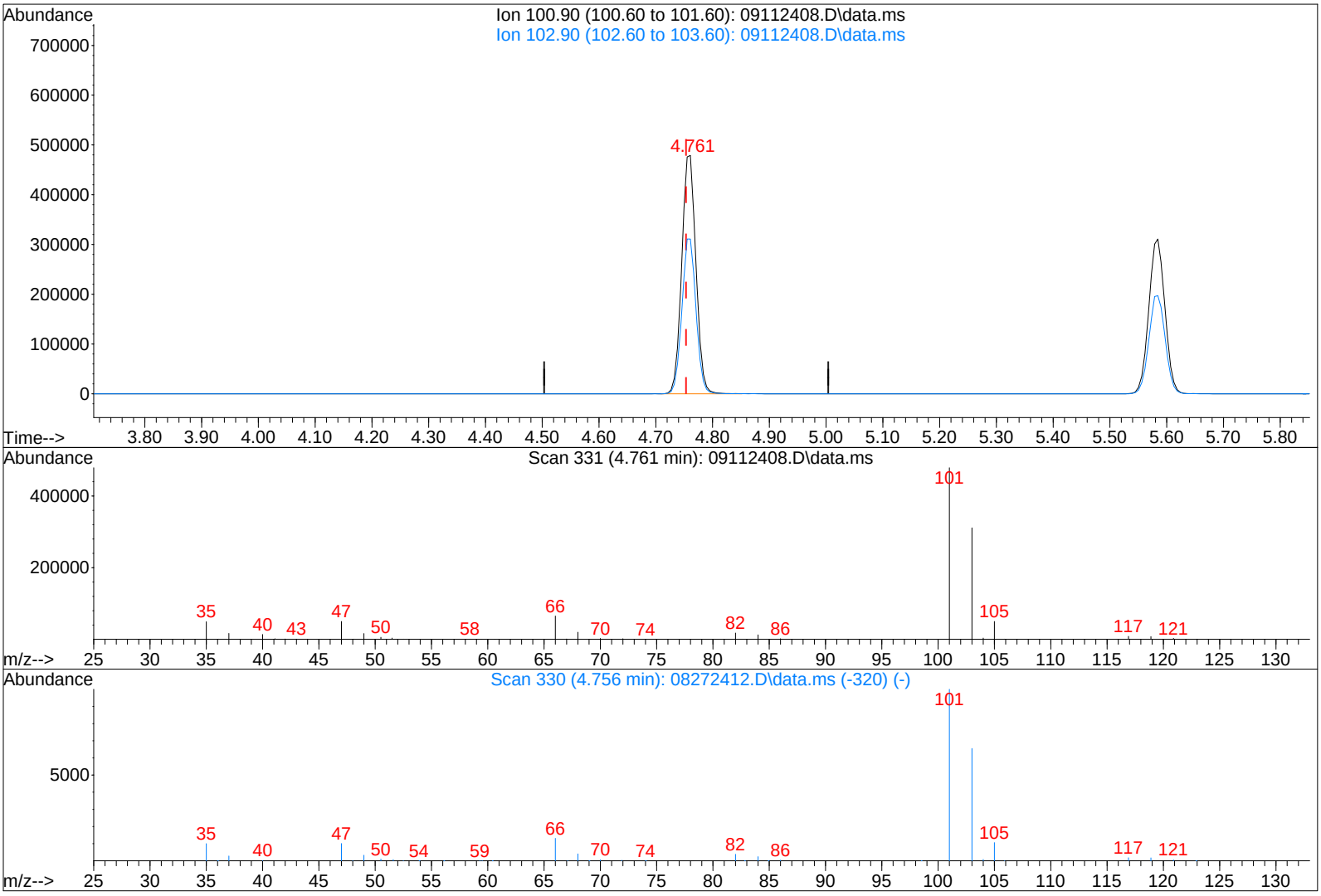
9/11/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 13:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112408.D\data.ms

(14) Trichlorofluoromethane (T)

4.761min (+0.007) 25.24ng

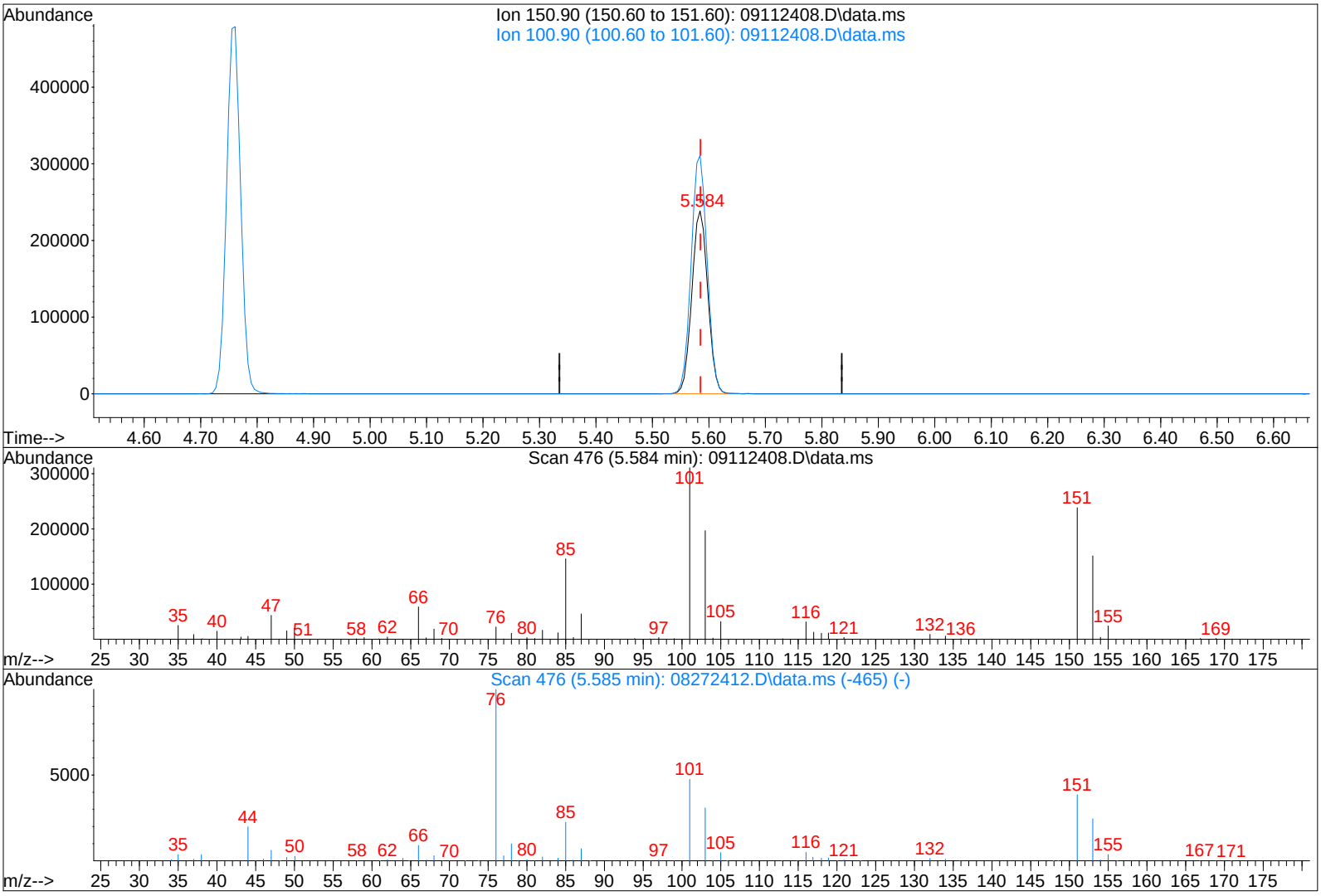
response 830010

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.67
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112408.D Vial: 15
Acq On : 11 Sep 2024 13:30 Operator: SC
Sample : P2403661-029Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 13:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112408.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.584min (-0.001) 35.93ng

response 468051

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.81
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102423.D
Acq On : 10 Sep 2024 21:35
Operator : SC
Sample : P2403661-029 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102423.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	66	rBV	138161	156879	0.48%	0.184%
2	3.290	66	72	80	rVB3	1146996	2074984	6.30%	2.433%
3	3.364	80	85	90	rBV2	41216	53001	0.16%	0.062%
4	3.410	90	93	100	rVB2	13601	22098	0.07%	0.026%
5	3.501	100	109	116	rBV2	58438	109918	0.33%	0.129%
6	3.608	122	128	150	rVB2	1897069	4277688	12.98%	5.015%
7	3.767	150	156	164	rVV	666679	994588	3.02%	1.166%
8	3.847	164	170	179	rVV	539681	734093	2.23%	0.861%
9	3.932	179	185	190	rVV	89463	126572	0.38%	0.148%
10	3.978	190	193	200	rVV5	9109	14731	0.04%	0.017%
11	4.057	202	207	213	rVB	88821	128318	0.39%	0.150%
12	4.244	233	240	244	rBV	42915	77640	0.24%	0.091%
13	4.296	244	249	250	rVV	56629	92077	0.28%	0.108%
14	4.324	250	254	265	rVV	137516	312221	0.95%	0.366%
15	4.455	265	277	286	rVV2	121902	392837	1.19%	0.461%
16	4.540	286	292	299	rVV	32930	70311	0.21%	0.082%
17	4.642	299	310	322	rVV2	2231173	5674753	17.22%	6.653%
18	4.767	322	332	344	rVV	9693895	20659335	62.70%	24.221%
19	4.869	344	350	363	rVV2	248685	720189	2.19%	0.844%
20	4.971	363	368	374	rVV2	60615	135246	0.41%	0.159%
21	5.051	374	382	394	rVB	732998	1377181	4.18%	1.615%
22	5.170	399	403	407	rBV2	30587	47160	0.14%	0.055%
23	5.232	407	414	422	rVB	273937	516470	1.57%	0.605%
24	5.318	422	429	433	rBV	54151	126131	0.38%	0.148%
25	5.408	440	445	457	rVB	63696	137137	0.42%	0.161%
26	5.596	465	478	499	rBV2	14340291	32950128	100.00%	38.630%
27	5.846	506	522	532	rVB2	556434	1440095	4.37%	1.688%
28	5.942	534	539	544	rVB4	10233	21331	0.06%	0.025%
29	6.016	546	552	556	rBV4	8849	21859	0.07%	0.026%
30	6.090	556	565	575	rVB	490683	1129405	3.43%	1.324%
31	6.181	575	581	585	rBV	35185	66049	0.20%	0.077%
32	6.220	585	588	596	rVB3	31946	57284	0.17%	0.067%
33	6.340	596	609	616	rBV	136112	408674	1.24%	0.479%
34	6.453	616	629	635	rBV	621072	1840273	5.59%	2.157%
35	6.573	643	650	656	rBV3	202638	503178	1.53%	0.590%
36	6.680	656	669	679	rVV	314448	1139933	3.46%	1.336%
37	7.294	760	777	787	rBV2	1520731	5084650	15.43%	5.961%
38	7.379	787	792	799	rVB	87407	172968	0.52%	0.203%
39	7.504	808	814	821	rVB2	26238	48302	0.15%	0.057%
40	7.600	821	831	843	rVV8	16066	65139	0.20%	0.076%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102423.D
Acq On : 10 Sep 2024 21:35
Operator : SC
Sample : P2403661-029 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

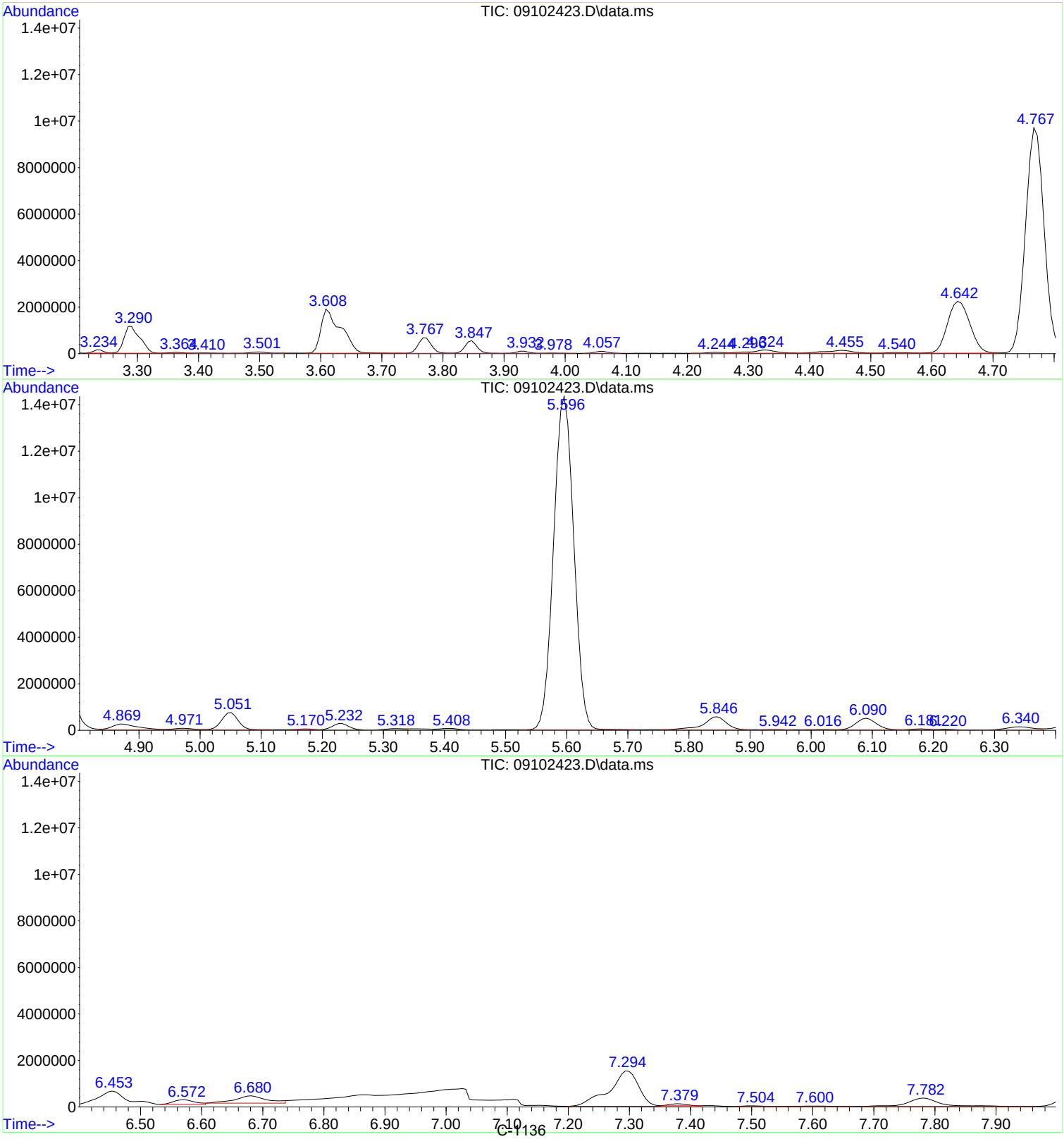
41	7.782	845	863	895	rVB	359674	1316043	3.99%	1.543%

Sum of corrected areas: 85296869

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102423.D
Acq On : 10 Sep 2024 21:35
Operator : SC
Sample : P2403661-029 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102423.D
Acq On : 10 Sep 2024 21:355
Operator : SCC
Sample : P2403661-029 (400mL))
Misc : S37-060624022
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:49:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145117	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	637964	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	190583	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	356404	13.125	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	12.43	98	741017	11.083	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%				
73) Bromofluorobenzene (SS3)	16.82	174	251484	11.247	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
Target Compounds							Qvalue
2) Propene	3.30	42	8431	0.385	ng	#	50
3) Dichlorodifluoromethan...	3.36	85	20599	0.585	ng		99
4) Chloromethane	3.49	50	13532	0.491	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	310	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	115	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	448	N.D.			
10) Ethanol	4.27	45	26559	1.686	ng		75
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	1746	0.145	ng		93
13) Acetone	4.62	58	68505	5.155	ng	#	75
14) Trichlorofluoromethane	4.75	101	11036	0.328	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	137323	2.625	ng		90
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	1668	0.107	ng		92
20) 3-Chloro-1-propene (Al...	5.46	41	197	N.D.			
21) Trichlorotrifluoroethane	5.59	151	2735	0.205	ng		98
22) Carbon Disulfide	5.59	76	139193	2.683	ng		98
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	578	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	4147	0.440	ng	#	52
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	104690	16.573	ng		91
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	7.36	83	10203	0.353	ng		98
34) Tetrahydrofuran (THF)	7.72	72	329	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	702	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.57	61	1791	No Calib		#	
40) 1-Butanol	8.80	56	5237	No Calib		#	
41) Benzene	8.89	78	8425	0.141	ng		93
42) Carbon Tetrachloride	9.07	117	2553	0.103	ng		94
43) Cyclohexane	9.22	84	3163	0.157	ng	#	84
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	10.12	88	1501	0.145	ng		90
49) 2,2,4-Trimethylpentane...	10.22	57	1161	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:49:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

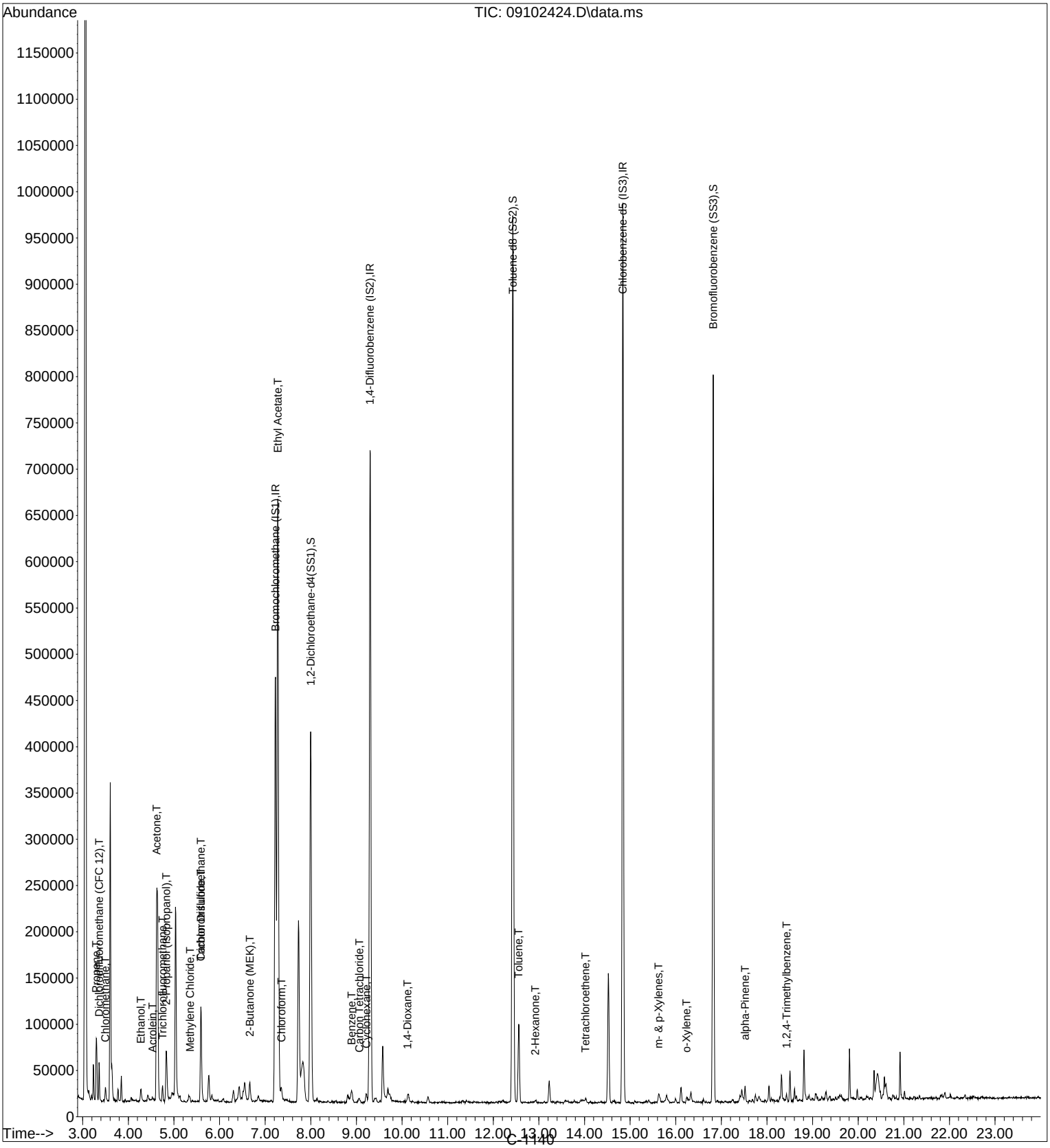
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	466	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	69423	0.961 ng		100
59) 2-Hexanone	12.92	43	3604	0.081 ng	#	60
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.91	57	475	N.D.		
64) Tetrachloroethene	14.02	166	1400	0.070 ng		85
65) Chlorobenzene	14.90	112	110	N.D.		
66) Ethylbenzene	15.41	91	3255	N.D.		
67) m- & p-Xylenes	15.62	91	7275	0.108 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	1461	N.D.		
70) o-Xylene	16.24	91	3684	0.056 ng		94
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	560	N.D.		
75) alpha-Pinene	17.52	93	6498	0.163 ng		99
76) n-Propylbenzene	17.67	91	1399	N.D.		
77) 3-Ethyltoluene	17.04	105	560	No Calib	#	
78) 4-Ethyltoluene	17.86	105	1212	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	1151	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	560	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	3531	0.052 ng		86
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	244	N.D.		
85) 1,3-Dichlorobenzene	18.66	146	251	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	251	N.D.		
87) sec-Butylbenzene	18.74	105	374	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	3212	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	560	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	206	N.D.		
91) d-Limonene	19.08	68	731	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	353	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	595	N.D.		
95) Naphthalene	20.94	128	1663	N.D.		
96) n-Dodecane	18.91	58	114	No Calib	#	
97) Hexachlorobutadiene	21.30	225	422	N.D.		
98) Cyclohexanone	15.23	55	137	No Calib	#	
99) tert-Butylbenzene	18.42	119	699	N.D.		
100) n-Butylbenzene	19.38	91	1273	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:49:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:49:01 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

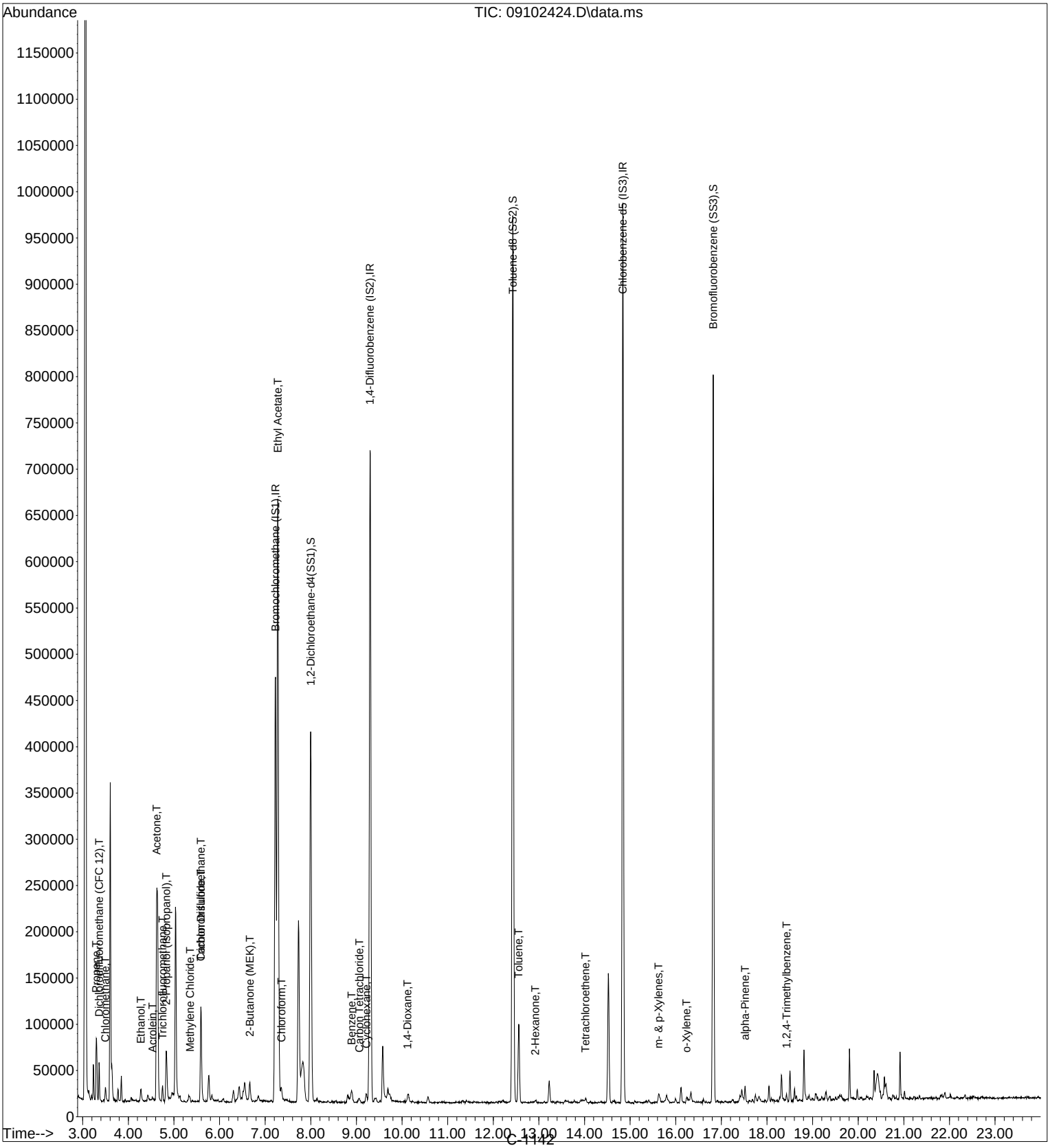
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145117	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	637964	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	190583	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	356404	13.125	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	12.43	98	741017	11.083	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%				
73) Bromofluorobenzene (SS3)	16.82	174	251484	11.247	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
Target Compounds							Qvalue
2) Propene	3.30	42	8431	0.385	ng	#	50
3) Dichlorodifluoromethan...	3.36	85	20599	0.585	ng		99
4) Chloromethane	3.49	50	13532	0.491	ng		97
10) Ethanol	4.27	45	26559	1.686	ng		75
12) Acrolein	4.53	56	1746	0.145	ng		93
13) Acetone	4.62	58	68505	5.155	ng	#	75
14) Trichlorofluoromethane	4.75	101	11036	0.328	ng		99
15) 2-Propanol (Isopropanol)	4.83	45	137323	2.625	ng		90
19) Methylene Chloride	5.35	84	1668	0.107	ng		92
21) Trichlorotrifluoroethane	5.59	151	2735	0.205	ng		98
22) Carbon Disulfide	5.59	76	139193	2.683	ng		98
27) 2-Butanone (MEK)	6.66	72	4147	0.440	ng	#	52
30) Ethyl Acetate	7.28	61	104690	16.573	ng		91
32) Chloroform	7.36	83	10203	0.353	ng		98
41) Benzene	8.89	78	8425	0.141	ng		93
42) Carbon Tetrachloride	9.07	117	2553	0.103	ng		94
43) Cyclohexane	9.22	84	3163	0.157	ng	#	84
48) 1,4-Dioxane	10.12	88	1501	0.145	ng		90
58) Toluene	12.56	91	69423	0.961	ng		100
59) 2-Hexanone	12.92	43	3604	0.081	ng	#	60
64) Tetrachloroethene	14.02	166	1400	0.070	ng		85
67) m- & p-Xylenes	15.62	91	7275	0.108	ng		100
70) o-Xylene	16.24	91	3684	0.056	ng		94
75) alpha-Pinene	17.52	93	6498	0.163	ng		99
82) 1,2,4-Trimethylbenzene	18.43	105	3531	0.052	ng		86

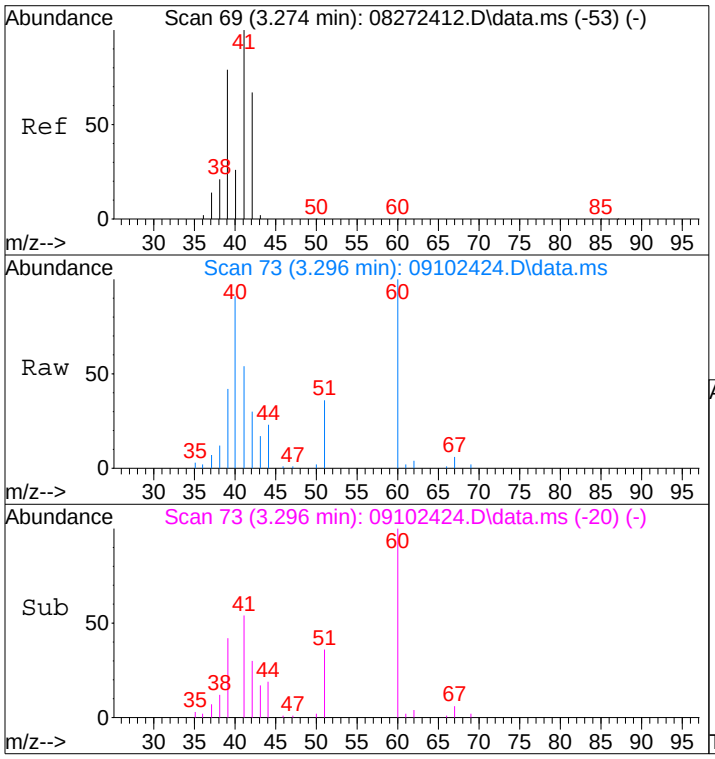
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:49:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

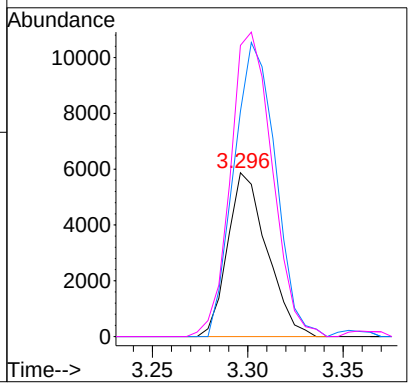


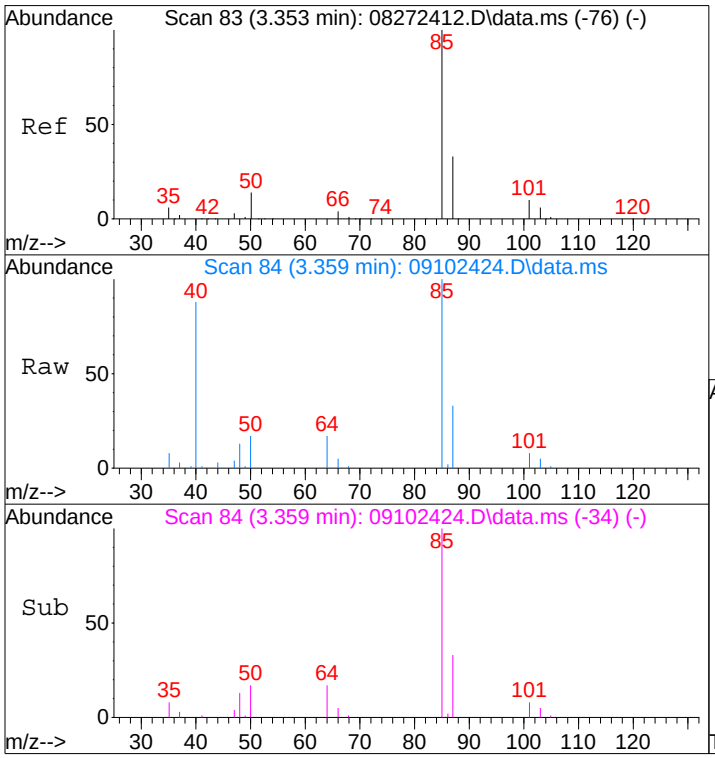


#2
Propene
Concen: 0.38 ng
RT: 3.30 min Scan# 73
Delta R.T. 0.050 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 42 Resp: 8431

Ion	Ratio	Lower	Upper
42	100		
39	189.8	98.2	138.2#
41	197.8	130.1	170.1#

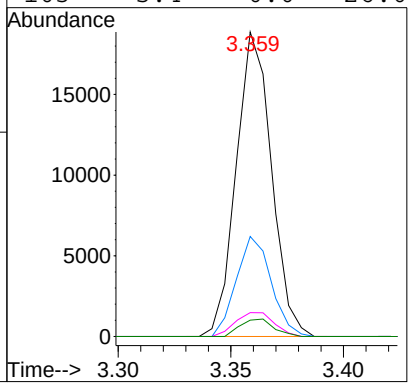


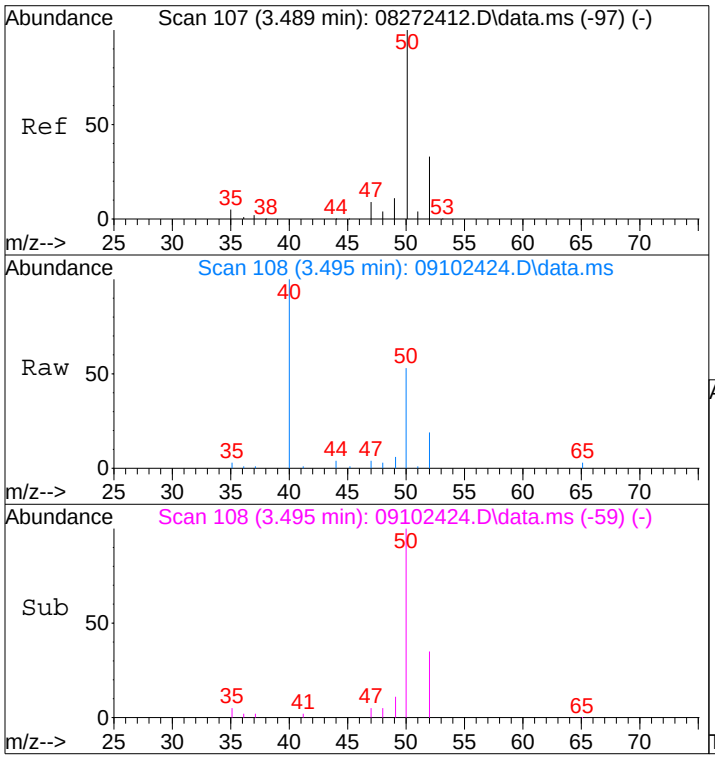


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.034 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 85 Resp: 20599

Ion	Ratio	Lower	Upper
85	100		
87	32.5	13.1	53.1
101	8.7	0.0	29.4
103	5.4	0.0	26.0

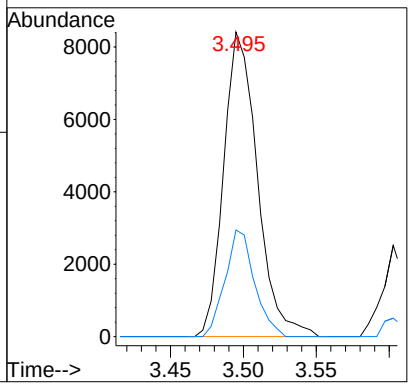


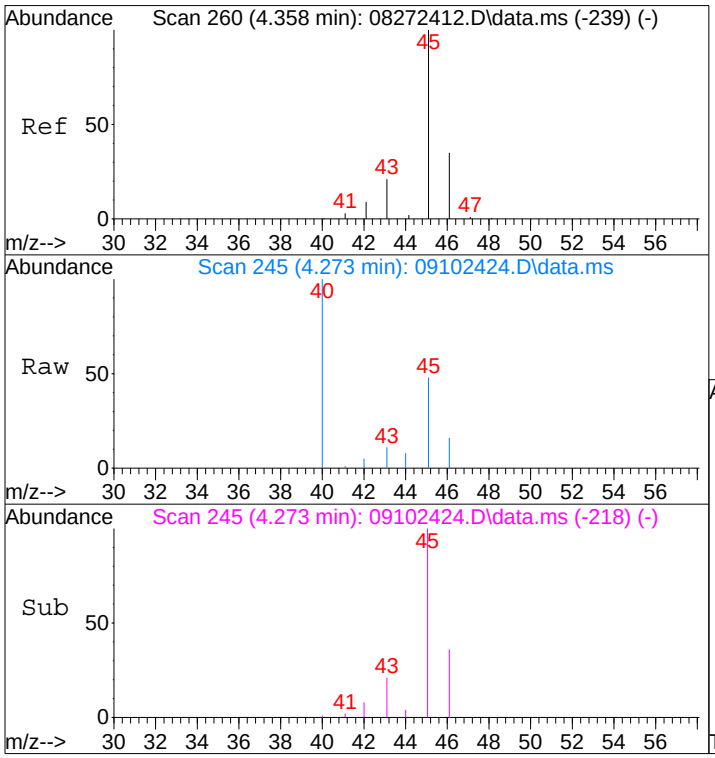


#4
Chloromethane
Concen: 0.49 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.030 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 50 Resp: 13532

Ion	Ratio	Lower	Upper
50	100		
52	30.5	12.4	52.4

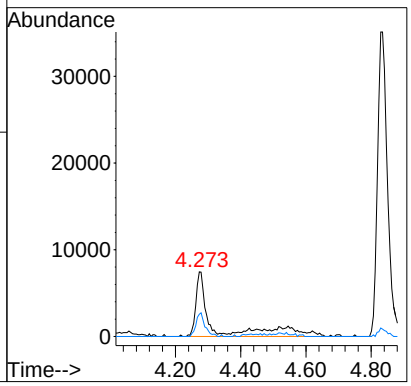


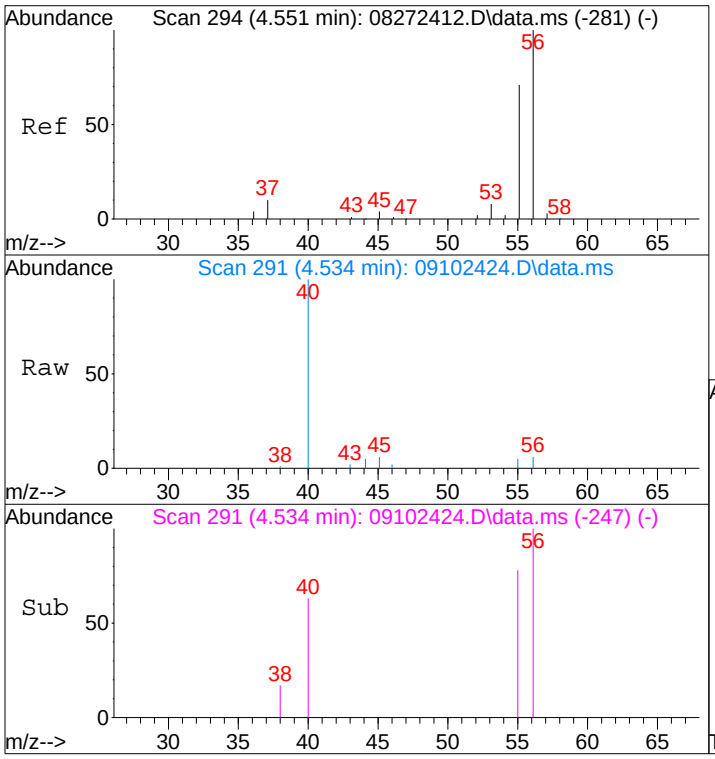


#10
Ethanol
Concen: 1.69 ng
RT: 4.27 min Scan# 245
Delta R.T. -0.096 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 45 Resp: 26559

Ion	Ratio	Lower	Upper
45	100		
46	19.6	14.2	54.2

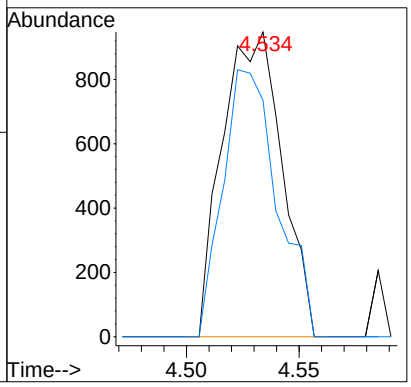


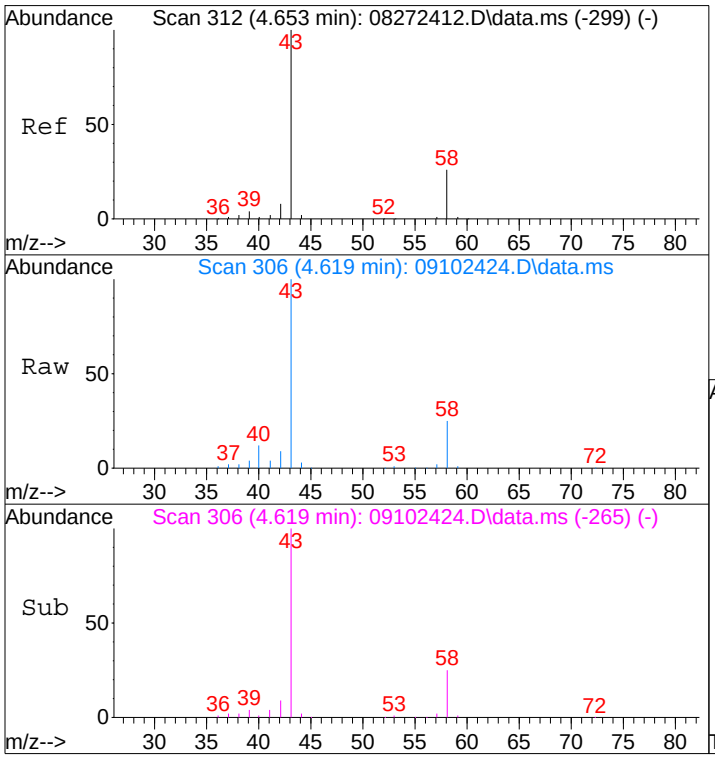


#12
Acrolein
Concen: 0.15 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.002 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 56 Resp: 1746

Ion	Ratio	Lower	Upper
56	100		
55	80.4	54.7	94.7

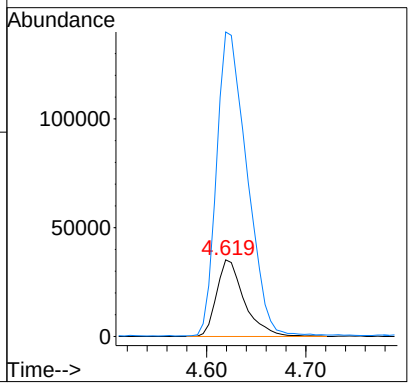


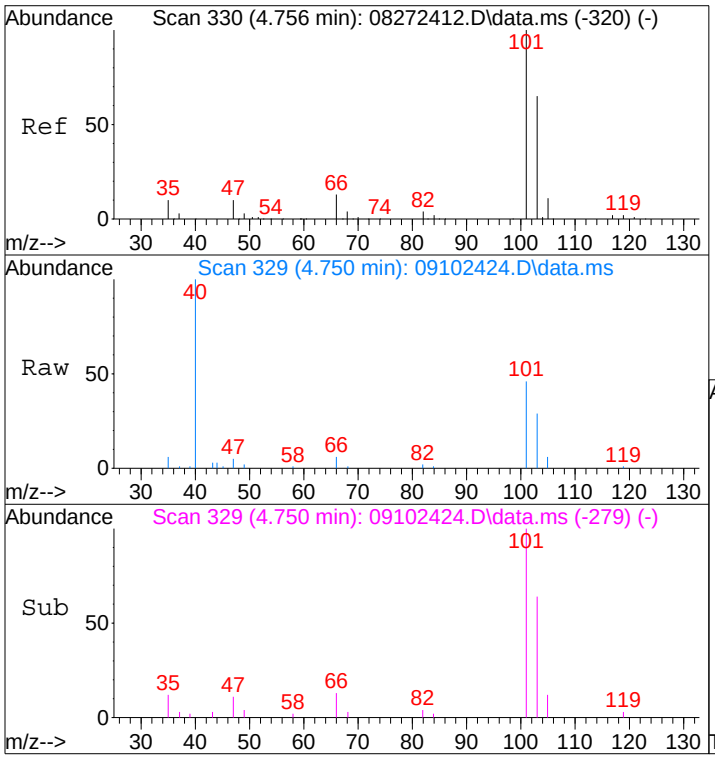


#13
Acetone
Concen: 5.16 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.019 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 58 Resp: 68505

Ion	Ratio	Lower	Upper
58	100		
43	435.3	347.3	407.3#

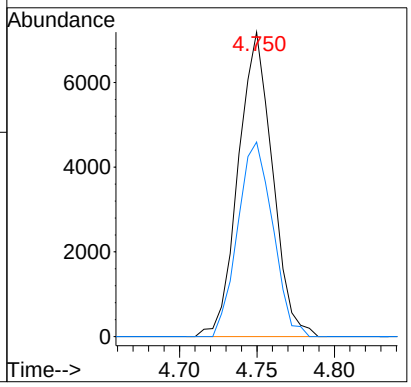


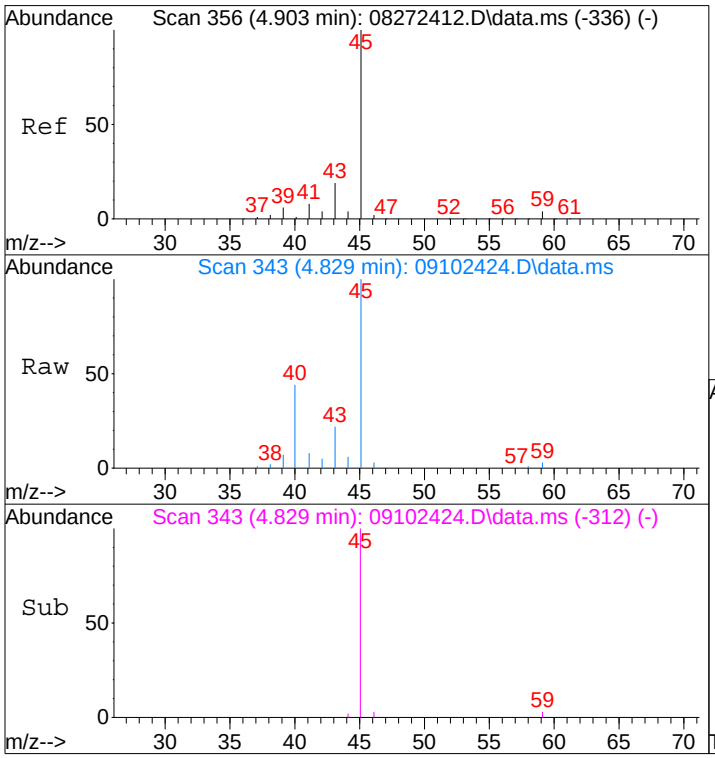


#14
Trichlorofluoromethane
Concen: 0.33 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.033 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion:101 Resp: 11036

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.9	84.9

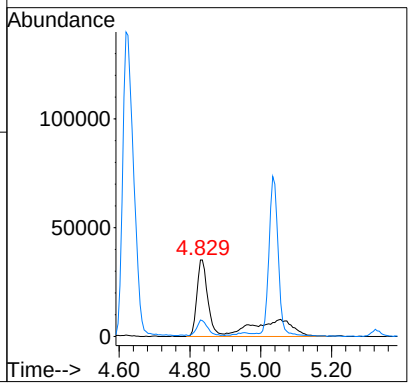


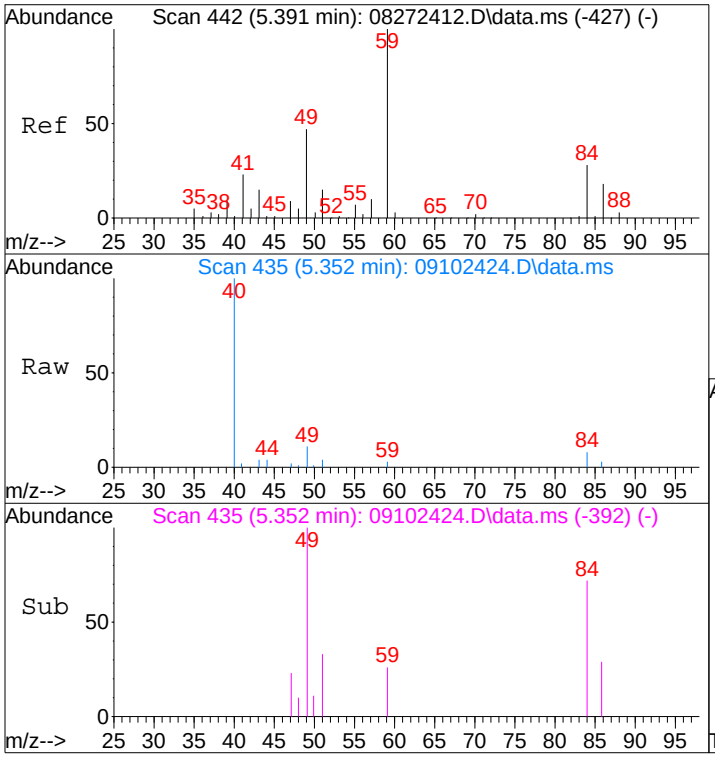


#15
2-Propanol (Isopropanol)
Concen: 2.62 ng
RT: 4.83 min Scan# 343
Delta R.T. -0.073 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 45 Resp: 137323

Ion	Ratio	Lower	Upper
45	100		
43	15.5	0.0	40.0

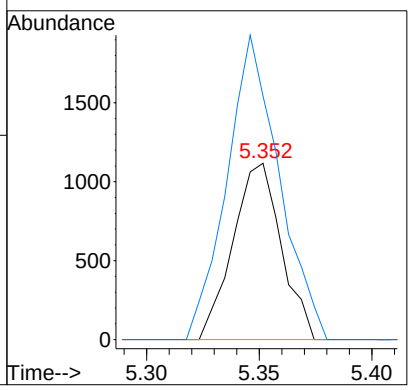


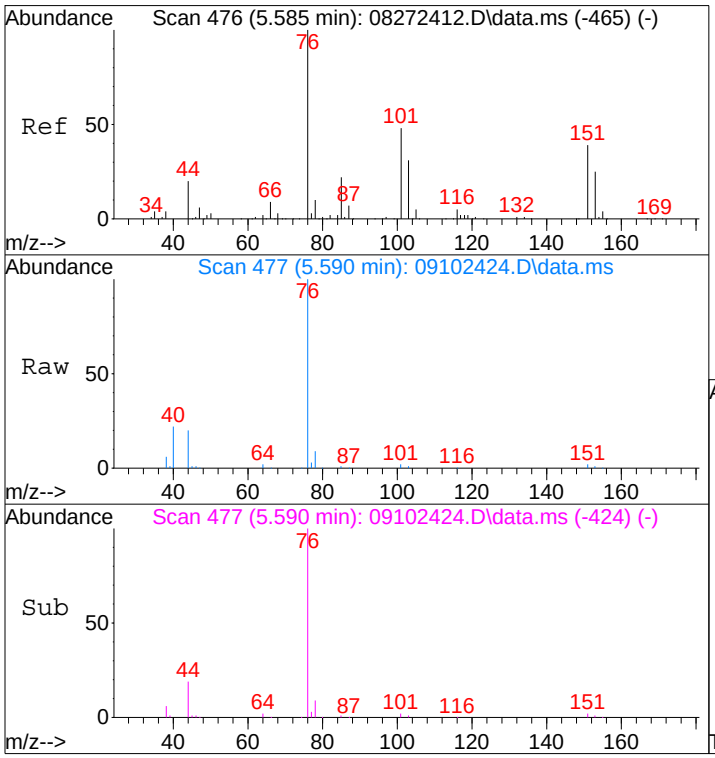


#19
Methylene Chloride
Concen: 0.11 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.005 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 84 Resp: 1668

Ion	Ratio	Lower	Upper
84	100		
49	186.8	151.1	201.1

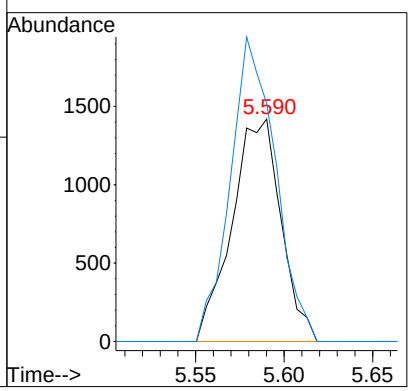


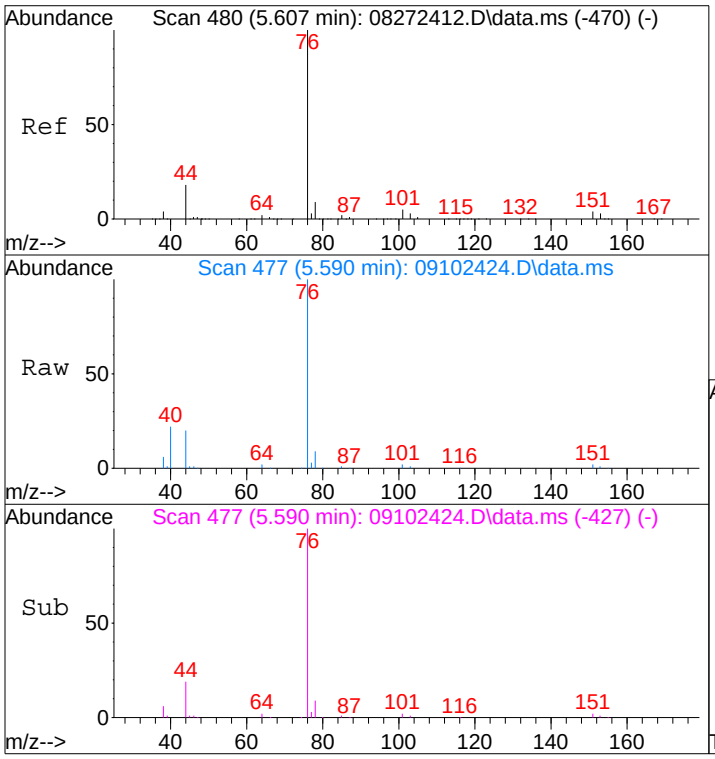


#21
Trichlorotrifluoroethane
Concen: 0.21 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.048 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion:151 Resp: 2735

Ion	Ratio	Lower	Upper
151	100		
101	125.9	103.4	143.4

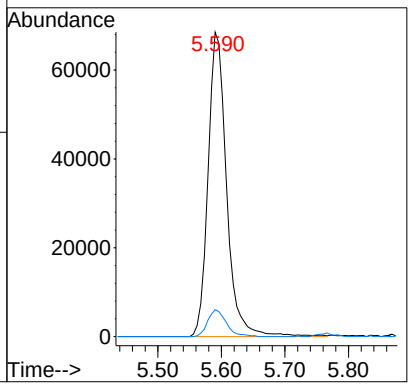


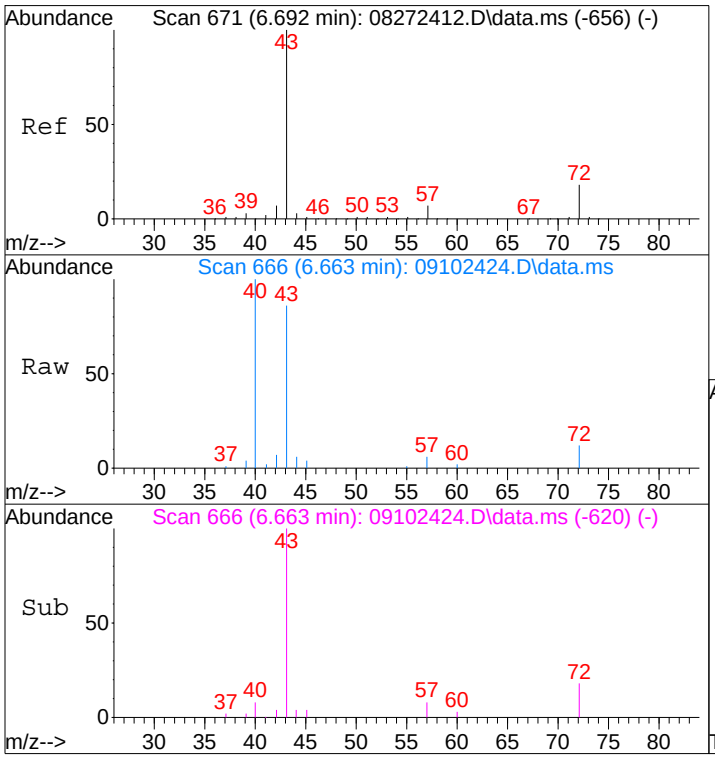


#22
Carbon Disulfide
Concen: 2.68 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.031 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 76 Resp: 139193

Ion	Ratio	Lower	Upper
76	100		
78	8.9	0.0	29.6

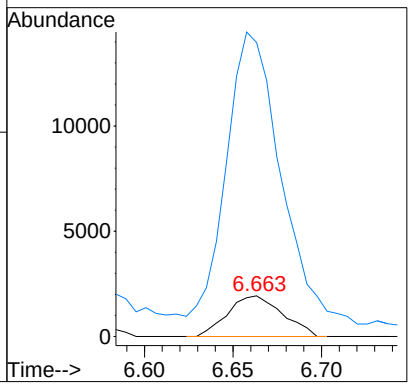


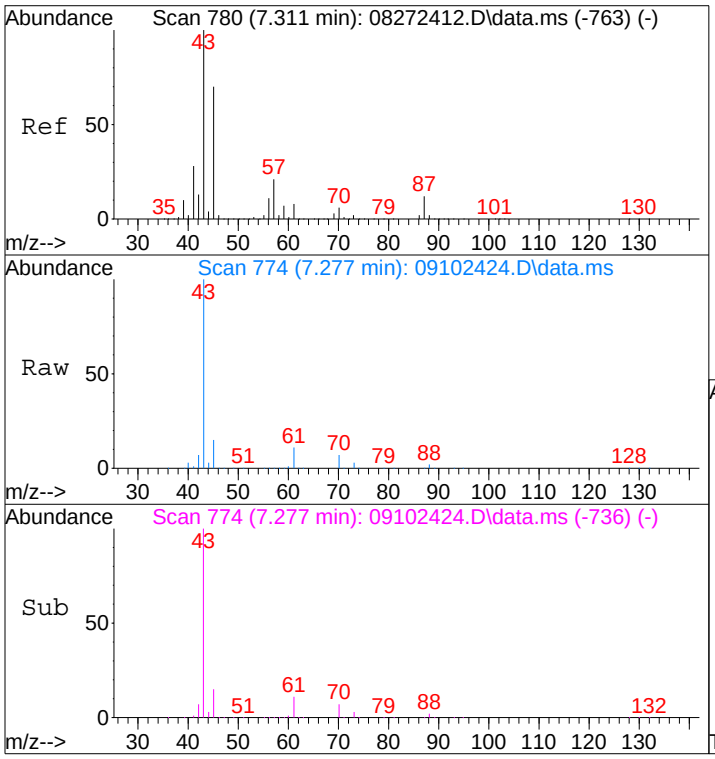


#27
2-Butanone (MEK)
Concen: 0.44 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 72 Resp: 4147

Ion	Ratio	Lower	Upper
72	100		
43	713.8	548.0	588.0#

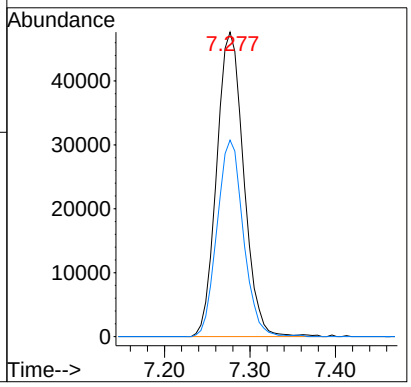


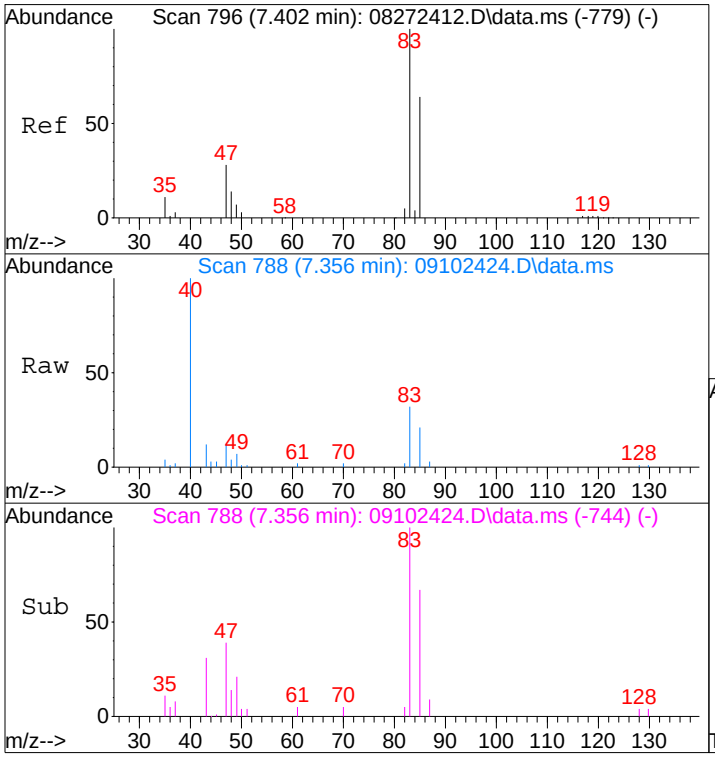


#30
Ethyl Acetate
Concen: 16.57 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.017 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 61 Resp: 104690

Ion	Ratio	Lower	Upper
61	100		
70	62.8	49.9	89.9

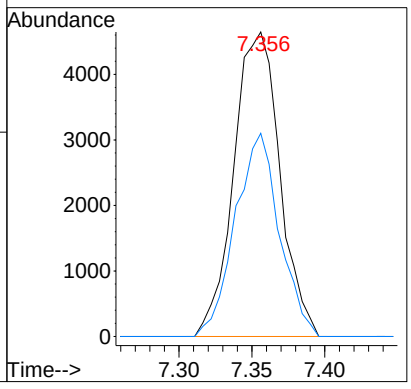


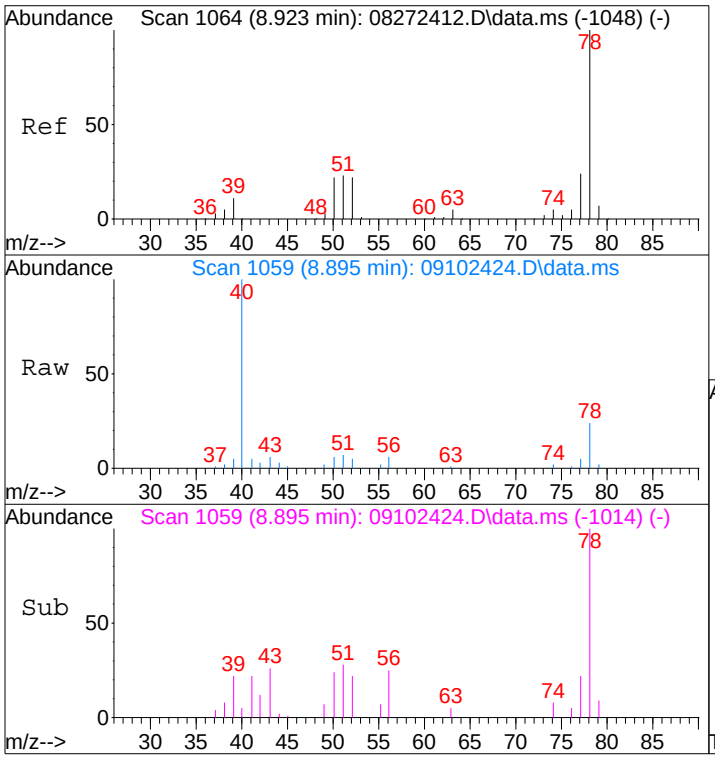


#32
Chloroform
Concen: 0.35 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.002 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 83 Resp: 10203

Ion	Ratio	Lower	Upper
83	100		
85	64.0	45.3	85.3

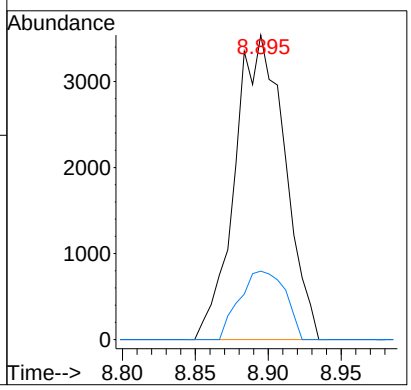


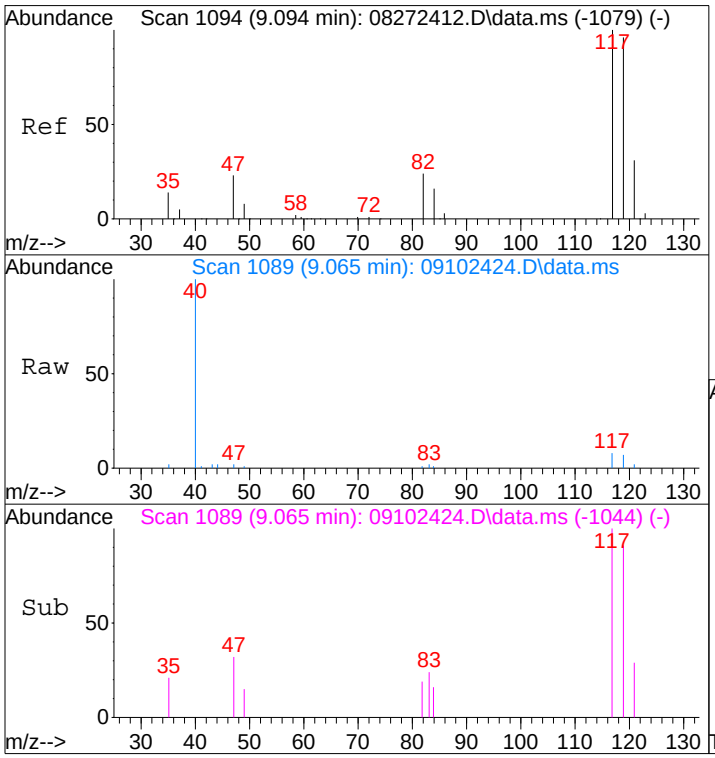


#41
Benzene
Concen: 0.14 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.003 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 78 Resp: 8425

Ion	Ratio	Lower	Upper
78	100		
77	20.7	3.9	43.9

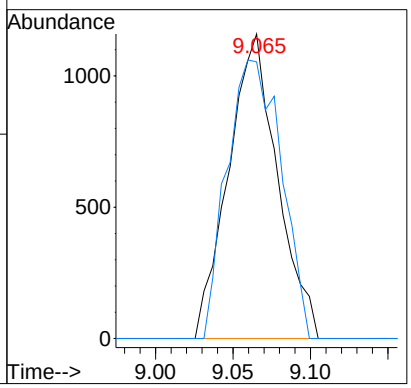


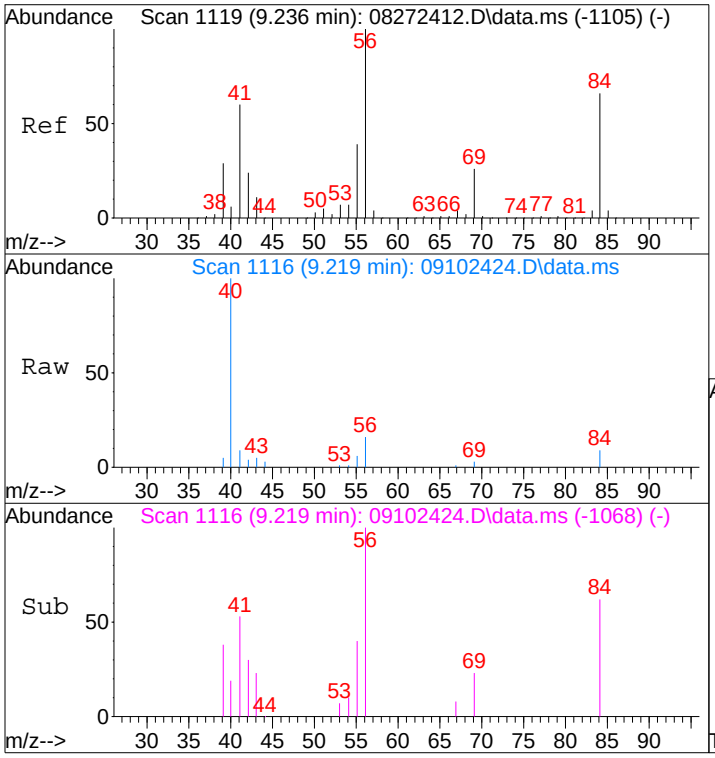


#42
Carbon Tetrachloride
Concen: 0.10 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.004 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion:117 Resp: 2553

Ion	Ratio	Lower	Upper
117	100		
119	101.2	75.1	115.1

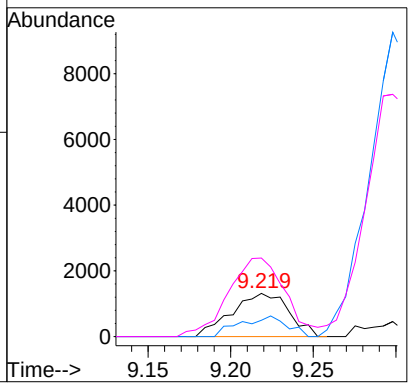


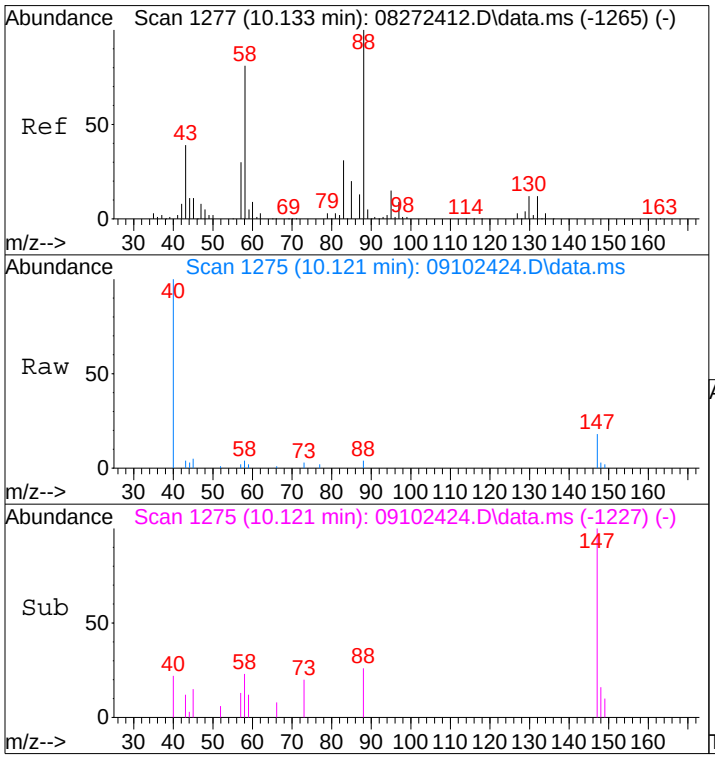


#43
Cyclohexane
Concen: 0.16 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.022 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 84 Resp: 3163

Ion	Ratio	Lower	Upper
84	100		
69	38.8	18.8	58.8
56	180.1	134.5	174.5#

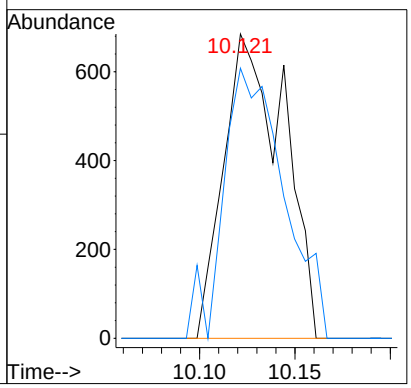


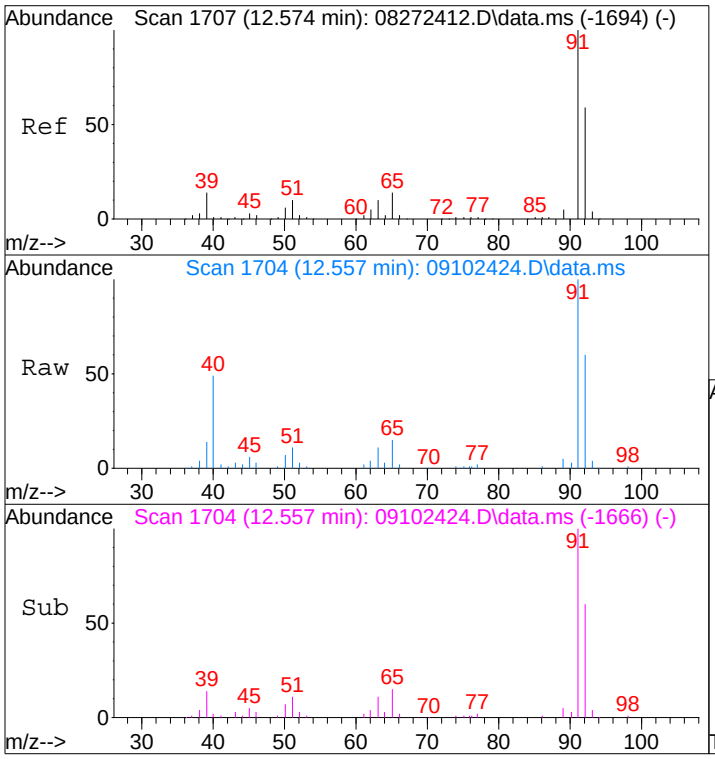


#48
1,4-Dioxane
Concen: 0.15 ng
RT: 10.12 min Scan# 1275
Delta R.T. 0.022 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 88 Resp: 1501

Ion	Ratio	Lower	Upper
88	100		
58	89.7	61.1	101.1

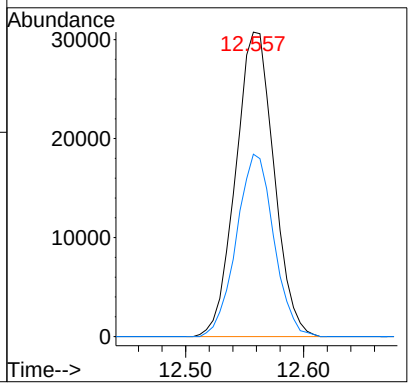


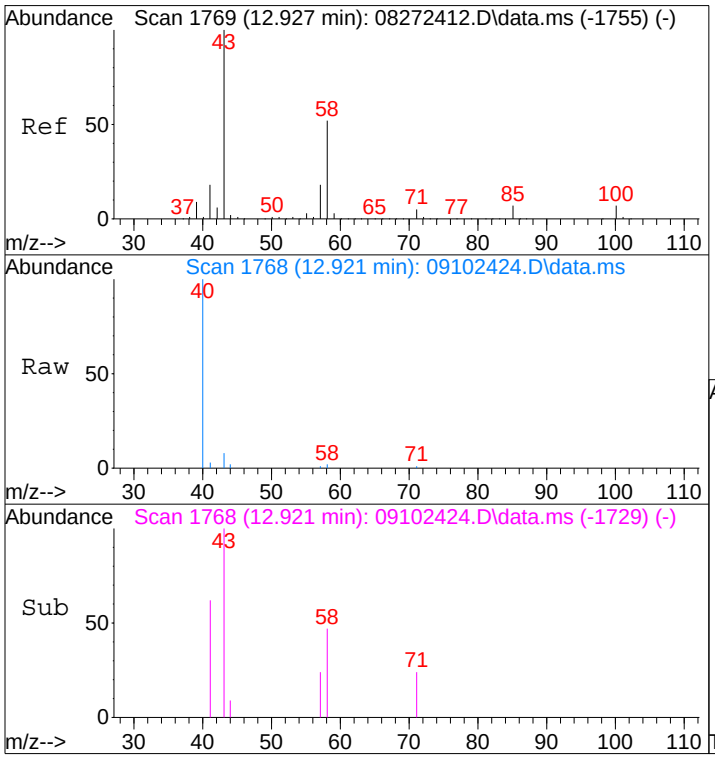


#58
Toluene
Concen: 0.96 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 91 Resp: 69423

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.5	78.5

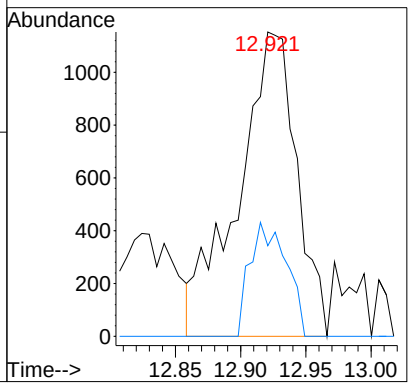


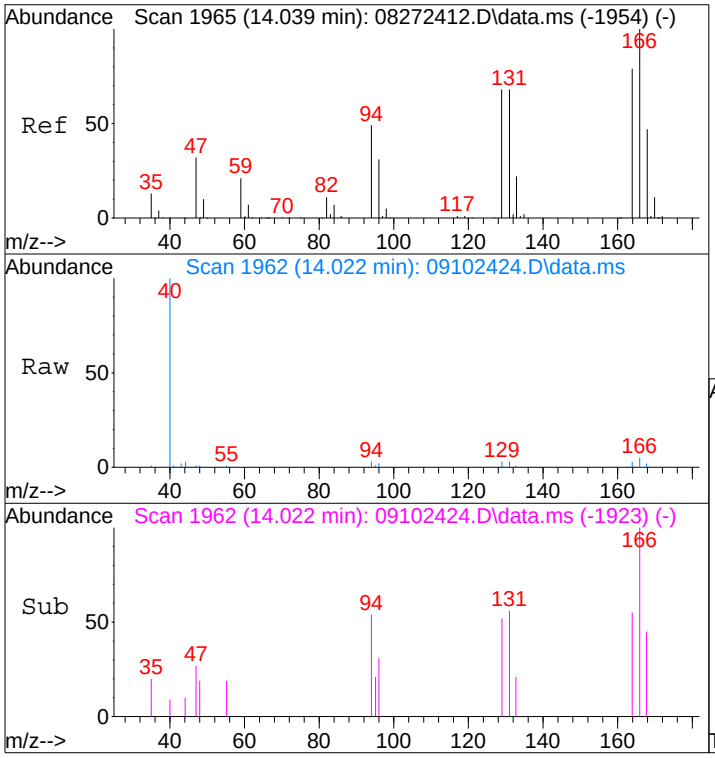


#59
2-Hexanone
Concen: 0.08 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 43 Resp: 3604

Ion	Ratio	Lower	Upper
43	100		
58	23.3	31.1	71.1#

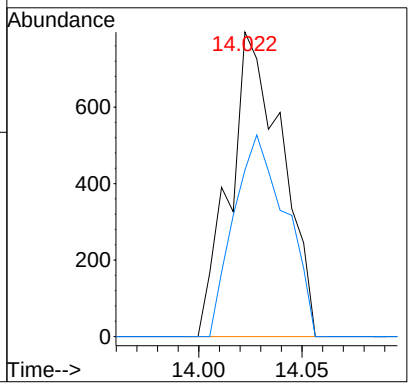


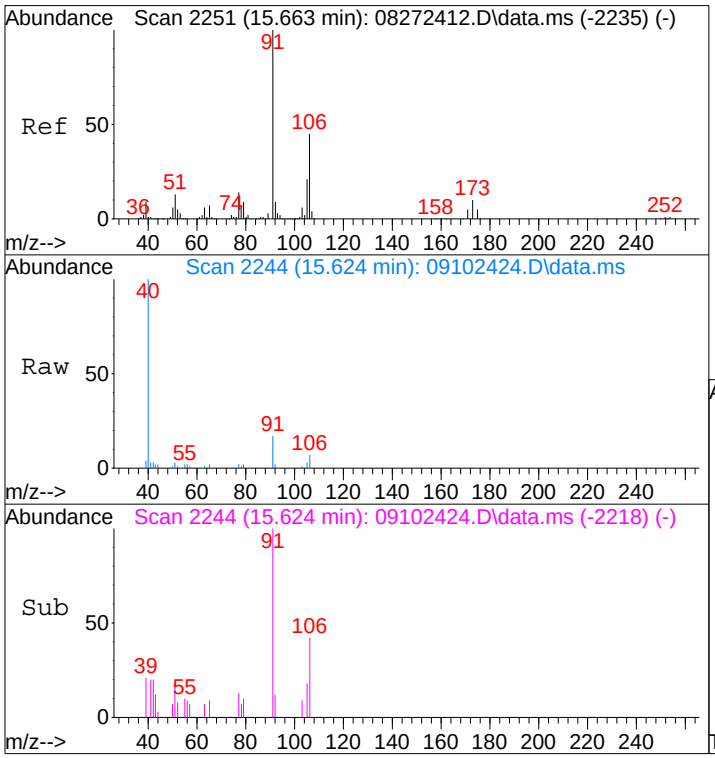


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 14.02 min Scan# 1962
Delta R.T. -0.028 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion:166 Resp: 1400

Ion	Ratio	Lower	Upper
166	100		
164	65.9	59.0	99.0

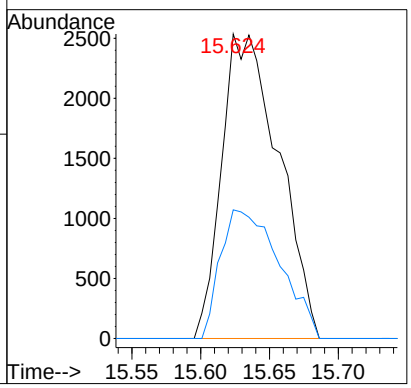


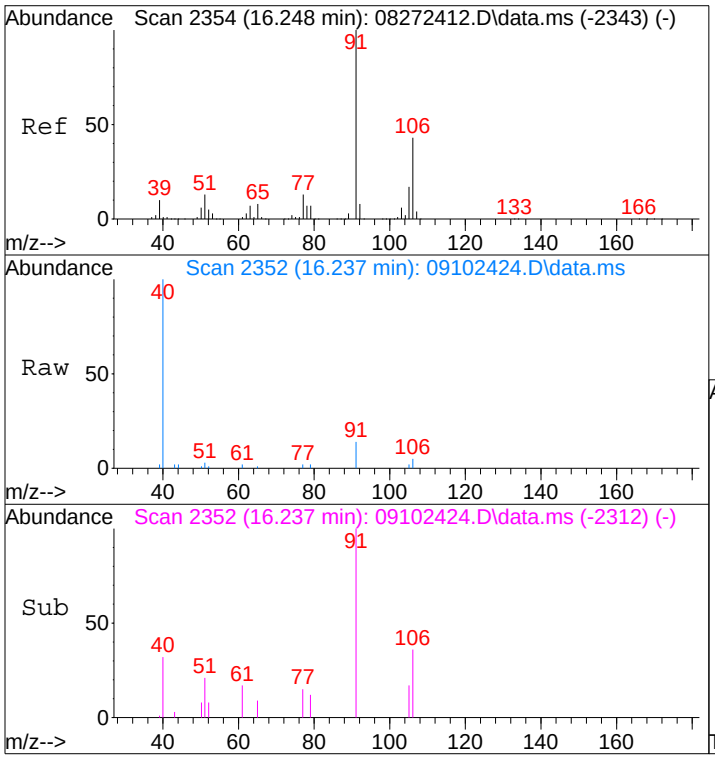


#67
m- & p-Xylenes
Concen: 0.11 ng
RT: 15.62 min Scan# 2244
Delta R.T. -0.051 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 91 Resp: 7275

Ion	Ratio	Lower	Upper
91	100		
106	43.8	23.8	63.8

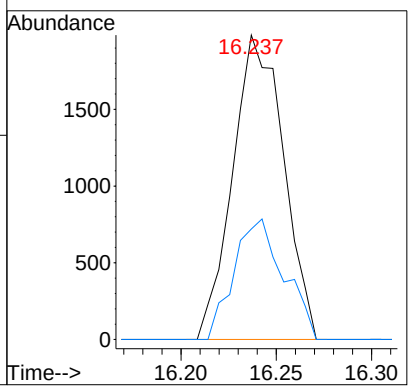


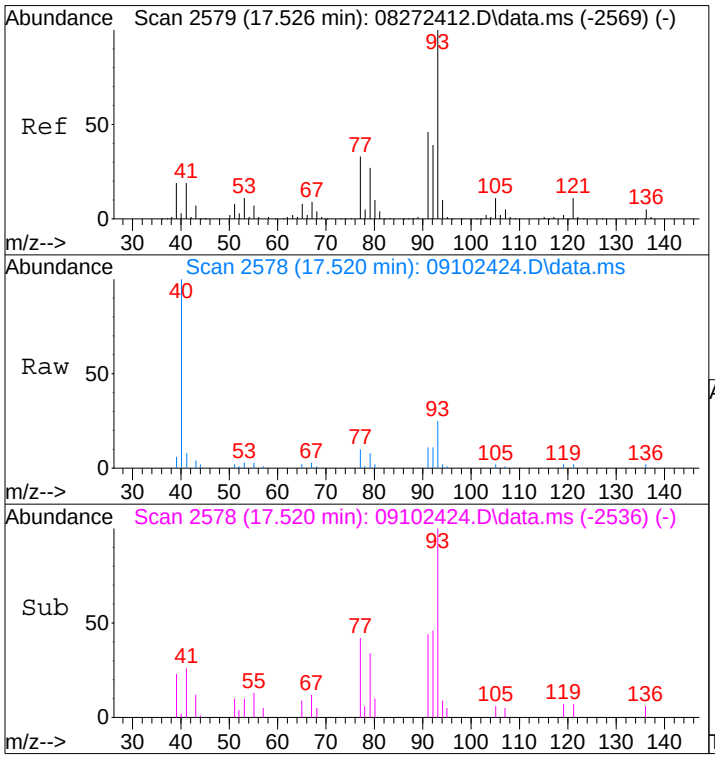


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2352
Delta R.T. -0.023 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 91 Resp: 3684

Ion	Ratio	Lower	Upper
91	100		
106	38.9	22.5	62.5

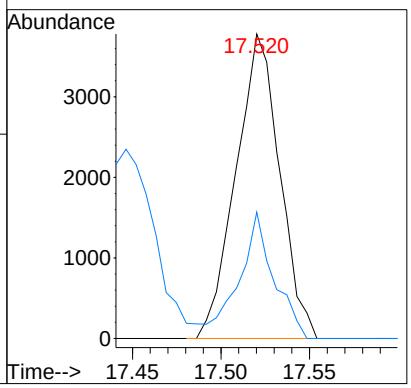


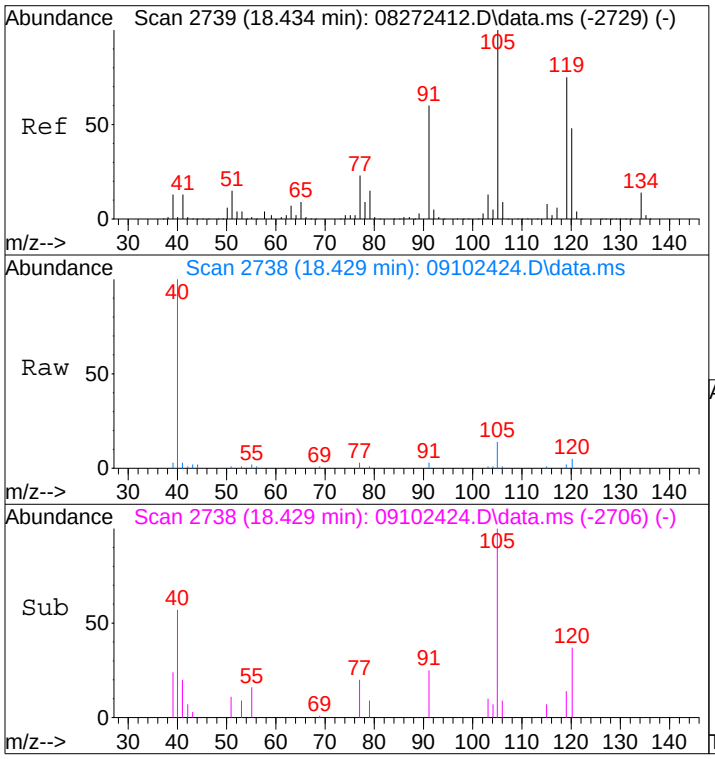


#75
alpha-Pinene
Concen: 0.16 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion: 93 Resp: 6498

Ion	Ratio	Lower	Upper
93	100		
77	32.5	13.1	53.1

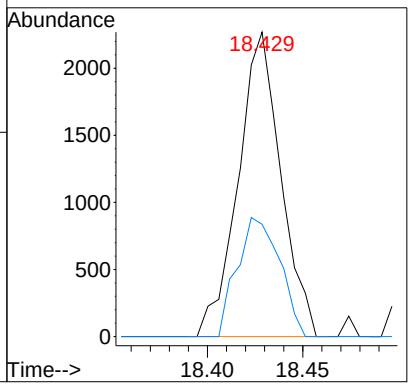




#82
1,2,4-Trimethylbenzene
Concen: 0.05 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102424.D
Acq: 10 Sep 2024 22:07

Tgt Ion:105 Resp: 3531

Ion	Ratio	Lower	Upper
105	100		
120	39.0	28.8	68.8



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:59:23 2024 9/11/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

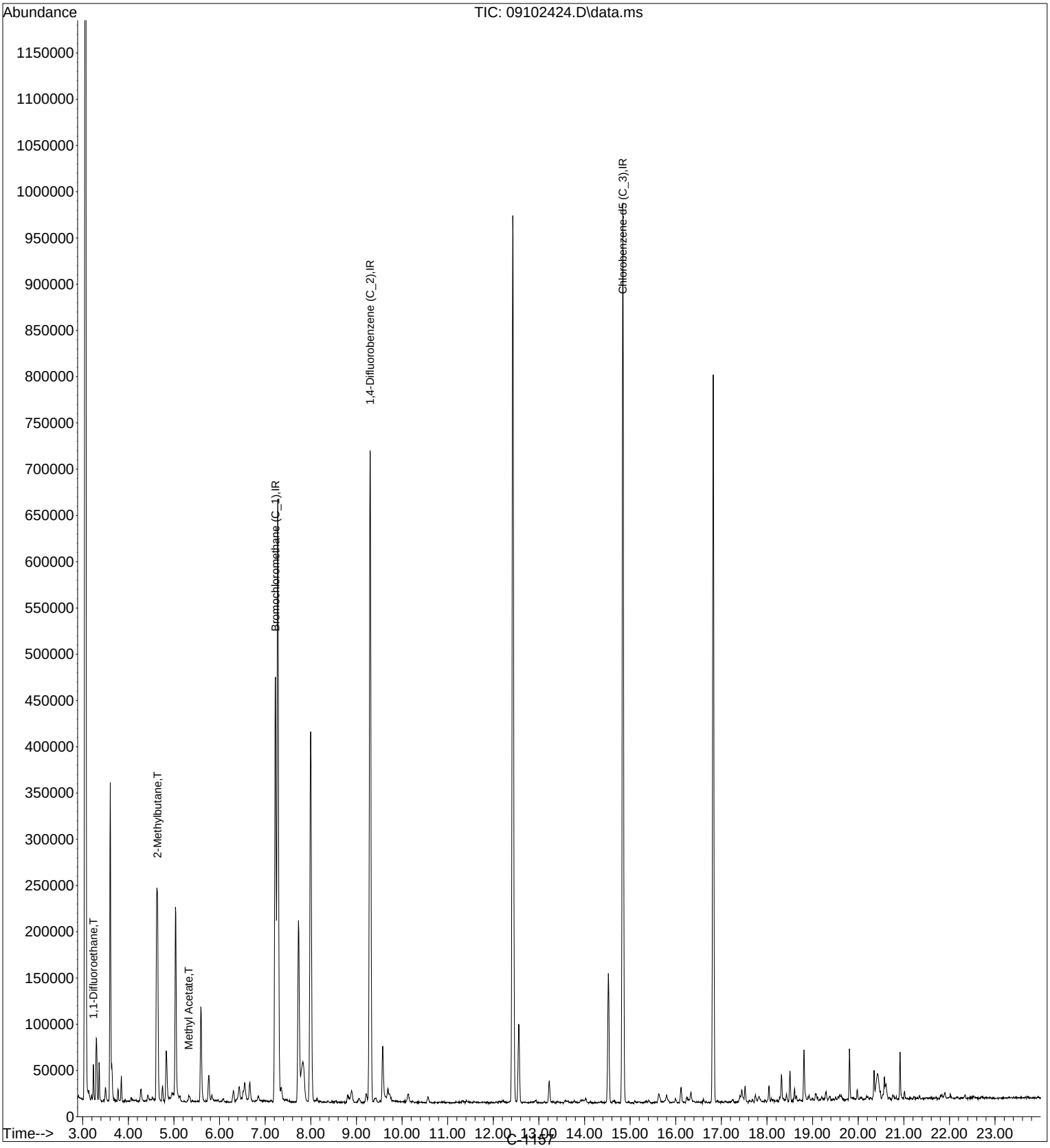
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145117	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	637964	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	190583	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	128	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d		
4) 1,1-Difluoroethane	3.23	65	9710	0.766	ng		95
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d		
6) 1-Chloro-1,1-Difluoroe...	3.50	65	766	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.64	57	37055	2.141	ng	#	83
11) Methyl Acetate	5.32	43	6068	0.124	ng	#	53
12) 2-Methylpentane	6.48	71	741	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.06	84	524	N.D.			
17) 2,3-Dimethylpentane	9.52	56	636	N.D.			
18) Dibromomethane	9.79	174	53	N.D.			
20) Methyl Cyclohexane	11.43	55	1007	N.D.			
21) 1,3-Dichloropropane	12.56	76	384	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.33	75	490	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	336	N.D.			
27) 4-Chlorotoluene	17.67	91	1399	N.D.			
28) Indane	19.11	117	315	N.D.			
29) Indene	19.10	115	74	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	141	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	327	N.D.			
32) 1,2,3,5-Tetramethylben...	20.59	119	802	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102424.D Vial: 16
Acq On : 10 Sep 2024 22:07 Operator: SC
Sample : P2403661-030 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:59:23 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102424.D
Acq On : 10 Sep 2024 22:07
Operator : SC
Sample : P2403661-030 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102424.D\data.ms

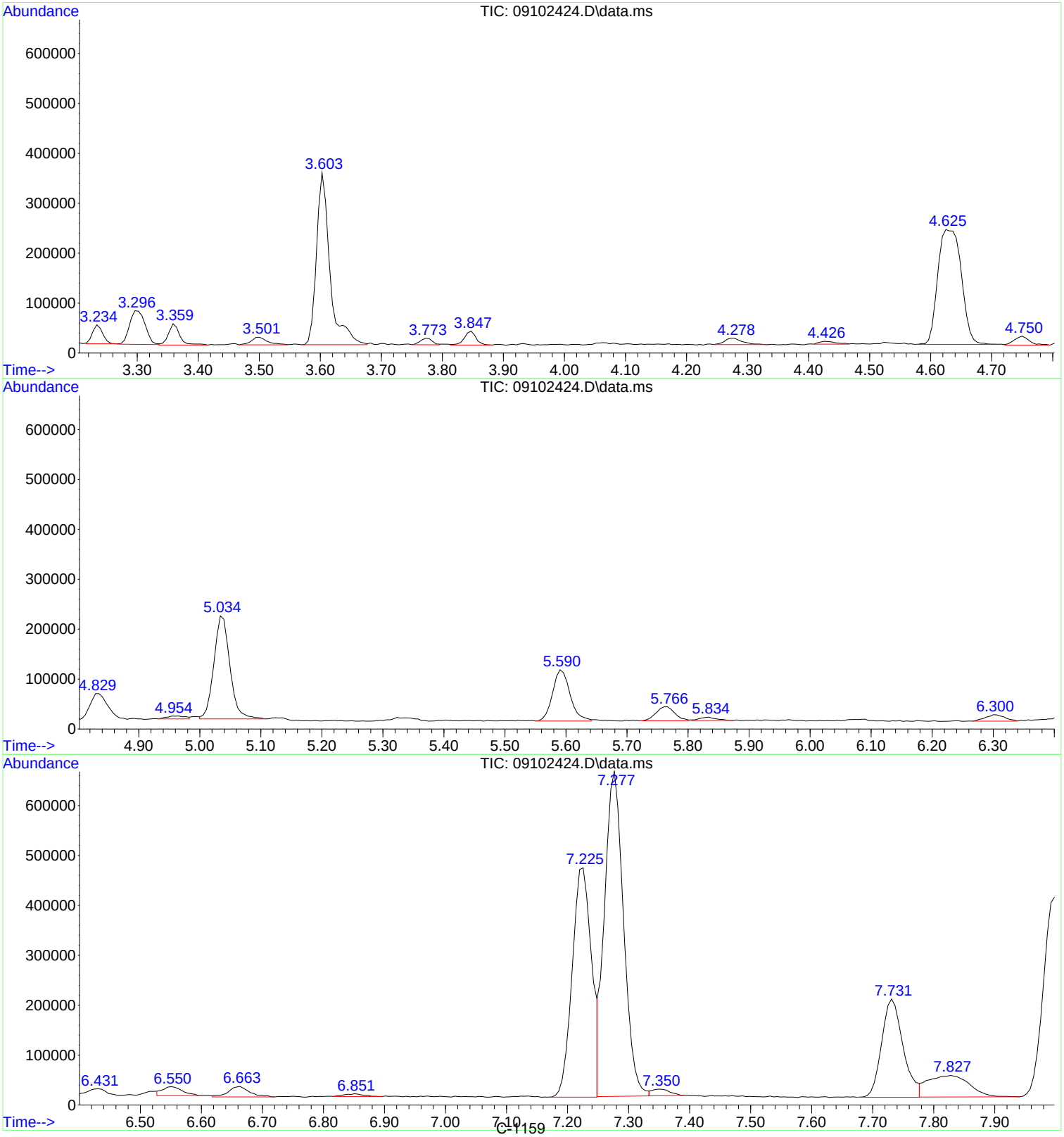
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	68	rVB	38197	43682	3.13%	0.780%
2	3.296	68	73	80	rVV4	67234	118447	8.49%	2.114%
3	3.359	80	84	94	rVB	42597	53998	3.87%	0.964%
4	3.501	103	109	117	rBV3	15244	28459	2.04%	0.508%
5	3.603	121	127	140	rBV2	344686	530199	37.99%	9.463%
6	3.773	153	157	161	rBV2	13112	17463	1.25%	0.312%
7	3.847	164	170	176	rVB	27940	36151	2.59%	0.645%
8	4.278	240	246	256	rVB	13036	25928	1.86%	0.463%
9	4.426	269	272	279	rBV3	5637	10801	0.77%	0.193%
10	4.625	298	307	322	rBV2	229929	613983	43.99%	10.959%
11	4.750	324	329	337	rVB2	18162	31187	2.23%	0.557%
12	4.829	337	343	352	rBV	55391	120998	8.67%	2.160%
13	4.954	361	365	370	rBV3	5766	12692	0.91%	0.227%
14	5.034	373	379	392	rVB	206480	376689	26.99%	6.723%
15	5.590	470	477	486	rBV	102800	204685	14.67%	3.653%
16	5.766	500	508	514	rBV	28397	61005	4.37%	1.089%
17	5.834	515	520	527	rVB4	6478	12085	0.87%	0.216%
18	6.300	596	602	609	rBV3	12831	28532	2.04%	0.509%
19	6.431	613	625	631	rVV	15015	39469	2.83%	0.704%
20	6.550	642	646	654	rVB3	17871	39646	2.84%	0.708%
21	6.663	658	666	676	rVB	20982	49170	3.52%	0.878%
22	6.851	693	699	707	rVB3	5567	11715	0.84%	0.209%
23	7.225	755	765	769	rBV	459418	1028225	73.68%	18.352%
24	7.277	769	774	784	rVV	650351	1395596	100.00%	24.909%
25	7.350	784	787	794	rVB2	12880	26472	1.90%	0.472%
26	7.731	844	854	862	rBV	196517	481774	34.52%	8.599%
27	7.827	862	871	891	rVB4	43137	203734	14.60%	3.636%

Sum of corrected areas: 5602785

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102424.D
Acq On : 10 Sep 2024 22:07
Operator : SC
Sample : P2403661-030 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102424.D
Acq On : 10 Sep 2024 22:077
Operator : SCC
Sample : P2403661-030 (400mL))
Misc : S37-060624022
ALS Vial : 16 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

MOA 9/29/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:45:16 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145455	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	634064	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	190797	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	354988	13.042	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
57) Toluene-d8 (SS2)	12.43	98	738492	11.033	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
73) Bromofluorobenzene (SS3)	16.82	174	251460	11.233	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	169927	7.734	ng	#	77
3) Dichlorodifluoromethan...	3.36	85	20704	0.586	ng		97
4) Chloromethane	3.49	50	2571	0.093	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	329	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.01	94	1598	0.140	ng		98
9) Chloroethane	4.10	64	166	N.D.			
10) Ethanol	4.28	45	76426	4.841	ng		100
11) Acetonitrile	4.53	41	1504	N.D.			
12) Acrolein	4.53	56	5105	0.423	ng		91
13) Acetone	4.62	58	173860	13.053	ng	#	1
14) Trichlorofluoromethane	4.76	101	8435509	250.433	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	175761	3.351	ng		96
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	4420	0.282	ng	#	73
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.59	151	4971886	372.578	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	6.14	61	635	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	5153	0.111	ng		92
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	13654	1.445	ng	#	63
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.29	61	12663	2.000	ng		89
31) n-Hexane	7.31	57	90333	3.129	ng		96
32) Chloroform	7.36	83	60621	2.092	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	7.84	87	256	N.D.			
36) 1,2-Dichloroethane	8.11	62	2244	0.078	ng		85
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.62	61	23736	No Calib		#	
40) 1-Butanol	8.80	56	24018	No Calib		#	
41) Benzene	8.89	78	25304	0.426	ng		98
42) Carbon Tetrachloride	9.07	117	2831	0.115	ng		95
43) Cyclohexane	9.22	84	35803	1.784	ng		90
44) tert-Amyl Methyl Ether	9.60	73	615	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.	d		
46) Bromodichloromethane	10.08	83	2727	0.122	ng		95
47) Trichloroethene	10.14	130	5772	0.392	ng		87
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	10.41	100	647	0.125	ng	#	66

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:45:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

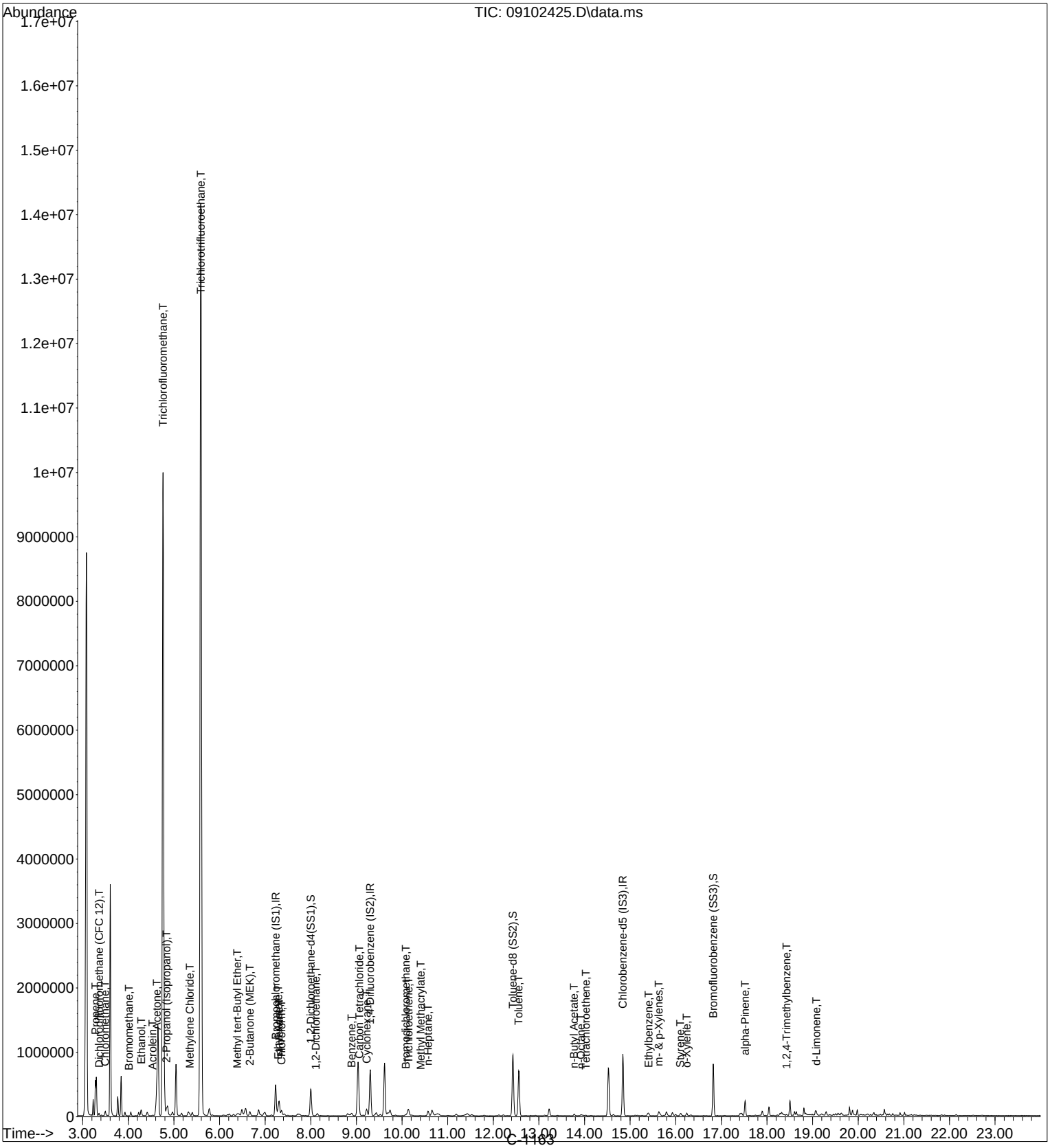
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	15518	1.171 ng		94
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	577411	7.980 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	13.07	129	460	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	24123	0.481 ng		98
63) n-Octane	13.92	57	3060	0.180 ng		84
64) Tetrachloroethene	14.03	166	2848	0.142 ng		98
65) Chlorobenzene	14.90	112	993	N.D.		
66) Ethylbenzene	15.41	91	23379	0.281 ng		100
67) m- & p-Xylenes	15.63	91	52038	0.769 ng		100
68) Bromoform	15.67	173	235	N.D.		
69) Styrene	16.10	104	11611	0.265 ng		98
70) o-Xylene	16.24	91	25473	0.385 ng		98
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	16.20	83	106	N.D.		
74) Cumene	17.03	105	1963	N.D.		
75) alpha-Pinene	17.52	93	91181	2.289 ng		99
76) n-Propylbenzene	17.67	91	2324	N.D.		
77) 3-Ethyltoluene	17.03	105	1963	No Calib		
78) 4-Ethyltoluene	17.86	105	1281	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1657	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1963	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5060	0.074 ng		94
83) n-Decane	17.08	58	205	No Calib	#	
84) Benzyl Chloride	18.56	91	782	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	656	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	708	N.D.		
87) sec-Butylbenzene	18.74	105	728	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	3441	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	1963	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	185	N.D.		
91) d-Limonene	19.08	68	10460	0.460 ng		88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.98	58	118	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.83	180	574	N.D.		
95) Naphthalene	20.94	128	1617	N.D.		
96) n-Dodecane	18.92	58	293	No Calib	#	
97) Hexachlorobutadiene	21.30	225	348	N.D.		
98) Cyclohexanone	15.27	55	1383	No Calib	#	
99) tert-Butylbenzene	18.43	119	813	N.D.		
100) n-Butylbenzene	19.38	91	1258	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:45:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 10:45:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

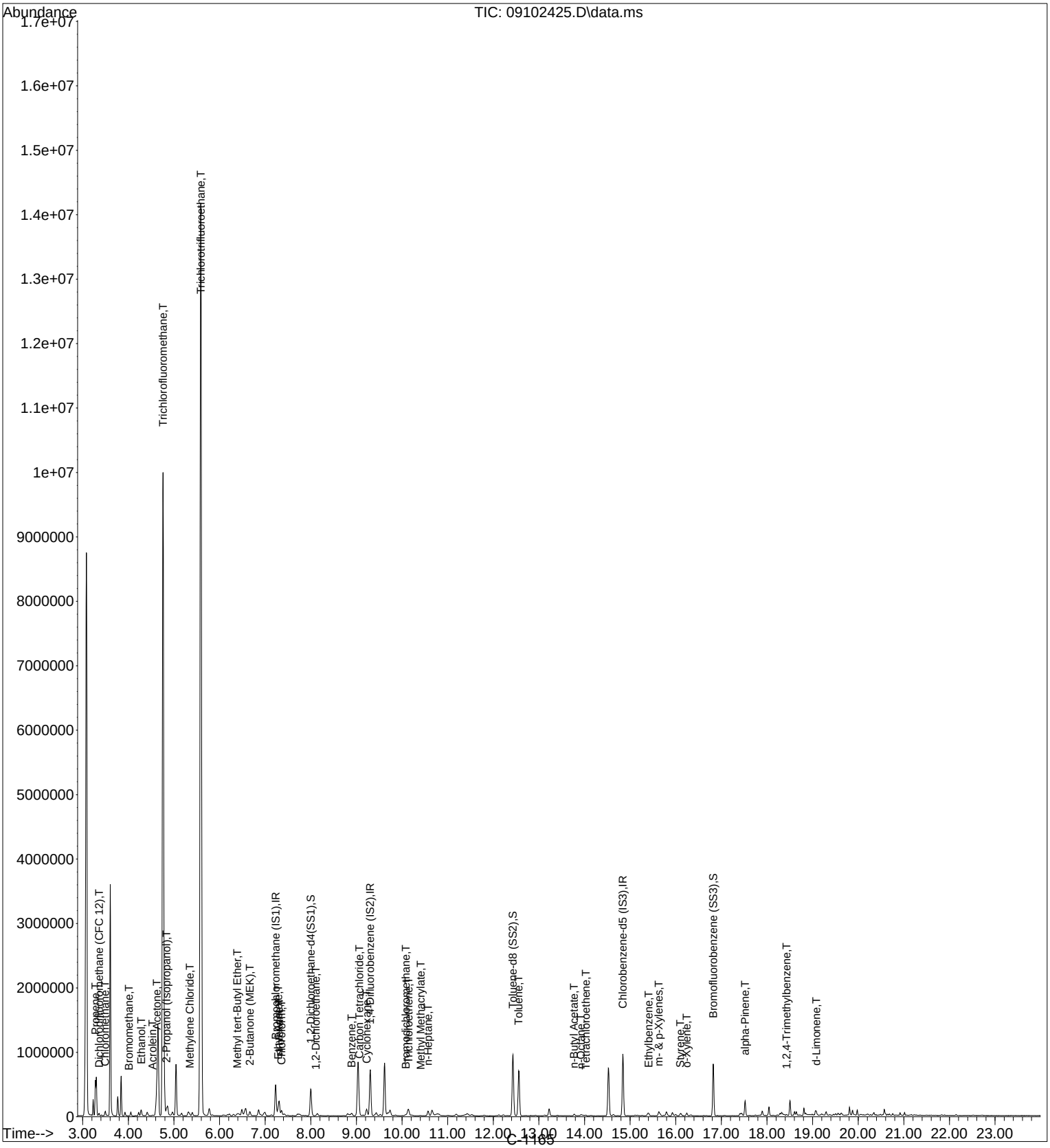
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145455	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	634064	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	190797	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	354988	13.042	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.32%				
57) Toluene-d8 (SS2)	12.43	98	738492	11.033	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.24%				
73) Bromofluorobenzene (SS3)	16.82	174	251460	11.233	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	3.28	42	169927	7.734	ng	#	77
3) Dichlorodifluoromethan...	3.36	85	20704	0.586	ng		97
4) Chloromethane	3.49	50	2571	0.093	ng		97
8) Bromomethane	4.01	94	1598	0.140	ng		98
10) Ethanol	4.28	45	76426	4.841	ng		100
12) Acrolein	4.53	56	5105	0.423	ng		91
13) Acetone	4.62	58	173860	13.053	ng	#	1
14) Trichlorofluoromethane	4.76	101	8435509	250.433	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	175761	3.351	ng		96
19) Methylene Chloride	5.35	84	4420	0.282	ng	#	73
21) Trichlorotrifluoroethane	5.59	151	4971886	372.578	ng		94
25) Methyl tert-Butyl Ether	6.39	73	5153	0.111	ng		92
27) 2-Butanone (MEK)	6.66	72	13654	1.445	ng	#	63
30) Ethyl Acetate	7.29	61	12663	2.000	ng		89
31) n-Hexane	7.31	57	90333	3.129	ng		96
32) Chloroform	7.36	83	60621	2.092	ng		98
36) 1,2-Dichloroethane	8.11	62	2244	0.078	ng		85
41) Benzene	8.89	78	25304	0.426	ng		98
42) Carbon Tetrachloride	9.07	117	2831	0.115	ng		95
43) Cyclohexane	9.22	84	35803	1.784	ng		90
46) Bromodichloromethane	10.08	83	2727	0.122	ng		95
47) Trichloroethene	10.14	130	5772	0.392	ng		87
50) Methyl Methacrylate	10.41	100	647	0.125	ng	#	66
51) n-Heptane	10.57	71	15518	1.171	ng		94
58) Toluene	12.56	91	577411	7.980	ng		100
62) n-Butyl Acetate	13.77	43	24123	0.481	ng		98
63) n-Octane	13.92	57	3060	0.180	ng		84
64) Tetrachloroethene	14.03	166	2848	0.142	ng		98
66) Ethylbenzene	15.41	91	23379	0.281	ng		100
67) m- & p-Xylenes	15.63	91	52038	0.769	ng		100
69) Styrene	16.10	104	11611	0.265	ng		98
70) o-Xylene	16.24	91	25473	0.385	ng		98
75) alpha-Pinene	17.52	93	91181	2.289	ng		99
82) 1,2,4-Trimethylbenzene	18.43	105	5060	0.074	ng		94
91) d-Limonene	19.08	68	10460	0.460	ng		88

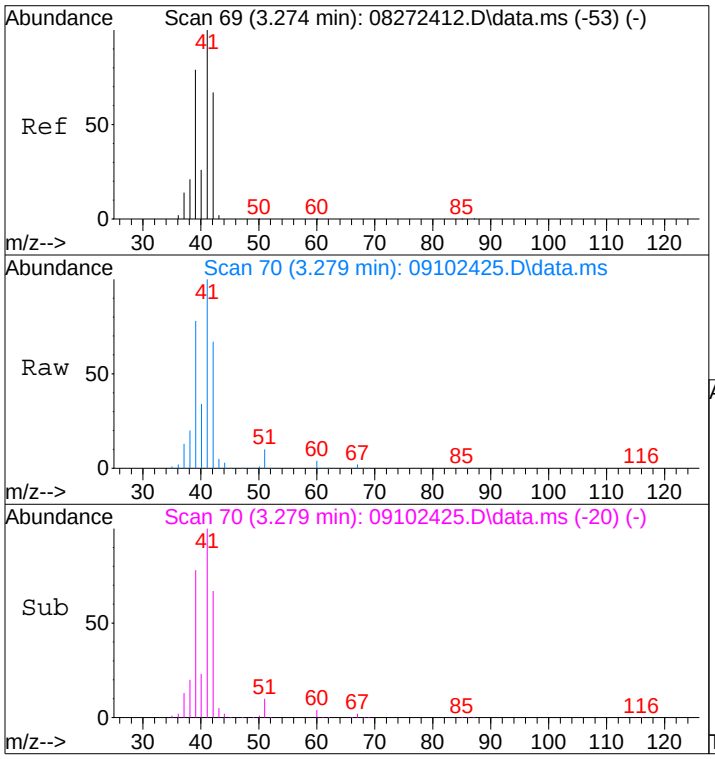
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 10:45:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

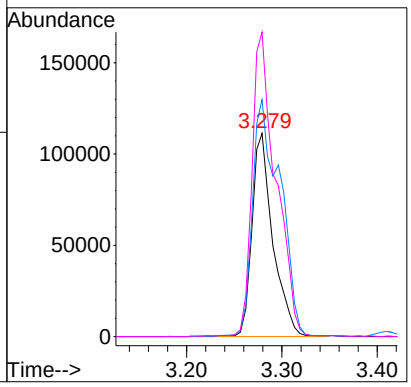


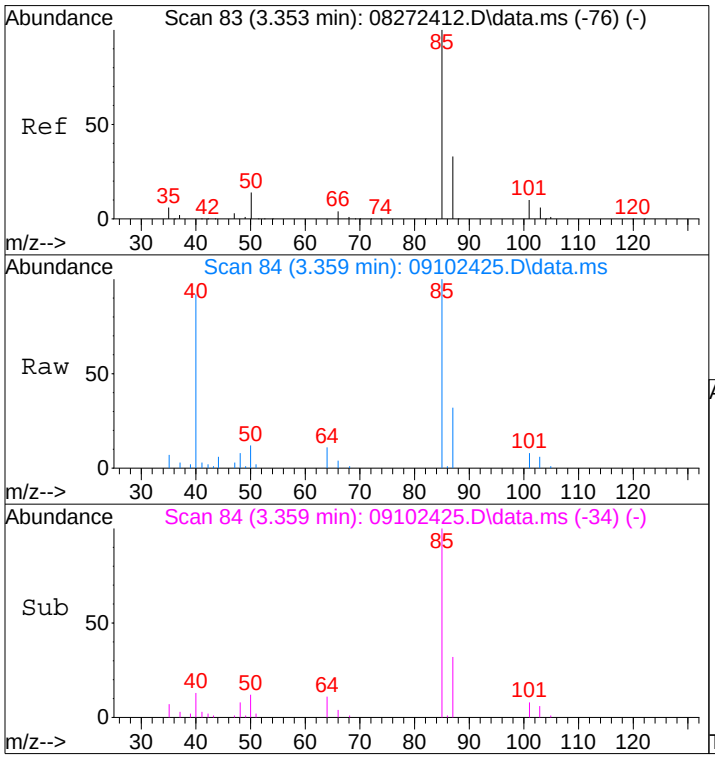


#2
Propene
Concen: 7.73 ng
RT: 3.28 min Scan# 70
Delta R.T. 0.033 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 42 Resp: 169927

Ion	Ratio	Lower	Upper
42	100		
39	153.9	98.2	138.2#
41	171.0	130.1	170.1#

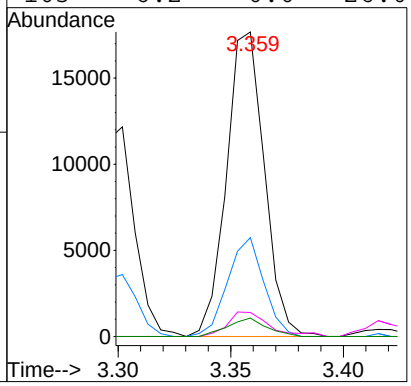


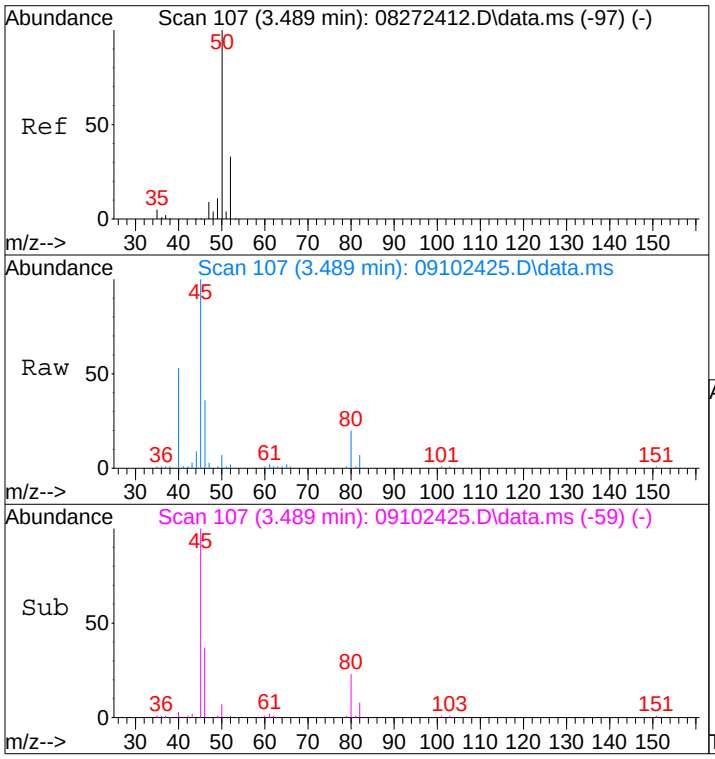


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.034 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 85 Resp: 20704

Ion	Ratio	Lower	Upper
85	100		
87	31.1	13.1	53.1
101	8.9	0.0	29.4
103	6.2	0.0	26.0

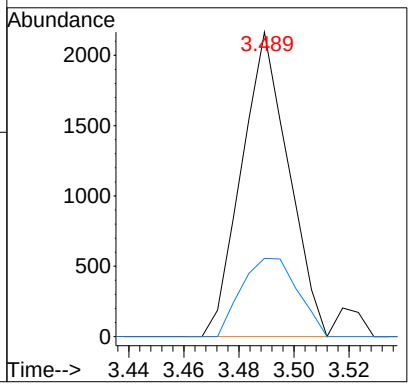


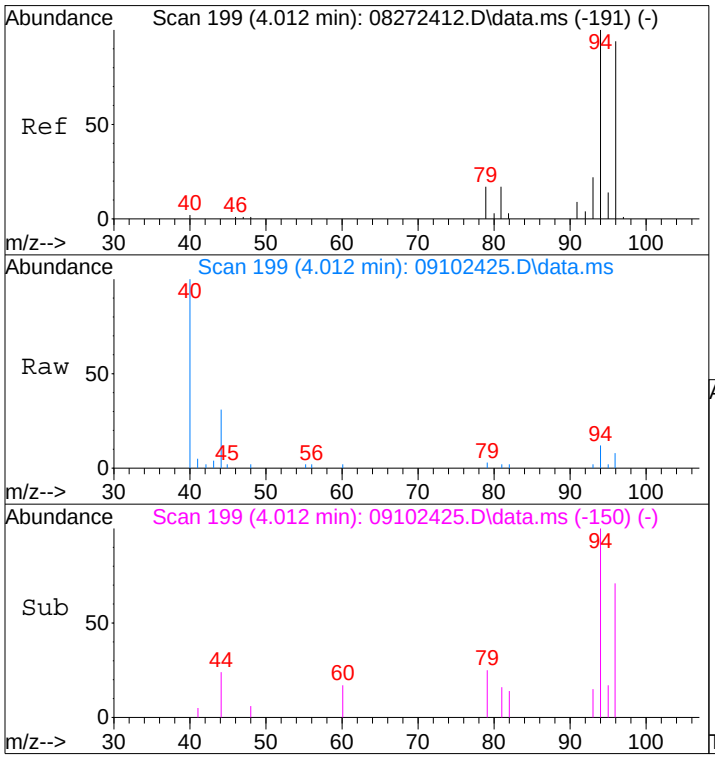


#4
Chloromethane
Concen: 0.09 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.024 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 50 Resp: 2571

Ion	Ratio	Lower	Upper
50	100		
52	30.7	12.4	52.4

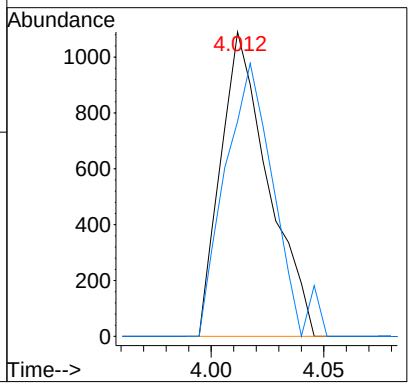


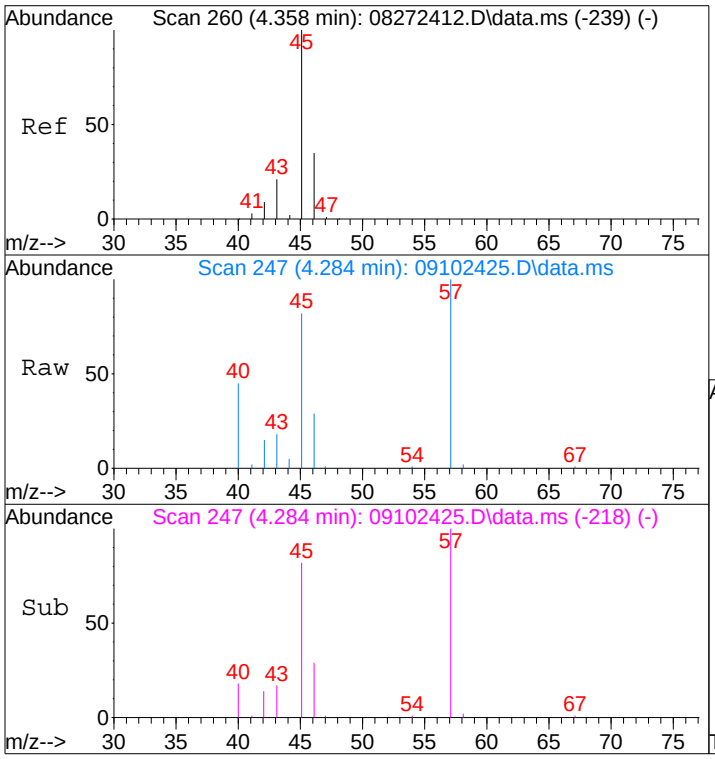


#8
Bromomethane
Concen: 0.14 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.030 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 94 Resp: 1598

Ion	Ratio	Lower	Upper
94	100		
96	92.1	74.2	114.2

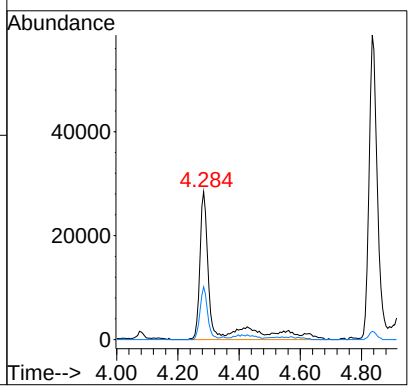


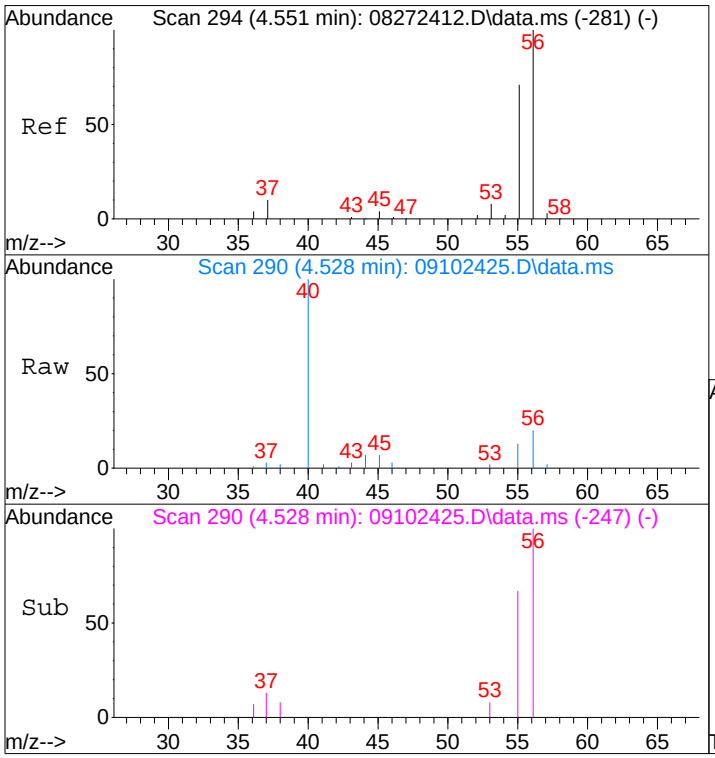


#10
Ethanol
Concen: 4.84 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.085 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 45 Resp: 76426

Ion	Ratio	Lower	Upper
45	100		
46	34.0	14.2	54.2

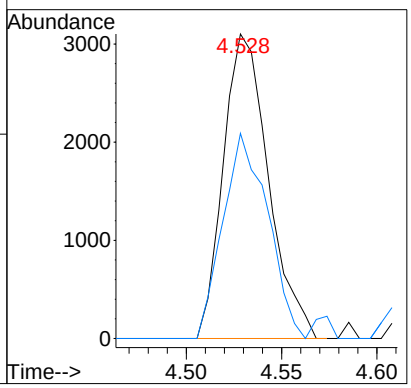


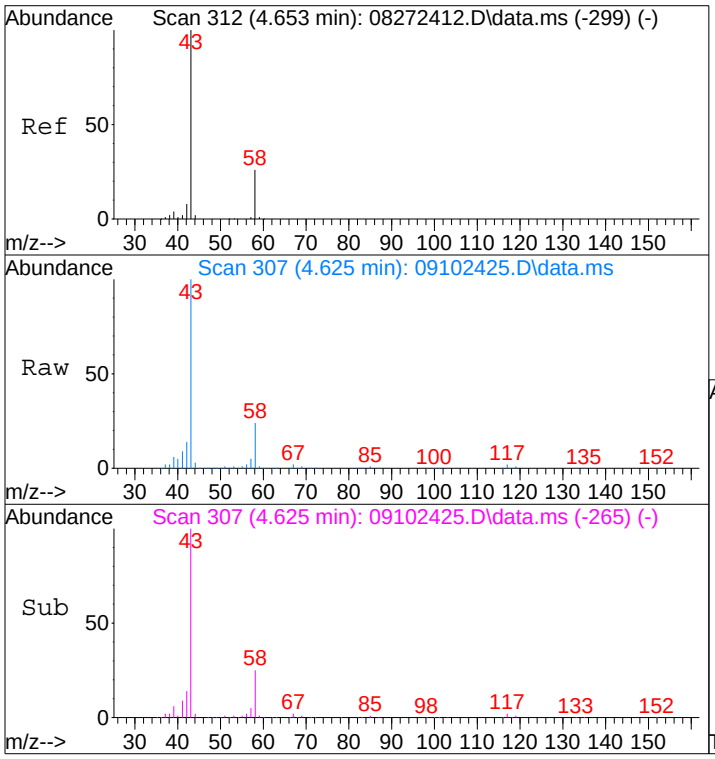


#12
Acrolein
Concen: 0.42 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.003 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 56 Resp: 5105

Ion	Ratio	Lower	Upper
56	100		
55	66.9	54.7	94.7

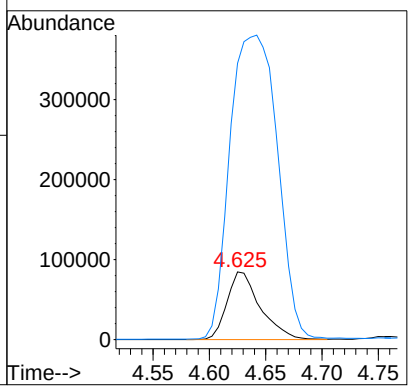


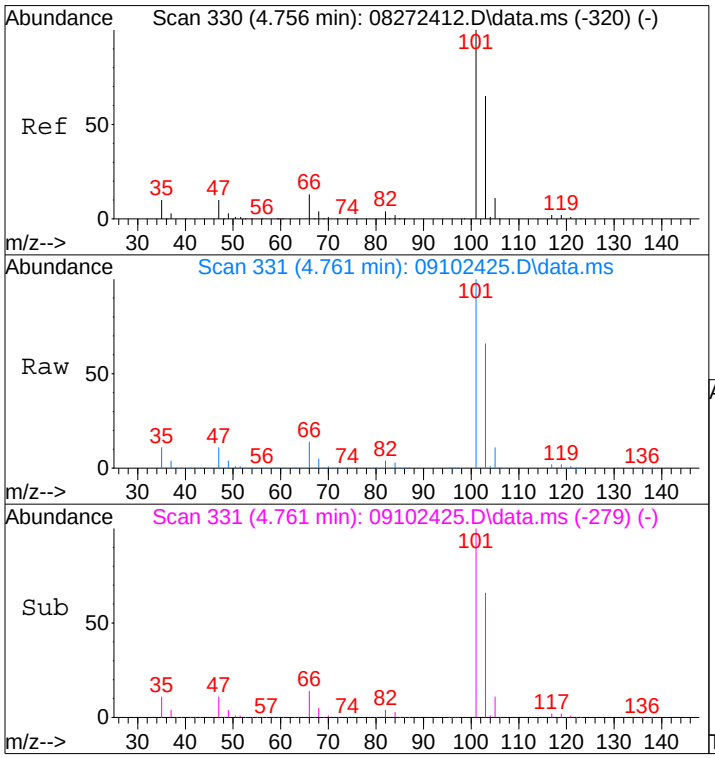


#13
Acetone
Concen: 13.05 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.013 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 58 Resp: 173860

Ion	Ratio	Lower	Upper
58	100		
43	641.8	347.3	407.3#

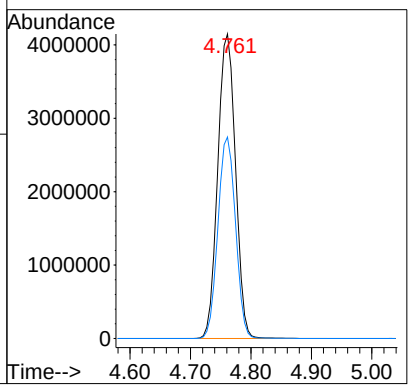


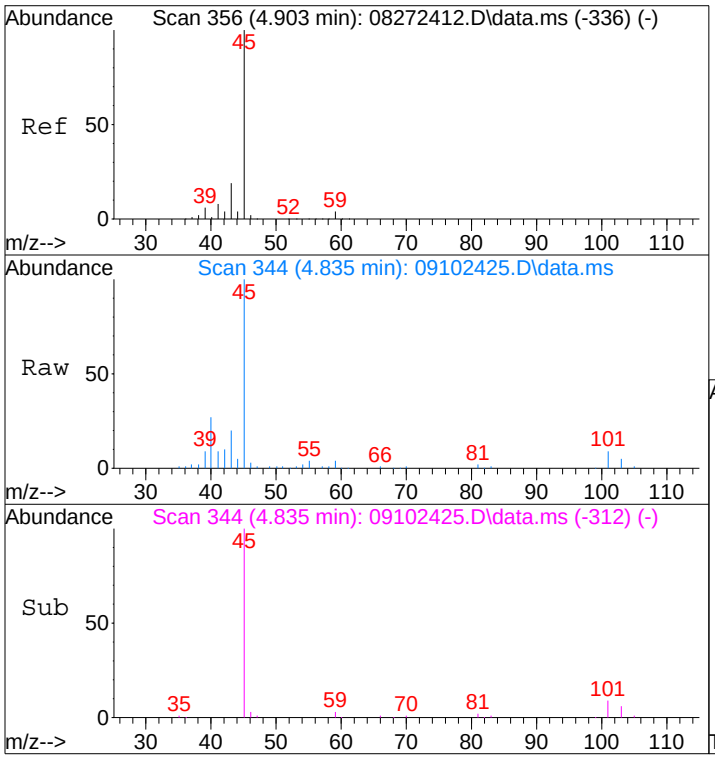


#14
Trichlorofluoromethane
Concen: 250.43 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.044 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:101 Resp: 8435509

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.9	84.9

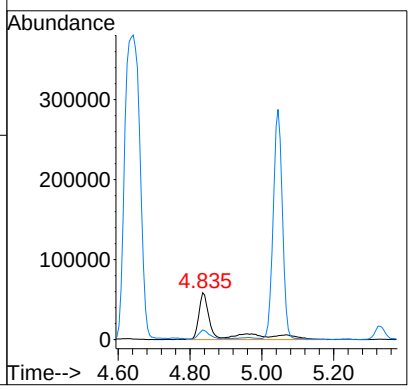


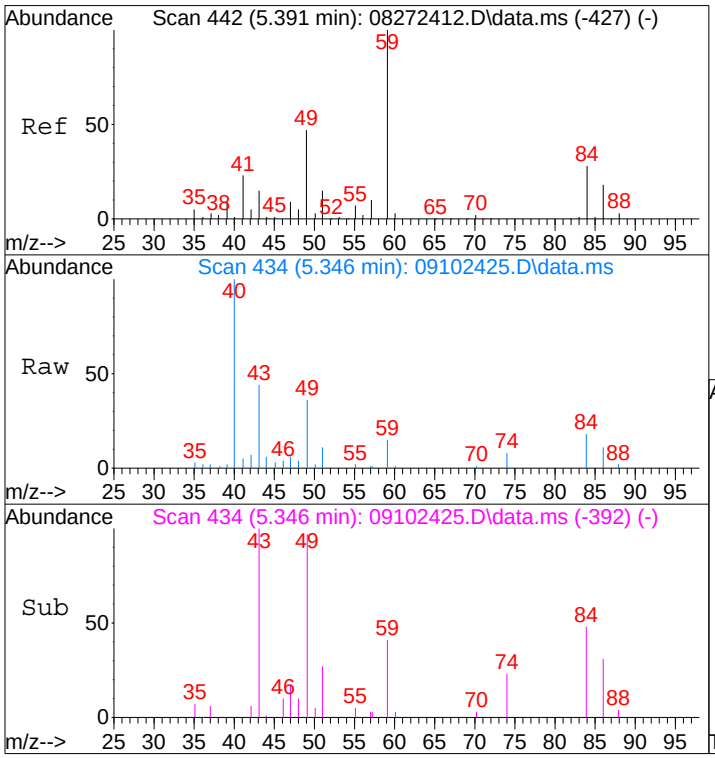


#15
2-Propanol (Isopropanol)
Concen: 3.35 ng
RT: 4.84 min Scan# 344
Delta R.T. -0.067 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 45 Resp: 175761

Ion	Ratio	Lower	Upper
45	100		
43	18.1	0.0	40.0

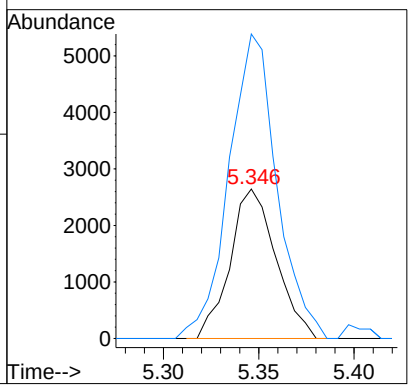


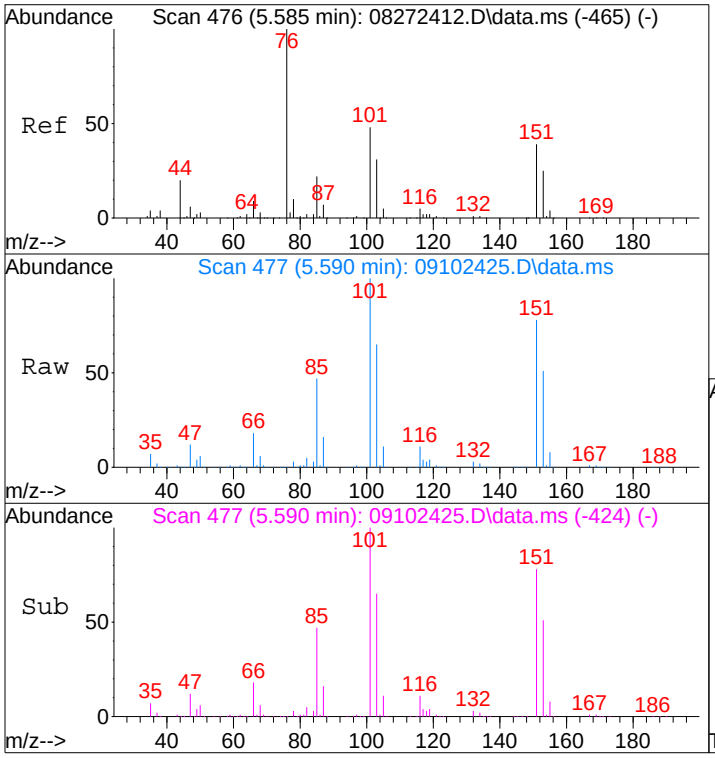


#19
Methylene Chloride
Concen: 0.28 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.011 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 84 Resp: 4420

Ion	Ratio	Lower	Upper
84	100		
49	213.3	151.1	201.1#

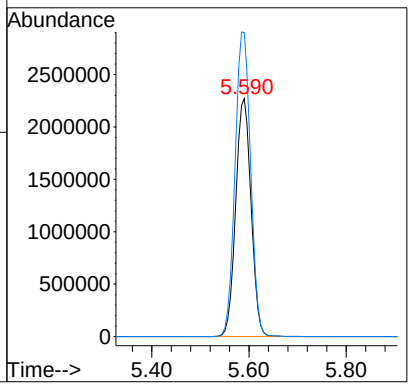


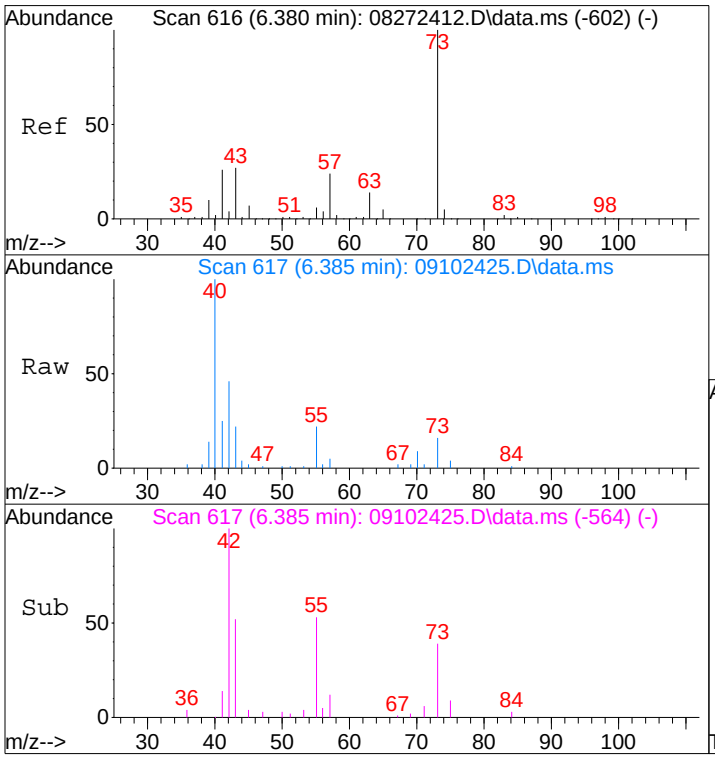


#21
Trichlorotrifluoroethane
Concen: 372.58 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.048 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:151 Resp: 4971886

Ion	Ratio	Lower	Upper
151	100		
101	130.2	103.4	143.4

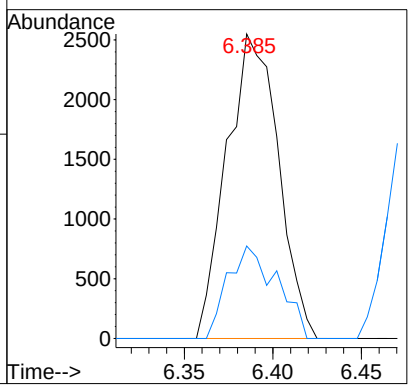


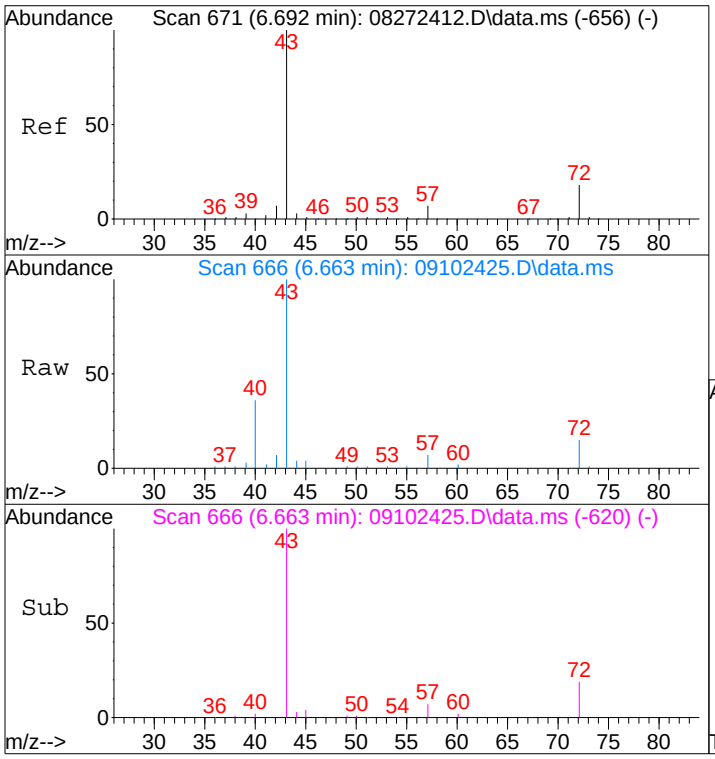


#25
Methyl tert-Butyl Ether
Concen: 0.11 ng
RT: 6.39 min Scan# 617
Delta R.T. 0.052 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 73 Resp: 5153

Ion	Ratio	Lower	Upper
73	100		
57	28.9	4.7	44.7

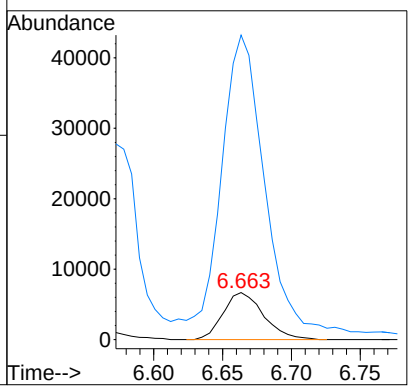


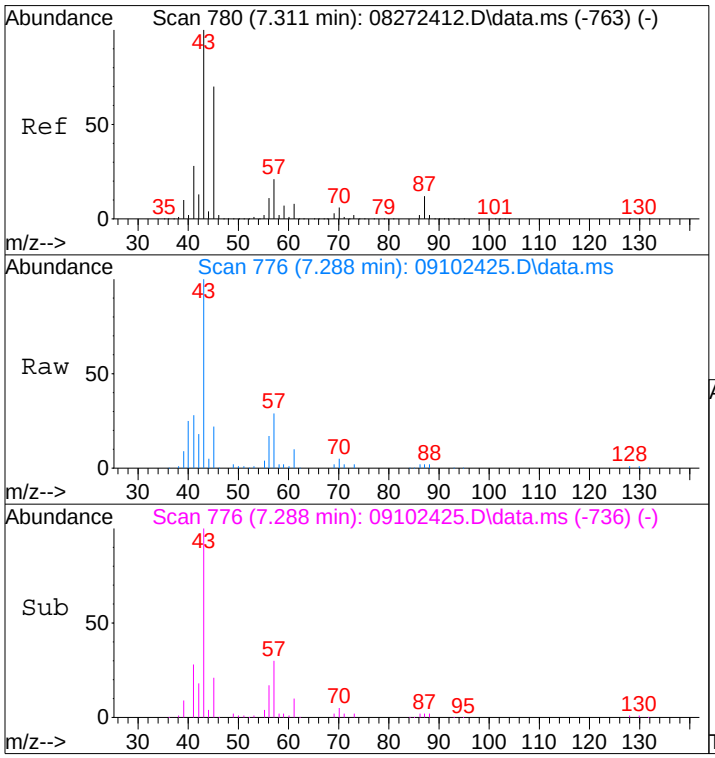


#27
2-Butanone (MEK)
Concen: 1.44 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 72 Resp: 13654

Ion	Ratio	Lower	Upper
72	100		
43	678.4	548.0	588.0#

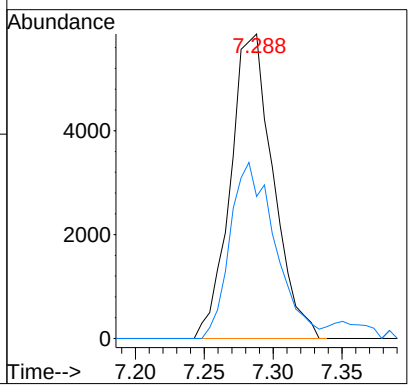


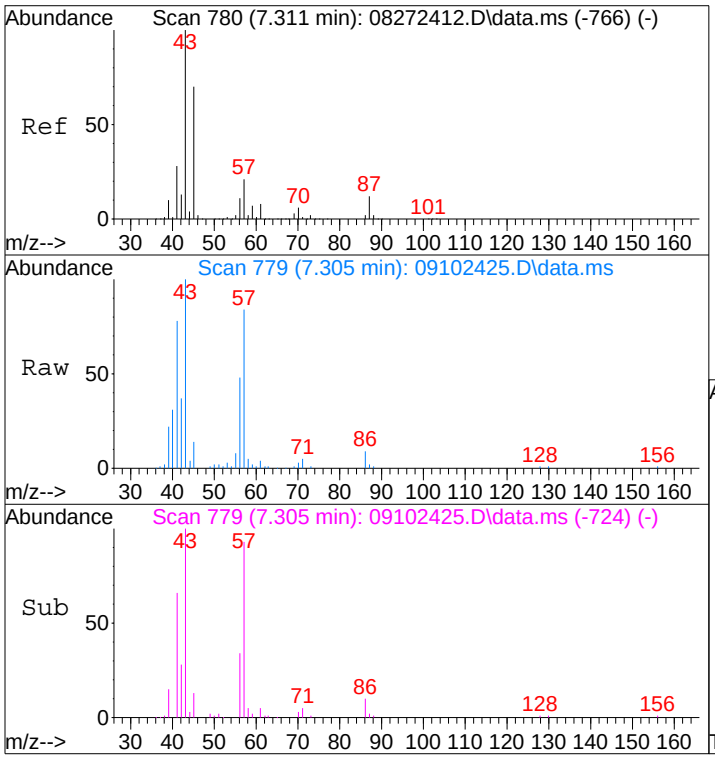


#30
Ethyl Acetate
Concen: 2.00 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.029 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 61 Resp: 12663

Ion	Ratio	Lower	Upper
61	100		
70	61.0	49.9	89.9

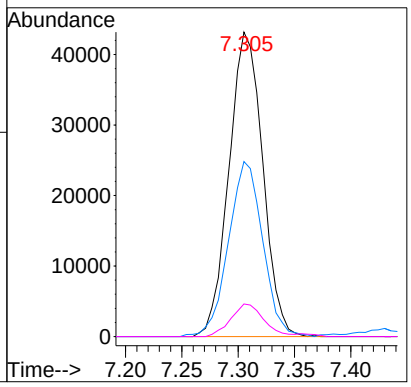


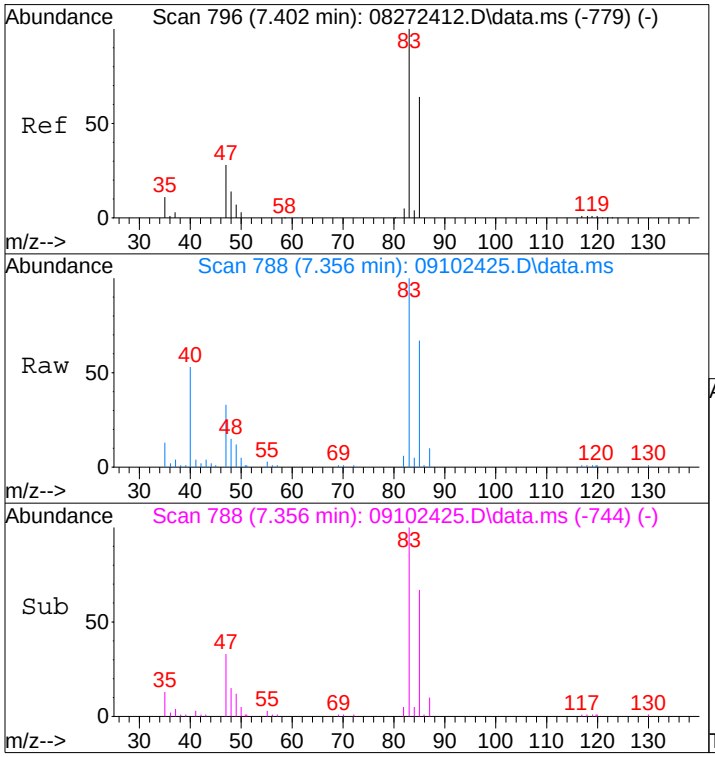


#31
n-Hexane
Concen: 3.13 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.063 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 57 Resp: 90333

Ion	Ratio	Lower	Upper
57	100		
56	58.2	44.2	66.2
86	10.9	9.3	13.9

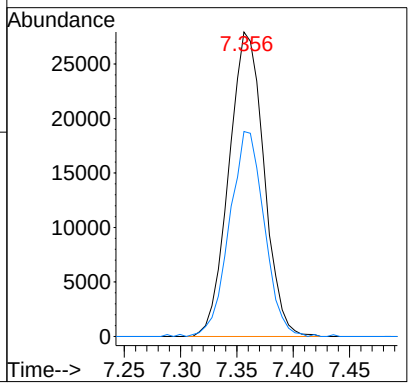


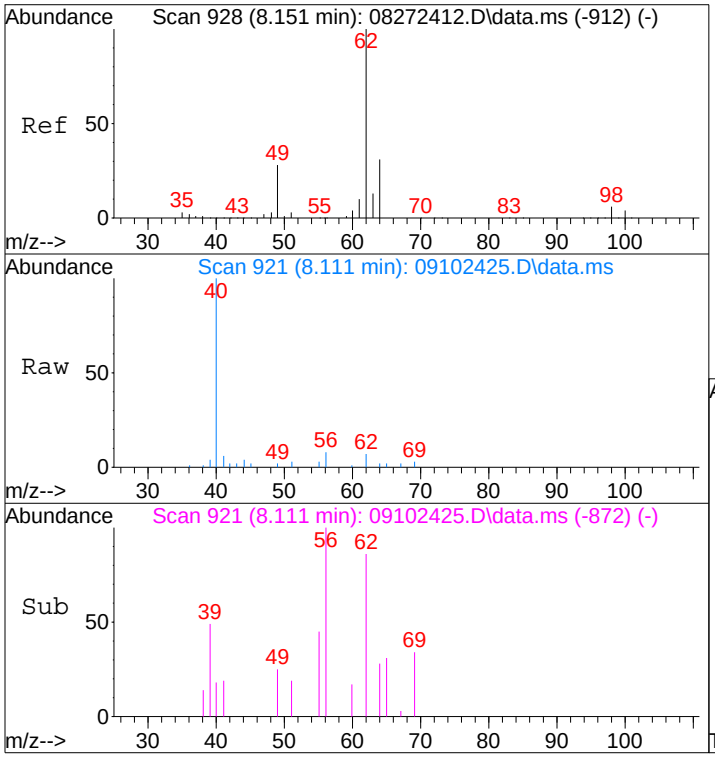


#32
Chloroform
Concen: 2.09 ng
RT: 7.36 min Scan# 788
Delta R.T. 0.002 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 83 Resp: 60621

Ion	Ratio	Lower	Upper
83	100		
85	66.8	45.3	85.3

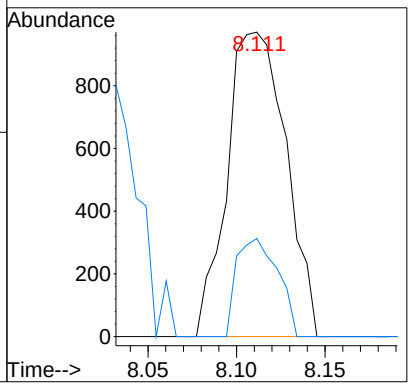


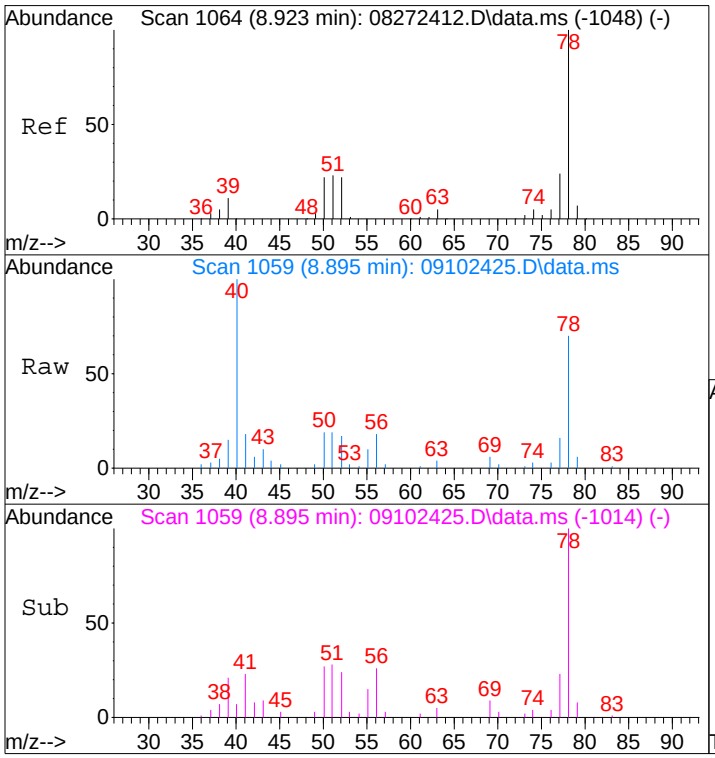


#36
1,2-Dichloroethane
Concen: 0.08 ng
RT: 8.11 min Scan# 921
Delta R.T. 0.027 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 62 Resp: 2244

Ion	Ratio	Lower	Upper
62	100		
64	22.7	11.0	51.0

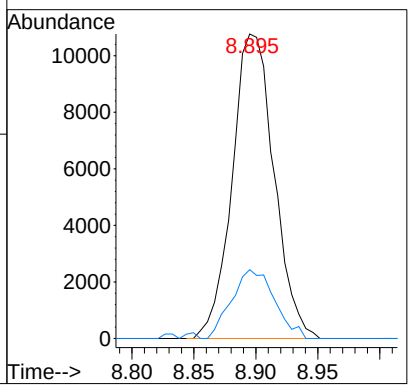


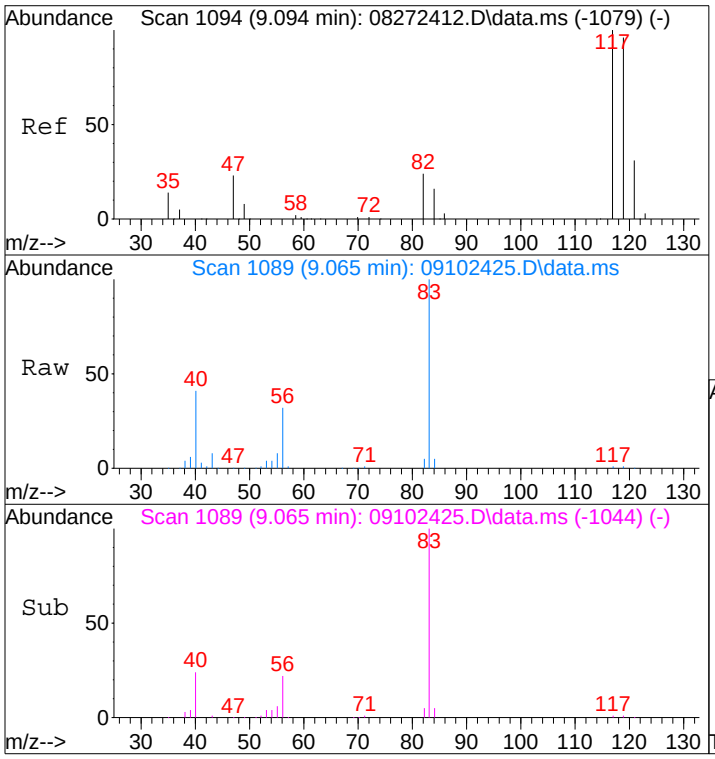


#41
Benzene
Concen: 0.43 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.003 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 78 Resp: 25304

Ion	Ratio	Lower	Upper
78	100		
77	23.1	3.9	43.9

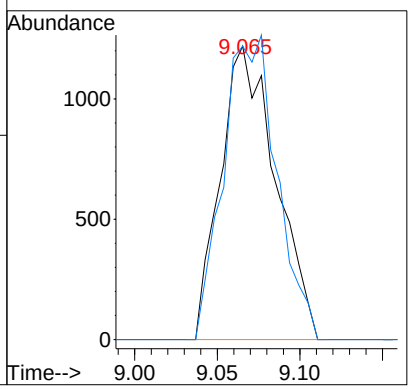


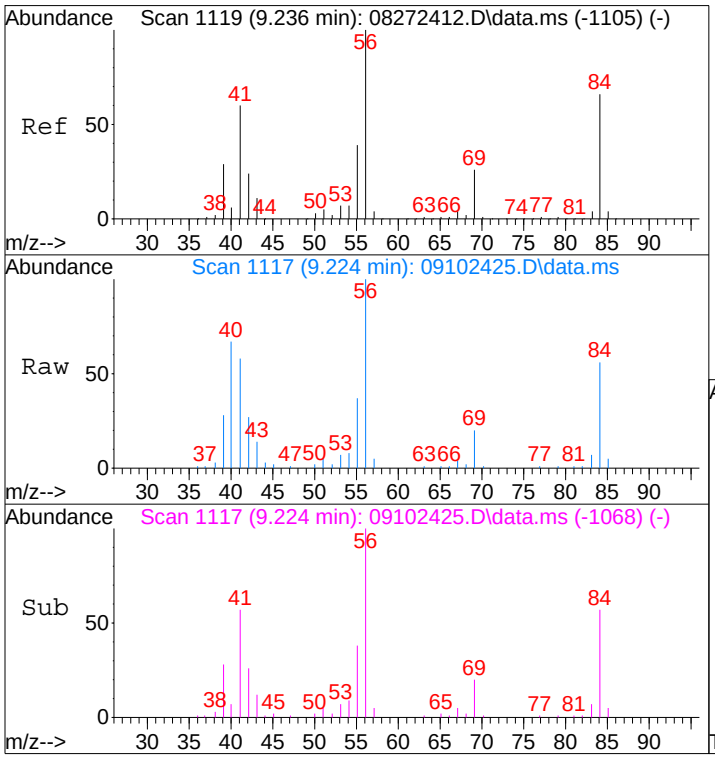


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 9.07 min Scan# 1089
Delta R.T. 0.004 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:117 Resp: 2831

Ion	Ratio	Lower	Upper
117	100		
119	100.3	75.1	115.1

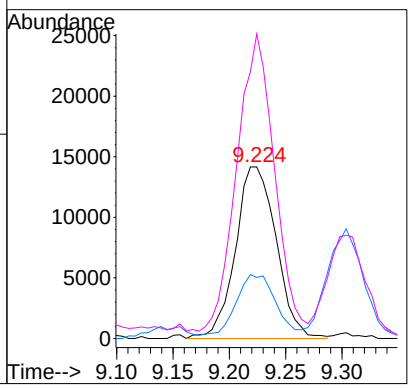


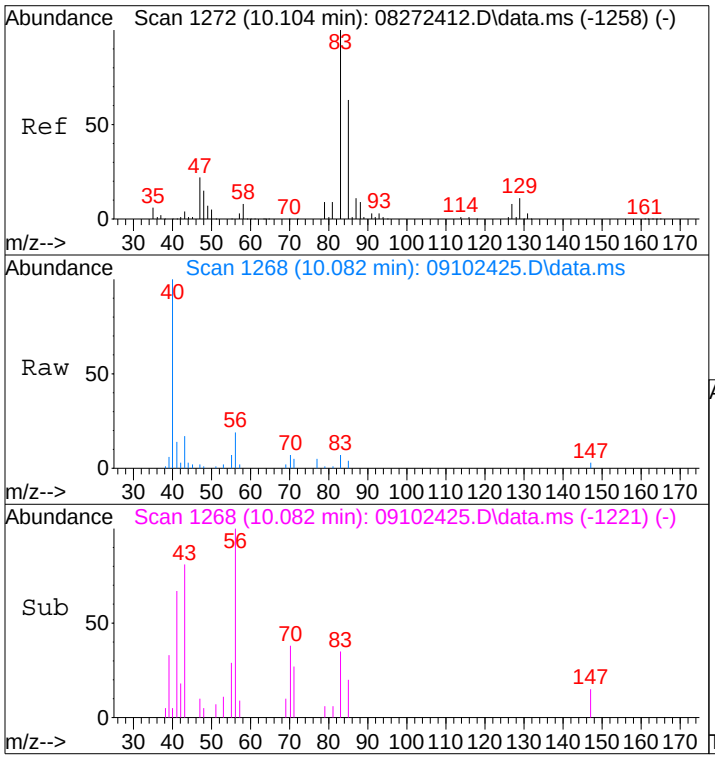


#43
Cyclohexane
Concen: 1.78 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.028 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 84 Resp: 35803

Ion	Ratio	Lower	Upper
84	100		
69	34.3	18.8	58.8
56	167.9	134.5	174.5

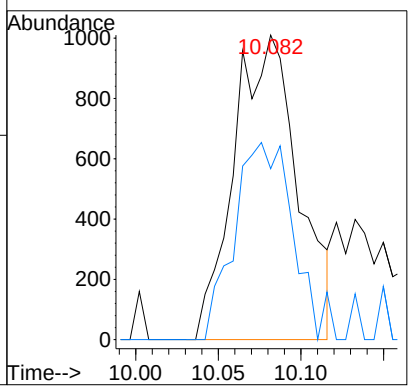


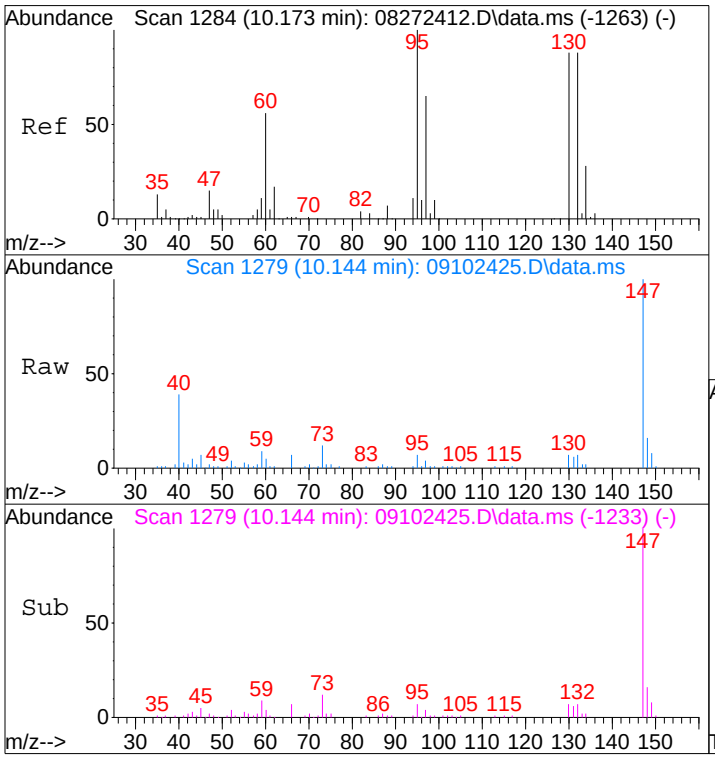


#46
Bromodichloromethane
Concen: 0.12 ng
RT: 10.08 min Scan# 1268
Delta R.T. 0.016 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 83 Resp: 2727

Ion	Ratio	Lower	Upper
83	100		
85	59.6	43.9	83.9

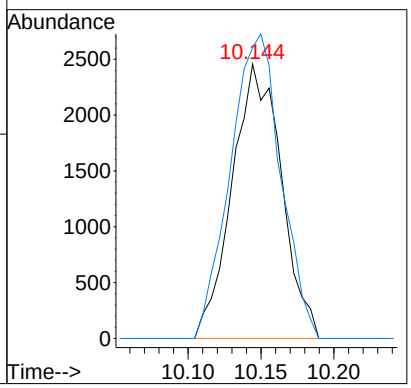


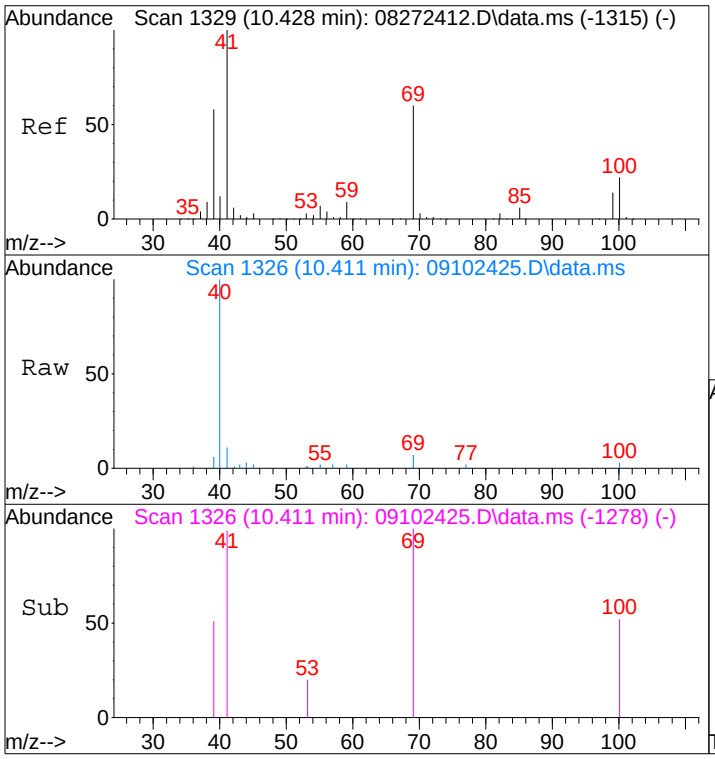


#47
Trichloroethene
Concen: 0.39 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.011 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:130 Resp: 5772

Ion	Ratio	Lower	Upper
130	100		
132	114.1	80.8	120.8

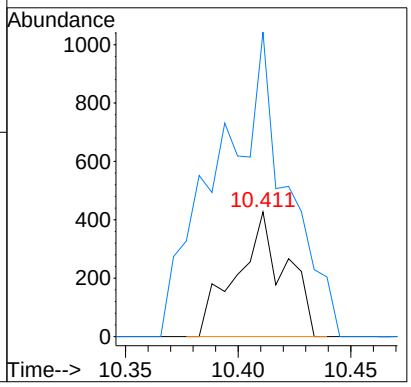


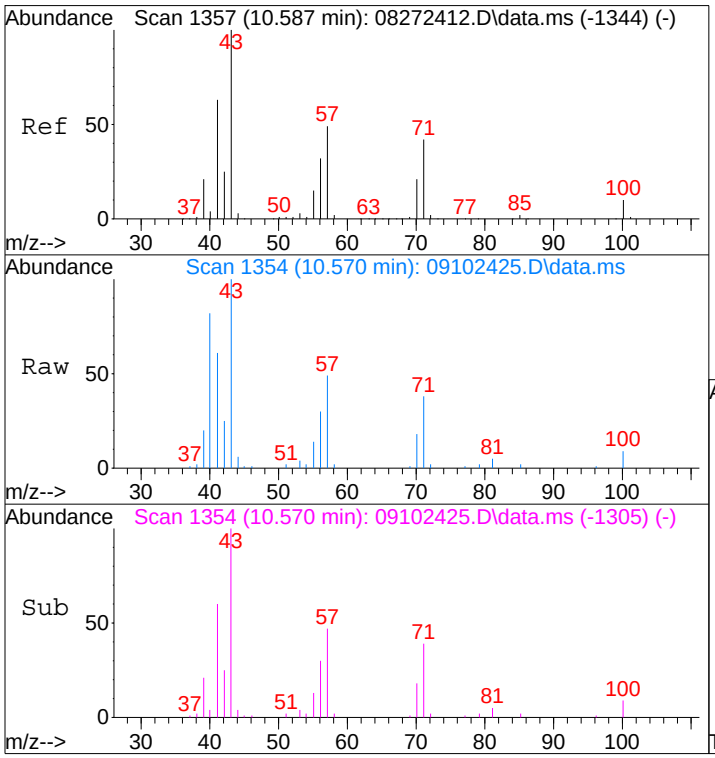


#50
Methyl Methacrylate
Concen: 0.13 ng
RT: 10.41 min Scan# 1326
Delta R.T. 0.024 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:100 Resp: 647

Ion	Ratio	Lower	Upper
100	100		
69	344.4	260.7	300.7#

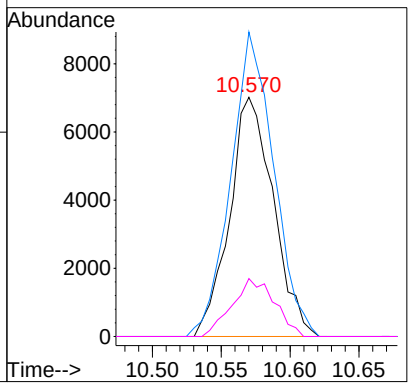


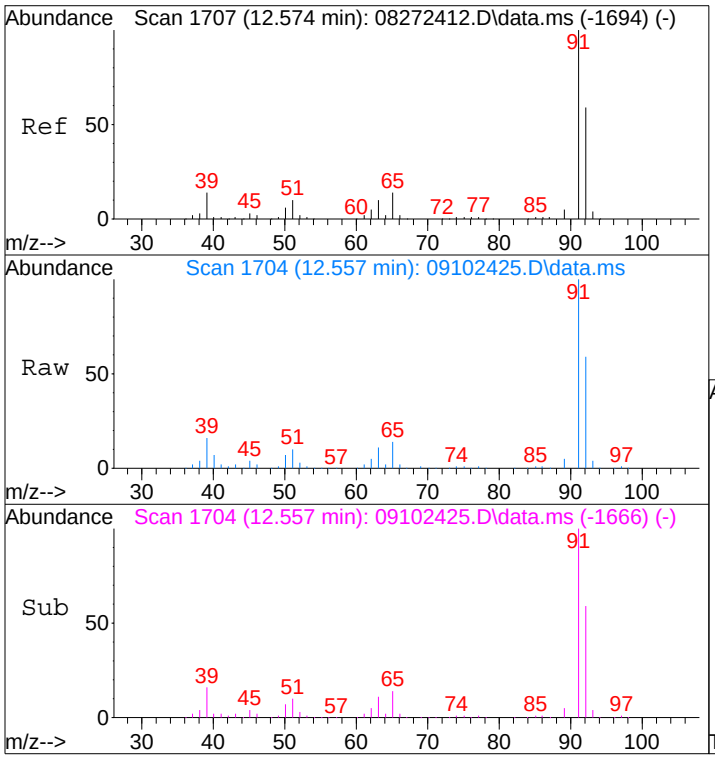


#51
n-Heptane
Concen: 1.17 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.030 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 71 Resp: 15518

Ion	Ratio	Lower	Upper
71	100		
57	124.8	97.1	137.1
100	23.5	5.0	45.0

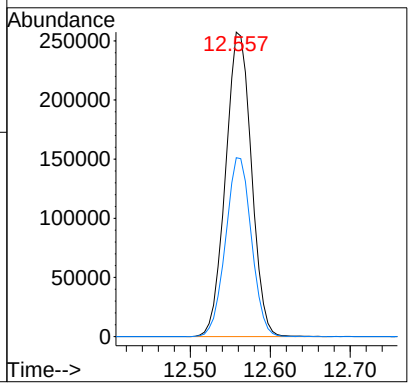


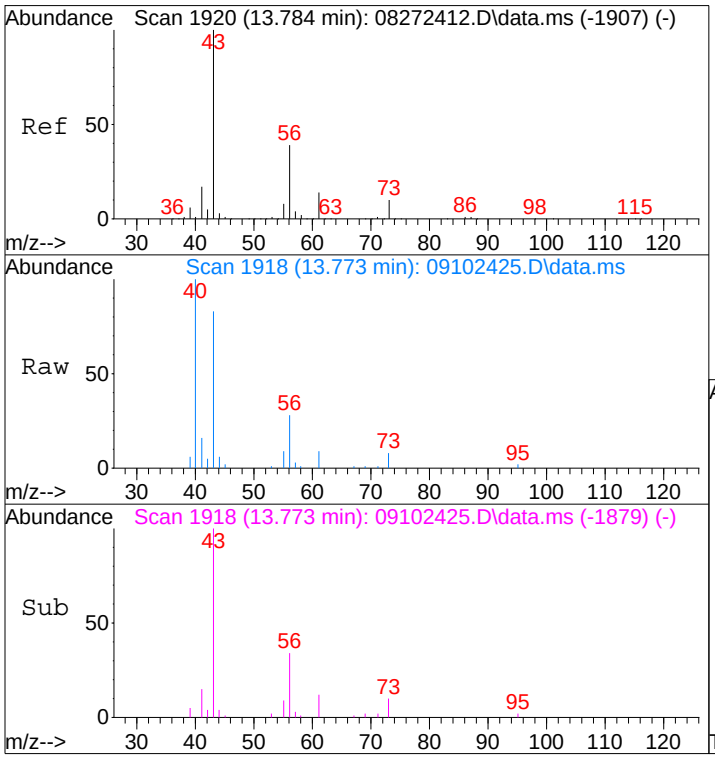


#58
Toluene
Concen: 7.98 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 91 Resp: 577411

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.5	78.5

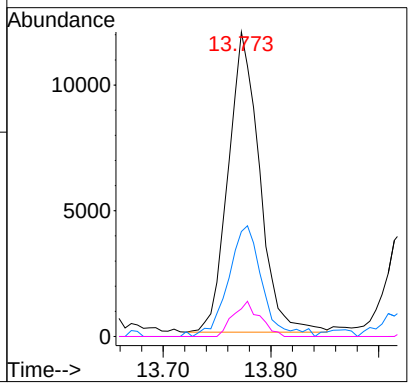


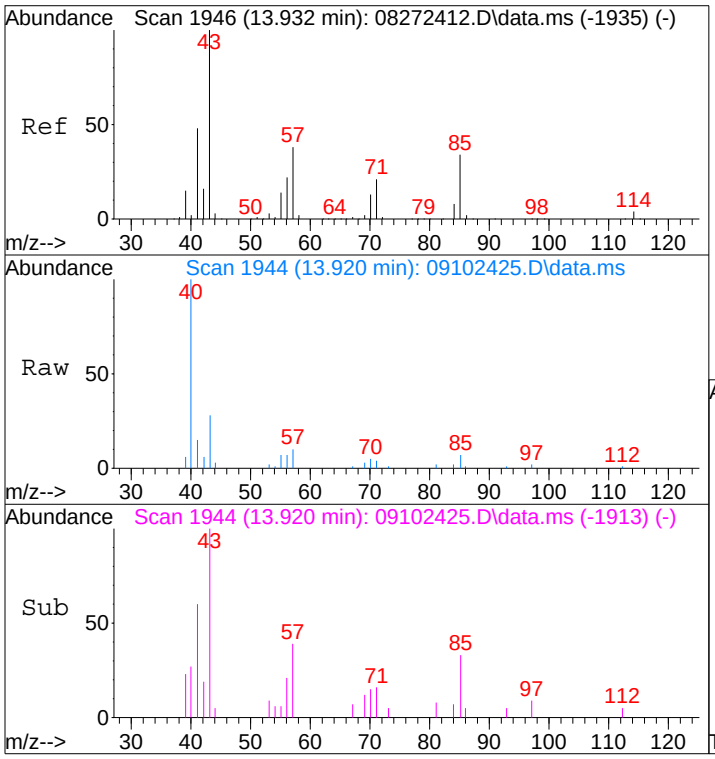


#62
n-Butyl Acetate
Concen: 0.48 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 43 Resp: 24123

Ion	Ratio	Lower	Upper
43	100		
56	39.5	18.2	58.2
73	9.9	0.0	30.1

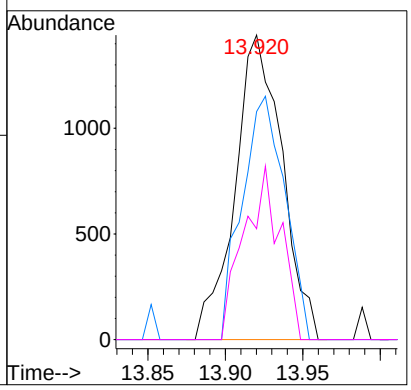


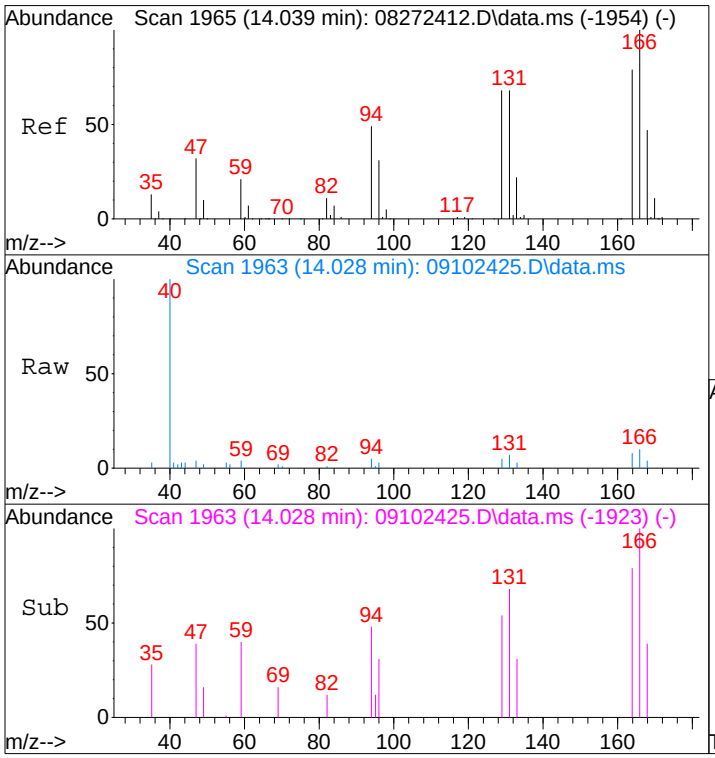


#63
n-Octane
Concen: 0.18 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 57 Resp: 3060

Ion	Ratio	Lower	Upper
57	100		
85	72.6	71.2	106.8
71	44.2	43.3	64.9

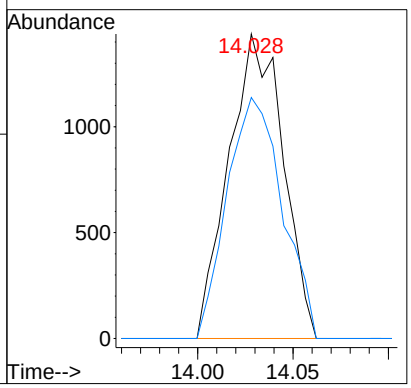


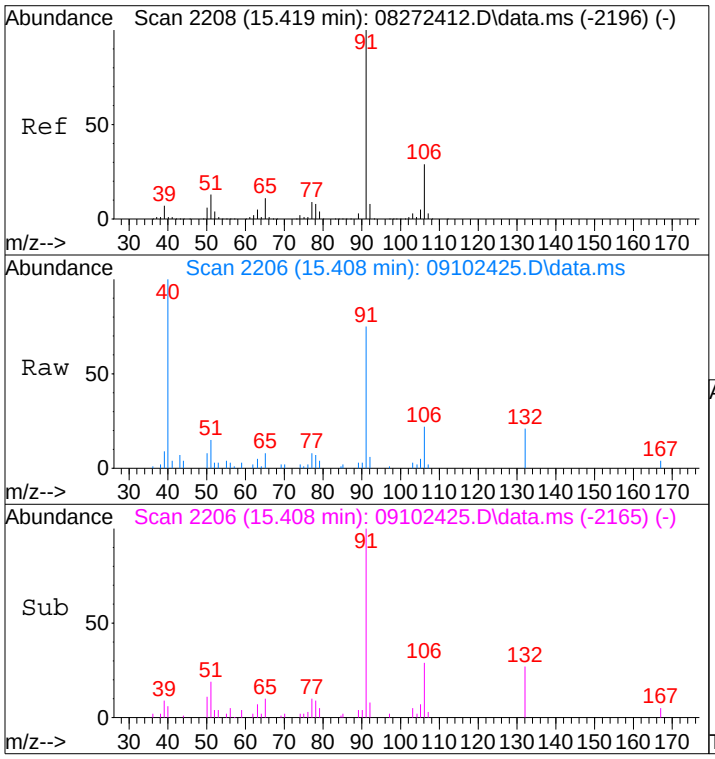


#64
Tetrachloroethene
Concen: 0.14 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:166 Resp: 2848

Ion	Ratio	Lower	Upper
166	100		
164	80.7	59.0	99.0

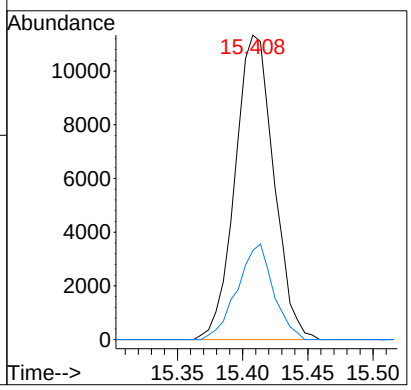


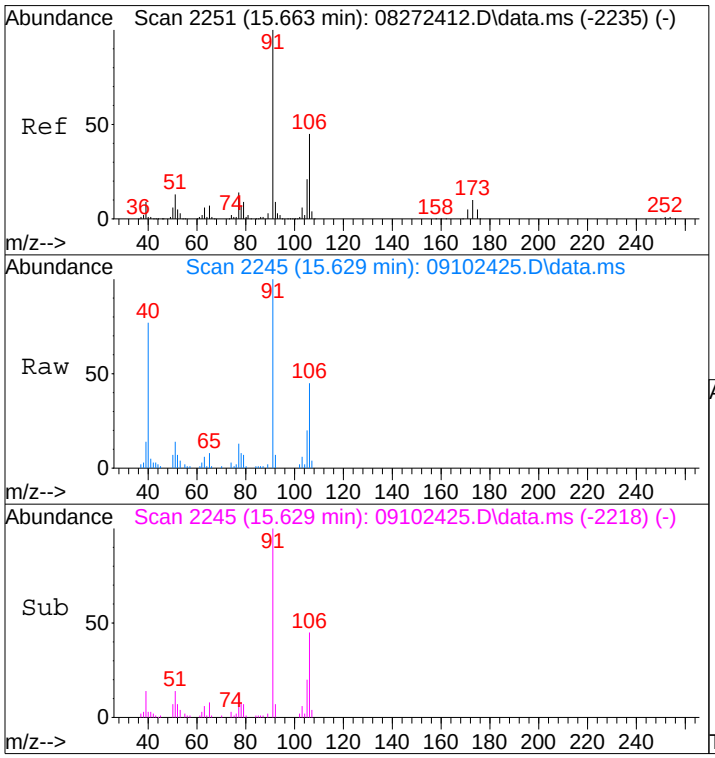


#66
Ethylbenzene
Concen: 0.28 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 91 Resp: 23379

Ion	Ratio	Lower	Upper
91	100		
106	29.3	9.2	49.2

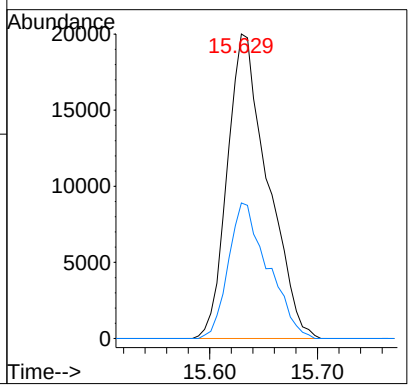


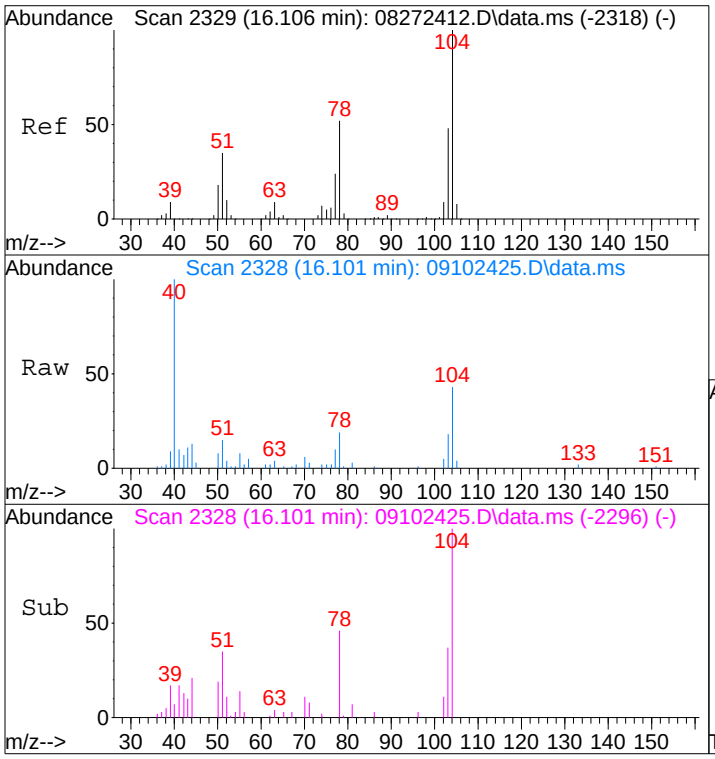


#67
m- & p-Xylenes
Concen: 0.77 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 91 Resp: 52038

Ion	Ratio	Lower	Upper
91	100		
106	43.6	23.8	63.8

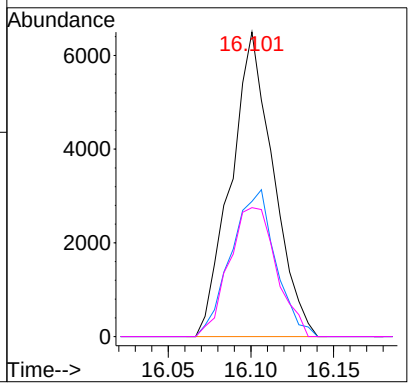


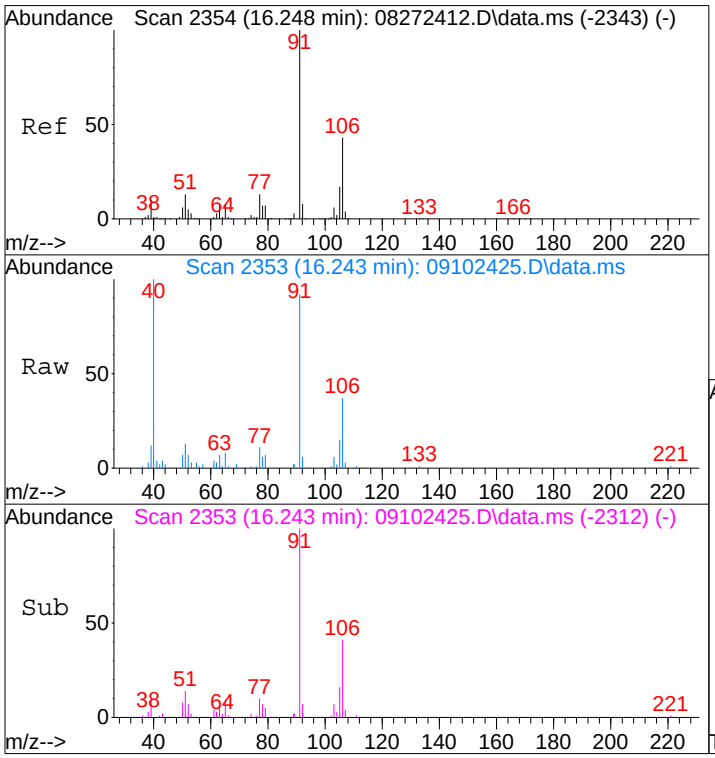


#69
Styrene
Concen: 0.27 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:104 Resp: 11611

Ion	Ratio	Lower	Upper
104	100		
78	50.4	32.2	72.2
103	47.2	28.3	68.3

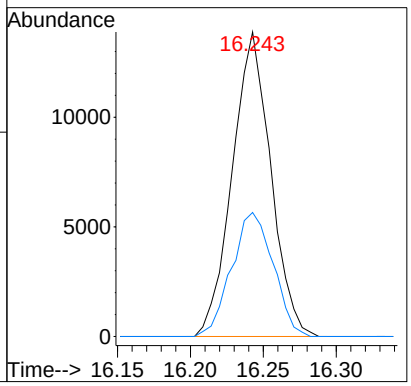


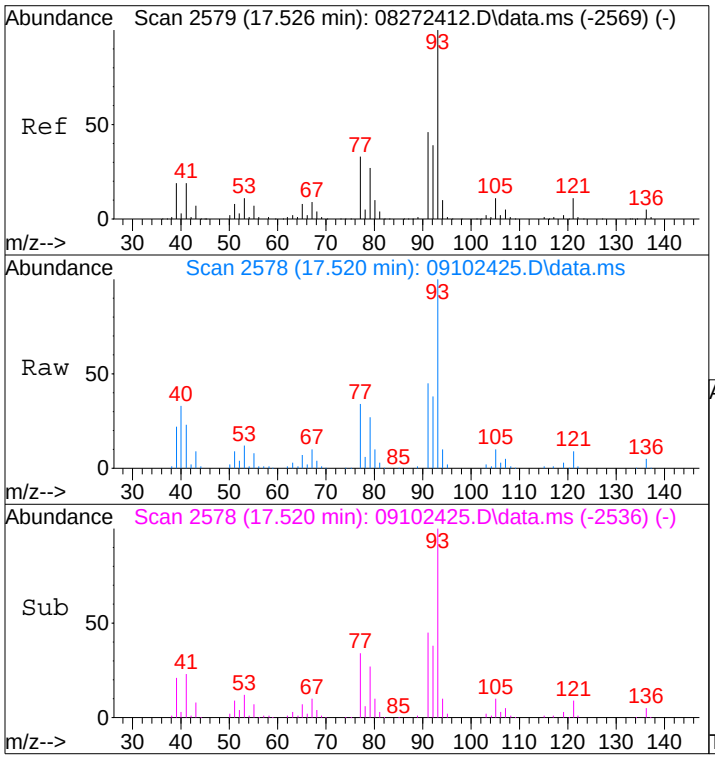


#70
o-Xylene
Concen: 0.39 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 91 Resp: 25473

Ion	Ratio	Lower	Upper
91	100		
106	44.0	22.5	62.5

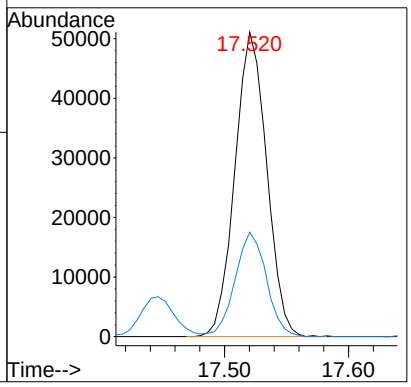


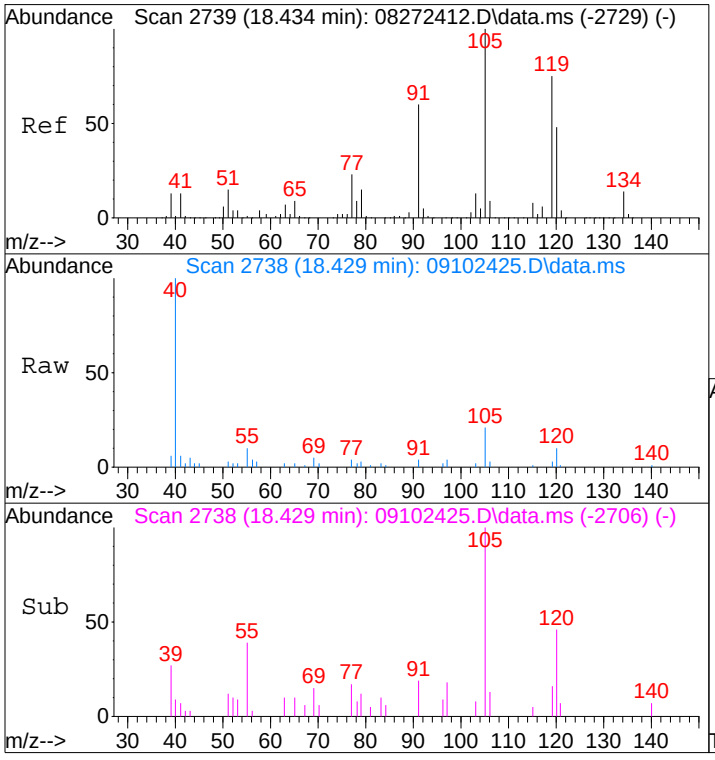


#75
alpha-Pinene
Concen: 2.29 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 93 Resp: 91181

Ion	Ratio	Lower	Upper
93	100		
77	33.9	13.1	53.1

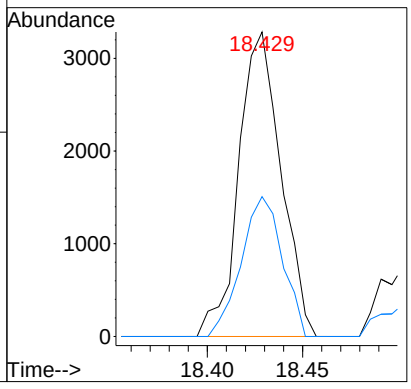


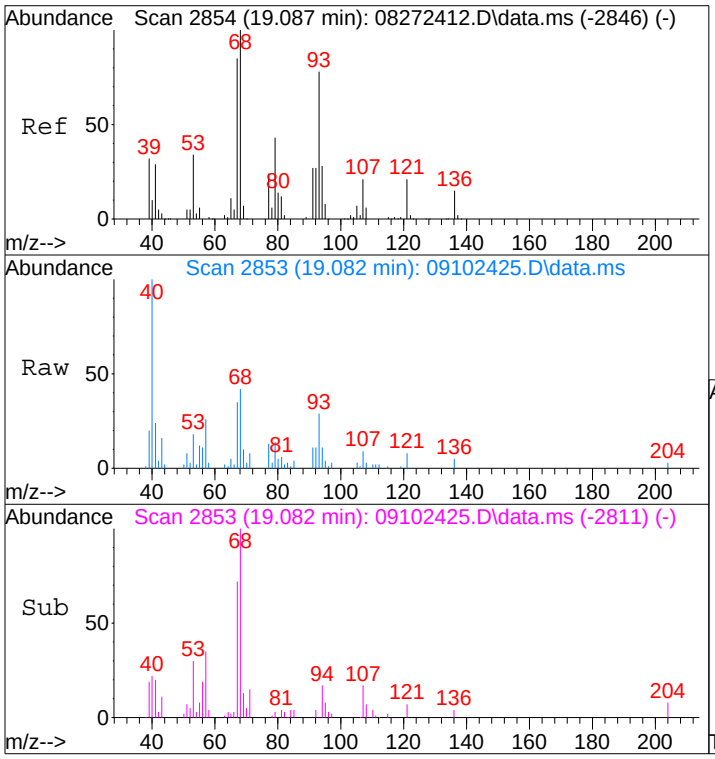


#82
1,2,4-Trimethylbenzene
Concen: 0.07 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion:105 Resp: 5060

Ion	Ratio	Lower	Upper
105	100		
120	44.6	28.8	68.8

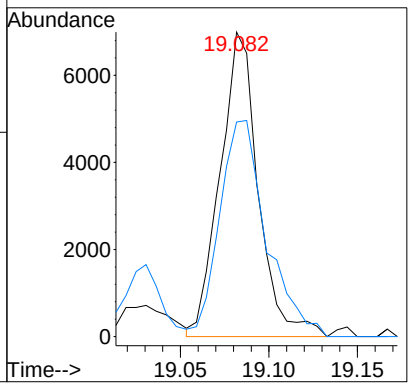




#91
d-Limonene
Concen: 0.46 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09102425.D
Acq: 10 Sep 2024 22:39

Tgt Ion: 68 Resp: 10460

Ion	Ratio	Lower	Upper
68	100		
93	86.9	56.2	96.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 12:00:51 2024 9/11/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

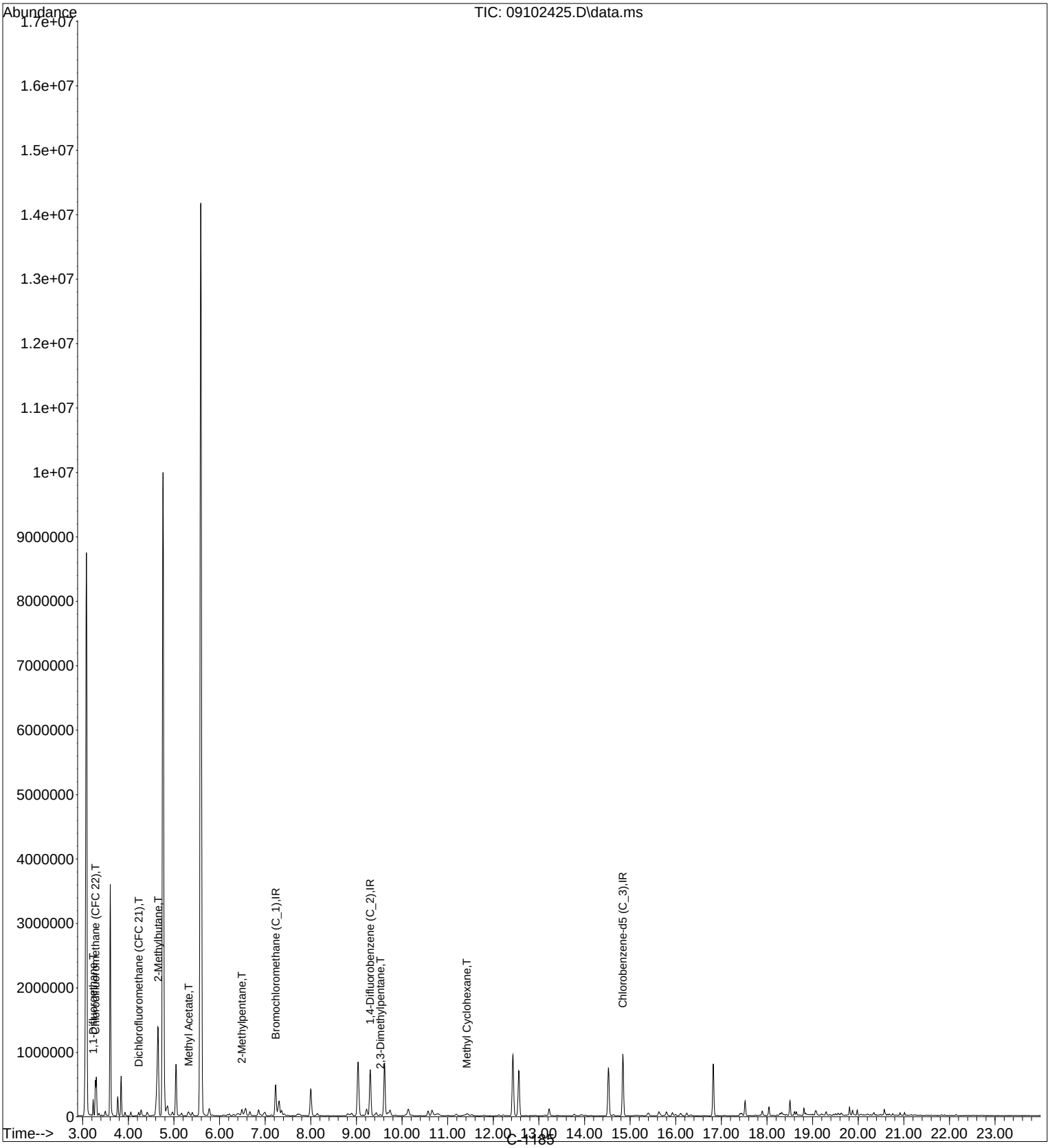
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145455	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	634064	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	190797	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	221	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	54170	4.265 ng		91
5) Chlorodifluoromethane ...	3.28	67	3382	0.682 ng		91
6) 1-Chloro-1,1-Difluoroe...	3.49	65	566	N.D.		
7) Dichlorofluoromethane ...	4.23	67	38551	1.156 ng		100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1725	N.D.		
10) 2-Methylbutane	4.65	57	331653	19.117 ng		92
11) Methyl Acetate	5.32	43	34810	0.710 ng	#	35
12) 2-Methylpentane	6.49	71	15982	1.269 ng		83
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.53	56	11078	0.361 ng	#	78
18) Dibromomethane	9.80	174	113	N.D.		
20) Methyl Cyclohexane	11.42	55	11945	0.365 ng	#	79
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	456	N.D.		
25) Bromobenzene	17.09	77	106	N.D.		
26) 2-Chlorotoluene	17.59	91	375	N.D.		
27) 4-Chlorotoluene	17.67	91	2324	N.D.		
28) Indane	19.12	117	546	N.D.		
29) Indene	19.21	115	129	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	459	N.D.		
31) 1,2,3,4-Tetramethylben...	20.18	119	459	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	1091	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 12:00:51 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

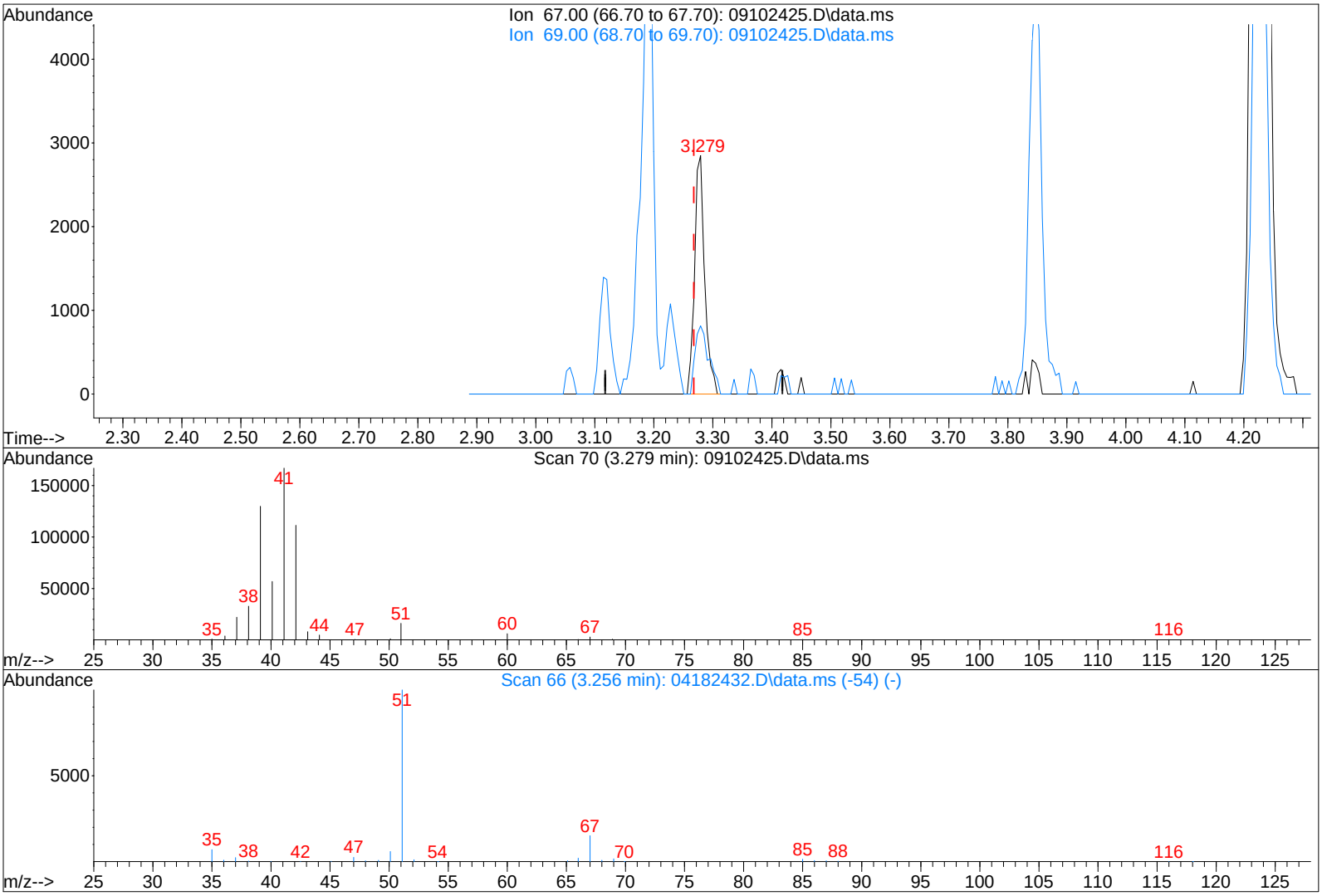


C-1185

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:59:57 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102425.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 0.68ng

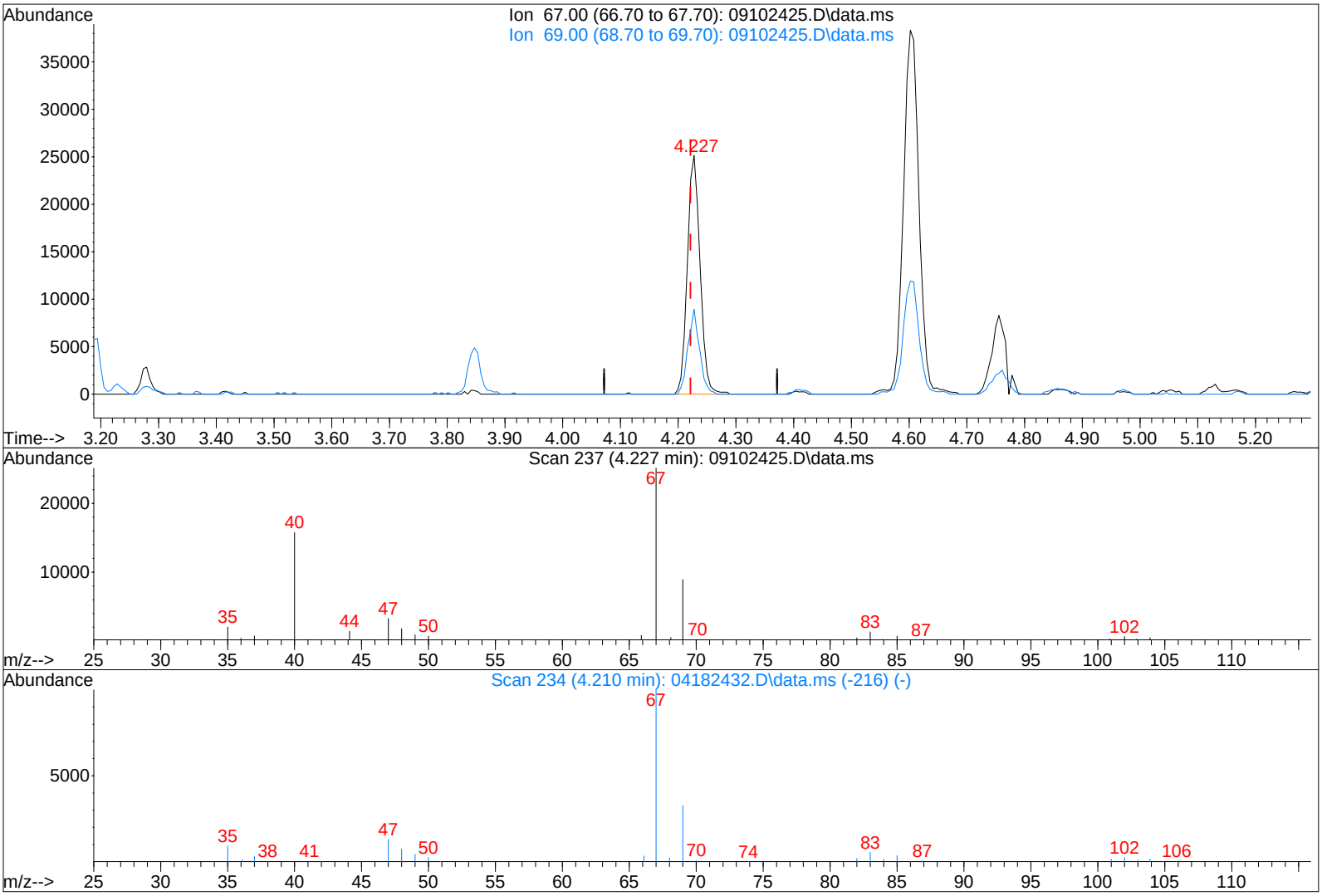
response 3382

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	39.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102425.D Vial: 4
Acq On : 10 Sep 2024 22:39 Operator: SC
Sample : P2403661-031 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:59:57 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102425.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.16ng

response 38551

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	32.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112409.D Vial: 4
Acq On : 11 Sep 2024 14:03 Operator: SC
Sample : P2403661-031Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 14:25:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	138108	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	611263	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	173674	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	342308	13.245	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
57) Toluene-d8 (SS2)	12.43	98	692159	11.361	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
73) Bromofluorobenzene (SS3)	16.82	174	224876	11.036	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
Target Compounds							Qvalue
2) Propene	3.31	42	14333	0.687	ng	#	72
3) Dichlorodifluoromethan...	3.31	85	1183	N.D.			
4) Chloromethane	3.52	50	217	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	343	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.38	45	59	N.D.			
11) Acetonitrile	4.41	41	1549	N.D.			
12) Acrolein	4.56	56	373	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.75	101	816191	25.520	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	11221	0.225	ng		84
16) Acrylonitrile	5.04	53	852	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	659	N.D.			
20) 3-Chloro-1-propene (Al...	5.39	41	1158	N.D.			
21) Trichlorotrifluoroethane	5.58	151	462672	36.516	ng		96
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.67	72	1004	0.112	ng	#	54
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.34	87	213	N.D.			
30) Ethyl Acetate	7.30	61	845	0.141	ng		83
31) n-Hexane	7.30	57	7443	0.272	ng	#	93
32) Chloroform	7.36	83	5387	0.196	ng		99
34) Tetrahydrofuran (THF)	7.79	72	120	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	106	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	2357	No Calib			
41) Benzene	8.89	78	2792	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	2593	0.134	ng	#	73
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.15	130	664	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	129	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112409.D Vial: 4
Acq On : 11 Sep 2024 14:03 Operator: SC
Sample : P2403661-031Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 14:25:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

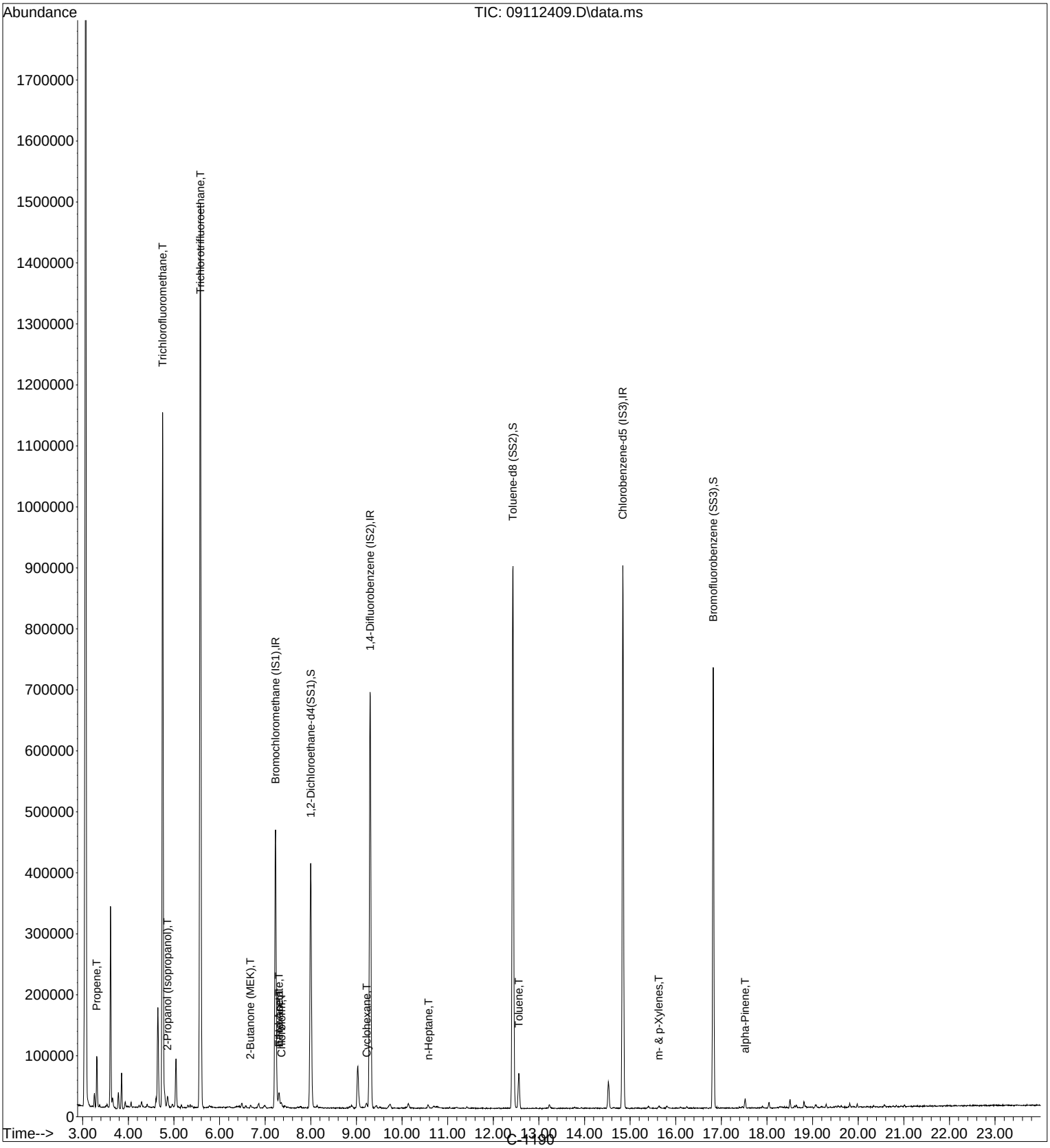
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	973	0.076 ng	#	80
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	47708	0.724 ng		99
59) 2-Hexanone	12.93	43	845	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.79	43	1586	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.03	166	119	N.D.		
65) Chlorobenzene	14.90	112	163	N.D.		
66) Ethylbenzene	15.41	91	1995	N.D.		
67) m- & p-Xylenes	15.63	91	4118	0.067 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	742	N.D.		
70) o-Xylene	16.24	91	2015	N.D.		
71) n-Nonane	16.61	43	284	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	150	N.D.		
75) alpha-Pinene	17.52	93	6280	0.173 ng		93
76) n-Propylbenzene	17.67	91	412	N.D.		
77) 3-Ethyltoluene	17.04	105	150	No Calib	#	
78) 4-Ethyltoluene	17.86	105	382	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	160	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	150	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	526	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	296	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	237	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	335	N.D.		
87) sec-Butylbenzene	18.75	105	150	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	463	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	150	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	251	N.D.		
91) d-Limonene	19.09	68	728	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	703	N.D.		
95) Naphthalene	20.94	128	1156	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	201	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	215	N.D.		
100) n-Butylbenzene	19.39	91	384	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112409.D Vial: 4
Acq On : 11 Sep 2024 14:03 Operator: SC
Sample : P2403661-031Dil (40mL) Inst : MS09
Misc : S37-06062402

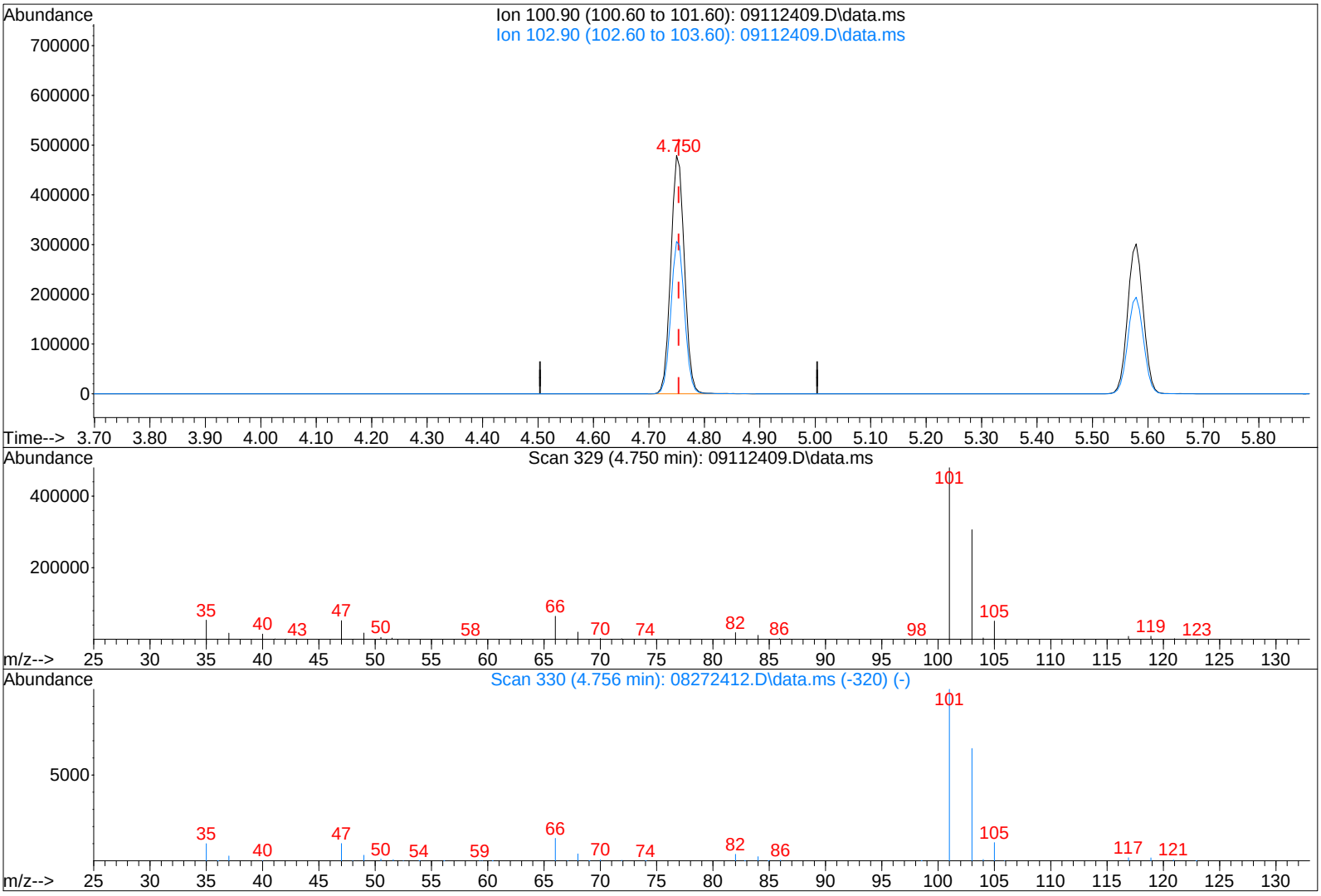
Quant Time: Sep 11 14:25:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112409.D Vial: 4
Acq On : 11 Sep 2024 14:03 Operator: SC
Sample : P2403661-031Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 14:24:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112409.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 25.52ng

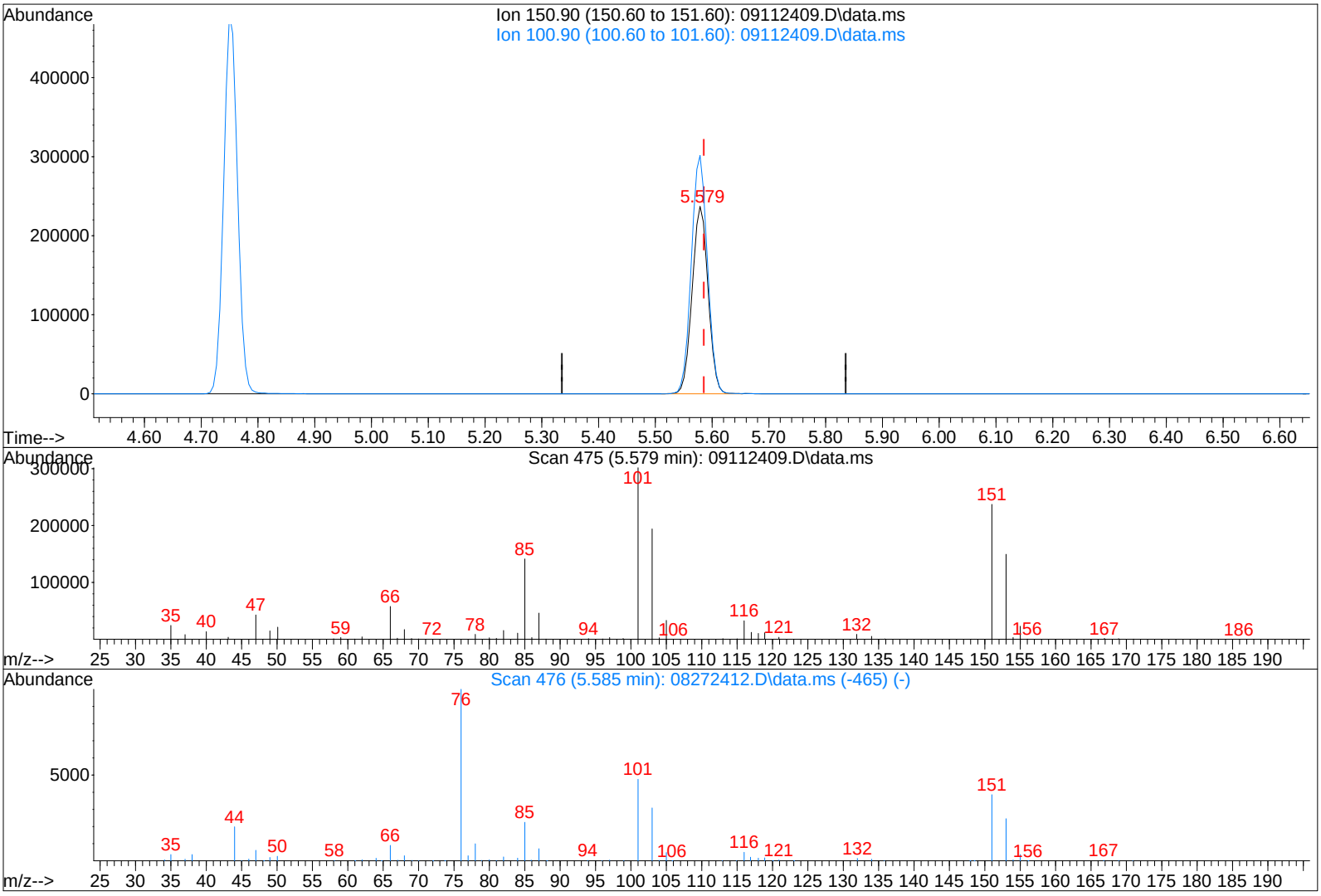
response 816191

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.44
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112409.D Vial: 4
Acq On : 11 Sep 2024 14:03 Operator: SC
Sample : P2403661-031Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 14:24:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112409.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.007) 36.52ng

response 462672

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	128.03
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102425.D
Acq On : 10 Sep 2024 22:39
Operator : SC
Sample : P2403661-031 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102425.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	65	rVB	242655	238385	0.75%	0.341%
2	3.279	65	70	71	rVV	541986	616189	1.95%	0.880%
3	3.296	71	73	79	rVB2	595729	700998	2.21%	1.002%
4	3.359	79	84	89	rVB2	36316	50013	0.16%	0.071%
5	3.410	89	93	98	rVB2	10241	13875	0.04%	0.020%
6	3.495	102	108	113	rBV2	65637	105120	0.33%	0.150%
7	3.603	121	127	144	rVB	3591986	4801283	15.17%	6.860%
8	3.768	150	156	163	rBV	299763	430579	1.36%	0.615%
9	3.841	163	169	177	rVB	614852	820312	2.59%	1.172%
10	3.926	179	184	189	rBV	53986	72314	0.23%	0.103%
11	4.057	202	207	217	rVB	60794	91766	0.29%	0.131%
12	4.227	232	237	241	rBV	49708	73738	0.23%	0.105%
13	4.279	241	246	255	rVB2	88208	162197	0.51%	0.232%
14	4.415	262	270	281	rVB2	51469	106202	0.34%	0.152%
15	4.528	285	290	295	rBV3	7548	16975	0.05%	0.024%
16	4.648	296	311	321	rVV3	1375199	3472584	10.97%	4.962%
17	4.761	321	331	341	rVV	9980272	20629802	65.18%	29.477%
18	4.858	341	348	360	rVV2	147372	422054	1.33%	0.603%
19	4.966	360	367	373	rVV2	51617	106802	0.34%	0.153%
20	5.045	373	381	391	rVB	794581	1414663	4.47%	2.021%
21	5.170	397	403	410	rVB	40299	73503	0.23%	0.105%
22	5.318	421	429	438	rBV4	58180	161615	0.51%	0.231%
23	5.403	438	444	456	rVB	48751	95530	0.30%	0.136%
24	5.590	462	477	493	rBV	14163359	31649910	100.00%	45.223%
25	5.772	500	509	517	rBV	105302	236716	0.75%	0.338%
26	5.840	517	521	533	rVB3	9525	19997	0.06%	0.029%
27	6.079	554	563	566	rBV2	11416	23579	0.07%	0.034%
28	6.113	567	569	574	rVV4	9905	13461	0.04%	0.019%
29	6.175	574	580	583	rVV3	16305	32798	0.10%	0.047%
30	6.215	583	587	595	rVB	27527	53750	0.17%	0.077%
31	6.306	595	603	609	rBV2	21536	48623	0.15%	0.069%
32	6.402	609	620	629	rVV7	31768	138493	0.44%	0.198%
33	6.487	629	635	641	rVV	94997	216268	0.68%	0.309%
34	6.573	641	650	660	rVV4	112055	321191	1.01%	0.459%
35	6.663	660	666	677	rVB	62908	131434	0.42%	0.188%
36	6.856	689	700	714	rBV2	90199	231440	0.73%	0.331%
37	6.993	714	724	733	rVB3	52081	154339	0.49%	0.221%
38	7.140	743	750	757	rVB5	12582	26080	0.08%	0.037%
39	7.226	757	765	772	rVV	479091	1072418	3.39%	1.532%
40	7.305	772	779	784	rVV3	227013	588962	1.86%	0.842%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102425.D
Acq On : 10 Sep 2024 22:39
Operator : SC
Sample : P2403661-031 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	7.356	784	788	794	rVV	82727	181750	0.57%	0.260%
42	7.419	795	799	806	rVV5	27484	65510	0.21%	0.094%
43	7.487	806	811	820	rVB4	9006	20430	0.06%	0.029%
44	7.600	827	831	839	rVB3	6567	12529	0.04%	0.018%
45	7.708	841	850	853	rBV3	25946	57489	0.18%	0.082%
46	7.884	877	881	887	rVB4	5919	12615	0.04%	0.018%

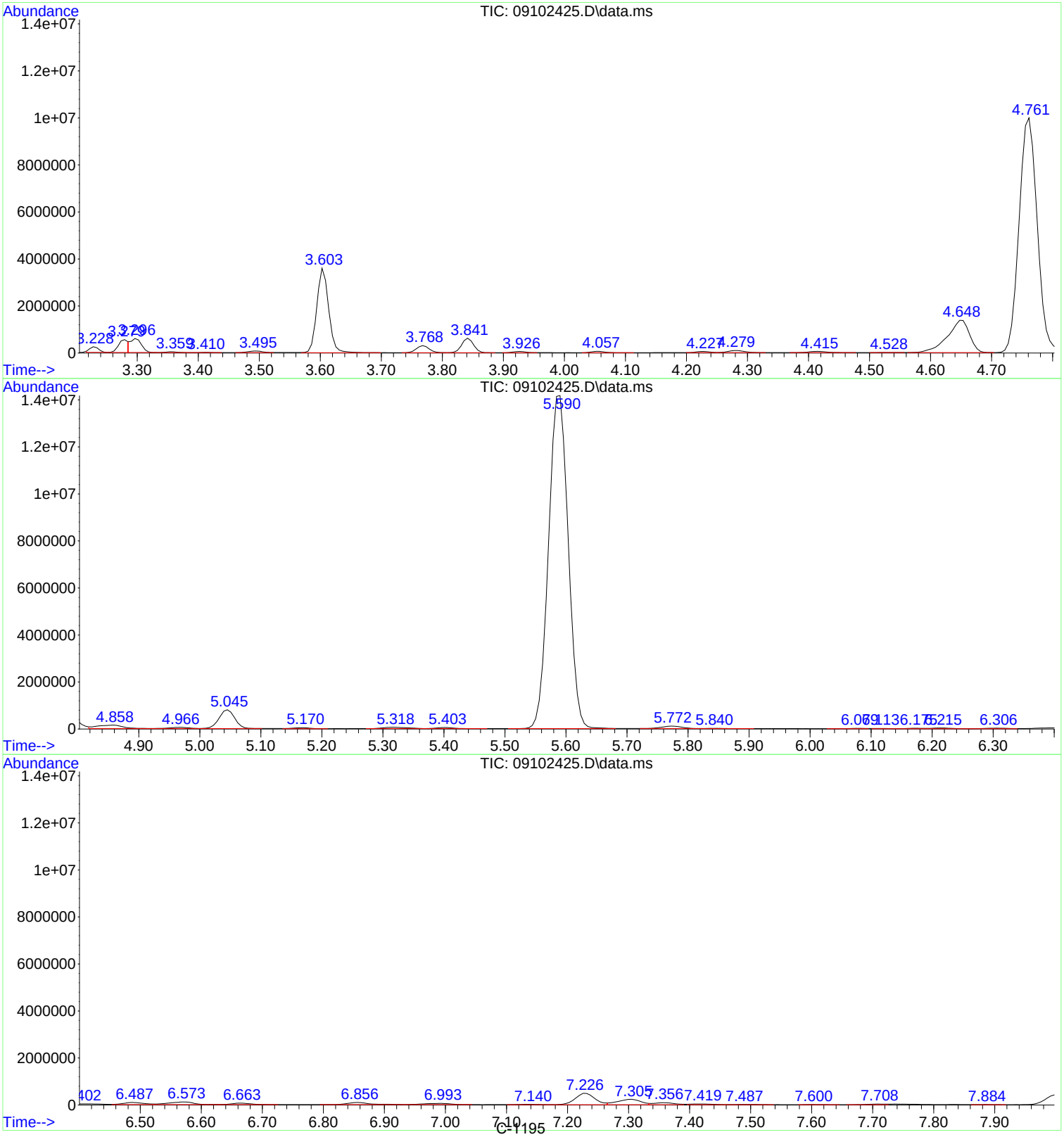
Sum of corrected areas: 69986281

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102425.D
Acq On : 10 Sep 2024 22:39
Operator : SC
Sample : P2403661-031 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102425.D
Acq On : 10 Sep 2024 22:399
Operator : SCC
Sample : P2403661-031 (400mL))
Misc : S37-060624022
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

NOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 19 14:53:27 2024 9/19/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140725	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	616044	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	183132	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	344628	13.087	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
57) Toluene-d8 (SS2)	12.43	98	708985	11.036	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.82	174	242286	11.276	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.38	85	20243m	0.593	ng		
4) Chloromethane	3.51	50	6746m	0.252	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	488	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	258	N.D.			
8) Bromomethane	4.02	94	111	N.D.			
9) Chloroethane	4.15	64	193	N.D.			
10) Ethanol	4.28	45	17171	1.124	ng		71
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	4362	0.374	ng		96
13) Acetone	4.63	58	46601	3.616	ng		94
14) Trichlorofluoromethane	4.75	101	547409	16.798	ng		98
15) 2-Propanol (Isopropanol)	4.90	45	57	N.D.			
16) Acrylonitrile	5.00	53	412	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1417	N.D.			
19) Methylene Chloride	5.35	84	622	N.D.			
20) 3-Chloro-1-propene (Al...	5.45	41	115	N.D.			
21) Trichlorotrifluoroethane	5.58	151	209969	16.263	ng		94
22) Carbon Disulfide	5.60	76	523094	10.398	ng		97
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	110	N.D.			
26) Vinyl Acetate	6.43	86	2482	0.948	ng	#	52
27) 2-Butanone (MEK)	6.67	72	5867	0.642	ng	#	61
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	3040	0.496	ng		88
31) n-Hexane	7.30	57	935	N.D.			
32) Chloroform	7.35	83	3941	0.141	ng		98
34) Tetrahydrofuran (THF)	7.78	72	285	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	14706	No Calib		#	
40) 1-Butanol	8.81	56	6443	No Calib		#	
41) Benzene	8.89	78	3867	0.067	ng		96
42) Carbon Tetrachloride	9.06	117	950	N.D.			
43) Cyclohexane	9.17	84	256	N.D.			
44) tert-Amyl Methyl Ether	9.61	73	128	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	385	N.D.			
48) 1,4-Dioxane	10.13	88	1575	0.158	ng		79
49) 2,2,4-Trimethylpentane...	10.22	57	175	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 19 14:53:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

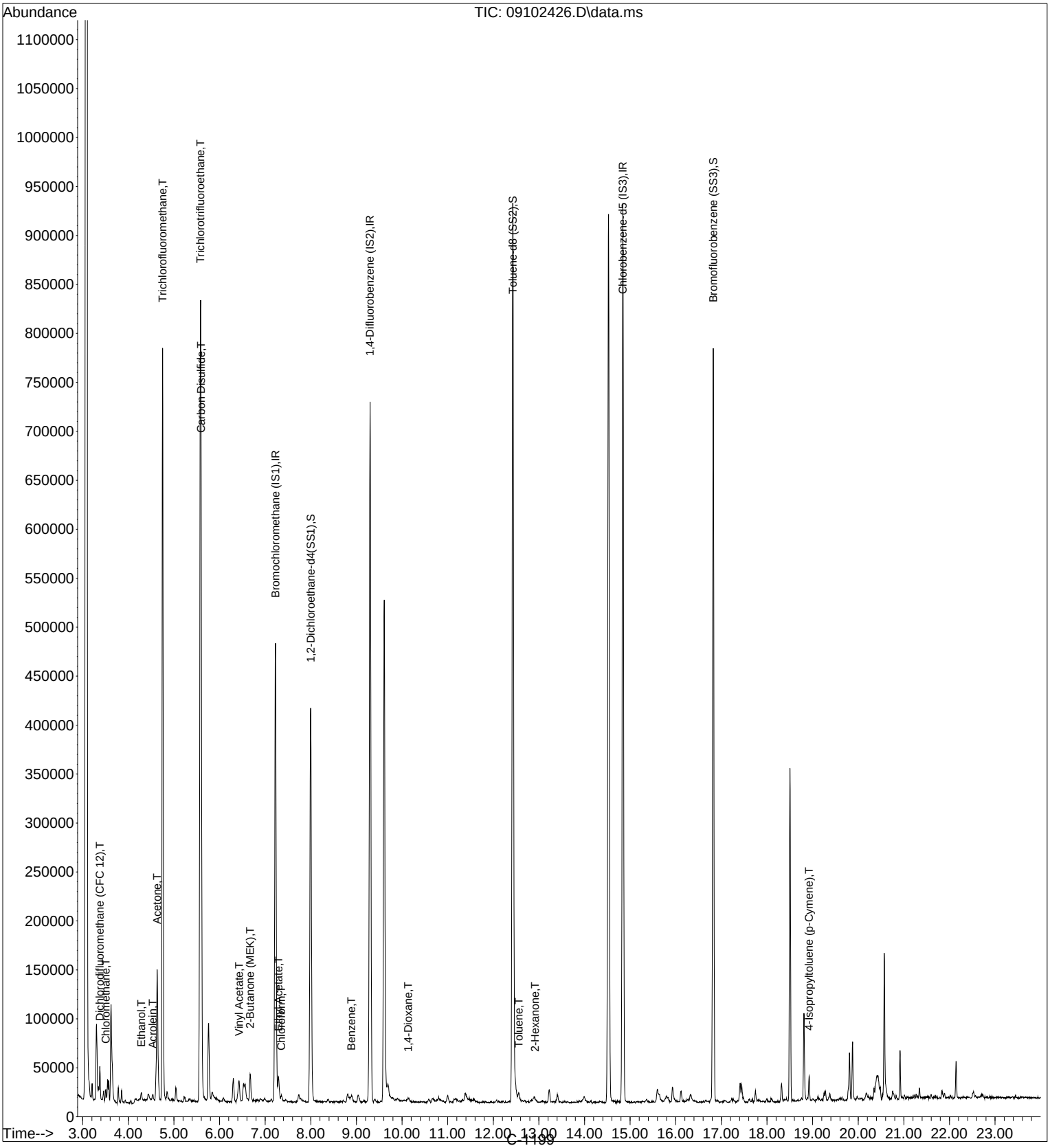
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	293	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	4929	0.071 ng		95
59) 2-Hexanone	12.92	43	4330	0.101 ng	#	60
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.82	43	372	N.D.		
63) n-Octane	13.92	57	129	N.D.		
64) Tetrachloroethene	14.03	166	236	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.40	91	863	N.D.		
67) m- & p-Xylenes	15.63	91	2748	N.D.		
68) Bromoform	15.67	173	283	N.D.		
69) Styrene	16.10	104	185	N.D.		
70) o-Xylene	16.24	91	875	N.D.		
71) n-Nonane	16.61	43	784	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	257	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	502	N.D.		
77) 3-Ethyltoluene	17.03	105	257	No Calib	#	
78) 4-Ethyltoluene	17.85	105	298	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	126	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	257	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	588	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	638	N.D.		
85) 1,3-Dichlorobenzene	18.65	146	303	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	303	N.D.		
87) sec-Butylbenzene	18.74	105	370	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	12532	0.175 ng		93
89) 1,2,3-Trimethylbenzene	17.03	105	257	No Calib	#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	665	N.D.		
95) Naphthalene	20.94	128	972	N.D.		
96) n-Dodecane	18.92	58	528	No Calib	#	
97) Hexachlorobutadiene	21.30	225	263	N.D.		
98) Cyclohexanone	15.24	55	112	No Calib	#	
99) tert-Butylbenzene	18.42	119	230	N.D.		
100) n-Butylbenzene	19.38	91	542	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 19 14:53:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

9/19/24

Quant Time: Sep 19 14:53:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

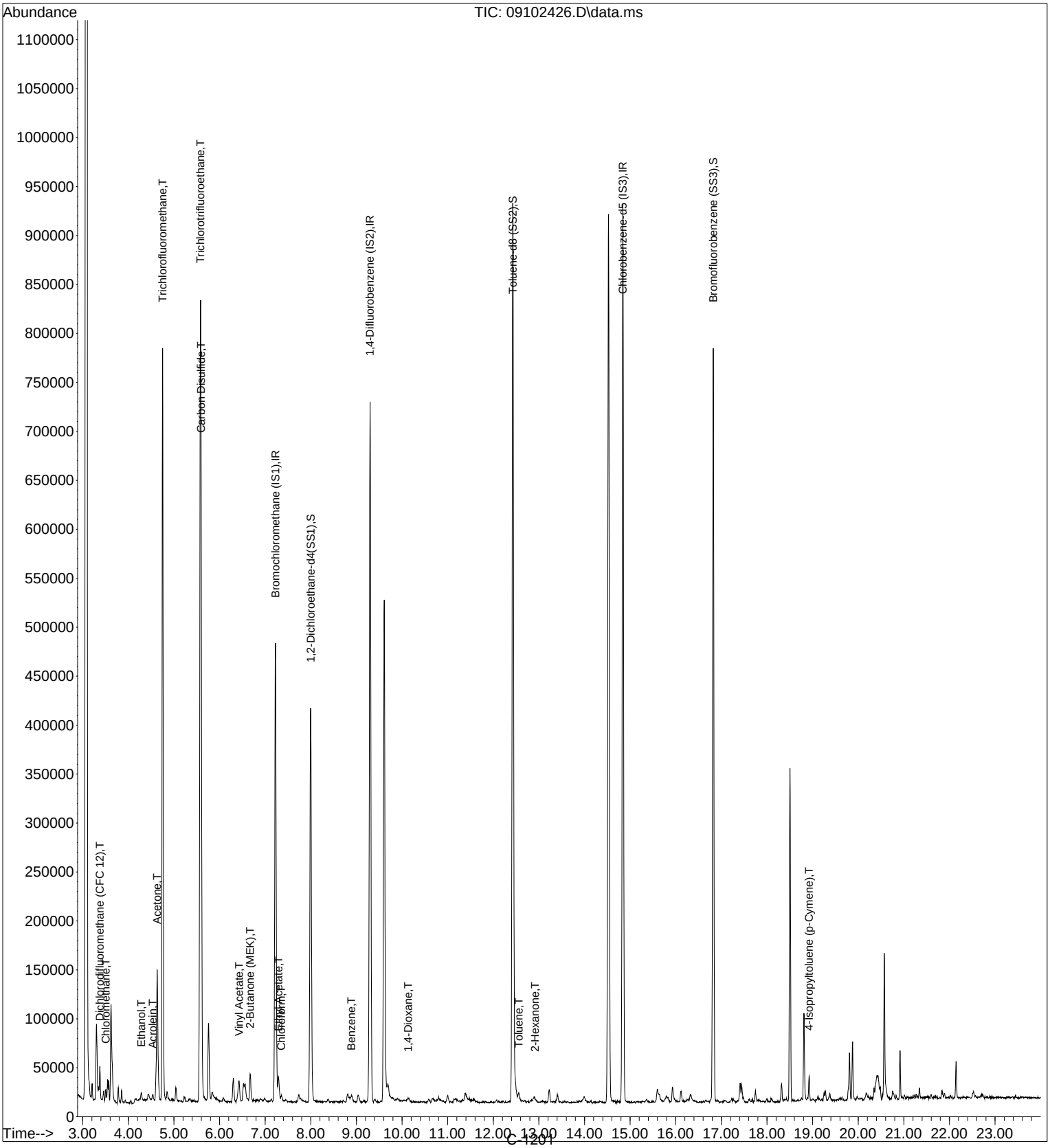
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140725	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	616044	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	183132	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	344628	13.087	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.72%				
57) Toluene-d8 (SS2)	12.43	98	708985	11.036	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.82	174	242286	11.276	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	20243m	0.593	ng		
4) Chloromethane	3.51	50	6746m	0.252	ng		
10) Ethanol	4.28	45	17171	1.124	ng		71
12) Acrolein	4.53	56	4362	0.374	ng		96
13) Acetone	4.63	58	46601	3.616	ng		94
14) Trichlorofluoromethane	4.75	101	547409	16.798	ng		98
21) Trichlorotrifluoroethane	5.58	151	209969	16.263	ng		94
22) Carbon Disulfide	5.60	76	523094	10.398	ng		97
26) Vinyl Acetate	6.43	86	2482	0.948	ng	#	52
27) 2-Butanone (MEK)	6.67	72	5867	0.642	ng	#	61
30) Ethyl Acetate	7.29	61	3040	0.496	ng		88
32) Chloroform	7.35	83	3941	0.141	ng		98
41) Benzene	8.89	78	3867	0.067	ng		96
48) 1,4-Dioxane	10.13	88	1575	0.158	ng		79
58) Toluene	12.56	91	4929	0.071	ng		95
59) 2-Hexanone	12.92	43	4330	0.101	ng	#	60
88) 4-Isopropyltoluene (p-...	18.92	119	12532	0.175	ng		93

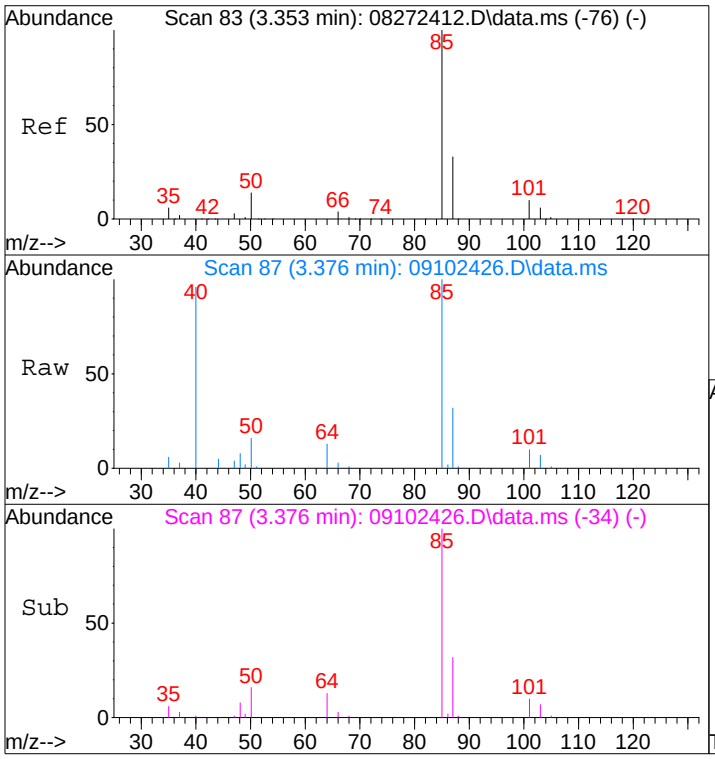
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 19 14:53:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

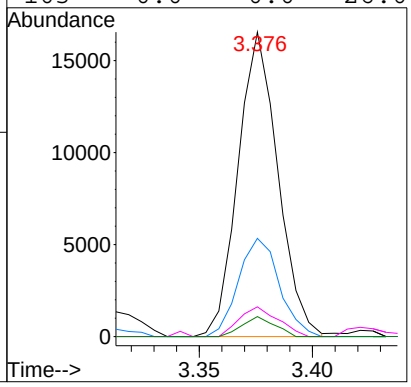


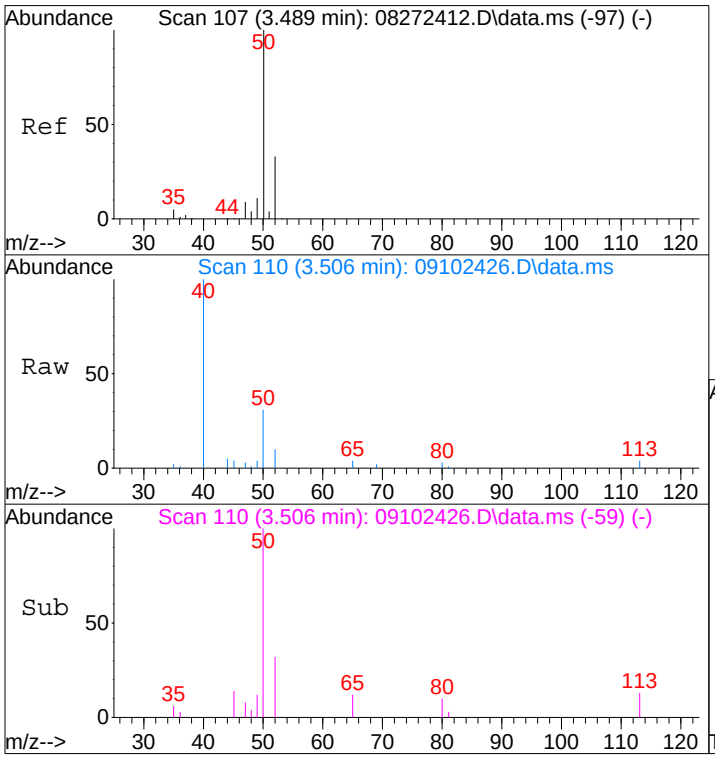


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.051 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 85 Resp: 20243

Ion	Ratio	Lower	Upper
85	100		
87	1.9	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

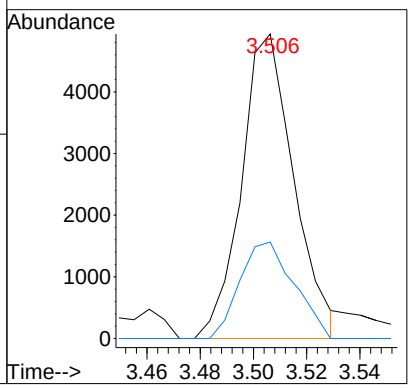


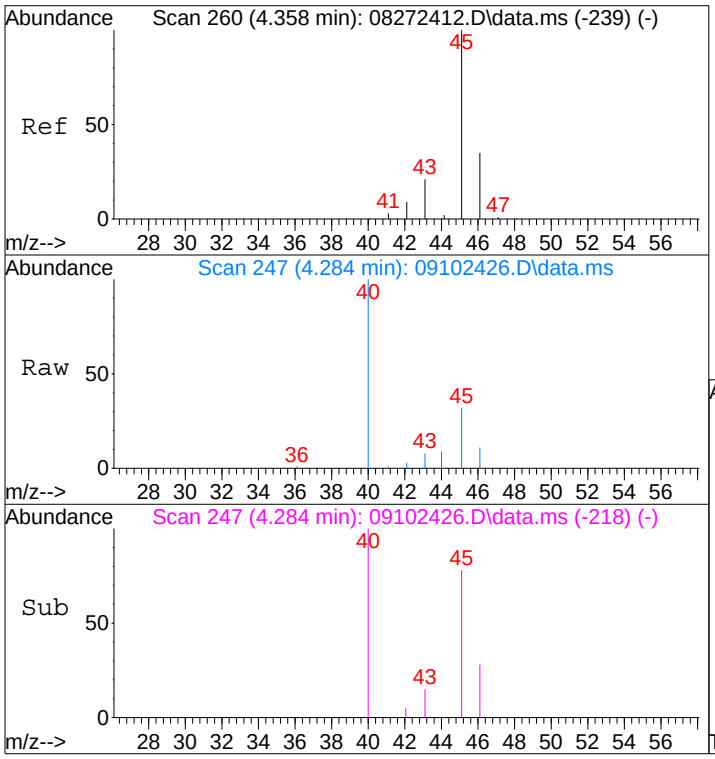


#4
Chloromethane
Concen: 0.25 ng m
RT: 3.51 min Scan# 110
Delta R.T. 0.041 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 50 Resp: 6746

Ion	Ratio	Lower	Upper
50	100		
52	0.0	12.4	52.4#

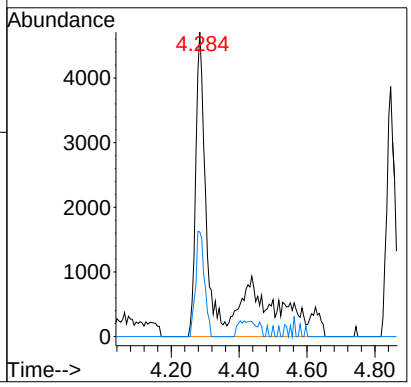


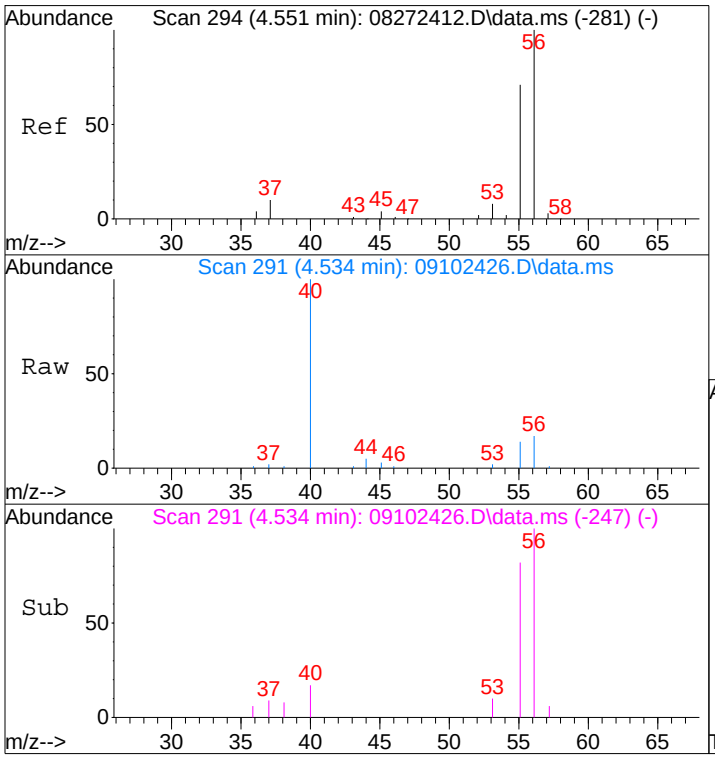


#10
Ethanol
Concen: 1.12 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.085 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 45 Resp: 17171

Ion	Ratio	Lower	Upper
45	100		
46	17.4	14.2	54.2

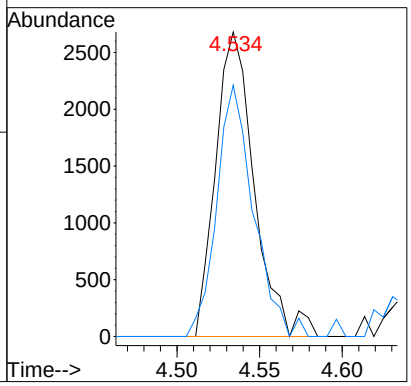


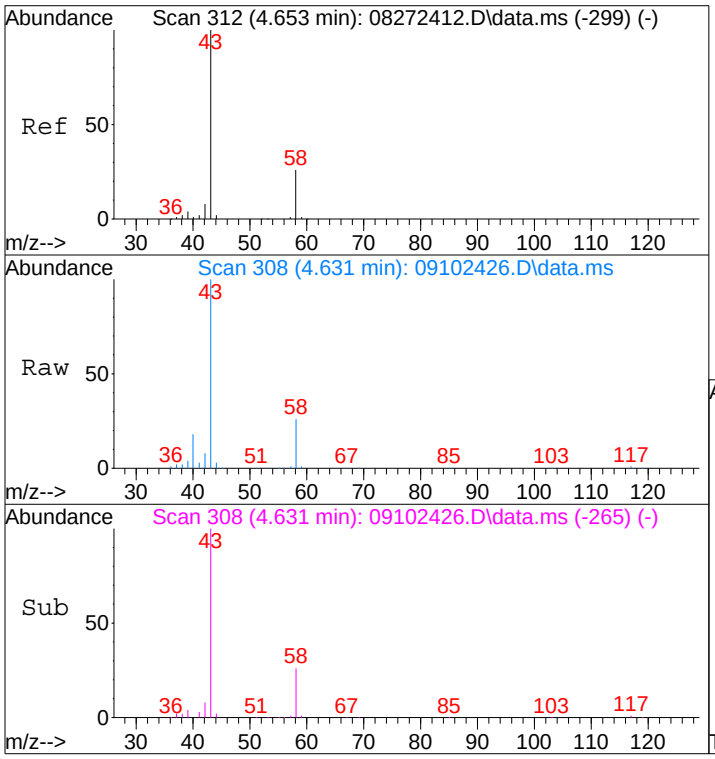


#12
Acrolein
Concen: 0.37 ng
RT: 4.53 min Scan# 291
Delta R.T. 0.002 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 56 Resp: 4362

Ion	Ratio	Lower	Upper
56	100		
55	78.5	54.7	94.7

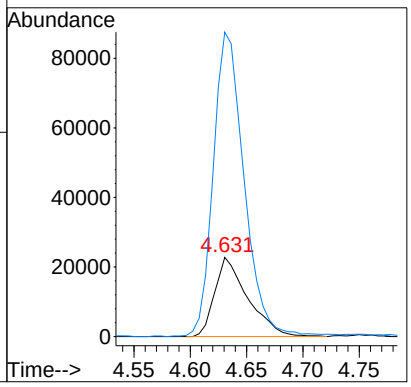


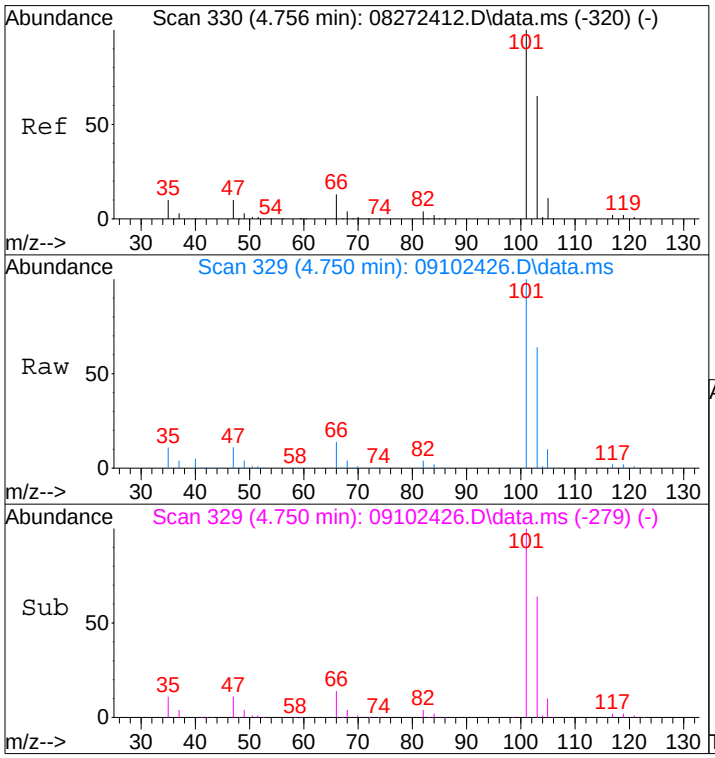


#13
Acetone
Concen: 3.62 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.008 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 58 Resp: 46601

Ion	Ratio	Lower	Upper
58	100		
43	364.2	347.3	407.3

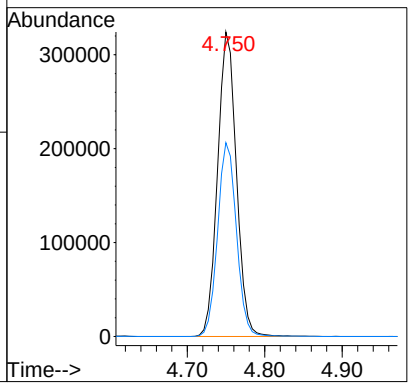


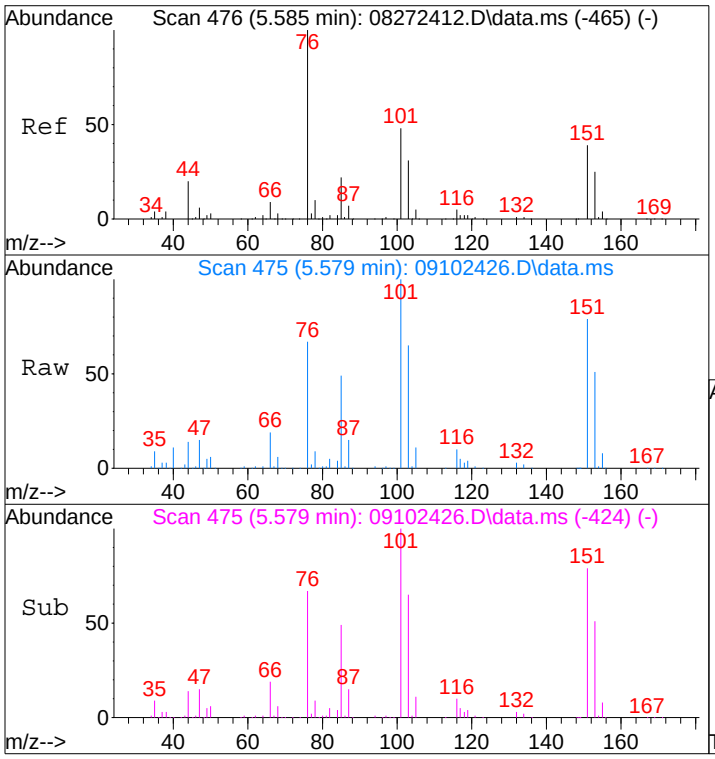


#14
Trichlorofluoromethane
Concen: 16.80 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.033 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion:101 Resp: 547409

Ion	Ratio	Lower	Upper
101	100		
103	63.6	44.9	84.9

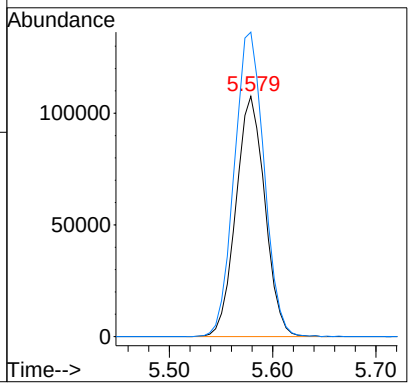


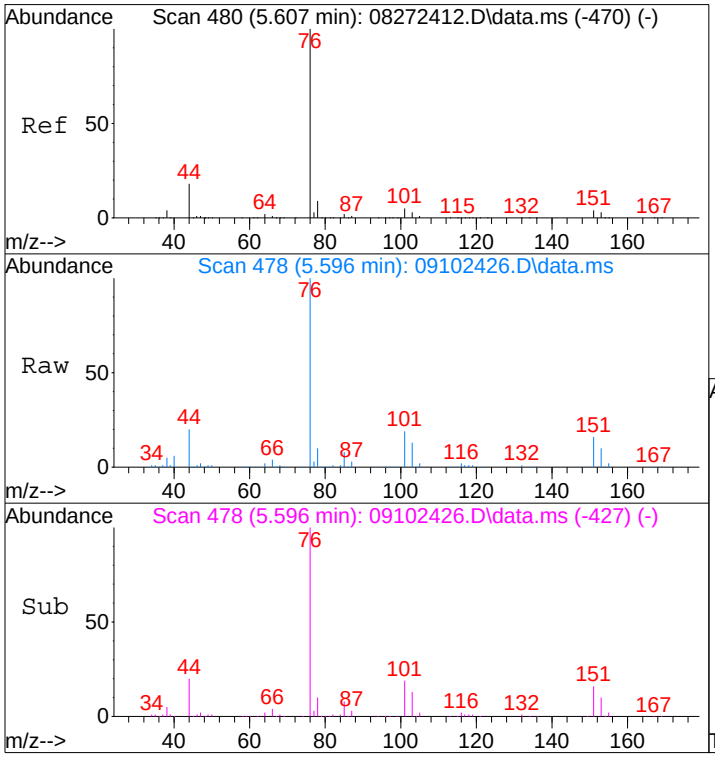


#21
Trichlorotrifluoroethane
Concen: 16.26 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.037 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion:151 Resp: 209969

Ion	Ratio	Lower	Upper
151	100		
101	130.4	103.4	143.4

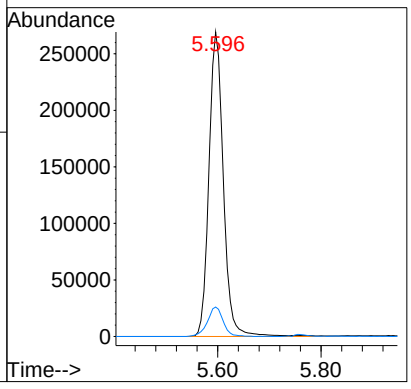


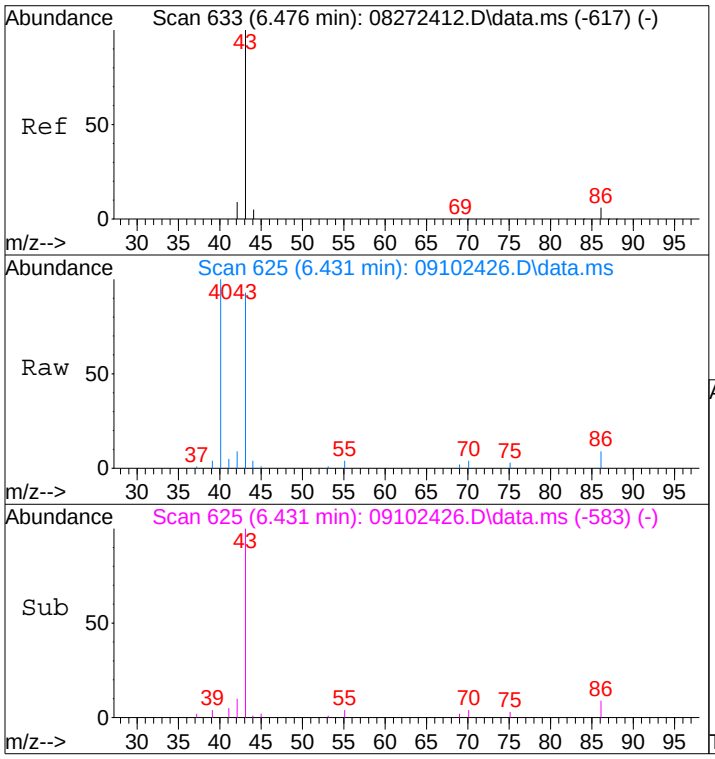


#22
Carbon Disulfide
Concen: 10.40 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.037 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 76 Resp: 523094

Ion	Ratio	Lower	Upper
76	100		
78	10.5	0.0	29.6

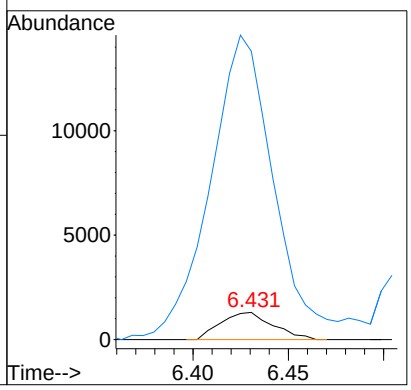


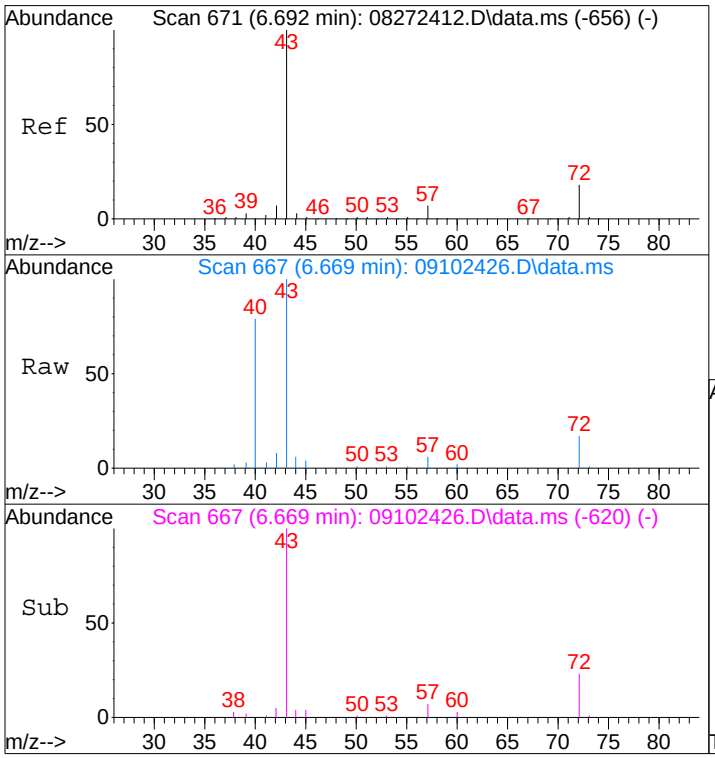


#26
Vinyl Acetate
Concen: 0.95 ng
RT: 6.43 min Scan# 625
Delta R.T. -0.009 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 86 Resp: 2482

Ion	Ratio	Lower	Upper
86	100		
43	1389.6	1687.9	1727.9#

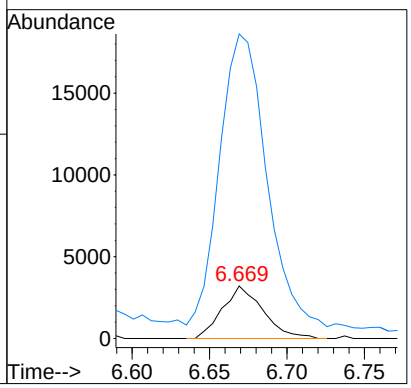


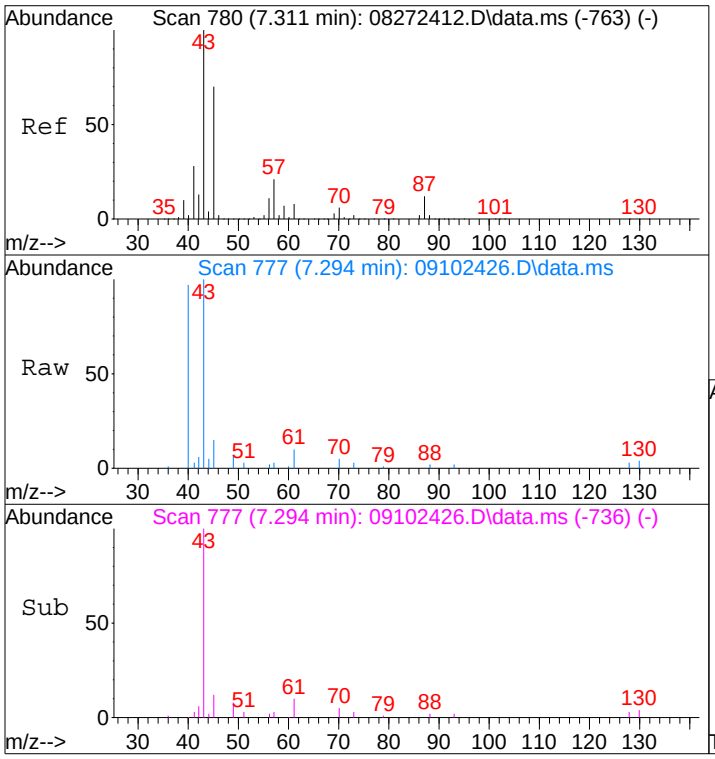


#27
2-Butanone (MEK)
Concen: 0.64 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 72 Resp: 5867

Ion	Ratio	Lower	Upper
72	100		
43	684.2	548.0	588.0#

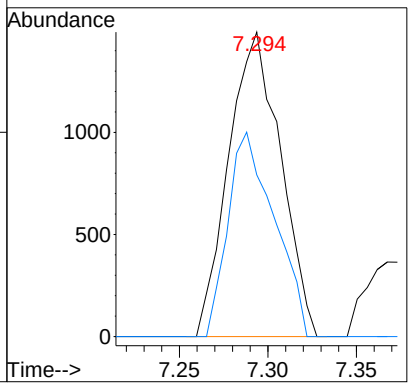


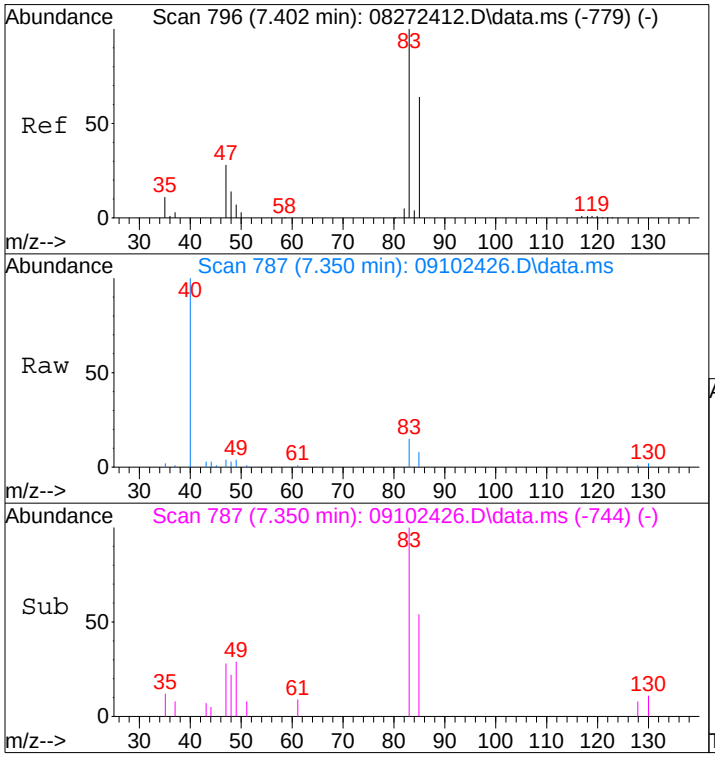


#30
Ethyl Acetate
Concen: 0.50 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.034 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 61 Resp: 3040

Ion	Ratio	Lower	Upper
61	100		
70	59.9	49.9	89.9

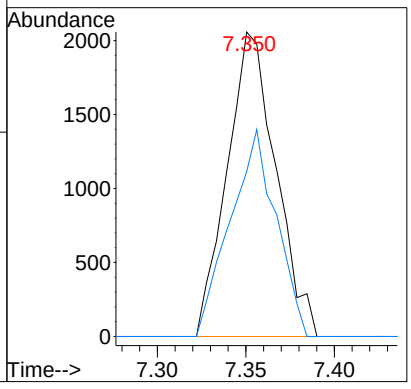


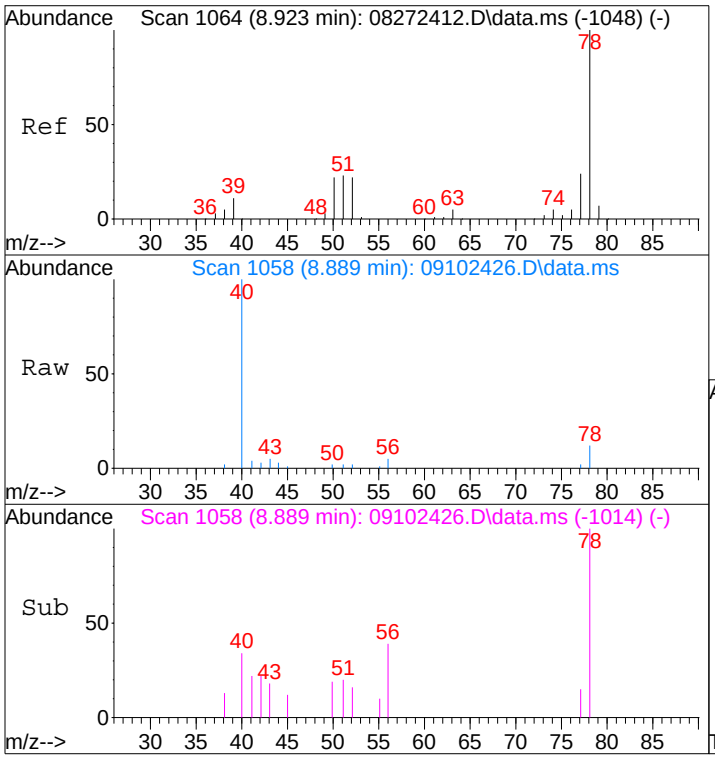


#32
Chloroform
Concen: 0.14 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.004 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 83 Resp: 3941

Ion	Ratio	Lower	Upper
83	100		
85	63.9	45.3	85.3

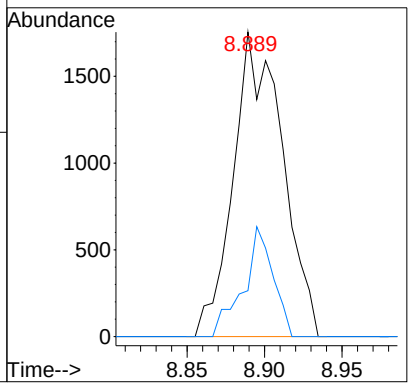


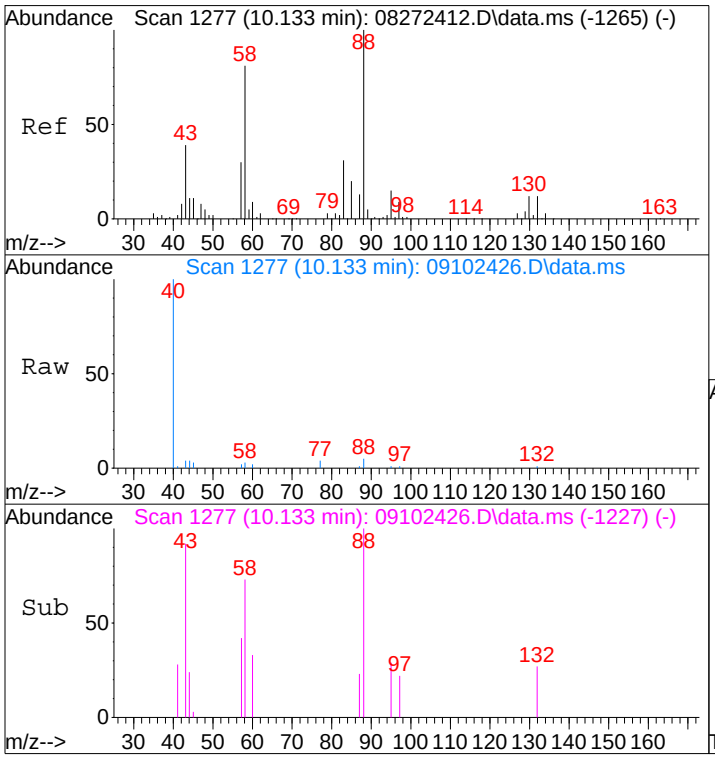


#41
Benzene
Concen: 0.07 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.002 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 78 Resp: 3867

Ion	Ratio	Lower	Upper
78	100		
77	21.7	3.9	43.9

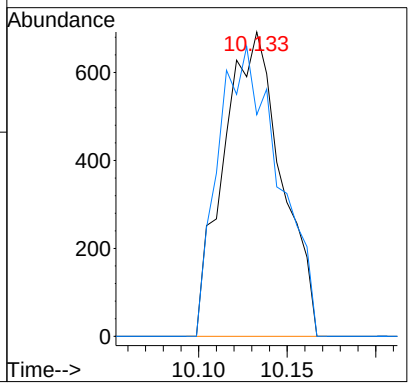


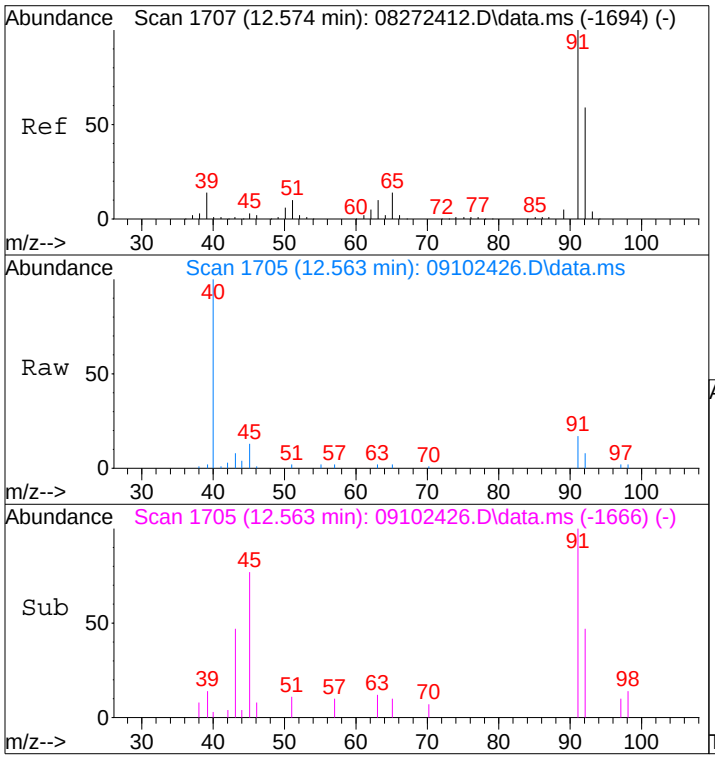


#48
1,4-Dioxane
Concen: 0.16 ng
RT: 10.13 min Scan# 1277
Delta R.T. 0.033 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 88 Resp: 1575

Ion	Ratio	Lower	Upper
88	100		
58	99.9	61.1	101.1

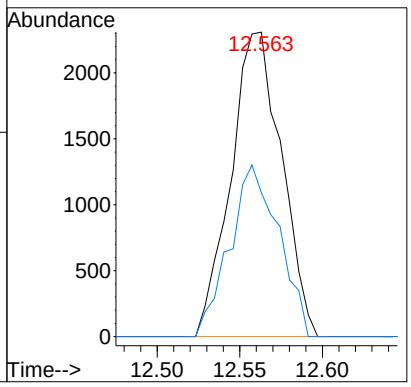


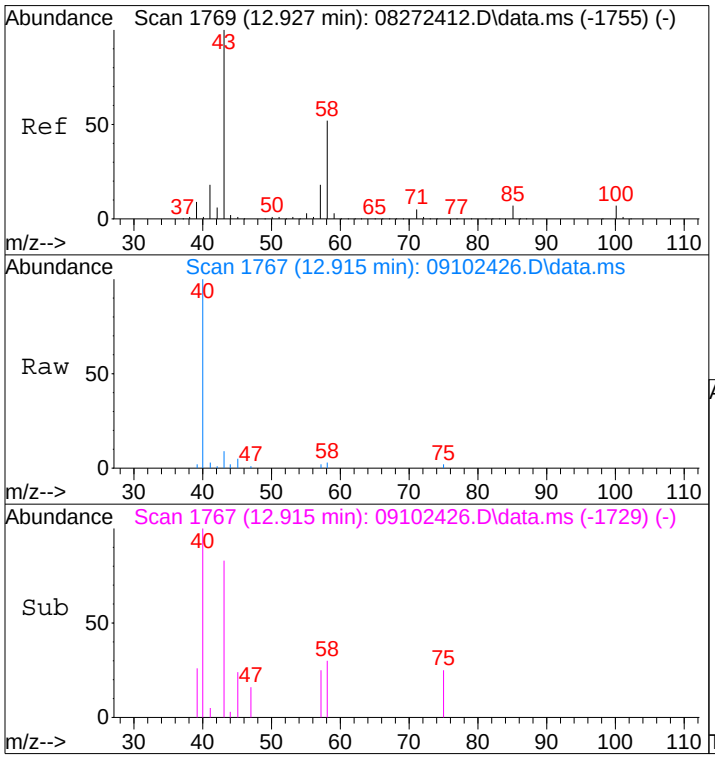


#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 91 Resp: 4929

Ion	Ratio	Lower	Upper
91	100		
92	54.4	38.5	78.5

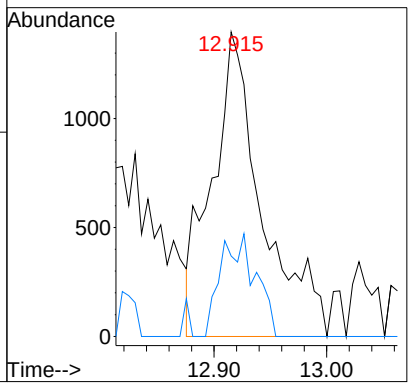


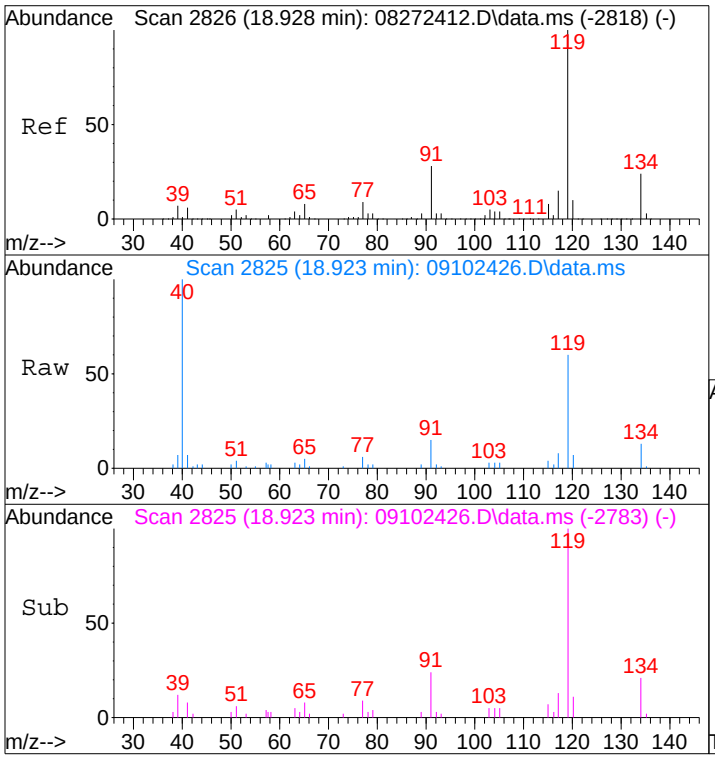


#59
2-Hexanone
Concen: 0.10 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion: 43 Resp: 4330

Ion	Ratio	Lower	Upper
43	100		
58	23.5	31.1	71.1#

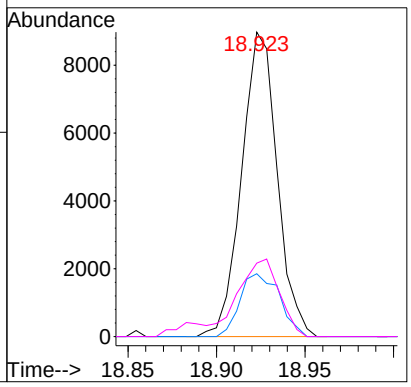




#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.17 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09102426.D
Acq: 10 Sep 2024 23:12

Tgt Ion:119 Resp: 12532

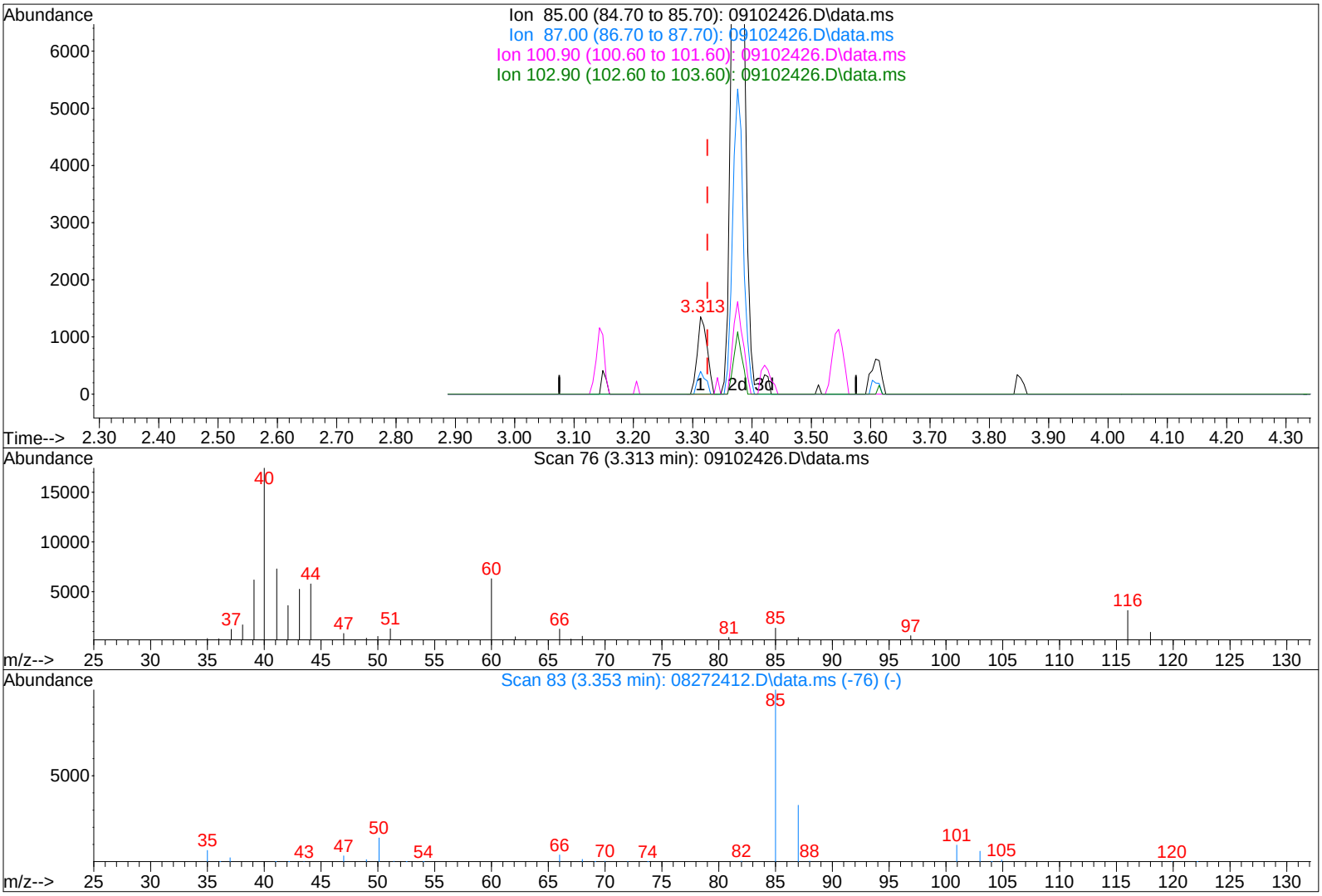
Ion	Ratio	Lower	Upper
119	100		
134	23.0	4.7	44.7
91	33.7	8.1	48.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:27:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.012) 0.05ng

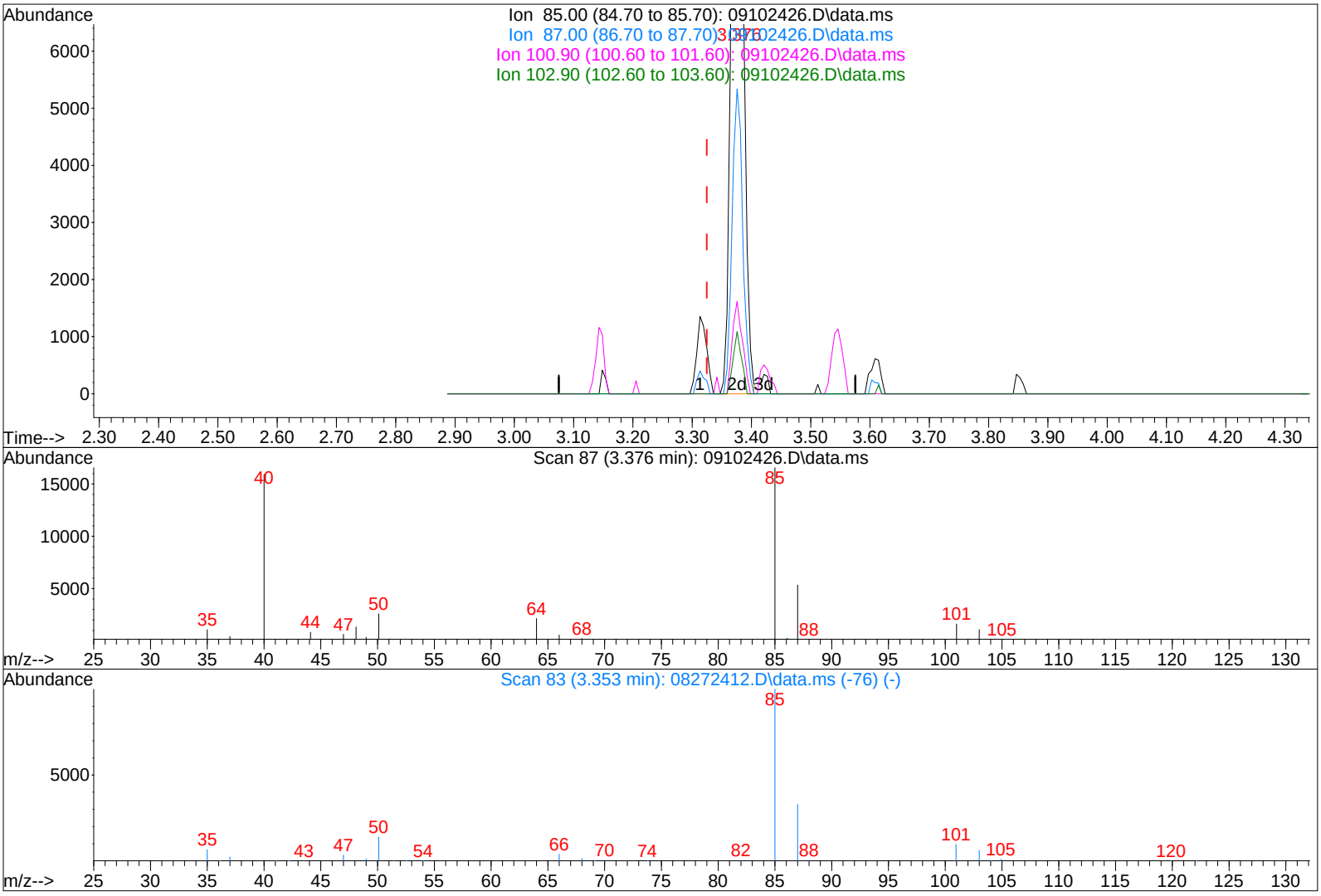
response 1565

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	24.73
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:27:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.051) 0.59ng m

response 20243

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	1.91#
100.90	9.40	0.00
102.90	6.00	0.00

MP

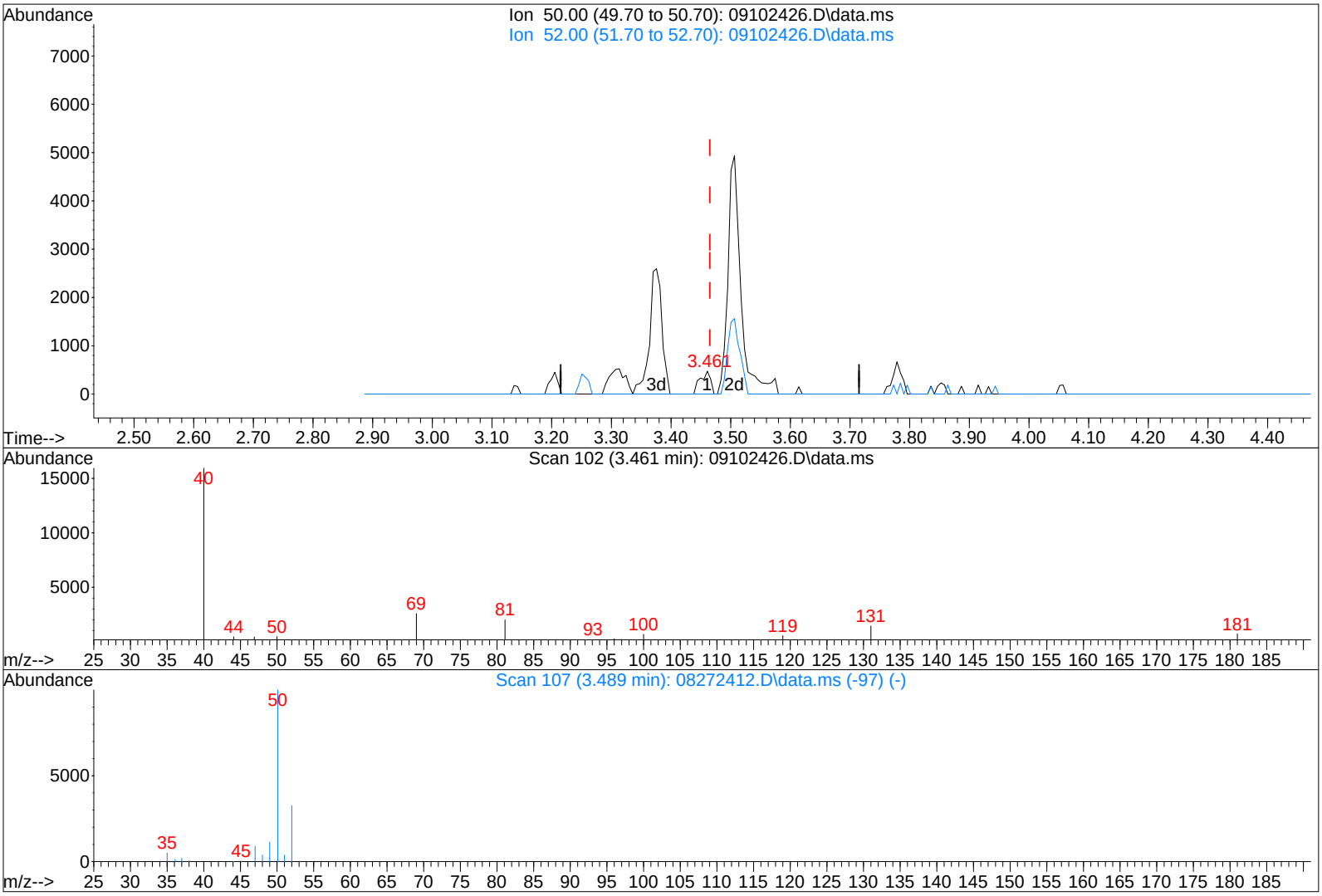
9/19/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:27:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102426.D\data.ms

(4) Chloromethane (T)

3.461min (-0.005) 0.02ng

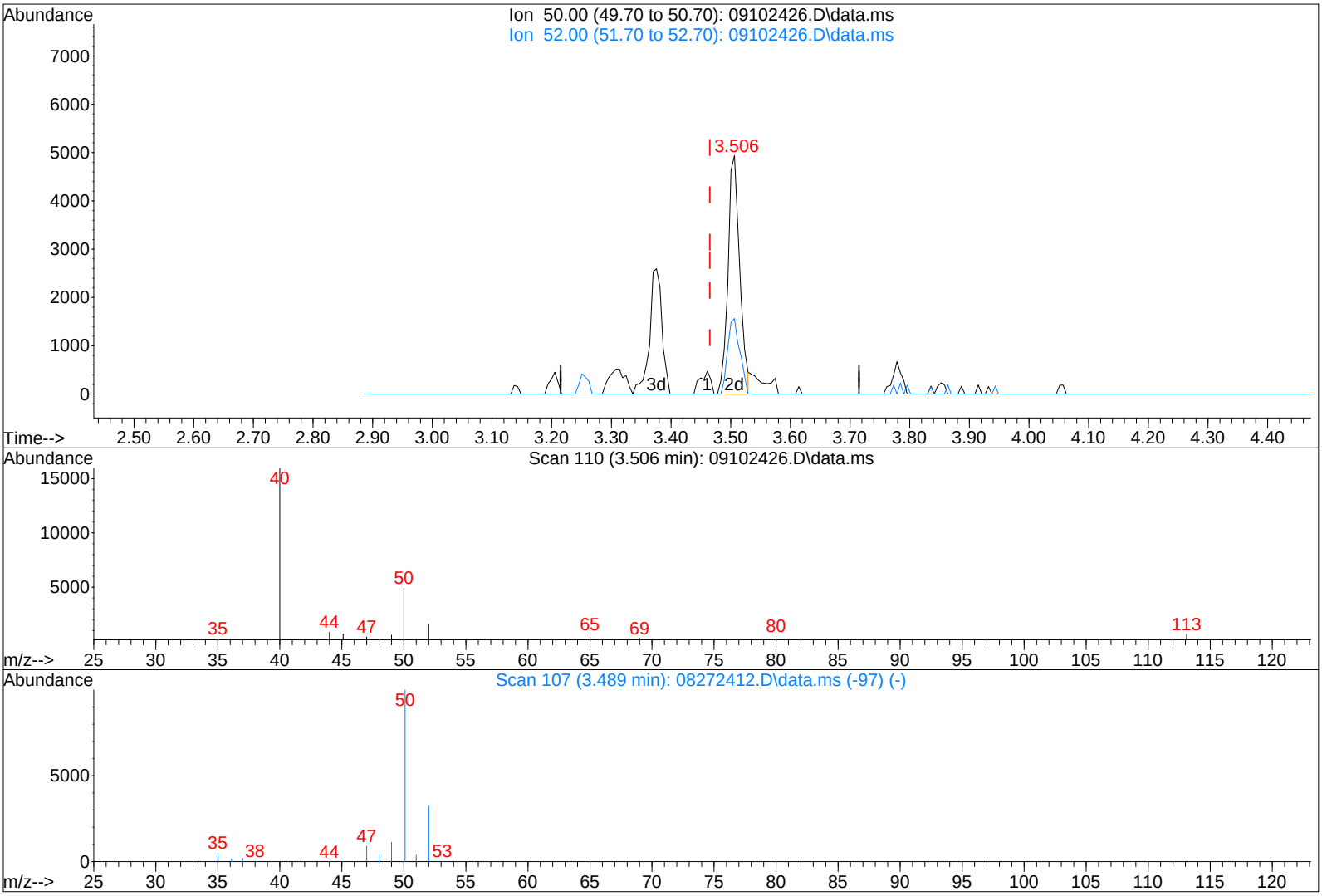
response 576

Ion	Exp%	Act%
50.00	100	100
52.00	32.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:27:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102426.D\data.ms

MP

(4) Chloromethane (T)

3.506min (+0.041) 0.25ng m

response 6746

Ion	Exp%	Act%
50.00	100	100
52.00	32.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

9/19/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 12:01:37 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

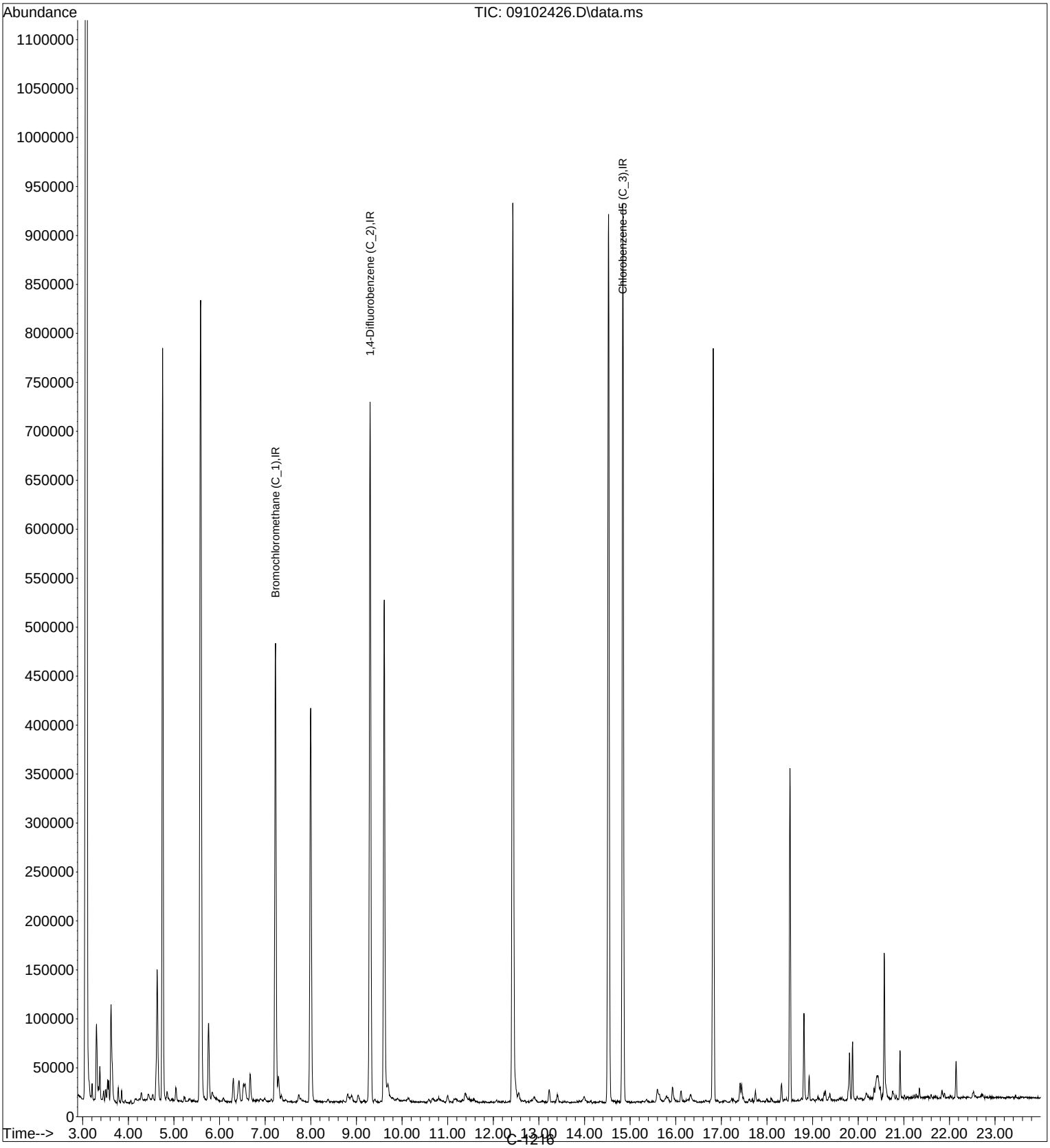
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	140725	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	617229	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	183132	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.15	85	228	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d	
4) 1,1-Difluoroethane	3.26	65	234	N.D.	
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d	
6) 1-Chloro-1,1-Difluoroe...	3.51	65	561	N.D.	
7) Dichlorofluoromethane ...	4.23	67	1741	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	112	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.33	43	1490	N.D.	
12) 2-Methylpentane	6.56	71	149	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	9.04	84	692	N.D.	
17) 2,3-Dimethylpentane	9.61	56	1403	N.D.	
18) Dibromomethane	9.81	174	306	N.D.	
20) Methyl Cyclohexane	11.33	55	131	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	0.00	91	0	N.D.	
24) 1,2,3-Trichloropropane	16.33	75	56	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.61	91	184	N.D.	
27) 4-Chlorotoluene	17.68	91	502	N.D.	
28) Indane	0.00	117	0	N.D.	
29) Indene	0.00	115	0	N.D.	
30) 1,2,4,5-Tetramethylben...	20.22	119	126	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	126	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	644	N.D.	
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102426.D Vial: 5
Acq On : 10 Sep 2024 23:12 Operator: SC
Sample : P2403661-032 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 12:01:37 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102426.D
Acq On : 10 Sep 2024 23:12
Operator : SC
Sample : P2403661-032 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102426.D\data.ms

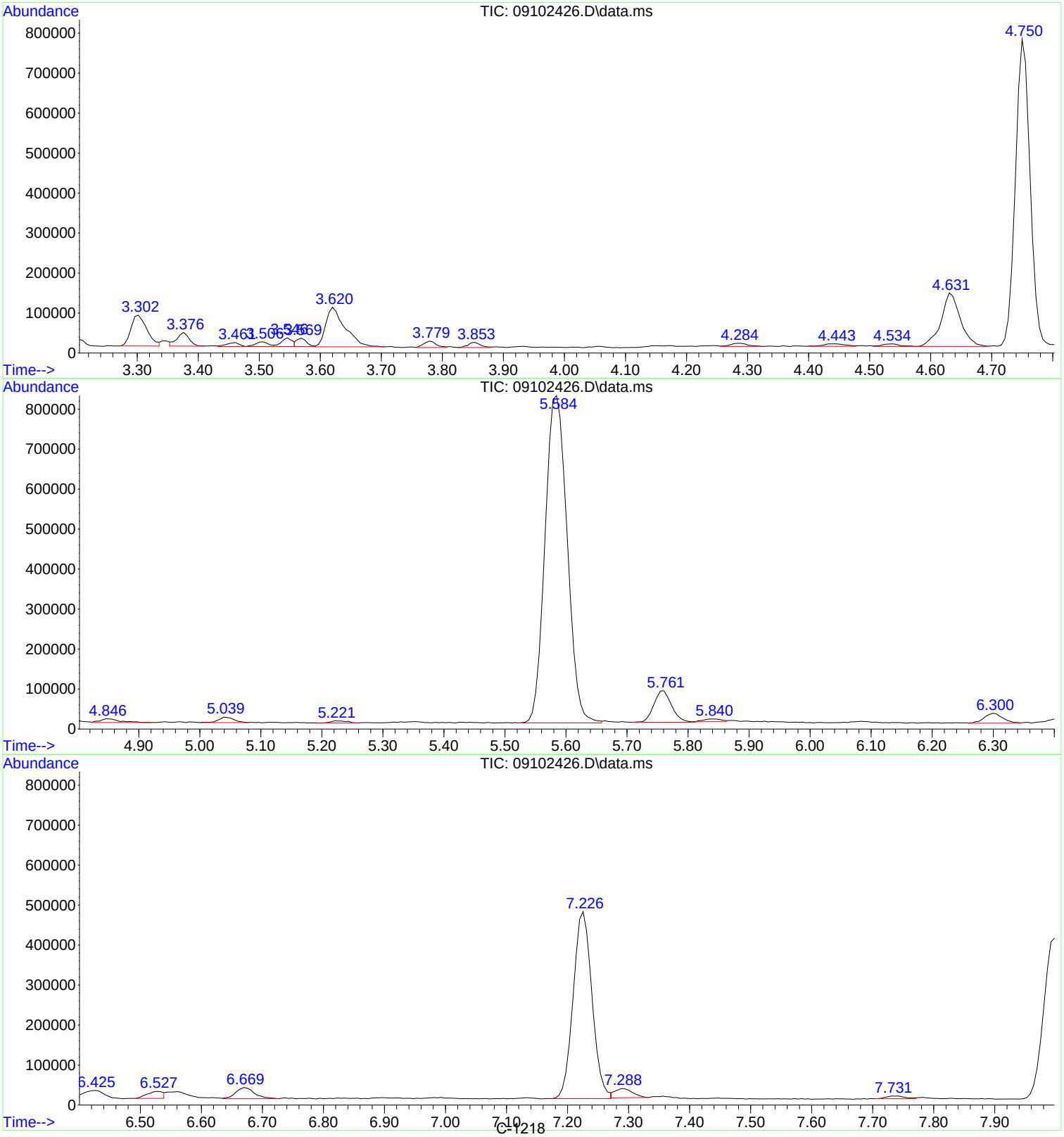
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	68	74	80	rBV2	76799	140017	6.78%	2.447%
2	3.376	83	87	93	rVV2	34120	47165	2.28%	0.824%
3	3.461	97	102	105	rVB3	9728	13652	0.66%	0.239%
4	3.506	105	110	113	rBV2	11466	17490	0.85%	0.306%
5	3.546	113	117	119	rVV	21689	27062	1.31%	0.473%
6	3.569	119	121	125	rVV	21045	22679	1.10%	0.396%
7	3.620	125	130	145	rVB	99222	215893	10.46%	3.773%
8	3.779	154	158	163	rBV2	16174	23605	1.14%	0.413%
9	3.853	166	171	176	rBV3	12920	17819	0.86%	0.311%
10	4.284	242	247	254	rVB2	8013	15285	0.74%	0.267%
11	4.443	267	275	281	rBV4	6045	15031	0.73%	0.263%
12	4.534	286	291	298	rVB2	6210	11721	0.57%	0.205%
13	4.631	298	308	319	rBV	133698	294432	14.26%	5.146%
14	4.750	322	329	342	rVV	768591	1292609	62.60%	22.593%
15	4.846	342	346	359	rVB6	9433	20690	1.00%	0.362%
16	5.039	373	380	387	rBV2	13705	23439	1.14%	0.410%
17	5.221	407	412	419	rBV3	5598	10662	0.52%	0.186%
18	5.584	465	476	489	rBV2	818836	2064927	100.00%	36.092%
19	5.761	498	507	516	rBV	78547	160518	7.77%	2.806%
20	5.840	516	521	525	rBV7	6913	14909	0.72%	0.261%
21	6.300	595	602	610	rBV2	24967	52849	2.56%	0.924%
22	6.425	613	624	632	rBV2	21995	63172	3.06%	1.104%
23	6.527	636	642	644	rBV2	17322	32912	1.59%	0.575%
24	6.669	661	667	677	rVB	27638	58817	2.85%	1.028%
25	7.226	756	765	773	rBV	467413	1002958	48.57%	17.530%
26	7.288	773	776	784	rVB	22606	45698	2.21%	0.799%
27	7.731	849	854	861	rBV3	6685	15289	0.74%	0.267%

Sum of corrected areas: 5721300

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102426.D
Acq On : 10 Sep 2024 23:12
Operator : SC
Sample : P2403661-032 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102426.D
Acq On : 10 Sep 2024 23:122
Operator : SCC
Sample : P2403661-032 (400mL))
Misc : S37-060624022
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

MOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 09:38:12 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133328	12.500 ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	587707	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	176943	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	337803	13.540 ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%			
57) Toluene-d8 (SS2)	12.43	98	675384	10.881 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%			
73) Bromofluorobenzene (SS3)	16.83	174	231704	11.161 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.36	85	23075	0.713 ng		96
4) Chloromethane	3.49	50	12576	0.497 ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	429	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.77	54	386	N.D.		
8) Bromomethane	4.01	94	1092	0.104 ng		91
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.30	45	144826	10.009 ng		99
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.52	56	8574	0.776 ng		96
13) Acetone	4.62	58	190111	15.571 ng	#	69
14) Trichlorofluoromethane	4.75	101	10983	0.356 ng		99
15) 2-Propanol (Isopropanol)	4.85	45	186174	3.873 ng		91
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	5.35	84	6644	0.462 ng		85
20) 3-Chloro-1-propene (Al...	5.45	41	721	N.D.		
21) Trichlorotrifluoroethane	5.57	151	1985	0.162 ng		99
22) Carbon Disulfide	5.60	76	57103	1.198 ng		98
23) trans-1,2-Dichloroethene	6.12	61	352	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	6.31	73	409	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.66	72	13413	1.548 ng	#	66
28) cis-1,2-Dichloroethene	7.07	61	113	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.28	61	8926	1.538 ng		84
31) n-Hexane	7.30	57	16025	0.606 ng	#	94
32) Chloroform	7.36	83	1158	N.D.		
34) Tetrahydrofuran (THF)	7.76	72	3981	0.487 ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	2066	0.078 ng		90
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.60	61	1998	No Calib	#	
40) 1-Butanol	8.80	56	40548	No Calib	#	
41) Benzene	8.89	78	10029	0.182 ng		99
42) Carbon Tetrachloride	9.07	117	3730	0.163 ng		98
43) Cyclohexane	9.21	84	16797	0.903 ng		97
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.85	63	1328	0.091 ng		90
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.16	130	181	N.D.		
48) 1,4-Dioxane	10.14	88	177	N.D.		
49) 2,2,4-Trimethylpentane...	10.24	57	5556	0.085 ng		93
50) Methyl Methacrylate	10.41	100	301	0.063 ng	#	43

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:38:12 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

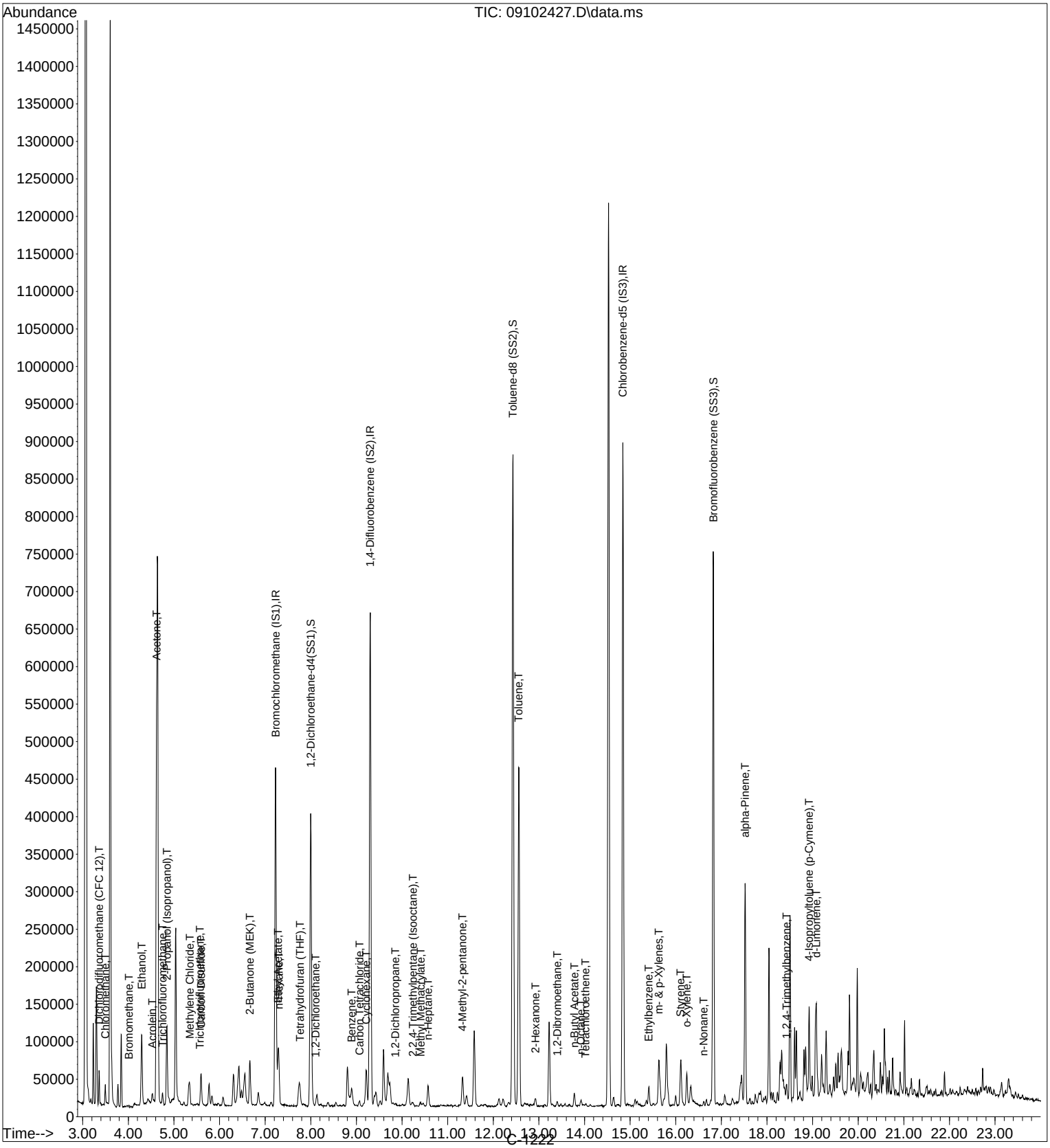
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	5828	0.475 ng		97
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	12788	0.879 ng	#	71
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	380414	5.669 ng		100
59) 2-Hexanone	12.93	43	11102	0.267 ng		73
60) Dibromochloromethane	13.07	129	130	N.D.		
61) 1,2-Dibromoethane	13.40	107	2941	0.166 ng		98
62) n-Butyl Acetate	13.78	43	18555	0.399 ng		94
63) n-Octane	13.92	57	1708	0.108 ng	#	76
64) Tetrachloroethene	14.02	166	1220	0.066 ng		89
65) Chlorobenzene	14.90	112	478	N.D.		
66) Ethylbenzene	15.41	91	20922	0.271 ng		100
67) m- & p-Xylenes	15.63	91	50818	0.810 ng		97
68) Bromoform	15.67	173	154	N.D.		
69) Styrene	16.11	104	14901	0.367 ng		99
70) o-Xylene	16.24	91	27288	0.445 ng		99
71) n-Nonane	16.61	43	3902	0.097 ng	#	71
72) 1,1,2,2-Tetrachloroethane	16.21	83	135	N.D.		
74) Cumene	17.03	105	2059	N.D.		
75) alpha-Pinene	17.52	93	118704	3.213 ng		98
76) n-Propylbenzene	17.67	91	2736	N.D.		
77) 3-Ethyltoluene	17.03	105	2059	No Calib		
78) 4-Ethyltoluene	17.86	105	2018	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	2268	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	2059	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	7935	0.126 ng		92
83) n-Decane	17.08	58	915	No Calib	#	
84) Benzyl Chloride	18.57	91	222	N.D.		
85) 1,3-Dichlorobenzene	18.66	146	801	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	801	N.D.		
87) sec-Butylbenzene	18.74	105	634	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	59007	0.853 ng		96
89) 1,2,3-Trimethylbenzene	17.03	105	2059	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	240	N.D.		
91) d-Limonene	19.08	68	22335	1.059 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	365	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	644	N.D.		
95) Naphthalene	20.94	128	2904	N.D.		
96) n-Dodecane	18.93	58	1393	No Calib	#	
97) Hexachlorobutadiene	21.30	225	339	N.D.		
98) Cyclohexanone	15.21	55	1255	No Calib	#	
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	19.38	91	2580	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:38:12 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:38:12 2024 9/11/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

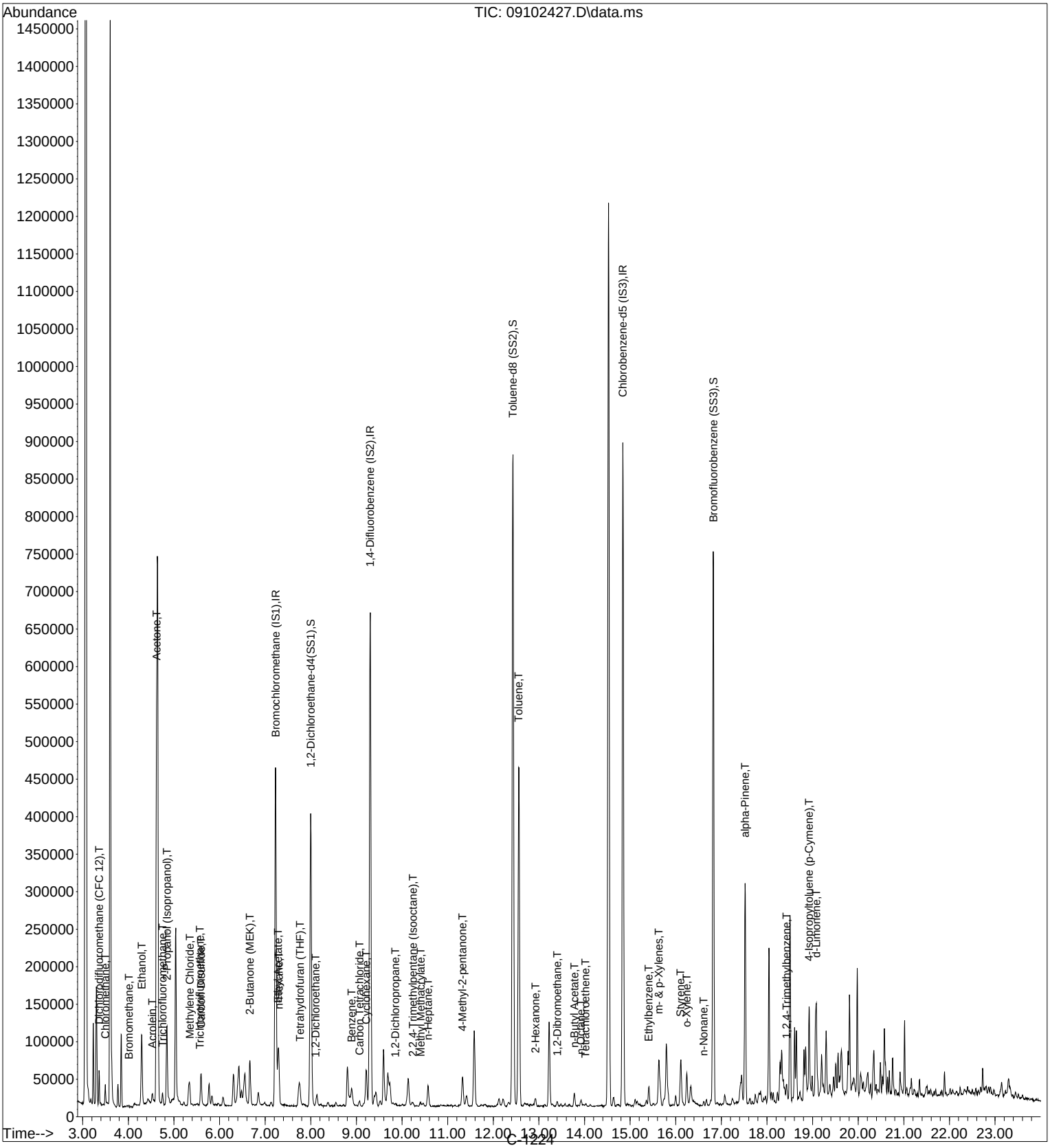
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133328	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.30	114	587707	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	176943	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	337803	13.540	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%				
57) Toluene-d8 (SS2)	12.43	98	675384	10.881	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%				
73) Bromofluorobenzene (SS3)	16.83	174	231704	11.161	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	23075	0.713	ng		96
4) Chloromethane	3.49	50	12576	0.497	ng		100
8) Bromomethane	4.01	94	1092	0.104	ng		91
10) Ethanol	4.30	45	144826	10.009	ng		99
12) Acrolein	4.52	56	8574	0.776	ng		96
13) Acetone	4.62	58	190111	15.571	ng	#	69
14) Trichlorofluoromethane	4.75	101	10983	0.356	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	186174	3.873	ng		91
19) Methylene Chloride	5.35	84	6644	0.462	ng		85
21) Trichlorotrifluoroethane	5.57	151	1985	0.162	ng		99
22) Carbon Disulfide	5.60	76	57103	1.198	ng		98
27) 2-Butanone (MEK)	6.66	72	13413	1.548	ng	#	66
30) Ethyl Acetate	7.28	61	8926	1.538	ng		84
31) n-Hexane	7.30	57	16025	0.606	ng	#	94
34) Tetrahydrofuran (THF)	7.76	72	3981	0.487	ng	#	1
36) 1,2-Dichloroethane	8.11	62	2066	0.078	ng		90
41) Benzene	8.89	78	10029	0.182	ng		99
42) Carbon Tetrachloride	9.07	117	3730	0.163	ng		98
43) Cyclohexane	9.21	84	16797	0.903	ng		97
45) 1,2-Dichloropropane	9.85	63	1328	0.091	ng		90
49) 2,2,4-Trimethylpentane...	10.24	57	5556	0.085	ng		93
50) Methyl Methacrylate	10.41	100	301	0.063	ng	#	43
51) n-Heptane	10.57	71	5828	0.475	ng		97
53) 4-Methyl-2-pentanone	11.33	58	12788	0.879	ng	#	71
58) Toluene	12.56	91	380414	5.669	ng		100
59) 2-Hexanone	12.93	43	11102	0.267	ng		73
61) 1,2-Dibromoethane	13.40	107	2941	0.166	ng		98
62) n-Butyl Acetate	13.78	43	18555	0.399	ng		94
63) n-Octane	13.92	57	1708	0.108	ng	#	76
64) Tetrachloroethene	14.02	166	1220	0.066	ng		89
66) Ethylbenzene	15.41	91	20922	0.271	ng		100
67) m- & p-Xylenes	15.63	91	50818	0.810	ng		97
69) Styrene	16.11	104	14901	0.367	ng		99
70) o-Xylene	16.24	91	27288	0.445	ng		99
71) n-Nonane	16.61	43	3902	0.097	ng	#	71
75) alpha-Pinene	17.52	93	118704	3.213	ng		98
82) 1,2,4-Trimethylbenzene	18.43	105	7935	0.126	ng		92
88) 4-Isopropyltoluene (p-...	18.92	119	59007	0.853	ng		96
91) d-Limonene	19.08	68	22335	1.059	ng		99

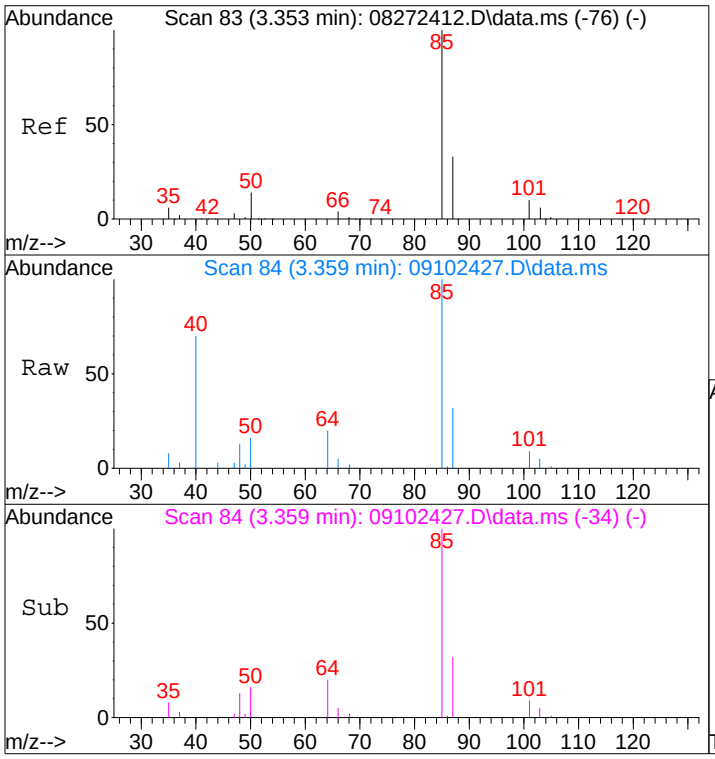
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:38:12 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

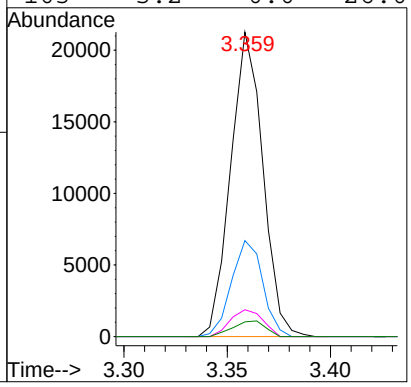


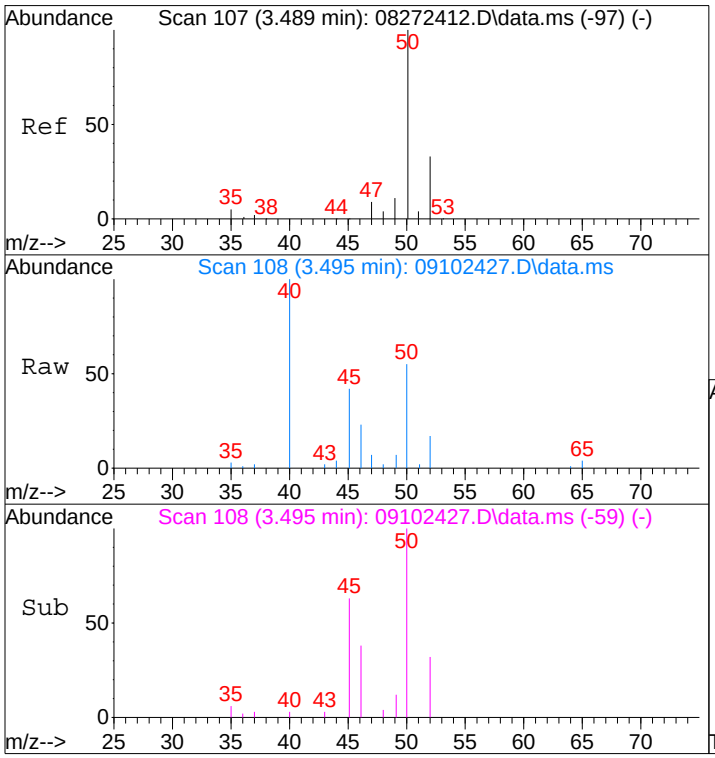


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.71 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.034 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 85 Resp: 23075

Ion	Ratio	Lower	Upper
85	100		
87	30.6	13.1	53.1
101	8.9	0.0	29.4
103	5.2	0.0	26.0

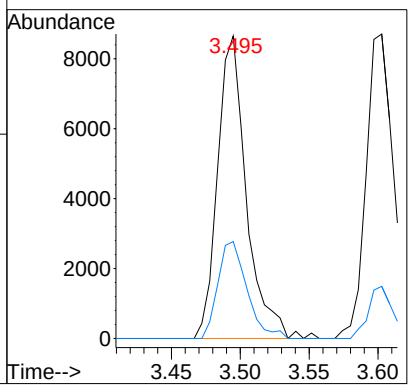


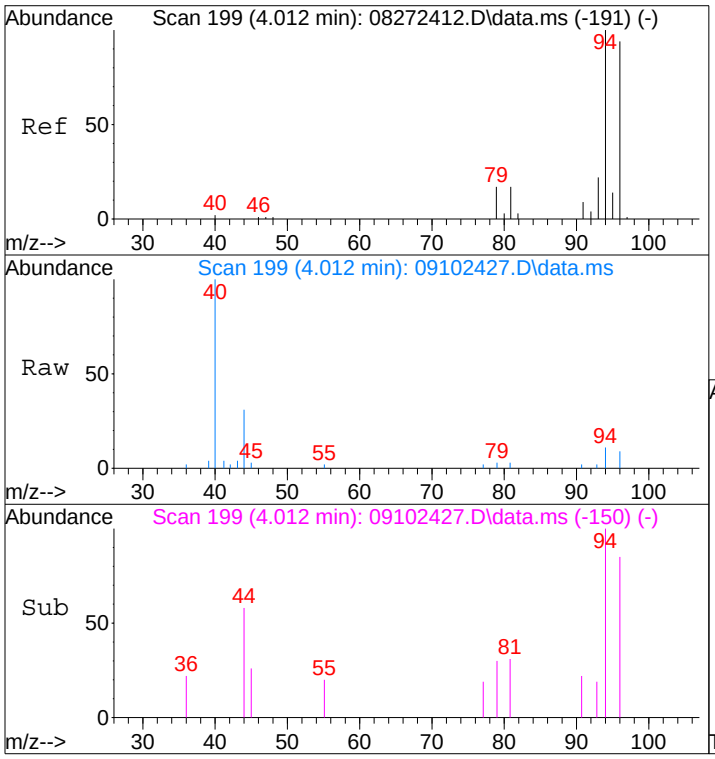


#4
Chloromethane
Concen: 0.50 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.030 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 50 Resp: 12576

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.4	52.4

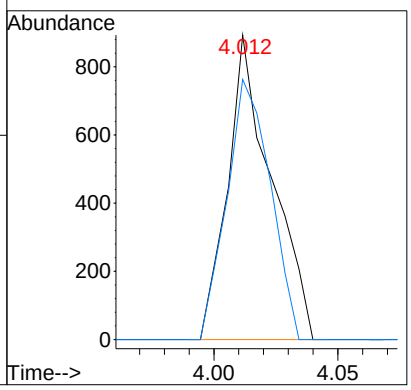


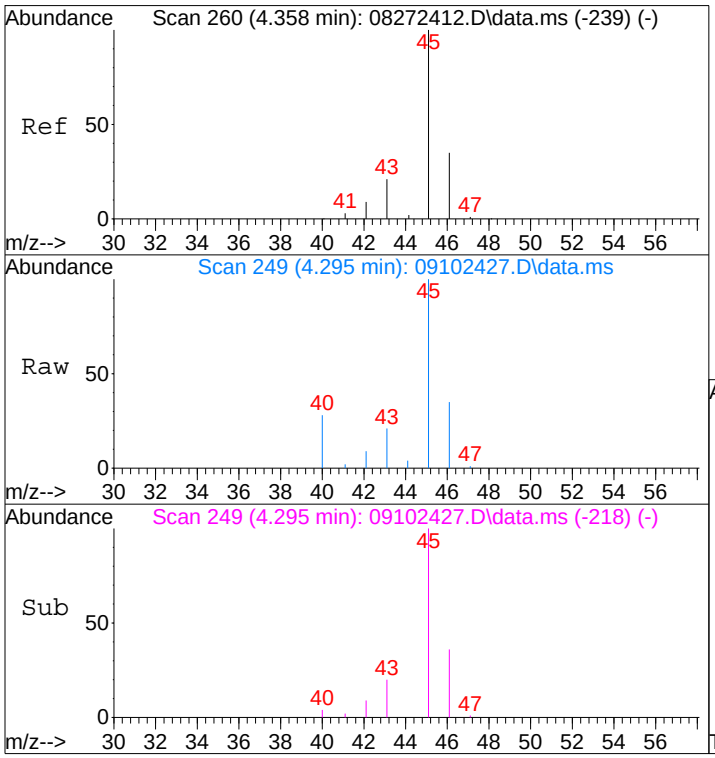


#8
Bromomethane
Concen: 0.10 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.030 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 94 Resp: 1092

Ion	Ratio	Lower	Upper
94	100		
96	85.3	74.2	114.2

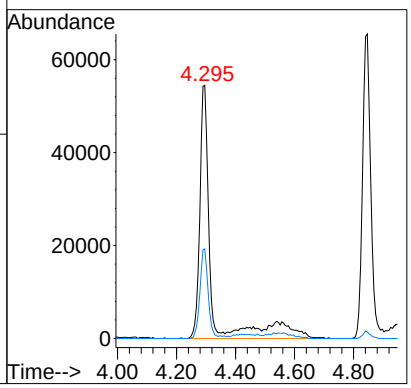


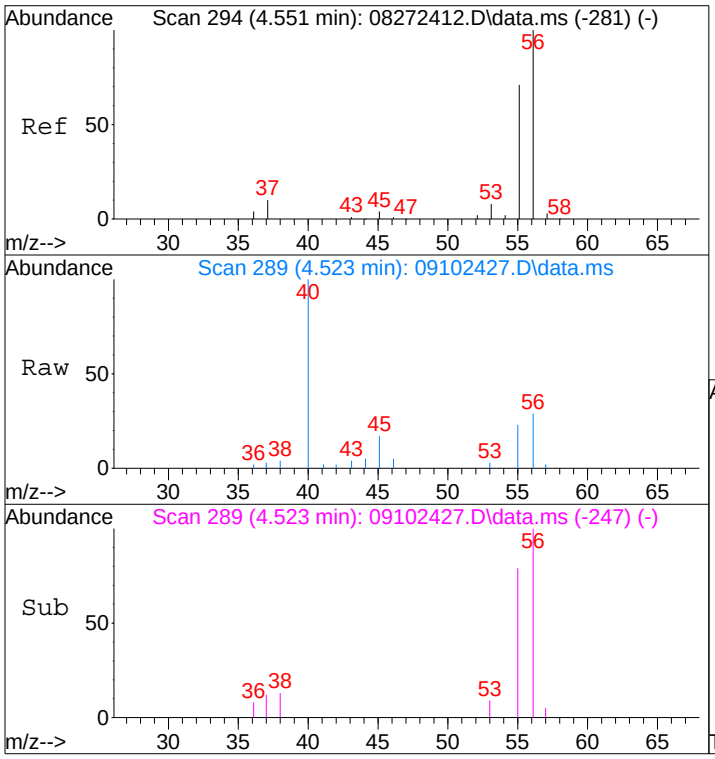


#10
Ethanol
Concen: 10.01 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.073 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 45 Resp: 144826

Ion	Ratio	Lower	Upper
45	100		
46	34.8	14.2	54.2

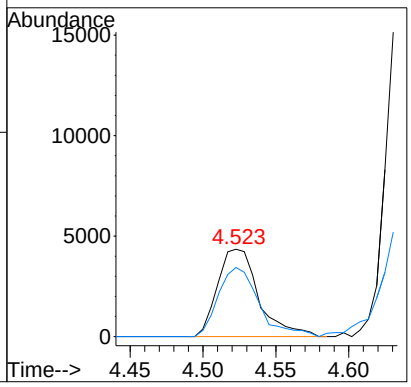


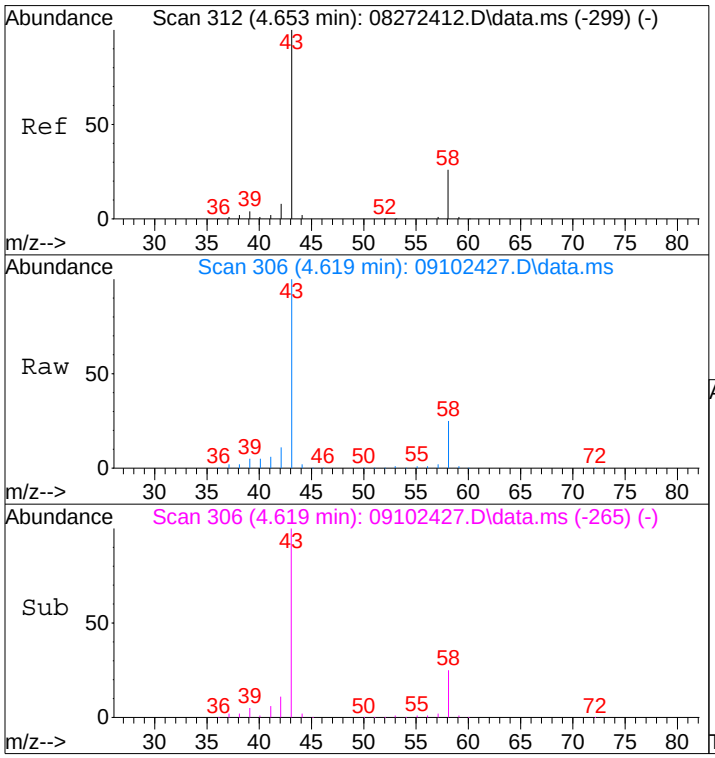


#12
Acrolein
Concen: 0.78 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.009 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 56 Resp: 8574

Ion	Ratio	Lower	Upper
56	100		
55	77.7	54.7	94.7

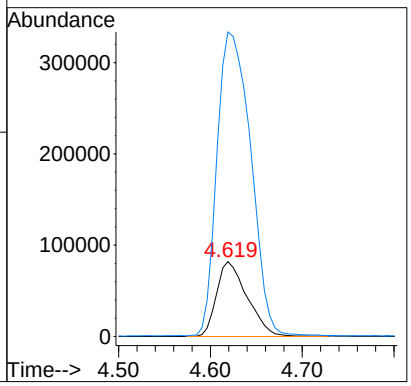


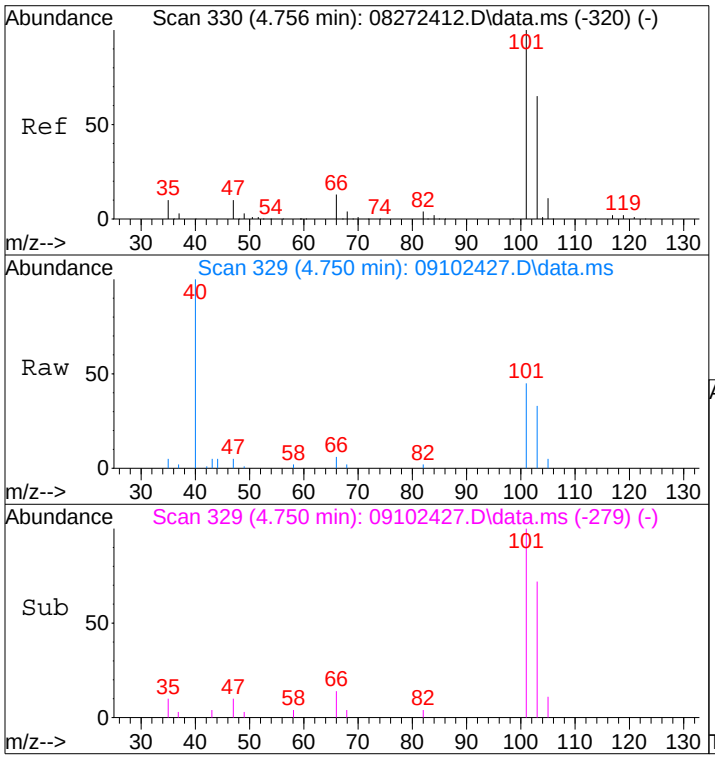


#13
Acetone
Concen: 15.57 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.019 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 58 Resp: 190111

Ion	Ratio	Lower	Upper
58	100		
43	448.4	347.3	407.3#

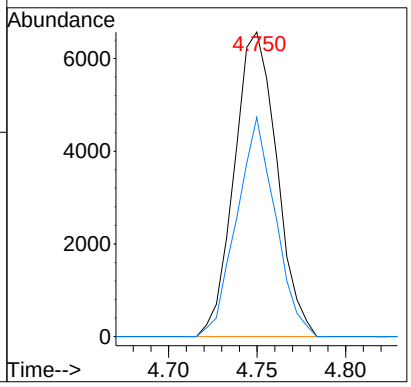


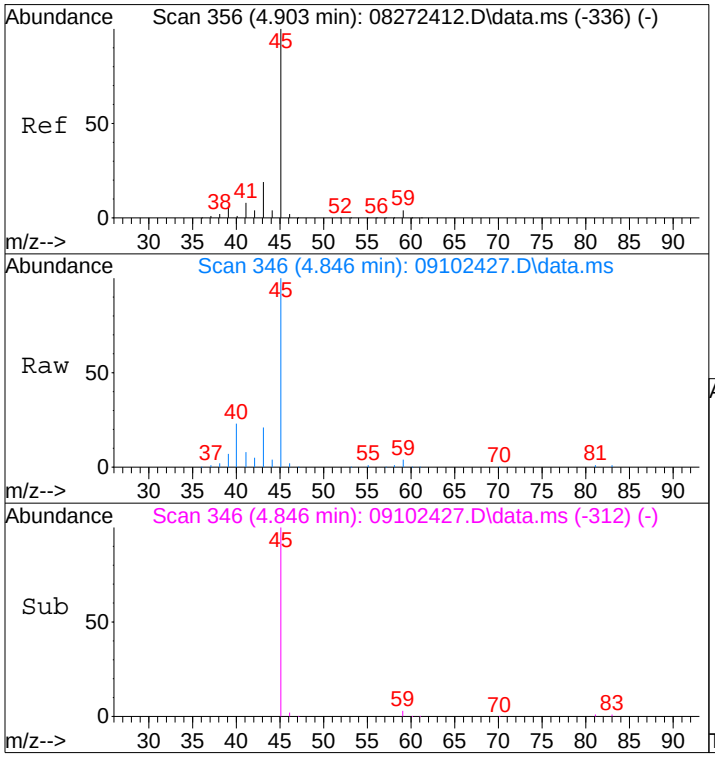


#14
Trichlorofluoromethane
Concen: 0.36 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.033 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:101 Resp: 10983

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.9	84.9

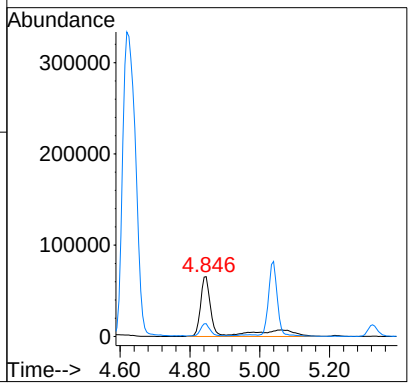


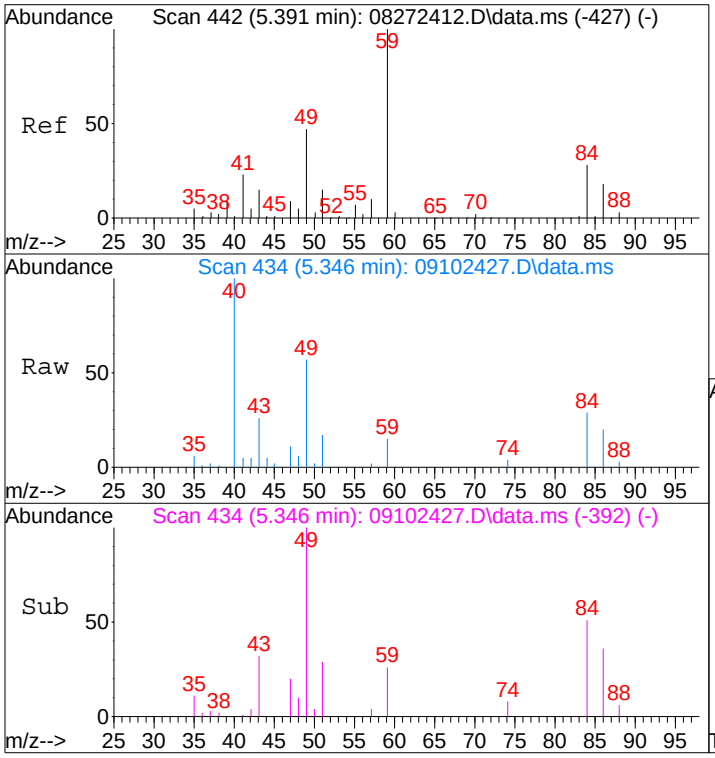


#15
2-Propanol (Isopropanol)
Concen: 3.87 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.056 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 45 Resp: 186174

Ion	Ratio	Lower	Upper
45	100		
43	16.0	0.0	40.0

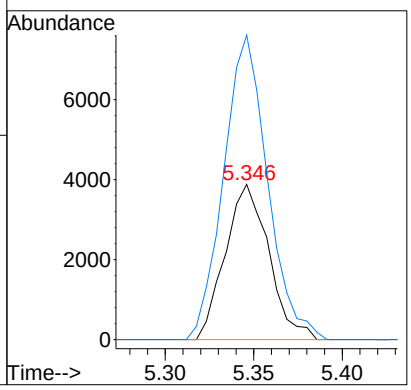


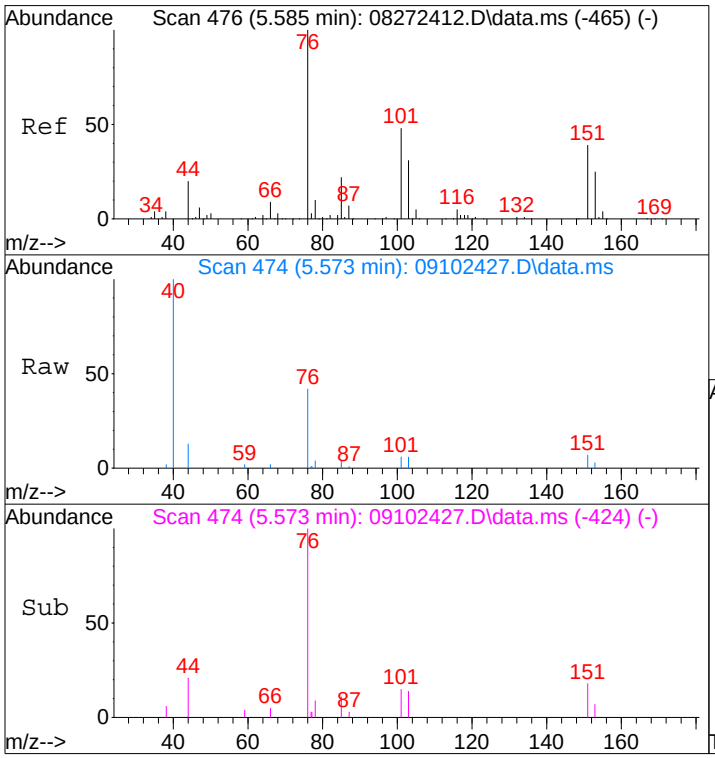


#19
Methylene Chloride
Concen: 0.46 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.011 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 84 Resp: 6644

Ion	Ratio	Lower	Upper
84	100		
49	197.5	151.1	201.1

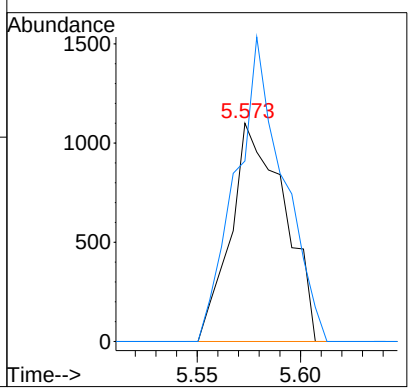


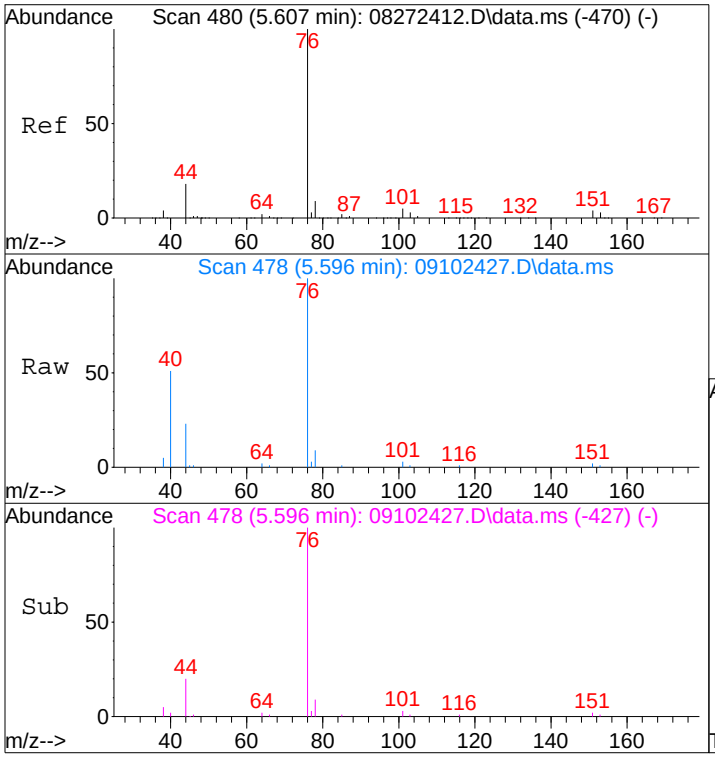


#21
Trichlorotrifluoroethane
Concen: 0.16 ng
RT: 5.57 min Scan# 474
Delta R.T. 0.031 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:151 Resp: 1985

Ion	Ratio	Lower	Upper
151	100		
101	124.7	103.4	143.4

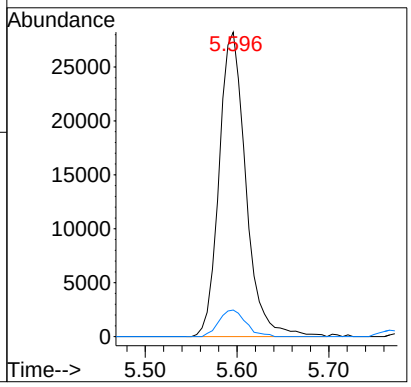


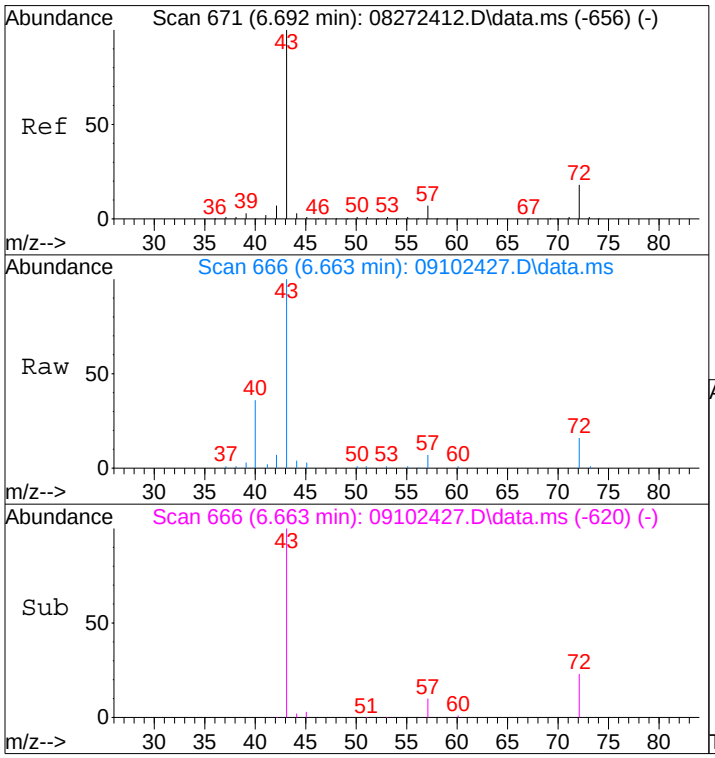


#22
Carbon Disulfide
Concen: 1.20 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.037 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 76 Resp: 57103

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.6

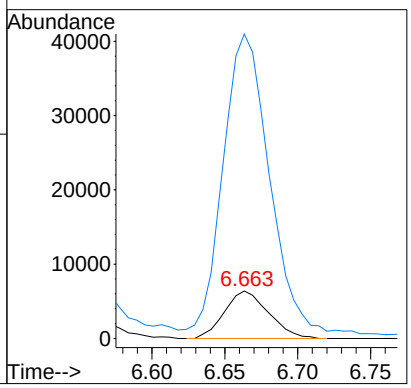


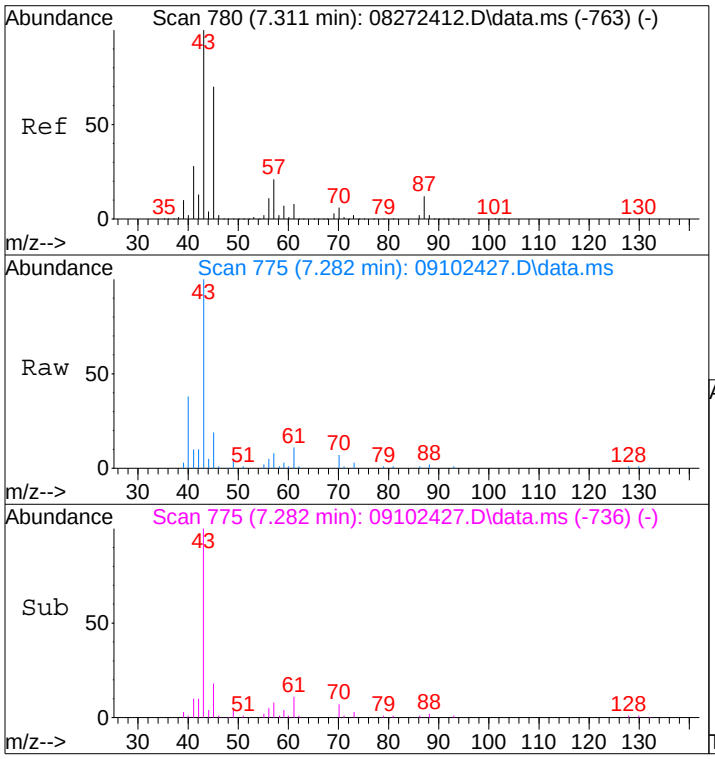


#27
2-Butanone (MEK)
Concen: 1.55 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.010 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 72 Resp: 13413

Ion	Ratio	Lower	Upper
72	100		
43	670.3	548.0	588.0#

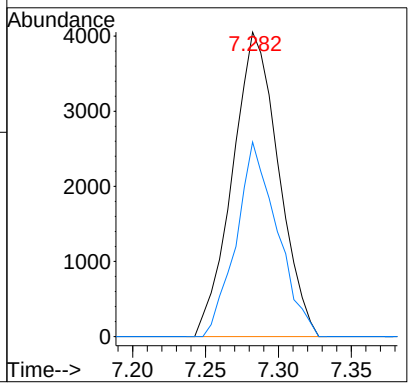


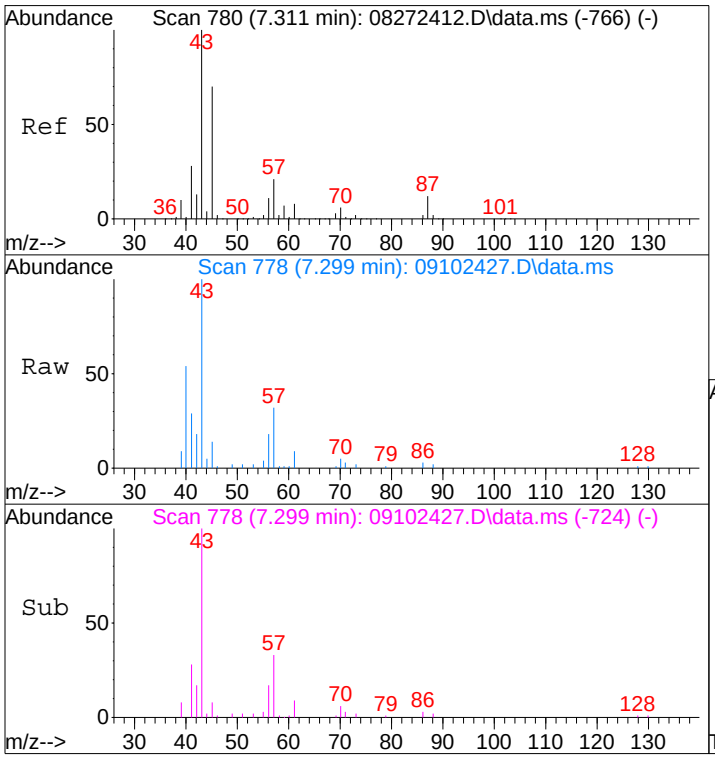


#30
Ethyl Acetate
Concen: 1.54 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 61 Resp: 8926

Ion	Ratio	Lower	Upper
61	100		
70	56.9	49.9	89.9

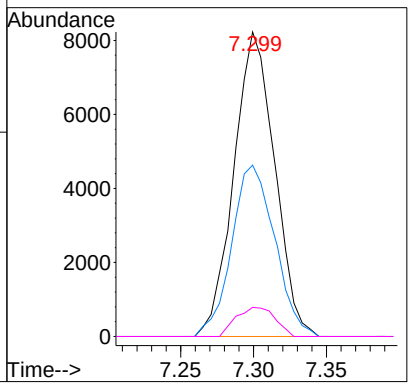


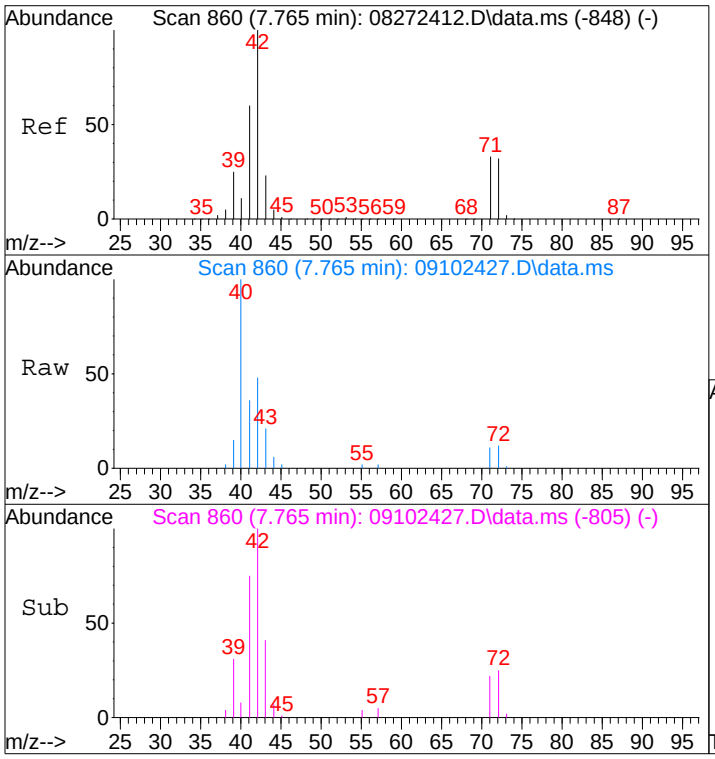


#31
n-Hexane
Concen: 0.61 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.057 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 57 Resp: 16025

Ion	Ratio	Lower	Upper
57	100		
56	59.4	44.2	66.2
86	9.2	9.3	13.9#

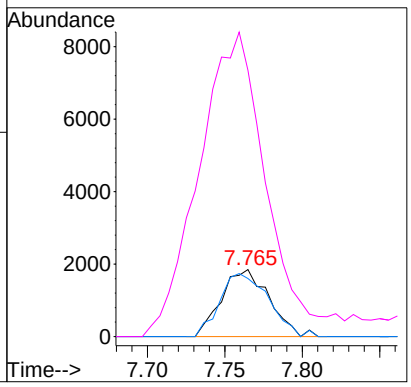


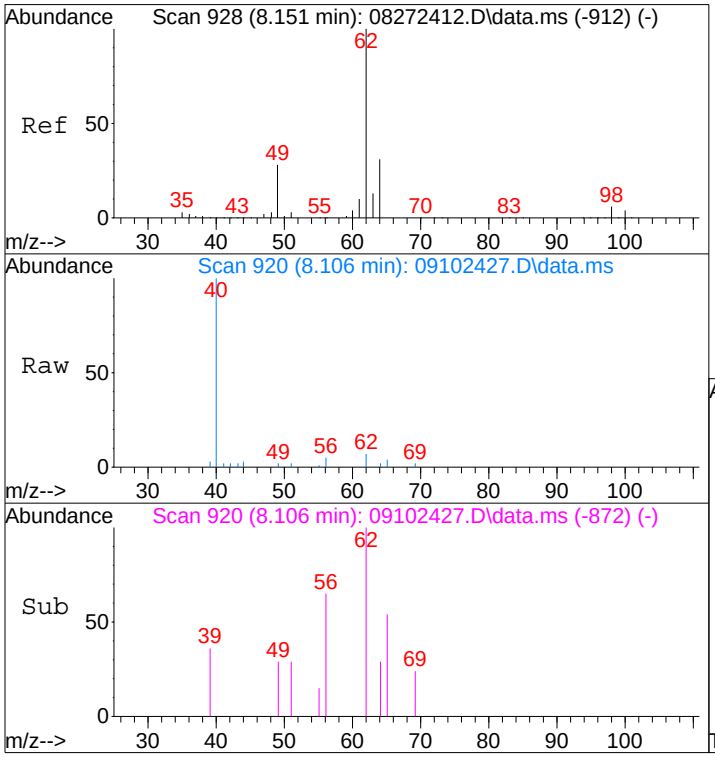


#34
Tetrahydrofuran (THF)
Concen: 0.49 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.062 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 72 Resp: 3981

Ion	Ratio	Lower	Upper
72	100		
71	96.6	78.4	118.4
42	683.0	285.2	325.2#

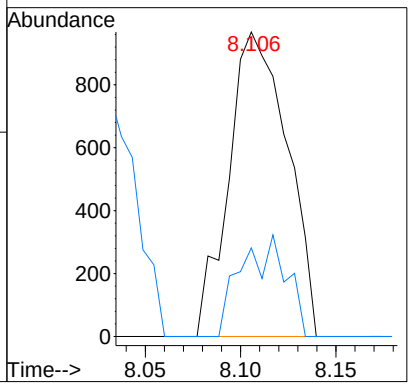


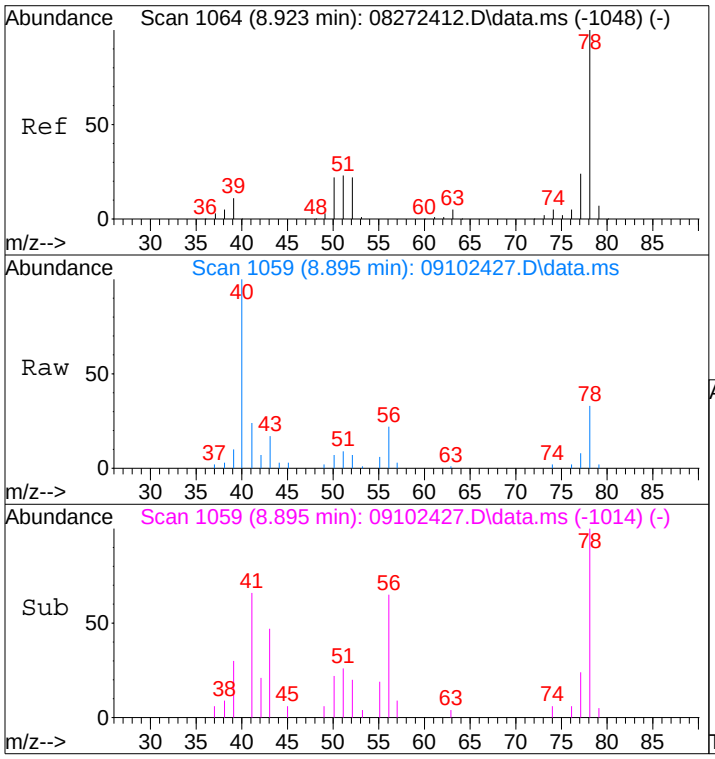


#36
1,2-Dichloroethane
Concen: 0.08 ng
RT: 8.11 min Scan# 920
Delta R.T. 0.021 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 62 Resp: 2066

Ion	Ratio	Lower	Upper
62	100		
64	25.8	11.0	51.0

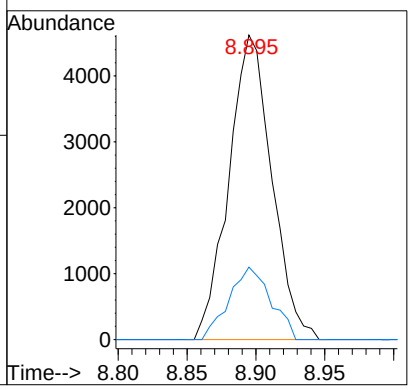


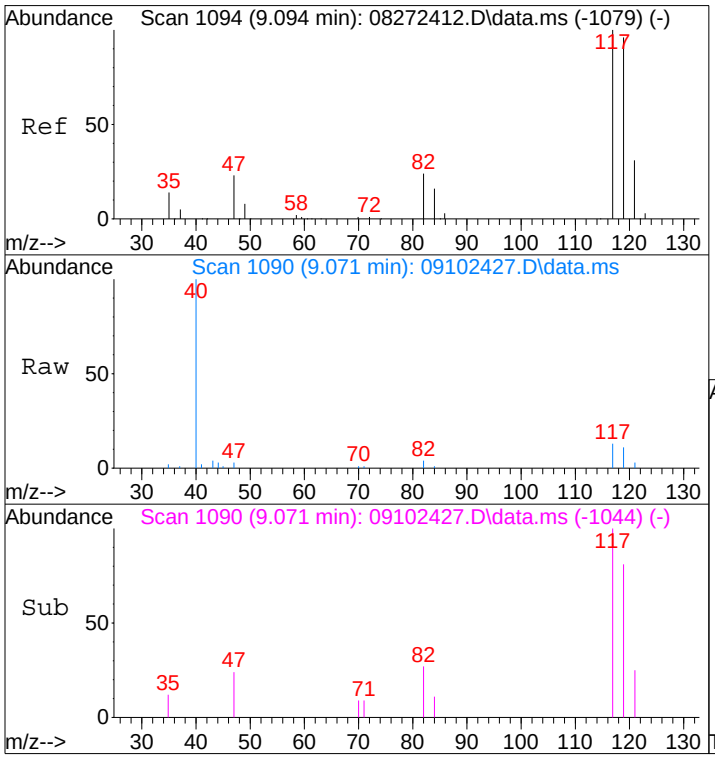


#41
Benzene
Concen: 0.18 ng
RT: 8.89 min Scan# 1059
Delta R.T. 0.003 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 78 Resp: 10029

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

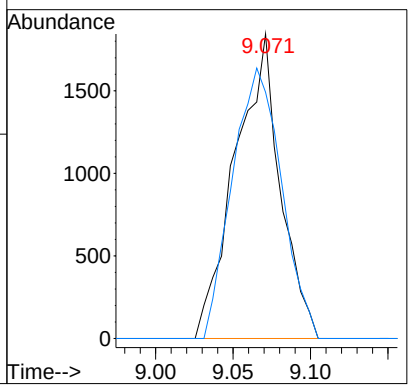


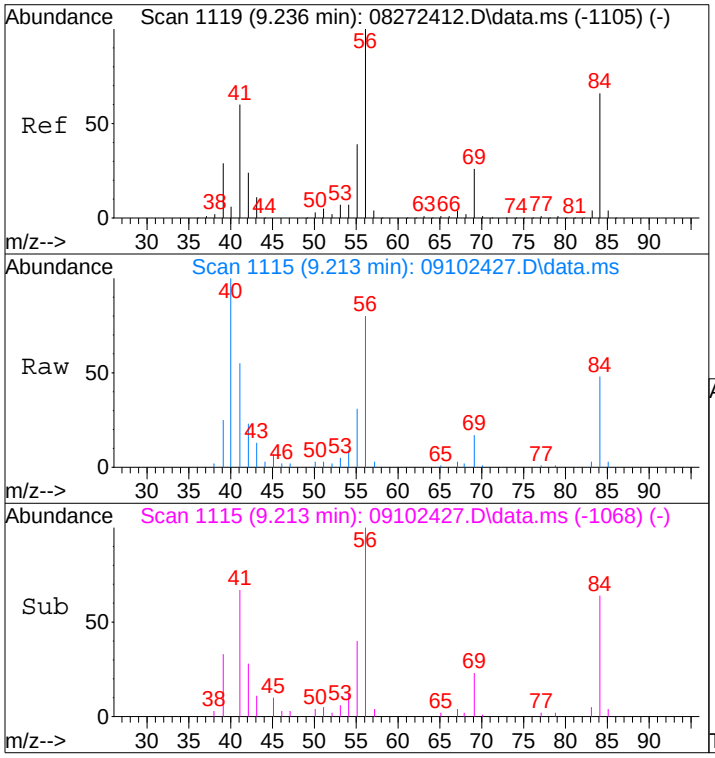


#42
Carbon Tetrachloride
Concen: 0.16 ng
RT: 9.07 min Scan# 1090
Delta R.T. 0.010 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:117 Resp: 3730

Ion	Ratio	Lower	Upper
117	100		
119	97.2	75.1	115.1

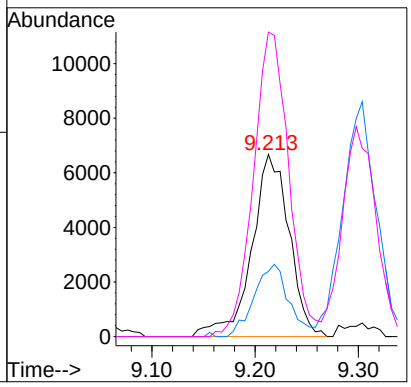


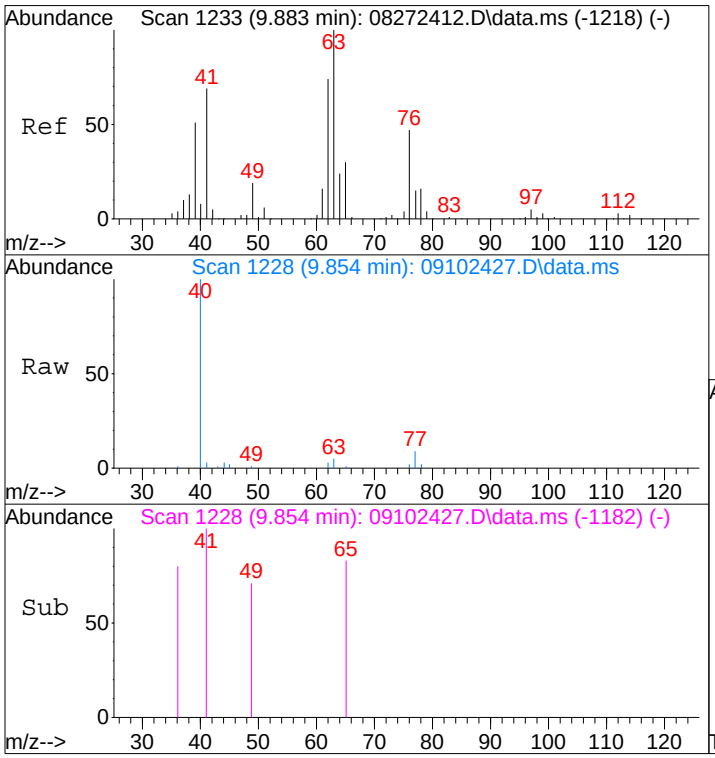


#43
Cyclohexane
Concen: 0.90 ng
RT: 9.21 min Scan# 1115
Delta R.T. 0.016 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 84 Resp: 16797

Ion	Ratio	Lower	Upper
84	100		
69	37.1	18.8	58.8
56	158.7	134.5	174.5

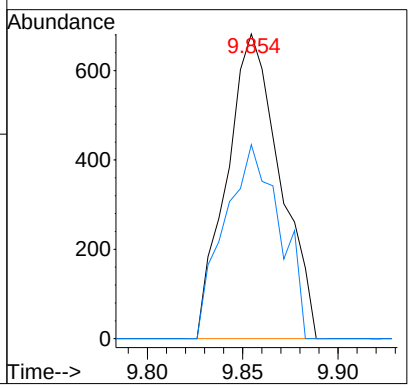


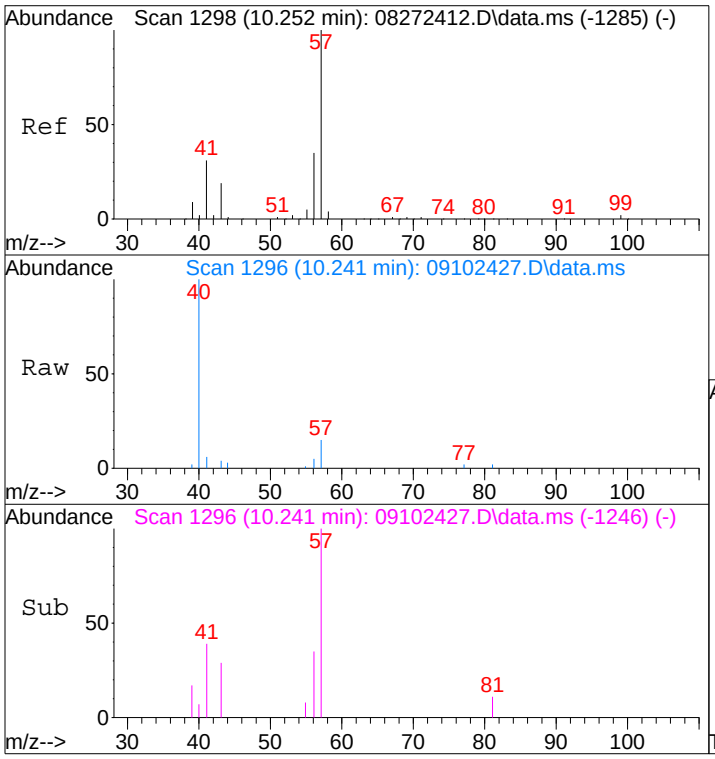


#45
1,2-Dichloropropane
Concen: 0.09 ng
RT: 9.85 min Scan# 1228
Delta R.T. 0.009 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 63 Resp: 1328

Ion	Ratio	Lower	Upper
63	100		
62	66.0	54.2	94.2

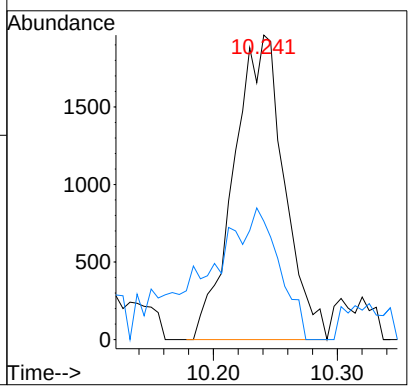


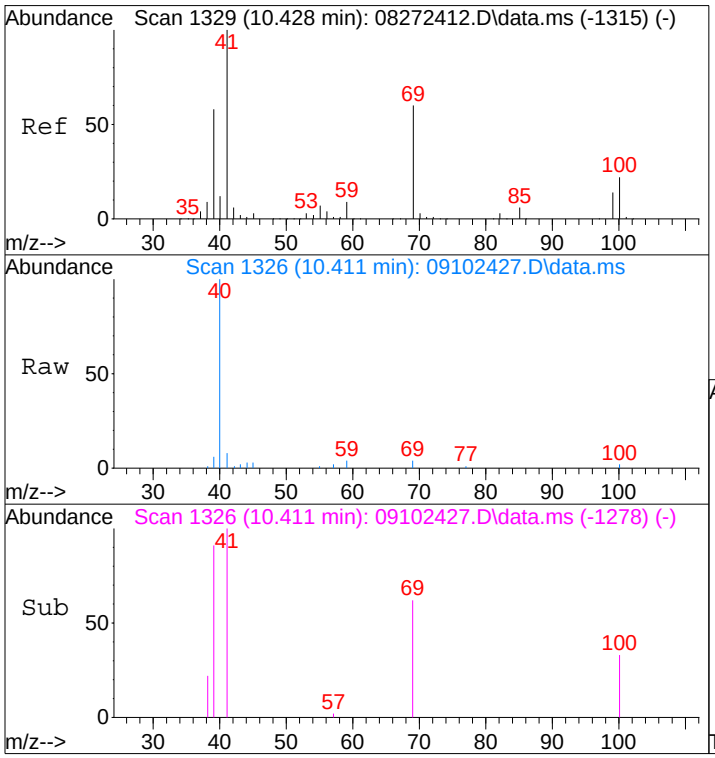


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.09 ng
RT: 10.24 min Scan# 1296
Delta R.T. 0.034 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 57 Resp: 5556

Ion	Ratio	Lower	Upper
57	100		
41	26.7	10.5	50.5

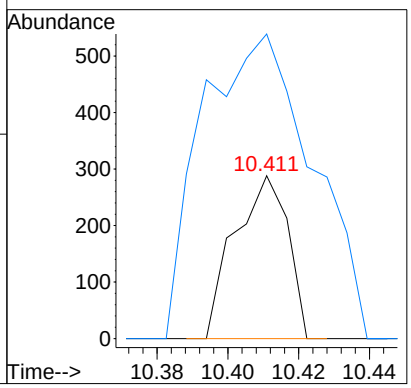


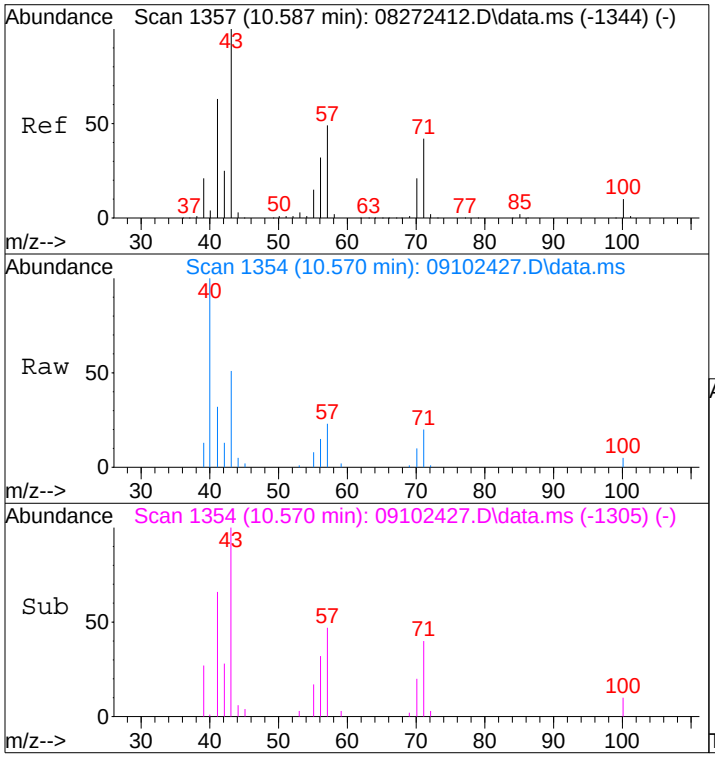


#50
Methyl Methacrylate
Concen: 0.06 ng
RT: 10.41 min Scan# 1326
Delta R.T. 0.024 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:100 Resp: 301

Ion	Ratio	Lower	Upper
100	100		
69	388.0	260.7	300.7#

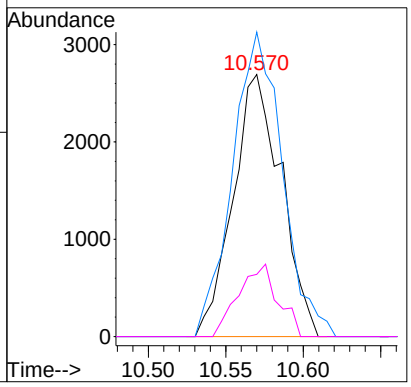


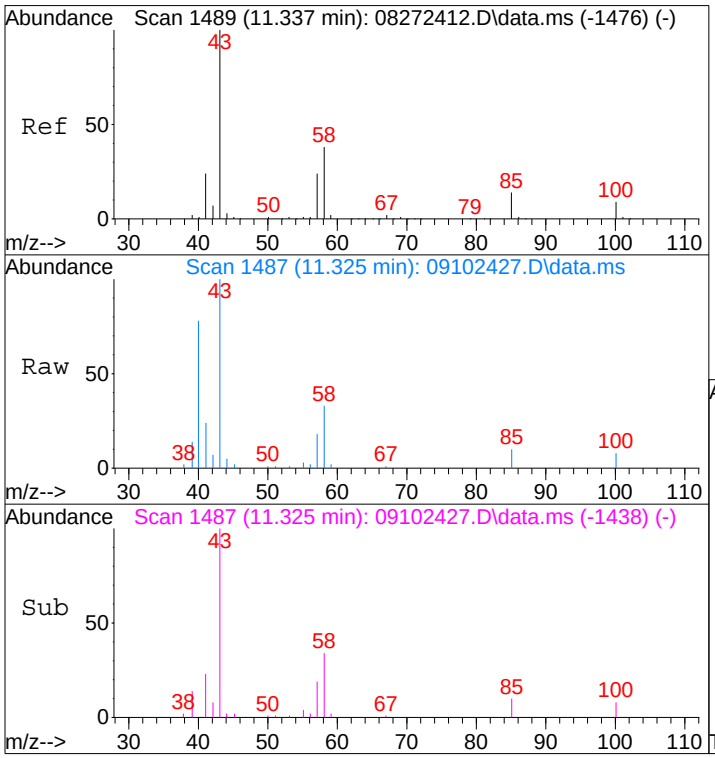


#51
n-Heptane
Concen: 0.47 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.030 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 71 Resp: 5828

Ion	Ratio	Lower	Upper
71	100		
57	120.2	97.1	137.1
100	22.6	5.0	45.0

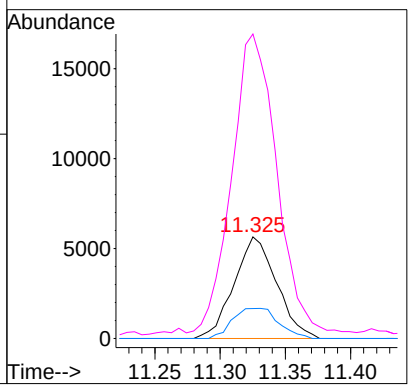


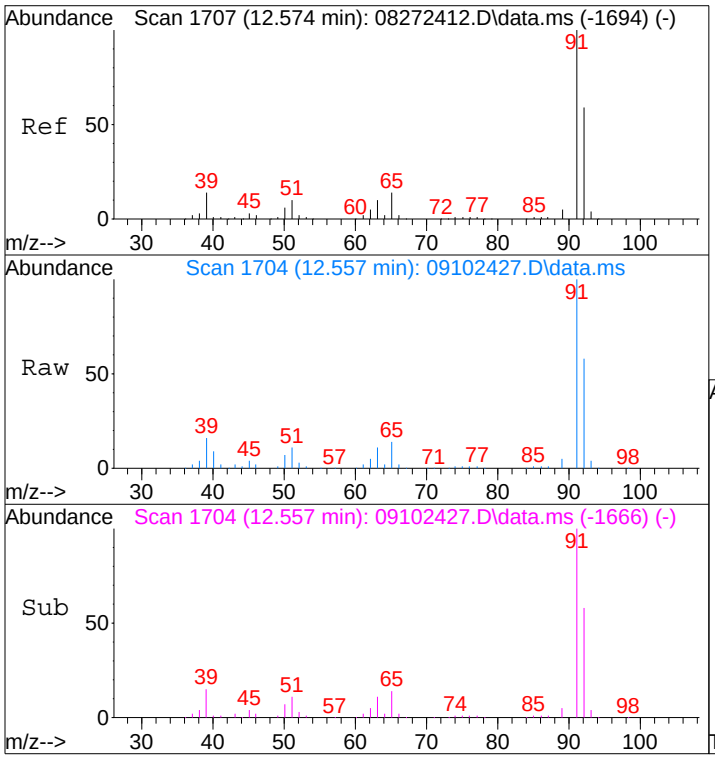


#53
4-Methyl-2-pentanone
Concen: 0.88 ng
RT: 11.33 min Scan# 1487
Delta R.T. 0.029 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 58 Resp: 12788

Ion	Ratio	Lower	Upper
58	100		
85	32.0	30.2	45.2
43	327.8	215.1	322.7#

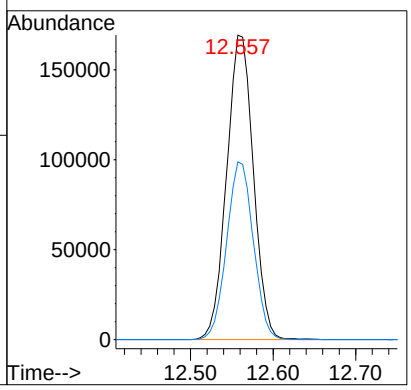


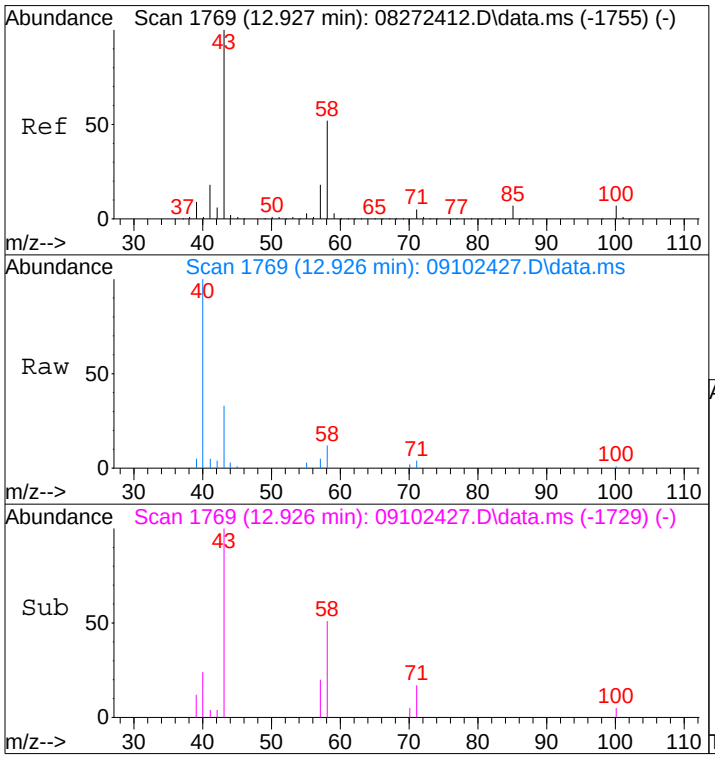


#58
Toluene
Concen: 5.67 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 91 Resp: 380414

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.5	78.5

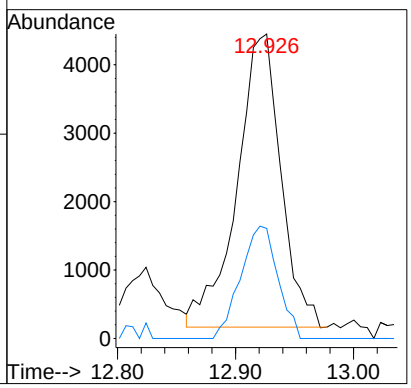


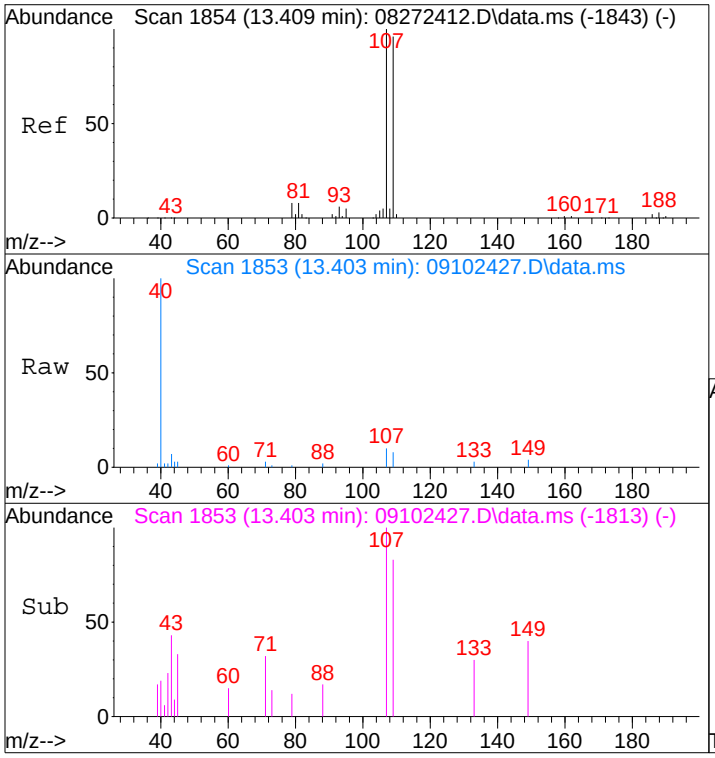


#59
2-Hexanone
Concen: 0.27 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 43 Resp: 11102

Ion	Ratio	Lower	Upper
43	100		
58	32.4	31.1	71.1

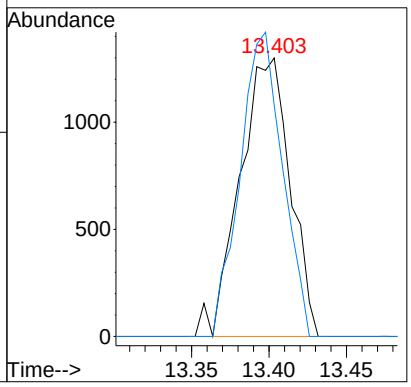


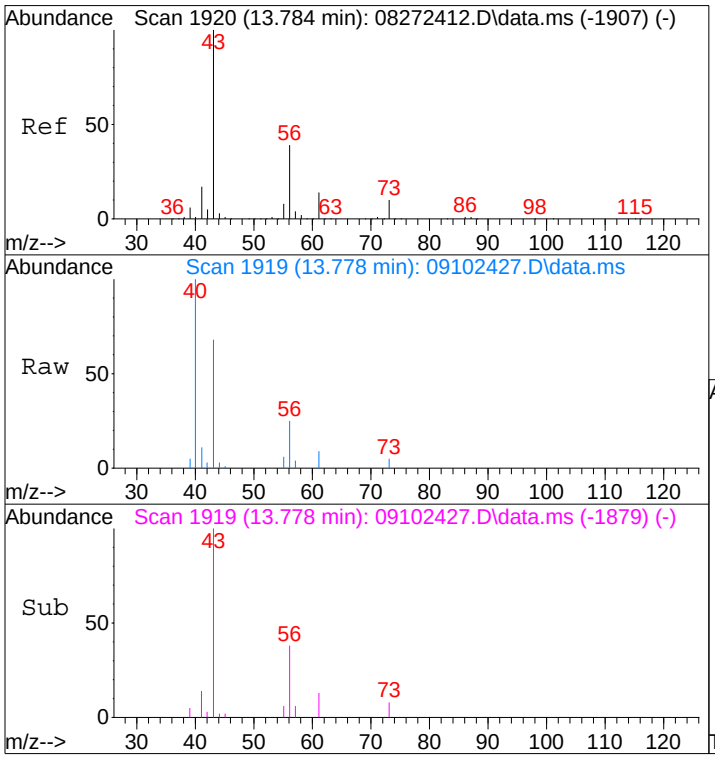


#61
1,2-Dibromoethane
Concen: 0.17 ng
RT: 13.40 min Scan# 1853
Delta R.T. -0.023 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:107 Resp: 2941

Ion	Ratio	Lower	Upper
107	100		
109	91.9	74.2	114.2

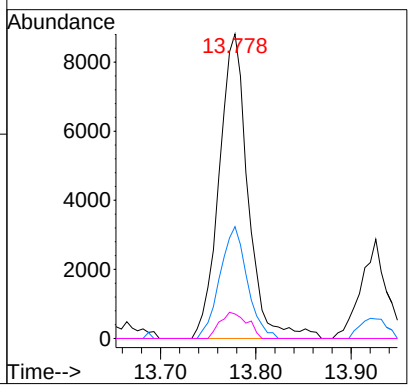


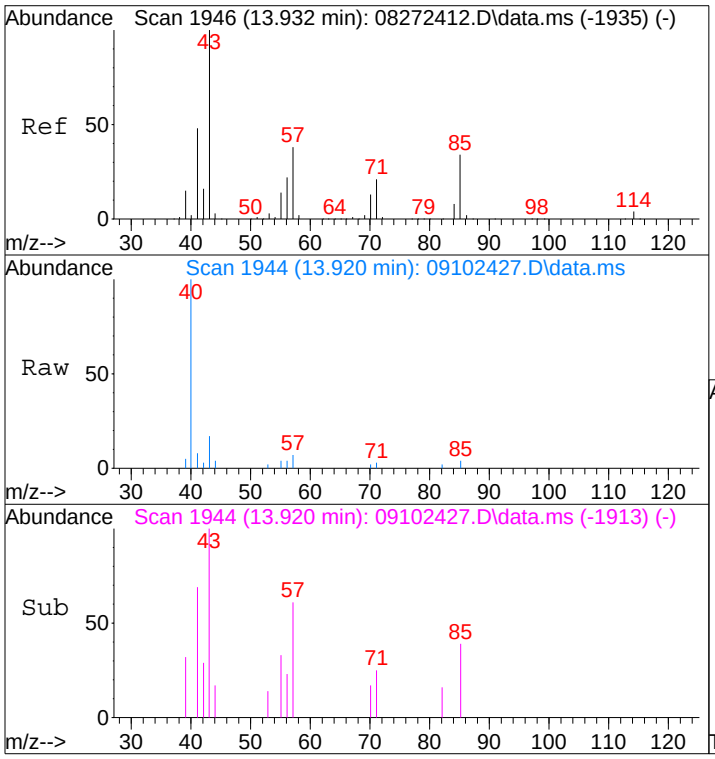


#62
n-Butyl Acetate
Concen: 0.40 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 43 Resp: 18555

Ion	Ratio	Lower	Upper
43	100		
56	34.7	18.2	58.2
73	8.2	0.0	30.1

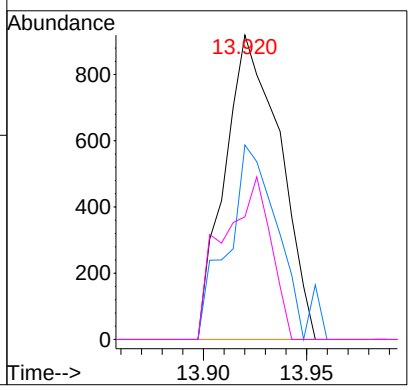


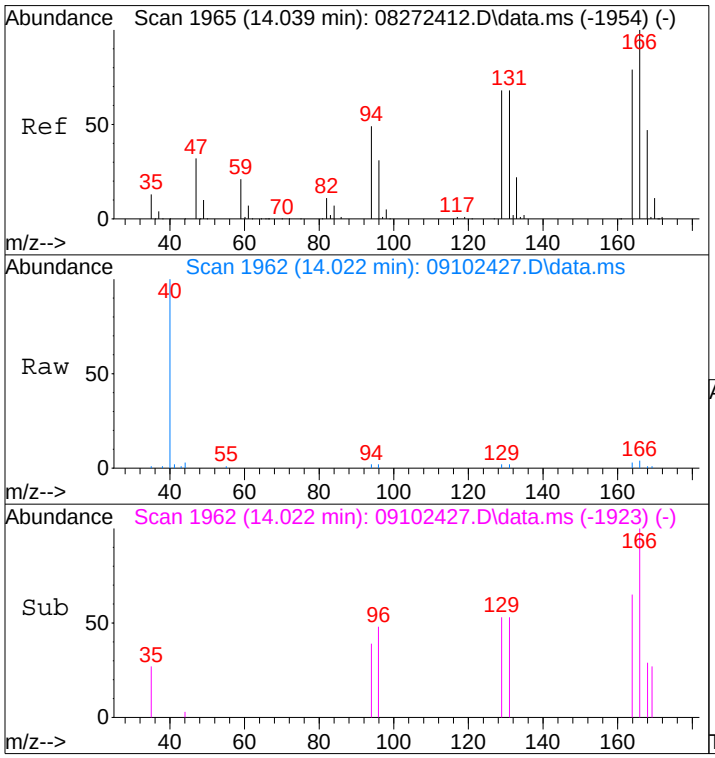


#63
n-Octane
Concen: 0.11 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 57 Resp: 1708

Ion	Ratio	Lower	Upper
57	100		
85	59.4	71.2	106.8#
71	46.3	43.3	64.9

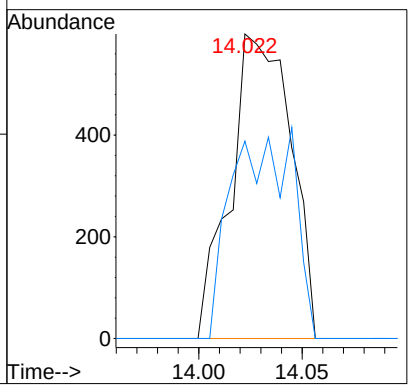


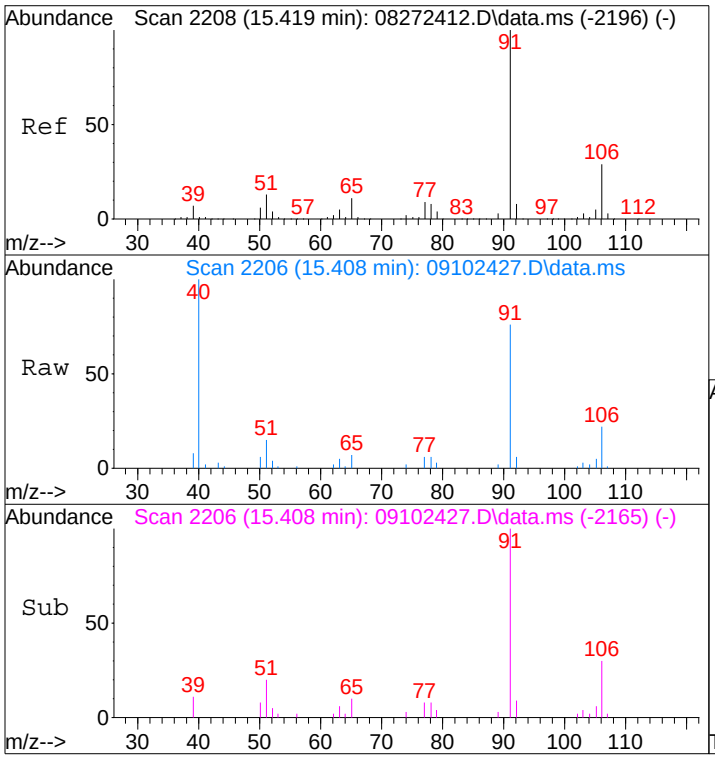


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 14.02 min Scan# 1962
Delta R.T. -0.028 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:166 Resp: 1220

Ion	Ratio	Lower	Upper
166	100		
164	69.5	59.0	99.0

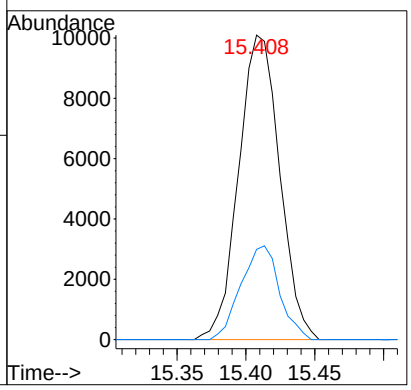


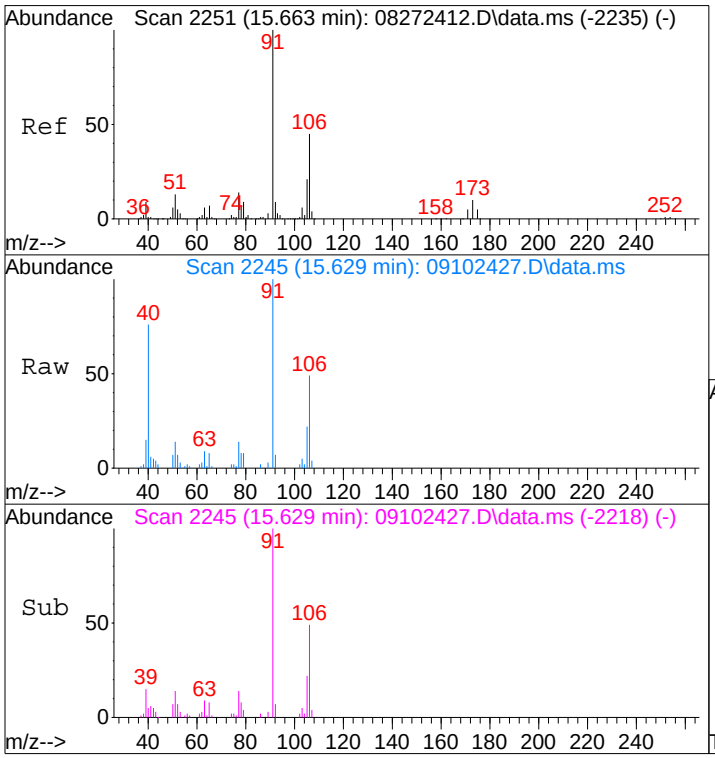


#66
Ethylbenzene
Concen: 0.27 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 91 Resp: 20922

Ion	Ratio	Lower	Upper
91	100		
106	28.9	9.2	49.2

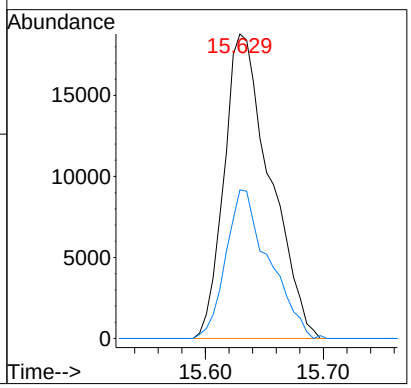


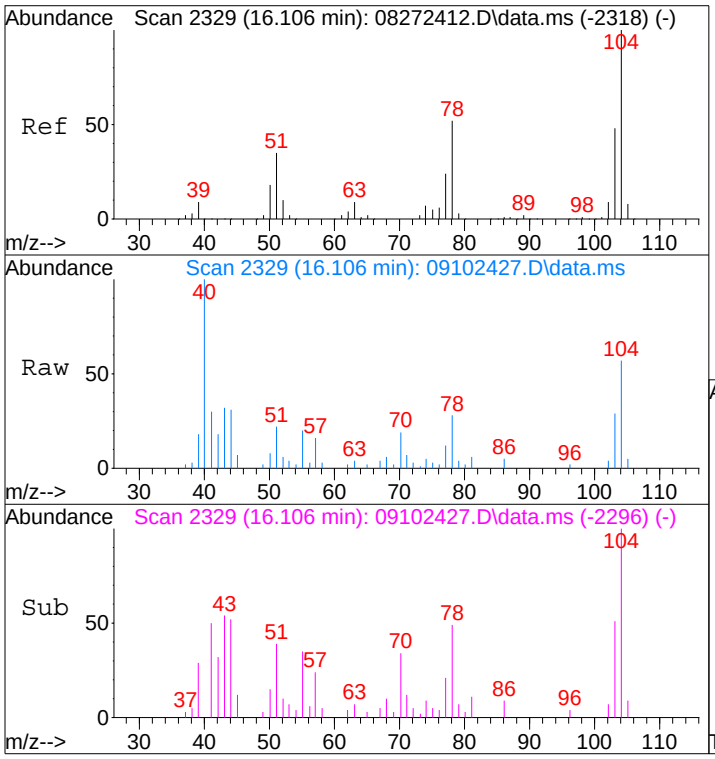


#67
m- & p-Xylenes
Concen: 0.81 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 91 Resp: 50818

Ion	Ratio	Lower	Upper
91	100		
106	45.9	23.8	63.8

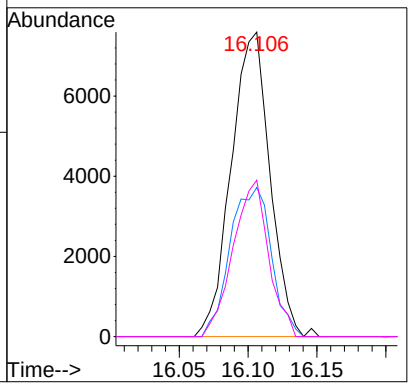


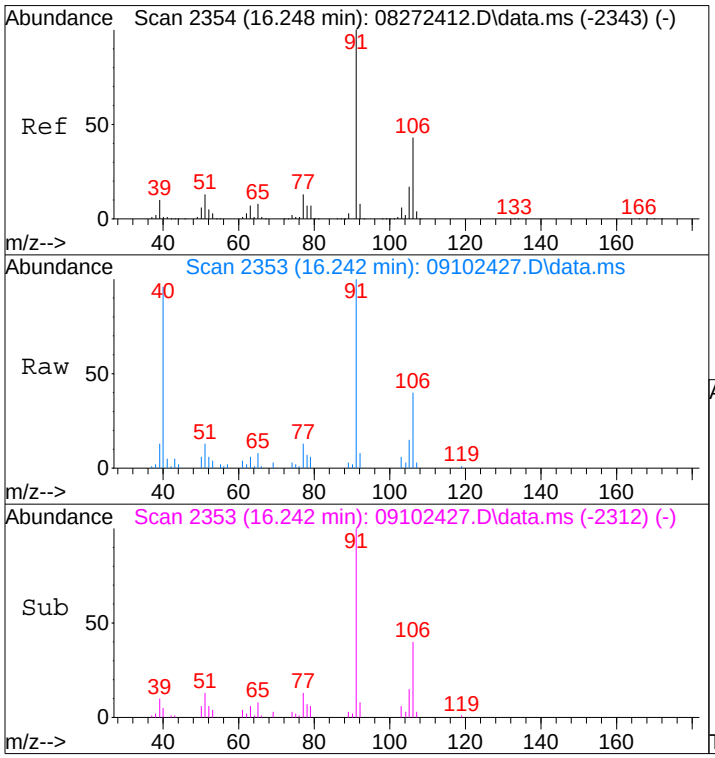


#69
Styrene
Concen: 0.37 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.011 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:104 Resp: 14901

Ion	Ratio	Lower	Upper
104	100		
78	52.0	32.2	72.2
103	47.0	28.3	68.3

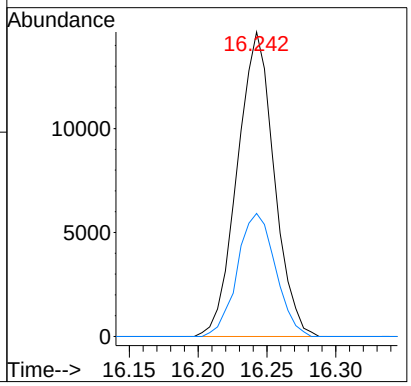


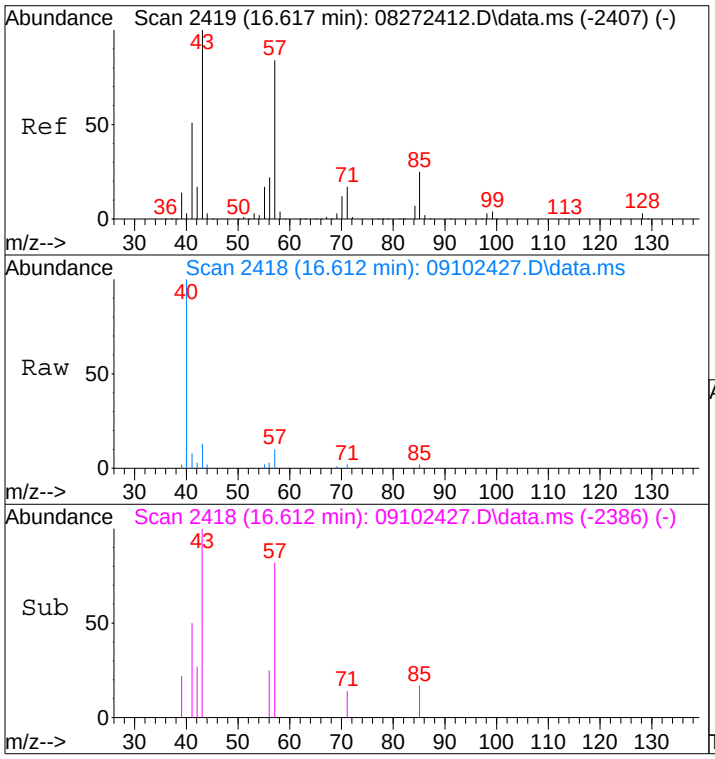


#70
o-Xylene
Concen: 0.45 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 91 Resp: 27288

Ion	Ratio	Lower	Upper
91	100		
106	41.8	22.5	62.5

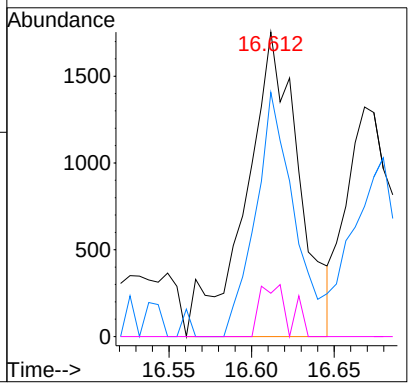


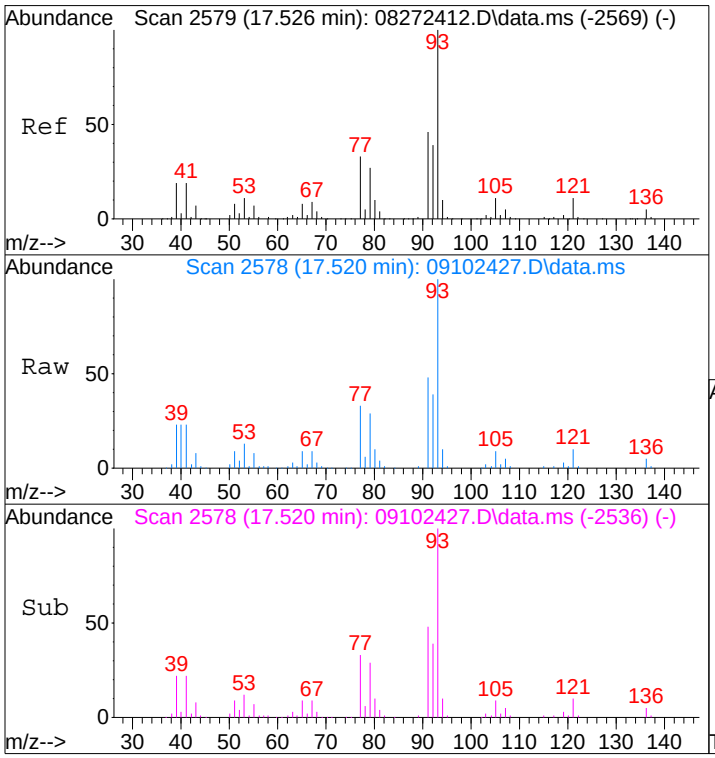


#71
n-Nonane
Concen: 0.10 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 43 Resp: 3902

Ion	Ratio	Lower	Upper
43	100		
57	57.3	63.3	103.3#
85	9.4	4.5	44.5

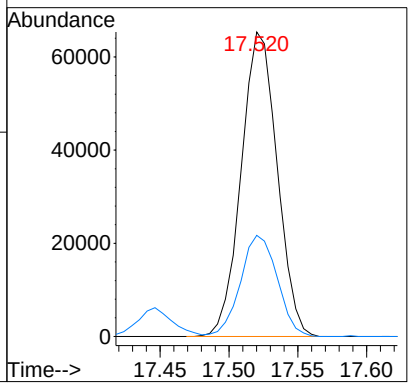


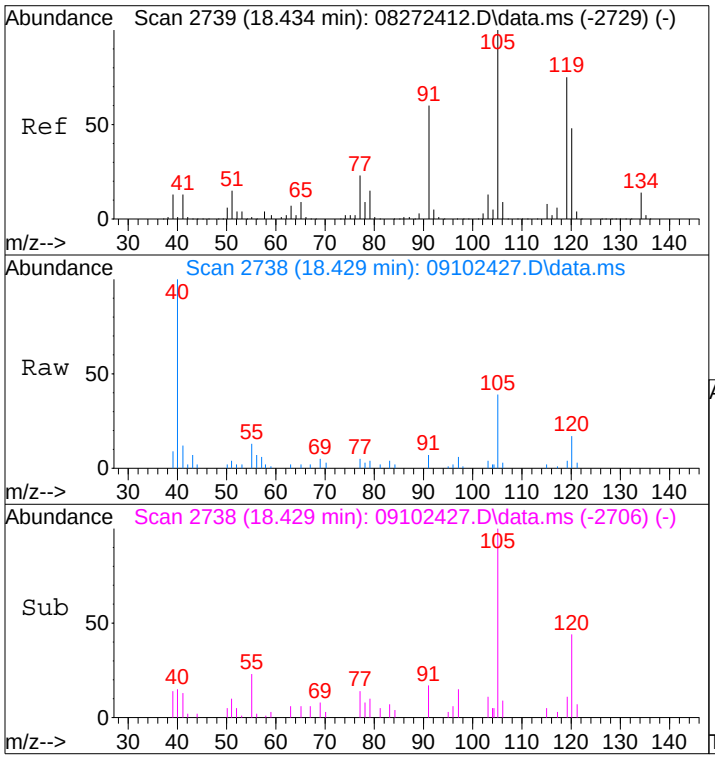


#75
alpha-Pinene
Concen: 3.21 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 93 Resp: 118704

Ion	Ratio	Lower	Upper
93	100		
77	34.0	13.1	53.1

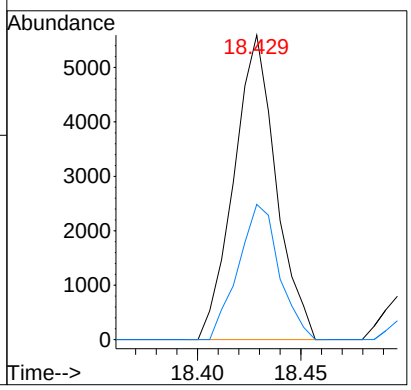


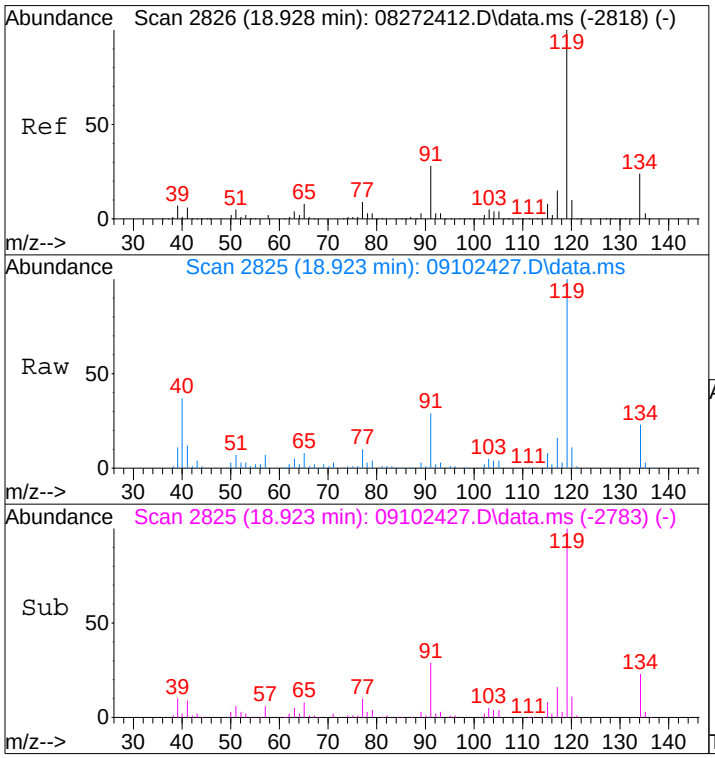


#82
1,2,4-Trimethylbenzene
Concen: 0.13 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:105 Resp: 7935

Ion	Ratio	Lower	Upper
105	100		
120	43.2	28.8	68.8

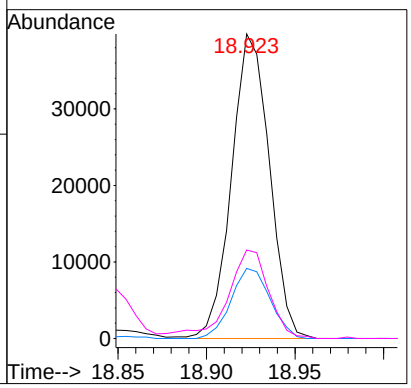


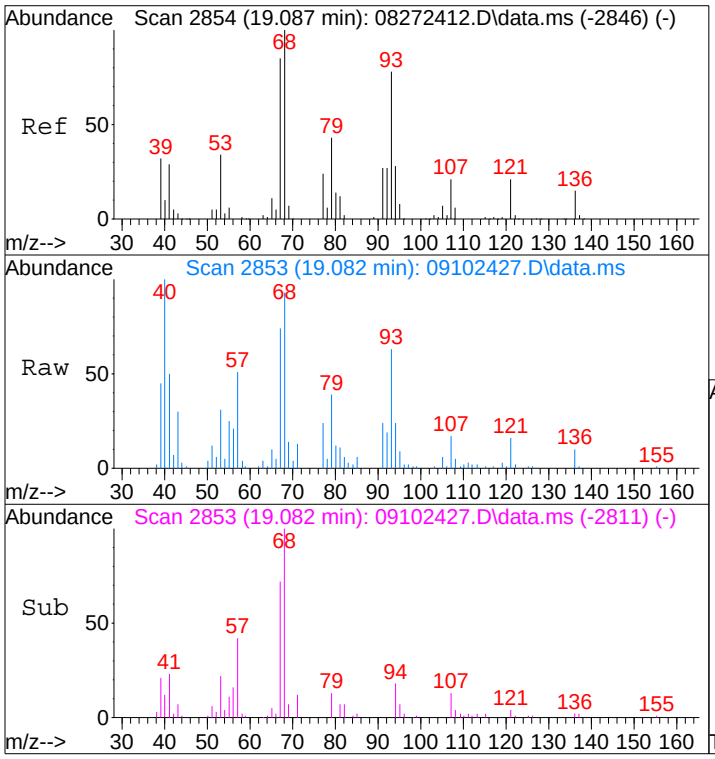


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.85 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion:119 Resp: 59007

Ion	Ratio	Lower	Upper
119	100		
134	23.8	4.7	44.7
91	31.5	8.1	48.1

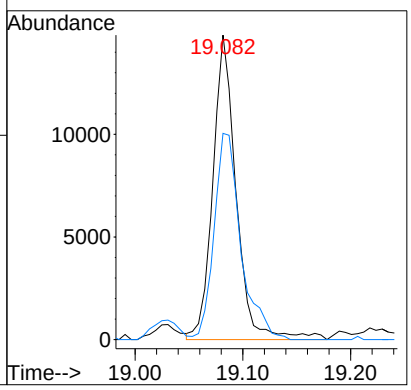




#91
d-Limonene
Concen: 1.06 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09102427.D
Acq: 10 Sep 2024 23:44

Tgt Ion: 68 Resp: 22335

Ion	Ratio	Lower	Upper
68	100		
93	77.4	56.2	96.2



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 12:02:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

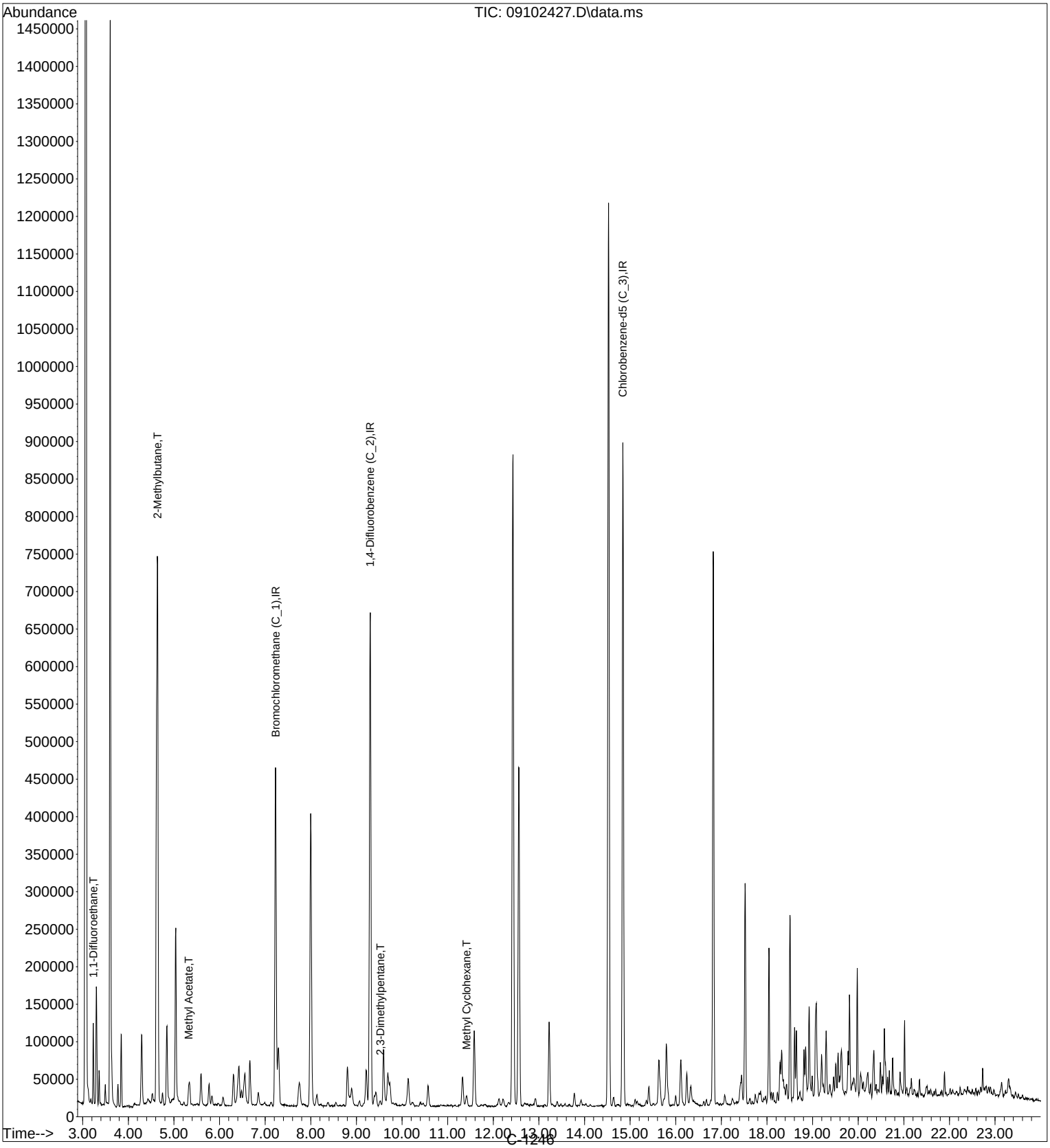
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	133768	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	587707	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	176943	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	214	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	25105	2.150 ng		95
5) Chlorodifluoromethane ...	0.00	67	0	N.D. d		
6) 1-Chloro-1,1-Difluoroe...	3.50	65	765	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.64	57	131349	8.233 ng		86
11) Methyl Acetate	5.32	43	26019	0.577 ng	#	65
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.05	84	664	N.D.		
17) 2,3-Dimethylpentane	9.53	56	3858	0.136 ng	#	77
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	7005	0.231 ng		87
21) 1,3-Dichloropropane	12.56	76	1879	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	1179	N.D.		
25) Bromobenzene	17.06	77	61	N.D.		
26) 2-Chlorotoluene	17.61	91	144	N.D.		
27) 4-Chlorotoluene	17.67	91	2736	N.D.		
28) Indane	19.12	117	847	N.D.		
29) Indene	19.21	115	57	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	858	N.D.		
31) 1,2,3,4-Tetramethylben...	20.18	119	858	N.D.		
32) 1,2,3,5-Tetramethylben...	20.59	119	2010	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102427.D Vial: 6
Acq On : 10 Sep 2024 23:44 Operator: SC
Sample : P2403661-034 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 12:02:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1248

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102427.D
Acq On : 10 Sep 2024 23:44
Operator : SC
Sample : P2403661-034 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102427.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	67	rVB	107278	116678	5.48%	1.523%
2	3.296	67	73	80	rVB3	156936	238948	11.23%	3.120%
3	3.359	80	84	88	rBV	45607	52145	2.45%	0.681%
4	3.495	104	108	113	rBV2	27354	36380	1.71%	0.475%
5	3.603	121	127	150	rVB	1495332	2127283	100.00%	27.776%
6	3.773	152	157	162	rVV	30798	40349	1.90%	0.527%
7	3.841	164	169	176	rVB	97087	132846	6.24%	1.735%
8	4.290	240	248	259	rBV	93776	183541	8.63%	2.397%
9	4.426	268	272	282	rVB4	5586	14417	0.68%	0.188%
10	4.528	282	290	299	rBV4	12648	31010	1.46%	0.405%
11	4.636	299	309	322	rVB2	729103	1872711	88.03%	24.452%
12	4.750	324	329	335	rVB3	15909	28237	1.33%	0.369%
13	4.846	338	346	358	rBV	104666	211256	9.93%	2.758%
14	5.039	372	380	392	rVB	231072	398834	18.75%	5.208%
15	5.340	423	433	439	rBV3	31494	85574	4.02%	1.117%
16	5.596	470	478	491	rVB	42176	90422	4.25%	1.181%
17	5.772	501	509	515	rBV	28208	56503	2.66%	0.738%
18	5.834	515	520	527	rVB2	12404	24987	1.17%	0.326%
19	6.073	557	562	570	rVB3	11370	24395	1.15%	0.319%
20	6.300	595	602	610	rBV	42081	98244	4.62%	1.283%
21	6.425	610	624	630	rVV2	52556	166078	7.81%	2.168%
22	6.482	630	634	638	rVV2	20069	41329	1.94%	0.540%
23	6.555	638	647	659	rVV3	42601	135618	6.38%	1.771%
24	6.663	659	666	676	rVB	59488	130159	6.12%	1.699%
25	6.851	691	699	709	rBV5	16878	40299	1.89%	0.526%
26	7.225	755	765	772	rBV	451591	997076	46.87%	13.019%
27	7.288	772	776	786	rVB3	75069	181671	8.54%	2.372%
28	7.748	847	857	869	rBV5	30980	101712	4.78%	1.328%

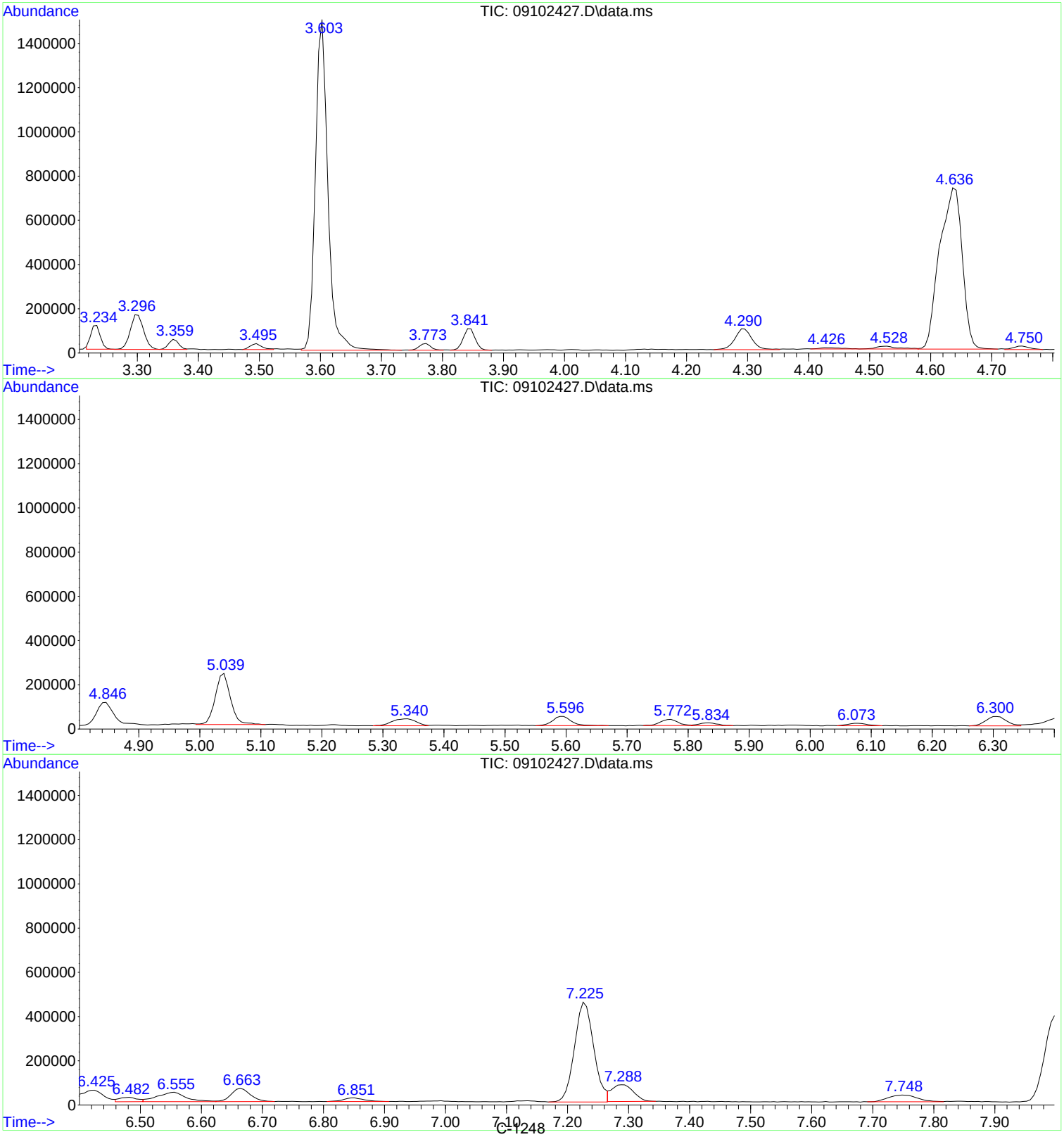
Sum of corrected areas: 7658702

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102427.D
Acq On : 10 Sep 2024 23:44
Operator : SC
Sample : P2403661-034 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102427.D
Acq On : 10 Sep 2024 23:444
Operator : SCC
Sample : P2403661-034 (400mL))
Misc : S37-060624022
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

VOA 9/29/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

9/11/24

Quant Time: Sep 11 11:24:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	120106	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	530853	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	161837	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	315210	14.025	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
57) Toluene-d8 (SS2)	12.43	98	606490	10.683	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.44%				
73) Bromofluorobenzene (SS3)	16.82	174	200499	10.559	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	35660m	1.966	ng		
3) Dichlorodifluoromethan...	3.35	85	18933	0.649	ng		99
4) Chloromethane	3.49	50	10601	0.465	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	427	N.D.			
6) Vinyl Chloride	3.69	62	214	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	321	N.D.			
9) Chloroethane	0.00	64	0	N.D.	d		
10) Ethanol	4.30	45	145115	11.133	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	8765	0.880	ng		99
13) Acetone	4.62	58	316649	28.790	ng	#	1
14) Trichlorofluoromethane	4.76	101	9400046	337.967	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	340490	7.863	ng		90
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	6592	0.509	ng	#	71
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.59	151	5091961	462.110	ng		95
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	6.14	61	991	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.38	73	9216	0.240	ng		94
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	20890	2.677	ng	#	60
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	69466	13.287	ng		90
31) n-Hexane	7.31	57	65453	2.746	ng		96
32) Chloroform	7.37	83	70837	2.960	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	7.82	87	159	N.D.			
36) 1,2-Dichloroethane	8.12	62	3995	0.168	ng		89
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.58	61	7860	No Calib		#	
40) 1-Butanol	8.81	56	51420	No Calib		#	
41) Benzene	8.90	78	32209	0.647	ng		98
42) Carbon Tetrachloride	9.07	117	4574	0.222	ng		96
43) Cyclohexane	9.22	84	55564	3.306	ng		93
44) tert-Amyl Methyl Ether	9.58	73	1073	N.D.			
45) 1,2-Dichloropropane	9.86	63	4090	0.310	ng		96
46) Bromodichloromethane	10.08	83	2078	0.111	ng		97
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	d		
50) Methyl Methacrylate	10.41	100	712	0.165	ng	#	41

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:24:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

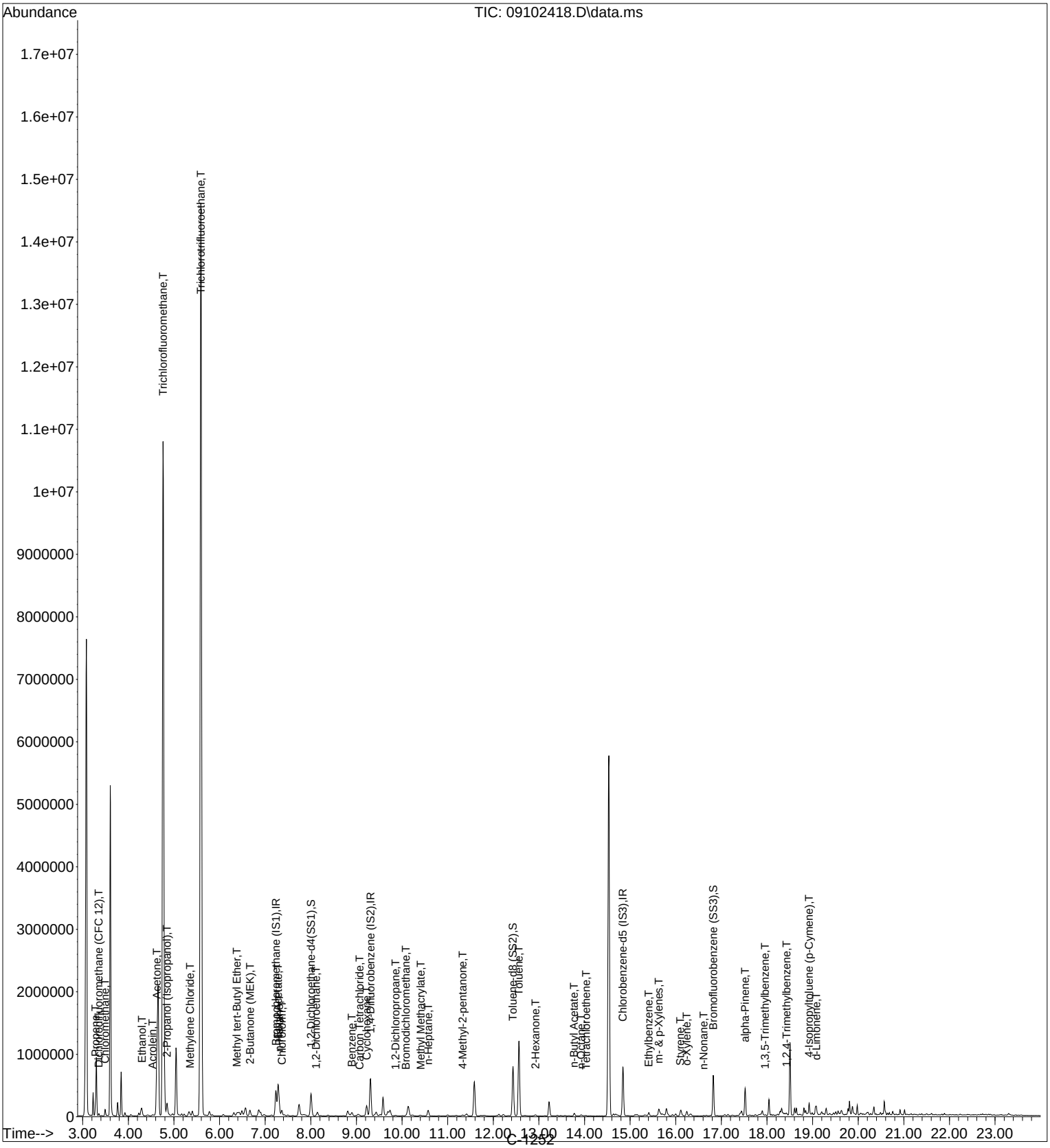
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	19323	1.742 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	4357	0.332 ng	#	67
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	996050	16.230 ng		99
59) 2-Hexanone	12.93	43	17358	0.457 ng	#	65
60) Dibromochloromethane	13.07	129	157	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	42780	1.005 ng		95
63) n-Octane	13.93	57	3013	0.209 ng		89
64) Tetrachloroethene	14.03	166	2336	0.137 ng		96
65) Chlorobenzene	14.90	112	1104	N.D.		
66) Ethylbenzene	15.41	91	40426	0.572 ng		98
67) m- & p-Xylenes	15.63	91	90500	1.576 ng		99
68) Bromoform	15.67	173	179	N.D.		
69) Styrene	16.10	104	21754	0.586 ng		99
70) o-Xylene	16.24	91	44235	0.789 ng		100
71) n-Nonane	16.61	43	4169	0.113 ng		87
72) 1,1,2,2-Tetrachloroethane	16.20	83	255	N.D.		
74) Cumene	17.03	105	3222	N.D.		
75) alpha-Pinene	17.52	93	174425	5.162 ng		97
76) n-Propylbenzene	17.68	91	4013	N.D.		
77) 3-Ethyltoluene	17.03	105	3222	No Calib		
78) 4-Ethyltoluene	17.86	105	2563	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	3050	0.055 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	3222	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	9301	0.161 ng		89
83) n-Decane	17.09	58	918	No Calib	#	
84) Benzyl Chloride	18.55	91	801	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	147	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	475	N.D.		
87) sec-Butylbenzene	18.75	105	844	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	90581	1.431 ng		94
89) 1,2,3-Trimethylbenzene	17.03	105	3222	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	135	N.D.		
91) d-Limonene	19.08	68	23894	1.238 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	527	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	581	N.D.		
95) Naphthalene	20.93	128	1394	N.D.		
96) n-Dodecane	18.92	58	3443	No Calib	#	
97) Hexachlorobutadiene	21.30	225	222	N.D.		
98) Cyclohexanone	15.27	55	406	No Calib	#	
99) tert-Butylbenzene	18.43	119	1273	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:24:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:24:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

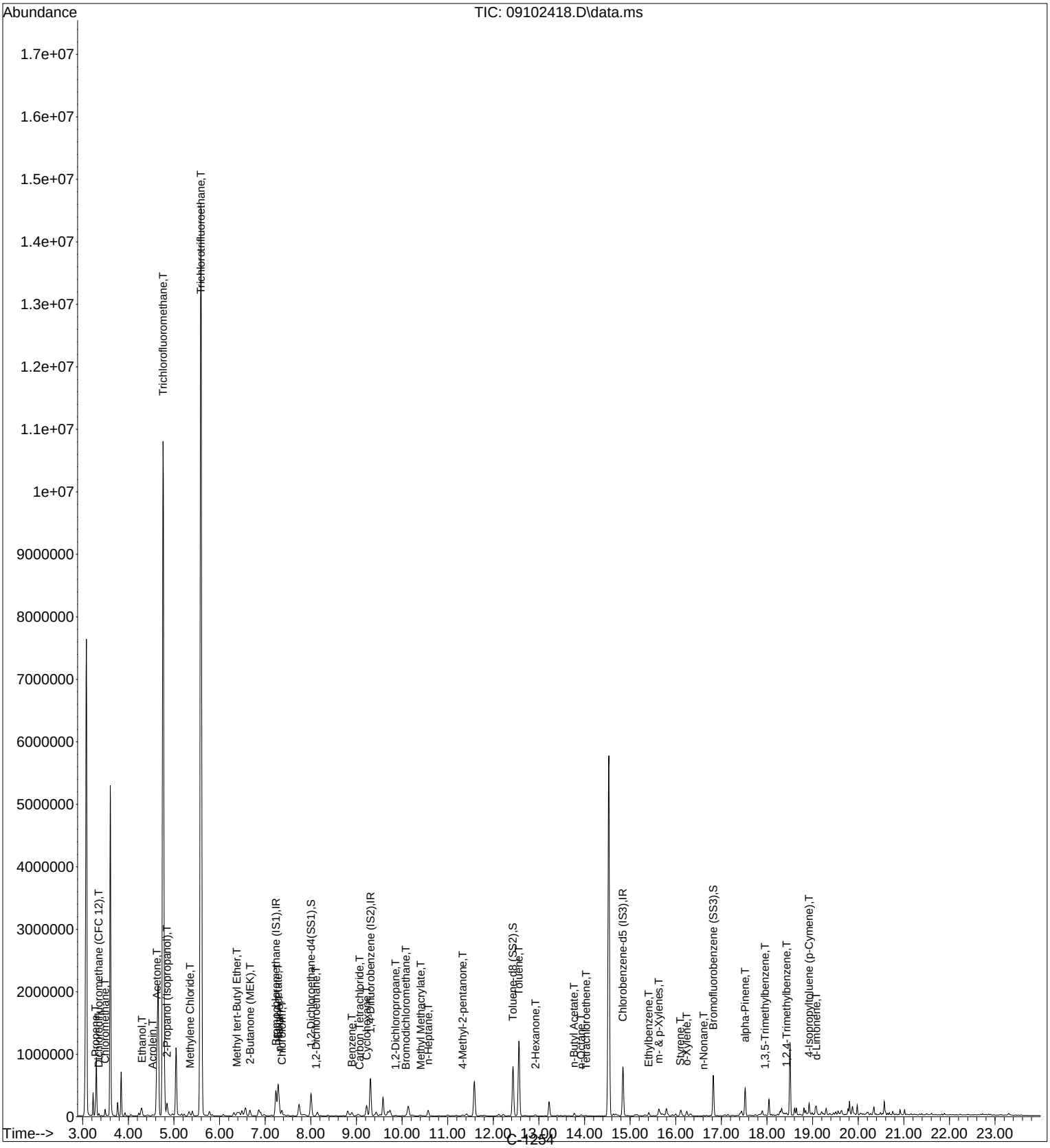
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	120106	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	530853	12.500	ng		0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	161837	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	315210	14.025	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
57) Toluene-d8 (SS2)	12.43	98	606490	10.683	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.44%				
73) Bromofluorobenzene (SS3)	16.82	174	200499	10.559	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	35660m	1.966	ng		
3) Dichlorodifluoromethan...	3.35	85	18933	0.649	ng		99
4) Chloromethane	3.49	50	10601	0.465	ng		96
10) Ethanol	4.30	45	145115	11.133	ng		100
12) Acrolein	4.53	56	8765	0.880	ng		99
13) Acetone	4.62	58	316649	28.790	ng	#	1
14) Trichlorofluoromethane	4.76	101	9400046	337.967	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	340490	7.863	ng		90
19) Methylene Chloride	5.35	84	6592	0.509	ng	#	71
21) Trichlorotrifluoroethane	5.59	151	5091961	462.110	ng		95
25) Methyl tert-Butyl Ether	6.38	73	9216	0.240	ng		94
27) 2-Butanone (MEK)	6.67	72	20890	2.677	ng	#	60
30) Ethyl Acetate	7.28	61	69466	13.287	ng		90
31) n-Hexane	7.31	57	65453	2.746	ng		96
32) Chloroform	7.37	83	70837	2.960	ng		99
36) 1,2-Dichloroethane	8.12	62	3995	0.168	ng		89
41) Benzene	8.90	78	32209	0.647	ng		98
42) Carbon Tetrachloride	9.07	117	4574	0.222	ng		96
43) Cyclohexane	9.22	84	55564	3.306	ng		93
45) 1,2-Dichloropropane	9.86	63	4090	0.310	ng		96
46) Bromodichloromethane	10.08	83	2078	0.111	ng		97
50) Methyl Methacrylate	10.41	100	712	0.165	ng	#	41
51) n-Heptane	10.58	71	19323	1.742	ng		95
53) 4-Methyl-2-pentanone	11.33	58	4357	0.332	ng	#	67
58) Toluene	12.56	91	996050	16.230	ng		99
59) 2-Hexanone	12.93	43	17358	0.457	ng	#	65
62) n-Butyl Acetate	13.77	43	42780	1.005	ng		95
63) n-Octane	13.93	57	3013	0.209	ng		89
64) Tetrachloroethene	14.03	166	2336	0.137	ng		96
66) Ethylbenzene	15.41	91	40426	0.572	ng		98
67) m- & p-Xylenes	15.63	91	90500	1.576	ng		99
69) Styrene	16.10	104	21754	0.586	ng		99
70) o-Xylene	16.24	91	44235	0.789	ng		100
71) n-Nonane	16.61	43	4169	0.113	ng		87
75) alpha-Pinene	17.52	93	174425	5.162	ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	3050	0.055	ng		94
82) 1,2,4-Trimethylbenzene	18.43	105	9301	0.161	ng		89
88) 4-Isopropyltoluene (p-...	18.92	119	90581	1.431	ng		94
91) d-Limonene	19.08	68	23894	1.238	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

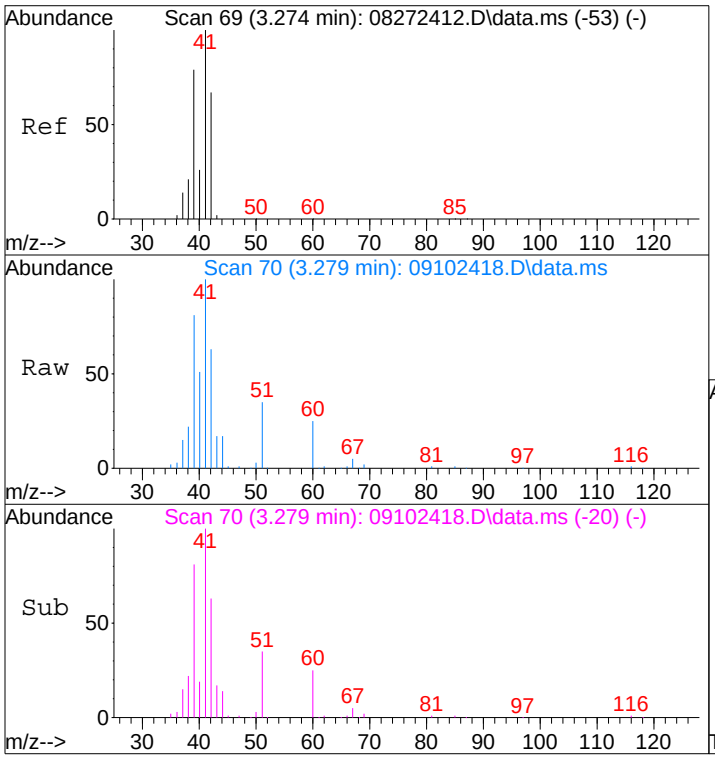
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:24:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



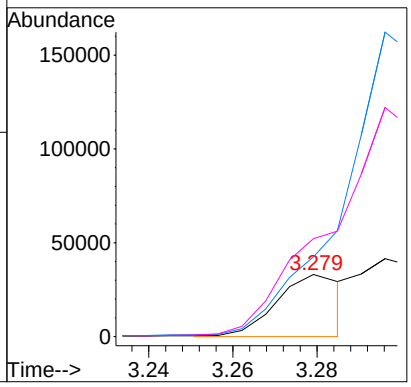
C-1254

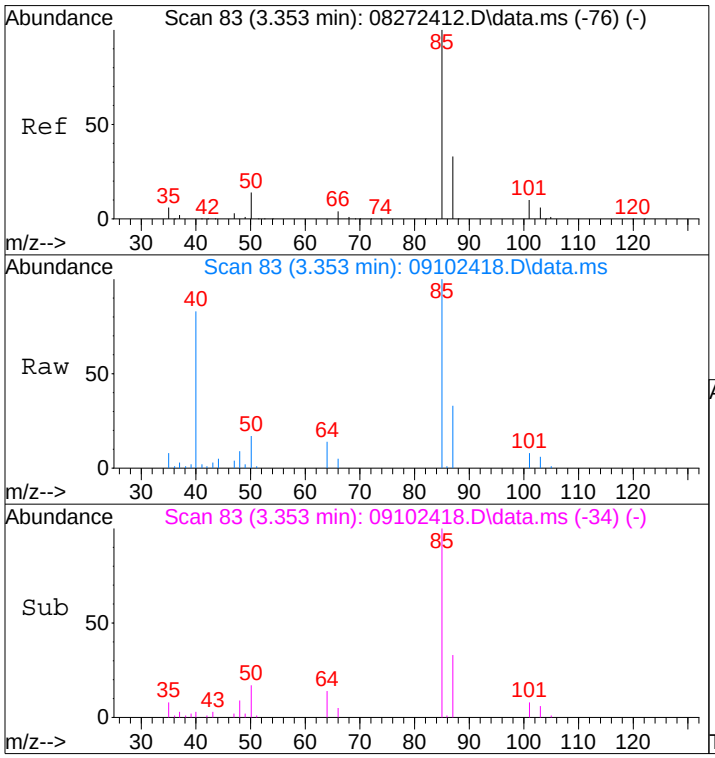


#2
Propene
Concen: 1.97 ng m
RT: 3.28 min Scan# 70
Delta R.T. 0.033 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 42 Resp: 35660

Ion	Ratio	Lower	Upper
42	100		
39	671.8	98.2	138.2#
41	571.4	130.1	170.1#

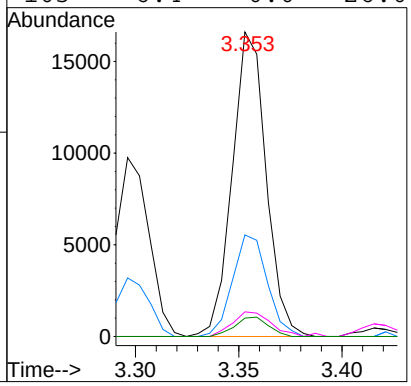


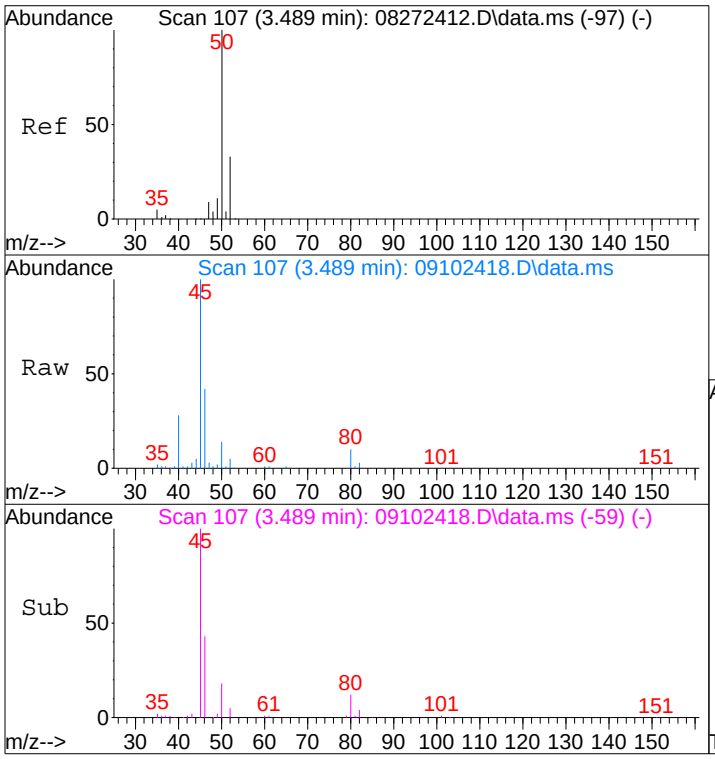


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.65 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.028 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 85 Resp: 18933

Ion	Ratio	Lower	Upper
85	100		
87	34.2	13.1	53.1
101	9.5	0.0	29.4
103	6.4	0.0	26.0

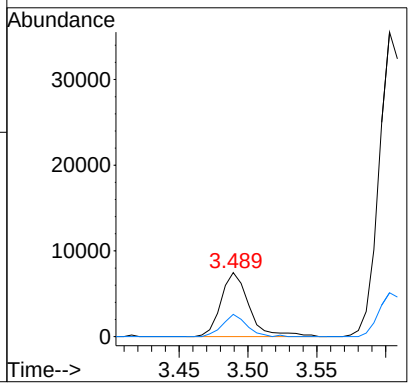


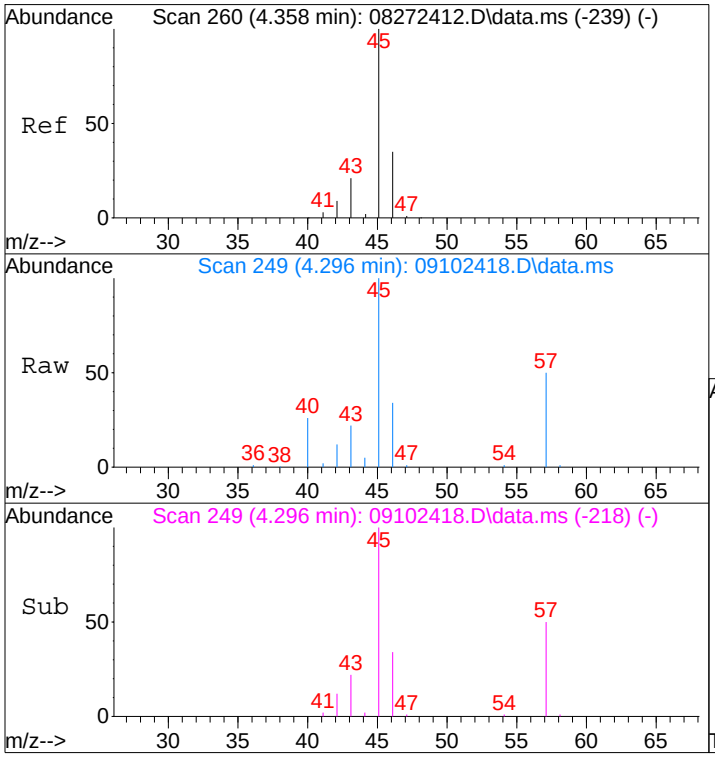


#4
Chloromethane
Concen: 0.46 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.024 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 50 Resp: 10601

Ion	Ratio	Lower	Upper
50	100		
52	29.9	12.4	52.4

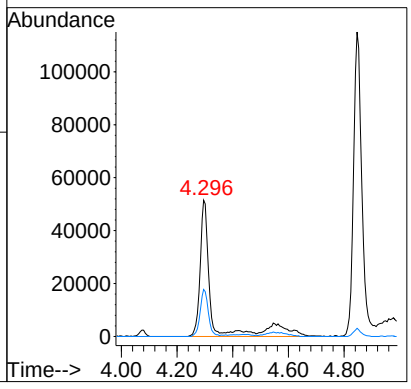


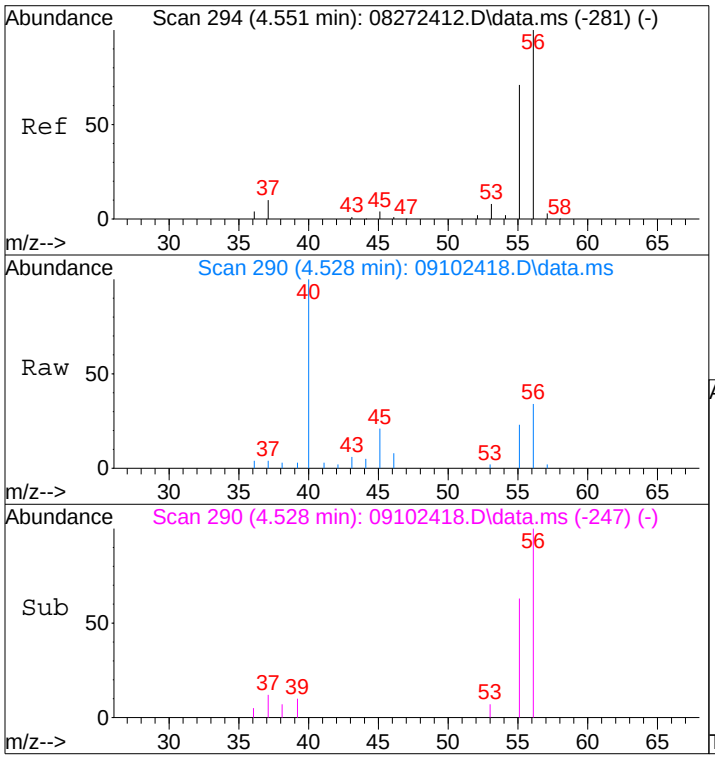


#10
Ethanol
Concen: 11.13 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.073 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 45 Resp: 145115

Ion	Ratio	Lower	Upper
45	100		
46	34.1	14.2	54.2

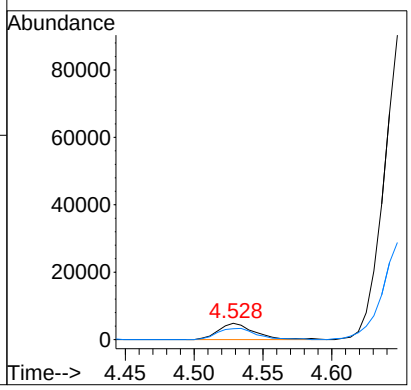


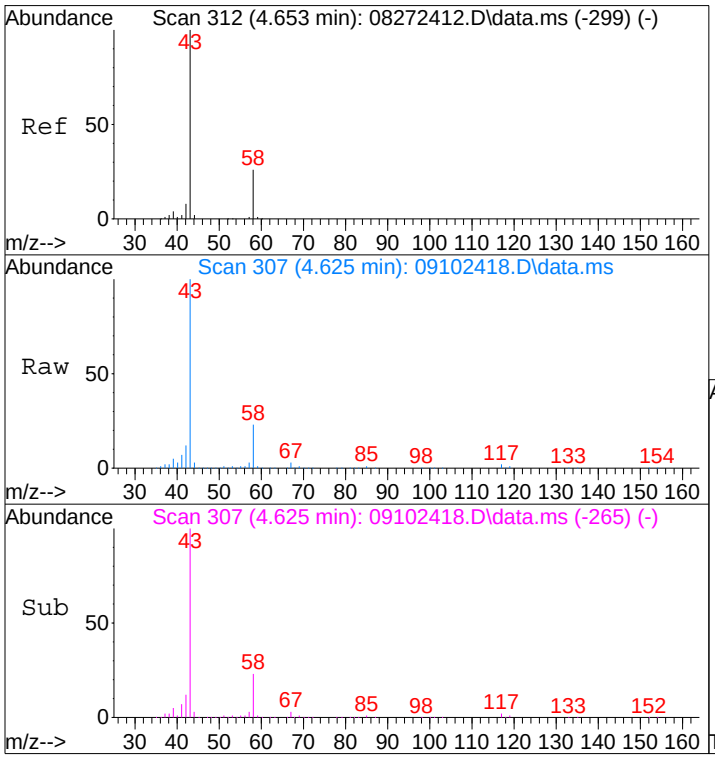


#12
Acrolein
Concen: 0.88 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.003 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 56 Resp: 8765

Ion	Ratio	Lower	Upper
56	100		
55	74.2	54.7	94.7

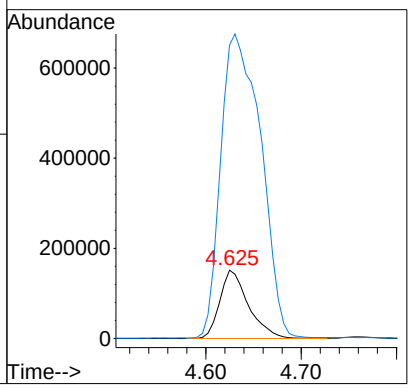


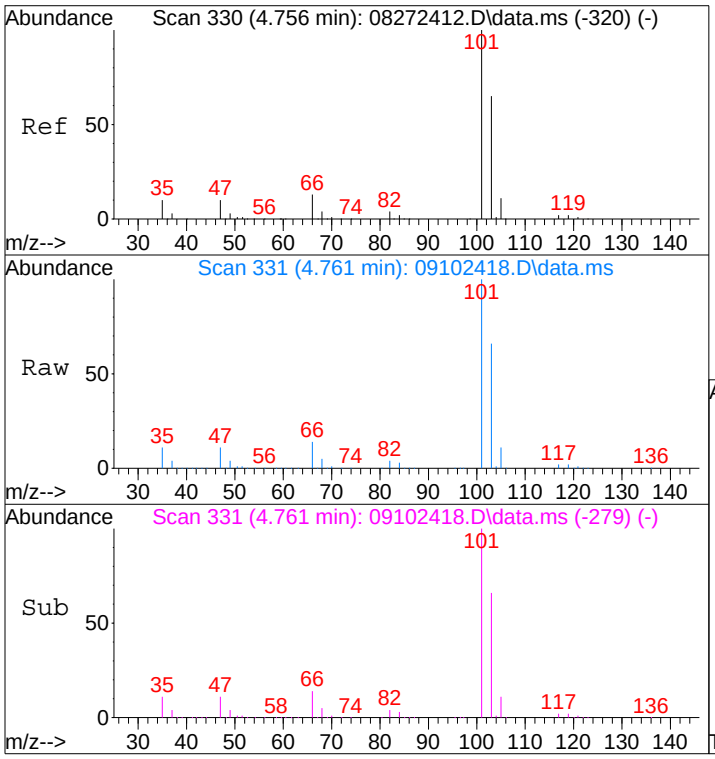


#13
Acetone
Concen: 28.79 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.013 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 58 Resp: 316649

Ion	Ratio	Lower	Upper
58	100		
43	622.1	347.3	407.3#

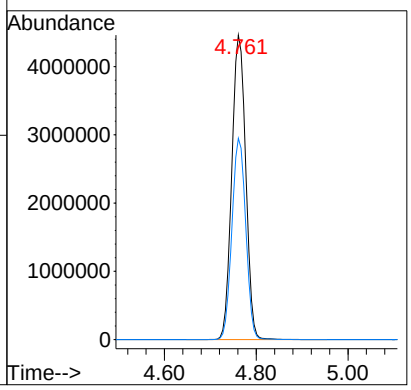


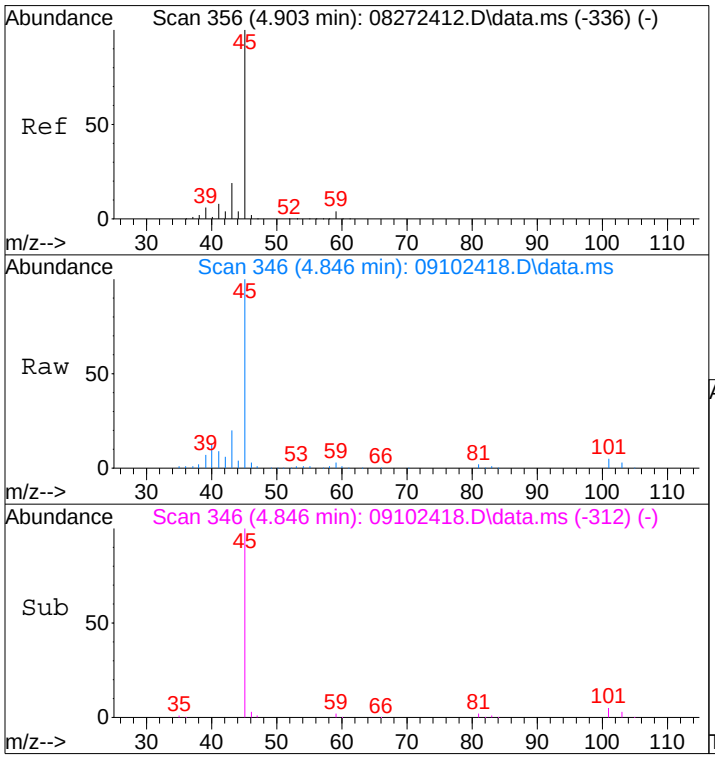


#14
Trichlorofluoromethane
Concen: 337.97 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.044 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:101 Resp: 9400046

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.9	84.9

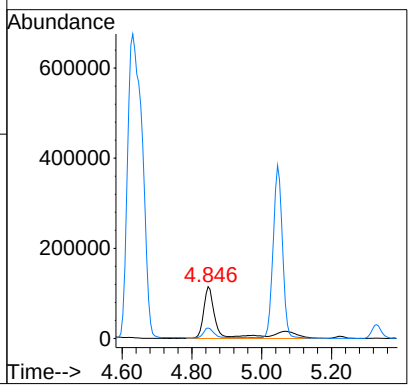


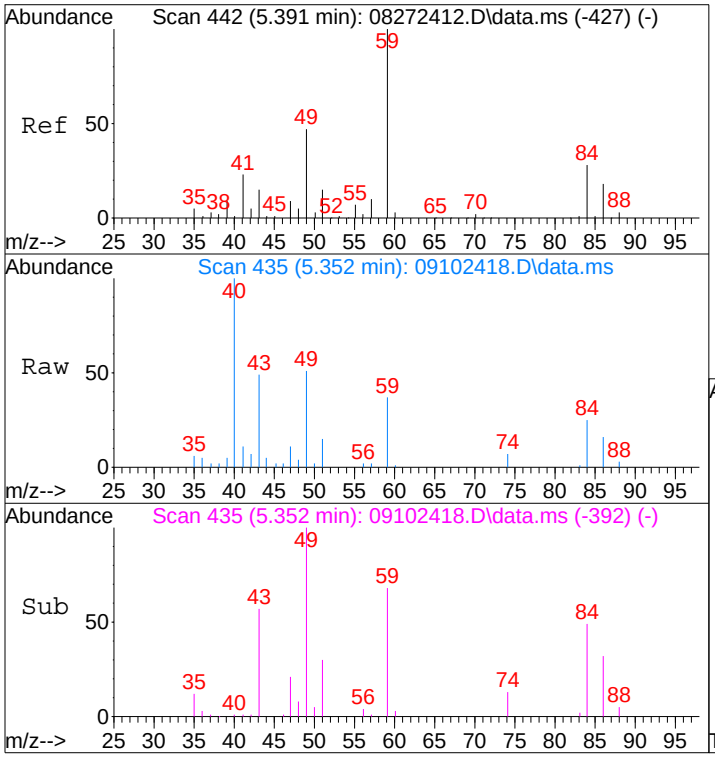


#15
2-Propanol (Isopropanol)
Concen: 7.86 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.056 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 45 Resp: 340490

Ion	Ratio	Lower	Upper
45	100		
43	15.5	0.0	40.0

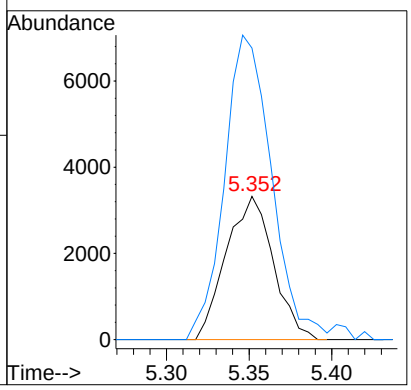


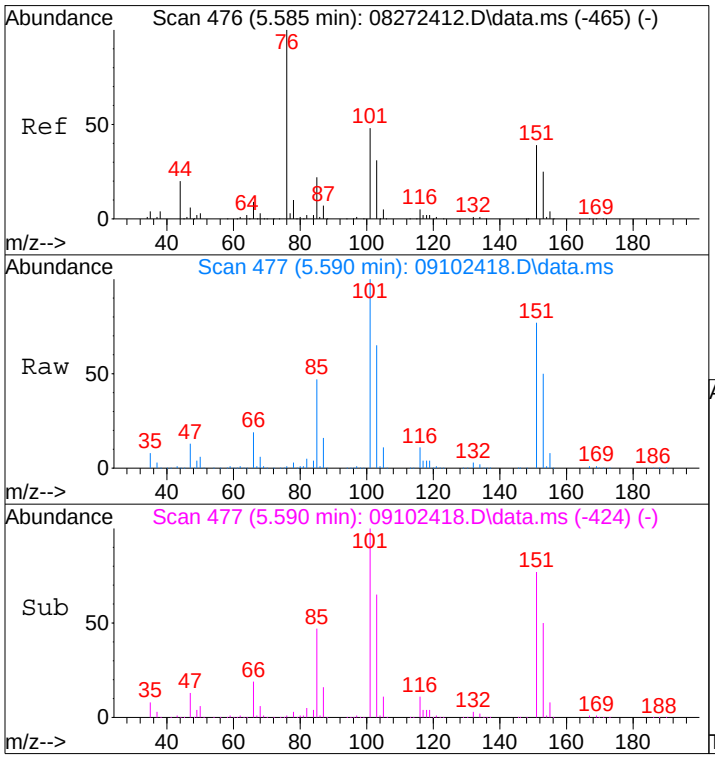


#19
Methylene Chloride
Concen: 0.51 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.005 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 84 Resp: 6592

Ion	Ratio	Lower	Upper
84	100		
49	216.5	151.1	201.1#

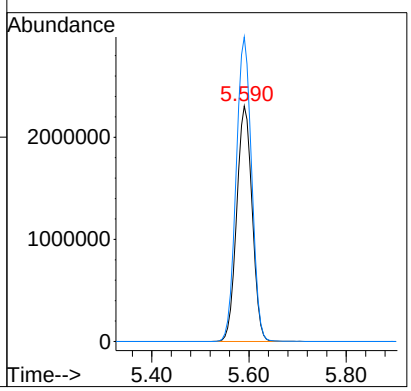


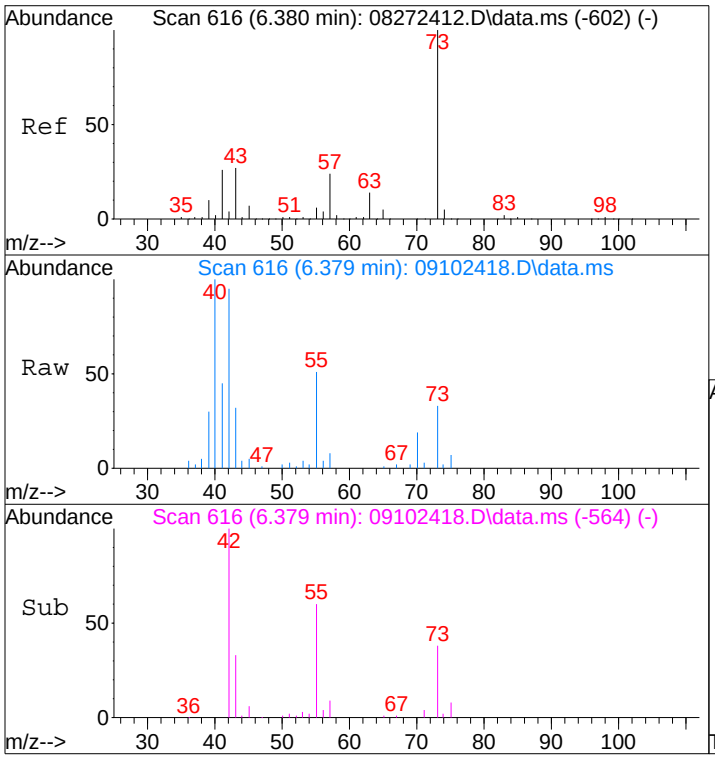


#21
Trichlorotrifluoroethane
Concen: 462.11 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.048 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:151 Resp: 5091961

Ion	Ratio	Lower	Upper
151	100		
101	129.3	103.4	143.4

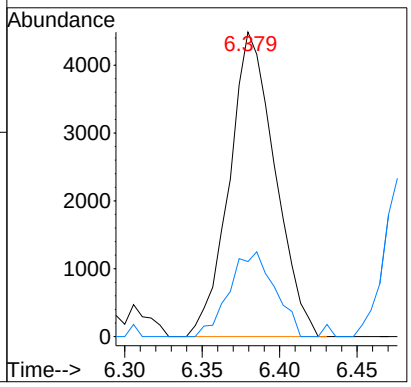


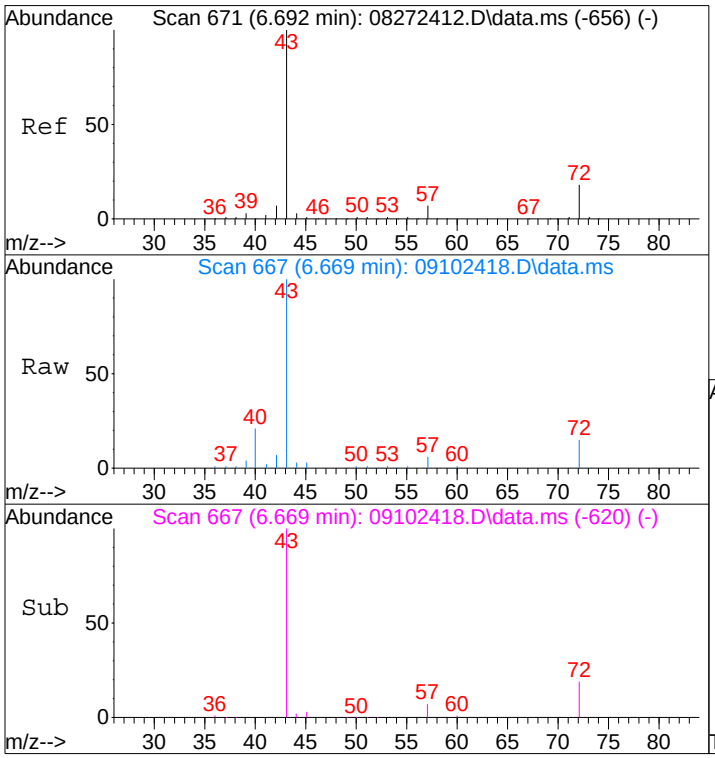


#25
Methyl tert-Butyl Ether
Concen: 0.24 ng
RT: 6.38 min Scan# 616
Delta R.T. 0.046 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 73 Resp: 9216

Ion	Ratio	Lower	Upper
73	100		
57	27.6	4.7	44.7

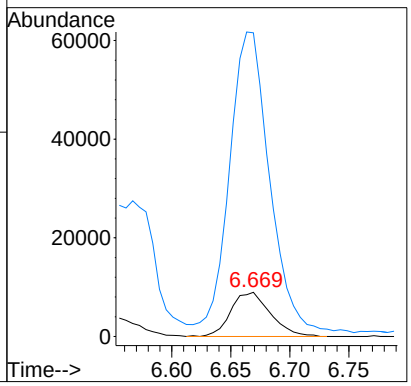


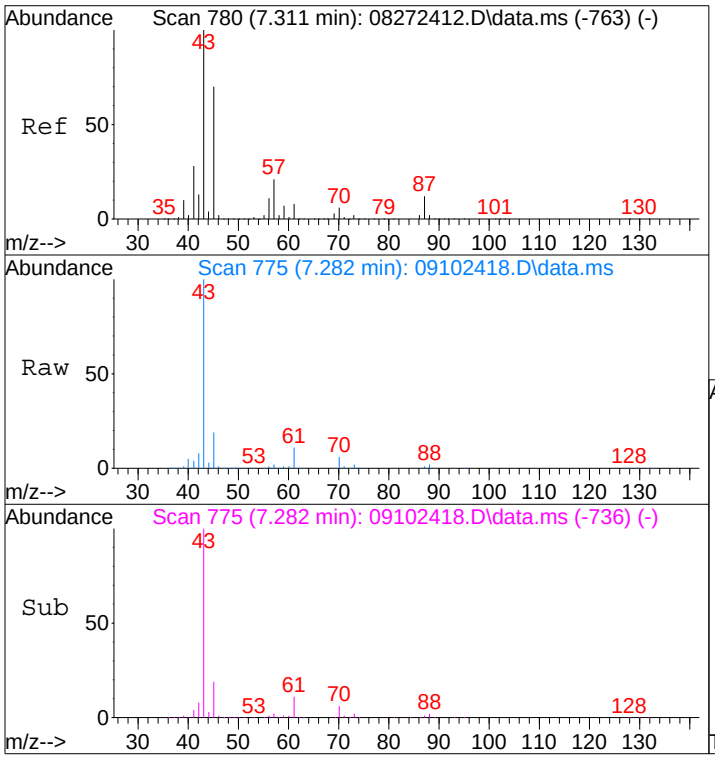


#27
2-Butanone (MEK)
Concen: 2.68 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.016 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 72 Resp: 20890

Ion	Ratio	Lower	Upper
72	100		
43	689.6	548.0	588.0#

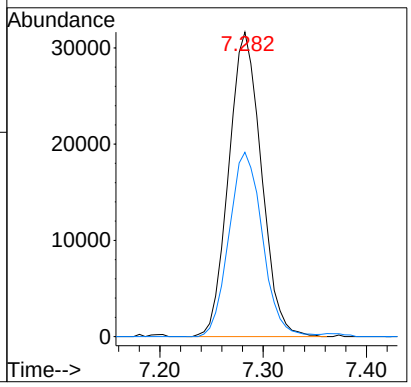


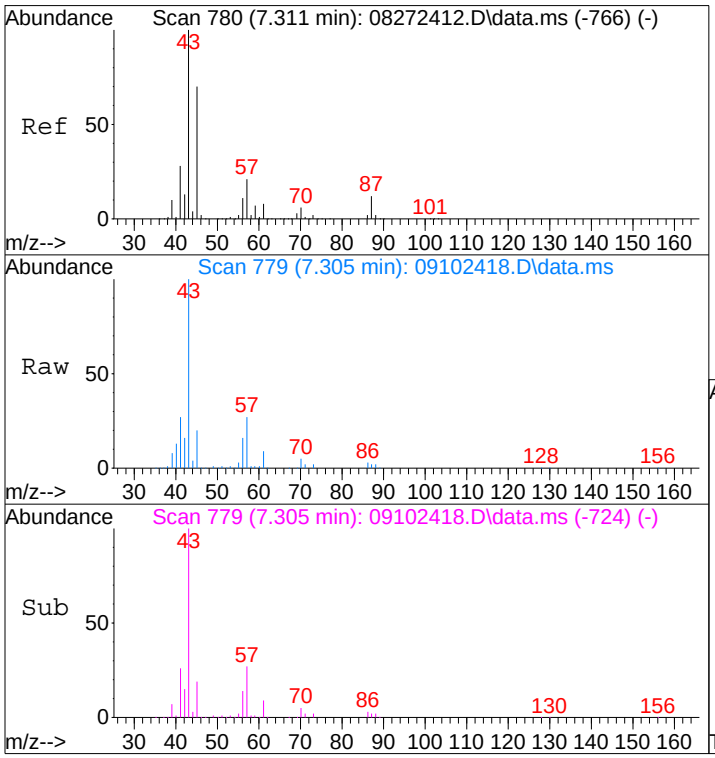


#30
Ethyl Acetate
Concen: 13.29 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.023 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 61 Resp: 69466

Ion	Ratio	Lower	Upper
61	100		
70	62.0	49.9	89.9

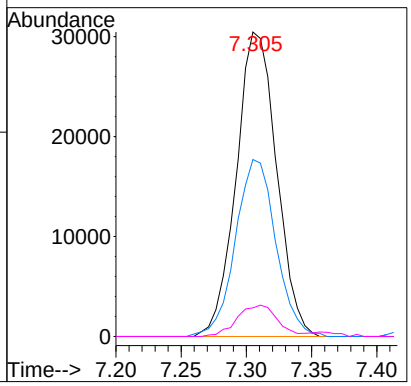


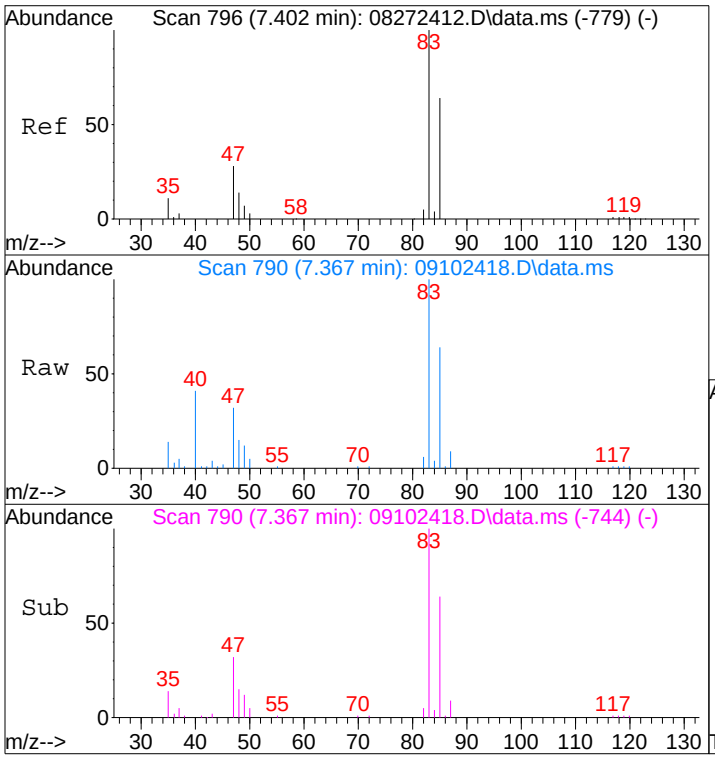


#31
n-Hexane
Concen: 2.75 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.063 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 57 Resp: 65453

Ion	Ratio	Lower	Upper
57	100		
56	58.2	44.2	66.2
86	10.4	9.3	13.9

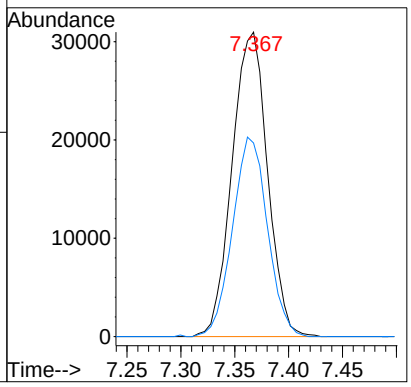


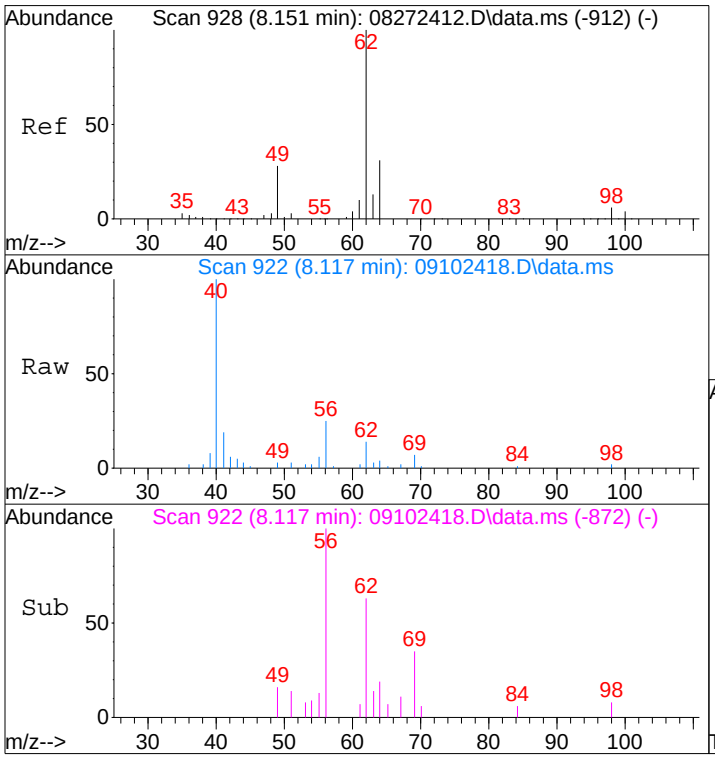


#32
Chloroform
Concen: 2.96 ng
RT: 7.37 min Scan# 790
Delta R.T. 0.013 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 83 Resp: 70837

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.3	85.3

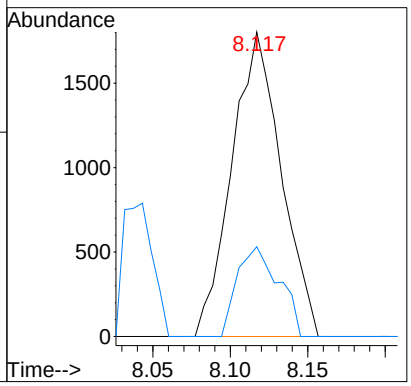


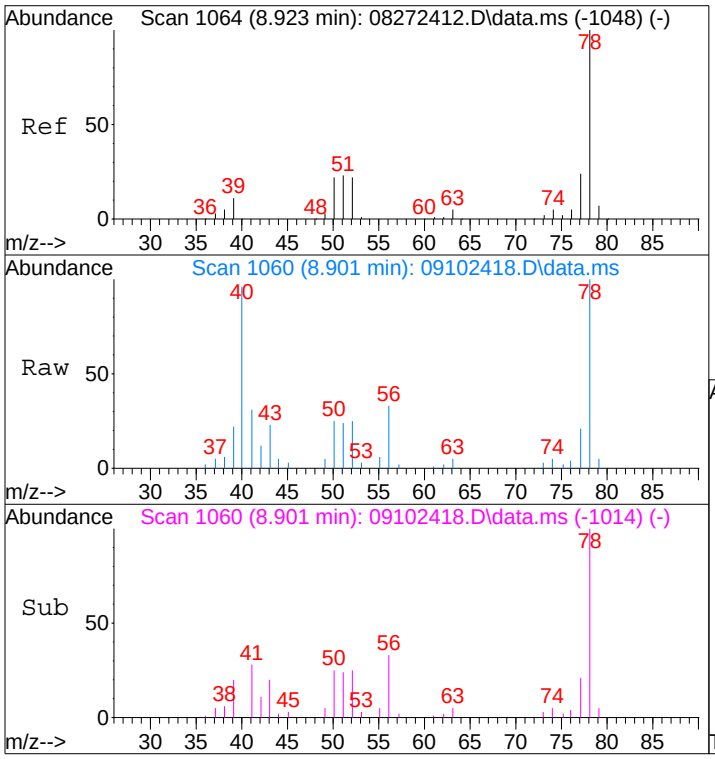


#36
1,2-Dichloroethane
Concen: 0.17 ng
RT: 8.12 min Scan# 922
Delta R.T. 0.033 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 62 Resp: 3995

Ion	Ratio	Lower	Upper
62	100		
64	25.0	11.0	51.0

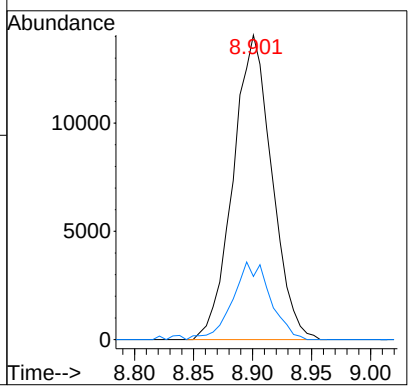


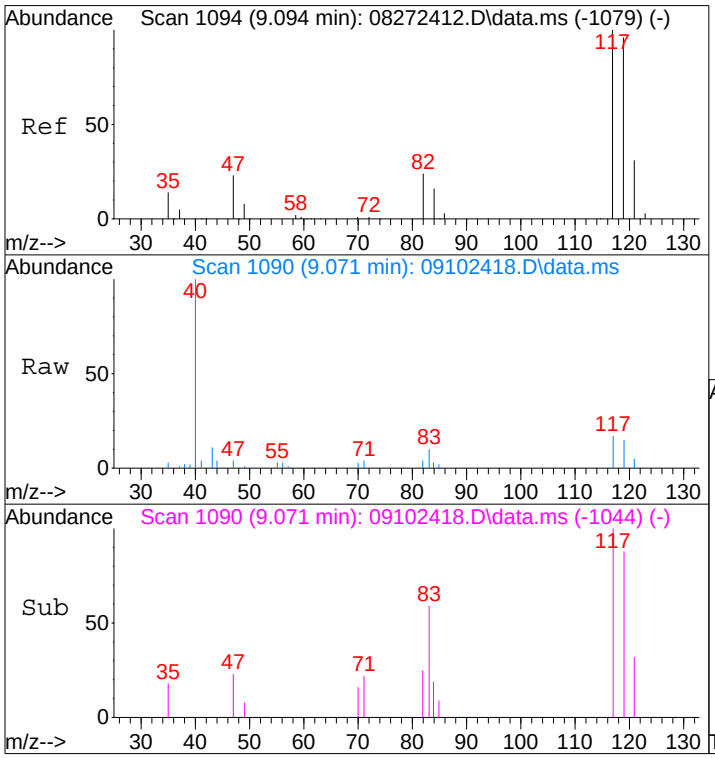


#41
Benzene
Concen: 0.65 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.009 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 78 Resp: 32209

Ion	Ratio	Lower	Upper
78	100		
77	24.7	3.9	43.9

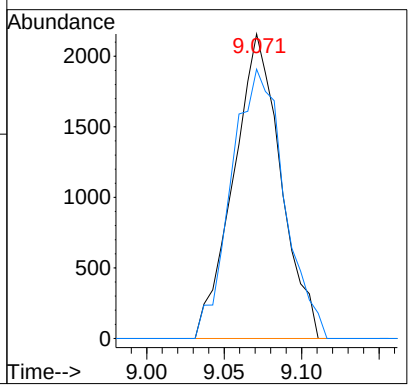


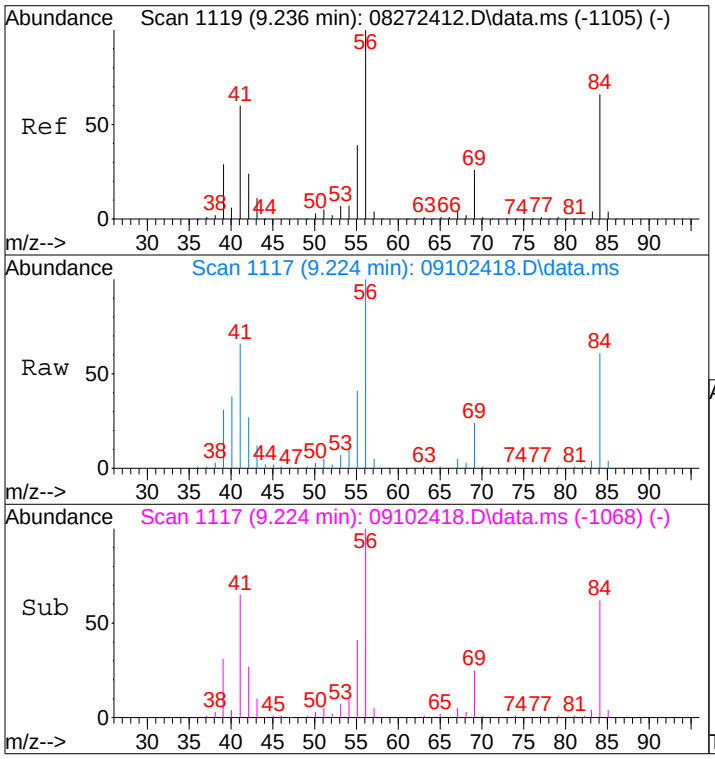


#42
Carbon Tetrachloride
Concen: 0.22 ng
RT: 9.07 min Scan# 1090
Delta R.T. 0.010 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:117 Resp: 4574

Ion	Ratio	Lower	Upper
117	100		
119	99.2	75.1	115.1

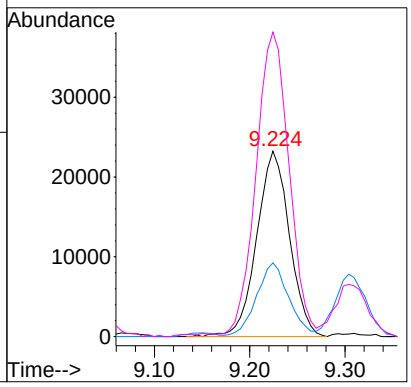


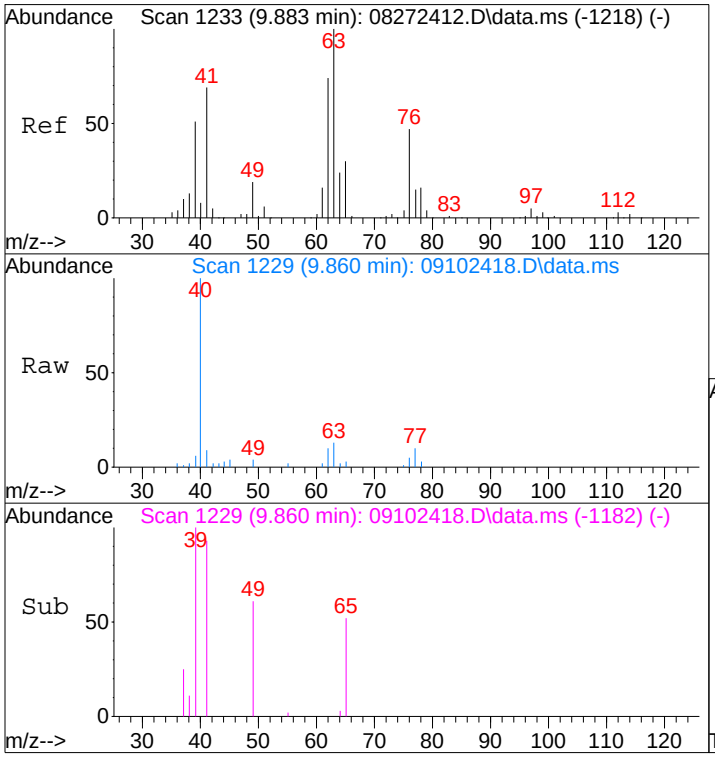


#43
Cyclohexane
Concen: 3.31 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.028 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 84 Resp: 55564

Ion	Ratio	Lower	Upper
84	100		
69	38.5	18.8	58.8
56	165.7	134.5	174.5

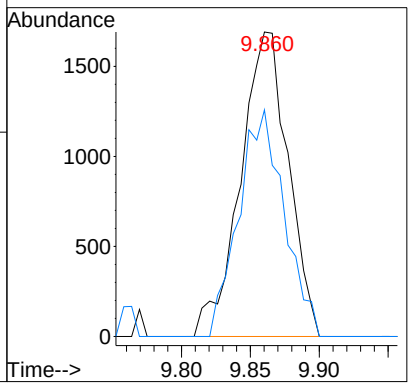


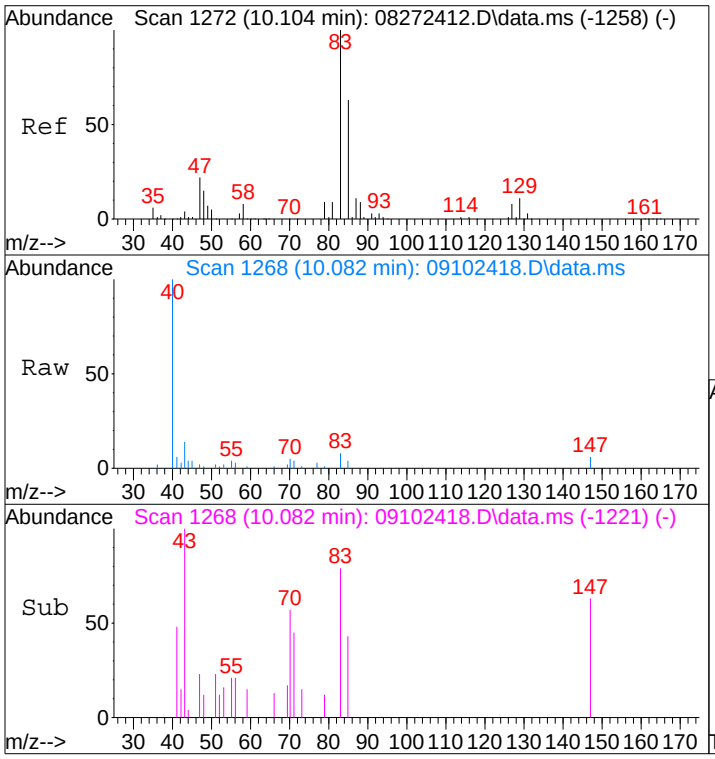


#45
1,2-Dichloropropane
Concen: 0.31 ng
RT: 9.86 min Scan# 1229
Delta R.T. 0.015 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 63 Resp: 4090

Ion	Ratio	Lower	Upper
63	100		
62	70.7	54.2	94.2

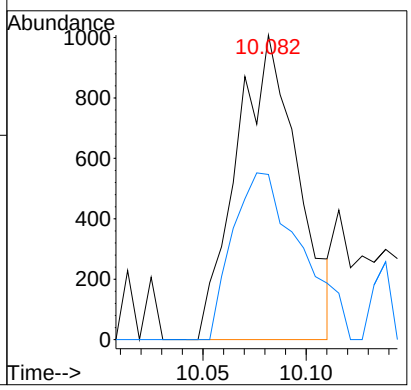


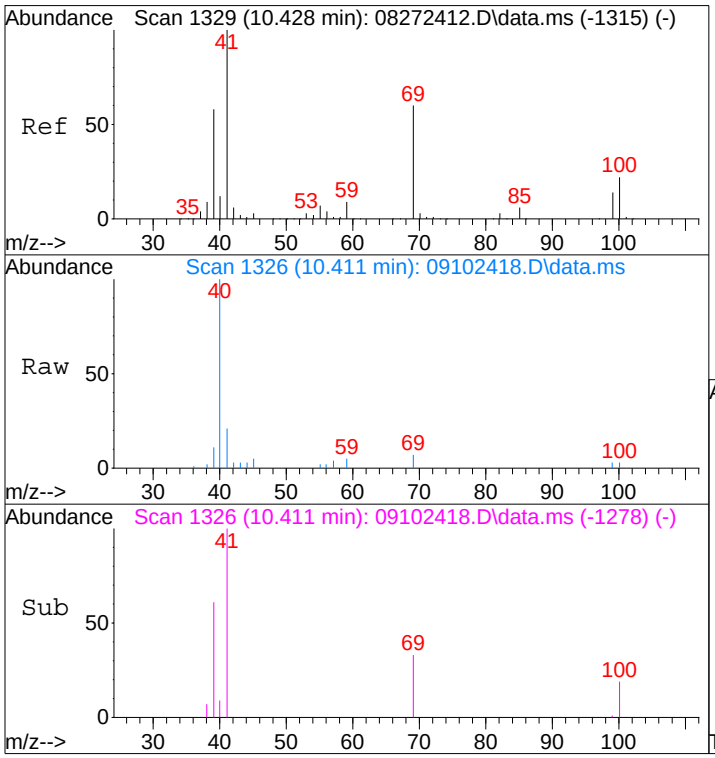


#46
Bromodichloromethane
Concen: 0.11 ng
RT: 10.08 min Scan# 1268
Delta R.T. 0.016 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 83 Resp: 2078

Ion	Ratio	Lower	Upper
83	100		
85	61.3	43.9	83.9

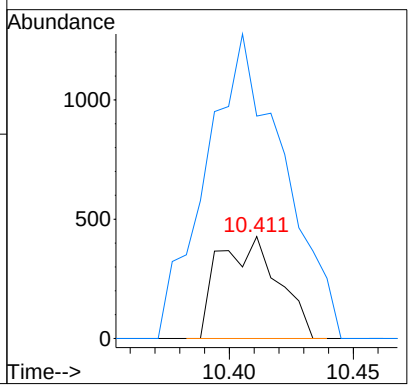


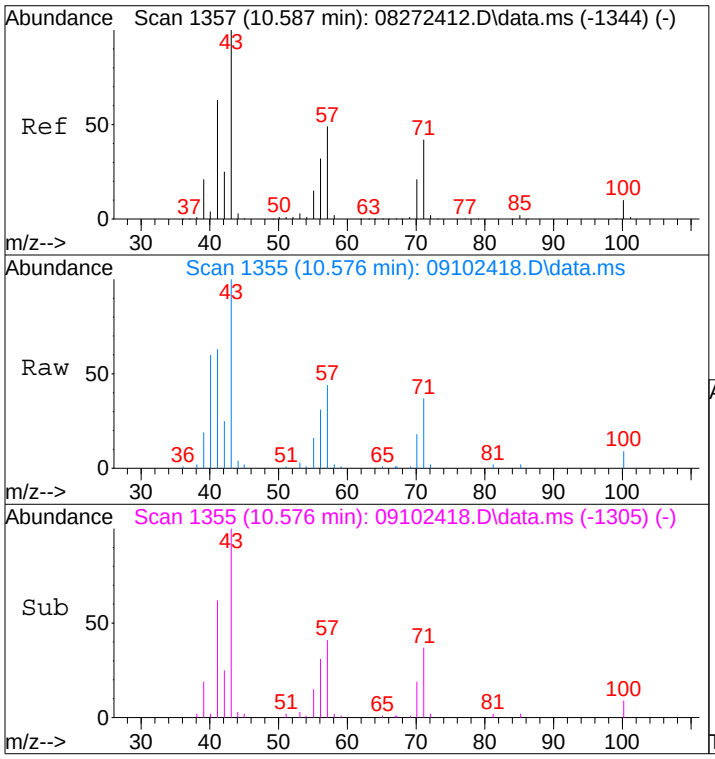


#50
Methyl Methacrylate
Concen: 0.16 ng
RT: 10.41 min Scan# 1326
Delta R.T. 0.024 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:100 Resp: 712

Ion	Ratio	Lower	Upper
100	100		
69	391.6	260.7	300.7#

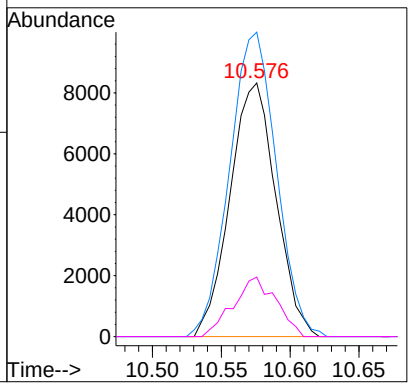


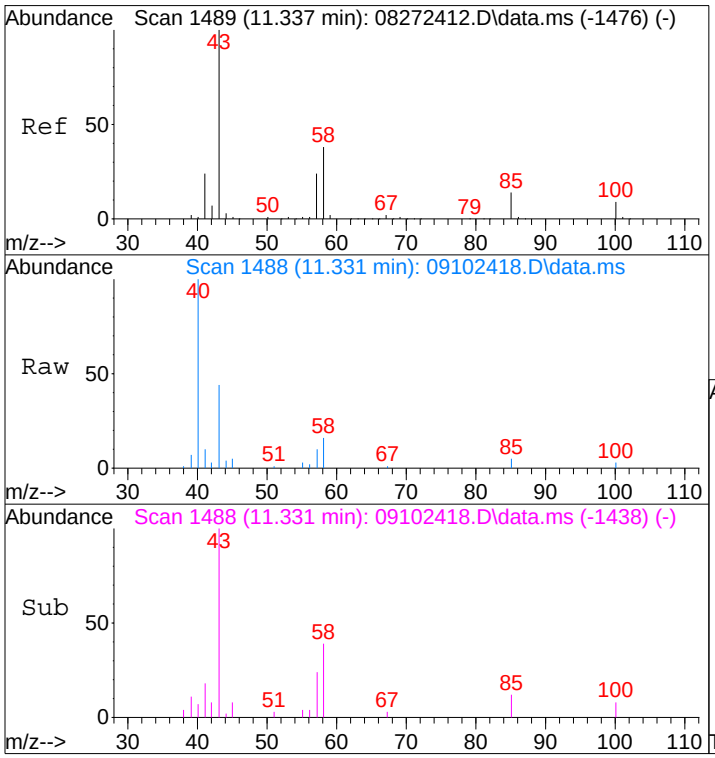


#51
n-Heptane
Concen: 1.74 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.036 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 71 Resp: 19323

Ion	Ratio	Lower	Upper
71	100		
57	122.2	97.1	137.1
100	21.8	5.0	45.0

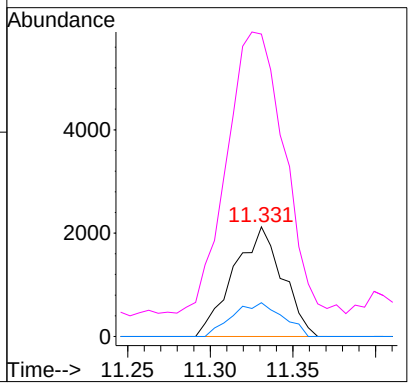


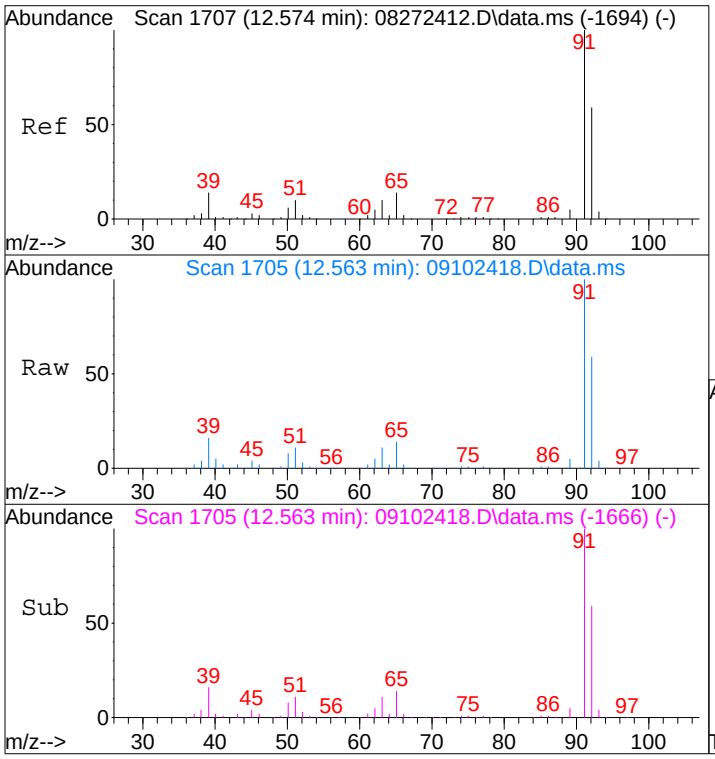


#53
4-Methyl-2-pentanone
Concen: 0.33 ng
RT: 11.33 min Scan# 1488
Delta R.T. 0.035 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 58 Resp: 4357

Ion	Ratio	Lower	Upper
58	100		
85	31.8	30.2	45.2
43	335.5	215.1	322.7#

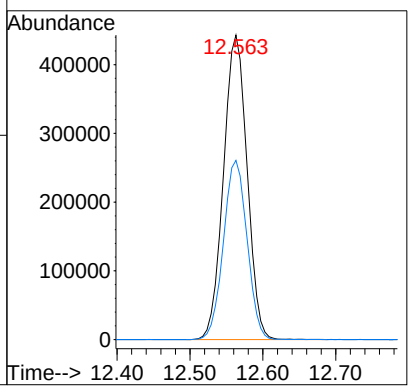


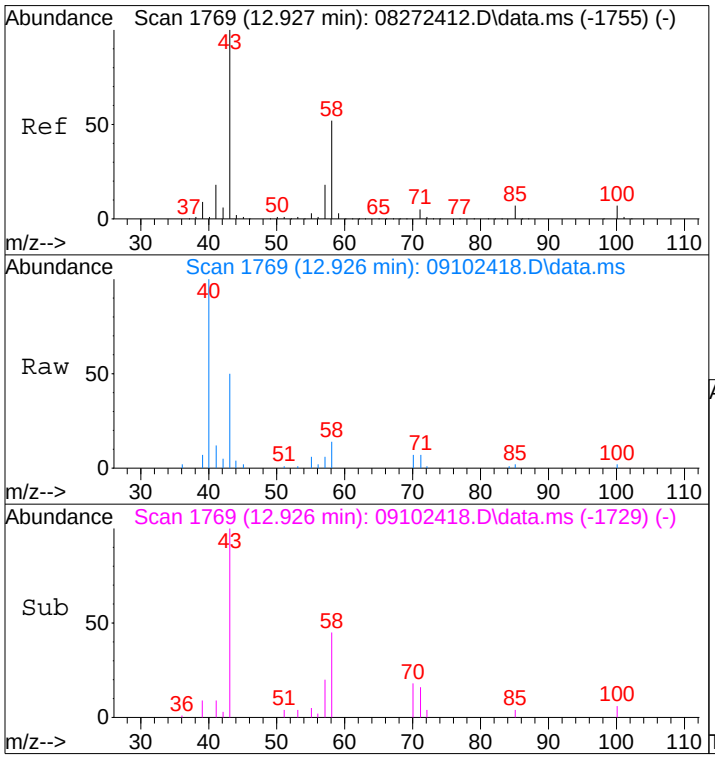


#58
Toluene
Concen: 16.23 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 91 Resp: 996050

Ion	Ratio	Lower	Upper
91	100		
92	58.9	38.5	78.5

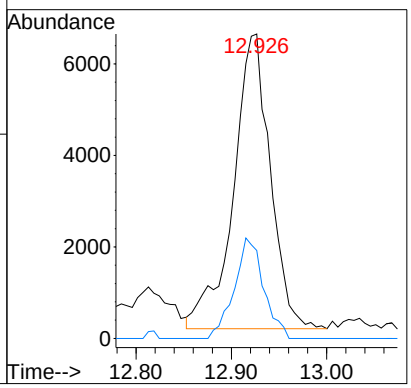


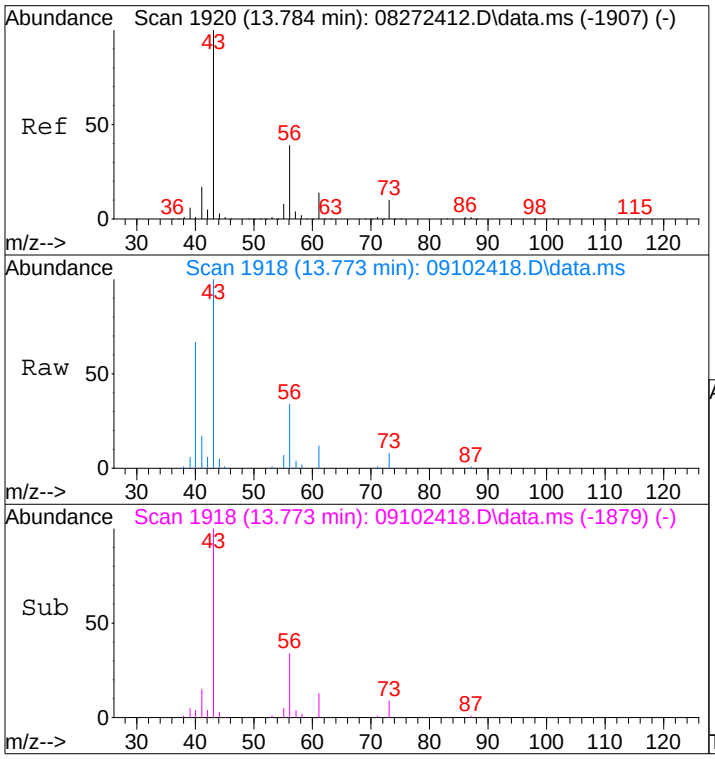


#59
2-Hexanone
Concen: 0.46 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 43 Resp: 17358

Ion	Ratio	Lower	Upper
43	100		
58	27.0	31.1	71.1#

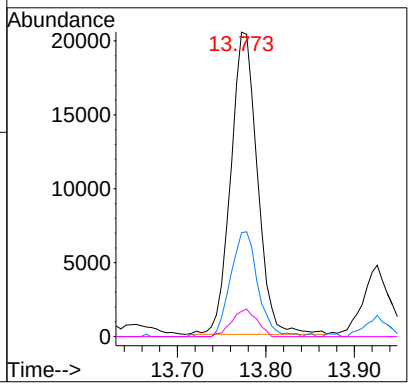


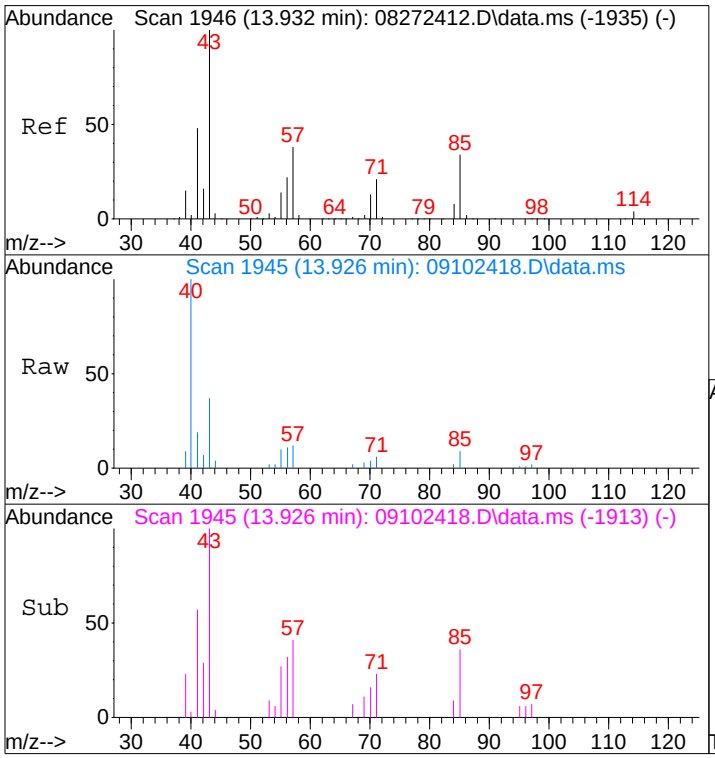


#62
n-Butyl Acetate
Concen: 1.00 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 43 Resp: 42780

Ion	Ratio	Lower	Upper
43	100		
56	35.2	18.2	58.2
73	8.6	0.0	30.1

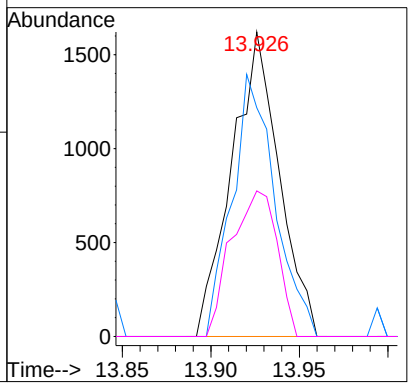


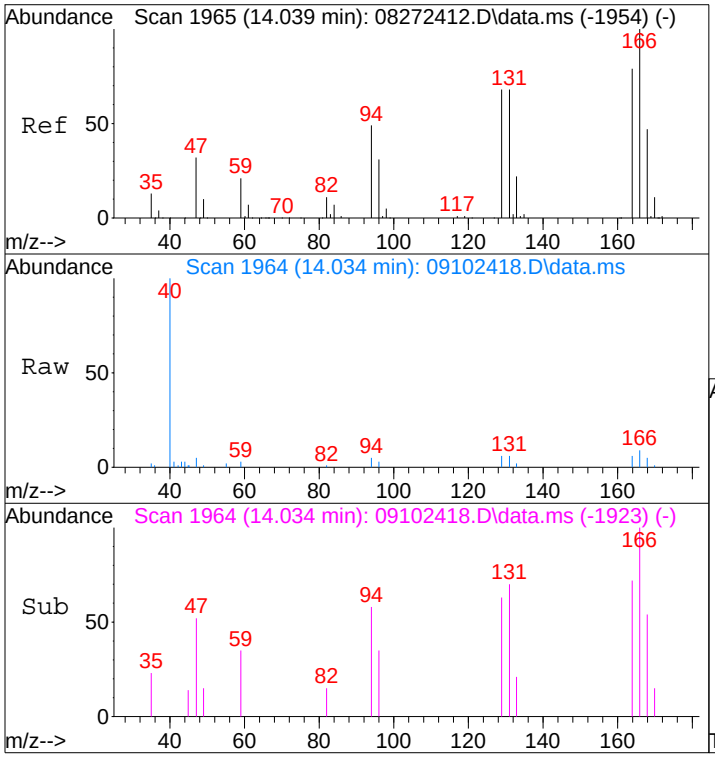


#63
n-Octane
Concen: 0.21 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 57 Resp: 3013

Ion	Ratio	Lower	Upper
57	100		
85	78.1	71.2	106.8
71	46.3	43.3	64.9

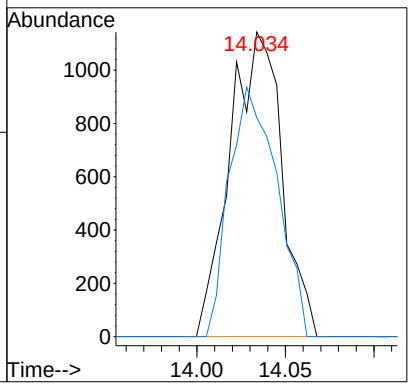


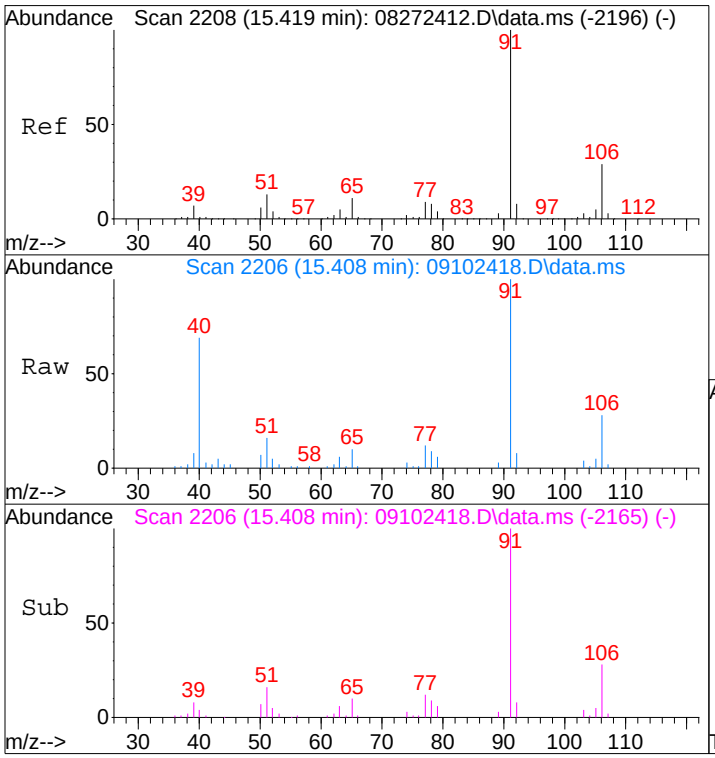


#64
Tetrachloroethene
Concen: 0.14 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:166 Resp: 2336

Ion	Ratio	Lower	Upper
166	100		
164	75.6	59.0	99.0

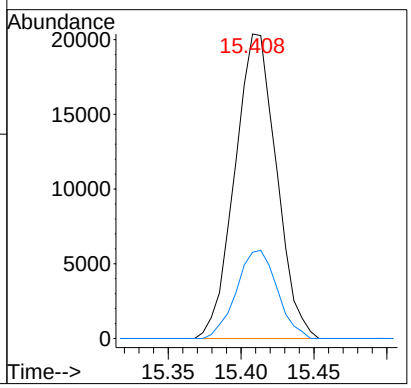


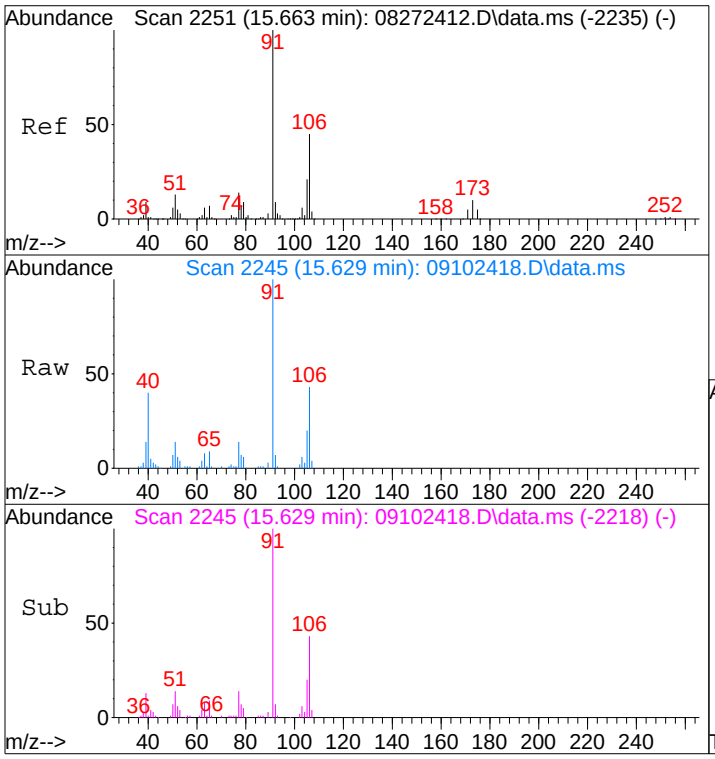


#66
Ethylbenzene
Concen: 0.57 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 91 Resp: 40426

Ion	Ratio	Lower	Upper
91	100		
106	28.4	9.2	49.2

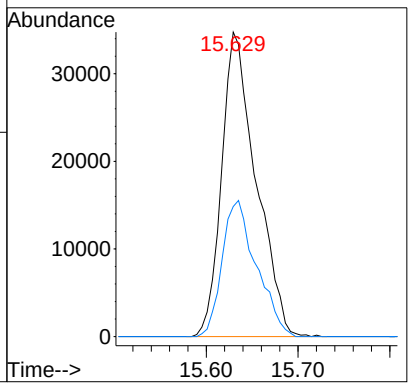


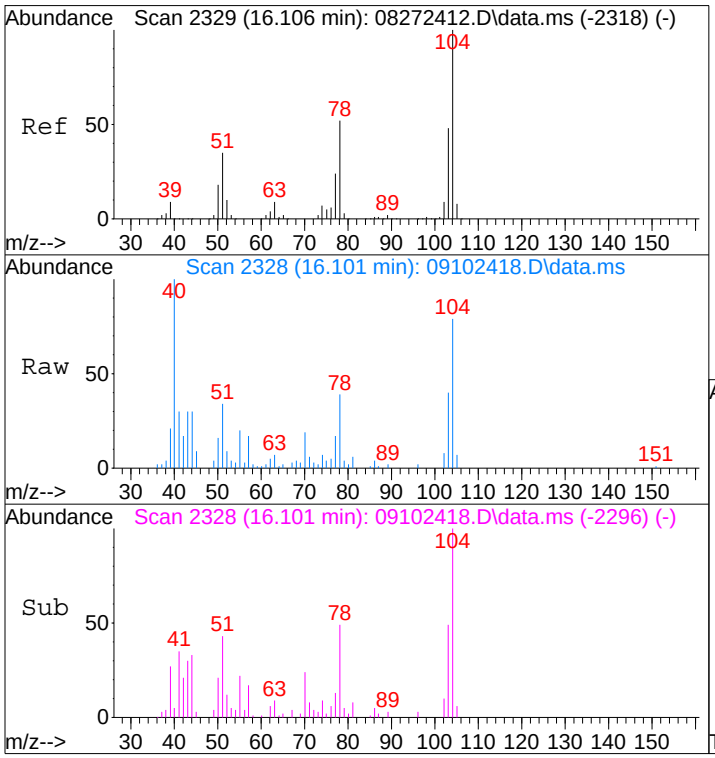


#67
m- & p-Xylenes
Concen: 1.58 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 91 Resp: 90500

Ion	Ratio	Lower	Upper
91	100		
106	44.4	23.8	63.8

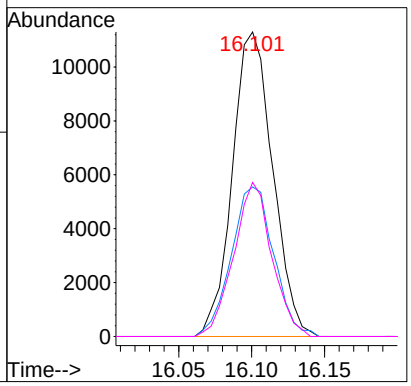


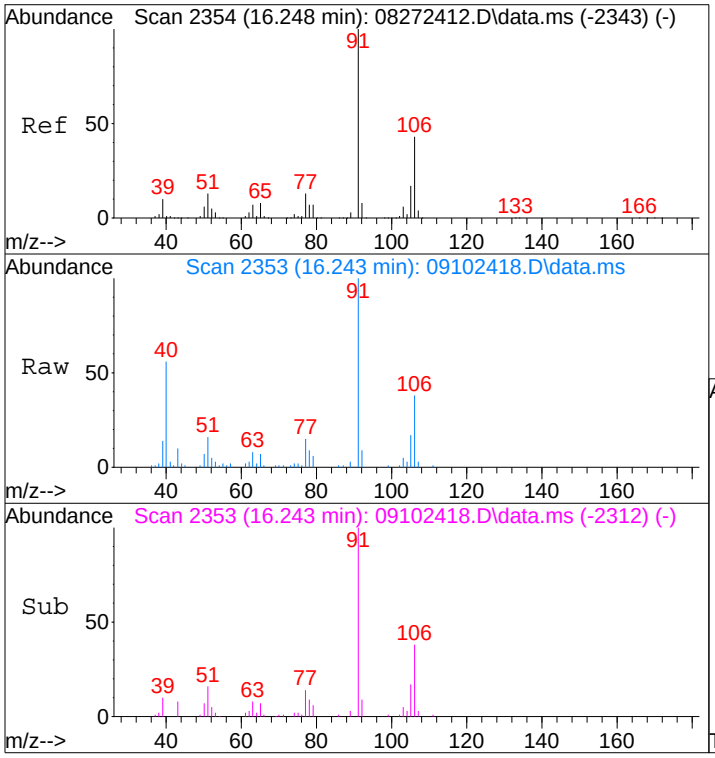


#69
Styrene
Concen: 0.59 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:104 Resp: 21754

Ion	Ratio	Lower	Upper
104	100		
78	51.6	32.2	72.2
103	47.8	28.3	68.3

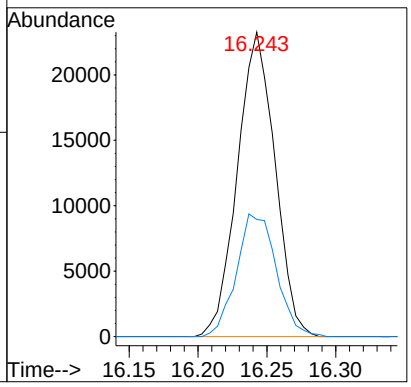


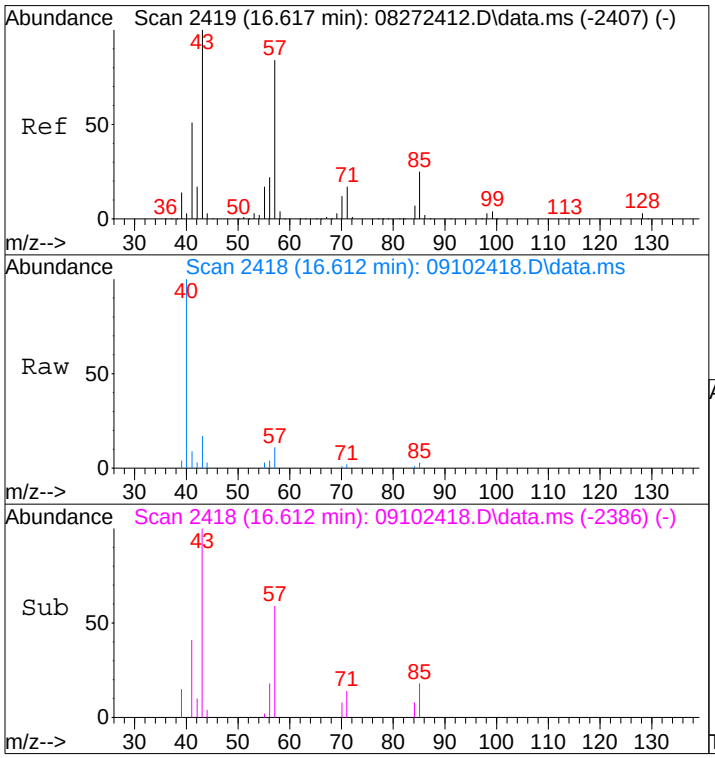


#70
o-Xylene
Concen: 0.79 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 91 Resp: 44235

Ion	Ratio	Lower	Upper
91	100		
106	42.6	22.5	62.5

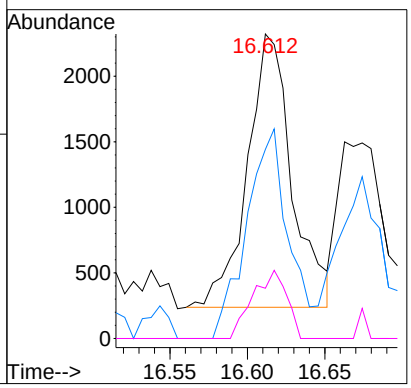


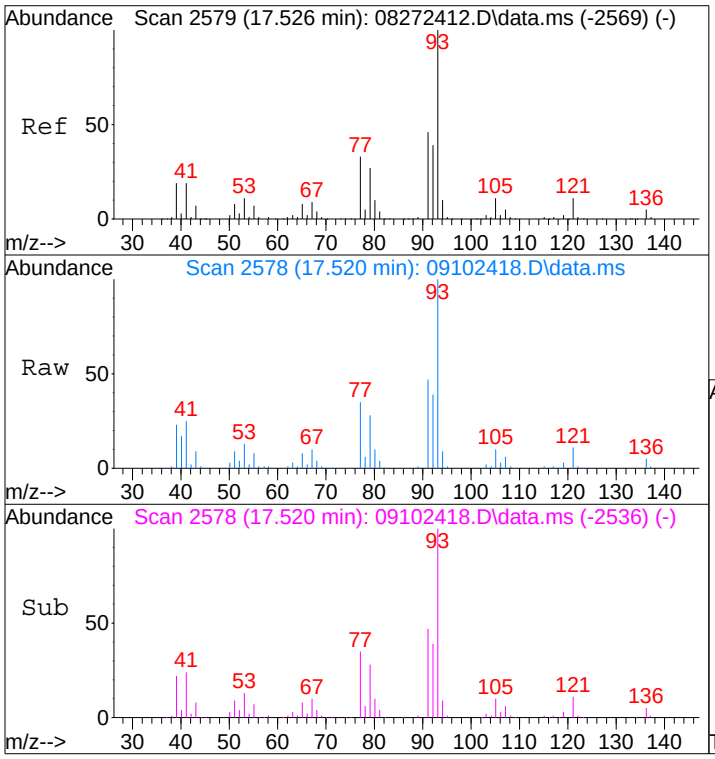


#71
n-Nonane
Concen: 0.11 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 43 Resp: 4169

Ion	Ratio	Lower	Upper
43	100		
57	71.2	63.3	103.3
85	19.0	4.5	44.5

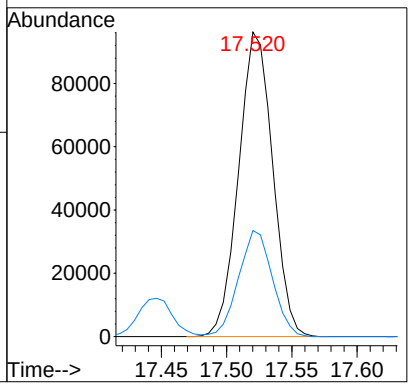


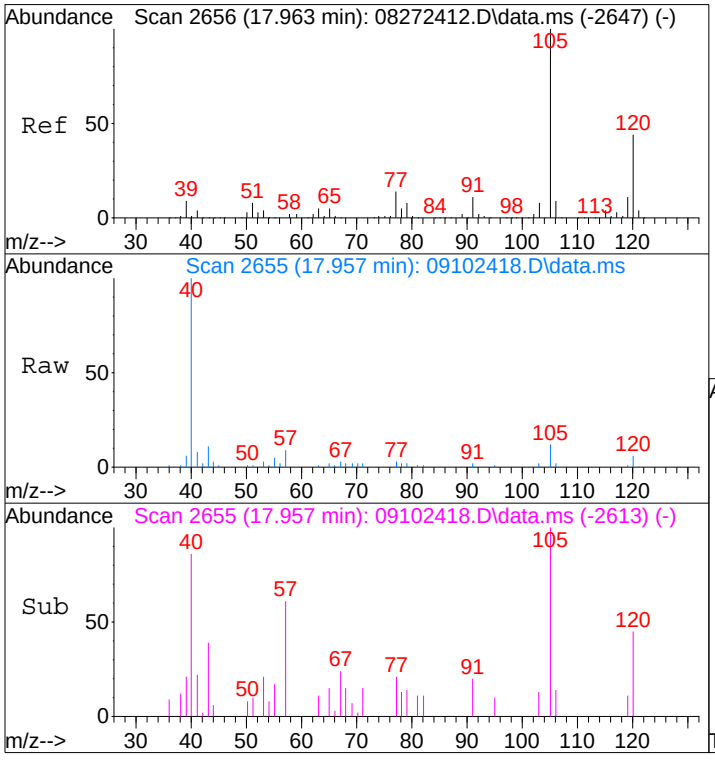


#75
alpha-Pinene
Concen: 5.16 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 93 Resp: 174425

Ion	Ratio	Lower	Upper
93	100		
77	34.7	13.1	53.1

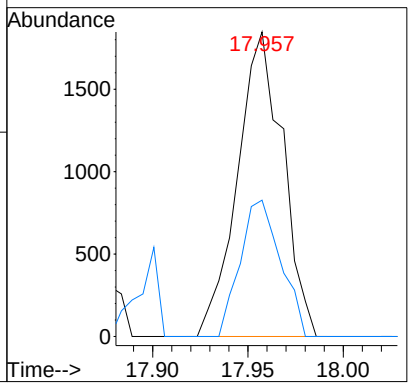


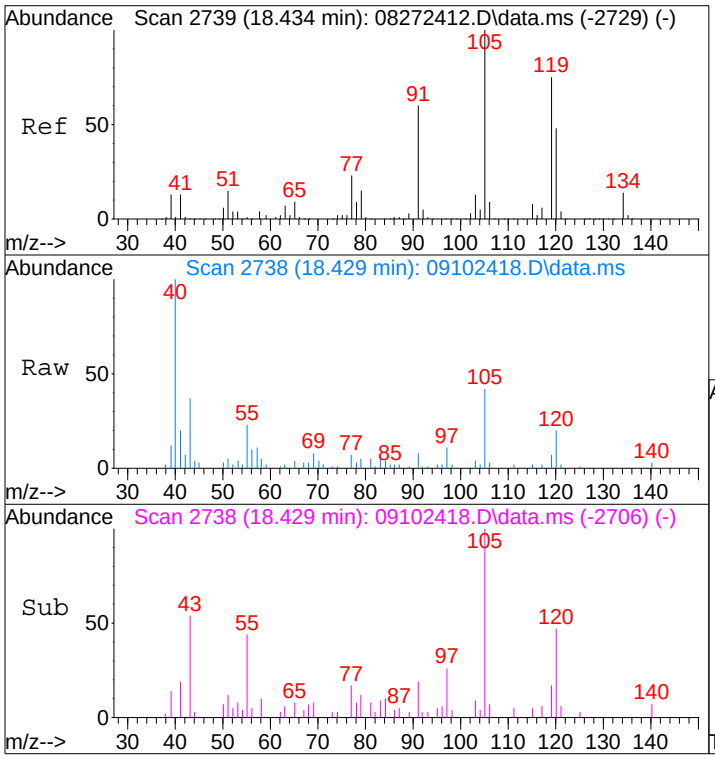


#79
1,3,5-Trimethylbenzene
Concen: 0.06 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:105 Resp: 3050

Ion	Ratio	Lower	Upper
105	100		
120	40.1	24.0	64.0

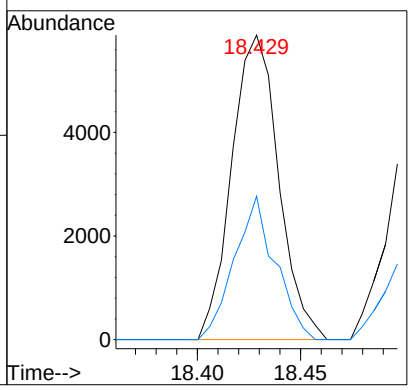


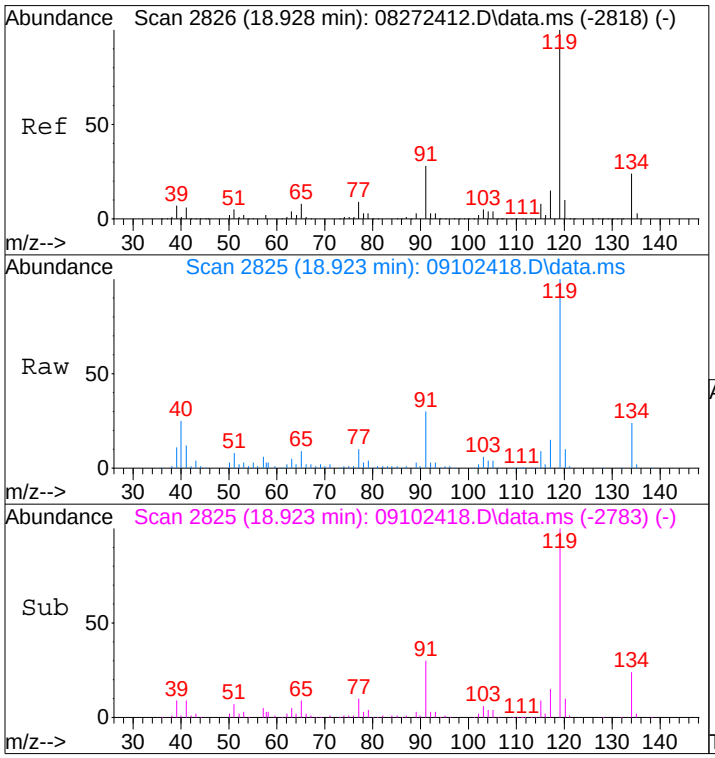


#82
1,2,4-Trimethylbenzene
Concen: 0.16 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:105 Resp: 9301

Ion	Ratio	Lower	Upper
105	100		
120	41.1	28.8	68.8

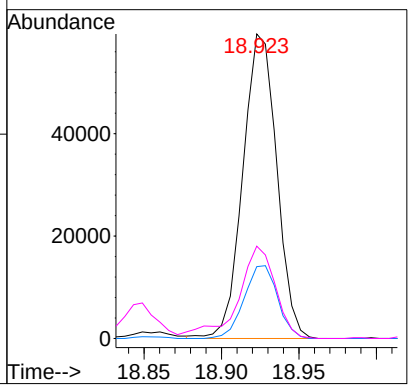


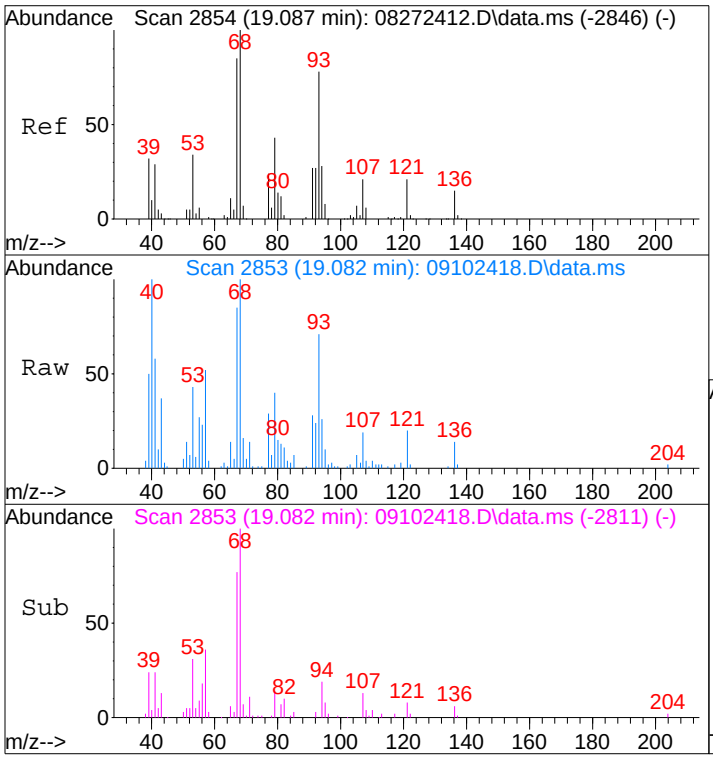


#88
4-Isopropyltoluene (p-Cymene)
Concen: 1.43 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion:119 Resp: 90581

Ion	Ratio	Lower	Upper
119	100		
134	23.7	4.7	44.7
91	33.4	8.1	48.1

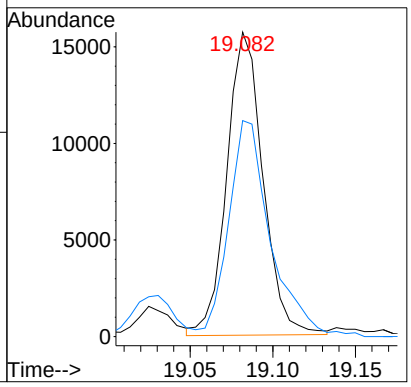




#91
d-Limonene
Concen: 1.24 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09102418.D
Acq: 10 Sep 2024 18:54

Tgt Ion: 68 Resp: 23894

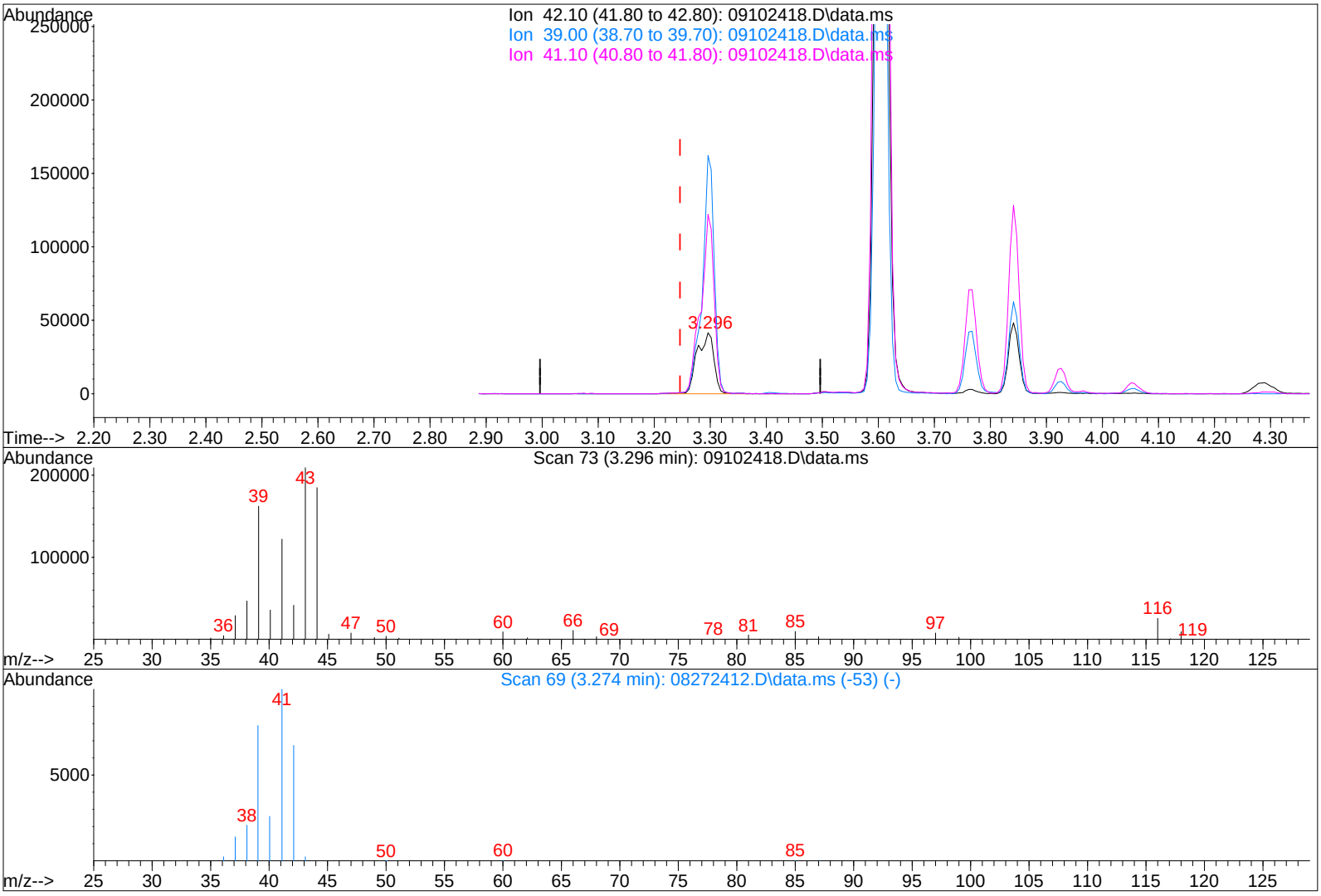
Ion	Ratio	Lower	Upper
68	100		
93	82.4	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102418.D\data.ms

(2) Propene (T)

3.296min (+0.050) 4.76ng

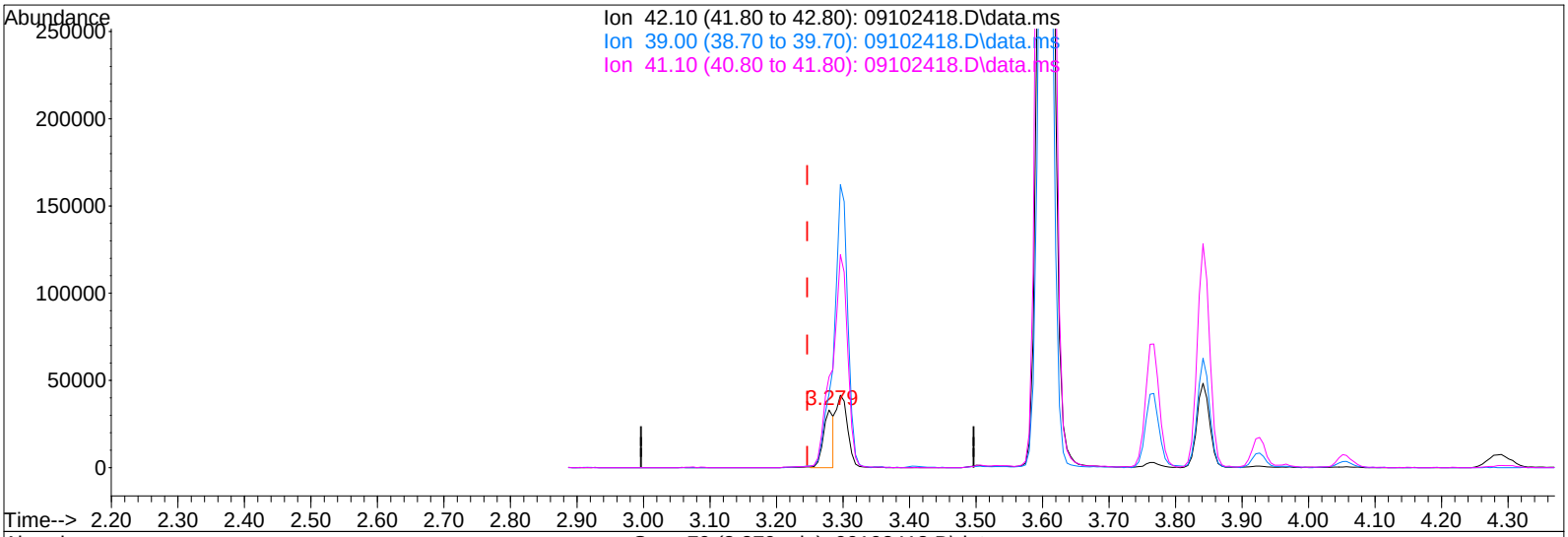
response 86393

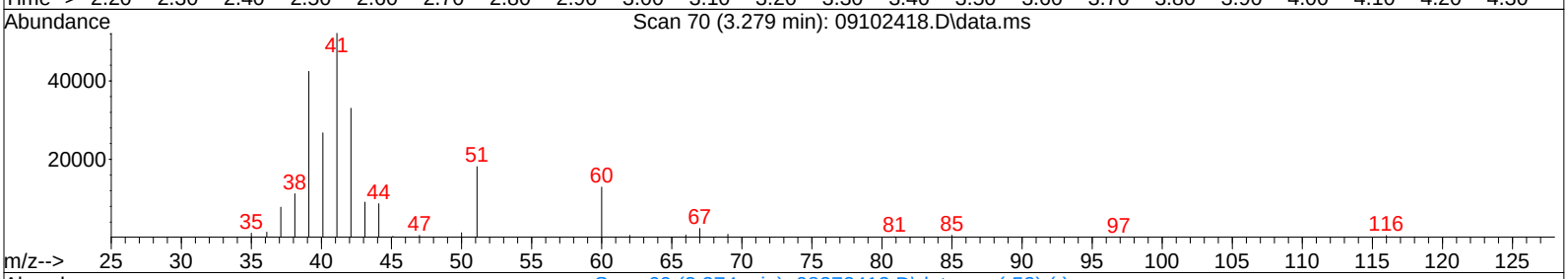
Ion	Exp%	Act%
42.10	100	100
39.00	118.20	277.28#
41.10	150.10	235.85#
0.00	0.00	0.00

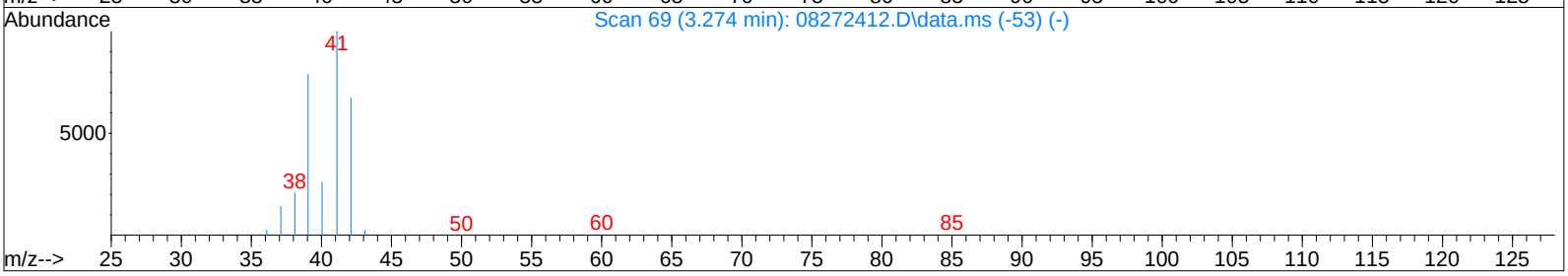
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 08:25:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09102418.D\data.ms

(2) Propene (T)

3.279min (+0.033) 1.97ng m

response 35660

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	671.76#
41.10	150.10	571.40#
0.00	0.00	0.00

IPC

9/11/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:53:24 2024 9/11/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

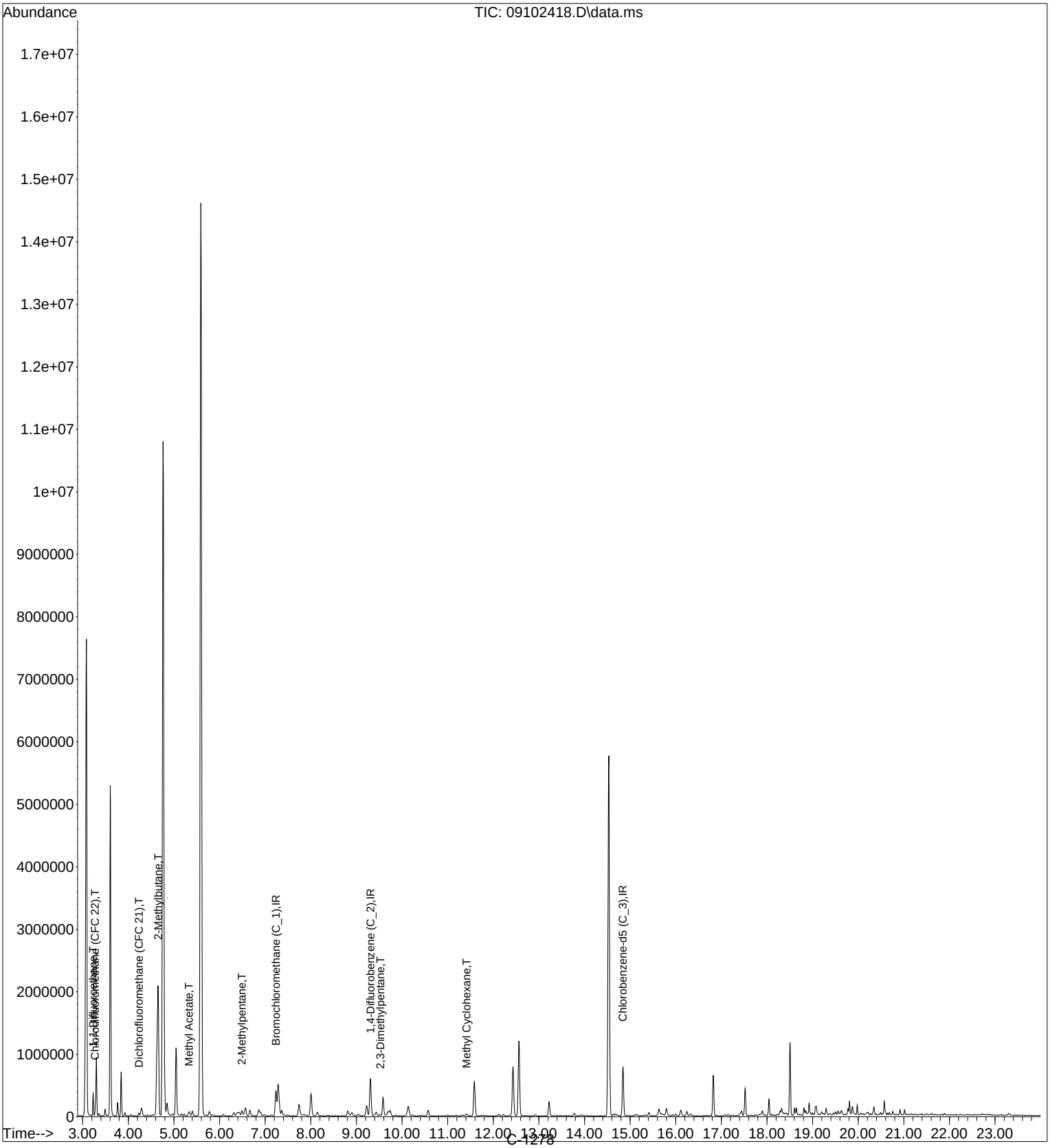
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	120578	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	530853	12.500 ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	161837	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.12	85	152	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.23	65	80600	7.656 ng		96
5) Chlorodifluoromethane ...	3.27	67	3405	0.829 ng		89
6) 1-Chloro-1,1-Difluoroe...	3.49	65	506	N.D.		
7) Dichlorofluoromethane ...	4.23	67	38112	1.378 ng		100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d		
10) 2-Methylbutane	4.65	57	498210	34.643 ng		93
11) Methyl Acetate	5.33	43	61871	1.523 ng	#	59
12) 2-Methylpentane	6.49	71	13730	1.315 ng		89
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.03	84	2126	N.D.		
17) 2,3-Dimethylpentane	9.53	56	10816	0.421 ng	#	83
18) Dibromomethane	9.79	174	53	N.D.		
20) Methyl Cyclohexane	11.42	55	12955	0.466 ng		95
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	1726	N.D.		
25) Bromobenzene	17.11	77	60	N.D.		
26) 2-Chlorotoluene	17.60	91	403	N.D.		
27) 4-Chlorotoluene	17.68	91	4013	N.D.		
28) Indane	19.12	117	1034	N.D.		
29) Indene	19.21	115	61	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	774	N.D.		
31) 1,2,3,4-Tetramethylben...	20.18	119	774	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	1186	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

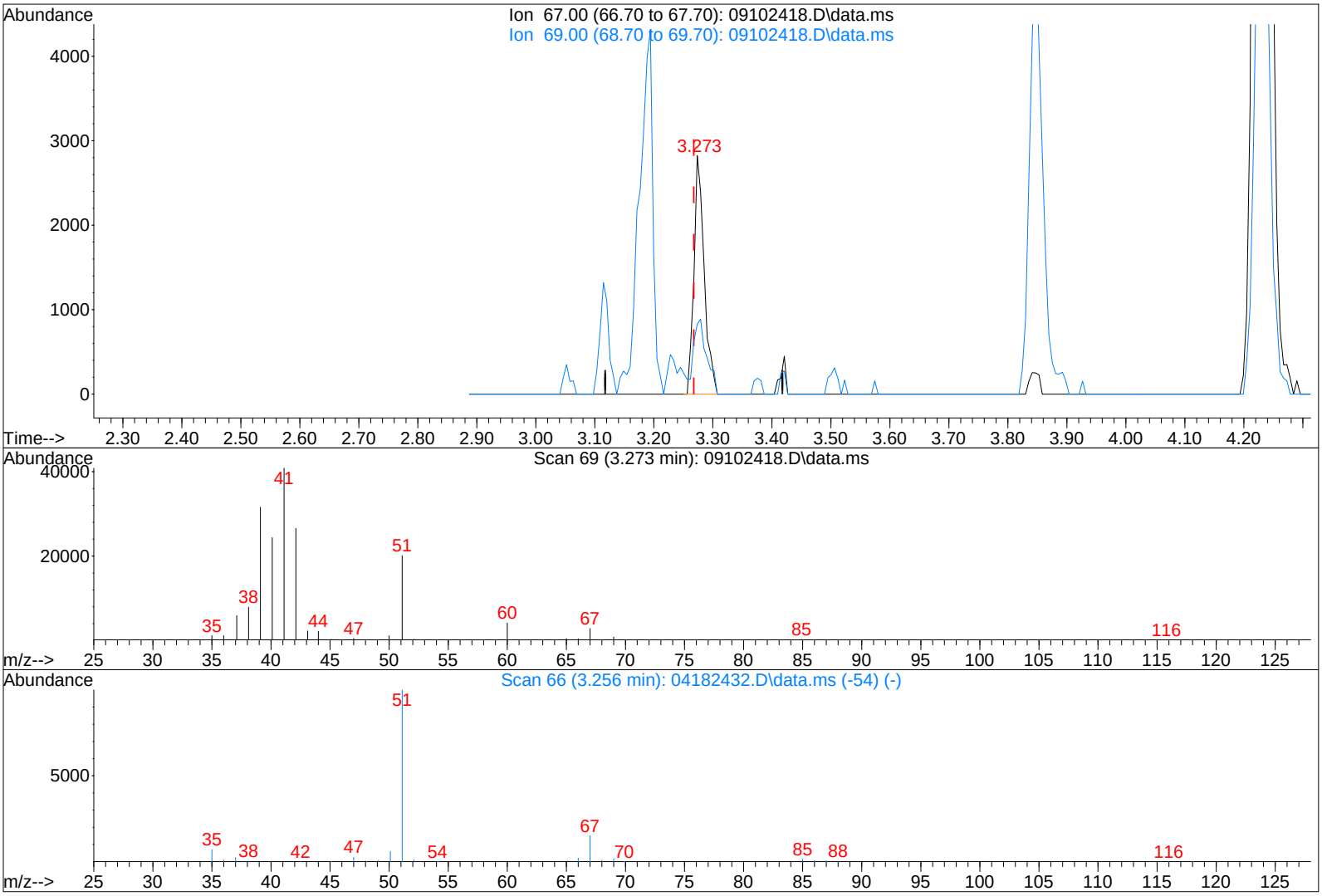
Quant Time: Sep 11 11:53:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:52:34 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102418.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.273min (+0.006) 0.83ng

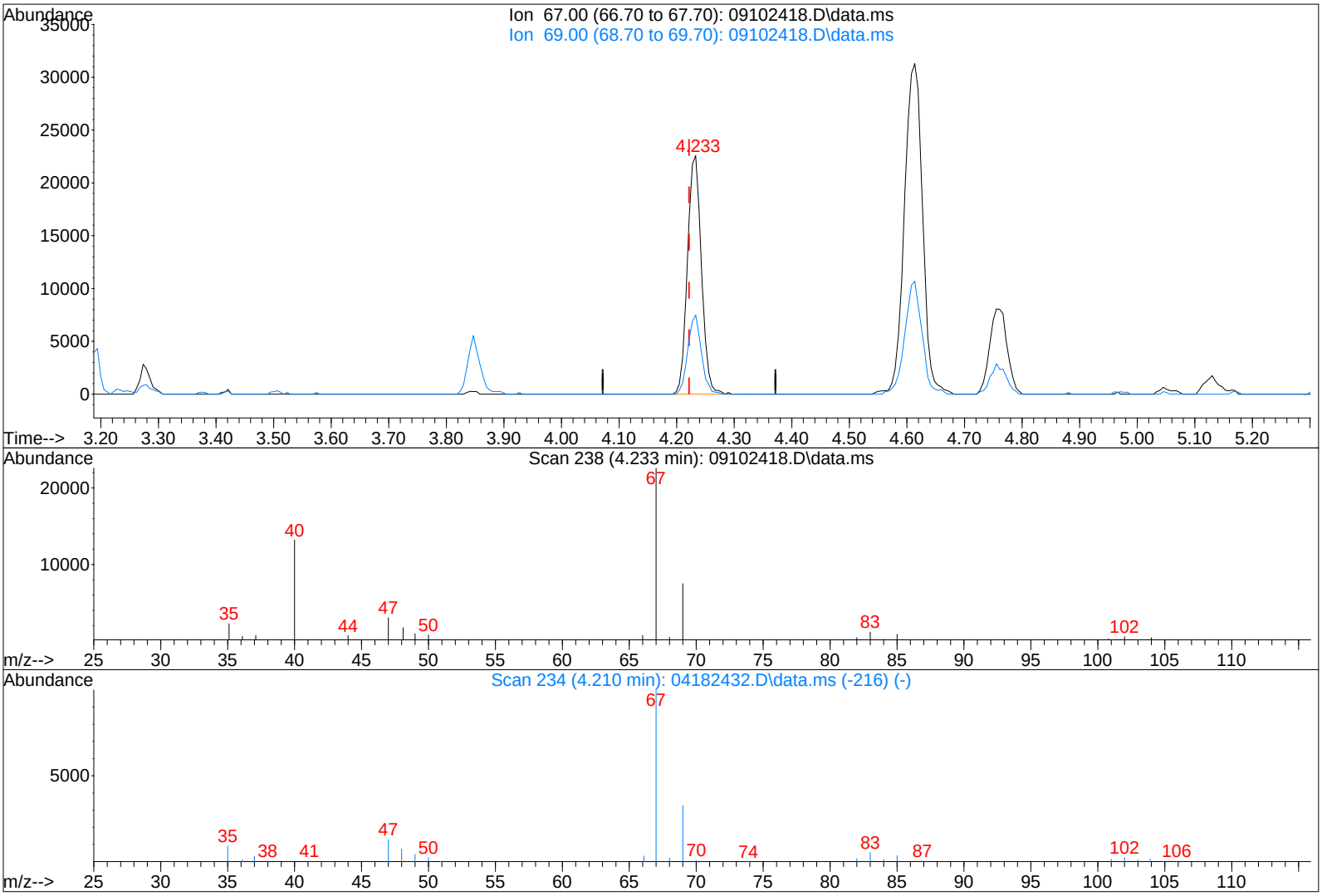
response 3405

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	40.59
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102418.D Vial: 10
Acq On : 10 Sep 2024 18:54 Operator: SC
Sample : P2403661-035 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 11:52:34 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102418.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 1.38ng

response 38112

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	32.23
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102429.D Vial: 10
Acq On : 11 Sep 2024 9:14 Operator: SC
Sample : P2403661-035Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:40:59 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	137351	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	605756	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	170837	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	344708	13.412	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.28%				
57) Toluene-d8 (SS2)	12.43	98	674834	11.260	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
73) Bromofluorobenzene (SS3)	16.82	174	216656	10.809	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.31	85	1229	N.D.			
4) Chloromethane	3.52	50	1723	0.066	ng		86
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	142	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	15726	1.055	ng		84
11) Acetonitrile	4.44	41	826	N.D.			
12) Acrolein	4.55	56	671	0.059	ng		80
13) Acetone	4.63	58	32919	2.617	ng	#	6
14) Trichlorofluoromethane	4.75	101	1260220	39.621	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	36103	0.729	ng		91
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	818	0.055	ng	#	67
20) 3-Chloro-1-propene (Al...	5.46	41	241	N.D.			
21) Trichlorotrifluoroethane	5.57	151	505318	40.101	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	757	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	1780	0.199	ng	#	44
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.31	87	491	N.D.			
30) Ethyl Acetate	7.29	61	6001	1.004	ng		92
31) n-Hexane	7.30	57	5799	0.213	ng		92
32) Chloroform	7.35	83	6023	0.220	ng		95
34) Tetrahydrofuran (THF)	7.77	72	126	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	204	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	3690	No Calib			
41) Benzene	8.89	78	4386	0.077	ng		97
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.21	84	4666	0.243	ng		87
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	206	N.D.			
46) Bromodichloromethane	10.08	83	196	N.D.			
47) Trichloroethene	10.14	130	524	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	930	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102429.D Vial: 10
Acq On : 11 Sep 2024 9:14 Operator: SC
Sample : P2403661-035Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:40:59 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

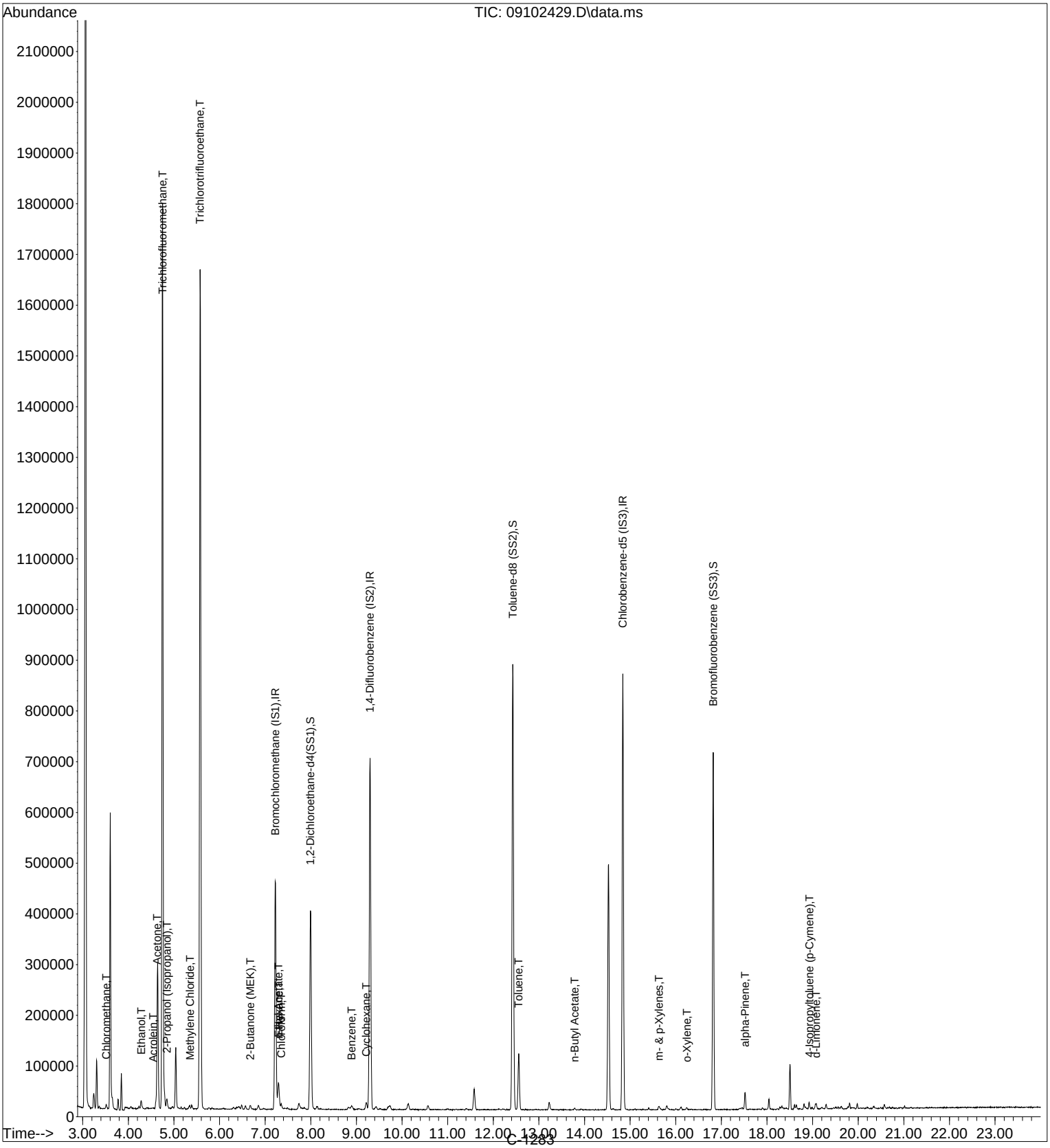
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	107	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	89881	1.387 ng		99
59) 2-Hexanone	12.92	43	1565	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	2998	0.067 ng	#	86
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.89	112	168	N.D.		
66) Ethylbenzene	15.40	91	3307	N.D.		
67) m- & p-Xylenes	15.63	91	7075	0.117 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.09	104	1594	N.D.		
70) o-Xylene	16.25	91	3439	0.058 ng		99
71) n-Nonane	16.62	43	383	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	140	N.D.		
74) Cumene	17.02	105	397	N.D.		
75) alpha-Pinene	17.52	93	13338	0.374 ng		99
76) n-Propylbenzene	17.67	91	651	N.D.		
77) 3-Ethyltoluene	17.02	105	397	No Calib	#	
78) 4-Ethyltoluene	17.86	105	112	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.02	105	397	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	867	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	171	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	198	N.D.		
87) sec-Butylbenzene	18.73	105	119	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	6437	0.096 ng		93
89) 1,2,3-Trimethylbenzene	17.02	105	397	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	116	N.D.		
91) d-Limonene	19.08	68	1657	0.081 ng		90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	512	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	307	N.D.		
95) Naphthalene	20.94	128	255	N.D.		
96) n-Dodecane	18.92	58	129	No Calib	#	
97) Hexachlorobutadiene	21.30	225	246	N.D.		
98) Cyclohexanone	15.32	55	113	No Calib	#	
99) tert-Butylbenzene	18.42	119	227	N.D.		
100) n-Butylbenzene	19.38	91	290	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102429.D Vial: 10
Acq On : 11 Sep 2024 9:14 Operator: SC
Sample : P2403661-035Dil (40mL) Inst : MS09
Misc : S37-06062402

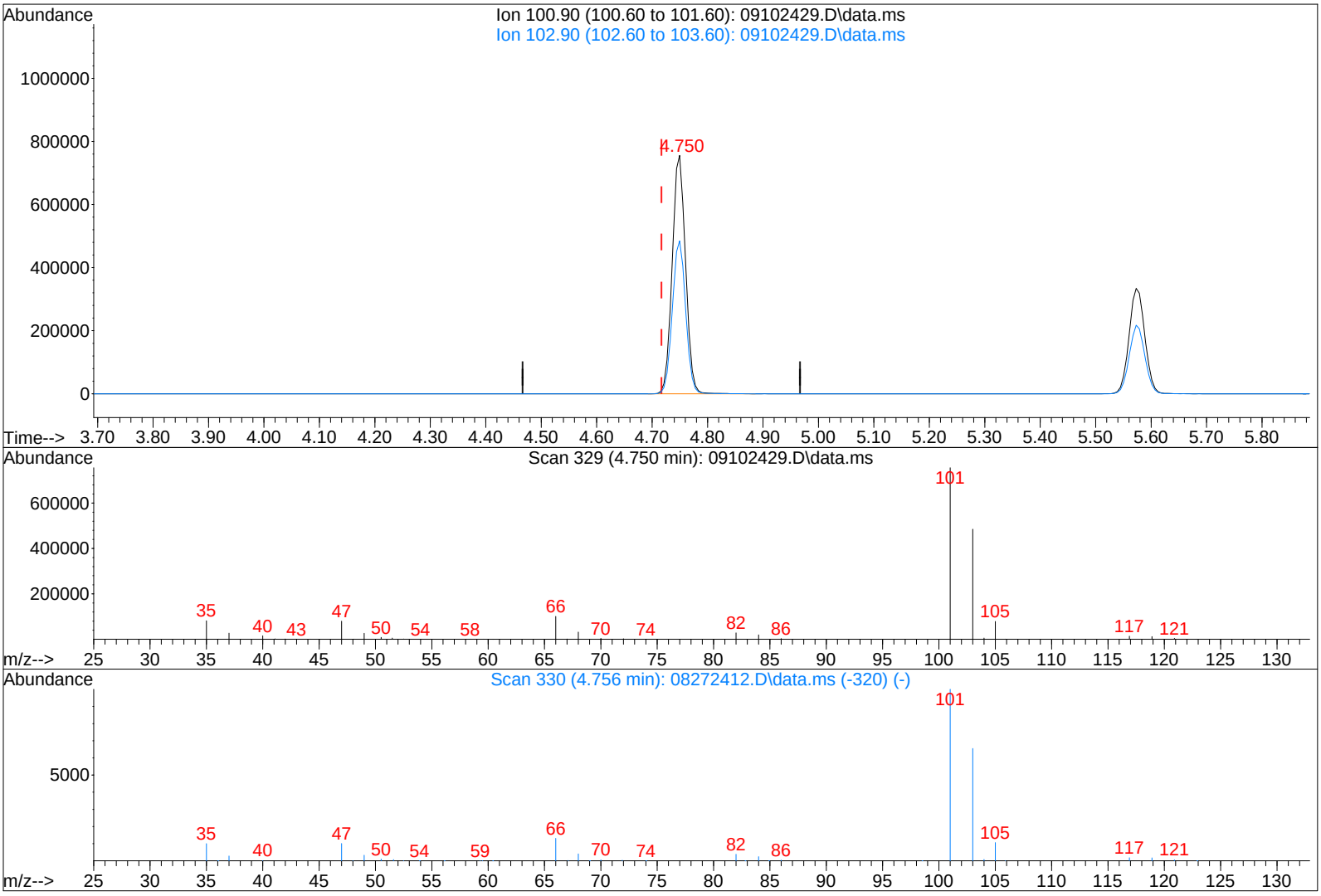
Quant Time: Sep 11 09:40:59 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102429.D Vial: 10
Acq On : 11 Sep 2024 9:14 Operator: SC
Sample : P2403661-035Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:39:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102429.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.033) 39.62ng

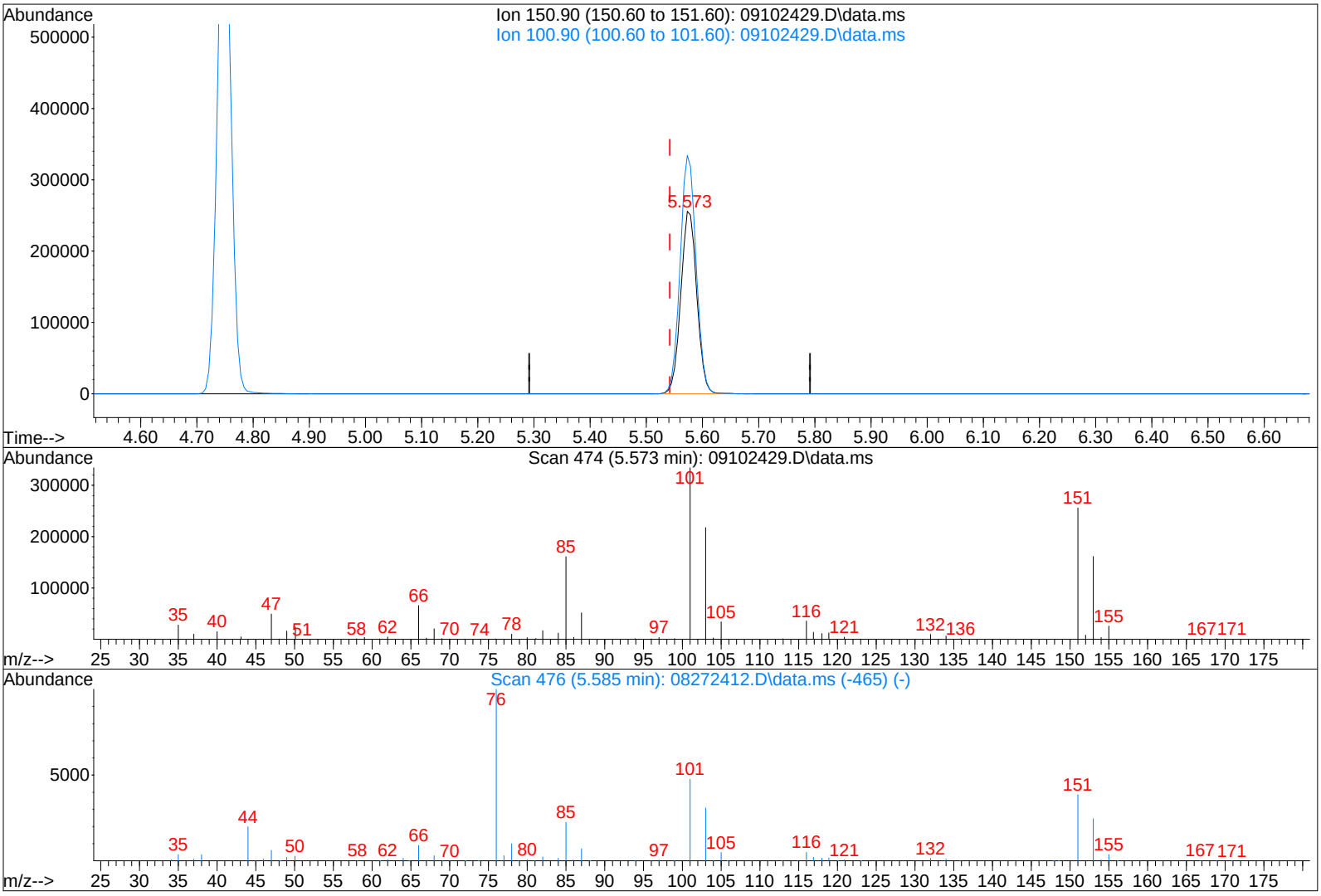
response 1260220

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.26
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102429.D Vial: 10
Acq On : 11 Sep 2024 9:14 Operator: SC
Sample : P2403661-035Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 11 09:39:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102429.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (+0.031) 40.10ng

response 505318

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.69
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102418.D
Acq On : 10 Sep 2024 18:54
Operator : SC
Sample : P2403661-035 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09102418.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	65	rVB	364191	342204	1.05%	0.427%
2	3.296	65	73	79	rVV	931116	1324340	4.04%	1.654%
3	3.353	79	83	90	rVB2	35234	45469	0.14%	0.057%
4	3.489	102	107	113	rBV2	100490	143709	0.44%	0.179%
5	3.603	119	127	150	rVB	5284438	7569517	23.12%	9.451%
6	3.767	150	156	163	rBV	213043	306954	0.94%	0.383%
7	3.841	163	169	179	rVB	705500	926424	2.83%	1.157%
8	3.926	179	184	188	rBV	50985	72091	0.22%	0.090%
9	3.966	188	191	199	rVB3	7904	13230	0.04%	0.017%
10	4.051	201	206	214	rBV4	21741	44419	0.14%	0.055%
11	4.233	232	238	241	rBV	44816	75705	0.23%	0.095%
12	4.290	241	248	260	rVB2	122930	302609	0.92%	0.378%
13	4.426	266	272	282	rVB4	11349	32115	0.10%	0.040%
14	4.534	286	291	297	rBV3	13670	35756	0.11%	0.045%
15	4.653	297	312	321	rVV3	2079282	5599025	17.10%	6.991%
16	4.761	321	331	342	rVV	10784639	23093300	70.52%	28.835%
17	4.846	342	346	362	rVB	192529	413727	1.26%	0.517%
18	4.971	362	368	373	rBV4	22041	43183	0.13%	0.054%
19	5.045	373	381	394	rBV	1078769	1982833	6.06%	2.476%
20	5.170	399	403	408	rVV2	29907	48594	0.15%	0.061%
21	5.221	408	412	419	rVB2	27244	47963	0.15%	0.060%
22	5.329	422	431	438	rBV3	65593	171882	0.52%	0.215%
23	5.403	438	444	454	rVB	73481	140213	0.43%	0.175%
24	5.590	464	477	492	rBV	14602143	32745593	100.00%	40.887%
25	5.778	503	510	517	rBV	65030	143439	0.44%	0.179%
26	5.840	517	521	531	rVB3	18808	40021	0.12%	0.050%
27	6.084	555	564	571	rBV2	21978	53682	0.16%	0.067%
28	6.317	595	605	611	rBV	52120	133221	0.41%	0.166%
29	6.397	611	619	621	rBV2	43905	107240	0.33%	0.134%
30	6.487	630	635	641	rBV	64067	128501	0.39%	0.160%
31	6.567	641	649	659	rVB5	122556	324447	0.99%	0.405%
32	6.663	659	666	679	rVB	89108	206880	0.63%	0.258%
33	6.856	691	700	707	rBV2	95524	278296	0.85%	0.347%
34	6.976	715	721	730	rVB4	18541	50341	0.15%	0.063%
35	7.140	744	750	756	rVB4	13154	24172	0.07%	0.030%
36	7.231	756	766	770	rVV	400081	878809	2.68%	1.097%
37	7.282	770	775	785	rVV	502497	1389736	4.24%	1.735%
38	7.362	785	789	797	rVV2	89763	204872	0.63%	0.256%
39	7.424	797	800	807	rVV4	17197	34822	0.11%	0.043%
40	7.498	807	813	822	rVB4	15344	35427	0.11%	0.044%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102418.D
Acq On : 10 Sep 2024 18:54
Operator : SC
Sample : P2403661-035 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

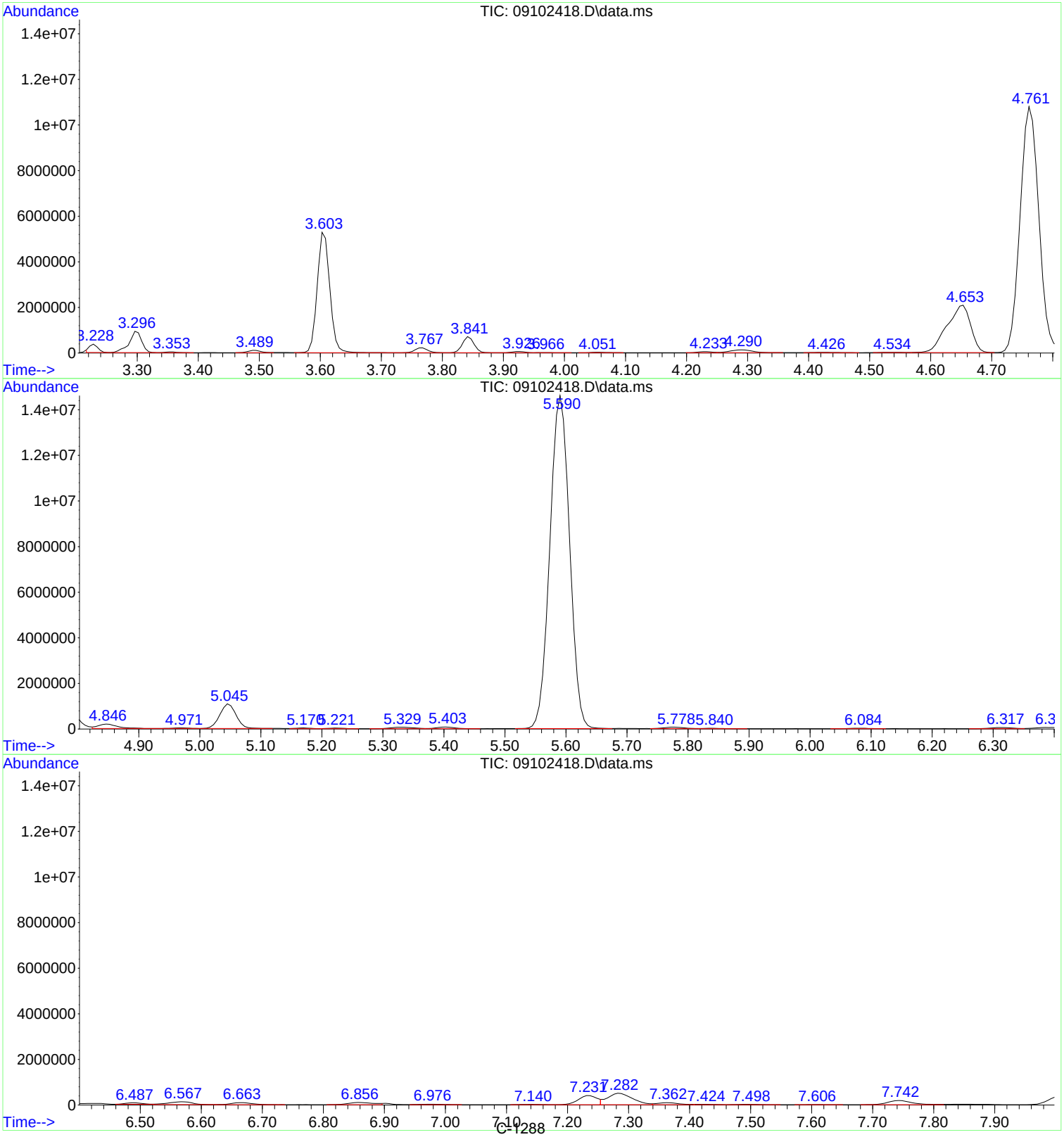
41	7.606	826	832	840	rVB3	7557	16235	0.05%	0.020%
42	7.742	845	856	869	rBV	182934	517883	1.58%	0.647%

Sum of corrected areas: 80088879

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102418.D
Acq On : 10 Sep 2024 18:54
Operator : SC
Sample : P2403661-035 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\10\\
Data File : 09102418.D
Acq On : 10 Sep 2024 18:544
Operator : SCC
Sample : P2403661-035 (400mL))
Misc : S37-060624022
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

MOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

9/12/24

Quant Time: Sep 12 14:27:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	132564	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	584064	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	170889	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	335149	13.511	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.08%				
57) Toluene-d8 (SS2)	12.43	98	669890	11.174	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
73) Bromofluorobenzene (SS3)	16.82	174	221768	11.061	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	21608m	1.079	ng		
3) Dichlorodifluoromethan...	3.36	85	20424m	0.635	ng		
4) Chloromethane	3.50	50	7362	0.292	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	459	N.D.			
6) Vinyl Chloride	3.69	62	228	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	277	N.D.			
9) Chloroethane	0.00	64	0	N.D.	d		
10) Ethanol	0.00	45	0	N.D.	d		
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.54	56	3386	0.308	ng		99
13) Acetone	4.64	58	61946	5.103	ng	#	51
14) Trichlorofluoromethane	4.76	101	9951272	324.162	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	16132	0.338	ng		78
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	2037	0.142	ng		92
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.59	151	5671625	466.345	ng		95
22) Carbon Disulfide	5.61	76	172763	3.646	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	211	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	5628	0.653	ng	#	60
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.30	61	810	0.140	ng		80
31) n-Hexane	7.30	57	10847	0.412	ng		91
32) Chloroform	7.36	83	77083	2.919	ng		98
34) Tetrahydrofuran (THF)	7.77	72	895	0.110	ng	#	56
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	168	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	6362	No Calib		#	
40) 1-Butanol	8.82	56	4521	No Calib		#	
41) Benzene	8.90	78	15203	0.278	ng		99
42) Carbon Tetrachloride	9.08	117	139	N.D.			
43) Cyclohexane	9.22	84	1271	0.069	ng	#	80
44) tert-Amyl Methyl Ether	9.55	73	106	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.09	83	2137	0.104	ng		95
47) Trichloroethene	10.14	130	5679	0.419	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.23	57	1237	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:27:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

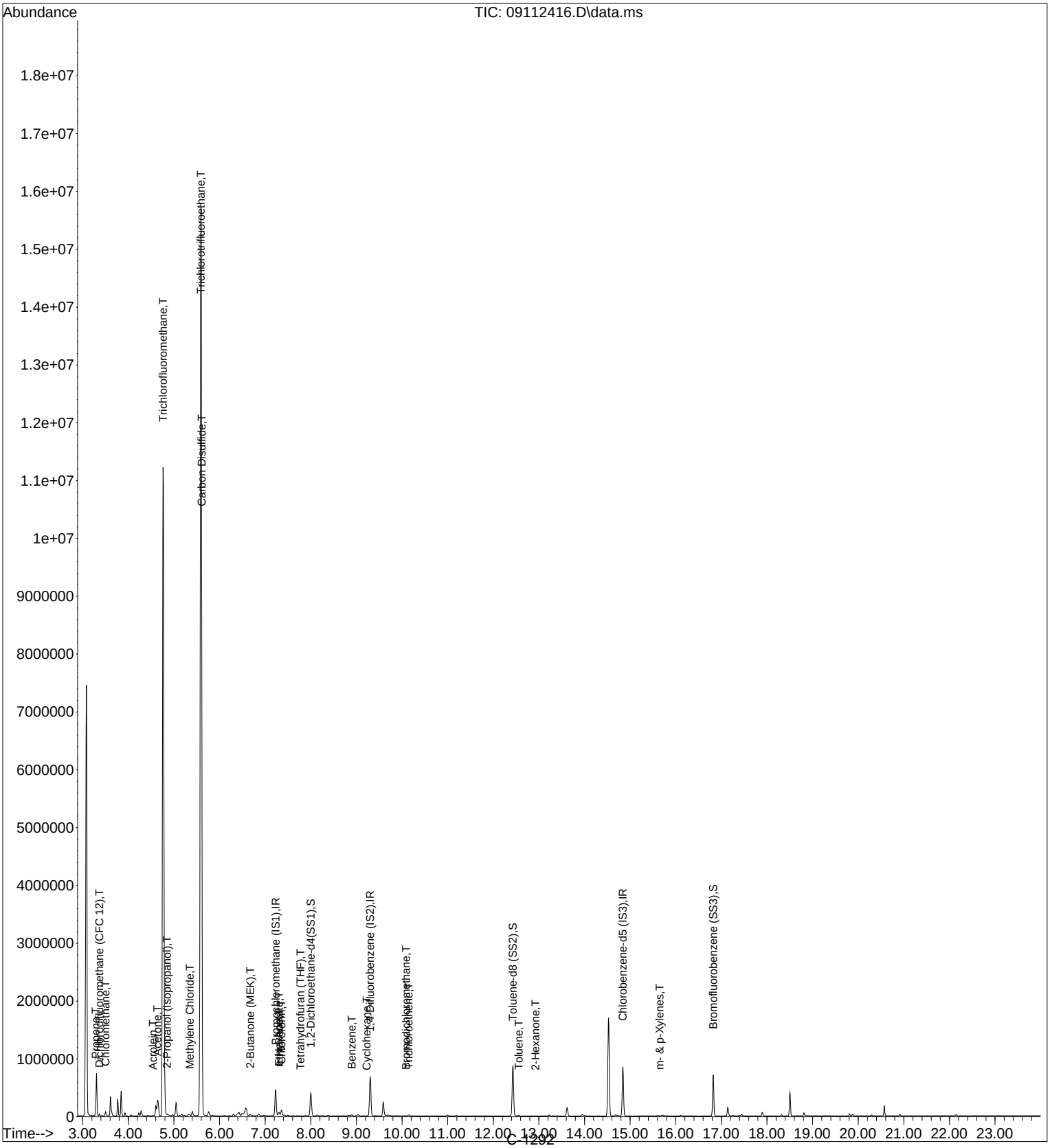
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	463	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	10214	0.158 ng		100
59) 2-Hexanone	12.93	43	3629	0.090 ng	#	63
60) Dibromochloromethane	13.07	129	139	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	1146	N.D.		
63) n-Octane	13.91	57	369	N.D.		
64) Tetrachloroethene	14.03	166	587	N.D.		
65) Chlorobenzene	14.90	112	737	N.D.		
66) Ethylbenzene	15.41	91	2246	N.D.		
67) m- & p-Xylenes	15.65	91	3087	0.051 ng		71
68) Bromoform	15.67	173	112	N.D.		
69) Styrene	16.10	104	339	N.D.		
70) o-Xylene	16.24	91	1041	N.D.		
71) n-Nonane	16.61	43	1823	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	268	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	728	N.D.		
77) 3-Ethyltoluene	17.03	105	268	No Calib	#	
78) 4-Ethyltoluene	17.86	105	378	N.D.		
79) 1,3,5-Trimethylbenzene	17.86	105	378	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	268	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	722	N.D.		
83) n-Decane	17.08	58	451	No Calib	#	
84) Benzyl Chloride	18.56	91	627	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	211	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	324	N.D.		
87) sec-Butylbenzene	18.75	105	111	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1191	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	268	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	233	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	450	N.D.		
95) Naphthalene	20.94	128	847	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	173	N.D.		
98) Cyclohexanone	15.22	55	184	No Calib	#	
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	19.38	91	496	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:27:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:27:48 2024 9/12/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

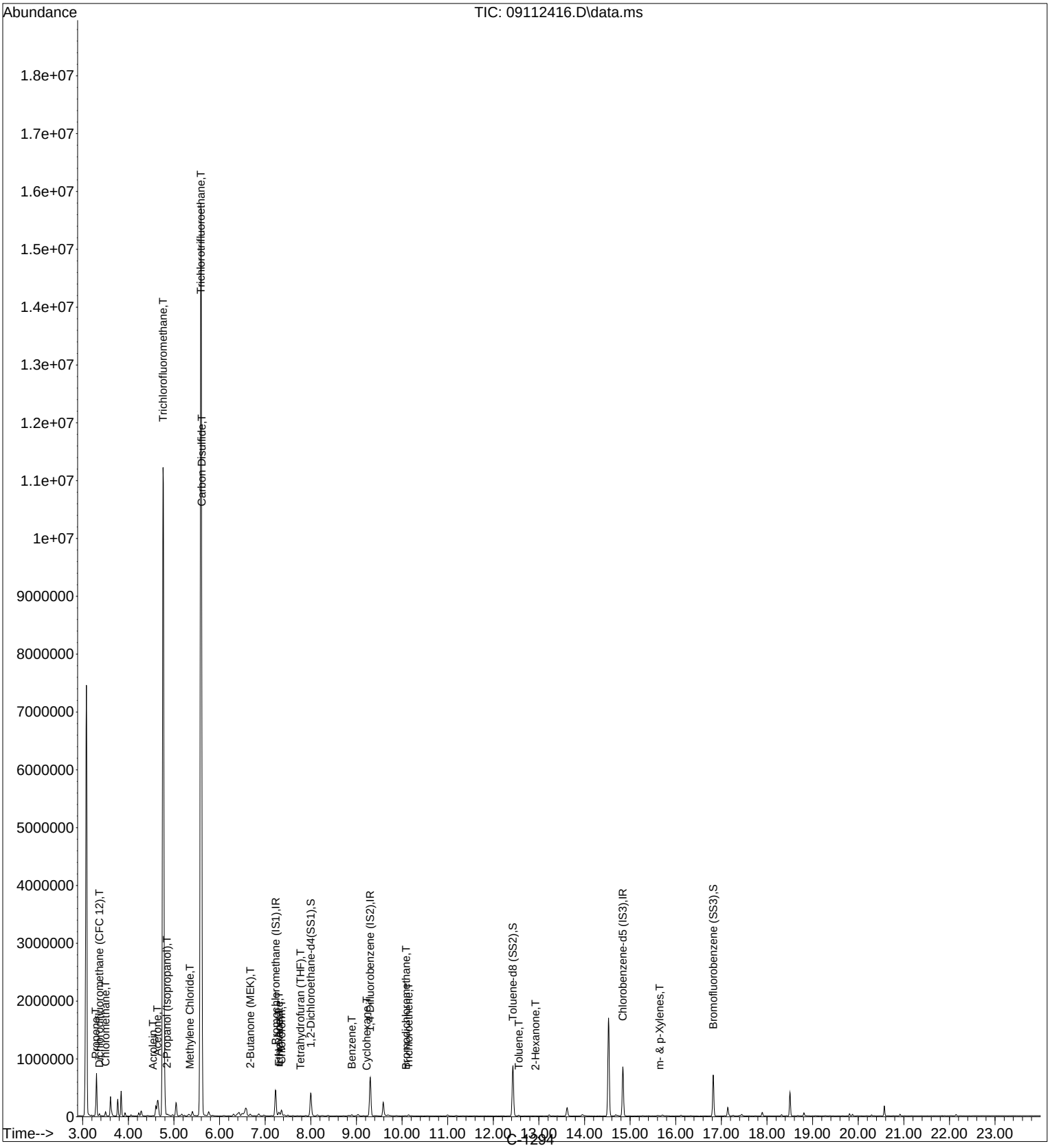
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	132564	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	584064	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	170889	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	335149	13.511	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.08%				
57) Toluene-d8 (SS2)	12.43	98	669890	11.174	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
73) Bromofluorobenzene (SS3)	16.82	174	221768	11.061	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	21608m	1.079	ng		
3) Dichlorodifluoromethan...	3.36	85	20424m	0.635	ng		
4) Chloromethane	3.50	50	7362	0.292	ng		99
12) Acrolein	4.54	56	3386	0.308	ng		99
13) Acetone	4.64	58	61946	5.103	ng	#	51
14) Trichlorofluoromethane	4.76	101	9951272	324.162	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	16132	0.338	ng		78
19) Methylene Chloride	5.35	84	2037	0.142	ng		92
21) Trichlorotrifluoroethane	5.59	151	5671625	466.345	ng		95
22) Carbon Disulfide	5.61	76	172763	3.646	ng	#	1
27) 2-Butanone (MEK)	6.67	72	5628	0.653	ng	#	60
30) Ethyl Acetate	7.30	61	810	0.140	ng		80
31) n-Hexane	7.30	57	10847	0.412	ng		91
32) Chloroform	7.36	83	77083	2.919	ng		98
34) Tetrahydrofuran (THF)	7.77	72	895	0.110	ng	#	56
41) Benzene	8.90	78	15203	0.278	ng		99
43) Cyclohexane	9.22	84	1271	0.069	ng	#	80
46) Bromodichloromethane	10.09	83	2137	0.104	ng		95
47) Trichloroethene	10.14	130	5679	0.419	ng		98
58) Toluene	12.56	91	10214	0.158	ng		100
59) 2-Hexanone	12.93	43	3629	0.090	ng	#	63
67) m- & p-Xylenes	15.65	91	3087	0.051	ng		71

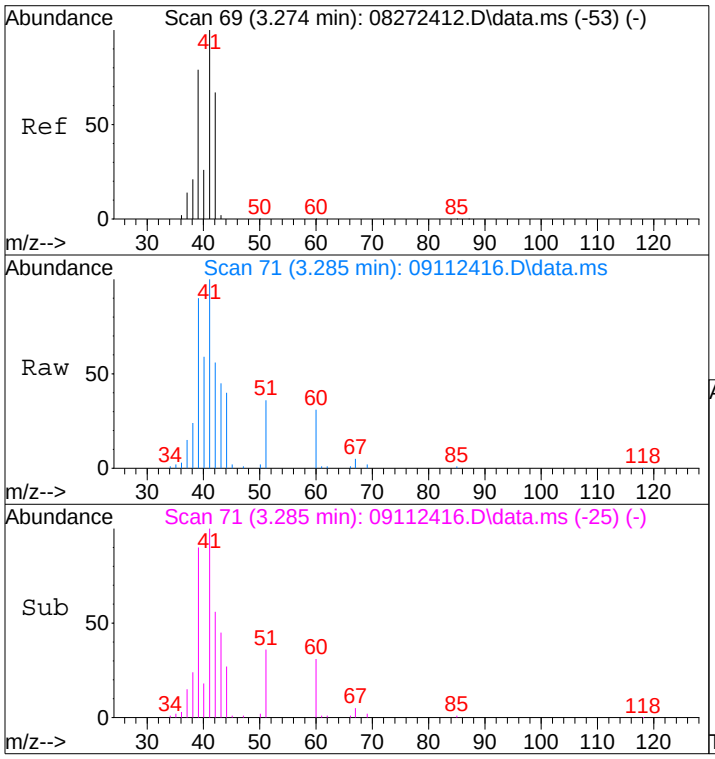
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:27:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

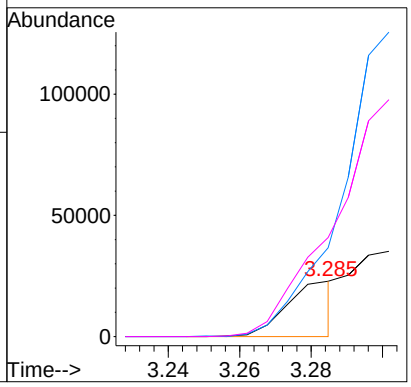


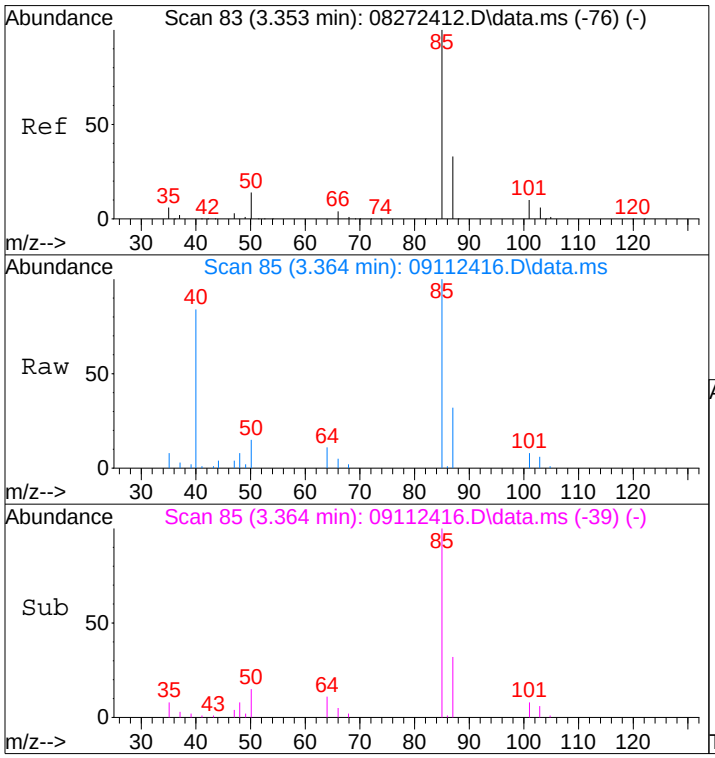


#2
Propene
Concen: 1.08 ng m
RT: 3.28 min Scan# 71
Delta R.T. 0.013 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 42 Resp: 21608

Ion	Ratio	Lower	Upper
42	100		
39	833.5	98.2	138.2#
41	713.9	130.1	170.1#

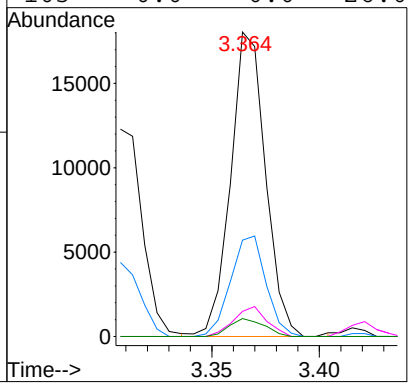


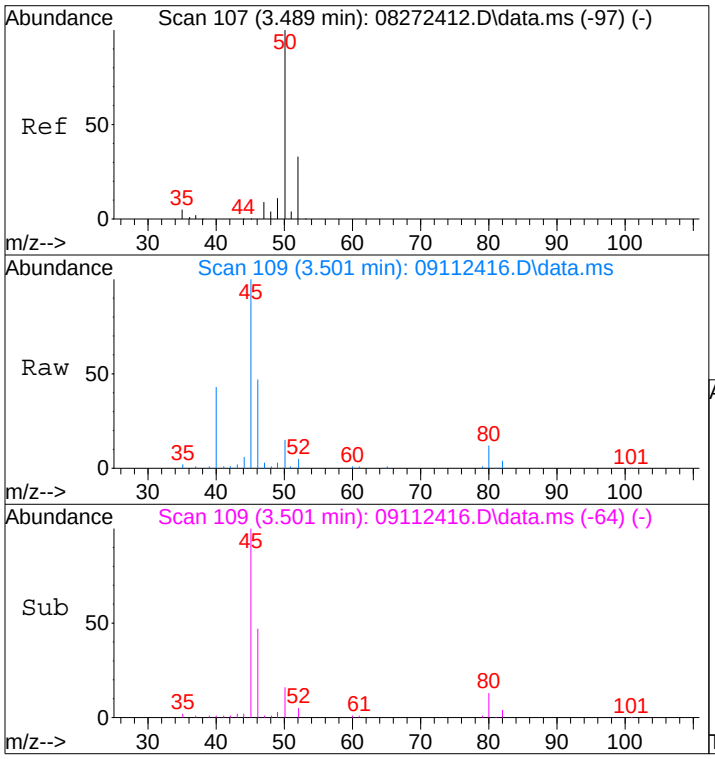


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.013 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 85 Resp: 20424

Ion	Ratio	Lower	Upper
85	100		
87	22.1	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

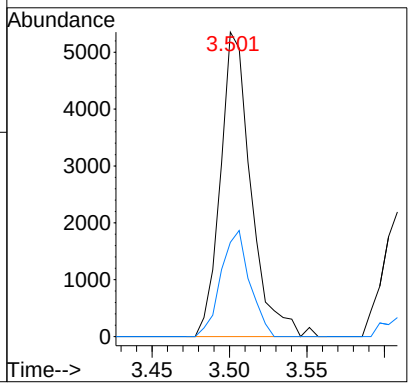


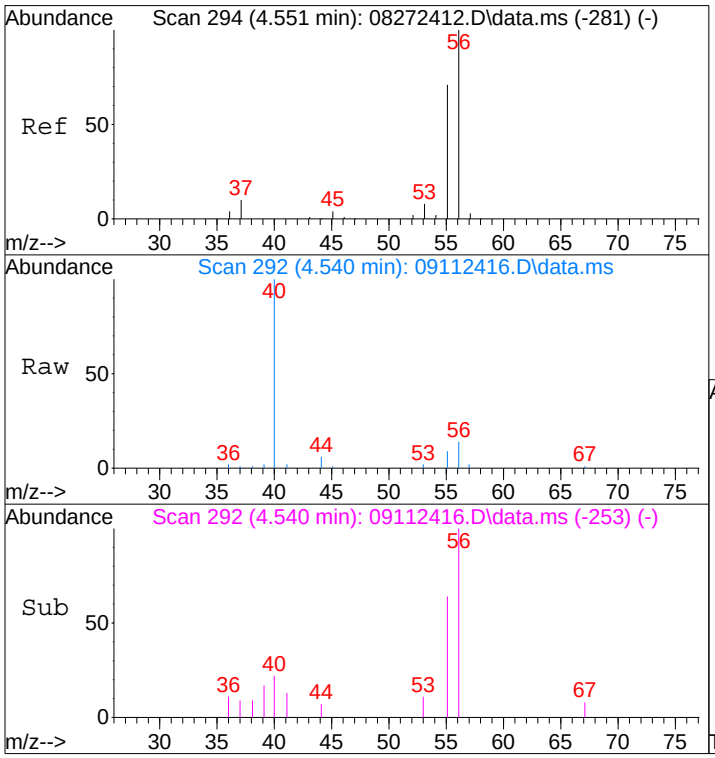


#4
Chloromethane
Concen: 0.29 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.008 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 50 Resp: 7362

Ion	Ratio	Lower	Upper
50	100		
52	32.8	12.4	52.4

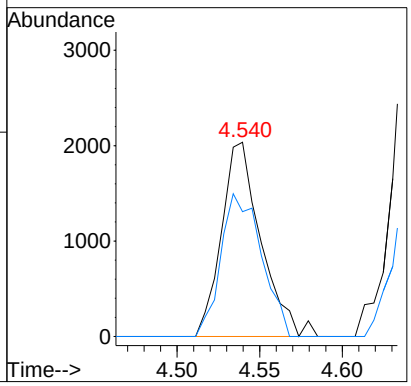


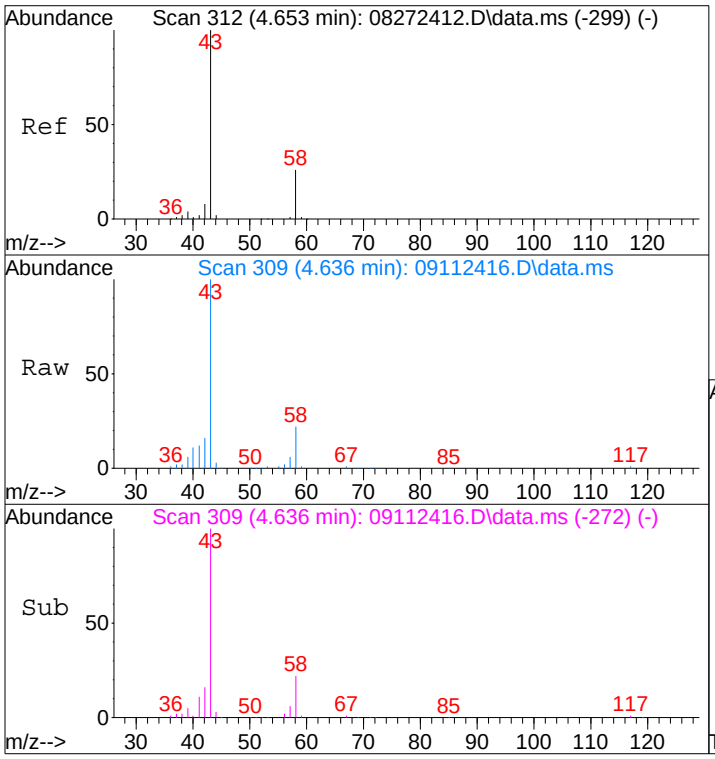


#12
Acrolein
Concen: 0.31 ng
RT: 4.54 min Scan# 292
Delta R.T. -0.028 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 56 Resp: 3386

Ion	Ratio	Lower	Upper
56	100		
55	75.6	54.7	94.7

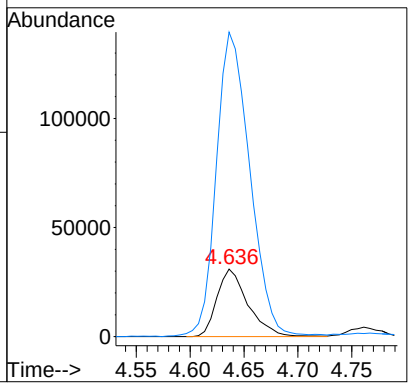


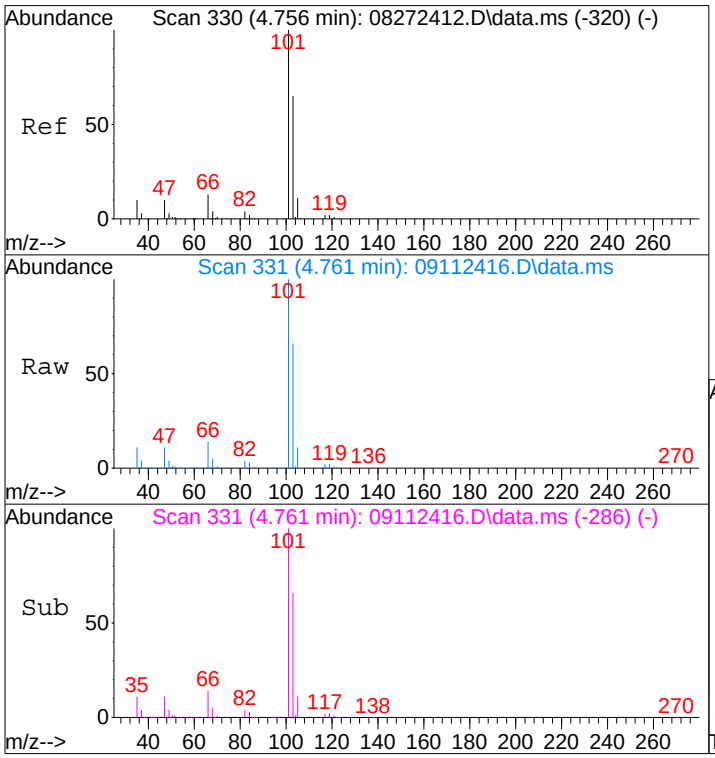


#13
Acetone
Concen: 5.10 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.039 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 58 Resp: 61946

Ion	Ratio	Lower	Upper
58	100		
43	489.4	347.3	407.3#

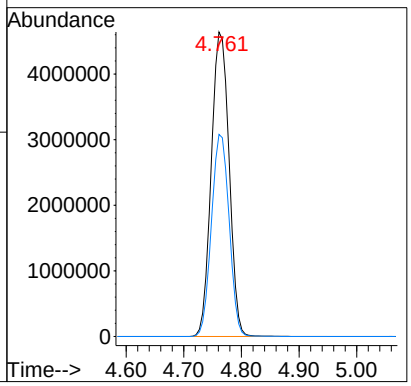


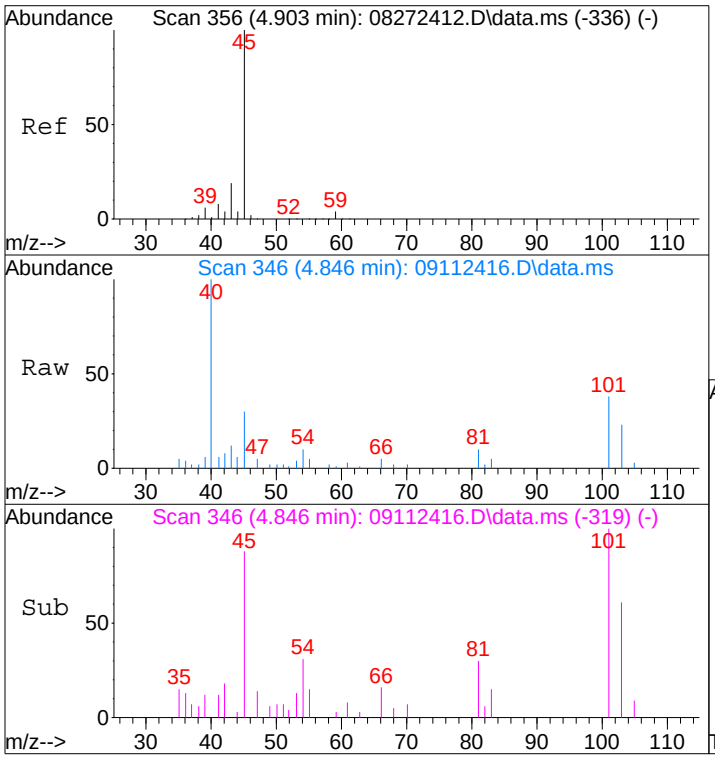


#14
Trichlorofluoromethane
Concen: 324.16 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.007 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion:101 Resp: 9951272

Ion	Ratio	Lower	Upper
101	100		
103	65.8	44.9	84.9

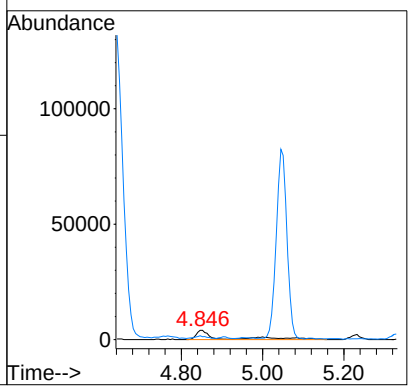


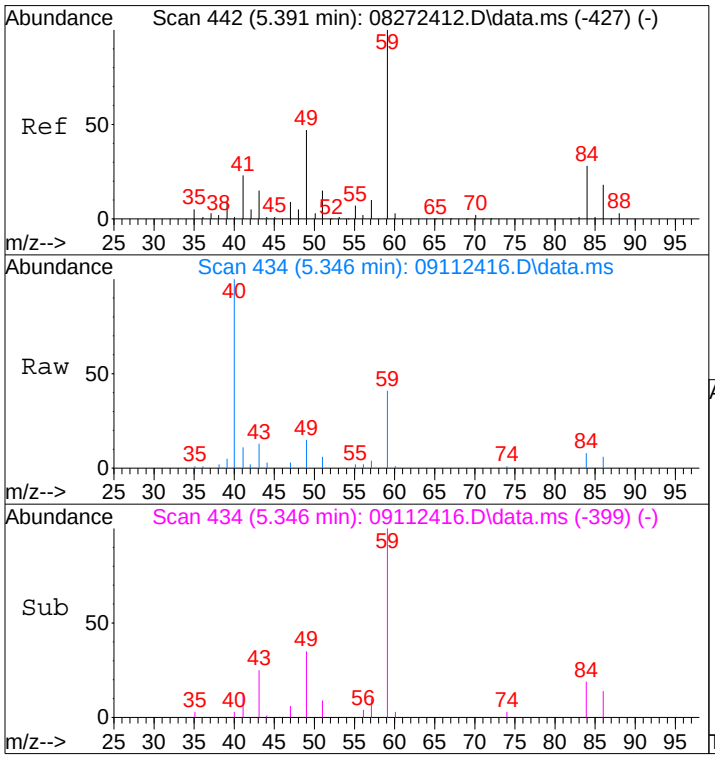


#15
2-Propanol (Isopropanol)
Concen: 0.34 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.094 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 45 Resp: 16132

Ion	Ratio	Lower	Upper
45	100		
43	30.2	0.0	40.0

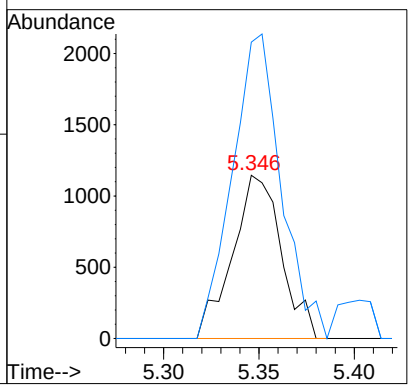


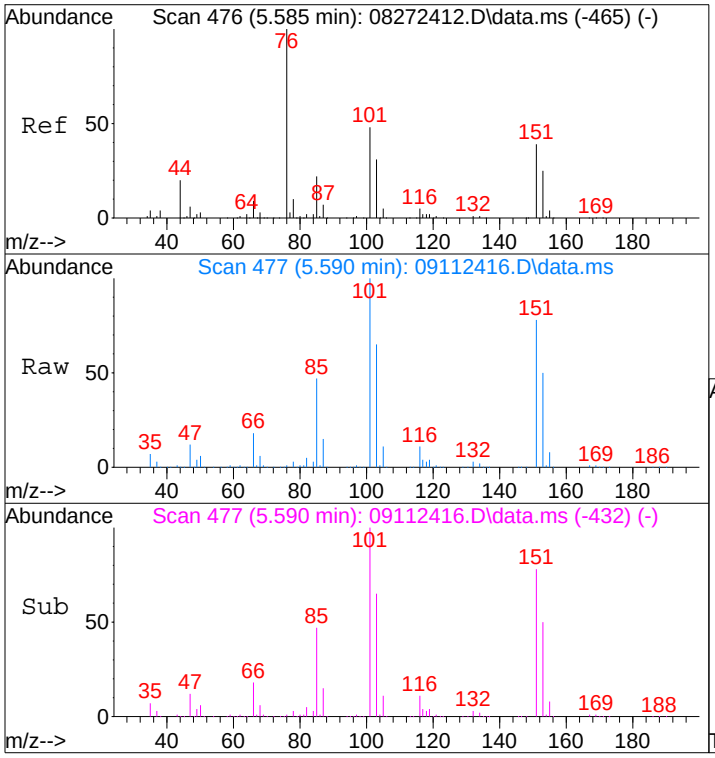


#19
Methylene Chloride
Concen: 0.14 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.053 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 84 Resp: 2037

Ion	Ratio	Lower	Upper
84	100		
49	187.4	151.1	201.1

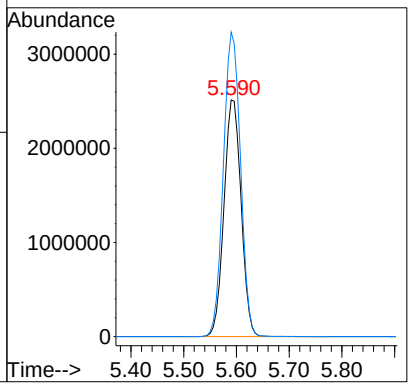


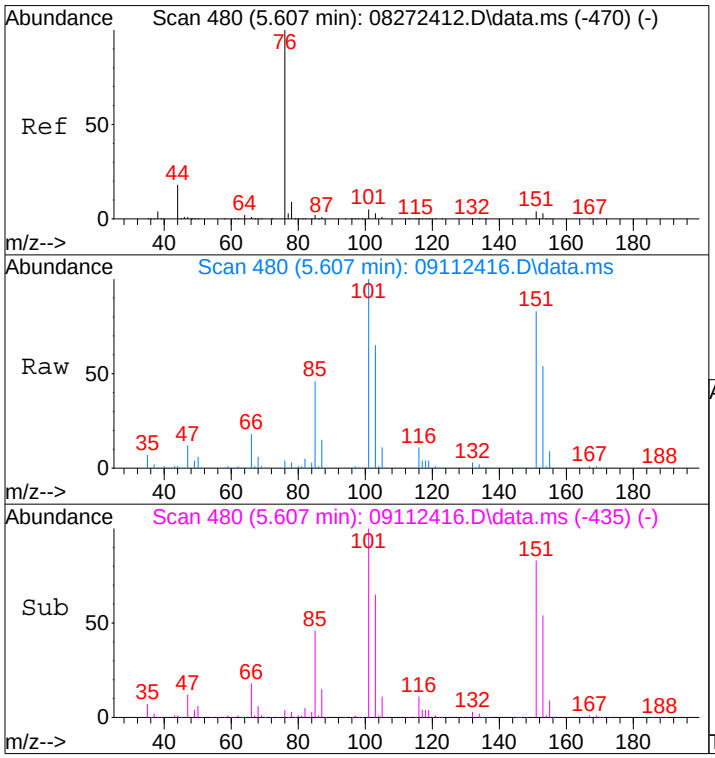


#21
Trichlorotrifluoroethane
Concen: 466.34 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.005 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion:151 Resp: 5671625

Ion	Ratio	Lower	Upper
151	100		
101	128.8	103.4	143.4

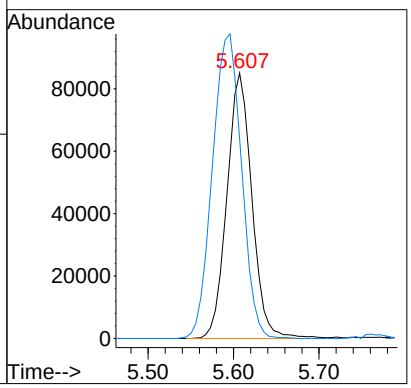


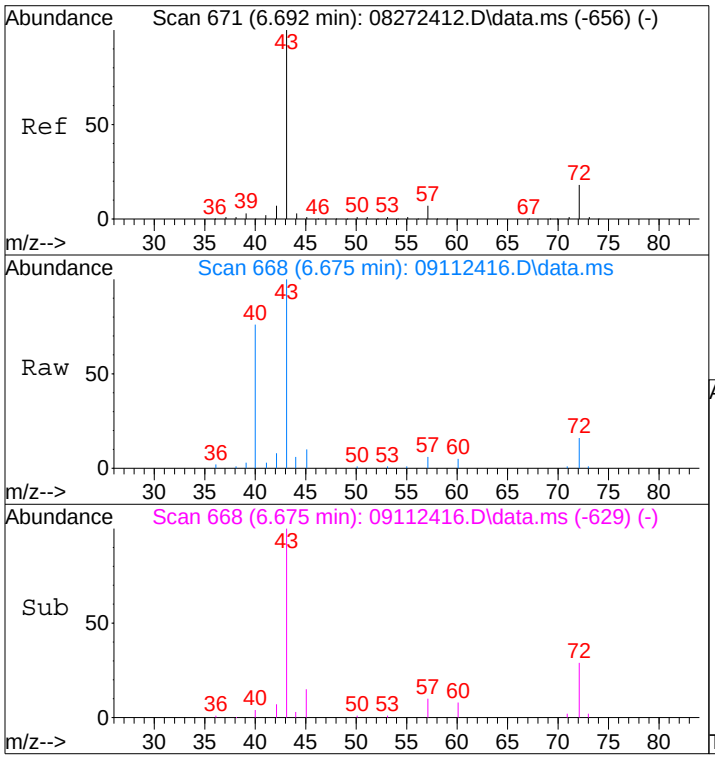


#22
Carbon Disulfide
Concen: 3.65 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.005 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 76 Resp: 172763

Ion	Ratio	Lower	Upper
76	100		
78	133.3	0.0	29.6#

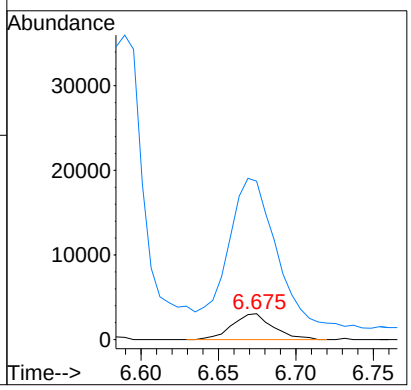


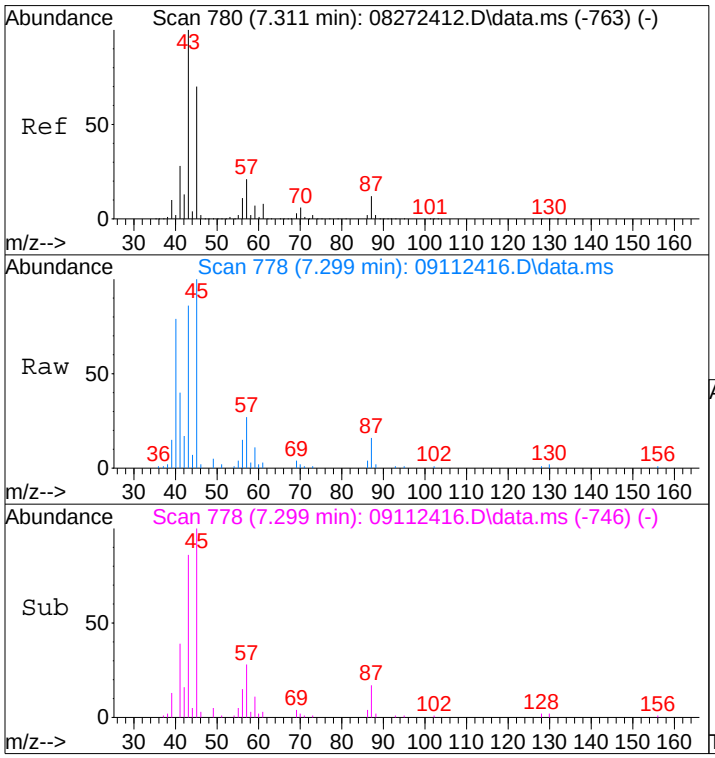


#27
2-Butanone (MEK)
Concen: 0.65 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.031 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 72 Resp: 5628

Ion	Ratio	Lower	Upper
72	100		
43	687.4	548.0	588.0#

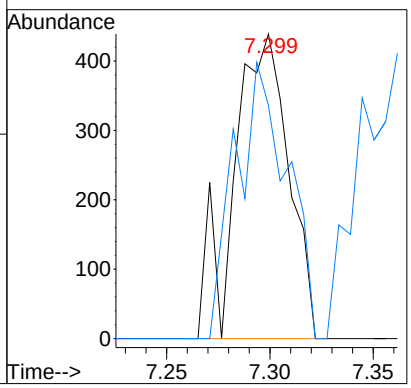


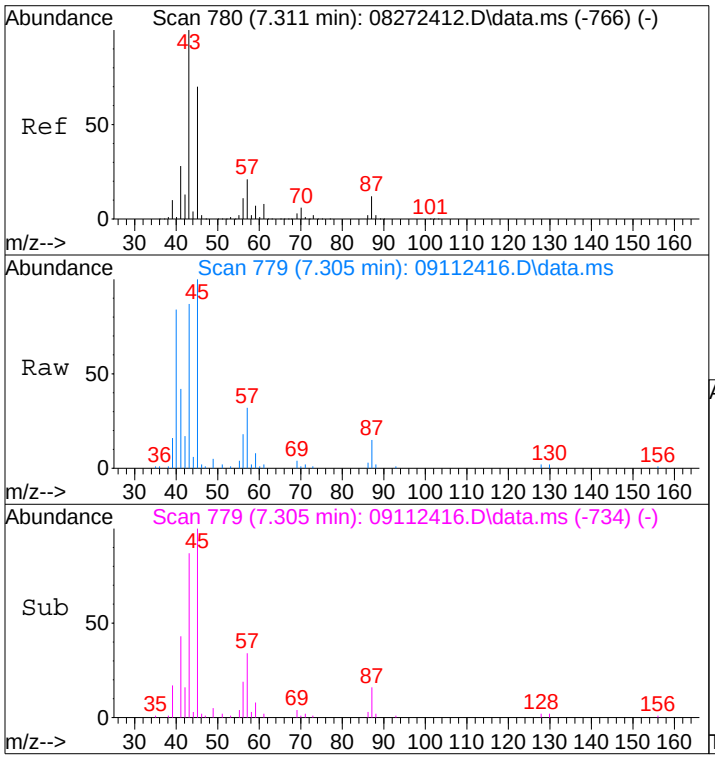


#30
Ethyl Acetate
Concen: 0.14 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.017 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 61 Resp: 810

Ion	Ratio	Lower	Upper
61	100		
70	86.2	49.9	89.9

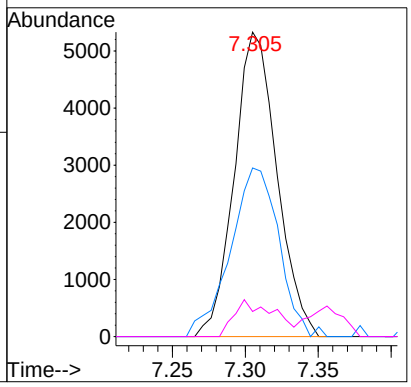


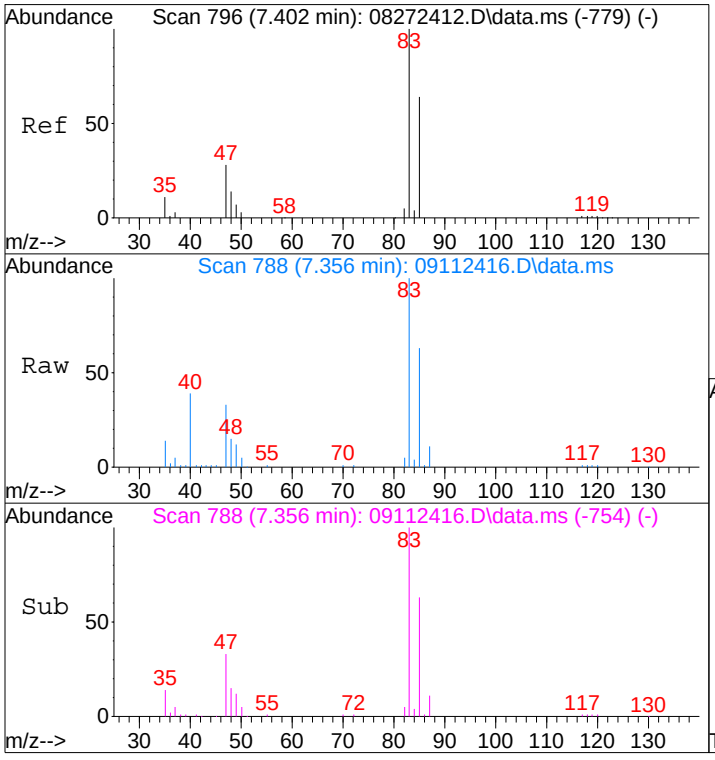


#31
n-Hexane
Concen: 0.41 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.006 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 57 Resp: 10847

Ion	Ratio	Lower	Upper
57	100		
56	62.8	44.2	66.2
86	11.3	9.3	13.9

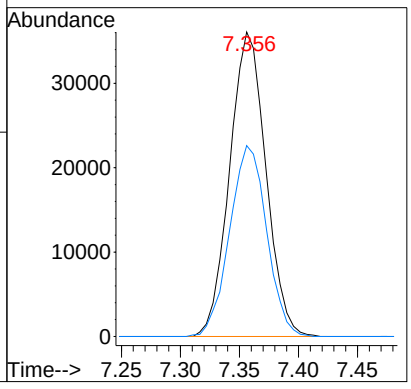


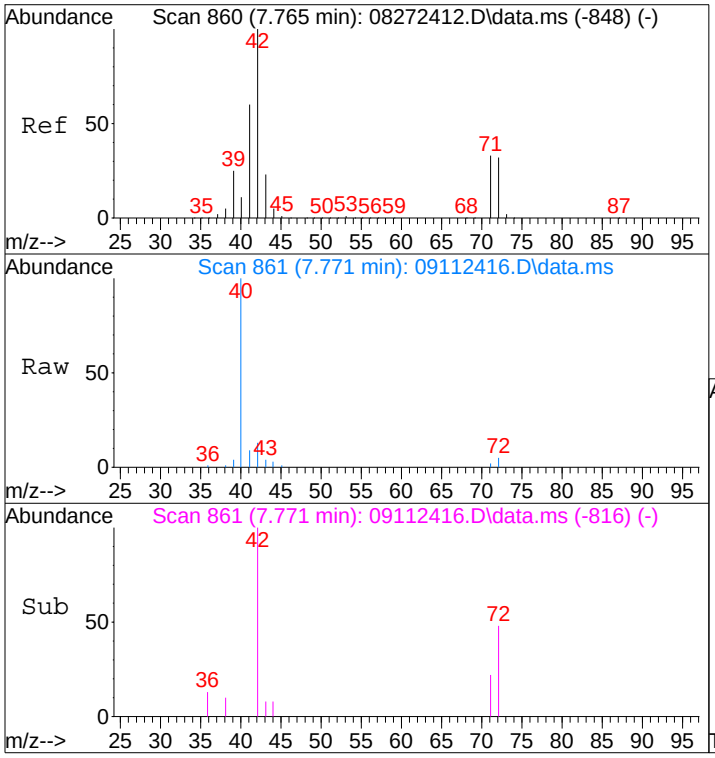


#32
Chloroform
Concen: 2.92 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.056 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 83 Resp: 77083

Ion	Ratio	Lower	Upper
83	100		
85	64.1	45.3	85.3

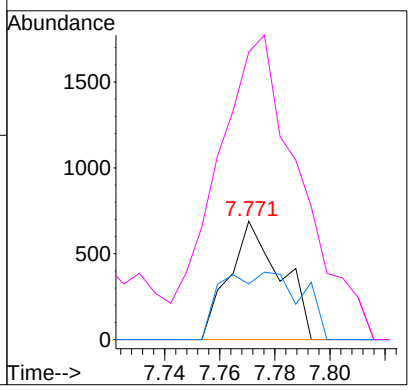


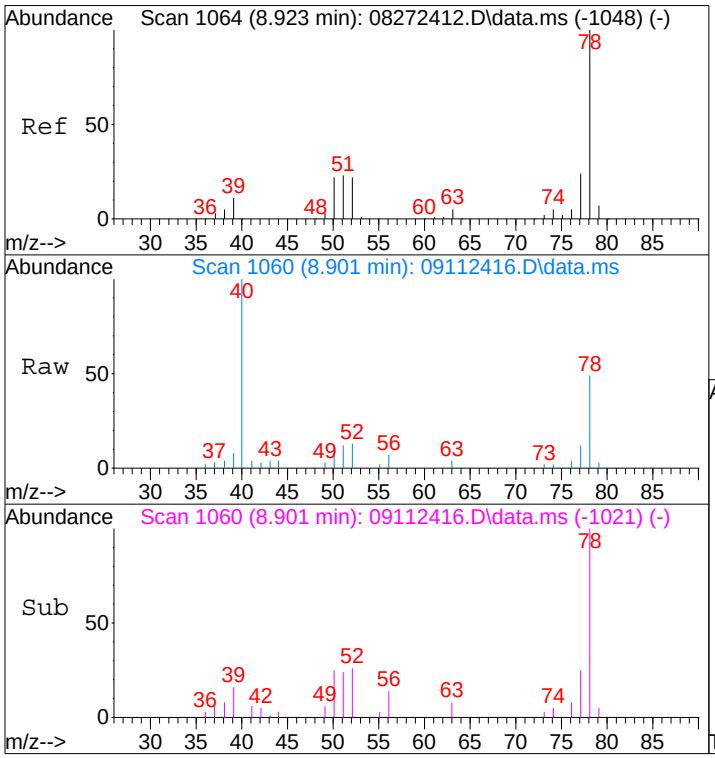


#34
Tetrahydrofuran (THF)
Concen: 0.11 ng
RT: 7.77 min Scan# 861
Delta R.T. 0.007 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 72 Resp: 895

Ion	Ratio	Lower	Upper
72	100		
71	88.9	78.4	118.4
42	414.4	285.2	325.2#

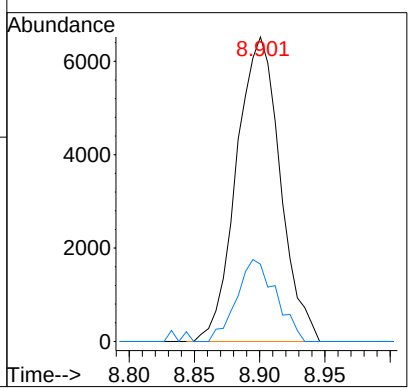


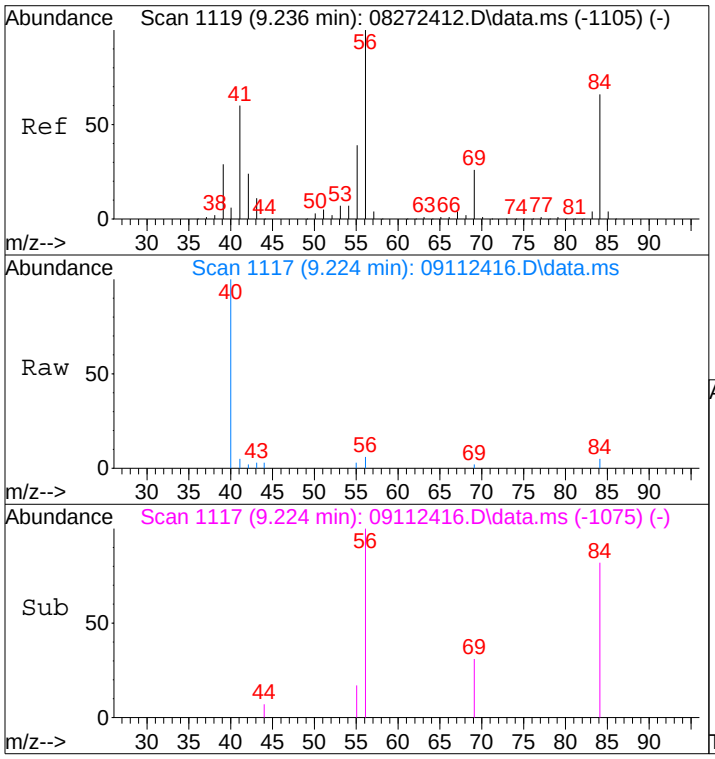


#41
Benzene
Concen: 0.28 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 78 Resp: 15203

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.9	43.9

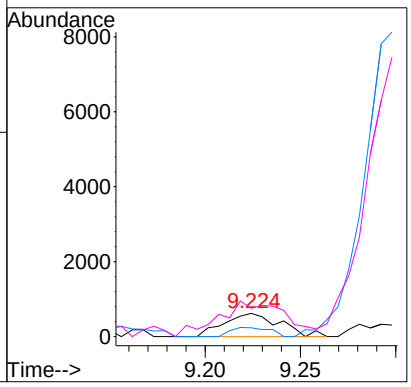


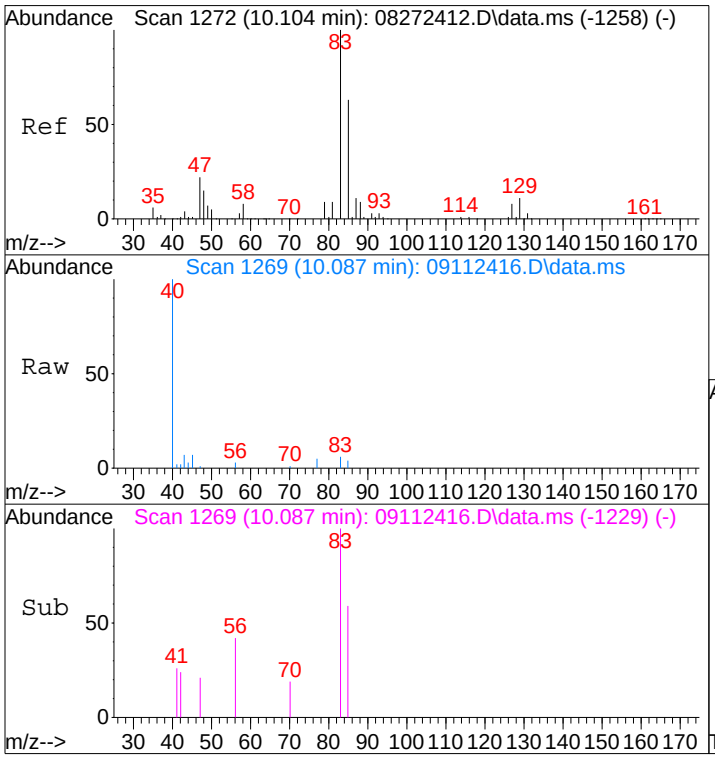


#43
Cyclohexane
Concen: 0.07 ng
RT: 9.22 min Scan# 1117
Delta R.T. -0.011 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 84 Resp: 1271

Ion	Ratio	Lower	Upper
84	100		
69	27.2	18.8	58.8
56	180.7	134.5	174.5#

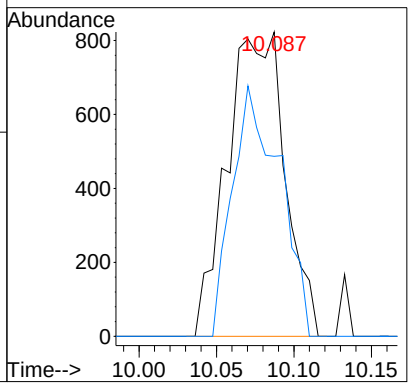


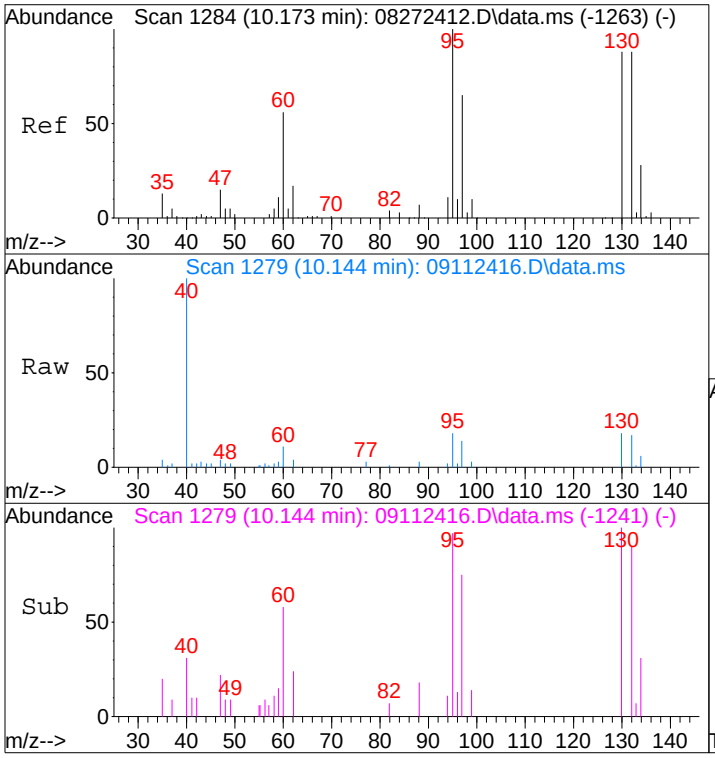


#46
Bromodichloromethane
Concen: 0.10 ng
RT: 10.09 min Scan# 1269
Delta R.T. -0.021 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 83 Resp: 2137

Ion	Ratio	Lower	Upper
83	100		
85	67.6	43.9	83.9

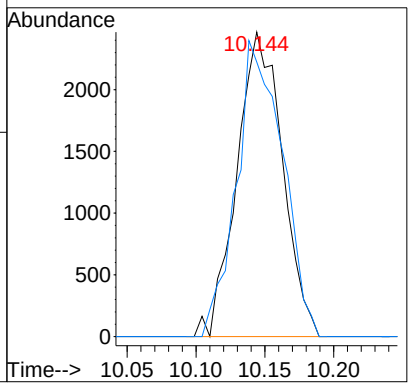


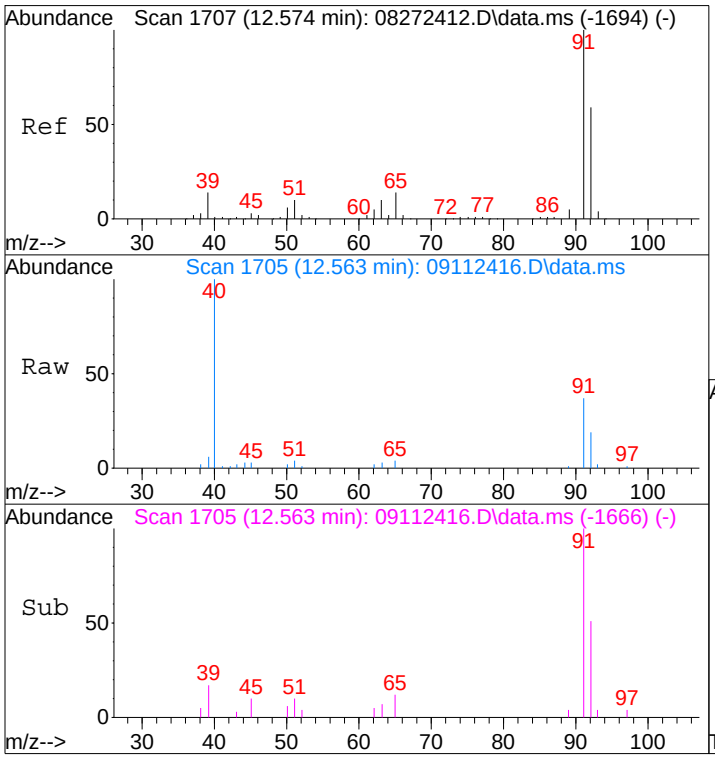


#47
Trichloroethene
Concen: 0.42 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.032 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion:130 Resp: 5679

Ion	Ratio	Lower	Upper
130	100		
132	98.5	80.8	120.8

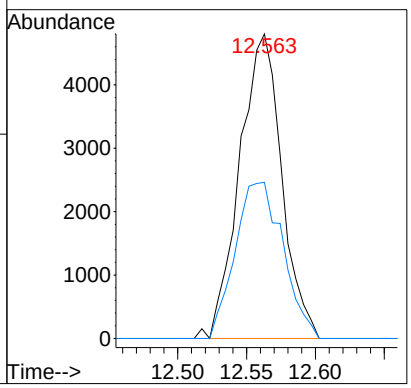


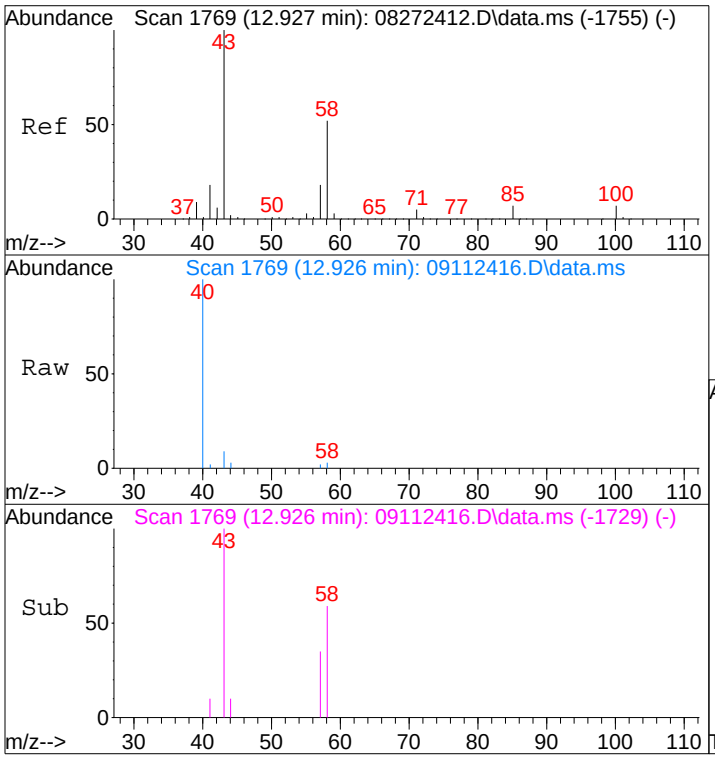


#58
Toluene
Concen: 0.16 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 91 Resp: 10214

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.5	78.5

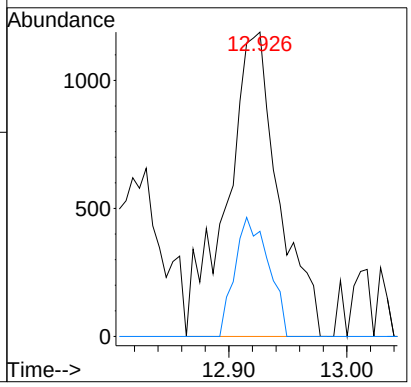


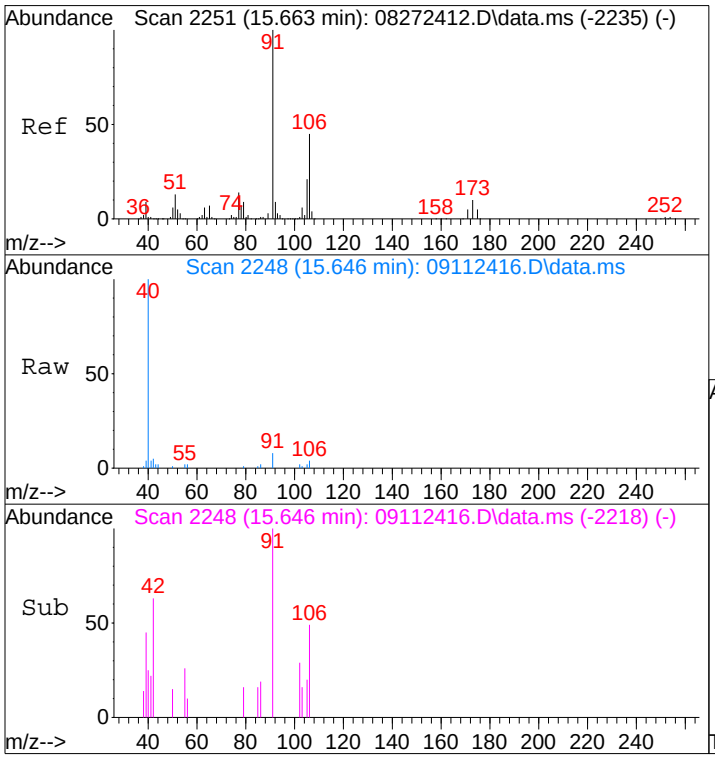


#59
2-Hexanone
Concen: 0.09 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 43 Resp: 3629

Ion	Ratio	Lower	Upper
43	100		
58	25.5	31.1	71.1#

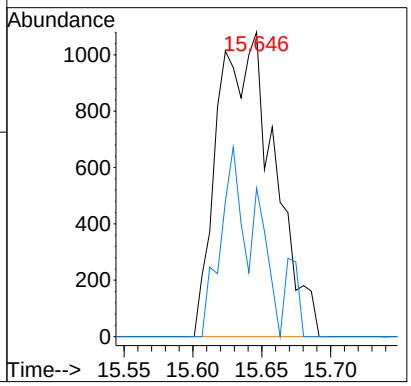




#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 15.65 min Scan# 2248
Delta R.T. -0.028 min
Lab File: 09112416.D
Acq: 11 Sep 2024 17:57

Tgt Ion: 91 Resp: 3087

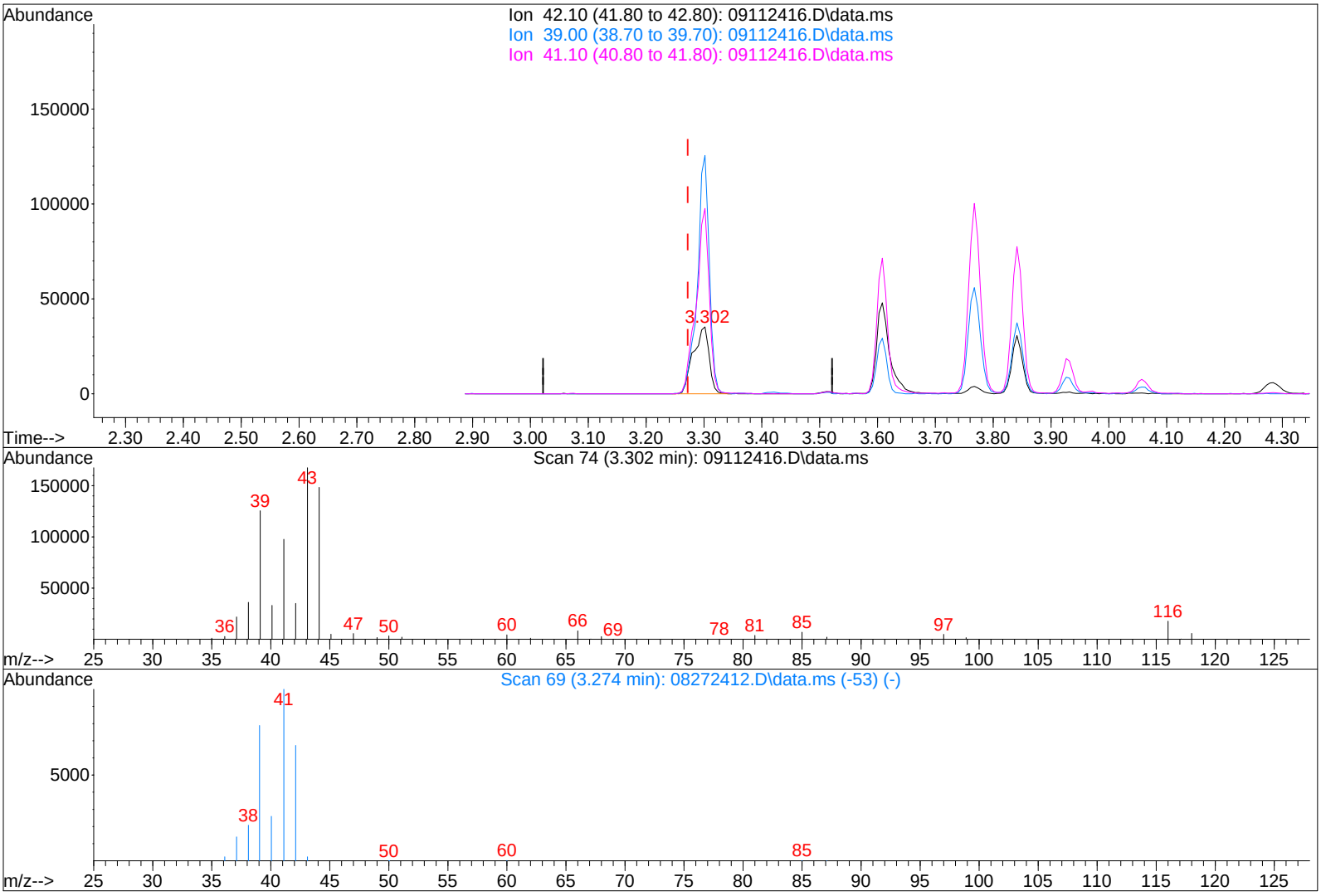
Ion	Ratio	Lower	Upper
91	100		
106	24.8	23.8	63.8



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(2) Propene (T)

3.302min (+0.030) 3.33ng

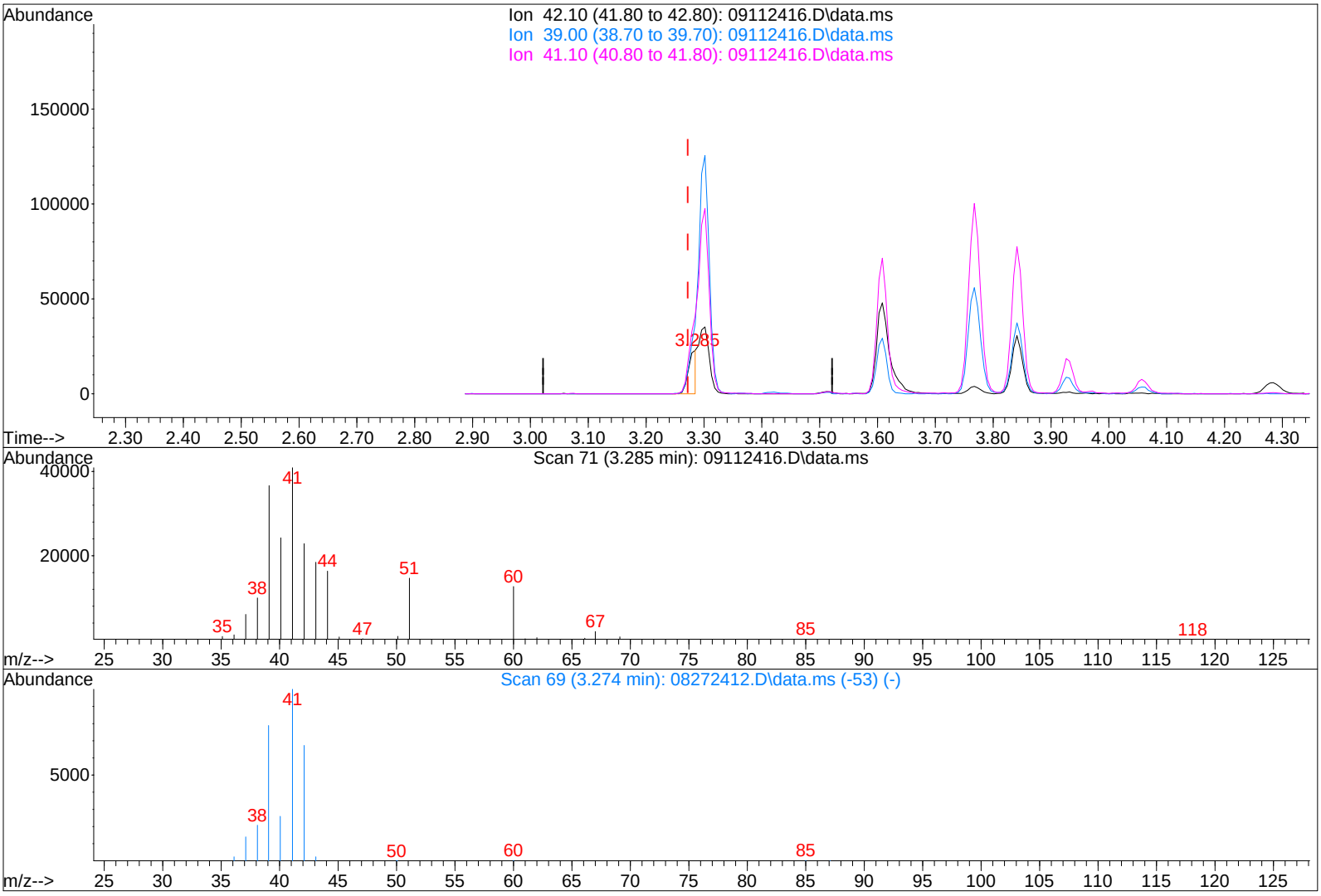
response 66603

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	270.41#
41.10	150.10	231.61#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(2) Propene (T)

3.285min (+0.013) 1.08ng m

response 21608

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	833.48#
41.10	150.10	713.91#
0.00	0.00	0.00

IPC

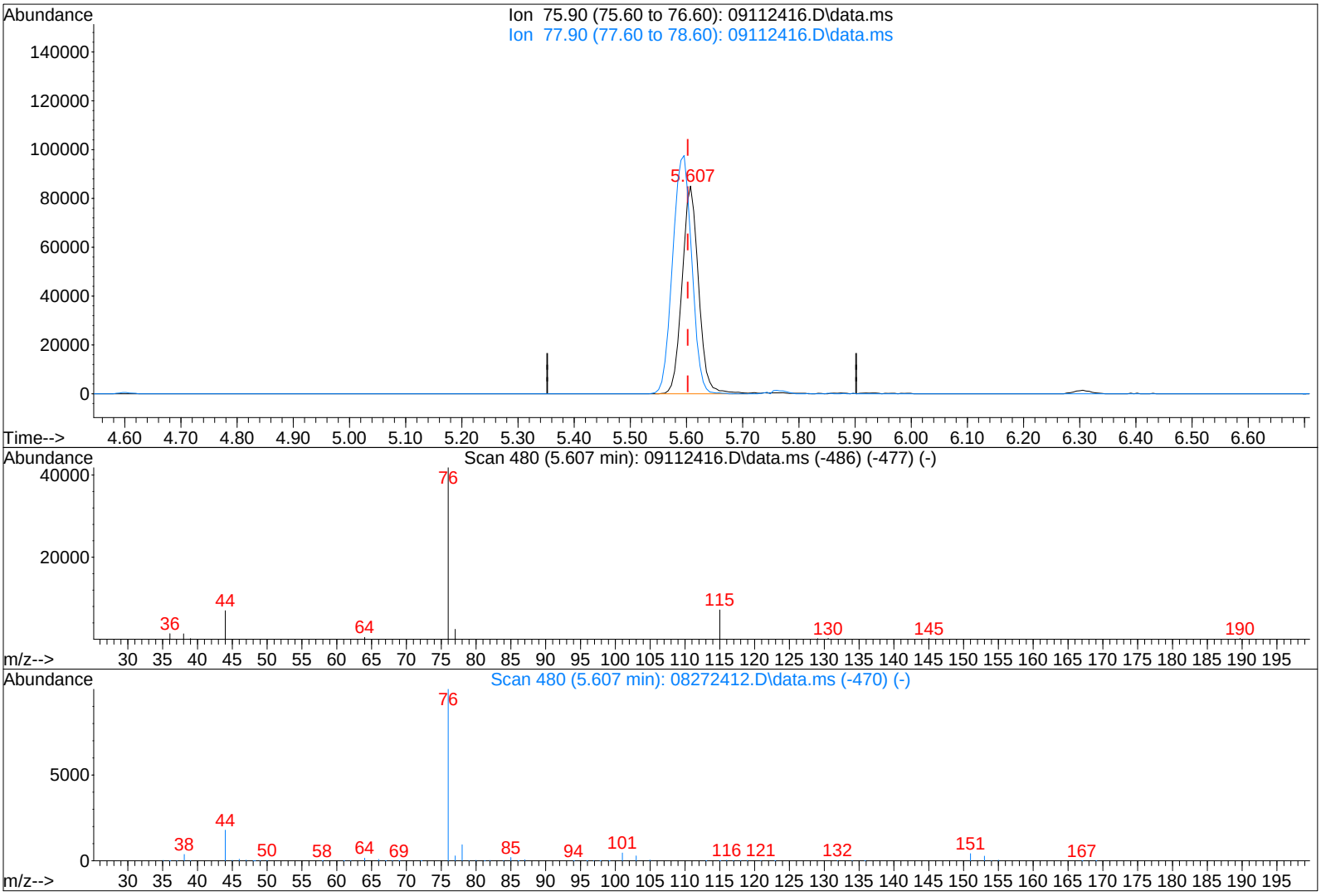
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(22) Carbon Disulfide (T)

5.607min (+0.005) 3.65ng

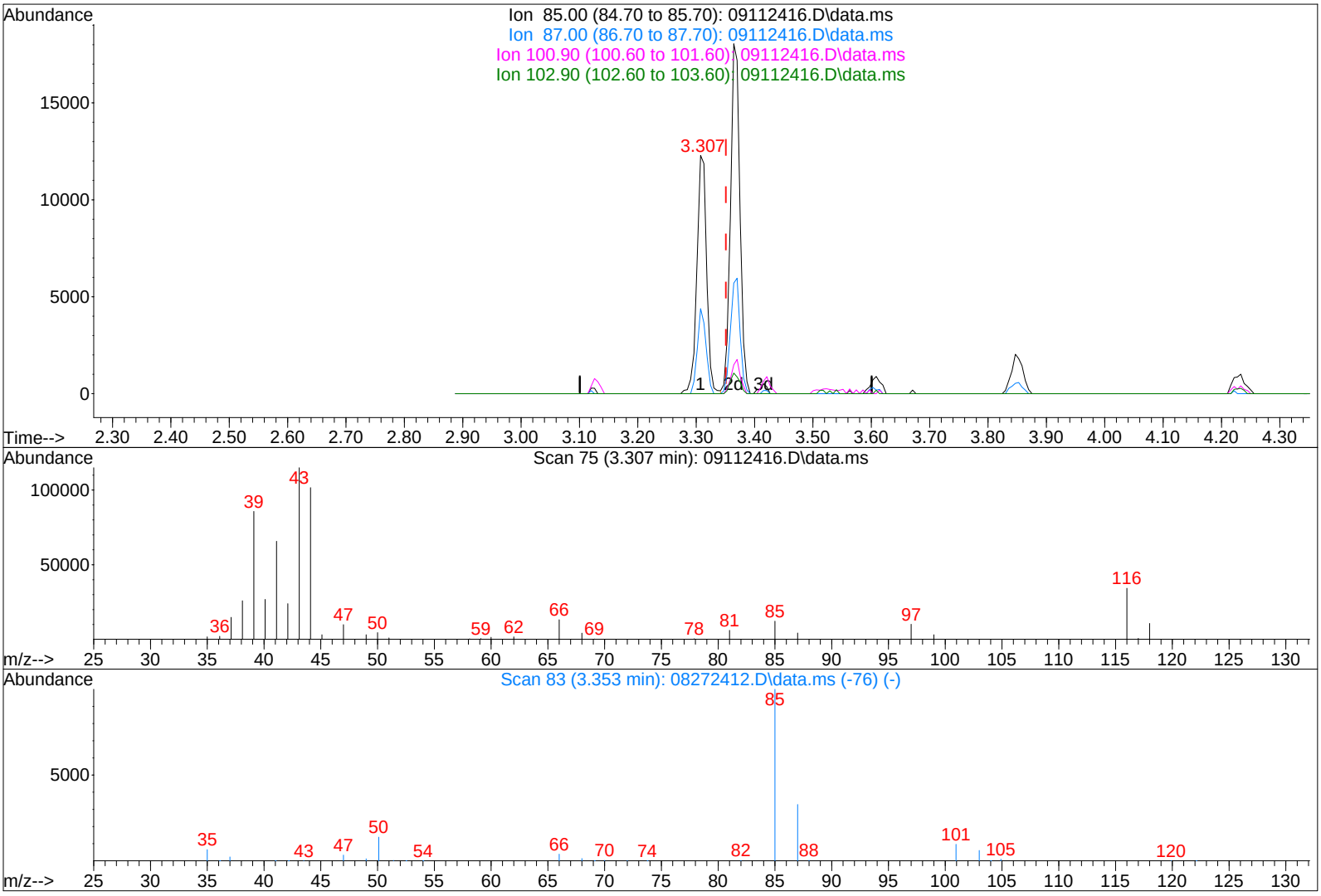
response 172763

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	133.34#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.307min (-0.044) 0.44ng

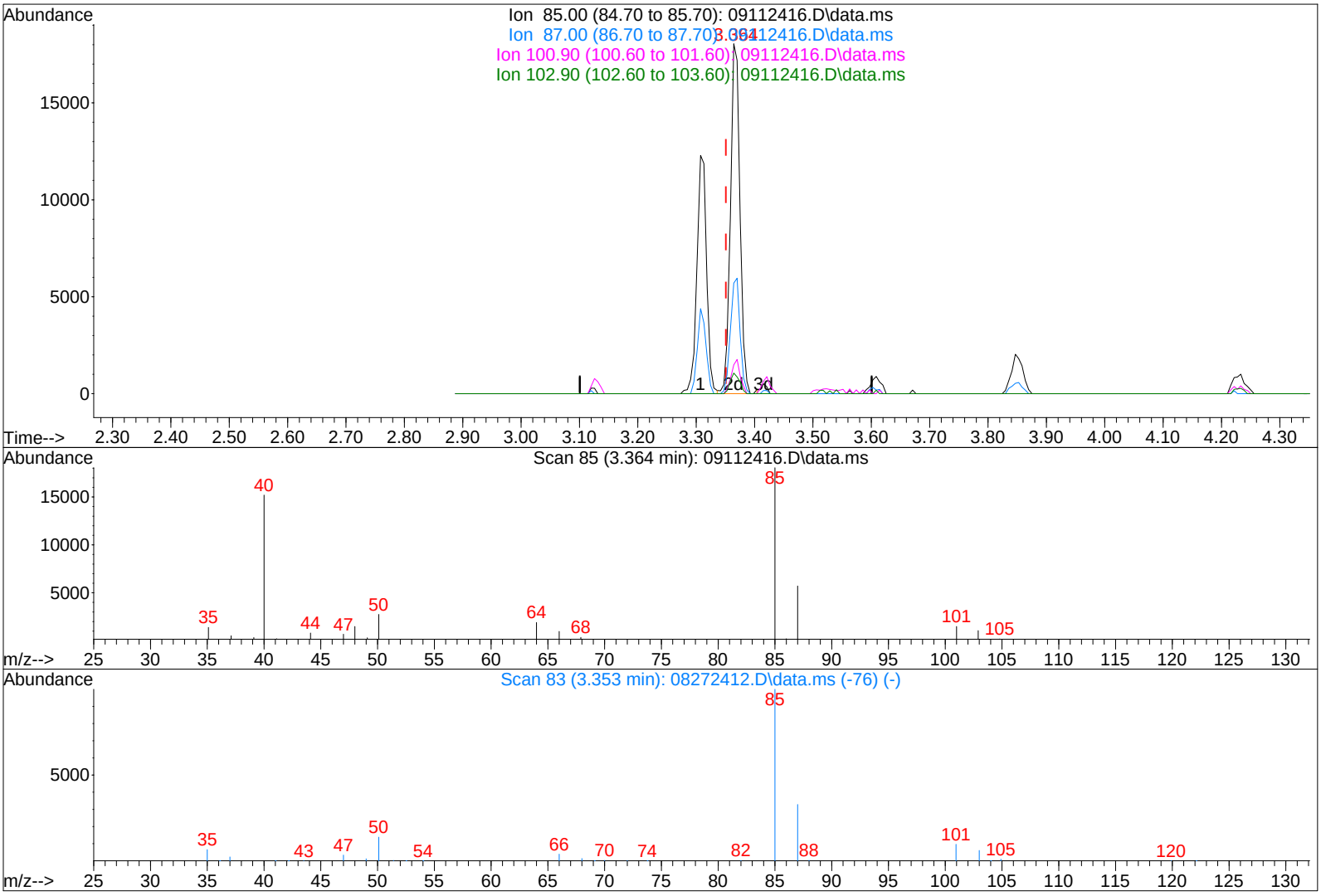
response 14266

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.69
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:55:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.013) 0.63ng m

response 20424

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	22.14
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/12/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:41:36 2024 9/12/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

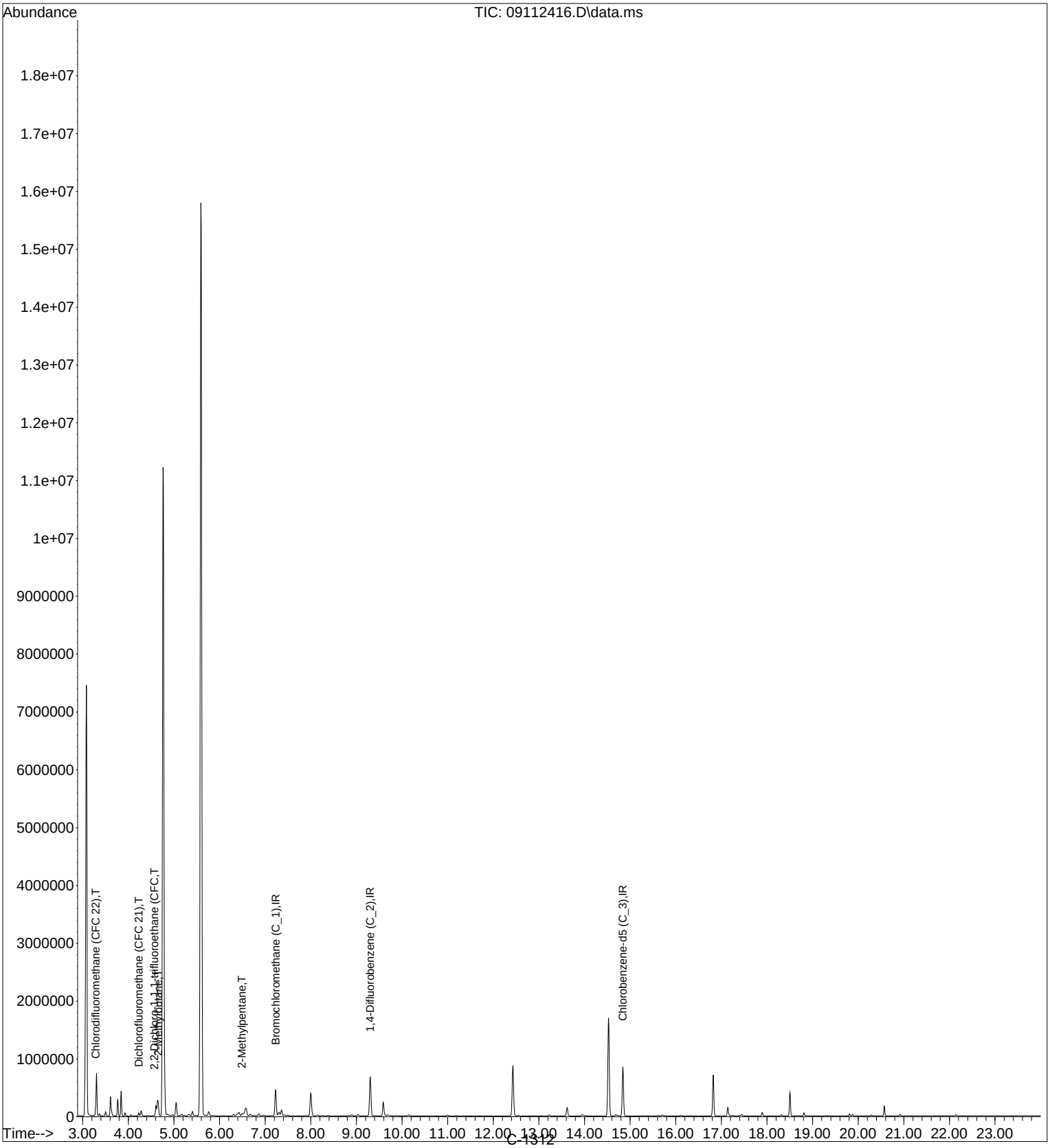
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	132564	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	585444	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	170889	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	195	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d		
4) 1,1-Difluoroethane	3.24	65	911	N.D.			
5) Chlorodifluoromethane ...	3.28	67	2472	0.547	ng	#	77
6) 1-Chloro-1,1-Difluoroe...	3.49	65	588	N.D.			
7) Dichlorofluoromethane ...	4.23	67	43145	1.419	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	2227	0.121	ng	#	16
10) 2-Methylbutane	4.65	57	46591	2.947	ng		87
11) Methyl Acetate	0.00	43	0	N.D.	d		
12) 2-Methylpentane	6.49	71	4881	0.425	ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	1677	N.D.			
17) 2,3-Dimethylpentane	9.53	56	1046	N.D.			
18) Dibromomethane	9.80	174	164	N.D.			
20) Methyl Cyclohexane	11.42	55	1044	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.62	91	53	N.D.			
27) 4-Chlorotoluene	17.68	91	728	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	19.21	115	104	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	51	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	58	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	693	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:41:36 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

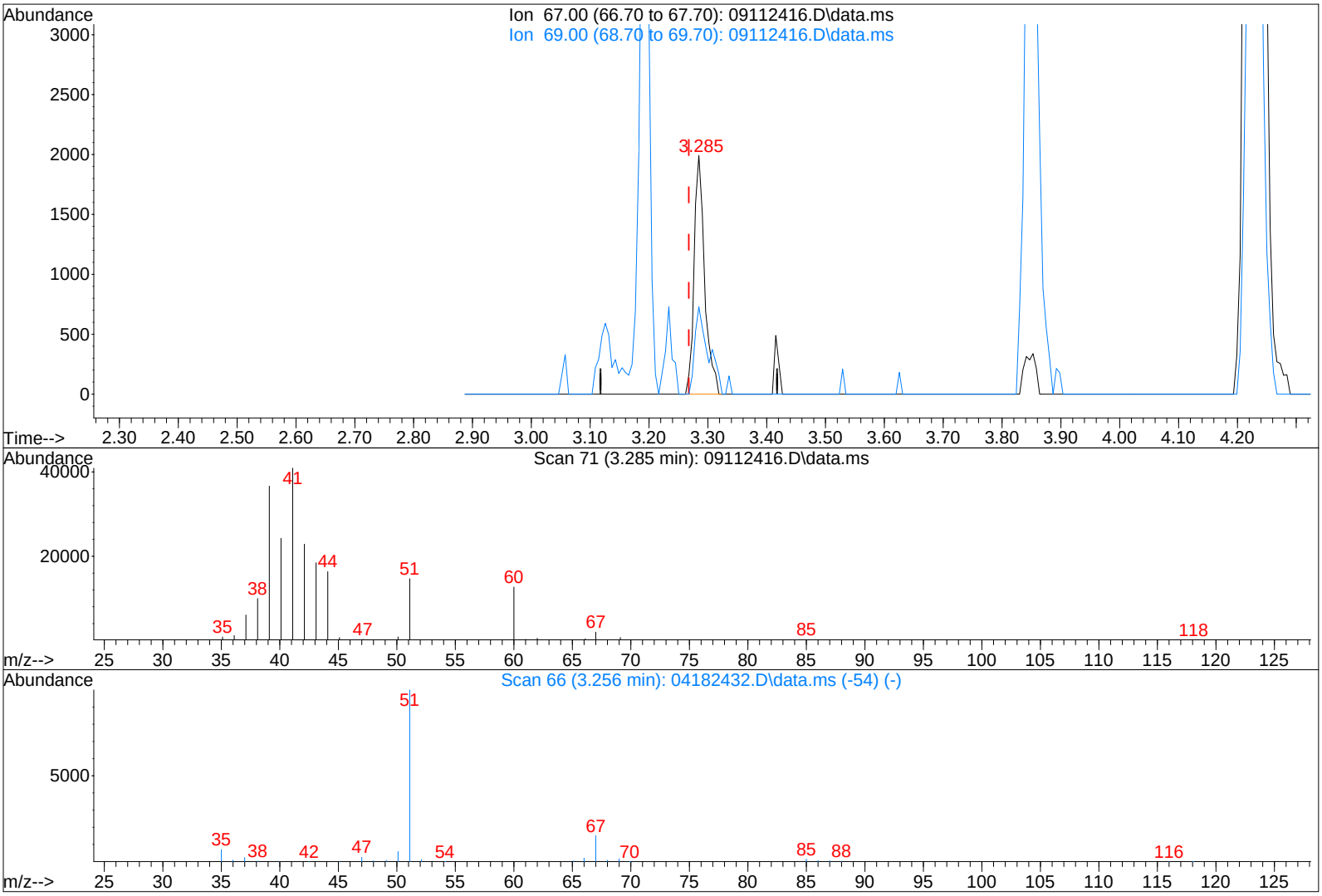


C-1312

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:40:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.285min (+0.017) 0.55ng

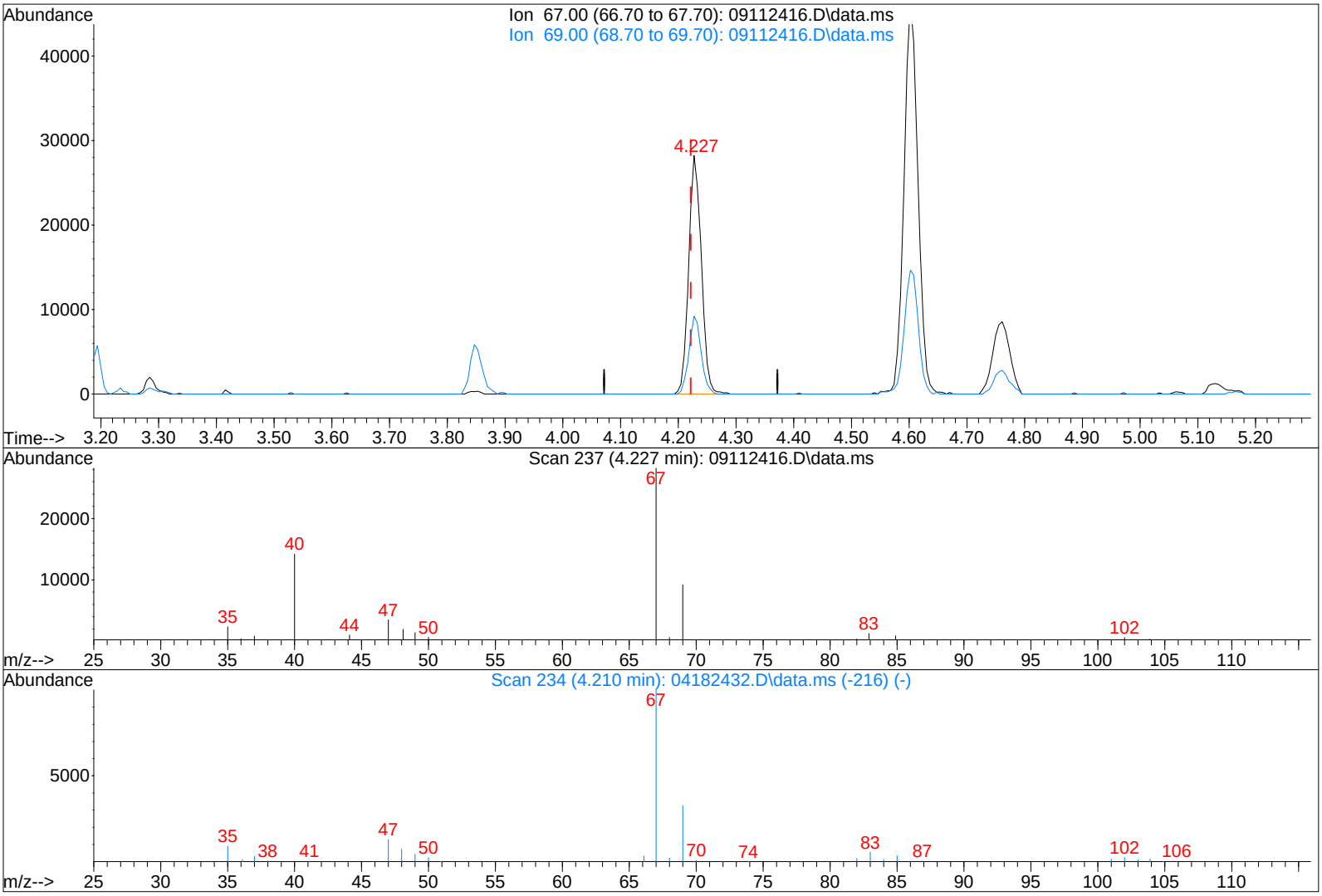
response 2472

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	47.33#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112416.D Vial: 4
Acq On : 11 Sep 2024 17:57 Operator: SC
Sample : P2403661-036 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:40:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112416.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.42ng

response 43145

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122407.D Vial: 4
Acq On : 12 Sep 2024 14:00 Operator: SC
Sample : P2403661-036Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:22:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	164838	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	741020	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	204927	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	390156	12.649	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
57) Toluene-d8 (SS2)	12.43	98	849853	11.822	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
73) Bromofluorobenzene (SS3)	16.82	174	276210	11.488	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.32	85	1512	N.D.			
4) Chloromethane	3.52	50	1403	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	348	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.39	45	58	N.D.			
11) Acetonitrile	4.45	41	1768	N.D.			
12) Acrolein	4.55	56	546	N.D.			
13) Acetone	4.65	58	7949	0.527	ng	#	70
14) Trichlorofluoromethane	4.75	101	1005124	26.331	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	1736	N.D.			
16) Acrylonitrile	5.00	53	1245	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	431	N.D.			
20) 3-Chloro-1-propene (Al...	5.45	41	443	N.D.			
21) Trichlorotrifluoroethane	5.58	151	570657	37.735	ng		94
22) Carbon Disulfide	5.60	76	17665	0.300	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.69	72	602	0.056	ng	#	60
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.30	87	479	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	1681	0.051	ng	#	86
32) Chloroform	7.36	83	6952	0.212	ng		96
34) Tetrahydrofuran (THF)	7.79	72	114	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	896	No Calib		#	
41) Benzene	8.90	78	3648	0.053	ng		96
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	2612	0.111	ng	#	74
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.09	83	169	N.D.			
47) Trichloroethene	10.13	130	296	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	246	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122407.D Vial: 4
Acq On : 12 Sep 2024 14:00 Operator: SC
Sample : P2403661-036Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:22:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

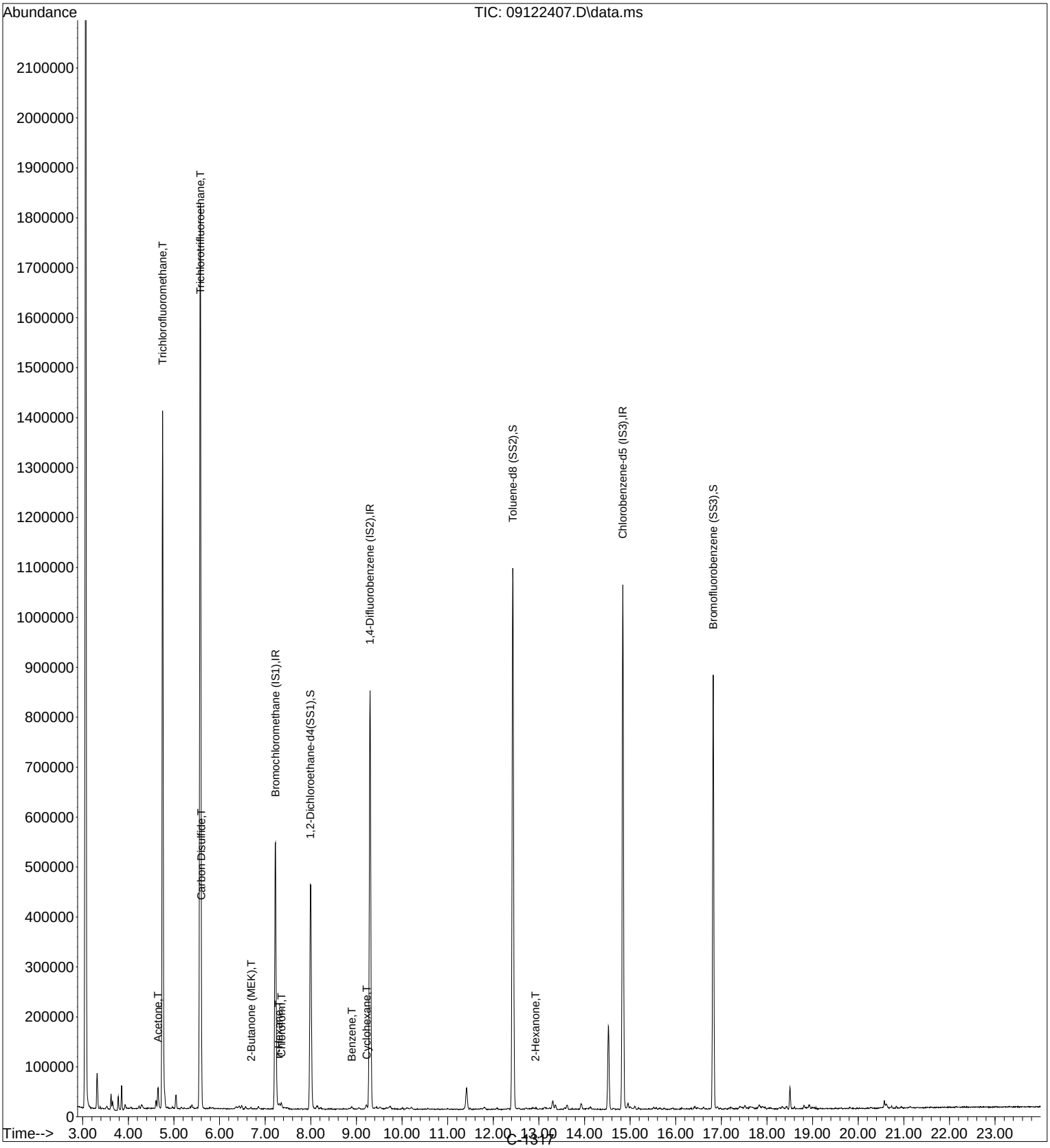
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.57	71	122	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	3361	N.D.	
59) 2-Hexanone	12.93	43	2873	0.060 ng #	47
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	457	N.D.	
63) n-Octane	13.92	57	817	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	343	N.D.	
66) Ethylbenzene	15.41	91	989	N.D.	
67) m- & p-Xylenes	15.63	91	2115	N.D.	
68) Bromoform	15.67	173	127	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	1385	N.D.	
71) n-Nonane	16.61	43	1837	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	179	N.D.	
74) Cumene	17.03	105	585	N.D.	
75) alpha-Pinene	17.53	93	2121	N.D.	
76) n-Propylbenzene	17.67	91	2154	N.D.	
77) 3-Ethyltoluene	17.03	105	585	No Calib #	
78) 4-Ethyltoluene	17.86	105	869	N.D.	
79) 1,3,5-Trimethylbenzene	17.97	105	2364	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	585	No Calib #	
82) 1,2,4-Trimethylbenzene	18.42	105	1014	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	470	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	571	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	612	N.D.	
87) sec-Butylbenzene	18.74	105	497	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	2135	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	585	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	456	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.51	157	274	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1284	N.D.	
95) Naphthalene	20.94	128	2448	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	427	N.D.	
98) Cyclohexanone	15.24	55	126	No Calib #	
99) tert-Butylbenzene	18.42	119	332	N.D.	
100) n-Butylbenzene	19.39	91	673	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122407.D Vial: 4
Acq On : 12 Sep 2024 14:00 Operator: SC
Sample : P2403661-036Dil (40mL) Inst : MS09
Misc : S37-06062402

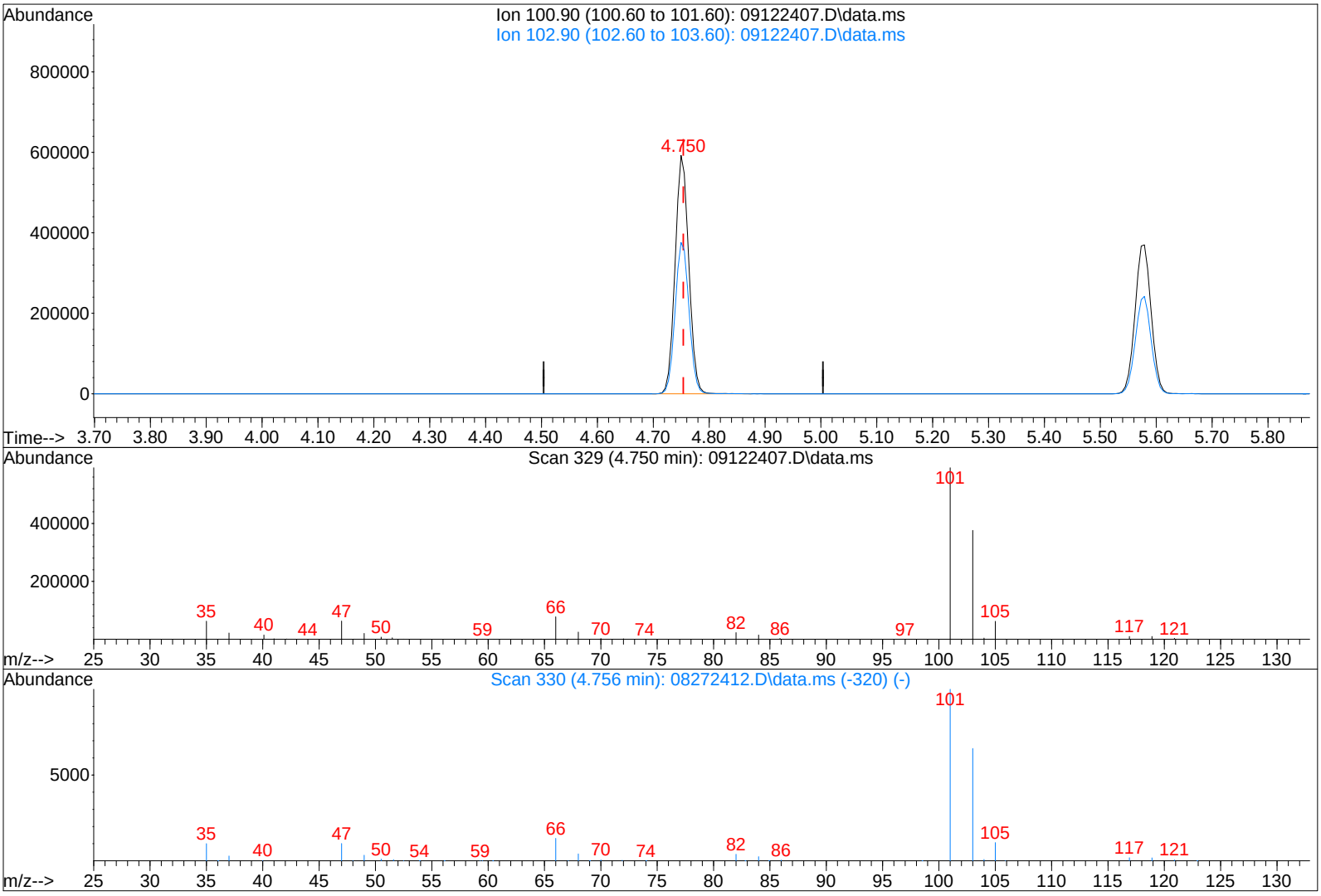
Quant Time: Sep 12 14:22:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122407.D Vial: 4
Acq On : 12 Sep 2024 14:00 Operator: SC
Sample : P2403661-036Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:22:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122407.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 26.33ng

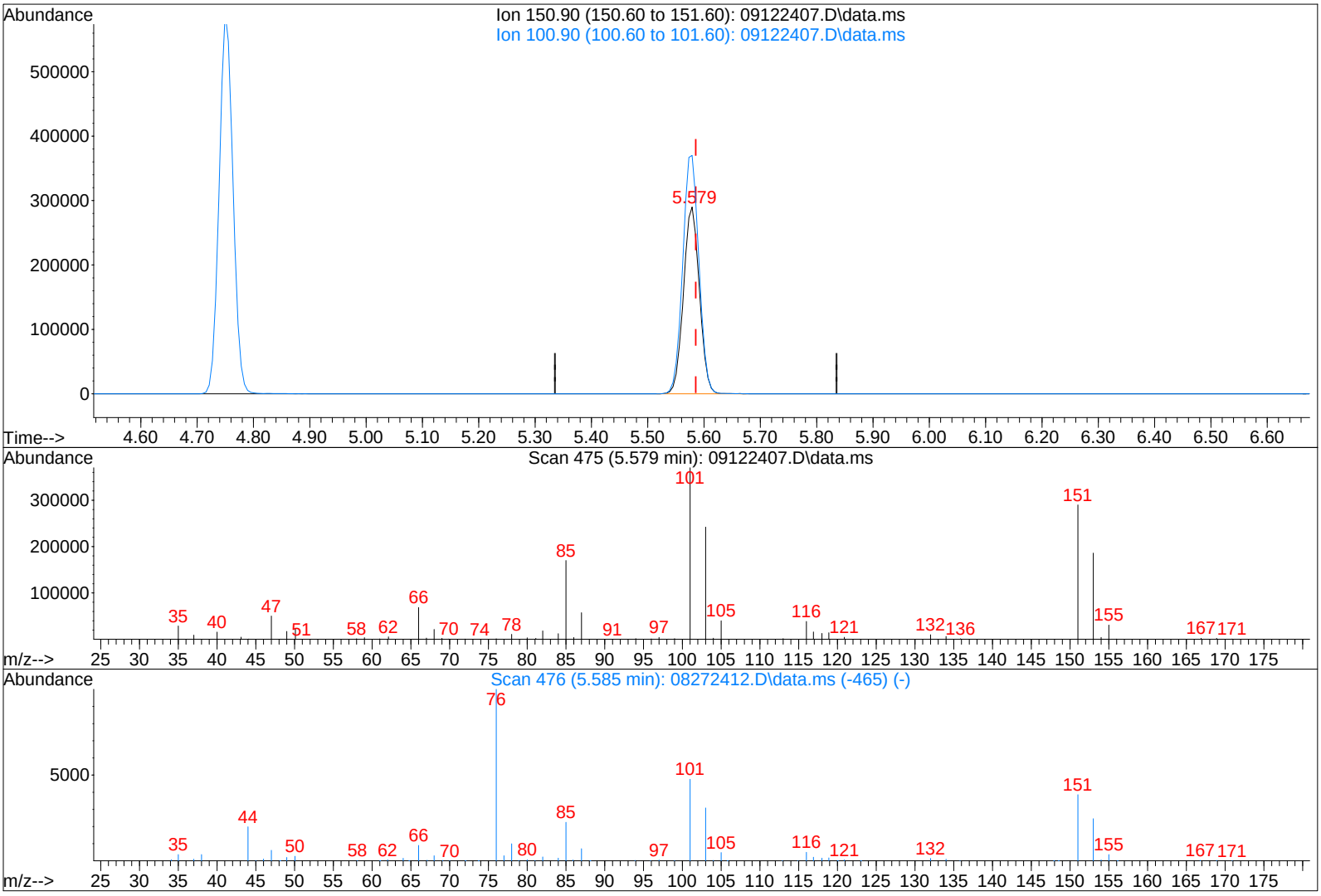
response 1005124

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.62
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122407.D Vial: 4
Acq On : 12 Sep 2024 14:00 Operator: SC
Sample : P2403661-036Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:22:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122407.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.007) 37.73ng

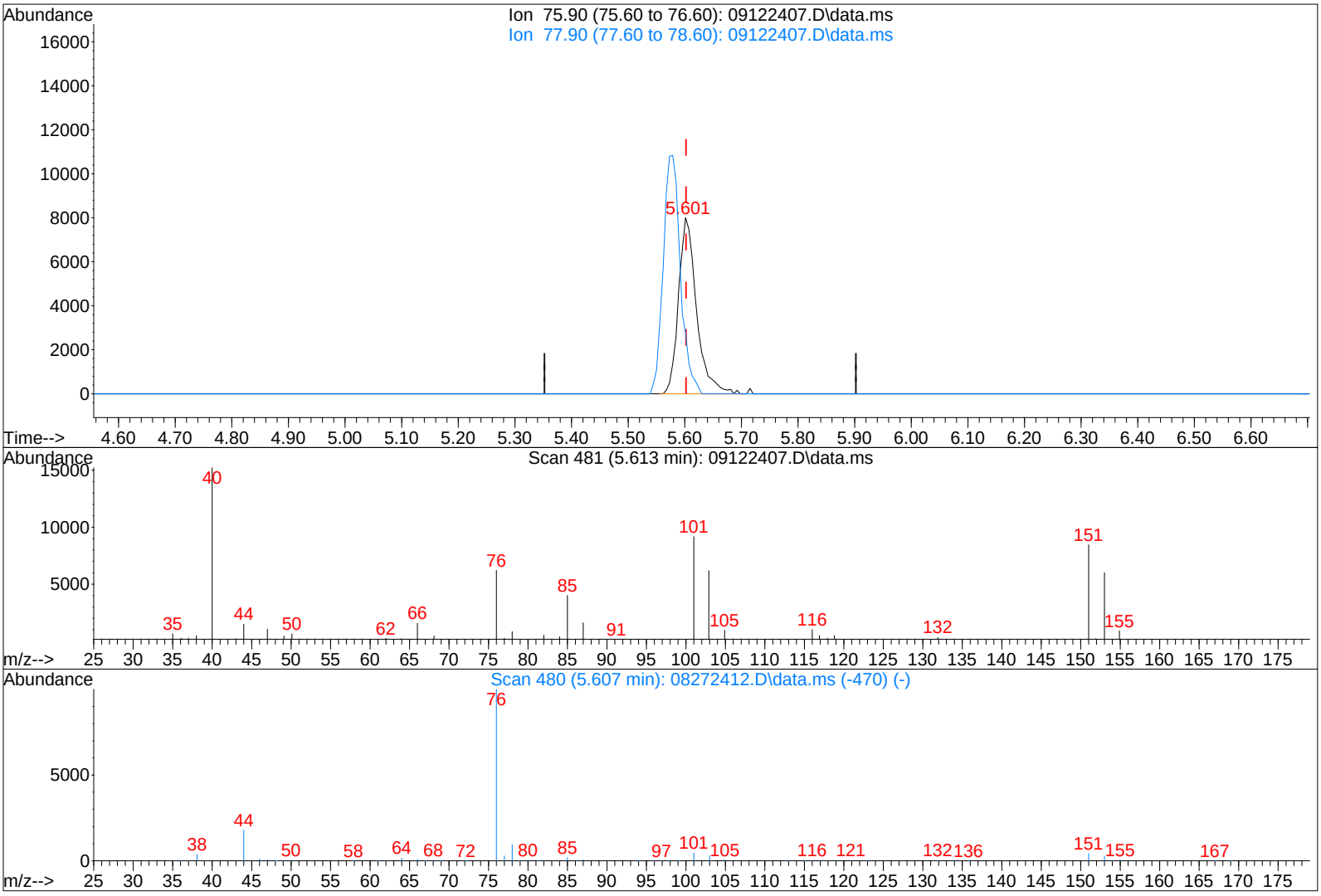
response 570657

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.85
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122407.D Vial: 4
Acq On : 12 Sep 2024 14:00 Operator: SC
Sample : P2403661-036Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:22:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122407.D\data.ms

(22) Carbon Disulfide (T)

5.601min (-0.001) 0.30ng

response 17665

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	129.53#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112416.D
Acq On : 11 Sep 2024 17:57
Operator : SC
Sample : P2403661-036 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112416.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	66	rBV3	8108	10606	0.03%	0.016%
2	3.302	66	74	80	rVV2	735214	1077257	2.99%	1.584%
3	3.364	80	85	90	rVB2	37455	50367	0.14%	0.074%
4	3.501	104	109	122	rBV2	71162	109079	0.30%	0.160%
5	3.608	122	128	145	rVB2	335612	567225	1.57%	0.834%
6	3.767	150	156	164	rBV	292144	415440	1.15%	0.611%
7	3.841	164	169	179	rVB	435689	591617	1.64%	0.870%
8	3.926	179	184	189	rBV	55333	73183	0.20%	0.108%
9	4.057	201	207	213	rBV2	22914	38861	0.11%	0.057%
10	4.227	231	237	241	rBV	53419	82041	0.23%	0.121%
11	4.284	241	247	258	rVB	86380	161233	0.45%	0.237%
12	4.426	265	272	280	rBV4	8137	21413	0.06%	0.031%
13	4.551	287	294	297	rBV2	5202	13136	0.04%	0.019%
14	4.602	297	303	306	rBV	168314	288414	0.80%	0.424%
15	4.642	306	310	321	rVB2	267257	634006	1.76%	0.932%
16	4.761	321	331	344	rBV	11210399	24418725	67.77%	35.911%
17	4.977	360	369	374	rBV2	18161	35280	0.10%	0.052%
18	5.045	374	381	389	rVB	226469	416568	1.16%	0.613%
19	5.136	389	397	398	rBV4	7895	11900	0.03%	0.018%
20	5.170	398	403	408	rVB	28309	46418	0.13%	0.068%
21	5.232	408	414	420	rVB	12139	22042	0.06%	0.032%
22	5.323	422	430	438	rBV8	26361	76275	0.21%	0.112%
23	5.403	438	444	451	rBV	74037	138713	0.38%	0.204%
24	5.590	465	477	492	rBV	15781736	36031646	100.00%	52.990%
25	5.760	500	507	517	rVB	68915	152392	0.42%	0.224%
26	5.840	517	521	532	rVB4	9451	23010	0.06%	0.034%
27	6.084	557	564	577	rBV6	7703	23806	0.07%	0.035%
28	6.306	595	603	610	rBV2	31403	67915	0.19%	0.100%
29	6.425	610	624	630	rVV3	60779	214647	0.60%	0.316%
30	6.493	630	636	640	rVV4	41876	106001	0.29%	0.156%
31	6.572	641	650	661	rVV3	133286	456282	1.27%	0.671%
32	6.669	663	667	681	rVB	28867	61825	0.17%	0.091%
33	6.862	689	701	713	rVV3	33292	80333	0.22%	0.118%
34	6.970	713	720	732	rVB5	12945	35339	0.10%	0.052%
35	7.225	754	765	773	rBV	444266	965364	2.68%	1.420%
36	7.299	773	778	783	rVV2	62836	144577	0.40%	0.213%
37	7.356	783	788	795	rVV	100198	216492	0.60%	0.318%
38	7.418	795	799	806	rVV3	16103	37255	0.10%	0.055%
39	7.498	806	813	822	rVB3	15865	33987	0.09%	0.050%
40	7.612	826	833	838	rBV4	6418	13601	0.04%	0.020%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112416.D
Acq On : 11 Sep 2024 17:57
Operator : SC
Sample : P2403661-036 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

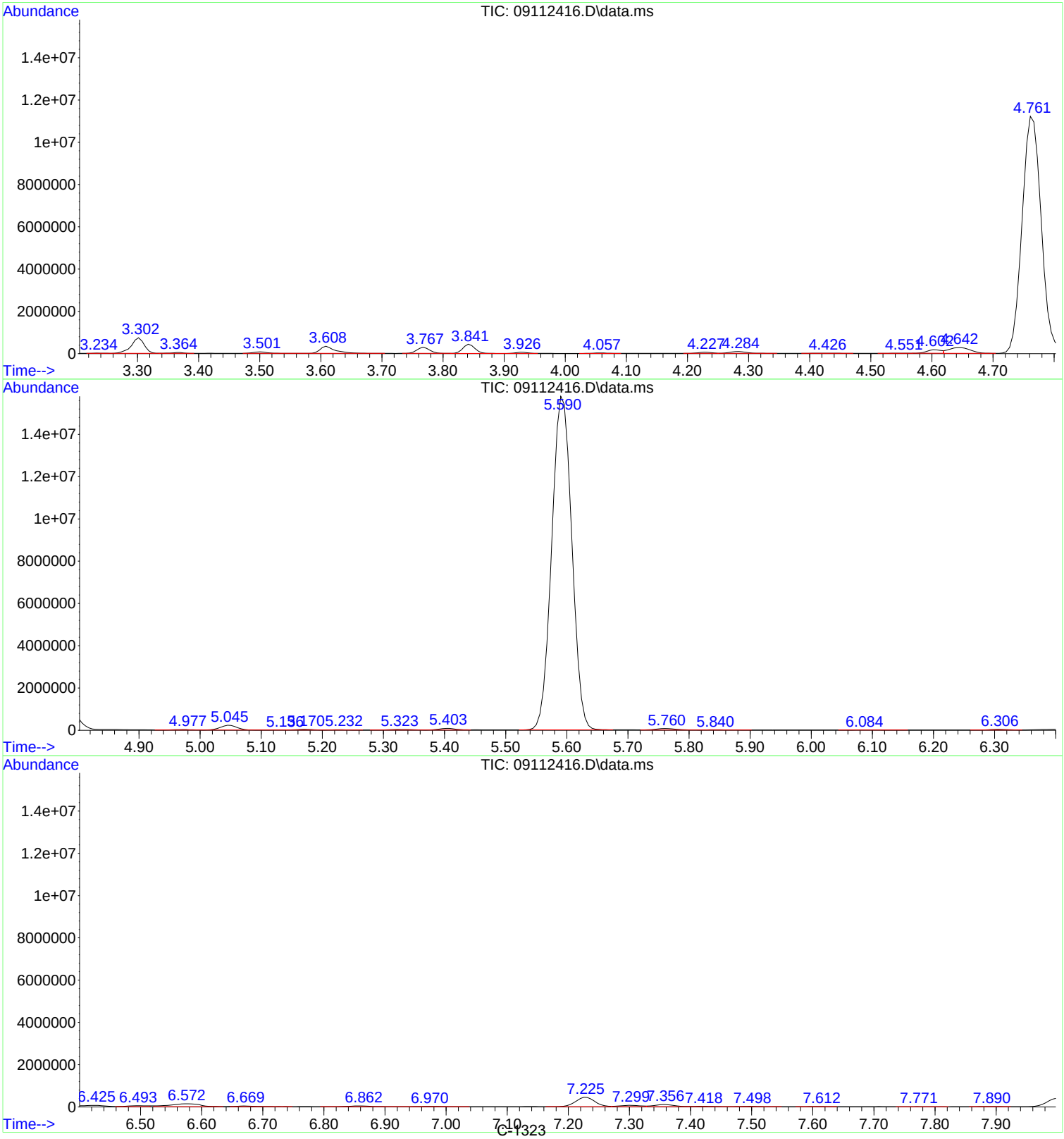
41	7.771	855	861	870	rVB3	5616	14645	0.04%	0.022%
42	7.890	876	882	888	rVB3	9912	18479	0.05%	0.027%

Sum of corrected areas: 67997395

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112416.D
Acq On : 11 Sep 2024 17:57
Operator : SC
Sample : P2403661-036 (400mL)
Misc : S37-06062402
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112416.D
Acq On : 11 Sep 2024 17:577
Operator : SCC
Sample : P2403661-036 (400mL))
Misc : S37-060624022
ALS Vial : 4 Sample Multiplier: 11

VOA 9/29/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112417.D Vial: 5
Acq On : 11 Sep 2024 18:29 Operator: SC
Sample : P2403661-037 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:29:23 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	128405	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.30	114	562273	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	165242	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	323935	13.482	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.84%				
57) Toluene-d8 (SS2)	12.43	98	635539	10.964	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%				
73) Bromofluorobenzene (SS3)	16.82	174	206106	10.631	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%				
Target Compounds							Qvalue
2) Propene	3.32	42	572	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	0.00	50	0	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.05	94	106	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.39	45	128	N.D.			
11) Acetonitrile	4.45	41	275	N.D.			
12) Acrolein	4.56	56	323	N.D.			
13) Acetone	4.65	58	4851	0.413	ng	#	80
14) Trichlorofluoromethane	4.77	101	162	N.D.			
15) 2-Propanol (Isopropanol)	4.87	45	585	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.35	84	585	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.59	151	141	N.D.			
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	414	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	1718	0.068	ng		73
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.85	56	1576	No Calib		#	
41) Benzene	8.88	78	1131	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.	d		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112417.D Vial: 5
Acq On : 11 Sep 2024 18:29 Operator: SC
Sample : P2403661-037 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:29:23 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

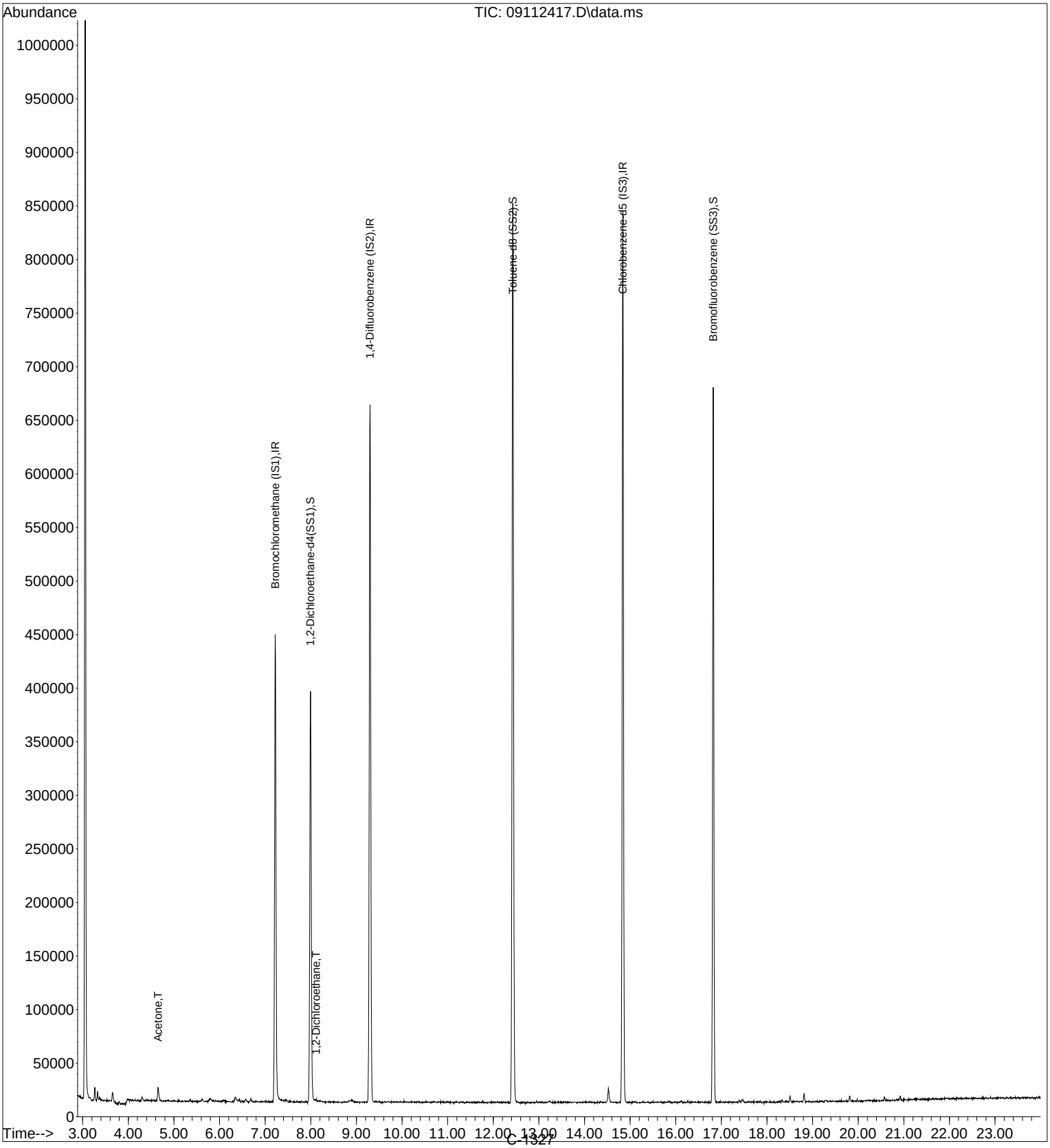
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	618	N.D.		
59) 2-Hexanone	12.94	43	476	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	15.63	91	648	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	182	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	132	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.86	105	120	N.D.		
79) 1,3,5-Trimethylbenzene	17.86	105	120	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.43	105	329	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	245	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	413	N.D.		
95) Naphthalene	20.95	128	505	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	200	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.50	119	113	N.D.		
100) n-Butylbenzene	19.38	91	184	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112417.D Vial: 5
Acq On : 11 Sep 2024 18:29 Operator: SC
Sample : P2403661-037 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:29:23 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112417.D Vial: 5
Acq On : 11 Sep 2024 18:29 Operator: SC
Sample : P2403661-037 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:42:14 2024 9/12/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

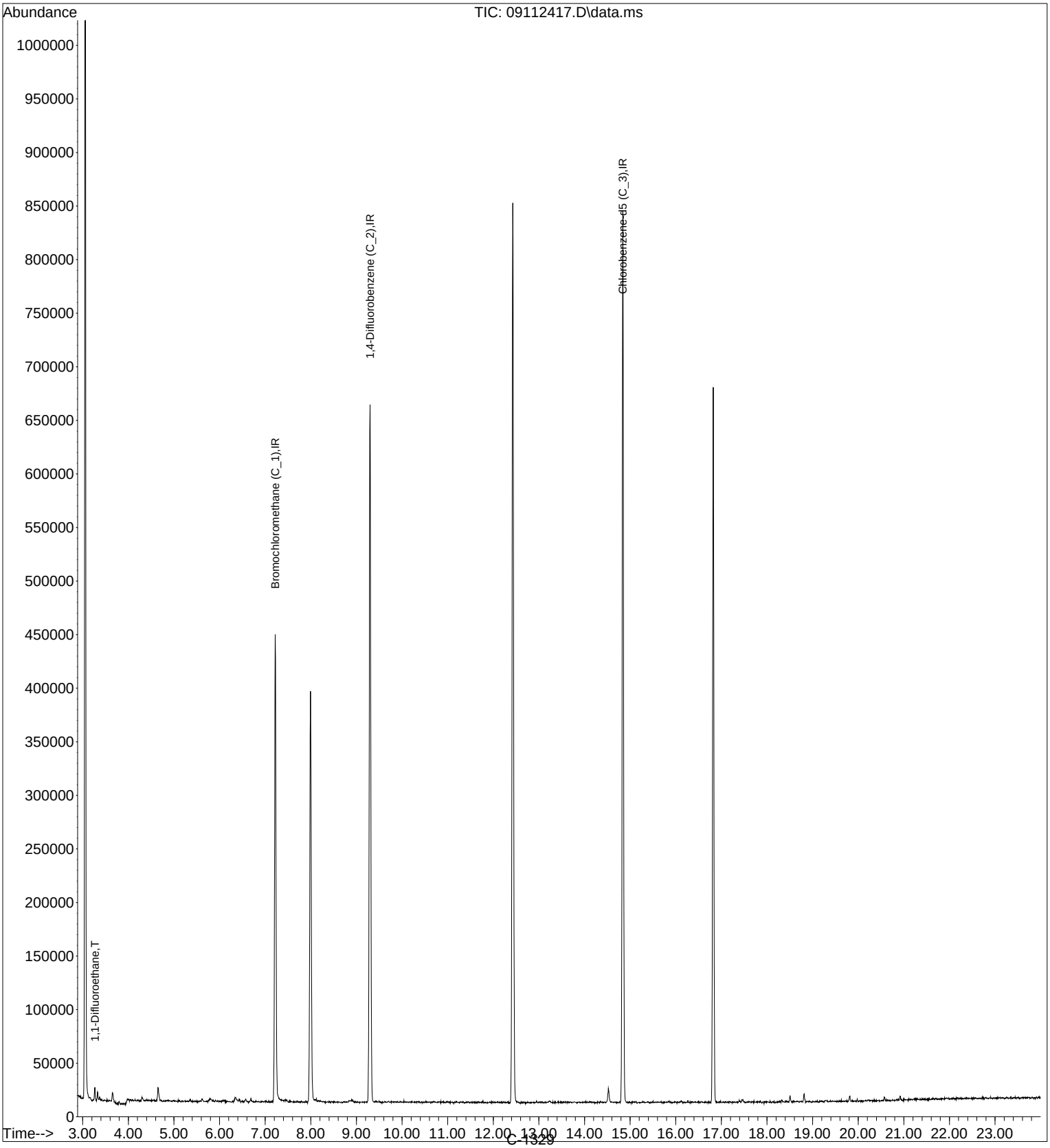
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	129048	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	563649	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	165242	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.27	65	3046	0.270	ng	86
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	0.00	67	0	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	4.67	57	426	N.D.		
11) Methyl Acetate	5.35	43	61	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.67	91	132	N.D.		
27) 4-Chlorotoluene	17.69	91	133	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.21	119	191	N.D.		
31) 1,2,3,4-Tetramethylben...	20.21	119	191	N.D.		
32) 1,2,3,5-Tetramethylben...	20.59	119	55	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112417.D Vial: 5
Acq On : 11 Sep 2024 18:29 Operator: SC
Sample : P2403661-037 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:42:14 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112417.D
Acq On : 11 Sep 2024 18:29
Operator : SC
Sample : P2403661-037 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112417.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.268	63	68	74	rVB2	12693	17535	1.86%	1.727%
2	3.324	74	78	83	rBV3	8550	12130	1.29%	1.195%
3	3.648	132	135	142	rVB2	8792	15634	1.66%	1.540%
4	4.647	304	311	319	rBV2	12811	26508	2.81%	2.611%
5	7.220	755	764	787	rBV	436414	943444	100.00%	92.927%

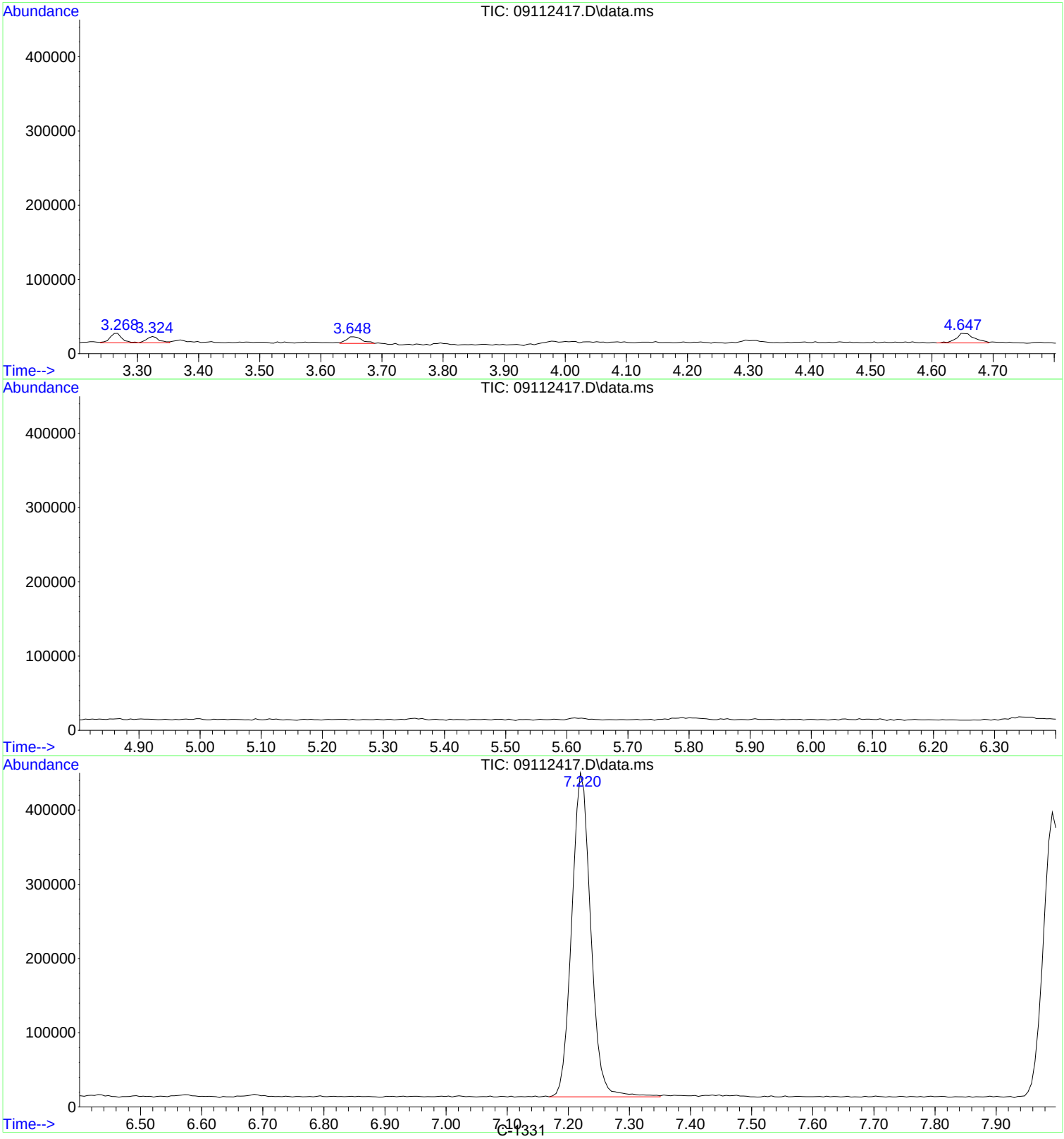
Sum of corrected areas: 1015251

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112417.D
Acq On : 11 Sep 2024 18:29
Operator : SC
Sample : P2403661-037 (400mL)
Misc : S37-06062402
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112417.D
Acq On : 11 Sep 2024 18:299
Operator : SCC
Sample : P2403661-037 (400mL))
Misc : S37-060624022
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

NOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

9/12/24

Quant Time: Sep 12 14:32:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	125591	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	553101	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	167753	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	325498	13.850	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
57) Toluene-d8 (SS2)	12.43	98	630082	10.707	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.68%				
73) Bromofluorobenzene (SS3)	16.82	174	212232	10.783	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.24%				
Target Compounds							Qvalue
2) Propene	3.30	42	10127	0.534	ng	#	87
3) Dichlorodifluoromethan...	3.38	85	16499m	0.541	ng		
4) Chloromethane	3.51	50	12094	0.507	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	268	N.D.			
6) Vinyl Chloride	3.69	62	224	N.D.			
7) 1,3-Butadiene	3.78	54	209	N.D.			
8) Bromomethane	4.02	94	1406	0.142	ng		99
9) Chloroethane	4.15	64	901	0.107	ng	#	44
10) Ethanol	4.28	45	9327	0.684	ng		97
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	9603	0.922	ng		98
13) Acetone	4.62	58	200925	17.470	ng		91
14) Trichlorofluoromethane	4.75	101	875174	30.092	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	112	N.D.			
16) Acrylonitrile	4.99	53	3118	0.145	ng		91
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1362	N.D.			
19) Methylene Chloride	5.35	84	528	N.D.			
20) 3-Chloro-1-propene (Al...	5.45	41	339	N.D.			
21) Trichlorotrifluoroethane	5.58	151	295674	25.661	ng		94
22) Carbon Disulfide	5.59	76	24401	0.543	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	155	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.66	72	28380	3.478	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D. d			
31) n-Hexane	7.29	57	541	N.D.			
32) Chloroform	7.36	83	3203	0.128	ng		89
34) Tetrahydrofuran (THF)	7.76	72	106	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.61	61	1994	No Calib		#	
40) 1-Butanol	8.80	56	7807	No Calib		#	
41) Benzene	8.89	78	7420	0.143	ng		99
42) Carbon Tetrachloride	9.05	117	1357	0.063	ng		93
43) Cyclohexane	0.00	84	0	N.D. d			
44) tert-Amyl Methyl Ether	9.62	73	661	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.15	130	523	N.D.			
48) 1,4-Dioxane	10.12	88	157	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	793	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:32:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

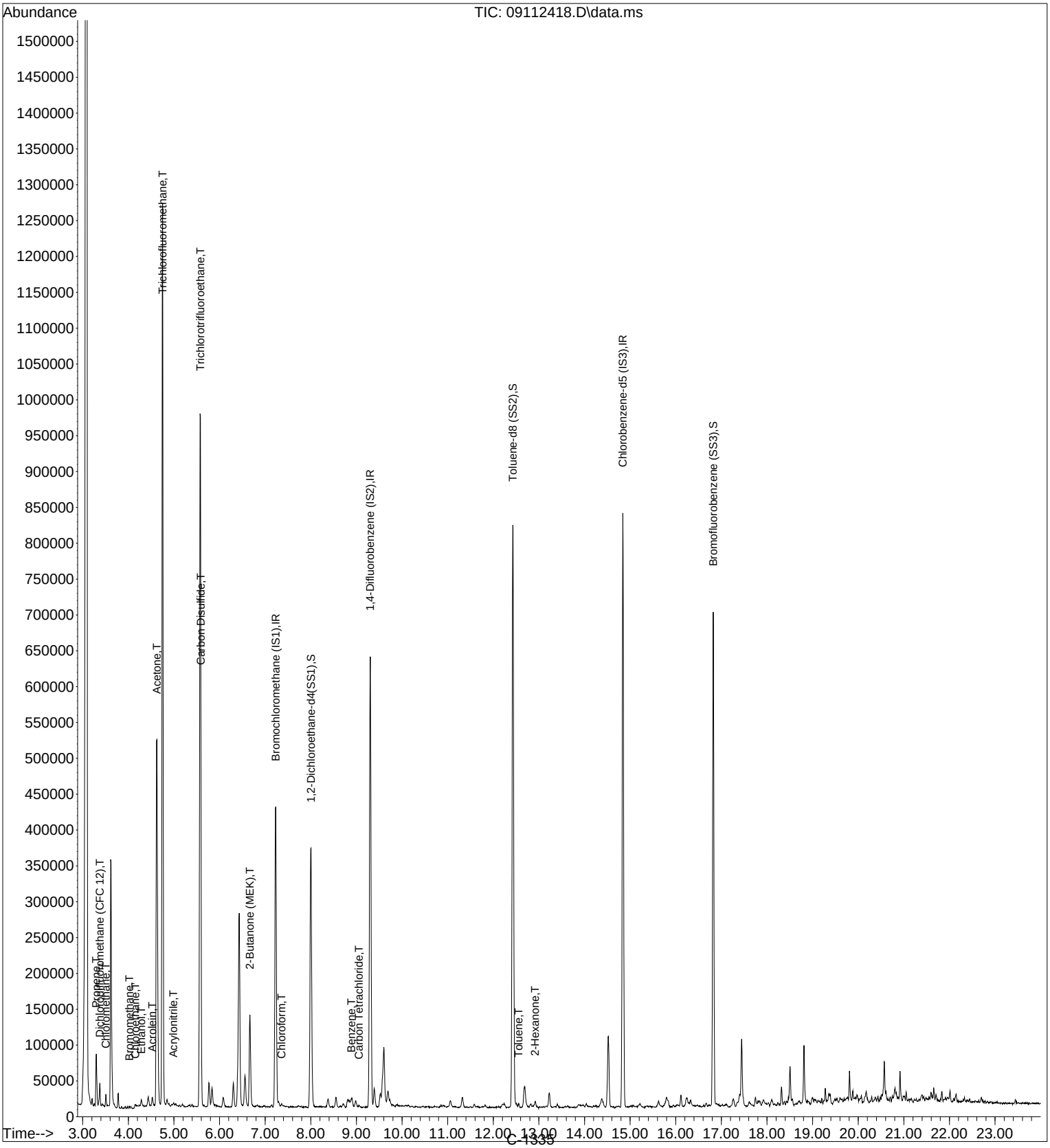
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4549	0.072 ng	92
59) 2-Hexanone	12.92	43	6708	0.170 ng	94
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1416	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.40	91	1270	N.D.	
67) m- & p-Xylenes	15.62	91	2868	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	1102	N.D.	
70) o-Xylene	16.25	91	755	N.D.	
71) n-Nonane	16.60	43	710	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	258	N.D.	
74) Cumene	17.03	105	182	N.D.	
75) alpha-Pinene	17.53	93	708	N.D.	
76) n-Propylbenzene	17.64	91	129	N.D.	
77) 3-Ethyltoluene	17.03	105	182	No Calib	#
78) 4-Ethyltoluene	17.86	105	446	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	222	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	182	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	875	N.D.	
83) n-Decane	17.10	58	124	No Calib	#
84) Benzyl Chloride	18.56	91	789	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	108	N.D.	
86) 1,4-Dichlorobenzene	18.64	146	581	N.D.	
87) sec-Butylbenzene	18.74	105	351	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	799	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	182	No Calib	#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	19.08	68	194	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.83	180	465	N.D.	
95) Naphthalene	20.93	128	1467	N.D.	
96) n-Dodecane	18.90	58	137	No Calib	#
97) Hexachlorobutadiene	21.30	225	217	N.D.	
98) Cyclohexanone	15.23	55	1126	No Calib	#
99) tert-Butylbenzene	18.43	119	338	N.D.	
100) n-Butylbenzene	0.00	91	0	N.D. d	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:32:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:32:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

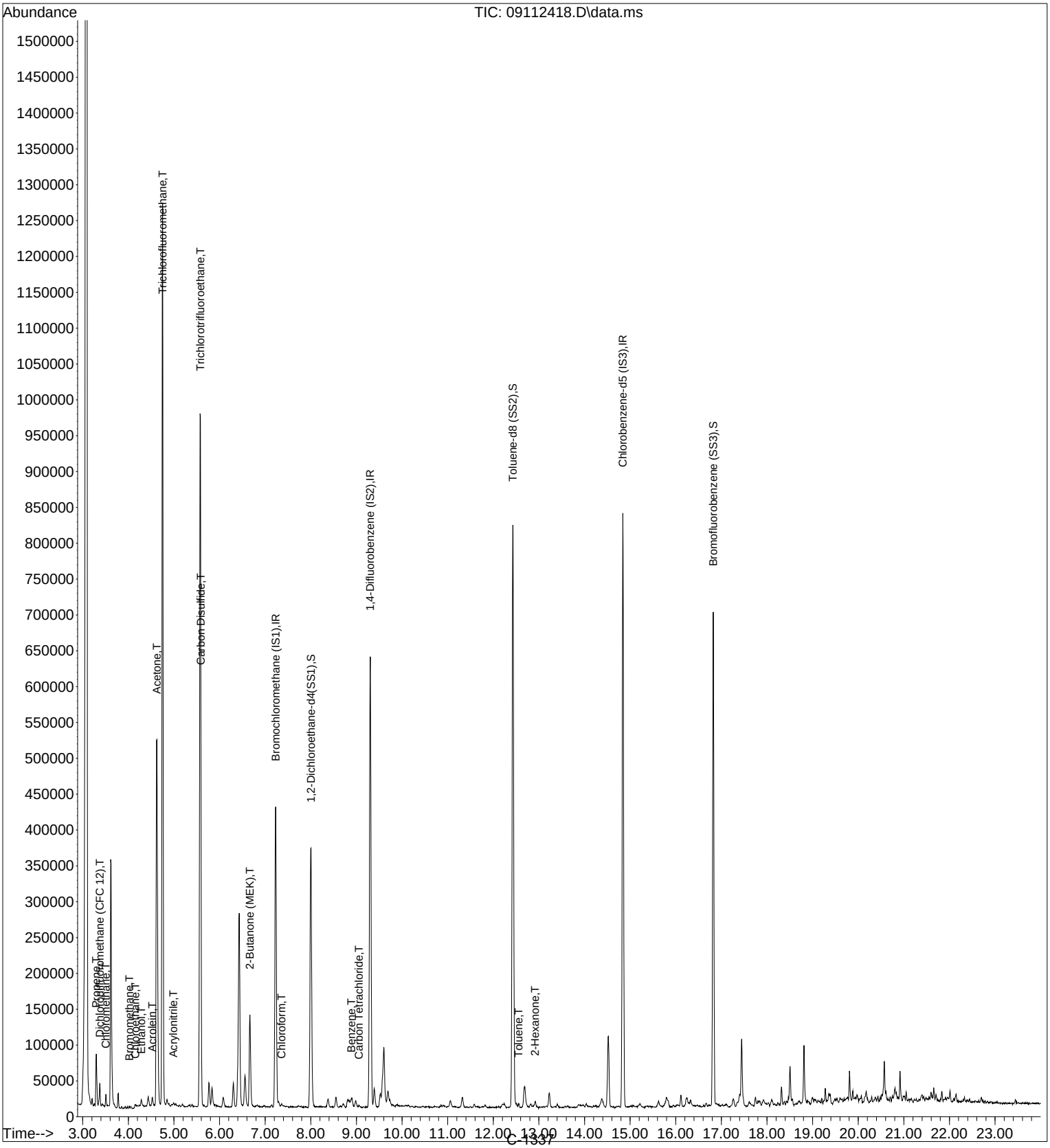
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	125591	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	553101	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	167753	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	325498	13.850	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.80%				
57) Toluene-d8 (SS2)	12.43	98	630082	10.707	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.68%				
73) Bromofluorobenzene (SS3)	16.82	174	212232	10.783	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.24%				
Target Compounds							Qvalue
2) Propene	3.30	42	10127	0.534	ng	#	87
3) Dichlorodifluoromethan...	3.38	85	16499m	0.541	ng		
4) Chloromethane	3.51	50	12094	0.507	ng		100
8) Bromomethane	4.02	94	1406	0.142	ng		99
9) Chloroethane	4.15	64	901	0.107	ng	#	44
10) Ethanol	4.28	45	9327	0.684	ng		97
12) Acrolein	4.53	56	9603	0.922	ng		98
13) Acetone	4.62	58	200925	17.470	ng		91
14) Trichlorofluoromethane	4.75	101	875174	30.092	ng		99
16) Acrylonitrile	4.99	53	3118	0.145	ng		91
21) Trichlorotrifluoroethane	5.58	151	295674	25.661	ng		94
22) Carbon Disulfide	5.59	76	24401	0.543	ng	#	1
27) 2-Butanone (MEK)	6.66	72	28380	3.478	ng	#	66
32) Chloroform	7.36	83	3203	0.128	ng		89
41) Benzene	8.89	78	7420	0.143	ng		99
42) Carbon Tetrachloride	9.05	117	1357	0.063	ng		93
58) Toluene	12.56	91	4549	0.072	ng		92
59) 2-Hexanone	12.92	43	6708	0.170	ng		94

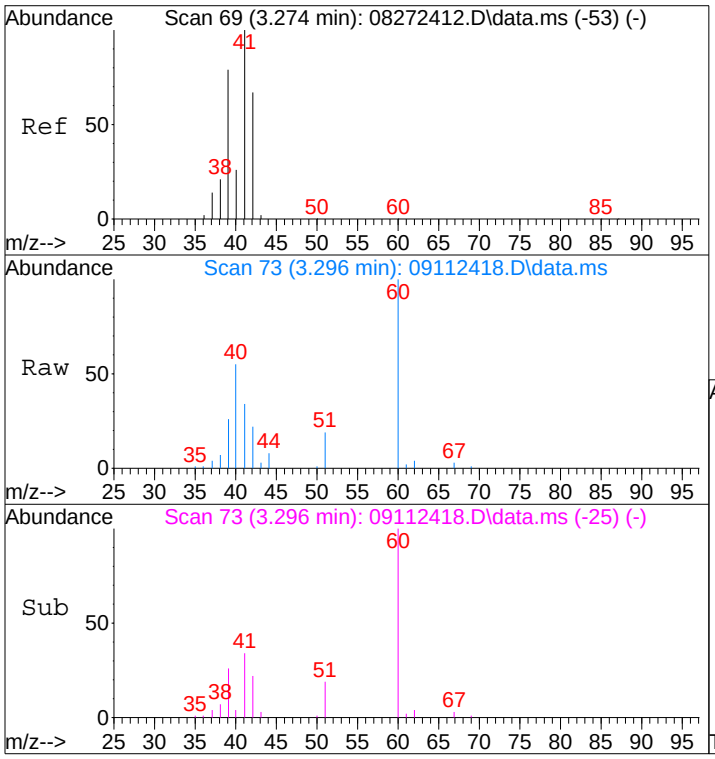
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:32:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

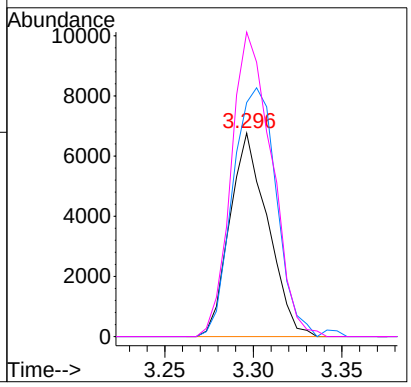


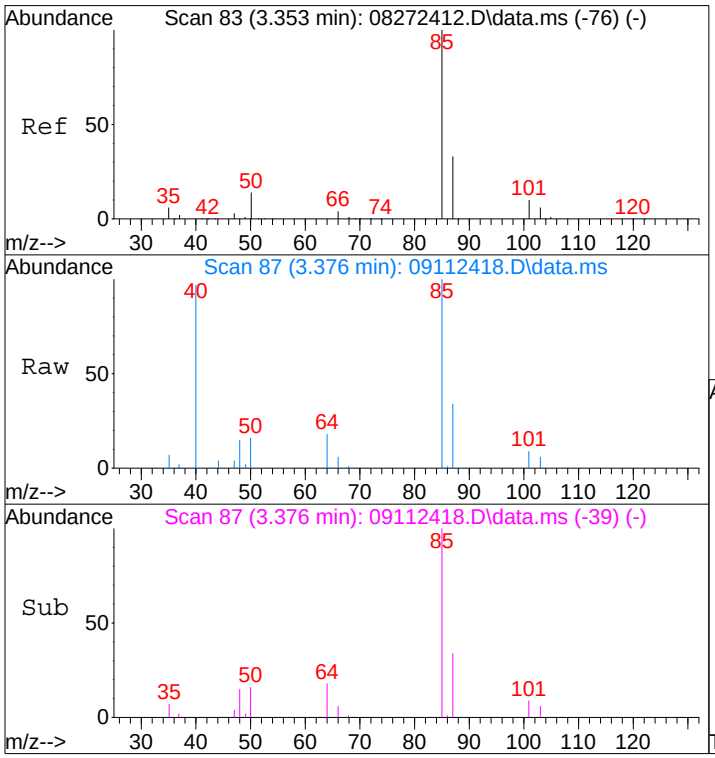


#2
Propene
Concen: 0.53 ng
RT: 3.30 min Scan# 73
Delta R.T. 0.024 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 42 Resp: 10127

Ion	Ratio	Lower	Upper
42	100		
39	141.4	98.2	138.2#
41	159.4	130.1	170.1

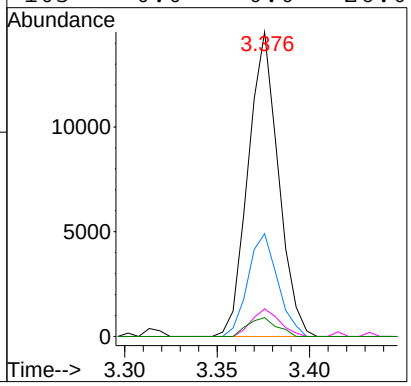


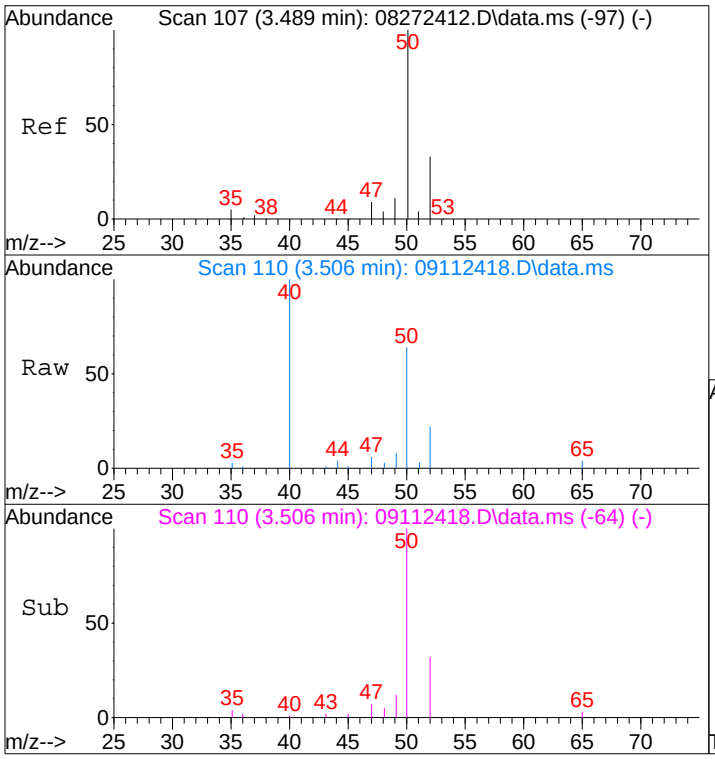


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.54 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.025 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 85 Resp: 16499

Ion	Ratio	Lower	Upper
85	100		
87	0.0	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

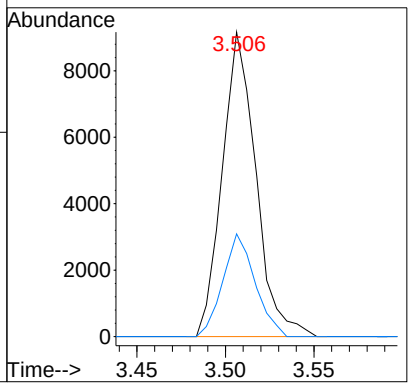


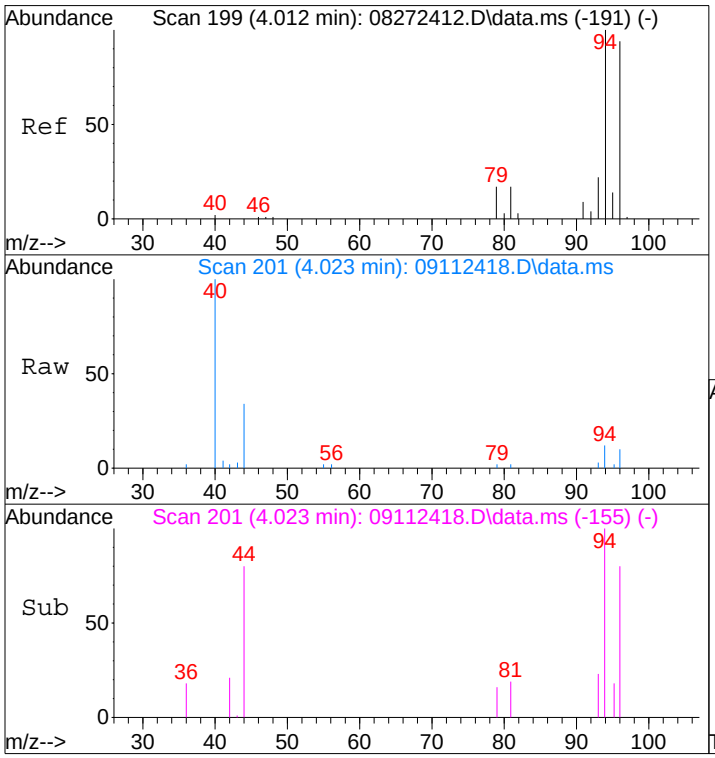


#4
Chloromethane
Concen: 0.51 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.014 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 50 Resp: 12094

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.4	52.4

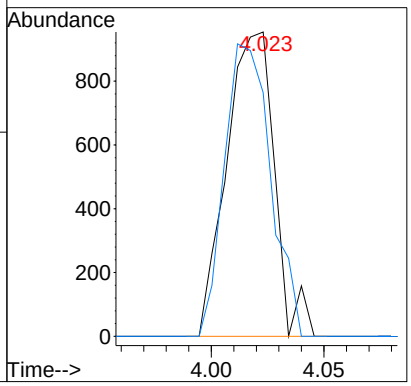


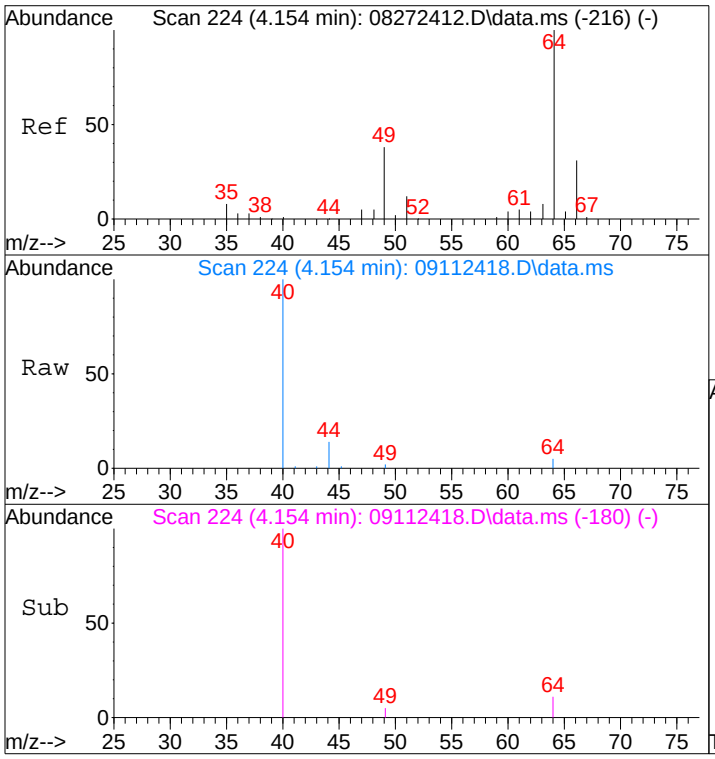


#8
Bromomethane
Concen: 0.14 ng
RT: 4.02 min Scan# 201
Delta R.T. 0.010 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 94 Resp: 1406

Ion	Ratio	Lower	Upper
94	100		
96	93.4	74.2	114.2

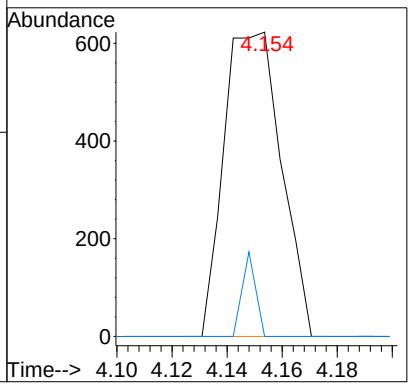


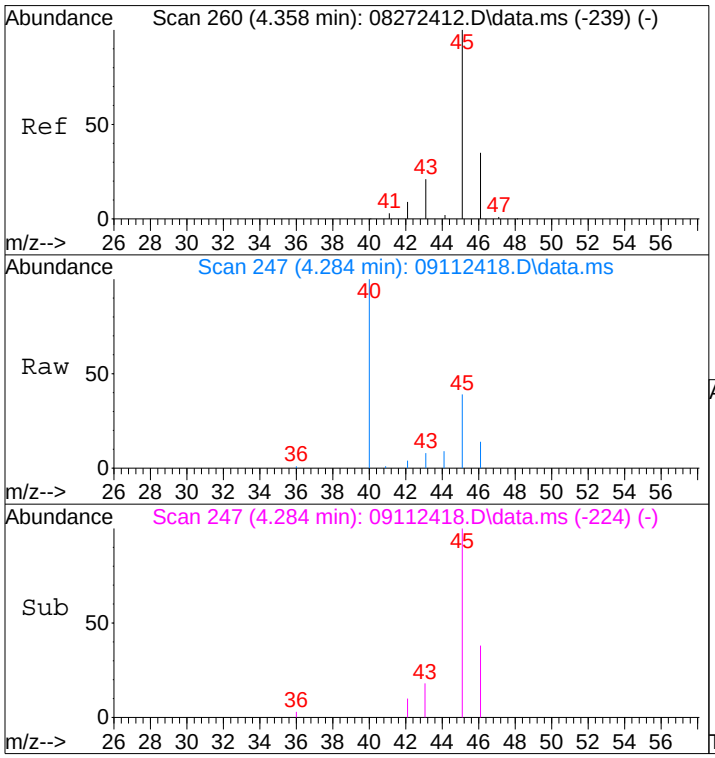


#9
Chloroethane
Concen: 0.11 ng
RT: 4.15 min Scan# 224
Delta R.T. -0.001 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 64 Resp: 901

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.0	51.0#

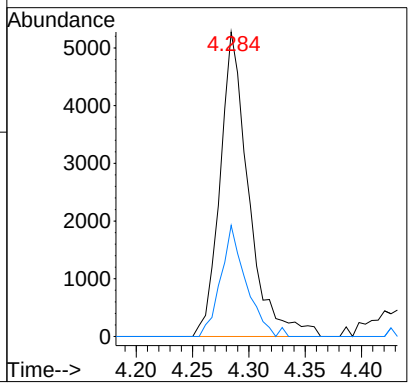


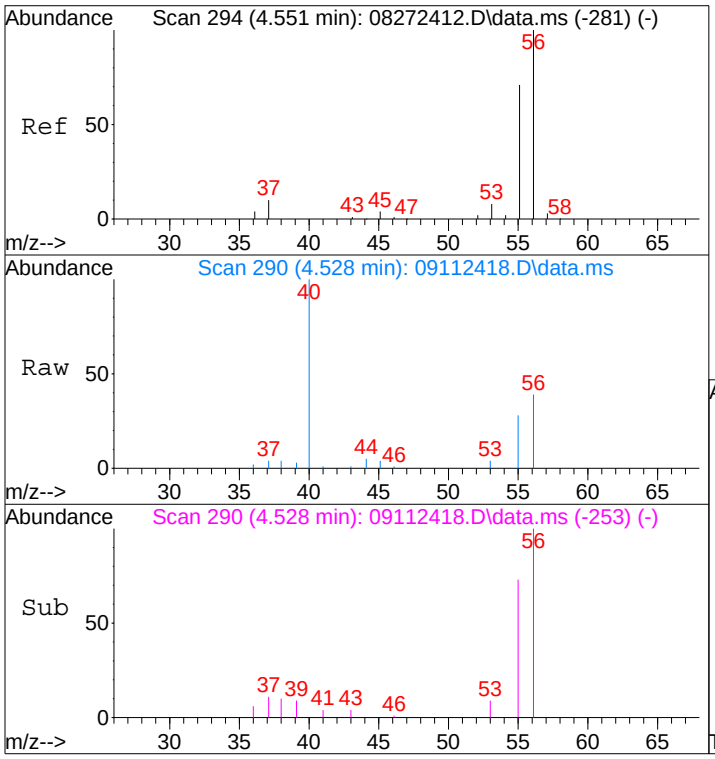


#10
Ethanol
Concen: 0.68 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.119 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 45 Resp: 9327

Ion	Ratio	Lower	Upper
45	100		
46	32.5	14.2	54.2

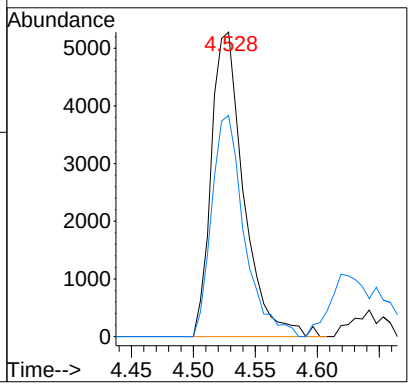


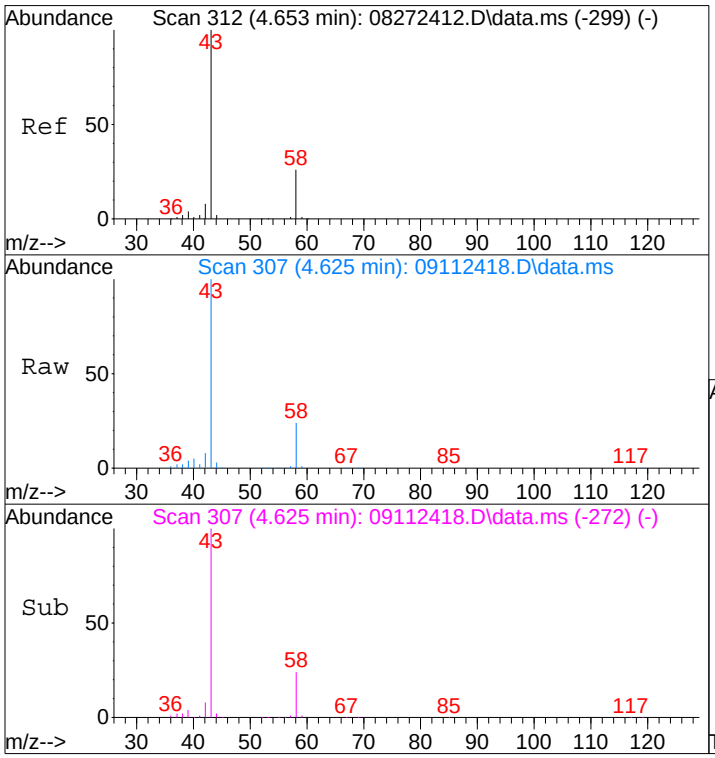


#12
Acrolein
Concen: 0.92 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.039 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 56 Resp: 9603

Ion	Ratio	Lower	Upper
56	100		
55	72.8	54.7	94.7

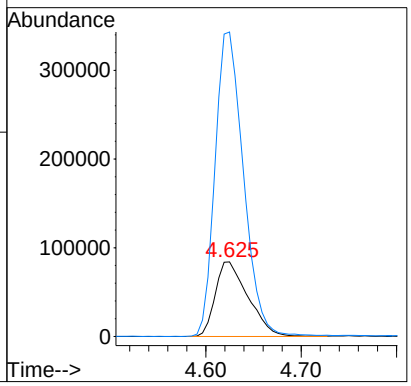


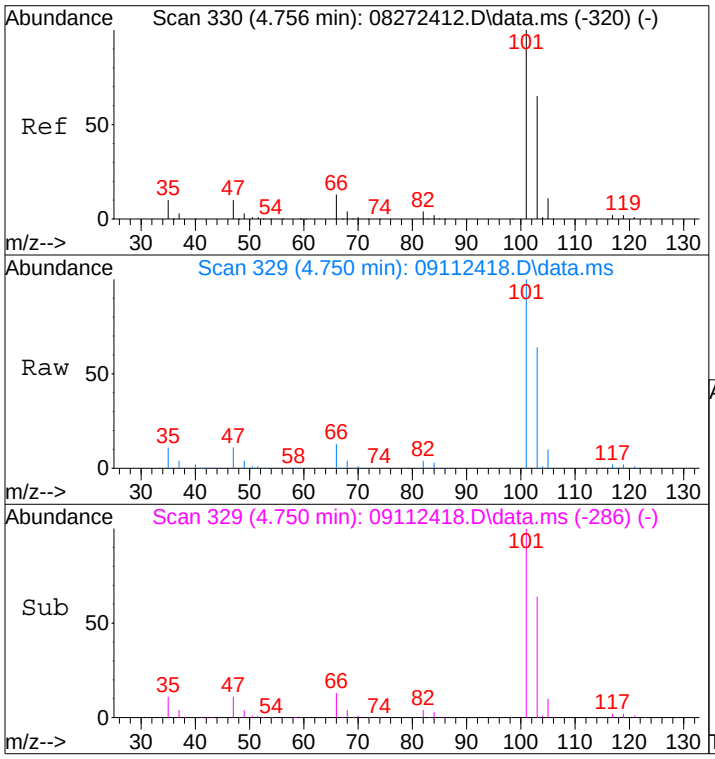


#13
Acetone
Concen: 17.47 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.050 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 58 Resp: 200925

Ion	Ratio	Lower	Upper
58	100		
43	356.5	347.3	407.3

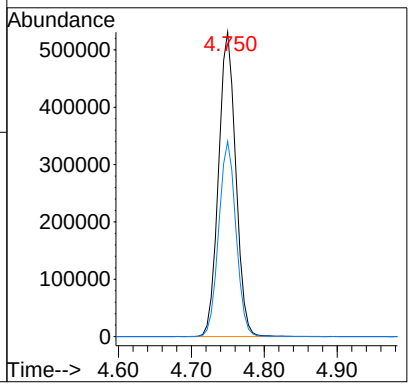


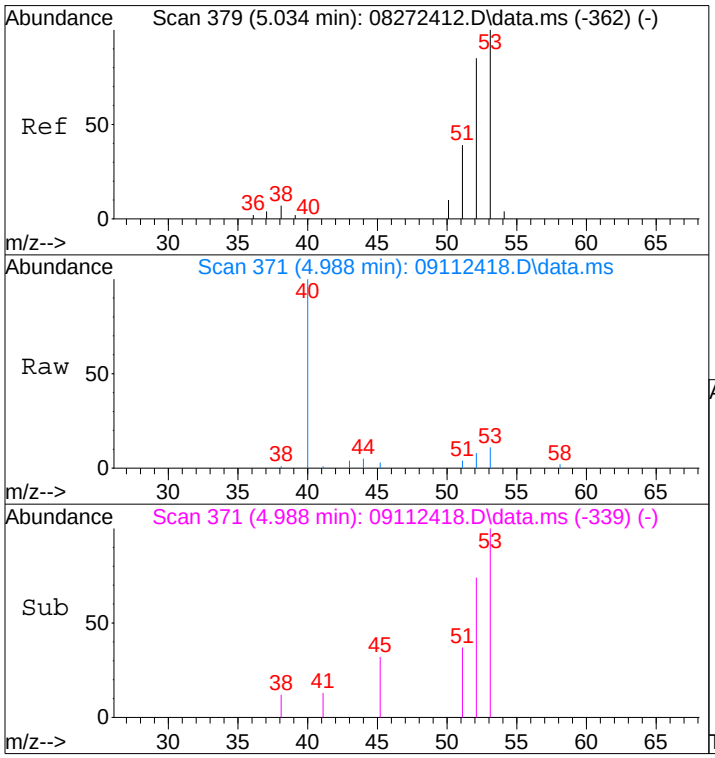


#14
Trichlorofluoromethane
Concen: 30.09 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.004 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion:101 Resp: 875174

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

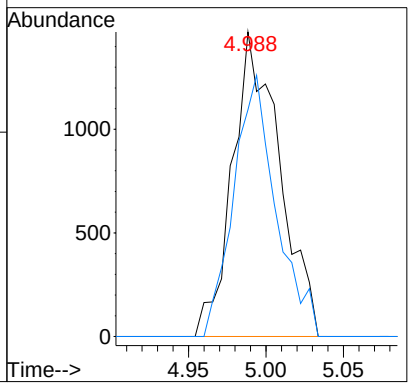


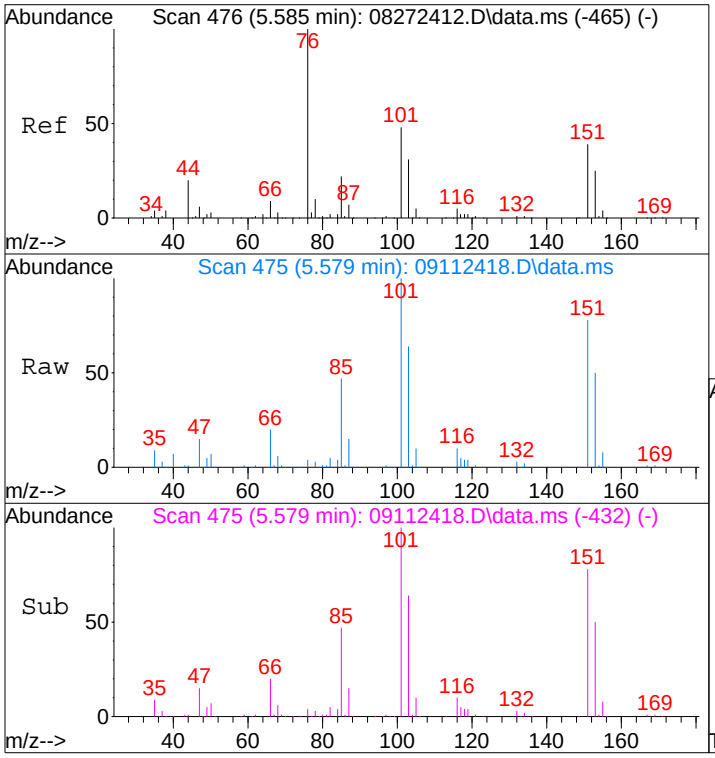


#16
Acrylonitrile
Concen: 0.15 ng
RT: 4.99 min Scan# 371
Delta R.T. -0.071 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 53 Resp: 3118

Ion	Ratio	Lower	Upper
53	100		
52	77.2	65.2	105.2

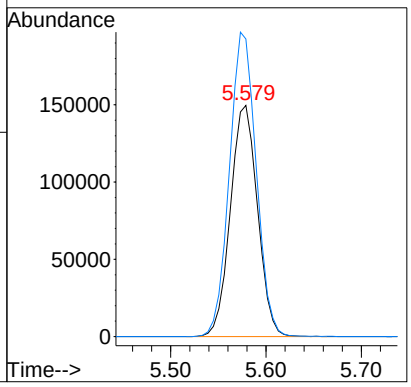


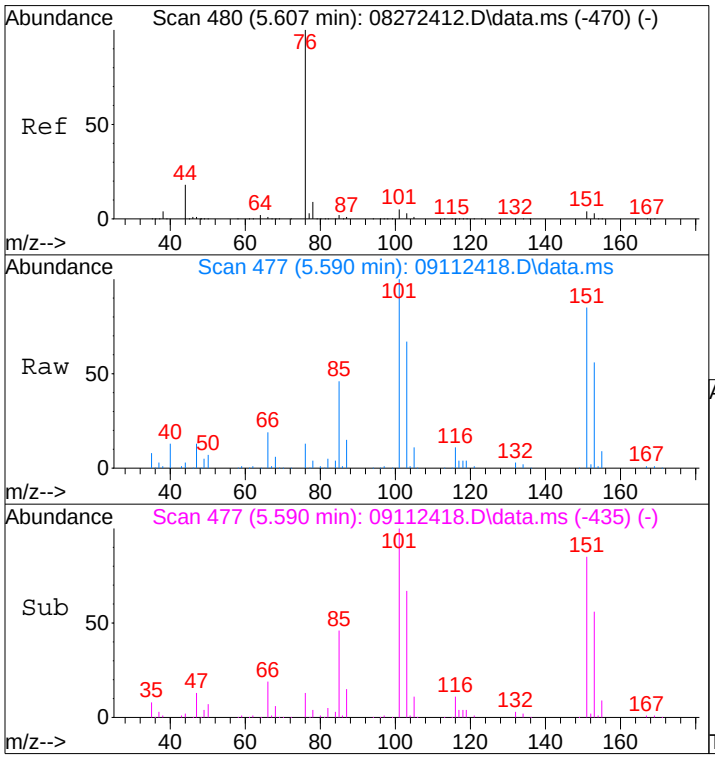


#21
Trichlorotrifluoroethane
Concen: 25.66 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.007 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion:151 Resp: 295674

Ion	Ratio	Lower	Upper
151	100		
101	130.3	103.4	143.4

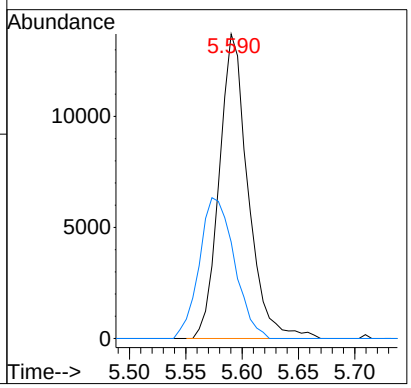


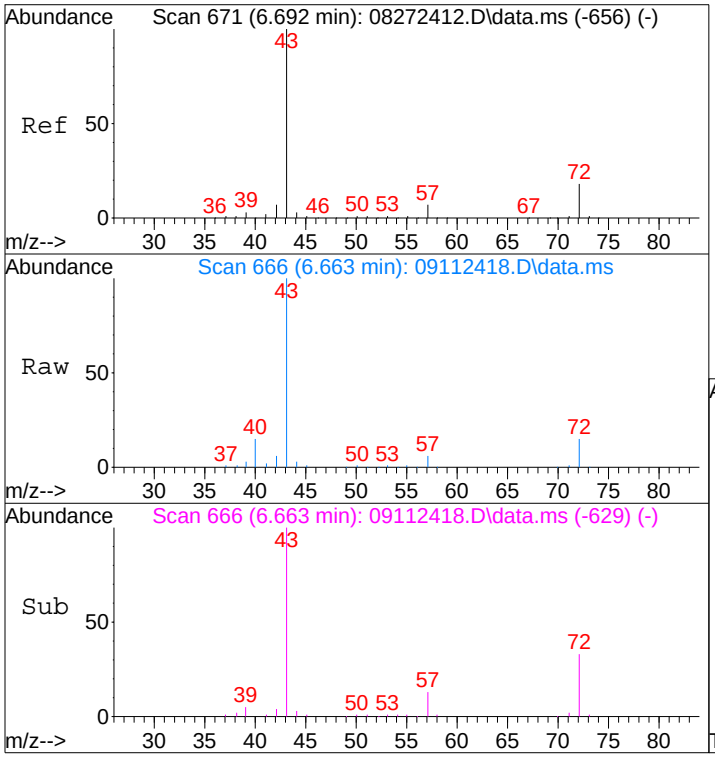


#22
Carbon Disulfide
Concen: 0.54 ng
RT: 5.59 min Scan# 477
Delta R.T. -0.012 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 76 Resp: 24401

Ion	Ratio	Lower	Upper
76	100		
78	56.2	0.0	29.6#

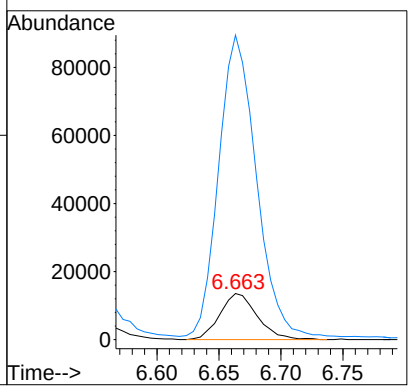


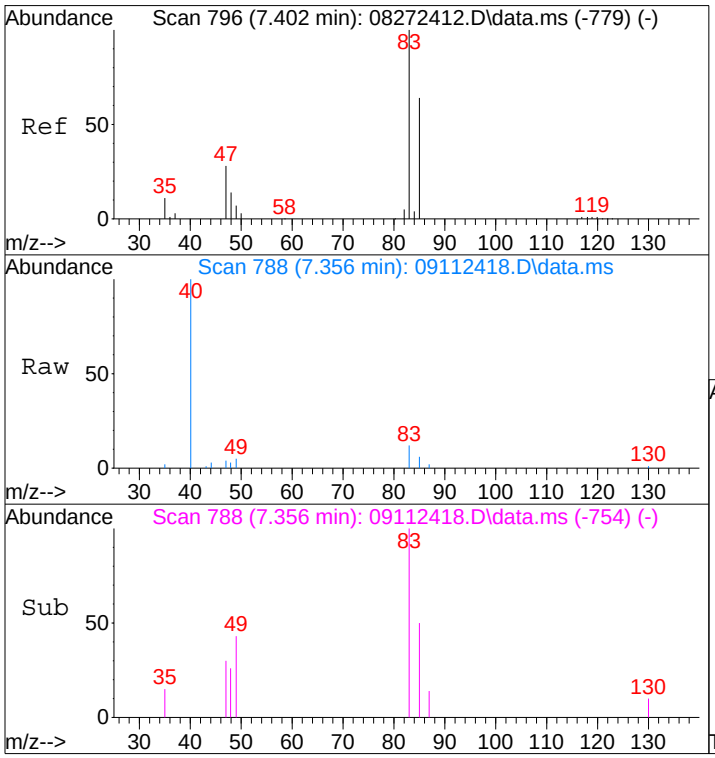


#27
2-Butanone (MEK)
Concen: 3.48 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.042 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 72 Resp: 28380

Ion	Ratio	Lower	Upper
72	100		
43	668.8	548.0	588.0#

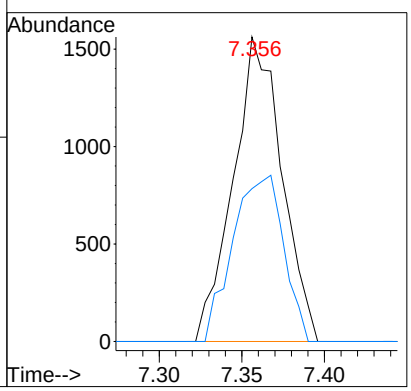


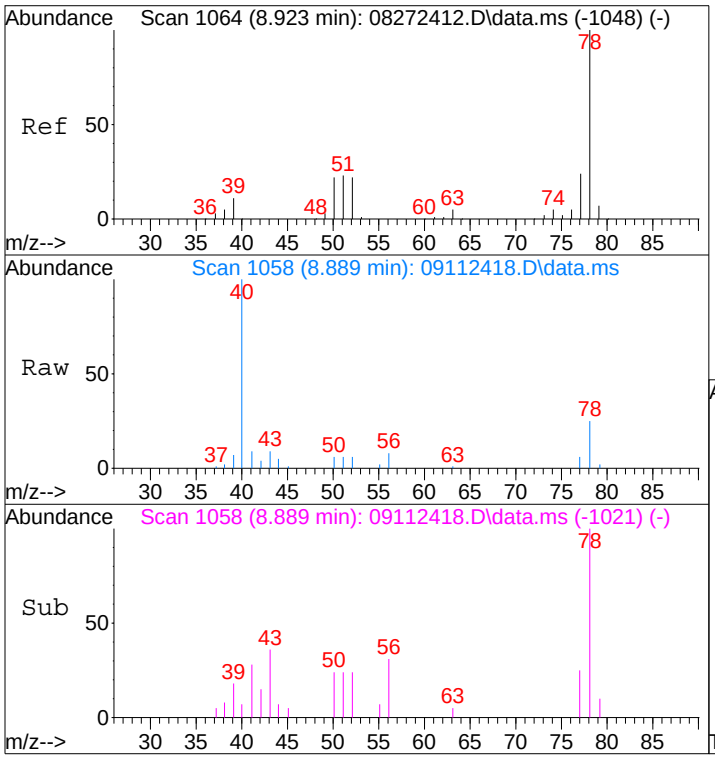


#32
Chloroform
Concen: 0.13 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.056 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 83 Resp: 3203

Ion	Ratio	Lower	Upper
83	100		
85	56.7	45.3	85.3

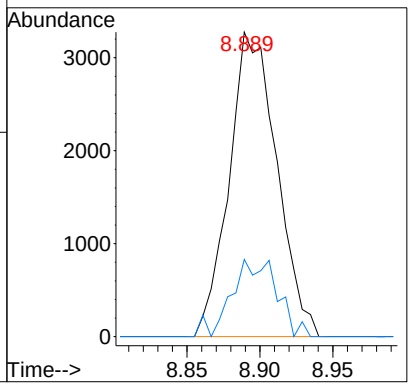


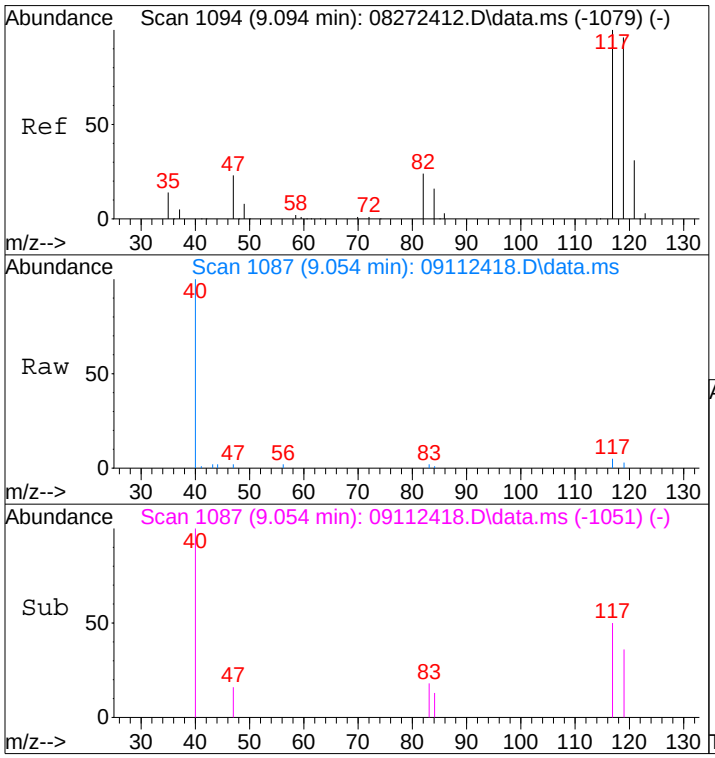


#41
Benzene
Concen: 0.14 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.040 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 78 Resp: 7420

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.9	43.9

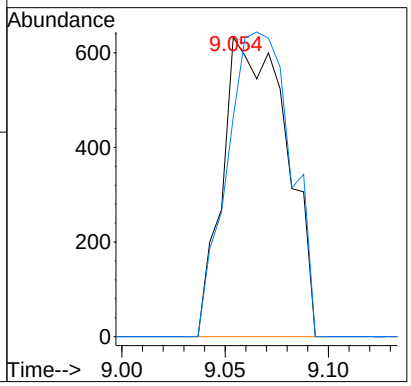


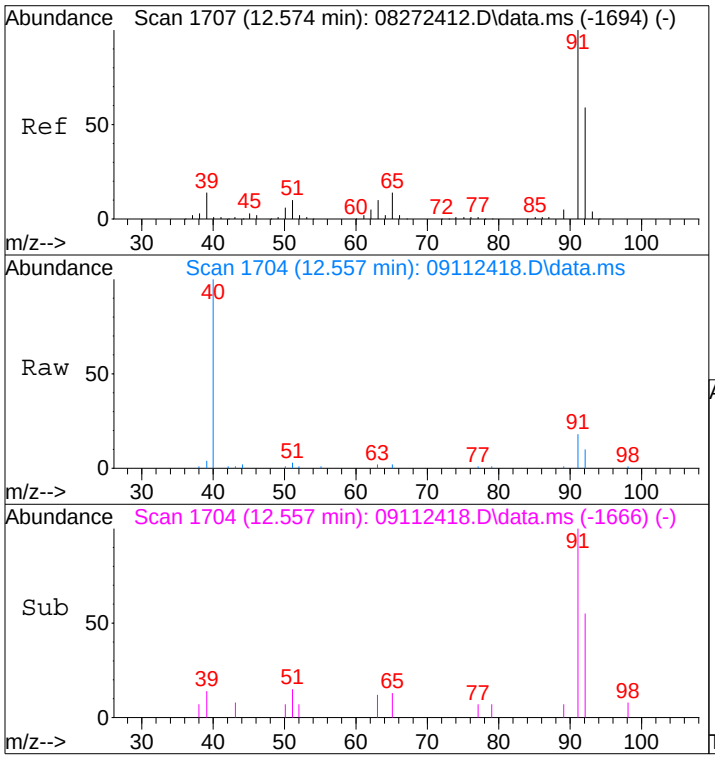


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 9.05 min Scan# 1087
Delta R.T. -0.046 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion:117 Resp: 1357

Ion	Ratio	Lower	Upper
117	100		
119	101.6	75.1	115.1

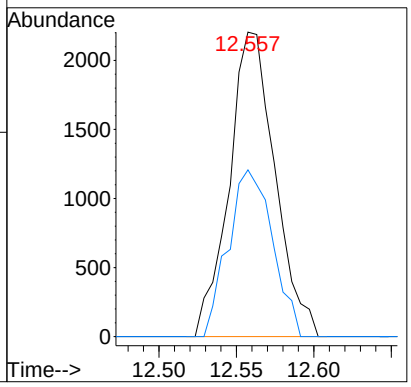


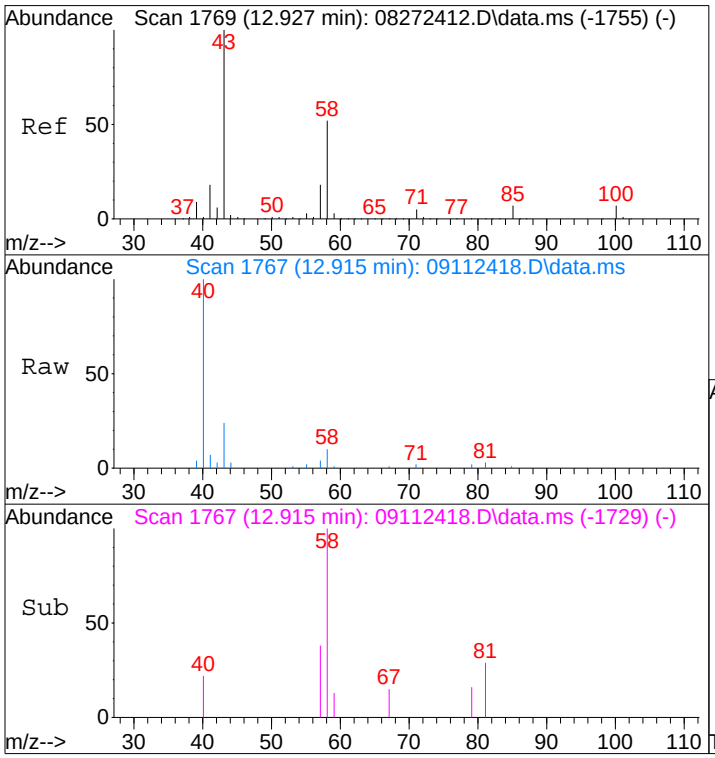


#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 91 Resp: 4549

Ion	Ratio	Lower	Upper
91	100		
92	52.9	38.5	78.5

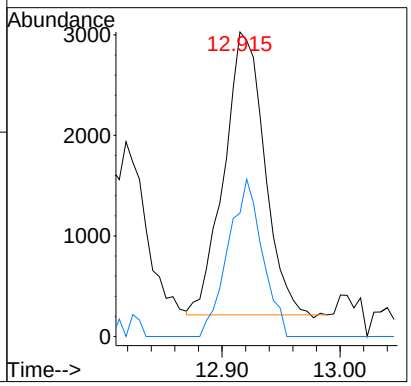




#59
2-Hexanone
Concen: 0.17 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09112418.D
Acq: 11 Sep 2024 19:02

Tgt Ion: 43 Resp: 6708

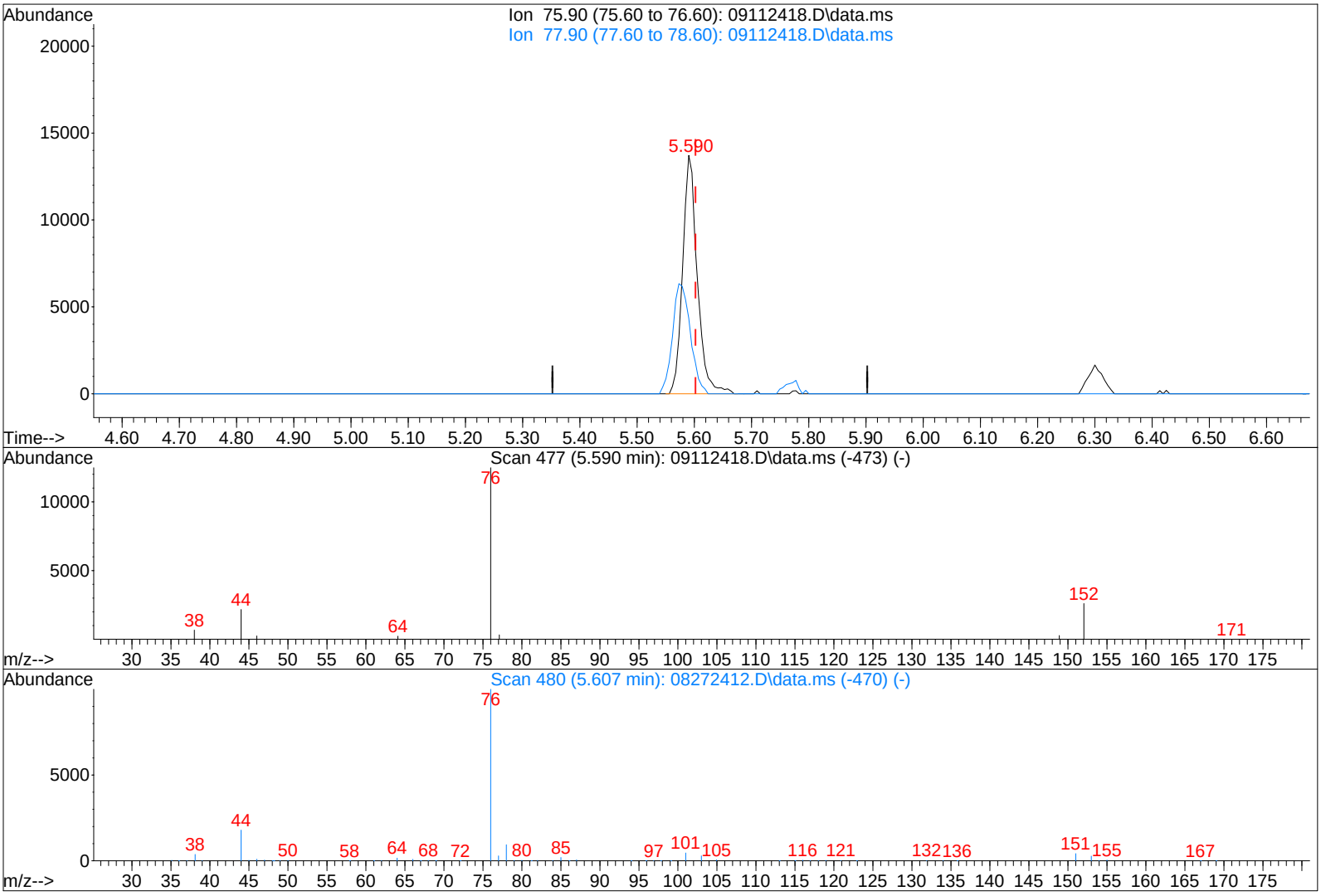
Ion	Ratio	Lower	Upper
43	100		
58	46.9	31.1	71.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:56:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112418.D\data.ms

(22) Carbon Disulfide (T)

5.590min (-0.012) 0.54ng

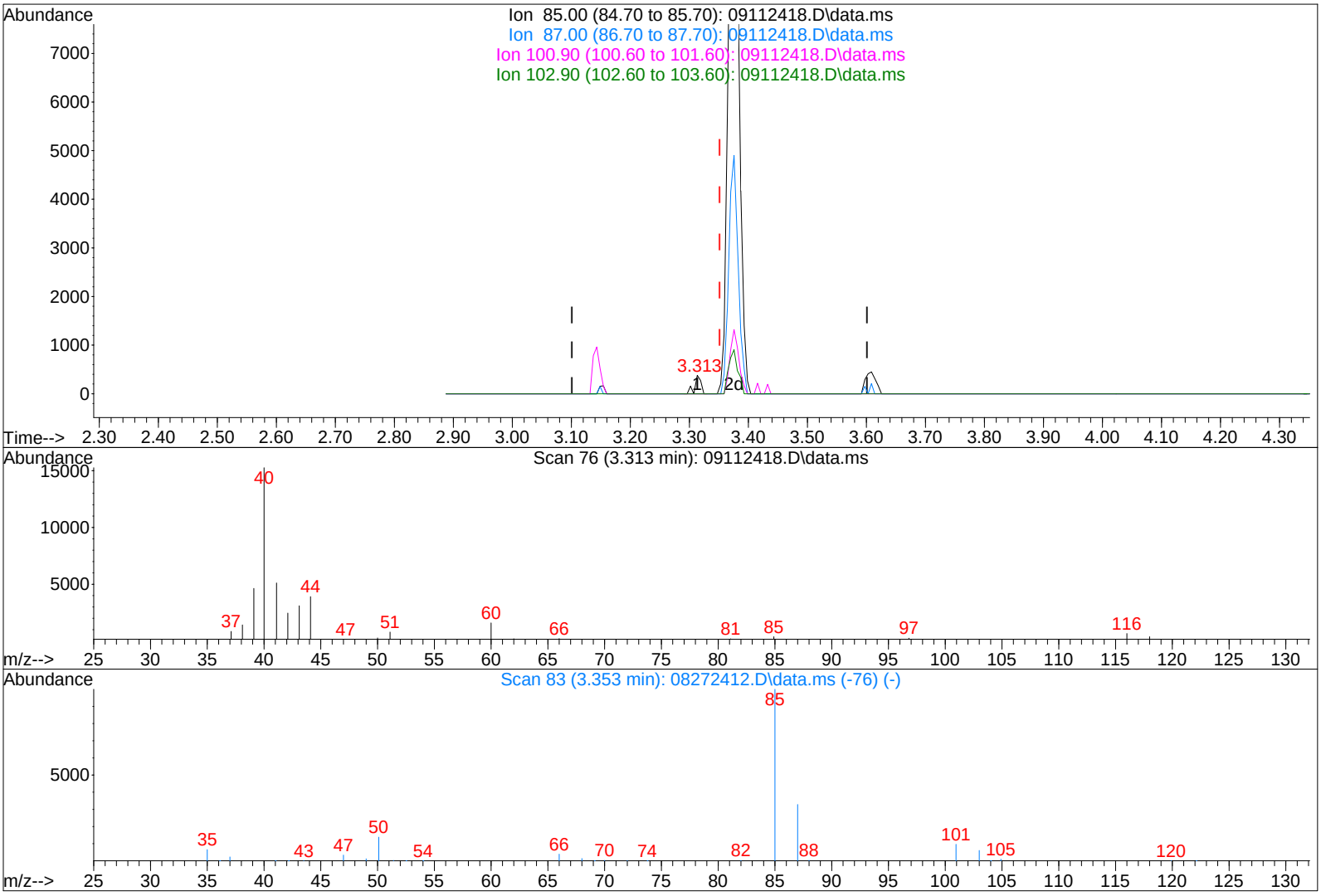
response 24401

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	56.17#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:56:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112418.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.038) 0.01ng

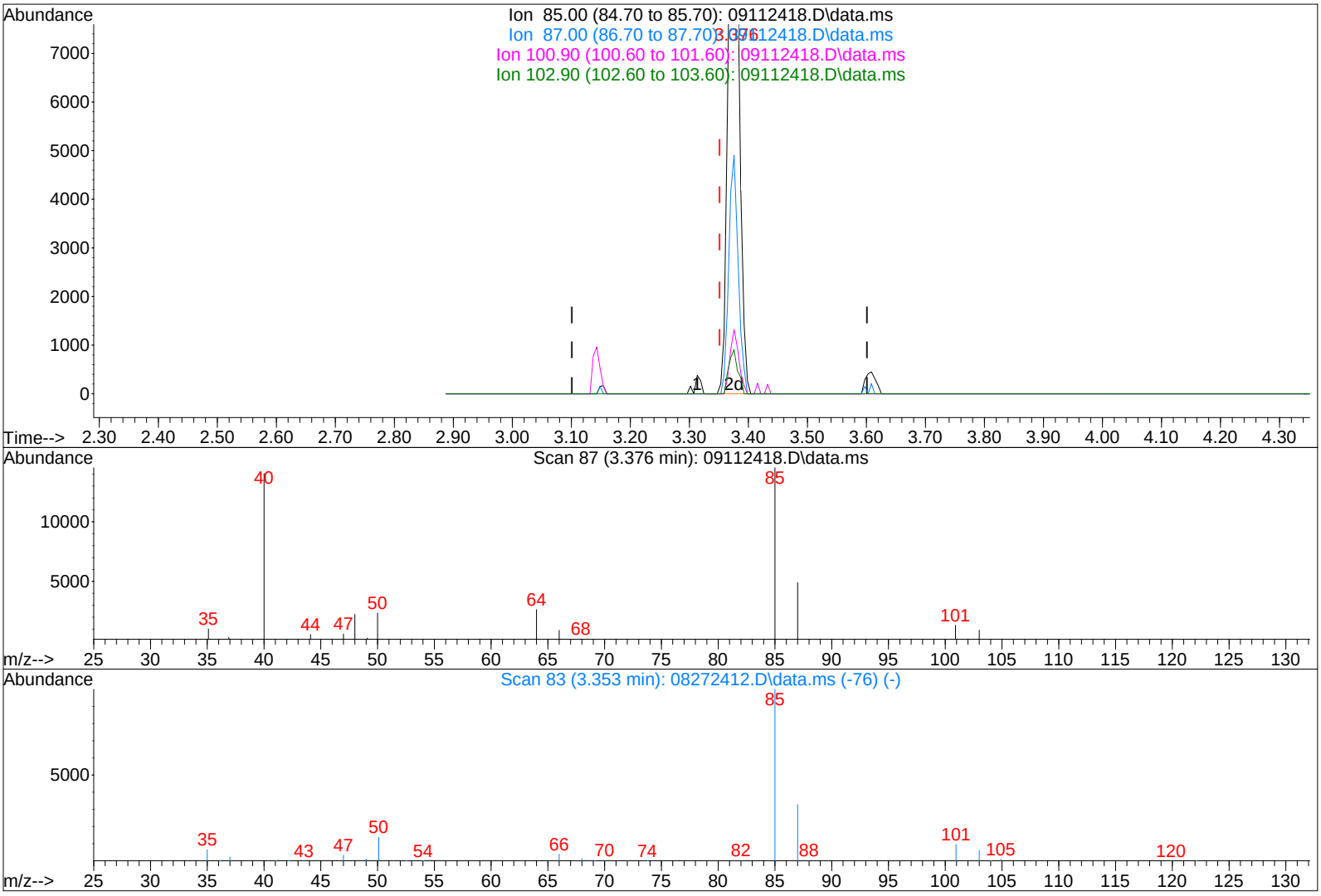
response 275

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:56:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112418.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.025) 0.54ng m

response 16499

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/12/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:43:12 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

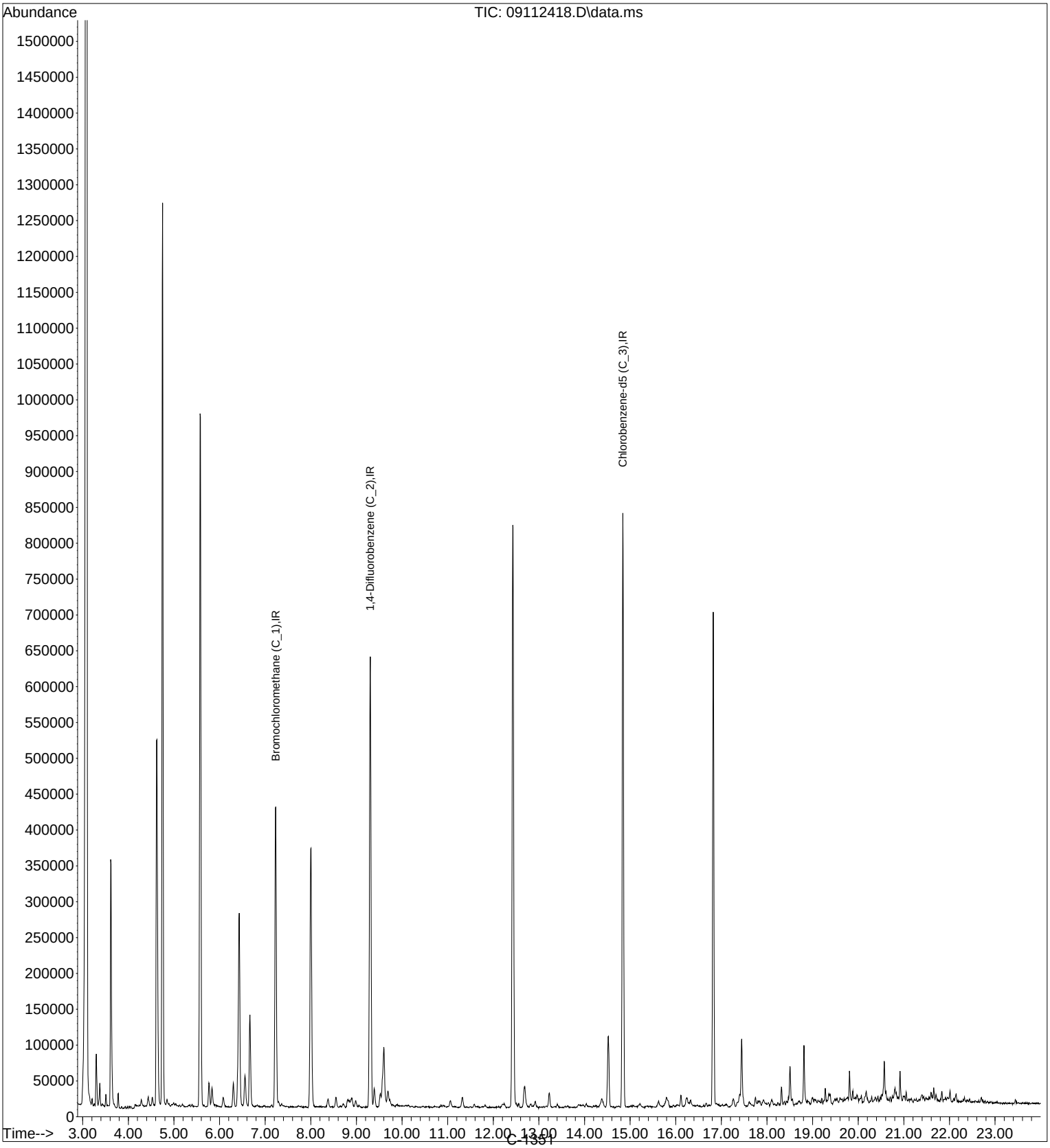
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	125591	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	553101	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	167753	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	108	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d	
4) 1,1-Difluoroethane	3.26	65	566	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d	
6) 1-Chloro-1,1-Difluoroe...	3.51	65	422	N.D.		
7) Dichlorofluoromethane ...	4.24	67	299	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.32	43	2231	N.D.		
12) 2-Methylpentane	6.41	71	184	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.05	84	480	N.D.		
17) 2,3-Dimethylpentane	9.56	56	802	N.D.		
18) Dibromomethane	9.81	174	125	N.D.		
20) Methyl Cyclohexane	11.41	55	67	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.11	91	60	N.D.		
24) 1,2,3-Trichloropropane	16.35	75	64	N.D.		
25) Bromobenzene	17.11	77	68	N.D.		
26) 2-Chlorotoluene	17.61	91	338	N.D.		
27) 4-Chlorotoluene	17.68	91	1076	N.D.		
28) Indane	19.21	117	57	N.D.		
29) Indene	19.21	115	1605	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	419	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	419	N.D.		
32) 1,2,3,5-Tetramethylben...	20.61	119	2228	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112418.D Vial: 6
Acq On : 11 Sep 2024 19:02 Operator: SC
Sample : P2403661-038 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:43:12 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112418.D
Acq On : 11 Sep 2024 19:02
Operator : SC
Sample : P2403661-038 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112418.D\data.ms

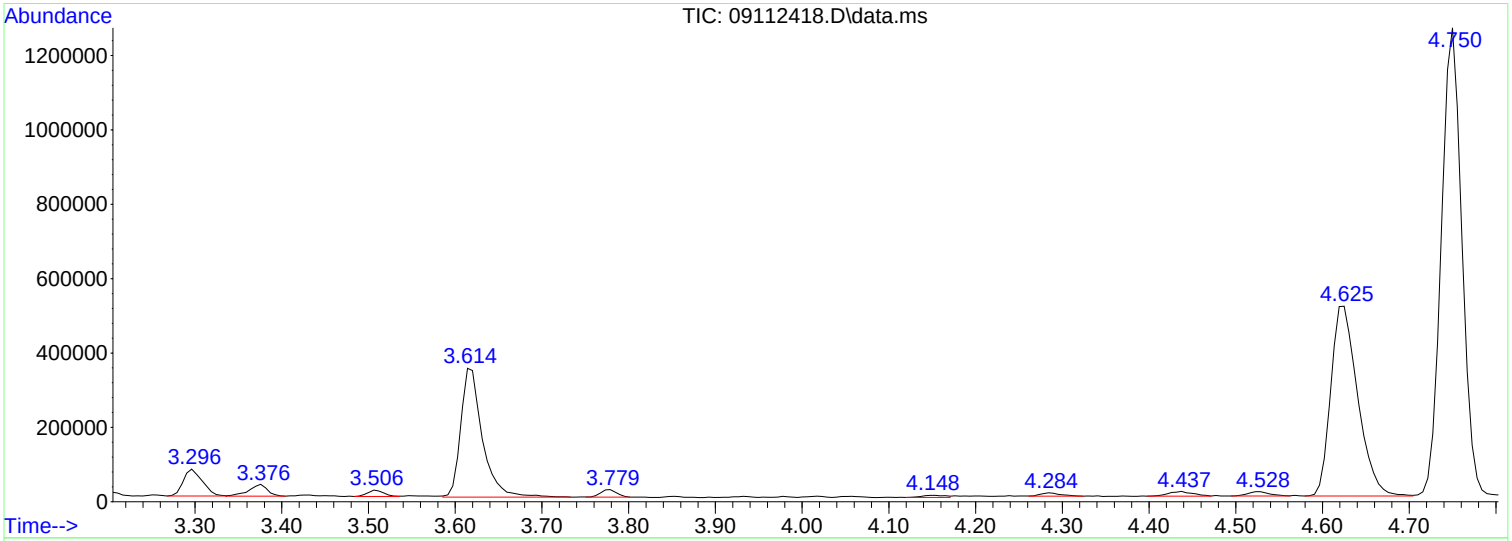
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	68	73	80	rBV3	72270	110059	5.29%	1.345%
2	3.376	80	87	92	rVB2	31718	46727	2.25%	0.571%
3	3.506	106	110	115	rBV	17214	22042	1.06%	0.269%
4	3.614	124	129	150	rVB	346687	603369	29.02%	7.372%
5	3.779	153	158	162	rVB	20329	26608	1.28%	0.325%
6	4.148	218	223	227	rBV2	5541	10814	0.52%	0.132%
7	4.284	243	247	254	rVB	8752	13615	0.65%	0.166%
8	4.437	267	274	280	rBV	12861	25649	1.23%	0.313%
9	4.528	284	290	296	rVV2	11667	20664	0.99%	0.252%
10	4.625	299	307	321	rBV	510455	1102248	53.02%	13.468%
11	4.750	321	329	341	rVB	1257903	2079087	100.00%	25.404%
12	5.573	465	474	486	rBV	966353	1932885	92.97%	23.617%
13	5.766	502	508	514	rBV	32851	66053	3.18%	0.807%
14	5.834	514	520	530	rVB	25348	53032	2.55%	0.648%
15	6.079	557	563	571	rBV3	13451	30711	1.48%	0.375%
16	6.300	594	602	611	rBV	33945	69826	3.36%	0.853%
17	6.431	611	625	635	rVV	270503	655514	31.53%	8.010%
18	6.555	638	647	659	rVV	43661	109389	5.26%	1.337%
19	6.663	659	666	683	rVB	128230	273435	13.15%	3.341%
20	7.231	755	766	775	rBV	419201	932401	44.85%	11.393%

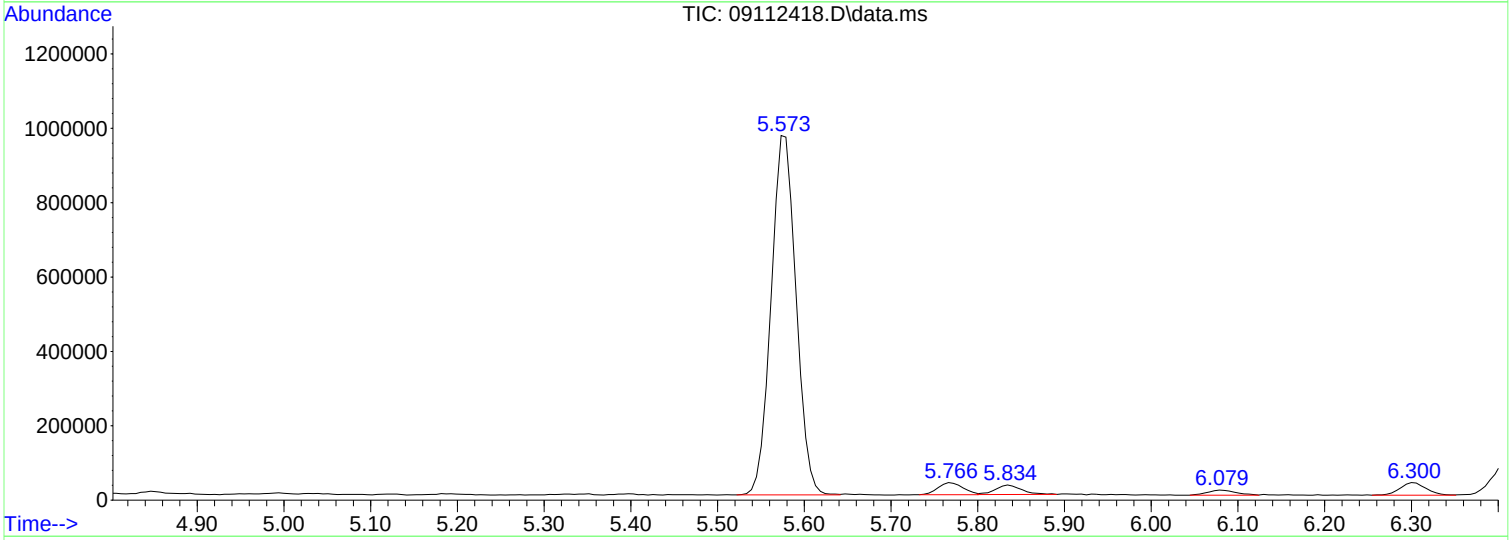
Sum of corrected areas: 8184128

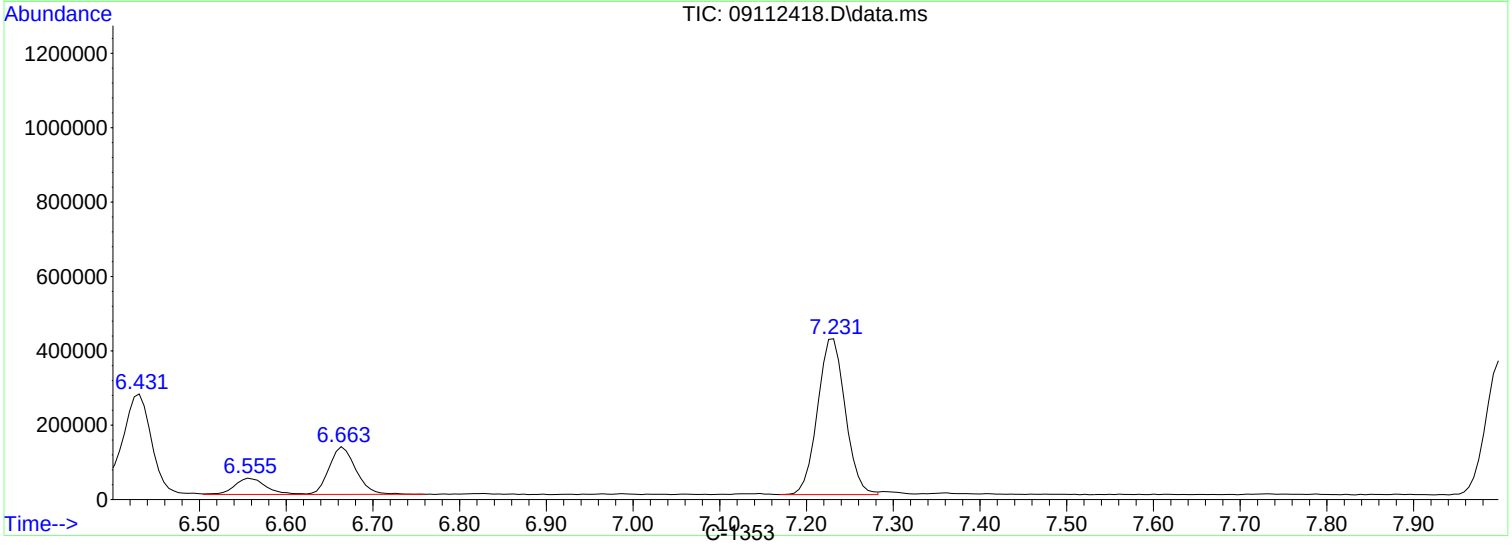
Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112418.D
Acq On : 11 Sep 2024 19:02
Operator : SC
Sample : P2403661-038 (400mL)
Misc : S37-06062402
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P







Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112418.D
Acq On : 11 Sep 2024 19:022
Operator : SCC
Sample : P2403661-038 (400mL))
Misc : S37-060624022
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:36:04 2024 9/12/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	130906	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	582465	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	172887	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	337143	13.763	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%				
57) Toluene-d8 (SS2)	12.43	98	667279	11.002	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	16.82	174	225089	11.097	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.80%				
Target Compounds							Qvalue
2) Propene	3.28	42	50782	2.568	ng	#	43
3) Dichlorodifluoromethan...	3.35	85	20124	0.633	ng		98
4) Chloromethane	3.48	50	9595	0.386	ng		89
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	430	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.01	94	718	0.070	ng		89
9) Chloroethane	4.15	64	641	0.073	ng	#	44
10) Ethanol	4.30	45	156912	11.045	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	15305	1.410	ng		99
13) Acetone	4.62	58	300575	25.074	ng	#	45
14) Trichlorofluoromethane	4.76	101	12086311	398.697	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	677931	14.363	ng		92
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	4955	0.351	ng	#	79
20) 3-Chloro-1-propene (Al...	5.45	41	233	N.D.			
21) Trichlorotrifluoroethane	5.59	151	6093457	507.375	ng		96
22) Carbon Disulfide	5.61	76	255736	5.465	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	642	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.38	73	4522	0.108	ng		93
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	21618	2.542	ng	#	69
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.29	61	781021	137.061	ng		90
31) n-Hexane	7.31	57	32506	1.251	ng		92
32) Chloroform	7.38	83	33182	1.272	ng		98
34) Tetrahydrofuran (THF)	7.76	72	1703	0.212	ng	#	1
35) Ethyl tert-Butyl Ether	7.83	87	235	N.D.			
36) 1,2-Dichloroethane	8.13	62	2006	0.078	ng		89
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	10775	No Calib		#	
40) 1-Butanol	8.80	56	26846	No Calib		#	
41) Benzene	8.90	78	39907	0.731	ng		99
42) Carbon Tetrachloride	9.08	117	2775	0.123	ng		84
43) Cyclohexane	9.22	84	29976	1.626	ng		93
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.86	63	2154	0.149	ng		99
46) Bromodichloromethane	10.09	83	2942	0.143	ng		87
47) Trichloroethene	10.16	130	6884	0.509	ng		89
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.24	57	9198	0.142	ng		66
50) Methyl Methacrylate	10.42	100	633	0.133	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:36:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

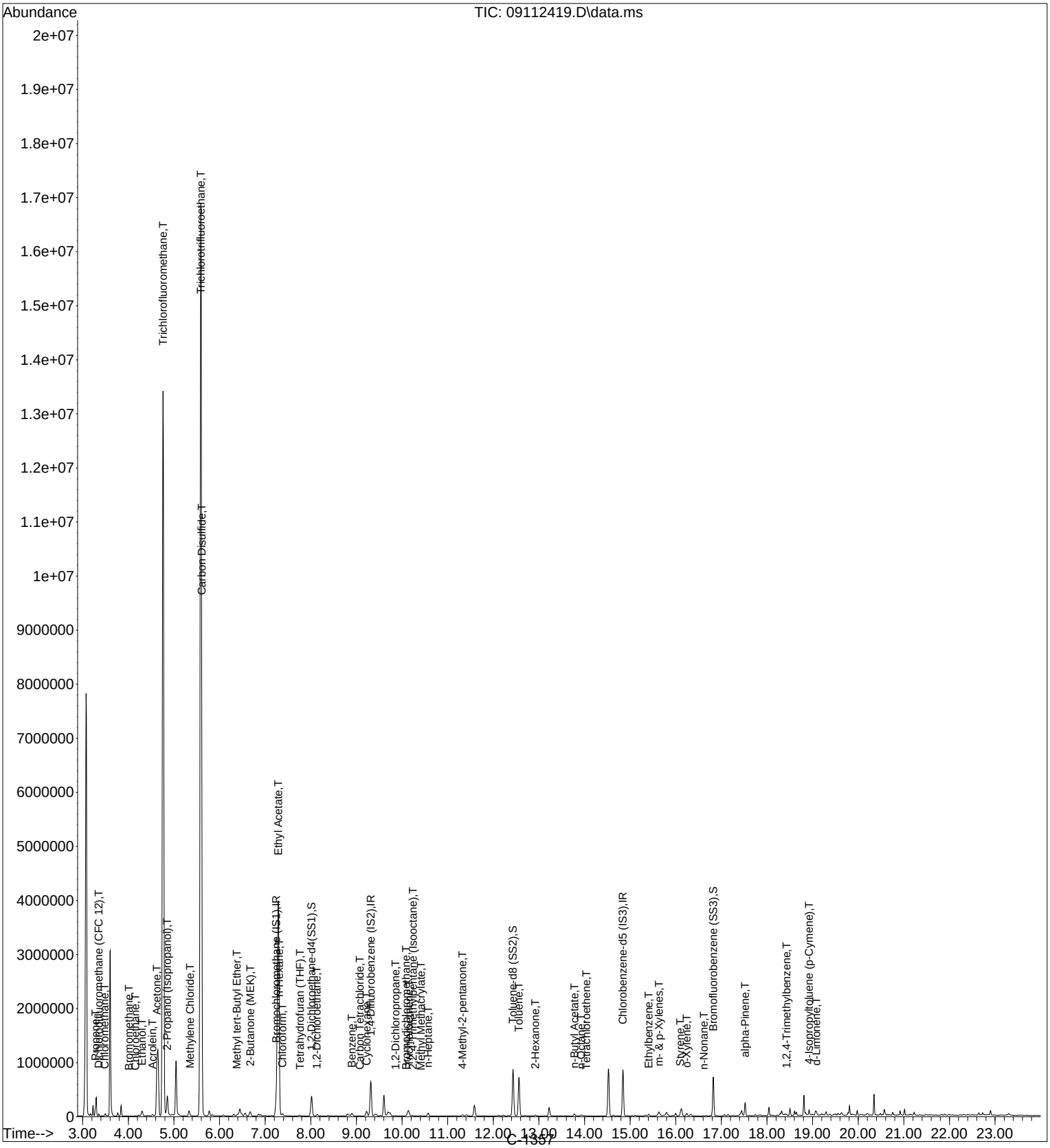
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	11775	0.968 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	6747	0.468 ng	#	55
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	589108	8.986 ng		99
59) 2-Hexanone	12.92	43	21302	0.525 ng	#	64
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	36399	0.800 ng		96
63) n-Octane	13.93	57	3400	0.221 ng	#	80
64) Tetrachloroethene	14.04	166	1931	0.106 ng		99
65) Chlorobenzene	14.90	112	707	N.D.		
66) Ethylbenzene	15.41	91	25343	0.336 ng		100
67) m- & p-Xylenes	15.64	91	58105	0.947 ng		100
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	18118	0.457 ng		100
70) o-Xylene	16.24	91	26745	0.447 ng		97
71) n-Nonane	16.62	43	3790	0.097 ng		92
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	2477	N.D.		
75) alpha-Pinene	17.52	93	95492	2.646 ng		96
76) n-Propylbenzene	17.68	91	3252	N.D.		
77) 3-Ethyltoluene	17.03	105	2477	No Calib		
78) 4-Ethyltoluene	17.86	105	2478	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1700	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	2477	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5967	0.097 ng		88
83) n-Decane	17.07	58	605	No Calib	#	
84) Benzyl Chloride	18.56	91	1360	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	147	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	732	N.D.		
87) sec-Butylbenzene	18.74	105	697	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	48257	0.714 ng		96
89) 1,2,3-Trimethylbenzene	17.03	105	2477	No Calib		
90) 1,2-Dichlorobenzene	19.02	146	137	N.D.		
91) d-Limonene	19.08	68	12622	0.612 ng		88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	501	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	621	N.D.		
95) Naphthalene	20.94	128	2144	N.D.		
96) n-Dodecane	18.93	58	1325	No Calib	#	
97) Hexachlorobutadiene	21.29	225	326	N.D.		
98) Cyclohexanone	15.21	55	1232	No Calib	#	
99) tert-Butylbenzene	18.43	119	1080	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:36:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:36:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

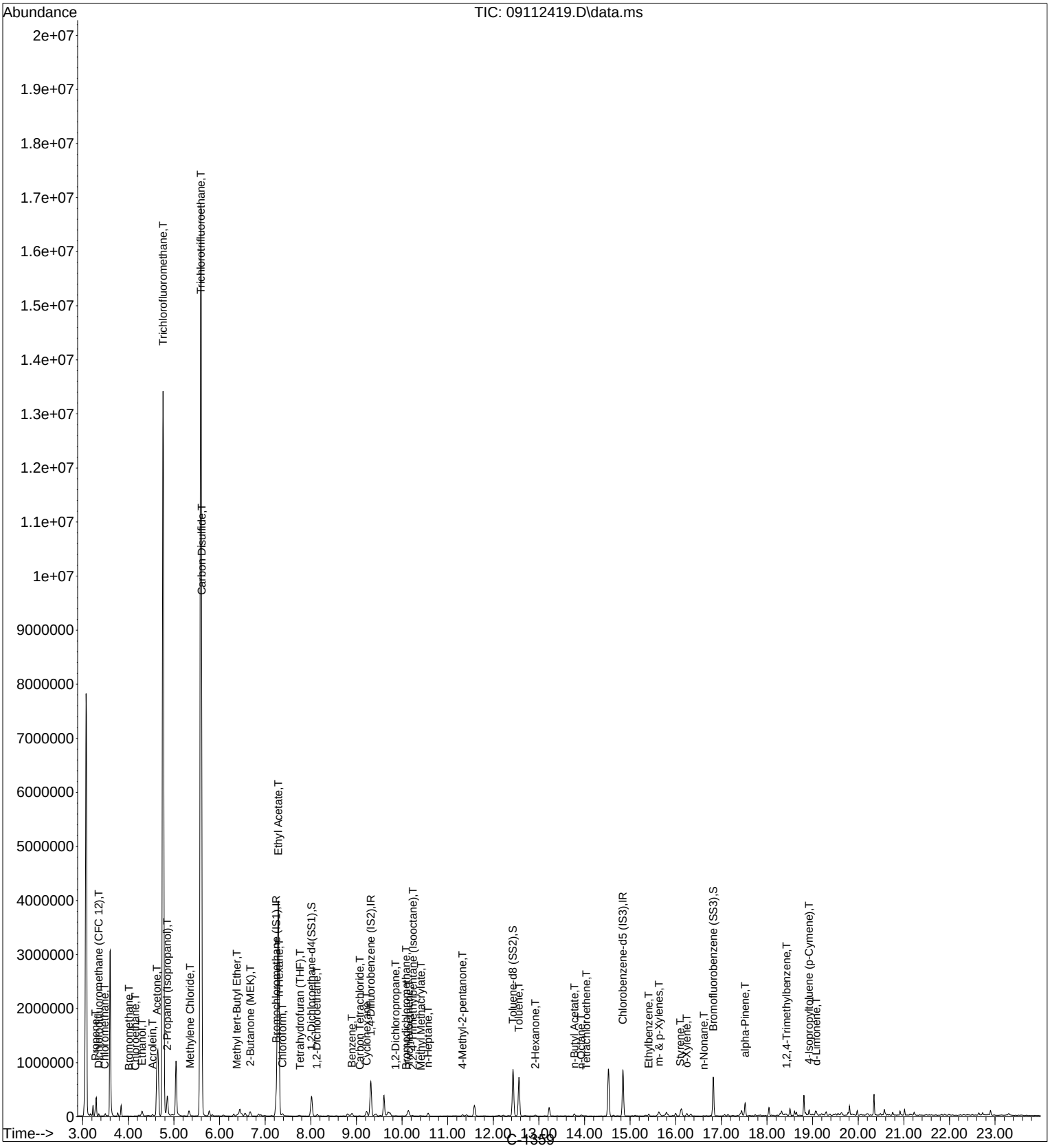
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	130906	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	582465	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	172887	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	337143	13.763	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%				
57) Toluene-d8 (SS2)	12.43	98	667279	11.002	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	16.82	174	225089	11.097	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.80%				
Target Compounds							Qvalue
2) Propene	3.28	42	50782	2.568	ng	#	43
3) Dichlorodifluoromethan...	3.35	85	20124	0.633	ng		98
4) Chloromethane	3.48	50	9595	0.386	ng		89
8) Bromomethane	4.01	94	718	0.070	ng		89
9) Chloroethane	4.15	64	641	0.073	ng	#	44
10) Ethanol	4.30	45	156912	11.045	ng		99
12) Acrolein	4.53	56	15305	1.410	ng		99
13) Acetone	4.62	58	300575	25.074	ng	#	45
14) Trichlorofluoromethane	4.76	101	12086311	398.697	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	677931	14.363	ng		92
19) Methylene Chloride	5.35	84	4955	0.351	ng	#	79
21) Trichlorotrifluoroethane	5.59	151	6093457	507.375	ng		96
22) Carbon Disulfide	5.61	76	255736	5.465	ng	#	1
25) Methyl tert-Butyl Ether	6.38	73	4522	0.108	ng		93
27) 2-Butanone (MEK)	6.67	72	21618	2.542	ng	#	69
30) Ethyl Acetate	7.29	61	781021	137.061	ng		90
31) n-Hexane	7.31	57	32506	1.251	ng		92
32) Chloroform	7.38	83	33182	1.272	ng		98
34) Tetrahydrofuran (THF)	7.76	72	1703	0.212	ng	#	1
36) 1,2-Dichloroethane	8.13	62	2006	0.078	ng		89
41) Benzene	8.90	78	39907	0.731	ng		99
42) Carbon Tetrachloride	9.08	117	2775	0.123	ng		84
43) Cyclohexane	9.22	84	29976	1.626	ng		93
45) 1,2-Dichloropropane	9.86	63	2154	0.149	ng		99
46) Bromodichloromethane	10.09	83	2942	0.143	ng		87
47) Trichloroethene	10.16	130	6884	0.509	ng		89
49) 2,2,4-Trimethylpentane...	10.24	57	9198	0.142	ng		66
50) Methyl Methacrylate	10.42	100	633	0.133	ng		99
51) n-Heptane	10.57	71	11775	0.968	ng		93
53) 4-Methyl-2-pentanone	11.33	58	6747	0.468	ng	#	55
58) Toluene	12.56	91	589108	8.986	ng		99
59) 2-Hexanone	12.92	43	21302	0.525	ng	#	64
62) n-Butyl Acetate	13.78	43	36399	0.800	ng		96
63) n-Octane	13.93	57	3400	0.221	ng	#	80
64) Tetrachloroethene	14.04	166	1931	0.106	ng		99
66) Ethylbenzene	15.41	91	25343	0.336	ng		100
67) m- & p-Xylenes	15.64	91	58105	0.947	ng		100
69) Styrene	16.10	104	18118	0.457	ng		100
70) o-Xylene	16.24	91	26745	0.447	ng		97
71) n-Nonane	16.62	43	3790	0.097	ng		92
75) alpha-Pinene	17.52	93	95492	2.646	ng		96
82) 1,2,4-Trimethylbenzene	18.43	105	5967	0.097	ng		88
88) 4-Isopropyltoluene (p-...	18.92	119	48257	0.714	ng		96
91) d-Limonene	19.08	68	12622	0.612	ng		88

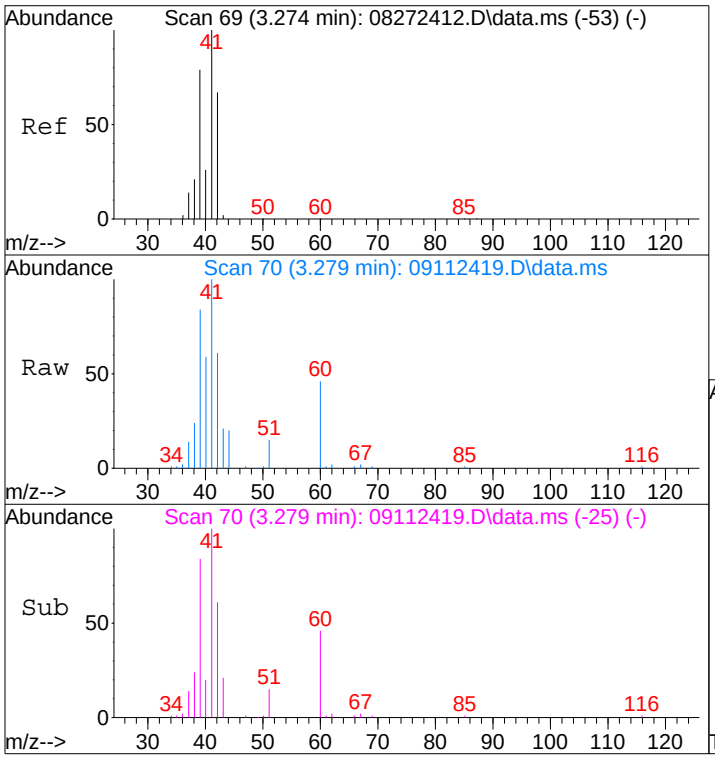
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:36:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

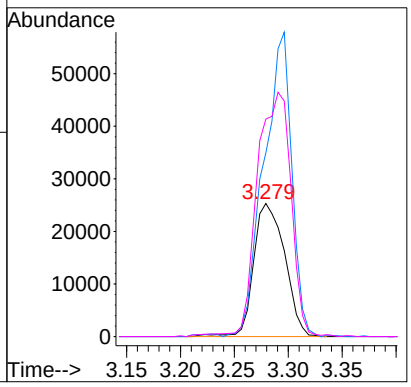


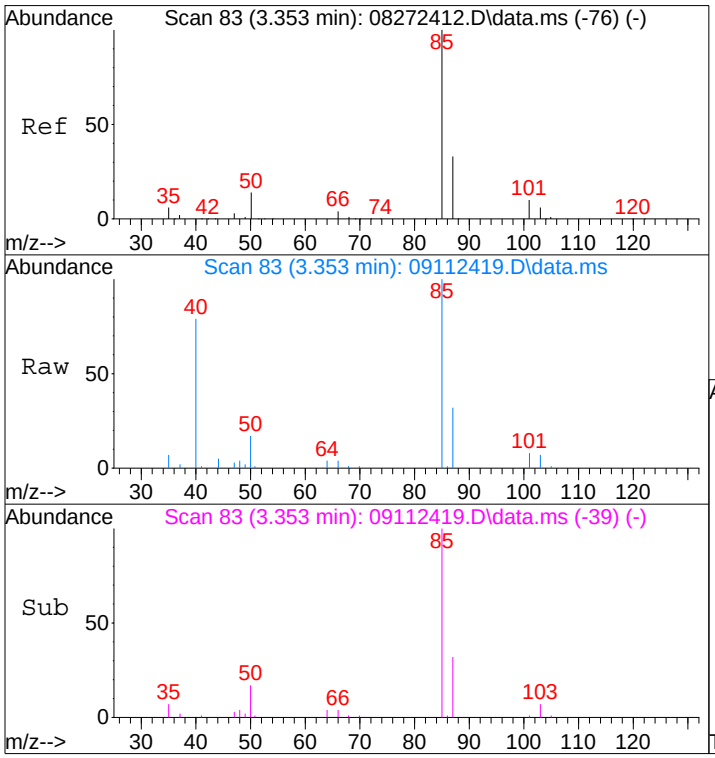


#2
Propene
Concen: 2.57 ng
RT: 3.28 min Scan# 70
Delta R.T. 0.007 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 42 Resp: 50782

Ion	Ratio	Lower	Upper
42	100		
39	205.8	98.2	138.2#
41	199.5	130.1	170.1#

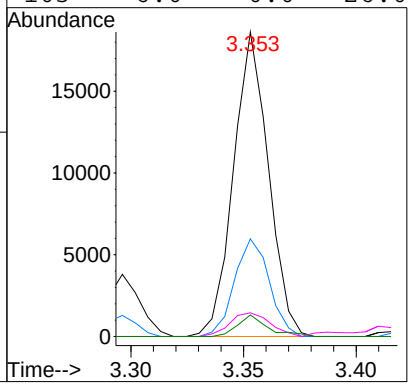


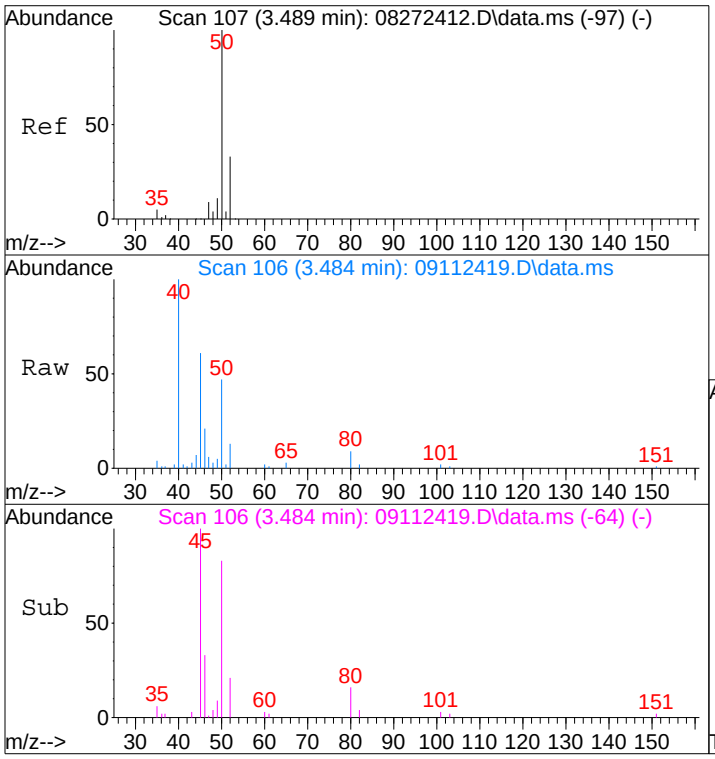


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.002 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 85 Resp: 20124

Ion	Ratio	Lower	Upper
85	100		
87	31.9	13.1	53.1
101	9.0	0.0	29.4
103	6.0	0.0	26.0

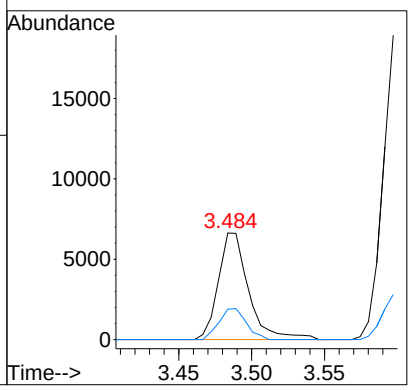


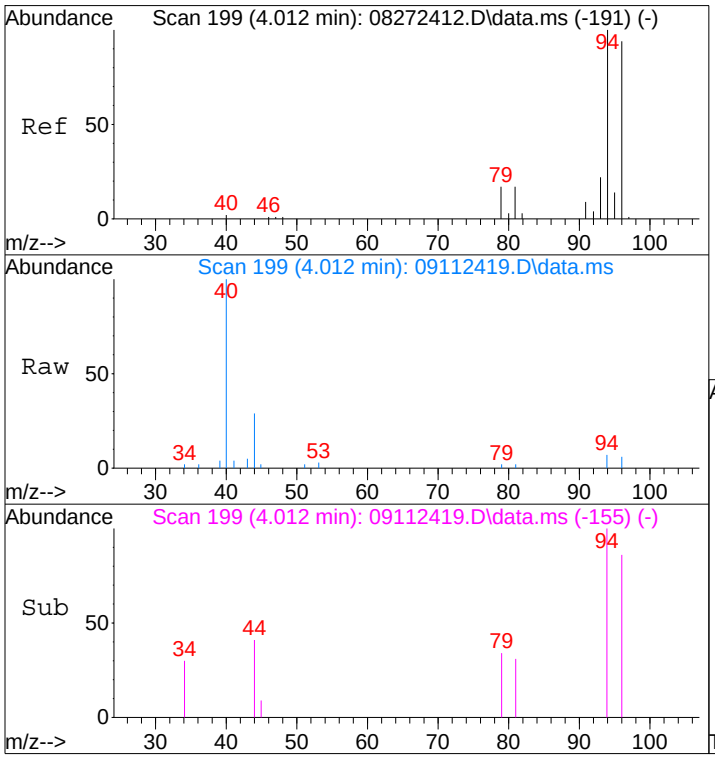


#4
Chloromethane
Concen: 0.39 ng
RT: 3.48 min Scan# 106
Delta R.T. -0.009 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 50 Resp: 9595

Ion	Ratio	Lower	Upper
50	100		
52	26.3	12.4	52.4

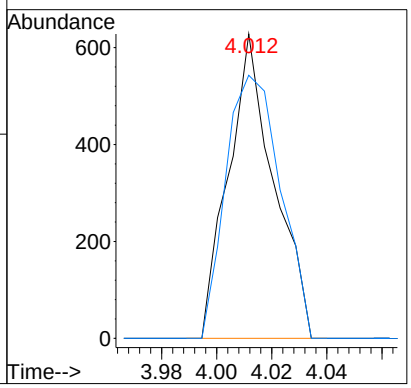


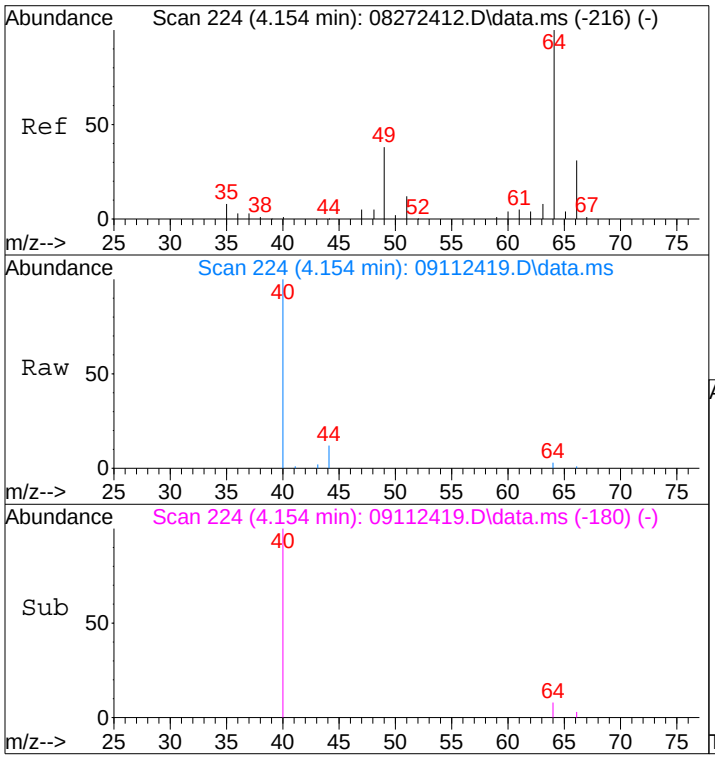


#8
Bromomethane
Concen: 0.07 ng
RT: 4.01 min Scan# 199
Delta R.T. -0.001 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 94 Resp: 718

Ion	Ratio	Lower	Upper
94	100		
96	104.6	74.2	114.2

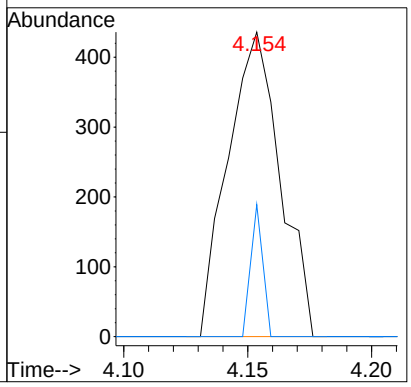


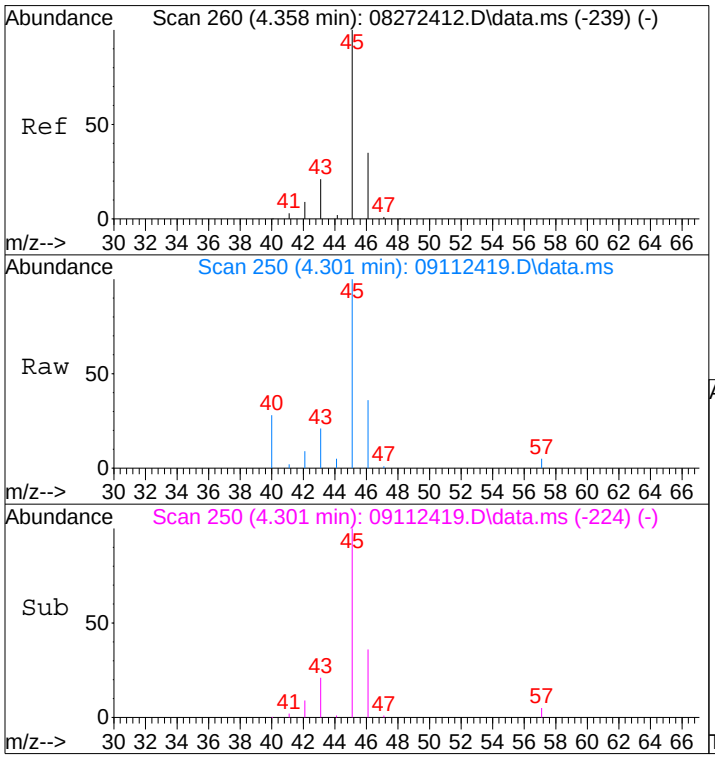


#9
Chloroethane
Concen: 0.07 ng
RT: 4.15 min Scan# 224
Delta R.T. -0.001 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 64 Resp: 641

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.0	51.0#

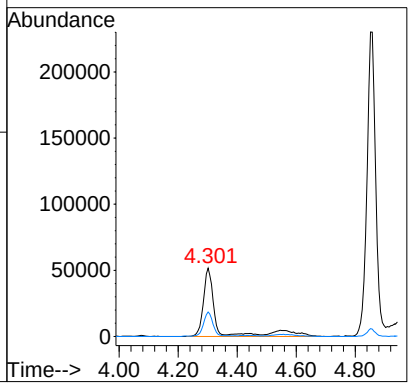


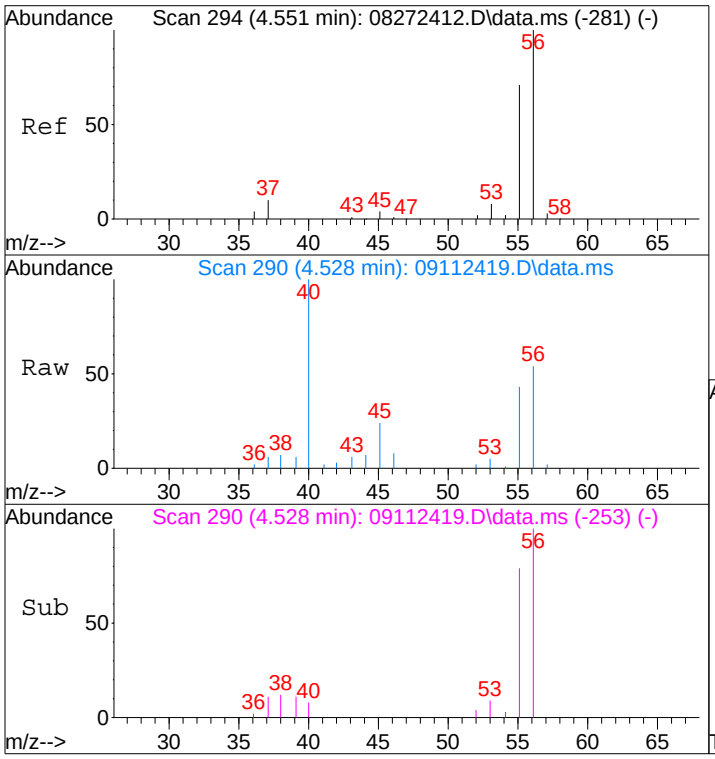


#10
Ethanol
Concen: 11.04 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.102 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 45 Resp: 156912

Ion	Ratio	Lower	Upper
45	100		
46	35.0	14.2	54.2

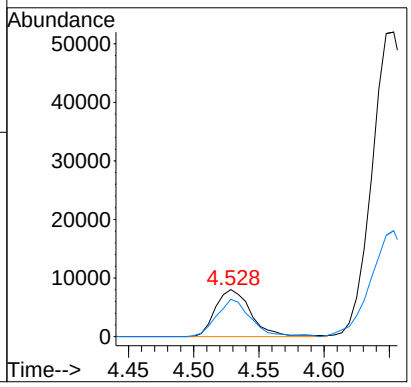


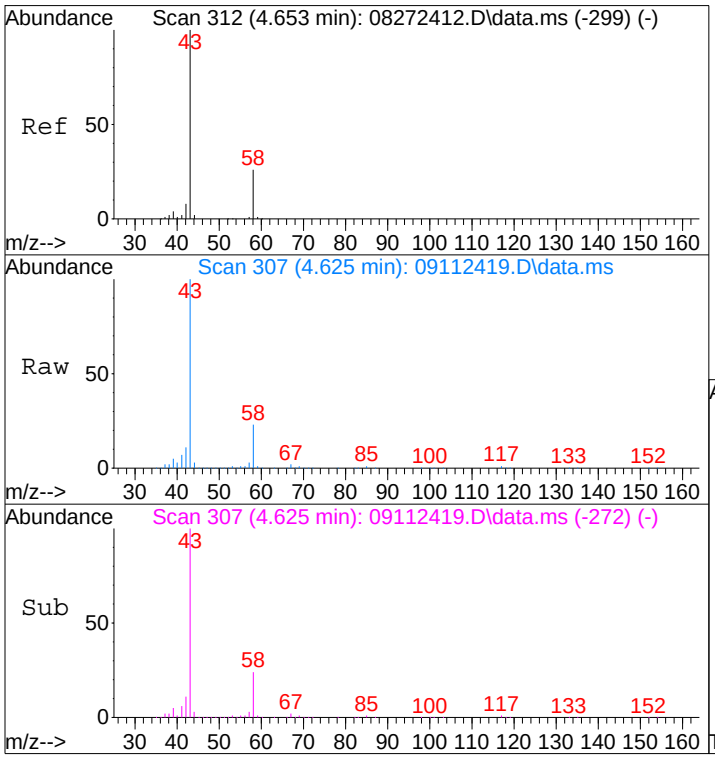


#12
Acrolein
Concen: 1.41 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.039 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 56 Resp: 15305

Ion	Ratio	Lower	Upper
56	100		
55	75.3	54.7	94.7

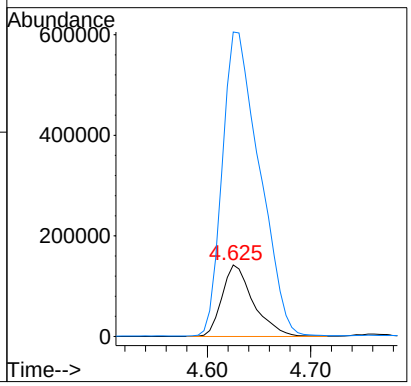


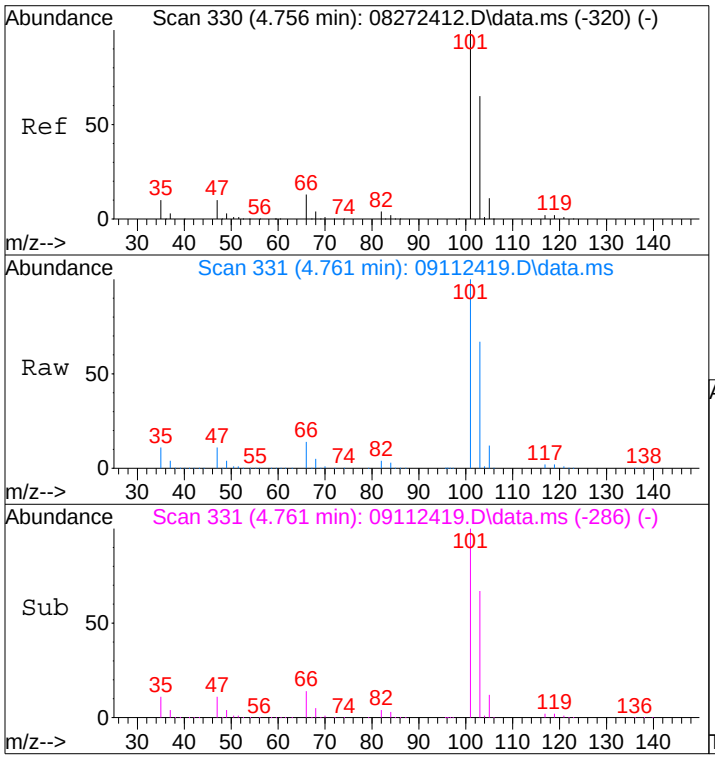


#13
Acetone
Concen: 25.07 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.050 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 58 Resp: 300575

Ion	Ratio	Lower	Upper
58	100		
43	502.7	347.3	407.3#

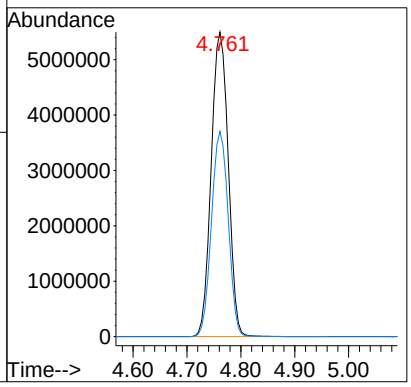


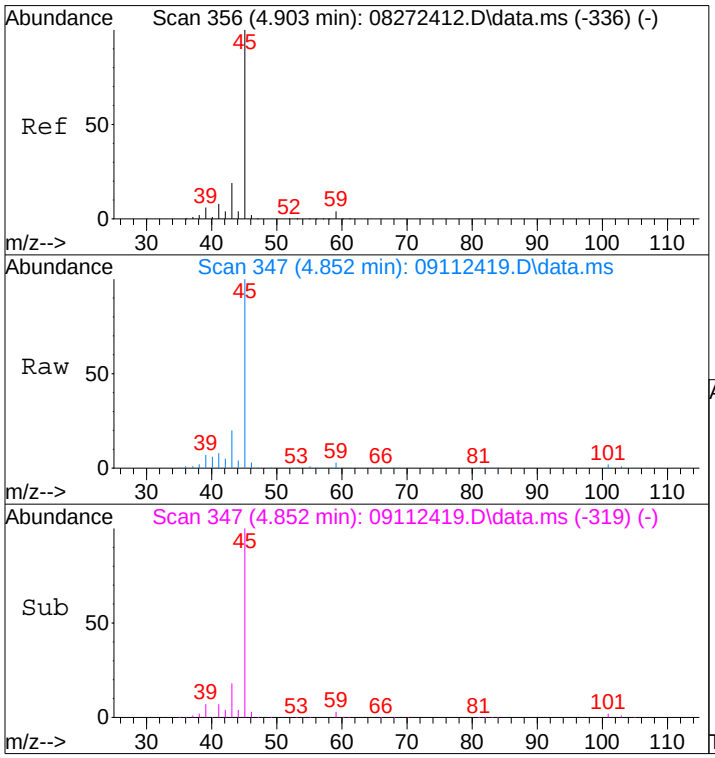


#14
Trichlorofluoromethane
Concen: 398.70 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.007 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:101 Resp:12086311

Ion	Ratio	Lower	Upper
101	100		
103	66.5	44.9	84.9

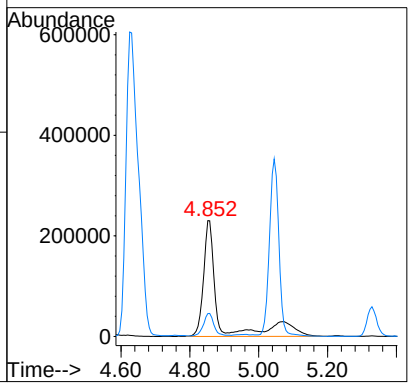


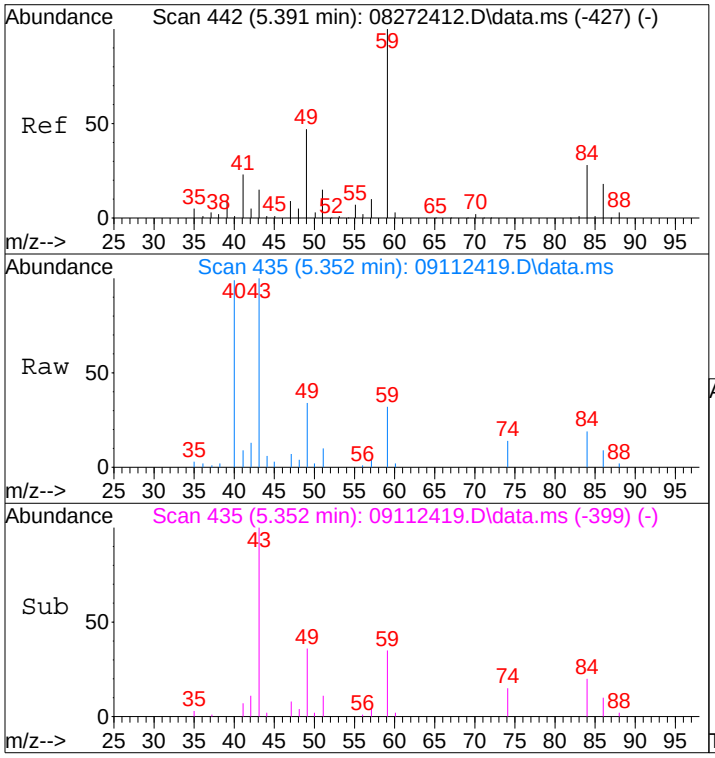


#15
2-Propanol (Isopropanol)
Concen: 14.36 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.089 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 45 Resp: 677931

Ion	Ratio	Lower	Upper
45	100		
43	16.3	0.0	40.0

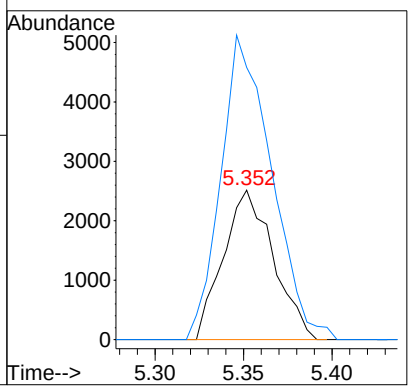


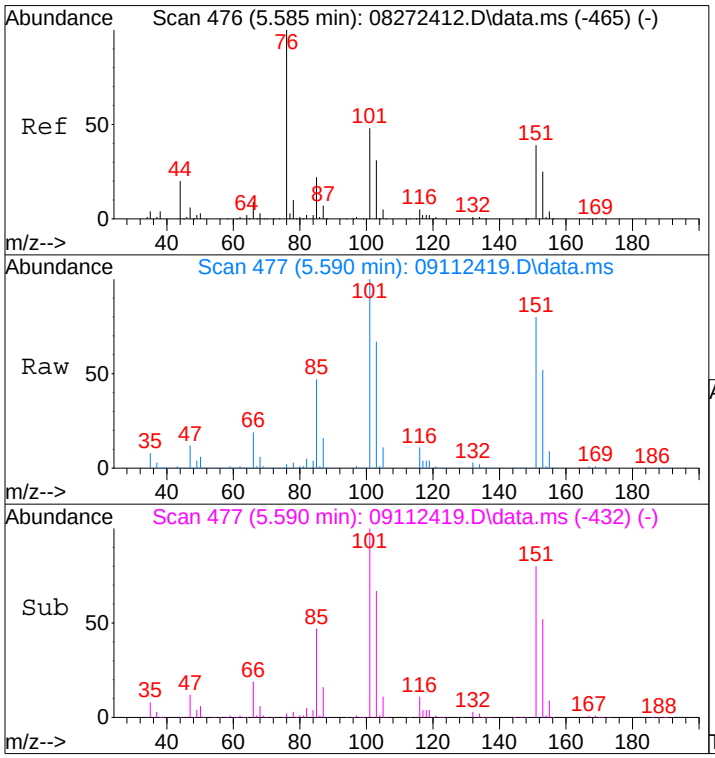


#19
Methylene Chloride
Concen: 0.35 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.047 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 84 Resp: 4955

Ion	Ratio	Lower	Upper
84	100		
49	205.6	151.1	201.1#

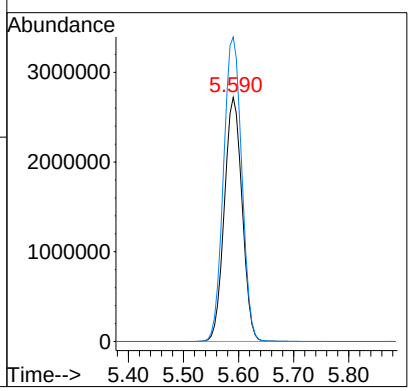


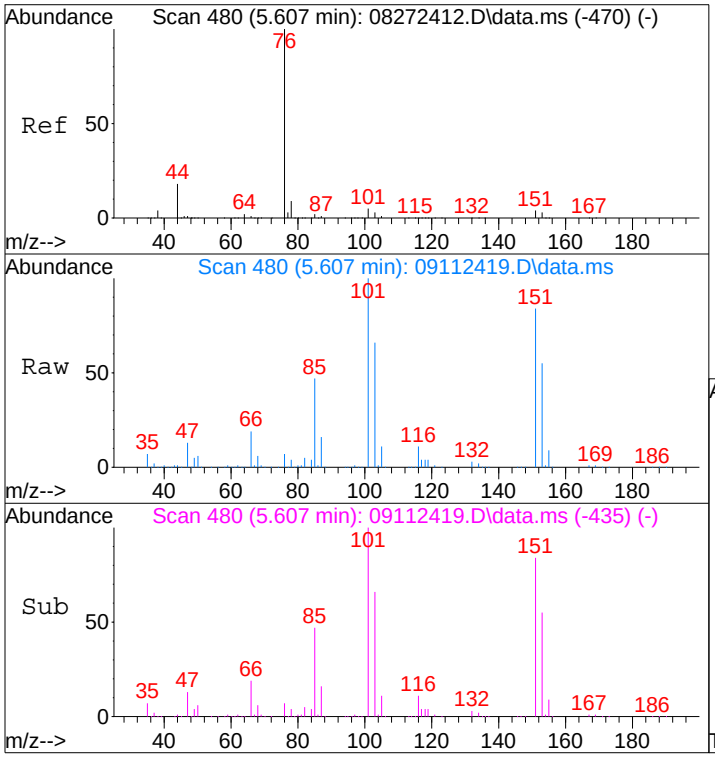


#21
Trichlorotrifluoroethane
Concen: 507.38 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.005 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:151 Resp: 6093457

Ion	Ratio	Lower	Upper
151	100		
101	128.1	103.4	143.4

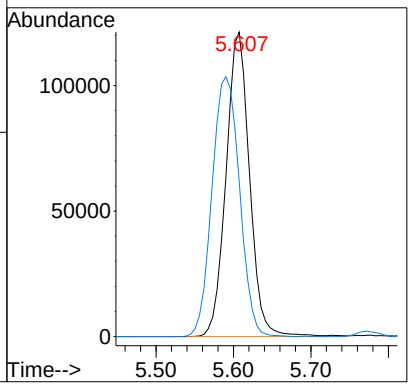


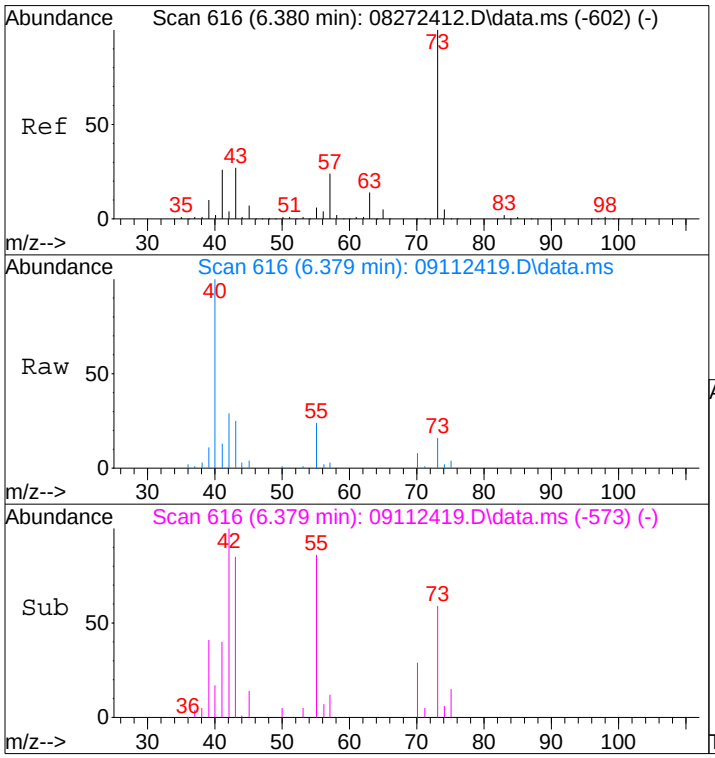


#22
Carbon Disulfide
Concen: 5.46 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.005 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 76 Resp: 255736

Ion	Ratio	Lower	Upper
76	100		
78	99.8	0.0	29.6#

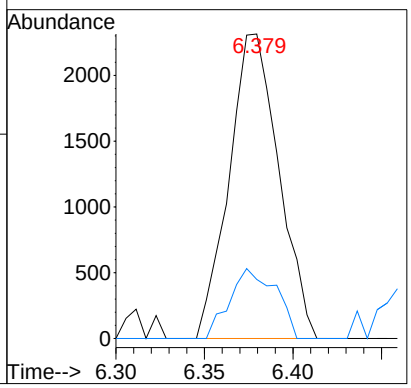


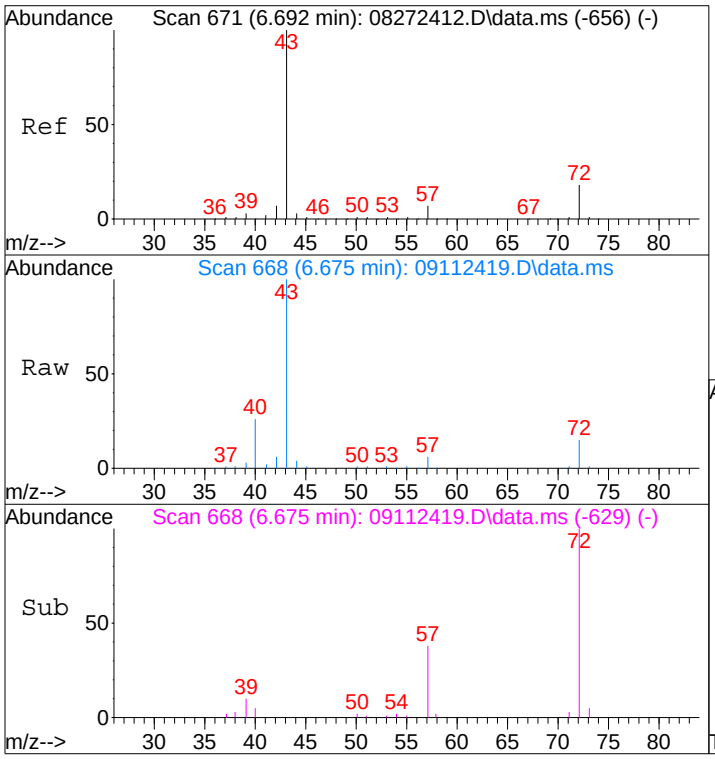


#25
Methyl tert-Butyl Ether
Concen: 0.11 ng
RT: 6.38 min Scan# 616
Delta R.T. -0.003 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 73 Resp: 4522

Ion	Ratio	Lower	Upper
73	100		
57	21.3	4.7	44.7

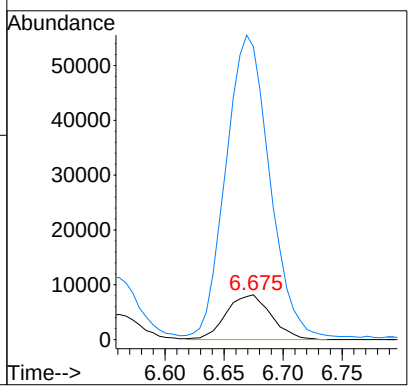


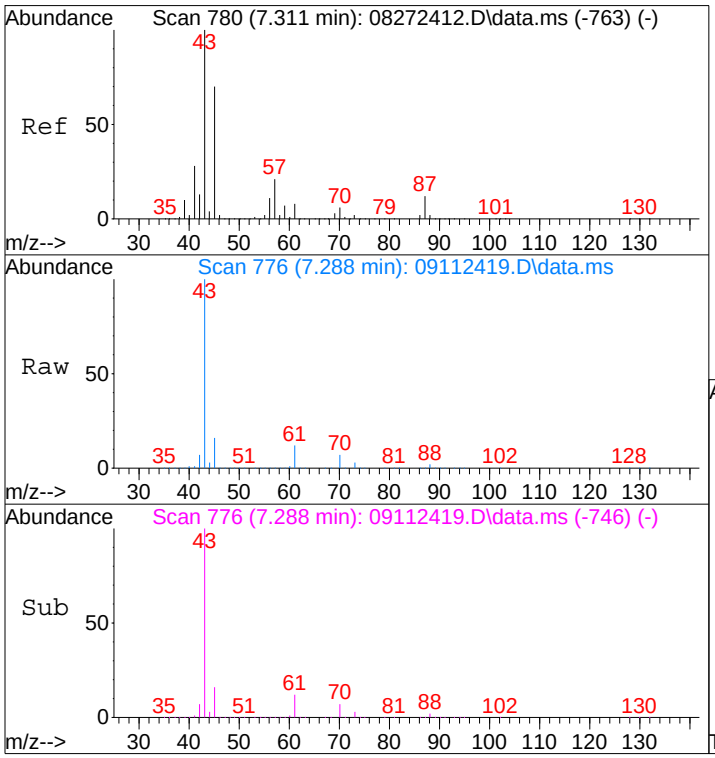


#27
2-Butanone (MEK)
Concen: 2.54 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.031 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 72 Resp: 21618

Ion	Ratio	Lower	Upper
72	100		
43	660.5	548.0	588.0#

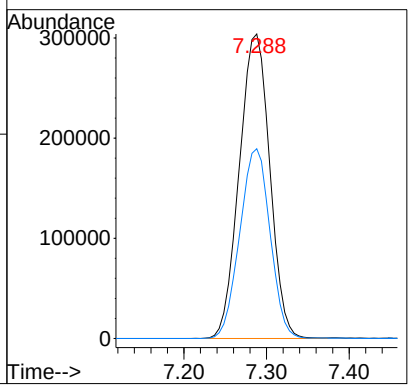


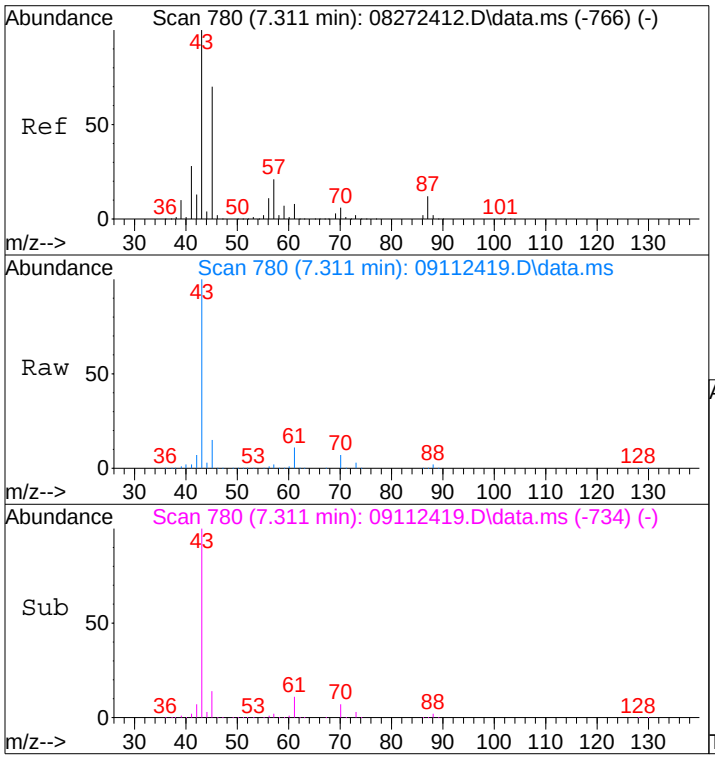


#30
Ethyl Acetate
Concen: 137.06 ng
RT: 7.29 min Scan# 776
Delta R.T. -0.028 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 61 Resp: 781021

Ion	Ratio	Lower	Upper
61	100		
70	62.0	49.9	89.9

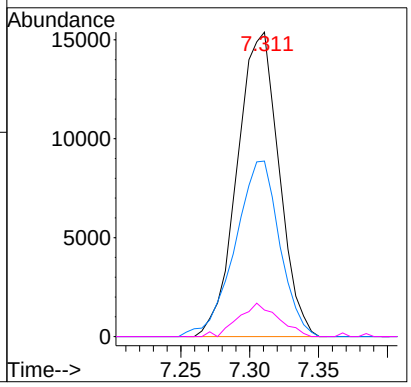


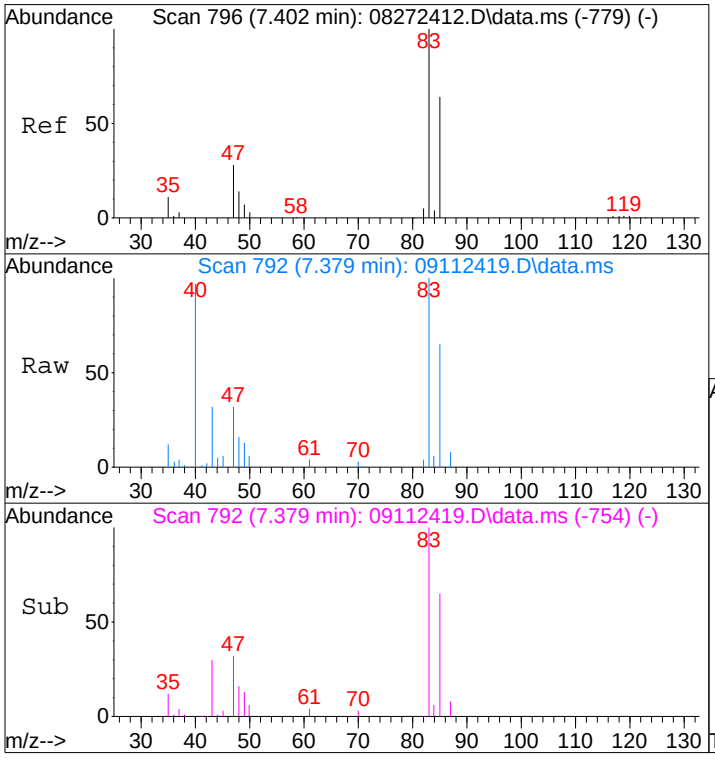


#31
n-Hexane
Concen: 1.25 ng
RT: 7.31 min Scan# 780
Delta R.T. 0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 57 Resp: 32506

Ion	Ratio	Lower	Upper
57	100		
56	61.4	44.2	66.2
86	10.5	9.3	13.9

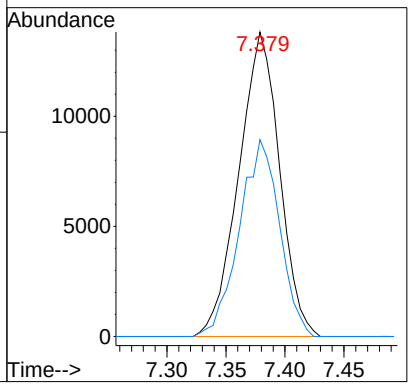


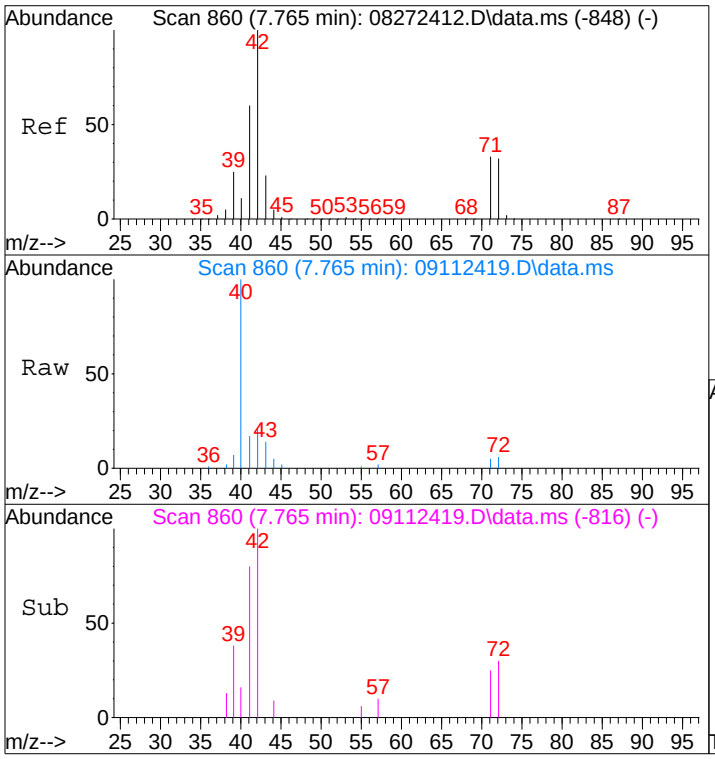


#32
Chloroform
Concen: 1.27 ng
RT: 7.38 min Scan# 792
Delta R.T. -0.034 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 83 Resp: 33182

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.3	85.3

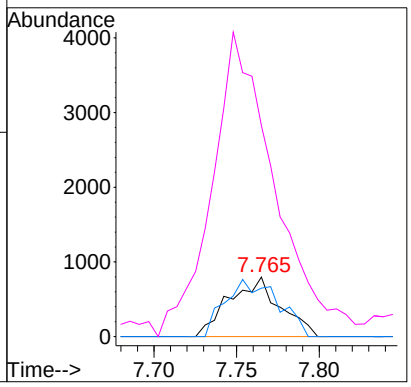


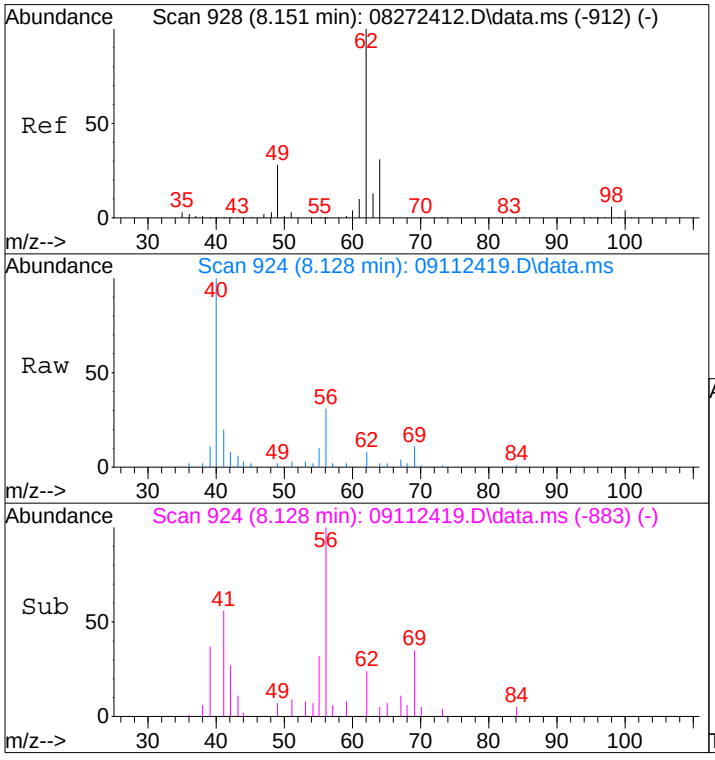


#34
Tetrahydrofuran (THF)
Concen: 0.21 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.002 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 72 Resp: 1703

Ion	Ratio	Lower	Upper
72	100		
71	99.9	78.4	118.4
42	635.5	285.2	325.2#

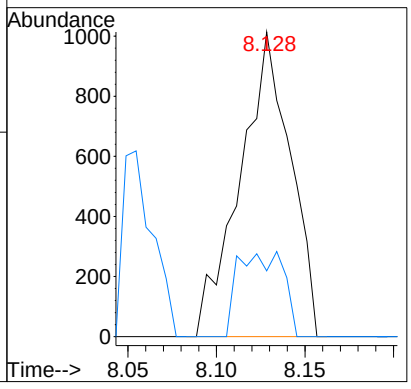


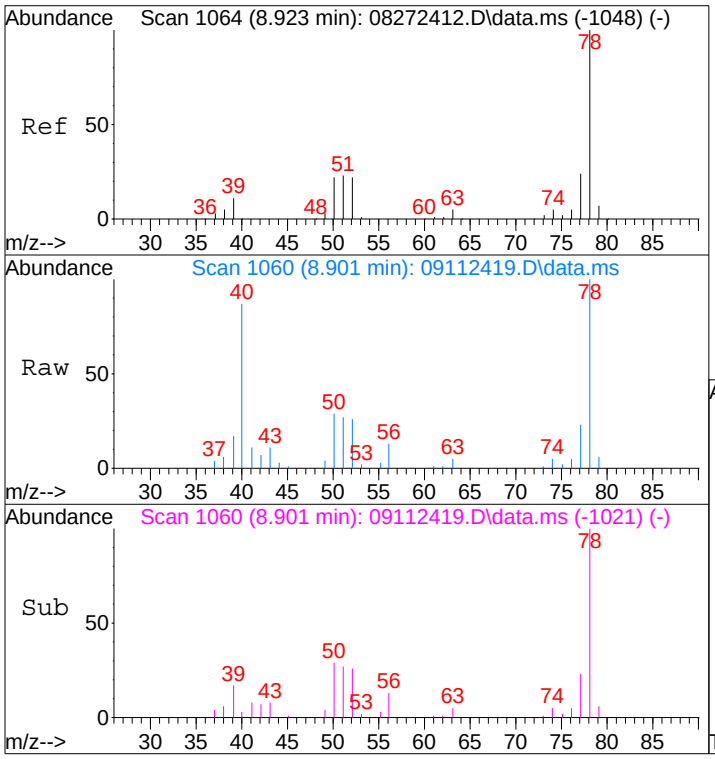


#36
1,2-Dichloroethane
Concen: 0.08 ng
RT: 8.13 min Scan# 924
Delta R.T. -0.019 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 62 Resp: 2006

Ion	Ratio	Lower	Upper
62	100		
64	25.1	11.0	51.0

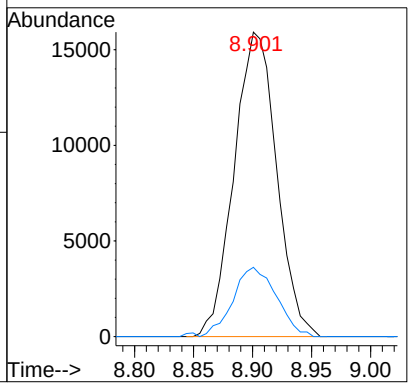


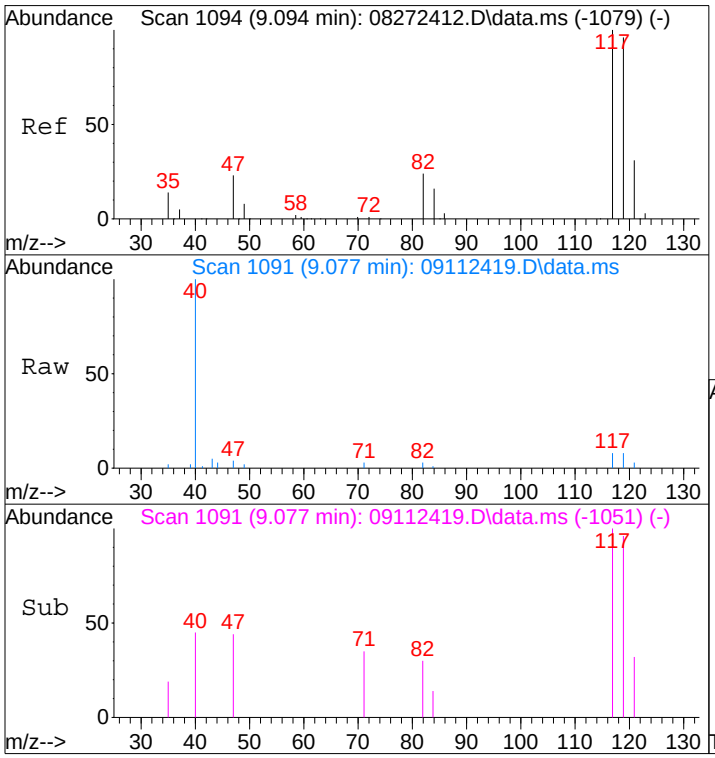


#41
Benzene
Concen: 0.73 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 78 Resp: 39907

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.9	43.9

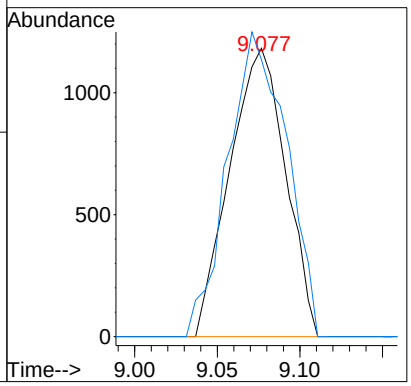


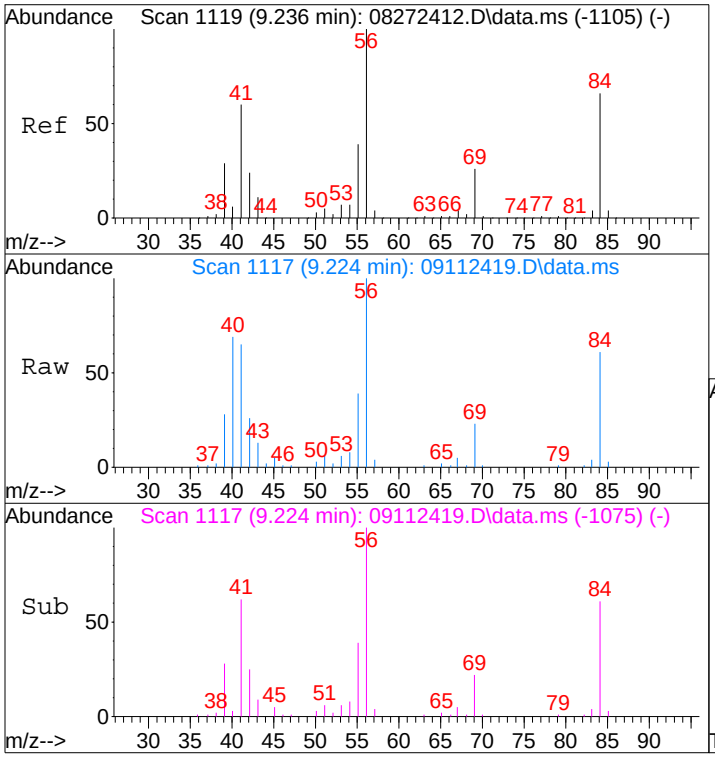


#42
Carbon Tetrachloride
Concen: 0.12 ng
RT: 9.08 min Scan# 1091
Delta R.T. -0.023 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:117 Resp: 2775

Ion	Ratio	Lower	Upper
117	100		
119	111.1	75.1	115.1

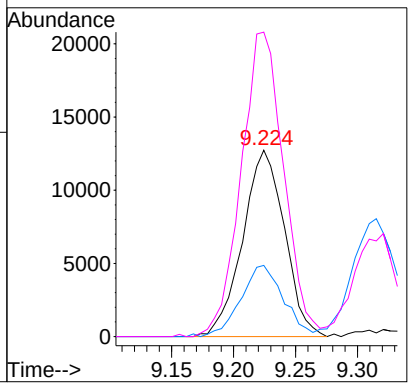


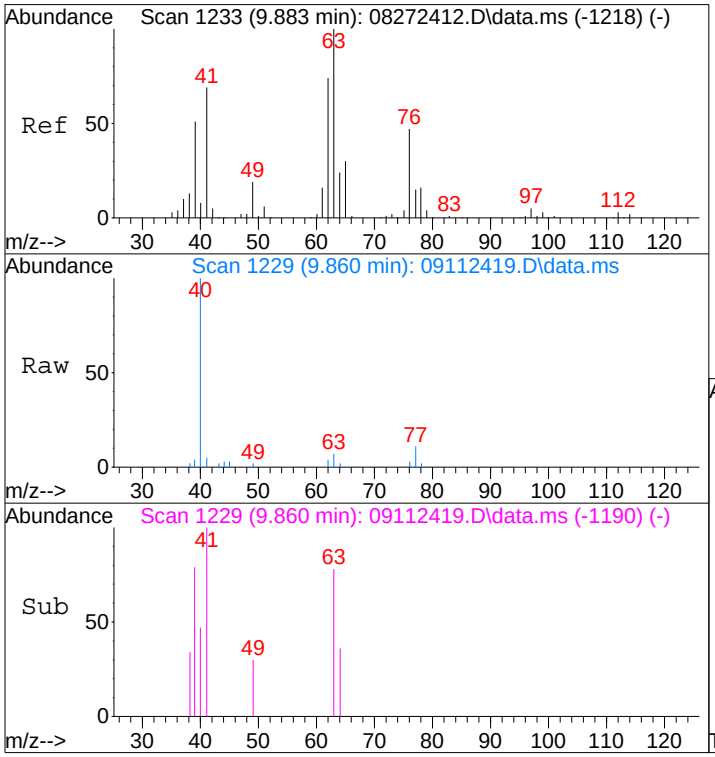


#43
Cyclohexane
Concen: 1.63 ng
RT: 9.22 min Scan# 1117
Delta R.T. -0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 84 Resp: 29976

Ion	Ratio	Lower	Upper
84	100		
69	38.8	18.8	58.8
56	165.6	134.5	174.5

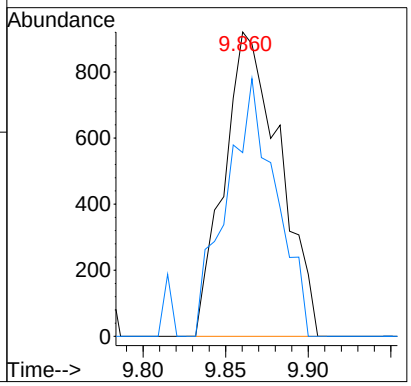


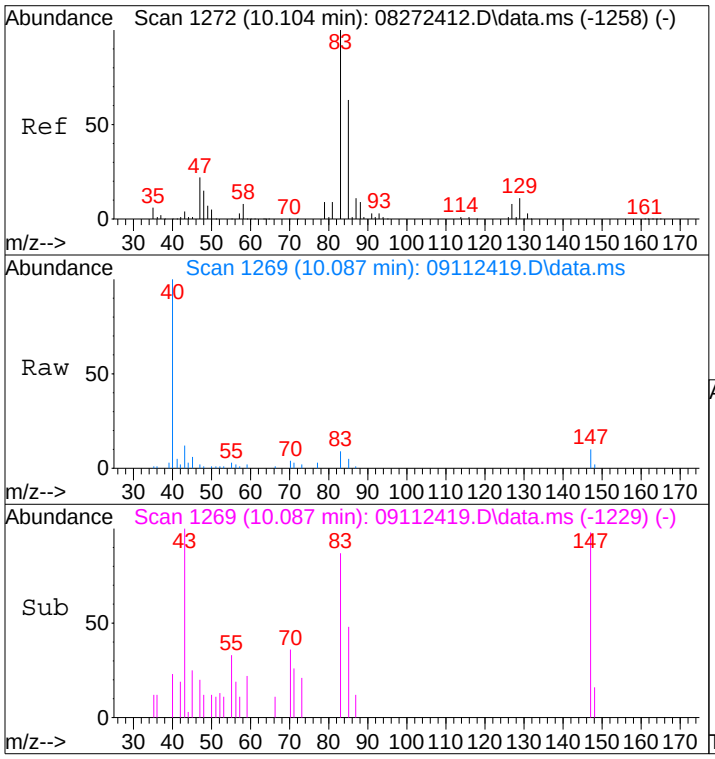


#45
1,2-Dichloropropane
Concen: 0.15 ng
RT: 9.86 min Scan# 1229
Delta R.T. -0.027 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 63 Resp: 2154

Ion	Ratio	Lower	Upper
63	100		
62	74.9	54.2	94.2

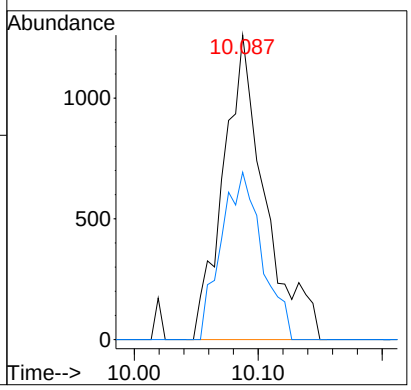


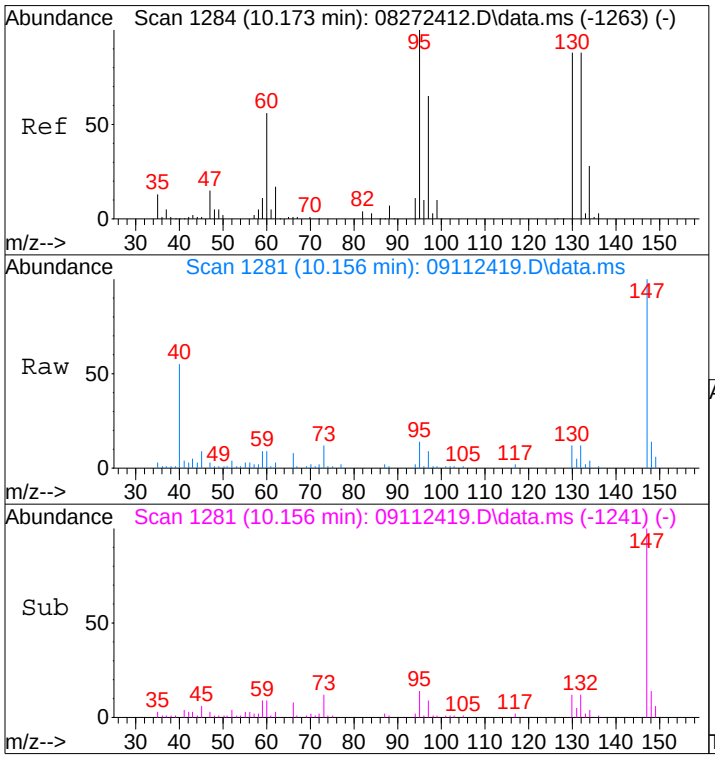


#46
Bromodichloromethane
Concen: 0.14 ng
RT: 10.09 min Scan# 1269
Delta R.T. -0.021 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 83 Resp: 2942

Ion	Ratio	Lower	Upper
83	100		
85	54.1	43.9	83.9

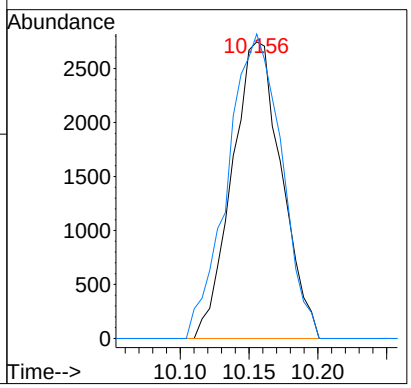


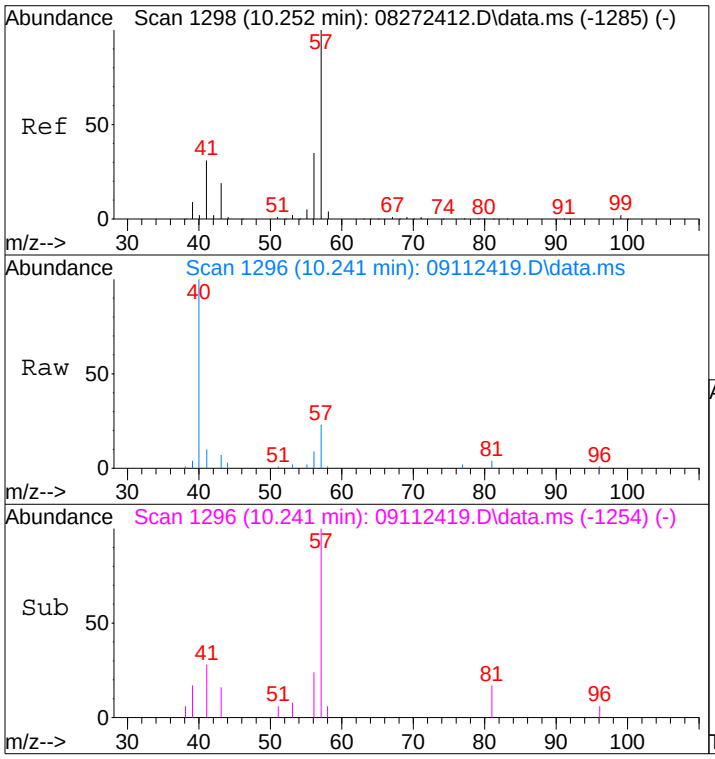


#47
Trichloroethene
Concen: 0.51 ng
RT: 10.16 min Scan# 1281
Delta R.T. -0.021 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:130 Resp: 6884

Ion	Ratio	Lower	Upper
130	100		
132	111.5	80.8	120.8

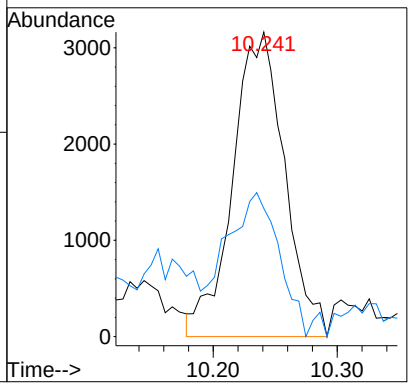


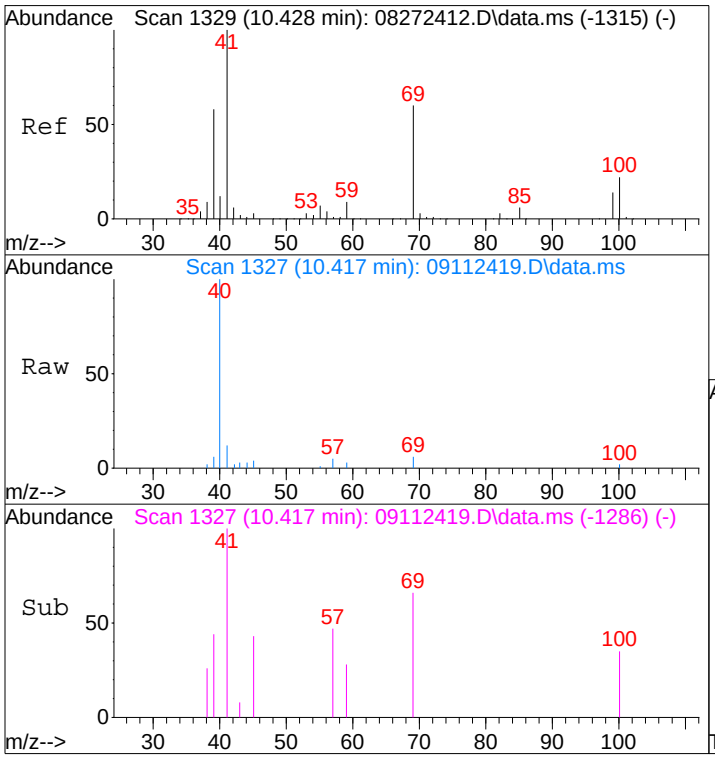


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.14 ng
RT: 10.24 min Scan# 1296
Delta R.T. -0.010 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 57 Resp: 9198

Ion	Ratio	Lower	Upper
57	100		
41	48.9	10.5	50.5

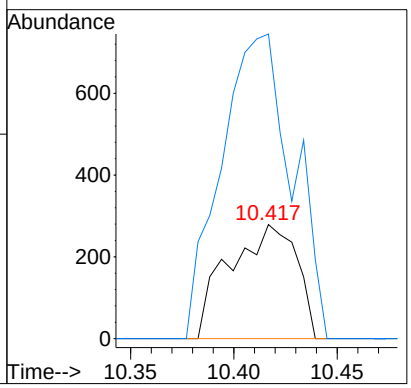


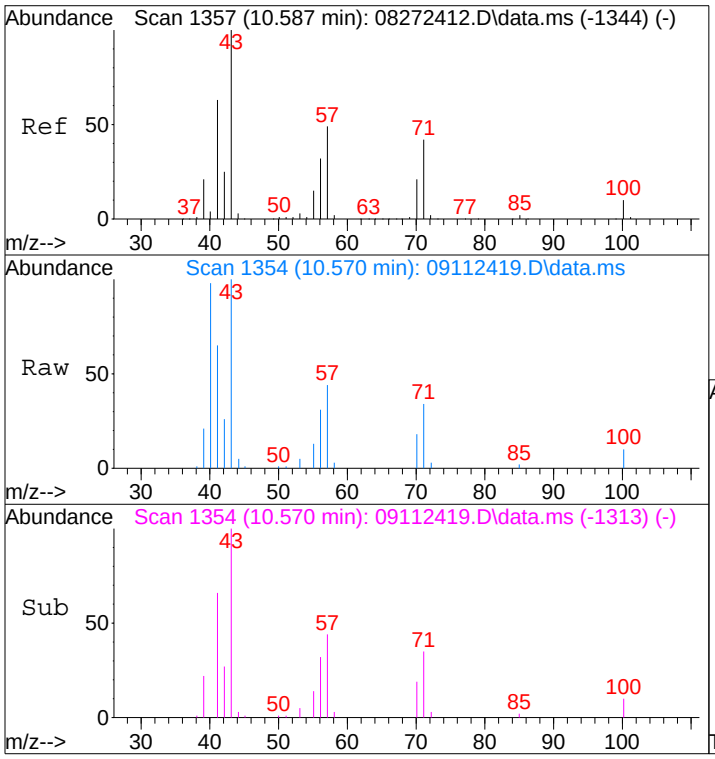


#50
Methyl Methacrylate
Concen: 0.13 ng
RT: 10.42 min Scan# 1327
Delta R.T. -0.015 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:100 Resp: 633

Ion	Ratio	Lower	Upper
100	100		
69	282.6	260.7	300.7

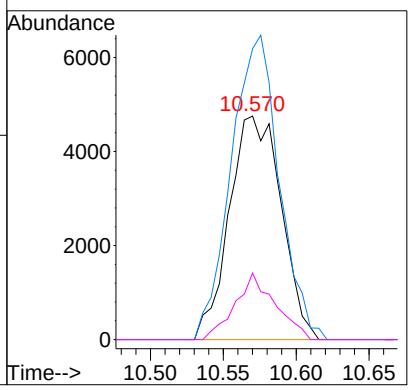


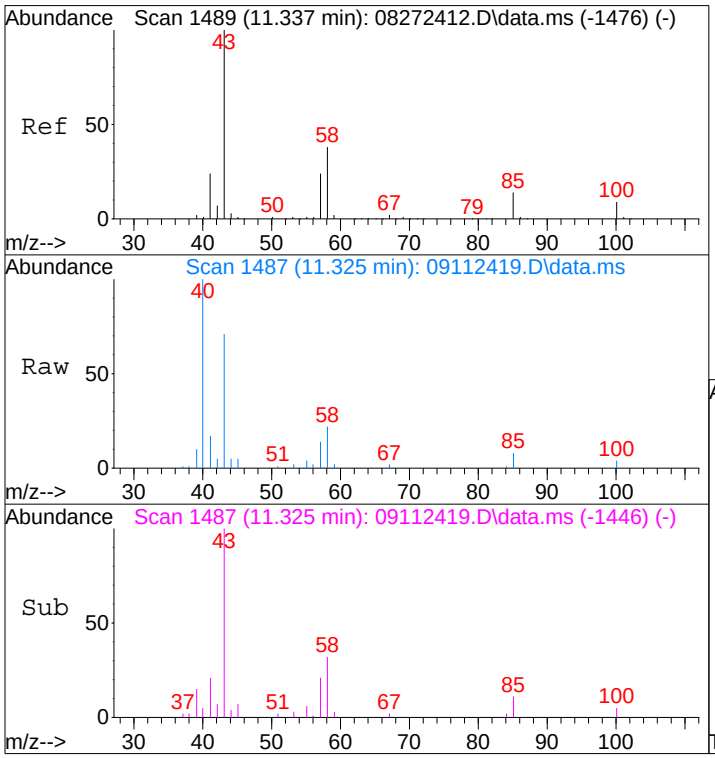


#51
n-Heptane
Concen: 0.97 ng
RT: 10.57 min Scan# 1354
Delta R.T. -0.015 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 71 Resp: 11775

Ion	Ratio	Lower	Upper
71	100		
57	126.0	97.1	137.1
100	23.0	5.0	45.0

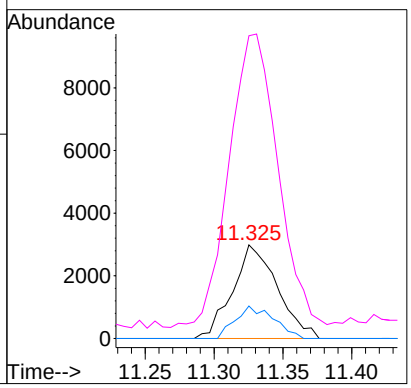


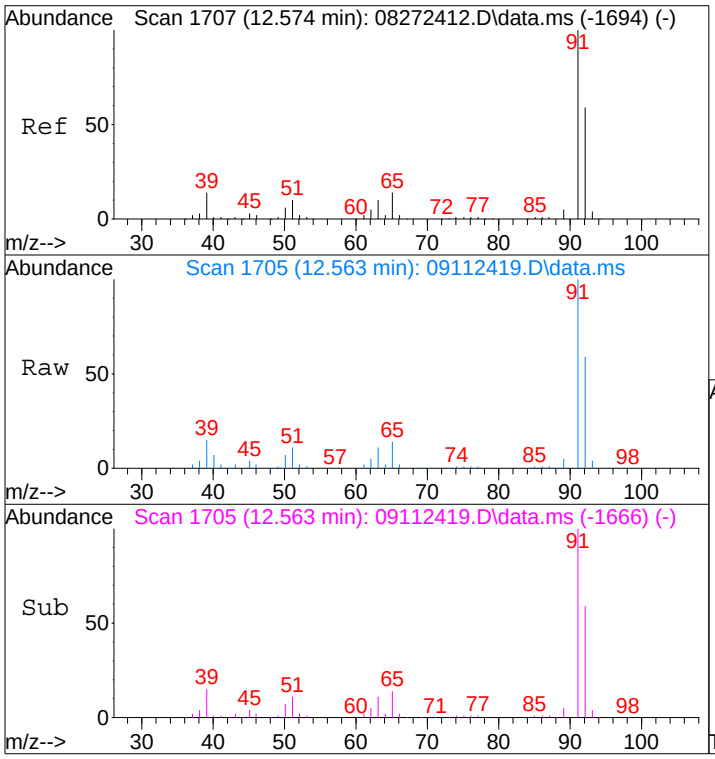


#53
4-Methyl-2-pentanone
Concen: 0.47 ng
RT: 11.33 min Scan# 1487
Delta R.T. -0.019 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 58 Resp: 6747

Ion	Ratio	Lower	Upper
58	100		
85	29.7	30.2	45.2#
43	358.9	215.1	322.7#

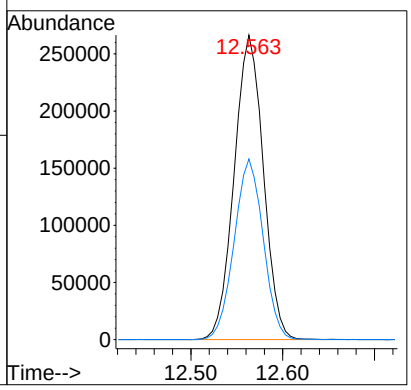


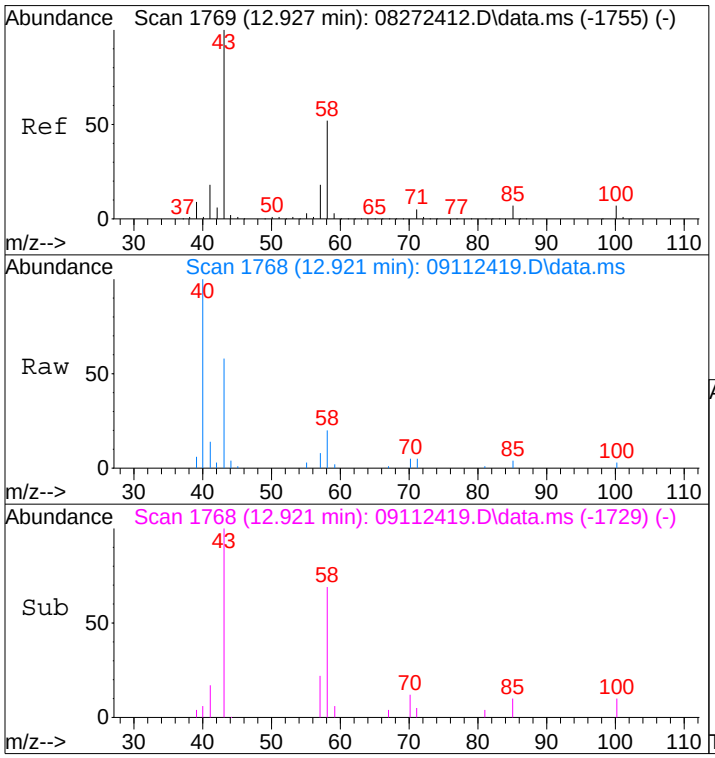


#58
Toluene
Concen: 8.99 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 91 Resp: 589108

Ion	Ratio	Lower	Upper
91	100		
92	59.0	38.5	78.5

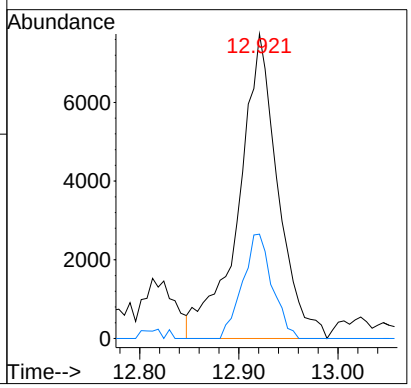


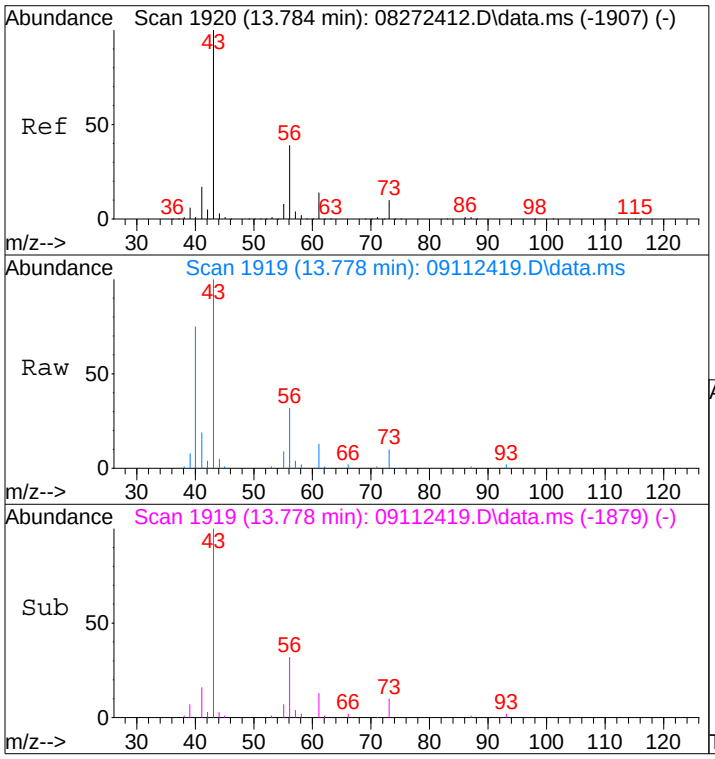


#59
2-Hexanone
Concen: 0.52 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 43 Resp: 21302

Ion	Ratio	Lower	Upper
43	100		
58	26.0	31.1	71.1#

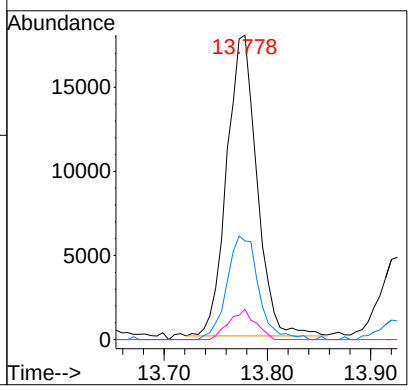


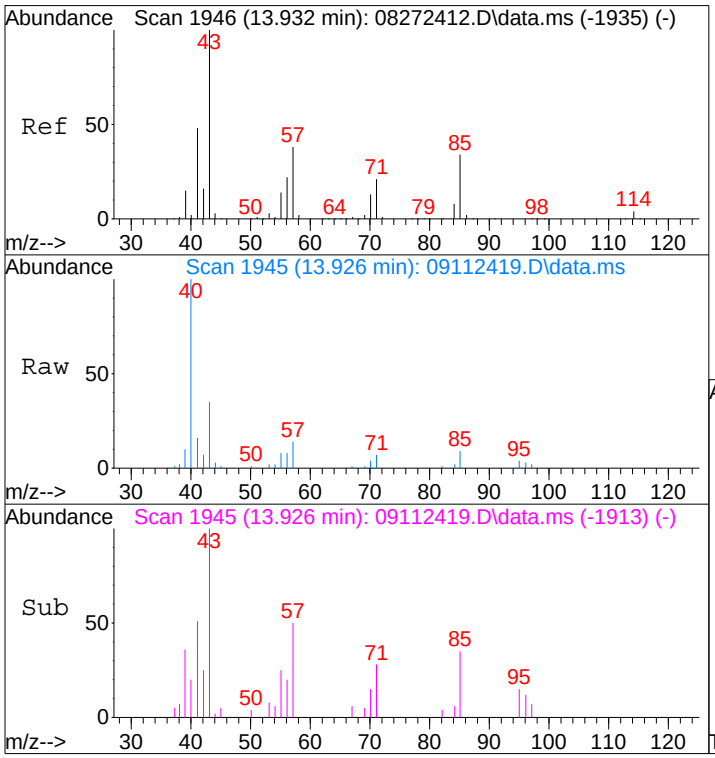


#62
n-Butyl Acetate
Concen: 0.80 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 43 Resp: 36399

Ion	Ratio	Lower	Upper
43	100		
56	35.9	18.2	58.2
73	8.8	0.0	30.1

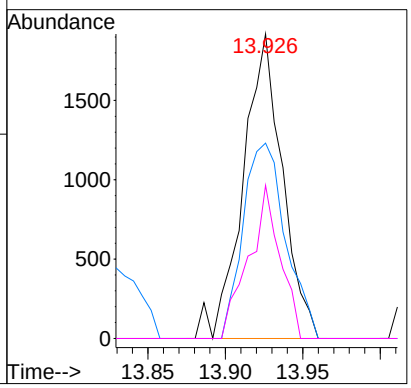


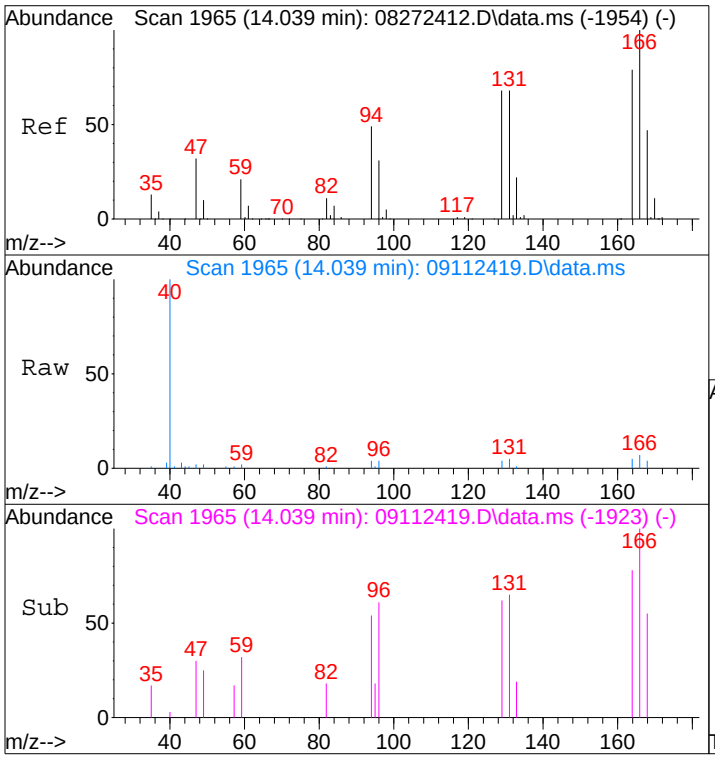


#63
n-Octane
Concen: 0.22 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 57 Resp: 3400

Ion	Ratio	Lower	Upper
57	100		
85	69.4	71.2	106.8#
71	40.2	43.3	64.9#

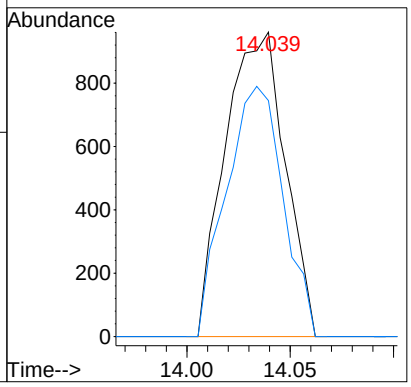


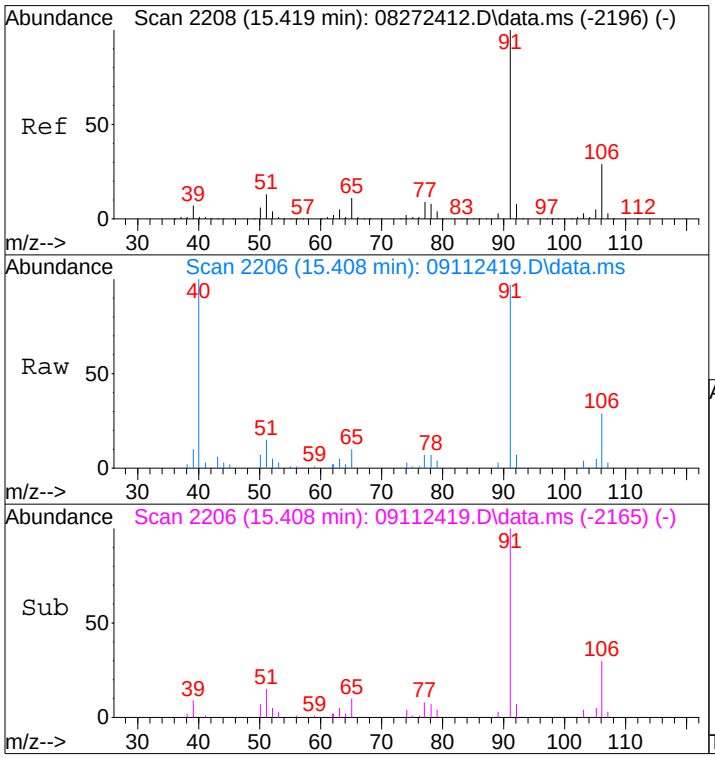


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:166 Resp: 1931

Ion	Ratio	Lower	Upper
166	100		
164	78.2	59.0	99.0

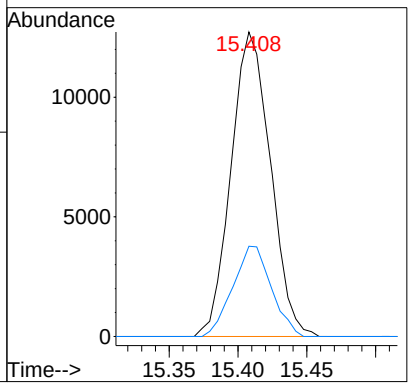


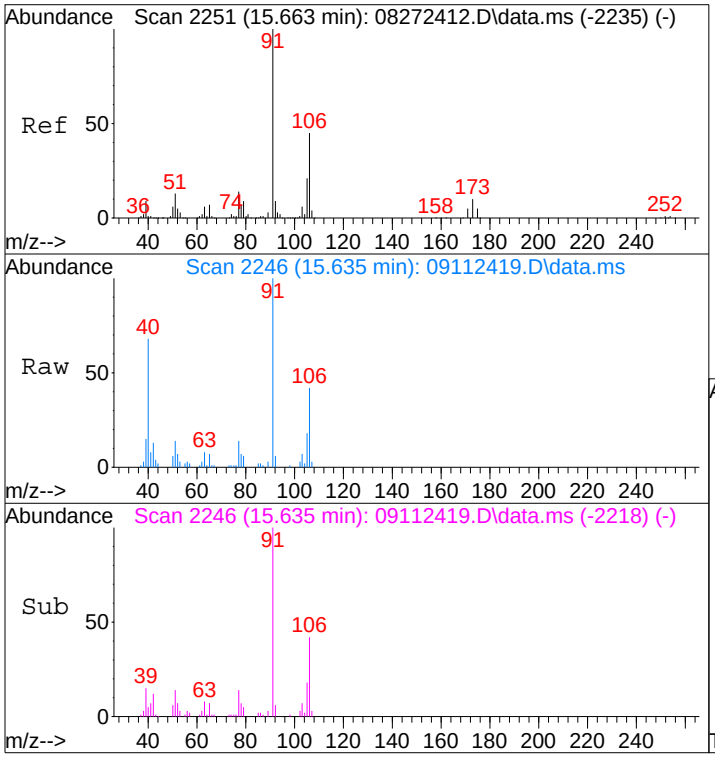


#66
Ethylbenzene
Concen: 0.34 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 91 Resp: 25343

Ion	Ratio	Lower	Upper
91	100		
106	29.0	9.2	49.2

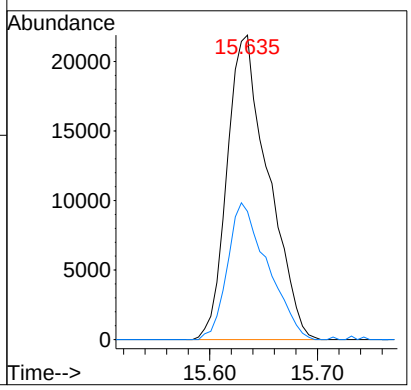


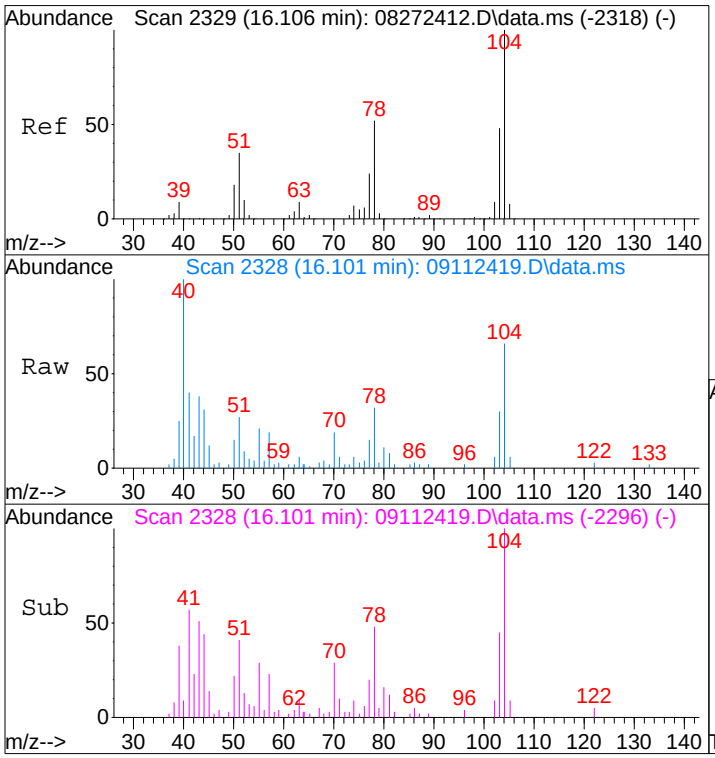


#67
m- & p-Xylenes
Concen: 0.95 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 91 Resp: 58105

Ion	Ratio	Lower	Upper
91	100		
106	43.8	23.8	63.8

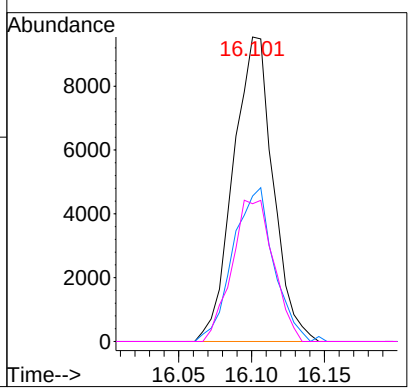


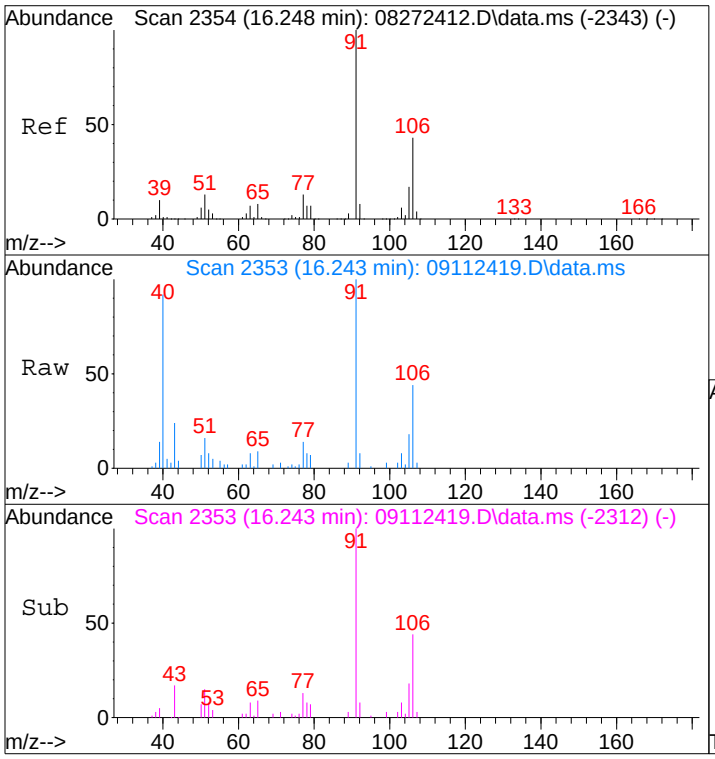


#69
Styrene
Concen: 0.46 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:104 Resp: 18118

Ion	Ratio	Lower	Upper
104	100		
78	52.0	32.2	72.2
103	48.5	28.3	68.3

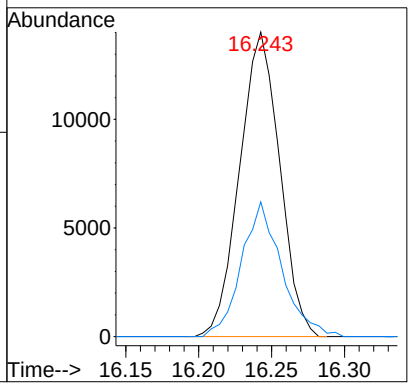


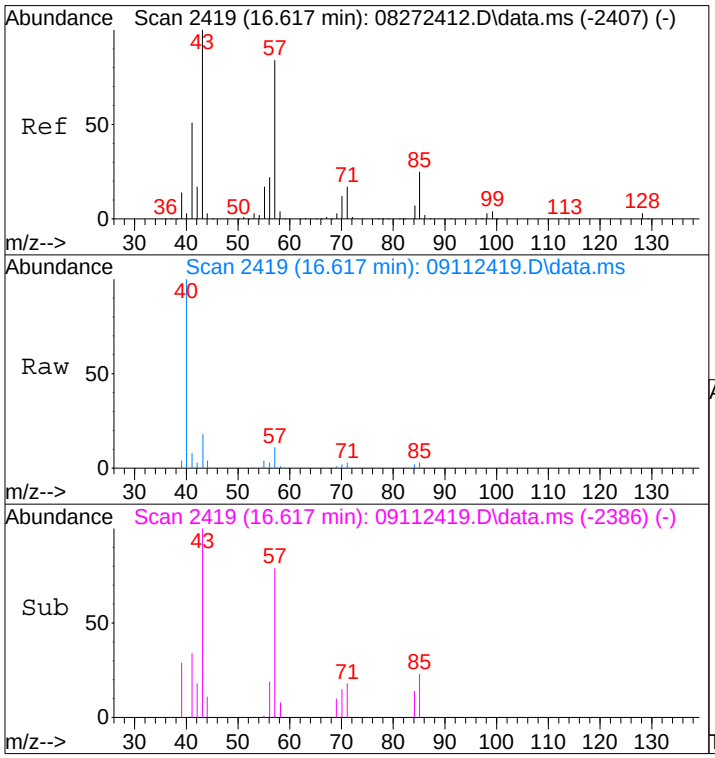


#70
o-Xylene
Concen: 0.45 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 91 Resp: 26745

Ion	Ratio	Lower	Upper
91	100		
106	44.4	22.5	62.5

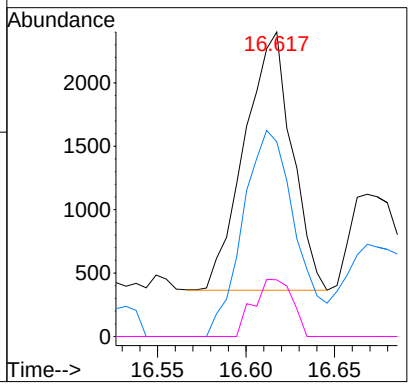


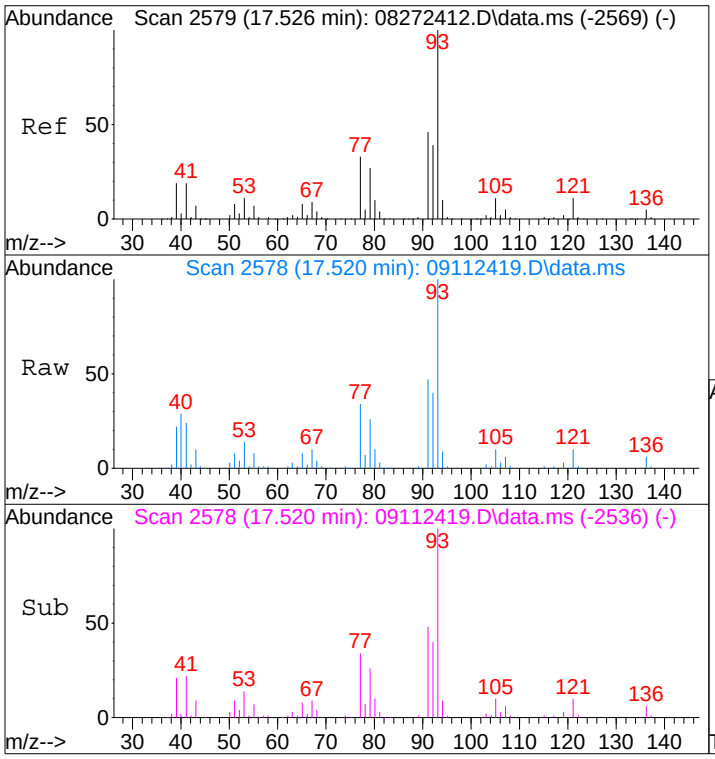


#71
n-Nonane
Concen: 0.10 ng
RT: 16.62 min Scan# 2419
Delta R.T. -0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 43 Resp: 3790

Ion	Ratio	Lower	Upper
43	100		
57	89.2	63.3	103.3
85	18.0	4.5	44.5

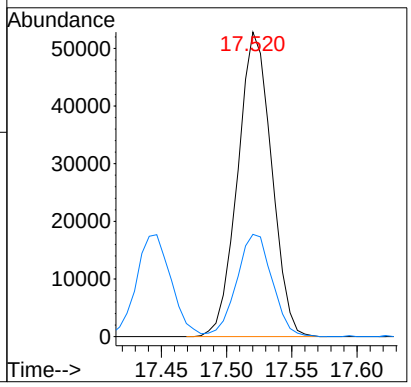


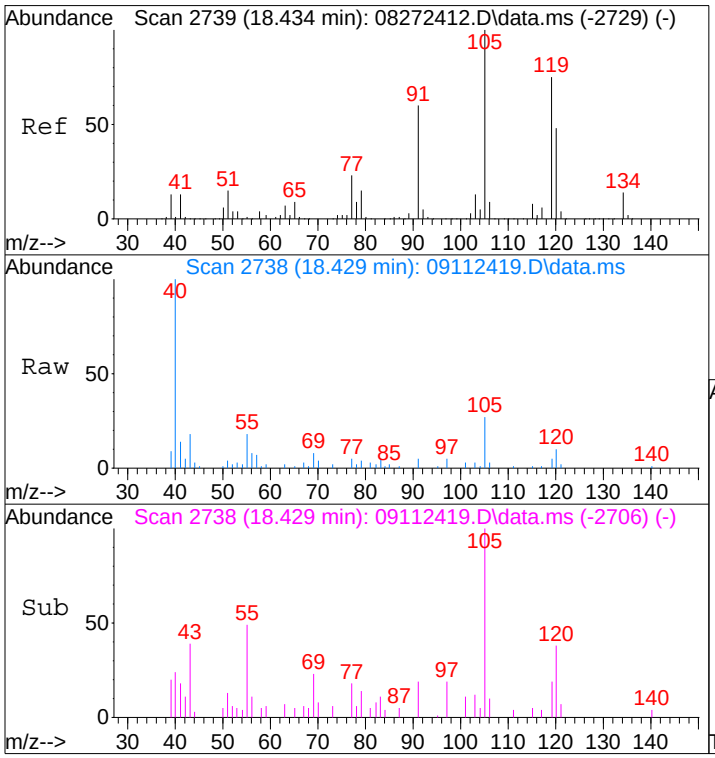


#75
alpha-Pinene
Concen: 2.65 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 93 Resp: 95492

Ion	Ratio	Lower	Upper
93	100		
77	35.2	13.1	53.1

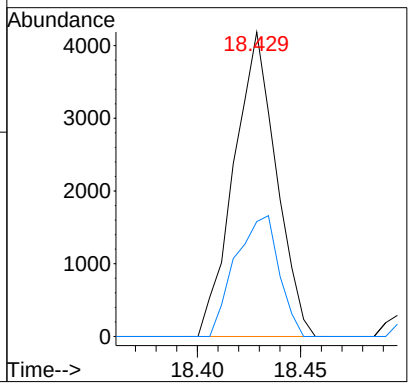


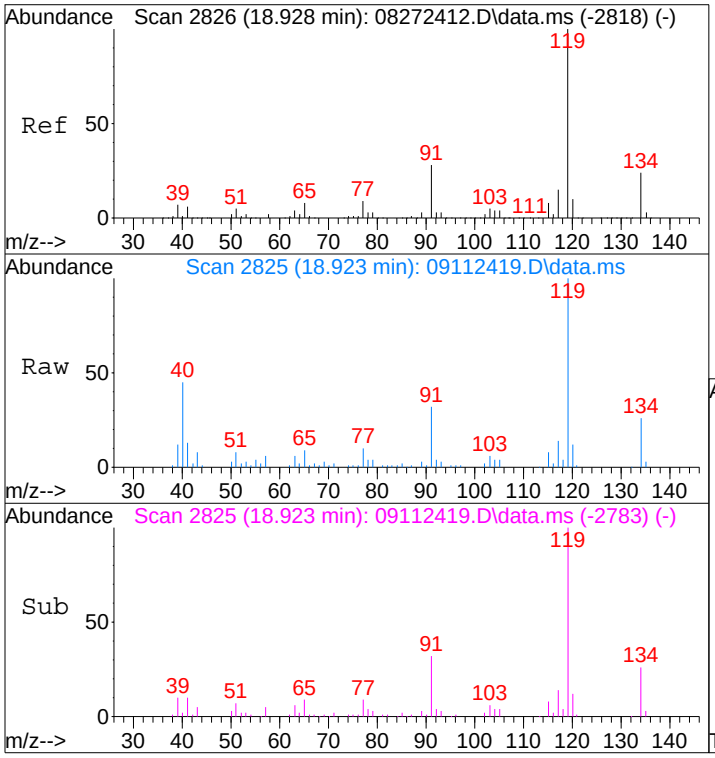


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:105 Resp: 5967

Ion	Ratio	Lower	Upper
105	100		
120	40.8	28.8	68.8

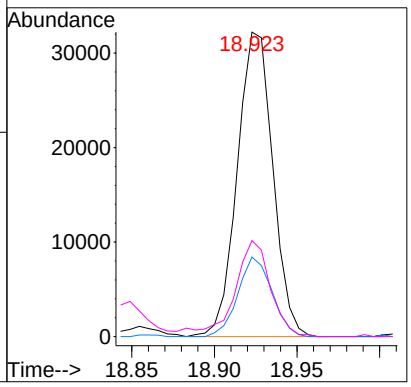


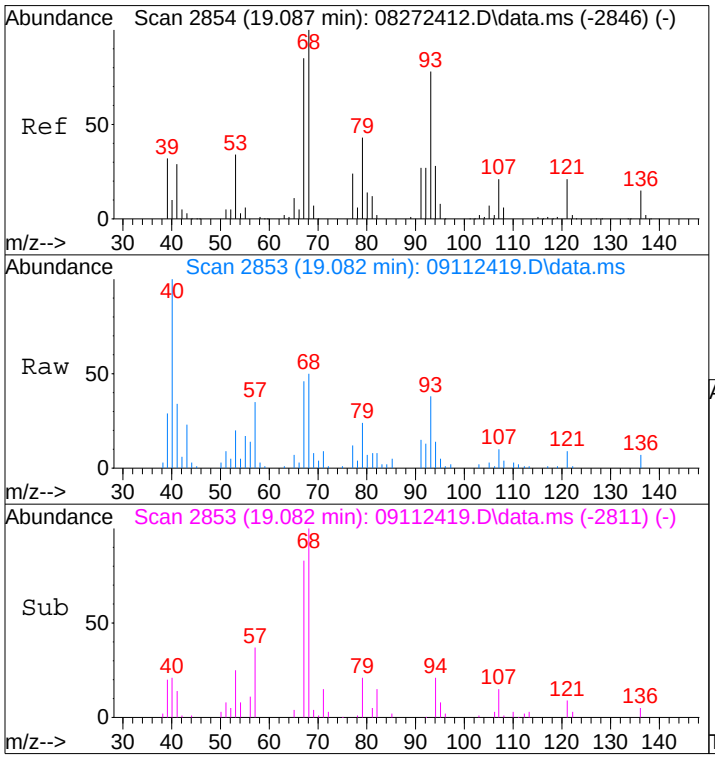


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.71 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion:119 Resp: 48257

Ion	Ratio	Lower	Upper
119	100		
134	25.0	4.7	44.7
91	31.9	8.1	48.1

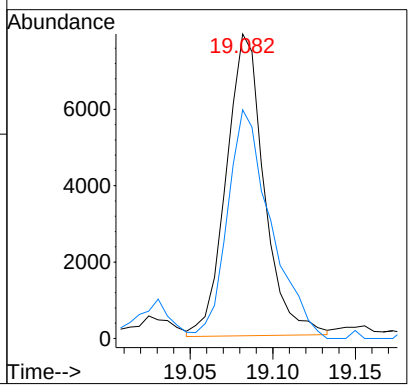




#91
d-Limonene
Concen: 0.61 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09112419.D
Acq: 11 Sep 2024 19:34

Tgt Ion: 68 Resp: 12622

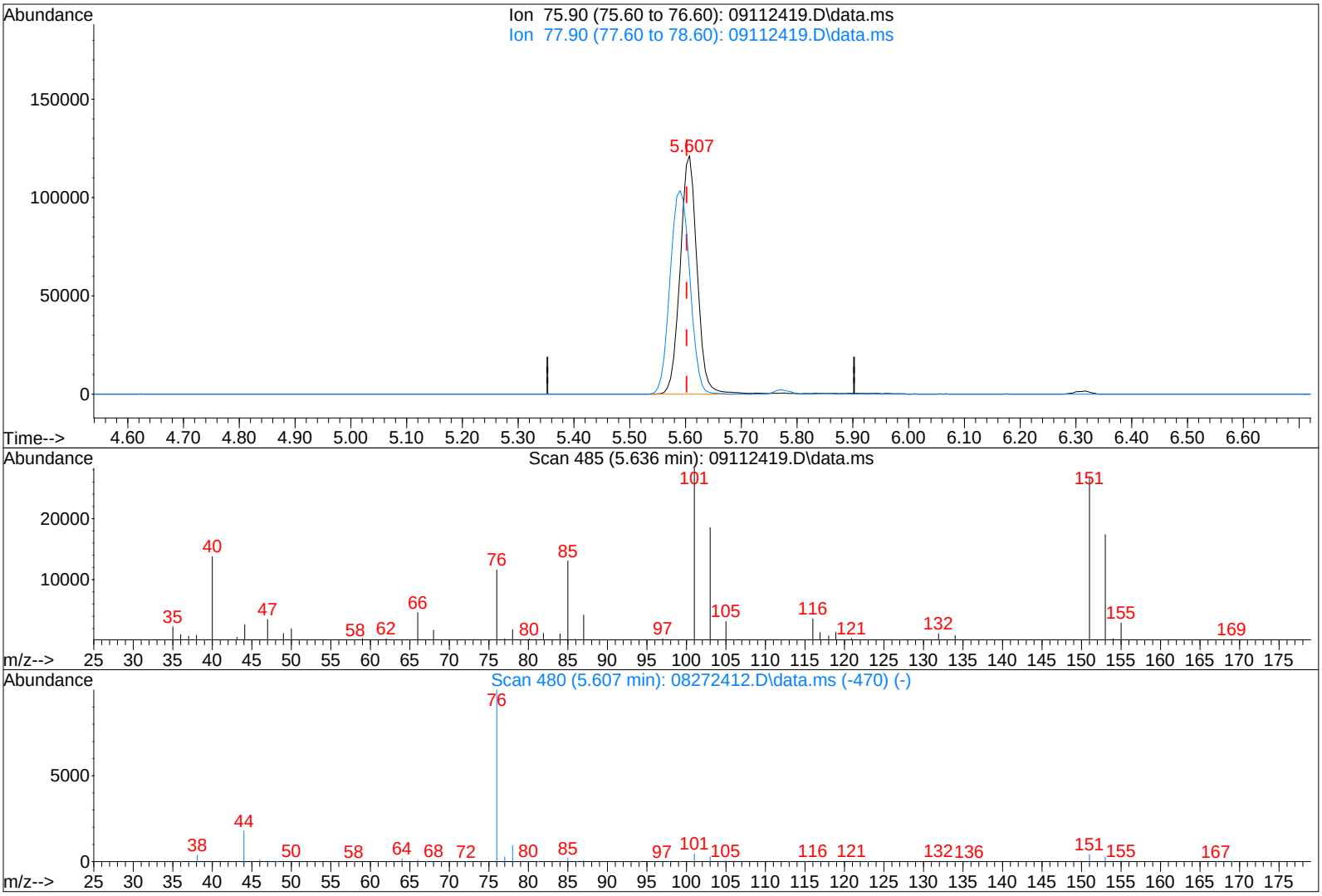
Ion	Ratio	Lower	Upper
68	100		
93	86.4	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:56:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112419.D\data.ms

(22) Carbon Disulfide (T)

5.607min (+0.005) 5.46ng

response 255736

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	99.75#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:44:27 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

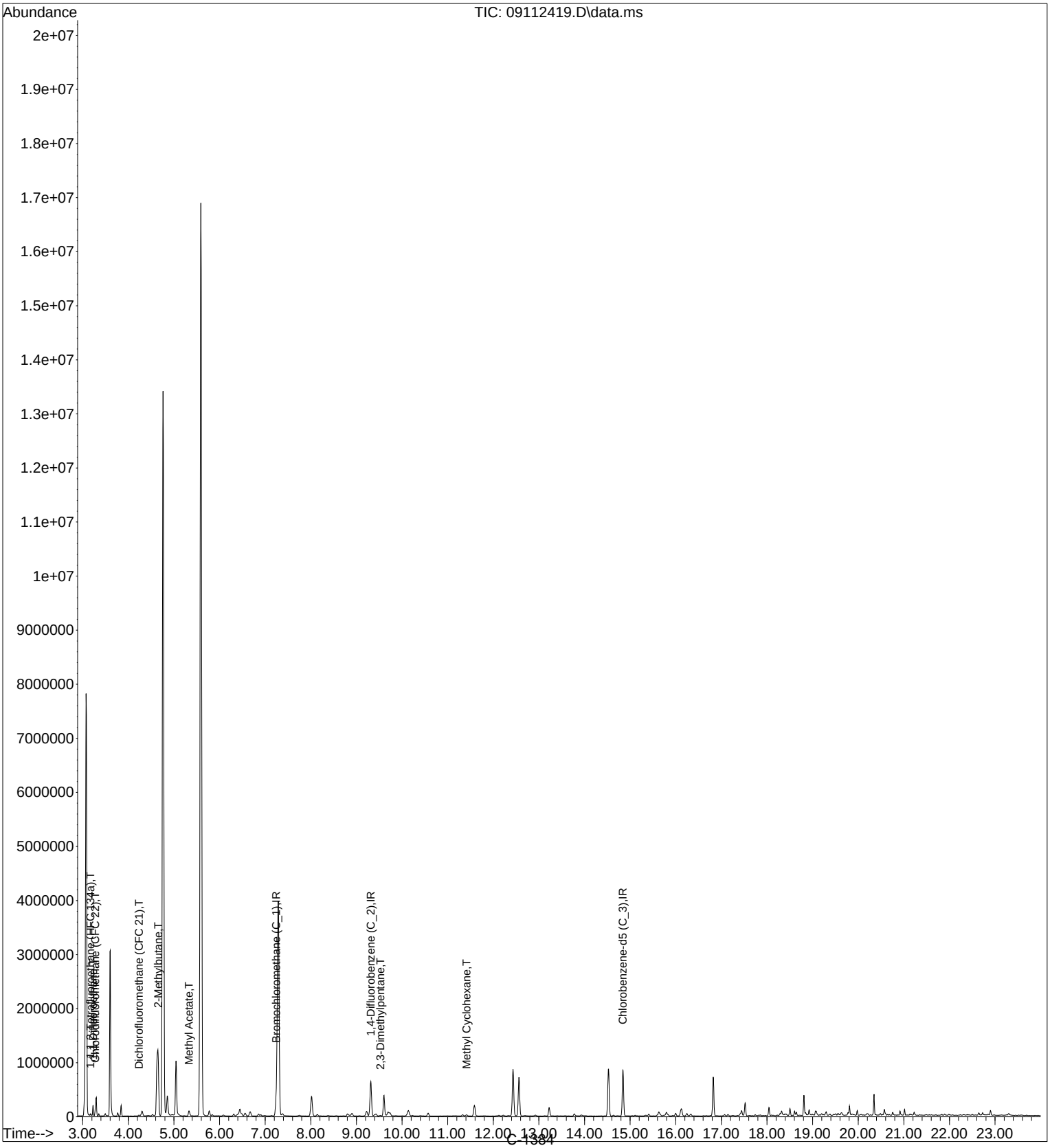
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	130906	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C 2)	9.32	114	582758	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	172887	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	168	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	14916	1.110	ng	#	59
4) 1,1-Difluoroethane	3.23	65	44559	3.899	ng		95
5) Chlorodifluoromethane ...	3.27	67	1981	0.444	ng		92
6) 1-Chloro-1,1-Difluoroe...	3.49	65	674	N.D.			
7) Dichlorofluoromethane ...	4.23	67	13192	0.439	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.62	83	1591	N.D.			
10) 2-Methylbutane	4.65	57	286018	18.319	ng		89
11) Methyl Acetate	5.33	43	116462	2.640	ng	#	86
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.08	84	593	N.D.			
17) 2,3-Dimethylpentane	9.53	56	6928	0.246	ng		90
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.42	55	10027	0.338	ng	#	84
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	17.11	77	54	N.D.			
26) 2-Chlorotoluene	17.60	91	373	N.D.			
27) 4-Chlorotoluene	17.68	91	3252	N.D.			
28) Indane	19.11	117	828	N.D.			
29) Indene	19.20	115	107	N.D.			
30) 1,2,4,5-Tetramethylben...	20.17	119	641	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	1227	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	1828	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

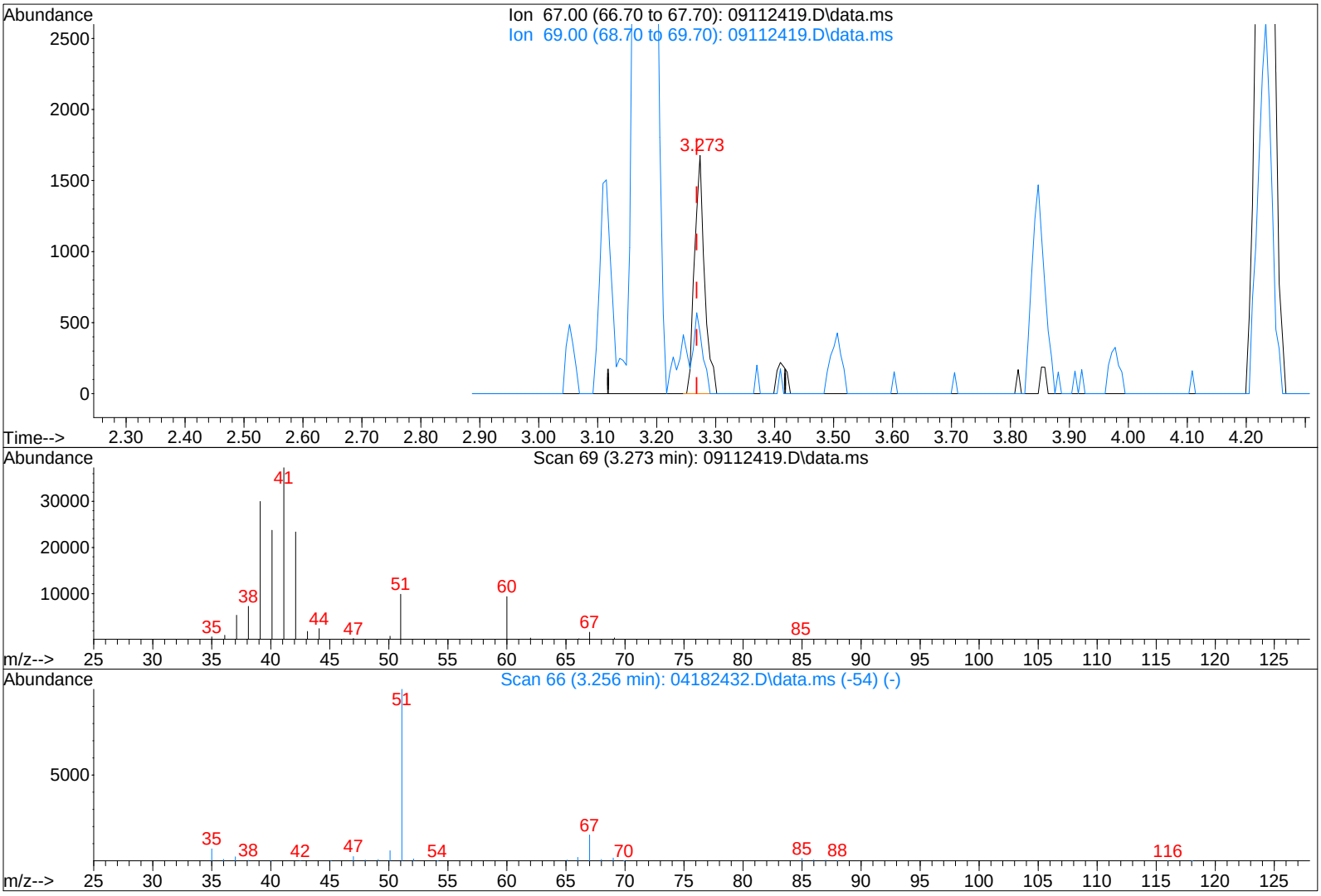
Quant Time: Sep 12 14:44:27 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:43:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112419.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.273min (+0.006) 0.44ng

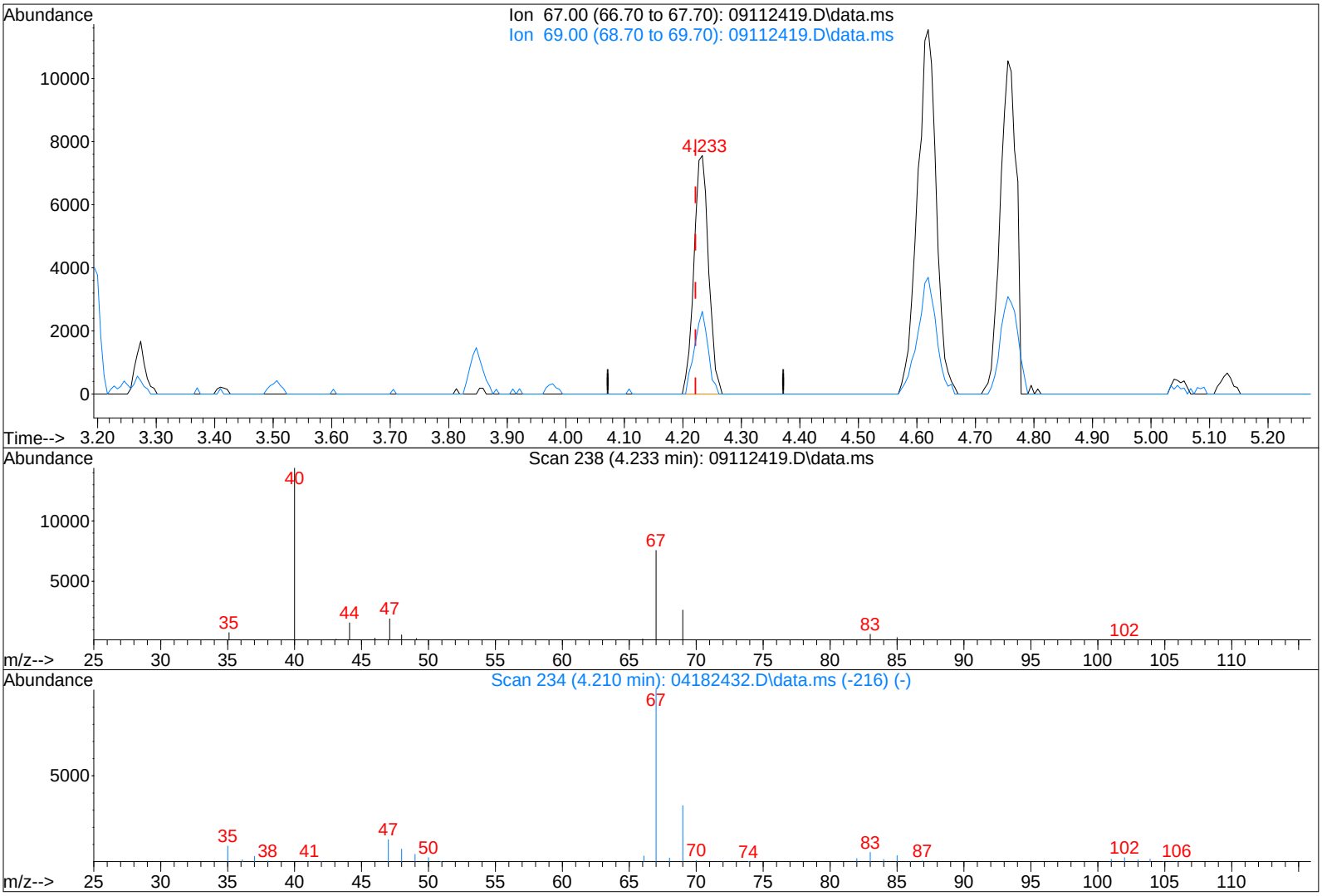
response 1981

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	29.63
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112419.D Vial: 7
Acq On : 11 Sep 2024 19:34 Operator: SC
Sample : P2403661-039 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:43:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112419.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 0.44ng

response 13192

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.94
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 15:02:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	151318	12.500 ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	665812	12.500 ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	186422	12.500 ng		-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	357190	12.615 ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
57) Toluene-d8 (SS2)	12.43	98	764326	11.687 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.52%			
73) Bromofluorobenzene (SS3)	16.82	174	250127	11.436 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.37	85	2012m	0.055 ng		
4) Chloromethane	3.52	50	1696	0.059 ng		92
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	18742	1.141 ng		82
11) Acetonitrile	4.44	41	1559	N.D.		
12) Acrolein	4.54	56	1405	0.112 ng		93
13) Acetone	4.64	58	34135	2.463 ng	#	67
14) Trichlorofluoromethane	4.75	101	1316298	37.564 ng		99
15) 2-Propanol (Isopropanol)	4.85	45	75192	1.378 ng		93
16) Acrylonitrile	5.05	53	1216	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.35	59	1767	N.D.		
19) Methylene Chloride	5.35	84	885	0.054 ng		98
20) 3-Chloro-1-propene (Al...	5.45	41	113	N.D.		
21) Trichlorotrifluoroethane	5.58	151	636452	45.846 ng		94
22) Carbon Disulfide	5.60	76	27374	0.506 ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.67	72	2040	0.208 ng	#	44
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	7.28	61	80591	12.235 ng		90
31) n-Hexane	7.31	57	3539	0.118 ng	#	93
32) Chloroform	7.36	83	3186	0.106 ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.84	56	2446	No Calib		
41) Benzene	8.89	78	4990	0.080 ng		96
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.22	84	2797	0.133 ng	#	85
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.85	63	201	N.D.		
46) Bromodichloromethane	10.08	83	135	N.D.		
47) Trichloroethene	10.16	130	713	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.23	57	457	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 15:02:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

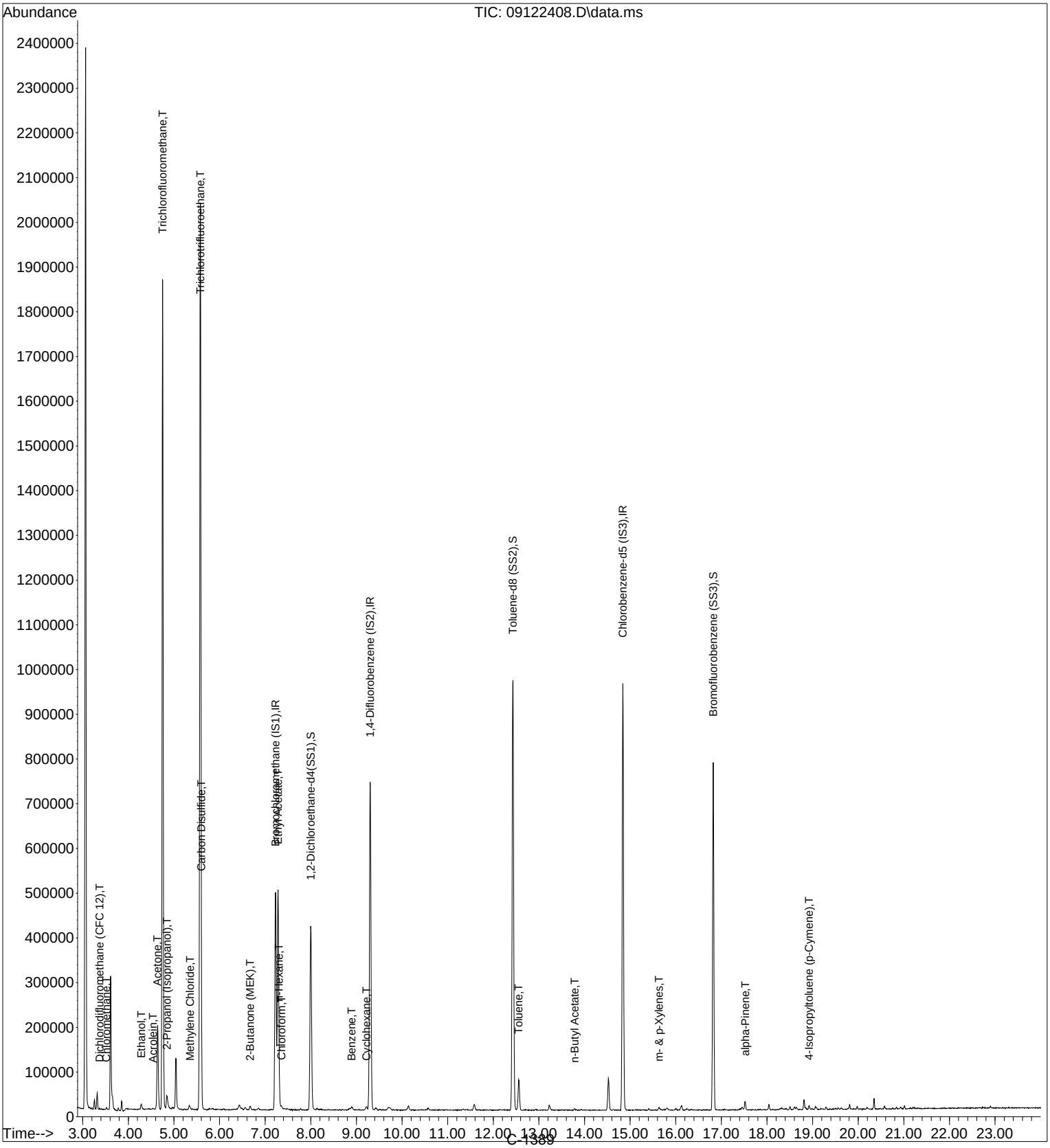
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	659	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	58308	0.825 ng		99
59) 2-Hexanone	12.94	43	2010	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	3095	0.063 ng	#	81
63) n-Octane	13.91	57	119	N.D.		
64) Tetrachloroethene	14.03	166	122	N.D.		
65) Chlorobenzene	14.90	112	442	N.D.		
66) Ethylbenzene	15.41	91	2877	N.D.		
67) m- & p-Xylenes	15.63	91	5705	0.086 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	1445	N.D.		
70) o-Xylene	16.24	91	2787	N.D.		
71) n-Nonane	16.61	43	613	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	438	N.D.		
75) alpha-Pinene	17.53	93	8301	0.213 ng		96
76) n-Propylbenzene	17.67	91	894	N.D.		
77) 3-Ethyltoluene	17.03	105	438	No Calib	#	
78) 4-Ethyltoluene	17.86	105	706	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	341	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	438	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.42	105	784	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	236	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	427	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	544	N.D.		
87) sec-Butylbenzene	18.74	105	369	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	4515	0.062 ng		93
89) 1,2,3-Trimethylbenzene	17.03	105	438	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	516	N.D.		
91) d-Limonene	19.08	68	759	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.05	58	202	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	1312	N.D.		
95) Naphthalene	20.94	128	1910	N.D.		
96) n-Dodecane	18.92	58	112	No Calib	#	
97) Hexachlorobutadiene	21.30	225	340	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	264	N.D.		
100) n-Butylbenzene	19.39	91	628	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

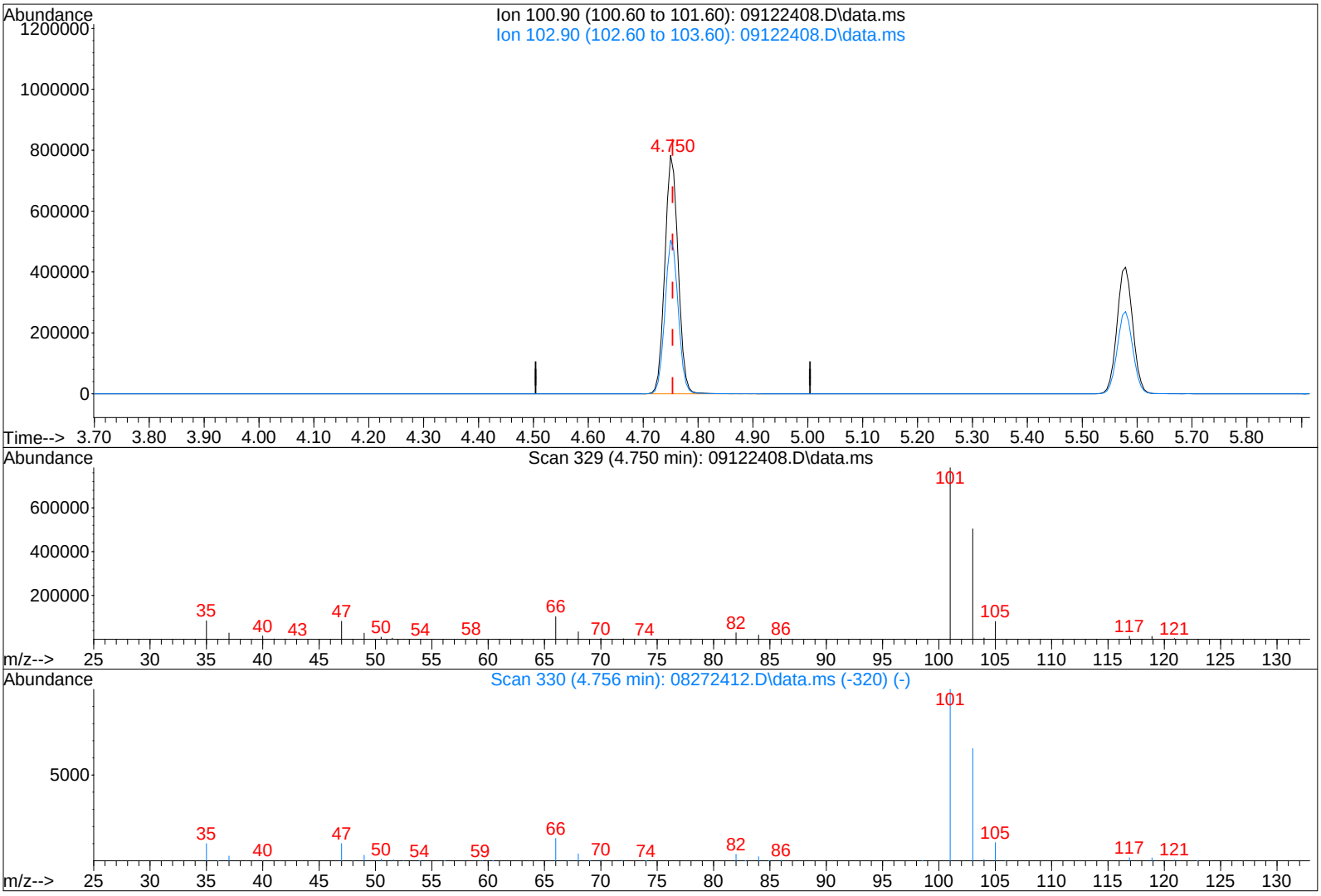
Quant Time: Sep 12 15:02:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:59:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122408.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 37.56ng

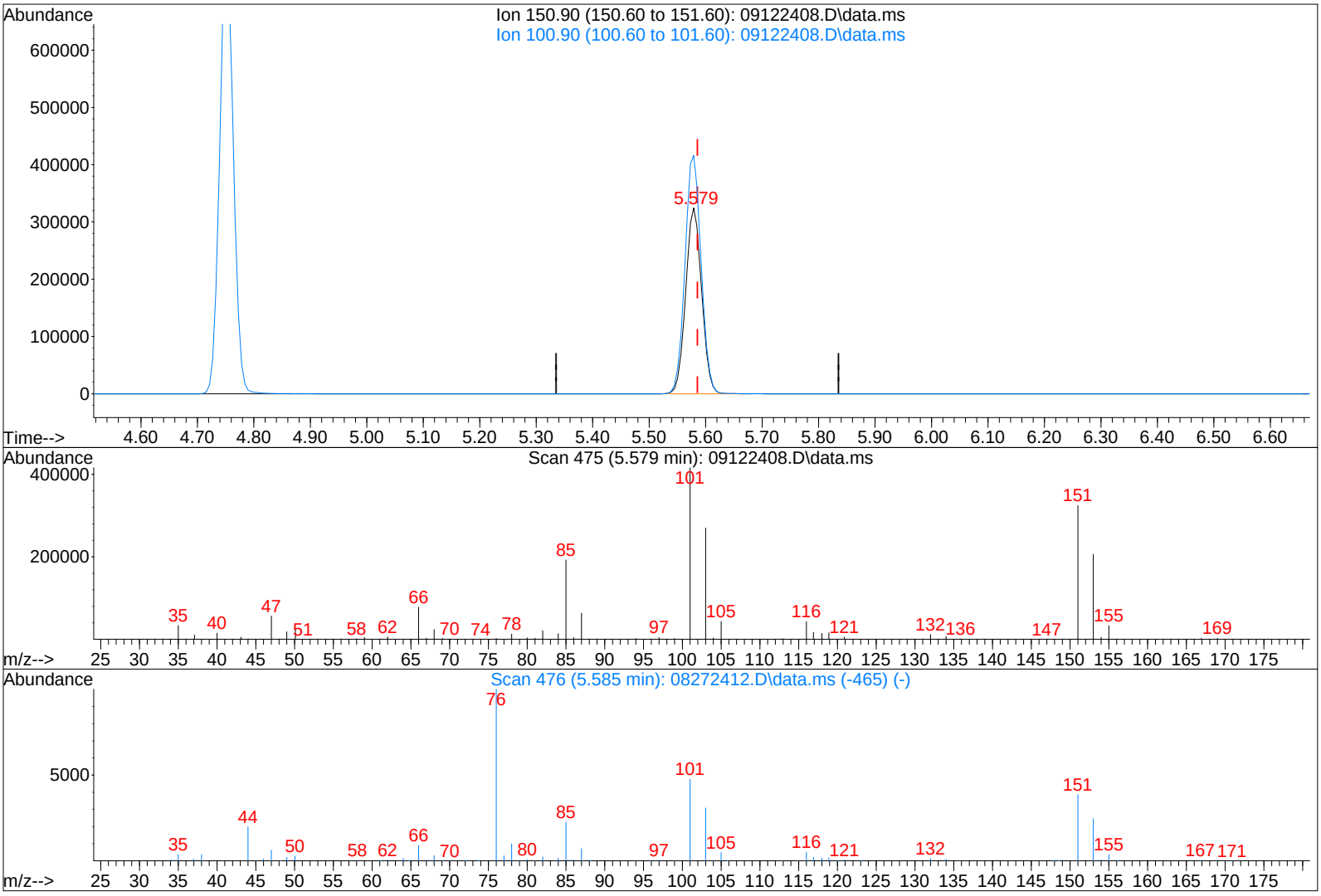
response 1316298

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.45
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:59:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122408.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.007) 45.85ng

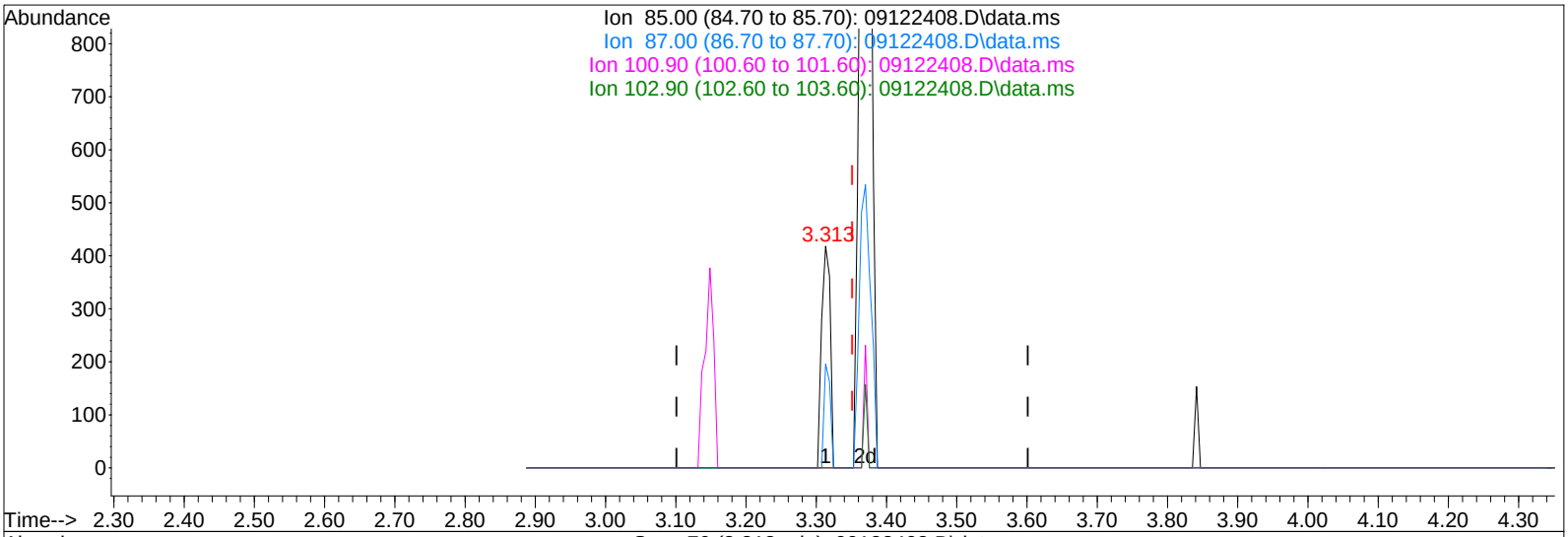
response 636452

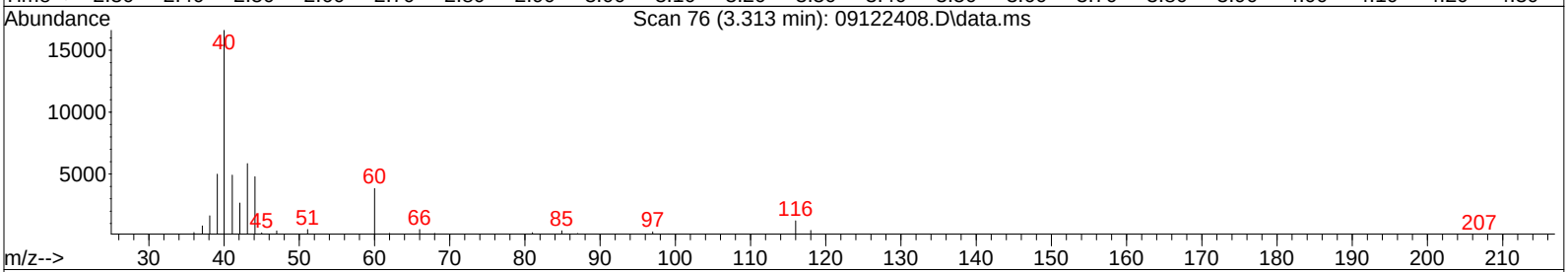
Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.68
0.00	0.00	0.00
0.00	0.00	0.00

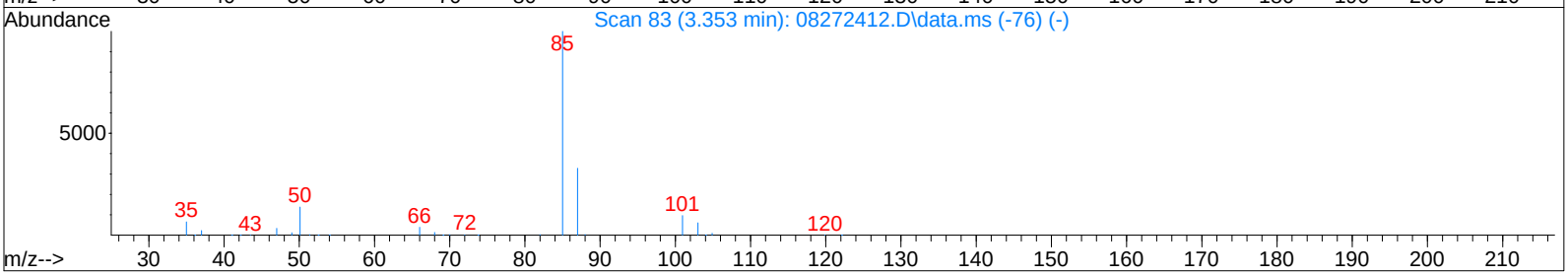
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:59:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09122408.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.038) 0.01ng

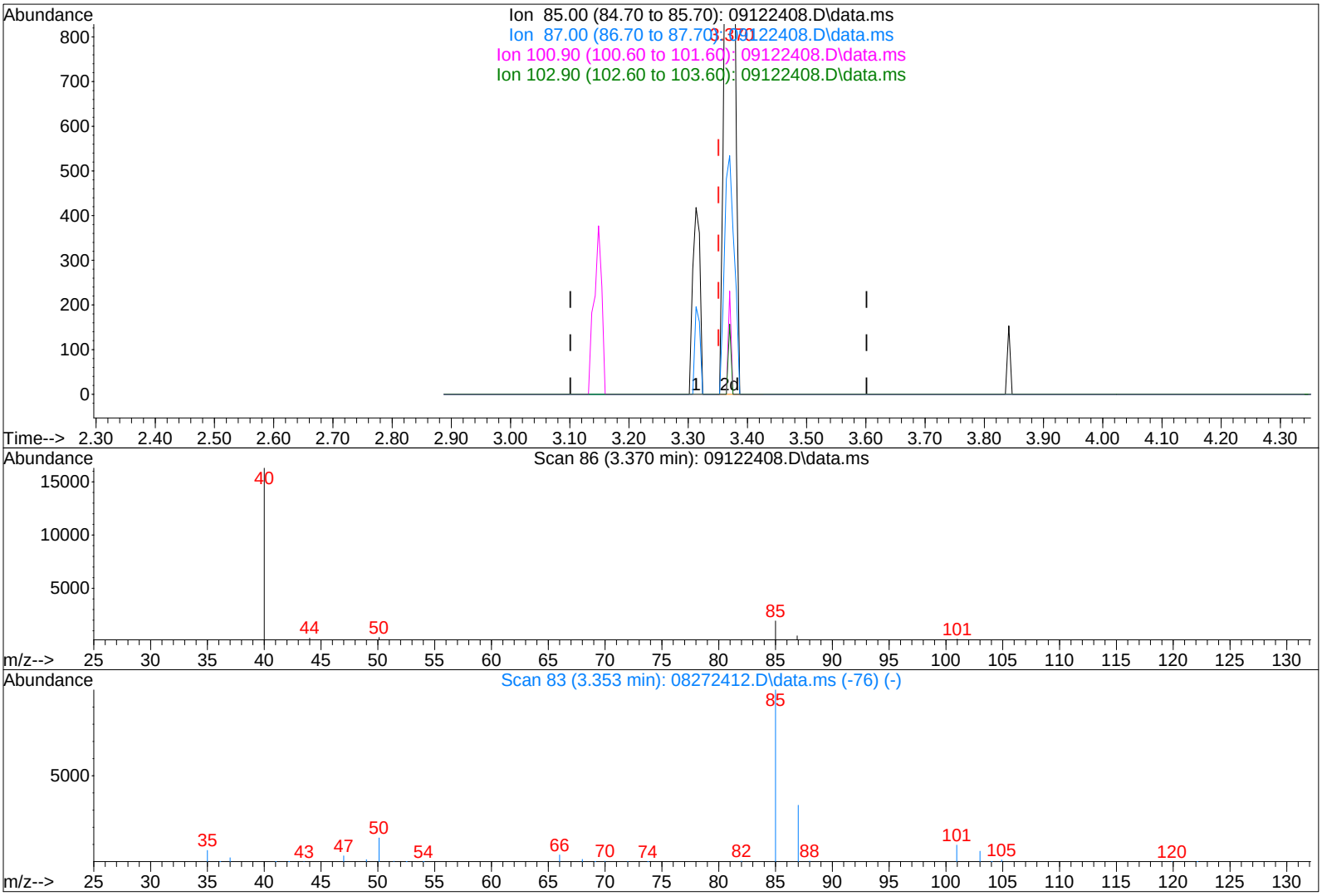
response 361

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	33.80
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122408.D Vial: 7
Acq On : 12 Sep 2024 14:32 Operator: SC
Sample : P2403661-039Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:59:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122408.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.019) 0.05ng m

response 2012

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	6.06#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/12/24

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112419.D
Acq On : 11 Sep 2024 19:34
Operator : SC
Sample : P2403661-039 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112419.D\data.ms

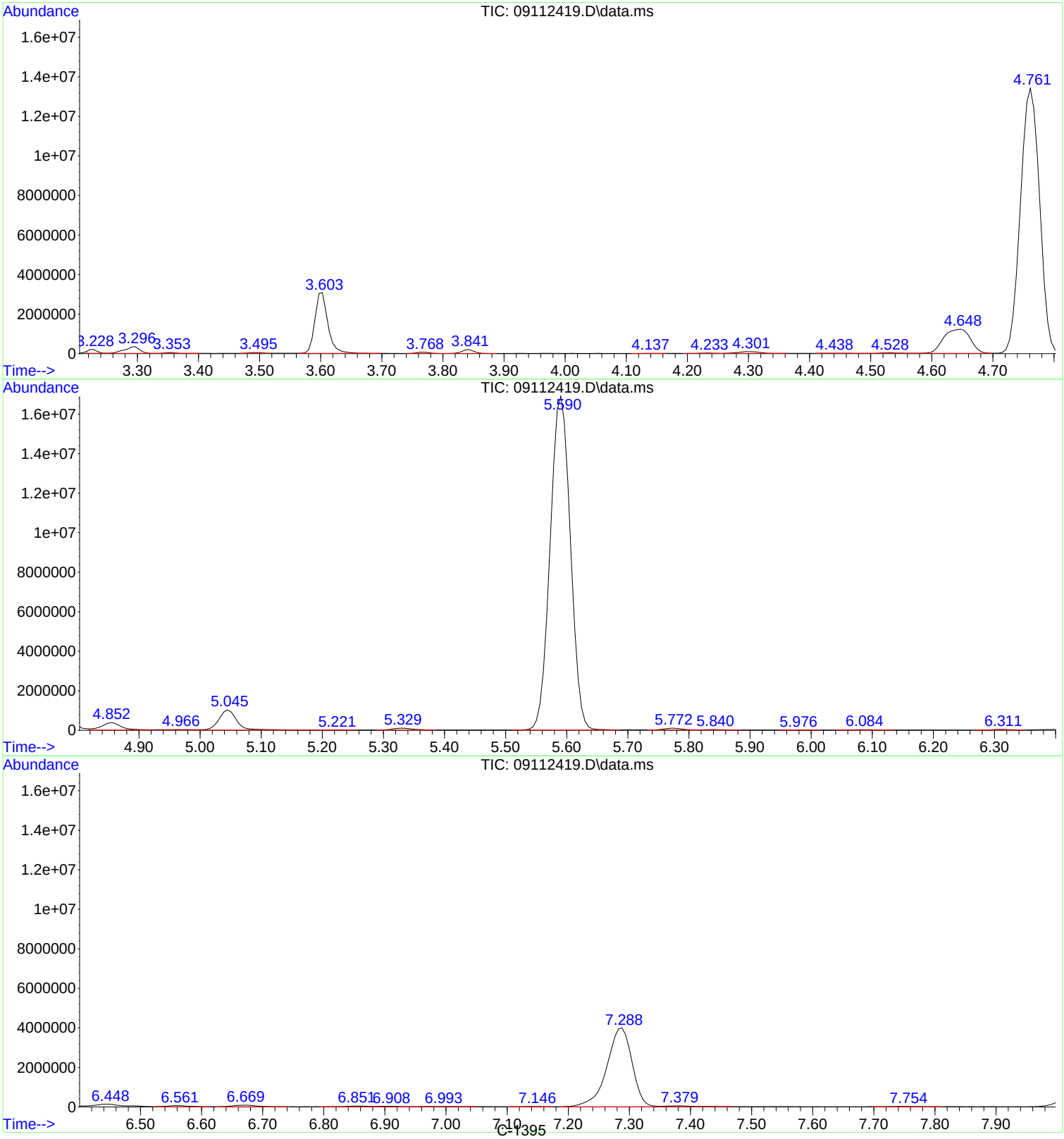
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	65	rVB	189978	175138	0.45%	0.186%
2	3.296	65	73	79	rVB4	338721	574975	1.48%	0.612%
3	3.353	79	83	92	rVB	36489	41656	0.11%	0.044%
4	3.495	103	108	112	rBV2	40606	60713	0.16%	0.065%
5	3.603	120	127	144	rVB	3062007	4538947	11.68%	4.829%
6	3.768	151	156	162	rBV	60094	84412	0.22%	0.090%
7	3.841	162	169	177	rVB	195522	259525	0.67%	0.276%
8	4.137	216	221	226	rBV2	5082	11729	0.03%	0.012%
9	4.233	231	238	242	rVV2	17205	33366	0.09%	0.036%
10	4.301	242	250	261	rVB2	89461	209190	0.54%	0.223%
11	4.438	269	274	283	rVB2	8995	22823	0.06%	0.024%
12	4.528	283	290	298	rVV2	24167	56279	0.14%	0.060%
13	4.648	298	311	320	rVV2	1224440	3712875	9.56%	3.950%
14	4.761	320	331	341	rVV	13405532	29258746	75.32%	31.130%
15	4.852	341	347	360	rVV	369595	828662	2.13%	0.882%
16	4.966	361	367	373	rVV4	24042	85707	0.22%	0.091%
17	5.045	373	381	408	rVV	1017337	2051381	5.28%	2.183%
18	5.221	408	412	418	rVB3	8194	13347	0.03%	0.014%
19	5.329	424	431	441	rBV2	96285	215406	0.55%	0.229%
20	5.590	463	477	494	rBV	16881203	38847273	100.00%	41.332%
21	5.772	502	509	516	rVV	89001	172631	0.44%	0.184%
22	5.840	516	521	529	rVB3	21536	42662	0.11%	0.045%
23	5.976	540	545	552	rVB5	7169	15077	0.04%	0.016%
24	6.084	556	564	573	rBV4	18579	46015	0.12%	0.049%
25	6.311	596	604	611	rBV	34570	74031	0.19%	0.079%
26	6.448	611	628	641	rVV	128303	479554	1.23%	0.510%
27	6.561	641	648	657	rVV	53245	136420	0.35%	0.145%
28	6.669	659	667	680	rVB	78636	209798	0.54%	0.223%
29	6.851	689	699	705	rBV	33687	80975	0.21%	0.086%
30	6.908	705	709	716	rVV2	24027	46663	0.12%	0.050%
31	6.993	716	724	734	rVB4	10673	28969	0.07%	0.031%
32	7.146	743	751	756	rBV5	9742	22226	0.06%	0.024%
33	7.288	758	776	787	rBV	3977842	11398584	29.34%	12.128%
34	7.379	787	792	808	rVB2	40768	112071	0.29%	0.119%
35	7.754	848	858	868	rVB6	13755	40345	0.10%	0.043%

Sum of corrected areas: 93988171

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112419.D
Acq On : 11 Sep 2024 19:34
Operator : SC
Sample : P2403661-039 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112419.D
Acq On : 11 Sep 2024 19:344
Operator : SCC
Sample : P2403661-039 (400mL))
Misc : S37-060624022
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

JOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:38:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	138493	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.30	114	605839	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	175424	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	345450	13.330	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.43	98	693960	11.277	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
73) Bromofluorobenzene (SS3)	16.82	174	226462	11.003	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	2431m	0.072	ng		
4) Chloromethane	3.52	50	284	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	73	N.D.			
11) Acetonitrile	4.45	41	763	N.D.			
12) Acrolein	4.55	56	192	N.D.			
13) Acetone	4.64	58	5279	0.416	ng	#	75
14) Trichlorofluoromethane	4.75	101	6356860	198.209	ng		100
15) 2-Propanol (Isopropanol)	4.92	45	68	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.33	84	527	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	3497090	275.235	ng		94
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.68	72	381	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.29	61	1049	0.174	ng		96
31) n-Hexane	7.30	57	193	N.D.			
32) Chloroform	7.34	83	8082	0.293	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	391	No Calib		#	
41) Benzene	8.89	78	3104	0.055	ng		91
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.28	84	601	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	224	N.D.			
47) Trichloroethene	10.14	130	1809	0.129	ng		97
48) 1,4-Dioxane	10.13	88	1487	0.152	ng		87
49) 2,2,4-Trimethylpentane...	10.29	57	368	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:38:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

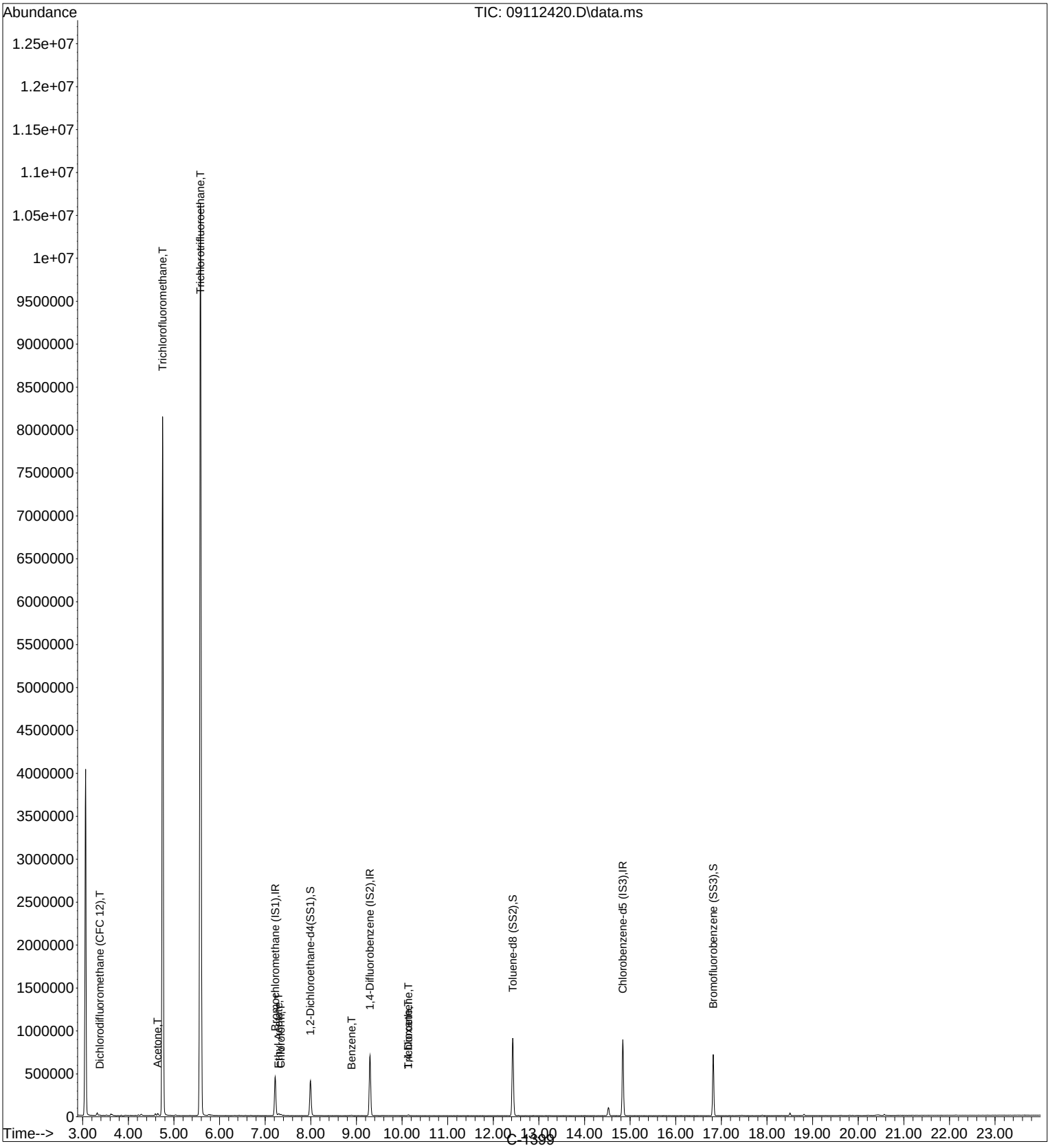
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2560	N.D.	
59) 2-Hexanone	12.93	43	260	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	275	N.D.	
67) m- & p-Xylenes	15.63	91	1208	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	502	N.D.	
71) n-Nonane	16.61	43	168	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	122	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.68	91	393	N.D.	
77) 3-Ethyltoluene	17.03	105	122	No Calib	#
78) 4-Ethyltoluene	17.86	105	122	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	133	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	122	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	256	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.66	146	236	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	236	N.D.	
87) sec-Butylbenzene	18.74	105	103	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	243	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	122	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	114	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	363	N.D.	
95) Naphthalene	20.94	128	577	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	188	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	126	N.D.	
100) n-Butylbenzene	19.39	91	184	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:38:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:38:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

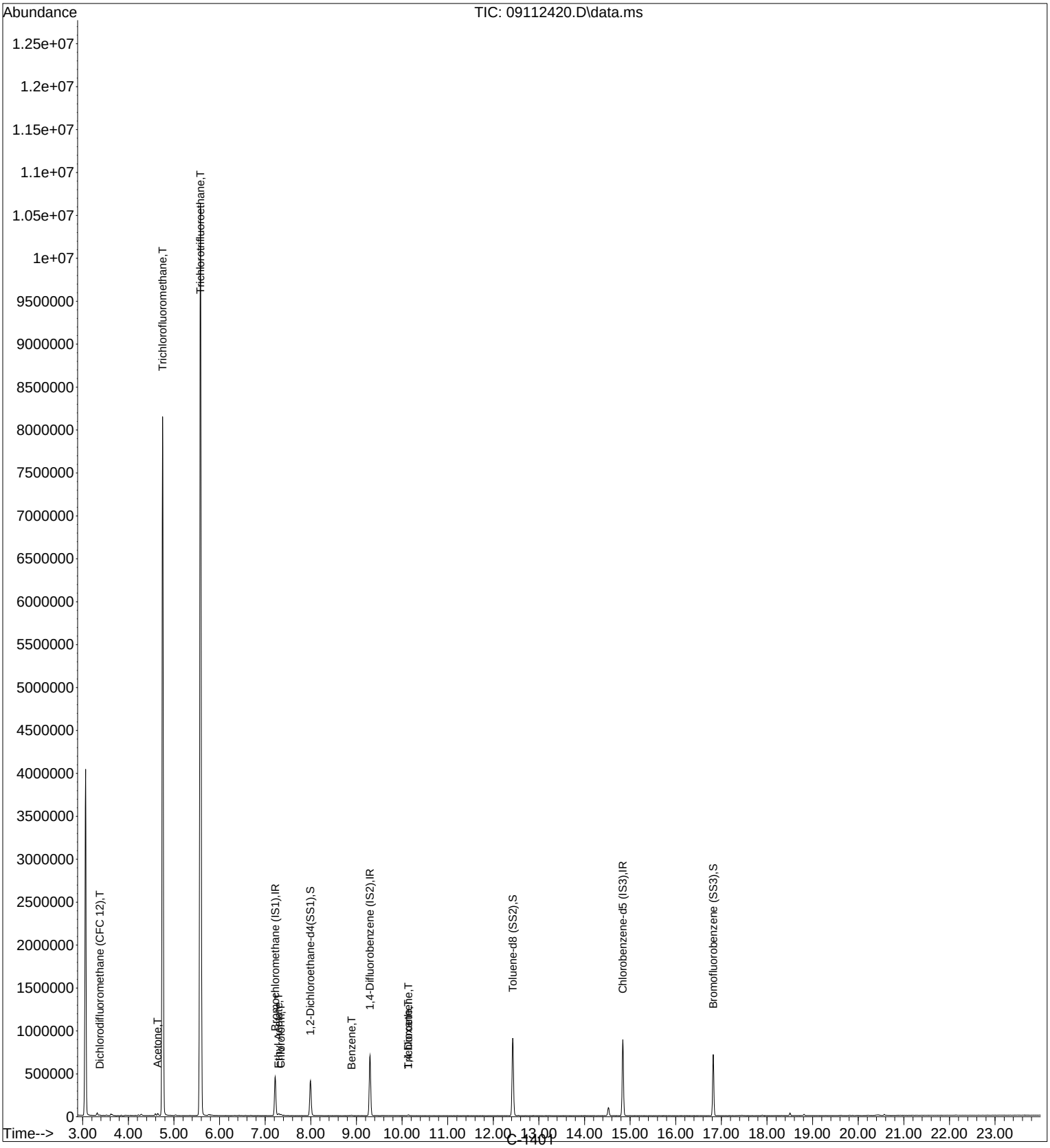
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	138493	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.30	114	605839	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	175424	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	345450	13.330	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.43	98	693960	11.277	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
73) Bromofluorobenzene (SS3)	16.82	174	226462	11.003	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	2431m	0.072	ng		
13) Acetone	4.64	58	5279	0.416	ng	#	75
14) Trichlorofluoromethane	4.75	101	6356860	198.209	ng		100
21) Trichlorotrifluoroethane	5.58	151	3497090	275.235	ng		94
30) Ethyl Acetate	7.29	61	1049	0.174	ng		96
32) Chloroform	7.34	83	8082	0.293	ng		98
41) Benzene	8.89	78	3104	0.055	ng		91
47) Trichloroethene	10.14	130	1809	0.129	ng		97
48) 1,4-Dioxane	10.13	88	1487	0.152	ng		87

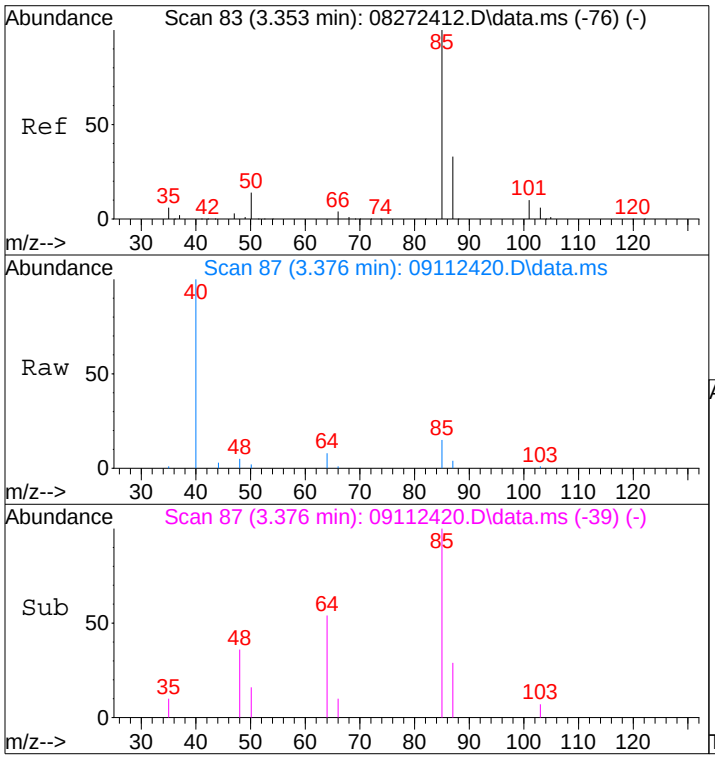
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:38:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

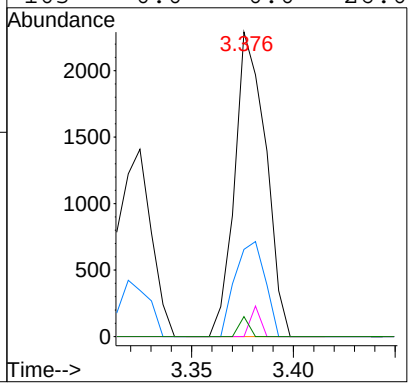


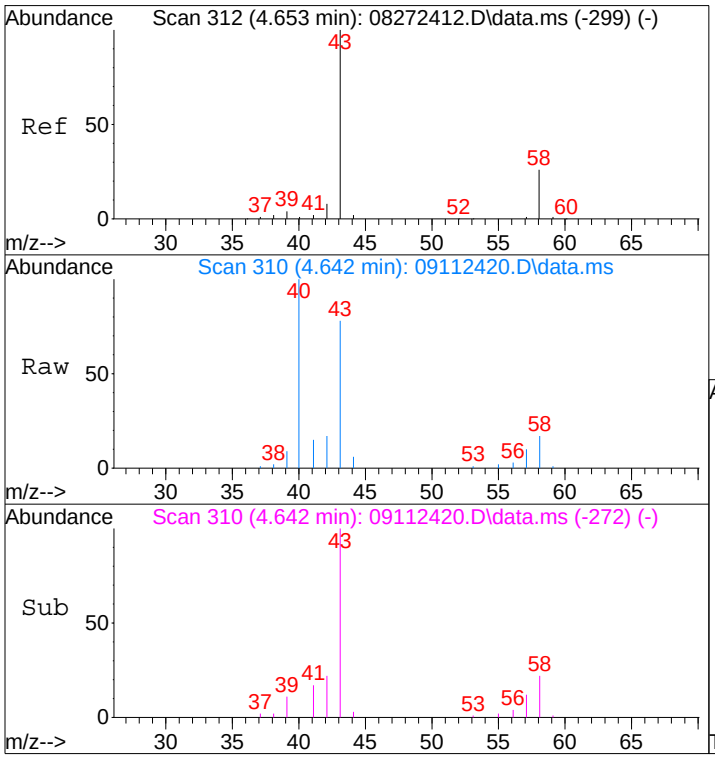


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.07 ng m
RT: 3.38 min Scan# 87
Delta R.T. 0.025 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion: 85 Resp: 2431

Ion	Ratio	Lower	Upper
85	100		
87	17.0	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

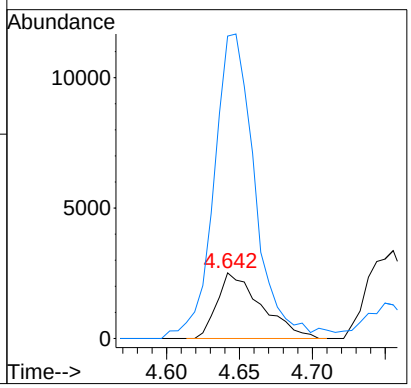


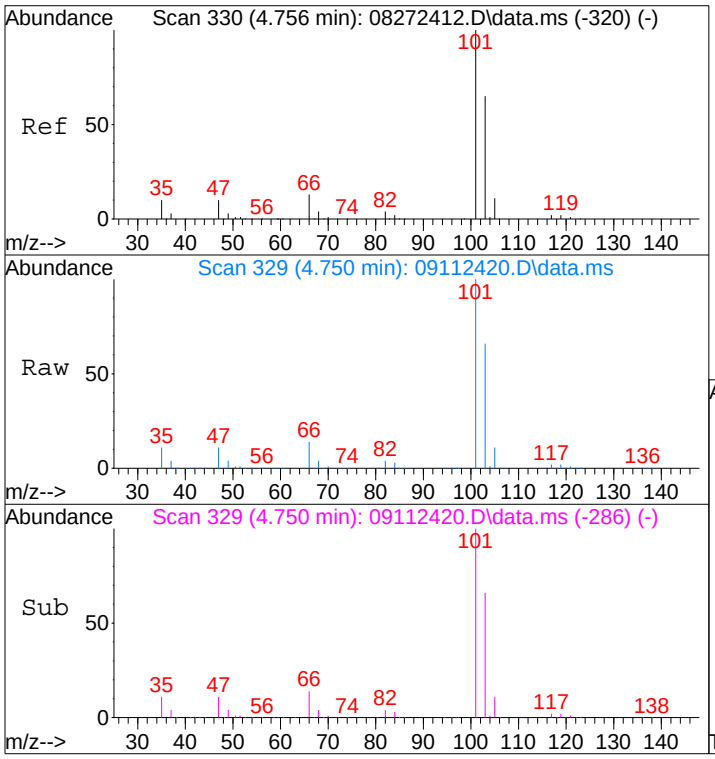


#13
Acetone
Concen: 0.42 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.033 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion: 58 Resp: 5279

Ion	Ratio	Lower	Upper
58	100		
43	434.8	347.3	407.3#

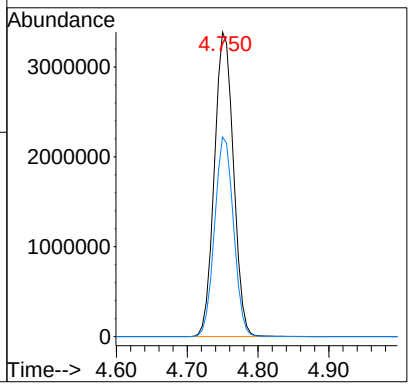


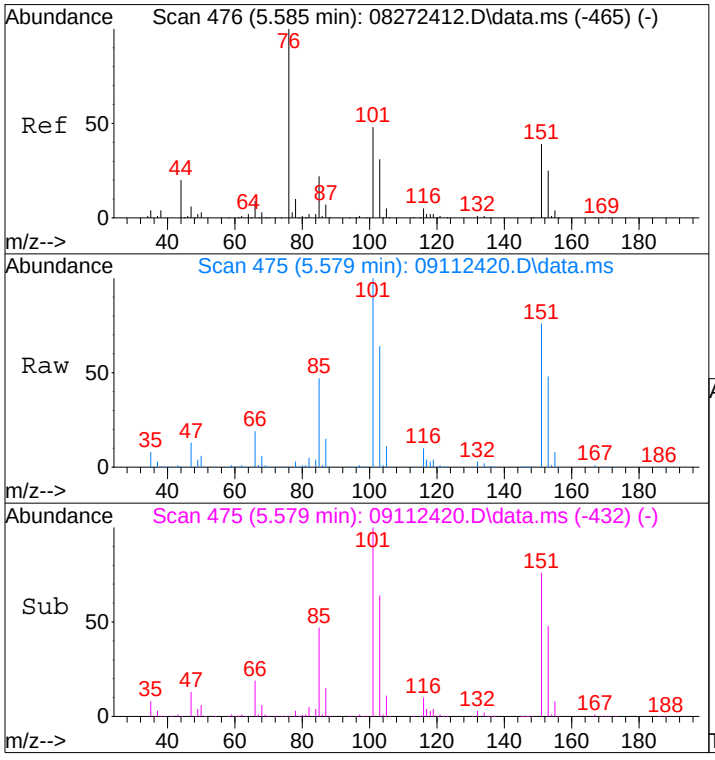


#14
Trichlorofluoromethane
Concen: 198.21 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.004 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion:101 Resp: 6356860

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.9	84.9

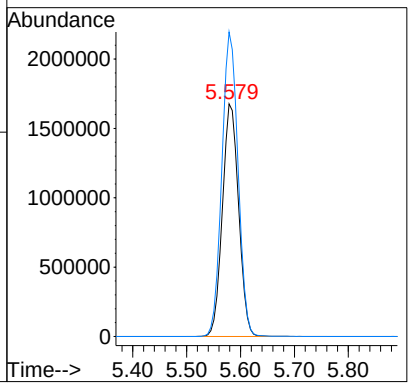


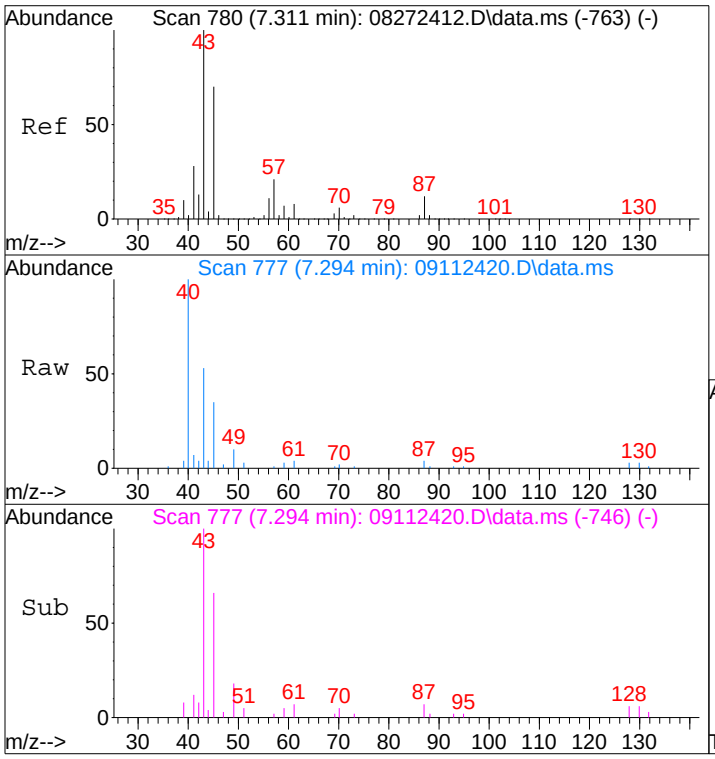


#21
Trichlorotrifluoroethane
Concen: 275.24 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.007 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion:151 Resp: 3497090

Ion	Ratio	Lower	Upper
151	100		
101	130.5	103.4	143.4

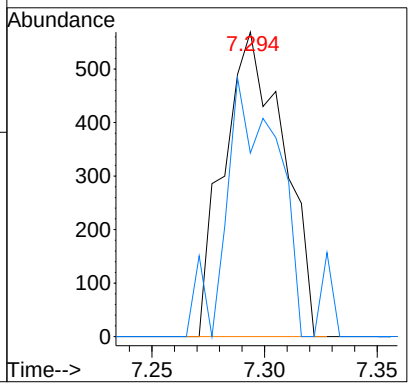


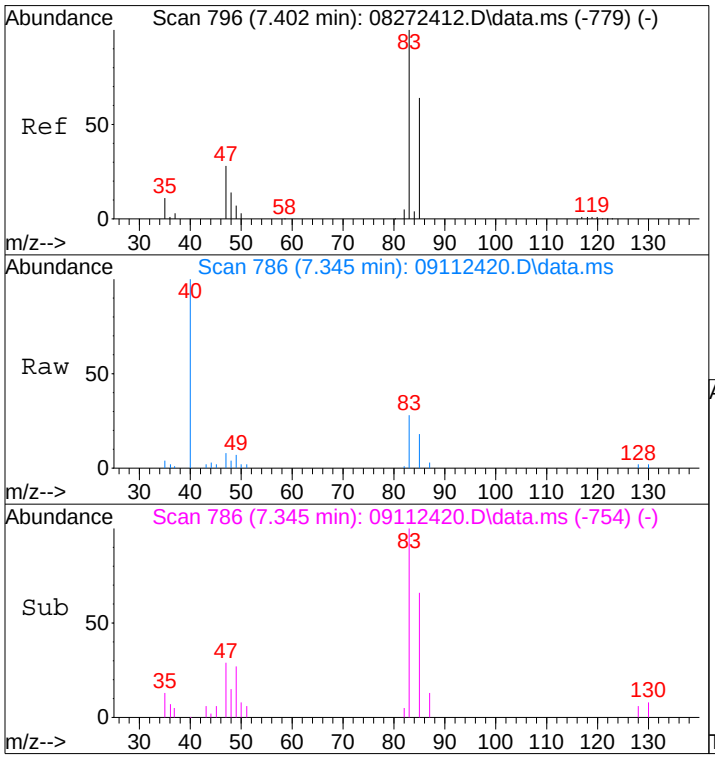


#30
Ethyl Acetate
Concen: 0.17 ng
RT: 7.29 min Scan# 777
Delta R.T. -0.023 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion: 61 Resp: 1049

Ion	Ratio	Lower	Upper
61	100		
70	73.1	49.9	89.9

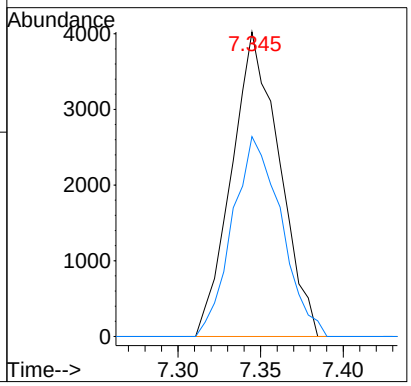


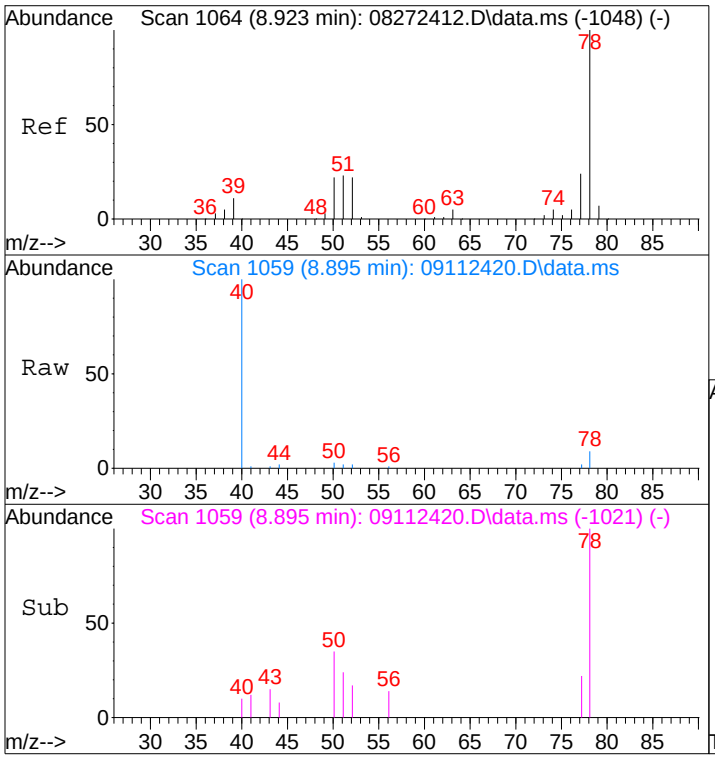


#32
Chloroform
Concen: 0.29 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.068 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion: 83 Resp: 8082

Ion	Ratio	Lower	Upper
83	100		
85	67.1	45.3	85.3

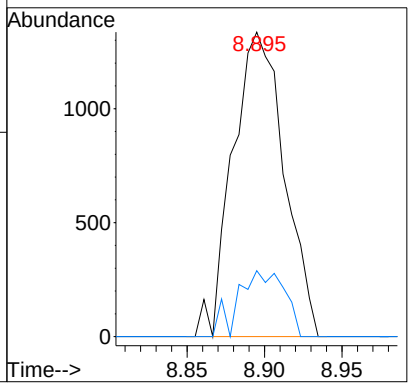


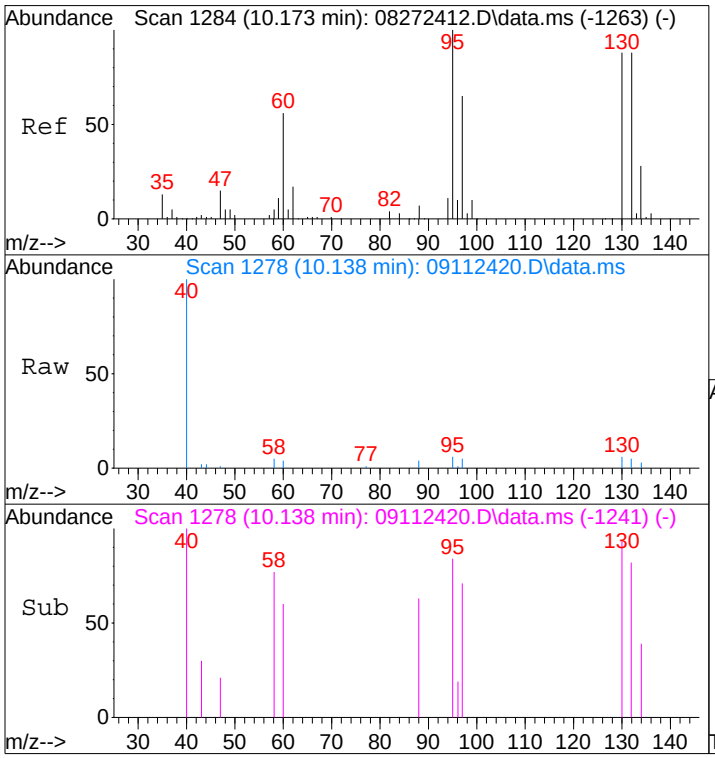


#41
Benzene
Concen: 0.05 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.035 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion: 78 Resp: 3104

Ion	Ratio	Lower	Upper
78	100		
77	19.4	3.9	43.9

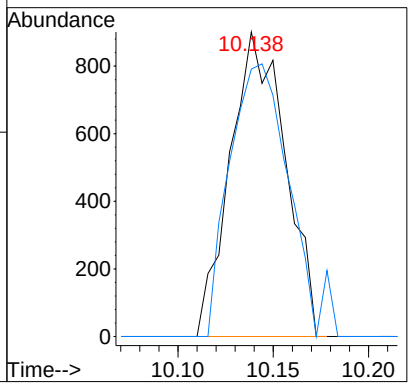


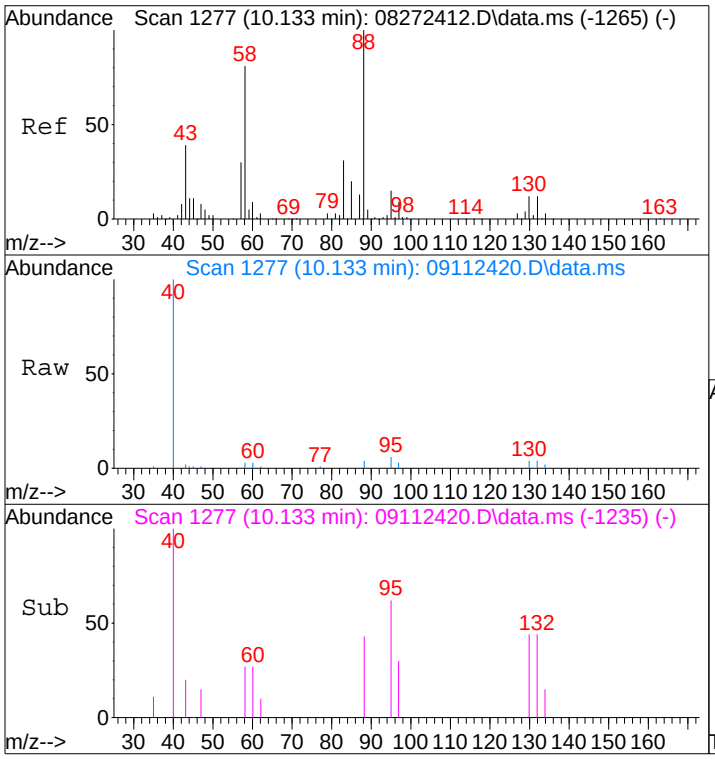


#47
Trichloroethene
Concen: 0.13 ng
RT: 10.14 min Scan# 1278
Delta R.T. -0.038 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion:130 Resp: 1809

Ion	Ratio	Lower	Upper
130	100		
132	97.6	80.8	120.8

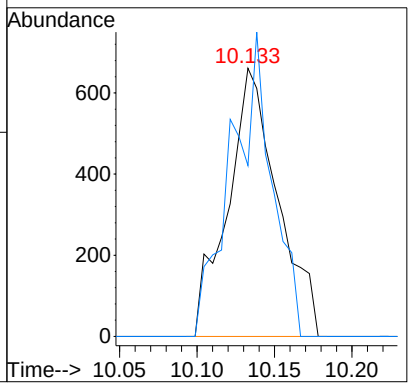




#48
1,4-Dioxane
Concen: 0.15 ng
RT: 10.13 min Scan# 1277
Delta R.T. -0.010 min
Lab File: 09112420.D
Acq: 11 Sep 2024 20:06

Tgt Ion: 88 Resp: 1487

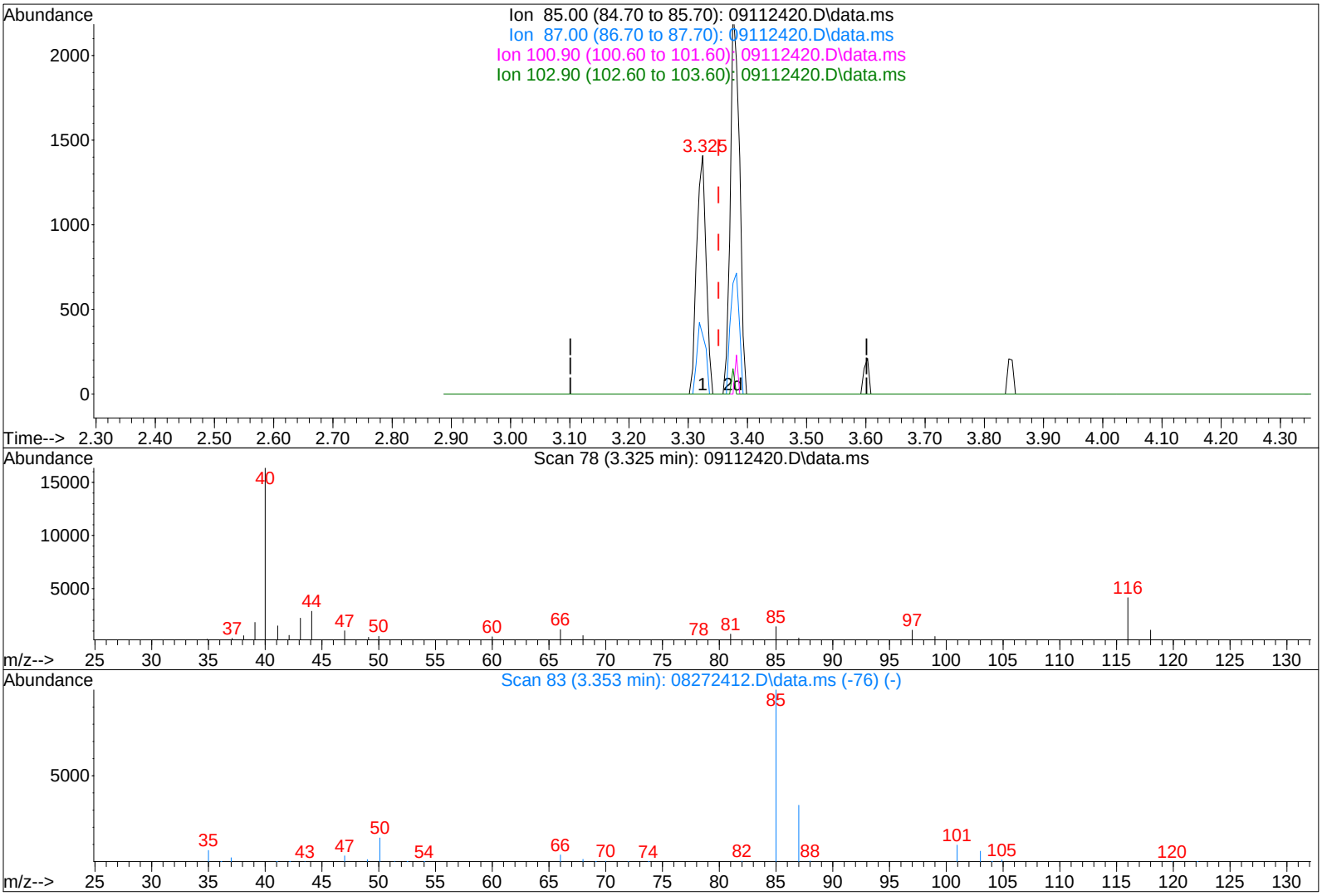
Ion	Ratio	Lower	Upper
88	100		
58	92.3	61.1	101.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:56:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.325min (-0.027) 0.05ng

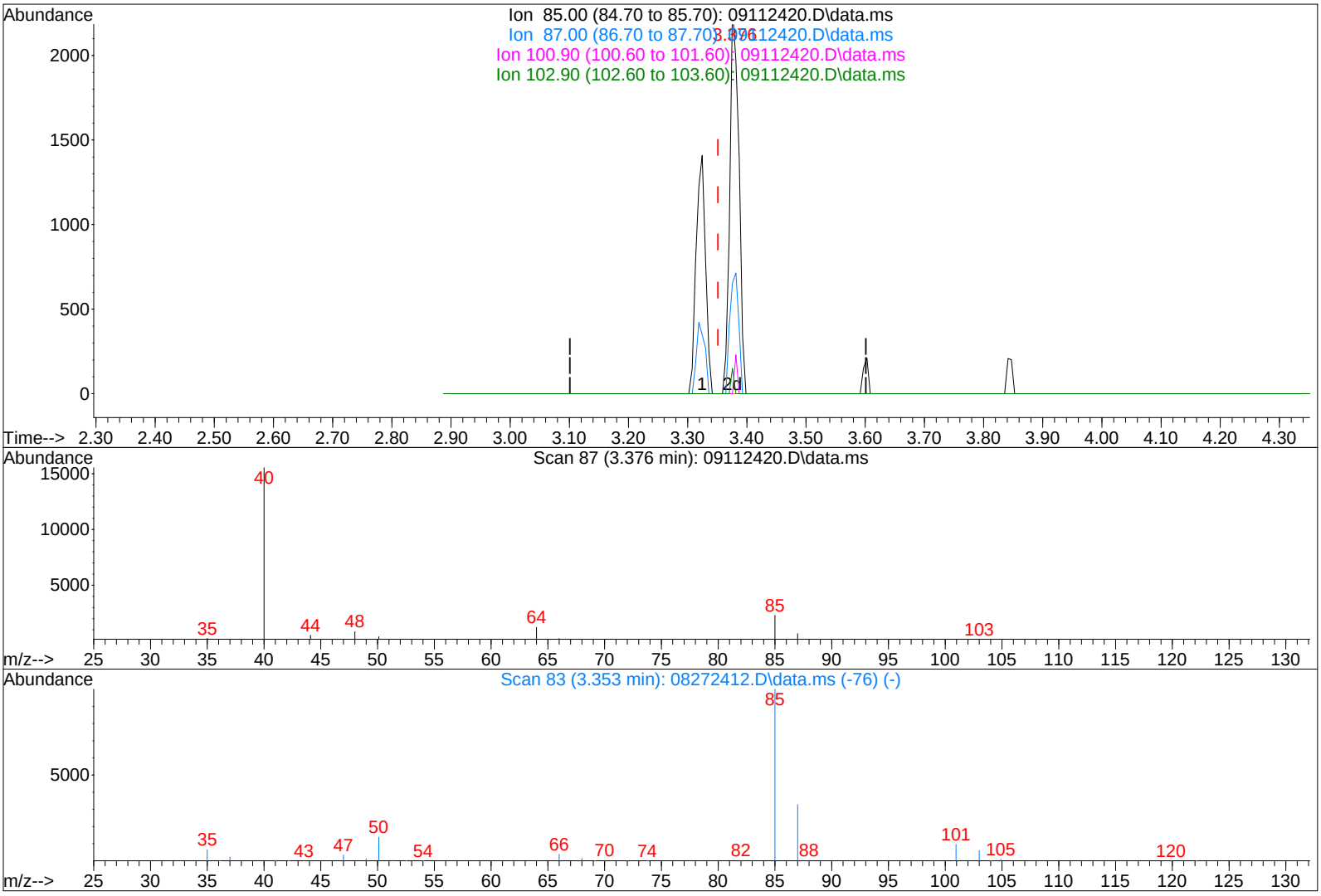
response 1563

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	26.49
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:56:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.376min (+0.025) 0.07ng m

response 2431

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	17.03
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/12/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:45:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

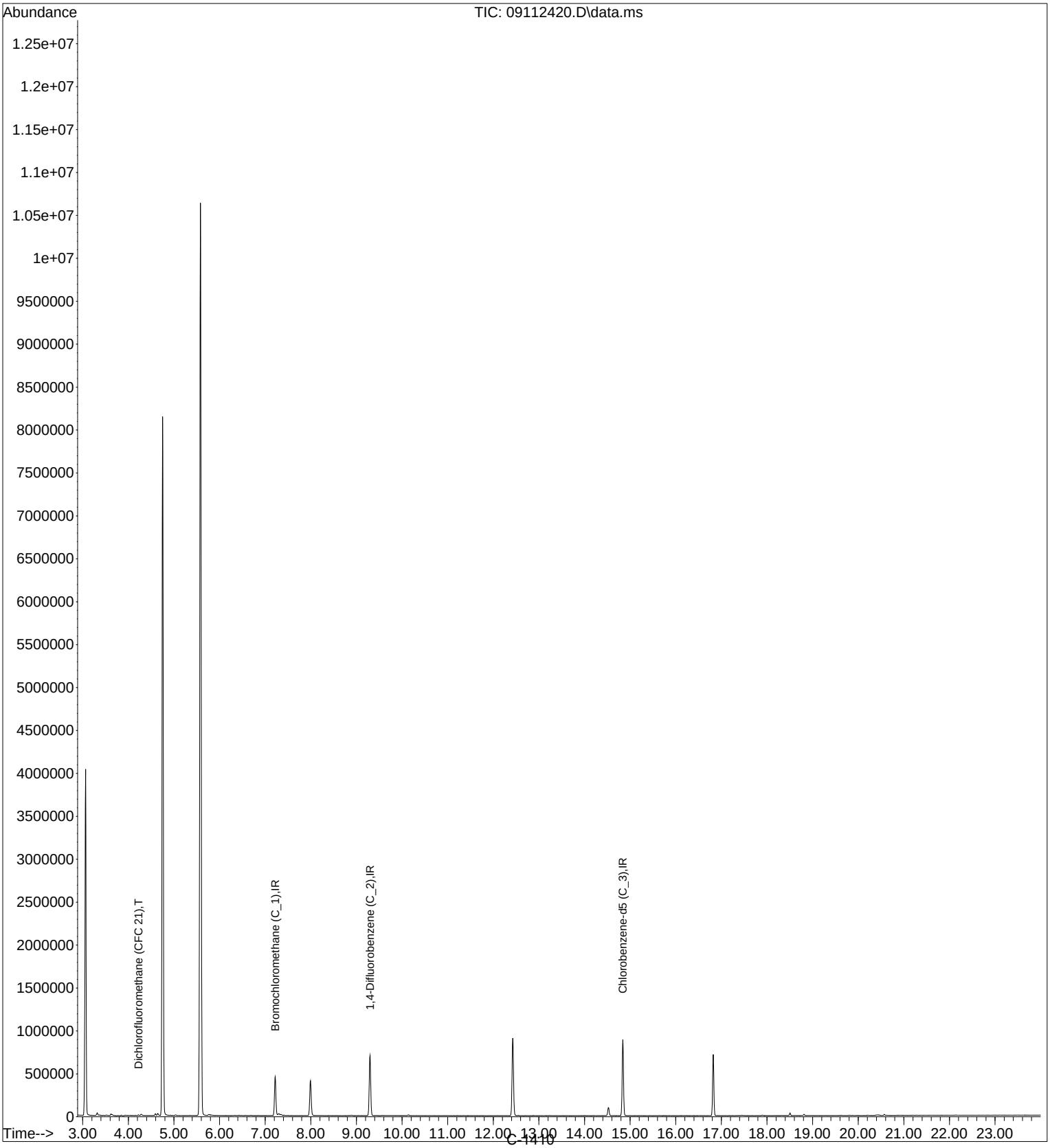
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	139178	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	605839	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	175424	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	138	N.D.		
4) 1,1-Difluoroethane	3.26	65	243	N.D.		
5) Chlorodifluoromethane ...	3.30	67	71	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	5517	0.173	ng	99
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	337	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.34	43	852	N.D.		
12) 2-Methylpentane	6.48	71	131	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.42	56	61	N.D.		
18) Dibromomethane	9.80	174	58	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.62	91	66	N.D.		
27) 4-Chlorotoluene	17.68	91	393	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:45:10 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

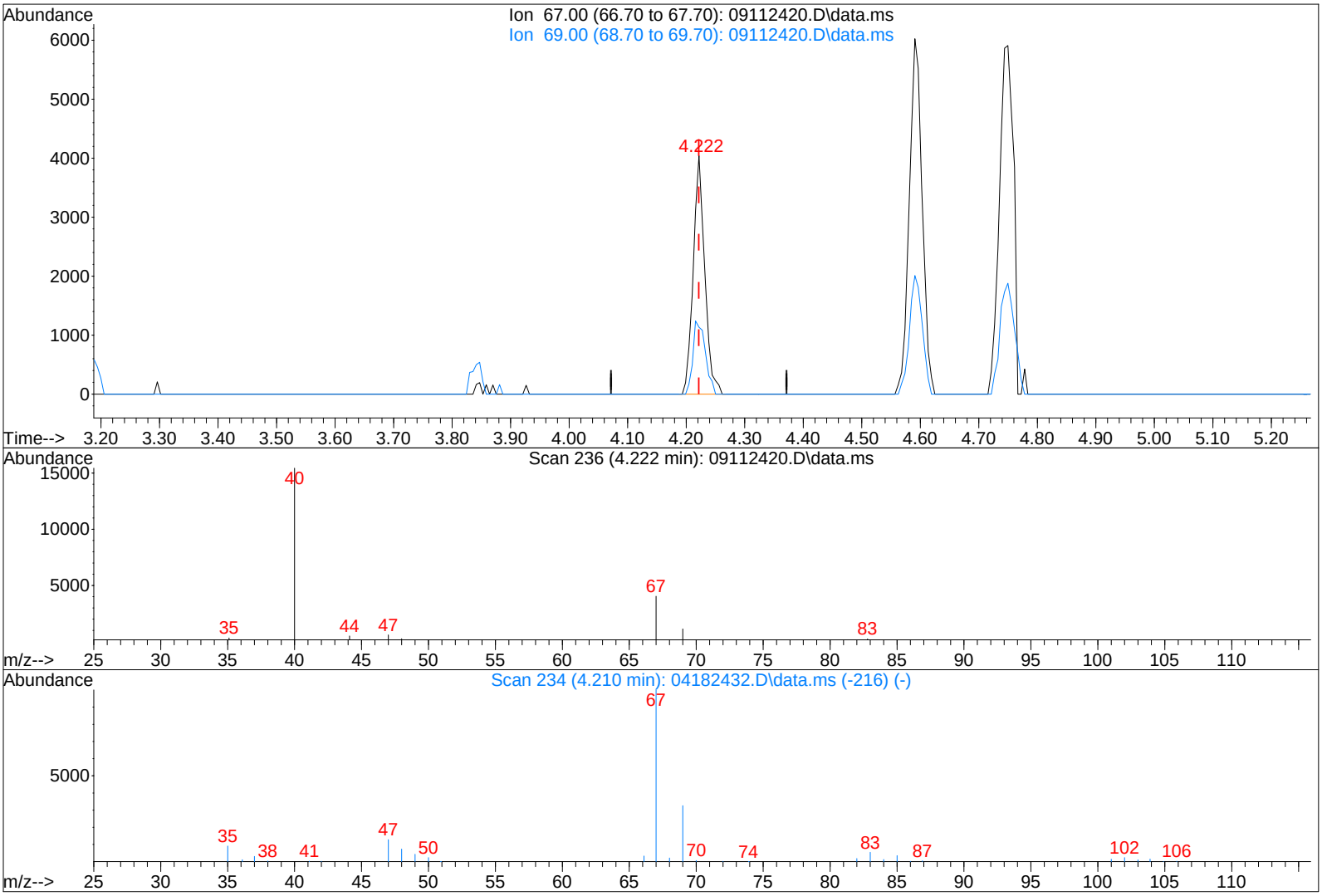


C-1410

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112420.D Vial: 8
Acq On : 11 Sep 2024 20:06 Operator: SC
Sample : P2403661-040 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:44:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112420.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.222min (+0.000) 0.17ng

response 5517

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	33.03
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122410.D Vial: 1
Acq On : 12 Sep 2024 15:37 Operator: SC
Sample : P2403661-040Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:02:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	143368	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	643924	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	180806	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	348774	13.001	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%				
57) Toluene-d8 (SS2)	12.43	98	732003	11.541	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.32%				
73) Bromofluorobenzene (SS3)	16.82	174	236800	11.163	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.34	85	131	N.D.			
4) Chloromethane	3.54	50	185	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.37	45	58	N.D.			
11) Acetonitrile	4.47	41	172	N.D.			
12) Acrolein	4.58	56	51	N.D.			
13) Acetone	0.00	58	0	N.D.	d		
14) Trichlorofluoromethane	4.76	101	658969	19.848	ng		100
15) 2-Propanol (Isopropanol)	4.89	45	1917	N.D.			
16) Acrylonitrile	5.03	53	54	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.36	84	305	N.D.			
20) 3-Chloro-1-propene (Al...	5.41	41	898	N.D.			
21) Trichlorotrifluoroethane	5.58	151	358623	27.265	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.31	57	1686	0.059	ng	#	93
32) Chloroform	7.36	83	942	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	1219	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	520	No Calib		#	
41) Benzene	8.90	78	6463	0.107	ng		90
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	782	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.16	130	198	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	3321	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

C-1412

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122410.D Vial: 1
Acq On : 12 Sep 2024 15:37 Operator: SC
Sample : P2403661-040Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:02:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

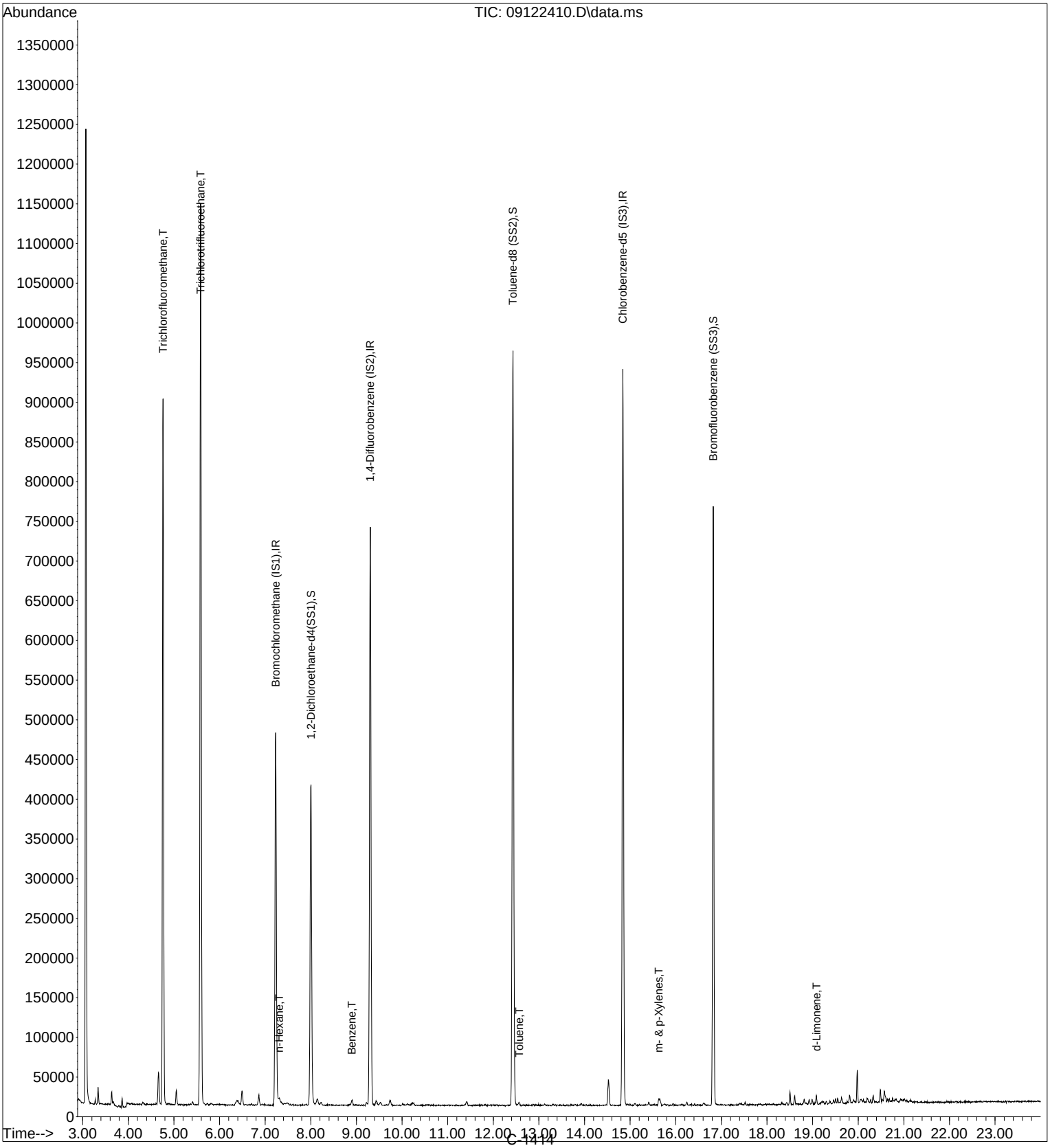
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.57	91	3902	0.057 ng	92
59) 2-Hexanone	12.94	43	809	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.80	43	1251	N.D.	
63) n-Octane	13.93	57	172	N.D.	
64) Tetrachloroethene	14.03	166	344	N.D.	
65) Chlorobenzene	14.90	112	215	N.D.	
66) Ethylbenzene	15.41	91	3734	N.D.	
67) m- & p-Xylenes	15.63	91	9807	0.153 ng	98
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	3045	N.D.	
71) n-Nonane	16.62	43	1676	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.02	105	464	N.D.	
75) alpha-Pinene	17.52	93	1530	N.D.	
76) n-Propylbenzene	17.68	91	757	N.D.	
77) 3-Ethyltoluene	17.02	105	464	No Calib	#
78) 4-Ethyltoluene	17.86	105	414	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	300	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.02	105	464	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	1136	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	392	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	418	N.D.	
87) sec-Butylbenzene	18.74	105	350	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	2769	N.D.	
89) 1,2,3-Trimethylbenzene	17.02	105	464	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	253	N.D.	
91) d-Limonene	19.09	68	1870	0.087 ng	90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	790	N.D.	
95) Naphthalene	20.93	128	1054	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	275	N.D.	
98) Cyclohexanone	15.20	55	246	No Calib	#
99) tert-Butylbenzene	18.43	119	359	N.D.	
100) n-Butylbenzene	19.39	91	554	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122410.D Vial: 1
Acq On : 12 Sep 2024 15:37 Operator: SC
Sample : P2403661-040Dil (4.0mL) Inst : MS09
Misc : S37-06062402

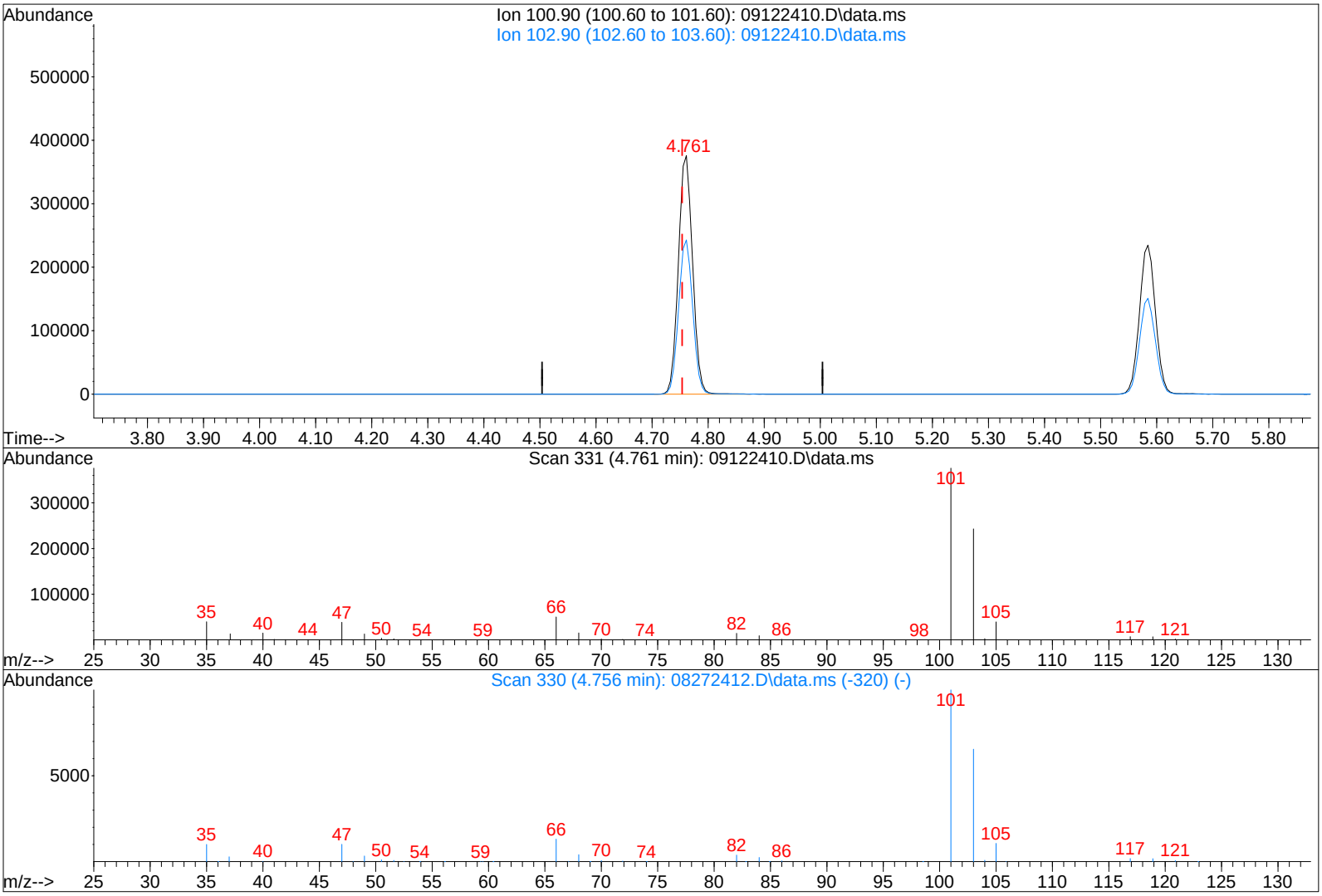
Quant Time: Sep 12 16:02:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122410.D Vial: 1
Acq On : 12 Sep 2024 15:37 Operator: SC
Sample : P2403661-040Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:02:03 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122410.D\data.ms

(14) Trichlorofluoromethane (T)

4.761min (+0.007) 19.85ng

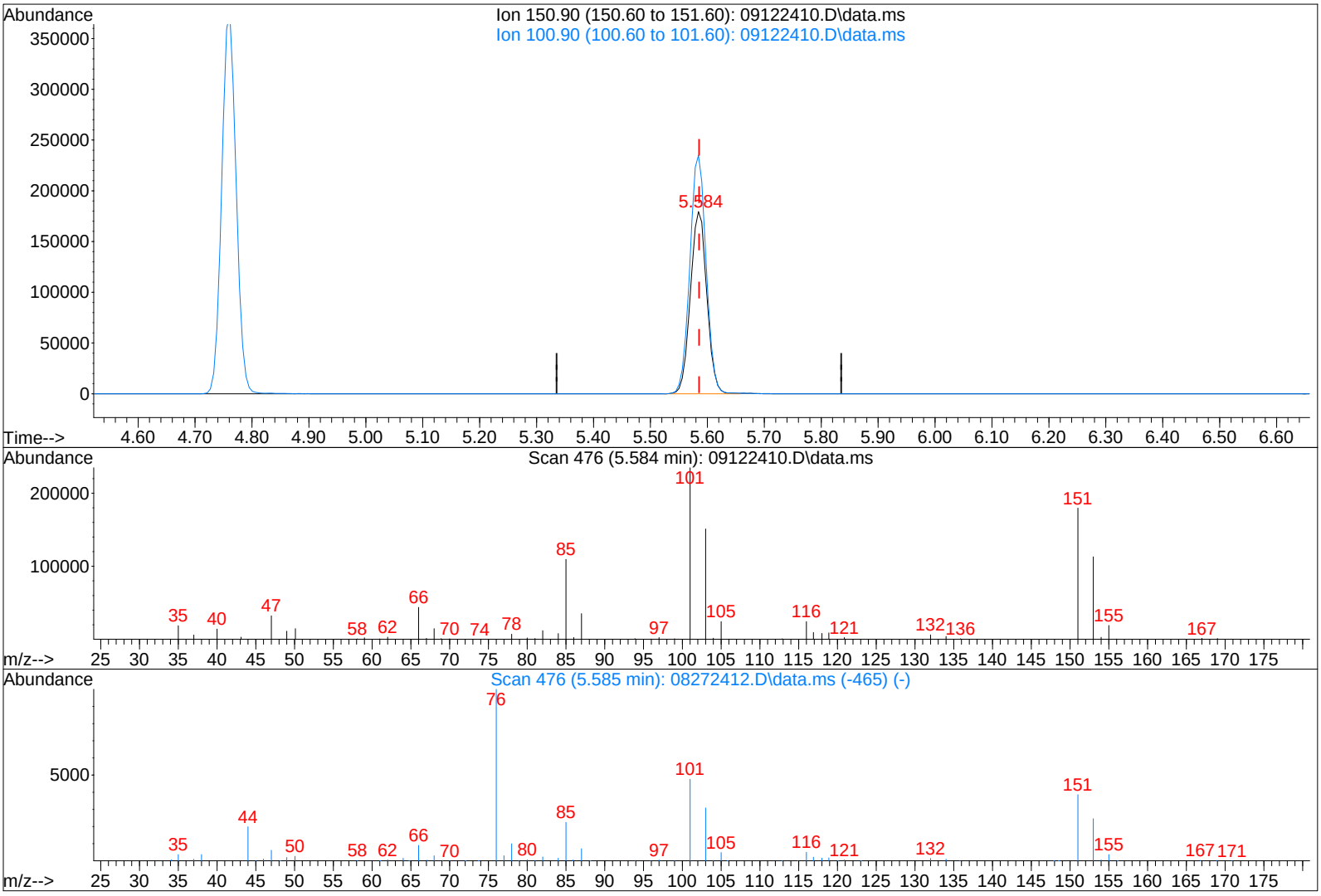
response 658969

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122410.D Vial: 1
Acq On : 12 Sep 2024 15:37 Operator: SC
Sample : P2403661-040Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:02:03 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122410.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.584min (-0.001) 27.27ng

response 358623

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.85
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112420.D
Acq On : 11 Sep 2024 20:06
Operator : SC
Sample : P2403661-040 (40mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112420.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.319	69	77	81	rBV5	31598	54059	0.24%	0.139%
2	3.523	106	113	119	rBV3	5599	10604	0.05%	0.027%
3	3.620	124	130	133	rVV2	17456	26320	0.12%	0.068%
4	3.643	133	134	142	rVB	11924	12617	0.06%	0.032%
5	4.222	232	236	241	rBV2	7050	10026	0.04%	0.026%
6	4.284	241	247	258	rVB	13952	28748	0.13%	0.074%
7	4.591	296	301	306	rBV2	21069	31685	0.14%	0.081%
8	4.642	306	310	320	rVV	23175	42652	0.19%	0.109%
9	4.750	320	329	355	rVV	8139751	15217383	67.88%	39.055%
10	5.039	373	380	387	rVB2	6777	13190	0.06%	0.034%
11	5.579	462	475	498	rBV	10630335	22418204	100.00%	57.535%
12	5.766	501	508	518	rBV3	9621	33833	0.15%	0.087%
13	7.220	754	764	773	rBV	452803	989818	4.42%	2.540%
14	7.299	773	778	782	rVV3	20902	47719	0.21%	0.122%
15	7.345	782	786	793	rVB	12358	27353	0.12%	0.070%

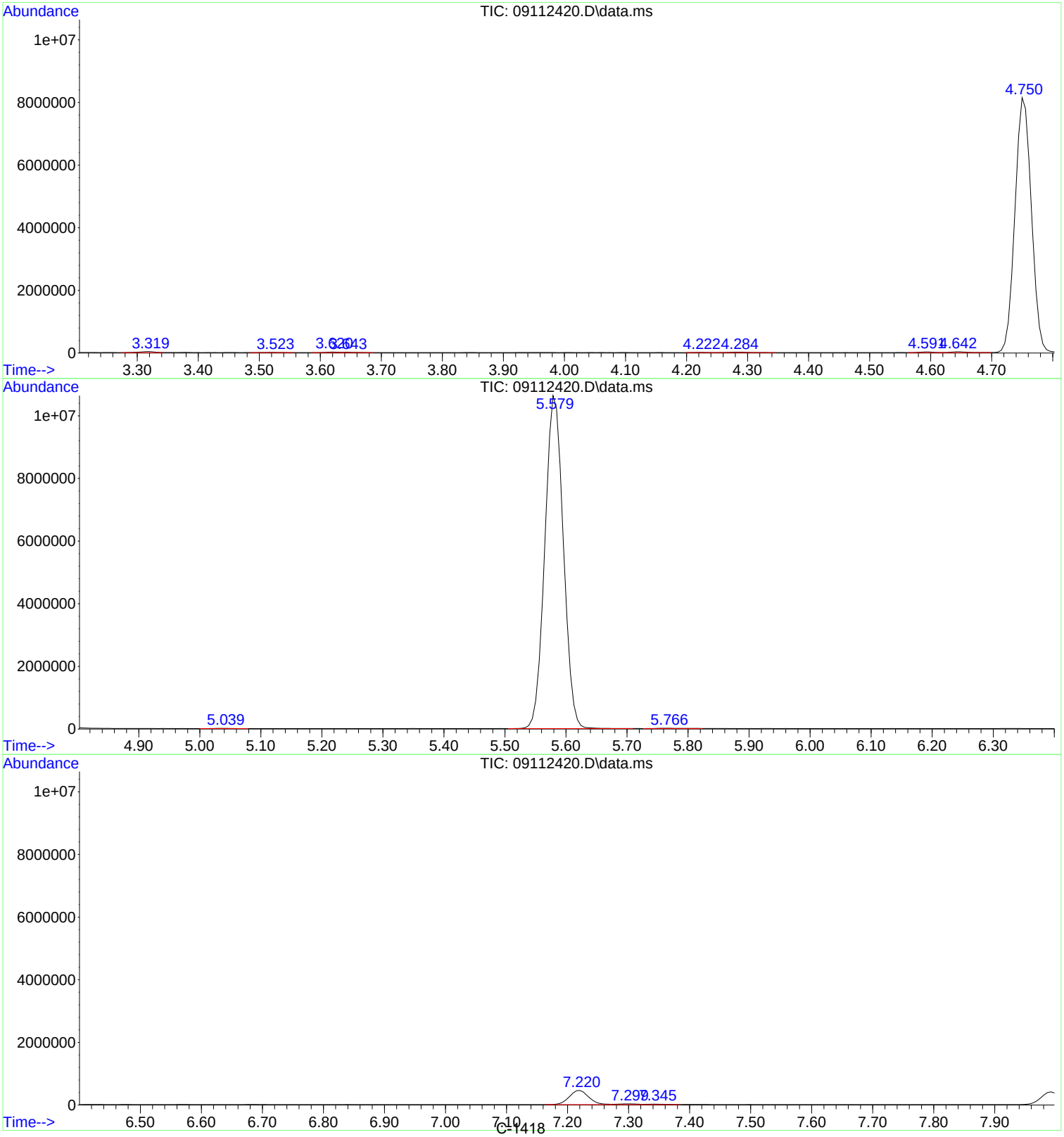
Sum of corrected areas: 38964211

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112420.D
Acq On : 11 Sep 2024 20:06
Operator : SC
Sample : P2403661-040 (40mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112420.D
Acq On : 11 Sep 2024 20:066
Operator : SCC
Sample : P2403661-040 (40mL))
Misc : S37-060624022
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

NOA 9/29/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:48:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	138874	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.31	114	602407	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	185387	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	345483	13.295	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
57) Toluene-d8 (SS2)	12.43	98	698398	10.739	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	236855	10.890	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
Target Compounds							Qvalue
2) Propene	3.29	42	27541m	1.313	ng		
3) Dichlorodifluoromethan...	3.36	85	21722	0.644	ng		98
4) Chloromethane	3.50	50	12118	0.460	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	462	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.01	94	11006	1.007	ng		98
9) Chloroethane	4.15	64	1002	0.107	ng		88
10) Ethanol	4.31	45	232892	15.452	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	12176	1.057	ng		97
13) Acetone	4.62	58	568885	44.733	ng	#	1
14) Trichlorofluoromethane	4.76	101	3193862	99.313	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	647430	12.930	ng		92
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.36	84	12251	0.818	ng	#	81
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	1352168	106.129	ng		95
22) Carbon Disulfide	5.61	76	103661	2.088	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	2049	0.084	ng		97
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	17756	0.400	ng		96
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	28636	3.174	ng	#	74
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.27	87	262	N.D.			
30) Ethyl Acetate	7.28	61	110954	18.354	ng		89
31) n-Hexane	7.31	57	119288	4.328	ng		99
32) Chloroform	7.37	83	11029	0.399	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	7.83	87	740	N.D.			
36) 1,2-Dichloroethane	8.12	62	7151	0.261	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.61	61	21043	No Calib		#	
40) 1-Butanol	8.80	56	109576	No Calib		#	
41) Benzene	8.90	78	76963	1.363	ng		99
42) Carbon Tetrachloride	9.07	117	9282	0.397	ng		98
43) Cyclohexane	9.22	84	115425	6.053	ng		92
44) tert-Amyl Methyl Ether	9.61	73	577	N.D.			
45) 1,2-Dichloropropane	9.87	63	8310	0.556	ng		97
46) Bromodichloromethane	10.01	83	715	N.D.			
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.24	57	20314	0.304	ng		65
50) Methyl Methacrylate	10.41	100	1869	0.381	ng	#	76

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:48:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

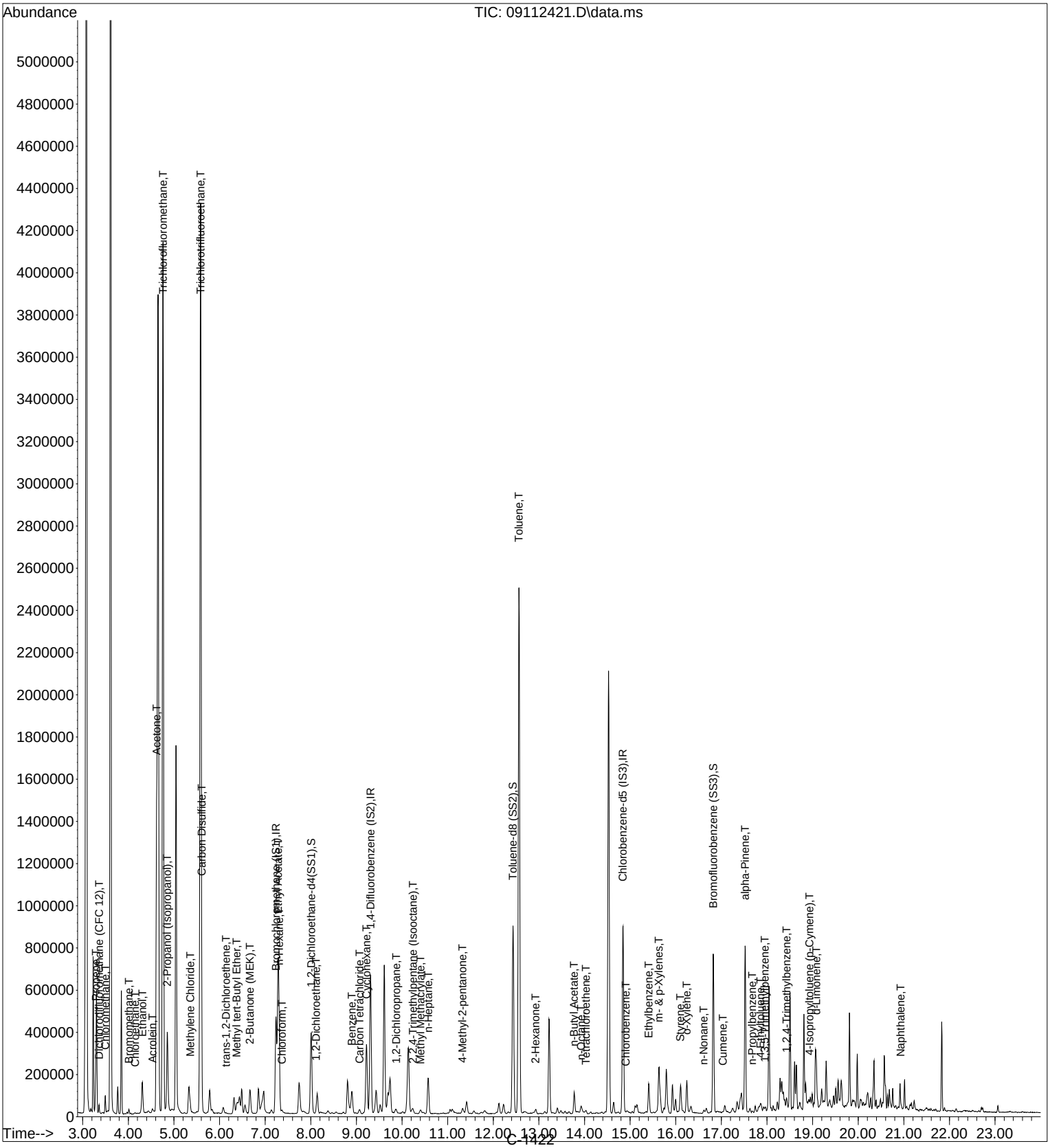
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	38038	3.022 ng		96
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	8136	0.546 ng		81
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2081259	29.604 ng		100
59) 2-Hexanone	12.93	43	19269m	0.443 ng		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	94039	1.929 ng		99
63) n-Octane	13.93	57	6295	0.381 ng		92
64) Tetrachloroethene	14.03	166	4165	0.214 ng		95
65) Chlorobenzene	14.90	112	2487	0.058 ng		86
66) Ethylbenzene	15.41	91	80571	0.996 ng		99
67) m- & p-Xylenes	15.63	91	185932	2.827 ng		99
68) Bromoform	15.67	173	109	N.D.		
69) Styrene	16.10	104	45031	1.059 ng		97
70) o-Xylene	16.24	91	91543	1.426 ng		99
71) n-Nonane	16.61	43	7038	0.167 ng		97
72) 1,1,2,2-Tetrachloroethane	16.12	83	438	N.D.		
74) Cumene	17.03	105	5683	0.076 ng		94
75) alpha-Pinene	17.52	93	321476	8.306 ng		99
76) n-Propylbenzene	17.67	91	6816	0.074 ng		96
77) 3-Ethyltoluene	17.03	105	5683	No Calib		
78) 4-Ethyltoluene	17.86	105	4418	0.061 ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	6757	0.107 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	5683	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	19797	0.300 ng		87
83) n-Decane	17.08	58	2519	No Calib	#	
84) Benzyl Chloride	18.57	91	1208	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	299	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1238	N.D.		
87) sec-Butylbenzene	18.74	105	1330	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	10985	0.152 ng		98
89) 1,2,3-Trimethylbenzene	17.03	105	5683	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	205	N.D.		
91) d-Limonene	19.08	68	35041	1.585 ng		88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.95	58	530	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	655	N.D.		
95) Naphthalene	20.93	128	7293	0.105 ng		97
96) n-Dodecane	18.95	58	1781	No Calib	#	
97) Hexachlorobutadiene	21.30	225	423	N.D.		
98) Cyclohexanone	15.27	55	704	No Calib	#	
99) tert-Butylbenzene	18.43	119	2391	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:48:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:48:40 2024 9/12/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	138874	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.31	114	602407	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	185387	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	345483	13.295	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
57) Toluene-d8 (SS2)	12.43	98	698398	10.739	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	236855	10.890	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
Target Compounds							Qvalue
2) Propene	3.29	42	27541m	1.313	ng		
3) Dichlorodifluoromethan...	3.36	85	21722	0.644	ng		98
4) Chloromethane	3.50	50	12118	0.460	ng		97
8) Bromomethane	4.01	94	11006	1.007	ng		98
9) Chloroethane	4.15	64	1002	0.107	ng		88
10) Ethanol	4.31	45	232892	15.452	ng		99
12) Acrolein	4.53	56	12176	1.057	ng		97
13) Acetone	4.62	58	568885	44.733	ng	#	1
14) Trichlorofluoromethane	4.76	101	3193862	99.313	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	647430	12.930	ng		92
19) Methylene Chloride	5.36	84	12251	0.818	ng	#	81
21) Trichlorotrifluoroethane	5.58	151	1352168	106.129	ng		95
22) Carbon Disulfide	5.61	76	103661	2.088	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	2049	0.084	ng		97
25) Methyl tert-Butyl Ether	6.37	73	17756	0.400	ng		96
27) 2-Butanone (MEK)	6.66	72	28636	3.174	ng	#	74
30) Ethyl Acetate	7.28	61	110954	18.354	ng		89
31) n-Hexane	7.31	57	119288	4.328	ng		99
32) Chloroform	7.37	83	11029	0.399	ng		99
36) 1,2-Dichloroethane	8.12	62	7151	0.261	ng		99
41) Benzene	8.90	78	76963	1.363	ng		99
42) Carbon Tetrachloride	9.07	117	9282	0.397	ng		98
43) Cyclohexane	9.22	84	115425	6.053	ng		92
45) 1,2-Dichloropropane	9.87	63	8310	0.556	ng		97
49) 2,2,4-Trimethylpentane...	10.24	57	20314	0.304	ng		65
50) Methyl Methacrylate	10.41	100	1869	0.381	ng	#	76
51) n-Heptane	10.58	71	38038	3.022	ng		96
53) 4-Methyl-2-pentanone	11.33	58	8136	0.546	ng		81
58) Toluene	12.56	91	2081259	29.604	ng		100
59) 2-Hexanone	12.93	43	19269m	0.443	ng		
62) n-Butyl Acetate	13.77	43	94039	1.929	ng		99
63) n-Octane	13.93	57	6295	0.381	ng		92
64) Tetrachloroethene	14.03	166	4165	0.214	ng		95
65) Chlorobenzene	14.90	112	2487	0.058	ng		86
66) Ethylbenzene	15.41	91	80571	0.996	ng		99
67) m- & p-Xylenes	15.63	91	185932	2.827	ng		99
69) Styrene	16.10	104	45031	1.059	ng		97
70) o-Xylene	16.24	91	91543	1.426	ng		99
71) n-Nonane	16.61	43	7038	0.167	ng		97
74) Cumene	17.03	105	5683	0.076	ng		94
75) alpha-Pinene	17.52	93	321476	8.306	ng		99
76) n-Propylbenzene	17.67	91	6816	0.074	ng		96
78) 4-Ethyltoluene	17.86	105	4418	0.061	ng		99
79) 1,3,5-Trimethylbenzene	17.95	105	6757	0.107	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	19797	0.300	ng		87
88) 4-Isopropyltoluene (p-...	18.93	119	10985	0.152	ng		98
91) d-Limonene	19.08	68	35041	1.585	ng		88

Quantitation Report (QT Reviewed)

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Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
95) Naphthalene	20.93	128	7293	0.105	ng	97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
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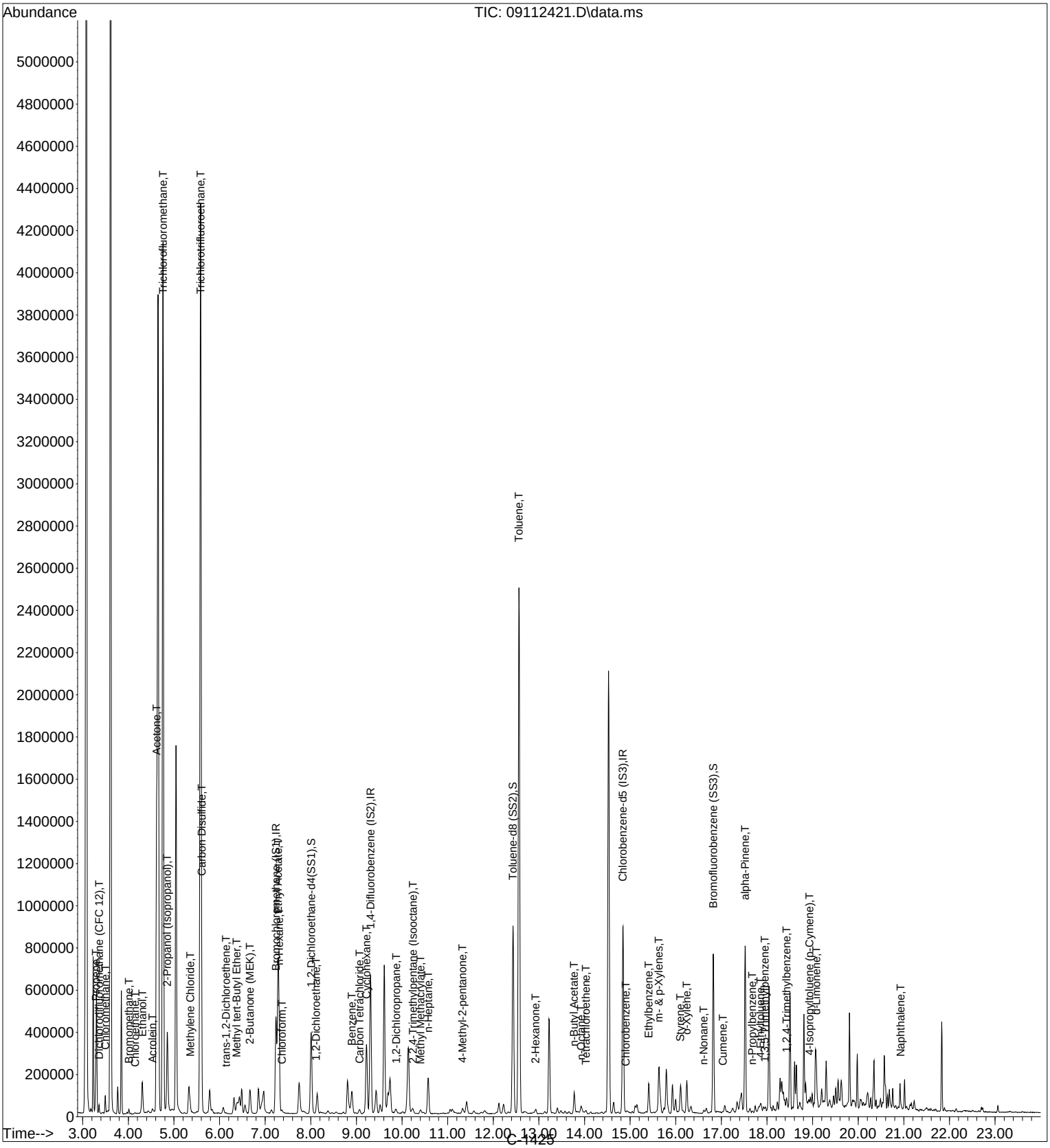
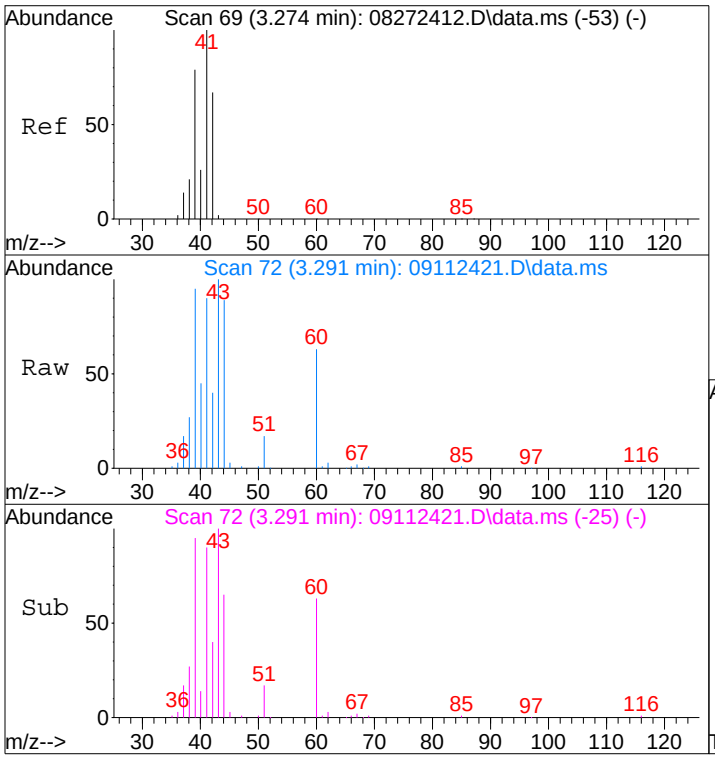
Response via : Initial Calibration
DataAcq Meth:TO15.M

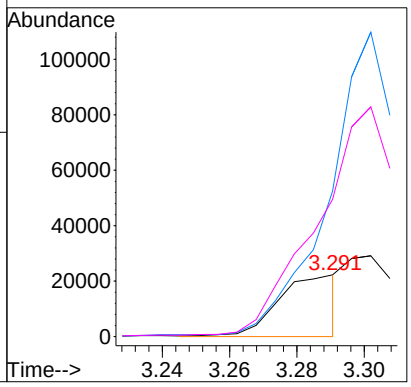


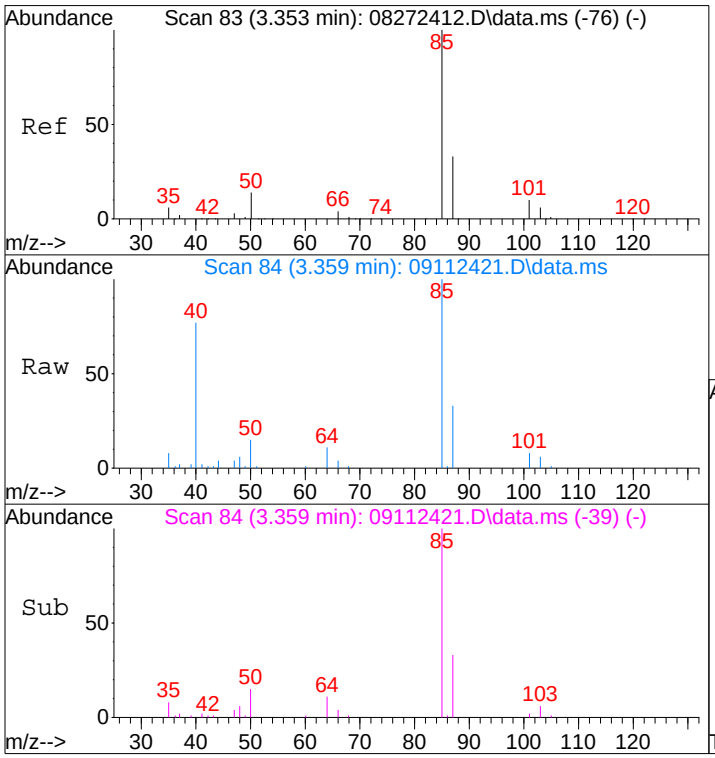


#2
Propene
Concen: 1.31 ng m
RT: 3.29 min Scan# 72
Delta R.T. 0.019 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 42 Resp: 27541

Ion	Ratio	Lower	Upper
42	100		
39	576.8	98.2	138.2#
41	505.9	130.1	170.1#

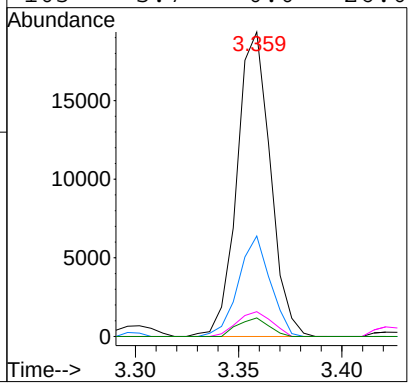


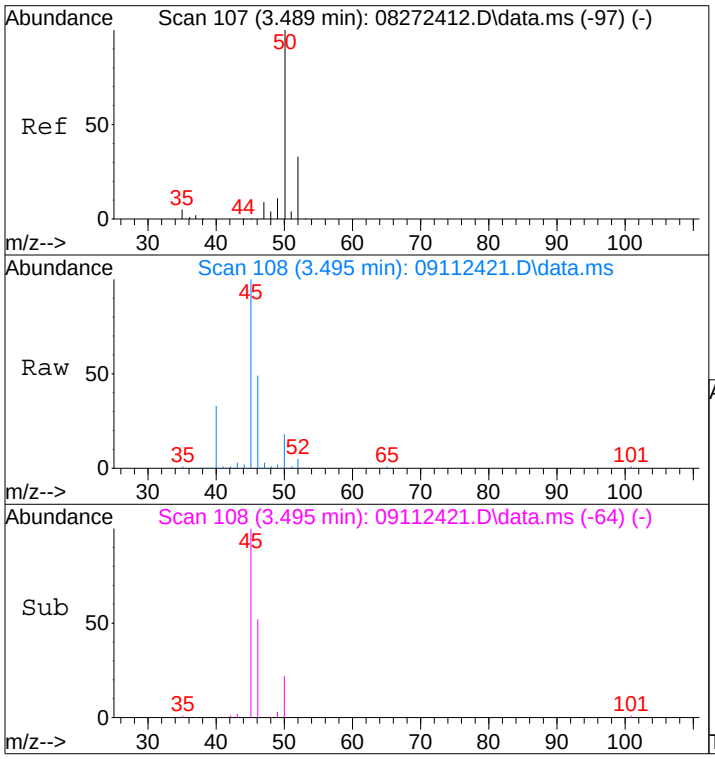


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.64 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.008 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 85 Resp: 21722

Ion	Ratio	Lower	Upper
85	100		
87	31.6	13.1	53.1
101	8.5	0.0	29.4
103	5.7	0.0	26.0

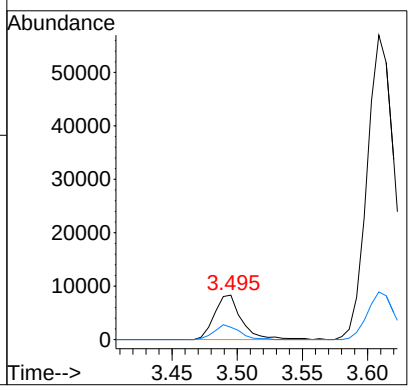


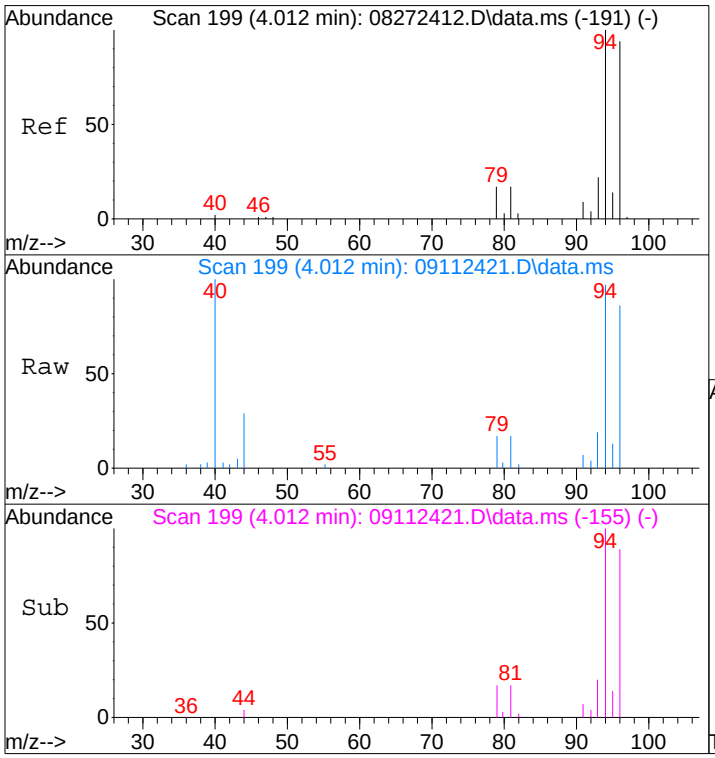


#4
Chloromethane
Concen: 0.46 ng
RT: 3.50 min Scan# 108
Delta R.T. 0.002 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 50 Resp: 12118

Ion	Ratio	Lower	Upper
50	100		
52	30.8	12.4	52.4

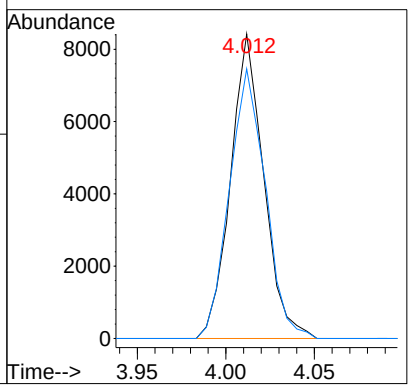


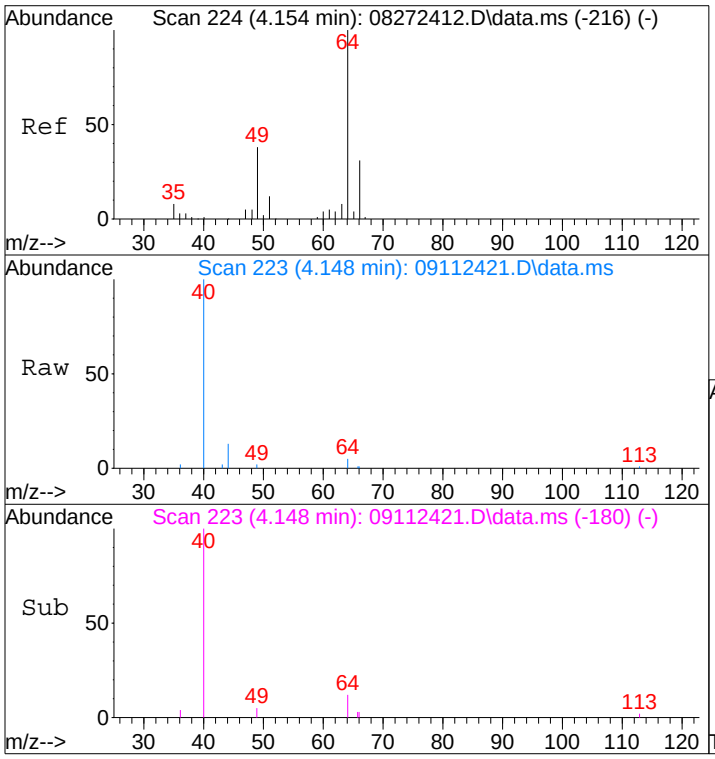


#8
Bromomethane
Concen: 1.01 ng
RT: 4.01 min Scan# 199
Delta R.T. -0.001 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 94 Resp: 11006

Ion	Ratio	Lower	Upper
94	100		
96	95.8	74.2	114.2

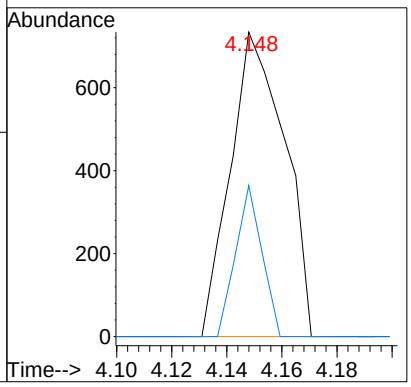


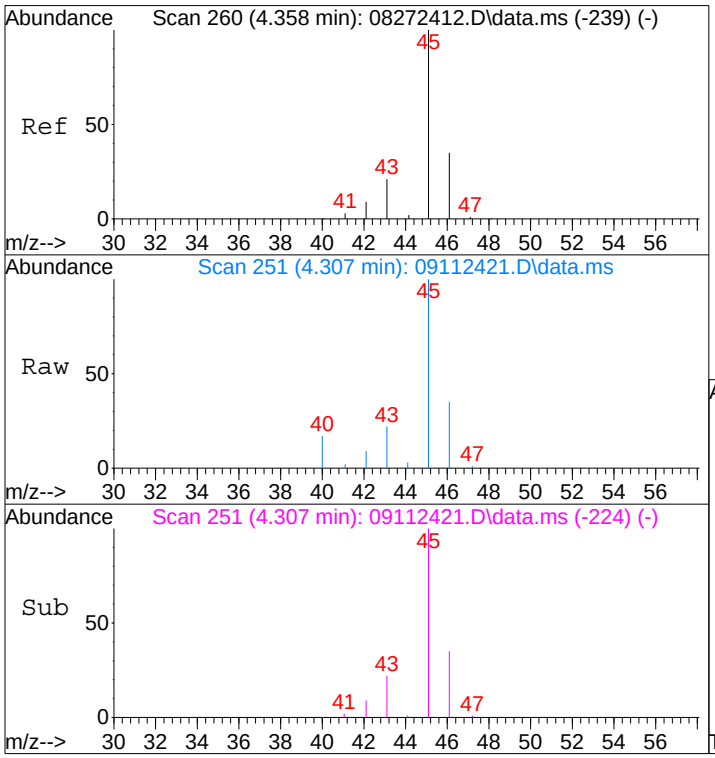


#9
Chloroethane
Concen: 0.11 ng
RT: 4.15 min Scan# 223
Delta R.T. -0.006 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 64 Resp: 1002

Ion	Ratio	Lower	Upper
64	100		
66	24.2	11.0	51.0

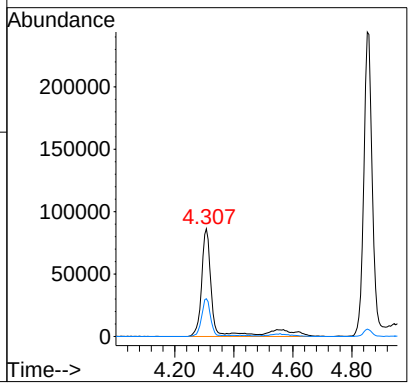


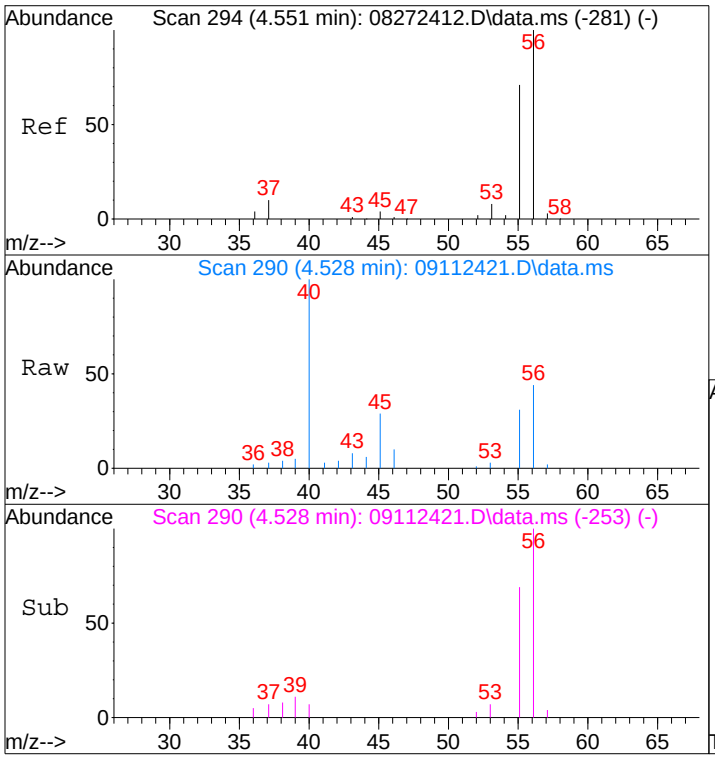


#10
Ethanol
Concen: 15.45 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.096 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 45 Resp: 232892

Ion	Ratio	Lower	Upper
45	100		
46	34.5	14.2	54.2

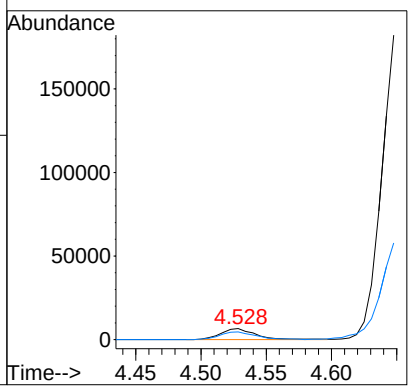


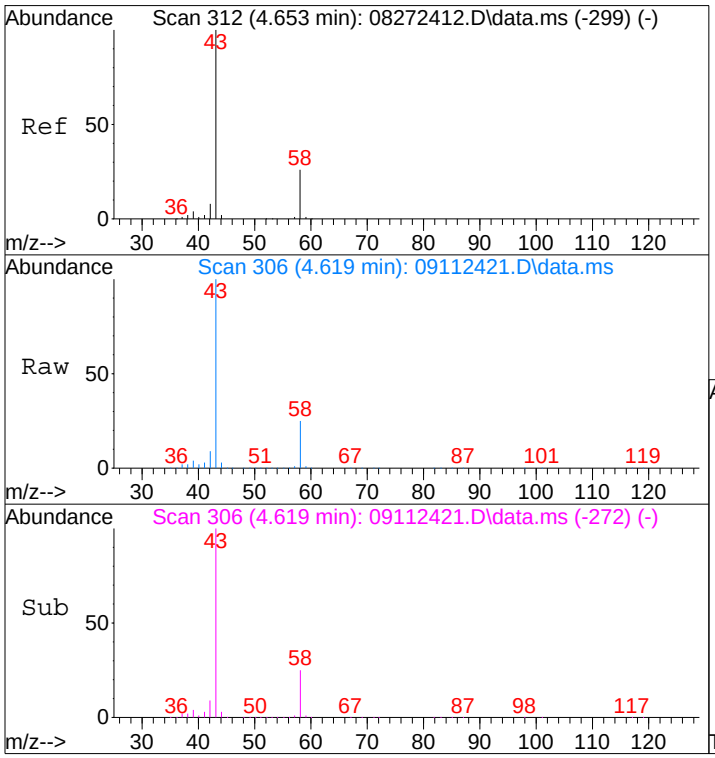


#12
Acrolein
Concen: 1.06 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.039 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 56 Resp: 12176

Ion	Ratio	Lower	Upper
56	100		
55	72.3	54.7	94.7

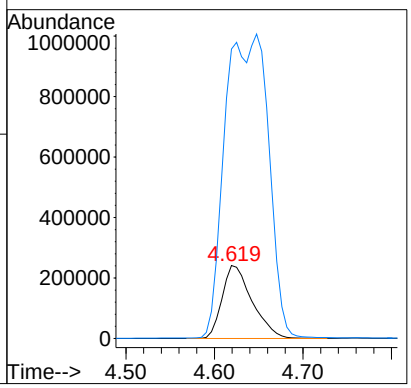


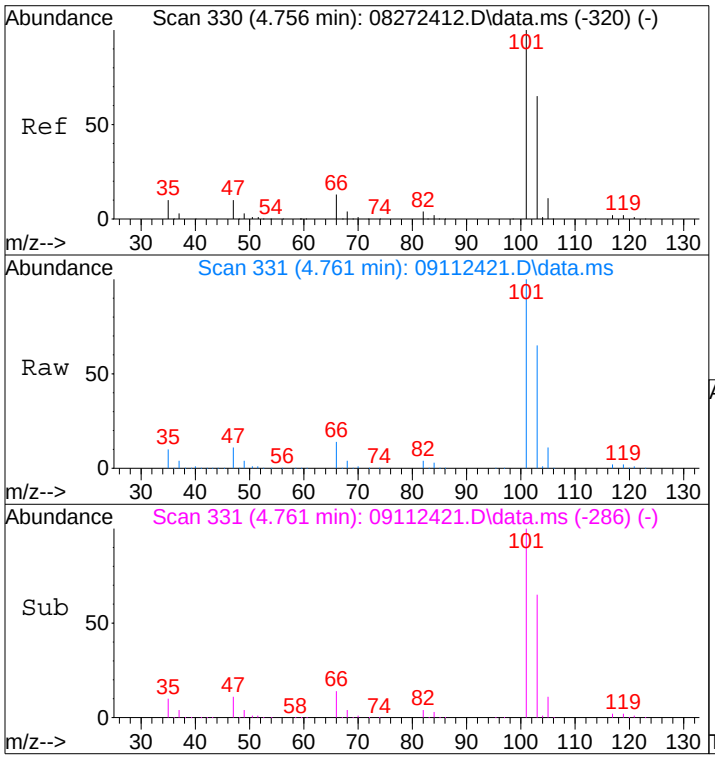


#13
Acetone
Concen: 44.73 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.055 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 58 Resp: 568885

Ion	Ratio	Lower	Upper
58	100		
43	606.7	347.3	407.3#

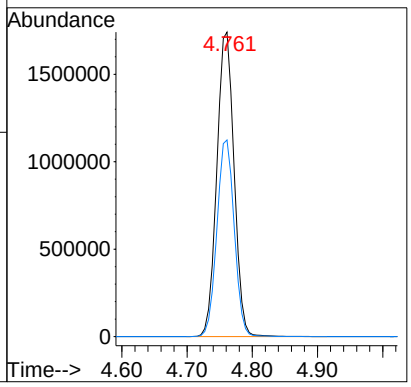


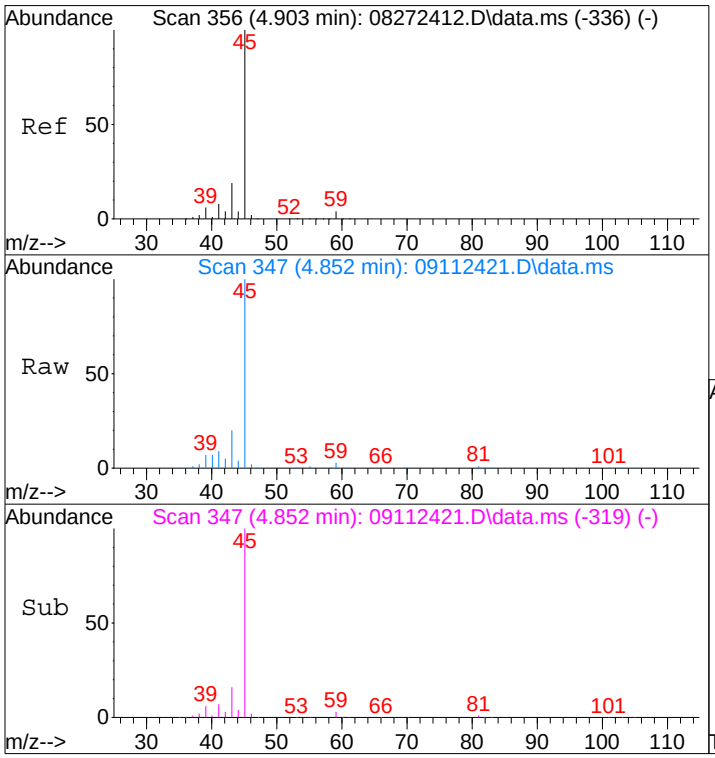


#14
Trichlorofluoromethane
Concen: 99.31 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.007 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:101 Resp: 3193862

Ion	Ratio	Lower	Upper
101	100		
103	64.9	44.9	84.9

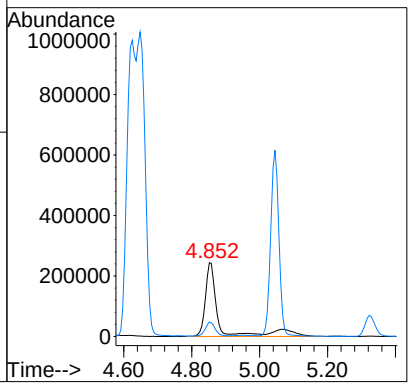


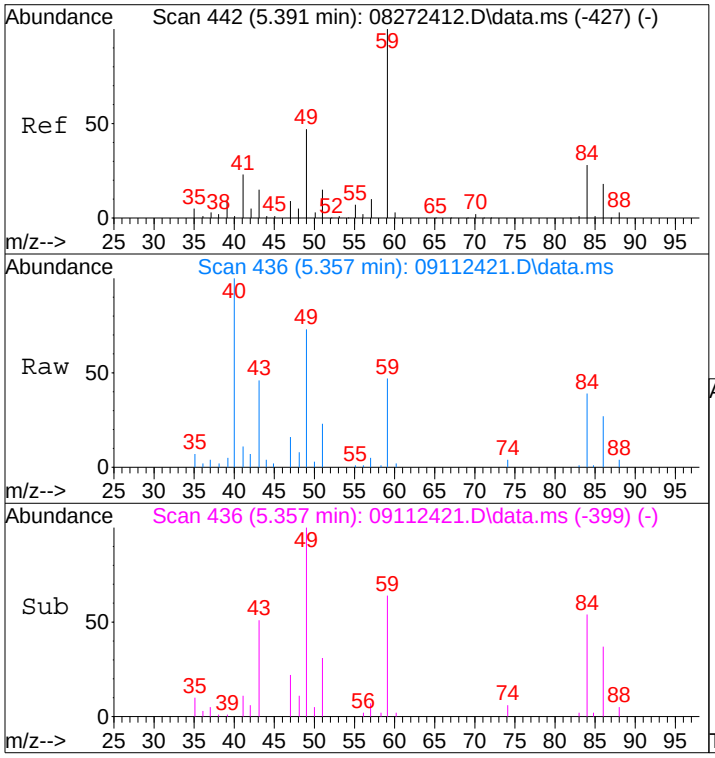


#15
2-Propanol (Isopropanol)
Concen: 12.93 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.088 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 45 Resp: 647430

Ion	Ratio	Lower	Upper
45	100		
43	16.3	0.0	40.0

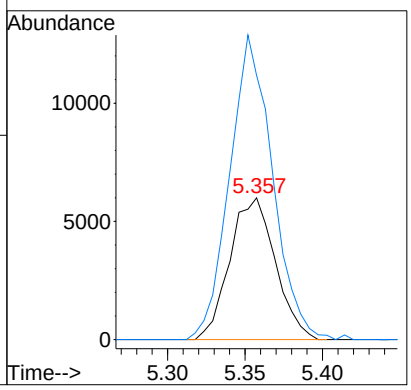


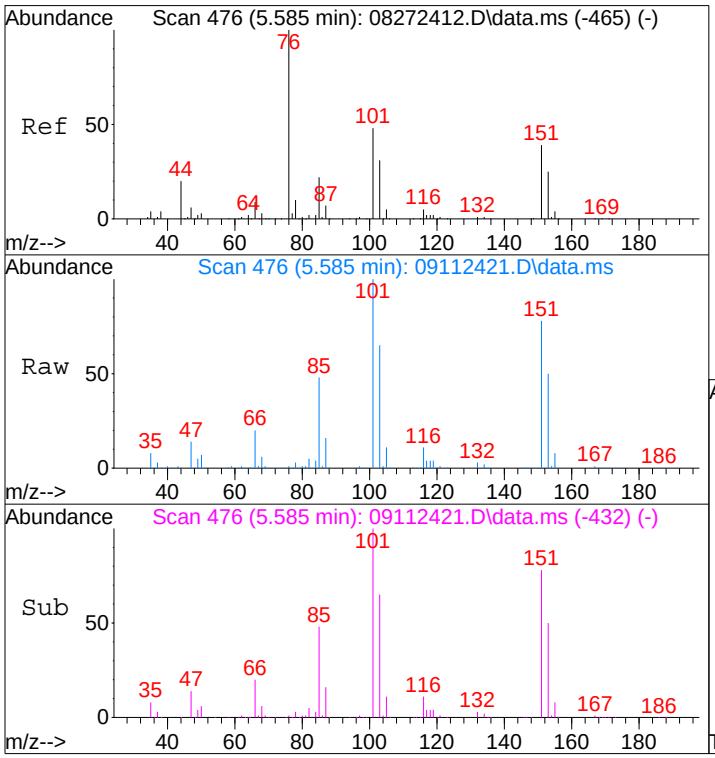


#19
Methylene Chloride
Concen: 0.82 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.041 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 84 Resp: 12251

Ion	Ratio	Lower	Upper
84	100		
49	202.6	151.1	201.1#

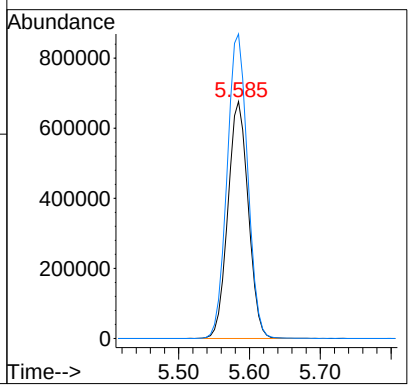


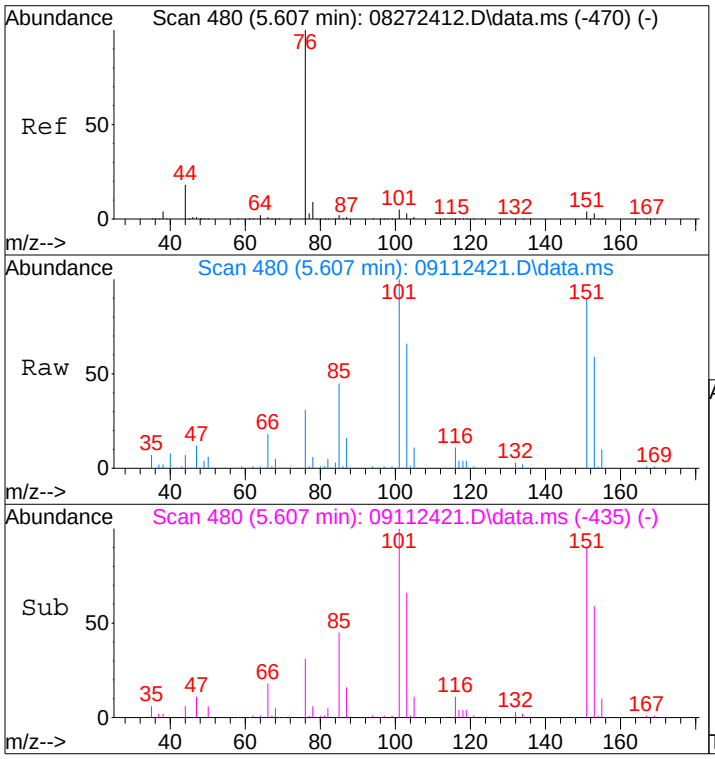


#21
Trichlorotrifluoroethane
Concen: 106.13 ng
RT: 5.58 min Scan# 476
Delta R.T. -0.001 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:151 Resp: 1352168

Ion	Ratio	Lower	Upper
151	100		
101	129.5	103.4	143.4

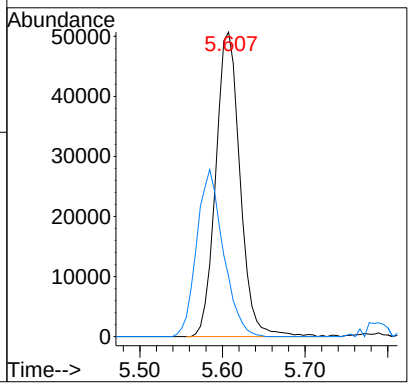


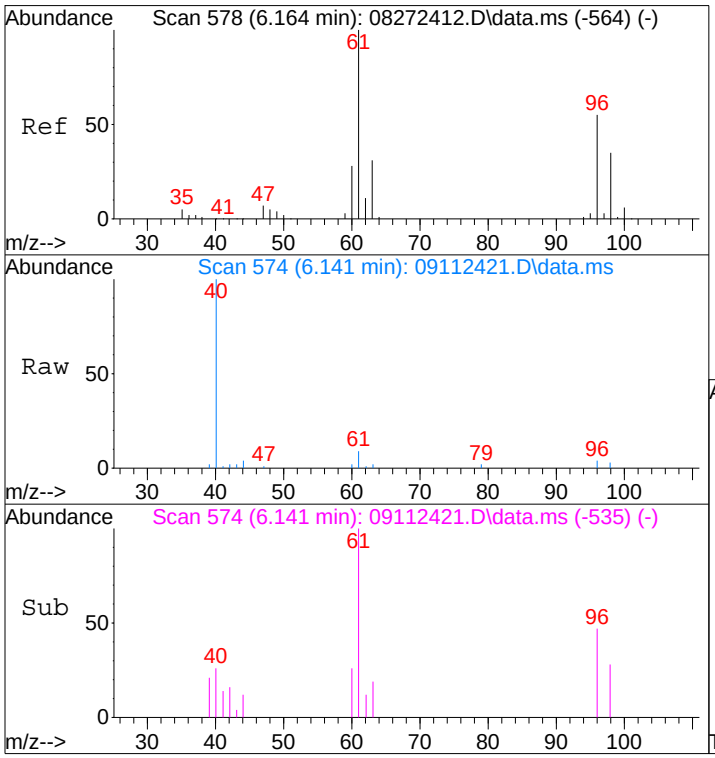


#22
Carbon Disulfide
Concen: 2.09 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.005 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 76 Resp: 103661

Ion	Ratio	Lower	Upper
76	100		
78	59.9	0.0	29.6#

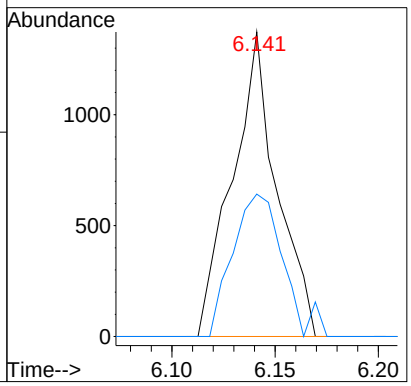


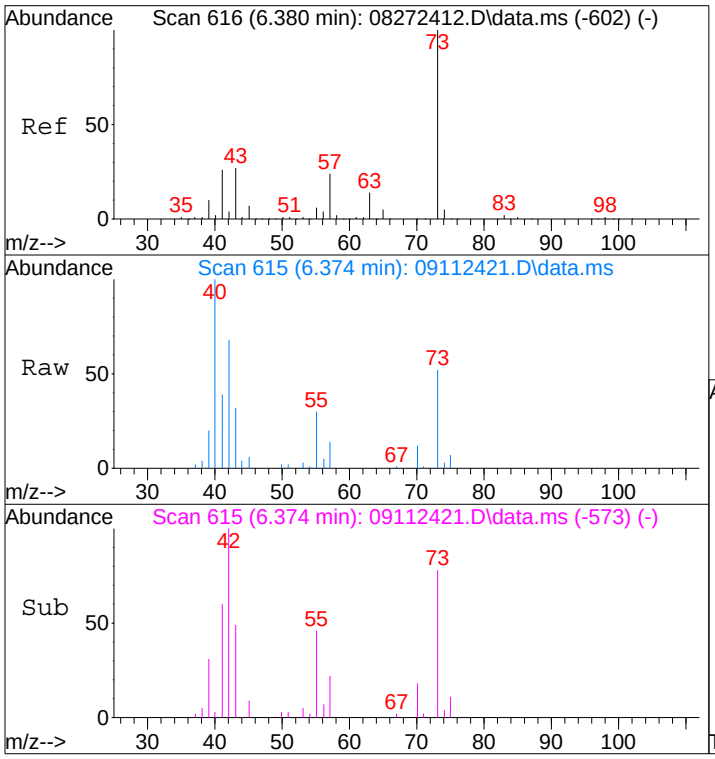


#23
trans-1,2-Dichloroethene
Concen: 0.08 ng
RT: 6.14 min Scan# 574
Delta R.T. -0.027 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 61 Resp: 2049

Ion	Ratio	Lower	Upper
61	100		
96	53.4	35.5	75.5

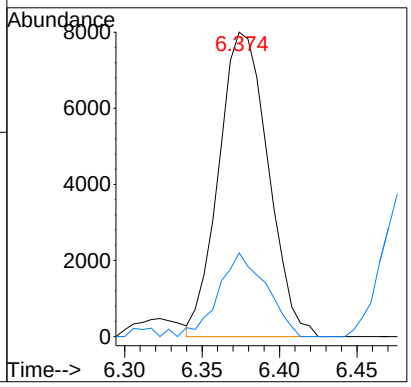


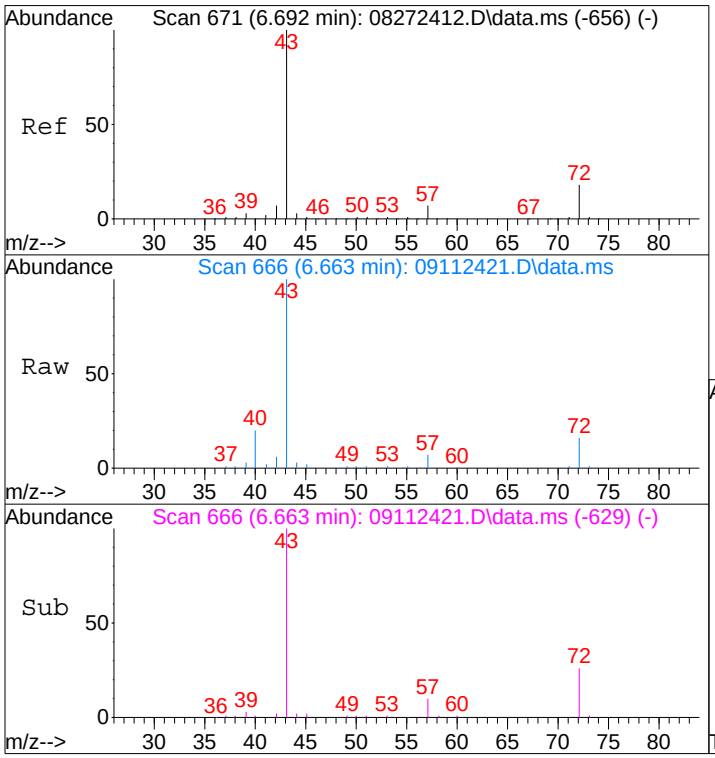


#25
Methyl tert-Butyl Ether
Concen: 0.40 ng
RT: 6.37 min Scan# 615
Delta R.T. -0.009 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 73 Resp: 17756

Ion	Ratio	Lower	Upper
73	100		
57	26.8	4.7	44.7

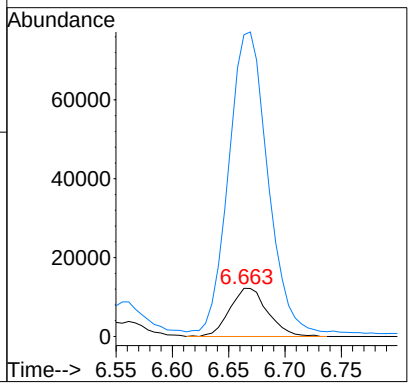


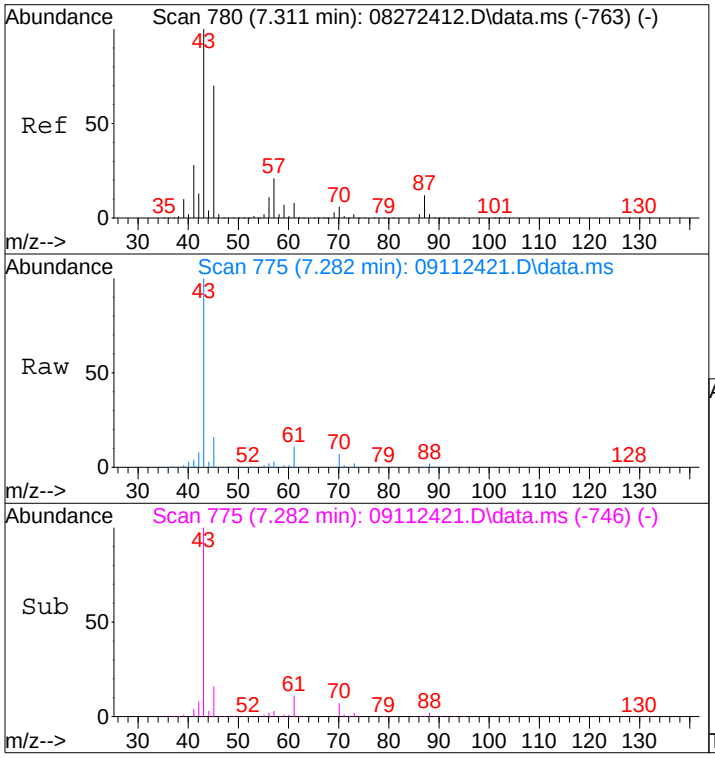


#27
2-Butanone (MEK)
Concen: 3.17 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.042 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 72 Resp: 28636

Ion	Ratio	Lower	Upper
72	100		
43	646.4	548.0	588.0#

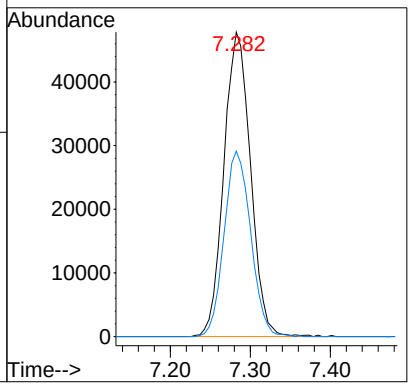


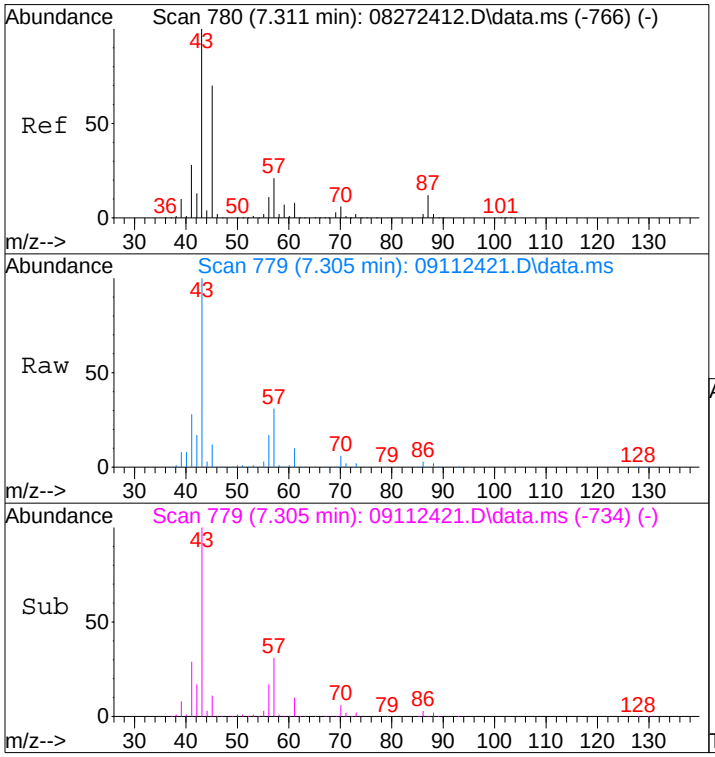


#30
Ethyl Acetate
Concen: 18.35 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.034 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 61 Resp: 110954

Ion	Ratio	Lower	Upper
61	100		
70	60.8	49.9	89.9

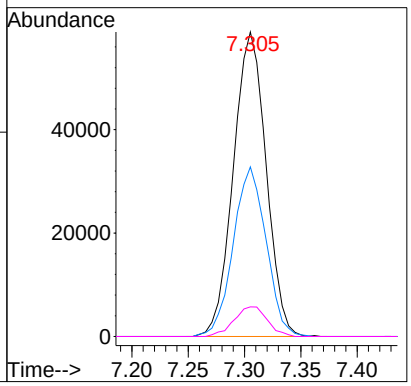


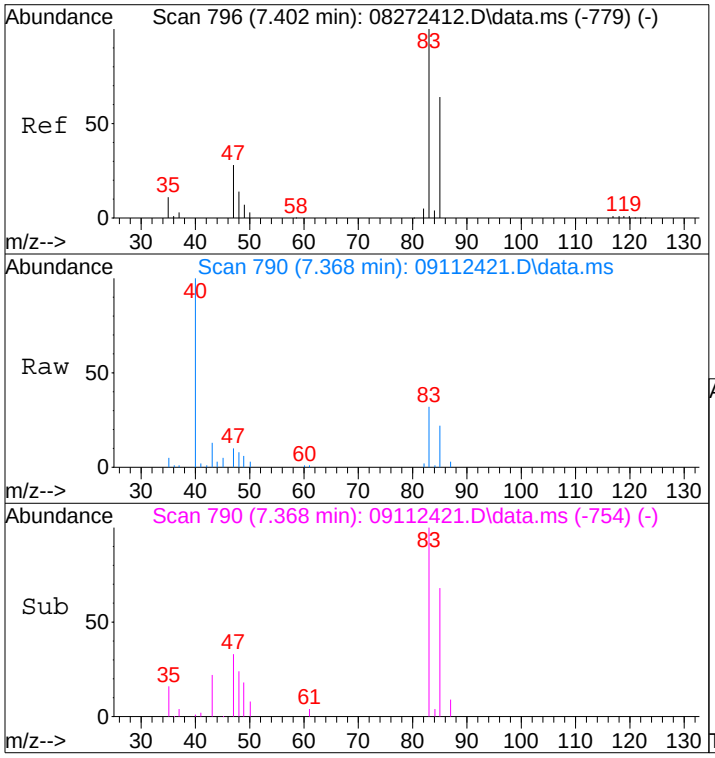


#31
n-Hexane
Concen: 4.33 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.006 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 57 Resp: 119288

Ion	Ratio	Lower	Upper
57	100		
56	55.8	44.2	66.2
86	9.9	9.3	13.9

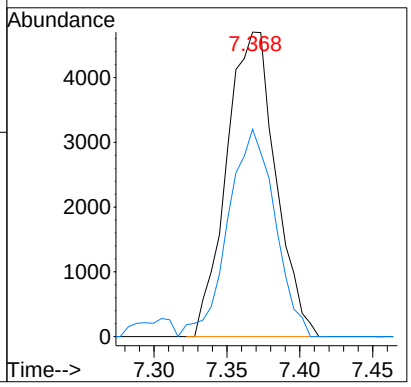


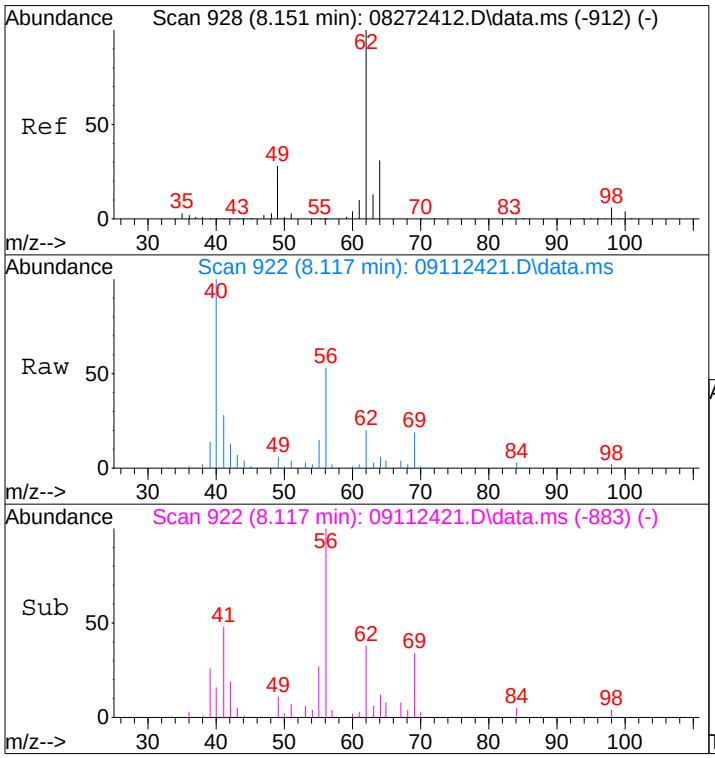


#32
Chloroform
Concen: 0.40 ng
RT: 7.37 min Scan# 790
Delta R.T. -0.045 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 83 Resp: 11029

Ion	Ratio	Lower	Upper
83	100		
85	64.7	45.3	85.3

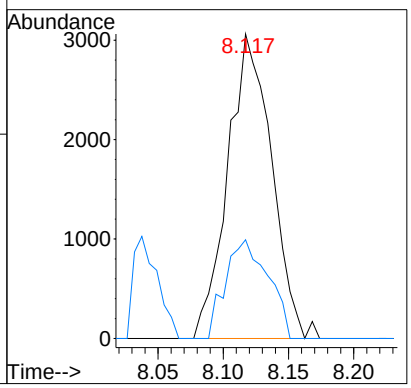


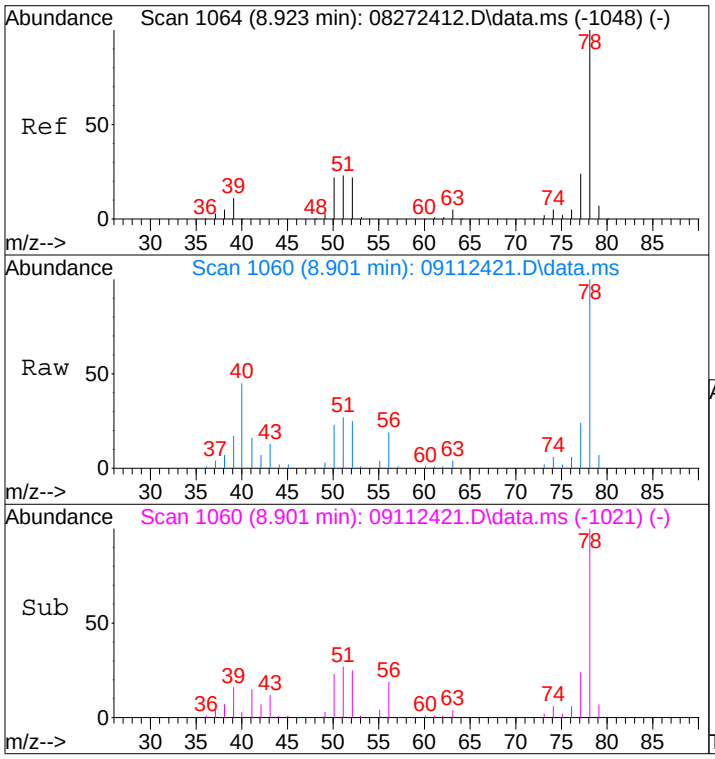


#36
1,2-Dichloroethane
Concen: 0.26 ng
RT: 8.12 min Scan# 922
Delta R.T. -0.031 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 62 Resp: 7151

Ion	Ratio	Lower	Upper
62	100		
64	31.6	11.0	51.0

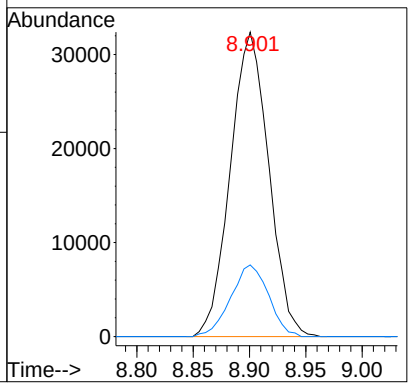


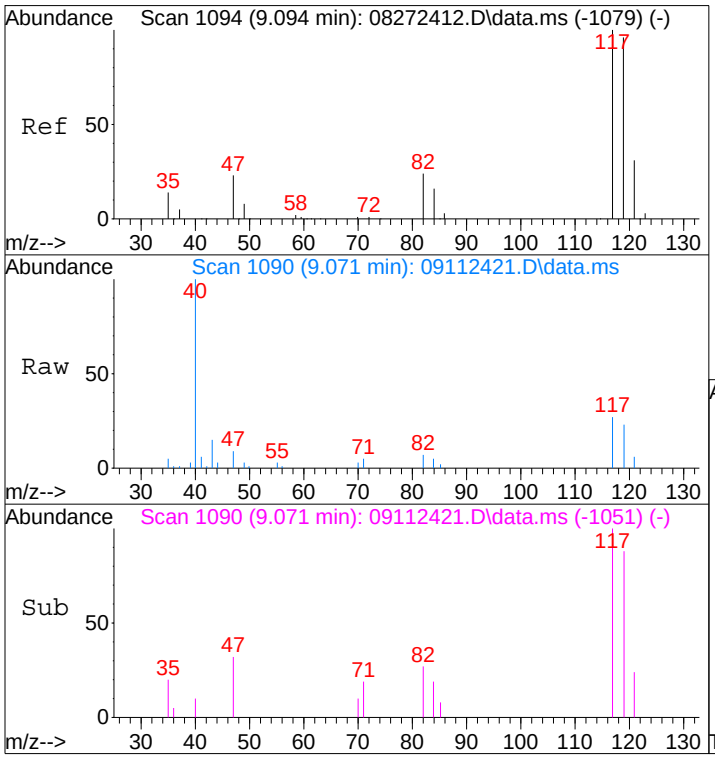


#41
Benzene
Concen: 1.36 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 78 Resp: 76963

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

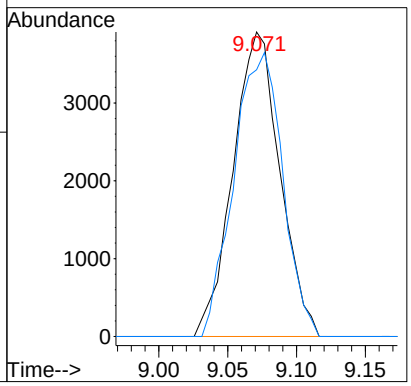


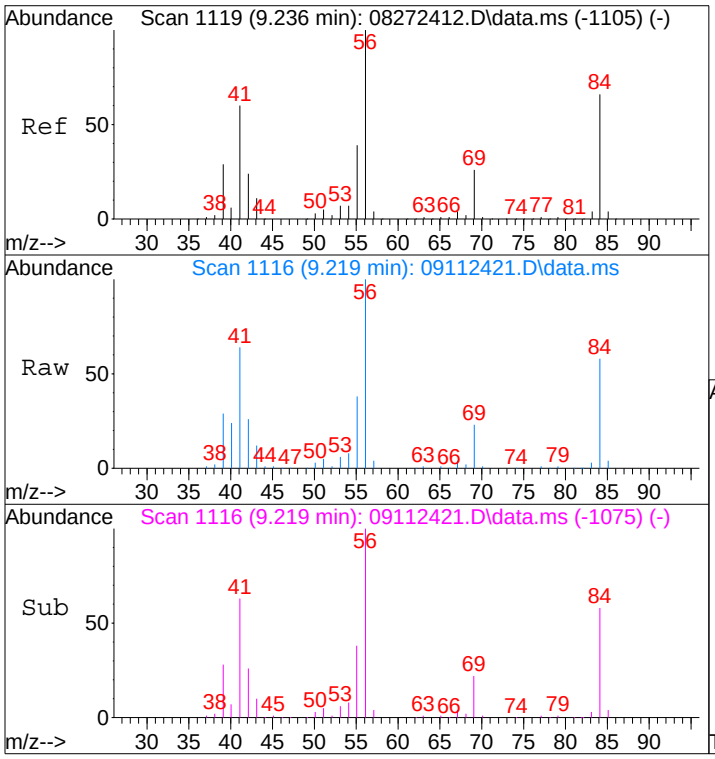


#42
Carbon Tetrachloride
Concen: 0.40 ng
RT: 9.07 min Scan# 1090
Delta R.T. -0.029 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:117 Resp: 9282

Ion	Ratio	Lower	Upper
117	100		
119	96.9	75.1	115.1

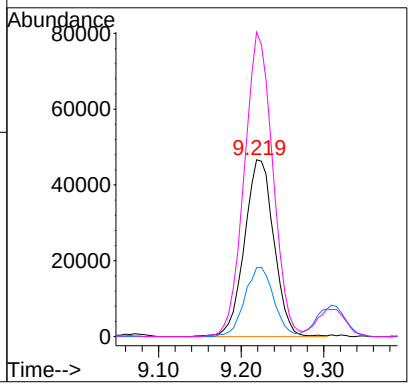


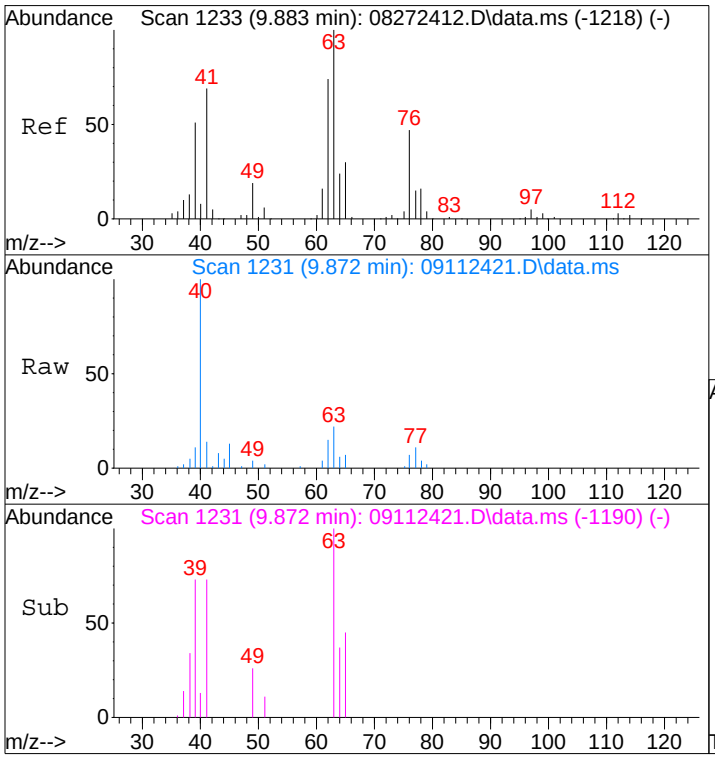


#43
Cyclohexane
Concen: 6.05 ng
RT: 9.22 min Scan# 1116
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 84 Resp: 115425

Ion	Ratio	Lower	Upper
84	100		
69	38.7	18.8	58.8
56	167.1	134.5	174.5

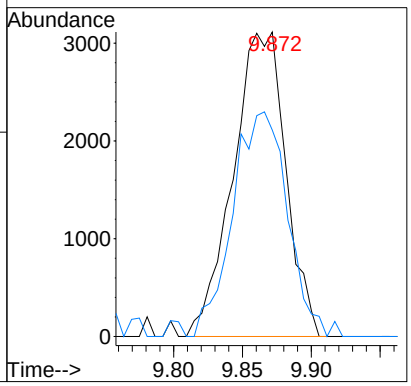


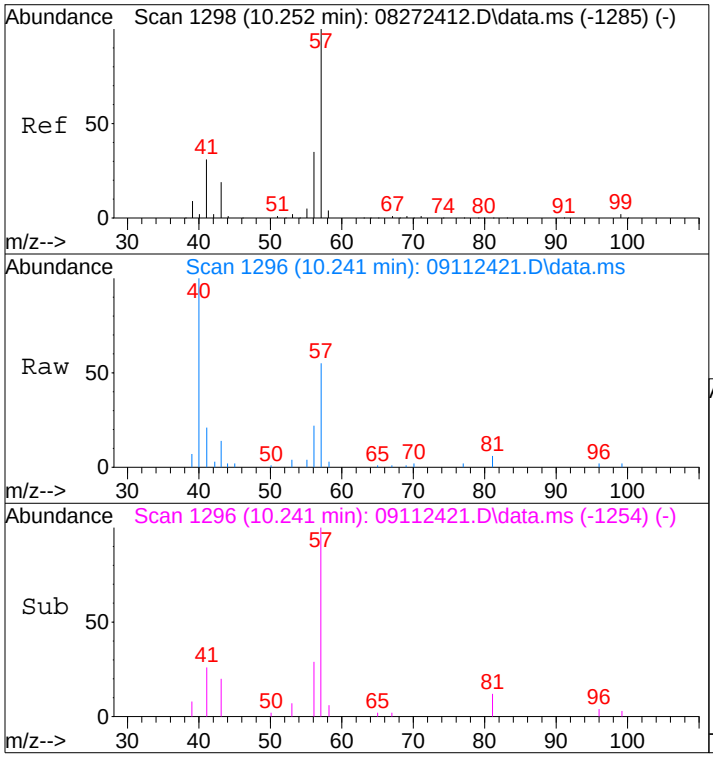


#45
1,2-Dichloropropane
Concen: 0.56 ng
RT: 9.87 min Scan# 1231
Delta R.T. -0.016 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 63 Resp: 8310

Ion	Ratio	Lower	Upper
63	100		
62	77.0	54.2	94.2

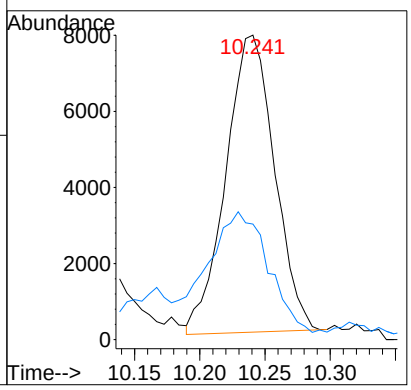


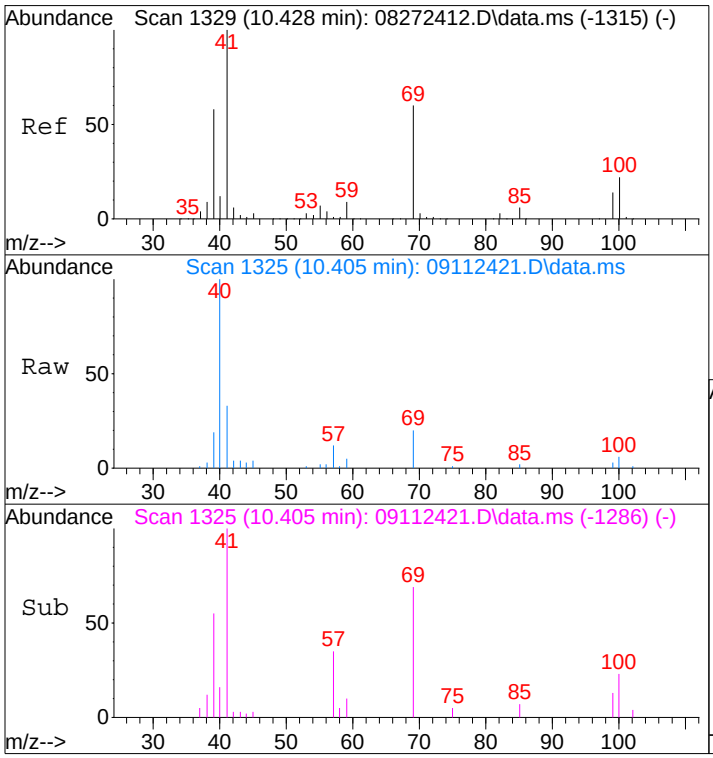


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.30 ng
RT: 10.24 min Scan# 1296
Delta R.T. -0.009 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 57 Resp: 20314

Ion	Ratio	Lower	Upper
57	100		
41	49.7	10.5	50.5

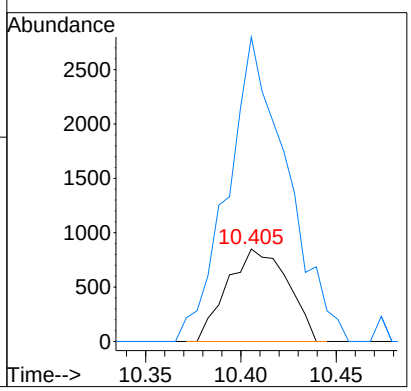


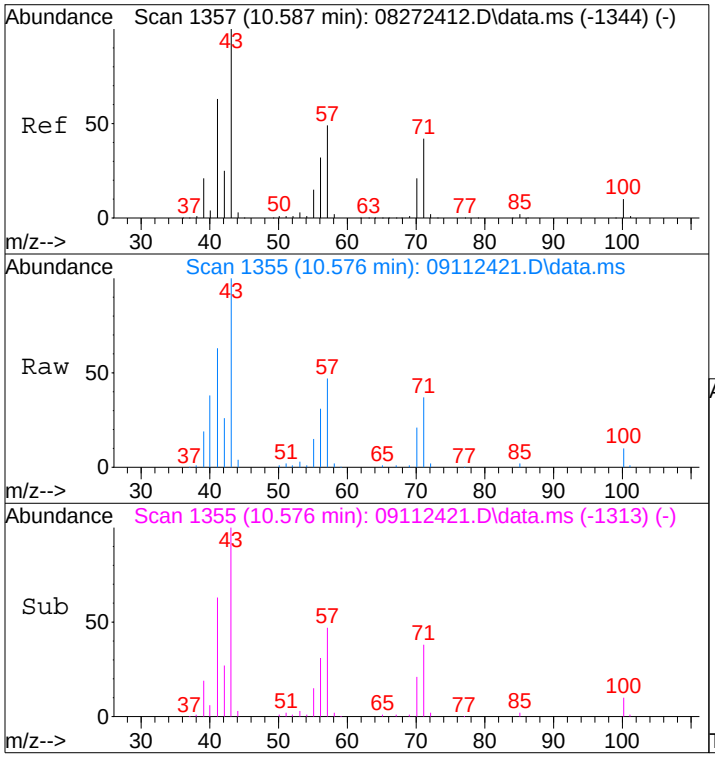


#50
Methyl Methacrylate
Concen: 0.38 ng
RT: 10.41 min Scan# 1325
Delta R.T. -0.026 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:100 Resp: 1869

Ion	Ratio	Lower	Upper
100	100		
69	325.8	260.7	300.7#

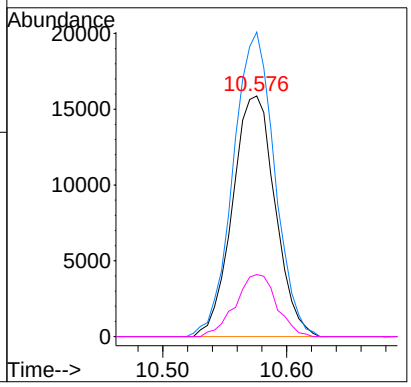


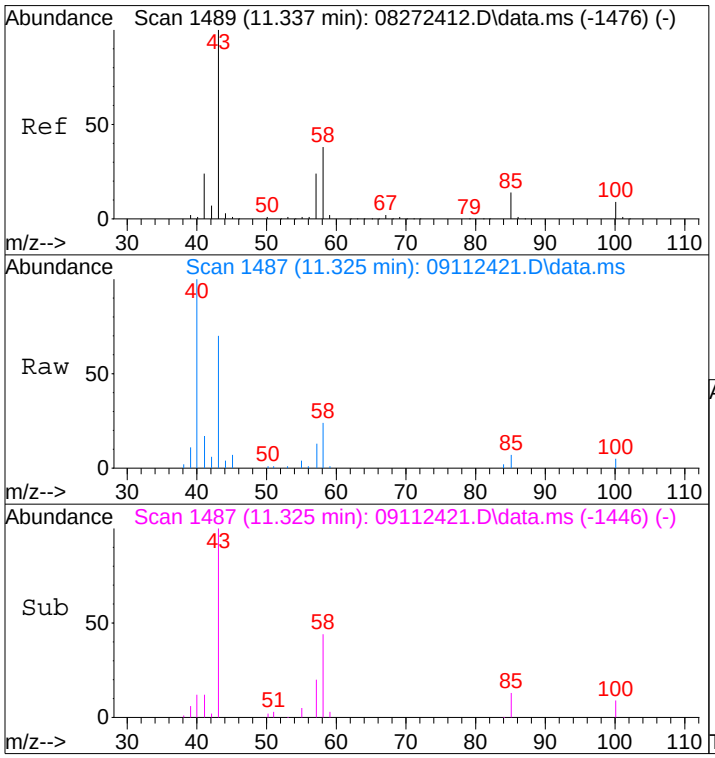


#51
n-Heptane
Concen: 3.02 ng
RT: 10.58 min Scan# 1355
Delta R.T. -0.009 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 71 Resp: 38038

Ion	Ratio	Lower	Upper
71	100		
57	122.7	97.1	137.1
100	24.8	5.0	45.0

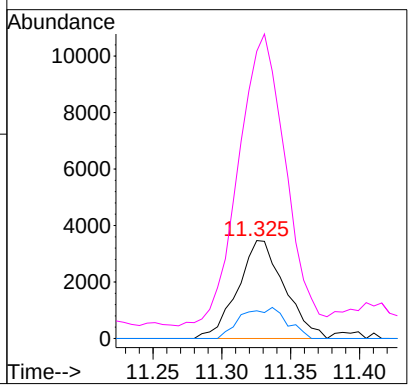


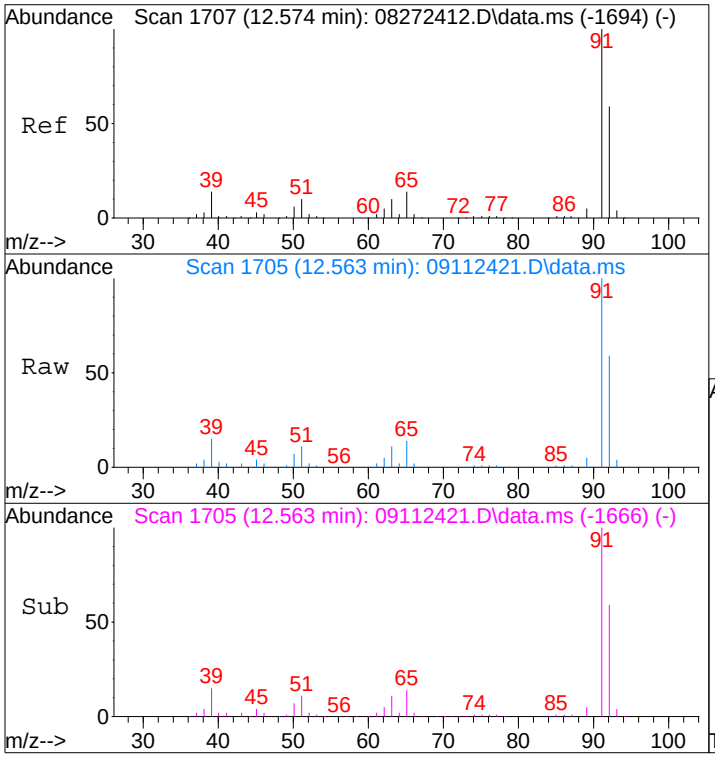


#53
4-Methyl-2-pentanone
Concen: 0.55 ng
RT: 11.33 min Scan# 1487
Delta R.T. -0.019 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 58 Resp: 8136

Ion	Ratio	Lower	Upper
58	100		
85	31.3	30.2	45.2
43	305.0	215.1	322.7

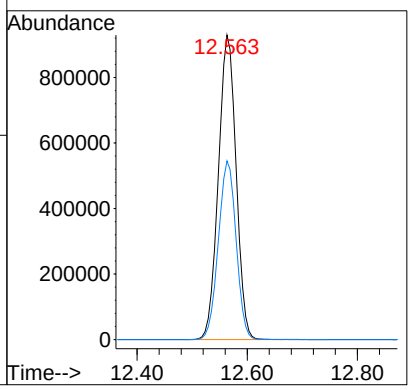


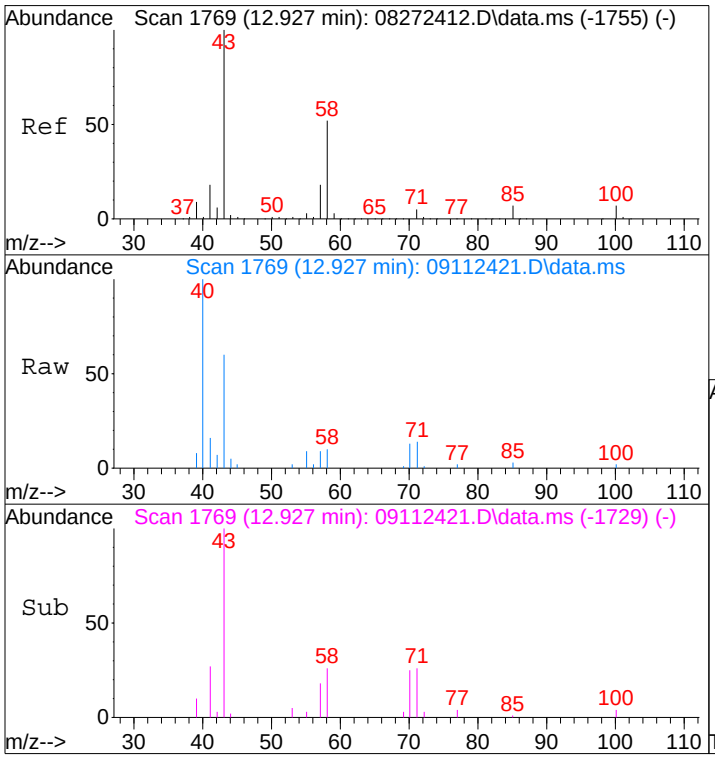


#58
Toluene
Concen: 29.60 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 91 Resp: 2081259

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

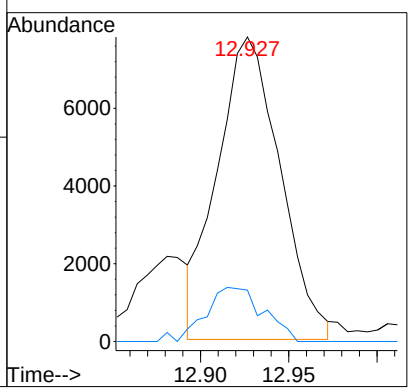


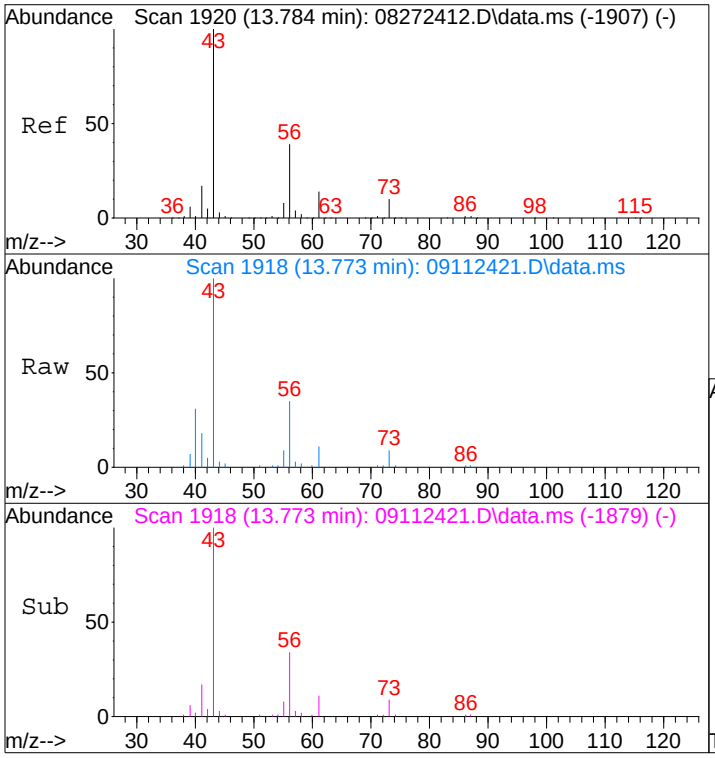


#59
2-Hexanone
Concen: 0.44 ng m
RT: 12.93 min Scan# 1769
Delta R.T. -0.022 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 43 Resp: 19269

Ion	Ratio	Lower	Upper
43	100		
58	16.6	31.1	71.1#

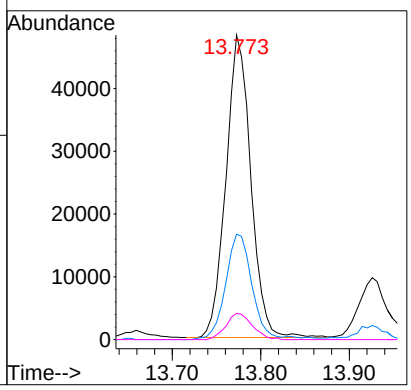


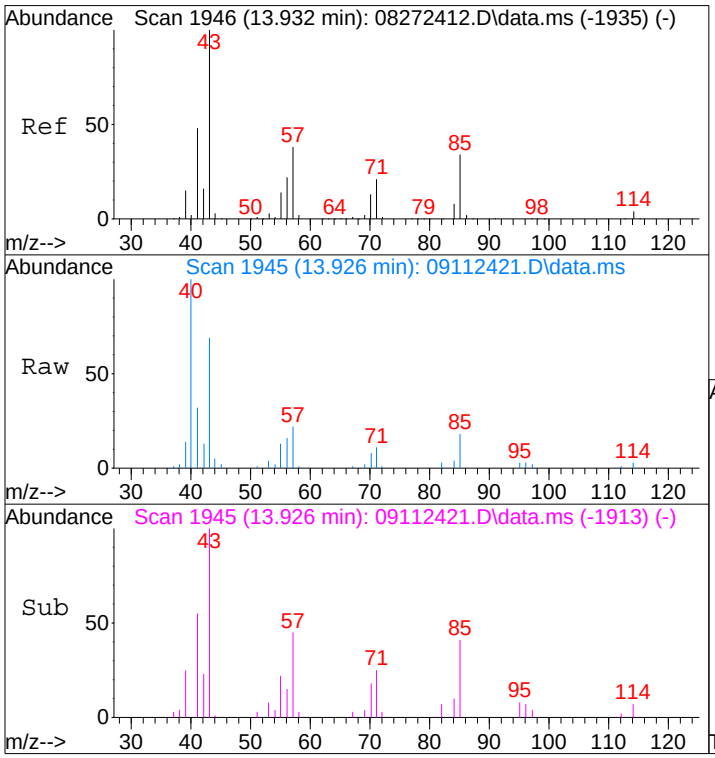


#62
n-Butyl Acetate
Concen: 1.93 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 43 Resp: 94039

Ion	Ratio	Lower	Upper
43	100		
56	37.6	18.2	58.2
73	9.2	0.0	30.1

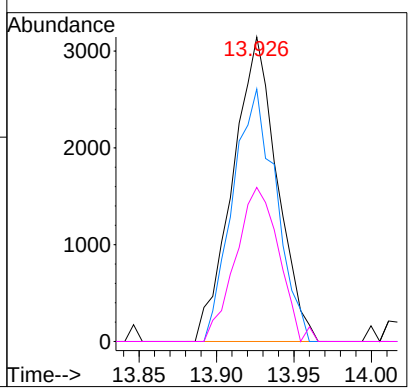


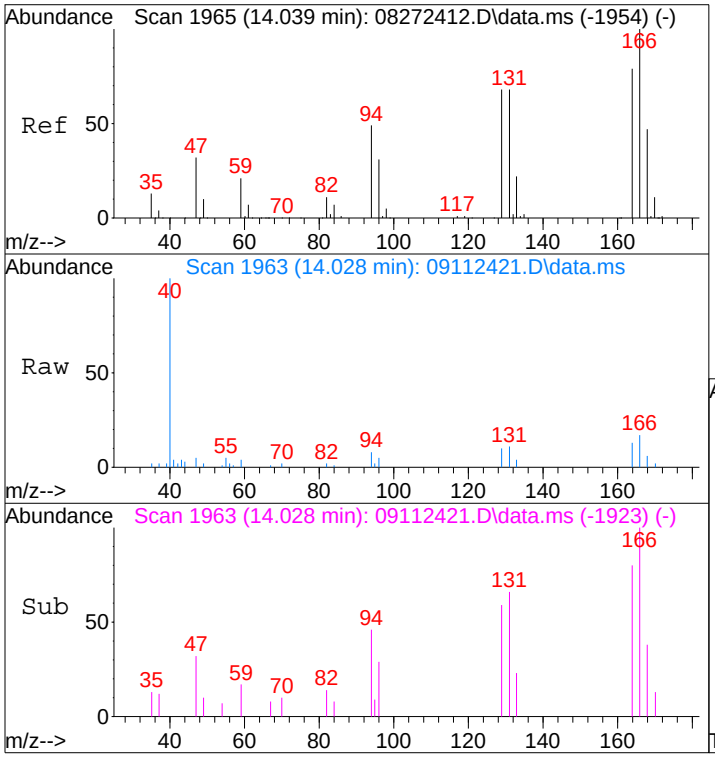


#63
n-Octane
Concen: 0.38 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 57 Resp: 6295

Ion	Ratio	Lower	Upper
57	100		
85	80.8	71.2	106.8
71	49.2	43.3	64.9

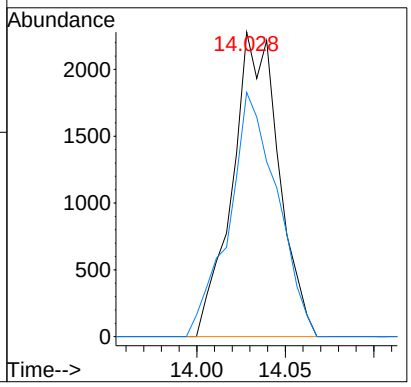


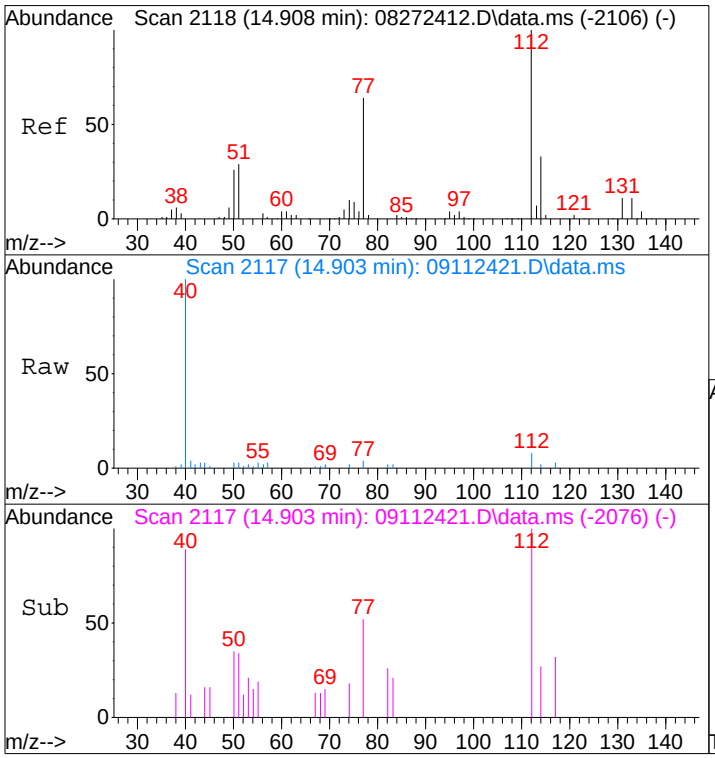


#64
Tetrachloroethene
Concen: 0.21 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.022 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:166 Resp: 4165

Ion	Ratio	Lower	Upper
166	100		
164	83.3	59.0	99.0

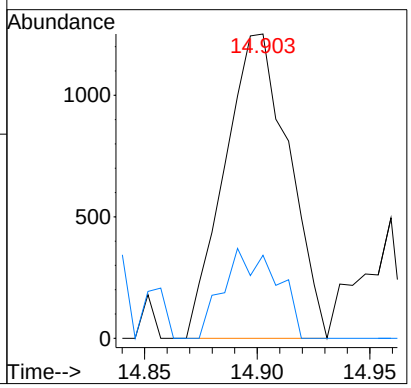


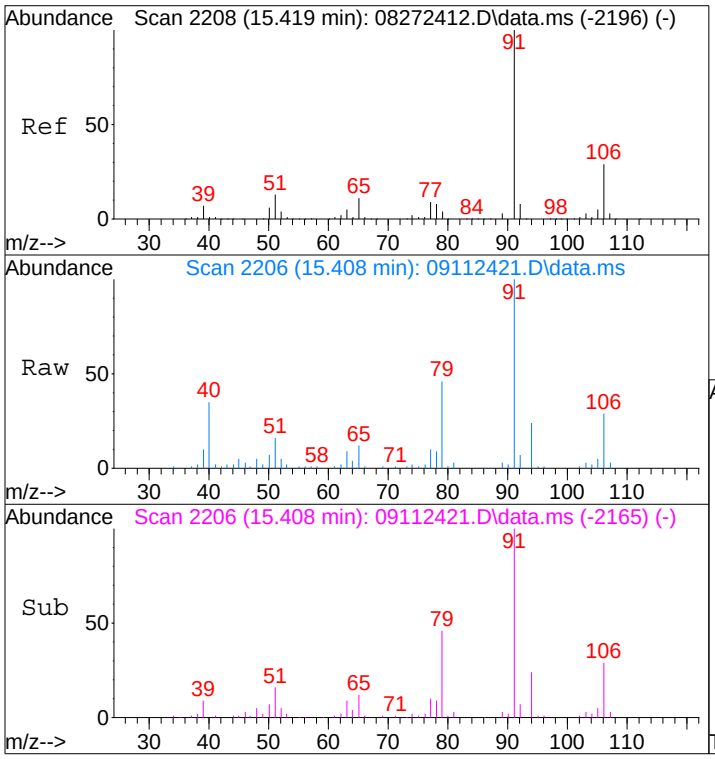


#65
Chlorobenzene
Concen: 0.06 ng
RT: 14.90 min Scan# 2117
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:112 Resp: 2487

Ion	Ratio	Lower	Upper
112	100		
114	24.6	12.7	52.7

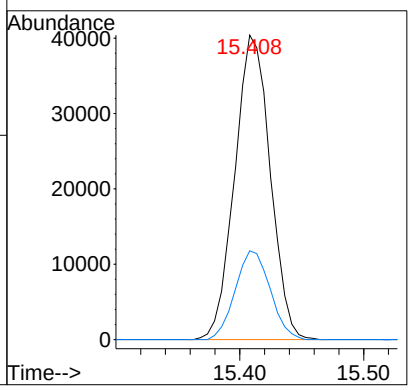


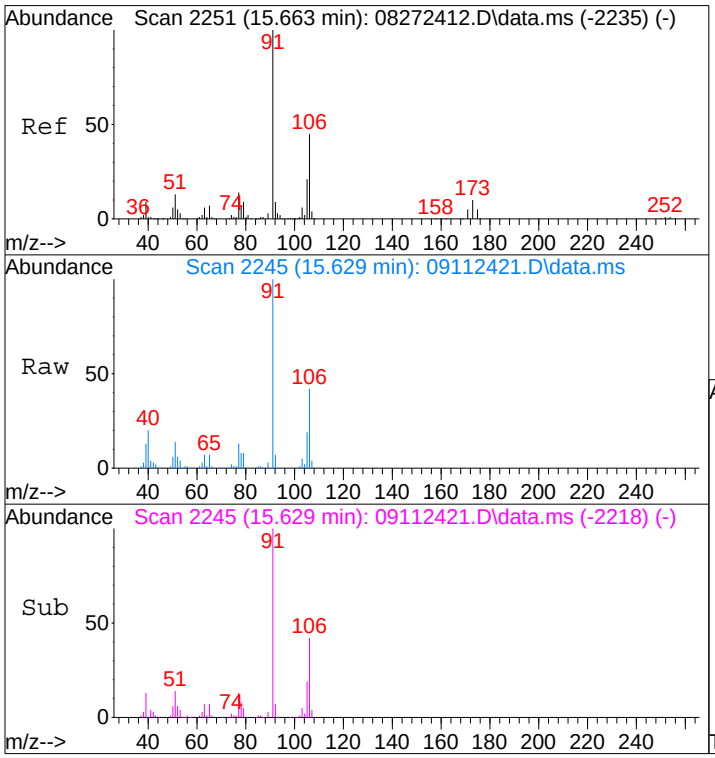


#66
Ethylbenzene
Concen: 1.00 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 91 Resp: 80571

Ion	Ratio	Lower	Upper
91	100		
106	28.7	9.2	49.2

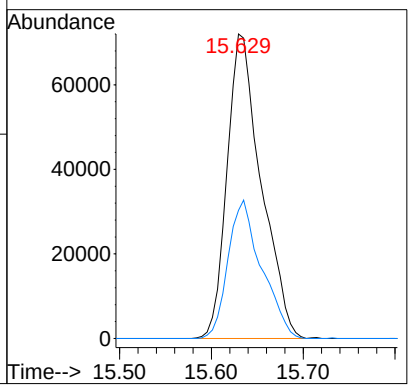


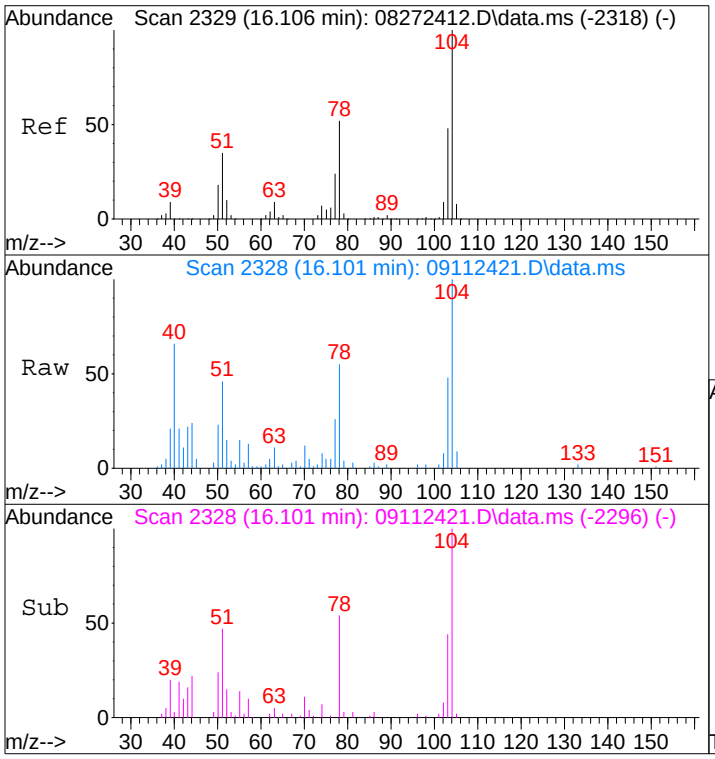


#67
m- & p-Xylenes
Concen: 2.83 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 91 Resp: 185932

Ion	Ratio	Lower	Upper
91	100		
106	44.7	23.8	63.8

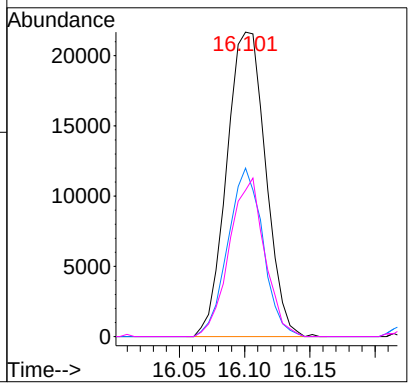


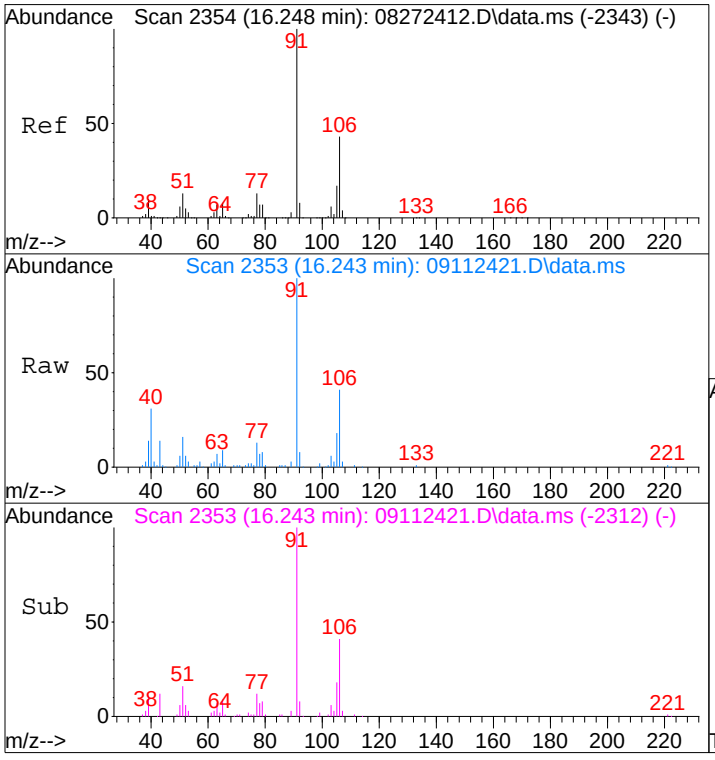


#69
Styrene
Concen: 1.06 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:104 Resp: 45031

Ion	Ratio	Lower	Upper
104	100		
78	49.8	32.2	72.2
103	47.2	28.3	68.3

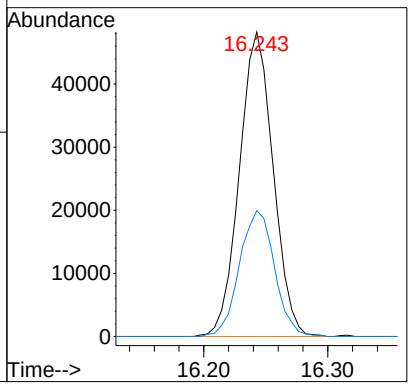


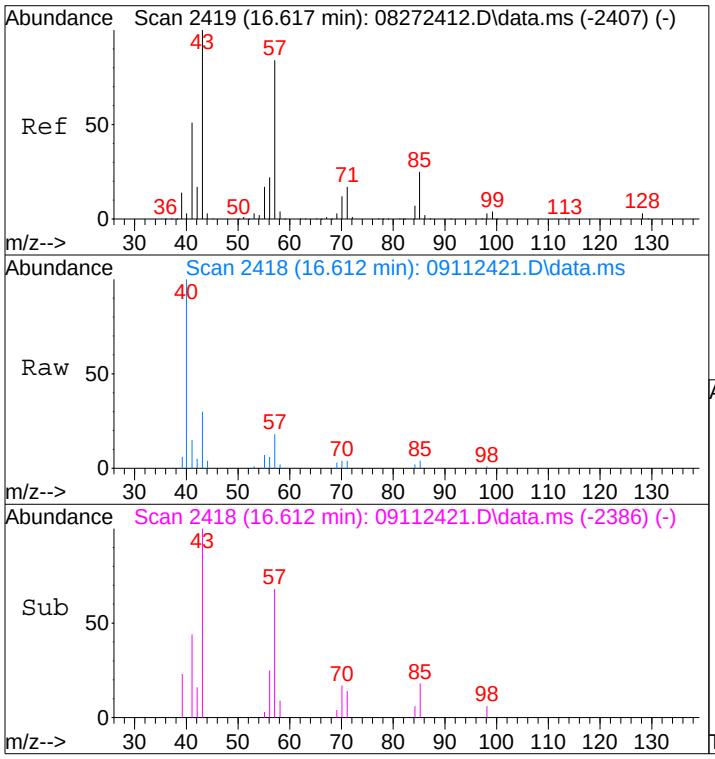


#70
o-Xylene
Concen: 1.43 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 91 Resp: 91543

Ion	Ratio	Lower	Upper
91	100		
106	42.9	22.5	62.5

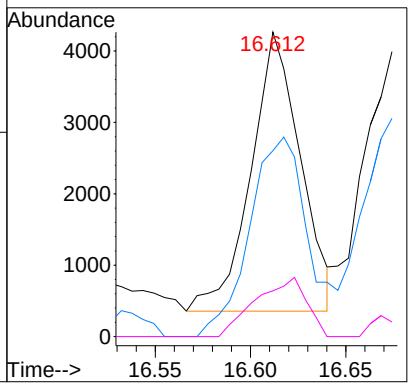


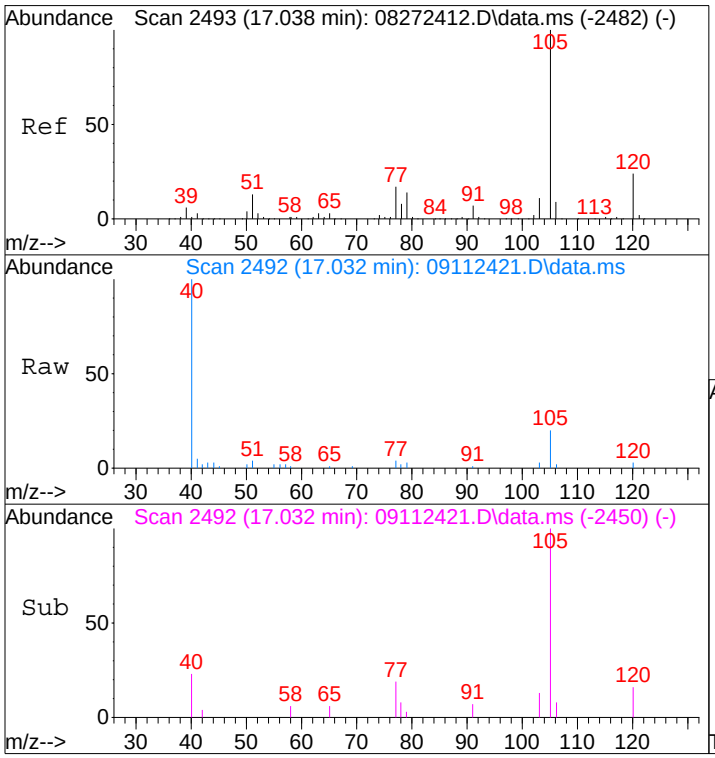


#71
n-Nonane
Concen: 0.17 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 43 Resp: 7038

Ion	Ratio	Lower	Upper
43	100		
57	85.2	63.3	103.3
85	21.8	4.5	44.5

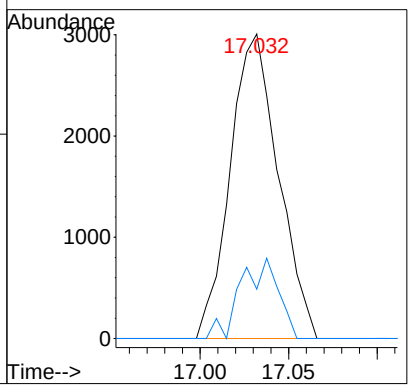


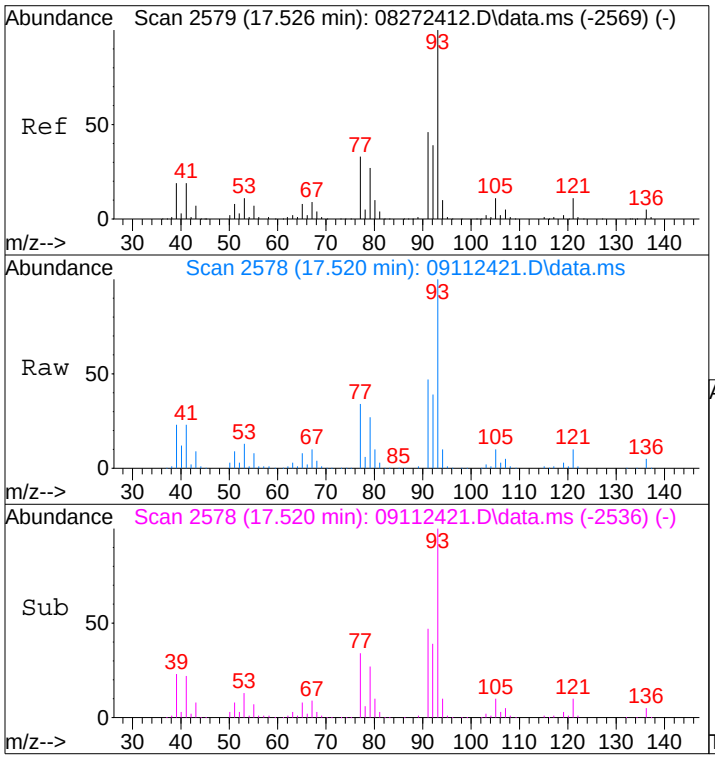


#74
Cumene
Concen: 0.08 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:105 Resp: 5683

Ion	Ratio	Lower	Upper
105	100		
120	20.7	3.7	43.7

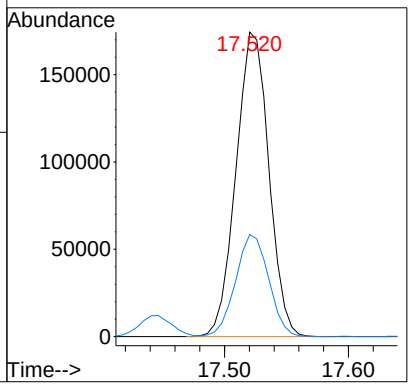


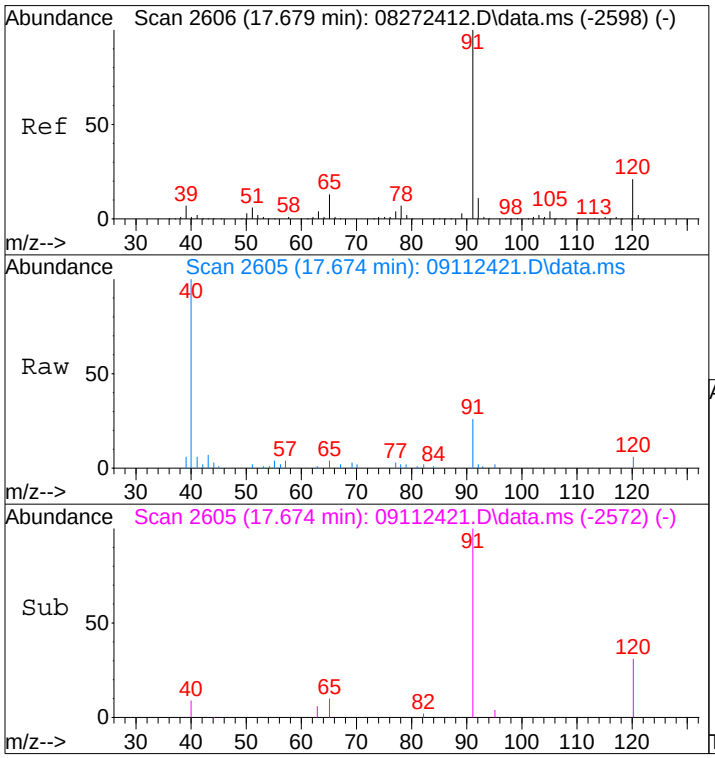


#75
alpha-Pinene
Concen: 8.31 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 93 Resp: 321476

Ion	Ratio	Lower	Upper
93	100		
77	33.8	13.1	53.1

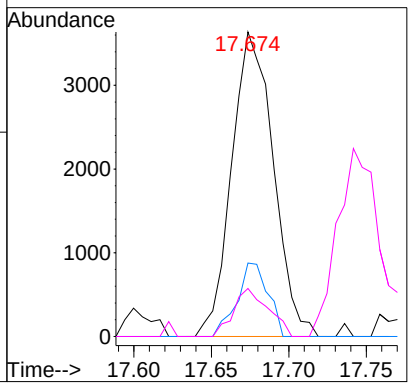


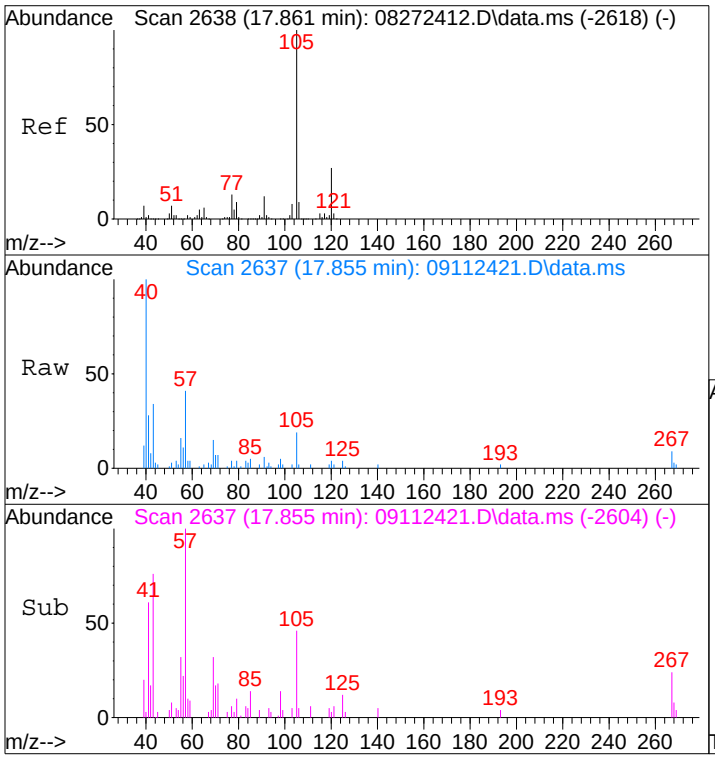


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 17.67 min Scan# 2605
Delta R.T. -0.011 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 91 Resp: 6816

Ion	Ratio	Lower	Upper
91	100		
120	17.9	0.5	40.5
65	13.2	0.0	32.5

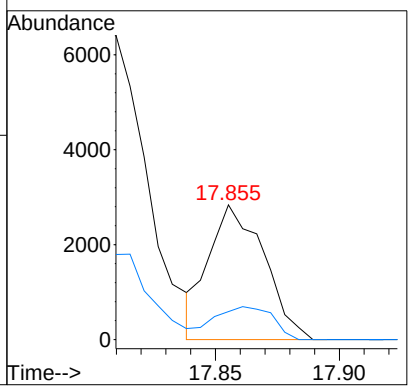


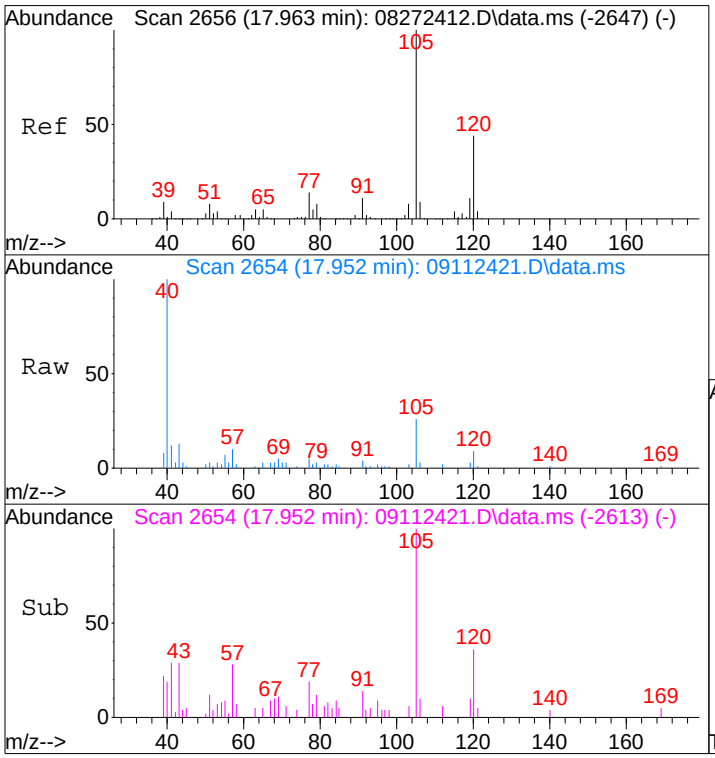


#78
4-Ethyltoluene
Concen: 0.06 ng
RT: 17.86 min Scan# 2637
Delta R.T. -0.011 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:105 Resp: 4418

Ion	Ratio	Lower	Upper
105	100		
120	26.1	6.9	46.9

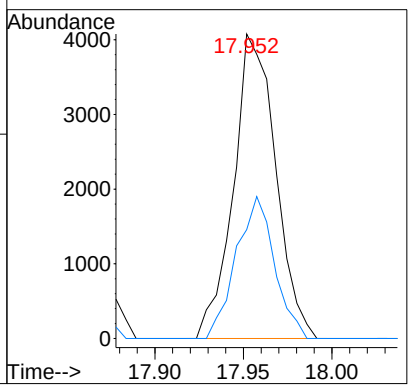


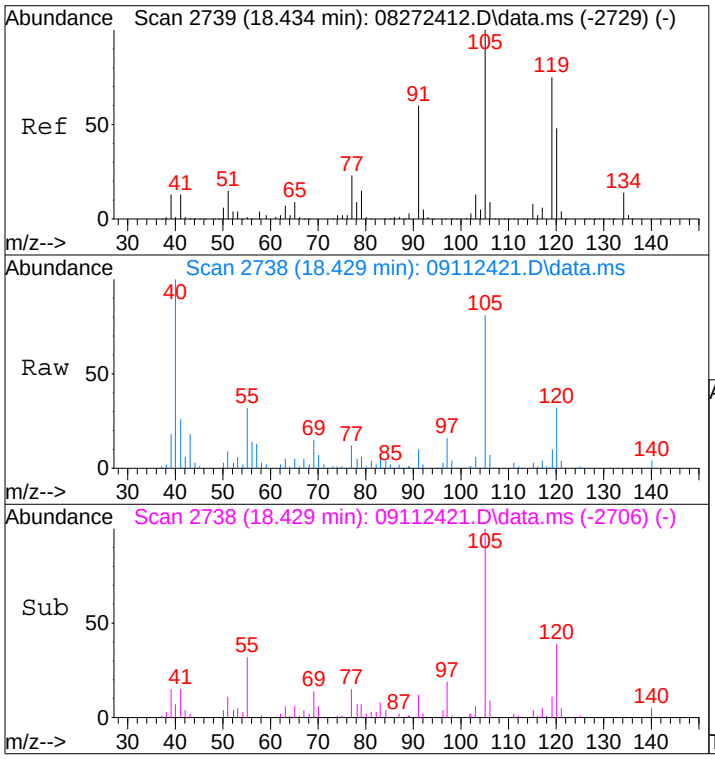


#79
1,3,5-Trimethylbenzene
Concen: 0.11 ng
RT: 17.95 min Scan# 2654
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:105 Resp: 6757

Ion	Ratio	Lower	Upper
105	100		
120	42.4	24.0	64.0

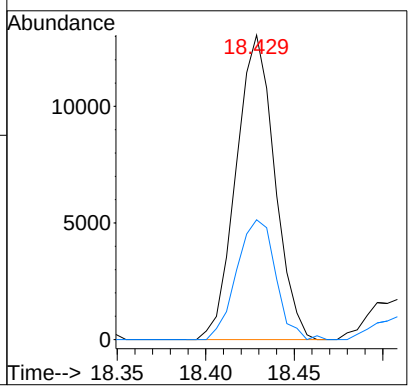


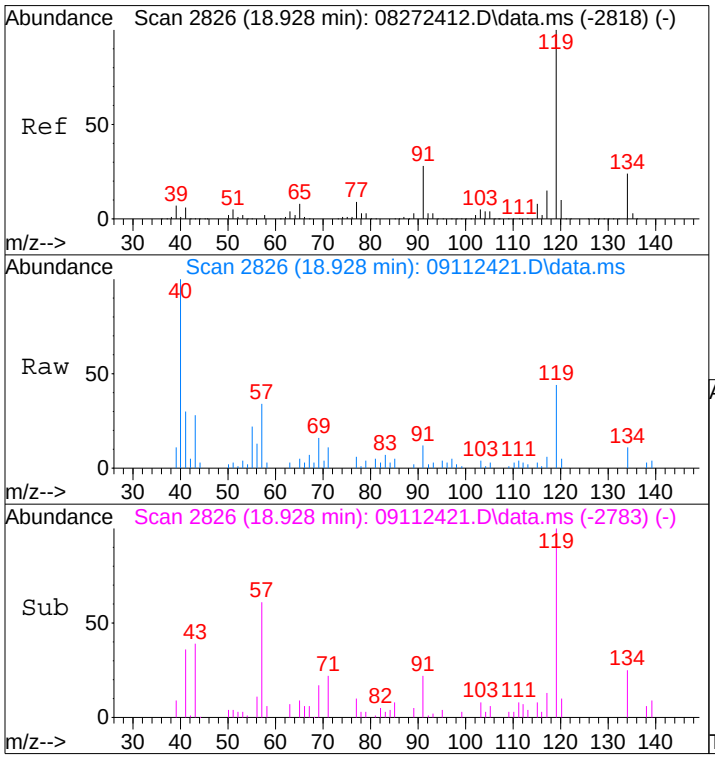


#82
1,2,4-Trimethylbenzene
Concen: 0.30 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:105 Resp: 19797

Ion	Ratio	Lower	Upper
105	100		
120	39.6	28.8	68.8

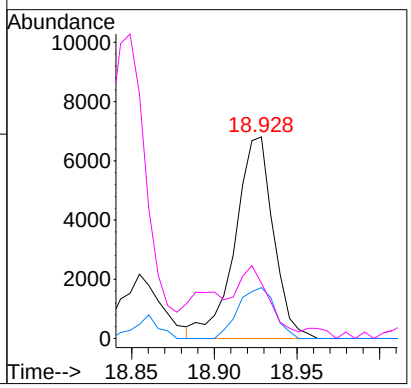


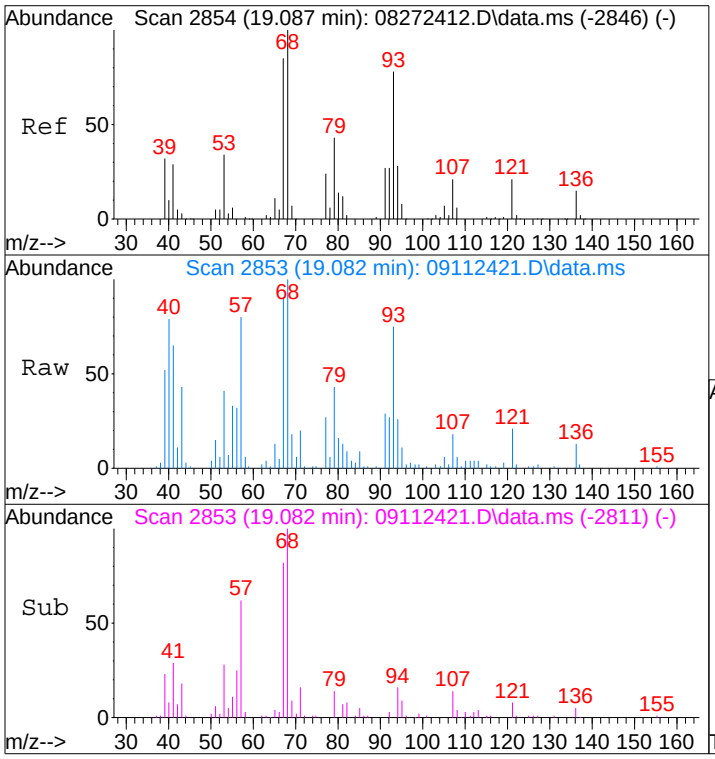


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.15 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.006 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:119 Resp: 10985

Ion	Ratio	Lower	Upper
119	100		
134	24.2	4.7	44.7
91	26.8	8.1	48.1

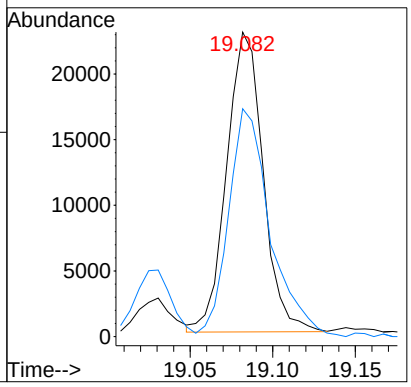


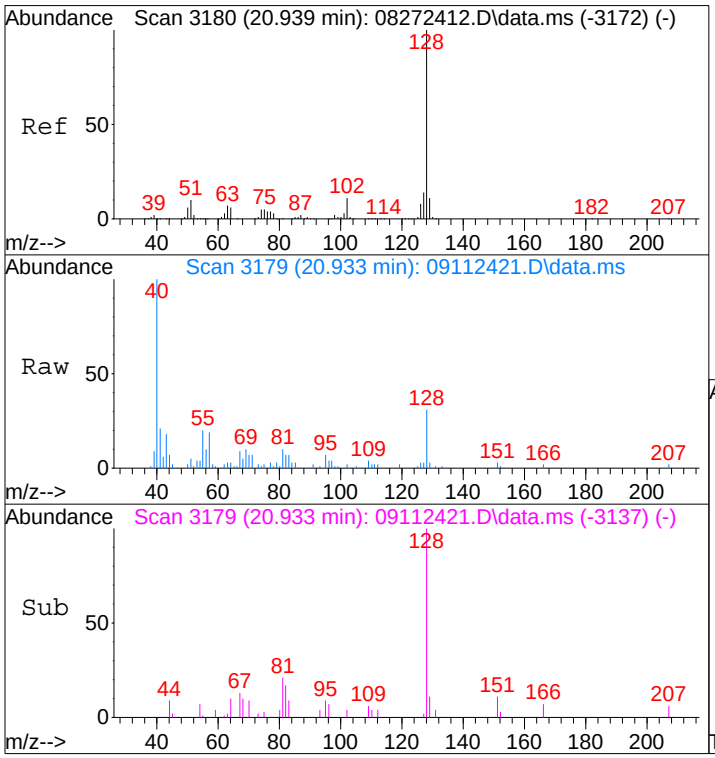


#91
d-Limonene
Concen: 1.59 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion: 68 Resp: 35041

Ion	Ratio	Lower	Upper
68	100		
93	86.5	56.2	96.2

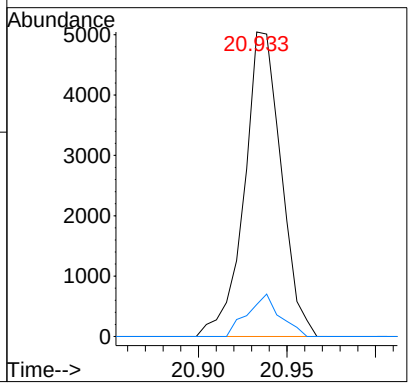




#95
Naphthalene
Concen: 0.10 ng
RT: 20.93 min Scan# 3179
Delta R.T. -0.011 min
Lab File: 09112421.D
Acq: 11 Sep 2024 20:38

Tgt Ion:128 Resp: 7293

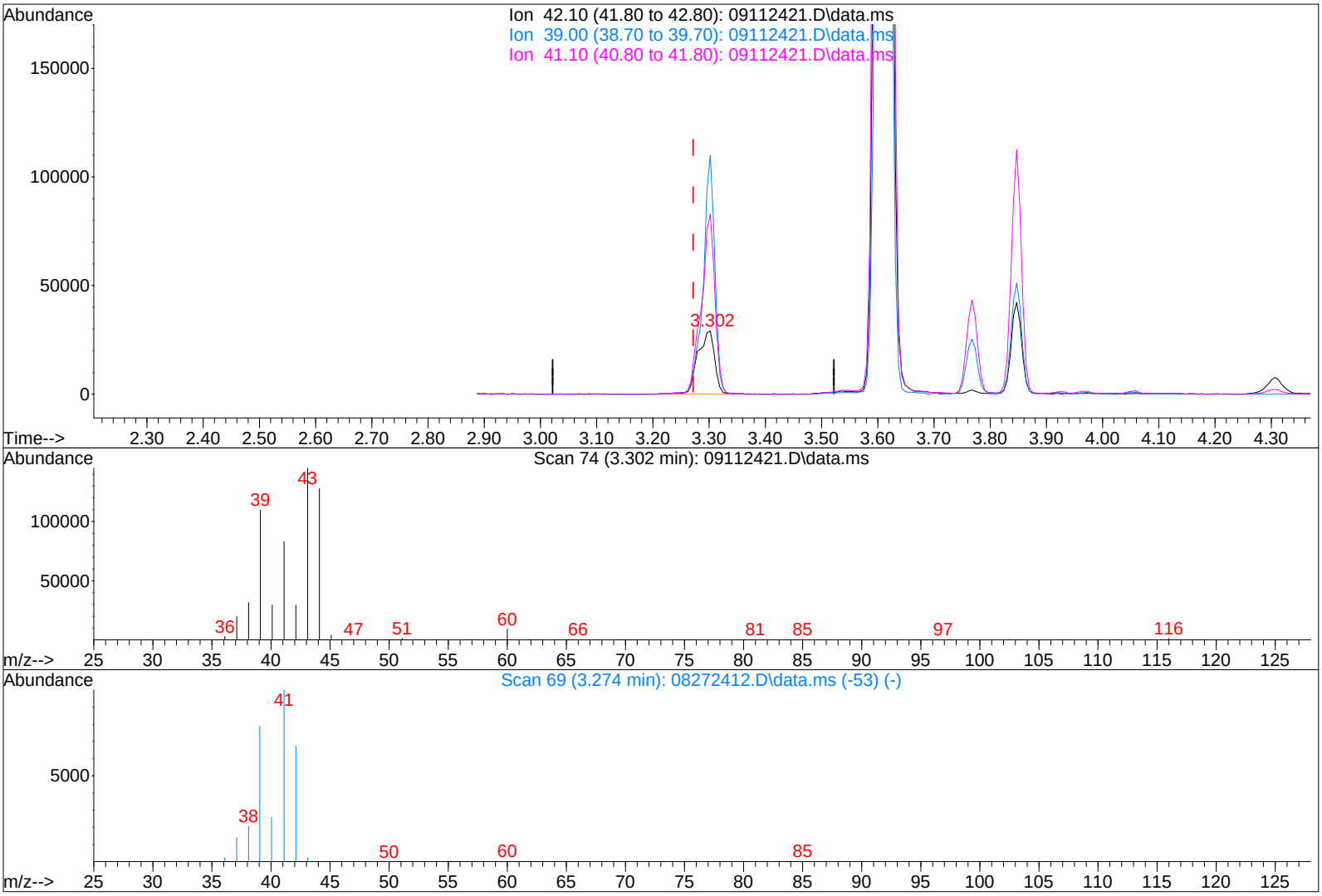
Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112421.D\data.ms

(2) Propene (T)

3.302min (+0.030) 2.85ng

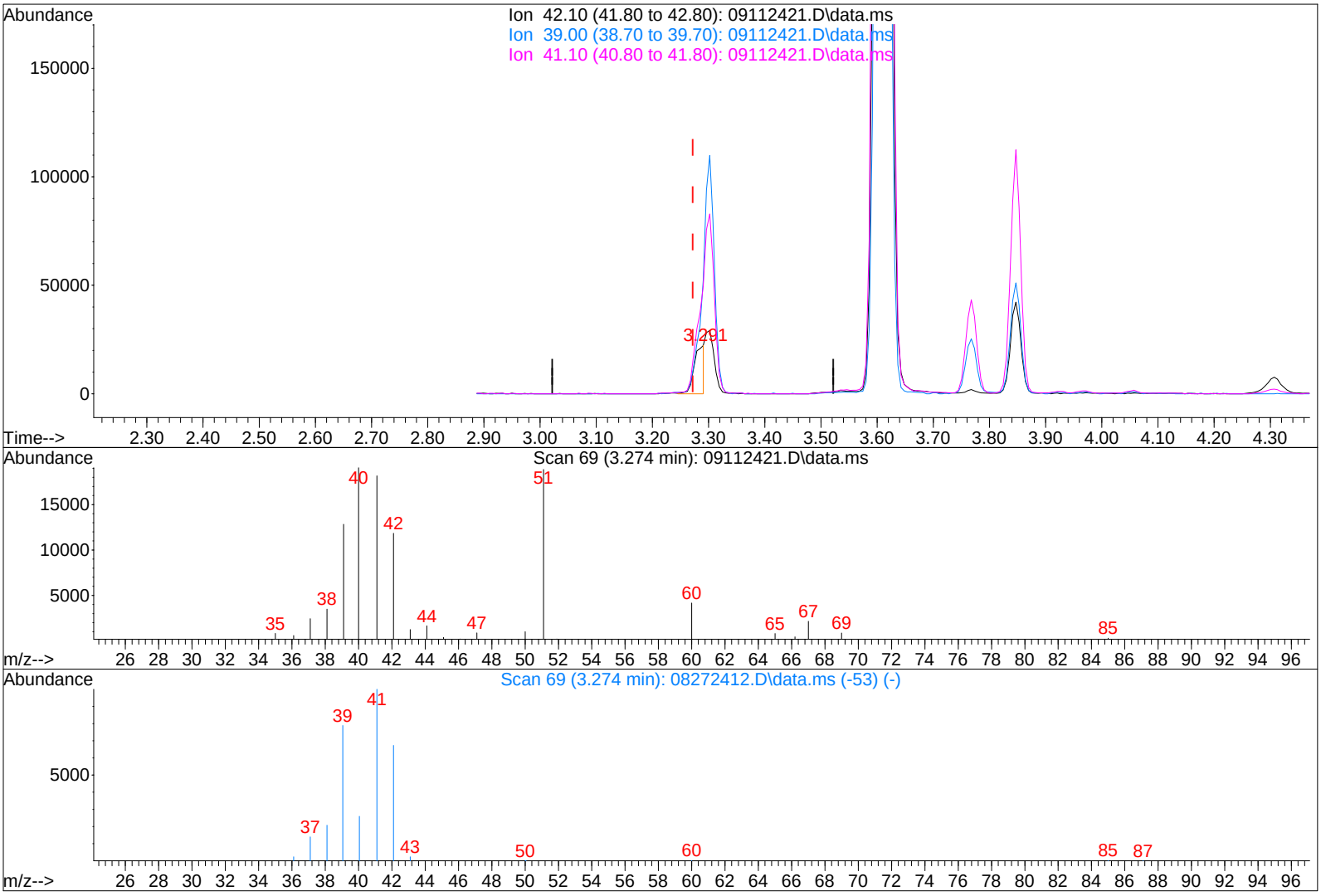
response 59841

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	265.45#
41.10	150.10	232.83#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112421.D\data.ms

(2) Propene (T)

3.291min (+0.019) 1.31ng m

response 27541

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	576.78#
41.10	150.10	505.90#
0.00	0.00	0.00

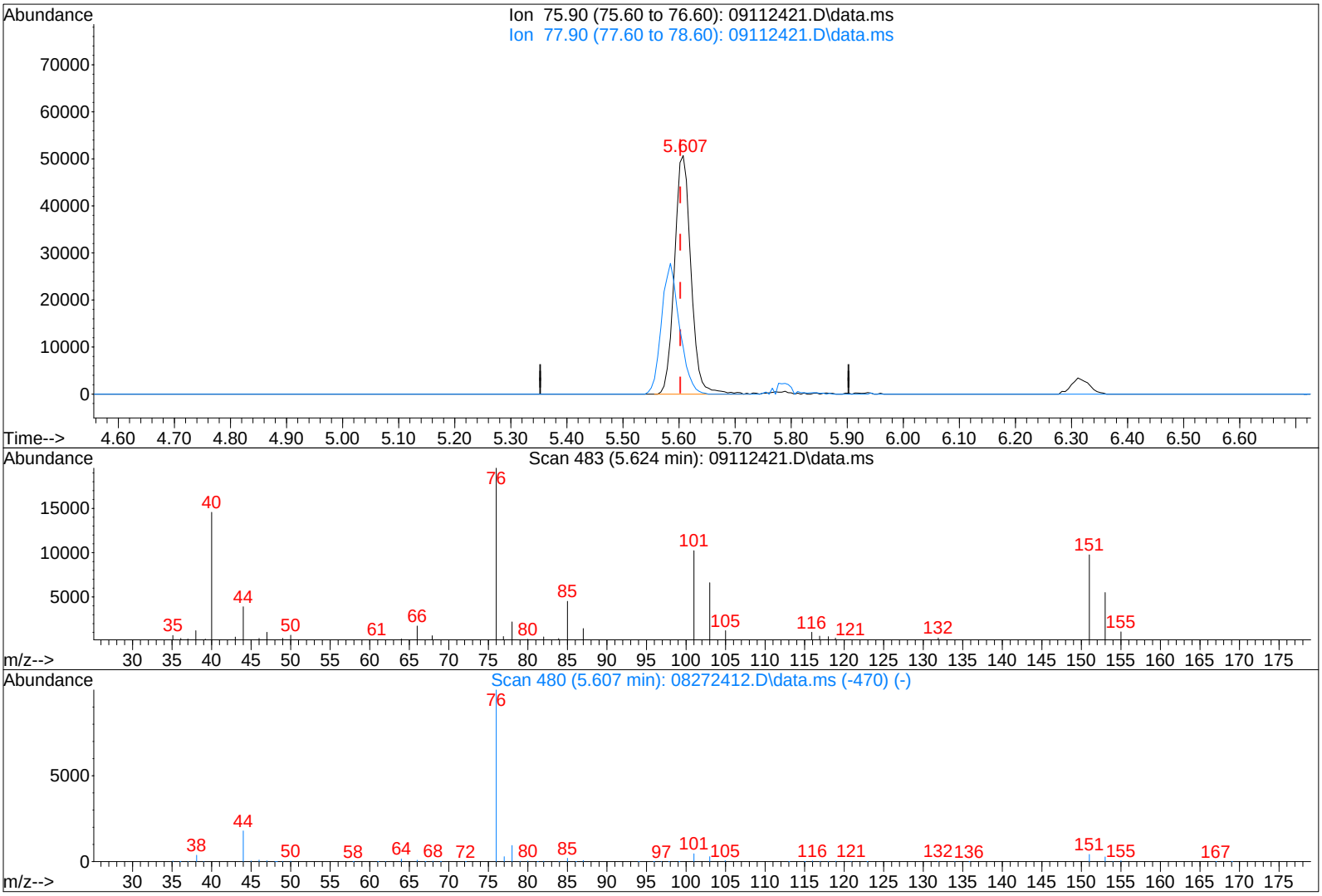
IPC

9/12/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112421.D\data.ms

(22) Carbon Disulfide (T)

5.607min (+0.005) 2.09ng

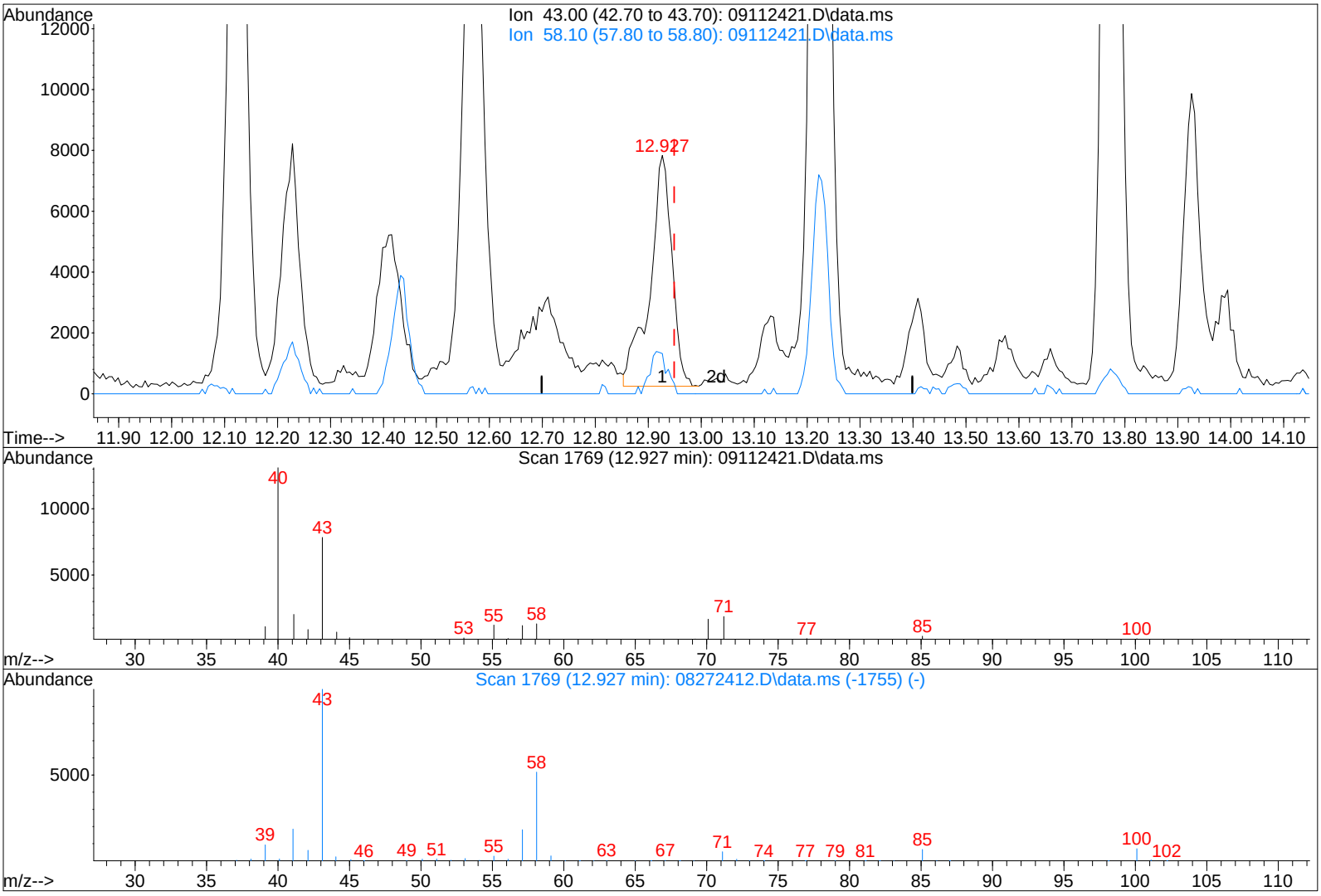
response 103661

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	59.86#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112421.D\data.ms

(59) 2-Hexanone (T)

12.927min (-0.022) 0.51ng

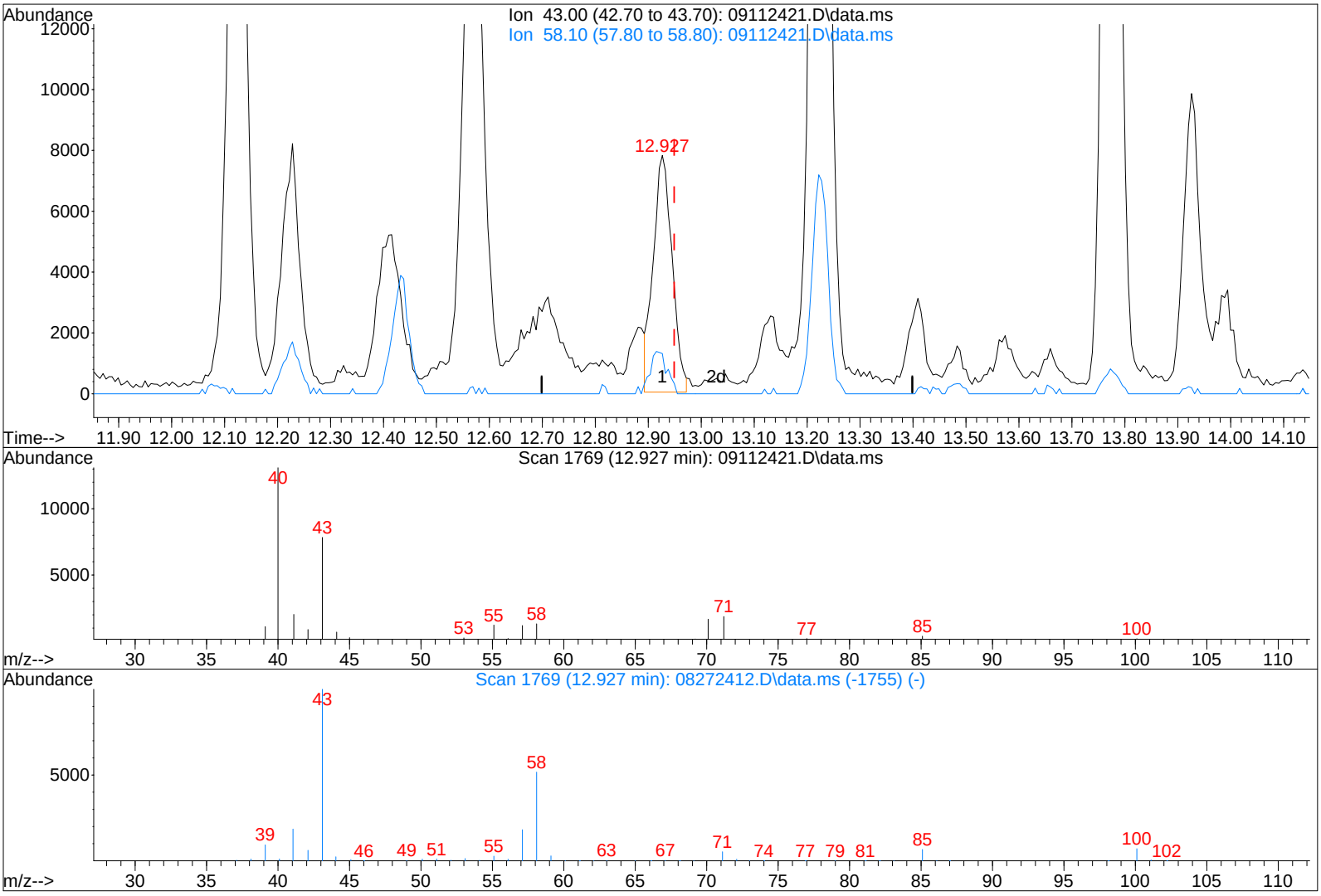
response 22056

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	14.48#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112421.D\data.ms

(59) 2-Hexanone (T)

12.927min (-0.022) 0.44ng m

response 19269

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	16.57#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/12/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:48:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

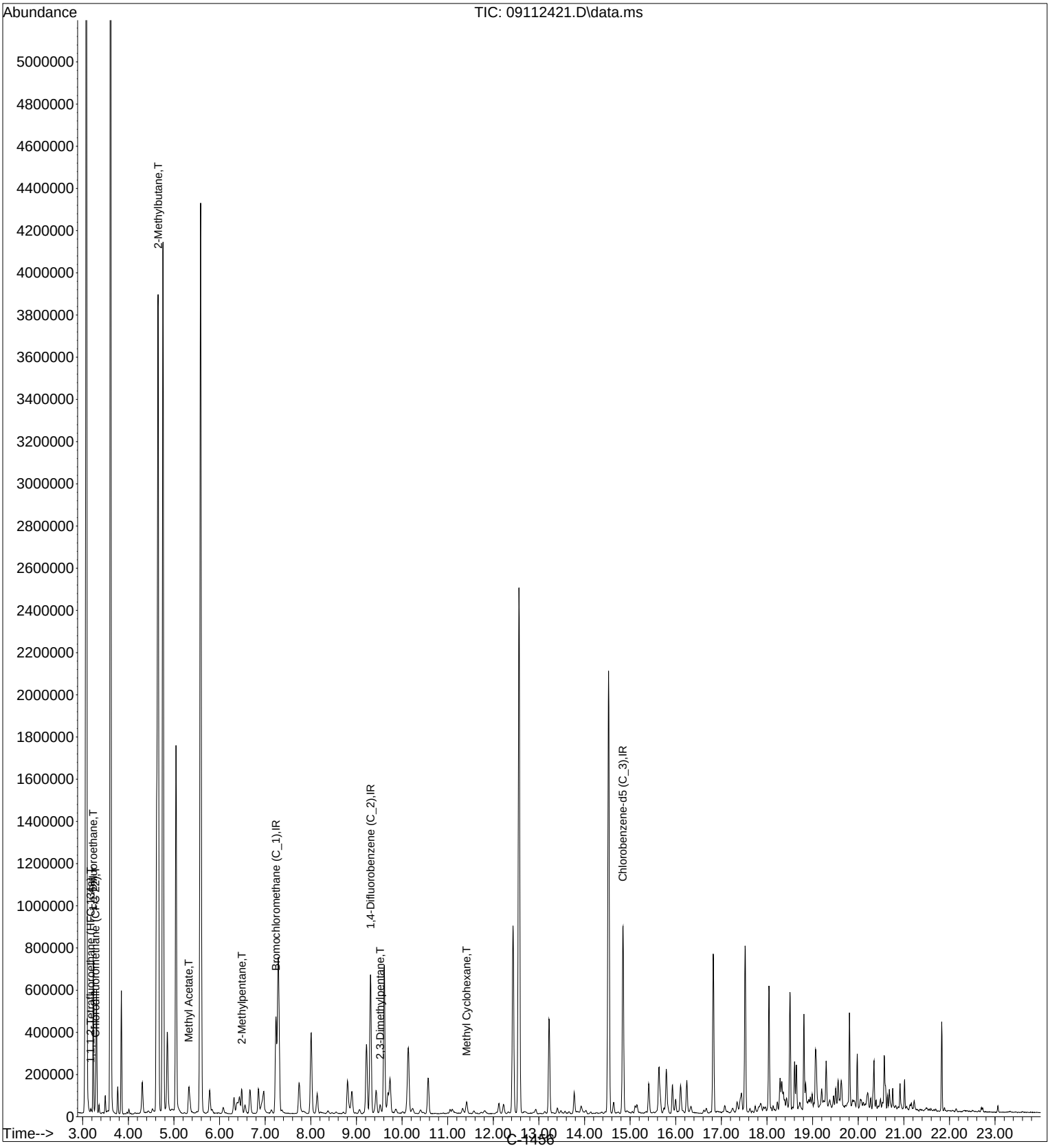
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	138874	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	602407	12.500	ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	185387	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	182	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	7987	0.561	ng	#	9
4) 1,1-Difluoroethane	3.23	65	168493	13.896	ng		95
5) Chlorodifluoromethane ...	3.28	67	3582	0.757	ng		99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	731	N.D.			
7) Dichlorofluoromethane ...	4.24	67	679	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.59	83	240	N.D.			
10) 2-Methylbutane	4.65	57	908704	54.862	ng		93
11) Methyl Acetate	5.32	43	143841	3.074	ng	#	62
12) 2-Methylpentane	6.49	71	19239	1.600	ng		94
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.07	84	1635	N.D.			
17) 2,3-Dimethylpentane	9.52	56	20844	0.715	ng	#	87
18) Dibromomethane	9.80	174	361	N.D.			
20) Methyl Cyclohexane	11.42	55	27087	0.851	ng		86
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.20	91	124	N.D.			
24) 1,2,3-Trichloropropane	16.33	75	2465	N.D.			
25) Bromobenzene	17.11	77	524	N.D.			
26) 2-Chlorotoluene	17.60	91	460	N.D.			
27) 4-Chlorotoluene	17.74	91	52	N.D.			
28) Indane	19.12	117	1947	N.D.			
29) Indene	19.20	115	495	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	2166	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	3427	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	3242	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

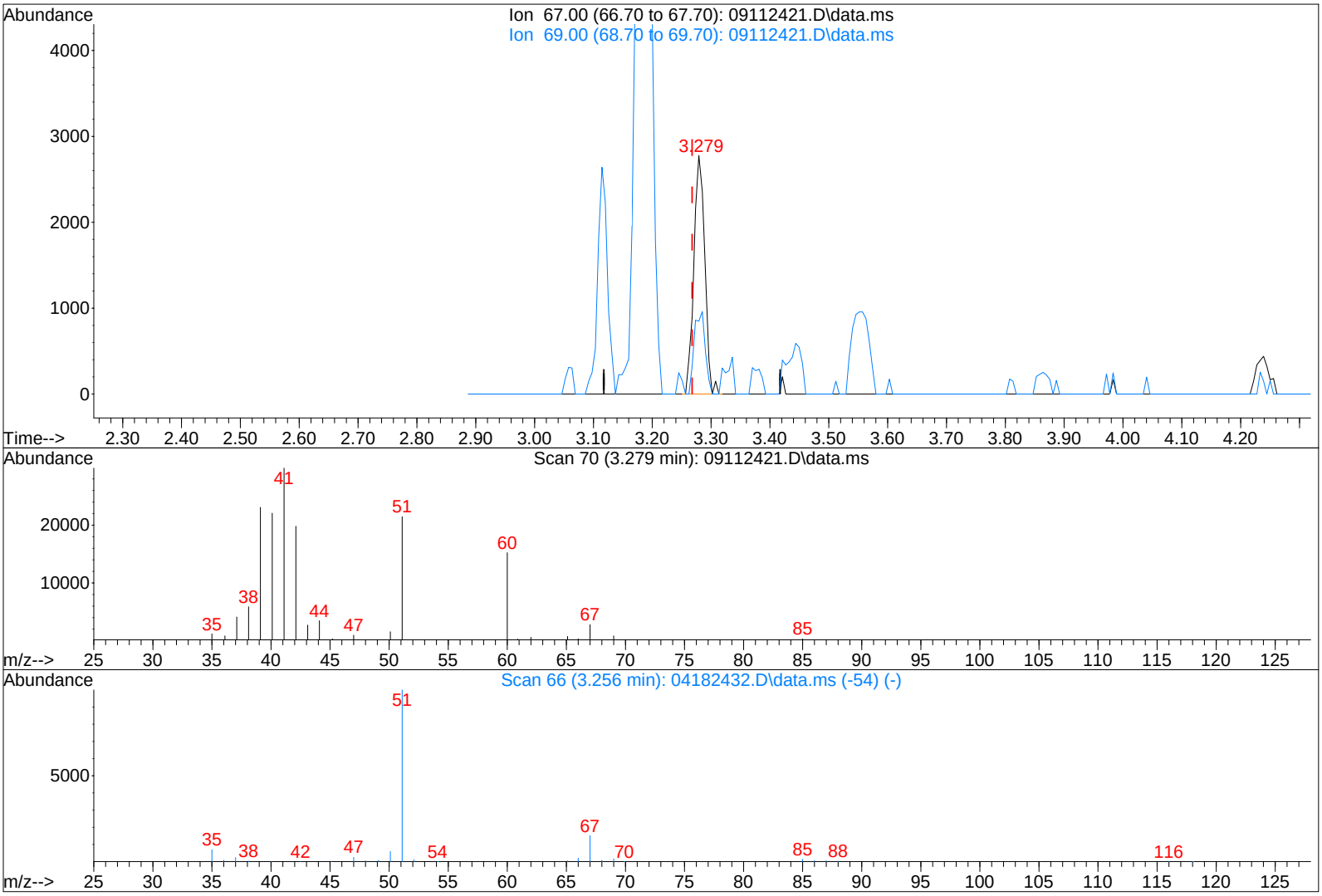
Quant Time: Sep 12 14:48:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112421.D Vial: 9
Acq On : 11 Sep 2024 20:38 Operator: SC
Sample : P2403661-041 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:45:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112421.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 0.76ng

response 3582

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	34.65
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122411.D Vial: 9
Acq On : 12 Sep 2024 16:09 Operator: SC
Sample : P2403661-041Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	143409	12.500 ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	634592	12.500 ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	180107	12.500 ng		-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	347691	12.956 ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.68%			
57) Toluene-d8 (SS2)	12.43	98	722831	11.440 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.52%			
73) Bromofluorobenzene (SS3)	16.82	174	237760	11.252 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.36	85	2214	0.064 ng		92
4) Chloromethane	3.52	50	1777	0.065 ng		90
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.02	94	1529	0.135 ng		92
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	19193	1.233 ng		90
11) Acetonitrile	4.44	41	1004	N.D.		
12) Acrolein	4.54	56	1005	0.085 ng		91
13) Acetone	4.64	58	55836	4.252 ng	#	8
14) Trichlorofluoromethane	4.76	101	294176	8.858 ng		100
15) 2-Propanol (Isopropanol)	4.85	45	62688	1.212 ng		95
16) Acrylonitrile	5.01	53	674	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	5.36	84	1253	0.081 ng	#	63
20) 3-Chloro-1-propene (Al...	5.44	41	183	N.D.		
21) Trichlorotrifluoroethane	5.58	151	122999	9.349 ng		93
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	6.40	73	1401	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.67	72	2563	0.275 ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.30	87	118	N.D.		
30) Ethyl Acetate	7.29	61	9079	1.454 ng		91
31) n-Hexane	7.30	57	10818	0.380 ng		98
32) Chloroform	7.36	83	967	N.D.		
34) Tetrahydrofuran (THF)	7.77	72	400	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	652	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.83	56	6053	No Calib	#	
41) Benzene	8.90	78	8961	0.151 ng		96
42) Carbon Tetrachloride	9.07	117	667	N.D.		
43) Cyclohexane	9.22	84	9735	0.485 ng		92
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	9.86	63	476	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.15	130	203	N.D.		
48) 1,4-Dioxane	10.14	88	192	N.D.		
49) 2,2,4-Trimethylpentane...	10.25	57	2114	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122411.D Vial: 9
Acq On : 12 Sep 2024 16:09 Operator: SC
Sample : P2403661-041Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

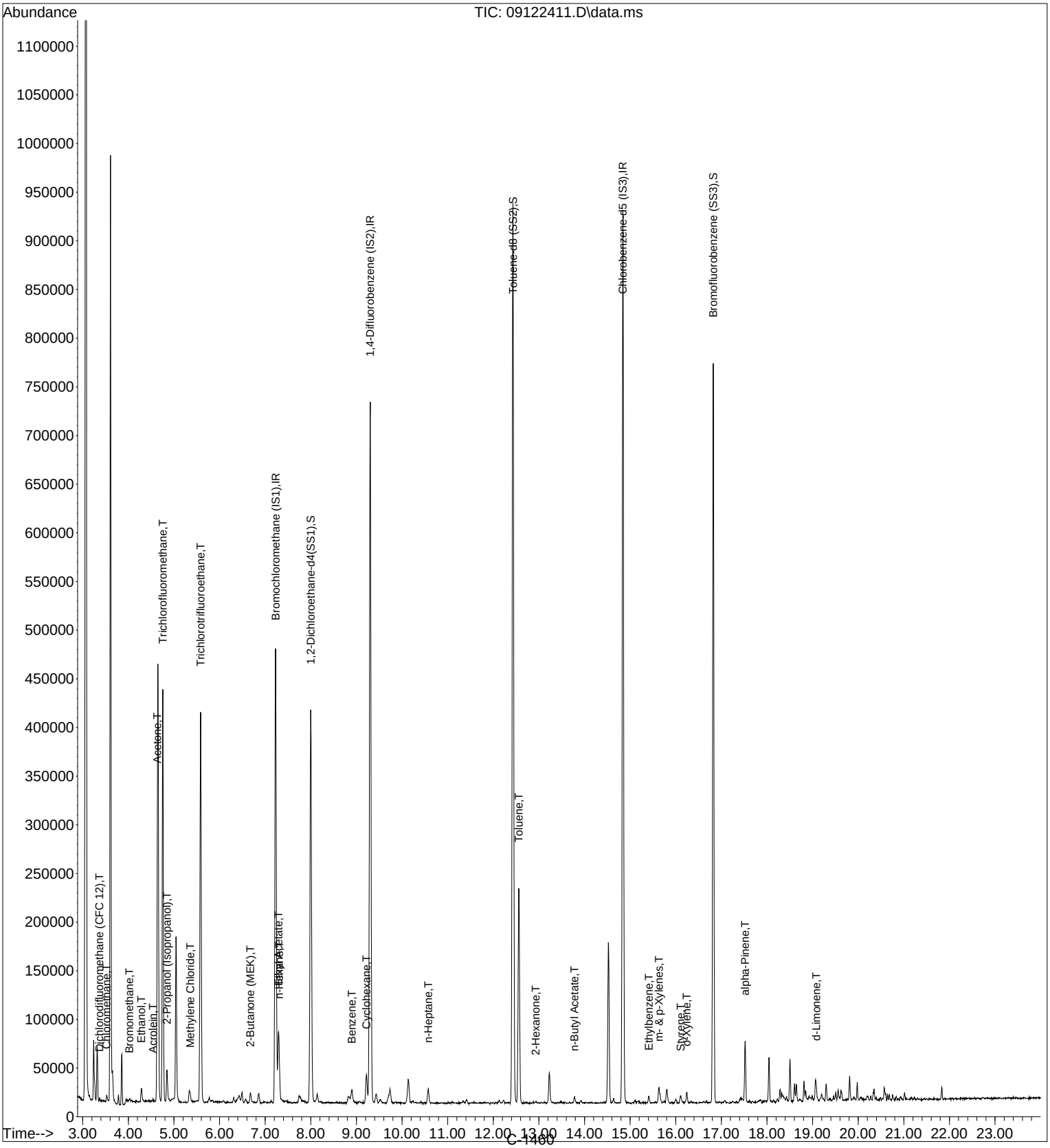
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	2913	0.220 ng		88
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	768	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	186443	2.730 ng		99
59) 2-Hexanone	12.93	43	2369	0.056 ng	#	51
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	6674	0.141 ng		94
63) n-Octane	13.93	57	588	N.D.		
64) Tetrachloroethene	14.03	166	438	N.D.		
65) Chlorobenzene	14.89	112	564	N.D.		
66) Ethylbenzene	15.41	91	7010	0.089 ng		95
67) m- & p-Xylenes	15.63	91	14947	0.234 ng		98
68) Bromoform	15.67	173	108	N.D.		
69) Styrene	16.11	104	3434	0.083 ng		94
70) o-Xylene	16.24	91	7549	0.121 ng		98
71) n-Nonane	16.61	43	944	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	198	N.D.		
74) Cumene	17.03	105	824	N.D.		
75) alpha-Pinene	17.52	93	24856	0.661 ng		98
76) n-Propylbenzene	17.68	91	1152	N.D.		
77) 3-Ethyltoluene	17.03	105	824	No Calib	#	
78) 4-Ethyltoluene	17.86	105	815	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	767	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	824	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1864	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.43	91	595	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	310	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	449	N.D.		
87) sec-Butylbenzene	18.74	105	678	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1781	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	824	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	475	N.D.		
91) d-Limonene	19.08	68	2568	0.120 ng		88
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	1151	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	1028	N.D.		
95) Naphthalene	20.94	128	1367	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	466	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	682	N.D.		
100) n-Butylbenzene	19.38	91	1267	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122411.D Vial: 9
Acq On : 12 Sep 2024 16:09 Operator: SC
Sample : P2403661-041Dil (40mL) Inst : MS09
Misc : S37-06062402

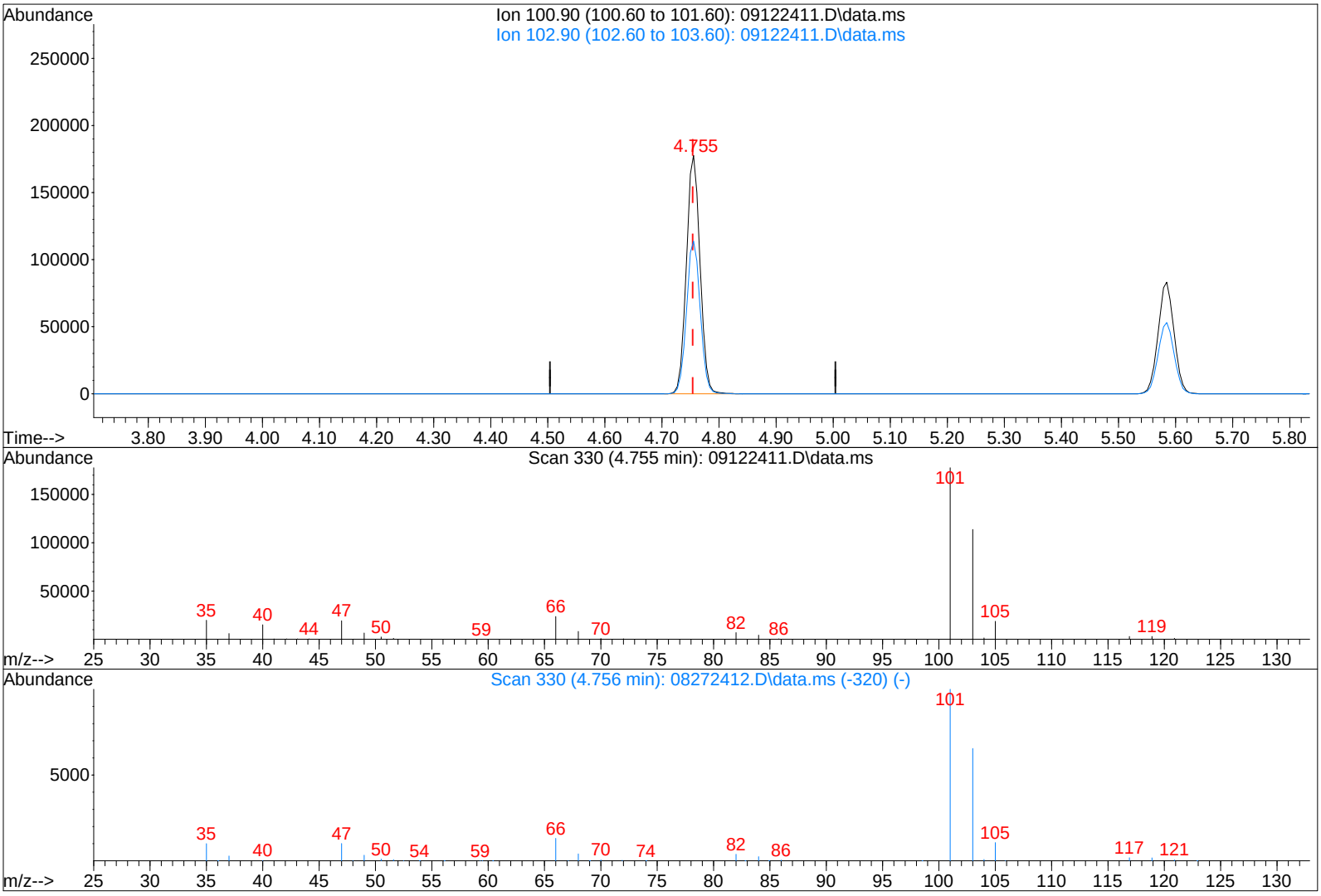
Quant Time: Sep 12 16:38:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122411.D Vial: 9
Acq On : 12 Sep 2024 16:09 Operator: SC
Sample : P2403661-041Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:36:54 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122411.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.001) 8.86ng

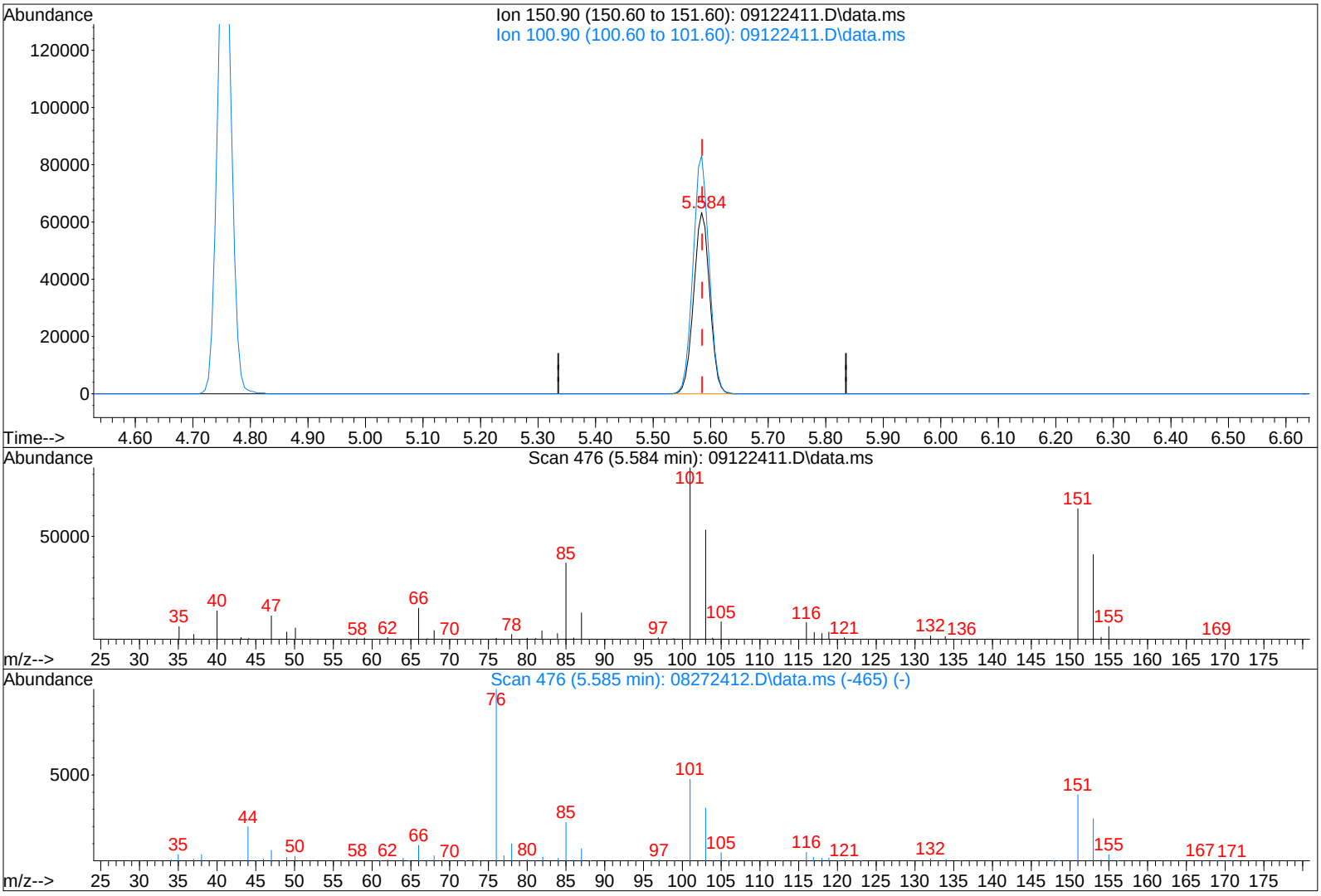
response 294176

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.71
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122411.D Vial: 9
Acq On : 12 Sep 2024 16:09 Operator: SC
Sample : P2403661-041Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 16:36:54 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122411.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.584min (-0.001) 9.35ng

response 122999

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.81
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112421.D
Acq On : 11 Sep 2024 20:38
Operator : SC
Sample : P2403661-041 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112421.D\data.ms

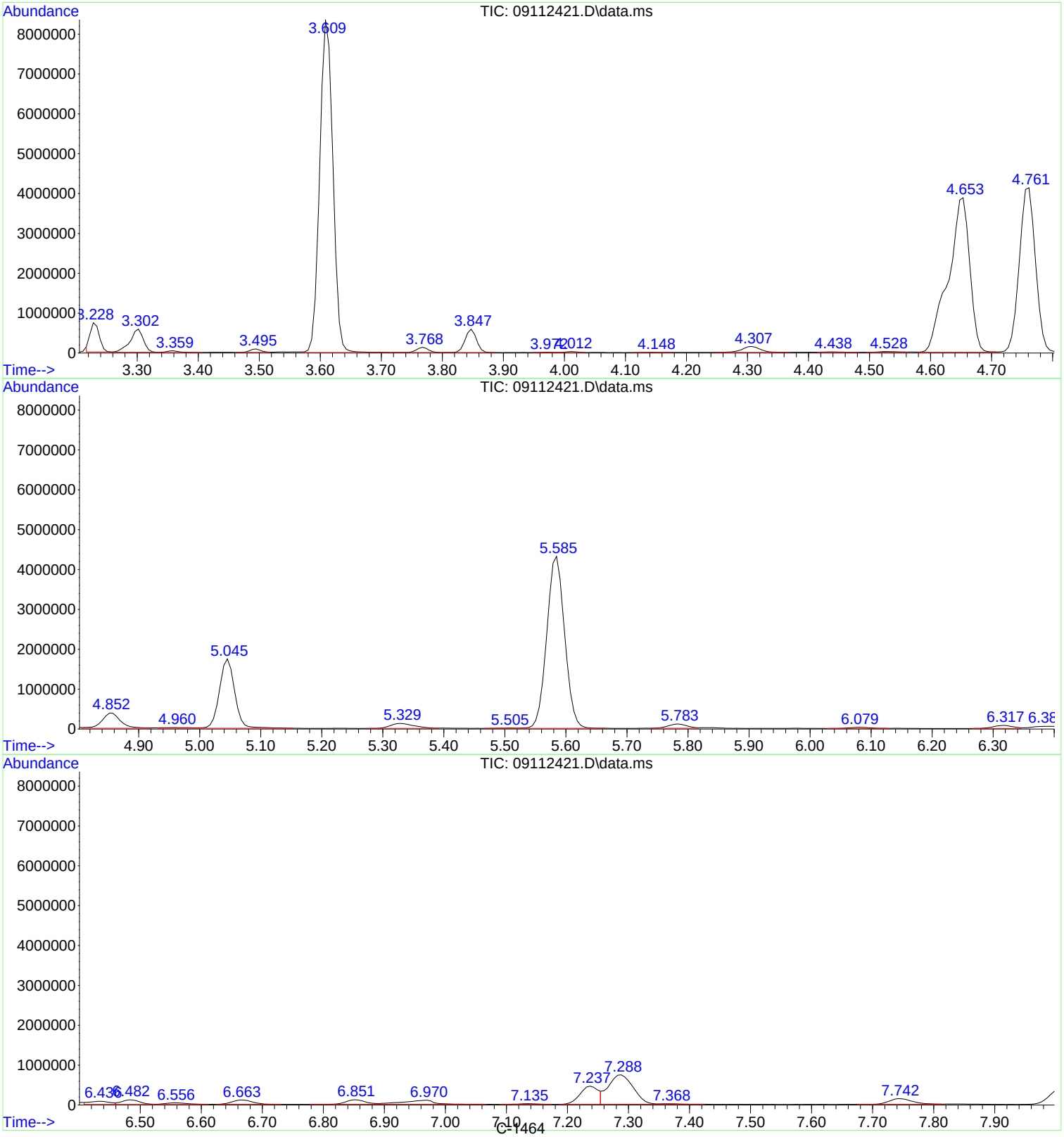
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	66	rVB	731514	755160	6.02%	1.471%
2	3.302	66	74	80	rVV3	580822	873820	6.96%	1.702%
3	3.359	80	84	92	rVB	41297	52938	0.42%	0.103%
4	3.495	102	108	112	rBV	84432	110017	0.88%	0.214%
5	3.609	121	128	150	rVB	8348757	12548832	100.00%	24.449%
6	3.768	150	156	163	rVV	128793	170631	1.36%	0.332%
7	3.847	163	170	177	rVB	584392	750516	5.98%	1.462%
8	3.972	188	192	195	rBV2	7612	10716	0.09%	0.021%
9	4.012	195	199	203	rVB	21654	28294	0.23%	0.055%
10	4.148	217	223	228	rBV2	6083	14140	0.11%	0.028%
11	4.307	240	251	262	rBV	147439	310691	2.48%	0.605%
12	4.438	270	274	282	rVB2	8102	16864	0.13%	0.033%
13	4.528	284	290	296	rBV4	18684	42695	0.34%	0.083%
14	4.653	299	312	322	rVV3	3878209	9450606	75.31%	18.413%
15	4.761	322	331	339	rVV	4126554	7604306	60.60%	14.816%
16	4.852	339	347	359	rVV	382100	803108	6.40%	1.565%
17	4.960	361	366	373	rVV5	17111	59810	0.48%	0.117%
18	5.045	373	381	400	rVB	1741058	3023421	24.09%	5.891%
19	5.329	422	431	442	rBV3	126051	343551	2.74%	0.669%
20	5.505	455	462	465	rBV4	6834	14070	0.11%	0.027%
21	5.585	465	476	490	rVB	4311964	8779751	69.96%	17.106%
22	5.783	503	511	517	rBV	105258	225218	1.79%	0.439%
23	6.079	554	563	572	rBV2	28802	66619	0.53%	0.130%
24	6.317	596	605	610	rBV	77627	174260	1.39%	0.340%
25	6.385	610	617	621	rVV3	52927	159156	1.27%	0.310%
26	6.436	621	626	630	rVV	79233	187281	1.49%	0.365%
27	6.482	630	634	641	rVV	115864	232316	1.85%	0.453%
28	6.556	641	647	657	rVV2	40738	97878	0.78%	0.191%
29	6.663	659	666	678	rVB	111009	267338	2.13%	0.521%
30	6.851	686	699	706	rBV2	116531	270807	2.16%	0.528%
31	6.970	706	720	737	rVV	104203	376557	3.00%	0.734%
32	7.135	741	749	756	rVB4	15582	35502	0.28%	0.069%
33	7.237	758	767	770	rBV	457195	981566	7.82%	1.912%
34	7.288	770	776	786	rVV2	737736	2057693	16.40%	4.009%
35	7.368	786	790	800	rVB3	13023	28932	0.23%	0.056%
36	7.742	844	856	869	rBV	144045	401343	3.20%	0.782%

Sum of corrected areas: 51326403

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112421.D
Acq On : 11 Sep 2024 20:38
Operator : SC
Sample : P2403661-041 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112421.D
Acq On : 11 Sep 2024 20:388
Operator : SCC
Sample : P2403661-041 (400mL))
Misc : S37-060624022
ALS Vial : 9 Sample Multiplier: 11

WA 9/29/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:43:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	143899	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	637785	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	191326	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	357530	13.278	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
57) Toluene-d8 (SS2)	12.43	98	738800	11.007	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.83	174	254779	11.350	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.80%				
Target Compounds							Qvalue
2) Propene	3.23	42	432	N.D.			
3) Dichlorodifluoromethan...	3.35	85	22172	0.635	ng		97
4) Chloromethane	3.50	50	5477	0.200	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	460	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	917	0.081	ng		93
9) Chloroethane	0.00	64	0	N.D.	d		
10) Ethanol	4.30	45	166969	10.691	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	13019	1.091	ng		99
13) Acetone	4.62	58	473096	35.902	ng	#	58
14) Trichlorofluoromethane	4.76	101	2595829	77.898	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	556473	10.725	ng		90
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.36	84	7439	0.479	ng	#	81
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	1065249	80.690	ng		94
22) Carbon Disulfide	5.60	76	67855	1.319	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	940	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	7370	0.160	ng		93
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	71221	7.618	ng	#	79
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	579241	92.472	ng		90
31) n-Hexane	7.30	57	43984	1.540	ng		95
32) Chloroform	7.37	83	8043	0.281	ng		98
34) Tetrahydrofuran (THF)	7.75	72	2800	0.318	ng	#	1
35) Ethyl tert-Butyl Ether	7.83	87	238	N.D.			
36) 1,2-Dichloroethane	8.13	62	3378	0.119	ng		99
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	9189	No Calib		#	
40) 1-Butanol	8.80	56	31217	No Calib		#	
41) Benzene	8.89	78	39185	0.655	ng		98
42) Carbon Tetrachloride	9.08	117	4566	0.184	ng		95
43) Cyclohexane	9.22	84	48400	2.397	ng		95
44) tert-Amyl Methyl Ether	9.62	73	716	N.D.			
45) 1,2-Dichloropropane	9.87	63	3640	0.230	ng		100
46) Bromodichloromethane	10.09	83	744	N.D.			
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.23	57	14238	0.201	ng		70
50) Methyl Methacrylate	10.41	100	919	0.177	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:43:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

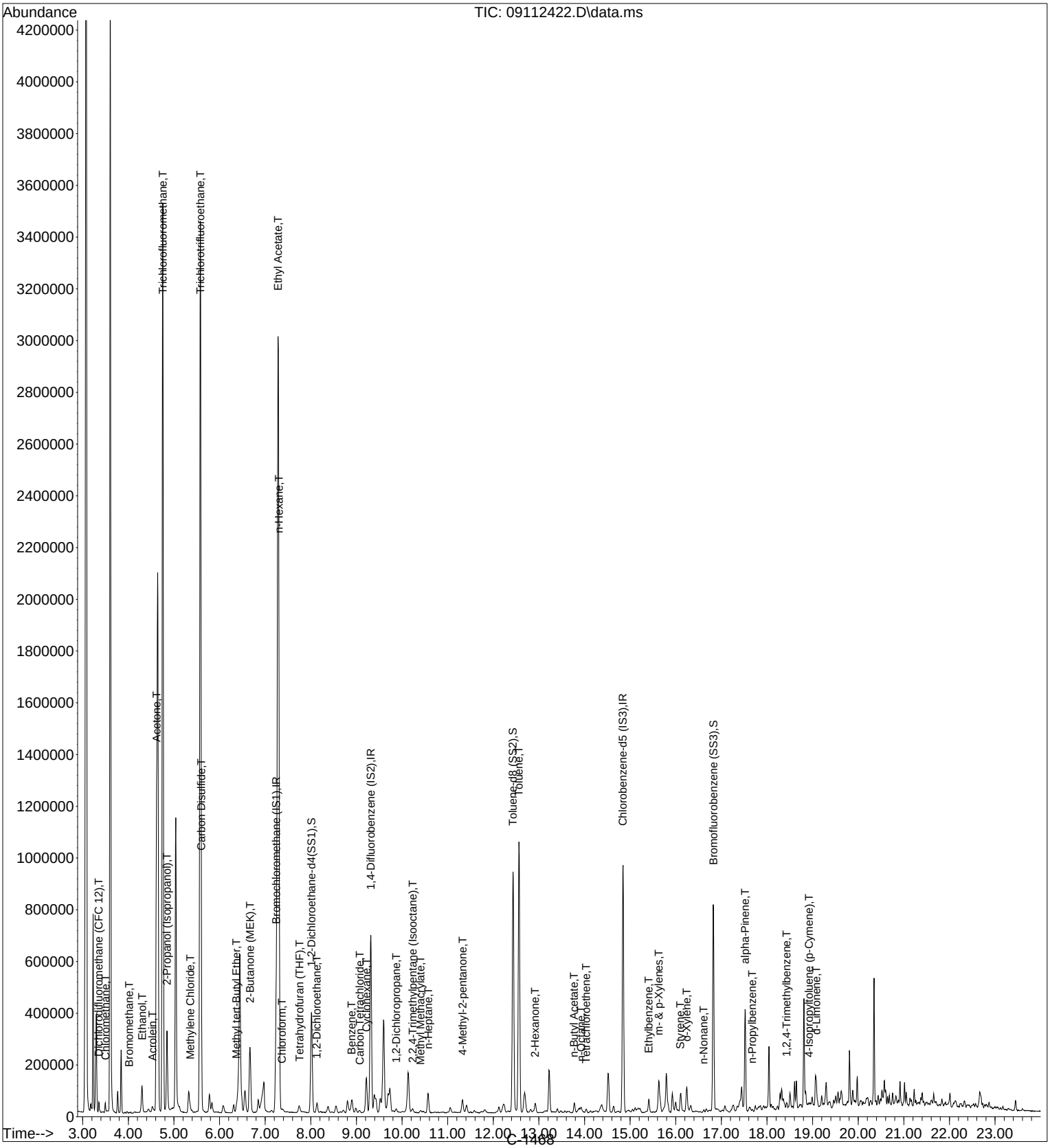
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.58	71	16000	1.201	ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.33	58	9241	0.585	ng	#	1
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	881814	12.154	ng		100
59) 2-Hexanone	12.92	43	36692	0.817	ng		76
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.77	43	37319	0.742	ng		97
63) n-Octane	13.93	57	4187	0.245	ng	#	84
64) Tetrachloroethene	14.03	166	1749	0.087	ng		96
65) Chlorobenzene	14.89	112	888	N.D.			
66) Ethylbenzene	15.41	91	41944	0.502	ng		98
67) m- & p-Xylenes	15.63	91	90838	1.338	ng		98
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.10	104	23120	0.527	ng		97
70) o-Xylene	16.24	91	43170	0.651	ng		95
71) n-Nonane	16.61	43	6137	0.141	ng	#	67
72) 1,1,2,2-Tetrachloroethane	16.21	83	493	N.D.			
74) Cumene	17.03	105	3029	N.D.			
75) alpha-Pinene	17.52	93	162788	4.075	ng		99
76) n-Propylbenzene	17.68	91	4906	0.051	ng		97
77) 3-Ethyltoluene	17.03	105	3029	No Calib			
78) 4-Ethyltoluene	17.86	105	2450	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	2624	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	3029	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	6952	0.102	ng		90
83) n-Decane	17.03	58	115	No Calib		#	
84) Benzyl Chloride	18.56	91	931	N.D.			
85) 1,3-Dichlorobenzene	18.57	146	239	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	837	N.D.			
87) sec-Butylbenzene	18.74	105	1345	N.D.			
88) 4-Isopropyltoluene (p-...	18.92	119	6504	0.087	ng		91
89) 1,2,3-Trimethylbenzene	17.03	105	3029	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	229	N.D.			
91) d-Limonene	19.08	68	17258	0.756	ng		87
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	17.97	58	1131	No Calib		#	
94) 1,2,4-Trichlorobenzene	20.84	180	778	N.D.			
95) Naphthalene	20.94	128	2953	N.D.			
96) n-Dodecane	18.89	58	652	No Calib		#	
97) Hexachlorobutadiene	21.30	225	358	N.D.			
98) Cyclohexanone	15.21	55	2888	No Calib		#	
99) tert-Butylbenzene	18.42	119	1291	N.D.			
100) n-Butylbenzene	0.00	91	0	N.D.	d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:43:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1408

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:43:07 2024 9/12/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

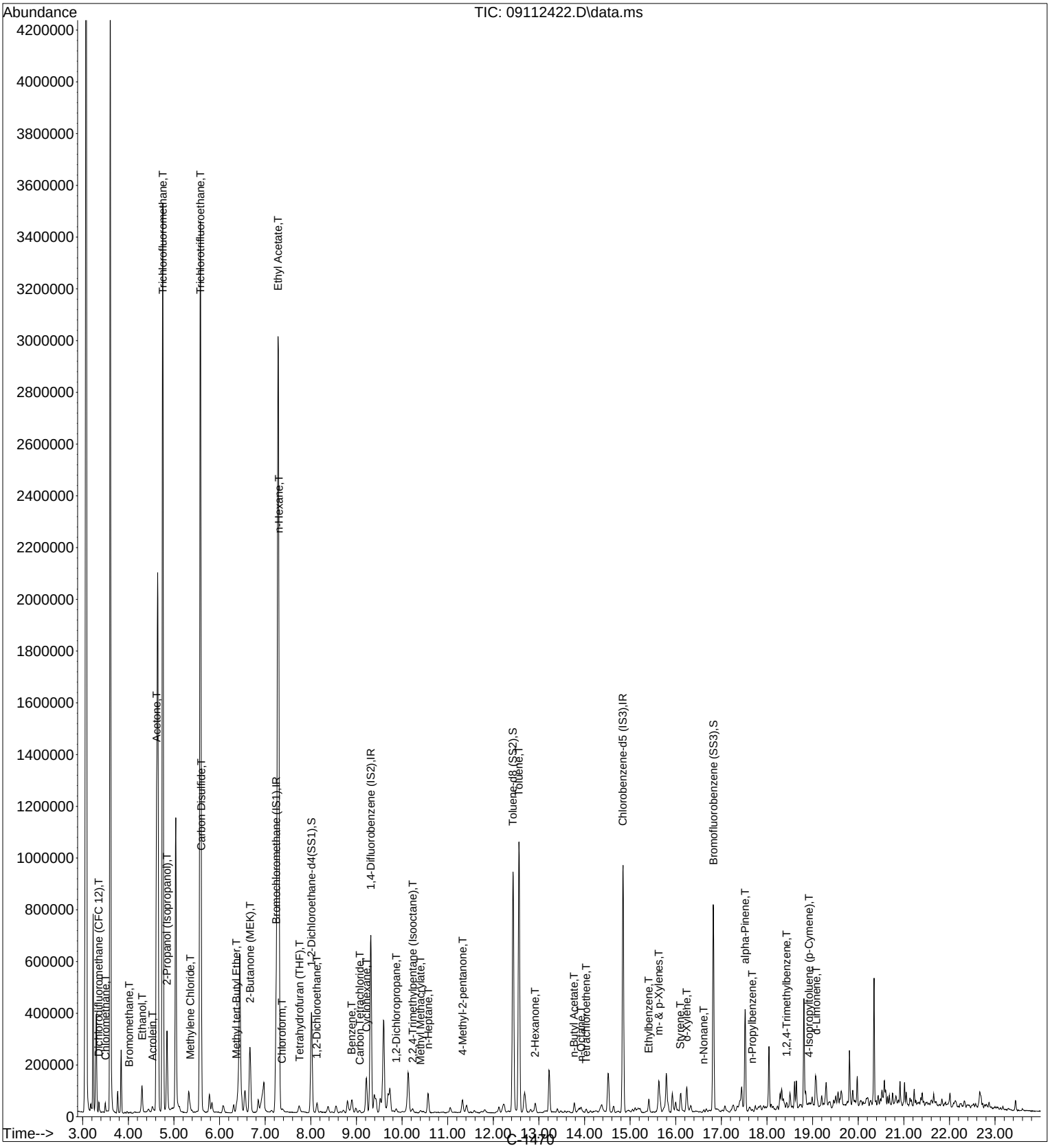
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	143899	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	637785	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	191326	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	357530	13.278	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.24%				
57) Toluene-d8 (SS2)	12.43	98	738800	11.007	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.83	174	254779	11.350	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.80%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	22172	0.635	ng		97
4) Chloromethane	3.50	50	5477	0.200	ng		92
8) Bromomethane	4.02	94	917	0.081	ng		93
10) Ethanol	4.30	45	166969	10.691	ng		100
12) Acrolein	4.53	56	13019	1.091	ng		99
13) Acetone	4.62	58	473096	35.902	ng	#	58
14) Trichlorofluoromethane	4.76	101	2595829	77.898	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	556473	10.725	ng		90
19) Methylene Chloride	5.36	84	7439	0.479	ng	#	81
21) Trichlorotrifluoroethane	5.58	151	1065249	80.690	ng		94
22) Carbon Disulfide	5.60	76	67855	1.319	ng	#	1
25) Methyl tert-Butyl Ether	6.37	73	7370	0.160	ng		93
27) 2-Butanone (MEK)	6.67	72	71221	7.618	ng	#	79
30) Ethyl Acetate	7.28	61	579241	92.472	ng		90
31) n-Hexane	7.30	57	43984	1.540	ng		95
32) Chloroform	7.37	83	8043	0.281	ng		98
34) Tetrahydrofuran (THF)	7.75	72	2800	0.318	ng	#	1
36) 1,2-Dichloroethane	8.13	62	3378	0.119	ng		99
41) Benzene	8.89	78	39185	0.655	ng		98
42) Carbon Tetrachloride	9.08	117	4566	0.184	ng		95
43) Cyclohexane	9.22	84	48400	2.397	ng		95
45) 1,2-Dichloropropane	9.87	63	3640	0.230	ng		100
49) 2,2,4-Trimethylpentane...	10.23	57	14238	0.201	ng		70
50) Methyl Methacrylate	10.41	100	919	0.177	ng		99
51) n-Heptane	10.58	71	16000	1.201	ng		95
53) 4-Methyl-2-pentanone	11.33	58	9241	0.585	ng	#	1
58) Toluene	12.56	91	881814	12.154	ng		100
59) 2-Hexanone	12.92	43	36692	0.817	ng		76
62) n-Butyl Acetate	13.77	43	37319	0.742	ng		97
63) n-Octane	13.93	57	4187	0.245	ng	#	84
64) Tetrachloroethene	14.03	166	1749	0.087	ng		96
66) Ethylbenzene	15.41	91	41944	0.502	ng		98
67) m- & p-Xylenes	15.63	91	90838	1.338	ng		98
69) Styrene	16.10	104	23120	0.527	ng		97
70) o-Xylene	16.24	91	43170	0.651	ng		95
71) n-Nonane	16.61	43	6137	0.141	ng	#	67
75) alpha-Pinene	17.52	93	162788	4.075	ng		99
76) n-Propylbenzene	17.68	91	4906	0.051	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	6952	0.102	ng		90
88) 4-Isopropyltoluene (p-...	18.92	119	6504	0.087	ng		91
91) d-Limonene	19.08	68	17258	0.756	ng		87

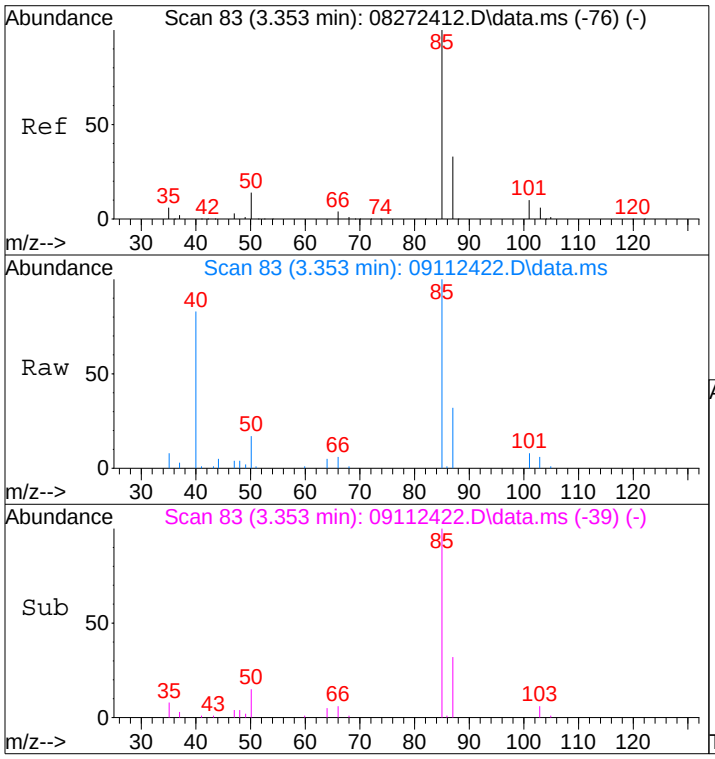
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:43:07 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

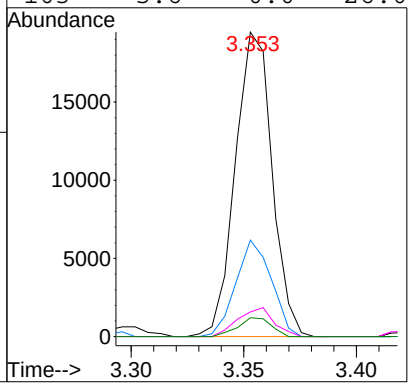


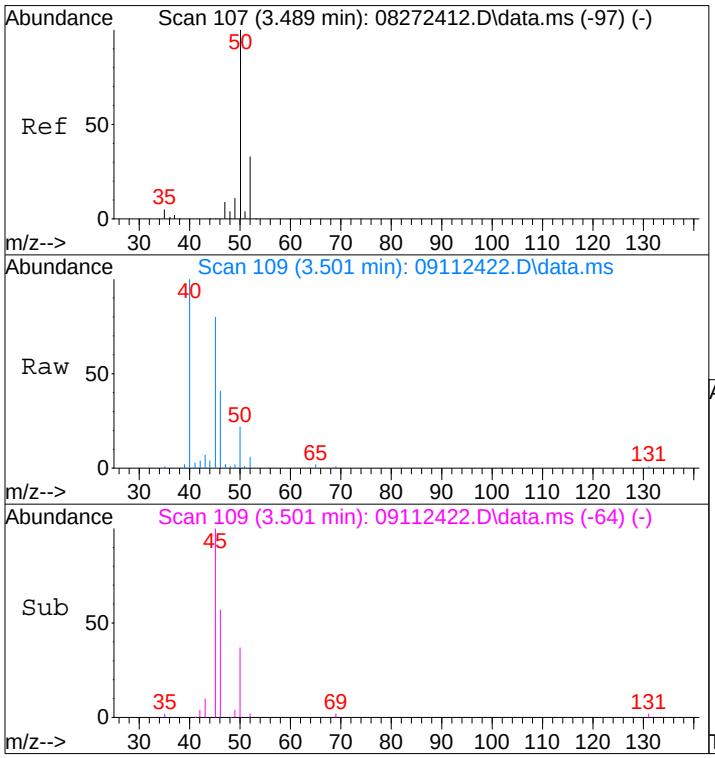


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.002 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 85 Resp: 22172

Ion	Ratio	Lower	Upper
85	100		
87	30.6	13.1	53.1
101	9.3	0.0	29.4
103	5.6	0.0	26.0

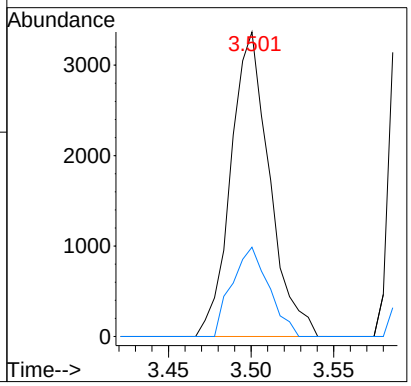


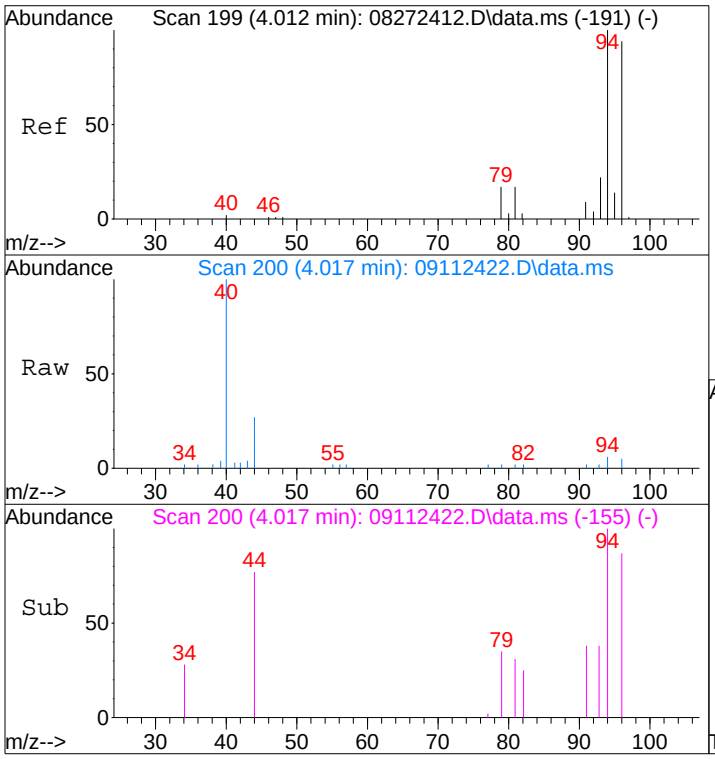


#4
Chloromethane
Concen: 0.20 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.008 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 50 Resp: 5477

Ion	Ratio	Lower	Upper
50	100		
52	28.1	12.4	52.4

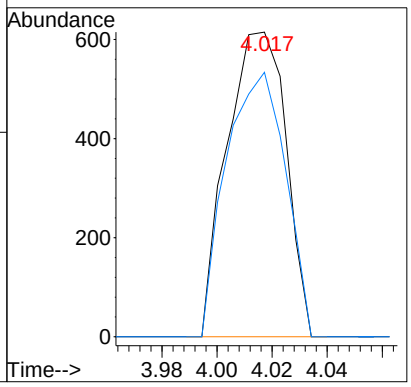


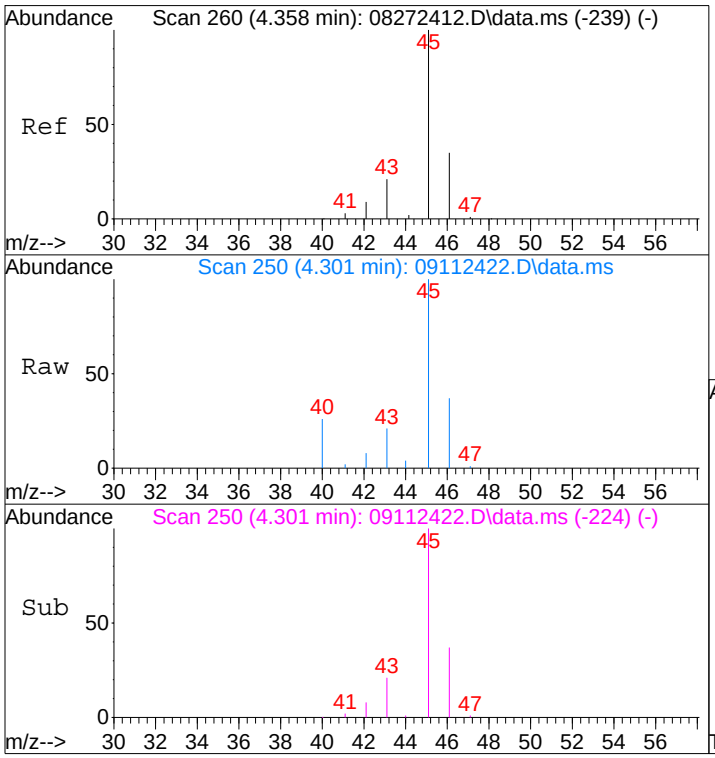


#8
Bromomethane
Concen: 0.08 ng
RT: 4.02 min Scan# 200
Delta R.T. 0.004 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 94 Resp: 917

Ion	Ratio	Lower	Upper
94	100		
96	87.0	74.2	114.2

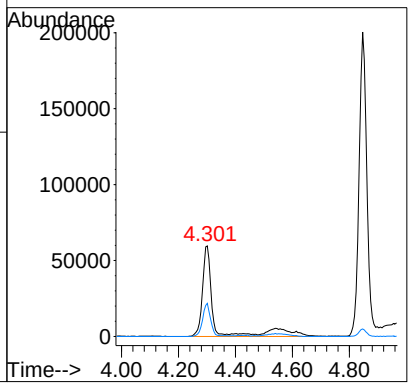


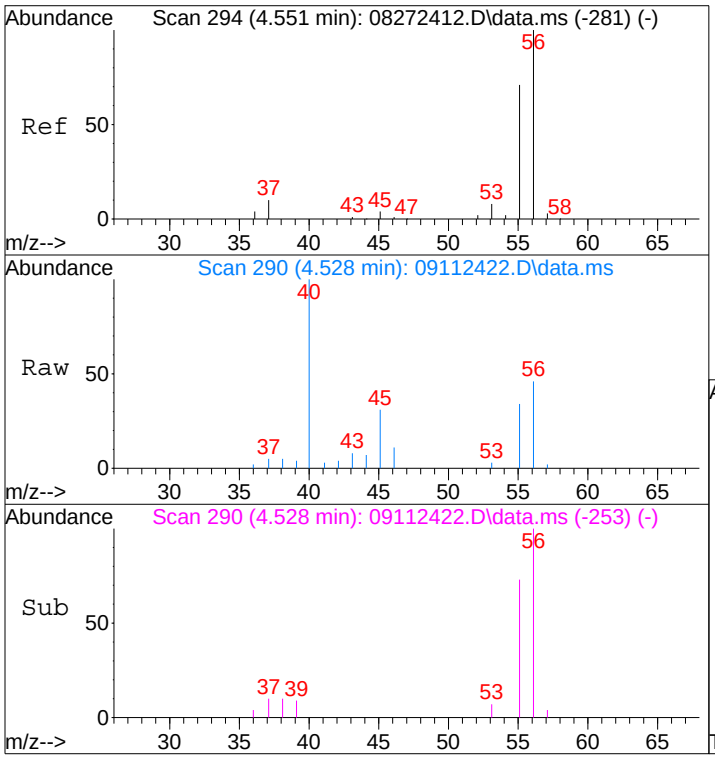


#10
Ethanol
Concen: 10.69 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.102 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 45 Resp: 166969

Ion	Ratio	Lower	Upper
45	100		
46	33.9	14.2	54.2

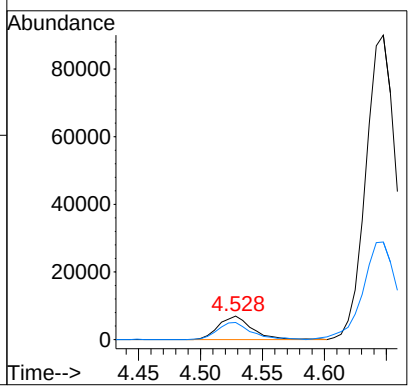


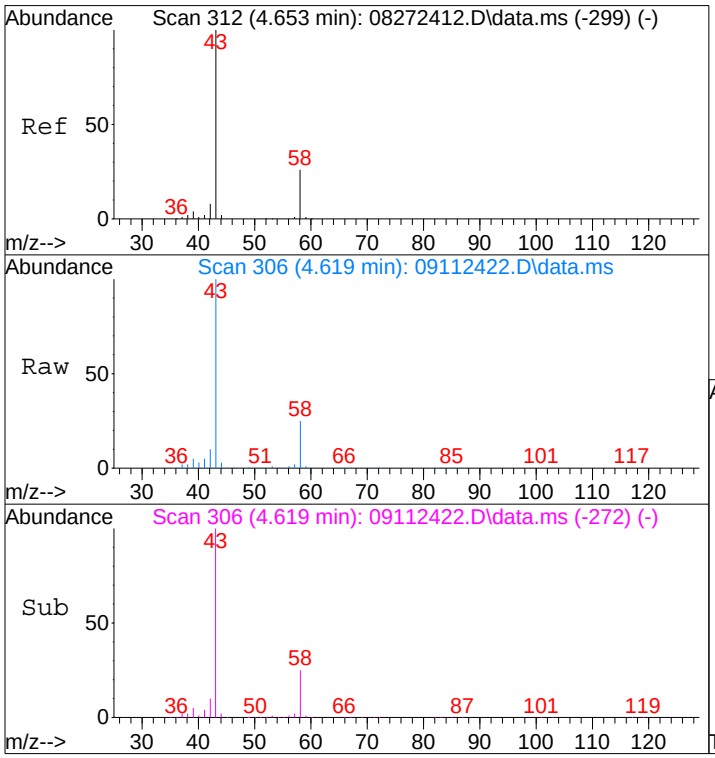


#12
Acrolein
Concen: 1.09 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.039 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 56 Resp: 13019

Ion	Ratio	Lower	Upper
56	100		
55	73.8	54.7	94.7

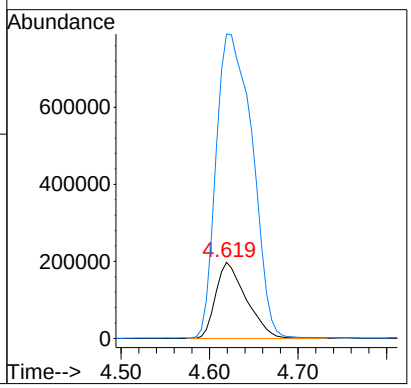


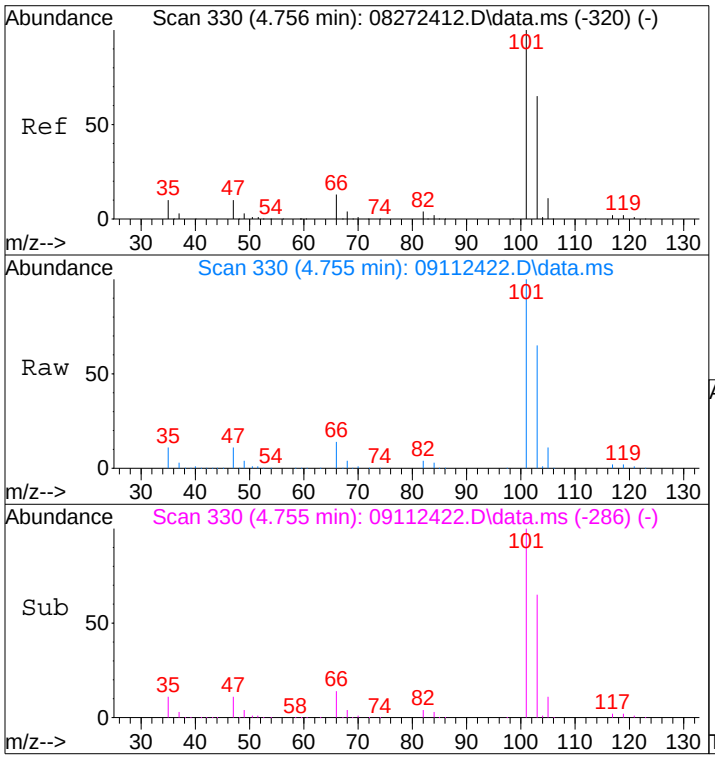


#13
Acetone
Concen: 35.90 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.056 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 58 Resp: 473096

Ion	Ratio	Lower	Upper
58	100		
43	473.2	347.3	407.3#

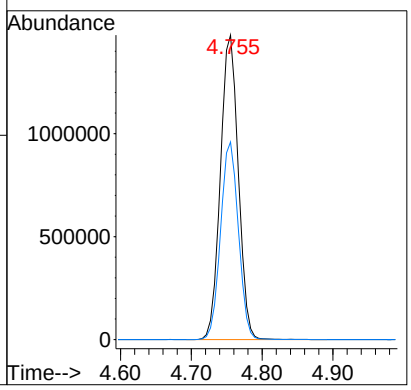


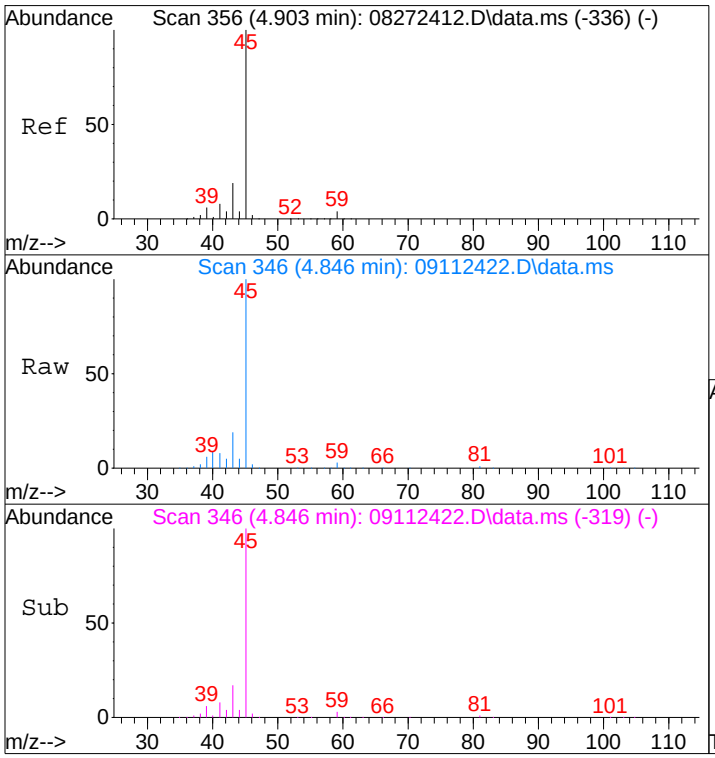


#14
Trichlorofluoromethane
Concen: 77.90 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.001 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:101 Resp: 2595829

Ion	Ratio	Lower	Upper
101	100		
103	64.7	44.9	84.9

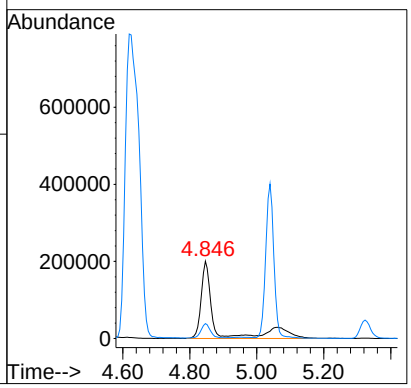


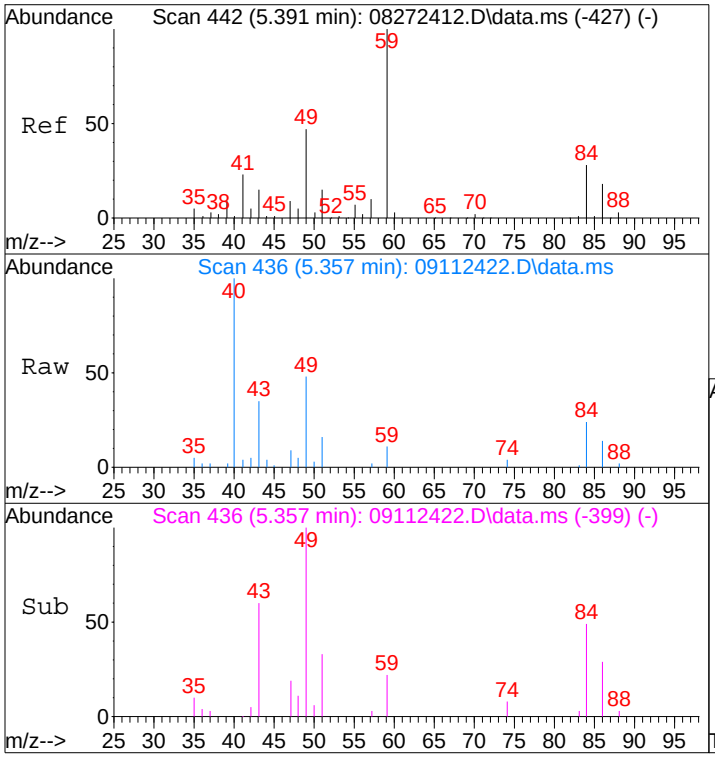


#15
2-Propanol (Isopropanol)
Concen: 10.73 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.094 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 45 Resp: 556473

Ion	Ratio	Lower	Upper
45	100		
43	15.2	0.0	40.0

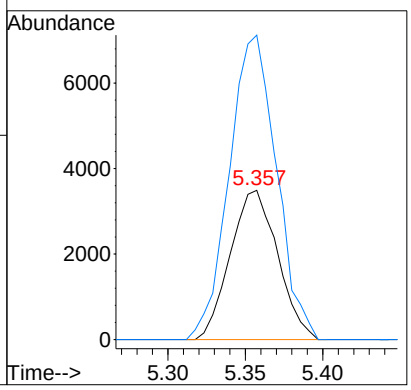


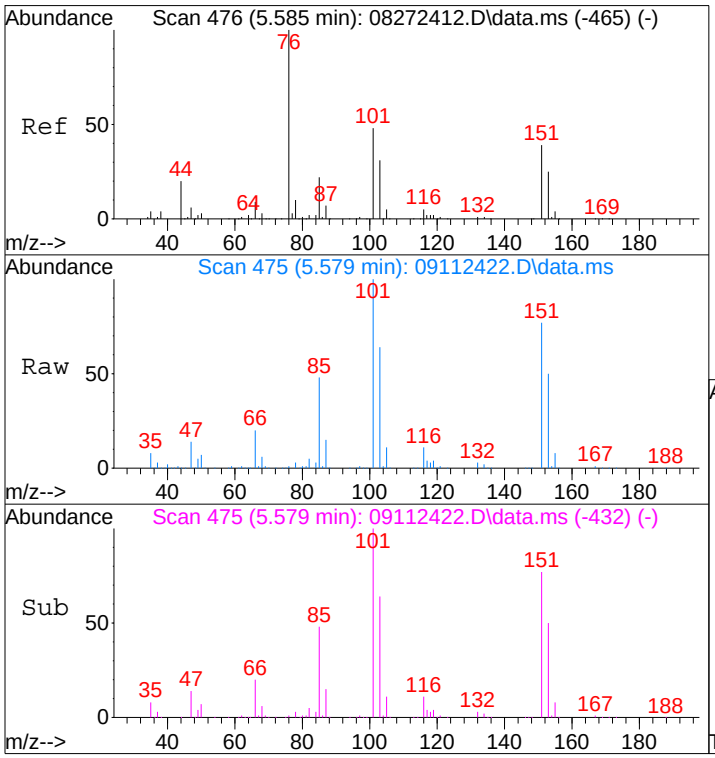


#19
Methylene Chloride
Concen: 0.48 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.041 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 84 Resp: 7439

Ion	Ratio	Lower	Upper
84	100		
49	203.1	151.1	201.1#

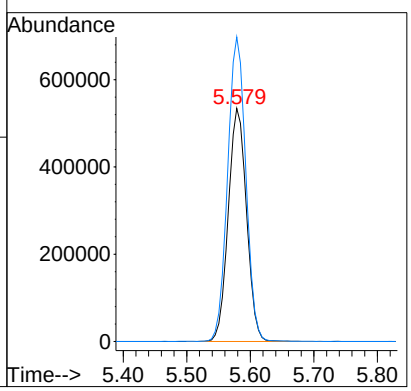


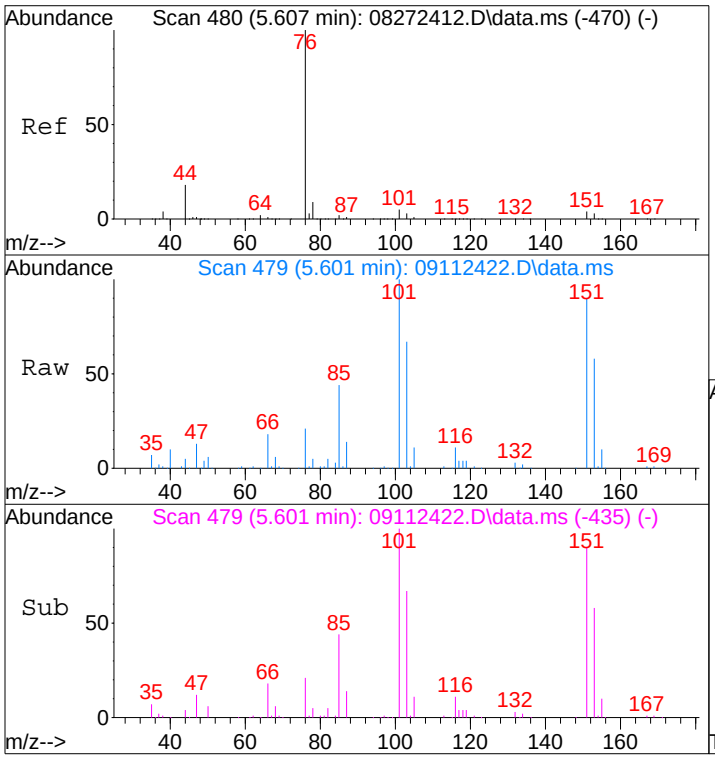


#21
Trichlorotrifluoroethane
Concen: 80.69 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.007 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:151 Resp: 1065249

Ion	Ratio	Lower	Upper
151	100		
101	130.3	103.4	143.4

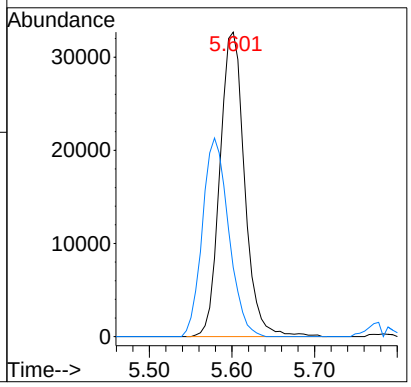


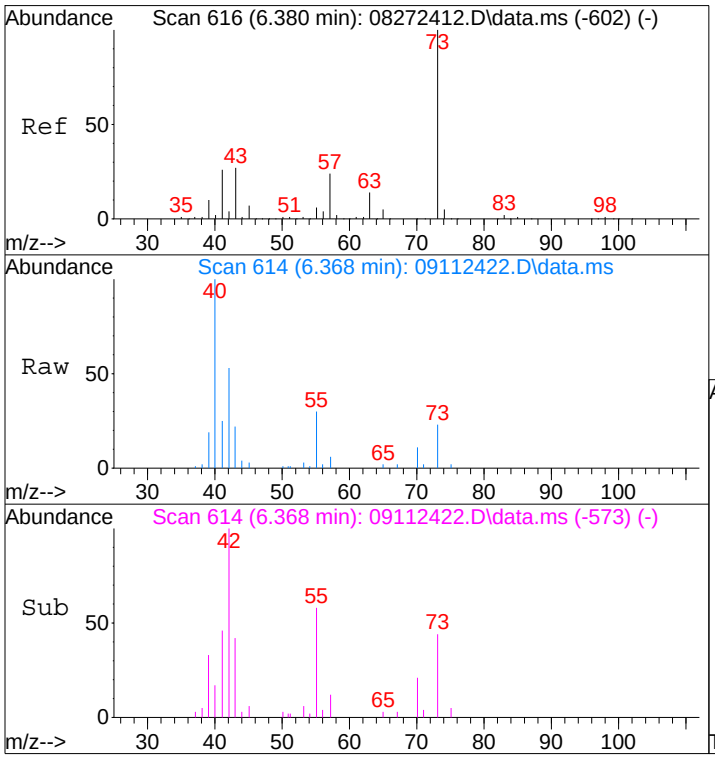


#22
Carbon Disulfide
Concen: 1.32 ng
RT: 5.60 min Scan# 479
Delta R.T. -0.001 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 76 Resp: 67855

Ion	Ratio	Lower	Upper
76	100		
78	69.4	0.0	29.6#

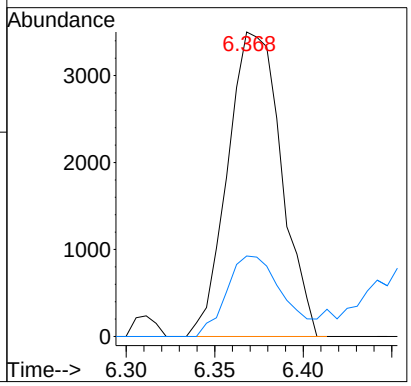


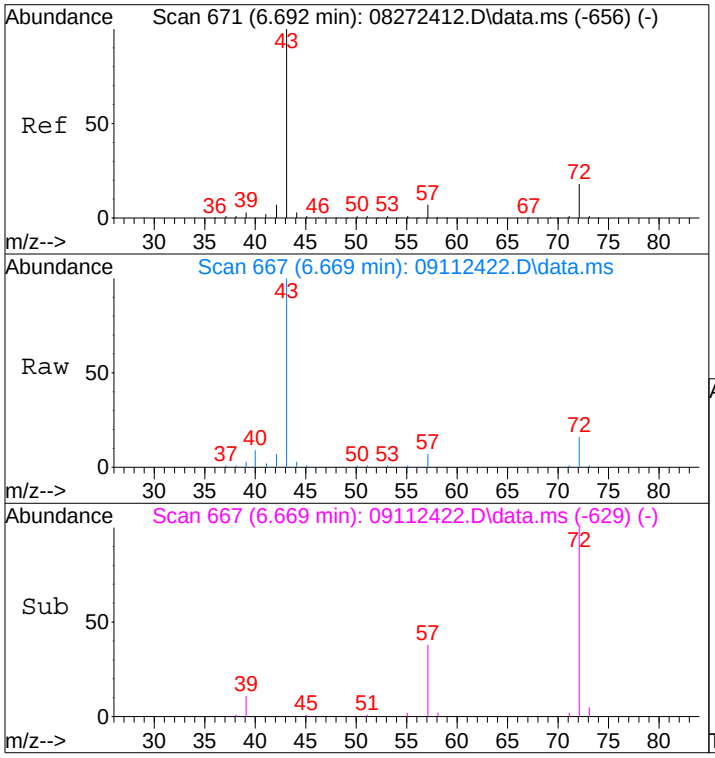


#25
Methyl tert-Butyl Ether
Concen: 0.16 ng
RT: 6.37 min Scan# 614
Delta R.T. -0.015 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 73 Resp: 7370

Ion	Ratio	Lower	Upper
73	100		
57	28.0	4.7	44.7

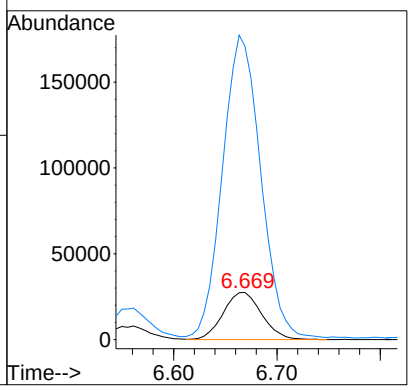


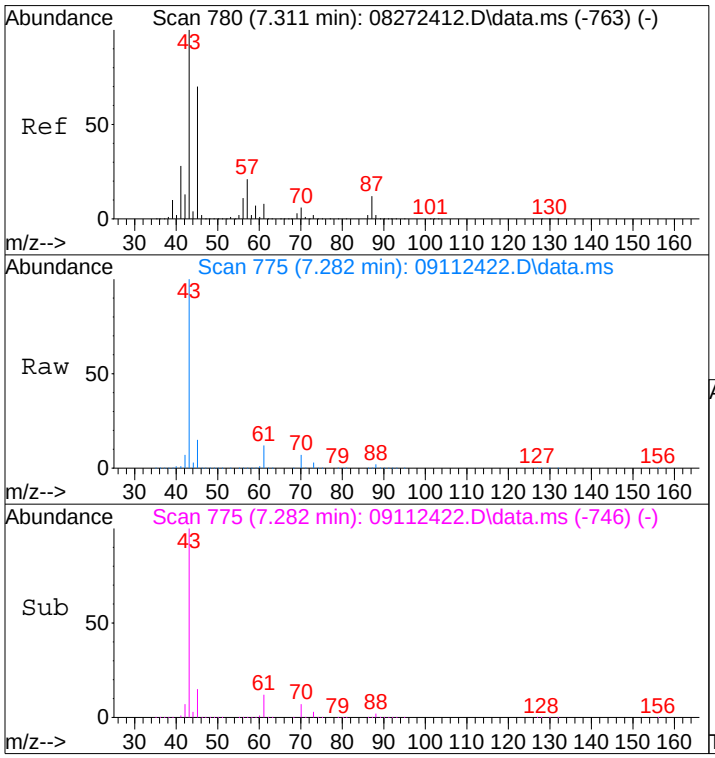


#27
2-Butanone (MEK)
Concen: 7.62 ng
RT: 6.67 min Scan# 667
Delta R.T. -0.036 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 72 Resp: 71221

Ion	Ratio	Lower	Upper
72	100		
43	631.8	548.0	588.0#

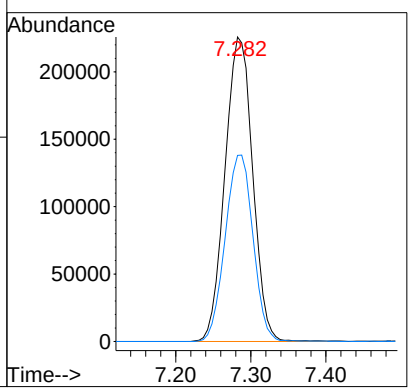


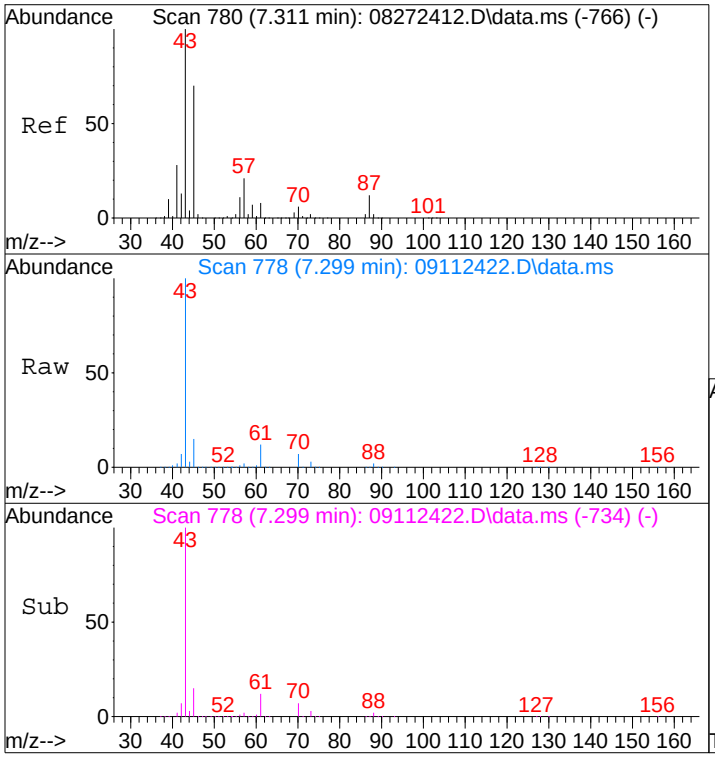


#30
Ethyl Acetate
Concen: 92.47 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.034 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 61 Resp: 579241

Ion	Ratio	Lower	Upper
61	100		
70	61.6	49.9	89.9

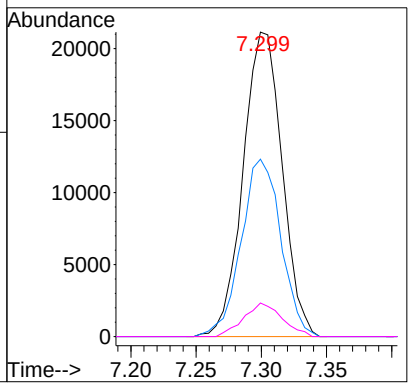


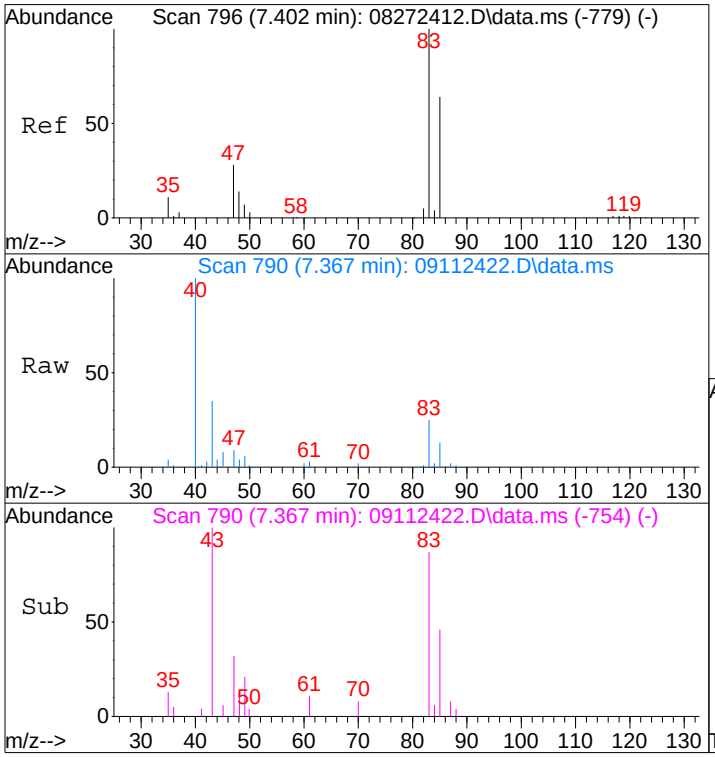


#31
n-Hexane
Concen: 1.54 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.000 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 57 Resp: 43984

Ion	Ratio	Lower	Upper
57	100		
56	59.5	44.2	66.2
86	10.9	9.3	13.9

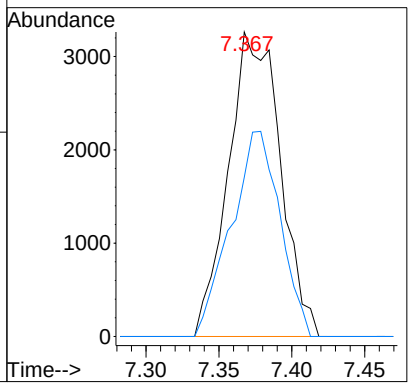


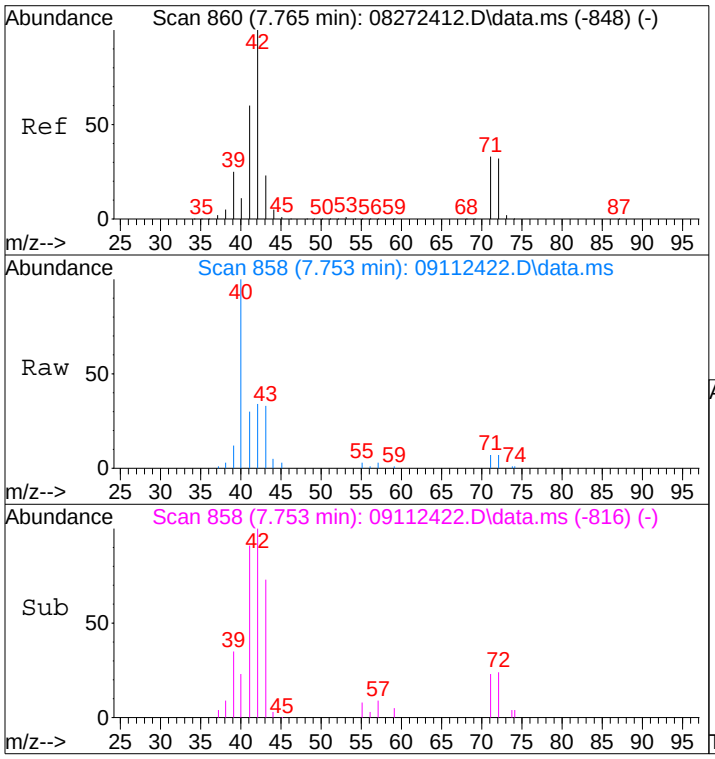


#32
Chloroform
Concen: 0.28 ng
RT: 7.37 min Scan# 790
Delta R.T. -0.045 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 83 Resp: 8043

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.3	85.3

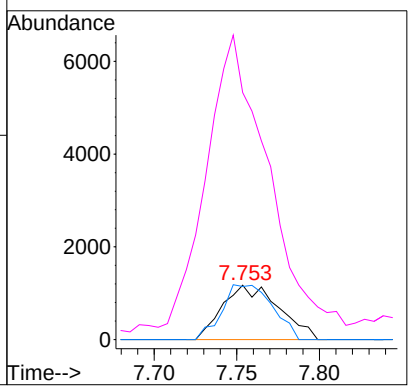


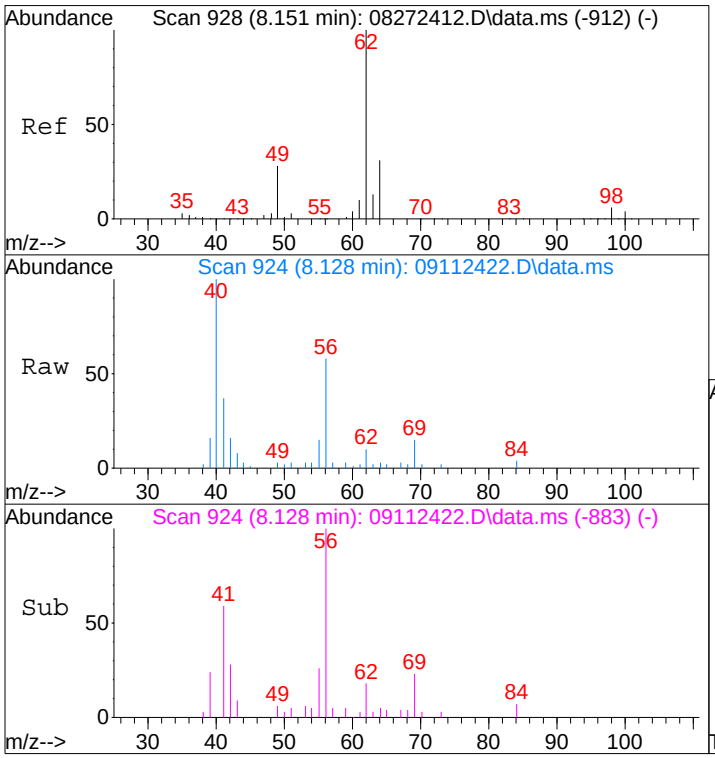


#34
Tetrahydrofuran (THF)
Concen: 0.32 ng
RT: 7.75 min Scan# 858
Delta R.T. -0.010 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 72 Resp: 2800

Ion	Ratio	Lower	Upper
72	100		
71	89.5	78.4	118.4
42	655.8	285.2	325.2#

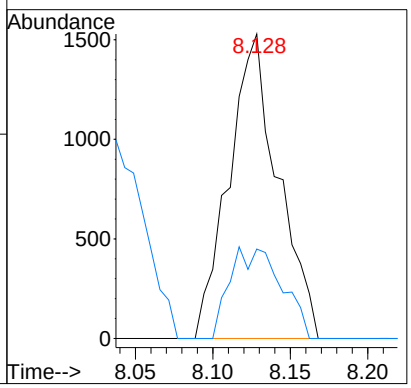


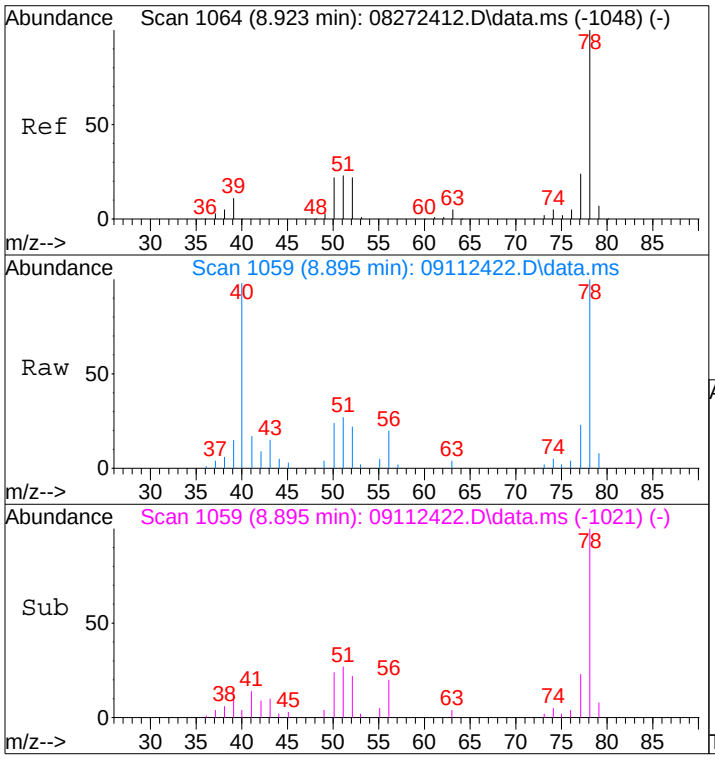


#36
1,2-Dichloroethane
Concen: 0.12 ng
RT: 8.13 min Scan# 924
Delta R.T. -0.019 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 62 Resp: 3378

Ion	Ratio	Lower	Upper
62	100		
64	31.4	11.0	51.0

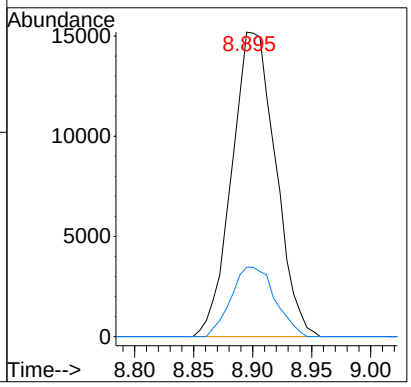


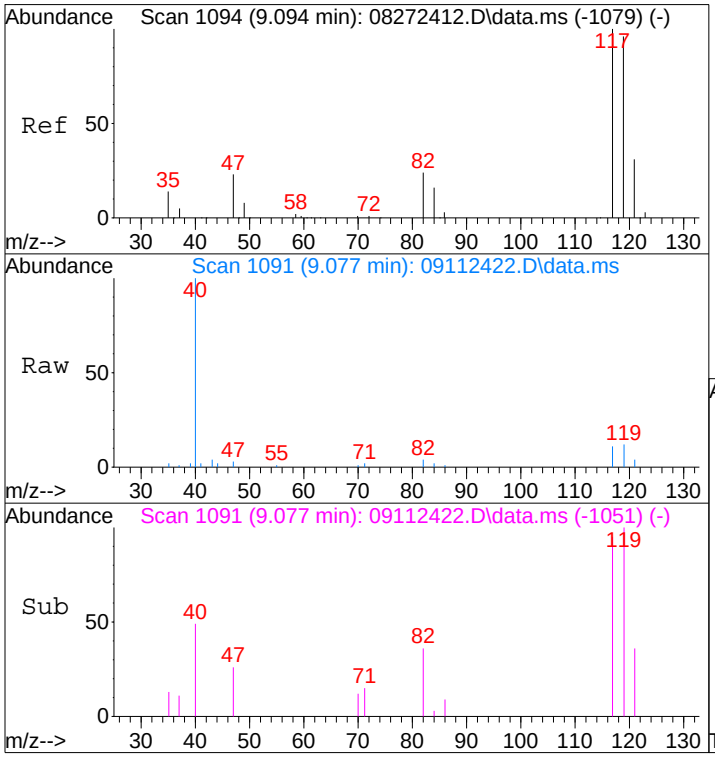


#41
Benzene
Concen: 0.66 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.035 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 78 Resp: 39185

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.9	43.9

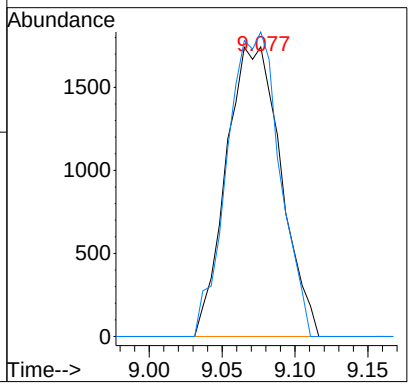


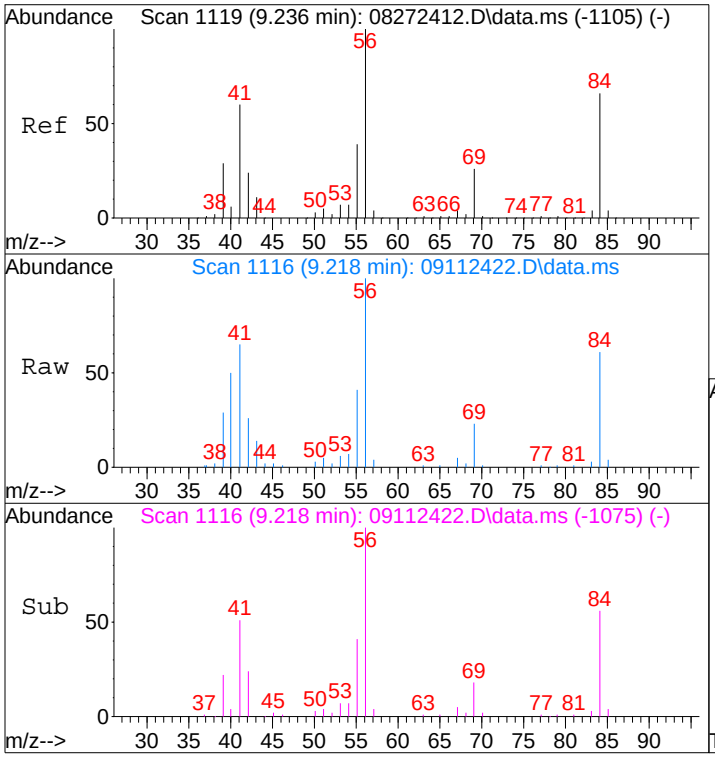


#42
Carbon Tetrachloride
Concen: 0.18 ng
RT: 9.08 min Scan# 1091
Delta R.T. -0.023 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:117 Resp: 4566

Ion	Ratio	Lower	Upper
117	100		
119	100.4	75.1	115.1

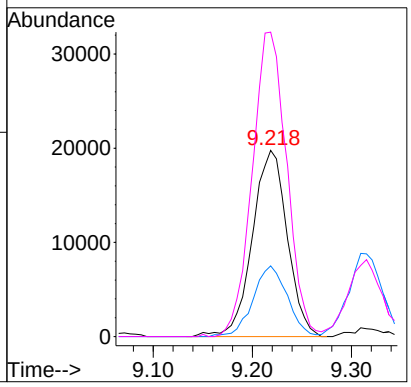


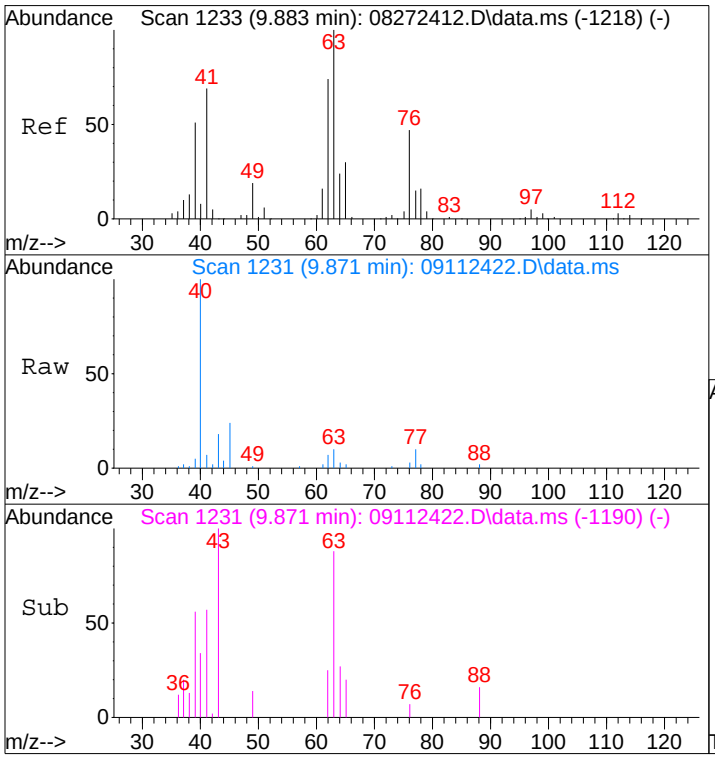


#43
Cyclohexane
Concen: 2.40 ng
RT: 9.22 min Scan# 1116
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 84 Resp: 48400

Ion	Ratio	Lower	Upper
84	100		
69	37.3	18.8	58.8
56	161.6	134.5	174.5

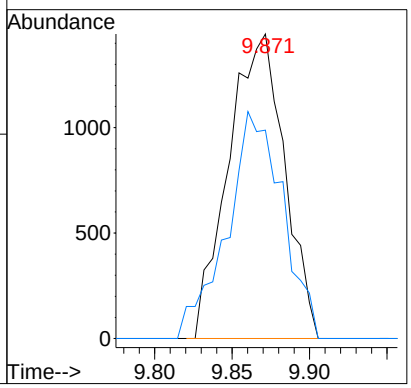


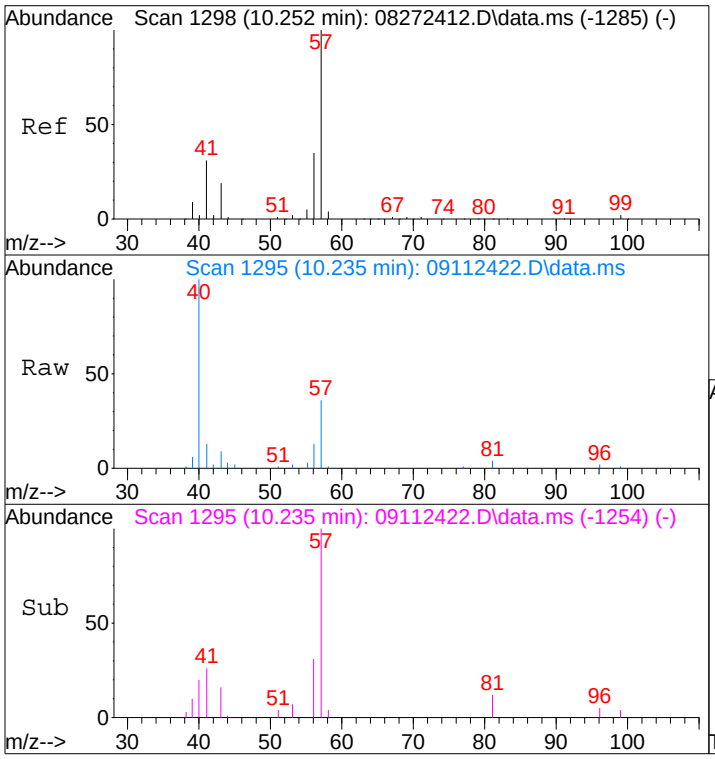


#45
1,2-Dichloropropane
Concen: 0.23 ng
RT: 9.87 min Scan# 1231
Delta R.T. -0.016 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 63 Resp: 3640

Ion	Ratio	Lower	Upper
63	100		
62	74.0	54.2	94.2

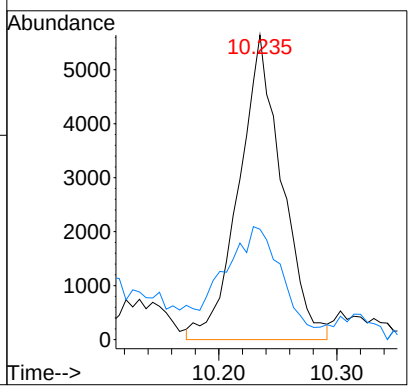


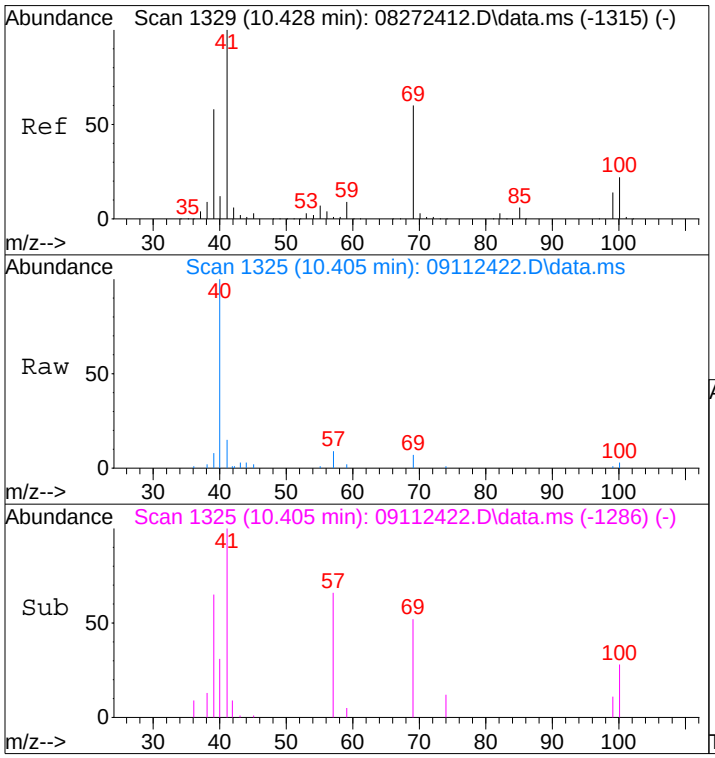


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.20 ng
RT: 10.23 min Scan# 1295
Delta R.T. -0.015 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 57 Resp: 14238

Ion	Ratio	Lower	Upper
57	100		
41	46.7	10.5	50.5

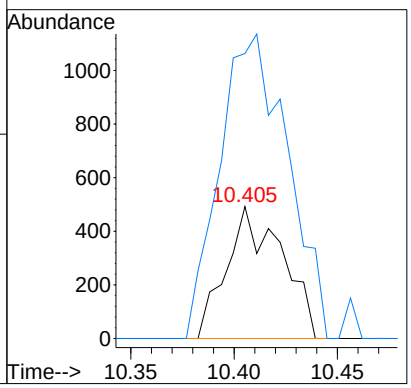


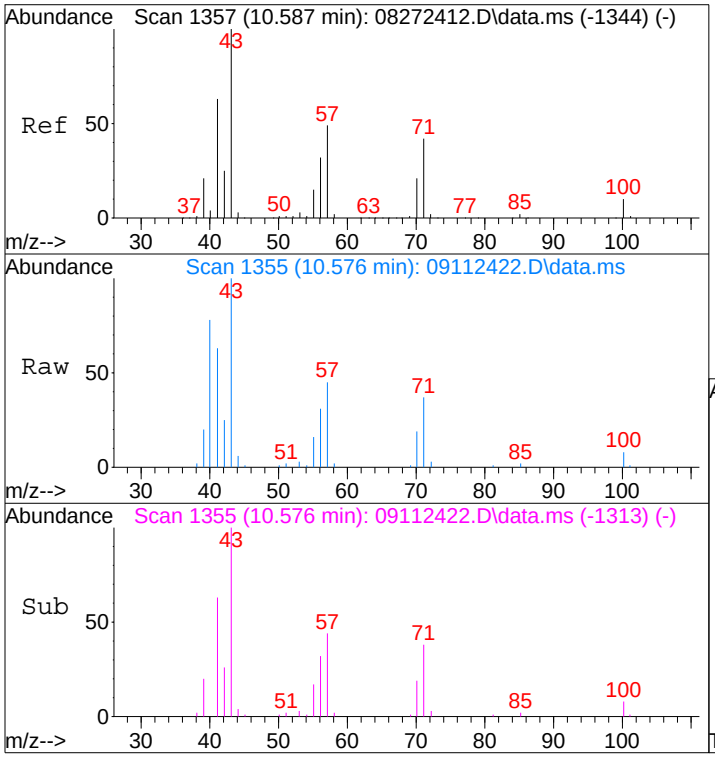


#50
Methyl Methacrylate
Concen: 0.18 ng
RT: 10.41 min Scan# 1325
Delta R.T. -0.026 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:100 Resp: 919

Ion	Ratio	Lower	Upper
100	100		
69	283.4	260.7	300.7

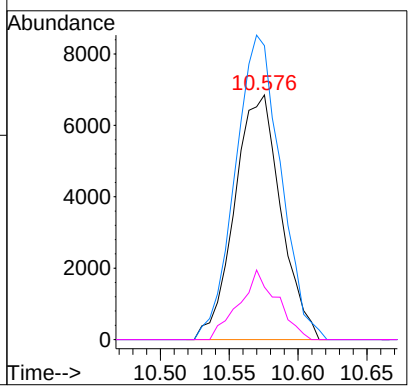


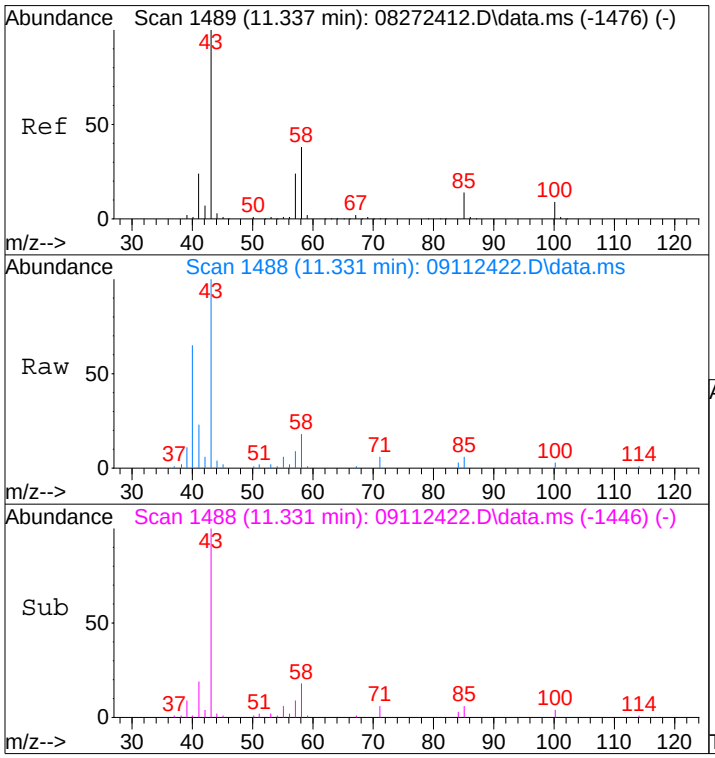


#51
n-Heptane
Concen: 1.20 ng
RT: 10.58 min Scan# 1355
Delta R.T. -0.009 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 71 Resp: 16000

Ion	Ratio	Lower	Upper
71	100		
57	122.7	97.1	137.1
100	23.5	5.0	45.0

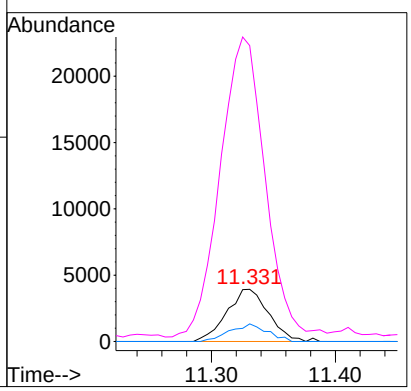


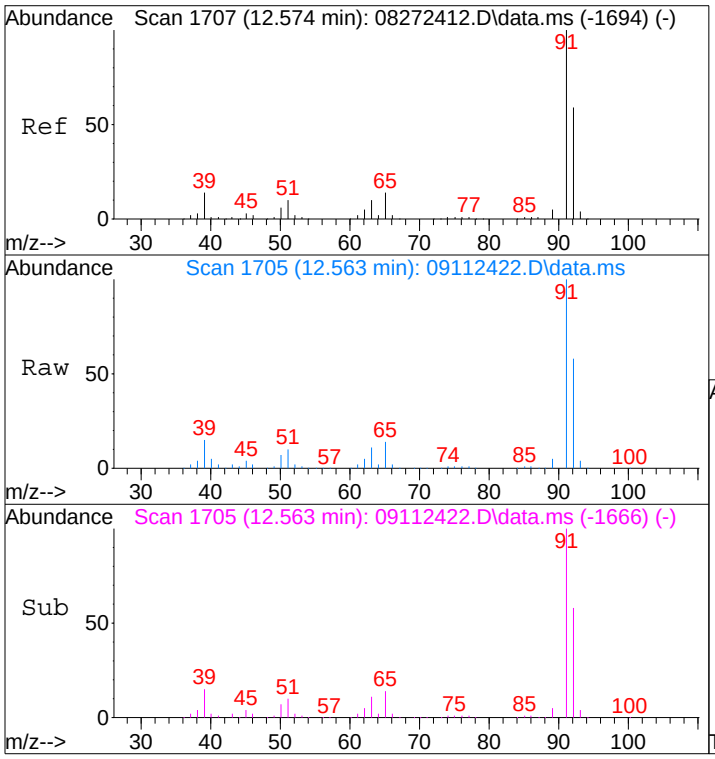


#53
4-Methyl-2-pentanone
Concen: 0.59 ng
RT: 11.33 min Scan# 1488
Delta R.T. -0.013 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 58 Resp: 9241

Ion	Ratio	Lower	Upper
58	100		
85	30.1	30.2	45.2#
43	616.3	215.1	322.7#

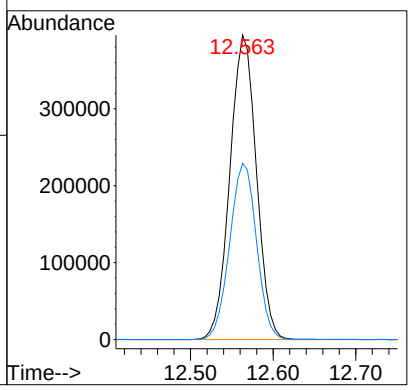


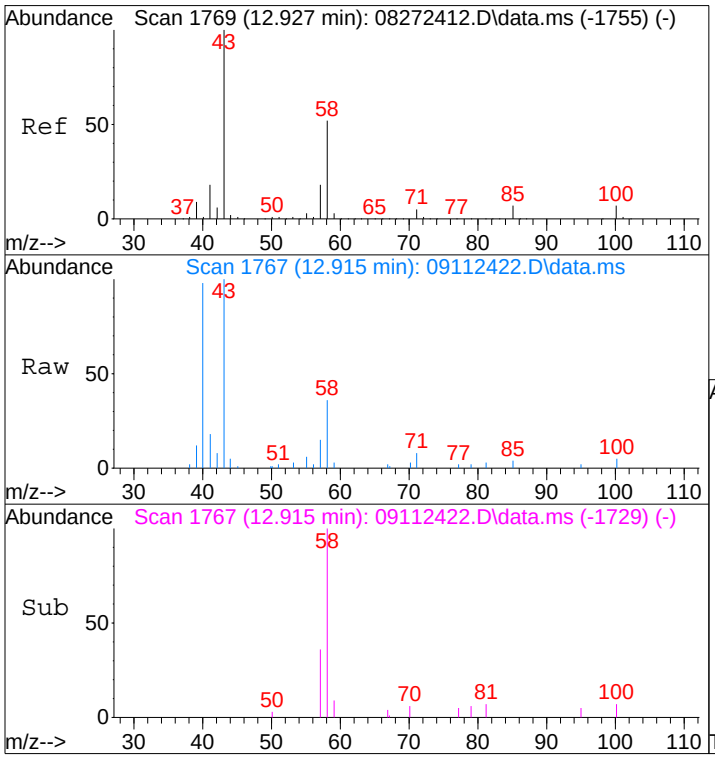


#58
Toluene
Concen: 12.15 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 91 Resp: 881814

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

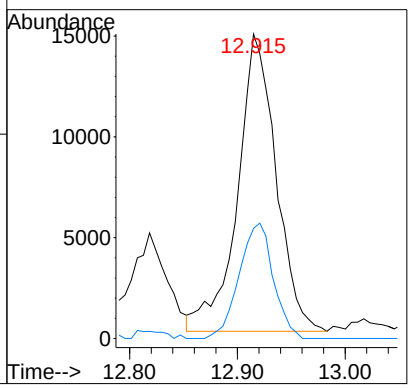


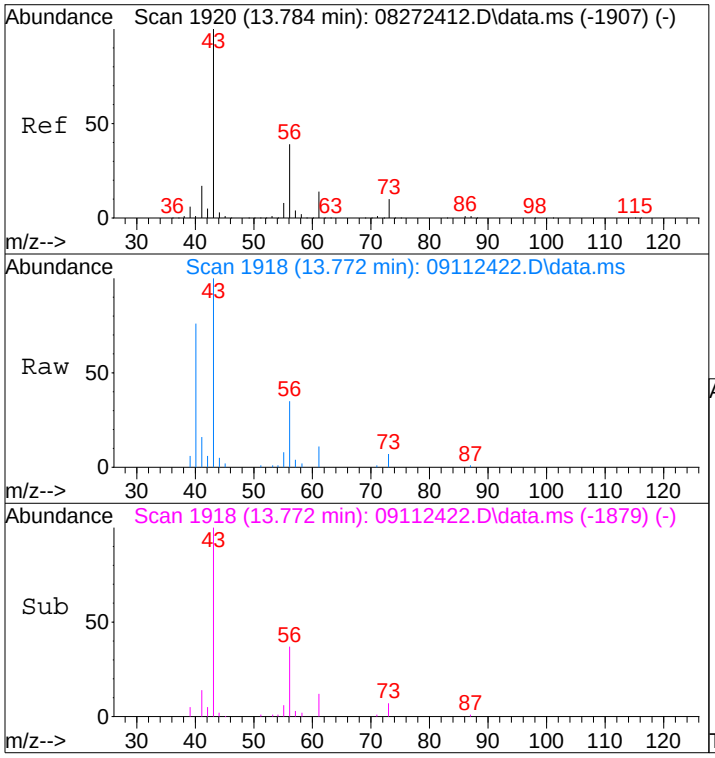


#59
2-Hexanone
Concen: 0.82 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 43 Resp: 36692

Ion	Ratio	Lower	Upper
43	100		
58	34.3	31.1	71.1

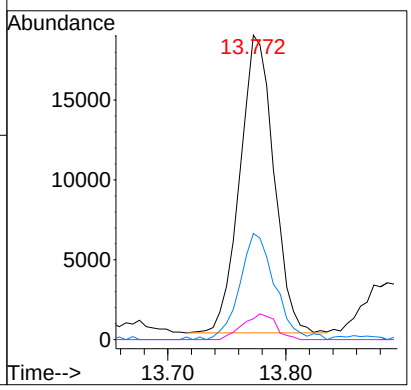


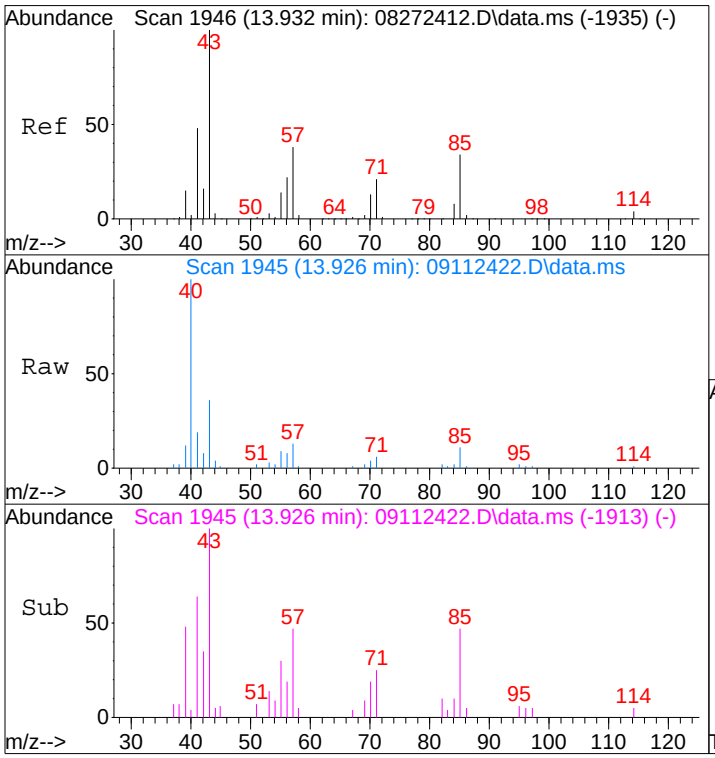


#62
n-Butyl Acetate
Concen: 0.74 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 43 Resp: 37319

Ion	Ratio	Lower	Upper
43	100		
56	36.9	18.2	58.2
73	8.4	0.0	30.1

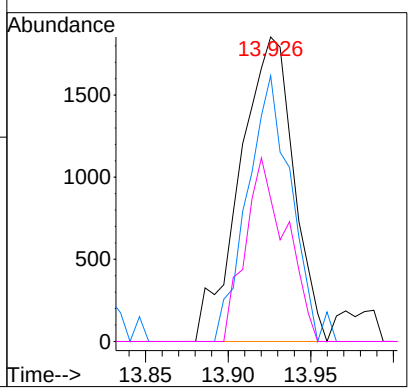


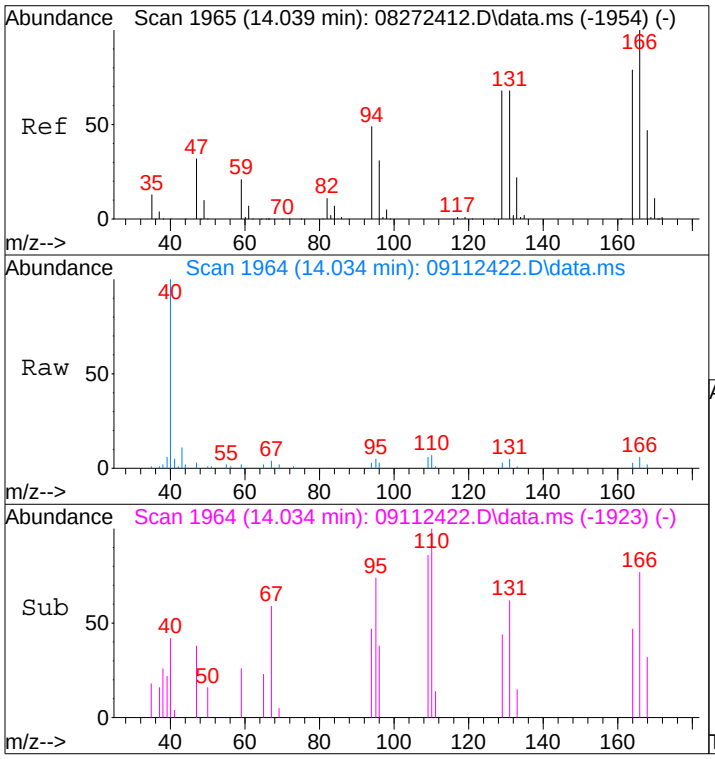


#63
n-Octane
Concen: 0.25 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 57 Resp: 4187

Ion	Ratio	Lower	Upper
57	100		
85	71.1	71.2	106.8#
71	45.9	43.3	64.9

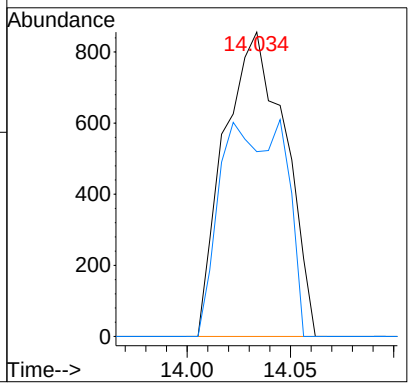


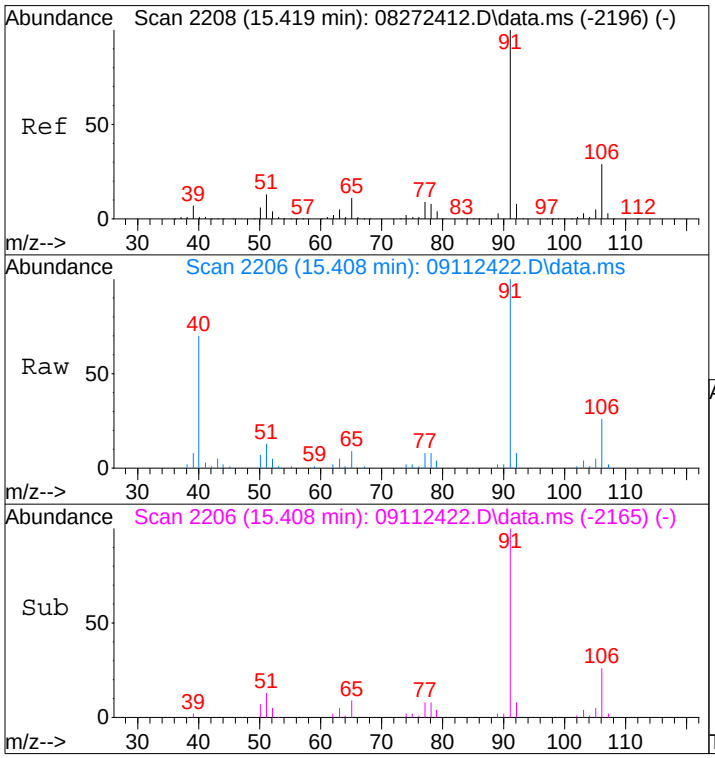


#64
Tetrachloroethene
Concen: 0.09 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:166 Resp: 1749

Ion	Ratio	Lower	Upper
166	100		
164	75.7	59.0	99.0

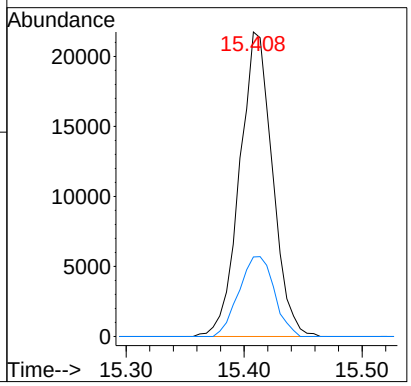


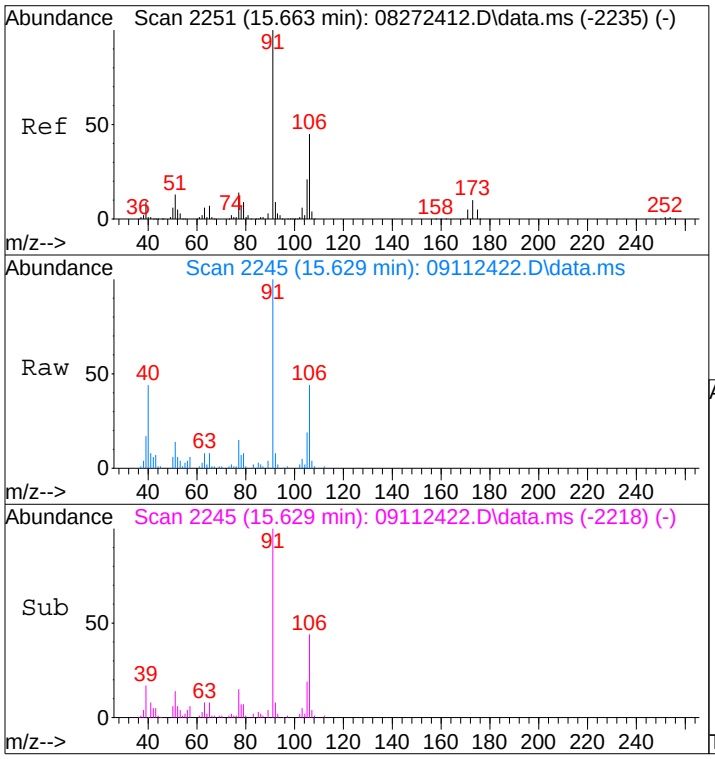


#66
Ethylbenzene
Concen: 0.50 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 91 Resp: 41944

Ion	Ratio	Lower	Upper
91	100		
106	28.2	9.2	49.2

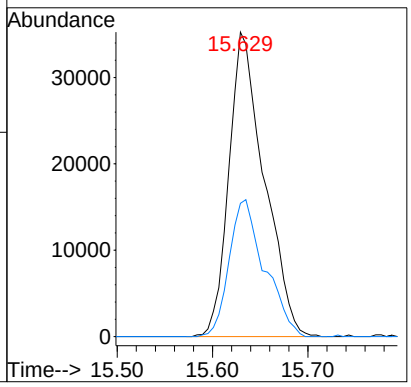


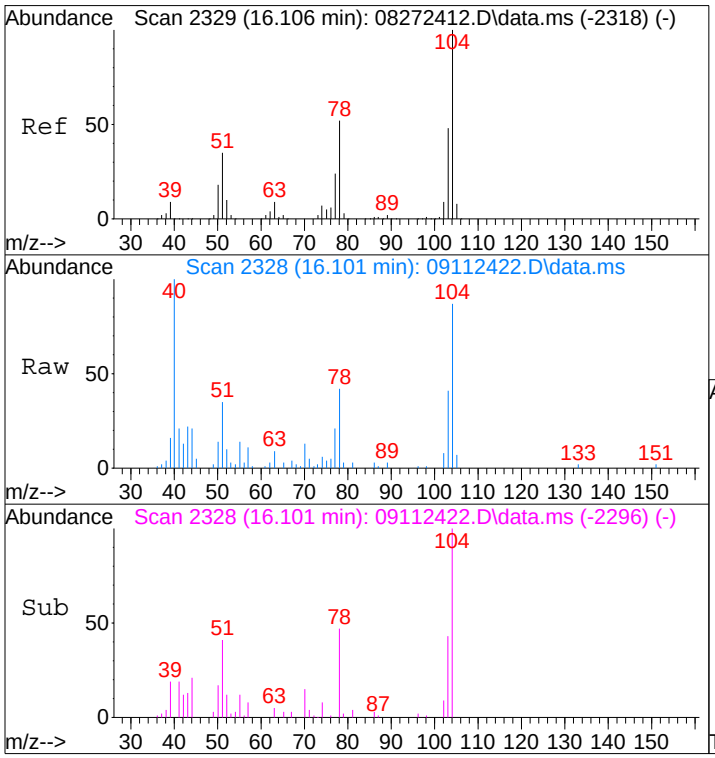


#67
m- & p-Xylenes
Concen: 1.34 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 91 Resp: 90838

Ion	Ratio	Lower	Upper
91	100		
106	45.0	23.8	63.8

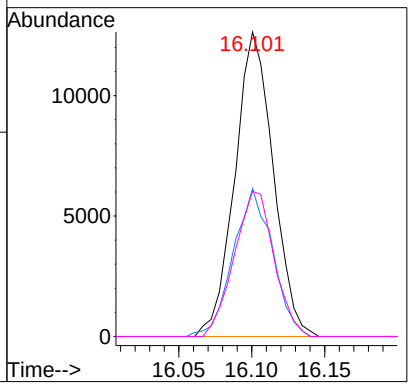


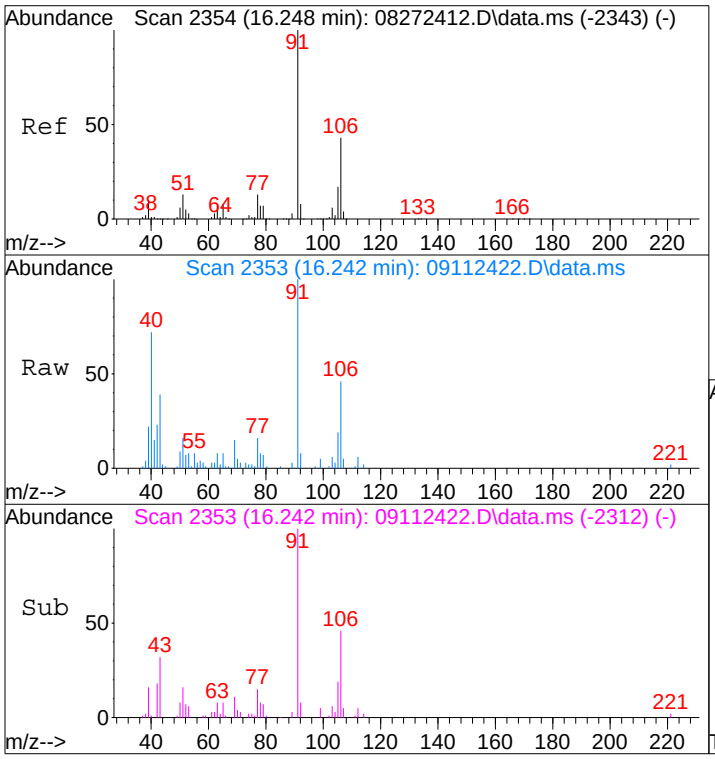


#69
Styrene
Concen: 0.53 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:104 Resp: 23120

Ion	Ratio	Lower	Upper
104	100		
78	49.9	32.2	72.2
103	49.5	28.3	68.3

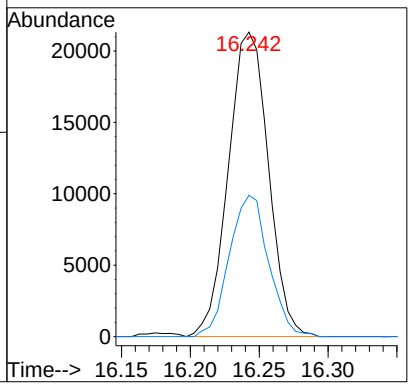


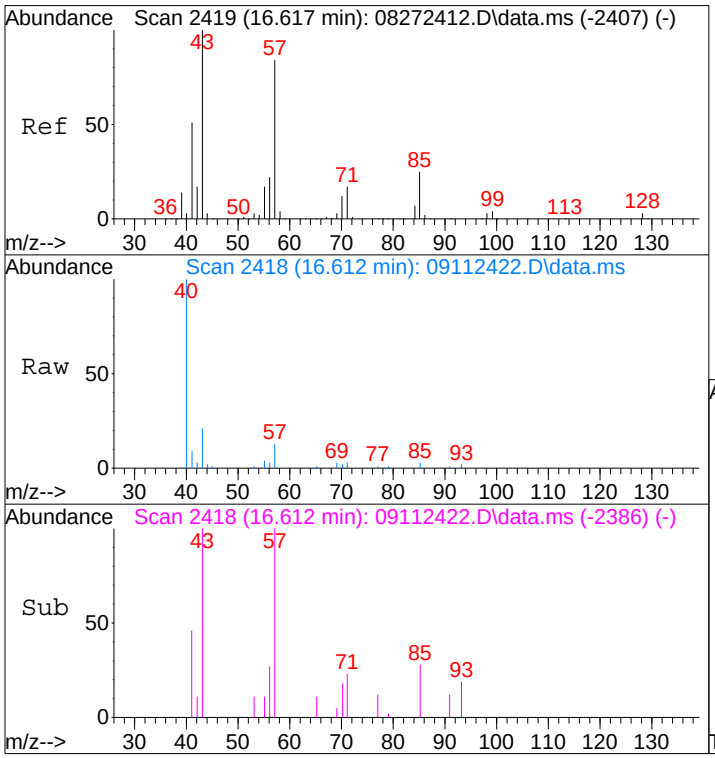


#70
o-Xylene
Concen: 0.65 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 91 Resp: 43170

Ion	Ratio	Lower	Upper
91	100		
106	45.5	22.5	62.5

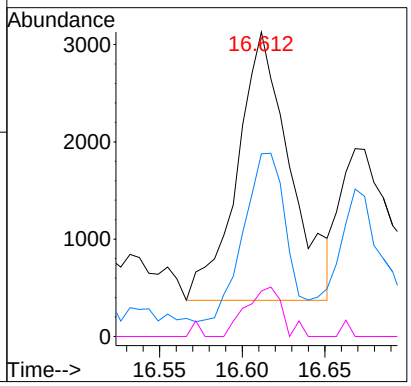


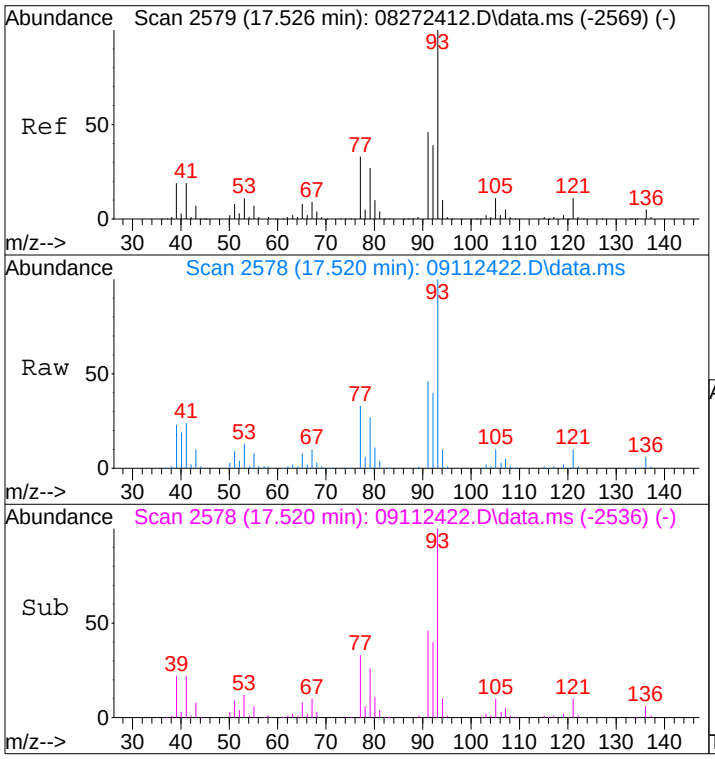


#71
n-Nonane
Concen: 0.14 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 43 Resp: 6137

Ion	Ratio	Lower	Upper
43	100		
57	50.6	63.3	103.3#
85	12.7	4.5	44.5

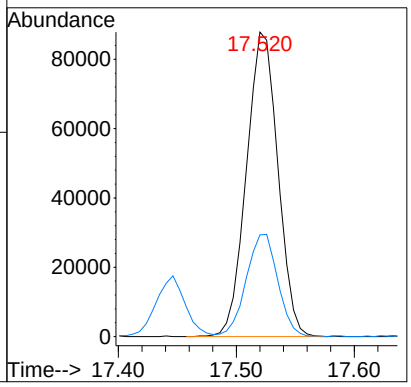


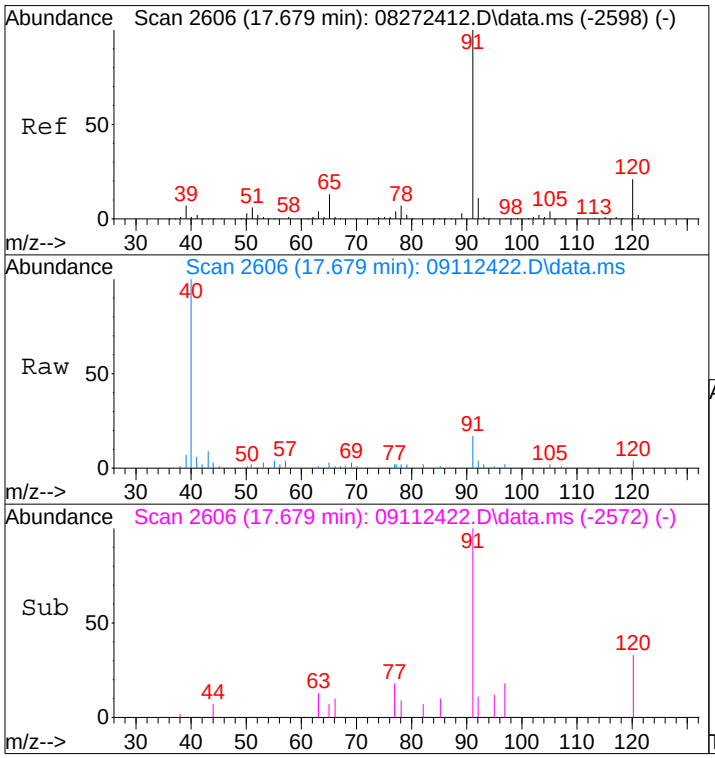


#75
alpha-Pinene
Concen: 4.08 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 93 Resp: 162788

Ion	Ratio	Lower	Upper
93	100		
77	33.9	13.1	53.1

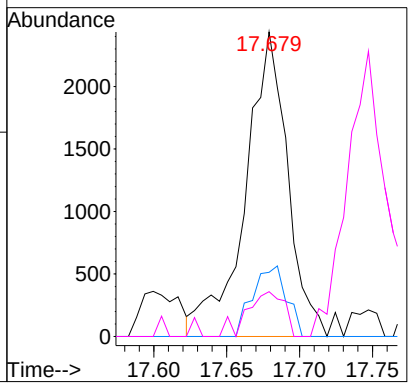


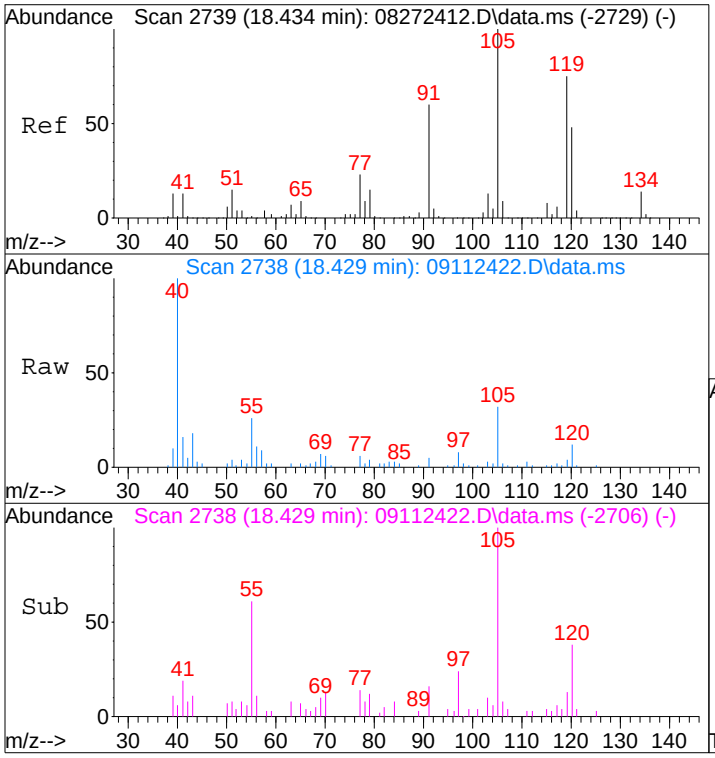


#76
n-Propylbenzene
Concen: 0.05 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 91 Resp: 4906

Ion	Ratio	Lower	Upper
91	100		
120	18.6	0.5	40.5
65	13.0	0.0	32.5

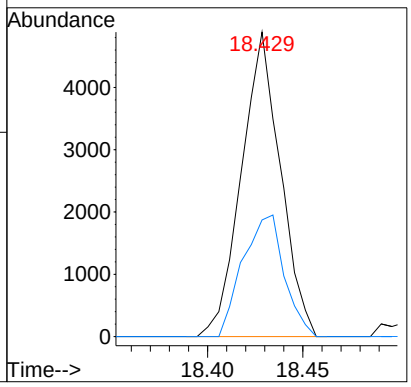


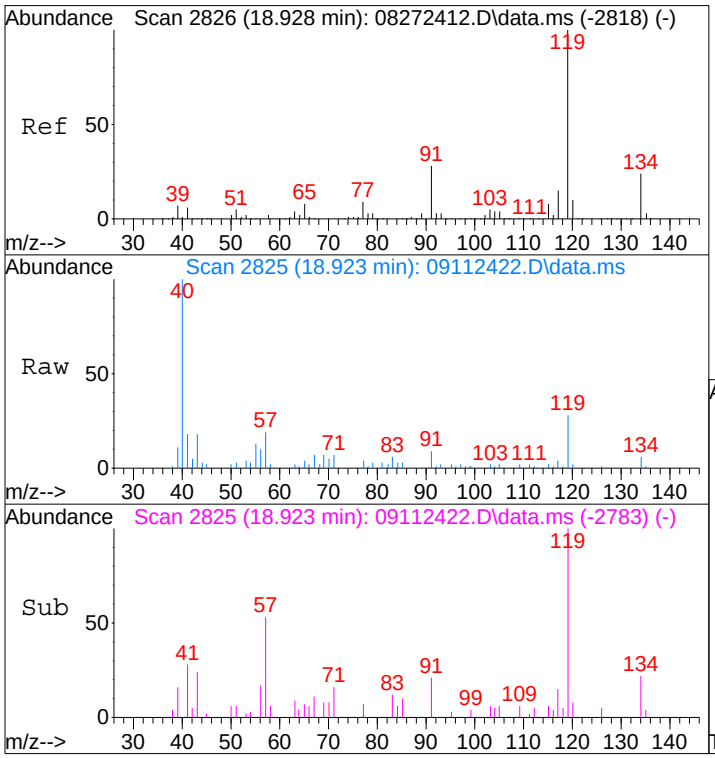


#82
1,2,4-Trimethylbenzene
Concen: 0.10 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:105 Resp: 6952

Ion	Ratio	Lower	Upper
105	100		
120	42.3	28.8	68.8

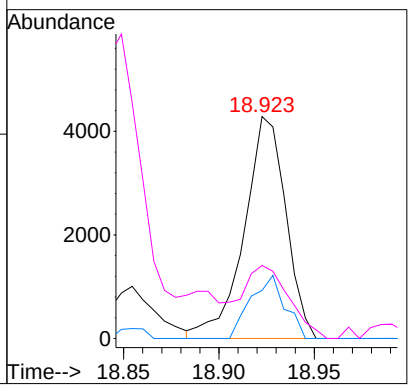


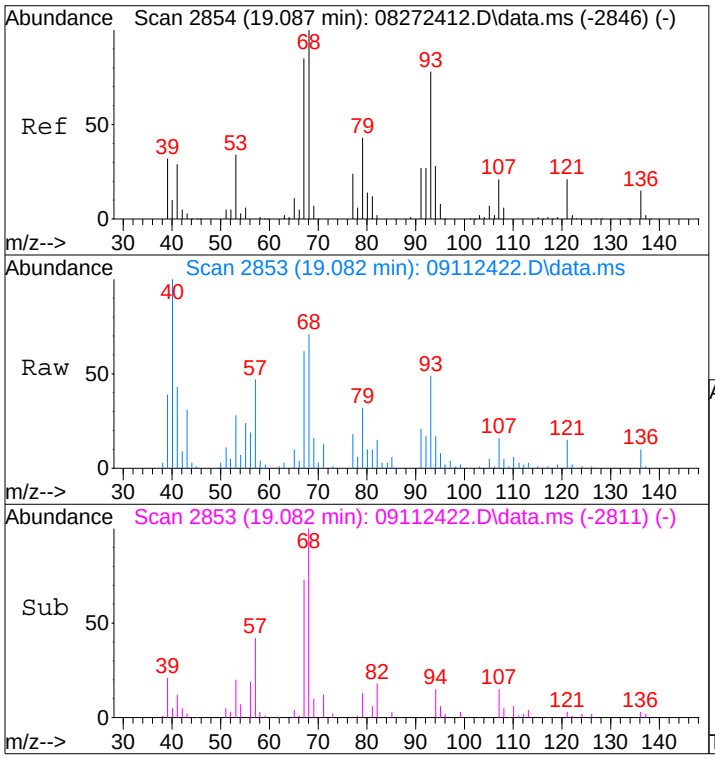


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.09 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion:119 Resp: 6504

Ion	Ratio	Lower	Upper
119	100		
134	23.3	4.7	44.7
91	35.5	8.1	48.1

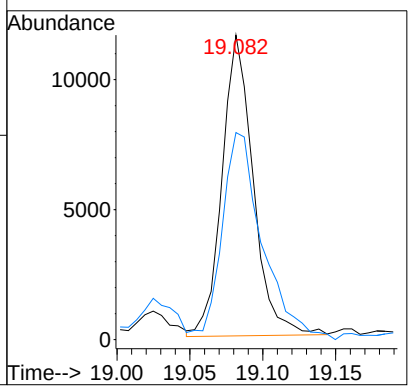




#91
d-Limonene
Concen: 0.76 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09112422.D
Acq: 11 Sep 2024 21:10

Tgt Ion: 68 Resp: 17258

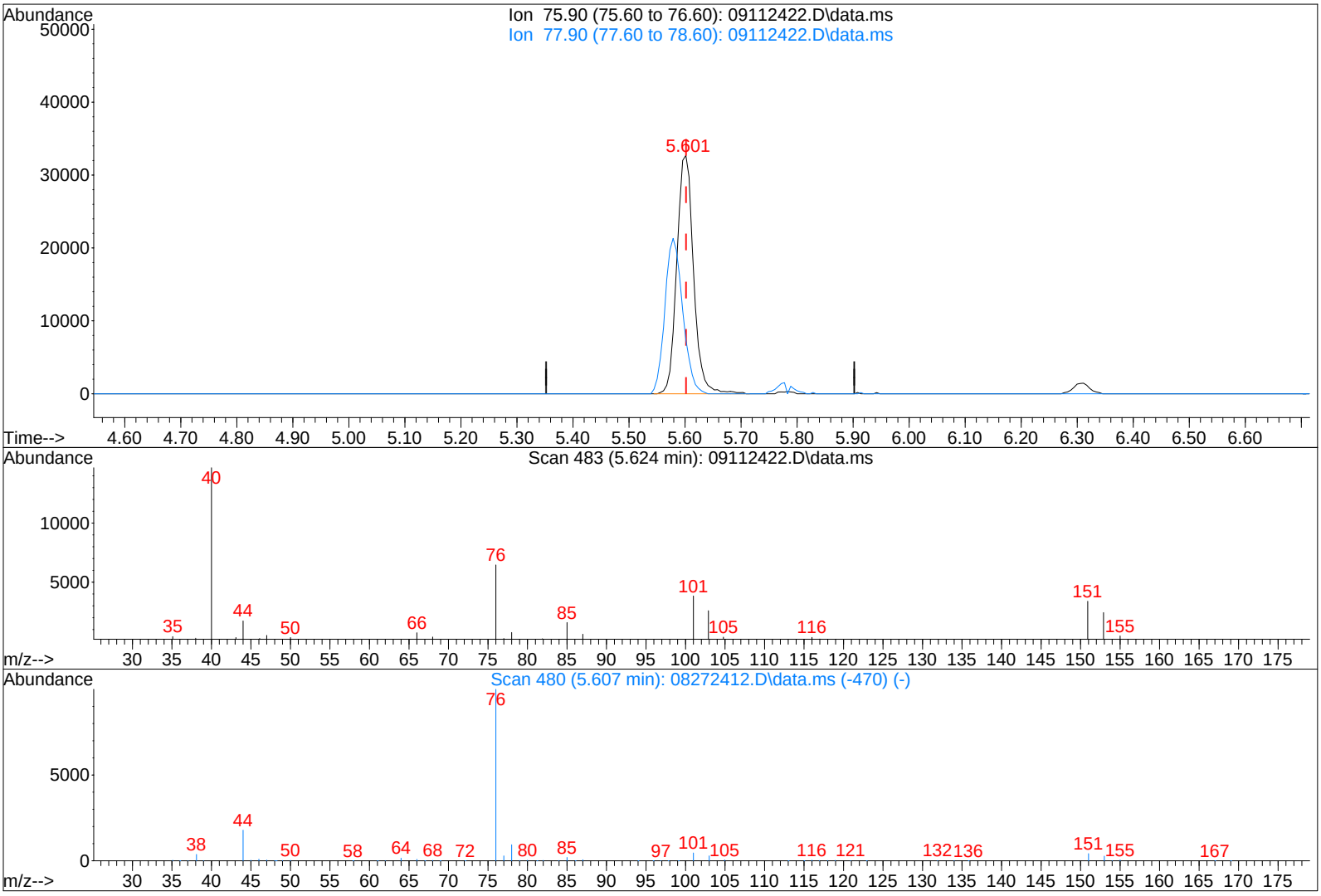
Ion	Ratio	Lower	Upper
68	100		
93	87.5	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112422.D\data.ms

(22) Carbon Disulfide (T)

5.601min (-0.001) 1.32ng

response 67855

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	69.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:49:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

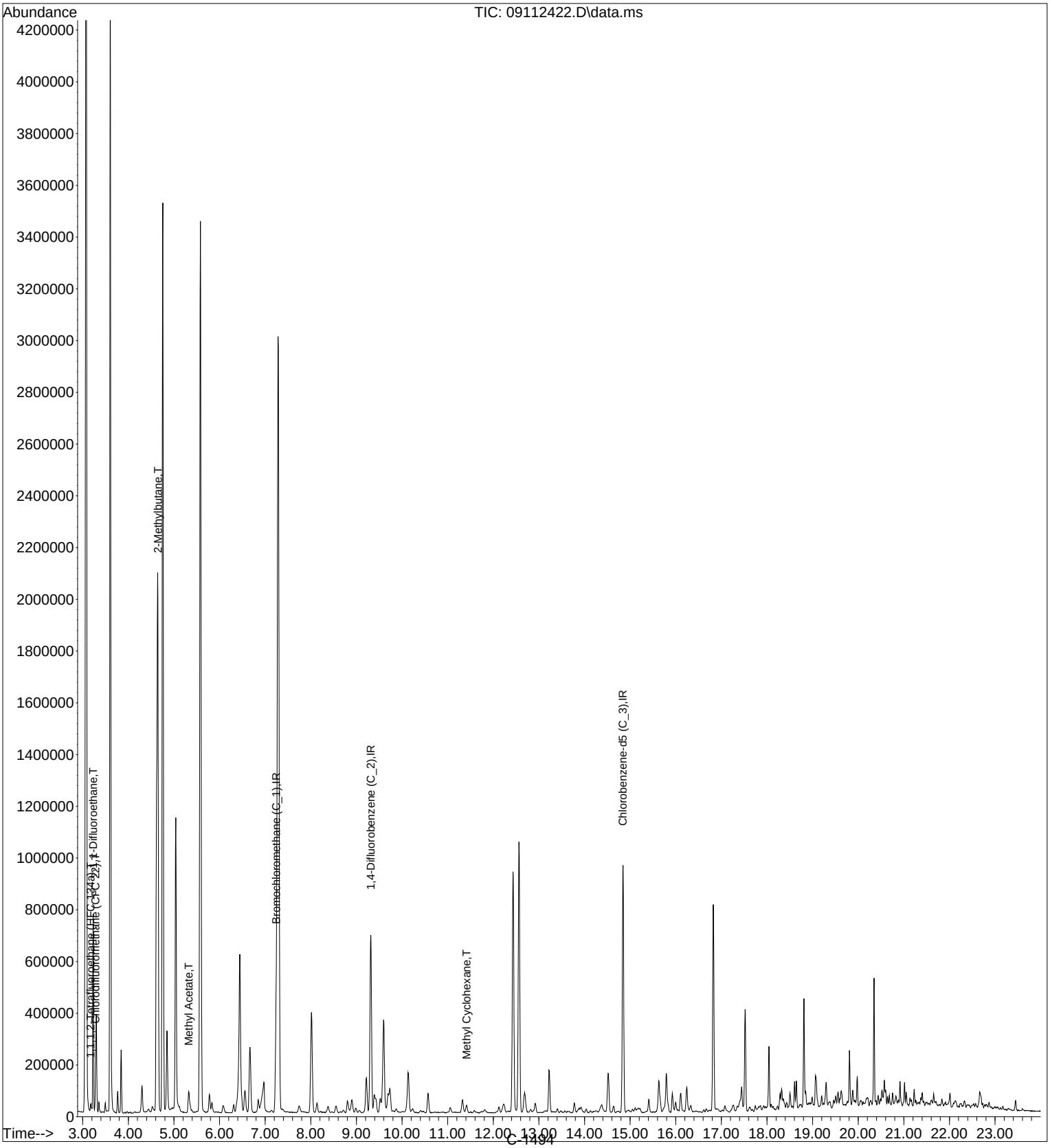
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	143899	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C 2)	9.32	114	637785	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	191326	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	231	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	14295	0.968	ng	#	48
4) 1,1-Difluoroethane	3.23	65	177022	14.090	ng		93
5) Chlorodifluoromethane ...	3.28	67	2194	0.447	ng		99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	685	N.D.			
7) Dichlorofluoromethane ...	4.23	67	232	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	62	N.D.			
10) 2-Methylbutane	4.65	57	425151	24.772	ng		89
11) Methyl Acetate	5.32	43	101605	2.095	ng	#	75
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.05	84	787	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	d		
18) Dibromomethane	9.81	174	58	N.D.			
20) Methyl Cyclohexane	11.42	55	14174	0.432	ng		84
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.18	91	277	N.D.			
24) 1,2,3-Trichloropropane	16.40	75	57	N.D.			
25) Bromobenzene	17.12	77	710	N.D.			
26) 2-Chlorotoluene	17.60	91	732	N.D.			
27) 4-Chlorotoluene	17.68	91	4835	N.D.			
28) Indane	19.11	117	724	N.D.			
29) Indene	19.21	115	2087	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	878	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	2155	N.D.			
32) 1,2,3,5-Tetramethylben...	20.61	119	5667	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:49:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

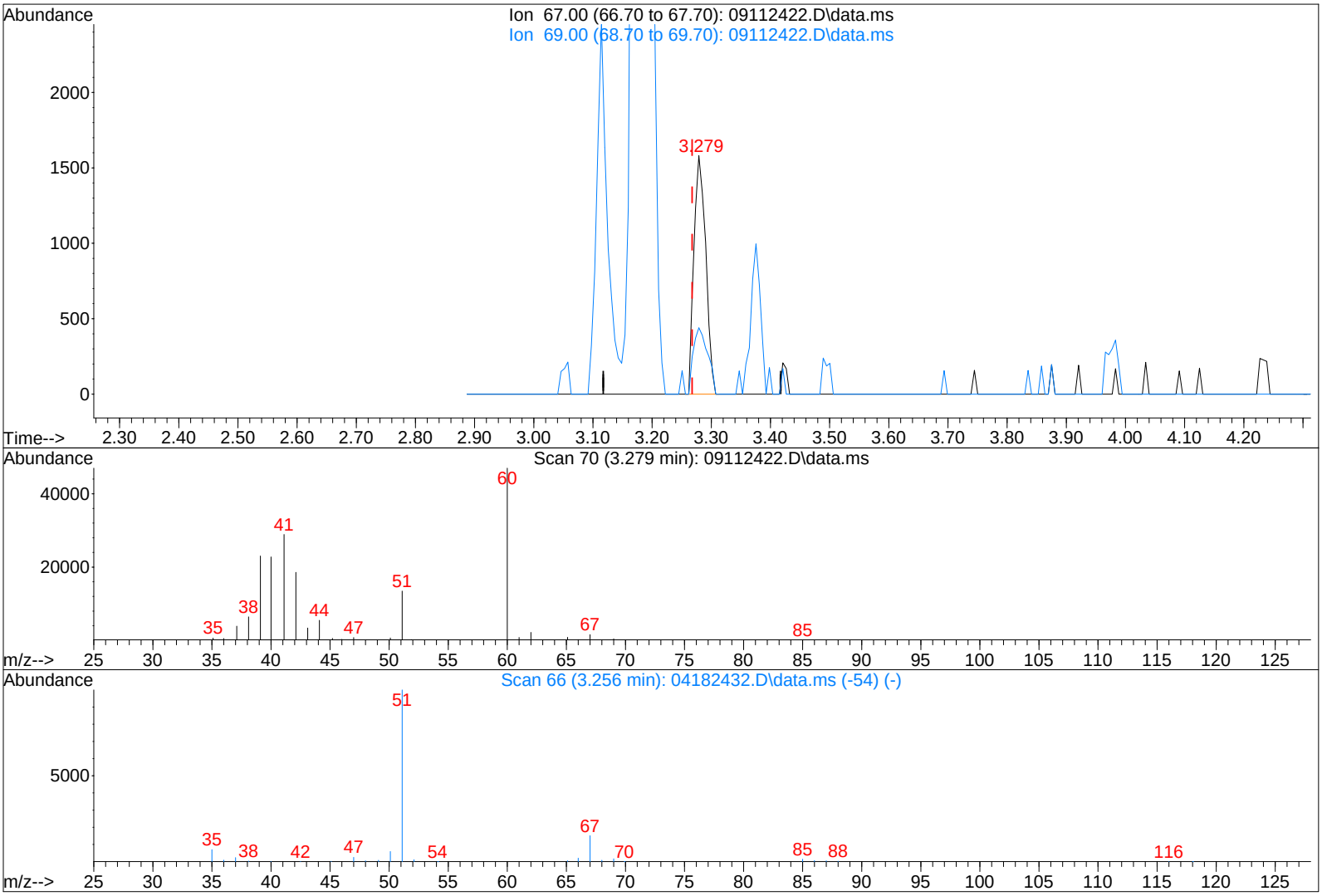


C-1494

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112422.D Vial: 10
Acq On : 11 Sep 2024 21:10 Operator: SC
Sample : P2403661-042 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:48:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112422.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 0.45ng

response 2194

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	33.82
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112422.D
Acq On : 11 Sep 2024 21:10
Operator : SC
Sample : P2403661-042 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112422.D\data.ms

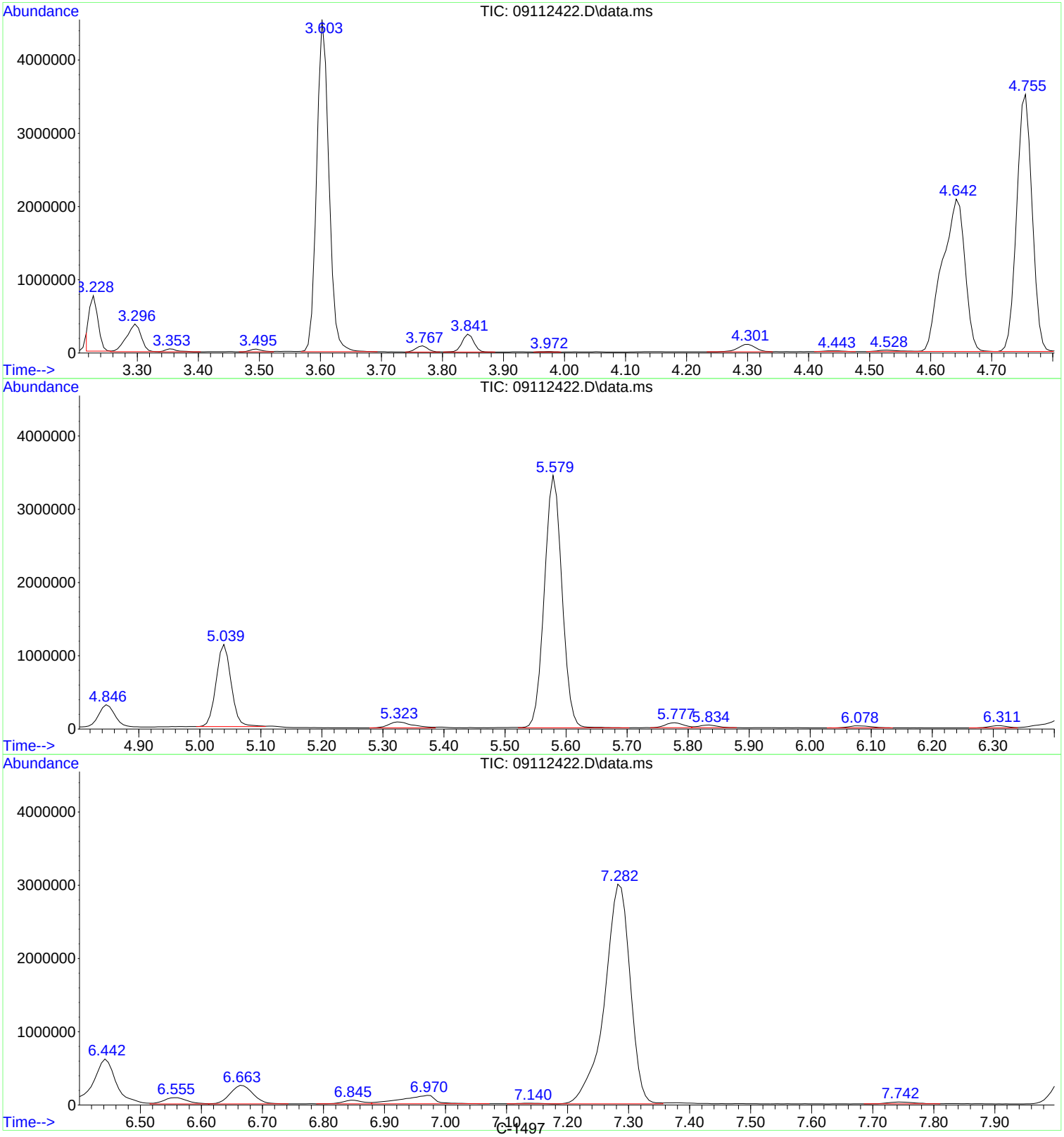
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	66	rVB	757277	732844	8.36%	1.747%
2	3.296	66	73	80	rVB3	377637	620720	7.08%	1.479%
3	3.353	80	83	92	rVB2	39556	54927	0.63%	0.131%
4	3.495	103	108	113	rBV2	37257	52811	0.60%	0.126%
5	3.603	121	127	143	rVB2	4533702	6316808	72.07%	15.056%
6	3.767	151	156	161	rBV	84245	114262	1.30%	0.272%
7	3.841	162	169	177	rVB	244943	328976	3.75%	0.784%
8	3.972	188	192	196	rBV5	6760	10866	0.12%	0.026%
9	4.301	238	250	257	rBV	102151	205365	2.34%	0.489%
10	4.443	269	275	281	rVB3	10011	20741	0.24%	0.049%
11	4.528	284	290	299	rBV3	19667	51127	0.58%	0.122%
12	4.642	299	310	321	rVB2	2081588	5344803	60.98%	12.739%
13	4.755	321	330	338	rBV	3510568	6156053	70.24%	14.673%
14	4.846	338	346	357	rVB	305170	564094	6.44%	1.344%
15	5.039	372	380	392	rBV	1122037	1914784	21.85%	4.564%
16	5.323	422	430	441	rBV3	81653	220724	2.52%	0.526%
17	5.579	465	475	497	rVB	3444649	6905118	78.79%	16.458%
18	5.777	503	510	515	rBV	67341	137945	1.57%	0.329%
19	5.834	515	520	528	rVB3	37104	77123	0.88%	0.184%
20	6.078	554	563	573	rBV2	27675	74505	0.85%	0.178%
21	6.311	595	604	609	rBV	31476	66303	0.76%	0.158%
22	6.442	609	627	640	rVV	612953	1696636	19.36%	4.044%
23	6.555	640	647	657	rVV2	84622	222006	2.53%	0.529%
24	6.663	657	666	680	rVB	253162	652670	7.45%	1.556%
25	6.845	688	698	704	rBV	49368	115454	1.32%	0.275%
26	6.970	704	720	738	rVB	114414	433613	4.95%	1.033%
27	7.140	743	750	757	rVB5	8222	22351	0.26%	0.053%
28	7.282	757	775	788	rBV	2999616	8764248	100.00%	20.889%
29	7.742	846	856	868	rBV5	25393	78111	0.89%	0.186%

Sum of corrected areas: 41955988

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112422.D
Acq On : 11 Sep 2024 21:10
Operator : SC
Sample : P2403661-042 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112422.D
Acq On : 11 Sep 2024 21:100
Operator : SCC
Sample : P2403661-042 (400mL))
Misc : S37-060624022
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:38:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	147002	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	644935	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	190604	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	358150	13.020	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	12.43	98	751741	11.243	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
73) Bromofluorobenzene (SS3)	16.82	174	256968	11.491	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	20993m	0.588	ng		
4) Chloromethane	3.51	50	1555	0.056	ng		92
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	508	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	10454m	0.655	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	2803	0.230	ng		94
13) Acetone	4.64	58	35501	2.637	ng		97
14) Trichlorofluoromethane	4.77	101	14898550m	437.653	ng		
15) 2-Propanol (Isopropanol)	4.85	45	11765	0.222	ng		76
16) Acrylonitrile	5.06	53	84	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.34	59	559	N.D.			
19) Methylene Chloride	5.35	84	1272	0.080	ng	#	63
20) 3-Chloro-1-propene (Al...	5.35	41	245	N.D.			
21) Trichlorotrifluoroethane	5.60	151	7716804m	572.189	ng		
22) Carbon Disulfide	5.61	76	196396	3.737	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.30	73	1476	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	3320	0.348	ng	#	43
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.29	87	10025	0.861	ng	#	56
30) Ethyl Acetate	7.29	61	2640	0.413	ng		98
31) n-Hexane	7.32	57	1324	N.D.			
32) Chloroform	7.36	83	35467	1.211	ng		99
34) Tetrahydrofuran (THF)	7.78	72	174	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	7942	No Calib		#	
40) 1-Butanol	8.81	56	14732	No Calib		#	
41) Benzene	8.90	78	6427	0.106	ng		99
42) Carbon Tetrachloride	9.08	117	760	N.D.			
43) Cyclohexane	9.23	84	127	N.D.			
44) tert-Amyl Methyl Ether	9.58	73	126	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	3355	0.147	ng		100
47) Trichloroethene	10.15	130	8275	0.553	ng		92
48) 1,4-Dioxane	10.13	88	1352	0.130	ng		79
49) 2,2,4-Trimethylpentane...	10.22	57	486	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

C-1499

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:38:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

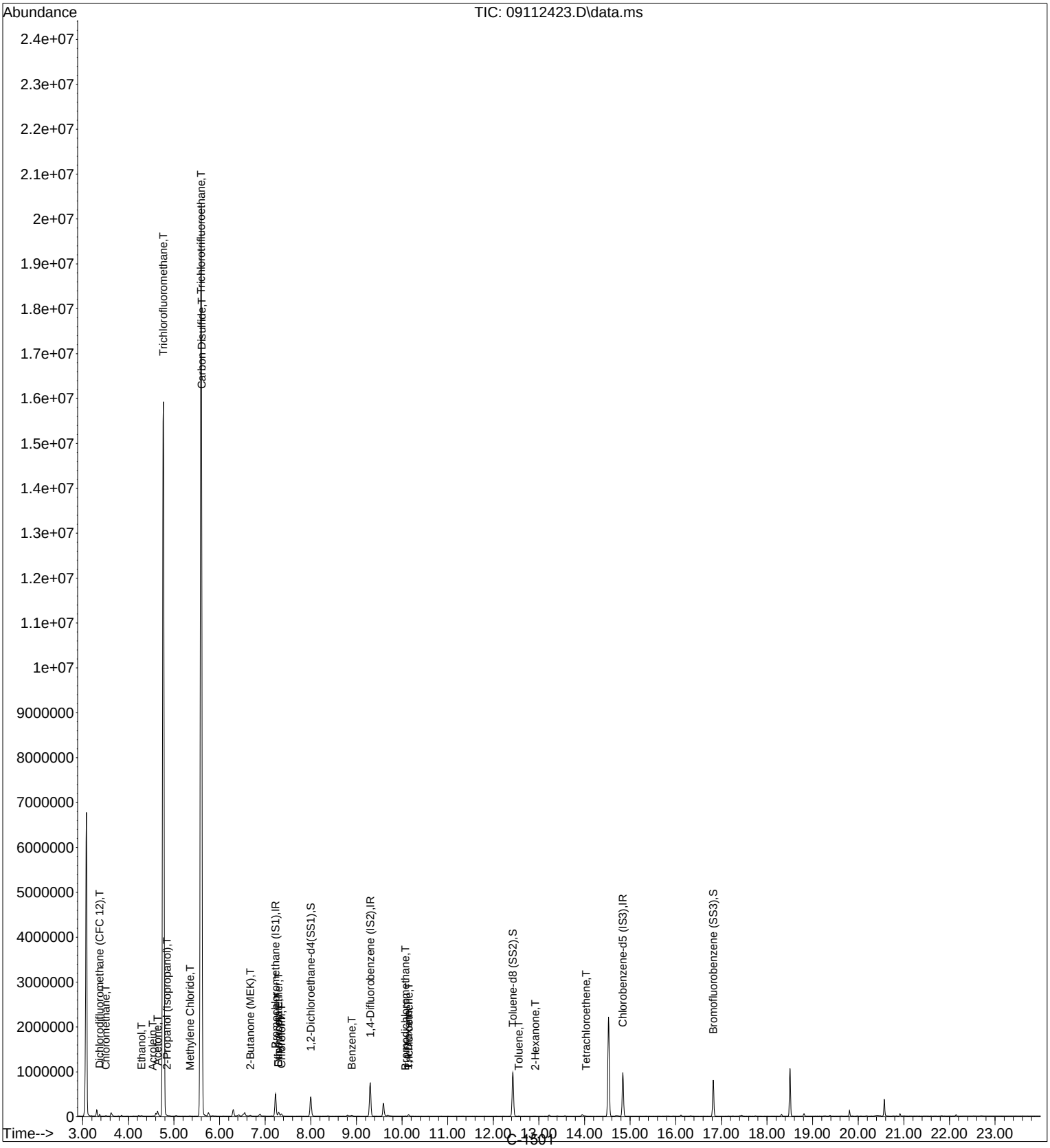
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.56	71	163	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.34	58	722	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4698	0.065 ng	99
59) 2-Hexanone	12.92	43	3314	0.074 ng	72
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1217	N.D.	
63) n-Octane	13.93	57	617	N.D.	
64) Tetrachloroethene	14.03	166	1213	0.061 ng	98
65) Chlorobenzene	14.90	112	130	N.D.	
66) Ethylbenzene	15.42	91	504	N.D.	
67) m- & p-Xylenes	15.63	91	1322	N.D.	
68) Bromoform	15.67	173	119	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	535	N.D.	
71) n-Nonane	16.61	43	1026	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	109	N.D.	
74) Cumene	17.04	105	166	N.D.	
75) alpha-Pinene	17.53	93	219	N.D.	
76) n-Propylbenzene	17.67	91	563	N.D.	
77) 3-Ethyltoluene	17.04	105	166	No Calib	#
78) 4-Ethyltoluene	17.85	105	148	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	176	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	166	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	453	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	474	N.D.	
85) 1,3-Dichlorobenzene	18.50	146	1111	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	420	N.D.	
87) sec-Butylbenzene	18.74	105	195	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	1122	N.D.	
89) 1,2,3-Trimethylbenzene	17.04	105	166	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	131	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	661	N.D.	
95) Naphthalene	20.94	128	1158	N.D.	
96) n-Dodecane	18.95	58	107	No Calib	#
97) Hexachlorobutadiene	21.30	225	302	N.D.	
98) Cyclohexanone	15.21	55	193	No Calib	#
99) tert-Butylbenzene	18.43	119	265	N.D.	
100) n-Butylbenzene	19.38	91	1757	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:38:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:38:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

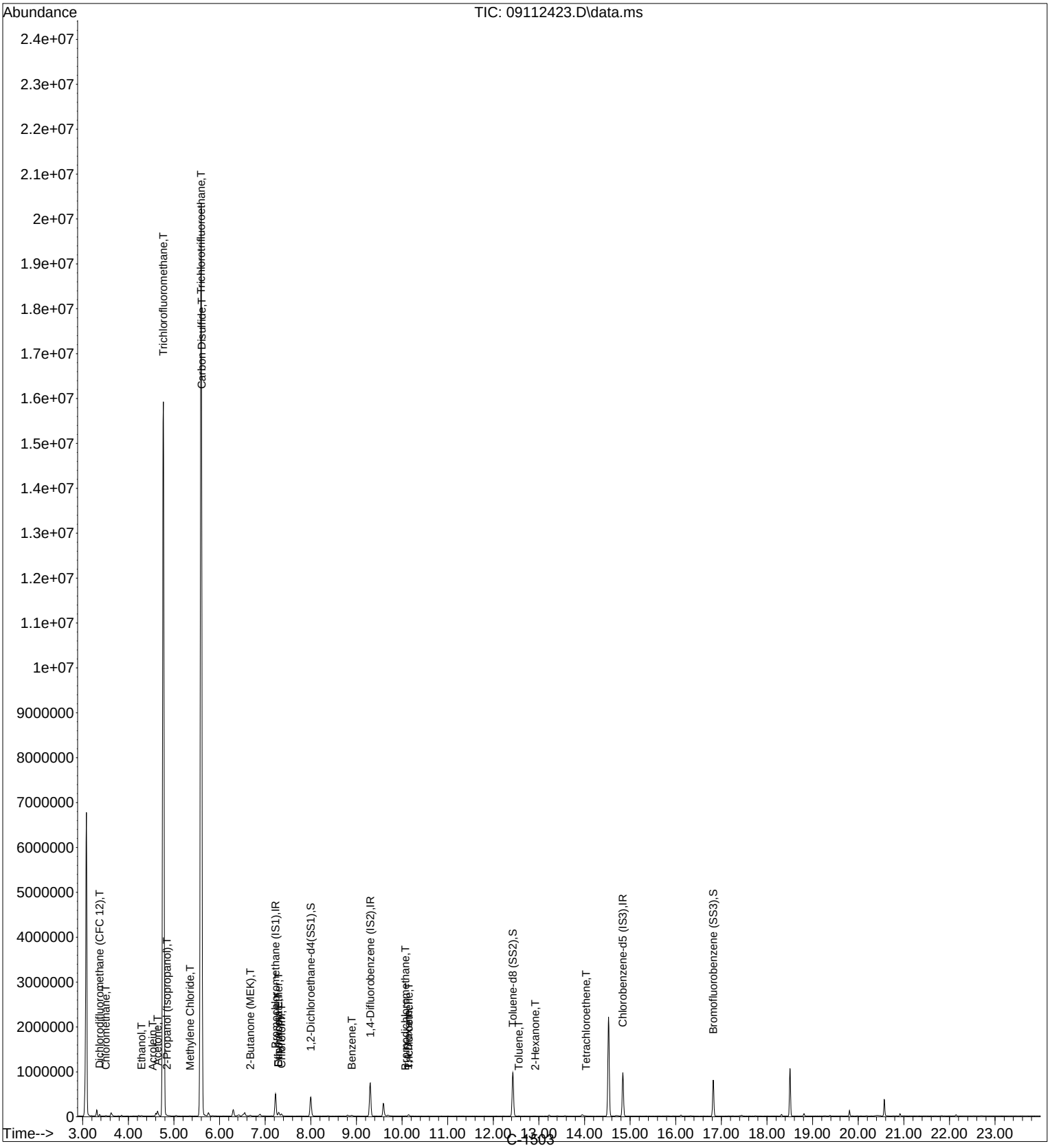
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	147002	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	644935	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	190604	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	358150	13.020	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
57) Toluene-d8 (SS2)	12.43	98	751741	11.243	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
73) Bromofluorobenzene (SS3)	16.82	174	256968	11.491	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	20993m	0.588	ng		
4) Chloromethane	3.51	50	1555	0.056	ng		92
10) Ethanol	4.29	45	10454m	0.655	ng		
12) Acrolein	4.53	56	2803	0.230	ng		94
13) Acetone	4.64	58	35501	2.637	ng		97
14) Trichlorofluoromethane	4.77	101	14898550m	437.653	ng		
15) 2-Propanol (Isopropanol)	4.85	45	11765	0.222	ng		76
19) Methylene Chloride	5.35	84	1272	0.080	ng	#	63
21) Trichlorotrifluoroethane	5.60	151	7716804m	572.189	ng		
22) Carbon Disulfide	5.61	76	196396	3.737	ng	#	1
27) 2-Butanone (MEK)	6.67	72	3320	0.348	ng	#	43
29) Diisopropyl Ether	7.29	87	10025	0.861	ng	#	56
30) Ethyl Acetate	7.29	61	2640	0.413	ng		98
32) Chloroform	7.36	83	35467	1.211	ng		99
41) Benzene	8.90	78	6427	0.106	ng		99
46) Bromodichloromethane	10.07	83	3355	0.147	ng		100
47) Trichloroethene	10.15	130	8275	0.553	ng		92
48) 1,4-Dioxane	10.13	88	1352	0.130	ng		79
58) Toluene	12.56	91	4698	0.065	ng		99
59) 2-Hexanone	12.92	43	3314	0.074	ng		72
64) Tetrachloroethene	14.03	166	1213	0.061	ng		98

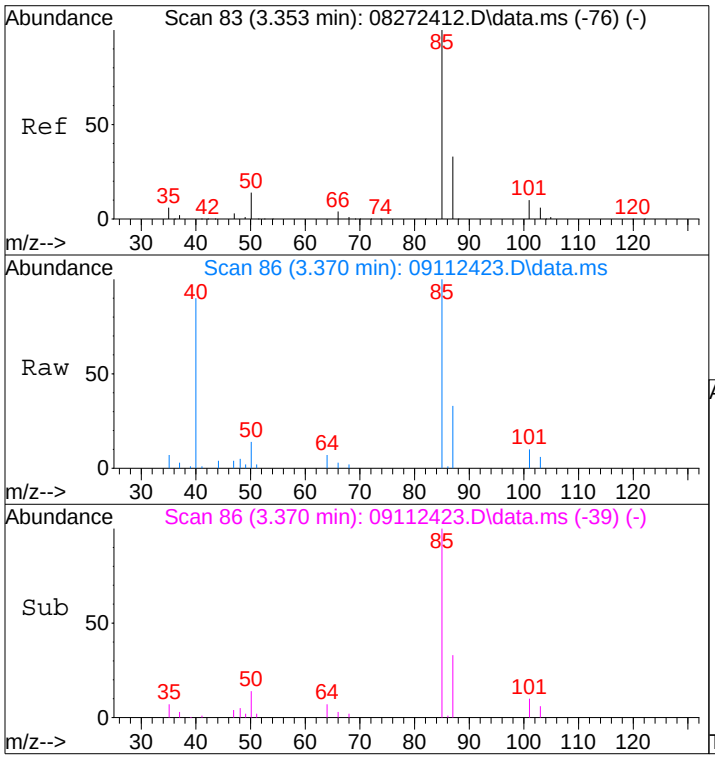
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:38:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

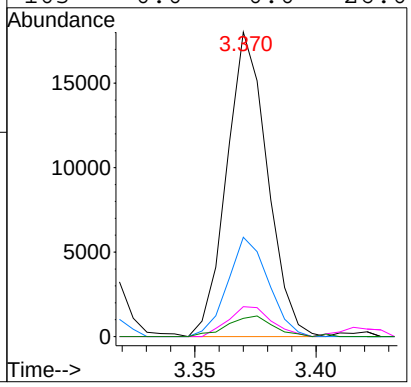


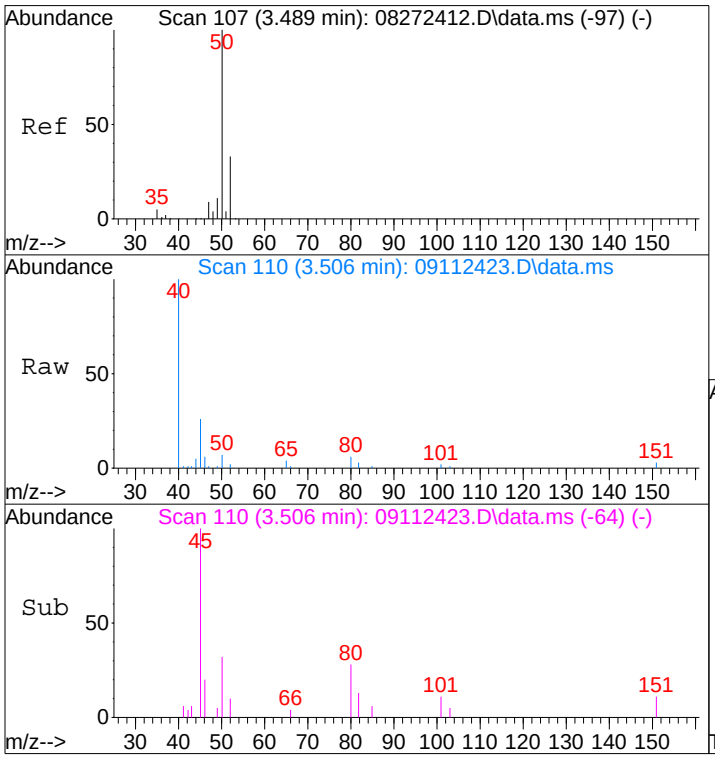


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.019 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 85 Resp: 20993

Ion	Ratio	Lower	Upper
85	100		
87	6.7	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

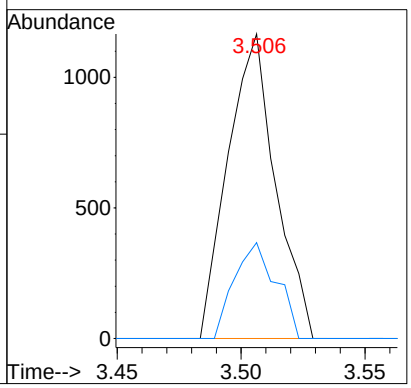


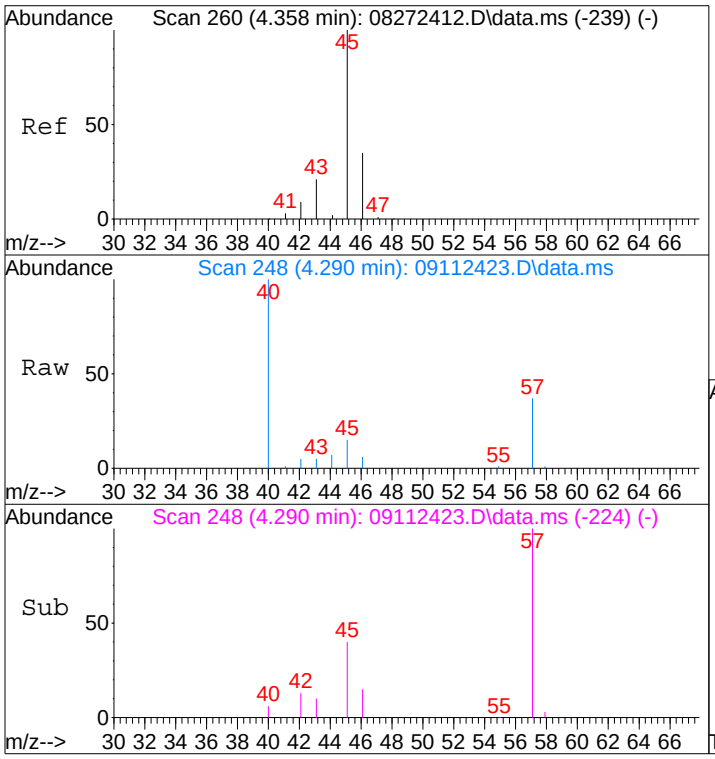


#4
Chloromethane
Concen: 0.06 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.014 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 50 Resp: 1555

Ion	Ratio	Lower	Upper
50	100		
52	27.7	12.4	52.4

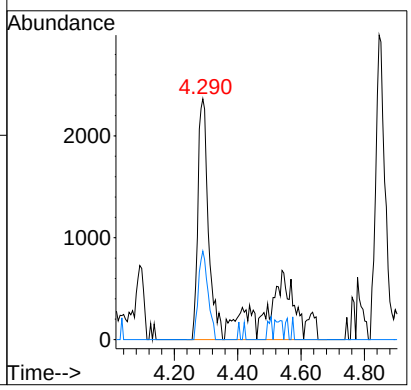


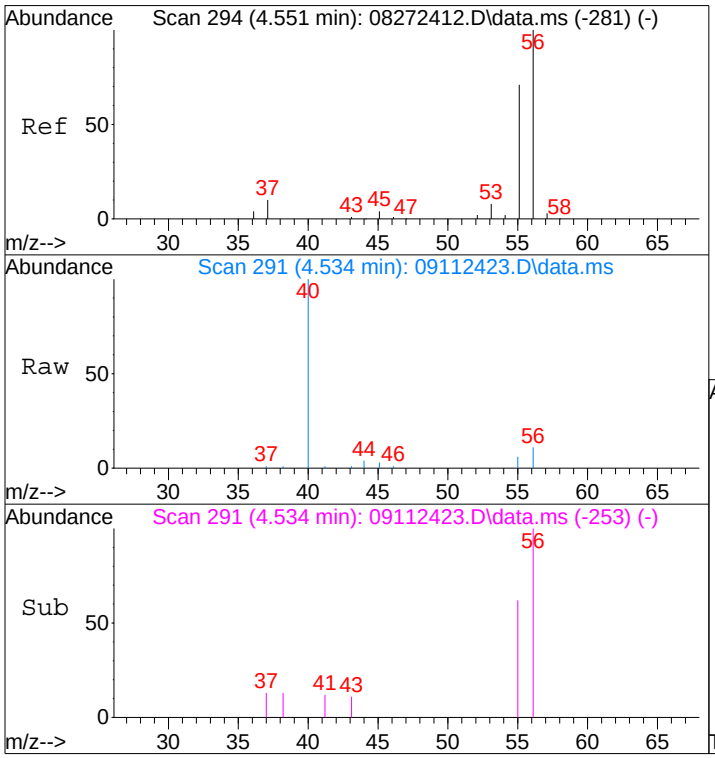


#10
Ethanol
Concen: 0.66 ng m
RT: 4.29 min Scan# 248
Delta R.T. -0.113 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 45 Resp: 10454

Ion	Ratio	Lower	Upper
45	100		
46	0.5	14.2	54.2#

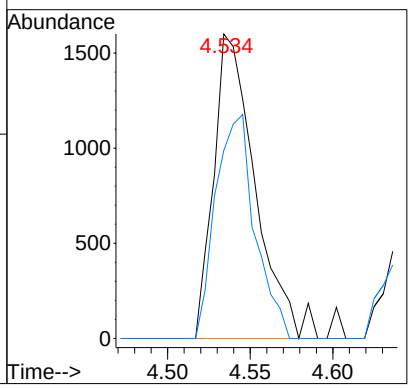


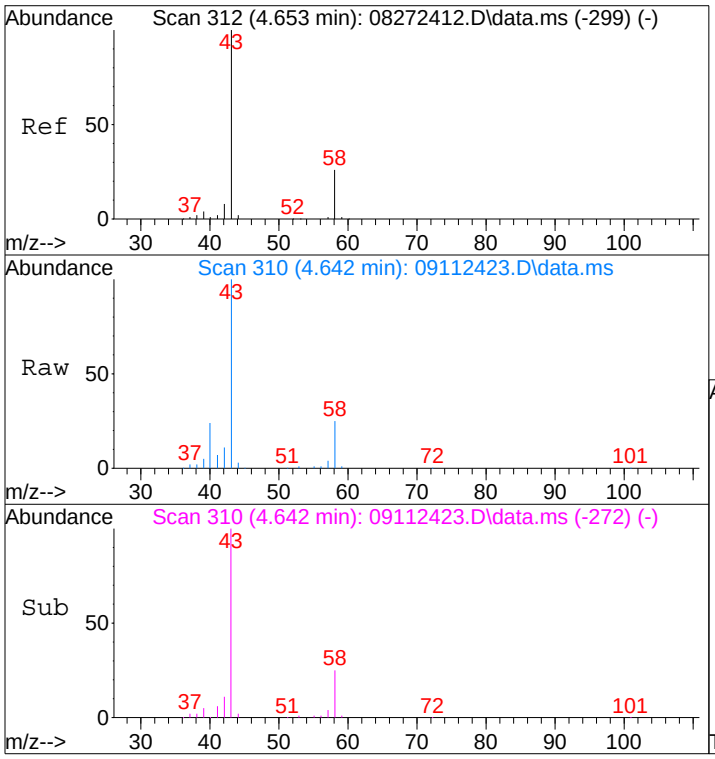


#12
Acrolein
Concen: 0.23 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.033 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 56 Resp: 2803

Ion	Ratio	Lower	Upper
56	100		
55	69.3	54.7	94.7

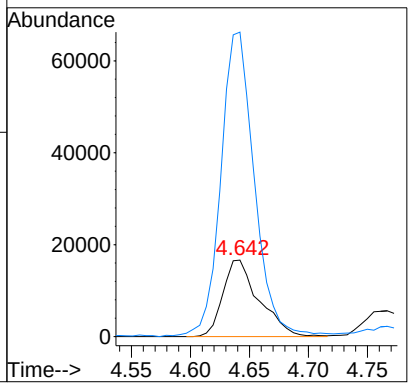


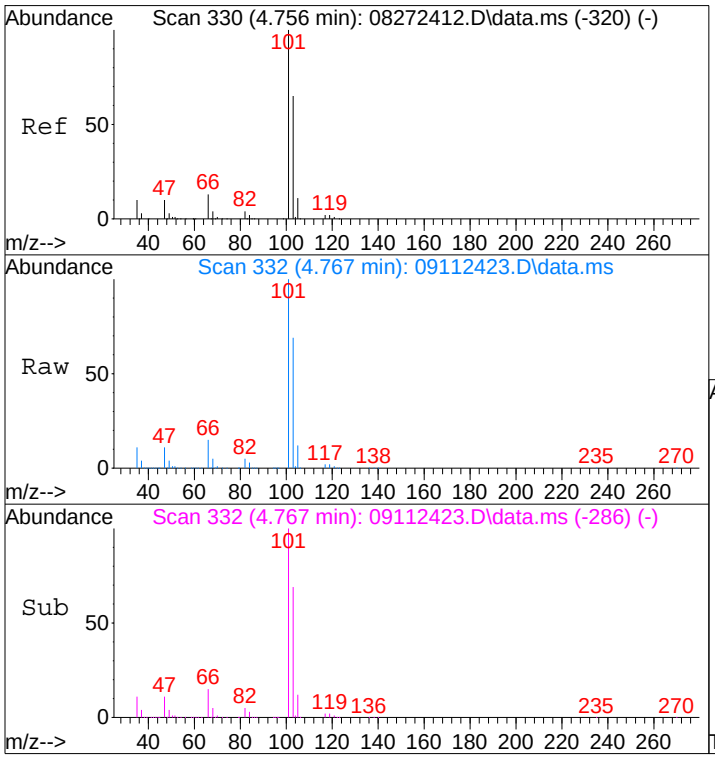


#13
Acetone
Concen: 2.64 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.033 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 58 Resp: 35501

Ion	Ratio	Lower	Upper
58	100		
43	369.9	347.3	407.3

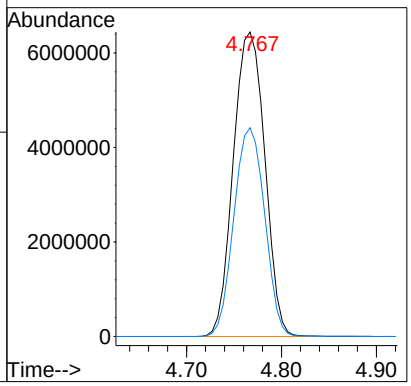


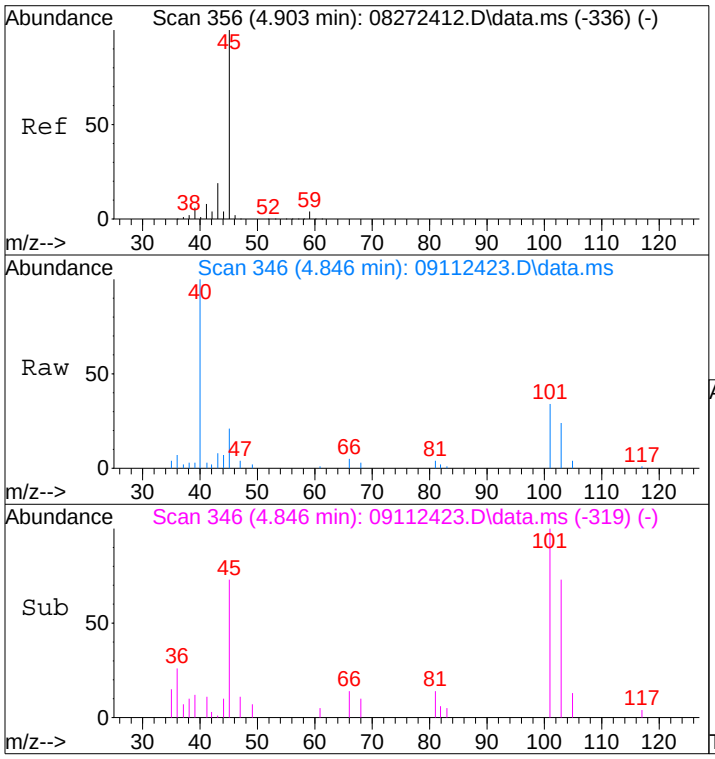


#14
Trichlorofluoromethane
Concen: 437.65 ng m
RT: 4.77 min Scan# 332
Delta R.T. 0.013 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion:101 Resp:14898550

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#

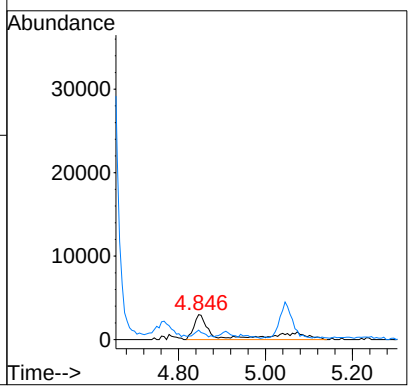


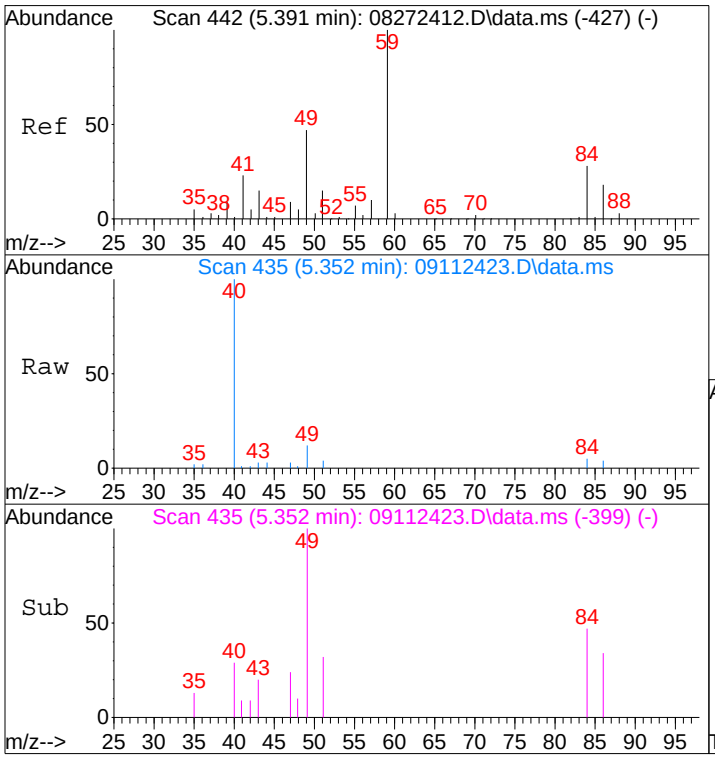


#15
2-Propanol (Isopropanol)
Concen: 0.22 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.094 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 45 Resp: 11765

Ion	Ratio	Lower	Upper
45	100		
43	9.0	0.0	40.0

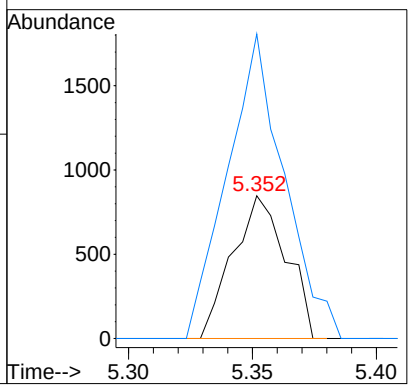


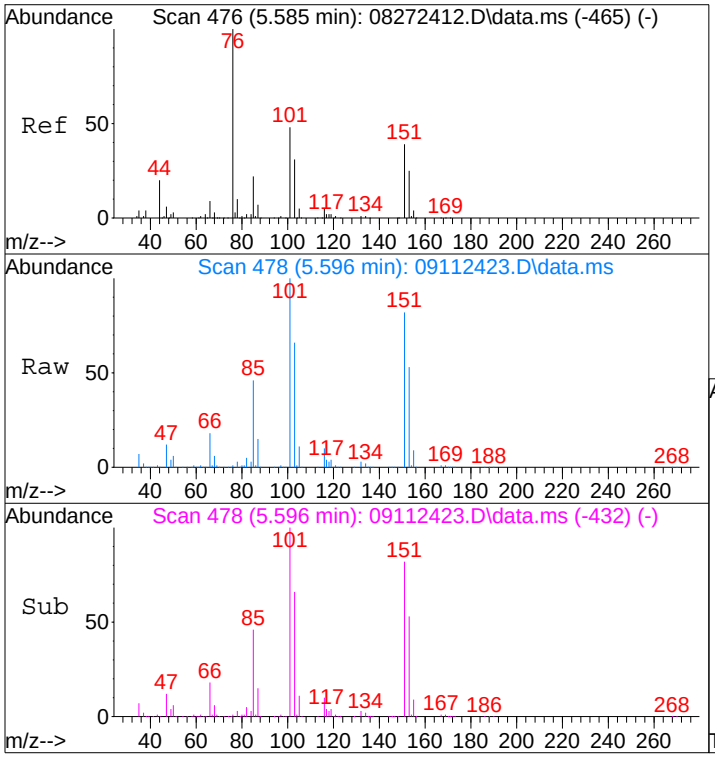


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.047 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 84 Resp: 1272

Ion	Ratio	Lower	Upper
84	100		
49	227.6	151.1	201.1#

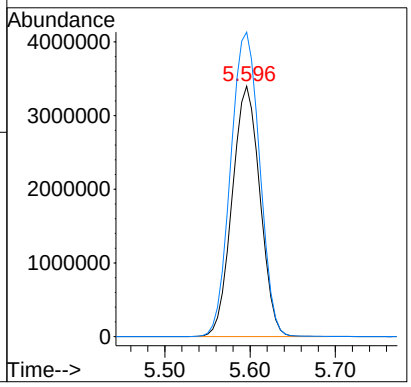


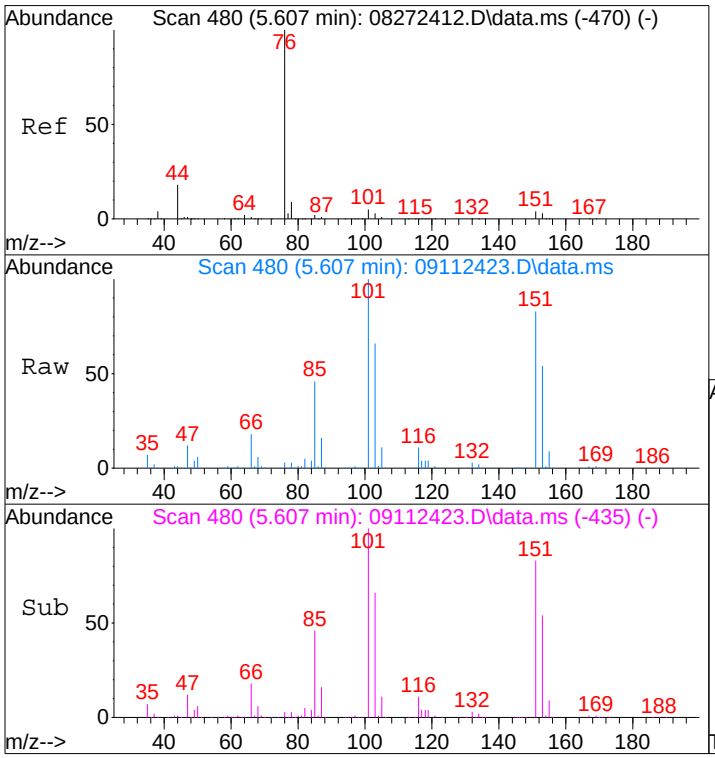


#21
Trichlorotrifluoroethane
Concen: 572.19 ng m
RT: 5.60 min Scan# 478
Delta R.T. 0.010 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion:151 Resp: 7716804

Ion	Ratio	Lower	Upper
151	100		
101	0.0	103.4	143.4#

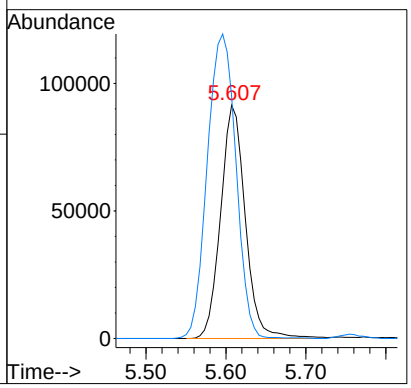


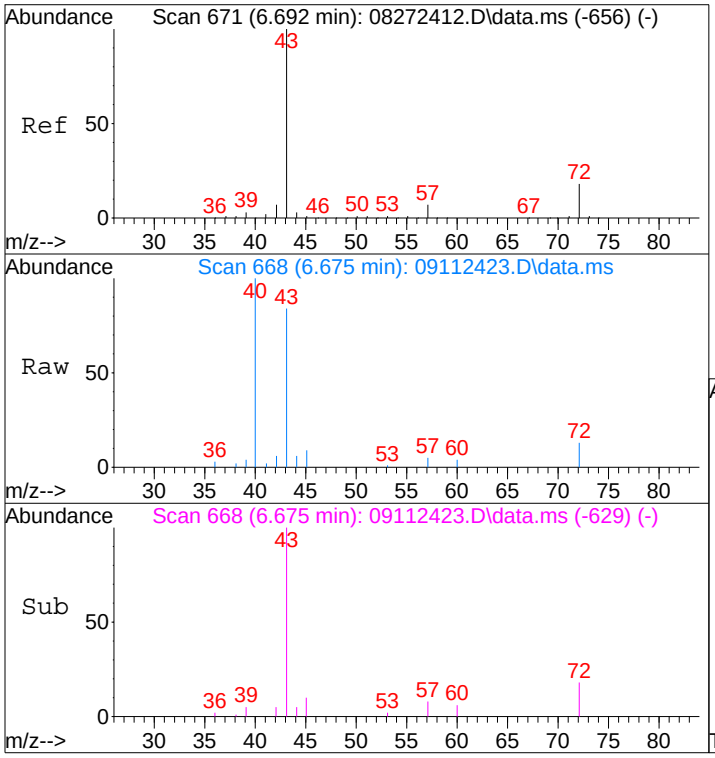


#22
Carbon Disulfide
Concen: 3.74 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.005 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 76 Resp: 196396

Ion	Ratio	Lower	Upper
76	100		
78	151.0	0.0	29.6#

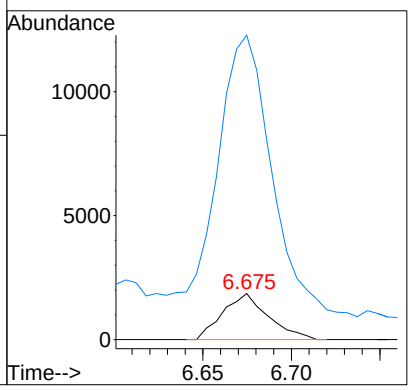


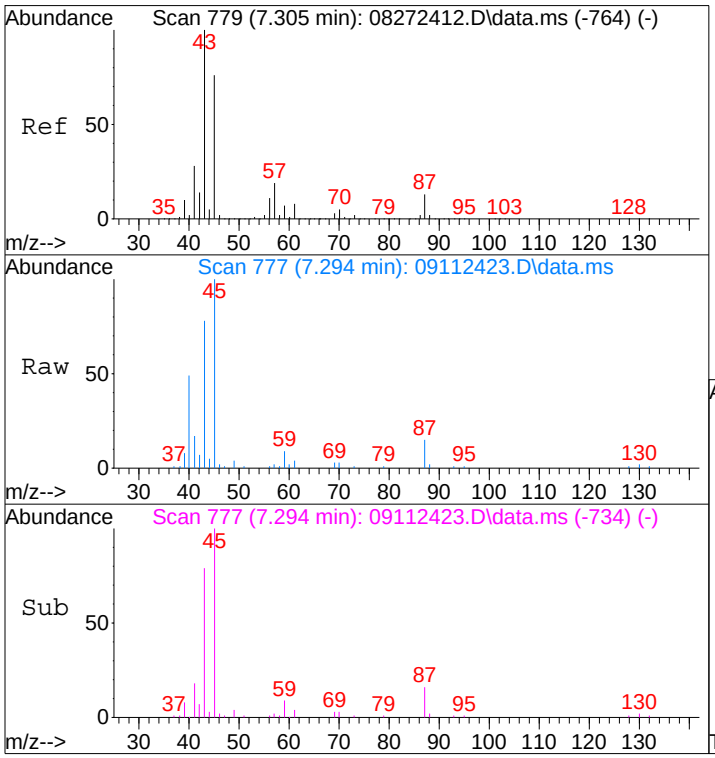


#27
2-Butanone (MEK)
Concen: 0.35 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.031 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 72 Resp: 3320

Ion	Ratio	Lower	Upper
72	100		
43	739.7	548.0	588.0#

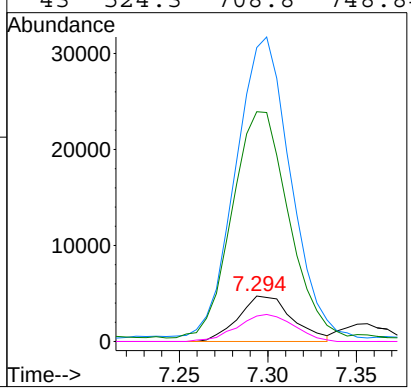


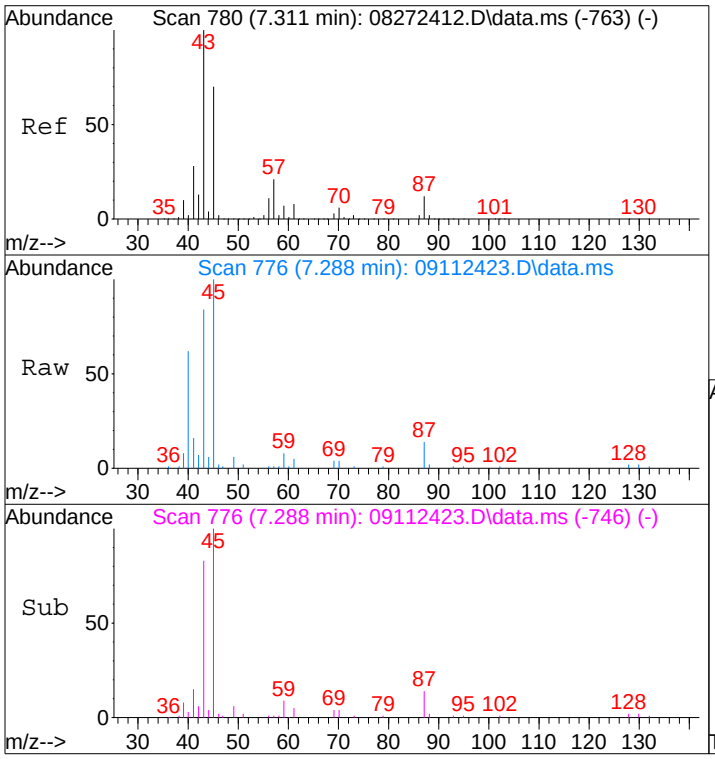


#29
Diisopropyl Ether
Concen: 0.86 ng
RT: 7.29 min Scan# 777
Delta R.T. -0.006 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 87 Resp: 10025

Ion	Ratio	Lower	Upper
87	100		
45	679.8	564.1	604.1#
59	62.5	34.5	74.5
43	524.3	708.8	748.8#

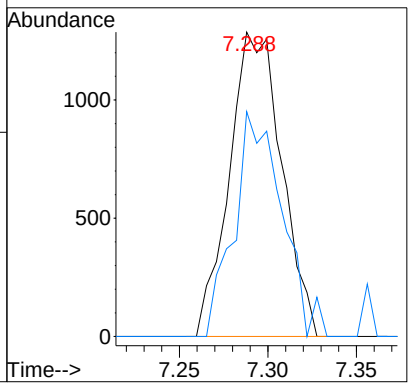


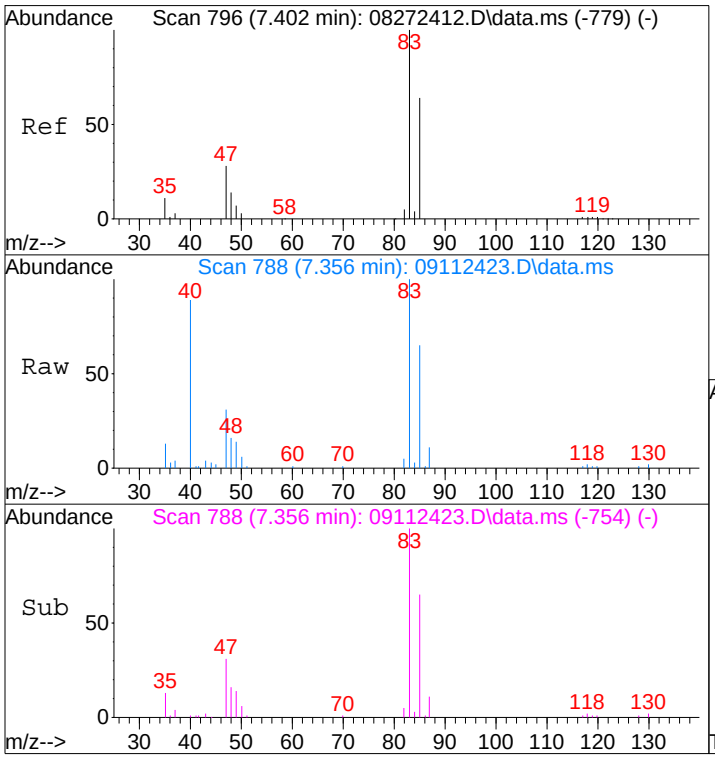


#30
Ethyl Acetate
Concen: 0.41 ng
RT: 7.29 min Scan# 776
Delta R.T. -0.028 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 61 Resp: 2640

Ion	Ratio	Lower	Upper
61	100		
70	67.9	49.9	89.9

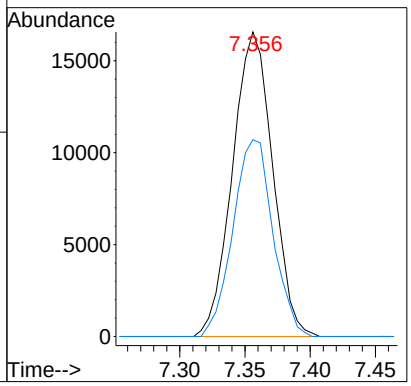


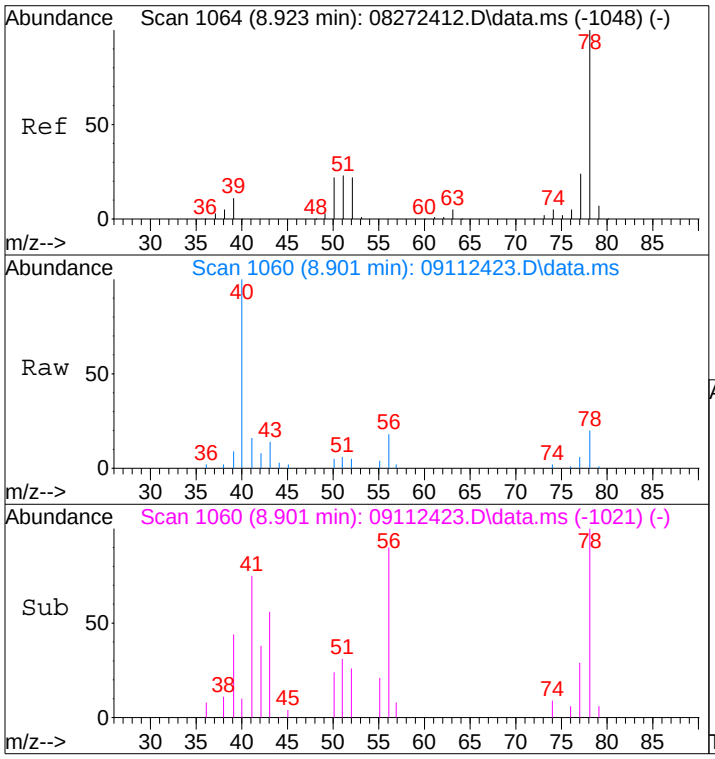


#32
Chloroform
Concen: 1.21 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.056 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 83 Resp: 35467

Ion	Ratio	Lower	Upper
83	100		
85	64.2	45.3	85.3

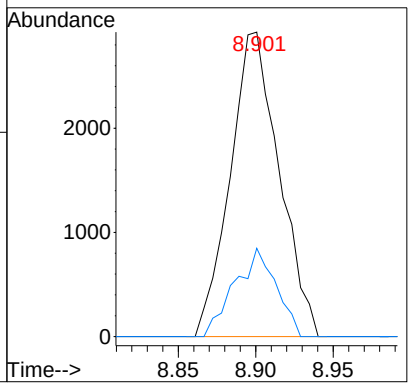


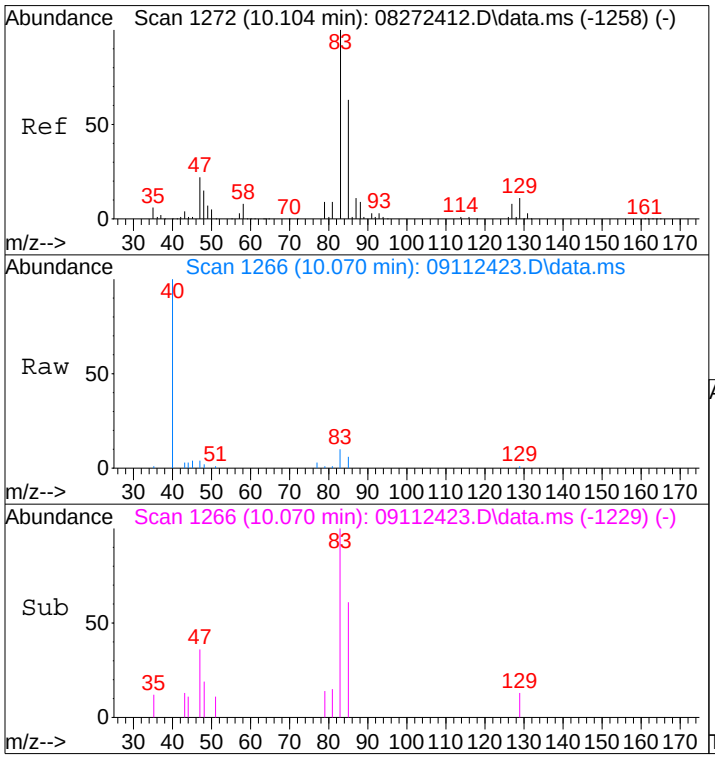


#41
Benzene
Concen: 0.11 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 78 Resp: 6427

Ion	Ratio	Lower	Upper
78	100		
77	24.6	3.9	43.9

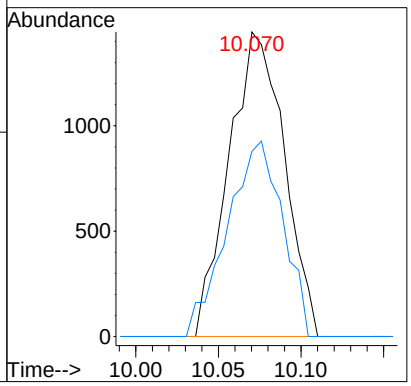


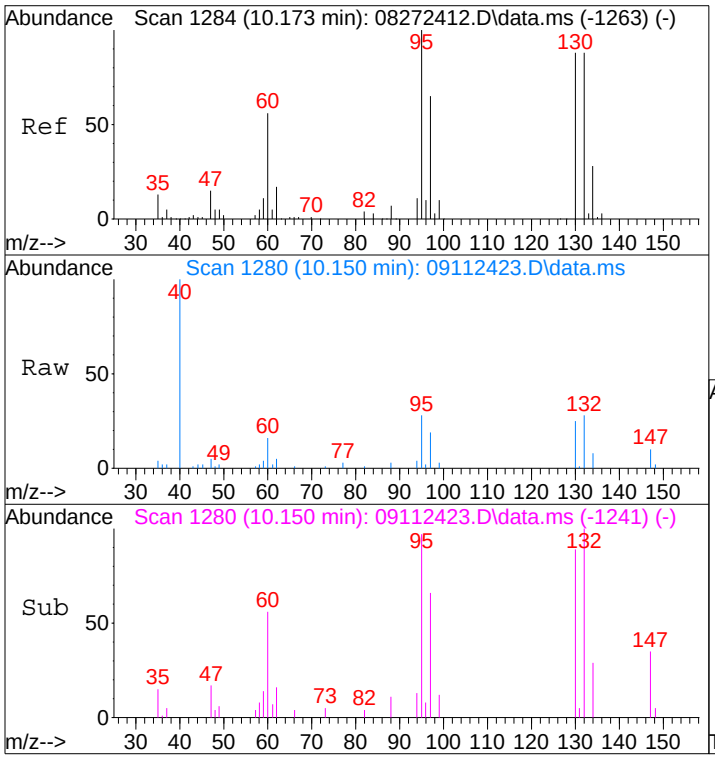


#46
Bromodichloromethane
Concen: 0.15 ng
RT: 10.07 min Scan# 1266
Delta R.T. -0.038 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 83 Resp: 3355

Ion	Ratio	Lower	Upper
83	100		
85	64.3	43.9	83.9

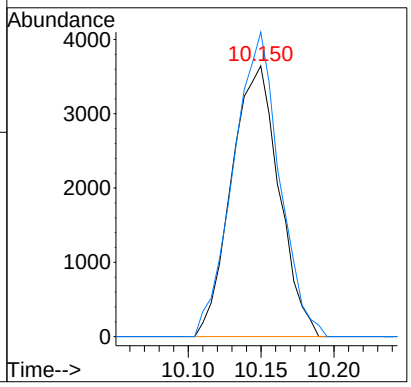


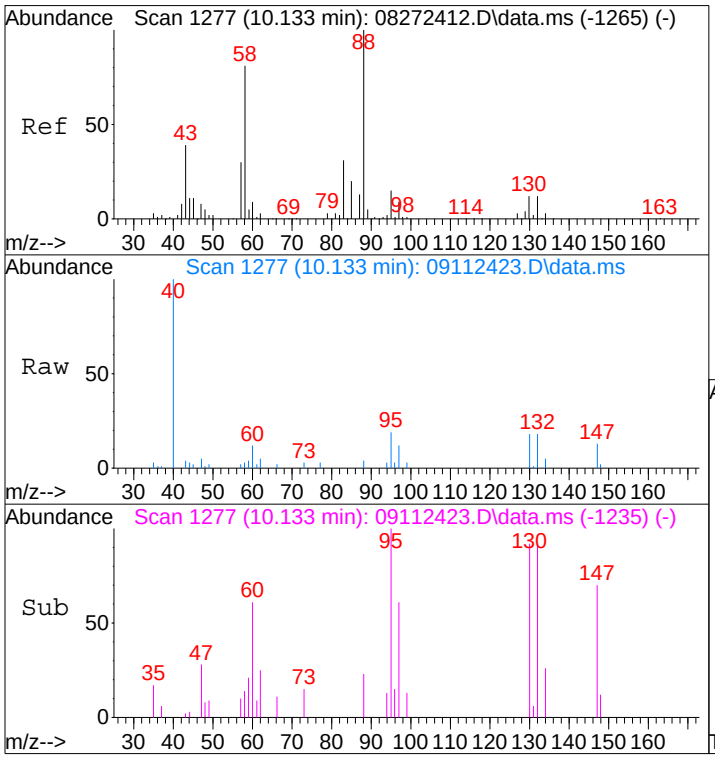


#47
Trichloroethene
Concen: 0.55 ng
RT: 10.15 min Scan# 1280
Delta R.T. -0.027 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion:130 Resp: 8275

Ion	Ratio	Lower	Upper
130	100		
132	108.9	80.8	120.8

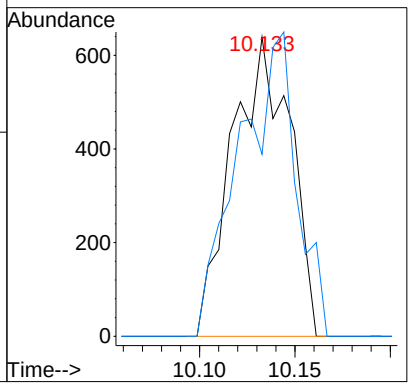


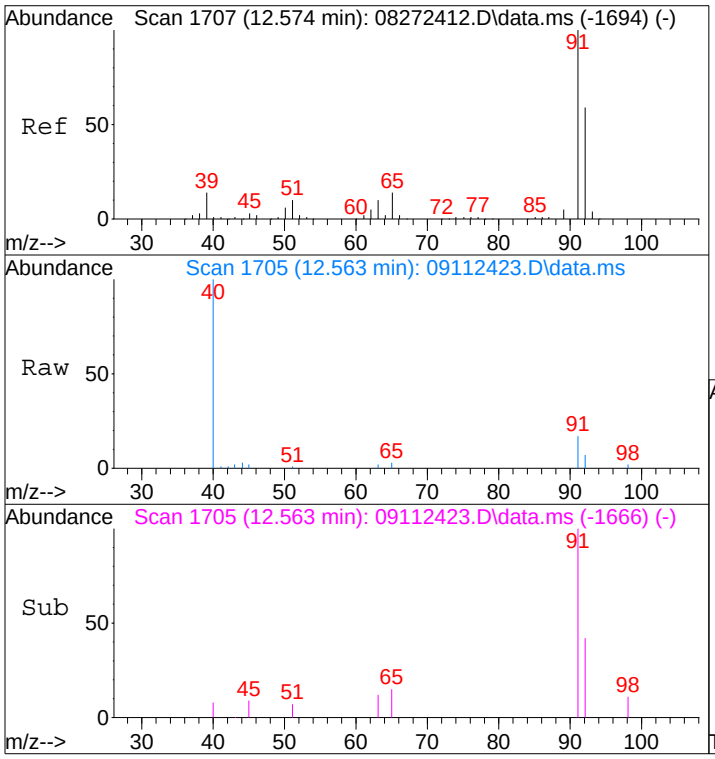


#48
1,4-Dioxane
Concen: 0.13 ng
RT: 10.13 min Scan# 1277
Delta R.T. -0.010 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 88 Resp: 1352

Ion	Ratio	Lower	Upper
88	100		
58	99.9	61.1	101.1

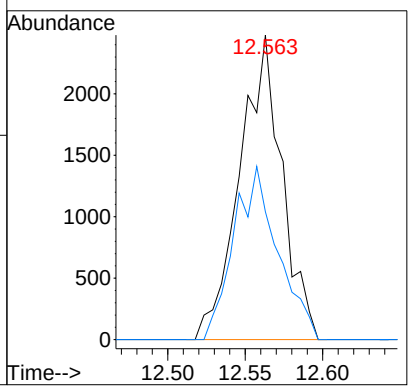


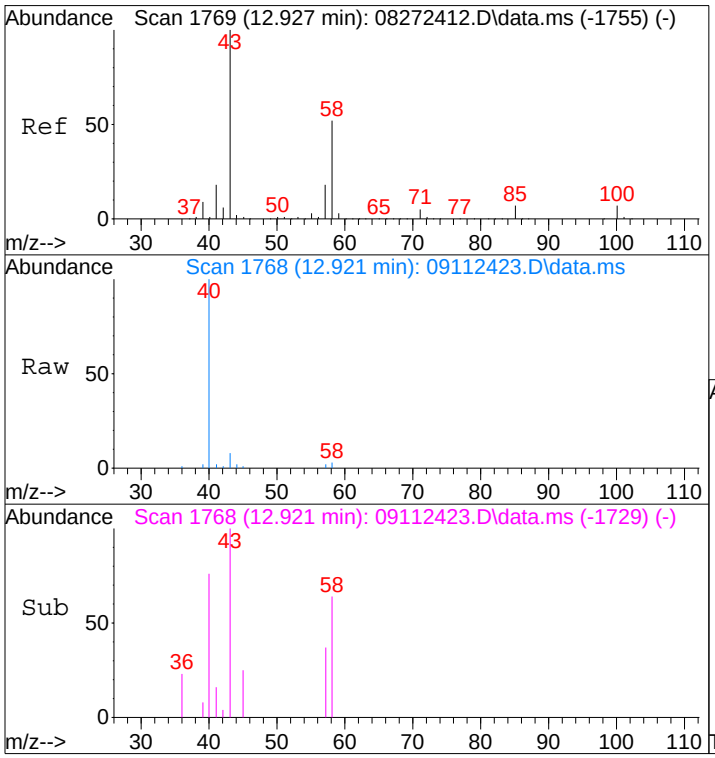


#58
Toluene
Concen: 0.06 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 91 Resp: 4698

Ion	Ratio	Lower	Upper
91	100		
92	59.3	38.5	78.5

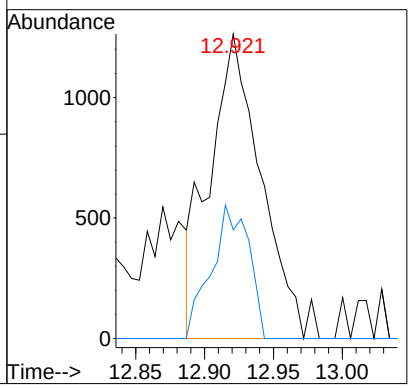


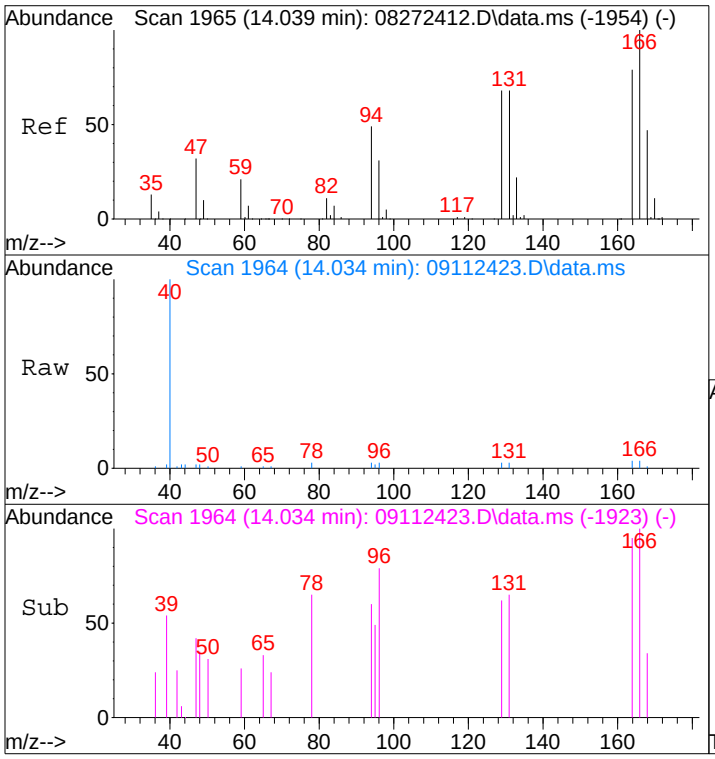


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion: 43 Resp: 3314

Ion	Ratio	Lower	Upper
43	100		
58	31.5	31.1	71.1

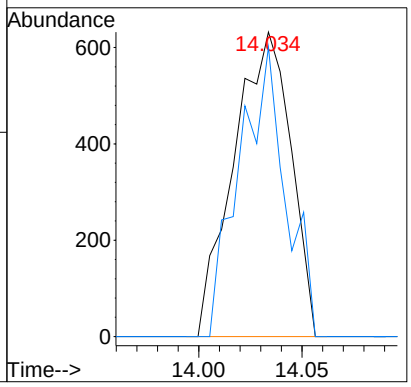




#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09112423.D
Acq: 11 Sep 2024 21:43

Tgt Ion:166 Resp: 1213

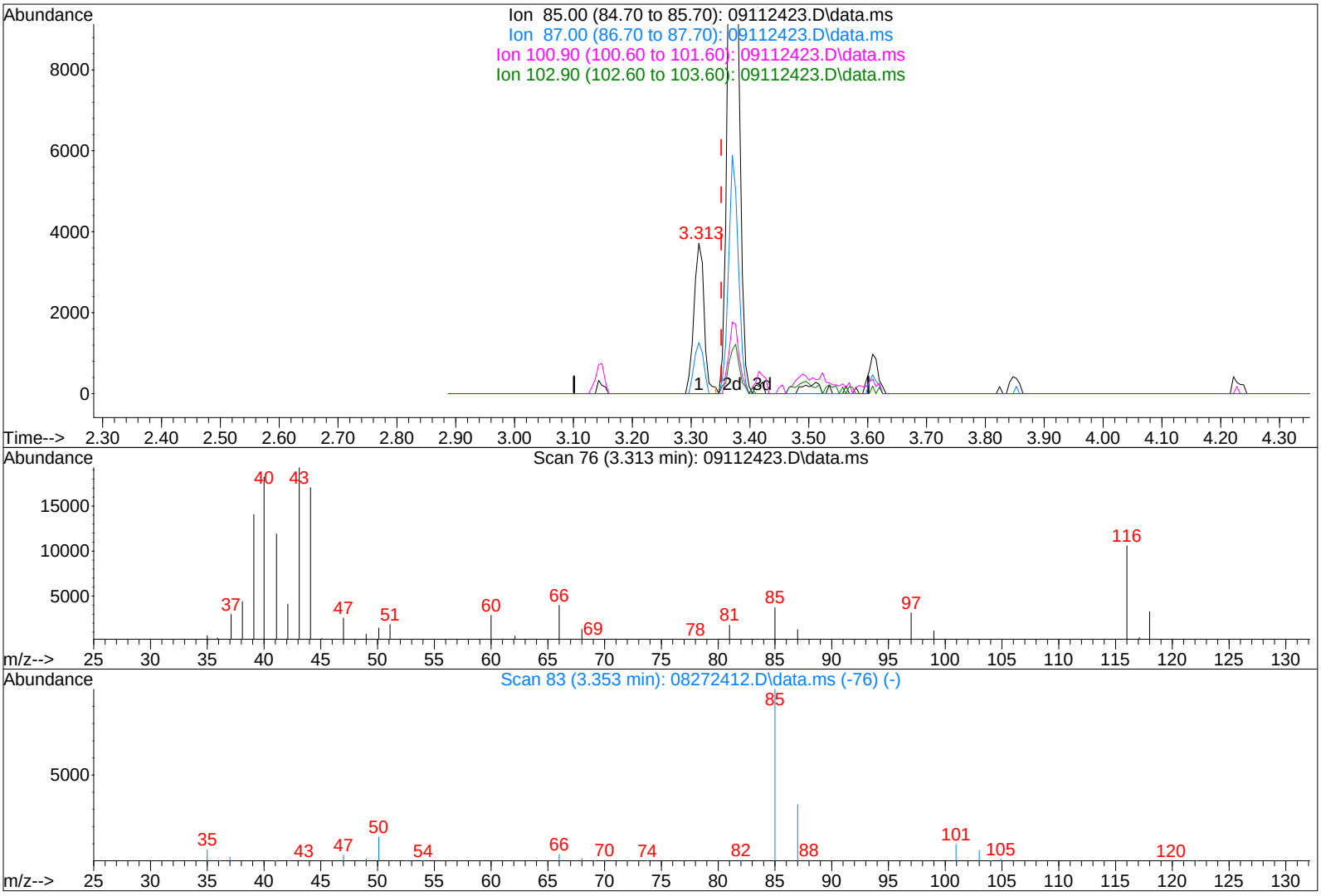
Ion	Ratio	Lower	Upper
166	100		
164	77.5	59.0	99.0



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.038) 0.13ng

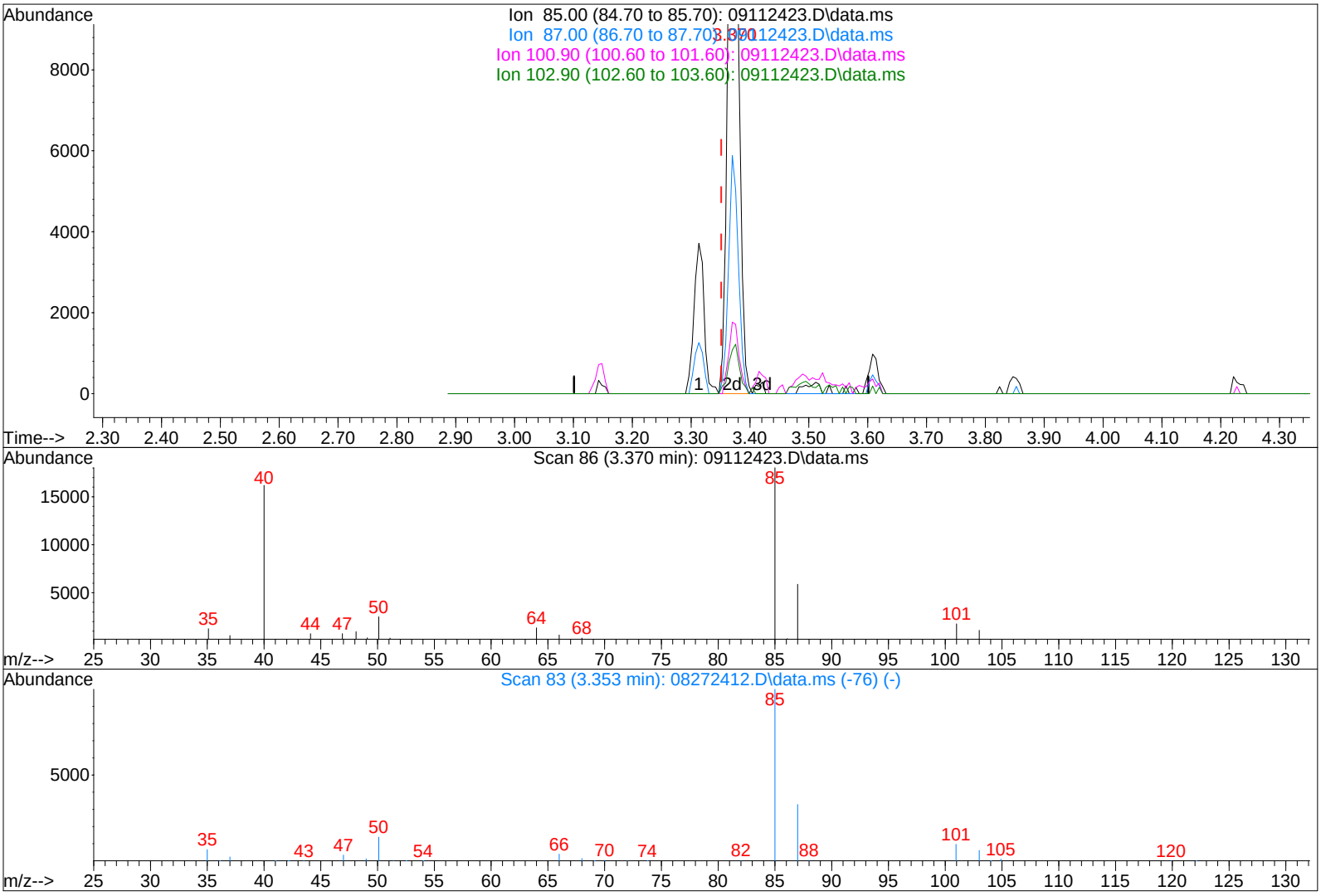
response 4482

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.46
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.019) 0.59ng m

response 20993

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	6.72#
100.90	9.40	0.00
102.90	6.00	0.00

MP

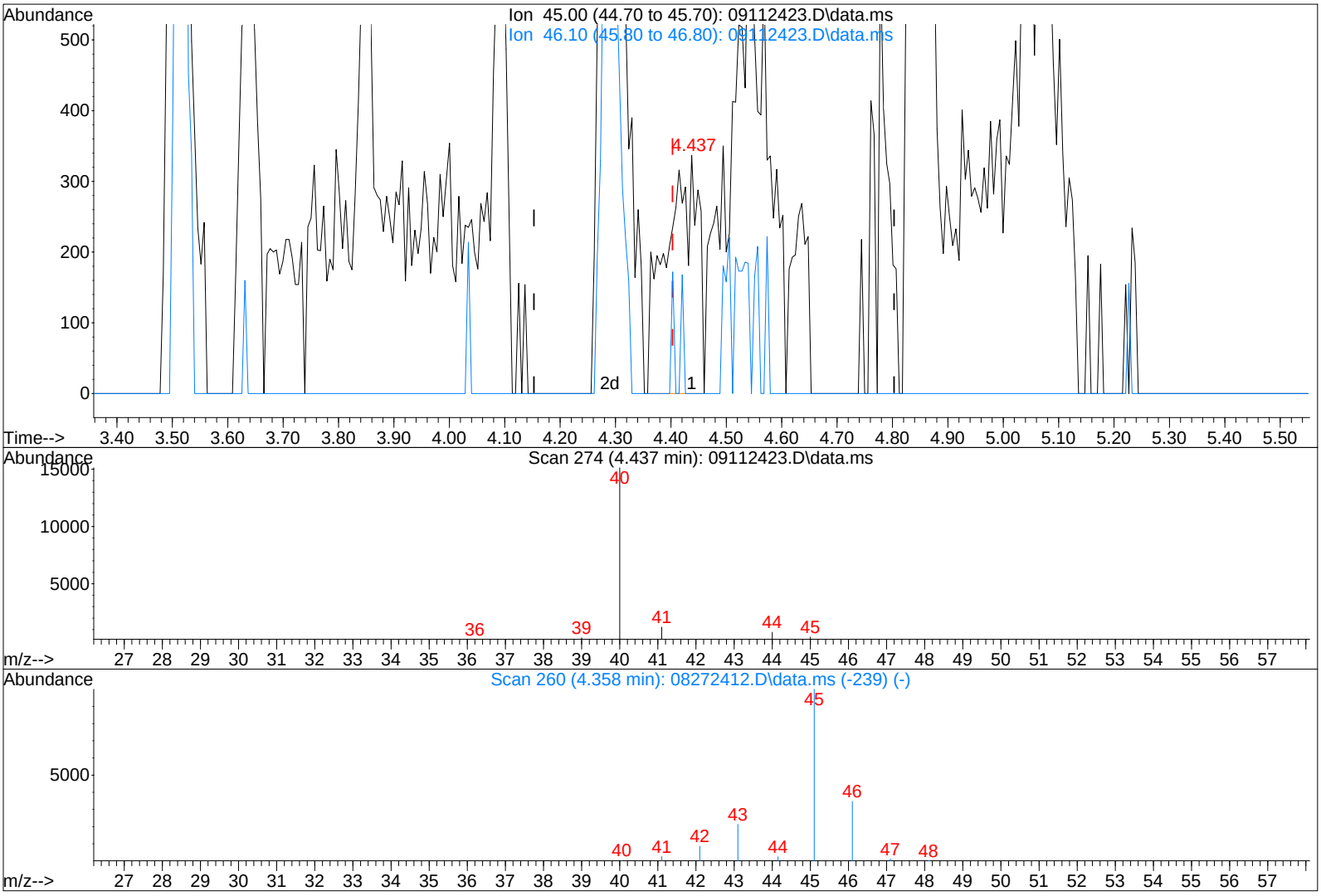
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(10) Ethanol (T)

4.437min (+0.034) 0.09ng

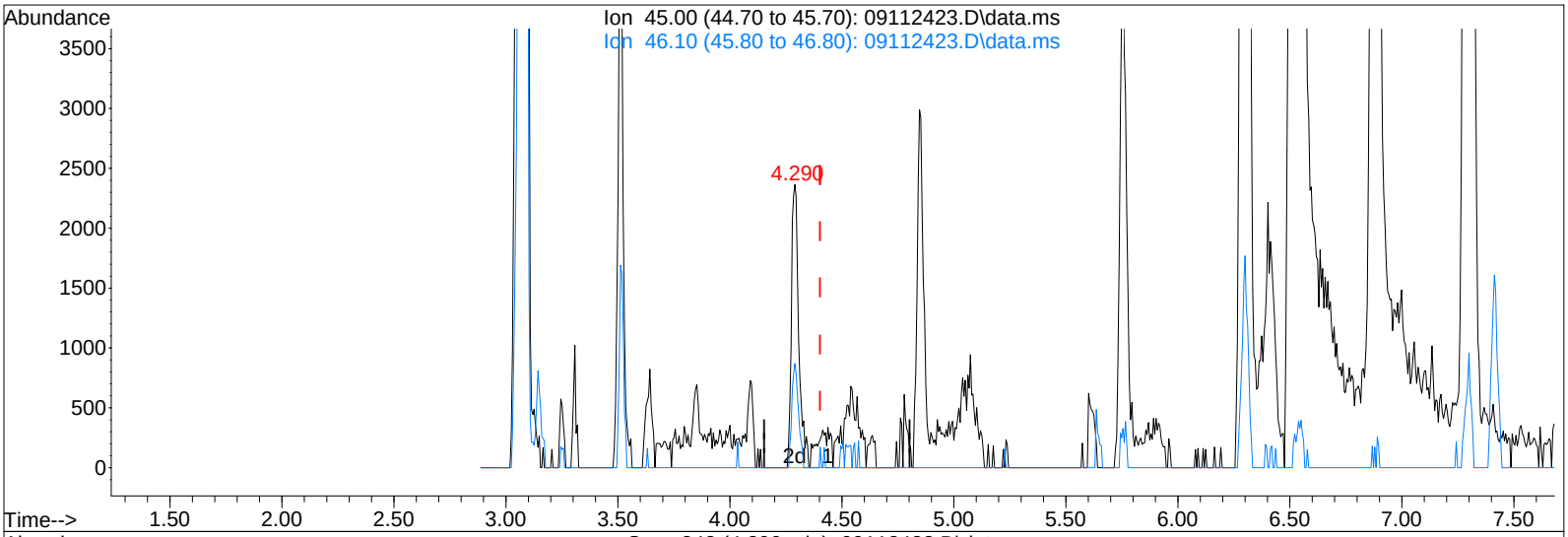
response 1364

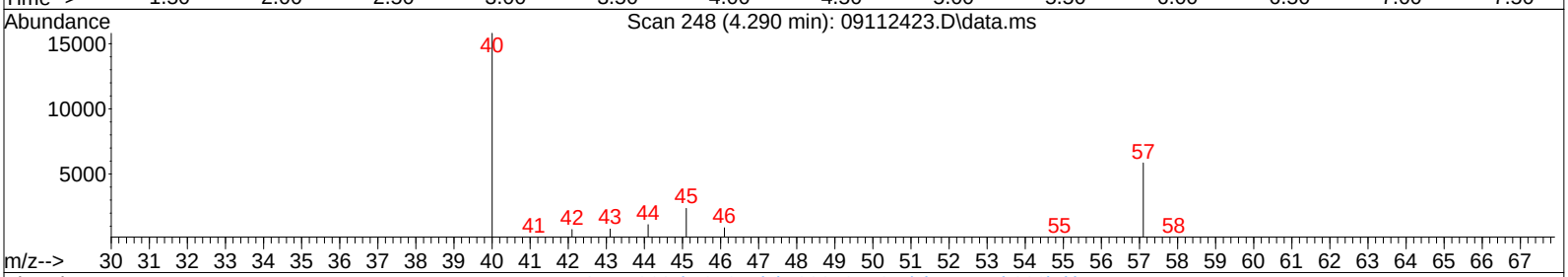
Ion	Exp%	Act%
45.00	100	100
46.10	34.20	4.18#
0.00	0.00	0.00
0.00	0.00	0.00

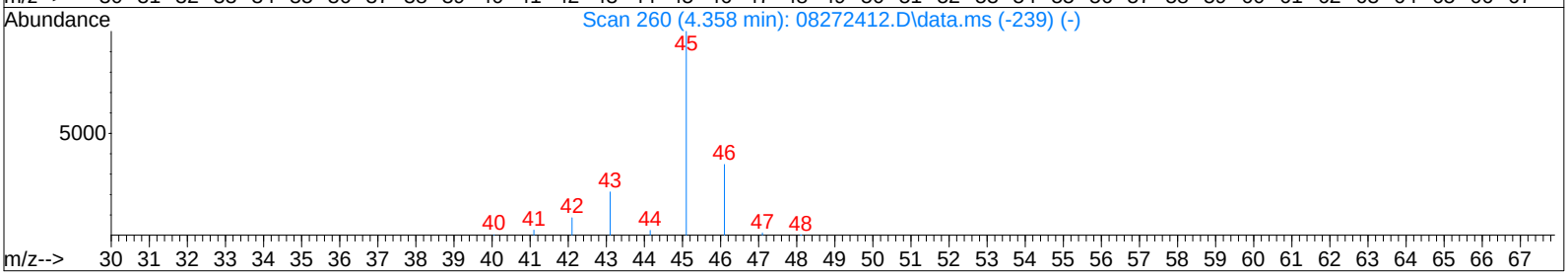
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09112423.D\data.ms

(10) Ethanol (T)

4.290min (-0.113) 0.66ng m

response 10454

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.55#
0.00	0.00	0.00
0.00	0.00	0.00

WP

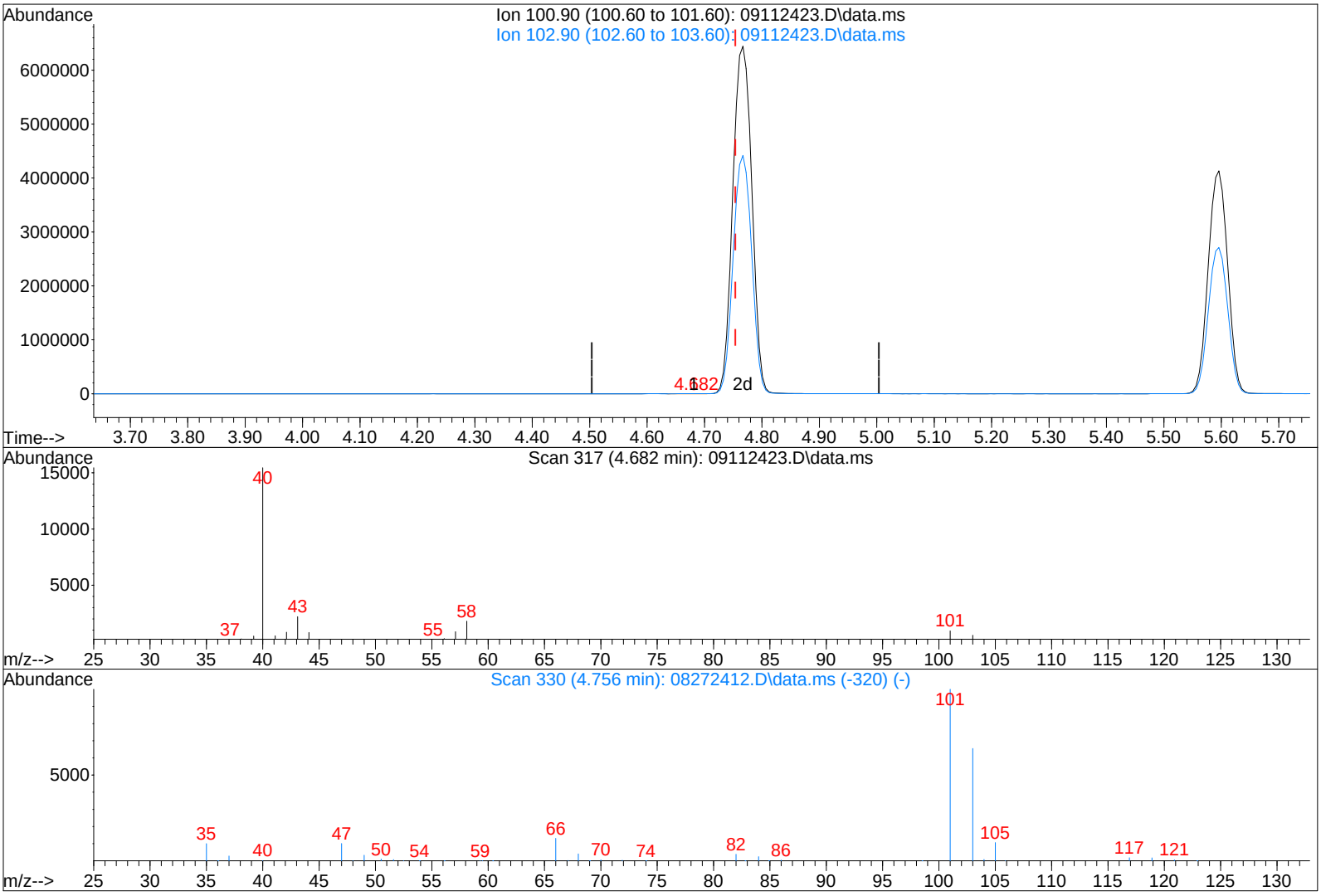
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(14) Trichlorofluoromethane (T)

4.682min (-0.072) 0.07ng

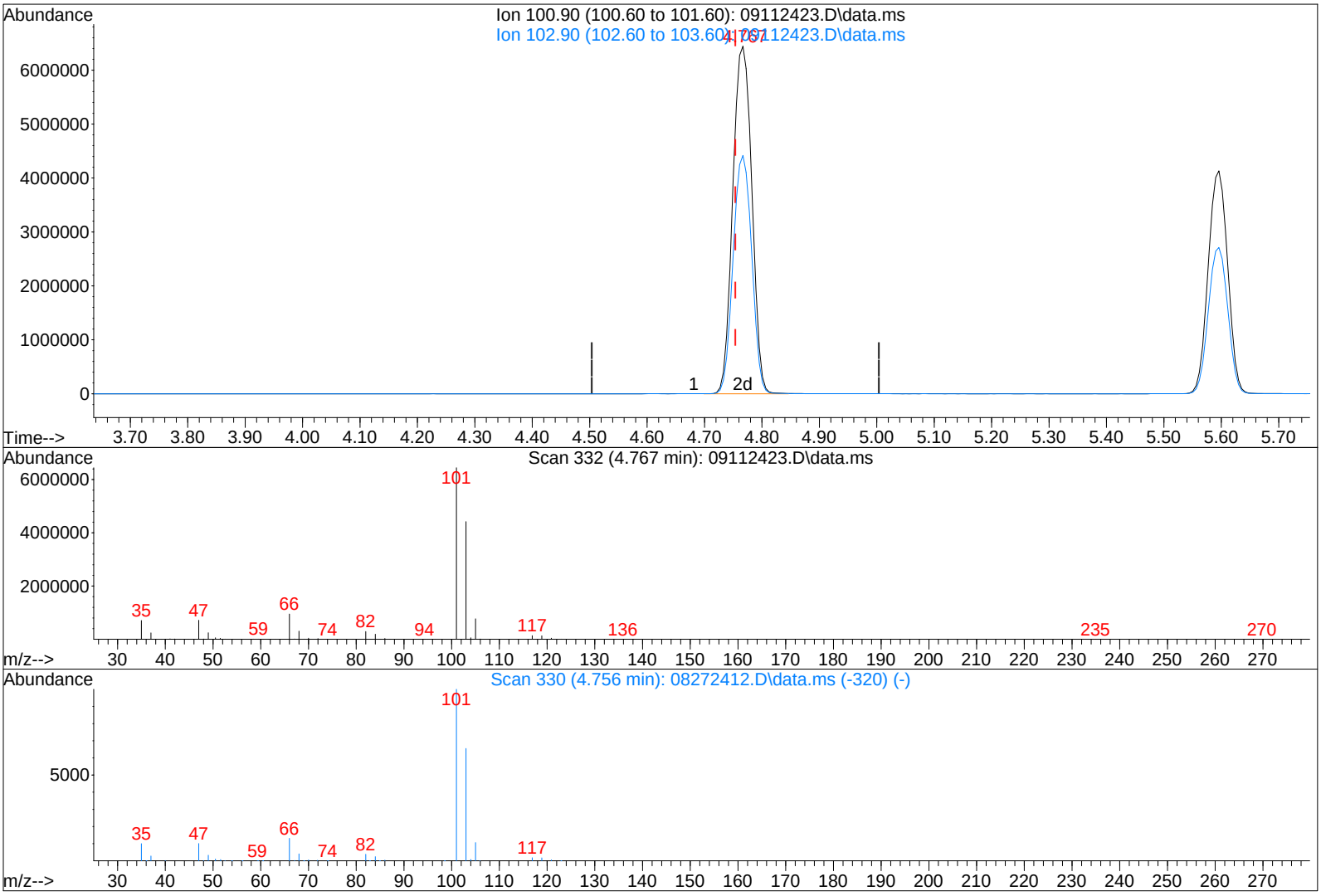
response 2377

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	46.66
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(14) Trichlorofluoromethane (T)

4.767min (+0.013) 437.65ng m

response 14898550

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.01#
0.00	0.00	0.00
0.00	0.00	0.00

MP

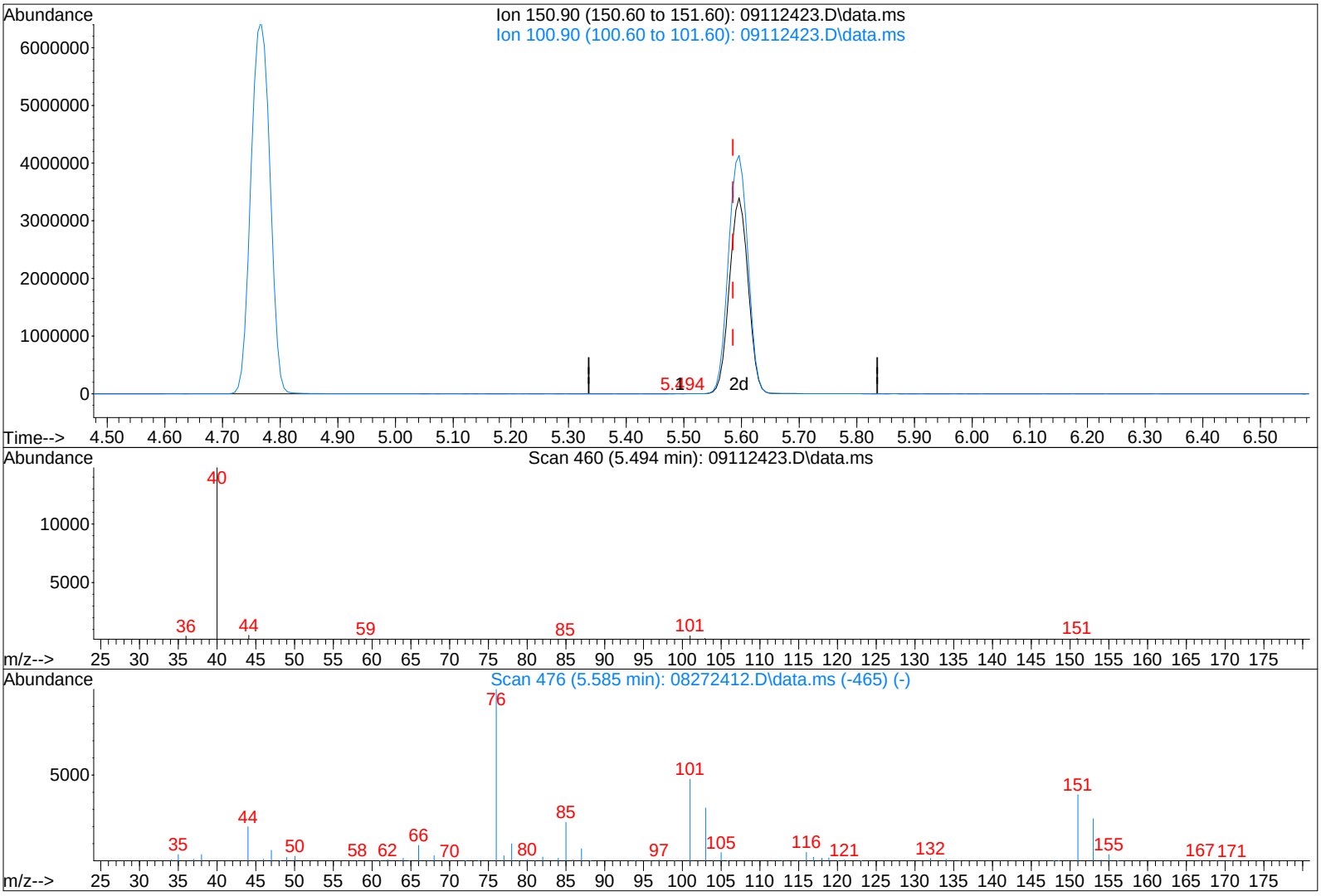
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.494min (-0.092) 0.01ng

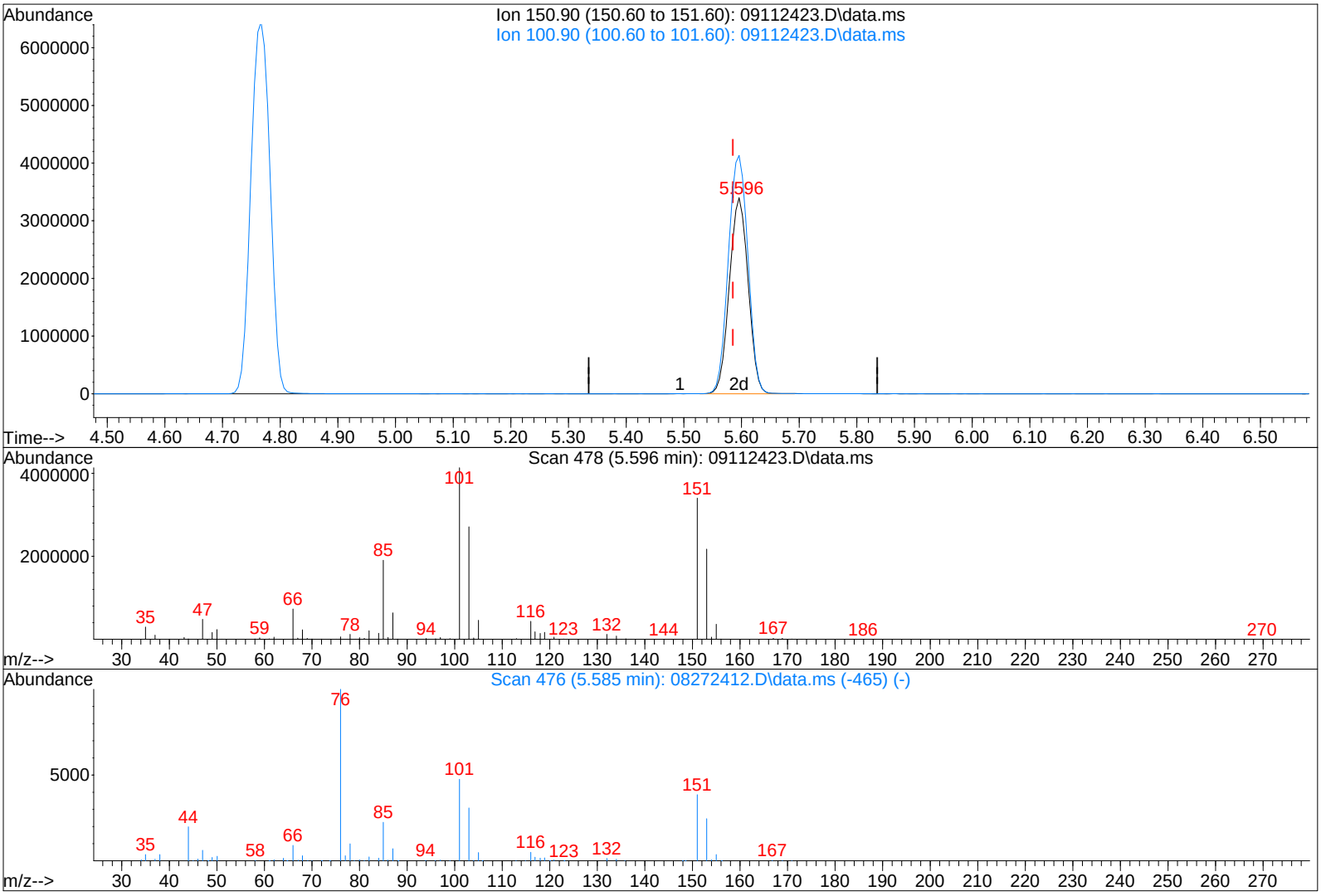
response 147

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	738.78#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.596min (+0.010) 572.19ng m

response 7716804

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	0.01#
0.00	0.00	0.00
0.00	0.00	0.00

MP

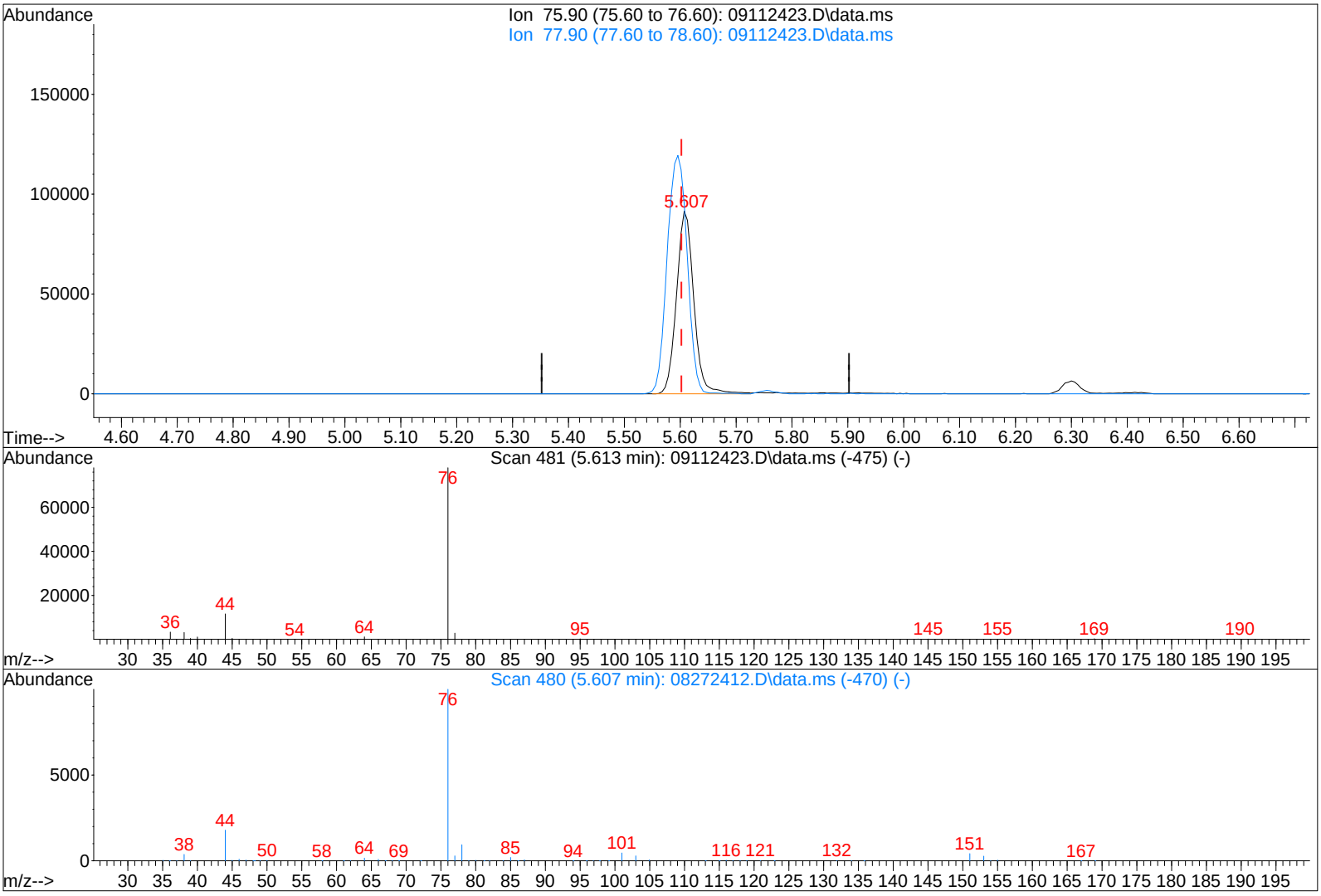
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:57:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(22) Carbon Disulfide (T)

5.607min (+0.005) 3.74ng

response 196396

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	151.05#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:50:52 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

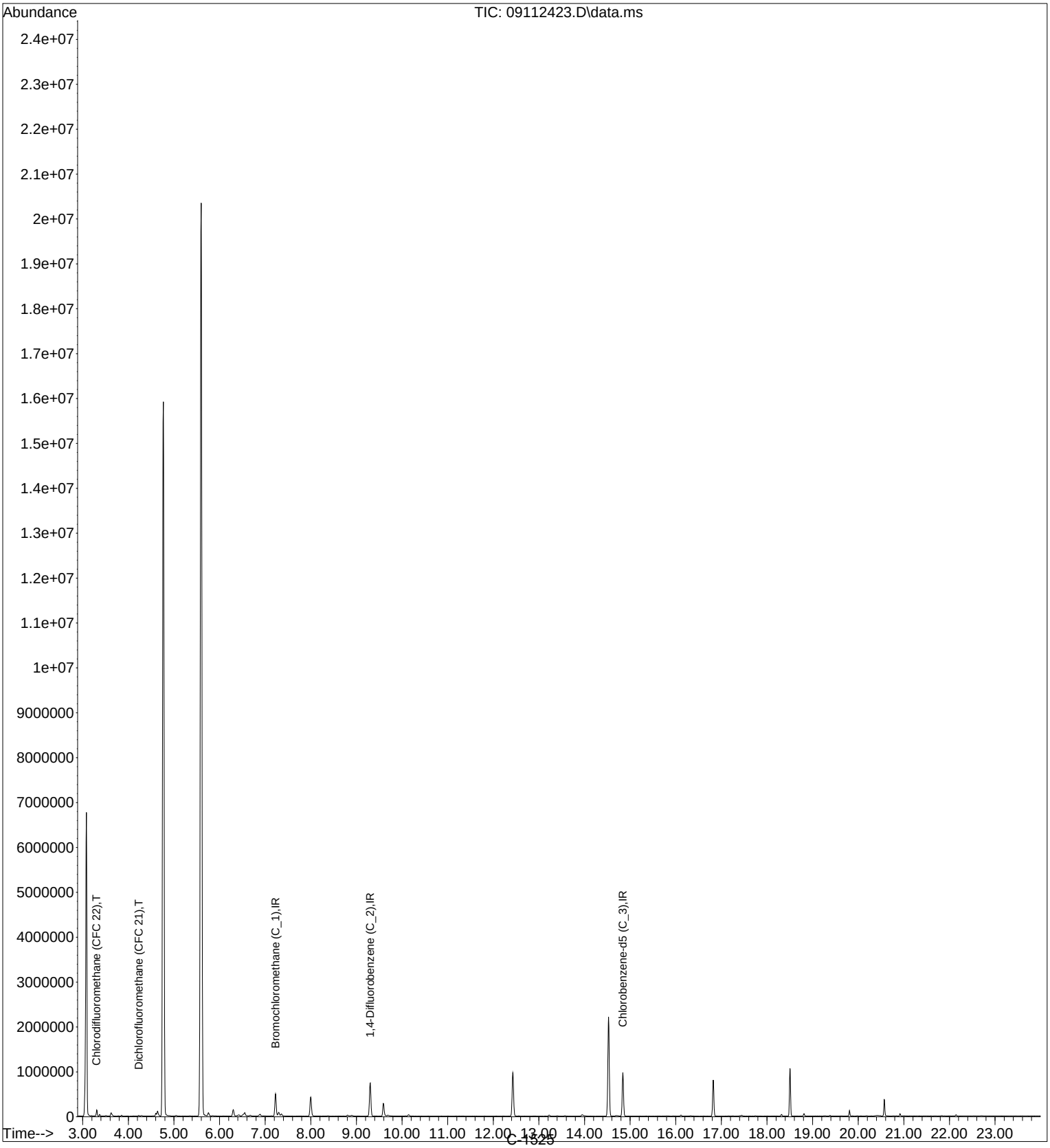
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	148564	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	646161	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	190604	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	240	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.25	65	1278	N.D.		
5) Chlorodifluoromethane ...	3.30	67	962	0.190 ng	#	59
6) 1-Chloro-1,1-Difluoroe...	3.51	65	635	N.D.		
7) Dichlorofluoromethane ...	4.23	67	12189	0.358 ng		100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1490	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.33	43	2162	N.D.		
12) 2-Methylpentane	6.49	71	514	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.04	84	53	N.D.		
17) 2,3-Dimethylpentane	9.53	56	255	N.D.		
18) Dibromomethane	9.80	174	73	N.D.		
20) Methyl Cyclohexane	11.58	55	224	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.19	91	52	N.D.		
24) 1,2,3-Trichloropropane	16.32	75	111	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	107	N.D.		
27) 4-Chlorotoluene	17.67	91	563	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	51	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	51	N.D.		
32) 1,2,3,5-Tetramethylben...	20.57	119	1441	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:50:52 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

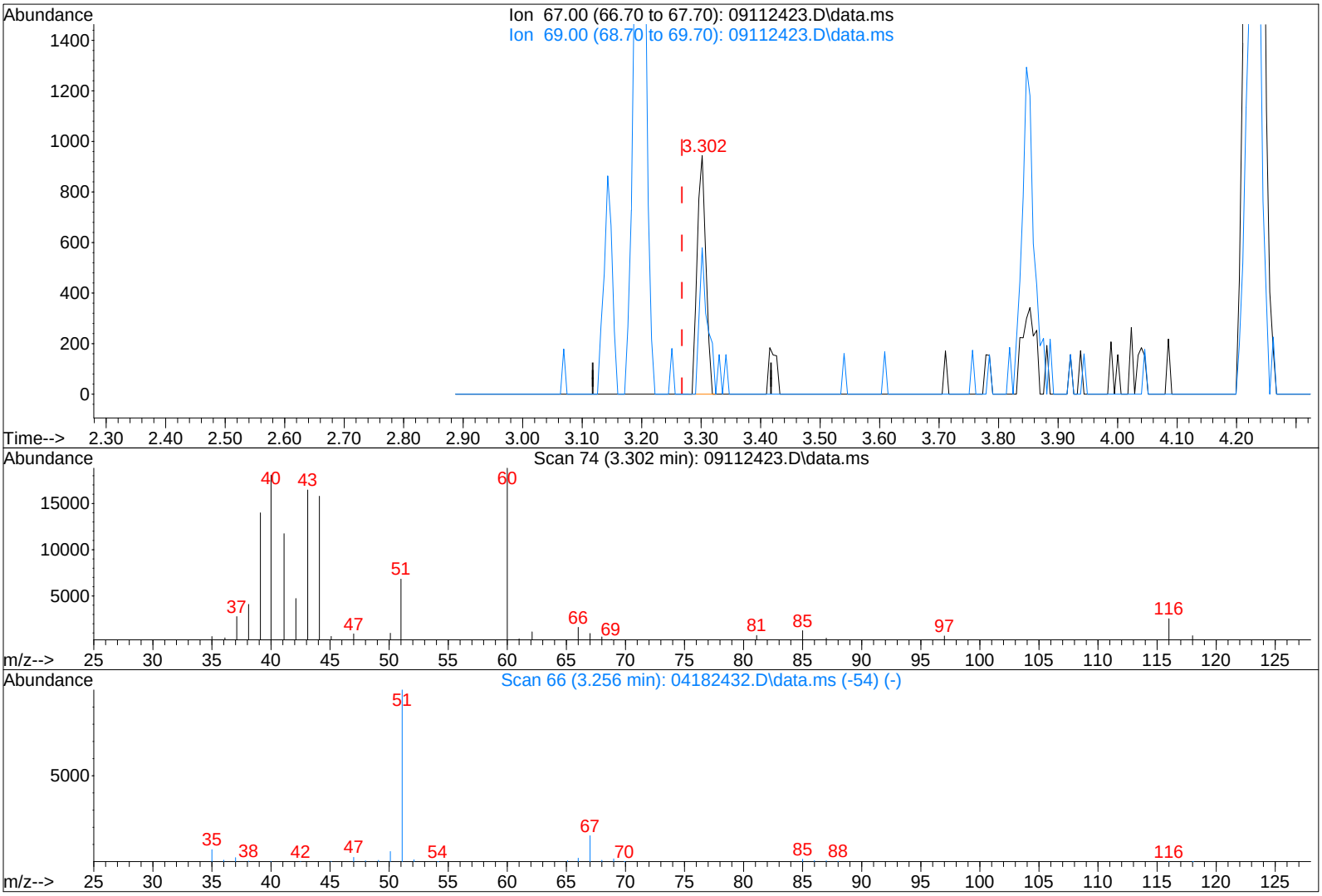


C-1523

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:50:21 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.302min (+0.034) 0.19ng

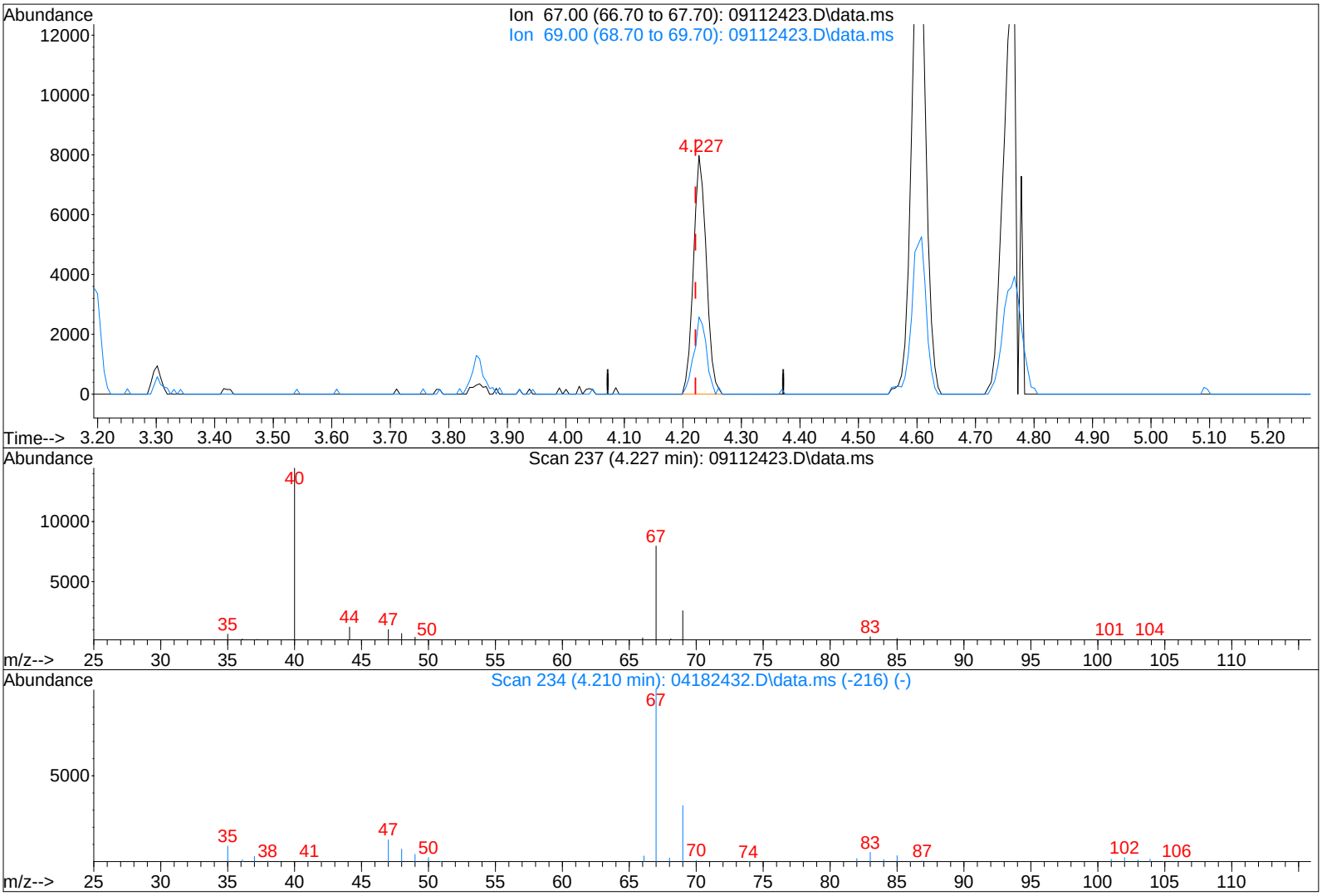
response 962

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	58.11#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112423.D Vial: 11
Acq On : 11 Sep 2024 21:43 Operator: SC
Sample : P2403661-043 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:50:21 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112423.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.36ng

response 12189

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	32.17
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122413.D Vial: 11
Acq On : 12 Sep 2024 17:34 Operator: SC
Sample : P2403661-043Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:48:29 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	159683	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	714982	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	201930	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	384790	12.878	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.04%			
57) Toluene-d8 (SS2)	12.43	98	816299	11.523	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.16%			
73) Bromofluorobenzene (SS3)	16.82	174	265837	11.221	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.76%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D.	d	
3) Dichlorodifluoromethan...	3.33	85	281	N.D.		
4) Chloromethane	3.53	50	251	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.36	45	198	N.D.		
11) Acetonitrile	4.47	41	1023	N.D.		
12) Acrolein	4.56	56	662	0.050	ng	89
13) Acetone	4.66	58	4828	0.330	ng	90
14) Trichlorofluoromethane	4.75	101	1707173	46.167	ng	100
15) 2-Propanol (Isopropanol)	4.86	45	1270	N.D.		
16) Acrylonitrile	5.01	53	393	N.D.		
17) 1,1-Dichloroethene	5.26	96	395	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	460	N.D.		
20) 3-Chloro-1-propene (Al...	5.46	41	125	N.D.		
21) Trichlorotrifluoroethane	5.58	151	805024	54.951	ng	95
22) Carbon Disulfide	0.00	76	0	N.D.	d	
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.69	72	194	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.	d	
30) Ethyl Acetate	7.30	61	242	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	3287	0.103	ng	92
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.01	62	166	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.85	56	1906	No Calib	#	
41) Benzene	8.89	78	2060	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	1076	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	392	N.D.		
47) Trichloroethene	10.14	130	992	0.060	ng	87
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.23	57	529	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122413.D Vial: 11
Acq On : 12 Sep 2024 17:34 Operator: SC
Sample : P2403661-043Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:48:29 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

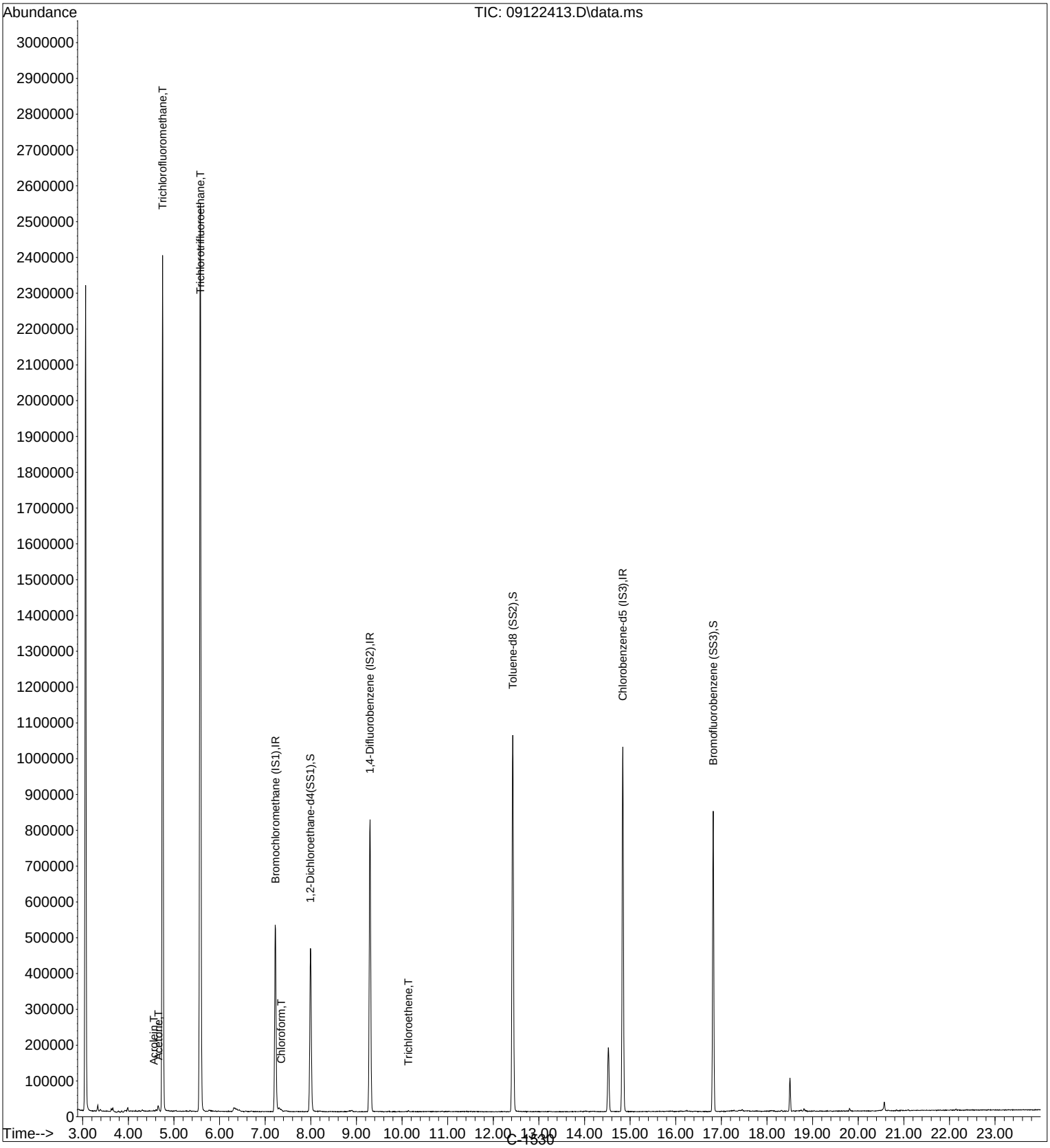
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	1720	N.D.		
59) 2-Hexanone	12.94	43	1055	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.79	43	506	N.D.		
63) n-Octane	13.92	57	195	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.90	112	301	N.D.		
66) Ethylbenzene	15.41	91	1029	N.D.		
67) m- & p-Xylenes	15.72	91	489	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	277	N.D.		
70) o-Xylene	16.24	91	769	N.D.		
71) n-Nonane	16.61	43	283	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	758	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	813	N.D.		
77) 3-Ethyltoluene	17.03	105	758	No Calib		
78) 4-Ethyltoluene	17.85	105	362	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	758	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	222	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.57	91	1551	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	439	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	639	N.D.		
87) sec-Butylbenzene	18.74	105	664	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	301	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	758	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	499	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	19.51	157	130	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	1009	N.D.		
95) Naphthalene	20.94	128	1305	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.31	225	390	N.D.		
98) Cyclohexanone	15.20	55	113	No Calib	#	
99) tert-Butylbenzene	18.42	119	270	N.D.		
100) n-Butylbenzene	19.39	91	606	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122413.D Vial: 11
Acq On : 12 Sep 2024 17:34 Operator: SC
Sample : P2403661-043Dil (40mL) Inst : MS09
Misc : S37-06062402

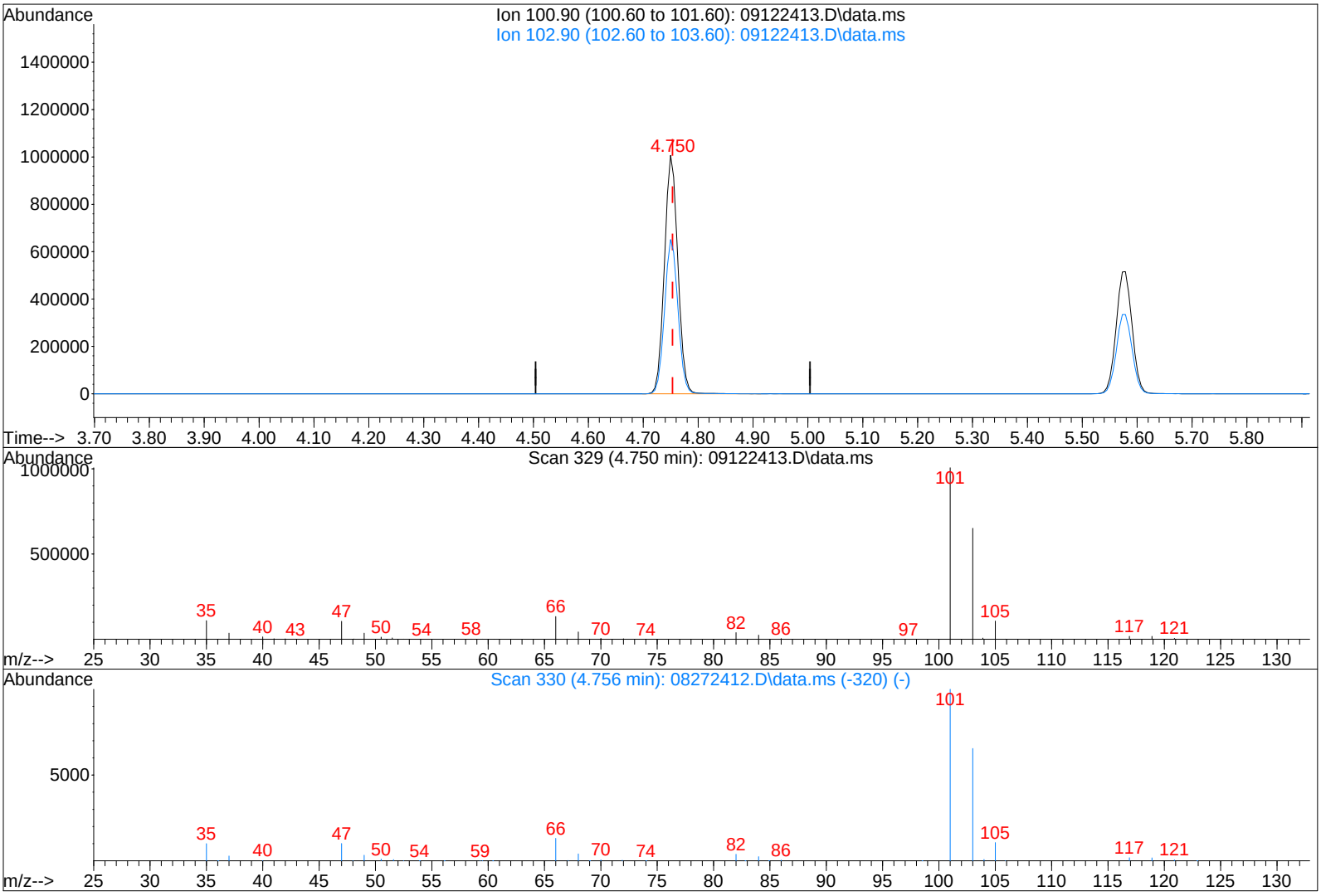
Quant Time: Sep 13 09:48:29 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122413.D Vial: 11
Acq On : 12 Sep 2024 17:34 Operator: SC
Sample : P2403661-043Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:19:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122413.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 46.17ng

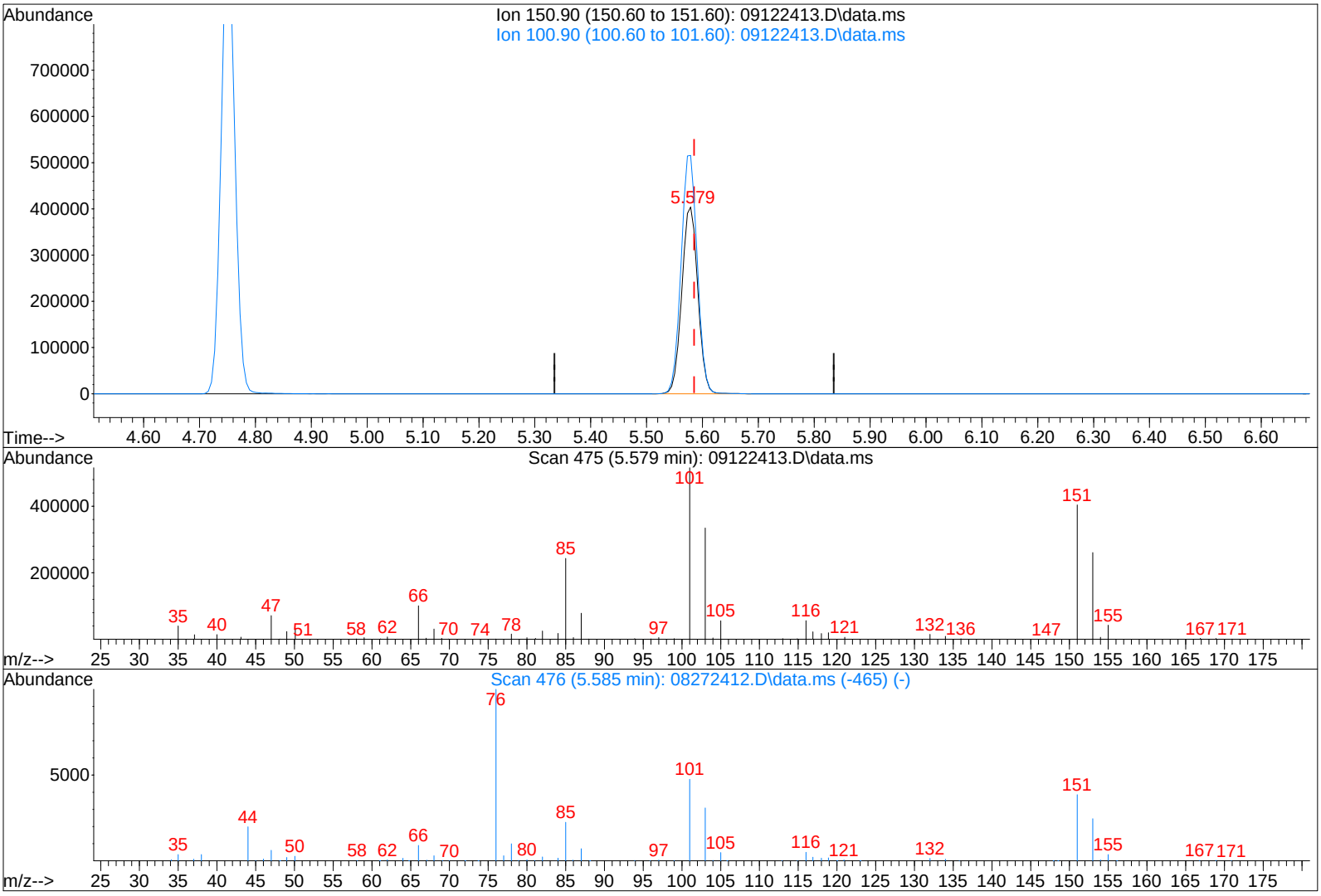
response 1707173

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122413.D Vial: 11
Acq On : 12 Sep 2024 17:34 Operator: SC
Sample : P2403661-043Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:19:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122413.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.007) 54.95ng

response 805024

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	128.55
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112423.D
Acq On : 11 Sep 2024 21:43
Operator : SC
Sample : P2403661-043 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112423.D\data.ms

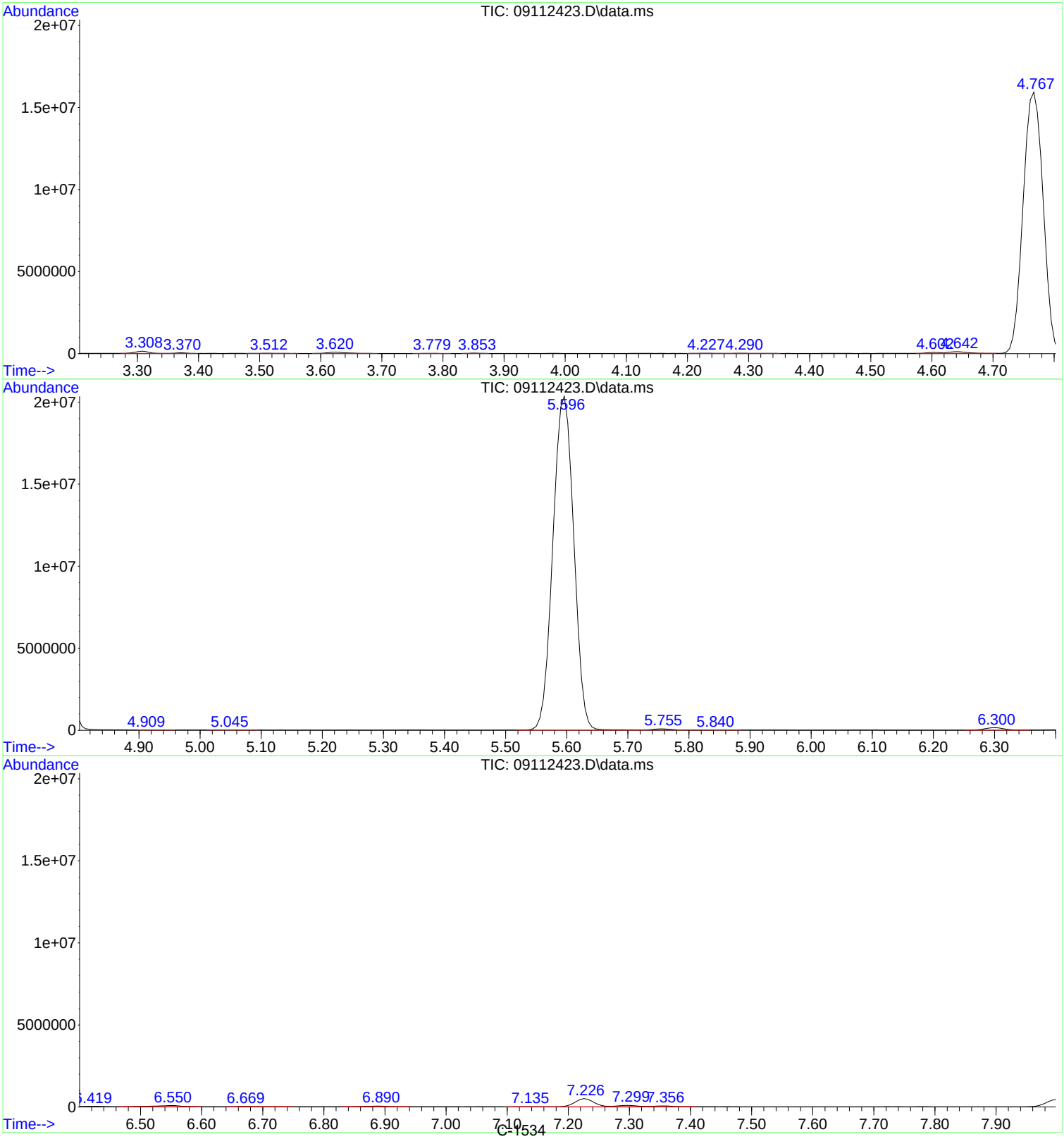
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.308	69	75	81	rBV4	135463	201155	0.42%	0.230%
2	3.370	81	86	91	rVB	35958	44950	0.09%	0.051%
3	3.512	105	111	120	rVV2	11606	21325	0.04%	0.024%
4	3.620	124	130	143	rVB2	73949	159099	0.33%	0.182%
5	3.779	153	158	164	rBV5	7585	12296	0.03%	0.014%
6	3.853	167	171	175	rBV3	20929	26996	0.06%	0.031%
7	4.227	232	237	243	rBV2	15029	23518	0.05%	0.027%
8	4.290	243	248	259	rVB	11339	24084	0.05%	0.027%
9	4.602	298	303	306	rBV	58878	97371	0.20%	0.111%
10	4.642	306	310	321	rVB	107194	215223	0.45%	0.246%
11	4.767	321	332	355	rBV	15911981	36284559	75.25%	41.415%
12	4.909	355	357	366	rVB5	8444	11384	0.02%	0.013%
13	5.045	375	381	390	rVB3	11546	24341	0.05%	0.028%
14	5.596	464	478	500	rBV	20339618	48220752	100.00%	55.039%
15	5.755	500	506	517	rVB	72349	153877	0.32%	0.176%
16	5.840	517	521	529	rBV4	6923	15353	0.03%	0.018%
17	6.300	593	602	612	rBV	144515	318214	0.66%	0.363%
18	6.419	612	623	631	rVB3	24922	75509	0.16%	0.086%
19	6.550	631	646	655	rBV2	72587	228072	0.47%	0.260%
20	6.669	662	667	681	rVB	17402	40278	0.08%	0.046%
21	6.890	695	706	715	rBV	36675	88517	0.18%	0.101%
22	7.135	743	749	756	rBV4	4831	10116	0.02%	0.012%
23	7.226	756	765	773	rBV	493129	1049799	2.18%	1.198%
24	7.299	773	778	783	rVV	80513	173576	0.36%	0.198%
25	7.356	783	788	797	rVB2	44420	91869	0.19%	0.105%

Sum of corrected areas: 87612233

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112423.D
Acq On : 11 Sep 2024 21:43
Operator : SC
Sample : P2403661-043 (400mL)
Misc : S37-06062402
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112423.D
Acq On : 11 Sep 2024 21:433
Operator : SCC
Sample : P2403661-043 (400mL))
Misc : S37-060624022
ALS Vial : 11 Sample Multiplier: 11

MA 9/29/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:32:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145156	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	631904	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	188436	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	347969	12.811	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	12.43	98	727542	11.006	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.82	174	248311	11.232	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.37	85	2905m	0.082	ng		
4) Chloromethane	3.52	50	1167	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.85	54	148	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	26705	1.695	ng		87
11) Acetonitrile	4.44	41	1078	N.D.			
12) Acrolein	4.54	56	1239	0.103	ng		86
13) Acetone	4.63	58	89917	6.764	ng	#	29
14) Trichlorofluoromethane	4.76	101	5341160m	158.895	ng		
15) 2-Propanol (Isopropanol)	4.83	45	87122	1.665	ng		97
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.36	84	1632	0.104	ng	#	66
20) 3-Chloro-1-propene (Al...	5.46	41	203	N.D.			
21) Trichlorotrifluoroethane	5.58	151	2752520	206.691	ng		94
22) Carbon Disulfide	5.61	76	44630	0.860	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	118	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	1876	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	2943	0.312	ng	#	75
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	6668	1.055	ng		87
31) n-Hexane	7.30	57	14171	0.492	ng		99
32) Chloroform	7.36	83	7216	0.250	ng		95
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	931	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	5176	No Calib		#	
41) Benzene	8.90	78	4876	0.082	ng		98
42) Carbon Tetrachloride	9.07	117	786	N.D.			
43) Cyclohexane	9.22	84	11799	0.590	ng		91
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	1059	0.068	ng		92
46) Bromodichloromethane	10.07	83	309	N.D.			
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	2229	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:32:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

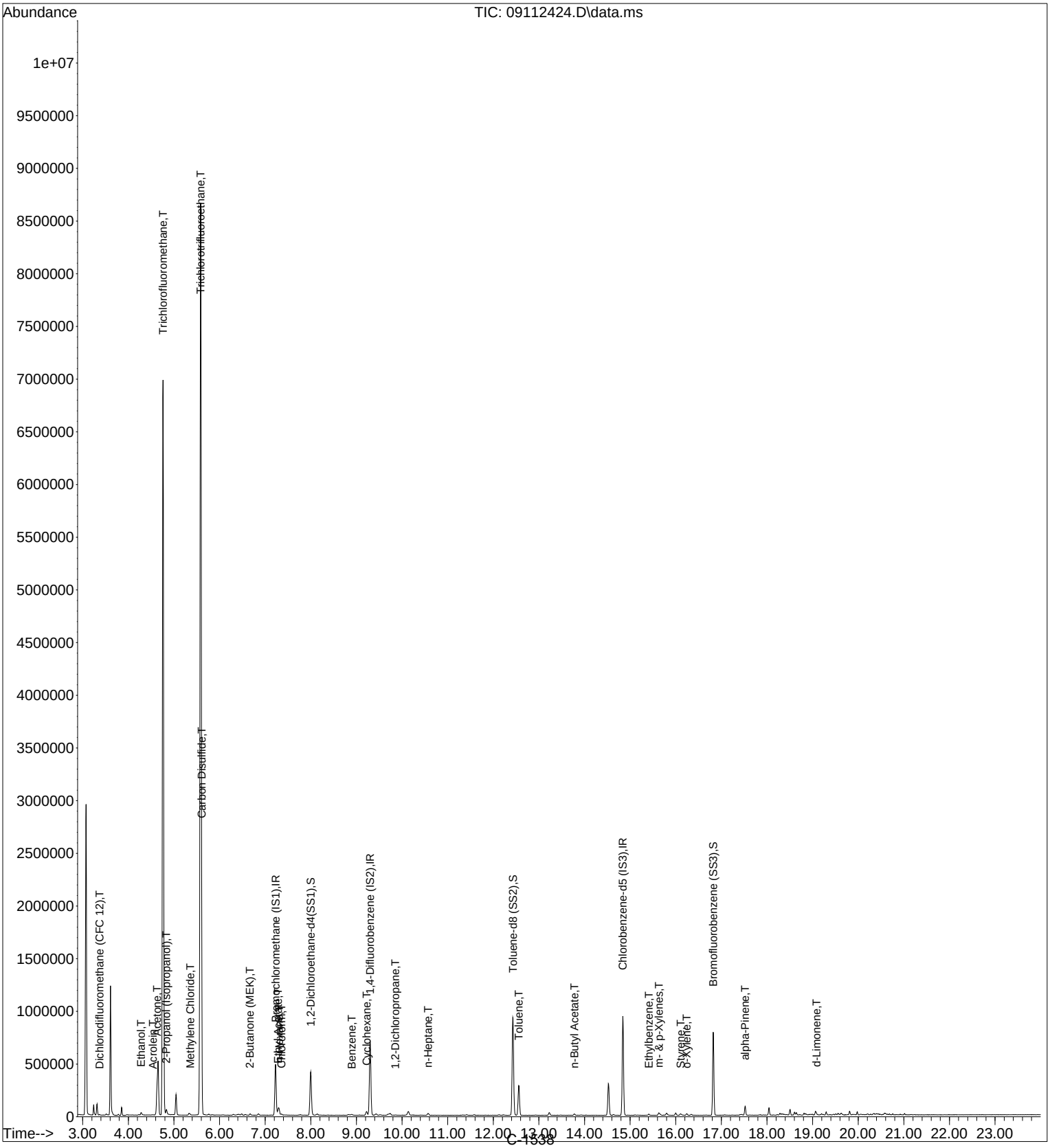
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	3865	0.293 ng		90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	238732	3.341 ng		100
59) 2-Hexanone	12.93	43	2124	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	12613	0.254 ng		94
63) n-Octane	13.92	57	470	N.D.		
64) Tetrachloroethene	14.03	166	513	N.D.		
65) Chlorobenzene	14.90	112	196	N.D.		
66) Ethylbenzene	15.41	91	8975	0.109 ng		96
67) m- & p-Xylenes	15.63	91	19981	0.299 ng		96
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	5912	0.137 ng		95
70) o-Xylene	16.24	91	10015	0.153 ng		100
71) n-Nonane	16.62	43	1007	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	1000	N.D.		
75) alpha-Pinene	17.52	93	33594	0.854 ng		96
76) n-Propylbenzene	17.68	91	970	N.D.		
77) 3-Ethyltoluene	17.03	105	1000	No Calib		
78) 4-Ethyltoluene	17.86	105	449	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	414	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1000	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1238	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.66	146	326	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	326	N.D.		
87) sec-Butylbenzene	18.74	105	381	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	1407	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	1000	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	187	N.D.		
91) d-Limonene	19.09	68	3730	0.166 ng		99
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	1792	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	497	N.D.		
95) Naphthalene	20.95	128	530	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	302	N.D.		
98) Cyclohexanone	15.30	55	111	No Calib	#	
99) tert-Butylbenzene	18.43	119	289	N.D.		
100) n-Butylbenzene	19.38	91	545	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:32:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

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QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	145156	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	631904	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	188436	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	347969	12.811	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.48%				
57) Toluene-d8 (SS2)	12.43	98	727542	11.006	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
73) Bromofluorobenzene (SS3)	16.82	174	248311	11.232	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	2905m	0.082	ng		
10) Ethanol	4.28	45	26705	1.695	ng		87
12) Acrolein	4.54	56	1239	0.103	ng		86
13) Acetone	4.63	58	89917	6.764	ng	#	29
14) Trichlorofluoromethane	4.76	101	5341160m	158.895	ng		
15) 2-Propanol (Isopropanol)	4.83	45	87122	1.665	ng		97
19) Methylene Chloride	5.36	84	1632	0.104	ng	#	66
21) Trichlorotrifluoroethane	5.58	151	2752520	206.691	ng		94
22) Carbon Disulfide	5.61	76	44630	0.860	ng	#	1
27) 2-Butanone (MEK)	6.66	72	2943	0.312	ng	#	75
30) Ethyl Acetate	7.28	61	6668	1.055	ng		87
31) n-Hexane	7.30	57	14171	0.492	ng		99
32) Chloroform	7.36	83	7216	0.250	ng		95
41) Benzene	8.90	78	4876	0.082	ng		98
43) Cyclohexane	9.22	84	11799	0.590	ng		91
45) 1,2-Dichloropropane	9.85	63	1059	0.068	ng		92
51) n-Heptane	10.57	71	3865	0.293	ng		90
58) Toluene	12.56	91	238732	3.341	ng		100
62) n-Butyl Acetate	13.78	43	12613	0.254	ng		94
66) Ethylbenzene	15.41	91	8975	0.109	ng		96
67) m- & p-Xylenes	15.63	91	19981	0.299	ng		96
69) Styrene	16.11	104	5912	0.137	ng		95
70) o-Xylene	16.24	91	10015	0.153	ng		100
75) alpha-Pinene	17.52	93	33594	0.854	ng		96
91) d-Limonene	19.09	68	3730	0.166	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
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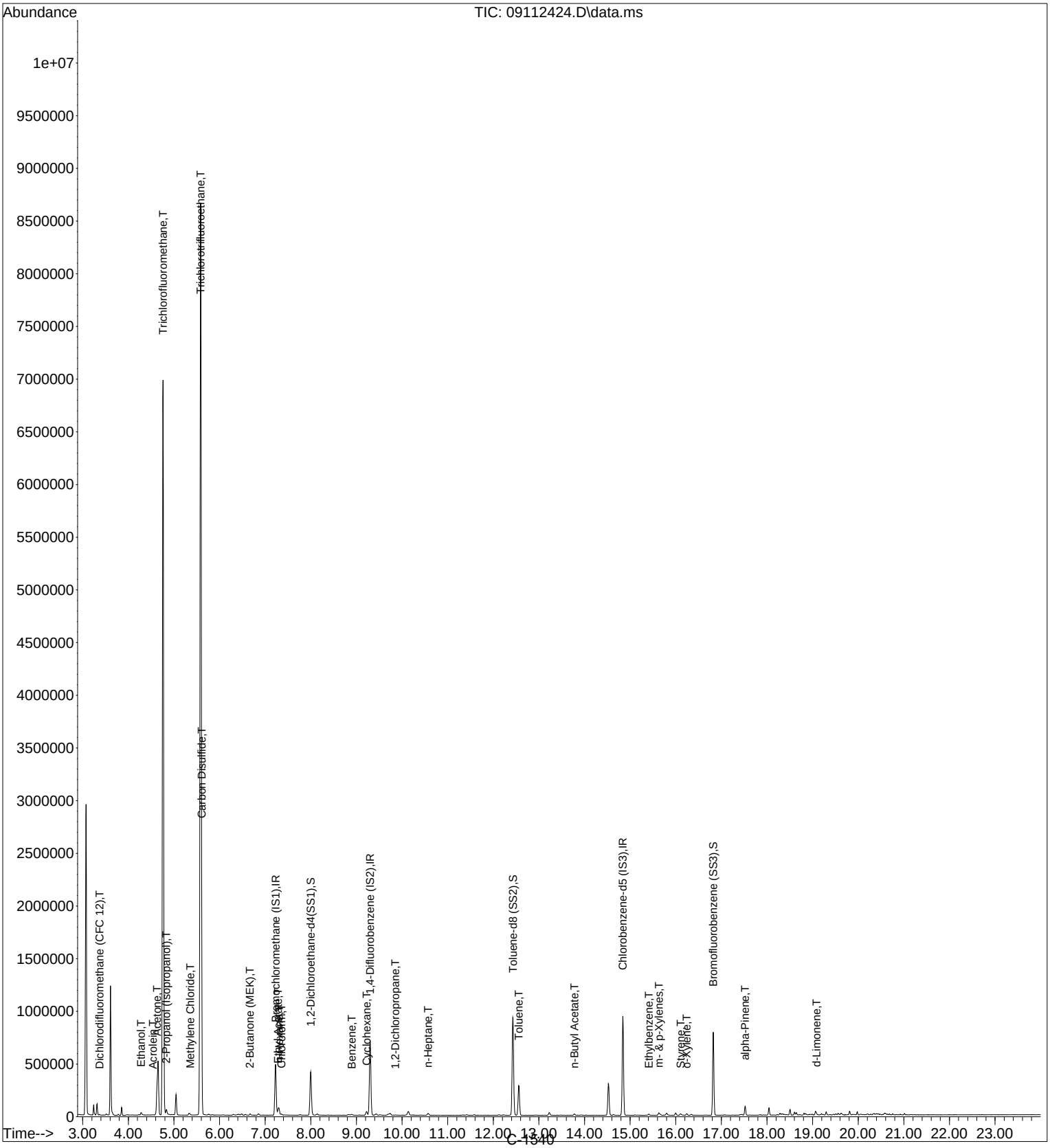
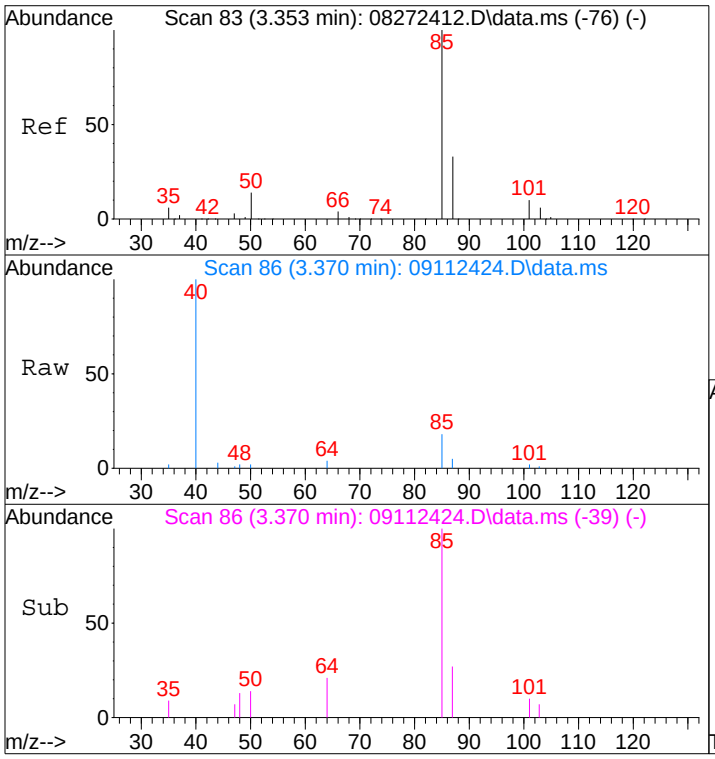
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

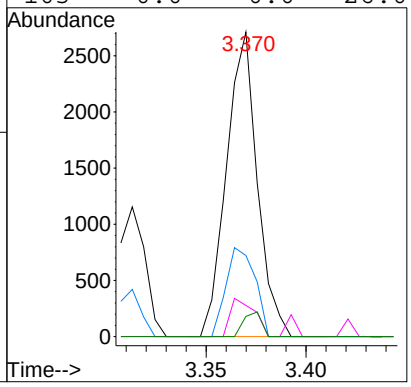


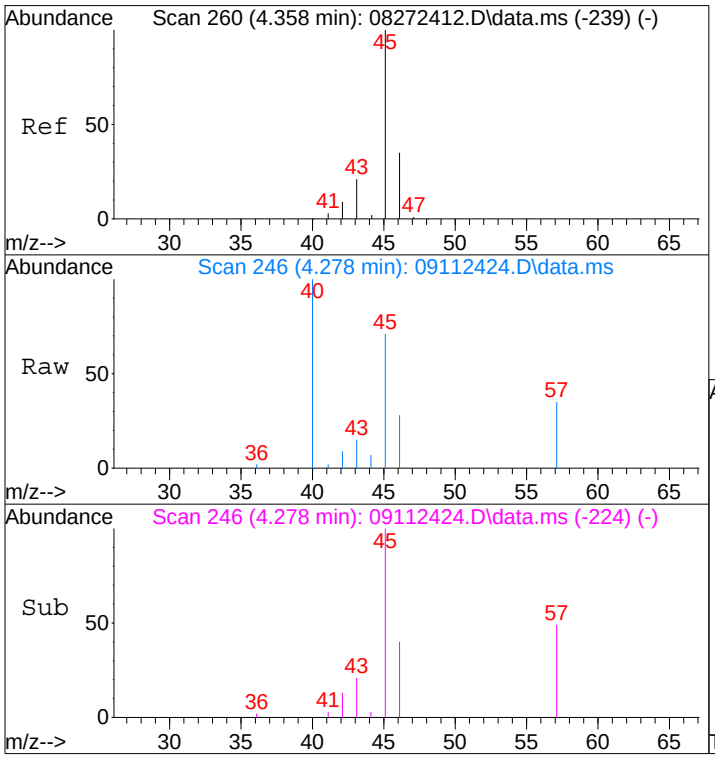


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.08 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.019 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 85 Resp: 2905

Ion	Ratio	Lower	Upper
85	100		
87	12.7	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

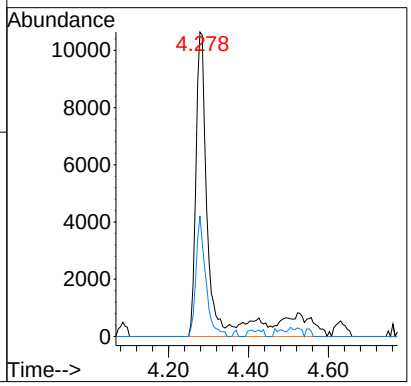


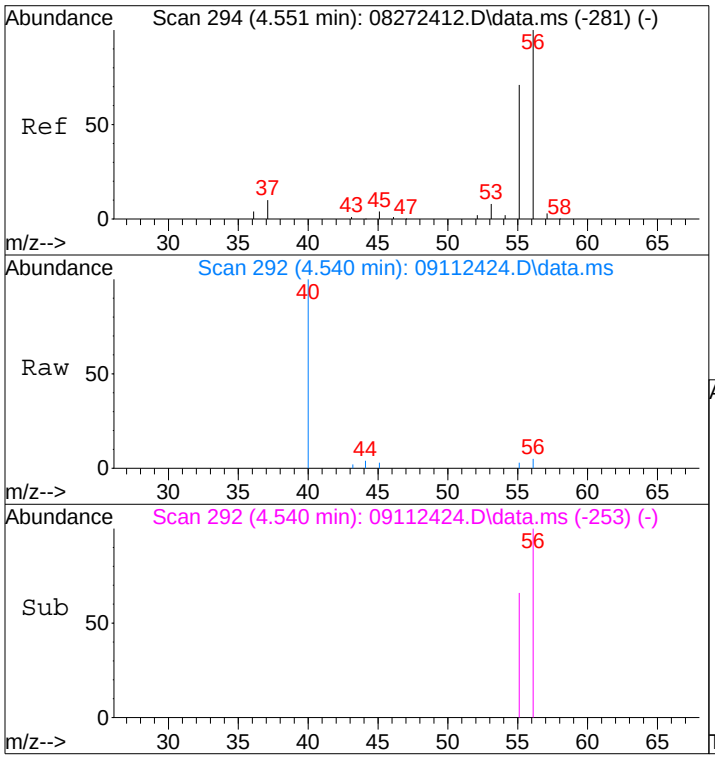


#10
Ethanol
Concen: 1.70 ng
RT: 4.28 min Scan# 246
Delta R.T. -0.125 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 45 Resp: 26705

Ion	Ratio	Lower	Upper
45	100		
46	26.8	14.2	54.2

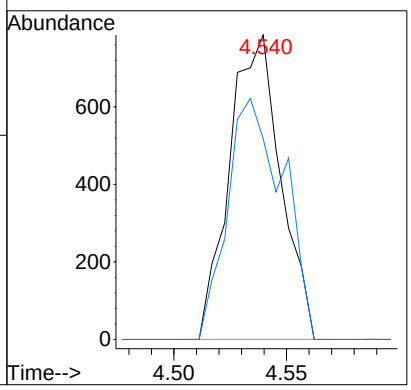


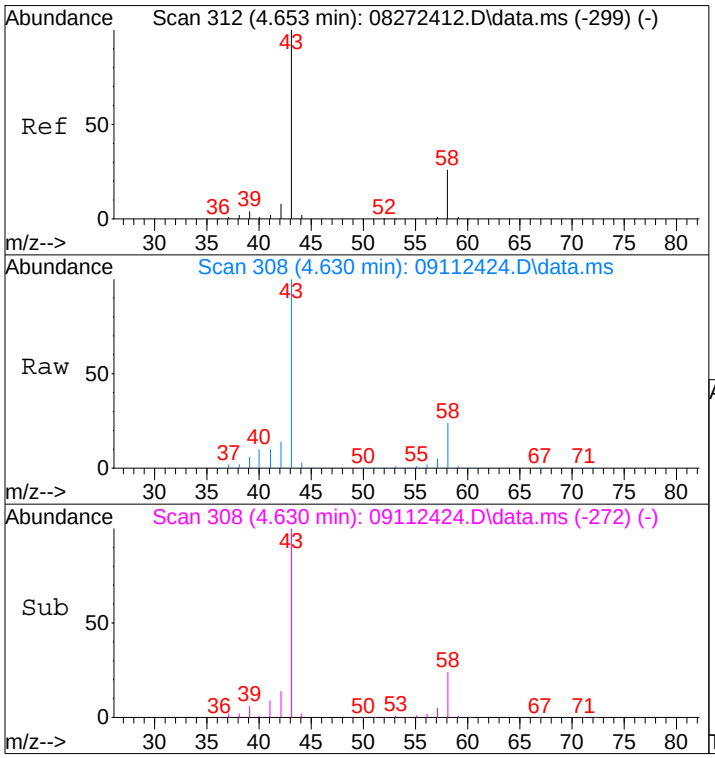


#12
Acrolein
Concen: 0.10 ng
RT: 4.54 min Scan# 292
Delta R.T. -0.028 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 56 Resp: 1239

Ion	Ratio	Lower	Upper
56	100		
55	86.8	54.7	94.7

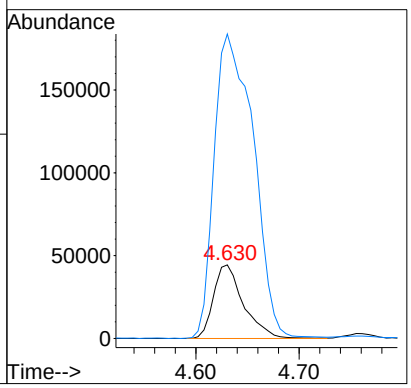


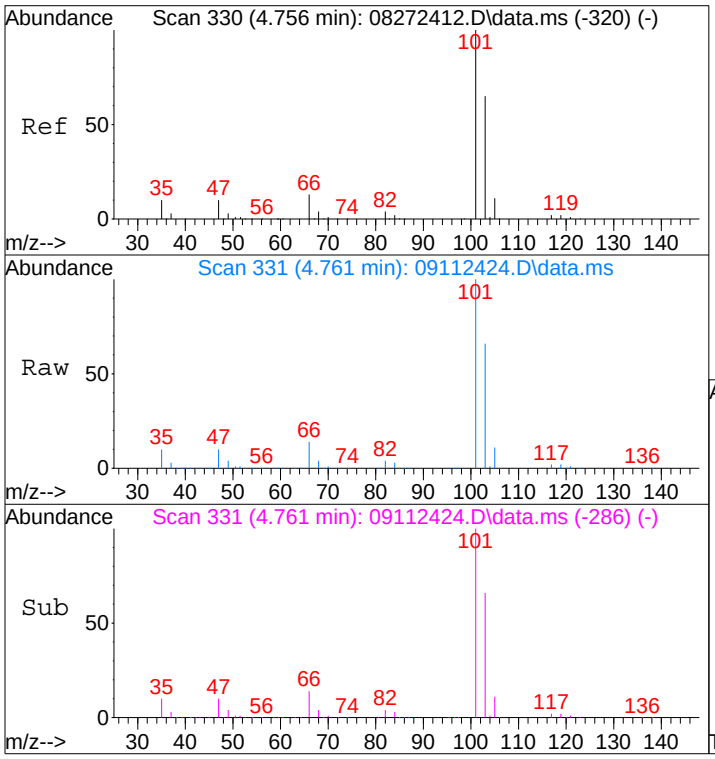


#13
Acetone
Concen: 6.76 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.044 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 58 Resp: 89917

Ion	Ratio	Lower	Upper
58	100		
43	540.3	347.3	407.3#

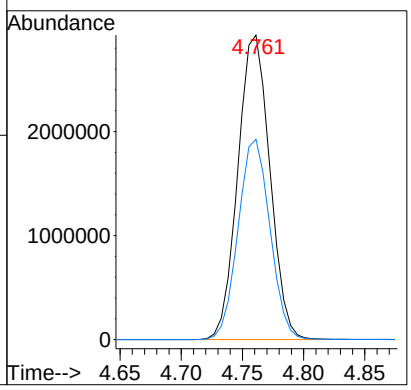


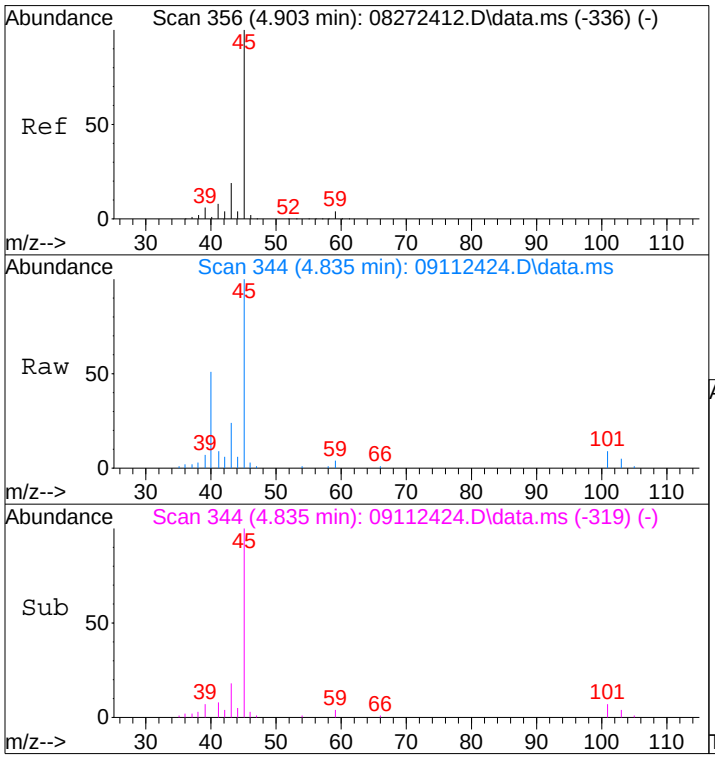


#14
Trichlorofluoromethane
Concen: 158.89 ng m
RT: 4.76 min Scan# 331
Delta R.T. 0.007 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion:101 Resp: 5341160

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#

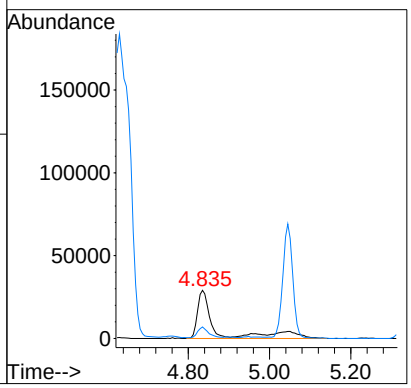


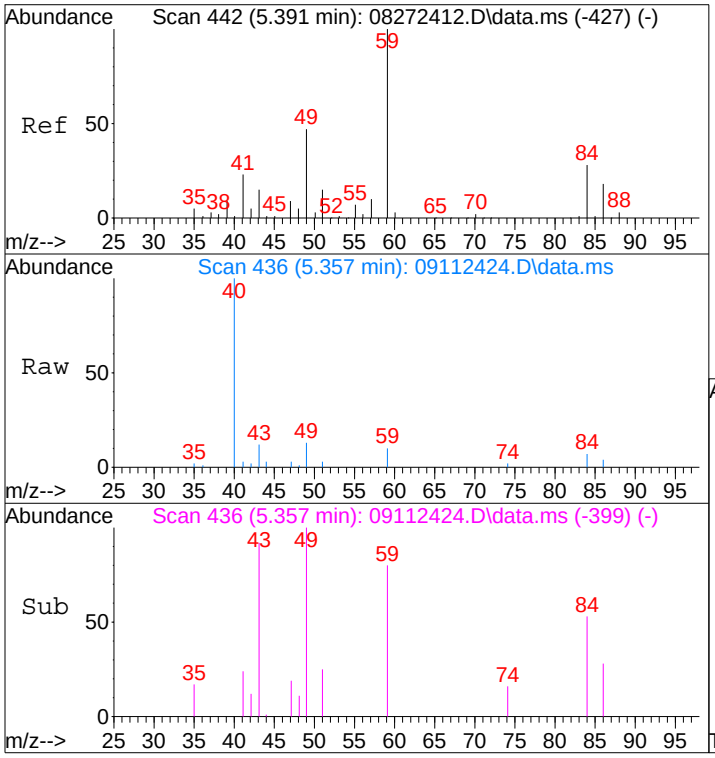


#15
2-Propanol (Isopropanol)
Concen: 1.66 ng
RT: 4.83 min Scan# 344
Delta R.T. -0.106 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 45 Resp: 87122

Ion	Ratio	Lower	Upper
45	100		
43	18.5	0.0	40.0

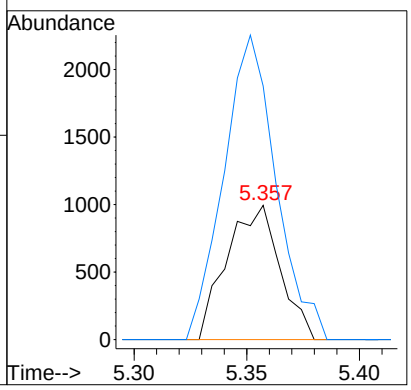


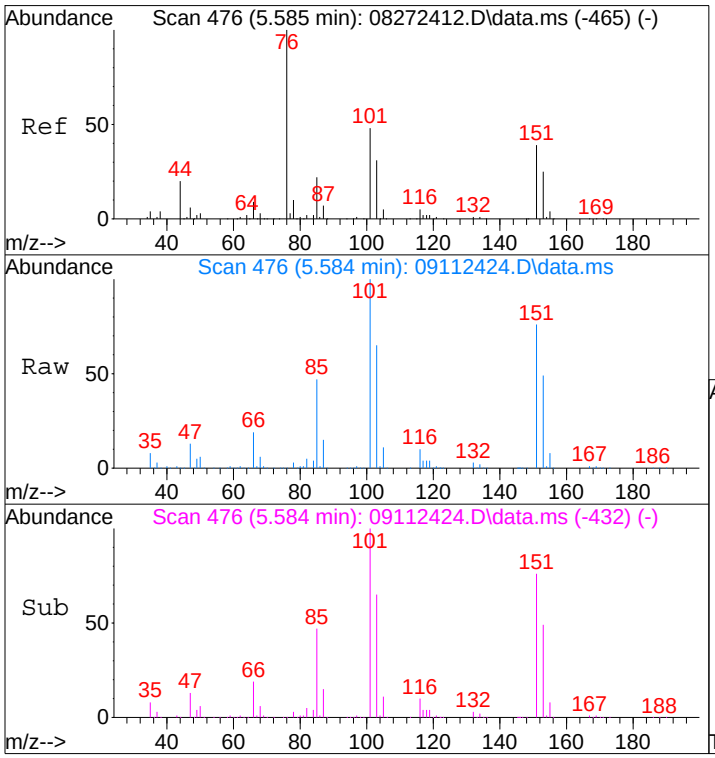


#19
Methylene Chloride
Concen: 0.10 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.041 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 84 Resp: 1632

Ion	Ratio	Lower	Upper
84	100		
49	223.3	151.1	201.1#

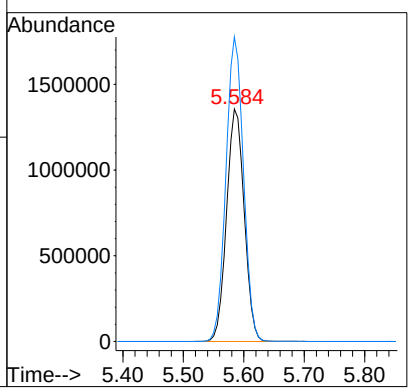


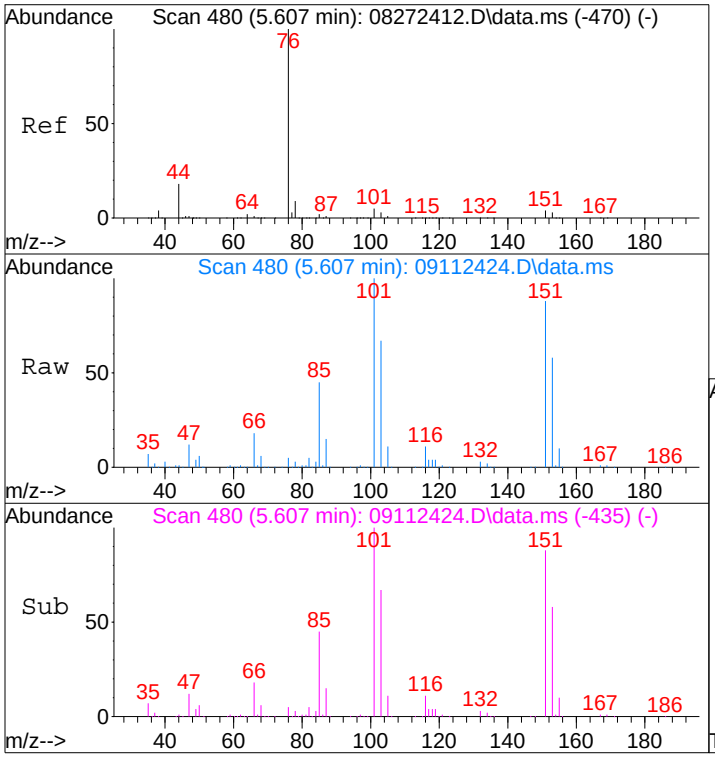


#21
Trichlorotrifluoroethane
Concen: 206.69 ng
RT: 5.58 min Scan# 476
Delta R.T. -0.001 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion:151 Resp: 2752520

Ion	Ratio	Lower	Upper
151	100		
101	130.1	103.4	143.4

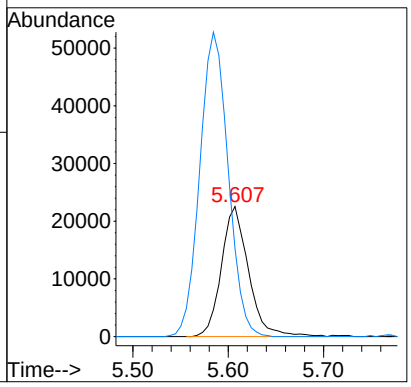


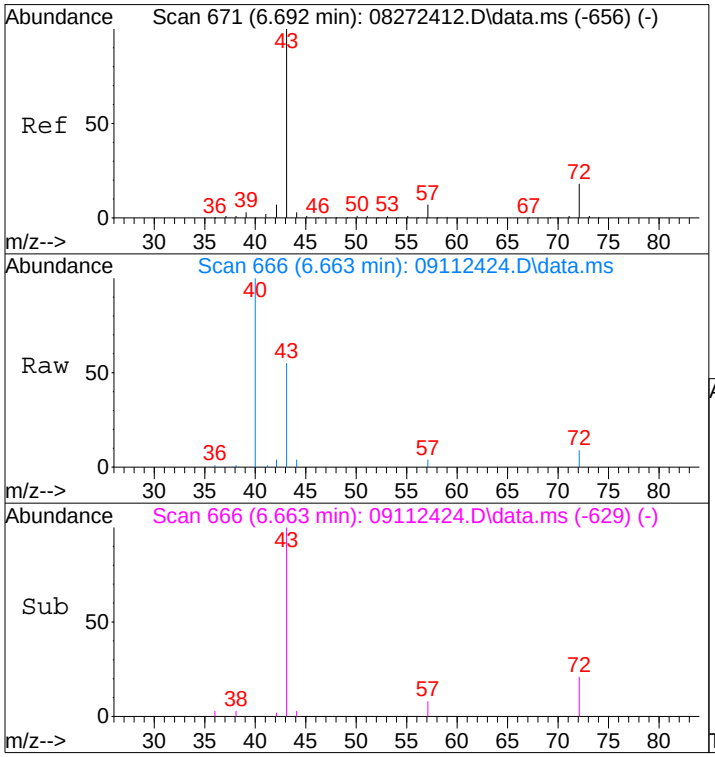


#22
Carbon Disulfide
Concen: 0.86 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.005 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 76 Resp: 44630

Ion	Ratio	Lower	Upper
76	100		
78	244.9	0.0	29.6#

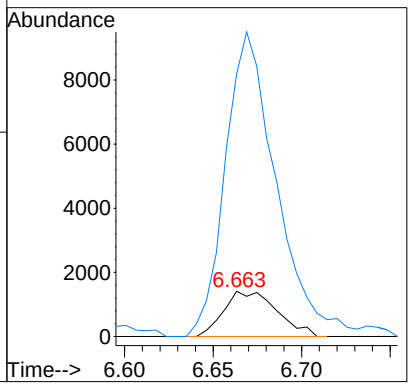


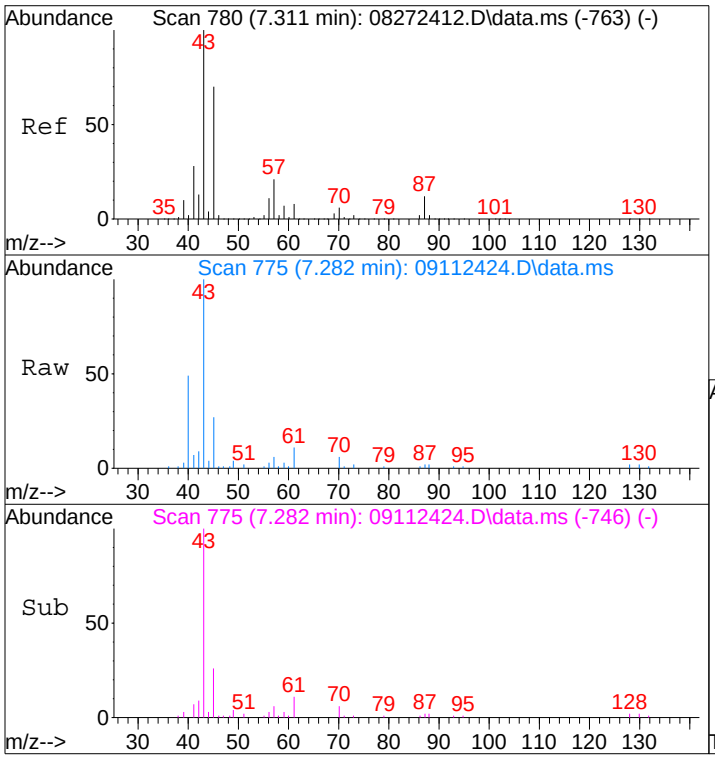


#27
2-Butanone (MEK)
Concen: 0.31 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.042 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 72 Resp: 2943

Ion	Ratio	Lower	Upper
72	100		
43	644.6	548.0	588.0#

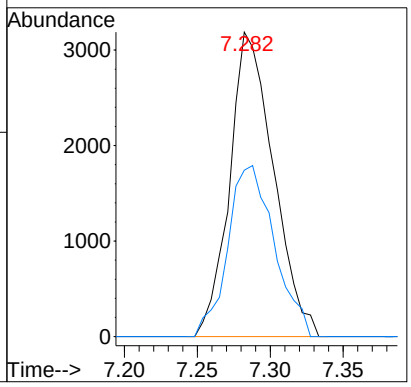


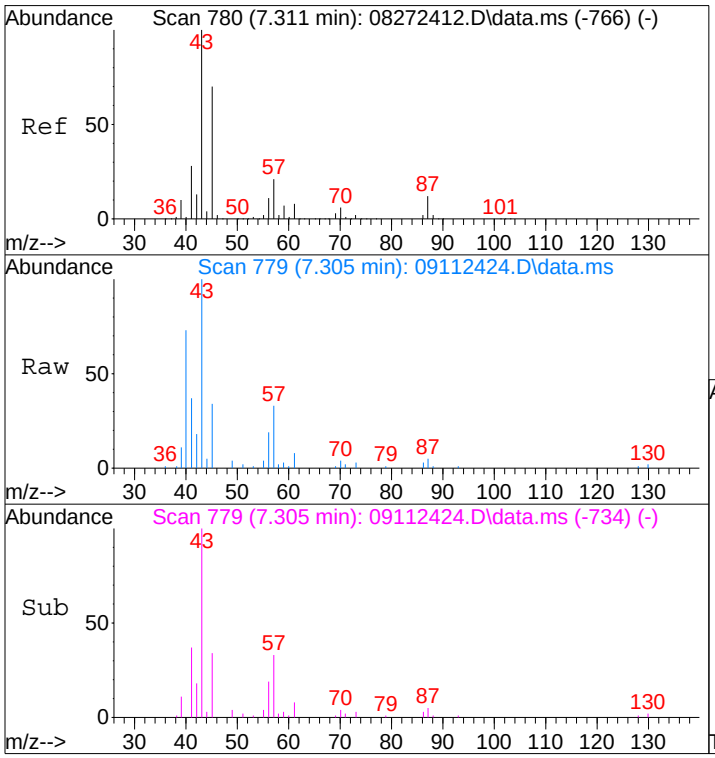


#30
Ethyl Acetate
Concen: 1.06 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.034 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 61 Resp: 6668

Ion	Ratio	Lower	Upper
61	100		
70	59.5	49.9	89.9

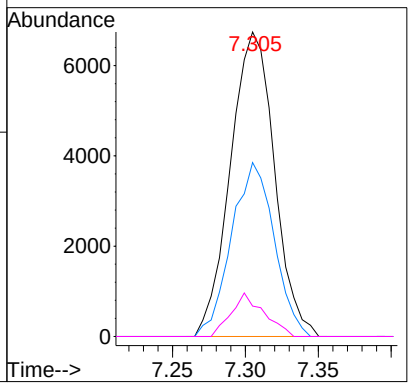


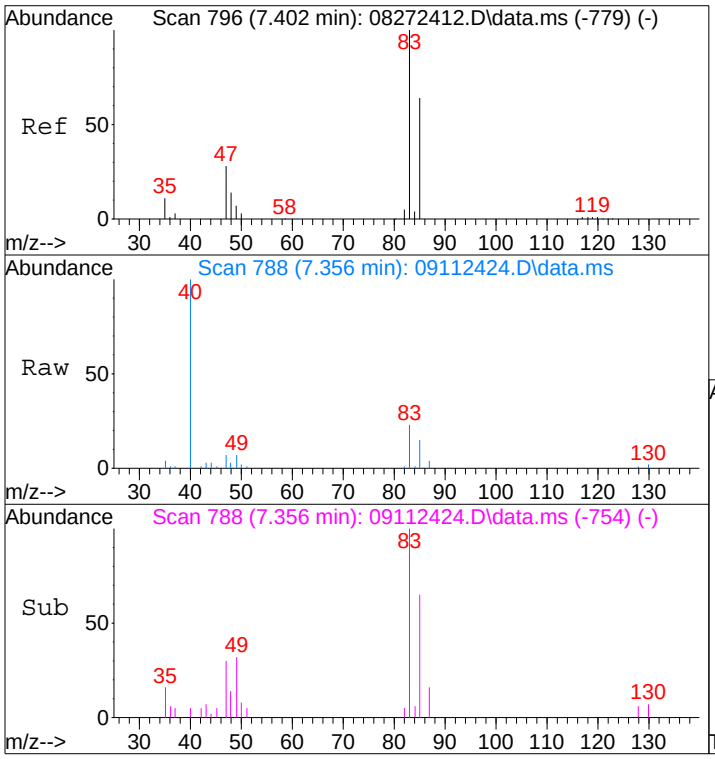


#31
n-Hexane
Concen: 0.49 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.006 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 57 Resp: 14171

Ion	Ratio	Lower	Upper
57	100		
56	55.4	44.2	66.2
86	10.6	9.3	13.9

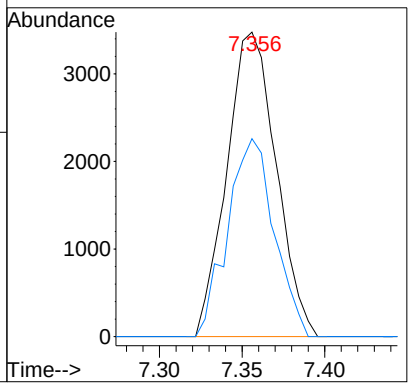


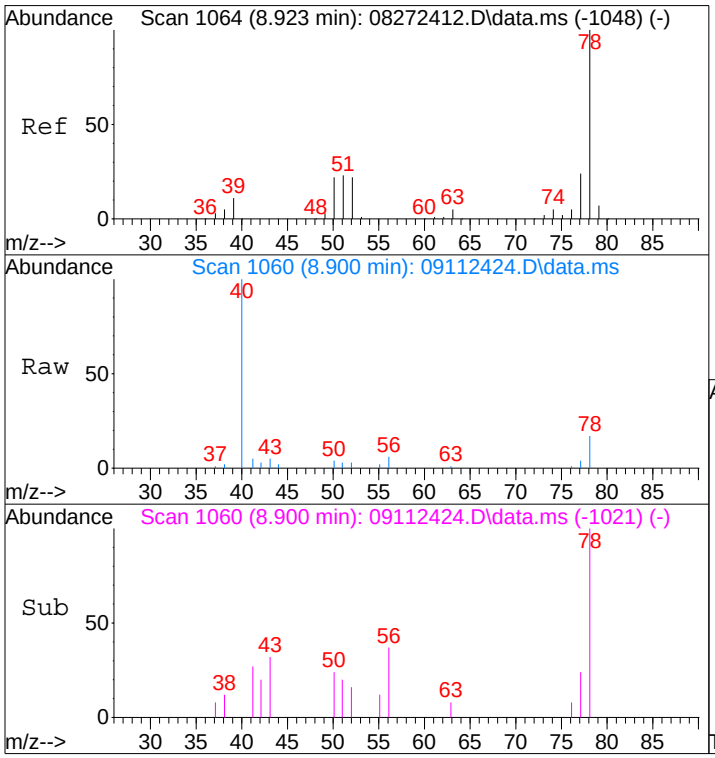


#32
Chloroform
Concen: 0.25 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.056 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 83 Resp: 7216

Ion	Ratio	Lower	Upper
83	100		
85	61.3	45.3	85.3

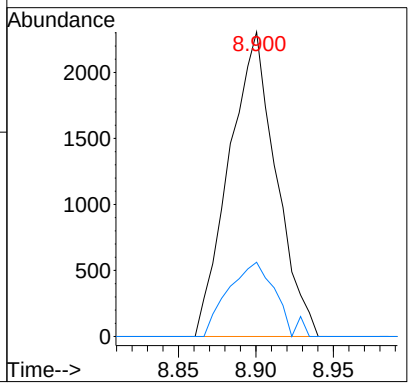


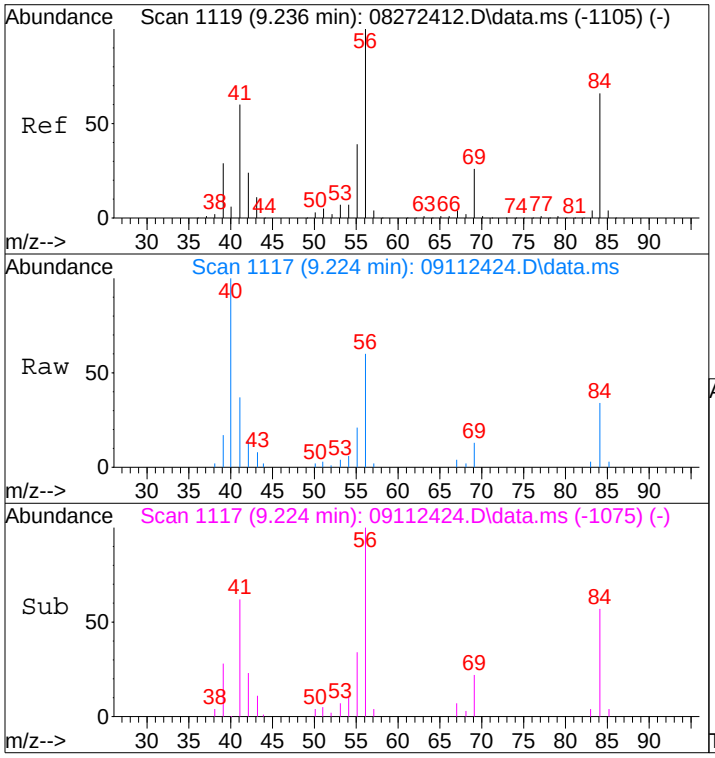


#41
Benzene
Concen: 0.08 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 78 Resp: 4876

Ion	Ratio	Lower	Upper
78	100		
77	24.8	3.9	43.9

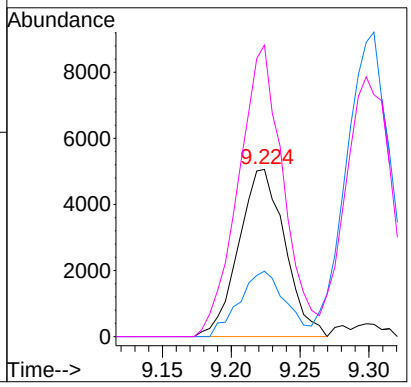


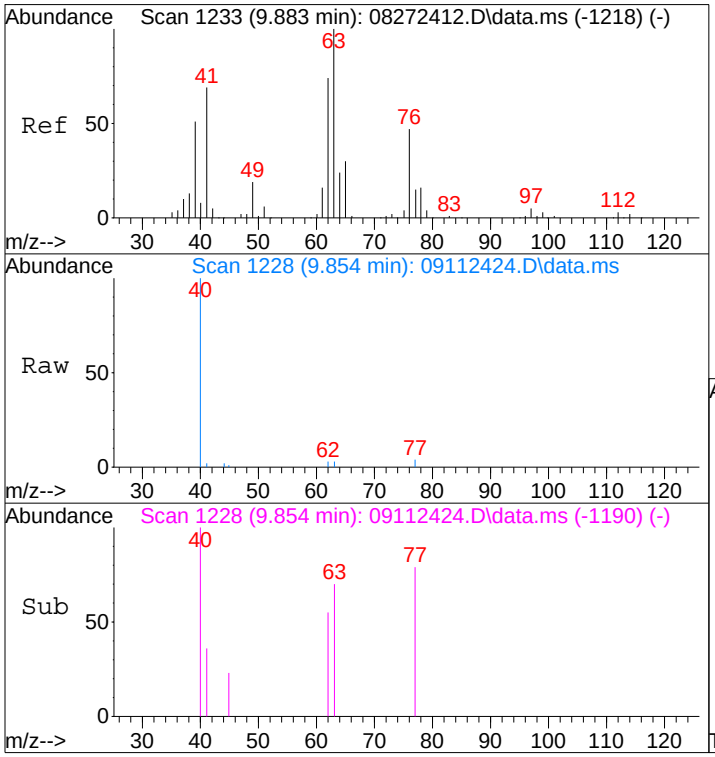


#43
Cyclohexane
Concen: 0.59 ng
RT: 9.22 min Scan# 1117
Delta R.T. -0.011 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 84 Resp: 11799

Ion	Ratio	Lower	Upper
84	100		
69	39.4	18.8	58.8
56	169.1	134.5	174.5

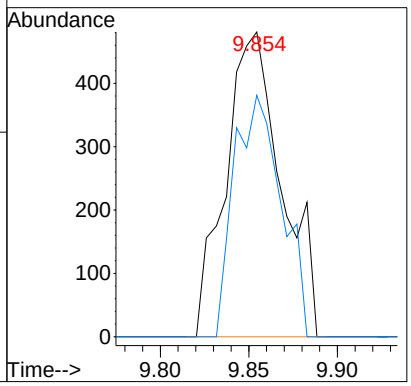


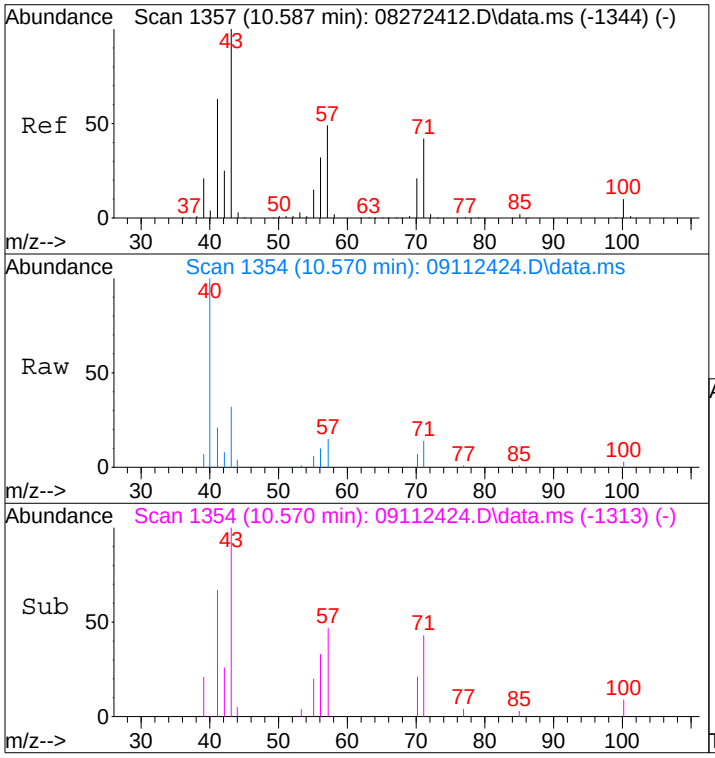


#45
1,2-Dichloropropane
Concen: 0.07 ng
RT: 9.85 min Scan# 1228
Delta R.T. -0.033 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 63 Resp: 1059

Ion	Ratio	Lower	Upper
63	100		
62	67.0	54.2	94.2

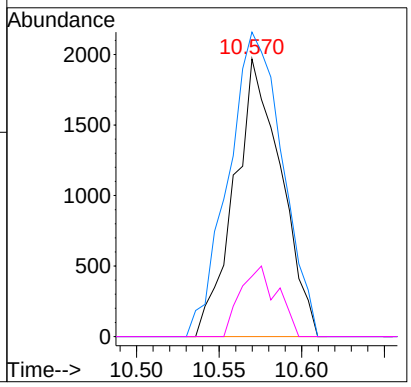


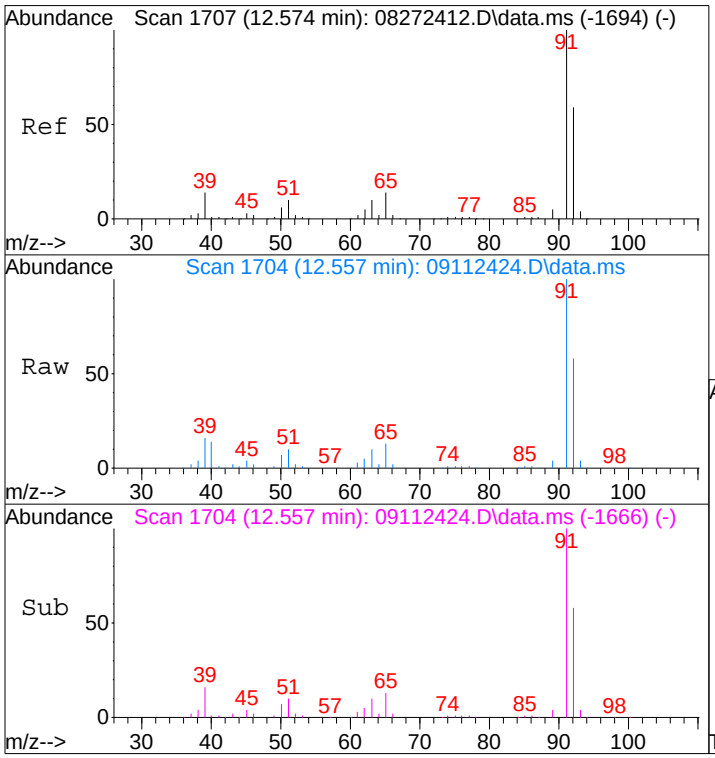


#51
n-Heptane
Concen: 0.29 ng
RT: 10.57 min Scan# 1354
Delta R.T. -0.015 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 71 Resp: 3865

Ion	Ratio	Lower	Upper
71	100		
57	127.5	97.1	137.1
100	20.1	5.0	45.0

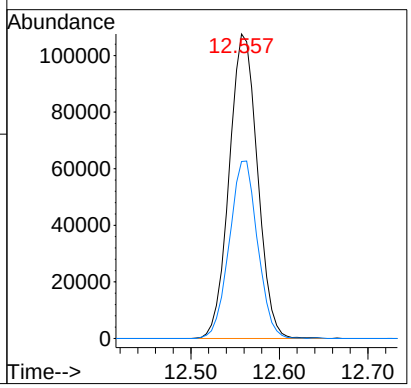


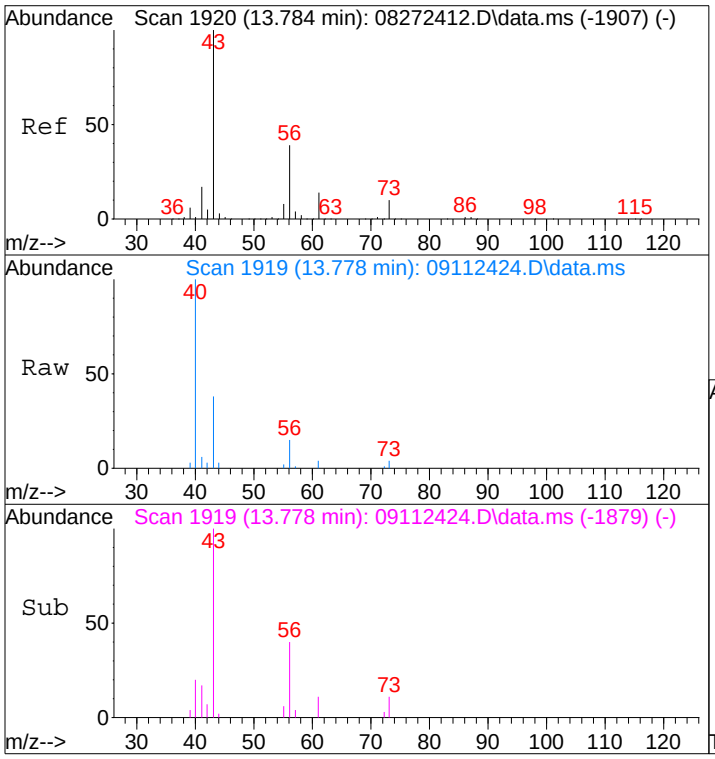


#58
Toluene
Concen: 3.34 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 91 Resp: 238732

Ion	Ratio	Lower	Upper
91	100		
92	58.2	38.5	78.5

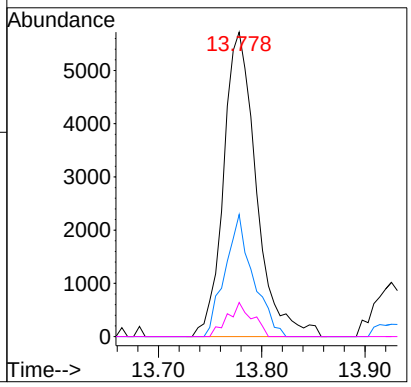


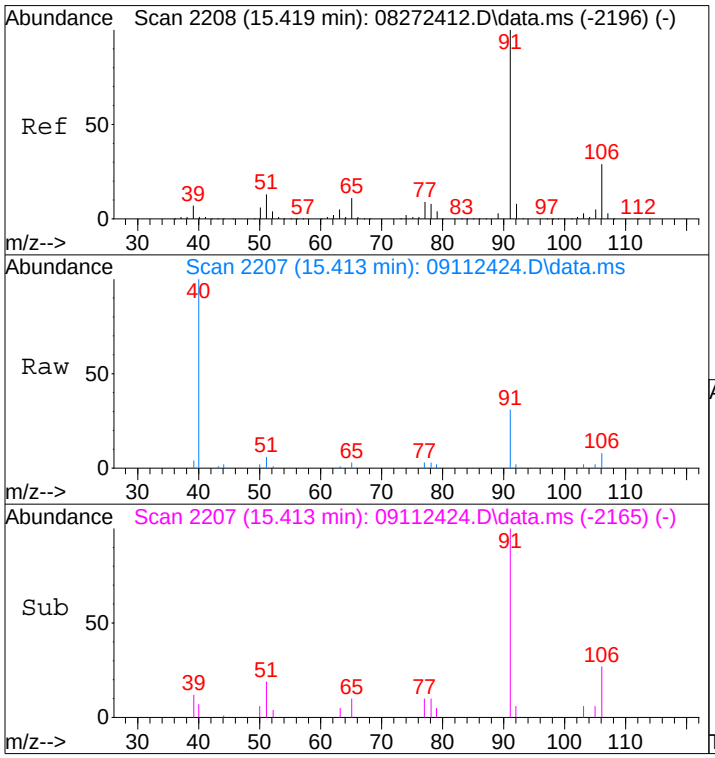


#62
n-Butyl Acetate
Concen: 0.25 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 43 Resp: 12613

Ion	Ratio	Lower	Upper
43	100		
56	34.3	18.2	58.2
73	8.5	0.0	30.1

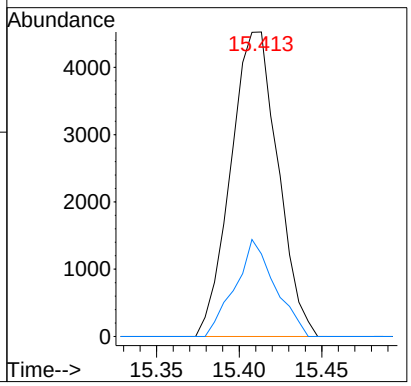


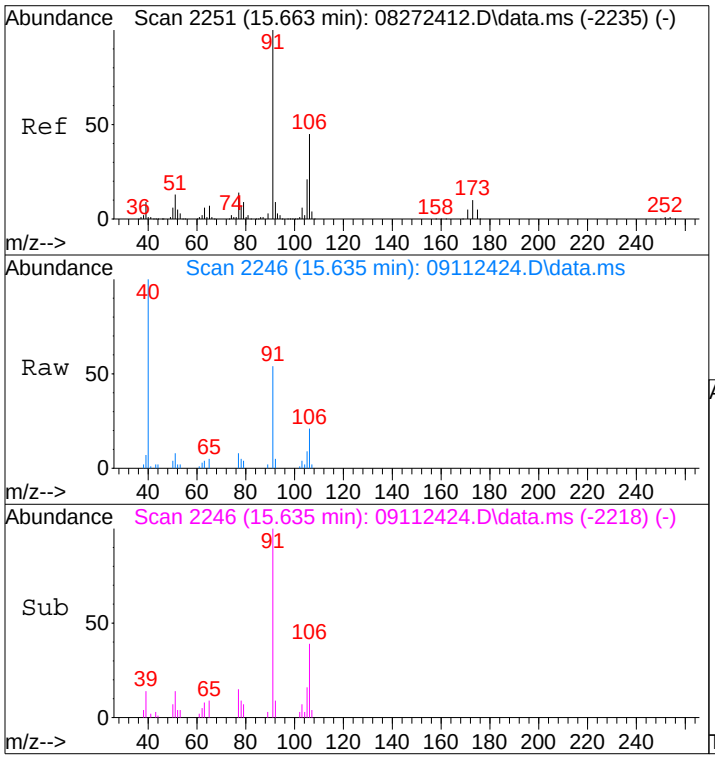


#66
Ethylbenzene
Concen: 0.11 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 91 Resp: 8975

Ion	Ratio	Lower	Upper
91	100		
106	27.0	9.2	49.2

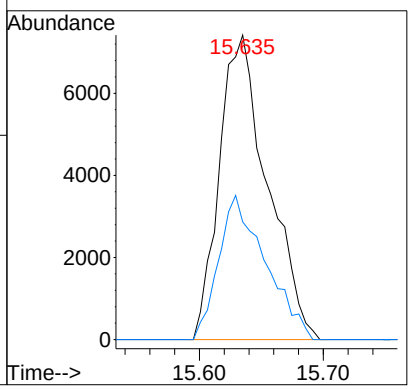


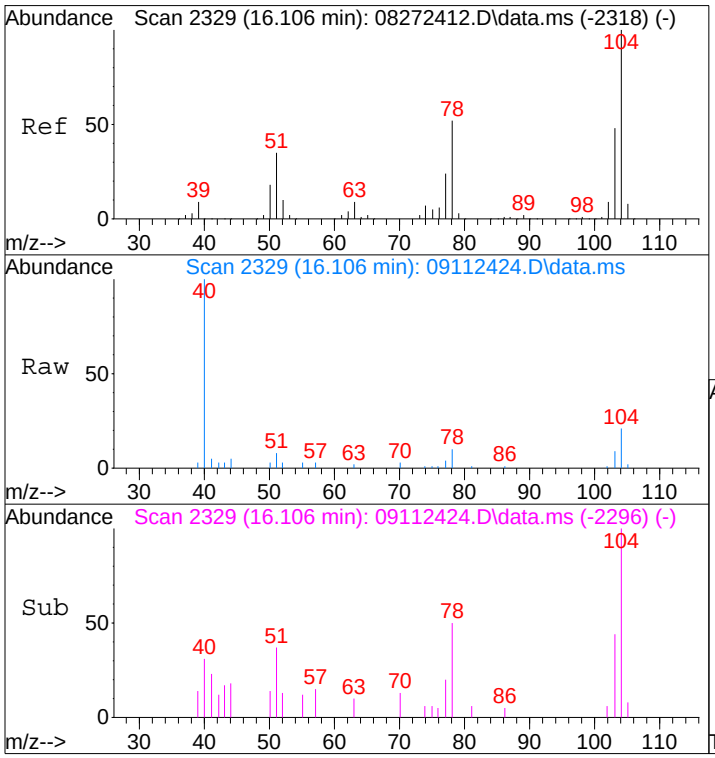


#67
m- & p-Xylenes
Concen: 0.30 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 91 Resp: 19981

Ion	Ratio	Lower	Upper
91	100		
106	46.2	23.8	63.8

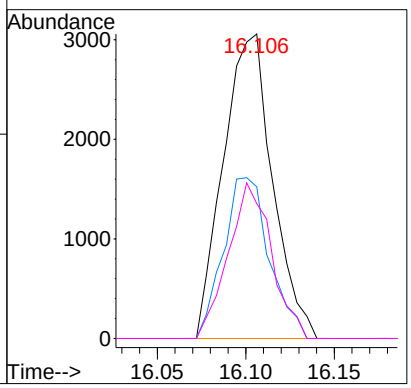


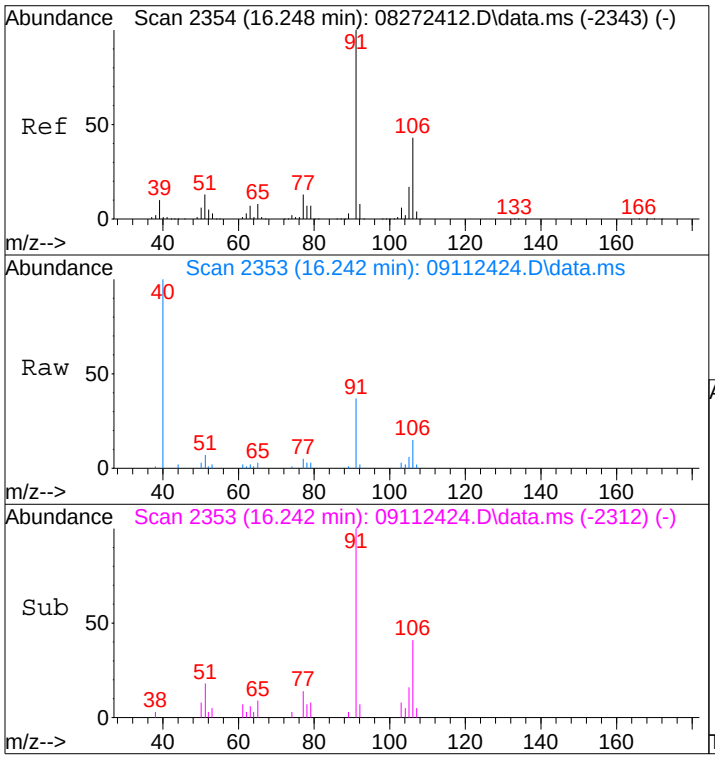


#69
Styrene
Concen: 0.14 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.011 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion:104 Resp: 5912

Ion	Ratio	Lower	Upper
104	100		
78	49.3	32.2	72.2
103	44.8	28.3	68.3

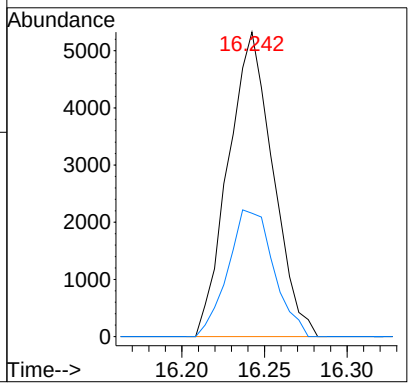


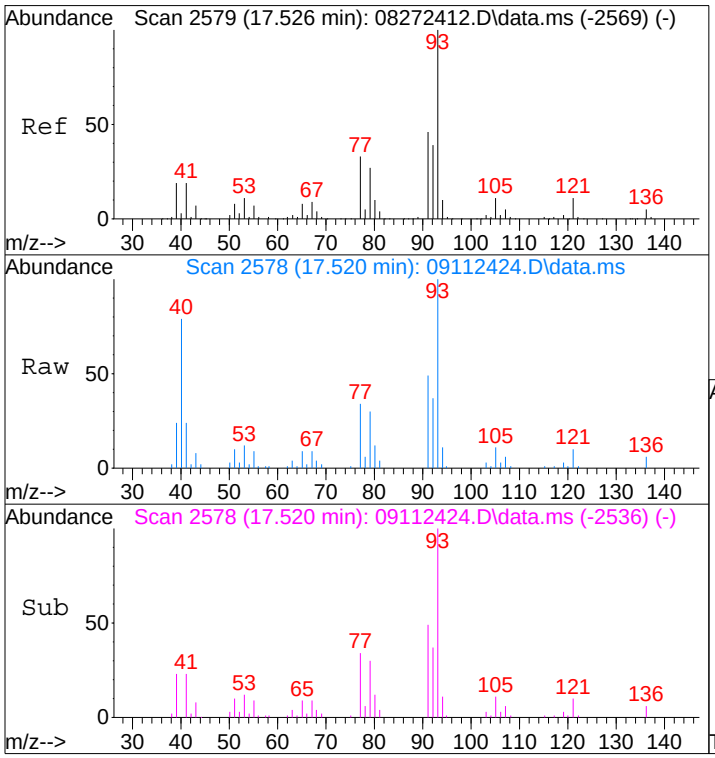


#70
o-Xylene
Concen: 0.15 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 91 Resp: 10015

Ion	Ratio	Lower	Upper
91	100		
106	42.5	22.5	62.5

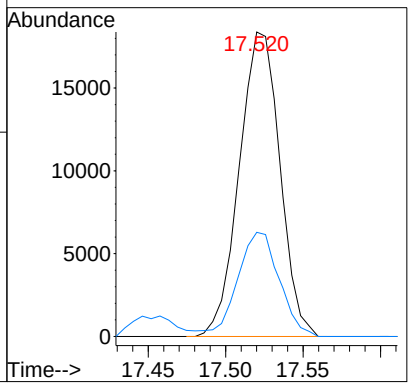


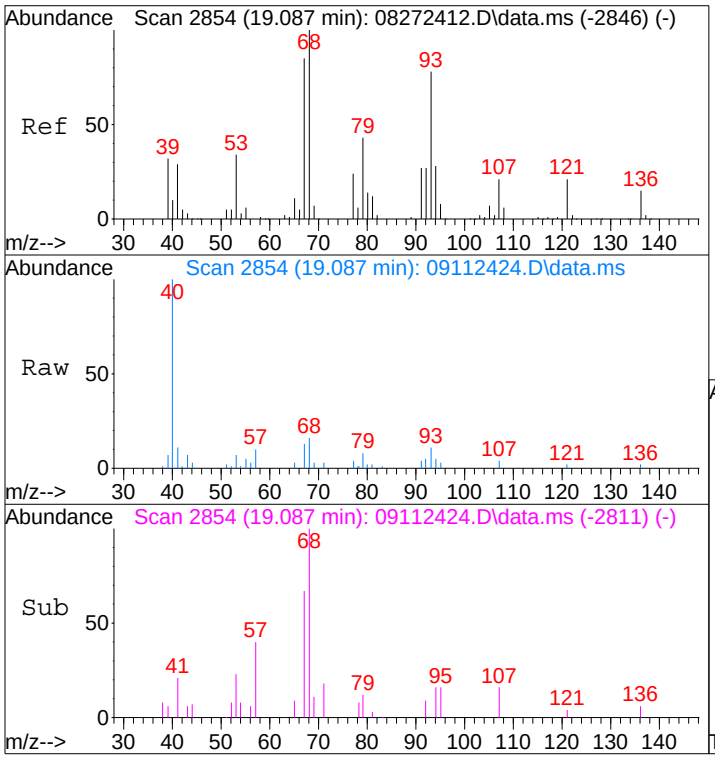


#75
alpha-Pinene
Concen: 0.85 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 93 Resp: 33594

Ion	Ratio	Lower	Upper
93	100		
77	35.1	13.1	53.1

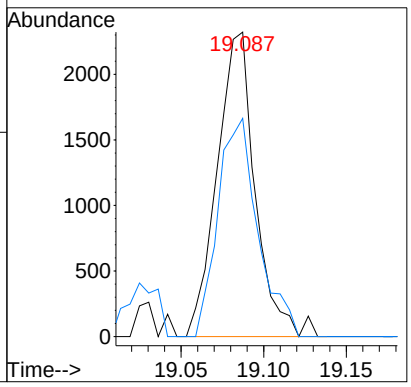




#91
d-Limonene
Concen: 0.17 ng
RT: 19.09 min Scan# 2854
Delta R.T. -0.006 min
Lab File: 09112424.D
Acq: 11 Sep 2024 22:16

Tgt Ion: 68 Resp: 3730

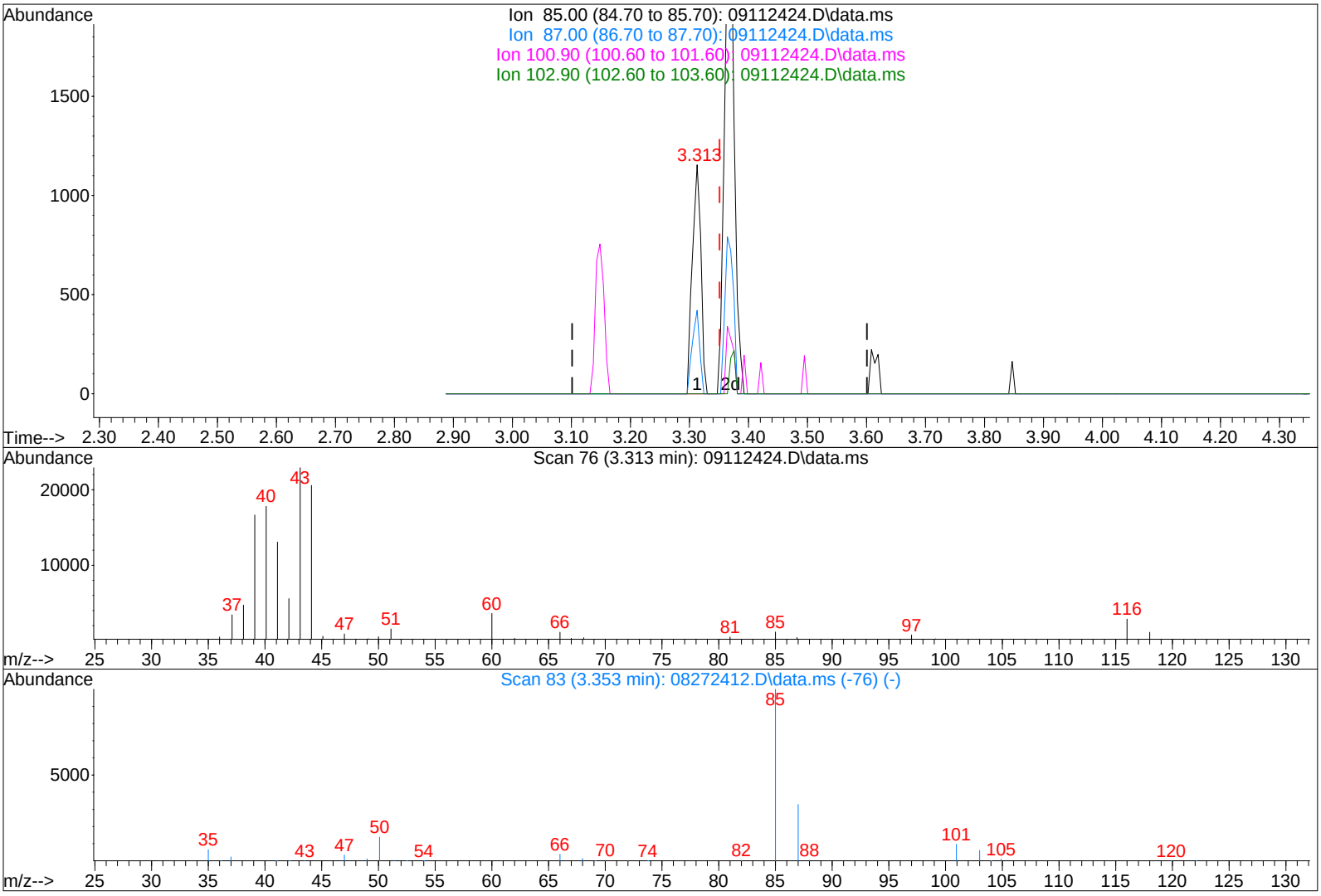
Ion	Ratio	Lower	Upper
68	100		
93	75.1	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112424.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.038) 0.03ng

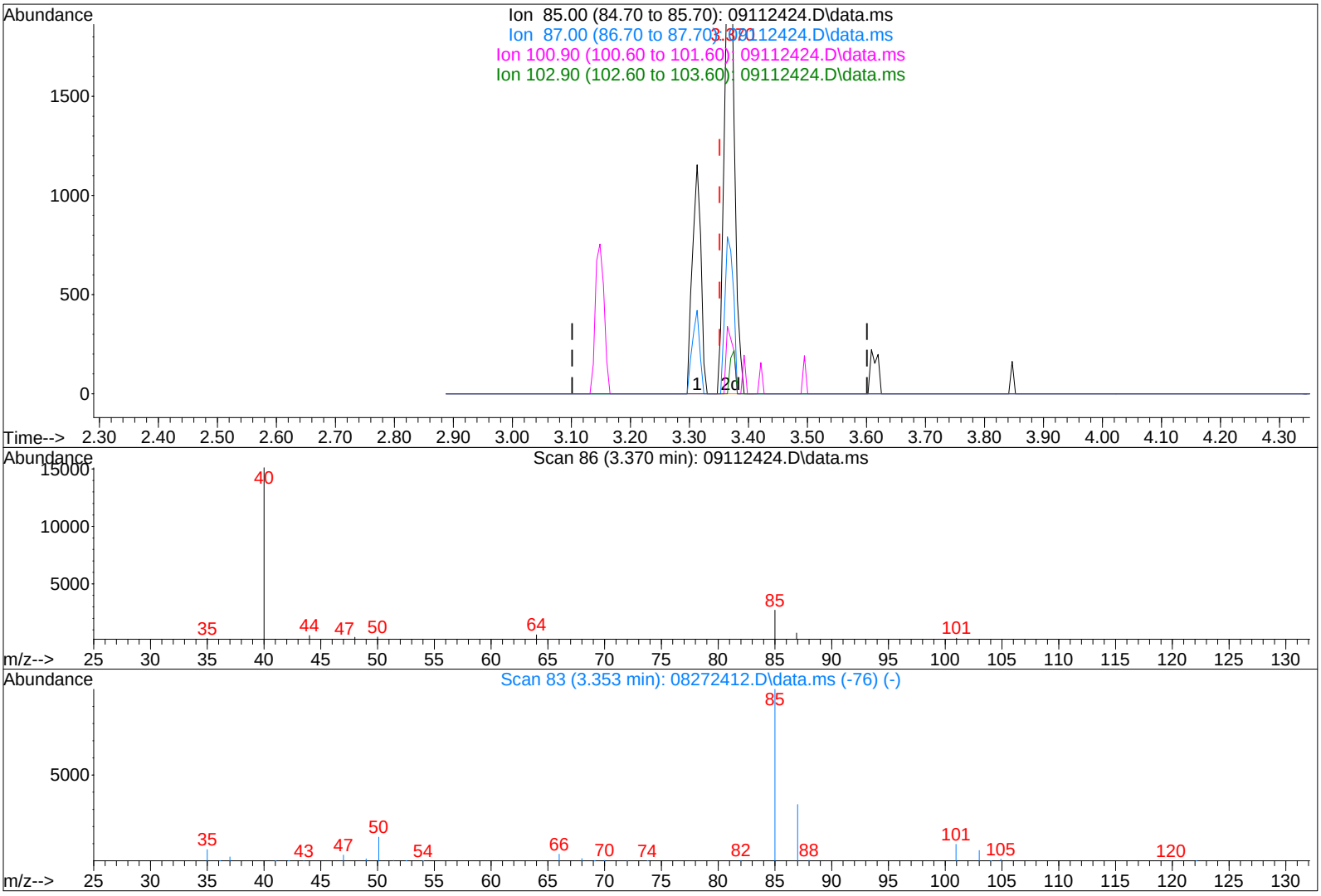
response 1170

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.62
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112424.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.019) 0.08ng m

response 2905

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	12.74#
100.90	9.40	0.00
102.90	6.00	0.00

MP

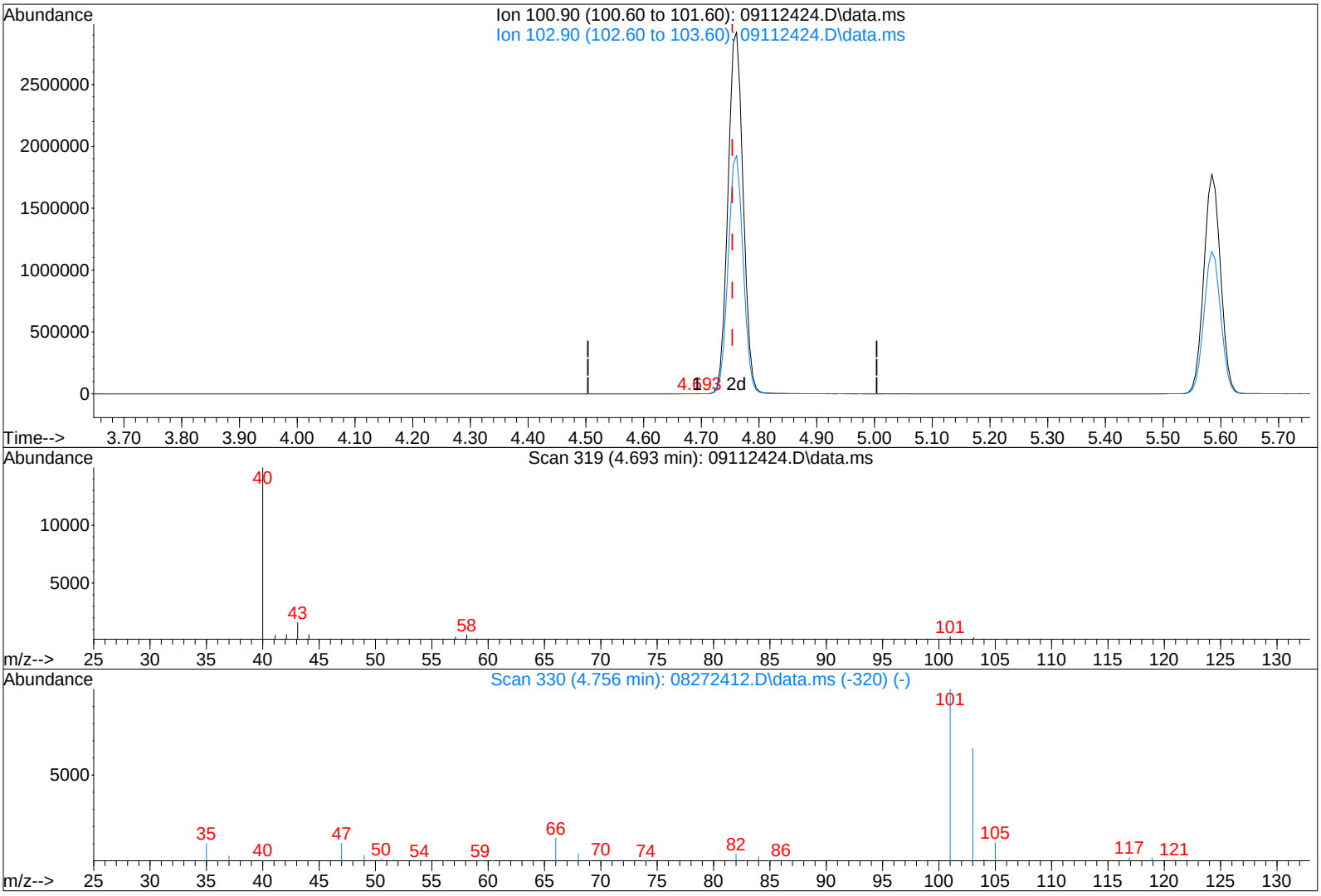
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:31:51 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112424.D\data.ms

(14) Trichlorofluoromethane (T)

4.693min (-0.061) 0.02ng

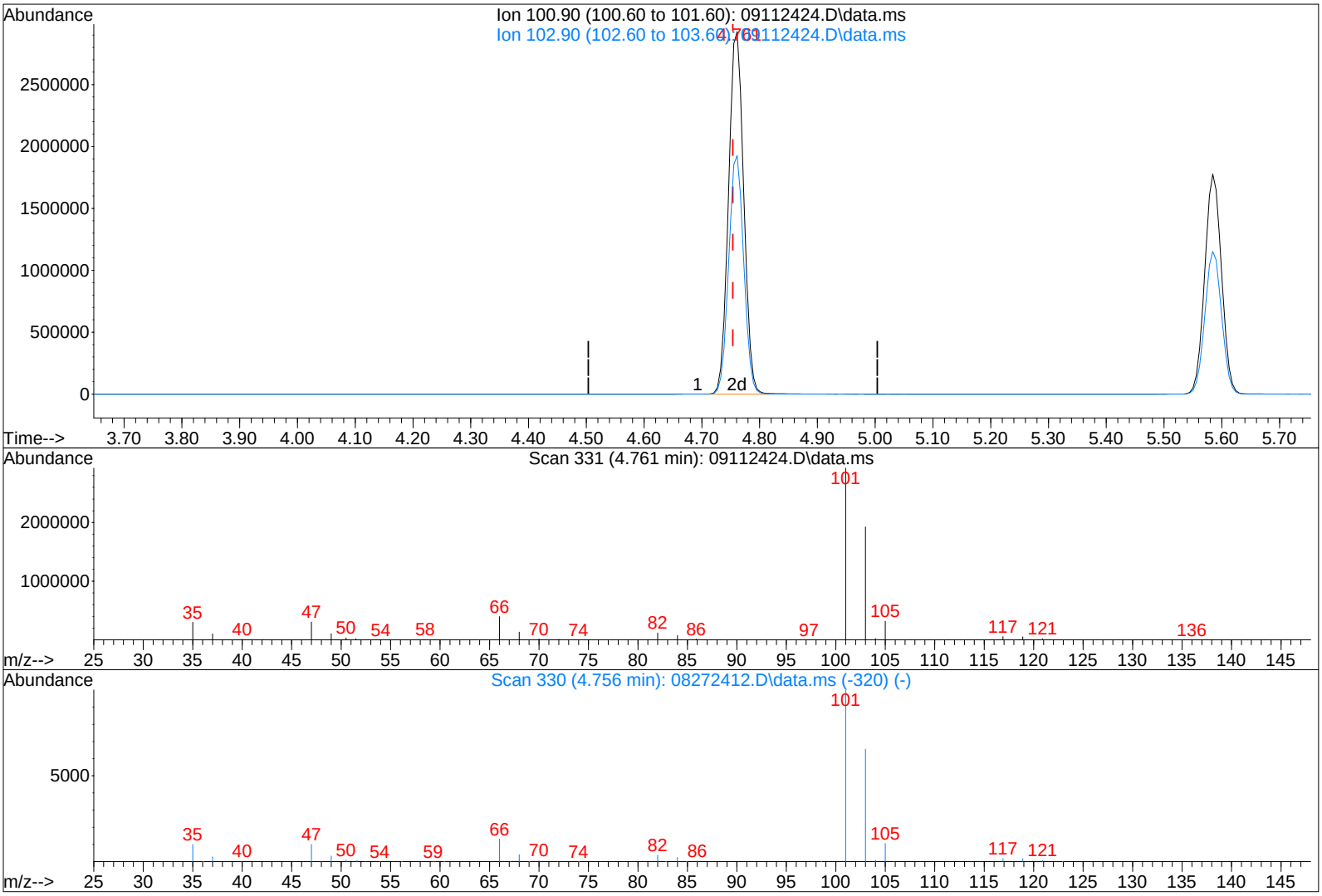
response 749

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	42.86#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:31:51 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112424.D\data.ms

(14) Trichlorofluoromethane (T)

4.761min (+0.007) 158.89ng m

response 5341160

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	0.01#
0.00	0.00	0.00
0.00	0.00	0.00

MP

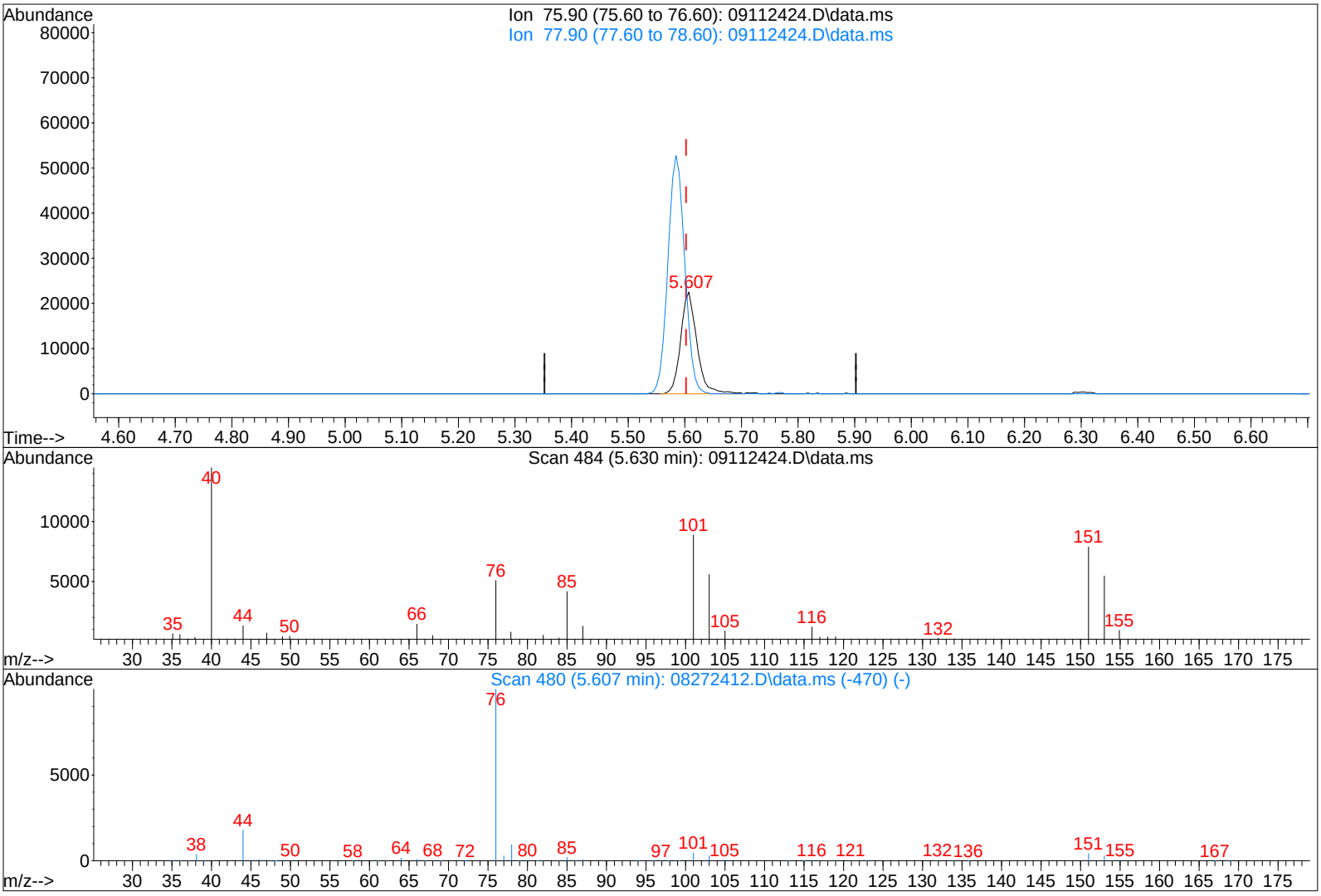
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:58:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112424.D\data.ms

(22) Carbon Disulfide (T)

5.607min (+0.005) 0.86ng

response 44630

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	244.90#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:51:48 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

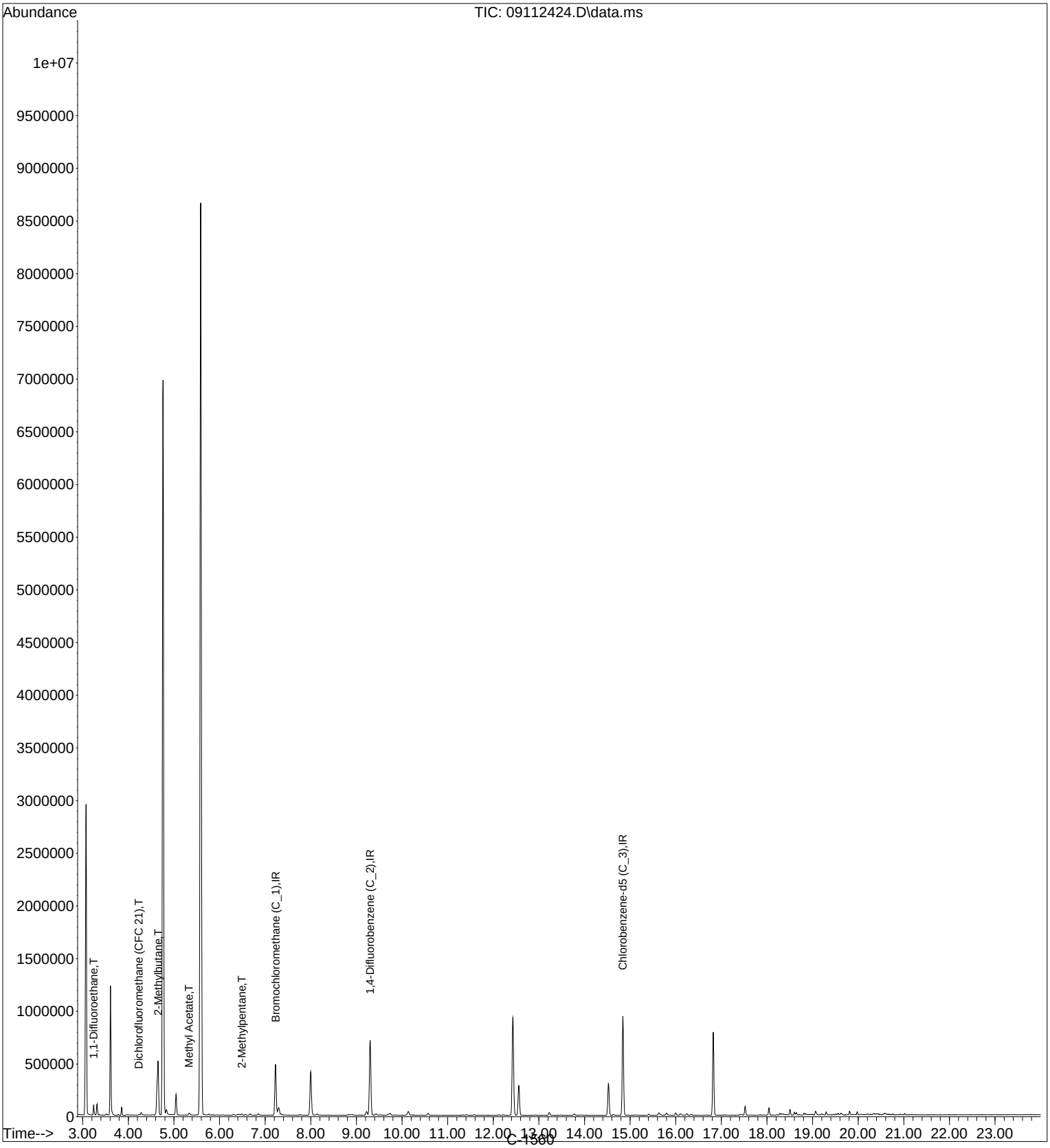
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	145728	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	634270	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	188436	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	593	N.D.			
4) 1,1-Difluoroethane	3.24	65	24084	1.893	ng		94
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	d		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.			
7) Dichlorofluoromethane ...	4.23	67	4126	0.123	ng		98
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	316	N.D.			
10) 2-Methylbutane	4.65	57	107136	6.164	ng		89
11) Methyl Acetate	5.33	43	19841	0.404	ng	#	38
12) 2-Methylpentane	6.49	71	2052	0.163	ng		85
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.			
17) 2,3-Dimethylpentane	9.53	56	2560	N.D.			
18) Dibromomethane	9.79	174	51	N.D.			
20) Methyl Cyclohexane	11.41	55	2715	N.D.			
21) 1,3-Dichloropropane	12.56	76	1171	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.34	75	954	N.D.			
25) Bromobenzene	17.03	77	60	N.D.			
26) 2-Chlorotoluene	17.61	91	204	N.D.			
27) 4-Chlorotoluene	17.68	91	970	N.D.			
28) Indane	19.10	117	166	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	250	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	250	N.D.			
32) 1,2,3,5-Tetramethylben...	20.59	119	204	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:51:48 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

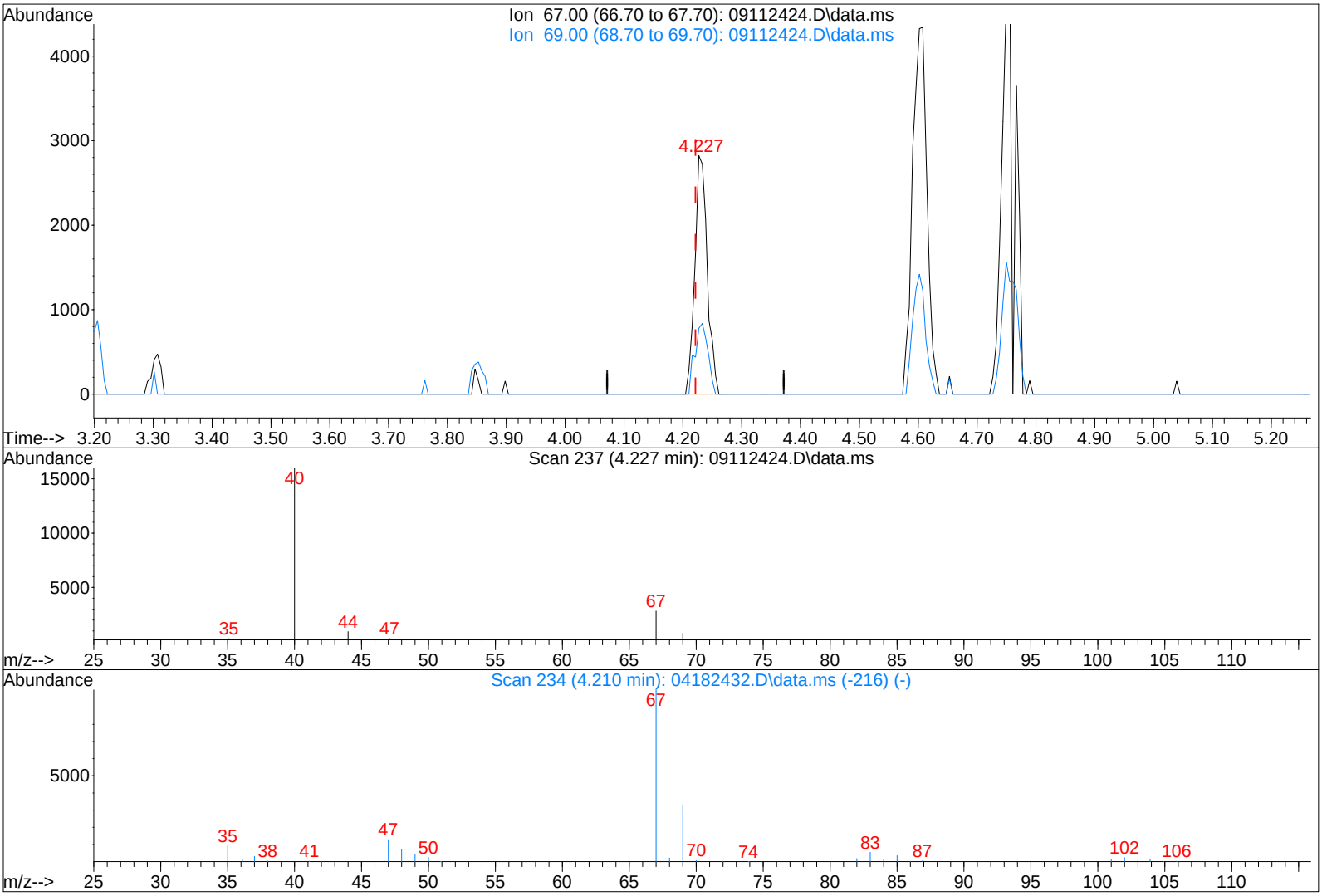


C-1500

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112424.D Vial: 12
Acq On : 11 Sep 2024 22:16 Operator: SC
Sample : P2403661-044 (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:51:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112424.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.12ng

response 4126

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.31
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112424.D
Acq On : 11 Sep 2024 22:16
Operator : SC
Sample : P2403661-044 (40mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112424.D\data.ms

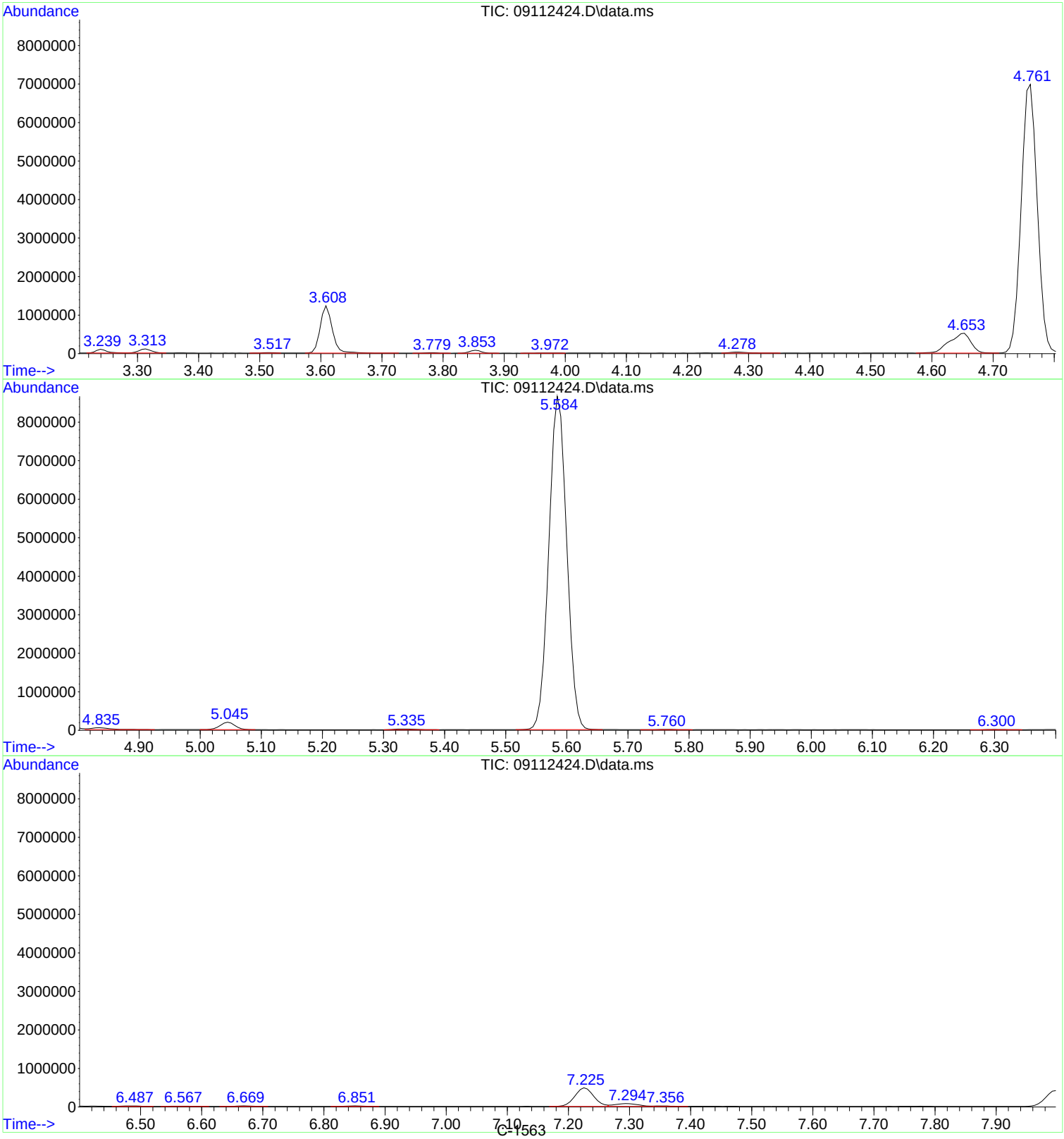
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.239	59	63	70	rVB	99205	118883	0.68%	0.334%
2	3.313	70	76	82	rBV3	105241	151023	0.86%	0.424%
3	3.517	106	112	115	rBV3	11989	18779	0.11%	0.053%
4	3.608	122	128	149	rVB	1229494	1691370	9.62%	4.749%
5	3.779	153	158	164	rVB2	10048	15399	0.09%	0.043%
6	3.853	166	171	178	rVB	75527	97695	0.56%	0.274%
7	3.972	184	192	197	rBV3	5950	16829	0.10%	0.047%
8	4.278	242	246	259	rVB3	24476	49211	0.28%	0.138%
9	4.653	298	312	322	rBV2	514218	1254360	7.14%	3.522%
10	4.761	322	331	340	rVV	6975001	12759386	72.60%	35.827%
11	4.835	340	344	360	rVB	50177	110585	0.63%	0.311%
12	5.045	373	381	389	rVB	193133	329153	1.87%	0.924%
13	5.335	426	432	442	rBV4	18178	45971	0.26%	0.129%
14	5.584	464	476	489	rBV	8654291	17575111	100.00%	49.350%
15	5.760	500	507	515	rVB3	8383	16870	0.10%	0.047%
16	6.300	595	602	610	rBV2	8465	22224	0.13%	0.062%
17	6.487	629	635	641	rVB2	12938	26855	0.15%	0.075%
18	6.567	643	649	657	rVV5	6423	13037	0.07%	0.037%
19	6.669	660	667	674	rBV2	13438	24889	0.14%	0.070%
20	6.851	692	699	706	rBV4	13405	27887	0.16%	0.078%
21	7.225	755	765	772	rBV	483618	1039972	5.92%	2.920%
22	7.294	772	777	785	rVV4	71827	187783	1.07%	0.527%
23	7.356	785	788	795	rVB3	11350	20148	0.11%	0.057%

Sum of corrected areas: 35613420

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112424.D
Acq On : 11 Sep 2024 22:16
Operator : SC
Sample : P2403661-044 (40mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112424.D
Acq On : 11 Sep 2024 22:166
Operator : SCC
Sample : P2403661-044 (40mL))
Misc : S37-060624022
ALS Vial : 12 Sample Multiplier: 11

VOA 9/29/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

9/12/24

Quant Time: Sep 12 12:27:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	142646	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.31	114	626531	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	191130	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	351460	13.167	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	12.43	98	726602	10.837	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	16.83	174	250592	11.175	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
Target Compounds							Qvalue
2) Propene	3.28	42	26842m	1.246	ng		
3) Dichlorodifluoromethan...	3.36	85	21232	0.613	ng		97
4) Chloromethane	3.49	50	22369	0.826	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	566	N.D.			
6) Vinyl Chloride	3.68	62	134	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	1797	0.160	ng		93
9) Chloroethane	4.15	64	1240	0.129	ng		77
10) Ethanol	4.30	45	187040	12.082	ng		91
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	18731	1.584	ng		98
13) Acetone	4.62	58	468102	35.835	ng	#	7
14) Trichlorofluoromethane	4.76	101	7754332	234.744	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	447841	8.707	ng		91
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	9810	0.637	ng		88
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.59	151	3296215	251.873	ng		94
22) Carbon Disulfide	5.61	76	93190	1.827	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	1640	0.066	ng		98
24) 1,1-Dichloroethane	6.32	63	117	N.D.			
25) Methyl tert-Butyl Ether	6.38	73	13473	0.296	ng		93
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	23838	2.572	ng	#	72
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	31725	5.109	ng		90
31) n-Hexane	7.30	57	105052	3.710	ng		98
32) Chloroform	7.37	83	15118	0.532	ng		98
34) Tetrahydrofuran (THF)	7.76	72	5908	0.676	ng	#	1
35) Ethyl tert-Butyl Ether	7.83	87	459	N.D.			
36) 1,2-Dichloroethane	8.12	62	5560	0.197	ng		96
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.61	61	15801	No Calib		#	
40) 1-Butanol	8.80	56	58345	No Calib		#	
41) Benzene	8.89	78	40387	0.687	ng		99
42) Carbon Tetrachloride	9.07	117	7775	0.319	ng		98
43) Cyclohexane	9.22	84	97560	4.919	ng		91
44) tert-Amyl Methyl Ether	9.60	73	586	N.D.			
45) 1,2-Dichloropropane	9.86	63	6871	0.442	ng		100
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.24	57	22157	0.319	ng		85
50) Methyl Methacrylate	10.41	100	1555	0.304	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:27:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

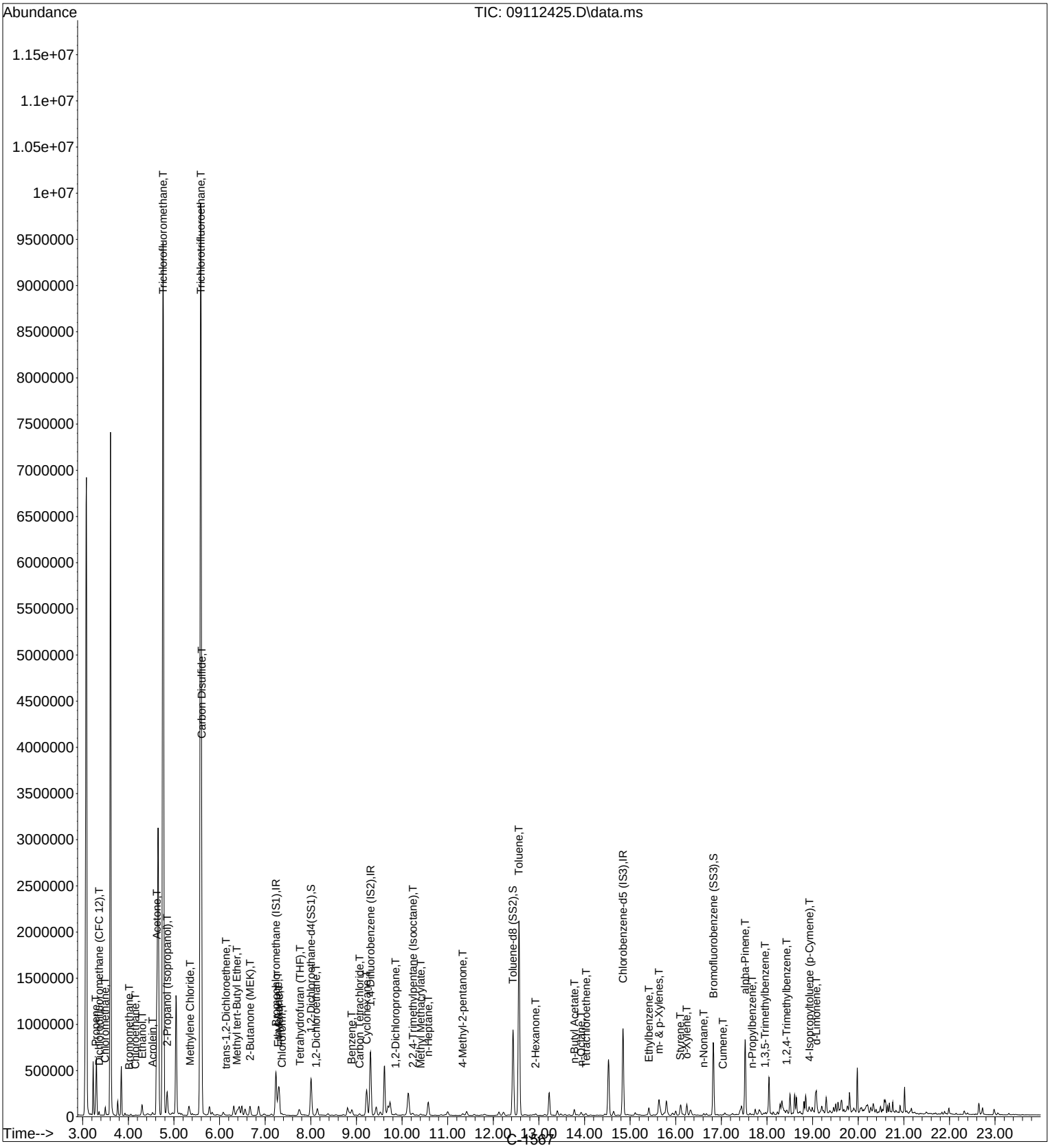
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	31760	2.426 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	5611	0.362 ng	#	63
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	1755385	24.219 ng		99
59) 2-Hexanone	12.93	43	15035m	0.335 ng		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	62523	1.244 ng		98
63) n-Octane	13.93	57	6845	0.402 ng		93
64) Tetrachloroethene	14.03	166	5650	0.281 ng		93
65) Chlorobenzene	14.90	112	1416	N.D.		
66) Ethylbenzene	15.41	91	65064	0.780 ng		98
67) m- & p-Xylenes	15.63	91	143882	2.122 ng		99
68) Bromoform	15.67	173	852	N.D.		
69) Styrene	16.10	104	37189	0.848 ng		98
70) o-Xylene	16.24	91	72315	1.092 ng		99
71) n-Nonane	16.61	43	9264	0.213 ng		98
72) 1,1,2,2-Tetrachloroethane	16.21	83	137	N.D.		
74) Cumene	17.03	105	4223	0.055 ng		95
75) alpha-Pinene	17.52	93	331598	8.310 ng		99
76) n-Propylbenzene	17.68	91	5911	0.062 ng		91
77) 3-Ethyltoluene	17.03	105	4223	No Calib		
78) 4-Ethyltoluene	17.86	105	3631	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	3388	0.052 ng		95
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	4223	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	11481	0.168 ng		88
83) n-Decane	17.08	58	1666	No Calib	#	
84) Benzyl Chloride	18.56	91	1546	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	310	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1015	N.D.		
87) sec-Butylbenzene	18.74	105	1262	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	27949	0.374 ng		91
89) 1,2,3-Trimethylbenzene	17.03	105	4223	No Calib		
90) 1,2-Dichlorobenzene	19.02	146	180	N.D.		
91) d-Limonene	19.08	68	39584	1.737 ng		91
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	765	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.83	180	625	N.D.		
95) Naphthalene	20.93	128	2001	N.D.		
96) n-Dodecane	18.93	58	1444	No Calib	#	
97) Hexachlorobutadiene	21.30	225	313	N.D.		
98) Cyclohexanone	15.31	55	978	No Calib	#	
99) tert-Butylbenzene	18.43	119	1699	N.D.		
100) n-Butylbenzene	19.39	91	2439	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:27:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1567

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:27:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	142646	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.31	114	626531	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	191130	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	351460	13.167	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
57) Toluene-d8 (SS2)	12.43	98	726602	10.837	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.72%				
73) Bromofluorobenzene (SS3)	16.83	174	250592	11.175	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
Target Compounds							Qvalue
2) Propene	3.28	42	26842m	1.246	ng		
3) Dichlorodifluoromethan...	3.36	85	21232	0.613	ng		97
4) Chloromethane	3.49	50	22369	0.826	ng		95
8) Bromomethane	4.02	94	1797	0.160	ng		93
9) Chloroethane	4.15	64	1240	0.129	ng		77
10) Ethanol	4.30	45	187040	12.082	ng		91
12) Acrolein	4.53	56	18731	1.584	ng		98
13) Acetone	4.62	58	468102	35.835	ng	#	7
14) Trichlorofluoromethane	4.76	101	7754332	234.744	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	447841	8.707	ng		91
19) Methylene Chloride	5.35	84	9810	0.637	ng		88
21) Trichlorotrifluoroethane	5.59	151	3296215	251.873	ng		94
22) Carbon Disulfide	5.61	76	93190	1.827	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	1640	0.066	ng		98
25) Methyl tert-Butyl Ether	6.38	73	13473	0.296	ng		93
27) 2-Butanone (MEK)	6.67	72	23838	2.572	ng	#	72
30) Ethyl Acetate	7.28	61	31725	5.109	ng		90
31) n-Hexane	7.30	57	105052	3.710	ng		98
32) Chloroform	7.37	83	15118	0.532	ng		98
34) Tetrahydrofuran (THF)	7.76	72	5908	0.676	ng	#	1
36) 1,2-Dichloroethane	8.12	62	5560	0.197	ng		96
41) Benzene	8.89	78	40387	0.687	ng		99
42) Carbon Tetrachloride	9.07	117	7775	0.319	ng		98
43) Cyclohexane	9.22	84	97560	4.919	ng		91
45) 1,2-Dichloropropane	9.86	63	6871	0.442	ng		100
49) 2,2,4-Trimethylpentane...	10.24	57	22157	0.319	ng		85
50) Methyl Methacrylate	10.41	100	1555	0.304	ng		95
51) n-Heptane	10.58	71	31760	2.426	ng		93
53) 4-Methyl-2-pentanone	11.33	58	5611	0.362	ng	#	63
58) Toluene	12.56	91	1755385	24.219	ng		99
59) 2-Hexanone	12.93	43	15035m	0.335	ng		
62) n-Butyl Acetate	13.78	43	62523	1.244	ng		98
63) n-Octane	13.93	57	6845	0.402	ng		93
64) Tetrachloroethene	14.03	166	5650	0.281	ng		93
66) Ethylbenzene	15.41	91	65064	0.780	ng		98
67) m- & p-Xylenes	15.63	91	143882	2.122	ng		99
69) Styrene	16.10	104	37189	0.848	ng		98
70) o-Xylene	16.24	91	72315	1.092	ng		99
71) n-Nonane	16.61	43	9264	0.213	ng		98
74) Cumene	17.03	105	4223	0.055	ng		95
75) alpha-Pinene	17.52	93	331598	8.310	ng		99
76) n-Propylbenzene	17.68	91	5911	0.062	ng		91
79) 1,3,5-Trimethylbenzene	17.96	105	3388	0.052	ng		95
82) 1,2,4-Trimethylbenzene	18.43	105	11481	0.168	ng		88
88) 4-Isopropyltoluene (p-...	18.93	119	27949	0.374	ng		91
91) d-Limonene	19.08	68	39584	1.737	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:27:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

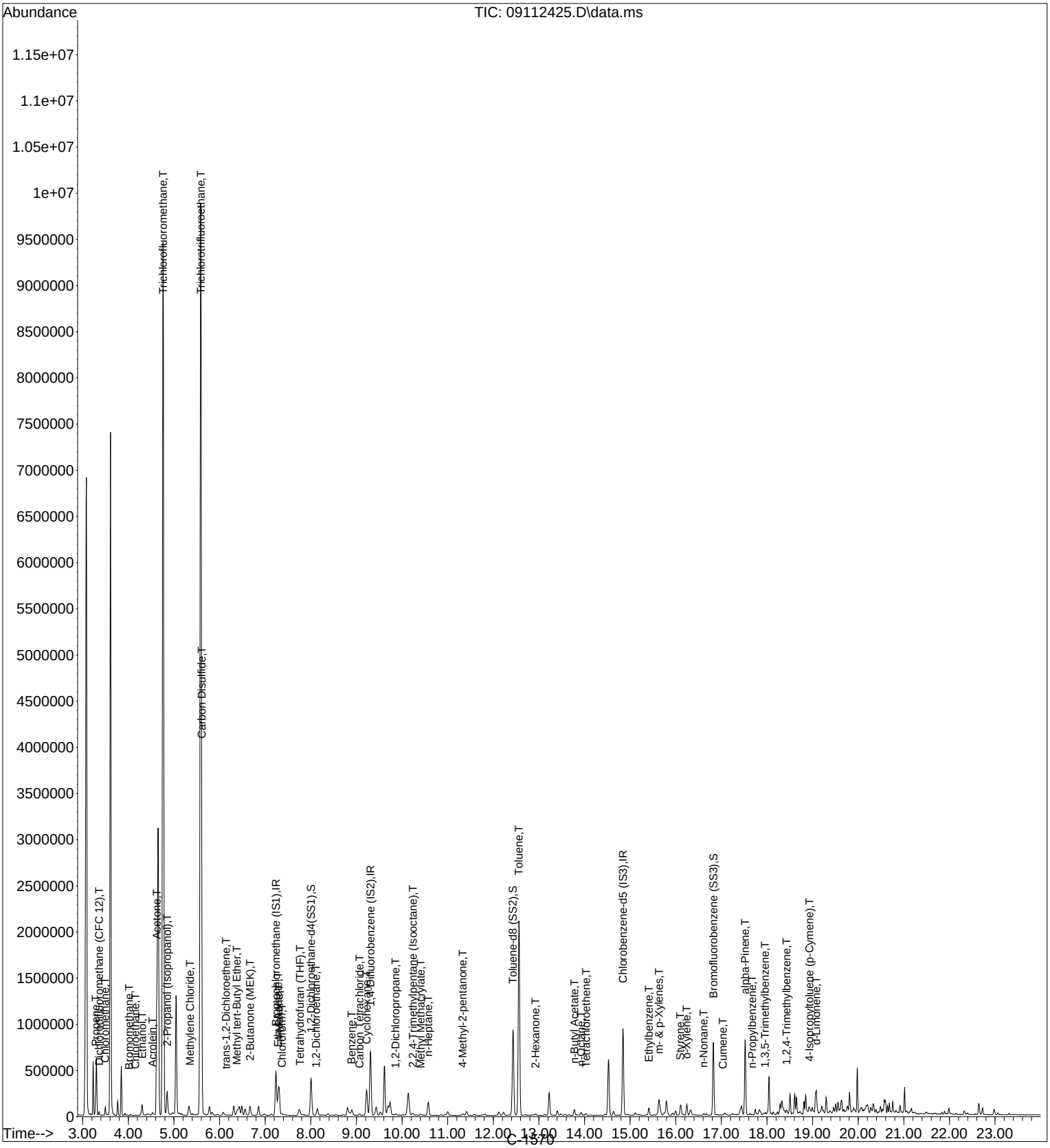
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)

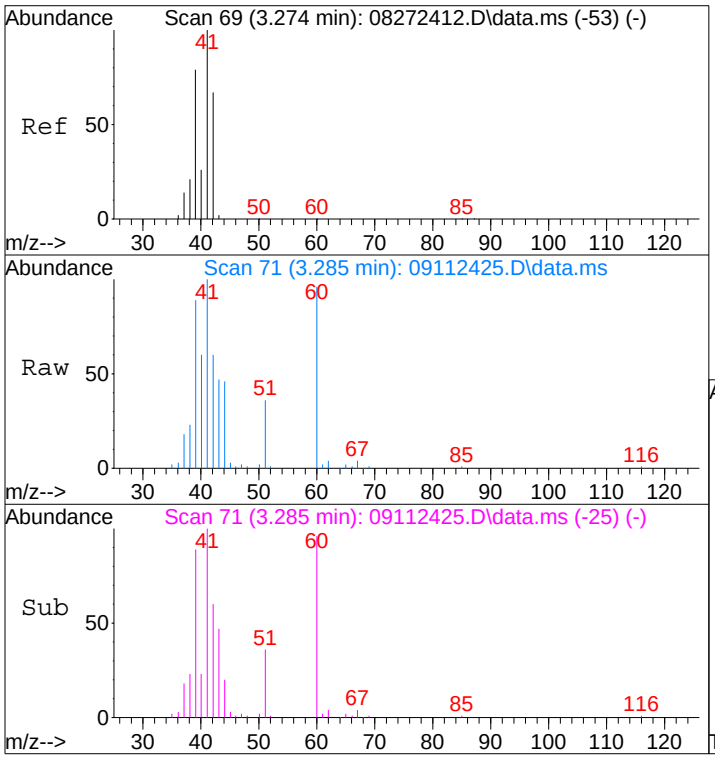
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 12:27:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

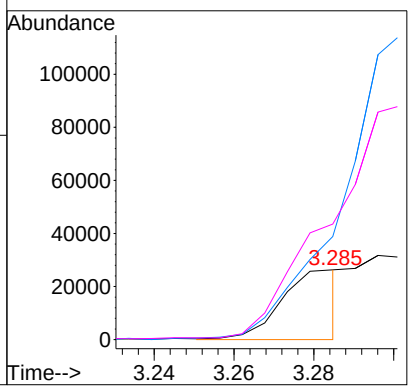


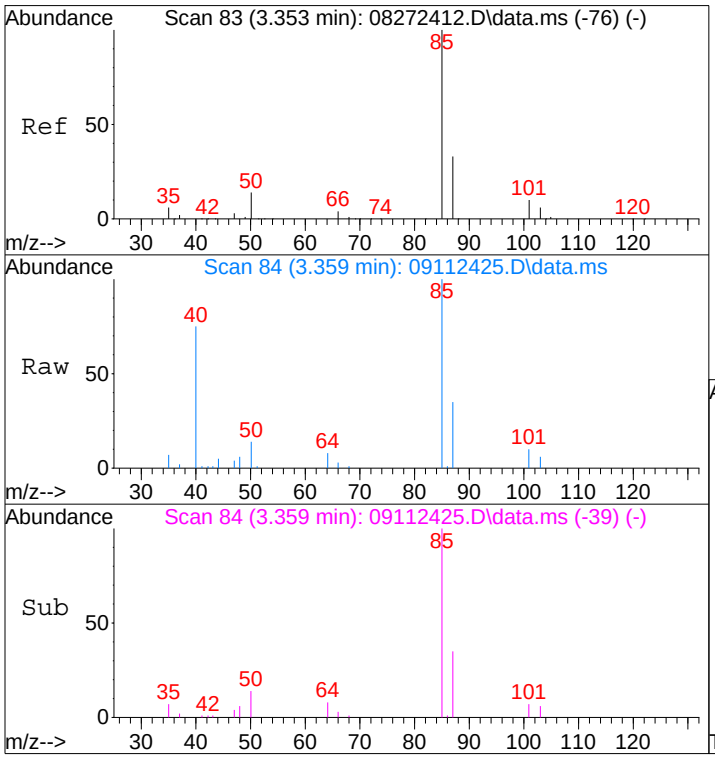


#2
Propene
Concen: 1.25 ng m
RT: 3.28 min Scan# 71
Delta R.T. 0.013 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 42 Resp: 26842

Ion	Ratio	Lower	Upper
42	100		
39	652.5	98.2	138.2#
41	575.7	130.1	170.1#

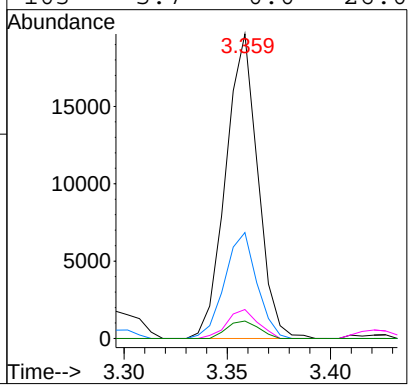


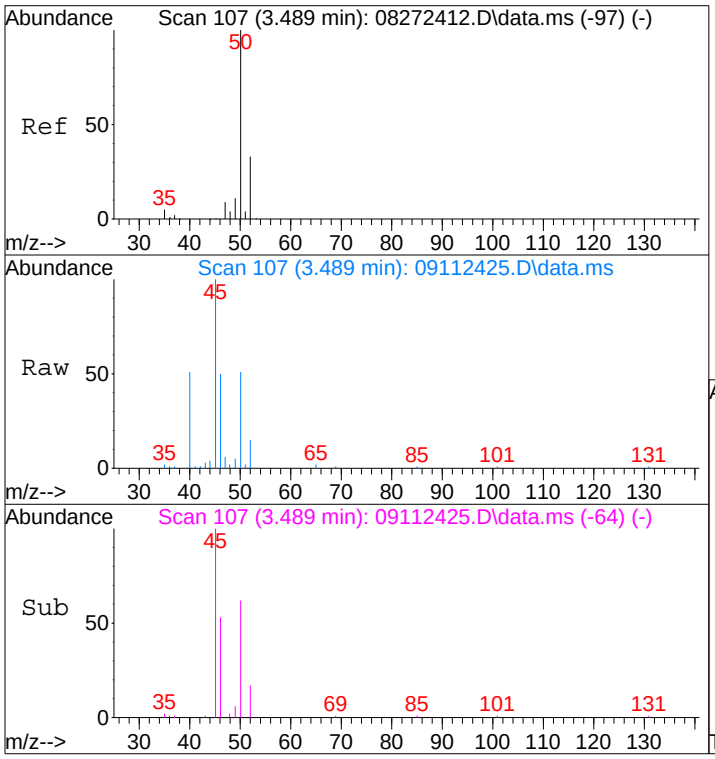


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.007 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 85 Resp: 21232

Ion	Ratio	Lower	Upper
85	100		
87	35.1	13.1	53.1
101	9.3	0.0	29.4
103	5.7	0.0	26.0

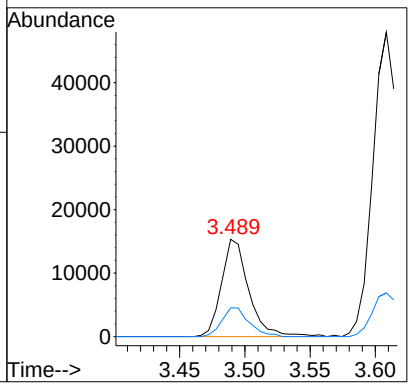


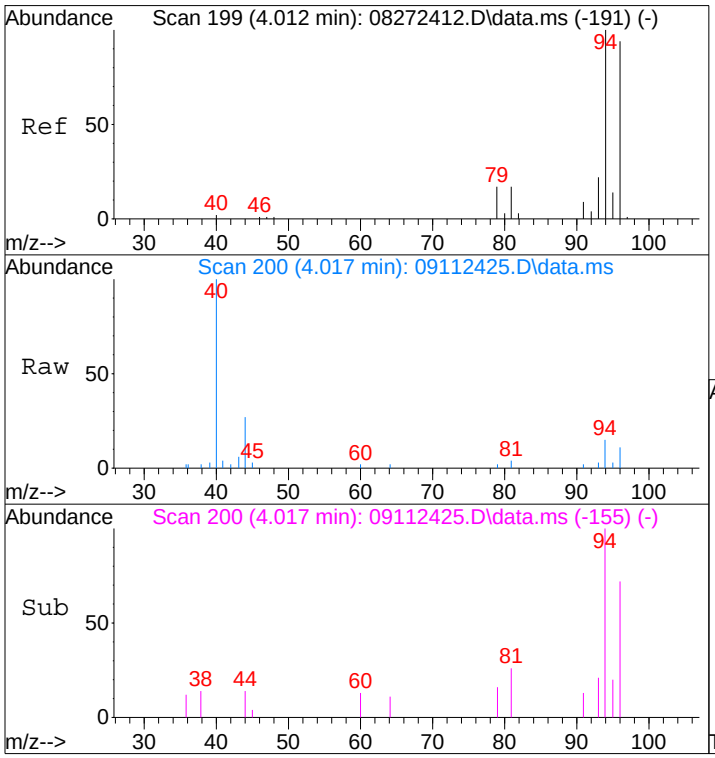


#4
Chloromethane
Concen: 0.83 ng
RT: 3.49 min Scan# 107
Delta R.T. -0.003 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 50 Resp: 22369

Ion	Ratio	Lower	Upper
50	100		
52	29.5	12.4	52.4

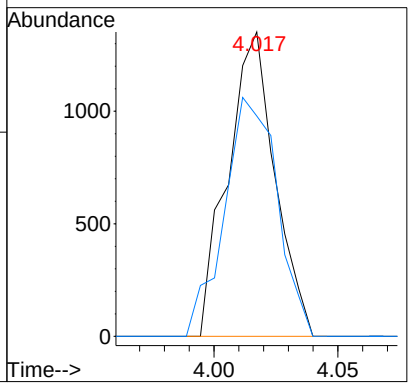


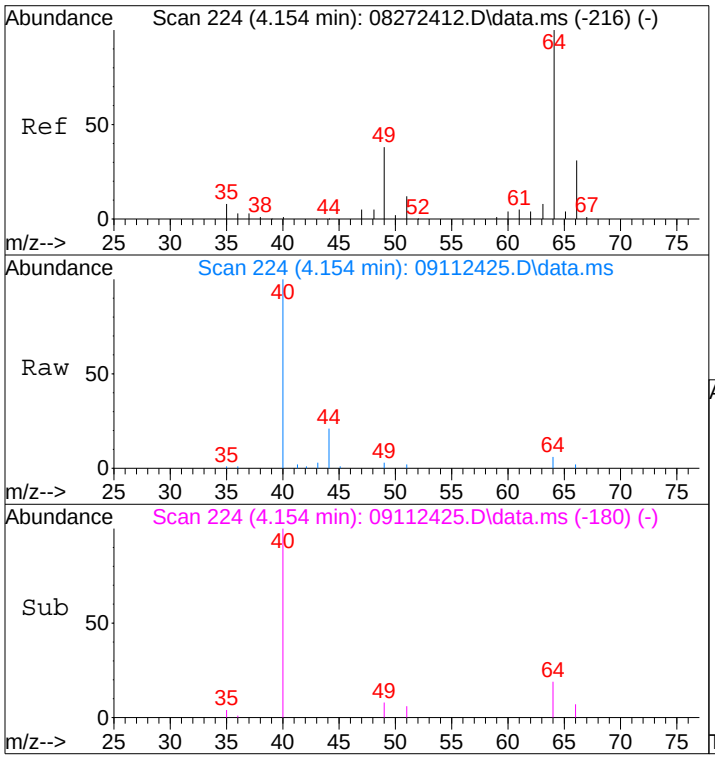


#8
Bromomethane
Concen: 0.16 ng
RT: 4.02 min Scan# 200
Delta R.T. 0.004 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 94 Resp: 1797

Ion	Ratio	Lower	Upper
94	100		
96	87.8	74.2	114.2

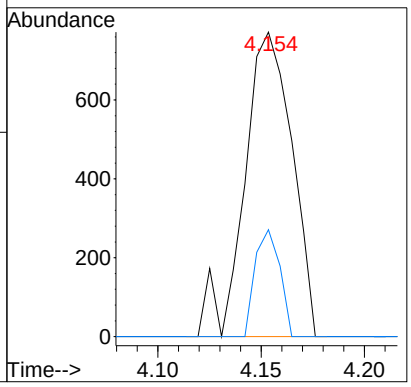


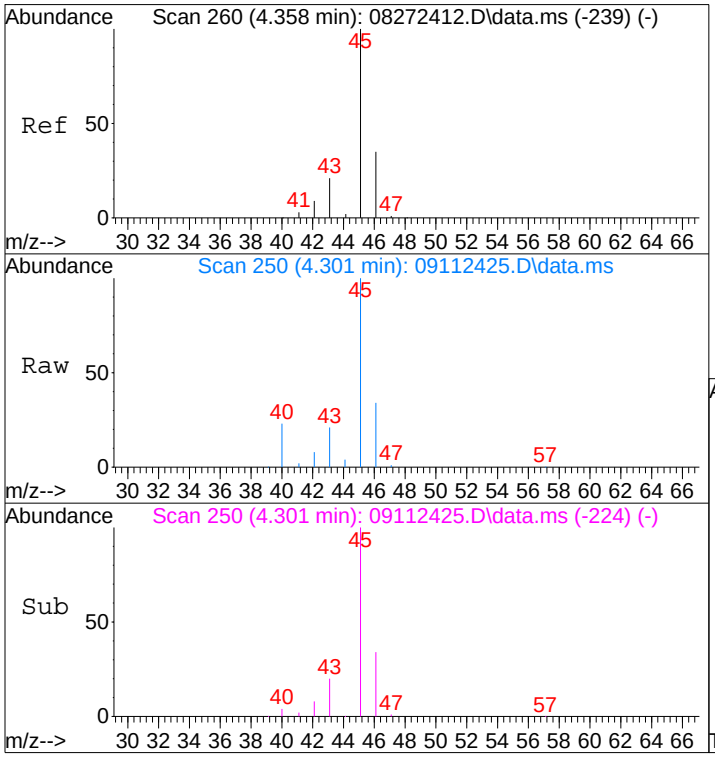


#9
Chloroethane
Concen: 0.13 ng
RT: 4.15 min Scan# 224
Delta R.T. -0.001 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 64 Resp: 1240

Ion	Ratio	Lower	Upper
64	100		
66	18.2	11.0	51.0

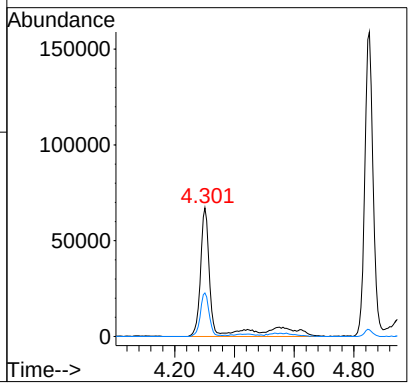


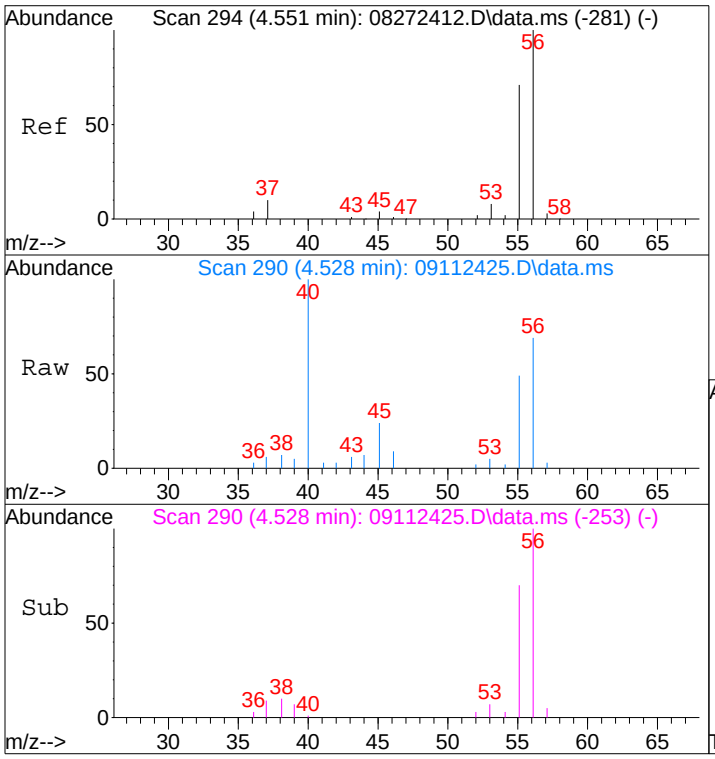


#10
Ethanol
Concen: 12.08 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.102 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 45 Resp: 187040

Ion	Ratio	Lower	Upper
45	100		
46	29.0	14.2	54.2

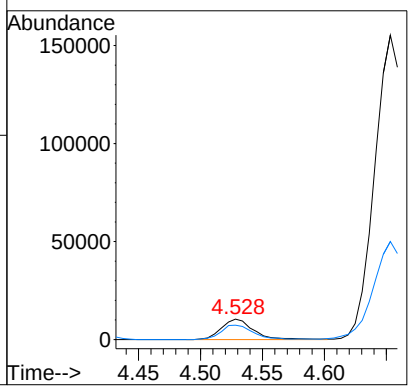


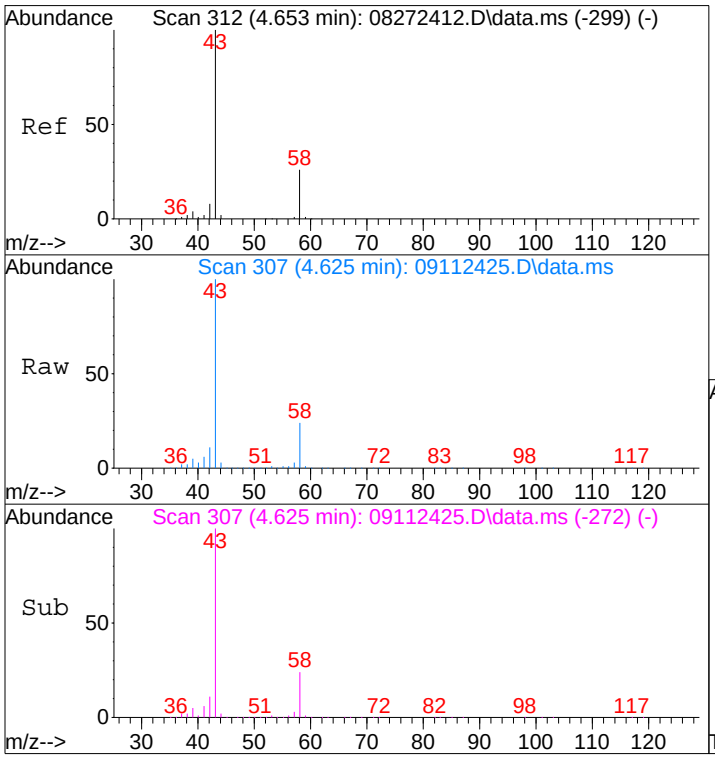


#12
Acrolein
Concen: 1.58 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.039 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 56 Resp: 18731

Ion	Ratio	Lower	Upper
56	100		
55	73.0	54.7	94.7

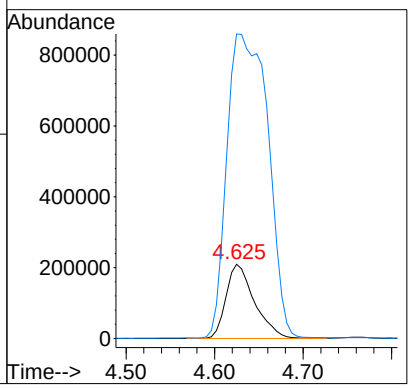


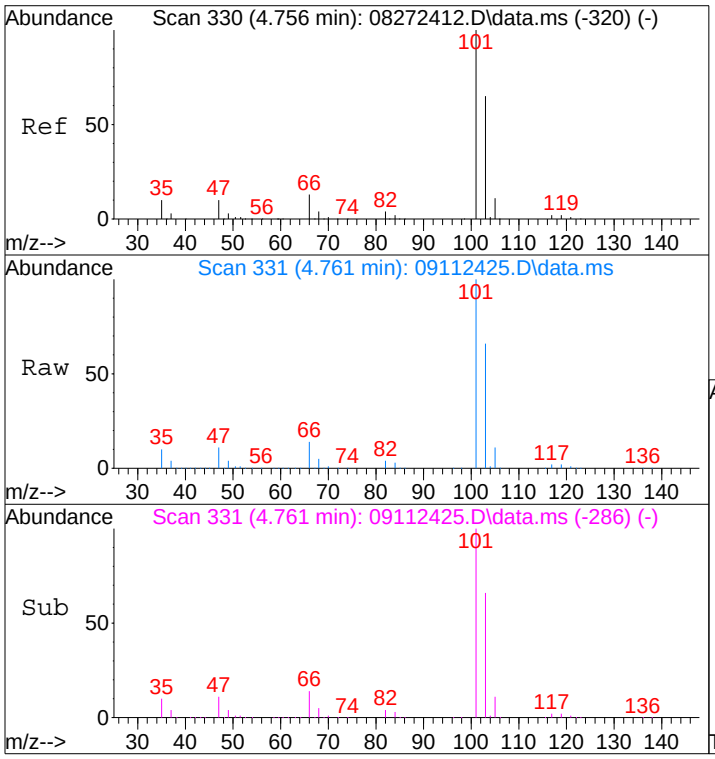


#13
Acetone
Concen: 35.83 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.050 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 58 Resp: 468102

Ion	Ratio	Lower	Upper
58	100		
43	590.3	347.3	407.3#

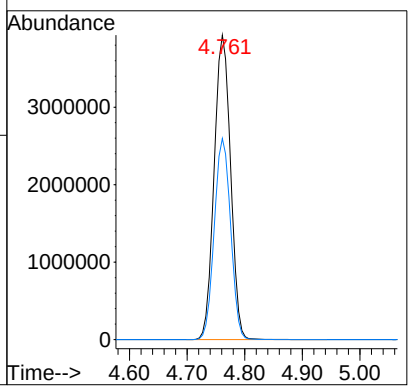


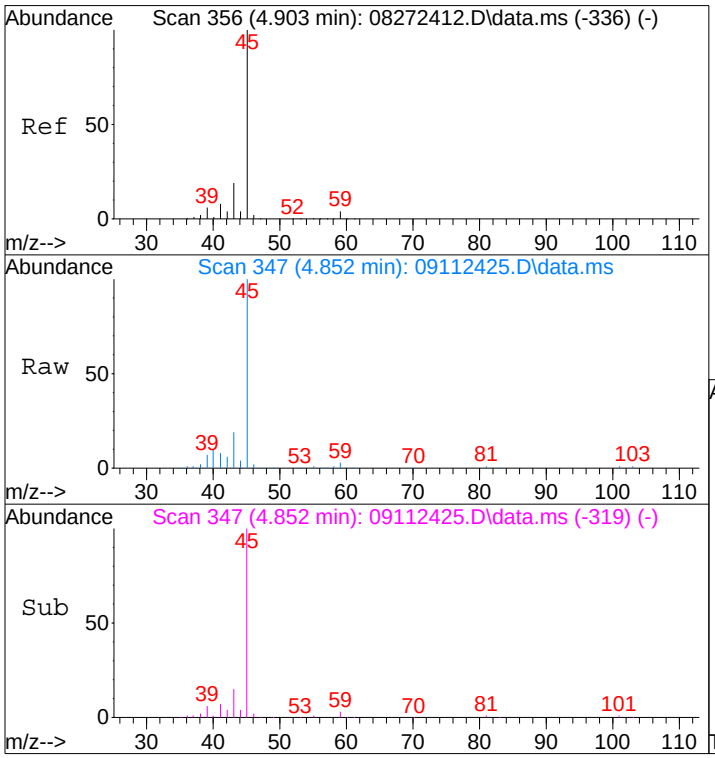


#14
Trichlorofluoromethane
Concen: 234.74 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.007 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:101 Resp: 7754332

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.9	84.9

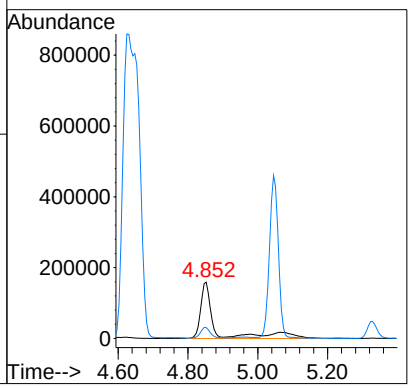


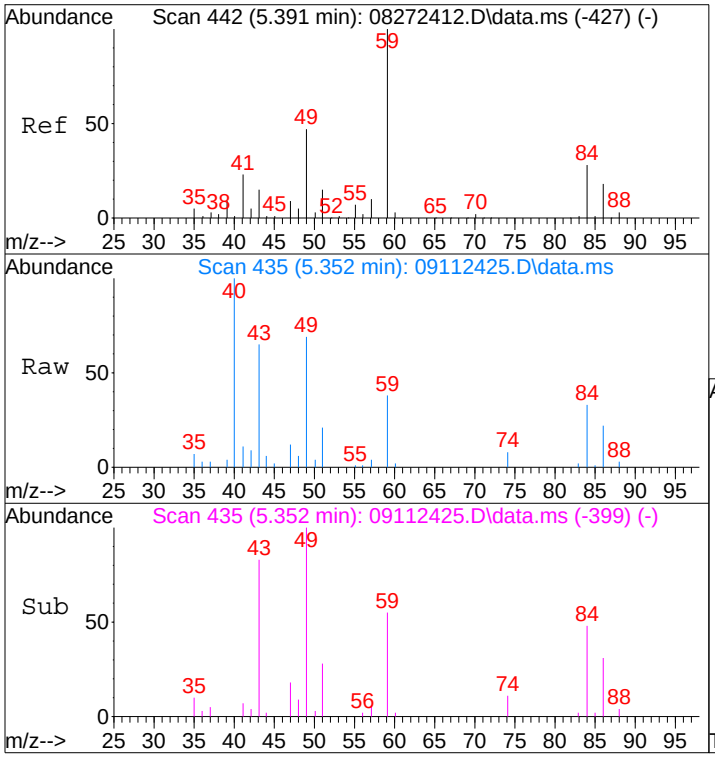


#15
2-Propanol (Isopropanol)
Concen: 8.71 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.089 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 45 Resp: 447841

Ion	Ratio	Lower	Upper
45	100		
43	16.0	0.0	40.0

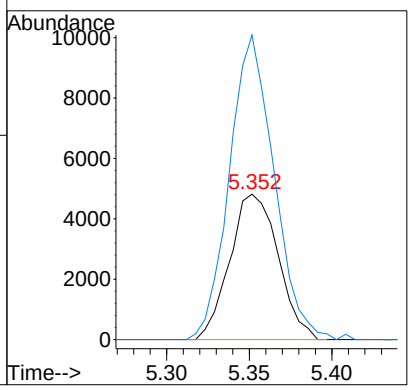


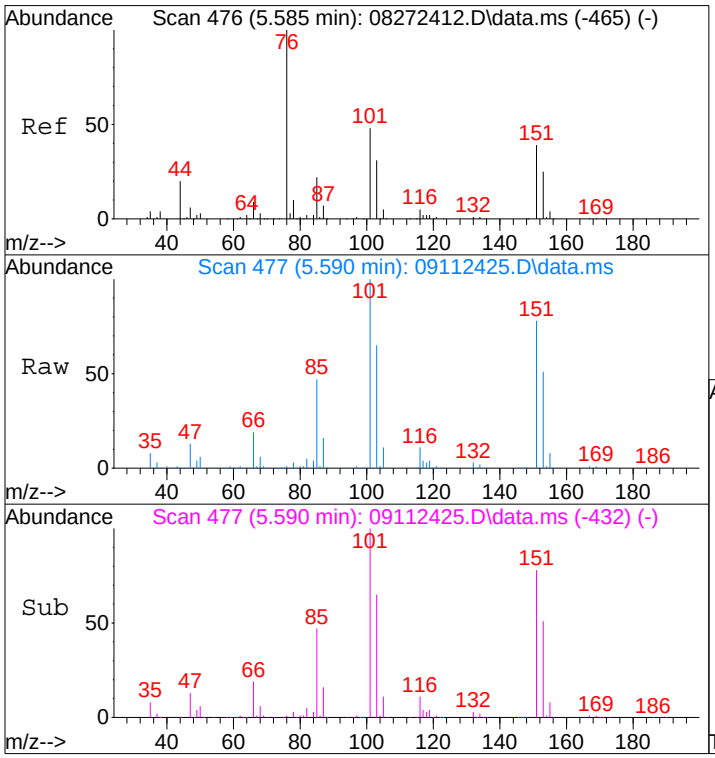


#19
Methylene Chloride
Concen: 0.64 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.047 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 84 Resp: 9810

Ion	Ratio	Lower	Upper
84	100		
49	193.5	151.1	201.1

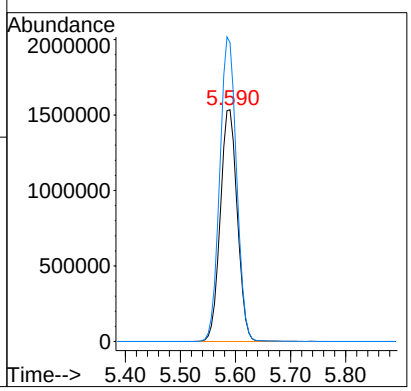


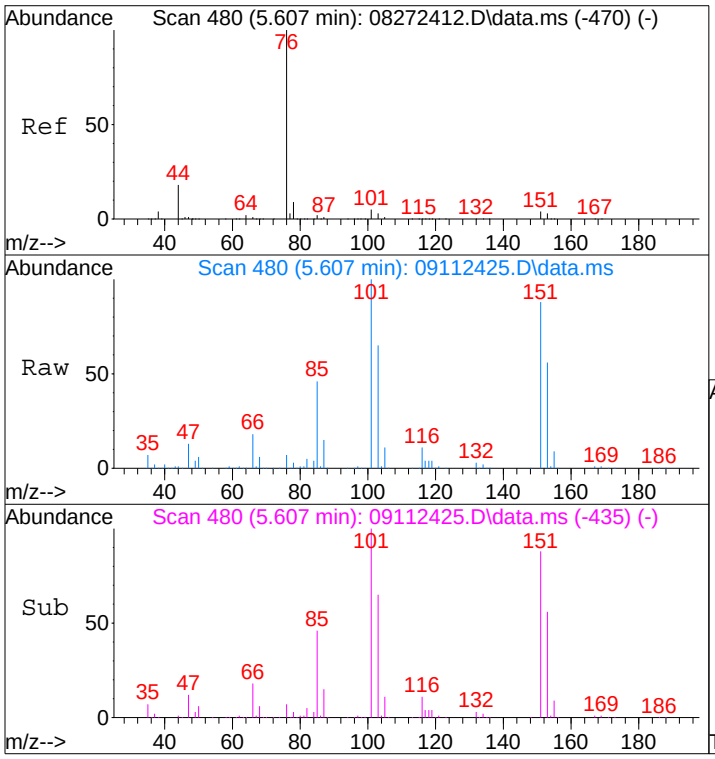


#21
Trichlorotrifluoroethane
Concen: 251.87 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.005 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:151 Resp: 3296215

Ion	Ratio	Lower	Upper
151	100		
101	130.0	103.4	143.4

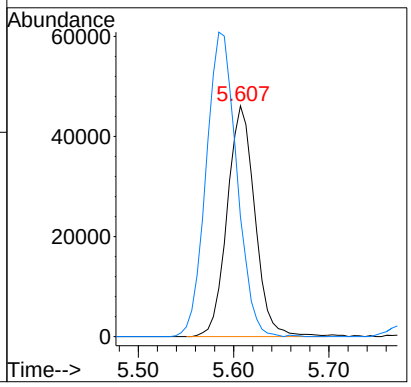


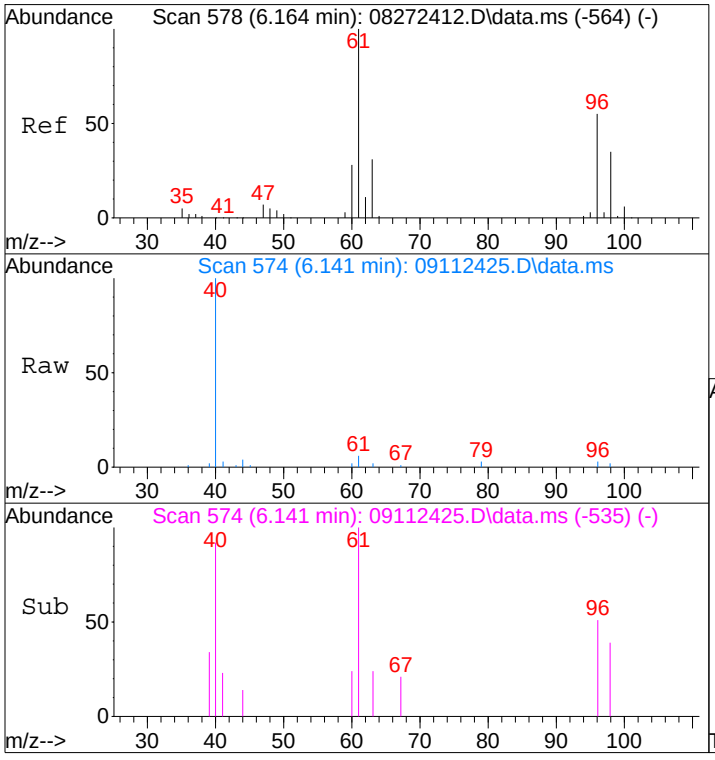


#22
Carbon Disulfide
Concen: 1.83 ng
RT: 5.61 min Scan# 480
Delta R.T. 0.005 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 76 Resp: 93190

Ion	Ratio	Lower	Upper
76	100		
78	145.3	0.0	29.6#

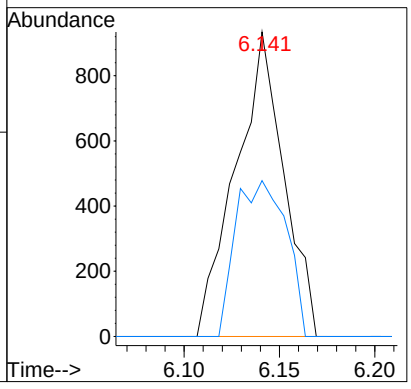


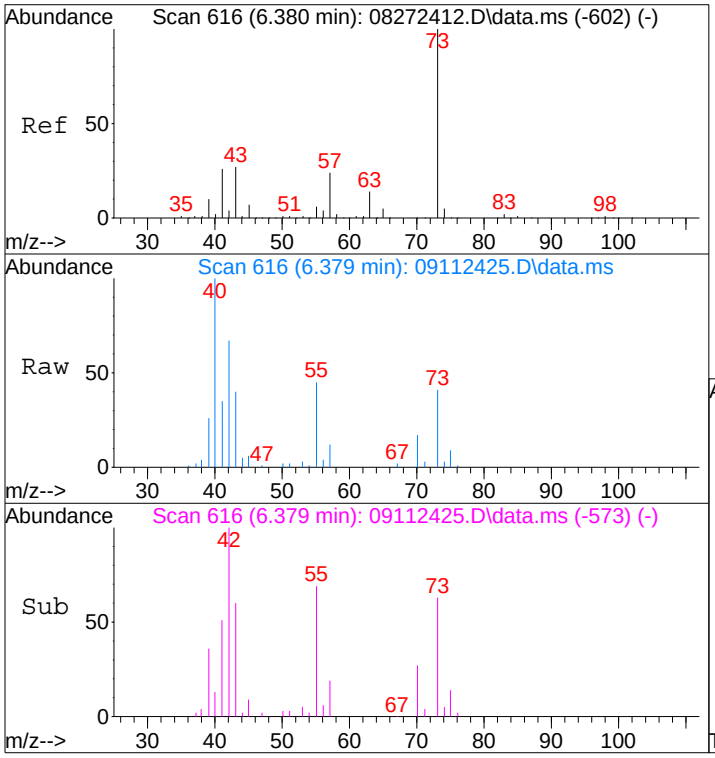


#23
trans-1,2-Dichloroethene
Concen: 0.07 ng
RT: 6.14 min Scan# 574
Delta R.T. -0.027 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 61 Resp: 1640

Ion	Ratio	Lower	Upper
61	100		
96	53.9	35.5	75.5

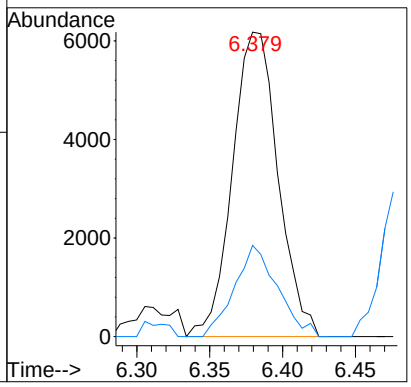


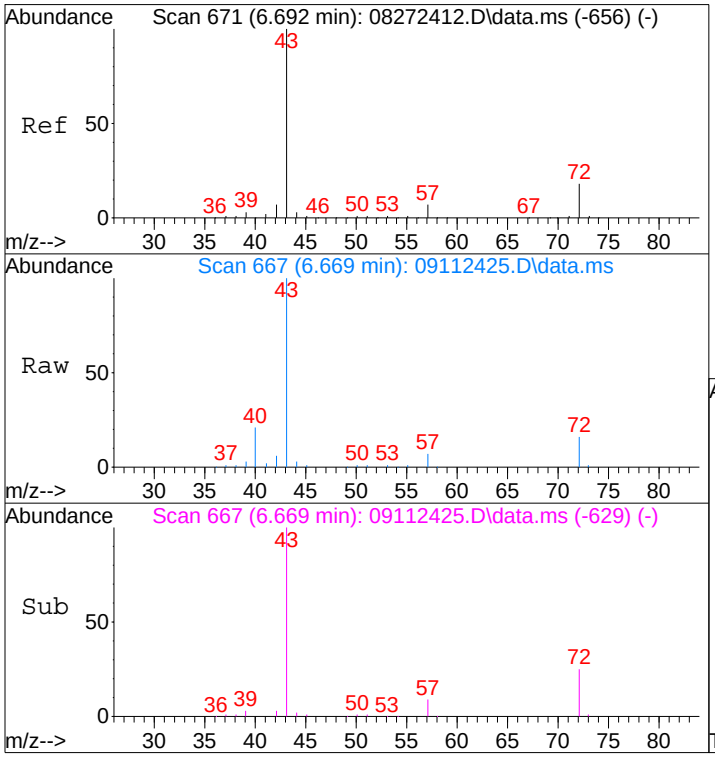


#25
Methyl tert-Butyl Ether
Concen: 0.30 ng
RT: 6.38 min Scan# 616
Delta R.T. -0.004 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 73 Resp: 13473

Ion	Ratio	Lower	Upper
73	100		
57	28.2	4.7	44.7

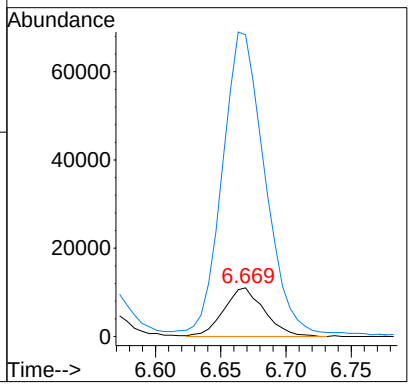


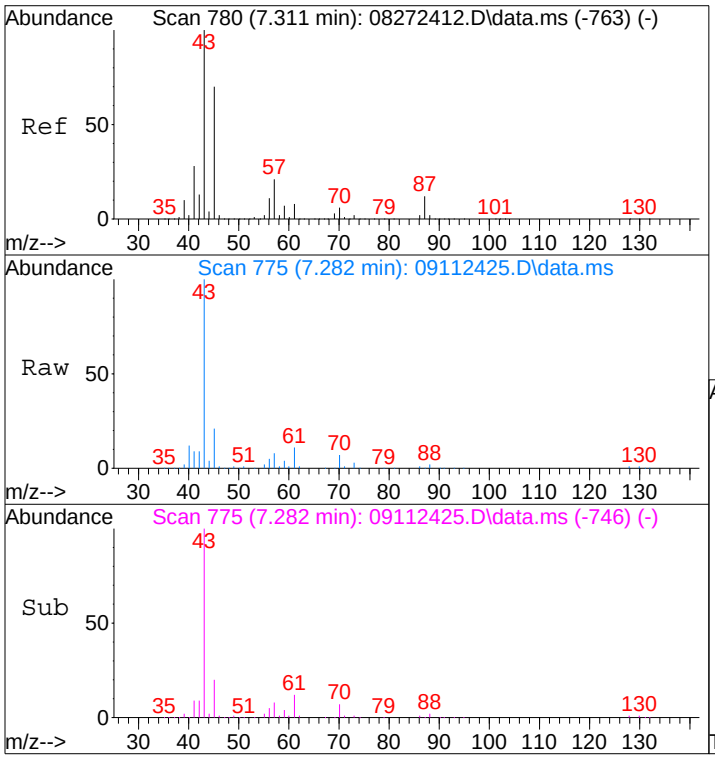


#27
2-Butanone (MEK)
Concen: 2.57 ng
RT: 6.67 min Scan# 667
Delta R.T. -0.036 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 72 Resp: 23838

Ion	Ratio	Lower	Upper
72	100		
43	653.0	548.0	588.0#

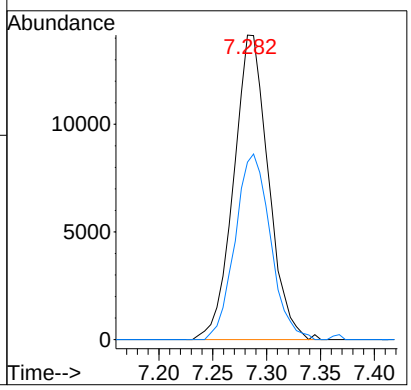


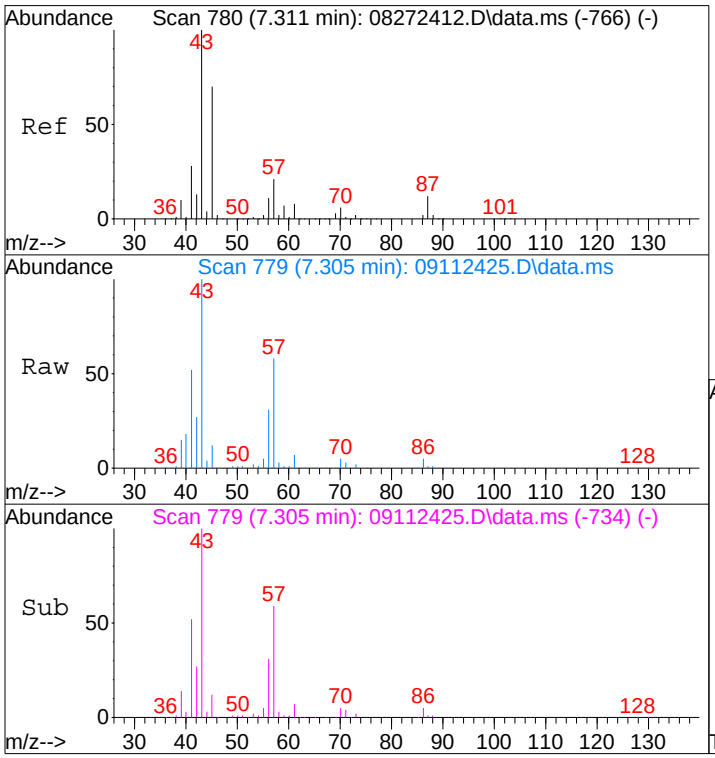


#30
Ethyl Acetate
Concen: 5.11 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.034 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 61 Resp: 31725

Ion	Ratio	Lower	Upper
61	100		
70	61.9	49.9	89.9

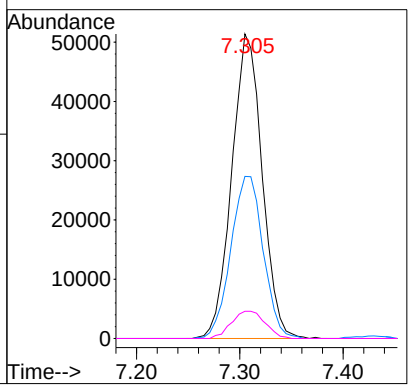


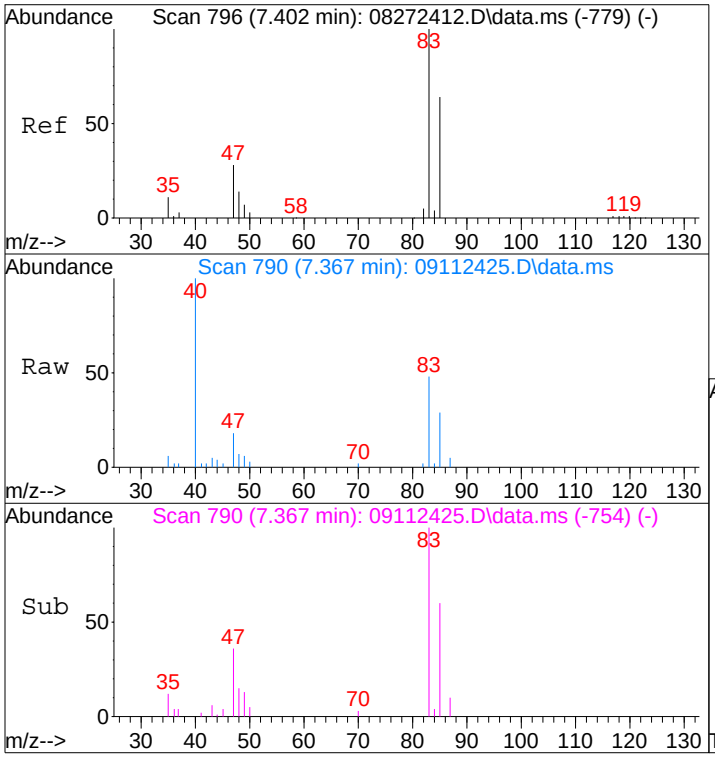


#31
n-Hexane
Concen: 3.71 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.006 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 57 Resp: 105052

Ion	Ratio	Lower	Upper
57	100		
56	56.6	44.2	66.2
86	9.9	9.3	13.9

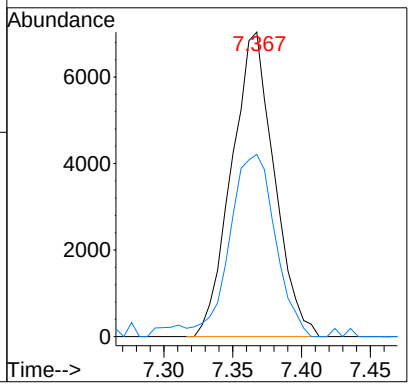


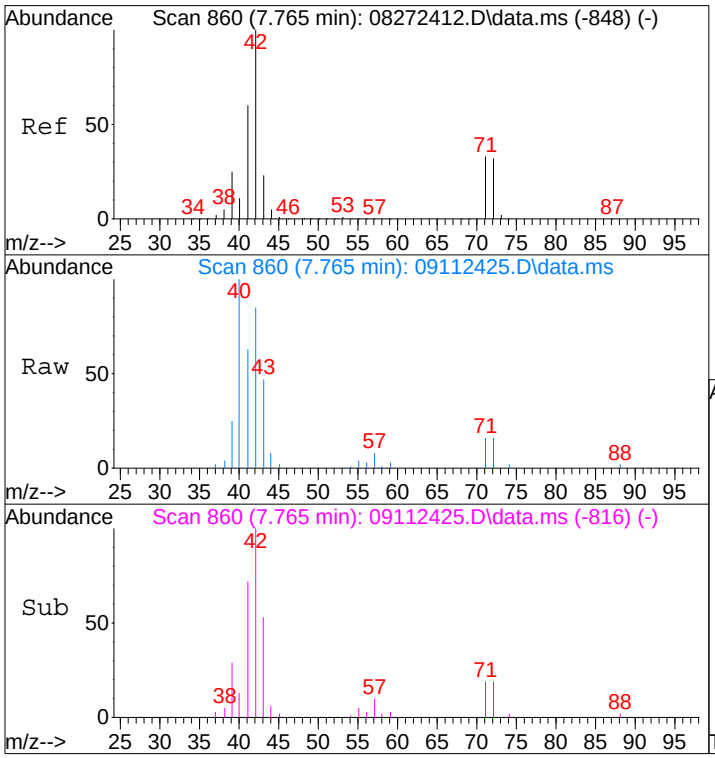


#32
Chloroform
Concen: 0.53 ng
RT: 7.37 min Scan# 790
Delta R.T. -0.045 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 83 Resp: 15118

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.3	85.3

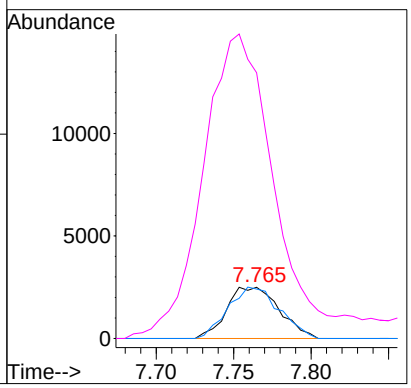


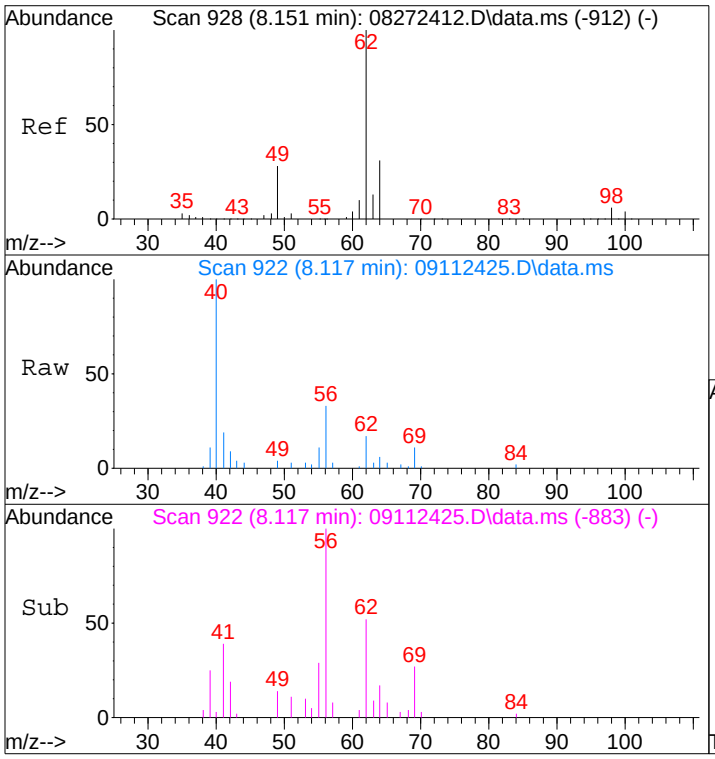


#34
Tetrahydrofuran (THF)
Concen: 0.68 ng
RT: 7.76 min Scan# 860
Delta R.T. 0.002 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 72 Resp: 5908

Ion	Ratio	Lower	Upper
72	100		
71	97.8	78.4	118.4
42	861.8	285.2	325.2#

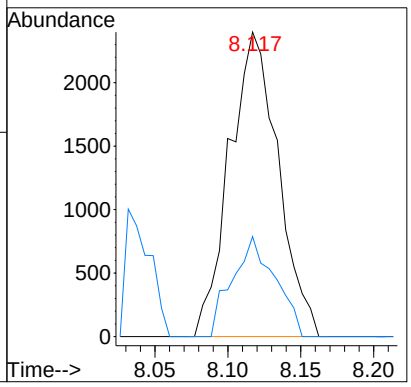


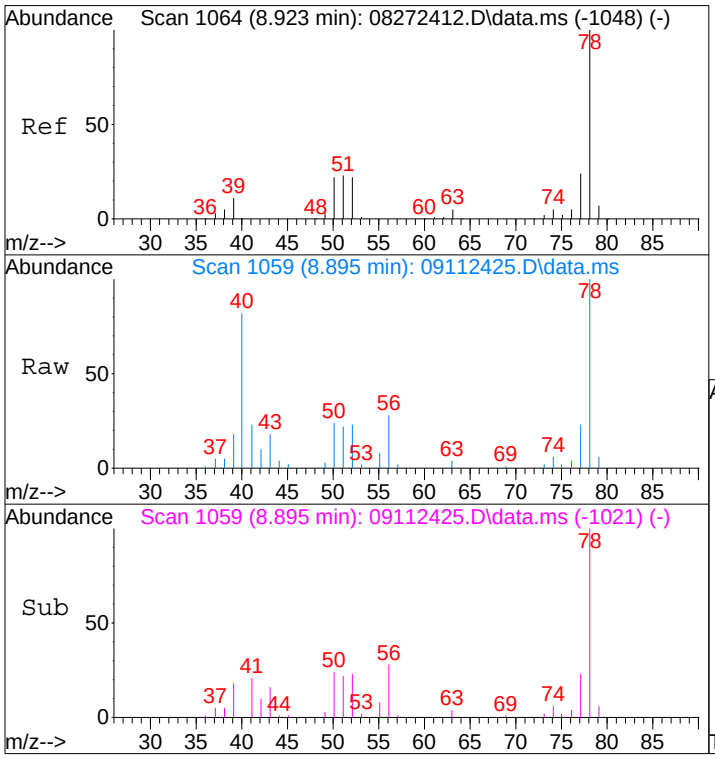


#36
1,2-Dichloroethane
Concen: 0.20 ng
RT: 8.12 min Scan# 922
Delta R.T. -0.031 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 62 Resp: 5560

Ion	Ratio	Lower	Upper
62	100		
64	28.9	11.0	51.0

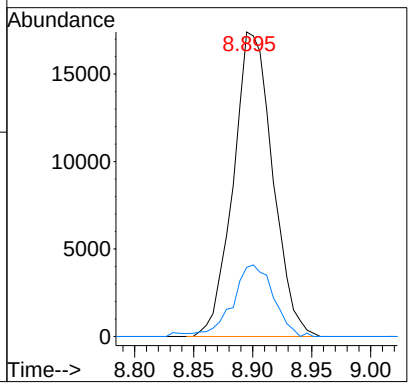


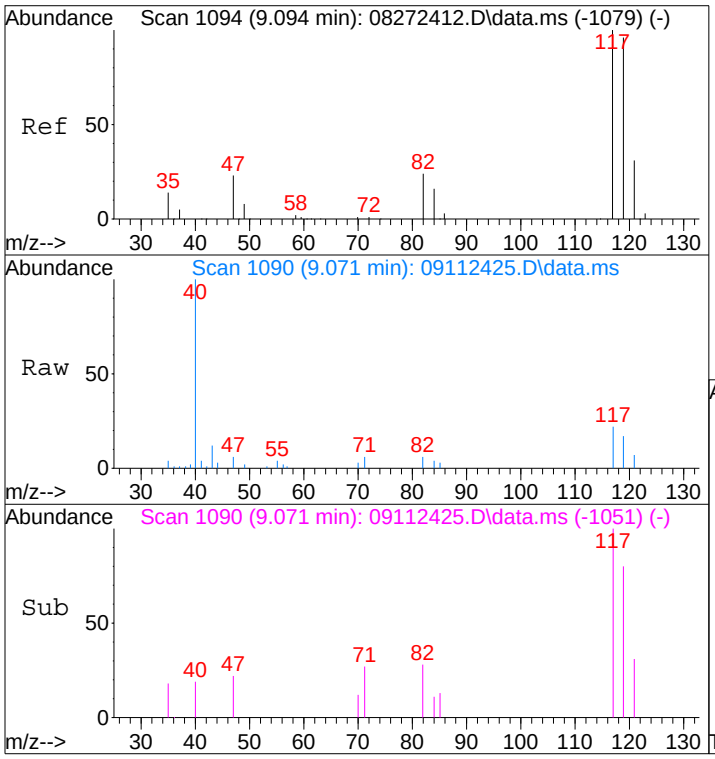


#41
Benzene
Concen: 0.69 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.035 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 78 Resp: 40387

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.9	43.9

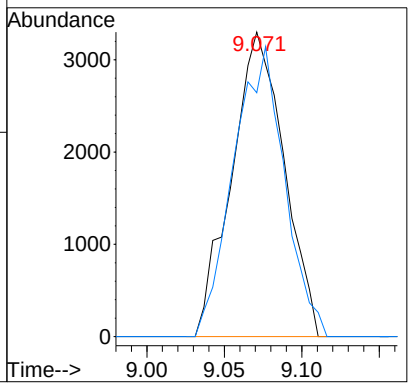


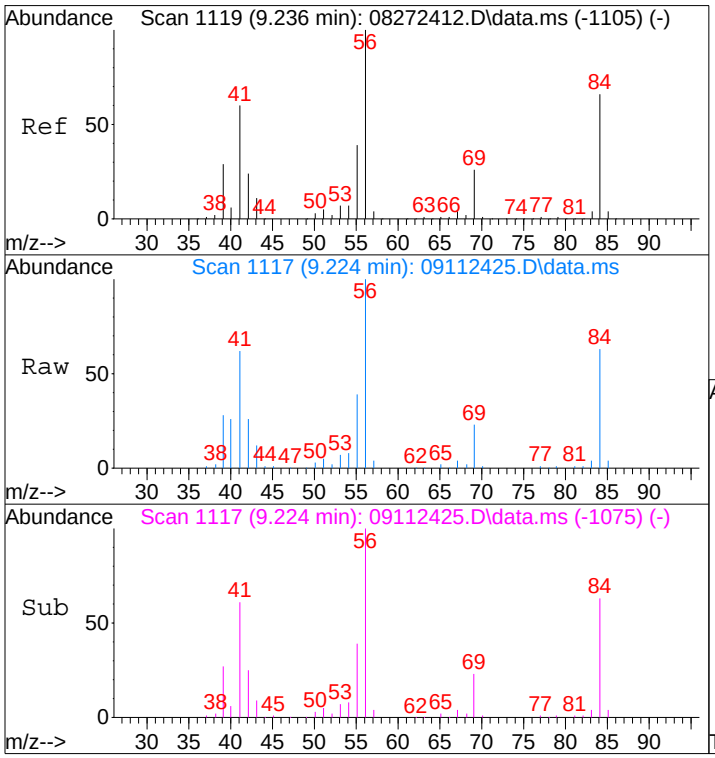


#42
Carbon Tetrachloride
Concen: 0.32 ng
RT: 9.07 min Scan# 1090
Delta R.T. -0.029 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:117 Resp: 7775

Ion	Ratio	Lower	Upper
117	100		
119	92.8	75.1	115.1

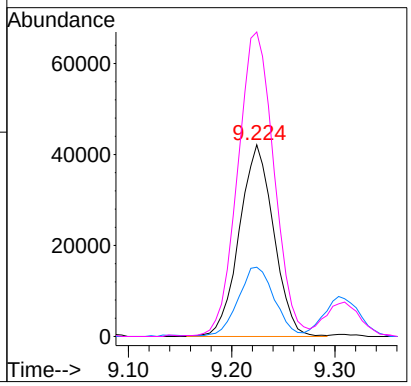


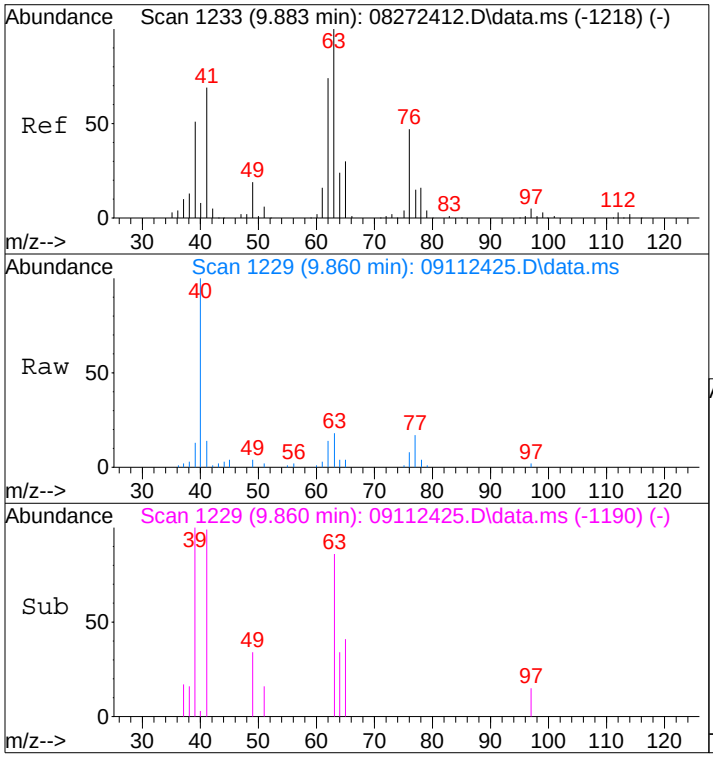


#43
Cyclohexane
Concen: 4.92 ng
RT: 9.22 min Scan# 1117
Delta R.T. -0.011 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 84 Resp: 97560

Ion	Ratio	Lower	Upper
84	100		
69	37.6	18.8	58.8
56	167.9	134.5	174.5

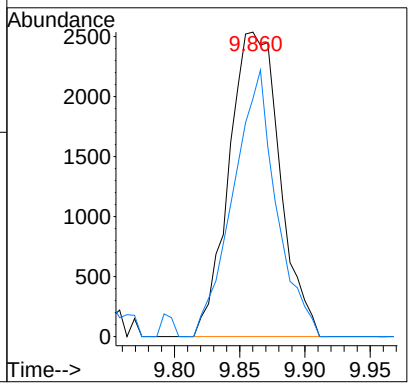


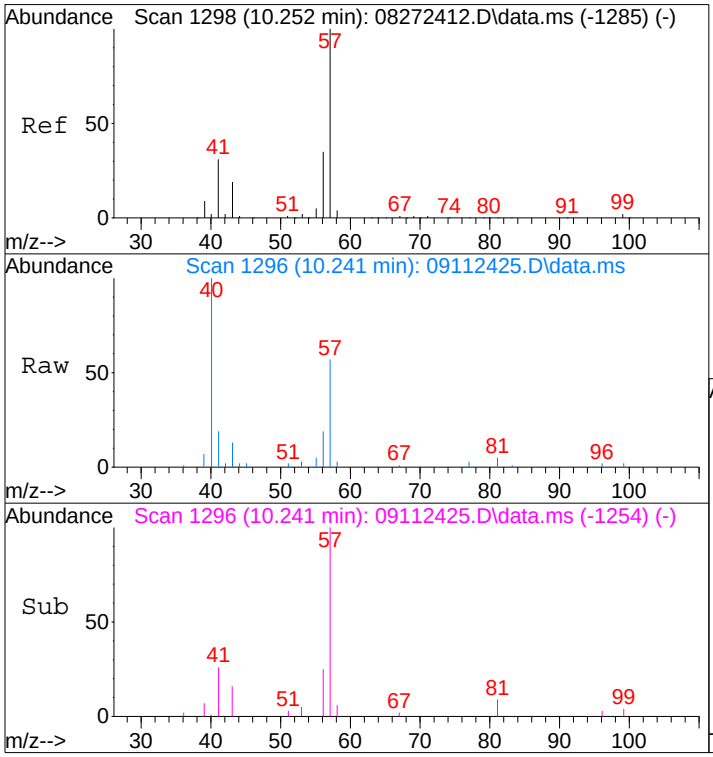


#45
1,2-Dichloropropane
Concen: 0.44 ng
RT: 9.86 min Scan# 1229
Delta R.T. -0.027 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 63 Resp: 6871

Ion	Ratio	Lower	Upper
63	100		
62	74.6	54.2	94.2

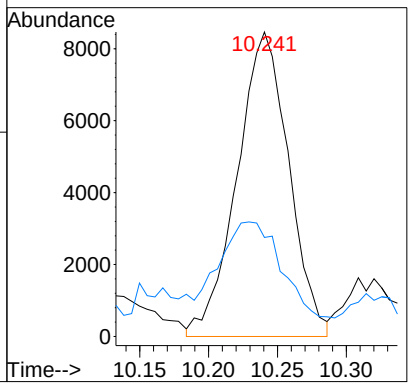


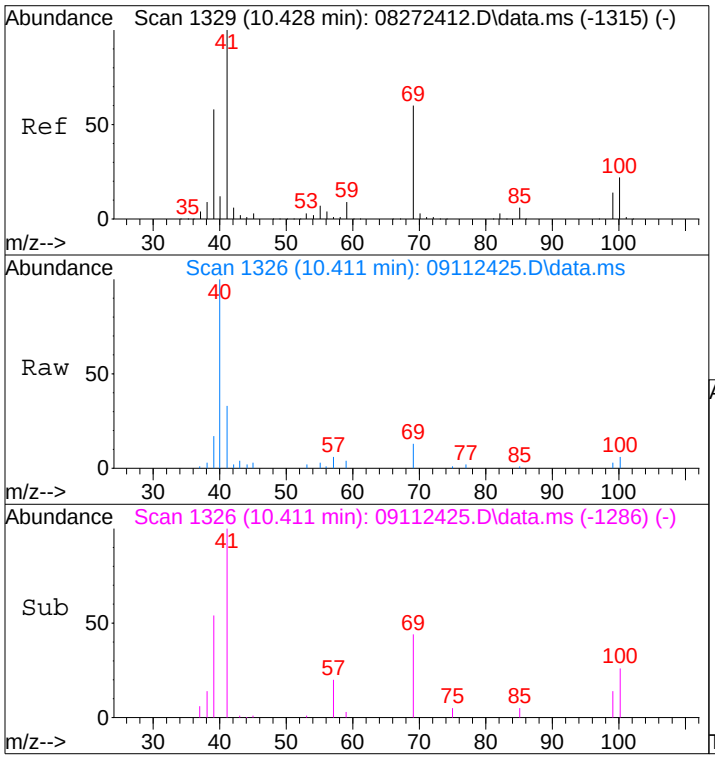


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.32 ng
RT: 10.24 min Scan# 1296
Delta R.T. -0.010 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 57 Resp: 22157

Ion	Ratio	Lower	Upper
57	100		
41	38.7	10.5	50.5

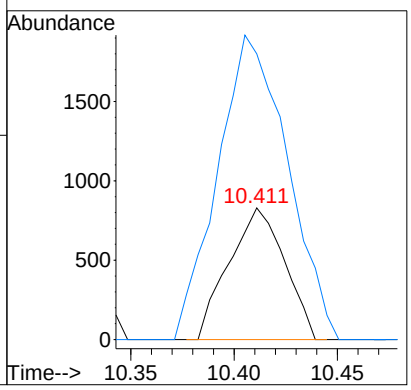


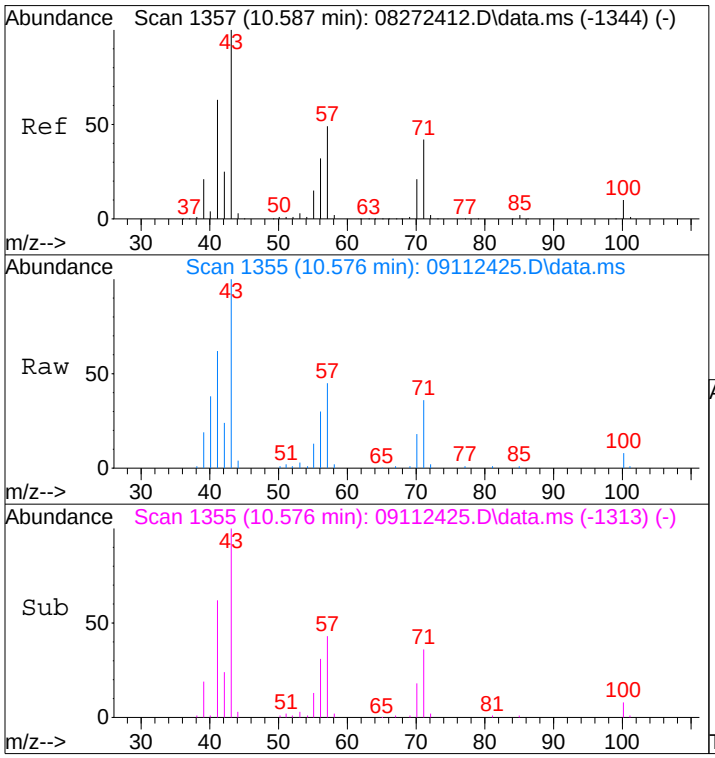


#50
Methyl Methacrylate
Concen: 0.30 ng
RT: 10.41 min Scan# 1326
Delta R.T. -0.021 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:100 Resp: 1555

Ion	Ratio	Lower	Upper
100	100		
69	290.0	260.7	300.7

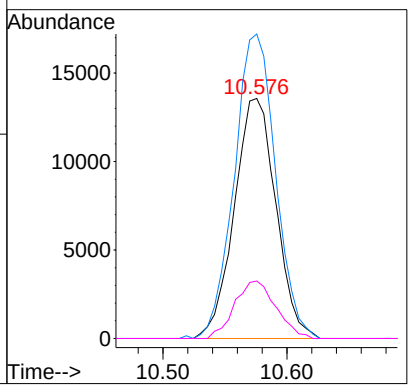


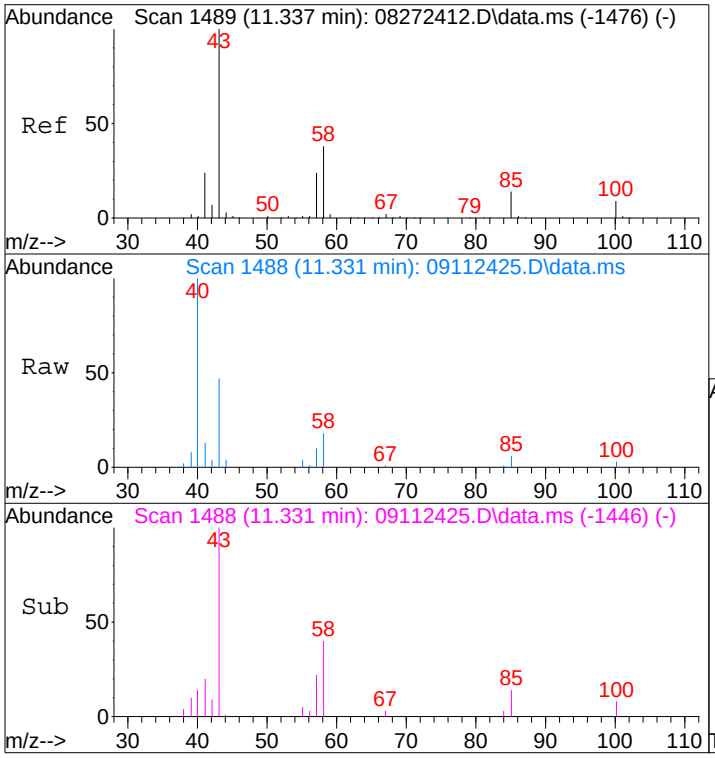


#51
n-Heptane
Concen: 2.43 ng
RT: 10.58 min Scan# 1355
Delta R.T. -0.009 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 71 Resp: 31760

Ion	Ratio	Lower	Upper
71	100		
57	125.8	97.1	137.1
100	23.8	5.0	45.0

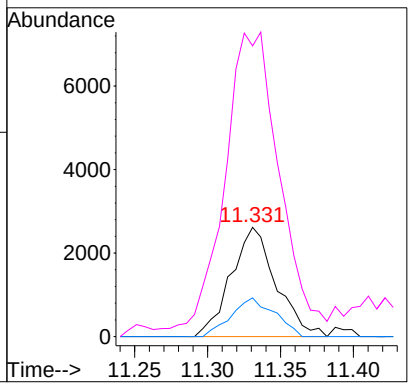


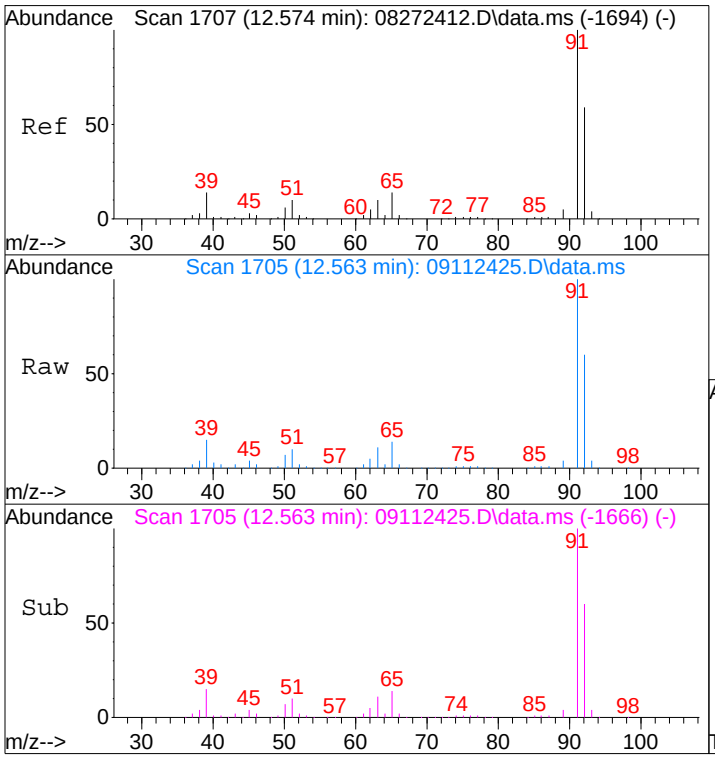


#53
4-Methyl-2-pentanone
Concen: 0.36 ng
RT: 11.33 min Scan# 1488
Delta R.T. -0.013 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 58 Resp: 5611

Ion	Ratio	Lower	Upper
58	100		
85	34.1	30.2	45.2
43	344.0	215.1	322.7#

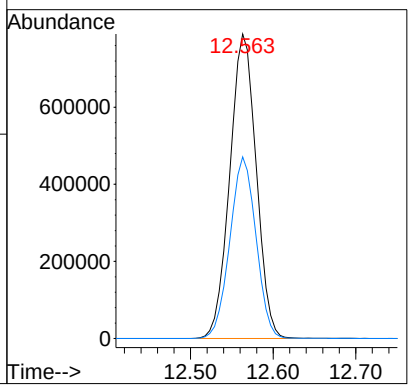


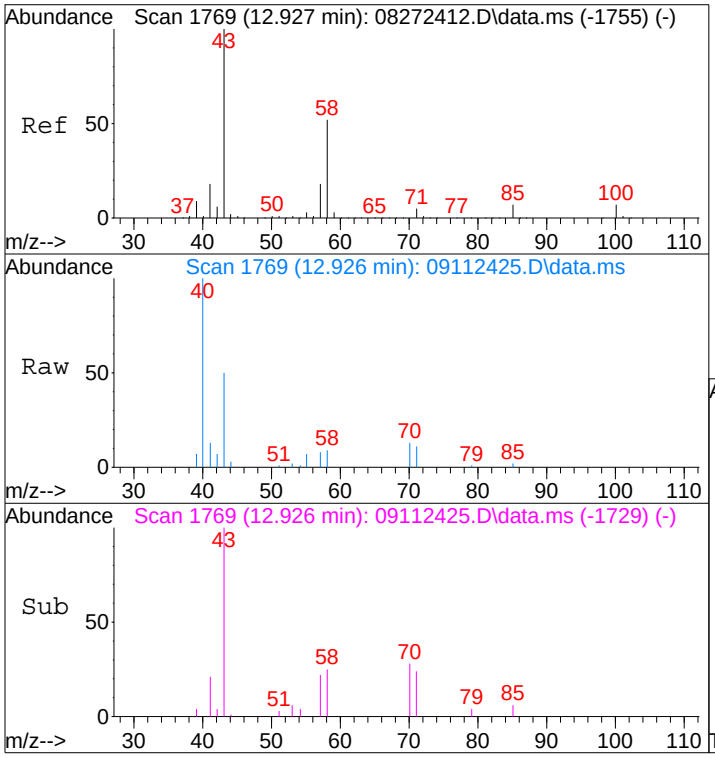


#58
Toluene
Concen: 24.22 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 91 Resp: 1755385

Ion	Ratio	Lower	Upper
91	100		
92	58.9	38.5	78.5

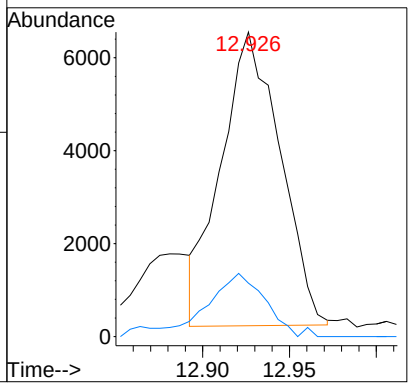


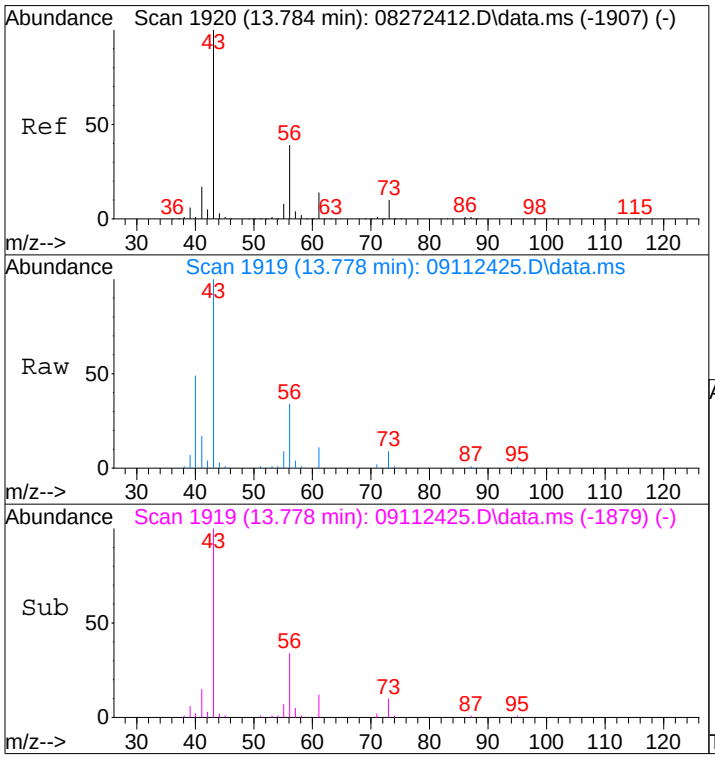


#59
2-Hexanone
Concen: 0.34 ng m
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 43 Resp: 15035

Ion	Ratio	Lower	Upper
43	100		
58	20.7	31.1	71.1#

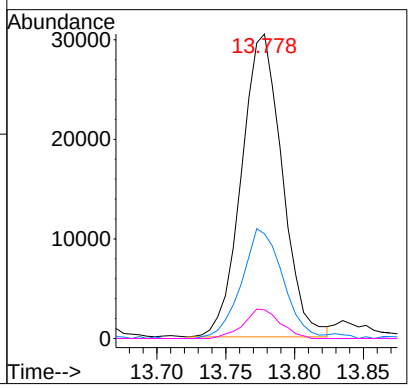


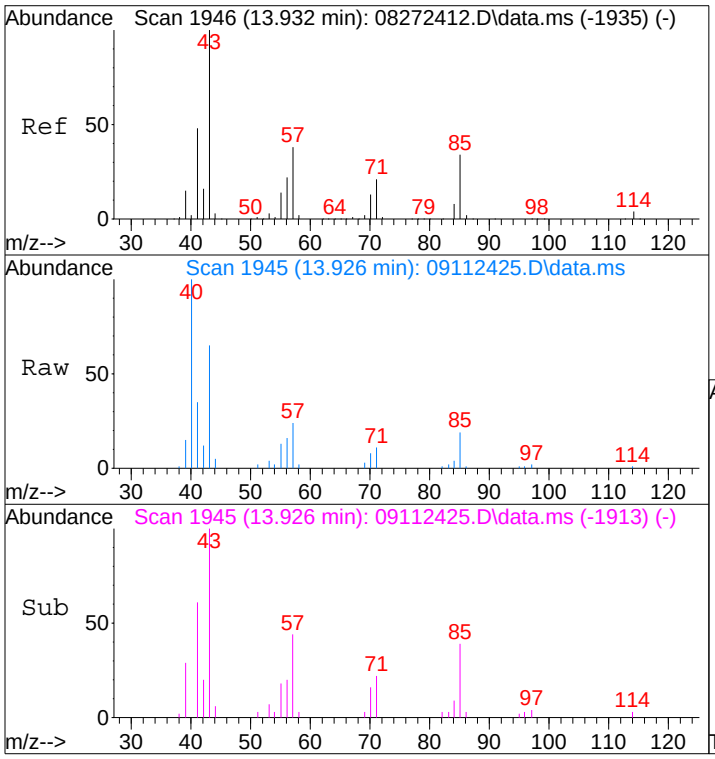


#62
n-Butyl Acetate
Concen: 1.24 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 43 Resp: 62523

Ion	Ratio	Lower	Upper
43	100		
56	37.6	18.2	58.2
73	8.8	0.0	30.1

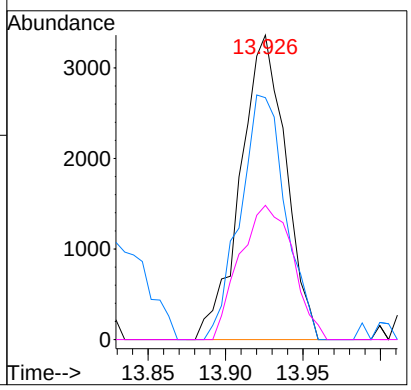


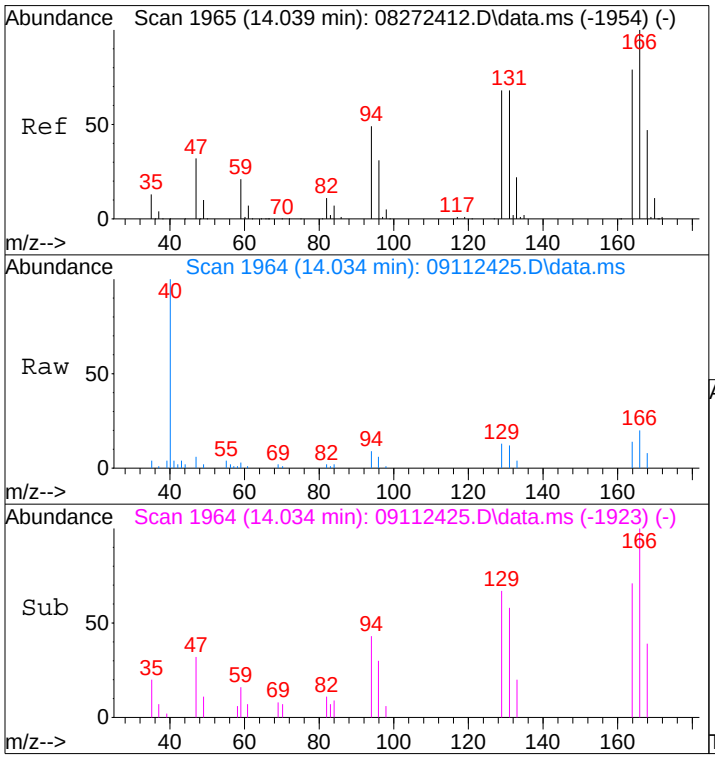


#63
n-Octane
Concen: 0.40 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 57 Resp: 6845

Ion	Ratio	Lower	Upper
57	100		
85	80.8	71.2	106.8
71	51.7	43.3	64.9

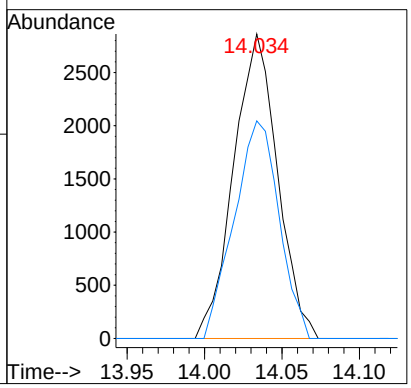


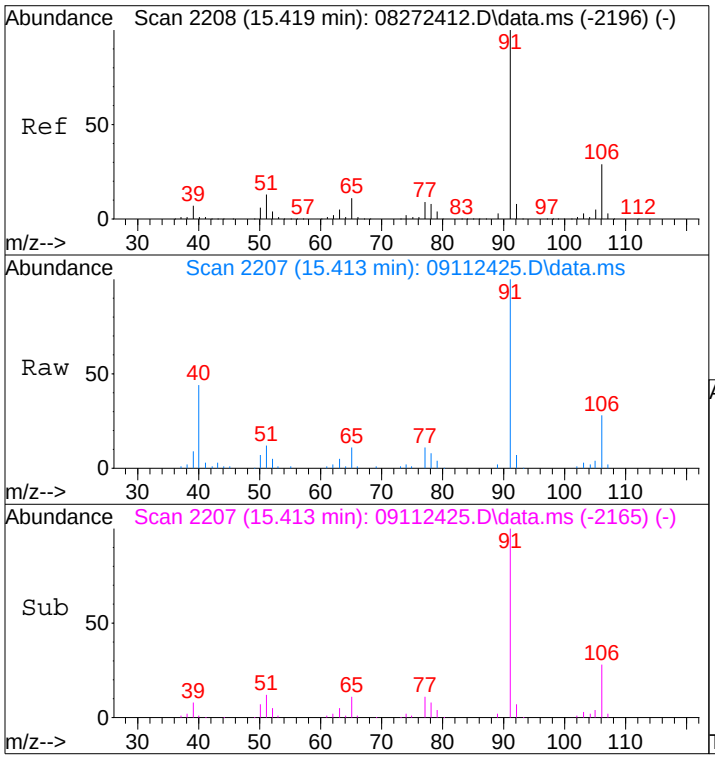


#64
Tetrachloroethene
Concen: 0.28 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:166 Resp: 5650

Ion	Ratio	Lower	Upper
166	100		
164	73.1	59.0	99.0

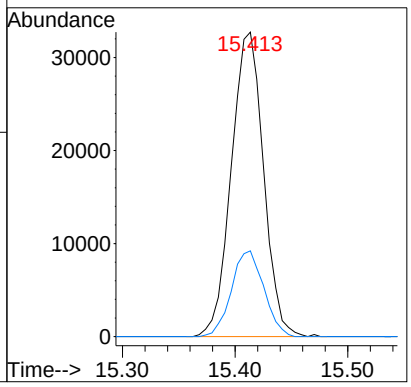


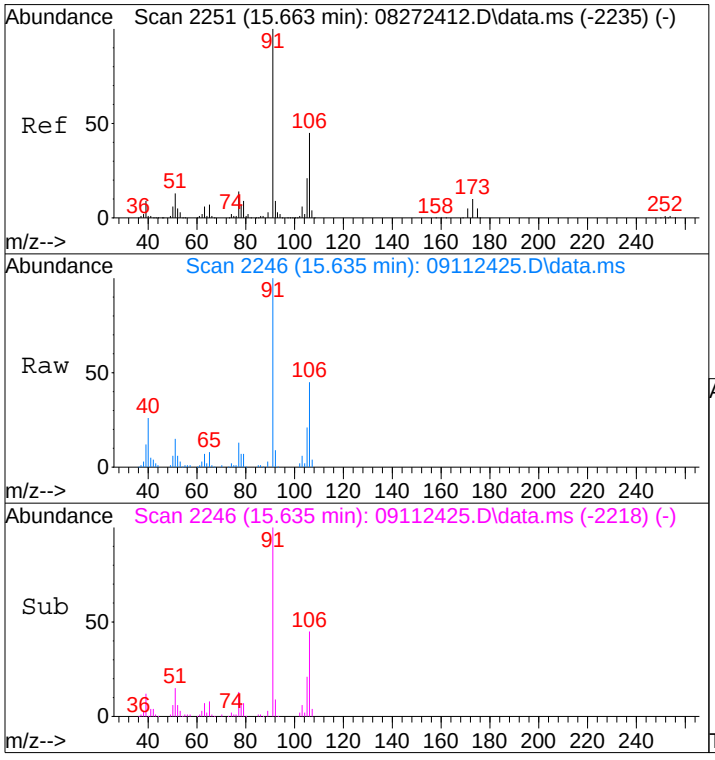


#66
Ethylbenzene
Concen: 0.78 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 91 Resp: 65064

Ion	Ratio	Lower	Upper
91	100		
106	28.4	9.2	49.2

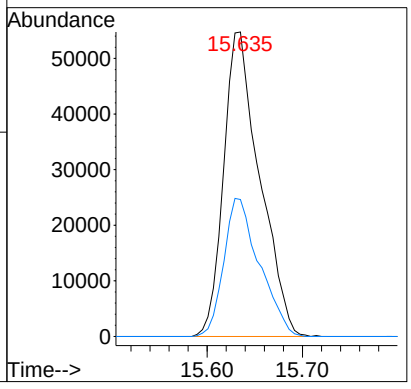


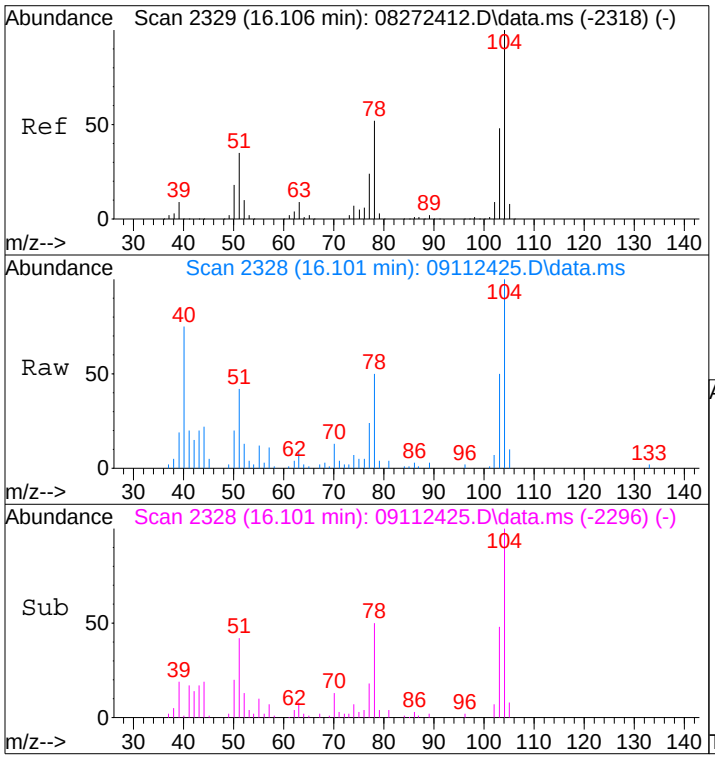


#67
m- & p-Xylenes
Concen: 2.12 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 91 Resp: 143882

Ion	Ratio	Lower	Upper
91	100		
106	44.8	23.8	63.8

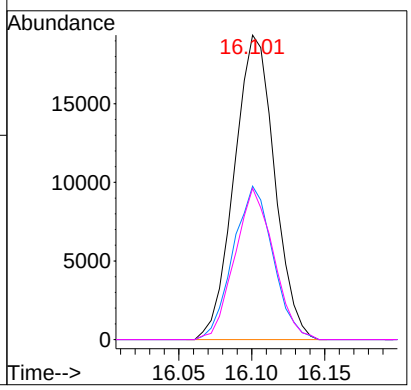


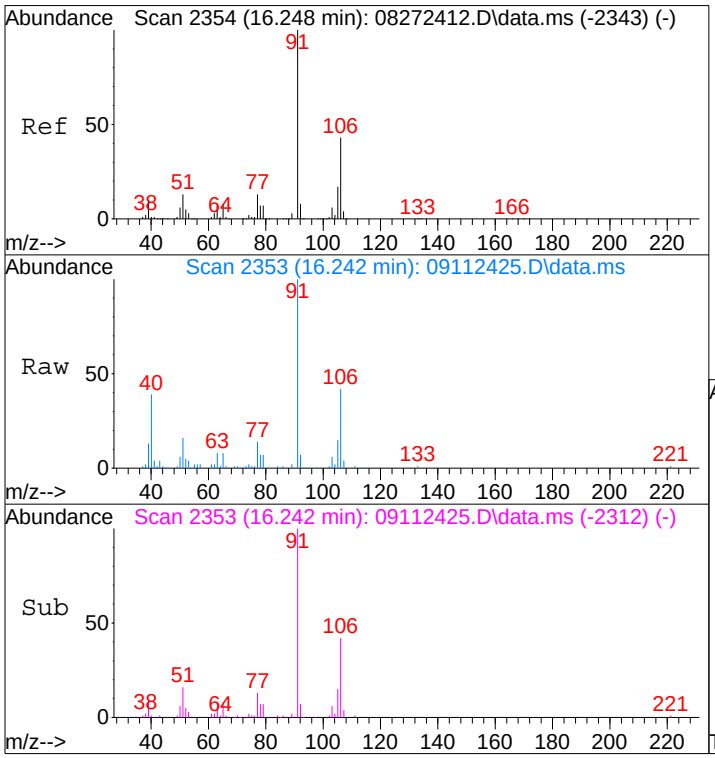


#69
Styrene
Concen: 0.85 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:104 Resp: 37189

Ion	Ratio	Lower	Upper
104	100		
78	50.1	32.2	72.2
103	47.9	28.3	68.3

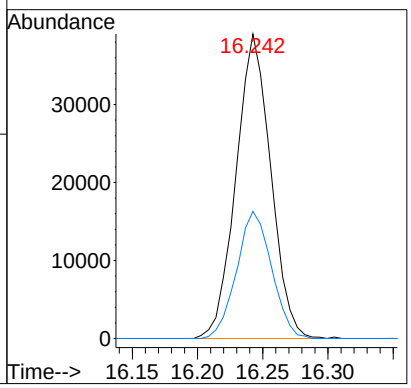


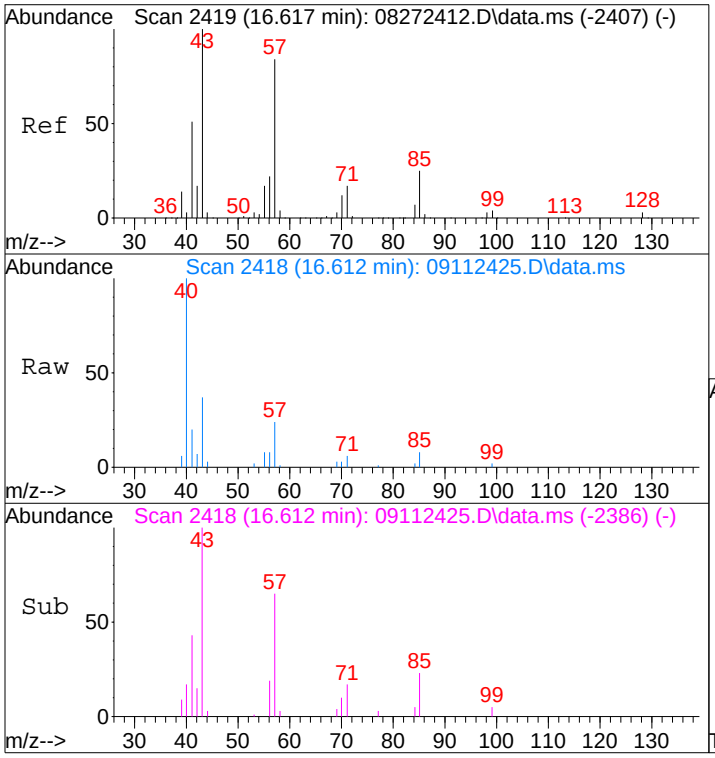


#70
o-Xylene
Concen: 1.09 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 91 Resp: 72315

Ion	Ratio	Lower	Upper
91	100		
106	42.1	22.5	62.5

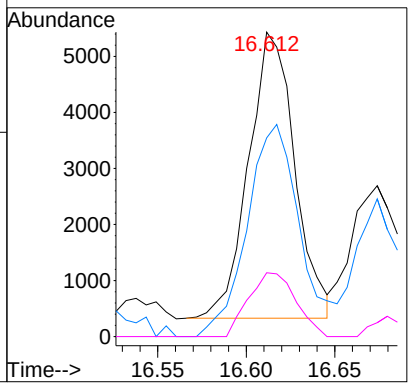


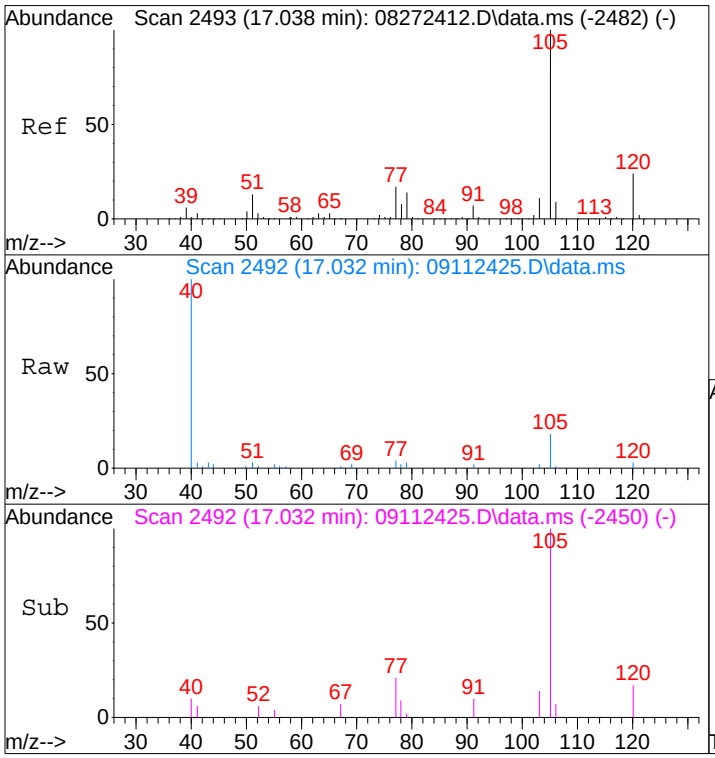


#71
n-Nonane
Concen: 0.21 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 43 Resp: 9264

Ion	Ratio	Lower	Upper
43	100		
57	84.9	63.3	103.3
85	22.8	4.5	44.5

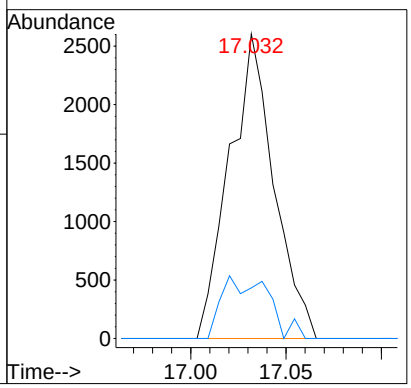


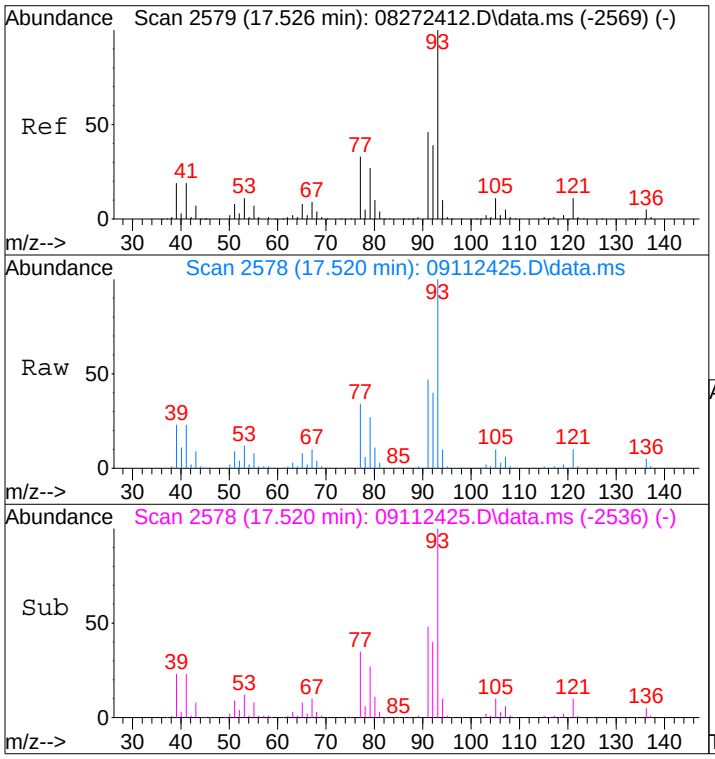


#74
Cumene
Concen: 0.06 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:105 Resp: 4223

Ion	Ratio	Lower	Upper
105	100		
120	21.4	3.7	43.7

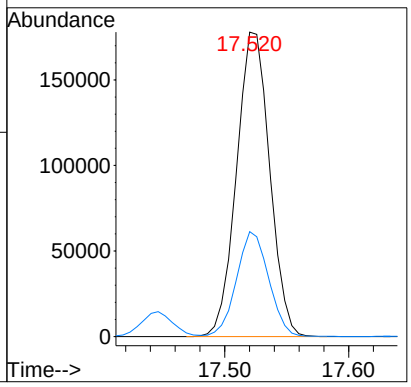


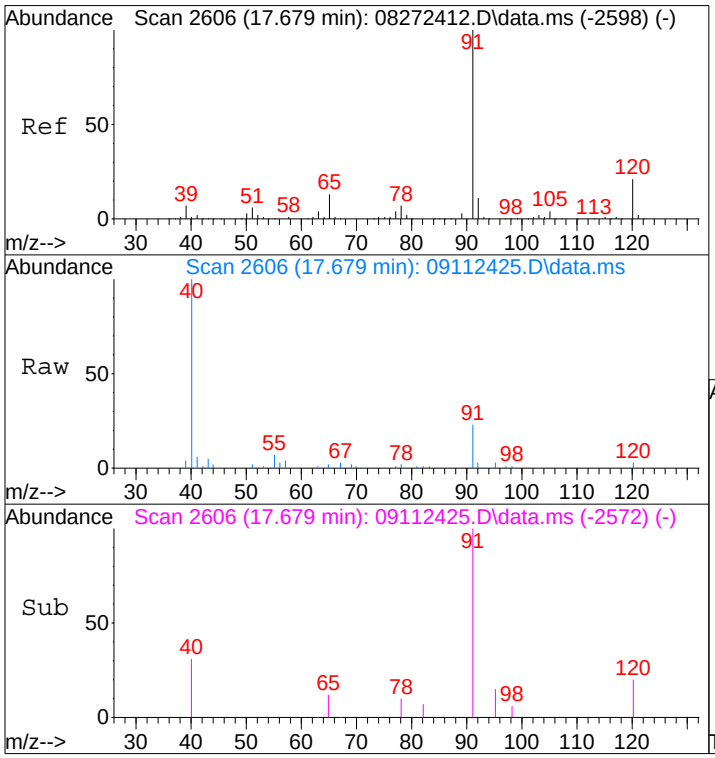


#75
alpha-Pinene
Concen: 8.31 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 93 Resp: 331598

Ion	Ratio	Lower	Upper
93	100		
77	33.6	13.1	53.1

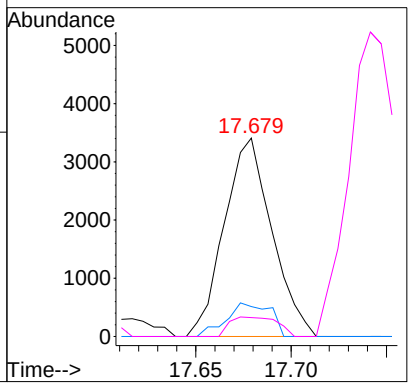


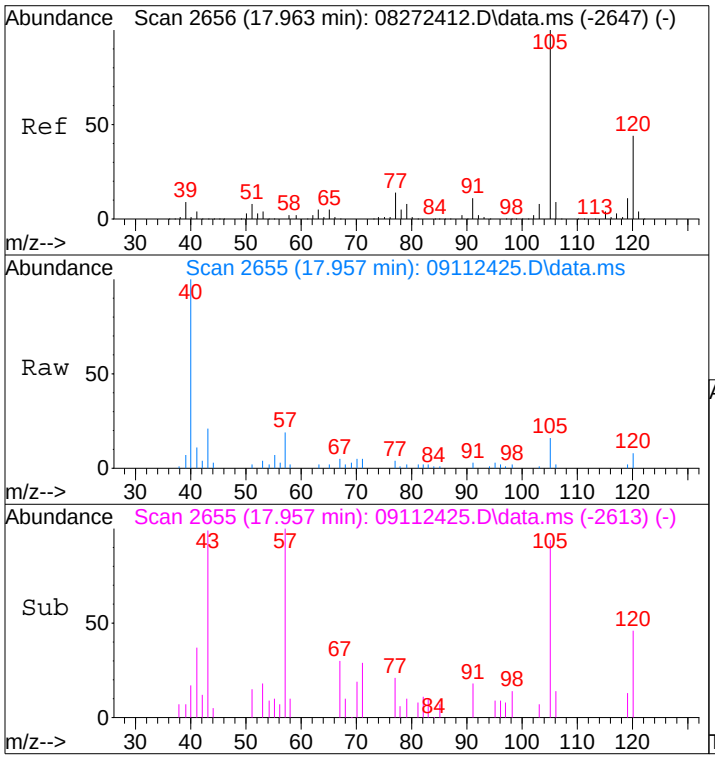


#76
n-Propylbenzene
Concen: 0.06 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 91 Resp: 5911

Ion	Ratio	Lower	Upper
91	100		
120	15.6	0.5	40.5
65	9.8	0.0	32.5

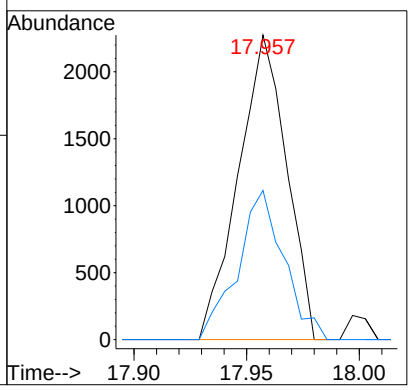


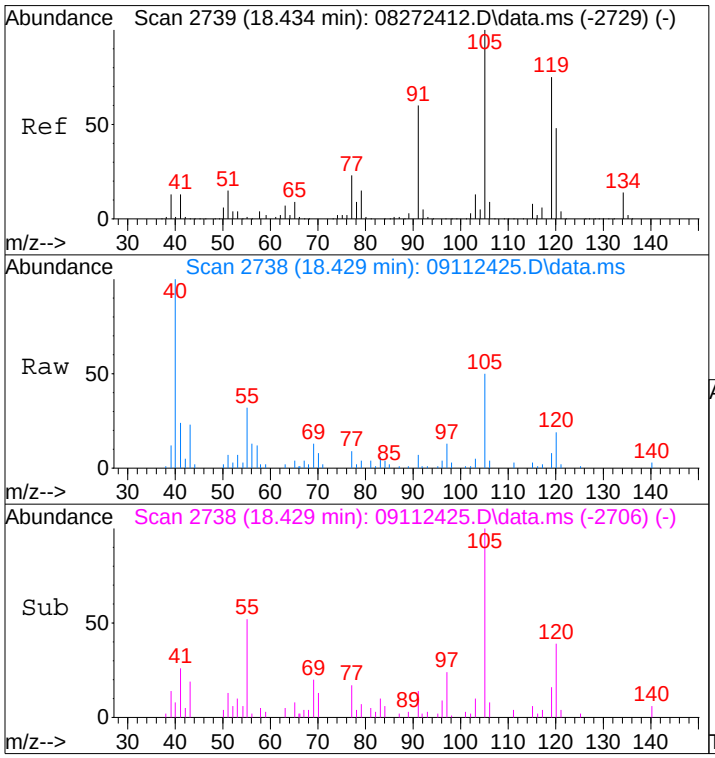


#79
1,3,5-Trimethylbenzene
Concen: 0.05 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:105 Resp: 3388

Ion	Ratio	Lower	Upper
105	100		
120	46.9	24.0	64.0

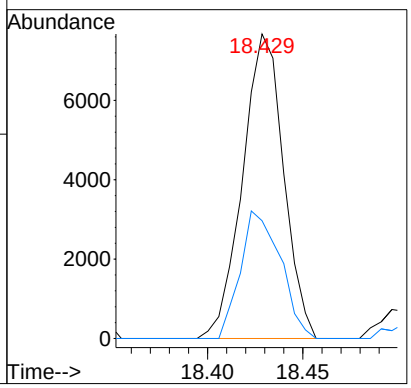


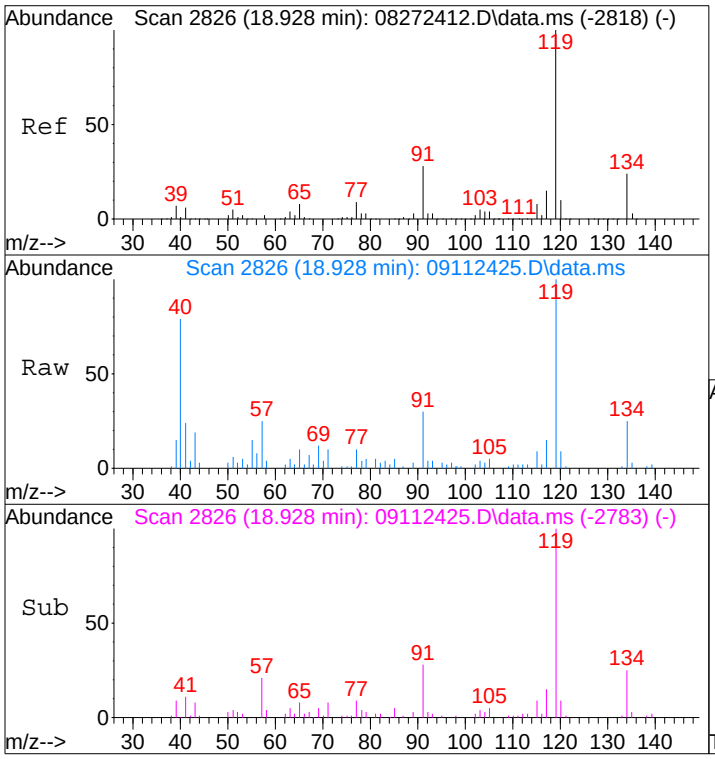


#82
1,2,4-Trimethylbenzene
Concen: 0.17 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:105 Resp: 11481

Ion	Ratio	Lower	Upper
105	100		
120	40.9	28.8	68.8

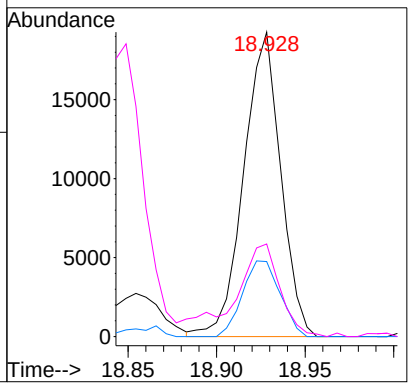


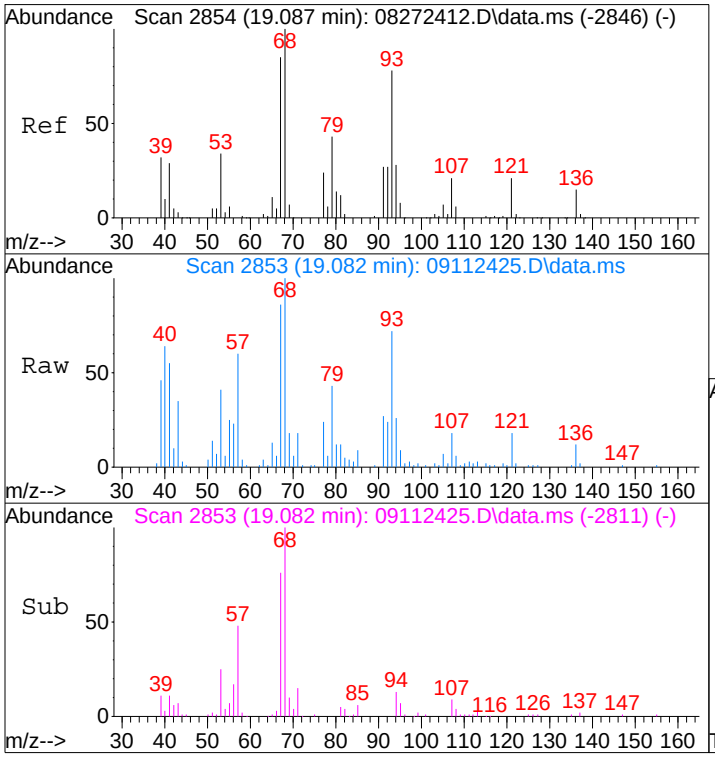


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.37 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.006 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion:119 Resp: 27949

Ion	Ratio	Lower	Upper
119	100		
134	25.3	4.7	44.7
91	36.5	8.1	48.1

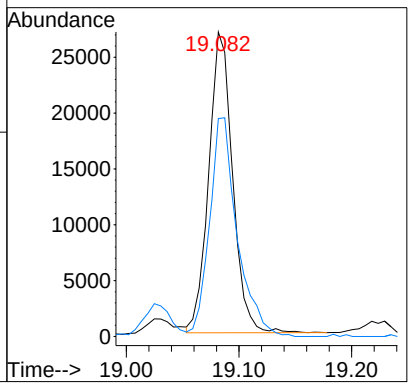




#91
d-Limonene
Concen: 1.74 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09112425.D
Acq: 11 Sep 2024 22:48

Tgt Ion: 68 Resp: 39584

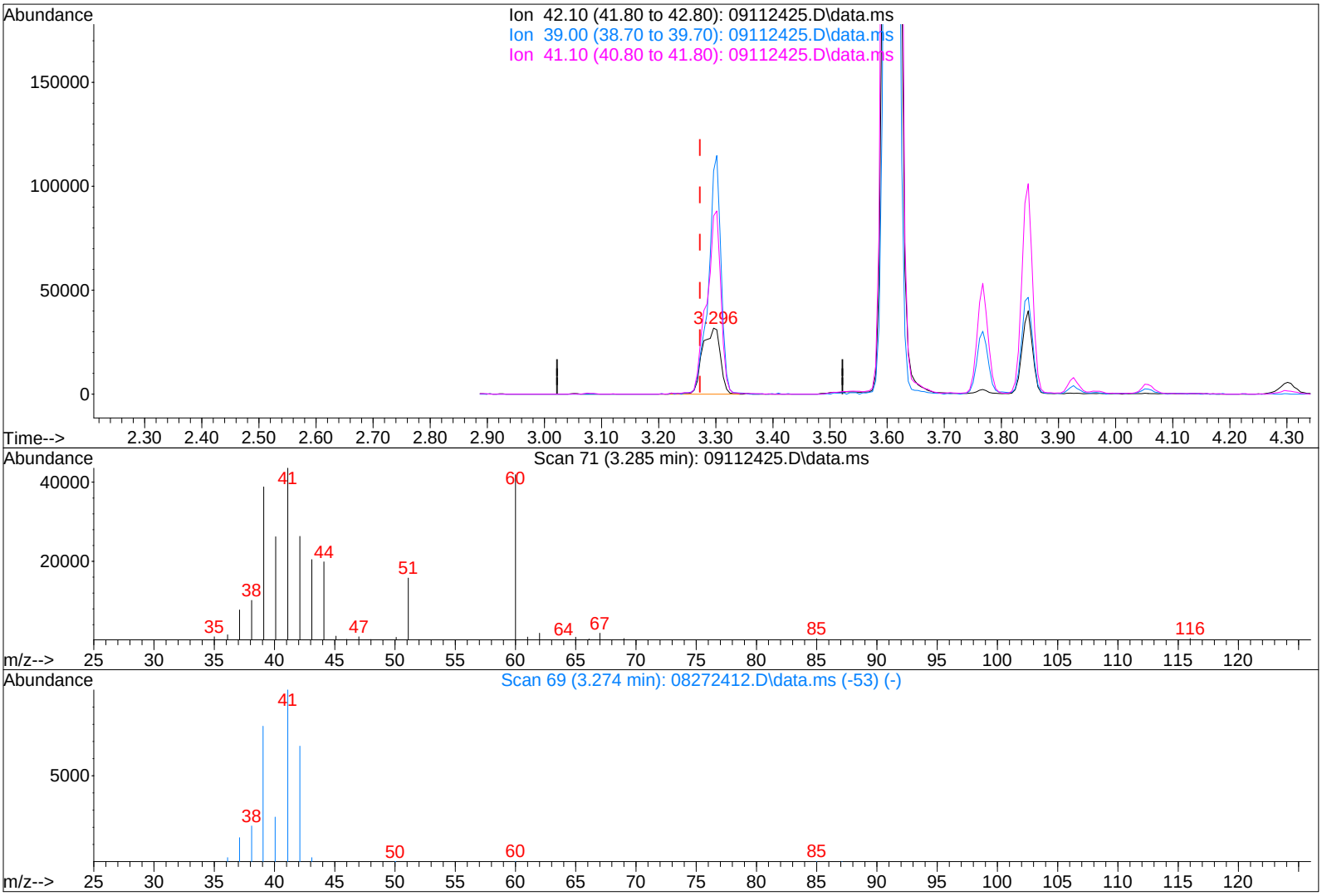
Ion	Ratio	Lower	Upper
68	100		
93	84.3	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112425.D\data.ms

(2) Propene (T)

3.296min (+0.024) 3.18ng

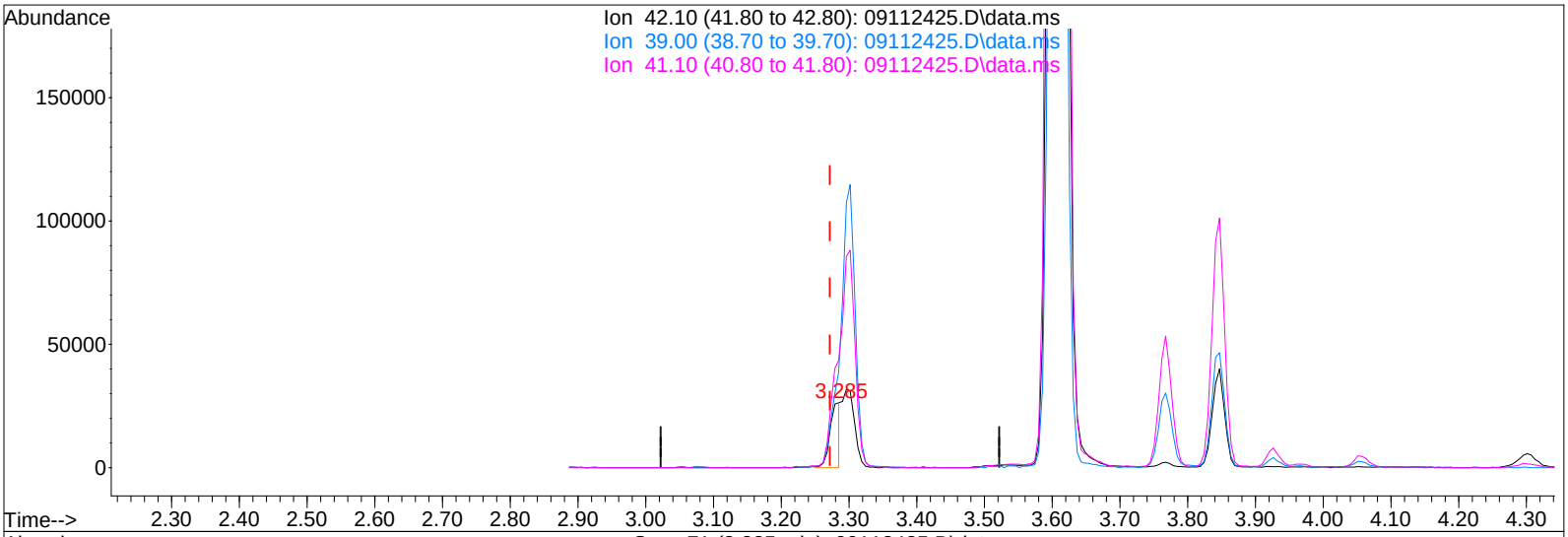
response 68557

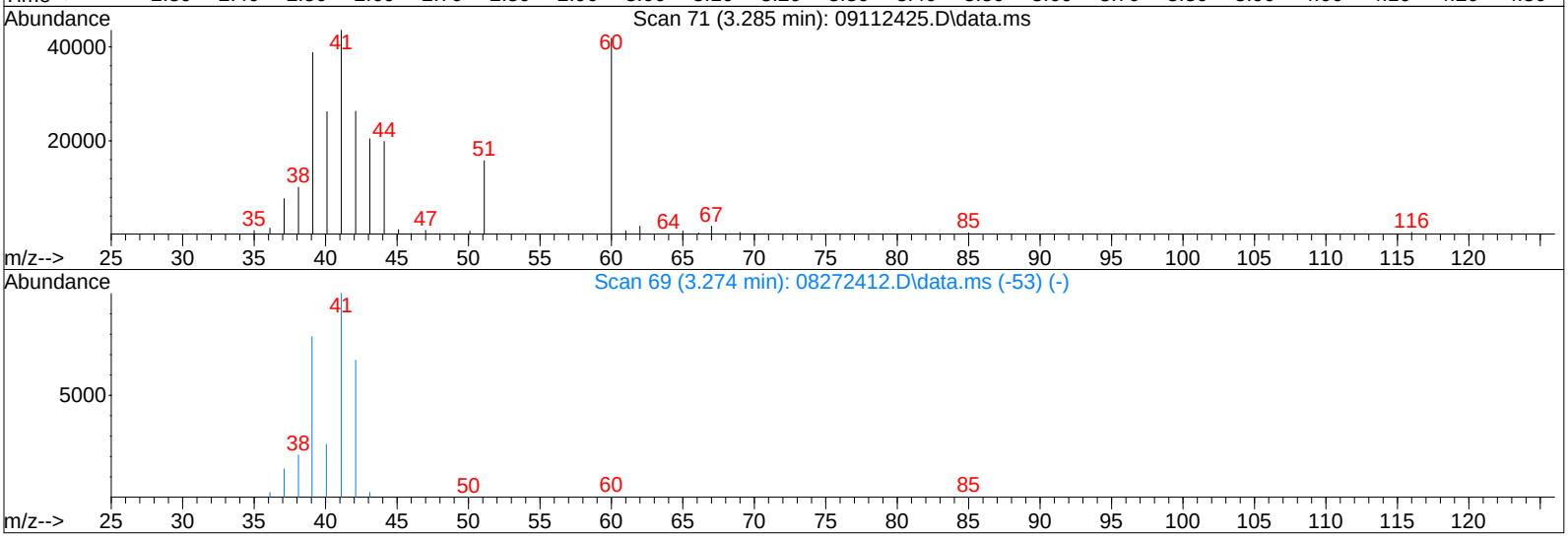
Ion	Exp%	Act%
42.10	100	100
39.00	118.20	255.47#
41.10	150.10	225.39#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 09112425.D\data.ms

(2) Propene (T)

3.285min (+0.013) 1.25ng m

response 26842

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	652.50#
41.10	150.10	575.68#
0.00	0.00	0.00

IPC

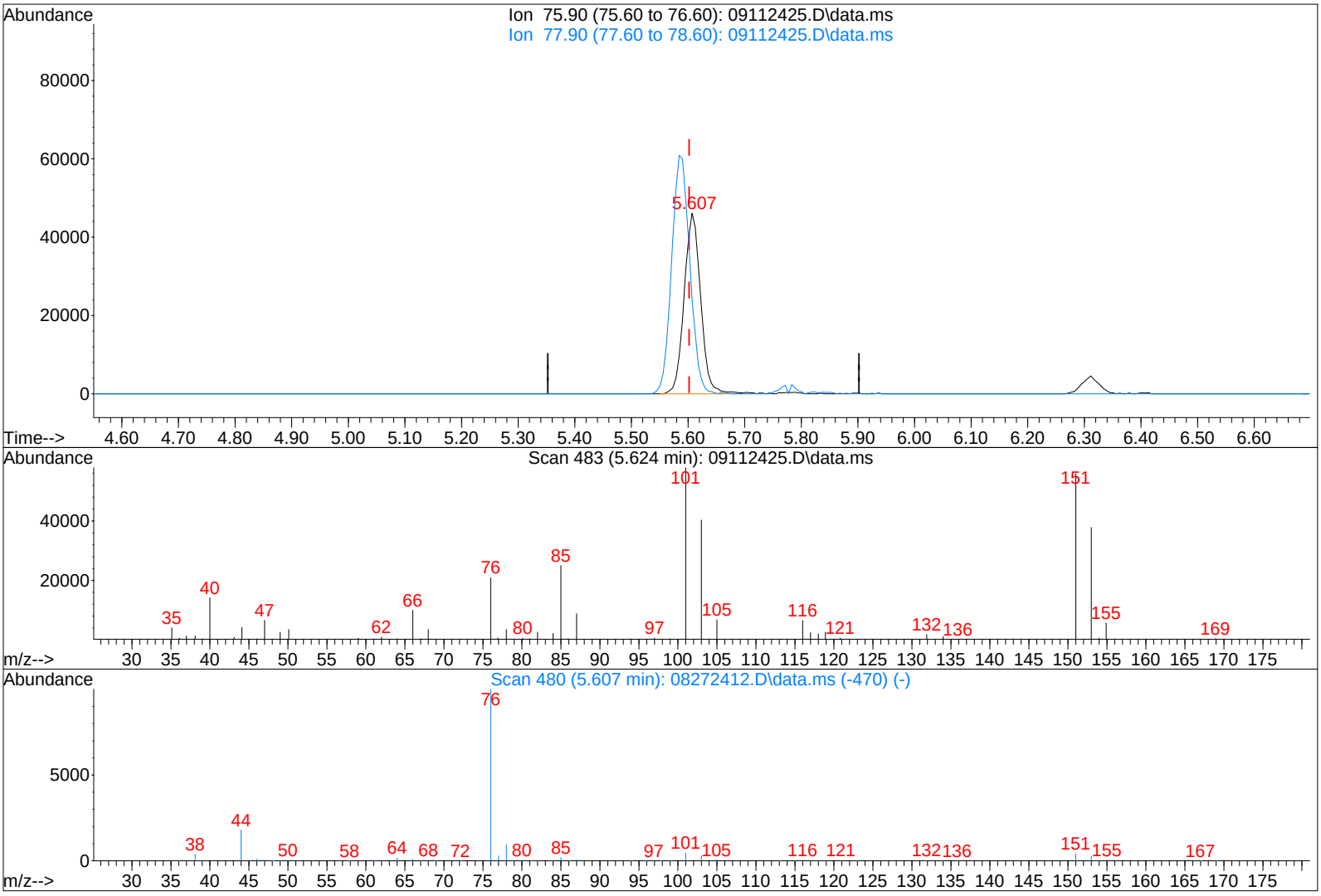
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112425.D\data.ms

(22) Carbon Disulfide (T)

5.607min (+0.005) 1.83ng

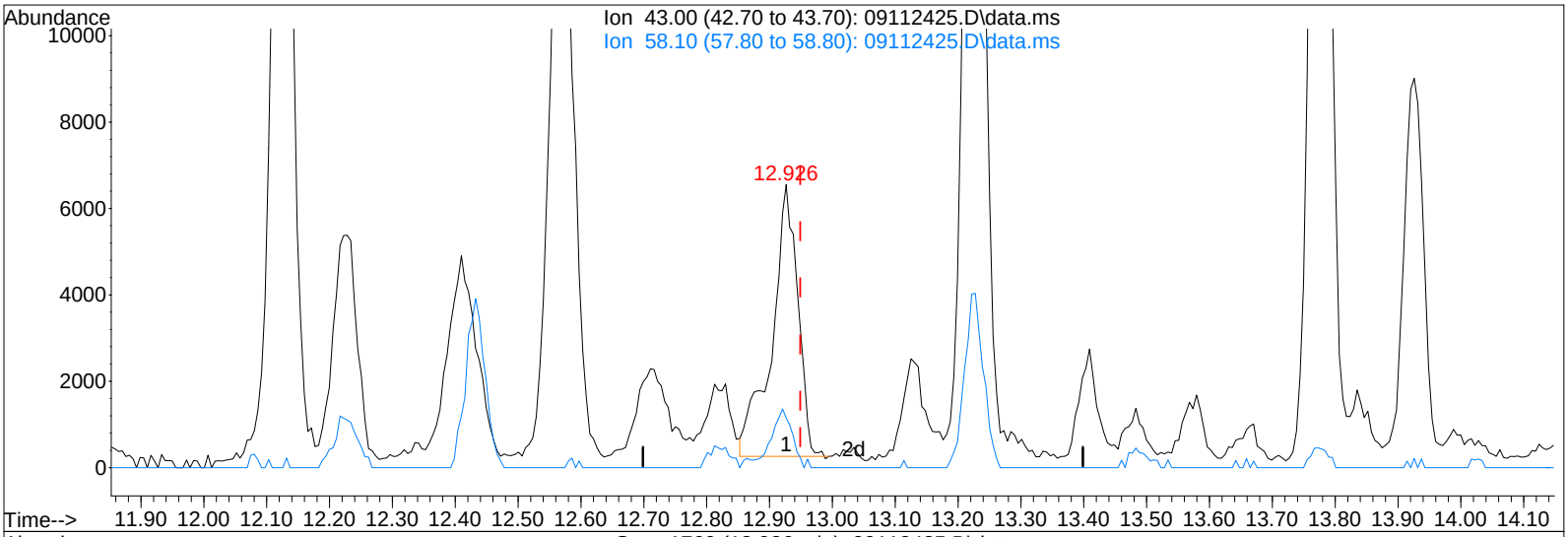
response 93190

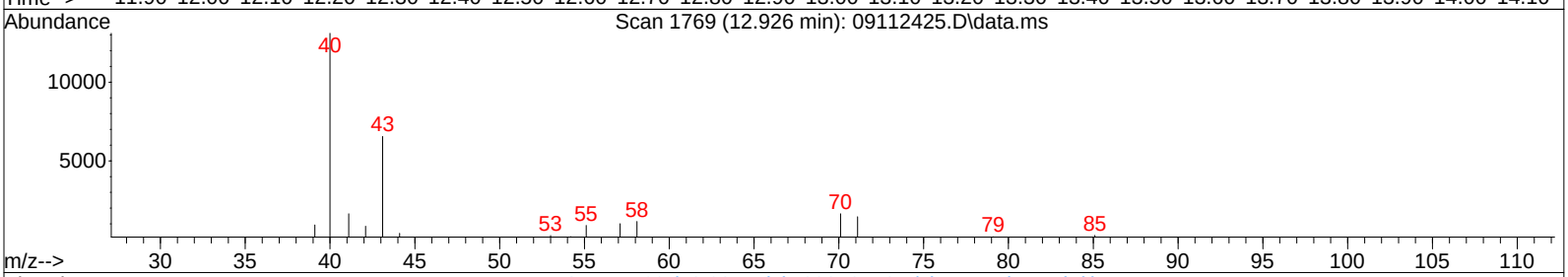
Ion	Exp%	Act%
75.90	100	100
77.90	9.60	145.30#
0.00	0.00	0.00
0.00	0.00	0.00

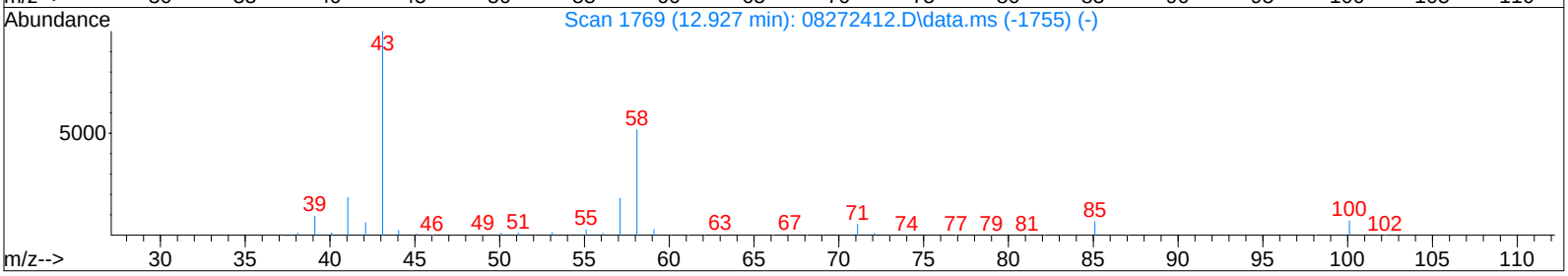
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09112425.D\data.ms

(59) 2-Hexanone (T)

12.926min (-0.023) 0.40ng

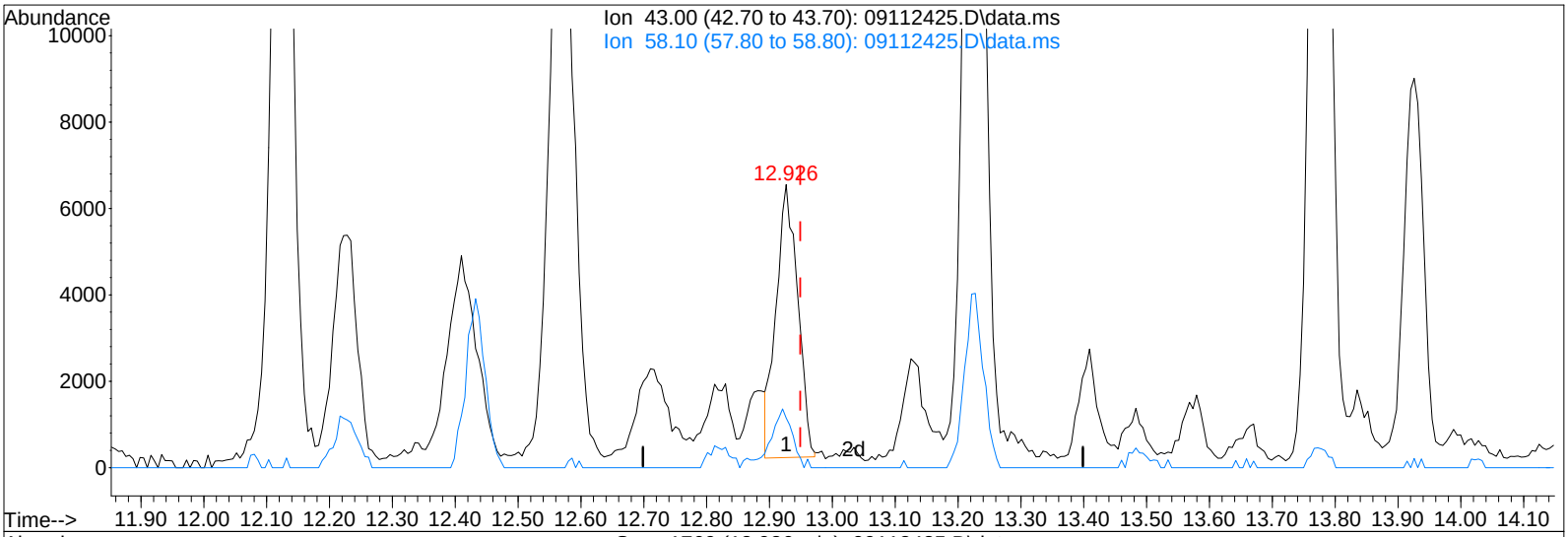
response 17988

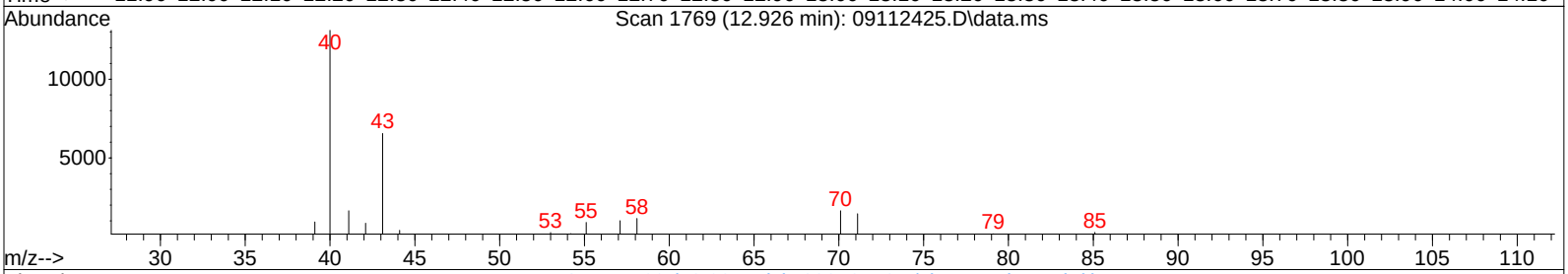
Ion	Exp%	Act%
43.00	100	100
58.10	51.10	17.31#
0.00	0.00	0.00
0.00	0.00	0.00

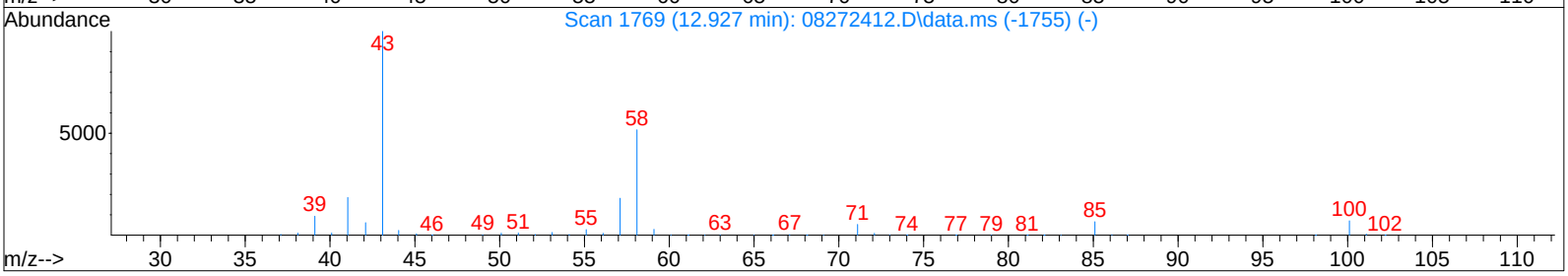
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:22 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09112425.D\data.ms

(59) 2-Hexanone (T)

12.926min (-0.023) 0.34ng m

response 15035

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	20.71#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/12/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:53:11 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

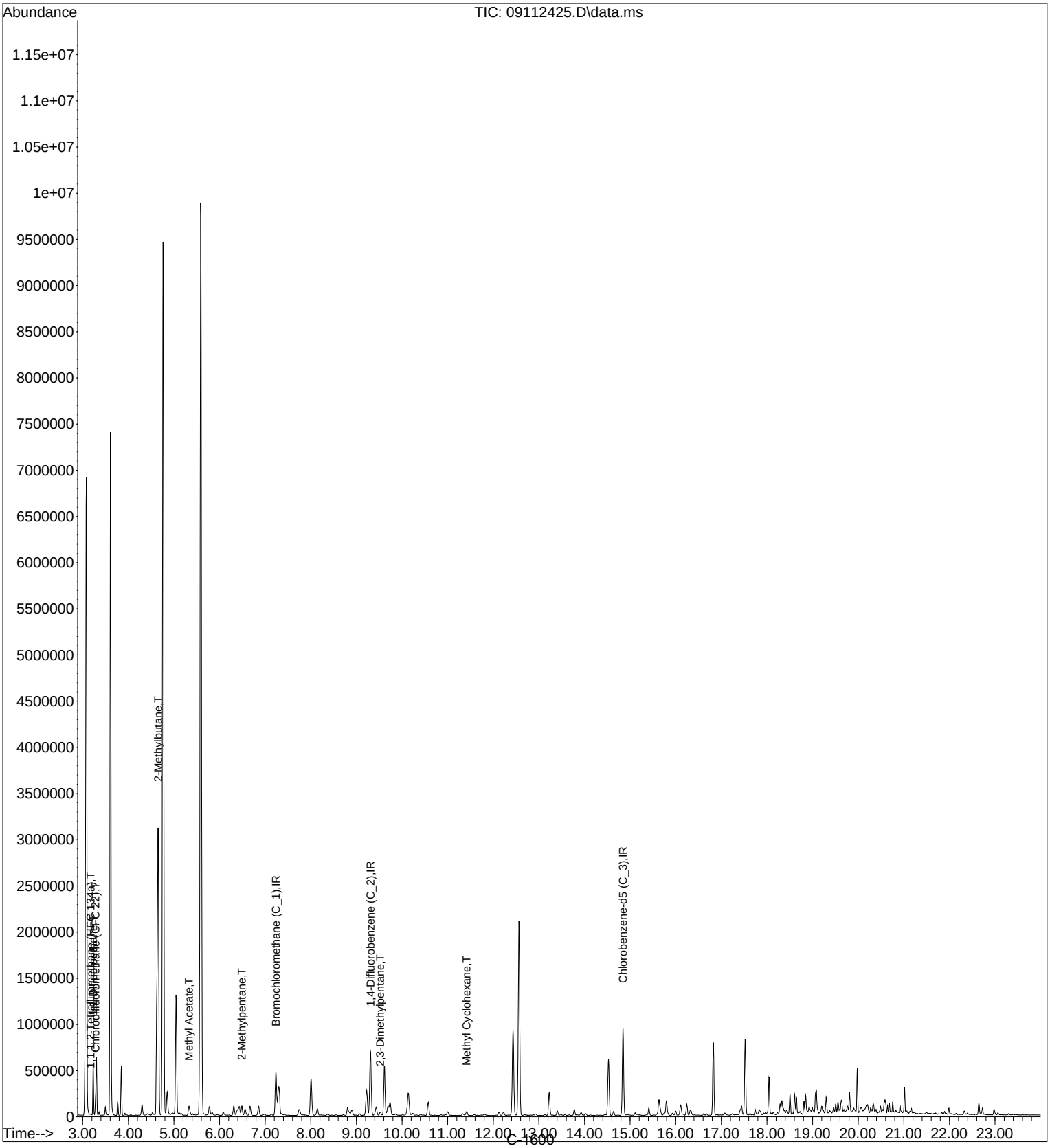
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	142646	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	626997	12.500	ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	191130	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	152	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	4502	0.308	ng	#	21
4) 1,1-Difluoroethane	3.23	65	132924	10.673	ng		94
5) Chlorodifluoromethane ...	3.28	67	3272	0.673	ng		86
6) 1-Chloro-1,1-Difluoroe...	3.49	65	684	N.D.			
7) Dichlorofluoromethane ...	4.23	67	1828	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	538	N.D.			
10) 2-Methylbutane	4.65	57	744235	43.744	ng		93
11) Methyl Acetate	5.33	43	99135	2.062	ng	#	64
12) 2-Methylpentane	6.49	71	16810	1.361	ng		97
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.07	84	1494	N.D.			
17) 2,3-Dimethylpentane	9.52	56	17836	0.588	ng		87
18) Dibromomethane	9.80	174	52	N.D.			
20) Methyl Cyclohexane	11.42	55	20072	0.612	ng		89
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.20	91	154	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	17.09	77	70	N.D.			
26) 2-Chlorotoluene	17.60	91	673	N.D.			
27) 4-Chlorotoluene	0.00	91	0	N.D.	d		
28) Indane	19.12	117	2081	N.D.			
29) Indene	19.21	115	261	N.D.			
30) 1,2,4,5-Tetramethylben...	20.17	119	1423	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	2528	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	2303	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

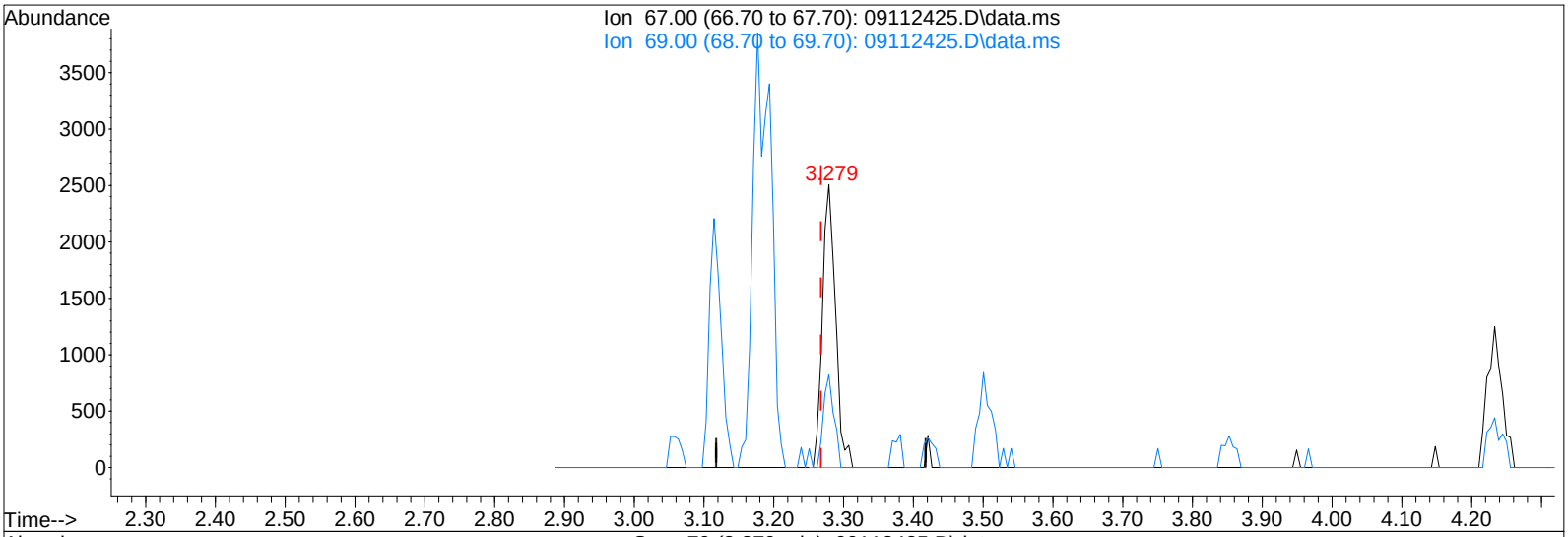
Quant Time: Sep 12 14:53:11 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

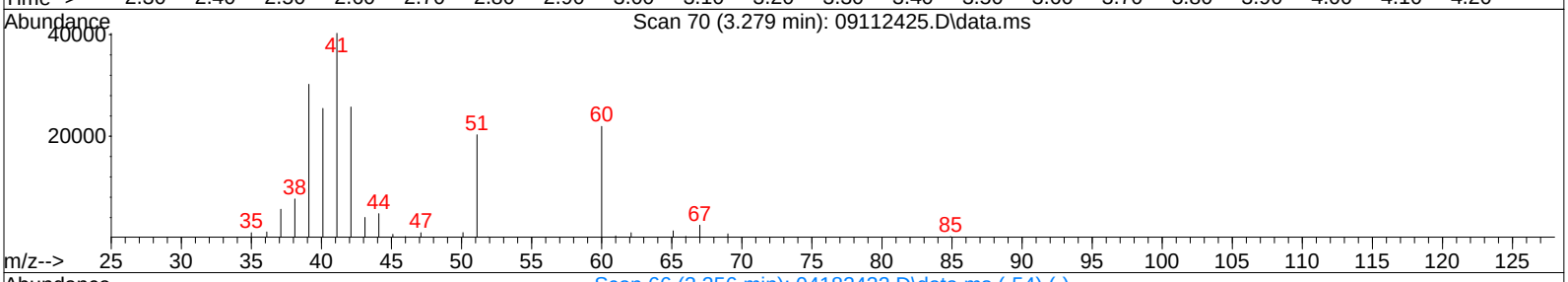


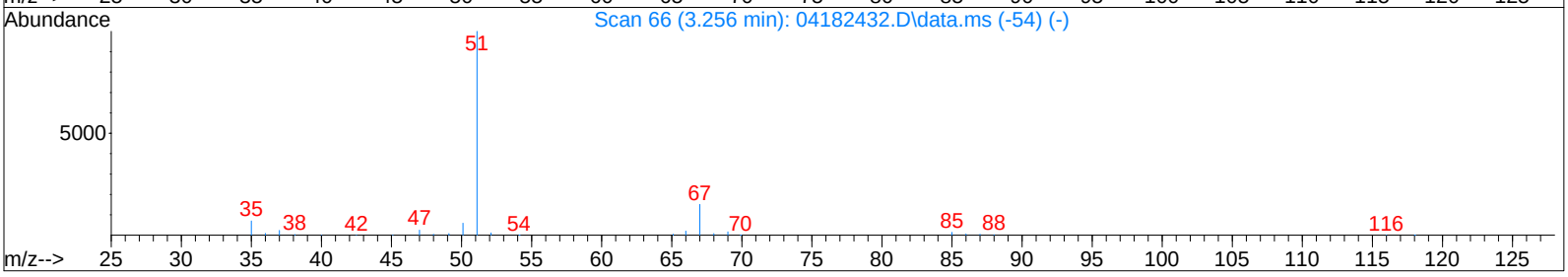
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112425.D Vial: 13
Acq On : 11 Sep 2024 22:48 Operator: SC
Sample : P2403661-045 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:52:30 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09112425.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.279min (+0.011) 0.67ng

response 3272

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	26.41
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122414.D Vial: 13
Acq On : 12 Sep 2024 18:06 Operator: SC
Sample : P2403661-045Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:50:30 2024 9/13/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	141547	12.500	ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.30	114	632968	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	178675	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	347674	13.126	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	12.43	98	715136	11.409	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.28%				
73) Bromofluorobenzene (SS3)	16.82	174	234149	11.170	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.36%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.30	85	140	N.D.			
4) Chloromethane	3.52	50	2902	0.108	ng		86
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.81	54	146	N.D.			
8) Bromomethane	4.02	94	249	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	14115	0.919	ng		95
11) Acetonitrile	4.43	41	1323	N.D.			
12) Acrolein	4.53	56	1544	0.132	ng		95
13) Acetone	4.63	58	47011	3.627	ng	#	23
14) Trichlorofluoromethane	4.75	101	739391	22.557	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	43903	0.860	ng		93
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	1119	0.073	ng	#	79
20) 3-Chloro-1-propene (Al...	5.47	41	504	N.D.			
21) Trichlorotrifluoroethane	5.58	151	303319	23.357	ng		94
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.40	73	1165	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	2054	0.223	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	2444	0.397	ng		96
31) n-Hexane	7.30	57	9315	0.332	ng		99
32) Chloroform	7.35	83	1417	0.050	ng		90
34) Tetrahydrofuran (THF)	7.78	72	597	0.069	ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	611	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	3850	No Calib		#	
41) Benzene	8.89	78	5135	0.087	ng		95
42) Carbon Tetrachloride	9.06	117	706	N.D.			
43) Cyclohexane	9.22	84	7704	0.384	ng	#	85
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	522	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	254	N.D.			
48) 1,4-Dioxane	10.14	88	175	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	2107	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122414.D Vial: 13
Acq On : 12 Sep 2024 18:06 Operator: SC
Sample : P2403661-045Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:50:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

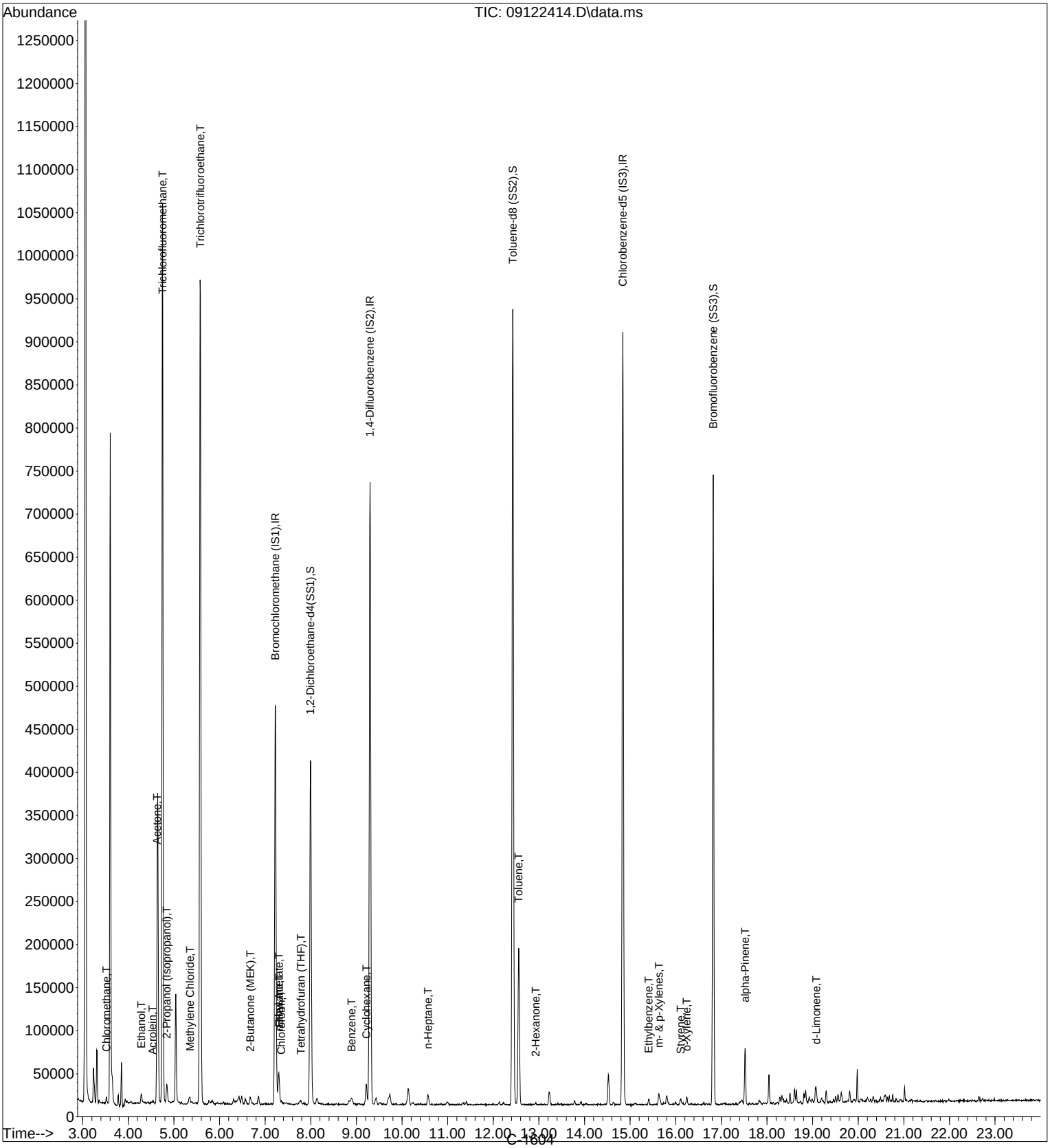
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	2269	0.172 ng		90
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	678	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	153700	2.268 ng		100
59) 2-Hexanone	12.93	43	2100	0.050 ng	#	52
60) Dibromochloromethane	13.07	129	150	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	13.93	57	593	N.D.		
64) Tetrachloroethene	14.03	166	588	N.D.		
65) Chlorobenzene	14.89	112	380	N.D.		
66) Ethylbenzene	15.41	91	5821	0.075 ng		97
67) m- & p-Xylenes	15.63	91	11997	0.189 ng		95
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	2819	0.069 ng		94
70) o-Xylene	16.24	91	6218	0.100 ng		97
71) n-Nonane	16.61	43	1138	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	385	N.D.		
74) Cumene	17.03	105	887	N.D.		
75) alpha-Pinene	17.52	93	25258	0.677 ng		97
76) n-Propylbenzene	17.68	91	1111	N.D.		
77) 3-Ethyltoluene	17.03	105	887	No Calib	#	
78) 4-Ethyltoluene	17.85	105	730	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	564	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	887	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.42	105	1267	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	410	N.D.		
85) 1,3-Dichlorobenzene	18.59	146	467	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	662	N.D.		
87) sec-Butylbenzene	18.74	105	653	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	2868	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	887	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	493	N.D.		
91) d-Limonene	19.08	68	2606	0.122 ng		83
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	682	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	921	N.D.		
95) Naphthalene	20.94	128	1349	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	330	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	549	N.D.		
100) n-Butylbenzene	19.38	91	904	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122414.D Vial: 13
Acq On : 12 Sep 2024 18:06 Operator: SC
Sample : P2403661-045Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:50:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

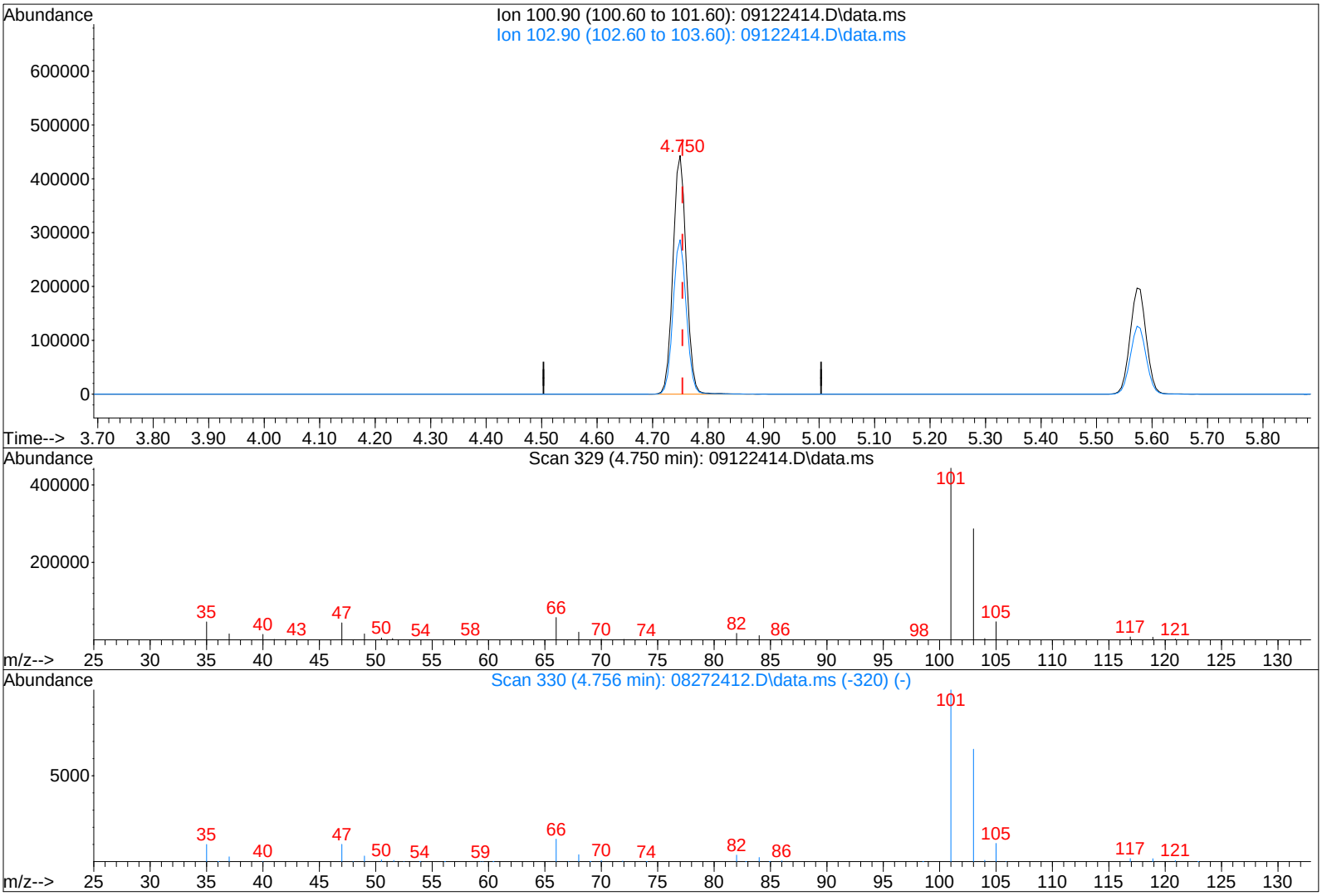


C-1604

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122414.D Vial: 13
Acq On : 12 Sep 2024 18:06 Operator: SC
Sample : P2403661-045Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:19:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122414.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 22.56ng

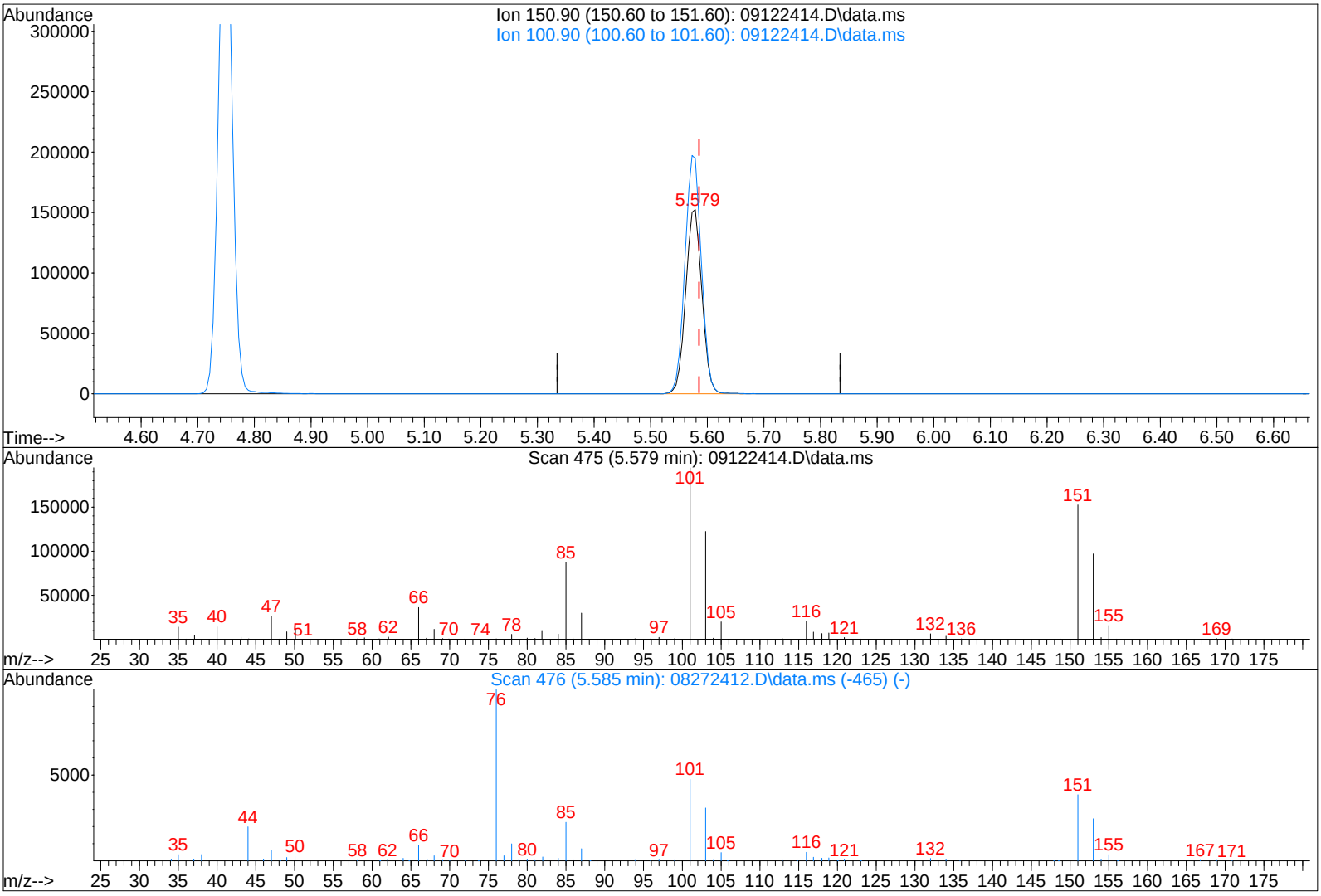
response 739391

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.63
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122414.D Vial: 13
Acq On : 12 Sep 2024 18:06 Operator: SC
Sample : P2403661-045Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:19:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122414.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.007) 23.36ng

response 303319

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	130.74
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112425.D
Acq On : 11 Sep 2024 22:48
Operator : SC
Sample : P2403661-045 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112425.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.228	59	61	66	rVB	575138	580076	2.74%	0.845%
2	3.302	66	74	80	rVV2	625412	969639	4.58%	1.413%
3	3.359	80	84	92	rVB	38537	48949	0.23%	0.071%
4	3.495	103	108	114	rBV	84872	117269	0.55%	0.171%
5	3.608	121	128	143	rVB	7393673	10707013	50.58%	15.598%
6	3.767	150	156	163	rBV	154953	209299	0.99%	0.305%
7	3.847	164	170	179	rVB	533028	700407	3.31%	1.020%
8	3.926	179	184	188	rBV2	24545	31556	0.15%	0.046%
9	4.057	202	207	214	rVB	15430	24930	0.12%	0.036%
10	4.301	242	250	261	rBV	113023	221756	1.05%	0.323%
11	4.420	265	271	282	rVV4	15987	52389	0.25%	0.076%
12	4.528	284	290	297	rVV2	28502	64796	0.31%	0.094%
13	4.653	300	312	321	rVV2	3112323	7702533	36.39%	11.221%
14	4.761	321	331	341	rVV	9456126	18618429	87.95%	27.123%
15	4.852	341	347	359	rVV	253512	530333	2.51%	0.773%
16	4.965	360	367	373	rVV6	26242	86058	0.41%	0.125%
17	5.045	373	381	392	rVV	1297177	2350111	11.10%	3.424%
18	5.130	392	396	400	rVV2	23676	46887	0.22%	0.068%
19	5.164	400	402	410	rVB2	17985	26533	0.13%	0.039%
20	5.329	422	431	440	rBV2	98125	250790	1.18%	0.365%
21	5.397	440	443	448	rVB2	12366	20655	0.10%	0.030%
22	5.584	465	476	496	rVB	9874897	21168938	100.00%	30.839%
23	5.777	496	510	516	rVV	92210	213289	1.01%	0.311%
24	5.834	516	520	532	rVV	31237	71199	0.34%	0.104%
25	5.954	535	541	548	rVB6	7833	20396	0.10%	0.030%
26	6.078	555	563	573	rBV2	34124	82295	0.39%	0.120%
27	6.311	596	604	611	rBV	99595	223426	1.06%	0.325%
28	6.430	611	625	630	rVV3	95434	366949	1.73%	0.535%
29	6.487	630	635	641	rVV	100242	204863	0.97%	0.298%
30	6.561	641	648	659	rVV2	68114	166738	0.79%	0.243%
31	6.663	659	666	682	rVB	98455	222893	1.05%	0.325%
32	6.856	689	700	708	rBV	97965	221192	1.04%	0.322%
33	6.970	713	720	731	rVB4	14241	40984	0.19%	0.060%
34	7.129	742	748	757	rVB6	14052	33676	0.16%	0.049%
35	7.237	757	767	772	rBV	467602	1092412	5.16%	1.591%
36	7.299	772	778	786	rVV3	310093	877884	4.15%	1.279%
37	7.367	786	790	795	rVV2	19942	43428	0.21%	0.063%
38	7.424	795	800	808	rVB6	8887	23534	0.11%	0.034%
39	7.742	844	856	870	rBV5	63632	209322	0.99%	0.305%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112425.D
Acq On : 11 Sep 2024 22:48
Operator : SC
Sample : P2403661-045 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

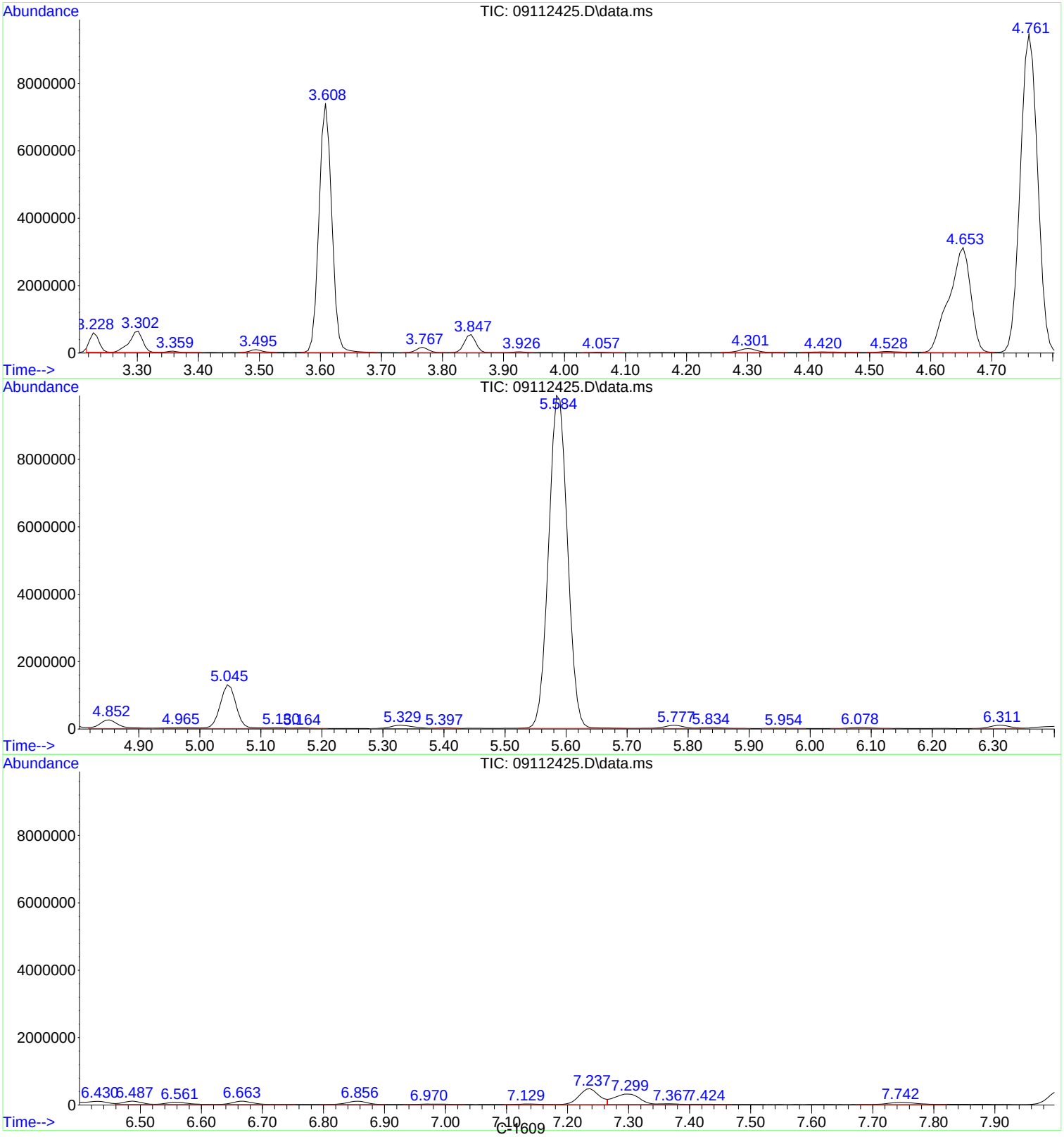
Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Sum of corrected areas: 68643826

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112425.D
Acq On : 11 Sep 2024 22:48
Operator : SC
Sample : P2403661-045 (400mL)
Misc : S37-06062402
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112425.D
Acq On : 11 Sep 2024 22:488
Operator : SCC
Sample : P2403661-045 (400mL))
Misc : S37-060624022
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:15:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	142049	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.31	114	624691	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	190381	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	350866	13.200	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
57) Toluene-d8 (SS2)	12.43	98	734695	11.001	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	16.82	174	256831	11.498	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.36	85	18947m	0.549	ng		
4) Chloromethane	3.49	50	4930	0.183	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	240	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	4.15	64	307	N.D.			
10) Ethanol	4.28	45	54408	3.529	ng		78
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.52	56	14327	1.216	ng		98
13) Acetone	4.62	58	238568	18.340	ng	#	33
14) Trichlorofluoromethane	4.76	101	1740393	52.908	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	158020	3.085	ng		91
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	1117	0.073	ng	#	44
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	677626	51.997	ng		94
22) Carbon Disulfide	5.60	76	302603	5.959	ng		78
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	6.40	63	334	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	692	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.66	72	24104	2.612	ng	#	75
28) cis-1,2-Dichloroethene	6.98	61	1128	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	105230	17.018	ng		90
31) n-Hexane	7.30	57	9095	0.323	ng	#	89
32) Chloroform	7.37	83	12842	0.454	ng		99
34) Tetrahydrofuran (THF)	7.76	72	769	0.088	ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	464	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.63	61	25661	No Calib	#		
40) 1-Butanol	8.81	56	13771	No Calib	#		
41) Benzene	8.89	78	18603	0.318	ng		98
42) Carbon Tetrachloride	9.07	117	986	N.D.			
43) Cyclohexane	9.23	84	6372	0.322	ng		92
44) tert-Amyl Methyl Ether	9.62	73	591	N.D.			
45) 1,2-Dichloropropane	9.87	63	455	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	10.14	130	488	N.D.			
48) 1,4-Dioxane	10.12	88	391	N.D.			
49) 2,2,4-Trimethylpentane...	10.25	57	1957892	28.238	ng		97
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:15:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

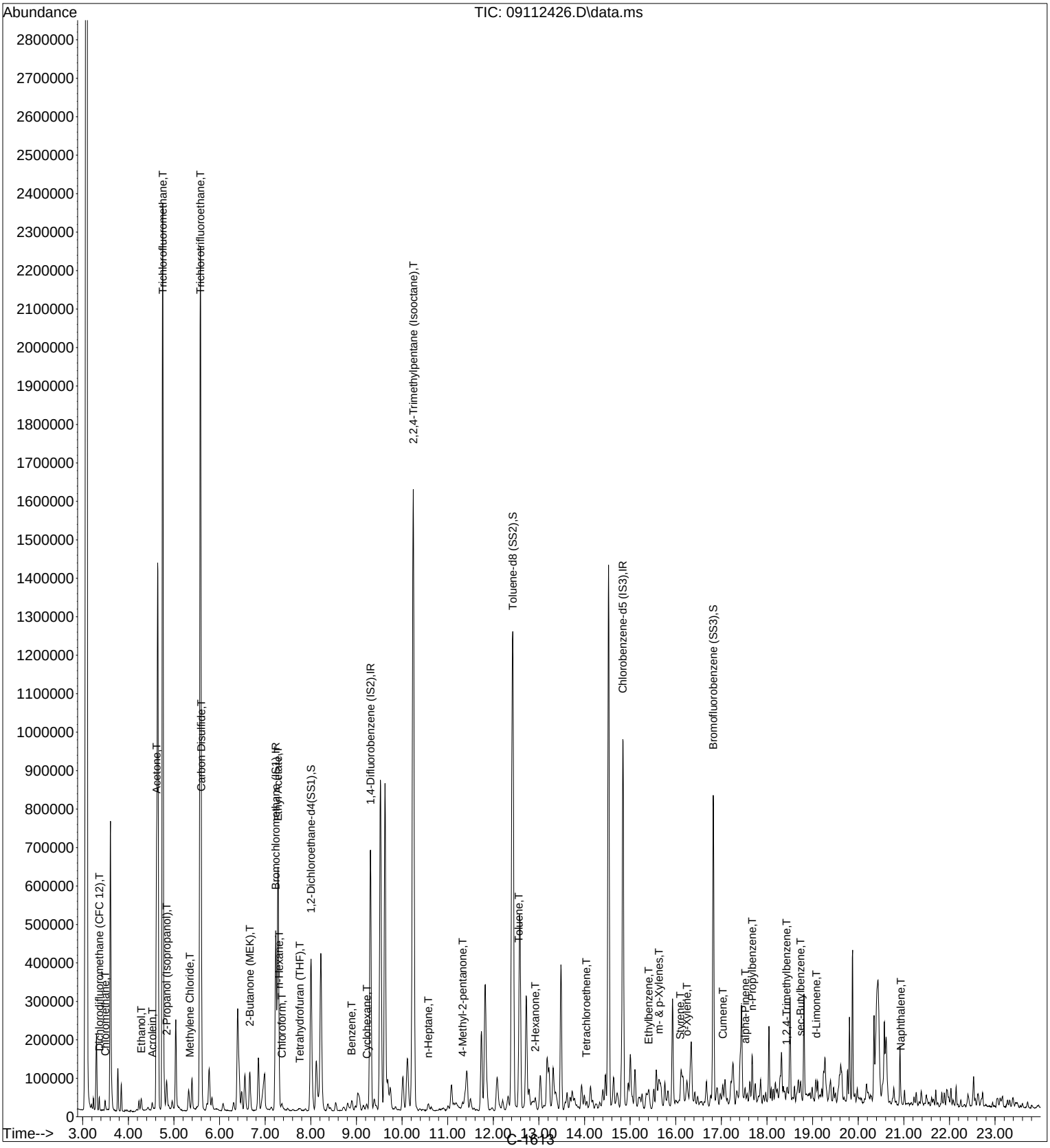
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	2980	0.228 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	5231	0.338 ng	#	30
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	12.16	97	561	N.D.		
58) Toluene	12.56	91	90083	1.248 ng		100
59) 2-Hexanone	12.92	43	20870m	0.467 ng		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	14.04	166	1166	0.058 ng		88
65) Chlorobenzene	14.91	112	544	N.D.		
66) Ethylbenzene	15.41	91	10700	0.129 ng		98
67) m- & p-Xylenes	15.63	91	21563	0.319 ng		98
68) Bromoform	15.68	173	135	N.D.		
69) Styrene	16.10	104	4938	0.113 ng		96
70) o-Xylene	16.25	91	8812	0.134 ng		88
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.03	105	35160	0.460 ng		99
75) alpha-Pinene	17.53	93	13753	0.346 ng		92
76) n-Propylbenzene	17.68	91	85900	0.906 ng		98
77) 3-Ethyltoluene	17.03	105	35160	No Calib		
78) 4-Ethyltoluene	17.86	105	2771	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	2197	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	35160	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	7437	0.110 ng		87
83) n-Decane	16.98	58	1480	No Calib	#	
84) Benzyl Chloride	18.56	91	1467	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	275	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	602	N.D.		
87) sec-Butylbenzene	18.74	105	22873	0.267 ng		95
88) 4-Isopropyltoluene (p-...	18.92	119	3172	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	35160	No Calib		
90) 1,2-Dichlorobenzene	19.02	146	293	N.D.		
91) d-Limonene	19.08	68	2625	0.116 ng		93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.97	58	769	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	727	N.D.		
95) Naphthalene	20.94	128	10296	0.144 ng		97
96) n-Dodecane	18.95	58	1065	No Calib	#	
97) Hexachlorobutadiene	21.30	225	269	N.D.		
98) Cyclohexanone	15.26	55	12360	No Calib	#	
99) tert-Butylbenzene	18.43	119	1269	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:15:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
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Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

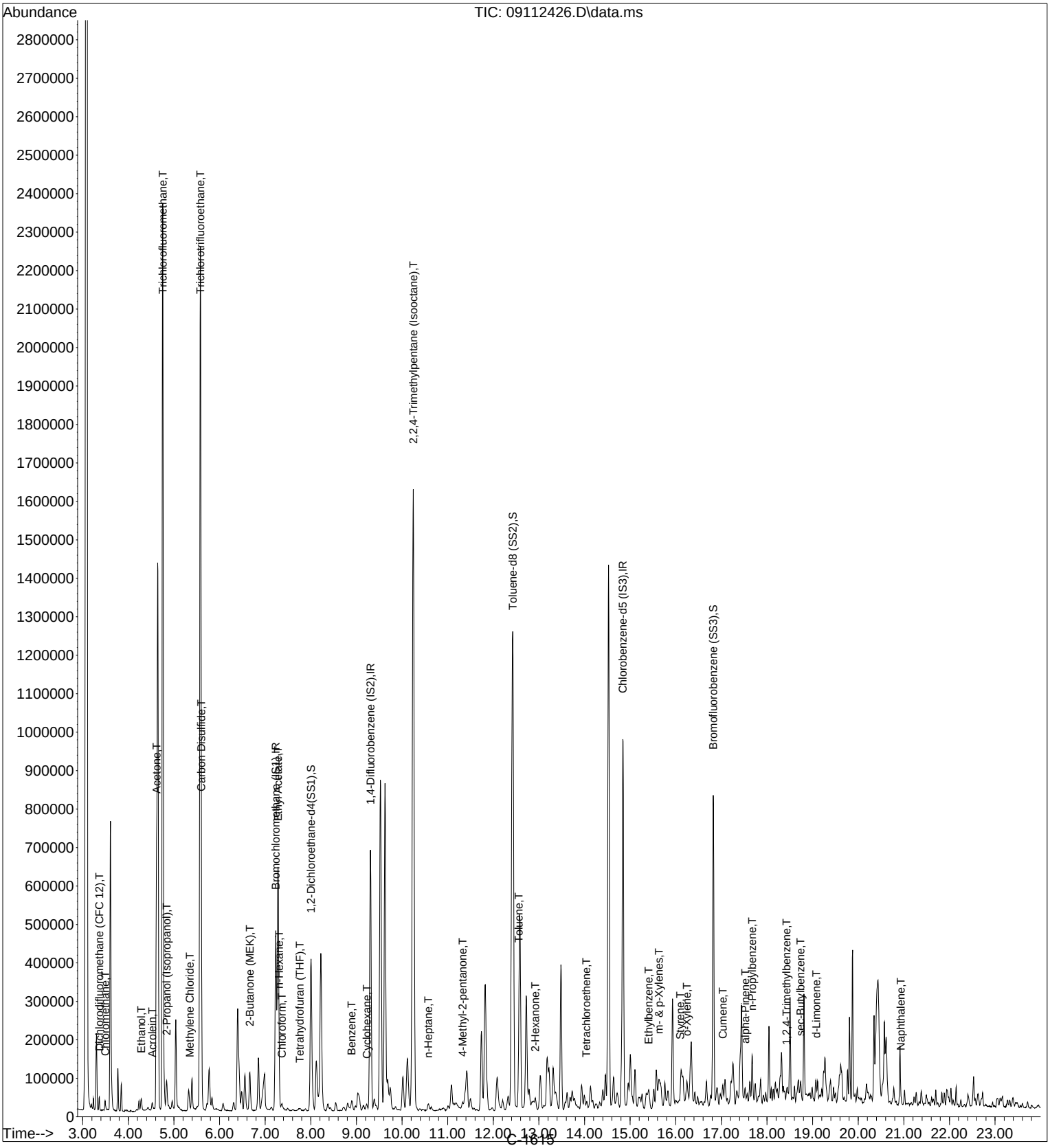
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	142049	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.31	114	624691	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	190381	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	350866	13.200	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.60%				
57) Toluene-d8 (SS2)	12.43	98	734695	11.001	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	16.82	174	256831	11.498	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	18947m	0.549	ng		
4) Chloromethane	3.49	50	4930	0.183	ng		98
10) Ethanol	4.28	45	54408	3.529	ng		78
12) Acrolein	4.52	56	14327	1.216	ng		98
13) Acetone	4.62	58	238568	18.340	ng	#	33
14) Trichlorofluoromethane	4.76	101	1740393	52.908	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	158020	3.085	ng		91
19) Methylene Chloride	5.35	84	1117	0.073	ng	#	44
21) Trichlorotrifluoroethane	5.58	151	677626	51.997	ng		94
22) Carbon Disulfide	5.60	76	302603	5.959	ng		78
27) 2-Butanone (MEK)	6.66	72	24104	2.612	ng	#	75
30) Ethyl Acetate	7.28	61	105230	17.018	ng		90
31) n-Hexane	7.30	57	9095	0.323	ng	#	89
32) Chloroform	7.37	83	12842	0.454	ng		99
34) Tetrahydrofuran (THF)	7.76	72	769	0.088	ng	#	1
41) Benzene	8.89	78	18603	0.318	ng		98
43) Cyclohexane	9.23	84	6372	0.322	ng		92
49) 2,2,4-Trimethylpentane...	10.25	57	1957892	28.238	ng		97
51) n-Heptane	10.58	71	2980	0.228	ng		95
53) 4-Methyl-2-pentanone	11.33	58	5231	0.338	ng	#	30
58) Toluene	12.56	91	90083	1.248	ng		100
59) 2-Hexanone	12.92	43	20870m	0.467	ng		
64) Tetrachloroethene	14.04	166	1166	0.058	ng		88
66) Ethylbenzene	15.41	91	10700	0.129	ng		98
67) m- & p-Xylenes	15.63	91	21563	0.319	ng		98
69) Styrene	16.10	104	4938	0.113	ng		96
70) o-Xylene	16.25	91	8812	0.134	ng		88
74) Cumene	17.03	105	35160	0.460	ng		99
75) alpha-Pinene	17.53	93	13753	0.346	ng		92
76) n-Propylbenzene	17.68	91	85900	0.906	ng		98
82) 1,2,4-Trimethylbenzene	18.43	105	7437	0.110	ng		87
87) sec-Butylbenzene	18.74	105	22873	0.267	ng		95
91) d-Limonene	19.08	68	2625	0.116	ng		93
95) Naphthalene	20.94	128	10296	0.144	ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

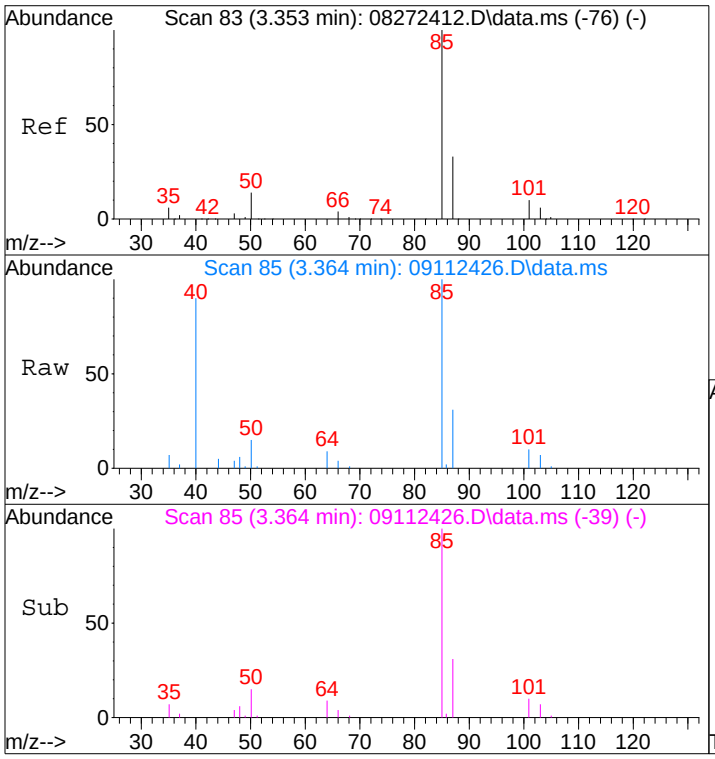
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:15:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



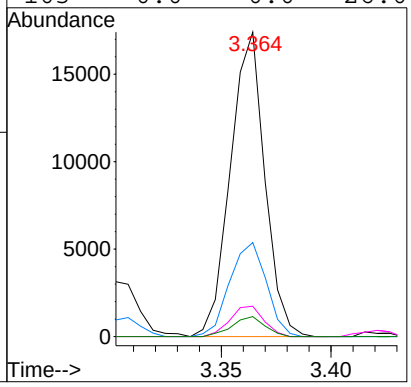
C-1615

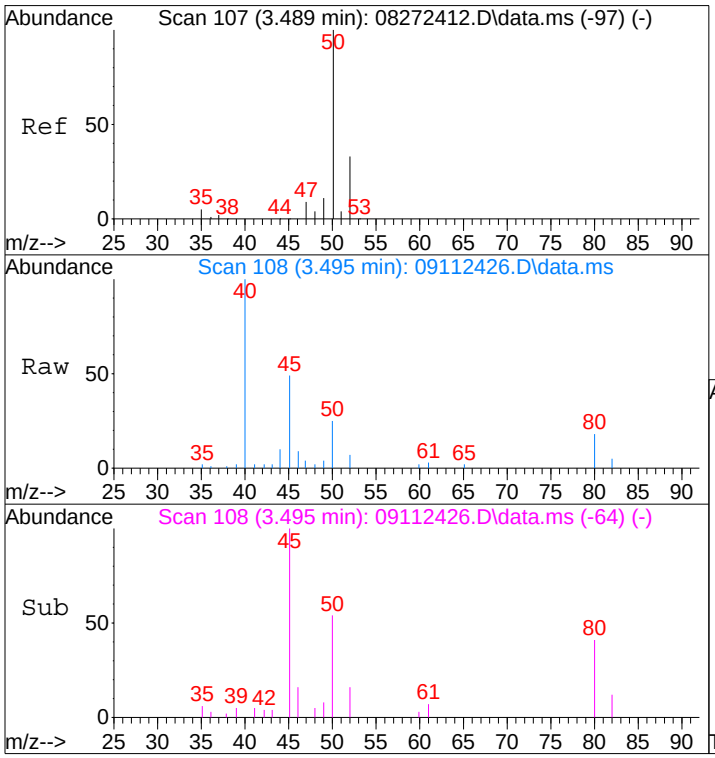


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.55 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.013 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 85 Resp: 18947

Ion	Ratio	Lower	Upper
85	100		
87	6.5	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

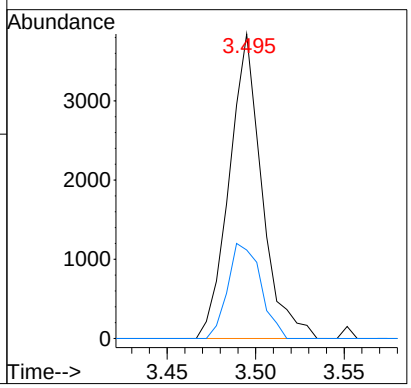


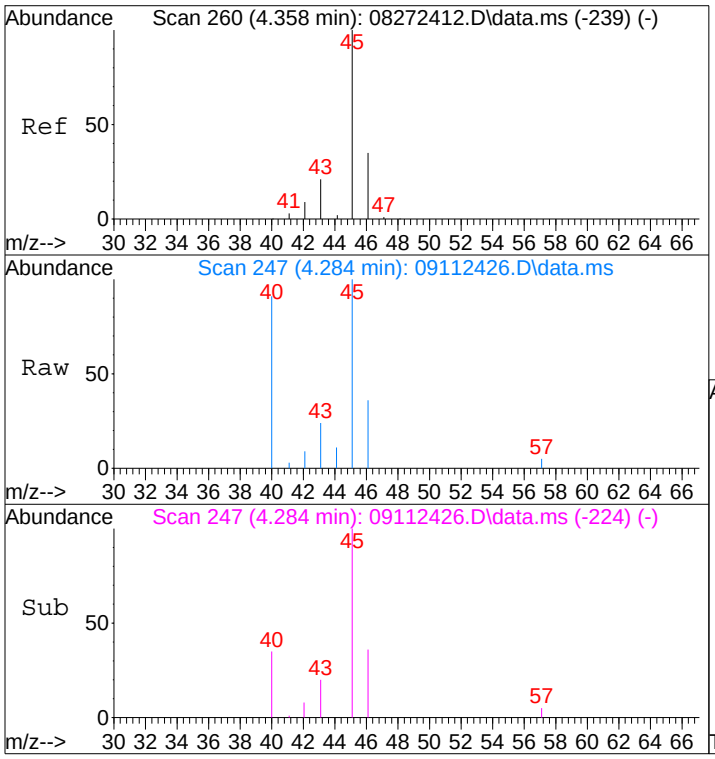


#4
Chloromethane
Concen: 0.18 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.002 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 50 Resp: 4930

Ion	Ratio	Lower	Upper
50	100		
52	31.5	12.4	52.4

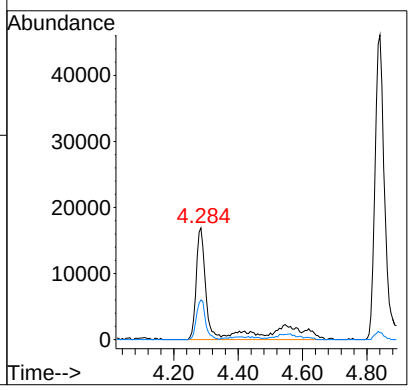


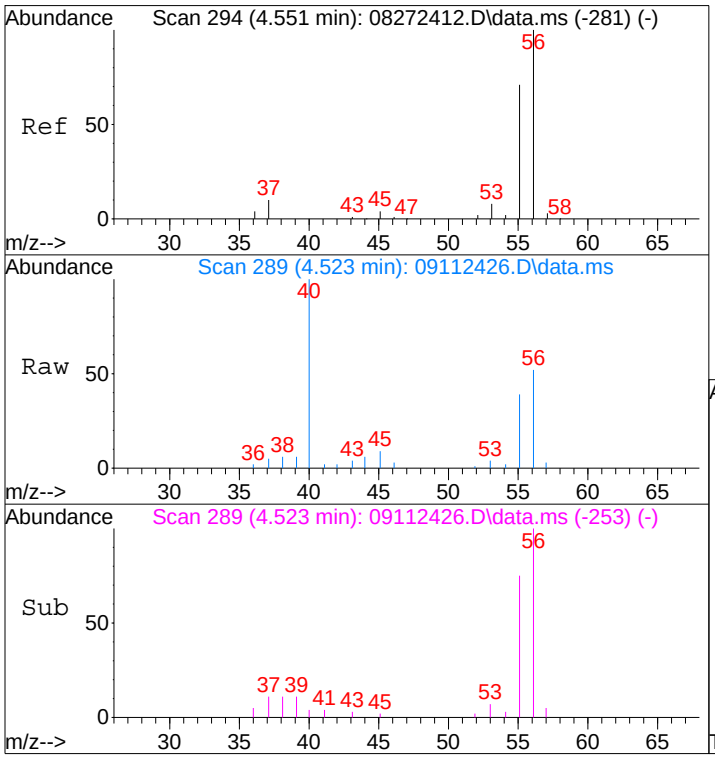


#10
Ethanol
Concen: 3.53 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.119 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 45 Resp: 54408

Ion	Ratio	Lower	Upper
45	100		
46	21.7	14.2	54.2

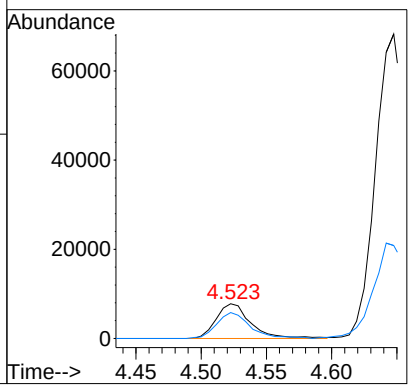


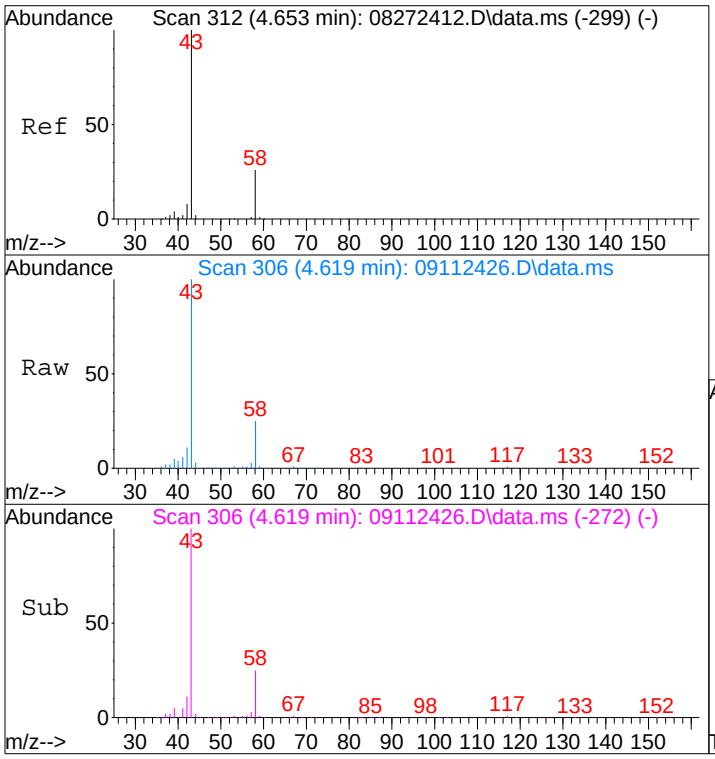


#12
Acrolein
Concen: 1.22 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.045 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 56 Resp: 14327

Ion	Ratio	Lower	Upper
56	100		
55	72.7	54.7	94.7

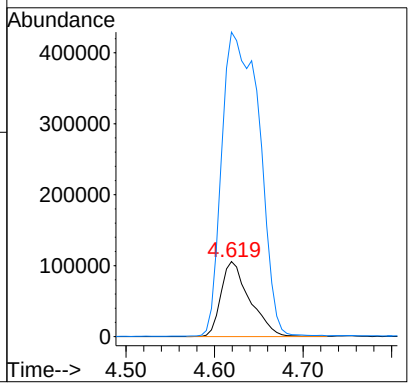


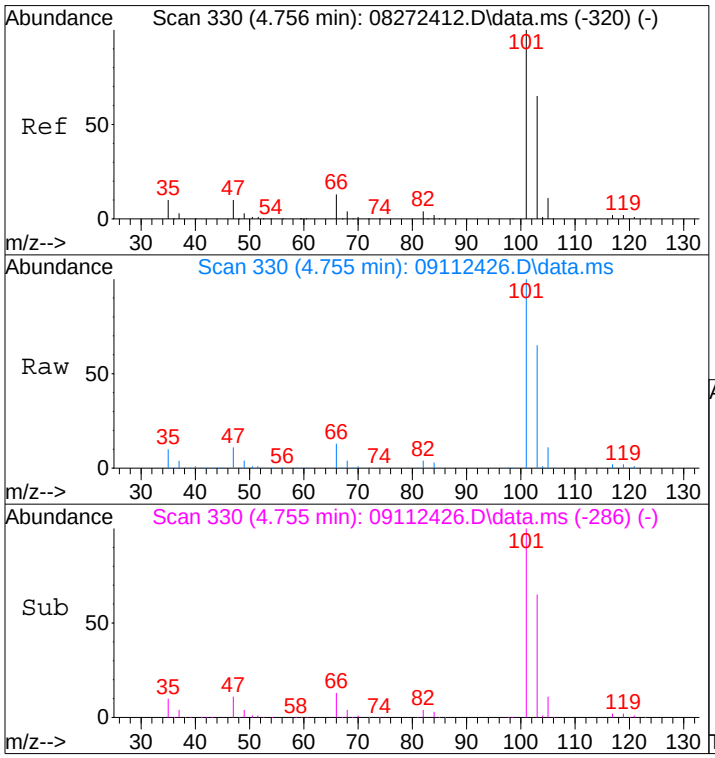


#13
Acetone
Concen: 18.34 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.056 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 58 Resp: 238568

Ion	Ratio	Lower	Upper
58	100		
43	530.9	347.3	407.3#

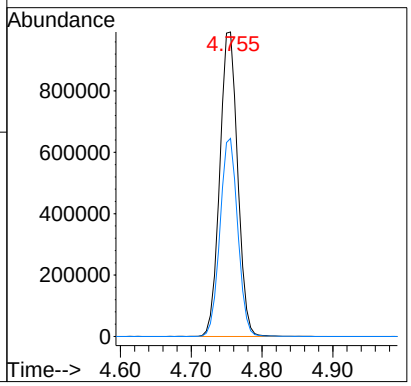


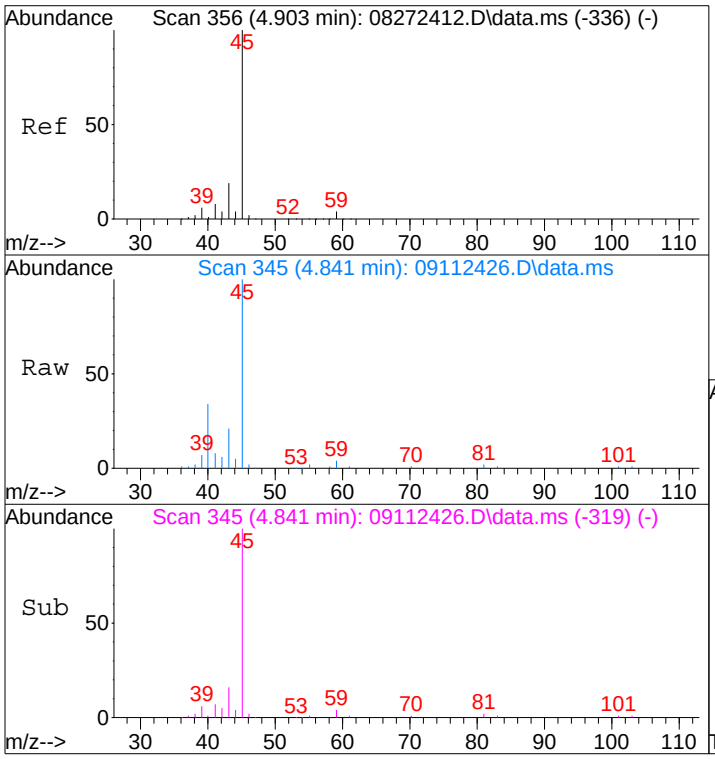


#14
Trichlorofluoromethane
Concen: 52.91 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.002 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:101 Resp: 1740393

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.9	84.9

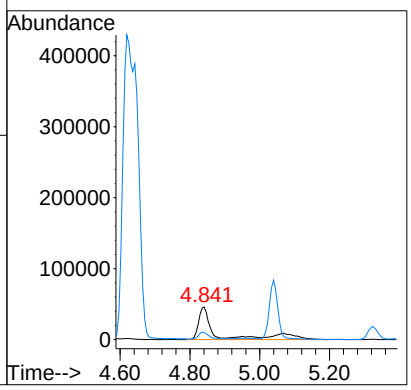


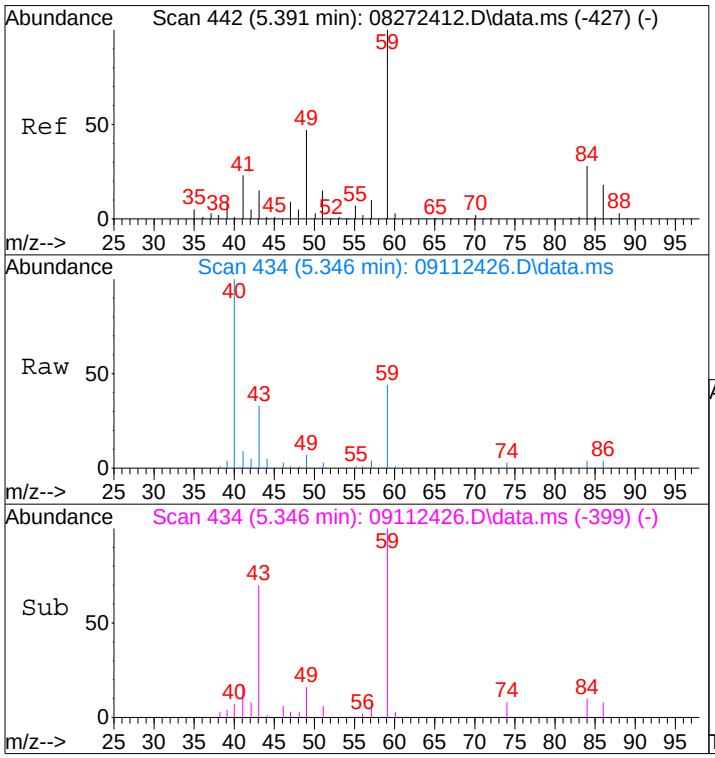


#15
2-Propanol (Isopropanol)
Concen: 3.09 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.100 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 45 Resp: 158020

Ion	Ratio	Lower	Upper
45	100		
43	15.7	0.0	40.0

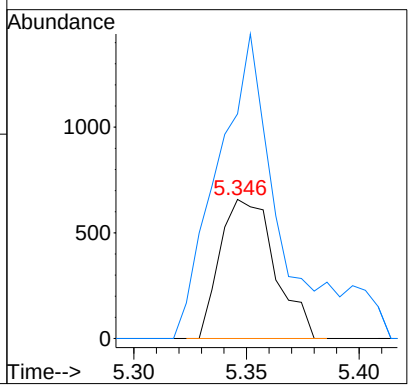


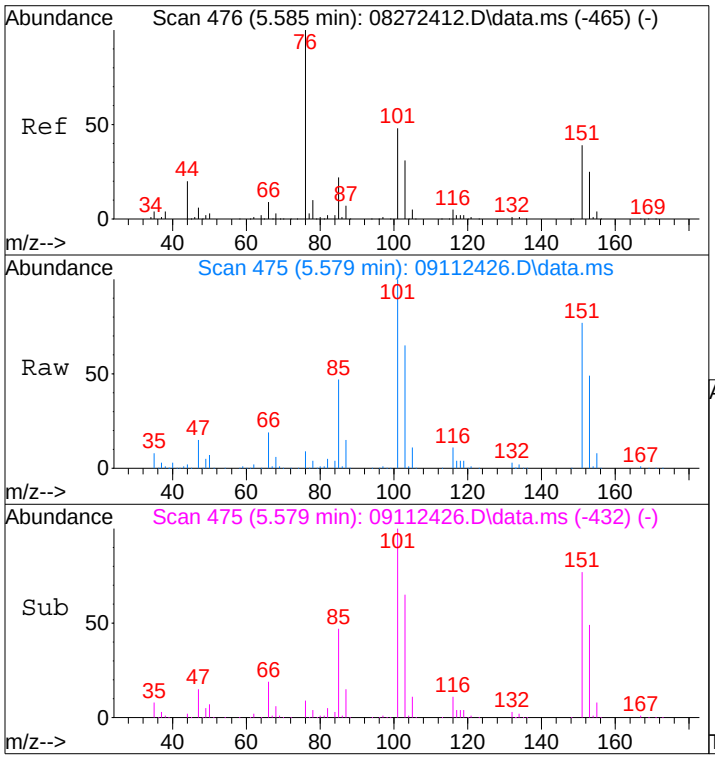


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.35 min Scan# 434
Delta R.T. -0.053 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 84 Resp: 1117

Ion	Ratio	Lower	Upper
84	100		
49	254.3	151.1	201.1#

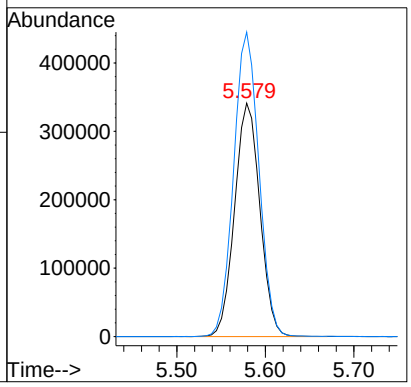


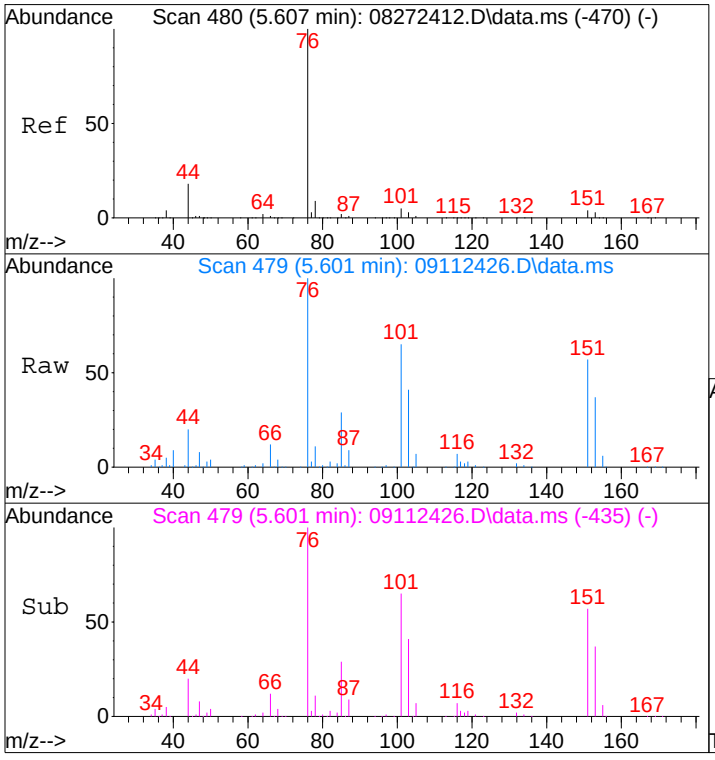


#21
Trichlorotrifluoroethane
Concen: 52.00 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.007 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:151 Resp: 677626

Ion	Ratio	Lower	Upper
151	100		
101	130.4	103.4	143.4

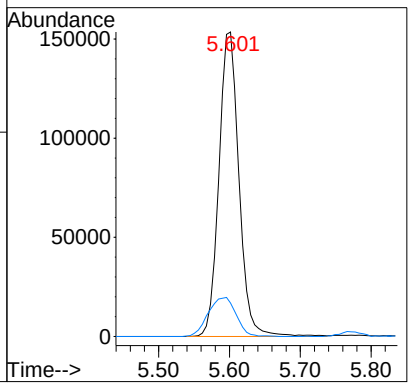


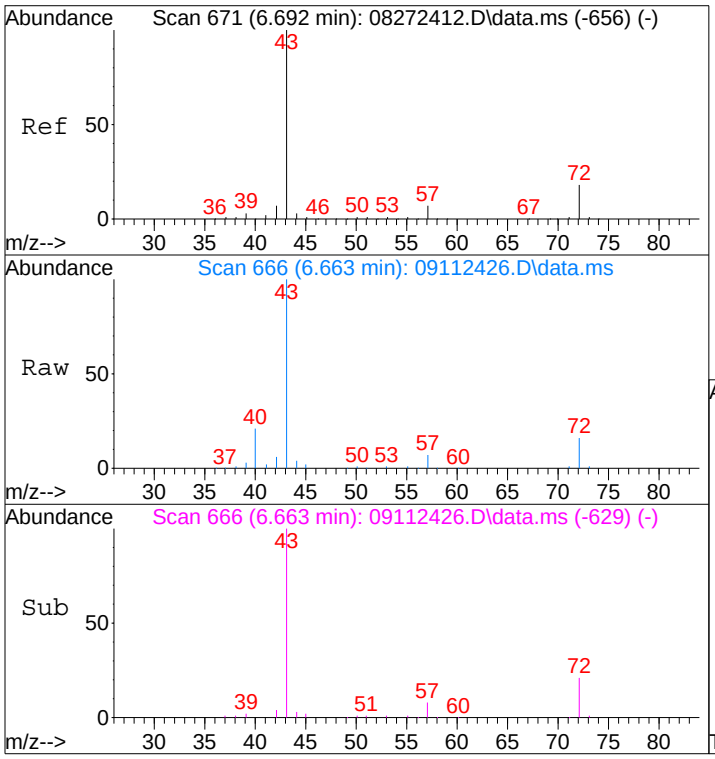


#22
Carbon Disulfide
Concen: 5.96 ng
RT: 5.60 min Scan# 479
Delta R.T. -0.001 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 76 Resp: 302603

Ion	Ratio	Lower	Upper
76	100		
78	17.8	0.0	29.6

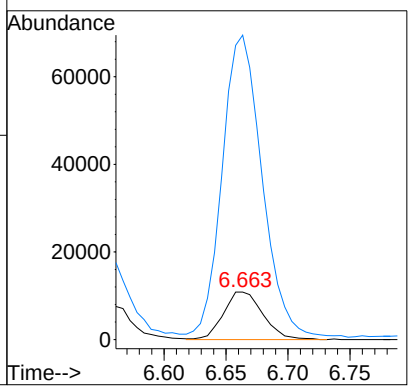


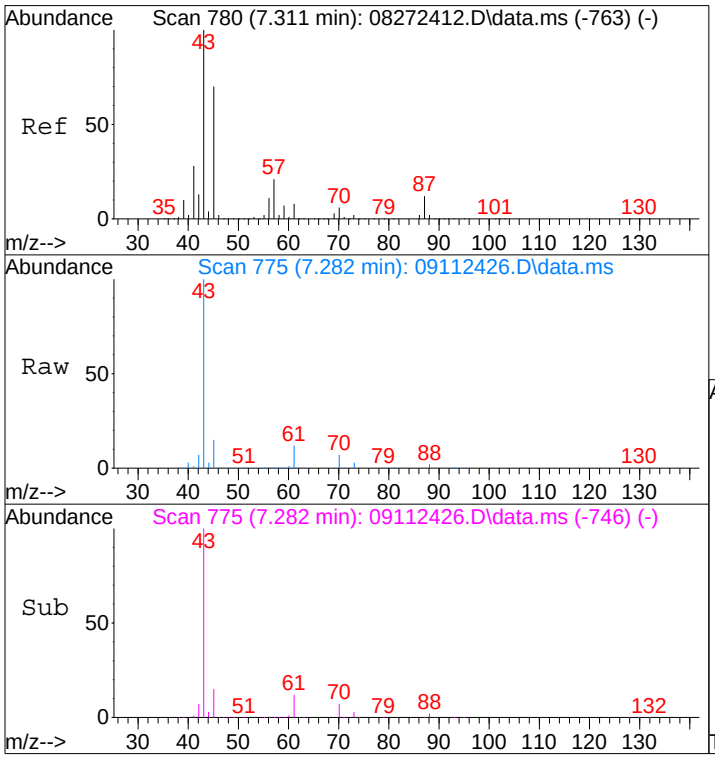


#27
2-Butanone (MEK)
Concen: 2.61 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.042 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 72 Resp: 24104

Ion	Ratio	Lower	Upper
72	100		
43	641.9	548.0	588.0#

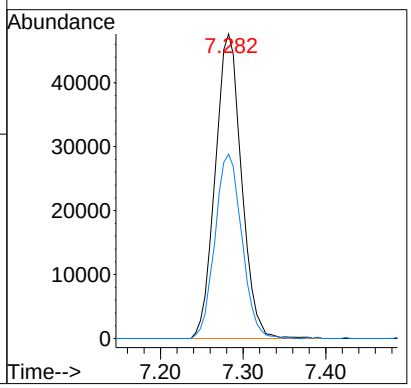


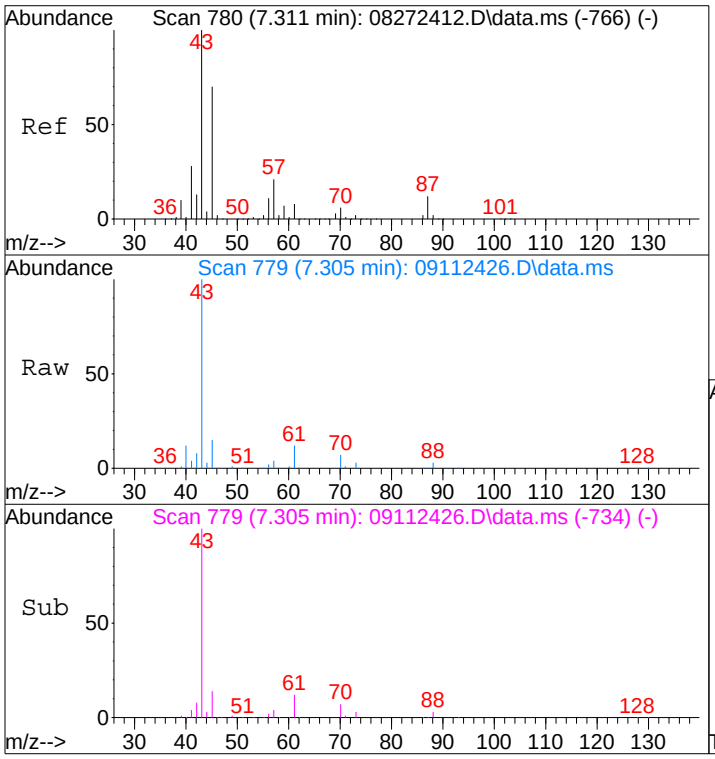


#30
Ethyl Acetate
Concen: 17.02 ng
RT: 7.28 min Scan# 775
Delta R.T. -0.034 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 61 Resp: 105230

Ion	Ratio	Lower	Upper
61	100		
70	61.7	49.9	89.9

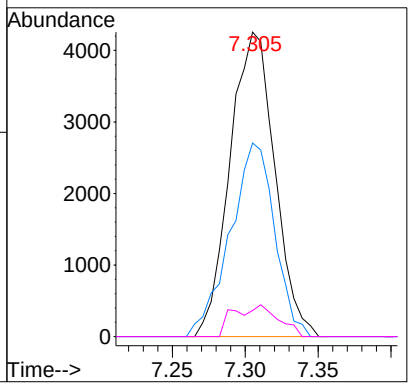


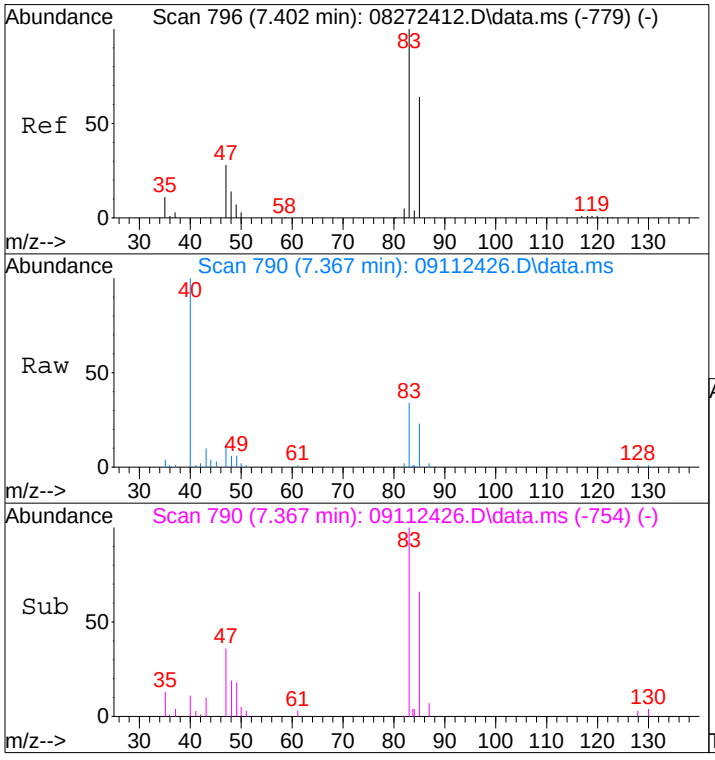


#31
n-Hexane
Concen: 0.32 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.006 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 57 Resp: 9095

Ion	Ratio	Lower	Upper
57	100		
56	63.1	44.2	66.2
86	6.5	9.3	13.9#

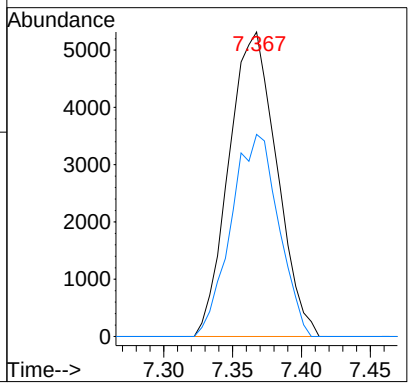


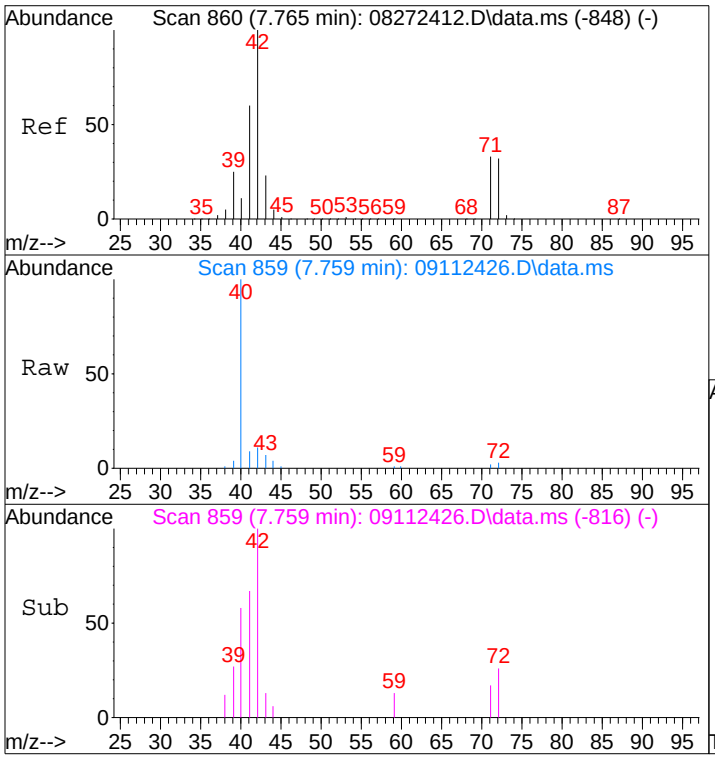


#32
Chloroform
Concen: 0.45 ng
RT: 7.37 min Scan# 790
Delta R.T. -0.045 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 83 Resp: 12842

Ion	Ratio	Lower	Upper
83	100		
85	65.8	45.3	85.3

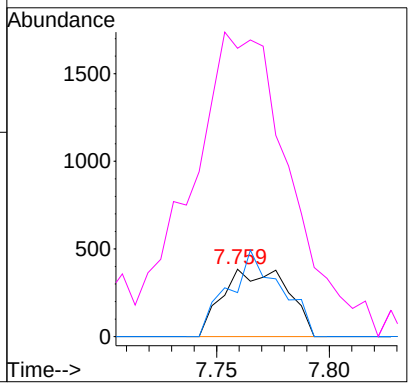


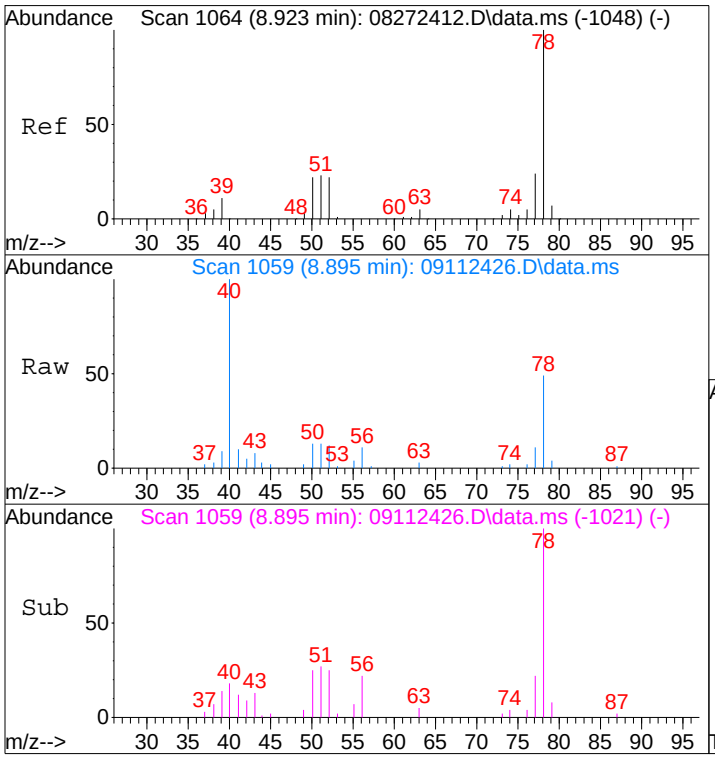


#34
Tetrahydrofuran (THF)
Concen: 0.09 ng
RT: 7.76 min Scan# 859
Delta R.T. -0.004 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 72 Resp: 769

Ion	Ratio	Lower	Upper
72	100		
71	102.2	78.4	118.4
42	686.0	285.2	325.2#

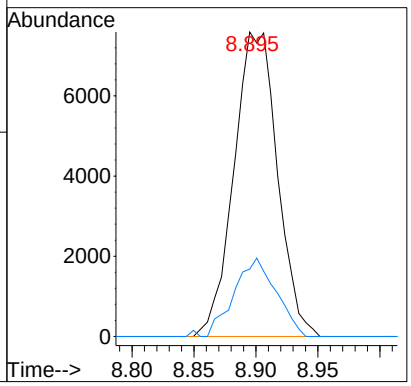


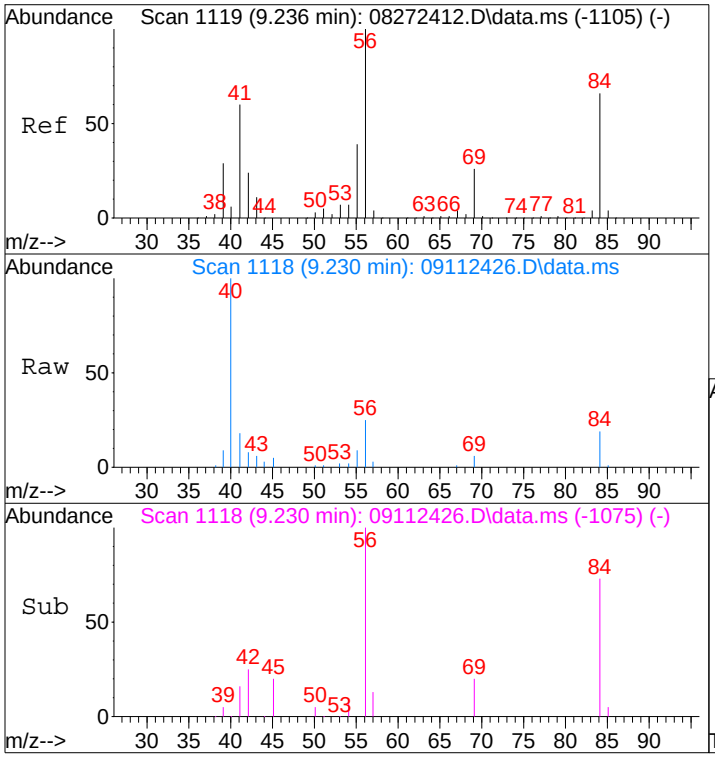


#41
Benzene
Concen: 0.32 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.035 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 78 Resp: 18603

Ion	Ratio	Lower	Upper
78	100		
77	25.0	3.9	43.9

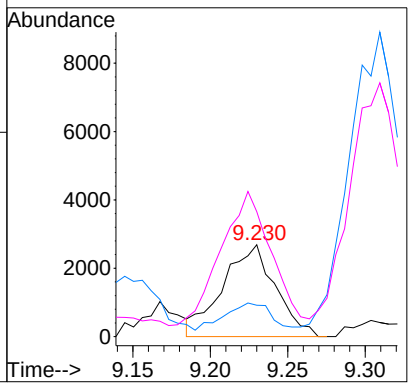


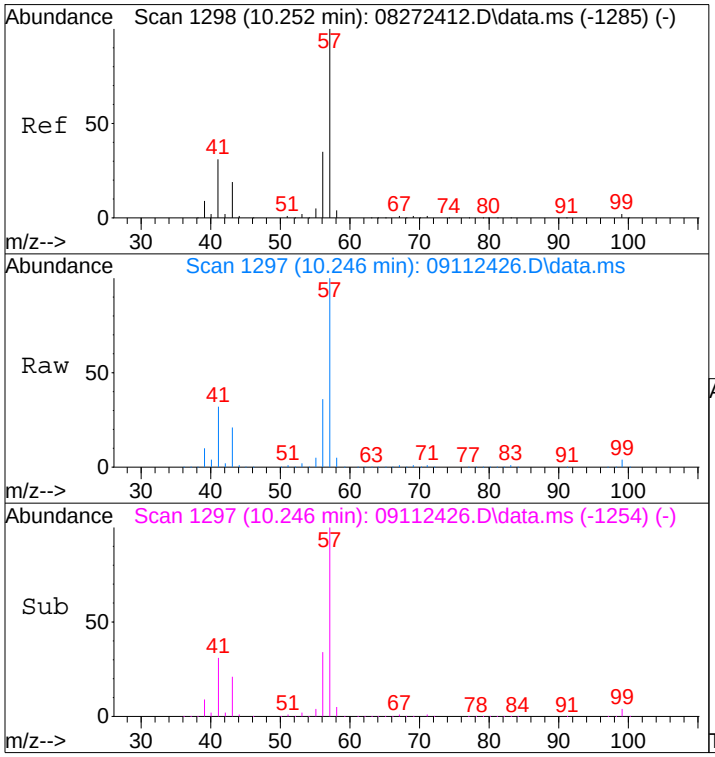


#43
Cyclohexane
Concen: 0.32 ng
RT: 9.23 min Scan# 1118
Delta R.T. -0.006 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 84 Resp: 6372

Ion	Ratio	Lower	Upper
84	100		
69	36.6	18.8	58.8
56	166.2	134.5	174.5

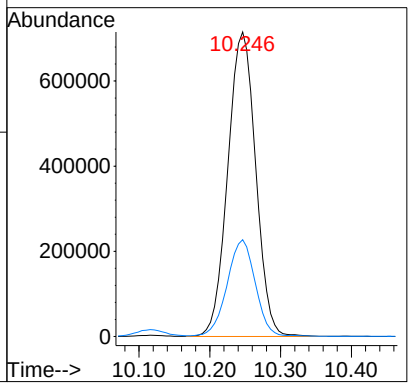


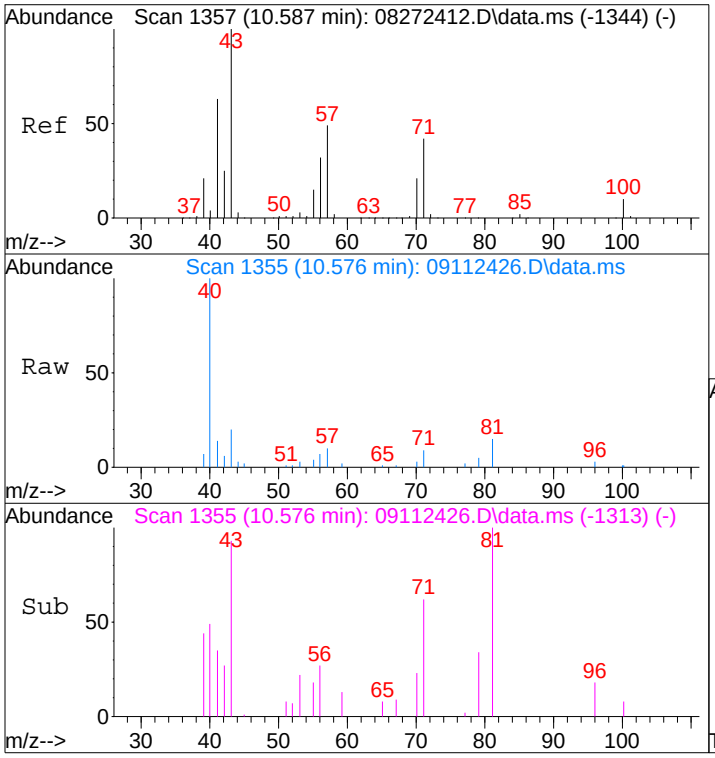


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 28.24 ng
RT: 10.25 min Scan# 1297
Delta R.T. -0.004 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 57 Resp: 1957892

Ion	Ratio	Lower	Upper
57	100		
41	32.1	10.5	50.5

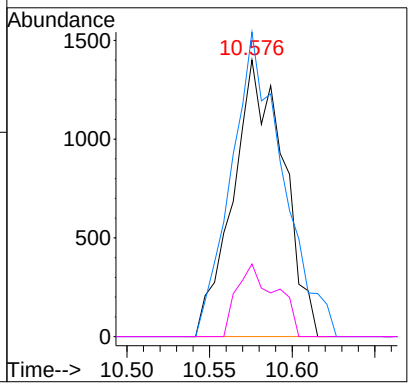


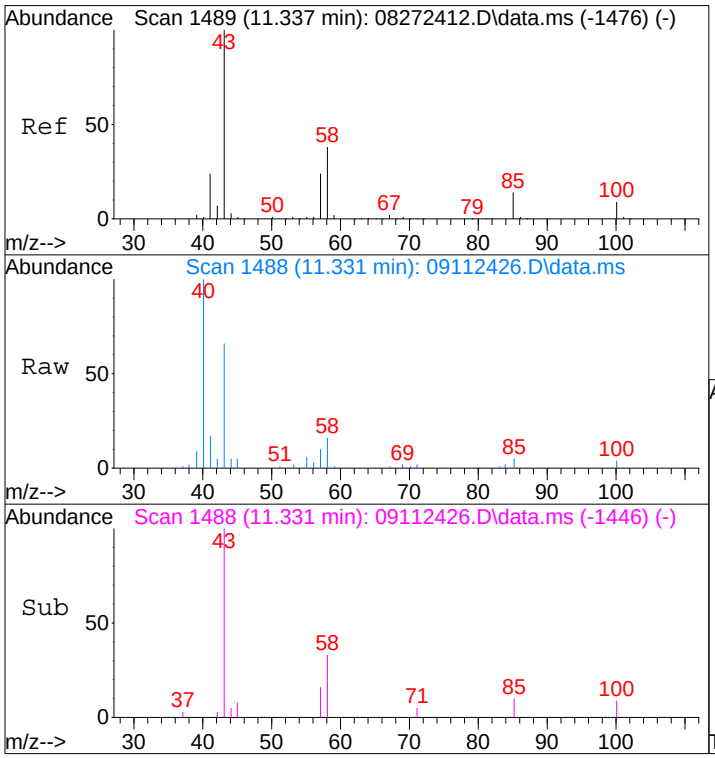


#51
n-Heptane
Concen: 0.23 ng
RT: 10.58 min Scan# 1355
Delta R.T. -0.009 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 71 Resp: 2980

Ion	Ratio	Lower	Upper
71	100		
57	112.3	97.1	137.1
100	20.3	5.0	45.0

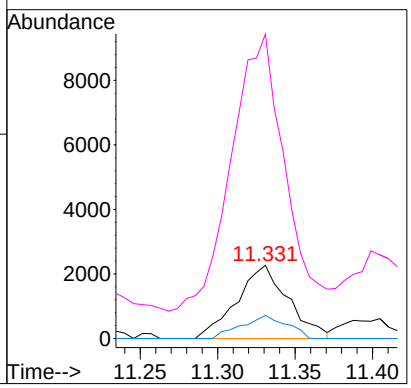


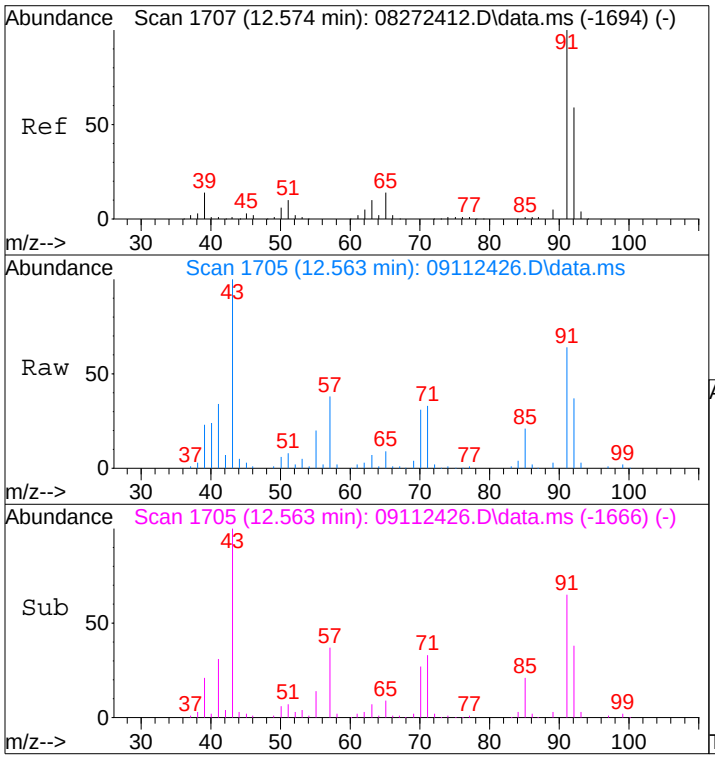


#53
4-Methyl-2-pentanone
Concen: 0.34 ng
RT: 11.33 min Scan# 1488
Delta R.T. -0.013 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 58 Resp: 5231

Ion	Ratio	Lower	Upper
58	100		
85	27.9	30.2	45.2#
43	409.6	215.1	322.7#

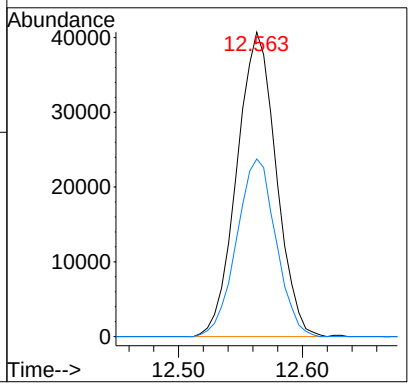


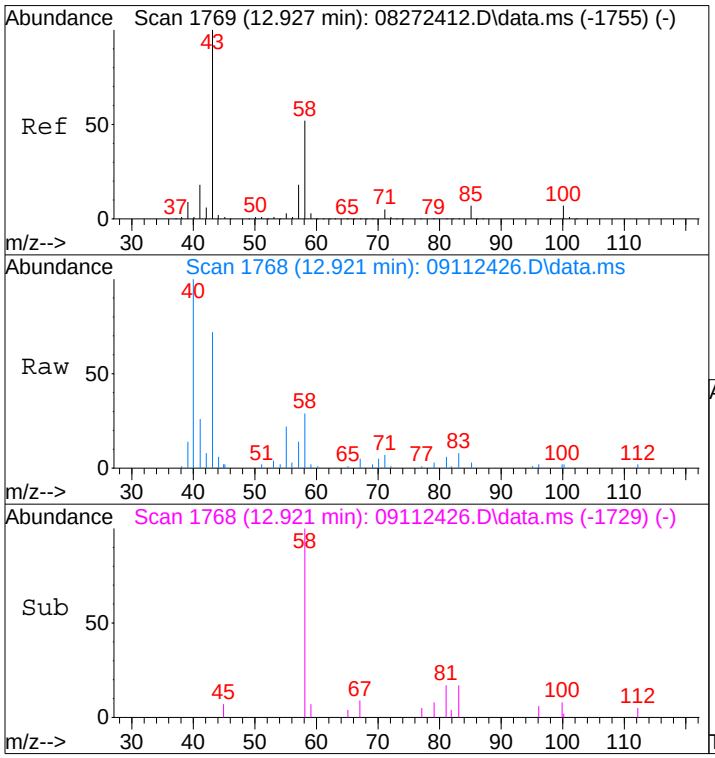


#58
Toluene
Concen: 1.25 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 91 Resp: 90083

Ion	Ratio	Lower	Upper
91	100		
92	58.3	38.5	78.5

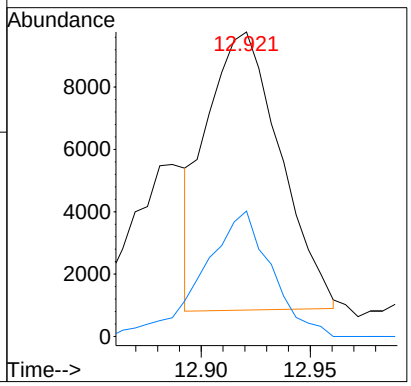


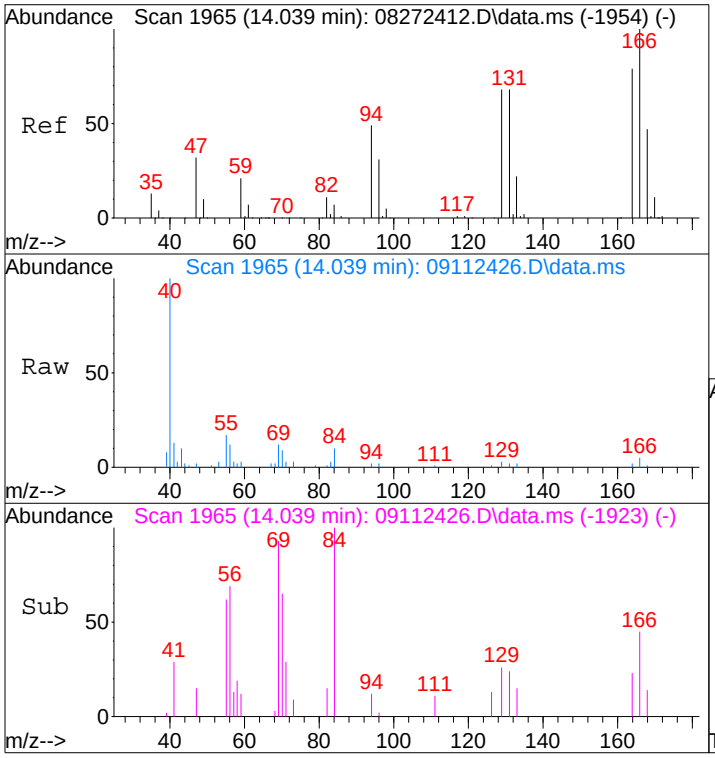


#59
2-Hexanone
Concen: 0.47 ng m
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 43 Resp: 20870

Ion	Ratio	Lower	Upper
43	100		
58	42.2	31.1	71.1

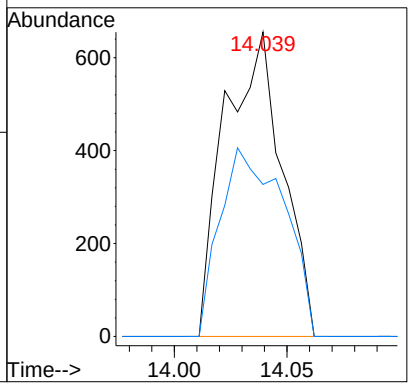


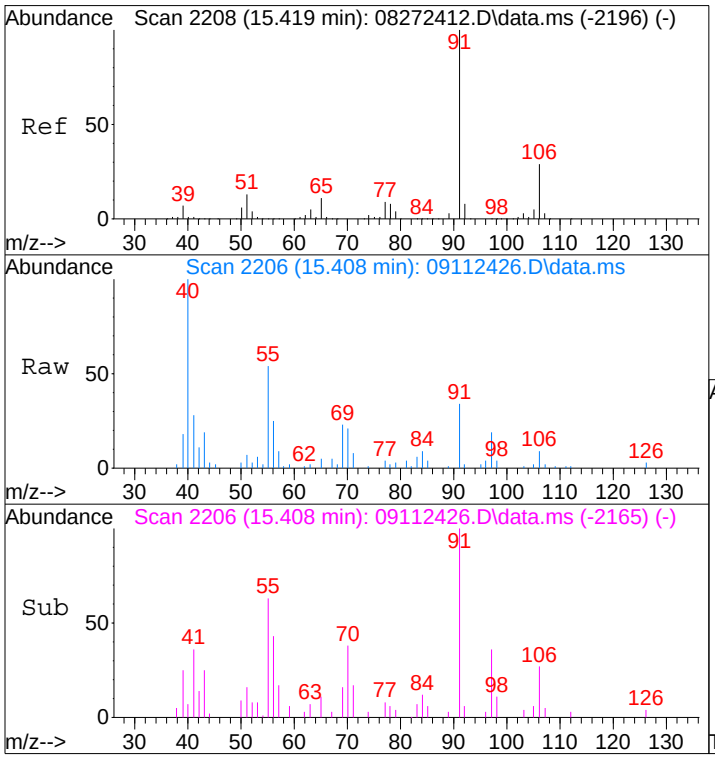


#64
Tetrachloroethene
Concen: 0.06 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:166 Resp: 1166

Ion	Ratio	Lower	Upper
166	100		
164	68.9	59.0	99.0

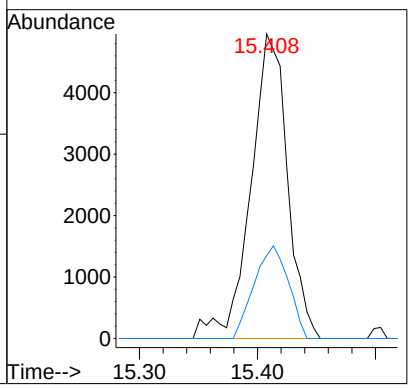


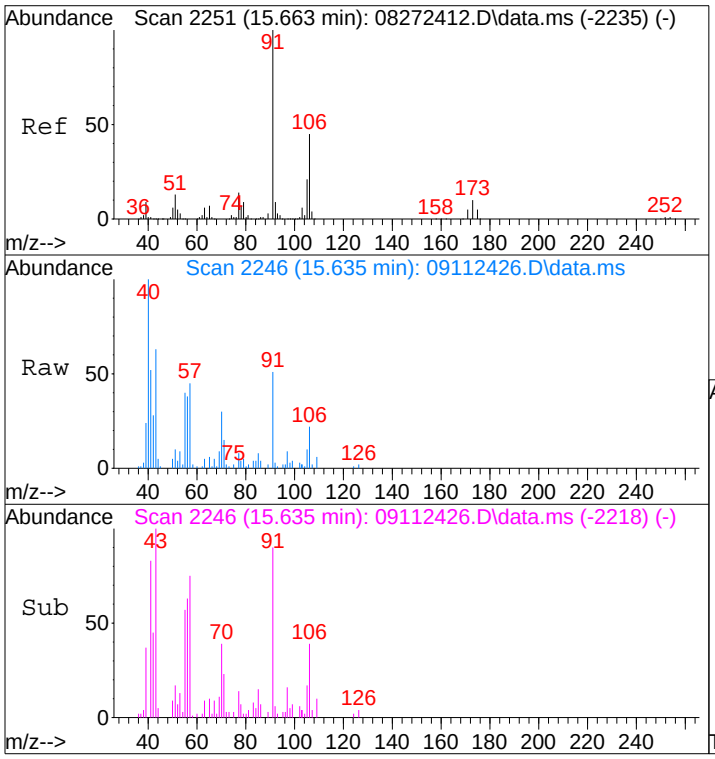


#66
Ethylbenzene
Concen: 0.13 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 91 Resp: 10700

Ion	Ratio	Lower	Upper
91	100		
106	28.4	9.2	49.2

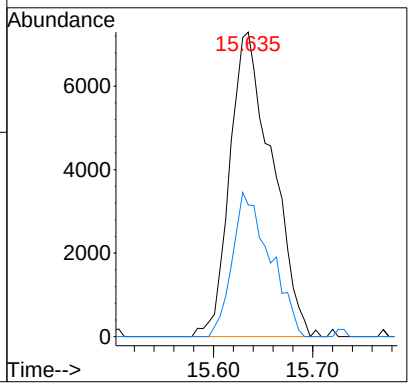


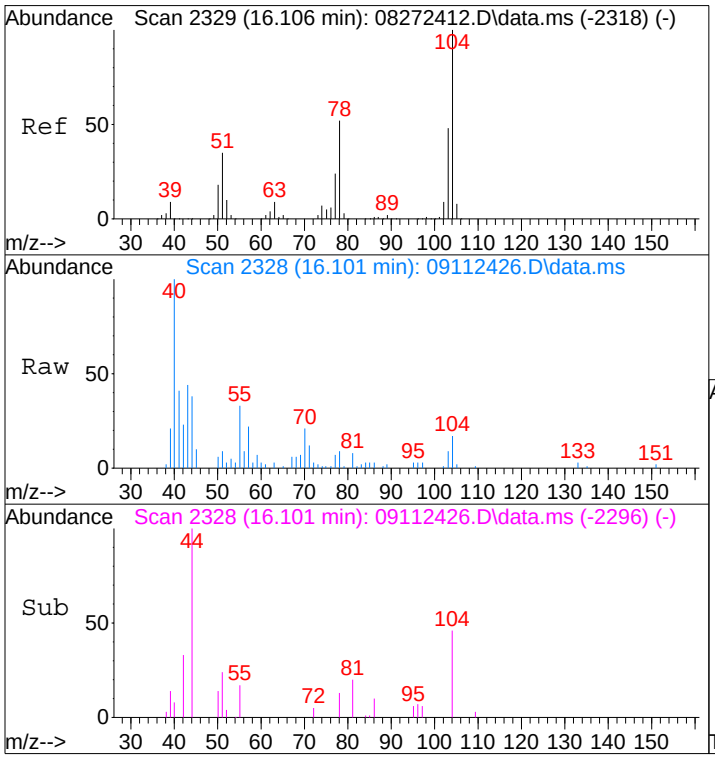


#67
m- & p-Xylenes
Concen: 0.32 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 91 Resp: 21563

Ion	Ratio	Lower	Upper
91	100		
106	42.3	23.8	63.8

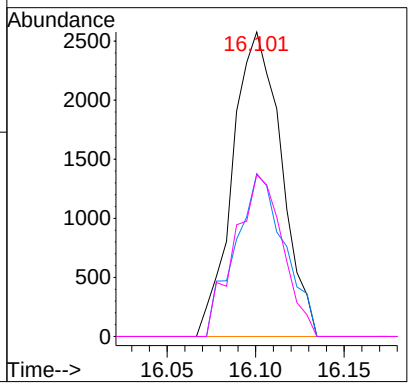


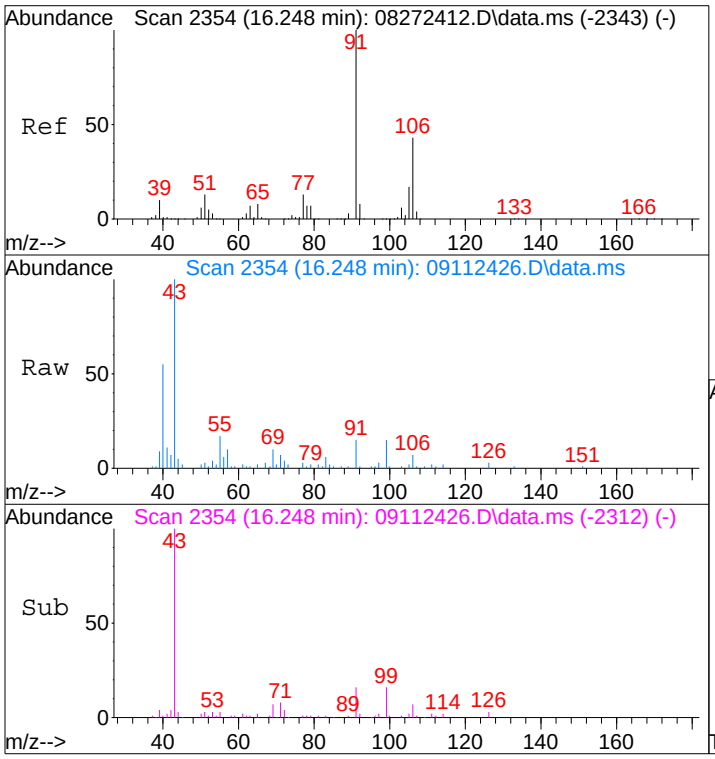


#69
Styrene
Concen: 0.11 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:104 Resp: 4938

Ion	Ratio	Lower	Upper
104	100		
78	54.2	32.2	72.2
103	52.2	28.3	68.3

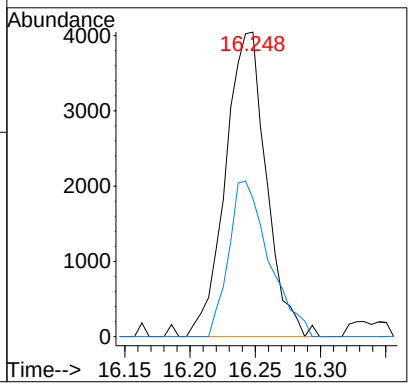


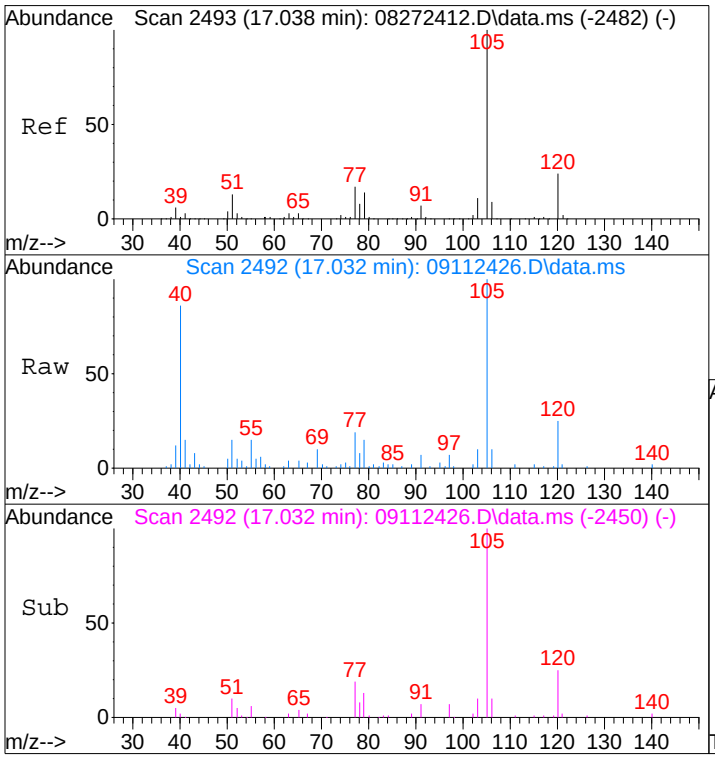


#70
o-Xylene
Concen: 0.13 ng
RT: 16.25 min Scan# 2354
Delta R.T. -0.011 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 91 Resp: 8812

Ion	Ratio	Lower	Upper
91	100		
106	50.4	22.5	62.5

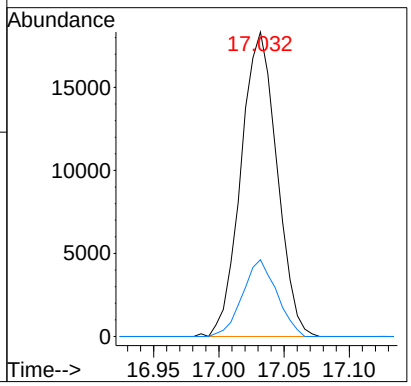


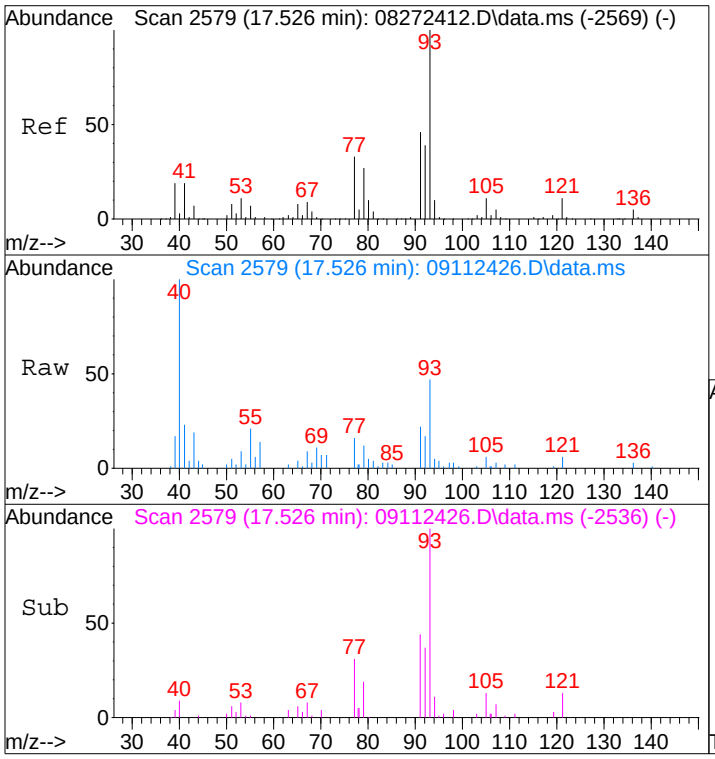


#74
Cumene
Concen: 0.46 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:105 Resp: 35160

Ion	Ratio	Lower	Upper
105	100		
120	24.1	3.7	43.7

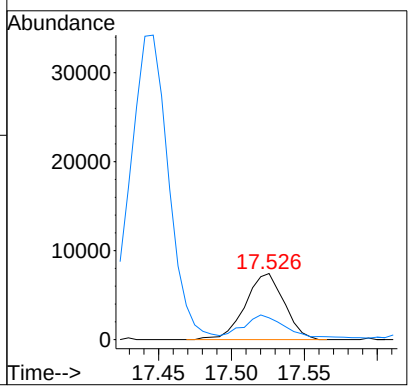


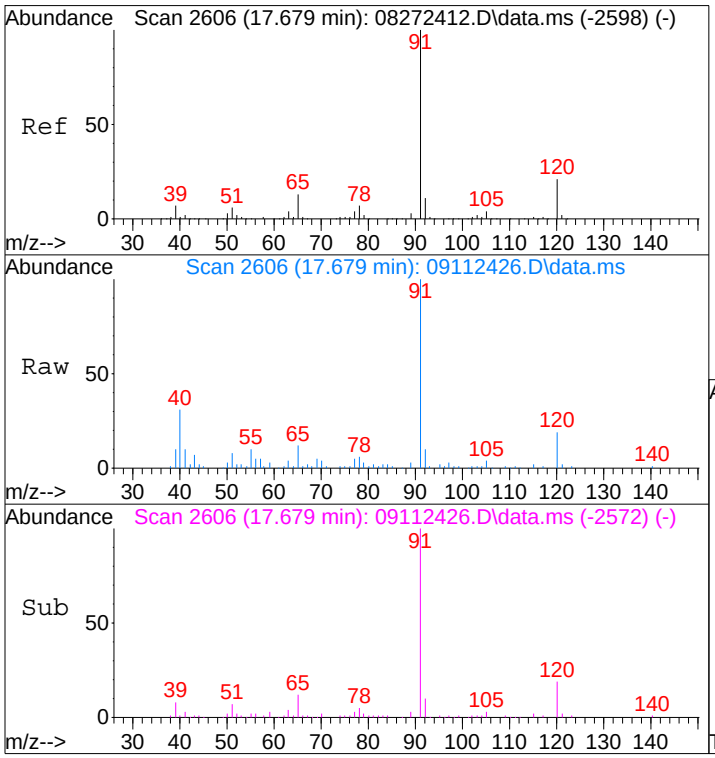


#75
alpha-Pinene
Concen: 0.35 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 93 Resp: 13753

Ion	Ratio	Lower	Upper
93	100		
77	37.4	13.1	53.1

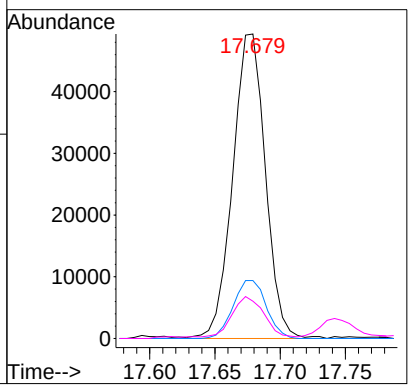


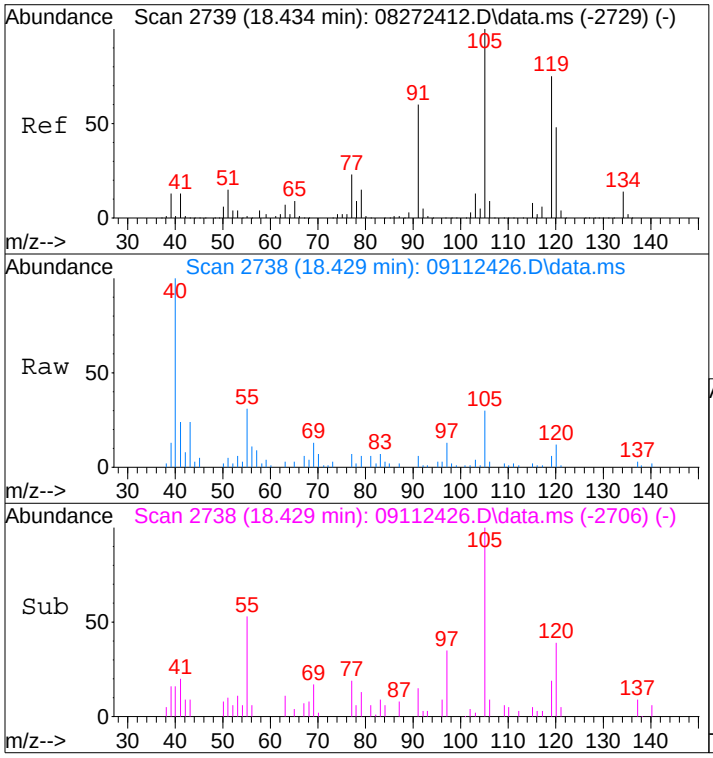


#76
n-Propylbenzene
Concen: 0.91 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 91 Resp: 85900

Ion	Ratio	Lower	Upper
91	100		
120	19.3	0.5	40.5
65	13.2	0.0	32.5

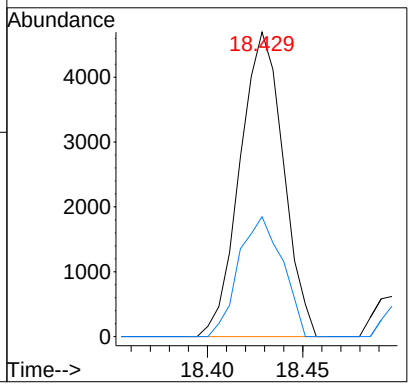


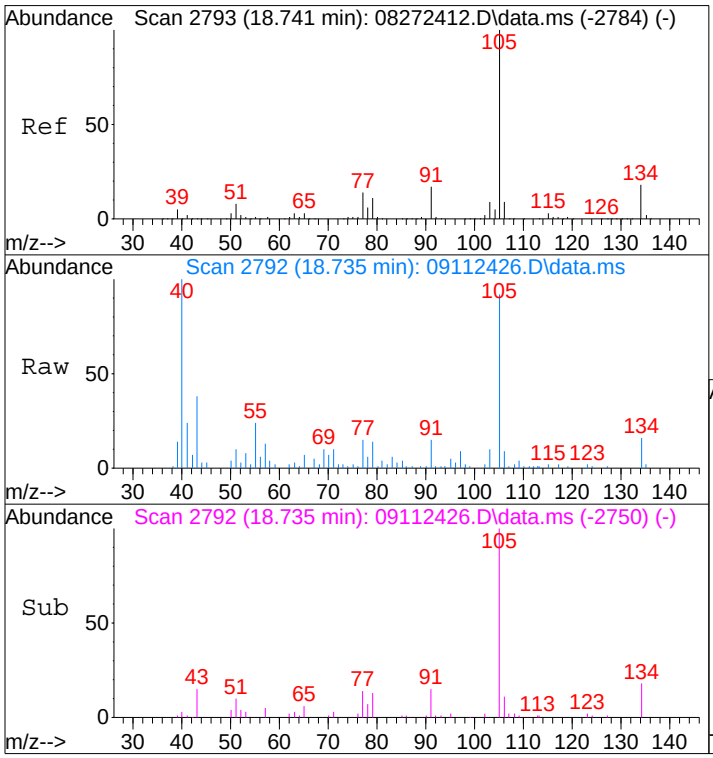


#82
1,2,4-Trimethylbenzene
Concen: 0.11 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:105 Resp: 7437

Ion	Ratio	Lower	Upper
105	100		
120	39.7	28.8	68.8

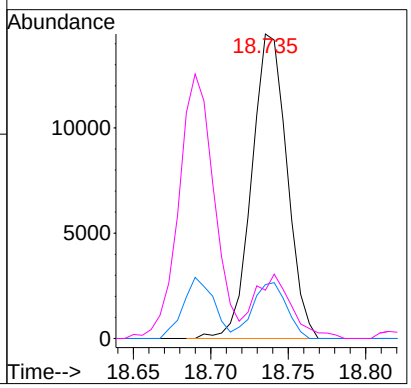


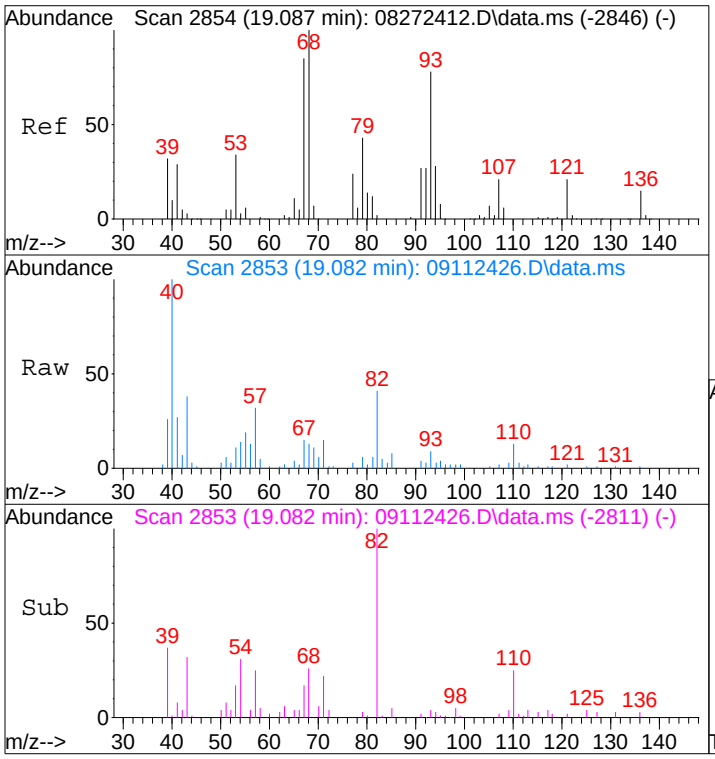


#87
sec-Butylbenzene
Concen: 0.27 ng
RT: 18.74 min Scan# 2792
Delta R.T. -0.011 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:105 Resp: 22873

Ion	Ratio	Lower	Upper
105	100		
134	17.8	0.0	37.7
91	22.1	0.0	37.7

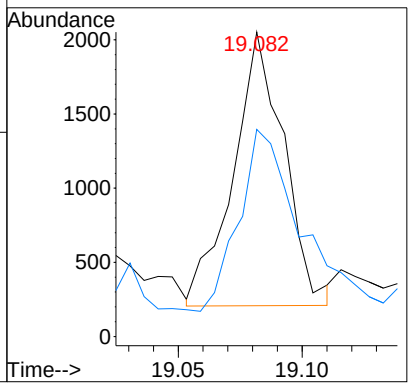


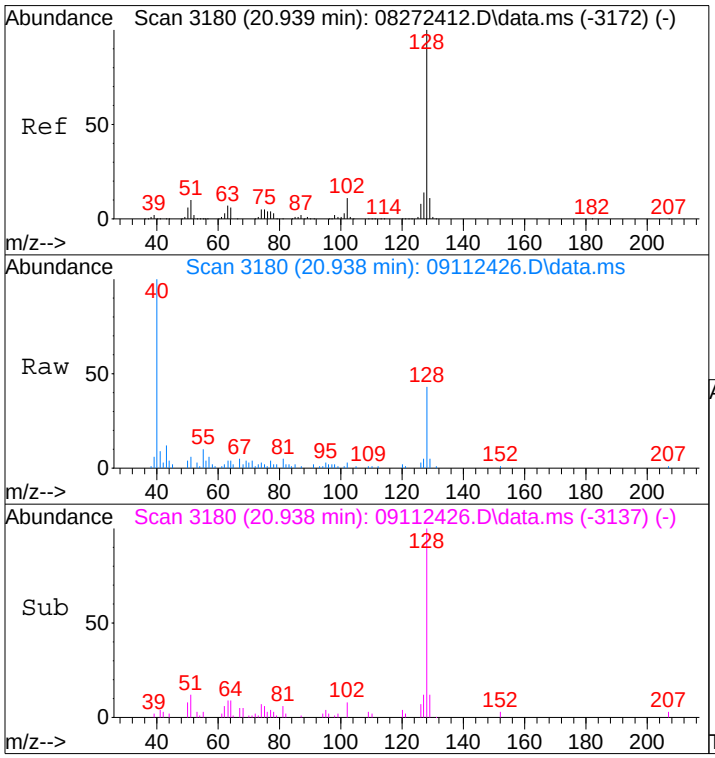


#91
d-Limonene
Concen: 0.12 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion: 68 Resp: 2625

Ion	Ratio	Lower	Upper
68	100		
93	82.3	56.2	96.2

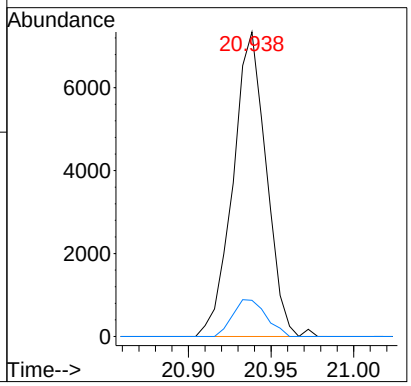




#95
Naphthalene
Concen: 0.14 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09112426.D
Acq: 11 Sep 2024 23:21

Tgt Ion:128 Resp: 10296

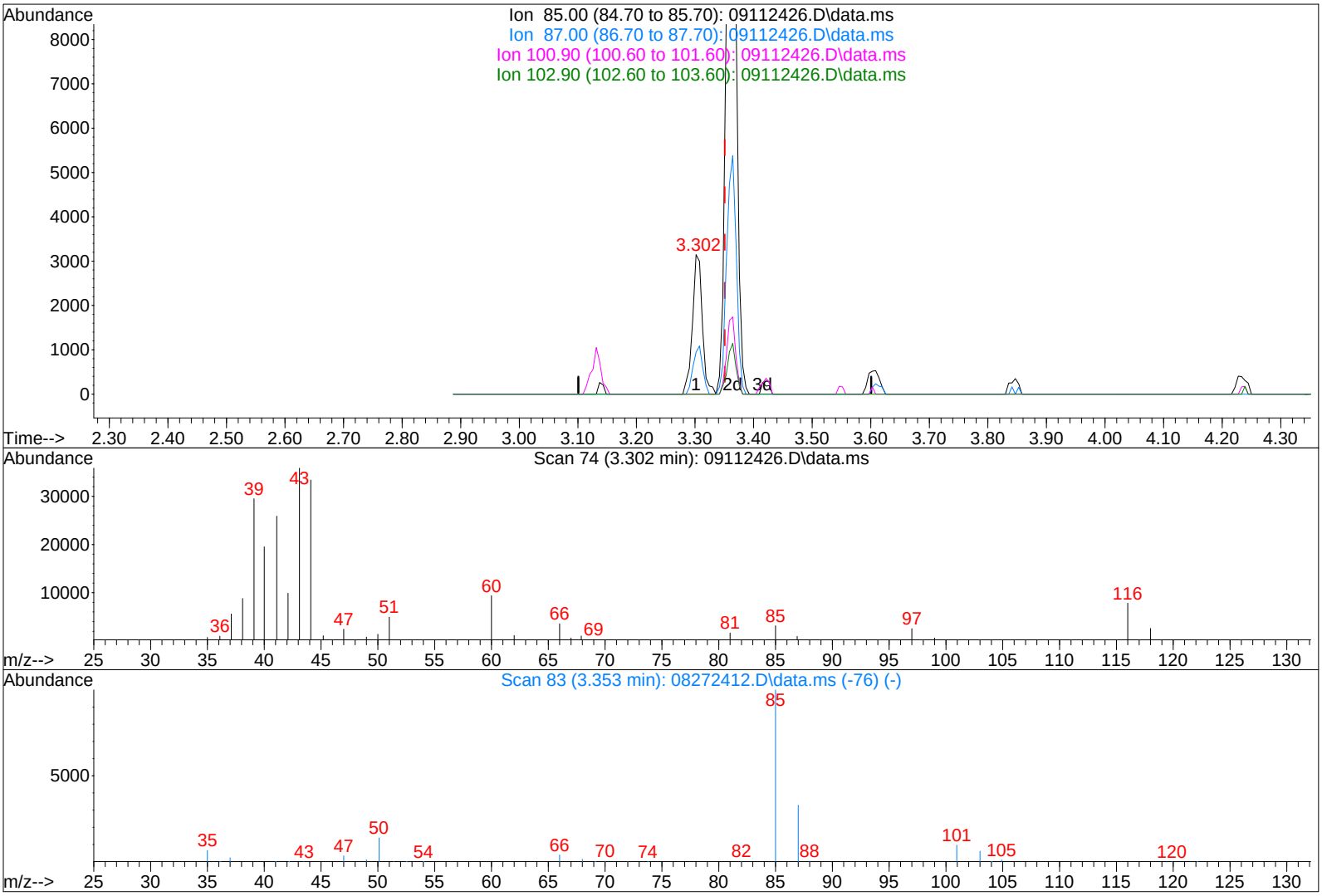
Ion	Ratio	Lower	Upper
128	100		
129	12.2	0.0	31.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.302min (-0.049) 0.11ng

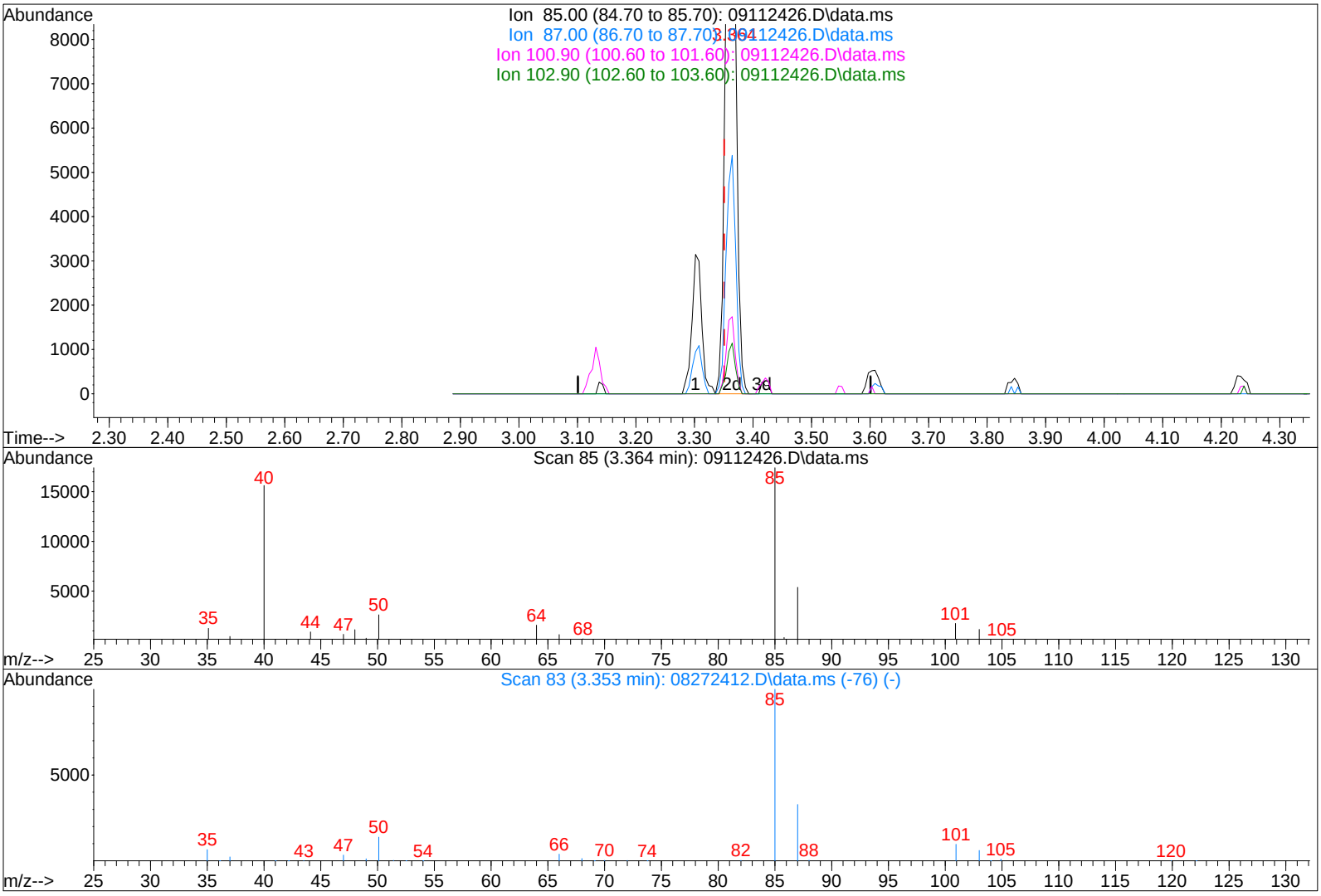
response 3698

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	33.10
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.013) 0.55ng m

response 18947

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	6.46#
100.90	9.40	0.00
102.90	6.00	0.00

MP

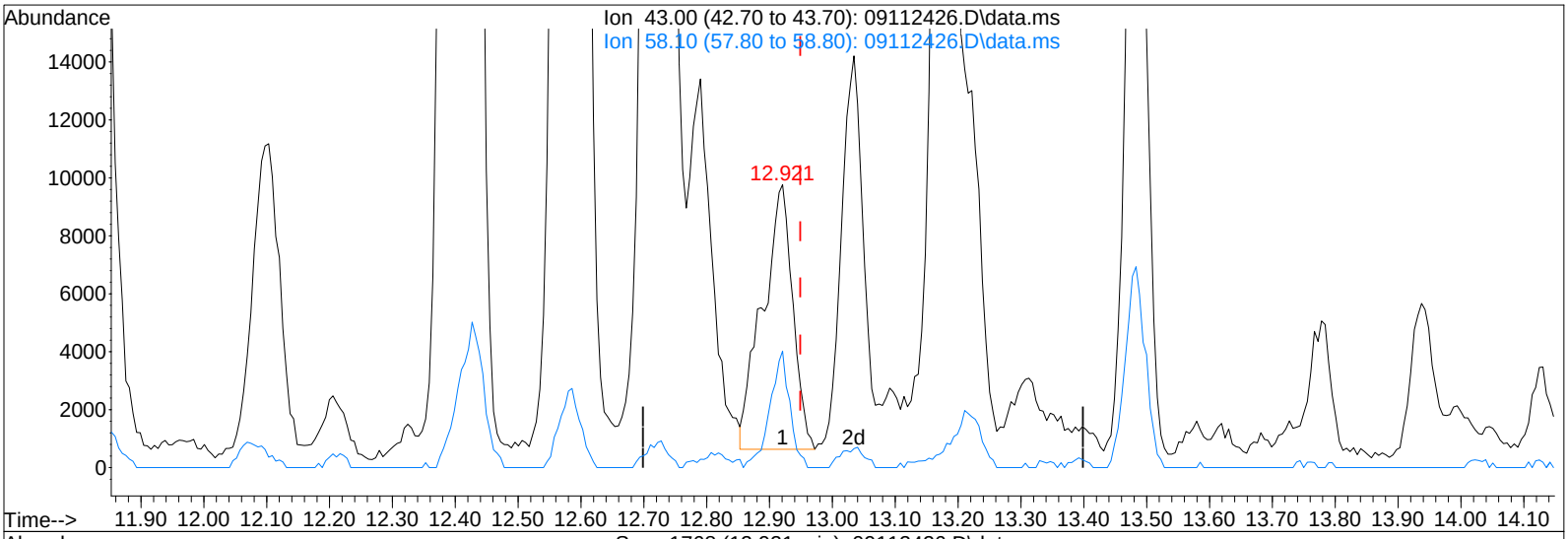
9/12/24

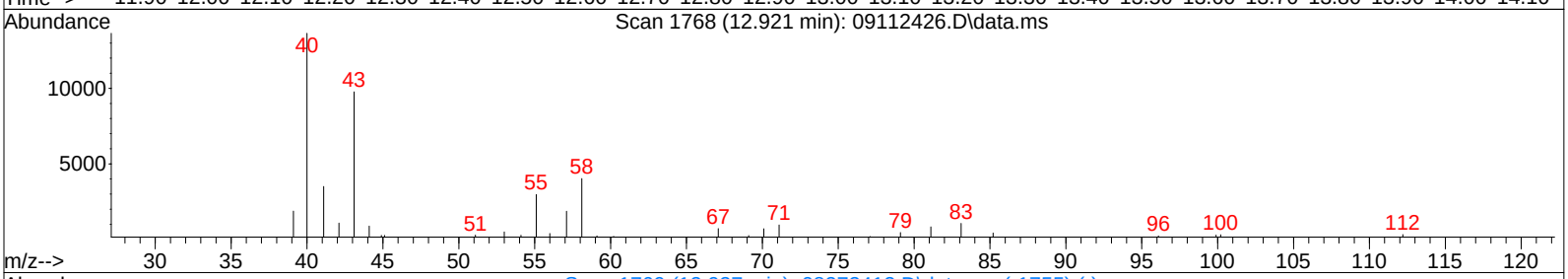
LH 9/30/24

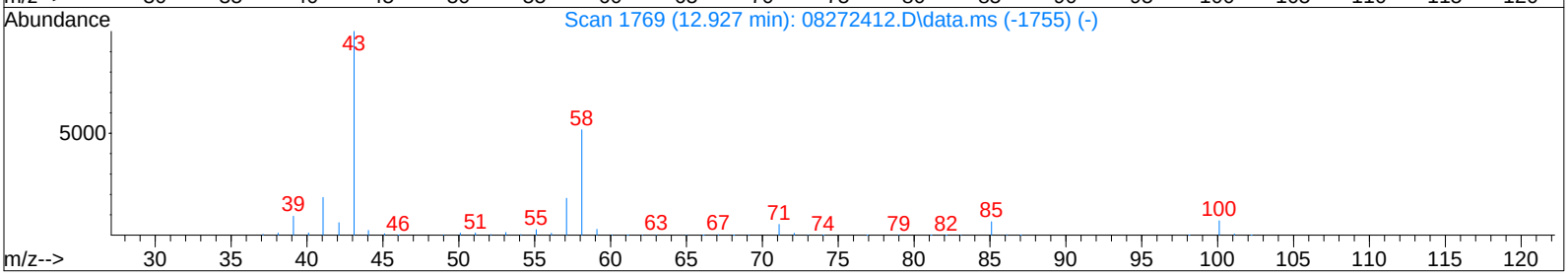
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09112426.D\data.ms

(59) 2-Hexanone (T)

12.921min (-0.028) 0.68ng

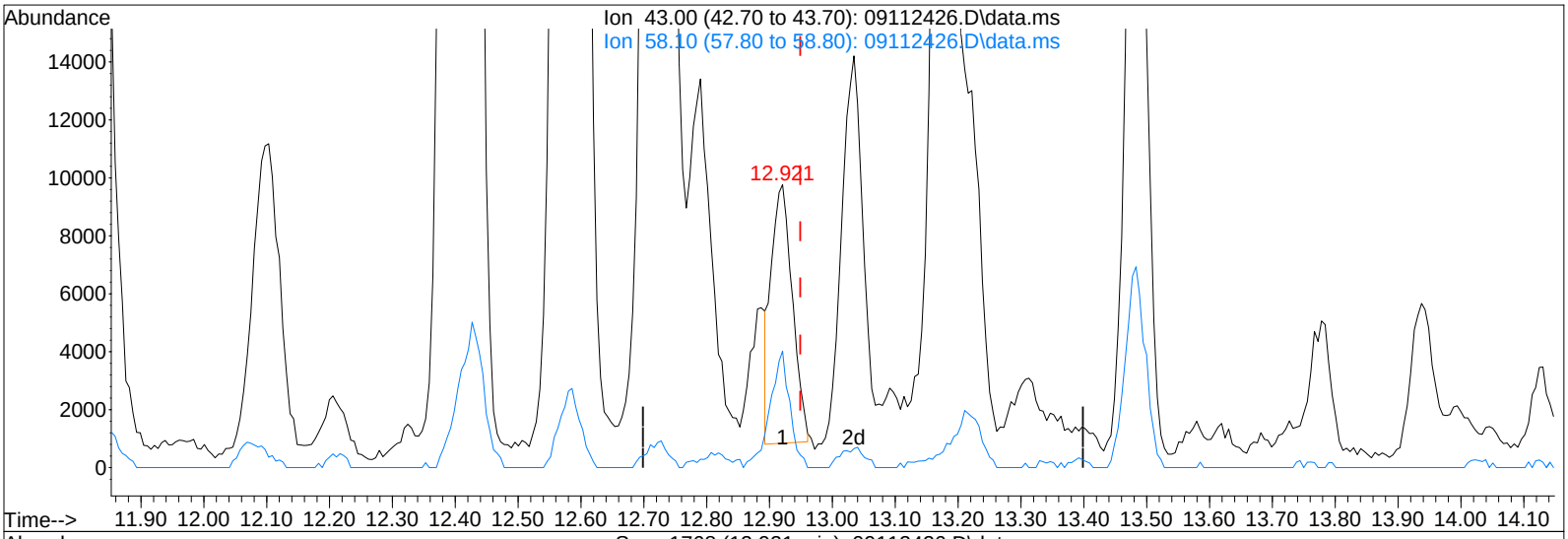
response 30368

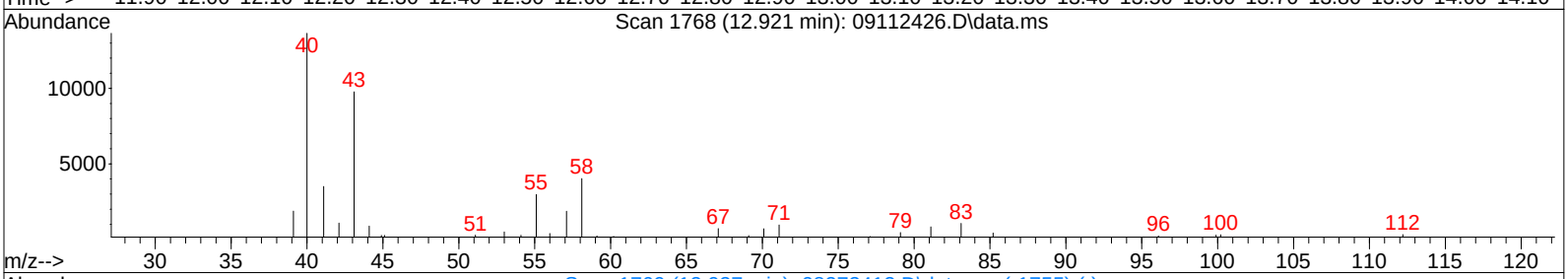
Ion	Exp%	Act%
43.00	100	100
58.10	51.10	29.00#
0.00	0.00	0.00
0.00	0.00	0.00

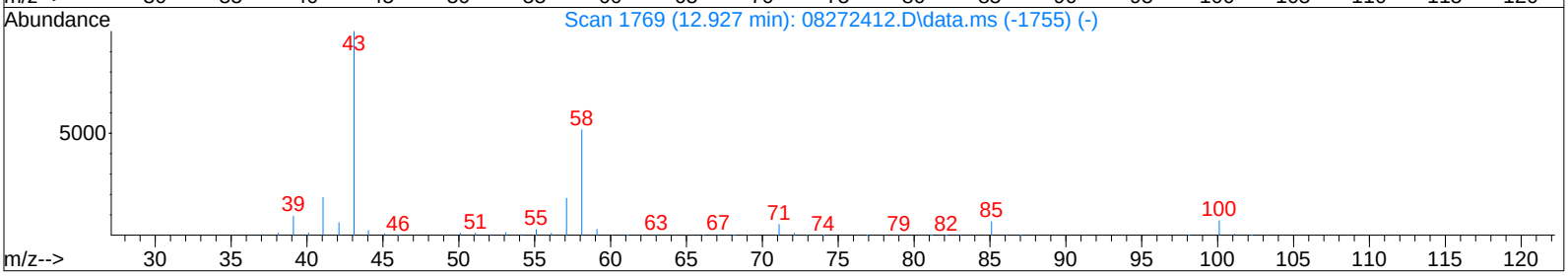
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09112426.D\data.ms

(59) 2-Hexanone (T)

12.921min (-0.028) 0.47ng m

response 20870

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	42.19
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/12/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

9/12/24

Quant Time: Sep 12 14:54:51 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

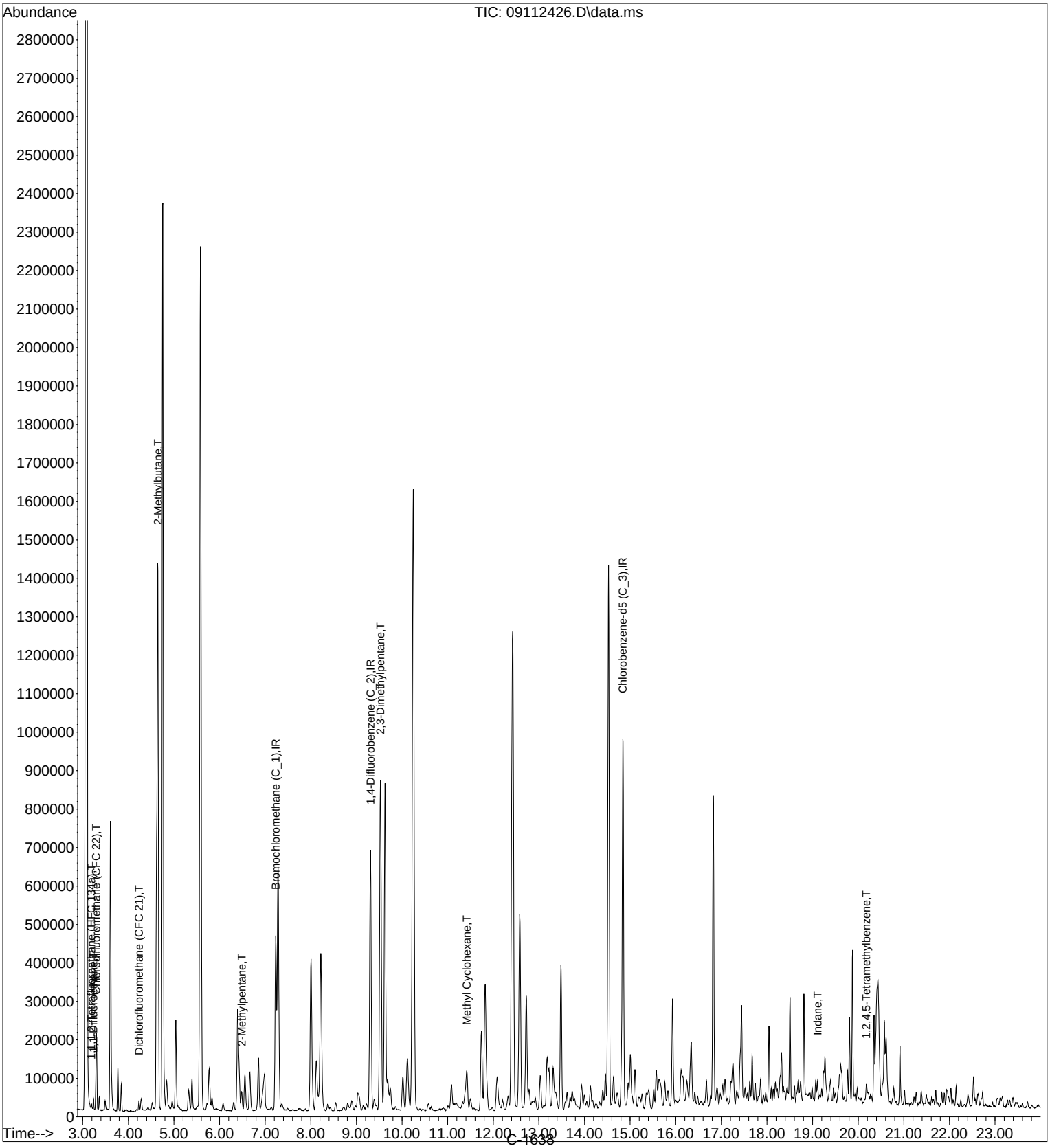
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	142049	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	625293	12.500	ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	190381	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	160	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	4382	0.301	ng	#	9
4) 1,1-Difluoroethane	3.23	65	7379	0.595	ng		85
5) Chlorodifluoromethane ...	3.30	67	1279	0.264	ng	#	84
6) 1-Chloro-1,1-Difluoroe...	3.51	65	602	N.D.			
7) Dichlorofluoromethane ...	4.23	67	18718	0.575	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	260	N.D.			
10) 2-Methylbutane	4.65	57	313792	18.521	ng		91
11) Methyl Acetate	0.00	43	0	N.D.	d		
12) 2-Methylpentane	6.49	71	8335	0.678	ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	2632	N.D.			
17) 2,3-Dimethylpentane	9.53	56	499528	16.509	ng		92
18) Dibromomethane	9.81	174	59	N.D.			
20) Methyl Cyclohexane	11.42	55	58254	1.783	ng		84
21) 1,3-Dichloropropane	12.56	76	372	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.23	91	56	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	17.17	77	331	N.D.			
26) 2-Chlorotoluene	17.59	91	759	N.D.			
27) 4-Chlorotoluene	0.00	91	0	N.D.	d		
28) Indane	19.11	117	23538	0.374	ng		97
29) Indene	19.21	115	495	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	8376	0.129	ng		92
31) 1,2,3,4-Tetramethylben...	20.22	119	2585	N.D.			
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.	d		
33) 1,2,3-Trichlorobenzene	21.19	180	52	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

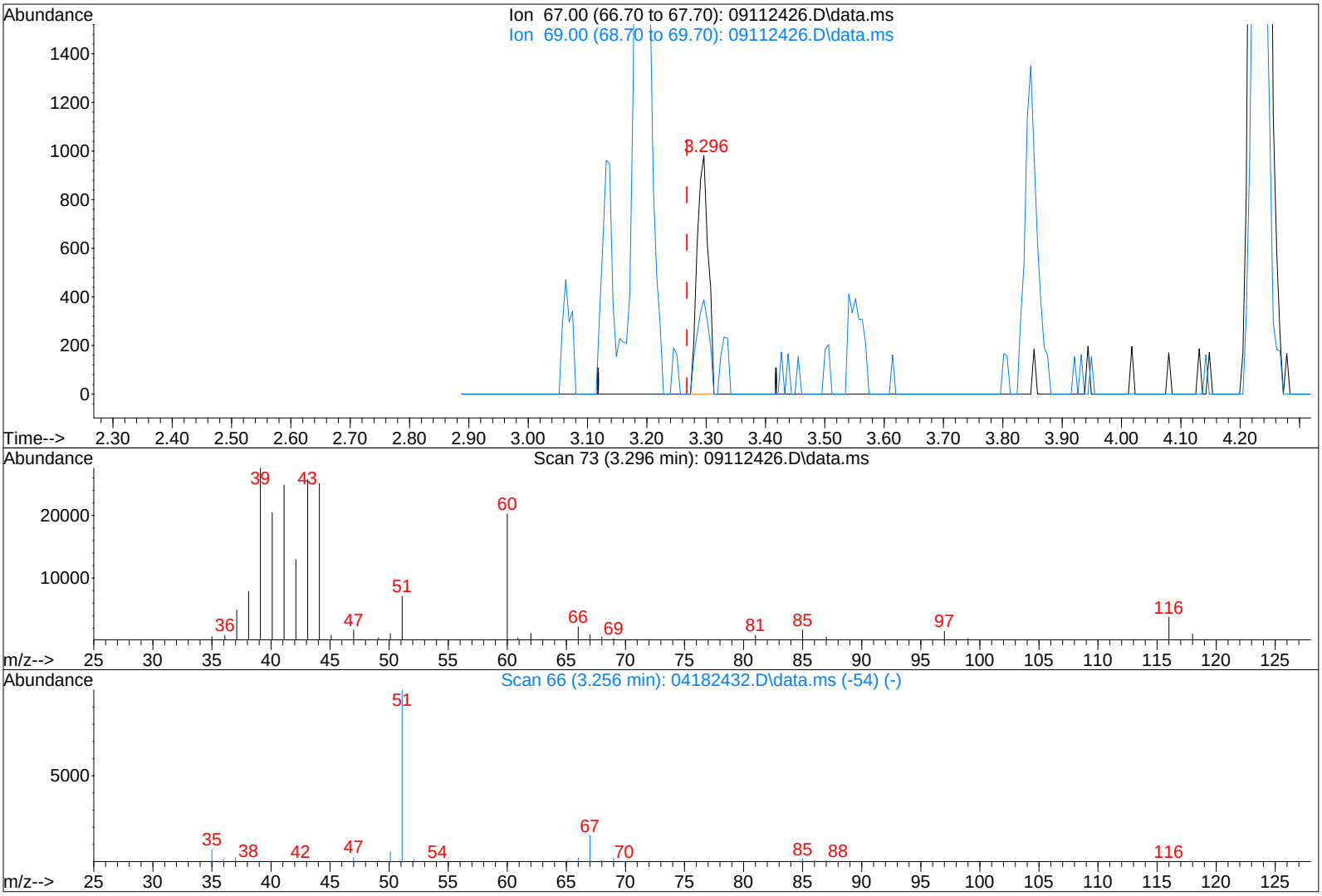
Quant Time: Sep 12 14:54:51 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:53:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112426.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.296min (+0.028) 0.26ng

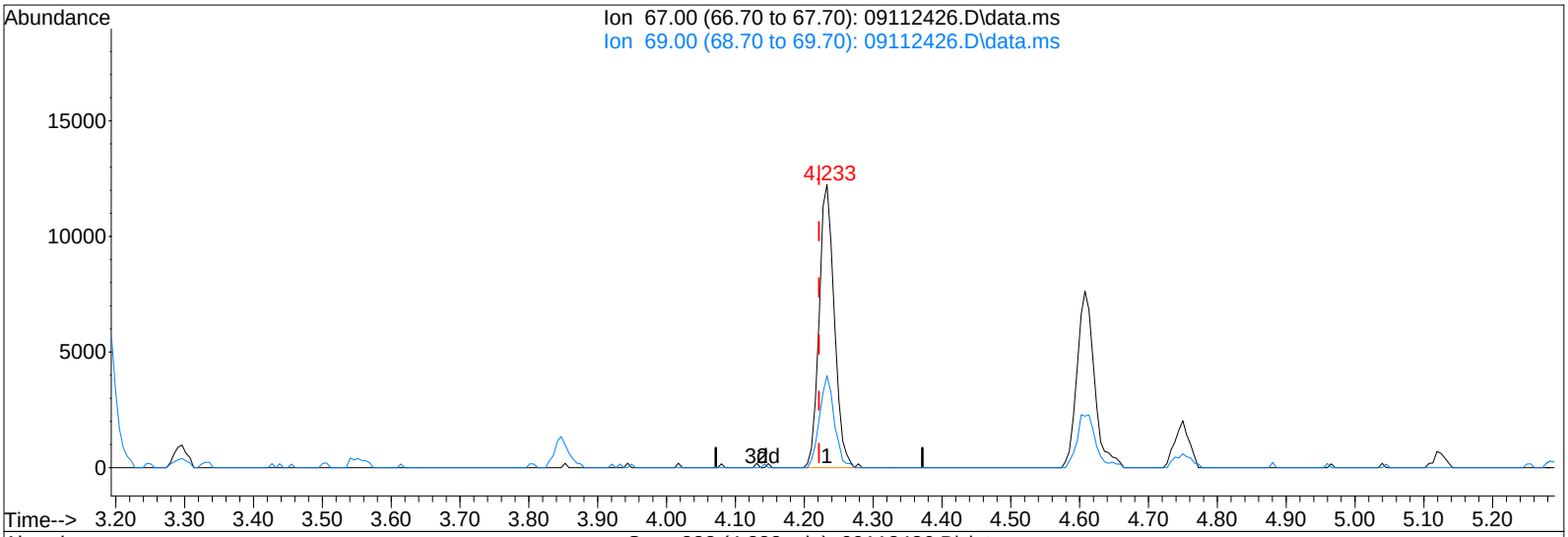
response 1279

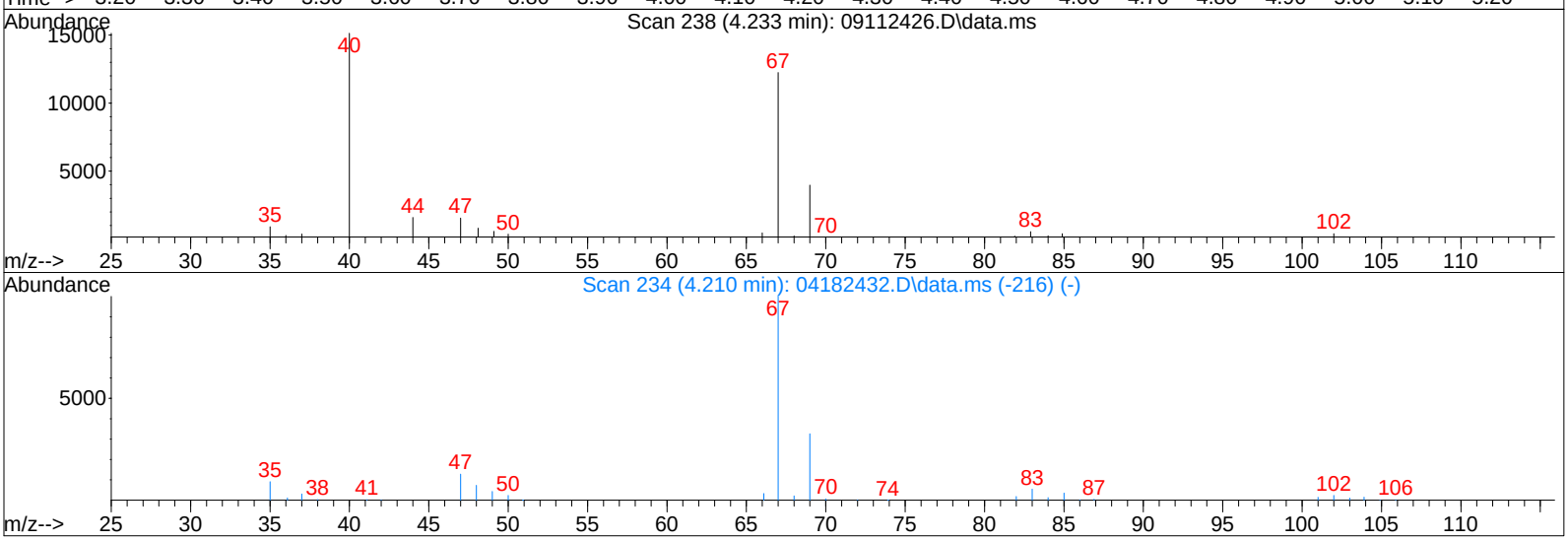
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	43.24#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112426.D Vial: 14
Acq On : 11 Sep 2024 23:21 Operator: SC
Sample : P2403661-046 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:53:47 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 09112426.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 0.57ng

response 18718

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.74
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112426.D
Acq On : 11 Sep 2024 23:21
Operator : SC
Sample : P2403661-046 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112426.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.234	59	62	67	rVB	30025	32931	0.69%	0.162%
2	3.302	67	74	80	rVV3	199129	301093	6.32%	1.485%
3	3.364	80	85	90	rVB	34340	39477	0.83%	0.195%
4	3.489	103	107	114	rBV2	24670	38171	0.80%	0.188%
5	3.608	121	128	141	rVB2	750501	1192143	25.04%	5.879%
6	3.767	151	156	165	rBV	109856	149320	3.14%	0.736%
7	3.847	165	170	175	rVB	70314	91399	1.92%	0.451%
8	4.182	223	229	233	rBV2	5113	10908	0.23%	0.054%
9	4.233	233	238	242	rVV	26047	40150	0.84%	0.198%
10	4.284	242	247	257	rVB	30861	61009	1.28%	0.301%
11	4.432	262	273	278	rVV4	7362	19063	0.40%	0.094%
12	4.523	283	289	295	rVV4	21158	45059	0.95%	0.222%
13	4.642	299	310	321	rVV2	1424432	3425362	71.95%	16.892%
14	4.755	321	330	340	rVV	2359219	4223346	88.71%	20.827%
15	4.841	340	345	357	rVV	76697	177205	3.72%	0.874%
16	4.960	361	366	373	rVV2	23790	51368	1.08%	0.253%
17	5.039	373	380	390	rVV	234665	413677	8.69%	2.040%
18	5.107	390	392	400	rVB6	7263	12567	0.26%	0.062%
19	5.323	422	430	437	rBV	54166	122372	2.57%	0.603%
20	5.397	437	443	455	rVV	83400	161612	3.39%	0.797%
21	5.511	457	463	464	rVV2	9703	17322	0.36%	0.085%
22	5.579	466	475	493	rVB2	2246212	4761000	100.00%	23.479%
23	5.726	493	501	502	rBV2	18015	29507	0.62%	0.146%
24	5.772	502	509	516	rVV	106510	251535	5.28%	1.240%
25	5.834	516	520	530	rVB2	31094	60848	1.28%	0.300%
26	6.078	556	563	571	rBV2	19153	43259	0.91%	0.213%
27	6.306	596	603	610	rBV2	21715	50495	1.06%	0.249%
28	6.396	610	619	630	rVV	265382	758074	15.92%	3.738%
29	6.482	630	634	640	rVV2	49673	101514	2.13%	0.501%
30	6.555	640	647	658	rVV2	93786	217655	4.57%	1.073%
31	6.663	658	666	678	rVB	99414	225593	4.74%	1.112%
32	6.851	689	699	706	rBV	136414	293136	6.16%	1.446%
33	6.987	706	723	735	rVB	93075	328713	6.90%	1.621%
34	7.135	743	749	755	rVB7	8533	20308	0.43%	0.100%
35	7.231	755	766	770	rBV	454577	1020048	21.43%	5.030%
36	7.282	770	775	785	rVV	630246	1423971	29.91%	7.022%
37	7.367	785	790	797	rVB3	14111	32098	0.67%	0.158%
38	7.754	847	858	869	rVB10	5890	23336	0.49%	0.115%
39	7.878	876	880	888	rVB5	5636	11448	0.24%	0.056%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112426.D
Acq On : 11 Sep 2024 23:21
Operator : SC
Sample : P2403661-046 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

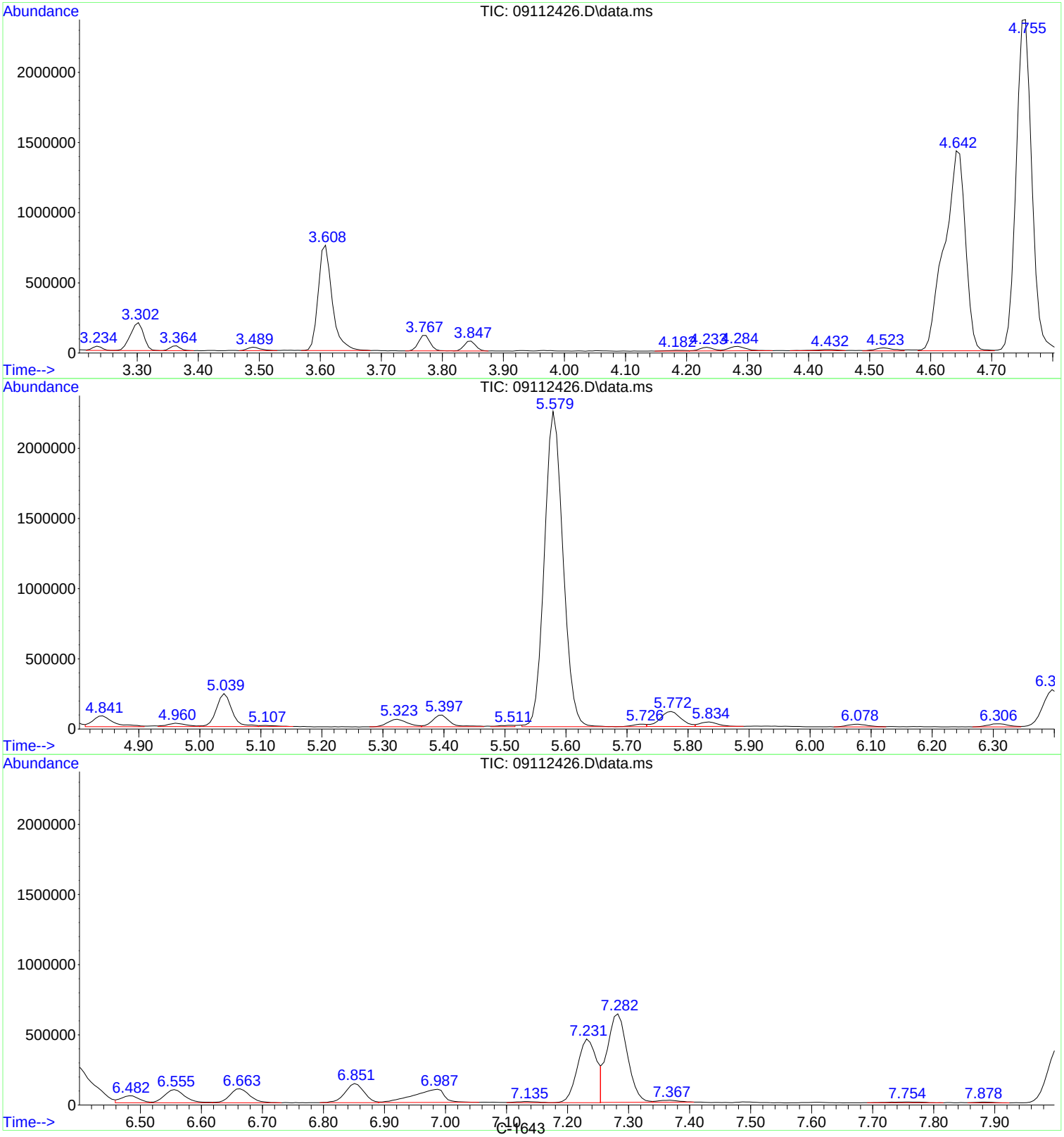
Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Sum of corrected areas: 20278092

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112426.D
Acq On : 11 Sep 2024 23:21
Operator : SC
Sample : P2403661-046 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112426.D
Acq On : 11 Sep 2024 23:211
Operator : SCC
Sample : P2403661-046 (400mL))
Misc : S37-060624022
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:08:06 2024 9/12/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	144106	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	644908	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	191716	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	357178	13.246	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
57) Toluene-d8 (SS2)	12.43	98	745944	11.091	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%				
73) Bromofluorobenzene (SS3)	16.83	174	256448	11.401	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	3.27	42	46994m	2.159	ng		
3) Dichlorodifluoromethan...	3.35	85	20183	0.577	ng		98
4) Chloromethane	3.48	50	6446	0.236	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	359	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.01	94	326	N.D.			
9) Chloroethane	4.15	64	366	N.D.			
10) Ethanol	4.31	45	256750	16.417	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.52	56	10061	0.842	ng		97
13) Acetone	4.62	58	363627	27.555	ng	#	1
14) Trichlorofluoromethane	4.76	101	4530781	135.769	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1257113	24.195	ng		89
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	9139	0.588	ng		85
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	d		
21) Trichlorotrifluoroethane	5.58	151	2047462	154.867	ng		93
22) Carbon Disulfide	5.60	76	76177	1.479	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	1599	0.063	ng		93
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	12057	0.262	ng		96
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	17980	1.920	ng	#	66
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.29	61	1171555	186.763	ng		91
31) n-Hexane	7.30	57	81148	2.837	ng		96
32) Chloroform	7.38	83	24450	0.852	ng		99
34) Tetrahydrofuran (THF)	7.75	72	4151	0.470	ng	#	6
35) Ethyl tert-Butyl Ether	7.83	87	838	N.D.			
36) 1,2-Dichloroethane	8.13	62	4819	0.169	ng		98
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.63	61	43537	No Calib		#	
40) 1-Butanol	8.80	56	50963	No Calib		#	
41) Benzene	8.90	78	65968	1.091	ng		99
42) Carbon Tetrachloride	9.07	117	6811	0.272	ng		91
43) Cyclohexane	9.22	84	77348	3.789	ng		94
44) tert-Amyl Methyl Ether	9.62	73	1606	N.D.			
45) 1,2-Dichloropropane	9.87	63	5711	0.357	ng		100
46) Bromodichloromethane	0.00	83	0	N.D.	d		
47) Trichloroethene	0.00	130	0	N.D.	d		
48) 1,4-Dioxane	0.00	88	0	N.D.	d		
49) 2,2,4-Trimethylpentane...	10.23	57	23049	0.322	ng		78
50) Methyl Methacrylate	10.41	100	1429	0.272	ng		91

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:08:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

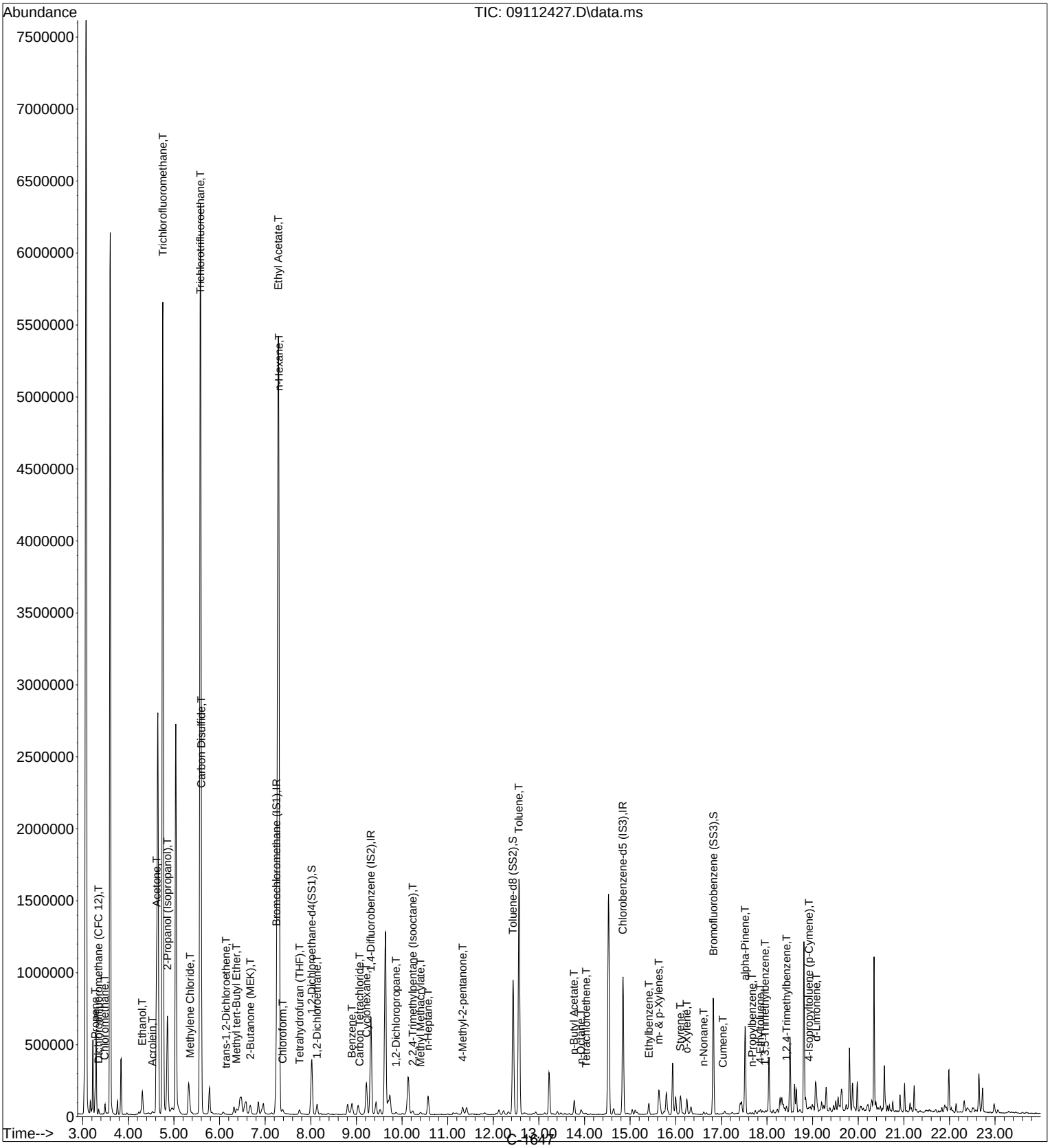
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	28859	2.142 ng		95
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	18833	1.180 ng	#	82
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	1403016	19.298 ng		100
59) 2-Hexanone	0.00	43	0	N.D. d		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	95387	1.892 ng		96
63) n-Octane	13.92	57	6349	0.371 ng		90
64) Tetrachloroethene	14.03	166	3160	0.157 ng		94
65) Chlorobenzene	14.90	112	1680	N.D.		
66) Ethylbenzene	15.41	91	64623	0.773 ng		98
67) m- & p-Xylenes	15.63	91	146567	2.155 ng		98
68) Bromoform	15.66	173	160	N.D.		
69) Styrene	16.10	104	48718	1.108 ng		98
70) o-Xylene	16.24	91	68468	1.031 ng		100
71) n-Nonane	16.61	43	8284	0.190 ng		97
72) 1,1,2,2-Tetrachloroethane	16.21	83	301	N.D.		
74) Cumene	17.03	105	5642	0.073 ng		99
75) alpha-Pinene	17.52	93	244612	6.111 ng		99
76) n-Propylbenzene	17.68	91	7052	0.074 ng		98
77) 3-Ethyltoluene	17.03	105	5642	No Calib		
78) 4-Ethyltoluene	17.86	105	5063	0.068 ng		96
79) 1,3,5-Trimethylbenzene	17.96	105	4640	0.071 ng		94
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	5642	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	15110	0.221 ng		90
83) n-Decane	17.07	58	642	No Calib	#	
84) Benzyl Chloride	18.56	91	904	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	353	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	1098	N.D.		
87) sec-Butylbenzene	18.74	105	1547	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	9943	0.133 ng		95
89) 1,2,3-Trimethylbenzene	17.03	105	5642	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	417	N.D.		
91) d-Limonene	19.08	68	28732	1.257 ng		90
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.99	58	891	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	531	N.D.		
95) Naphthalene	20.94	128	3227	N.D.		
96) n-Dodecane	18.95	58	1240	No Calib	#	
97) Hexachlorobutadiene	21.30	225	341	N.D.		
98) Cyclohexanone	15.26	55	562	No Calib	#	
99) tert-Butylbenzene	18.43	119	2065	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:08:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-1647

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:08:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/12/24

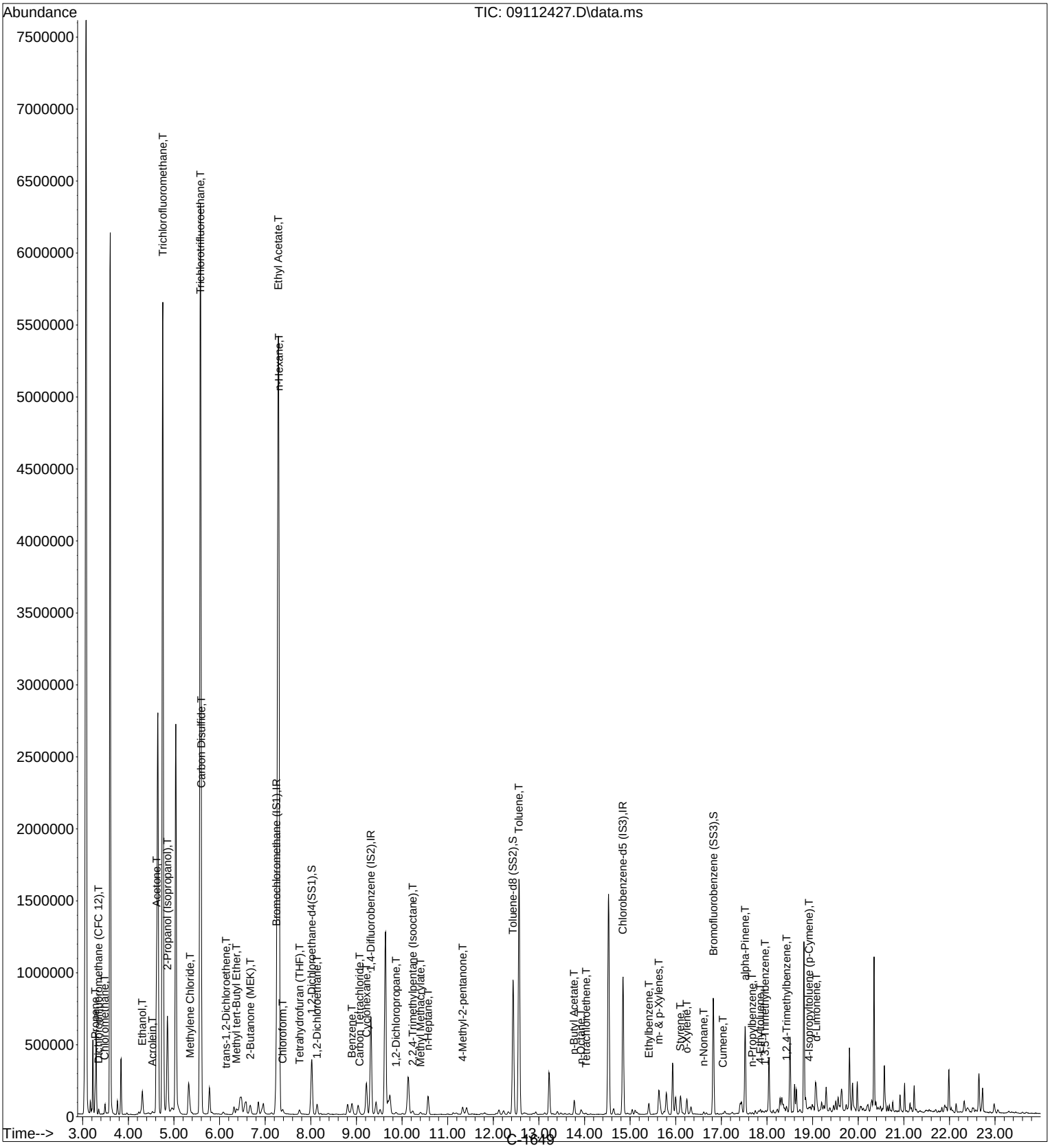
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	144106	12.500	ng		-0.03
37) 1,4-Difluorobenzene (IS2)	9.31	114	644908	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	191716	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	357178	13.246	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
57) Toluene-d8 (SS2)	12.43	98	745944	11.091	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%				
73) Bromofluorobenzene (SS3)	16.83	174	256448	11.401	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.20%				
Target Compounds							Qvalue
2) Propene	3.27	42	46994m	2.159	ng		
3) Dichlorodifluoromethan...	3.35	85	20183	0.577	ng		98
4) Chloromethane	3.48	50	6446	0.236	ng		93
10) Ethanol	4.31	45	256750	16.417	ng		99
12) Acrolein	4.52	56	10061	0.842	ng		97
13) Acetone	4.62	58	363627	27.555	ng	#	1
14) Trichlorofluoromethane	4.76	101	4530781	135.769	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	1257113	24.195	ng		89
19) Methylene Chloride	5.35	84	9139	0.588	ng		85
21) Trichlorotrifluoroethane	5.58	151	2047462	154.867	ng		93
22) Carbon Disulfide	5.60	76	76177	1.479	ng	#	1
23) trans-1,2-Dichloroethene	6.14	61	1599	0.063	ng		93
25) Methyl tert-Butyl Ether	6.37	73	12057	0.262	ng		96
27) 2-Butanone (MEK)	6.67	72	17980	1.920	ng	#	66
30) Ethyl Acetate	7.29	61	1171555	186.763	ng		91
31) n-Hexane	7.30	57	81148	2.837	ng		96
32) Chloroform	7.38	83	24450	0.852	ng		99
34) Tetrahydrofuran (THF)	7.75	72	4151	0.470	ng	#	6
36) 1,2-Dichloroethane	8.13	62	4819	0.169	ng		98
41) Benzene	8.90	78	65968	1.091	ng		99
42) Carbon Tetrachloride	9.07	117	6811	0.272	ng		91
43) Cyclohexane	9.22	84	77348	3.789	ng		94
45) 1,2-Dichloropropane	9.87	63	5711	0.357	ng		100
49) 2,2,4-Trimethylpentane...	10.23	57	23049	0.322	ng		78
50) Methyl Methacrylate	10.41	100	1429	0.272	ng		91
51) n-Heptane	10.57	71	28859	2.142	ng		95
53) 4-Methyl-2-pentanone	11.33	58	18833	1.180	ng	#	82
58) Toluene	12.56	91	1403016	19.298	ng		100
62) n-Butyl Acetate	13.77	43	95387	1.892	ng		96
63) n-Octane	13.92	57	6349	0.371	ng		90
64) Tetrachloroethene	14.03	166	3160	0.157	ng		94
66) Ethylbenzene	15.41	91	64623	0.773	ng		98
67) m- & p-Xylenes	15.63	91	146567	2.155	ng		98
69) Styrene	16.10	104	48718	1.108	ng		98
70) o-Xylene	16.24	91	68468	1.031	ng		100
71) n-Nonane	16.61	43	8284	0.190	ng		97
74) Cumene	17.03	105	5642	0.073	ng		99
75) alpha-Pinene	17.52	93	244612	6.111	ng		99
76) n-Propylbenzene	17.68	91	7052	0.074	ng		98
78) 4-Ethyltoluene	17.86	105	5063	0.068	ng		96
79) 1,3,5-Trimethylbenzene	17.96	105	4640	0.071	ng		94
82) 1,2,4-Trimethylbenzene	18.43	105	15110	0.221	ng		90
88) 4-Isopropyltoluene (p-...	18.92	119	9943	0.133	ng		95
91) d-Limonene	19.08	68	28732	1.257	ng		90

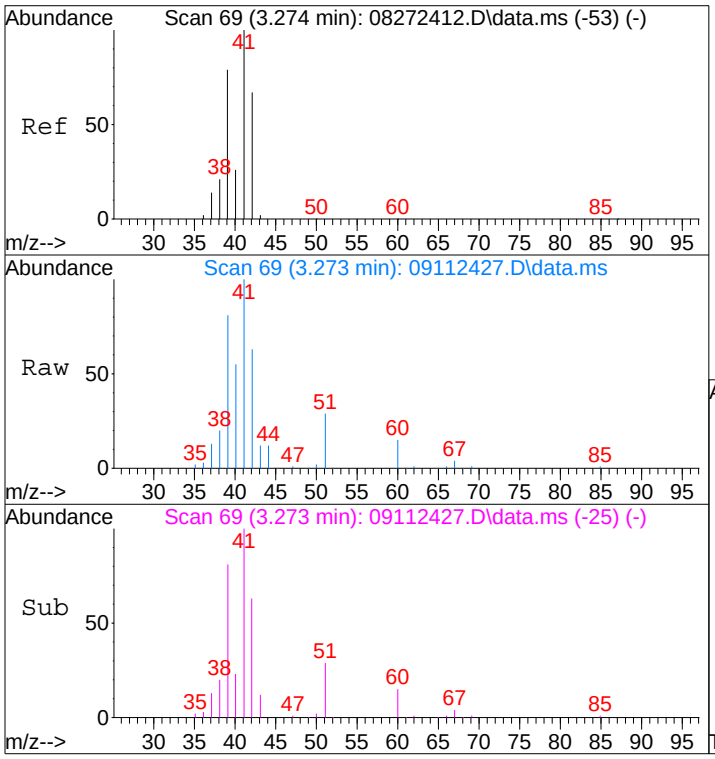
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 11:08:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

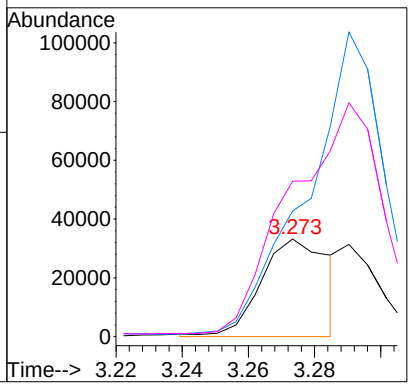


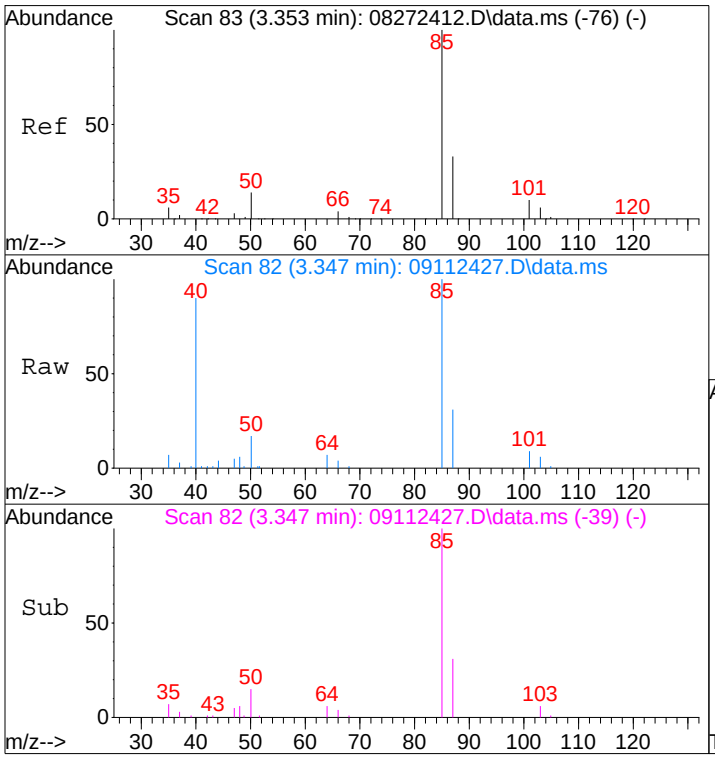


#2
Propene
Concen: 2.16 ng m
RT: 3.27 min Scan# 69
Delta R.T. 0.001 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 42 Resp: 46994

Ion	Ratio	Lower	Upper
42	100		
39	356.2	98.2	138.2#
41	334.1	130.1	170.1#

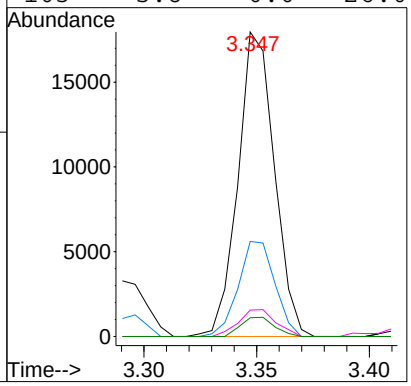


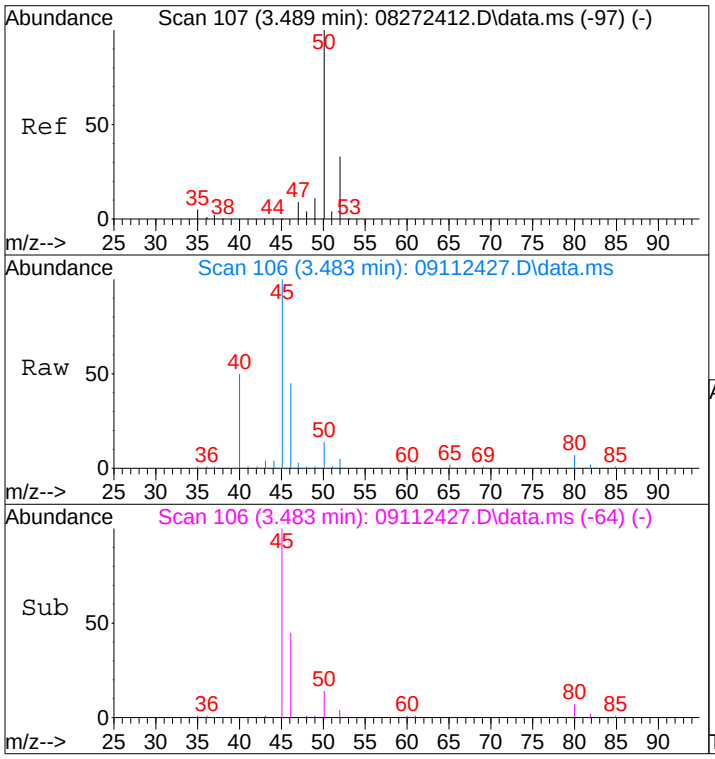


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng
RT: 3.35 min Scan# 82
Delta R.T. -0.004 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 85 Resp: 20183

Ion	Ratio	Lower	Upper
85	100		
87	31.5	13.1	53.1
101	9.1	0.0	29.4
103	5.8	0.0	26.0

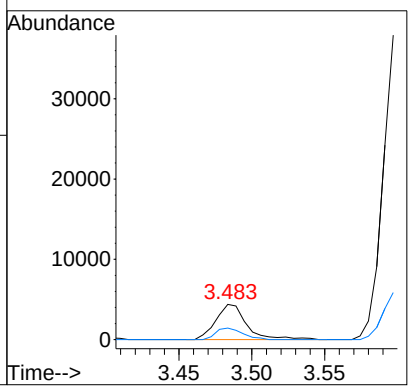


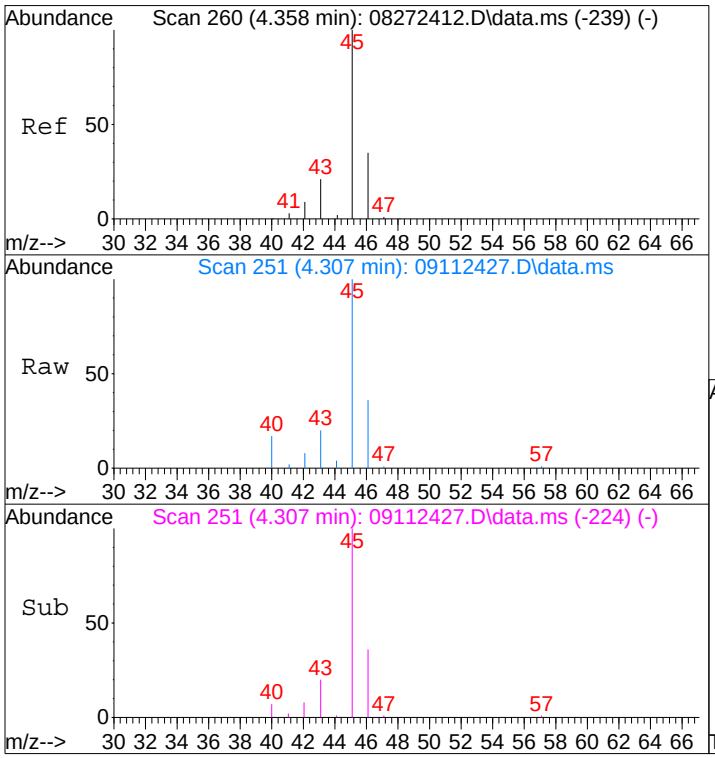


#4
Chloromethane
Concen: 0.24 ng
RT: 3.48 min Scan# 106
Delta R.T. -0.009 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 50 Resp: 6446

Ion	Ratio	Lower	Upper
50	100		
52	28.5	12.4	52.4

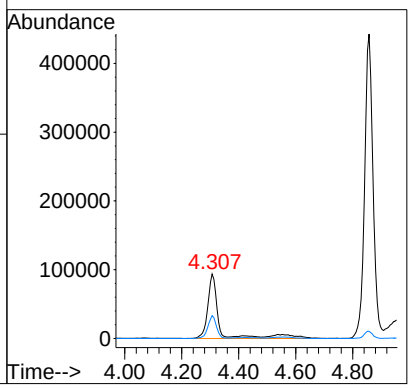


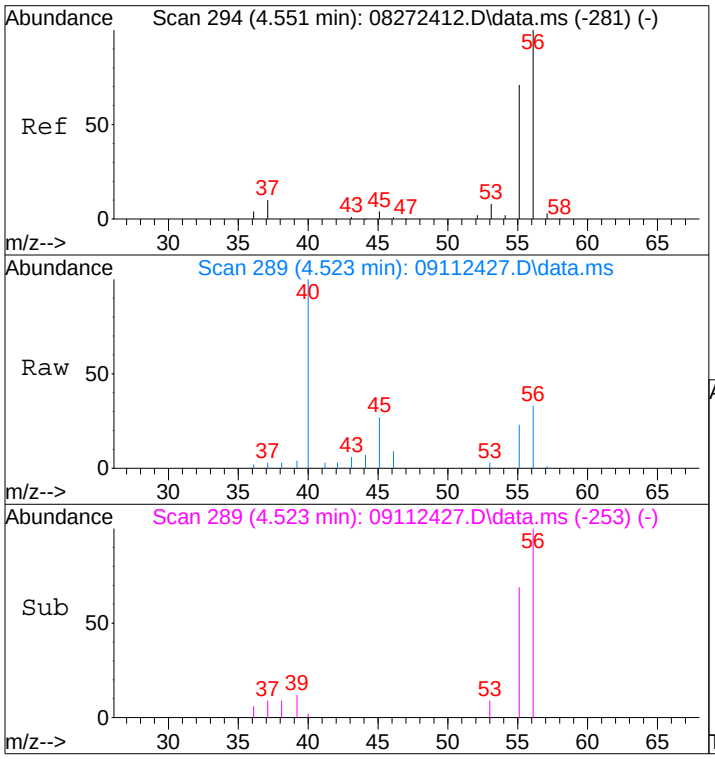


#10
Ethanol
Concen: 16.42 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.096 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 45 Resp: 256750

Ion	Ratio	Lower	Upper
45	100		
46	34.5	14.2	54.2

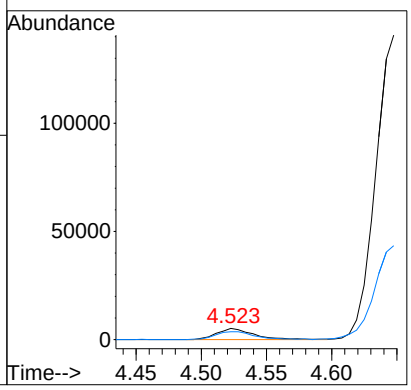


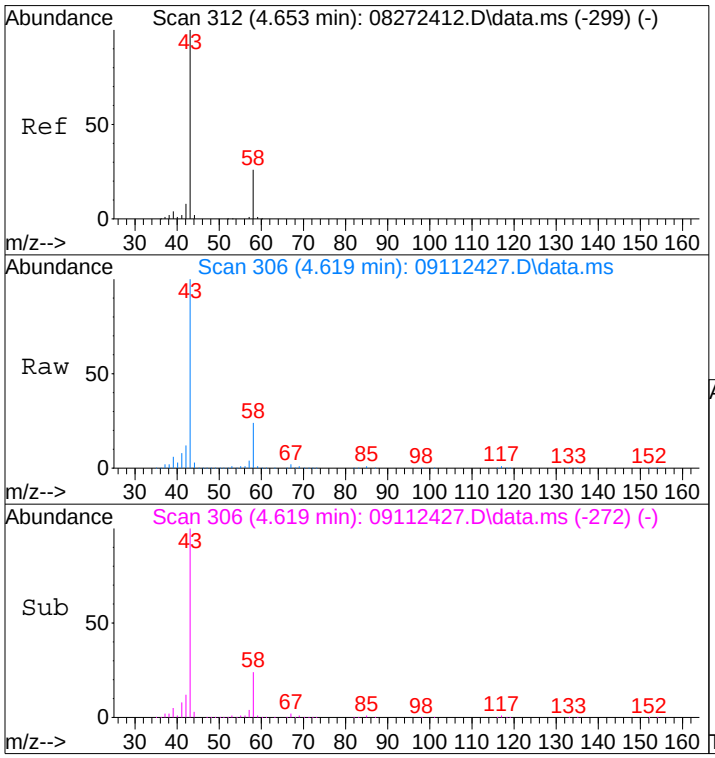


#12
Acrolein
Concen: 0.84 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.045 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 56 Resp: 10061

Ion	Ratio	Lower	Upper
56	100		
55	77.4	54.7	94.7

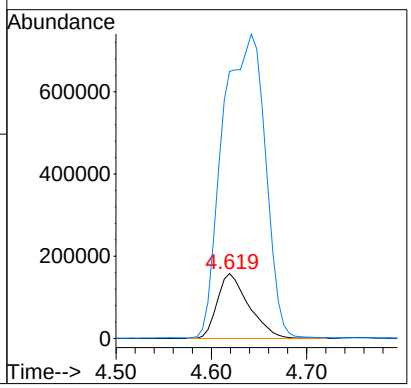


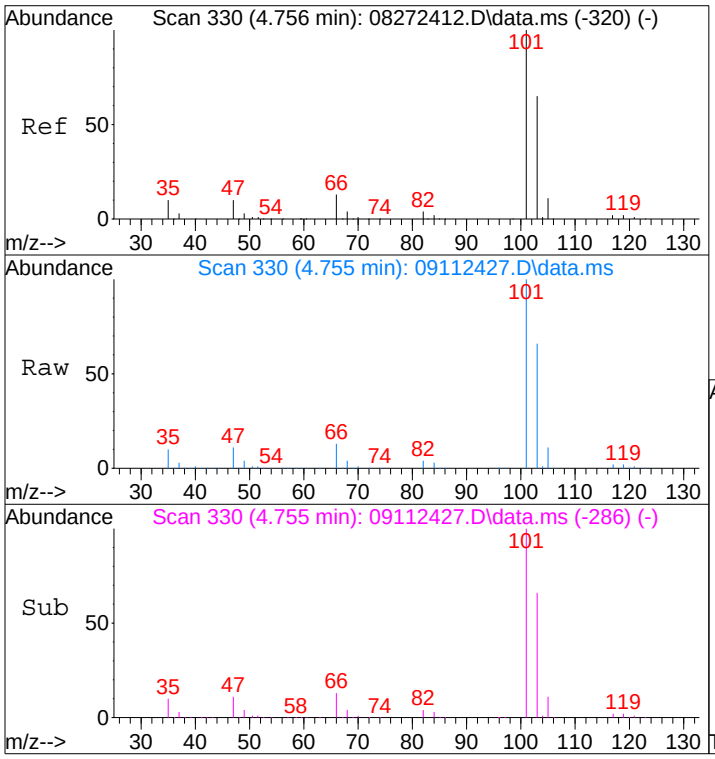


#13
Acetone
Concen: 27.55 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.056 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 58 Resp: 363627

Ion	Ratio	Lower	Upper
58	100		
43	631.6	347.3	407.3#

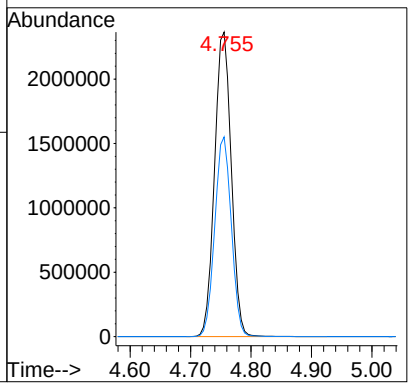


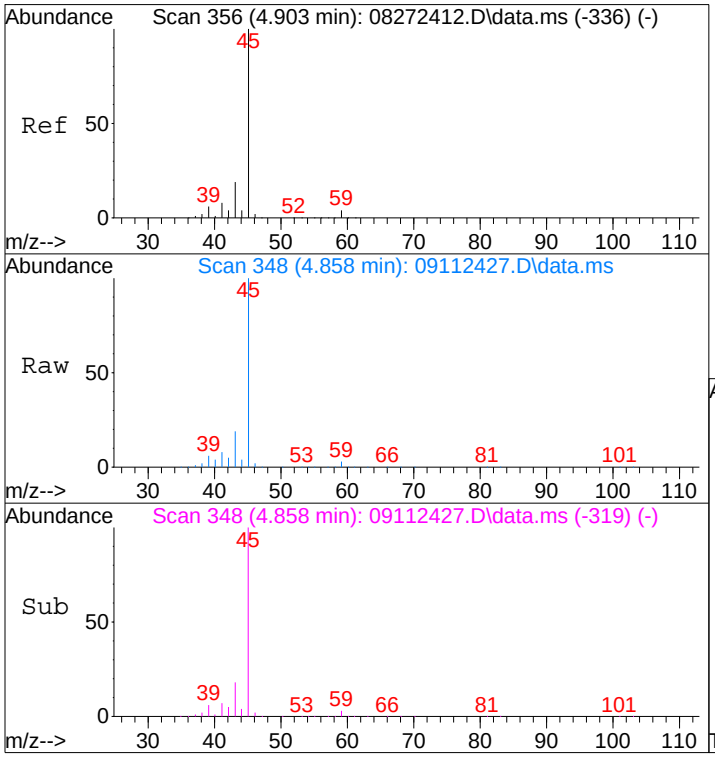


#14
Trichlorofluoromethane
Concen: 135.77 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.001 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:101 Resp: 4530781

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.9	84.9

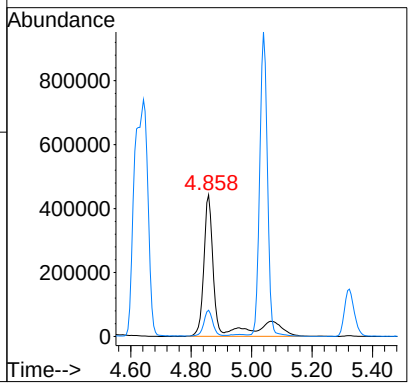


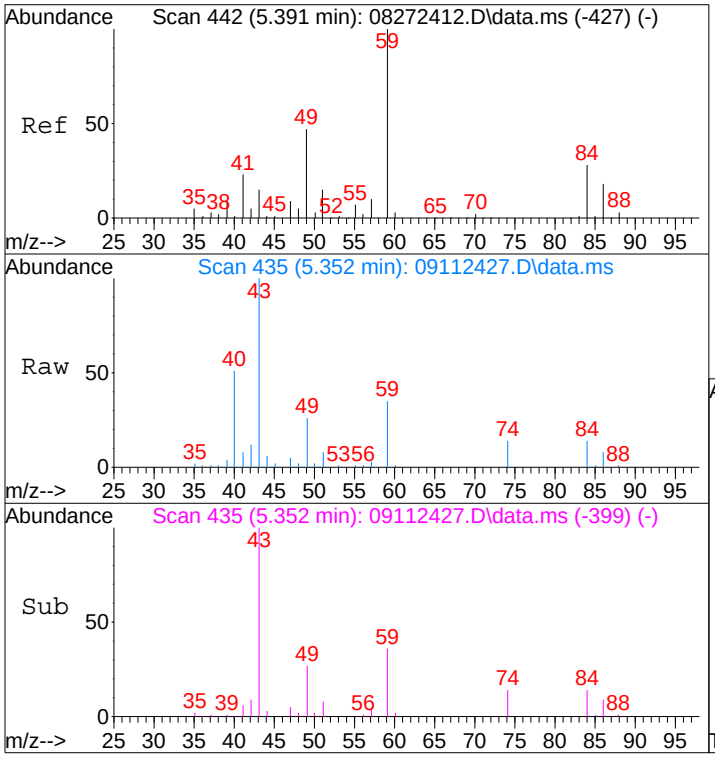


#15
2-Propanol (Isopropanol)
Concen: 24.19 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.083 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 45 Resp: 1257113

Ion	Ratio	Lower	Upper
45	100		
43	15.1	0.0	40.0

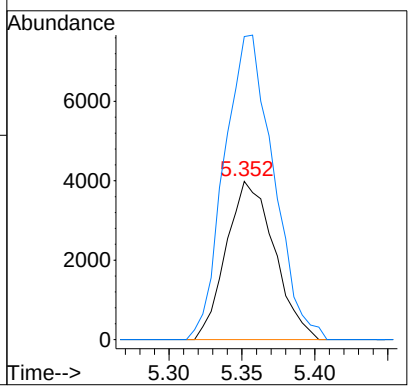


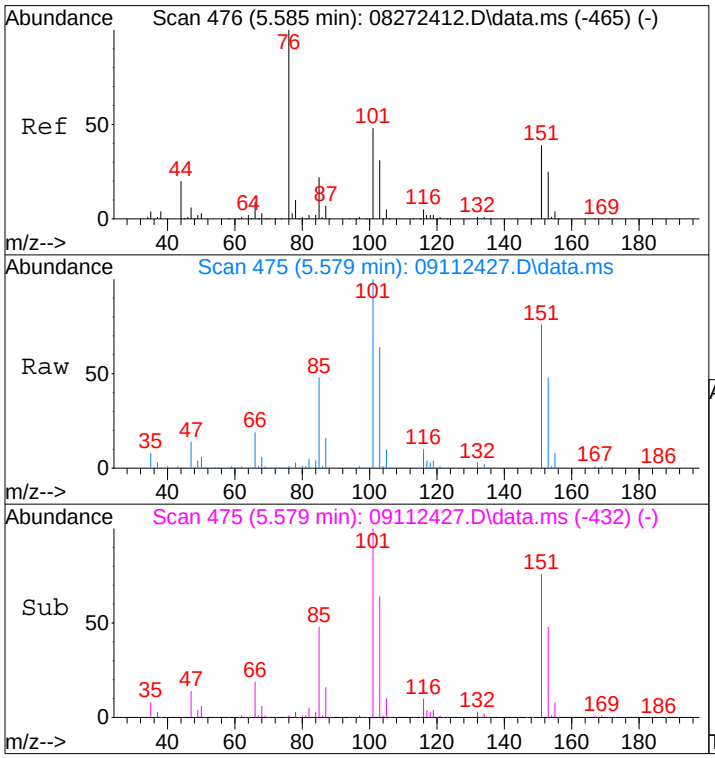


#19
Methylene Chloride
Concen: 0.59 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.047 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 84 Resp: 9139

Ion	Ratio	Lower	Upper
84	100		
49	196.5	151.1	201.1

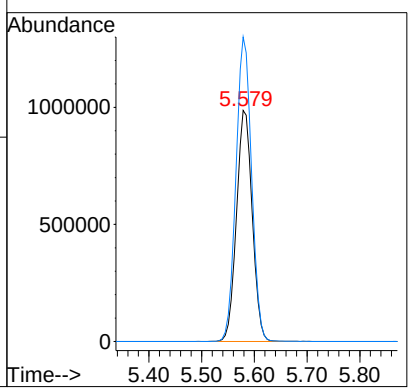


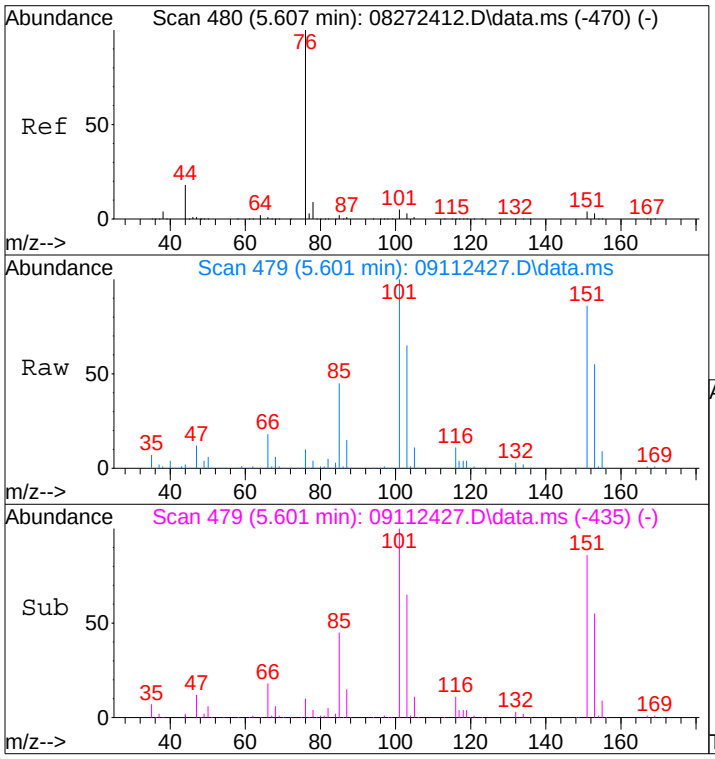


#21
Trichlorotrifluoroethane
Concen: 154.87 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.007 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:151 Resp: 2047462

Ion	Ratio	Lower	Upper
151	100		
101	130.8	103.4	143.4

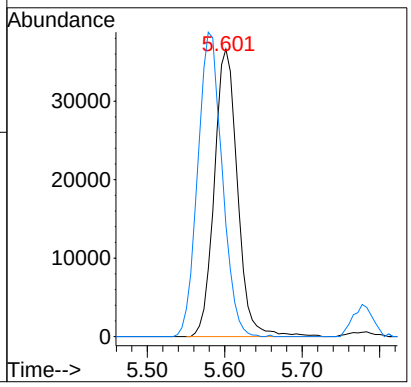


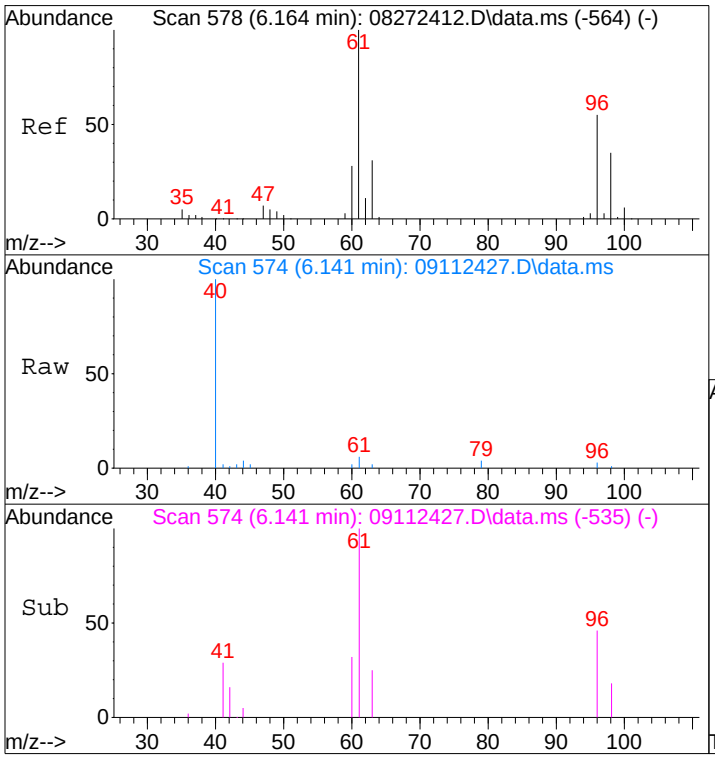


#22
Carbon Disulfide
Concen: 1.48 ng
RT: 5.60 min Scan# 479
Delta R.T. -0.001 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 76 Resp: 76177

Ion	Ratio	Lower	Upper
76	100		
78	111.4	0.0	29.6#

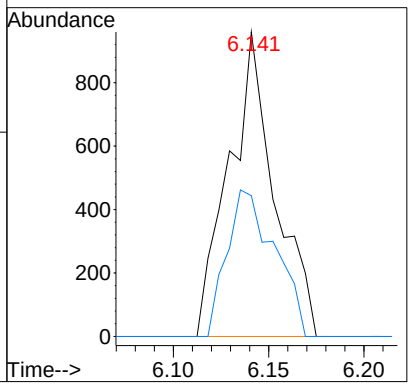


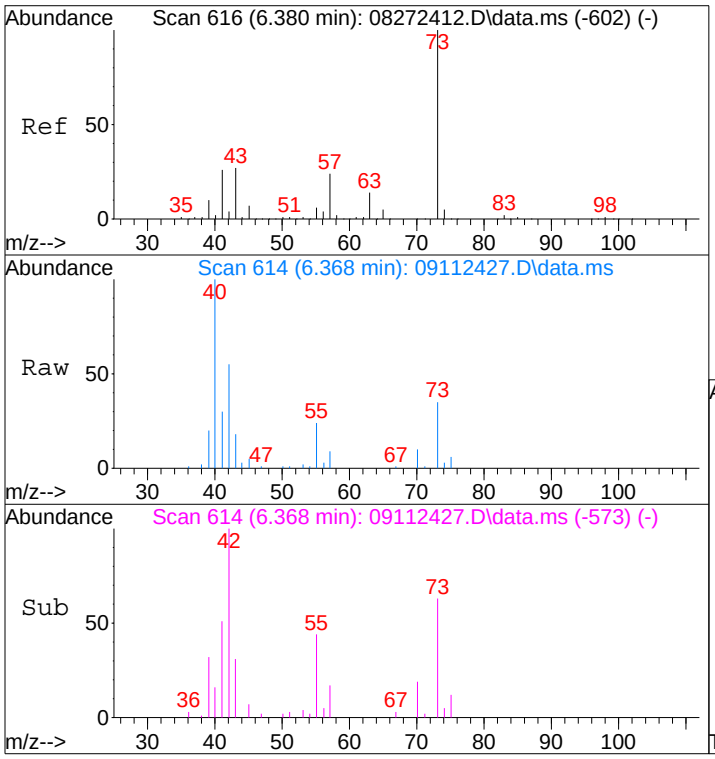


#23
trans-1,2-Dichloroethene
Concen: 0.06 ng
RT: 6.14 min Scan# 574
Delta R.T. -0.027 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 61 Resp: 1599

Ion	Ratio	Lower	Upper
61	100		
96	50.6	35.5	75.5

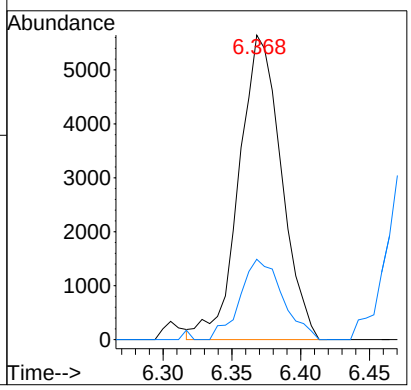


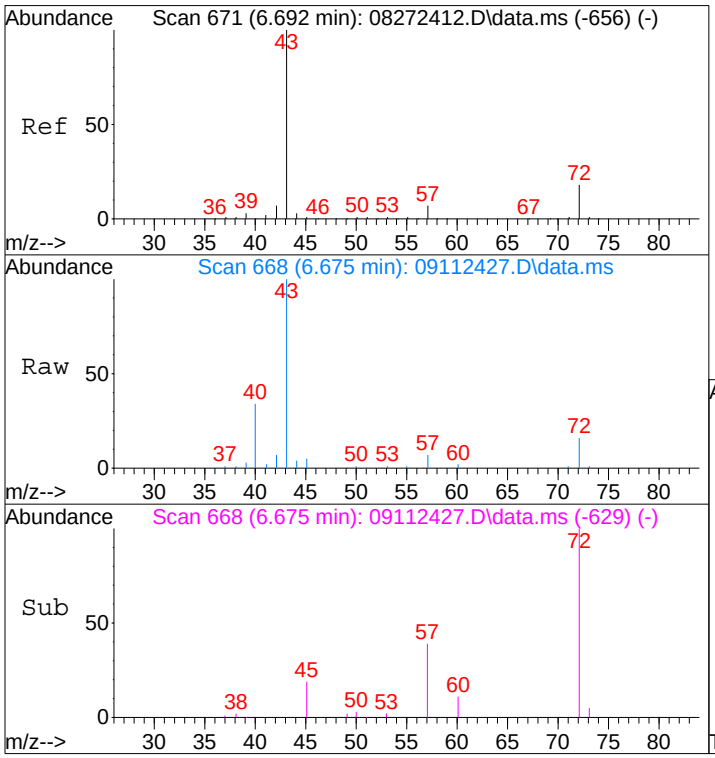


#25
Methyl tert-Butyl Ether
Concen: 0.26 ng
RT: 6.37 min Scan# 614
Delta R.T. -0.015 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 73 Resp: 12057

Ion	Ratio	Lower	Upper
73	100		
57	26.6	4.7	44.7

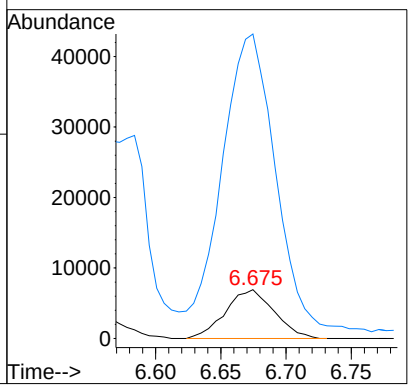


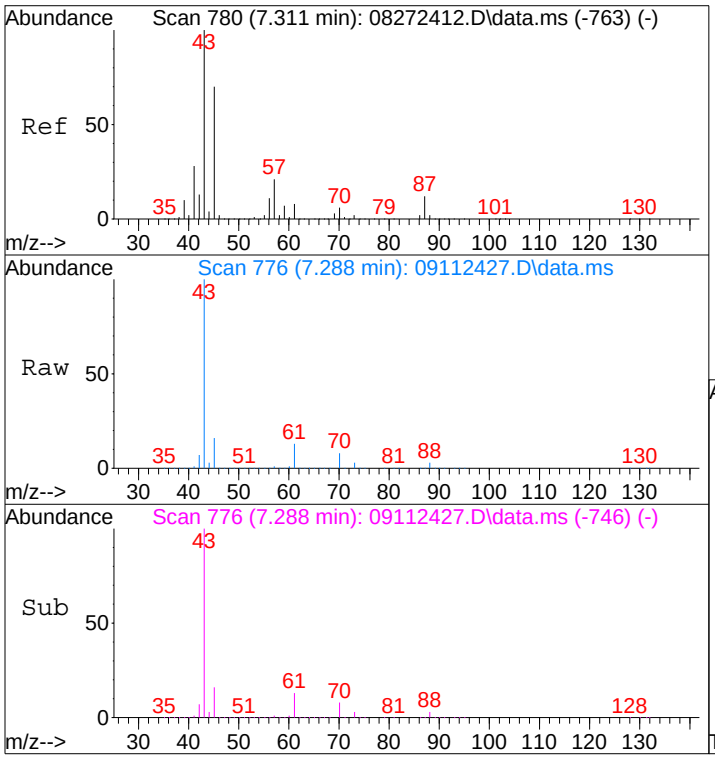


#27
2-Butanone (MEK)
Concen: 1.92 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.031 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 72 Resp: 17980

Ion	Ratio	Lower	Upper
72	100		
43	670.8	548.0	588.0#

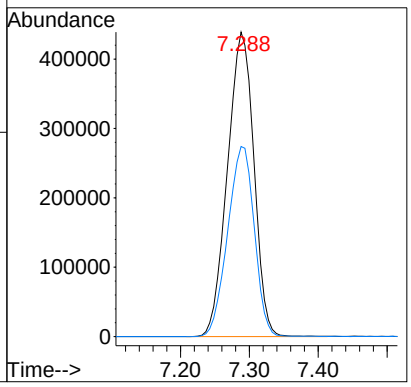


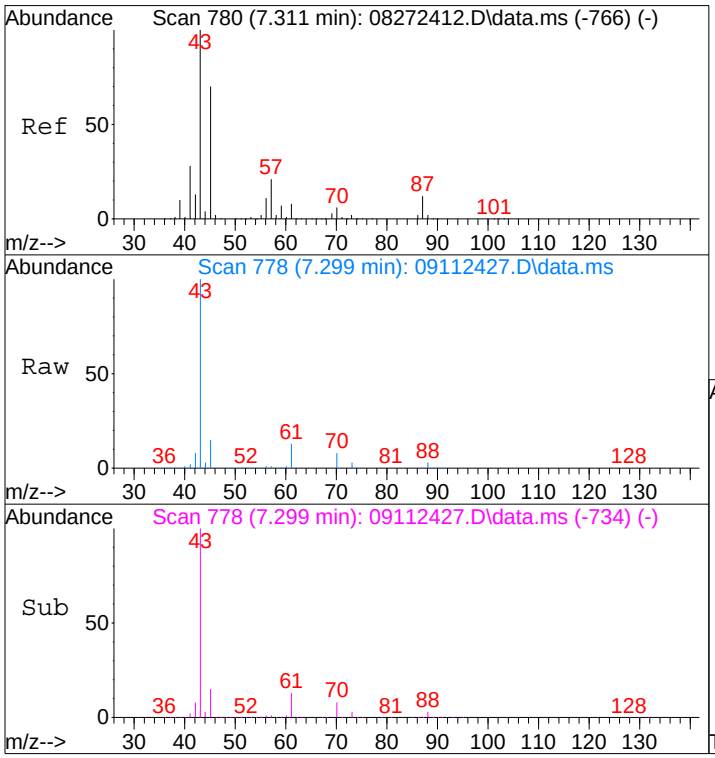


#30
Ethyl Acetate
Concen: 186.76 ng
RT: 7.29 min Scan# 776
Delta R.T. -0.028 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 61 Resp: 1171555

Ion	Ratio	Lower	Upper
61	100		
70	62.8	49.9	89.9

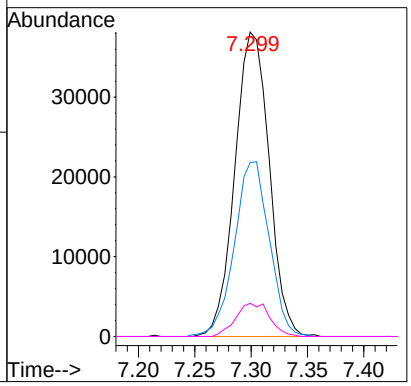


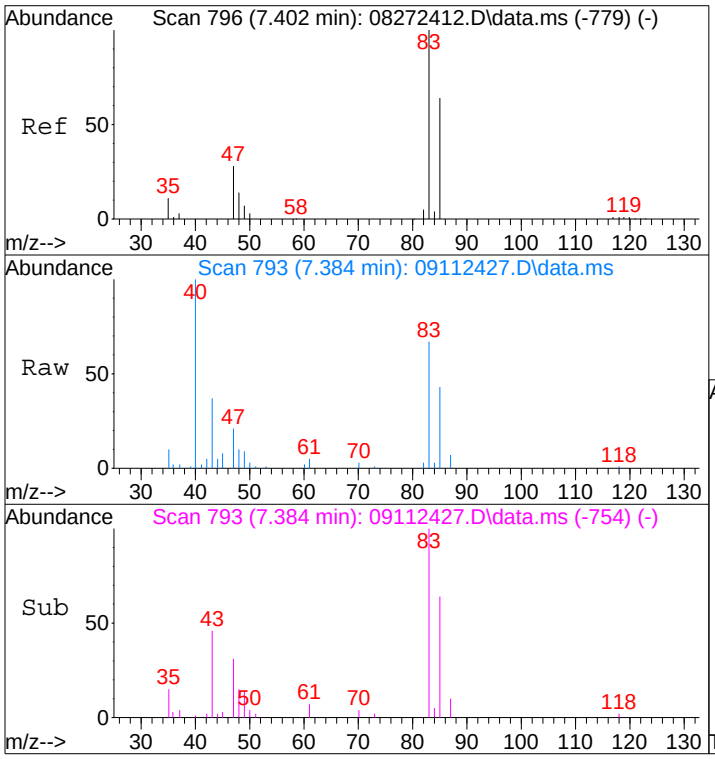


#31
n-Hexane
Concen: 2.84 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.000 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 57 Resp: 81148

Ion	Ratio	Lower	Upper
57	100		
56	58.3	44.2	66.2
86	10.9	9.3	13.9

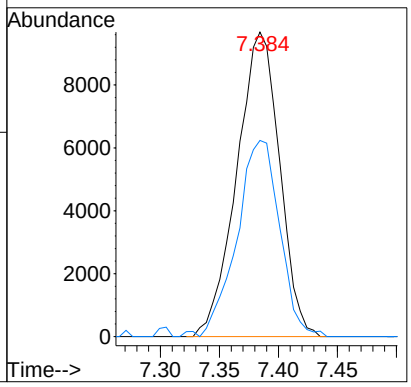


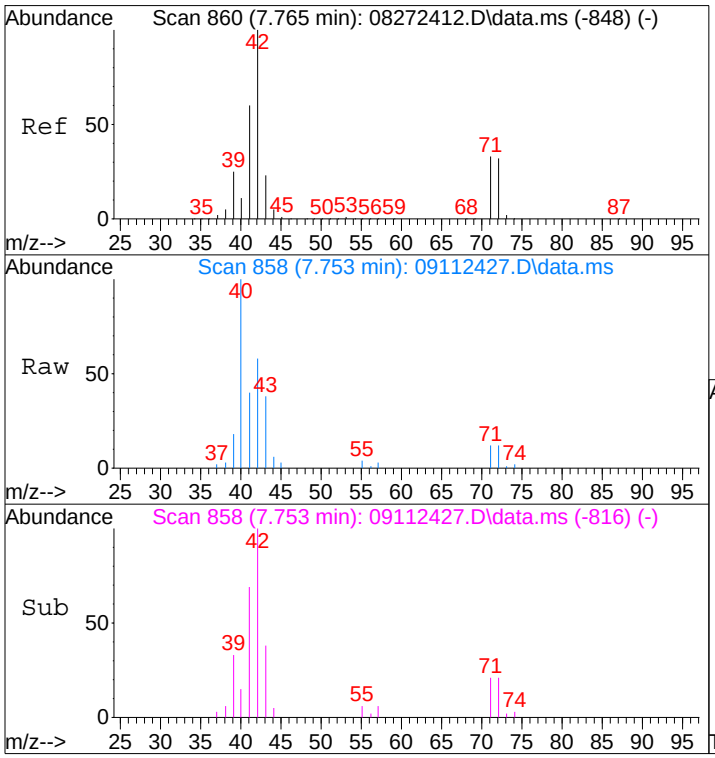


#32
Chloroform
Concen: 0.85 ng
RT: 7.38 min Scan# 793
Delta R.T. -0.028 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 83 Resp: 24450

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.3	85.3

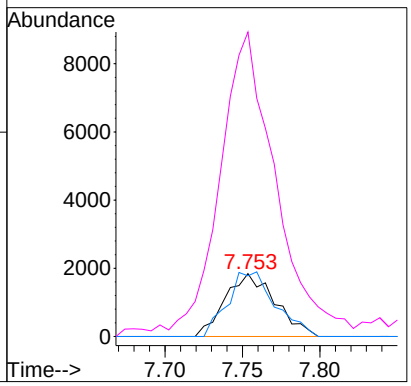


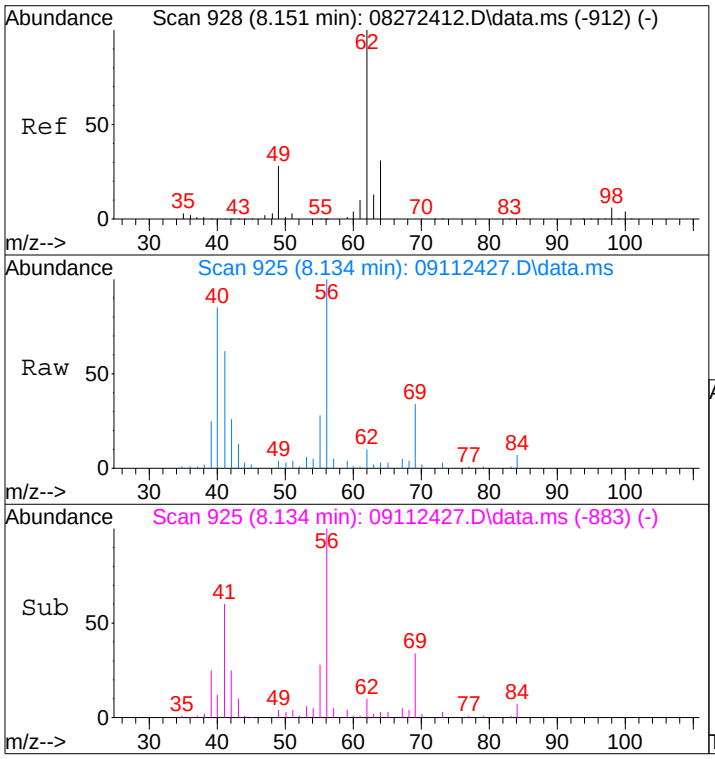


#34
Tetrahydrofuran (THF)
Concen: 0.47 ng
RT: 7.75 min Scan# 858
Delta R.T. -0.010 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 72 Resp: 4151

Ion	Ratio	Lower	Upper
72	100		
71	97.7	78.4	118.4
42	551.8	285.2	325.2#

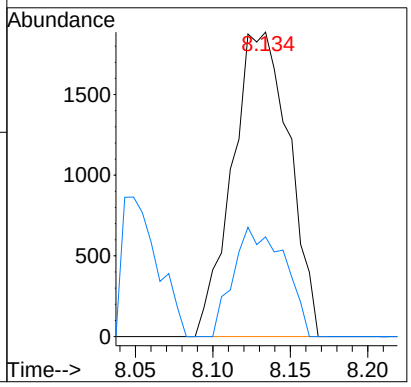


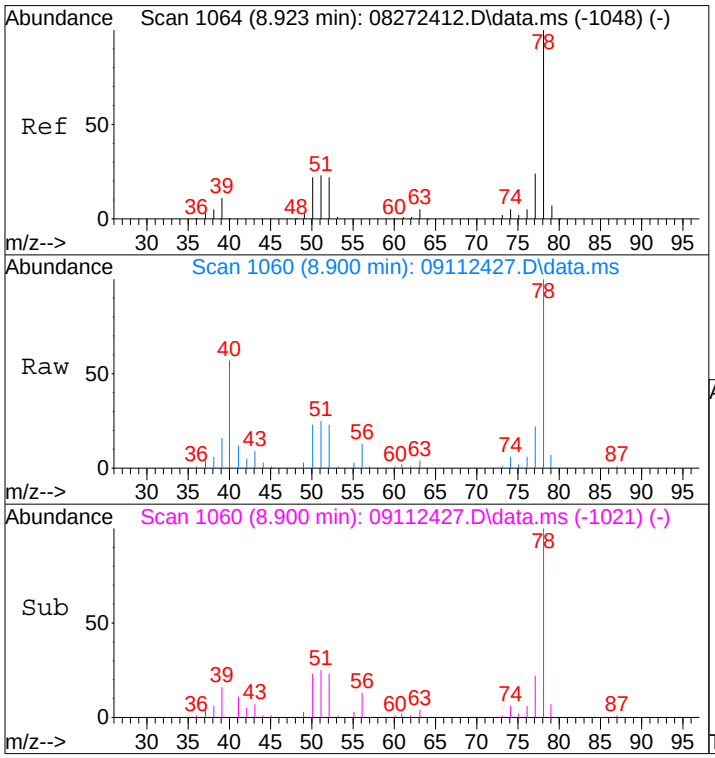


#36
1,2-Dichloroethane
Concen: 0.17 ng
RT: 8.13 min Scan# 925
Delta R.T. -0.014 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 62 Resp: 4819

Ion	Ratio	Lower	Upper
62	100		
64	32.3	11.0	51.0

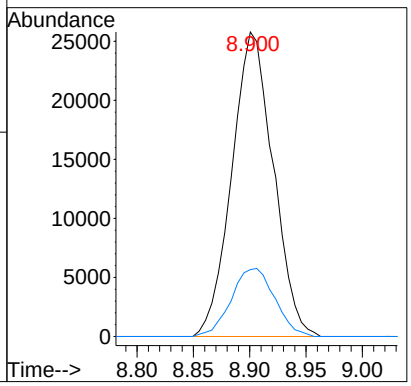


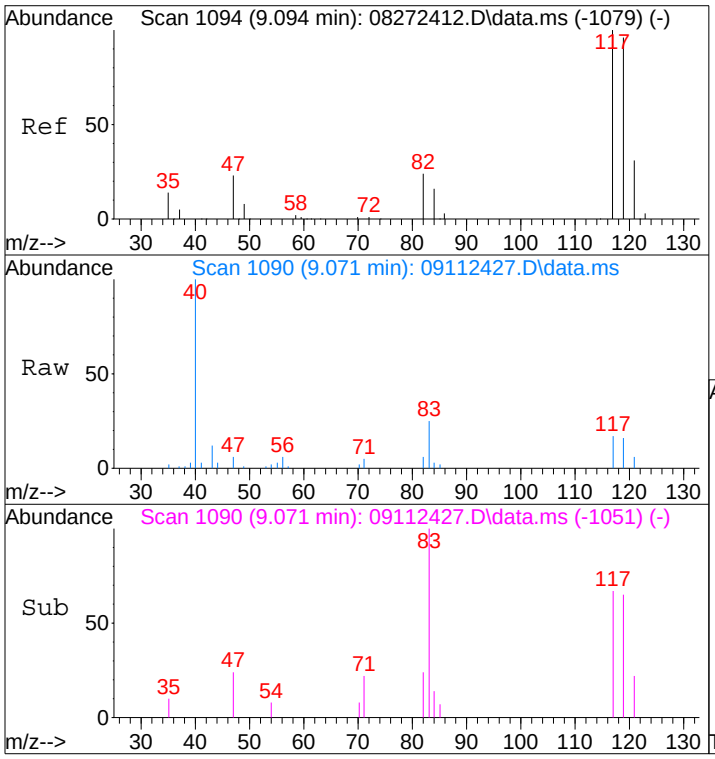


#41
Benzene
Concen: 1.09 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.029 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 78 Resp: 65968

Ion	Ratio	Lower	Upper
78	100		
77	23.5	3.9	43.9

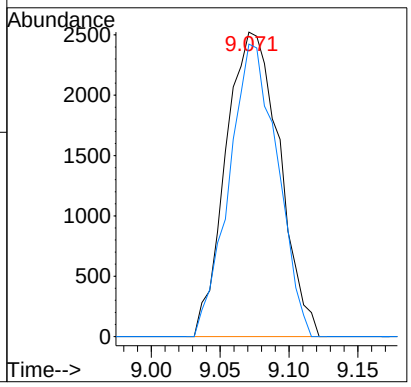


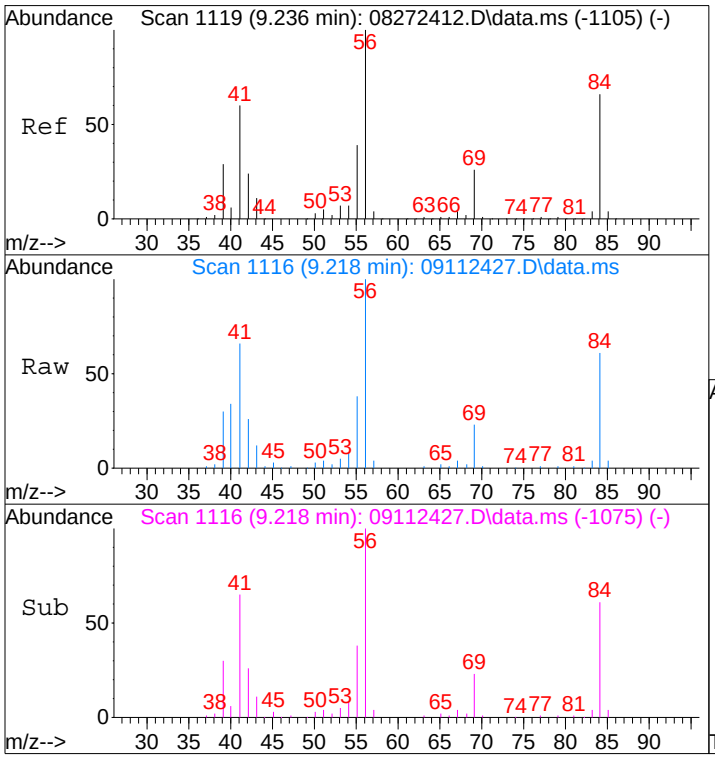


#42
Carbon Tetrachloride
Concen: 0.27 ng
RT: 9.07 min Scan# 1090
Delta R.T. -0.029 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:117 Resp: 6811

Ion	Ratio	Lower	Upper
117	100		
119	86.6	75.1	115.1

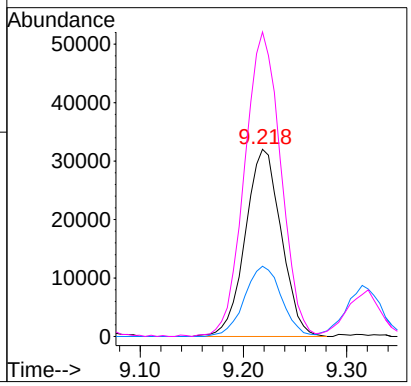


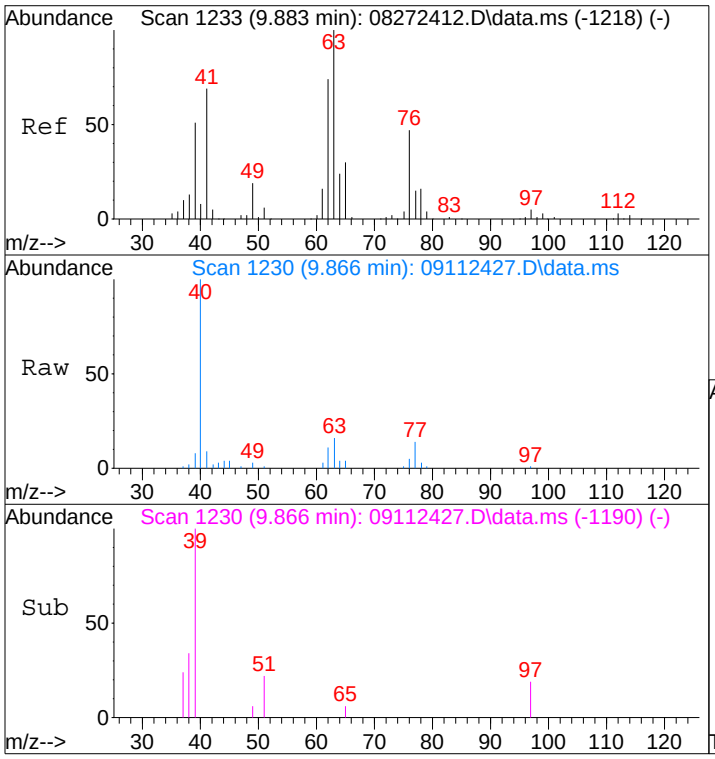


#43
Cyclohexane
Concen: 3.79 ng
RT: 9.22 min Scan# 1116
Delta R.T. -0.017 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 84 Resp: 77348

Ion	Ratio	Lower	Upper
84	100		
69	38.8	18.8	58.8
56	164.0	134.5	174.5

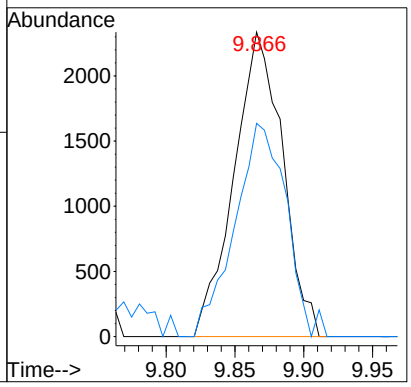


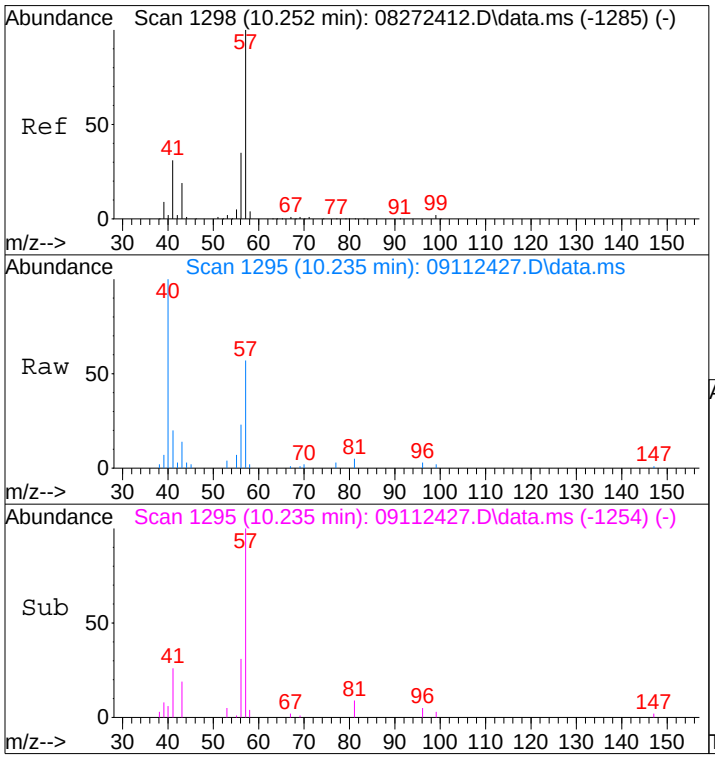


#45
1,2-Dichloropropane
Concen: 0.36 ng
RT: 9.87 min Scan# 1230
Delta R.T. -0.022 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 63 Resp: 5711

Ion	Ratio	Lower	Upper
63	100		
62	74.3	54.2	94.2

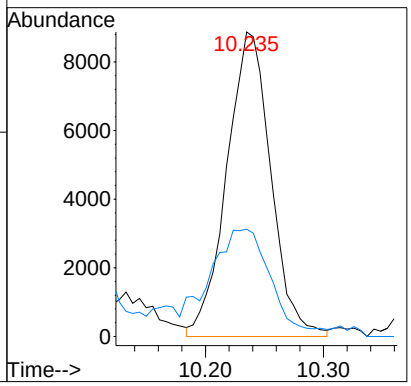


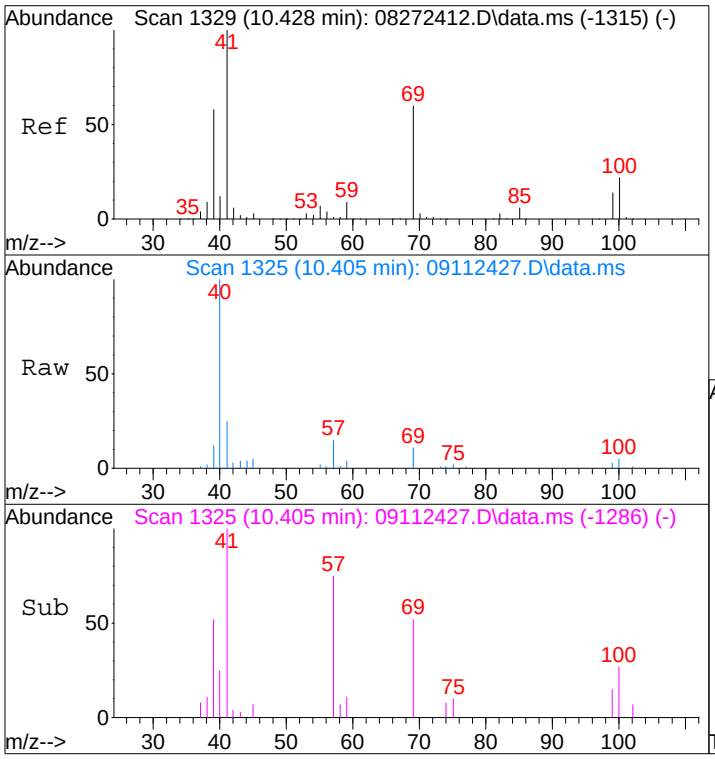


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.32 ng
RT: 10.23 min Scan# 1295
Delta R.T. -0.015 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 57 Resp: 23049

Ion	Ratio	Lower	Upper
57	100		
41	42.6	10.5	50.5

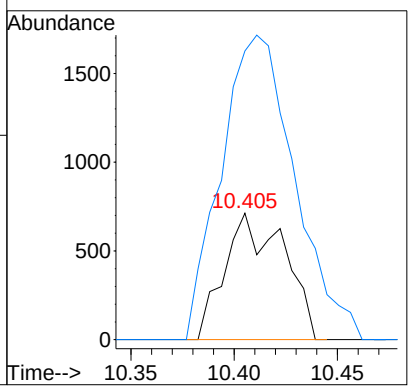


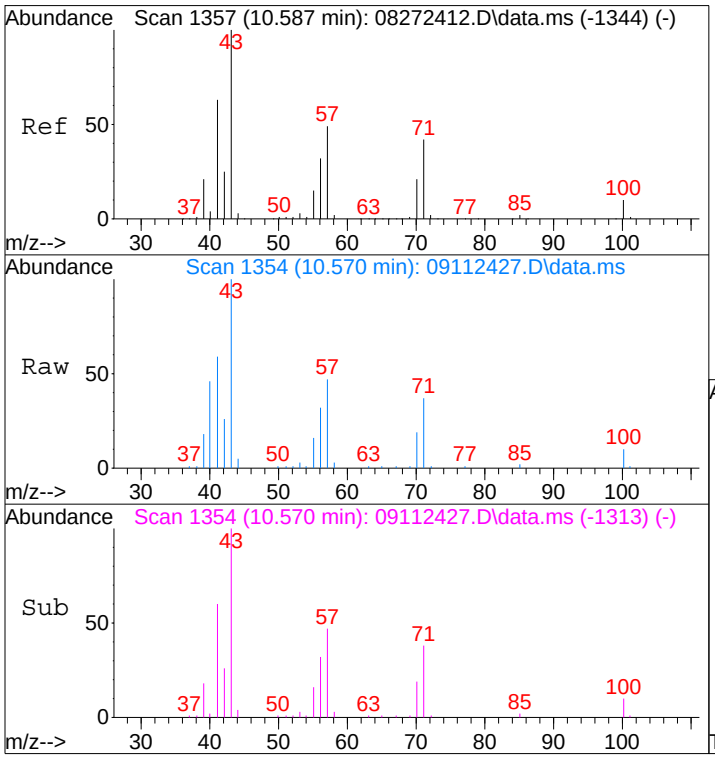


#50
Methyl Methacrylate
Concen: 0.27 ng
RT: 10.41 min Scan# 1325
Delta R.T. -0.026 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:100 Resp: 1429

Ion	Ratio	Lower	Upper
100	100		
69	297.6	260.7	300.7

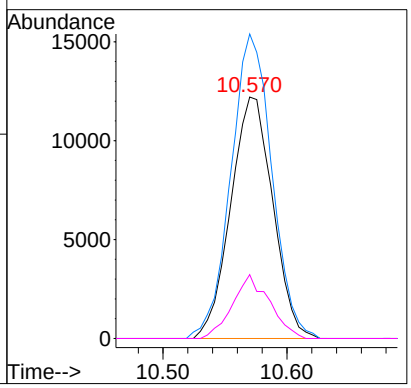


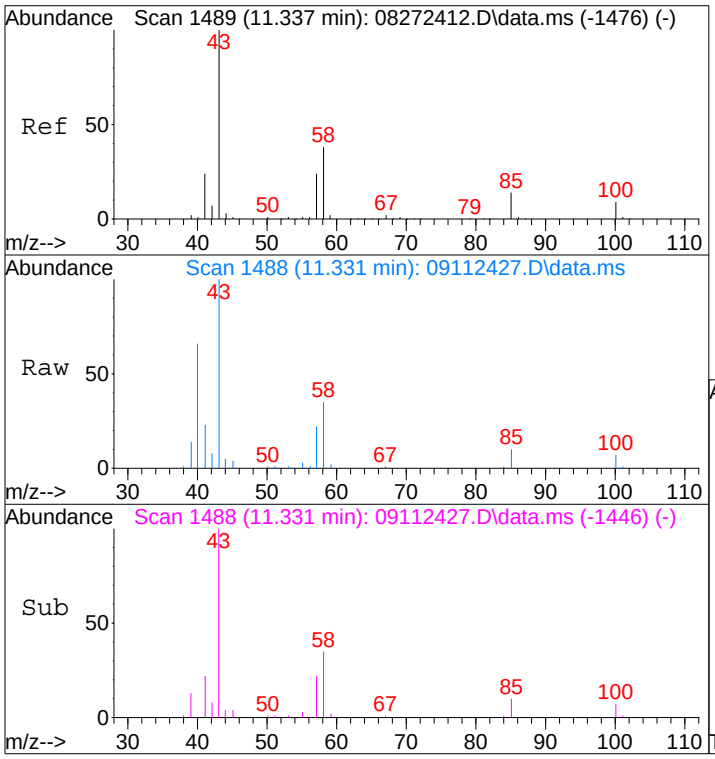


#51
n-Heptane
Concen: 2.14 ng
RT: 10.57 min Scan# 1354
Delta R.T. -0.015 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 71 Resp: 28859

Ion	Ratio	Lower	Upper
71	100		
57	122.9	97.1	137.1
100	23.3	5.0	45.0

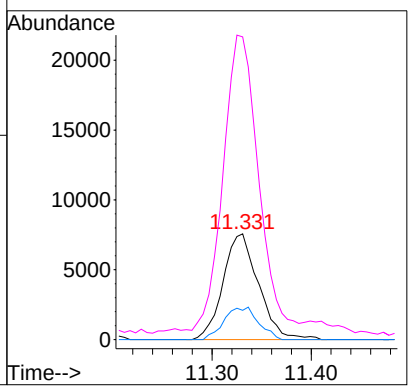


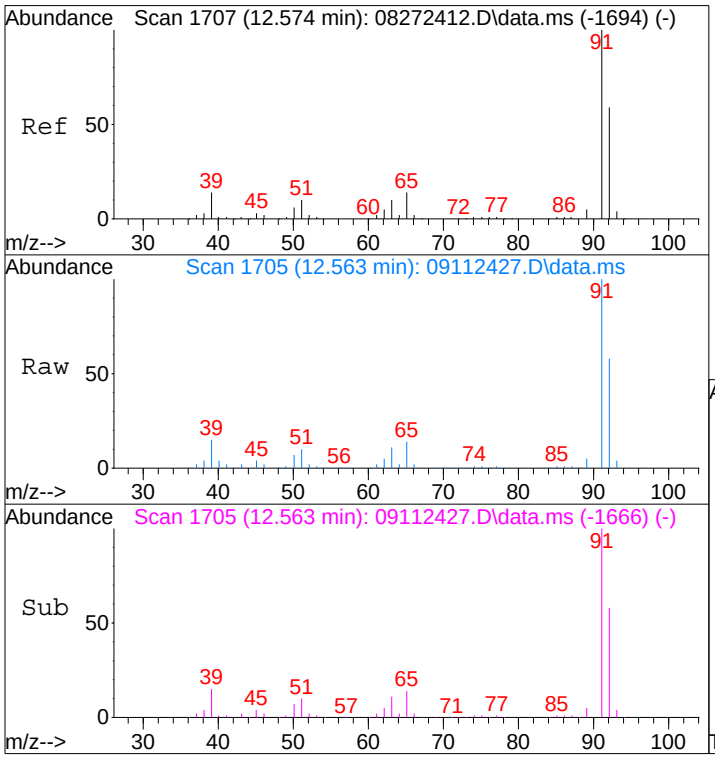


#53
4-Methyl-2-pentanone
Concen: 1.18 ng
RT: 11.33 min Scan# 1488
Delta R.T. -0.013 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 58 Resp: 18833

Ion	Ratio	Lower	Upper
58	100		
85	29.5	30.2	45.2#
43	303.4	215.1	322.7

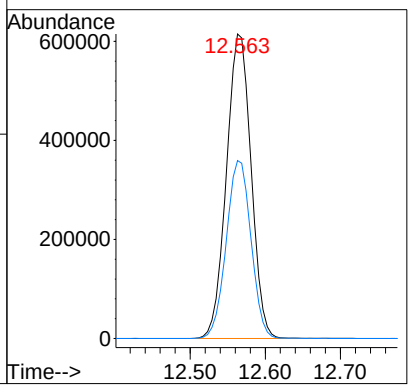


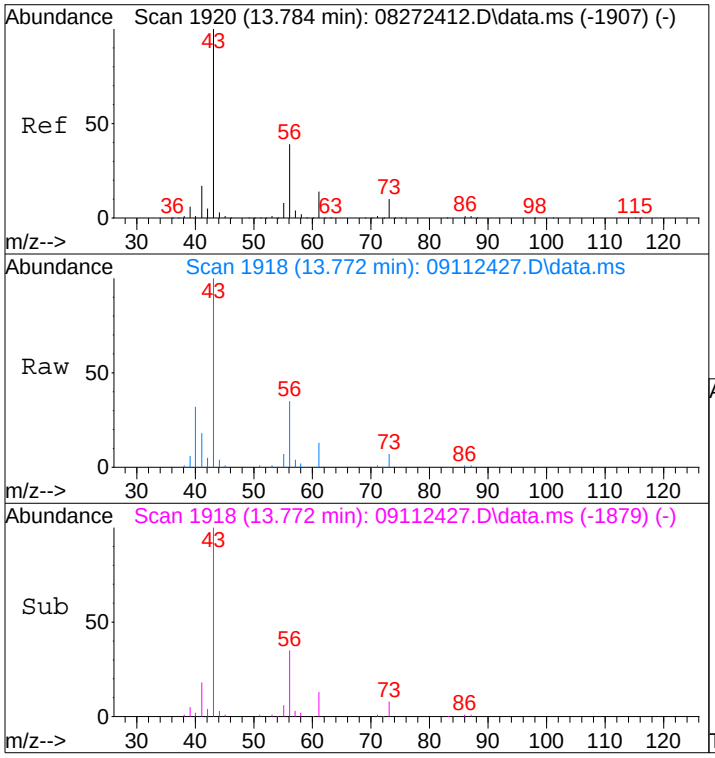


#58
Toluene
Concen: 19.30 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 91 Resp: 1403016

Ion	Ratio	Lower	Upper
91	100		
92	58.6	38.5	78.5

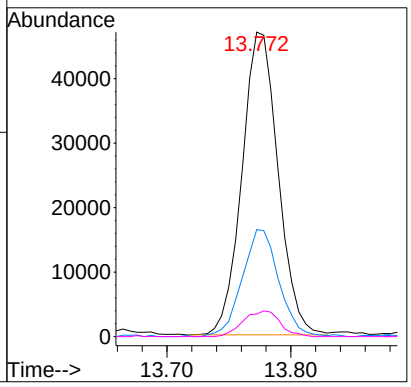


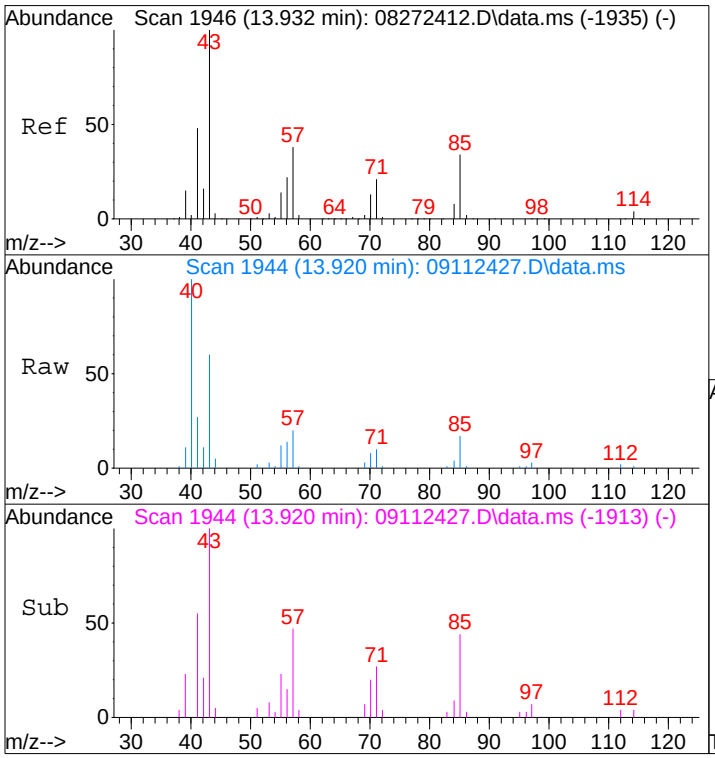


#62
n-Butyl Acetate
Concen: 1.89 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 43 Resp: 95387

Ion	Ratio	Lower	Upper
43	100		
56	36.0	18.2	58.2
73	8.7	0.0	30.1

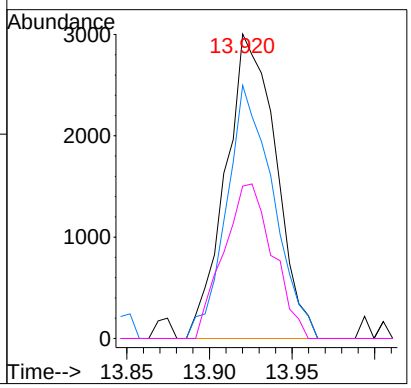


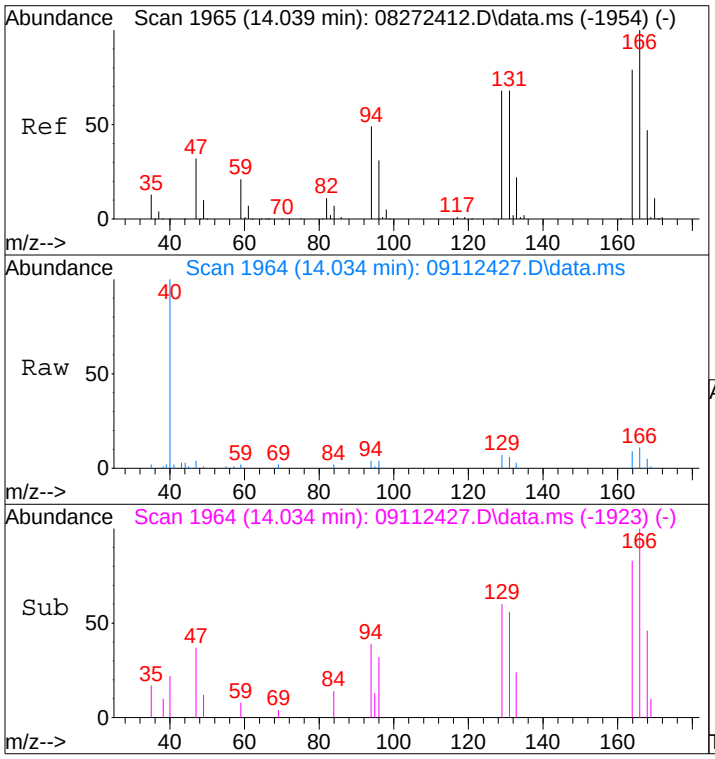


#63
n-Octane
Concen: 0.37 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 57 Resp: 6349

Ion	Ratio	Lower	Upper
57	100		
85	77.3	71.2	106.8
71	49.9	43.3	64.9

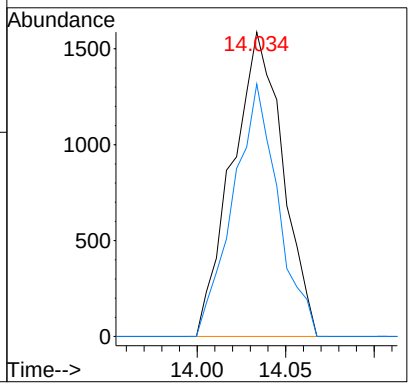


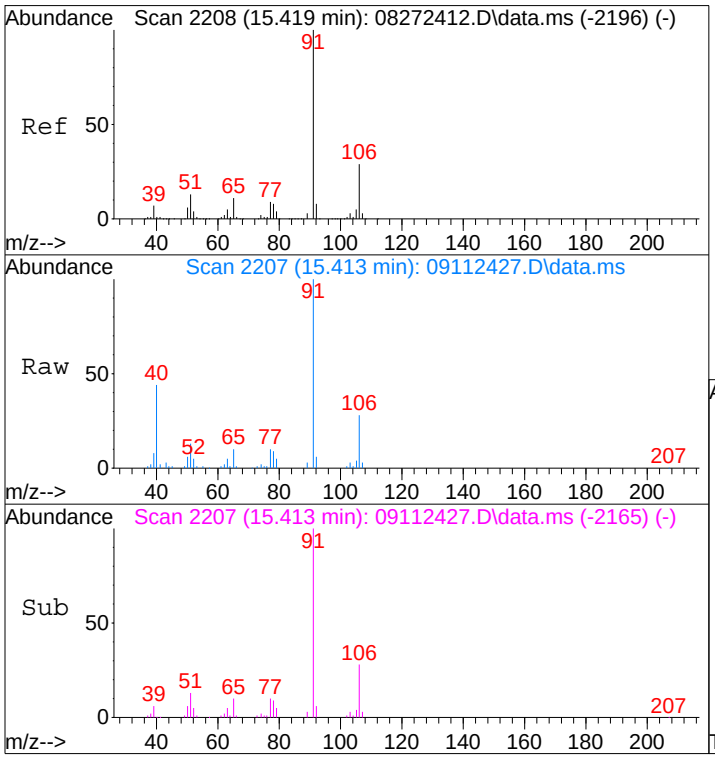


#64
Tetrachloroethene
Concen: 0.16 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:166 Resp: 3160

Ion	Ratio	Lower	Upper
166	100		
164	73.6	59.0	99.0

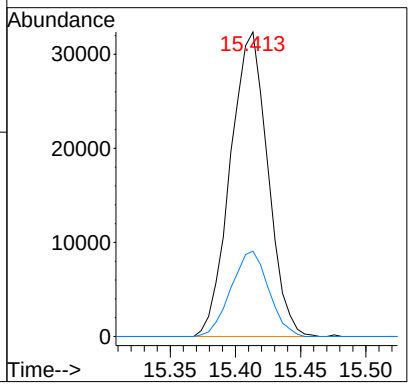


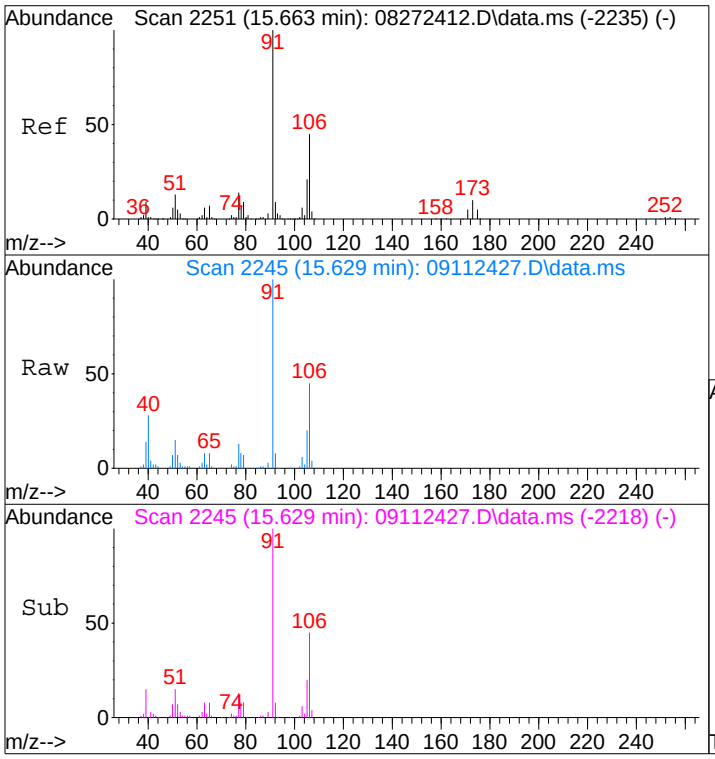


#66
Ethylbenzene
Concen: 0.77 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 91 Resp: 64623

Ion	Ratio	Lower	Upper
91	100		
106	28.2	9.2	49.2

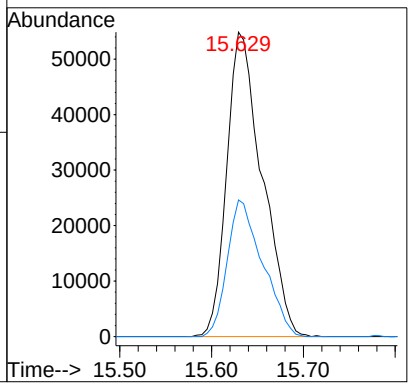


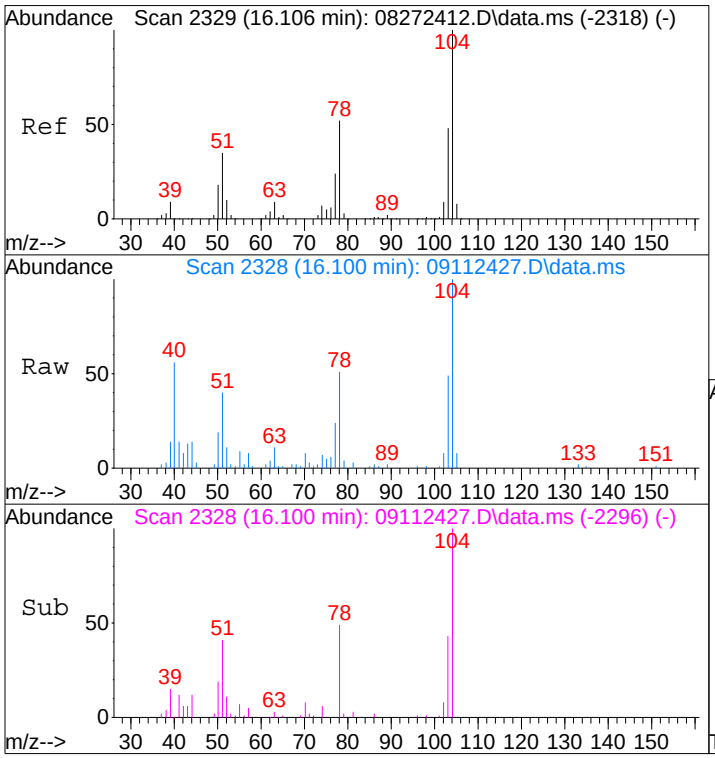


#67
m- & p-Xylenes
Concen: 2.15 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 91 Resp: 146567

Ion	Ratio	Lower	Upper
91	100		
106	44.8	23.8	63.8

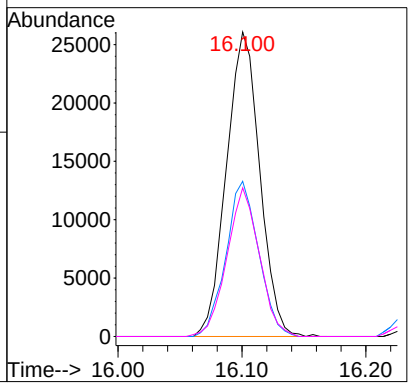


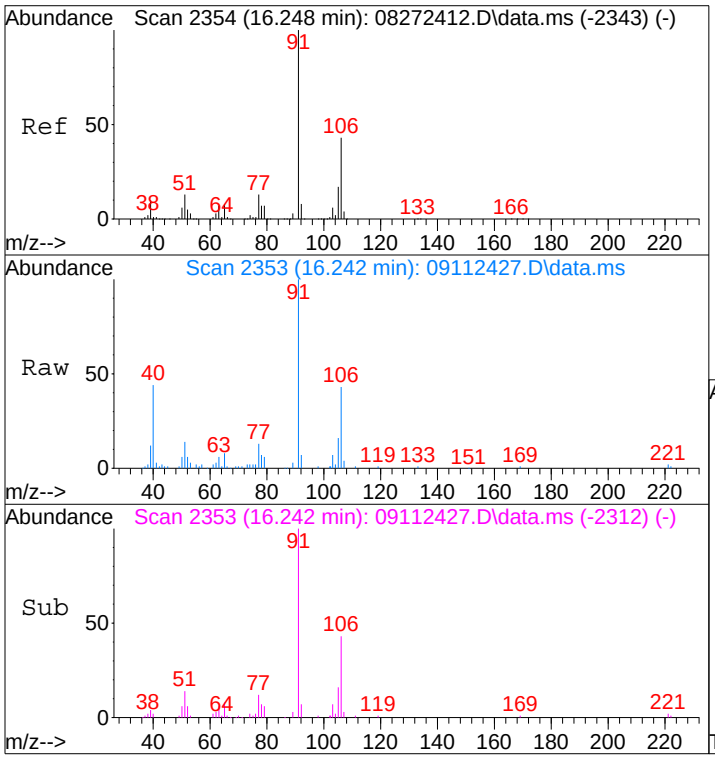


#69
Styrene
Concen: 1.11 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:104 Resp: 48718

Ion	Ratio	Lower	Upper
104	100		
78	50.0	32.2	72.2
103	47.4	28.3	68.3

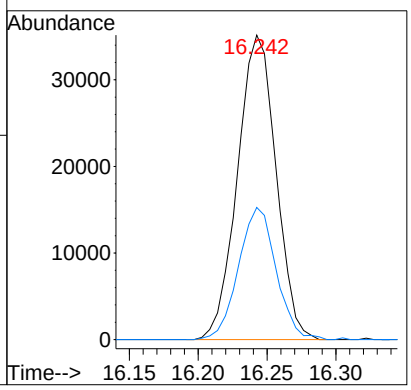


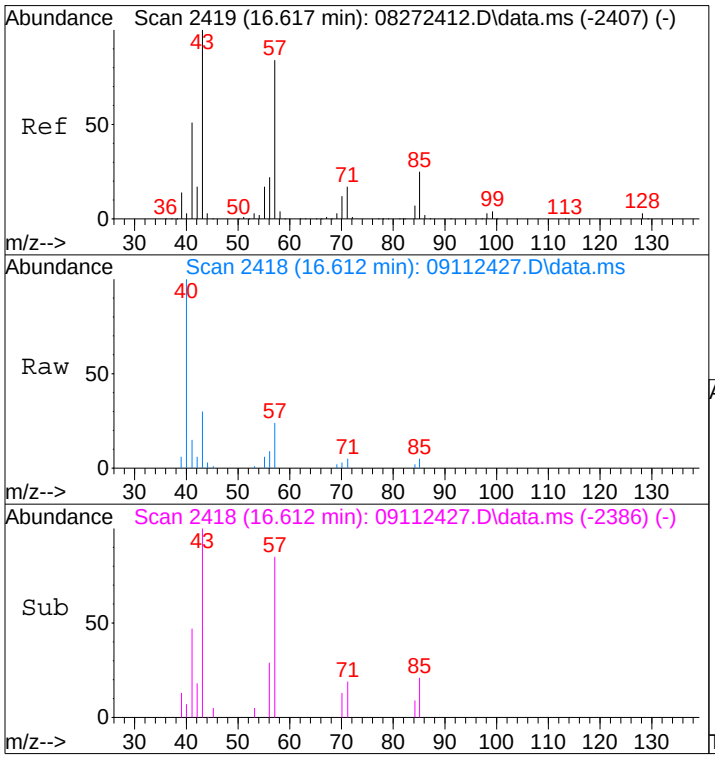


#70
o-Xylene
Concen: 1.03 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 91 Resp: 68468

Ion	Ratio	Lower	Upper
91	100		
106	42.3	22.5	62.5

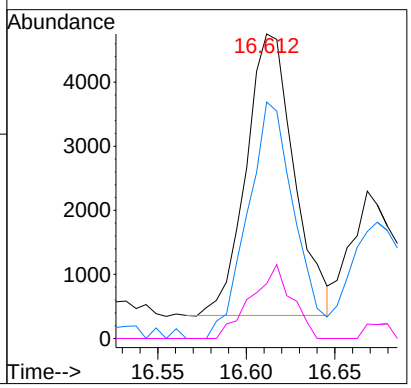


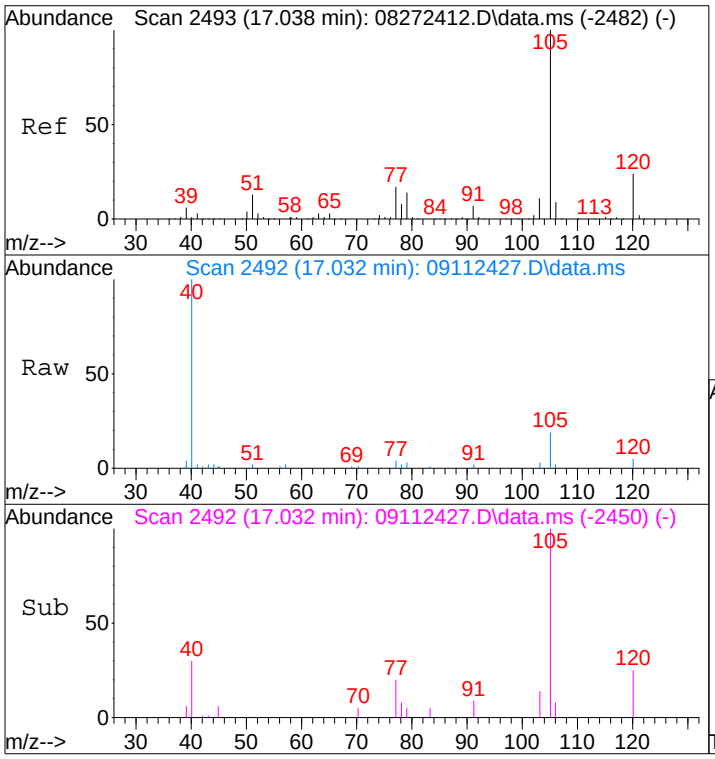


#71
n-Nonane
Concen: 0.19 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 43 Resp: 8284

Ion	Ratio	Lower	Upper
43	100		
57	81.7	63.3	103.3
85	21.9	4.5	44.5

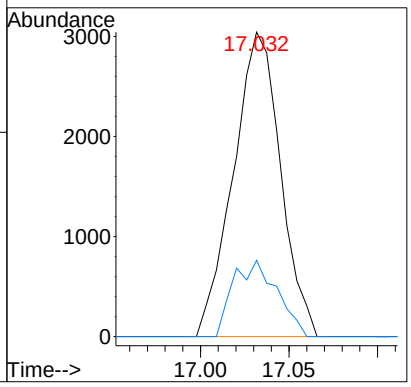


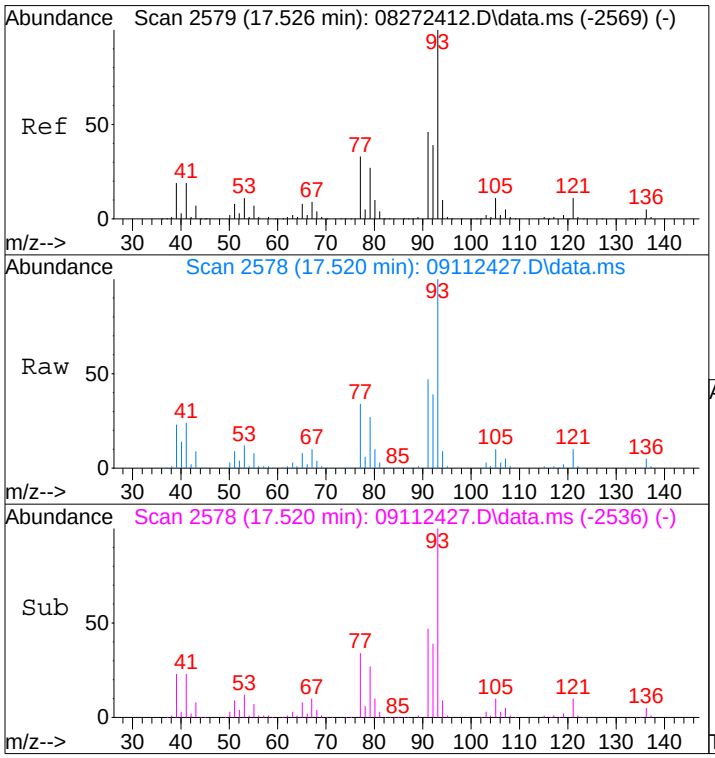


#74
Cumene
Concen: 0.07 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:105 Resp: 5642

Ion	Ratio	Lower	Upper
105	100		
120	23.3	3.7	43.7

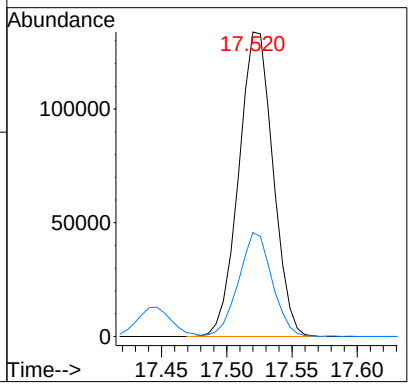


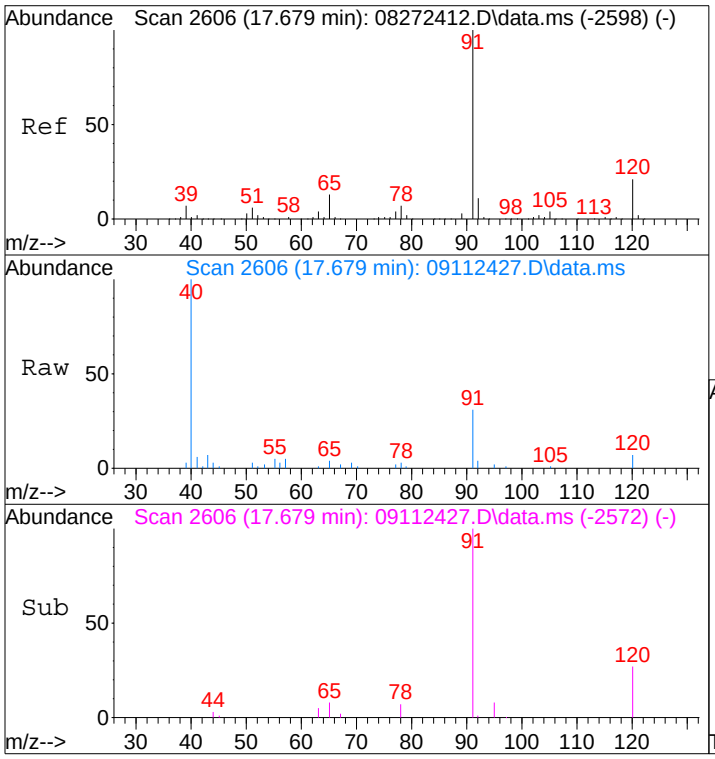


#75
alpha-Pinene
Concen: 6.11 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 93 Resp: 244612

Ion	Ratio	Lower	Upper
93	100		
77	33.4	13.1	53.1

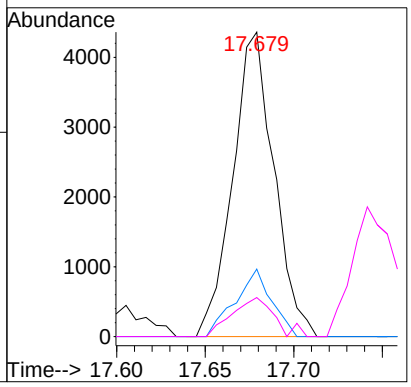


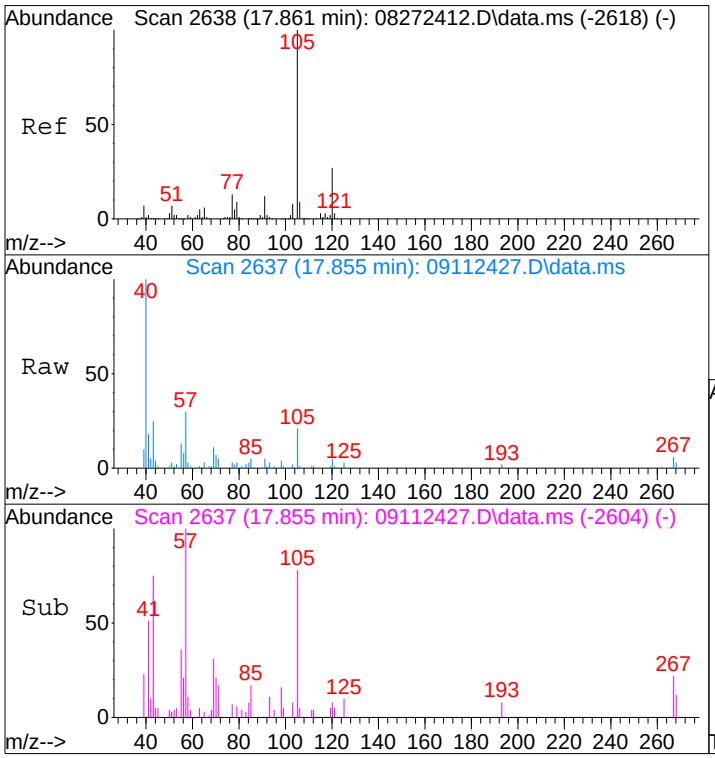


#76
n-Propylbenzene
Concen: 0.07 ng
RT: 17.68 min Scan# 2606
Delta R.T. -0.006 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 91 Resp: 7052

Ion	Ratio	Lower	Upper
91	100		
120	19.6	0.5	40.5
65	13.2	0.0	32.5

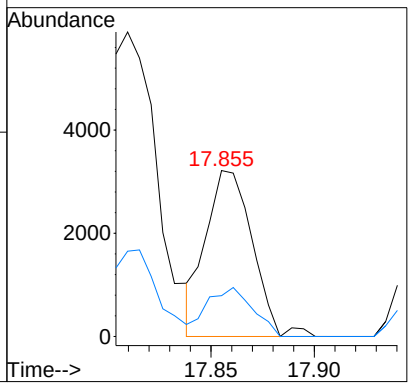


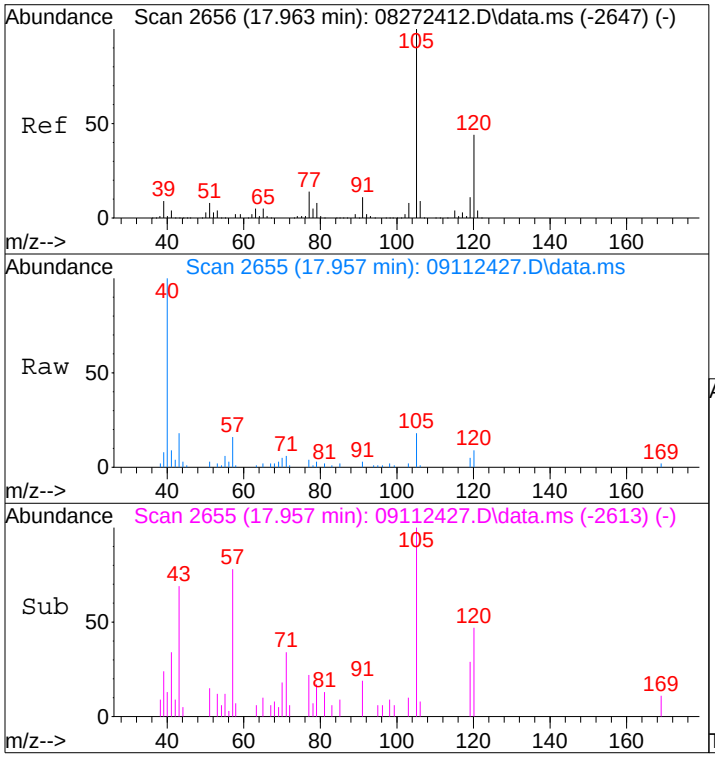


#78
4-Ethyltoluene
Concen: 0.07 ng
RT: 17.86 min Scan# 2637
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:105 Resp: 5063

Ion	Ratio	Lower	Upper
105	100		
120	28.8	6.9	46.9

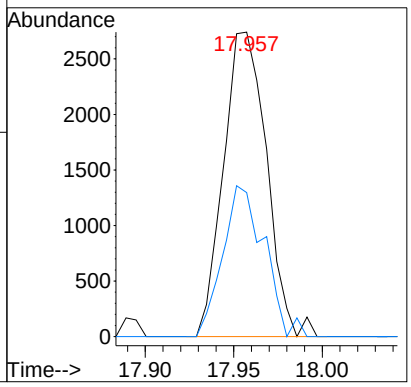


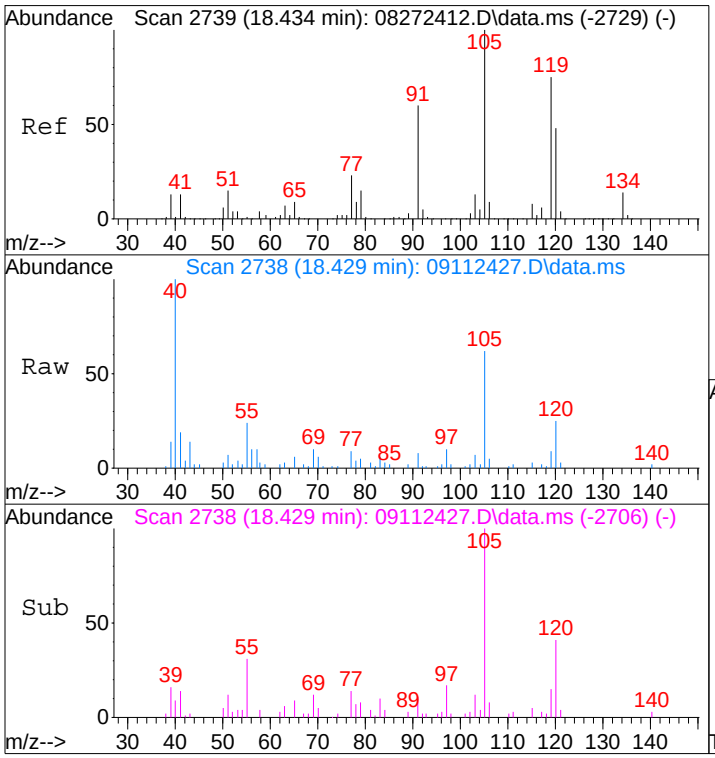


#79
1,3,5-Trimethylbenzene
Concen: 0.07 ng
RT: 17.96 min Scan# 2655
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:105 Resp: 4640

Ion	Ratio	Lower	Upper
105	100		
120	47.9	24.0	64.0

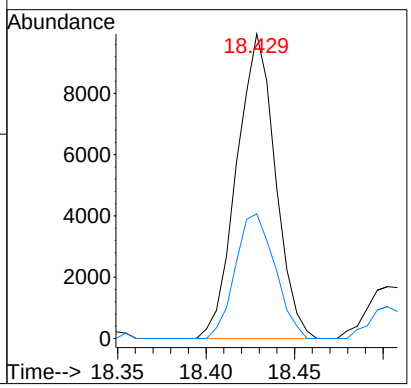


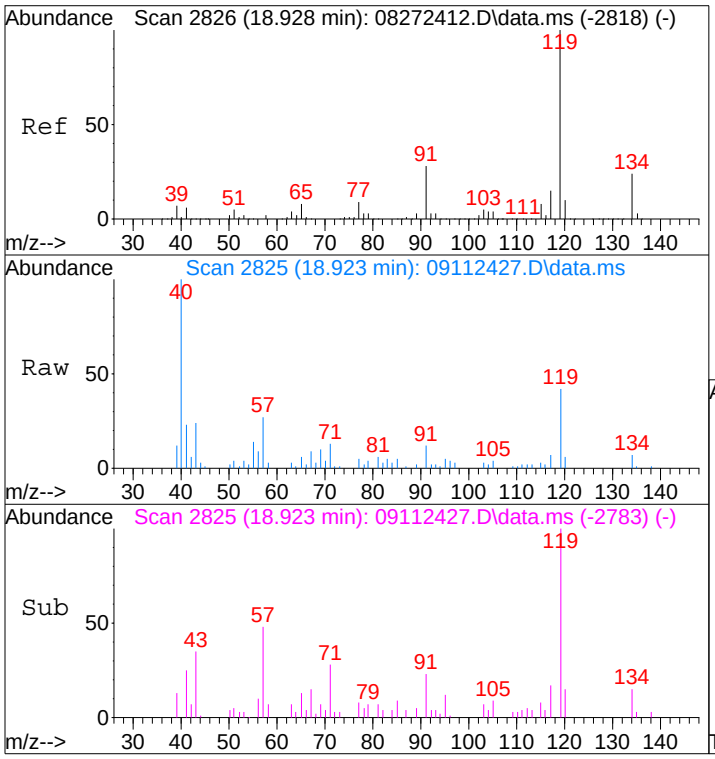


#82
1,2,4-Trimethylbenzene
Concen: 0.22 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:105 Resp: 15110

Ion	Ratio	Lower	Upper
105	100		
120	41.9	28.8	68.8

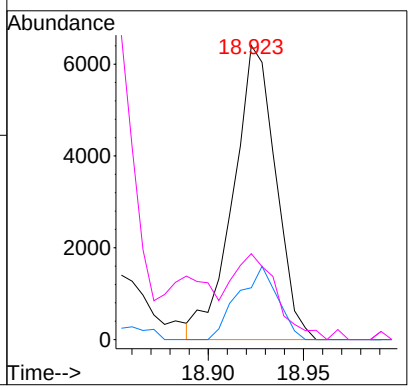


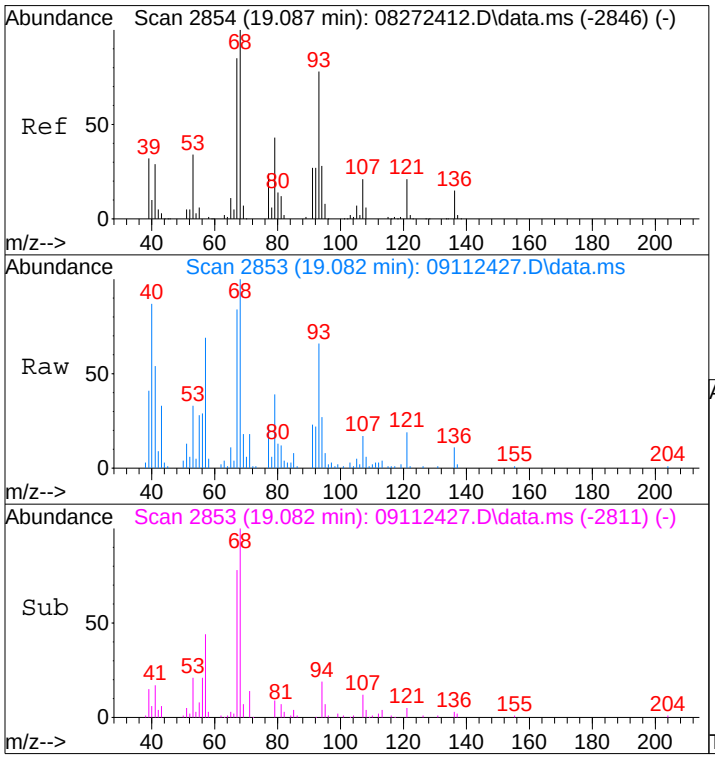


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.13 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion:119 Resp: 9943

Ion	Ratio	Lower	Upper
119	100		
134	23.2	4.7	44.7
91	31.5	8.1	48.1

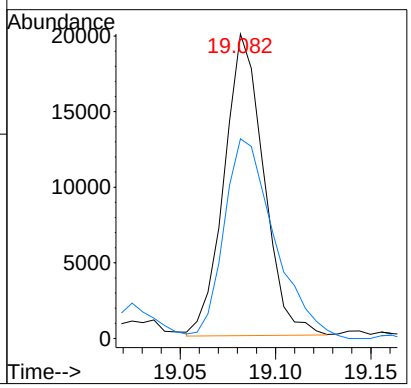




#91
d-Limonene
Concen: 1.26 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09112427.D
Acq: 11 Sep 2024 23:53

Tgt Ion: 68 Resp: 28732

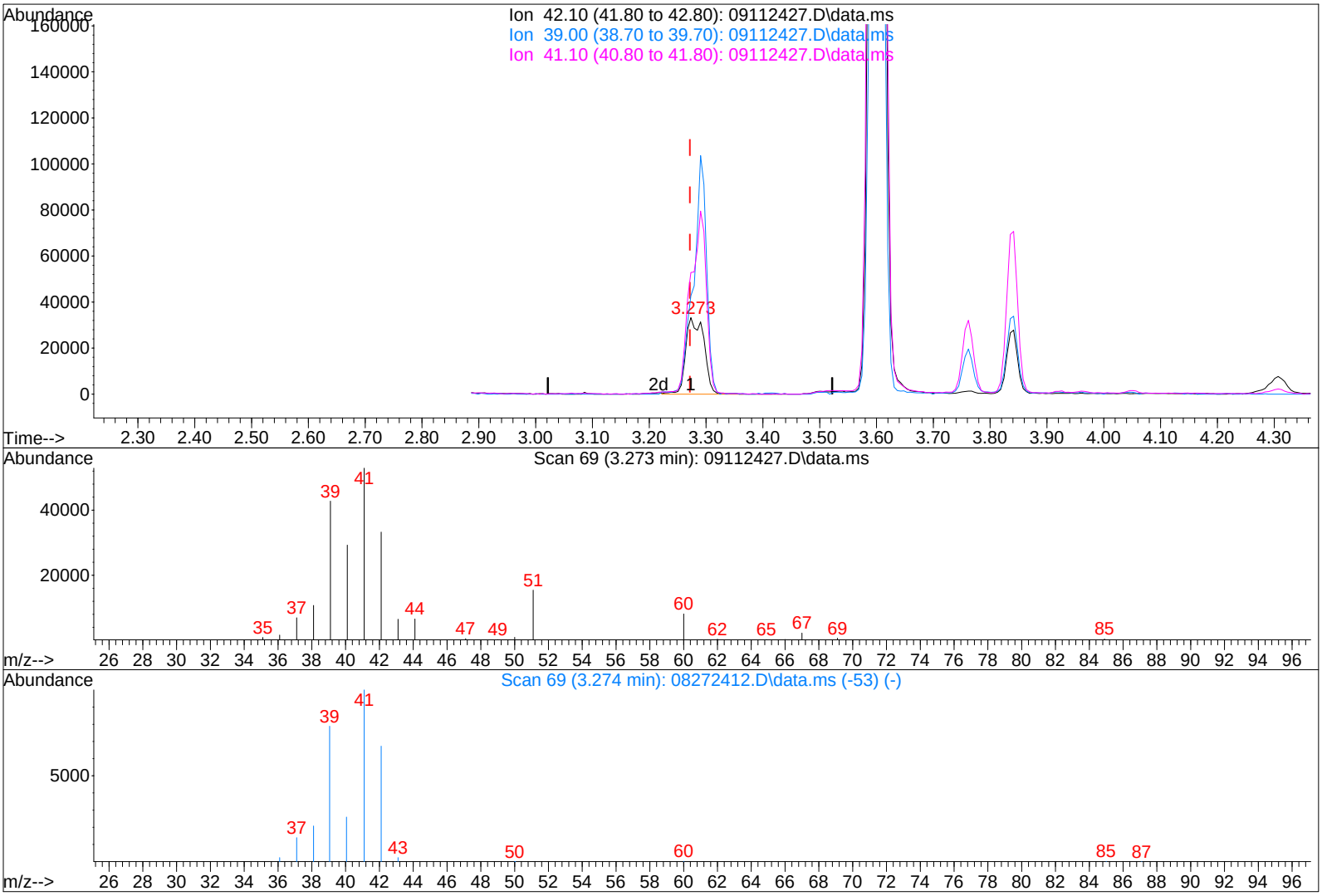
Ion	Ratio	Lower	Upper
68	100		
93	85.0	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112427.D\data.ms

(2) Propene (T)

3.273min (+0.001) 3.39ng

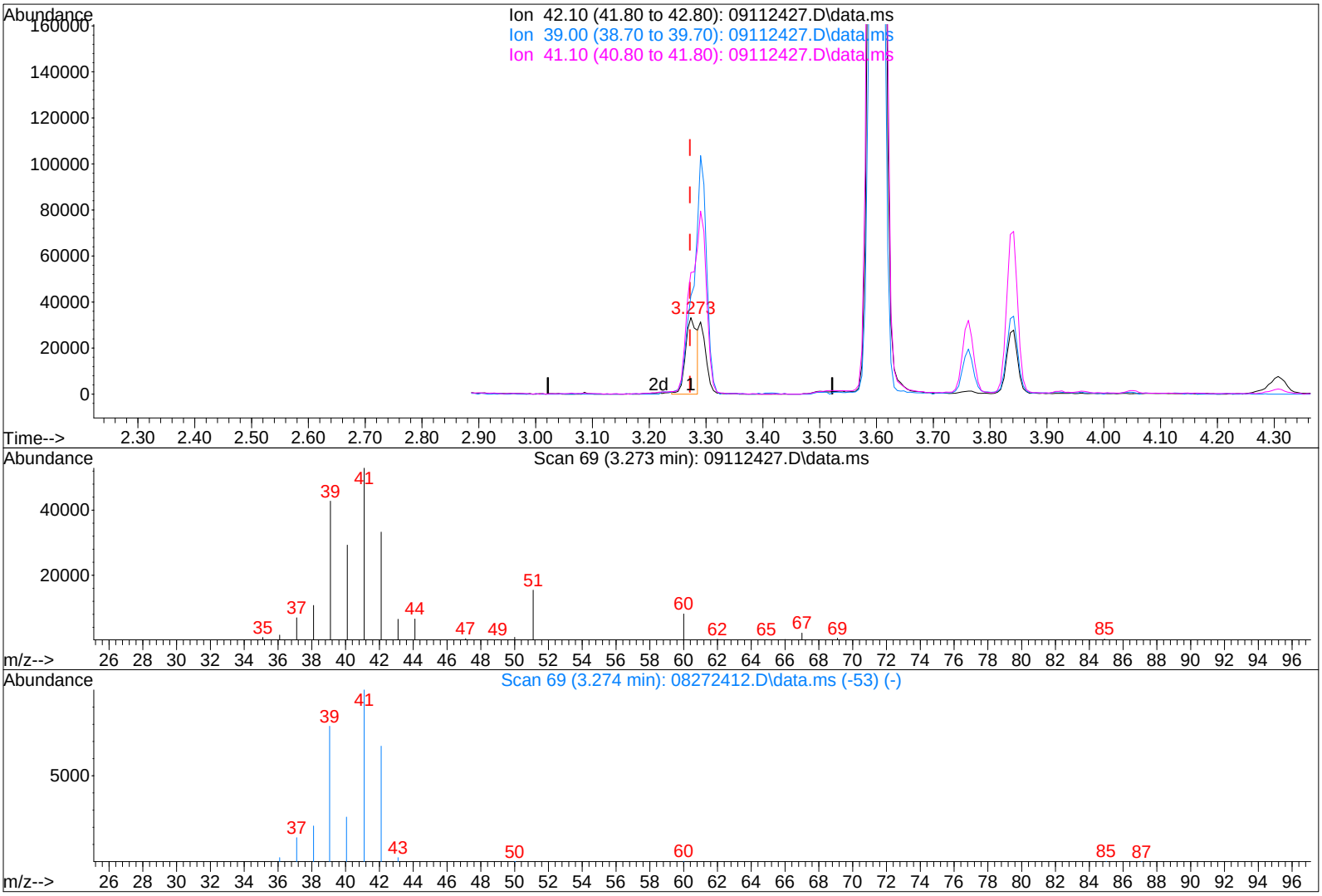
response 73815

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	226.77#
41.10	150.10	212.73#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112427.D\data.ms

(2) Propene (T)

3.273min (+0.001) 2.16ng m

response 46994

Ion	Exp%	Act%
42.10	100	100
39.00	118.20	356.19#
41.10	150.10	334.14#
0.00	0.00	0.00

IPC

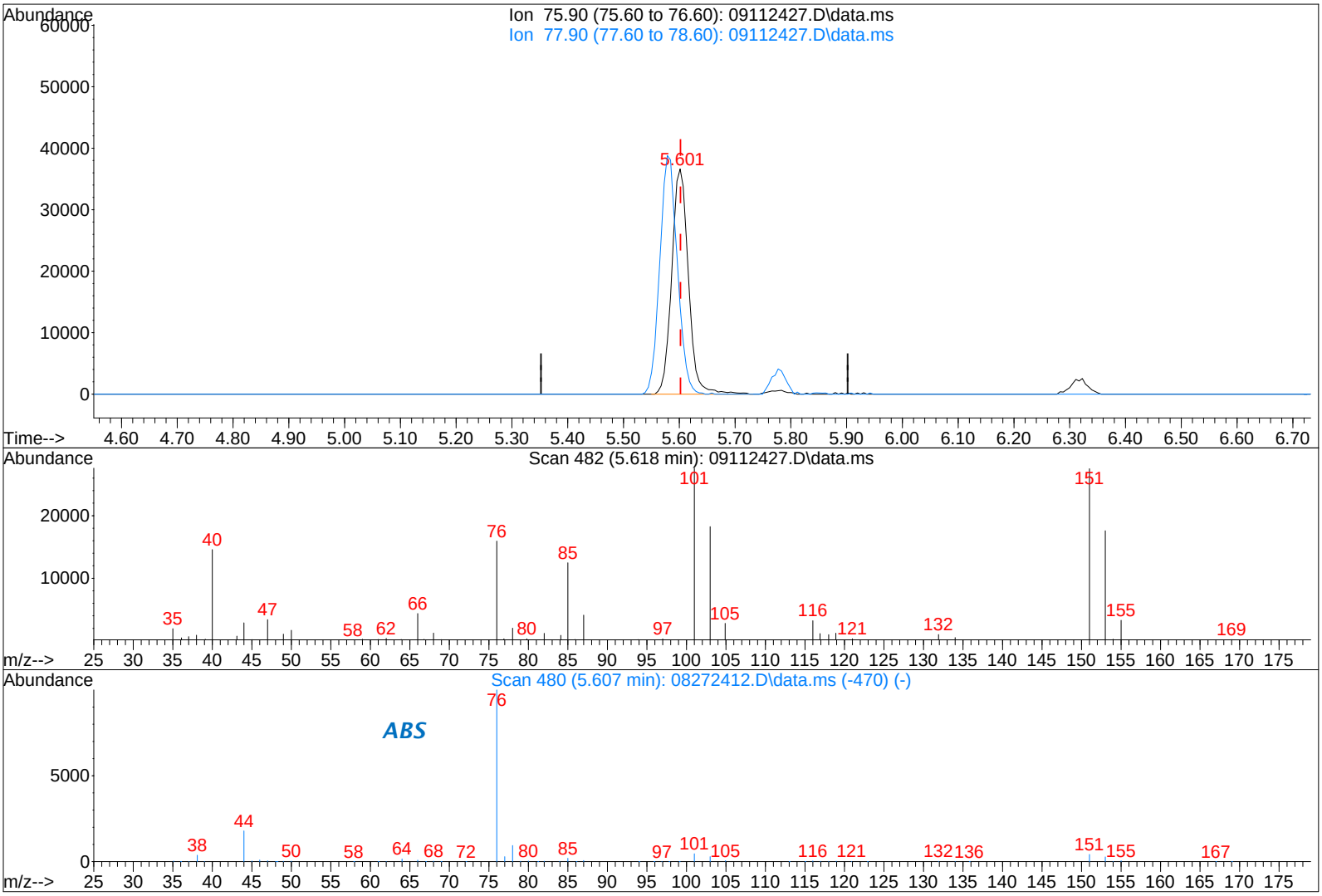
9/12/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 08:59:57 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112427.D\data.ms

(22) Carbon Disulfide (T)

5.601min (-0.001) 1.48ng

response 76177

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	111.41#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:58:49 2024 9/12/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

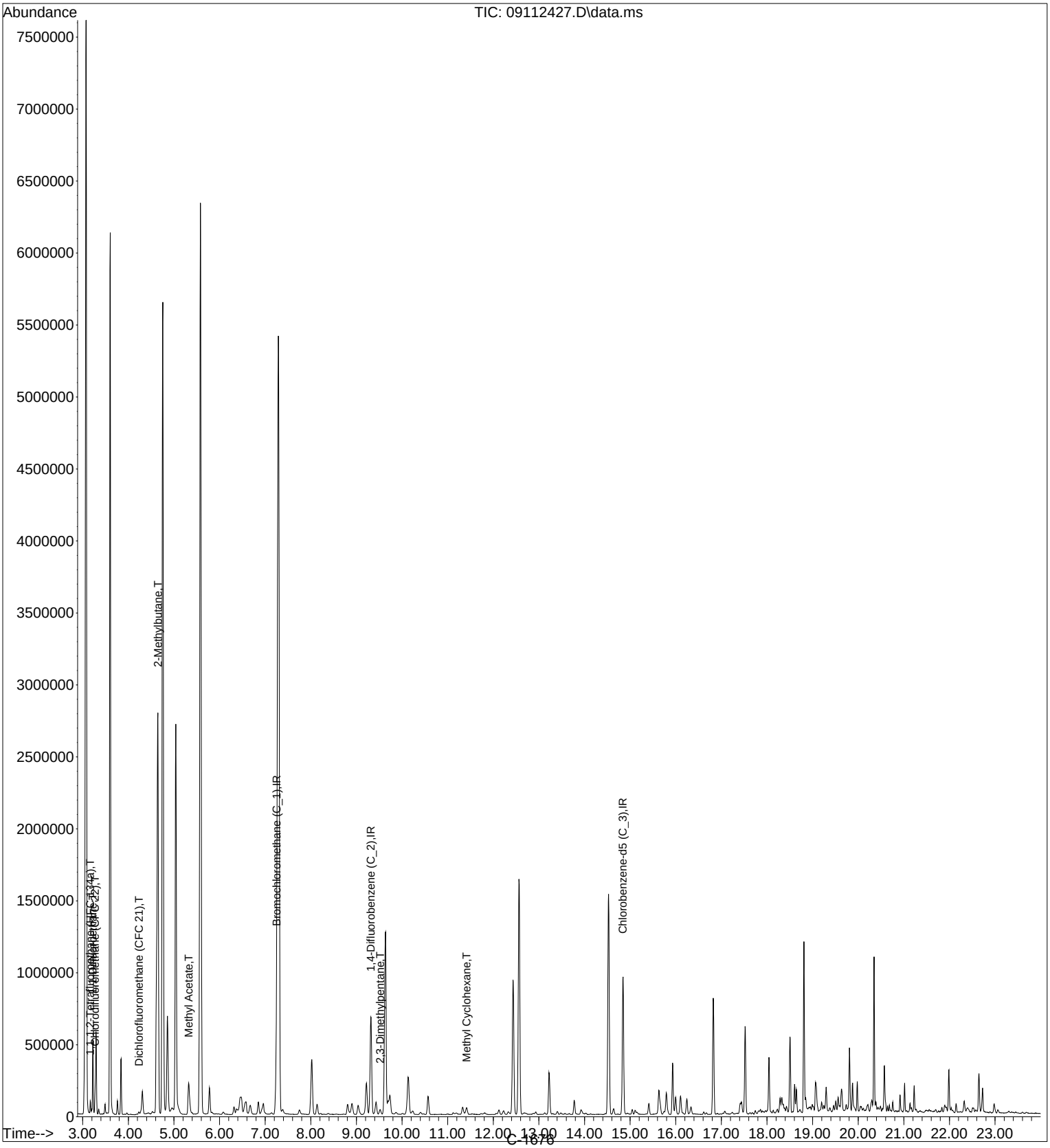
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.25	130	144106	12.500	ng		0.00
16) 1,4-Difluorobenzene (C 2)	9.31	114	644908	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	191716	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.12	85	251	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	39557	2.675	ng	#	74
4) 1,1-Difluoroethane	3.22	65	114556	9.105	ng		91
5) Chlorodifluoromethane ...	3.27	67	3166	0.645	ng		97
6) 1-Chloro-1,1-Difluoroe...	3.48	65	642	N.D.			
7) Dichlorofluoromethane ...	4.23	67	14966	0.453	ng		98
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.58	83	955	N.D.			
10) 2-Methylbutane	4.65	57	661928	38.512	ng		92
11) Methyl Acetate	5.32	43	336103	6.921	ng	#	91
12) 2-Methylpentane	0.00	71	0	N.D.	d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	0.00	84	0	N.D.	d		
17) 2,3-Dimethylpentane	9.52	56	18105	0.580	ng	#	81
18) Dibromomethane	9.81	174	239	N.D.			
20) Methyl Cyclohexane	11.42	55	21977	0.668	ng		94
21) 1,3-Dichloropropane	0.00	76	0	N.D.	d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	17.04	77	1322	N.D.			
26) 2-Chlorotoluene	17.61	91	619	N.D.			
27) 4-Chlorotoluene	0.00	91	0	N.D.	d		
28) Indane	19.11	117	1932	N.D.			
29) Indene	19.21	115	280	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	1562	N.D.			
31) 1,2,3,4-Tetramethylben...	20.18	119	1562	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	2801	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:58:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

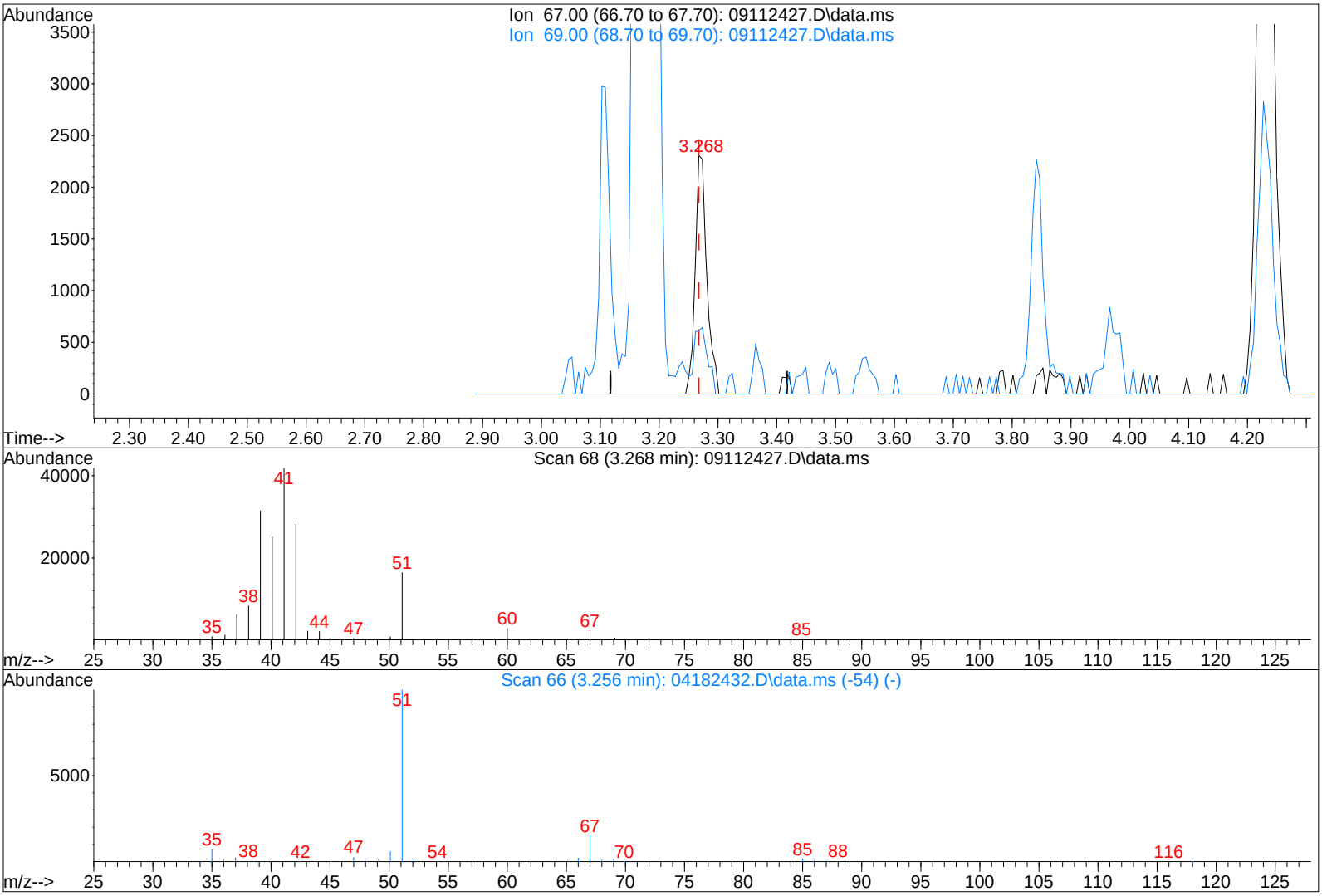


C-1676

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:55:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112427.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.268min (-0.000) 0.64ng

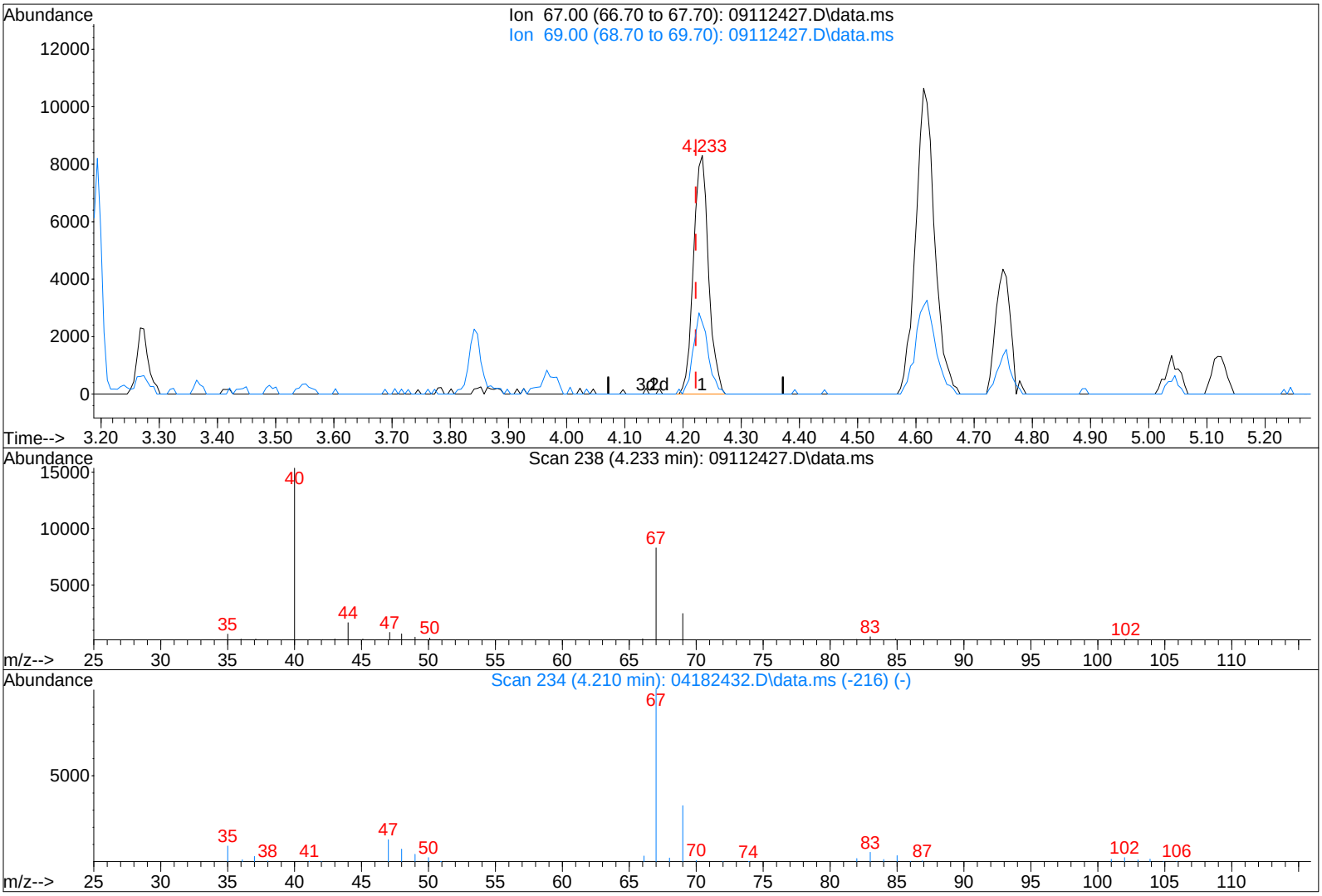
response 3166

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	32.60
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112427.D Vial: 15
Acq On : 11 Sep 2024 23:53 Operator: SC
Sample : P2403661-047 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 12 14:55:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112427.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 0.45ng

response 14966

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	33.40
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122415.D Vial: 15
Acq On : 12 Sep 2024 18:39 Operator: SC
Sample : P2403661-047Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	138173	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	614554	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	171429	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	339610	13.135	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	12.43	98	691099	11.492	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
73) Bromofluorobenzene (SS3)	16.82	174	227820	11.327	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.31	85	365	N.D.			
4) Chloromethane	3.52	50	992	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.27	45	24885	1.659	ng		79
11) Acetonitrile	4.44	41	771	N.D.			
12) Acrolein	4.54	56	644	0.056	ng		100
13) Acetone	4.63	58	30896	2.442	ng	#	1
14) Trichlorofluoromethane	4.75	101	375690	11.741	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	107746	2.163	ng		93
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.35	84	967	0.065	ng	#	78
20) 3-Chloro-1-propene (Al...	5.43	41	187	N.D.			
21) Trichlorotrifluoroethane	5.58	151	166703	13.151	ng		96
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	851	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	1266	0.141	ng	#	36
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.28	61	91722	15.250	ng		88
31) n-Hexane	7.30	57	6505	0.237	ng		97
32) Chloroform	7.35	83	2034	0.074	ng		88
34) Tetrahydrofuran (THF)	7.78	72	261	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.12	62	306	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	2671	No Calib			
41) Benzene	8.89	78	5282	0.092	ng		98
42) Carbon Tetrachloride	9.07	117	356	N.D.			
43) Cyclohexane	9.22	84	5167	0.266	ng	#	84
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.85	63	223	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.16	130	139	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	1897	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122415.D Vial: 15
Acq On : 12 Sep 2024 18:39 Operator: SC
Sample : P2403661-047Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

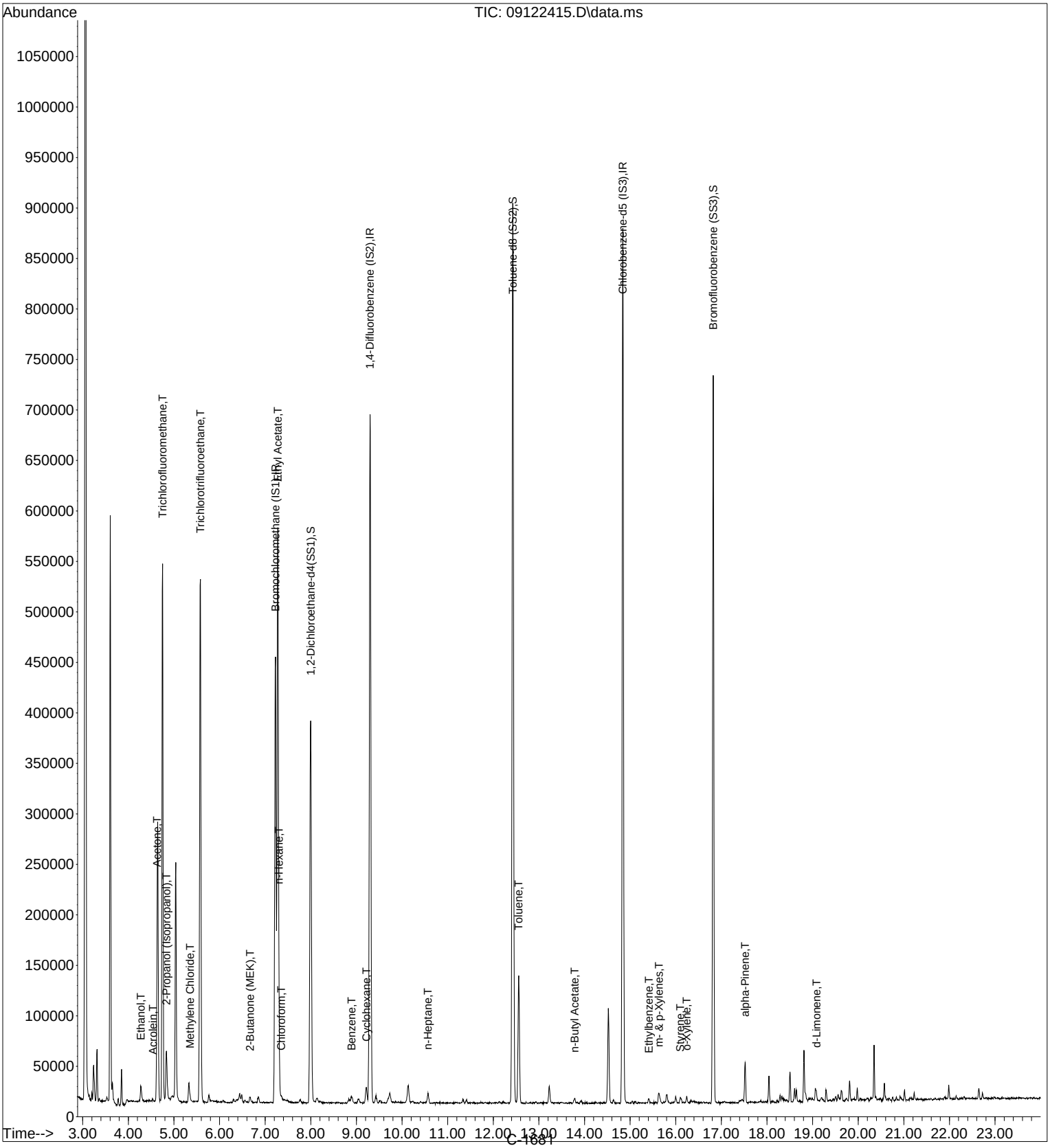
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.56	71	1767	0.138 ng	87
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	105060	1.616 ng	99
59) 2-Hexanone	12.93	43	1477	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	5739	0.127 ng	90
63) n-Octane	13.93	57	468	N.D.	
64) Tetrachloroethene	14.05	166	116	N.D.	
65) Chlorobenzene	14.91	112	210	N.D.	
66) Ethylbenzene	15.41	91	4373	0.058 ng	92
67) m- & p-Xylenes	15.63	91	10266	0.169 ng	96
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.10	104	3075	0.078 ng	93
70) o-Xylene	16.24	91	4750	0.080 ng	97
71) n-Nonane	16.61	43	760	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	645	N.D.	
75) alpha-Pinene	17.52	93	15612	0.436 ng	95
76) n-Propylbenzene	17.67	91	875	N.D.	
77) 3-Ethyltoluene	17.03	105	645	No Calib #	
78) 4-Ethyltoluene	17.86	105	672	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	435	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	645	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	1223	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	129	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	317	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	542	N.D.	
87) sec-Butylbenzene	18.74	105	362	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	1234	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	645	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	413	N.D.	
91) d-Limonene	19.09	68	1789	0.088 ng	97
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.05	58	666	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	922	N.D.	
95) Naphthalene	20.94	128	1317	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	304	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	385	N.D.	
100) n-Butylbenzene	19.39	91	533	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122415.D Vial: 15
Acq On : 12 Sep 2024 18:39 Operator: SC
Sample : P2403661-047Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:52:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

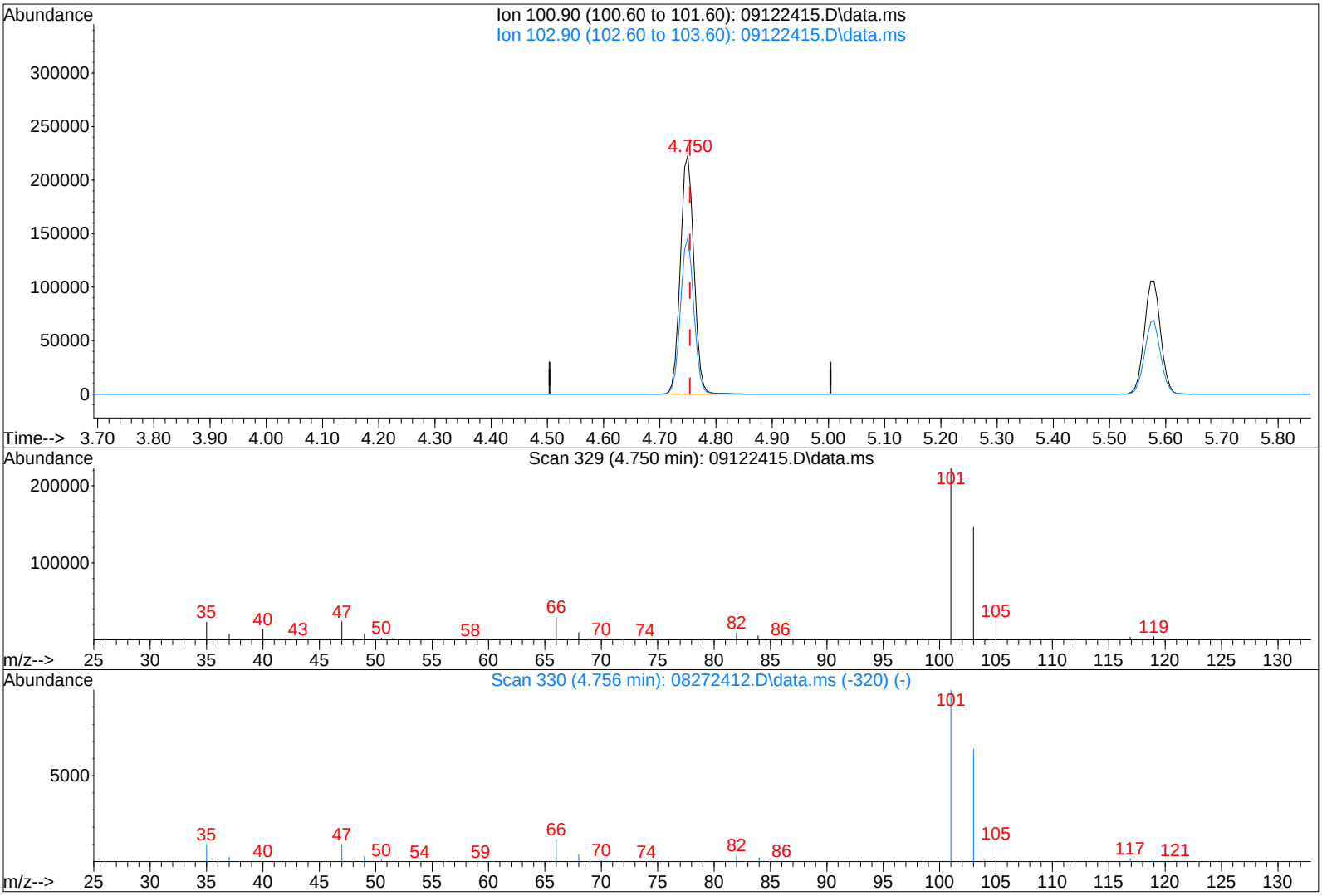


C-1681

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122415.D Vial: 15
Acq On : 12 Sep 2024 18:39 Operator: SC
Sample : P2403661-047Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:20:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122415.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (-0.004) 11.74ng

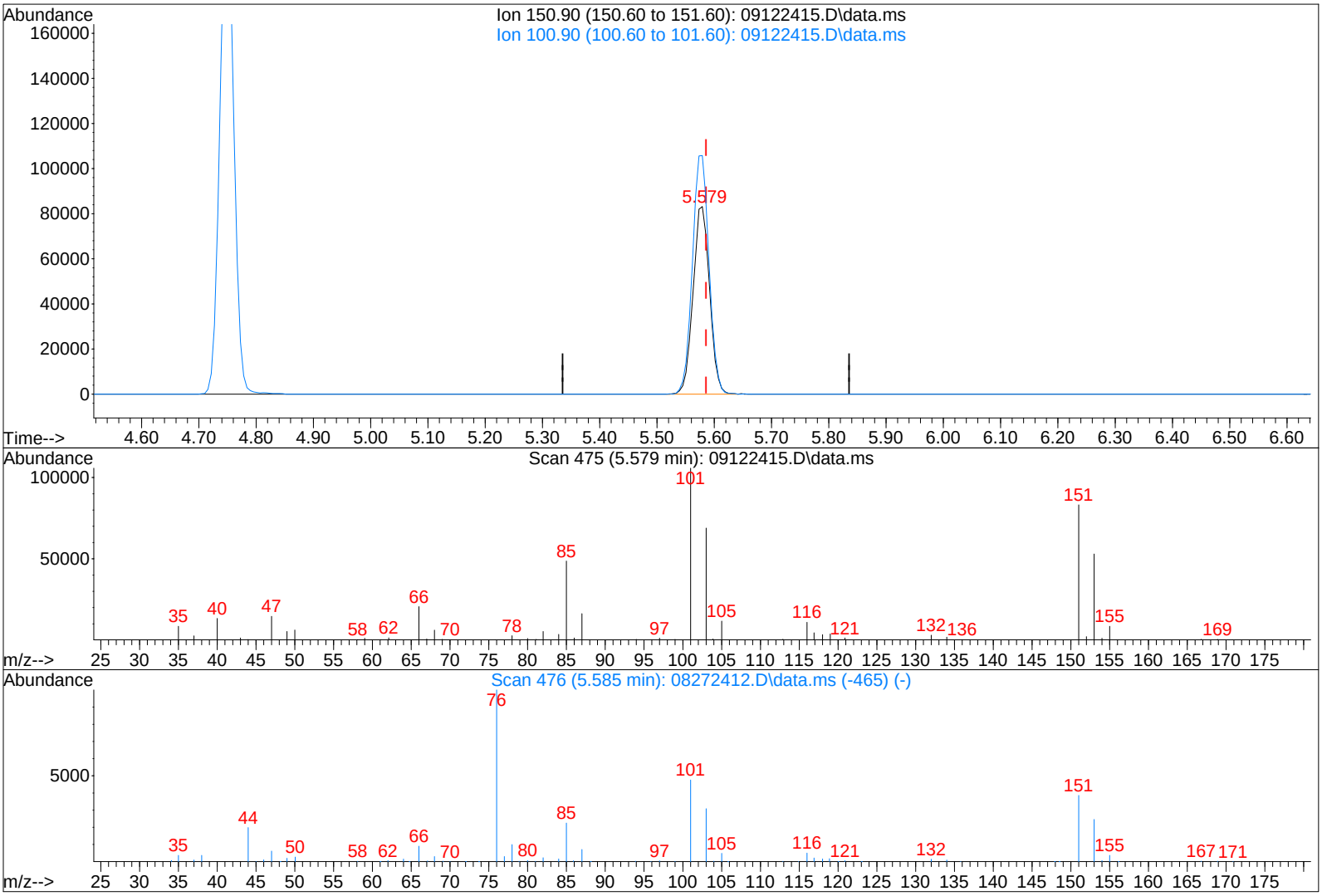
response 375690

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122415.D Vial: 15
Acq On : 12 Sep 2024 18:39 Operator: SC
Sample : P2403661-047Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:20:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122415.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.006) 13.15ng

response 166703

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	128.03
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112427.D
Acq On : 11 Sep 2024 23:53
Operator : SC
Sample : P2403661-047 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09112427.D\data.ms

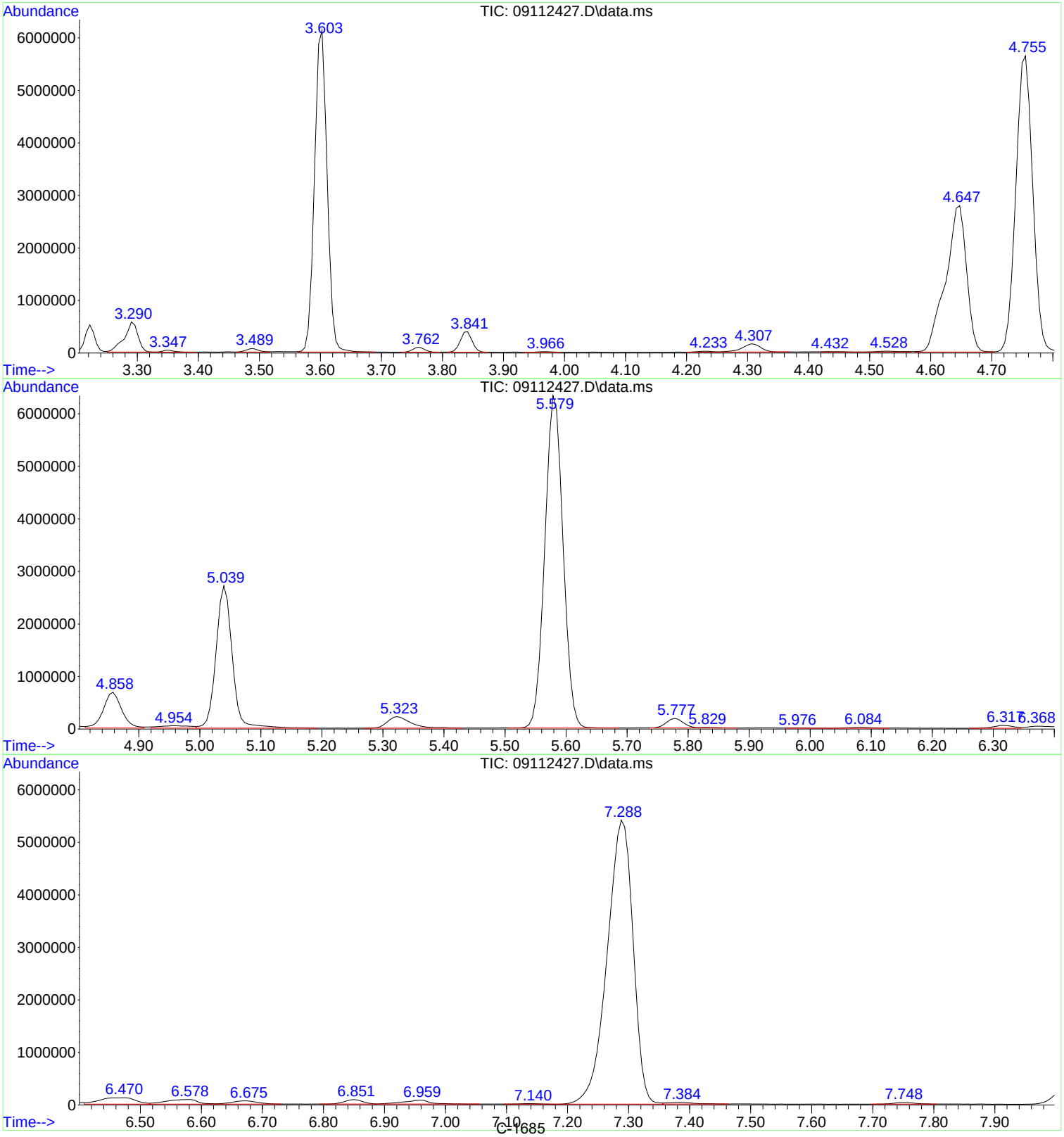
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.290	65	72	79	rVB2	571358	892033	5.60%	1.335%
2	3.347	79	82	91	rVB	35732	45571	0.29%	0.068%
3	3.489	102	107	112	rBV	67873	92403	0.58%	0.138%
4	3.603	120	127	142	rVB	6121736	8783843	55.11%	13.142%
5	3.762	150	155	161	rBV	94547	125615	0.79%	0.188%
6	3.841	163	169	175	rVB	387027	524528	3.29%	0.785%
7	3.966	185	191	196	rVB4	11474	19862	0.12%	0.030%
8	4.233	232	238	241	rBV2	16058	27651	0.17%	0.041%
9	4.307	241	251	262	rVB	156379	332685	2.09%	0.498%
10	4.432	271	273	283	rVB3	7379	14678	0.09%	0.022%
11	4.528	283	290	297	rVV4	16326	44365	0.28%	0.066%
12	4.647	298	311	321	rVV3	2786169	6618945	41.53%	9.903%
13	4.755	321	330	340	rVV	5639677	10854615	68.10%	16.240%
14	4.858	340	348	357	rVV	681502	1418856	8.90%	2.123%
15	4.954	359	365	372	rVV2	43780	160584	1.01%	0.240%
16	5.039	372	380	407	rVB	2711145	4977512	31.23%	7.447%
17	5.323	420	430	449	rBV2	218562	583017	3.66%	0.872%
18	5.579	462	475	494	rVB	6327591	13142112	82.46%	19.662%
19	5.777	503	510	517	rBV	179878	349783	2.19%	0.523%
20	5.829	517	519	528	rVB3	12378	23406	0.15%	0.035%
21	5.976	542	545	555	rVB5	5038	11959	0.08%	0.018%
22	6.084	555	564	572	rBV3	16488	45243	0.28%	0.068%
23	6.317	595	605	610	rBV	53513	121008	0.76%	0.181%
24	6.368	610	614	620	rVV2	38028	104400	0.66%	0.156%
25	6.470	621	632	640	rVV2	120902	502177	3.15%	0.751%
26	6.578	640	651	659	rVV3	87290	312445	1.96%	0.467%
27	6.675	659	668	678	rVB	61683	175813	1.10%	0.263%
28	6.851	689	699	705	rBV	83387	175594	1.10%	0.263%
29	6.959	705	718	735	rVB	73557	225432	1.41%	0.337%
30	7.140	742	750	757	rVB8	9870	24168	0.15%	0.036%
31	7.288	757	776	788	rBV	5406739	15938285	100.00%	23.845%
32	7.384	788	793	807	rVB4	30867	89174	0.56%	0.133%
33	7.748	848	857	867	rBV3	30523	82339	0.52%	0.123%

Sum of corrected areas: 66840101

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112427.D
Acq On : 11 Sep 2024 23:53
Operator : SC
Sample : P2403661-047 (400mL)
Misc : S37-06062402
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\11\\
Data File : 09112427.D
Acq On : 11 Sep 2024 23:533
Operator : SCC
Sample : P2403661-047 (400mL))
Misc : S37-060624022
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

MOA 9/29/24

Quant Time: Sep 13 09:57:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	137243	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	605938	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	174205	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	341278	13.289	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
57) Toluene-d8 (SS2)	12.43	98	693906	11.355	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.80%				
73) Bromofluorobenzene (SS3)	16.82	174	226044	11.060	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	18690	0.561	ng		99
4) Chloromethane	3.51	50	7308	0.280	ng		93
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	263	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	4.04	94	112	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	9303m	0.625	ng		
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.55	56	1218	0.107	ng		88
13) Acetone	4.64	58	35005	2.785	ng		98
14) Trichlorofluoromethane	4.77	101	8435	0.265	ng		98
15) 2-Propanol (Isopropanol)	4.85	45	2286	N.D.			
16) Acrylonitrile	5.00	53	532	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	544	N.D.			
19) Methylene Chloride	5.35	84	860	0.058	ng	#	59
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1436	0.114	ng		84
22) Carbon Disulfide	5.60	76	3307	0.067	ng		83
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	2705	0.303	ng	#	43
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	130	N.D.			
31) n-Hexane	7.31	57	1173	N.D.			
32) Chloroform	7.36	83	690	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	231	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.58	61	1480	No Calib		#	
40) 1-Butanol	8.82	56	3032	No Calib		#	
41) Benzene	8.89	78	5148	0.091	ng		98
42) Carbon Tetrachloride	9.05	117	2243	0.095	ng		96
43) Cyclohexane	0.00	84	0	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	10.13	88	152	N.D.			

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 13 09:57:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration

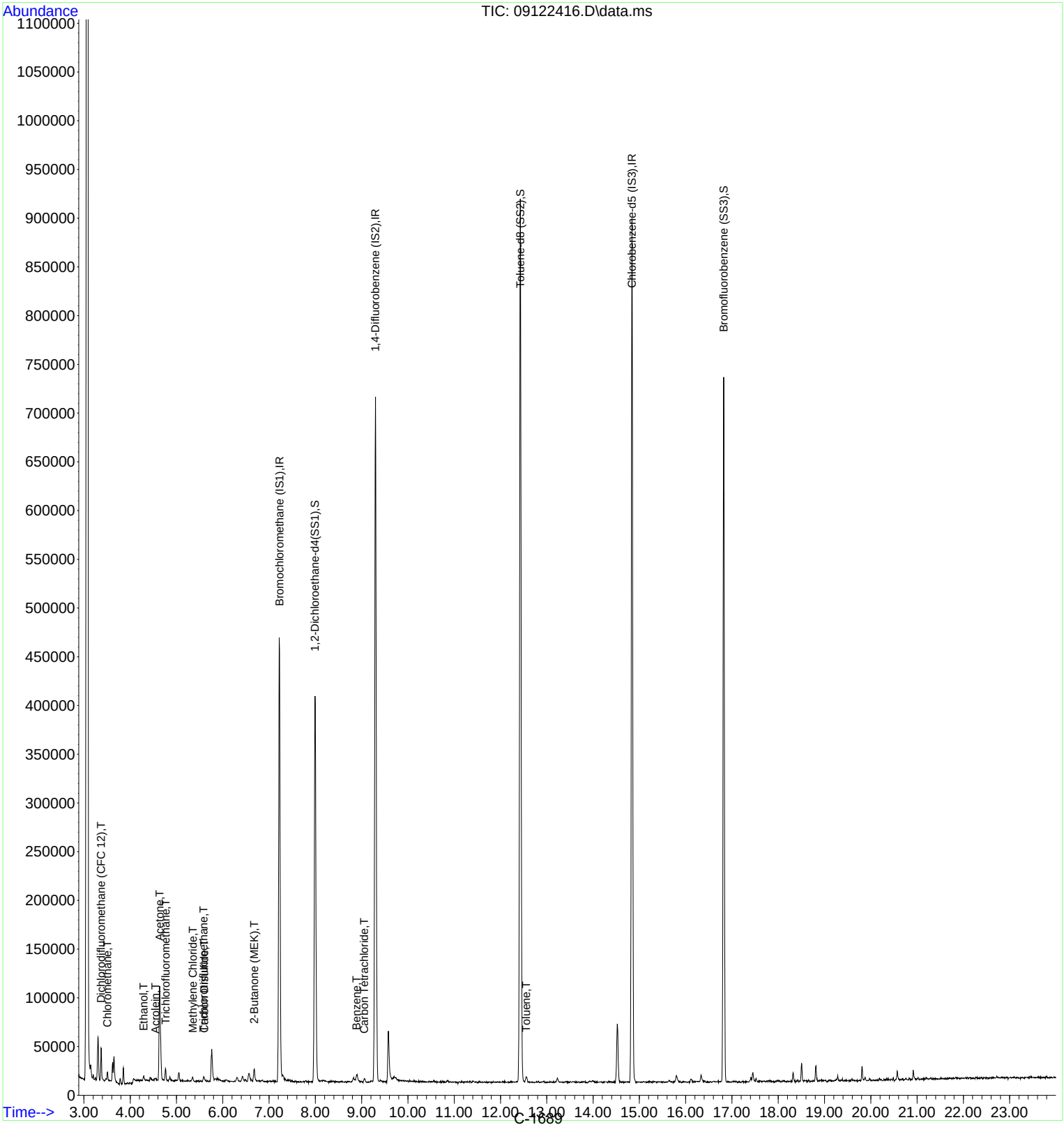
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	133	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	5150	0.078 ng	95
59) 2-Hexanone	12.92	43	1113	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	590	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.89	112	316	N.D.	
66) Ethylbenzene	15.41	91	804	N.D.	
67) m- & p-Xylenes	15.65	91	1042	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	283	N.D.	
70) o-Xylene	16.24	91	651	N.D.	
71) n-Nonane	16.61	43	260	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	115	N.D.	
74) Cumene	17.02	105	370	N.D.	
75) alpha-Pinene	17.52	93	1487	N.D.	
76) n-Propylbenzene	17.67	91	984	N.D.	
77) 3-Ethyltoluene	17.02	105	370	No Calib	#
78) 4-Ethyltoluene	17.85	105	366	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	141	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.02	105	370	No Calib	#
82) 1,2,4-Trimethylbenzene	18.42	105	485	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	253	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	136	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	414	N.D.	
87) sec-Butylbenzene	18.74	105	310	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	749	N.D.	
89) 1,2,3-Trimethylbenzene	17.02	105	370	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	270	N.D.	
91) d-Limonene	19.09	68	107	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	769	N.D.	
95) Naphthalene	20.94	128	1403	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	337	N.D.	
98) Cyclohexanone	15.20	55	154	No Calib	#
99) tert-Butylbenzene	18.43	119	125	N.D.	
100) n-Butylbenzene	19.39	91	488	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 13 09:57:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122416.D Vial: 7
Acq On : 12 Sep 2024 19:11 Operator: SC
Sample : P2403661-048 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:57:42 2024 9/13/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

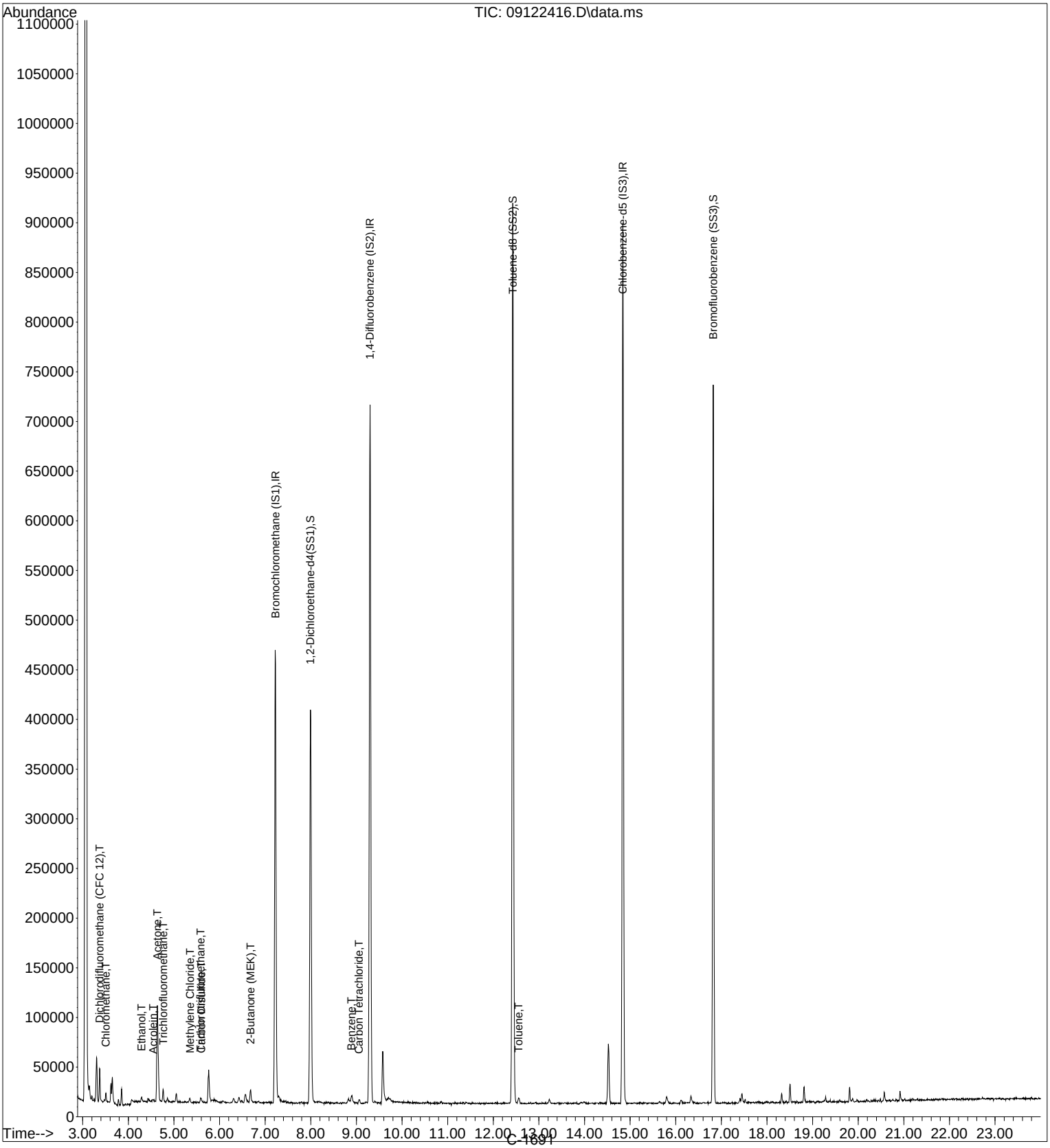
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	137243	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	605938	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	174205	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	341278	13.289	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.32%				
57) Toluene-d8 (SS2)	12.43	98	693906	11.355	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.80%				
73) Bromofluorobenzene (SS3)	16.82	174	226044	11.060	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	18690	0.561	ng		99
4) Chloromethane	3.51	50	7308	0.280	ng		93
10) Ethanol	4.29	45	9303m	0.625	ng		
12) Acrolein	4.55	56	1218	0.107	ng		88
13) Acetone	4.64	58	35005	2.785	ng		98
14) Trichlorofluoromethane	4.77	101	8435	0.265	ng		98
19) Methylene Chloride	5.35	84	860	0.058	ng	#	59
21) Trichlorotrifluoroethane	5.58	151	1436	0.114	ng		84
22) Carbon Disulfide	5.60	76	3307	0.067	ng		83
27) 2-Butanone (MEK)	6.68	72	2705	0.303	ng	#	43
41) Benzene	8.89	78	5148	0.091	ng		98
42) Carbon Tetrachloride	9.05	117	2243	0.095	ng		96
58) Toluene	12.56	91	5150	0.078	ng		95

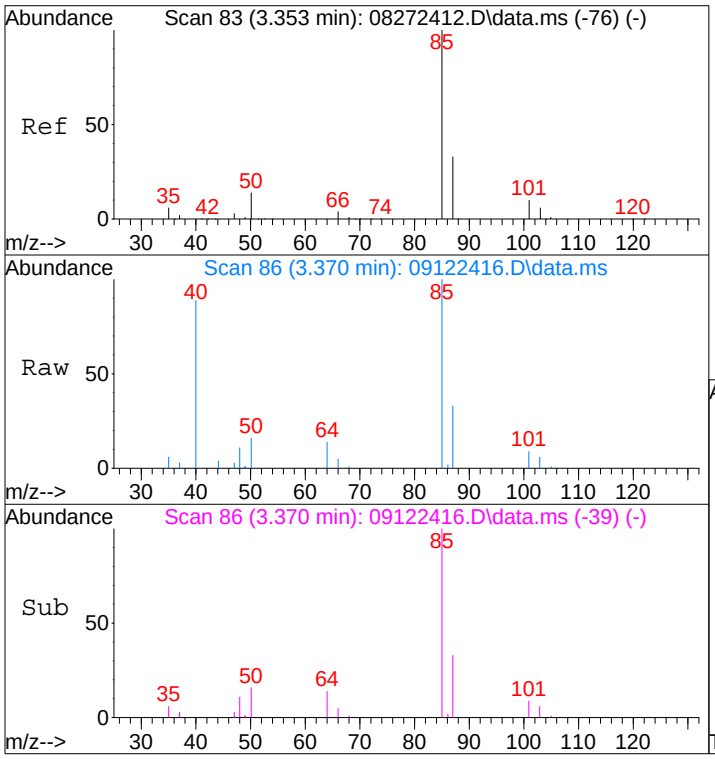
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122416.D Vial: 7
Acq On : 12 Sep 2024 19:11 Operator: SC
Sample : P2403661-048 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:57:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

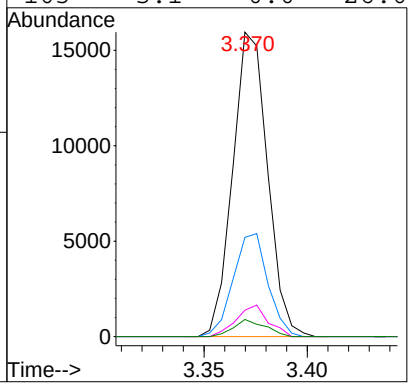


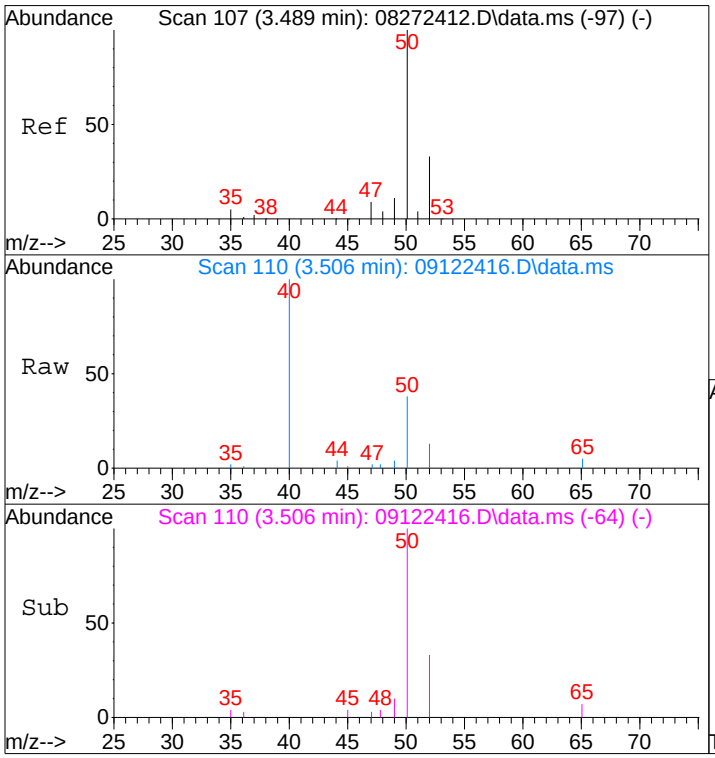


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.56 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.019 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 85 Resp: 18690

Ion	Ratio	Lower	Upper
85	100		
87	33.7	13.1	53.1
101	9.4	0.0	29.4
103	5.1	0.0	26.0

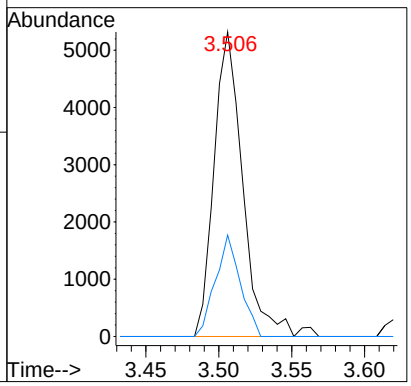


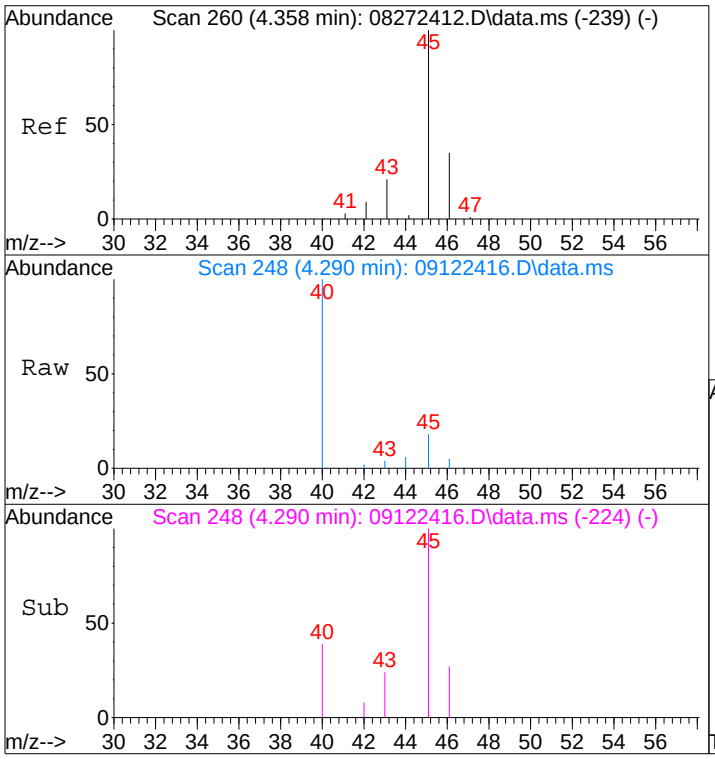


#4
Chloromethane
Concen: 0.28 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.014 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 50 Resp: 7308

Ion	Ratio	Lower	Upper
50	100		
52	28.7	12.4	52.4

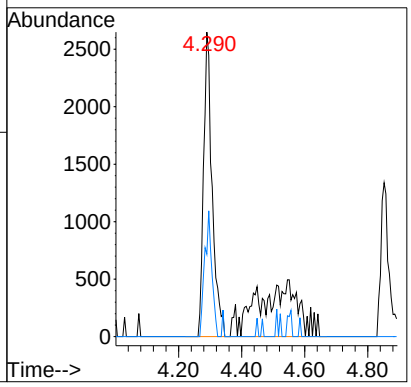


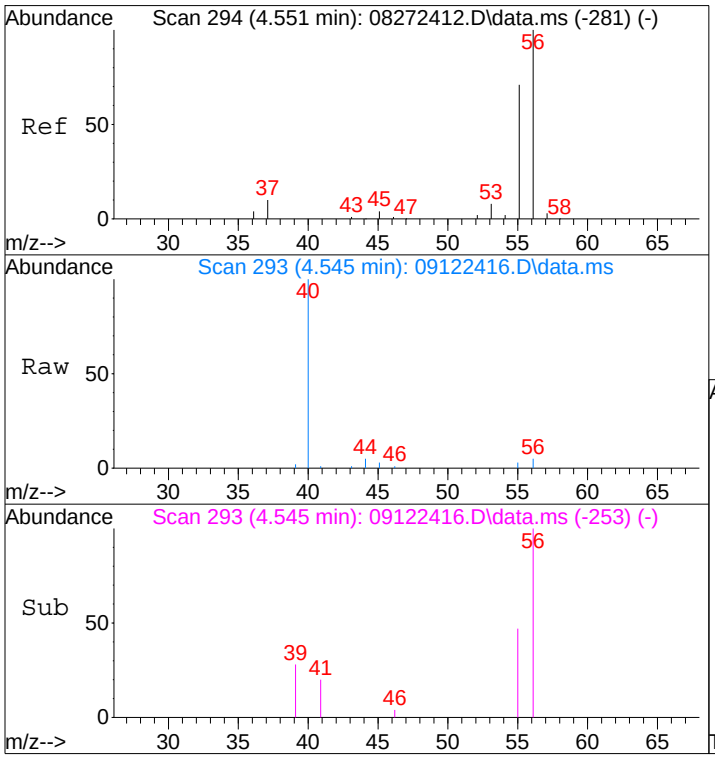


#10
Ethanol
Concen: 0.62 ng m
RT: 4.29 min Scan# 248
Delta R.T. -0.114 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 45 Resp: 9303

Ion	Ratio	Lower	Upper
45	100		
46	0.8	14.2	54.2#

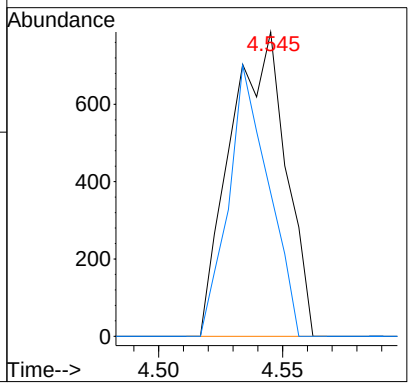


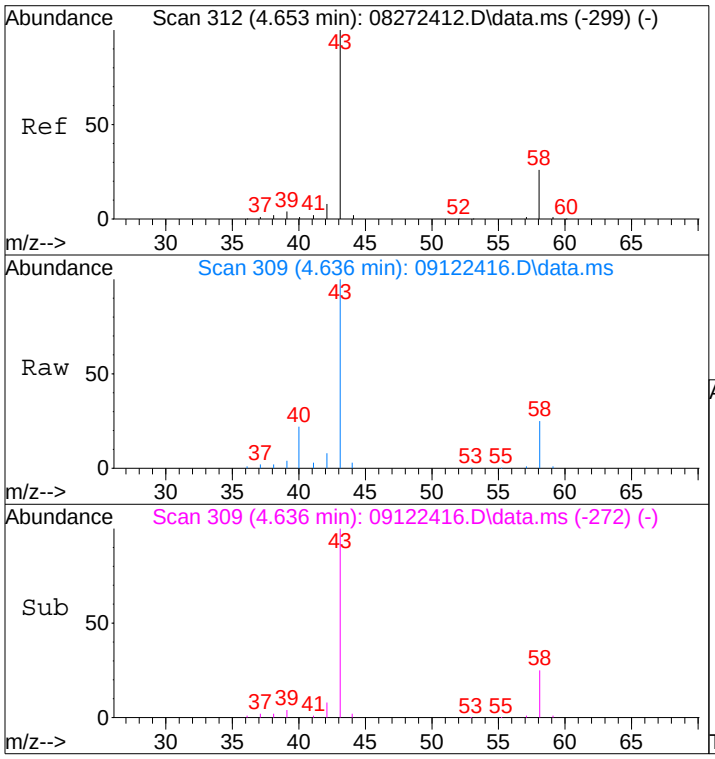


#12
Acrolein
Concen: 0.11 ng
RT: 4.55 min Scan# 293
Delta R.T. -0.022 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 56 Resp: 1218

Ion	Ratio	Lower	Upper
56	100		
55	64.5	54.7	94.7

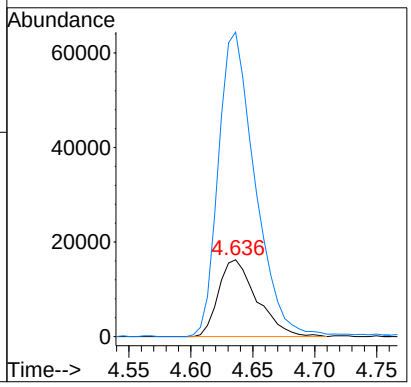


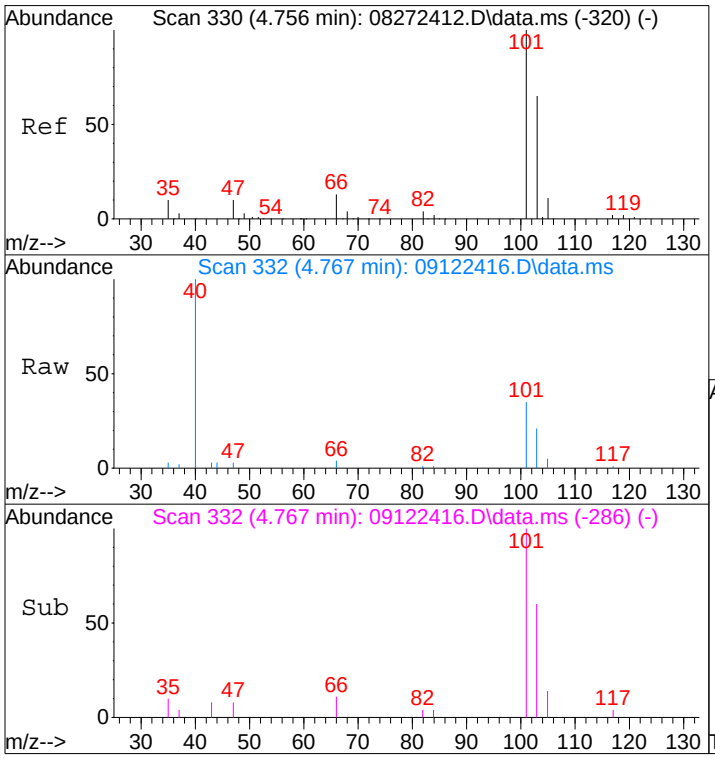


#13
Acetone
Concen: 2.79 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.039 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 58 Resp: 35005

Ion	Ratio	Lower	Upper
58	100		
43	382.3	347.3	407.3

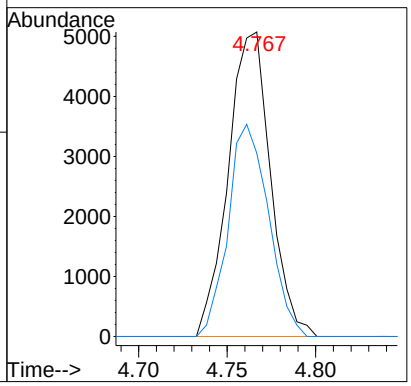


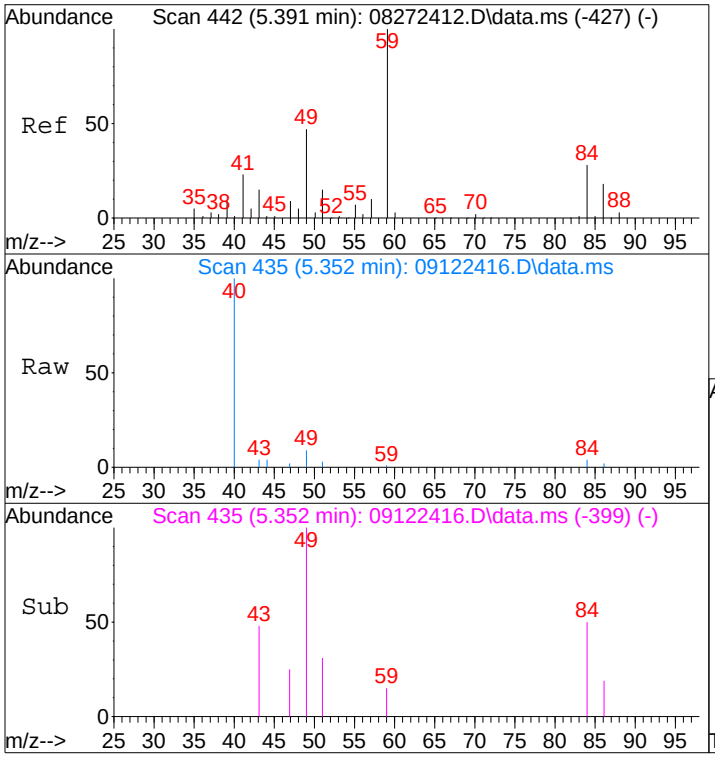


#14
Trichlorofluoromethane
Concen: 0.27 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.013 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion:101 Resp: 8435

Ion	Ratio	Lower	Upper
101	100		
103	66.6	44.9	84.9

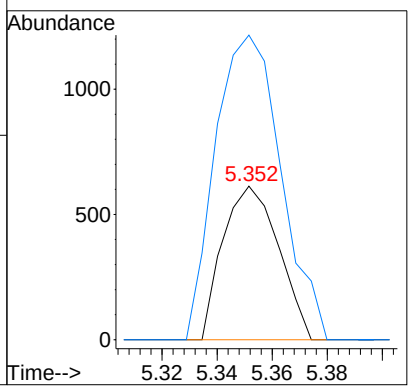


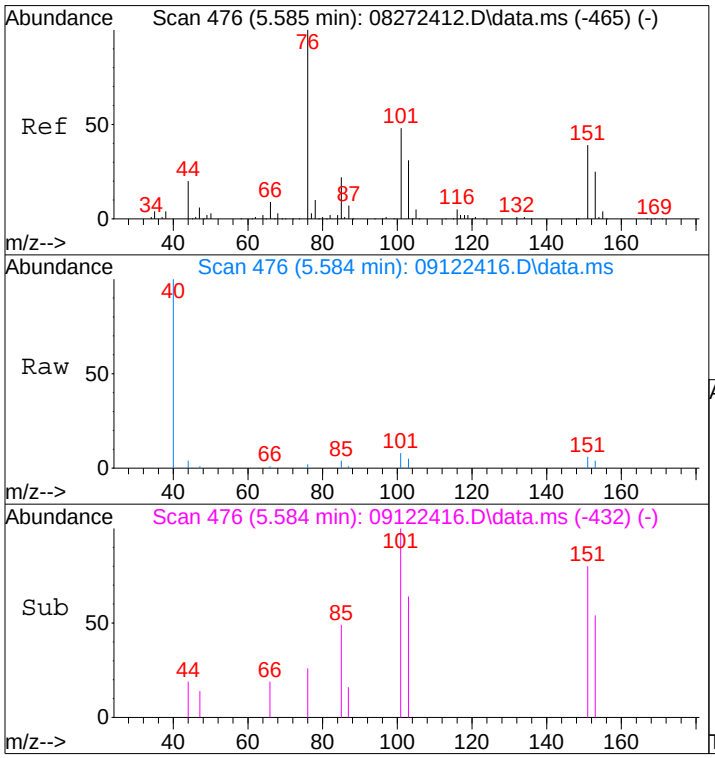


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.047 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 84 Resp: 860

Ion	Ratio	Lower	Upper
84	100		
49	234.2	151.1	201.1#

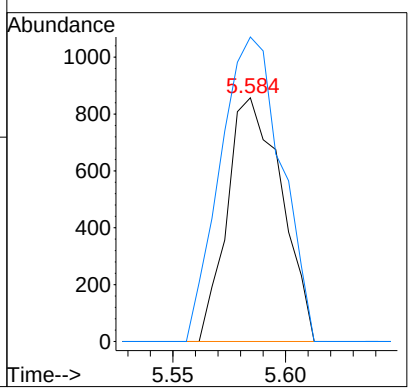


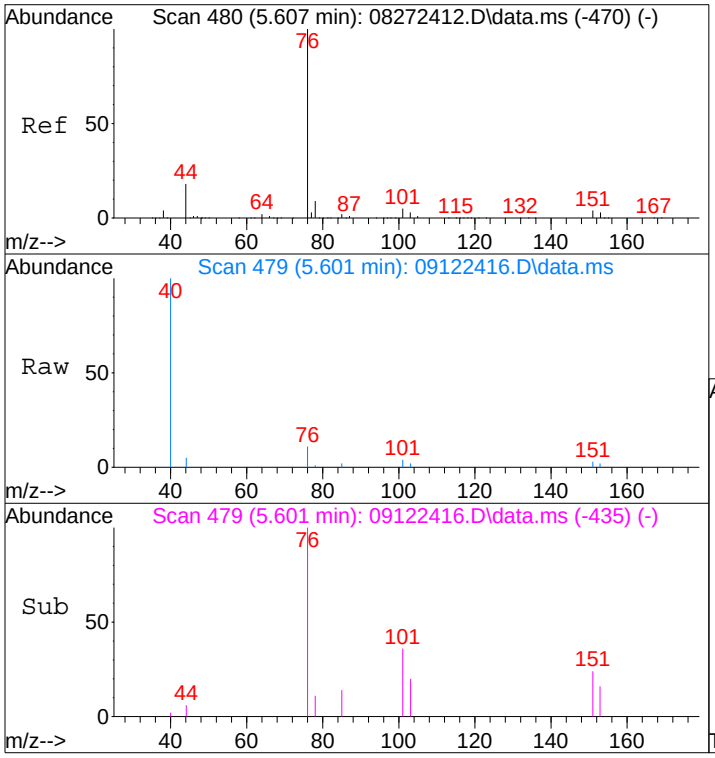


#21
Trichlorotrifluoroethane
Concen: 0.11 ng
RT: 5.58 min Scan# 476
Delta R.T. -0.001 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion:151 Resp: 1436

Ion	Ratio	Lower	Upper
151	100		
101	141.0	103.4	143.4

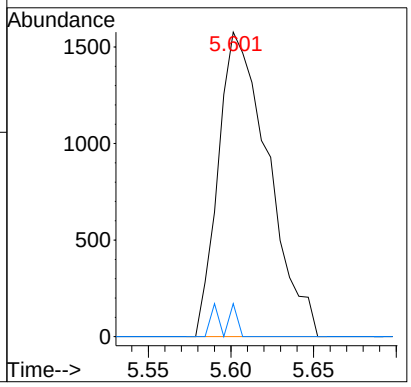


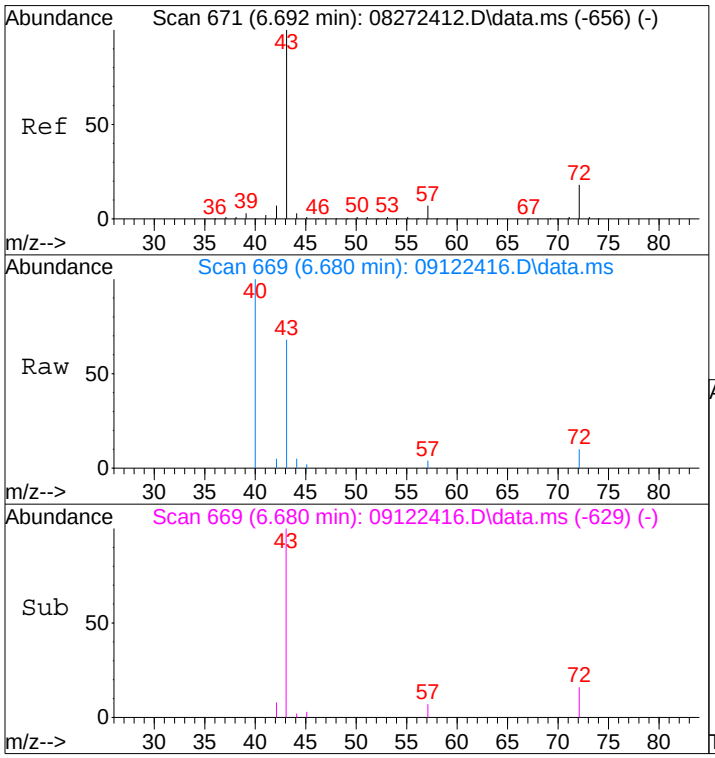


#22
Carbon Disulfide
Concen: 0.07 ng
RT: 5.60 min Scan# 479
Delta R.T. -0.001 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 76 Resp: 3307

Ion	Ratio	Lower	Upper
76	100		
78	3.5	0.0	29.6

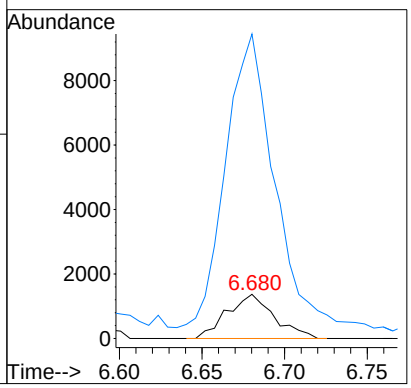


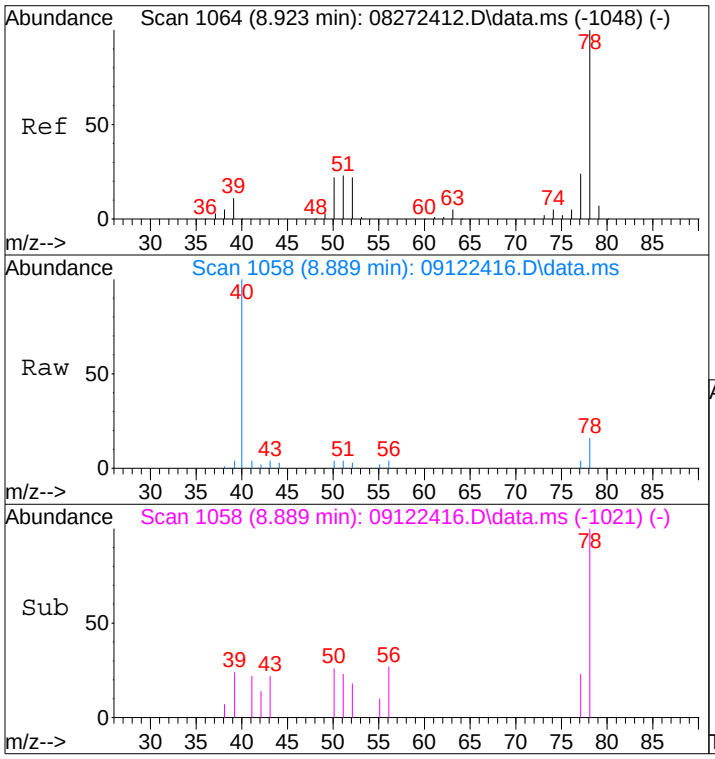


#27
2-Butanone (MEK)
Concen: 0.30 ng
RT: 6.68 min Scan# 669
Delta R.T. -0.025 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 72 Resp: 2705

Ion	Ratio	Lower	Upper
72	100		
43	739.1	548.0	588.0#

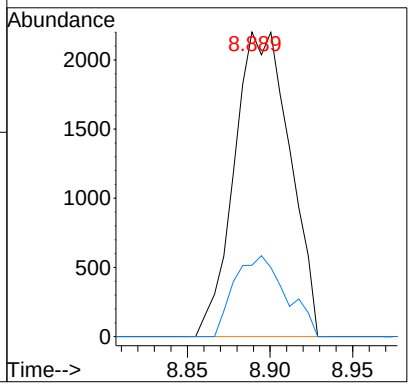


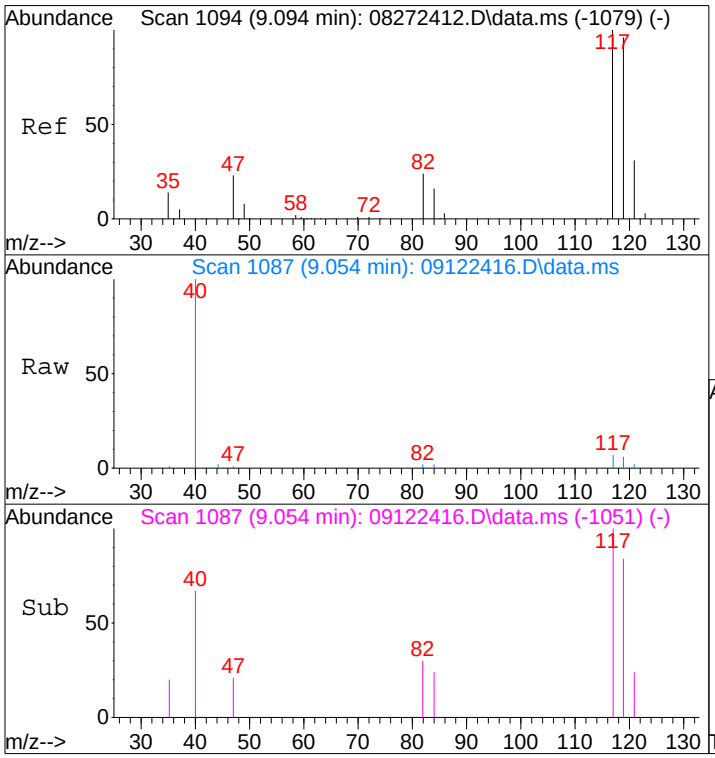


#41
Benzene
Concen: 0.09 ng
RT: 8.89 min Scan# 1058
Delta R.T. -0.041 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 78 Resp: 5148

Ion	Ratio	Lower	Upper
78	100		
77	24.7	3.9	43.9

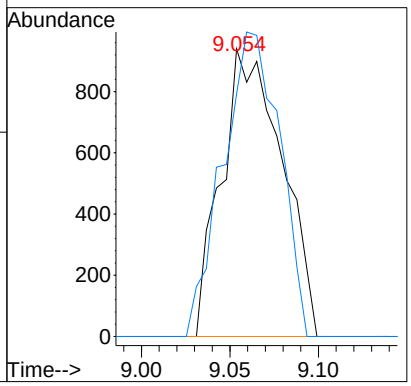


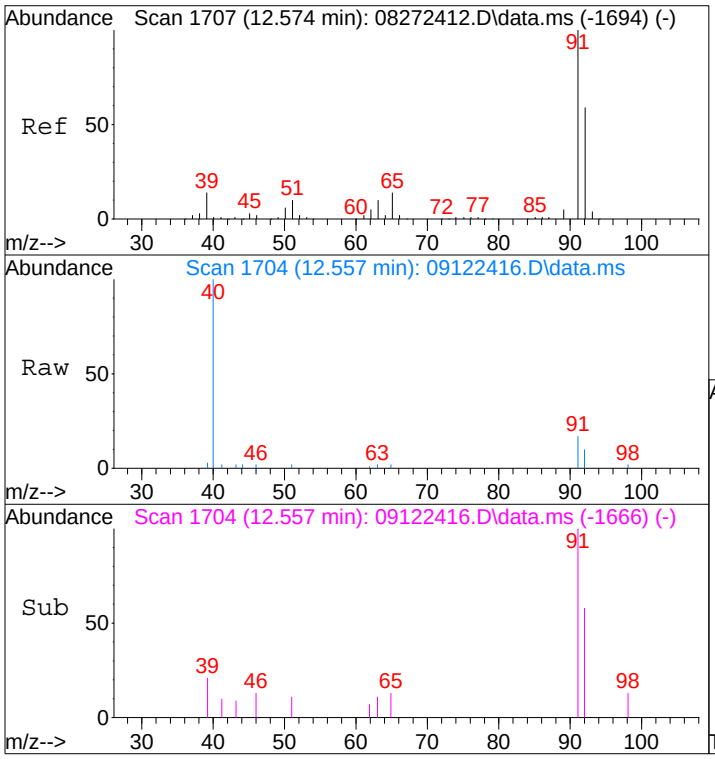


#42
Carbon Tetrachloride
Concen: 0.10 ng
RT: 9.05 min Scan# 1087
Delta R.T. -0.046 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion:117 Resp: 2243

Ion	Ratio	Lower	Upper
117	100		
119	99.3	75.1	115.1

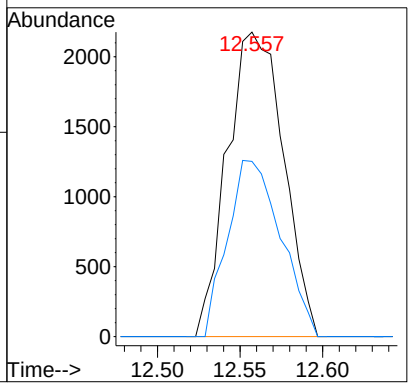




#58
Toluene
Concen: 0.08 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09122416.D
Acq: 12 Sep 2024 19:11

Tgt Ion: 91 Resp: 5150

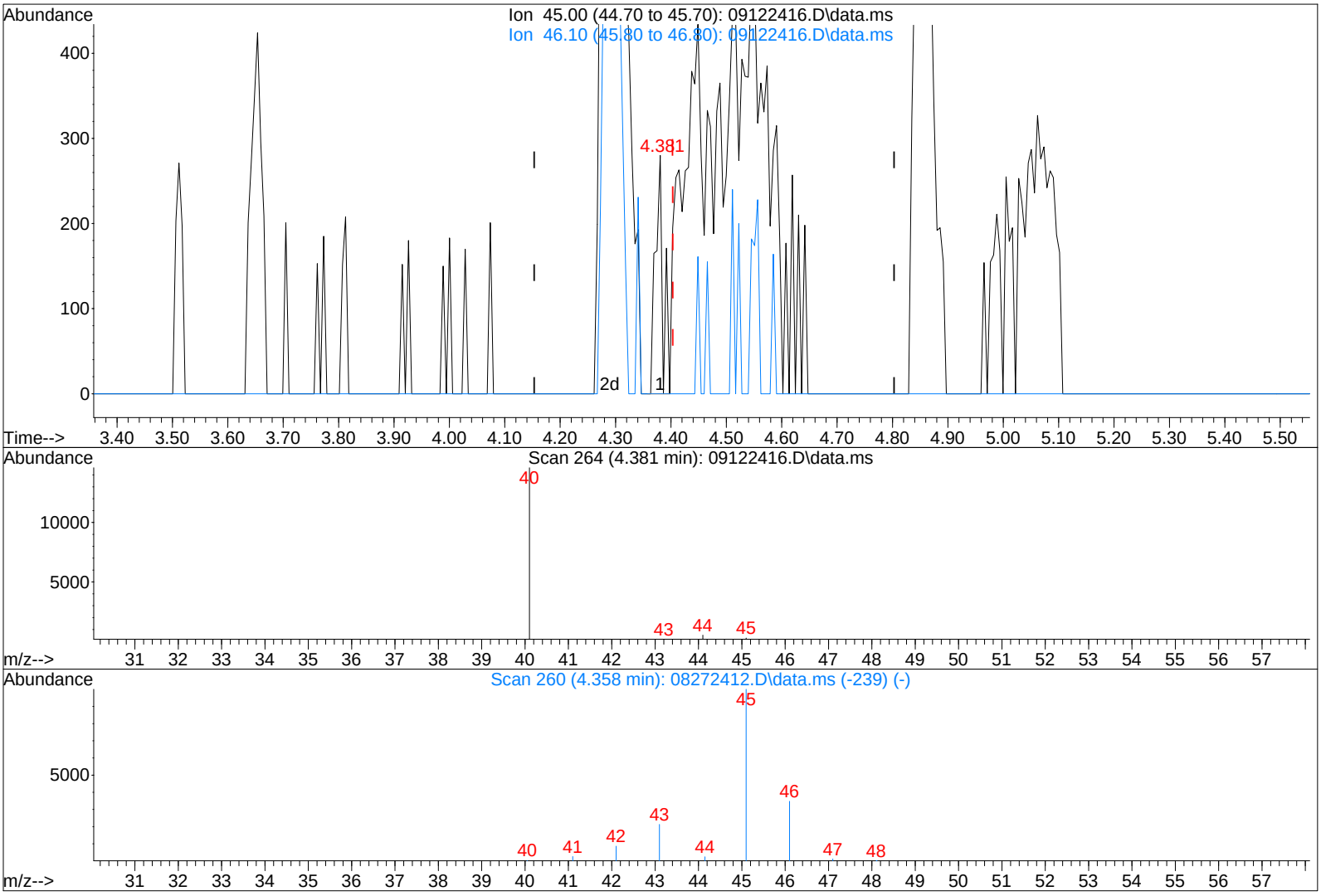
Ion	Ratio	Lower	Upper
91	100		
92	54.8	38.5	78.5



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122416.D Vial: 7
Acq On : 12 Sep 2024 19:11 Operator: SC
Sample : P2403661-048 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:20:36 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122416.D\data.ms

(10) Ethanol (T)

4.381min (-0.023) 0.02ng

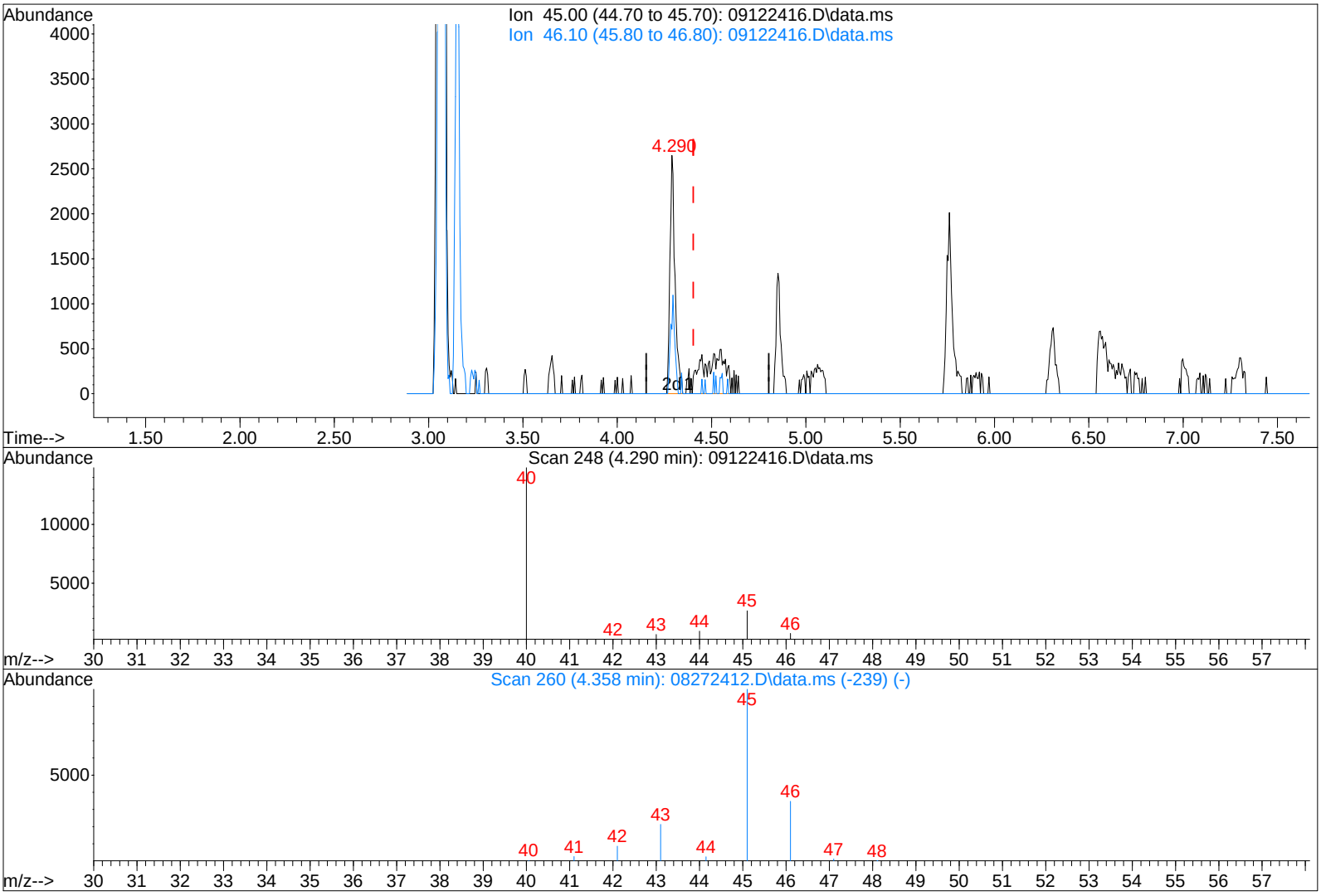
response 267

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	29.59
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122416.D Vial: 7
Acq On : 12 Sep 2024 19:11 Operator: SC
Sample : P2403661-048 (400mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 08:20:36 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122416.D\data.ms

(10) Ethanol (T)

4.290min (-0.114) 0.62ng m

response 9303

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.85#
0.00	0.00	0.00
0.00	0.00	0.00

MP

9/13/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

9/30/24

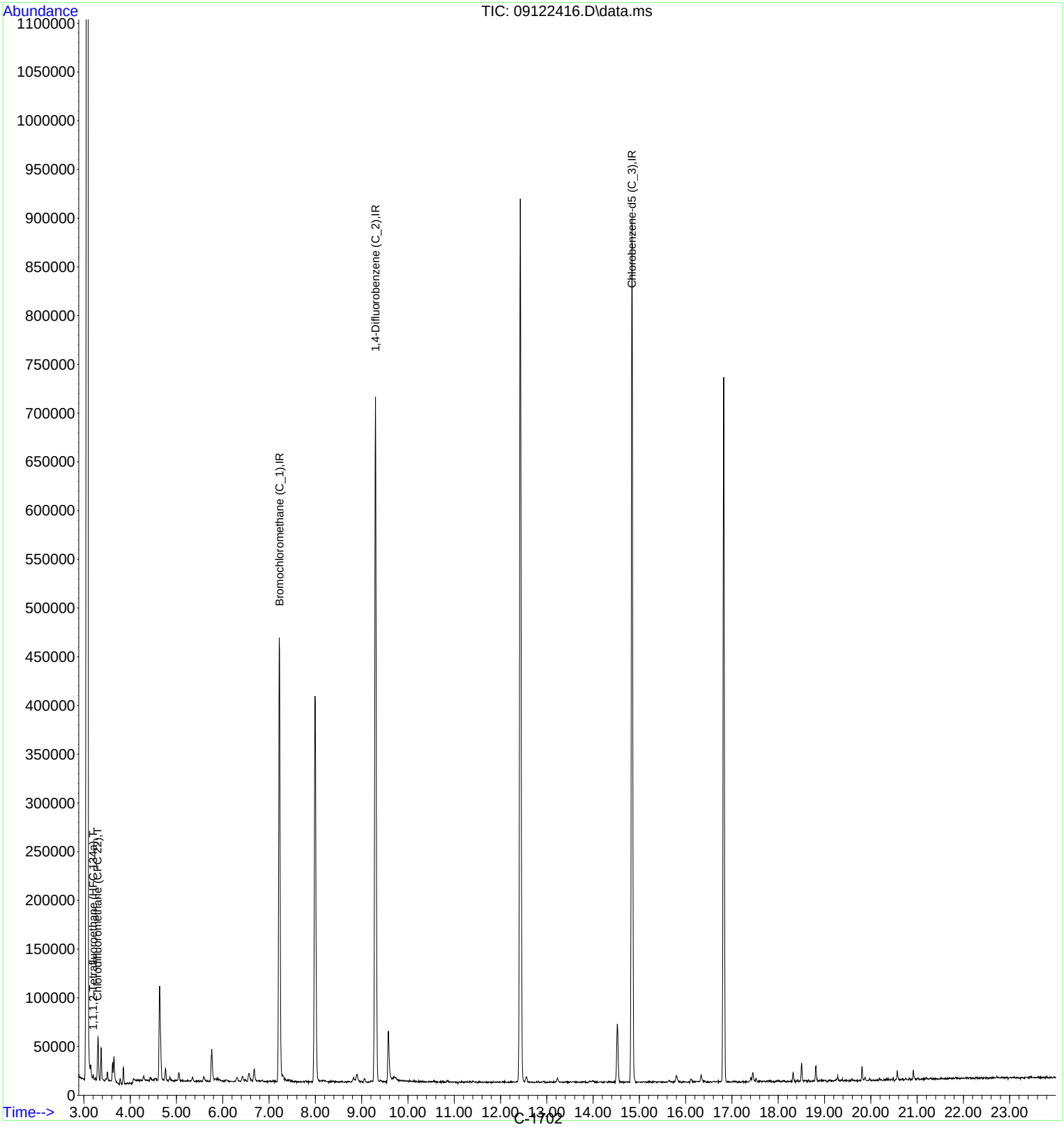
Quant Time: Sep 30 05:59:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	139839	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	607739	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	174205	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	371	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	2169	0.151	ng		91
4) 1,1-Difluoroethane	3.25	65	418	N.D.			
5) Chlorodifluoromethane ...	3.30	67	1176	0.247	ng	#	63
6) 1-Chloro-1,1-Difluoroe...	3.51	65	1123	N.D.			
7) Dichlorofluoromethane ...	4.24	67	188	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	124	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1810	N.D.			
12) 2-Methylpentane	6.49	71	147	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.04	84	555	N.D.			
17) 2,3-Dimethylpentane	9.58	56	53	N.D.			
18) Dibromomethane	9.80	174	196	N.D.			
20) Methyl Cyclohexane	11.42	55	451	N.D.			
21) 1,3-Dichloropropane	12.57	76	75	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.33	75	121	N.D.			
25) Bromobenzene	17.10	77	111	N.D.			
26) 2-Chlorotoluene	17.61	91	827	N.D.			
27) 4-Chlorotoluene	17.67	91	984	N.D.			
28) Indane	19.11	117	273	N.D.			
29) Indene	19.21	115	152	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	392	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	392	N.D.			
32) 1,2,3,5-Tetramethylben...	20.59	119	530	N.D.			
33) 1,2,3-Trichlorobenzene	21.19	180	240	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

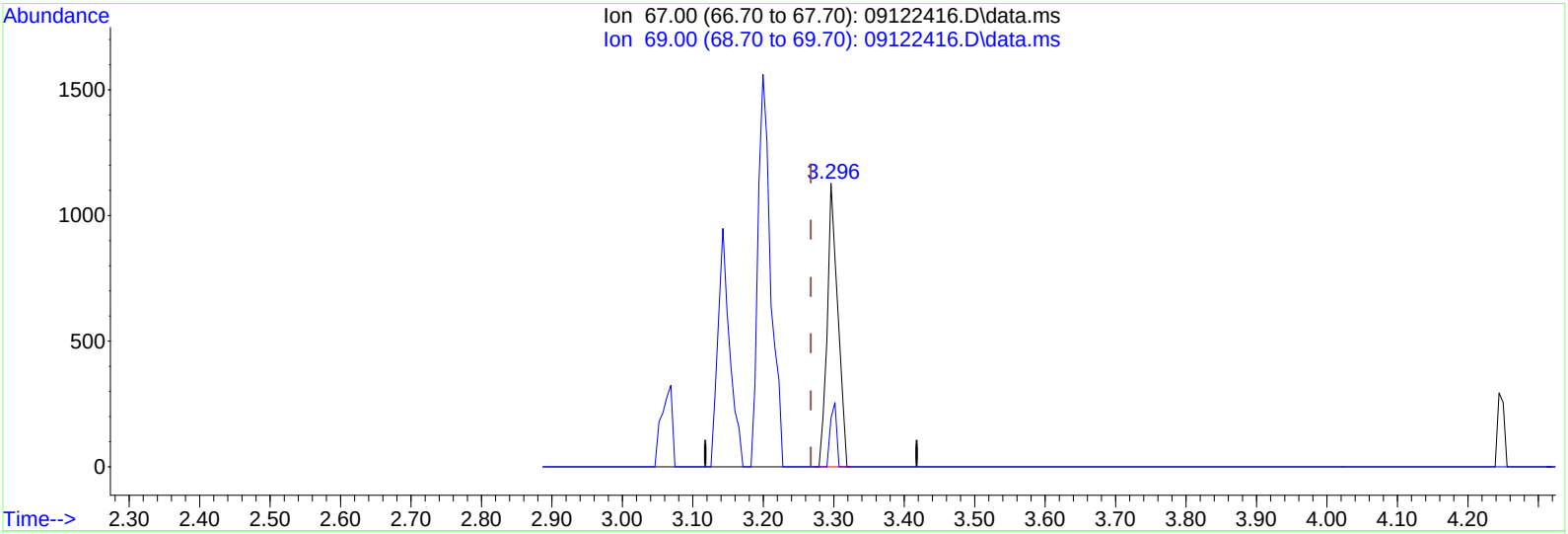
Quant Time: Sep 30 05:59:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

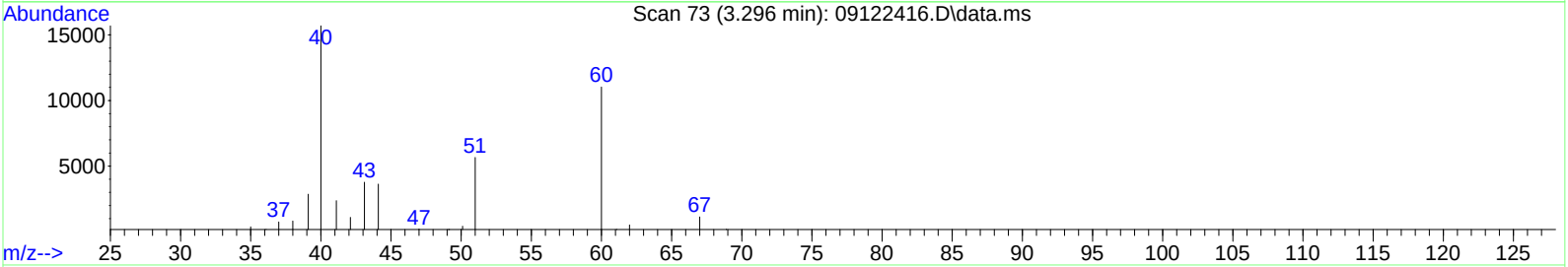


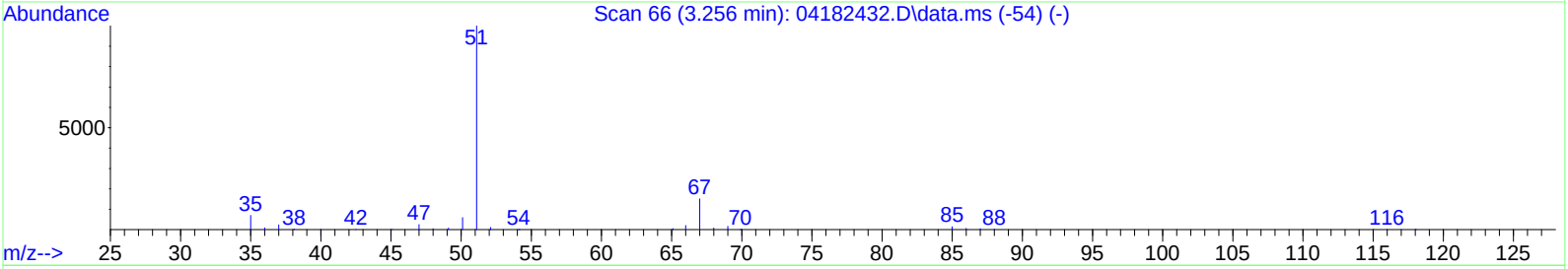
C-1702

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 29 21:10:32 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122416.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.296min (+0.028) 0.25ng

response 1176

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	13.01#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122416.D\data.ms

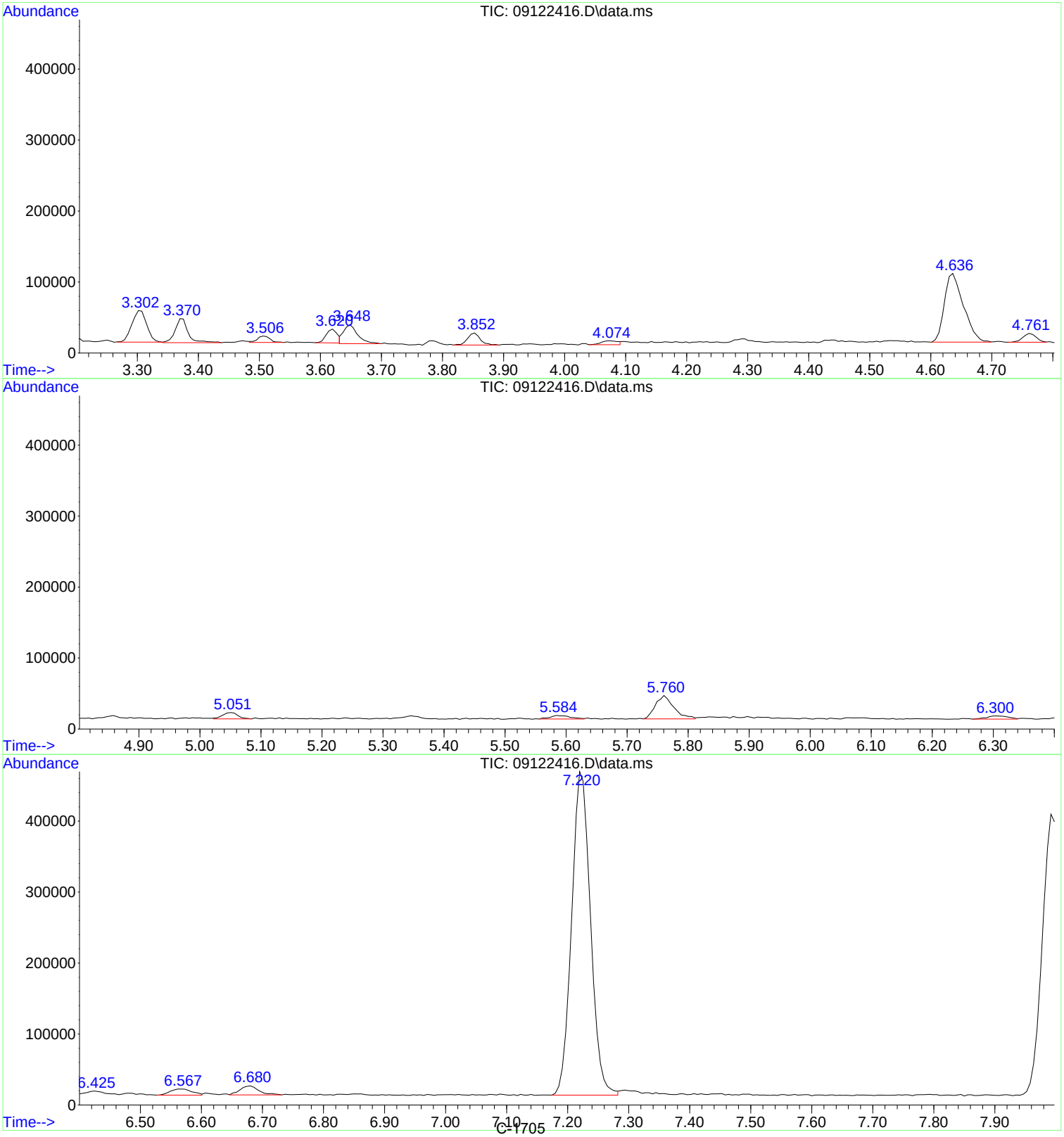
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	68	74	81	rVB3	44406	74795	7.65%	4.638%
2	3.370	81	86	98	rVB2	33968	49578	5.07%	3.074%
3	3.506	106	110	116	rVB2	8960	12557	1.28%	0.779%
4	3.620	125	130	132	rBV2	19421	25140	2.57%	1.559%
5	3.648	132	135	144	rVB2	26820	41814	4.27%	2.593%
6	3.852	165	171	178	rVB	17016	24446	2.50%	1.516%
7	4.074	204	210	213	rBV2	5472	10849	1.11%	0.673%
8	4.636	303	309	320	rBV	96784	209699	21.43%	13.004%
9	4.761	325	331	336	rBV2	12378	18751	1.92%	1.163%
10	5.051	377	382	388	rVB2	8968	15467	1.58%	0.959%
11	5.584	471	476	484	rBV5	5025	11596	1.19%	0.719%
12	5.760	501	507	516	rBV	32978	68963	7.05%	4.277%
13	6.300	596	602	609	rBV4	4399	11014	1.13%	0.683%
14	6.425	618	624	631	rBV3	5260	11483	1.17%	0.712%
15	6.567	642	649	655	rBV5	8501	21210	2.17%	1.315%
16	6.680	663	669	678	rVB	12693	26921	2.75%	1.669%
17	7.220	756	764	775	rBV	455784	978309	100.00%	60.667%

Sum of corrected areas: 1612592

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:11
Operator : SC
Sample : P2403661-048 (400mL)
Misc : S37-06062402
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122416.D
Acq On : 12 Sep 2024 19:111
Operator : SCC
Sample : P2403661-048 (400mL))
Misc : S37-060624022
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

WA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
No Library Search Compounds Detected									

****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

NOA 9/29/24

Quant Time: Sep 29 19:55:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	136470	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	593641	12.500	ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.84	54	171370	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	335290	13.130	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.04%				
57) Toluene-d8 (SS2)	12.43	98	675590	11.238	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
73) Bromofluorobenzene (SS3)	16.82	174	224131	11.147	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%				
Target Compounds							Qvalue
2) Propene	3.32	42	1428	0.069	ng	#	68
3) Dichlorodifluoromethan...	3.33	85	601	N.D.			
4) Chloromethane	3.52	50	450	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	4578m	0.309	ng		
11) Acetonitrile	4.45	41	765	N.D.			
12) Acrolein	4.55	56	1038	0.092	ng	#	70
13) Acetone	4.65	58	12428	0.994	ng	#	83
14) Trichlorofluoromethane	4.75	101	1529173	48.387	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	2592	0.053	ng		74
16) Acrylonitrile	5.02	53	158	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.39	59	64	N.D.			
19) Methylene Chloride	5.35	84	263	N.D.			
20) 3-Chloro-1-propene (Al...	5.44	41	137	N.D.			
21) Trichlorotrifluoroethane	5.58	151	889840	71.072	ng		96
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.69	72	876	0.099	ng	#	33
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.36	87	120	N.D.			
30) Ethyl Acetate	7.30	61	1390	0.234	ng		80
31) n-Hexane	7.31	57	217	N.D.			
32) Chloroform	7.35	83	3217	0.118	ng		94
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.85	56	742	No Calib		#	
41) Benzene	8.90	78	2426	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.21	84	132	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	111	N.D.			
47) Trichloroethene	10.13	130	133	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
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Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 29 19:55:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	119	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2978	N.D.		
59) 2-Hexanone	12.93	43	871	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.80	43	296	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.04	166	220	N.D.		
65) Chlorobenzene	14.91	112	109	N.D.		
66) Ethylbenzene	15.41	91	1299	N.D.		
67) m- & p-Xylenes	15.63	91	2466	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.25	91	522	N.D.		
71) n-Nonane	16.62	43	198	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	106	N.D.		
74) Cumene	17.03	105	441	N.D.		
75) alpha-Pinene	17.51	93	334	N.D.		
76) n-Propylbenzene	17.67	91	871	N.D.		
77) 3-Ethyltoluene	17.03	105	441	No Calib	#	
78) 4-Ethyltoluene	17.85	105	445	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	213	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	441	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	693	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.43	91	307	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	306	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	327	N.D.		
87) sec-Butylbenzene	18.74	105	476	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	3434	0.051	ng	96
89) 1,2,3-Trimethylbenzene	17.03	105	441	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	252	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	642	N.D.		
95) Naphthalene	20.94	128	886	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.29	225	370	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	412	N.D.		
100) n-Butylbenzene	19.39	91	474	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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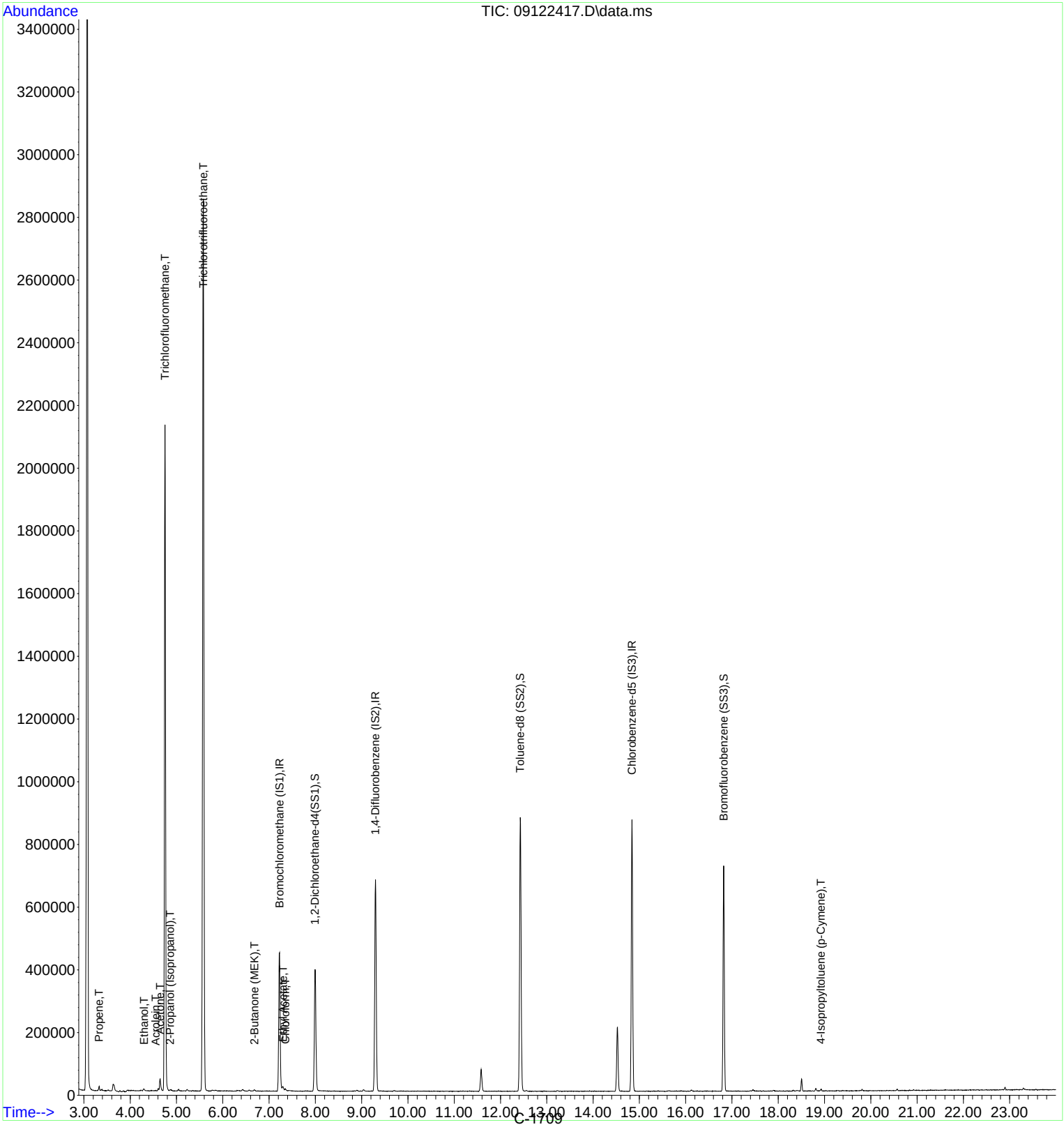
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration



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56) Chlorobenzene-d5 (IS3)	14.84	54	171370	12.500	ng		-0.01
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33) 1,2-Dichloroethane-d4(...	7.99	65	335290	13.130	ng		-0.04
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Spiked Amount 12.500	Range 70 - 130		Recovery = 89.20%				
Target Compounds							Qvalue
2) Propene	3.32	42	1428	0.069	ng	#	68
10) Ethanol	4.30	45	4578m	0.309	ng		
12) Acrolein	4.55	56	1038	0.092	ng	#	70
13) Acetone	4.65	58	12428	0.994	ng	#	83
14) Trichlorofluoromethane	4.75	101	1529173	48.387	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	2592	0.053	ng		74
21) Trichlorotrifluoroethane	5.58	151	889840	71.072	ng		96
27) 2-Butanone (MEK)	6.69	72	876	0.099	ng	#	33
30) Ethyl Acetate	7.30	61	1390	0.234	ng		80
32) Chloroform	7.35	83	3217	0.118	ng		94
88) 4-Isopropyltoluene (p-...	18.92	119	3434	0.051	ng		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

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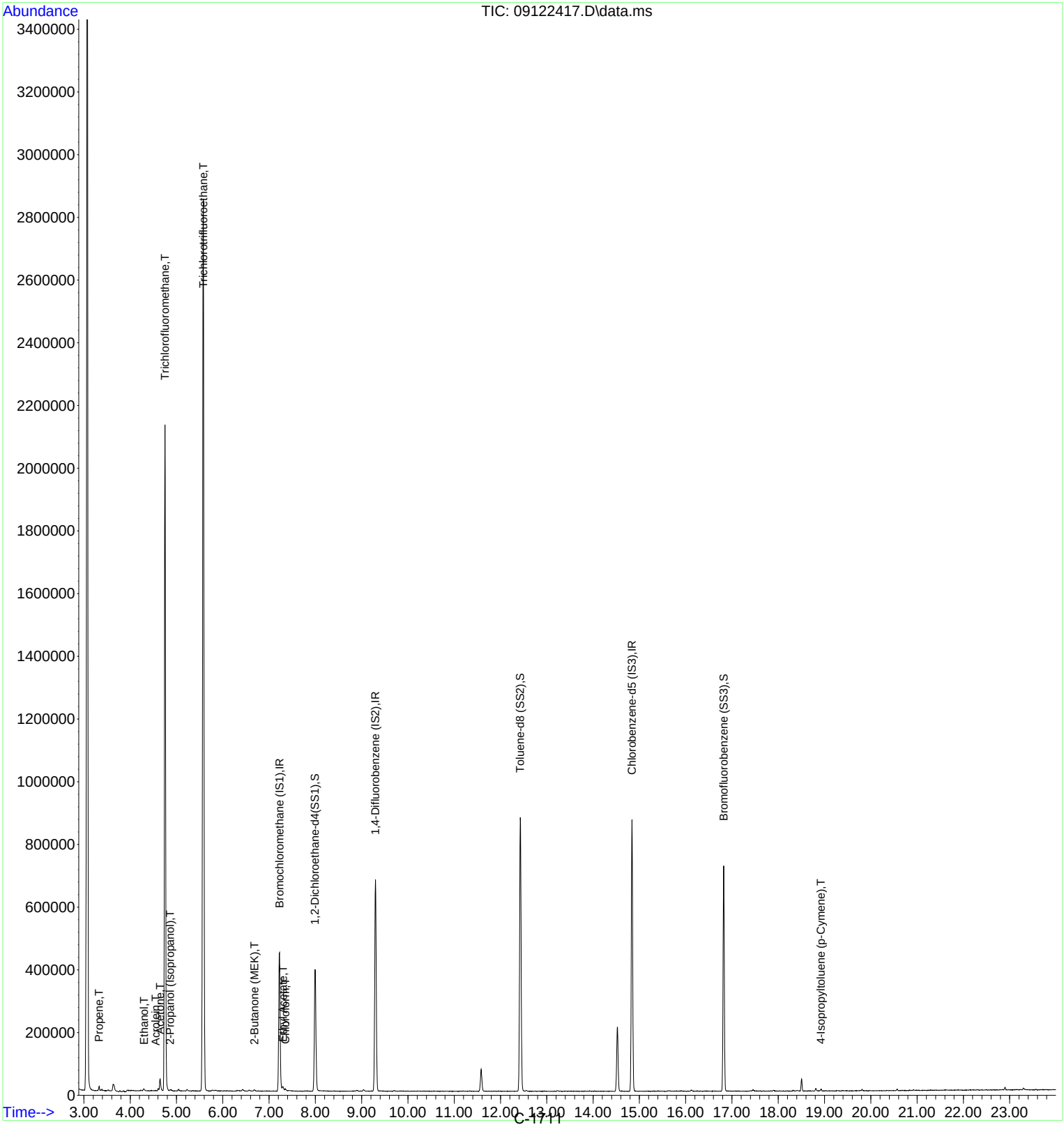
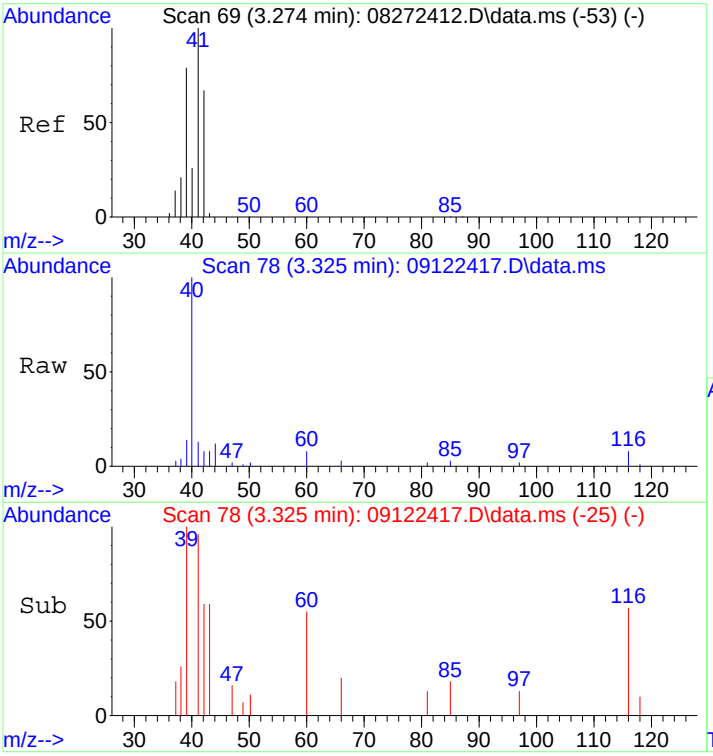
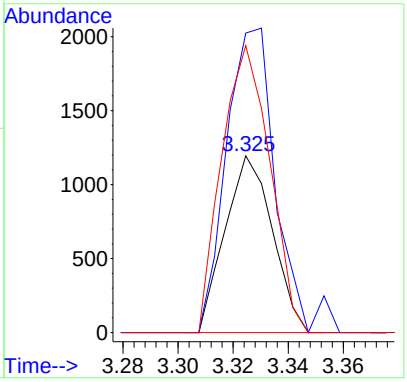


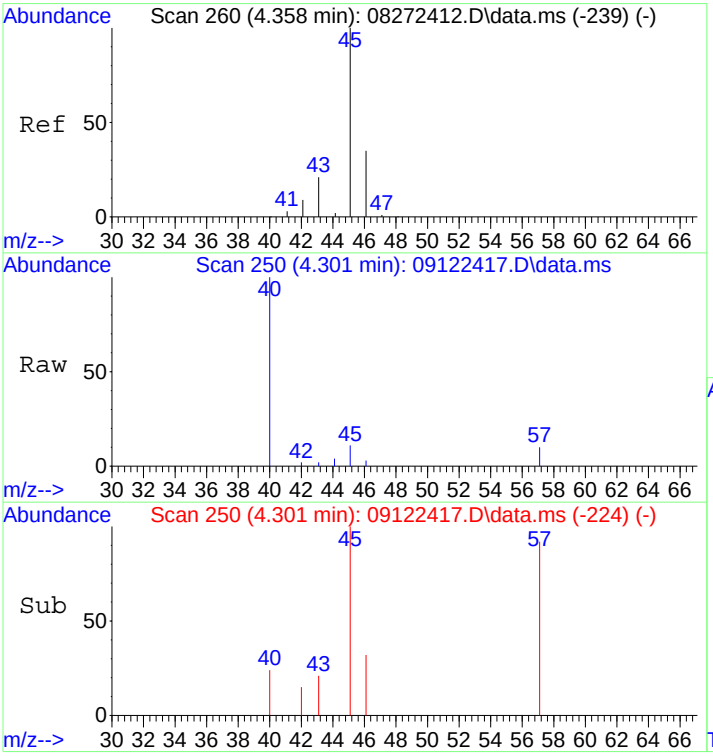


#2
Propene
Concen: 0.07 ng
RT: 3.32 min Scan# 78
Delta R.T. 0.053 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 42 Resp: 1428

Ion	Ratio	Lower	Upper
42	100		
39	180.6	98.2	138.2#
41	165.0	130.1	170.1

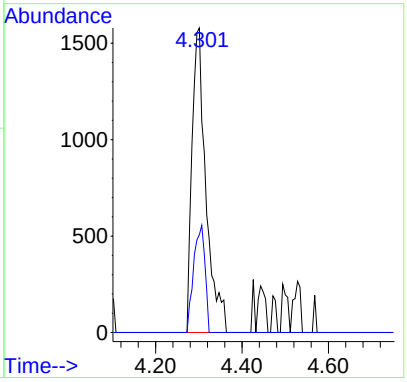


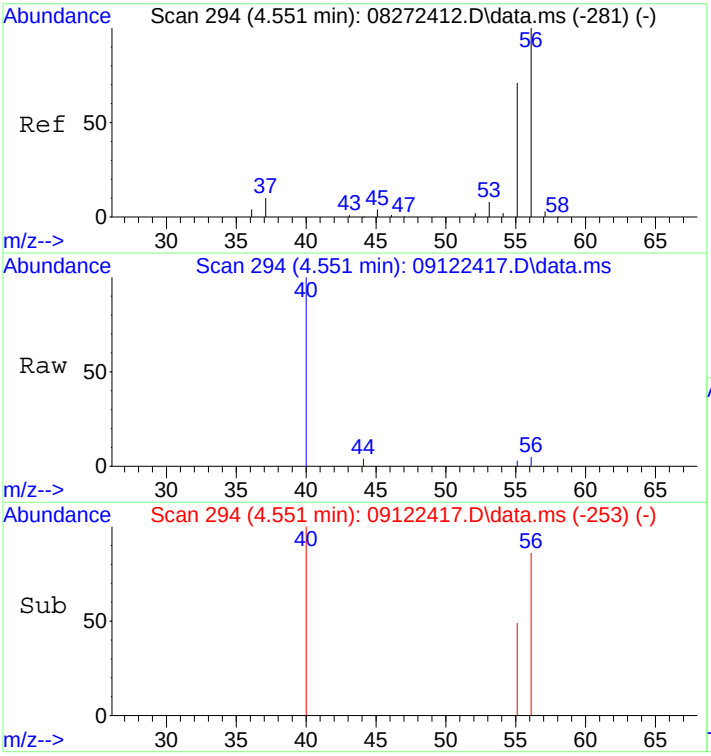


#10
Ethanol
Concen: 0.31 ng m
RT: 4.30 min Scan# 250
Delta R.T. -0.102 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 45 Resp: 4578

Ion	Ratio	Lower	Upper
45	100		
46	22.0	14.2	54.2

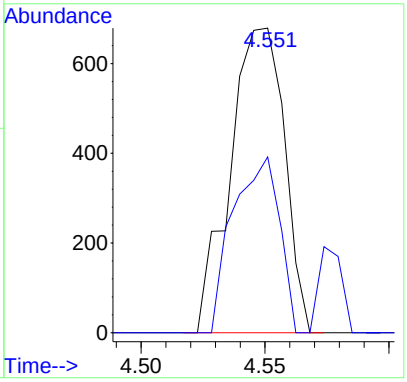


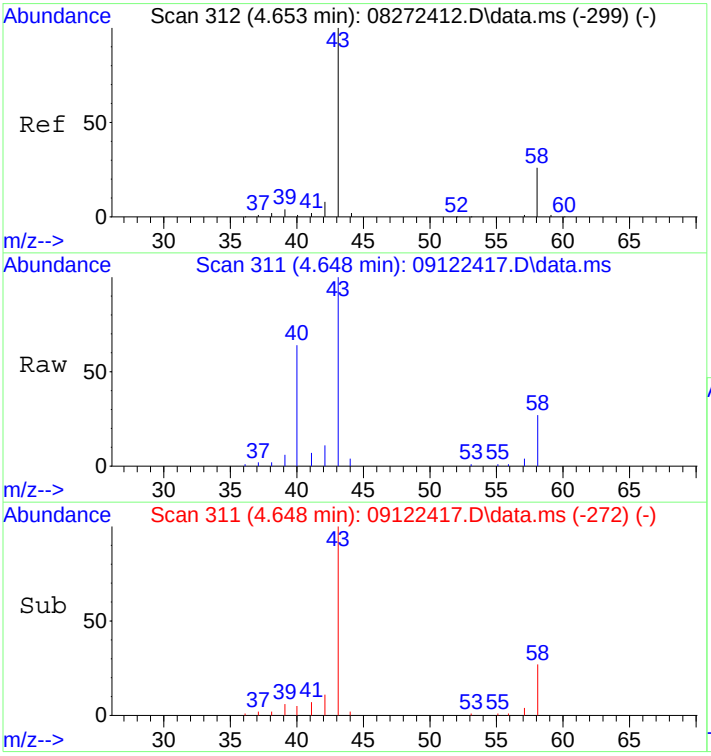


#12
Acrolein
Concen: 0.09 ng
RT: 4.55 min Scan# 294
Delta R.T. -0.016 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 56 Resp: 1038

Ion	Ratio	Lower	Upper
56	100		
55	49.3	54.7	94.7#

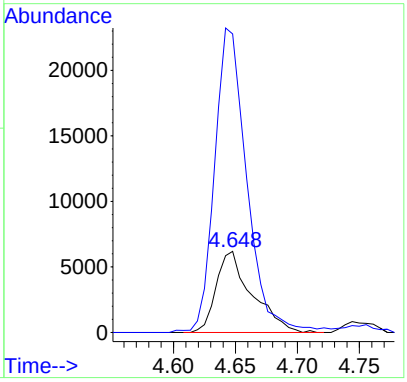


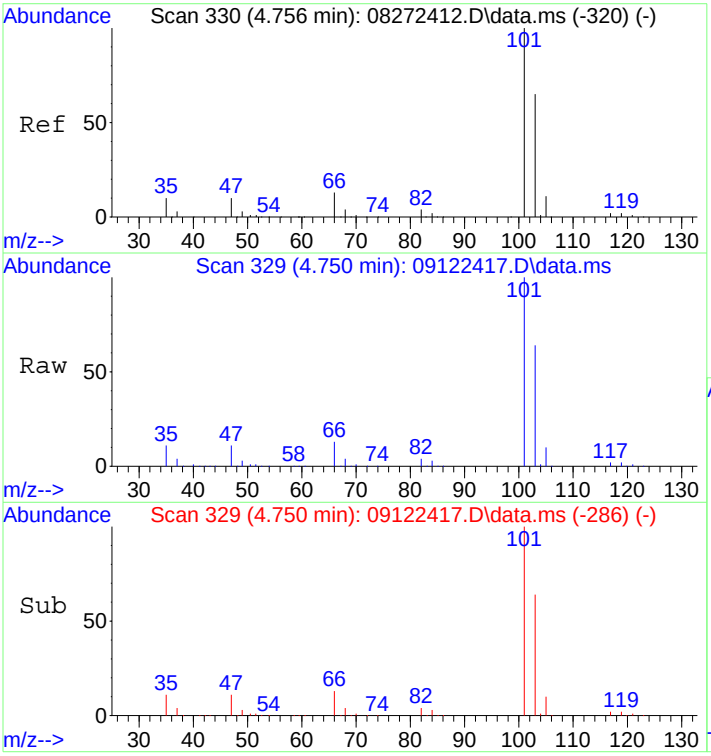


#13
Acetone
Concen: 0.99 ng
RT: 4.65 min Scan# 311
Delta R.T. -0.027 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 58 Resp: 12428

Ion	Ratio	Lower	Upper
58	100		
43	338.8	347.3	407.3#

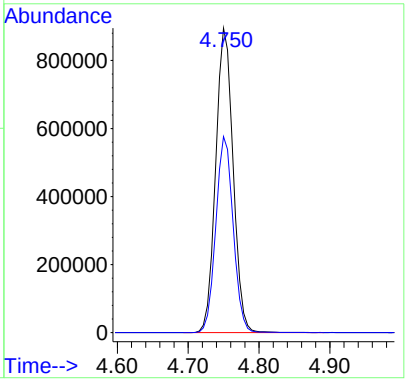


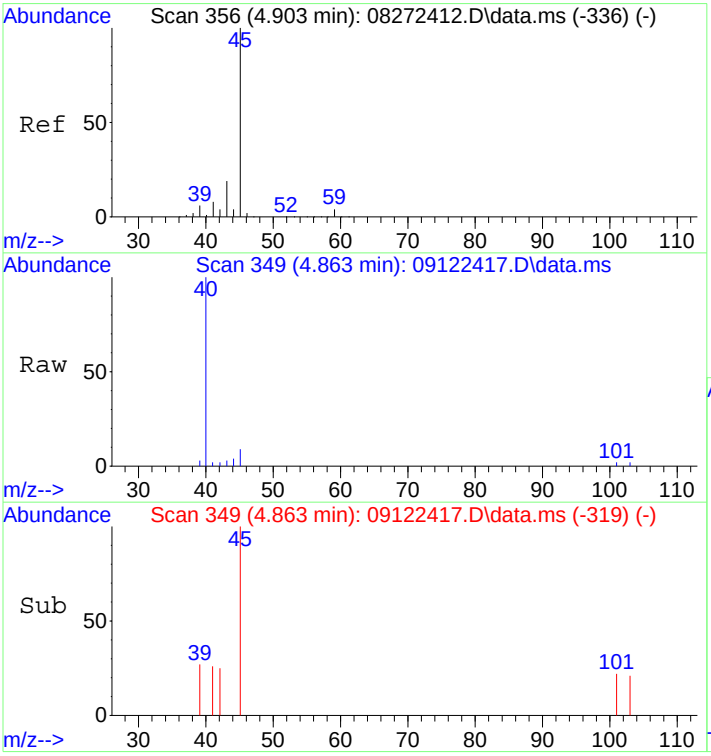


#14
Trichlorofluoromethane
Concen: 48.39 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.004 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion:101 Resp: 1529173

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

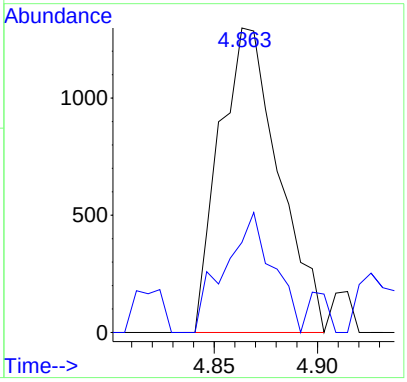


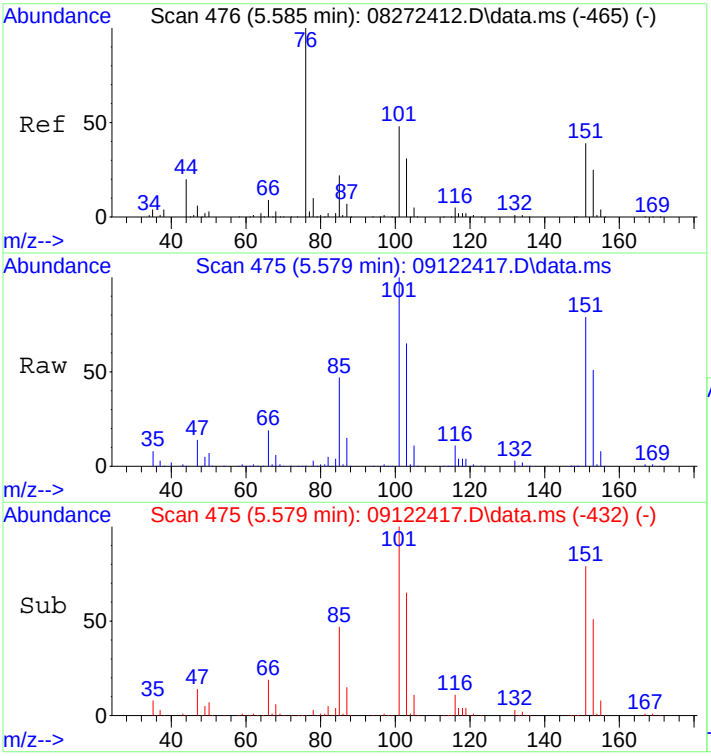


#15
2-Propanol (Isopropanol)
Concen: 0.05 ng
RT: 4.86 min Scan# 349
Delta R.T. -0.077 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 45 Resp: 2592

Ion	Ratio	Lower	Upper
45	100		
43	32.1	0.0	40.0

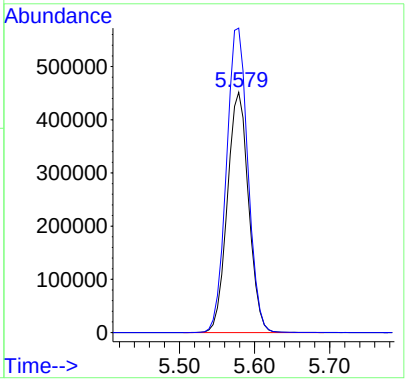


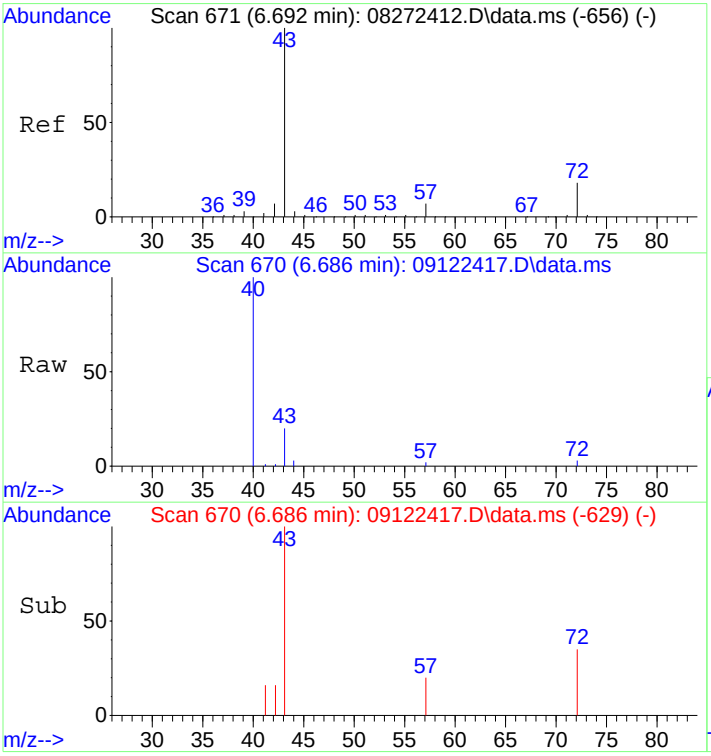


#21
Trichlorotrifluoroethane
Concen: 71.07 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.007 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion:151 Resp: 889840

Ion	Ratio	Lower	Upper
151	100		
101	127.9	103.4	143.4

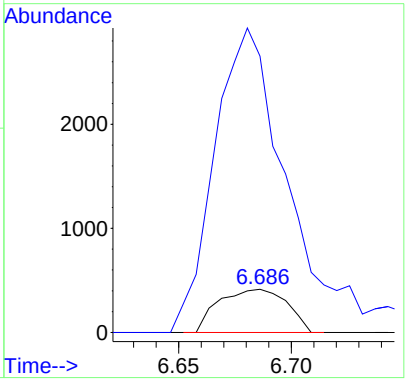


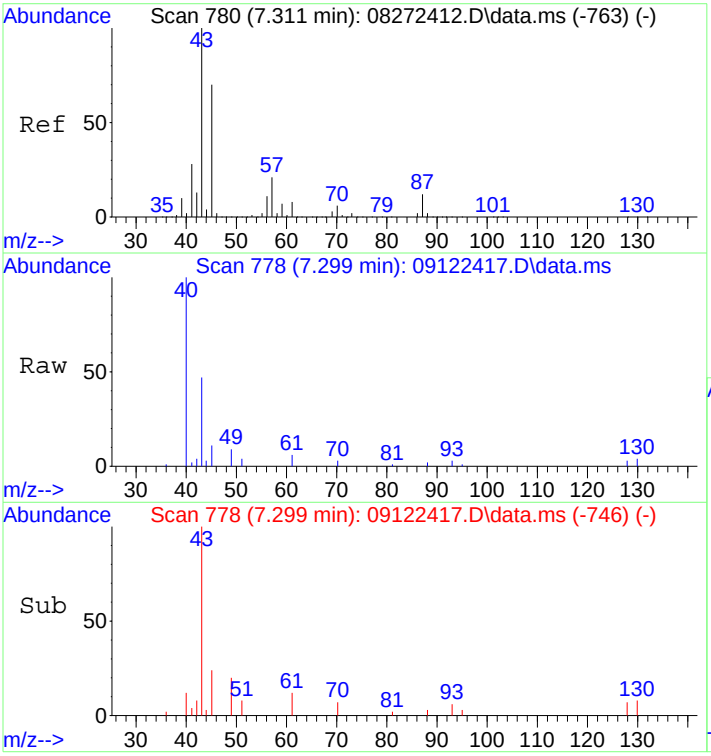


#27
2-Butanone (MEK)
Concen: 0.10 ng
RT: 6.69 min Scan# 670
Delta R.T. -0.019 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 72 Resp: 876

Ion	Ratio	Lower	Upper
72	100		
43	770.7	548.0	588.0#

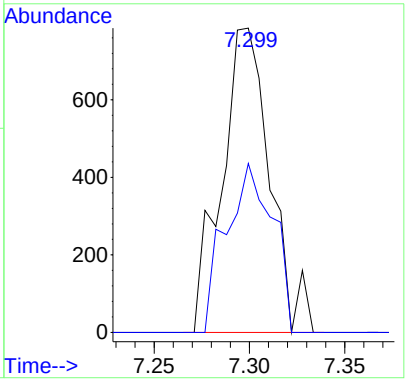


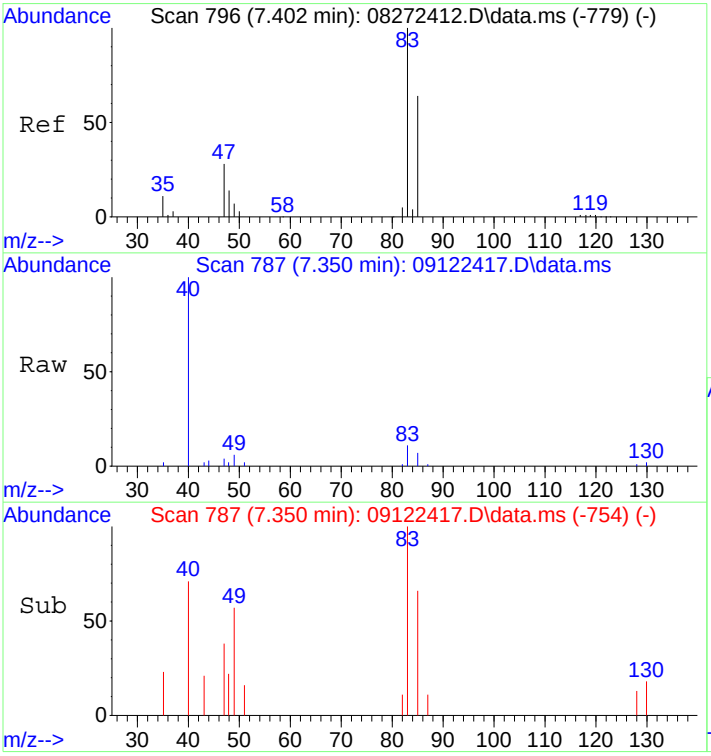


#30
Ethyl Acetate
Concen: 0.23 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.017 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 61 Resp: 1390

Ion	Ratio	Lower	Upper
61	100		
70	53.6	49.9	89.9

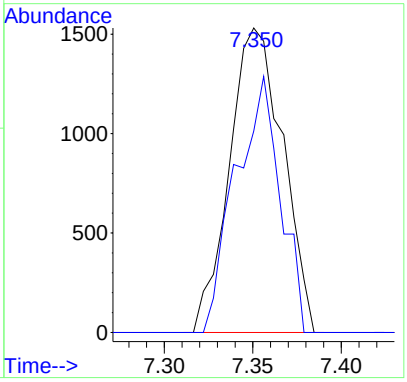


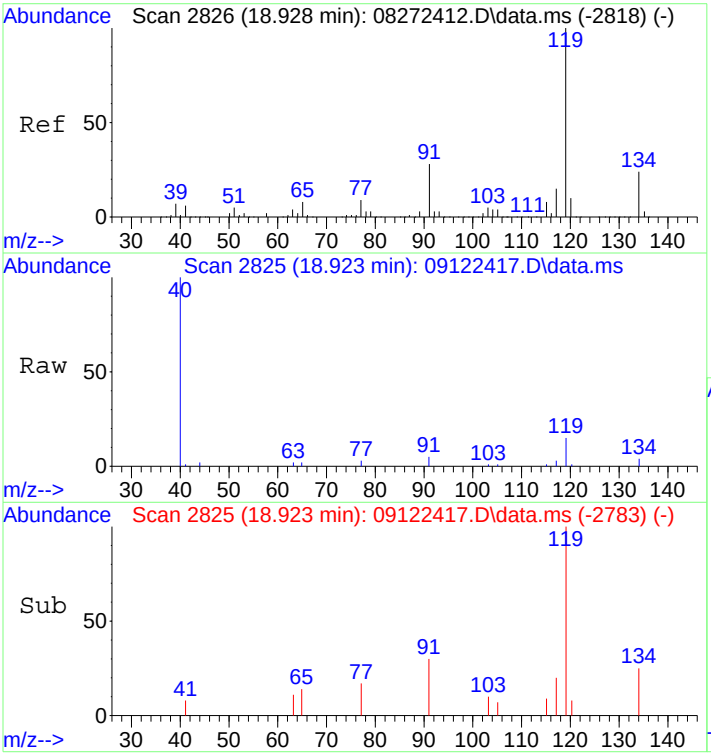


#32
Chloroform
Concen: 0.12 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.062 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion: 83 Resp: 3217

Ion	Ratio	Lower	Upper
83	100		
85	70.2	45.3	85.3

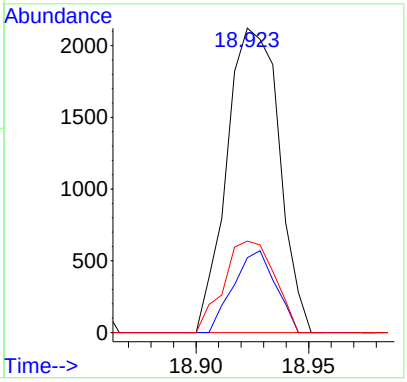




#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.05 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09122417.D
Acq: 12 Sep 2024 19:43

Tgt Ion:119 Resp: 3434

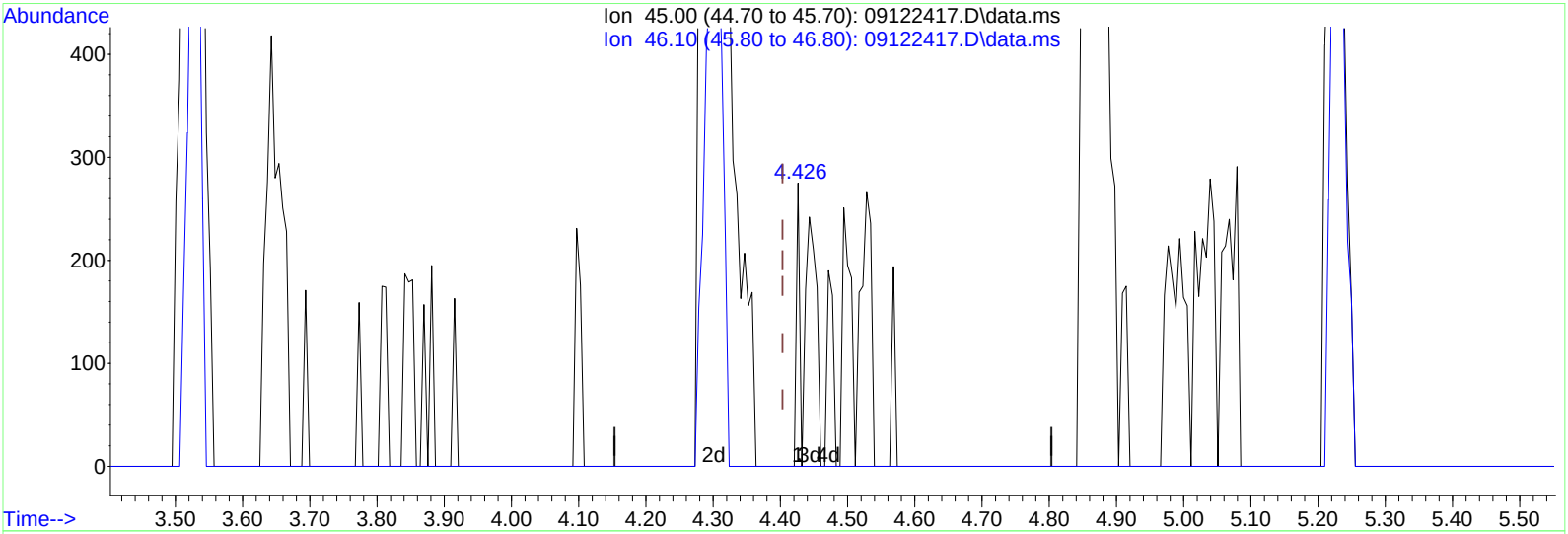
Ion	Ratio	Lower	Upper
119	100		
134	21.6	4.7	44.7
91	29.3	8.1	48.1

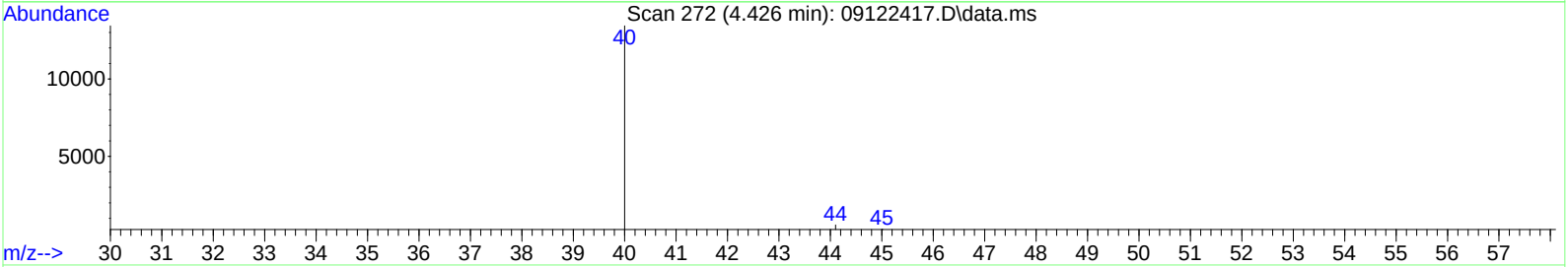


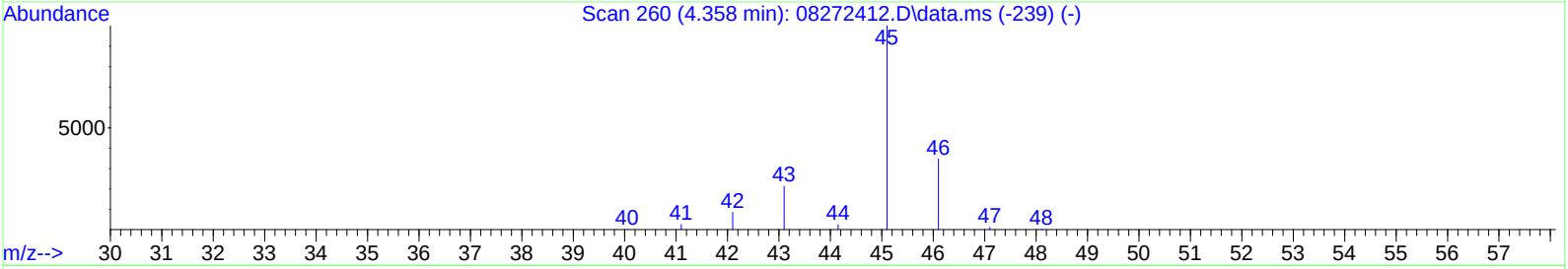
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 13 08:20:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration







TIC: 09122417.D\data.ms

(10) Ethanol (T)

4.426min (+0.023) 0.01ng

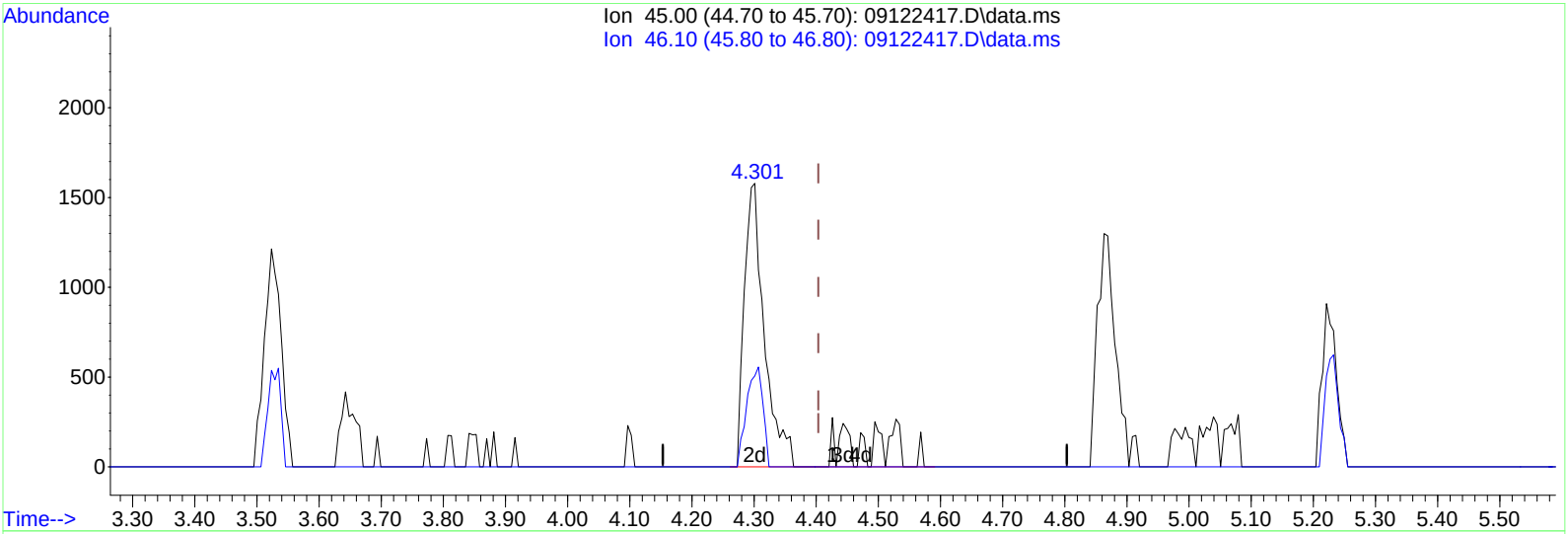
response 94

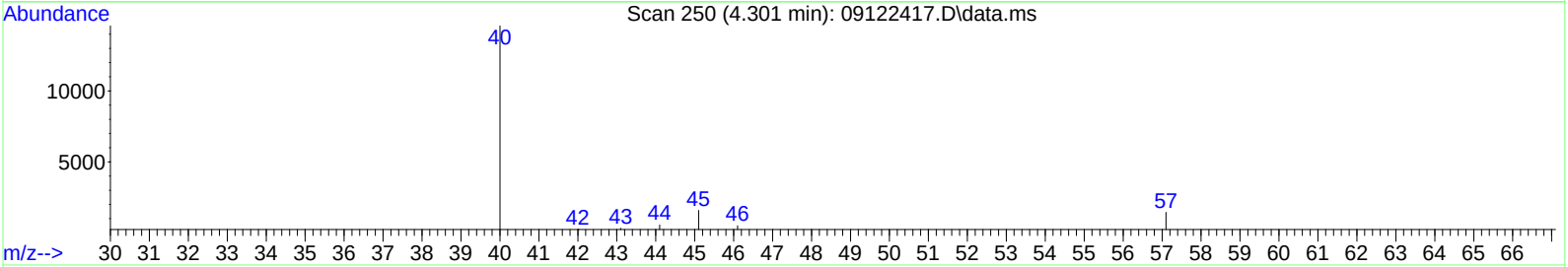
Ion	Exp%	Act%
45.00	100	100
46.10	34.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

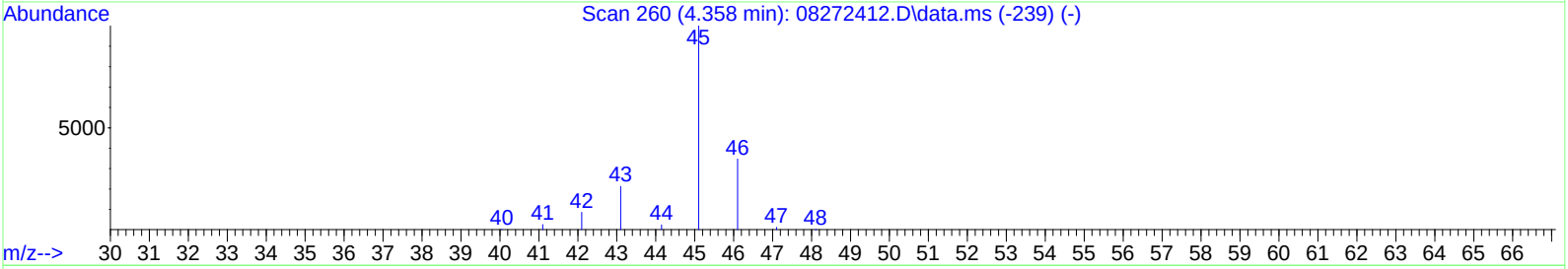
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 13 08:20:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration







TIC: 09122417.D\data.ms

(10) Ethanol (T)

4.301min (-0.102) 0.31ng m

response 4578

MP

9/29/24

9/30/24

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	21.97
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

MA 9/30/24

Quant Time: Sep 30 05:59:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

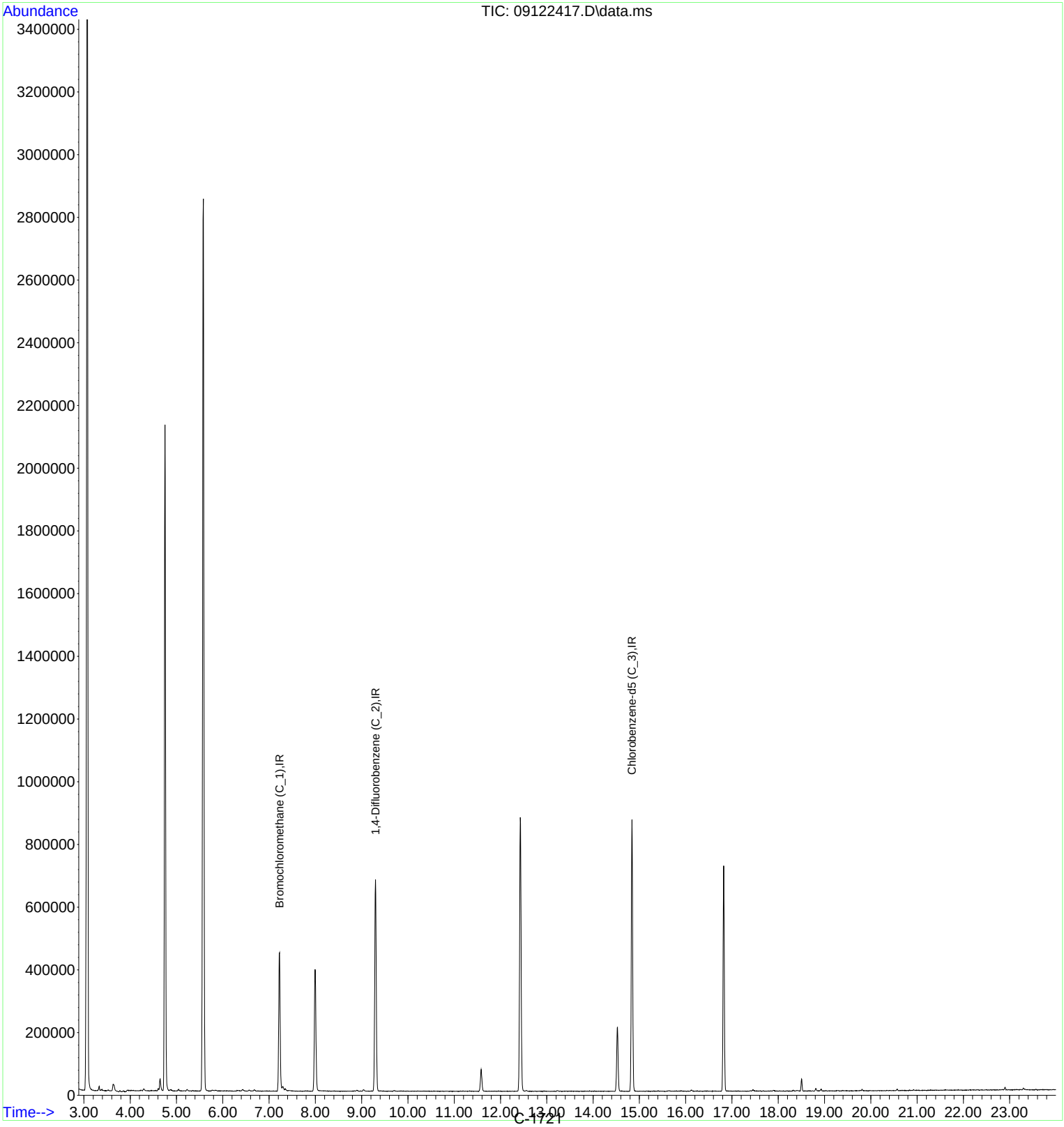
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	138584	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	593949	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	171370	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	56	N.D.		
4) 1,1-Difluoroethane	3.26	65	137	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	2022	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.61	83	190	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.35	43	427	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.06	84	57	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.60	91	189	N.D.		
27) 4-Chlorotoluene	17.67	91	871	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 30 05:59:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration



C-1721

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122417.D\data.ms

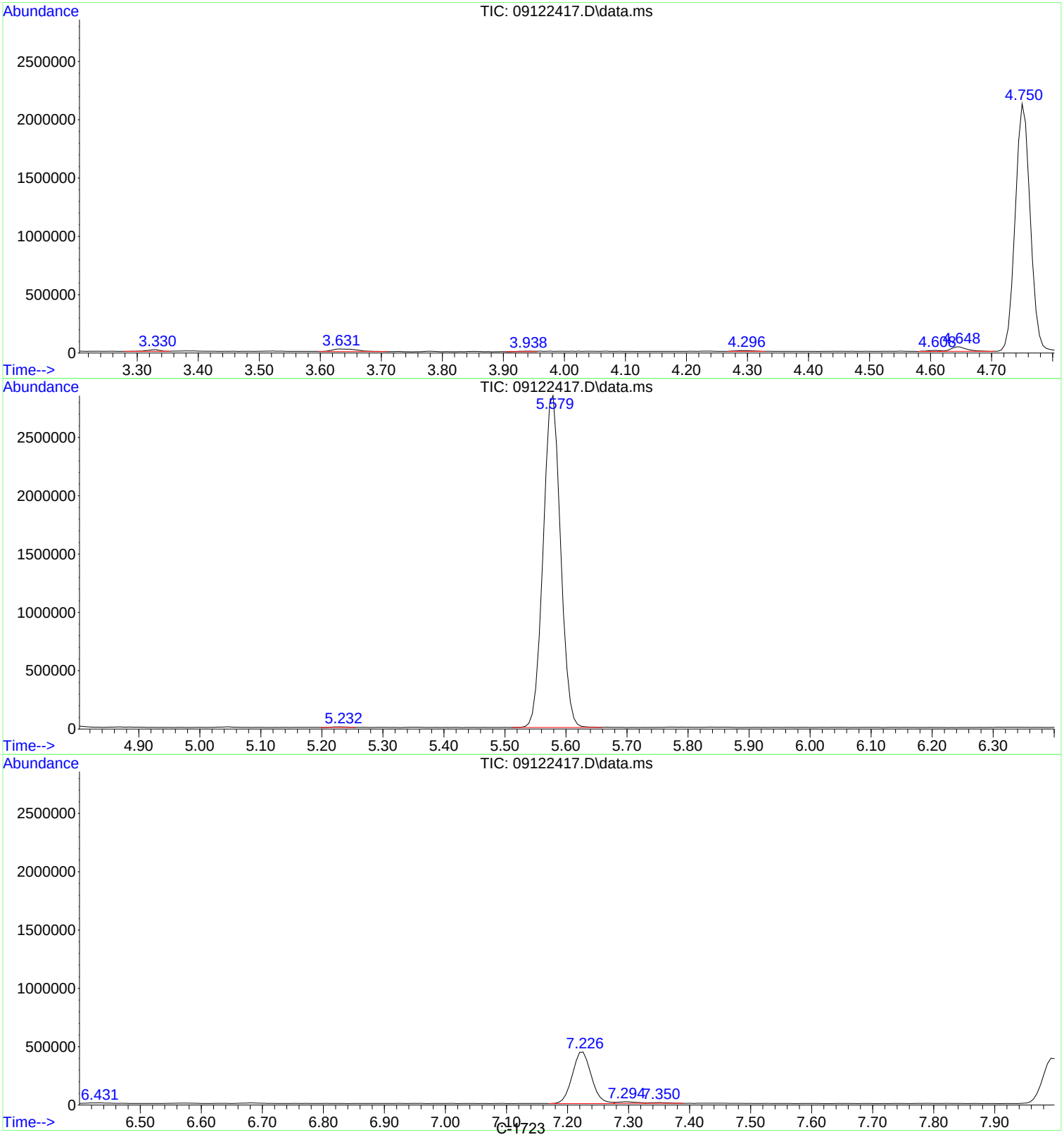
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.330	70	79	83	rBV5	14518	21060	0.37%	0.201%
2	3.631	126	132	146	rVB3	22386	63410	1.13%	0.605%
3	3.938	180	186	189	rBV	5550	10696	0.19%	0.102%
4	4.296	244	249	255	rBV4	6269	12494	0.22%	0.119%
5	4.608	299	304	306	rBV4	7849	12102	0.22%	0.116%
6	4.648	306	311	321	rVV	38476	70286	1.25%	0.671%
7	4.750	321	329	345	rVB	2123978	3630521	64.50%	34.654%
8	5.232	408	414	418	rBV3	5032	10131	0.18%	0.097%
9	5.579	463	475	489	rBV	2845937	5628813	100.00%	53.728%
10	6.431	617	625	631	rBV3	4904	11207	0.20%	0.107%
11	7.226	755	765	774	rBV	442575	962976	17.11%	9.192%
12	7.294	774	777	783	rVV	14605	30523	0.54%	0.291%
13	7.350	783	787	794	rVB4	6351	12353	0.22%	0.118%

Sum of corrected areas: 10476572

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:43
Operator : SC
Sample : P2403661-049 (20mL)
Misc : S37-06062402
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122417.D
Acq On : 12 Sep 2024 19:433
Operator : SCC
Sample : P2403661-049 (20mL))
Misc : S37-060624022
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL

VOA 9/29/24

TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

NOA 9/30/24

Quant Time: Sep 29 20:17:03 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133214	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	579420	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	172525	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	339166	13.606	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
57) Toluene-d8 (SS2)	12.43	98	664126	10.973	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.76%				
73) Bromofluorobenzene (SS3)	16.82	174	222996	11.017	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.37	85	19249m	0.595	ng		
4) Chloromethane	3.51	50	566	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	356	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.78	54	266	N.D.			
8) Bromomethane	4.02	94	293	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.30	45	17479	1.209	ng		67
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	4280	0.388	ng		97
13) Acetone	4.63	58	57716	4.731	ng	#	85
14) Trichlorofluoromethane	4.75	101	2853428	92.497	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	8475	0.176	ng	#	27
16) Acrylonitrile	5.00	53	1041	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.34	59	1158	N.D.			
19) Methylene Chloride	5.35	84	403	N.D.			
20) 3-Chloro-1-propene (Al...	5.45	41	114	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1215192	99.431	ng		95
22) Carbon Disulfide	5.60	76	513860	10.790	ng		76
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.	d		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.	d		
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	7035	0.813	ng	#	67
28) cis-1,2-Dichloroethene	6.98	61	287	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	1719	0.296	ng		86
31) n-Hexane	7.31	57	1178	N.D.			
32) Chloroform	7.36	83	11196	0.422	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.00	62	123	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.64	61	20516	No Calib		#	
40) 1-Butanol	8.82	56	14796	No Calib		#	
41) Benzene	8.89	78	5652	0.104	ng		98
42) Carbon Tetrachloride	9.05	117	284	N.D.			
43) Cyclohexane	9.28	84	845	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	9.73	63	124	N.D.			
46) Bromodichloromethane	10.08	83	502	N.D.			
47) Trichloroethene	10.14	130	818	0.061	ng		91
48) 1,4-Dioxane	0.00	88	0	N.D.	d		

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

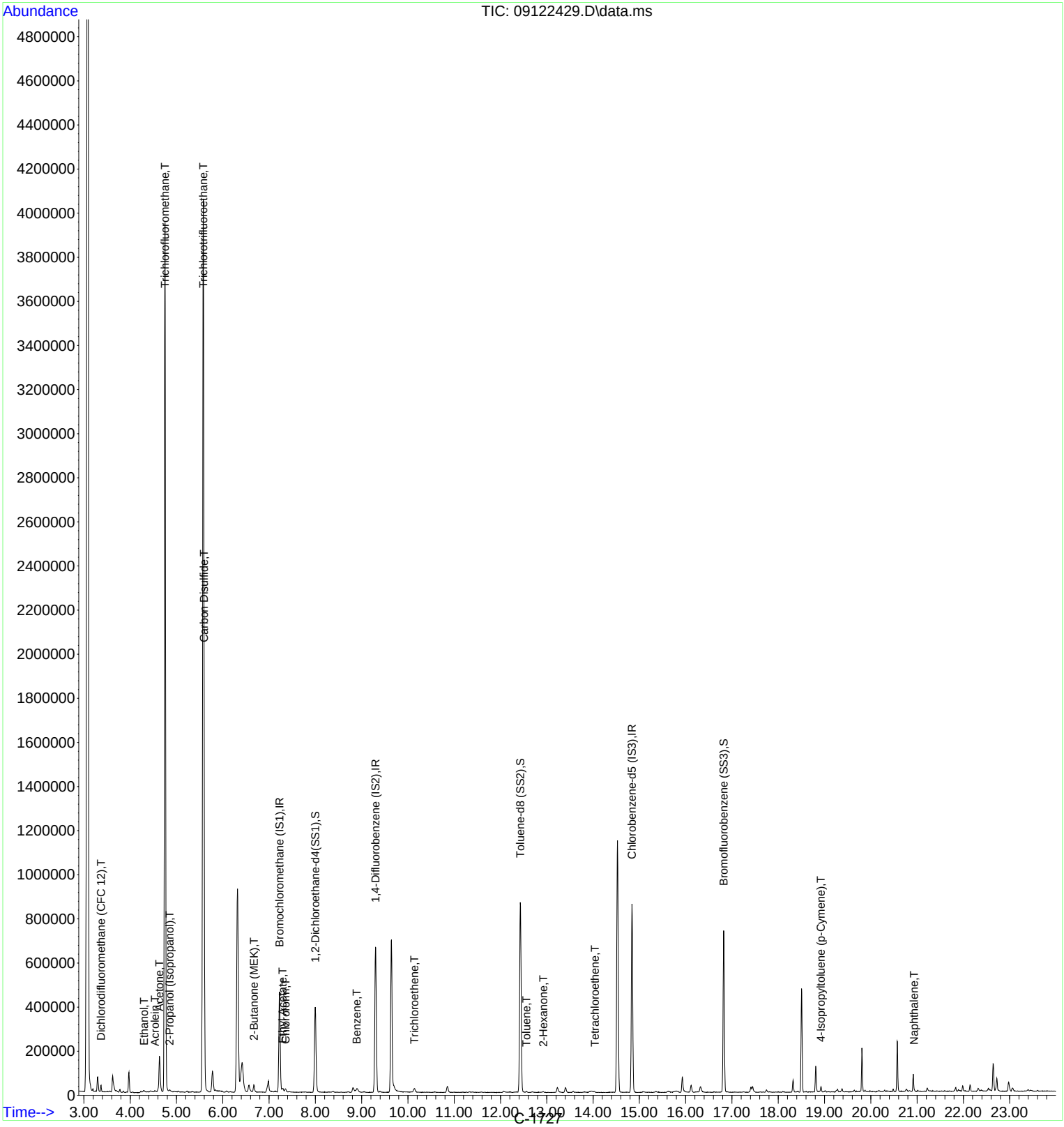
Quant Time: Sep 29 20:17:03 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	403	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	10.57	71	216	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	500	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4264	0.065 ng	96
59) 2-Hexanone	12.93	43	3832	0.095 ng	81
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1435	N.D.	
63) n-Octane	13.91	57	345	N.D.	
64) Tetrachloroethene	14.04	166	1287	0.071 ng	99
65) Chlorobenzene	14.90	112	199	N.D.	
66) Ethylbenzene	15.41	91	979	N.D.	
67) m- & p-Xylenes	15.63	91	2996	N.D.	
68) Bromoform	15.67	173	113	N.D.	
69) Styrene	16.10	104	645	N.D.	
70) o-Xylene	16.24	91	932	N.D.	
71) n-Nonane	16.61	43	1554	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.04	105	406	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	729	N.D.	
77) 3-Ethyltoluene	17.04	105	406	No Calib	#
78) 4-Ethyltoluene	17.86	105	561	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	294	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.04	105	406	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	755	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.50	91	247	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	272	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	480	N.D.	
87) sec-Butylbenzene	18.74	105	355	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	11503	0.170 ng	97
89) 1,2,3-Trimethylbenzene	17.04	105	406	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	298	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.83	180	685	N.D.	
95) Naphthalene	20.94	128	3696	0.057 ng	95
96) n-Dodecane	18.92	58	491	No Calib	#
97) Hexachlorobutadiene	21.30	225	351	N.D.	
98) Cyclohexanone	15.24	55	114	No Calib	#
99) tert-Butylbenzene	18.43	119	555	N.D.	
100) n-Butylbenzene	19.38	91	1461	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 29 20:17:03 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 29 20:17:03 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

VOA 9/29/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133214	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	579420	12.500	ng		-0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	172525	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	339166	13.606	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.88%				
57) Toluene-d8 (SS2)	12.43	98	664126	10.973	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.76%				
73) Bromofluorobenzene (SS3)	16.82	174	222996	11.017	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	19249m	0.595	ng		
10) Ethanol	4.30	45	17479	1.209	ng		67
12) Acrolein	4.53	56	4280	0.388	ng		97
13) Acetone	4.63	58	57716	4.731	ng	#	85
14) Trichlorofluoromethane	4.75	101	2853428	92.497	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	8475	0.176	ng	#	27
21) Trichlorotrifluoroethane	5.58	151	1215192	99.431	ng		95
22) Carbon Disulfide	5.60	76	513860	10.790	ng		76
27) 2-Butanone (MEK)	6.67	72	7035	0.813	ng	#	67
30) Ethyl Acetate	7.29	61	1719	0.296	ng		86
32) Chloroform	7.36	83	11196	0.422	ng		98
41) Benzene	8.89	78	5652	0.104	ng		98
47) Trichloroethene	10.14	130	818	0.061	ng		91
58) Toluene	12.56	91	4264	0.065	ng		96
59) 2-Hexanone	12.93	43	3832	0.095	ng		81
64) Tetrachloroethene	14.04	166	1287	0.071	ng		99
88) 4-Isopropyltoluene (p-...	18.92	119	11503	0.170	ng		97
95) Naphthalene	20.94	128	3696	0.057	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
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ALS Vial : 9 Sample Multiplier: 1

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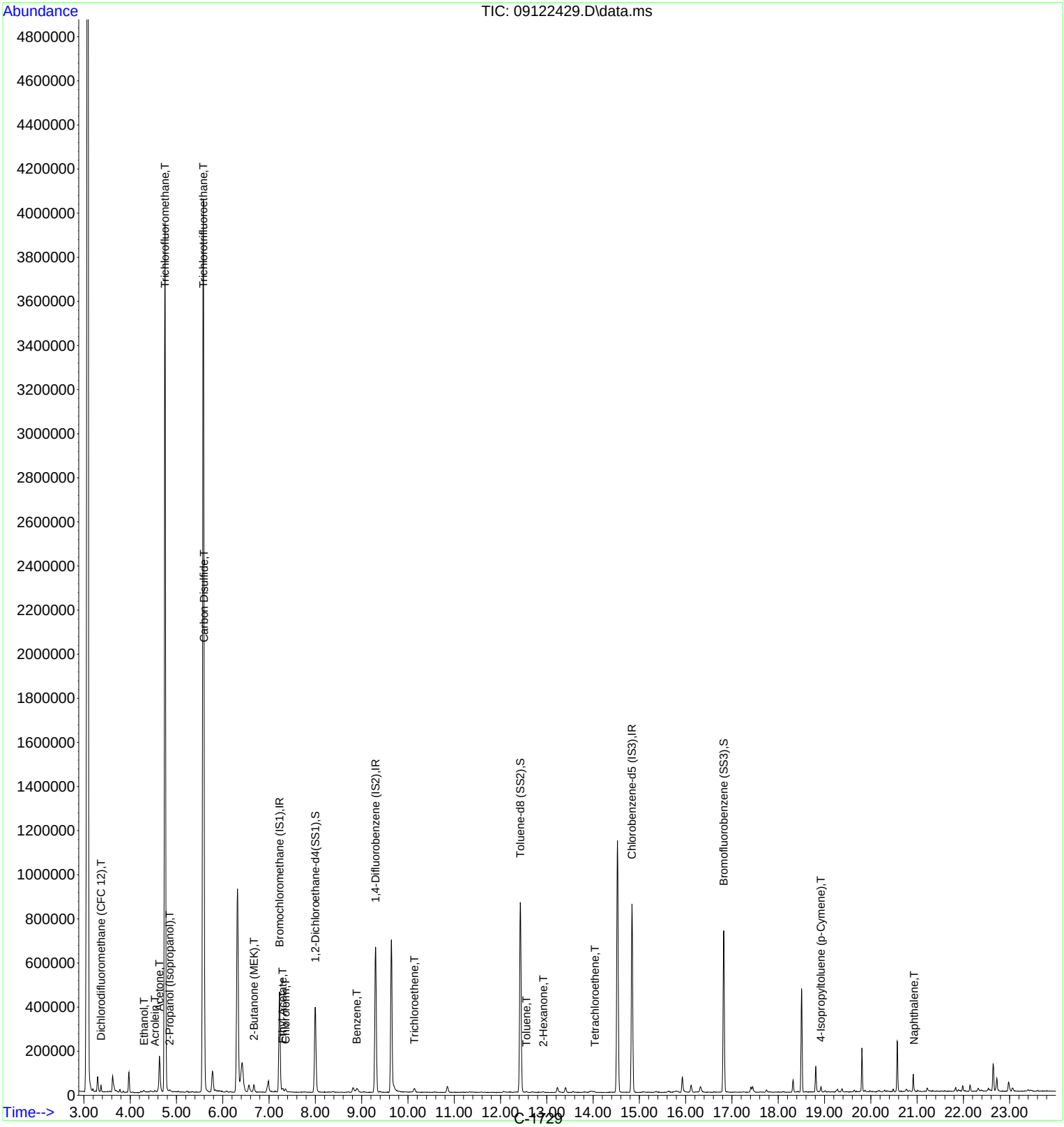
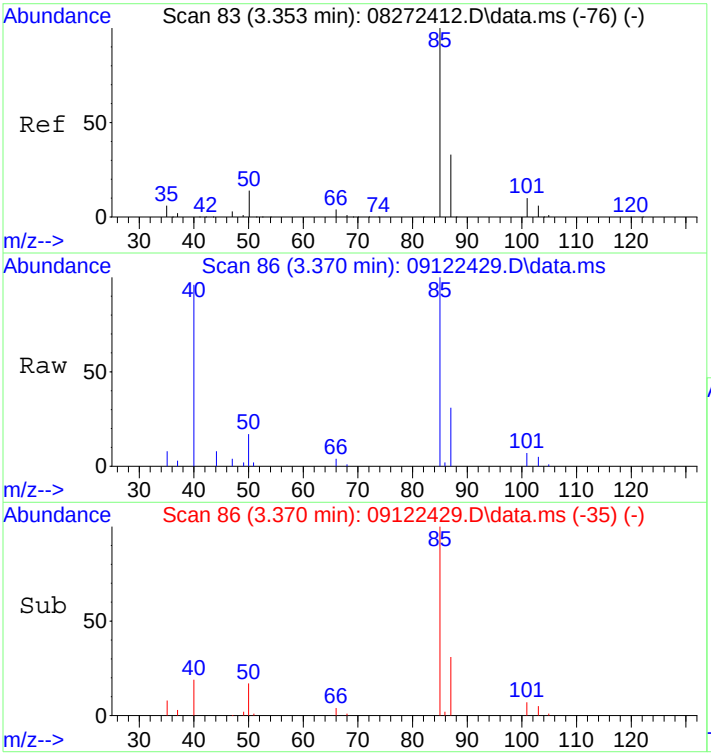
Response via : Initial Calibration

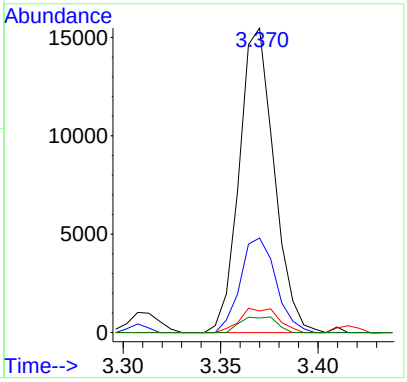


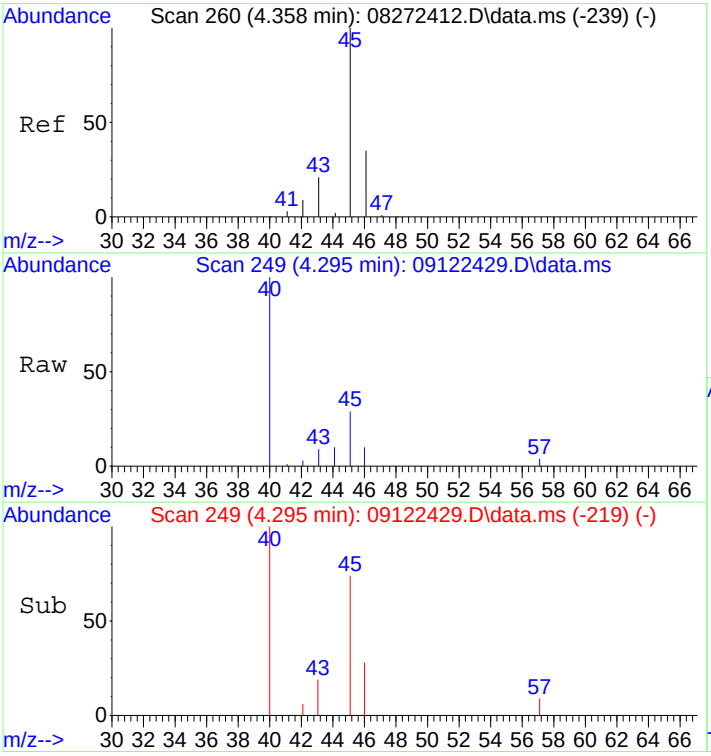


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.60 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.040 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 85 Resp: 19249

Ion	Ratio	Lower	Upper
85	100		
87	31.7	13.1	53.1
101	8.8	0.0	29.4
103	5.4	0.0	26.0

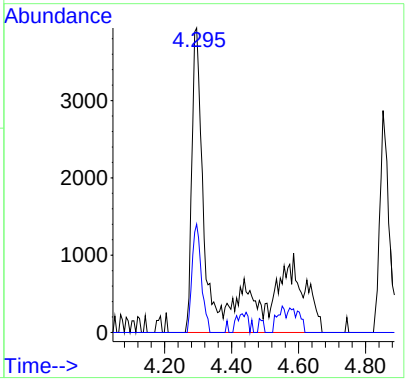


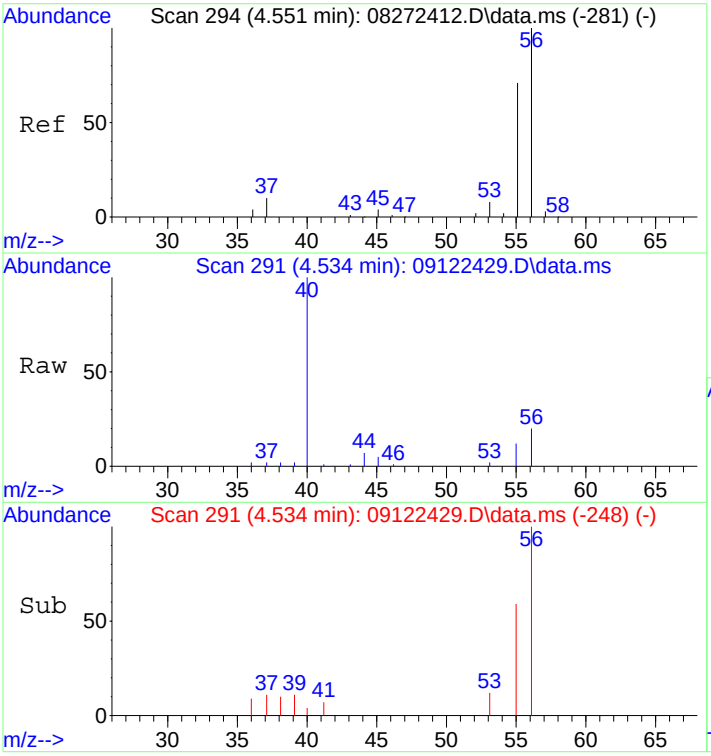


#10
Ethanol
Concen: 1.21 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.080 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 45 Resp: 17479

Ion	Ratio	Lower	Upper
45	100		
46	15.4	14.2	54.2

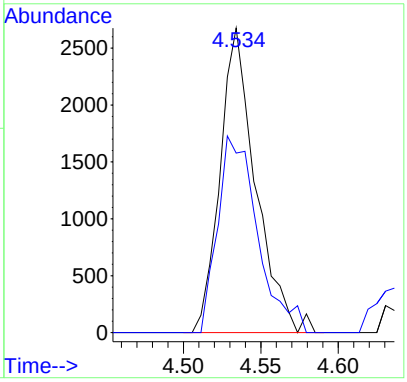


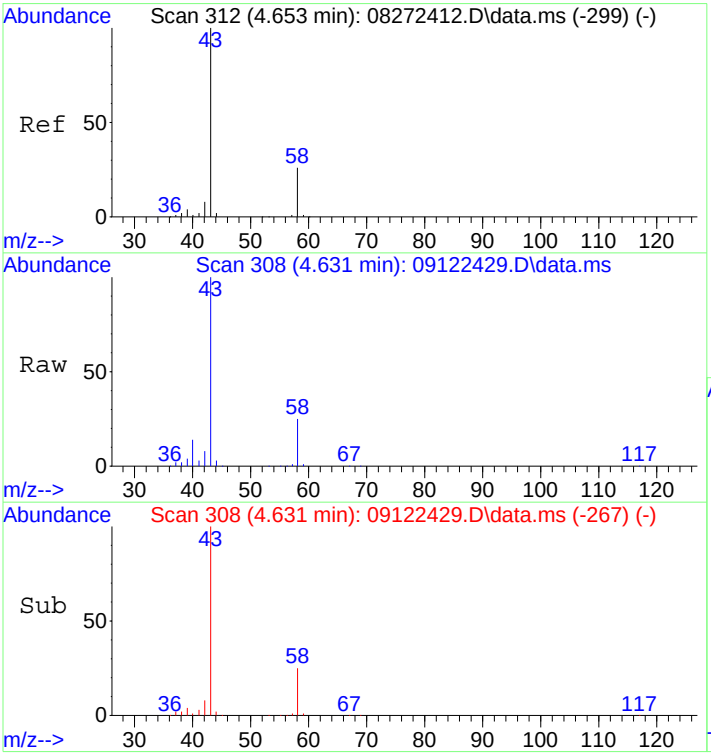


#12
Acrolein
Concen: 0.39 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.005 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 56 Resp: 4280

Ion	Ratio	Lower	Upper
56	100		
55	72.3	54.7	94.7

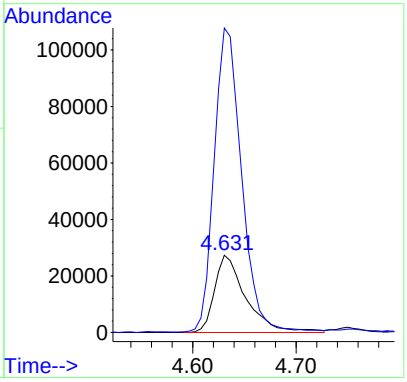


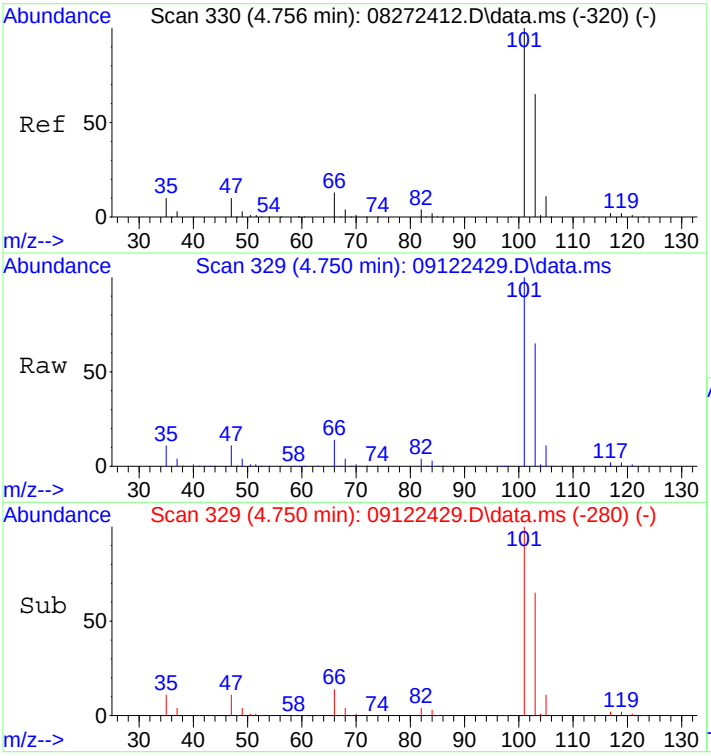


#13
Acetone
Concen: 4.73 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.015 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 58 Resp: 57716

Ion	Ratio	Lower	Upper
58	100		
43	343.8	347.3	407.3#

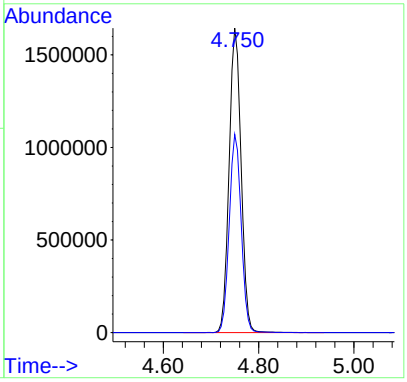


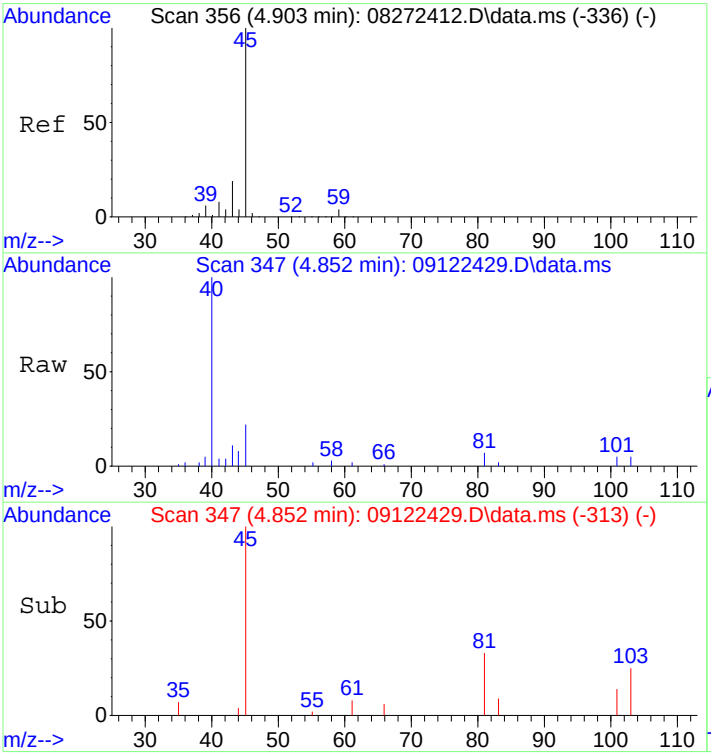


#14
Trichlorofluoromethane
Concen: 92.50 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion:101 Resp: 2853428

Ion	Ratio	Lower	Upper
101	100		
103	64.8	44.9	84.9

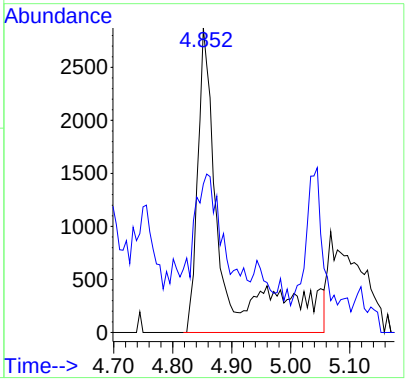


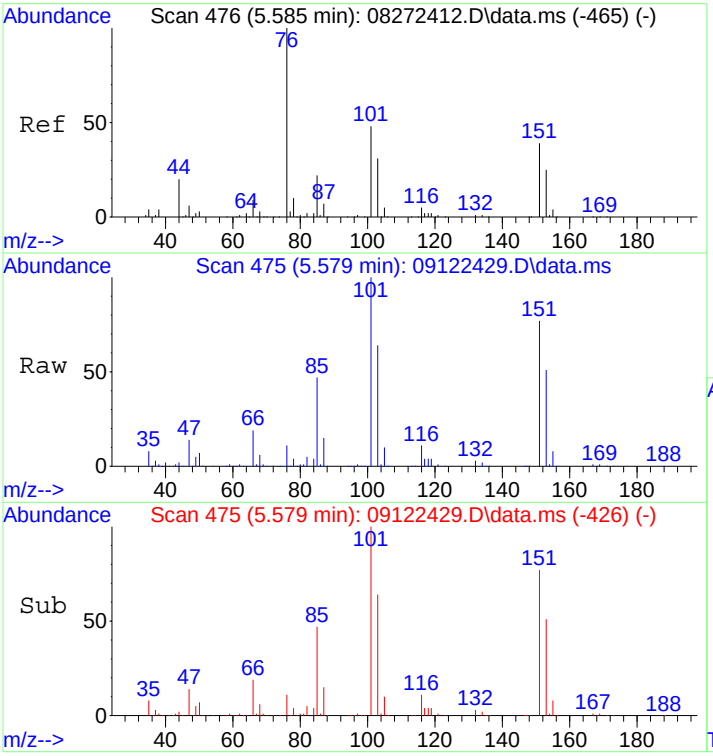


#15
2-Propanol (Isopropanol)
Concen: 0.18 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.058 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 45 Resp: 8475

Ion	Ratio	Lower	Upper
45	100		
43	53.4	0.0	40.0#

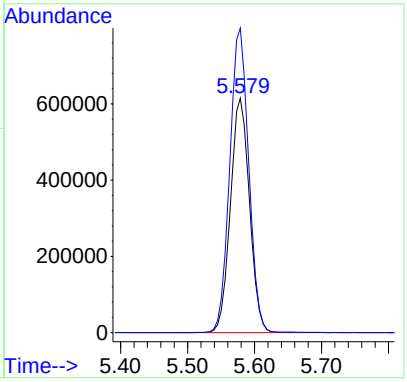


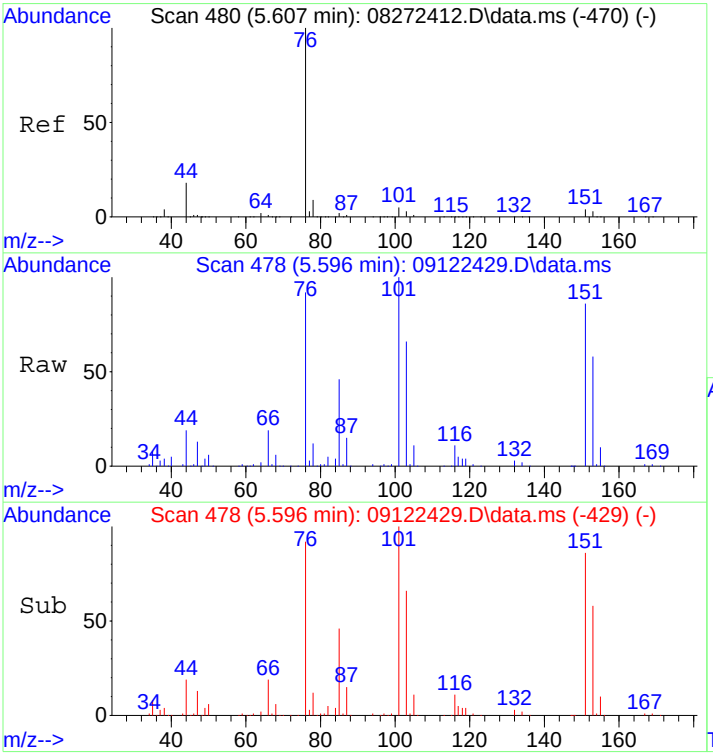


#21
Trichlorotrifluoroethane
Concen: 99.43 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.028 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion:151 Resp: 1215192

Ion	Ratio	Lower	Upper
151	100		
101	129.3	103.4	143.4

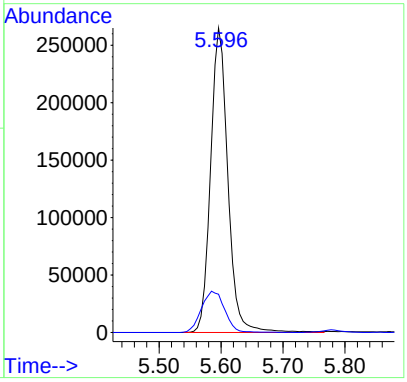


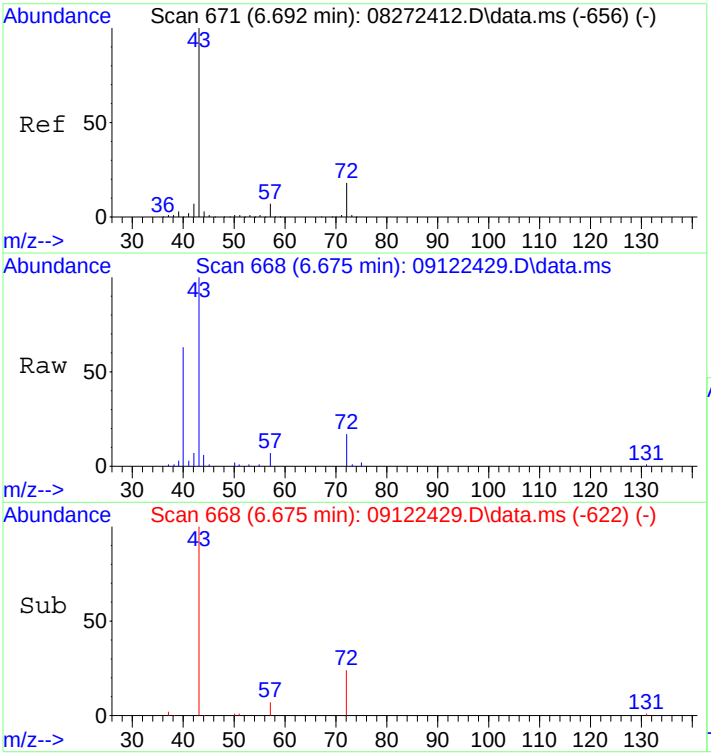


#22
Carbon Disulfide
Concen: 10.79 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.028 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 76 Resp: 513860

Ion	Ratio	Lower	Upper
76	100		
78	18.2	0.0	29.6

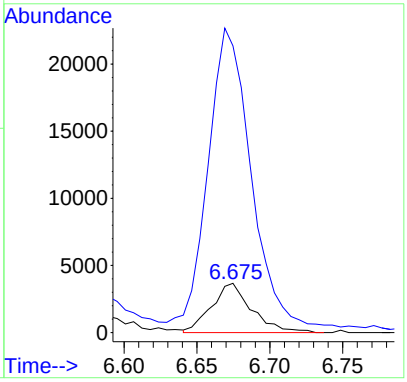


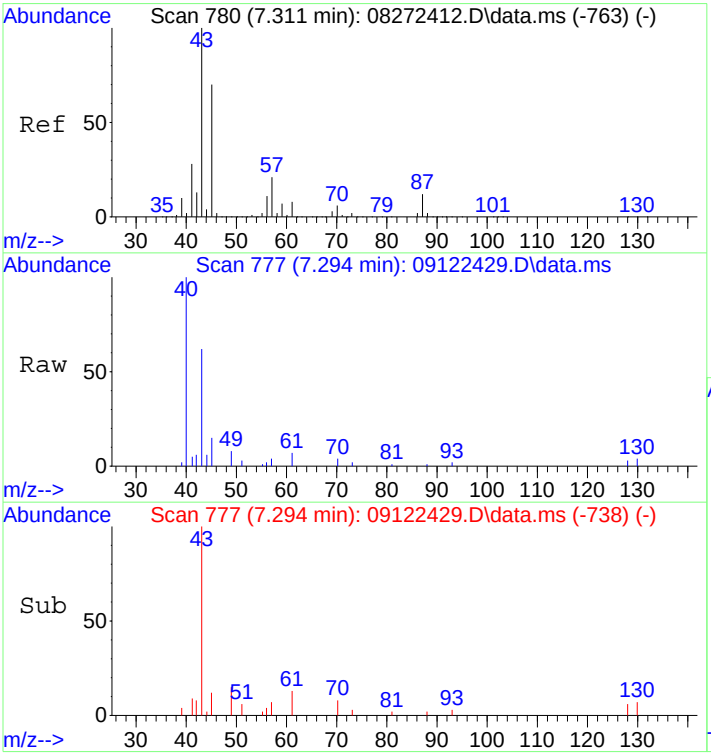


#27
2-Butanone (MEK)
Concen: 0.81 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.011 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 72 Resp: 7035

Ion	Ratio	Lower	Upper
72	100		
43	666.1	548.0	588.0#

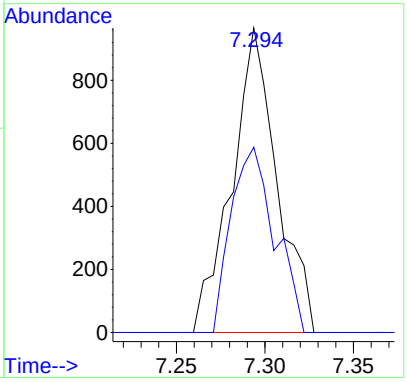


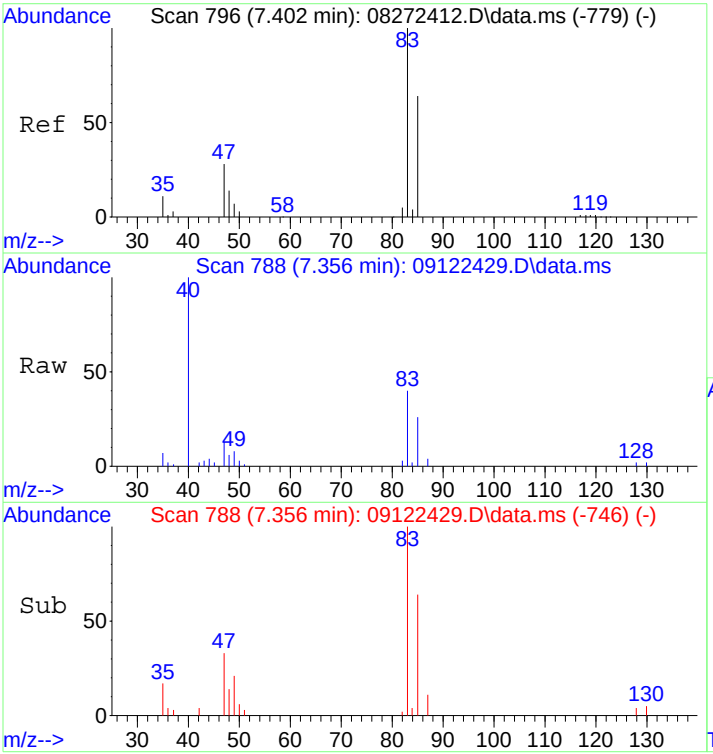


#30
Ethyl Acetate
Concen: 0.30 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.023 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 61 Resp: 1719

Ion	Ratio	Lower	Upper
61	100		
70	58.8	49.9	89.9

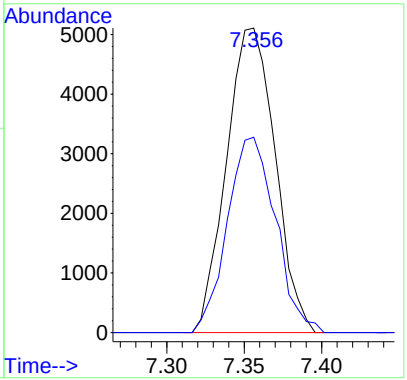


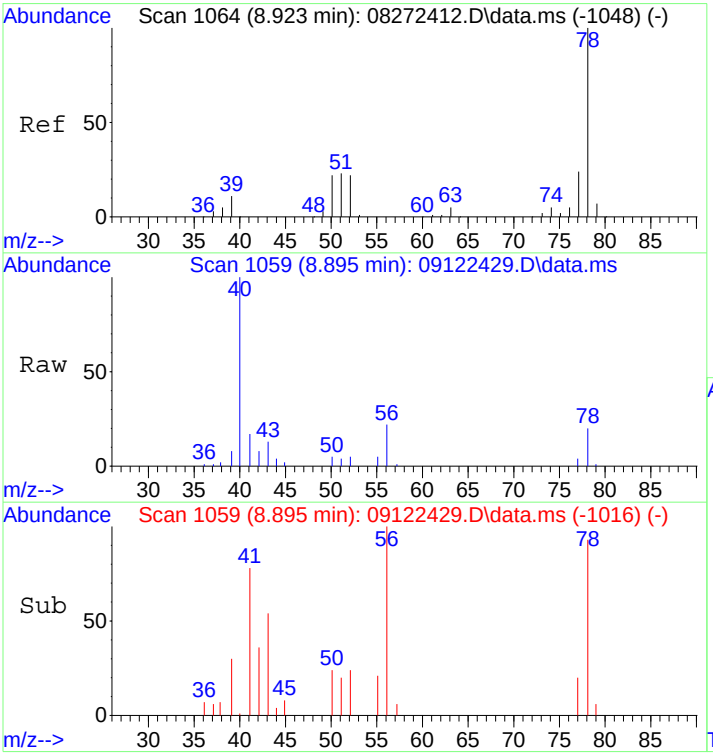


#32
Chloroform
Concen: 0.42 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.010 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 83 Resp: 11196

Ion	Ratio	Lower	Upper
83	100		
85	63.4	45.3	85.3

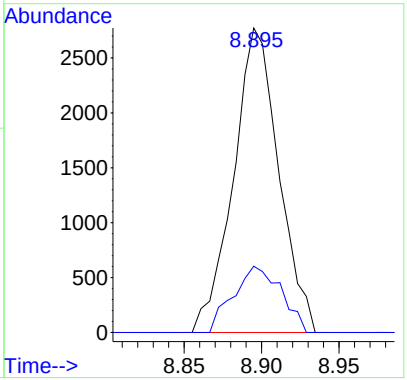


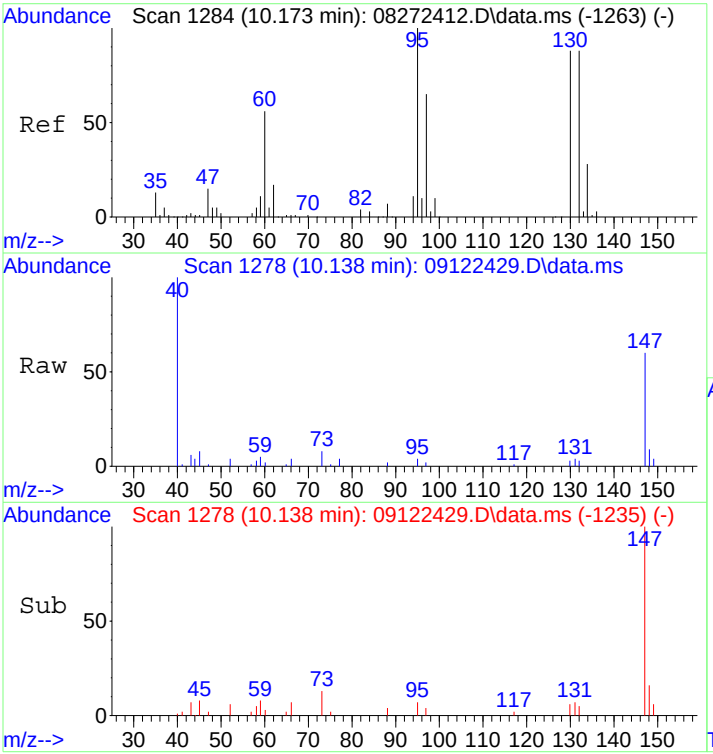


#41
Benzene
Concen: 0.10 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.008 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 78 Resp: 5652

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.9	43.9

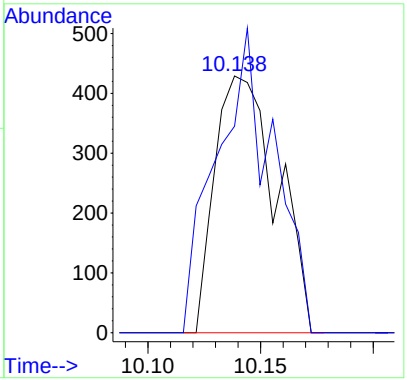


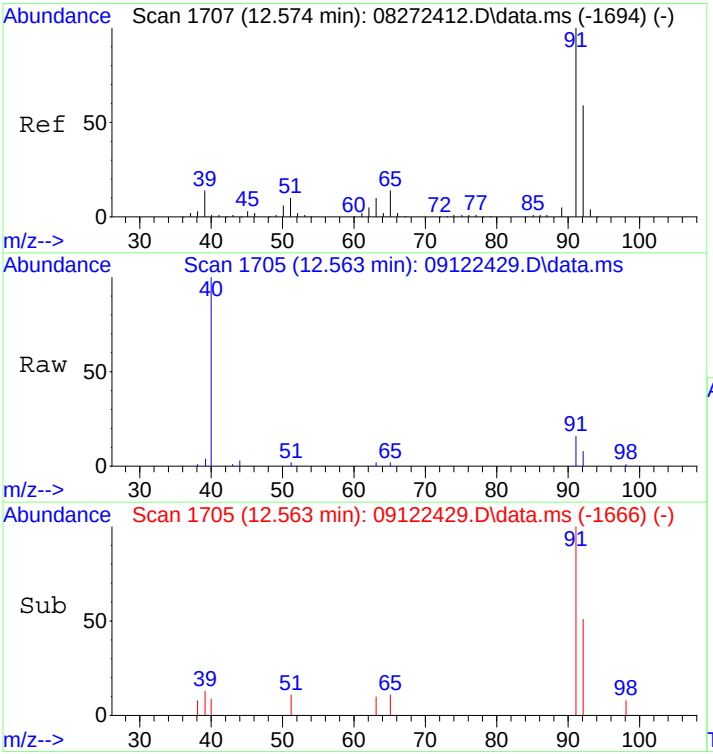


#47
Trichloroethene
Concen: 0.06 ng
RT: 10.14 min Scan# 1278
Delta R.T. -0.007 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion:130 Resp: 818

Ion	Ratio	Lower	Upper
130	100		
132	109.5	80.8	120.8

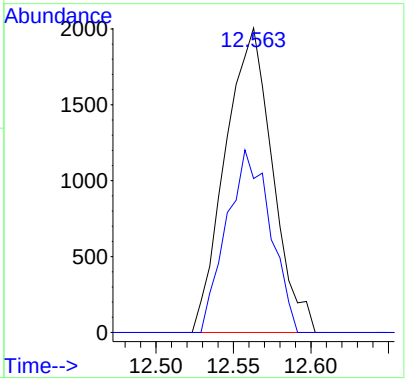


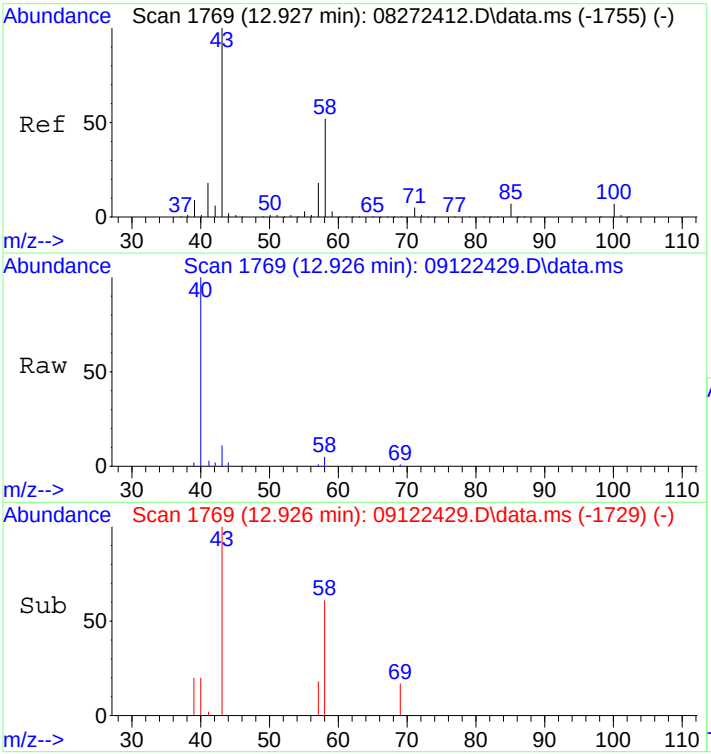


#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 91 Resp: 4264

Ion	Ratio	Lower	Upper
91	100		
92	55.5	38.5	78.5

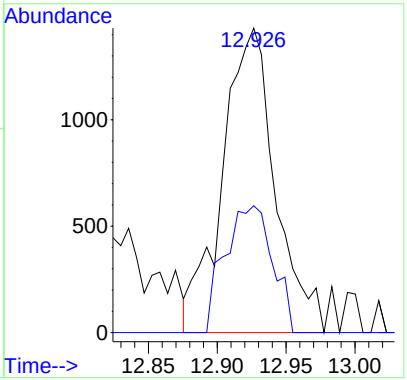


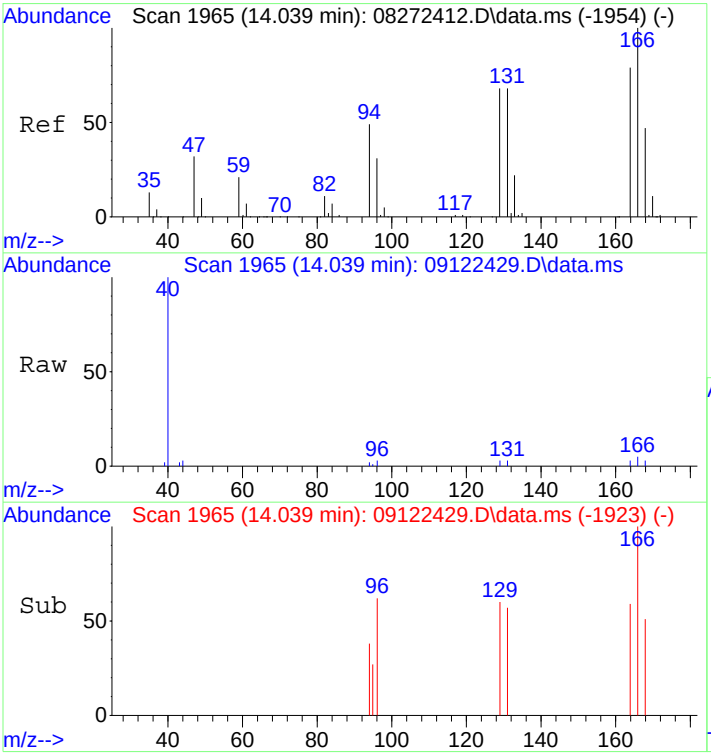


#59
2-Hexanone
Concen: 0.09 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion: 43 Resp: 3832

Ion	Ratio	Lower	Upper
43	100		
58	37.5	31.1	71.1

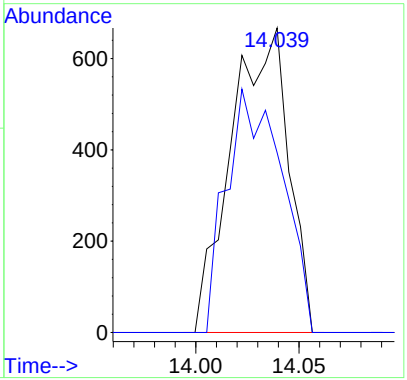


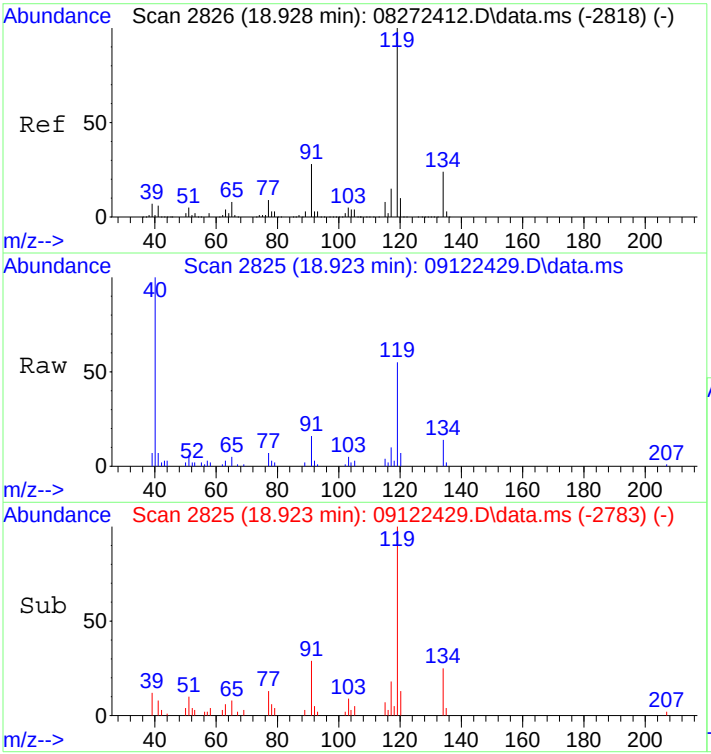


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion:166 Resp: 1287

Ion	Ratio	Lower	Upper
166	100		
164	77.9	59.0	99.0

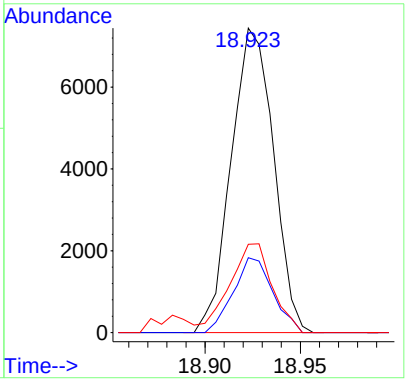


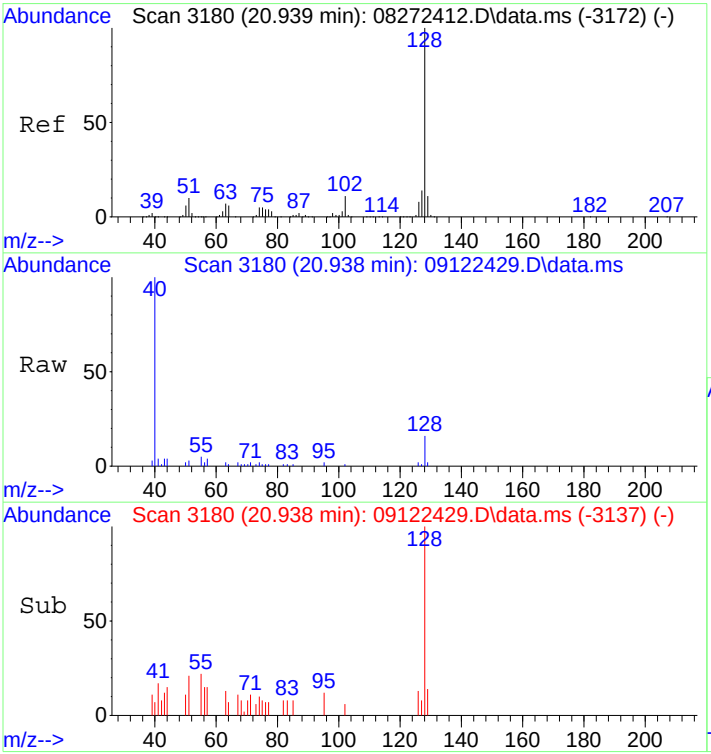


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.17 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion:119 Resp: 11503

Ion	Ratio	Lower	Upper
119	100		
134	23.0	4.7	44.7
91	29.5	8.1	48.1

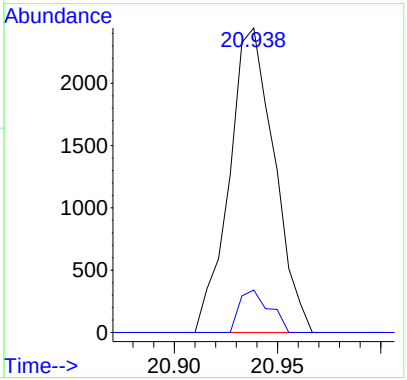




#95
Naphthalene
Concen: 0.06 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09122429.D
Acq: 13 Sep 2024 9:49

Tgt Ion:128 Resp: 3696

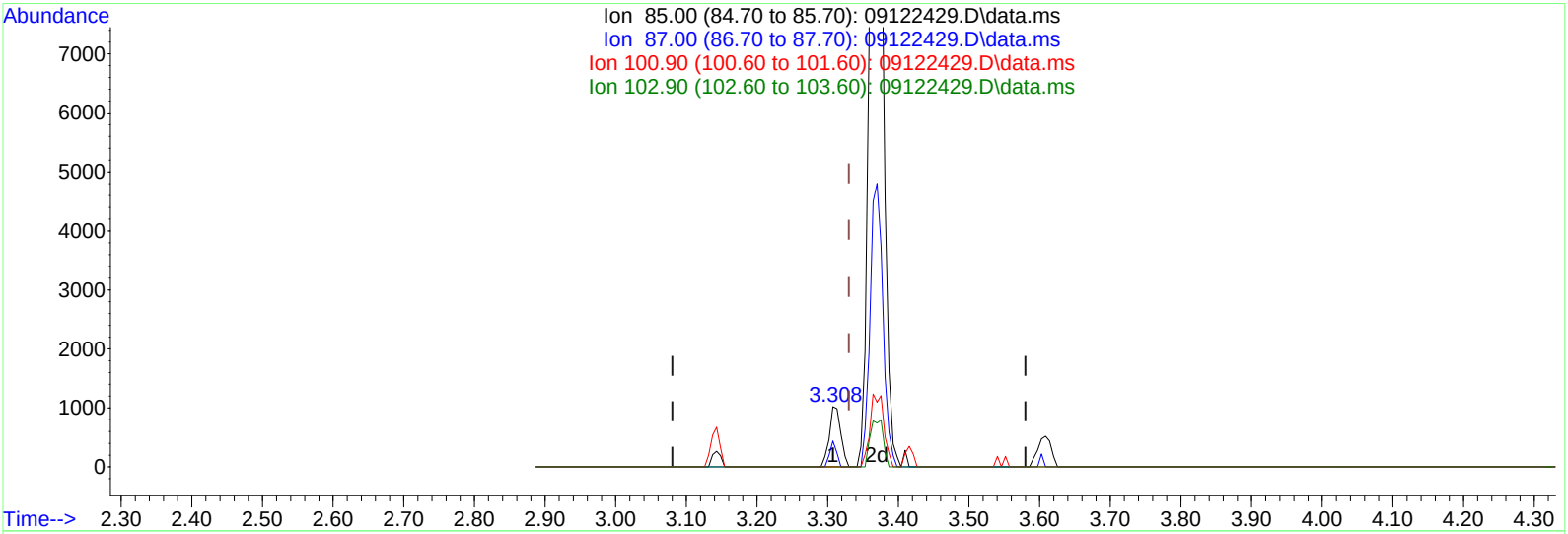
Ion	Ratio	Lower	Upper
128	100		
129	9.3	0.0	31.1

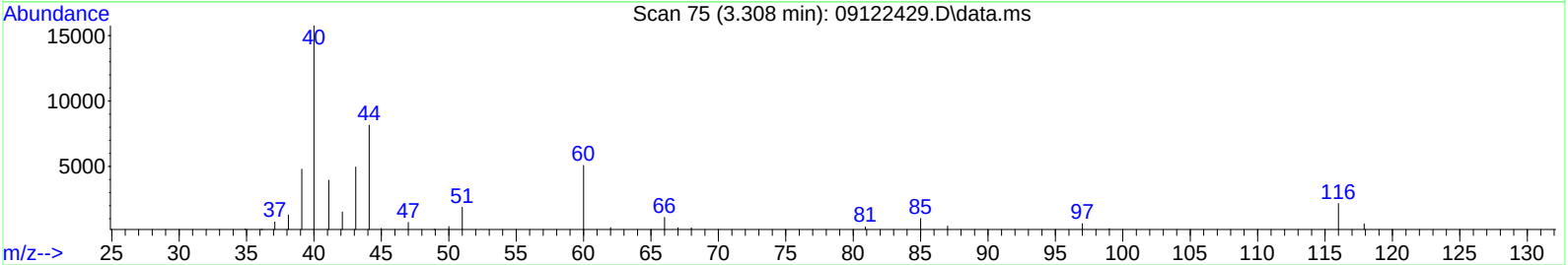


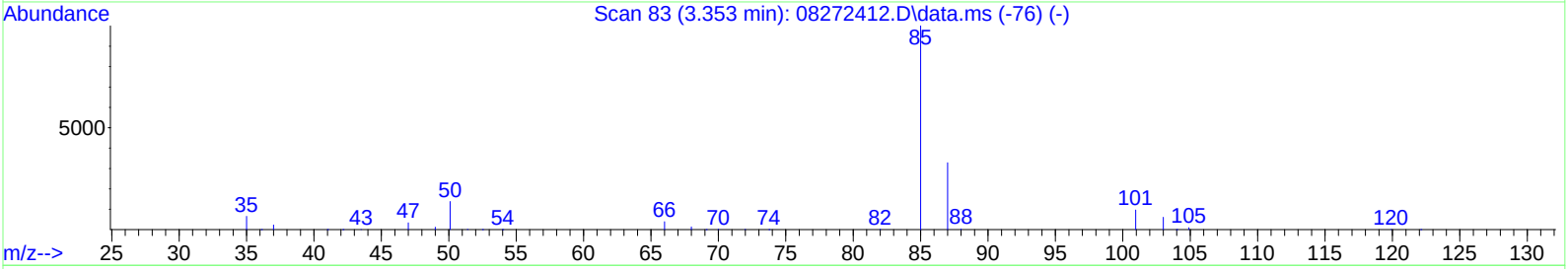
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 13 10:12:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122429.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.023) 0.04ng

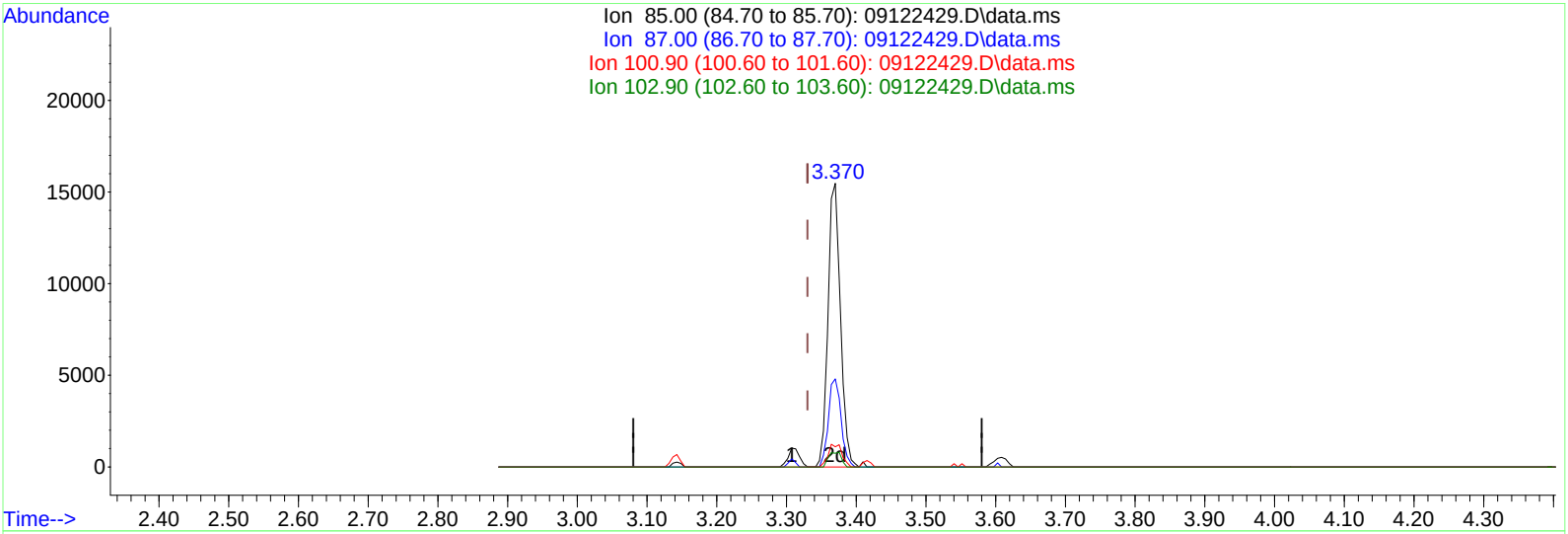
response 1151

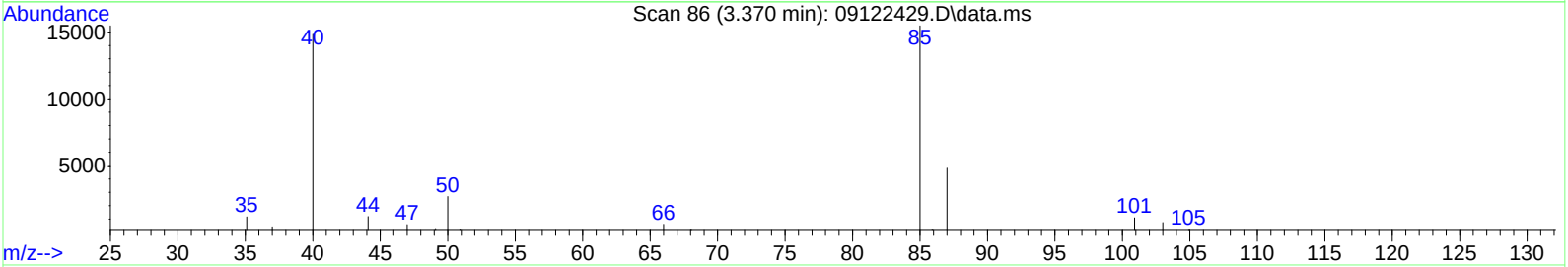
Ion	Exp%	Act%
85.00	100	100
87.00	33.10	25.72
100.90	9.40	0.00
102.90	6.00	0.00

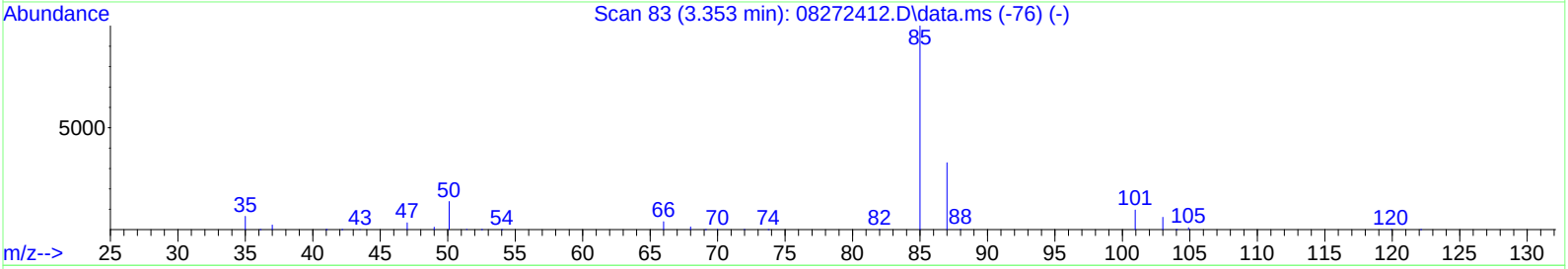
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 13 10:12:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122429.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.040) 0.60ng m

response 19249

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.73
100.90	9.40	8.81
102.90	6.00	5.35

MP

VOA 9/29/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

MA 9/30/24

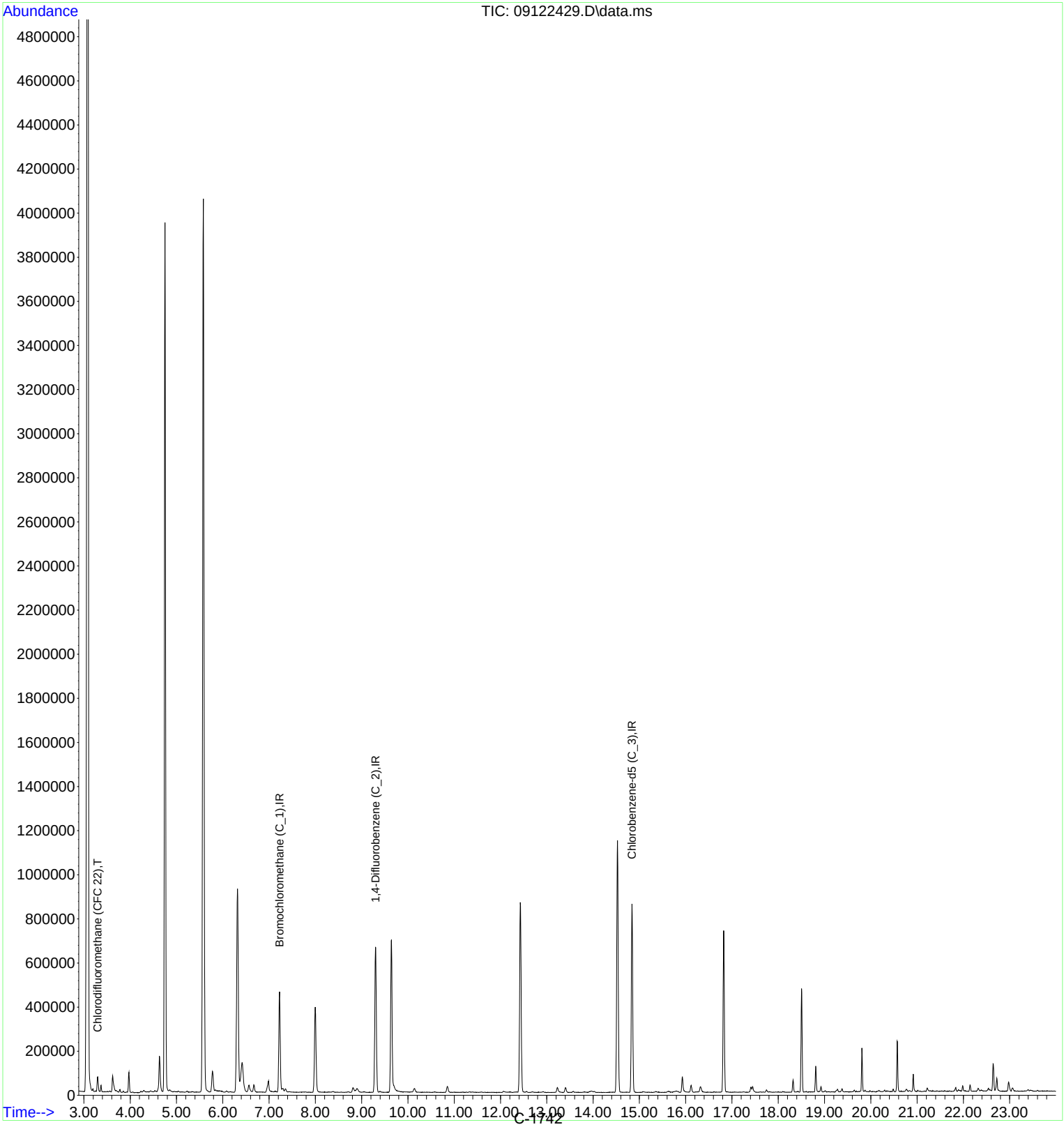
Quant Time: Sep 30 06:06:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	133978	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	580515	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	172525	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	227	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1240	N.D.		
4) 1,1-Difluoroethane	3.25	65	795	N.D.		
5) Chlorodifluoromethane ...	3.30	67	627	0.137	ng	88
6) 1-Chloro-1,1-Difluoroe...	3.51	65	627	N.D.		
7) Dichlorofluoromethane ...	4.23	67	1772	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	346	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.33	43	1119	N.D.		
12) 2-Methylpentane	6.39	71	54	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.05	84	193	N.D.		
17) 2,3-Dimethylpentane	9.64	56	1769	N.D.		
18) Dibromomethane	9.80	174	62	N.D.		
20) Methyl Cyclohexane	11.31	55	216	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.31	75	1170	N.D.		
25) Bromobenzene	17.07	77	53	N.D.		
26) 2-Chlorotoluene	17.60	91	85	N.D.		
27) 4-Chlorotoluene	17.67	91	729	N.D.		
28) Indane	19.01	117	396	N.D.		
29) Indene	19.21	115	56	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	20.59	119	313	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 06:06:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122430.D
Acq On : 13 Sep 2024 10:21
Operator : SC
Sample : P2403661-050Dil (40mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

NOA 9/29/24

Quant Time: Sep 13 11:25:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	133314	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	584305	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	170914	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	343997	13.789	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.32%				
57) Toluene-d8 (SS2)	12.43	98	662164	11.044	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
73) Bromofluorobenzene (SS3)	16.82	174	219596	10.951	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
Target Compounds							Qvalue
2) Propene	3.33	42	657	N.D.			
3) Dichlorodifluoromethan...	3.39	85	1704	0.053	ng	#	89
4) Chloromethane	3.52	50	122	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.31	45	2101	0.145	ng		84
11) Acetonitrile	4.47	41	458	N.D.			
12) Acrolein	4.55	56	415	N.D.			
13) Acetone	4.66	58	4897m	0.401	ng		
14) Trichlorofluoromethane	4.76	101	244412	7.917	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	919	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.36	84	185	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	101345	8.286	ng		95
22) Carbon Disulfide	5.61	76	41585	0.873	ng		77
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	725	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	367	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.36	83	697	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.56	61	943	No Calib		#	
40) 1-Butanol	8.84	56	1319	No Calib		#	
41) Benzene	8.90	78	1325	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D. d			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122430.D
Acq On : 13 Sep 2024 10:21
Operator : SC
Sample : P2403661-050Dil (40mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 13 11:25:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

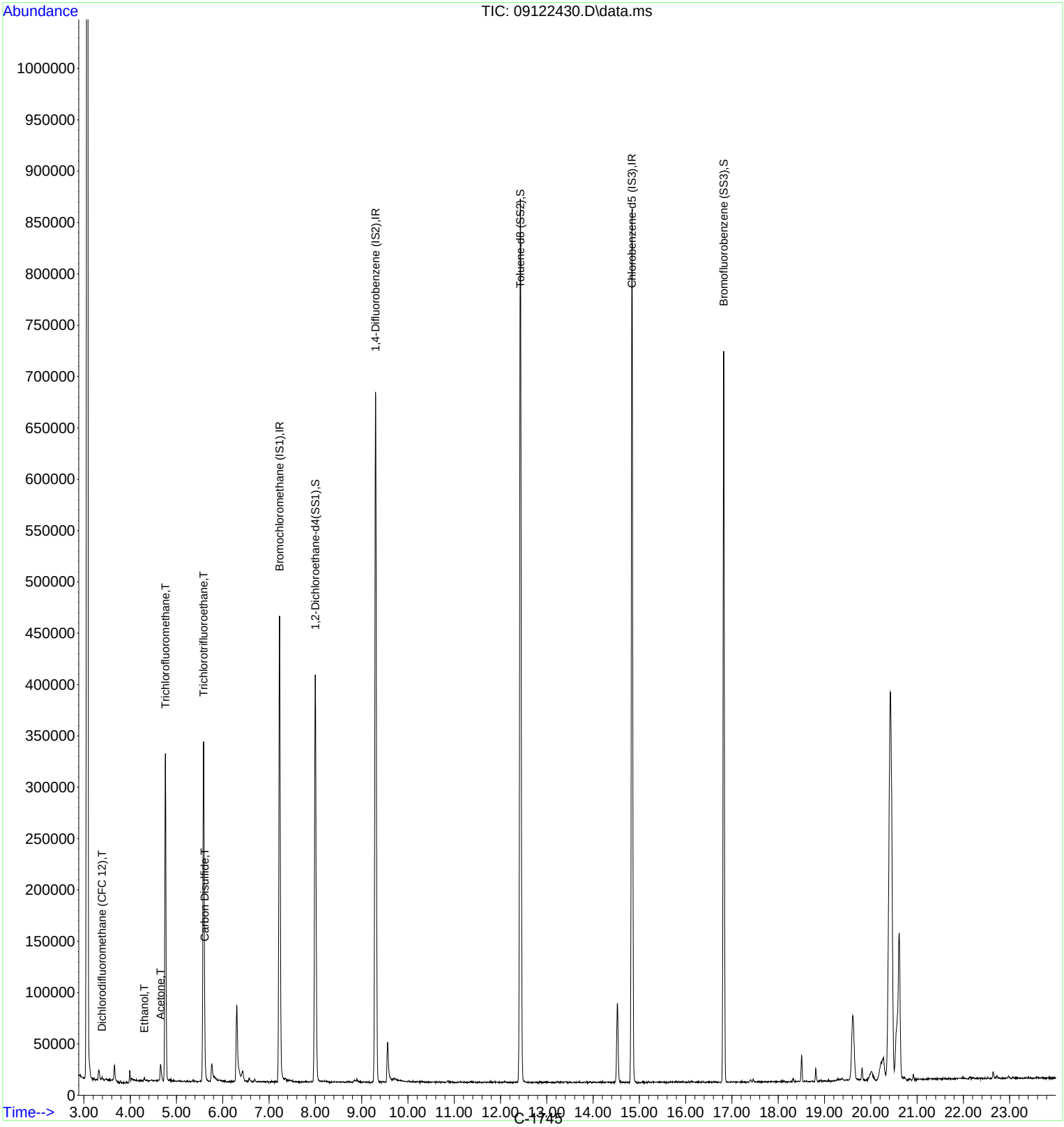
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	500	N.D.	
59) 2-Hexanone	12.94	43	249	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.79	43	172	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	123	N.D.	
67) m- & p-Xylenes	15.66	91	425	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	184	N.D.	
71) n-Nonane	16.61	43	111	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	138	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.96	105	110	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	110	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.43	105	343	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	150	N.D.	
86) 1,4-Dichlorobenzene	18.58	146	150	N.D.	
87) sec-Butylbenzene	18.74	105	122	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	733	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	380	N.D.	
95) Naphthalene	20.93	128	529	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	216	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	143	N.D.	
100) n-Butylbenzene	19.39	91	335	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122430.D
Acq On : 13 Sep 2024 10:21
Operator : SC
Sample : P2403661-050Dil (40mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

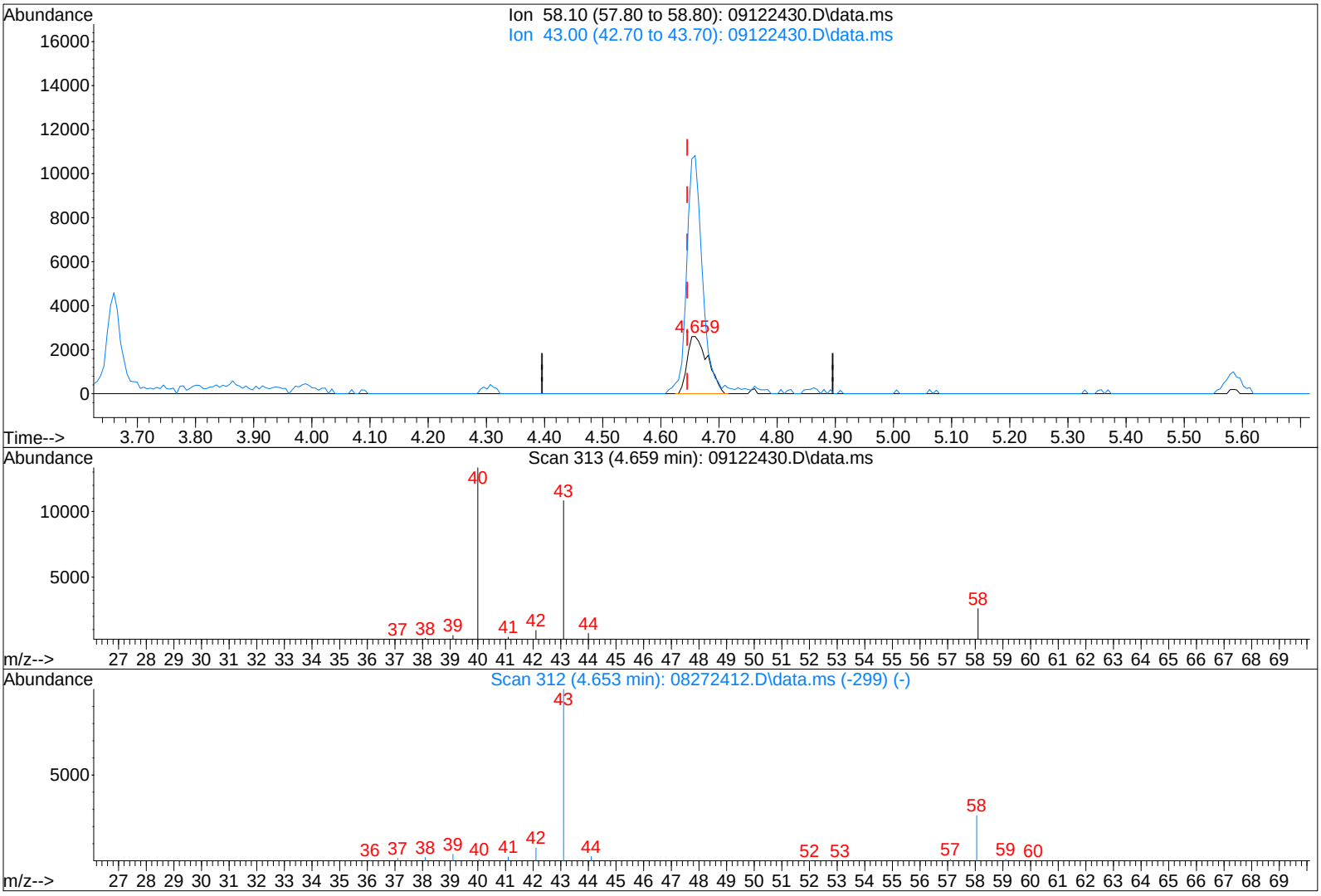
Quant Time: Sep 13 11:25:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122430.D Vial: 9
Acq On : 13 Sep 2024 10:21 Operator: SC
Sample : P2403661-050Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 11:24:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122430.D\data.ms

(13) Acetone (T)

4.659min (+0.013) 0.52ng

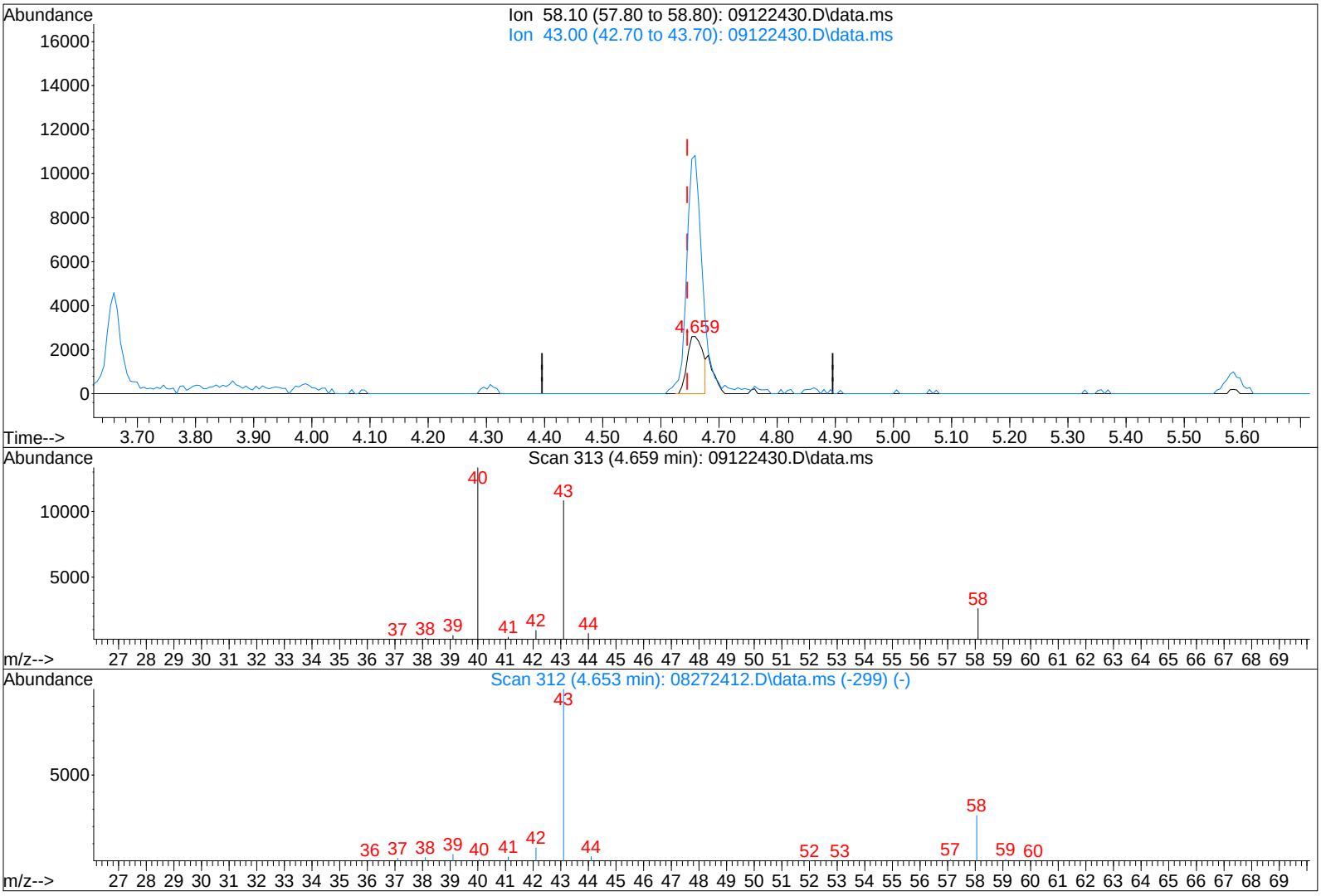
response 6366

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	323.31#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122430.D Vial: 9
Acq On : 13 Sep 2024 10:21 Operator: SC
Sample : P2403661-050Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 11:24:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122430.D\data.ms

(13) Acetone (T)

4.659min (+0.013) 0.40ng m

response 4897

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	420.30#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

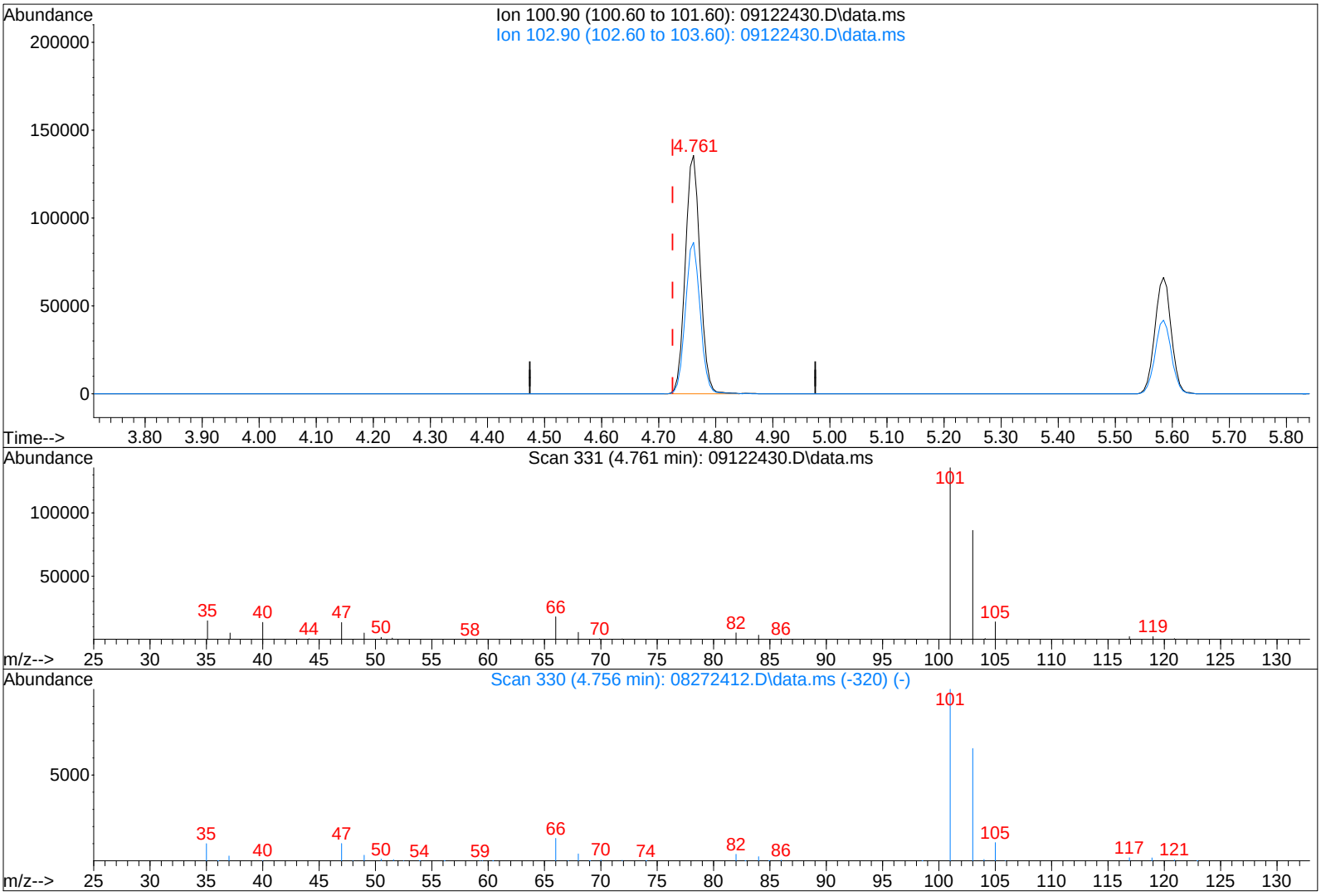
9/13/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122430.D Vial: 9
Acq On : 13 Sep 2024 10:21 Operator: SC
Sample : P2403661-050Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 11:24:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122430.D\data.ms

(14) Trichlorofluoromethane (T)

4.761min (+0.037) 7.92ng

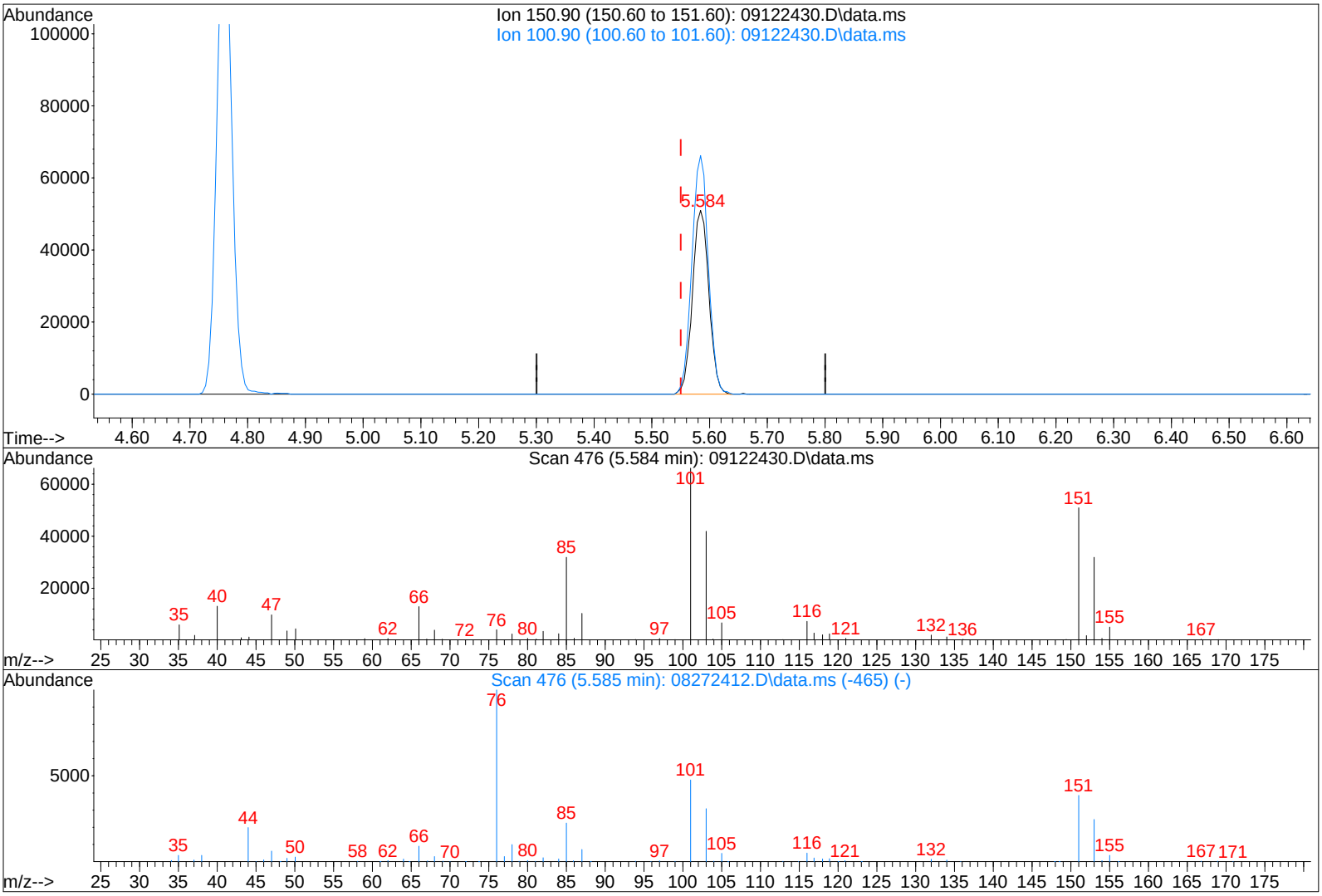
response 244412

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	63.29
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122430.D Vial: 9
Acq On : 13 Sep 2024 10:21 Operator: SC
Sample : P2403661-050Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 11:24:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122430.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.584min (+0.034) 8.29ng

response 101345

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.38
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122429.D\data.ms

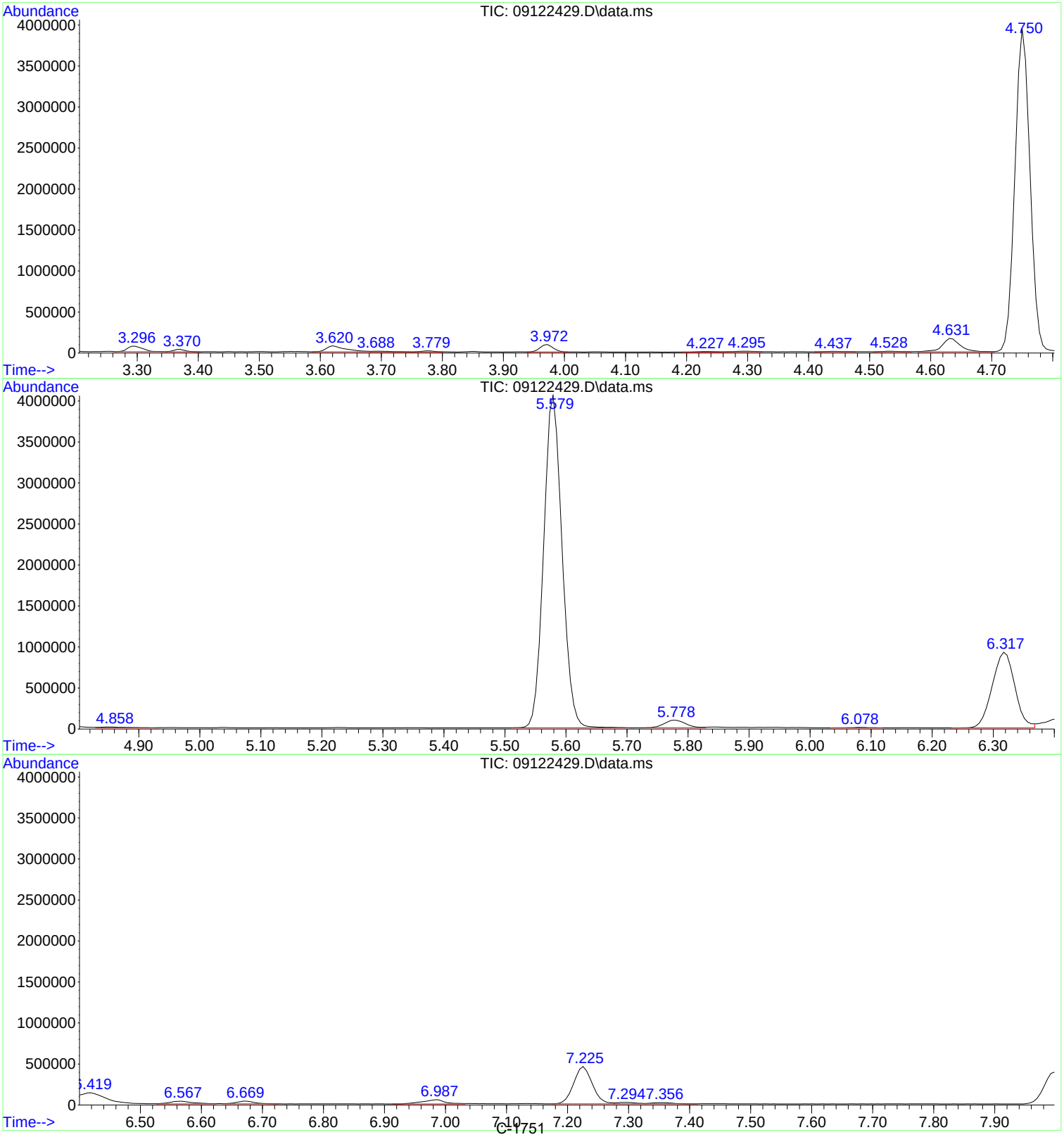
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	67	73	82	rVV3	67142	116706	1.37%	0.566%
2	3.370	82	86	92	rVB	28996	35699	0.42%	0.173%
3	3.620	124	130	141	rBV	72870	159321	1.88%	0.773%
4	3.688	141	142	153	rVB2	7936	16319	0.19%	0.079%
5	3.779	153	158	162	rBV	12290	15943	0.19%	0.077%
6	3.972	186	192	198	rVB	90795	133398	1.57%	0.647%
7	4.227	231	237	242	rBV3	6581	14176	0.17%	0.069%
8	4.296	242	249	254	rVV3	7762	18692	0.22%	0.091%
9	4.437	269	274	281	rBV4	5273	12156	0.14%	0.059%
10	4.528	286	290	297	rVV2	6543	13109	0.15%	0.064%
11	4.631	299	308	321	rVV	162470	331802	3.91%	1.609%
12	4.750	321	329	343	rVV	3942241	6804389	80.14%	33.006%
13	4.858	343	348	360	rVB5	9179	24248	0.29%	0.118%
14	5.579	463	475	497	rBV2	4050709	8490694	100.00%	41.186%
15	5.778	502	510	519	rBV	92562	223242	2.63%	1.083%
16	6.078	555	563	570	rBV5	5796	12246	0.14%	0.059%
17	6.317	590	605	614	rBV	922819	2377582	28.00%	11.533%
18	6.419	614	623	640	rVV2	134146	507592	5.98%	2.462%
19	6.567	642	649	659	rVV2	32005	82245	0.97%	0.399%
20	6.669	661	667	677	rVB	32771	66482	0.78%	0.322%
21	6.987	710	723	731	rBV	51770	132511	1.56%	0.643%
22	7.225	756	765	774	rBV	454811	959869	11.30%	4.656%
23	7.294	774	777	783	rVV2	16460	35766	0.42%	0.173%
24	7.356	783	788	798	rVB4	14127	31214	0.37%	0.151%

Sum of corrected areas: 20615401

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:49
Operator : SC
Sample : P2403661-050 (400mL)
Misc : S37-06062402
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122429.D
Acq On : 13 Sep 2024 9:499
Operator : SCC
Sample : P2403661-050 (400mL))
Misc : S37-060624022
ALS Vial : 9 Sample Multiplier: 11

VOA 9/30/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

NOA 9/29/24

Quant Time: Sep 29 19:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	129738	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.31	114	567332	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168581	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	330191	13.601 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%			
57) Toluene-d8 (SS2)	12.43	98	658212	11.130 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.04%			
73) Bromofluorobenzene (SS3)	16.83	174	223234	11.287 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.36	85	19285	0.612 ng		99
4) Chloromethane	3.49	50	3861	0.157 ng		90
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	758	0.067 ng	#	43
6) Vinyl Chloride	3.69	62	187	N.D.		
7) 1,3-Butadiene	3.77	54	336	N.D.		
8) Bromomethane	4.01	94	926	0.091 ng		88
9) Chloroethane	4.15	64	374	N.D.		
10) Ethanol	4.28	45	87031	6.181 ng		99
11) Acetonitrile	4.43	41	14540	0.457 ng	#	25
12) Acrolein	4.53	56	15902	1.478 ng		97
13) Acetone	4.62	58	227413	19.141 ng		89
14) Trichlorofluoromethane	4.76	101	10983397	365.577 ng		99
15) 2-Propanol (Isopropanol)	4.84	45	141069	3.016 ng		91
16) Acrylonitrile	4.99	53	2665	0.120 ng	#	56
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.41	59	338	N.D.		
19) Methylene Chloride	5.35	84	1456	0.104 ng		90
20) 3-Chloro-1-propene (Al...	5.45	41	524	N.D.		
21) Trichlorotrifluoroethane	5.58	151	5416745	455.089 ng		96
22) Carbon Disulfide	5.60	76	141981	3.061 ng	#	1
23) trans-1,2-Dichloroethene	6.13	61	239	N.D.		
24) 1,1-Dichloroethane	6.31	63	557	N.D.		
25) Methyl tert-Butyl Ether	6.30	73	986	N.D.		
26) Vinyl Acetate	6.44	86	7977	3.303 ng	#	38
27) 2-Butanone (MEK)	6.66	72	25828	3.064 ng	#	88
28) cis-1,2-Dichloroethene	7.09	61	184	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	7.28	61	320677	56.782 ng		90
31) n-Hexane	0.00	57	0	N.D. d		
32) Chloroform	7.37	83	31546	1.220 ng		100
34) Tetrahydrofuran (THF)	7.75	72	971	0.122 ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	1278	N.D.		
38) 1,1,1-Trichloroethane	8.40	97	122	N.D.		
39) Isopropyl Acetate	9.66	61	15492	No Calib	#	
40) 1-Butanol	8.80	56	28648	No Calib	#	
41) Benzene	8.90	78	20147	0.379 ng		100
42) Carbon Tetrachloride	9.07	117	735	N.D.		
43) Cyclohexane	9.22	84	1164	0.065 ng	#	76
44) tert-Amyl Methyl Ether	9.60	73	432	N.D.		
45) 1,2-Dichloropropane	9.86	63	481	N.D.		
46) Bromodichloromethane	10.08	83	1574	0.079 ng		94
47) Trichloroethene	10.16	130	4353	0.331 ng		99
48) 1,4-Dioxane	10.13	88	2027	0.221 ng		87

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

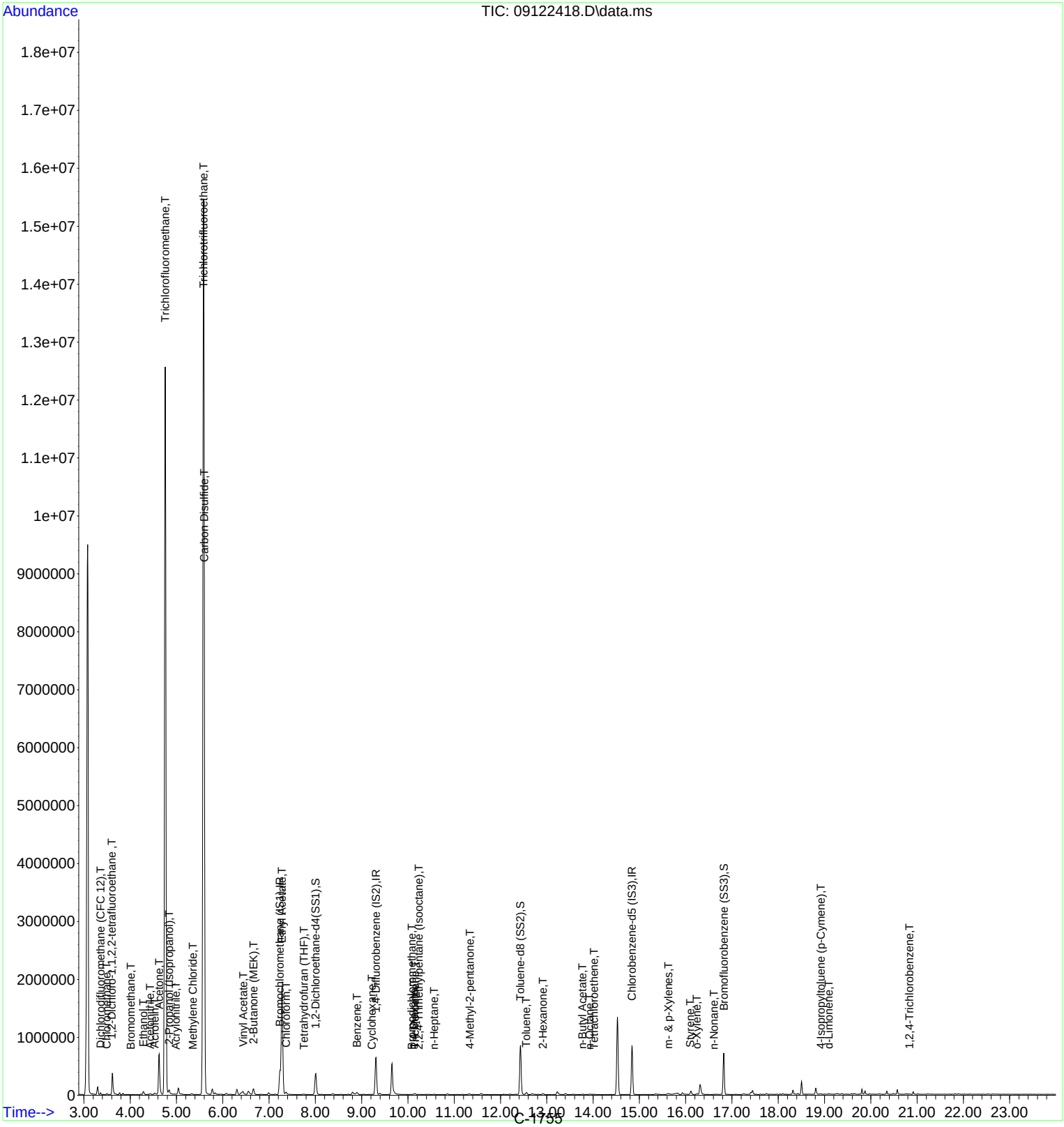
Quant Time: Sep 29 19:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	4957	0.079 ng		67
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	10.56	71	879	0.074 ng	#	52
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	3093	0.220 ng	#	33
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	29225	0.457 ng		98
59) 2-Hexanone	12.92	43	17642	0.446 ng		88
60) Dibromochloromethane	13.07	129	209	N.D.		
61) 1,2-Dibromoethane	13.40	107	121	N.D.		
62) n-Butyl Acetate	13.77	43	5267	0.119 ng		93
63) n-Octane	13.93	57	954	0.063 ng	#	79
64) Tetrachloroethene	14.02	166	1325	0.075 ng		90
65) Chlorobenzene	14.91	112	1310	N.D.		
66) Ethylbenzene	15.41	91	3240	N.D.		
67) m- & p-Xylenes	15.63	91	8131	0.136 ng		100
68) Bromoform	15.67	173	354	N.D.		
69) Styrene	16.10	104	5452	0.141 ng		96
70) o-Xylene	16.24	91	3500	0.060 ng	#	58
71) n-Nonane	16.61	43	2861	0.075 ng		84
72) 1,1,2,2-Tetrachloroethane	16.23	83	658	N.D.		
74) Cumene	17.03	105	1266	N.D.		
75) alpha-Pinene	17.52	93	1156	N.D.		
76) n-Propylbenzene	17.67	91	2247	N.D.		
77) 3-Ethyltoluene	17.03	105	1266	No Calib		
78) 4-Ethyltoluene	17.86	105	1764	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1463	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1266	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	2851	N.D.		
83) n-Decane	17.09	58	890	No Calib	#	
84) Benzyl Chloride	18.56	91	1161	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	852	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1120	N.D.		
87) sec-Butylbenzene	18.74	105	1162	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	4131	0.063 ng		93
89) 1,2,3-Trimethylbenzene	17.03	105	1266	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	848	N.D.		
91) d-Limonene	19.09	68	1469	0.073 ng		87
92) 1,2-Dibromo-3-Chloropr...	19.51	157	341	N.D.		
93) n-Undecane	17.97	58	177	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	1822	0.068 ng		94
95) Naphthalene	20.94	128	2185	N.D.		
96) n-Dodecane	18.89	58	580	No Calib	#	
97) Hexachlorobutadiene	21.30	225	597	N.D.		
98) Cyclohexanone	15.23	55	853	No Calib	#	
99) tert-Butylbenzene	18.43	119	1143	N.D.		
100) n-Butylbenzene	19.38	91	2480	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 29 19:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

NOA 9/29/24

Quant Time: Sep 29 19:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

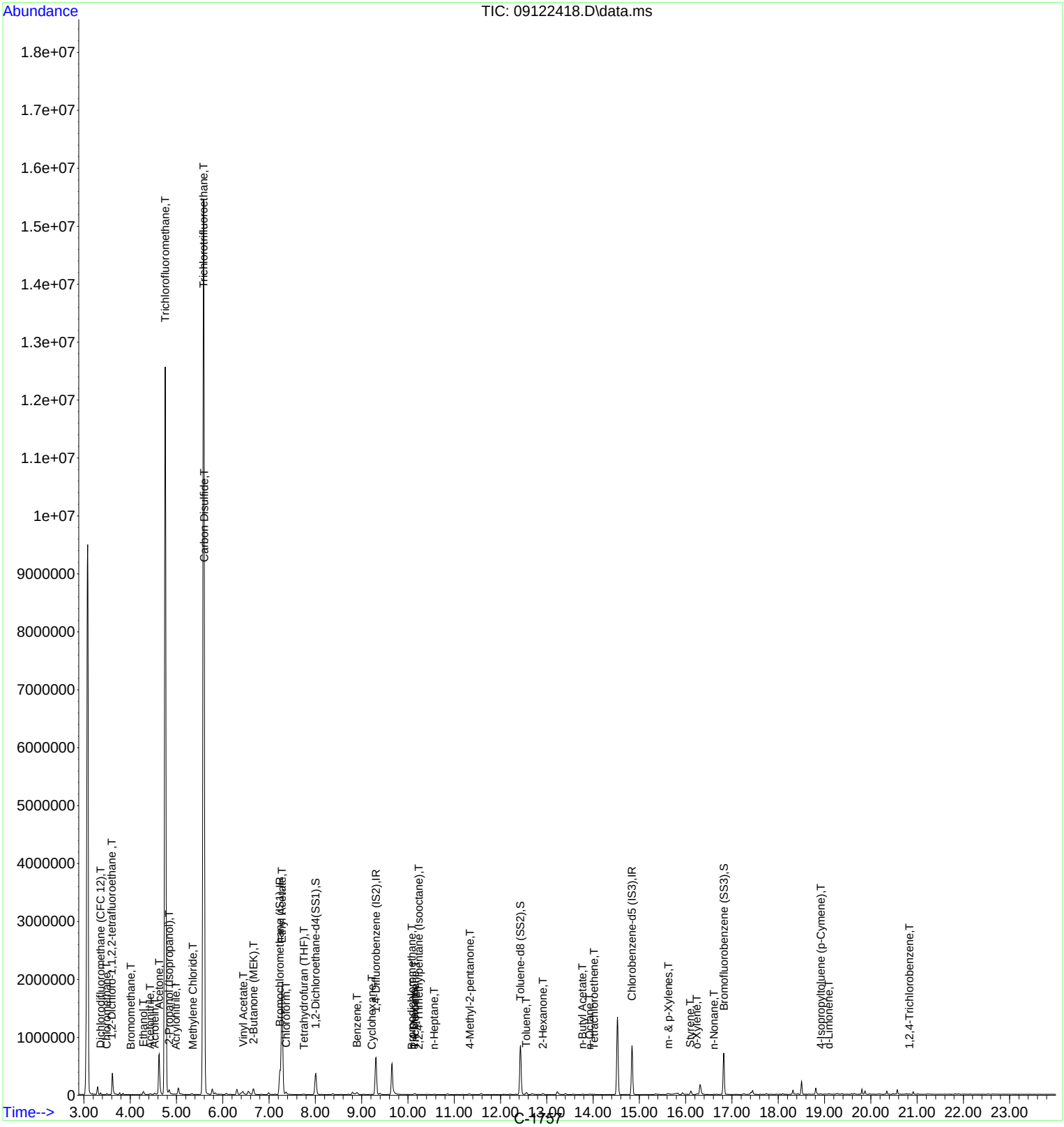
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	129738	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.31	114	567332	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168581	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	330191	13.601	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.80%				
57) Toluene-d8 (SS2)	12.43	98	658212	11.130	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.04%				
73) Bromofluorobenzene (SS3)	16.83	174	223234	11.287	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	19285	0.612	ng		99
4) Chloromethane	3.49	50	3861	0.157	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	758	0.067	ng	#	43
8) Bromomethane	4.01	94	926	0.091	ng		88
10) Ethanol	4.28	45	87031	6.181	ng		99
11) Acetonitrile	4.43	41	14540	0.457	ng	#	25
12) Acrolein	4.53	56	15902	1.478	ng		97
13) Acetone	4.62	58	227413	19.141	ng		89
14) Trichlorofluoromethane	4.76	101	10983397	365.577	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	141069	3.016	ng		91
16) Acrylonitrile	4.99	53	2665	0.120	ng	#	56
19) Methylene Chloride	5.35	84	1456	0.104	ng		90
21) Trichlorotrifluoroethane	5.58	151	5416745	455.089	ng		96
22) Carbon Disulfide	5.60	76	141981	3.061	ng	#	1
26) Vinyl Acetate	6.44	86	7977	3.303	ng	#	38
27) 2-Butanone (MEK)	6.66	72	25828	3.064	ng	#	88
30) Ethyl Acetate	7.28	61	320677	56.782	ng		90
32) Chloroform	7.37	83	31546	1.220	ng		100
34) Tetrahydrofuran (THF)	7.75	72	971	0.122	ng	#	1
41) Benzene	8.90	78	20147	0.379	ng		100
43) Cyclohexane	9.22	84	1164	0.065	ng	#	76
46) Bromodichloromethane	10.08	83	1574	0.079	ng		94
47) Trichloroethene	10.16	130	4353	0.331	ng		99
48) 1,4-Dioxane	10.13	88	2027	0.221	ng		87
49) 2,2,4-Trimethylpentane...	10.23	57	4957	0.079	ng		67
51) n-Heptane	10.56	71	879	0.074	ng	#	52
53) 4-Methyl-2-pentanone	11.34	58	3093	0.220	ng	#	33
58) Toluene	12.56	91	29225	0.457	ng		98
59) 2-Hexanone	12.92	43	17642	0.446	ng		88
62) n-Butyl Acetate	13.77	43	5267	0.119	ng		93
63) n-Octane	13.93	57	954	0.063	ng	#	79
64) Tetrachloroethene	14.02	166	1325	0.075	ng		90
67) m- & p-Xylenes	15.63	91	8131	0.136	ng		100
69) Styrene	16.10	104	5452	0.141	ng		96
70) o-Xylene	16.24	91	3500	0.060	ng	#	58
71) n-Nonane	16.61	43	2861	0.075	ng		84
88) 4-Isopropyltoluene (p-...	18.92	119	4131	0.063	ng		93
91) d-Limonene	19.09	68	1469	0.073	ng		87
94) 1,2,4-Trichlorobenzene	20.84	180	1822	0.068	ng		94

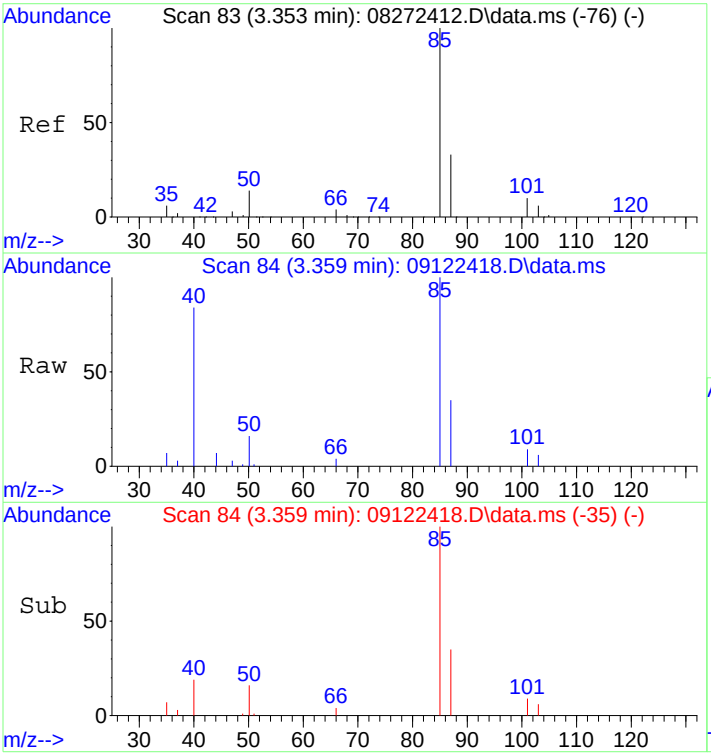
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 29 19:57:55 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

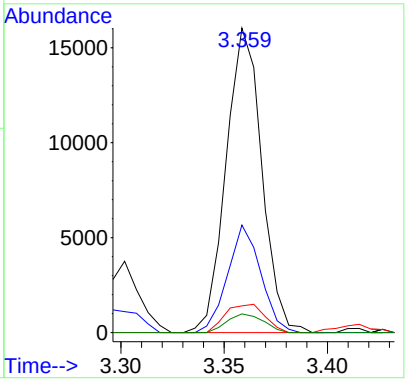


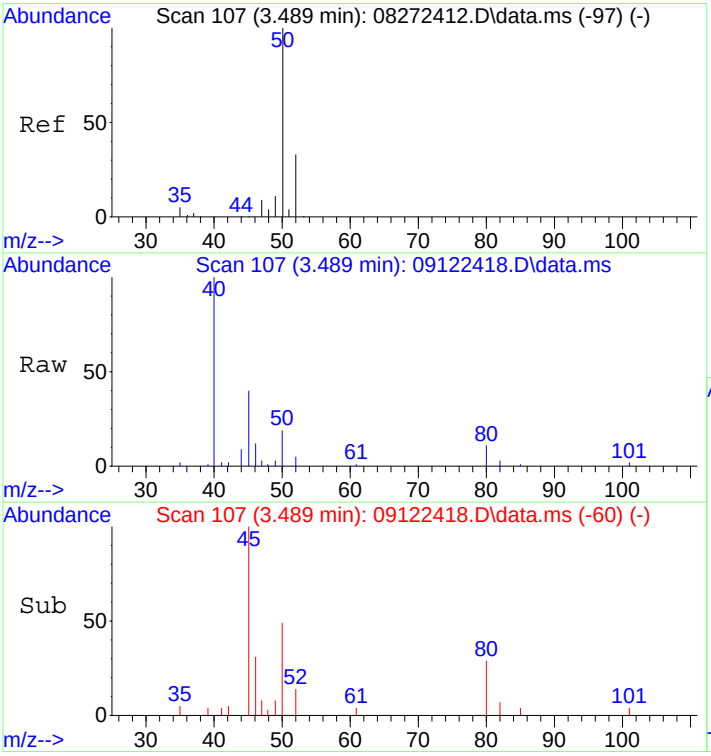


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.028 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 85 Resp: 19285

Ion	Ratio	Lower	Upper
85	100		
87	32.8	13.1	53.1
101	10.3	0.0	29.4
103	6.2	0.0	26.0

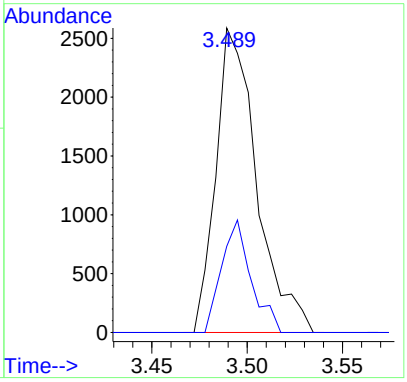


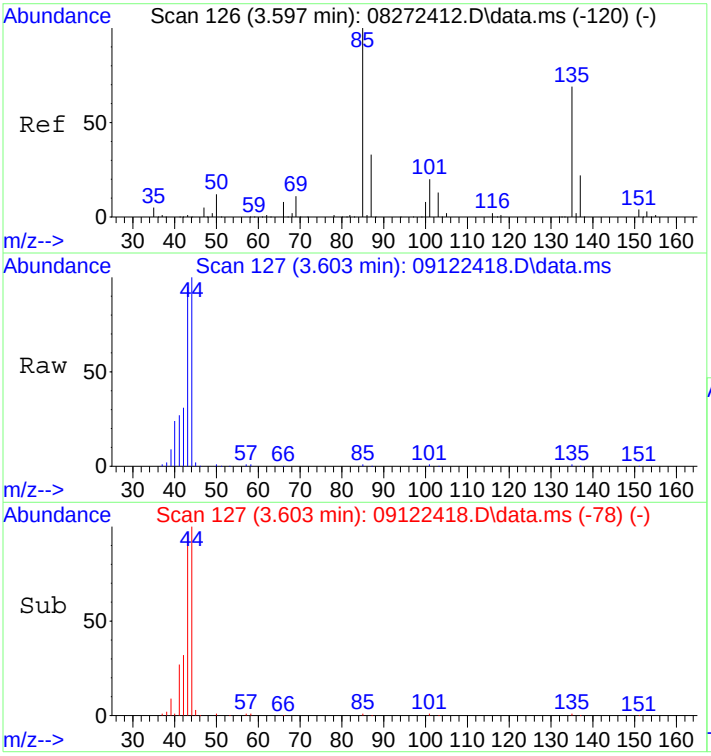


#4
Chloromethane
Concen: 0.16 ng
RT: 3.49 min Scan# 107
Delta R.T. 0.018 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 50 Resp: 3861

Ion	Ratio	Lower	Upper
50	100		
52	26.7	12.4	52.4

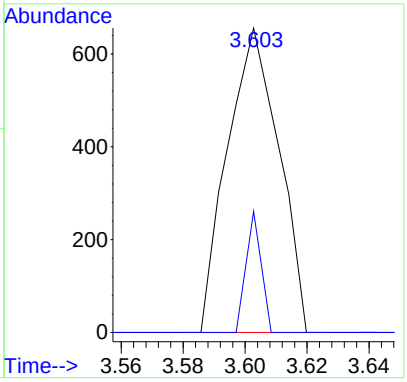


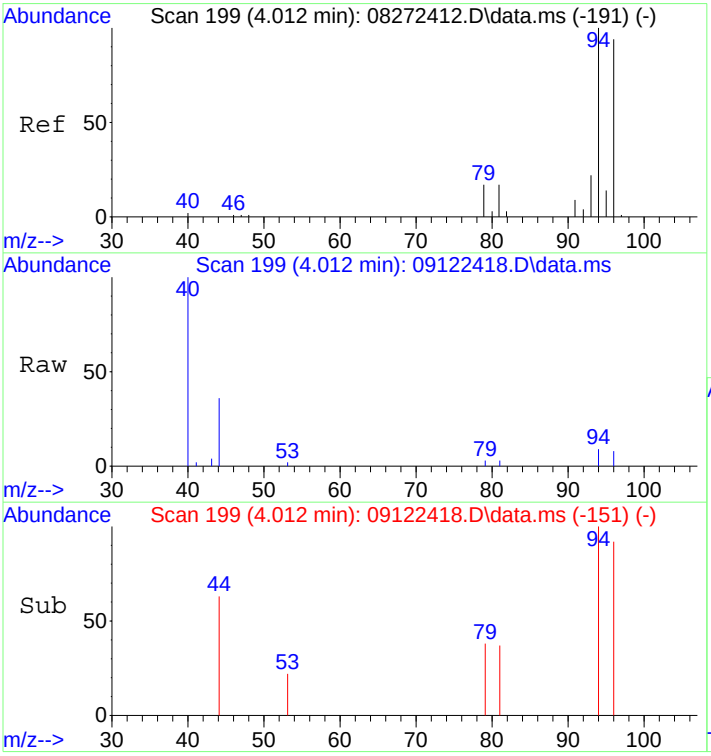


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.07 ng
RT: 3.60 min Scan# 127
Delta R.T. 0.031 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:135 Resp: 758

Ion	Ratio	Lower	Upper
135	100		
137	0.0	11.6	51.6#

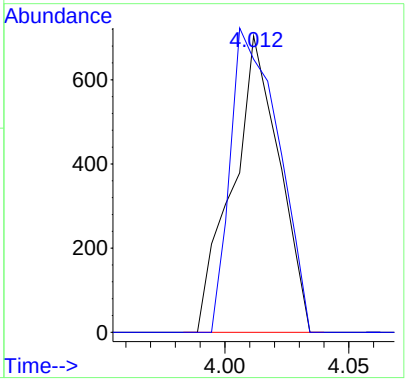


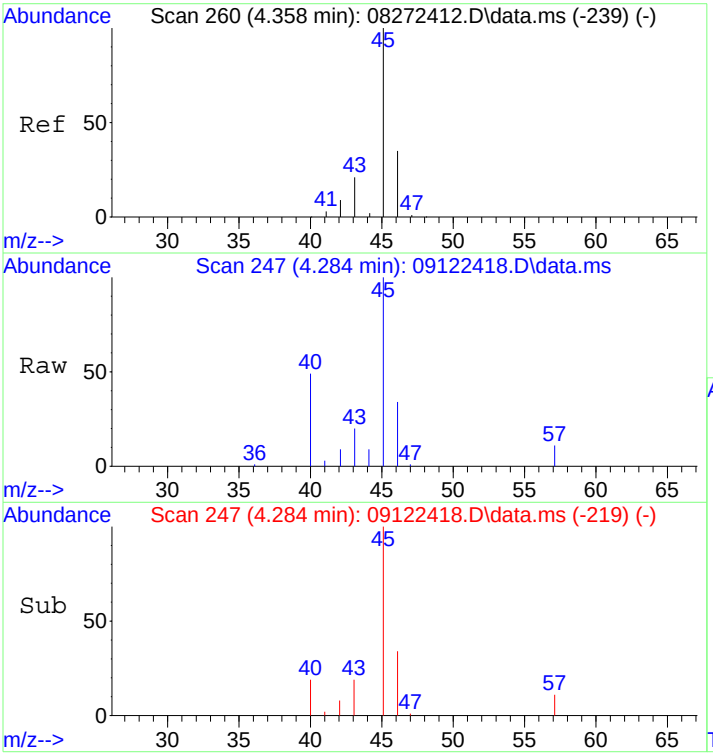


#8
Bromomethane
Concen: 0.09 ng
RT: 4.01 min Scan# 199
Delta R.T. 0.024 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 94 Resp: 926

Ion	Ratio	Lower	Upper
94	100		
96	105.7	74.2	114.2

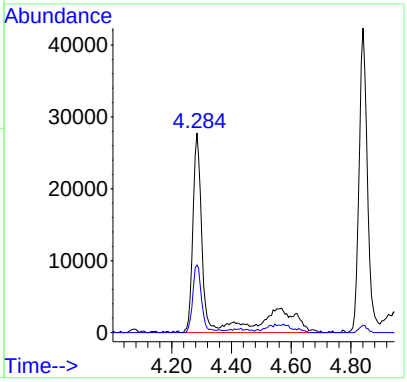


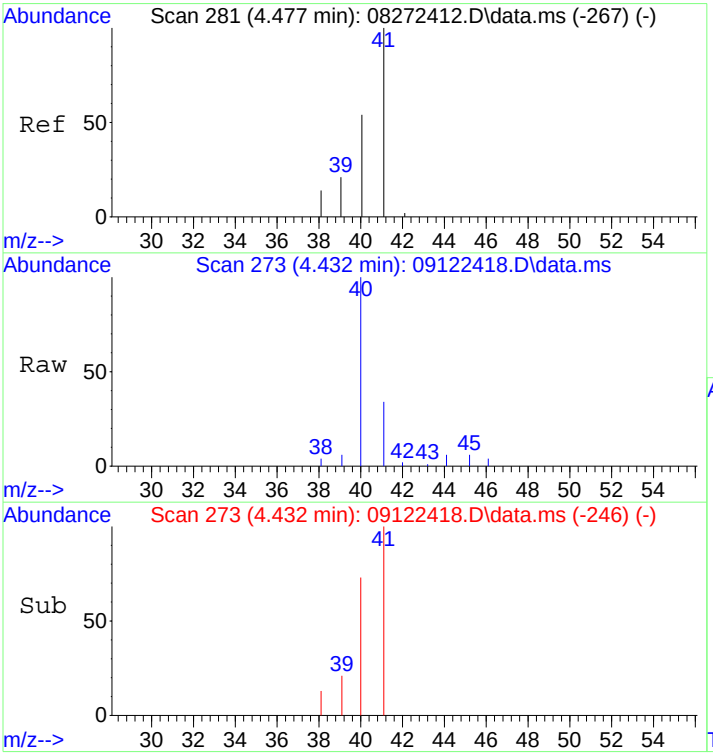


#10
Ethanol
Concen: 6.18 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.092 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 45 Resp: 87031

Ion	Ratio	Lower	Upper
45	100		
46	33.6	14.2	54.2

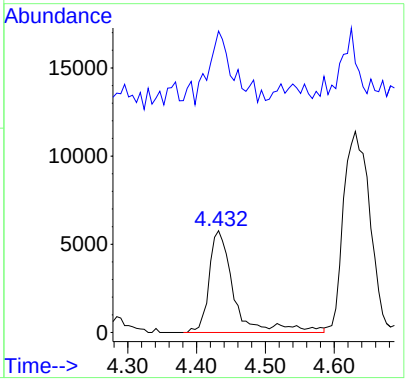


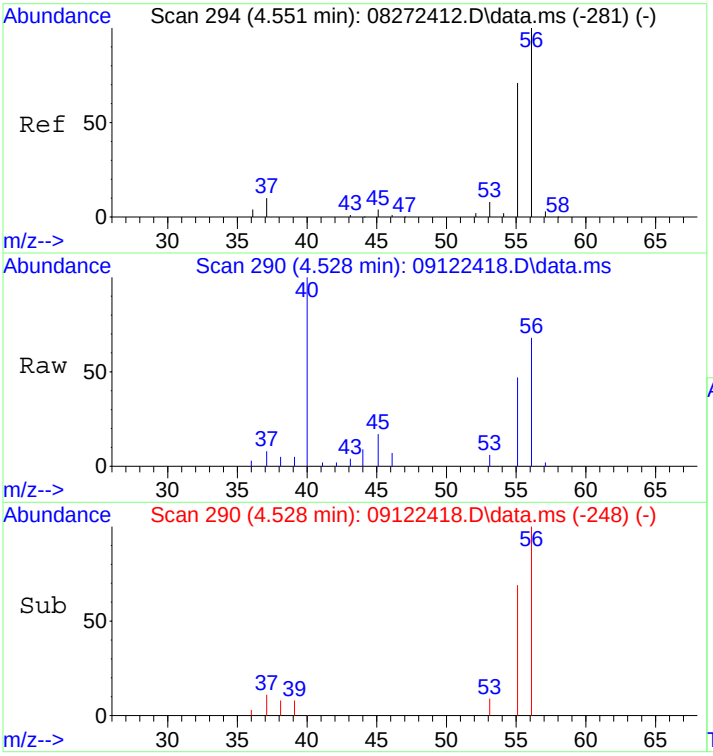


#11
Acetonitrile
Concen: 0.46 ng
RT: 4.43 min Scan# 273
Delta R.T. -0.045 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 41 Resp: 14540

Ion	Ratio	Lower	Upper
41	100		
40	0.0	33.9	73.9#

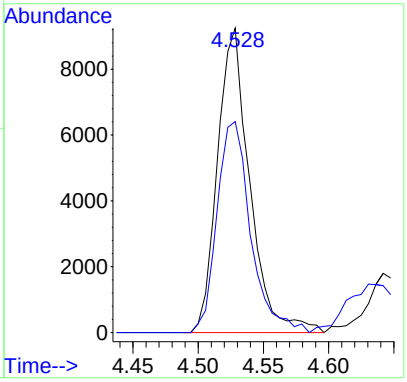


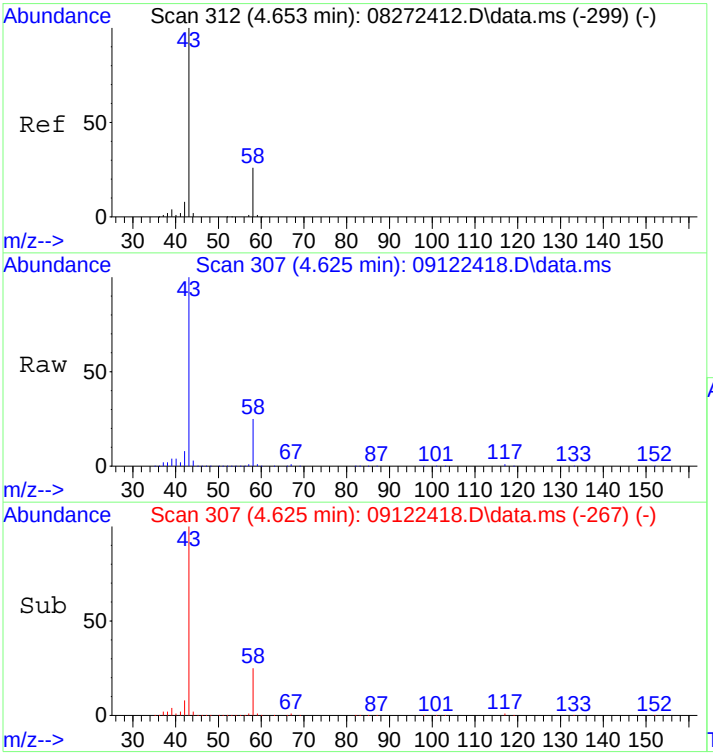


#12
Acrolein
Concen: 1.48 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.010 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 56 Resp: 15902

Ion	Ratio	Lower	Upper
56	100		
55	72.3	54.7	94.7

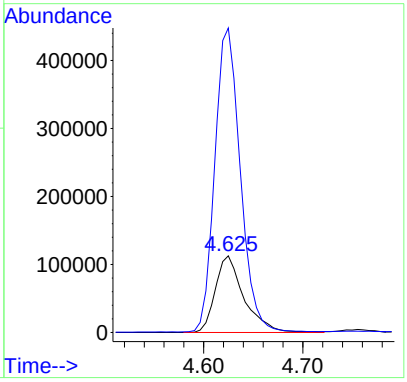


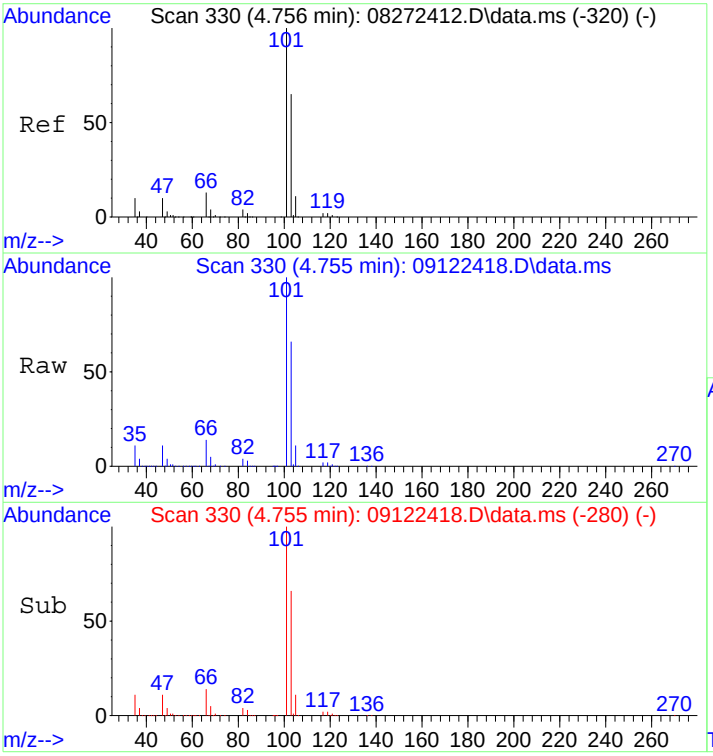


#13
Acetone
Concen: 19.14 ng
RT: 4.62 min Scan# 307
Delta R.T. -0.021 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 58 Resp: 227413

Ion	Ratio	Lower	Upper
58	100		
43	351.3	347.3	407.3

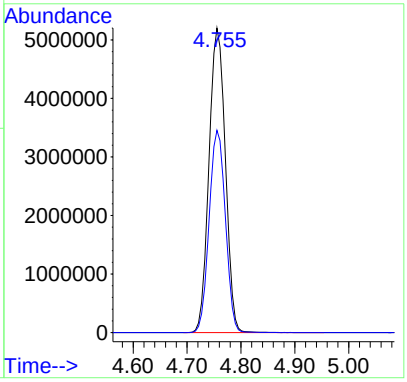


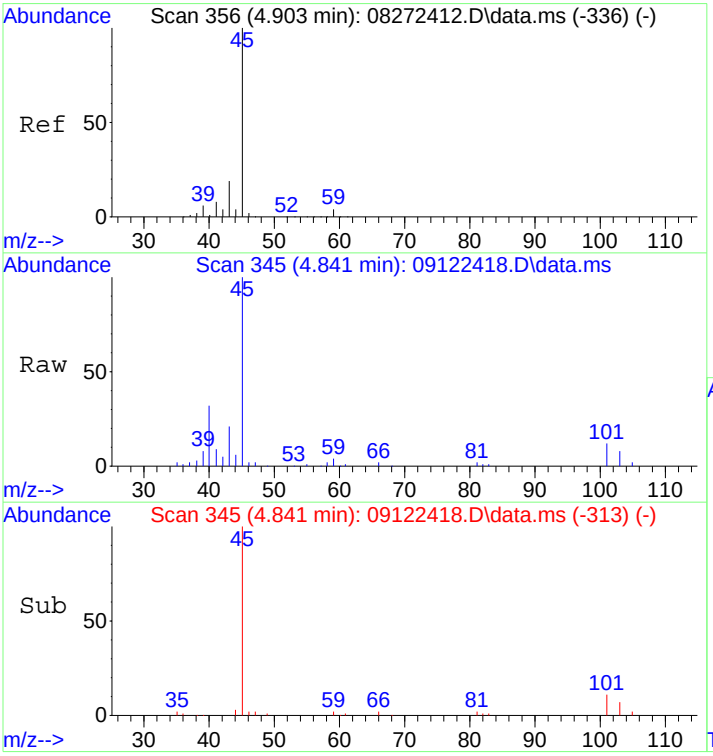


#14
Trichlorofluoromethane
Concen: 365.58 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.031 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:101 Resp:10983397

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.9	84.9

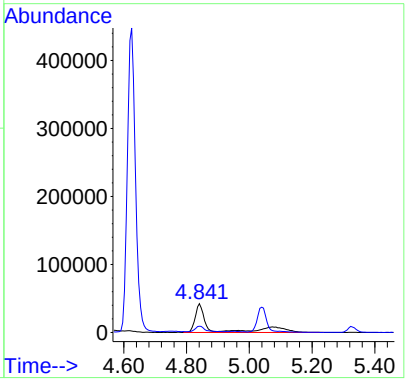


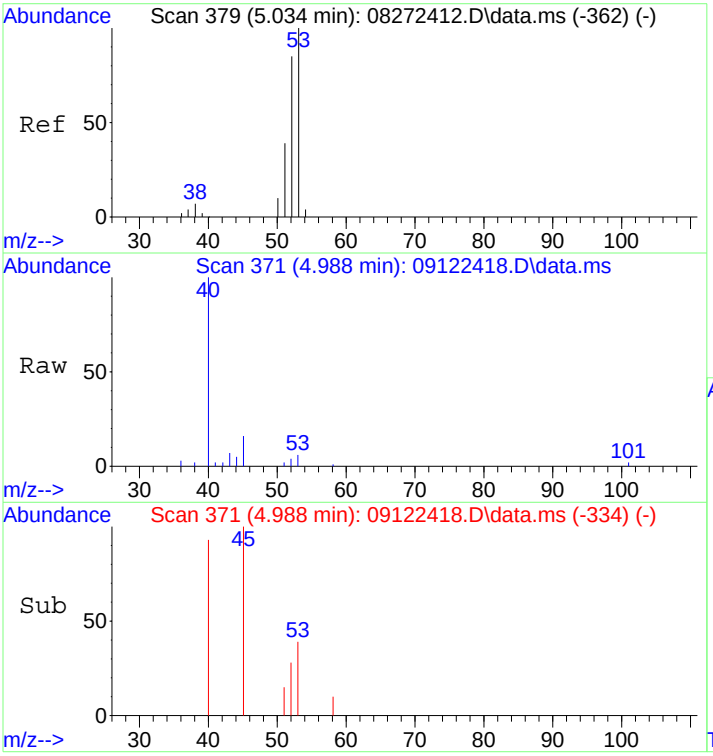


#15
2-Propanol (Isopropanol)
Concen: 3.02 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.069 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 45 Resp: 141069

Ion	Ratio	Lower	Upper
45	100		
43	16.1	0.0	40.0

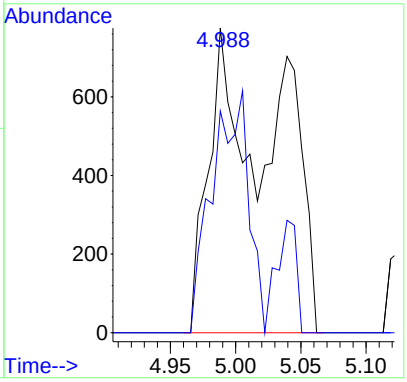


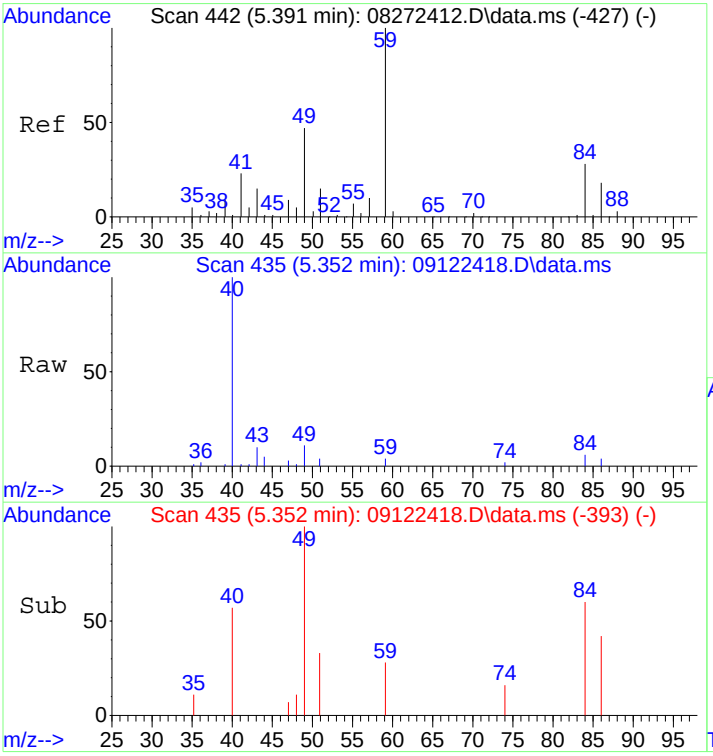


#16
Acrylonitrile
Concen: 0.12 ng
RT: 4.99 min Scan# 371
Delta R.T. -0.040 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 53 Resp: 2665

Ion	Ratio	Lower	Upper
53	100		
52	44.9	65.2	105.2#

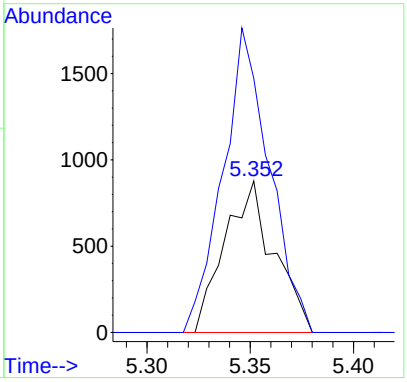


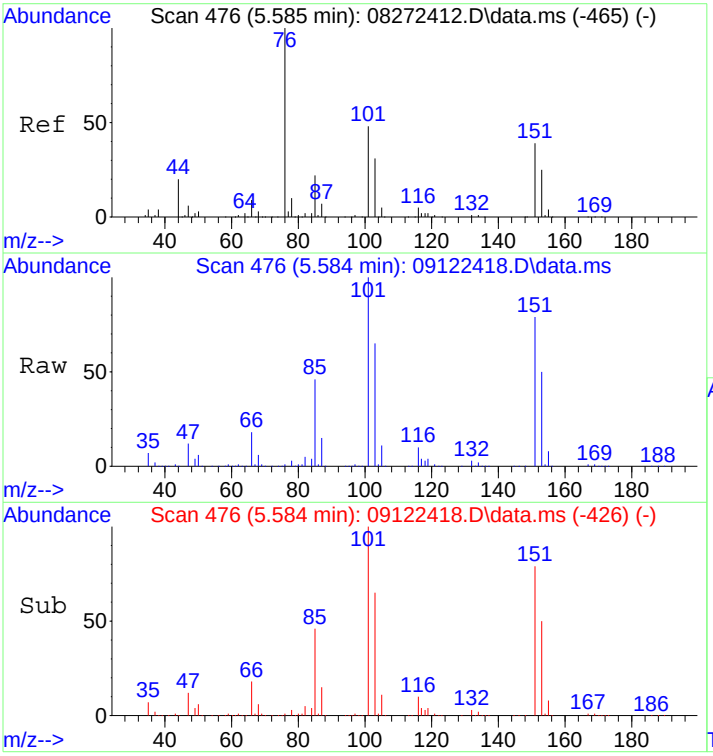


#19
Methylene Chloride
Concen: 0.10 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.013 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 84 Resp: 1456

Ion	Ratio	Lower	Upper
84	100		
49	190.0	151.1	201.1

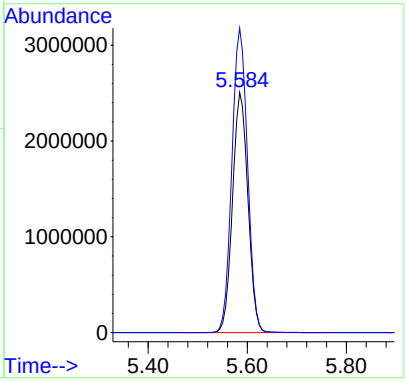


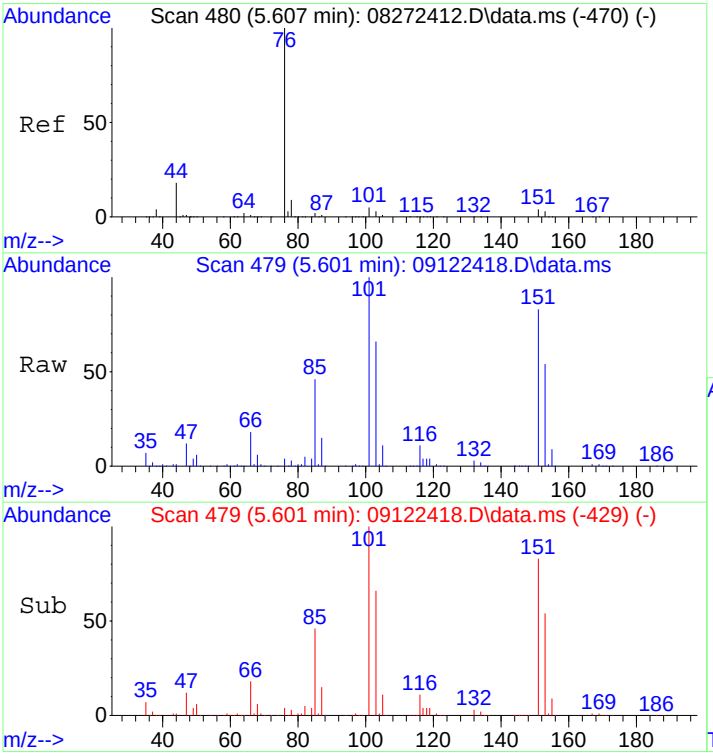


#21
Trichlorotrifluoroethane
Concen: 455.09 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.034 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:151 Resp: 5416745

Ion	Ratio	Lower	Upper
151	100		
101	128.4	103.4	143.4

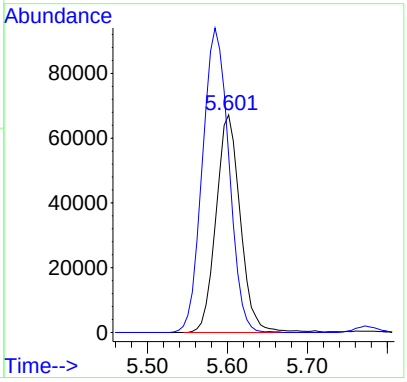


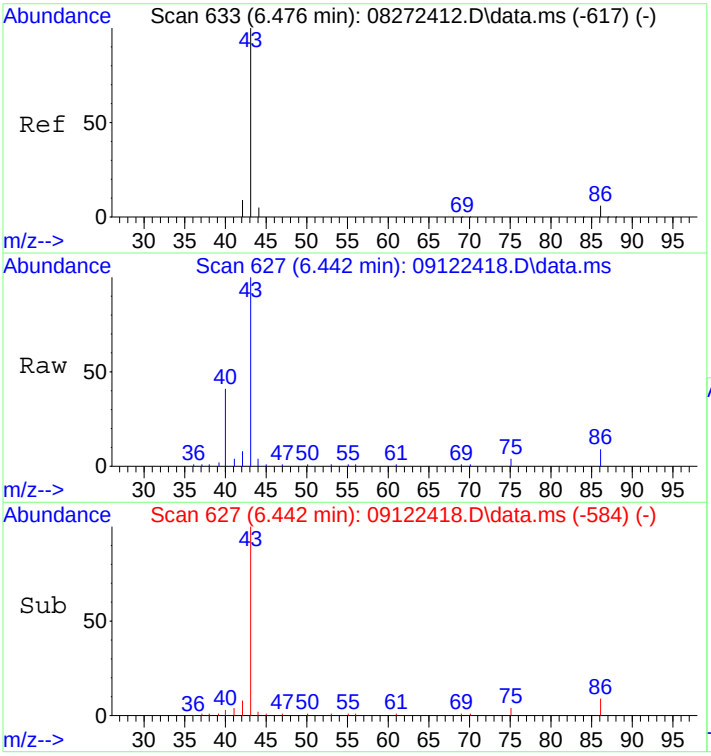


#22
Carbon Disulfide
Concen: 3.06 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.034 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 76 Resp: 141981

Ion	Ratio	Lower	Upper
76	100		
78	151.9	0.0	29.6#

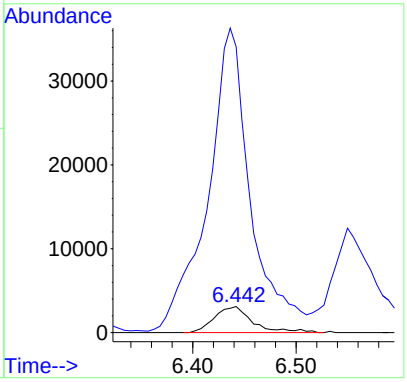


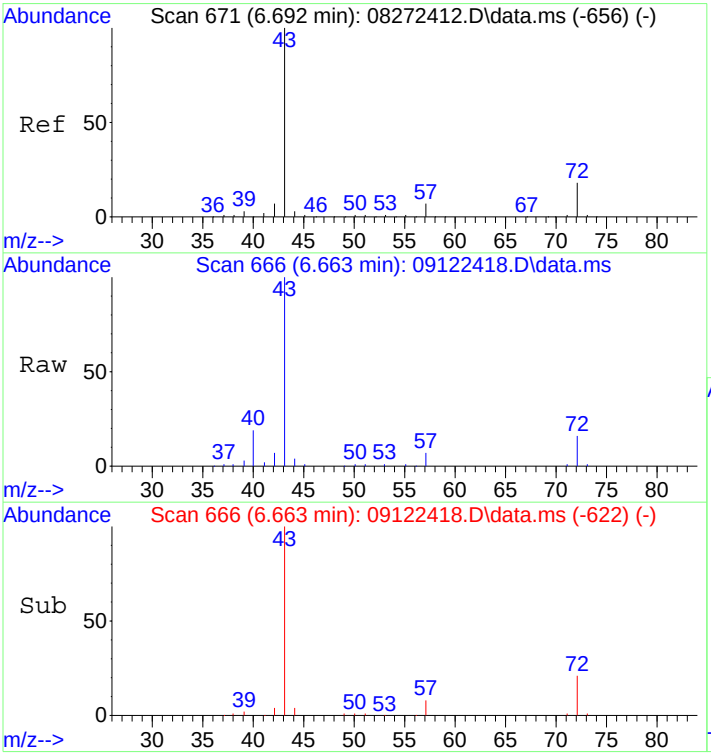


#26
Vinyl Acetate
Concen: 3.30 ng
RT: 6.44 min Scan# 627
Delta R.T. -0.008 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 86 Resp: 7977

Ion	Ratio	Lower	Upper
86	100		
43	1303.2	1687.9	1727.9#

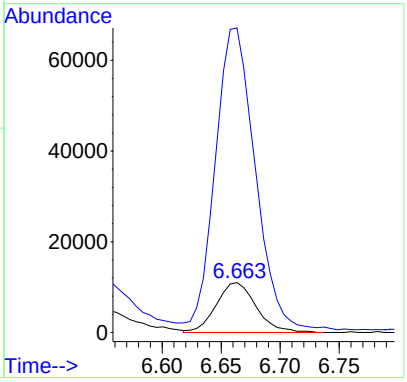


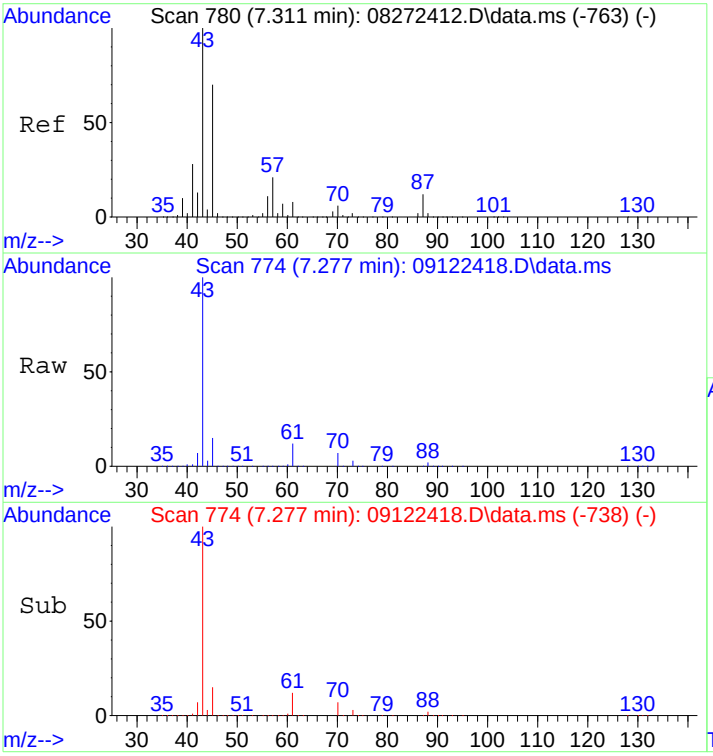


#27
2-Butanone (MEK)
Concen: 3.06 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.000 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 72 Resp: 25828

Ion	Ratio	Lower	Upper
72	100		
43	605.0	548.0	588.0#

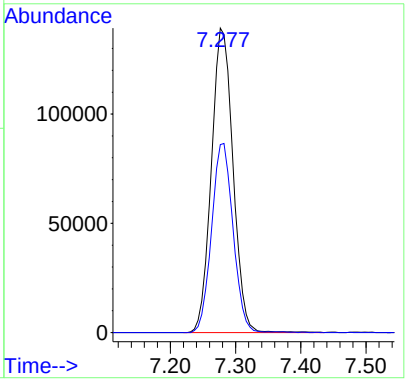


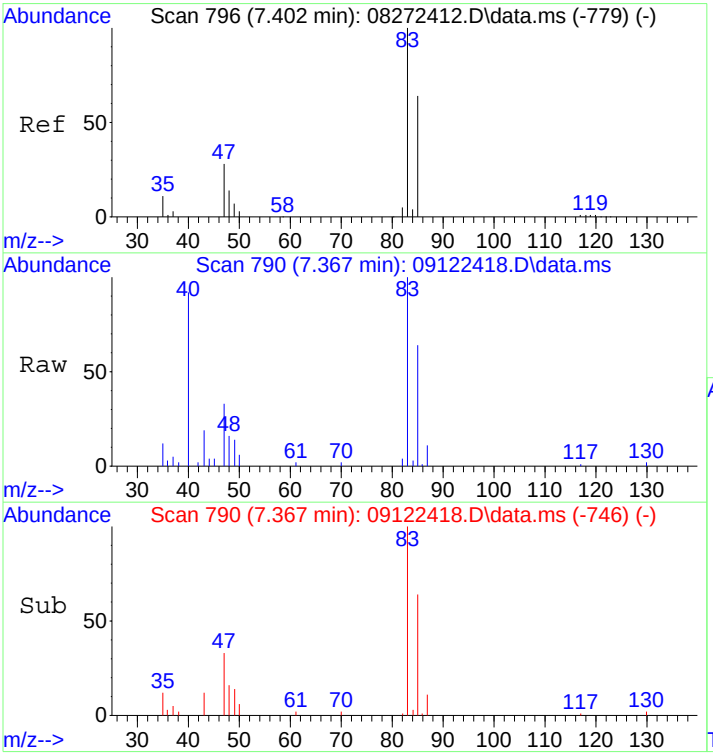


#30
Ethyl Acetate
Concen: 56.78 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.006 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 61 Resp: 320677

Ion	Ratio	Lower	Upper
61	100		
70	61.7	49.9	89.9

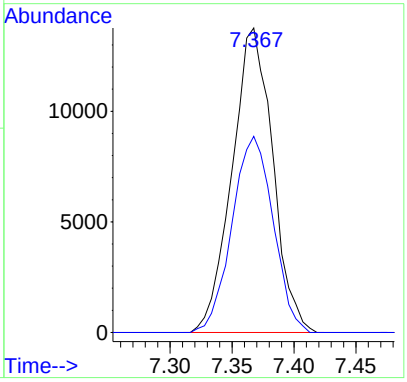


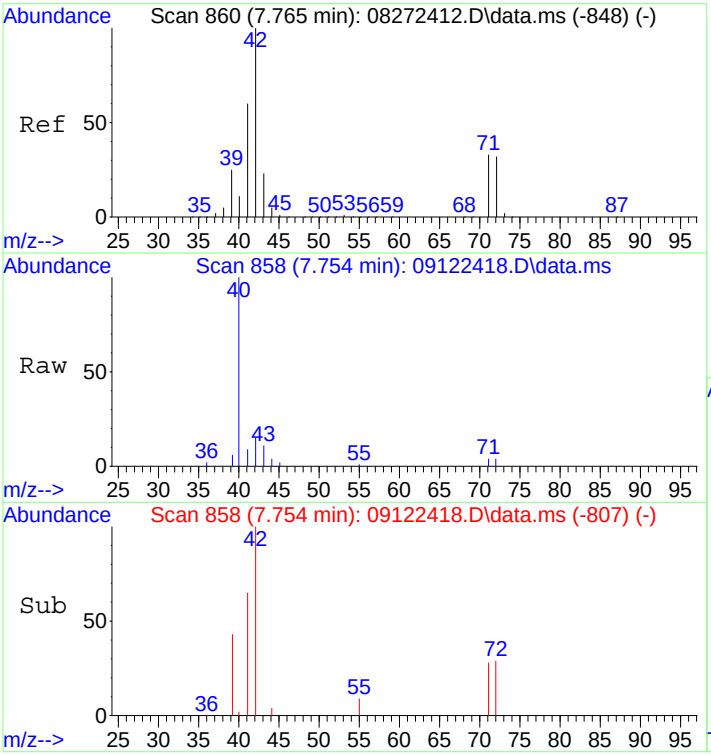


#32
Chloroform
Concen: 1.22 ng
RT: 7.37 min Scan# 790
Delta R.T. 0.001 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 83 Resp: 31546

Ion	Ratio	Lower	Upper
83	100		
85	65.0	45.3	85.3

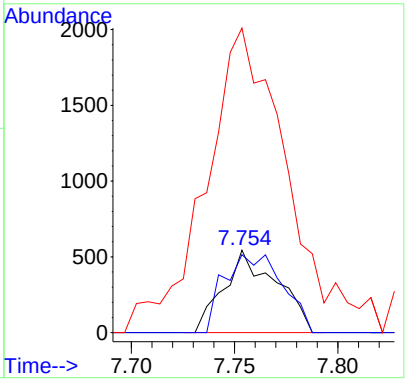


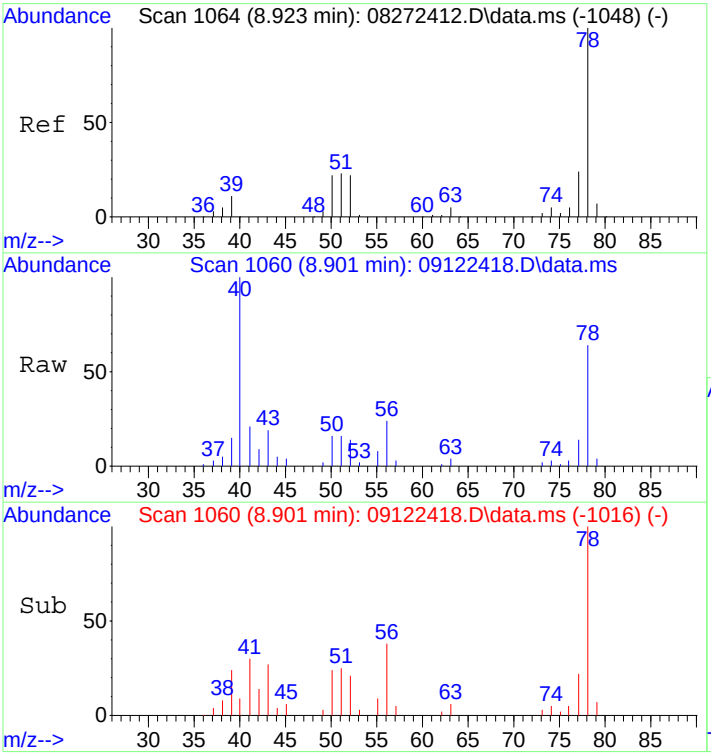


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 7.75 min Scan# 858
Delta R.T. 0.039 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 72 Resp: 971

Ion	Ratio	Lower	Upper
72	100		
71	105.7	78.4	118.4
42	570.6	285.2	325.2#

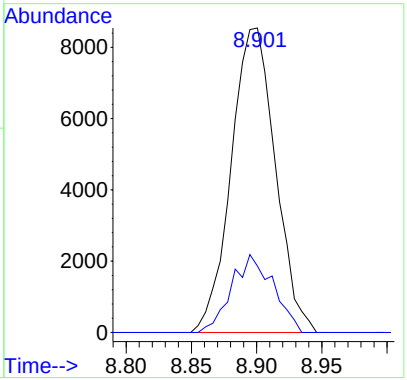


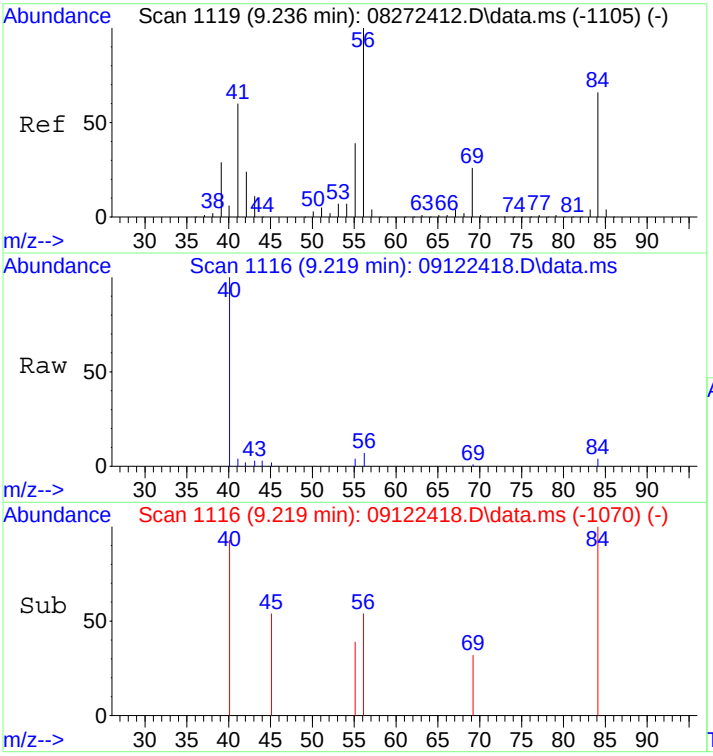


#41
Benzene
Concen: 0.38 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.002 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 78 Resp: 20147

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.9	43.9

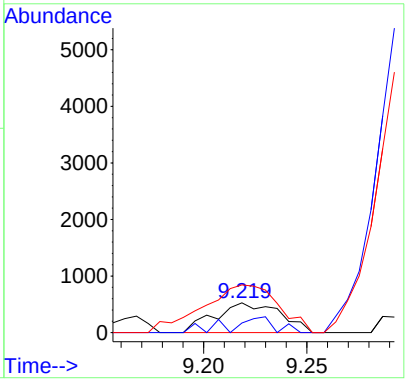


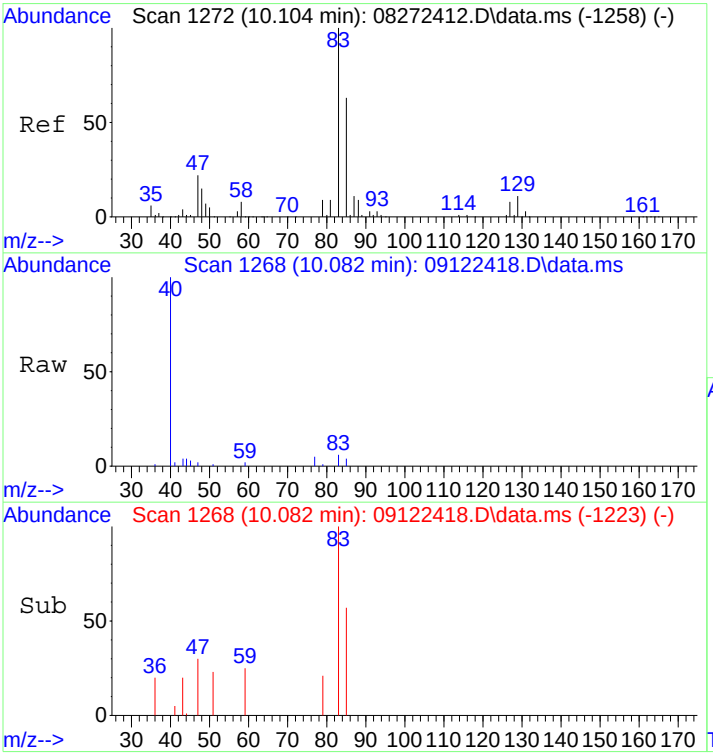


#43
Cyclohexane
Concen: 0.06 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.011 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 84 Resp: 1164

Ion	Ratio	Lower	Upper
84	100		
69	24.9	18.8	58.8
56	185.1	134.5	174.5#

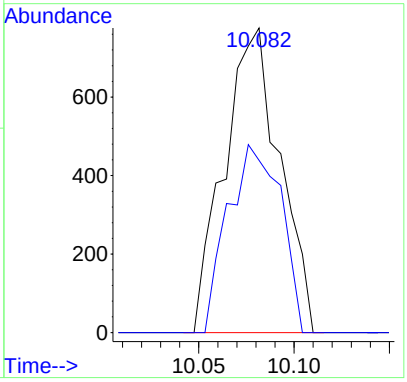


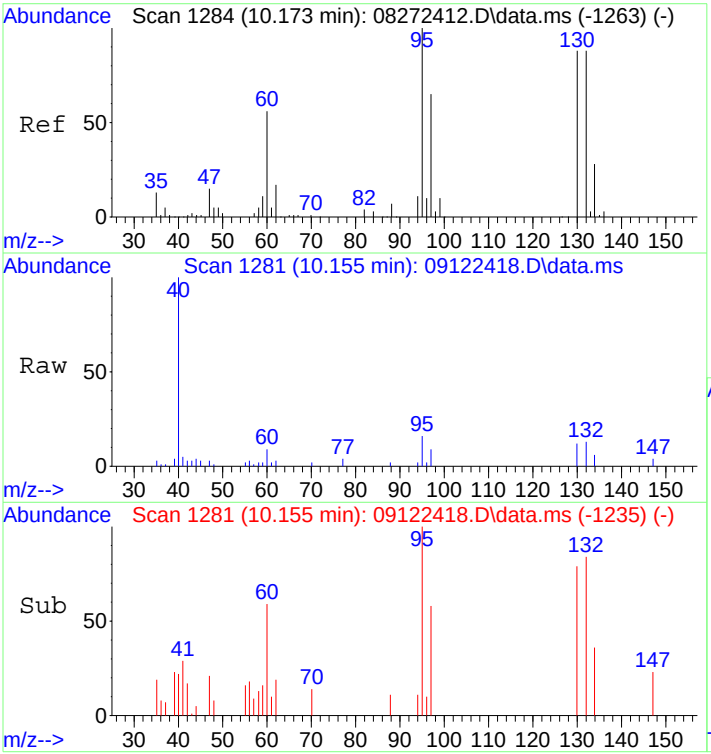


#46
Bromodichloromethane
Concen: 0.08 ng
RT: 10.08 min Scan# 1268
Delta R.T. 0.004 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 83 Resp: 1574

Ion	Ratio	Lower	Upper
83	100		
85	58.8	43.9	83.9

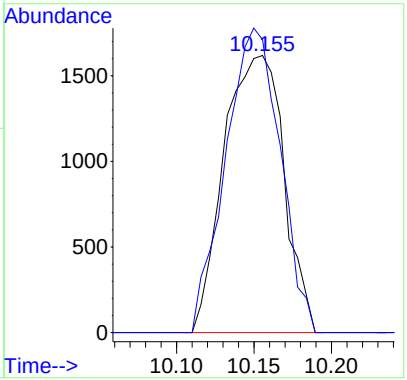


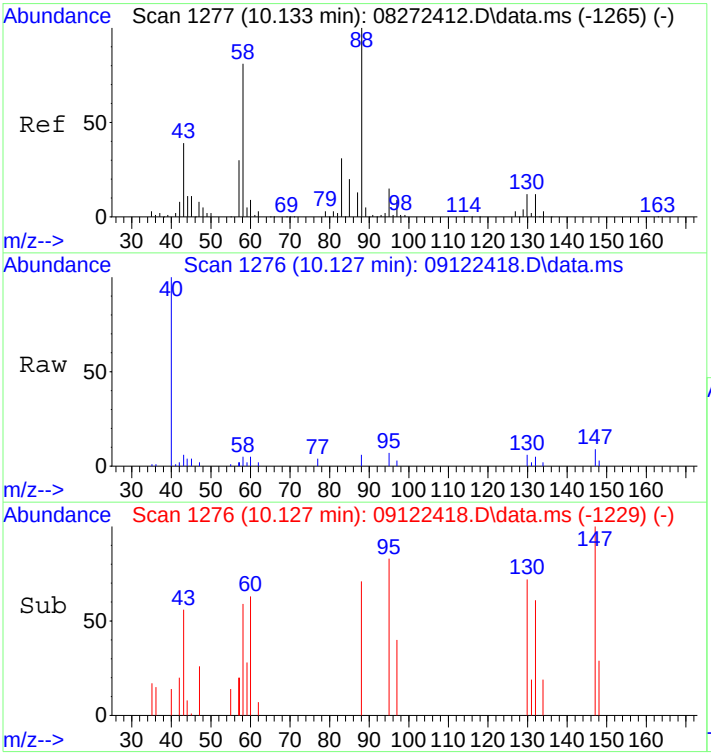


#47
Trichloroethene
Concen: 0.33 ng
RT: 10.16 min Scan# 1281
Delta R.T. 0.010 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:130 Resp: 4353

Ion	Ratio	Lower	Upper
130	100		
132	100.2	80.8	120.8

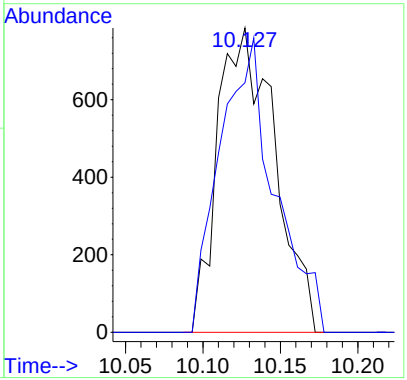


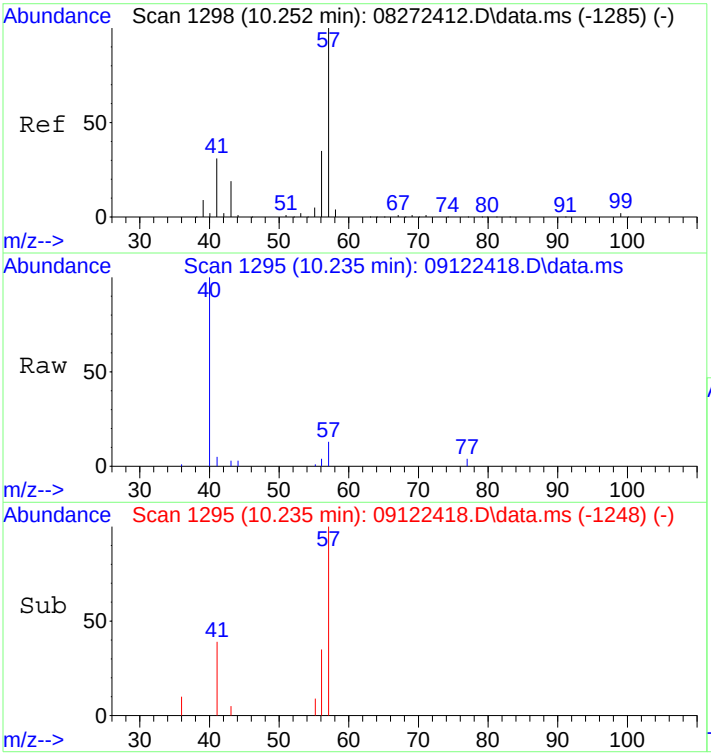


#48
1,4-Dioxane
Concen: 0.22 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.015 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 88 Resp: 2027

Ion	Ratio	Lower	Upper
88	100		
58	92.4	61.1	101.1

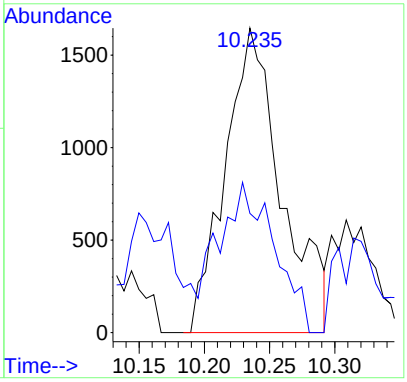


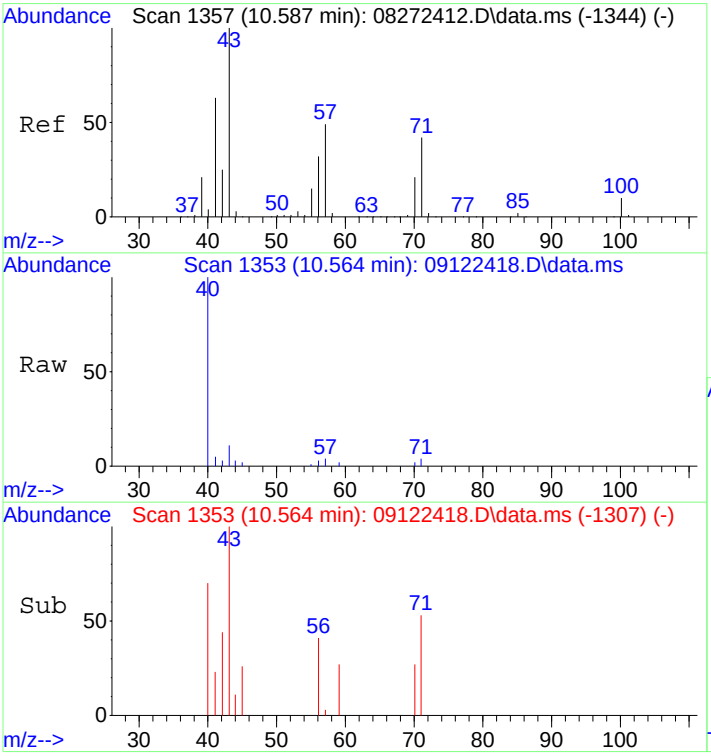


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.08 ng
RT: 10.23 min Scan# 1295
Delta R.T. 0.016 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 57 Resp: 4957

Ion	Ratio	Lower	Upper
57	100		
41	48.4	10.5	50.5

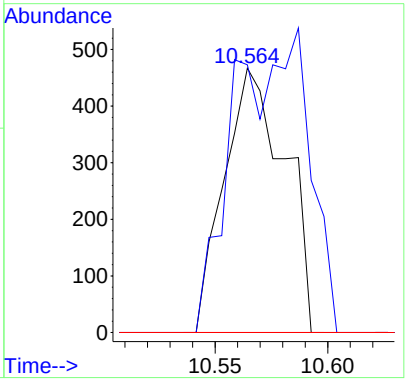


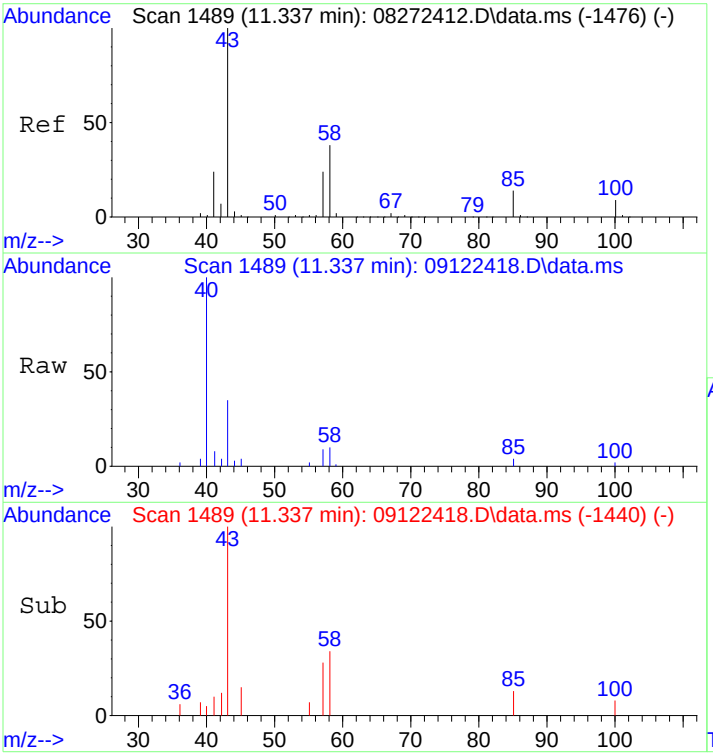


#51
n-Heptane
Concen: 0.07 ng
RT: 10.56 min Scan# 1353
Delta R.T. 0.012 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 71 Resp: 879

Ion	Ratio	Lower	Upper
71	100		
57	64.7	97.1	137.1#
100	0.0	5.0	45.0#

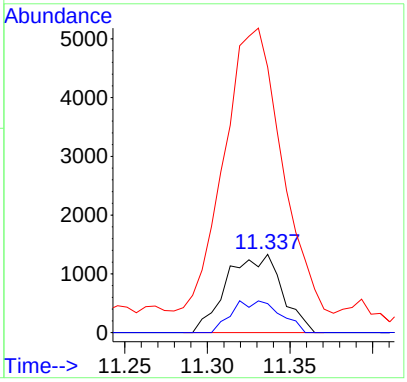


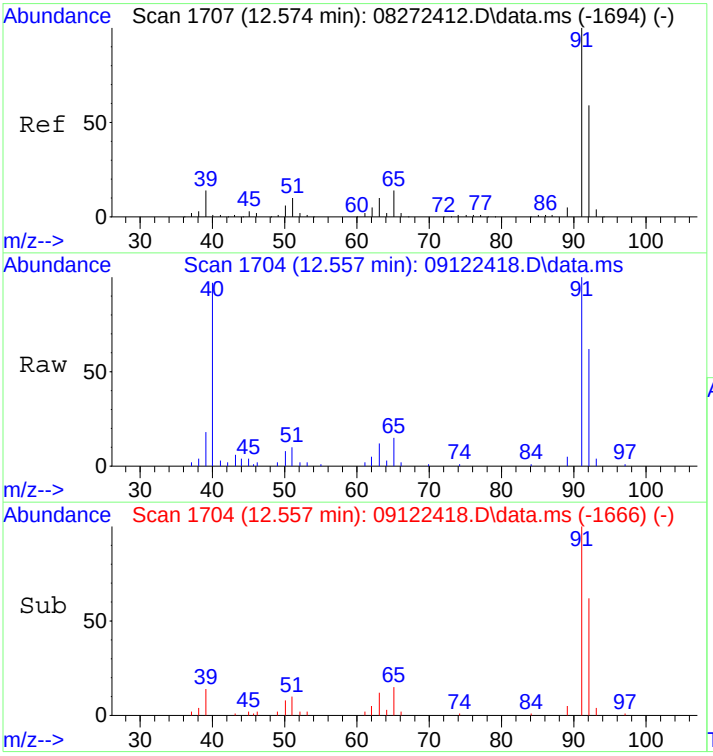


#53
4-Methyl-2-pentanone
Concen: 0.22 ng
RT: 11.34 min Scan# 1489
Delta R.T. 0.027 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 58 Resp: 3093

Ion	Ratio	Lower	Upper
58	100		
85	35.8	30.2	45.2
43	407.4	215.1	322.7#

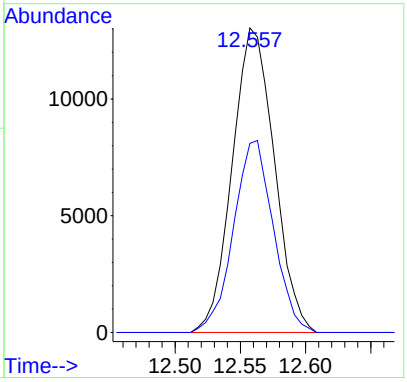


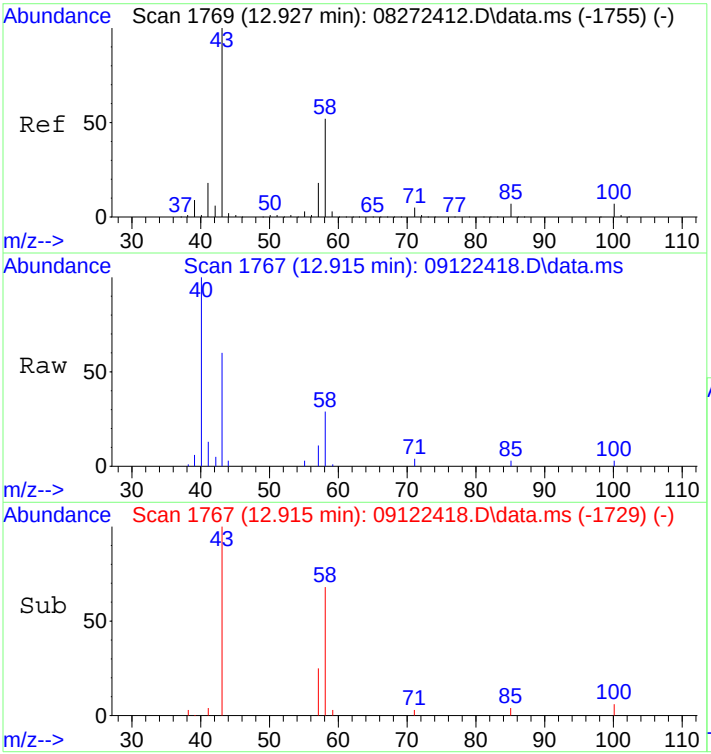


#58
Toluene
Concen: 0.46 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 91 Resp: 29225

Ion	Ratio	Lower	Upper
91	100		
92	59.9	38.5	78.5

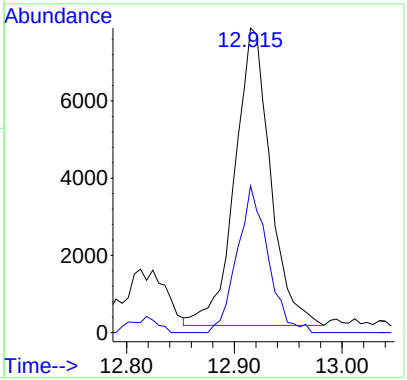


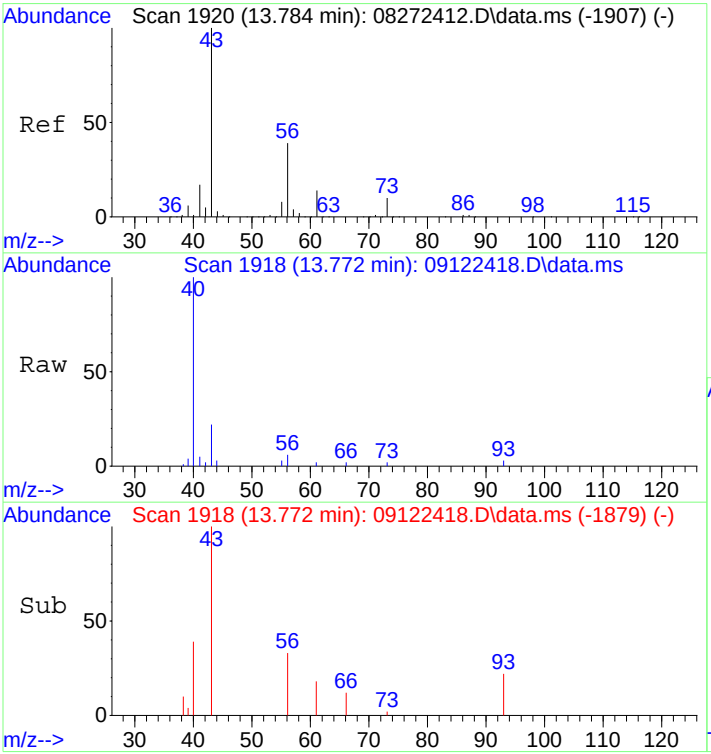


#59
2-Hexanone
Concen: 0.45 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 43 Resp: 17642

Ion	Ratio	Lower	Upper
43	100		
58	42.8	31.1	71.1

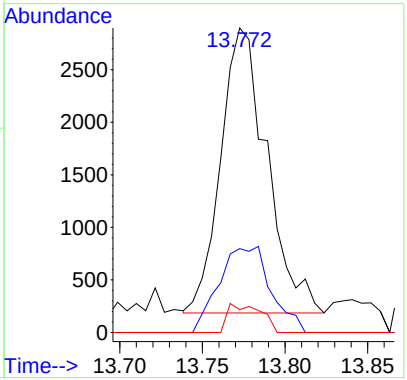


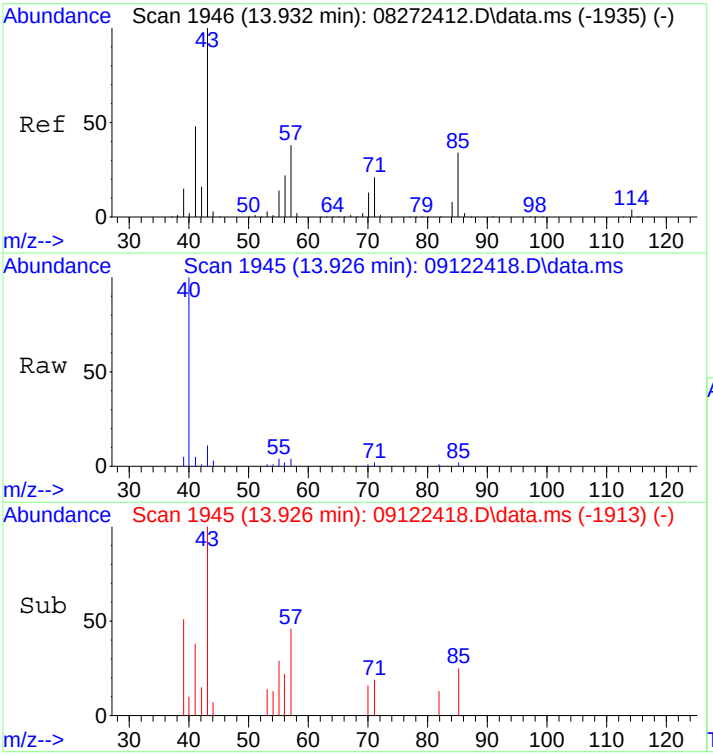


#62
n-Butyl Acetate
Concen: 0.12 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 43 Resp: 5267

Ion	Ratio	Lower	Upper
43	100		
56	33.7	18.2	58.2
73	7.3	0.0	30.1

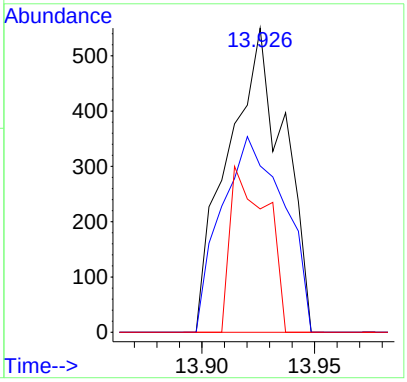


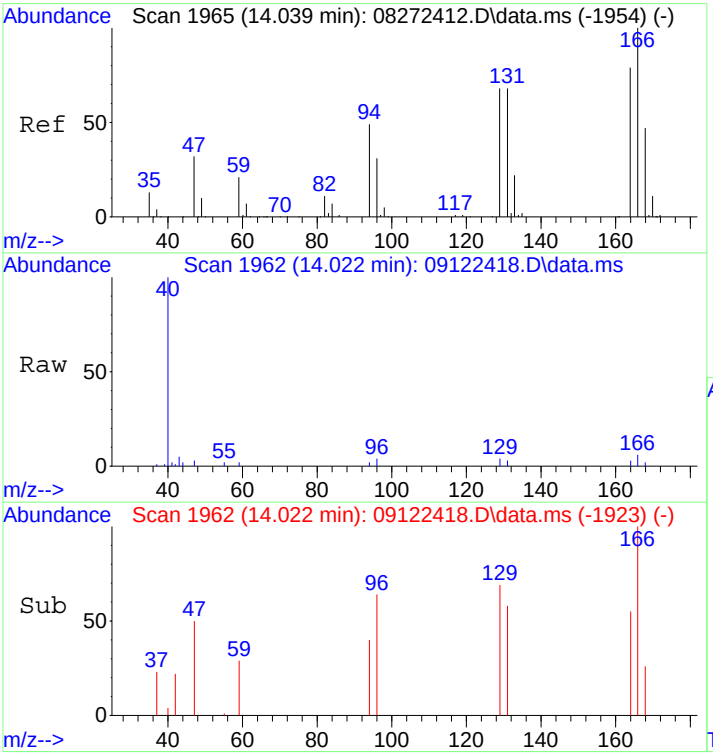


#63
n-Octane
Concen: 0.06 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 57 Resp: 954

Ion	Ratio	Lower	Upper
57	100		
85	71.9	71.2	106.8
71	35.6	43.3	64.9#

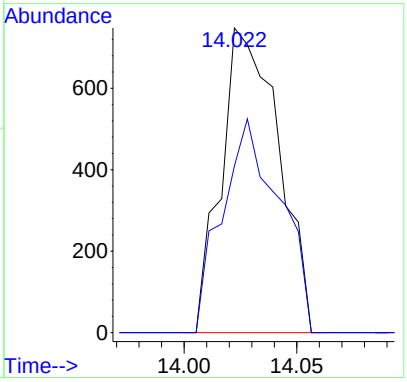


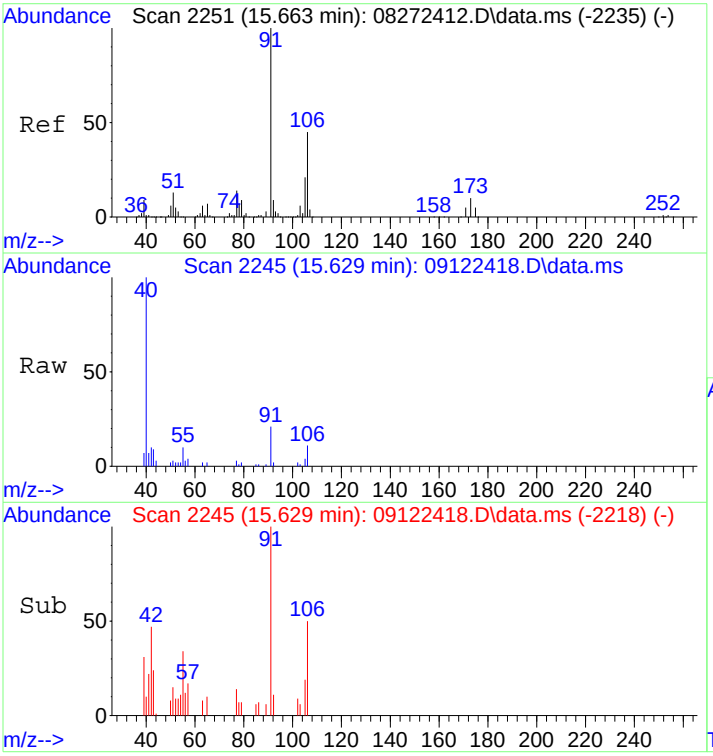


#64
Tetrachloroethene
Concen: 0.07 ng
RT: 14.02 min Scan# 1962
Delta R.T. -0.028 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:166 Resp: 1325

Ion	Ratio	Lower	Upper
166	100		
164	70.5	59.0	99.0

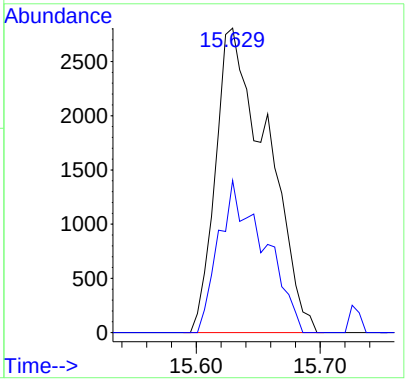


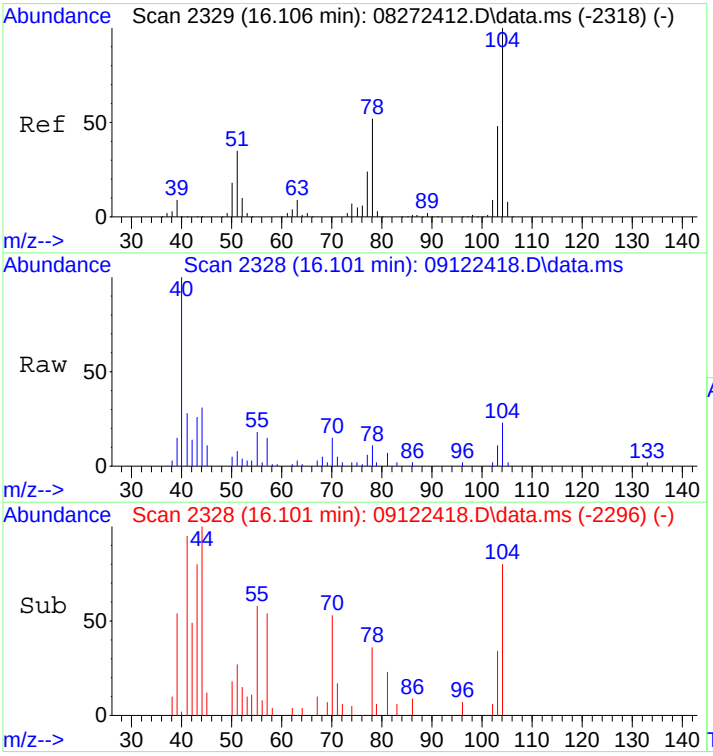


#67
m- & p-Xylenes
Concen: 0.14 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 91 Resp: 8131

Ion	Ratio	Lower	Upper
91	100		
106	44.0	23.8	63.8

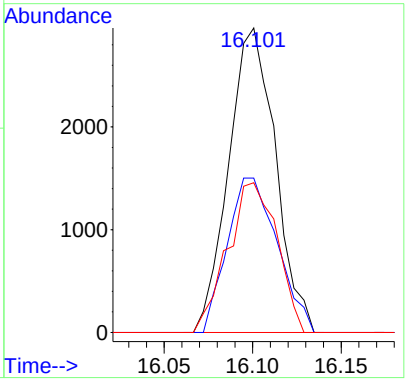


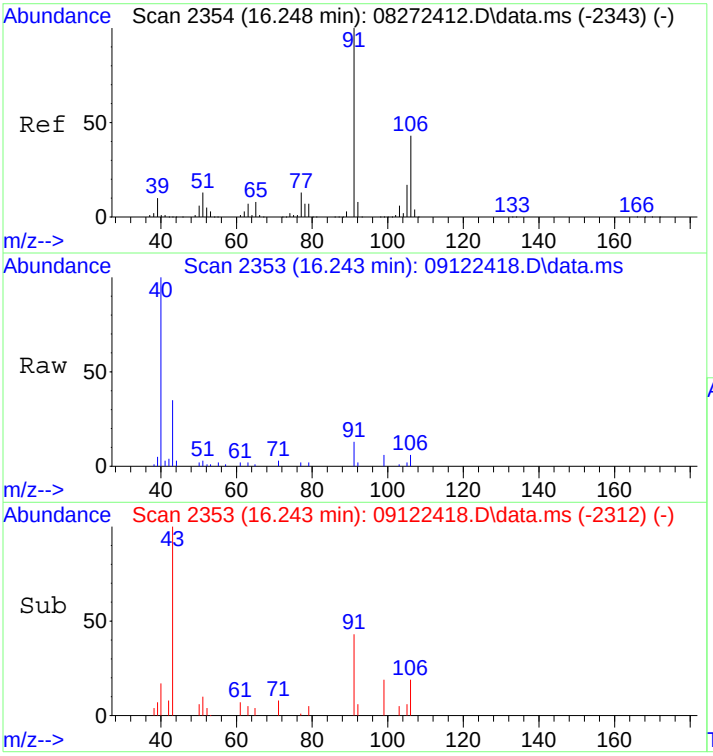


#69
Styrene
Concen: 0.14 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:104 Resp: 5452

Ion	Ratio	Lower	Upper
104	100		
78	54.1	32.2	72.2
103	51.9	28.3	68.3

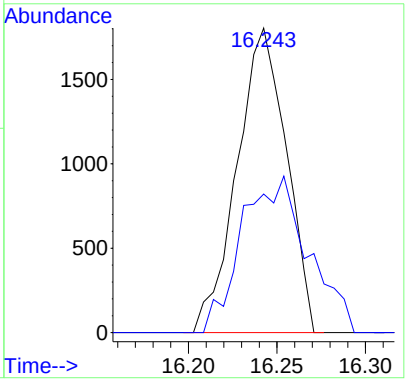


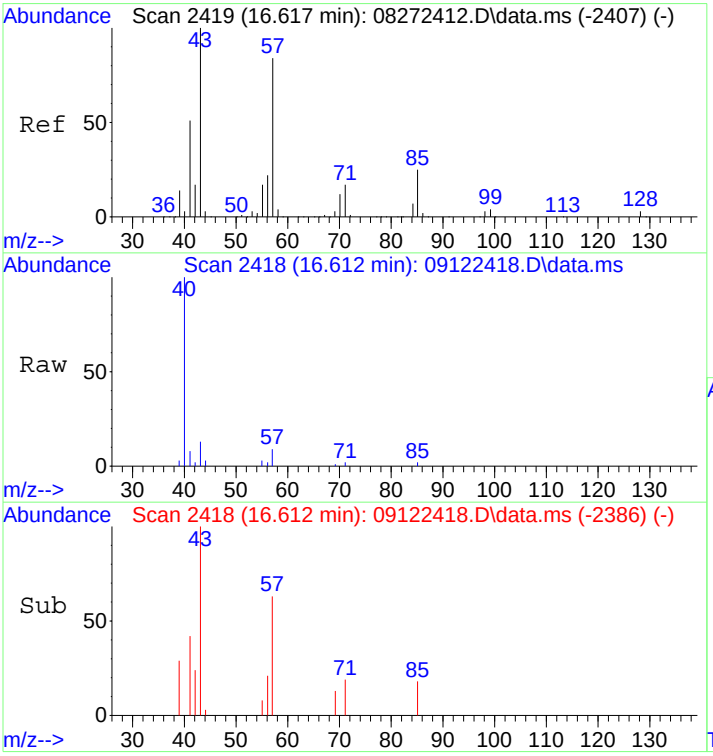


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 91 Resp: 3500

Ion	Ratio	Lower	Upper
91	100		
106	69.0	22.5	62.5#

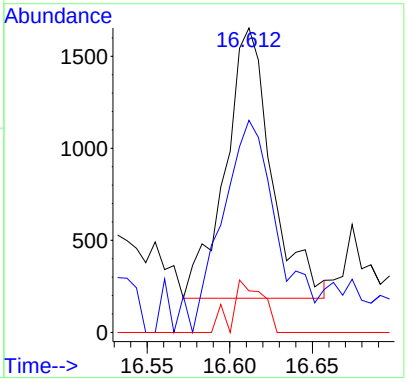


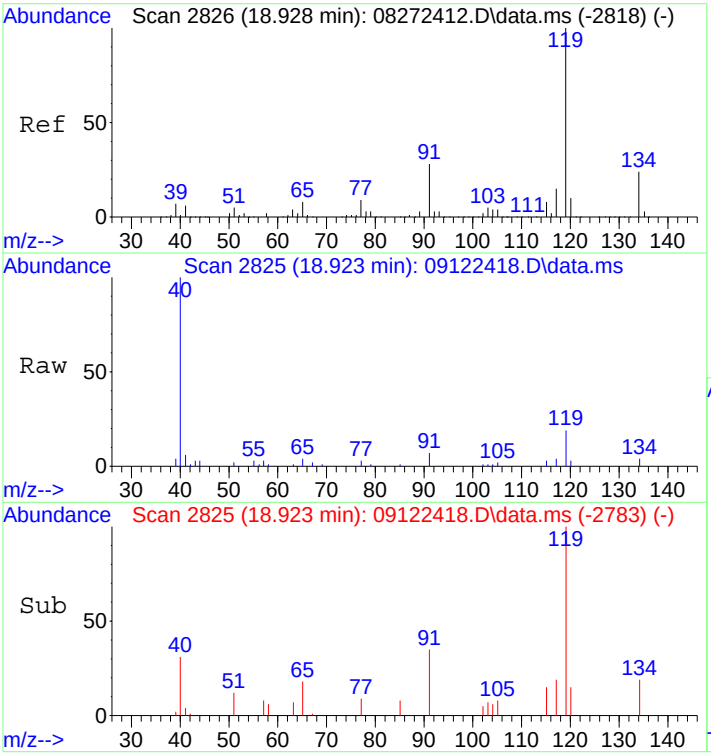


#71
n-Nonane
Concen: 0.07 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 43 Resp: 2861

Ion	Ratio	Lower	Upper
43	100		
57	95.5	63.3	103.3
85	12.7	4.5	44.5

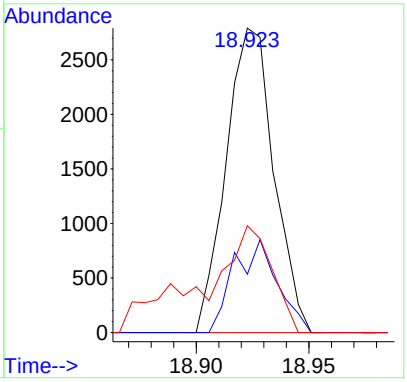


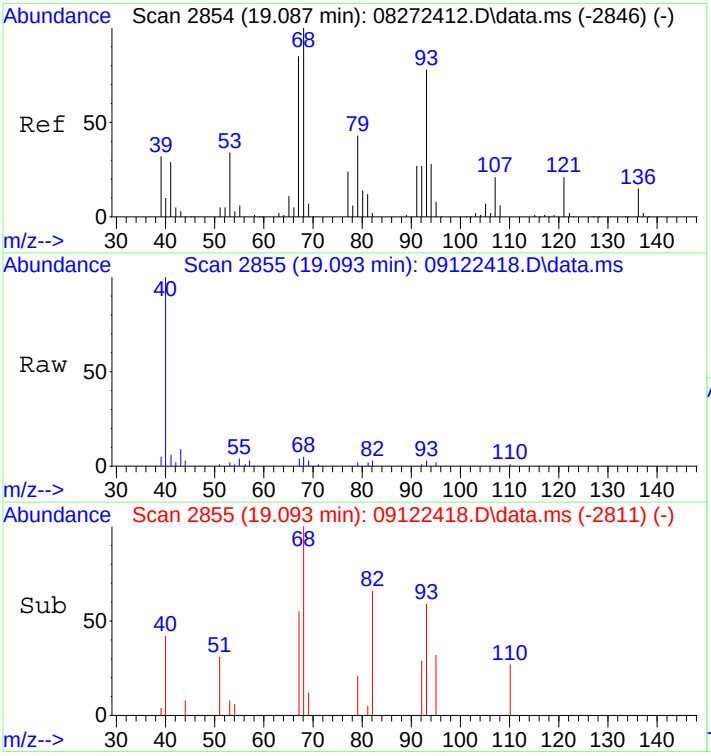


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.06 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:119 Resp: 4131

Ion	Ratio	Lower	Upper
119	100		
134	27.8	4.7	44.7
91	32.2	8.1	48.1

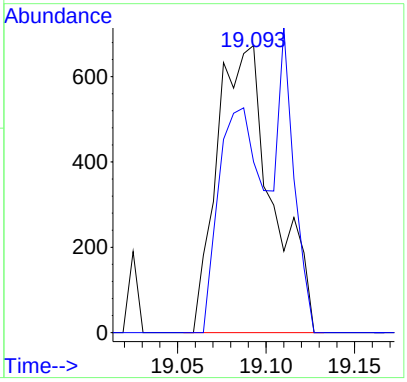


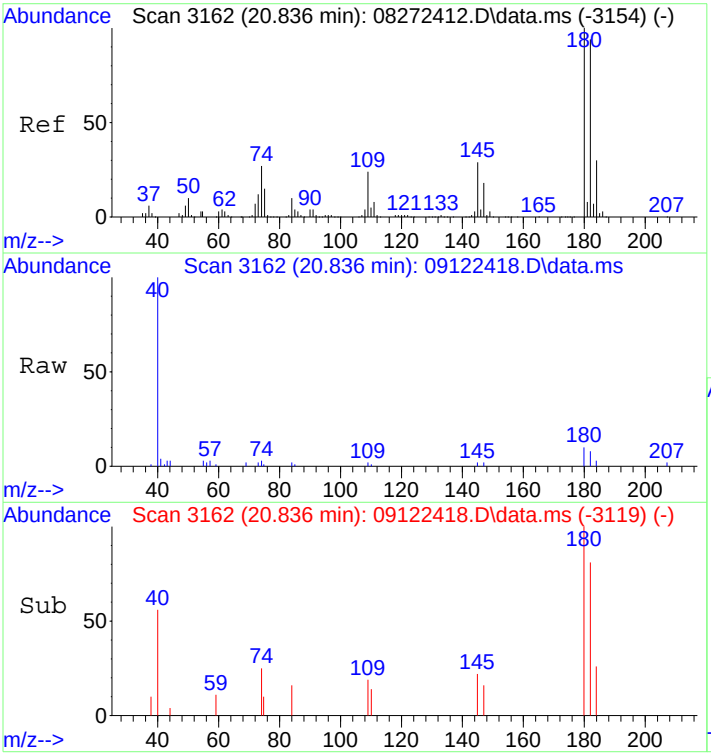


#91
d-Limonene
Concen: 0.07 ng
RT: 19.09 min Scan# 2855
Delta R.T. 0.000 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion: 68 Resp: 1469

Ion	Ratio	Lower	Upper
68	100		
93	64.7	56.2	96.2

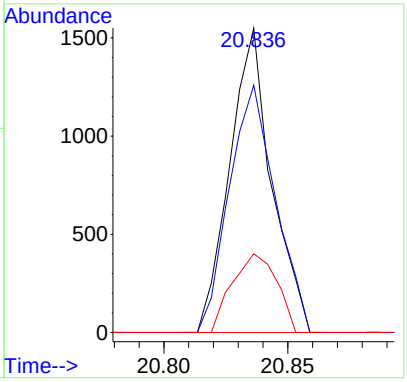




#94
1,2,4-Trichlorobenzene
Concen: 0.07 ng
RT: 20.84 min Scan# 3162
Delta R.T. -0.006 min
Lab File: 09122418.D
Acq: 12 Sep 2024 20:16

Tgt Ion:180 Resp: 1822

Ion	Ratio	Lower	Upper
180	100		
182	89.5	76.2	114.2
184	27.5	24.3	36.5



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

MA 9/30/24

Quant Time: Sep 30 06:00:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

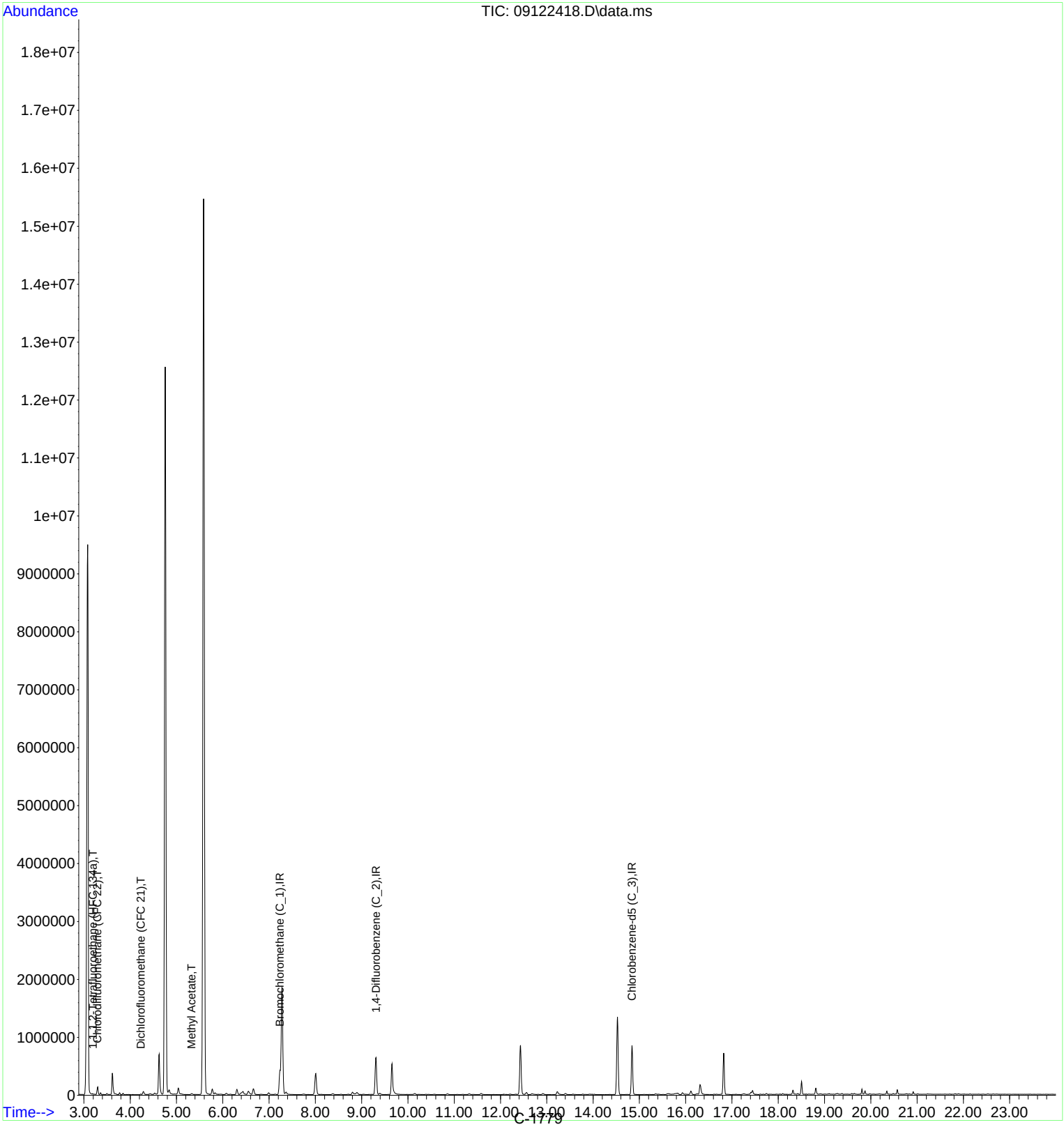
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	129738	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	567521	12.500	ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	168581	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	142	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	2697	0.203	ng	#	1
4) 1,1-Difluoroethane	3.23	65	553	N.D.			
5) Chlorodifluoromethane ...	3.29	67	988	0.223	ng		93
6) 1-Chloro-1,1-Difluoroe...	3.50	65	463	N.D.			
7) Dichlorofluoromethane ...	4.23	67	9620	0.323	ng		96
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	1214	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.32	43	17155	0.392	ng	#	74
12) 2-Methylpentane	6.49	71	533	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.03	84	134	N.D.			
17) 2,3-Dimethylpentane	9.51	56	449	N.D.			
18) Dibromomethane	9.80	174	55	N.D.			
20) Methyl Cyclohexane	11.42	55	994	N.D.			
21) 1,3-Dichloropropane	12.56	76	52	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	15.19	91	58	N.D.			
24) 1,2,3-Trichloropropane	16.37	75	1509	N.D.			
25) Bromobenzene	17.04	77	122	N.D.			
26) 2-Chlorotoluene	17.61	91	205	N.D.			
27) 4-Chlorotoluene	17.67	91	2247	N.D.			
28) Indane	19.12	117	267	N.D.			
29) Indene	19.11	115	52	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	194	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	441	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	402	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

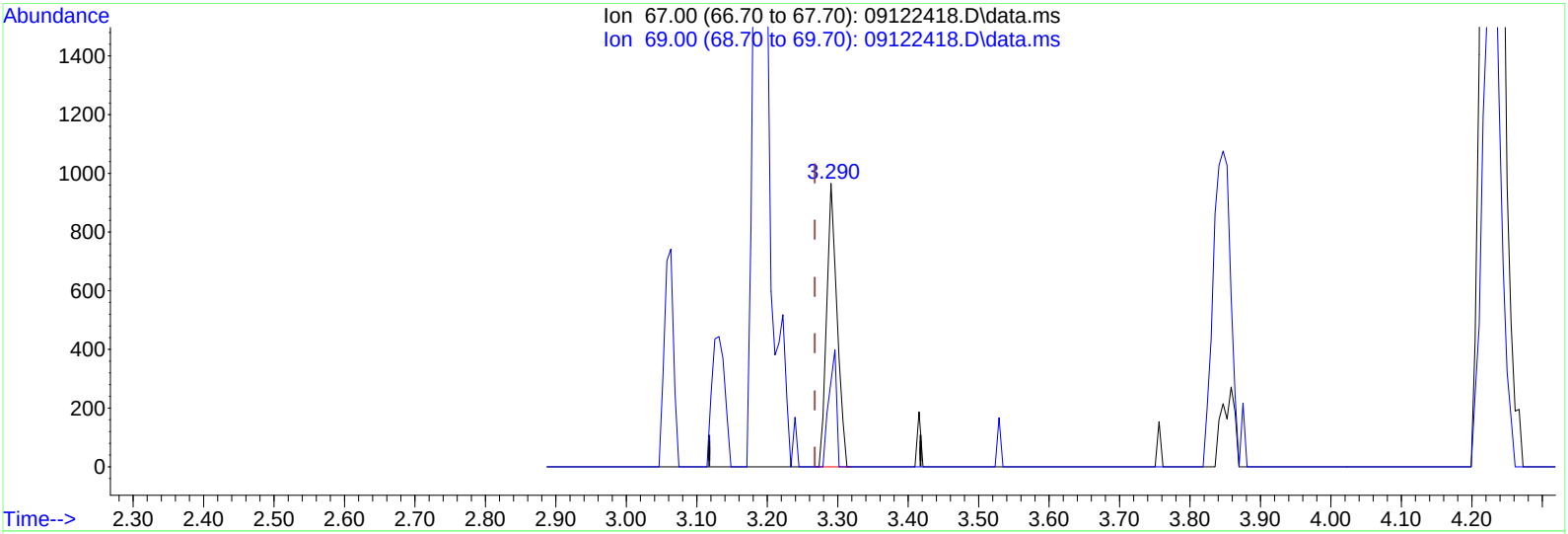
Quant Time: Sep 30 06:00:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

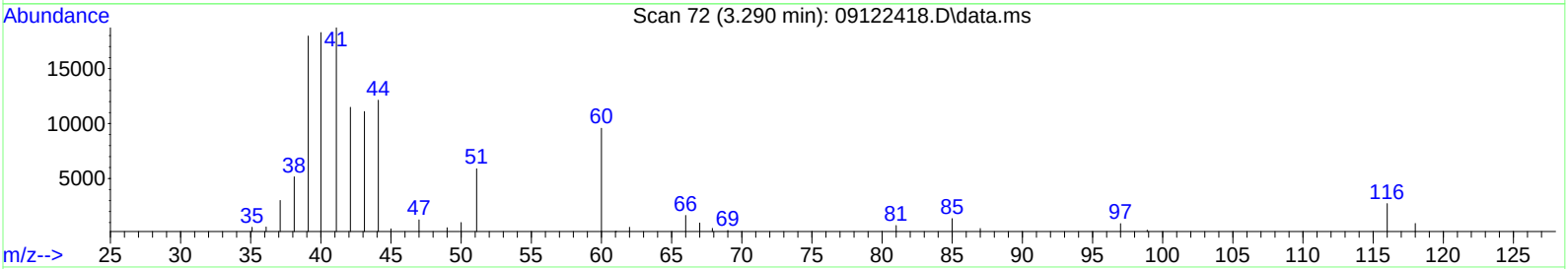


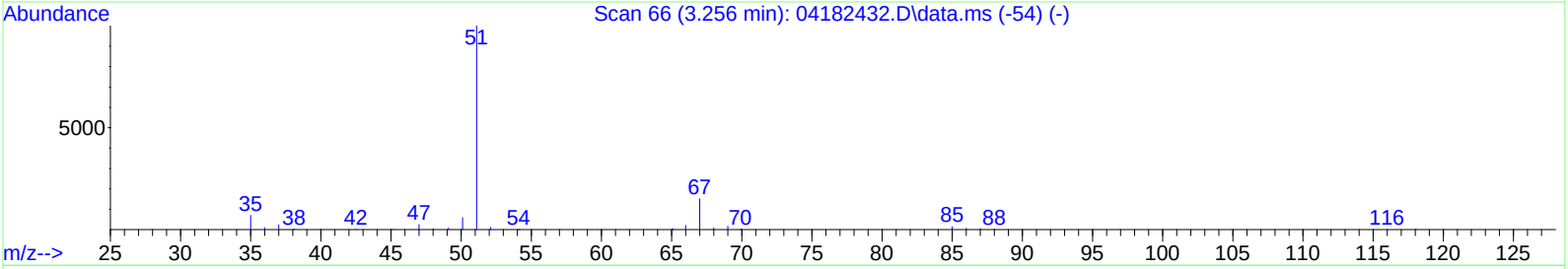
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 30 05:44:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122418.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.290min (+0.023) 0.22ng

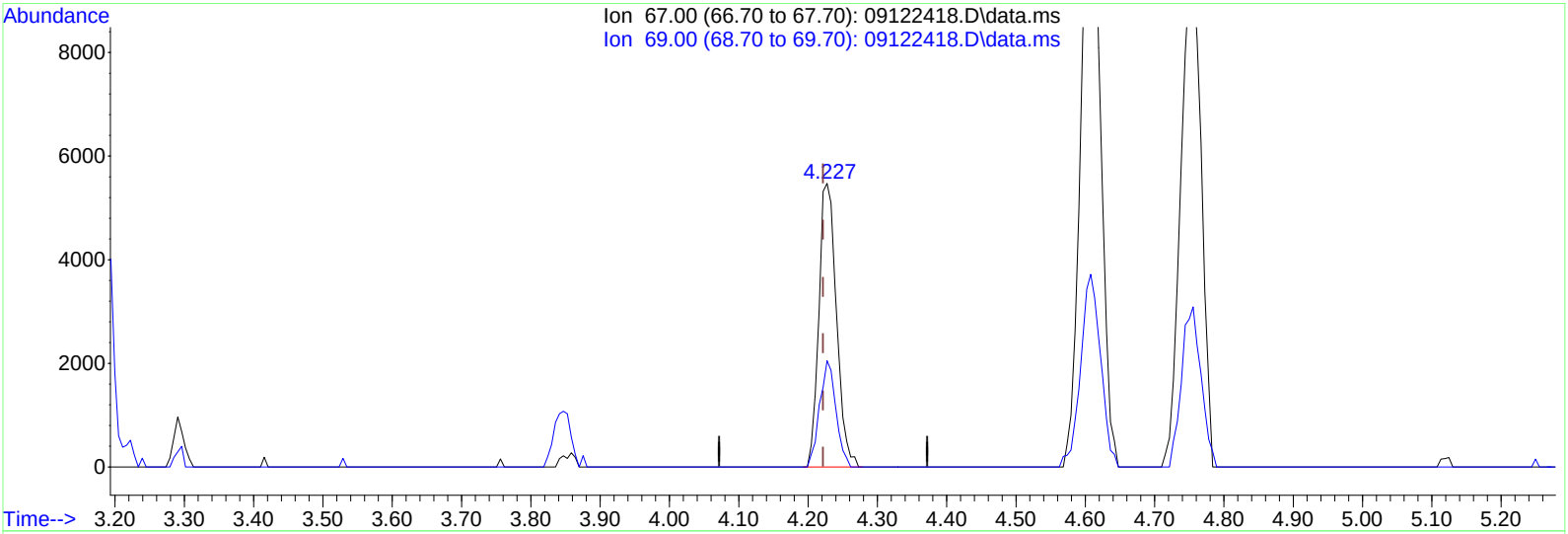
response 988

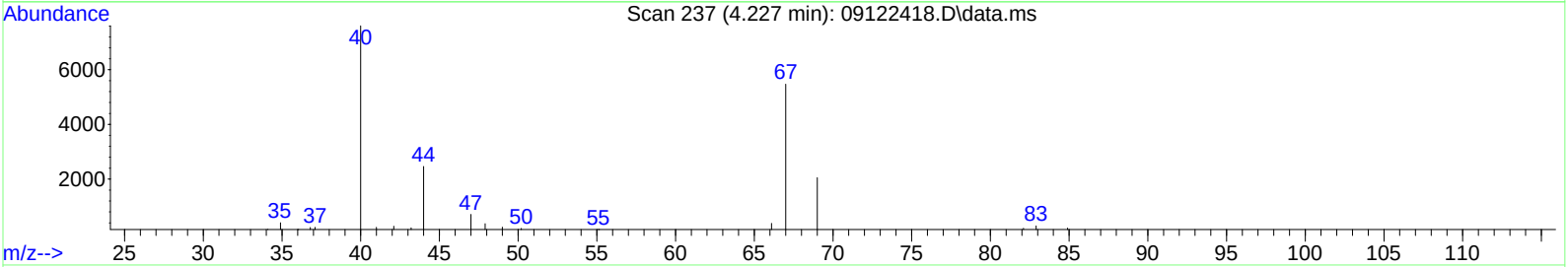
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	30.06
0.00	0.00	0.00
0.00	0.00	0.00

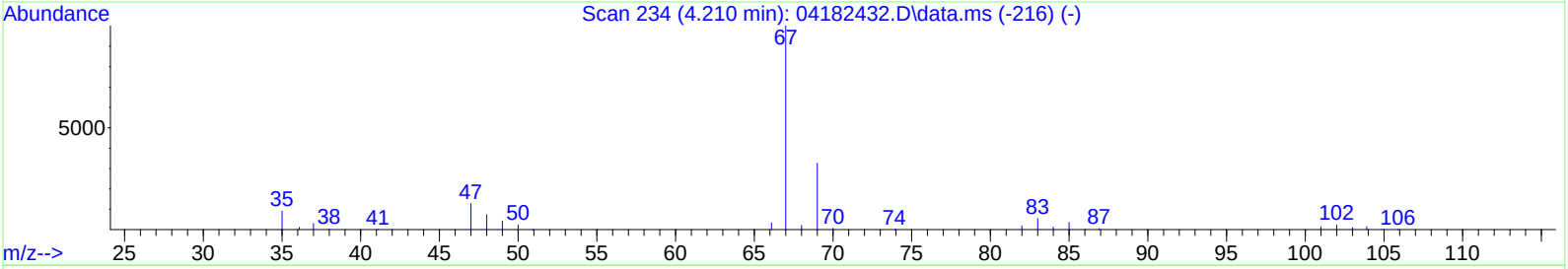
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 30 05:44:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122418.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 0.32ng

response 9620

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	34.71
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:42:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	135769	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	598950	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	175386	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	343964	13.539	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.32%			
57) Toluene-d8 (SS2)	12.43	98	679446	11.043	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%			
73) Bromofluorobenzene (SS3)	16.82	174	223737	10.873	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.96%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.34	85	361	N.D.		
4) Chloromethane	3.52	50	840	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.81	54	116	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.40	45	260	N.D.		
11) Acetonitrile	4.50	41	116	N.D.		
12) Acrolein	4.55	56	1411	0.125	ng	85
13) Acetone	4.64	58	17867m	1.437	ng	
14) Trichlorofluoromethane	4.75	101	1130799	35.966	ng	99
15) 2-Propanol (Isopropanol)	4.86	45	15987	0.327	ng	87
16) Acrylonitrile	4.99	53	432	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.37	59	642	N.D.		
19) Methylene Chloride	5.35	84	296	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	509116	40.873	ng	95
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D. d		
27) 2-Butanone (MEK)	6.66	72	2076	0.235	ng #	57
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	7.28	87	406	N.D.		
30) Ethyl Acetate	7.28	61	28801	4.873	ng	87
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.36	83	2737	0.101	ng	93
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.85	56	2797	No Calib	#	
41) Benzene	8.90	78	3175	0.057	ng	91
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.16	130	452	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:42:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

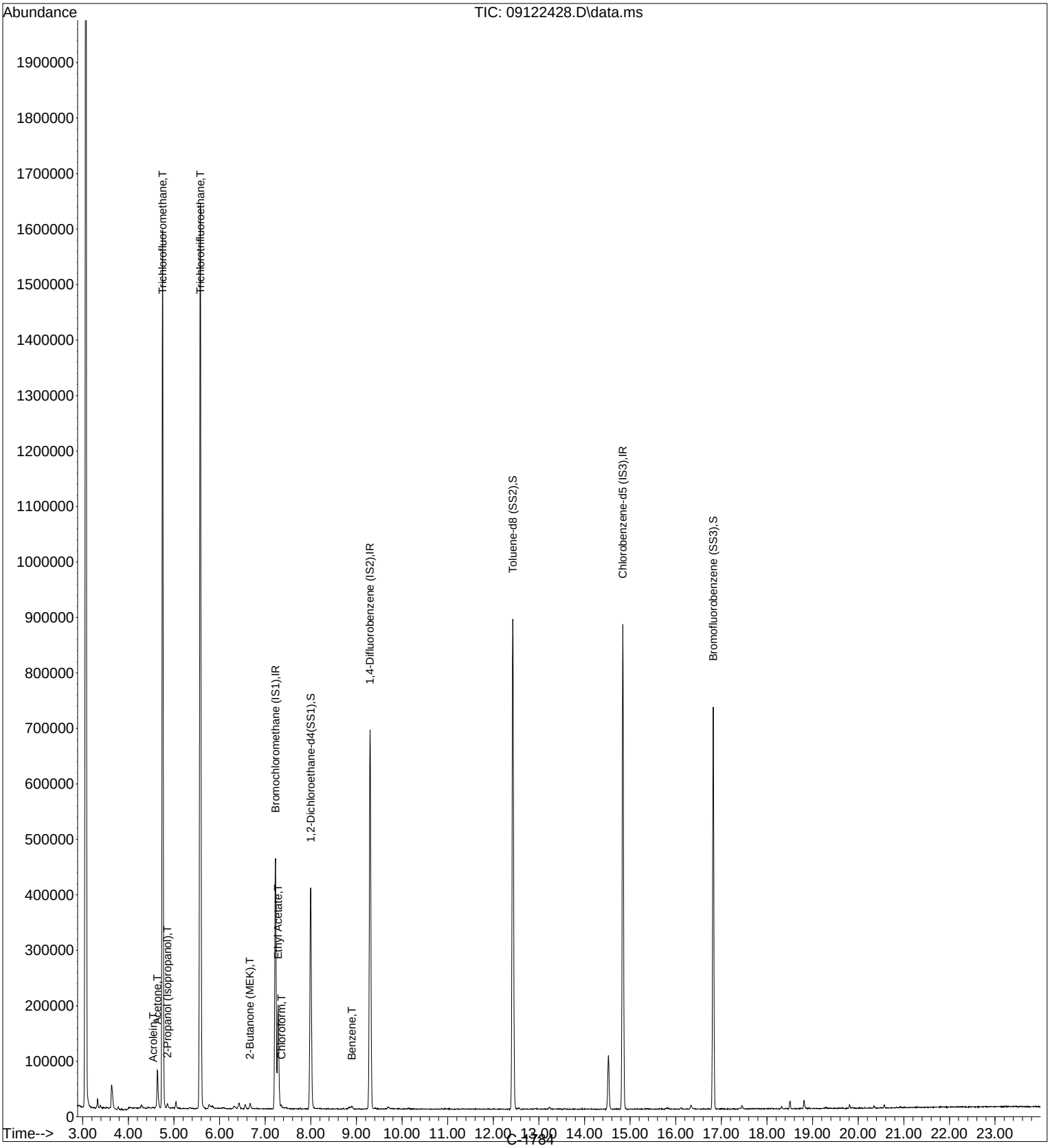
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2868	N.D.		
59) 2-Hexanone	12.93	43	1552	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	390	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.90	112	148	N.D.		
66) Ethylbenzene	15.40	91	508	N.D.		
67) m- & p-Xylenes	15.66	91	331	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.09	104	388	N.D.		
70) o-Xylene	16.24	91	407	N.D.		
71) n-Nonane	16.61	43	463	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	292	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	279	N.D.		
77) 3-Ethyltoluene	17.03	105	292	No Calib		#
78) 4-Ethyltoluene	17.85	105	289	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	292	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	332	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	281	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	242	N.D.		
87) sec-Butylbenzene	18.75	105	334	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	420	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	292	No Calib		#
90) 1,2-Dichlorobenzene	19.03	146	258	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	534	N.D.		
95) Naphthalene	20.94	128	544	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	372	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	284	N.D.		
100) n-Butylbenzene	19.39	91	253	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

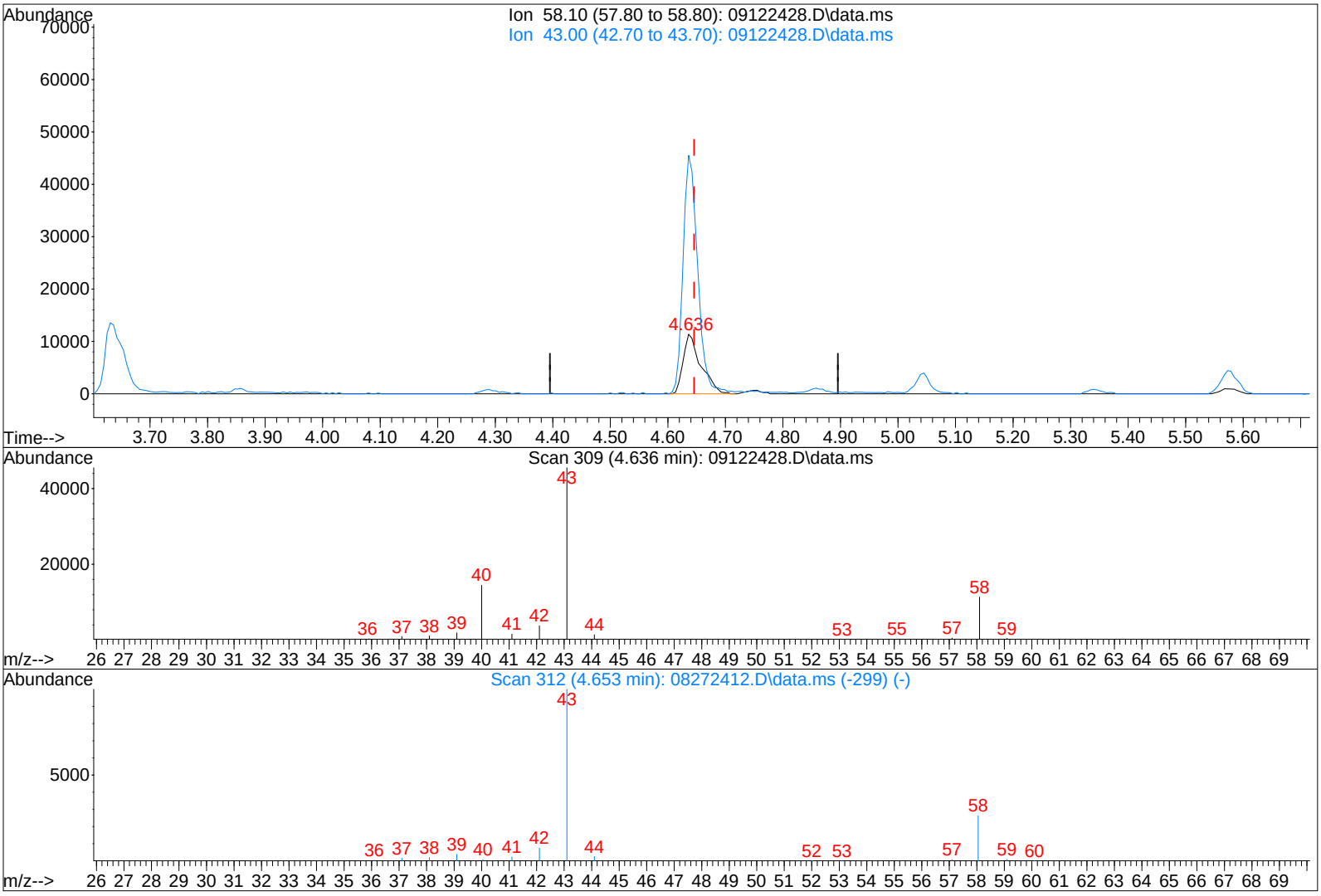
Quant Time: Sep 13 09:42:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:40:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122428.D\data.ms

(13) Acetone (T)

4.636min (-0.009) 1.95ng

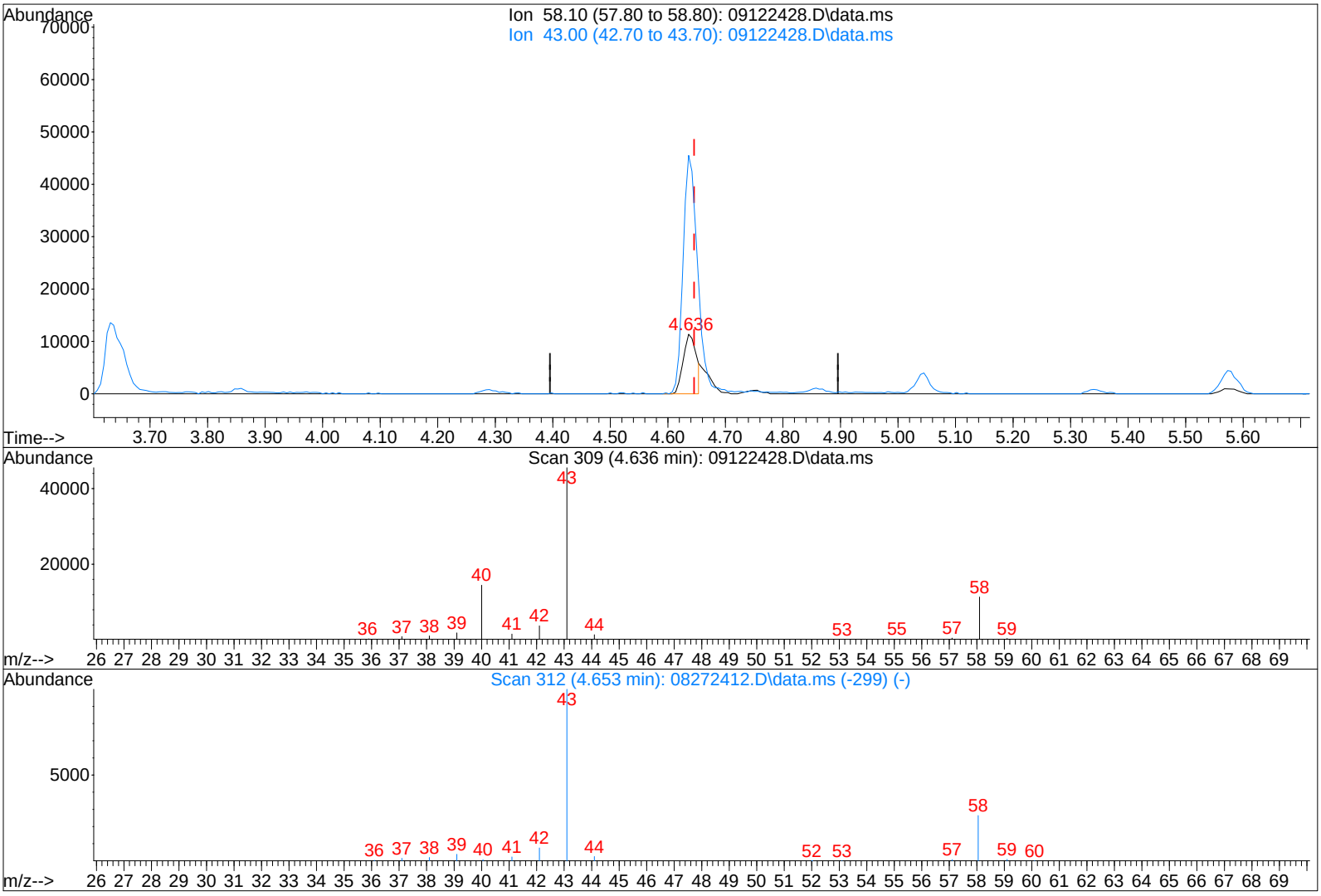
response 24225

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	335.64#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:40:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122428.D\data.ms

(13) Acetone (T)

4.636min (-0.009) 1.44ng m

response 17867

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	455.07#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

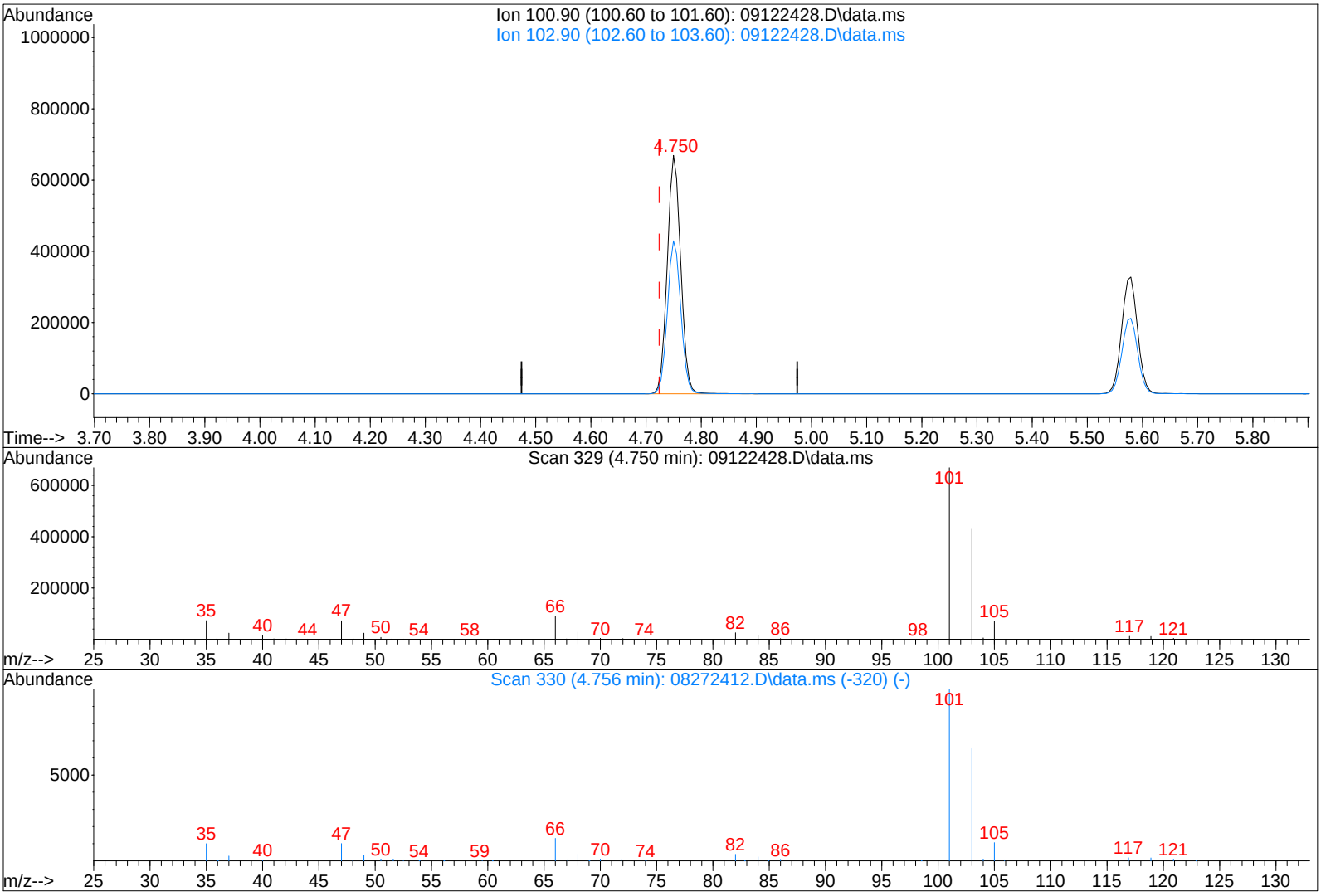
9/13/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:40:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122428.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.025) 35.97ng

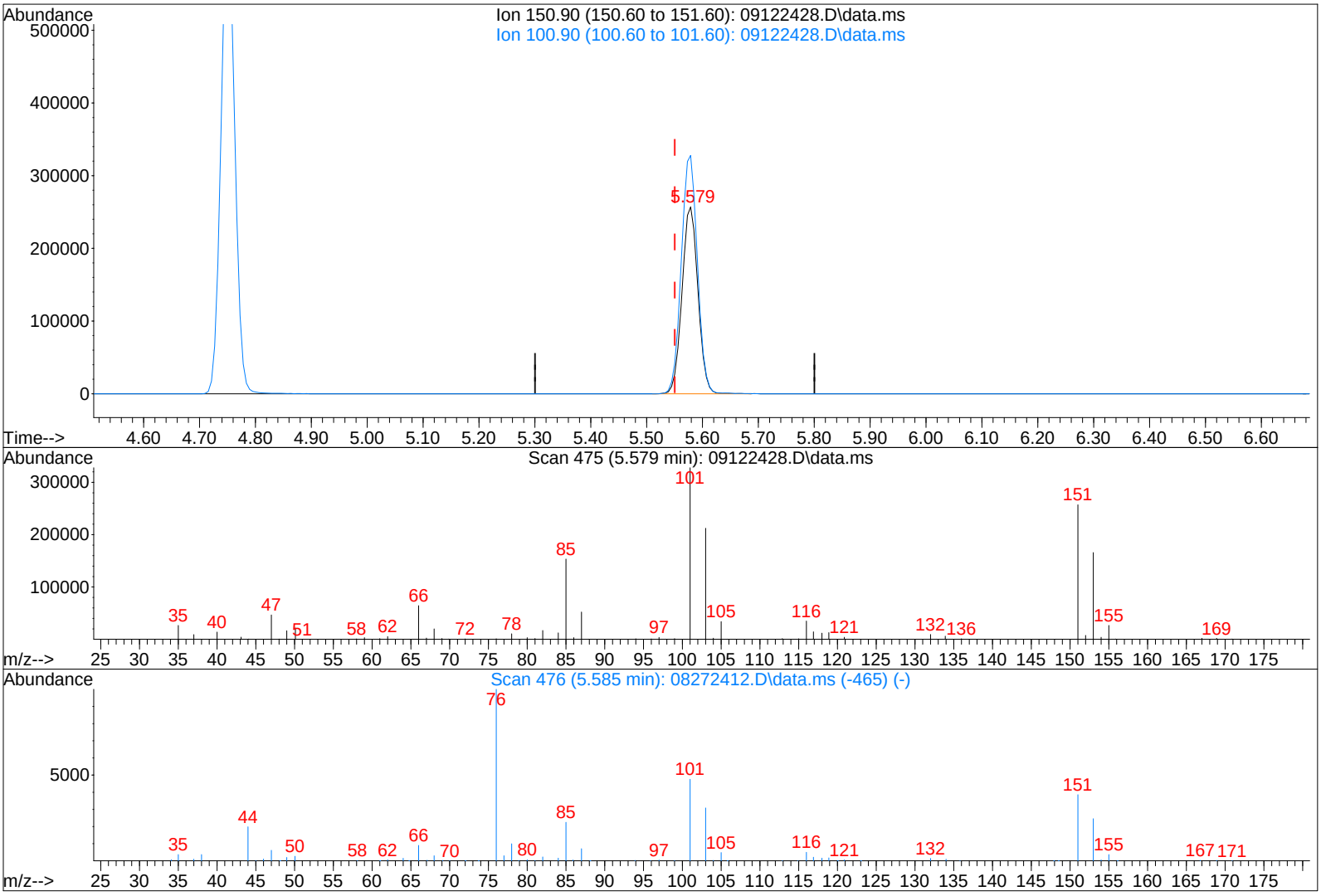
response 1130799

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.38
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122428.D Vial: 10
Acq On : 13 Sep 2024 9:16 Operator: SC
Sample : P2403661-051Dil (40mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:40:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122428.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.028) 40.87ng

response 509116

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	129.00
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122418.D\data.ms

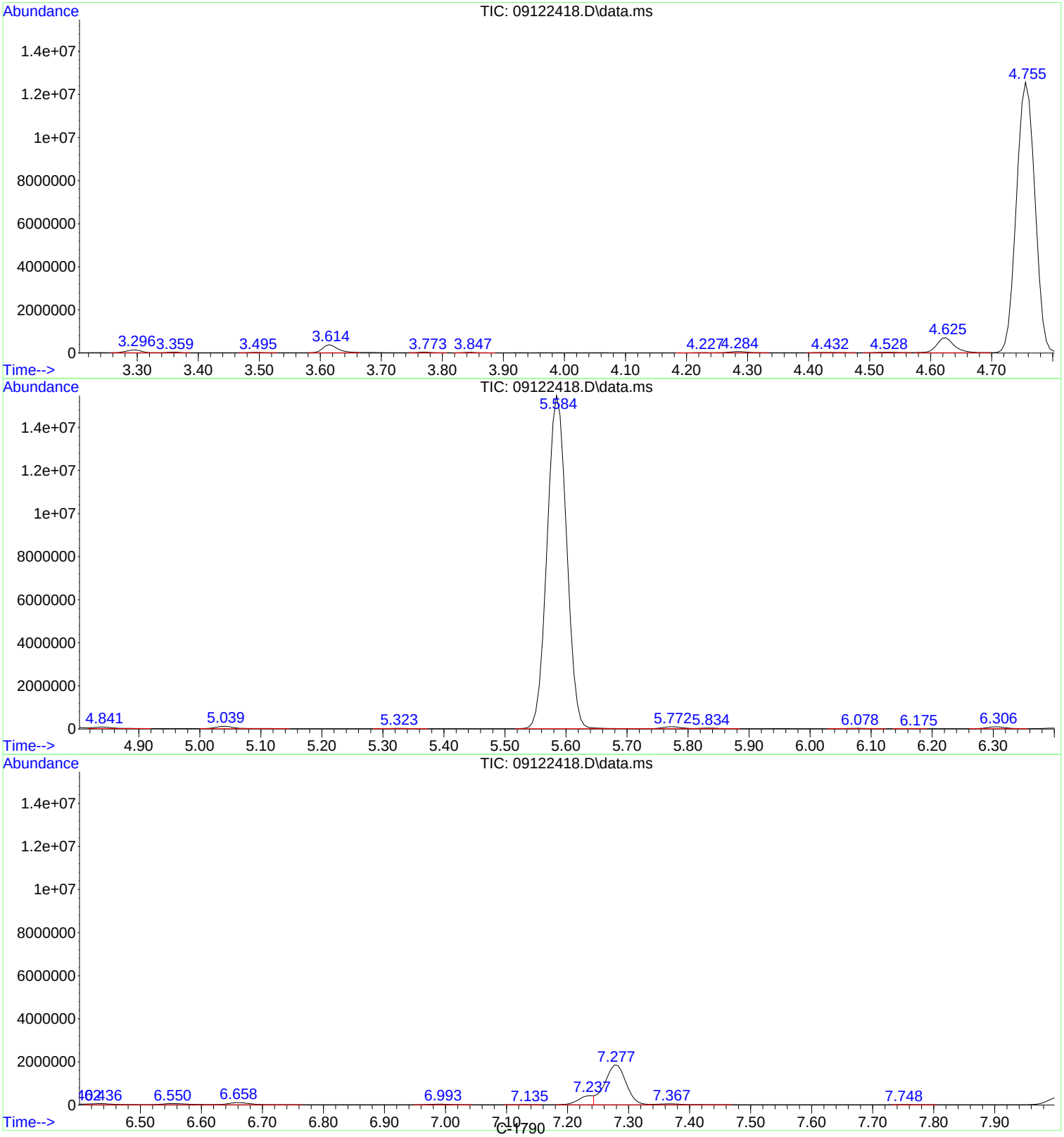
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	66	73	80	rVV3	129263	212030	0.62%	0.302%
2	3.359	80	84	89	rVB	29614	36307	0.11%	0.052%
3	3.495	103	108	114	rBV2	17202	24236	0.07%	0.035%
4	3.614	123	129	138	rBV	368651	630653	1.84%	0.899%
5	3.773	152	157	163	rVV	30251	41675	0.12%	0.059%
6	3.847	165	170	177	rVB2	23289	32581	0.10%	0.046%
7	4.227	229	237	241	rBV3	11189	21262	0.06%	0.030%
8	4.284	241	247	256	rVV	51148	105201	0.31%	0.150%
9	4.432	267	273	281	rVB2	10878	22036	0.06%	0.031%
10	4.528	283	290	297	rBV	22402	47899	0.14%	0.068%
11	4.625	298	307	320	rVV	693178	1352682	3.94%	1.928%
12	4.755	320	330	341	rVV	12553743	26397587	76.98%	37.634%
13	4.841	341	345	359	rVB	75872	165089	0.48%	0.235%
14	5.039	373	380	399	rVB2	110043	248600	0.72%	0.354%
15	5.323	423	430	439	rBV3	16498	39295	0.11%	0.056%
16	5.584	464	476	501	rVB	15458105	34293490	100.00%	48.891%
17	5.772	501	509	516	rBV	92551	189371	0.55%	0.270%
18	5.834	516	520	529	rVB	25372	48726	0.14%	0.069%
19	6.078	554	563	571	rBV2	20869	44246	0.13%	0.063%
20	6.175	573	580	583	rVB4	5519	10781	0.03%	0.015%
21	6.306	595	603	612	rBV	90979	192388	0.56%	0.274%
22	6.402	612	620	621	rVV2	31467	58048	0.17%	0.083%
23	6.436	621	626	640	rVV	51788	140886	0.41%	0.201%
24	6.550	640	646	658	rVV2	56135	157295	0.46%	0.224%
25	6.658	658	665	684	rVB	98508	236969	0.69%	0.338%
26	6.993	716	724	733	rBV3	31595	69851	0.20%	0.100%
27	7.135	742	749	753	rVB6	4919	11227	0.03%	0.016%
28	7.237	757	767	768	rBV	420675	755365	2.20%	1.077%
29	7.277	768	774	784	rVV	1841405	4429049	12.92%	6.314%
30	7.367	784	790	808	rVB	40013	111395	0.32%	0.159%
31	7.748	854	857	867	rVB5	7017	17202	0.05%	0.025%

Sum of corrected areas: 70143422

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:16
Operator : SC
Sample : P2403661-051 (400mL)
Misc : S37-06062402
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122418.D
Acq On : 12 Sep 2024 20:166
Operator : SCC
Sample : P2403661-051 (400mL))
Misc : S37-060624022
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

9/29/24

Quant Time: Sep 29 20:02:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	123069	12.500 ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.31	114	557210	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	169790	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.01	65	322133	13.988 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%			
57) Toluene-d8 (SS2)	12.43	98	644874	10.827 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%			
73) Bromofluorobenzene (SS3)	16.82	174	223974	11.243 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.36	85	26669	0.893 ng		90
4) Chloromethane	3.49	50	940	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	1995	0.185 ng		78
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.78	54	404	N.D.		
8) Bromomethane	4.02	94	117	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.28	45	46596	3.489 ng		79
11) Acetonitrile	4.45	41	5401	0.179 ng	#	25
12) Acrolein	4.55	56	3034	0.297 ng		92
13) Acetone	4.65	58	74937	6.649 ng		99
14) Trichlorofluoromethane	4.77	101	38838178	1362.759 ng		83
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D. d		
16) Acrylonitrile	5.04	53	134	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.33	59	23709	0.654 ng		86
19) Methylene Chloride	5.37	84	2494	0.188 ng	#	75
20) 3-Chloro-1-propene (Al...	5.47	41	205	N.D.		
21) Trichlorotrifluoroethane	5.62	151	25959310m	2299.162 ng		
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	6.35	63	117	N.D.		
25) Methyl tert-Butyl Ether	6.30	73	965	N.D.		
26) Vinyl Acetate	6.44	86	5080	2.218 ng	#	32
27) 2-Butanone (MEK)	6.68	72	4759	0.595 ng	#	82
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	7.29	61	190	N.D.		
31) n-Hexane	7.33	57	3427	0.140 ng	#	89
32) Chloroform	7.37	83	76476	3.119 ng		100
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	305	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.63	61	2159	No Calib	#	
40) 1-Butanol	8.81	56	6257	No Calib	#	
41) Benzene	8.92	78	7842	0.150 ng		99
42) Carbon Tetrachloride	9.09	117	759	N.D.		
43) Cyclohexane	9.24	84	193	N.D.		
44) tert-Amyl Methyl Ether	9.53	73	231	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.08	83	3127	0.159 ng		91
47) Trichloroethene	10.16	130	17101	1.322 ng		100
48) 1,4-Dioxane	10.13	88	130	N.D.		

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 29 20:02:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

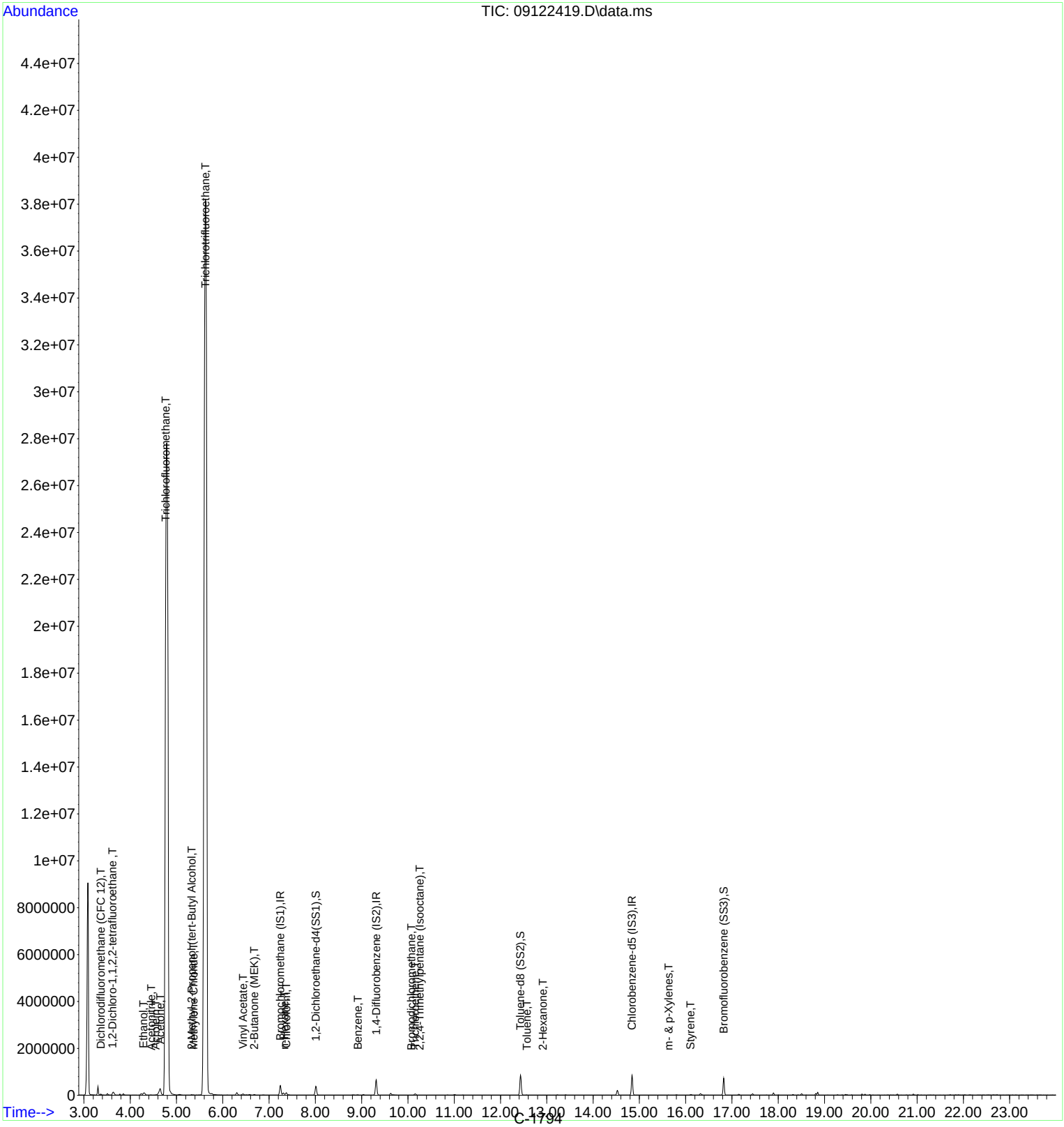
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	4701	0.076 ng		90
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	458	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.57	91	6423	0.100 ng		97
59) 2-Hexanone	12.91	43	2810	0.071 ng	#	71
60) Dibromochloromethane	13.07	129	253	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	1216	N.D.		
63) n-Octane	13.92	57	127	N.D.		
64) Tetrachloroethene	14.04	166	718	N.D.		
65) Chlorobenzene	14.90	112	808	N.D.		
66) Ethylbenzene	15.41	91	1814	N.D.		
67) m- & p-Xylenes	15.63	91	4095	0.068 ng		99
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	5840	0.150 ng		96
70) o-Xylene	16.24	91	2203	N.D.		
71) n-Nonane	16.61	43	1750	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.22	83	242	N.D.		
74) Cumene	17.04	105	588	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	998	N.D.		
77) 3-Ethyltoluene	17.04	105	588	No Calib	#	
78) 4-Ethyltoluene	17.86	105	955	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	447	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	588	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1457	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.55	91	415	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	325	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	499	N.D.		
87) sec-Butylbenzene	18.74	105	403	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	930	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	588	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	250	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	718	N.D.		
95) Naphthalene	20.93	128	2136	N.D.		
96) n-Dodecane	18.85	58	1658	No Calib	#	
97) Hexachlorobutadiene	21.30	225	353	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	446	N.D.		
100) n-Butylbenzene	19.39	91	989	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 29 20:02:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

MDA 9/29/24

Quant Time: Sep 29 20:02:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

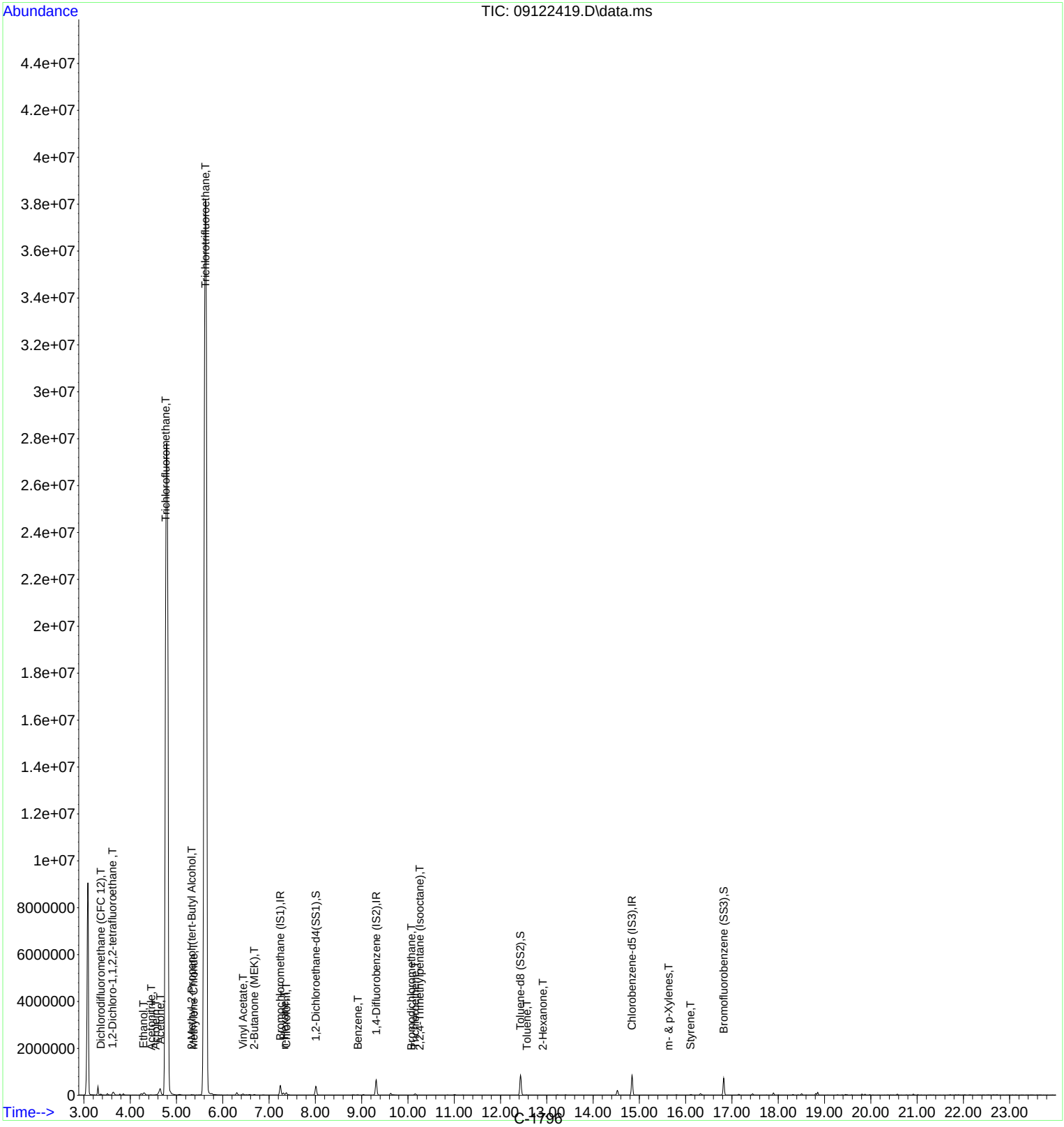
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	123069	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.31	114	557210	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	169790	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	322133	13.988	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.92%				
57) Toluene-d8 (SS2)	12.43	98	644874	10.827	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%				
73) Bromofluorobenzene (SS3)	16.82	174	223974	11.243	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	26669	0.893	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	1995	0.185	ng		78
10) Ethanol	4.28	45	46596	3.489	ng		79
11) Acetonitrile	4.45	41	5401	0.179	ng	#	25
12) Acrolein	4.55	56	3034	0.297	ng		92
13) Acetone	4.65	58	74937	6.649	ng		99
14) Trichlorofluoromethane	4.77	101	38838178	1362.759	ng		83
18) 2-Methyl-2-Propanol (t...	5.33	59	23709	0.654	ng		86
19) Methylene Chloride	5.37	84	2494	0.188	ng	#	75
21) Trichlorotrifluoroethane	5.62	151	25959310m	2299.162	ng		
26) Vinyl Acetate	6.44	86	5080	2.218	ng	#	32
27) 2-Butanone (MEK)	6.68	72	4759	0.595	ng	#	82
31) n-Hexane	7.33	57	3427	0.140	ng	#	89
32) Chloroform	7.37	83	76476	3.119	ng		100
41) Benzene	8.92	78	7842	0.150	ng		99
46) Bromodichloromethane	10.08	83	3127	0.159	ng		91
47) Trichloroethene	10.16	130	17101	1.322	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	4701	0.076	ng		90
58) Toluene	12.57	91	6423	0.100	ng		97
59) 2-Hexanone	12.91	43	2810	0.071	ng	#	71
67) m- & p-Xylenes	15.63	91	4095	0.068	ng		99
69) Styrene	16.11	104	5840	0.150	ng		96

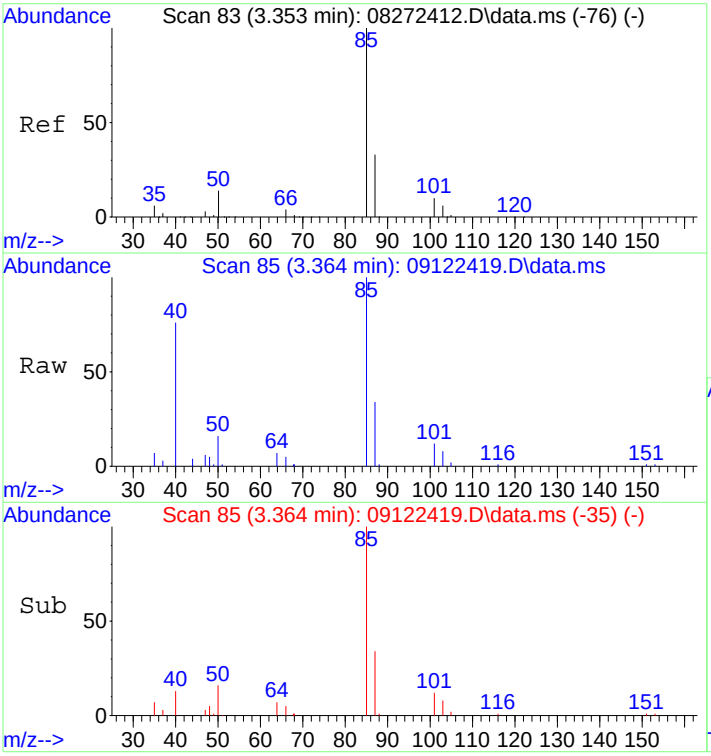
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 29 20:02:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

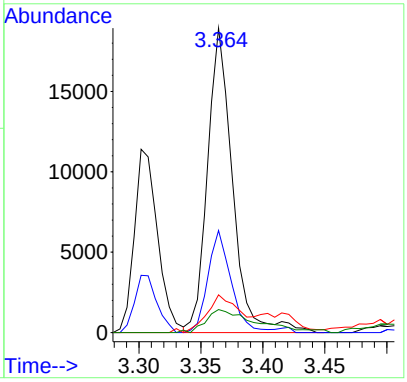


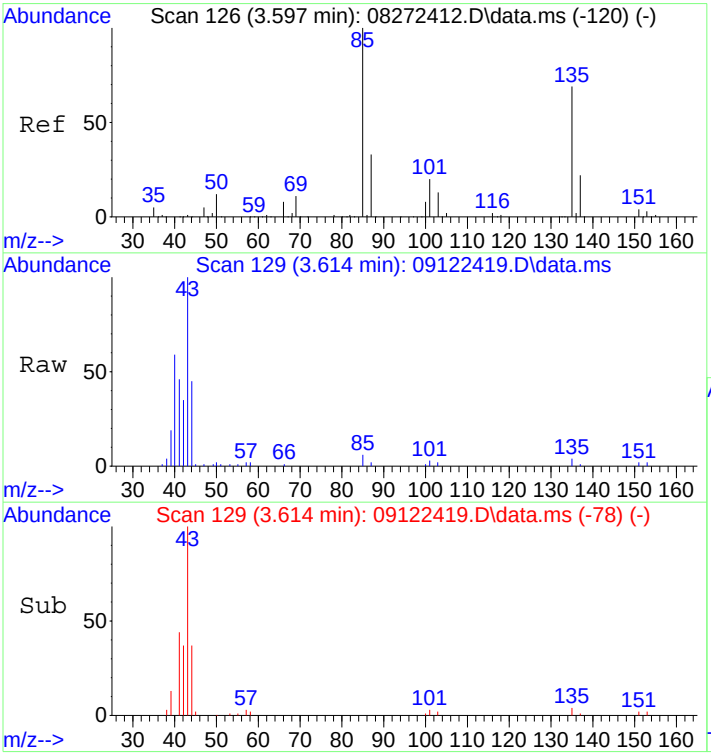


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.89 ng
RT: 3.36 min Scan# 85
Delta R.T. 0.034 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 85 Resp: 26669

Ion	Ratio	Lower	Upper
85	100		
87	30.8	13.1	53.1
101	16.6	0.0	29.4
103	15.2	0.0	26.0

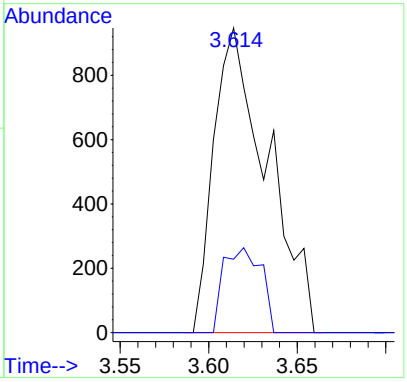


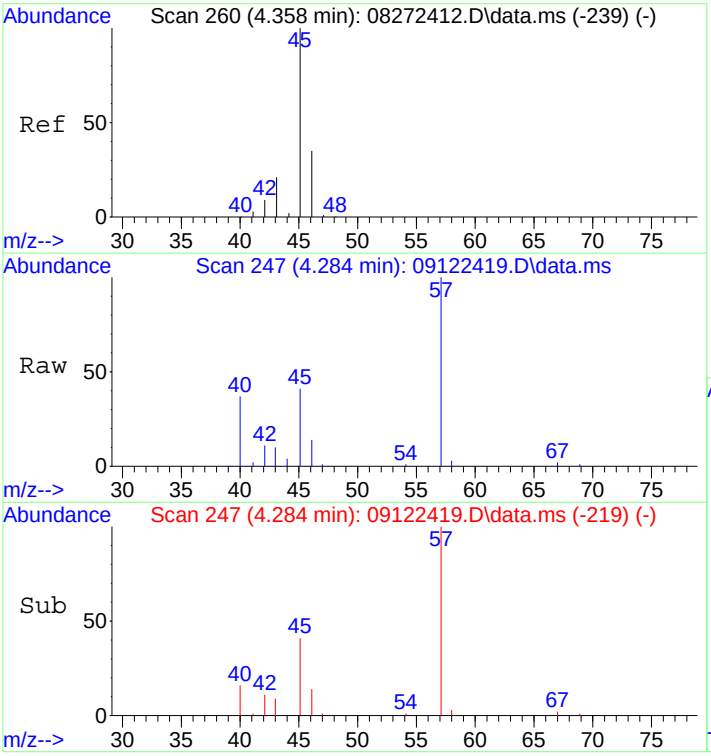


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.18 ng
RT: 3.61 min Scan# 129
Delta R.T. 0.042 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion:135 Resp: 1995

Ion	Ratio	Lower	Upper
135	100		
137	19.5	11.6	51.6

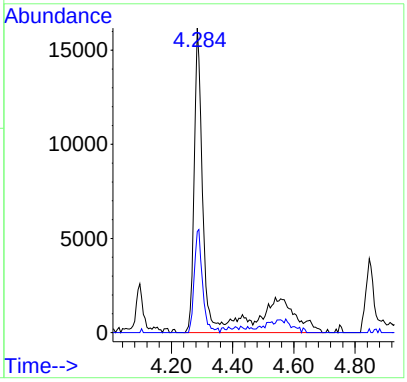


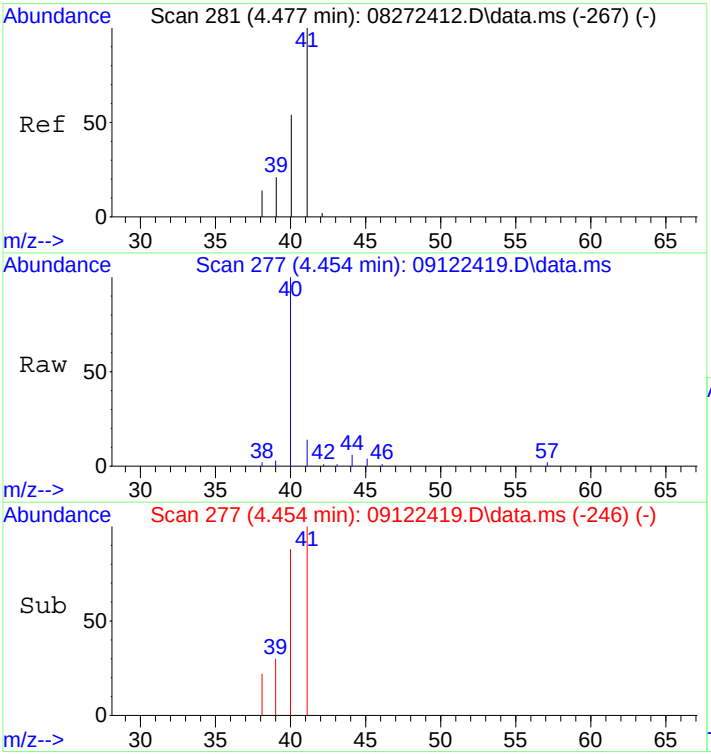


#10
Ethanol
Concen: 3.49 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.092 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 45 Resp: 46596

Ion	Ratio	Lower	Upper
45	100		
46	22.1	14.2	54.2

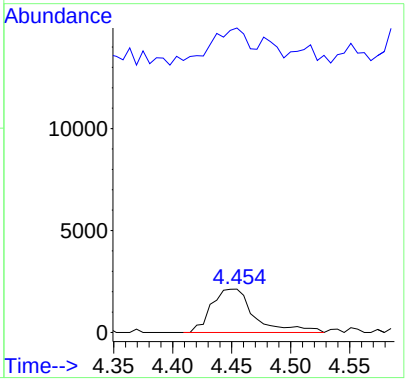


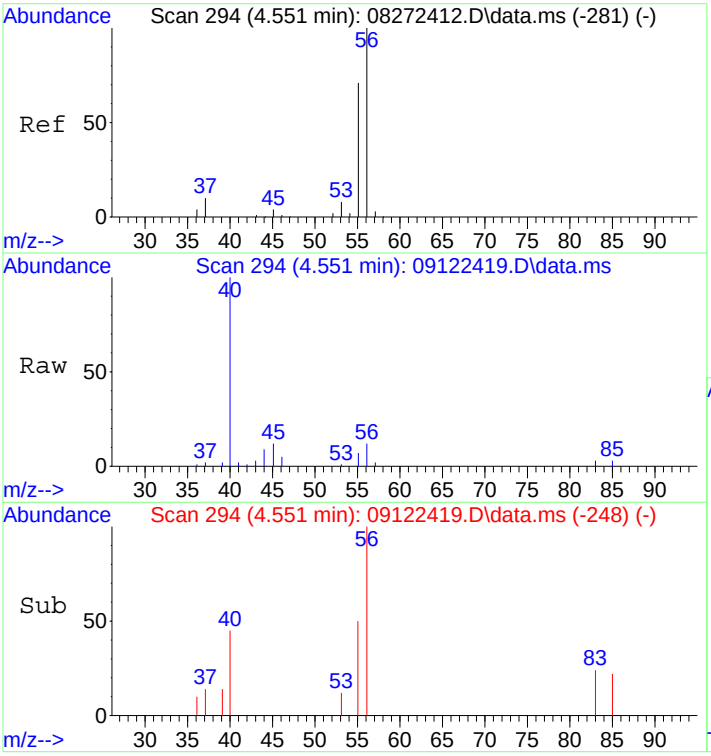


#11
Acetonitrile
Concen: 0.18 ng
RT: 4.45 min Scan# 277
Delta R.T. -0.023 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 41 Resp: 5401

Ion	Ratio	Lower	Upper
41	100		
40	0.0	33.9	73.9#

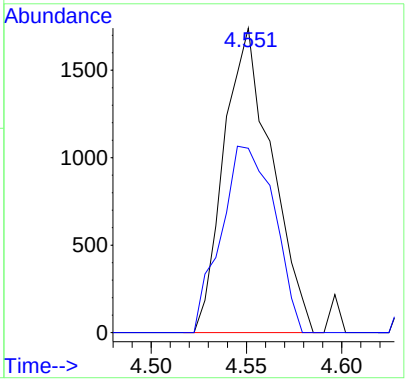


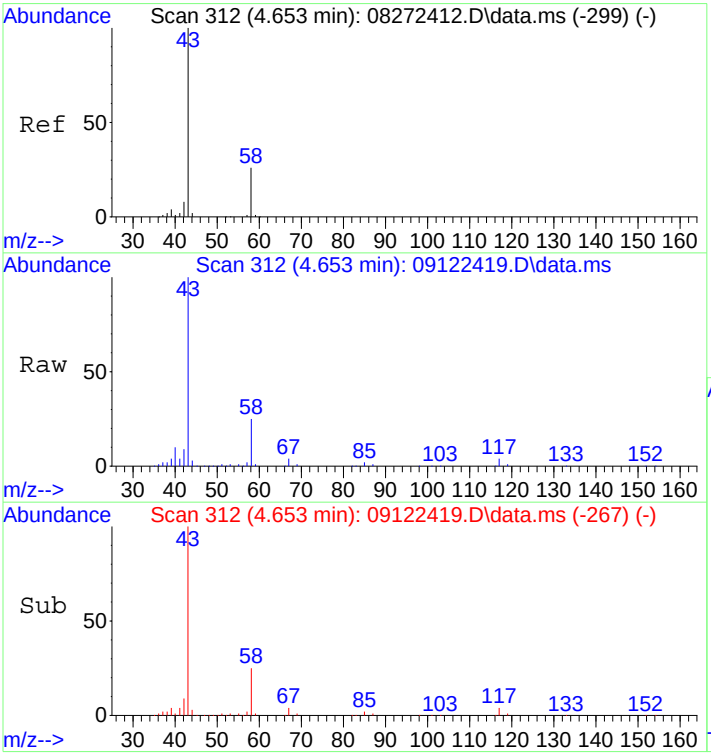


#12
Acrolein
Concen: 0.30 ng
RT: 4.55 min Scan# 294
Delta R.T. 0.012 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 56 Resp: 3034

Ion	Ratio	Lower	Upper
56	100		
55	68.2	54.7	94.7

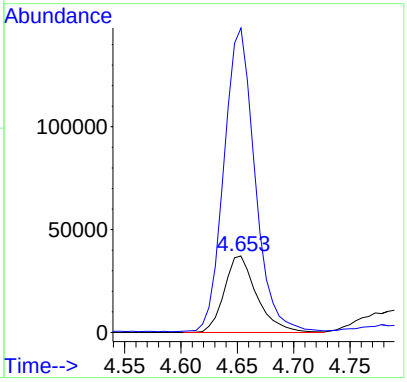


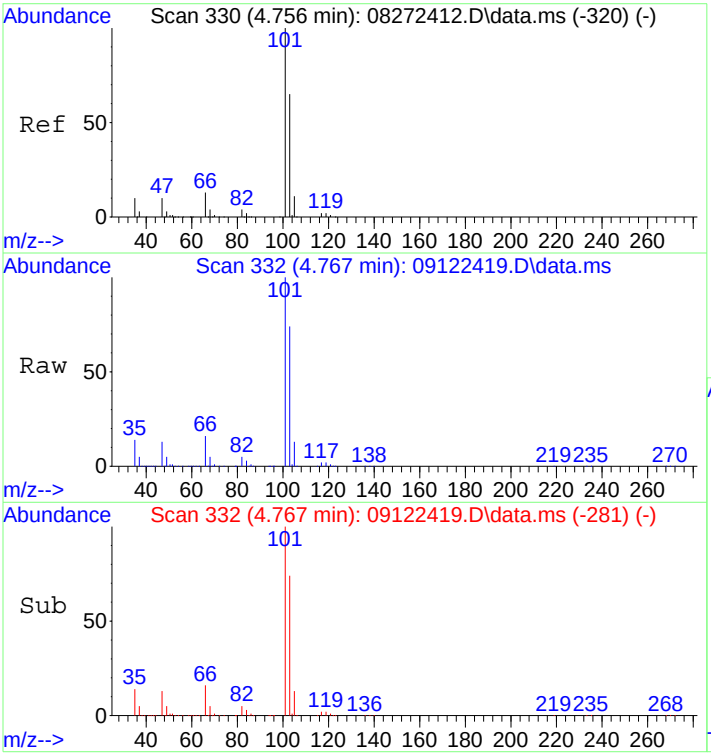


#13
Acetone
Concen: 6.65 ng
RT: 4.65 min Scan# 312
Delta R.T. 0.008 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 58 Resp: 74937

Ion	Ratio	Lower	Upper
58	100		
43	378.6	347.3	407.3

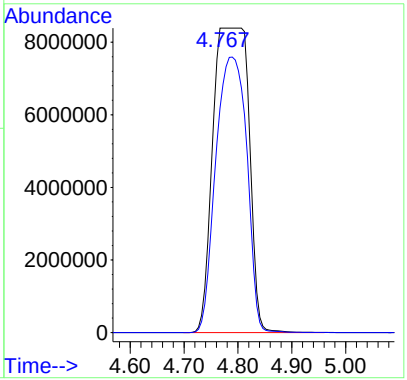


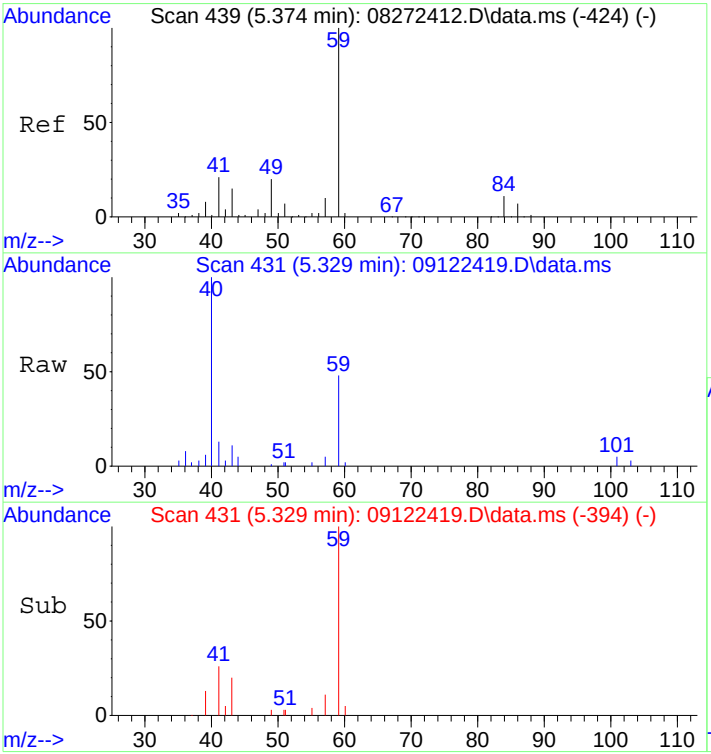


#14
Trichlorofluoromethane
Concen: 1362.76 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.042 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion:101 Resp:38838178

Ion	Ratio	Lower	Upper
101	100		
103	78.2	44.9	84.9

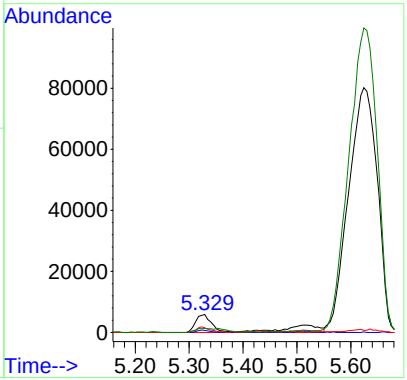


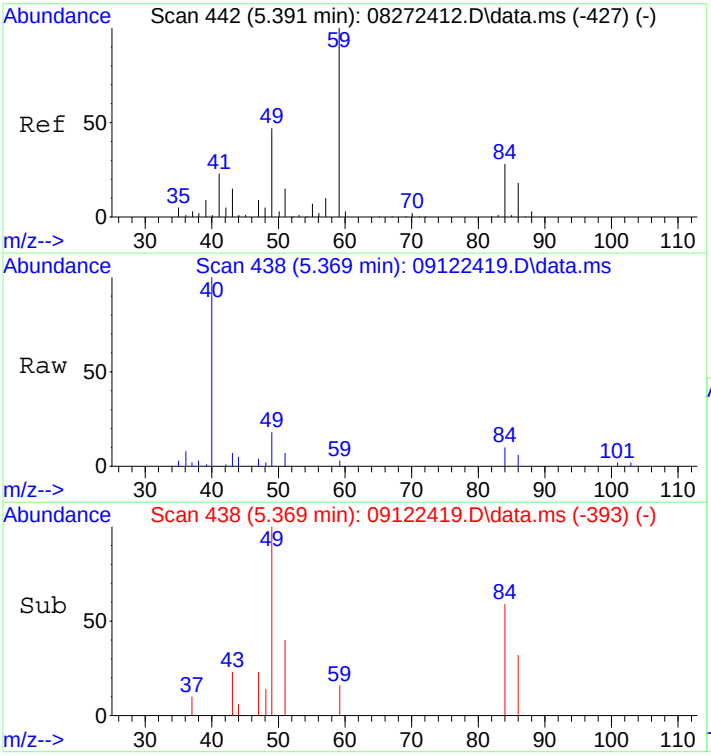


#18
2-Methyl-2-Propanol (tert-Butyl Alcohol
Concen: 0.65 ng
RT: 5.33 min Scan# 431
Delta R.T. -0.042 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 59 Resp: 23709

Ion	Ratio	Lower	Upper
59	100		
57	5.1	0.0	30.4
41	14.0	0.0	37.2
43	24.8	0.0	35.3

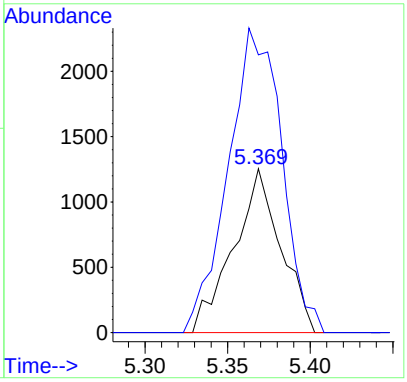


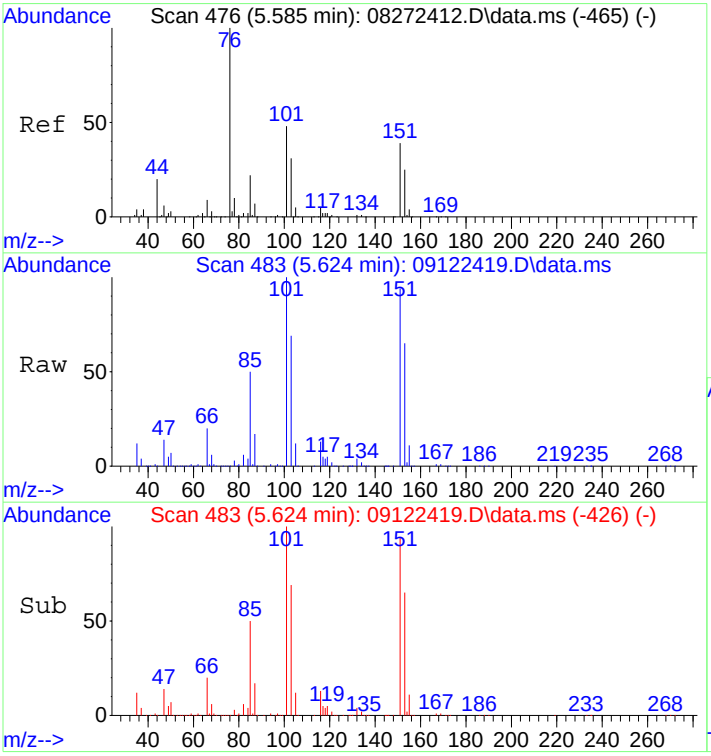


#19
Methylene Chloride
Concen: 0.19 ng
RT: 5.37 min Scan# 438
Delta R.T. 0.003 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 84 Resp: 2494

Ion	Ratio	Lower	Upper
84	100		
49	210.7	151.1	201.1#

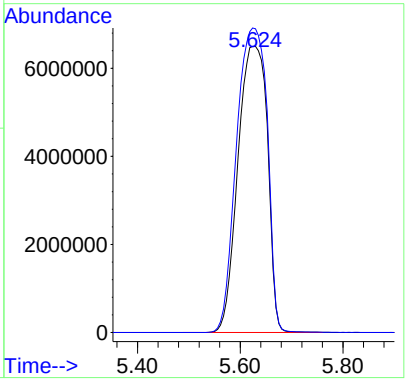


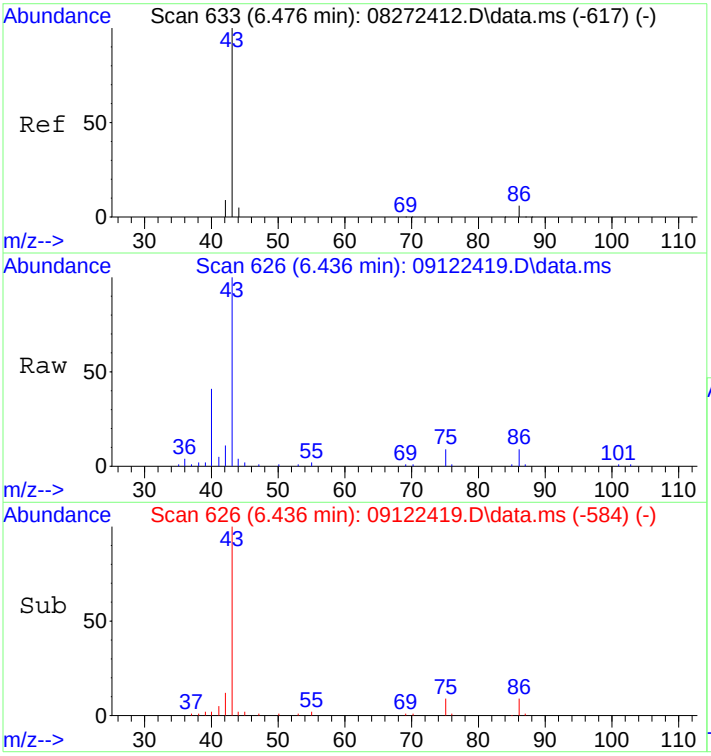


#21
Trichlorotrifluoroethane
Concen: 2299.16 ng m
RT: 5.62 min Scan# 483
Delta R.T. 0.074 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion:151 Resp:25959310

Ion	Ratio	Lower	Upper
151	100		
101	110.8	103.4	143.4

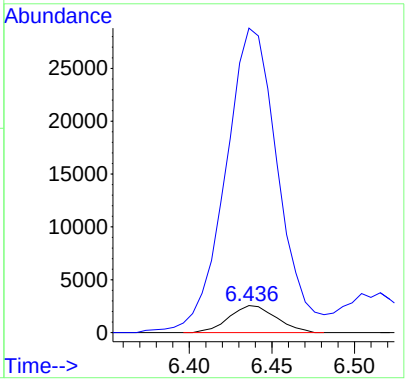


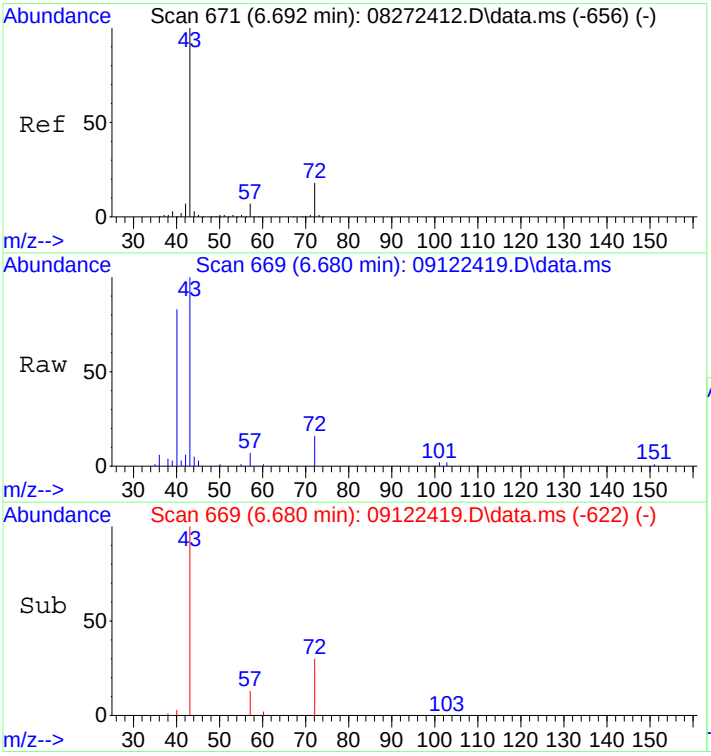


#26
Vinyl Acetate
Concen: 2.22 ng
RT: 6.44 min Scan# 626
Delta R.T. -0.014 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 86 Resp: 5080

Ion	Ratio	Lower	Upper
86	100		
43	1261.5	1687.9	1727.9#

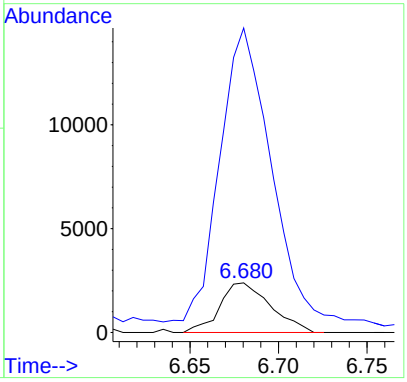


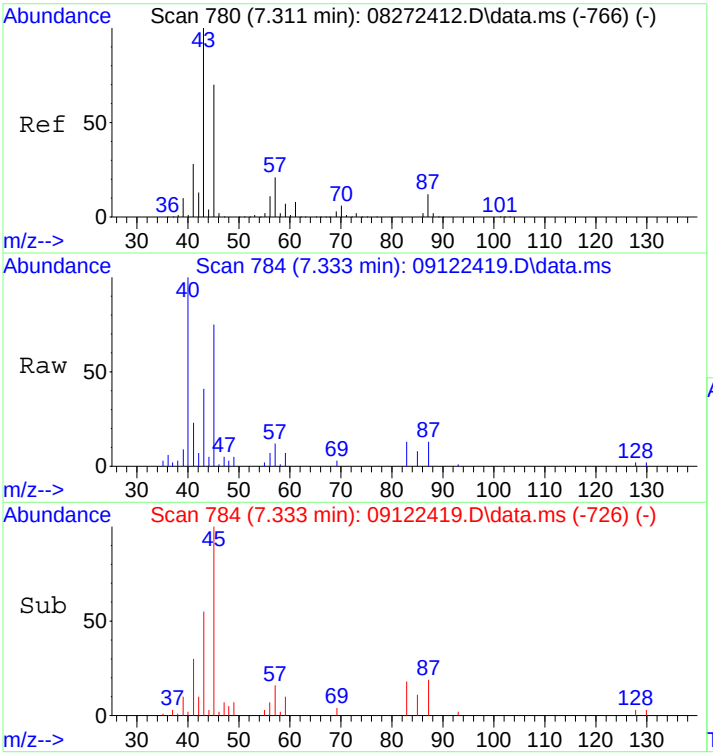


#27
2-Butanone (MEK)
Concen: 0.60 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.017 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 72 Resp: 4759

Ion	Ratio	Lower	Upper
72	100		
43	620.9	548.0	588.0#

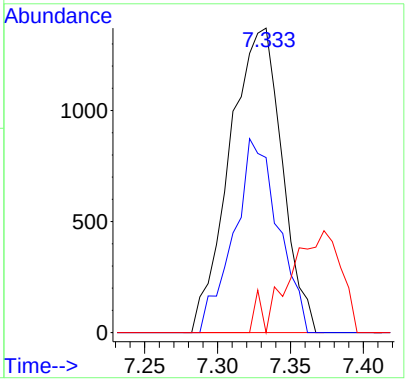


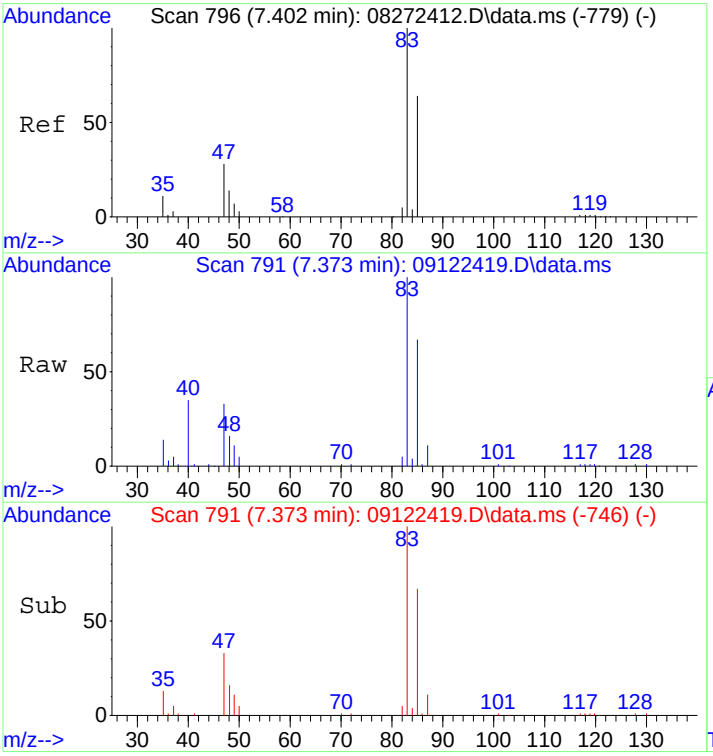


#31
n-Hexane
Concen: 0.14 ng
RT: 7.33 min Scan# 784
Delta R.T. 0.079 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 57 Resp: 3427

Ion	Ratio	Lower	Upper
57	100		
56	54.1	44.2	66.2
86	32.9	9.3	13.9#

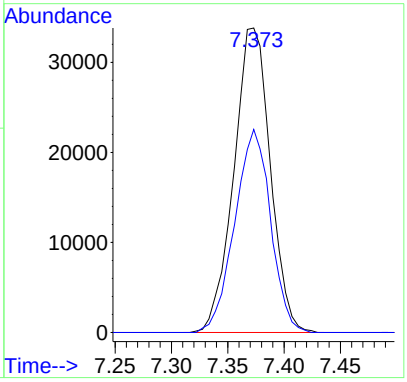


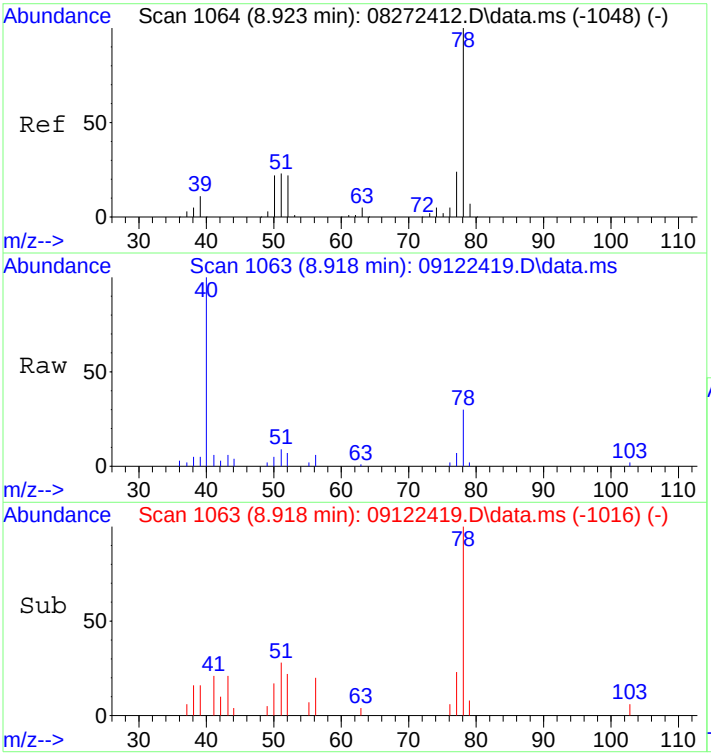


#32
Chloroform
Concen: 3.12 ng
RT: 7.37 min Scan# 791
Delta R.T. 0.007 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 83 Resp: 76476

Ion	Ratio	Lower	Upper
83	100		
85	65.3	45.3	85.3

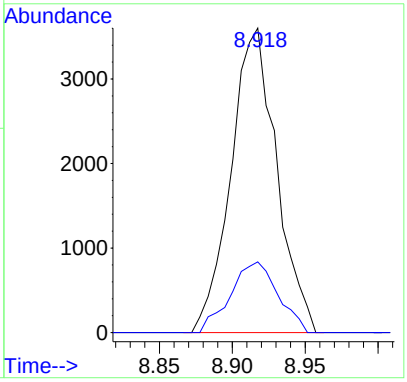


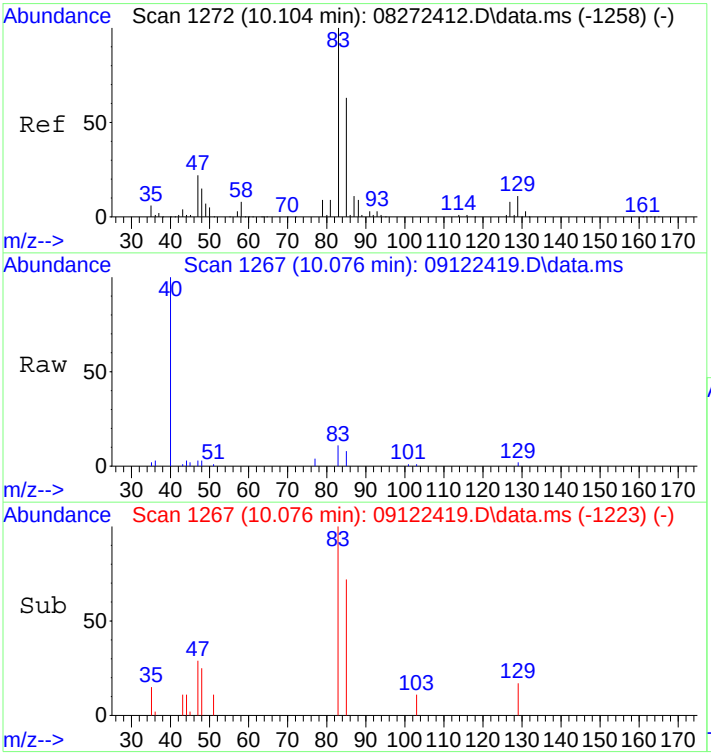


#41
Benzene
Concen: 0.15 ng
RT: 8.92 min Scan# 1063
Delta R.T. 0.015 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 78 Resp: 7842

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.9	43.9

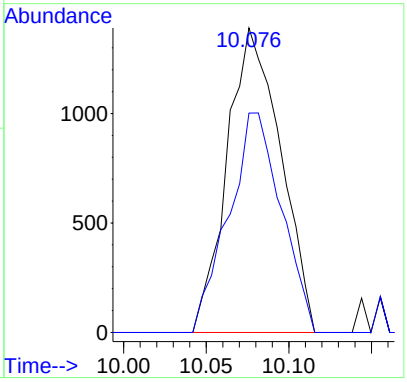


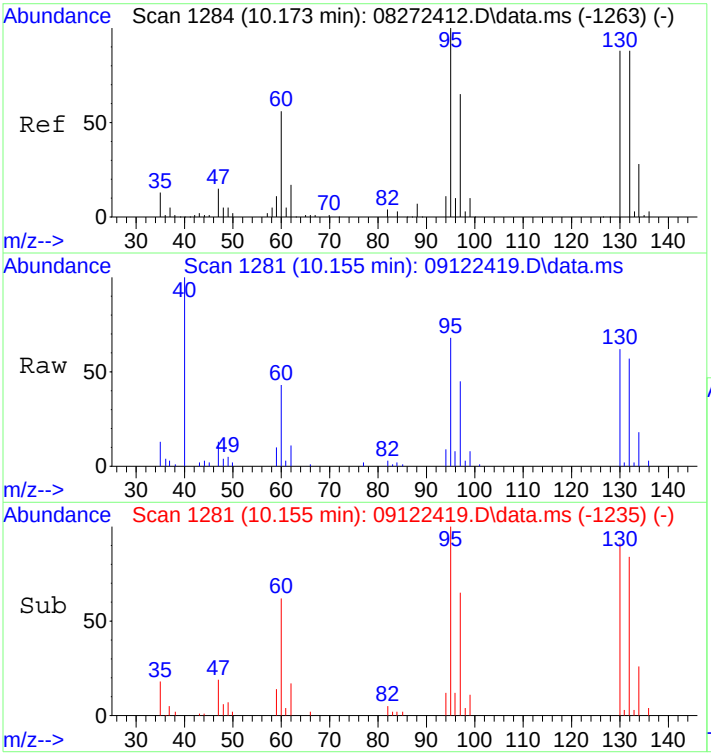


#46
Bromodichloromethane
Concen: 0.16 ng
RT: 10.08 min Scan# 1267
Delta R.T. -0.002 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 83 Resp: 3127

Ion	Ratio	Lower	Upper
83	100		
85	71.3	43.9	83.9

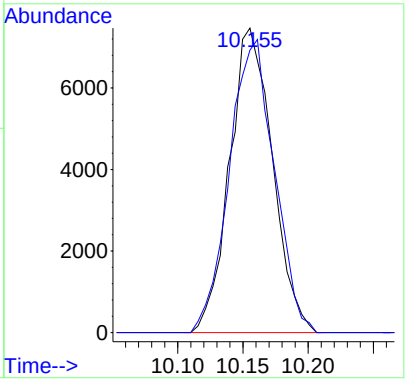


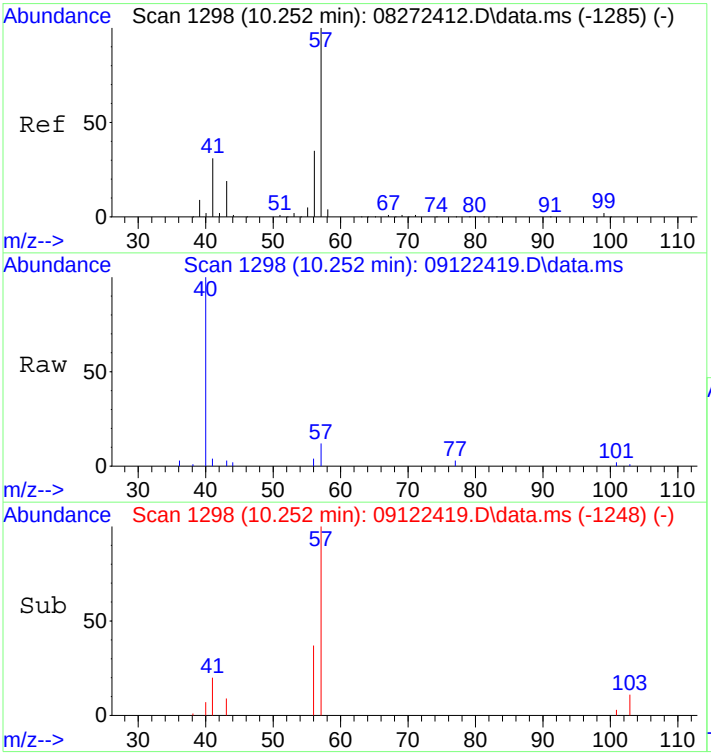


#47
Trichloroethene
Concen: 1.32 ng
RT: 10.16 min Scan# 1281
Delta R.T. 0.010 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion:130 Resp: 17101

Ion	Ratio	Lower	Upper
130	100		
132	100.7	80.8	120.8

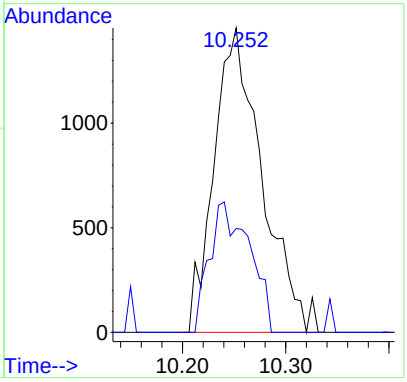


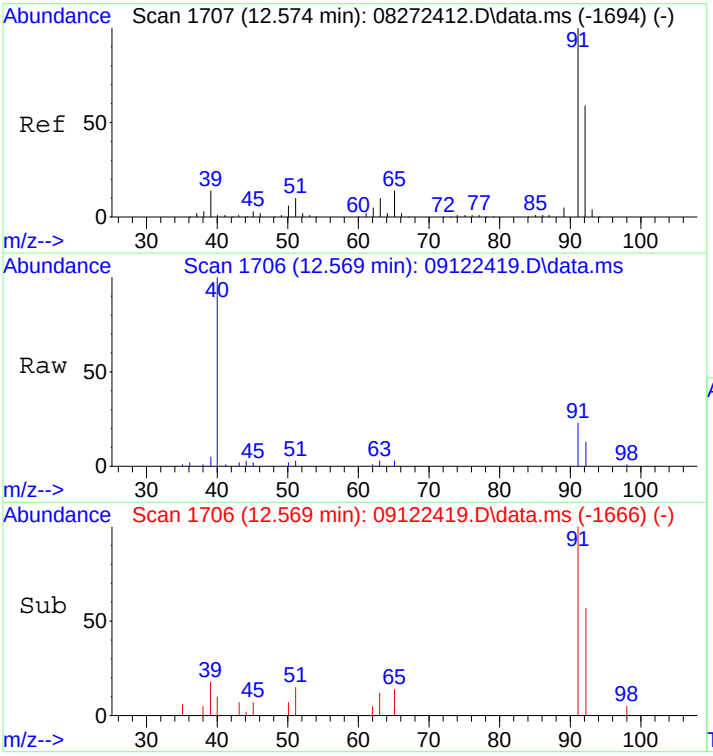


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.08 ng
RT: 10.25 min Scan# 1298
Delta R.T. 0.033 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 57 Resp: 4701

Ion	Ratio	Lower	Upper
57	100		
41	35.8	10.5	50.5

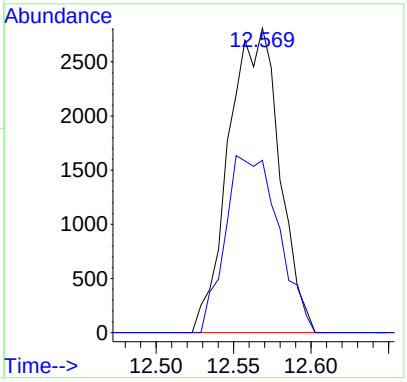


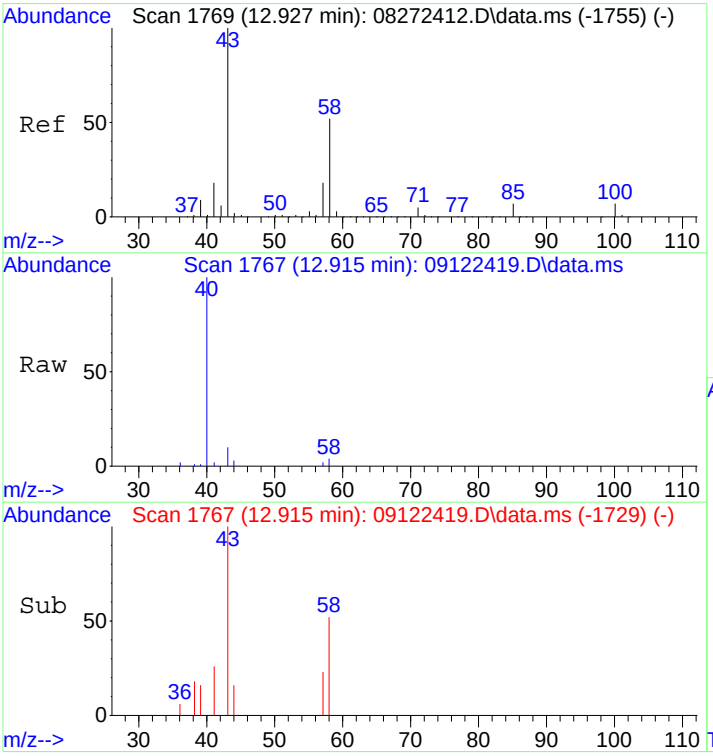


#58
Toluene
Concen: 0.10 ng
RT: 12.57 min Scan# 1706
Delta R.T. -0.023 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 91 Resp: 6423

Ion	Ratio	Lower	Upper
91	100		
92	60.8	38.5	78.5

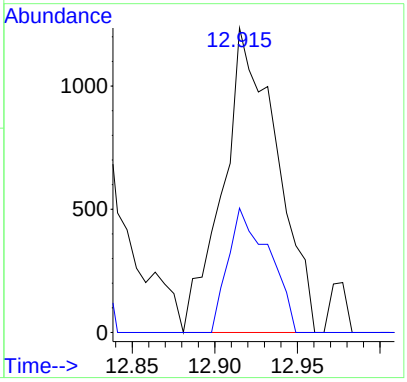


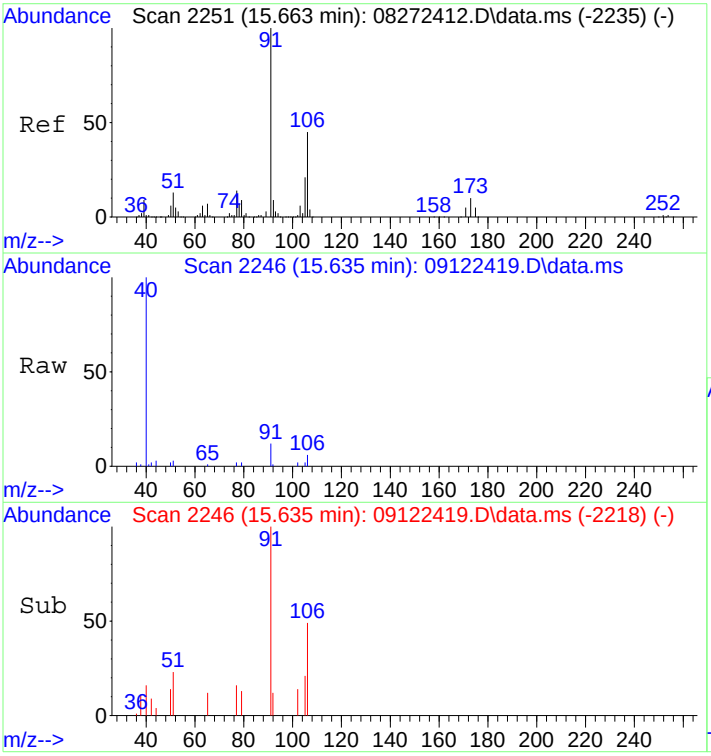


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.91 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 43 Resp: 2810

Ion	Ratio	Lower	Upper
43	100		
58	31.1	31.1	71.1#

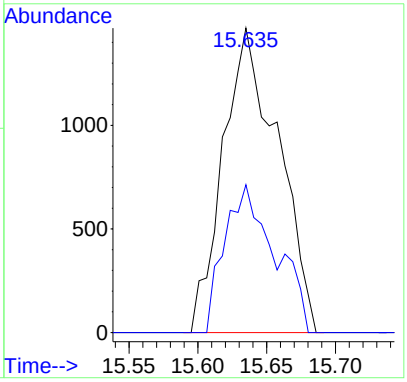


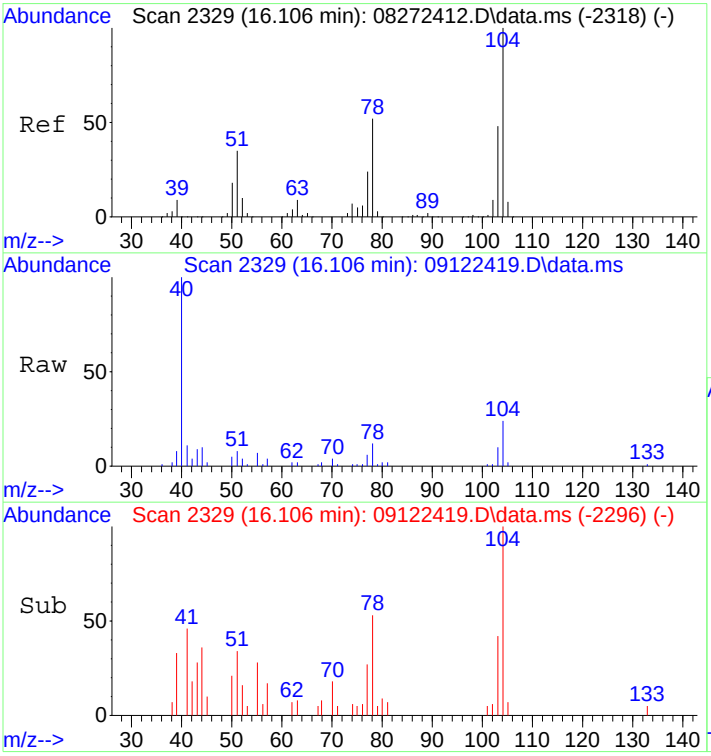


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion: 91 Resp: 4095

Ion	Ratio	Lower	Upper
91	100		
106	44.2	23.8	63.8

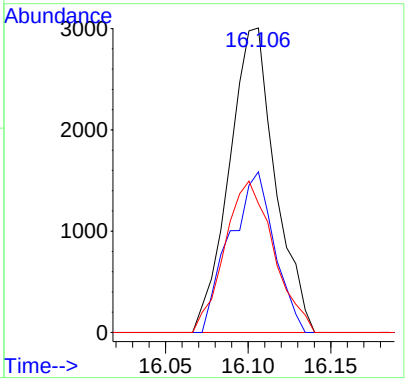




#69
Styrene
Concen: 0.15 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.011 min
Lab File: 09122419.D
Acq: 12 Sep 2024 20:48

Tgt Ion:104 Resp: 5840

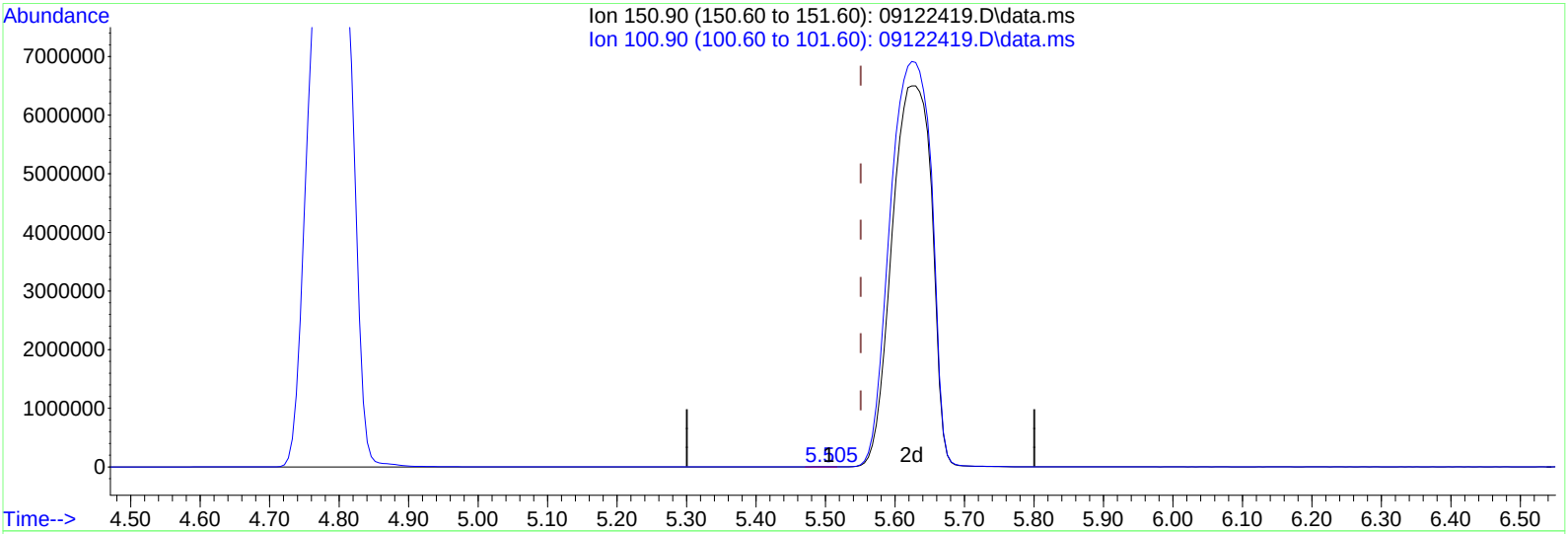
Ion	Ratio	Lower	Upper
104	100		
78	50.7	32.2	72.2
103	52.8	28.3	68.3

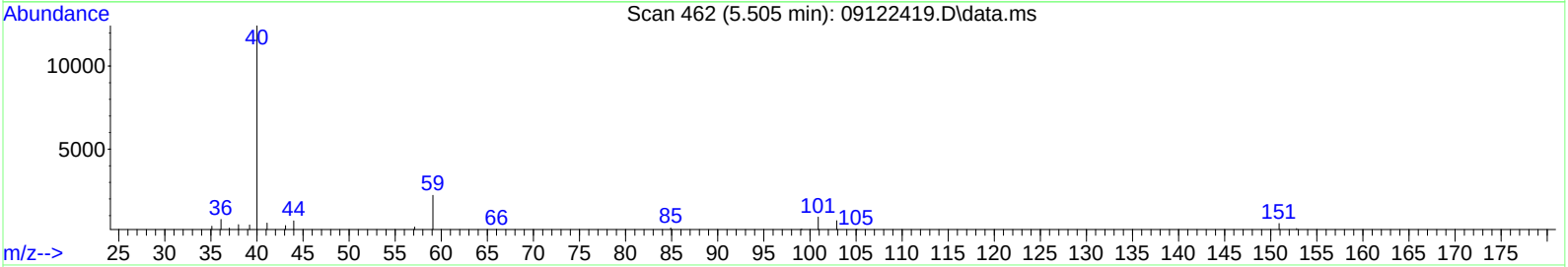


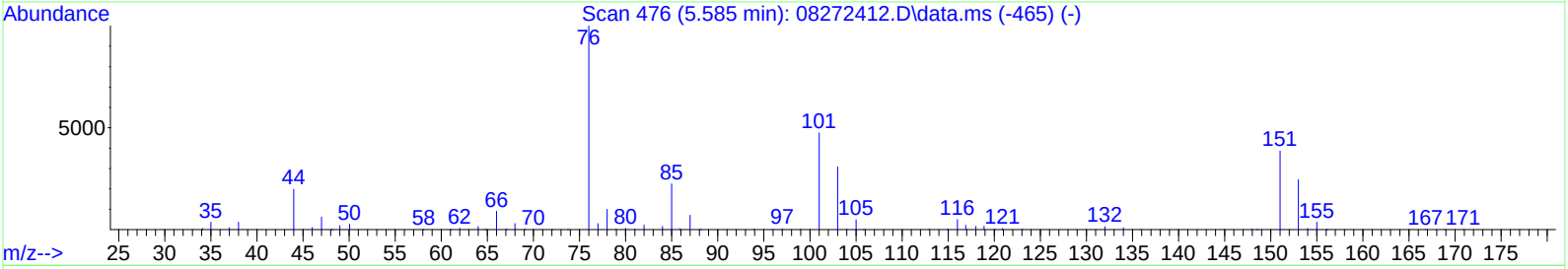
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 13 08:22:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122419.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.505min (-0.046) 0.06ng

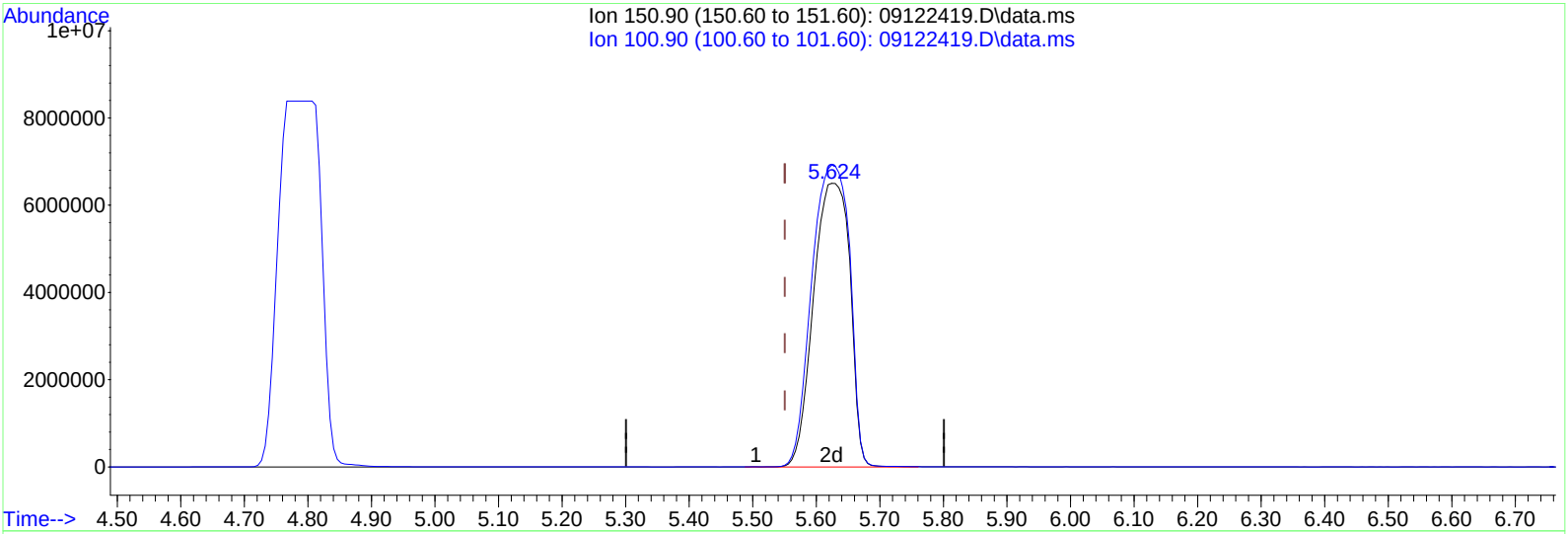
response 687

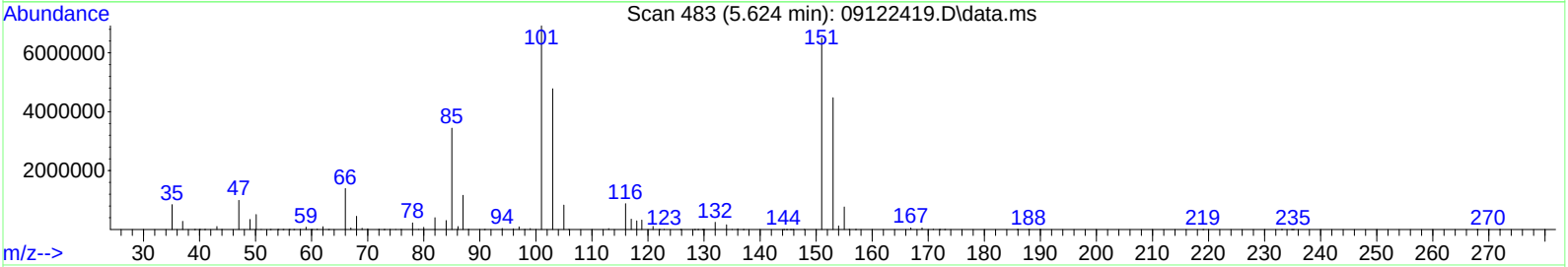
Ion	Exp%	Act%
150.90	100	100
100.90	123.40	34.50#
0.00	0.00	0.00
0.00	0.00	0.00

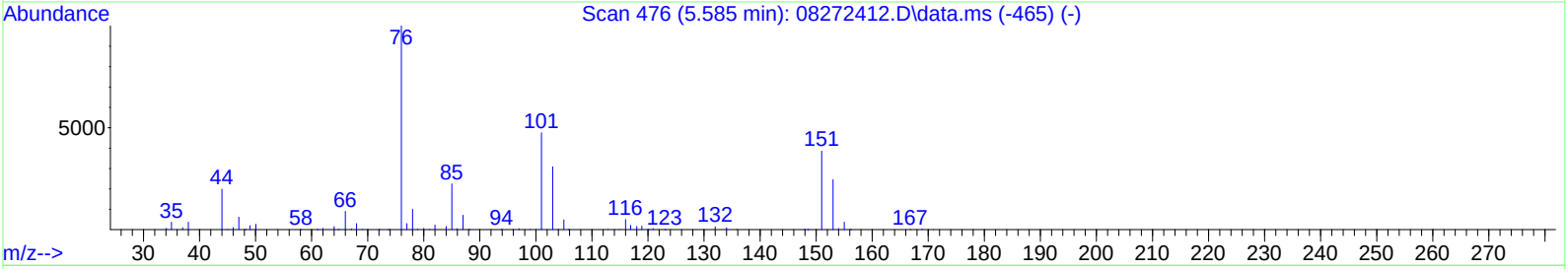
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 13 08:22:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122419.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.624min (+0.074) 2299.16ng m

response 25959310

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	110.76
0.00	0.00	0.00
0.00	0.00	0.00

MP

VOA 9/29/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 06:03:09 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

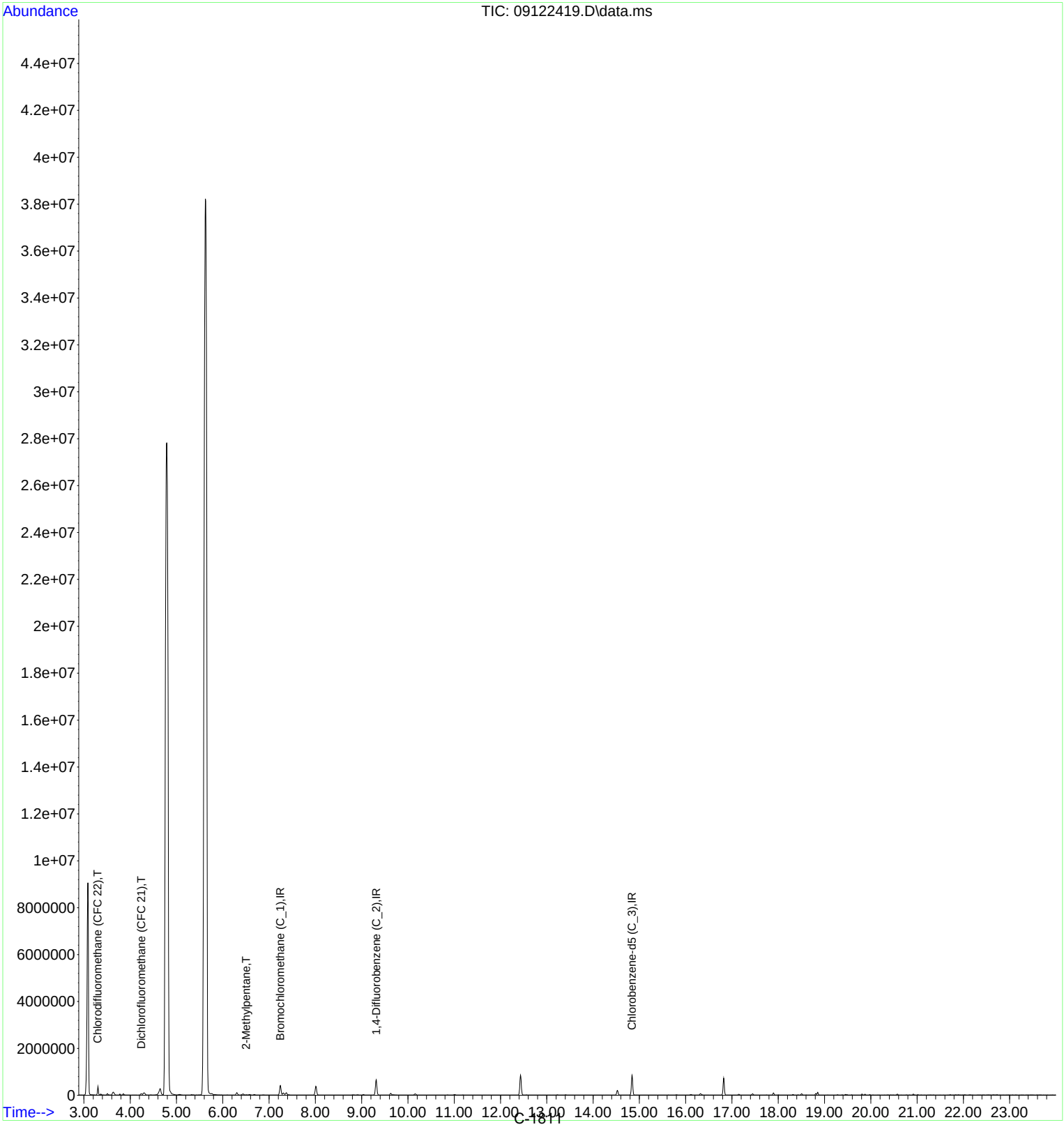
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	123362	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C_2)	9.31	114	557431	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	169790	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	125	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	1149	N.D.			
4) 1,1-Difluoroethane	3.25	65	58	N.D.			
5) Chlorodifluoromethane ...	3.30	67	1628	0.387	ng	#	68
6) 1-Chloro-1,1-Difluoroe...	3.50	65	625	N.D.			
7) Dichlorofluoromethane ...	4.24	67	61788	2.184	ng		98
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.	d		
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	0.00	43	0	N.D.	d		
12) 2-Methylpentane	6.50	71	1989	0.186	ng		96
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.04	84	1063	N.D.			
17) 2,3-Dimethylpentane	9.53	56	959	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.42	55	229	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.37	75	54	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	67	N.D.			
27) 4-Chlorotoluene	17.68	91	998	N.D.			
28) Indane	0.00	117	0	N.D.			
29) Indene	19.21	115	62	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	65	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	65	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	204	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 30 06:03:09 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

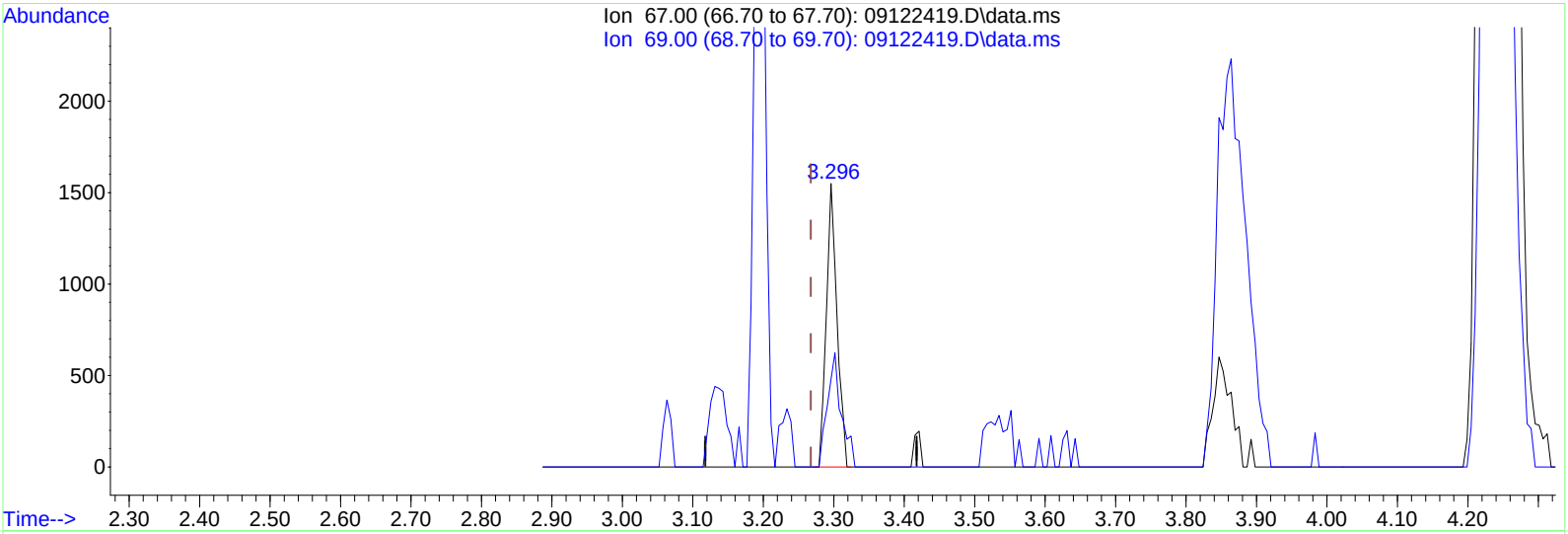


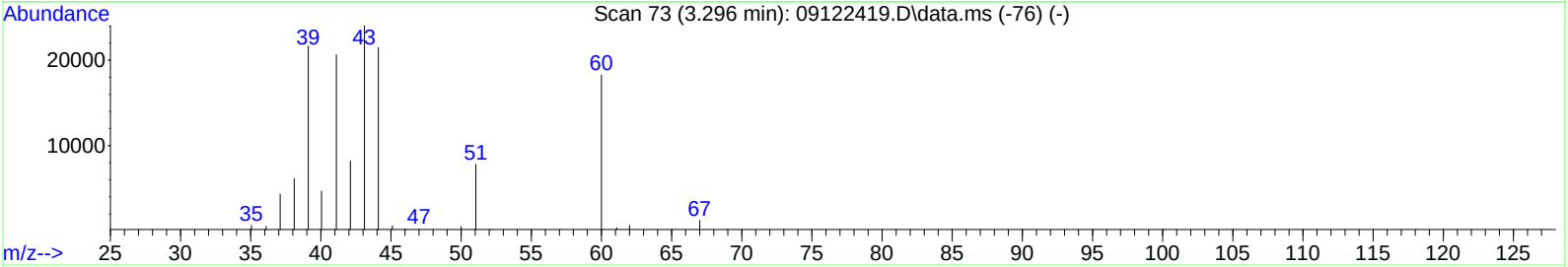
C-1811

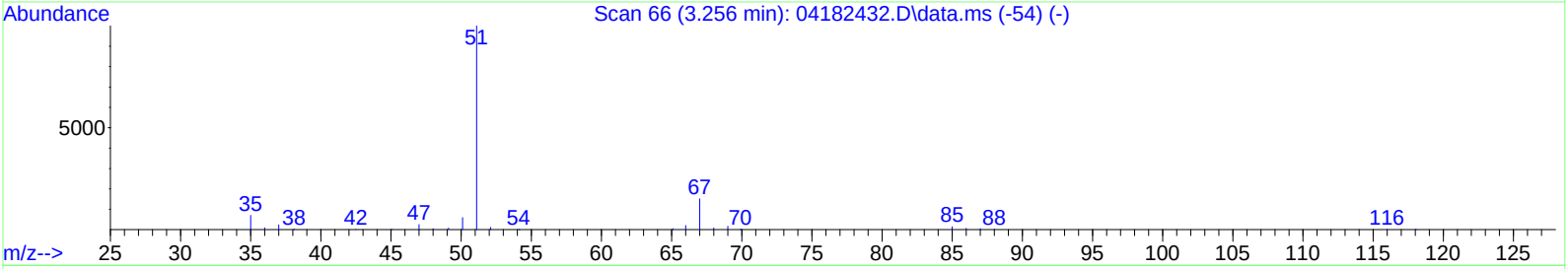
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 30 05:44:37 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122419.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.296min (+0.028) 0.39ng

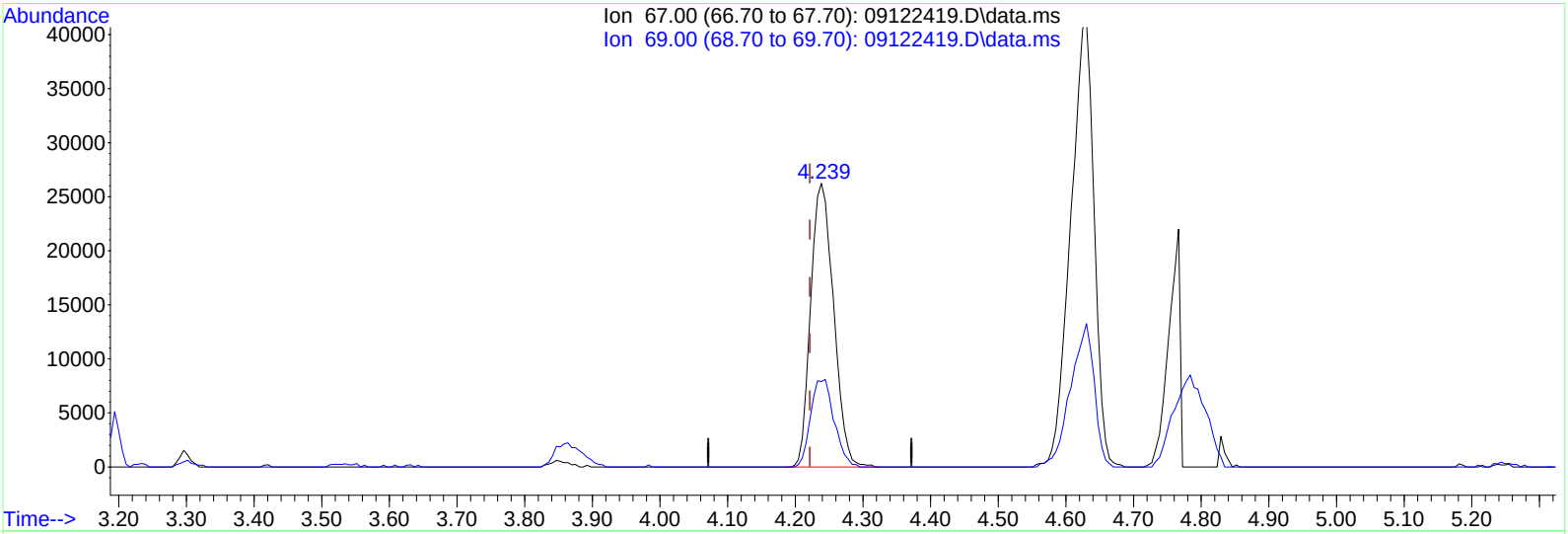
response 1628

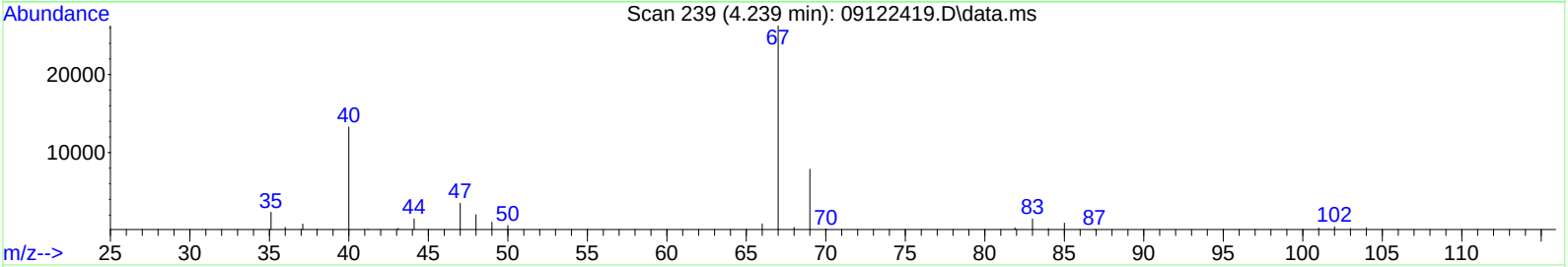
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	52.76#
0.00	0.00	0.00
0.00	0.00	0.00

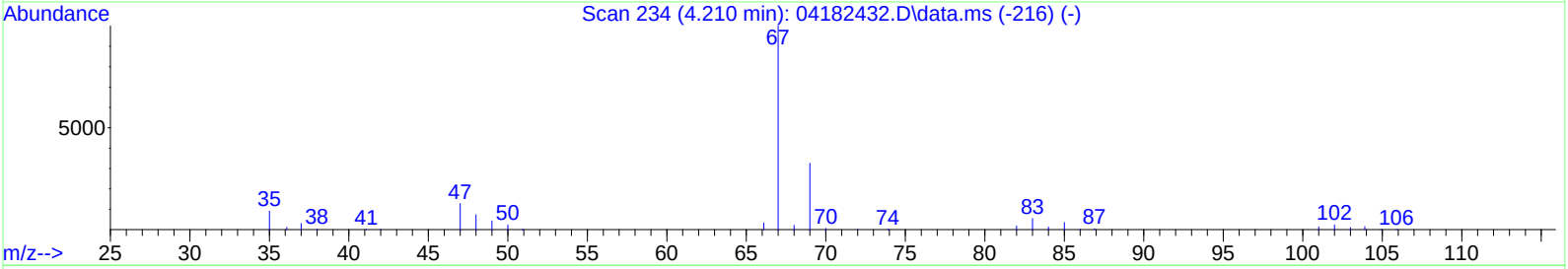
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 30 05:44:37 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122419.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.239min (+0.017) 2.18ng

response 61788

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.51
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122427.D Vial: 1
Acq On : 13 Sep 2024 8:44 Operator: SC
Sample : P2403661-052Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:09:32 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	158916	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	694892	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.83	54	195035	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	392154	13.187	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.52%			
57) Toluene-d8 (SS2)	12.43	98	777765	11.368	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%			
73) Bromofluorobenzene (SS3)	16.82	174	250867	10.963	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.68%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.39	85	322	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.38	45	118	N.D.		
11) Acetonitrile	4.46	41	307	N.D.		
12) Acrolein	4.55	56	61	N.D.		
13) Acetone	0.00	58	0	N.D. d		
14) Trichlorofluoromethane	4.75	101	1066474	28.980	ng	100
15) 2-Propanol (Isopropanol)	4.91	45	2504	N.D.		
16) Acrylonitrile	5.02	53	447	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.41	59	122	N.D.		
19) Methylene Chloride	5.35	84	384	N.D.		
20) 3-Chloro-1-propene (Al...	5.39	41	1207	N.D.		
21) Trichlorotrifluoroethane	5.58	151	540754	37.090	ng	95
22) Carbon Disulfide	5.62	76	1631	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	7.30	57	2196	0.070	ng #	88
32) Chloroform	7.34	83	935	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	1307	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.85	56	1249	No Calib		
41) Benzene	8.90	78	7115	0.109	ng	96
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.21	84	1019	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.14	130	253	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	10.23	57	3831	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122427.D Vial: 1
Acq On : 13 Sep 2024 8:44 Operator: SC
Sample : P2403661-052Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:09:32 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

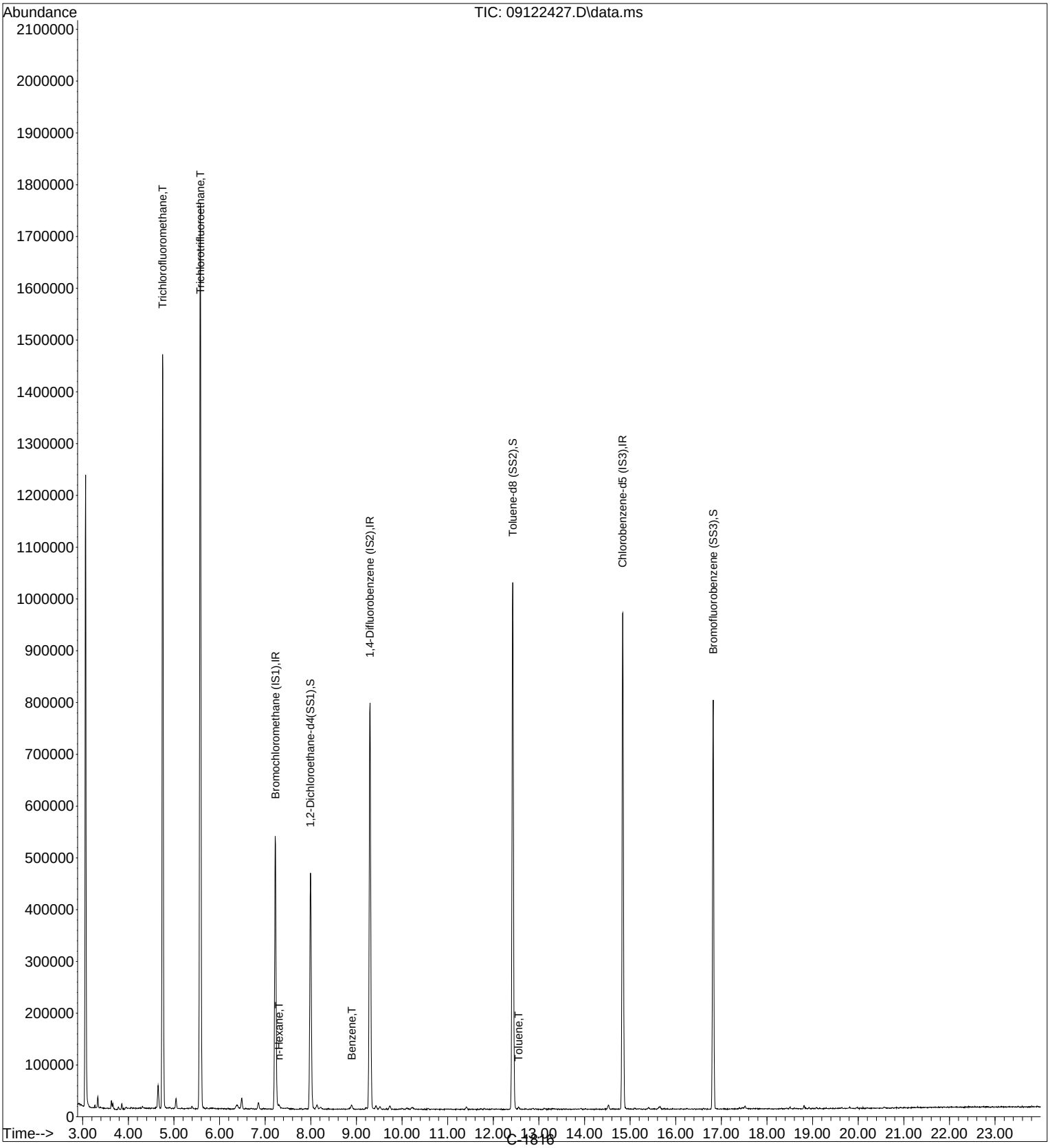
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.57	71	143	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	4139	0.056 ng	95
59) 2-Hexanone	12.93	43	1459	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.79	43	720	N.D.	
63) n-Octane	13.91	57	153	N.D.	
64) Tetrachloroethene	14.02	166	353	N.D.	
65) Chlorobenzene	14.89	112	471	N.D.	
66) Ethylbenzene	15.41	91	3316	N.D.	
67) m- & p-Xylenes	15.62	91	2418	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.09	104	124	N.D.	
70) o-Xylene	16.25	91	1442	N.D.	
71) n-Nonane	16.61	43	689	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	346	N.D.	
75) alpha-Pinene	17.53	93	1660	N.D.	
76) n-Propylbenzene	17.68	91	480	N.D.	
77) 3-Ethyltoluene	17.03	105	346	No Calib	#
78) 4-Ethyltoluene	17.86	105	297	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	346	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	435	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.65	146	230	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	230	N.D.	
87) sec-Butylbenzene	18.73	105	192	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	1025	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	346	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	214	N.D.	
91) d-Limonene	19.08	68	535	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	424	N.D.	
95) Naphthalene	20.94	128	344	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	385	N.D.	
98) Cyclohexanone	15.21	55	532	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.39	91	287	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\12\09122427.D Vial: 1
Acq On : 13 Sep 2024 8:44 Operator: SC
Sample : P2403661-052Dil (4.0mL) Inst : MS09
Misc : S37-06062402

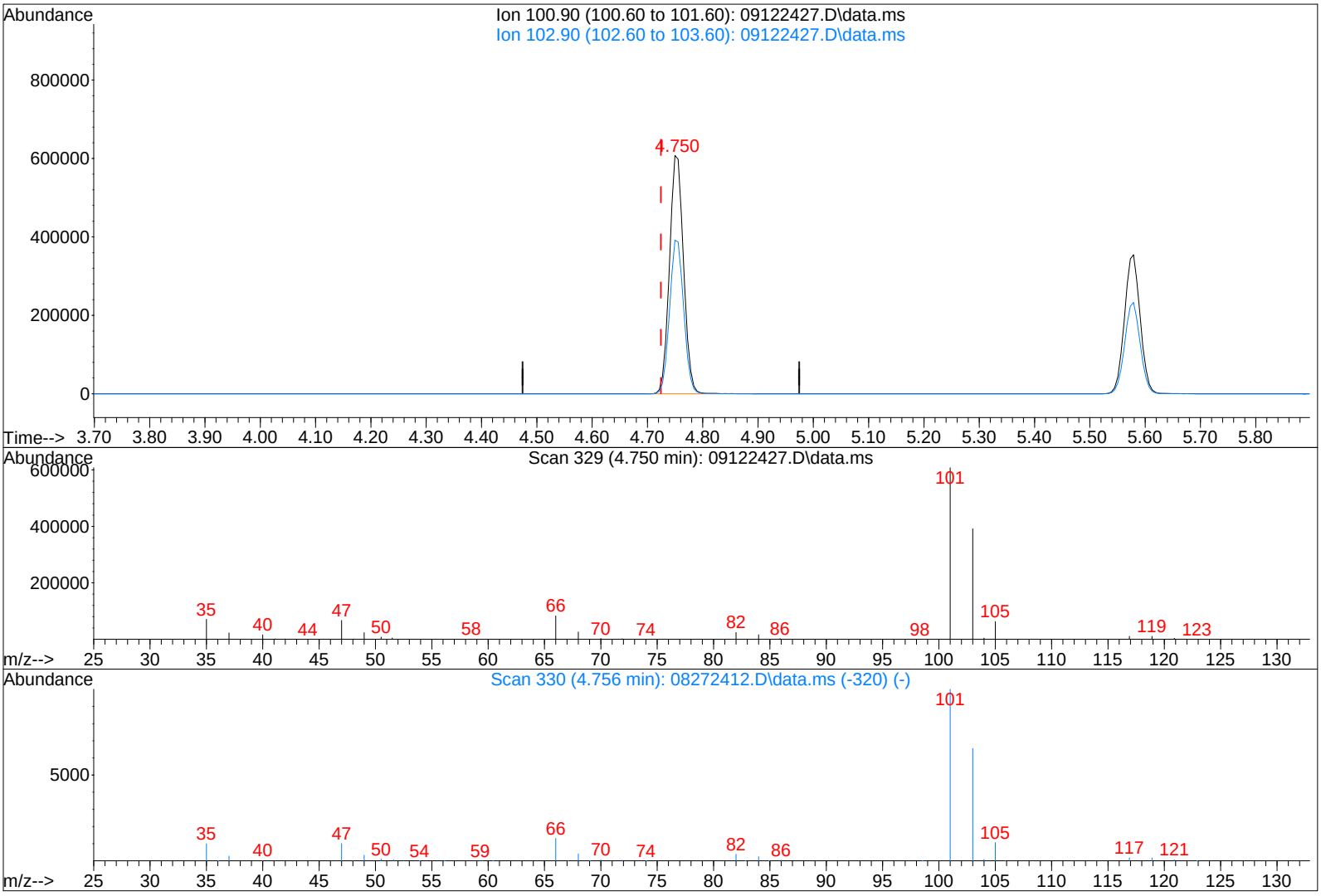
Quant Time: Sep 13 09:09:32 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122427.D Vial: 1
Acq On : 13 Sep 2024 8:44 Operator: SC
Sample : P2403661-052Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:09:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122427.D\data.ms

(14) Trichlorofluoromethane (T)

4.750min (+0.025) 28.98ng

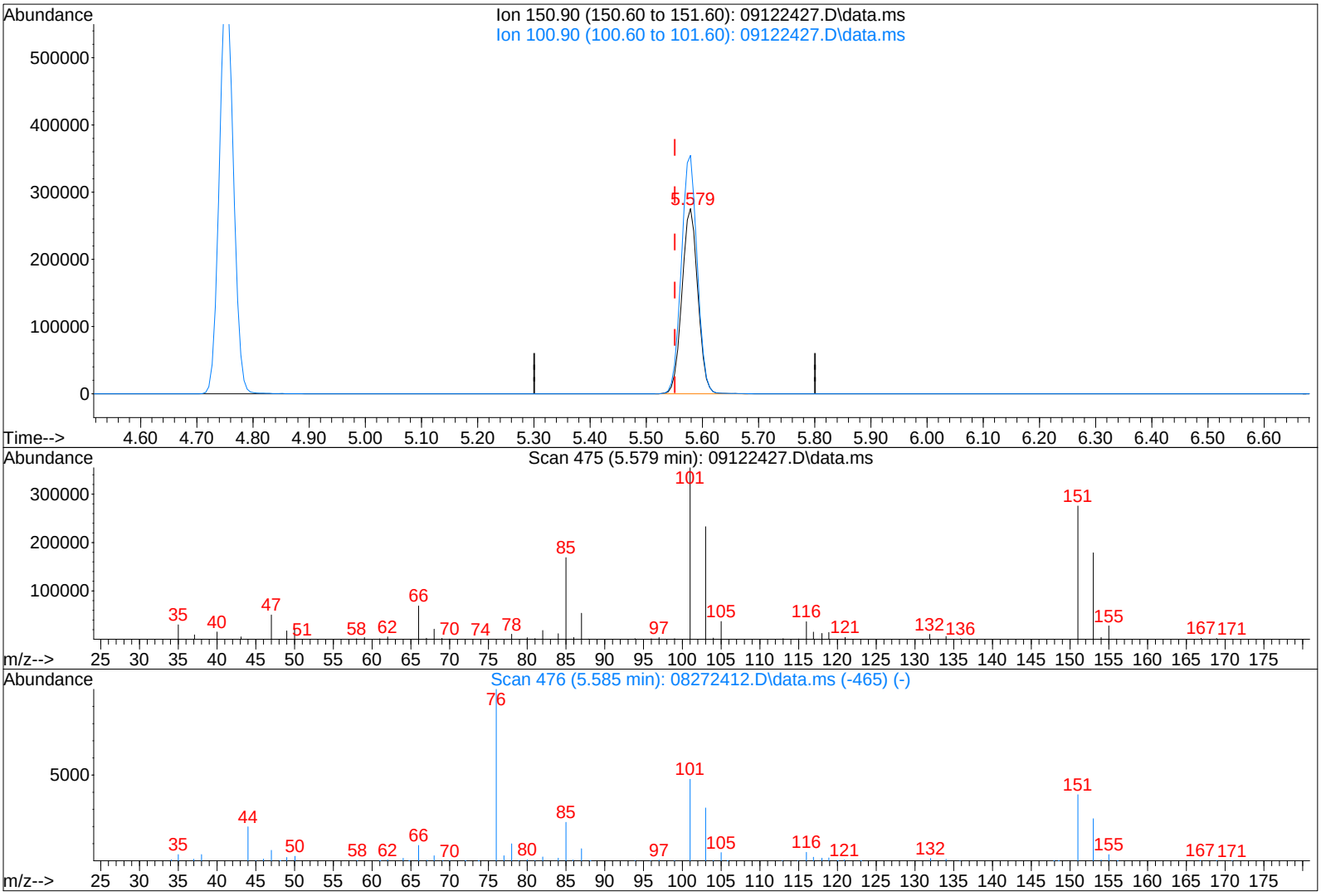
response 1066474

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.75
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\12\09122427.D Vial: 1
Acq On : 13 Sep 2024 8:44 Operator: SC
Sample : P2403661-052Dil (4.0mL) Inst : MS09
Misc : S37-06062402

Quant Time: Sep 13 09:09:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09122427.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.028) 37.09ng

response 540754

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	128.96
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122419.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	68	74	80	rBV3	360685	489030	0.32%	0.183%
2	3.364	80	85	92	rBV	36913	50730	0.03%	0.019%
3	3.506	102	110	124	rBV2	56101	103678	0.07%	0.039%
4	3.631	124	132	147	rVB3	121404	337530	0.22%	0.127%
5	3.779	152	158	166	rBV	40878	65546	0.04%	0.025%
6	3.853	166	171	182	rVB2	52917	90138	0.06%	0.034%
7	4.239	231	239	244	rBV2	54911	136673	0.09%	0.051%
8	4.301	244	250	264	rVB2	92420	262751	0.17%	0.099%
9	4.647	291	311	322	rBV2	269937	841075	0.55%	0.315%
10	4.789	322	336	372	rVB2	27809521	110244198	72.53%	41.348%
11	5.068	377	385	400	rVB3	20977	69504	0.05%	0.026%
12	5.329	425	431	436	rBV3	11555	27860	0.02%	0.010%
13	5.624	464	483	504	rBV	38211345	151993154	100.00%	57.007%
14	5.760	505	507	516	rVV	57374	112663	0.07%	0.042%
15	5.823	516	518	529	rVB6	9049	24564	0.02%	0.009%
16	6.300	595	602	612	rBV	98032	208861	0.14%	0.078%
17	6.436	613	626	633	rVV2	43346	113707	0.07%	0.043%
18	6.516	633	640	645	rVV3	10850	25559	0.02%	0.010%
19	6.578	645	651	662	rVB7	18523	49385	0.03%	0.019%
20	6.680	662	669	675	rBV	20703	39086	0.03%	0.015%
21	6.873	696	703	711	rVB6	7974	21375	0.01%	0.008%
22	7.242	758	768	775	rBV	402209	890437	0.59%	0.334%
23	7.305	775	779	785	rVV	86560	191345	0.13%	0.072%
24	7.373	785	791	798	rVV	93868	215328	0.14%	0.081%
25	7.424	798	800	809	rVB2	12273	19461	0.01%	0.007%

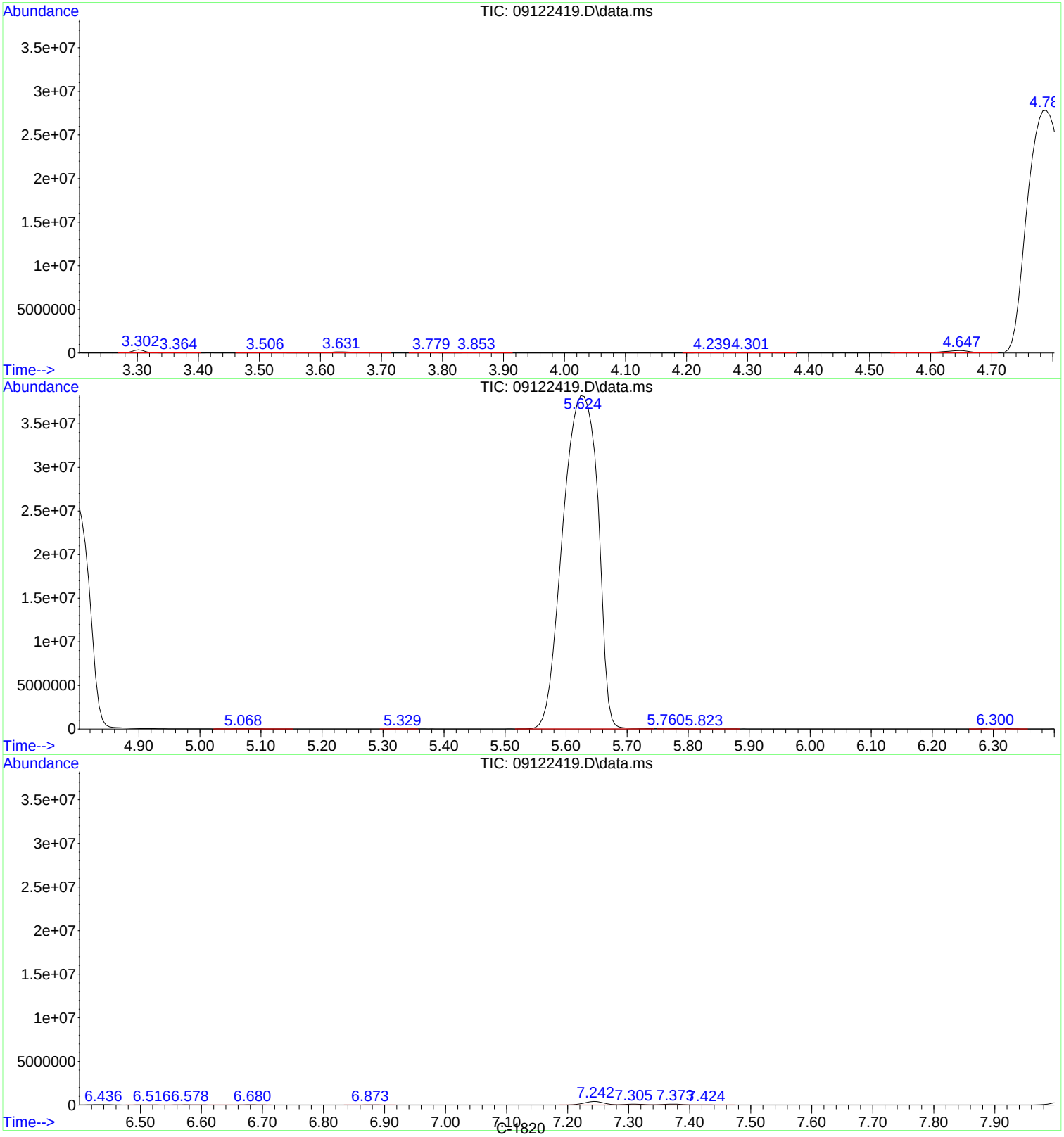
Sum of corrected areas: 266623638

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:48
Operator : SC
Sample : P2403661-052 (400mL)
Misc : S37-06062402
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122419.D
Acq On : 12 Sep 2024 20:488
Operator : SCC
Sample : P2403661-052 (400mL))
Misc : S37-060624022
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)) MA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

NOA 9/29/24

Quant Time: Sep 29 20:08:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127773	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	563231	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	173721	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	330424	13.820 ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%			
57) Toluene-d8 (SS2)	12.43	98	650896	10.680 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.44%			
73) Bromofluorobenzene (SS3)	16.82	174	225032	11.041 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.37	85	19519m	0.629 ng		
4) Chloromethane	3.50	50	1565m	0.065 ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	314	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.81	54	218	N.D.		
8) Bromomethane	4.02	94	120	N.D.		
9) Chloroethane	4.15	64	1341	0.156 ng		99
10) Ethanol	4.28	45	10860m	0.783 ng		
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.53	56	2237	0.211 ng		95
13) Acetone	4.64	58	27963	2.390 ng		97
14) Trichlorofluoromethane	4.75	101	673865	22.774 ng		100
15) 2-Propanol (Isopropanol)	4.85	45	19467	0.423 ng		94
16) Acrylonitrile	5.05	53	219	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.33	59	802	N.D.		
19) Methylene Chloride	5.36	84	506	N.D.		
20) 3-Chloro-1-propene (Al...	5.45	41	218	N.D.		
21) Trichlorotrifluoroethane	5.58	151	209908	17.907 ng		95
22) Carbon Disulfide	5.60	76	99096	2.170 ng		80
23) trans-1,2-Dichloroethene	6.15	61	117	N.D.		
24) 1,1-Dichloroethane	6.32	63	181	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.44	86	1475	0.620 ng	#	76
27) 2-Butanone (MEK)	6.67	72	2807	0.338 ng	#	76
28) cis-1,2-Dichloroethene	7.07	61	160	N.D.		
29) Diisopropyl Ether	7.29	87	143	N.D.		
30) Ethyl Acetate	7.29	61	8281	1.489 ng		92
31) n-Hexane	7.31	57	1309	0.052 ng	#	83
32) Chloroform	7.36	83	50300	1.976 ng		98
34) Tetrahydrofuran (THF)	7.76	72	327	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	876	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.62	61	11720	No Calib	#	
40) 1-Butanol	8.81	56	9525	No Calib	#	
41) Benzene	8.90	78	7300	0.138 ng		98
42) Carbon Tetrachloride	9.07	117	1060	N.D.		
43) Cyclohexane	9.22	84	594	N.D.		
44) tert-Amyl Methyl Ether	9.62	73	287	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.06	83	3367	0.169 ng		97
47) Trichloroethene	10.13	130	123	N.D.		
48) 1,4-Dioxane	10.13	88	3494	0.384 ng		90

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

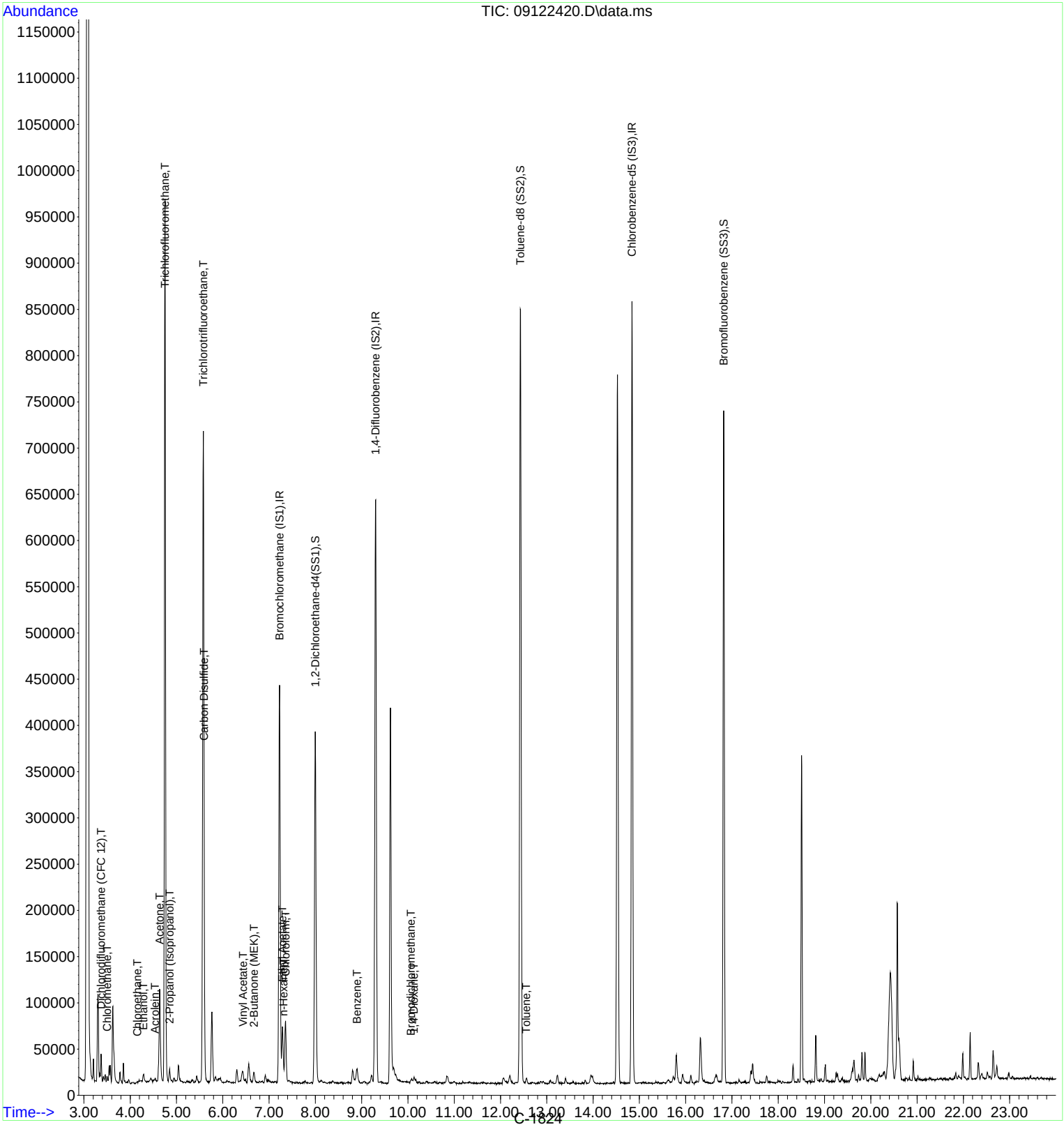
Quant Time: Sep 29 20:08:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	823	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	10.58	71	264	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.34	58	301	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	4888	0.074 ng	97
59) 2-Hexanone	0.00	43	0	N.D. d	
60) Dibromochloromethane	13.06	129	244	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1461	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	404	N.D.	
66) Ethylbenzene	15.41	91	1019	N.D.	
67) m- & p-Xylenes	15.63	91	2290	N.D.	
68) Bromoform	15.68	173	251	N.D.	
69) Styrene	16.09	104	598	N.D.	
70) o-Xylene	16.24	91	955	N.D.	
71) n-Nonane	16.61	43	1741	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.21	83	258	N.D.	
74) Cumene	17.03	105	724	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.67	91	1004	N.D.	
77) 3-Ethyltoluene	17.03	105	724	No Calib	#
78) 4-Ethyltoluene	17.86	105	793	N.D.	
79) 1,3,5-Trimethylbenzene	17.95	105	526	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	724	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	1041	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.55	91	500	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	463	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	550	N.D.	
87) sec-Butylbenzene	18.74	105	488	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	1574	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	724	No Calib	#
90) 1,2-Dichlorobenzene	19.02	146	587	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.51	157	131	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	913	N.D.	
95) Naphthalene	20.93	128	1404	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	462	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.42	119	508	N.D.	
100) n-Butylbenzene	19.39	91	953	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 29 20:08:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 29 20:08:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

VOA 9/29/24

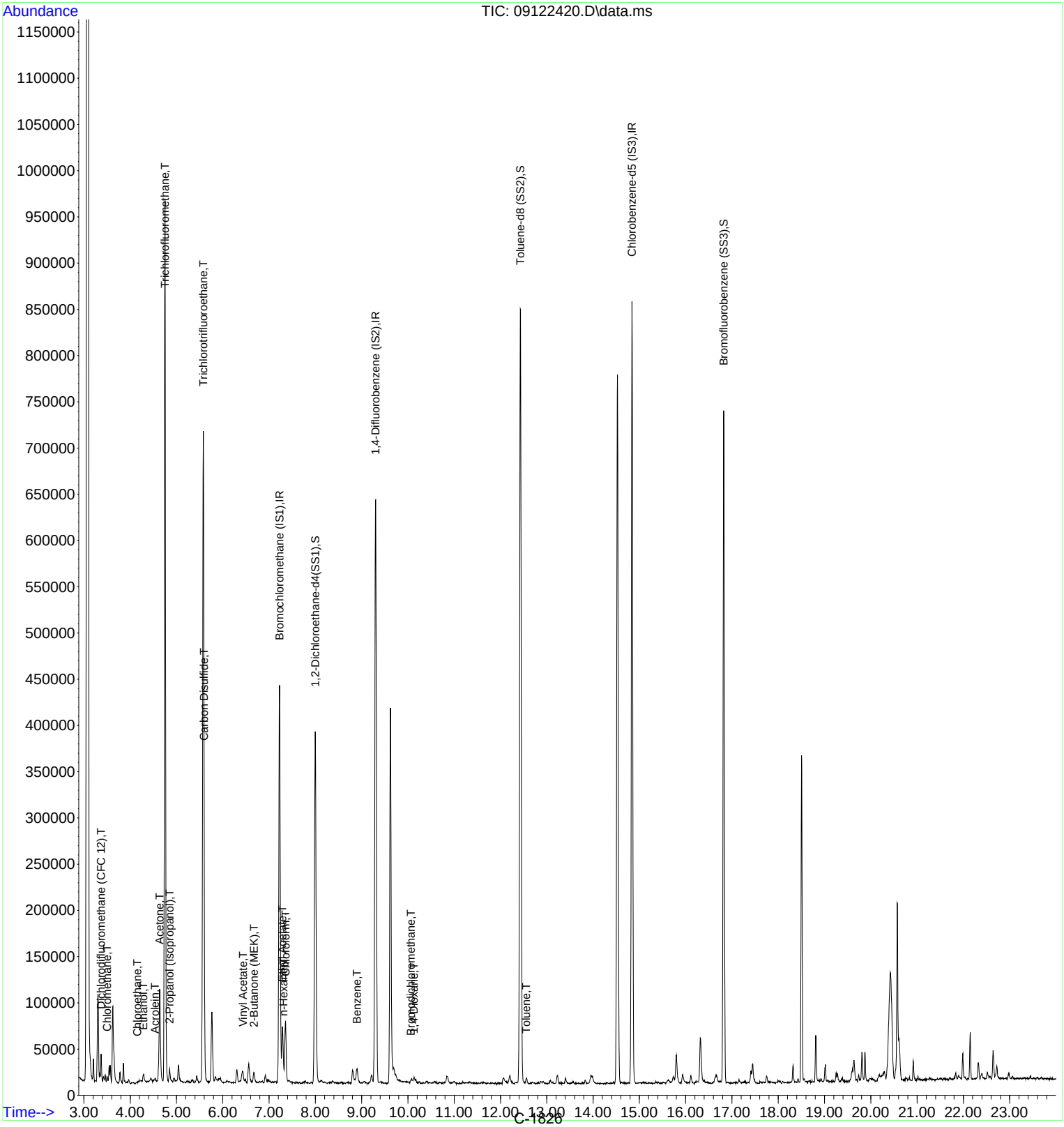
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127773	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	563231	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	173721	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	330424	13.820	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.56%				
57) Toluene-d8 (SS2)	12.43	98	650896	10.680	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.44%				
73) Bromofluorobenzene (SS3)	16.82	174	225032	11.041	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	19519m	0.629	ng		
4) Chloromethane	3.50	50	1565m	0.065	ng		
9) Chloroethane	4.15	64	1341	0.156	ng		99
10) Ethanol	4.28	45	10860m	0.783	ng		
12) Acrolein	4.53	56	2237	0.211	ng		95
13) Acetone	4.64	58	27963	2.390	ng		97
14) Trichlorofluoromethane	4.75	101	673865	22.774	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	19467	0.423	ng		94
21) Trichlorotrifluoroethane	5.58	151	209908	17.907	ng		95
22) Carbon Disulfide	5.60	76	99096	2.170	ng		80
26) Vinyl Acetate	6.44	86	1475	0.620	ng	#	76
27) 2-Butanone (MEK)	6.67	72	2807	0.338	ng	#	76
30) Ethyl Acetate	7.29	61	8281	1.489	ng		92
31) n-Hexane	7.31	57	1309	0.052	ng	#	83
32) Chloroform	7.36	83	50300	1.976	ng		98
41) Benzene	8.90	78	7300	0.138	ng		98
46) Bromodichloromethane	10.06	83	3367	0.169	ng		97
48) 1,4-Dioxane	10.13	88	3494	0.384	ng		90
58) Toluene	12.56	91	4888	0.074	ng		97

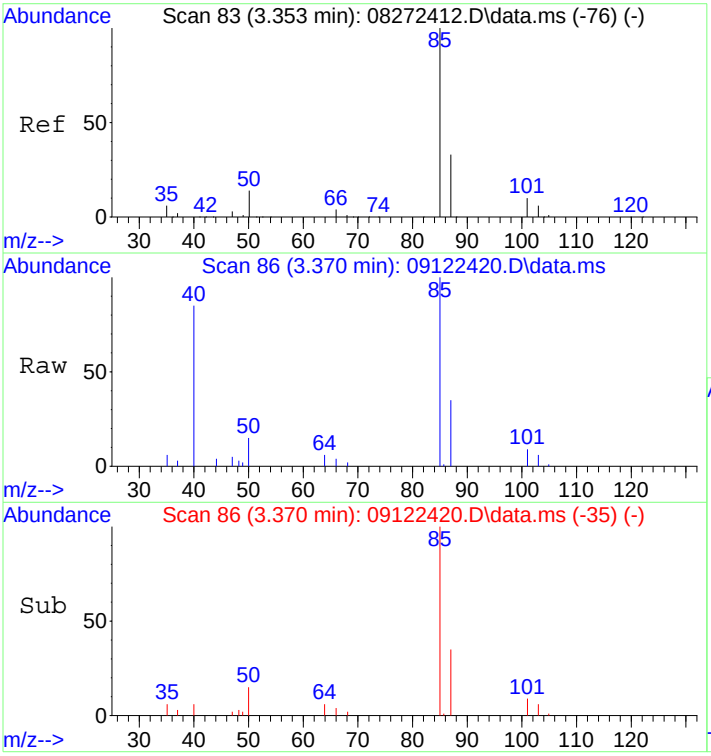
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 29 20:08:00 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

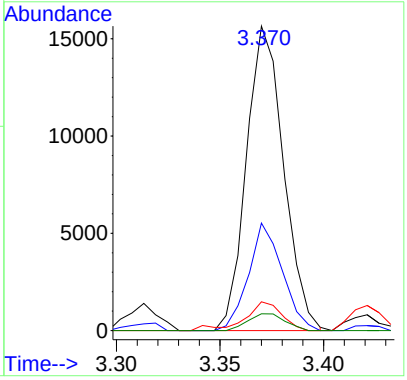


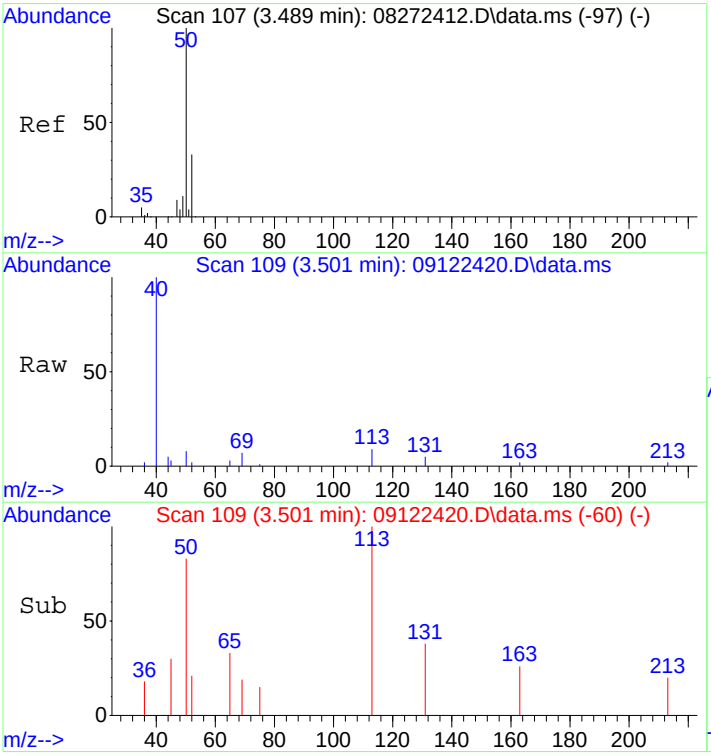


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.040 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 85 Resp: 19519

Ion	Ratio	Lower	Upper
85	100		
87	32.3	13.1	53.1
101	8.3	0.0	29.4
103	5.6	0.0	26.0

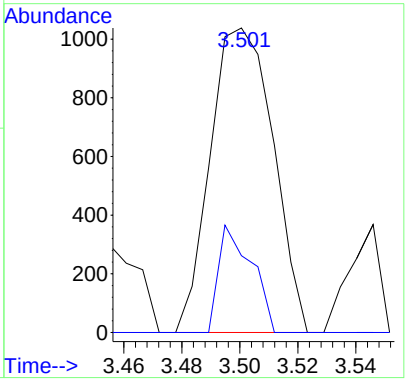


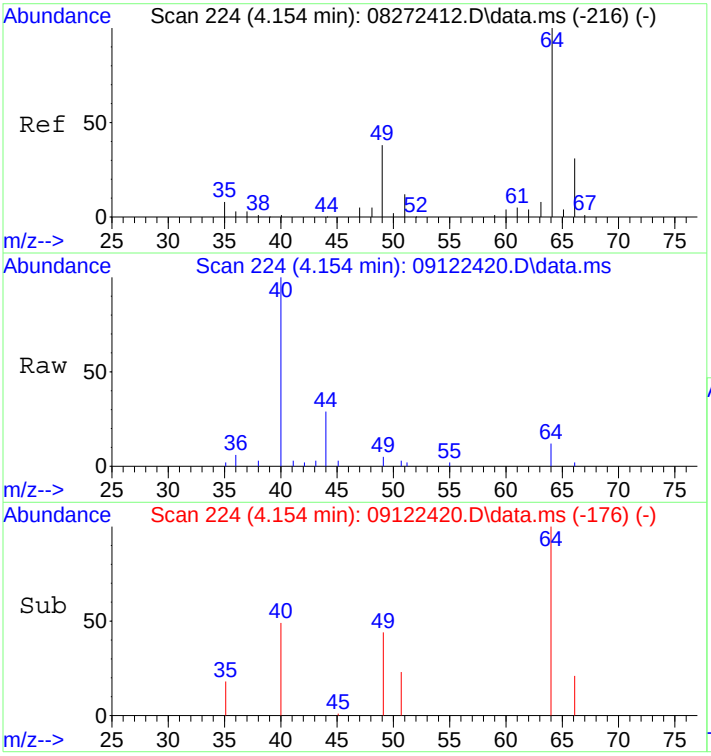


#4
Chloromethane
Concen: 0.06 ng m
RT: 3.50 min Scan# 109
Delta R.T. 0.030 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 50 Resp: 1565

Ion	Ratio	Lower	Upper
50	100		
52	18.5	12.4	52.4

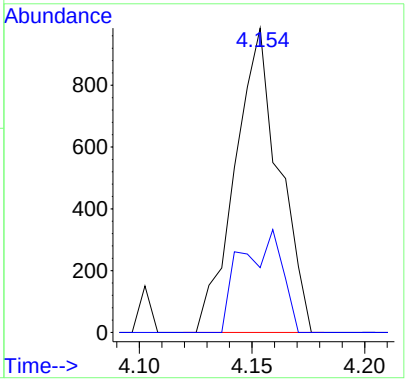


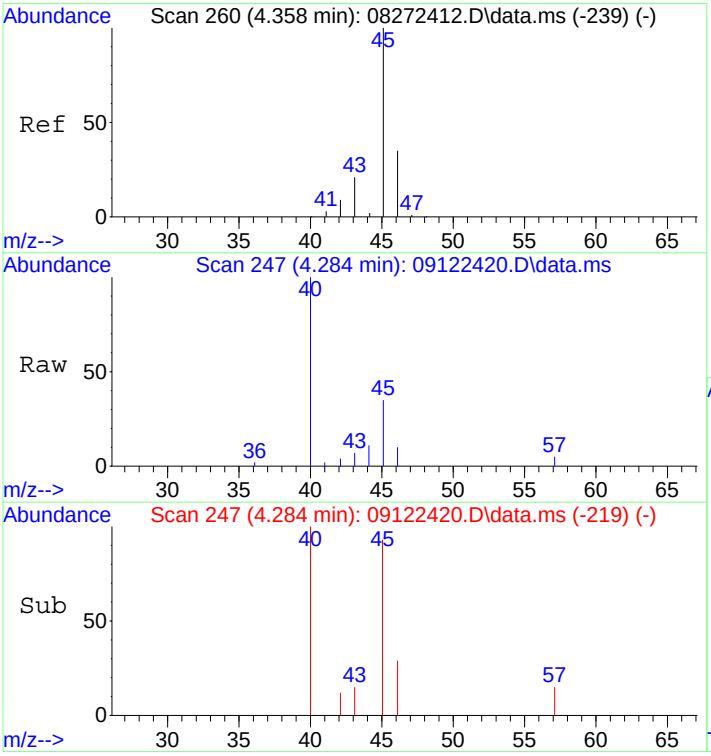


#9
Chloroethane
Concen: 0.16 ng
RT: 4.15 min Scan# 224
Delta R.T. 0.025 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 64 Resp: 1341

Ion	Ratio	Lower	Upper
64	100		
66	31.3	11.0	51.0

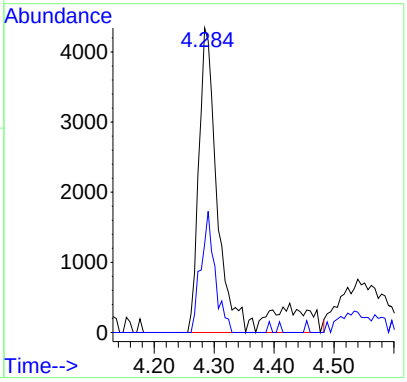


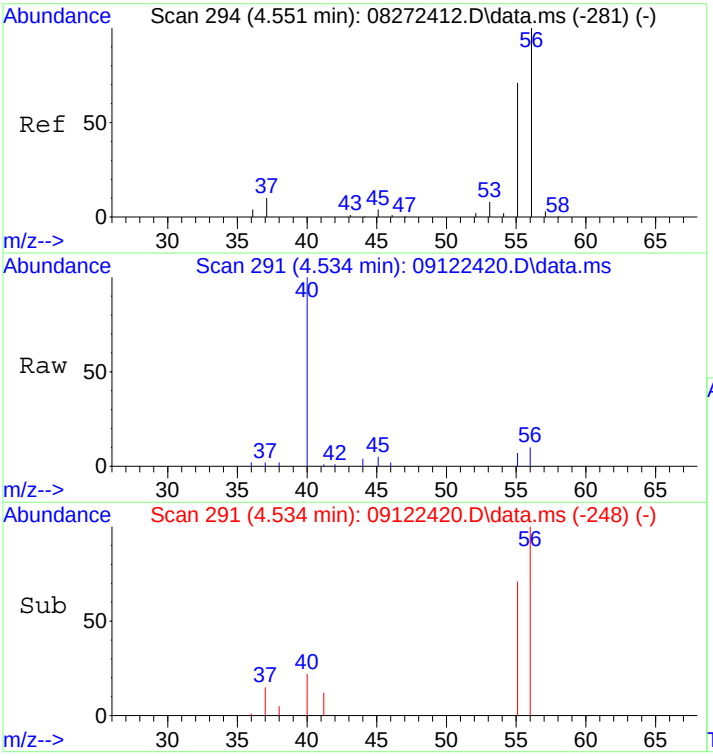


#10
Ethanol
Concen: 0.78 ng m
RT: 4.28 min Scan# 247
Delta R.T. -0.092 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 45 Resp: 10860

Ion	Ratio	Lower	Upper
45	100		
46	26.1	14.2	54.2

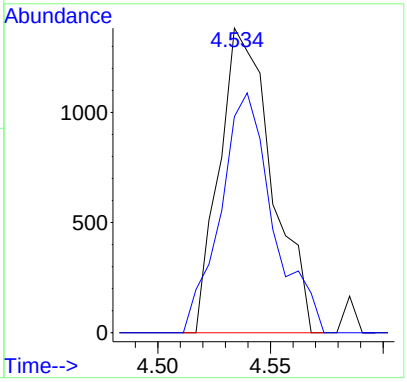


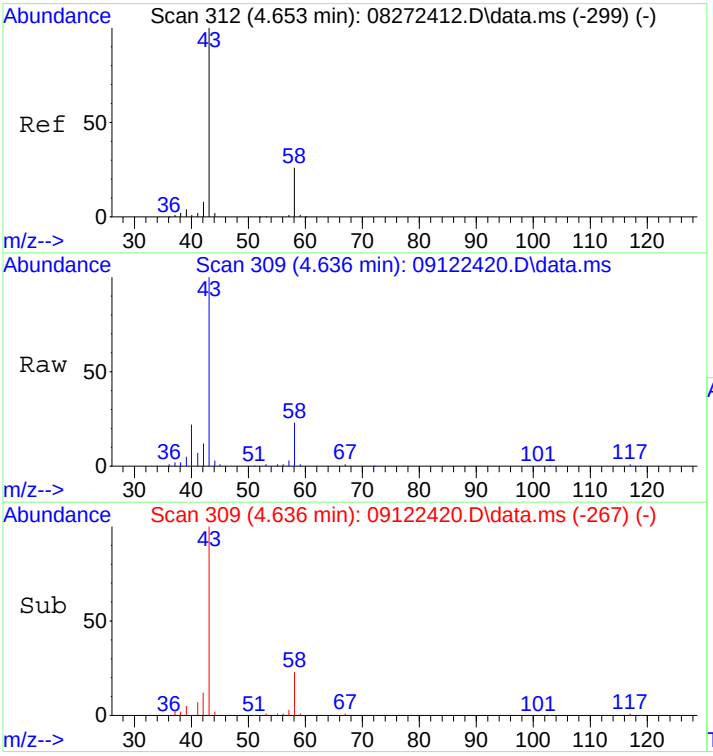


#12
Acrolein
Concen: 0.21 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.005 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 56 Resp: 2237

Ion	Ratio	Lower	Upper
56	100		
55	79.1	54.7	94.7

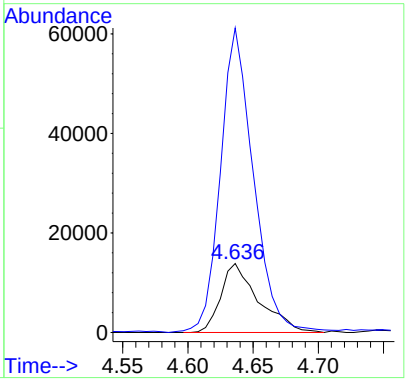


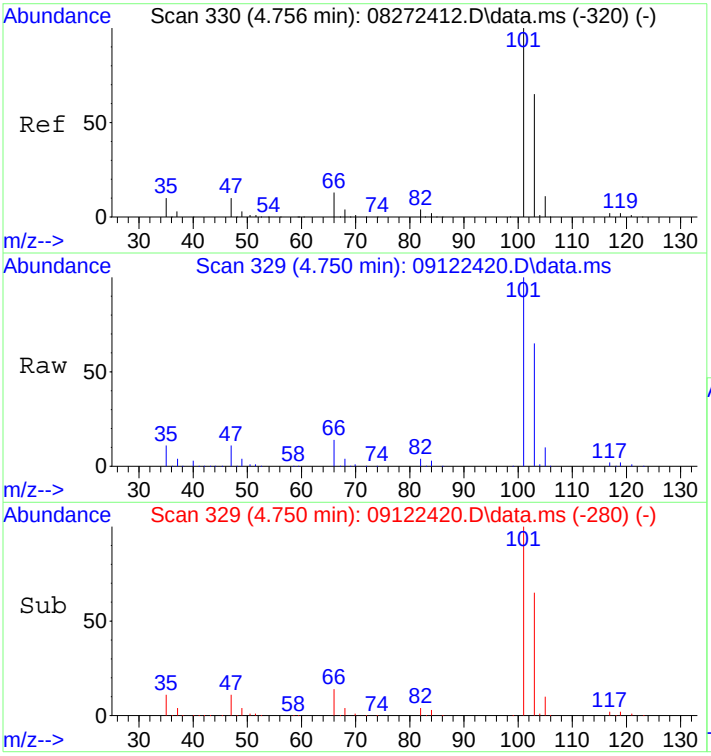


#13
Acetone
Concen: 2.39 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.009 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 58 Resp: 27963

Ion	Ratio	Lower	Upper
58	100		
43	385.2	347.3	407.3

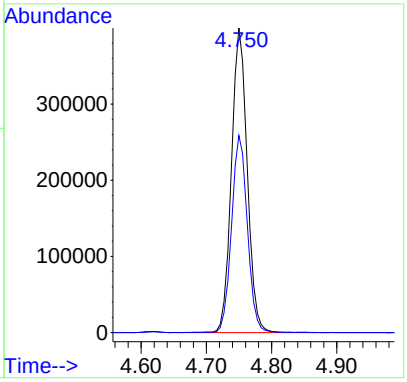


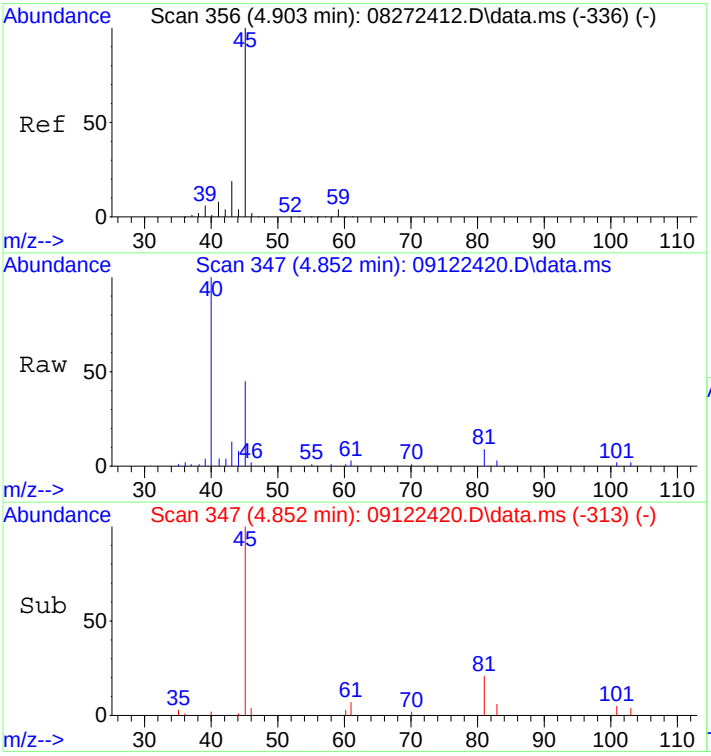


#14
Trichlorofluoromethane
Concen: 22.77 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion:101 Resp: 673865

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.9	84.9

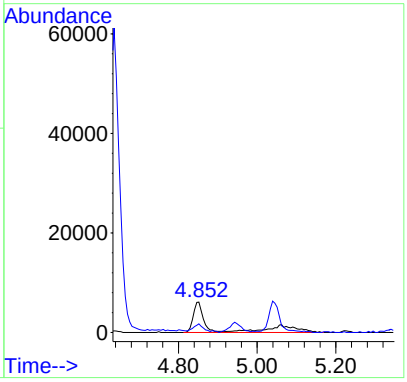


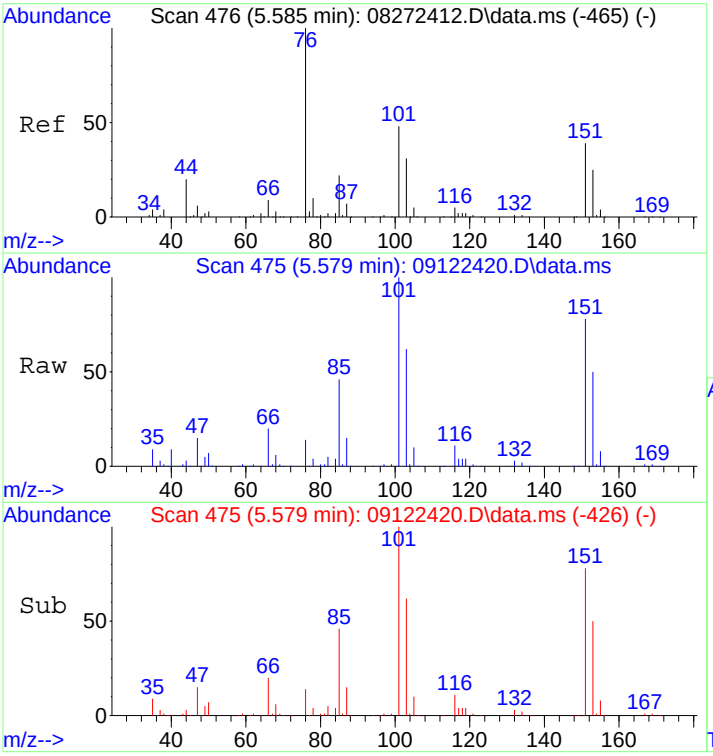


#15
2-Propanol (Isopropanol)
Concen: 0.42 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.058 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 45 Resp: 19467

Ion	Ratio	Lower	Upper
45	100		
43	17.2	0.0	40.0

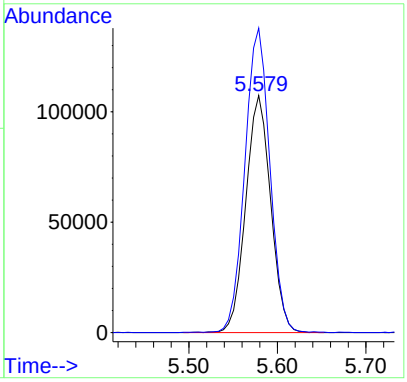


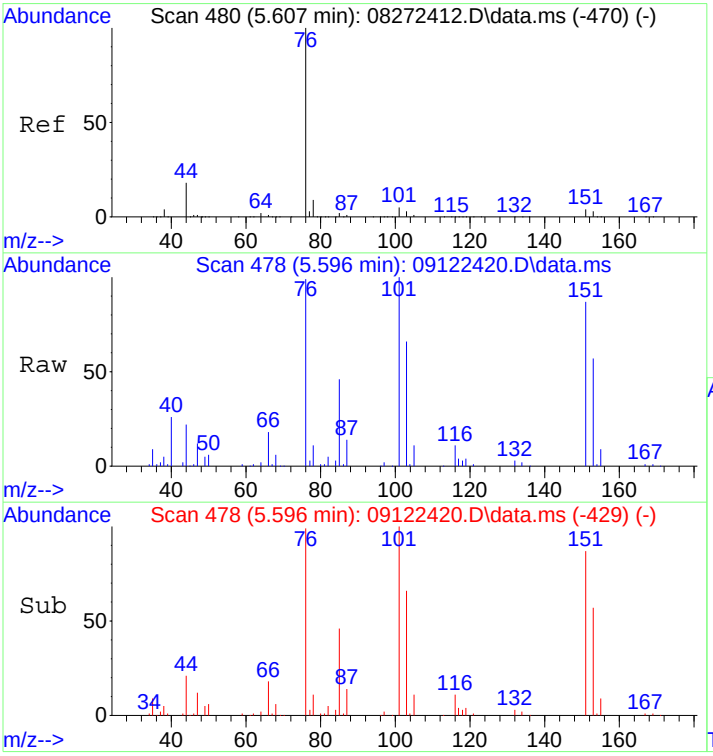


#21
Trichlorotrifluoroethane
Concen: 17.91 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.028 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion:151 Resp: 209908

Ion	Ratio	Lower	Upper
151	100		
101	129.1	103.4	143.4

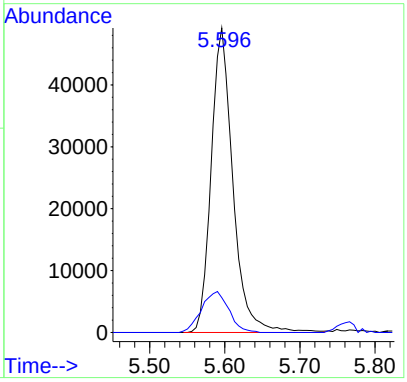


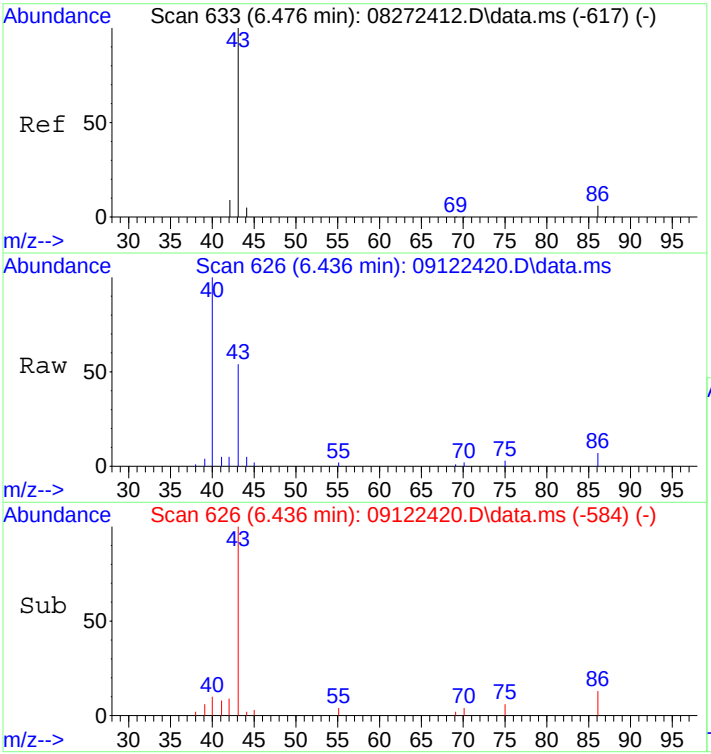


#22
Carbon Disulfide
Concen: 2.17 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.028 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 76 Resp: 99096

Ion	Ratio	Lower	Upper
76	100		
78	16.9	0.0	29.6

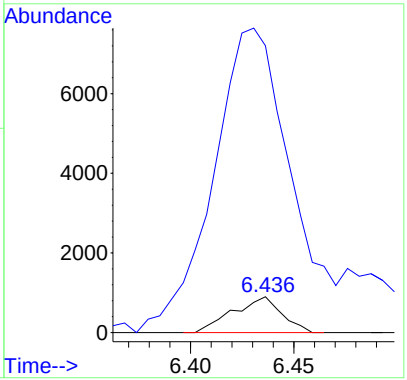


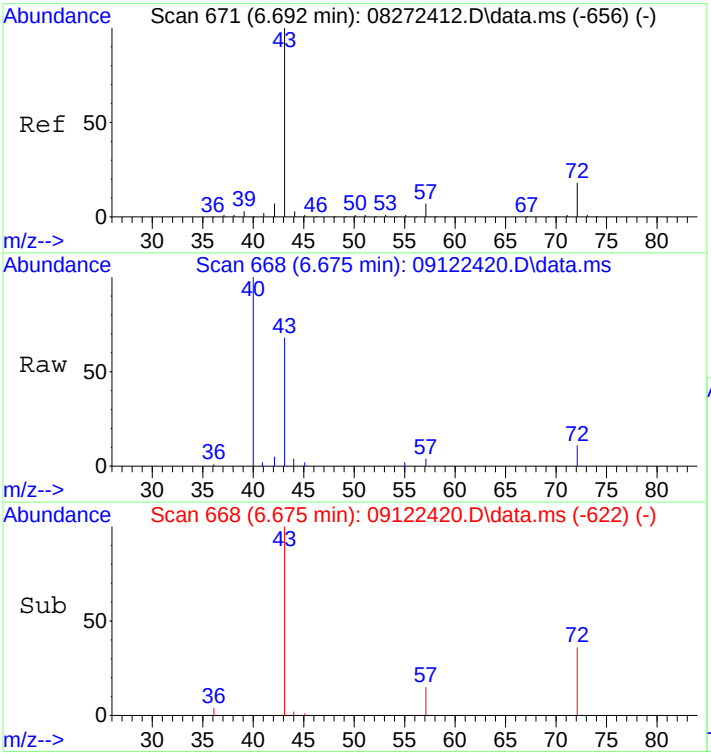


#26
Vinyl Acetate
Concen: 0.62 ng
RT: 6.44 min Scan# 626
Delta R.T. -0.014 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 86 Resp: 1475

Ion	Ratio	Lower	Upper
86	100		
43	1552.8	1687.9	1727.9#

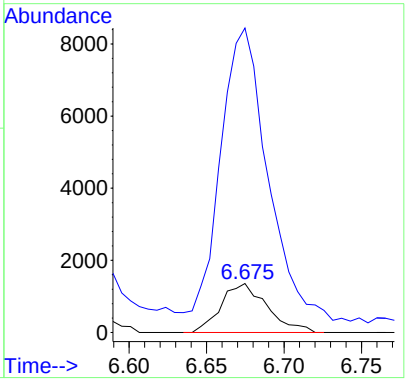


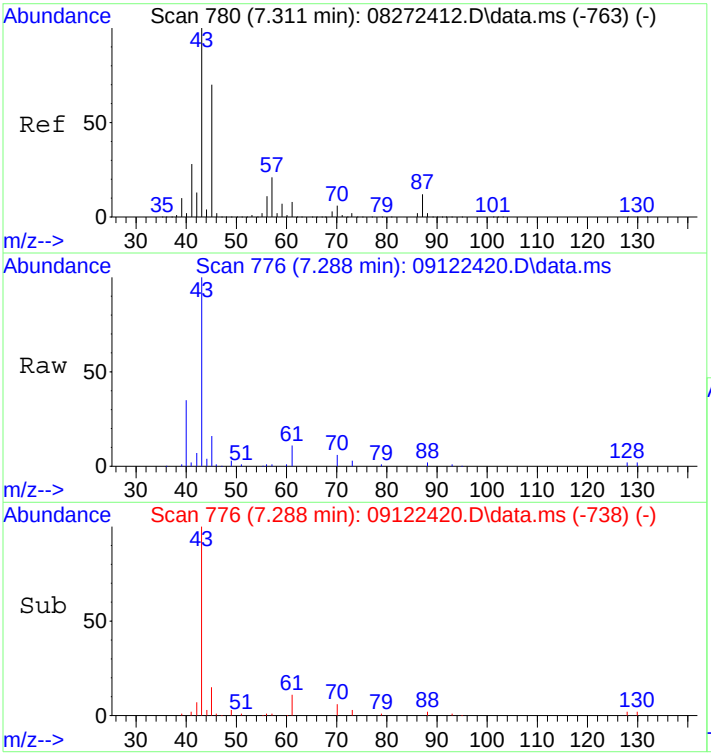


#27
2-Butanone (MEK)
Concen: 0.34 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.011 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 72 Resp: 2807

Ion	Ratio	Lower	Upper
72	100		
43	640.8	548.0	588.0#

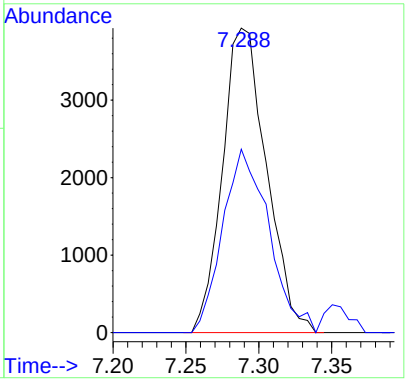


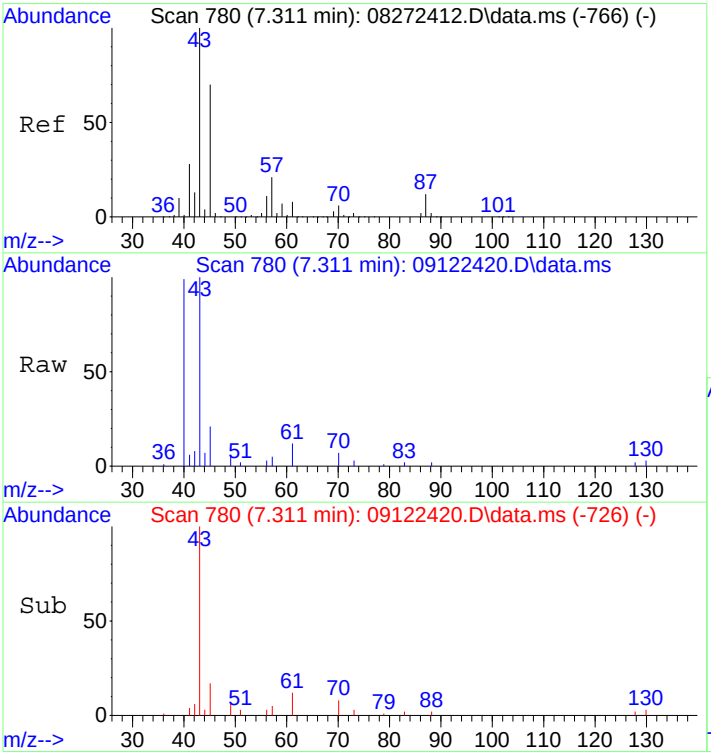


#30
Ethyl Acetate
Concen: 1.49 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.017 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 61 Resp: 8281

Ion	Ratio	Lower	Upper
61	100		
70	63.0	49.9	89.9

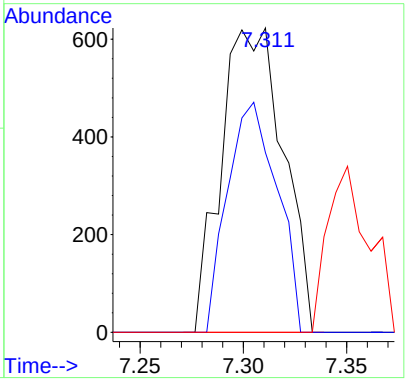


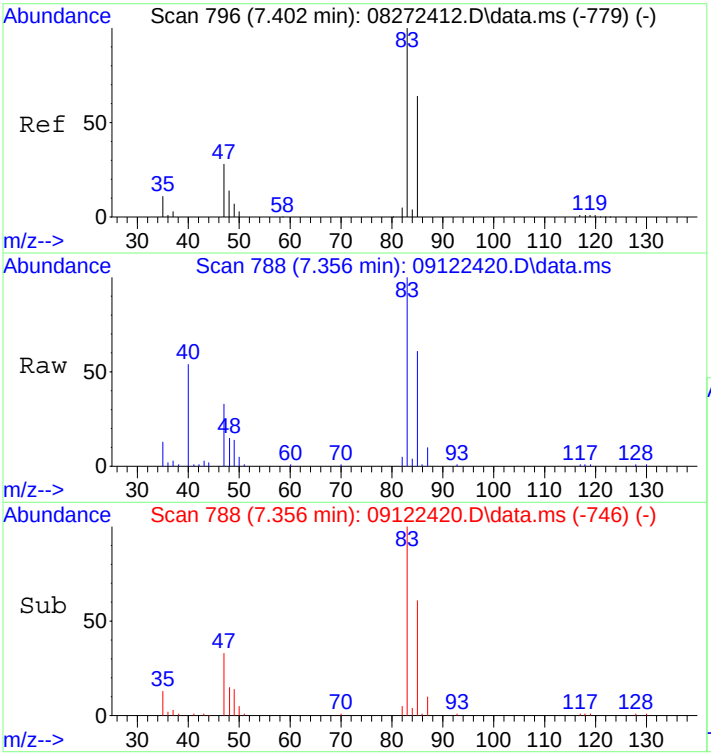


#31
n-Hexane
Concen: 0.05 ng
RT: 7.31 min Scan# 780
Delta R.T. 0.057 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 57 Resp: 1309

Ion	Ratio	Lower	Upper
57	100		
56	60.3	44.2	66.2
86	36.1	9.3	13.9#

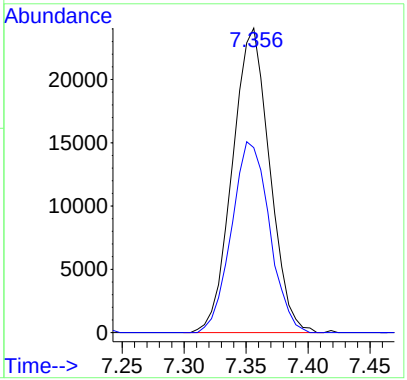


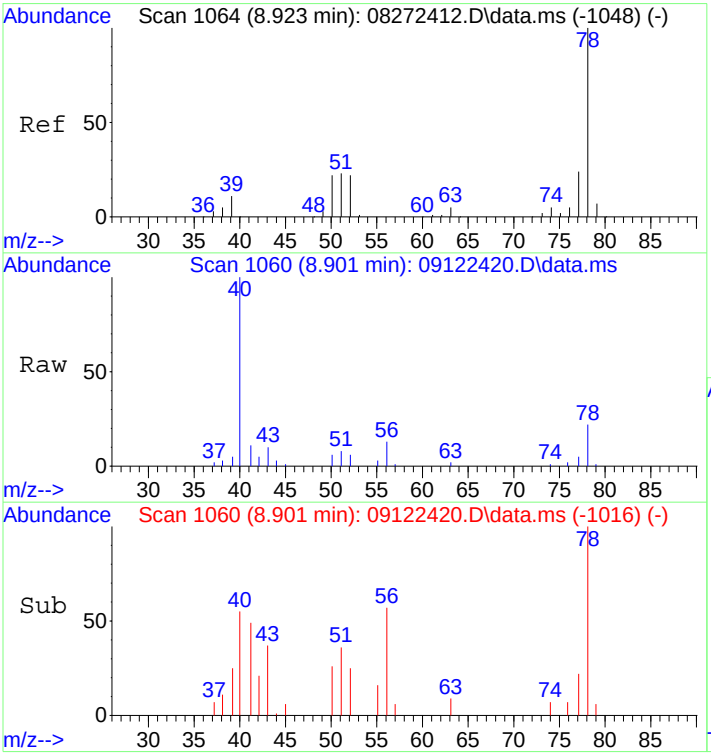


#32
Chloroform
Concen: 1.98 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.010 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 83 Resp: 50300

Ion	Ratio	Lower	Upper
83	100		
85	63.9	45.3	85.3

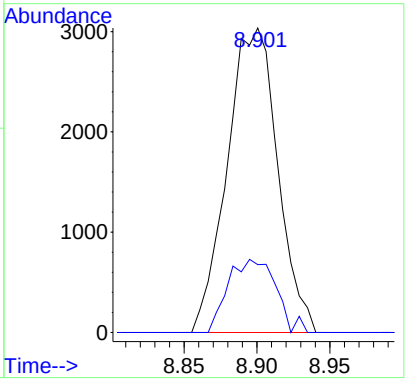


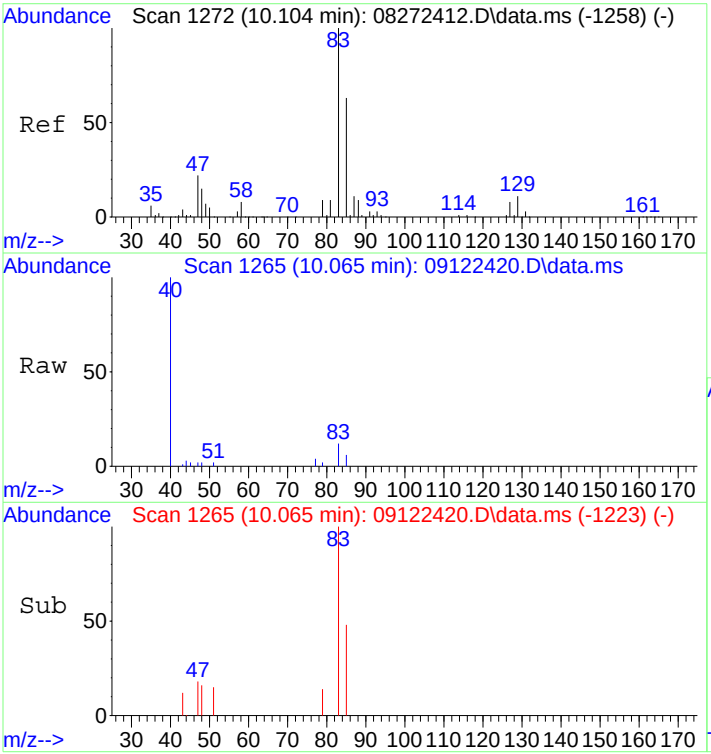


#41
Benzene
Concen: 0.14 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.002 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 78 Resp: 7300

Ion	Ratio	Lower	Upper
78	100		
77	22.8	3.9	43.9

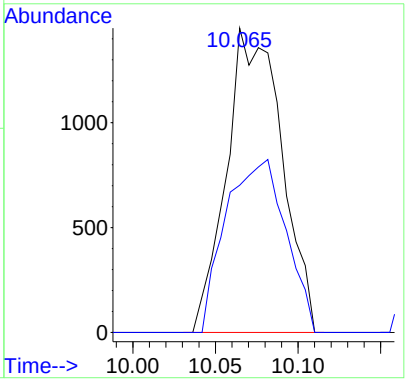


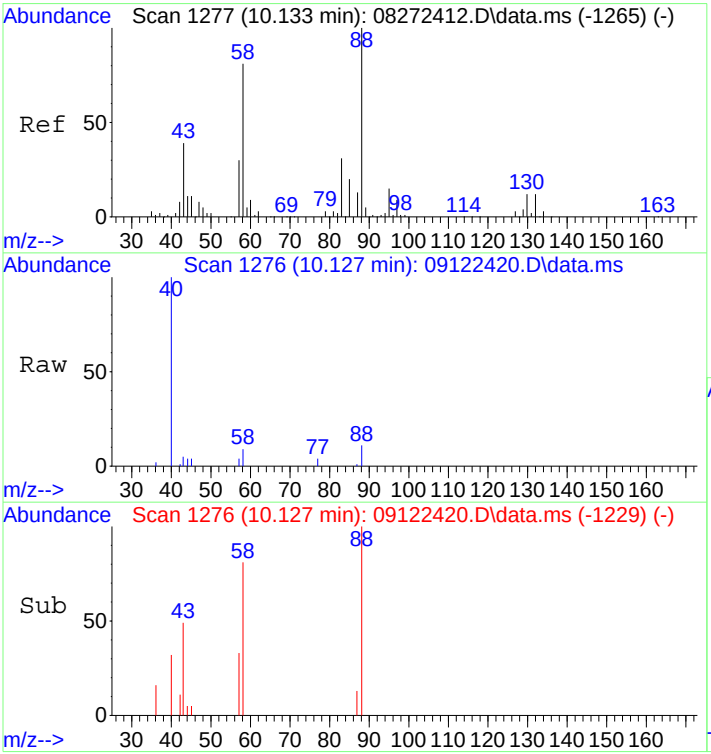


#46
Bromodichloromethane
Concen: 0.17 ng
RT: 10.06 min Scan# 1265
Delta R.T. -0.013 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 83 Resp: 3367

Ion	Ratio	Lower	Upper
83	100		
85	61.7	43.9	83.9

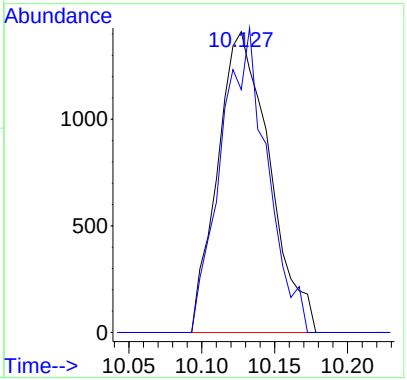


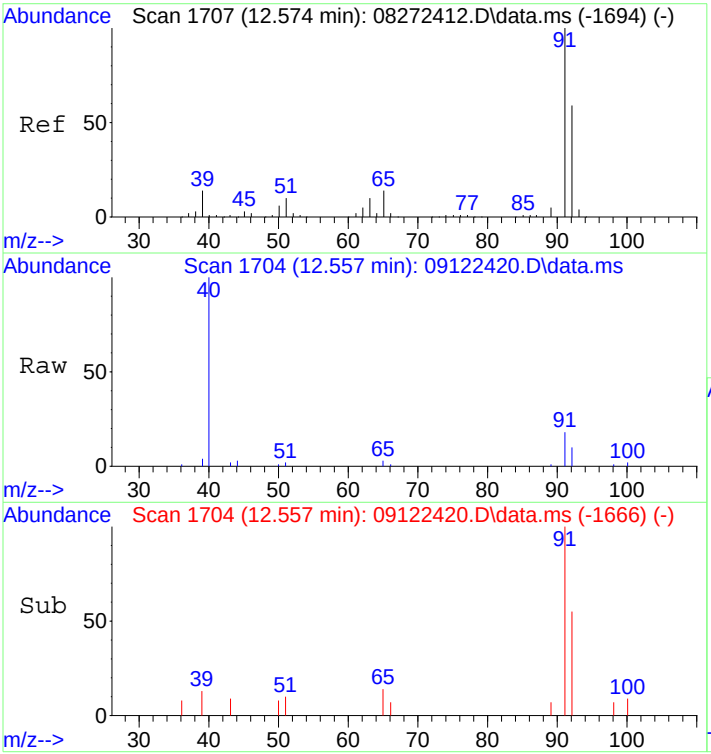


#48
1,4-Dioxane
Concen: 0.38 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.015 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 88 Resp: 3494

Ion	Ratio	Lower	Upper
88	100		
58	90.2	61.1	101.1

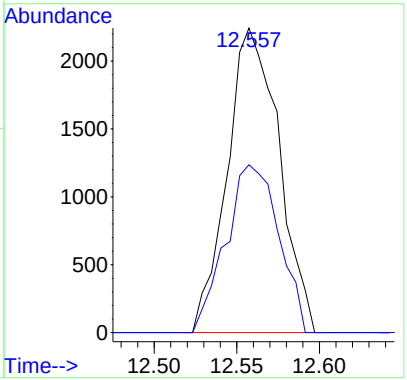




#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09122420.D
Acq: 12 Sep 2024 21:21

Tgt Ion: 91 Resp: 4888

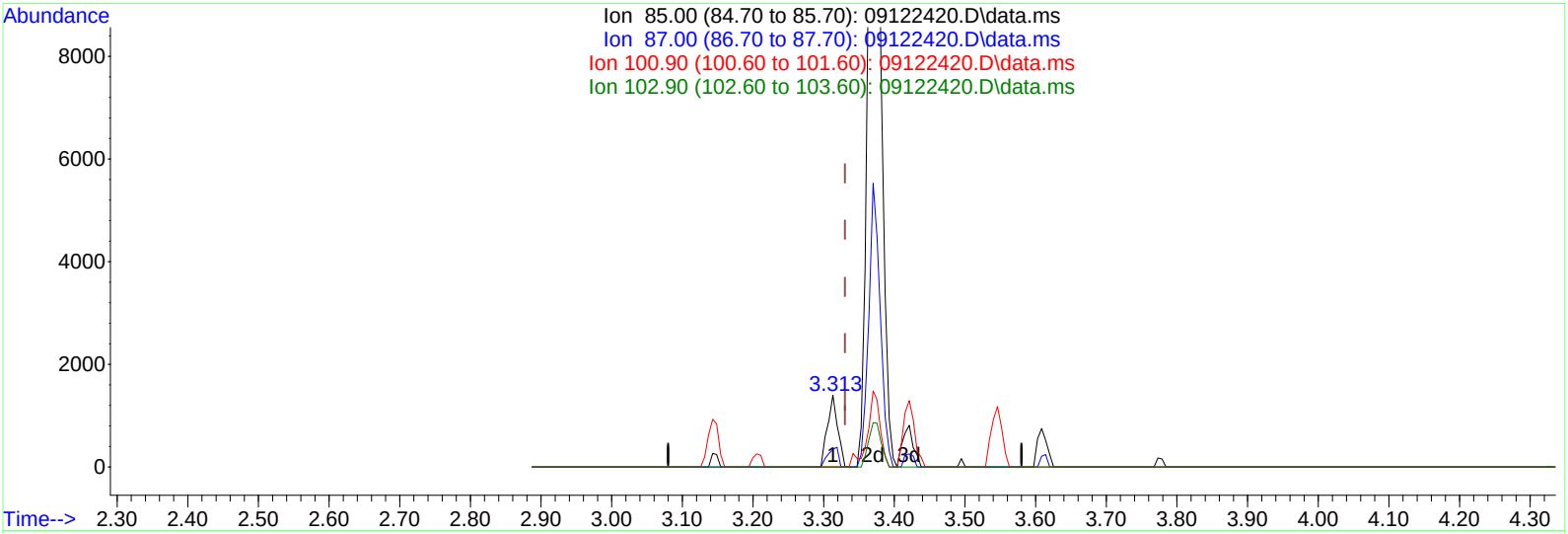
Ion	Ratio	Lower	Upper
91	100		
92	56.4	38.5	78.5

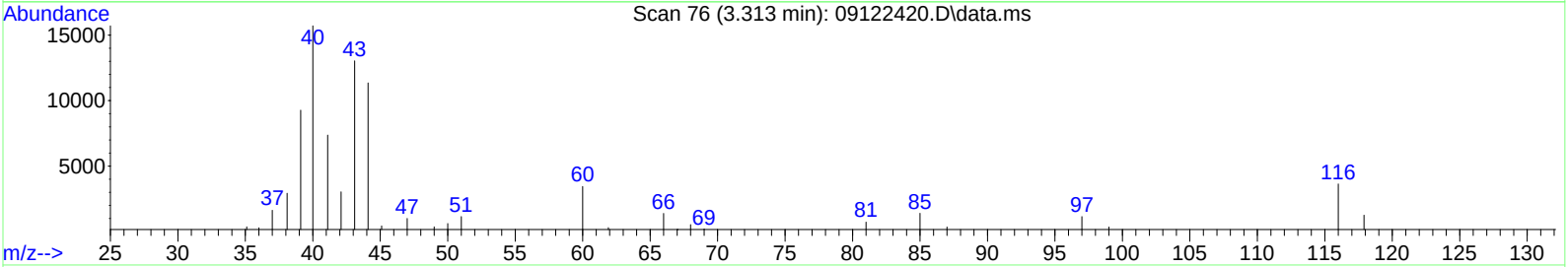


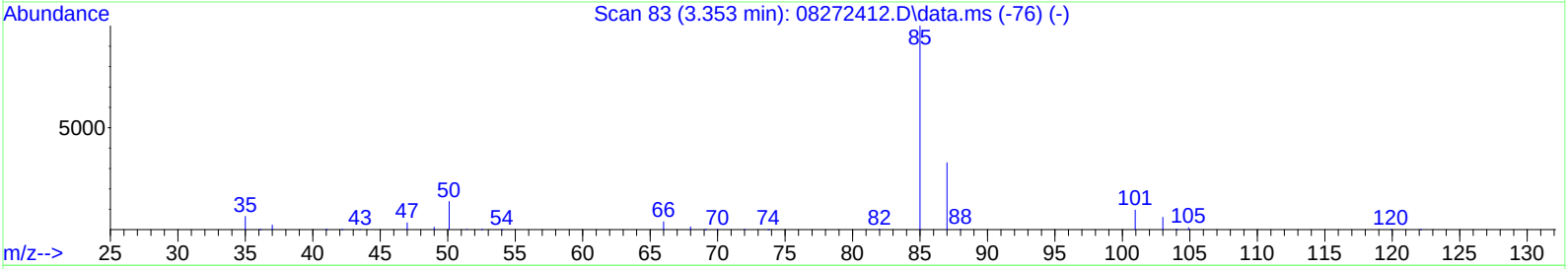
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 13 08:23:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.017) 0.05ng

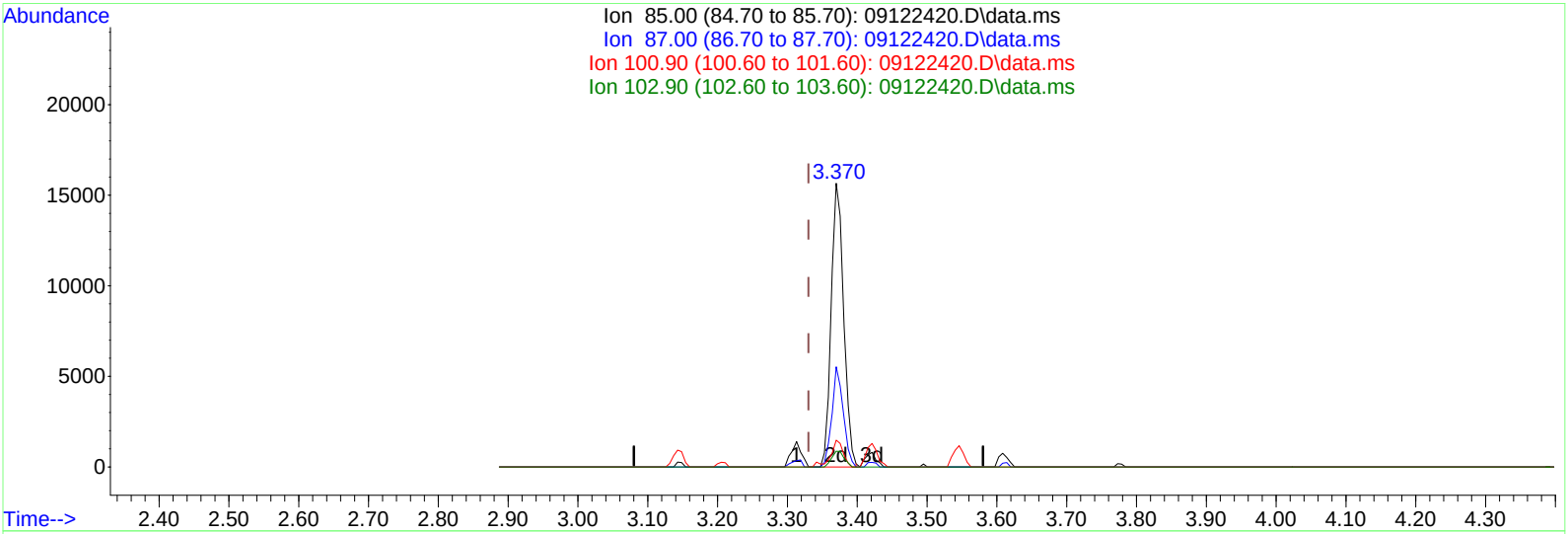
response 1414

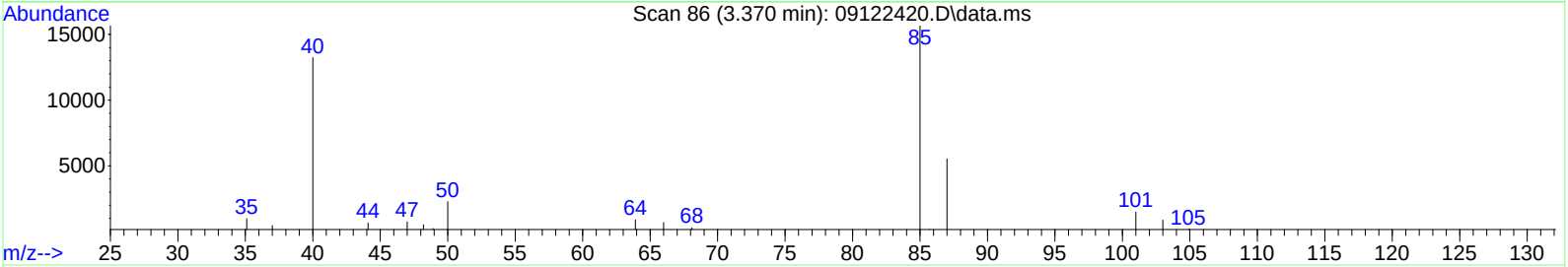
Ion	Exp%	Act%
85.00	100	100
87.00	33.10	27.93
100.90	9.40	0.00
102.90	6.00	0.00

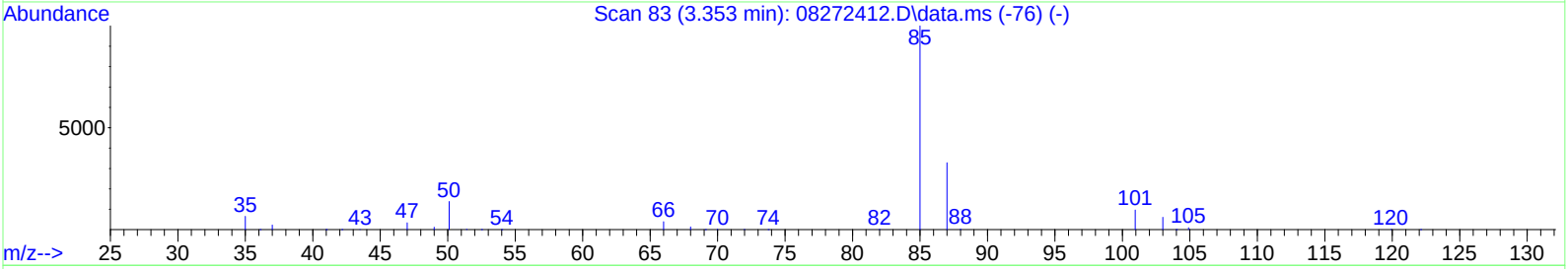
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 13 08:23:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.040) 0.63ng m

response 19519

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	32.25
100.90	9.40	8.35
102.90	6.00	5.55

MP

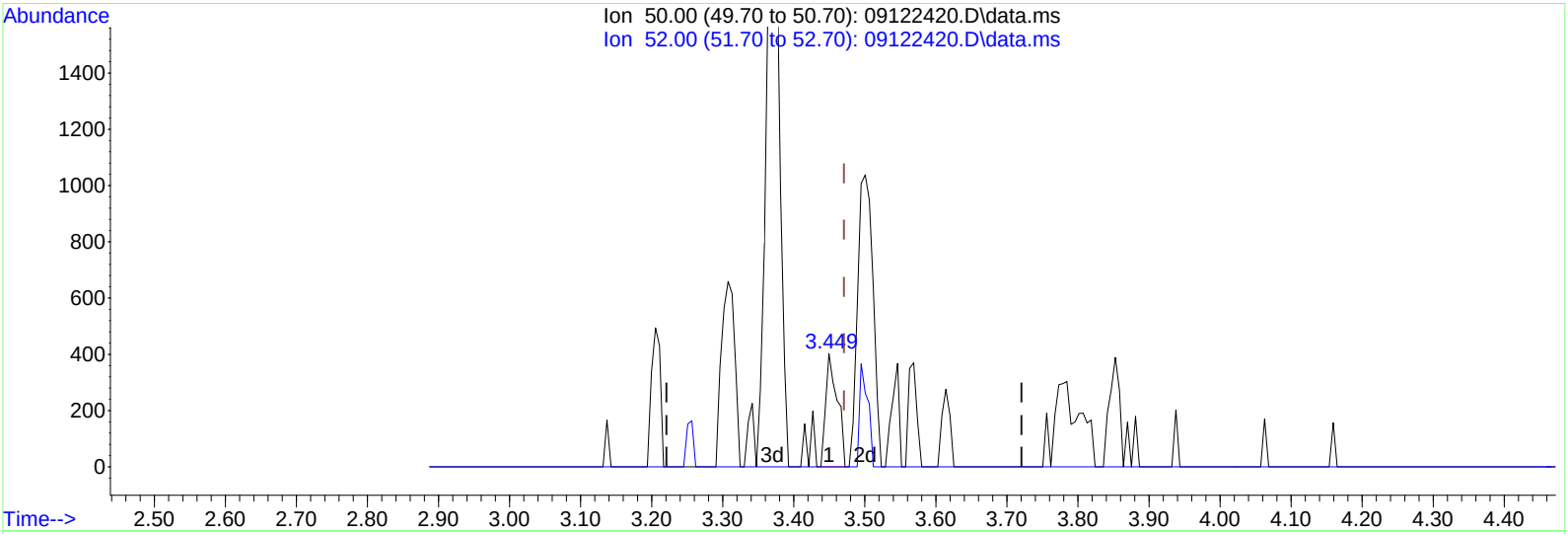
VOA 9/29/24

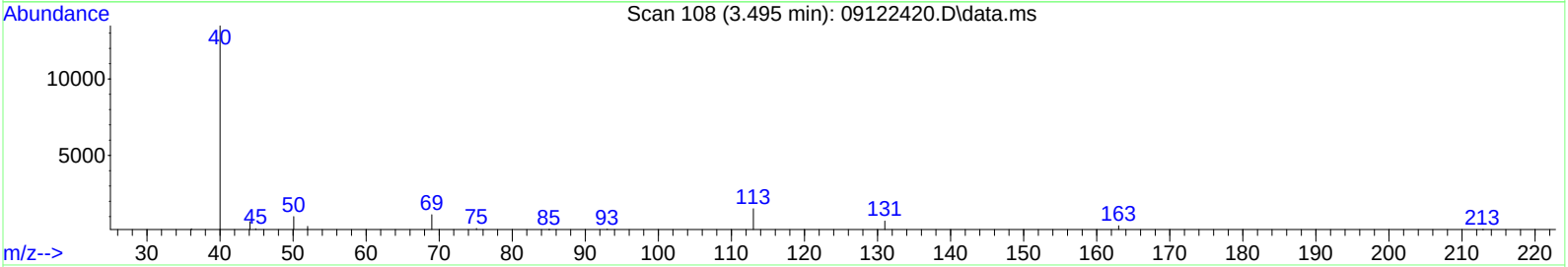
LH 9/30/24

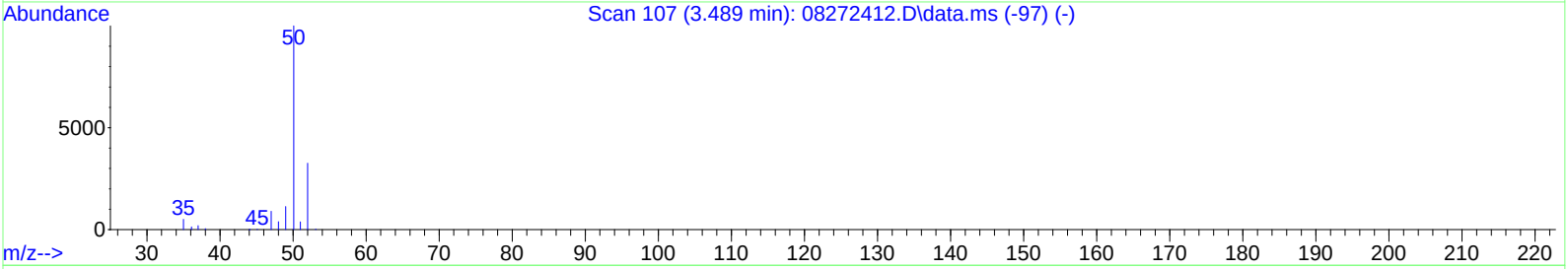
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 13 08:23:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(4) Chloromethane (T)

3.449min (-0.021) 0.02ng

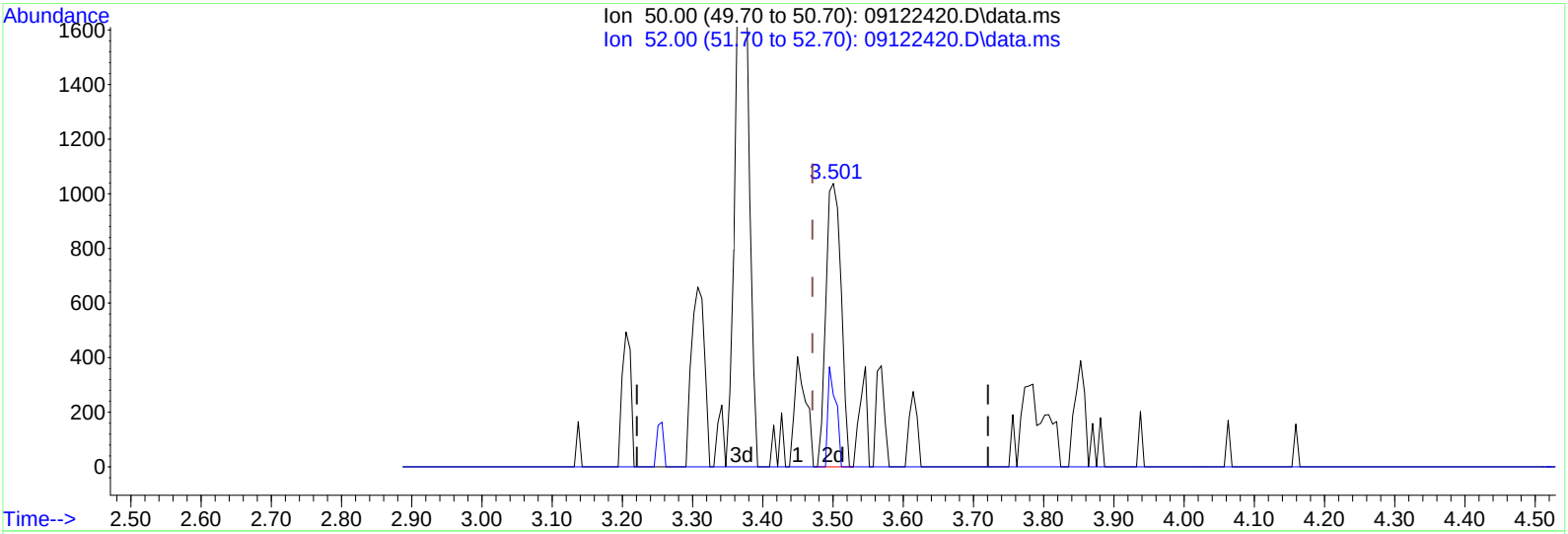
response 457

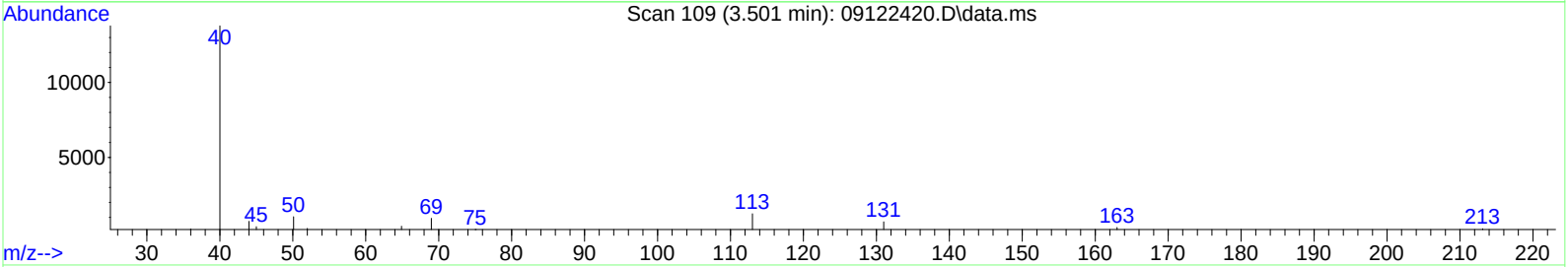
Ion	Exp%	Act%
50.00	100	100
52.00	32.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

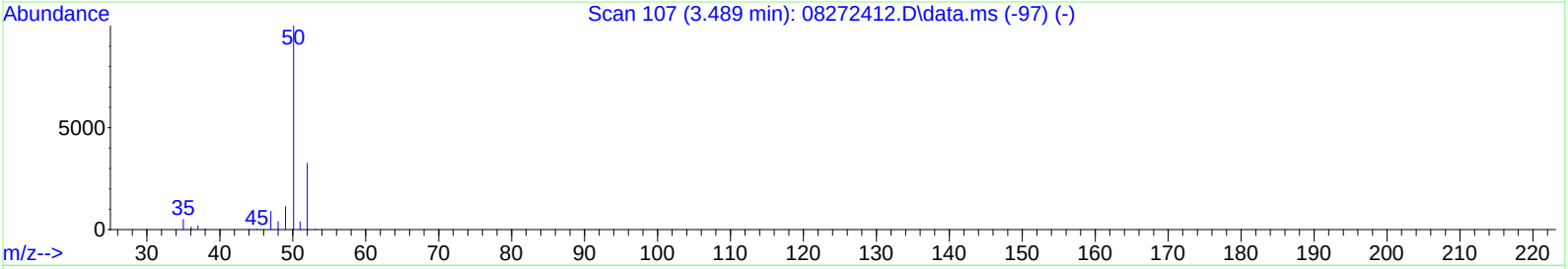
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 13 08:23:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(4) Chloromethane (T)

3.501min (+0.030) 0.06ng m

response 1565

Ion	Exp%	Act%
50.00	100	100
52.00	32.40	18.53
0.00	0.00	0.00
0.00	0.00	0.00

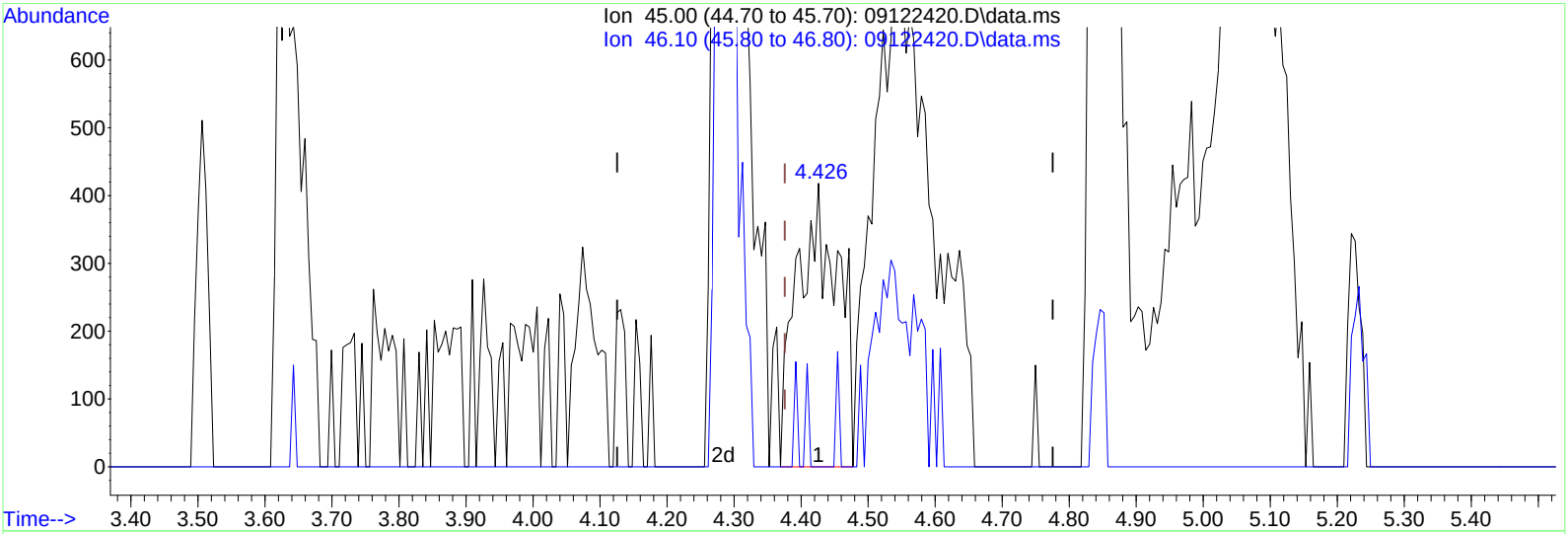
MP

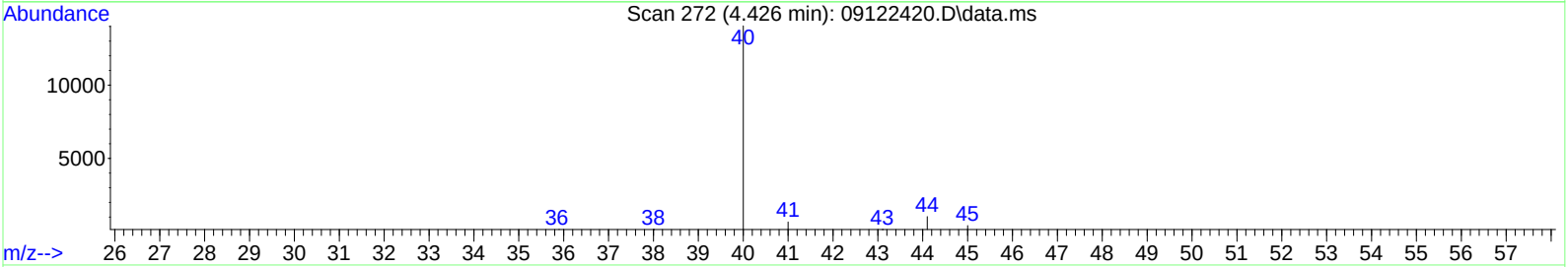
VOA 9/29/24

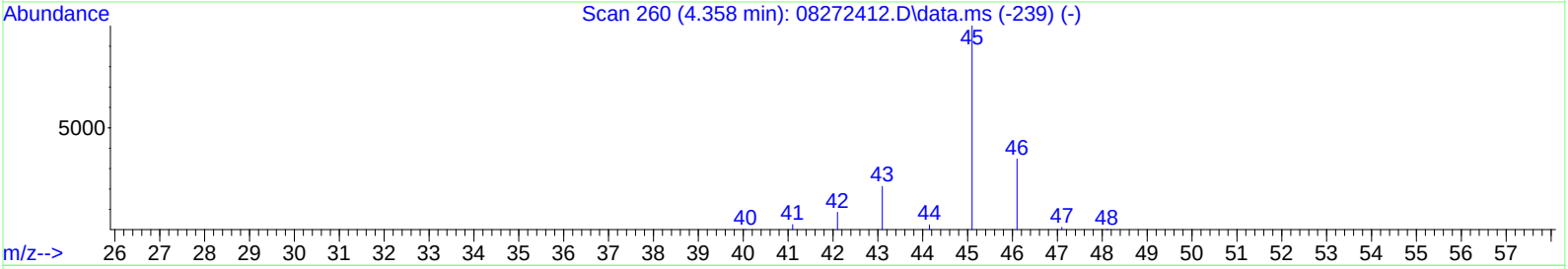
LH 9/30/24

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 13 08:23:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(10) Ethanol (T)

4.426min (+0.050) 0.13ng

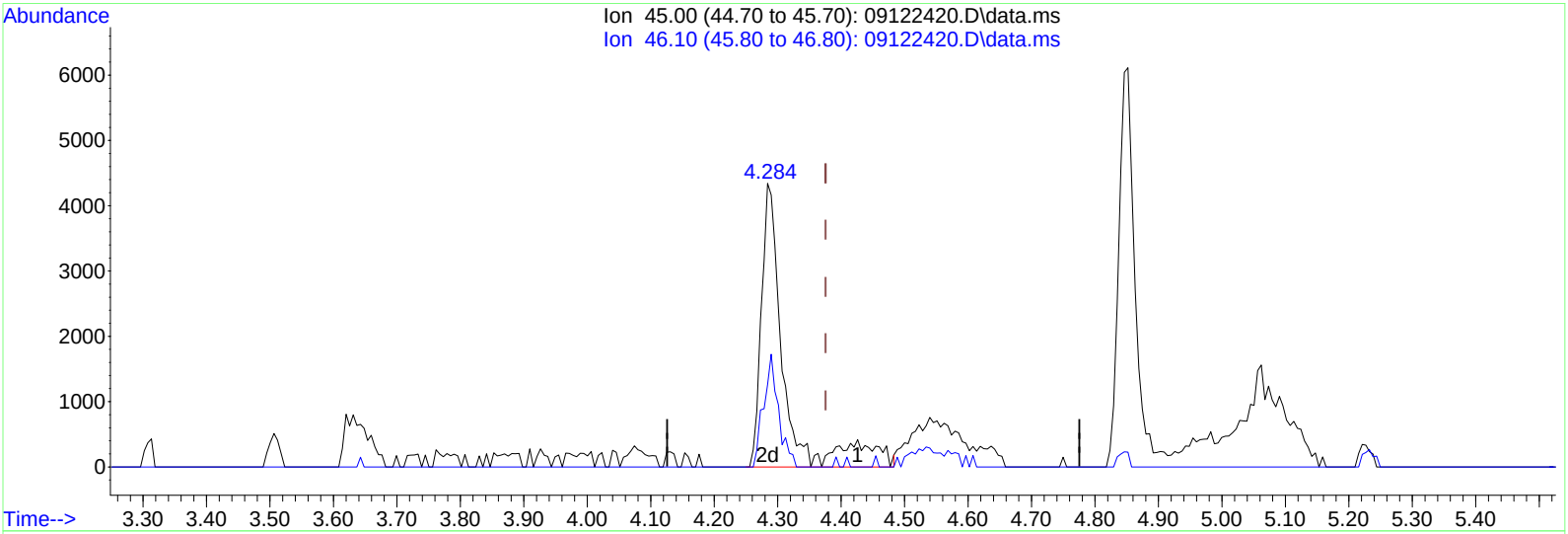
response 1740

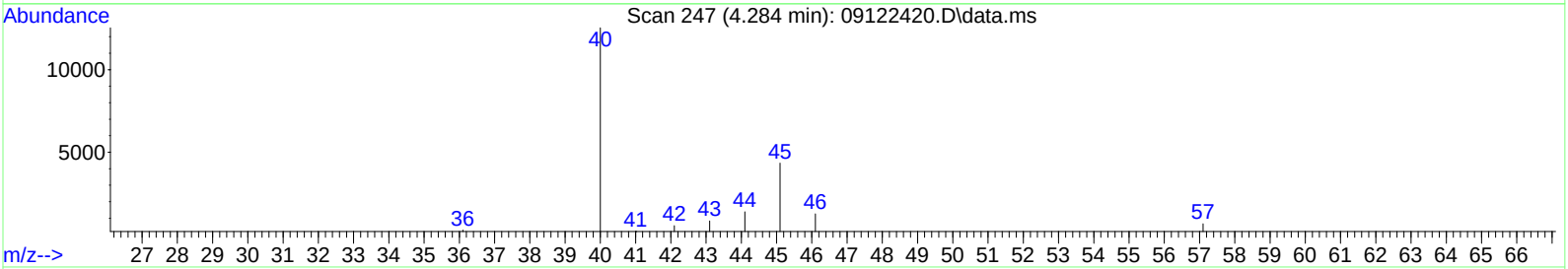
Ion	Exp%	Act%
45.00	100	100
46.10	34.20	2.99#
0.00	0.00	0.00
0.00	0.00	0.00

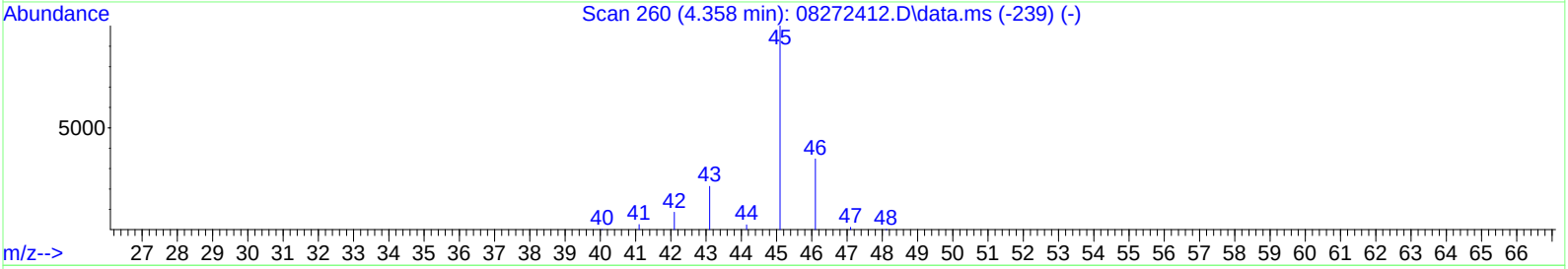
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 13 08:23:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(10) Ethanol (T)

4.284min (-0.092) 0.78ng m

response 10860

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	26.06
0.00	0.00	0.00
0.00	0.00	0.00

MP

9/29/24

9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

MA 9/30/24

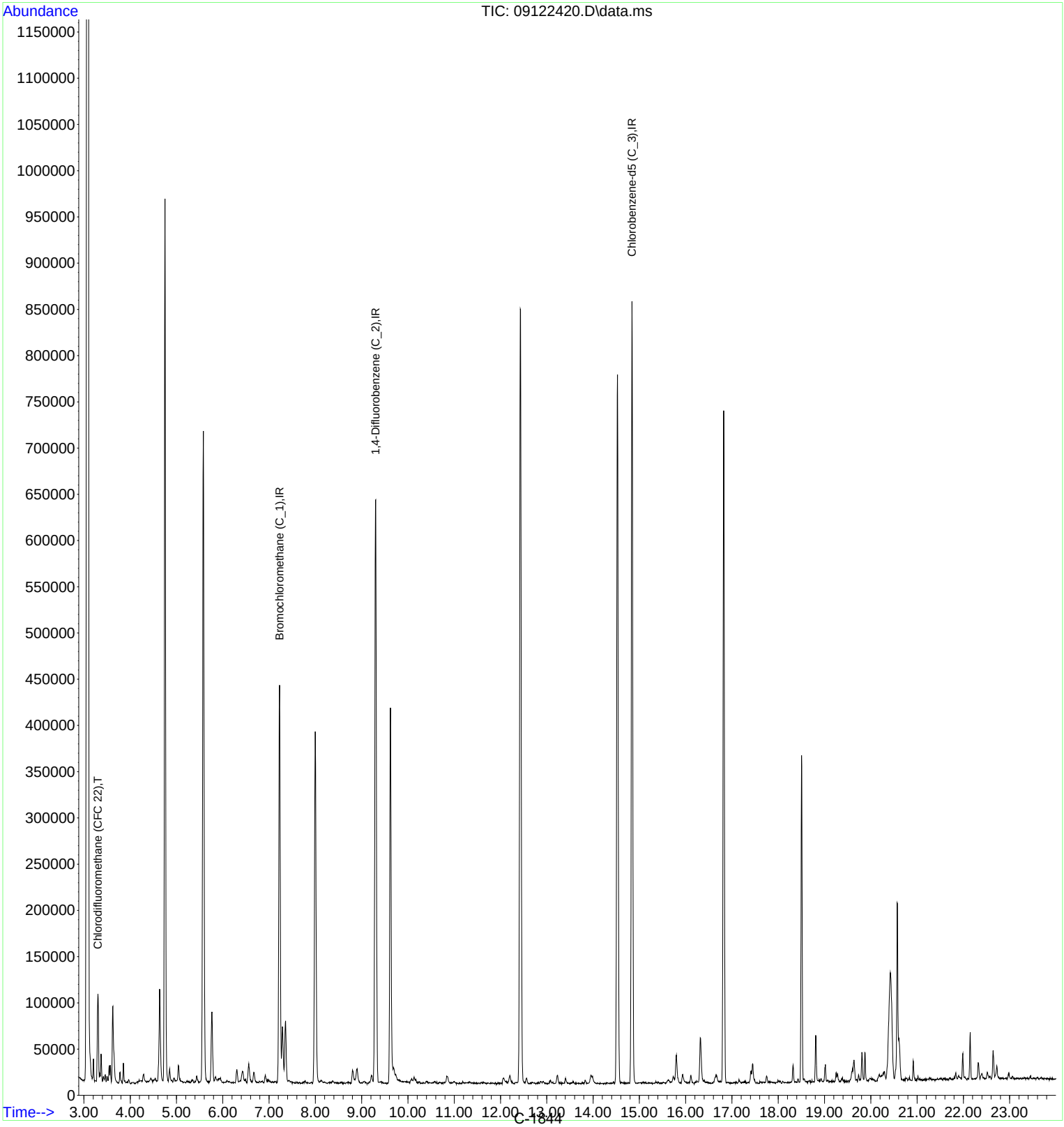
Quant Time: Sep 30 06:04:13 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	127773	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	563231	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	173721	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	172	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d		
4) 1,1-Difluoroethane	3.26	65	131	N.D.			
5) Chlorodifluoromethane ...	3.30	67	941	0.216	ng	#	23
6) 1-Chloro-1,1-Difluoroe...	3.51	65	504	N.D.			
7) Dichlorofluoromethane ...	4.23	67	1874	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.62	83	424	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.34	43	1123	N.D.			
12) 2-Methylpentane	6.49	71	494	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.04	84	186	N.D.			
17) 2,3-Dimethylpentane	9.62	56	1124	N.D.			
18) Dibromomethane	9.80	174	64	N.D.			
20) Methyl Cyclohexane	11.59	55	130	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	17.03	77	56	N.D.			
26) 2-Chlorotoluene	17.60	91	155	N.D.			
27) 4-Chlorotoluene	17.67	91	1004	N.D.			
28) Indane	19.11	117	55	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.26	119	60	N.D.			
31) 1,2,3,4-Tetramethylben...	20.26	119	60	N.D.			
32) 1,2,3,5-Tetramethylben...	20.58	119	1957	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

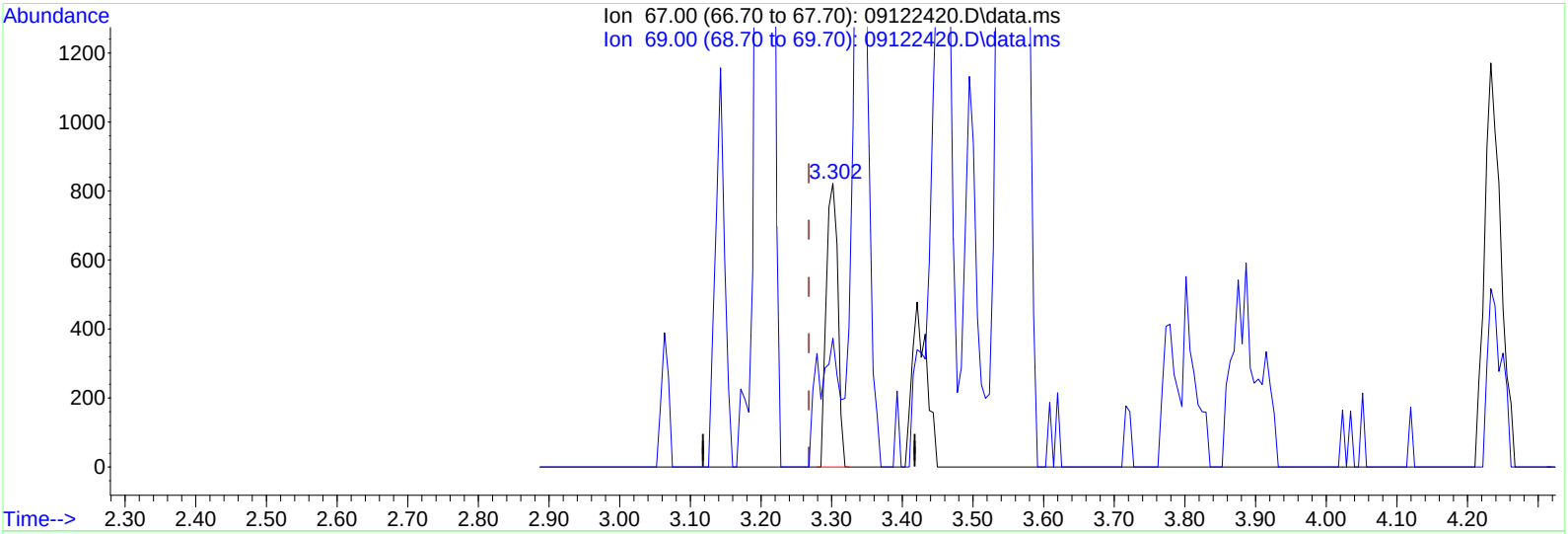
Quant Time: Sep 30 06:04:13 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

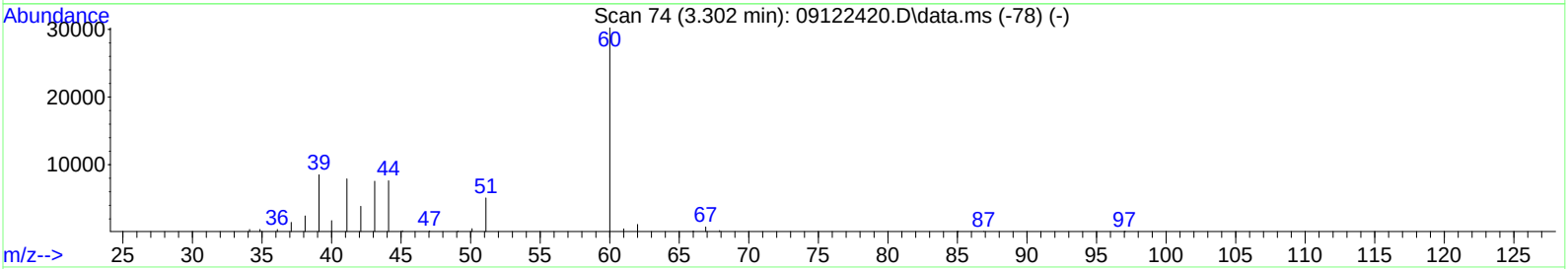


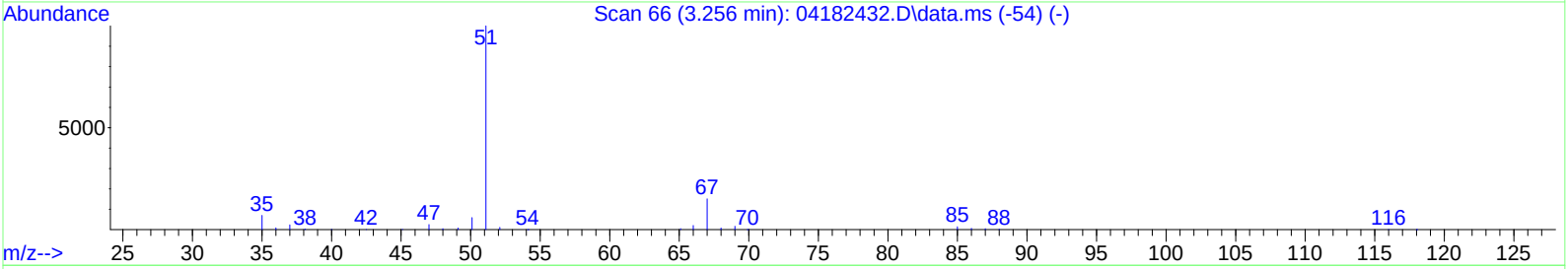
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 30 05:44:40 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122420.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.302min (+0.034) 0.22ng

response 941

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	78.53#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122420.D\data.ms

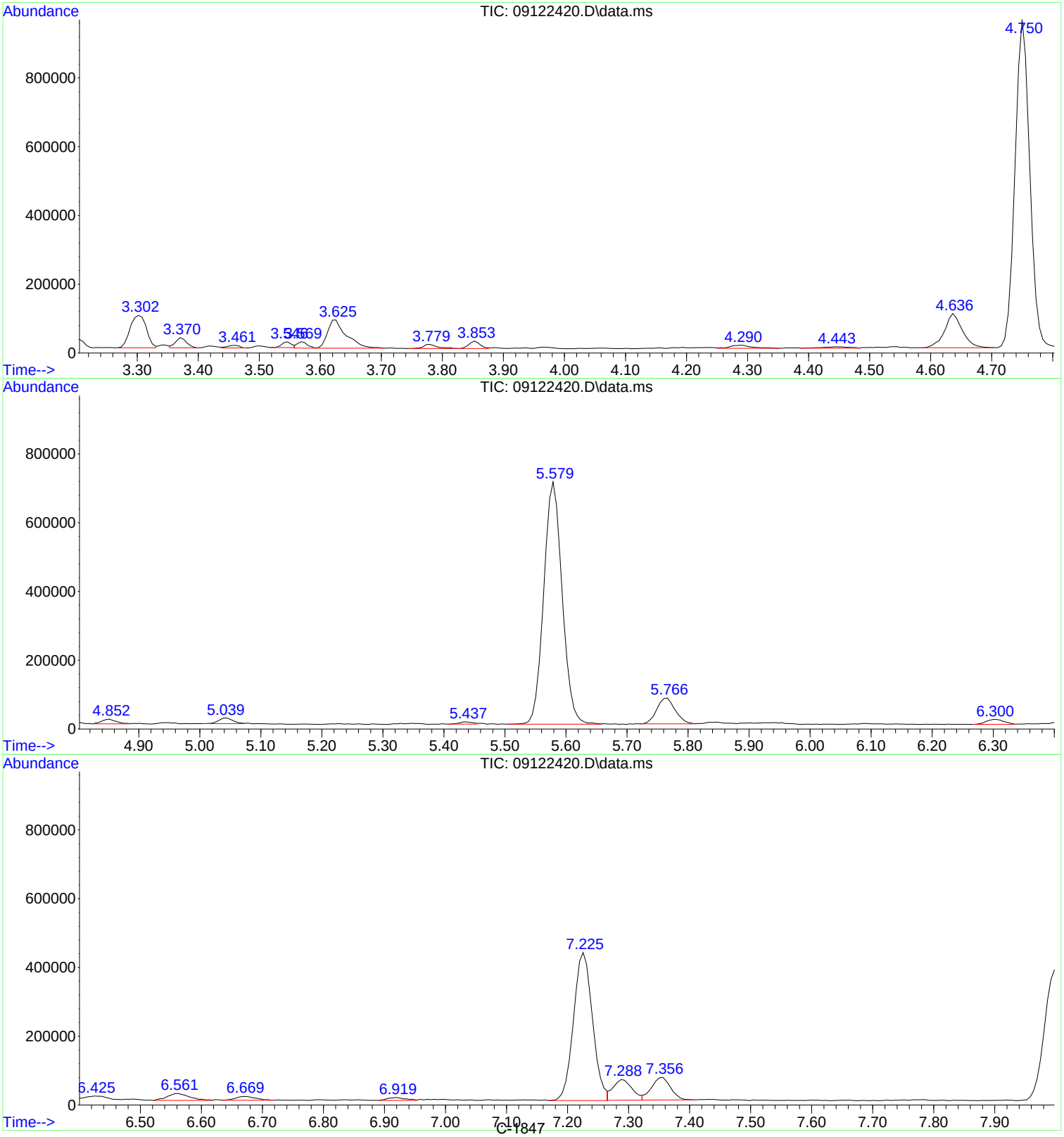
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.302	68	74	79	rBV2	94351	174840	10.87%	3.254%
2	3.370	83	86	91	rVB	29732	36841	2.29%	0.686%
3	3.461	98	102	105	rVB4	7541	10142	0.63%	0.189%
4	3.546	112	117	119	rBV2	16410	19076	1.19%	0.355%
5	3.569	119	121	125	rVB2	18172	19810	1.23%	0.369%
6	3.625	125	131	145	rVB2	82085	174090	10.83%	3.240%
7	3.779	152	158	167	rBV5	12065	19544	1.22%	0.364%
8	3.853	167	171	175	rBV	21855	27477	1.71%	0.511%
9	4.290	241	248	259	rVB4	9081	22036	1.37%	0.410%
10	4.443	265	275	282	rVB5	4425	12564	0.78%	0.234%
11	4.636	300	309	321	rBV2	99518	201537	12.53%	3.751%
12	4.750	321	329	342	rVB	954720	1608193	100.00%	29.932%
13	4.852	342	347	353	rBV2	13822	23021	1.43%	0.428%
14	5.039	374	380	386	rBV	16749	27884	1.73%	0.519%
15	5.437	445	450	453	rBV2	6709	10383	0.65%	0.193%
16	5.579	462	475	489	rBV2	704302	1479204	91.98%	27.531%
17	5.766	500	508	516	rBV	75185	157063	9.77%	2.923%
18	6.300	596	602	608	rBV3	14507	30632	1.90%	0.570%
19	6.425	618	624	632	rBV3	10477	25330	1.58%	0.471%
20	6.561	641	648	658	rBV6	20542	50828	3.16%	0.946%
21	6.669	661	667	676	rVV	11054	25360	1.58%	0.472%
22	6.919	706	711	717	rBV3	8607	17243	1.07%	0.321%
23	7.225	755	765	772	rBV	430397	930899	57.88%	17.326%
24	7.288	772	776	782	rVV	60186	128176	7.97%	2.386%
25	7.356	782	788	797	rVB	65709	140645	8.75%	2.618%

Sum of corrected areas: 5372818

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:21
Operator : SC
Sample : P2403661-053 (400mL)
Misc : S37-06062402
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122420.D
Acq On : 12 Sep 2024 21:211
Operator : SCC
Sample : P2403661-053 (400mL))
Misc : S37-060624022
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

VOA 9/29/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

NOA 9/29/24

Quant Time: Sep 29 20:11:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	127977	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.31	114	556825	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	175332	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.01	65	329549	13.761 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%			
57) Toluene-d8 (SS2)	12.43	98	645303	10.491 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.92%			
73) Bromofluorobenzene (SS3)	16.83	174	227887	11.078 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.35	85	18979	0.611 ng		99
4) Chloromethane	3.48	50	2771	0.114 ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	319	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D. d		
8) Bromomethane	4.01	94	205	N.D.		
9) Chloroethane	4.15	64	207	N.D.		
10) Ethanol	4.30	45	190314	13.702 ng		100
11) Acetonitrile	4.44	41	9719	0.310 ng	#	1
12) Acrolein	4.52	56	8399	0.792 ng		94
13) Acetone	4.61	58	267999	22.868 ng	#	4
14) Trichlorofluoromethane	4.75	101	229360	7.739 ng		99
15) 2-Propanol (Isopropanol)	4.85	45	559789	12.132 ng		91
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.33	59	39033	1.036 ng	#	1
19) Methylene Chloride	5.35	84	6382	0.462 ng		86
20) 3-Chloro-1-propene (Al...	5.44	41	615	N.D.		
21) Trichlorotrifluoroethane	5.58	151	100564	8.565 ng		93
22) Carbon Disulfide	5.60	76	430475	9.409 ng		100
23) trans-1,2-Dichloroethene	6.13	61	1022	N.D.		
24) 1,1-Dichloroethane	6.31	63	621	N.D.		
25) Methyl tert-Butyl Ether	6.37	73	7591	0.186 ng		96
26) Vinyl Acetate	6.44	86	6796	2.853 ng	#	83
27) 2-Butanone (MEK)	6.66	72	16004	1.925 ng	#	75
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	7.28	61	329418	59.132 ng		90
31) n-Hexane	7.30	57	48320	1.902 ng		98
32) Chloroform	7.37	83	42137	1.653 ng		99
34) Tetrahydrofuran (THF)	7.75	72	4364	0.557 ng	#	1
35) Ethyl tert-Butyl Ether	7.83	87	126	N.D.		
36) 1,2-Dichloroethane	8.12	62	3697	0.146 ng		96
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.62	61	1272	No Calib	#	
40) 1-Butanol	8.80	56	39893	No Calib	#	
41) Benzene	8.90	78	29319	0.562 ng		99
42) Carbon Tetrachloride	9.07	117	4256	0.197 ng		97
43) Cyclohexane	9.22	84	49362	2.800 ng		96
44) tert-Amyl Methyl Ether	9.61	73	160	N.D.		
45) 1,2-Dichloropropane	9.86	63	3498	0.253 ng		89
46) Bromodichloromethane	10.09	83	550	N.D.		
47) Trichloroethene	10.14	130	459	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D. d		

C-1849

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 29 20:11:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

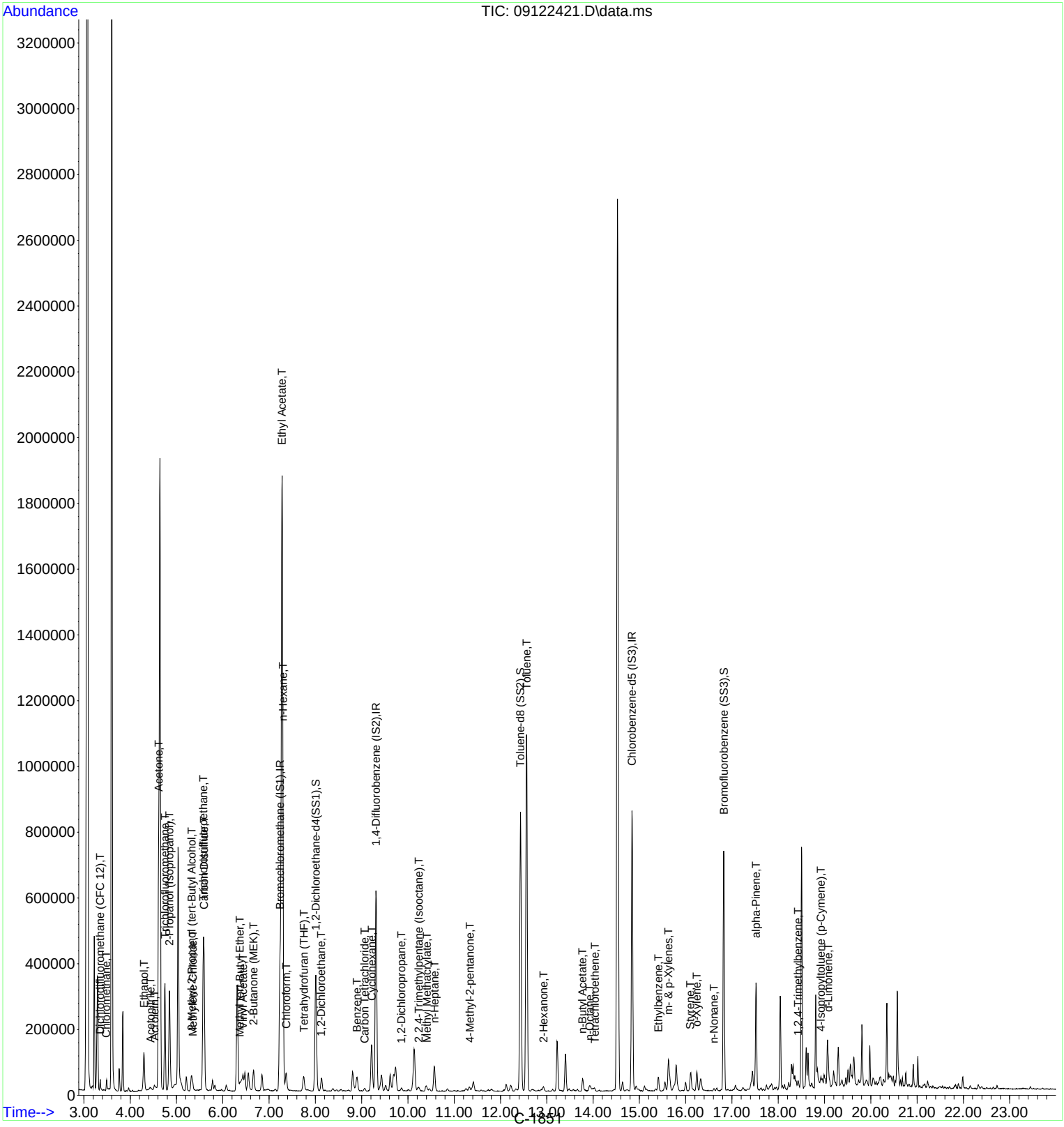
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	11409	0.185 ng		73
50) Methyl Methacrylate	10.41	100	707	0.156 ng	#	75
51) n-Heptane	10.58	71	15989	1.374 ng		93
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	3755	0.272 ng	#	43
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	895007	13.461 ng		100
59) 2-Hexanone	12.93	43	14810	0.360 ng	#	58
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.77	43	39367	0.854 ng		91
63) n-Octane	13.93	57	3185	0.204 ng		92
64) Tetrachloroethene	14.04	166	2186	0.119 ng		93
65) Chlorobenzene	14.90	112	1295	N.D.		
66) Ethylbenzene	15.41	91	34700	0.454 ng		98
67) m- & p-Xylenes	15.63	91	77530	1.246 ng		100
68) Bromoform	15.67	173	150	N.D.		
69) Styrene	16.10	104	14659	0.364 ng		96
70) o-Xylene	16.24	91	37384	0.616 ng		100
71) n-Nonane	16.61	43	3953	0.099 ng		93
72) 1,1,2,2-Tetrachloroethane	16.21	83	136	N.D.		
74) Cumene	17.03	105	3054	N.D.		
75) alpha-Pinene	17.52	93	130079	3.554 ng		97
76) n-Propylbenzene	17.68	91	4081	N.D.		
77) 3-Ethyltoluene	17.03	105	3054	No Calib		
78) 4-Ethyltoluene	17.86	105	2643	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	2365	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	3054	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	7250	0.116 ng		89
83) n-Decane	17.09	58	1220	No Calib	#	
84) Benzyl Chloride	18.56	91	679	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	564	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1141	N.D.		
87) sec-Butylbenzene	18.74	105	1168	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	9951	0.145 ng		88
89) 1,2,3-Trimethylbenzene	17.03	105	3054	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	574	N.D.		
91) d-Limonene	19.08	68	12972	0.620 ng		94
92) 1,2-Dibromo-3-Chloropr...	19.51	157	243	N.D.		
93) n-Undecane	18.04	58	7661	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	1136	N.D.		
95) Naphthalene	20.94	128	2854	N.D.		
96) n-Dodecane	18.93	58	1673	No Calib	#	
97) Hexachlorobutadiene	21.30	225	403	N.D.		
98) Cyclohexanone	15.28	55	274	No Calib	#	
99) tert-Butylbenzene	18.42	119	1427	N.D.		
100) n-Butylbenzene	19.39	91	1887	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 29 20:11:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

MA 9/29/24

Quant Time: Sep 29 20:11:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

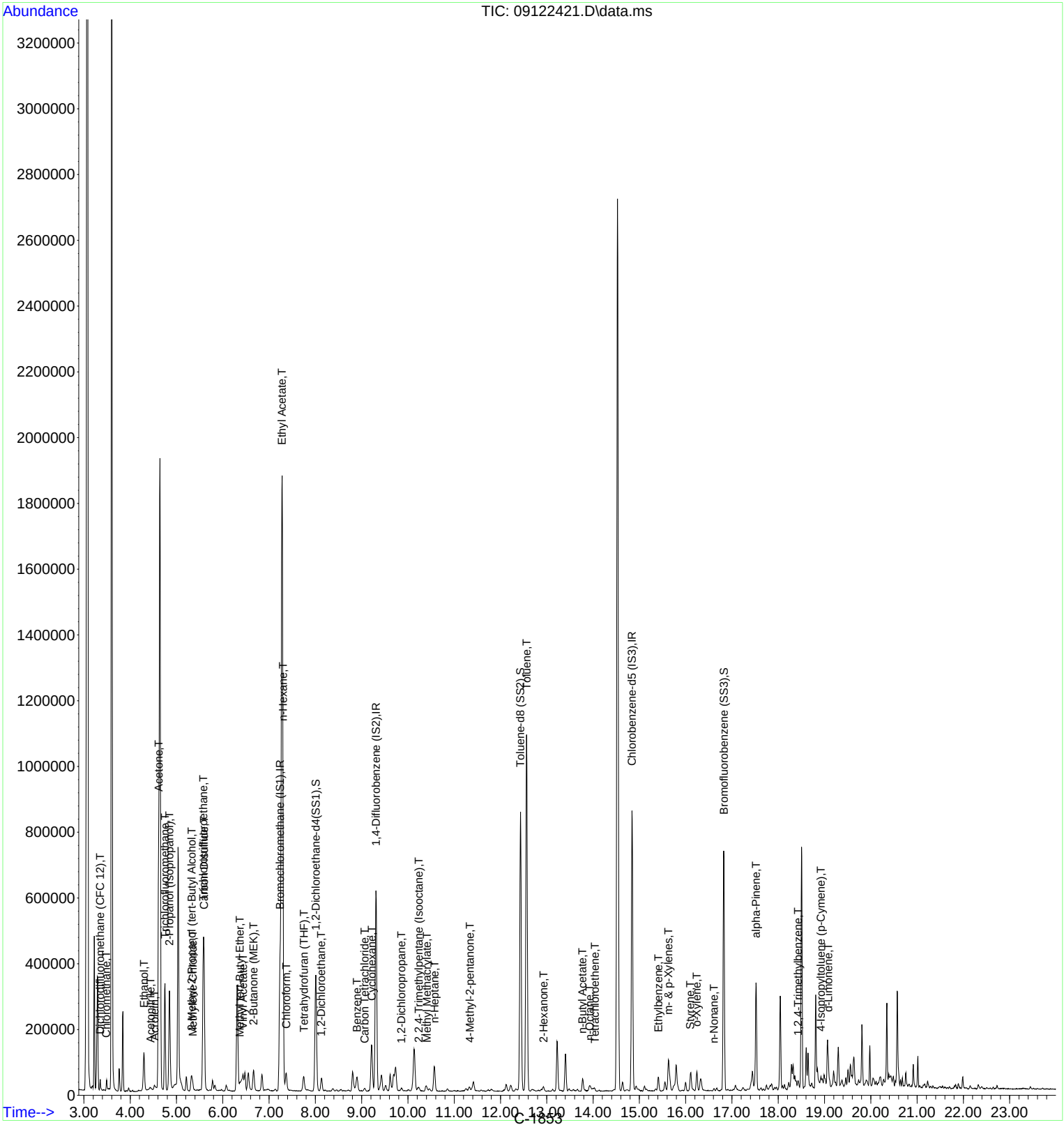
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	127977	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.31	114	556825	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	175332	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	329549	13.761	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%				
57) Toluene-d8 (SS2)	12.43	98	645303	10.491	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 83.92%				
73) Bromofluorobenzene (SS3)	16.83	174	227887	11.078	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.64%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.35	85	18979	0.611	ng		99
4) Chloromethane	3.48	50	2771	0.114	ng		98
10) Ethanol	4.30	45	190314	13.702	ng		100
11) Acetonitrile	4.44	41	9719	0.310	ng	#	1
12) Acrolein	4.52	56	8399	0.792	ng		94
13) Acetone	4.61	58	267999	22.868	ng	#	4
14) Trichlorofluoromethane	4.75	101	229360	7.739	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	559789	12.132	ng		91
18) 2-Methyl-2-Propanol (t...	5.33	59	39033	1.036	ng	#	1
19) Methylene Chloride	5.35	84	6382	0.462	ng		86
21) Trichlorotrifluoroethane	5.58	151	100564	8.565	ng		93
22) Carbon Disulfide	5.60	76	430475	9.409	ng		100
25) Methyl tert-Butyl Ether	6.37	73	7591	0.186	ng		96
26) Vinyl Acetate	6.44	86	6796	2.853	ng	#	83
27) 2-Butanone (MEK)	6.66	72	16004	1.925	ng	#	75
30) Ethyl Acetate	7.28	61	329418	59.132	ng		90
31) n-Hexane	7.30	57	48320	1.902	ng		98
32) Chloroform	7.37	83	42137	1.653	ng		99
34) Tetrahydrofuran (THF)	7.75	72	4364	0.557	ng	#	1
36) 1,2-Dichloroethane	8.12	62	3697	0.146	ng		96
41) Benzene	8.90	78	29319	0.562	ng		99
42) Carbon Tetrachloride	9.07	117	4256	0.197	ng		97
43) Cyclohexane	9.22	84	49362	2.800	ng		96
45) 1,2-Dichloropropane	9.86	63	3498	0.253	ng		89
49) 2,2,4-Trimethylpentane...	10.23	57	11409	0.185	ng		73
50) Methyl Methacrylate	10.41	100	707	0.156	ng	#	75
51) n-Heptane	10.58	71	15989	1.374	ng		93
53) 4-Methyl-2-pentanone	11.34	58	3755	0.272	ng	#	43
58) Toluene	12.56	91	895007	13.461	ng		100
59) 2-Hexanone	12.93	43	14810	0.360	ng	#	58
62) n-Butyl Acetate	13.77	43	39367	0.854	ng		91
63) n-Octane	13.93	57	3185	0.204	ng		92
64) Tetrachloroethene	14.04	166	2186	0.119	ng		93
66) Ethylbenzene	15.41	91	34700	0.454	ng		98
67) m- & p-Xylenes	15.63	91	77530	1.246	ng		100
69) Styrene	16.10	104	14659	0.364	ng		96
70) o-Xylene	16.24	91	37384	0.616	ng		100
71) n-Nonane	16.61	43	3953	0.099	ng		93
75) alpha-Pinene	17.52	93	130079	3.554	ng		97
82) 1,2,4-Trimethylbenzene	18.43	105	7250	0.116	ng		89
88) 4-Isopropyltoluene (p-...	18.92	119	9951	0.145	ng		88
91) d-Limonene	19.08	68	12972	0.620	ng		94

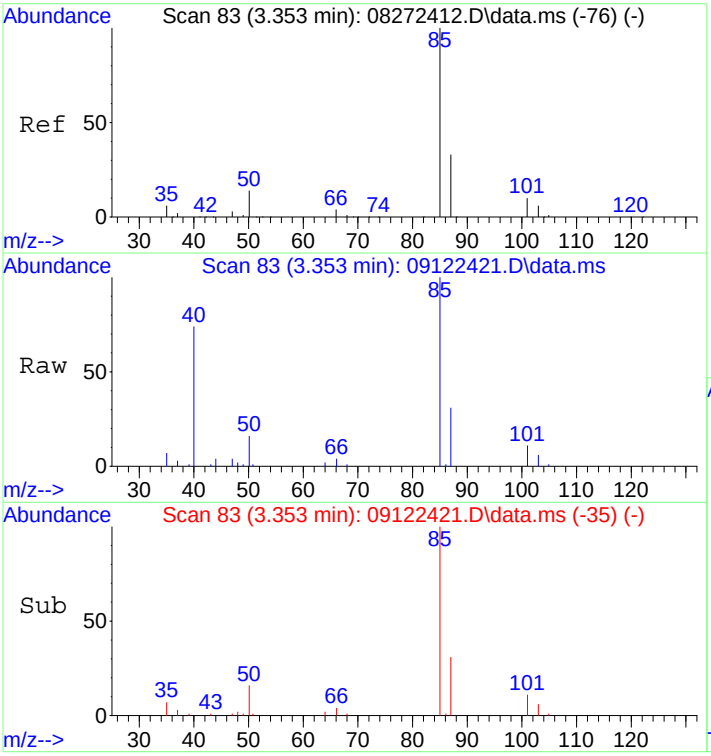
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 29 20:11:24 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration

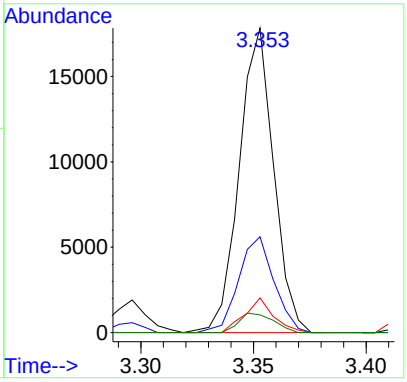


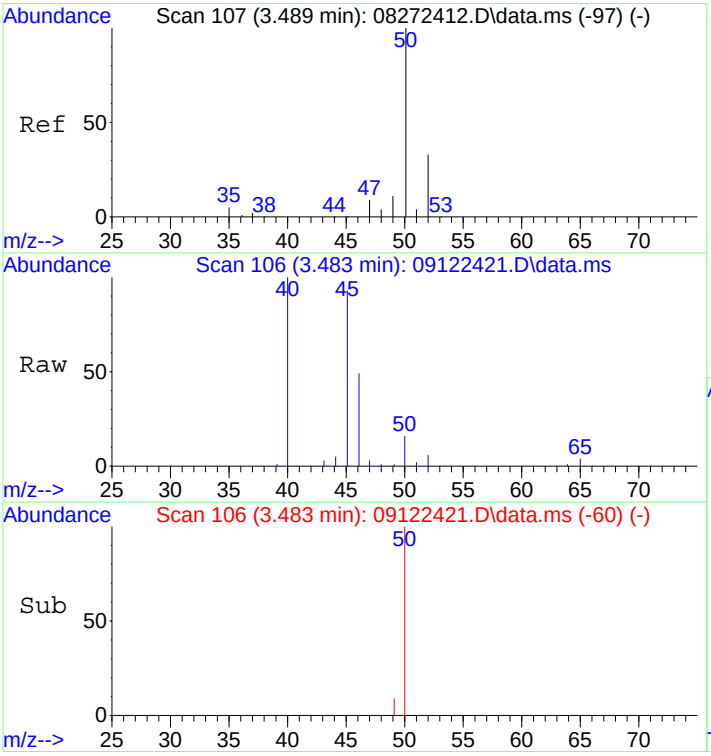


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 3.35 min Scan# 83
Delta R.T. 0.023 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 85 Resp: 18979

Ion	Ratio	Lower	Upper
85	100		
87	32.5	13.1	53.1
101	9.6	0.0	29.4
103	6.4	0.0	26.0

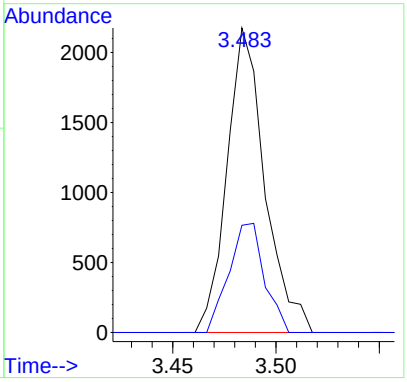


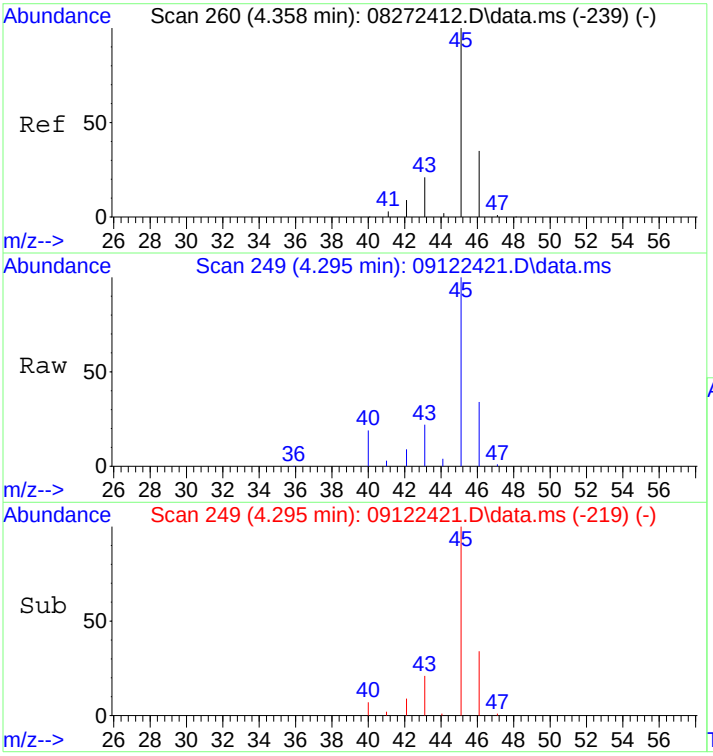


#4
Chloromethane
Concen: 0.11 ng
RT: 3.48 min Scan# 106
Delta R.T. 0.013 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 50 Resp: 2771

Ion	Ratio	Lower	Upper
50	100		
52	33.7	12.4	52.4

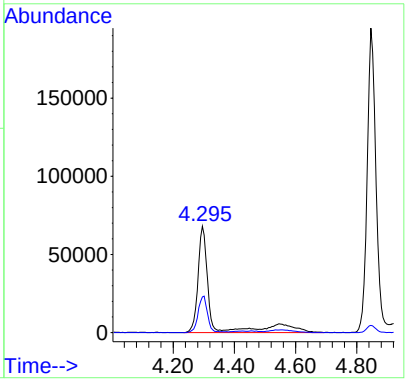


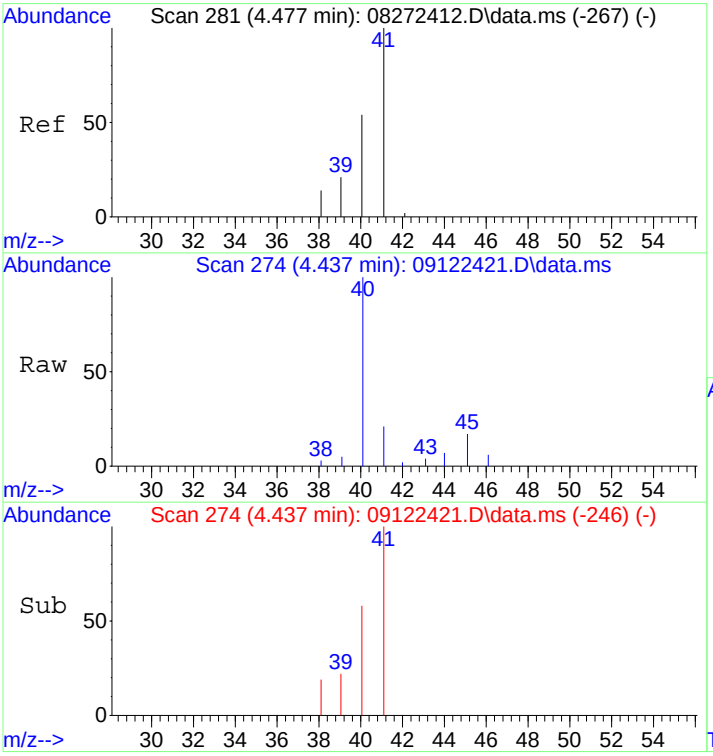


#10
Ethanol
Concen: 13.70 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.080 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 45 Resp: 190314

Ion	Ratio	Lower	Upper
45	100		
46	34.3	14.2	54.2

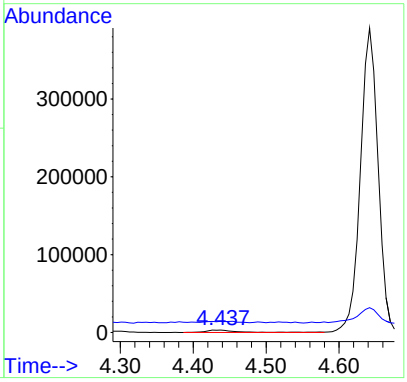


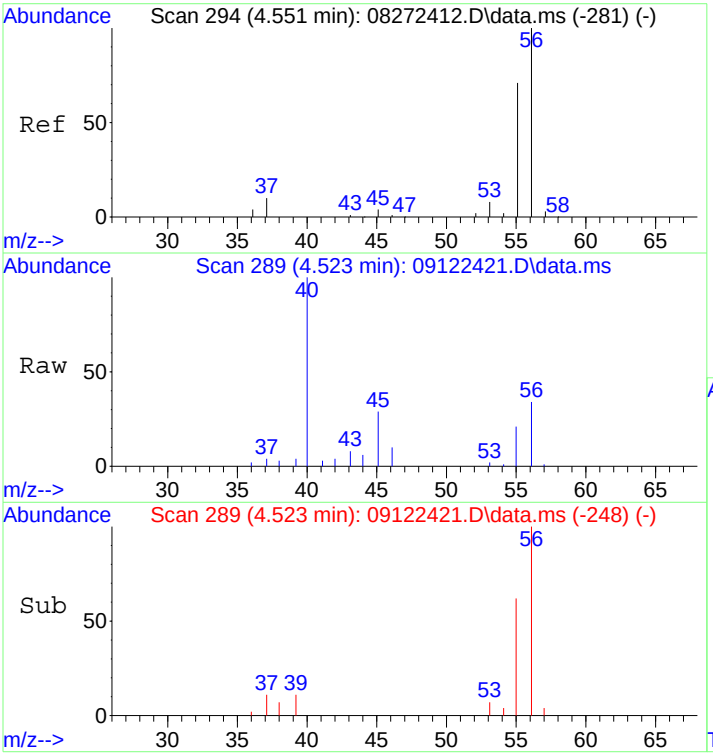


#11
Acetonitrile
Concen: 0.31 ng
RT: 4.44 min Scan# 274
Delta R.T. -0.040 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 41 Resp: 9719

Ion	Ratio	Lower	Upper
41	100		
40	126.5	33.9	73.9#

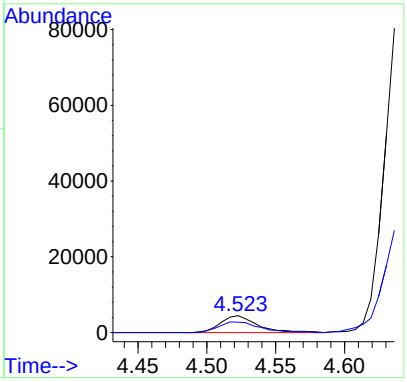


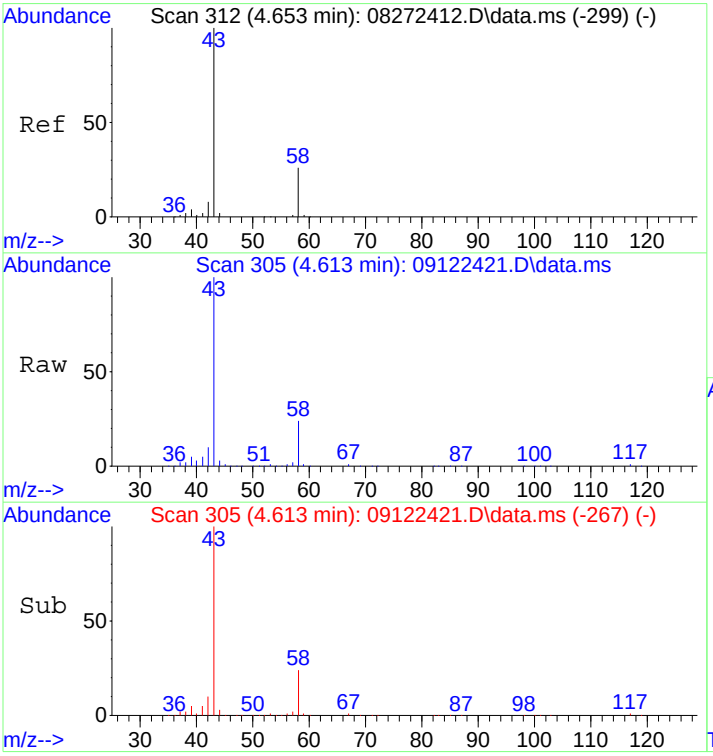


#12
Acrolein
Concen: 0.79 ng
RT: 4.52 min Scan# 289
Delta R.T. -0.016 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 56 Resp: 8399

Ion	Ratio	Lower	Upper
56	100		
55	69.3	54.7	94.7

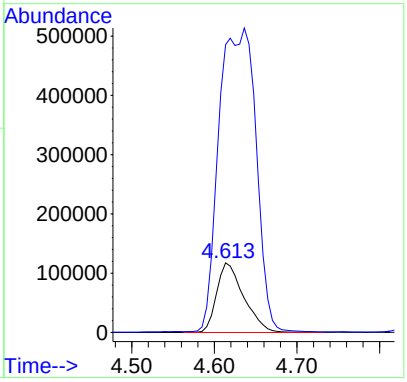


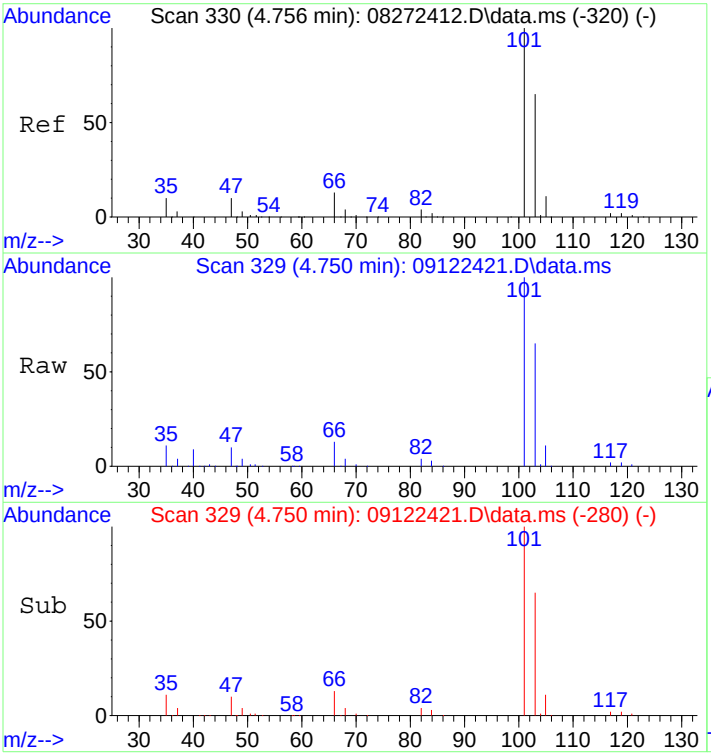


#13
Acetone
Concen: 22.87 ng
RT: 4.61 min Scan# 305
Delta R.T. -0.032 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 58 Resp: 267999

Ion	Ratio	Lower	Upper
58	100		
43	596.1	347.3	407.3#

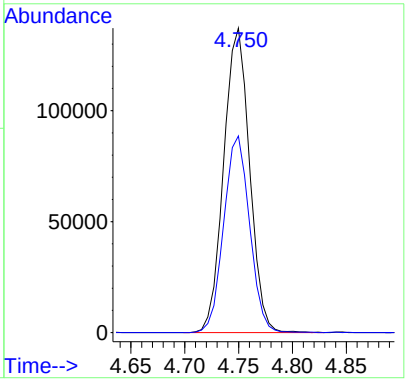


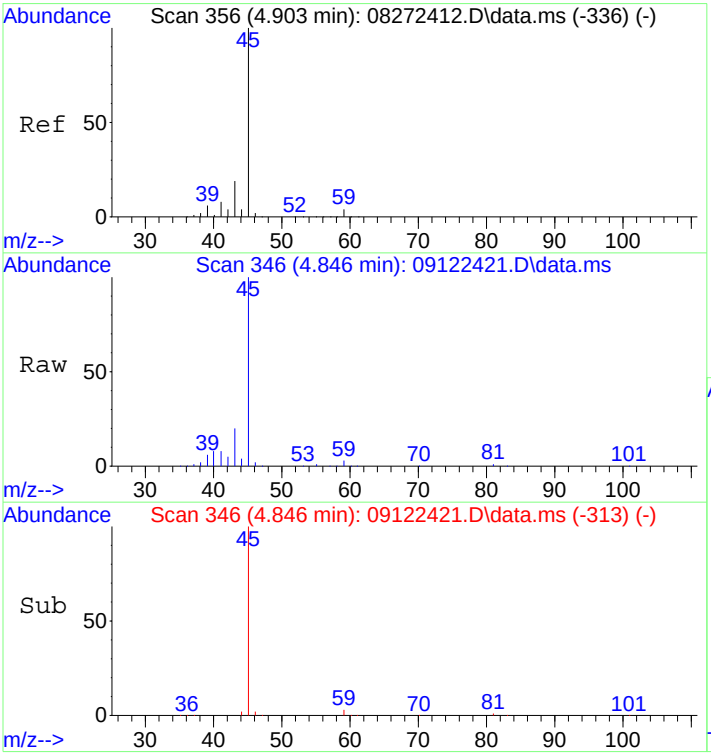


#14
Trichlorofluoromethane
Concen: 7.74 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.025 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:101 Resp: 229360

Ion	Ratio	Lower	Upper
101	100		
103	64.5	44.9	84.9

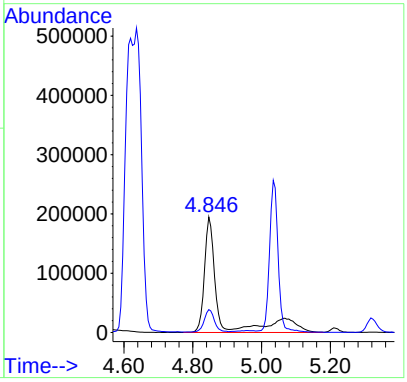


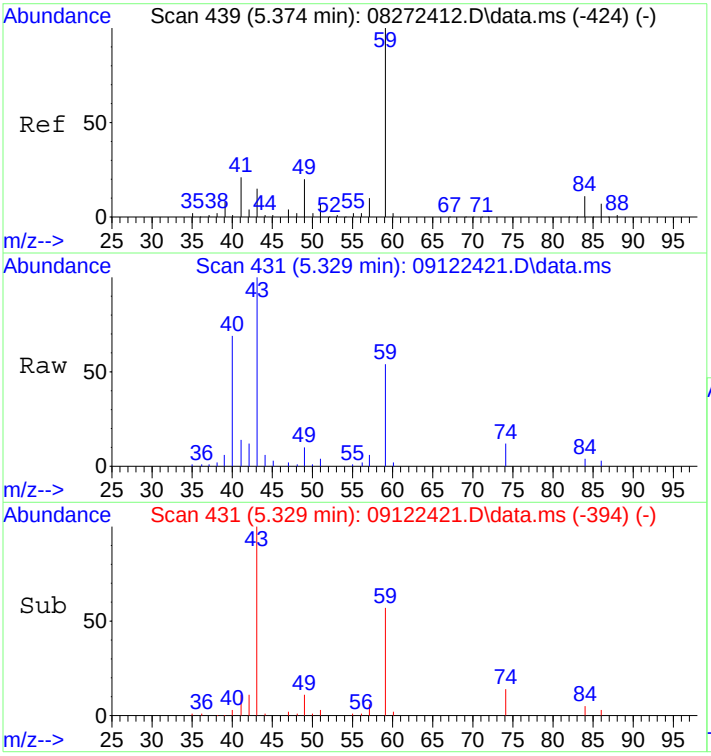


#15
2-Propanol (Isopropanol)
Concen: 12.13 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.064 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 45 Resp: 559789

Ion	Ratio	Lower	Upper
45	100		
43	15.7	0.0	40.0

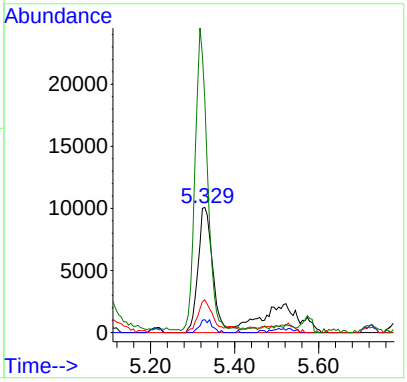


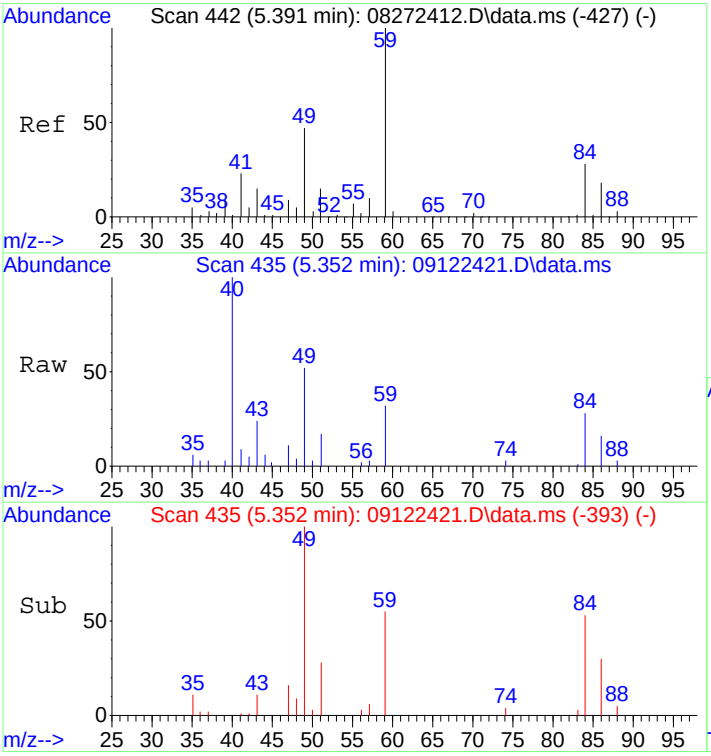


#18
2-Methyl-2-Propanol (tert-Butyl Alcohol
Concen: 1.04 ng
RT: 5.33 min Scan# 431
Delta R.T. -0.042 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 59 Resp: 39033

Ion	Ratio	Lower	Upper
59	100		
57	5.4	0.0	30.4
41	28.2	0.0	37.2
43	135.6	0.0	35.3#

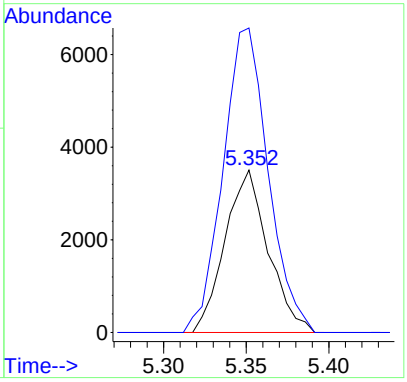


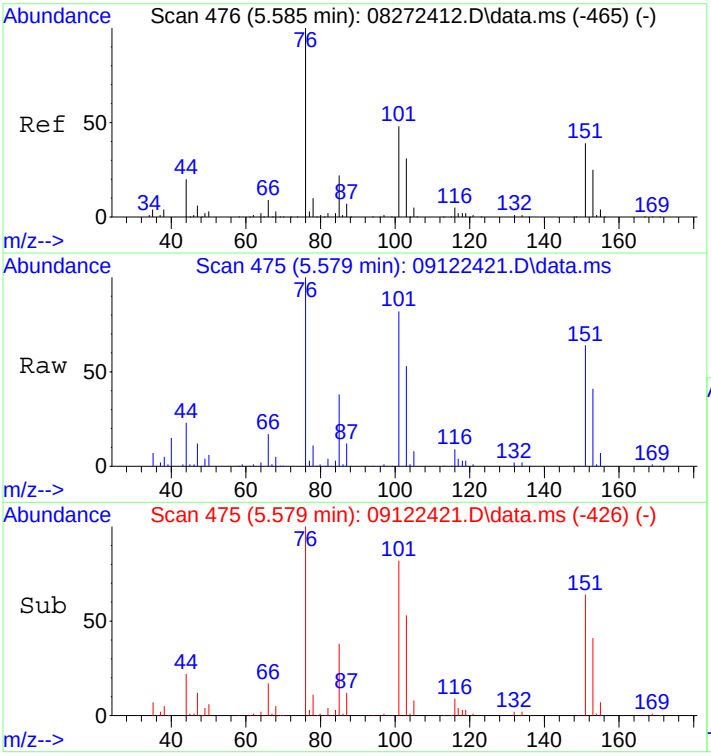


#19
Methylene Chloride
Concen: 0.46 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.013 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 84 Resp: 6382

Ion	Ratio	Lower	Upper
84	100		
49	196.2	151.1	201.1

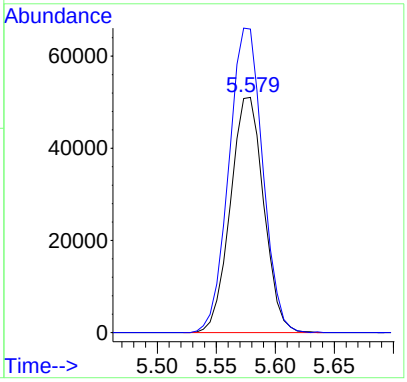


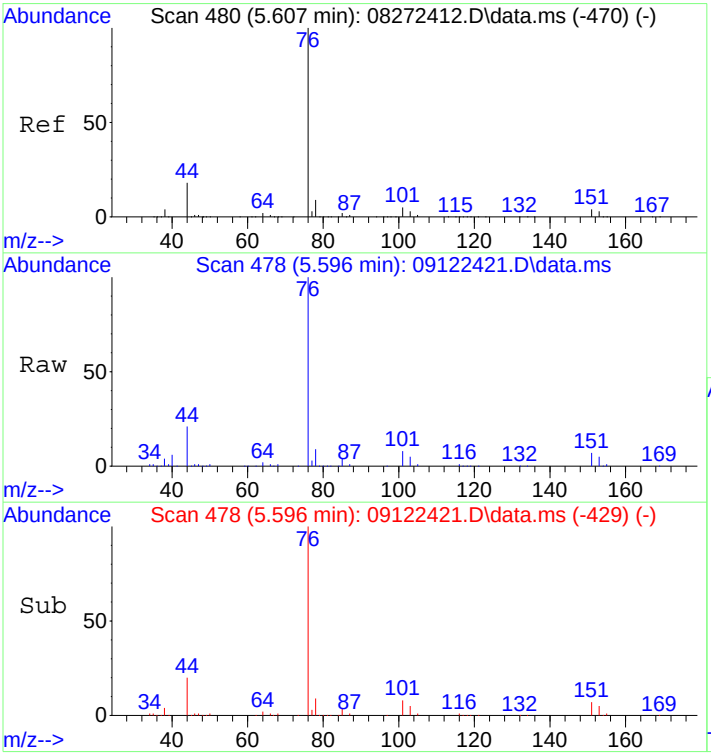


#21
Trichlorotrifluoroethane
Concen: 8.57 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.028 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:151 Resp: 100564

Ion	Ratio	Lower	Upper
151	100		
101	131.3	103.4	143.4

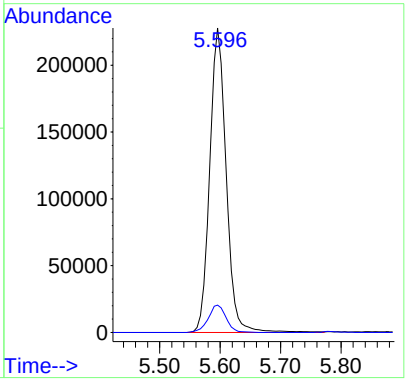


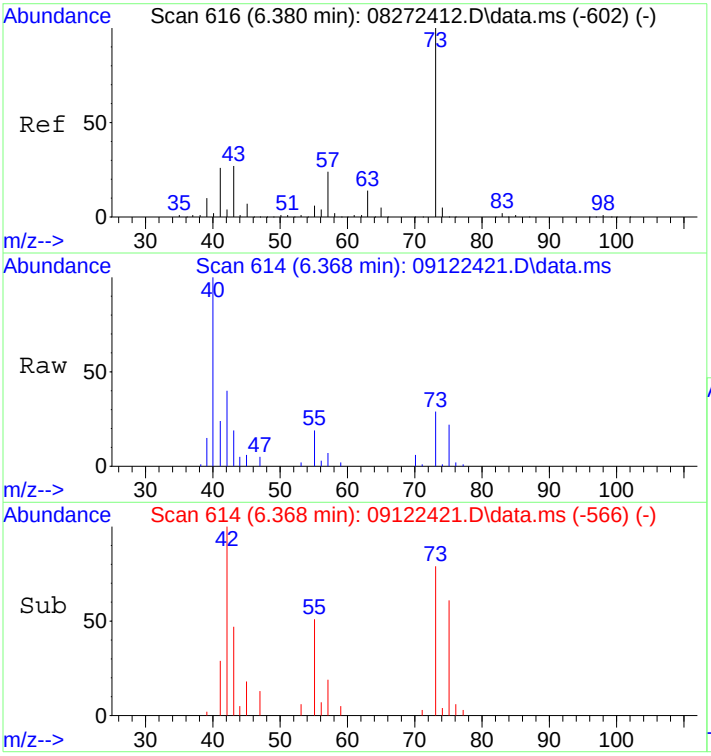


#22
Carbon Disulfide
Concen: 9.41 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.028 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 76 Resp: 430475

Ion	Ratio	Lower	Upper
76	100		
78	9.8	0.0	29.6

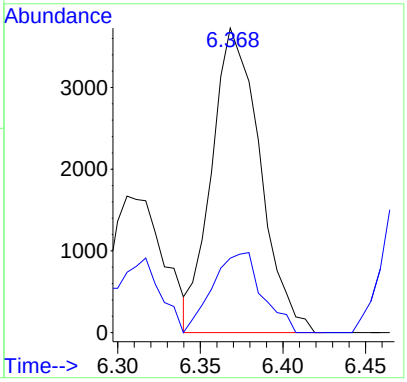


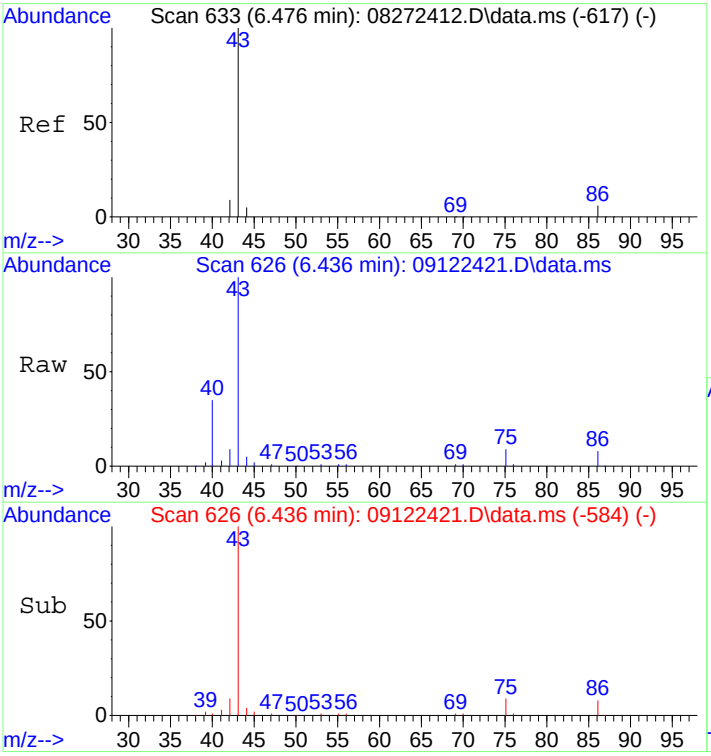


#25
Methyl tert-Butyl Ether
Concen: 0.19 ng
RT: 6.37 min Scan# 614
Delta R.T. 0.025 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 73 Resp: 7591

Ion	Ratio	Lower	Upper
73	100		
57	26.9	4.7	44.7

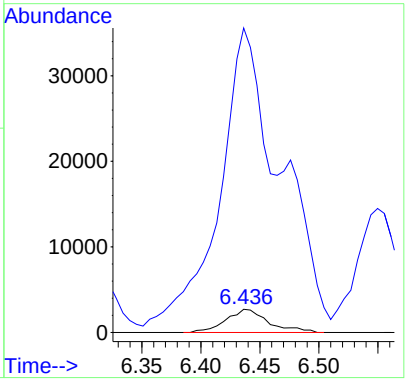


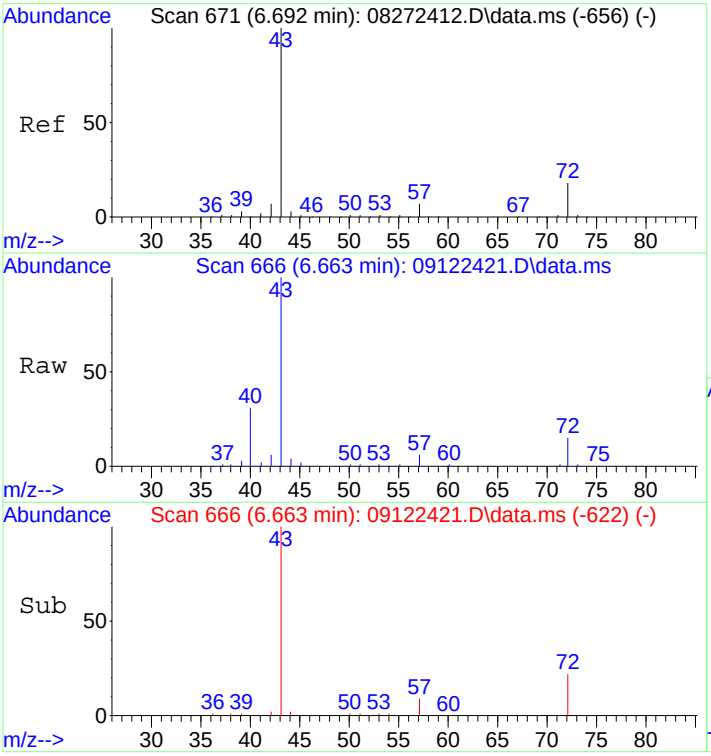


#26
Vinyl Acetate
Concen: 2.85 ng
RT: 6.44 min Scan# 626
Delta R.T. -0.014 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 86 Resp: 6796

Ion	Ratio	Lower	Upper
86	100		
43	1821.4	1687.9	1727.9#

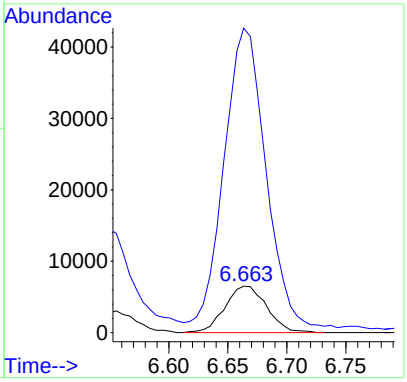


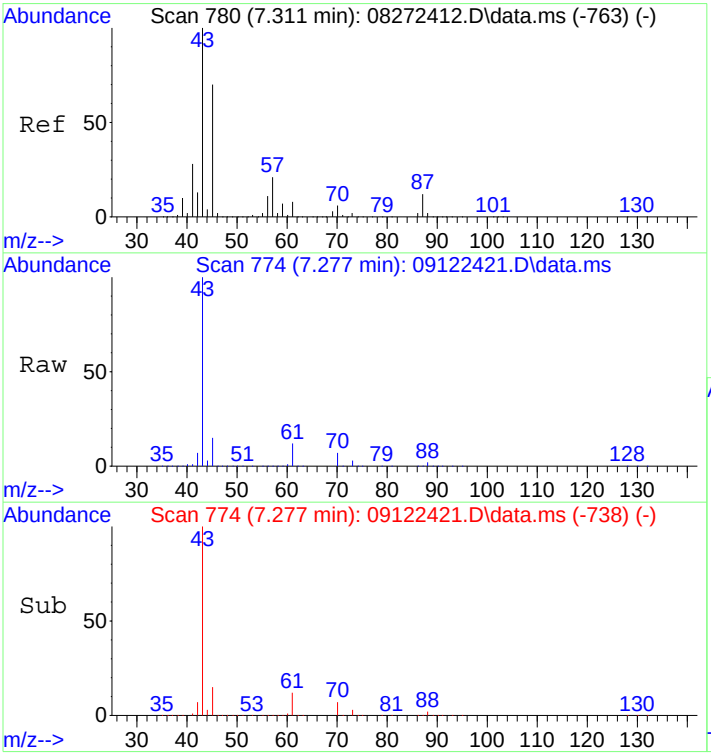


#27
2-Butanone (MEK)
Concen: 1.92 ng
RT: 6.66 min Scan# 666
Delta R.T. -0.000 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 72 Resp: 16004

Ion	Ratio	Lower	Upper
72	100		
43	641.9	548.0	588.0#

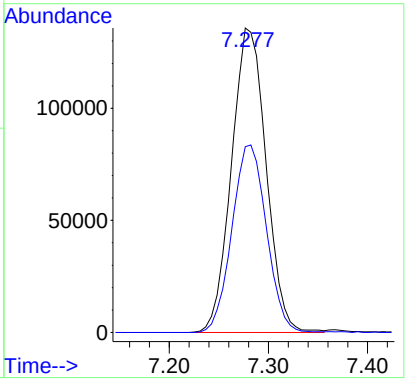


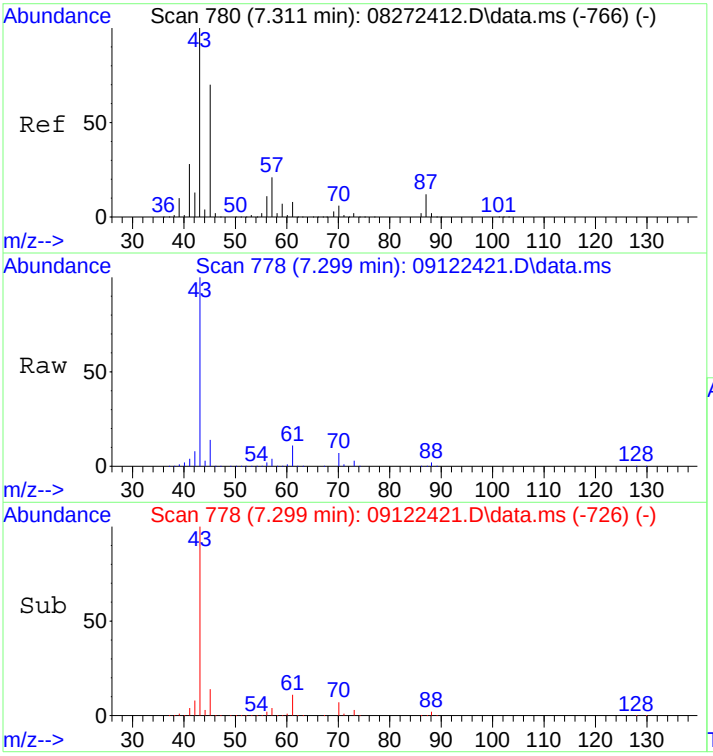


#30
Ethyl Acetate
Concen: 59.13 ng
RT: 7.28 min Scan# 774
Delta R.T. 0.006 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 61 Resp: 329418

Ion	Ratio	Lower	Upper
61	100		
70	61.5	49.9	89.9

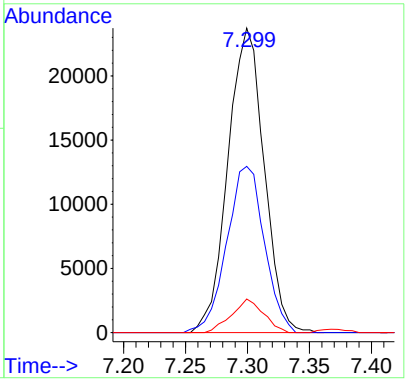


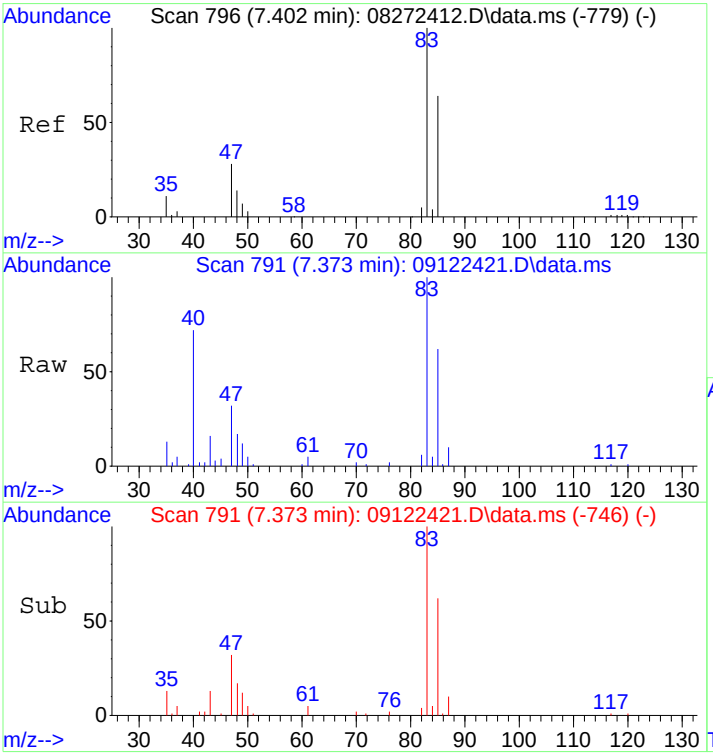


#31
n-Hexane
Concen: 1.90 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.045 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 57 Resp: 48320

Ion	Ratio	Lower	Upper
57	100		
56	56.6	44.2	66.2
86	9.7	9.3	13.9

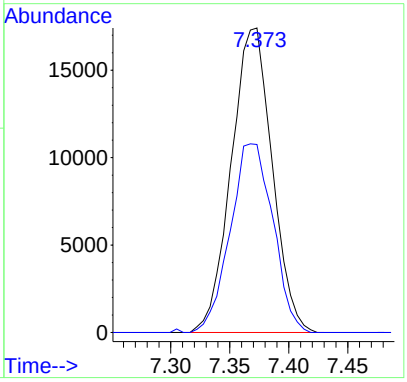


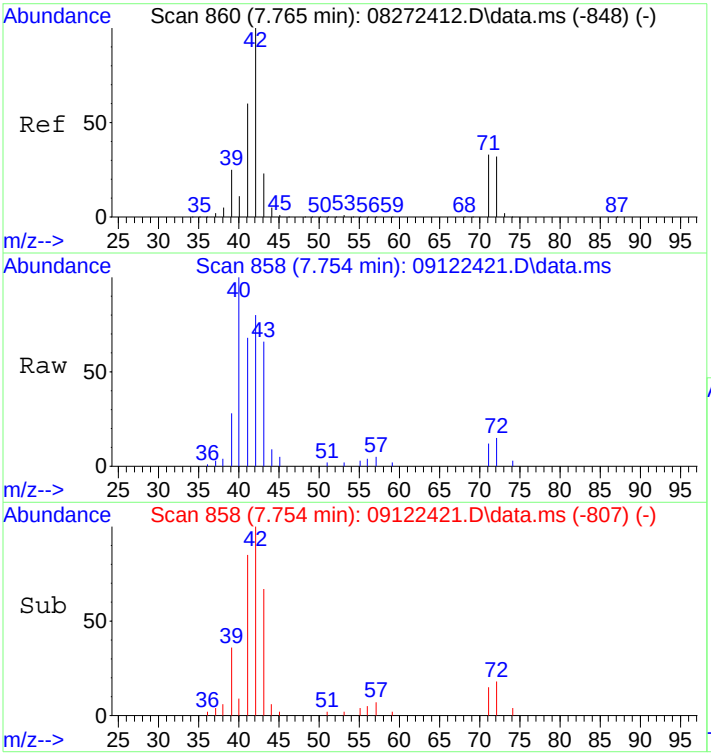


#32
Chloroform
Concen: 1.65 ng
RT: 7.37 min Scan# 791
Delta R.T. 0.007 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 83 Resp: 42137

Ion	Ratio	Lower	Upper
83	100		
85	64.5	45.3	85.3

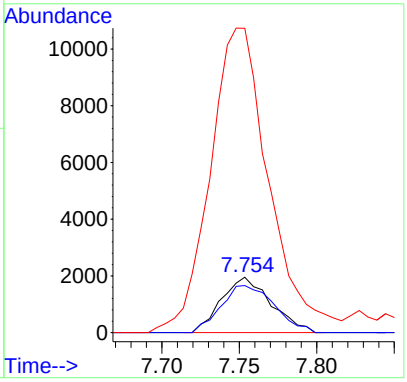


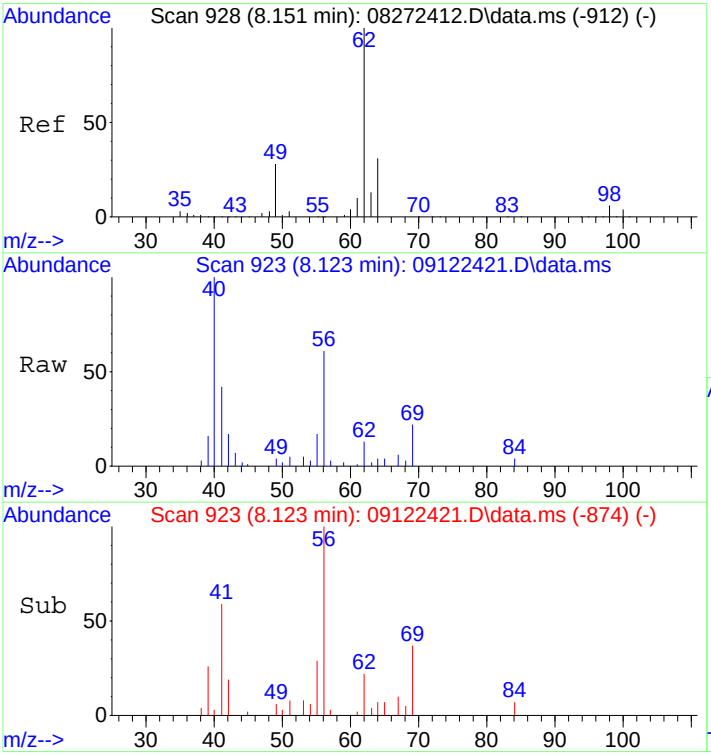


#34
Tetrahydrofuran (THF)
Concen: 0.56 ng
RT: 7.75 min Scan# 858
Delta R.T. 0.039 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 72 Resp: 4364

Ion	Ratio	Lower	Upper
72	100		
71	91.3	78.4	118.4
42	650.4	285.2	325.2#

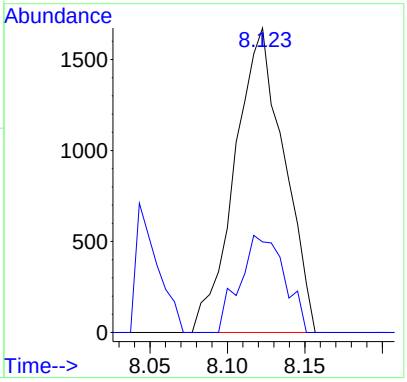


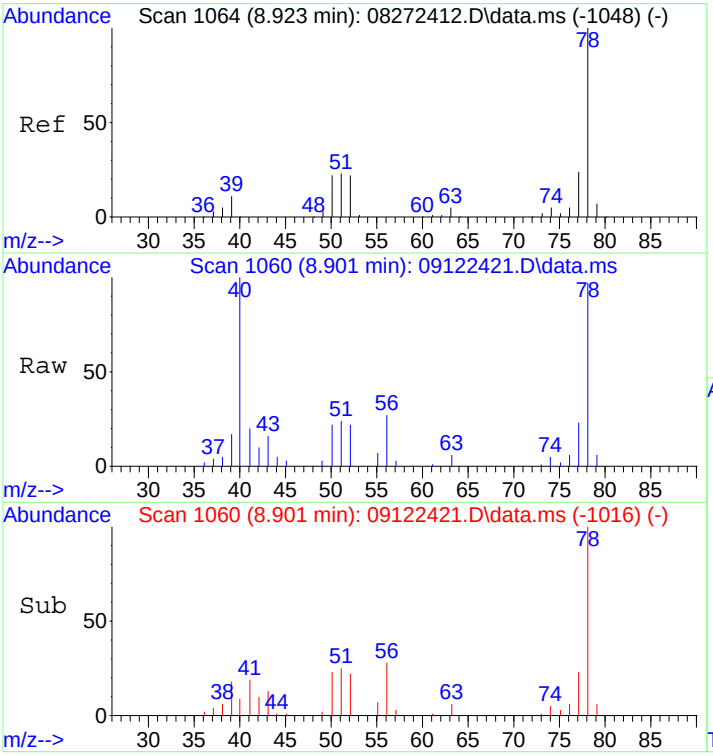


#36
1,2-Dichloroethane
Concen: 0.15 ng
RT: 8.12 min Scan# 923
Delta R.T. 0.026 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 62 Resp: 3697

Ion	Ratio	Lower	Upper
62	100		
64	28.8	11.0	51.0

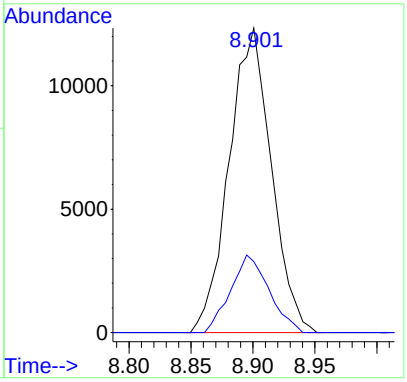


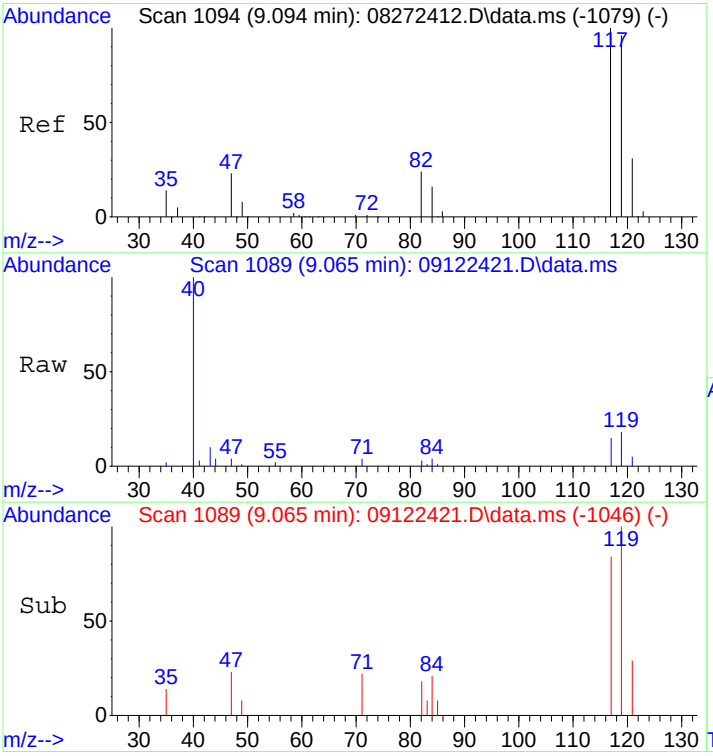


#41
Benzene
Concen: 0.56 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.002 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 78 Resp: 29319

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

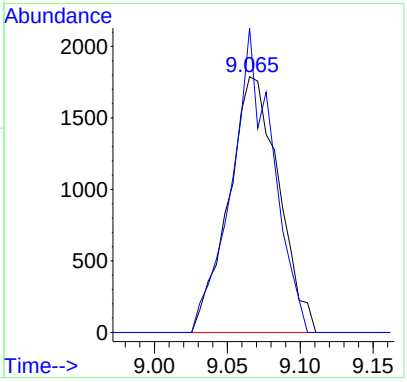


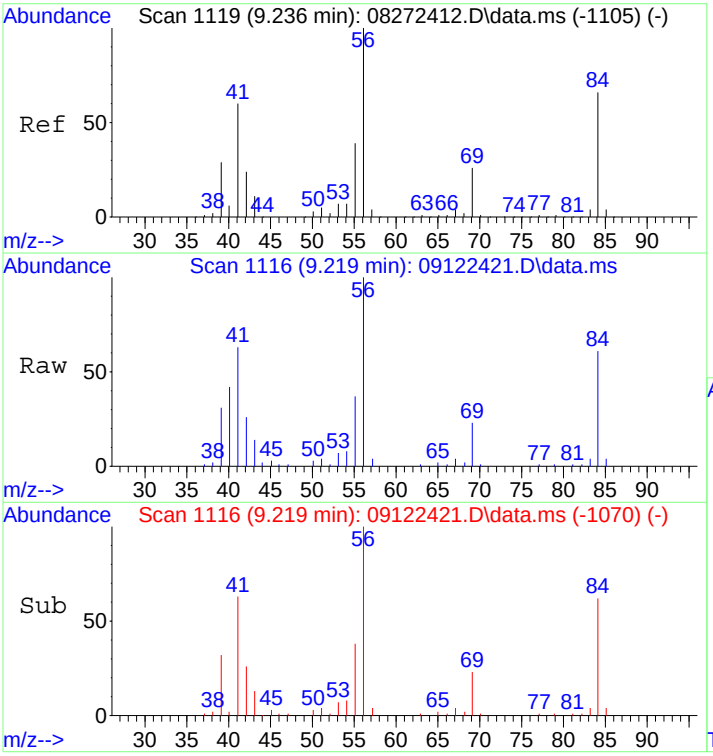


#42
Carbon Tetrachloride
Concen: 0.20 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.007 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:117 Resp: 4256

Ion	Ratio	Lower	Upper
117	100		
119	97.9	75.1	115.1

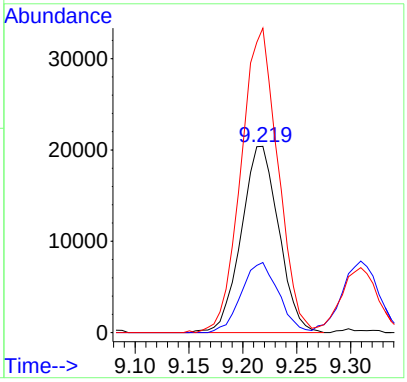


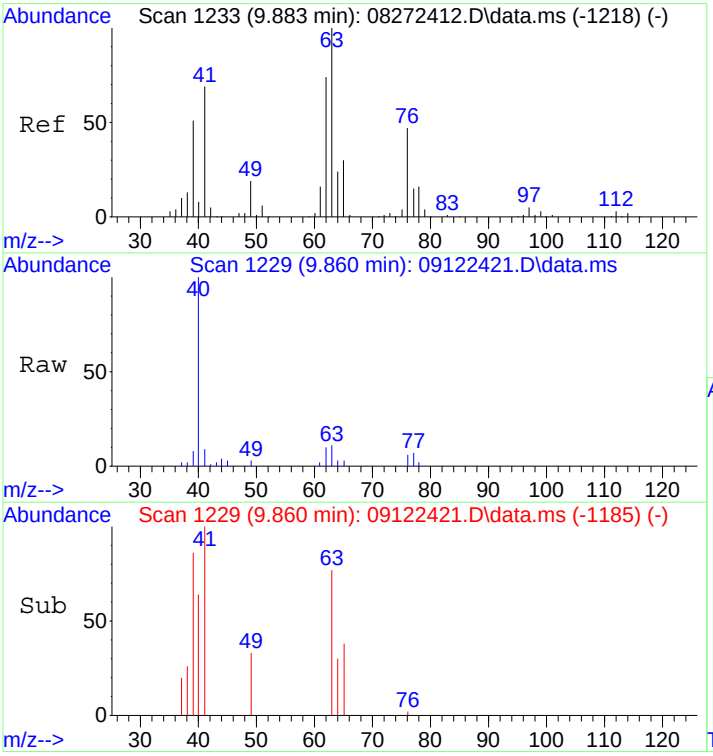


#43
Cyclohexane
Concen: 2.80 ng
RT: 9.22 min Scan# 1116
Delta R.T. 0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 84 Resp: 49362

Ion	Ratio	Lower	Upper
84	100		
69	37.4	18.8	58.8
56	160.9	134.5	174.5

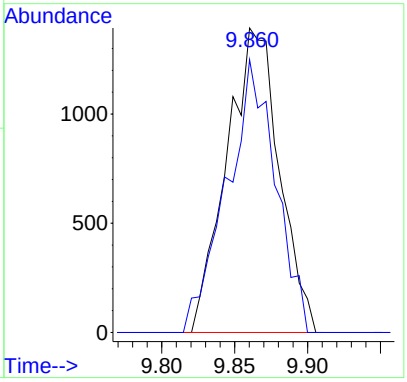


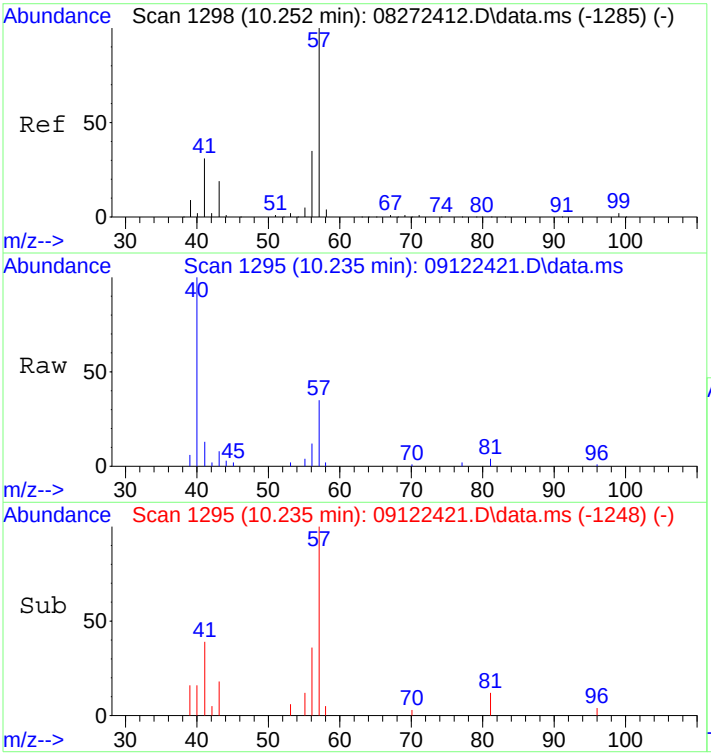


#45
1,2-Dichloropropane
Concen: 0.25 ng
RT: 9.86 min Scan# 1229
Delta R.T. 0.003 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 63 Resp: 3498

Ion	Ratio	Lower	Upper
63	100		
62	83.2	54.2	94.2

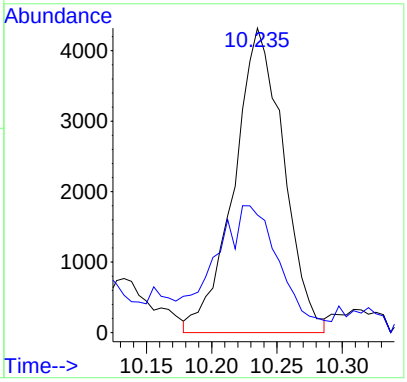


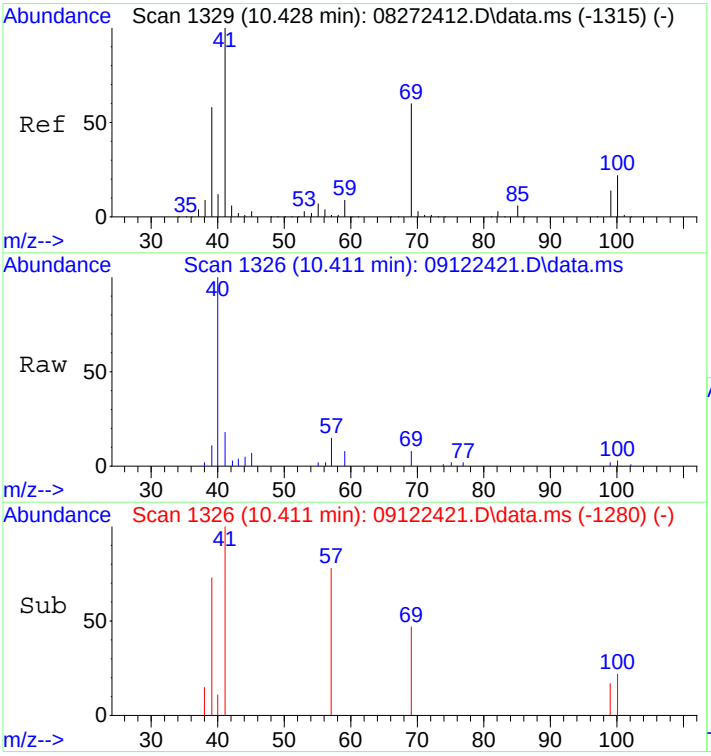


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.18 ng
RT: 10.23 min Scan# 1295
Delta R.T. 0.016 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 57 Resp: 11409

Ion	Ratio	Lower	Upper
57	100		
41	45.3	10.5	50.5

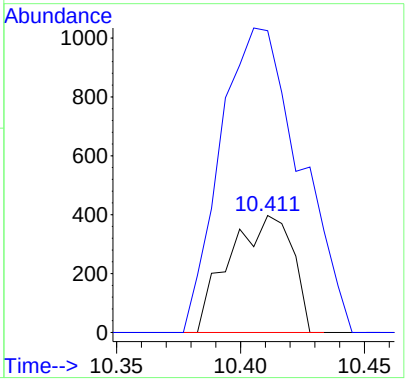


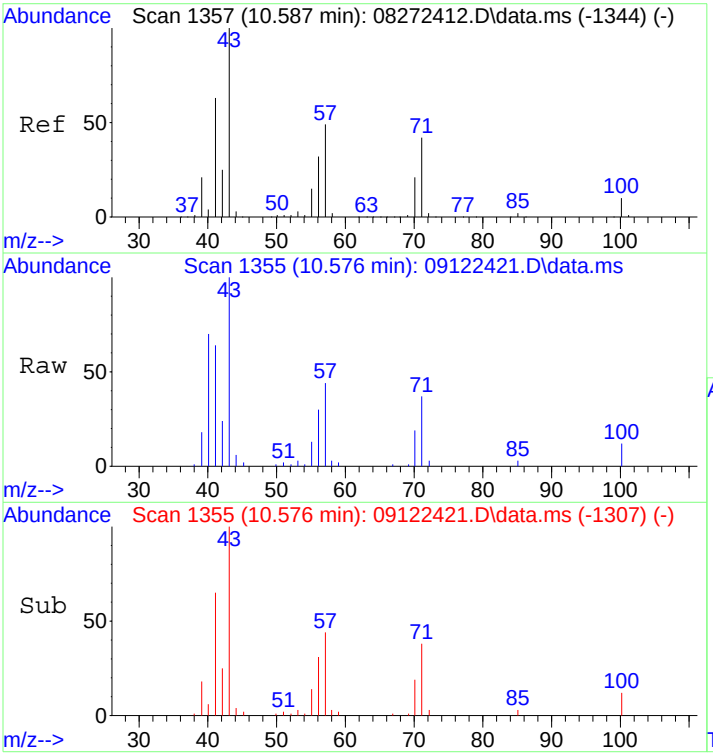


#50
Methyl Methacrylate
Concen: 0.16 ng
RT: 10.41 min Scan# 1326
Delta R.T. 0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:100 Resp: 707

Ion	Ratio	Lower	Upper
100	100		
69	327.9	260.7	300.7#

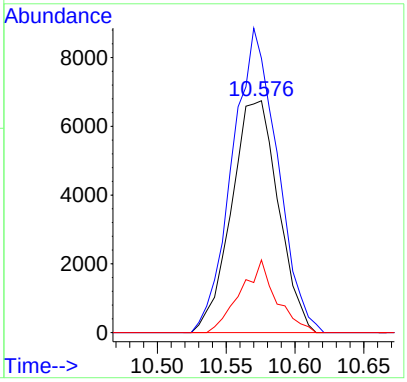


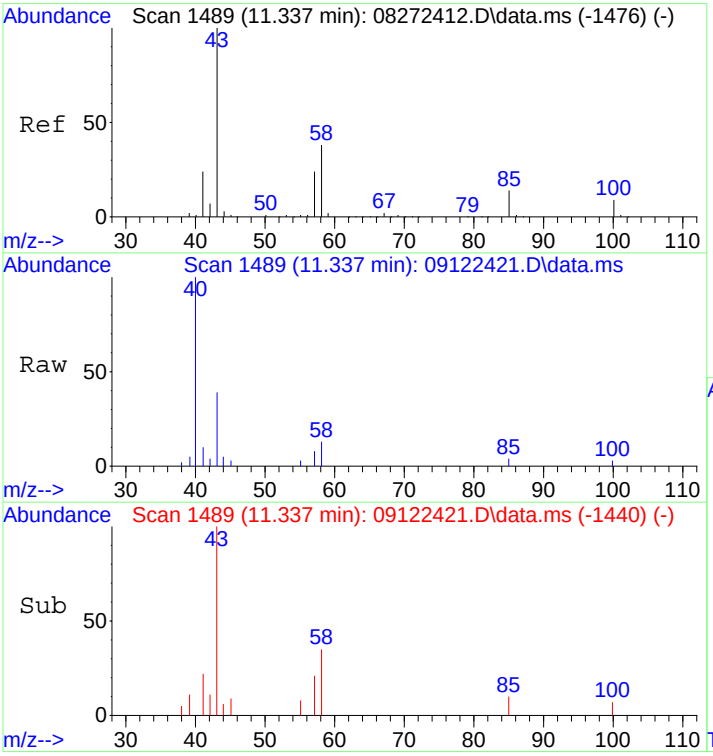


#51
n-Heptane
Concen: 1.37 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.023 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 71 Resp: 15989

Ion	Ratio	Lower	Upper
71	100		
57	126.3	97.1	137.1
100	24.1	5.0	45.0

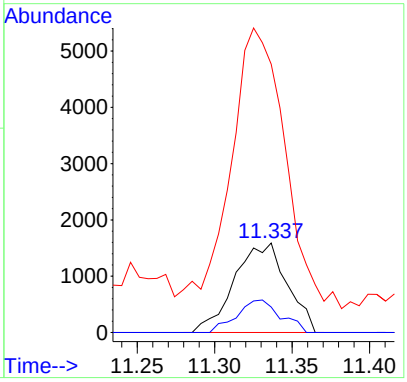


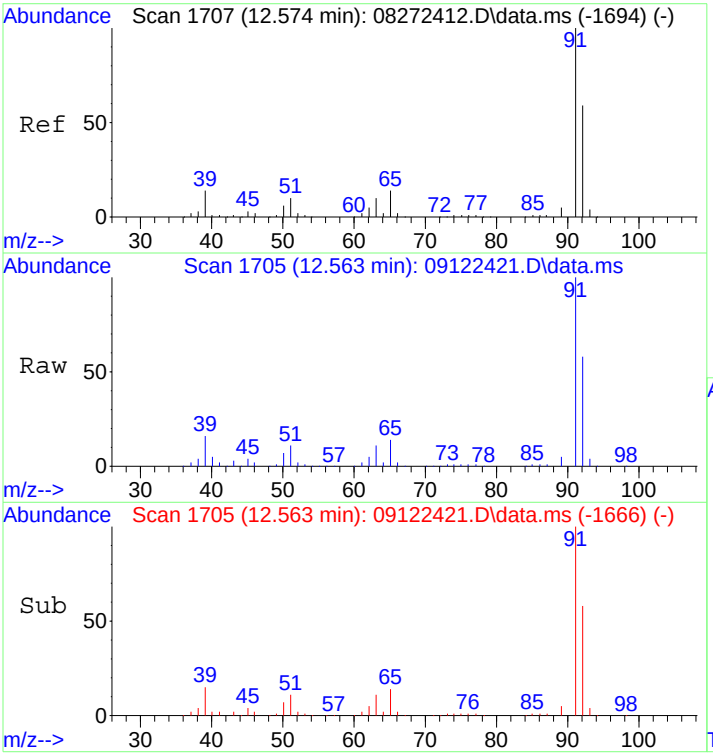


#53
4-Methyl-2-pentanone
Concen: 0.27 ng
RT: 11.34 min Scan# 1489
Delta R.T. 0.027 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 58 Resp: 3755

Ion	Ratio	Lower	Upper
58	100		
85	30.3	30.2	45.2
43	384.6	215.1	322.7#

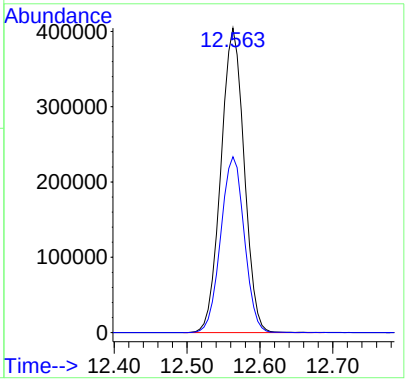


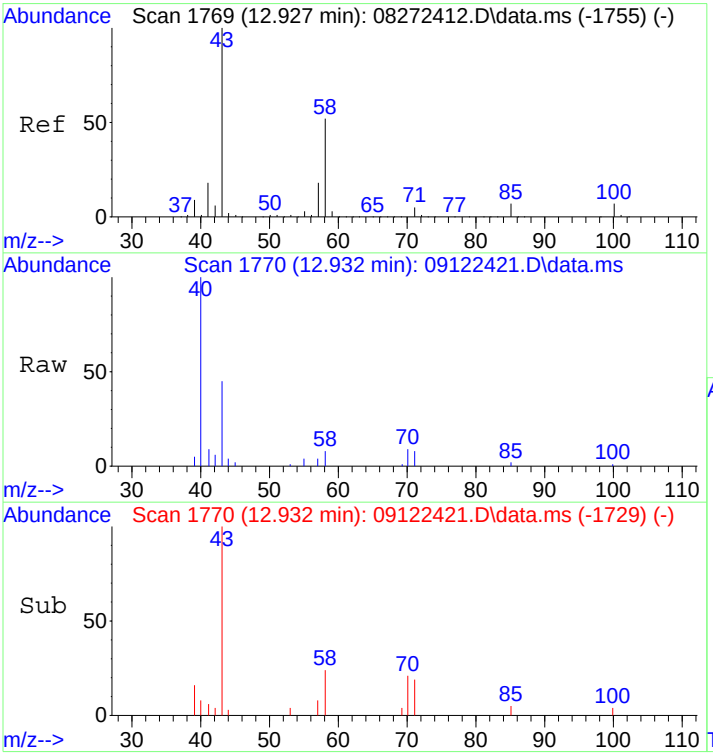


#58
Toluene
Concen: 13.46 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 91 Resp: 895007

Ion	Ratio	Lower	Upper
91	100		
92	58.5	38.5	78.5

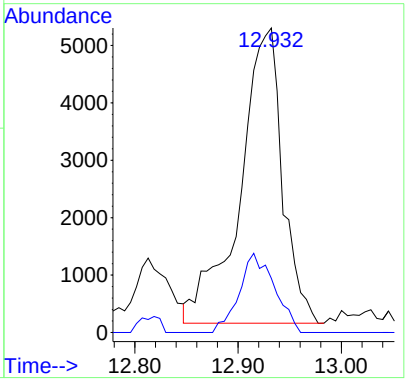


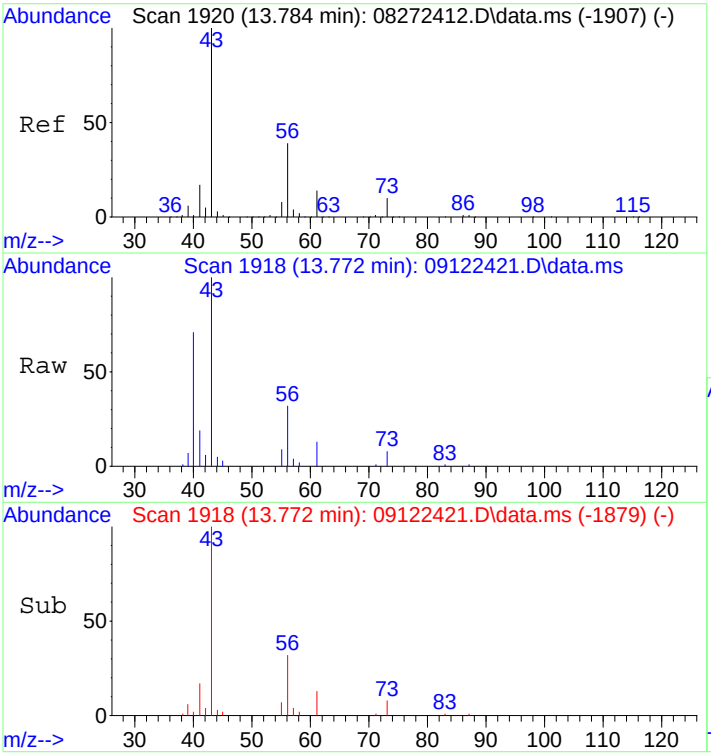


#59
2-Hexanone
Concen: 0.36 ng
RT: 12.93 min Scan# 1770
Delta R.T. -0.017 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 43 Resp: 14810

Ion	Ratio	Lower	Upper
43	100		
58	22.1	31.1	71.1#

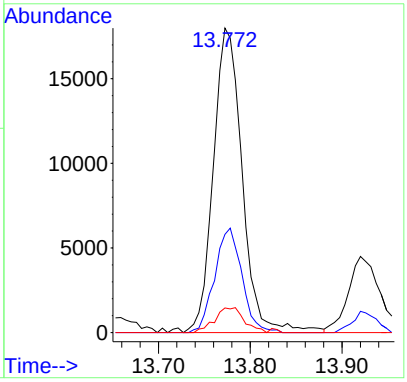


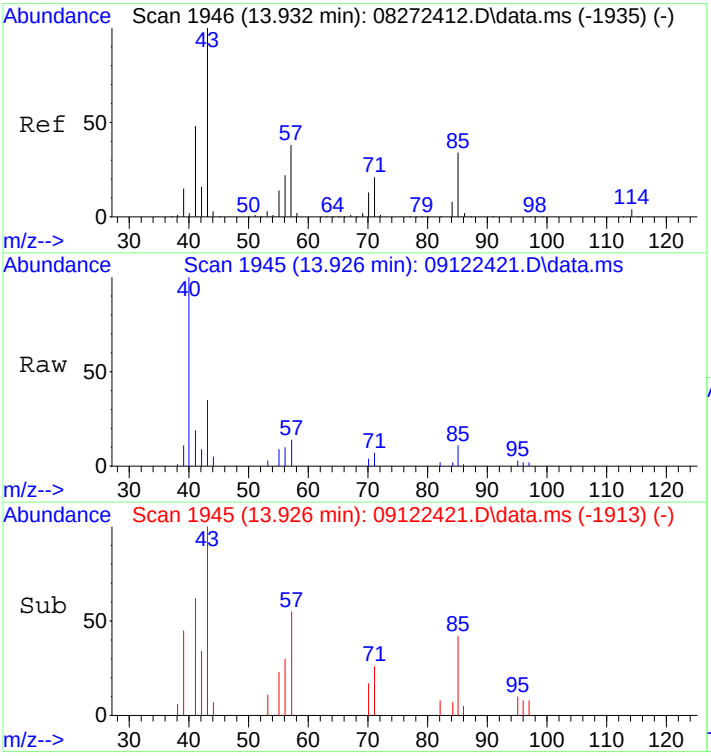


#62
n-Butyl Acetate
Concen: 0.85 ng
RT: 13.77 min Scan# 1918
Delta R.T. -0.028 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 43 Resp: 39367

Ion	Ratio	Lower	Upper
43	100		
56	32.4	18.2	58.2
73	8.4	0.0	30.1

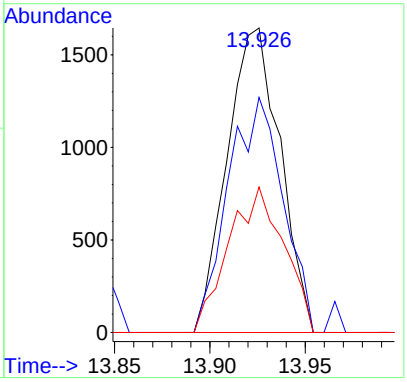


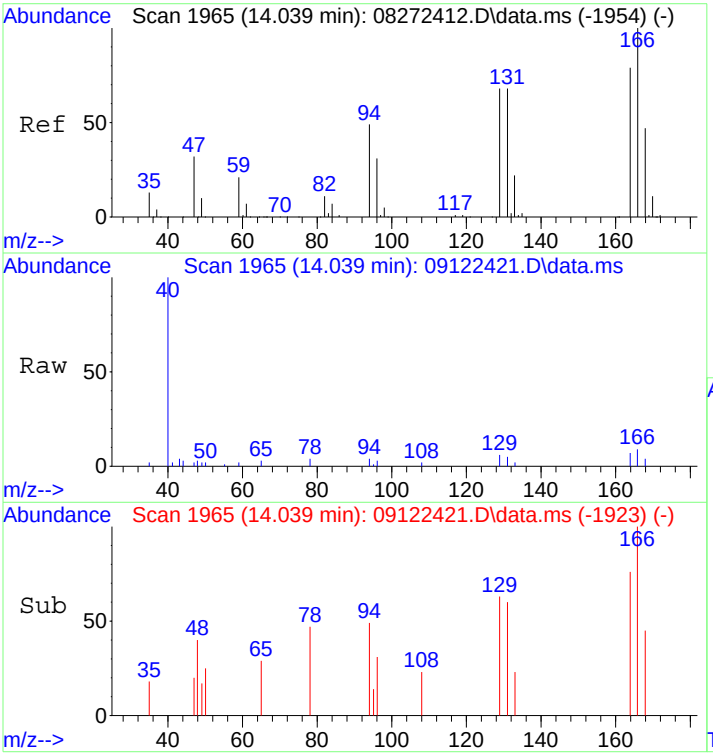


#63
n-Octane
Concen: 0.20 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 57 Resp: 3185

Ion	Ratio	Lower	Upper
57	100		
85	79.7	71.2	106.8
71	49.7	43.3	64.9

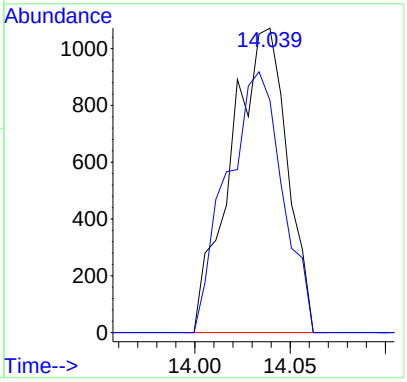


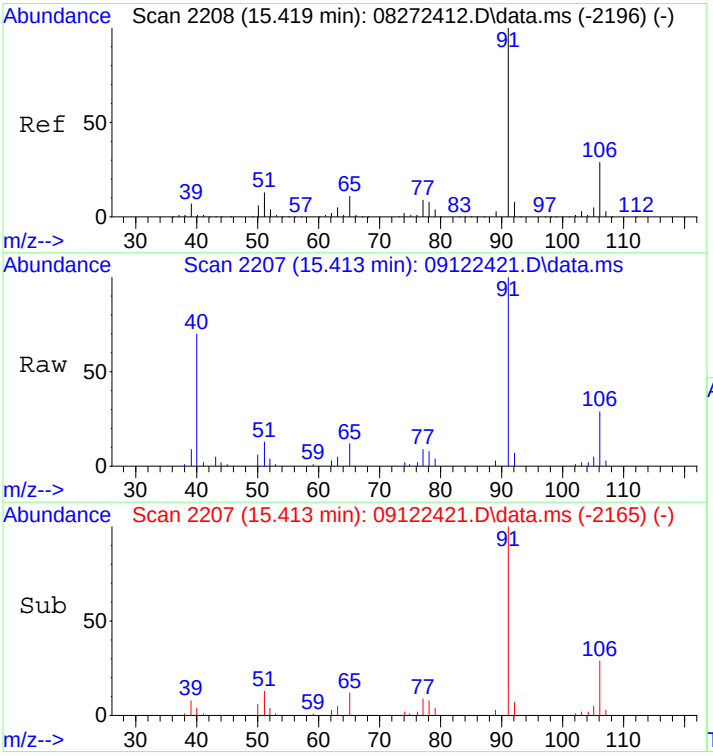


#64
Tetrachloroethene
Concen: 0.12 ng
RT: 14.04 min Scan# 1965
Delta R.T. -0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:166 Resp: 2186

Ion	Ratio	Lower	Upper
166	100		
164	85.4	59.0	99.0

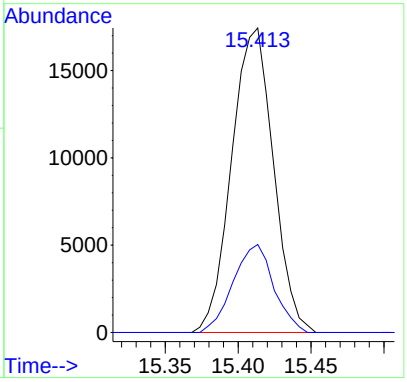


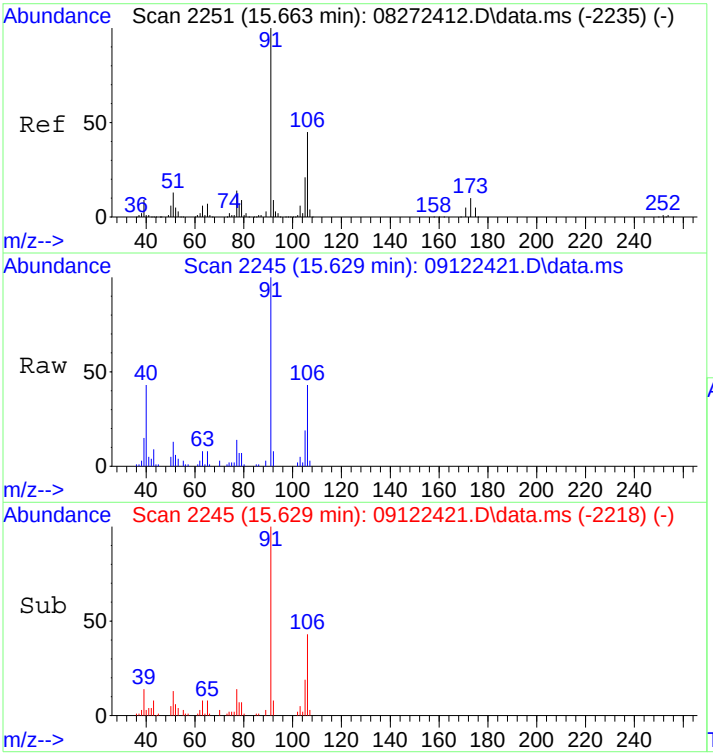


#66
Ethylbenzene
Concen: 0.45 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 91 Resp: 34700

Ion	Ratio	Lower	Upper
91	100		
106	28.2	9.2	49.2

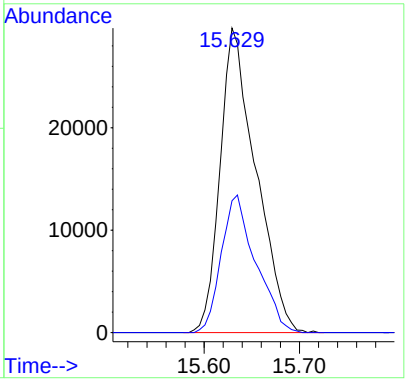


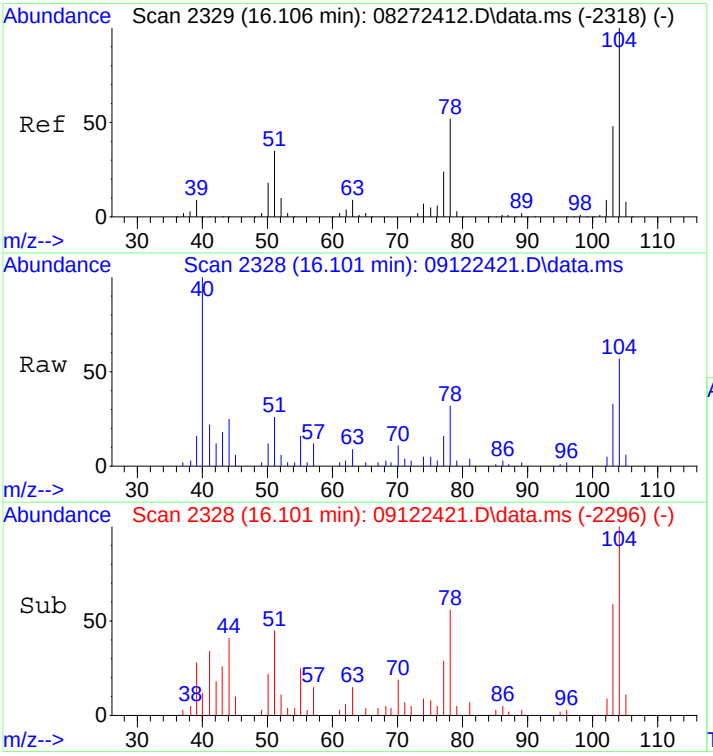


#67
m- & p-Xylenes
Concen: 1.25 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 91 Resp: 77530

Ion	Ratio	Lower	Upper
91	100		
106	43.5	23.8	63.8

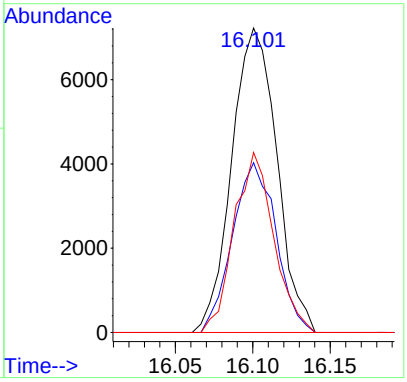


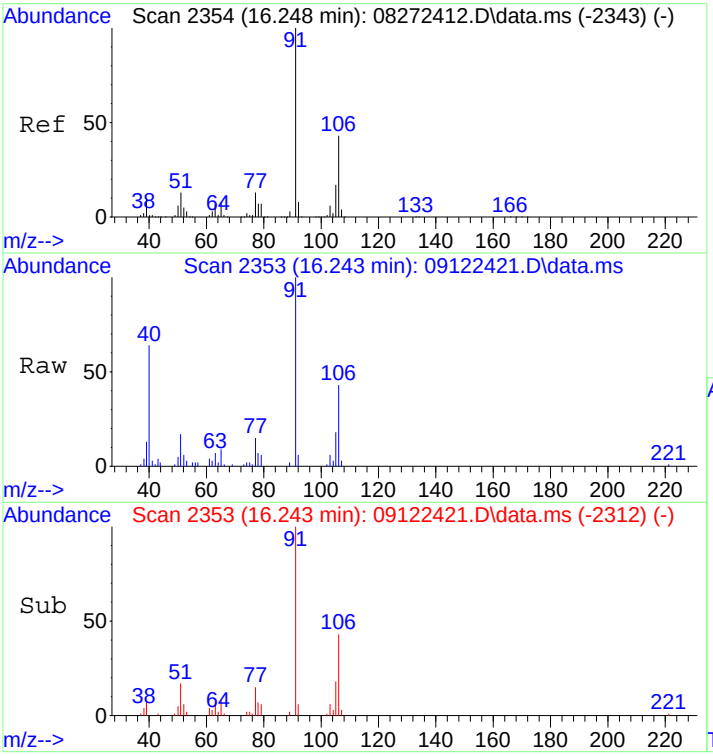


#69
Styrene
Concen: 0.36 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:104 Resp: 14659

Ion	Ratio	Lower	Upper
104	100		
78	53.9	32.2	72.2
103	52.0	28.3	68.3

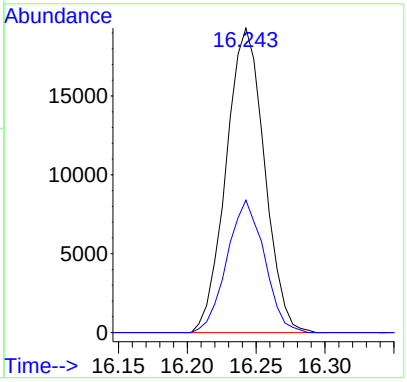


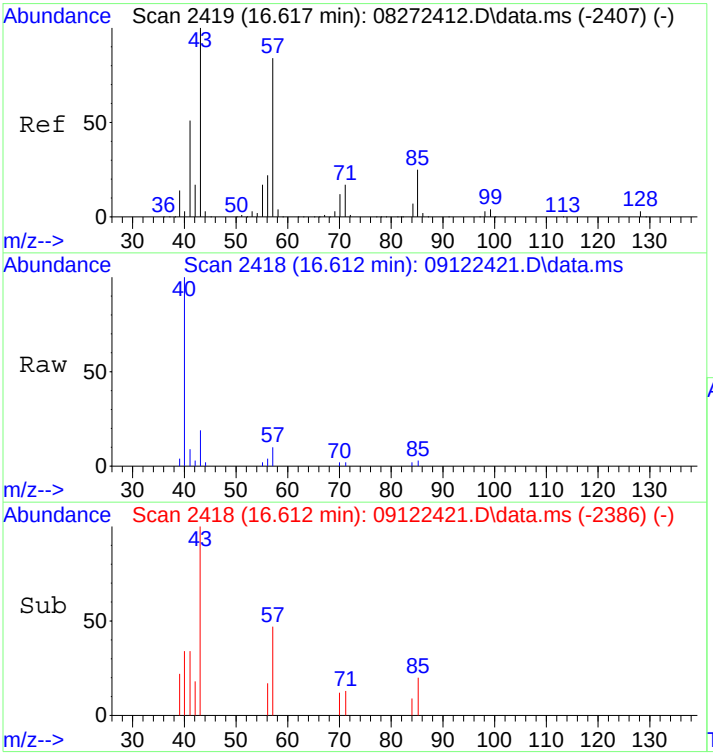


#70
o-Xylene
Concen: 0.62 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 91 Resp: 37384

Ion	Ratio	Lower	Upper
91	100		
106	42.4	22.5	62.5

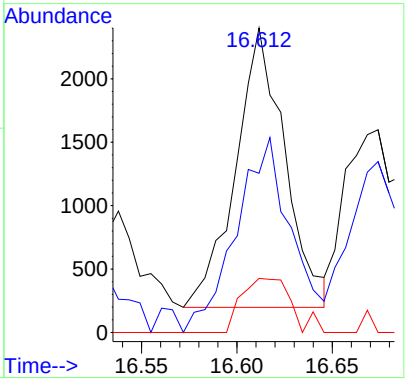


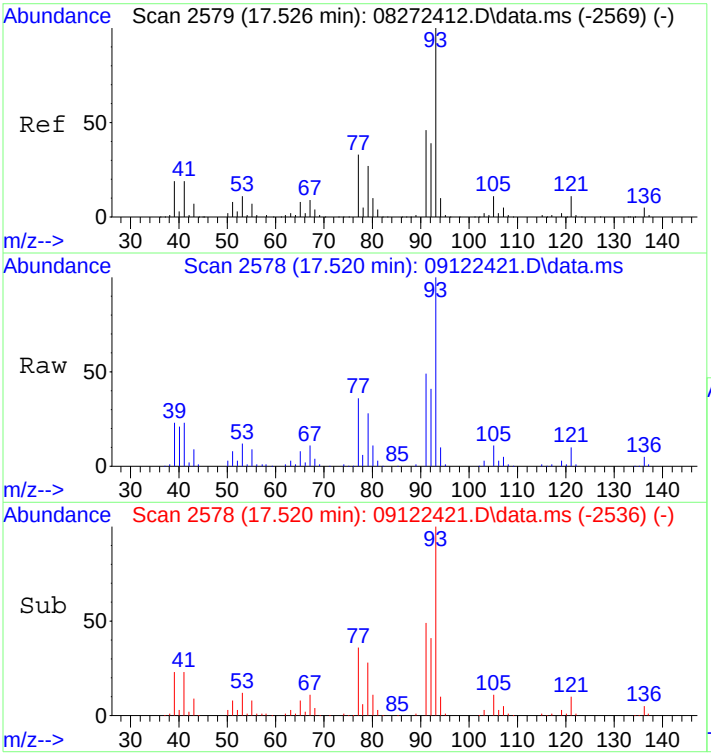


#71
n-Nonane
Concen: 0.10 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 43 Resp: 3953

Ion	Ratio	Lower	Upper
43	100		
57	78.1	63.3	103.3
85	19.7	4.5	44.5

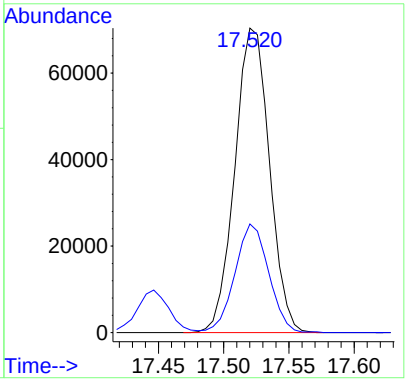


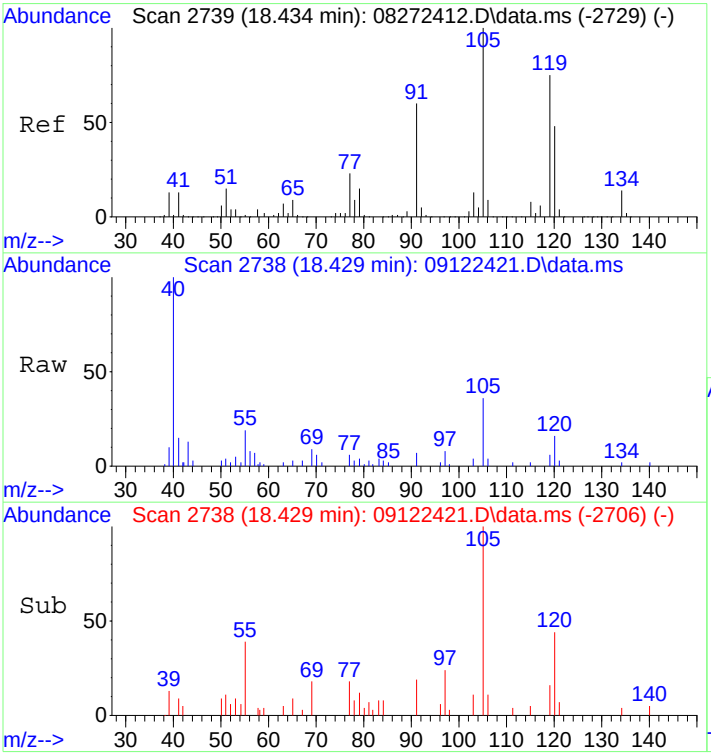


#75
alpha-Pinene
Concen: 3.55 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 93 Resp: 130079

Ion	Ratio	Lower	Upper
93	100		
77	34.9	13.1	53.1

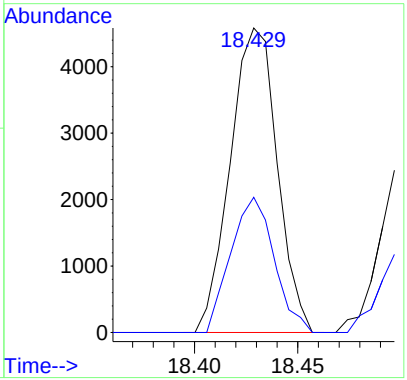


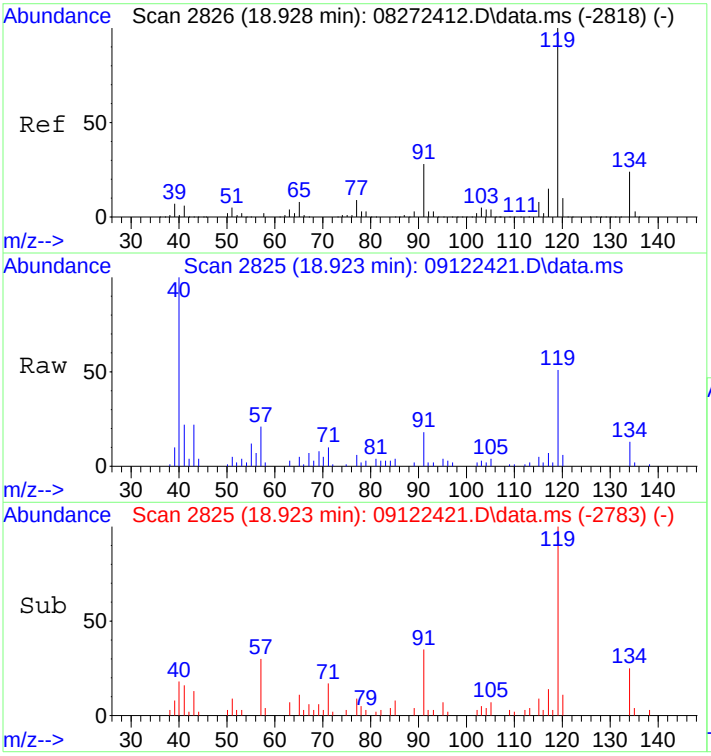


#82
1,2,4-Trimethylbenzene
Concen: 0.12 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:105 Resp: 7250

Ion	Ratio	Lower	Upper
105	100		
120	41.1	28.8	68.8

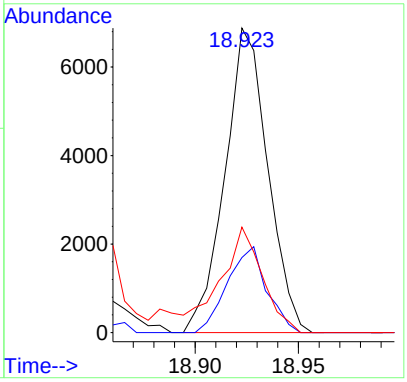


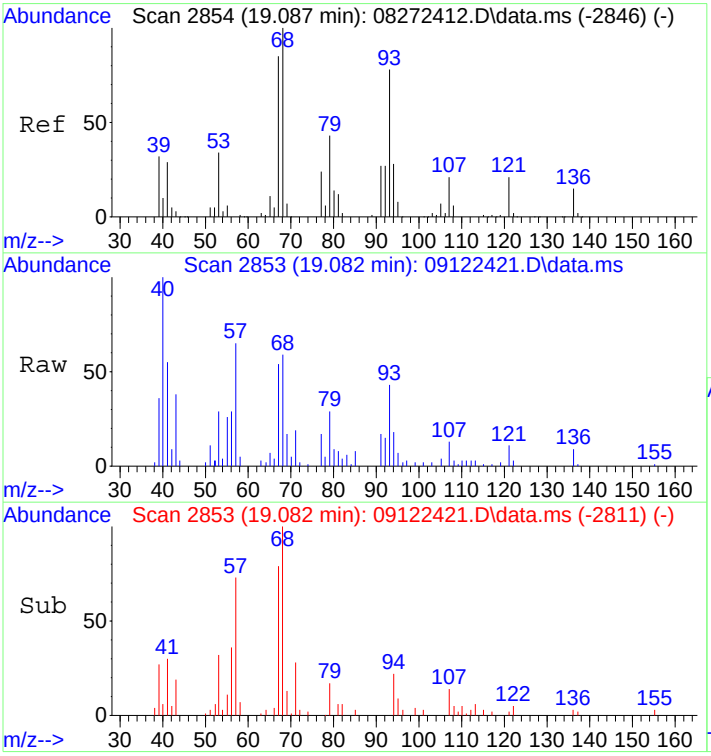


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.15 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion:119 Resp: 9951

Ion	Ratio	Lower	Upper
119	100		
134	25.9	4.7	44.7
91	38.5	8.1	48.1

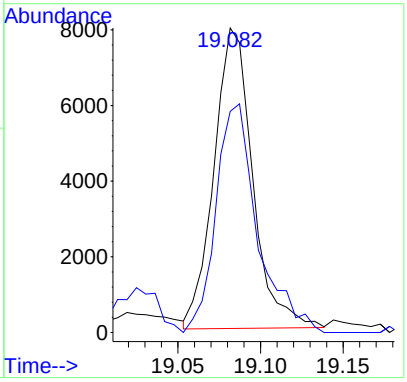




#91
d-Limonene
Concen: 0.62 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09122421.D
Acq: 12 Sep 2024 21:53

Tgt Ion: 68 Resp: 12972

Ion	Ratio	Lower	Upper
68	100		
93	81.6	56.2	96.2



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

MA 9/30/24

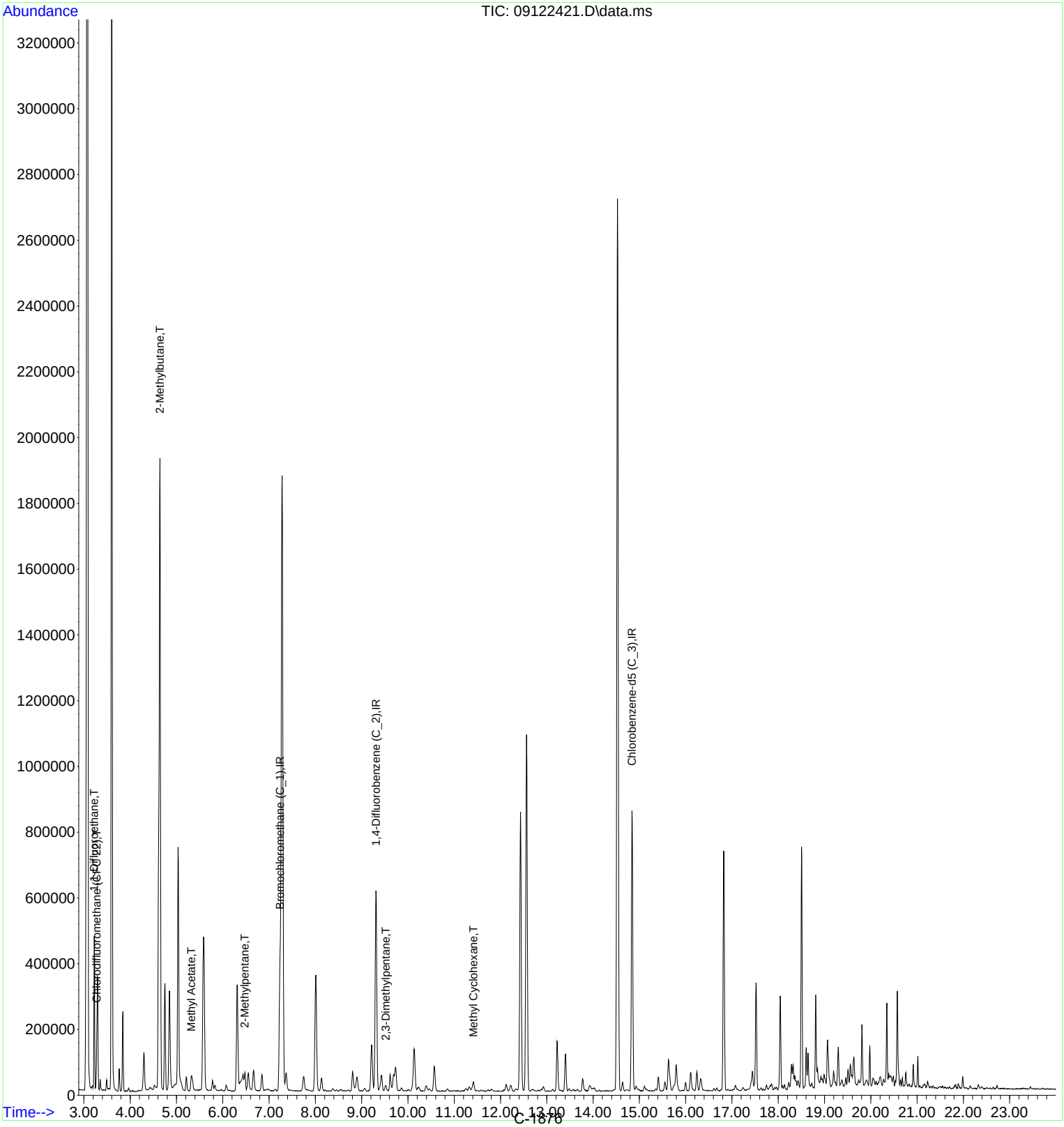
Quant Time: Sep 30 06:05:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	127977	12.500 ng		-0.02
16) 1,4-Difluorobenzene (C_2)	9.31	114	556825	12.500 ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	175332	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	181	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.22	65	105540	9.445 ng		98
5) Chlorodifluoromethane ...	3.27	67	2203	0.505 ng		92
6) 1-Chloro-1,1-Difluoroe...	3.48	65	553	N.D.		
7) Dichlorofluoromethane ...	4.23	67	211	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.61	83	301	N.D.		
10) 2-Methylbutane	4.64	57	406809	26.652 ng		94
11) Methyl Acetate	5.32	43	51134	1.186 ng	#	59
12) 2-Methylpentane	6.48	71	8713	0.786 ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.07	84	1121	N.D.		
17) 2,3-Dimethylpentane	9.52	56	9523	0.353 ng	#	88
18) Dibromomethane	9.80	174	111	N.D.		
20) Methyl Cyclohexane	11.42	55	11317	0.376 ng		91
21) 1,3-Dichloropropane	0.00	76	0	N.D. d		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.38	75	62	N.D.		
25) Bromobenzene	17.03	77	582	N.D.		
26) 2-Chlorotoluene	17.60	91	201	N.D.		
27) 4-Chlorotoluene	17.68	91	4081	N.D.		
28) Indane	19.11	117	1023	N.D.		
29) Indene	19.21	115	79	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	383	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1079	N.D.		
32) 1,2,3,5-Tetramethylben...	20.64	119	323	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 30 06:05:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

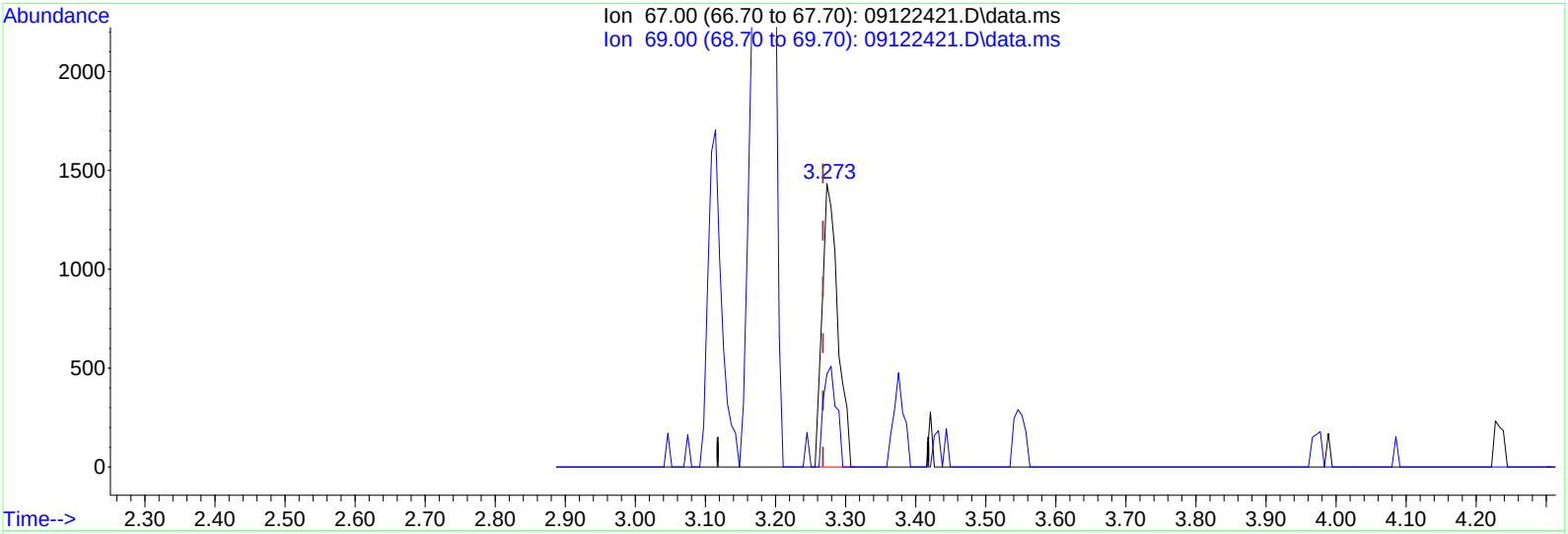


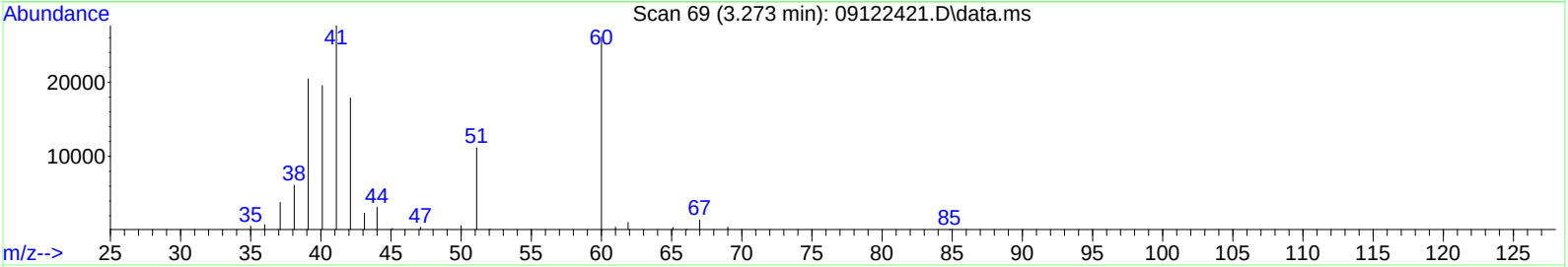
C-1876

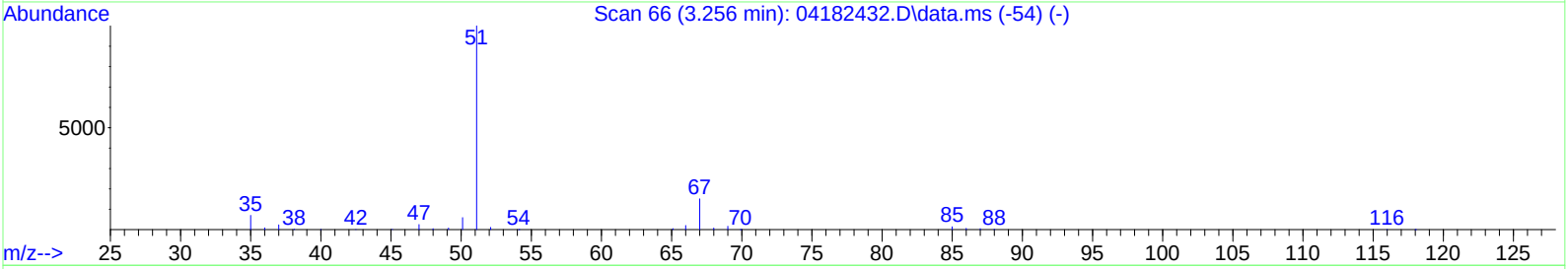
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 30 05:44:41 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09122421.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.273min (+0.006) 0.51ng

response 2203

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	29.51
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09122421.D\data.ms

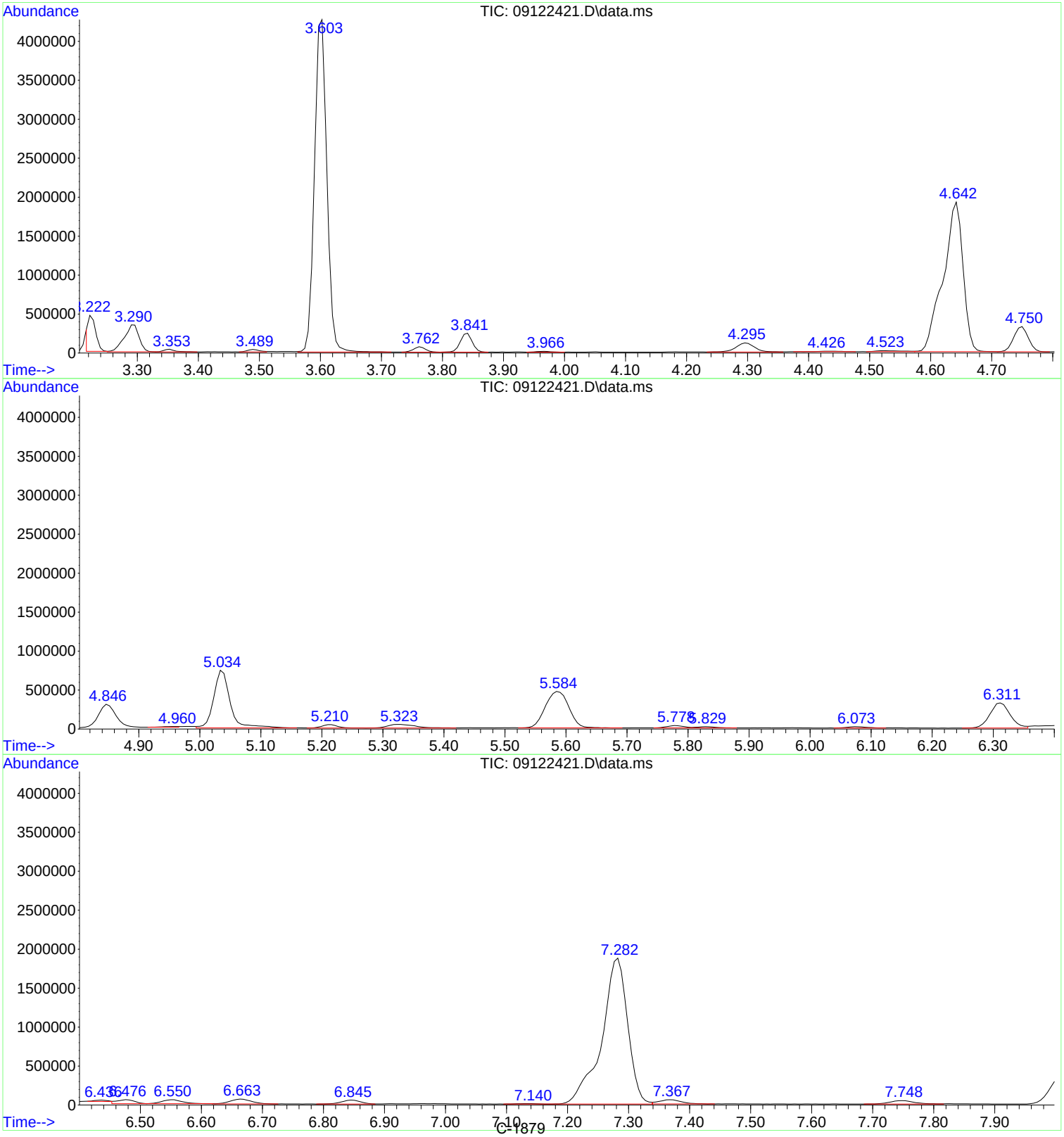
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.222	59	60	65	rVB	462366	374483	6.21%	1.603%
2	3.290	65	72	79	rVB3	345524	580642	9.63%	2.485%
3	3.353	79	83	91	rVB	33603	41413	0.69%	0.177%
4	3.489	103	107	111	rBV	31807	41952	0.70%	0.180%
5	3.603	120	127	147	rVB	4265802	6027120	100.00%	25.794%
6	3.762	150	155	161	rVV	69120	90830	1.51%	0.389%
7	3.841	161	169	175	rVB	242682	326689	5.42%	1.398%
8	3.966	186	191	197	rVB5	11000	17545	0.29%	0.075%
9	4.296	238	249	260	rBV	116513	245315	4.07%	1.050%
10	4.426	263	272	281	rBV3	6845	20713	0.34%	0.089%
11	4.523	284	289	298	rBV3	12562	34565	0.57%	0.148%
12	4.642	298	310	322	rVB3	1919804	4343860	72.07%	18.590%
13	4.750	322	329	337	rVB	324094	540410	8.97%	2.313%
14	4.846	337	346	358	rBV	301993	615473	10.21%	2.634%
15	4.960	358	366	367	rBV3	9920	19397	0.32%	0.083%
16	5.034	372	379	401	rVV	739805	1372696	22.78%	5.875%
17	5.210	404	410	421	rVB	43480	78096	1.30%	0.334%
18	5.323	421	430	447	rBV3	46330	147521	2.45%	0.631%
19	5.584	465	476	495	rVB2	467733	1253228	20.79%	5.363%
20	5.778	504	510	515	rBV	30171	56347	0.93%	0.241%
21	5.829	515	519	528	rVB2	15764	31495	0.52%	0.135%
22	6.073	556	562	571	rBV3	17393	37608	0.62%	0.161%
23	6.311	593	604	612	rBV	323428	746600	12.39%	3.195%
24	6.436	622	626	629	rVV	16753	24339	0.40%	0.104%
25	6.476	629	633	639	rVB	52232	99856	1.66%	0.427%
26	6.550	639	646	658	rVB	51457	119696	1.99%	0.512%
27	6.663	658	666	677	rVB	61389	147926	2.45%	0.633%
28	6.845	688	698	705	rBV2	49396	107410	1.78%	0.460%
29	7.140	742	750	754	rVB7	5315	12848	0.21%	0.055%
30	7.282	754	775	785	rBV	1871541	5554555	92.16%	23.771%
31	7.367	785	790	803	rVB2	53163	131307	2.18%	0.562%
32	7.748	846	857	869	rBV3	44046	124768	2.07%	0.534%

Sum of corrected areas: 23366703

Data Path : I:\MS09\DATA\2024 09\12\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:53
Operator : SC
Sample : P2403661-054 (400mL)
Misc : S37-06062402
ALS Vial : 16 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\12\\
Data File : 09122421.D
Acq On : 12 Sep 2024 21:533
Operator : SCC
Sample : P2403661-054 (400mL))
Misc : S37-060624022
ALS Vial : 16 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/29/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 06:32:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	129400	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	564697	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	162099	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	327663	13.532 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%			
57) Toluene-d8 (SS2)	12.43	98	639188	11.240 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%			
73) Bromofluorobenzene (SS3)	16.82	174	218900	11.510 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.36	85	18361m	0.584 ng		
4) Chloromethane	3.49	50	1507	0.061 ng		81
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	418	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.77	54	118	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	4.13	64	132	N.D.		
10) Ethanol	4.29	45	14795m	1.054 ng		
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.53	56	4402	0.410 ng		99
13) Acetone	4.64	58	46452	3.920 ng		97
14) Trichlorofluoromethane	4.75	101	1641285	54.772 ng		99
15) 2-Propanol (Isopropanol)	4.94	45	1802	N.D.		
16) Acrylonitrile	5.03	53	67	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	5.35	84	810	0.058 ng	#	67
20) 3-Chloro-1-propene (Al...	5.39	41	217	N.D.		
21) Trichlorotrifluoroethane	5.58	151	3111621	262.106 ng		96
22) Carbon Disulfide	5.60	76	450052	9.729 ng	#	30
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	6.30	63	299	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D. d		
26) Vinyl Acetate	6.43	86	1483	0.616 ng	#	95
27) 2-Butanone (MEK)	6.67	72	5093	0.606 ng	#	84
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D. d		
30) Ethyl Acetate	0.00	61	0	N.D. d		
31) n-Hexane	7.30	57	517	N.D.		
32) Chloroform	7.35	83	160111	6.210 ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.62	61	344	No Calib	#	
40) 1-Butanol	8.81	56	5596	No Calib	#	
41) Benzene	8.90	78	4071	0.077 ng		97
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.28	84	806	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	10.07	83	9898	0.497 ng		95
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	10.14	88	859	0.094 ng	#	75

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

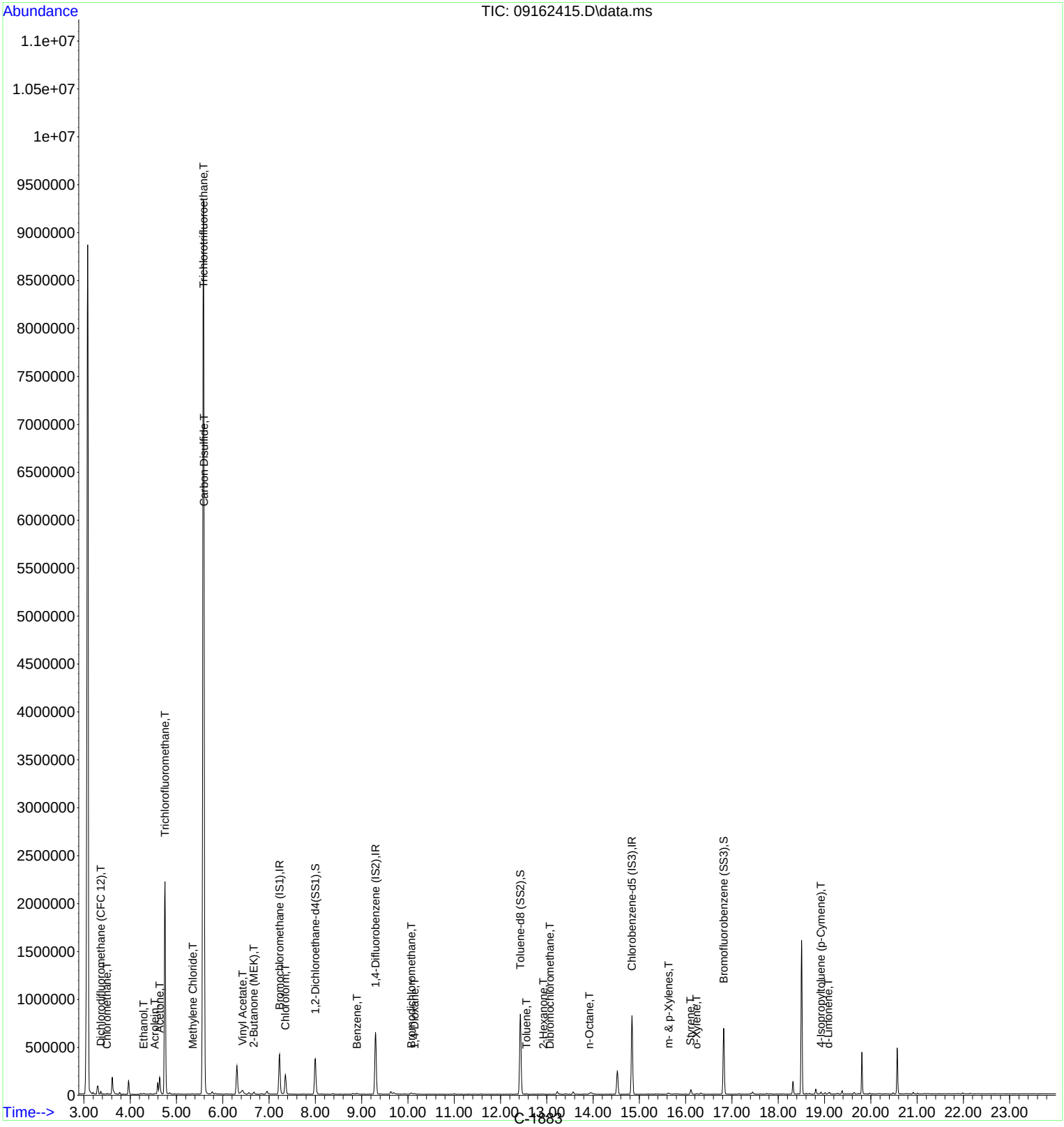
Quant Time: Sep 30 06:32:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	1236	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	373	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	4631	0.075 ng		99
59) 2-Hexanone	12.93	43	3596	0.095 ng		78
60) Dibromochloromethane	13.07	129	864	0.050 ng		83
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	610	N.D.		
63) n-Octane	13.92	57	1286	0.089 ng		98
64) Tetrachloroethene	14.03	166	682	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	2923	N.D.		
67) m- & p-Xylenes	15.63	91	9407	0.164 ng		97
68) Bromoform	15.67	173	120	N.D.		
69) Styrene	16.11	104	2921	0.079 ng		98
70) o-Xylene	16.24	91	3813	0.068 ng		82
71) n-Nonane	16.62	43	1561	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	183	N.D.		
75) alpha-Pinene	17.53	93	108	N.D.		
76) n-Propylbenzene	17.67	91	1607	N.D.		
77) 3-Ethyltoluene	17.03	105	183	No Calib	#	
78) 4-Ethyltoluene	17.86	105	656	N.D.		
79) 1,3,5-Trimethylbenzene	17.95	105	456	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	183	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1574	N.D.		
83) n-Decane	17.09	58	123	No Calib	#	
84) Benzyl Chloride	18.57	91	129	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	121	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	318	N.D.		
87) sec-Butylbenzene	18.74	105	278	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	9768	0.154 ng		94
89) 1,2,3-Trimethylbenzene	17.03	105	183	No Calib	#	
90) 1,2-Dichlorobenzene	19.02	146	181	N.D.		
91) d-Limonene	19.08	68	2365	0.122 ng	#	73
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.83	180	690	N.D.		
95) Naphthalene	20.94	128	487	N.D.		
96) n-Dodecane	18.93	58	222	No Calib	#	
97) Hexachlorobutadiene	21.30	225	237	N.D.		
98) Cyclohexanone	15.31	55	111	No Calib	#	
99) tert-Butylbenzene	18.42	119	321	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 30 06:32:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 30 06:32:39 2024 9/30/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

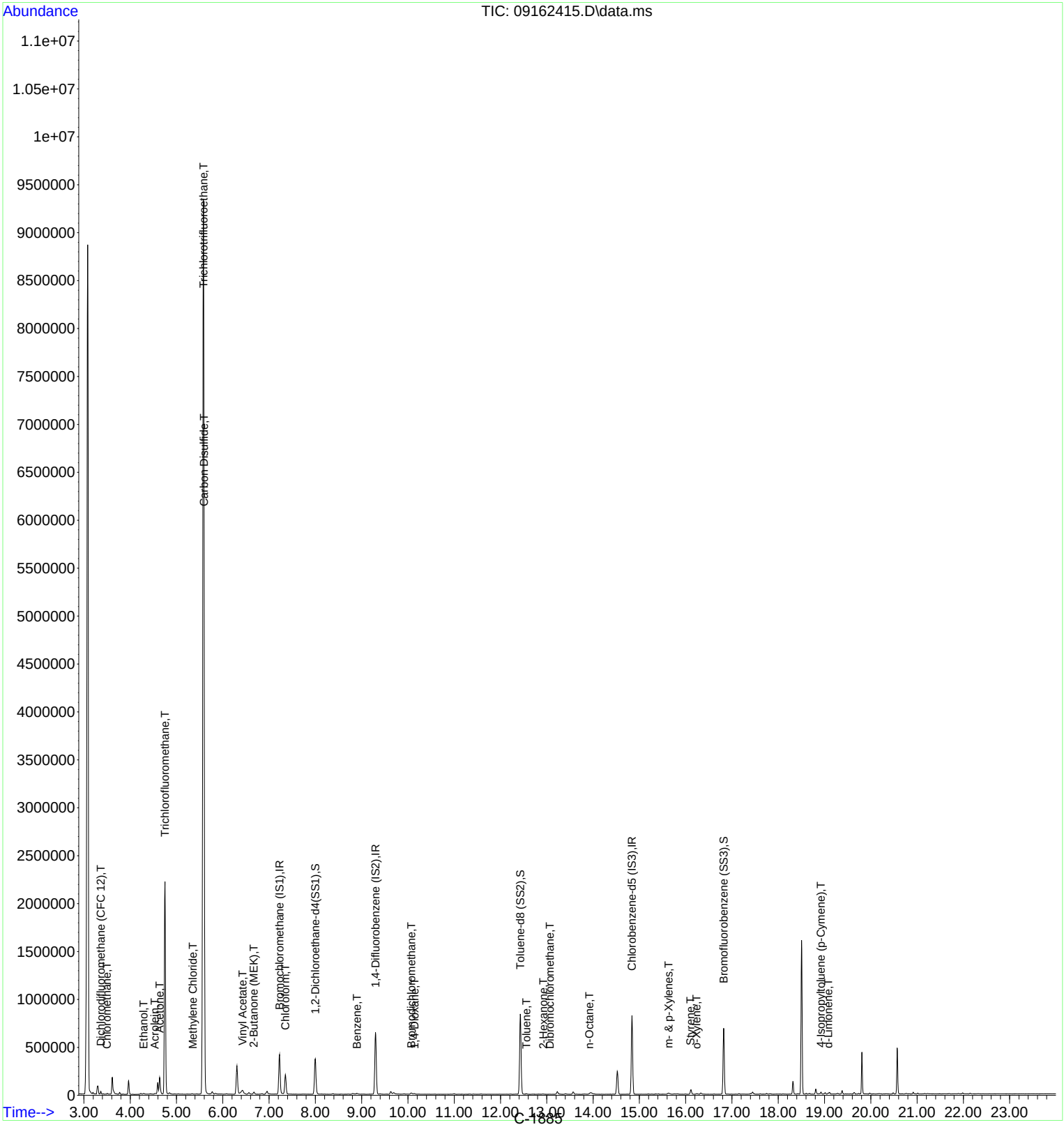
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	129400	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	564697	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	162099	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	327663	13.532	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.24%				
57) Toluene-d8 (SS2)	12.43	98	639188	11.240	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.92%				
73) Bromofluorobenzene (SS3)	16.82	174	218900	11.510	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.36	85	18361m	0.584	ng		
4) Chloromethane	3.49	50	1507	0.061	ng		81
10) Ethanol	4.29	45	14795m	1.054	ng		
12) Acrolein	4.53	56	4402	0.410	ng		99
13) Acetone	4.64	58	46452	3.920	ng		97
14) Trichlorofluoromethane	4.75	101	1641285	54.772	ng		99
19) Methylene Chloride	5.35	84	810	0.058	ng	#	67
21) Trichlorotrifluoroethane	5.58	151	3111621	262.106	ng		96
22) Carbon Disulfide	5.60	76	450052	9.729	ng	#	30
26) Vinyl Acetate	6.43	86	1483	0.616	ng	#	95
27) 2-Butanone (MEK)	6.67	72	5093	0.606	ng	#	84
32) Chloroform	7.35	83	160111	6.210	ng		99
41) Benzene	8.90	78	4071	0.077	ng		97
46) Bromodichloromethane	10.07	83	9898	0.497	ng		95
48) 1,4-Dioxane	10.14	88	859	0.094	ng	#	75
58) Toluene	12.56	91	4631	0.075	ng		99
59) 2-Hexanone	12.93	43	3596	0.095	ng		78
60) Dibromochloromethane	13.07	129	864	0.050	ng		83
63) n-Octane	13.92	57	1286	0.089	ng		98
67) m- & p-Xylenes	15.63	91	9407	0.164	ng		97
69) Styrene	16.11	104	2921	0.079	ng		98
70) o-Xylene	16.24	91	3813	0.068	ng		82
88) 4-Isopropyltoluene (p-...	18.92	119	9768	0.154	ng		94
91) d-Limonene	19.08	68	2365	0.122	ng	#	73

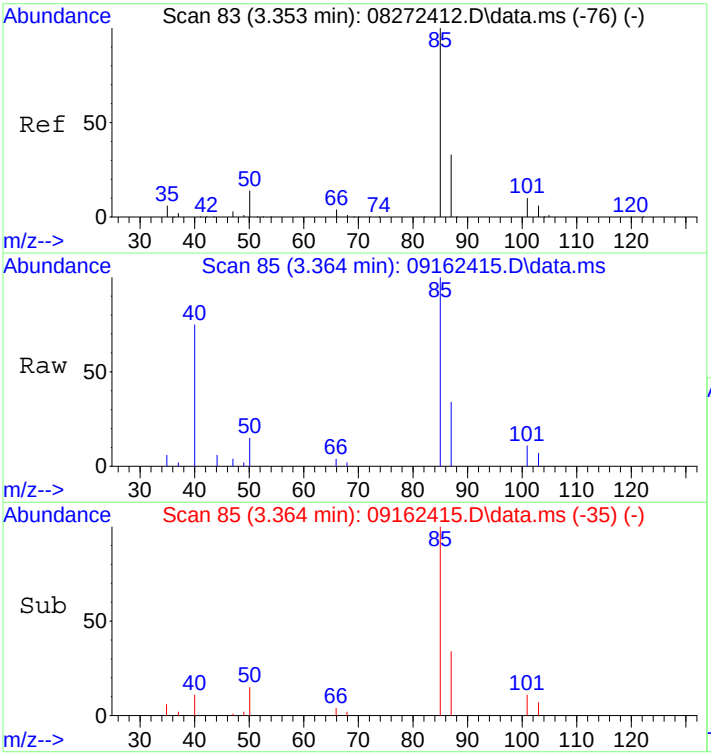
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 30 06:32:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

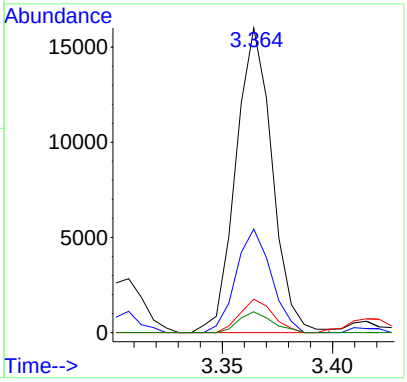


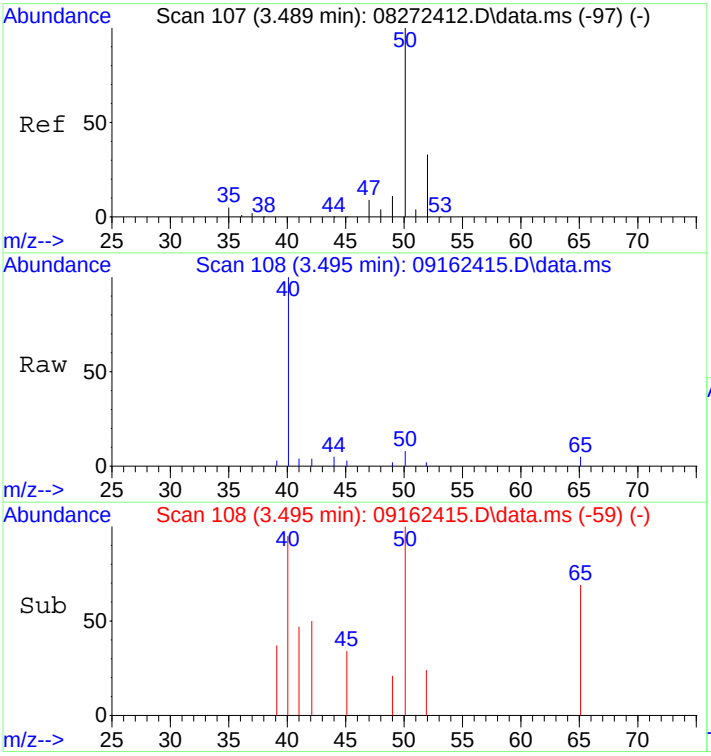


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.58 ng m
RT: 3.36 min Scan# 85
Delta R.T. 0.037 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 85 Resp: 18361

Ion	Ratio	Lower	Upper
85	100		
87	32.9	13.1	53.1
101	10.0	0.0	29.4
103	6.2	0.0	26.0

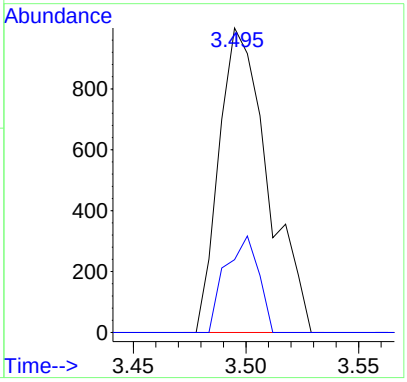


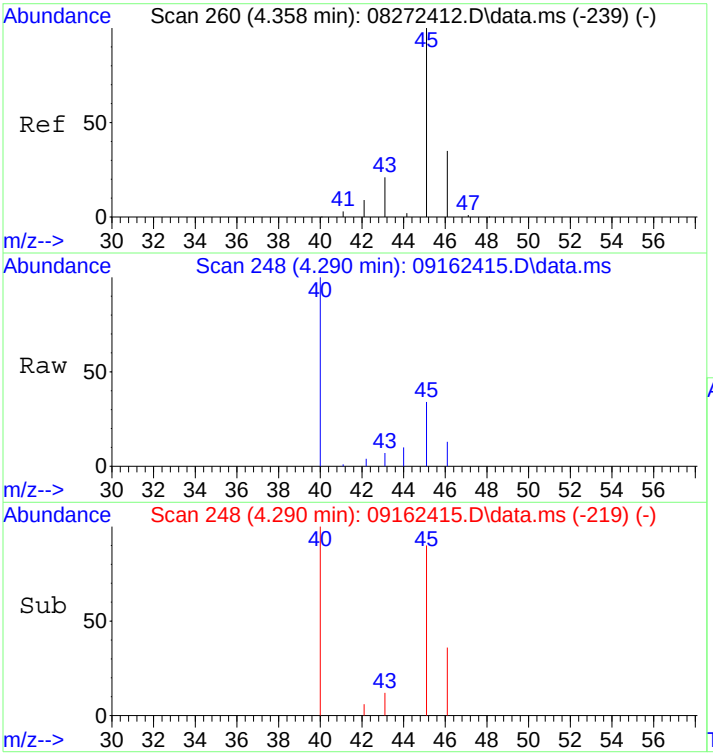


#4
Chloromethane
Concen: 0.06 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.027 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 50 Resp: 1507

Ion	Ratio	Lower	Upper
50	100		
52	21.6	12.4	52.4

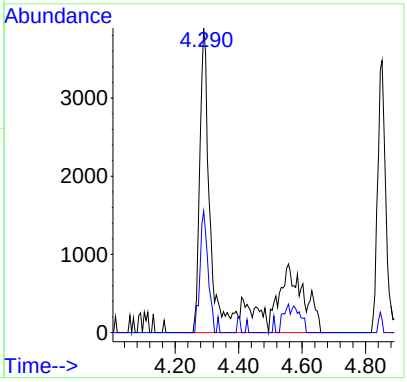


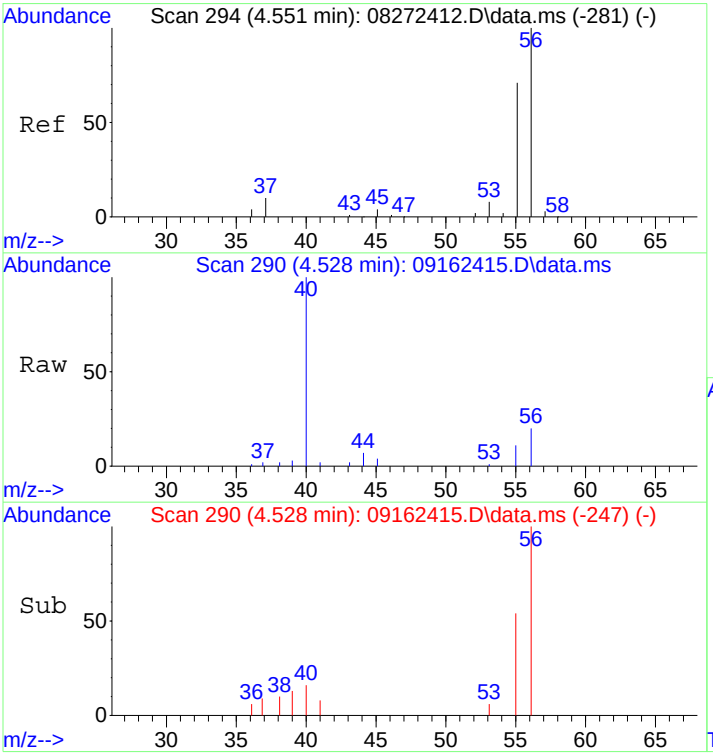


#10
Ethanol
Concen: 1.05 ng m
RT: 4.29 min Scan# 248
Delta R.T. -0.083 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 45 Resp: 14795

Ion	Ratio	Lower	Upper
45	100		
46	29.0	14.2	54.2

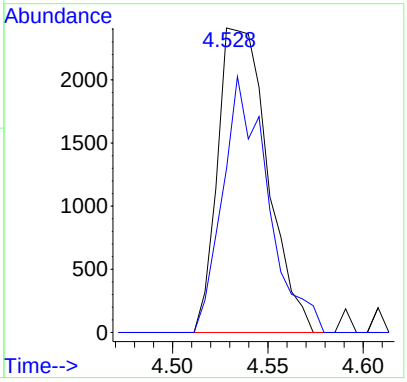


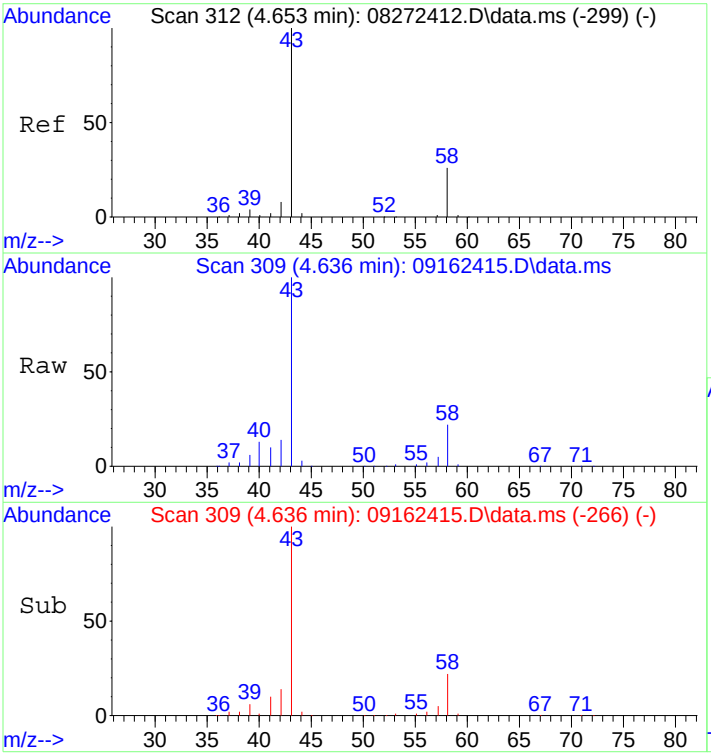


#12
Acrolein
Concen: 0.41 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.007 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 56 Resp: 4402

Ion	Ratio	Lower	Upper
56	100		
55	76.0	54.7	94.7

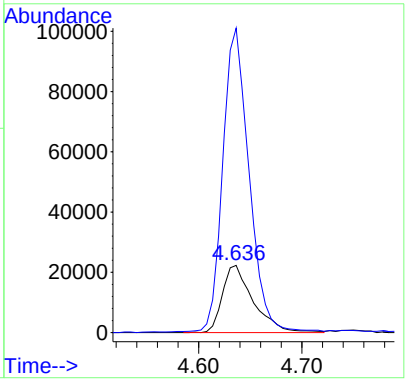


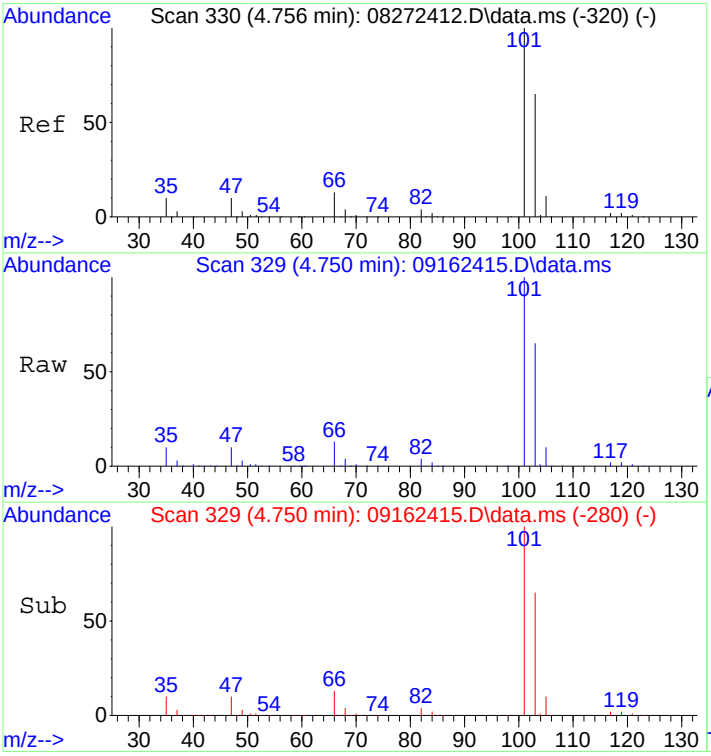


#13
Acetone
Concen: 3.92 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 58 Resp: 46452

Ion	Ratio	Lower	Upper
58	100		
43	383.3	347.3	407.3

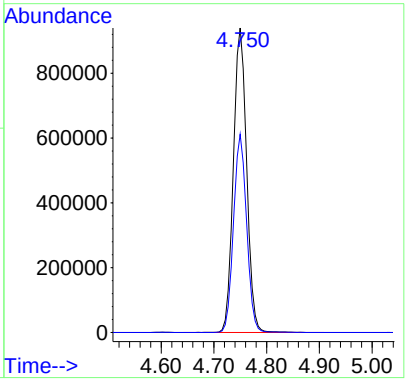


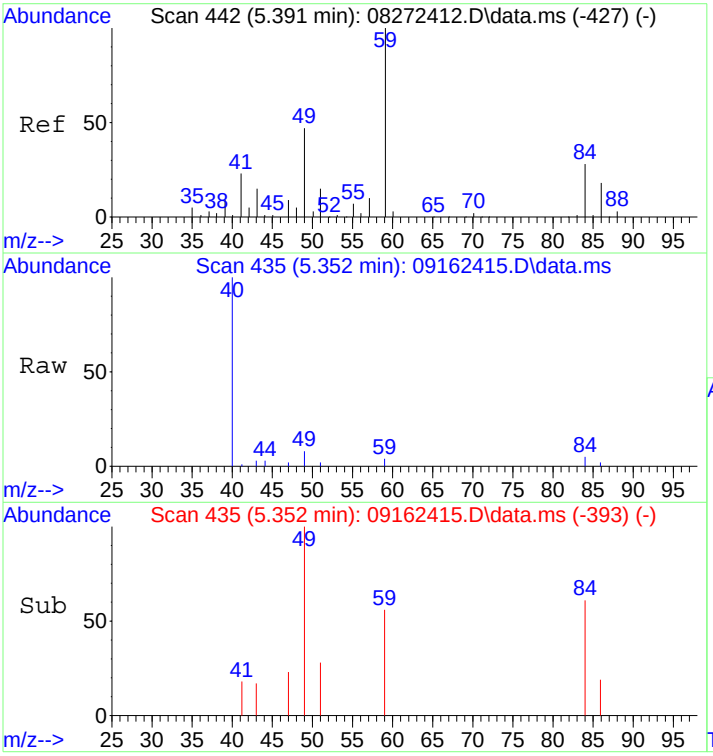


#14
Trichlorofluoromethane
Concen: 54.77 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion:101 Resp: 1641285

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.9	84.9

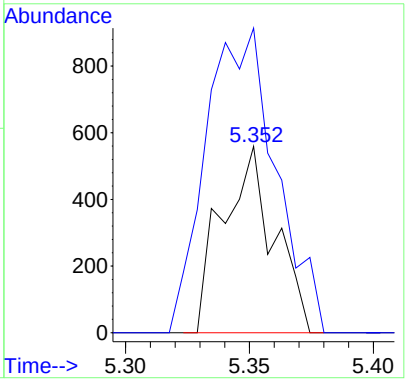


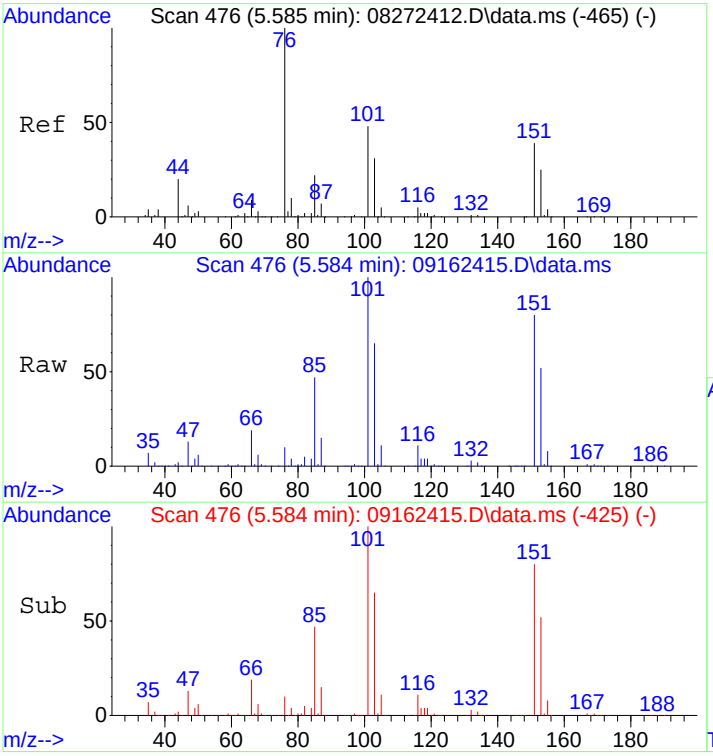


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 84 Resp: 810

Ion	Ratio	Lower	Upper
84	100		
49	221.7	151.1	201.1#

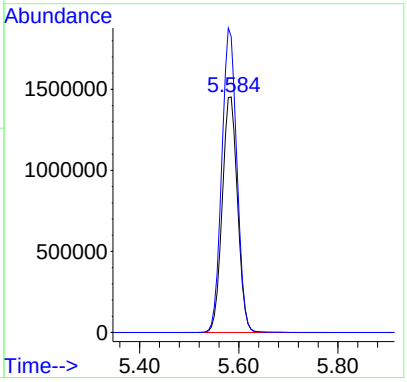


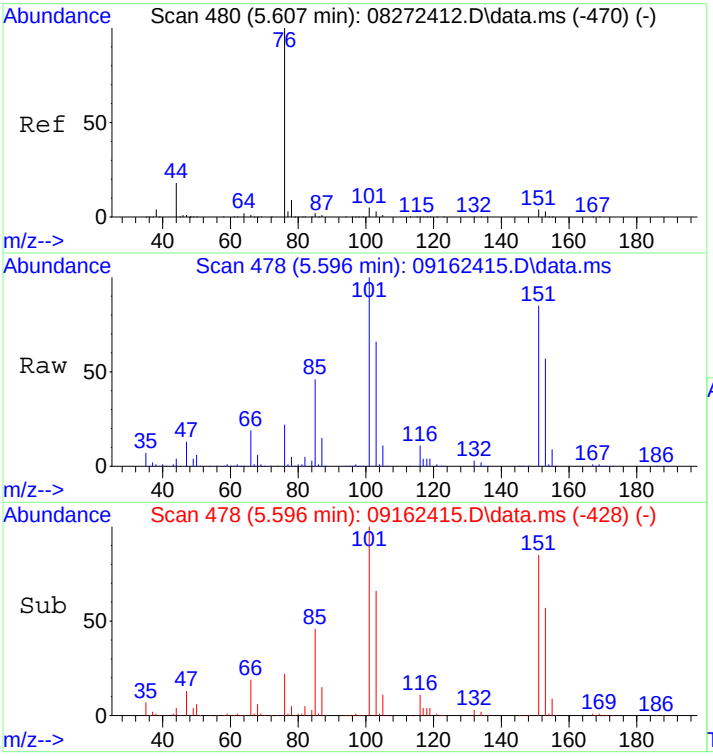


#21
Trichlorotrifluoroethane
Concen: 262.11 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion:151 Resp: 3111621

Ion	Ratio	Lower	Upper
151	100		
101	127.5	103.4	143.4

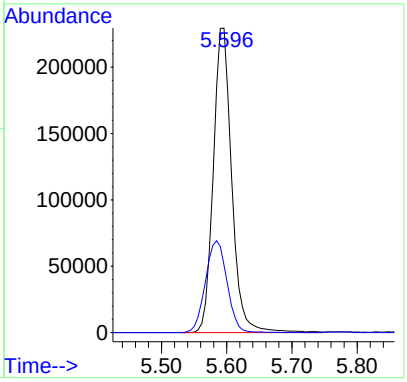


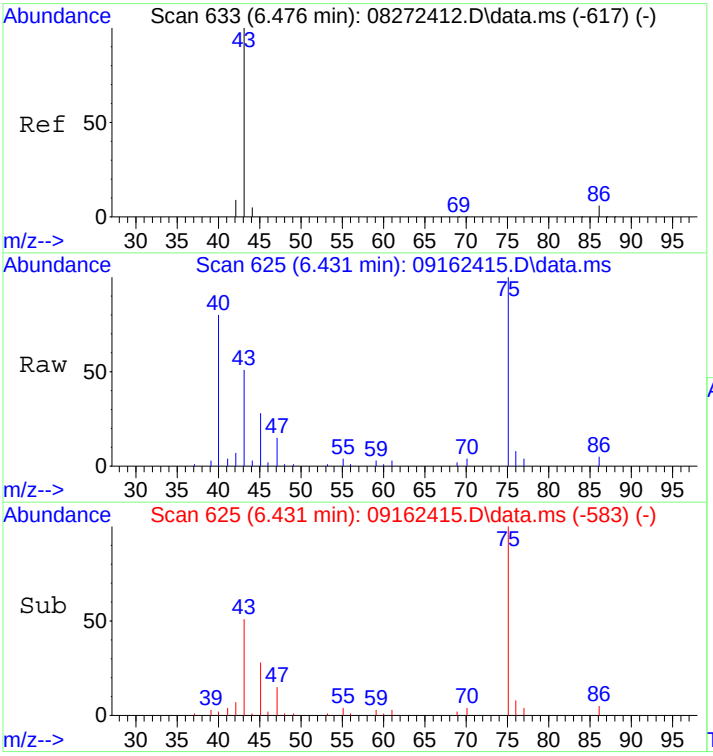


#22
Carbon Disulfide
Concen: 9.73 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 76 Resp: 450052

Ion	Ratio	Lower	Upper
76	100		
78	35.3	0.0	29.6#

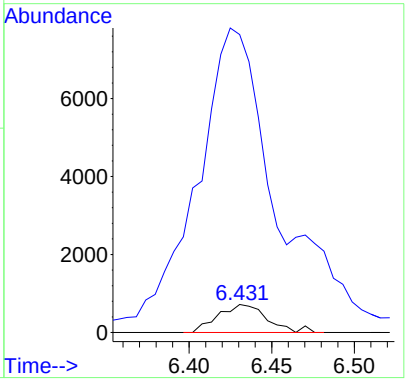


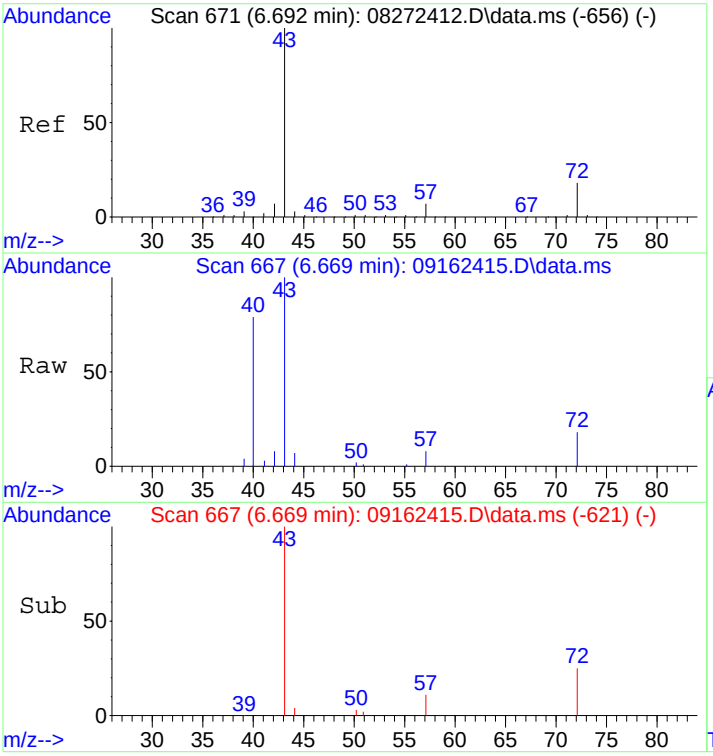


#26
Vinyl Acetate
Concen: 0.62 ng
RT: 6.43 min Scan# 625
Delta R.T. -0.014 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 86 Resp: 1483

Ion	Ratio	Lower	Upper
86	100		
43	1743.9	1687.9	1727.9#

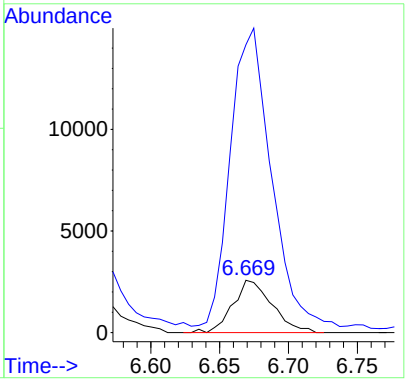


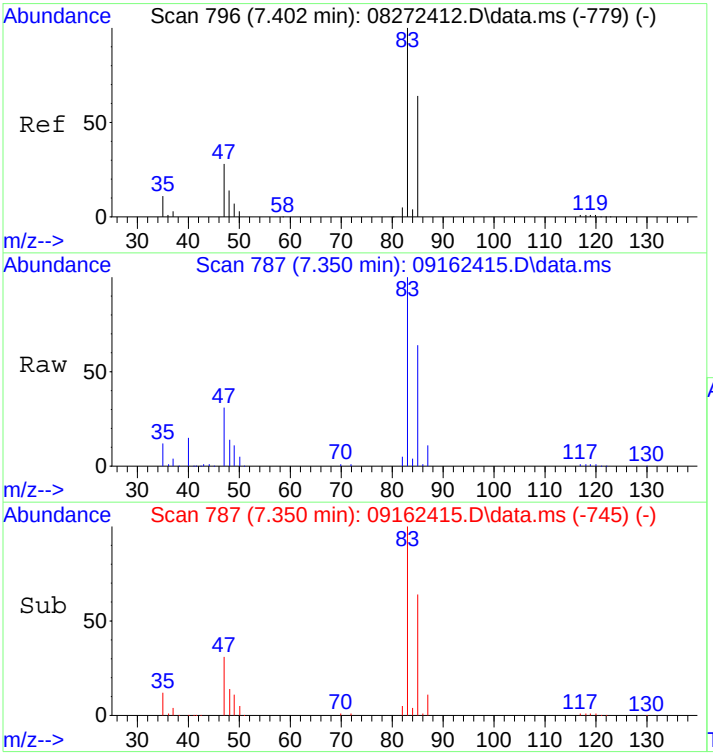


#27
2-Butanone (MEK)
Concen: 0.61 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 72 Resp: 5093

Ion	Ratio	Lower	Upper
72	100		
43	615.2	548.0	588.0#

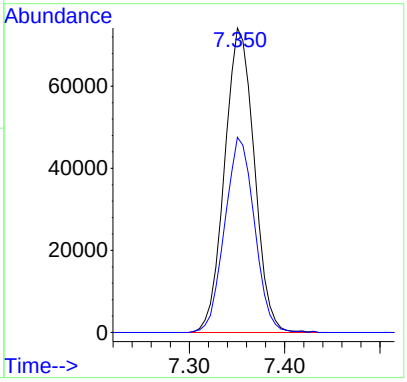


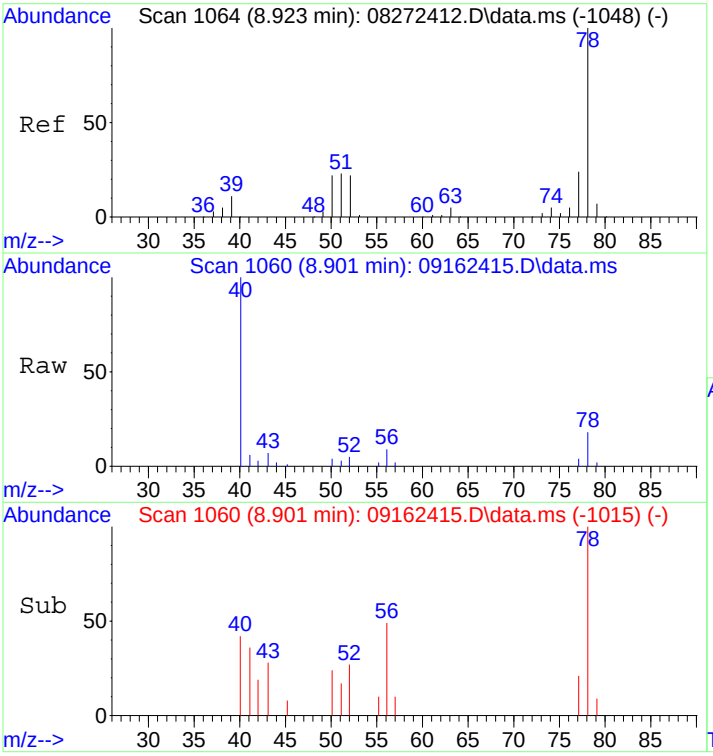


#32
Chloroform
Concen: 6.21 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.010 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 83 Resp: 160111

Ion	Ratio	Lower	Upper
83	100		
85	64.4	45.3	85.3

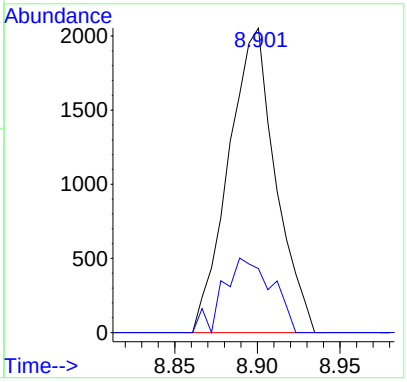


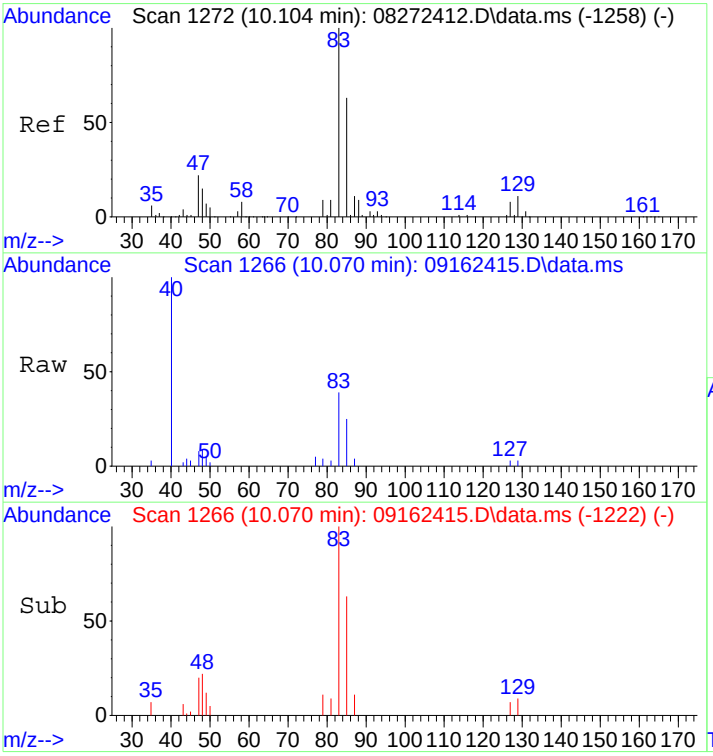


#41
Benzene
Concen: 0.08 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.003 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 78 Resp: 4071

Ion	Ratio	Lower	Upper
78	100		
77	25.4	3.9	43.9

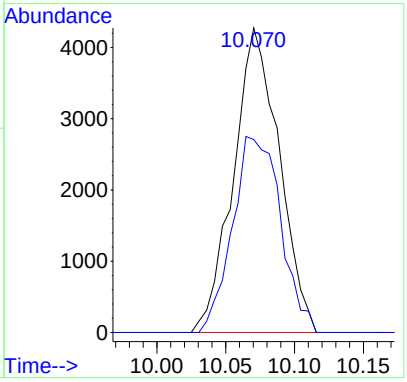


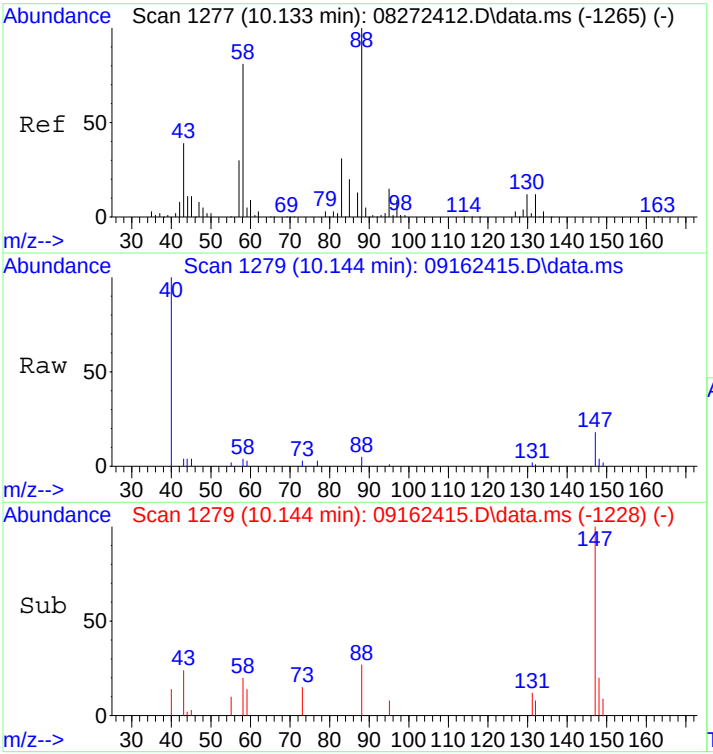


#46
Bromodichloromethane
Concen: 0.50 ng
RT: 10.07 min Scan# 1266
Delta R.T. -0.001 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 83 Resp: 9898

Ion	Ratio	Lower	Upper
83	100		
85	67.4	43.9	83.9

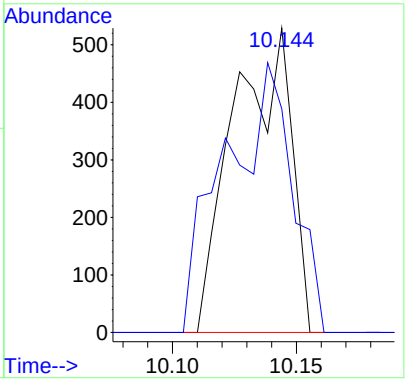


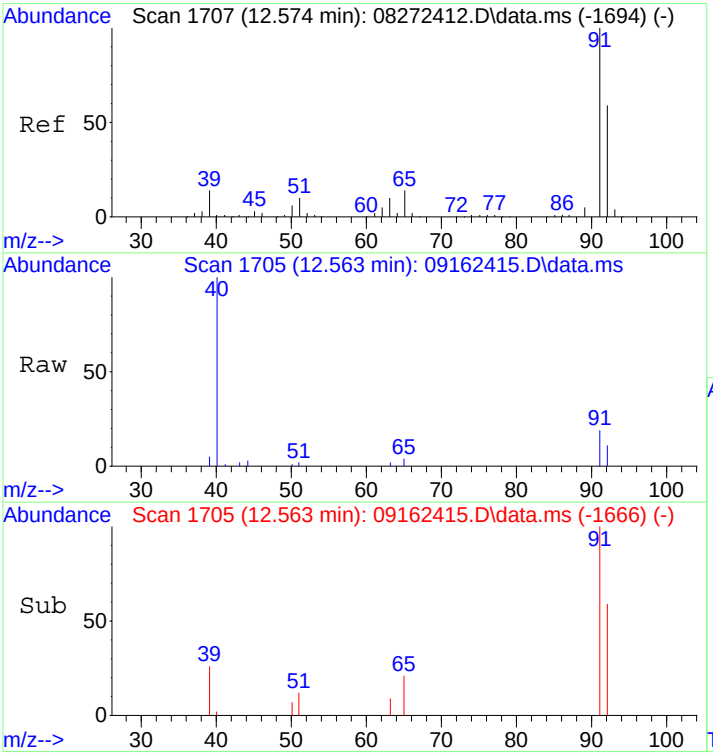


#48
1,4-Dioxane
Concen: 0.09 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.038 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 88 Resp: 859

Ion	Ratio	Lower	Upper
88	100		
58	103.5	61.1	101.1#

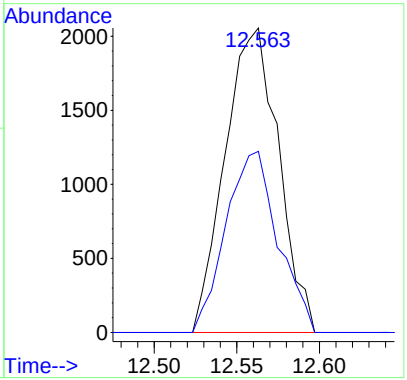


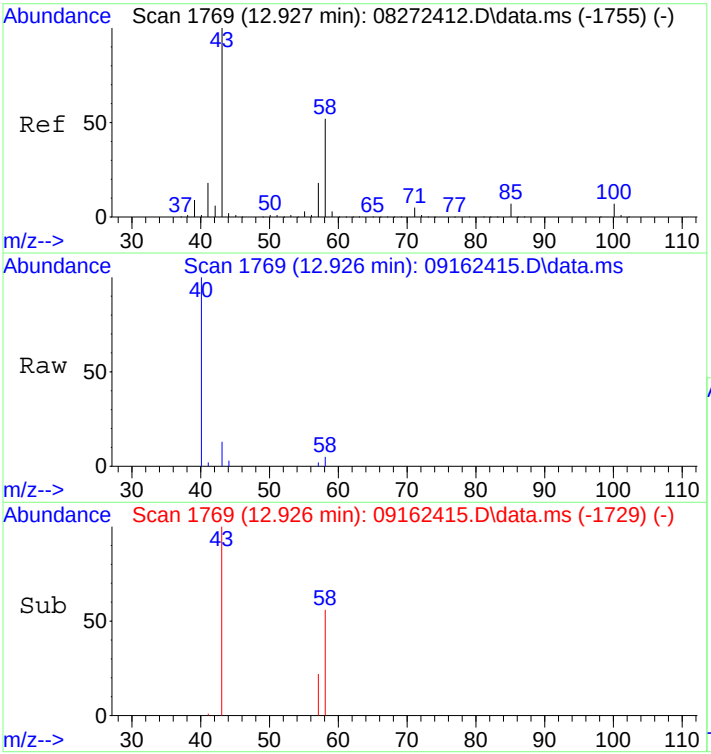


#58
Toluene
Concen: 0.08 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 91 Resp: 4631

Ion	Ratio	Lower	Upper
91	100		
92	57.9	38.5	78.5

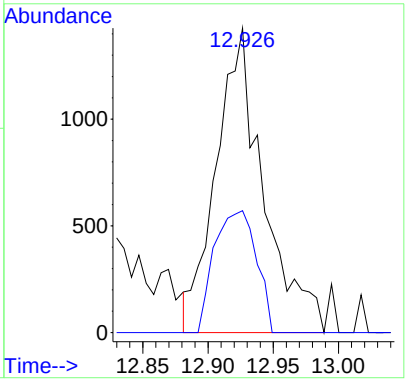


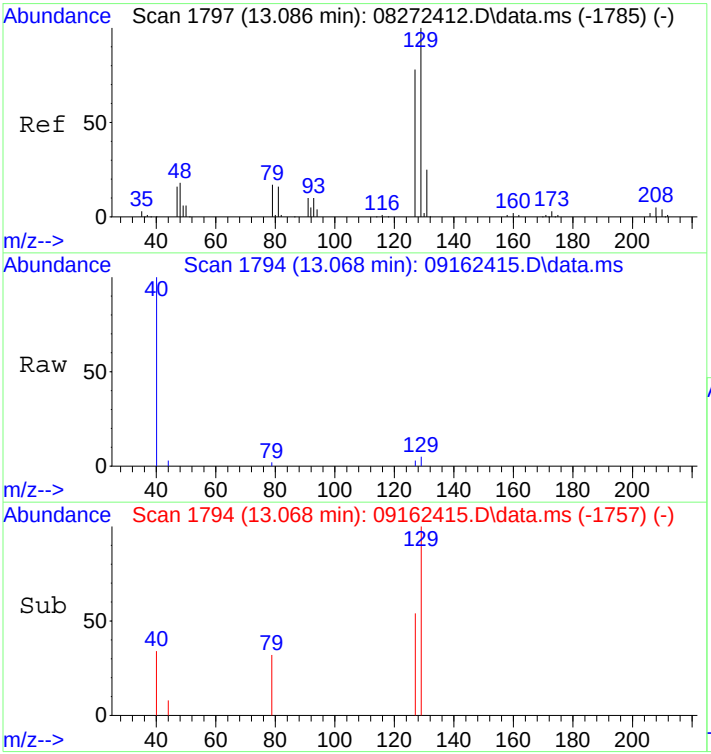


#59
2-Hexanone
Concen: 0.09 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 43 Resp: 3596

Ion	Ratio	Lower	Upper
43	100		
58	35.6	31.1	71.1

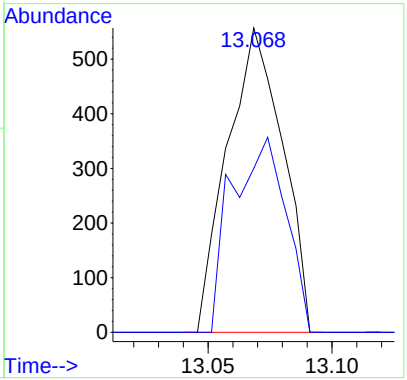


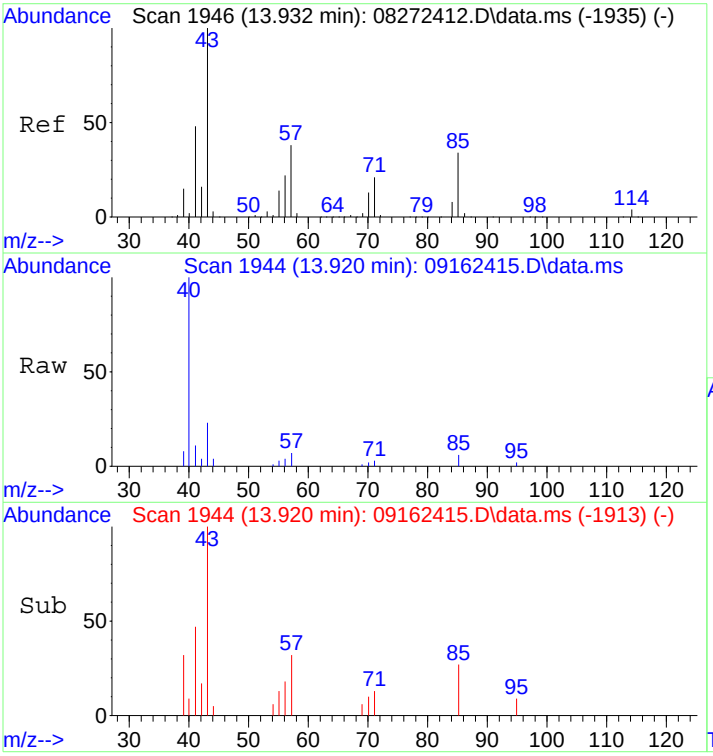


#60
Dibromochloromethane
Concen: 0.05 ng
RT: 13.07 min Scan# 1794
Delta R.T. -0.040 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion:129 Resp: 864

Ion	Ratio	Lower	Upper
129	100		
127	62.8	57.5	97.5

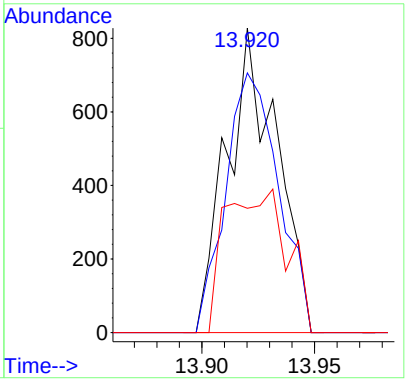


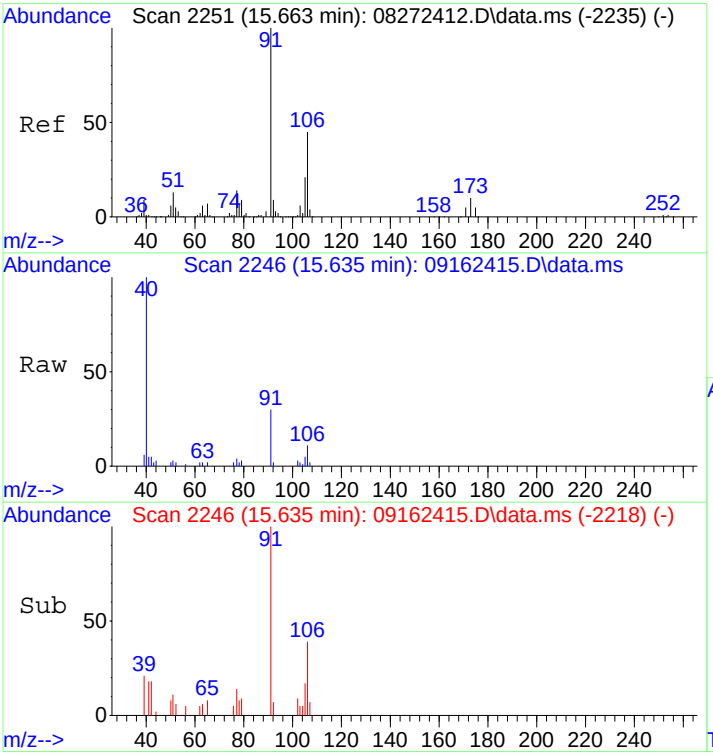


#63
n-Octane
Concen: 0.09 ng
RT: 13.92 min Scan# 1944
Delta R.T. -0.023 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 57 Resp: 1286

Ion	Ratio	Lower	Upper
57	100		
85	89.8	71.2	106.8
71	57.8	43.3	64.9

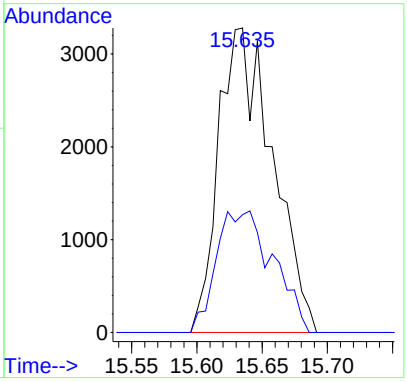


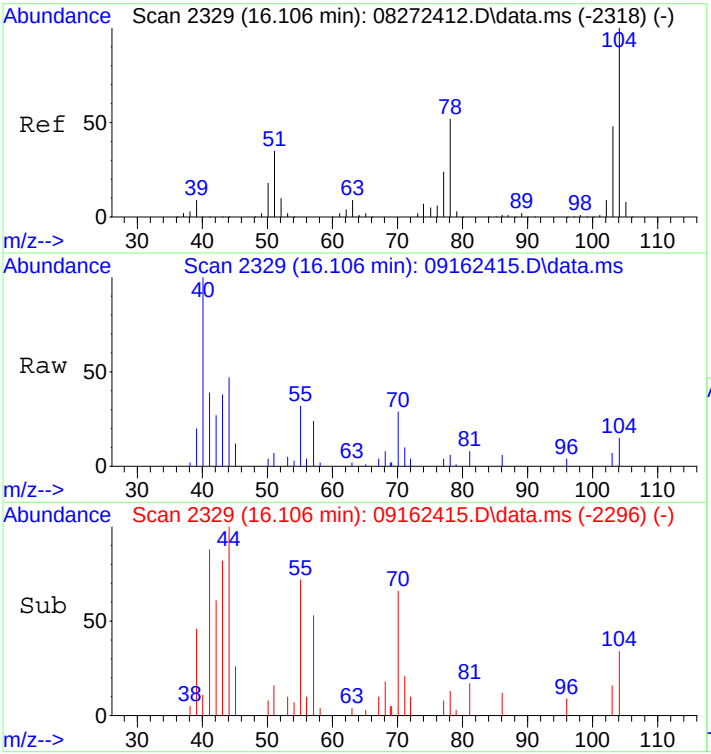


#67
m- & p-Xylenes
Concen: 0.16 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 91 Resp: 9407

Ion	Ratio	Lower	Upper
91	100		
106	42.1	23.8	63.8

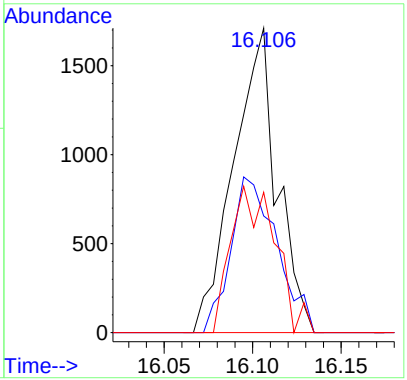


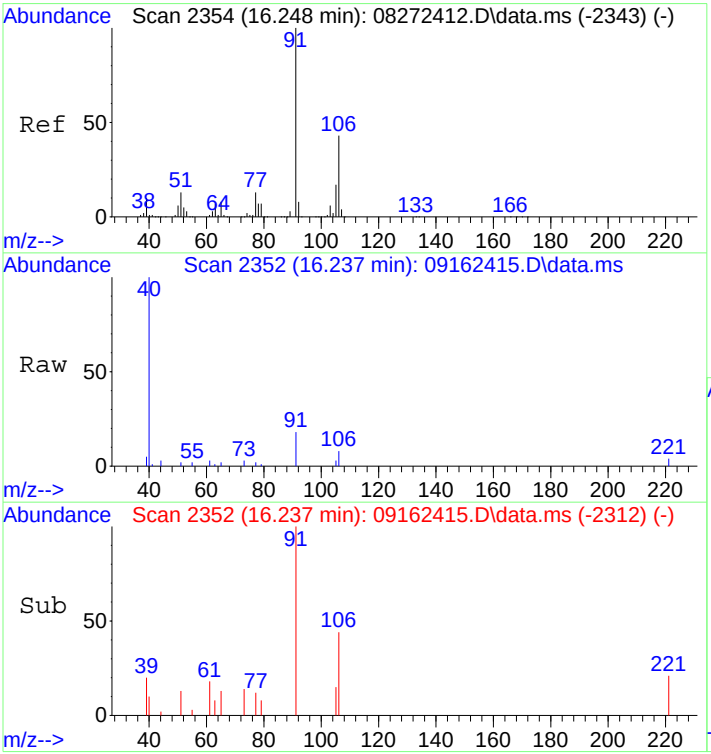


#69
Styrene
Concen: 0.08 ng
RT: 16.11 min Scan# 2329
Delta R.T. -0.011 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion:104 Resp: 2921

Ion	Ratio	Lower	Upper
104	100		
78	54.3	32.2	72.2
103	49.5	28.3	68.3

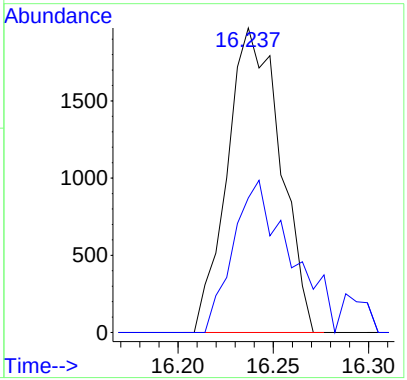


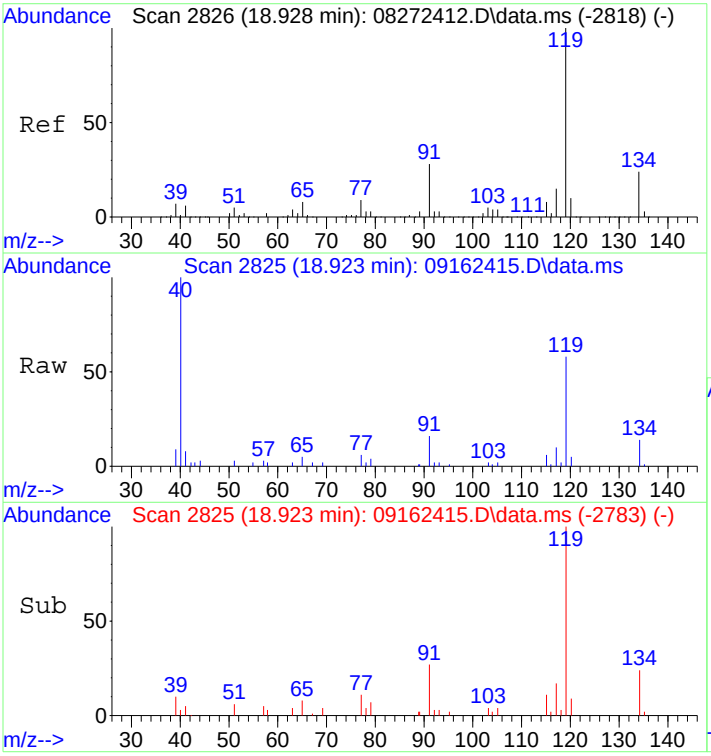


#70
o-Xylene
Concen: 0.07 ng
RT: 16.24 min Scan# 2352
Delta R.T. -0.023 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 91 Resp: 3813

Ion	Ratio	Lower	Upper
91	100		
106	54.0	22.5	62.5

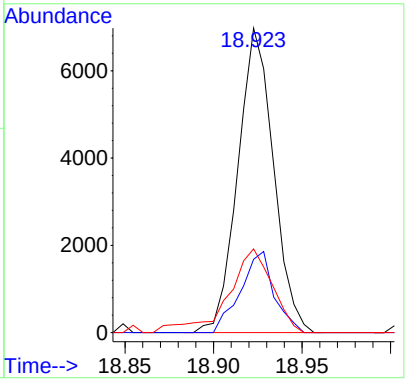


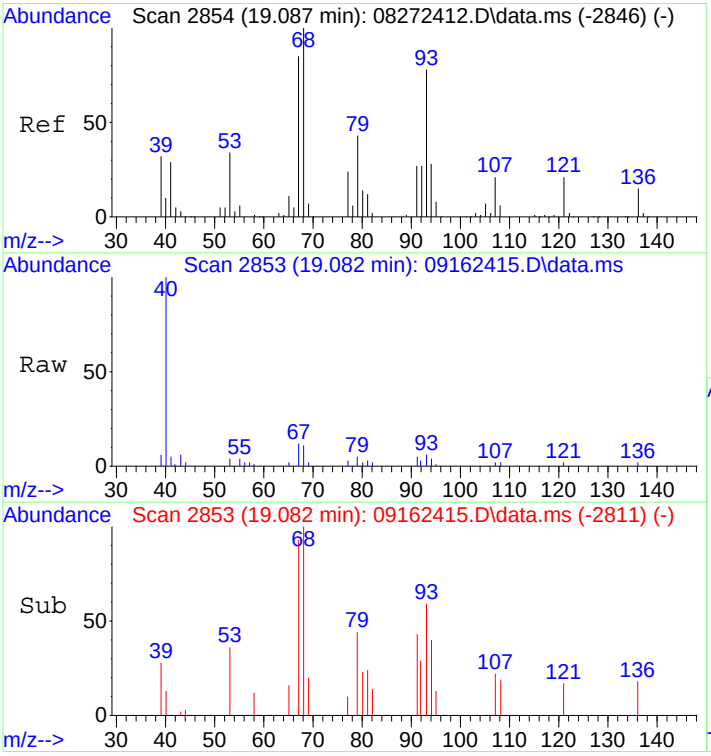


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.15 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion:119 Resp: 9768

Ion	Ratio	Lower	Upper
119	100		
134	25.1	4.7	44.7
91	34.1	8.1	48.1

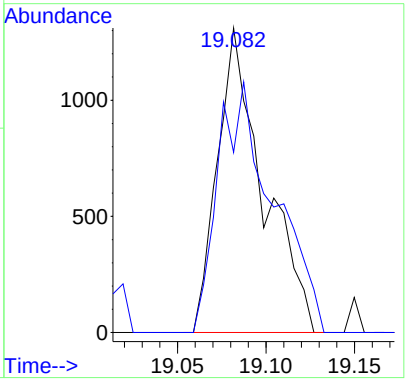




#91
d-Limonene
Concen: 0.12 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09162415.D
Acq: 16 Sep 2024 17:46

Tgt Ion: 68 Resp: 2365

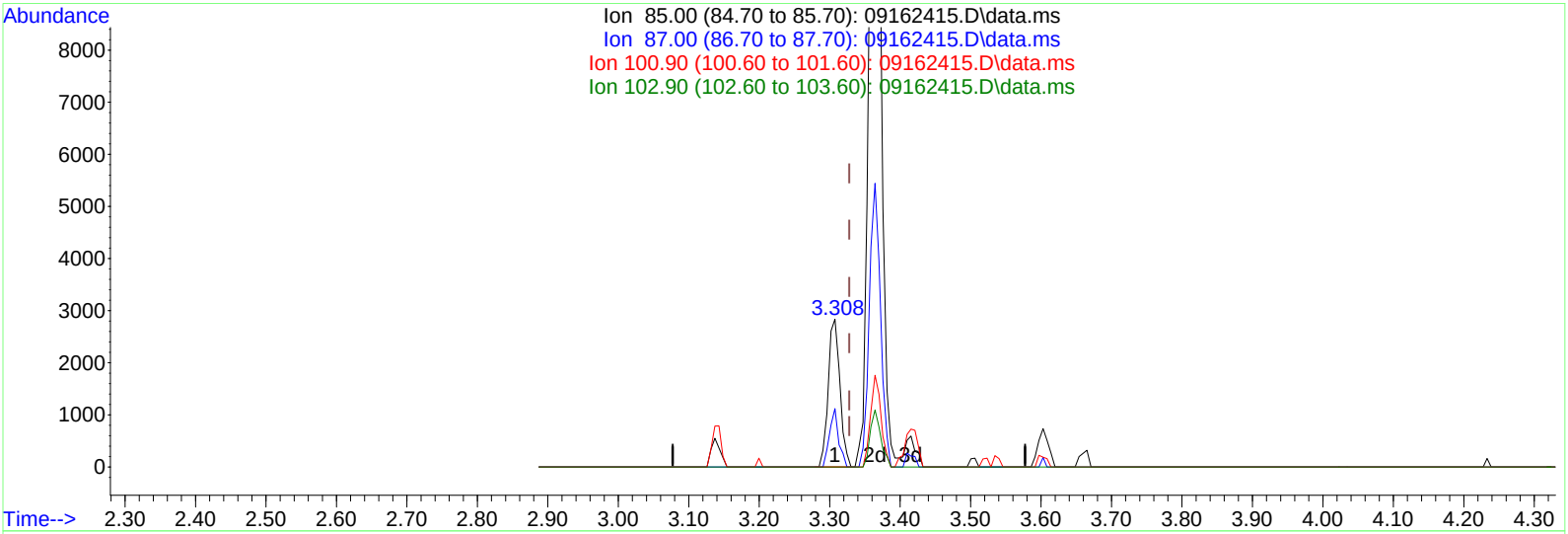
Ion	Ratio	Lower	Upper
68	100		
93	99.7	56.2	96.2#

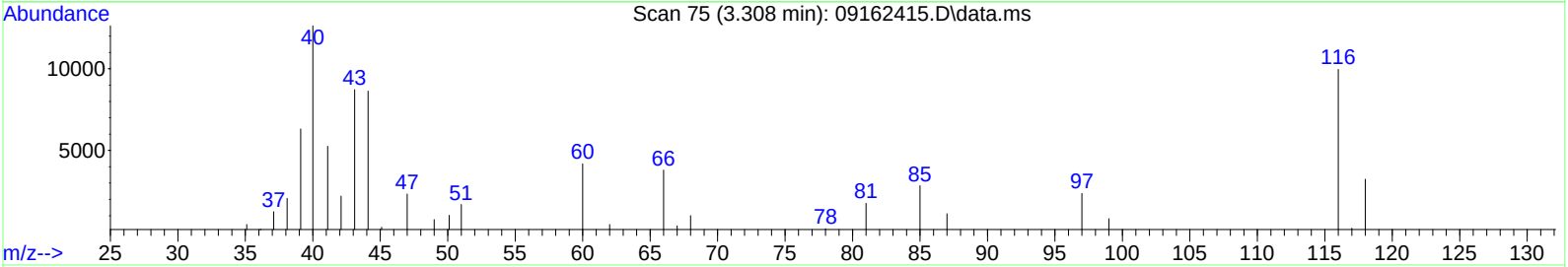


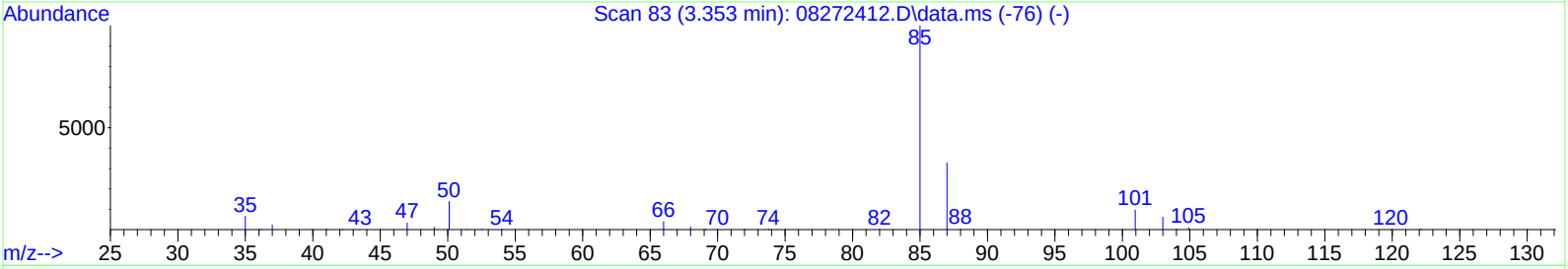
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 17 08:31:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162415.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.020) 0.10ng

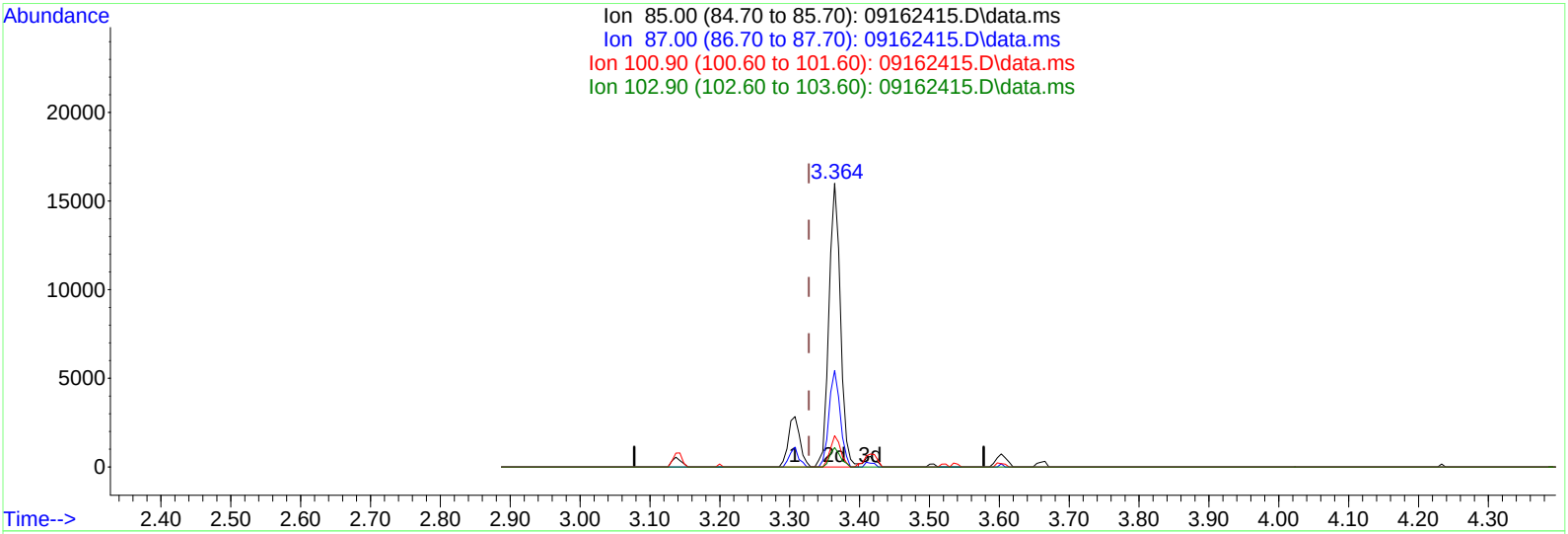
response 3265

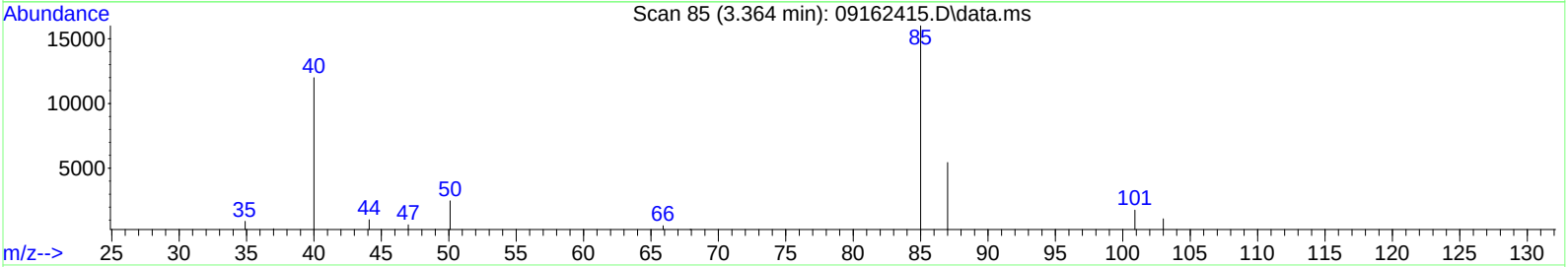
Ion	Exp%	Act%
85.00	100	100
87.00	33.10	30.78
100.90	9.40	0.00
102.90	6.00	0.00

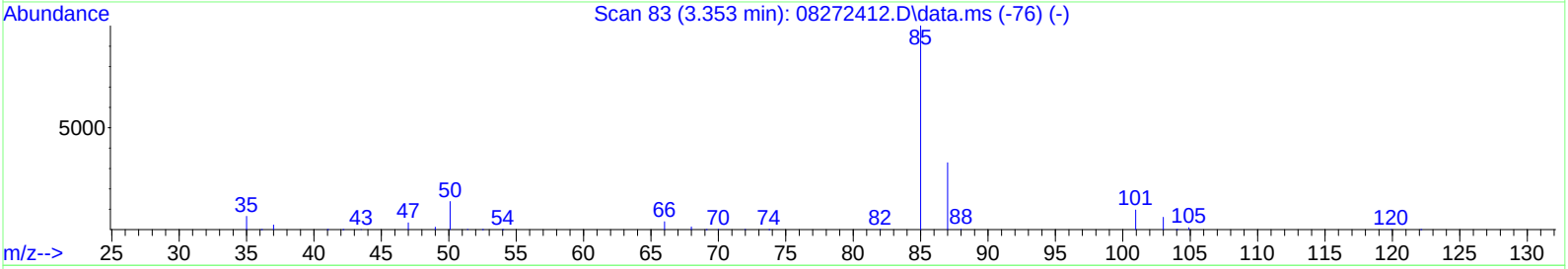
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 17 08:31:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162415.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.364min (+0.037) 0.58ng m

response 18361

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	32.94
100.90	9.40	10.00
102.90	6.00	6.24

MP

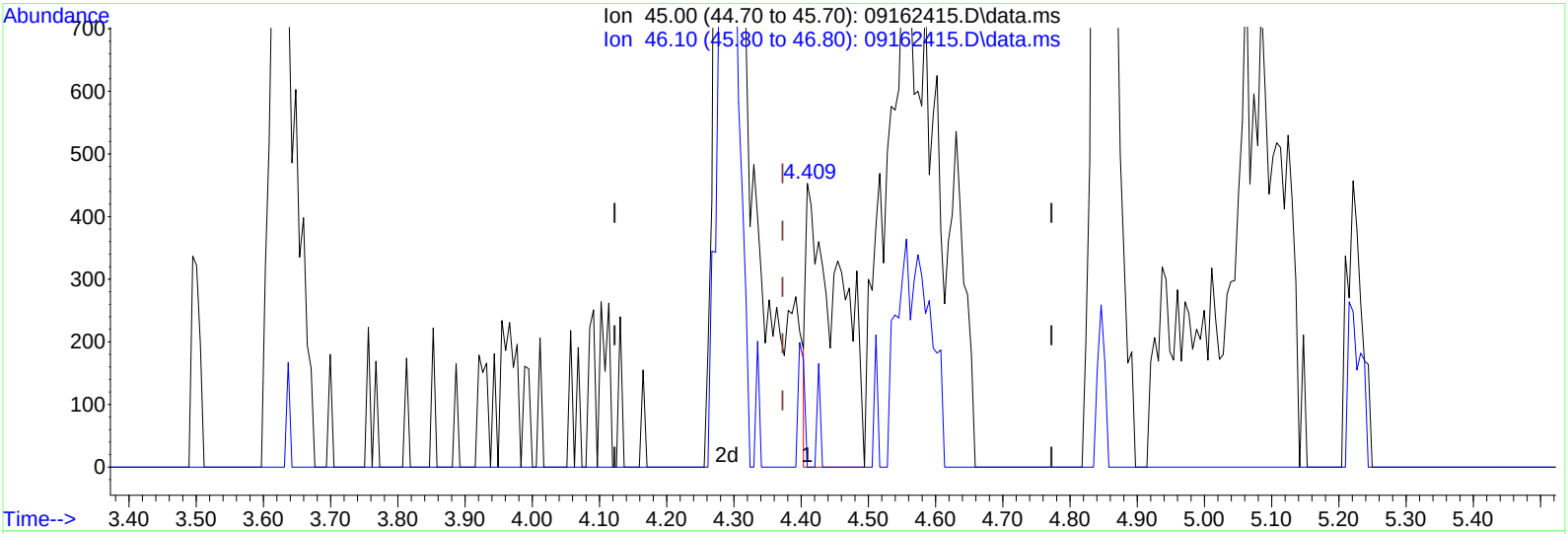
WA 9/30/24

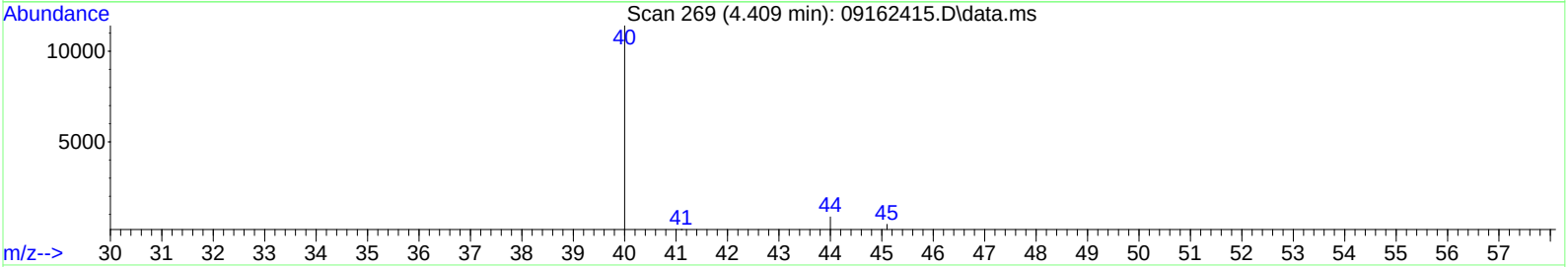
LH 9/30/24

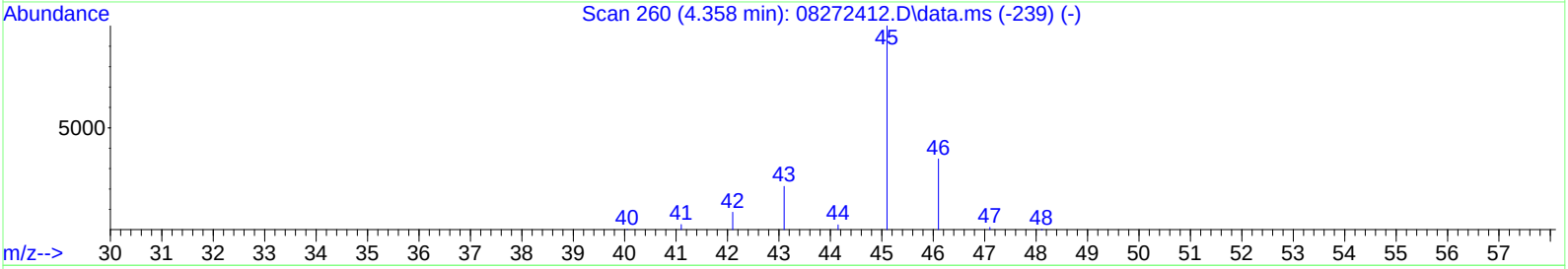
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 17 08:31:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162415.D\data.ms

(10) Ethanol (T)

4.409min (+0.037) 0.11ng

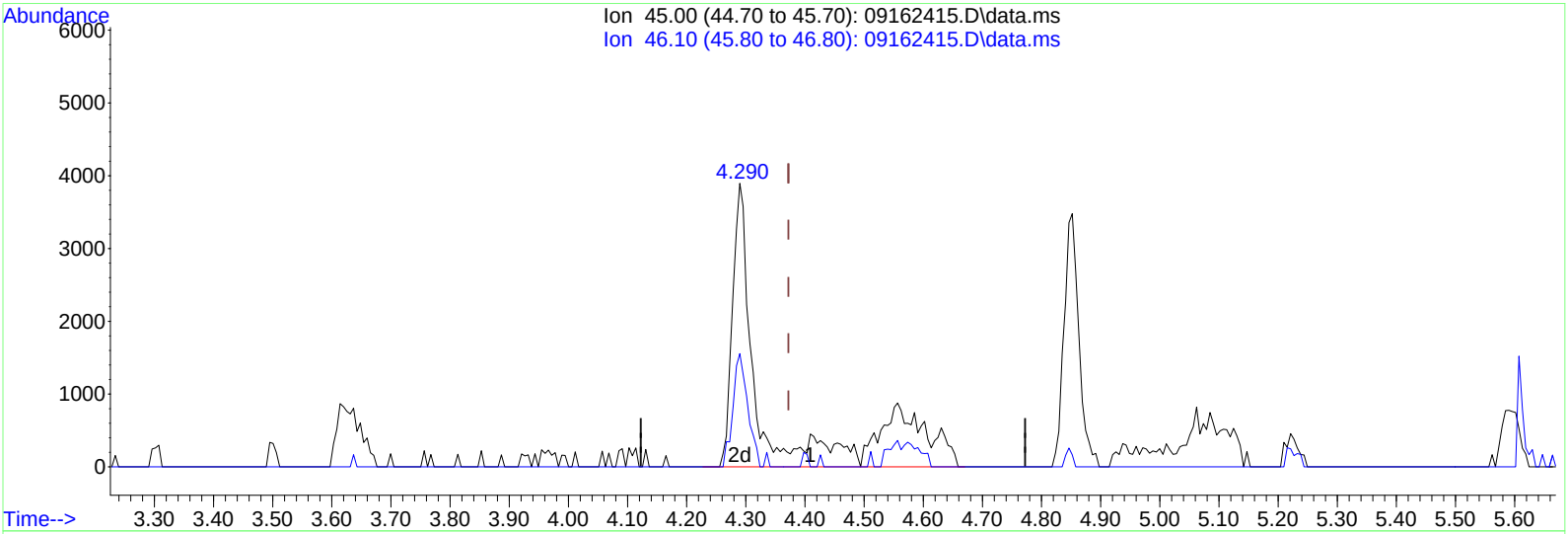
response 1537

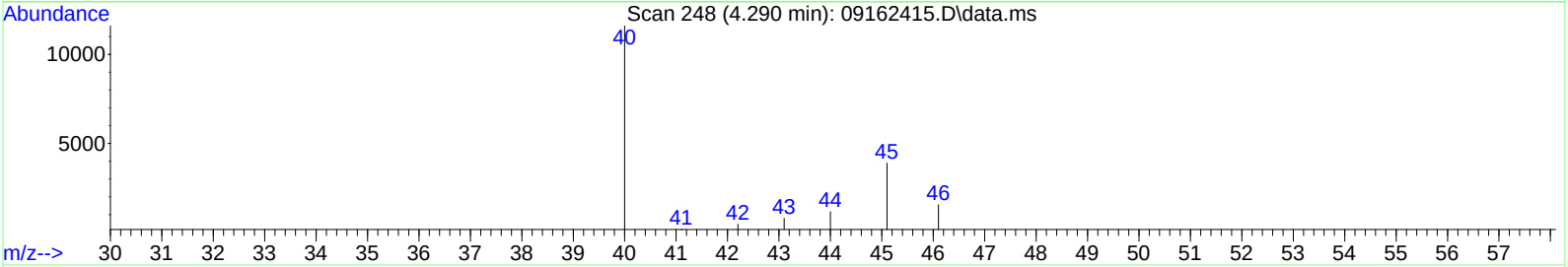
Ion	Exp%	Act%
45.00	100	100
46.10	34.20	8.20#
0.00	0.00	0.00
0.00	0.00	0.00

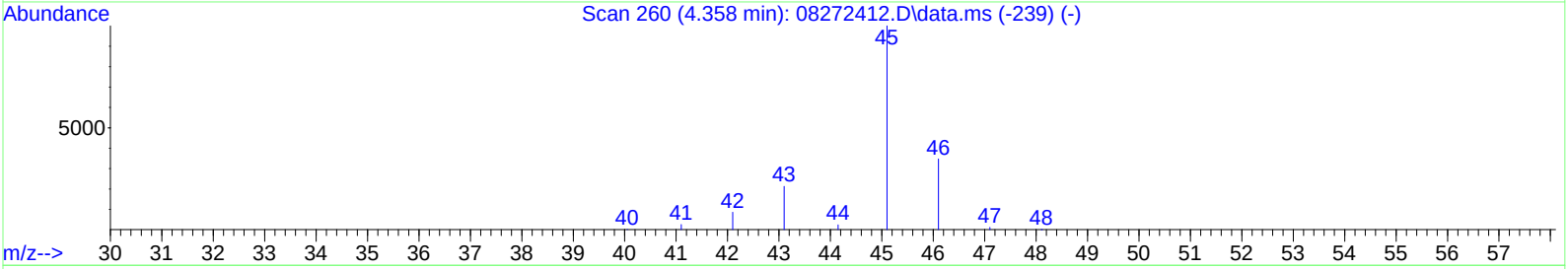
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 17 08:31:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162415.D\data.ms

(10) Ethanol (T)

4.290min (-0.083) 1.05ng m

response 14795

MP

LH 9/30/24

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	28.96
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

MOA 9/30/24

Quant Time: Sep 30 07:22:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

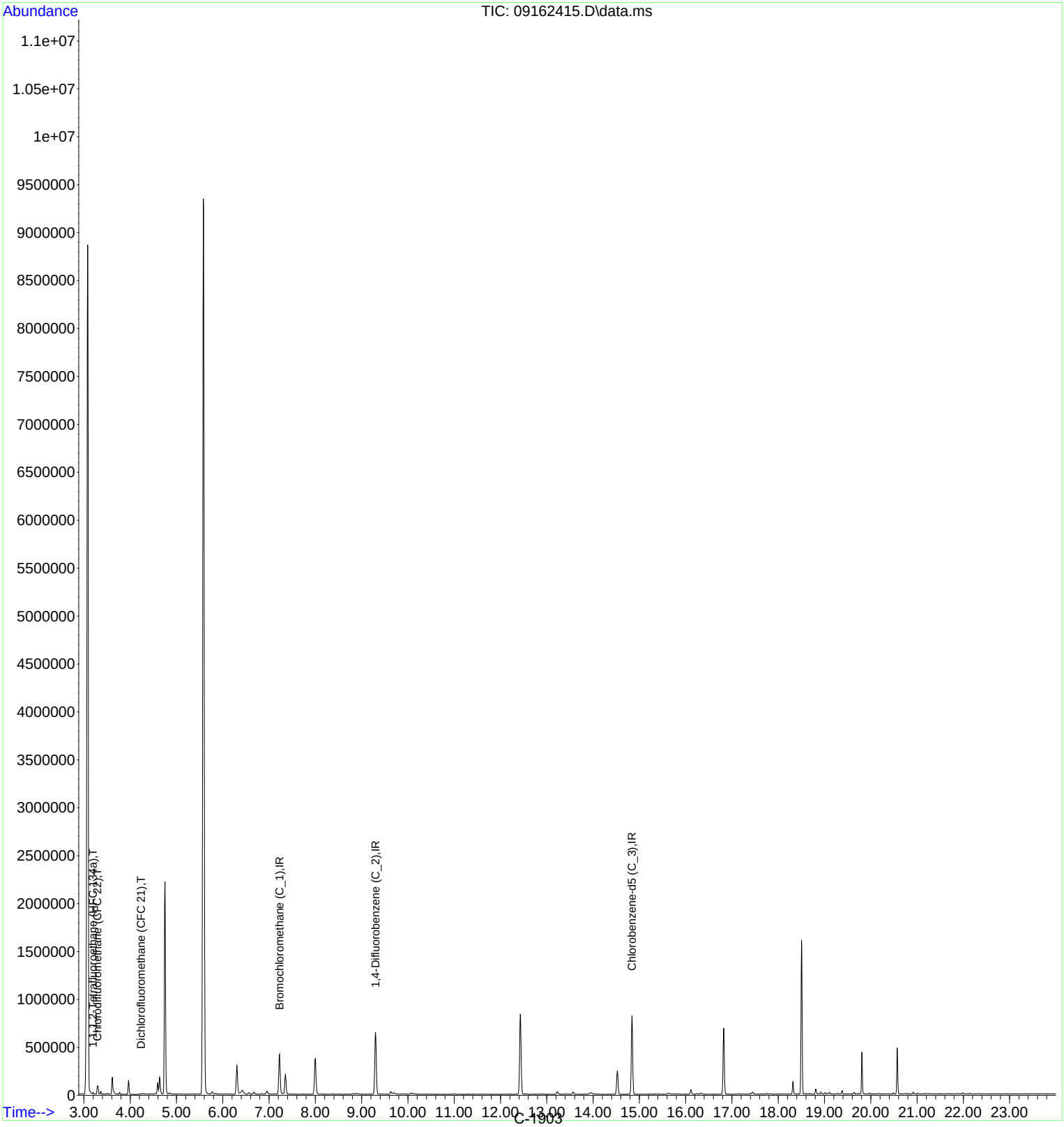
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	129400	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	565287	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	162099	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.14	85	488	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1412	0.106	ng	#	1
4) 1,1-Difluoroethane	3.25	65	176	N.D.			
5) Chlorodifluoromethane ...	3.29	67	1138	0.258	ng		99
6) 1-Chloro-1,1-Difluoroe...	3.50	65	941	N.D.			
7) Dichlorofluoromethane ...	4.23	67	5787	0.195	ng		99
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1665	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	1783	N.D.			
12) 2-Methylpentane	6.47	71	539	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	8.74	75	64	N.D.			
15) Thiophene	9.03	84	671	N.D.			
17) 2,3-Dimethylpentane	9.53	56	425	N.D.			
18) Dibromomethane	9.81	174	415	N.D.			
20) Methyl Cyclohexane	11.44	55	56	N.D.			
21) 1,3-Dichloropropane	12.57	76	112	N.D.			
22) 1,1,1,2-Tetrachloroethane	14.87	131	55	N.D.			
23) 1-Chlorohexane	15.19	91	303	N.D.			
24) 1,2,3-Trichloropropane	16.38	75	451	N.D.			
25) Bromobenzene	17.11	77	326	N.D.			
26) 2-Chlorotoluene	17.61	91	1088	N.D.			
27) 4-Chlorotoluene	17.61	91	1088	N.D.			
28) Indane	19.11	117	1166	N.D.			
29) Indene	19.20	115	494	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	1152	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	1152	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	2612	N.D.			
33) 1,2,3-Trichlorobenzene	21.19	180	251	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

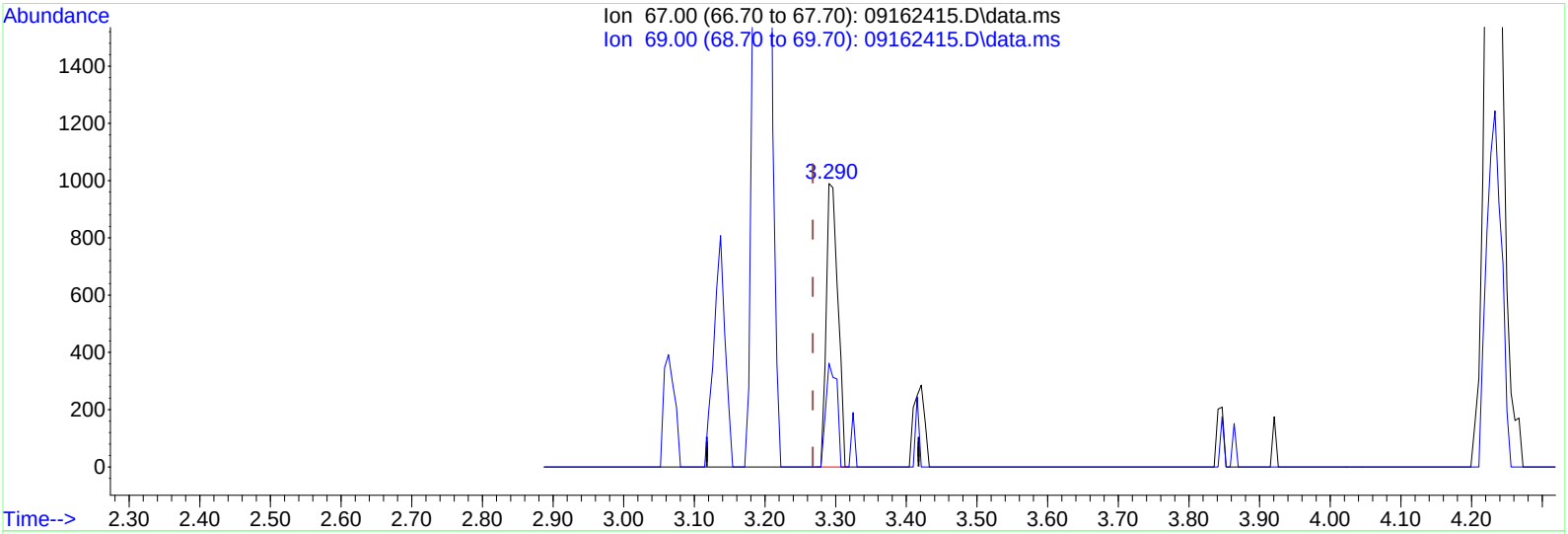
Quant Time: Sep 30 07:22:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

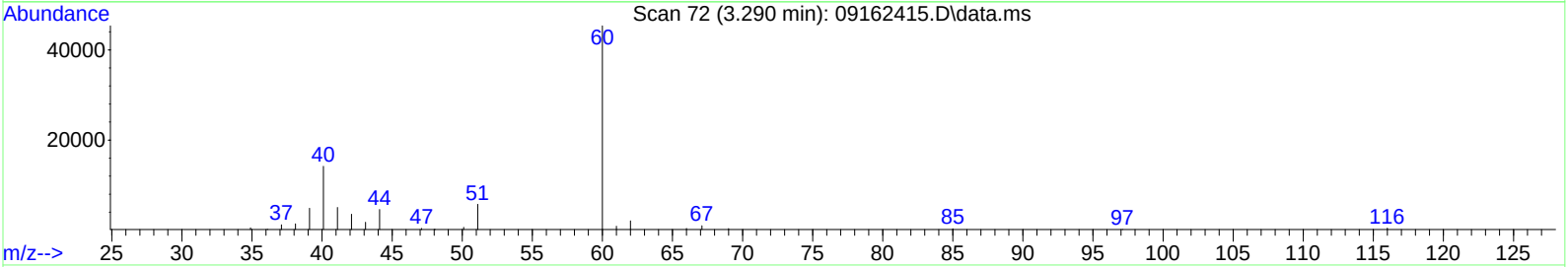


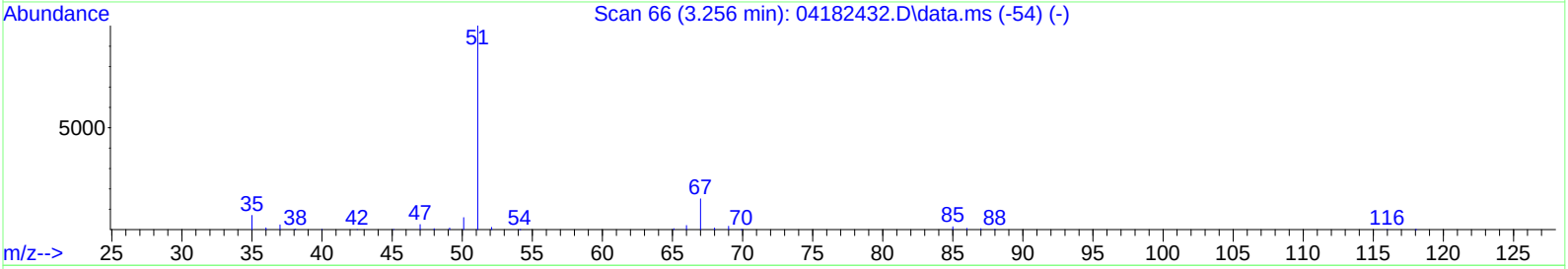
C-1903

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 30 07:14:36 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162415.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.290min (+0.023) 0.26ng

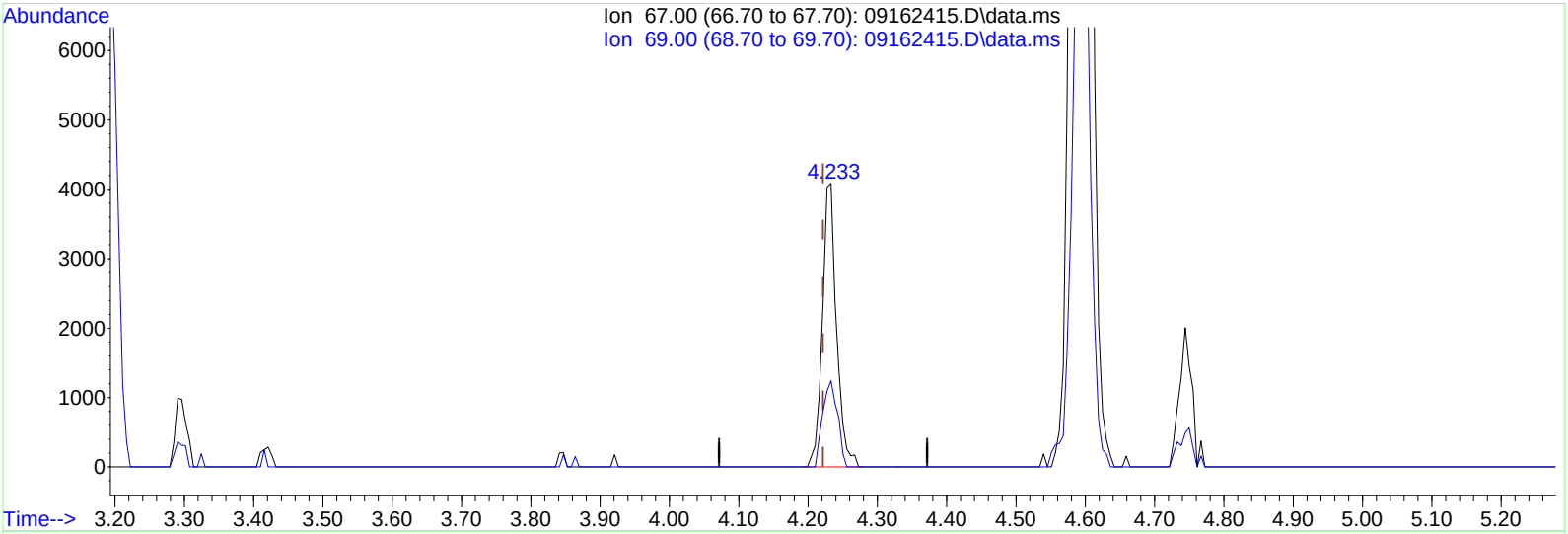
response 1138

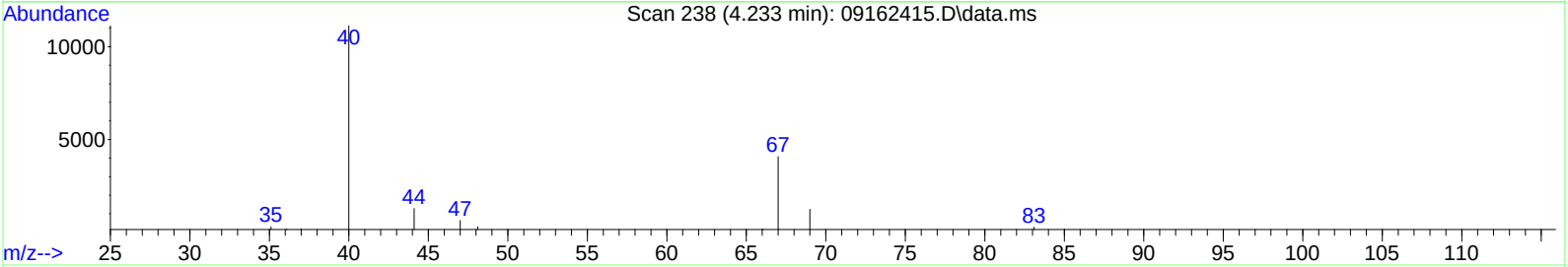
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	34.71
0.00	0.00	0.00
0.00	0.00	0.00

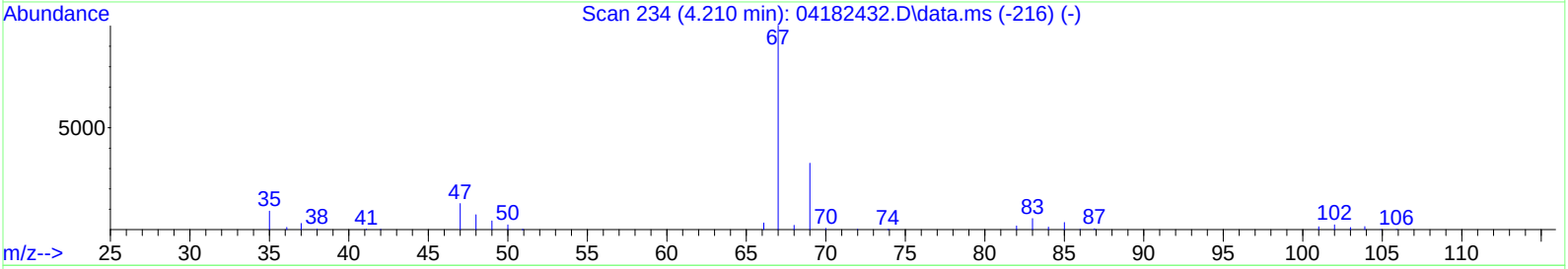
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 30 07:14:36 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162415.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 0.20ng

response 5787

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.83
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162415.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.296	67	73	81	rVV4	84657	165809	0.82%	0.598%
2	3.364	81	85	90	rVB	29366	32908	0.16%	0.119%
3	3.614	123	129	144	rBV2	175316	324633	1.61%	1.170%
4	3.773	151	157	162	rVB2	19311	25237	0.13%	0.091%
5	3.966	186	191	198	rVB2	140977	215506	1.07%	0.777%
6	4.227	229	237	242	rBV2	9664	20426	0.10%	0.074%
7	4.290	242	248	255	rVB3	7353	16394	0.08%	0.059%
8	4.540	286	292	296	rBV4	6393	14635	0.07%	0.053%
9	4.591	296	301	305	rVV	117773	193190	0.96%	0.696%
10	4.636	305	309	320	rVV2	172431	310490	1.54%	1.119%
11	4.750	320	329	341	rVV	2215061	3846426	19.07%	13.862%
12	4.846	341	346	351	rVB3	11330	17698	0.09%	0.064%
13	5.340	425	433	439	rBV5	5553	12548	0.06%	0.045%
14	5.579	464	475	497	rBV	9340442	20170410	100.00%	72.694%
15	5.772	499	509	516	rVB2	23910	50042	0.25%	0.180%
16	5.846	516	522	525	rBV3	6681	12426	0.06%	0.045%
17	6.306	594	603	611	rBV	293602	637217	3.16%	2.297%
18	6.425	611	624	640	rVB3	40953	172792	0.86%	0.623%
19	6.567	642	649	659	rBV2	16215	36342	0.18%	0.131%
20	6.675	662	668	678	rVB	21251	44184	0.22%	0.159%
21	6.851	692	699	705	rVB4	5878	15549	0.08%	0.056%
22	6.959	709	718	730	rBV	30568	78370	0.39%	0.282%
23	7.225	755	765	774	rBV	411424	895227	4.44%	3.226%
24	7.350	779	787	800	rVB	202323	438546	2.17%	1.581%

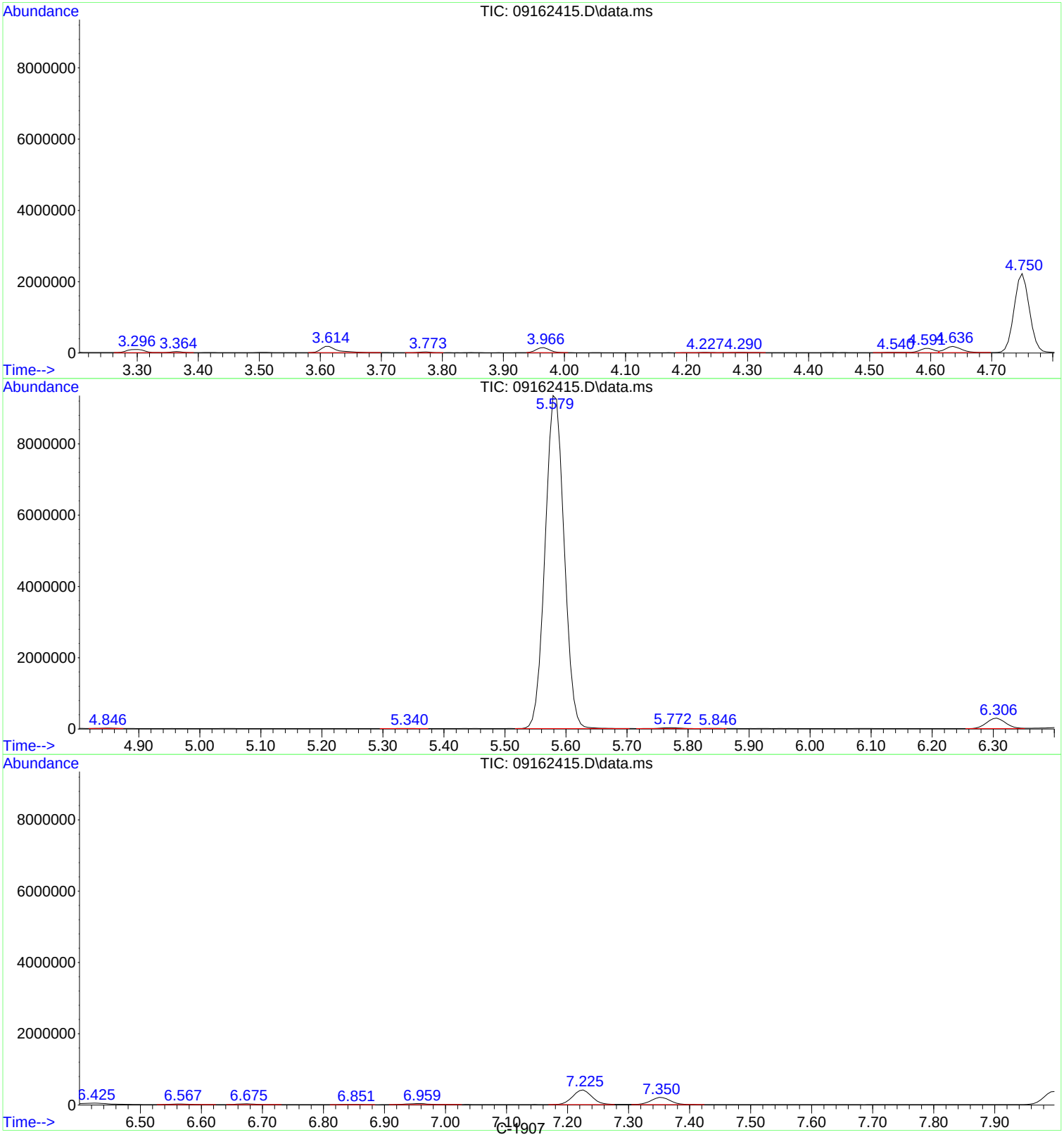
Sum of corrected areas: 27747005

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:46
Operator : SC
Sample : P2403661-055 (400mL)
Misc : S37-08262404
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162415.D
Acq On : 16 Sep 2024 17:466
Operator : SCC
Sample : P2403661-055 (400mL))
Misc : S37-082624044
ALS Vial : 4 Sample Multiplier: 11

VOA 9/30/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

NOA 9/30/24

Quant Time: Sep 30 06:27:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140846	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	619341	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	172626	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	352665	13.381 ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%			
57) Toluene-d8 (SS2)	12.43	98	700557	11.568 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%			
73) Bromofluorobenzene (SS3)	16.82	174	237538	11.728 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.33	85	1763	0.052 ng	#	93
4) Chloromethane	3.39	50	125	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.30	45	6346	0.415 ng		97
11) Acetonitrile	4.51	41	58	N.D.		
12) Acrolein	4.55	56	607	0.052 ng		88
13) Acetone	4.65	58	9090	0.705 ng	#	61
14) Trichlorofluoromethane	4.75	101	855636	26.233 ng		99
15) 2-Propanol (Isopropanol)	4.91	45	205	N.D.		
16) Acrylonitrile	5.00	53	305	N.D.		
17) 1,1-Dichloroethene	5.26	96	113	N.D.		
18) 2-Methyl-2-Propanol (t...	5.35	59	116	N.D.		
19) Methylene Chloride	5.35	84	577	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	752825	58.261 ng		98
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.69	72	591	0.065 ng	#	4
28) cis-1,2-Dichloroethene	7.08	61	144	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.30	61	951	0.155 ng		83
31) n-Hexane	7.31	57	1168	N.D.		
32) Chloroform	7.36	83	260	N.D.		
34) Tetrahydrofuran (THF)	7.78	72	122	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	620	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.87	56	1342	No Calib	#	
41) Benzene	8.90	78	3517	0.061 ng		92
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.22	84	412	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.14	130	455	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 06:27:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

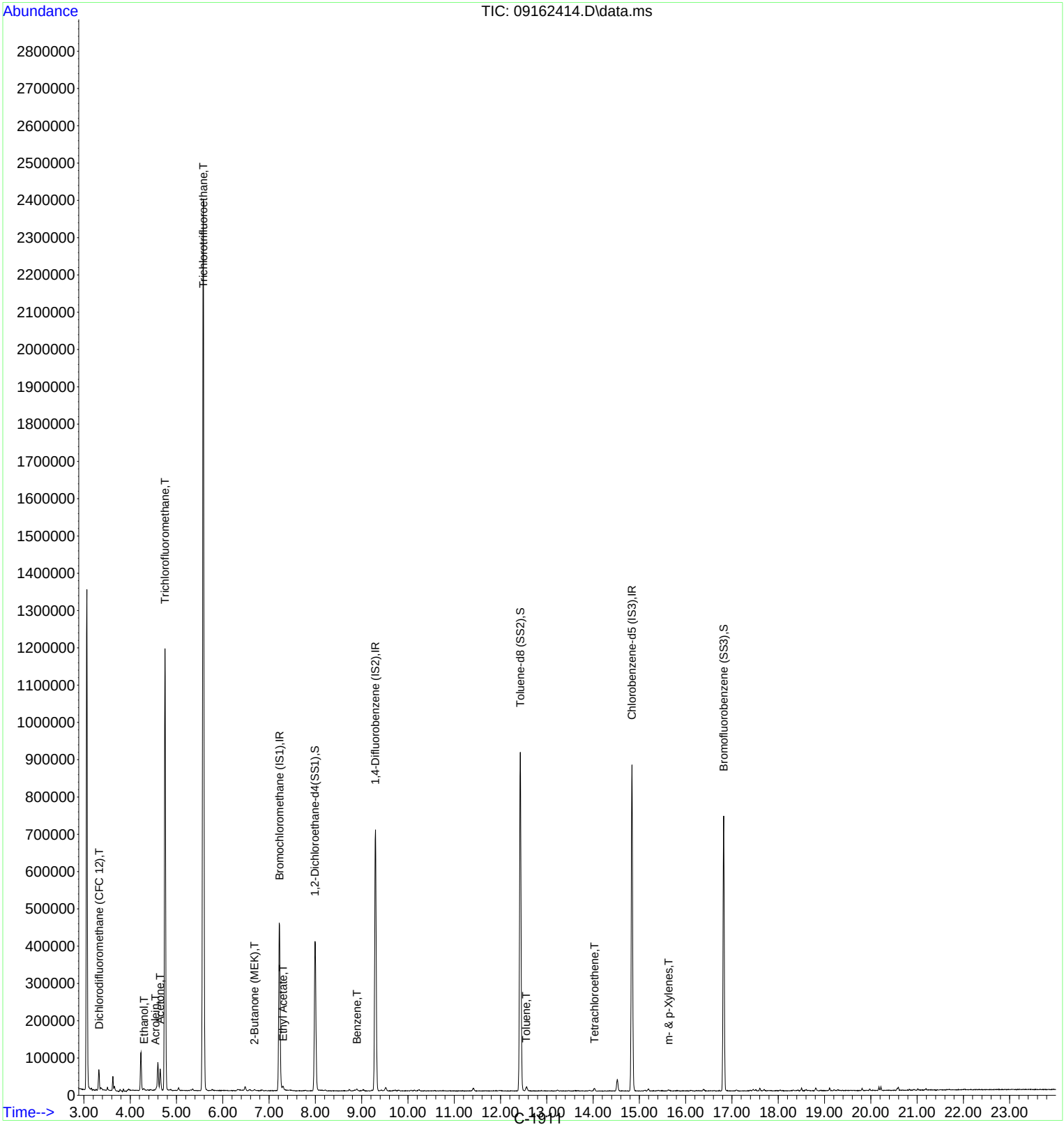
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	3299	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	10.57	71	212	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	7578	0.116 ng	95
59) 2-Hexanone	12.94	43	434	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	558	N.D.	
63) n-Octane	13.93	57	332	N.D.	
64) Tetrachloroethene	14.03	166	2284	0.126 ng	87
65) Chlorobenzene	14.90	112	159	N.D.	
66) Ethylbenzene	15.41	91	2200	N.D.	
67) m- & p-Xylenes	15.64	91	3152	0.051 ng	93
68) Bromoform	15.67	173	122	N.D.	
69) Styrene	16.11	104	497	N.D.	
70) o-Xylene	16.24	91	1022	N.D.	
71) n-Nonane	16.62	43	764	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	259	N.D.	
75) alpha-Pinene	17.52	93	878	N.D.	
76) n-Propylbenzene	17.70	91	3156	N.D.	
77) 3-Ethyltoluene	17.03	105	259	No Calib	#
78) 4-Ethyltoluene	17.86	105	255	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	172	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	259	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	423	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	131	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	451	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	597	N.D.	
87) sec-Butylbenzene	18.74	105	174	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	632	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	259	No Calib	#
90) 1,2-Dichlorobenzene	19.04	146	182	N.D.	
91) d-Limonene	19.06	68	240	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	960	N.D.	
95) Naphthalene	20.94	128	1538	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.29	225	213	N.D.	
98) Cyclohexanone	15.20	55	1982	No Calib	#
99) tert-Butylbenzene	18.43	119	306	N.D.	
100) n-Butylbenzene	19.39	91	399	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 06:27:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



C-1911

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

VOA 9/30/24

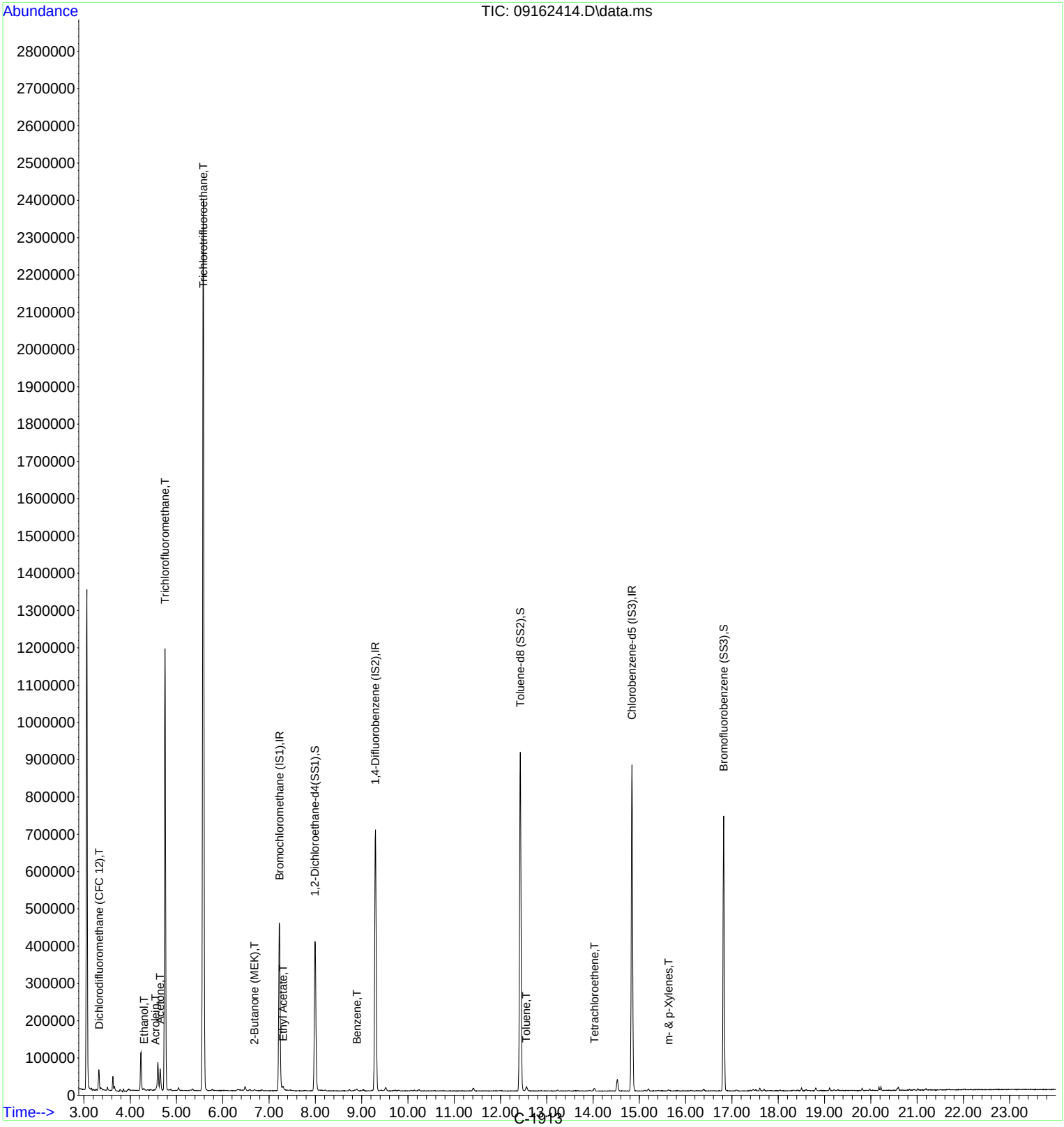
Quant Time: Sep 30 06:27:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

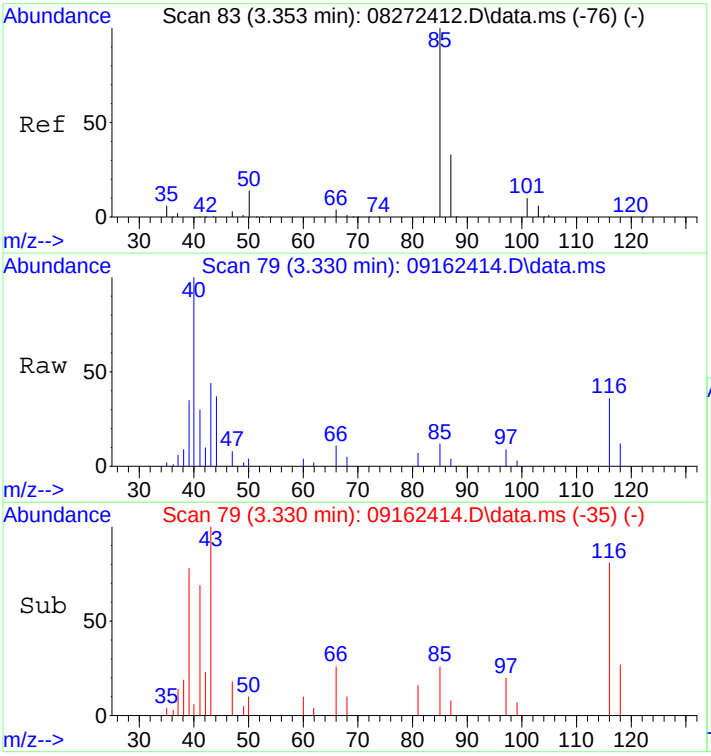
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	140846	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	619341	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	172626	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	352665	13.381	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.04%				
57) Toluene-d8 (SS2)	12.43	98	700557	11.568	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
73) Bromofluorobenzene (SS3)	16.82	174	237538	11.728	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.33	85	1763	0.052	ng	#	93
10) Ethanol	4.30	45	6346	0.415	ng		97
12) Acrolein	4.55	56	607	0.052	ng		88
13) Acetone	4.65	58	9090	0.705	ng	#	61
14) Trichlorofluoromethane	4.75	101	855636	26.233	ng		99
21) Trichlorotrifluoroethane	5.58	151	752825	58.261	ng		98
27) 2-Butanone (MEK)	6.69	72	591	0.065	ng	#	4
30) Ethyl Acetate	7.30	61	951	0.155	ng		83
41) Benzene	8.90	78	3517	0.061	ng		92
58) Toluene	12.56	91	7578	0.116	ng		95
64) Tetrachloroethene	14.03	166	2284	0.126	ng		87
67) m- & p-Xylenes	15.64	91	3152	0.051	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 06:27:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

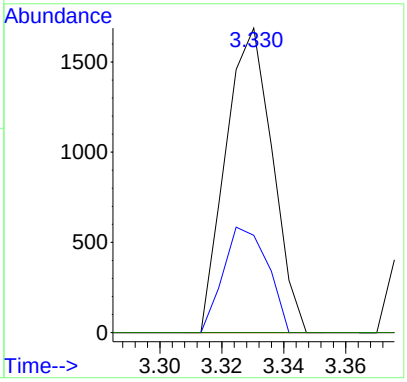


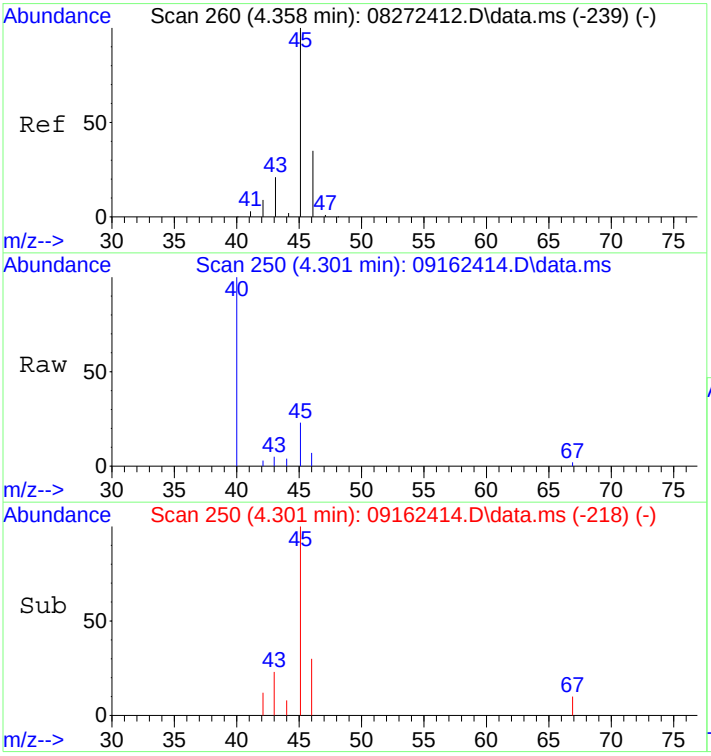


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.05 ng
RT: 3.33 min Scan# 79
Delta R.T. 0.003 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 85 Resp: 1763

Ion	Ratio	Lower	Upper
85	100		
87	33.0	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

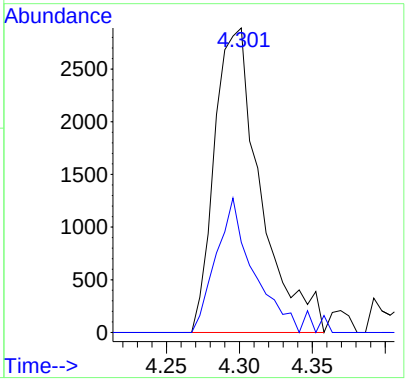


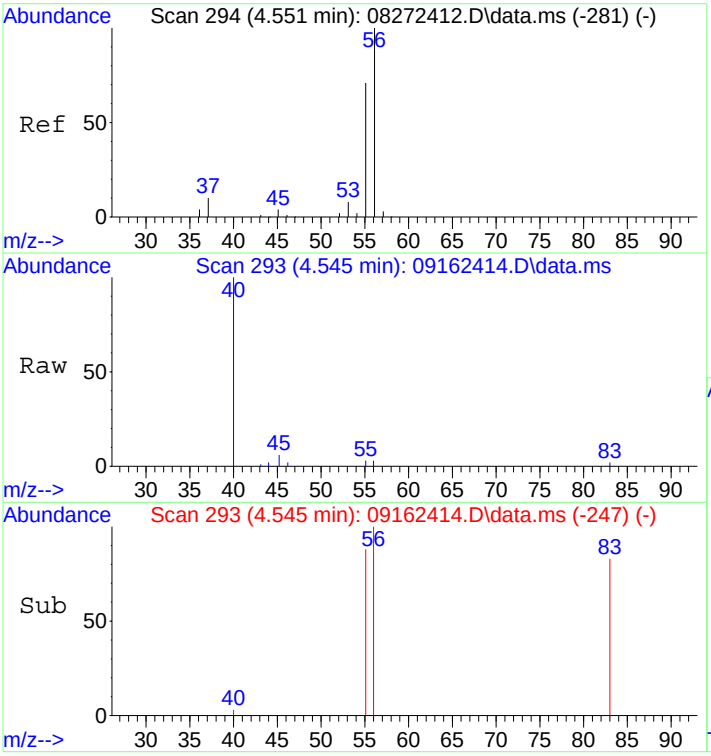


#10
Ethanol
Concen: 0.42 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.071 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 45 Resp: 6346

Ion	Ratio	Lower	Upper
45	100		
46	35.6	14.2	54.2

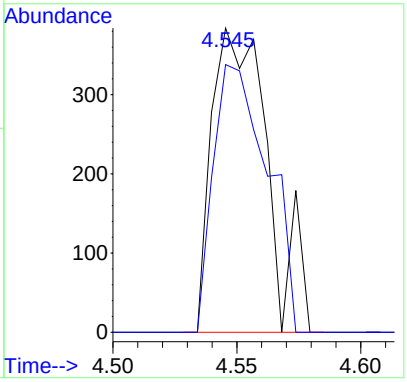


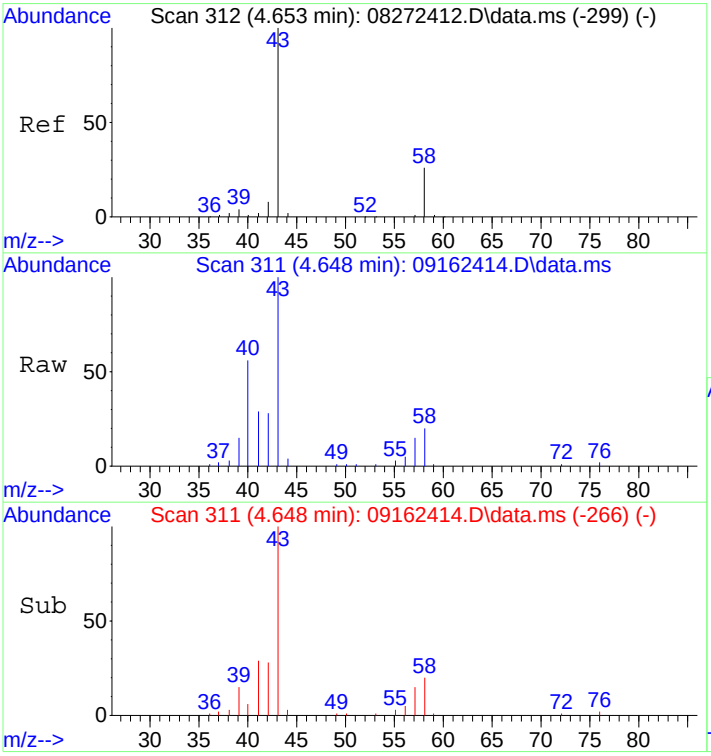


#12
Acrolein
Concen: 0.05 ng
RT: 4.55 min Scan# 293
Delta R.T. 0.010 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 56 Resp: 607

Ion	Ratio	Lower	Upper
56	100		
55	85.0	54.7	94.7

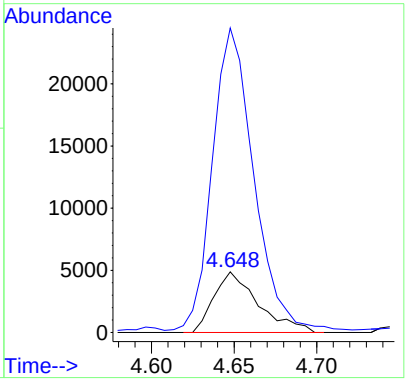


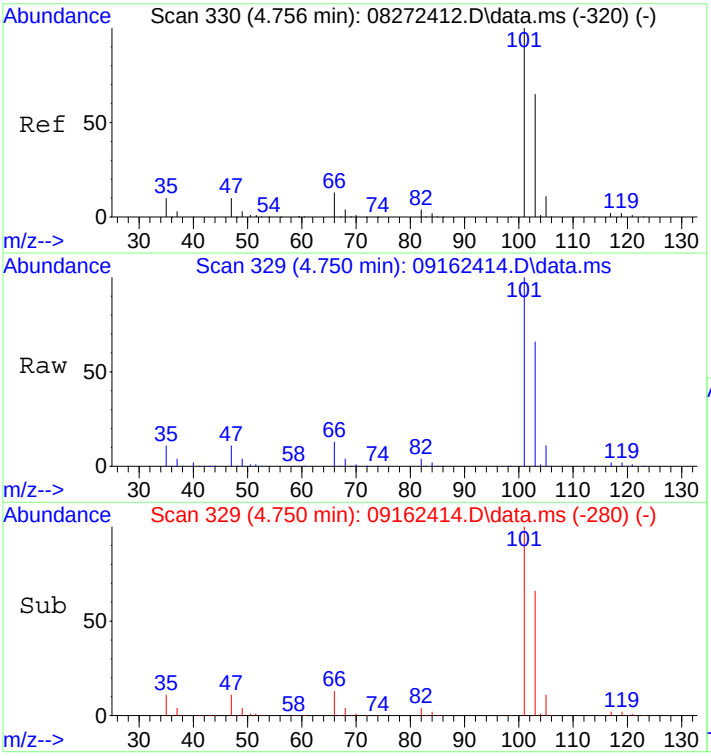


#13
Acetone
Concen: 0.70 ng
RT: 4.65 min Scan# 311
Delta R.T. 0.006 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 58 Resp: 9090

Ion	Ratio	Lower	Upper
58	100		
43	465.3	347.3	407.3#

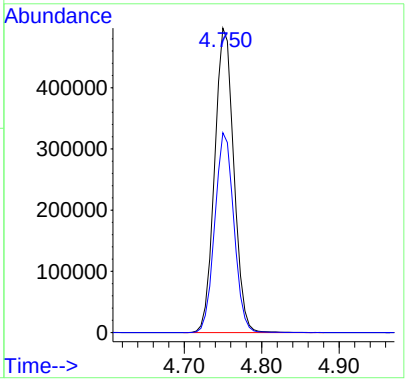


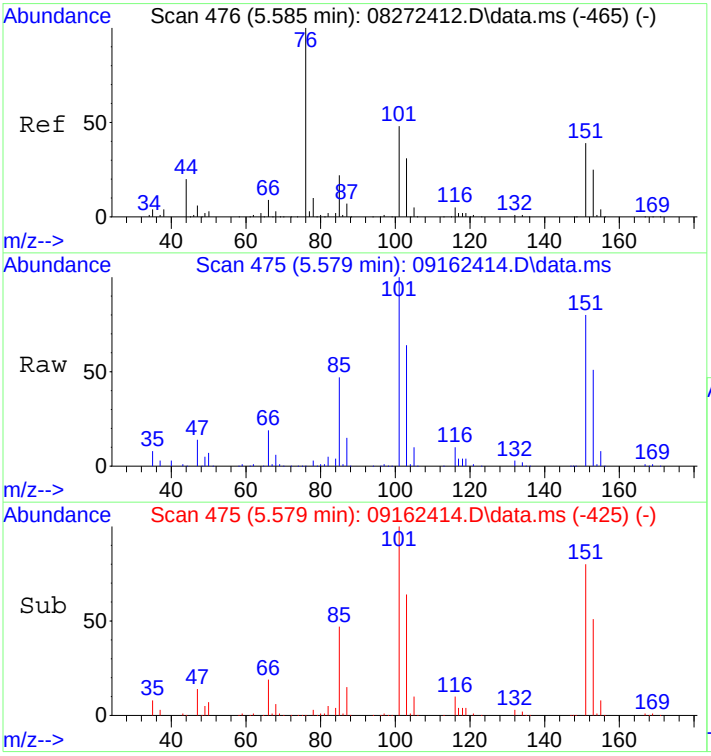


#14
Trichlorofluoromethane
Concen: 26.23 ng
RT: 4.75 min Scan# 329
Delta R.T. 0.029 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion:101 Resp: 855636

Ion	Ratio	Lower	Upper
101	100		
103	65.3	44.9	84.9

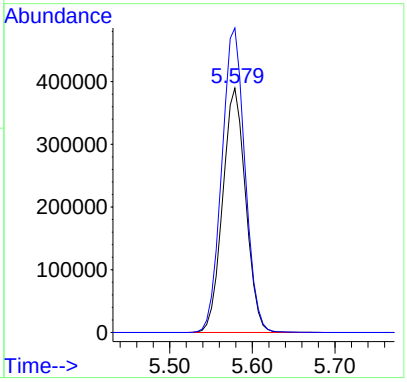


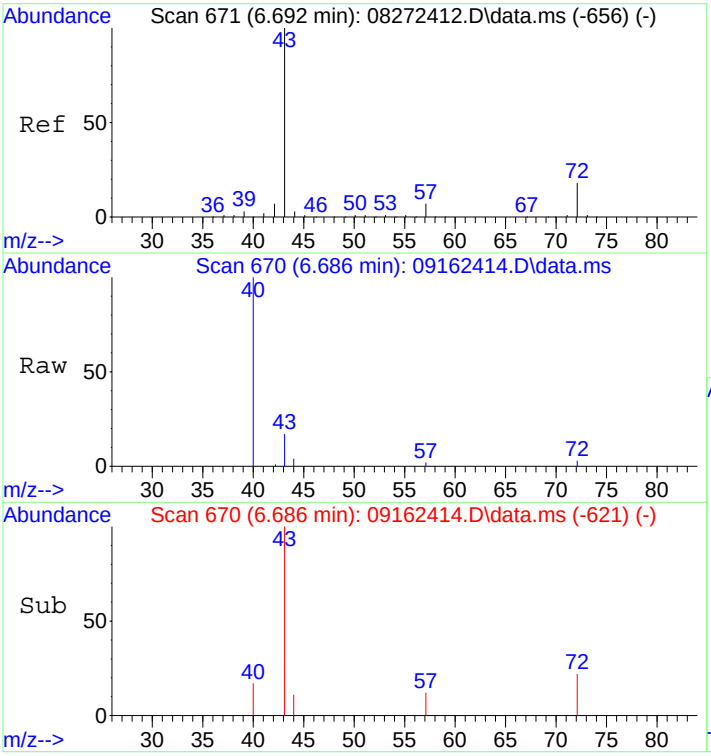


#21
Trichlorotrifluoroethane
Concen: 58.26 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion:151 Resp: 752825

Ion	Ratio	Lower	Upper
151	100		
101	125.8	103.4	143.4

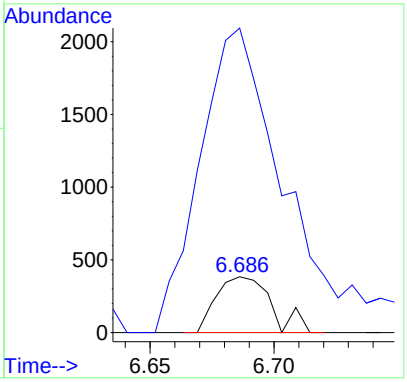


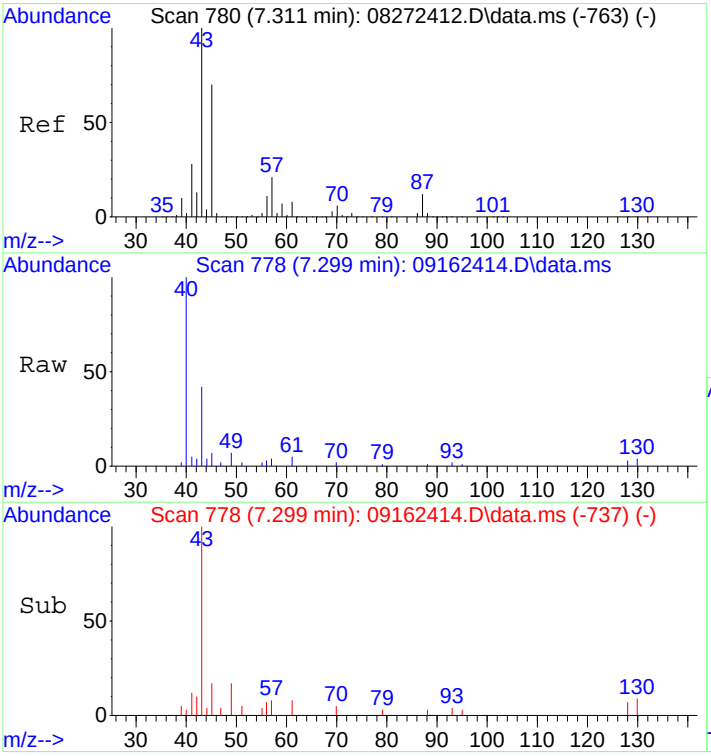


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 6.69 min Scan# 670
Delta R.T. 0.028 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 72 Resp: 591

Ion	Ratio	Lower	Upper
72	100		
43	857.2	548.0	588.0#

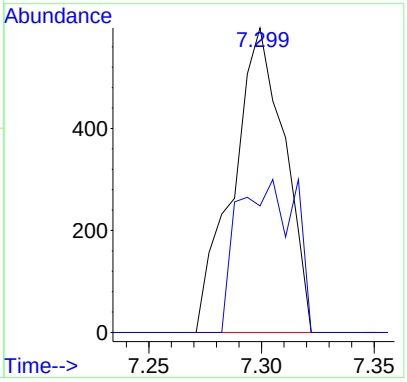


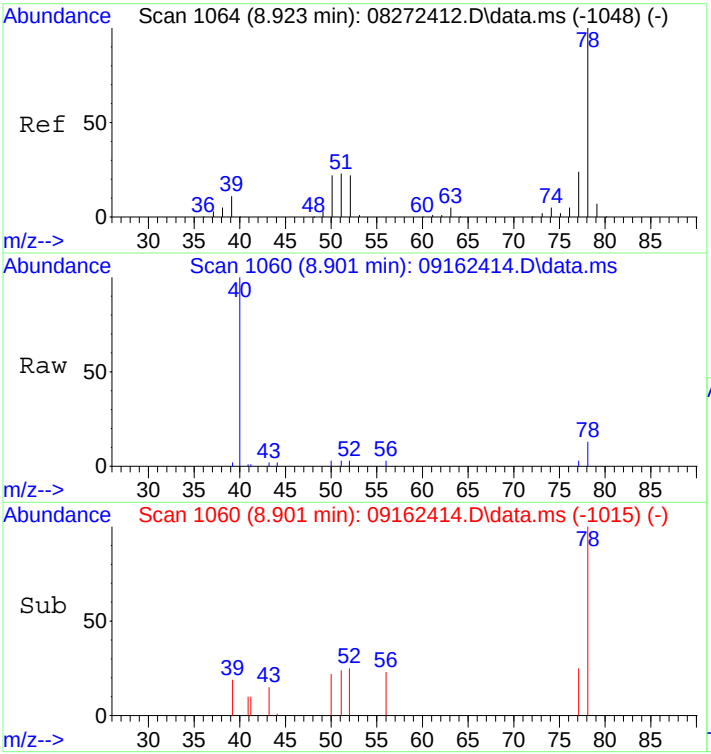


#30
Ethyl Acetate
Concen: 0.16 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.034 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 61 Resp: 951

Ion	Ratio	Lower	Upper
61	100		
70	55.7	49.9	89.9

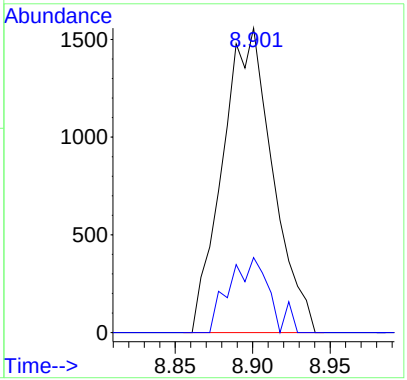


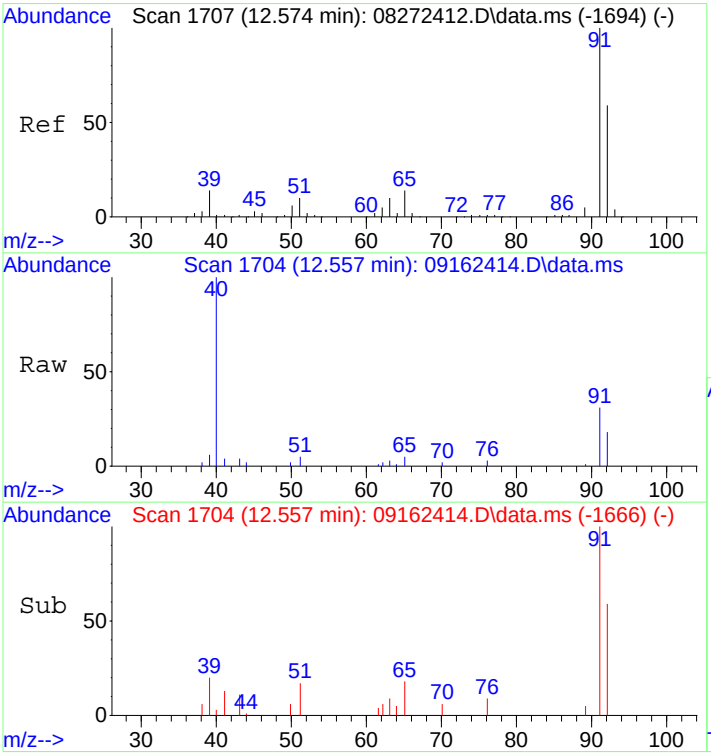


#41
Benzene
Concen: 0.06 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.004 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 78 Resp: 3517

Ion	Ratio	Lower	Upper
78	100		
77	19.8	3.9	43.9

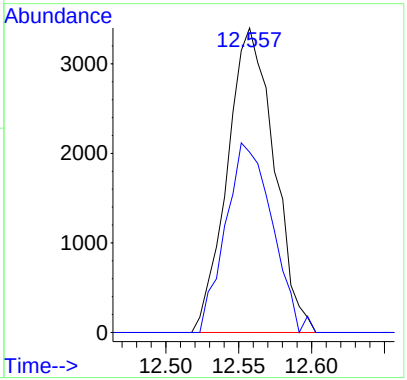


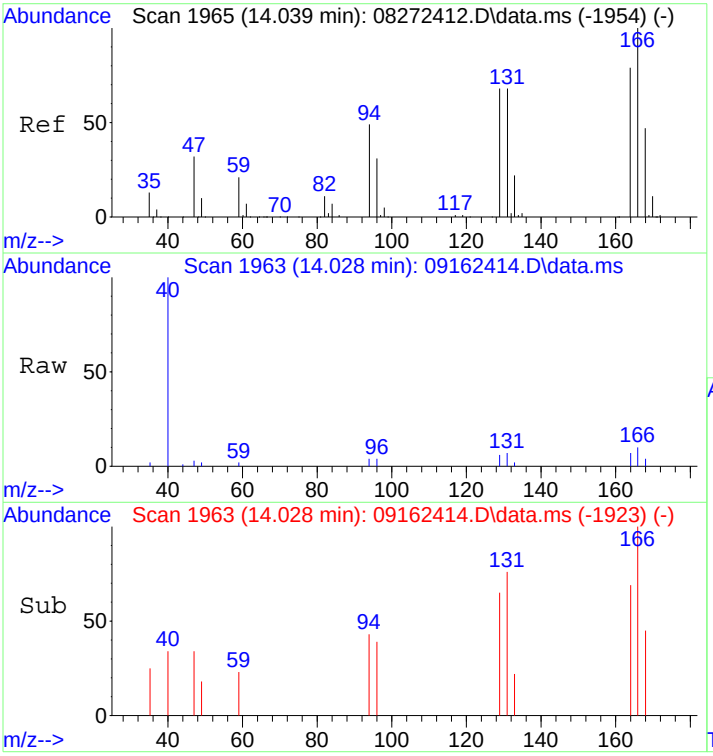


#58
Toluene
Concen: 0.12 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 91 Resp: 7578

Ion	Ratio	Lower	Upper
91	100		
92	62.1	38.5	78.5

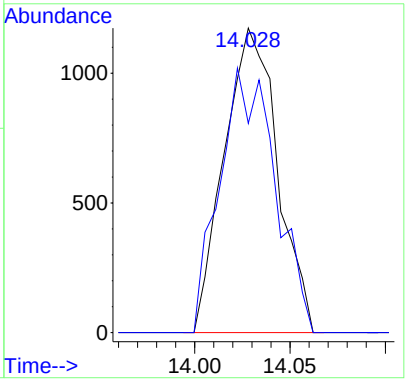


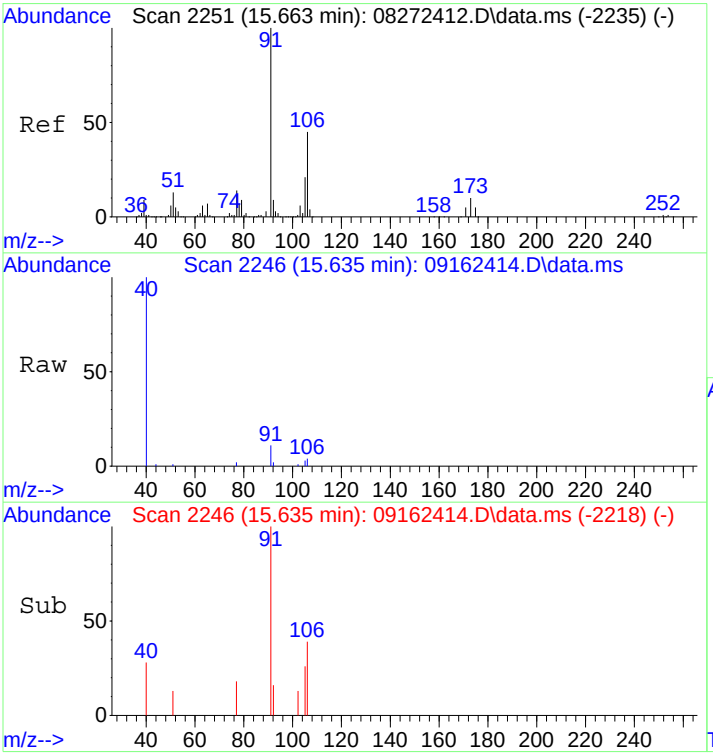


#64
Tetrachloroethene
Concen: 0.13 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.023 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion:166 Resp: 2284

Ion	Ratio	Lower	Upper
166	100		
164	90.2	59.0	99.0

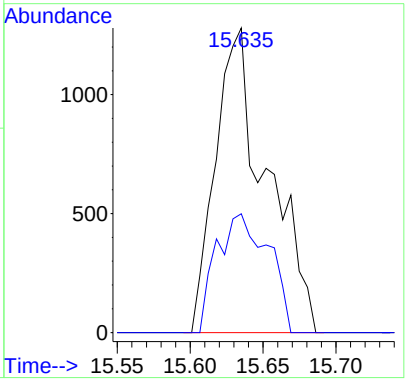




#67
m- & p-Xylenes
Concen: 0.05 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09162414.D
Acq: 16 Sep 2024 17:14

Tgt Ion: 91 Resp: 3152

Ion	Ratio	Lower	Upper
91	100		
106	39.2	23.8	63.8



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

NOA 9/30/24

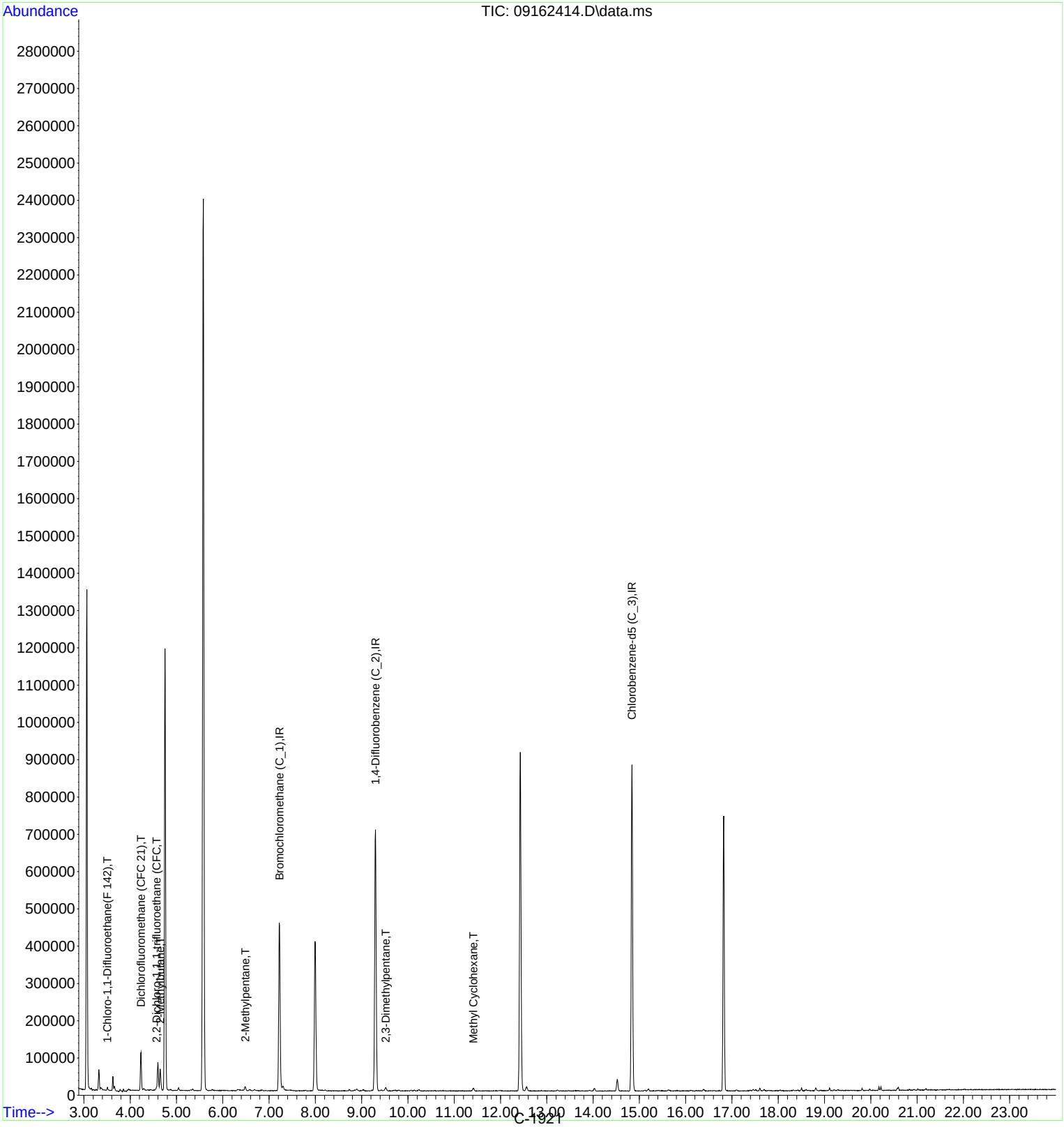
Quant Time: Sep 30 07:14:34 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	142081	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	619433	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	172626	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.16	85	1559	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	600	N.D.			
4) 1,1-Difluoroethane	3.26	65	382	N.D.			
5) Chlorodifluoromethane ...	0.00	67	0	N.D.			
6) 1-Chloro-1,1-Difluoroe...	3.51	65	5158	0.161	ng	#	93
7) Dichlorofluoromethane ...	4.23	67	86339	2.650	ng		99
8) Vinylbromide	4.43	108	1029	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	5684	0.288	ng	#	16
10) 2-Methylbutane	4.65	57	6312	0.372	ng		79
11) Methyl Acetate	5.35	43	3675	N.D.			
12) 2-Methylpentane	6.49	71	1798	0.146	ng		82
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	8.73	75	1960	N.D.			
15) Thiophene	9.03	84	2461	N.D.			
17) 2,3-Dimethylpentane	9.52	56	4546	0.152	ng		96
18) Dibromomethane	9.79	174	765	N.D.			
20) Methyl Cyclohexane	11.42	55	3490	0.118	ng		94
21) 1,3-Dichloropropane	12.59	76	1570	N.D.			
22) 1,1,1,2-Tetrachloroethane	14.88	131	1228	N.D.			
23) 1-Chlorohexane	15.19	91	1555	N.D.			
24) 1,2,3-Trichloropropane	16.38	75	1958	N.D.			
25) Bromobenzene	17.09	77	1563	N.D.			
26) 2-Chlorotoluene	17.60	91	4344	N.D.			
27) 4-Chlorotoluene	17.70	91	3156	N.D.			
28) Indane	19.11	117	3424	N.D.			
29) Indene	19.21	115	1266	N.D.			
30) 1,2,4,5-Tetramethylben...	20.18	119	3718	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	4649	N.D.			
32) 1,2,3,5-Tetramethylben...	20.59	119	4016	N.D.			
33) 1,2,3-Trichlorobenzene	21.19	180	1385	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

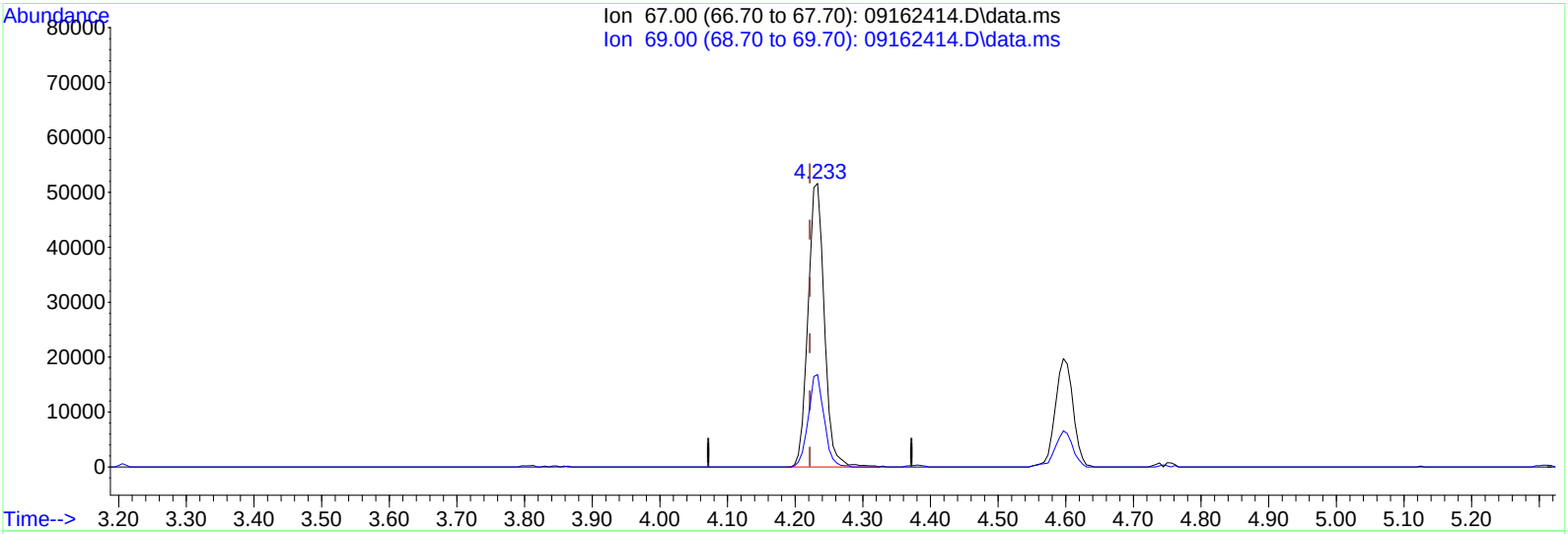
Quant Time: Sep 30 07:14:34 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

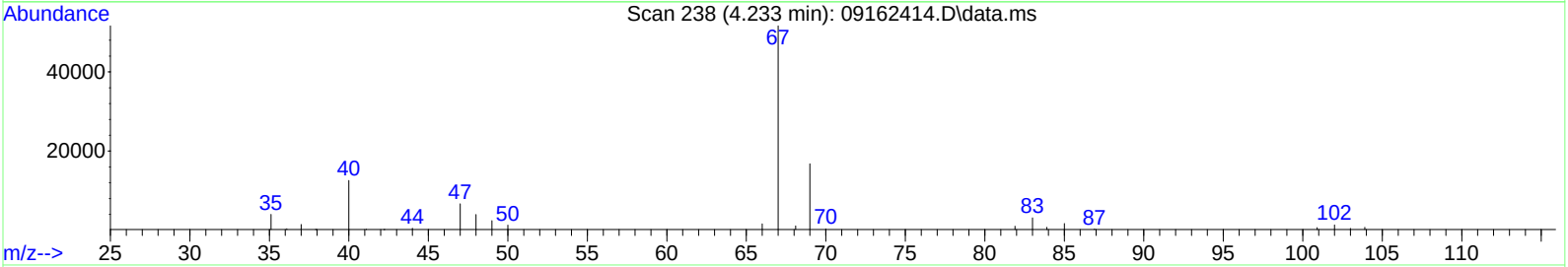


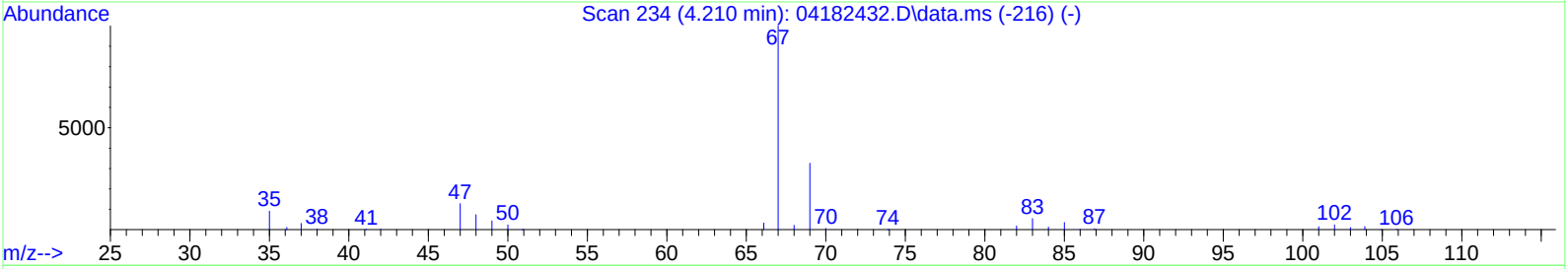
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 30 07:14:34 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162414.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.011) 2.65ng

response 86339

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.61
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162414.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.325	71	78	82	rBV2	55448	87084	1.85%	1.044%
2	3.506	105	110	121	rVB2	8745	13744	0.29%	0.165%
3	3.626	127	131	134	rBV	37919	45024	0.96%	0.540%
4	3.660	134	137	145	rVB3	12773	20151	0.43%	0.242%
5	4.233	229	238	245	rBV	102839	170204	3.62%	2.040%
6	4.290	245	248	257	rVB3	4939	10983	0.23%	0.132%
7	4.597	291	302	307	rBV	73784	135766	2.89%	1.627%
8	4.648	307	311	318	rVB	56566	94142	2.00%	1.129%
9	4.750	321	329	339	rBV	1184494	2019137	42.98%	24.204%
10	5.045	373	381	388	rVB3	7710	13769	0.29%	0.165%
11	5.579	463	475	486	rBV	2392151	4697783	100.00%	56.315%
12	6.317	600	605	614	rBV3	3647	12211	0.26%	0.146%
13	6.482	628	634	644	rVB2	11084	24042	0.51%	0.288%
14	7.220	755	764	775	rBV	450486	976343	20.78%	11.704%
15	7.299	775	778	788	rVB3	10864	21648	0.46%	0.260%

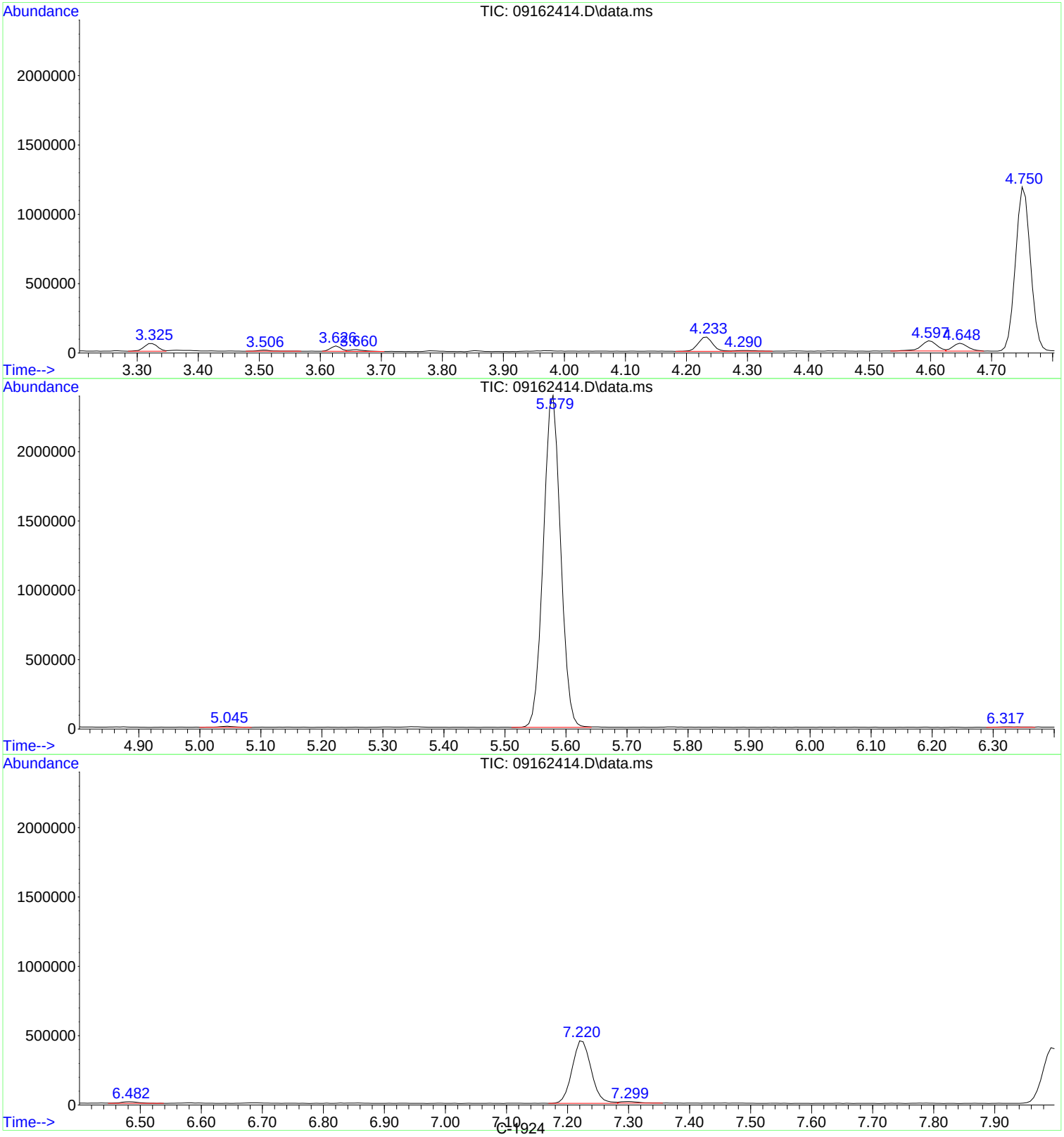
Sum of corrected areas: 8342031

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:14
Operator : SC
Sample : P2403661-056 (0.2mL)
Misc : S37-08262404
ALS Vial : 1 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162414.D
Acq On : 16 Sep 2024 17:144
Operator : SCC
Sample : P2403661-056 (0.2mL))
Misc : S37-082624044
ALS Vial : 1 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

VOA 9/30/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

MA 9/30/24

Quant Time: Sep 30 06:35:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124277	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	544277	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	156013	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	321239	13.814 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.48%			
57) Toluene-d8 (SS2)	12.43	98	616228	11.259 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%			
73) Bromofluorobenzene (SS3)	16.82	174	208249	11.377 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.31	85	6756	0.224 ng	#	92
4) Chloromethane	3.52	50	419	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.29	45	9430m	0.699 ng		
11) Acetonitrile	4.45	41	423	N.D.		
12) Acrolein	4.54	56	139	N.D.		
13) Acetone	4.64	58	28024	2.462 ng	#	37
14) Trichlorofluoromethane	4.69	101	488	N.D.		
15) 2-Propanol (Isopropanol)	4.86	45	22196	0.495 ng		92
16) Acrylonitrile	5.02	53	61	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	5.35	84	739	0.055 ng		87
20) 3-Chloro-1-propene (Al...	5.40	41	126	N.D.		
21) Trichlorotrifluoroethane	5.58	151	3446686	302.299 ng		97
22) Carbon Disulfide	0.00	76	0	N.D. d		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.69	72	516	0.064 ng	#	8
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.29	61	859	0.159 ng		98
31) n-Hexane	7.30	57	4314	0.175 ng	#	93
32) Chloroform	7.36	83	120	N.D.		
34) Tetrahydrofuran (THF)	7.78	72	197	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.84	56	1435	No Calib		
41) Benzene	8.91	78	6045	0.118 ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.22	84	3064	0.178 ng		91
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

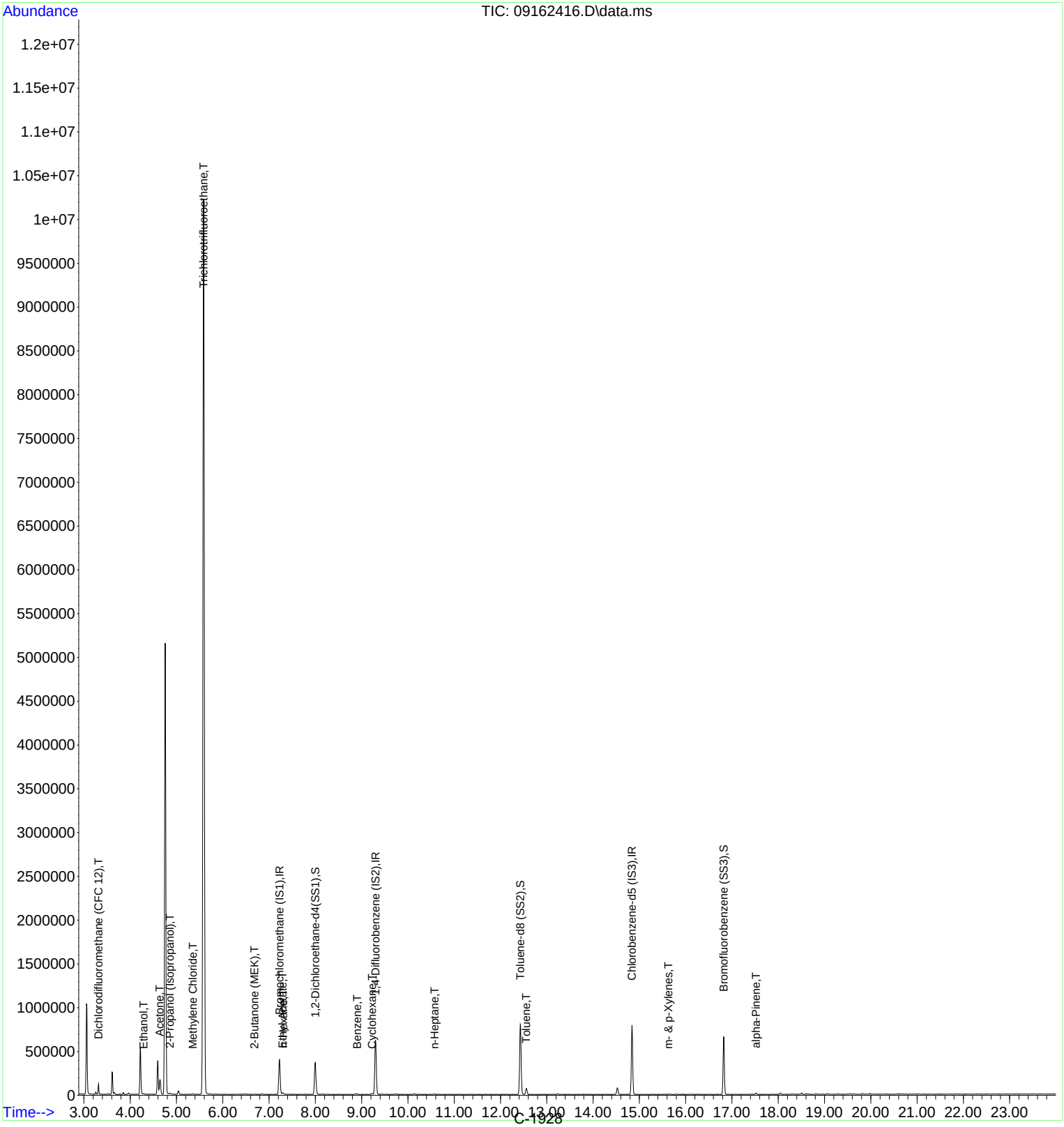
Quant Time: Sep 30 06:35:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1002	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	10.58	71	811	0.071 ng	#	79
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	56903	0.962 ng		100
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	1394	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	2056	N.D.		
67) m- & p-Xylenes	15.63	91	4642	0.084 ng		97
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	730	N.D.		
70) o-Xylene	16.24	91	2212	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	240	N.D.		
75) alpha-Pinene	17.52	93	6207	0.191 ng		93
76) n-Propylbenzene	17.68	91	291	N.D.		
77) 3-Ethyltoluene	17.03	105	240	No Calib	#	
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	240	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	381	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	123	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	131	N.D.		
87) sec-Butylbenzene	18.74	105	158	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	358	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	240	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	111	N.D.		
91) d-Limonene	19.08	68	714	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	18.04	58	255	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	373	N.D.		
95) Naphthalene	20.94	128	207	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	207	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	181	N.D.		
100) n-Butylbenzene	19.38	91	273	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 30 06:35:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 30 06:35:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

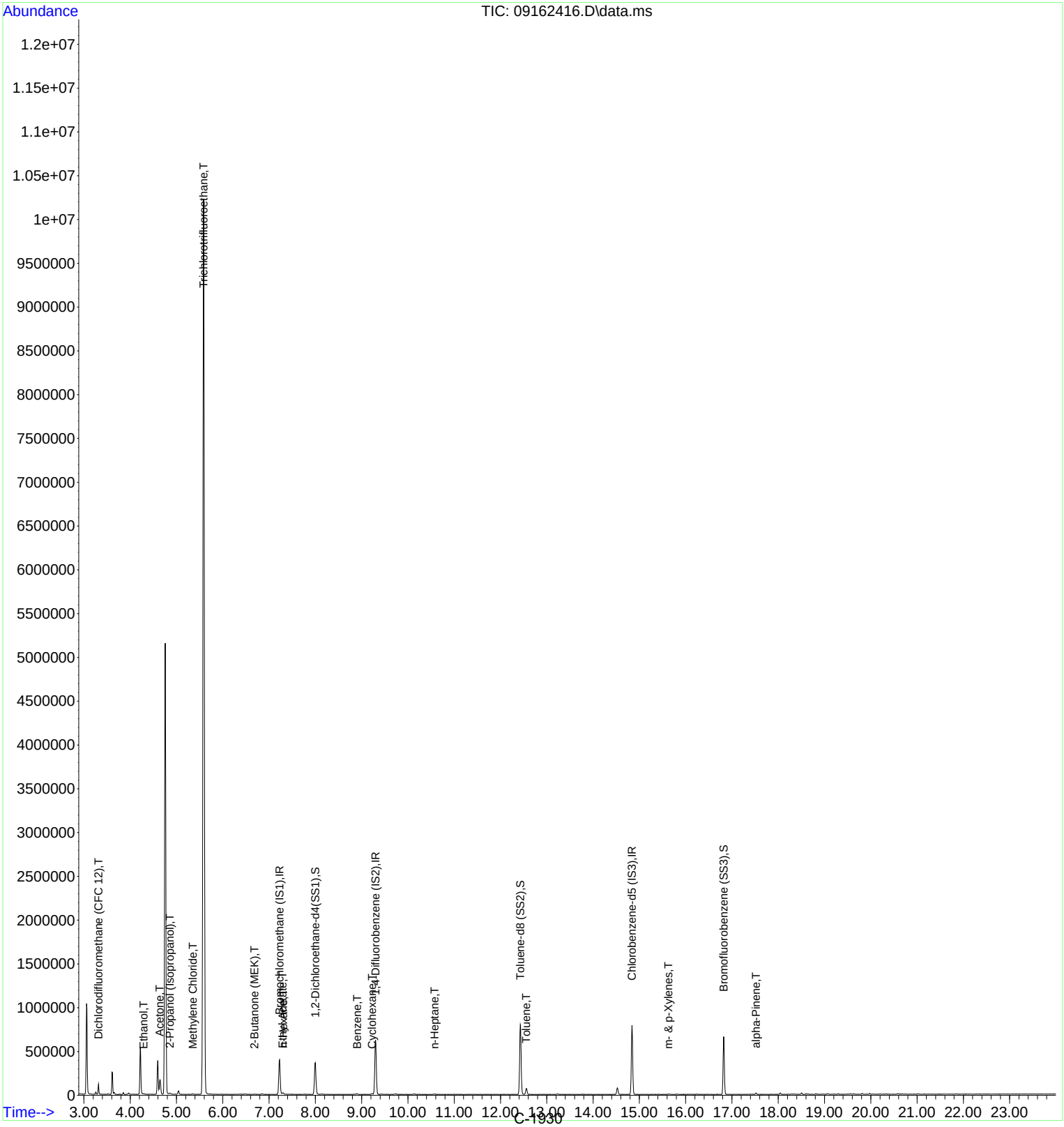
VOA 9/30/24

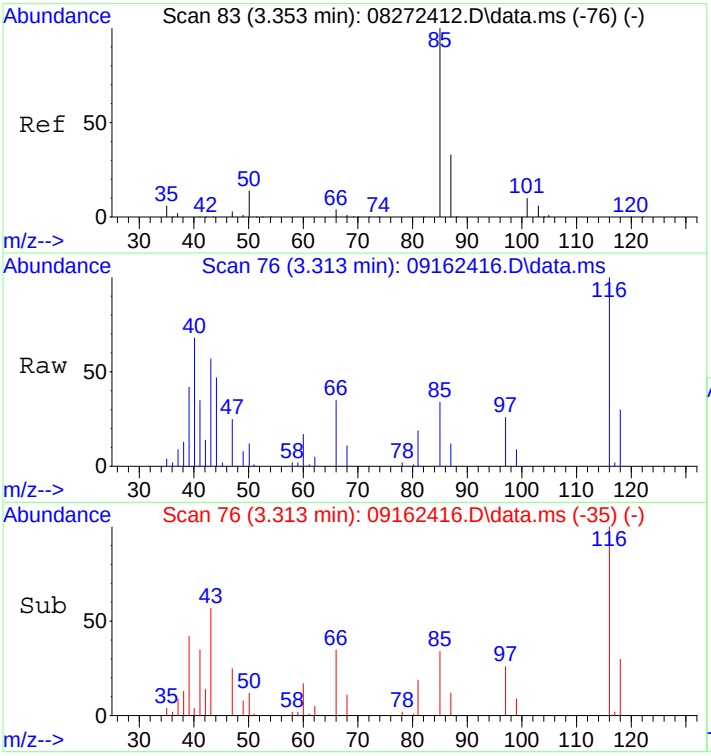
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124277	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	544277	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	156013	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321239	13.814	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.48%				
57) Toluene-d8 (SS2)	12.43	98	616228	11.259	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.08%				
73) Bromofluorobenzene (SS3)	16.82	174	208249	11.377	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.31	85	6756	0.224	ng	#	92
10) Ethanol	4.29	45	9430m	0.699	ng		
13) Acetone	4.64	58	28024	2.462	ng	#	37
15) 2-Propanol (Isopropanol)	4.86	45	22196	0.495	ng		92
19) Methylene Chloride	5.35	84	739	0.055	ng		87
21) Trichlorotrifluoroethane	5.58	151	3446686	302.299	ng		97
27) 2-Butanone (MEK)	6.69	72	516	0.064	ng	#	8
30) Ethyl Acetate	7.29	61	859	0.159	ng		98
31) n-Hexane	7.30	57	4314	0.175	ng	#	93
41) Benzene	8.91	78	6045	0.118	ng		99
43) Cyclohexane	9.22	84	3064	0.178	ng		91
51) n-Heptane	10.58	71	811	0.071	ng	#	79
58) Toluene	12.56	91	56903	0.962	ng		100
67) m- & p-Xylenes	15.63	91	4642	0.084	ng		97
75) alpha-Pinene	17.52	93	6207	0.191	ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 30 06:35:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

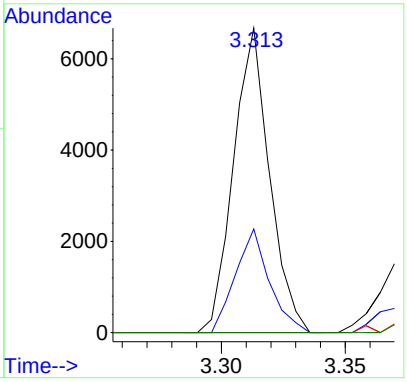


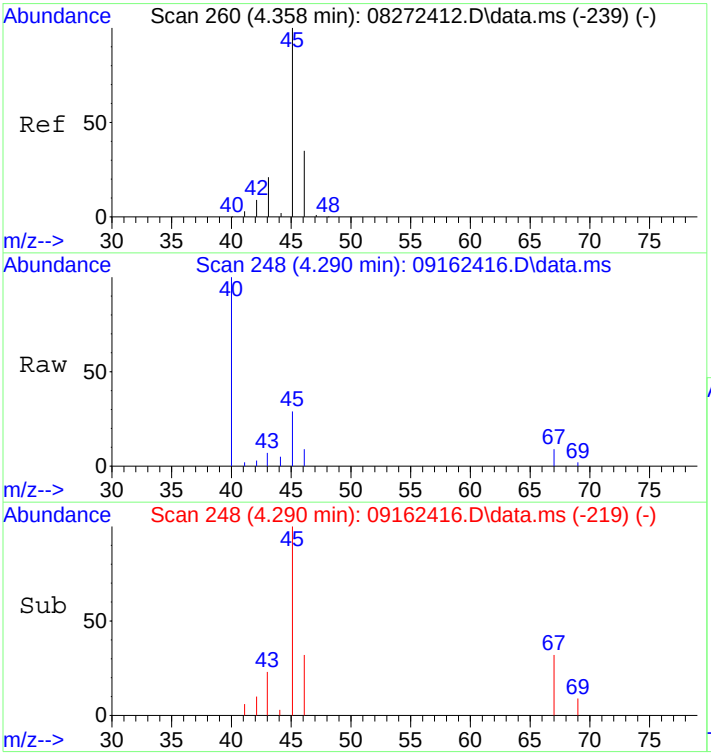


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.22 ng
RT: 3.31 min Scan# 76
Delta R.T. -0.015 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 85 Resp: 6756

Ion	Ratio	Lower	Upper
85	100		
87	32.2	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

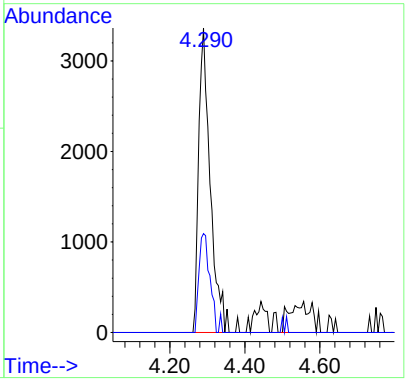


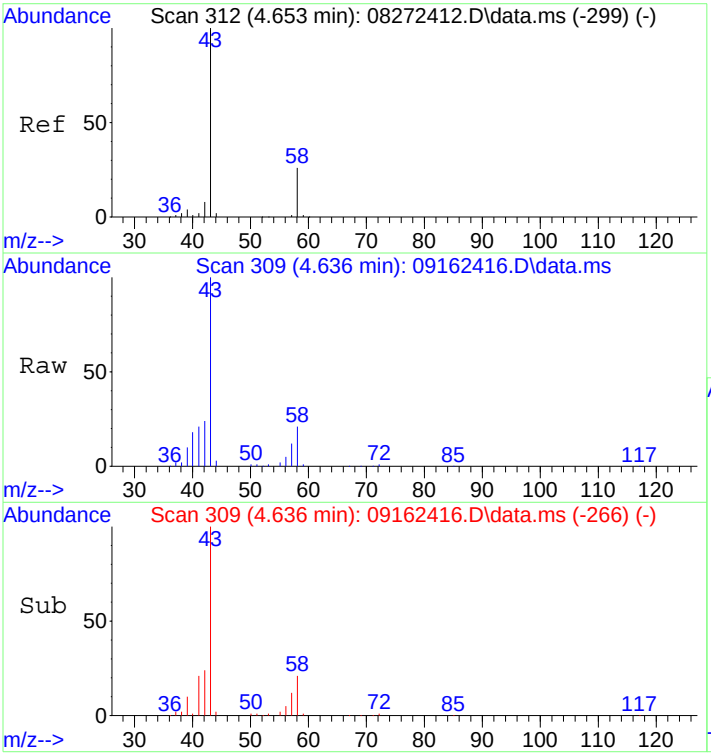


#10
Ethanol
Concen: 0.70 ng m
RT: 4.29 min Scan# 248
Delta R.T. -0.083 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 45 Resp: 9430

Ion	Ratio	Lower	Upper
45	100		
46	23.7	14.2	54.2

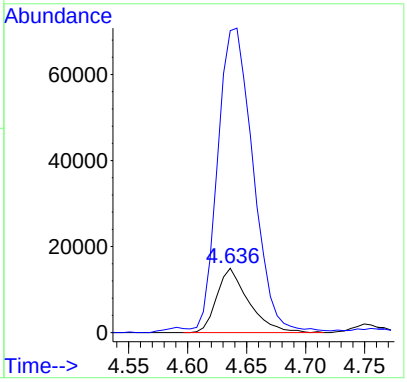


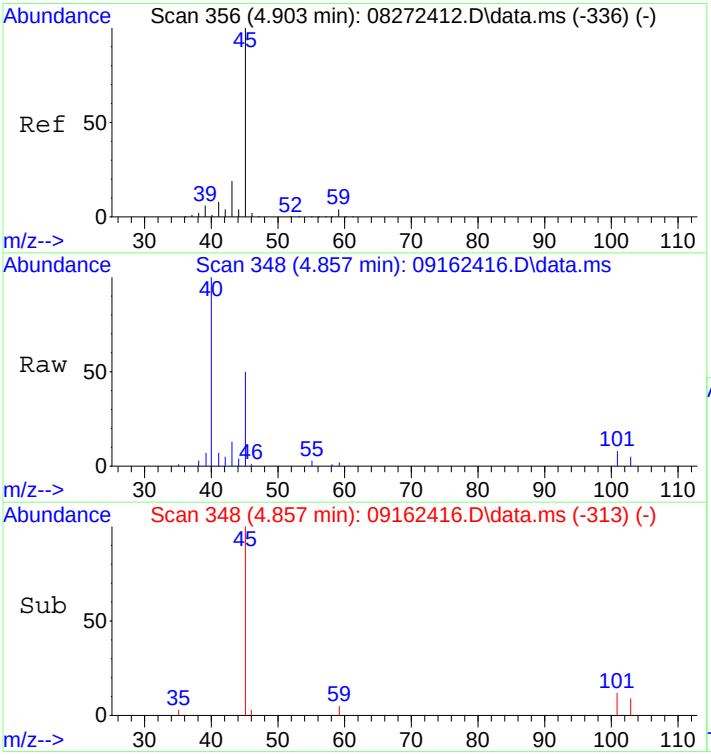


#13
Acetone
Concen: 2.46 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 58 Resp: 28024

Ion	Ratio	Lower	Upper
58	100		
43	521.7	347.3	407.3#

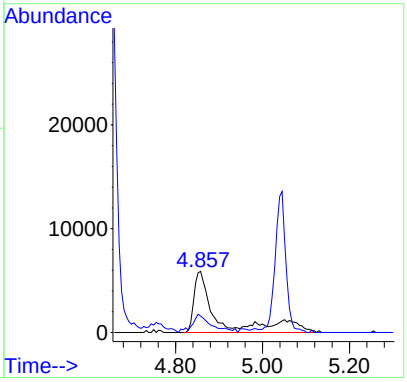


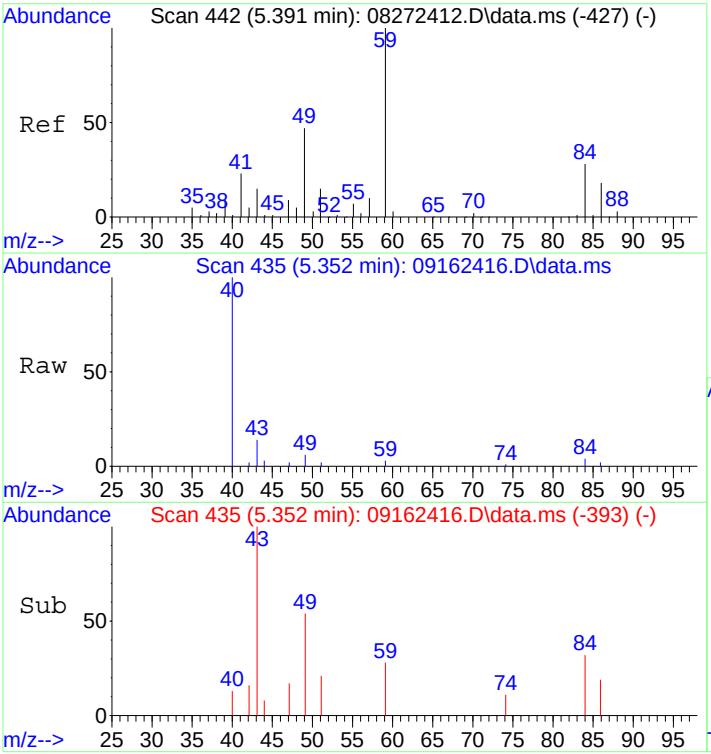


#15
2-Propanol (Isopropanol)
Concen: 0.50 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.048 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 45 Resp: 22196

Ion	Ratio	Lower	Upper
45	100		
43	23.7	0.0	40.0

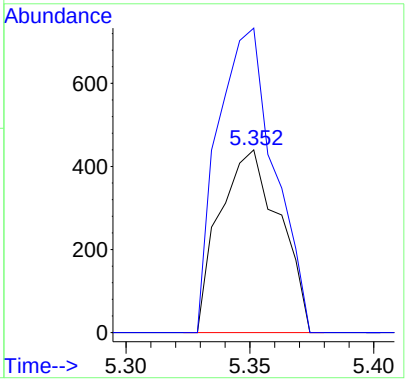


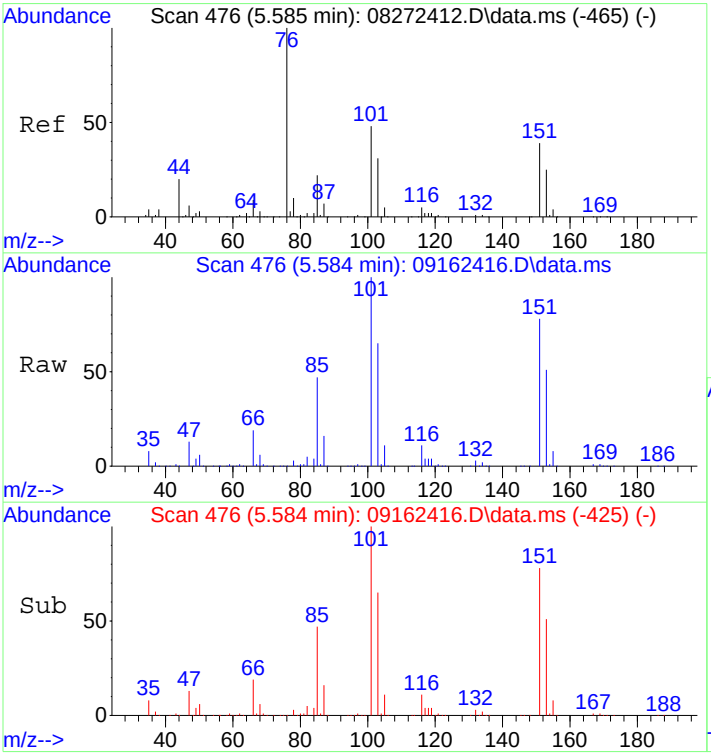


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 84 Resp: 739

Ion	Ratio	Lower	Upper
84	100		
49	158.1	151.1	201.1

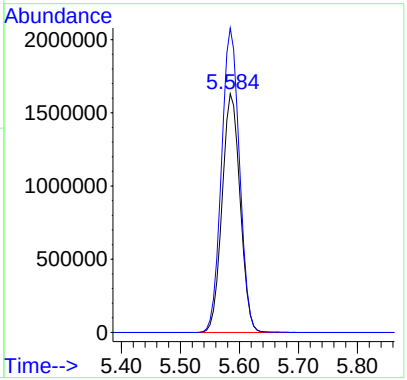


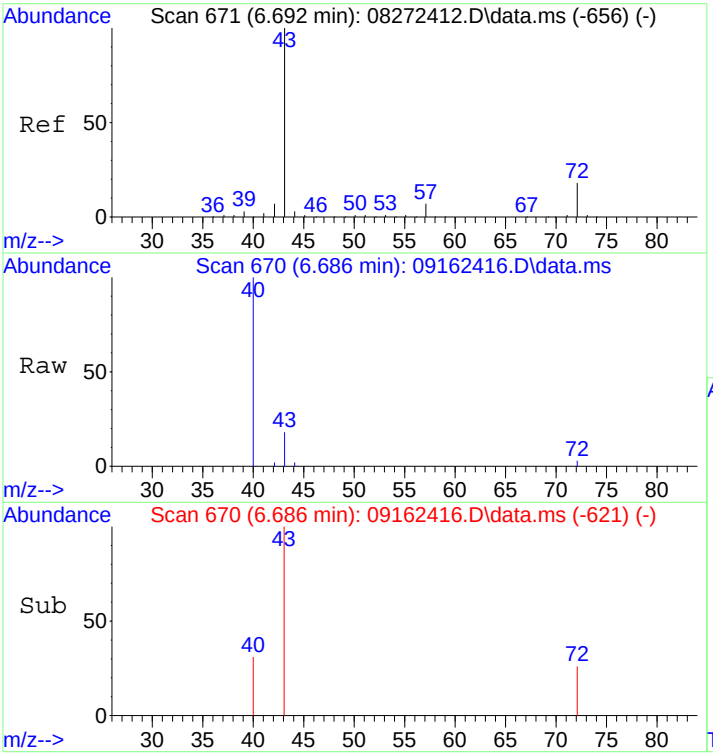


#21
Trichlorotrifluoroethane
Concen: 302.30 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion:151 Resp: 3446686

Ion	Ratio	Lower	Upper
151	100		
101	127.2	103.4	143.4

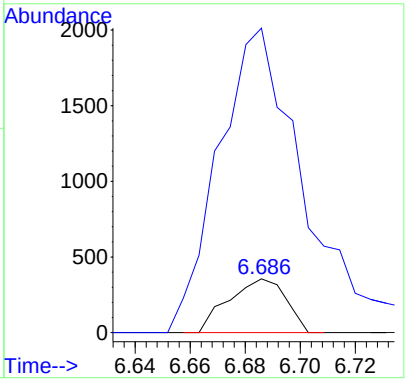


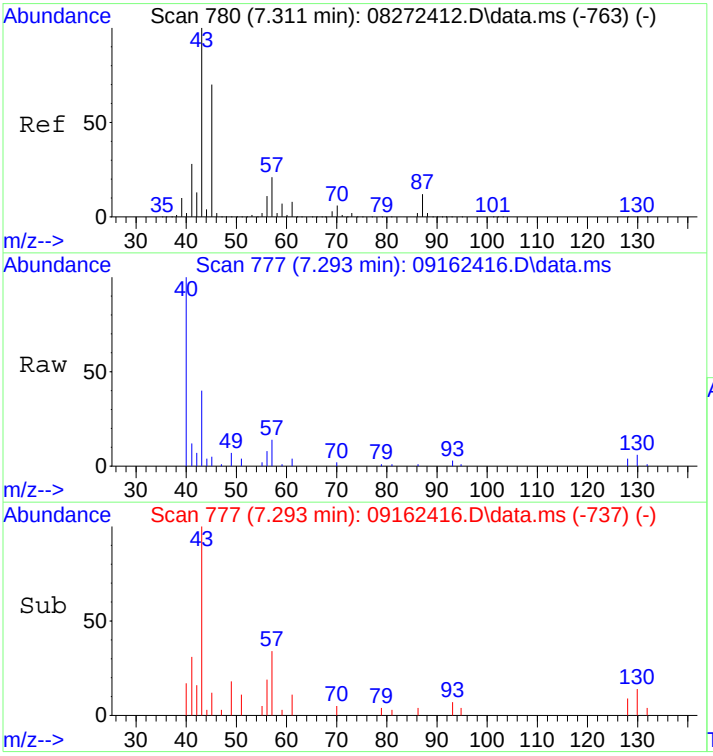


#27
2-Butanone (MEK)
Concen: 0.06 ng
RT: 6.69 min Scan# 670
Delta R.T. 0.028 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 72 Resp: 516

Ion	Ratio	Lower	Upper
72	100		
43	843.4	548.0	588.0#

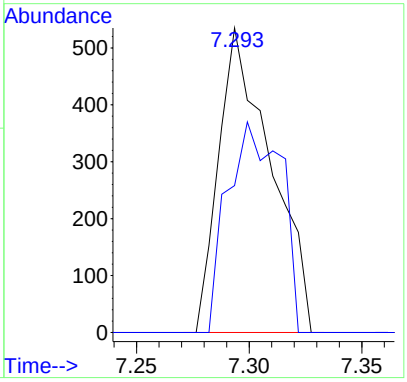


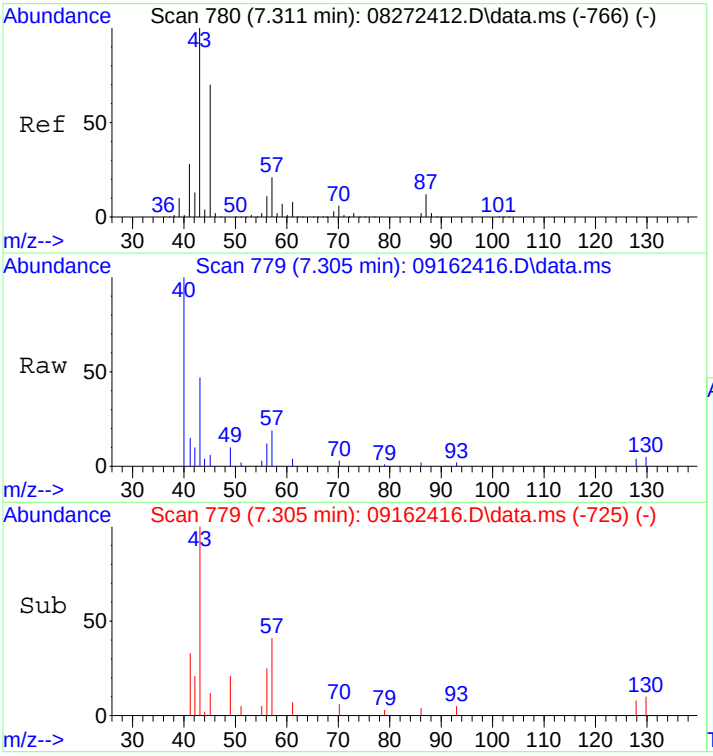


#30
Ethyl Acetate
Concen: 0.16 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.029 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 61 Resp: 859

Ion	Ratio	Lower	Upper
61	100		
70	71.2	49.9	89.9

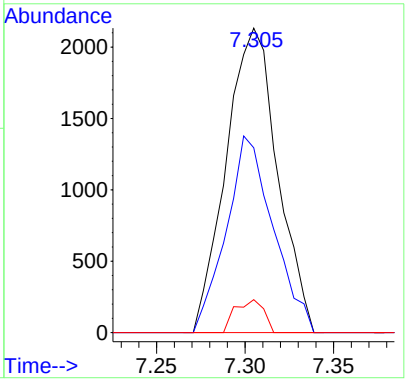


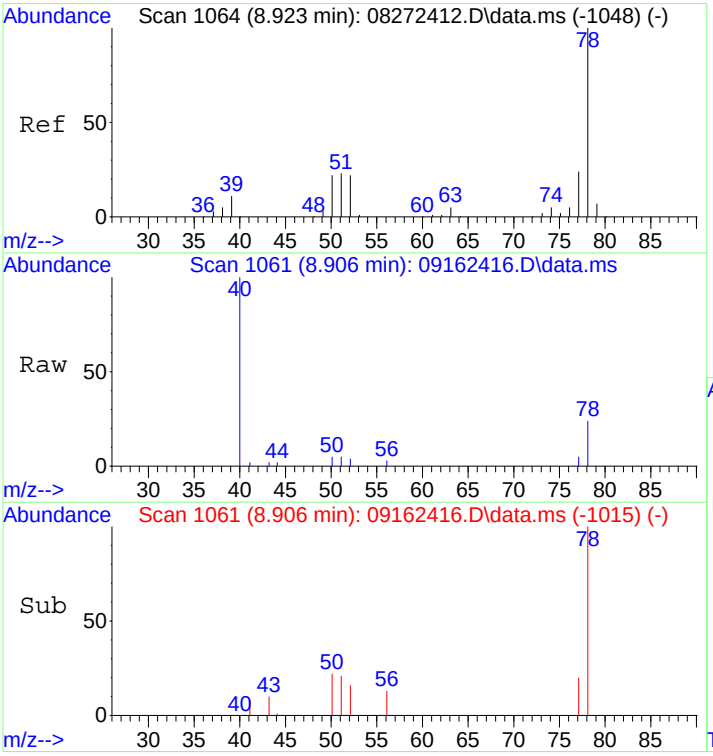


#31
n-Hexane
Concen: 0.17 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 57 Resp: 4314

Ion	Ratio	Lower	Upper
57	100		
56	58.9	44.2	66.2
86	6.0	9.3	13.9#

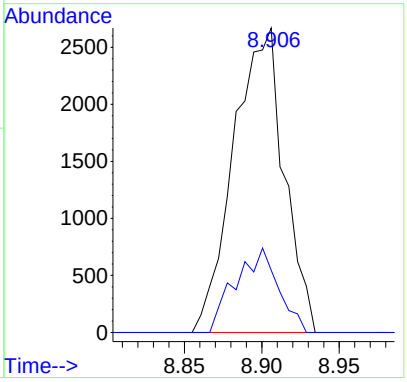


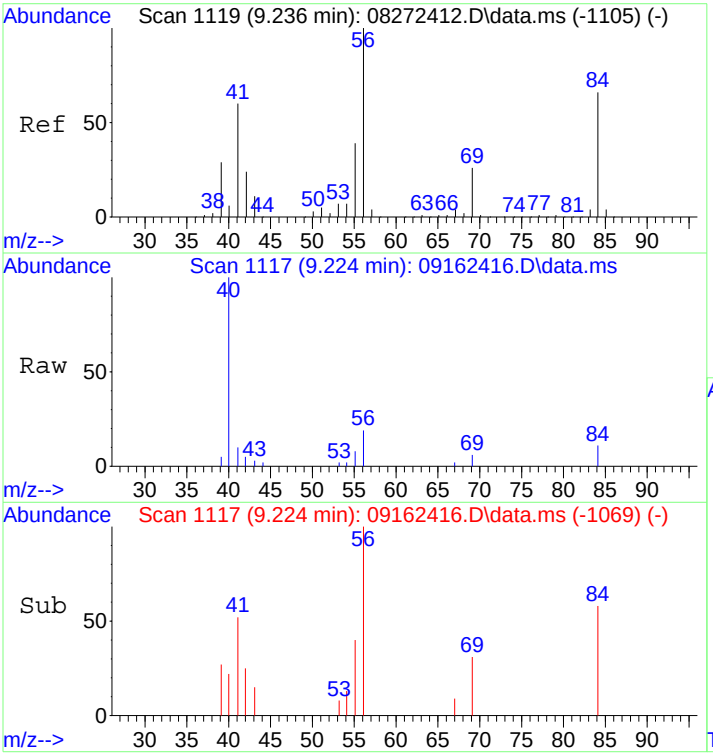


#41
Benzene
Concen: 0.12 ng
RT: 8.91 min Scan# 1061
Delta R.T. 0.009 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 78 Resp: 6045

Ion	Ratio	Lower	Upper
78	100		
77	23.6	3.9	43.9

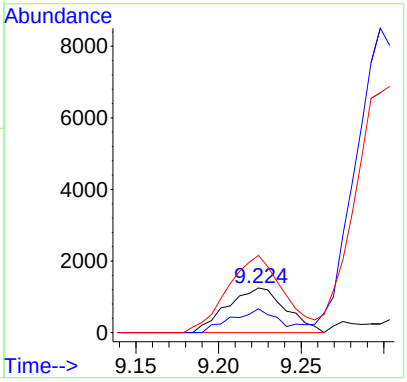


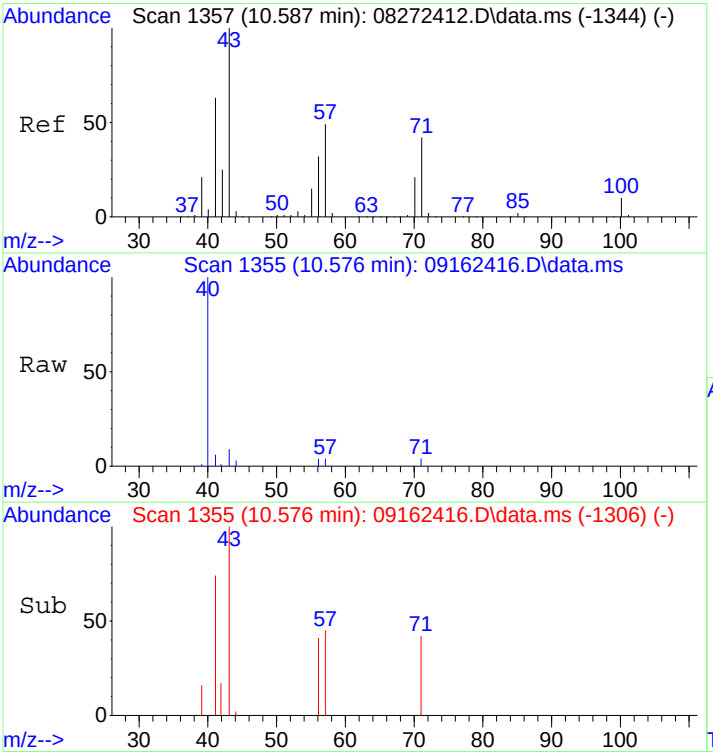


#43
Cyclohexane
Concen: 0.18 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.022 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 84 Resp: 3064

Ion	Ratio	Lower	Upper
84	100		
69	45.0	18.8	58.8
56	165.0	134.5	174.5

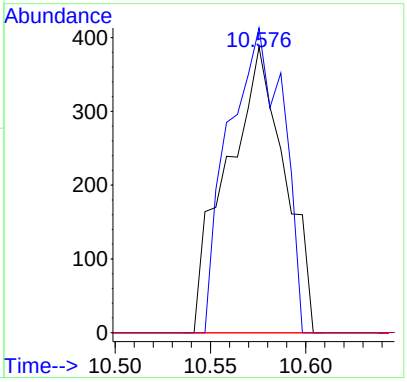


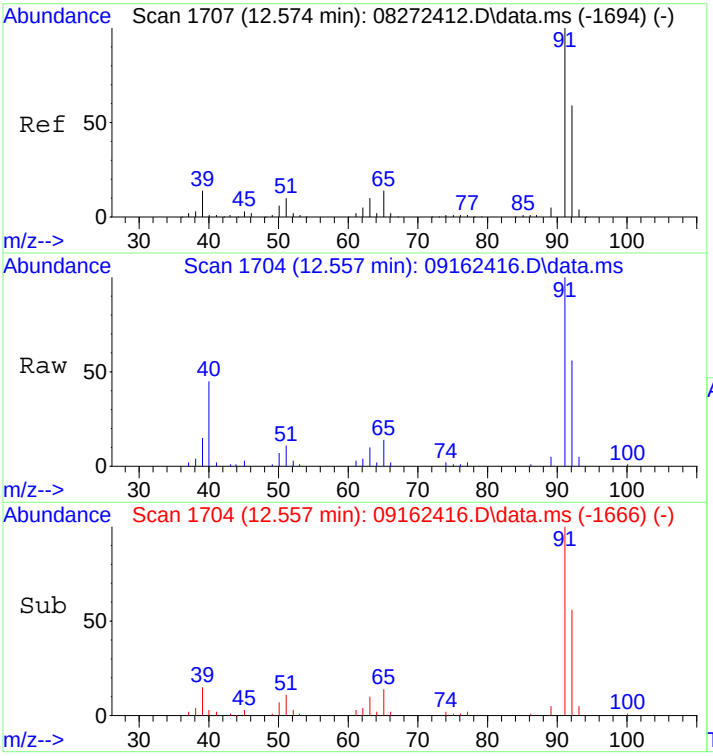


#51
n-Heptane
Concen: 0.07 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.029 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 71 Resp: 811

Ion	Ratio	Lower	Upper
71	100		
57	101.2	97.1	137.1
100	0.0	5.0	45.0#

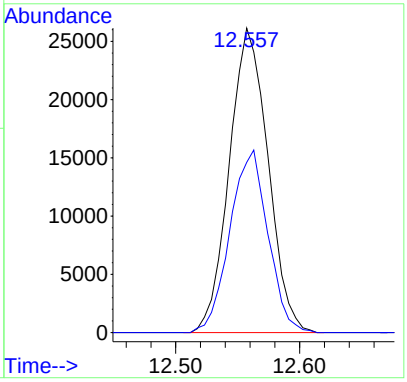


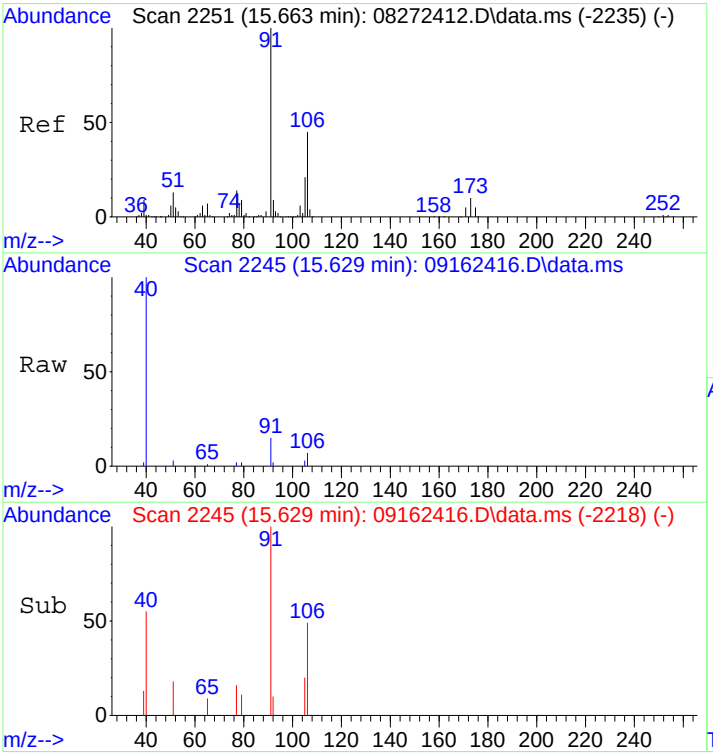


#58
Toluene
Concen: 0.96 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 91 Resp: 56903

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

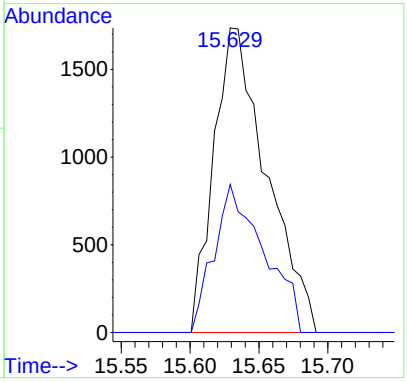


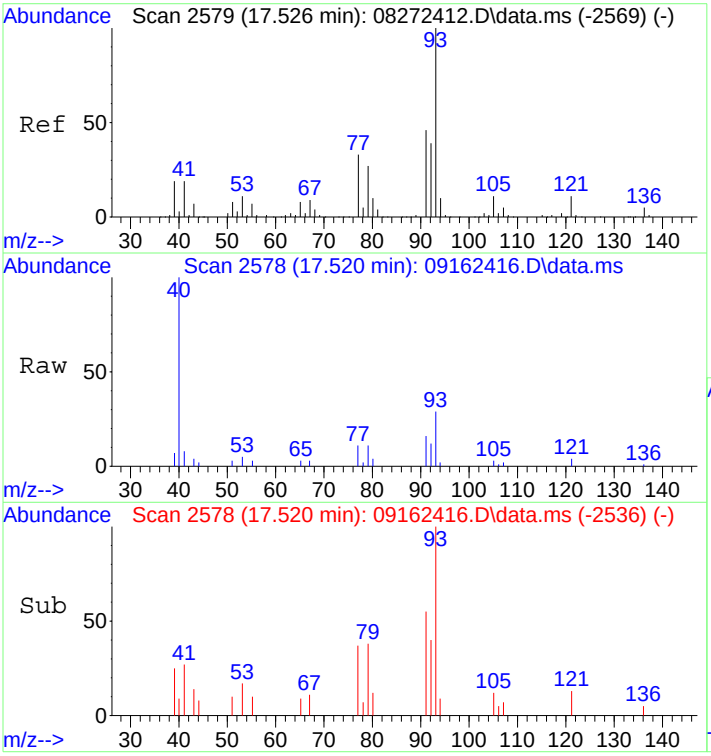


#67
m- & p-Xylenes
Concen: 0.08 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 91 Resp: 4642

Ion	Ratio	Lower	Upper
91	100		
106	45.7	23.8	63.8

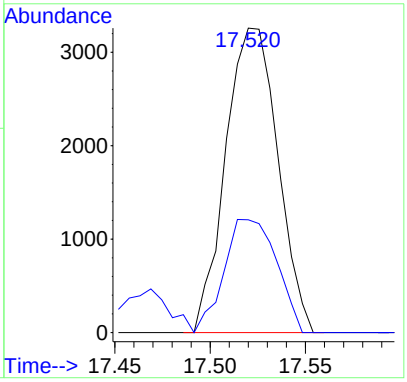




#75
alpha-Pinene
Concen: 0.19 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09162416.D
Acq: 16 Sep 2024 18:19

Tgt Ion: 93 Resp: 6207

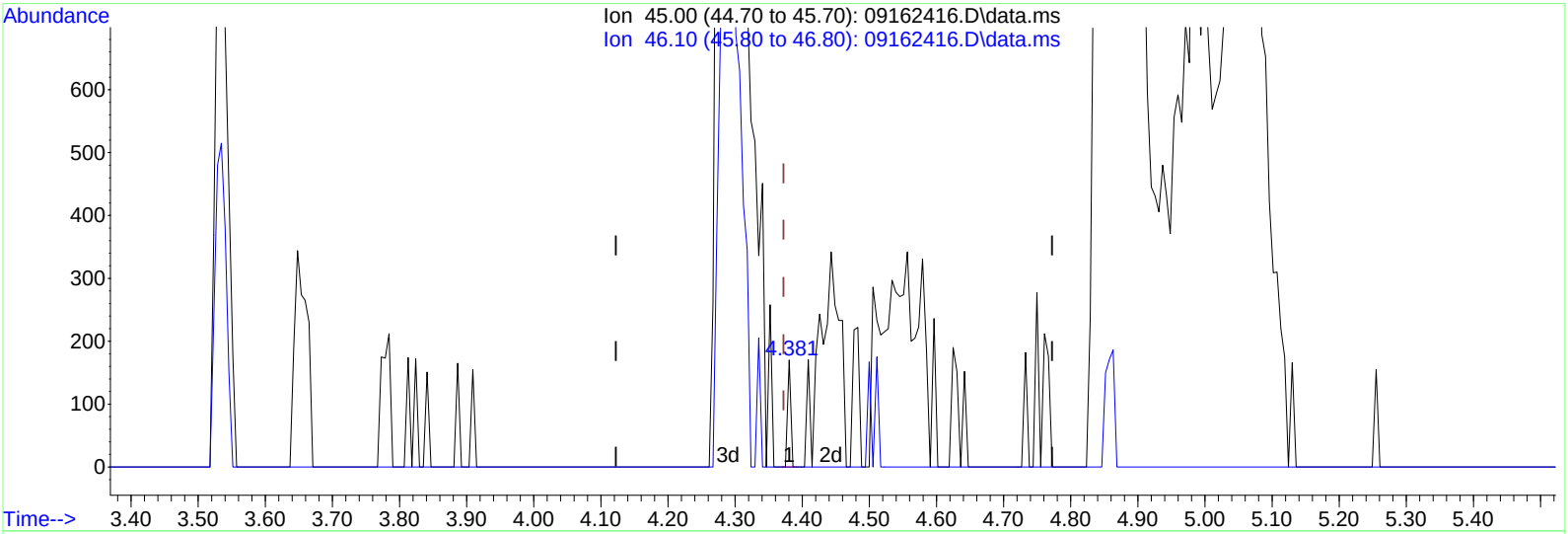
Ion	Ratio	Lower	Upper
93	100		
77	37.3	13.1	53.1

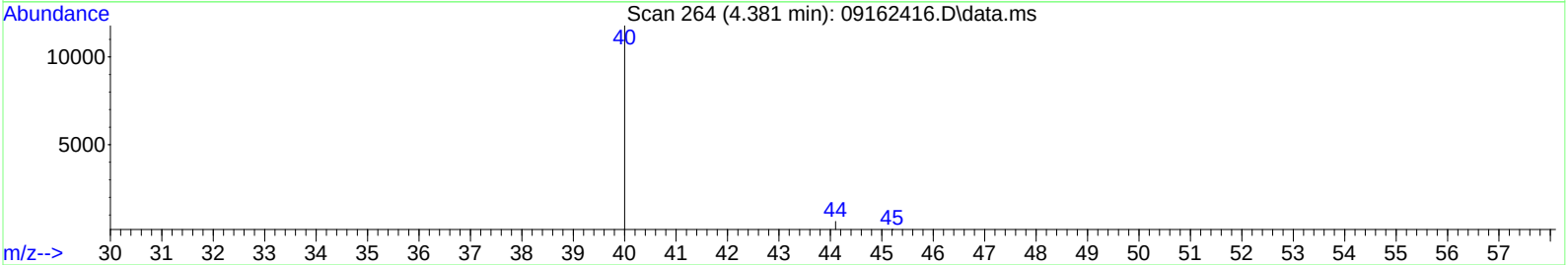


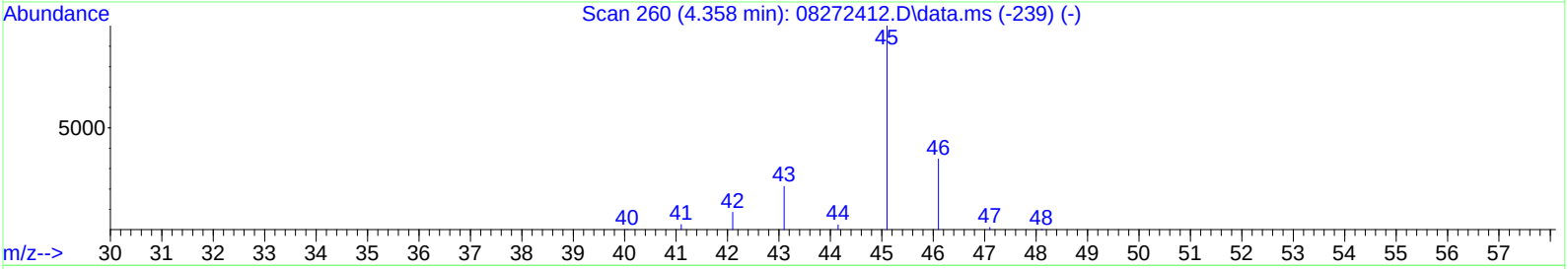
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 17 08:31:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162416.D\data.ms

(10) Ethanol (T)

4.381min (+0.008) 0.00ng

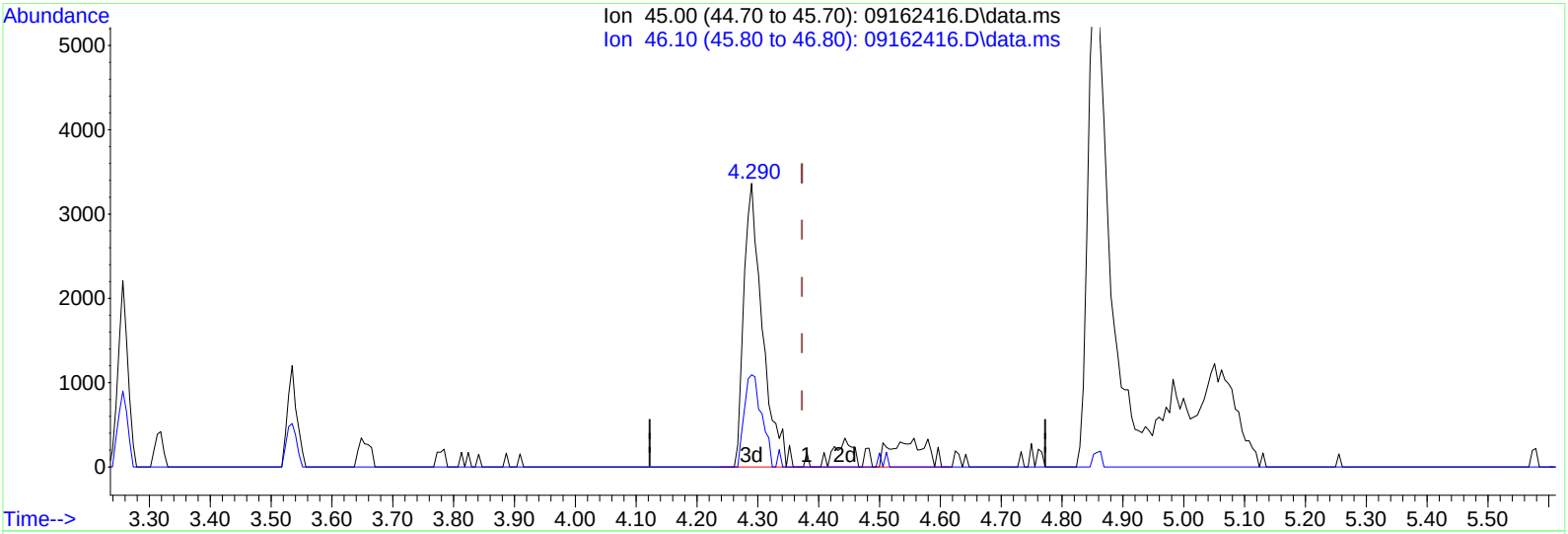
response 58

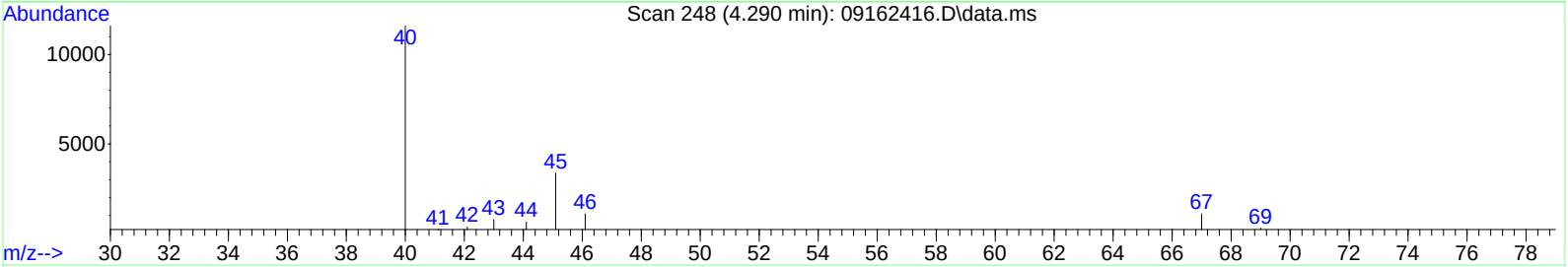
Ion	Exp%	Act%
45.00	100	100
46.10	34.20	120.69#
0.00	0.00	0.00
0.00	0.00	0.00

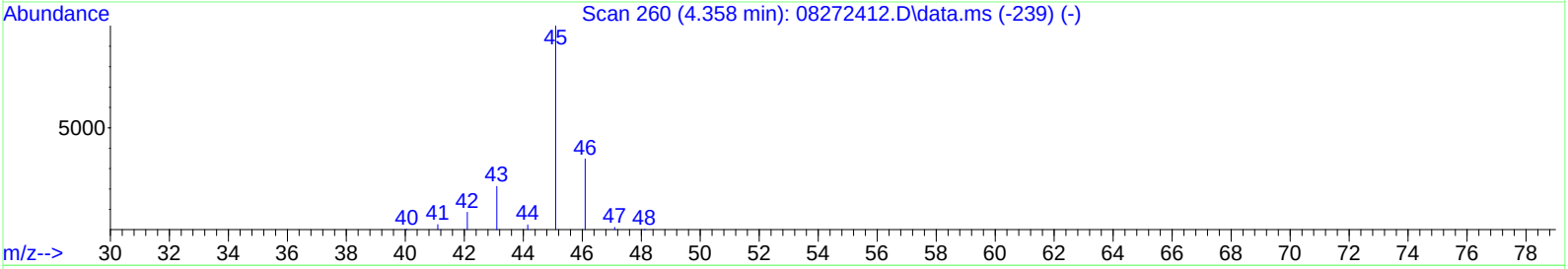
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 17 08:31:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162416.D\data.ms

(10) Ethanol (T)

4.290min (-0.083) 0.70ng m

response 9430

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	23.73
0.00	0.00	0.00
0.00	0.00	0.00

MP

9/30/24

9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 07:23:18 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

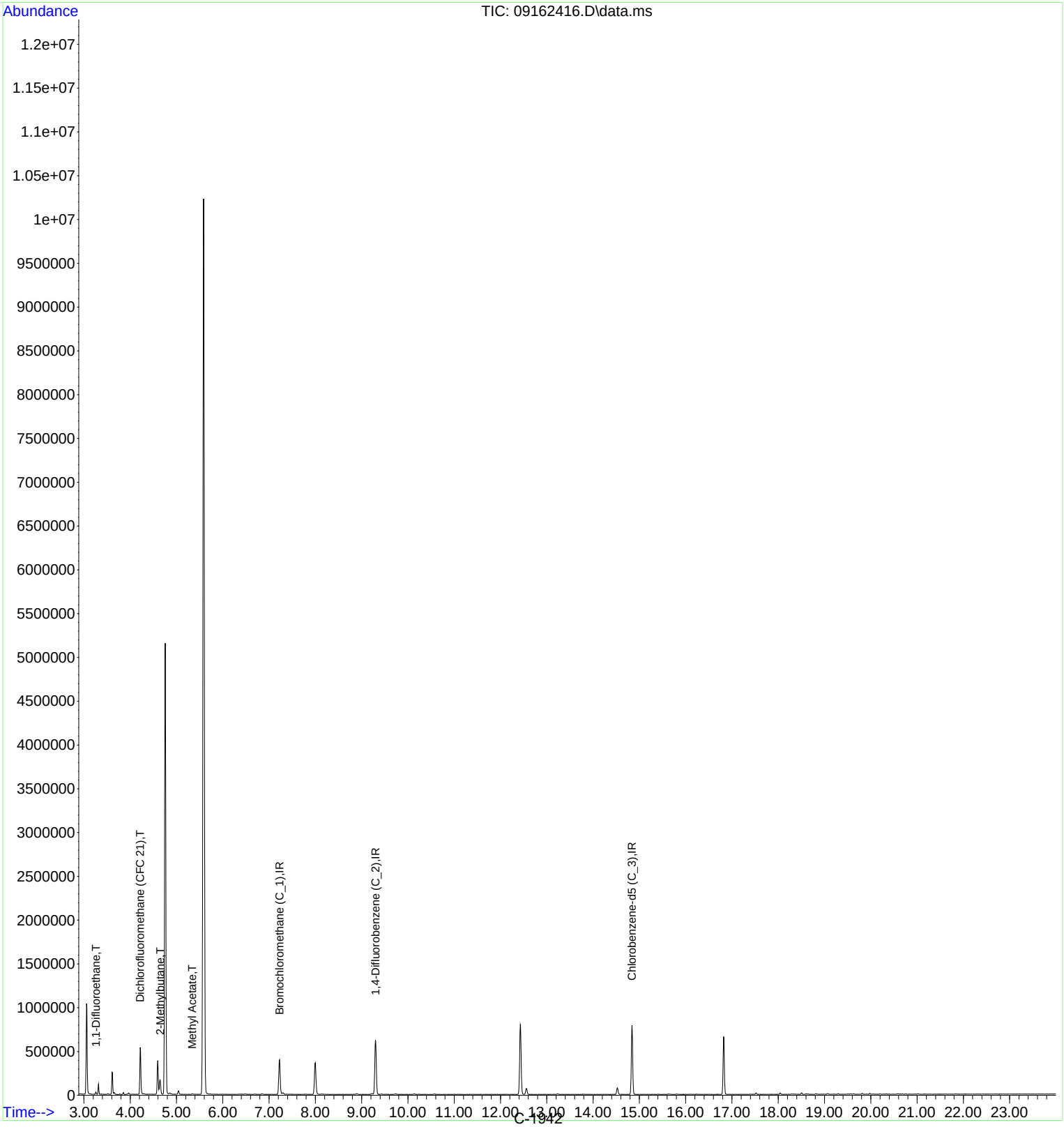
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	126011	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	544916	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	156013	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	148	N.D.		
4) 1,1-Difluoroethane	3.26	65	5805	0.528 ng		97
5) Chlorodifluoromethane ...	3.30	67	139	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.22	67	436154	15.094 ng		99
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d		
10) 2-Methylbutane	4.65	57	26452	1.760 ng		91
11) Methyl Acetate	5.34	43	4834	0.114 ng	#	87
12) 2-Methylpentane	6.48	71	720	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.53	56	694	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.41	55	588	N.D.		
21) 1,3-Dichloropropane	12.57	76	56	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	56	N.D.		
27) 4-Chlorotoluene	17.68	91	291	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	0.00	119	0	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 30 07:23:18 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

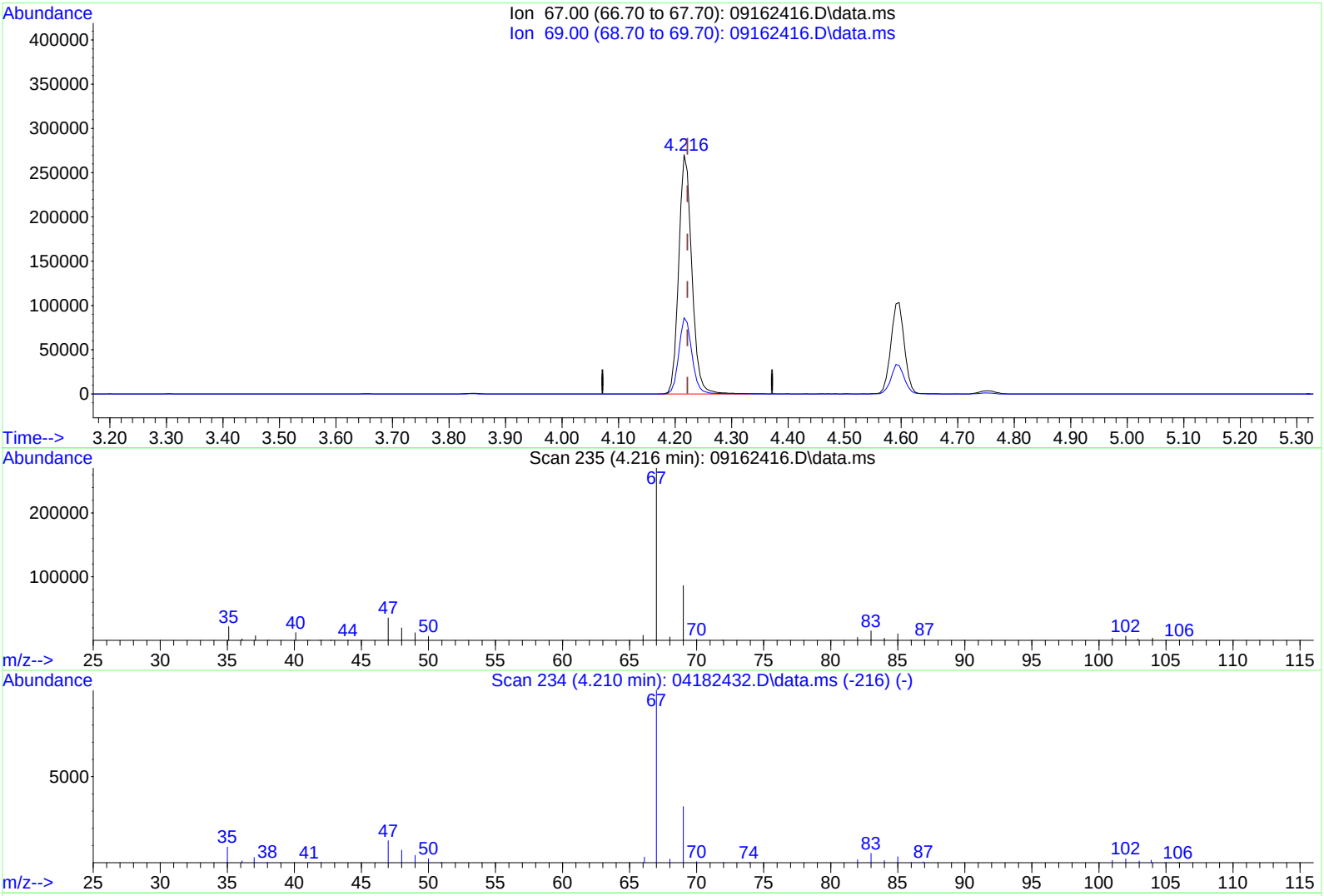


C-1942

Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 30 07:14:38 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration



TIC: 09162416.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.006) 15.09ng

response 436154

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.86
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162416.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.256	61	66	71	rBV	26177	30460	0.14%	0.088%
2	3.313	71	76	83	rVB	113726	131197	0.61%	0.381%
3	3.608	123	128	133	rBV	252770	357928	1.65%	1.039%
4	3.654	133	136	143	rVB2	22262	32255	0.15%	0.094%
5	3.852	165	171	175	rVB	22336	28995	0.13%	0.084%
6	3.966	186	191	196	rVB2	14864	21176	0.10%	0.061%
7	4.216	229	235	244	rBV	534630	852370	3.93%	2.474%
8	4.290	244	248	260	rVB2	7627	19345	0.09%	0.056%
9	4.596	290	302	306	rBV	383291	643810	2.97%	1.869%
10	4.642	306	310	320	rVV3	166714	335790	1.55%	0.975%
11	4.755	320	330	343	rVV	5150915	9289664	42.85%	26.967%
12	4.852	343	347	361	rVB2	12754	32798	0.15%	0.095%
13	5.045	373	381	391	rVB	38703	68301	0.32%	0.198%
14	5.584	464	476	496	rBV	10224732	21678507	100.00%	62.930%
15	6.487	629	635	641	rVB5	4871	10951	0.05%	0.032%
16	6.845	693	698	705	rBV4	5889	11527	0.05%	0.033%
17	7.225	756	765	773	rBV	394413	865489	3.99%	2.512%
18	7.299	774	778	790	rVB2	17180	38300	0.18%	0.111%

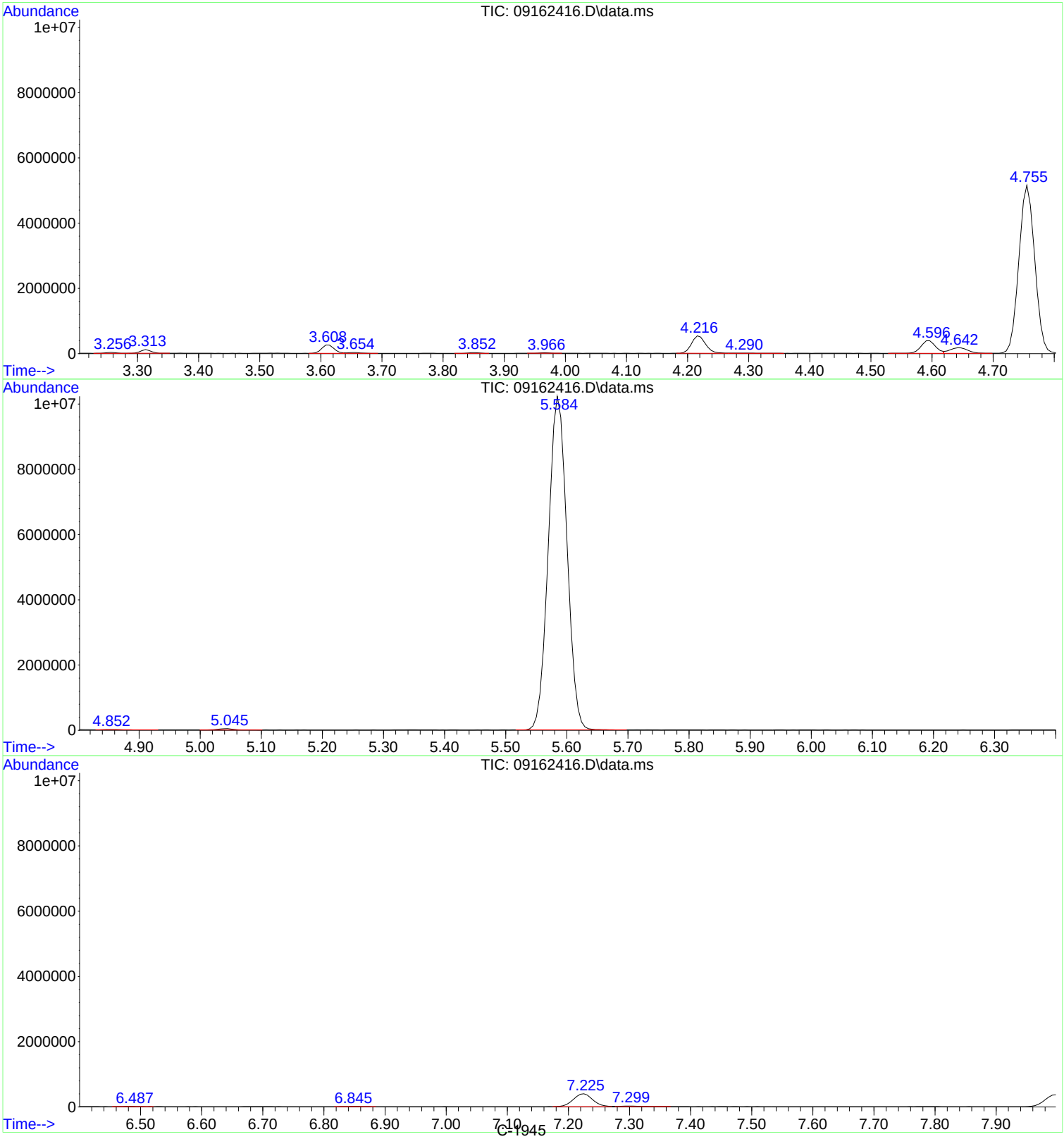
Sum of corrected areas: 34448863

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:19
Operator : SC
Sample : P2403661-057 (20mL)
Misc : S37-08262404
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162416.D
Acq On : 16 Sep 2024 18:199
Operator : SCC
Sample : P2403661-057 (20mL))
Misc : S37-082624044
ALS Vial : 5 Sample Multiplier: 11

9/30/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

MA 9/30/24

Quant Time: Sep 30 06:51:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	129152	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	574190	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	171391	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	336033	13.904	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
57) Toluene-d8 (SS2)	12.44	98	657143	10.930	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
73) Bromofluorobenzene (SS3)	16.83	174	228351	11.356	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
Target Compounds							Qvalue
2) Propene	3.29	42	51512	2.640	ng	#	84
3) Dichlorodifluoromethan...	3.37	85	19747	0.630	ng		99
4) Chloromethane	3.51	50	3620	0.148	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	382	N.D.			
6) Vinyl Chloride	3.70	62	144	N.D.			
7) 1,3-Butadiene	3.78	54	204	N.D.			
8) Bromomethane	4.02	94	133	N.D.			
9) Chloroethane	4.16	64	265	N.D.			
10) Ethanol	4.32	45	259236	18.495	ng		99
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.53	56	5408	0.505	ng		100
13) Acetone	4.63	58	85721	7.248	ng	#	42
14) Trichlorofluoromethane	4.76	101	416672	13.932	ng		99
15) 2-Propanol (Isopropanol)	4.87	45	898338	19.291	ng		93
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.37	84	3025	0.217	ng	#	79
20) 3-Chloro-1-propene (Al...	5.46	41	232	N.D.			
21) Trichlorotrifluoroethane	5.58	151	313462	26.455	ng		95
22) Carbon Disulfide	0.00	76	0	N.D.	d		
23) trans-1,2-Dichloroethene	6.15	61	814	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.32	73	543	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.68	72	6711	0.800	ng	#	45
28) cis-1,2-Dichloroethene	7.09	61	485	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.30	61	1191949	212.015	ng		93
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	7.40	83	8312	0.323	ng		96
34) Tetrahydrofuran (THF)	7.75	72	3941	0.498	ng	#	69
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.	d		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	13719	No Calib		#	
40) 1-Butanol	8.82	56	22692	No Calib		#	
41) Benzene	8.91	78	35770	0.664	ng		99
42) Carbon Tetrachloride	9.08	117	1247	0.056	ng		93
43) Cyclohexane	9.22	84	4346	0.239	ng	#	86
44) tert-Amyl Methyl Ether	9.60	73	179	N.D.			
45) 1,2-Dichloropropane	9.88	63	598	N.D.			
46) Bromodichloromethane	10.09	83	583	N.D.			
47) Trichloroethene	10.16	130	332	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.	d		

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 30 06:51:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

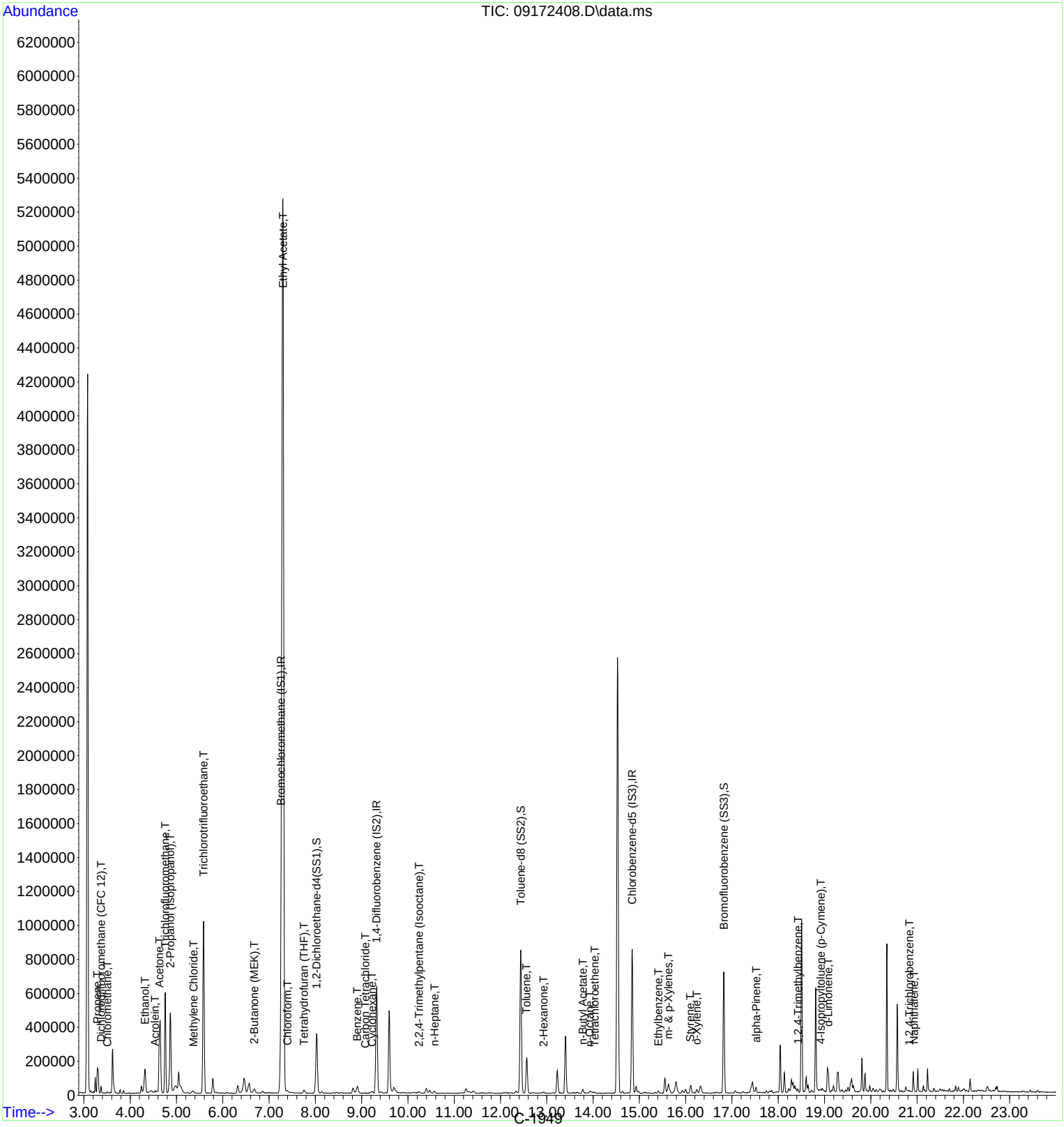
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.24	57	7908	0.124 ng		73
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	10.58	71	2672	0.223 ng	#	81
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	156425	2.407 ng		100
59) 2-Hexanone	12.93	43	6051	0.150 ng	#	64
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	21092	0.468 ng		94
63) n-Octane	13.93	57	1678	0.110 ng		88
64) Tetrachloroethene	14.03	166	2017	0.112 ng		91
65) Chlorobenzene	14.90	112	1461	N.D.		
66) Ethylbenzene	15.41	91	11431	0.153 ng		97
67) m- & p-Xylenes	15.63	91	30518	0.502 ng		99
68) Bromoform	15.68	173	108	N.D.		
69) Styrene	16.10	104	11406	0.290 ng		97
70) o-Xylene	16.24	91	12524	0.211 ng		98
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	16.21	83	108	N.D.		
74) Cumene	17.03	105	1866	N.D.		
75) alpha-Pinene	17.53	93	13370	0.374 ng		91
76) n-Propylbenzene	17.68	91	3440	N.D.		
77) 3-Ethyltoluene	17.03	105	1866	No Calib		
78) 4-Ethyltoluene	17.86	105	2899	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	2765	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	1866	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	8369	0.137 ng		90
83) n-Decane	17.09	58	593	No Calib	#	
84) Benzyl Chloride	18.56	91	1885	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	748	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	1640	N.D.		
87) sec-Butylbenzene	18.74	105	878	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	5080	0.076 ng		90
89) 1,2,3-Trimethylbenzene	17.03	105	1866	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	525	N.D.		
91) d-Limonene	19.08	68	19867	0.972 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	340	N.D.		
93) n-Undecane	17.97	58	314	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	1916	0.070 ng		99
95) Naphthalene	20.94	128	5944	0.092 ng		97
96) n-Dodecane	18.96	58	879	No Calib	#	
97) Hexachlorobutadiene	21.30	225	236	N.D.		
98) Cyclohexanone	15.31	55	124	No Calib	#	
99) tert-Butylbenzene	0.00	119	0	N.D. d		
100) n-Butylbenzene	19.39	91	1360	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 30 06:51:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 06:51:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

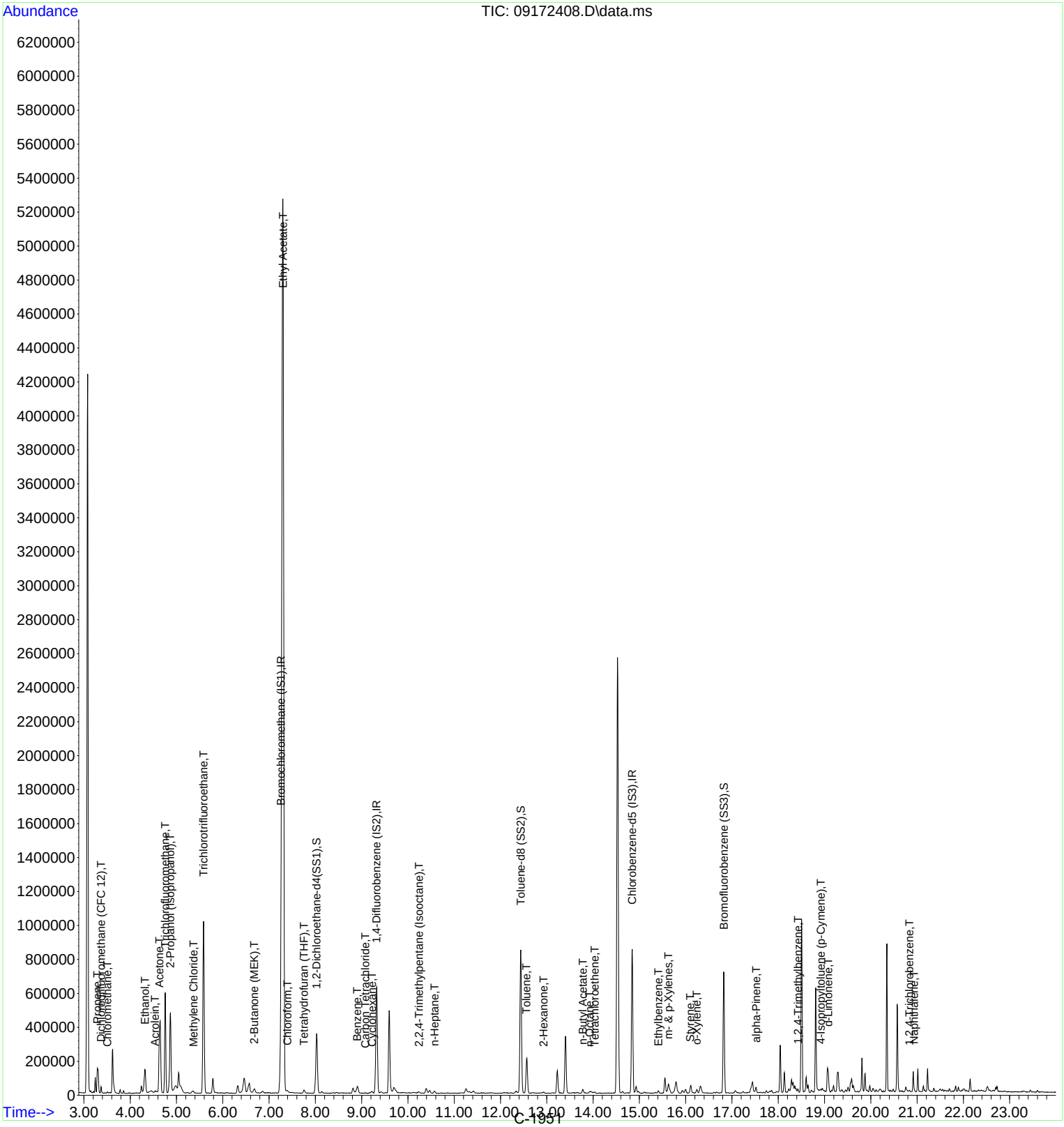
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.26	130	129152	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	574190	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	171391	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.03	65	336033	13.904	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.20%				
57) Toluene-d8 (SS2)	12.44	98	657143	10.930	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
73) Bromofluorobenzene (SS3)	16.83	174	228351	11.356	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.88%				
Target Compounds							Qvalue
2) Propene	3.29	42	51512	2.640	ng	#	84
3) Dichlorodifluoromethan...	3.37	85	19747	0.630	ng		99
4) Chloromethane	3.51	50	3620	0.148	ng		95
10) Ethanol	4.32	45	259236	18.495	ng		99
12) Acrolein	4.53	56	5408	0.505	ng		100
13) Acetone	4.63	58	85721	7.248	ng	#	42
14) Trichlorofluoromethane	4.76	101	416672	13.932	ng		99
15) 2-Propanol (Isopropanol)	4.87	45	898338	19.291	ng		93
19) Methylene Chloride	5.37	84	3025	0.217	ng	#	79
21) Trichlorotrifluoroethane	5.58	151	313462	26.455	ng		95
27) 2-Butanone (MEK)	6.68	72	6711	0.800	ng	#	45
30) Ethyl Acetate	7.30	61	1191949	212.015	ng		93
32) Chloroform	7.40	83	8312	0.323	ng		96
34) Tetrahydrofuran (THF)	7.75	72	3941	0.498	ng	#	69
41) Benzene	8.91	78	35770	0.664	ng		99
42) Carbon Tetrachloride	9.08	117	1247	0.056	ng		93
43) Cyclohexane	9.22	84	4346	0.239	ng	#	86
49) 2,2,4-Trimethylpentane...	10.24	57	7908	0.124	ng		73
51) n-Heptane	10.58	71	2672	0.223	ng	#	81
58) Toluene	12.56	91	156425	2.407	ng		100
59) 2-Hexanone	12.93	43	6051	0.150	ng	#	64
62) n-Butyl Acetate	13.78	43	21092	0.468	ng		94
63) n-Octane	13.93	57	1678	0.110	ng		88
64) Tetrachloroethene	14.03	166	2017	0.112	ng		91
66) Ethylbenzene	15.41	91	11431	0.153	ng		97
67) m- & p-Xylenes	15.63	91	30518	0.502	ng		99
69) Styrene	16.10	104	11406	0.290	ng		97
70) o-Xylene	16.24	91	12524	0.211	ng		98
75) alpha-Pinene	17.53	93	13370	0.374	ng		91
82) 1,2,4-Trimethylbenzene	18.43	105	8369	0.137	ng		90
88) 4-Isopropyltoluene (p-...	18.92	119	5080	0.076	ng		90
91) d-Limonene	19.08	68	19867	0.972	ng		97
94) 1,2,4-Trichlorobenzene	20.84	180	1916	0.070	ng		99
95) Naphthalene	20.94	128	5944	0.092	ng		97

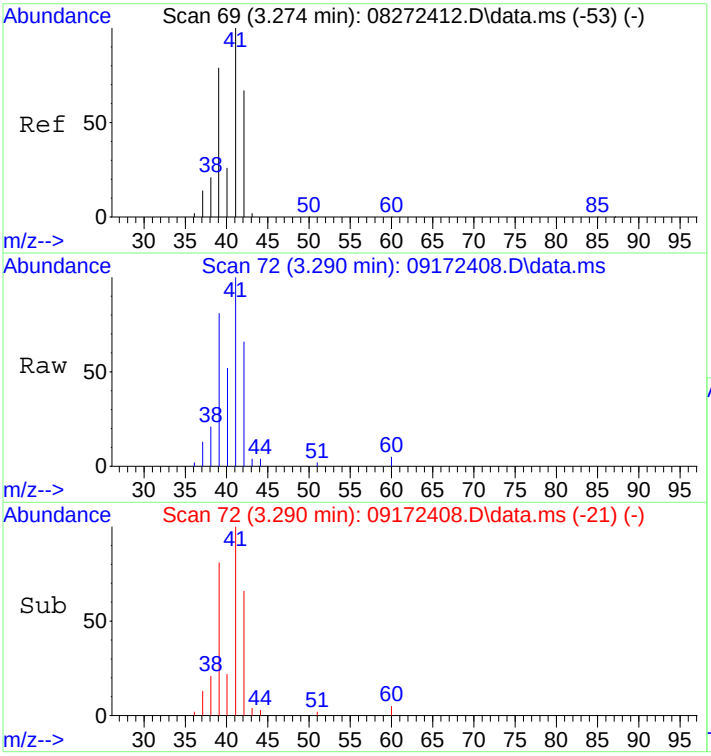
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 30 06:51:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

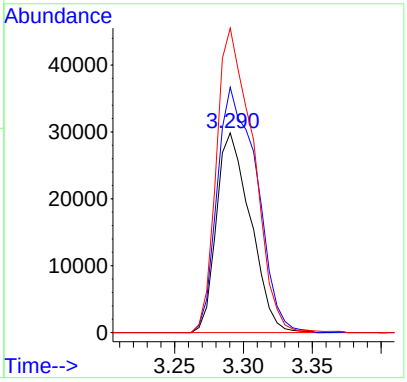


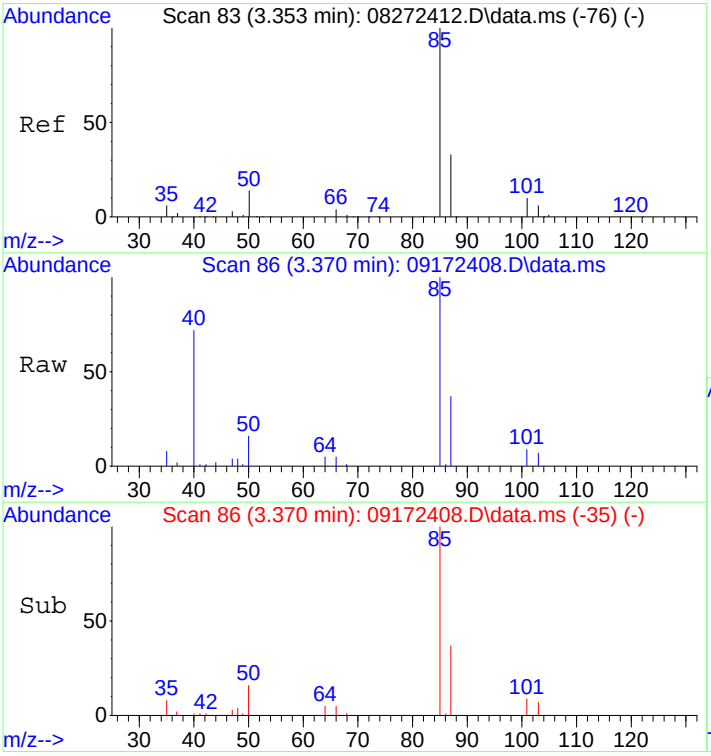


#2
Propene
Concen: 2.64 ng
RT: 3.29 min Scan# 72
Delta R.T. 0.041 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 42 Resp: 51512

Ion	Ratio	Lower	Upper
42	100		
39	142.3	98.2	138.2#
41	164.1	130.1	170.1

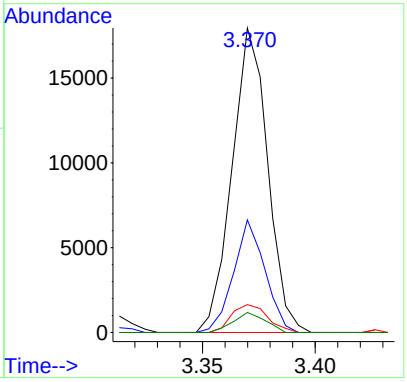


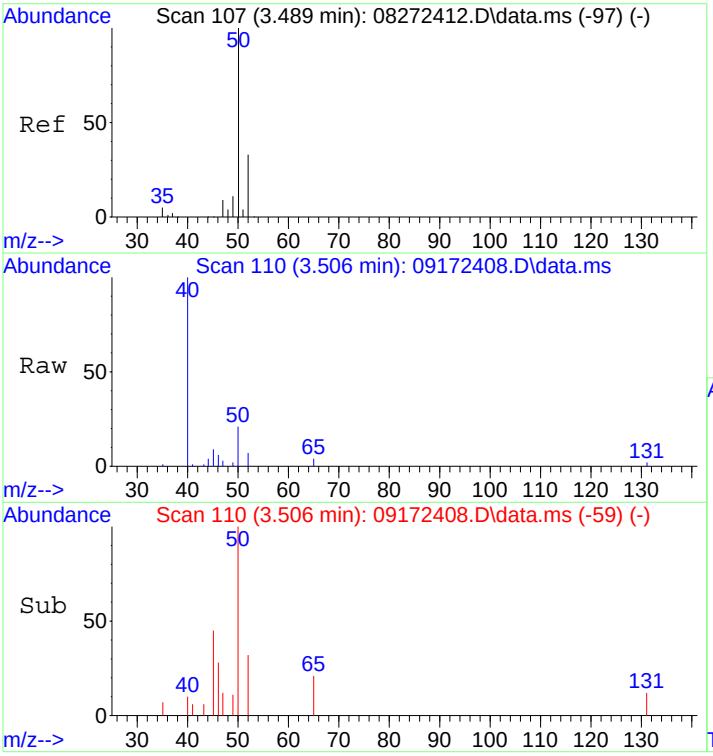


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 3.37 min Scan# 86
Delta R.T. 0.042 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 85 Resp: 19747

Ion	Ratio	Lower	Upper
85	100		
87	32.6	13.1	53.1
101	9.3	0.0	29.4
103	5.9	0.0	26.0

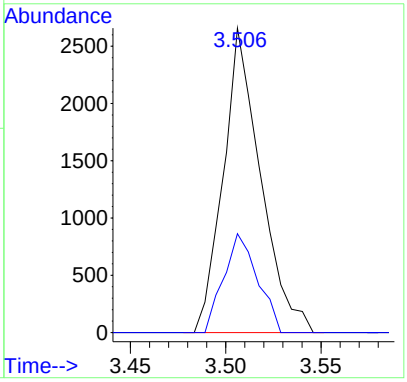


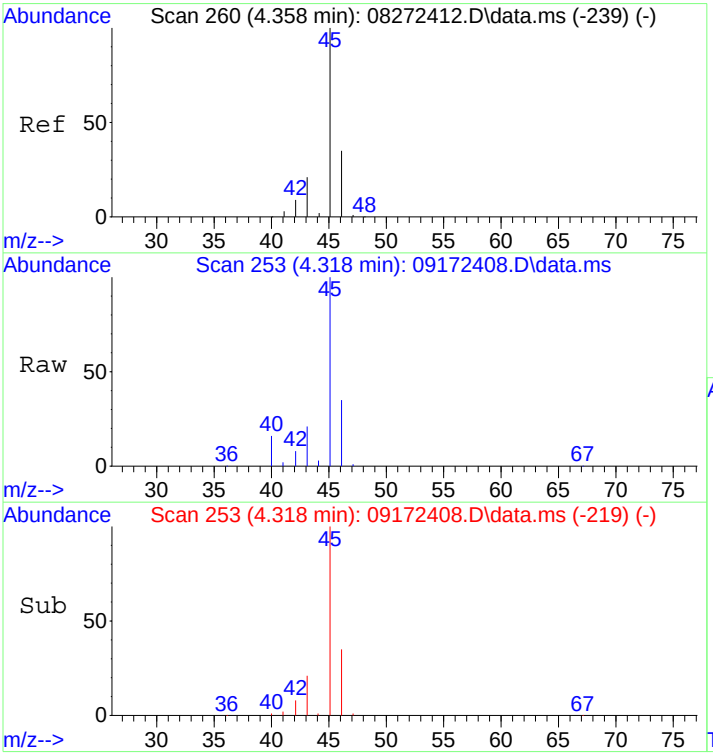


#4
Chloromethane
Concen: 0.15 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.038 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 50 Resp: 3620

Ion	Ratio	Lower	Upper
50	100		
52	29.3	12.4	52.4

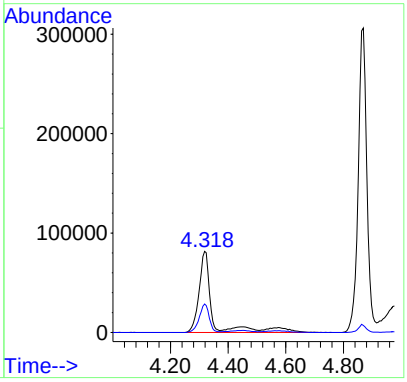


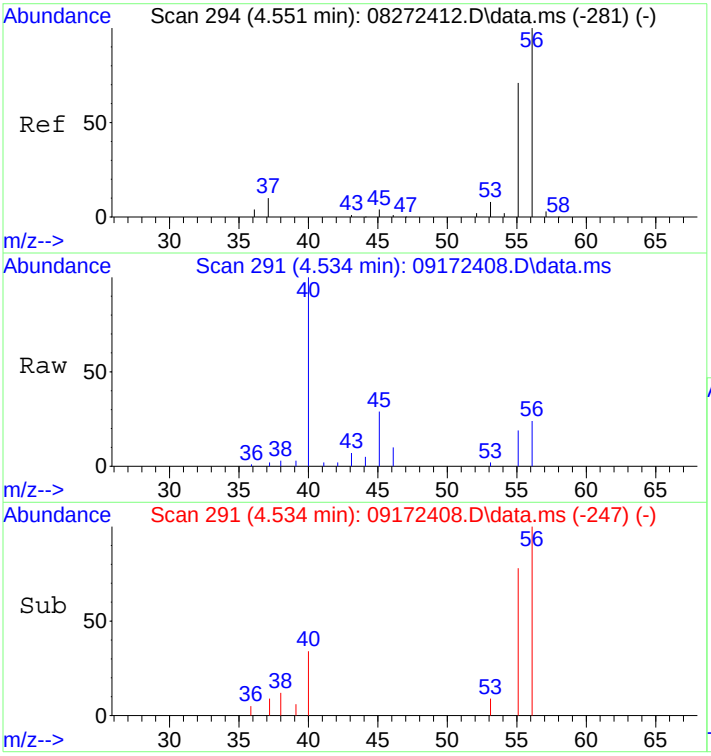


#10
Ethanol
Concen: 18.49 ng
RT: 4.32 min Scan# 253
Delta R.T. -0.054 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 45 Resp: 259236

Ion	Ratio	Lower	Upper
45	100		
46	34.7	14.2	54.2

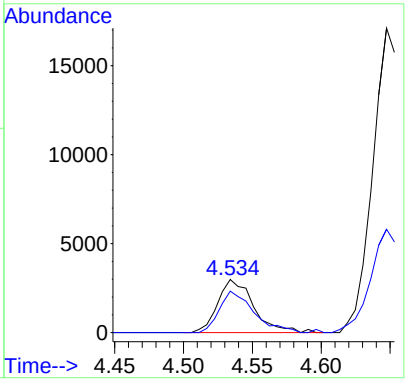


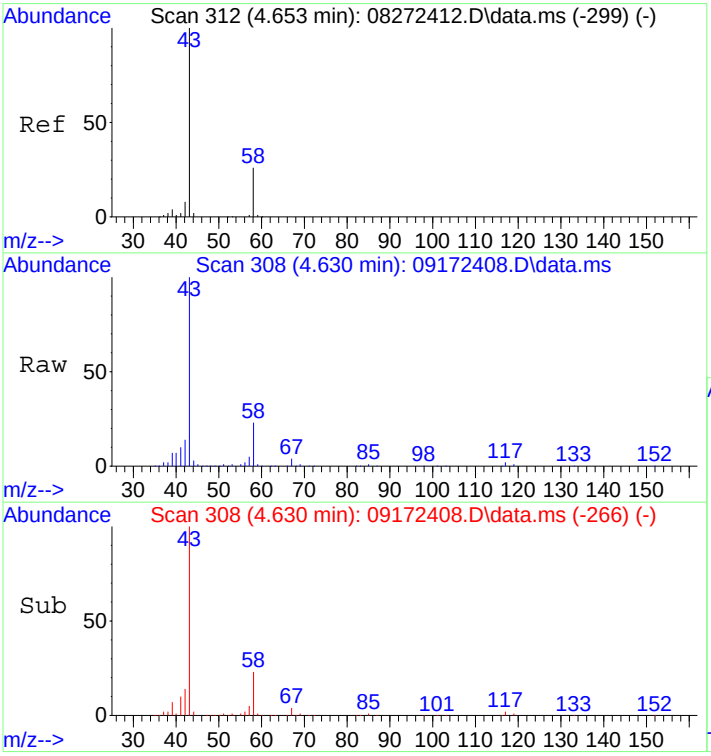


#12
Acrolein
Concen: 0.51 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.001 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 56 Resp: 5408

Ion	Ratio	Lower	Upper
56	100		
55	74.7	54.7	94.7

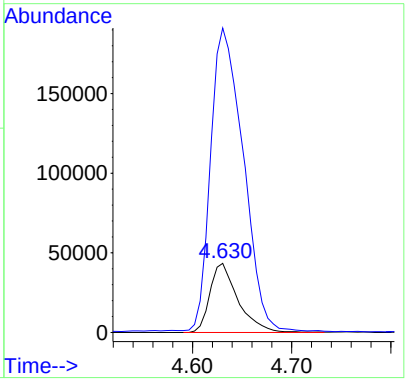


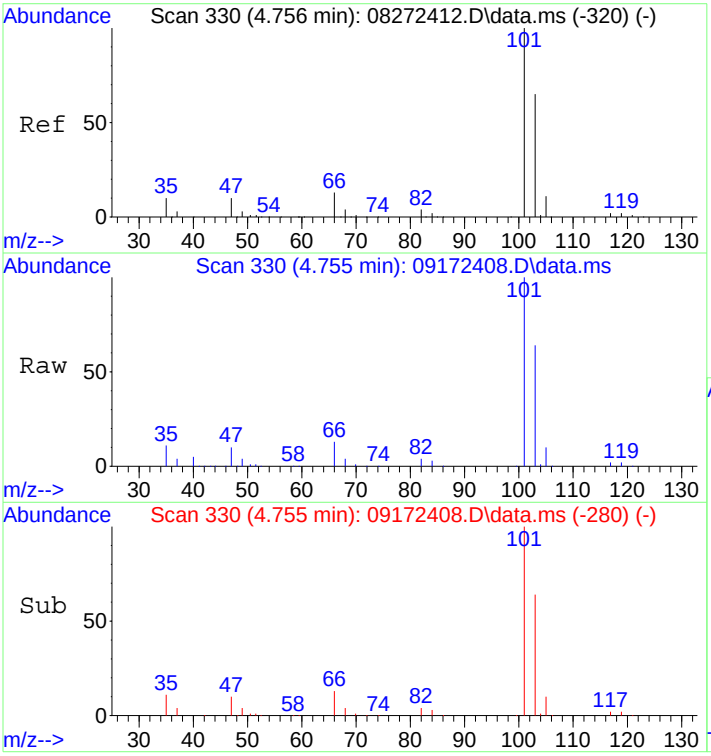


#13
Acetone
Concen: 7.25 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.012 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 58 Resp: 85721

Ion	Ratio	Lower	Upper
58	100		
43	509.3	347.3	407.3#

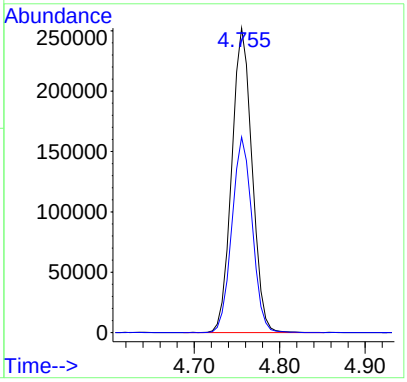


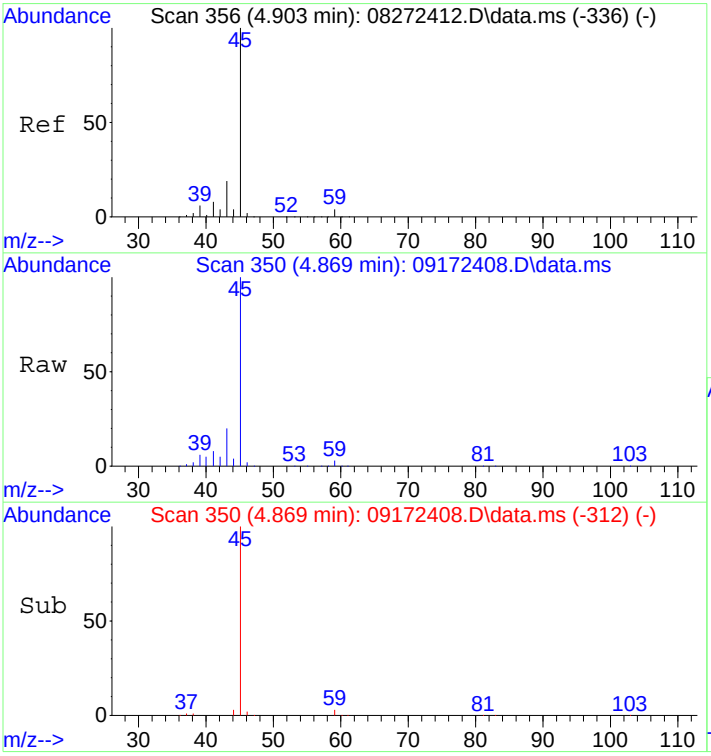


#14
Trichlorofluoromethane
Concen: 13.93 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:101 Resp: 416672

Ion	Ratio	Lower	Upper
101	100		
103	64.1	44.9	84.9

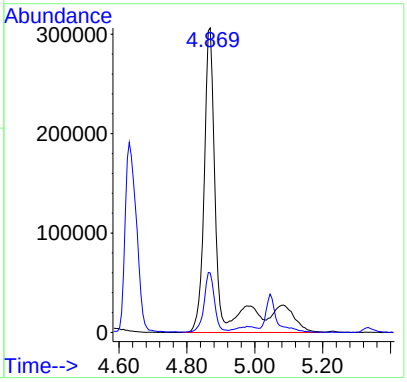


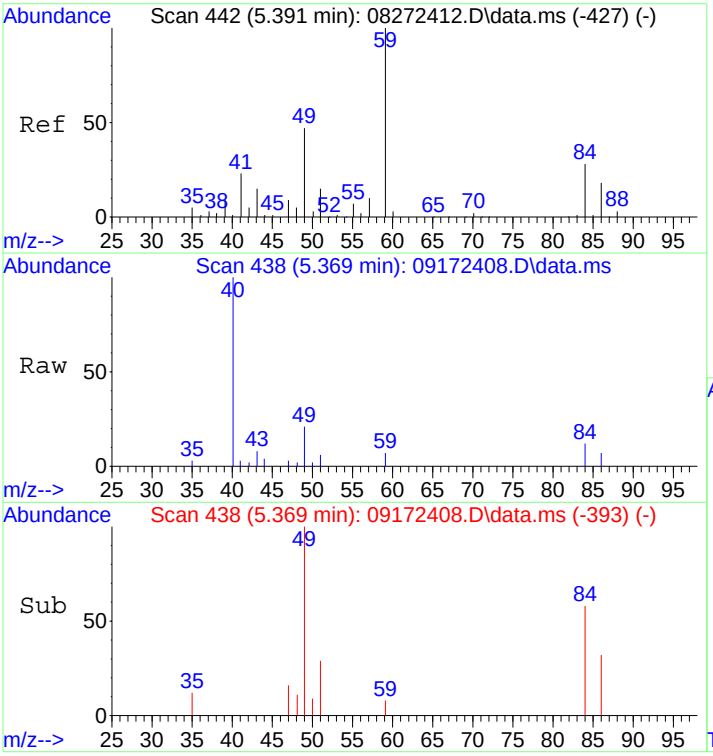


#15
2-Propanol (Isopropanol)
Concen: 19.29 ng
RT: 4.87 min Scan# 350
Delta R.T. -0.037 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 45 Resp: 898338

Ion	Ratio	Lower	Upper
45	100		
43	16.9	0.0	40.0

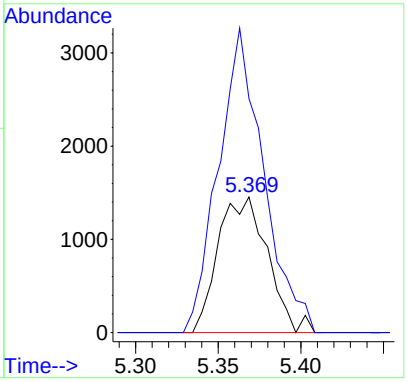


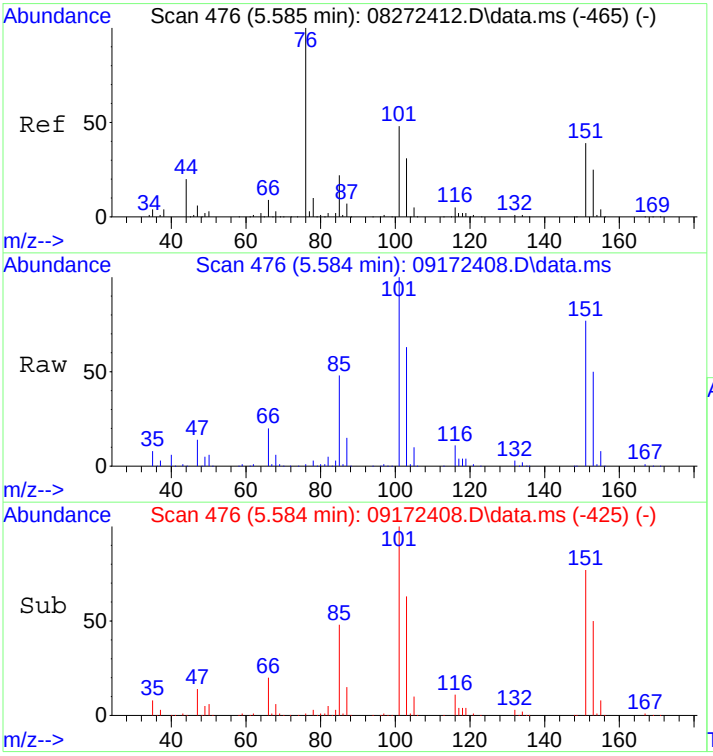


#19
Methylene Chloride
Concen: 0.22 ng
RT: 5.37 min Scan# 438
Delta R.T. 0.008 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 84 Resp: 3025

Ion	Ratio	Lower	Upper
84	100		
49	205.5	151.1	201.1#

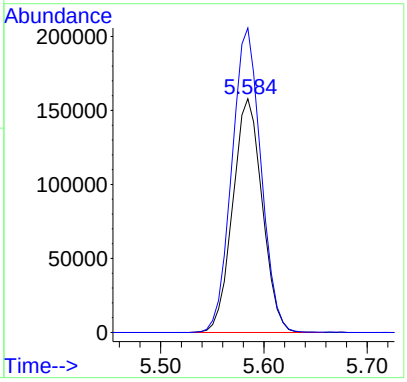


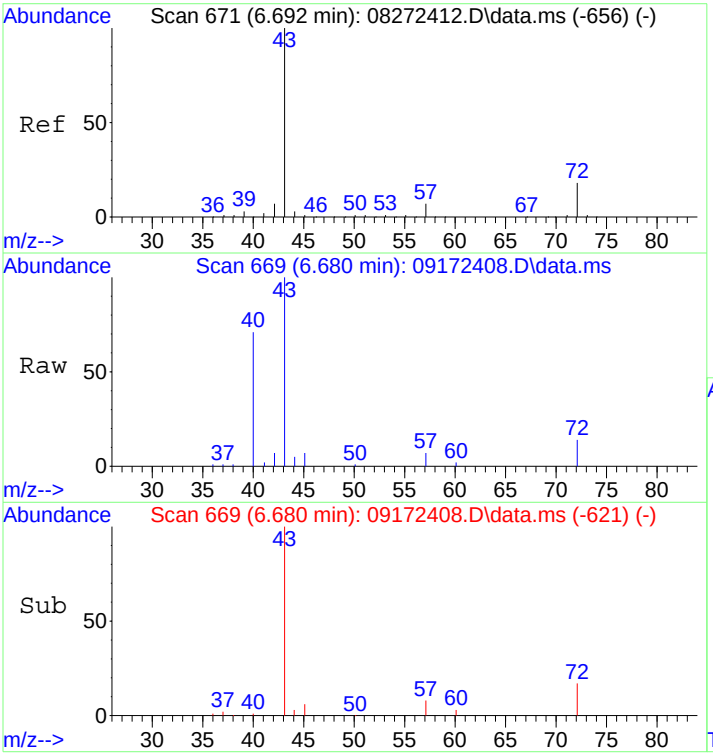


#21
Trichlorotrifluoroethane
Concen: 26.46 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:151 Resp: 313462

Ion	Ratio	Lower	Upper
151	100		
101	128.7	103.4	143.4

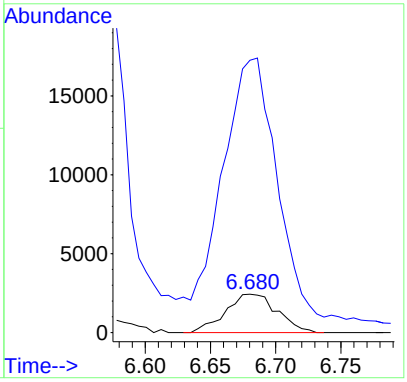


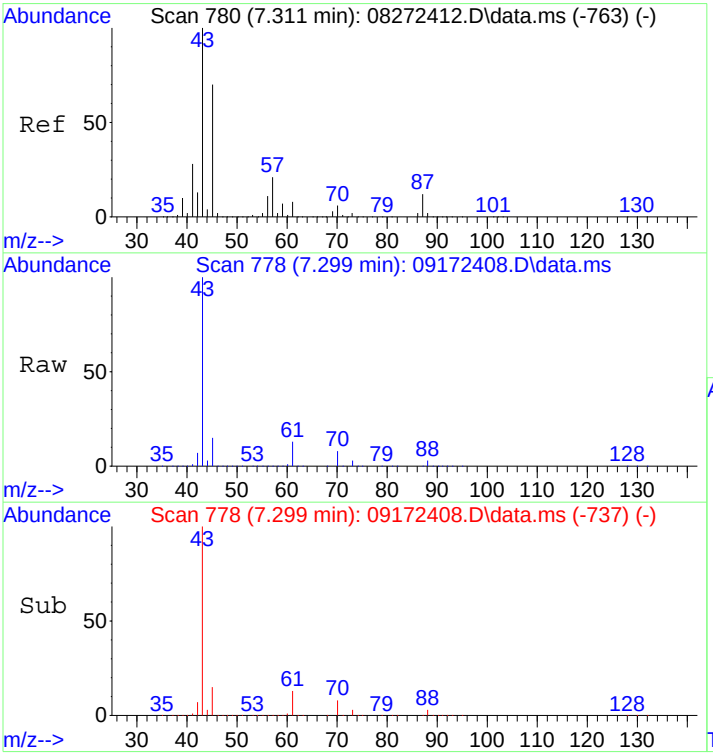


#27
2-Butanone (MEK)
Concen: 0.80 ng
RT: 6.68 min Scan# 669
Delta R.T. 0.022 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 72 Resp: 6711

Ion	Ratio	Lower	Upper
72	100		
43	734.0	548.0	588.0#

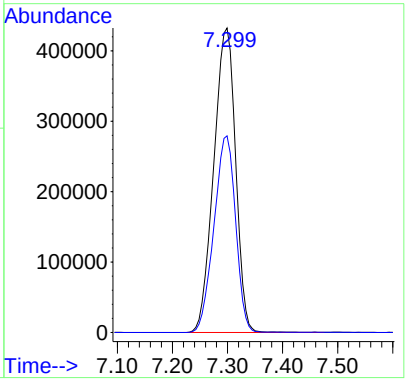


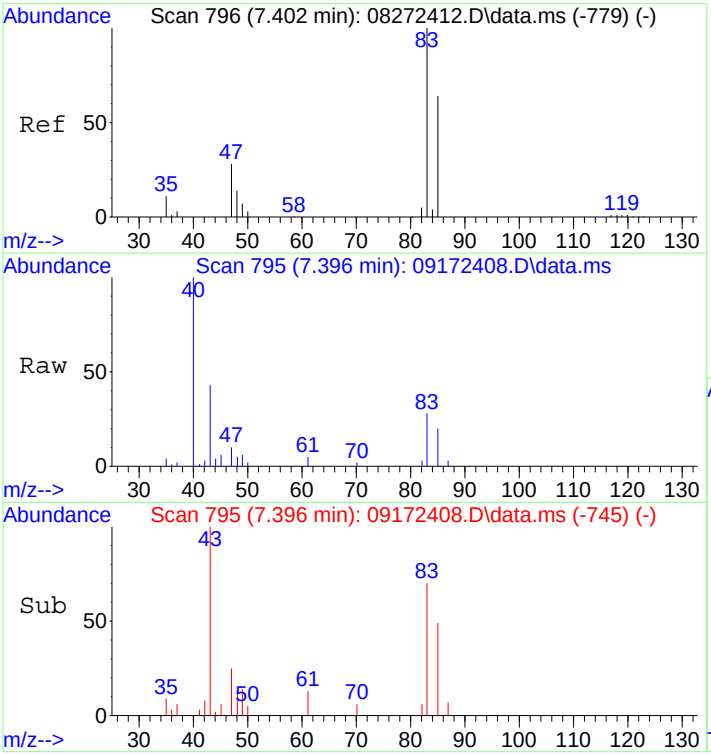


#30
Ethyl Acetate
Concen: 212.01 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.034 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 61 Resp: 1191949

Ion	Ratio	Lower	Upper
61	100		
70	63.9	49.9	89.9

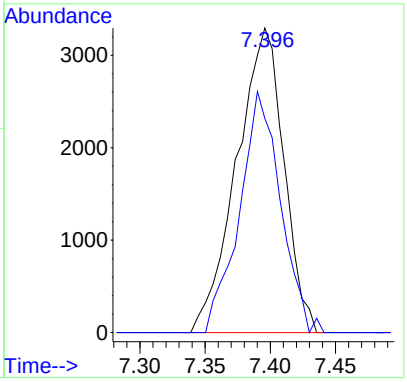


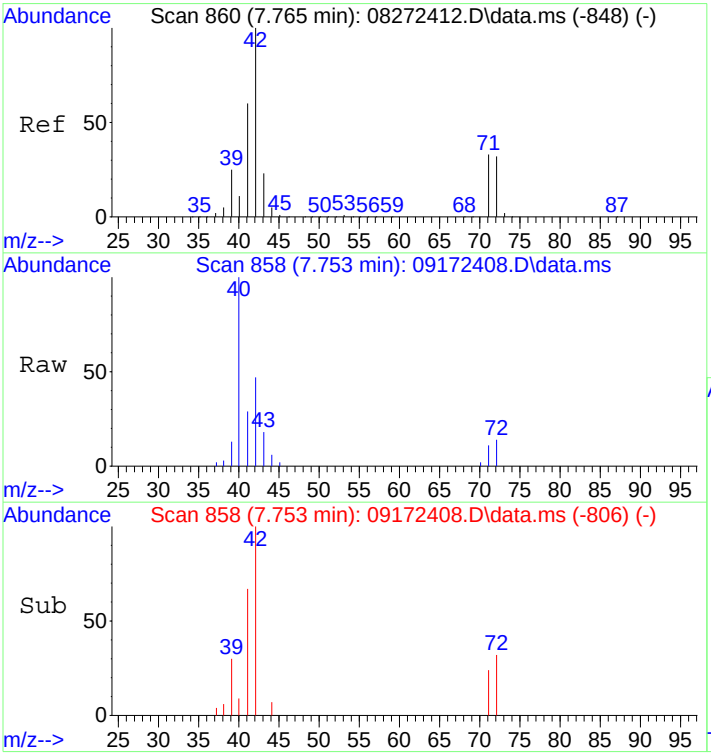


#32
Chloroform
Concen: 0.32 ng
RT: 7.40 min Scan# 795
Delta R.T. 0.035 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 83 Resp: 8312

Ion	Ratio	Lower	Upper
83	100		
85	68.6	45.3	85.3

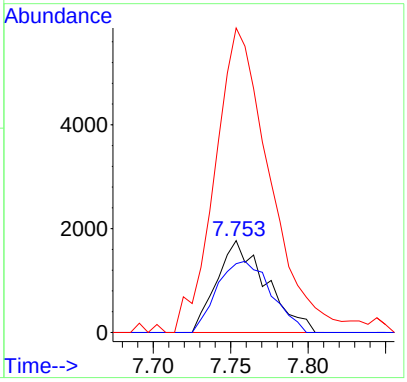


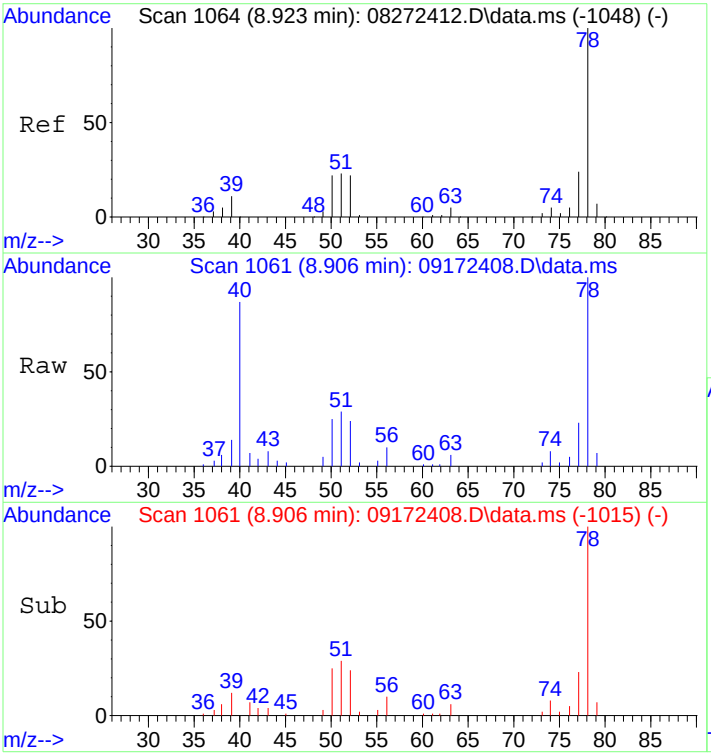


#34
Tetrahydrofuran (THF)
Concen: 0.50 ng
RT: 7.75 min Scan# 858
Delta R.T. 0.045 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 72 Resp: 3941

Ion	Ratio	Lower	Upper
72	100		
71	84.3	78.4	118.4
42	377.3	285.2	325.2#

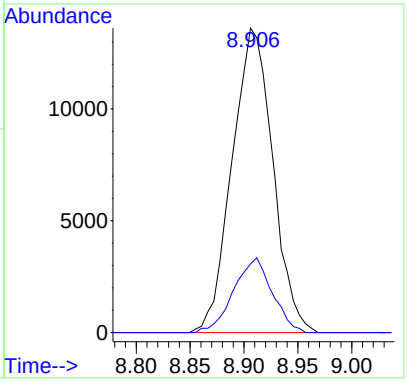


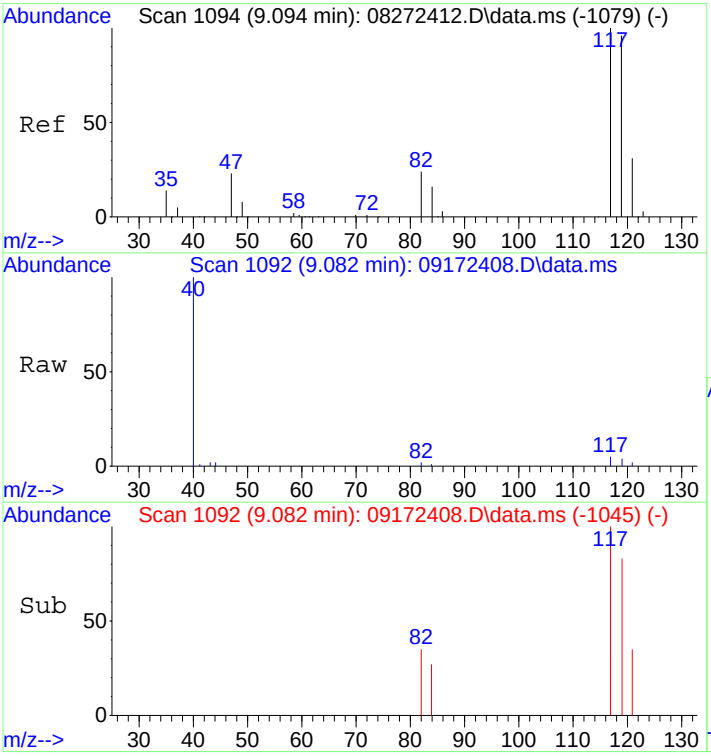


#41
Benzene
Concen: 0.66 ng
RT: 8.91 min Scan# 1061
Delta R.T. 0.009 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 78 Resp: 35770

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

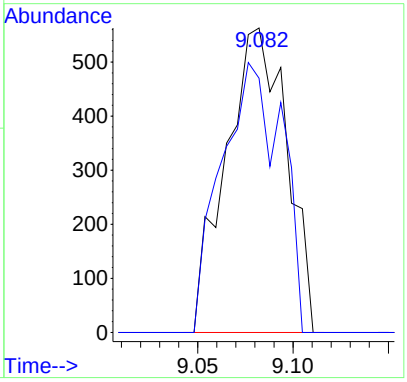


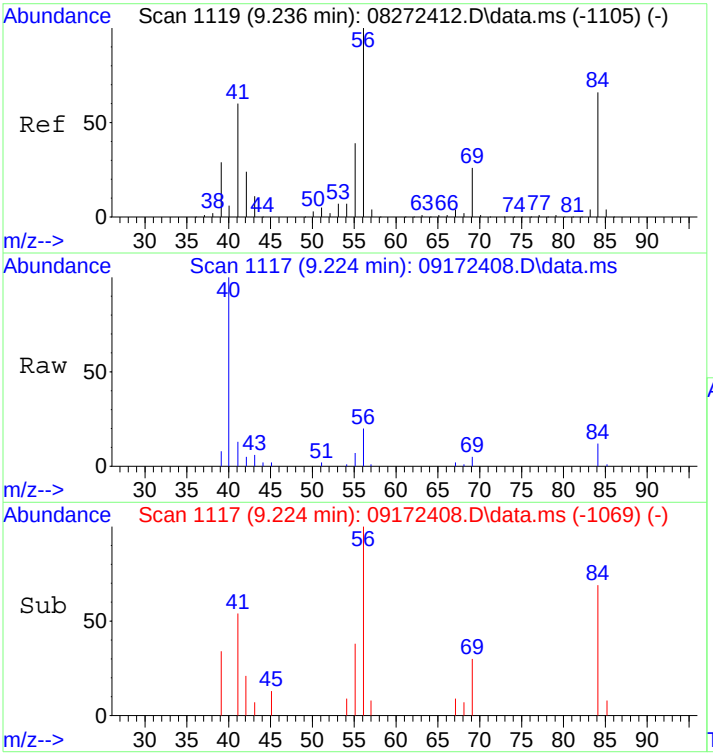


#42
Carbon Tetrachloride
Concen: 0.06 ng
RT: 9.08 min Scan# 1092
Delta R.T. 0.016 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:117 Resp: 1247

Ion	Ratio	Lower	Upper
117	100		
119	88.0	75.1	115.1

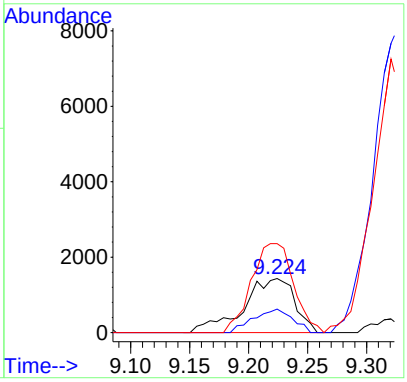


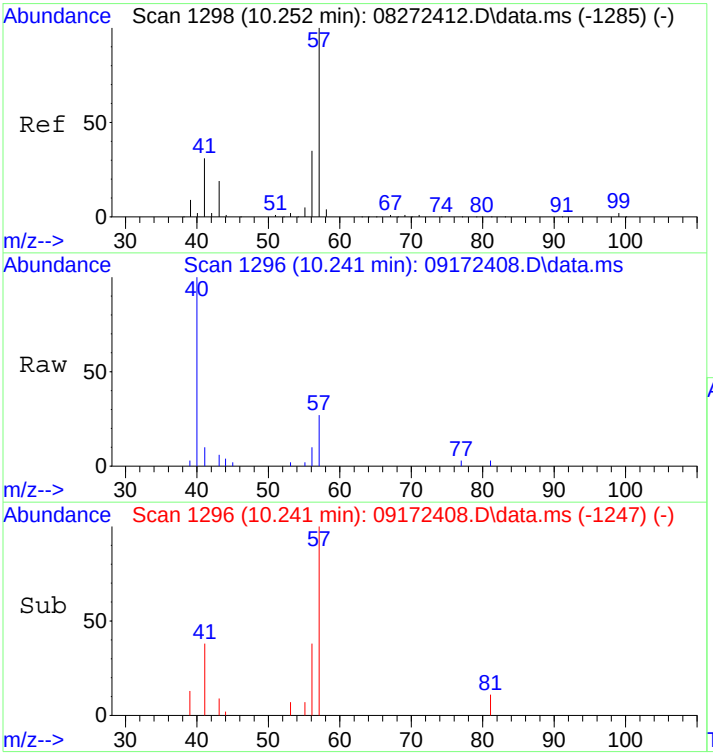


#43
Cyclohexane
Concen: 0.24 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.022 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 84 Resp: 4346

Ion	Ratio	Lower	Upper
84	100		
69	33.0	18.8	58.8
56	134.3	134.5	174.5#

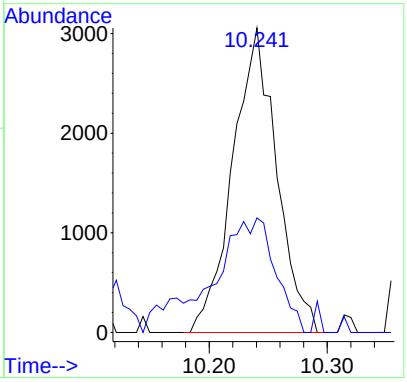


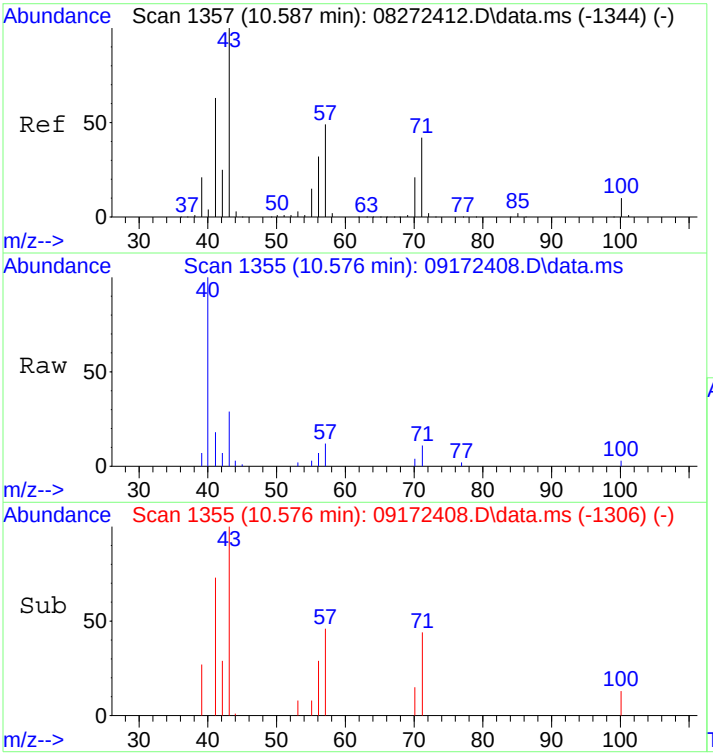


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.12 ng
RT: 10.24 min Scan# 1296
Delta R.T. 0.028 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 57 Resp: 7908

Ion	Ratio	Lower	Upper
57	100		
41	45.3	10.5	50.5

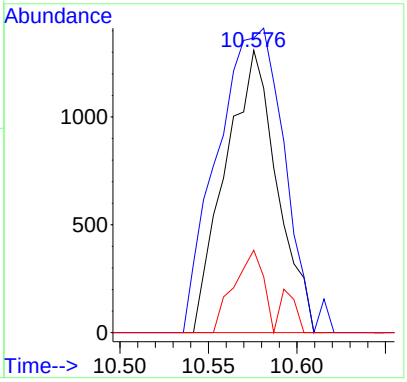


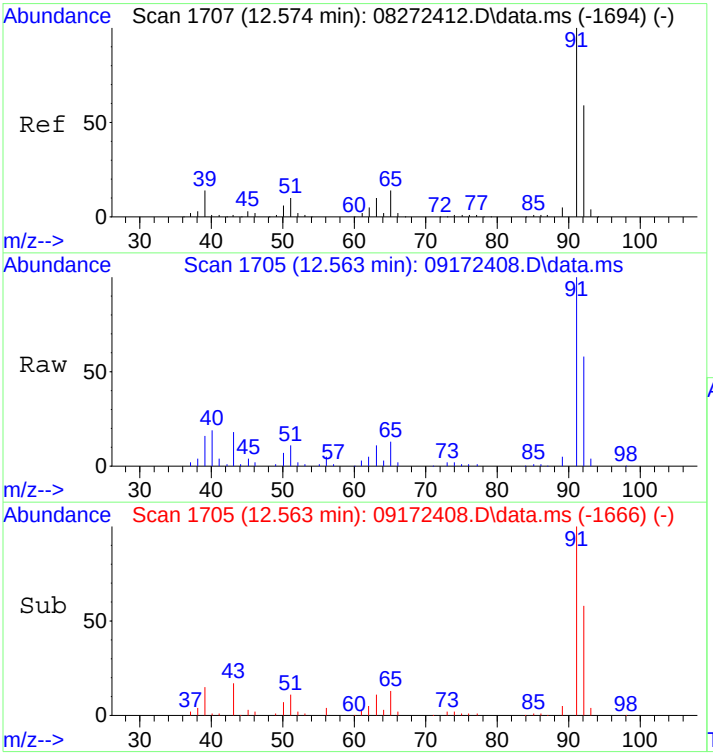


#51
n-Heptane
Concen: 0.22 ng
RT: 10.58 min Scan# 1355
Delta R.T. 0.029 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 71 Resp: 2672

Ion	Ratio	Lower	Upper
71	100		
57	138.9	97.1	137.1#
100	16.7	5.0	45.0

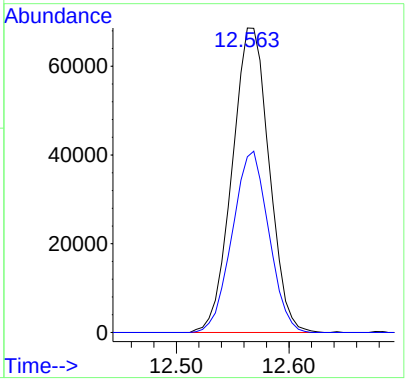


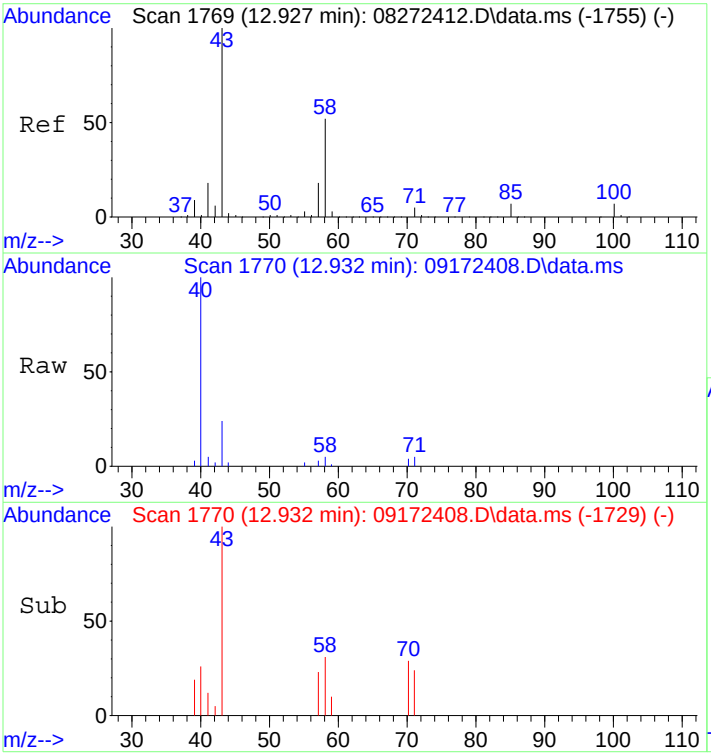


#58
Toluene
Concen: 2.41 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 91 Resp: 156425

Ion	Ratio	Lower	Upper
91	100		
92	58.8	38.5	78.5

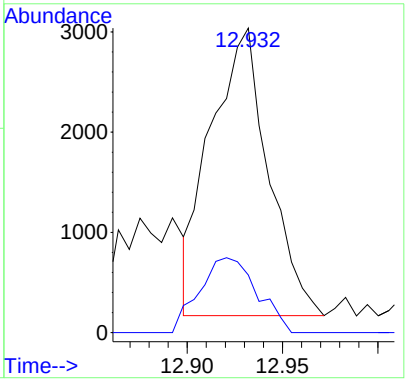


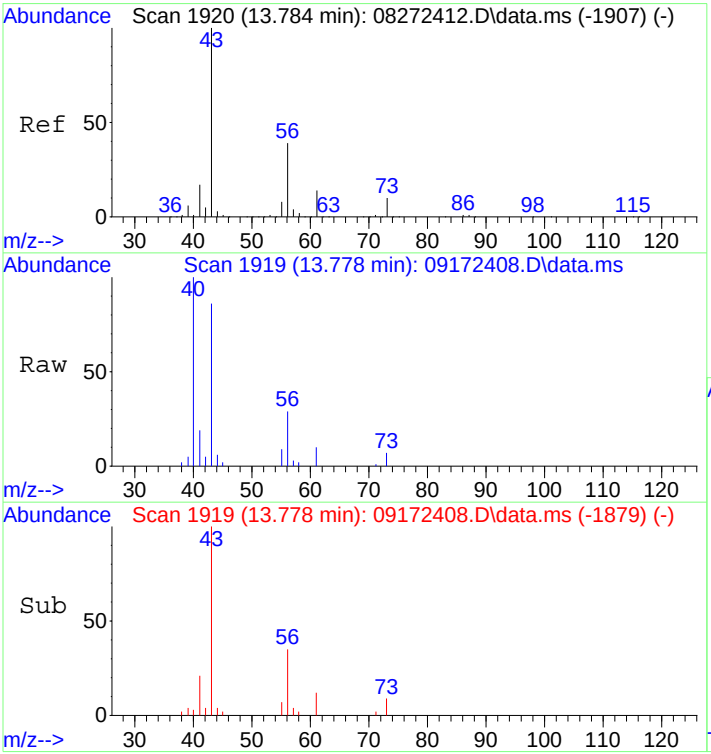


#59
2-Hexanone
Concen: 0.15 ng
RT: 12.93 min Scan# 1770
Delta R.T. -0.017 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 43 Resp: 6051

Ion	Ratio	Lower	Upper
43	100		
58	26.0	31.1	71.1#

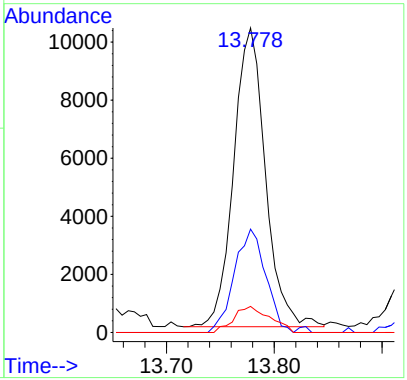


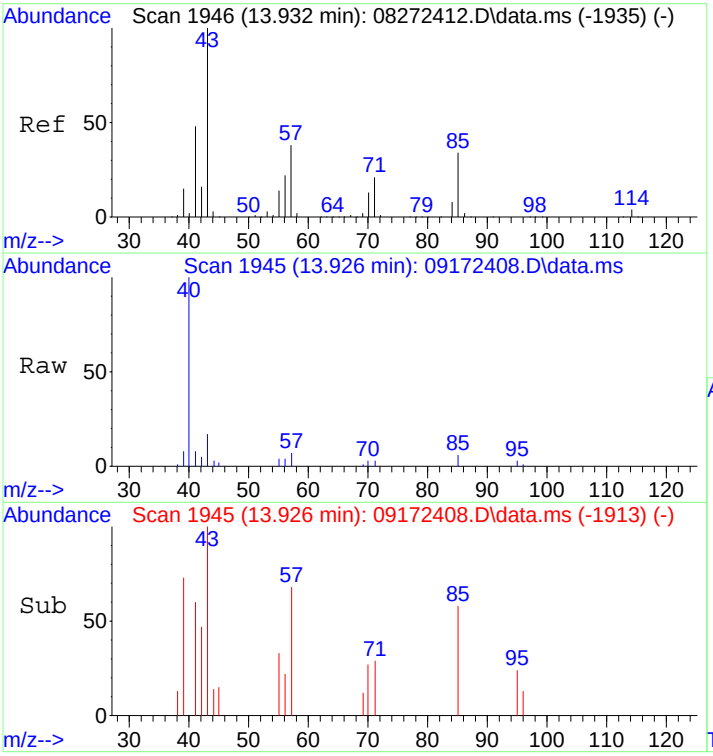


#62
n-Butyl Acetate
Concen: 0.47 ng
RT: 13.78 min Scan# 1919
Delta R.T. -0.023 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 43 Resp: 21092

Ion	Ratio	Lower	Upper
43	100		
56	34.0	18.2	58.2
73	9.9	0.0	30.1

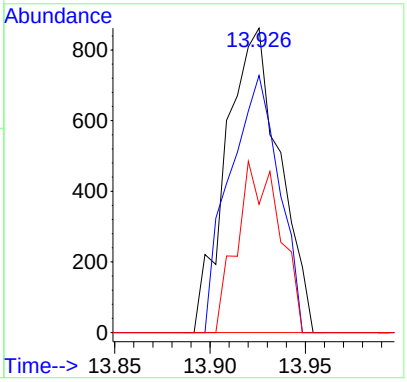


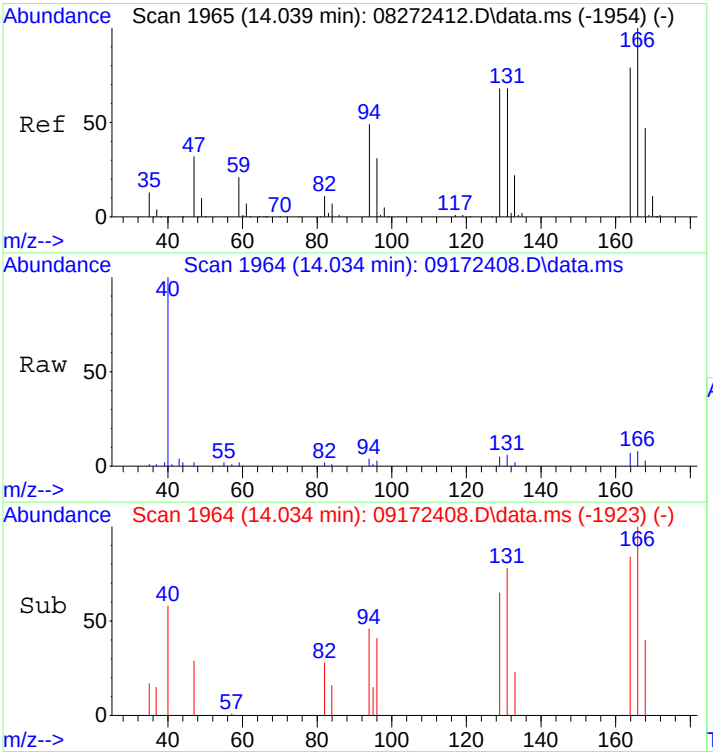


#63
n-Octane
Concen: 0.11 ng
RT: 13.93 min Scan# 1945
Delta R.T. -0.017 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 57 Resp: 1678

Ion	Ratio	Lower	Upper
57	100		
85	78.2	71.2	106.8
71	45.1	43.3	64.9

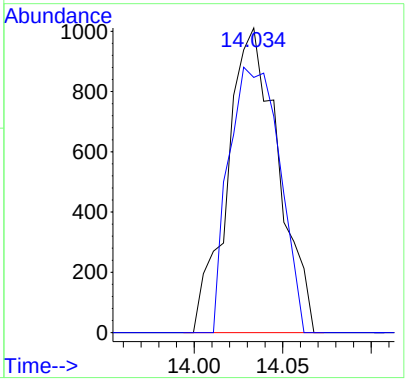


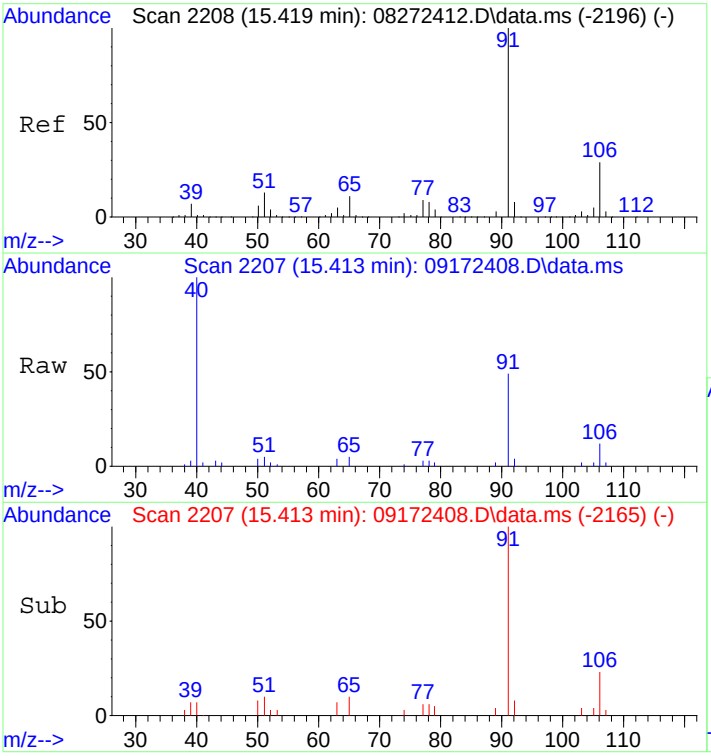


#64
Tetrachloroethene
Concen: 0.11 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:166 Resp: 2017

Ion	Ratio	Lower	Upper
166	100		
164	87.2	59.0	99.0

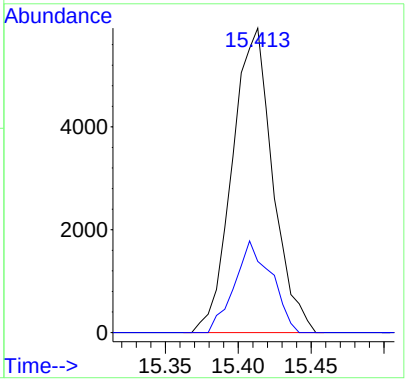


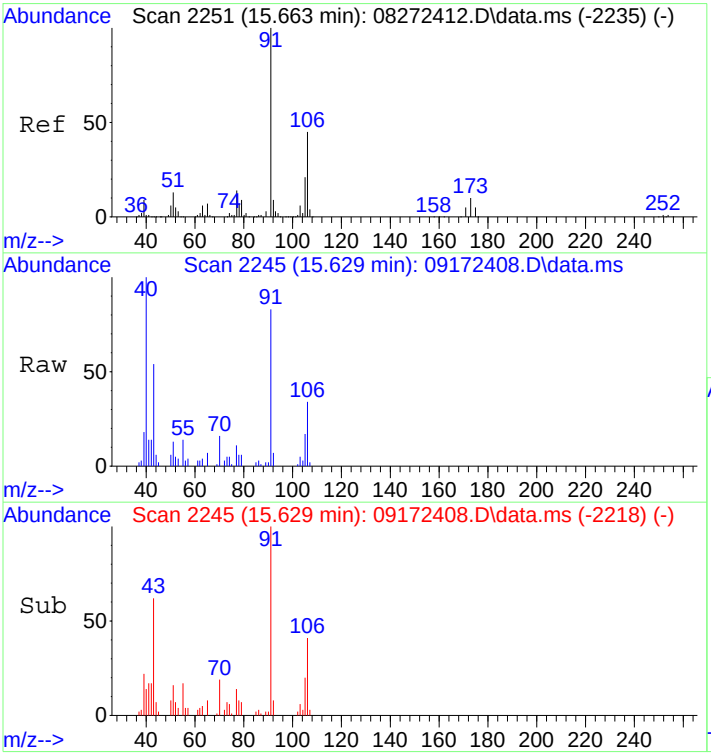


#66
Ethylbenzene
Concen: 0.15 ng
RT: 15.41 min Scan# 2207
Delta R.T. -0.011 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 91 Resp: 11431

Ion	Ratio	Lower	Upper
91	100		
106	27.4	9.2	49.2

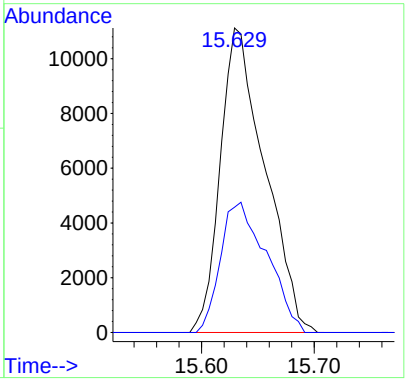


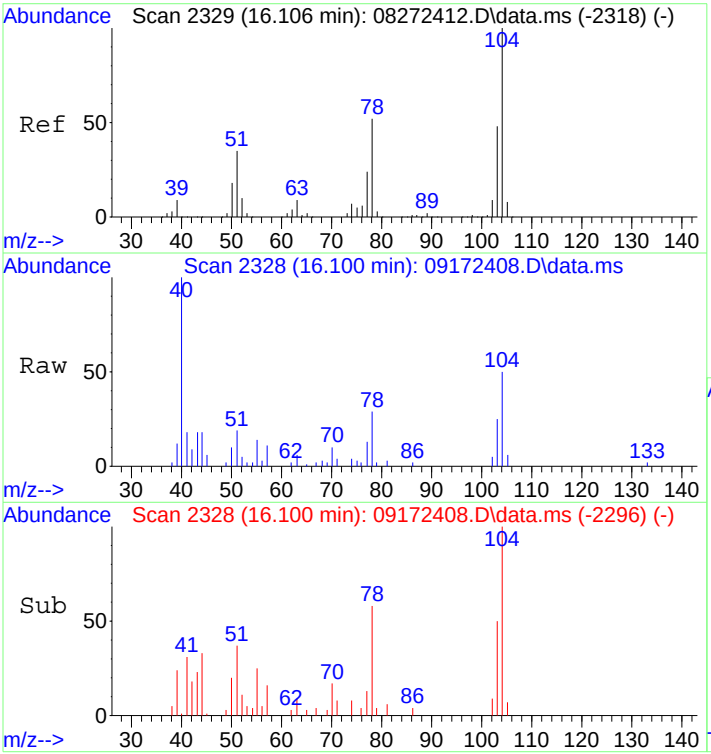


#67
m- & p-Xylenes
Concen: 0.50 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 91 Resp: 30518

Ion	Ratio	Lower	Upper
91	100		
106	44.5	23.8	63.8

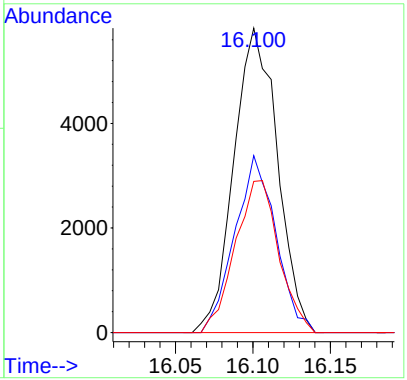


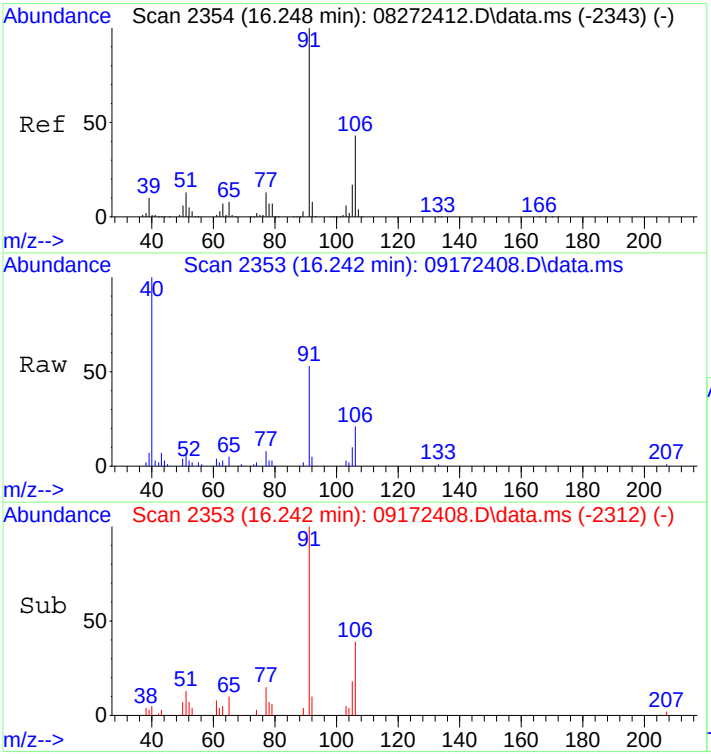


#69
Styrene
Concen: 0.29 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:104 Resp: 11406

Ion	Ratio	Lower	Upper
104	100		
78	54.7	32.2	72.2
103	50.0	28.3	68.3

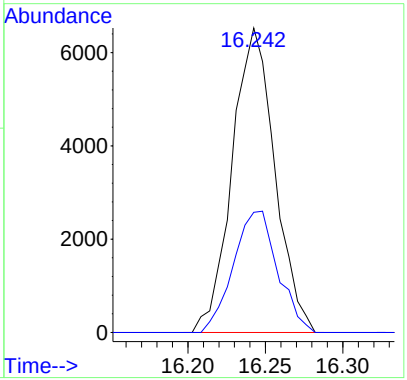


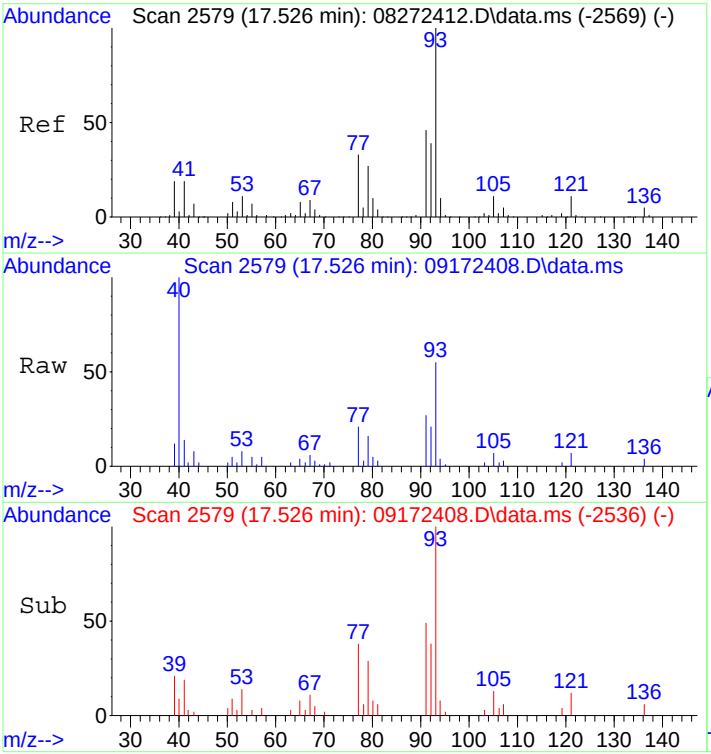


#70
o-Xylene
Concen: 0.21 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 91 Resp: 12524

Ion	Ratio	Lower	Upper
91	100		
106	41.4	22.5	62.5

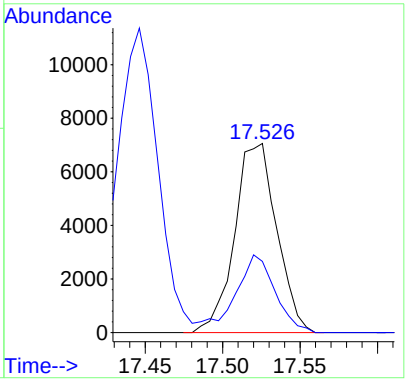


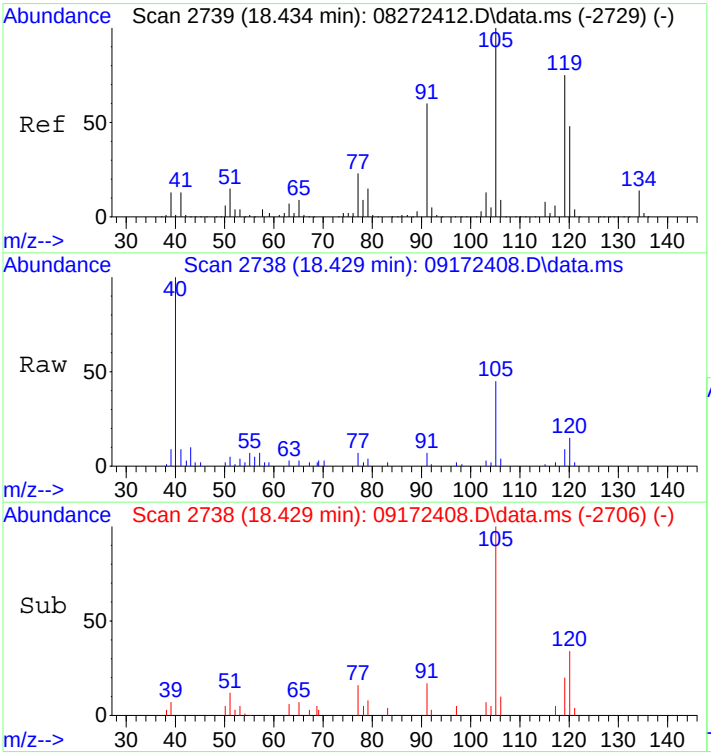


#75
alpha-Pinene
Concen: 0.37 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 93 Resp: 13370

Ion	Ratio	Lower	Upper
93	100		
77	38.2	13.1	53.1

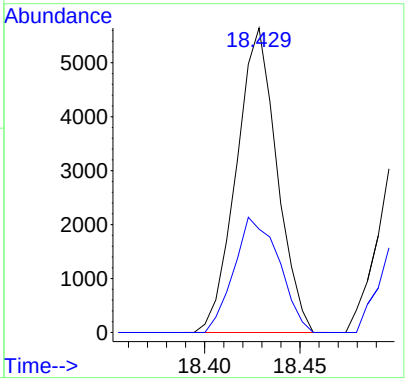


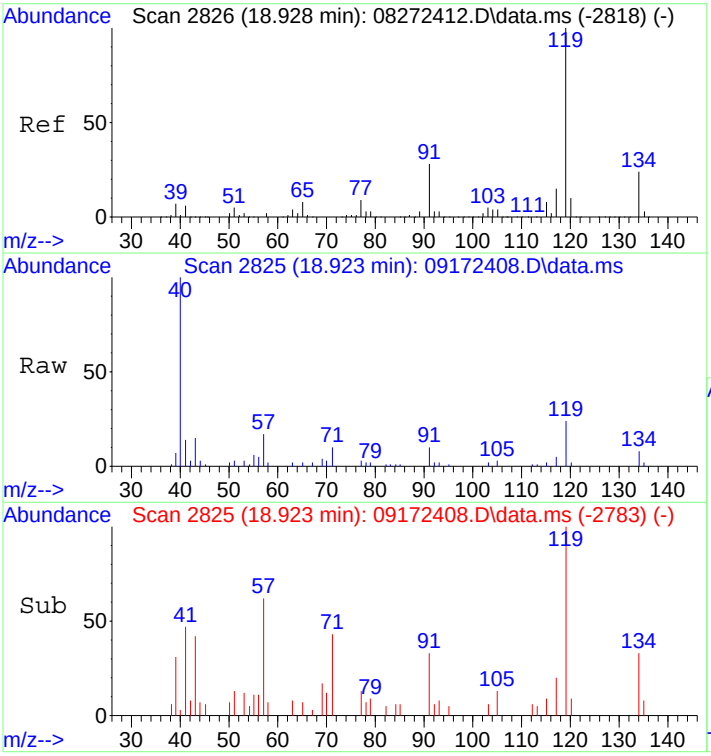


#82
1,2,4-Trimethylbenzene
Concen: 0.14 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:105 Resp: 8369

Ion	Ratio	Lower	Upper
105	100		
120	41.9	28.8	68.8

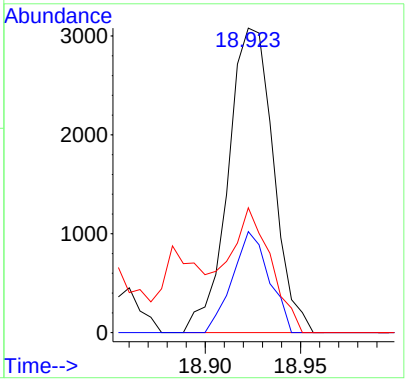


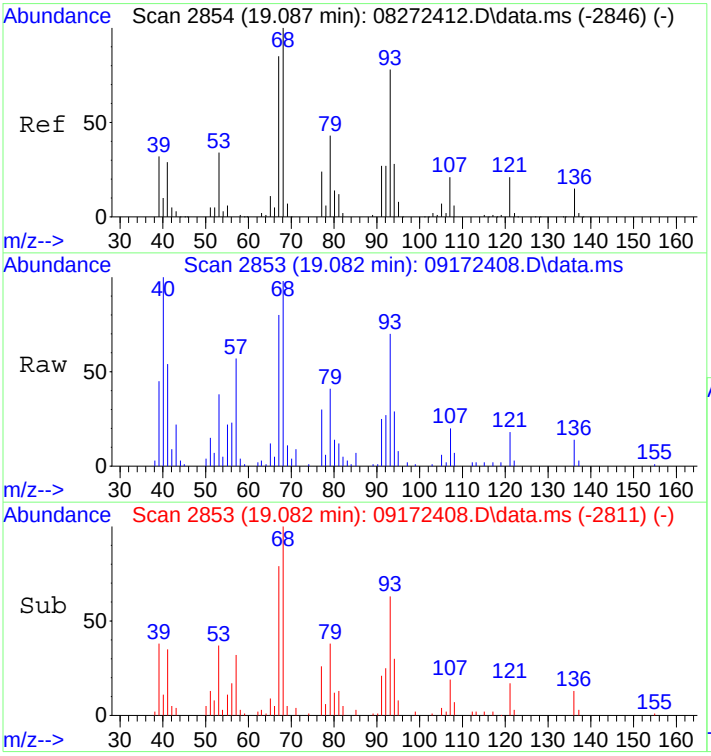


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.08 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:119 Resp: 5080

Ion	Ratio	Lower	Upper
119	100		
134	26.9	4.7	44.7
91	35.6	8.1	48.1

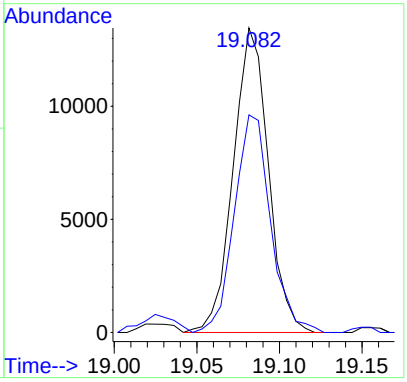


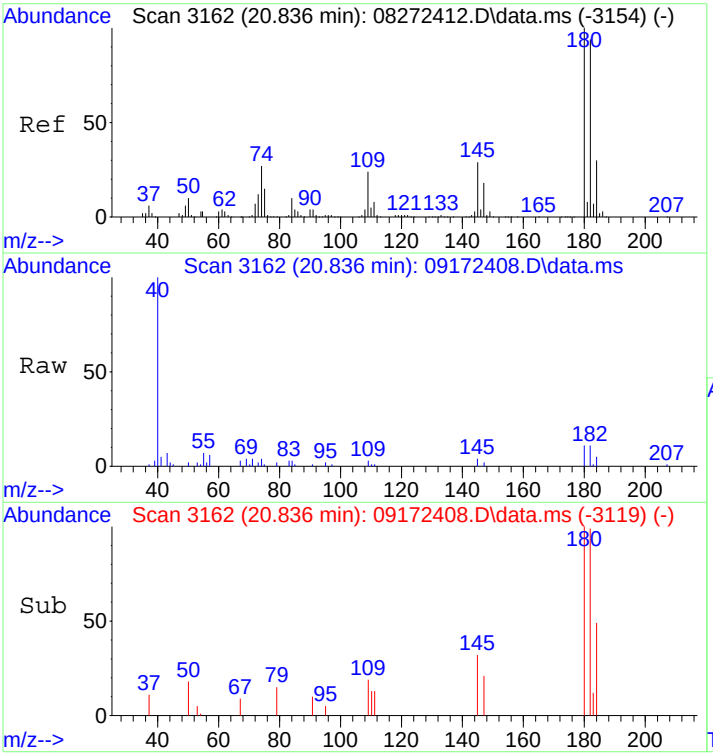


#91
d-Limonene
Concen: 0.97 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion: 68 Resp: 19867

Ion	Ratio	Lower	Upper
68	100		
93	73.8	56.2	96.2

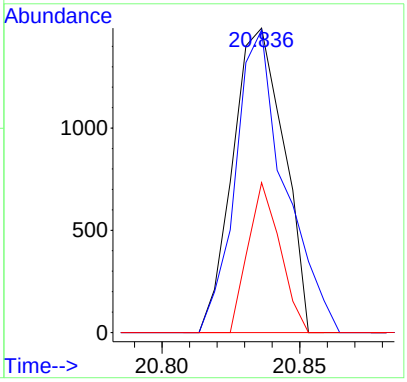


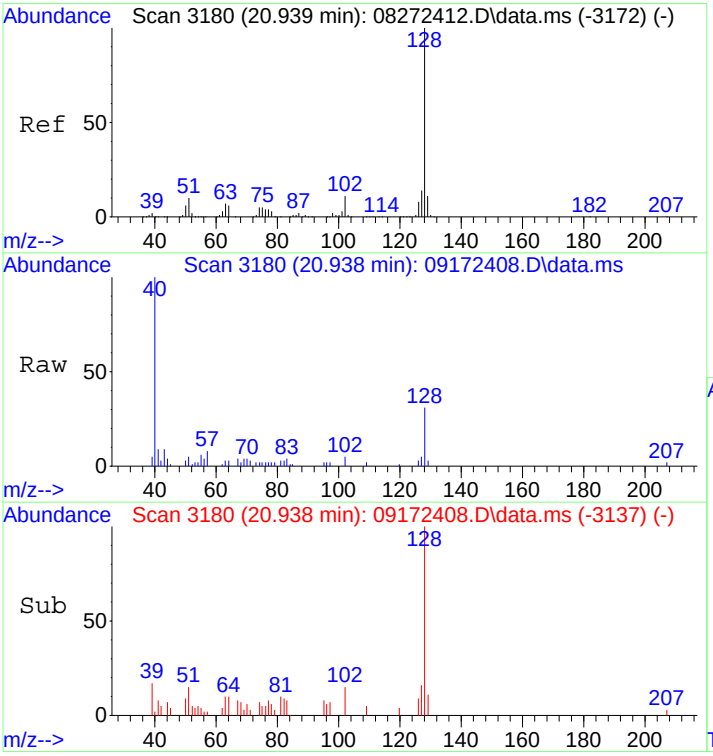


#94
1,2,4-Trichlorobenzene
Concen: 0.07 ng
RT: 20.84 min Scan# 3162
Delta R.T. -0.006 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:180 Resp: 1916

Ion	Ratio	Lower	Upper
180	100		
182	96.5	76.2	114.2
184	31.1	24.3	36.5

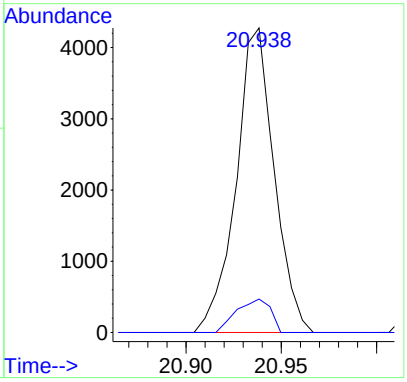




#95
Naphthalene
Concen: 0.09 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09172408.D
Acq: 17 Sep 2024 12:46

Tgt Ion:128 Resp: 5944

Ion	Ratio	Lower	Upper
128	100		
129	9.8	0.0	31.1



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

9/30/24

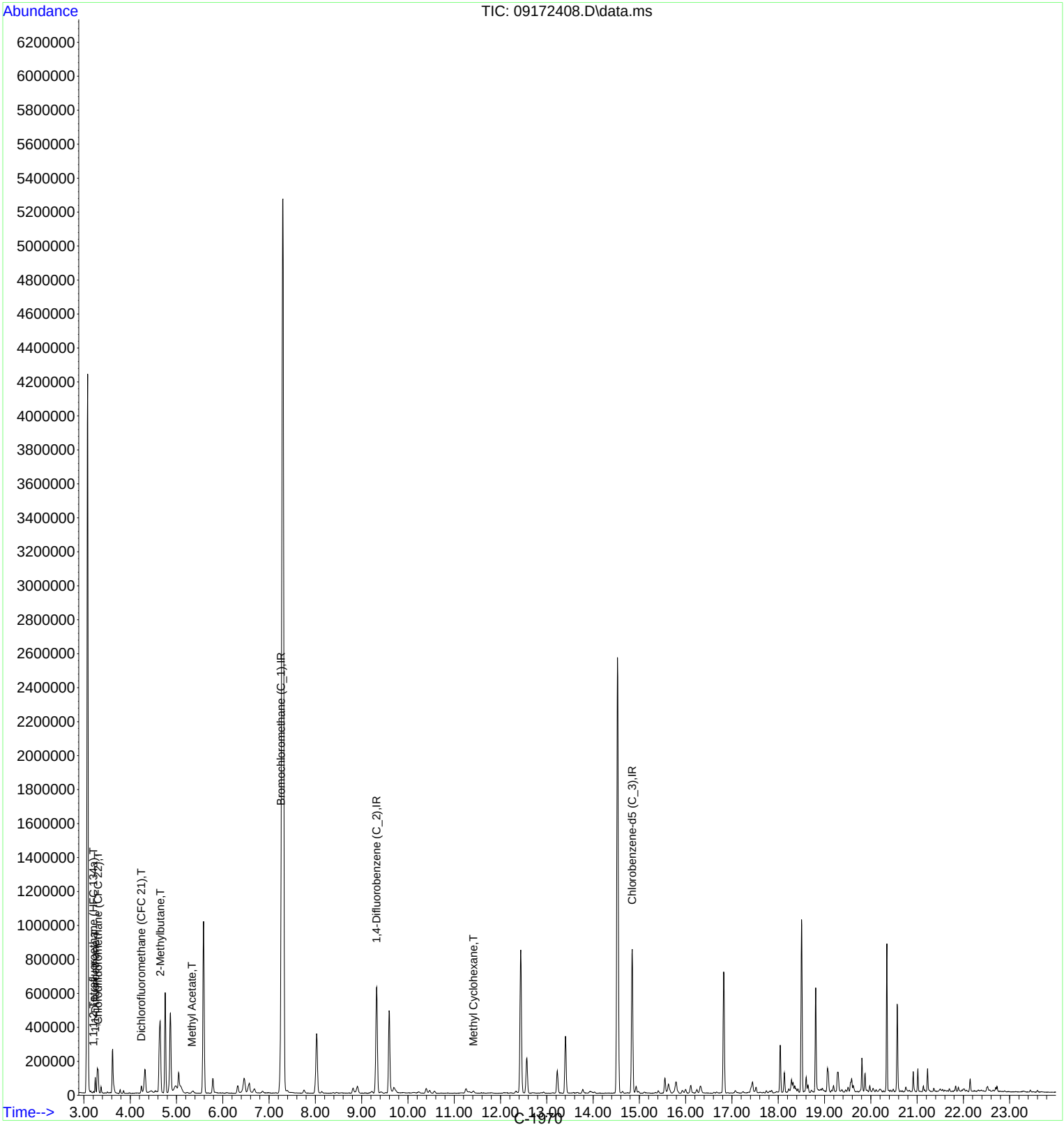
Quant Time: Sep 30 07:29:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C_1)	7.26	130	129152	12.500 ng		0.00
16) 1,4-Difluorobenzene (C_2)	9.32	114	574190	12.500 ng		0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	171391	12.500 ng		0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	247	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	3388	0.256 ng	#	26
4) 1,1-Difluoroethane	3.24	65	21668	1.922 ng		94
5) Chlorodifluoromethane ...	3.31	67	583	0.132 ng	#	66
6) 1-Chloro-1,1-Difluoroe...	3.51	65	559	N.D.		
7) Dichlorofluoromethane ...	4.24	67	33936	1.146 ng		100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.62	83	1140	N.D.		
10) 2-Methylbutane	4.65	57	75553	4.905 ng		89
11) Methyl Acetate	5.33	43	11465	0.263 ng	#	58
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.06	84	130	N.D.		
17) 2,3-Dimethylpentane	9.51	56	1901	N.D.		
18) Dibromomethane	9.81	174	78	N.D.		
20) Methyl Cyclohexane	11.42	55	5514	0.187 ng	#	62
21) 1,3-Dichloropropane	12.56	76	572	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.37	75	60	N.D.		
25) Bromobenzene	17.10	77	125	N.D.		
26) 2-Chlorotoluene	17.61	91	306	N.D.		
27) 4-Chlorotoluene	17.68	91	3440	N.D.		
28) Indane	19.11	117	713	N.D.		
29) Indene	19.21	115	266	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	917	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	917	N.D.		
32) 1,2,3,5-Tetramethylben...	20.64	119	69	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	157	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

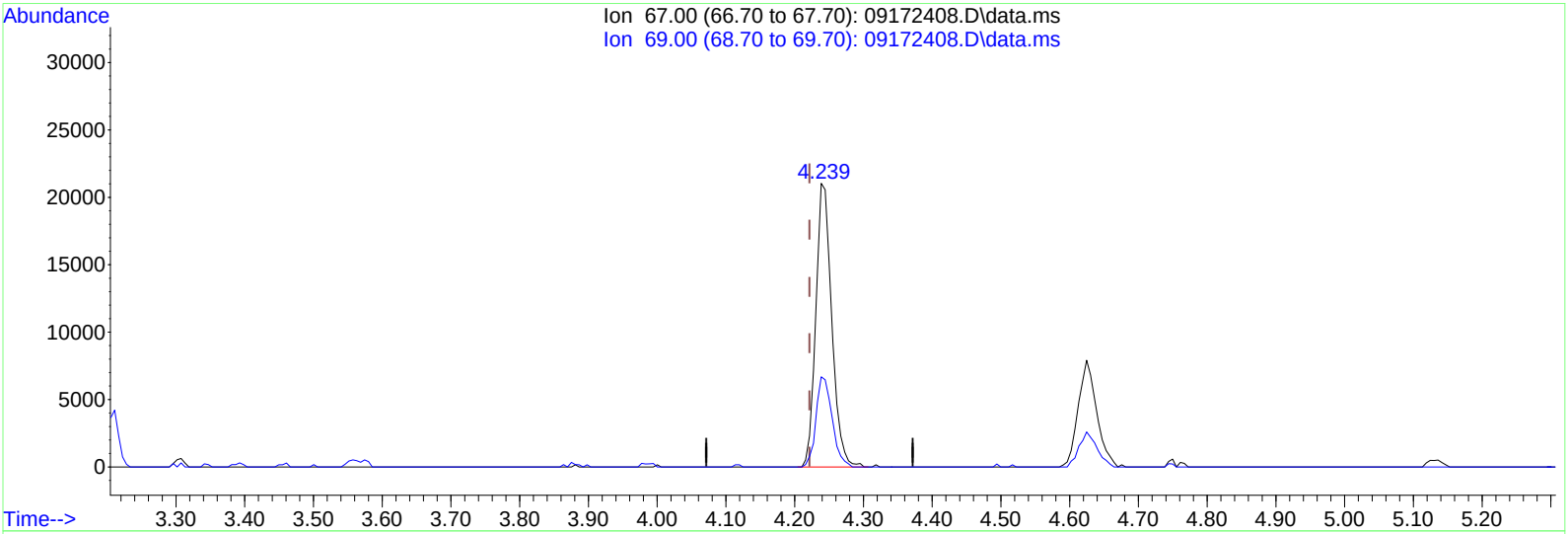
Quant Time: Sep 30 07:29:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

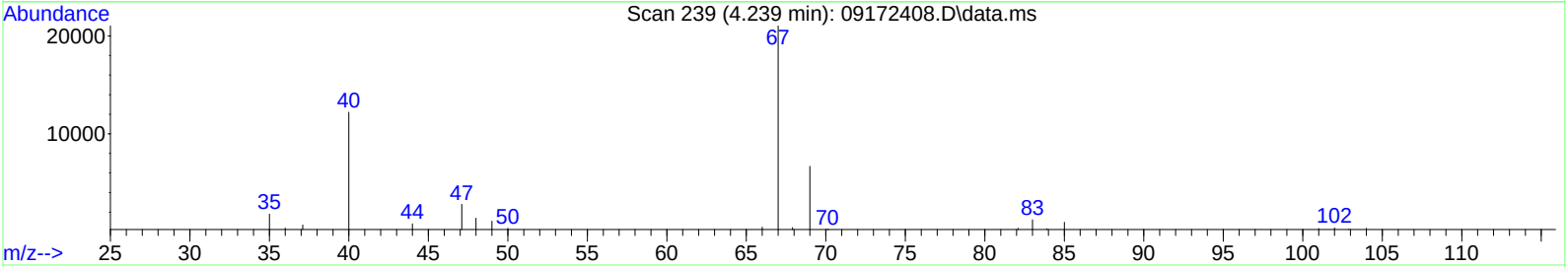


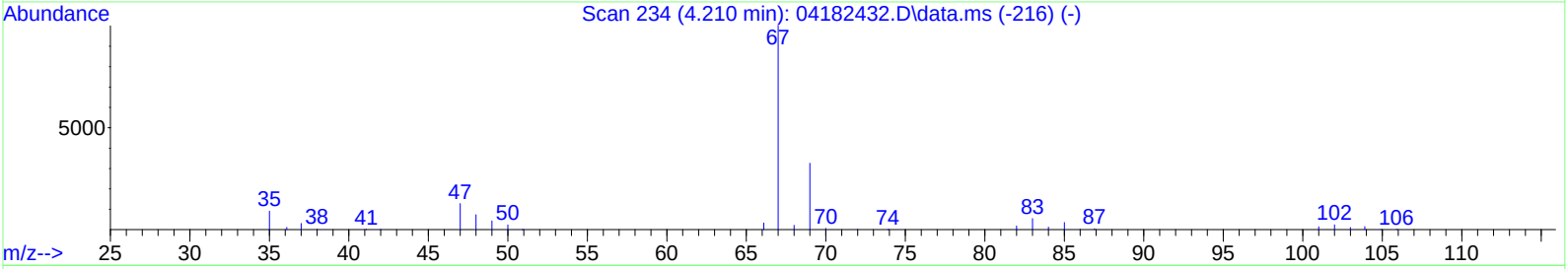
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 30 07:29:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09172408.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.239min (+0.017) 1.15ng

response 33936

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	32.16
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09172408.D\data.ms

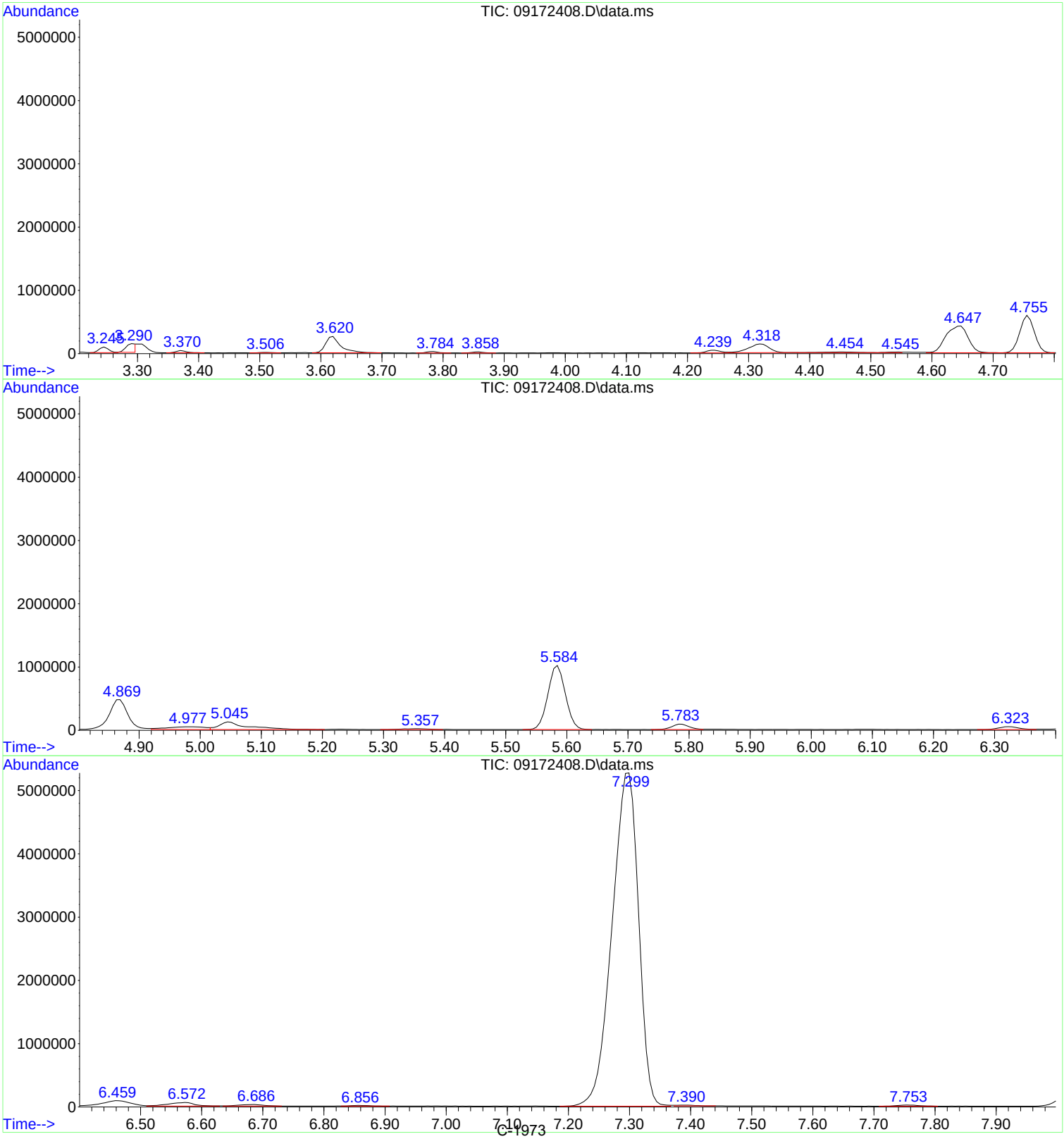
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.245	60	64	68	rBV	89279	98413	0.62%	0.417%
2	3.290	68	72	73	rBV	137720	156025	0.99%	0.661%
3	3.370	82	86	93	rVB	35692	40846	0.26%	0.173%
4	3.506	106	110	115	rBV3	7580	10656	0.07%	0.045%
5	3.620	124	130	144	rVB2	258558	441057	2.79%	1.870%
6	3.784	154	159	164	rBV	22950	30118	0.19%	0.128%
7	3.858	167	172	177	rVB	16453	20978	0.13%	0.089%
8	4.239	233	239	244	rBV	41524	68452	0.43%	0.290%
9	4.318	244	253	264	rVB	137125	321815	2.04%	1.364%
10	4.454	264	277	287	rVB4	9814	34863	0.22%	0.148%
11	4.545	287	293	294	rBV4	9136	13984	0.09%	0.059%
12	4.647	301	311	323	rVB2	422771	1064807	6.73%	4.514%
13	4.755	323	330	338	rVV	591085	977353	6.18%	4.144%
14	4.869	338	350	359	rVV	470663	992112	6.27%	4.206%
15	4.977	359	369	376	rVV	42322	186254	1.18%	0.790%
16	5.045	376	381	409	rVB2	120934	377964	2.39%	1.602%
17	5.357	425	436	443	rBV5	13008	39835	0.25%	0.169%
18	5.584	466	476	486	rBV	1011297	2011481	12.72%	8.528%
19	5.783	503	511	518	rBV	86152	165925	1.05%	0.703%
20	6.323	597	606	614	rBV2	44882	106043	0.67%	0.450%
21	6.459	618	630	639	rVV	86507	281685	1.78%	1.194%
22	6.572	639	650	660	rVV2	57557	173829	1.10%	0.737%
23	6.686	661	670	678	rVB2	23480	67102	0.42%	0.284%
24	6.856	695	700	709	rVB4	10249	23516	0.15%	0.100%
25	7.299	758	778	790	rBV	5266205	15811914	100.00%	67.037%
26	7.390	791	794	803	rVB3	12206	27303	0.17%	0.116%
27	7.753	850	858	867	rBV3	17986	42673	0.27%	0.181%

Sum of corrected areas: 23587003

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:46
Operator : SC
Sample : P2403661-058 (400mL)
Misc : S37-08262404
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\17\\
Data File : 09172408.D
Acq On : 17 Sep 2024 12:466
Operator : SCC
Sample : P2403661-058 (400mL))
Misc : S37-082624044
ALS Vial : 6 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/30/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc
No Library Search Compounds Detected									

****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 06:39:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	117687	12.500 ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	514963	12.500 ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	154712	12.500 ng		0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	316558	14.375 ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%			
57) Toluene-d8 (SS2)	12.43	98	582167	10.726 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.84%			
73) Bromofluorobenzene (SS3)	16.82	174	205625	11.328 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.31	85	120	N.D.		
4) Chloromethane	3.50	50	6528	0.292 ng		92
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	336	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	4.02	94	390	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.30	45	22091m	1.730 ng		
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.54	56	2160	0.221 ng		92
13) Acetone	4.63	58	61676	5.723 ng		91
14) Trichlorofluoromethane	4.76	101	48360	1.774 ng		98
15) 2-Propanol (Isopropanol)	4.86	45	15203m	0.358 ng		
16) Acrylonitrile	5.04	53	59	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	5.38	59	59	N.D.		
19) Methylene Chloride	5.35	84	788	0.062 ng	#	48
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	20963	1.942 ng		98
22) Carbon Disulfide	5.60	76	3389	0.081 ng		49
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	6.43	86	802	0.366 ng	#	67
27) 2-Butanone (MEK)	6.67	72	5161	0.675 ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	7.29	61	5650	1.103 ng		95
31) n-Hexane	0.00	57	0	N.D. d		
32) Chloroform	7.36	83	1243	0.053 ng		95
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	139	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.59	61	142	No Calib	#	
40) 1-Butanol	8.82	56	7934	No Calib	#	
41) Benzene	8.89	78	4373	0.091 ng		90
42) Carbon Tetrachloride	9.07	117	2221	0.111 ng		95
43) Cyclohexane	9.22	84	528	N.D.		
44) tert-Amyl Methyl Ether	9.56	73	433	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 30 06:39:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

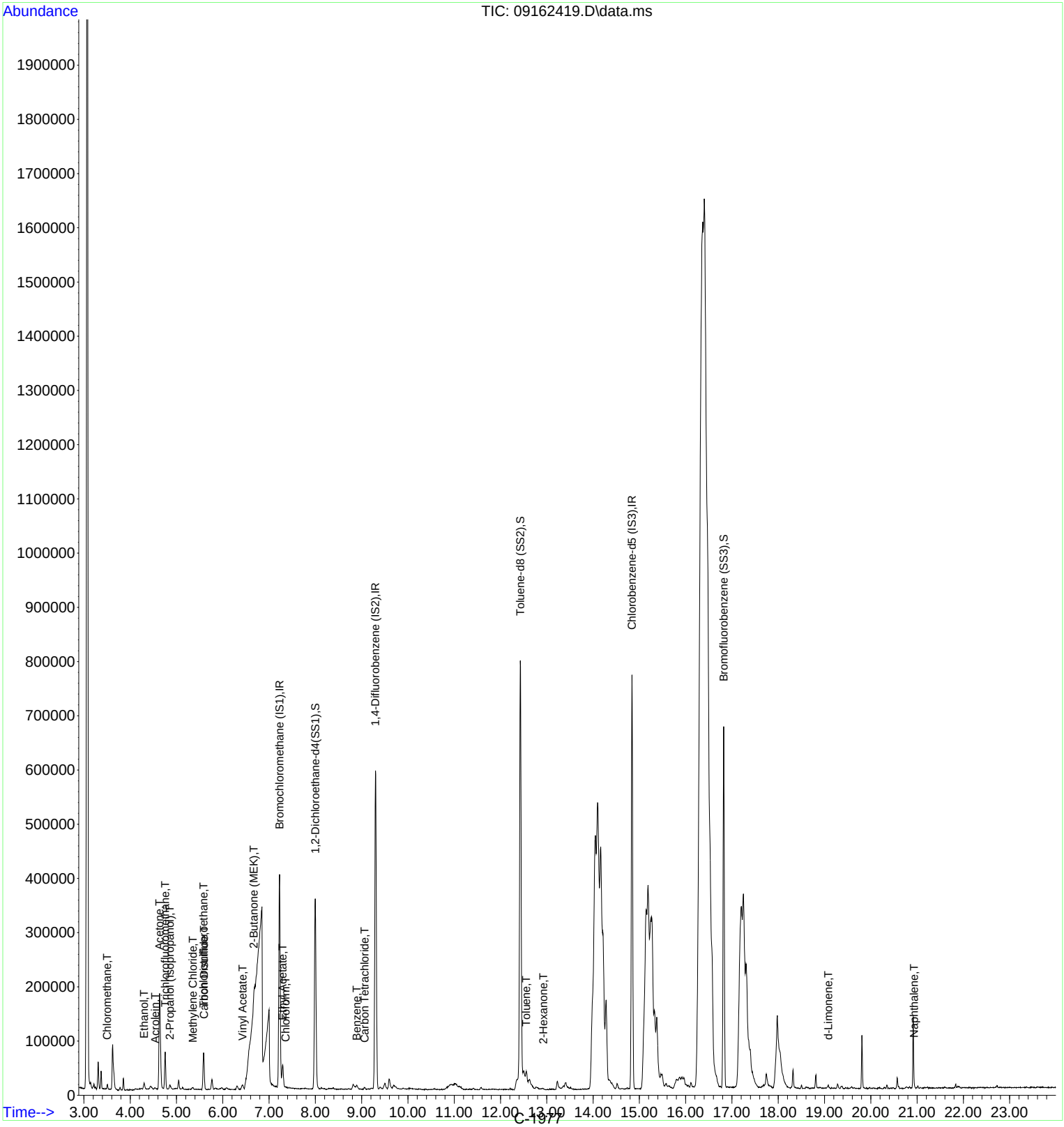
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	382	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	10.56	71	390	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.33	58	113	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	11070	0.189 ng	93
59) 2-Hexanone	12.93	43	2084	0.057 ng	72
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.78	43	1177	N.D.	
63) n-Octane	13.93	57	113	N.D.	
64) Tetrachloroethene	14.06	166	516	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	1019	N.D.	
67) m- & p-Xylenes	15.62	91	2242	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	636	N.D.	
70) o-Xylene	16.25	91	866	N.D.	
71) n-Nonane	16.61	43	729	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	17.53	93	1593	N.D.	
76) n-Propylbenzene	17.68	91	361	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.82	105	121	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	109	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.43	105	517	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.66	146	263	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	263	N.D.	
87) sec-Butylbenzene	18.74	105	161	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	1755	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.03	146	106	N.D.	
91) d-Limonene	19.08	68	1085	0.059 ng	93
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.97	58	2976	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	401	N.D.	
95) Naphthalene	20.94	128	3094	0.053 ng	88
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	222	N.D.	
98) Cyclohexanone	15.36	55	1072	No Calib #	
99) tert-Butylbenzene	18.41	119	156	N.D.	
100) n-Butylbenzene	19.39	91	632	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 30 06:39:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

VOA 9/30/24

Quant Time: Sep 30 06:39:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

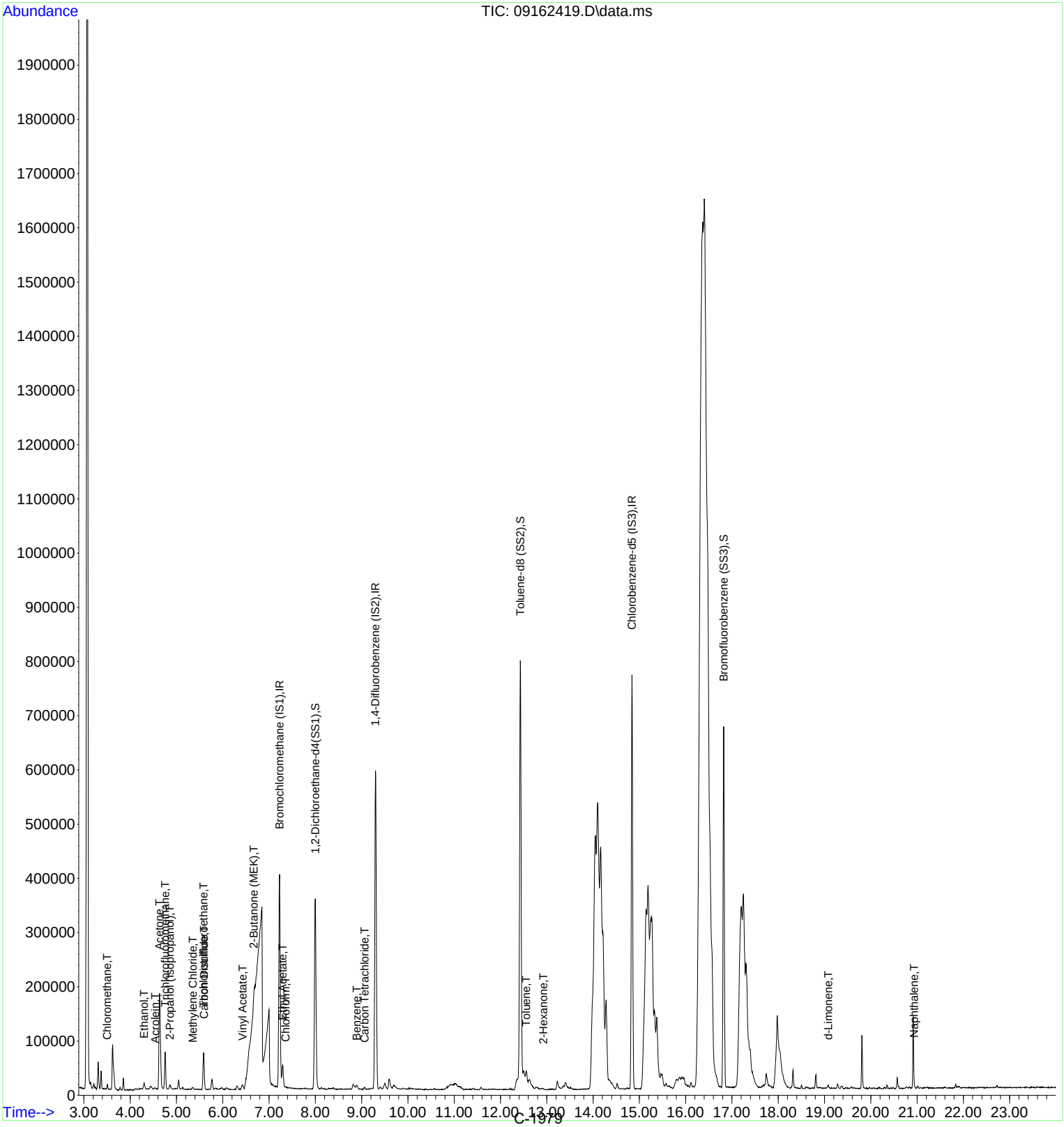
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	117687	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	514963	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	154712	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	316558	14.375	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	12.43	98	582167	10.726	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.84%				
73) Bromofluorobenzene (SS3)	16.82	174	205625	11.328	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.64%				
Target Compounds							Qvalue
4) Chloromethane	3.50	50	6528	0.292	ng		92
10) Ethanol	4.30	45	22091m	1.730	ng		
12) Acrolein	4.54	56	2160	0.221	ng		92
13) Acetone	4.63	58	61676	5.723	ng		91
14) Trichlorofluoromethane	4.76	101	48360	1.774	ng		98
15) 2-Propanol (Isopropanol)	4.86	45	15203m	0.358	ng		
19) Methylene Chloride	5.35	84	788	0.062	ng	#	48
21) Trichlorotrifluoroethane	5.58	151	20963	1.942	ng		98
22) Carbon Disulfide	5.60	76	3389	0.081	ng		49
26) Vinyl Acetate	6.43	86	802	0.366	ng	#	67
27) 2-Butanone (MEK)	6.67	72	5161	0.675	ng	#	1
30) Ethyl Acetate	7.29	61	5650	1.103	ng		95
32) Chloroform	7.36	83	1243	0.053	ng		95
41) Benzene	8.89	78	4373	0.091	ng		90
42) Carbon Tetrachloride	9.07	117	2221	0.111	ng		95
58) Toluene	12.56	91	11070	0.189	ng		93
59) 2-Hexanone	12.93	43	2084	0.057	ng		72
91) d-Limonene	19.08	68	1085	0.059	ng		93
95) Naphthalene	20.94	128	3094	0.053	ng		88

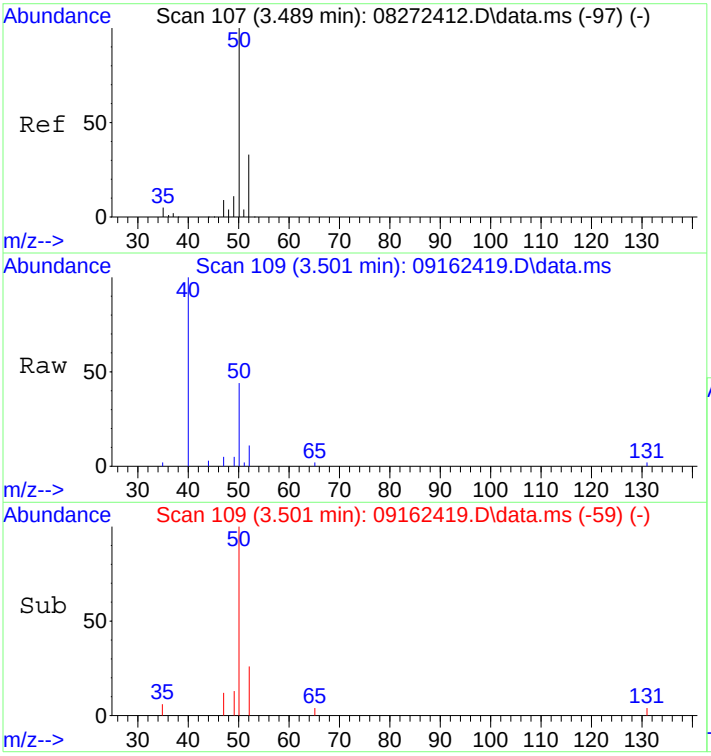
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 30 06:39:43 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

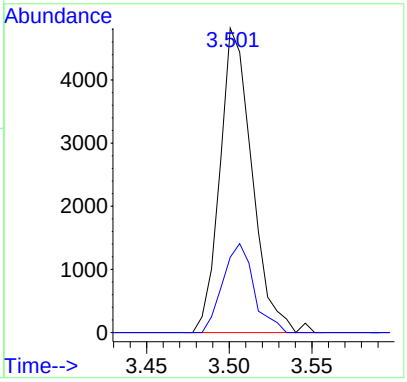


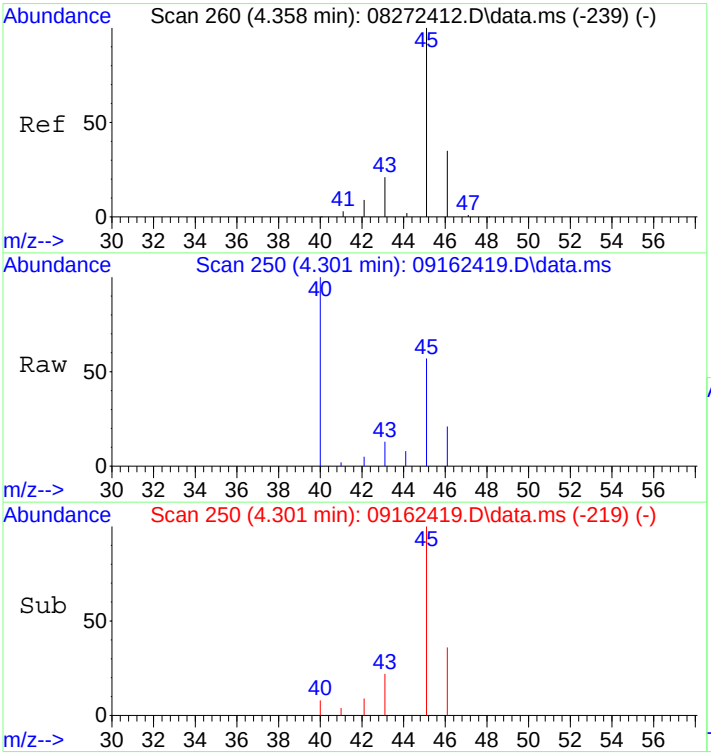


#4
Chloromethane
Concen: 0.29 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.033 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 50 Resp: 6528

Ion	Ratio	Lower	Upper
50	100		
52	28.2	12.4	52.4

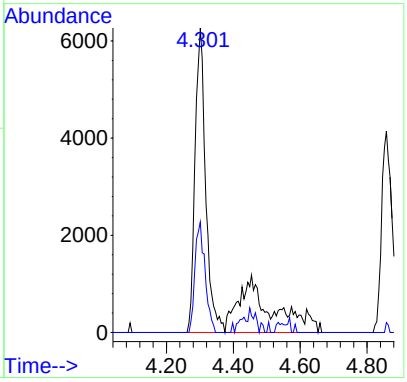


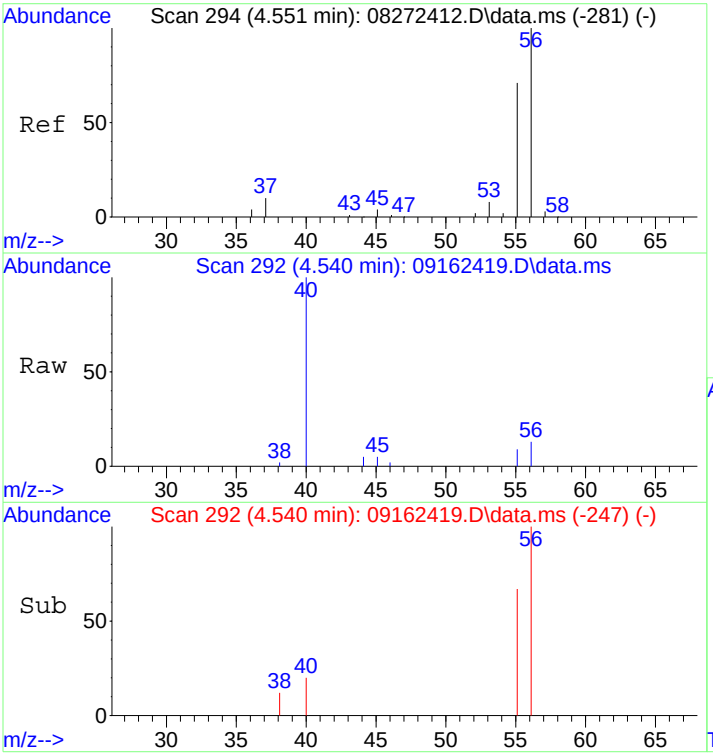


#10
Ethanol
Concen: 1.73 ng m
RT: 4.30 min Scan# 250
Delta R.T. -0.071 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 45 Resp: 22091

Ion	Ratio	Lower	Upper
45	100		
46	30.6	14.2	54.2

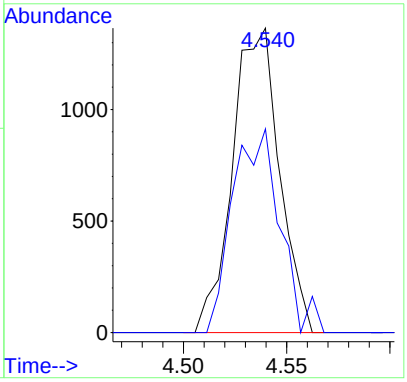


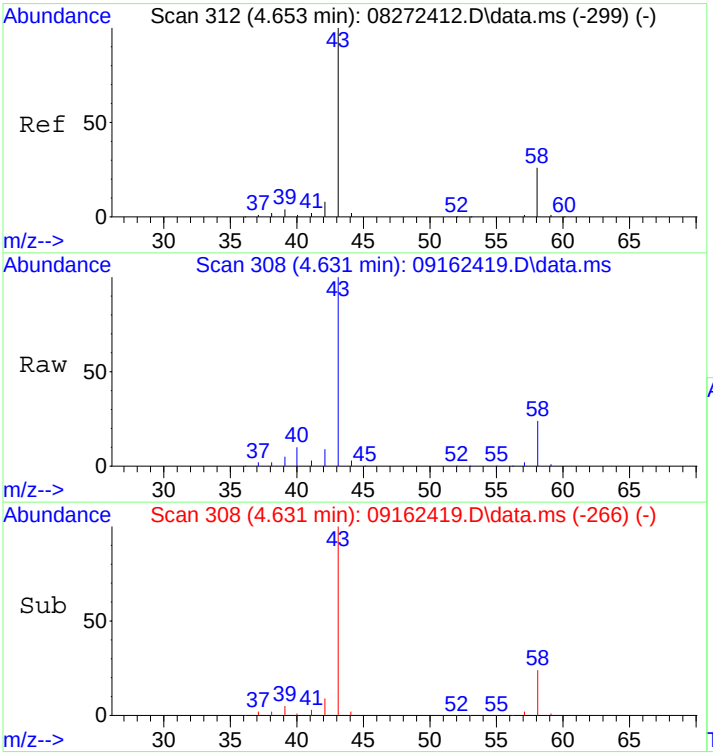


#12
Acrolein
Concen: 0.22 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.004 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 56 Resp: 2160

Ion	Ratio	Lower	Upper
56	100		
55	67.8	54.7	94.7

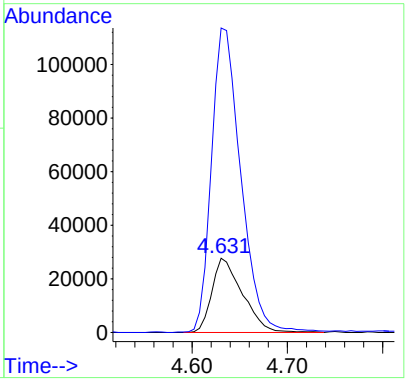


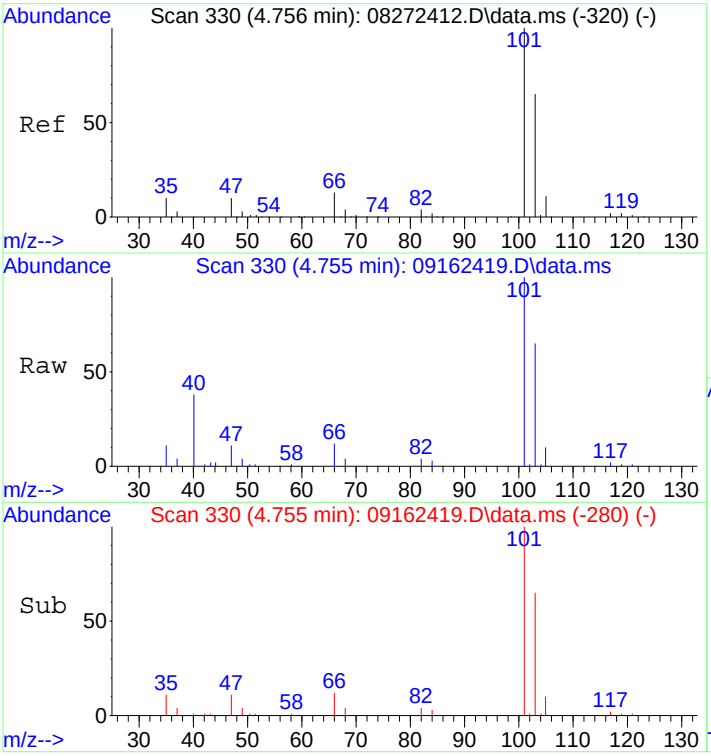


#13
Acetone
Concen: 5.72 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.011 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 58 Resp: 61676

Ion	Ratio	Lower	Upper
58	100		
43	396.9	347.3	407.3

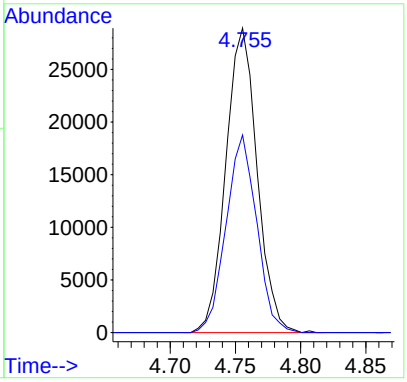


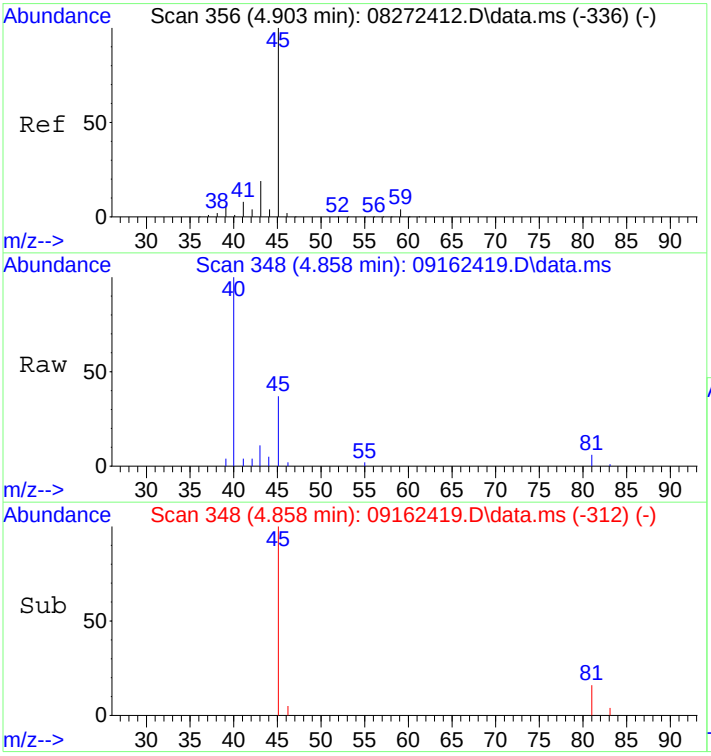


#14
Trichlorofluoromethane
Concen: 1.77 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion:101 Resp: 48360

Ion	Ratio	Lower	Upper
101	100		
103	63.4	44.9	84.9

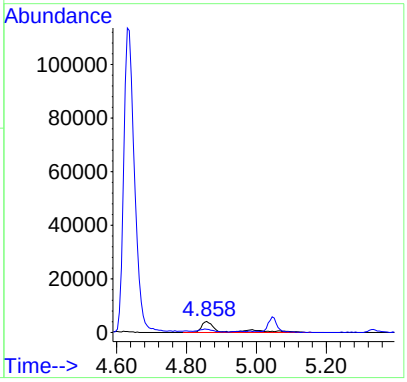


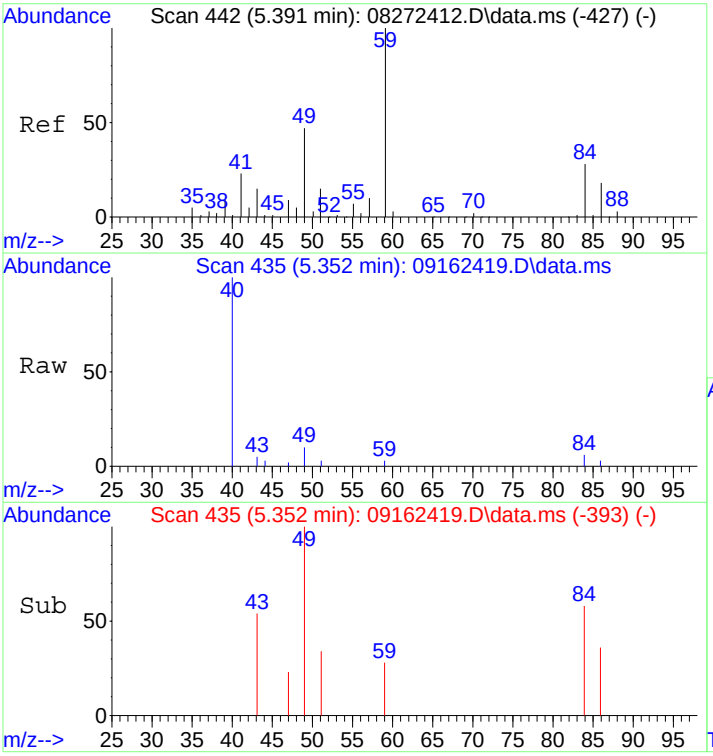


#15
2-Propanol (Isopropanol)
Concen: 0.36 ng m
RT: 4.86 min Scan# 348
Delta R.T. -0.048 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 45 Resp: 15203

Ion	Ratio	Lower	Upper
45	100		
43	22.1	0.0	40.0

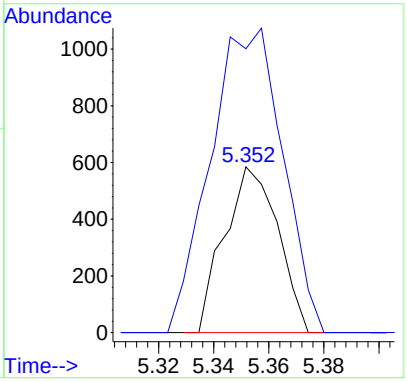


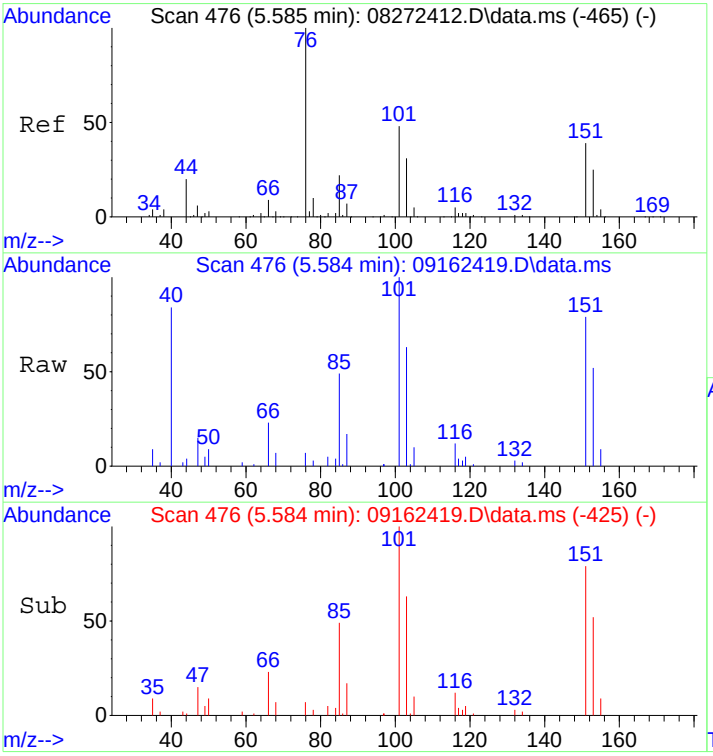


#19
Methylene Chloride
Concen: 0.06 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 84 Resp: 788

Ion	Ratio	Lower	Upper
84	100		
49	248.4	151.1	201.1#

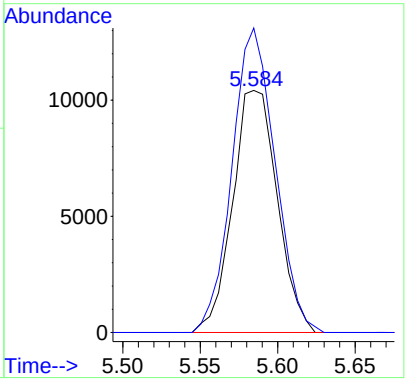


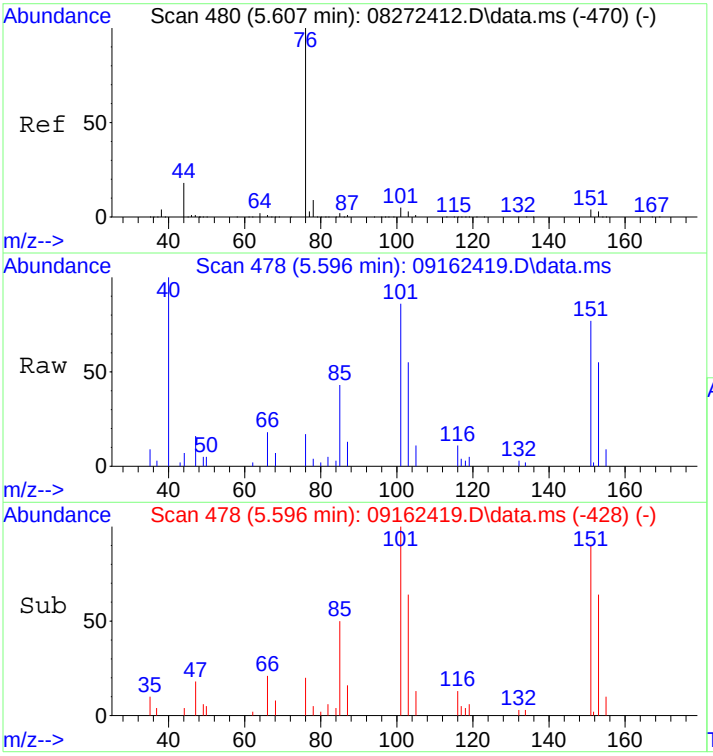


#21
Trichlorotrifluoroethane
Concen: 1.94 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion:151 Resp: 20963

Ion	Ratio	Lower	Upper
151	100		
101	121.3	103.4	143.4

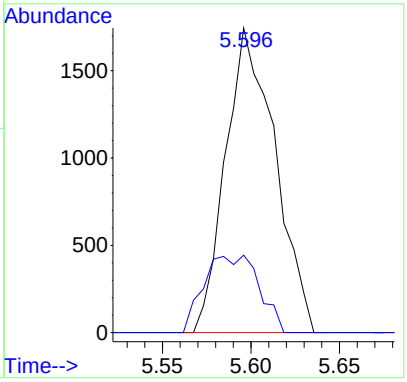


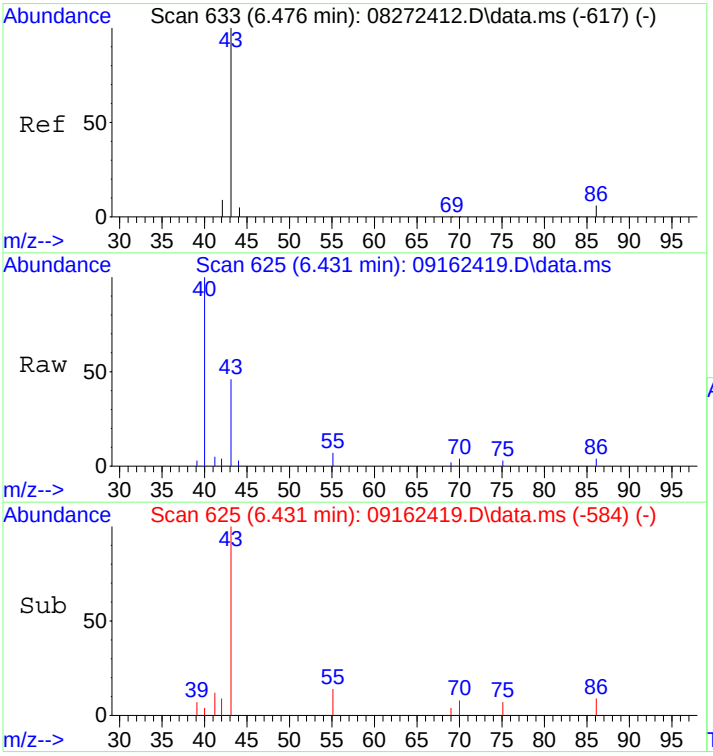


#22
Carbon Disulfide
Concen: 0.08 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 76 Resp: 3389

Ion	Ratio	Lower	Upper
76	100		
78	28.4	0.0	29.6

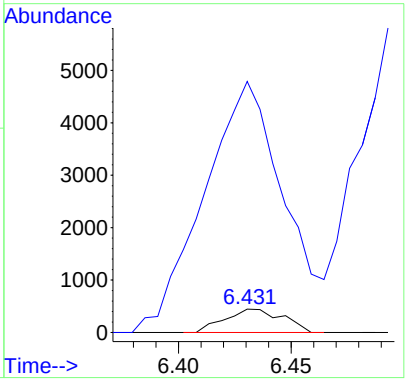


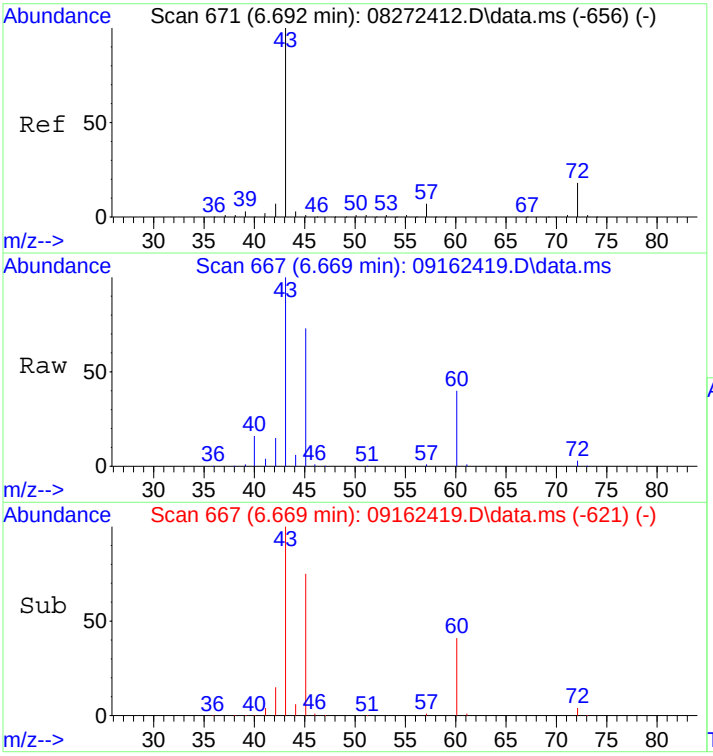


#26
Vinyl Acetate
Concen: 0.37 ng
RT: 6.43 min Scan# 625
Delta R.T. -0.014 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 86 Resp: 802

Ion	Ratio	Lower	Upper
86	100		
43	1489.9	1687.9	1727.9#

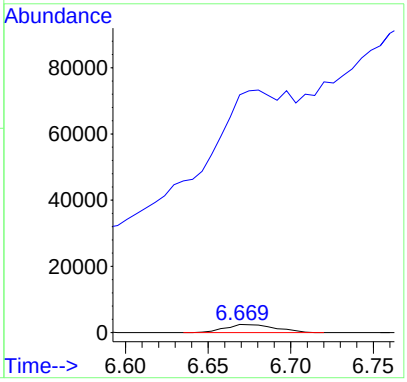


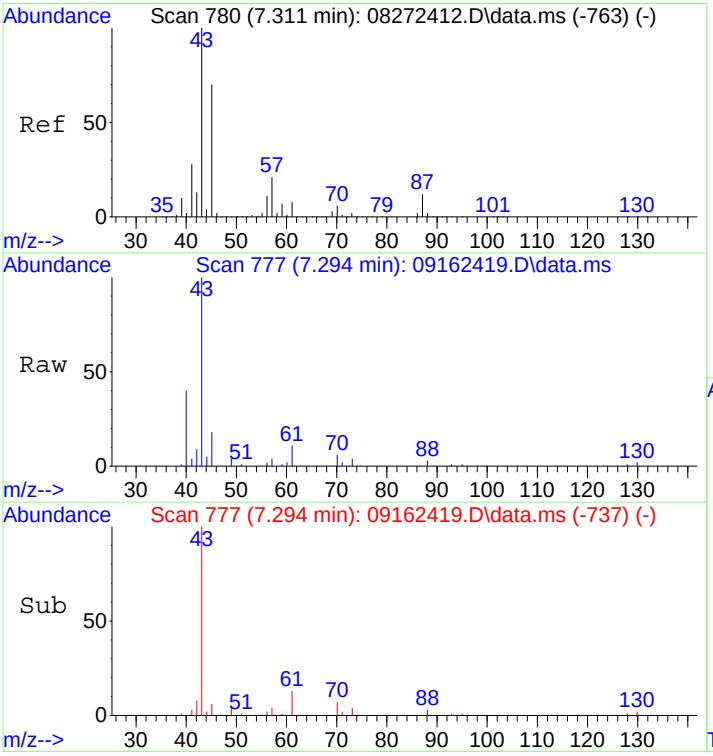


#27
2-Butanone (MEK)
Concen: 0.67 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 72 Resp: 5161

Ion	Ratio	Lower	Upper
72	100		
43	0.0	548.0	588.0#

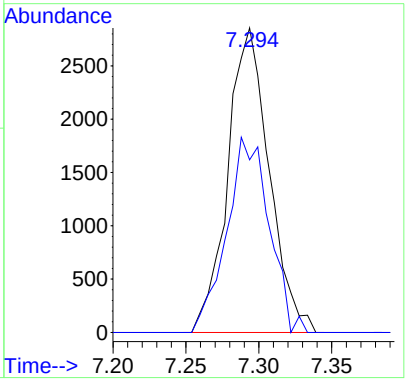


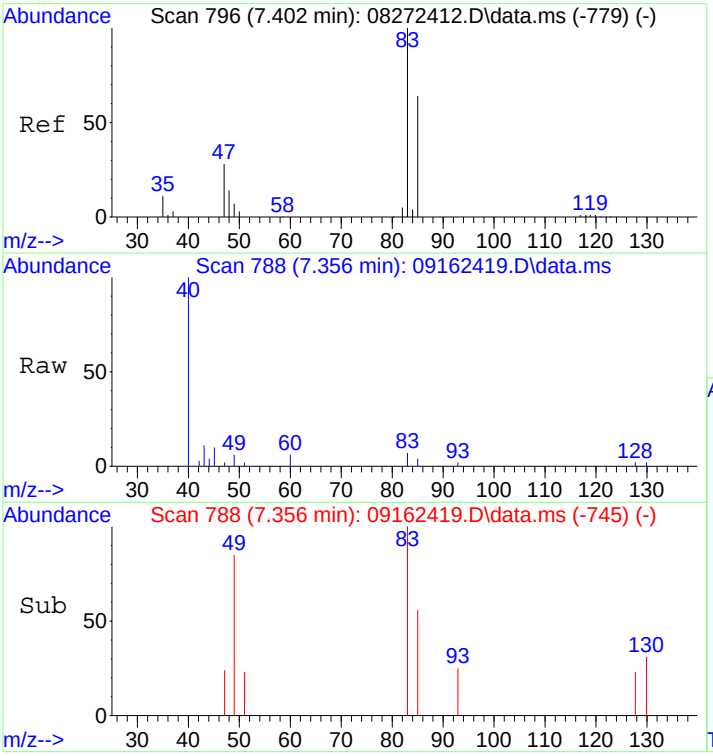


#30
Ethyl Acetate
Concen: 1.10 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.029 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 61 Resp: 5650

Ion	Ratio	Lower	Upper
61	100		
70	65.6	49.9	89.9

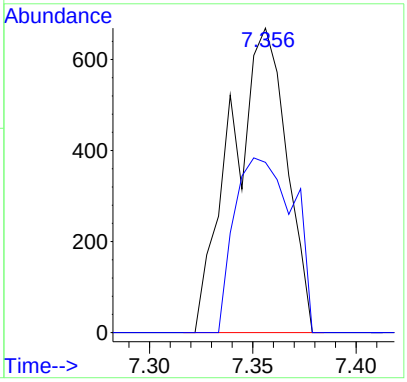


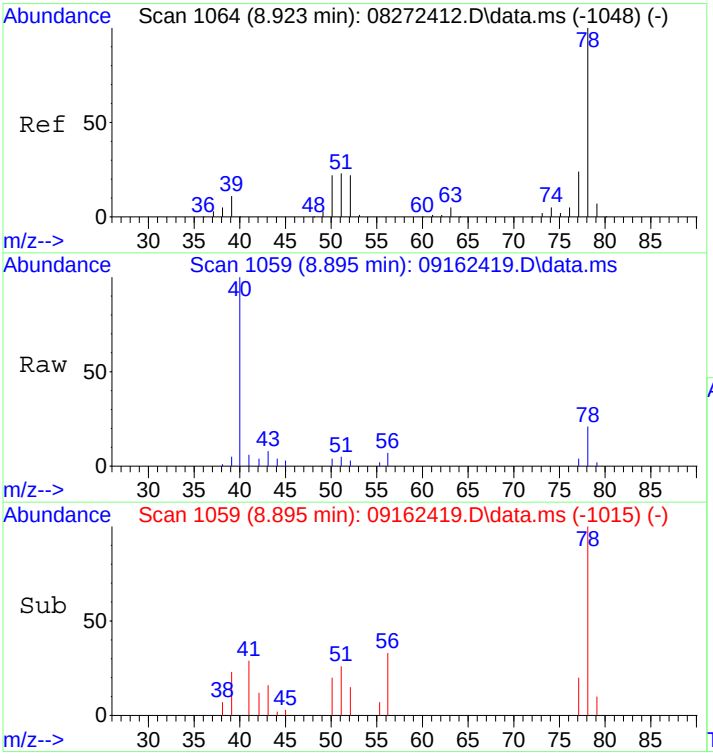


#32
Chloroform
Concen: 0.05 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.004 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 83 Resp: 1243

Ion	Ratio	Lower	Upper
83	100		
85	61.2	45.3	85.3

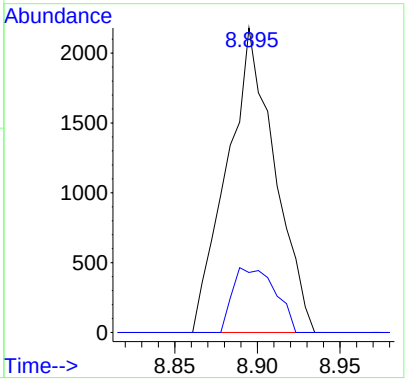


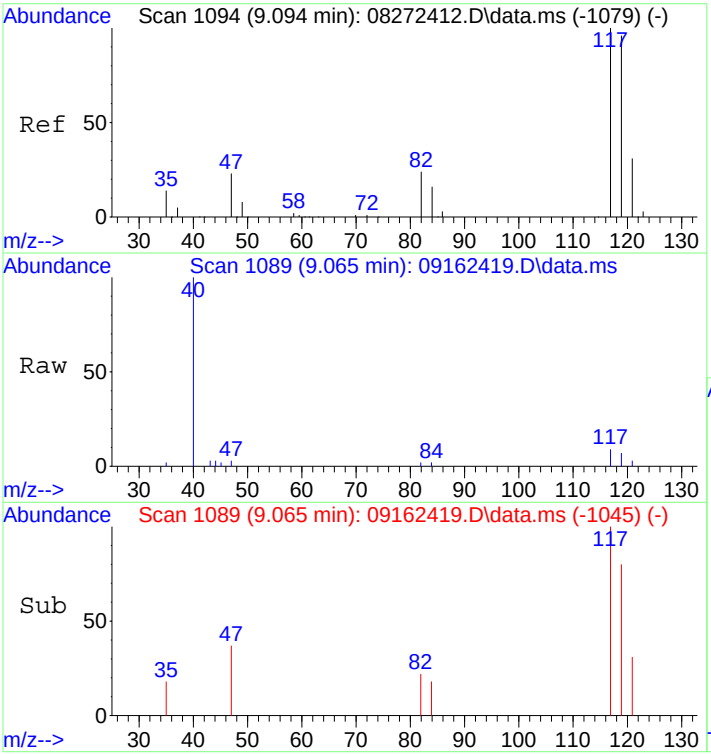


#41
Benzene
Concen: 0.09 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 78 Resp: 4373

Ion	Ratio	Lower	Upper
78	100		
77	19.0	3.9	43.9

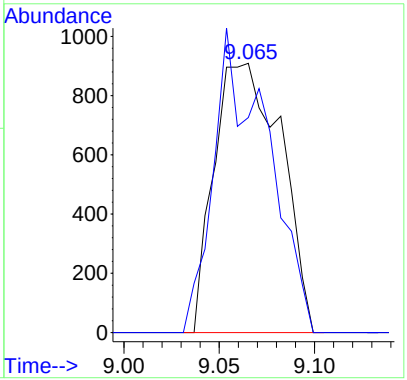


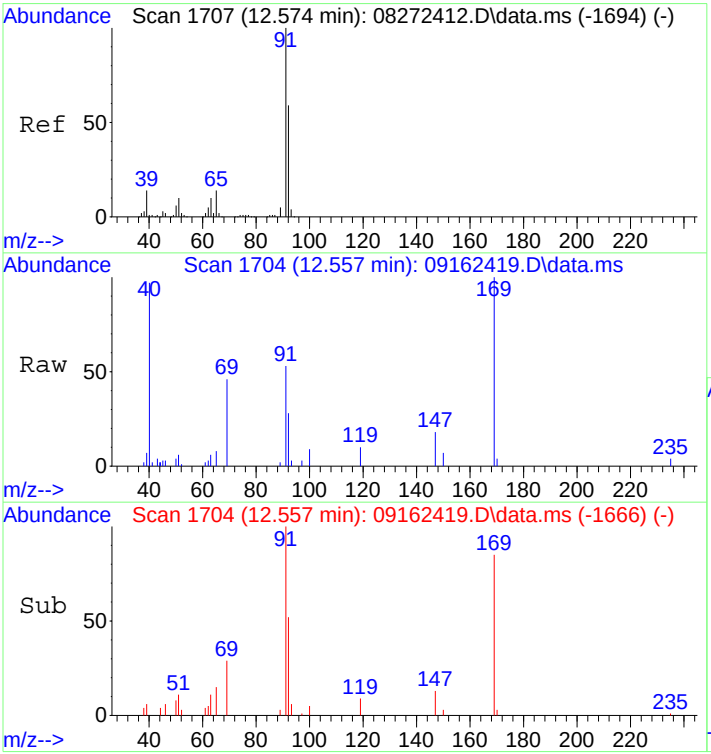


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion:117 Resp: 2221

Ion	Ratio	Lower	Upper
117	100		
119	90.6	75.1	115.1

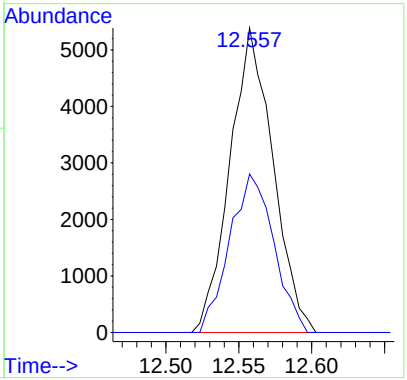


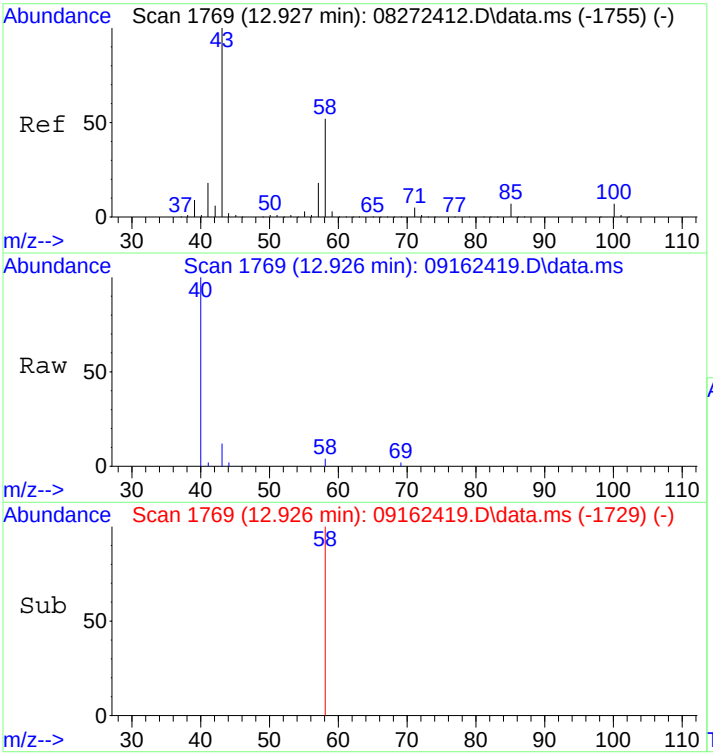


#58
Toluene
Concen: 0.19 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 91 Resp: 11070

Ion	Ratio	Lower	Upper
91	100		
92	53.3	38.5	78.5

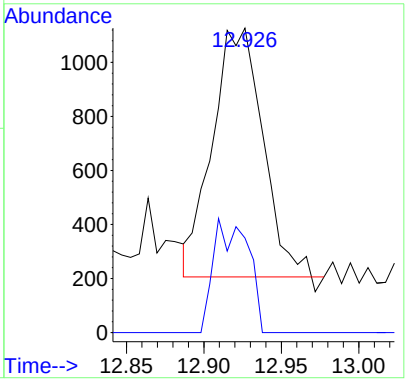


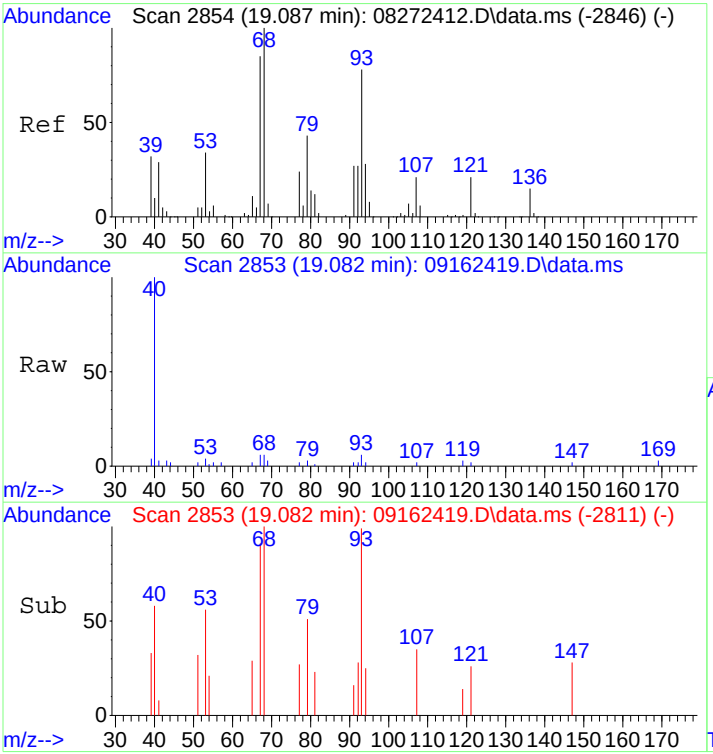


#59
2-Hexanone
Concen: 0.06 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.023 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 43 Resp: 2084

Ion	Ratio	Lower	Upper
43	100		
58	31.3	31.1	71.1

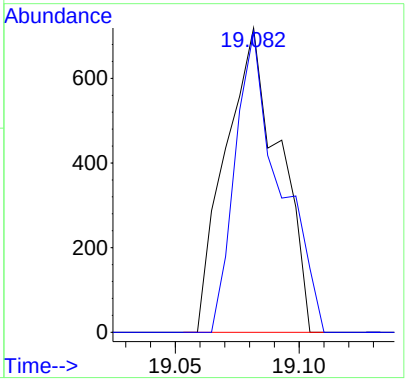


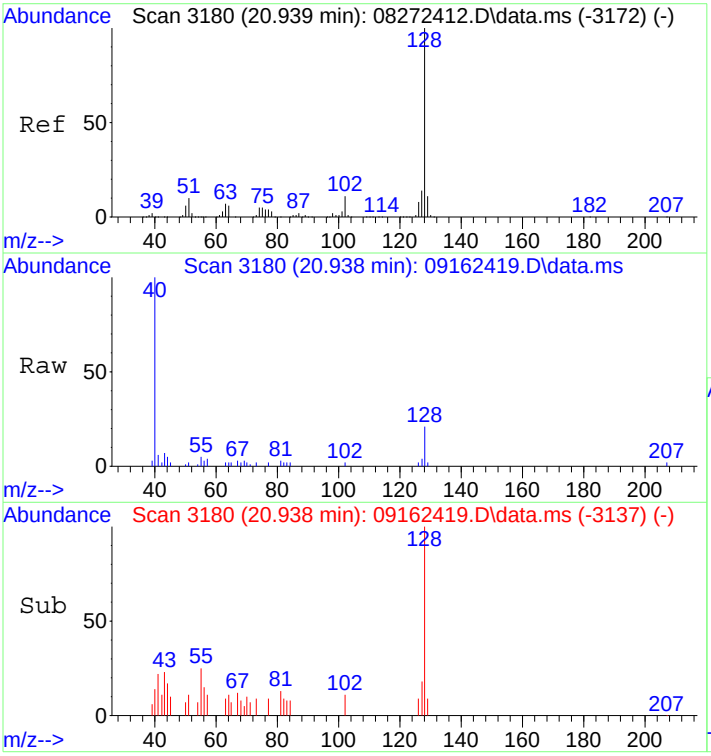


#91
d-Limonene
Concen: 0.06 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion: 68 Resp: 1085

Ion	Ratio	Lower	Upper
68	100		
93	82.3	56.2	96.2

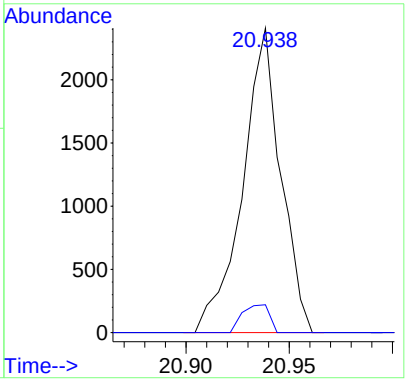




#95
Naphthalene
Concen: 0.05 ng
RT: 20.94 min Scan# 3180
Delta R.T. -0.006 min
Lab File: 09162419.D
Acq: 16 Sep 2024 19:56

Tgt Ion:128 Resp: 3094

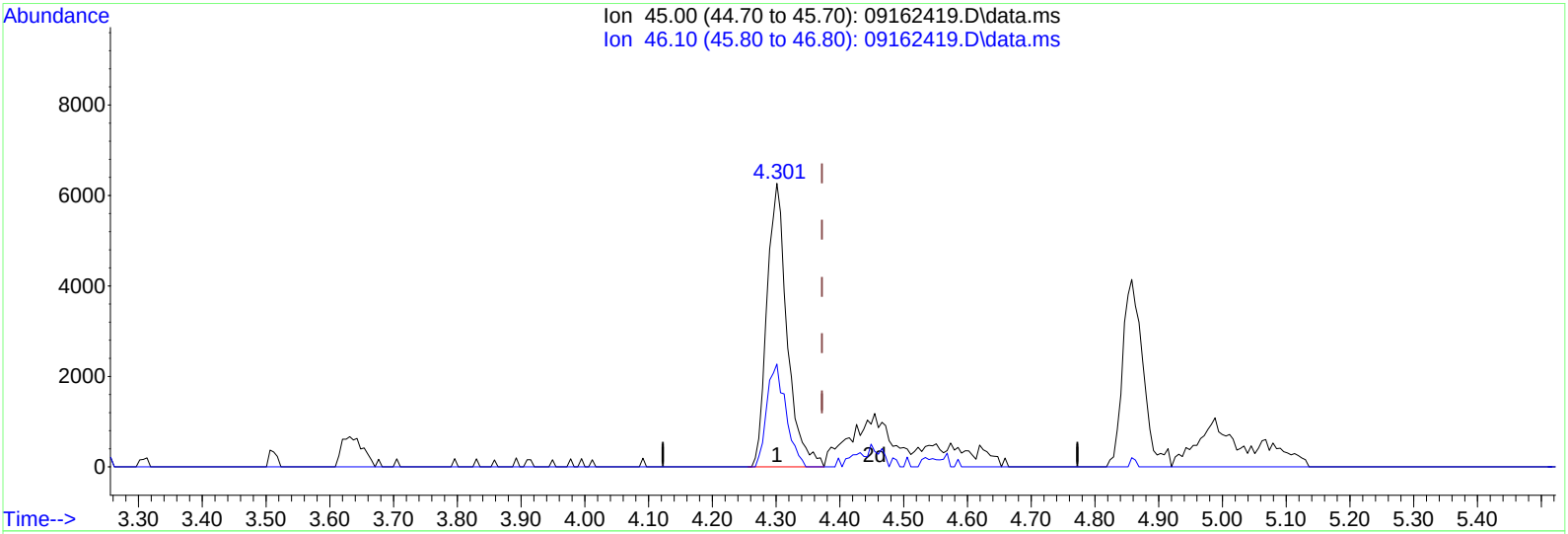
Ion	Ratio	Lower	Upper
128	100		
129	6.5	0.0	31.1

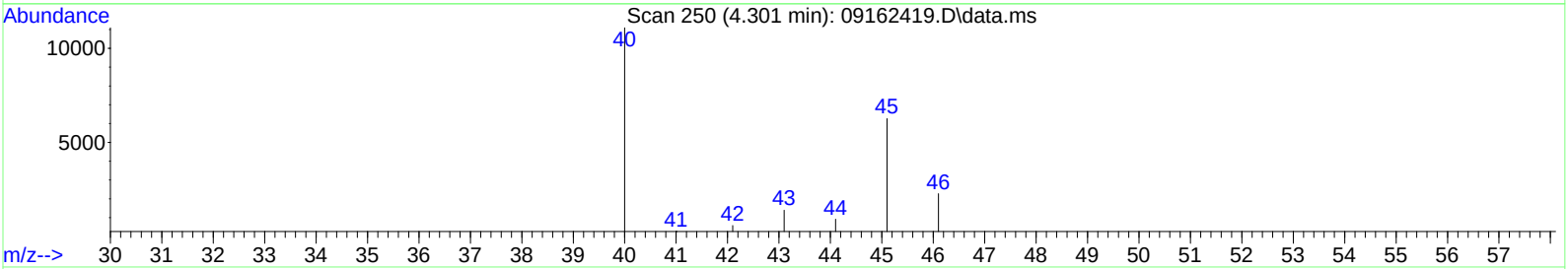


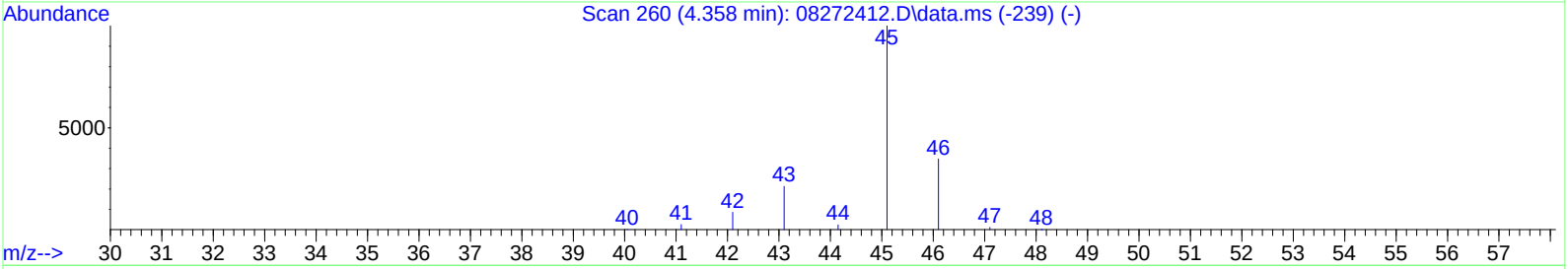
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 17 08:32:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162419.D\data.ms

(10) Ethanol (T)

4.301min (-0.071) 1.08ng

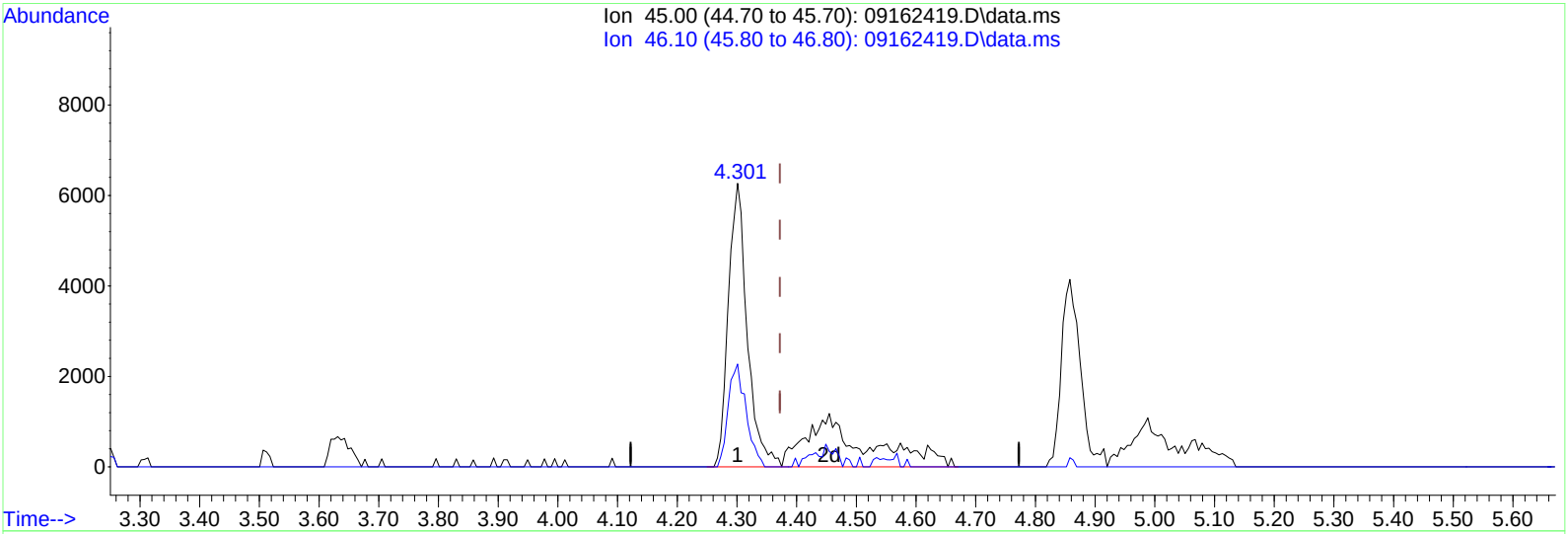
response 13784

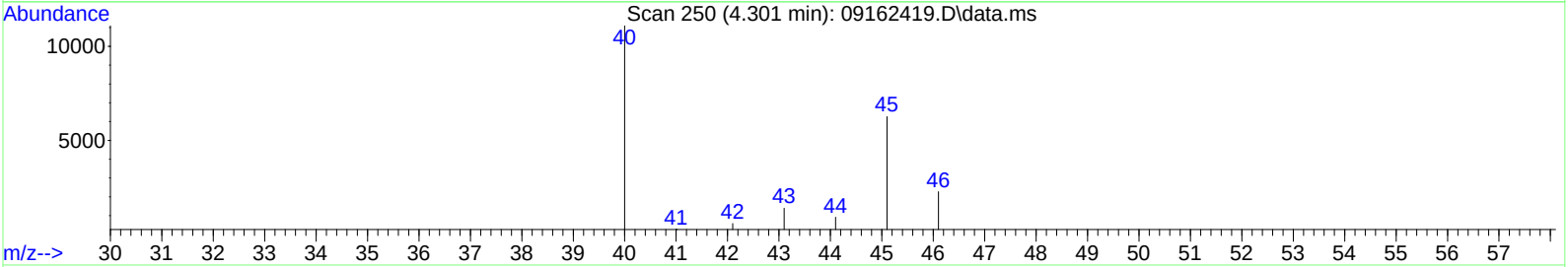
Ion	Exp%	Act%
45.00	100	100
46.10	34.20	34.41
0.00	0.00	0.00
0.00	0.00	0.00

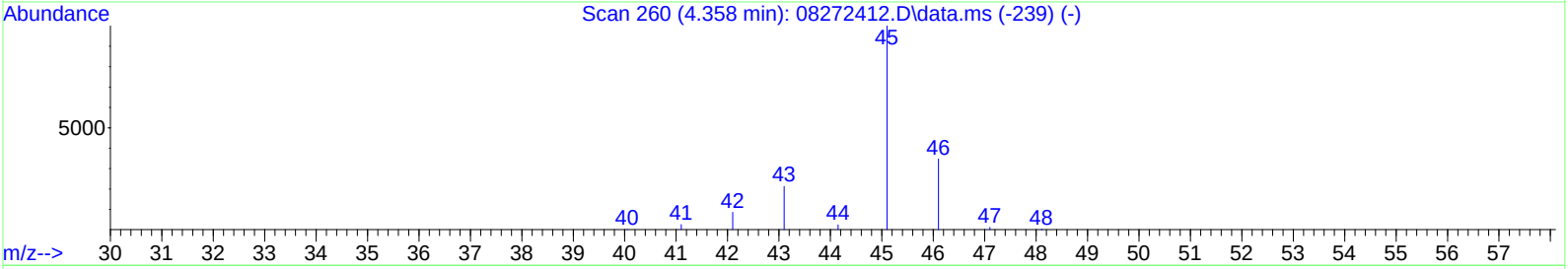
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 17 08:32:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162419.D\data.ms

(10) Ethanol (T)

4.301min (-0.071) 1.73ng m

response 22091

Ion	Exp%	Act%
45.00	100	100
46.10	34.20	30.56
0.00	0.00	0.00
0.00	0.00	0.00

MP

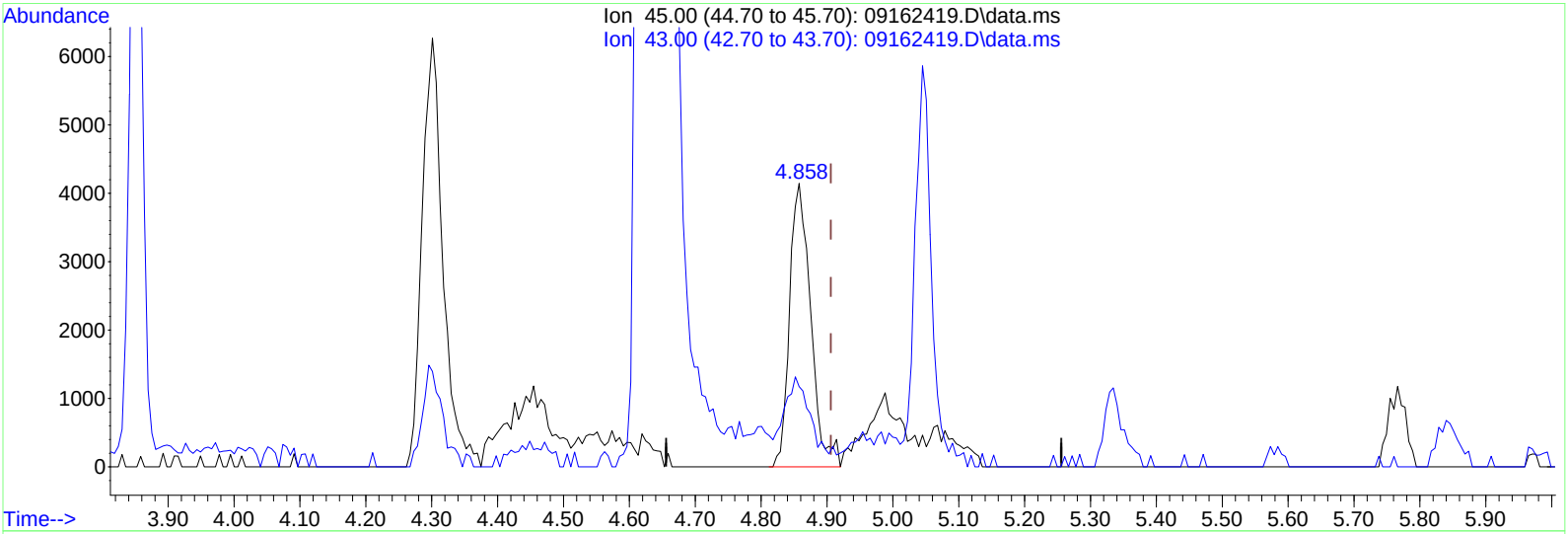
VOA 9/30/24

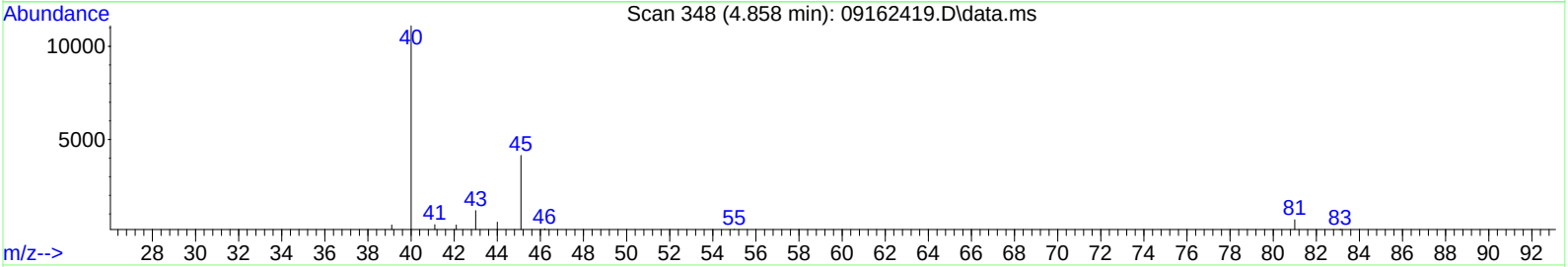
LH 9/30/24

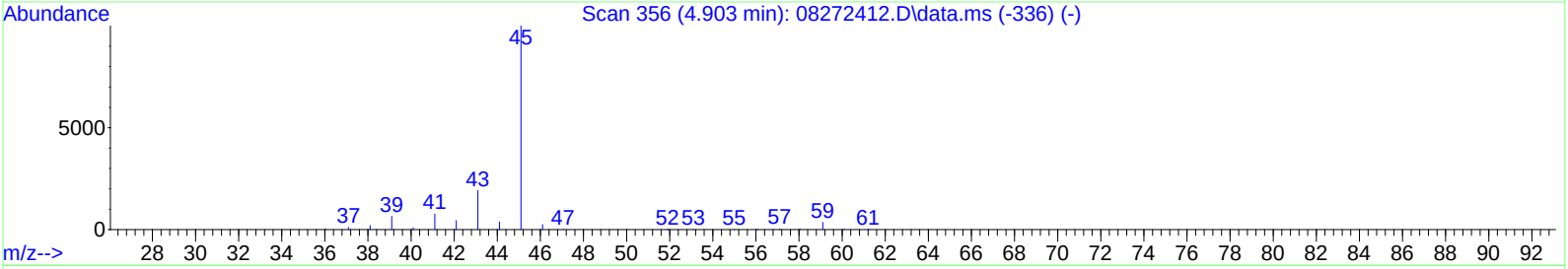
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 17 08:32:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162419.D\data.ms

(15) 2-Propanol (Isopropanol) (T)

4.858min (-0.048) 0.22ng

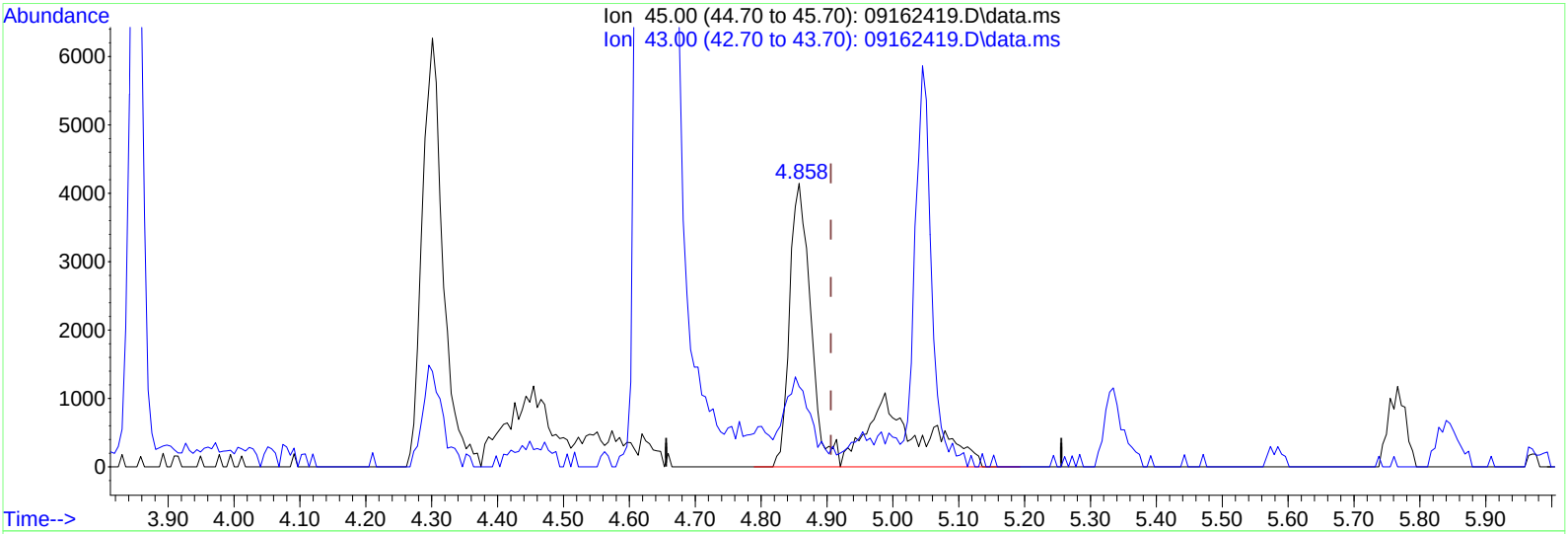
response 9211

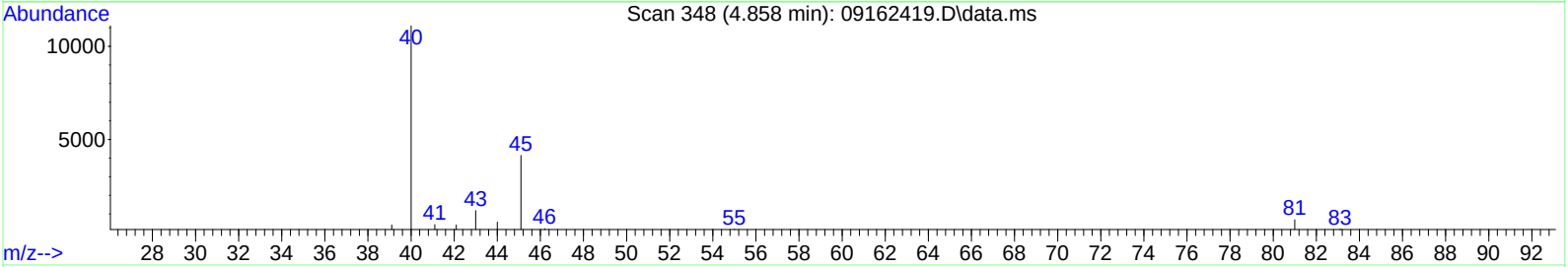
Ion	Exp%	Act%
45.00	100	100
43.00	20.00	36.52
0.00	0.00	0.00
0.00	0.00	0.00

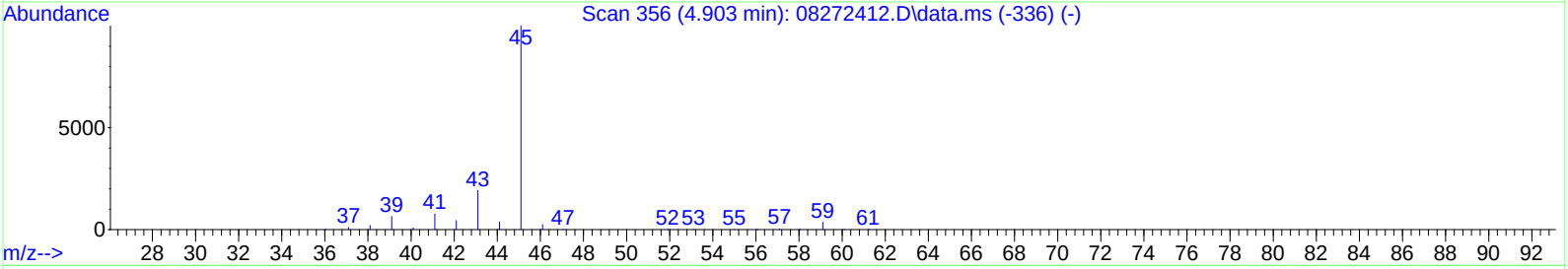
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 17 08:32:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration







TIC: 09162419.D\data.ms

(15) 2-Propanol (Isopropanol) (T)

4.858min (-0.048) 0.36ng m

response 15203

Ion	Exp%	Act%
45.00	100	100
43.00	20.00	22.13
0.00	0.00	0.00
0.00	0.00	0.00

SP

VOA 9/30/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 07:24:27 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

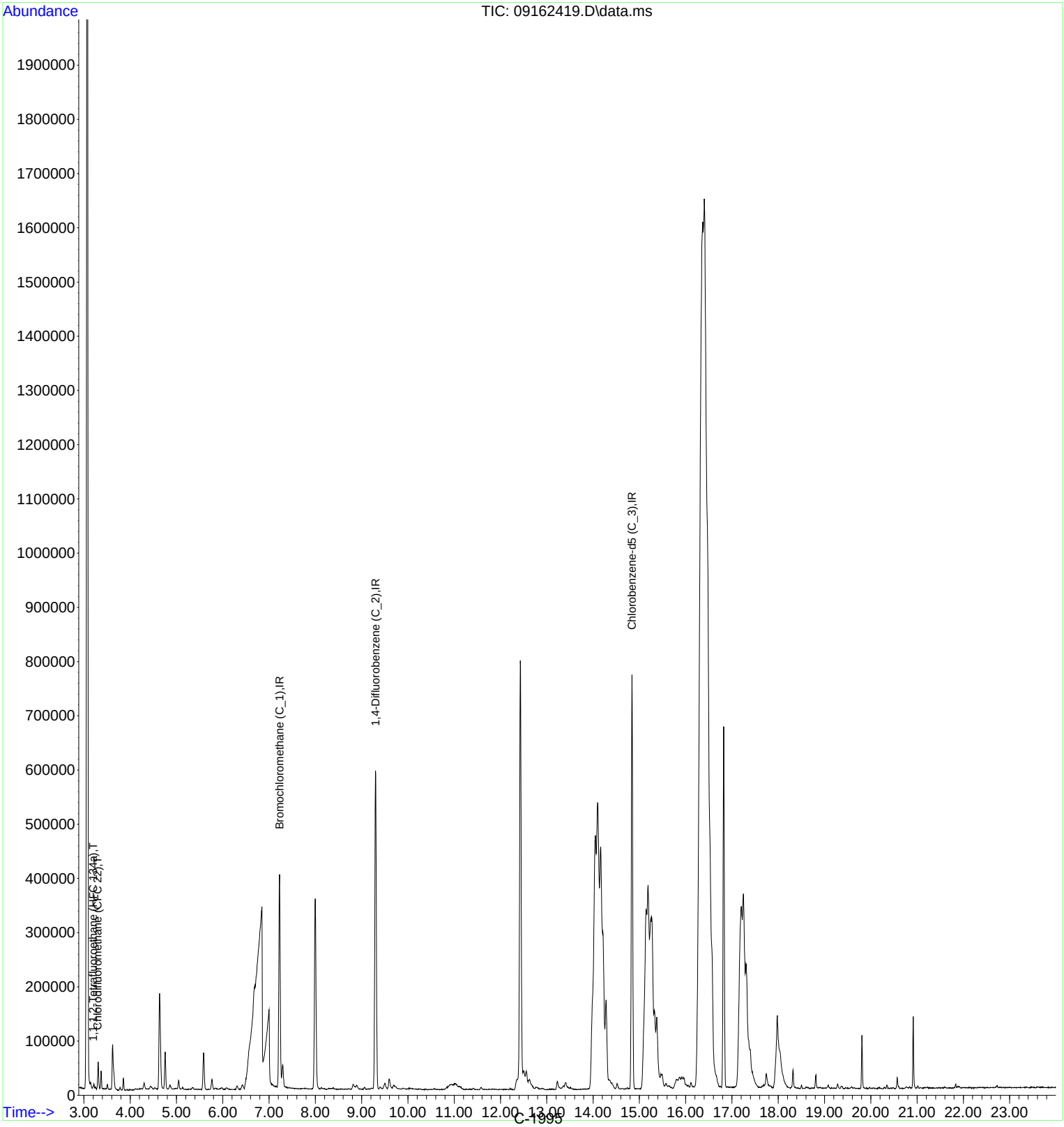
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	118136	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	515340	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	154712	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	141	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	2014	0.166	ng	#	1
4) 1,1-Difluoroethane	3.25	65	913	N.D.			
5) Chlorodifluoromethane ...	3.30	67	939	0.233	ng	#	73
6) 1-Chloro-1,1-Difluoroe...	3.51	65	511	N.D.			
7) Dichlorofluoromethane ...	4.24	67	1089	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.33	43	2281	N.D.			
12) 2-Methylpentane	6.50	71	425	N.D.			
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.06	84	223	N.D.			
17) 2,3-Dimethylpentane	9.50	56	1791	N.D.			
18) Dibromomethane	9.81	174	53	N.D.			
20) Methyl Cyclohexane	11.42	55	750	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	d		
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.60	91	128	N.D.			
27) 4-Chlorotoluene	17.68	91	361	N.D.			
28) Indane	19.11	117	54	N.D.			
29) Indene	19.21	115	368	N.D.			
30) 1,2,4,5-Tetramethylben...	20.19	119	74	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	125	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	60	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

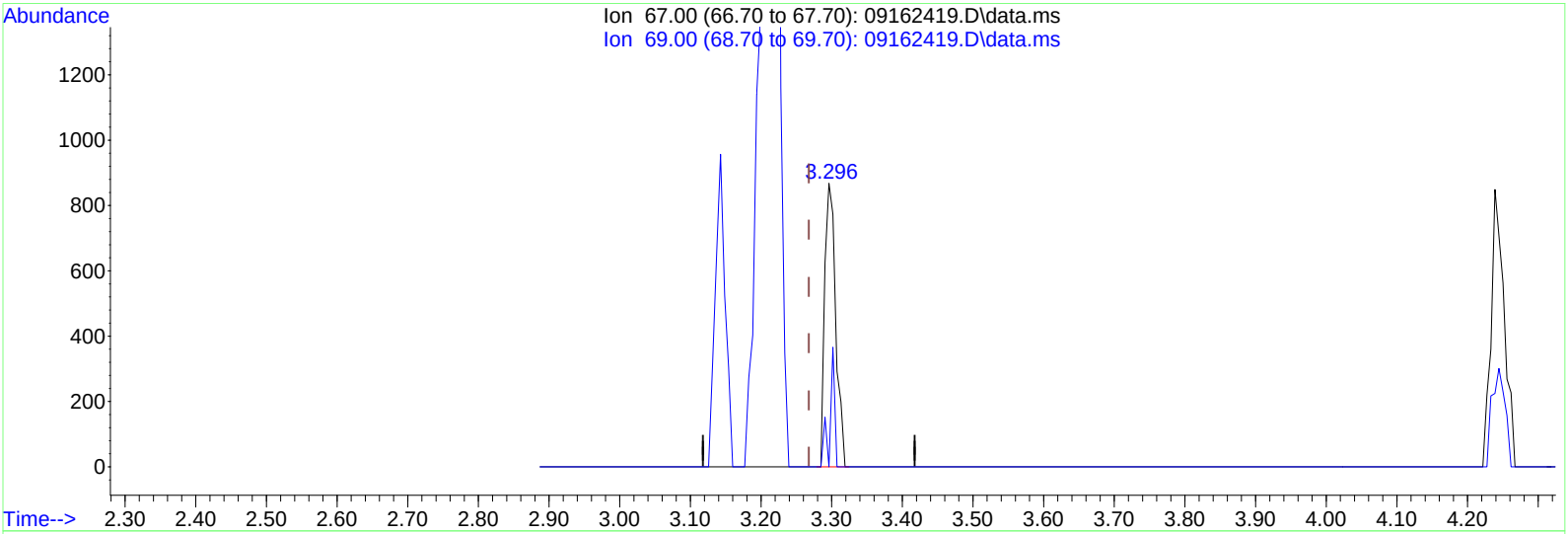
Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

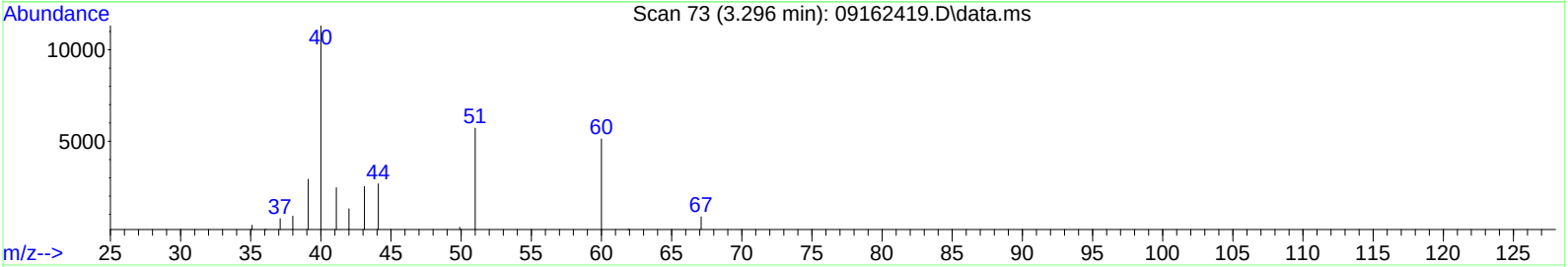
Quant Time: Sep 30 07:24:27 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

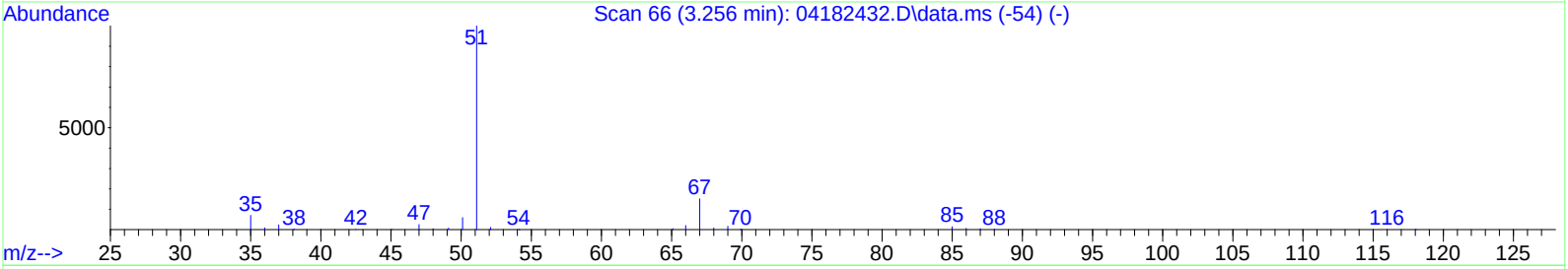


Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 30 07:14:40 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162419.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.296min (+0.028) 0.23ng

response 939

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	18.74#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162419.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.308	69	75	81	rBV2	50637	75410	5.82%	1.939%
2	3.370	81	86	90	rVV	32725	39831	3.08%	1.024%
3	3.506	106	110	116	rVB2	9348	13178	1.02%	0.339%
4	3.620	123	130	143	rBV2	82605	171590	13.25%	4.412%
5	3.853	166	171	176	rVB	21688	28514	2.20%	0.733%
6	4.301	244	250	260	rBV2	11452	22848	1.76%	0.587%
7	4.636	302	309	324	rBV	175931	395909	30.58%	10.180%
8	4.755	324	330	338	rVV	68638	113754	8.79%	2.925%
9	4.858	341	348	359	rVB3	8314	19324	1.49%	0.497%
10	5.045	376	381	387	rVB2	16361	26245	2.03%	0.675%
11	5.584	469	476	487	rBV2	68394	134810	10.41%	3.466%
12	5.766	501	508	514	rBV	18084	33869	2.62%	0.871%
13	6.311	598	604	611	rBV3	7238	17258	1.33%	0.444%
14	6.425	617	624	631	rBV4	8117	21228	1.64%	0.546%
15	6.697	631	672	673	rBV3	191579	1294811	100.00%	33.292%
16	6.998	711	725	734	rVB	138254	561659	43.38%	14.441%
17	7.225	756	765	772	rBV	392785	828592	63.99%	21.305%
18	7.294	772	777	787	rVB2	41141	90375	6.98%	2.324%

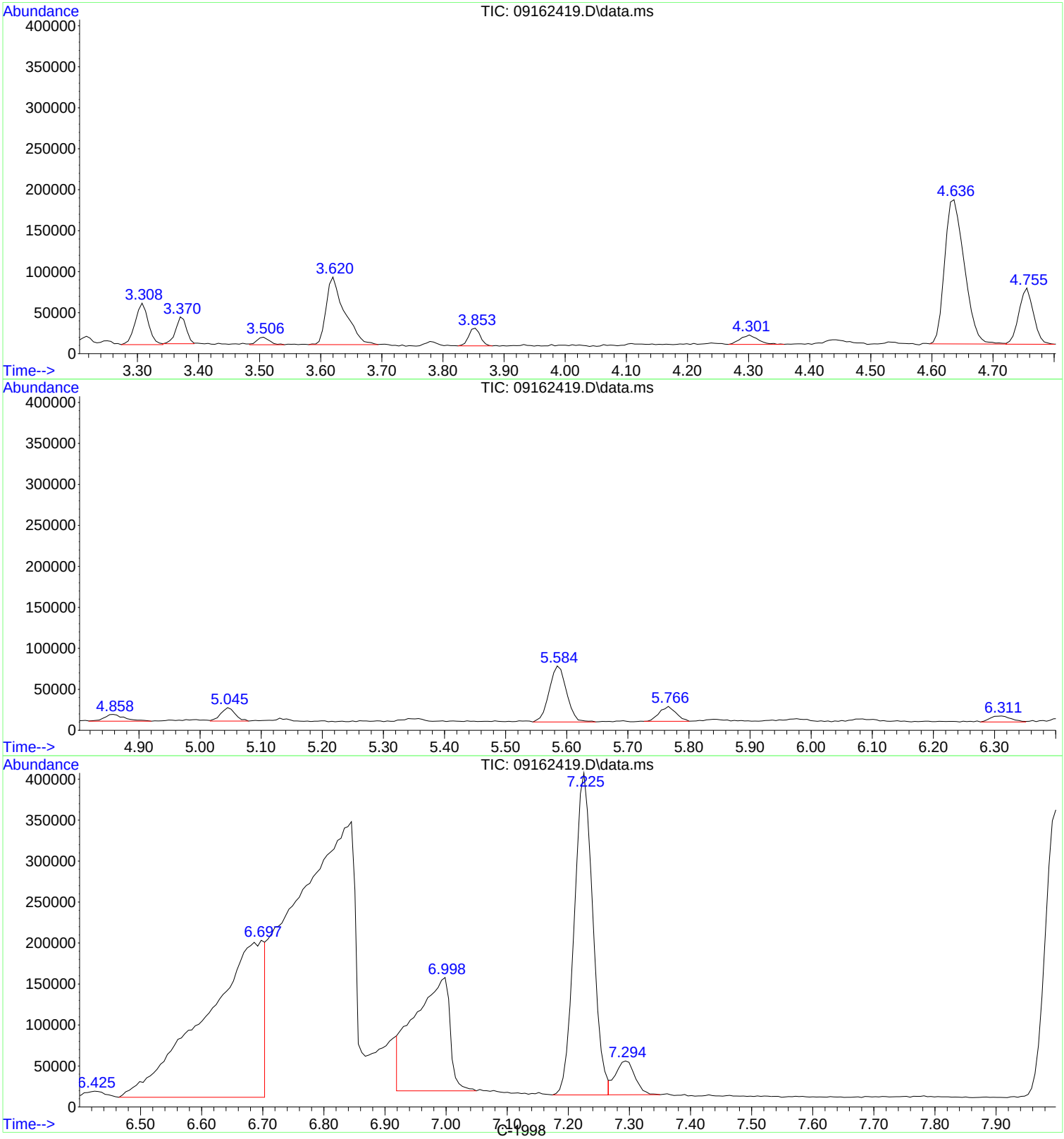
Sum of corrected areas: 3889205

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:56
Operator : SC
Sample : P2403661-059 (400mL)
Misc : S37-08262404
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162419.D
Acq On : 16 Sep 2024 19:566
Operator : SCC
Sample : P2403661-059 (400mL))
Misc : S37-082624044
ALS Vial : 7 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

MA 9/30/24

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

MOA 9/30/24

Quant Time: Sep 30 06:54:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	132178	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.31	114	586681	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	169790	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	339175	13.713	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%				
57) Toluene-d8 (SS2)	12.43	98	667011	11.198	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
73) Bromofluorobenzene (SS3)	16.82	174	224984	11.294	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	4980m	0.155	ng		
4) Chloromethane	3.52	50	584	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.29	45	76883	5.360	ng		100
11) Acetonitrile	4.44	41	951	N.D.			
12) Acrolein	4.55	56	865	0.079	ng		90
13) Acetone	4.64	58	18540m	1.532	ng		
14) Trichlorofluoromethane	4.76	101	2429655	79.377	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	355979	7.470	ng		95
16) Acrylonitrile	5.04	53	387	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.38	59	77	N.D.			
19) Methylene Chloride	5.36	84	719	0.050	ng	#	60
20) 3-Chloro-1-propene (Al...	5.40	41	131	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1229610	101.399	ng		97
22) Carbon Disulfide	5.61	76	1917	N.D.			
23) trans-1,2-Dichloroethene	6.15	61	144	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	2004	0.233	ng	#	41
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	301585	52.416	ng		91
31) n-Hexane	7.31	57	1771	0.068	ng	#	94
32) Chloroform	7.37	83	5771	0.219	ng		95
34) Tetrahydrofuran (THF)	0.00	72	0	N.D. d			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.01	62	108	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.55	61	425	No Calib		#	
40) 1-Butanol	8.82	56	7395	No Calib		#	
41) Benzene	8.89	78	11451	0.208	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.20	84	223	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	129	N.D.			
47) Trichloroethene	10.17	130	467	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

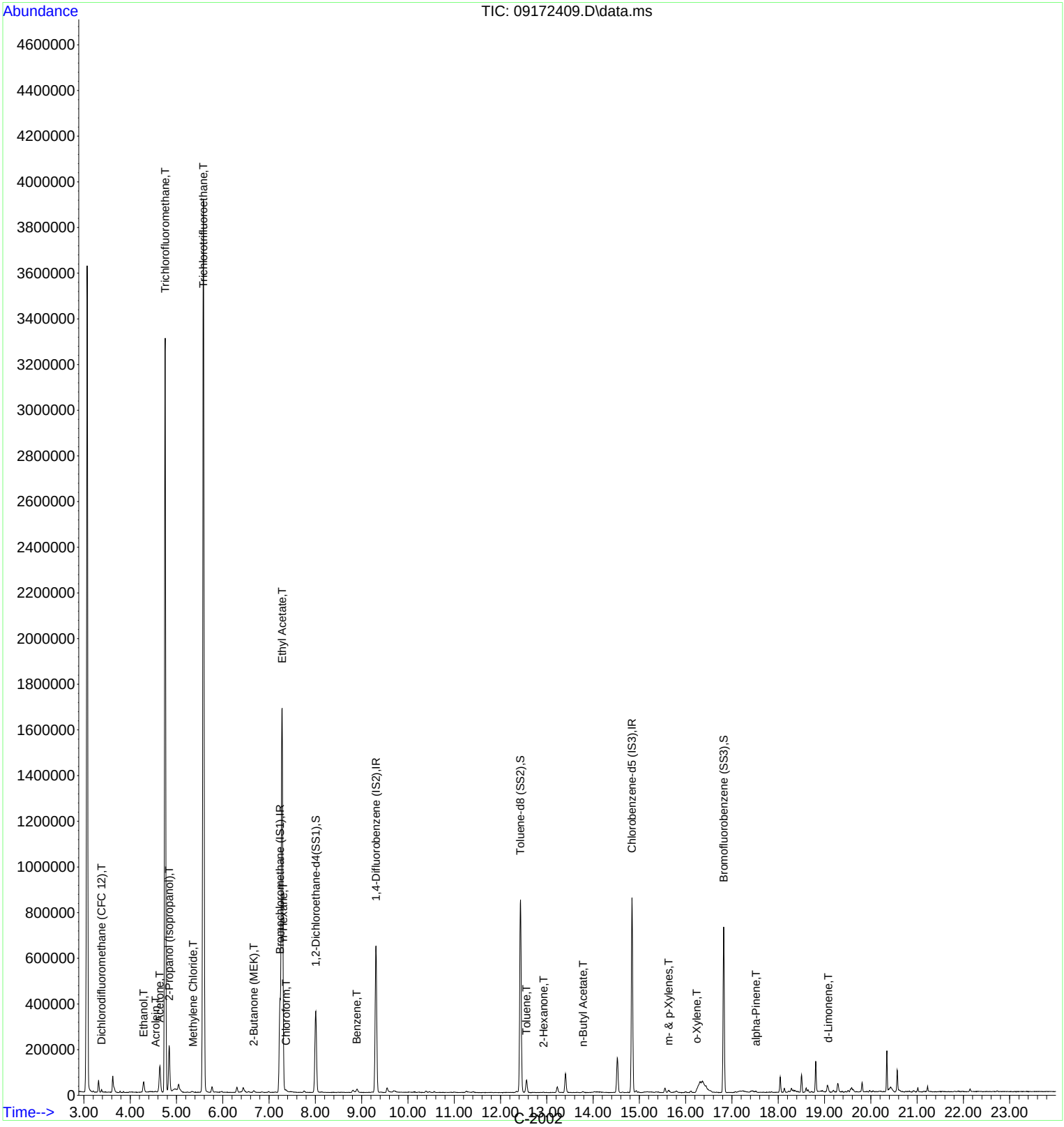
Quant Time: Sep 30 06:54:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1593	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			
51) n-Heptane	10.56	71	290	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	11.31	58	110	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	40765	0.633	ng		98
59) 2-Hexanone	12.93	43	2000	0.050	ng	#	61
60) Dibromochloromethane	0.00	129	0	N.D.			
61) 1,2-Dibromoethane	0.00	107	0	N.D.			
62) n-Butyl Acetate	13.78	43	5042	0.113	ng	#	86
63) n-Octane	0.00	57	0	N.D.			
64) Tetrachloroethene	14.03	166	133	N.D.			
65) Chlorobenzene	14.89	112	574	N.D.			
66) Ethylbenzene	15.42	91	2927	N.D.			
67) m- & p-Xylenes	15.64	91	7218	0.120	ng		96
68) Bromoform	0.00	173	0	N.D.			
69) Styrene	16.10	104	1809	N.D.			
70) o-Xylene	16.24	91	3340	0.057	ng		97
71) n-Nonane	16.61	43	663	N.D.			
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.03	105	622	N.D.			
75) alpha-Pinene	17.52	93	2324	0.066	ng		83
76) n-Propylbenzene	17.67	91	1161	N.D.			
77) 3-Ethyltoluene	17.03	105	622	No Calib		#	
78) 4-Ethyltoluene	17.86	105	961	N.D.			
79) 1,3,5-Trimethylbenzene	17.96	105	614	N.D.			
80) alpha-Methylstyrene	0.00	118	0	N.D.			
81) 2-Ethyltoluene	17.03	105	622	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.43	105	2077	N.D.			
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.56	91	480	N.D.			
85) 1,3-Dichlorobenzene	18.58	146	304	N.D.			
86) 1,4-Dichlorobenzene	18.66	146	632	N.D.			
87) sec-Butylbenzene	18.73	105	474	N.D.			
88) 4-Isopropyltoluene (p-...	18.92	119	1498	N.D.			
89) 1,2,3-Trimethylbenzene	17.03	105	622	No Calib		#	
90) 1,2-Dichlorobenzene	19.03	146	287	N.D.			
91) d-Limonene	19.08	68	2964	0.146	ng		98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.			
93) n-Undecane	18.04	58	1707	No Calib		#	
94) 1,2,4-Trichlorobenzene	20.84	180	939	N.D.			
95) Naphthalene	20.94	128	1917	N.D.			
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	21.30	225	231	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.42	119	401	N.D.			
100) n-Butylbenzene	19.39	91	773	N.D.			
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 30 06:54:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 06:54:11 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	132178	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.31	114	586681	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	169790	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	339175	13.713	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%				
57) Toluene-d8 (SS2)	12.43	98	667011	11.198	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.60%				
73) Bromofluorobenzene (SS3)	16.82	174	224984	11.294	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.32%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	4980m	0.155	ng		
10) Ethanol	4.29	45	76883	5.360	ng		100
12) Acrolein	4.55	56	865	0.079	ng		90
13) Acetone	4.64	58	18540m	1.532	ng		
14) Trichlorofluoromethane	4.76	101	2429655	79.377	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	355979	7.470	ng		95
19) Methylene Chloride	5.36	84	719	0.050	ng	#	60
21) Trichlorotrifluoroethane	5.58	151	1229610	101.399	ng		97
27) 2-Butanone (MEK)	6.67	72	2004	0.233	ng	#	41
30) Ethyl Acetate	7.28	61	301585	52.416	ng		91
31) n-Hexane	7.31	57	1771	0.068	ng	#	94
32) Chloroform	7.37	83	5771	0.219	ng		95
41) Benzene	8.89	78	11451	0.208	ng		99
58) Toluene	12.56	91	40765	0.633	ng		98
59) 2-Hexanone	12.93	43	2000	0.050	ng	#	61
62) n-Butyl Acetate	13.78	43	5042	0.113	ng	#	86
67) m- & p-Xylenes	15.64	91	7218	0.120	ng		96
70) o-Xylene	16.24	91	3340	0.057	ng		97
75) alpha-Pinene	17.52	93	2324	0.066	ng		83
91) d-Limonene	19.08	68	2964	0.146	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
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Quant Method : I:\MS09\METHODS\R09082724.M
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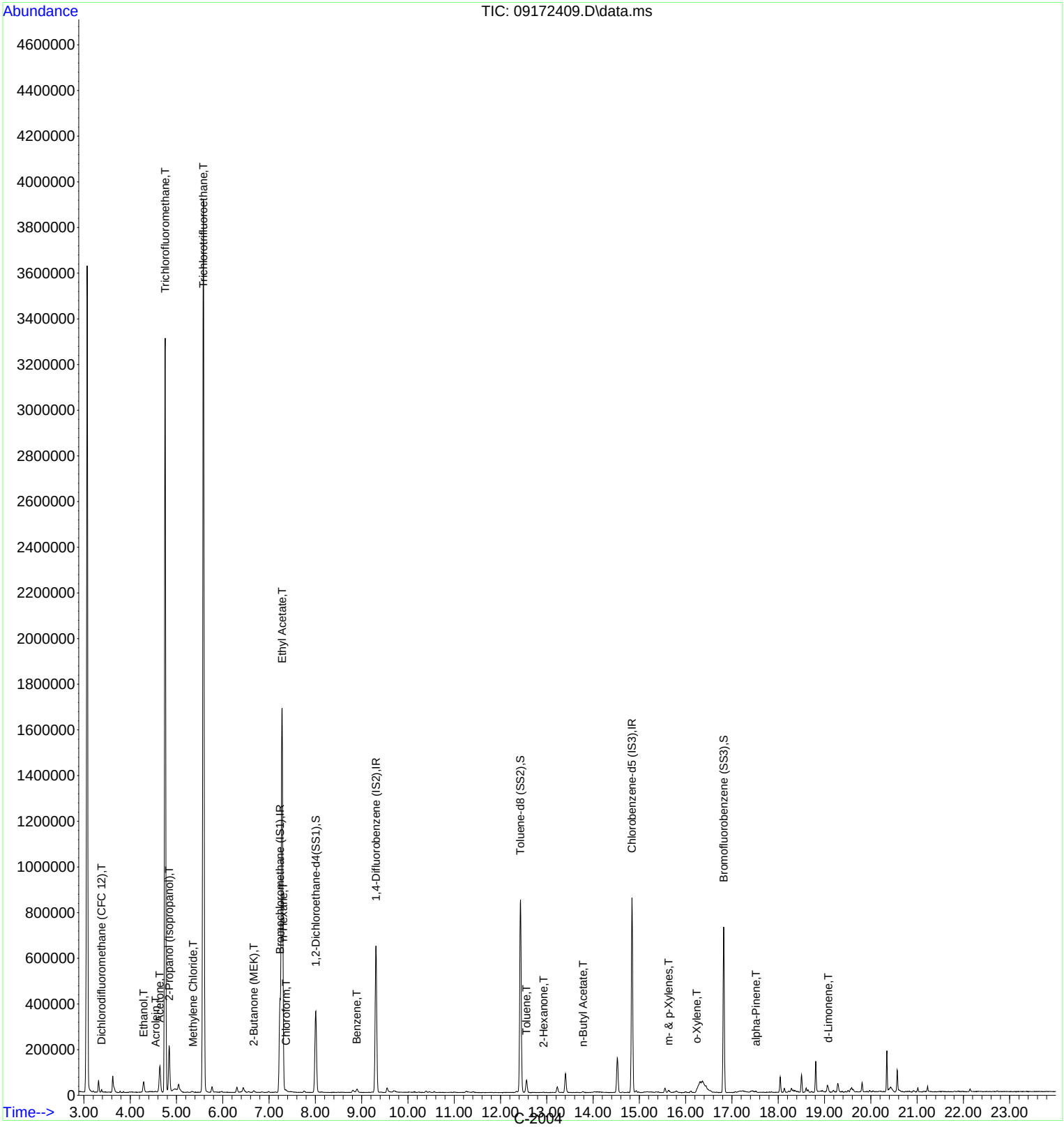
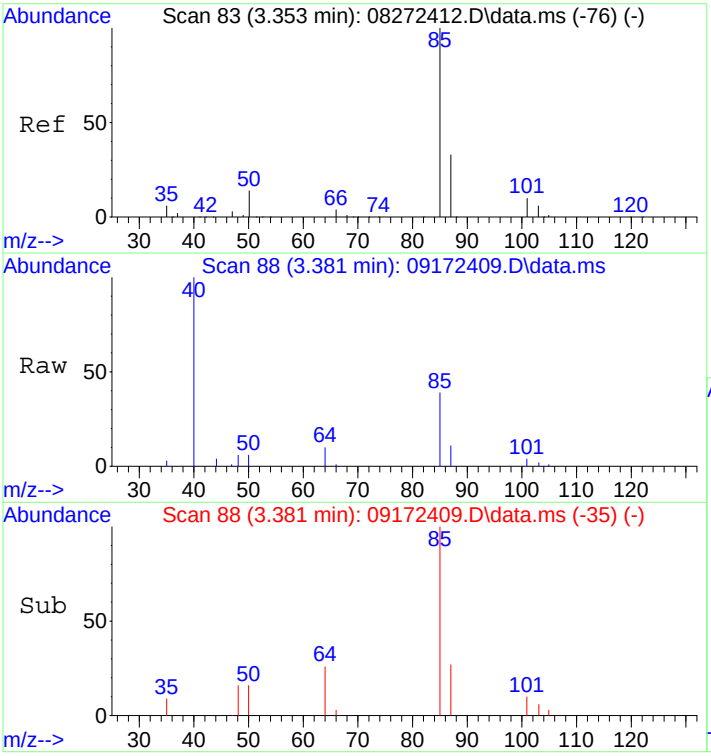
Response via : Initial Calibration

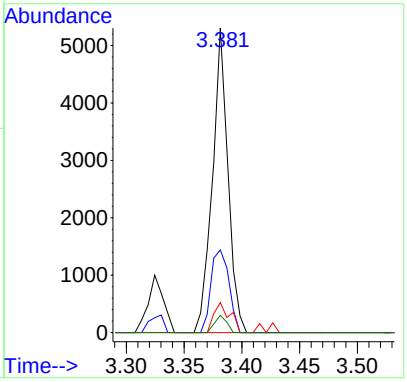


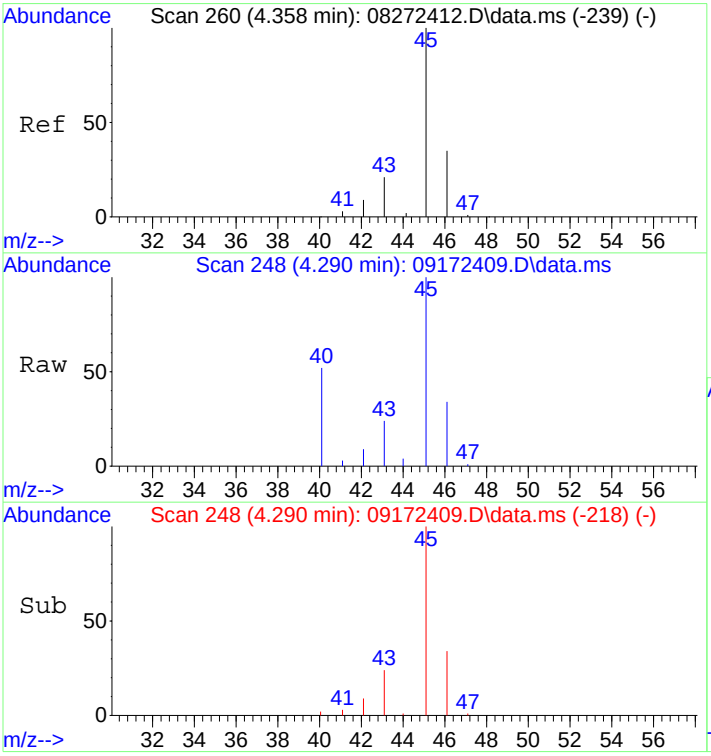


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.16 ng m
RT: 3.38 min Scan# 88
Delta R.T. 0.054 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 85 Resp: 4980

Ion	Ratio	Lower	Upper
85	100		
87	5.2	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

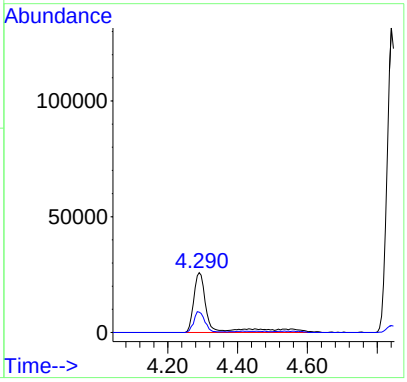


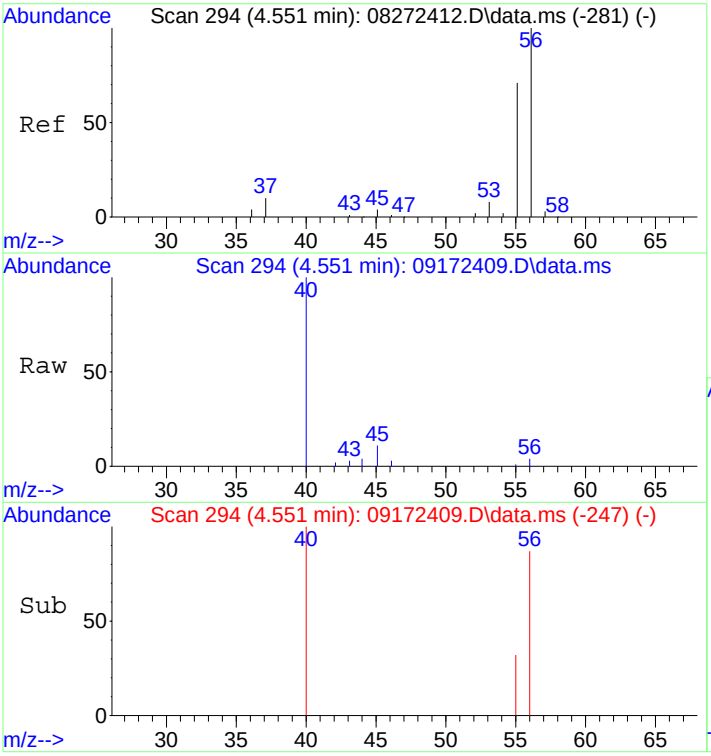


#10
Ethanol
Concen: 5.36 ng
RT: 4.29 min Scan# 248
Delta R.T. -0.082 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 45 Resp: 76883

Ion	Ratio	Lower	Upper
45	100		
46	34.4	14.2	54.2

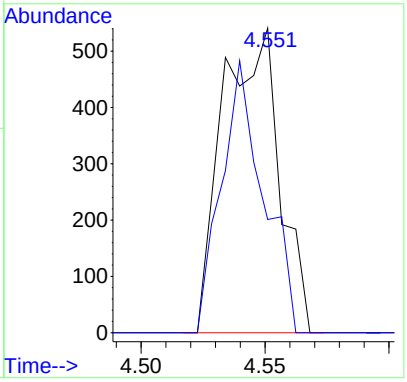


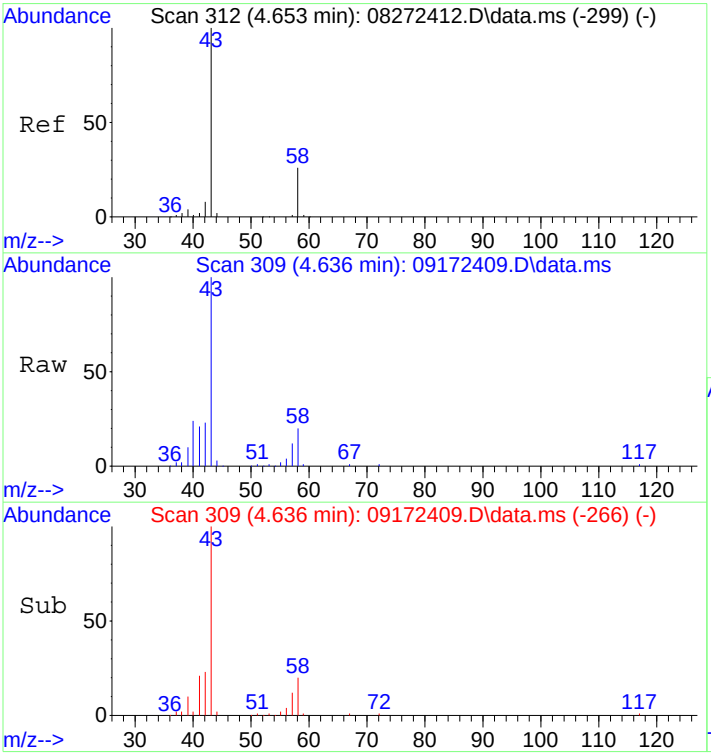


#12
Acrolein
Concen: 0.08 ng
RT: 4.55 min Scan# 294
Delta R.T. 0.016 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 56 Resp: 865

Ion	Ratio	Lower	Upper
56	100		
55	65.9	54.7	94.7

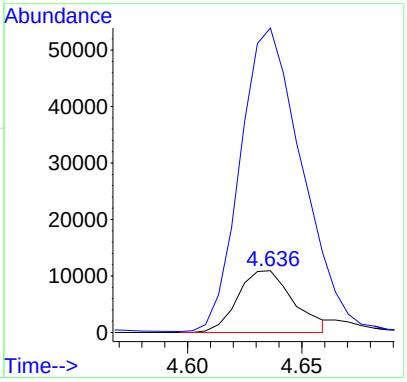


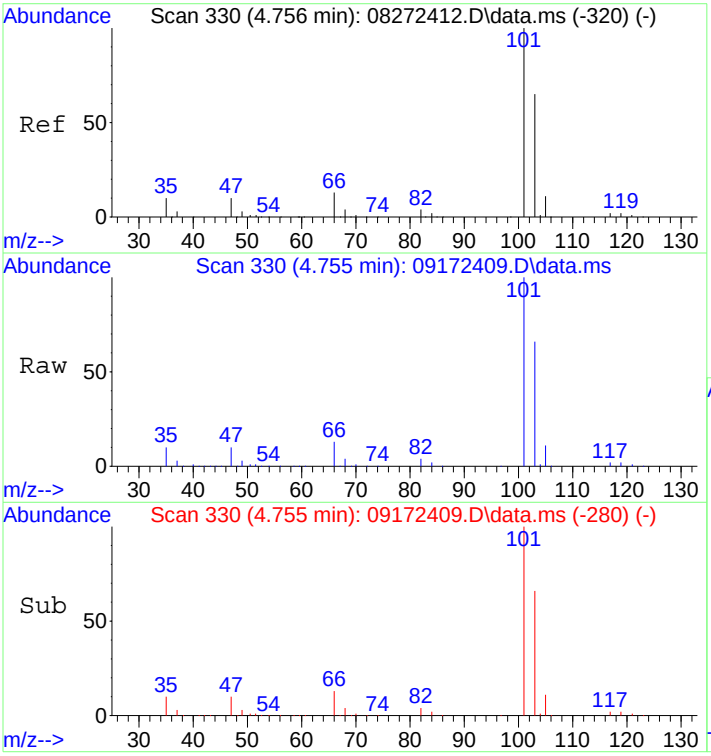


#13
Acetone
Concen: 1.53 ng m
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 58 Resp: 18540

Ion	Ratio	Lower	Upper
58	100		
43	550.0	347.3	407.3#

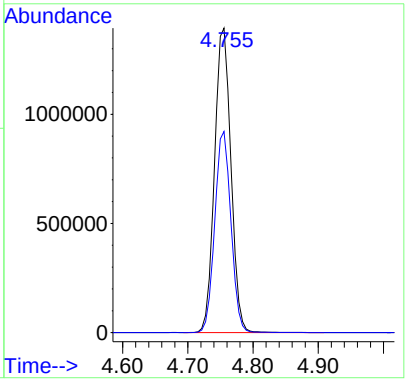


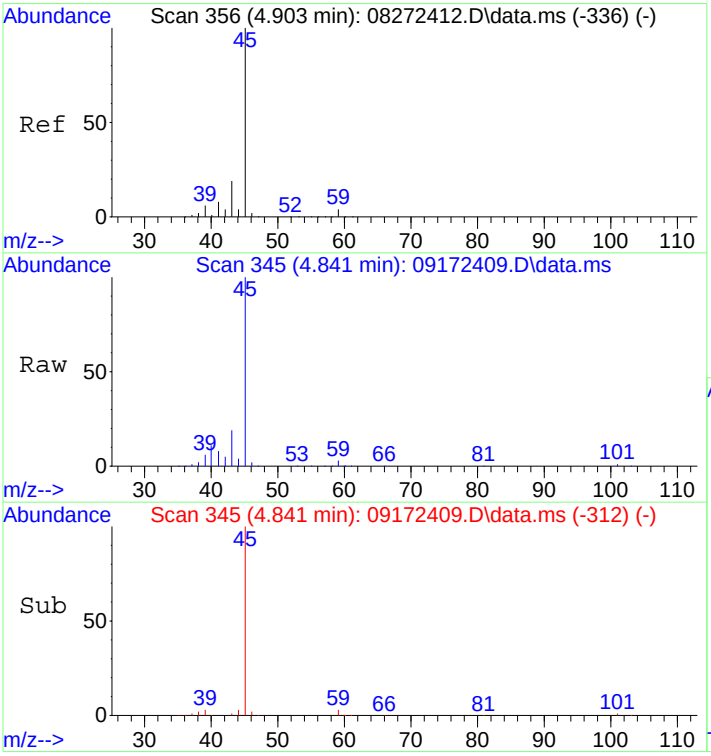


#14
Trichlorofluoromethane
Concen: 79.38 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion:101 Resp: 2429655

Ion	Ratio	Lower	Upper
101	100		
103	65.2	44.9	84.9

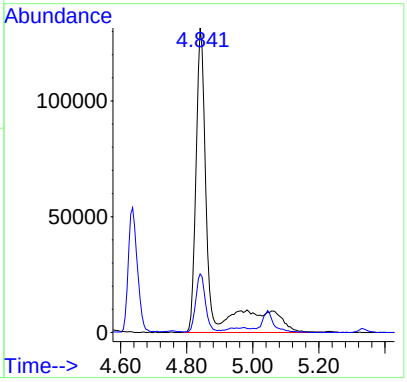


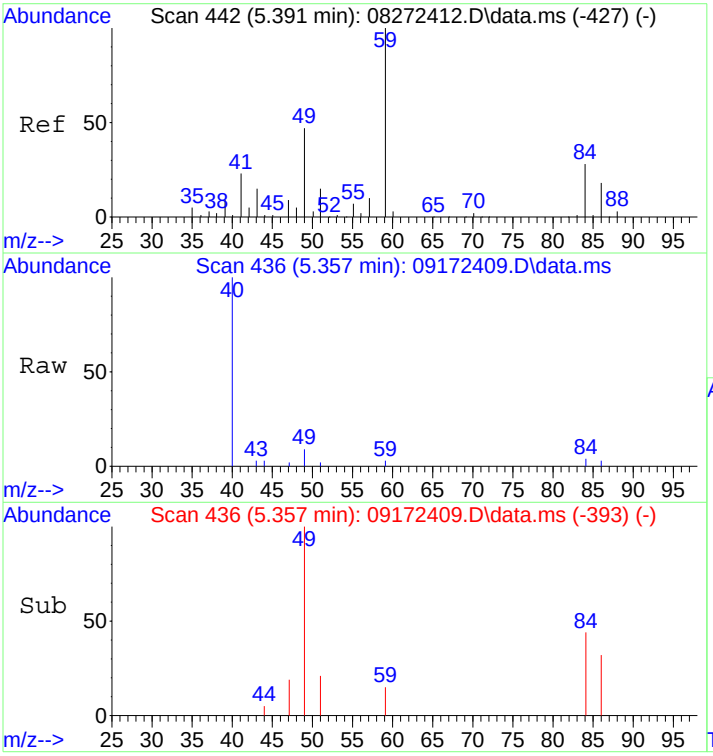


#15
2-Propanol (Isopropanol)
Concen: 7.47 ng
RT: 4.84 min Scan# 345
Delta R.T. -0.065 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 45 Resp: 355979

Ion	Ratio	Lower	Upper
45	100		
43	17.5	0.0	40.0

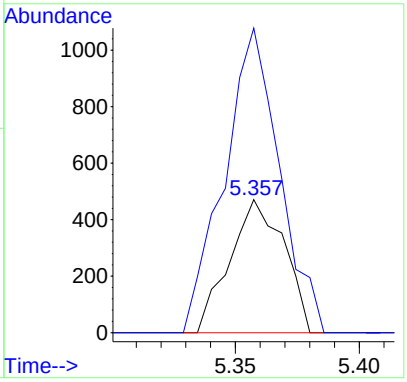


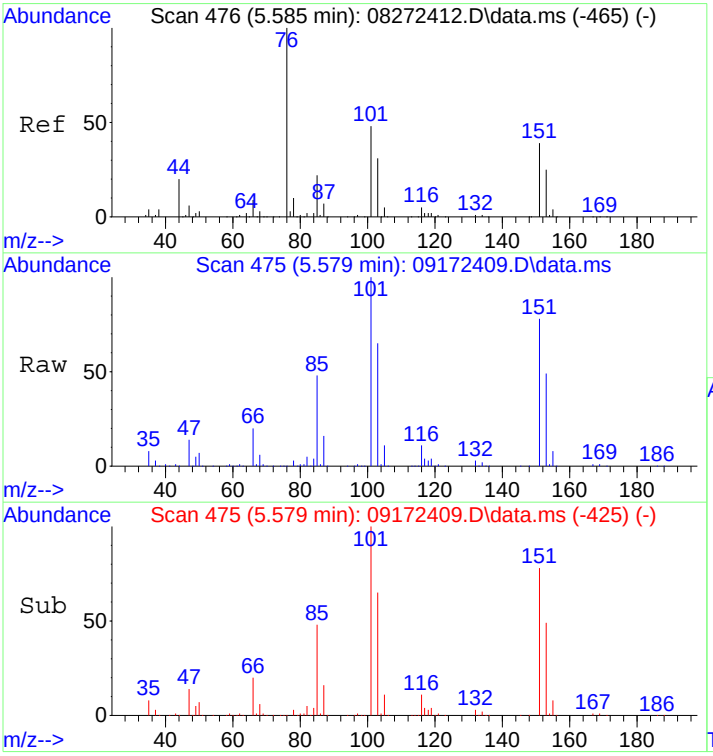


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.004 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 84 Resp: 719

Ion	Ratio	Lower	Upper
84	100		
49	232.3	151.1	201.1#

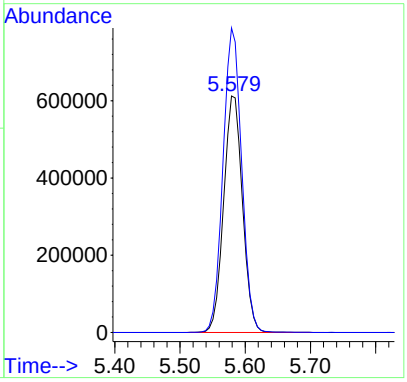


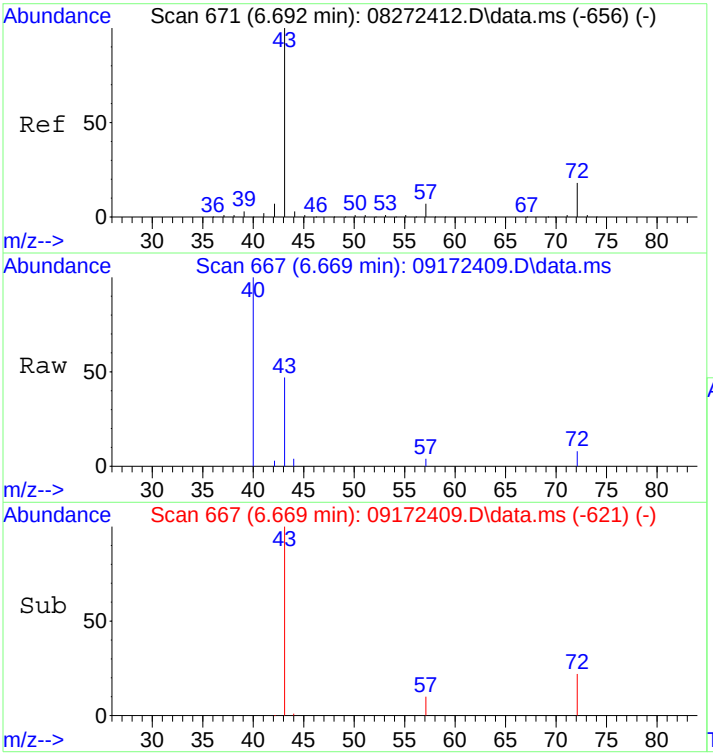


#21
Trichlorotrifluoroethane
Concen: 101.40 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion:151 Resp: 1229610

Ion	Ratio	Lower	Upper
151	100		
101	127.3	103.4	143.4

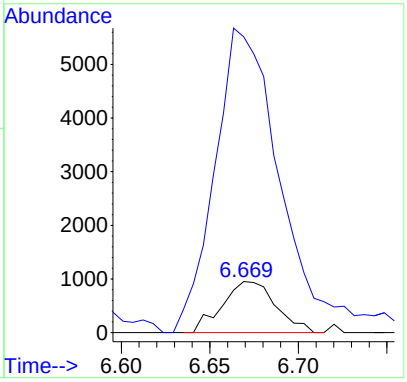


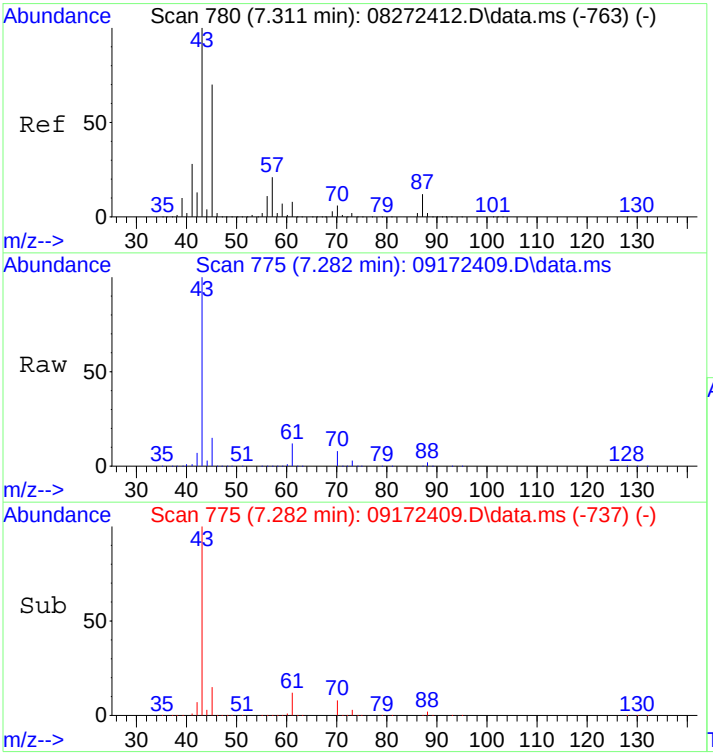


#27
2-Butanone (MEK)
Concen: 0.23 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 72 Resp: 2004

Ion	Ratio	Lower	Upper
72	100		
43	744.3	548.0	588.0#

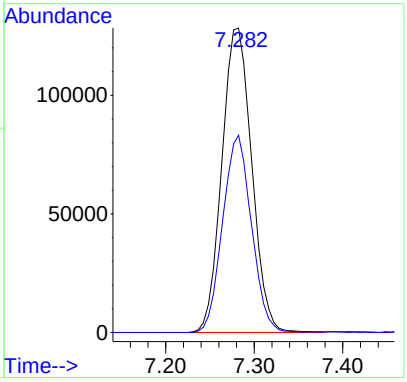


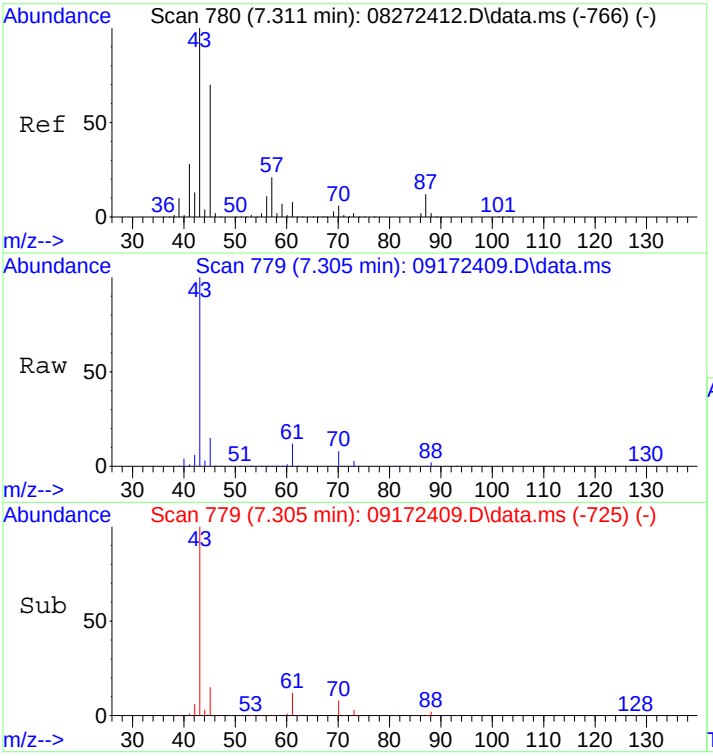


#30
Ethyl Acetate
Concen: 52.42 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 61 Resp: 301585

Ion	Ratio	Lower	Upper
61	100		
70	62.4	49.9	89.9

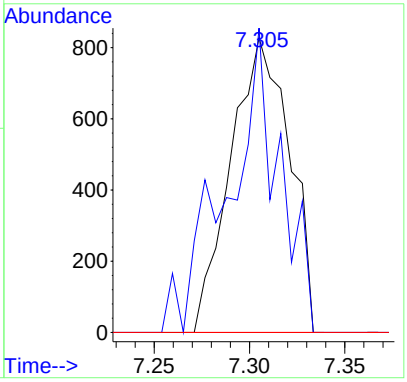


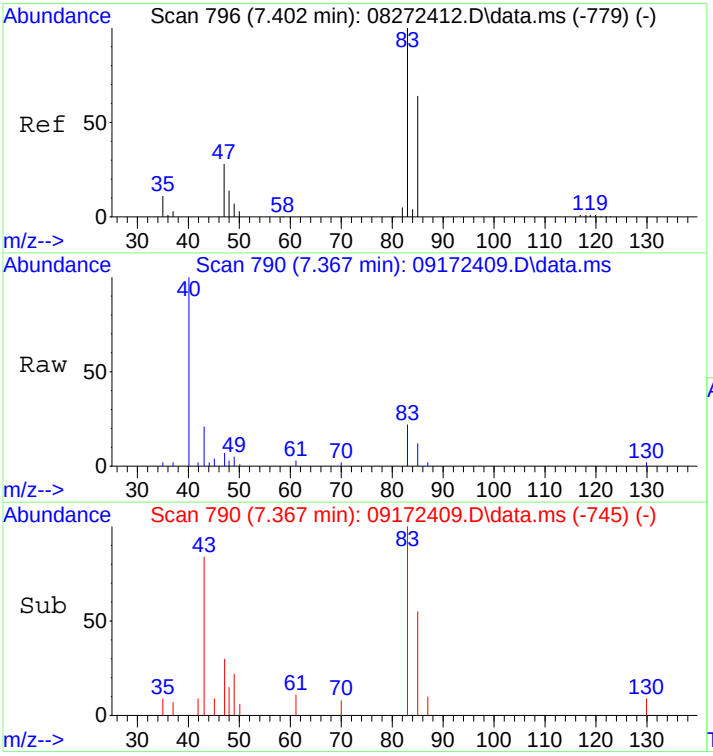


#31
n-Hexane
Concen: 0.07 ng
RT: 7.31 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 57 Resp: 1771

Ion	Ratio	Lower	Upper
57	100		
56	55.4	44.2	66.2
86	0.0	9.3	13.9#

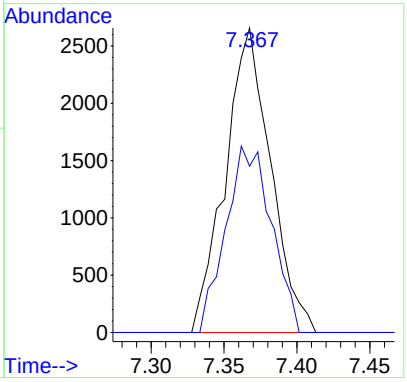


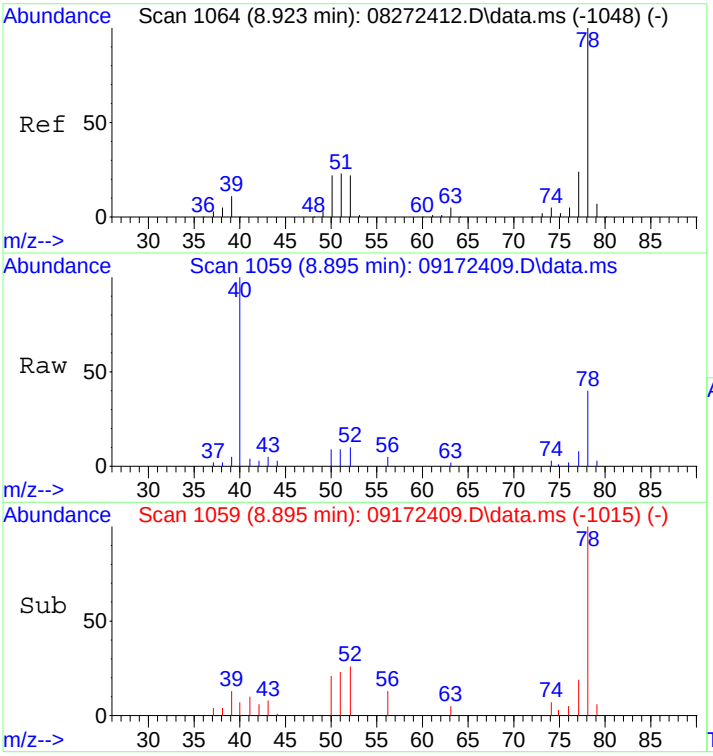


#32
Chloroform
Concen: 0.22 ng
RT: 7.37 min Scan# 790
Delta R.T. 0.007 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 83 Resp: 5771

Ion	Ratio	Lower	Upper
83	100		
85	61.3	45.3	85.3

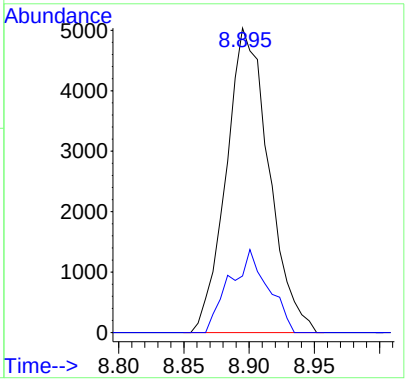


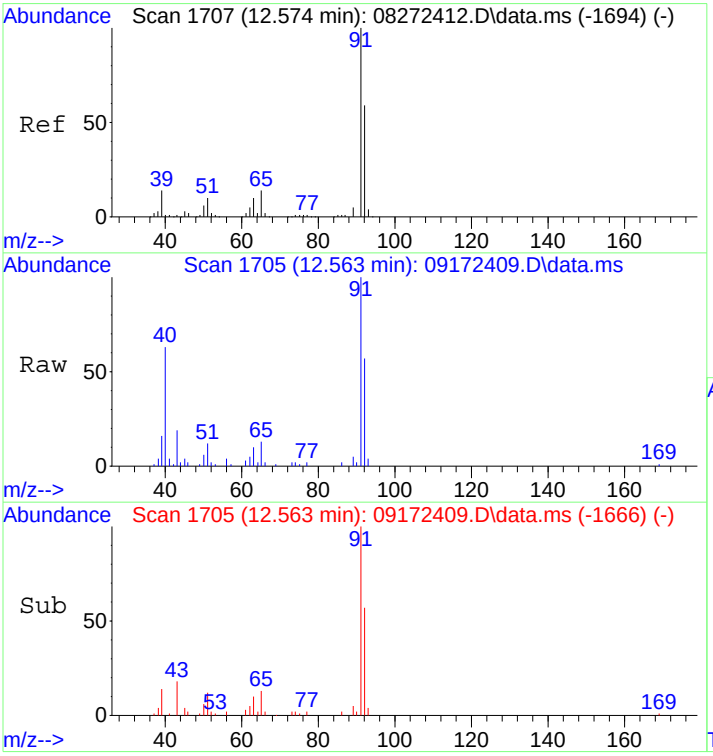


#41
Benzene
Concen: 0.21 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 78 Resp: 11451

Ion	Ratio	Lower	Upper
78	100		
77	24.6	3.9	43.9

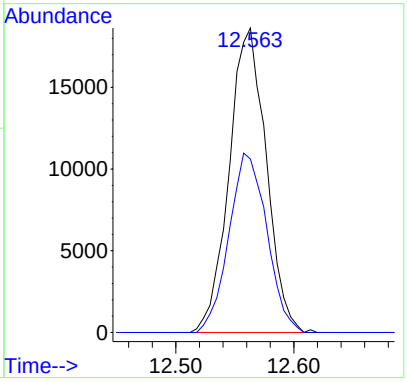


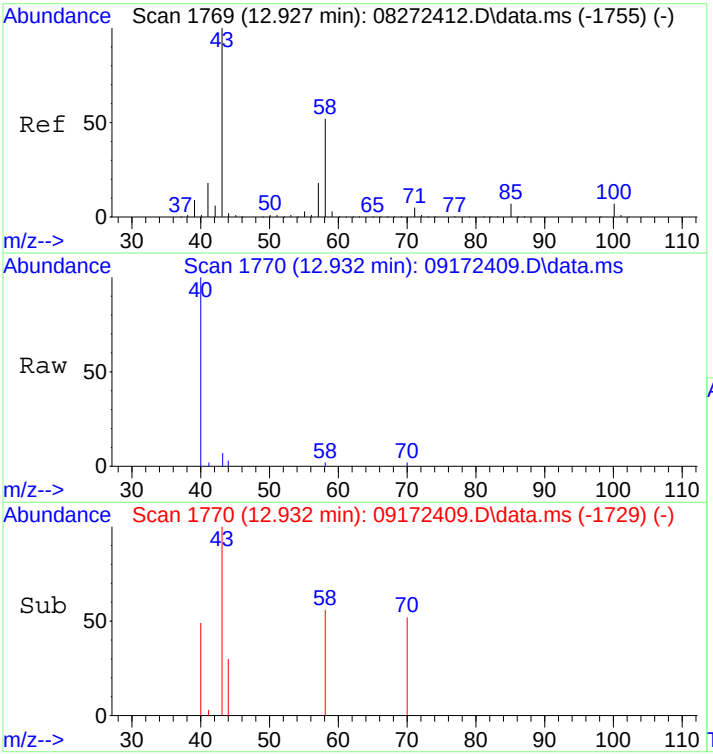


#58
Toluene
Concen: 0.63 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 91 Resp: 40765

Ion	Ratio	Lower	Upper
91	100		
92	60.0	38.5	78.5

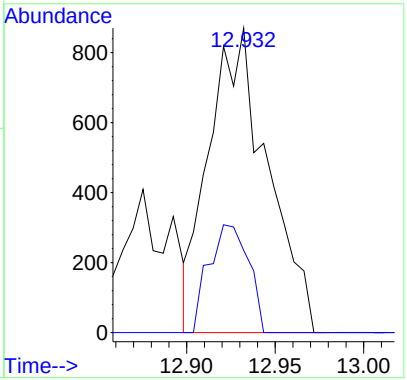


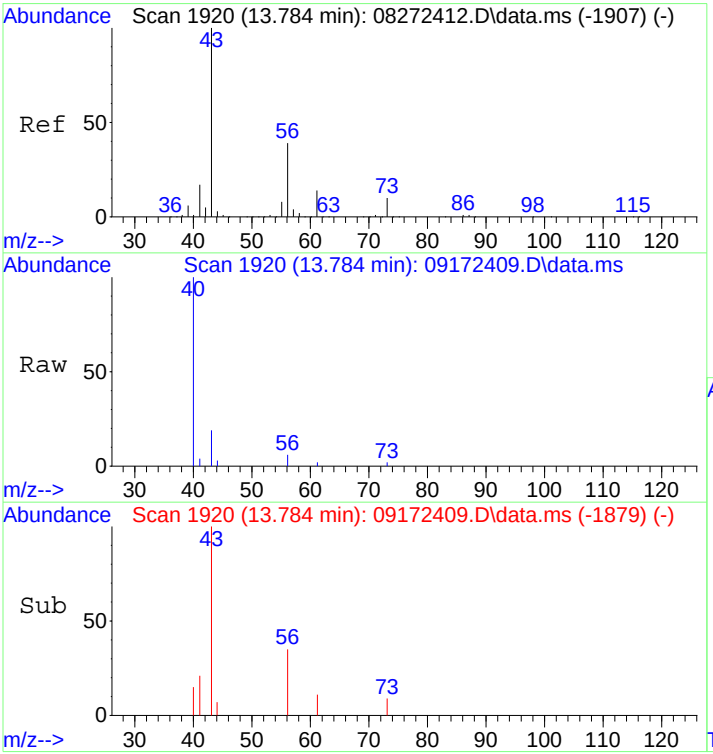


#59
2-Hexanone
Concen: 0.05 ng
RT: 12.93 min Scan# 1770
Delta R.T. -0.017 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 43 Resp: 2000

Ion	Ratio	Lower	Upper
43	100		
58	24.0	31.1	71.1#

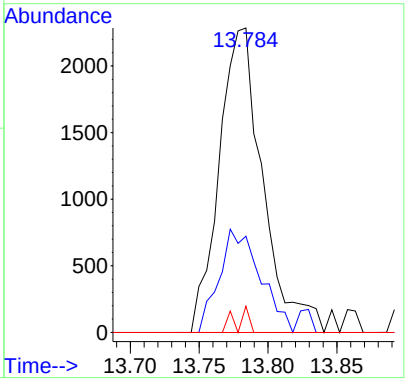


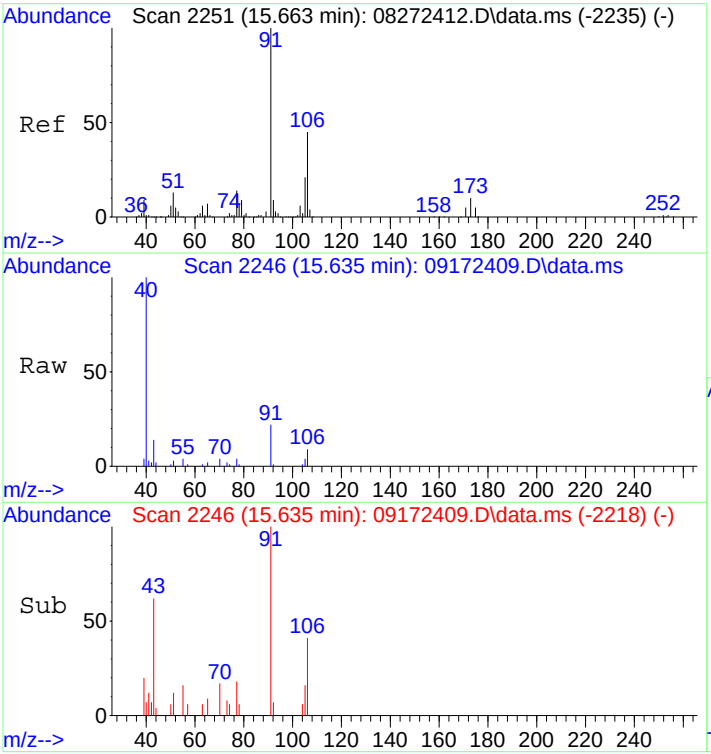


#62
n-Butyl Acetate
Concen: 0.11 ng
RT: 13.78 min Scan# 1920
Delta R.T. -0.017 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 43 Resp: 5042

Ion	Ratio	Lower	Upper
43	100		
56	32.0	18.2	58.2
73	0.0	0.0	30.1

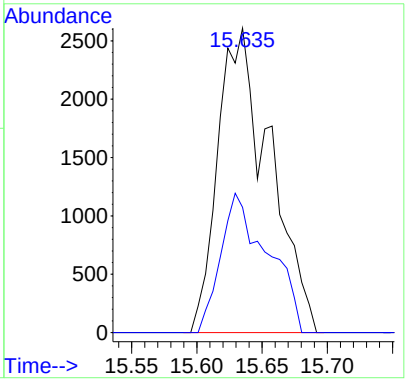


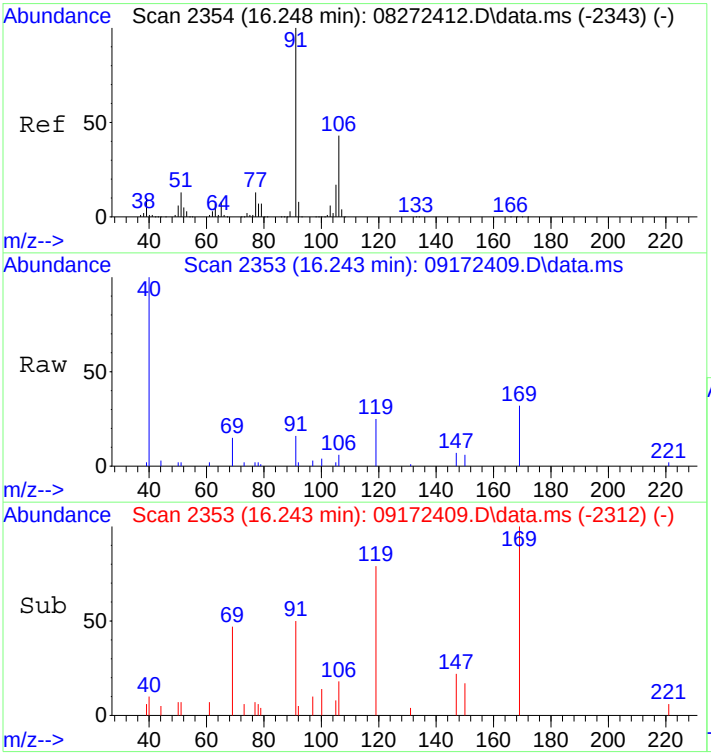


#67
m- & p-Xylenes
Concen: 0.12 ng
RT: 15.64 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 91 Resp: 7218

Ion	Ratio	Lower	Upper
91	100		
106	41.4	23.8	63.8

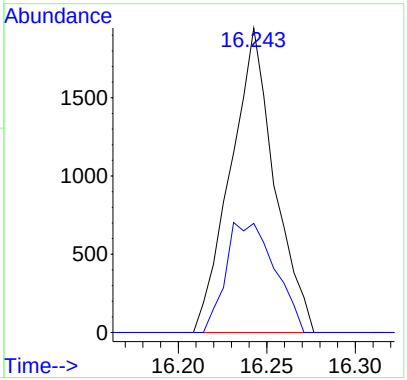


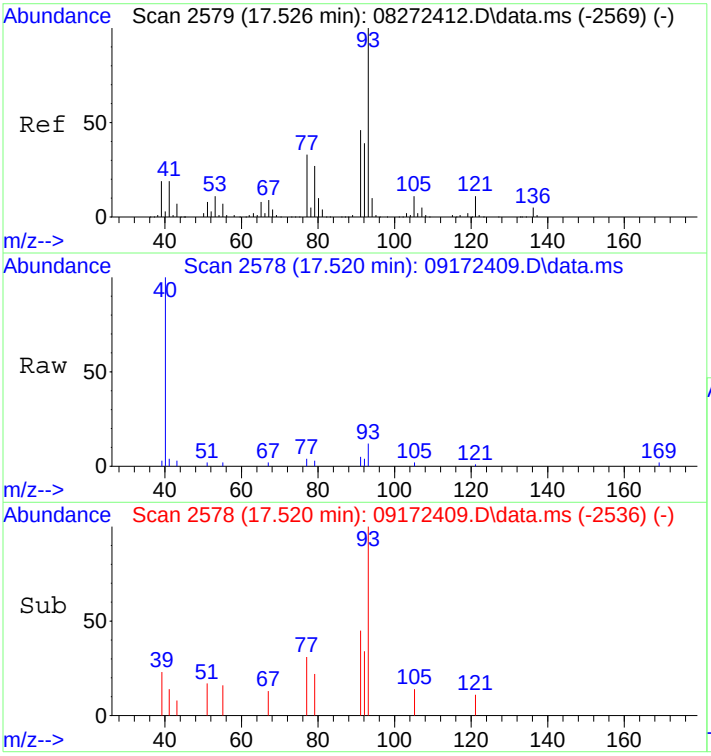


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 91 Resp: 3340

Ion	Ratio	Lower	Upper
91	100		
106	40.4	22.5	62.5

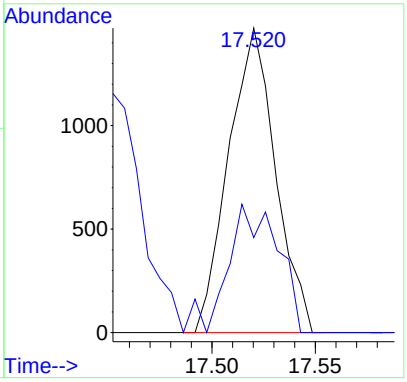


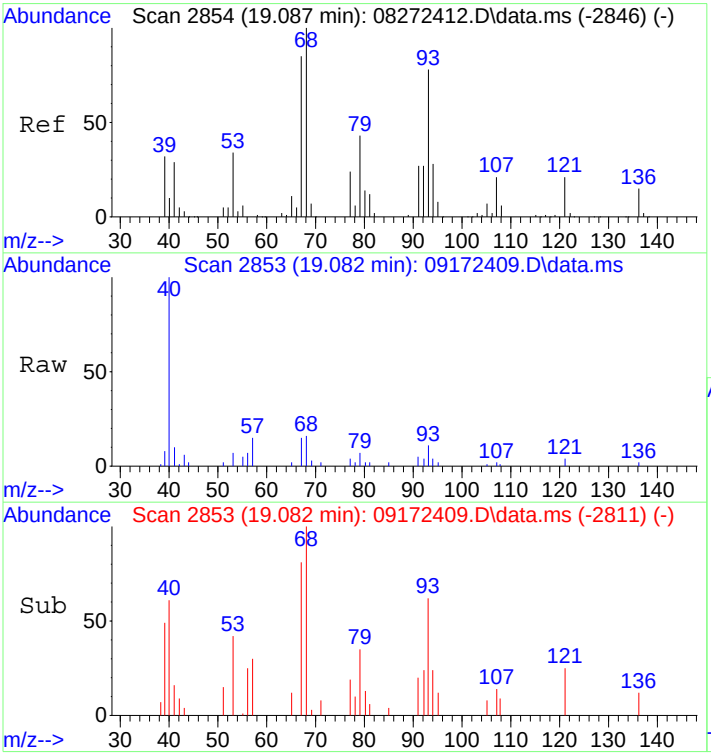


#75
alpha-Pinene
Concen: 0.07 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 93 Resp: 2324

Ion	Ratio	Lower	Upper
93	100		
77	43.0	13.1	53.1

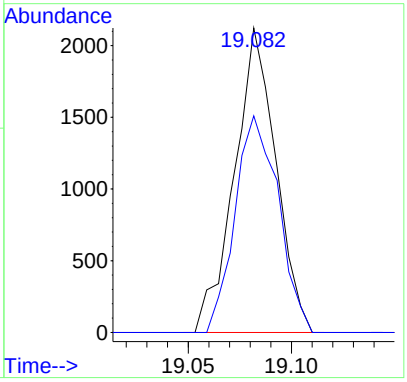




#91
d-Limonene
Concen: 0.15 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09172409.D
Acq: 17 Sep 2024 13:19

Tgt Ion: 68 Resp: 2964

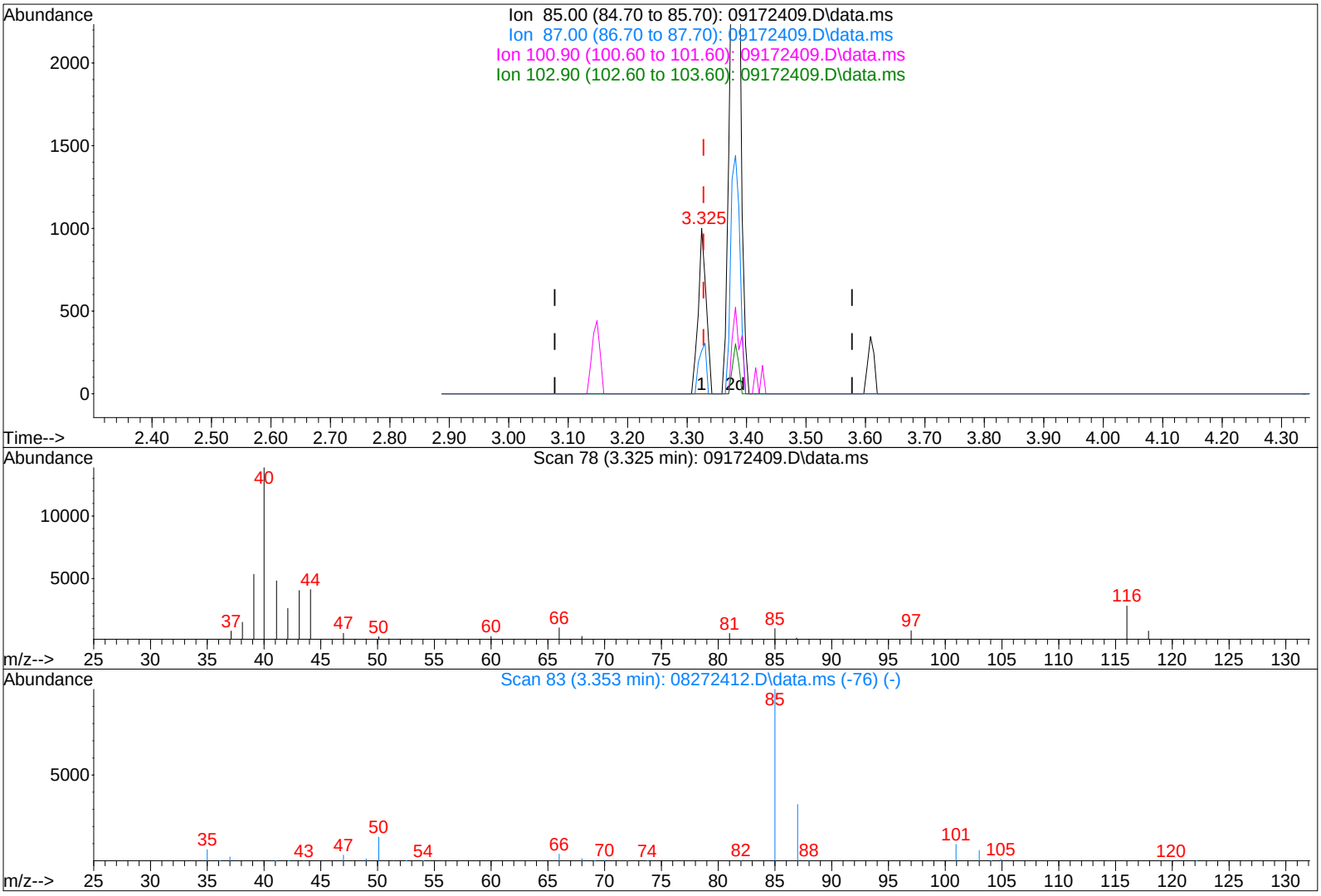
Ion	Ratio	Lower	Upper
68	100		
93	74.2	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172409.D Vial: 8
Acq On : 17 Sep 2024 13:19 Operator: SC
Sample : P2403661-060 (100mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 13:58:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172409.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.325min (-0.003) 0.03ng

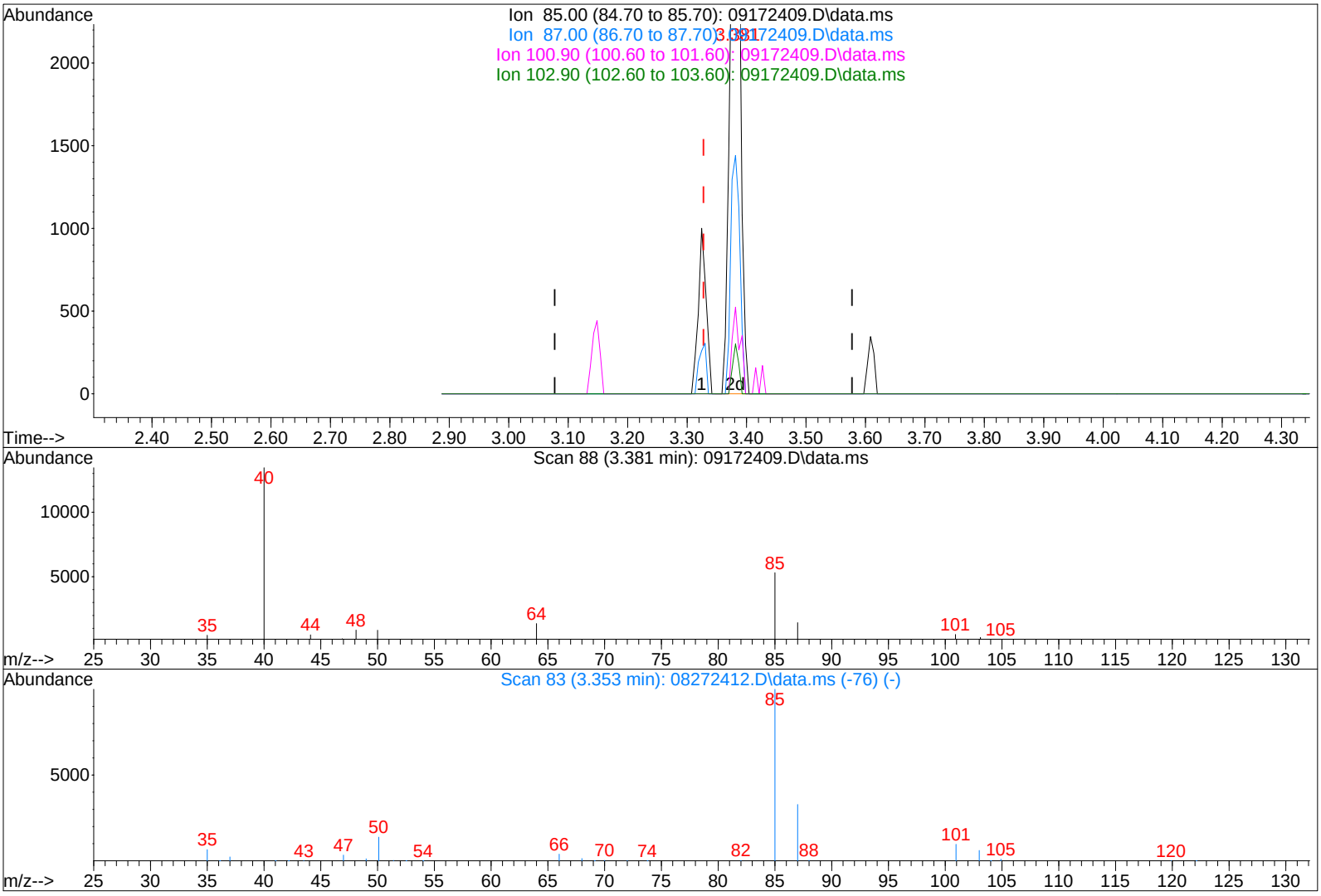
response 929

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	27.77
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172409.D Vial: 8
Acq On : 17 Sep 2024 13:19 Operator: SC
Sample : P2403661-060 (100mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 13:58:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172409.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.381min (+0.054) 0.16ng m

response 4980

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	5.18#
100.90	9.40	0.00
102.90	6.00	0.00

MP

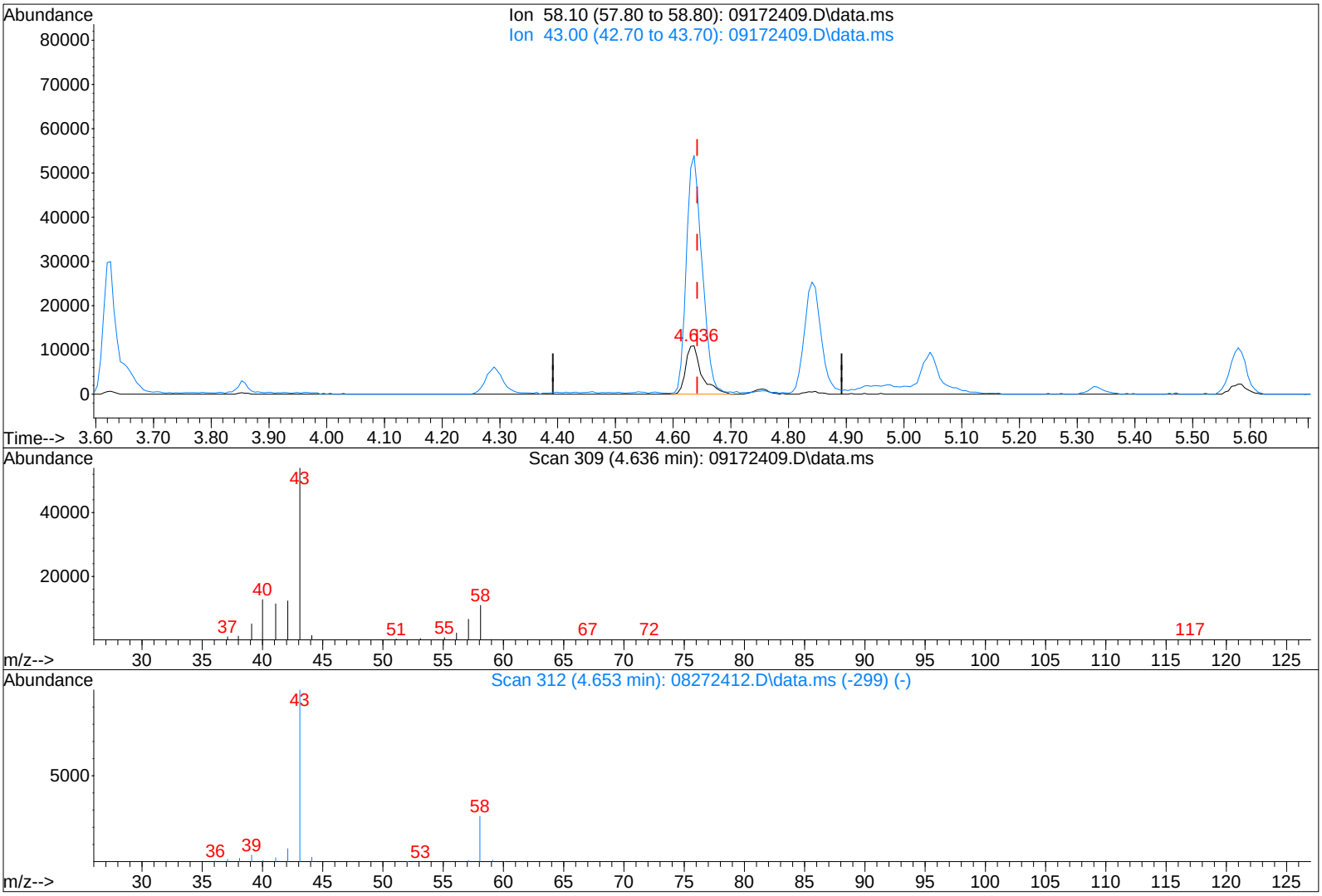
9/17/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172409.D Vial: 8
Acq On : 17 Sep 2024 13:19 Operator: SC
Sample : P2403661-060 (100mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 13:58:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172409.D\data.ms

(13) Acetone (T)

4.636min (-0.006) 1.73ng

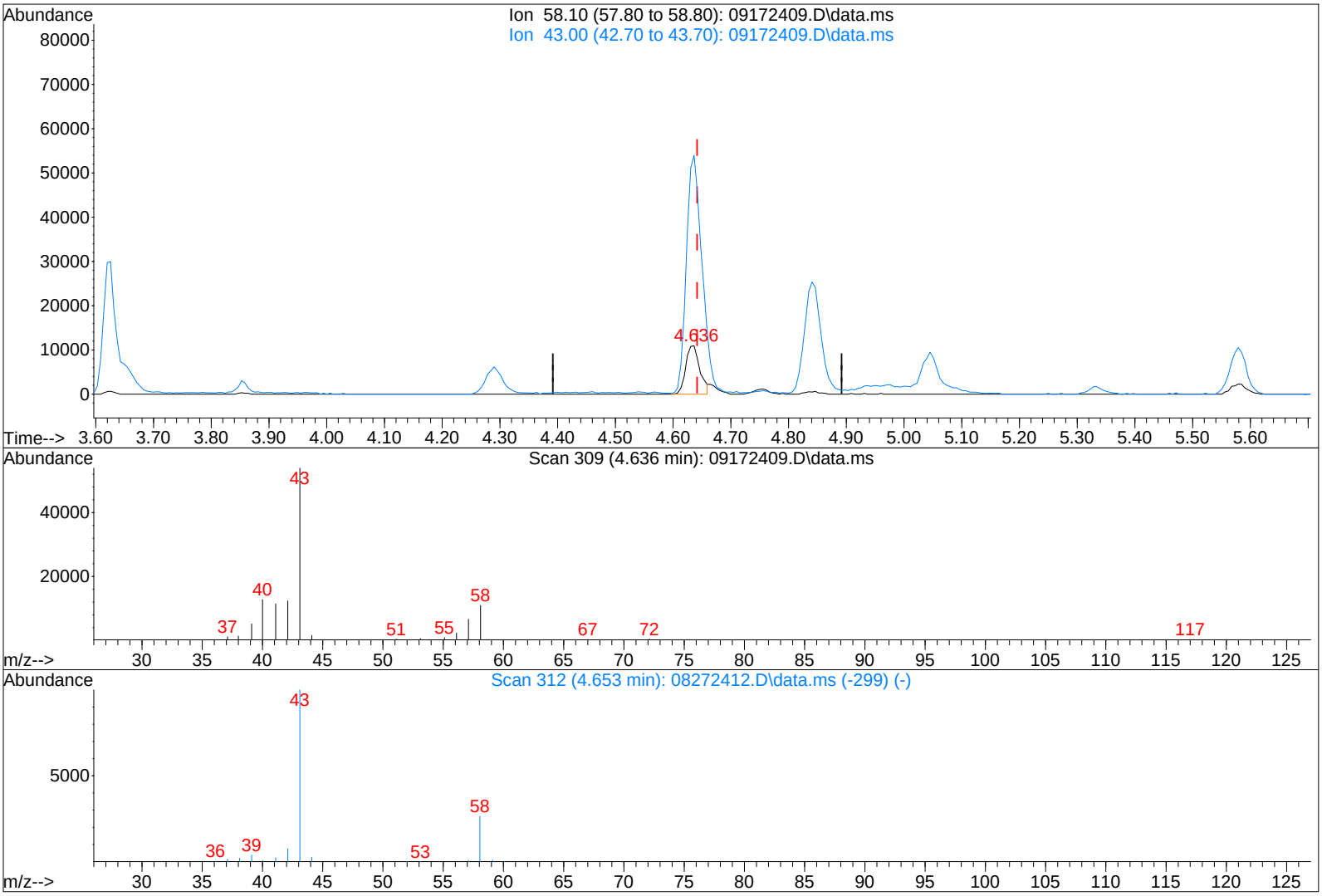
response 20886

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	488.24#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172409.D Vial: 8
Acq On : 17 Sep 2024 13:19 Operator: SC
Sample : P2403661-060 (100mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 13:58:20 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172409.D\data.ms

(13) Acetone (T)

4.636min (-0.006) 1.53ng m

response 18540

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	550.02#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/17/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

NA 9/30/24

Quant Time: Sep 30 07:31:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

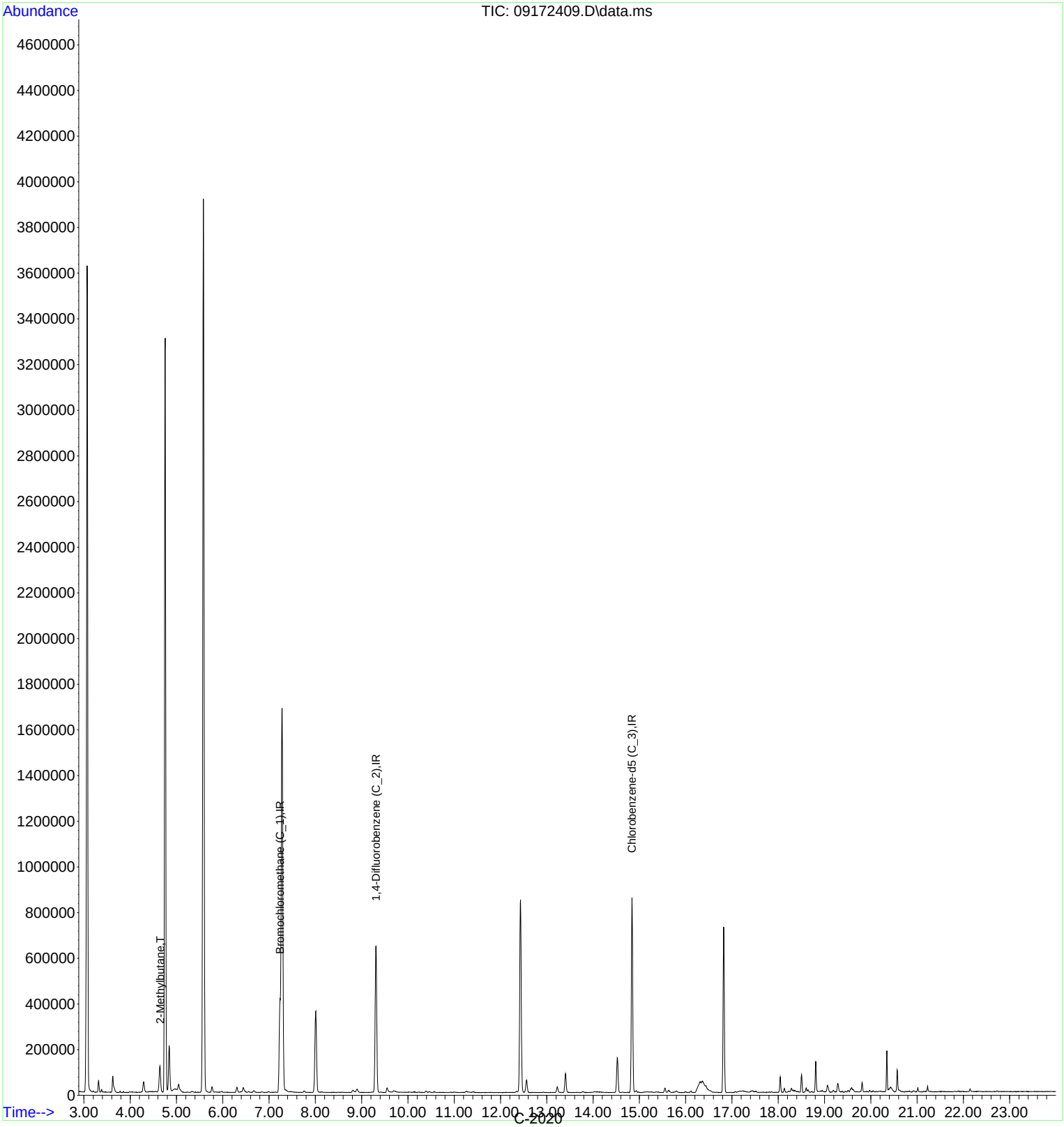
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	132484	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C_2)	9.31	114	586681	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	169790	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	807	N.D.		
4) 1,1-Difluoroethane	3.26	65	65	N.D.		
5) Chlorodifluoromethane ...	3.31	67	167	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.51	65	70	N.D.		
7) Dichlorofluoromethane ...	4.23	67	1941	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.58	83	53	N.D.		
10) 2-Methylbutane	4.65	57	18496	1.171	ng	90
11) Methyl Acetate	5.33	43	3180	N.D.		
12) 2-Methylpentane	6.49	71	524	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.51	56	284	N.D.		
18) Dibromomethane	9.79	174	53	N.D.		
20) Methyl Cyclohexane	11.42	55	1368	N.D.		
21) 1,3-Dichloropropane	12.55	76	60	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	62	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.60	91	243	N.D.		
27) 4-Chlorotoluene	17.67	91	1161	N.D.		
28) Indane	19.12	117	115	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	157	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	157	N.D.		
32) 1,2,3,5-Tetramethylben...	20.59	119	250	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 30 07:31:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration



C-2020

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09172409.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	69	76	83	rBV2	50776	77131	0.99%	0.392%
2	3.381	83	88	92	rBV2	11747	14255	0.18%	0.072%
3	3.620	125	130	145	rVB2	70310	138941	1.79%	0.705%
4	4.290	241	248	258	rBV	44625	95567	1.23%	0.485%
5	4.642	300	310	320	rVB2	115348	260471	3.36%	1.322%
6	4.755	320	330	338	rBV	3301967	5753304	74.20%	29.207%
7	4.841	338	345	355	rVB	199606	383224	4.94%	1.945%
8	4.966	355	367	368	rBV2	9058	25690	0.33%	0.130%
9	5.045	375	381	398	rVB3	35546	107335	1.38%	0.545%
10	5.579	464	475	495	rBV	3912653	7753548	100.00%	39.362%
11	5.766	500	508	517	rBV	24501	50597	0.65%	0.257%
12	6.306	595	603	610	rBV	23065	47258	0.61%	0.240%
13	6.436	619	626	637	rVB	18819	48155	0.62%	0.244%
14	6.675	659	668	679	rBV3	8027	23805	0.31%	0.121%
15	6.845	693	698	707	rVB4	3845	10949	0.14%	0.056%
16	7.282	756	775	787	rBV	1682562	4872953	62.85%	24.738%
17	7.362	787	789	802	rVB5	9329	20984	0.27%	0.107%
18	7.754	852	858	868	rBV4	6368	14087	0.18%	0.072%

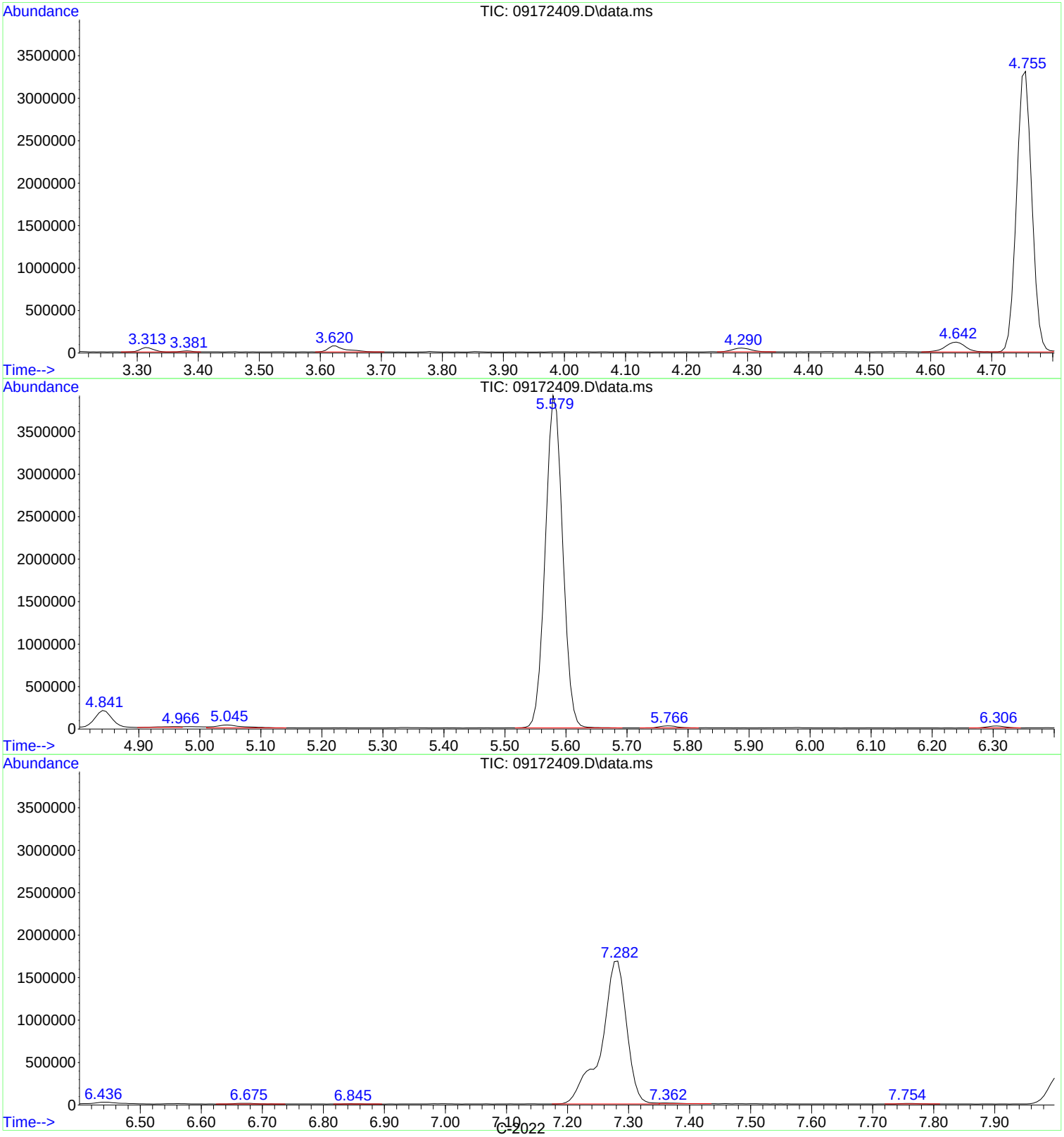
Sum of corrected areas: 19698254

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:19
Operator : SC
Sample : P2403661-060 (100mL)
Misc : S37-08262404
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\17\\
Data File : 09172409.D
Acq On : 17 Sep 2024 13:199
Operator : SCC
Sample : P2403661-060 (100mL))
Misc : S37-082624044
ALS Vial : 8 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

MOA 9/30/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

MOA 9/30/24

Quant Time: Sep 30 07:09:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	114284	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	496835	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	153704	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	308131	14.409	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.28%				
57) Toluene-d8 (SS2)	12.43	98	578999	10.738	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	206569	11.455	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
2) Propene	3.28	42	138535	8.025	ng	#	86
3) Dichlorodifluoromethan...	3.36	85	17115	0.617	ng		95
4) Chloromethane	3.49	50	6003	0.277	ng		98
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	221	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.01	94	330	N.D.			
9) Chloroethane	4.15	64	542	0.070	ng		86
10) Ethanol	4.30	45	40833	3.292	ng		82
11) Acetonitrile	4.44	41	34503	1.231	ng		98
12) Acrolein	4.53	56	10894	1.150	ng		99
13) Acetone	4.62	58	293766	28.070	ng		98
14) Trichlorofluoromethane	4.76	101	407060	15.381	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	1846470	44.811	ng		97
16) Acrylonitrile	0.00	53	0	N.D.	d		
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.43	59	635	N.D.			
19) Methylene Chloride	5.36	84	656	0.053	ng	#	67
20) 3-Chloro-1-propene (Al...	5.47	41	386	N.D.			
21) Trichlorotrifluoroethane	5.58	151	498626	47.557	ng		97
22) Carbon Disulfide	5.60	76	588918	14.415	ng		93
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.37	73	173	N.D.			
26) Vinyl Acetate	6.44	86	12222	5.745	ng	#	48
27) 2-Butanone (MEK)	6.66	72	23225	3.128	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	0.00	61	0	N.D.	d		
31) n-Hexane	0.00	57	0	N.D.	d		
32) Chloroform	7.37	83	13530	0.594	ng		98
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.	d		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.60	61	6365	No Calib		#	
40) 1-Butanol	8.81	56	21422	No Calib		#	
41) Benzene	8.90	78	9438	0.203	ng		99
42) Carbon Tetrachloride	9.07	117	808	N.D.			
43) Cyclohexane	9.21	84	442	N.D.			
44) tert-Amyl Methyl Ether	9.60	73	887	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.15	130	145	N.D.			
48) 1,4-Dioxane	10.13	88	5572	0.693	ng		99

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 07:09:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

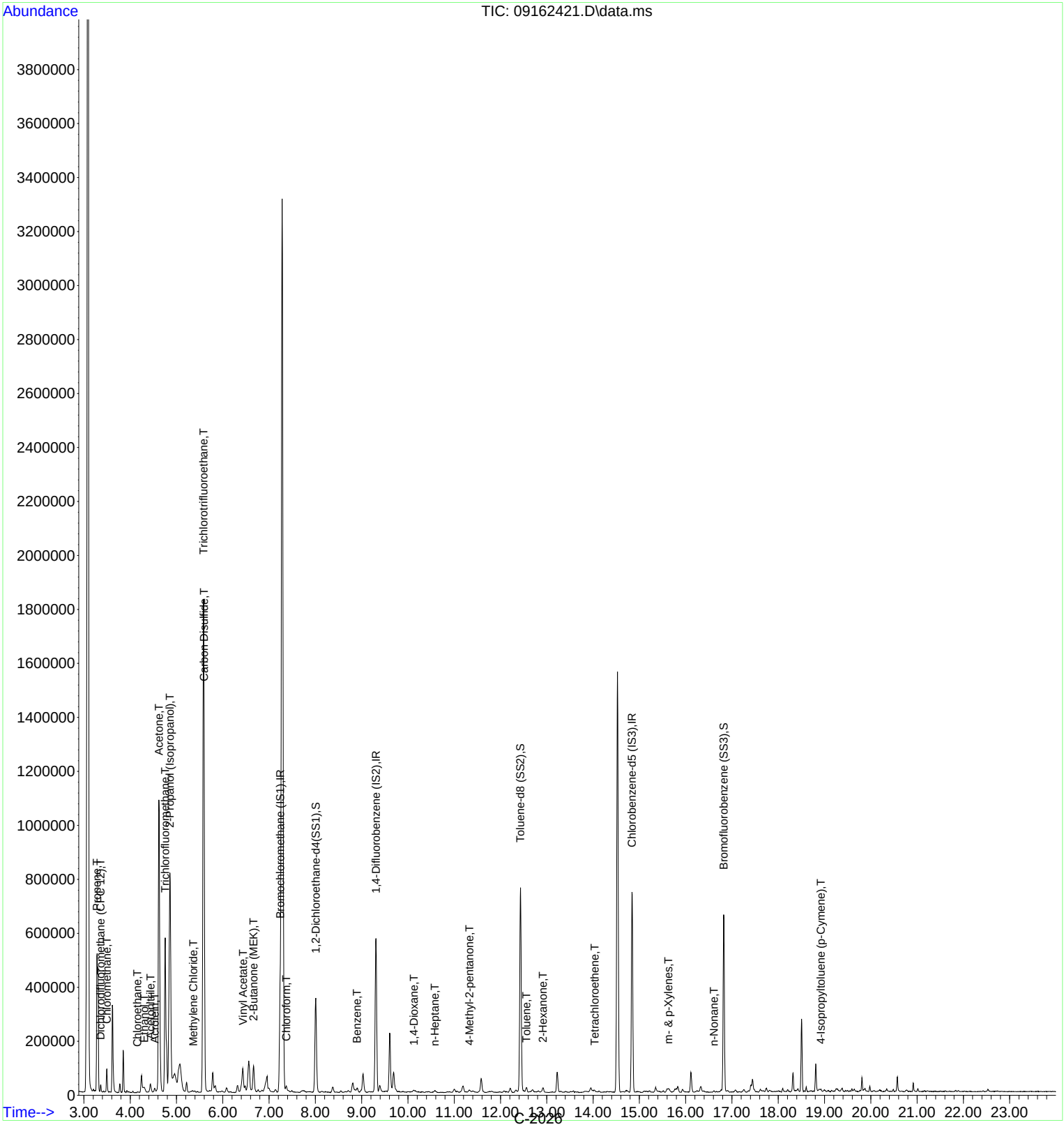
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.24	57	1836	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	10.58	71	895	0.086 ng	#	45
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	1960	0.159 ng	#	8
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	13219	0.227 ng		100
59) 2-Hexanone	12.92	43	16152	0.448 ng		88
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	827	N.D.		
63) n-Octane	13.92	57	655	N.D.		
64) Tetrachloroethene	14.03	166	1364	0.084 ng		99
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	2990	N.D.		
67) m- & p-Xylenes	15.63	91	6960	0.128 ng		98
68) Bromoform	15.69	173	114	N.D.		
69) Styrene	16.10	104	594	N.D.		
70) o-Xylene	16.24	91	2343	N.D.		
71) n-Nonane	16.61	43	3176	0.091 ng		96
72) 1,1,2,2-Tetrachloroethane	16.20	83	160	N.D.		
74) Cumene	17.03	105	406	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	1775	N.D.		
77) 3-Ethyltoluene	17.03	105	406	No Calib	#	
78) 4-Ethyltoluene	17.86	105	1208	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	703	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	406	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	2582	N.D.		
83) n-Decane	17.10	58	887	No Calib	#	
84) Benzyl Chloride	18.56	91	827	N.D.		
85) 1,3-Dichlorobenzene	18.65	146	201	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	201	N.D.		
87) sec-Butylbenzene	18.74	105	256	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	4276	0.071 ng		93
89) 1,2,3-Trimethylbenzene	17.03	105	406	No Calib	#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.08	68	243	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	396	N.D.		
95) Naphthalene	20.94	128	819	N.D.		
96) n-Dodecane	18.88	58	497	No Calib	#	
97) Hexachlorobutadiene	21.30	225	243	N.D.		
98) Cyclohexanone	15.28	55	259	No Calib	#	
99) tert-Butylbenzene	18.43	119	724	N.D.		
100) n-Butylbenzene	19.38	91	1819	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 07:09:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

NOA 9/30/24

Quant Time: Sep 30 07:09:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

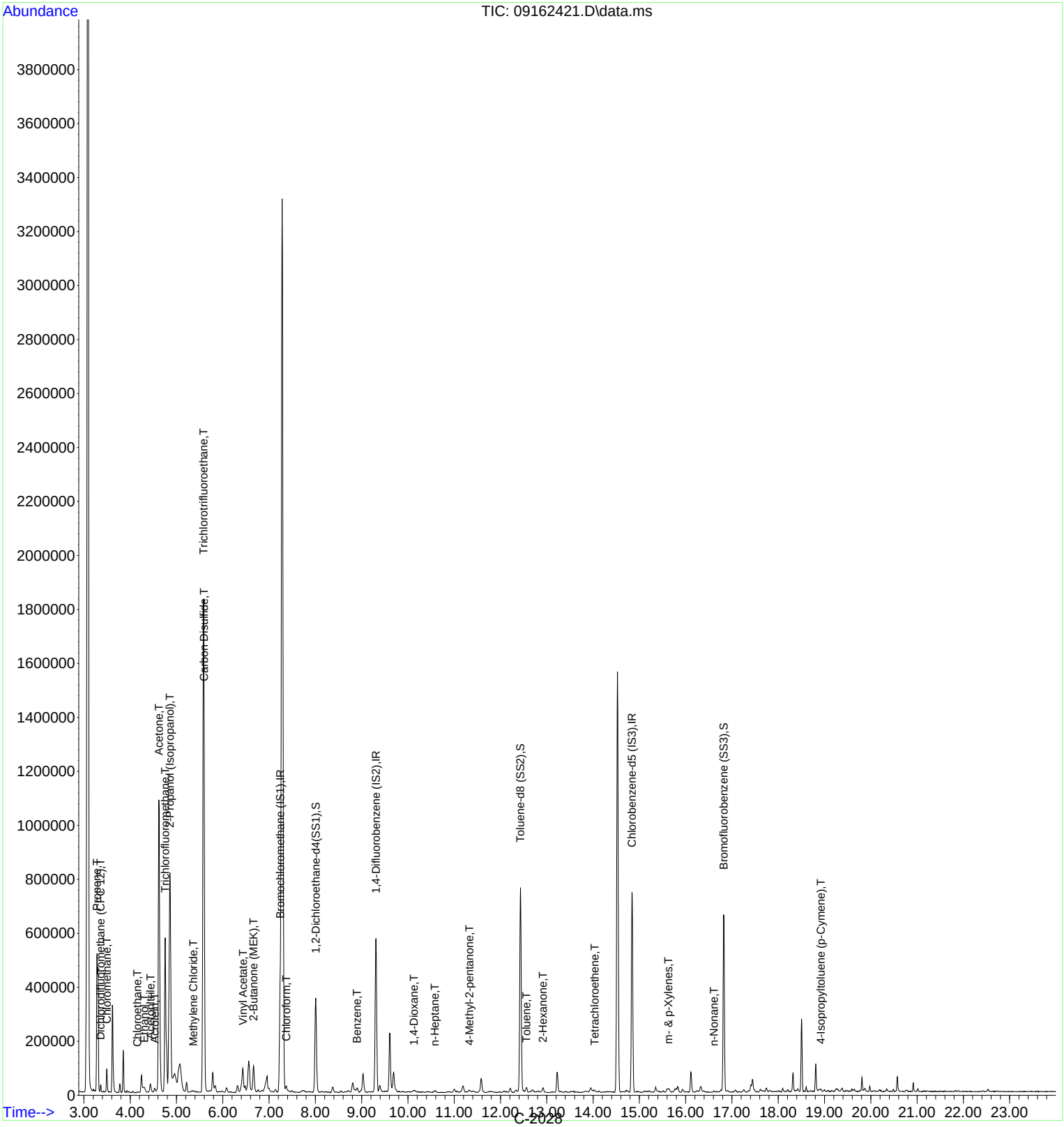
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	114284	12.500	ng		0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	496835	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	153704	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	308131	14.409	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.28%				
57) Toluene-d8 (SS2)	12.43	98	578999	10.738	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.92%				
73) Bromofluorobenzene (SS3)	16.82	174	206569	11.455	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
2) Propene	3.28	42	138535	8.025	ng	#	86
3) Dichlorodifluoromethan...	3.36	85	17115	0.617	ng		95
4) Chloromethane	3.49	50	6003	0.277	ng		98
9) Chloroethane	4.15	64	542	0.070	ng		86
10) Ethanol	4.30	45	40833	3.292	ng		82
11) Acetonitrile	4.44	41	34503	1.231	ng		98
12) Acrolein	4.53	56	10894	1.150	ng		99
13) Acetone	4.62	58	293766	28.070	ng		98
14) Trichlorofluoromethane	4.76	101	407060	15.381	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	1846470	44.811	ng		97
19) Methylene Chloride	5.36	84	656	0.053	ng	#	67
21) Trichlorotrifluoroethane	5.58	151	498626	47.557	ng		97
22) Carbon Disulfide	5.60	76	588918	14.415	ng		93
26) Vinyl Acetate	6.44	86	12222	5.745	ng	#	48
27) 2-Butanone (MEK)	6.66	72	23225	3.128	ng	#	71
32) Chloroform	7.37	83	13530	0.594	ng		98
41) Benzene	8.90	78	9438	0.203	ng		99
48) 1,4-Dioxane	10.13	88	5572	0.693	ng		99
51) n-Heptane	10.58	71	895	0.086	ng	#	45
53) 4-Methyl-2-pentanone	11.33	58	1960	0.159	ng	#	8
58) Toluene	12.56	91	13219	0.227	ng		100
59) 2-Hexanone	12.92	43	16152	0.448	ng		88
64) Tetrachloroethene	14.03	166	1364	0.084	ng		99
67) m- & p-Xylenes	15.63	91	6960	0.128	ng		98
71) n-Nonane	16.61	43	3176	0.091	ng		96
88) 4-Isopropyltoluene (p-...	18.92	119	4276	0.071	ng		93

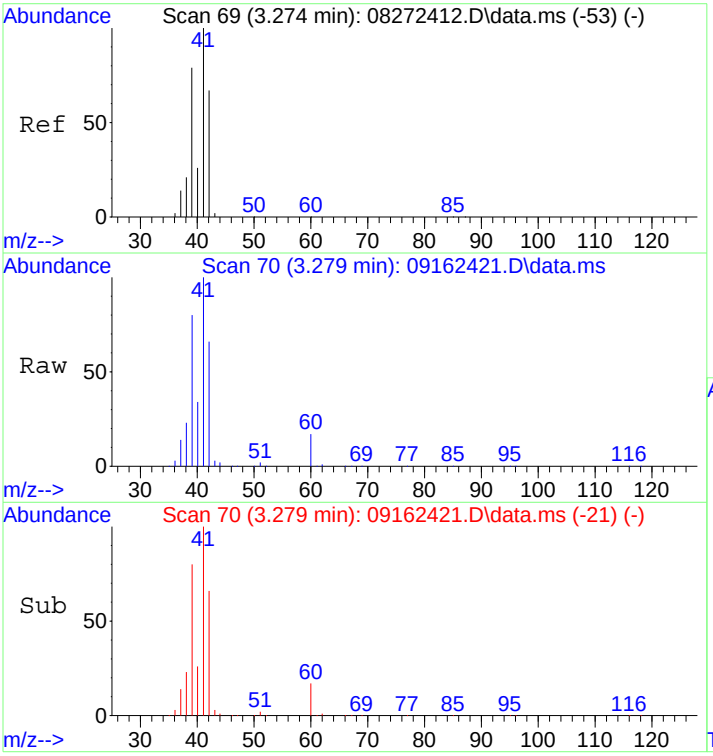
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 07:09:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration

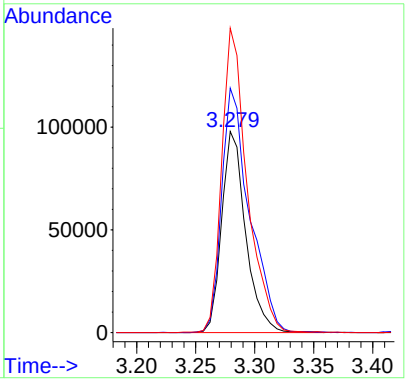


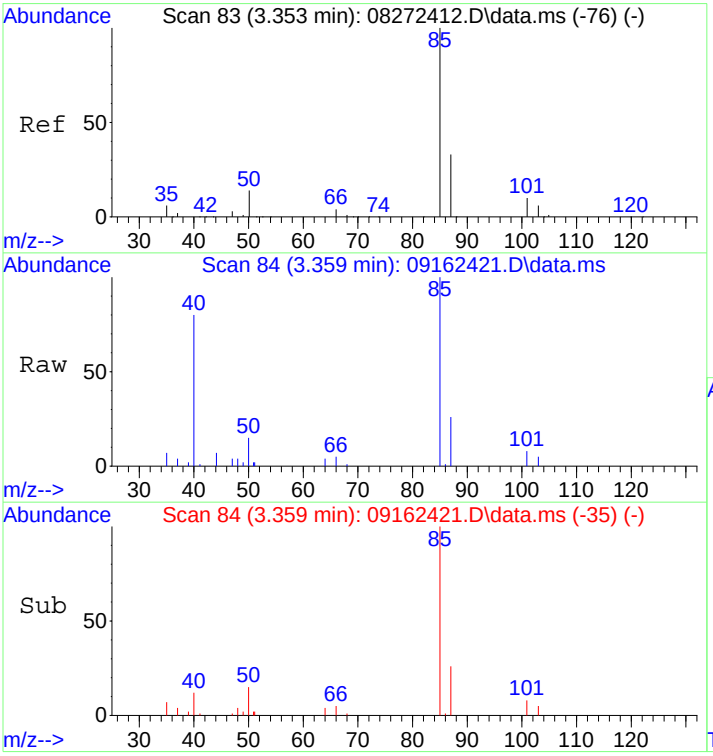


#2
Propene
Concen: 8.03 ng
RT: 3.28 min Scan# 70
Delta R.T. 0.030 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 42 Resp: 138535

Ion	Ratio	Lower	Upper
42	100		
39	141.8	98.2	138.2#
41	160.7	130.1	170.1

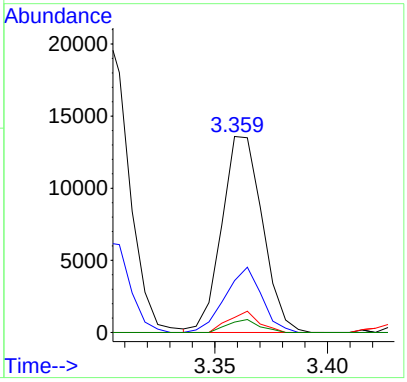


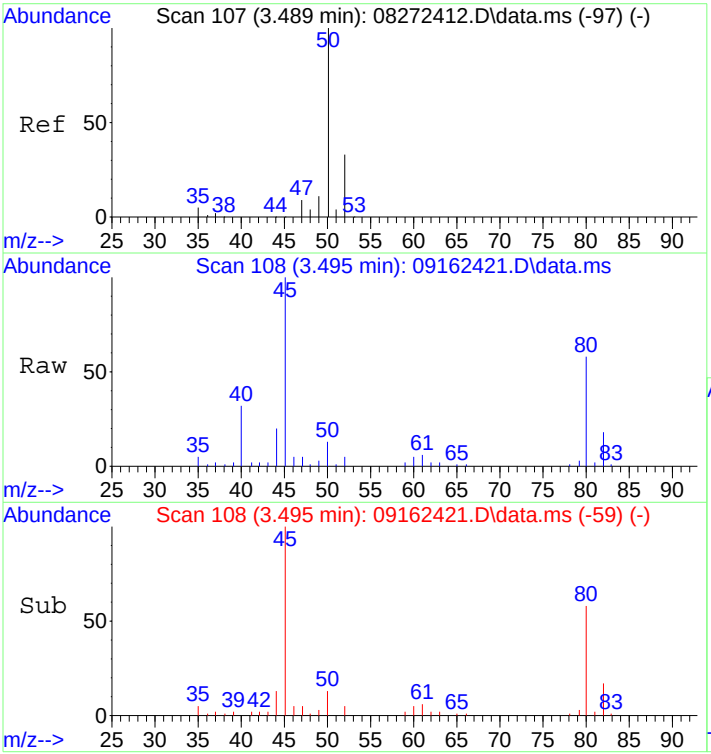


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.62 ng
RT: 3.36 min Scan# 84
Delta R.T. 0.031 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 85 Resp: 17115

Ion	Ratio	Lower	Upper
85	100		
87	29.8	13.1	53.1
101	8.1	0.0	29.4
103	5.2	0.0	26.0

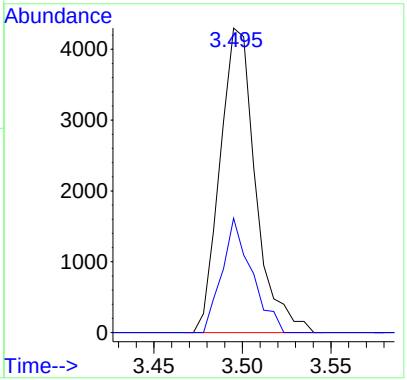


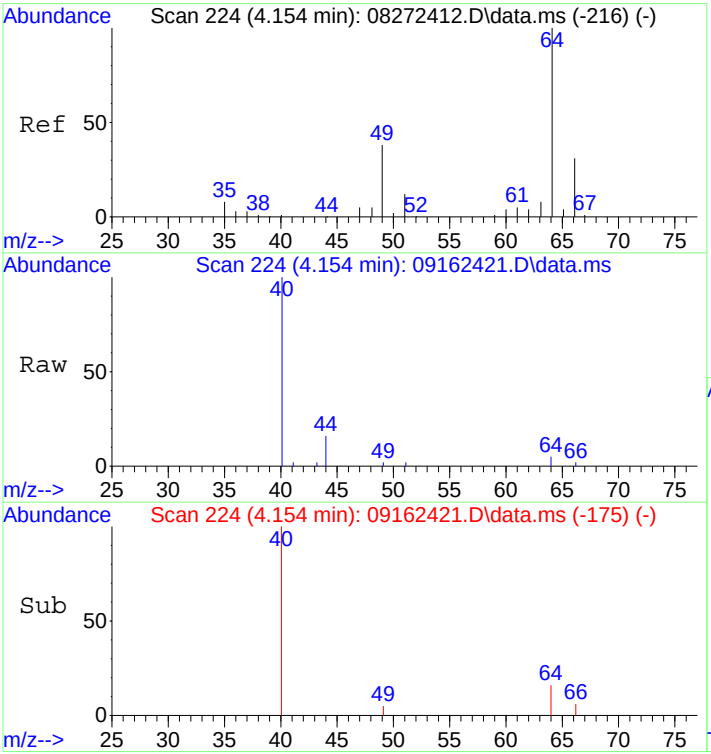


#4
Chloromethane
Concen: 0.28 ng
RT: 3.49 min Scan# 108
Delta R.T. 0.027 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 50 Resp: 6003

Ion	Ratio	Lower	Upper
50	100		
52	31.4	12.4	52.4

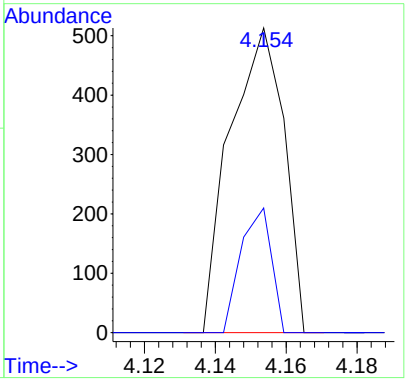


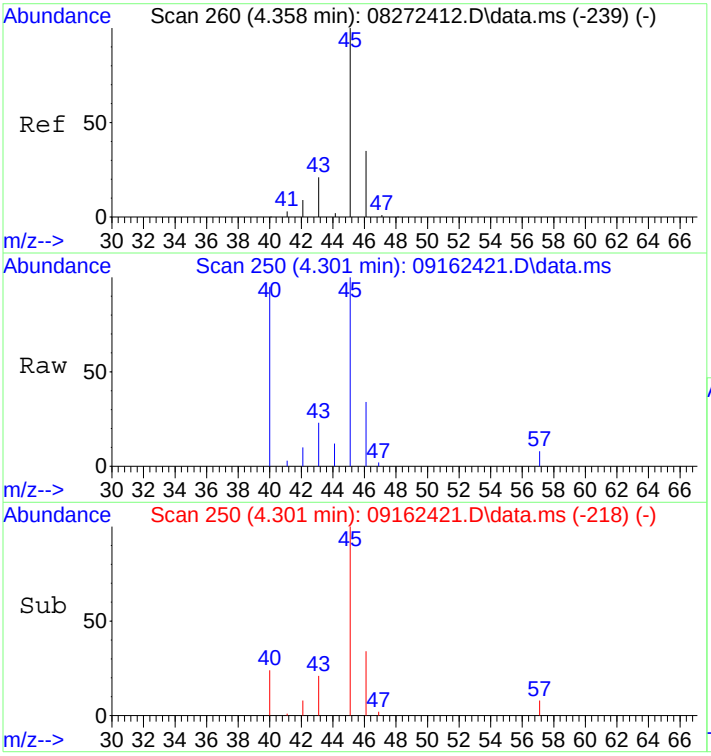


#9
Chloroethane
Concen: 0.07 ng
RT: 4.15 min Scan# 224
Delta R.T. 0.028 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 64 Resp: 542

Ion	Ratio	Lower	Upper
64	100		
66	23.2	11.0	51.0

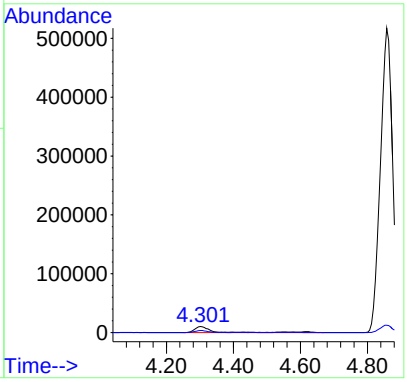


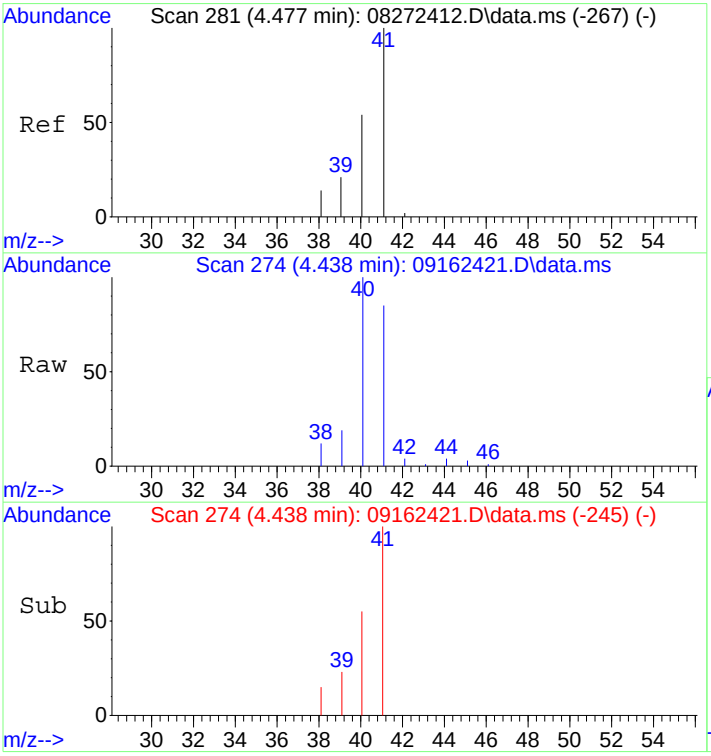


#10
Ethanol
Concen: 3.29 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.071 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 45 Resp: 40833

Ion	Ratio	Lower	Upper
45	100		
46	23.6	14.2	54.2

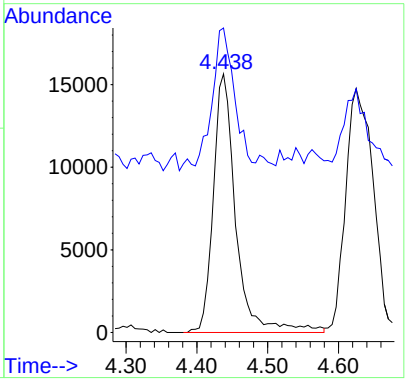


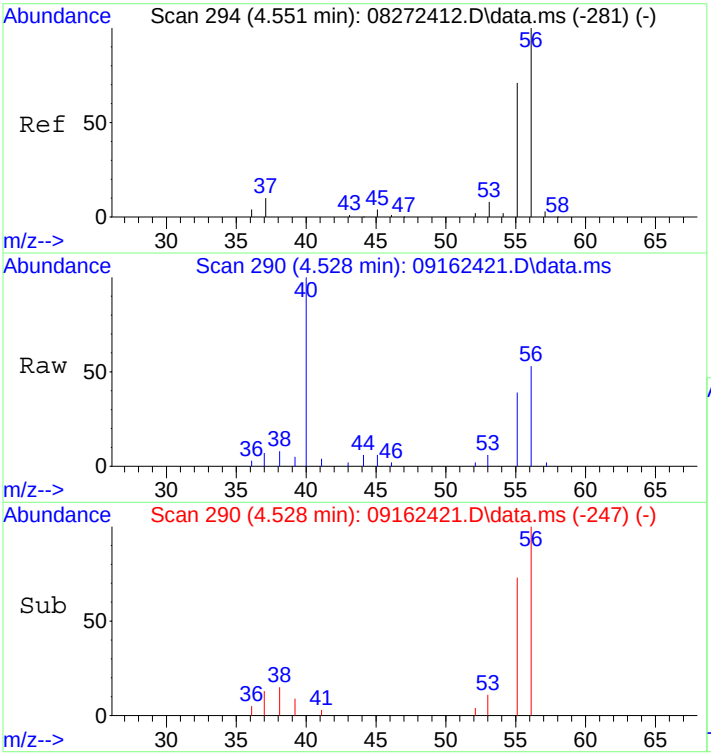


#11
Acetonitrile
Concen: 1.23 ng
RT: 4.44 min Scan# 274
Delta R.T. -0.036 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 41 Resp: 34503

Ion	Ratio	Lower	Upper
41	100		
40	52.5	33.9	73.9

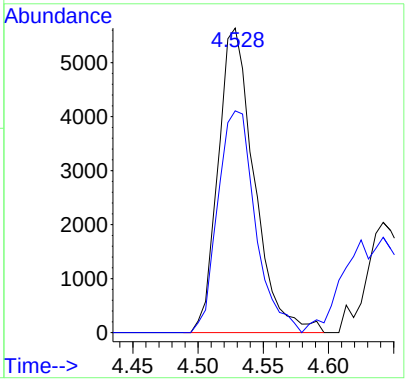


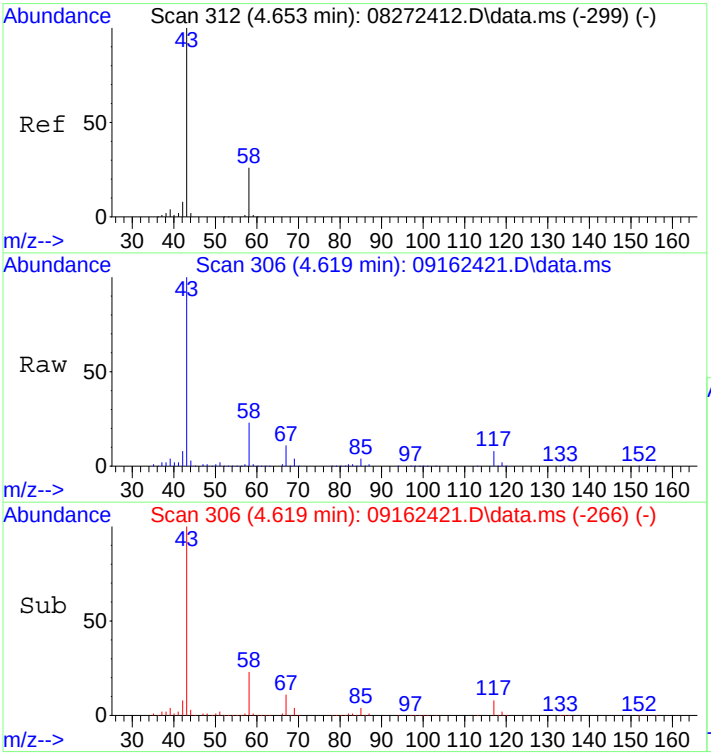


#12
Acrolein
Concen: 1.15 ng
RT: 4.53 min Scan# 290
Delta R.T. -0.007 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 56 Resp: 10894

Ion	Ratio	Lower	Upper
56	100		
55	75.6	54.7	94.7

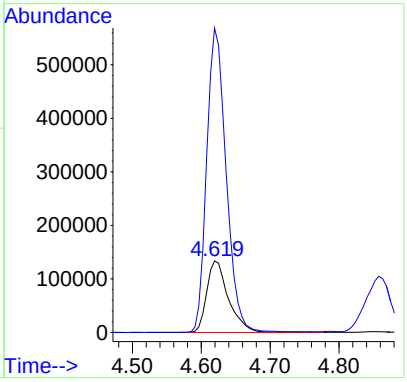


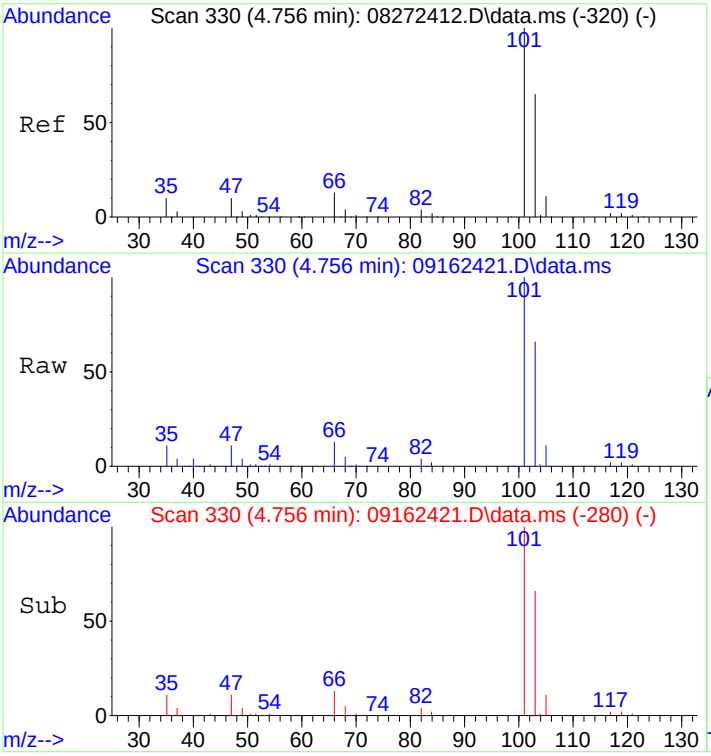


#13
Acetone
Concen: 28.07 ng
RT: 4.62 min Scan# 306
Delta R.T. -0.023 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 58 Resp: 293766

Ion	Ratio	Lower	Upper
58	100		
43	381.8	347.3	407.3

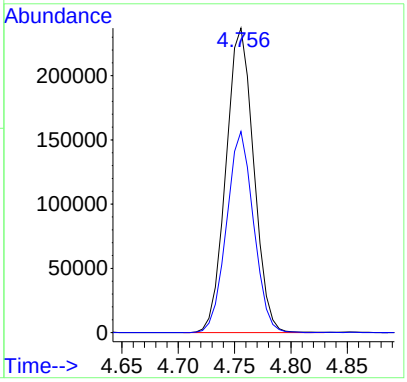


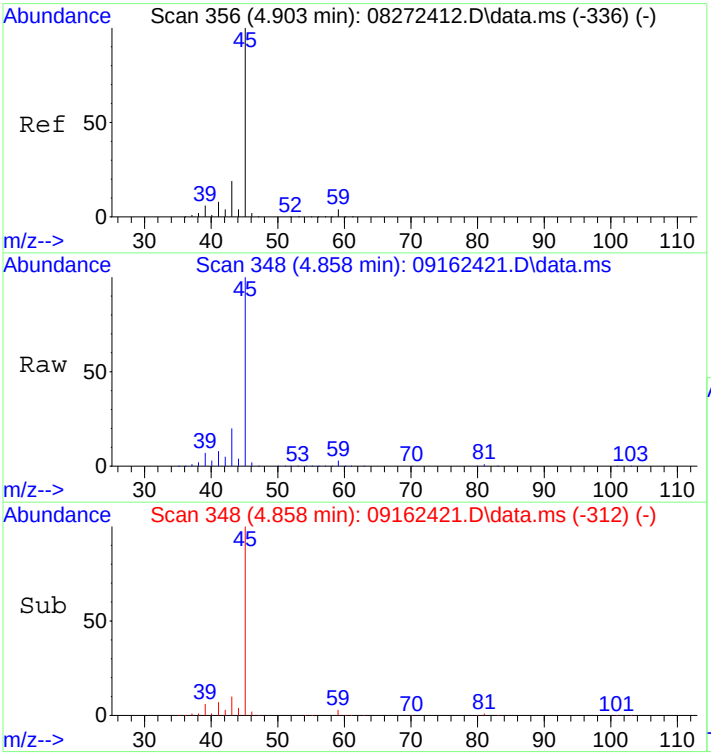


#14
Trichlorofluoromethane
Concen: 15.38 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion:101 Resp: 407060

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

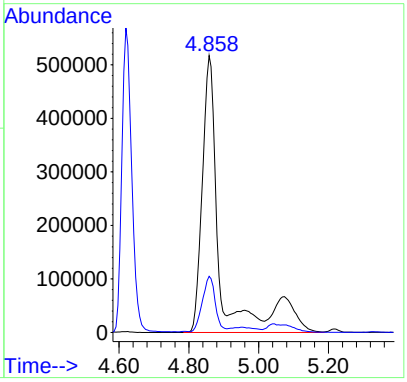


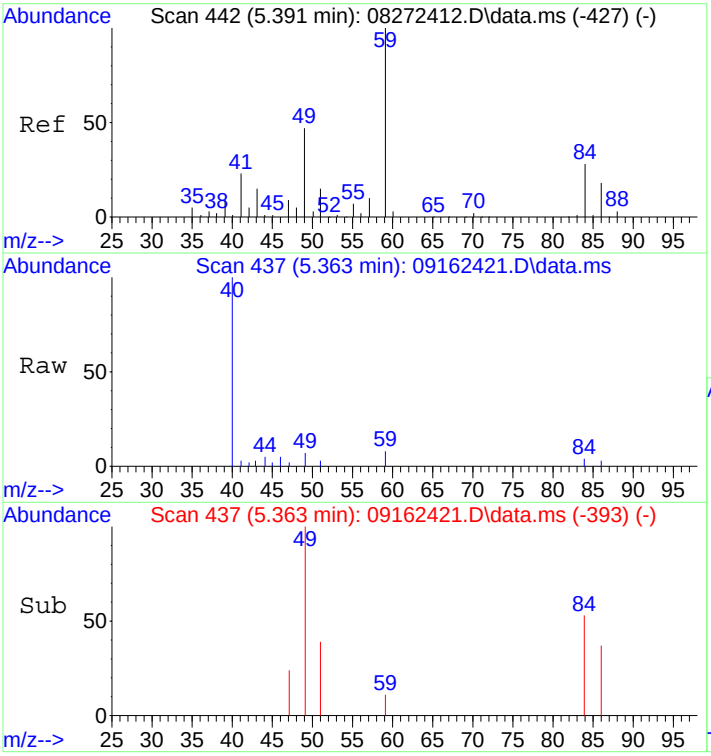


#15
2-Propanol (Isopropanol)
Concen: 44.81 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.048 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 45 Resp: 1846470

Ion	Ratio	Lower	Upper
45	100		
43	21.4	0.0	40.0

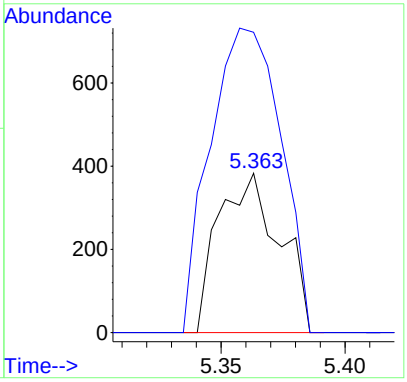


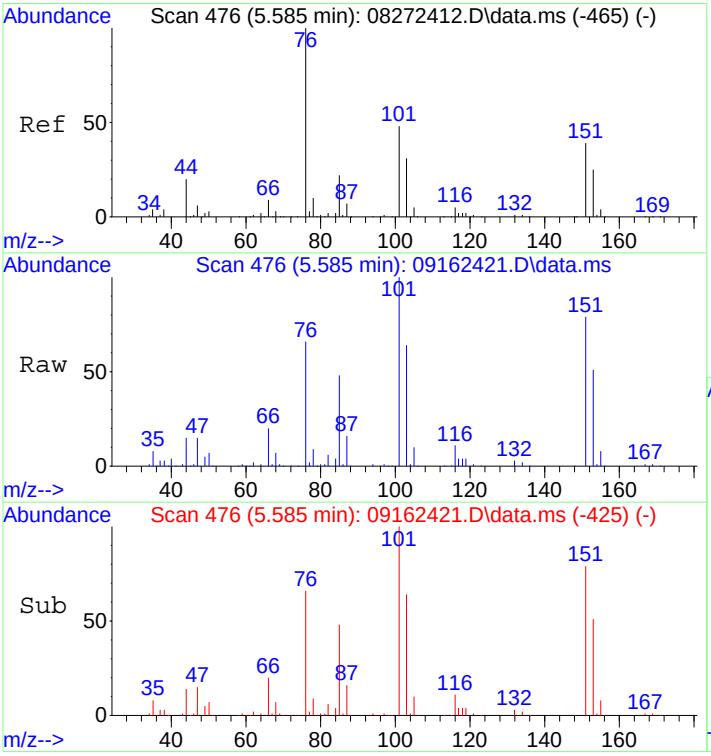


#19
Methylene Chloride
Concen: 0.05 ng
RT: 5.36 min Scan# 437
Delta R.T. 0.002 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 84 Resp: 656

Ion	Ratio	Lower	Upper
84	100		
49	222.0	151.1	201.1#

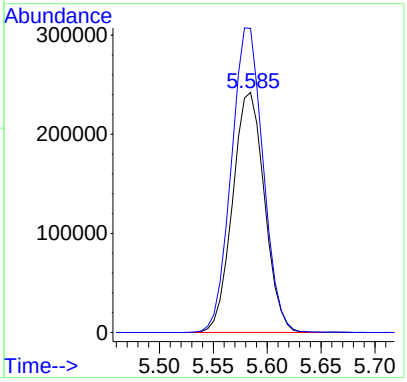


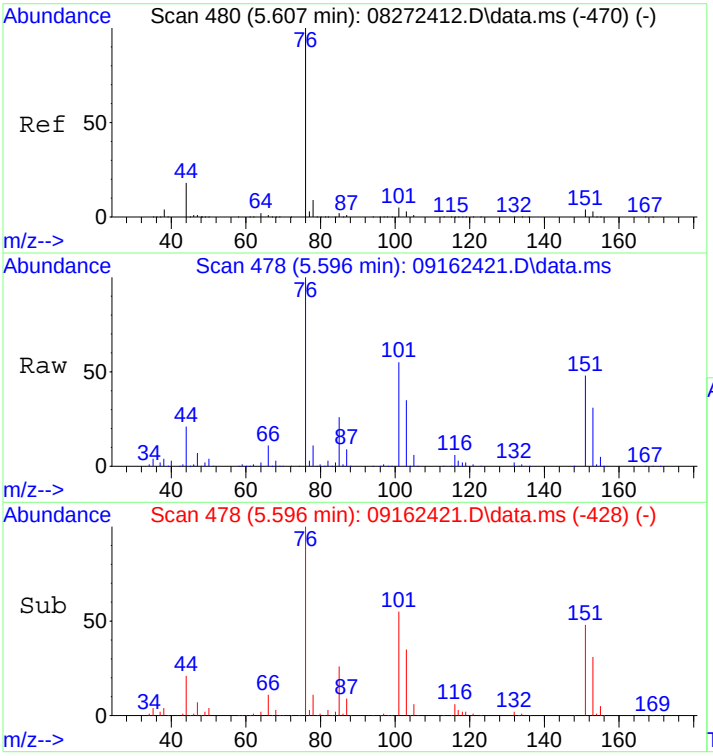


#21
Trichlorotrifluoroethane
Concen: 47.56 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion:151 Resp: 498626

Ion	Ratio	Lower	Upper
151	100		
101	126.7	103.4	143.4

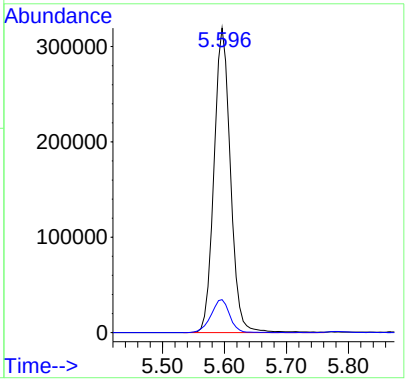


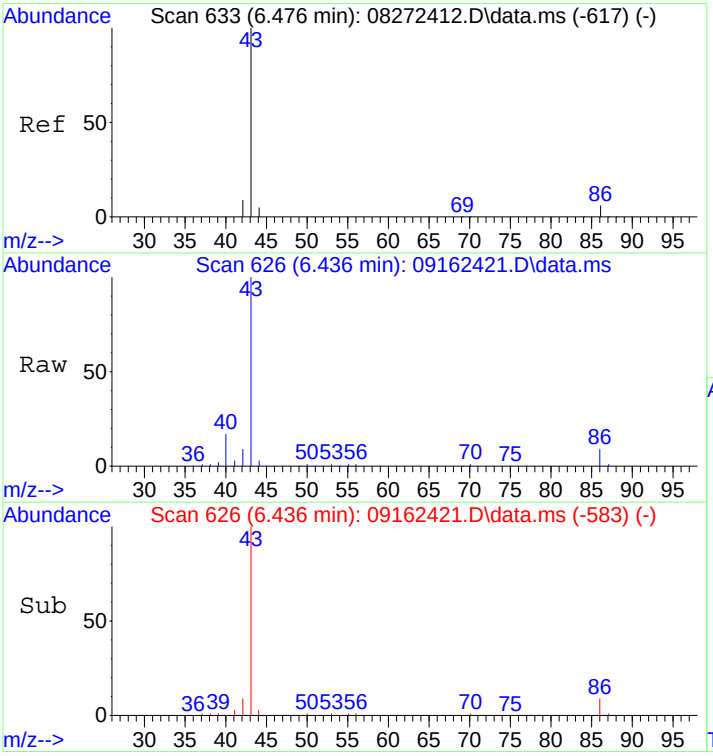


#22
Carbon Disulfide
Concen: 14.41 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.033 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 76 Resp: 588918

Ion	Ratio	Lower	Upper
76	100		
78	12.3	0.0	29.6

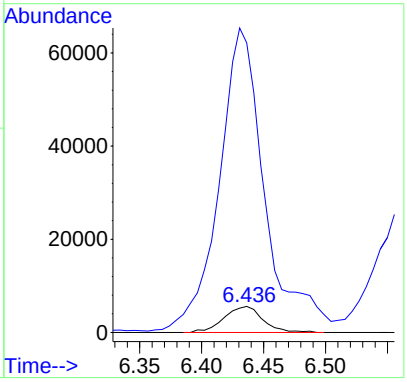


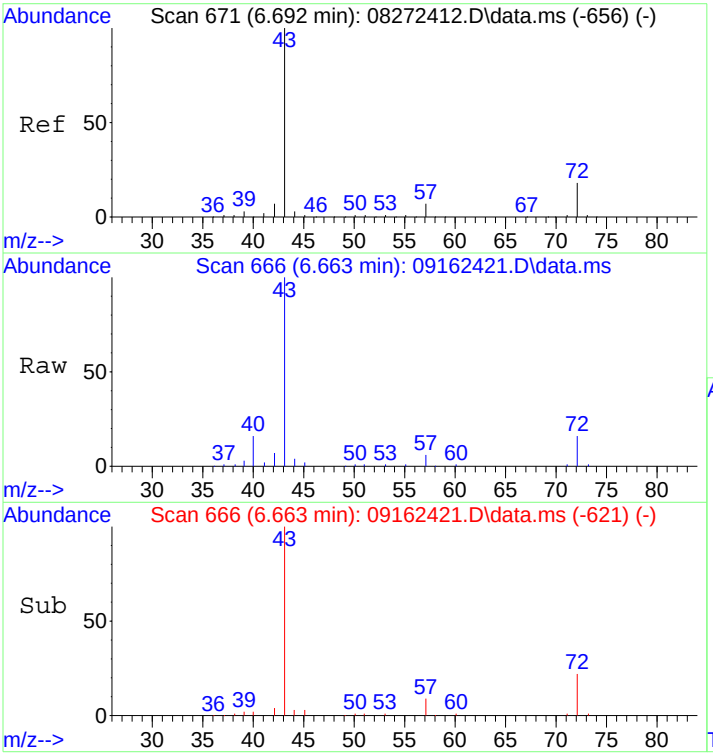


#26
Vinyl Acetate
Concen: 5.75 ng
RT: 6.44 min Scan# 626
Delta R.T. -0.009 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 86 Resp: 12222

Ion	Ratio	Lower	Upper
86	100		
43	1367.6	1687.9	1727.9#

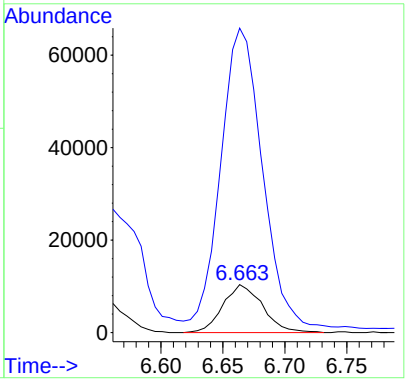


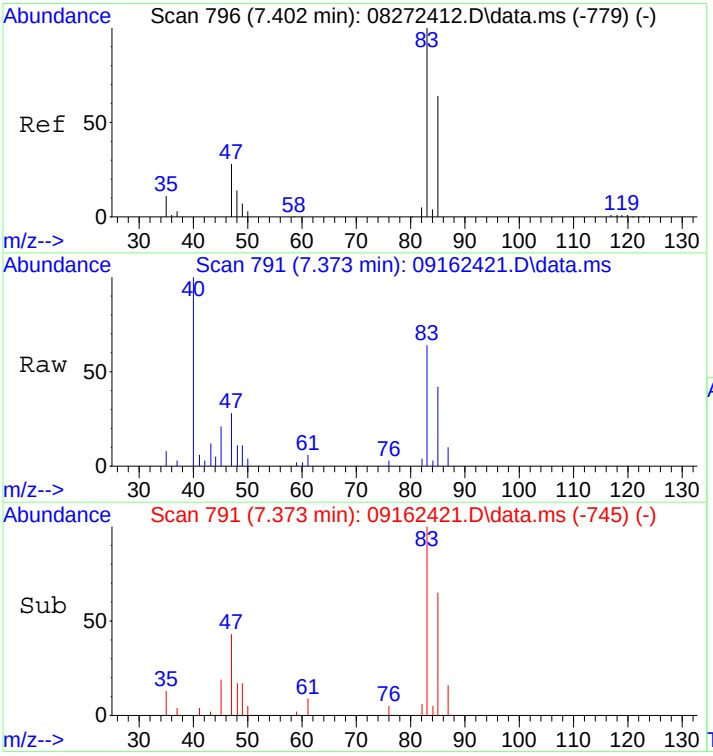


#27
2-Butanone (MEK)
Concen: 3.13 ng
RT: 6.66 min Scan# 666
Delta R.T. 0.005 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 72 Resp: 23225

Ion	Ratio	Lower	Upper
72	100		
43	654.8	548.0	588.0#

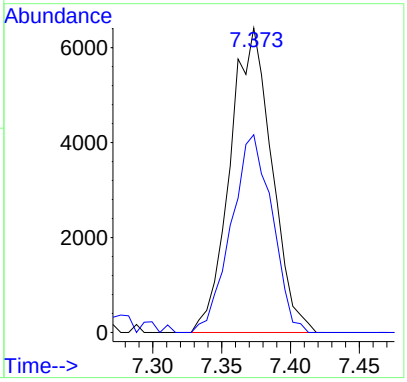


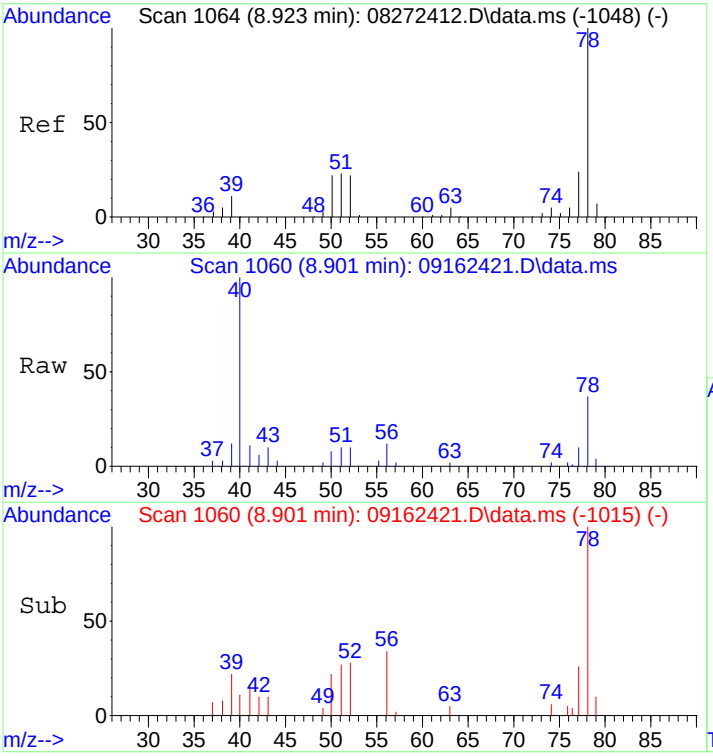


#32
Chloroform
Concen: 0.59 ng
RT: 7.37 min Scan# 791
Delta R.T. 0.013 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 83 Resp: 13530

Ion	Ratio	Lower	Upper
83	100		
85	63.6	45.3	85.3

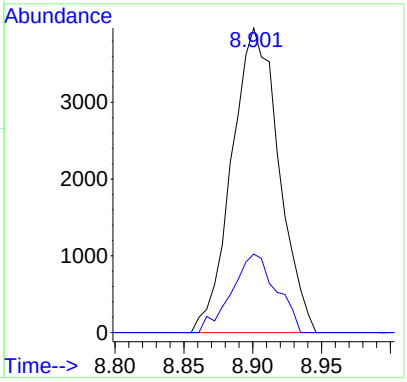


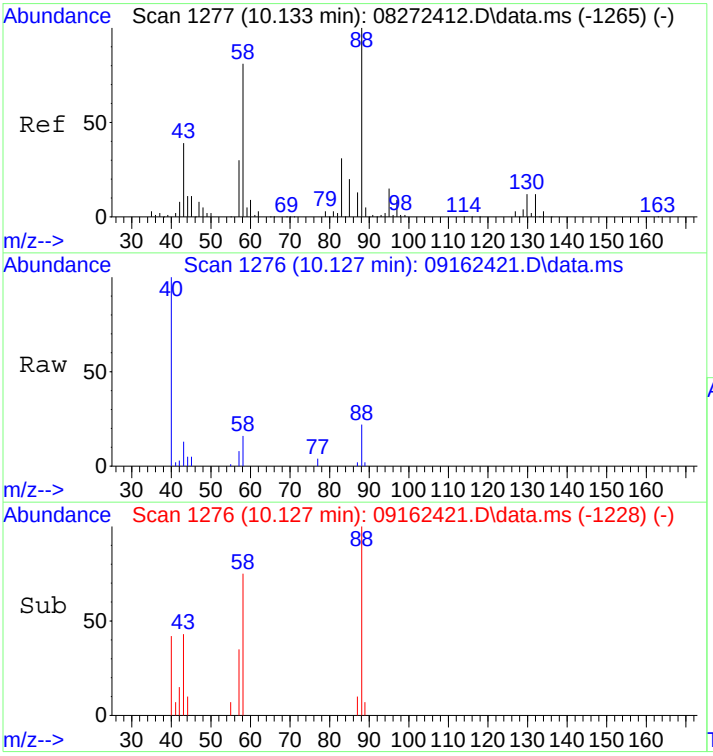


#41
Benzene
Concen: 0.20 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.004 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 78 Resp: 9438

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.9	43.9

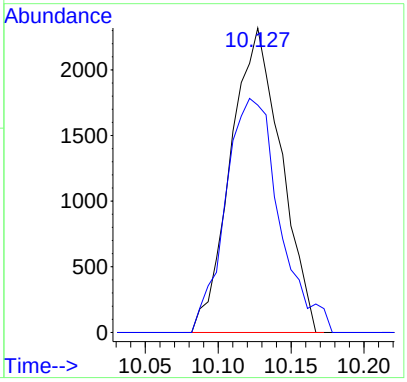


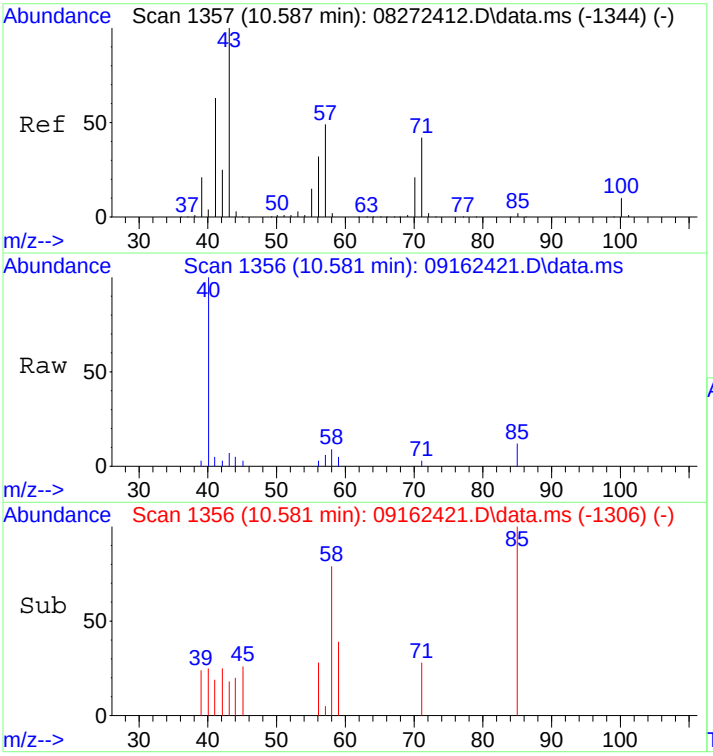


#48
1,4-Dioxane
Concen: 0.69 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.022 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 88 Resp: 5572

Ion	Ratio	Lower	Upper
88	100		
58	82.4	61.1	101.1

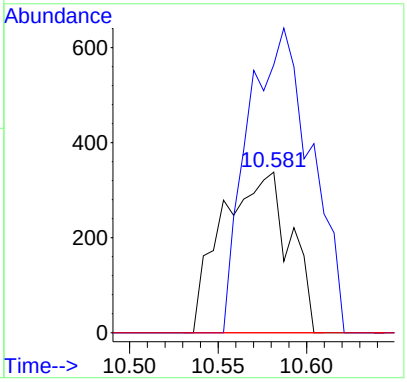


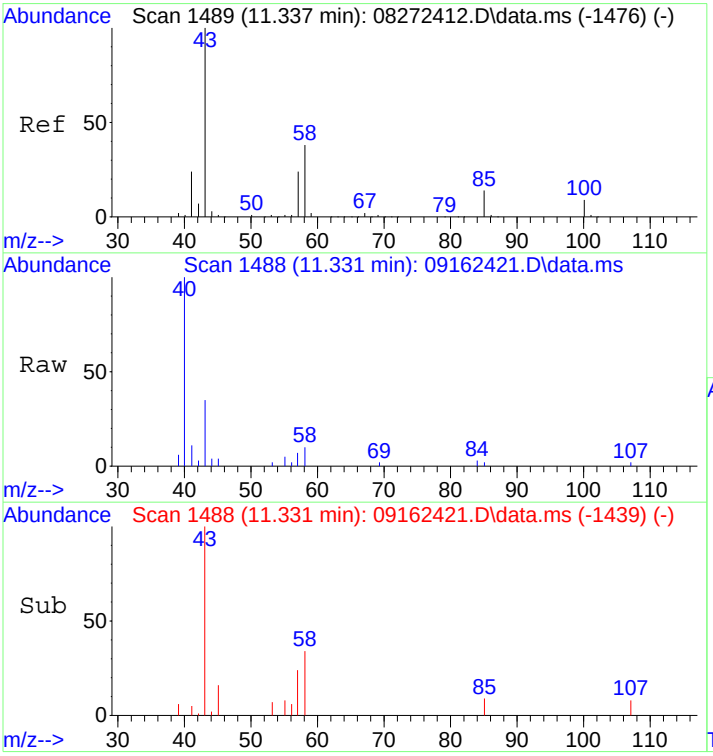


#51
n-Heptane
Concen: 0.09 ng
RT: 10.58 min Scan# 1356
Delta R.T. 0.035 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 71 Resp: 895

Ion	Ratio	Lower	Upper
71	100		
57	178.1	97.1	137.1#
100	0.0	5.0	45.0#

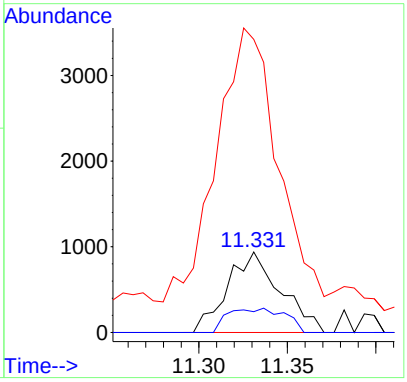


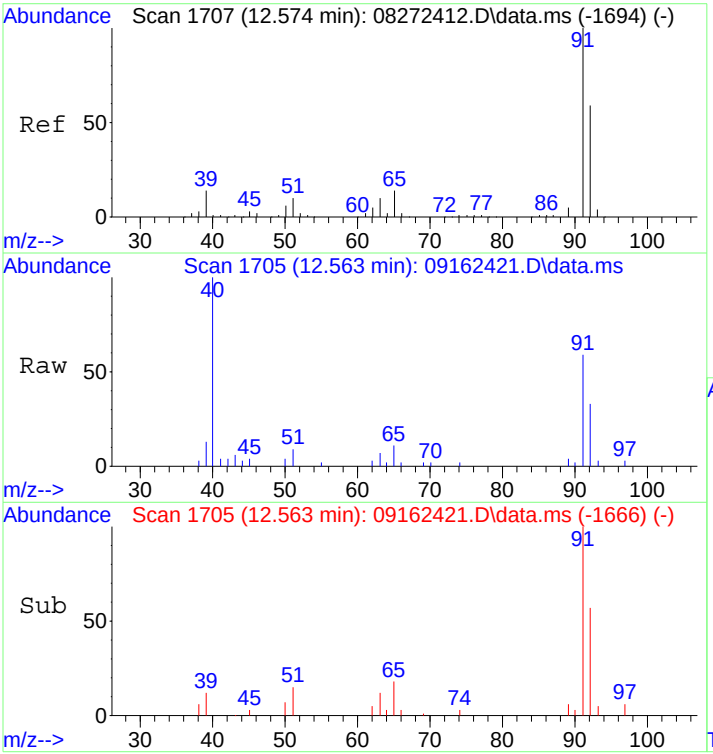


#53
4-Methyl-2-pentanone
Concen: 0.16 ng
RT: 11.33 min Scan# 1488
Delta R.T. 0.028 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 58 Resp: 1960

Ion	Ratio	Lower	Upper
58	100		
85	32.2	30.2	45.2
43	458.7	215.1	322.7#

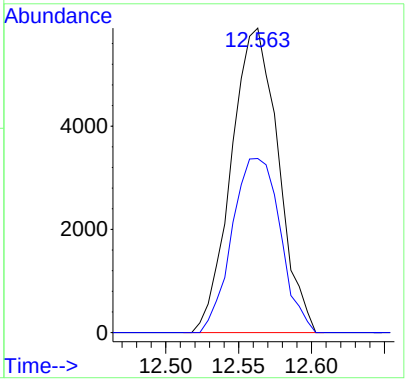


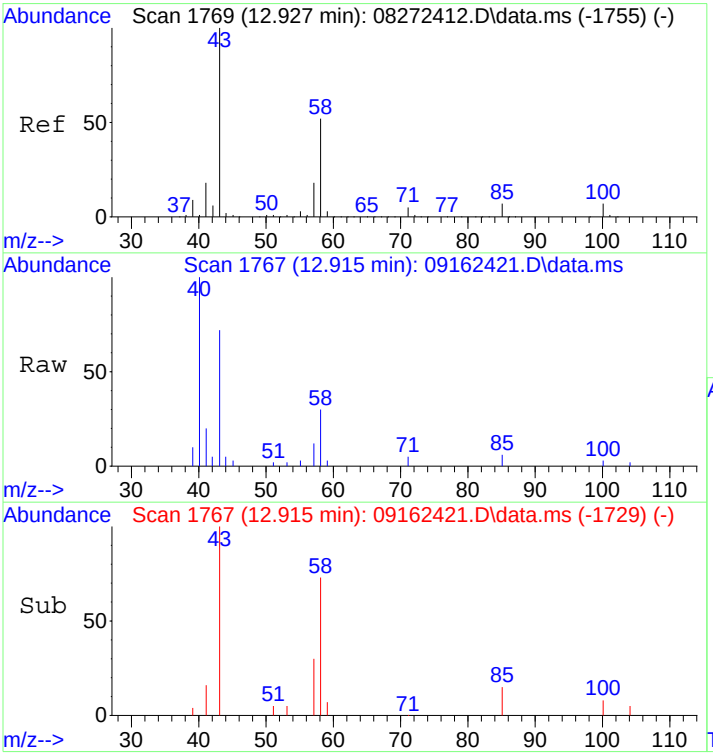


#58
Toluene
Concen: 0.23 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 91 Resp: 13219

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

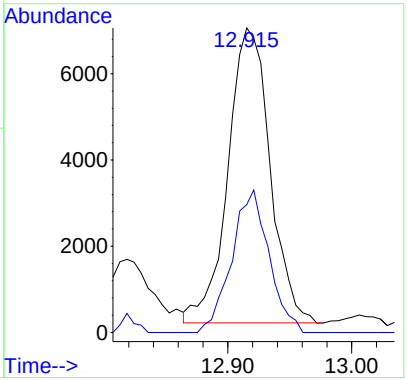


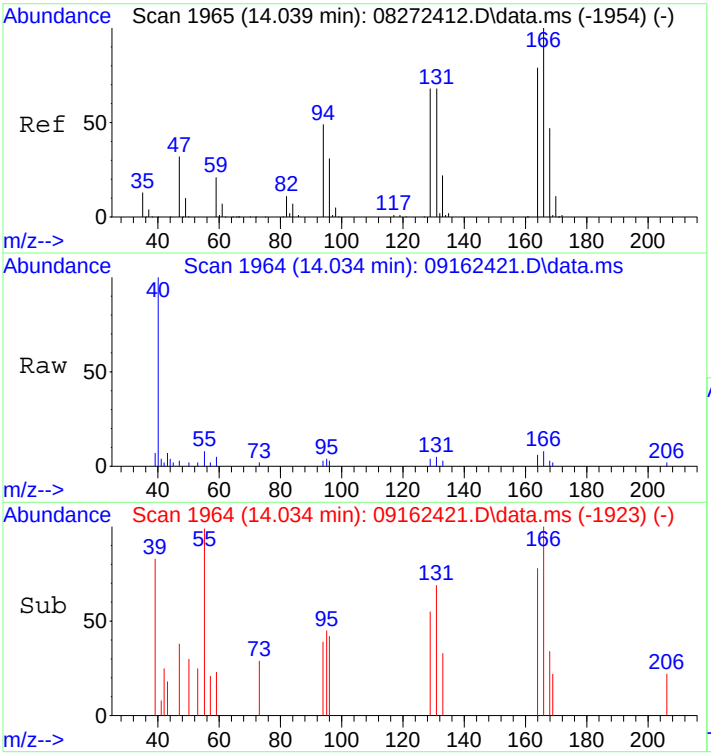


#59
2-Hexanone
Concen: 0.45 ng
RT: 12.92 min Scan# 1767
Delta R.T. -0.034 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 43 Resp: 16152

Ion	Ratio	Lower	Upper
43	100		
58	42.7	31.1	71.1

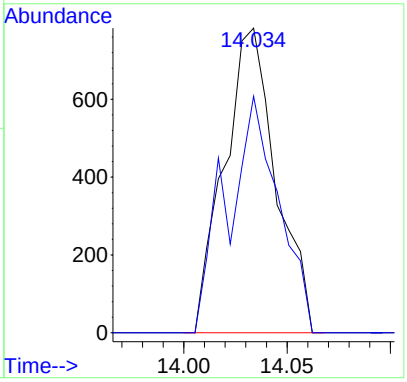


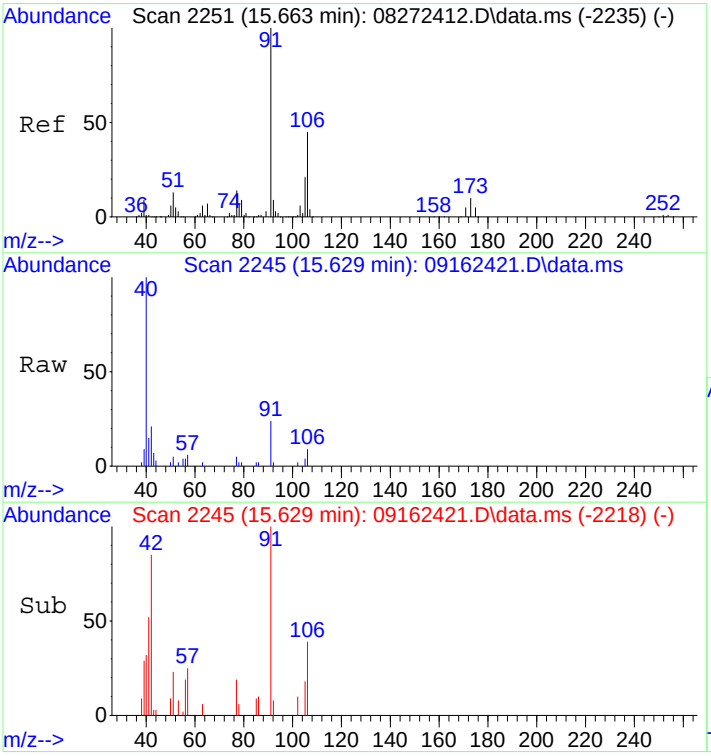


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion:166 Resp: 1364

Ion	Ratio	Lower	Upper
166	100		
164	78.1	59.0	99.0

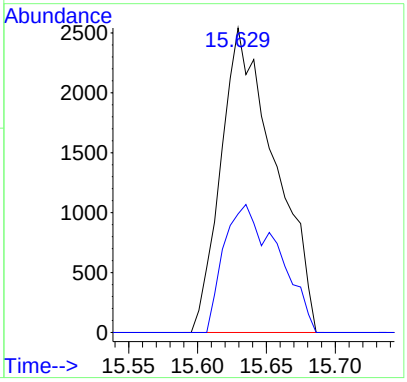


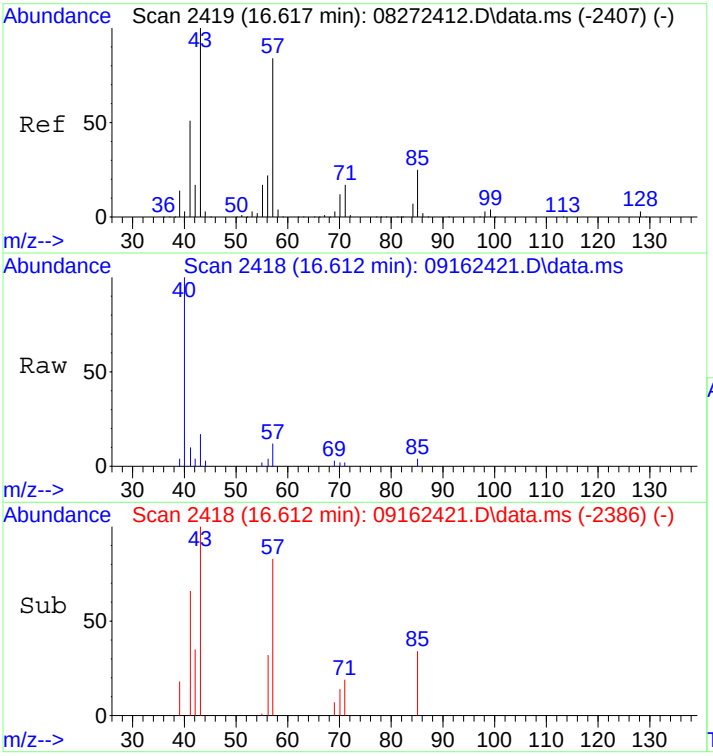


#67
m- & p-Xylenes
Concen: 0.13 ng
RT: 15.63 min Scan# 2245
Delta R.T. -0.045 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 91 Resp: 6960

Ion	Ratio	Lower	Upper
91	100		
106	42.4	23.8	63.8

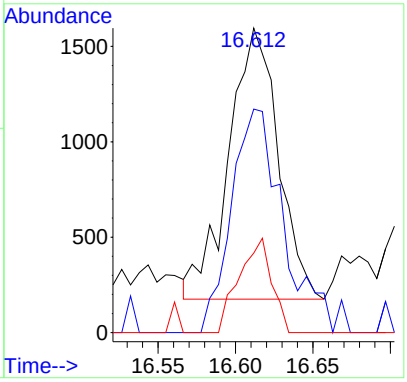


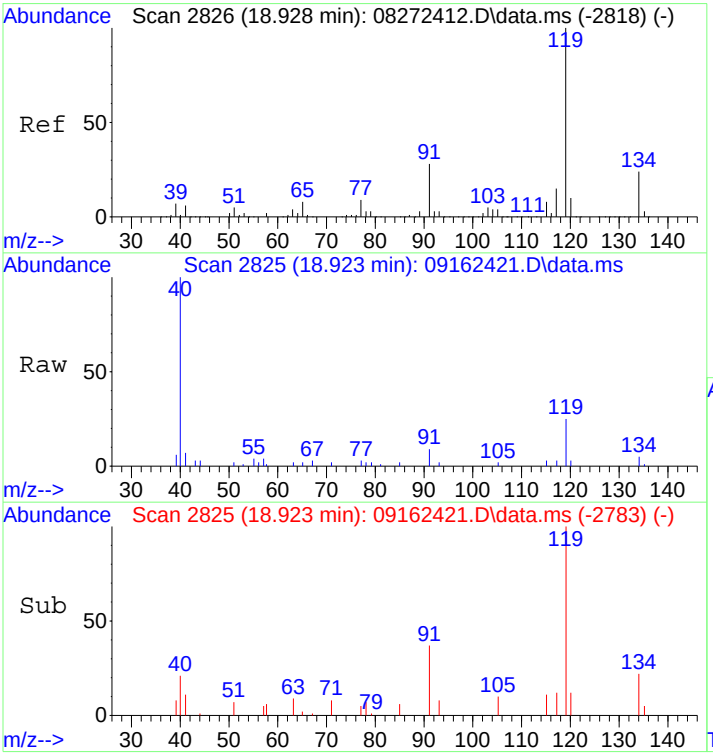


#71
n-Nonane
Concen: 0.09 ng
RT: 16.61 min Scan# 2418
Delta R.T. -0.017 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion: 43 Resp: 3176

Ion	Ratio	Lower	Upper
43	100		
57	87.3	63.3	103.3
85	22.9	4.5	44.5

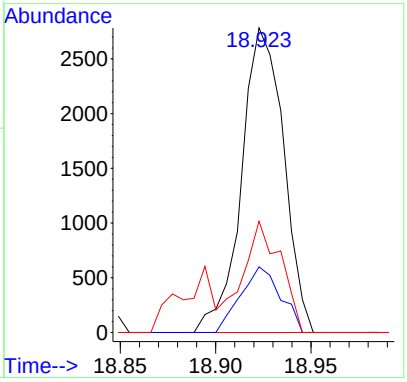




#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.07 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.011 min
Lab File: 09162421.D
Acq: 16 Sep 2024 21:00

Tgt Ion:119 Resp: 4276

Ion	Ratio	Lower	Upper
119	100		
134	20.5	4.7	44.7
91	30.8	8.1	48.1



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

MA 9/30/24

Quant Time: Sep 30 07:51:21 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

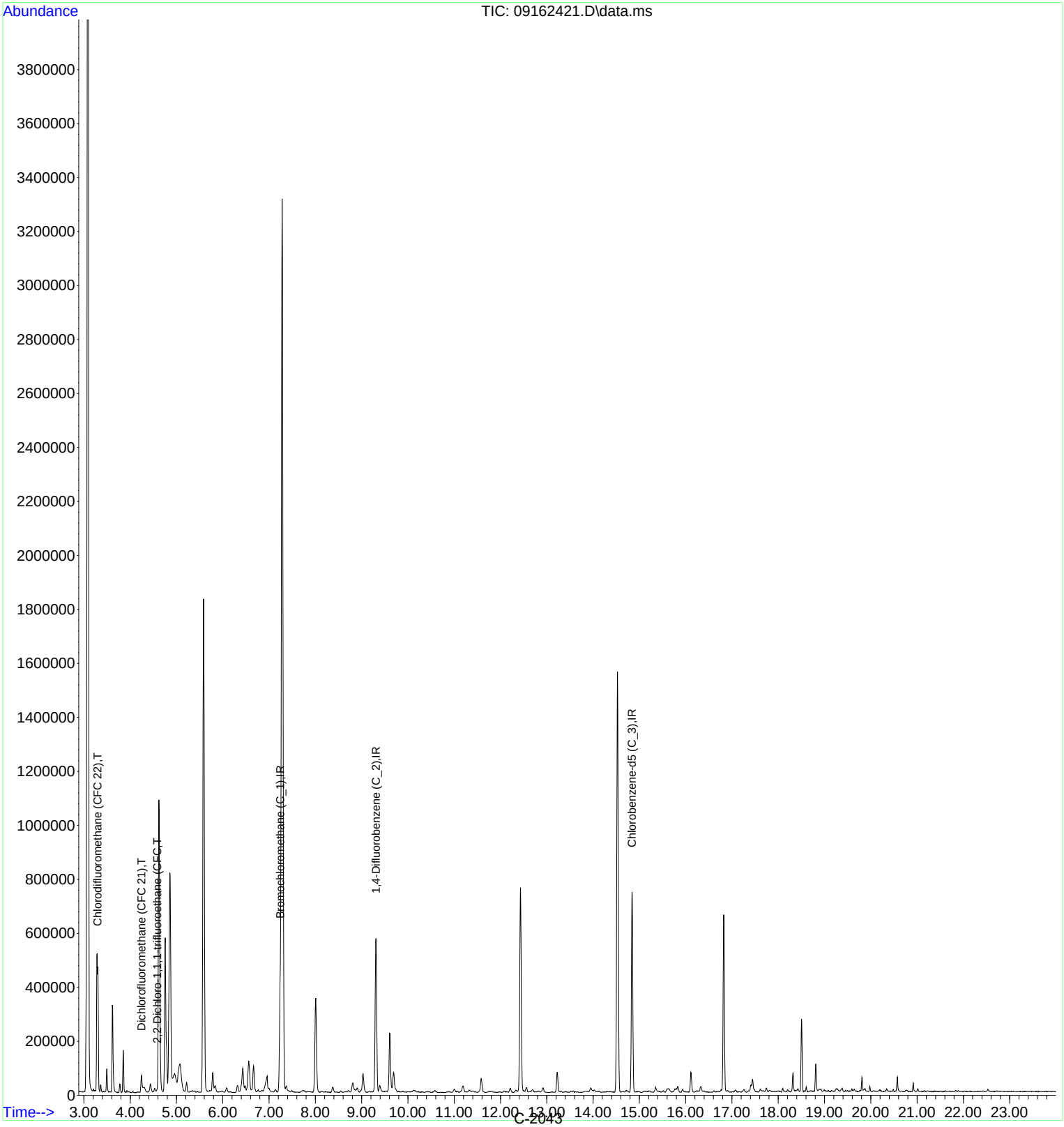
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	114284	12.500 ng		-0.01
16) 1,4-Difluorobenzene (C_2)	9.31	114	496919	12.500 ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	153704	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	58	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.24	65	59	N.D.		
5) Chlorodifluoromethane ...	3.30	67	5221	1.341 ng		87
6) 1-Chloro-1,1-Difluoroe...	3.51	65	649	N.D.		
7) Dichlorofluoromethane ...	4.24	67	54460	2.078 ng		100
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.59	83	4502	0.284 ng	#	16
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	0.00	43	0	N.D. d		
12) 2-Methylpentane	0.00	71	0	N.D. d		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.51	56	1483	N.D.		
18) Dibromomethane	9.80	174	53	N.D.		
20) Methyl Cyclohexane	11.42	55	876	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.19	91	68	N.D.		
24) 1,2,3-Trichloropropane	16.39	75	62	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	76	N.D.		
27) 4-Chlorotoluene	17.68	91	1775	N.D.		
28) Indane	19.11	117	358	N.D.		
29) Indene	19.11	115	58	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	57	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	144	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	186	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 07:51:21 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

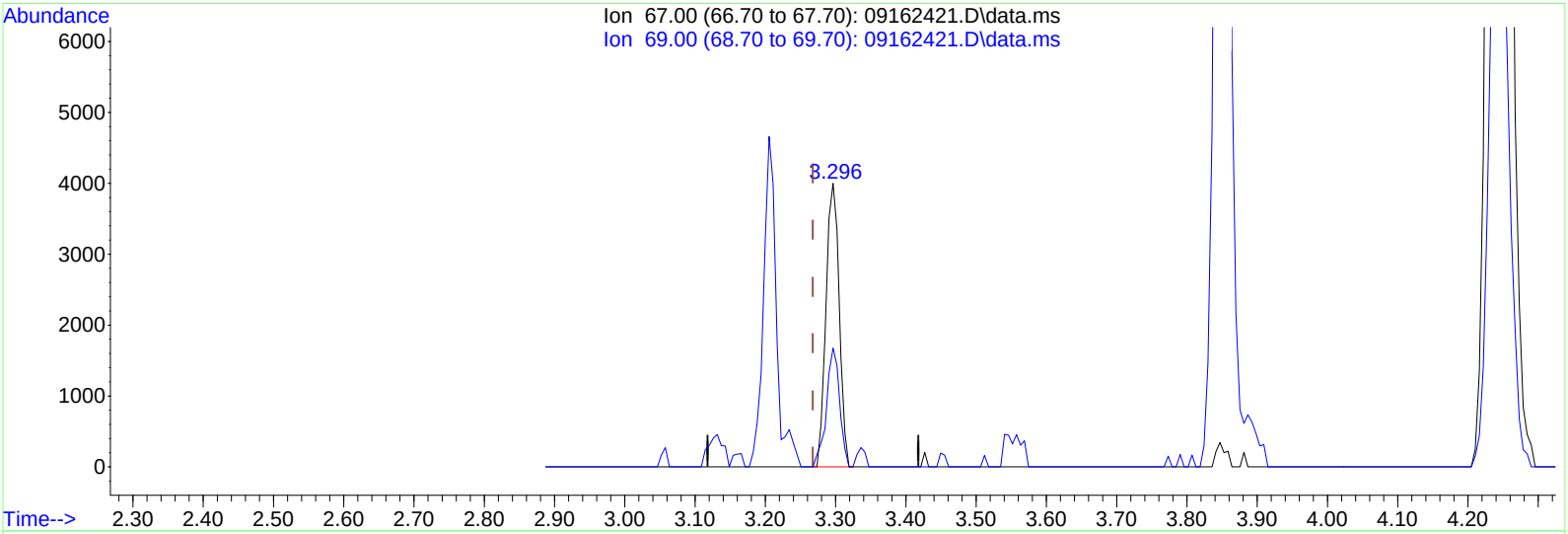


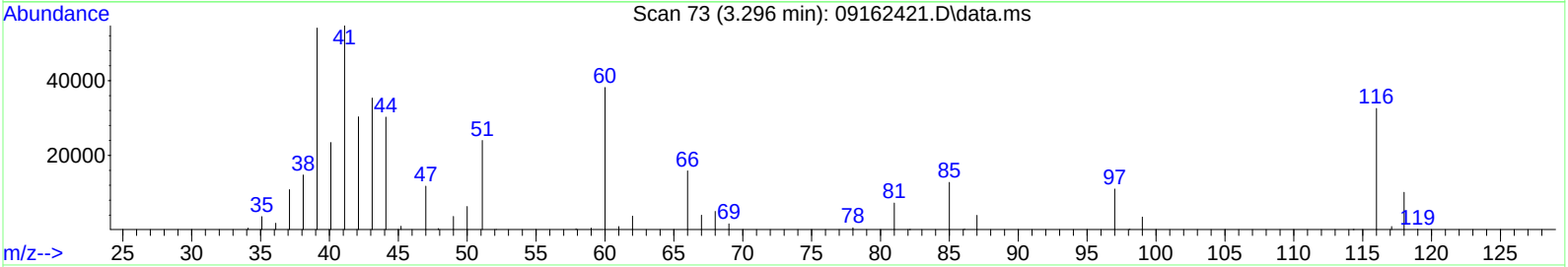
C-2043

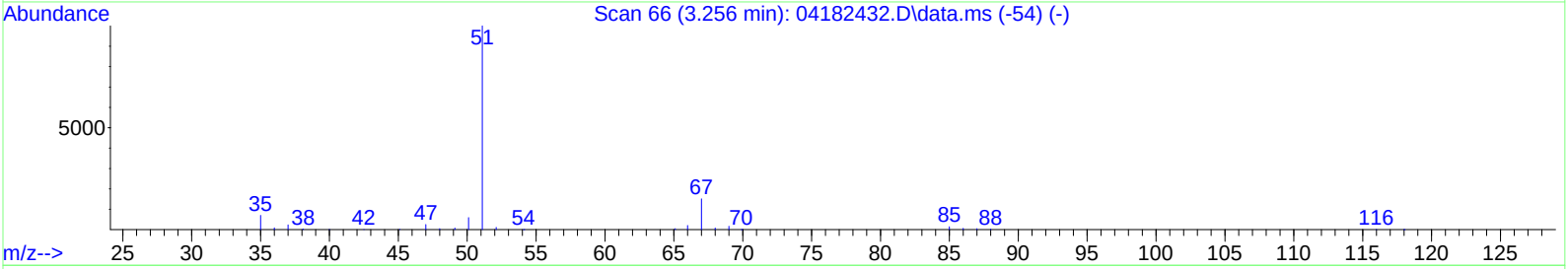
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 07:14:42 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162421.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

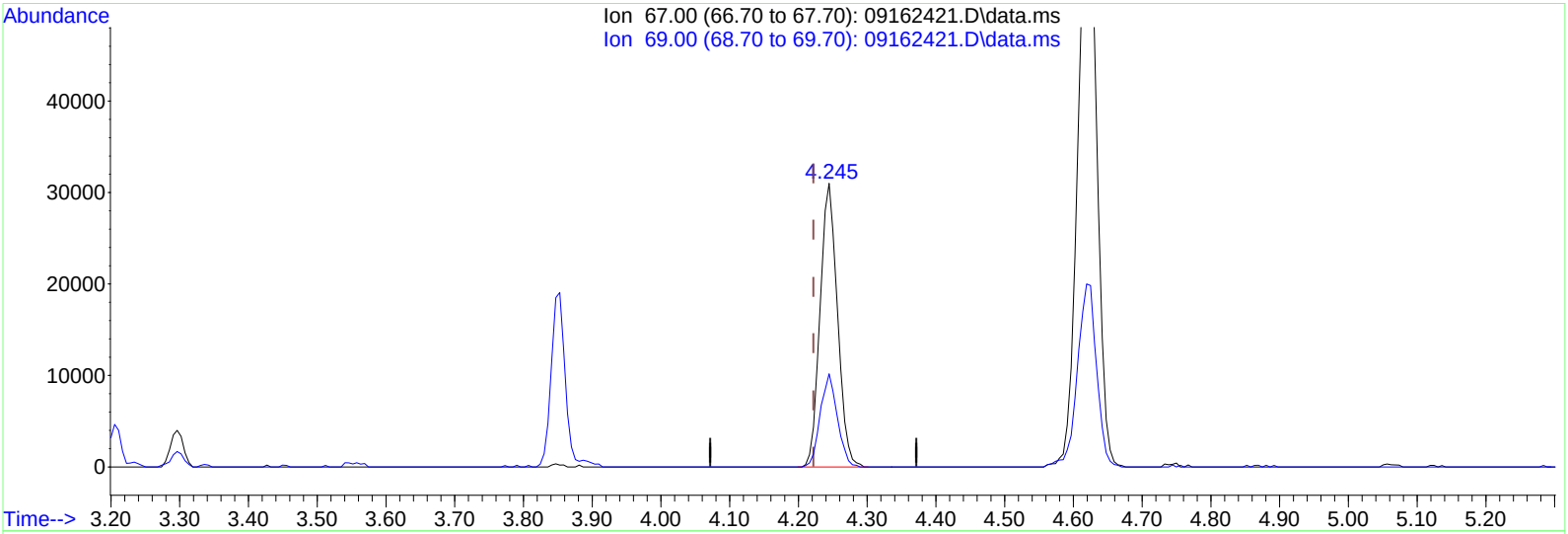
3.296min (+0.029) 1.34ng

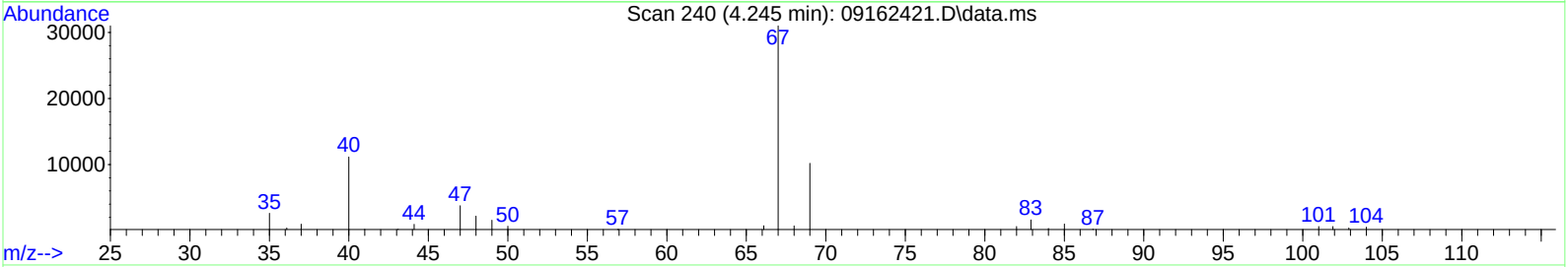
response 5221

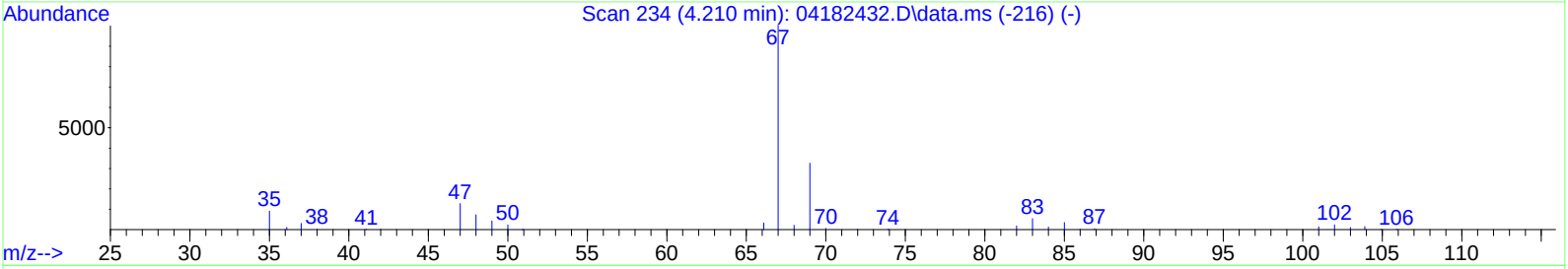
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	41.91
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 30 07:14:42 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162421.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.245min (+0.023) 2.08ng

response 54460

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	32.17
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:00
Operator : SC
Sample : P2403661-061 (400mL)
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162421.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.285	65	71	72	rBV	509588	648859	7.37%	2.971%
2	3.364	81	85	93	rVB	26548	35955	0.41%	0.165%
3	3.495	103	108	115	rVB2	86527	120035	1.36%	0.550%
4	3.614	124	129	146	rVB	323310	507675	5.77%	2.325%
5	3.773	153	157	162	rBV	32182	44679	0.51%	0.205%
6	3.847	165	170	176	rBV	156767	212217	2.41%	0.972%
7	3.927	181	184	189	rBV2	7824	10711	0.12%	0.049%
8	4.245	233	240	246	rBV2	62371	124355	1.41%	0.569%
9	4.438	264	274	281	rBV	30420	63486	0.72%	0.291%
10	4.528	283	290	295	rBV	13136	24580	0.28%	0.113%
11	4.619	295	306	322	rVB	1080669	2198213	24.97%	10.066%
12	4.756	322	330	339	rBV2	569735	1217602	13.83%	5.576%
13	4.858	339	348	359	rBV	778669	1914004	21.74%	8.765%
14	5.074	375	386	405	rVB2	101763	493229	5.60%	2.259%
15	5.215	405	411	418	rVB	35962	63499	0.72%	0.291%
16	5.585	466	476	493	rBV2	1826298	4014111	45.60%	18.382%
17	5.783	503	511	516	rBV	68328	133278	1.51%	0.610%
18	5.840	516	521	528	rVB3	23285	50896	0.58%	0.233%
19	5.982	541	546	556	rVB4	4625	11218	0.13%	0.051%
20	6.079	556	563	572	rVB2	16140	36537	0.42%	0.167%
21	6.317	597	605	612	rBV	26437	59110	0.67%	0.271%
22	6.431	614	625	631	rVV	86149	222039	2.52%	1.017%
23	6.482	631	634	638	rVV2	19949	32797	0.37%	0.150%
24	6.561	638	648	657	rVV4	110573	294181	3.34%	1.347%
25	6.663	659	666	678	rVB	95506	223172	2.54%	1.022%
26	6.766	678	684	689	rVB4	7711	13248	0.15%	0.061%
27	6.845	691	698	702	rBV5	5786	11541	0.13%	0.053%
28	6.959	703	718	722	rBV	55239	164219	1.87%	0.752%
29	7.135	743	749	755	rVB7	9084	20370	0.23%	0.093%
30	7.282	757	775	787	rBV	3309255	8802492	100.00%	40.309%
31	7.373	787	791	804	rVB3	21472	53378	0.61%	0.244%
32	7.714	841	851	853	rBV5	6629	15865	0.18%	0.073%

Sum of corrected areas: 21837551

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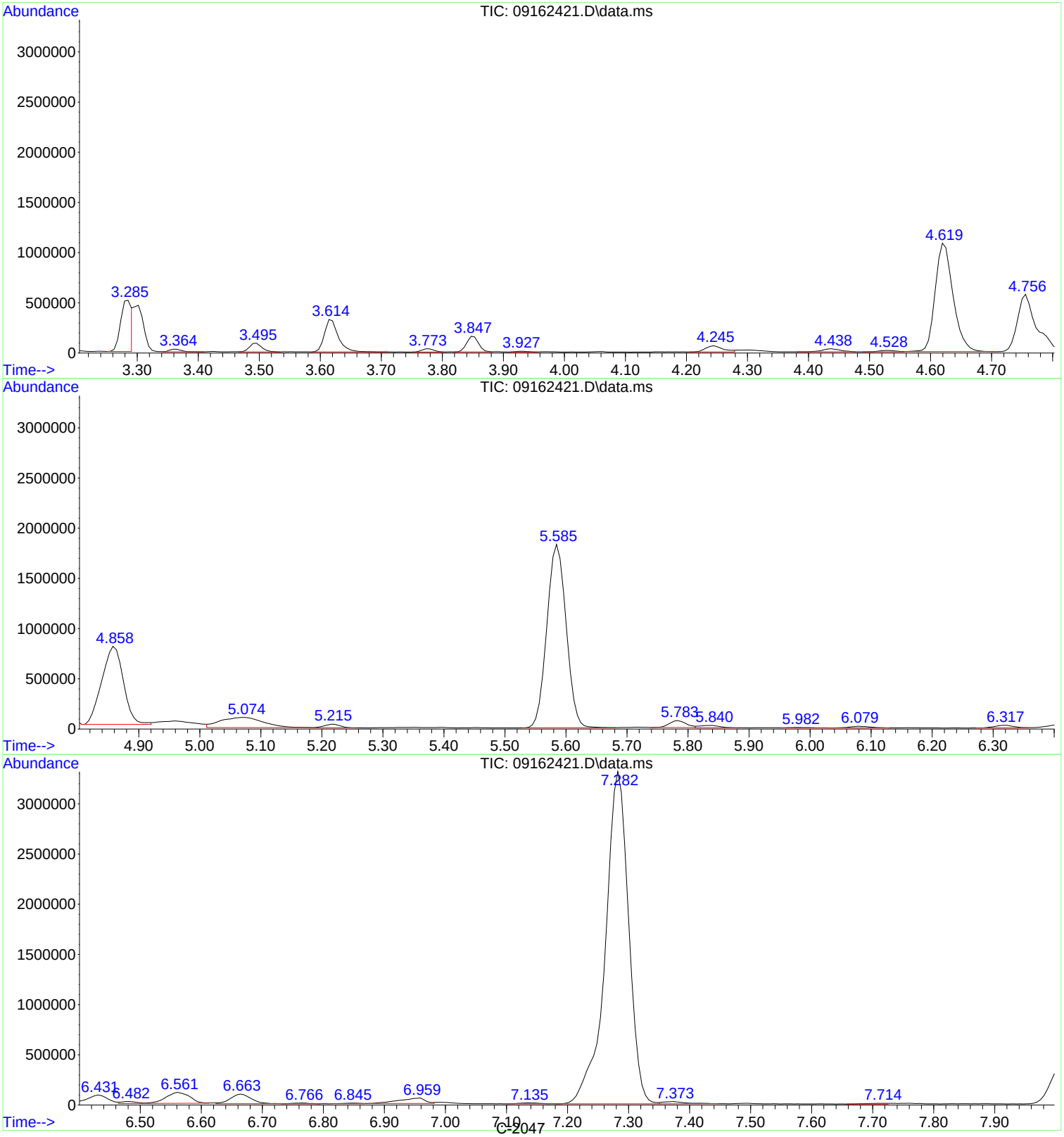
Misc : S37-08262404
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162421.D
Acq On : 16 Sep 2024 21:000
Operator : SCC
Sample : P2403661-061 (400mL))
Misc : S37-082624044
ALS Vial : 9 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

MOA 9/30/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162422.D Vial: 10
Acq On : 16 Sep 2024 21:33 Operator: SC
Sample : P2403661-062 (400mL) Inst : MS09
Misc : S37-08262404

9/17/24

Quant Time: Sep 17 16:19:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	111191	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	489160	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	151839	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	305395	14.678	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
57) Toluene-d8 (SS2)	12.43	98	561418	10.540	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
73) Bromofluorobenzene (SS3)	16.82	174	200970	11.281	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	16338m	0.605	ng		
4) Chloromethane	3.51	50	2141	0.101	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	317	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D. d			
8) Bromomethane	4.02	94	190	N.D.			
9) Chloroethane	4.15	64	221	N.D.			
10) Ethanol	4.28	45	15450	1.280	ng		75
11) Acetonitrile	4.50	41	124	N.D.			
12) Acrolein	4.54	56	395	N.D.			
13) Acetone	4.64	58	39884	3.917	ng	#	68
14) Trichlorofluoromethane	4.76	101	800717	31.097	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	12884	0.321	ng		84
16) Acrylonitrile	5.04	53	731	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.35	84	521	N.D.			
20) 3-Chloro-1-propene (Al...	5.45	41	158	N.D.			
21) Trichlorotrifluoroethane	5.58	151	486646	47.706	ng		99
22) Carbon Disulfide	5.60	76	852798	21.455	ng		95
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.31	73	590	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	7631	1.056	ng	#	63
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.30	87	555	0.063	ng	#	1
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	7.30	57	5418	0.245	ng	#	94
32) Chloroform	7.36	83	22974	1.037	ng		99
34) Tetrahydrofuran (THF)	7.77	72	607	0.089	ng	#	53
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.63	61	6569	No Calib		#	
40) 1-Butanol	8.82	56	1297	No Calib		#	
41) Benzene	8.90	78	7169	0.156	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	473	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.07	83	500	N.D.			
47) Trichloroethene	10.16	130	586	0.052	ng		98
48) 1,4-Dioxane	0.00	88	0	N.D. d			
49) 2,2,4-Trimethylpentane...	10.23	57	371	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162422.D Vial: 10
Acq On : 16 Sep 2024 21:33 Operator: SC
Sample : P2403661-062 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:19:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	235	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	451	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	5787	0.101 ng		95
59) 2-Hexanone	12.92	43	4904	0.138 ng	#	69
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	202	N.D.		
63) n-Octane	13.92	57	105	N.D.		
64) Tetrachloroethene	14.03	166	411	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	1783	N.D.		
67) m- & p-Xylenes	15.63	91	2246	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.25	91	691	N.D.		
71) n-Nonane	16.61	43	1061	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	310	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.67	91	673	N.D.		
77) 3-Ethyltoluene	17.03	105	310	No Calib	#	
78) 4-Ethyltoluene	17.86	105	473	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	236	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	310	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	757	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.57	146	230	N.D.		
86) 1,4-Dichlorobenzene	18.57	146	230	N.D.		
87) sec-Butylbenzene	18.74	105	328	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	444	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	310	No Calib	#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	495	N.D.		
95) Naphthalene	20.94	128	1265	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	167	N.D.		
98) Cyclohexanone	15.21	55	390	No Calib	#	
99) tert-Butylbenzene	18.43	119	288	N.D.		
100) n-Butylbenzene	19.38	91	331	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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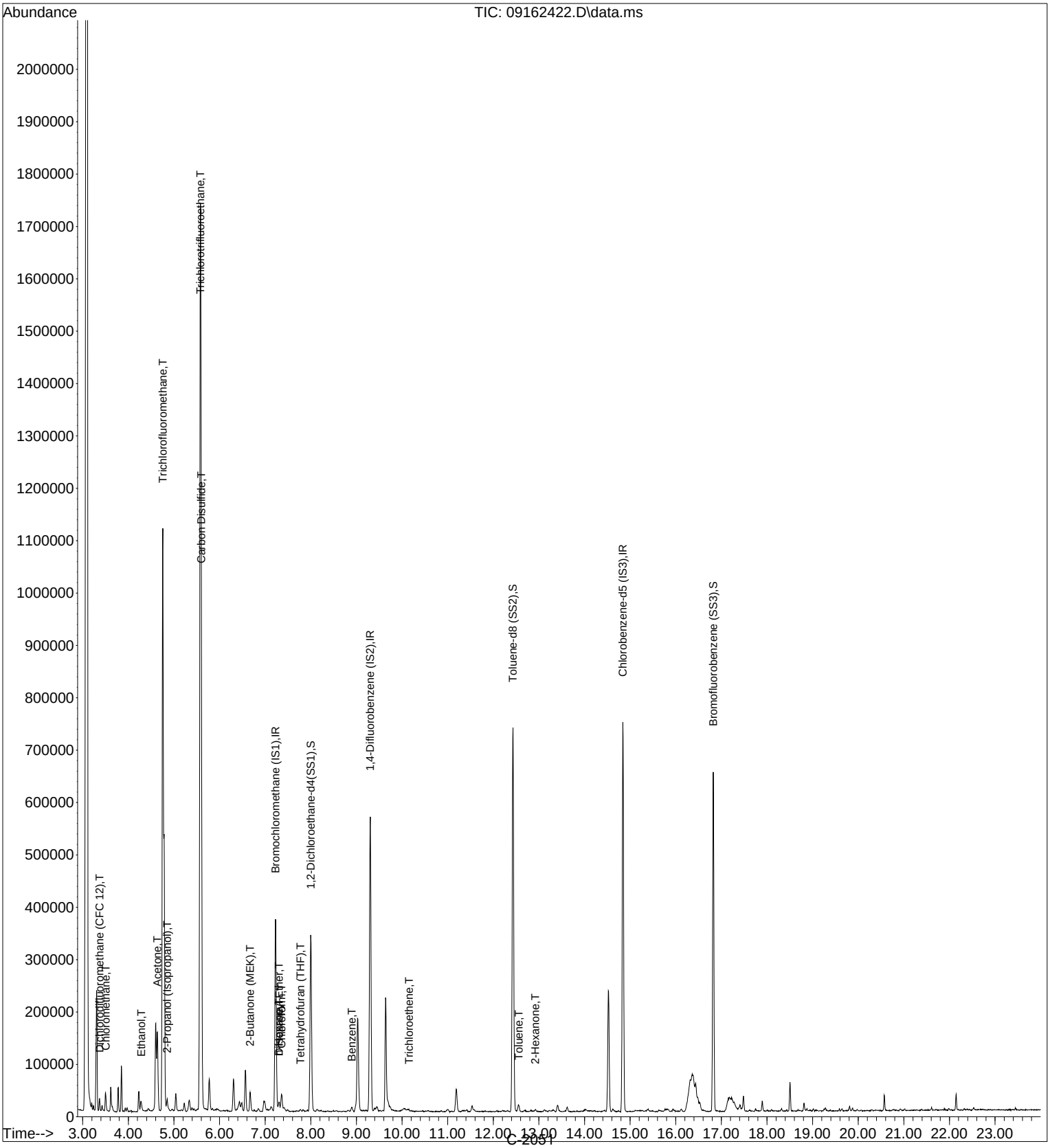
Acq On : 16 Sep 2024 21:33 Operator: SC
Sample : P2403661-062 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:19:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



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DataAcq Meth:TO15.M

9/17/24

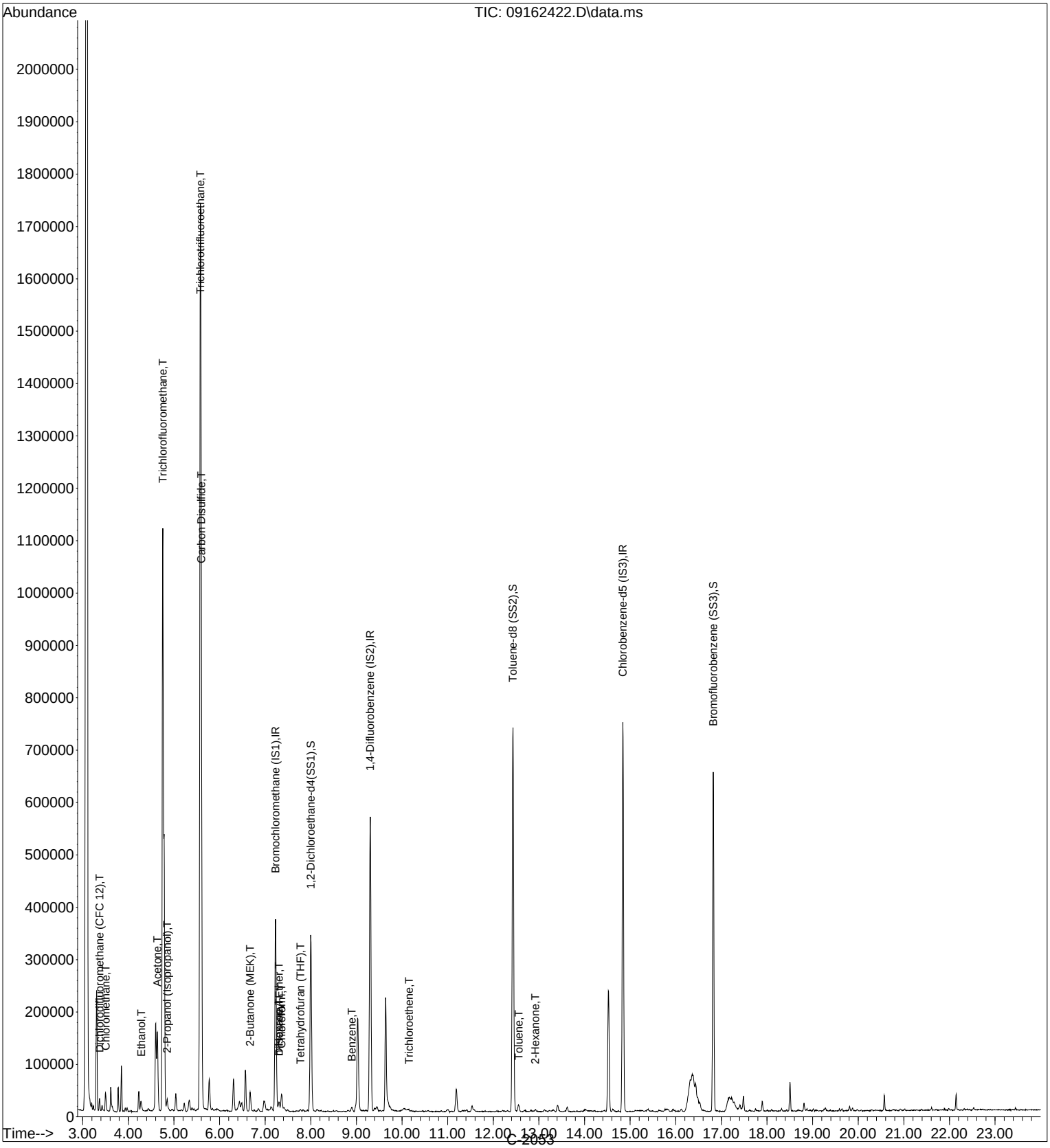
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	111191	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	489160	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	151839	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	305395	14.678	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
57) Toluene-d8 (SS2)	12.43	98	561418	10.540	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.32%				
73) Bromofluorobenzene (SS3)	16.82	174	200970	11.281	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	16338m	0.605	ng		
4) Chloromethane	3.51	50	2141	0.101	ng		95
10) Ethanol	4.28	45	15450	1.280	ng		75
13) Acetone	4.64	58	39884	3.917	ng	#	68
14) Trichlorofluoromethane	4.76	101	800717	31.097	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	12884	0.321	ng		84
21) Trichlorotrifluoroethane	5.58	151	486646	47.706	ng		99
22) Carbon Disulfide	5.60	76	852798	21.455	ng		95
27) 2-Butanone (MEK)	6.67	72	7631	1.056	ng	#	63
29) Diisopropyl Ether	7.30	87	555	0.063	ng	#	1
31) n-Hexane	7.30	57	5418	0.245	ng	#	94
32) Chloroform	7.36	83	22974	1.037	ng		99
34) Tetrahydrofuran (THF)	7.77	72	607	0.089	ng	#	53
41) Benzene	8.90	78	7169	0.156	ng		99
47) Trichloroethene	10.16	130	586	0.052	ng		98
58) Toluene	12.56	91	5787	0.101	ng		95
59) 2-Hexanone	12.92	43	4904	0.138	ng	#	69

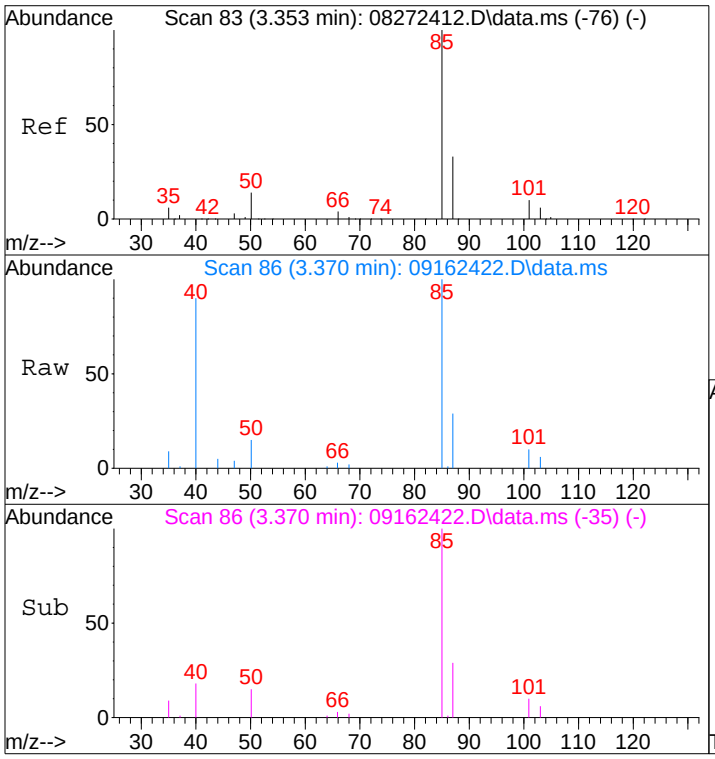
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162422.D Vial: 10
Acq On : 16 Sep 2024 21:33 Operator: SC
Sample : P2403661-062 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:19:31 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

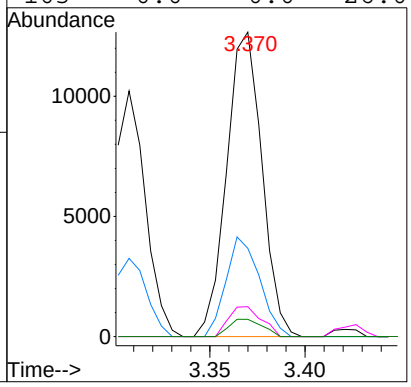


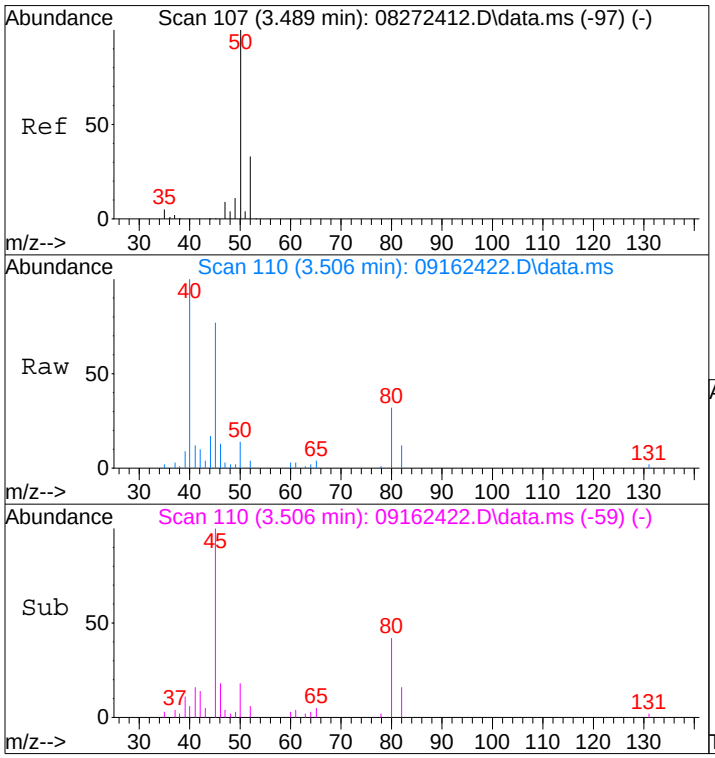


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.042 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 85 Resp: 16338

Ion	Ratio	Lower	Upper
85	100		
87	24.0	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

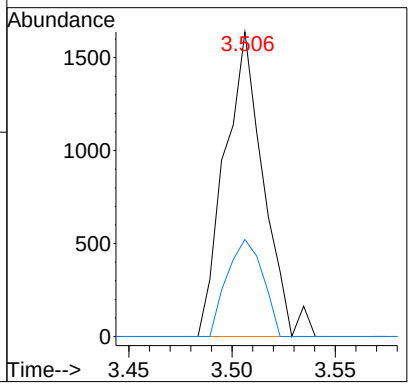


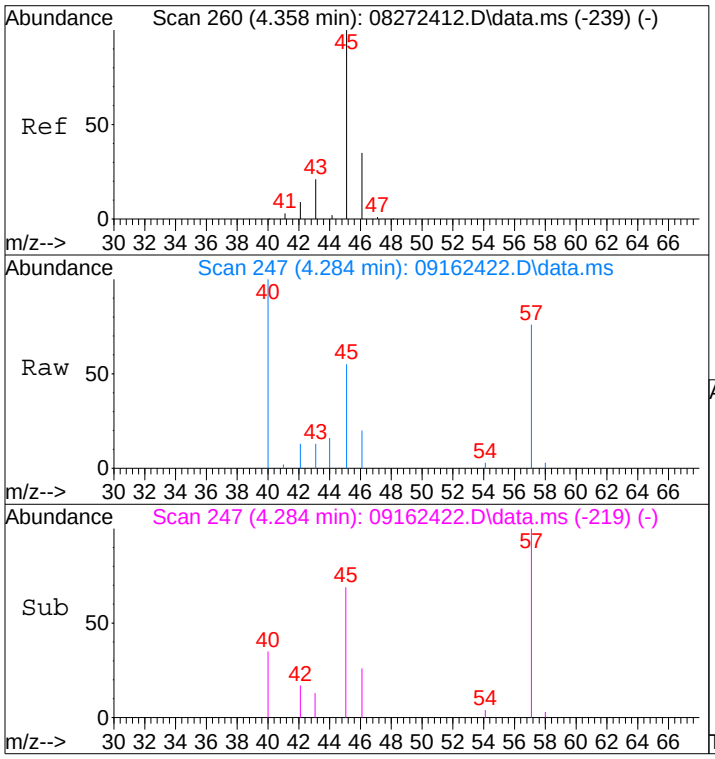


#4
Chloromethane
Concen: 0.10 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.038 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 50 Resp: 2141

Ion	Ratio	Lower	Upper
50	100		
52	29.5	12.4	52.4

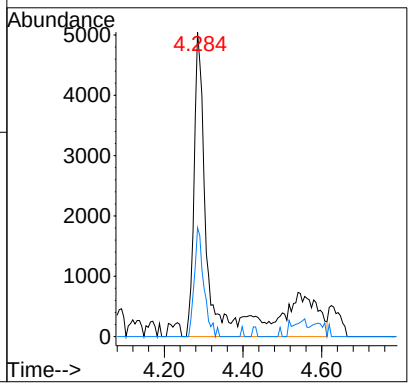


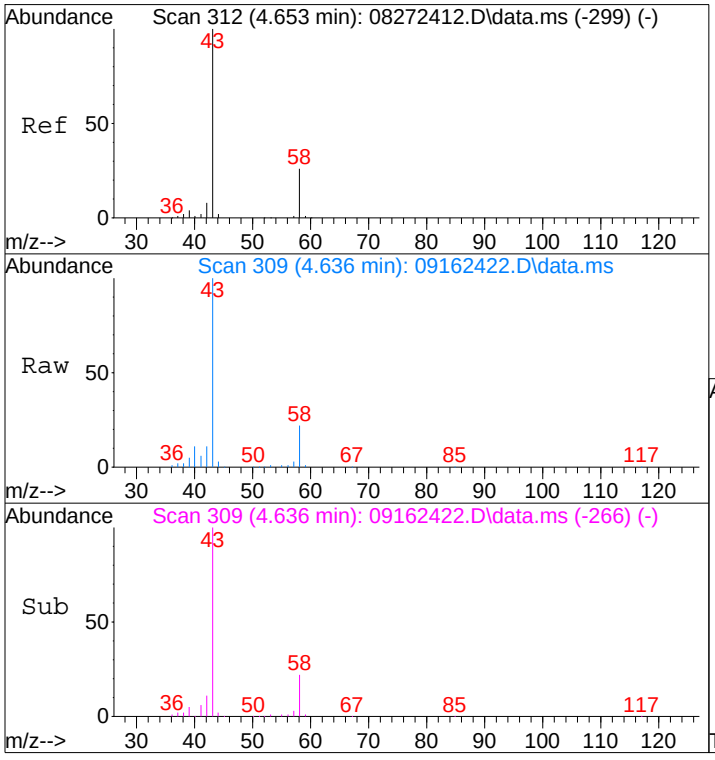


#10
Ethanol
Concen: 1.28 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 45 Resp: 15450

Ion	Ratio	Lower	Upper
45	100		
46	19.7	14.2	54.2

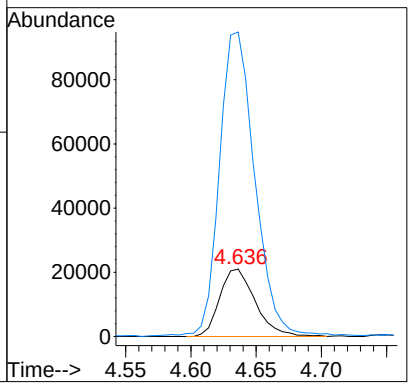


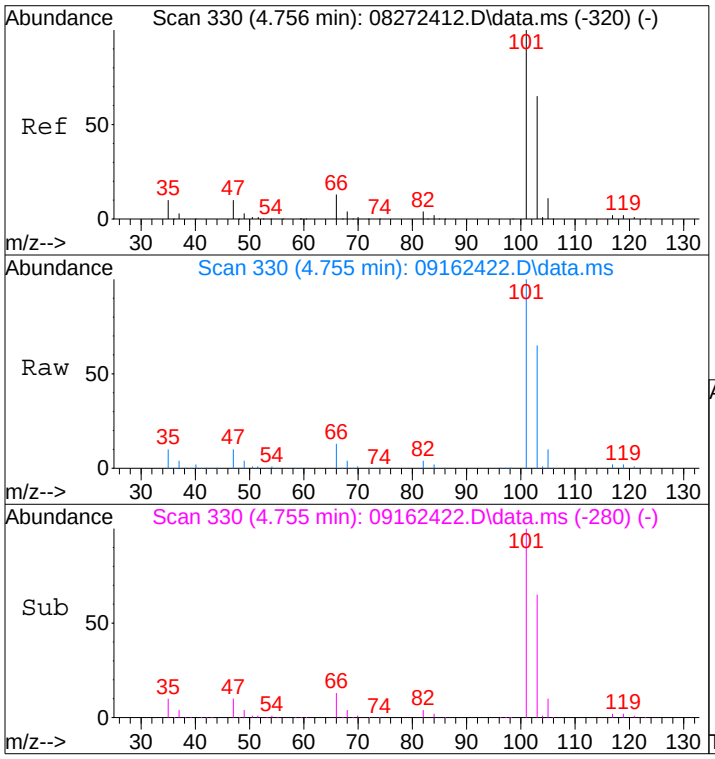


#13
Acetone
Concen: 3.92 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 58 Resp: 39884

Ion	Ratio	Lower	Upper
58	100		
43	451.2	347.3	407.3#

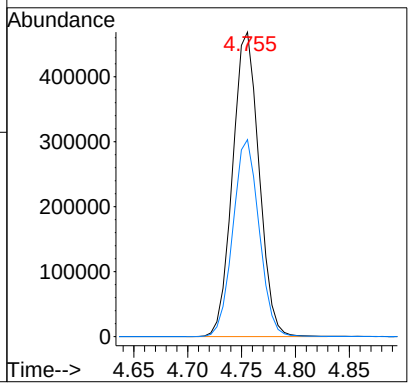


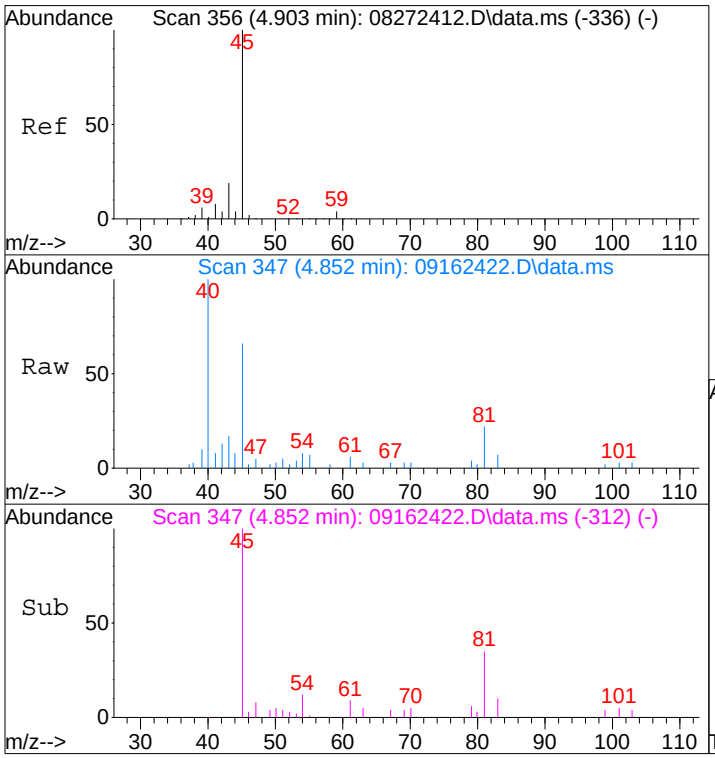


#14
Trichlorofluoromethane
Concen: 31.10 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion:101 Resp: 800717

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

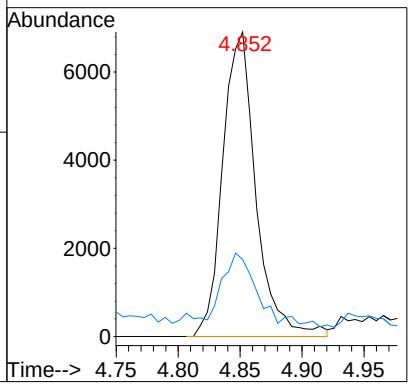


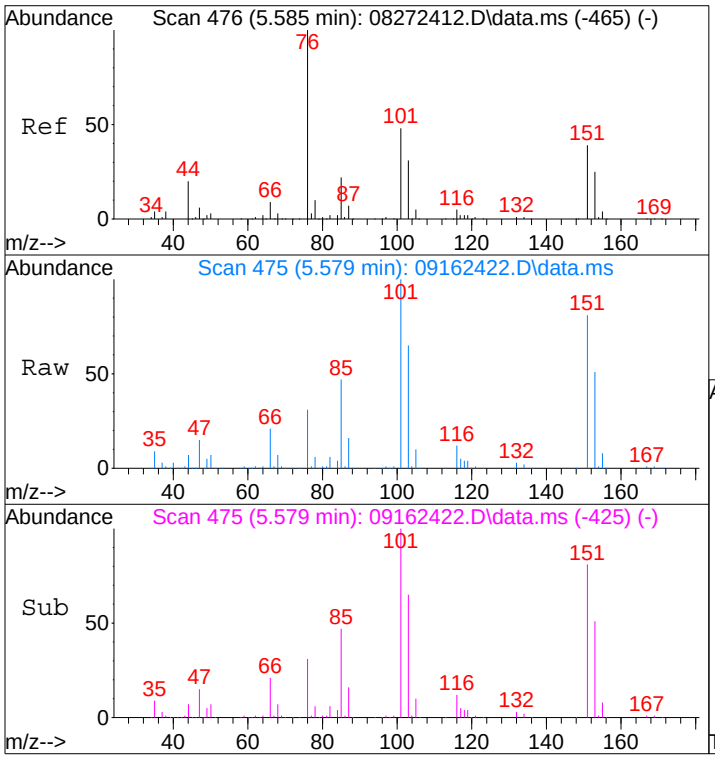


#15
2-Propanol (Isopropanol)
Concen: 0.32 ng
RT: 4.85 min Scan# 347
Delta R.T. -0.054 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 45 Resp: 12884

Ion	Ratio	Lower	Upper
45	100		
43	27.3	0.0	40.0

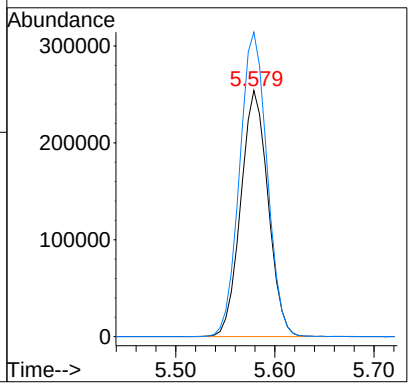


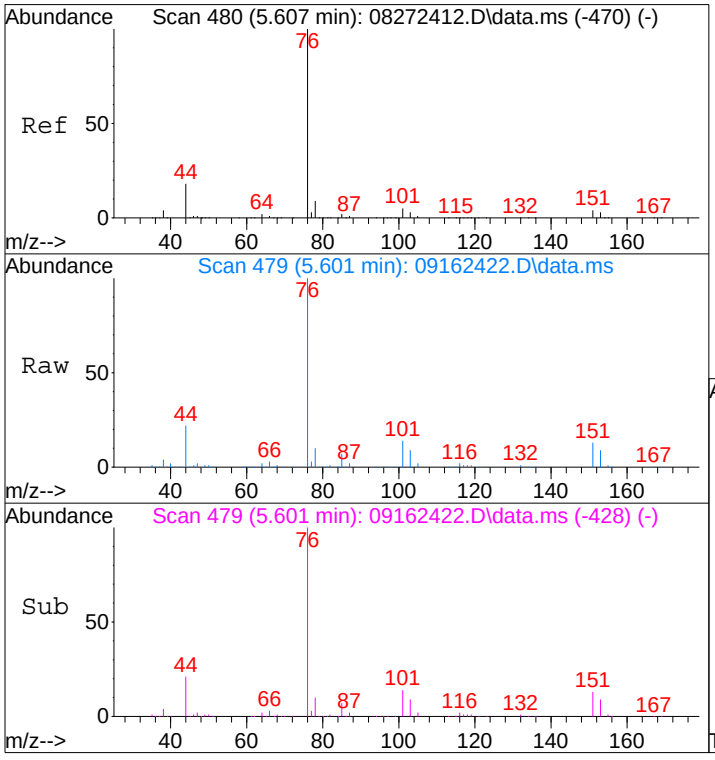


#21
Trichlorotrifluoroethane
Concen: 47.71 ng
RT: 5.58 min Scan# 475
Delta R.T. 0.033 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion:151 Resp: 486646

Ion	Ratio	Lower	Upper
151	100		
101	124.8	103.4	143.4

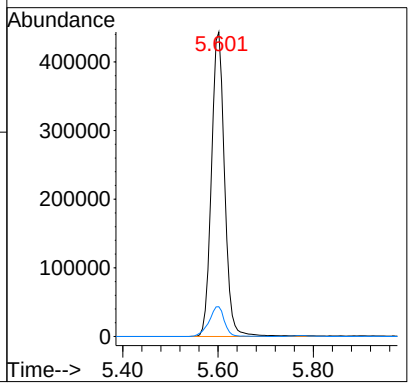


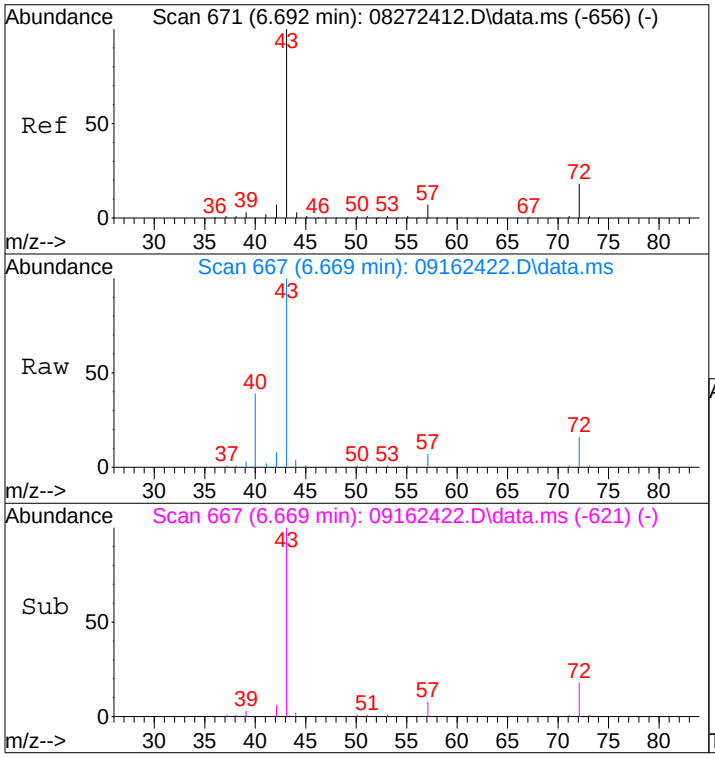


#22
Carbon Disulfide
Concen: 21.45 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 76 Resp: 852798

Ion	Ratio	Lower	Upper
76	100		
78	11.5	0.0	29.6

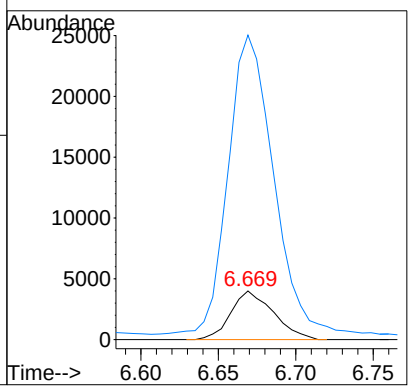


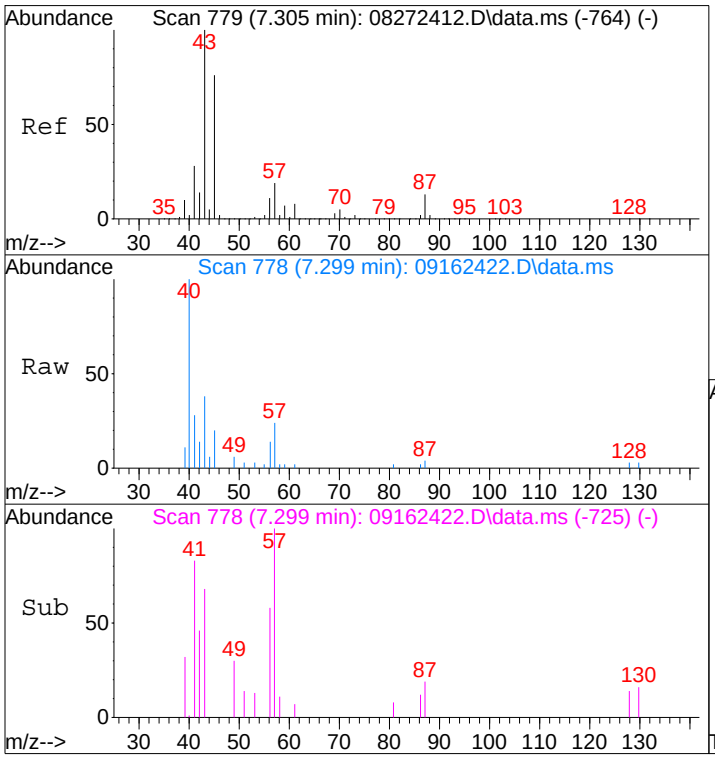


#27
2-Butanone (MEK)
Concen: 1.06 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 72 Resp: 7631

Ion	Ratio	Lower	Upper
72	100		
43	678.4	548.0	588.0#

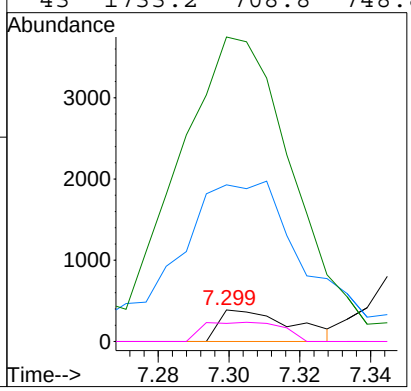


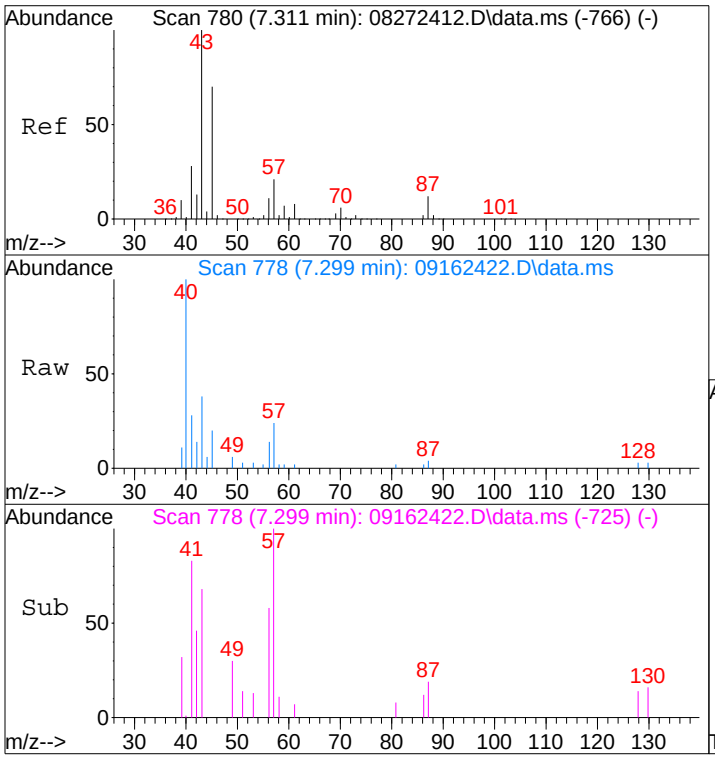


#29
Diisopropyl Ether
Concen: 0.06 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.051 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 87 Resp: 555

Ion	Ratio	Lower	Upper
87	100		
45	781.6	564.1	604.1#
59	66.5	34.5	74.5
43	1733.2	708.8	748.8#

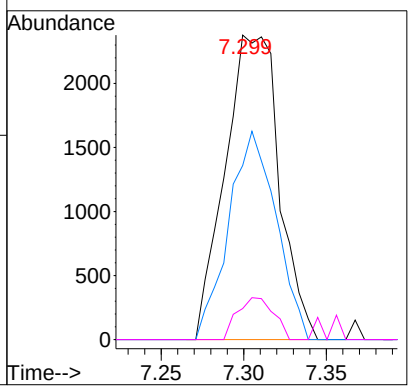


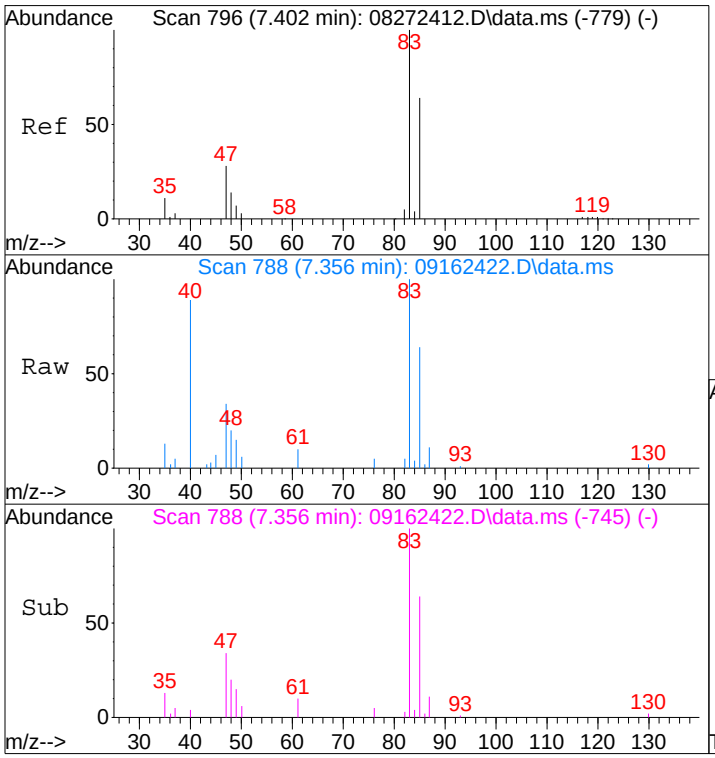


#31
n-Hexane
Concen: 0.25 ng
RT: 7.30 min Scan# 778
Delta R.T. 0.051 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 57 Resp: 5418

Ion	Ratio	Lower	Upper
57	100		
56	59.8	44.2	66.2
86	9.2	9.3	13.9#

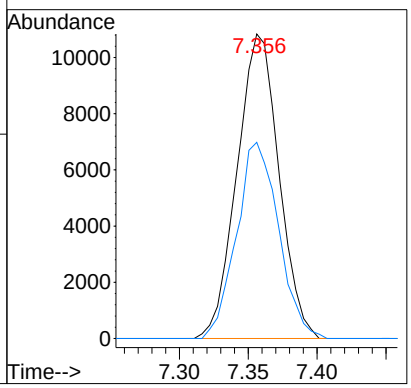


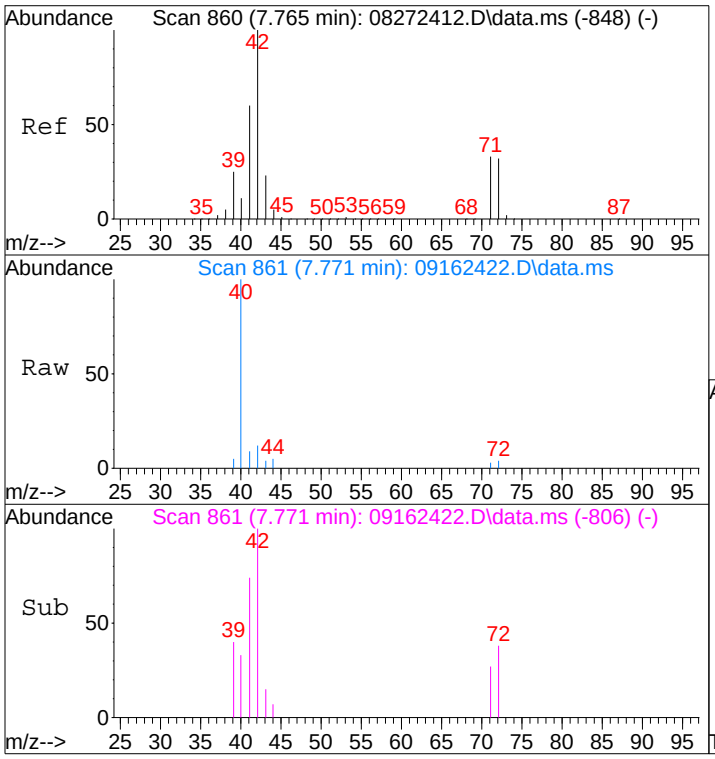


#32
Chloroform
Concen: 1.04 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.004 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 83 Resp: 22974

Ion	Ratio	Lower	Upper
83	100		
85	64.6	45.3	85.3

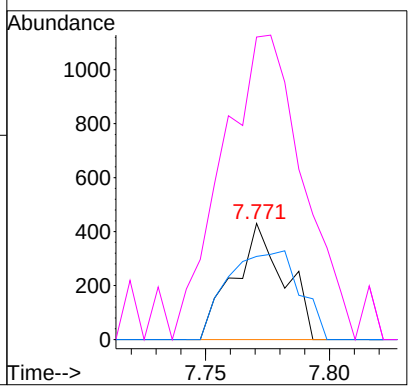


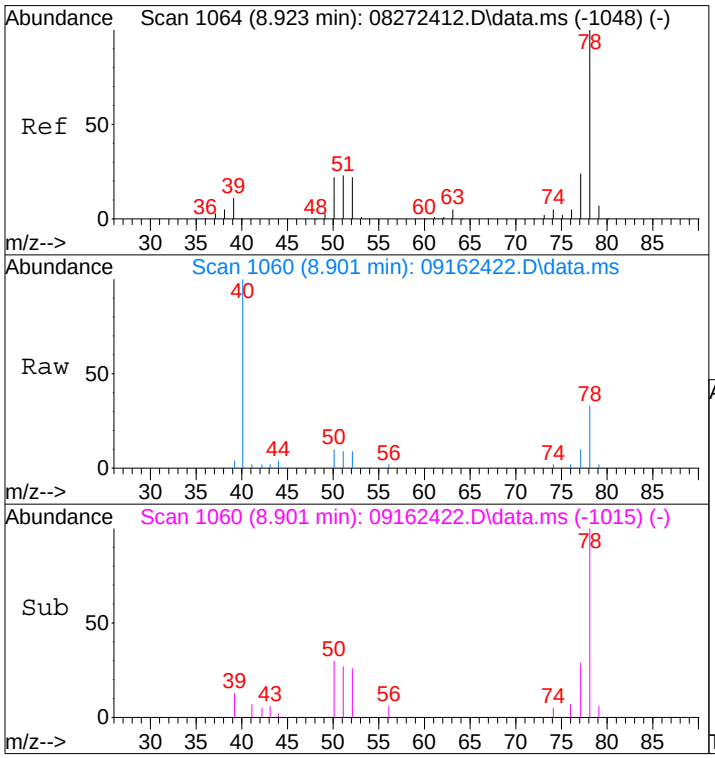


#34
Tetrahydrofuran (THF)
Concen: 0.09 ng
RT: 7.77 min Scan# 861
Delta R.T. 0.062 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 72 Resp: 607

Ion	Ratio	Lower	Upper
72	100		
71	109.1	78.4	118.4
42	420.4	285.2	325.2#

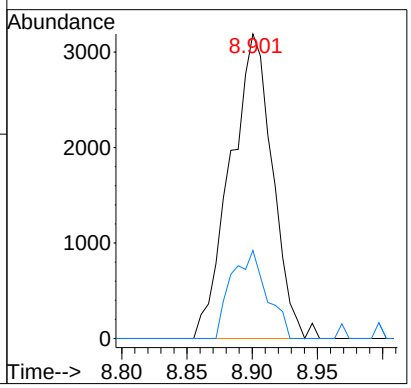


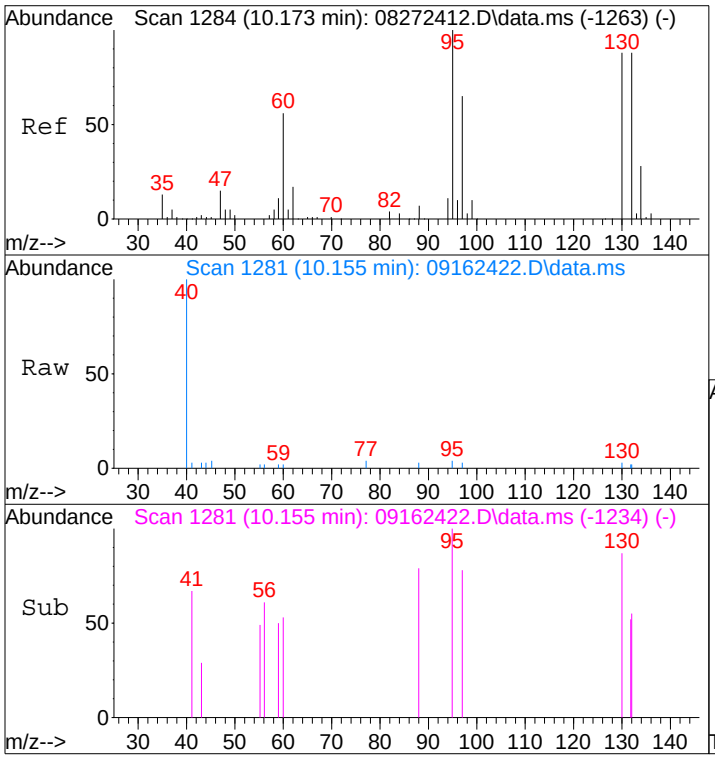


#41
Benzene
Concen: 0.16 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.003 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 78 Resp: 7169

Ion	Ratio	Lower	Upper
78	100		
77	24.4	3.9	43.9

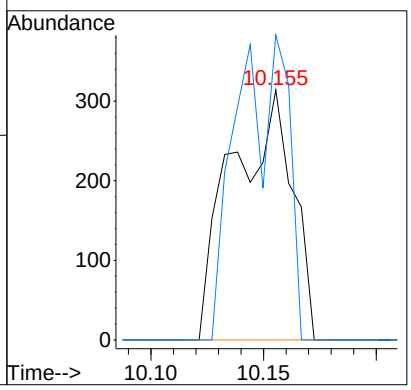


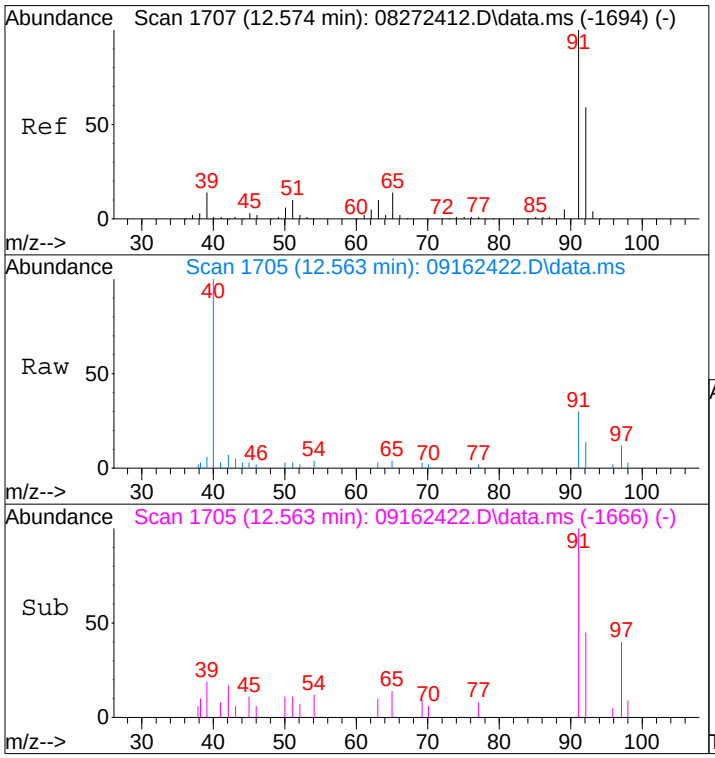


#47
Trichloroethene
Concen: 0.05 ng
RT: 10.16 min Scan# 1281
Delta R.T. 0.016 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion:130 Resp: 586

Ion	Ratio	Lower	Upper
130	100		
132	102.9	80.8	120.8

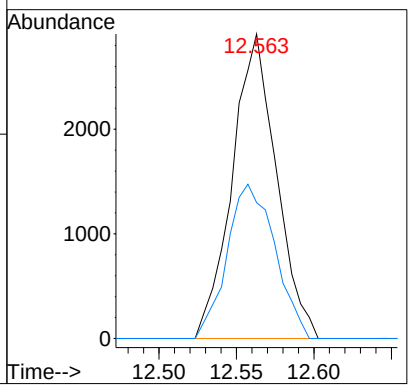


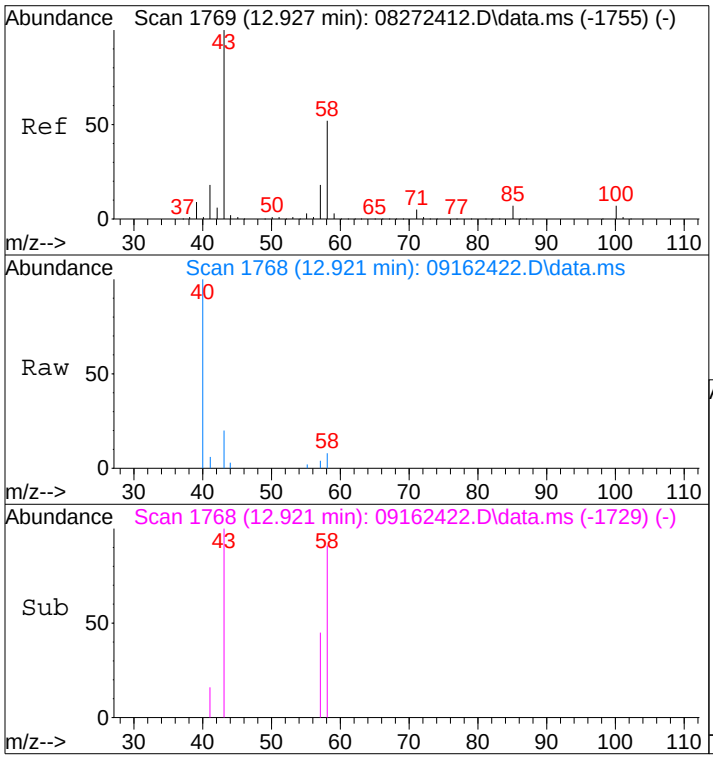


#58
Toluene
Concen: 0.10 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.028 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 91 Resp: 5787

Ion	Ratio	Lower	Upper
91	100		
92	54.8	38.5	78.5

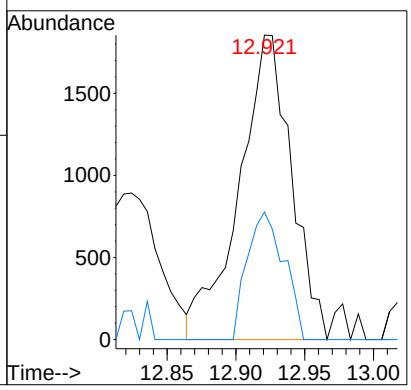




#59
2-Hexanone
Concen: 0.14 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09162422.D
Acq: 16 Sep 2024 21:33

Tgt Ion: 43 Resp: 4904

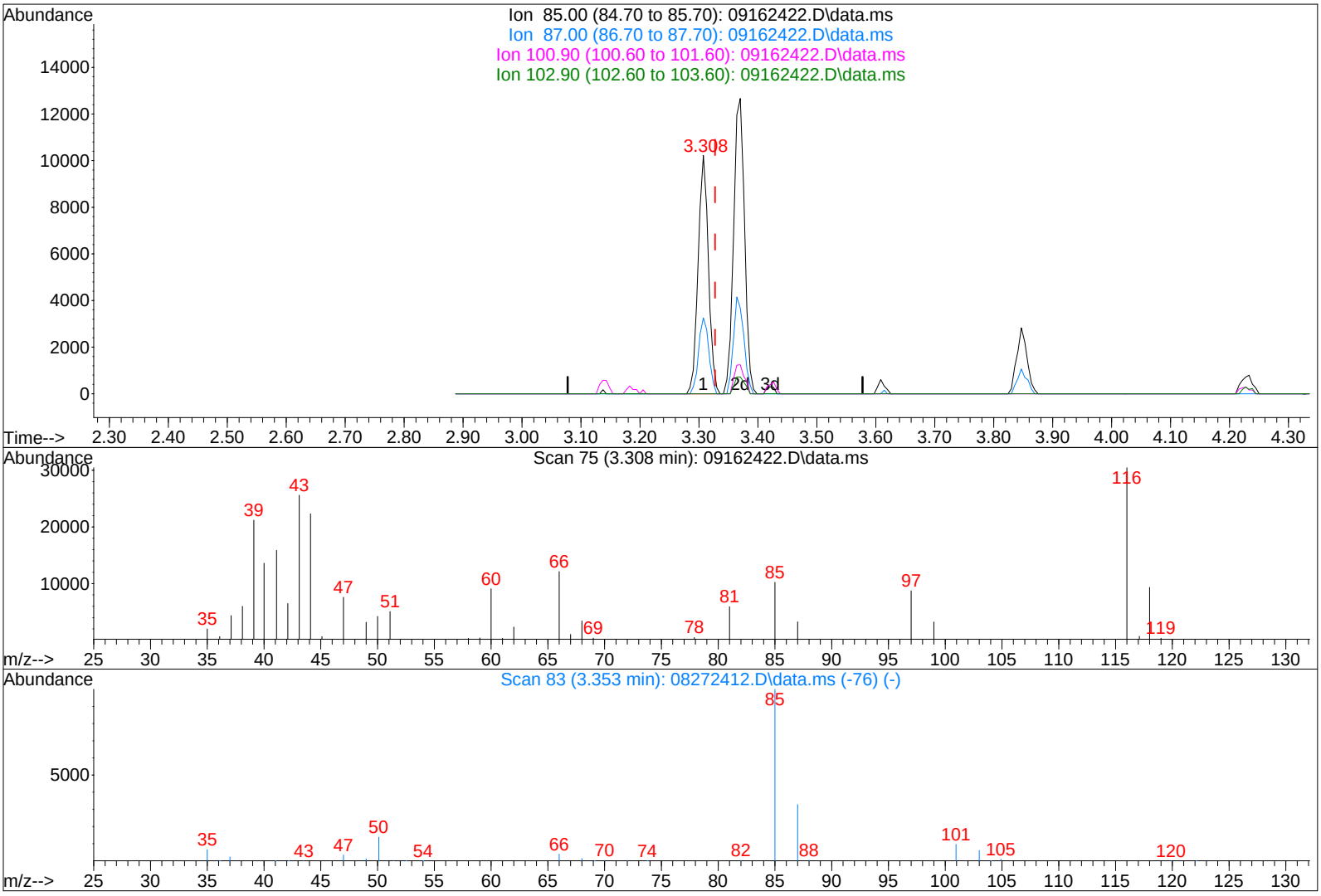
Ion	Ratio	Lower	Upper
43	100		
58	29.5	31.1	71.1#



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162422.D Vial: 10
Acq On : 16 Sep 2024 21:33 Operator: SC
Sample : P2403661-062 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:36 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.308min (-0.020) 0.46ng

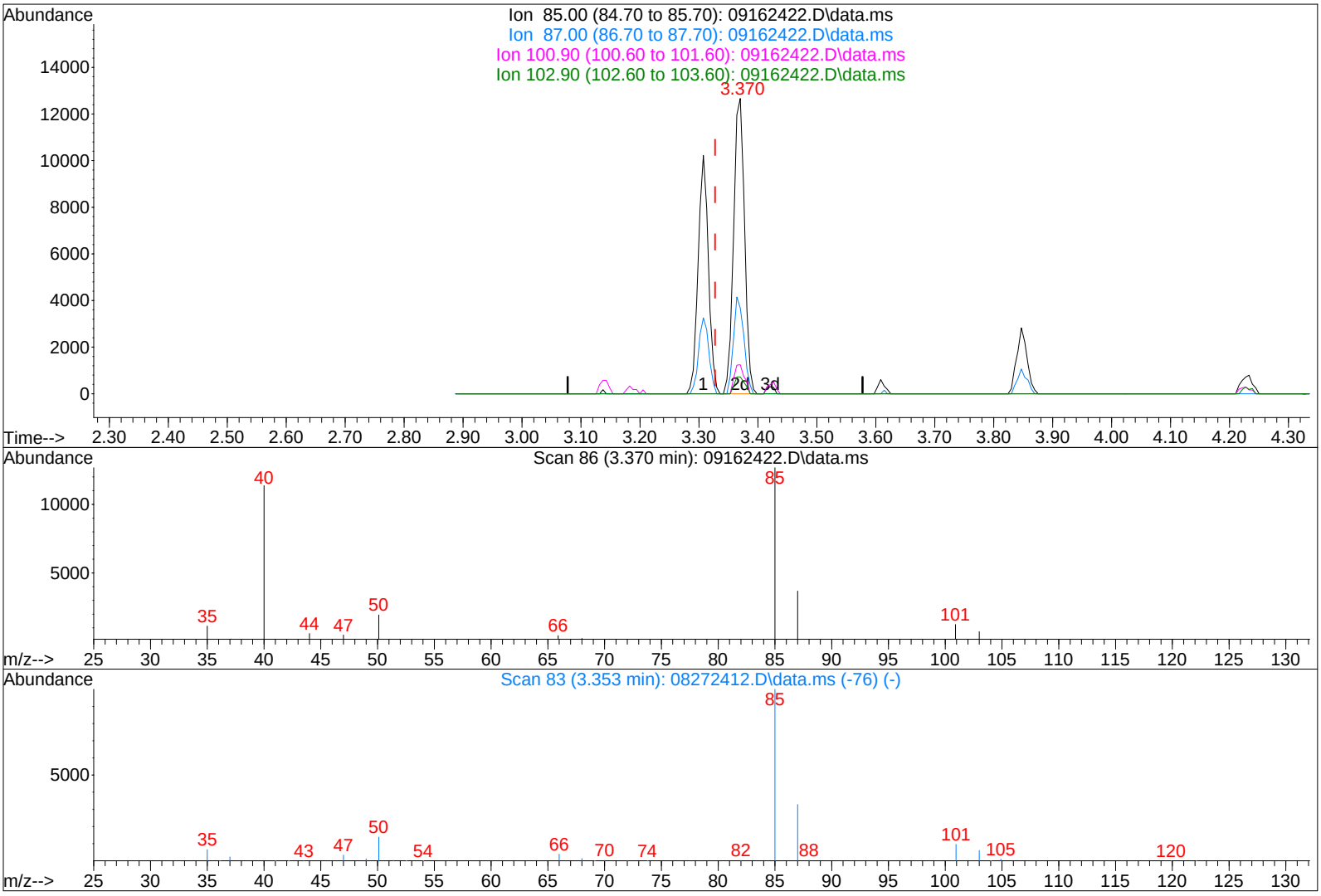
response 12410

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.64
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162422.D Vial: 10
Acq On : 16 Sep 2024 21:33 Operator: SC
Sample : P2403661-062 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:36 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162422.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.042) 0.61ng m

response 16338

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	24.03
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/17/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:33
Operator : SC
Sample : P2403661-062 (400mL)
Misc : S37-08262404
ALS Vial : 10 Sample Multiplier: 1

WA 9/30/24

Quant Time: Sep 30 07:52:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

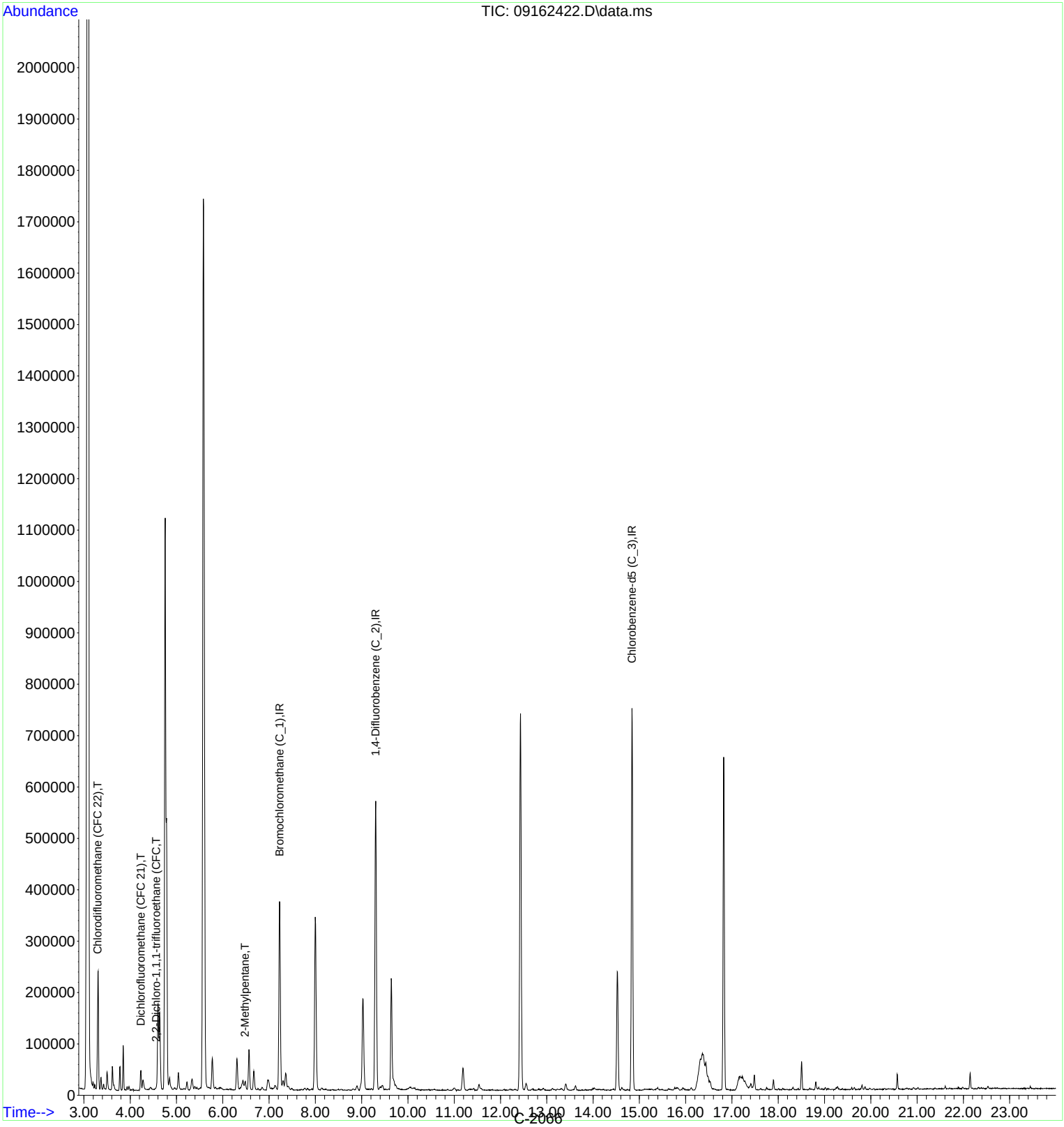
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	111191	12.500 ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	490240	12.500 ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	151839	12.500 ng		-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	59	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.25	65	132	N.D.		
5) Chlorodifluoromethane ...	3.30	67	3016	0.796 ng		94
6) 1-Chloro-1,1-Difluoroe...	3.51	65	551	N.D.		
7) Dichlorofluoromethane ...	4.23	67	31365	1.230 ng		99
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	2225	0.144 ng	#	16
10) 2-Methylbutane	0.00	57	0	N.D. d		
11) Methyl Acetate	5.32	43	2830	N.D.		
12) 2-Methylpentane	6.48	71	2332	0.242 ng	#	1
13) 2,2-Dichloropropane	7.37	77	57	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.53	56	648	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	1226	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	116	N.D.		
27) 4-Chlorotoluene	17.67	91	673	N.D.		
28) Indane	19.11	117	62	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	20.61	119	56	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

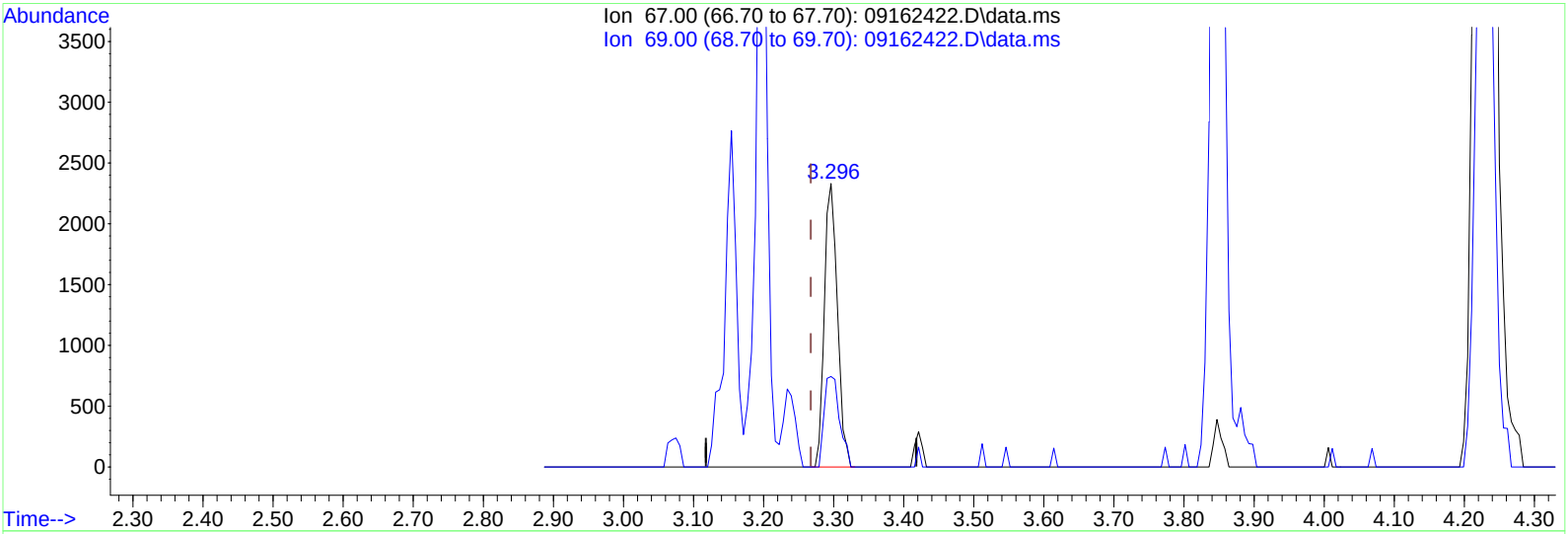
Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:33
Operator : SC
Sample : P2403661-062 (400mL)
Misc : S37-08262404
ALS Vial : 10 Sample Multiplier: 1

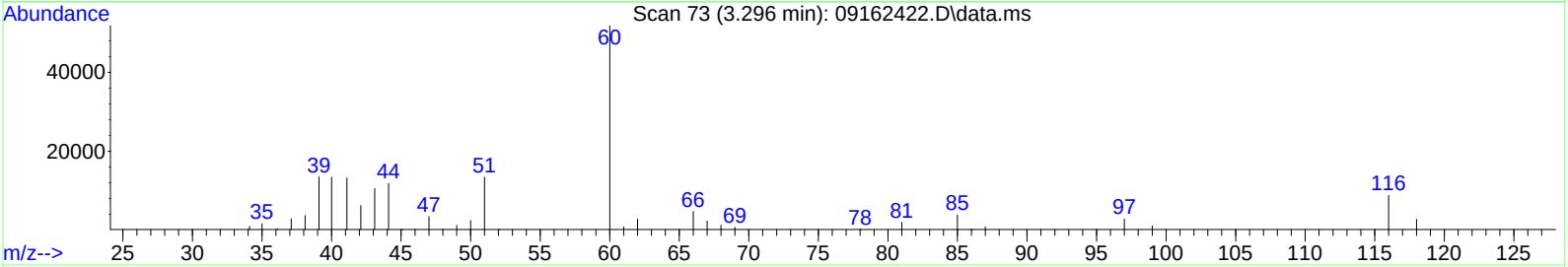
Quant Time: Sep 30 07:52:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

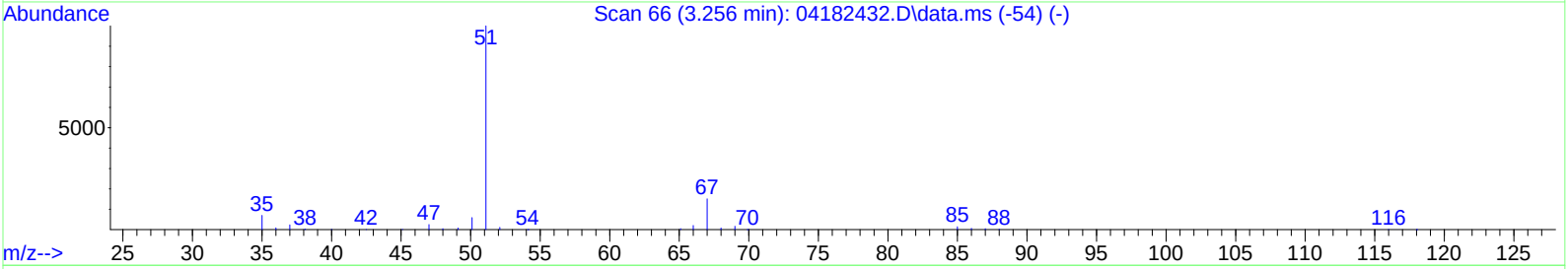


Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:33
Operator : SC
Sample : P2403661-062 (400mL)
Misc : S37-08262404
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 30 07:14:44 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162422.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.296min (+0.028) 0.80ng

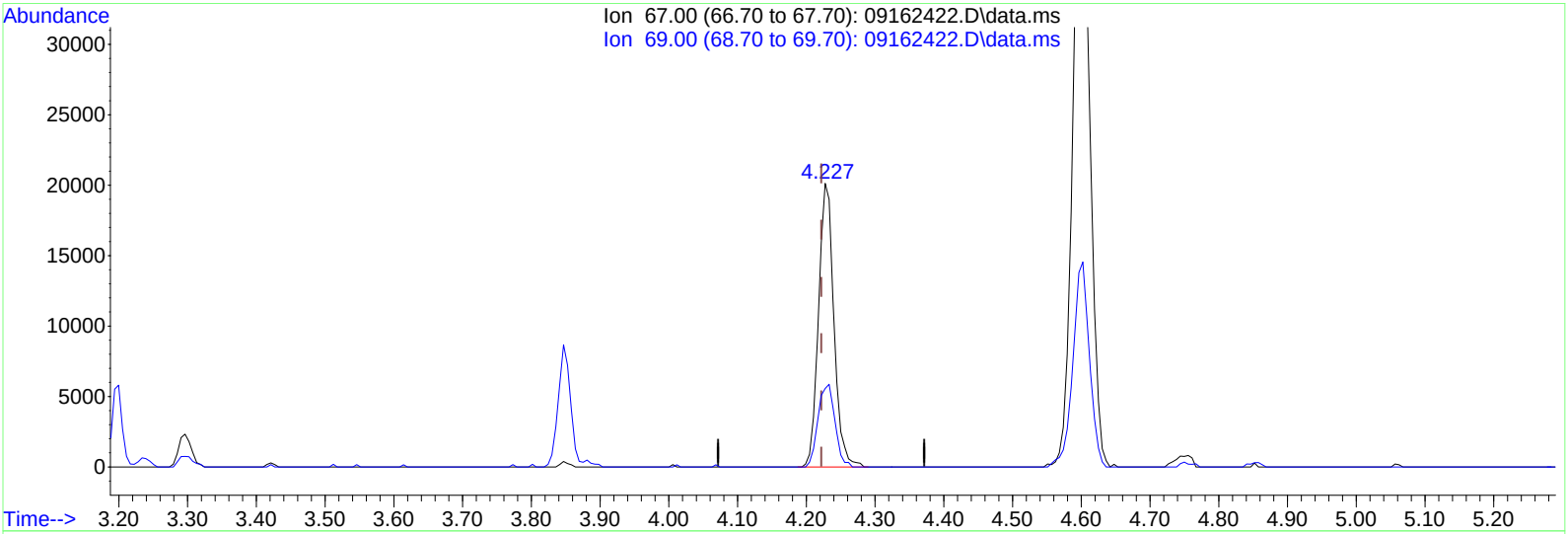
response 3016

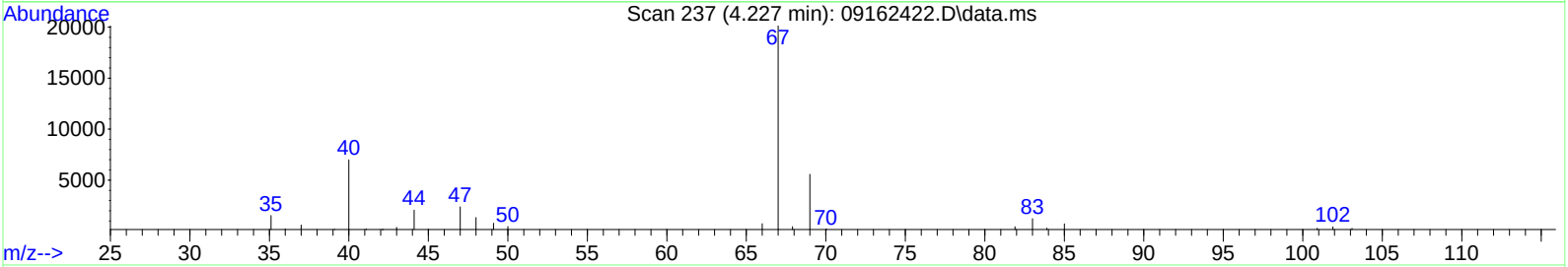
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	37.96
0.00	0.00	0.00
0.00	0.00	0.00

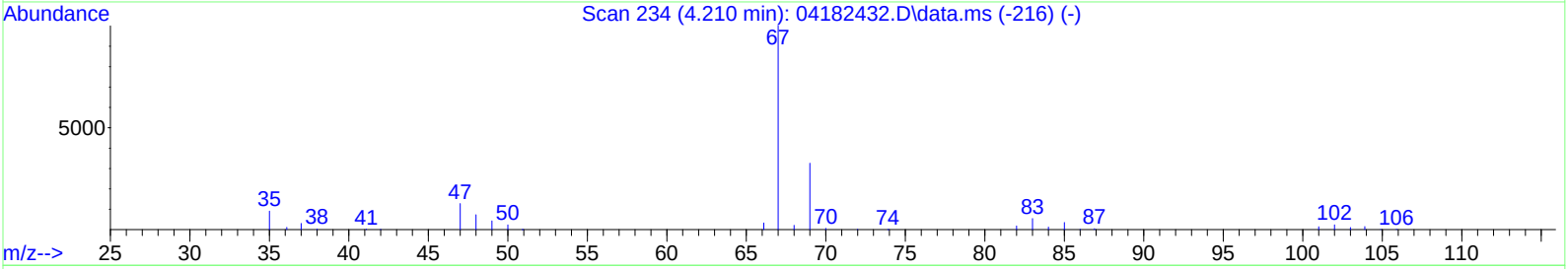
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:33
Operator : SC
Sample : P2403661-062 (400mL)
Misc : S37-08262404
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 30 07:14:44 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162422.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.227min (+0.006) 1.23ng

response 31365

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	31.99
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:33
Operator : SC
Sample : P2403661-062 (400mL)
Misc : S37-08262404
ALS Vial : 10 Sample Multiplier: 1

NOA 9/30/24

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162422.D\data.ms

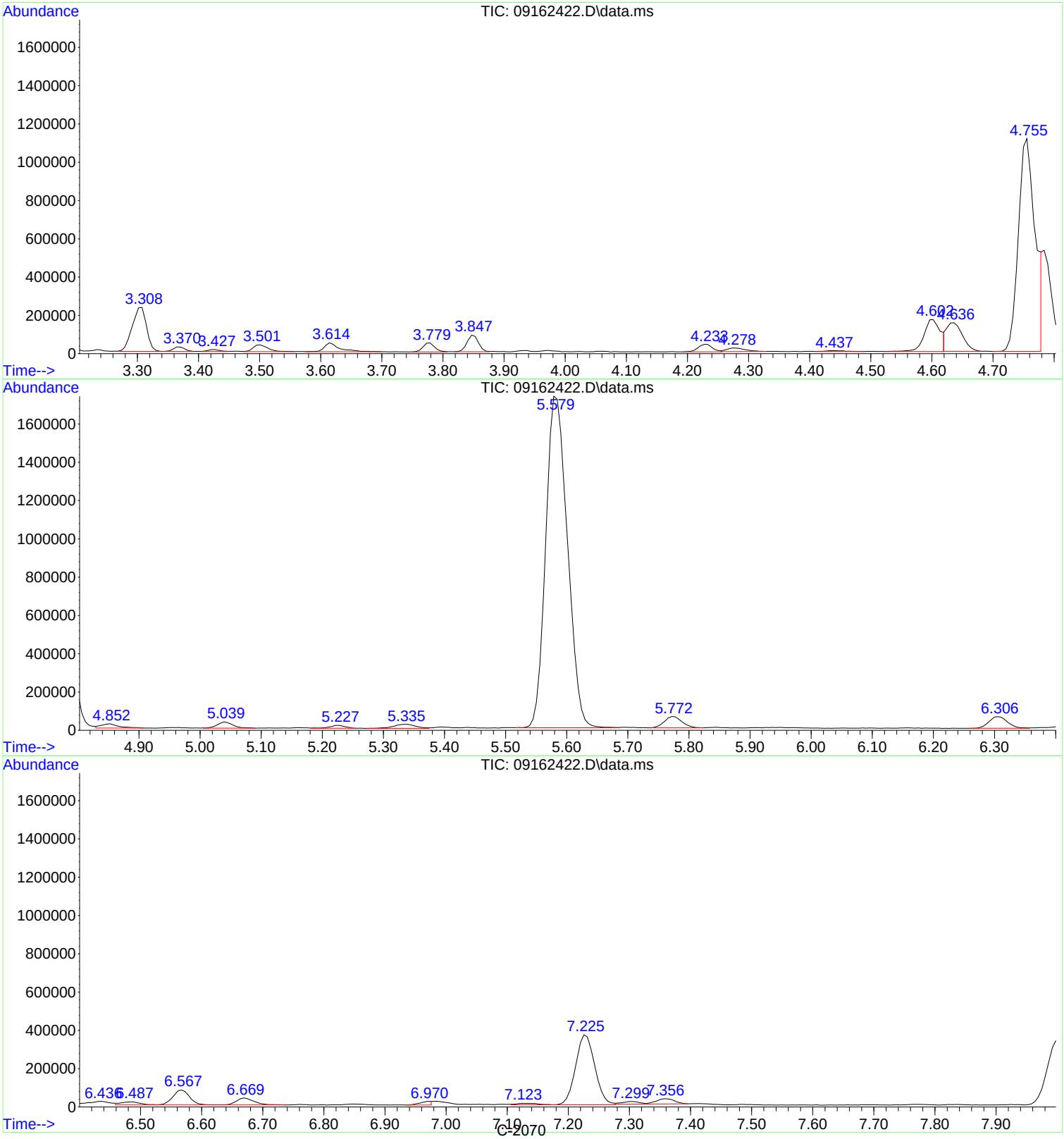
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.308	68	75	81	rVB3	229278	372927	8.73%	3.922%
2	3.370	81	86	90	rVV	23362	31492	0.74%	0.331%
3	3.427	92	96	100	rVV	10214	14126	0.33%	0.149%
4	3.501	104	109	119	rVV4	34994	59098	1.38%	0.621%
5	3.614	122	129	144	rVB2	46764	81476	1.91%	0.857%
6	3.779	152	158	163	rBV	46849	63609	1.49%	0.669%
7	3.847	165	170	175	rVV	86980	111426	2.61%	1.172%
8	4.233	231	238	242	rBV	39125	65943	1.54%	0.693%
9	4.278	242	246	255	rVB2	18421	38841	0.91%	0.408%
10	4.437	269	274	283	rVB2	4654	10668	0.25%	0.112%
11	4.602	289	303	306	rBV	166846	318224	7.45%	3.346%
12	4.636	306	309	317	rVB	148878	264254	6.19%	2.779%
13	4.755	320	330	334	rBV	1111965	2143183	50.19%	22.538%
14	4.852	343	347	357	rVB4	22577	44392	1.04%	0.467%
15	5.039	374	380	389	rVB	33010	55703	1.30%	0.586%
16	5.227	405	413	418	rVB3	15196	26280	0.62%	0.276%
17	5.335	421	432	439	rBV2	22064	55770	1.31%	0.586%
18	5.579	464	475	494	rBV2	1731152	4270305	100.00%	44.906%
19	5.772	503	509	518	rBV	59518	119626	2.80%	1.258%
20	6.306	595	603	612	rBV2	60812	129890	3.04%	1.366%
21	6.436	617	626	630	rVV2	18755	51233	1.20%	0.539%
22	6.487	630	635	642	rVV	16524	34428	0.81%	0.362%
23	6.567	642	649	661	rVV2	78490	148452	3.48%	1.561%
24	6.669	661	667	679	rVB	36139	71479	1.67%	0.752%
25	6.970	714	720	721	rBV	19723	26681	0.62%	0.281%
26	7.123	744	747	756	rVB5	7758	18380	0.43%	0.193%
27	7.225	756	765	774	rBV	365755	797502	18.68%	8.386%
28	7.299	774	778	783	rVV3	13398	27167	0.64%	0.286%
29	7.356	783	788	795	rVB3	26988	56830	1.33%	0.598%

Sum of corrected areas: 9509385

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:33
Operator : SC
Sample : P2403661-062 (400mL)
Misc : S37-08262404
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162422.D
Acq On : 16 Sep 2024 21:333
Operator : SCC
Sample : P2403661-062 (400mL))
Misc : S37-082624044
ALS Vial : 10 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						Internal Standard			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected

****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:11:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	108609	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	481507	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	153938	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	304656	14.990	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.92%				
57) Toluene-d8 (SS2)	12.44	98	559374	10.358	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.88%				
73) Bromofluorobenzene (SS3)	16.83	174	207837	11.508	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
Target Compounds							Qvalue
2) Propene	3.24	42	201	N.D.			
3) Dichlorodifluoromethan...	3.37	85	15586m	0.591	ng		
4) Chloromethane	3.50	50	5953	0.289	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	434	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.	d		
8) Bromomethane	4.02	94	591	0.069	ng	#	65
9) Chloroethane	0.00	64	0	N.D.	d		
10) Ethanol	4.31	45	118076	10.017	ng		100
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.54	56	13428	1.491	ng		98
13) Acetone	4.64	58	237794	23.909	ng		92
14) Trichlorofluoromethane	4.77	101	9930616	394.838	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	567967	14.504	ng		93
16) Acrylonitrile	5.01	53	4459	0.240	ng	#	66
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.	d		
19) Methylene Chloride	5.36	84	2053	0.175	ng	#	76
20) 3-Chloro-1-propene (Al...	5.47	41	216	N.D.			
21) Trichlorotrifluoroethane	5.60	151	4221322	423.651	ng		97
22) Carbon Disulfide	5.61	76	294368	7.582	ng	#	1
23) trans-1,2-Dichloroethene	6.15	61	166	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	6.39	73	327	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.	d		
27) 2-Butanone (MEK)	6.67	72	30789	4.363	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.	d		
30) Ethyl Acetate	7.29	61	422604	89.388	ng		92
31) n-Hexane	7.32	57	8814	0.409	ng	#	81
32) Chloroform	7.39	83	59440	2.747	ng		99
34) Tetrahydrofuran (THF)	7.77	72	3710	0.558	ng	#	52
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.15	62	802	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.63	61	15300	No Calib		#	
40) 1-Butanol	8.81	56	24131	No Calib		#	
41) Benzene	8.91	78	40461	0.896	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.23	84	2852	0.187	ng		91
44) tert-Amyl Methyl Ether	9.62	73	288	N.D.			
45) 1,2-Dichloropropane	9.87	63	146	N.D.			
46) Bromodichloromethane	10.09	83	1873	0.110	ng		86
47) Trichloroethene	10.16	130	4328	0.387	ng		91
48) 1,4-Dioxane	10.13	88	2340	0.301	ng		81
49) 2,2,4-Trimethylpentane...	10.24	57	74706	1.398	ng		87
50) Methyl Methacrylate	0.00	100	0	N.D.	d		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:11:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

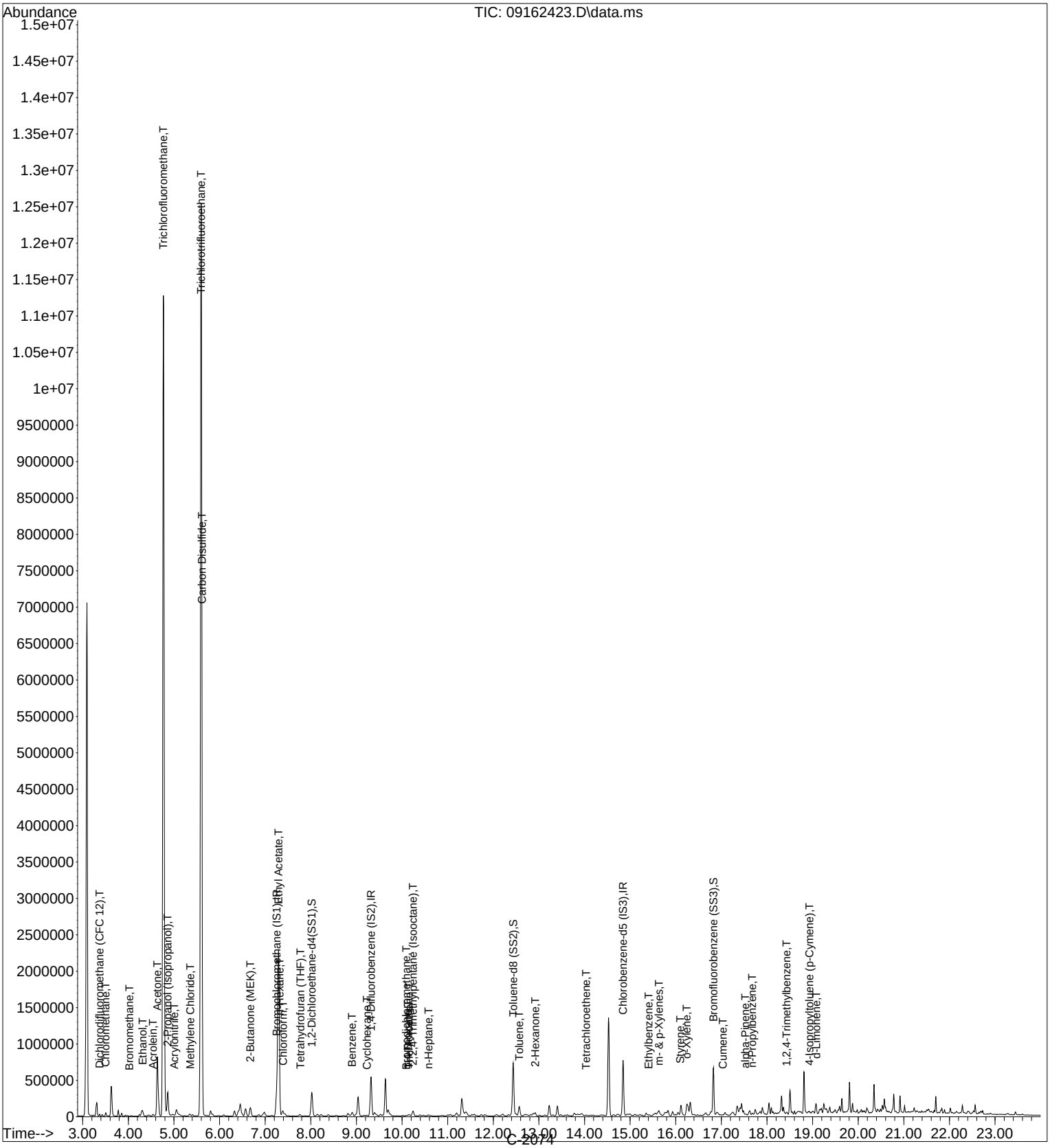
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	2413	0.240 ng	#	74
52) cis-1,3-Dichloropropene	0.00	75	0	N.D. d		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	12.17	97	116	N.D.		
58) Toluene	12.57	91	78728	1.349 ng		100
59) 2-Hexanone	12.92	43	41273m	1.142 ng		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D. d		
63) n-Octane	0.00	57	0	N.D. d		
64) Tetrachloroethene	14.03	166	1277	0.079 ng		96
65) Chlorobenzene	14.91	112	859	N.D.		
66) Ethylbenzene	15.41	91	6546	0.097 ng		93
67) m- & p-Xylenes	15.63	91	16793	0.307 ng		100
68) Bromoform	15.67	173	110	N.D.		
69) Styrene	16.10	104	4710	0.133 ng		96
70) o-Xylene	16.24	91	7695	0.144 ng	#	21
71) n-Nonane	0.00	43	0	N.D. d		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D. d		
74) Cumene	17.03	105	3517	0.057 ng		98
75) alpha-Pinene	17.53	93	4294	0.134 ng		82
76) n-Propylbenzene	17.67	91	6467	0.084 ng		84
77) 3-Ethyltoluene	17.03	105	3517	No Calib		
78) 4-Ethyltoluene	17.86	105	2029	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	1879	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	3517	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	7894	0.144 ng		85
83) n-Decane	17.09	58	4723	No Calib	#	
84) Benzyl Chloride	0.00	91	0	N.D. d		
85) 1,3-Dichlorobenzene	18.57	146	263	N.D.		
86) 1,4-Dichlorobenzene	18.65	146	418	N.D.		
87) sec-Butylbenzene	18.74	105	1748	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	7387	0.123 ng		87
89) 1,2,3-Trimethylbenzene	17.03	105	3517	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	186	N.D.		
91) d-Limonene	19.08	68	7780	0.424 ng		94
92) 1,2-Dibromo-3-Chloropr...	19.51	157	118	N.D.		
93) n-Undecane	18.04	58	2780	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.83	180	741	N.D.		
95) Naphthalene	0.00	128	0	N.D. d		
96) n-Dodecane	18.89	58	1622	No Calib	#	
97) Hexachlorobutadiene	21.30	225	191	N.D.		
98) Cyclohexanone	15.21	55	7788	No Calib	#	
99) tert-Butylbenzene	18.43	119	1434	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D. d		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:11:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

9/17/24

Quant Time: Sep 17 16:11:16 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	108609	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.32	114	481507	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	153938	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.02	65	304656	14.990	ng		0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.92%				
57) Toluene-d8 (SS2)	12.44	98	559374	10.358	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 82.88%				
73) Bromofluorobenzene (SS3)	16.83	174	207837	11.508	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	15586m	0.591	ng		
4) Chloromethane	3.50	50	5953	0.289	ng		94
8) Bromomethane	4.02	94	591	0.069	ng	#	65
10) Ethanol	4.31	45	118076	10.017	ng		100
12) Acrolein	4.54	56	13428	1.491	ng		98
13) Acetone	4.64	58	237794	23.909	ng		92
14) Trichlorofluoromethane	4.77	101	9930616	394.838	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	567967	14.504	ng		93
16) Acrylonitrile	5.01	53	4459	0.240	ng	#	66
19) Methylene Chloride	5.36	84	2053	0.175	ng	#	76
21) Trichlorotrifluoroethane	5.60	151	4221322	423.651	ng		97
22) Carbon Disulfide	5.61	76	294368	7.582	ng	#	1
27) 2-Butanone (MEK)	6.67	72	30789	4.363	ng	#	71
30) Ethyl Acetate	7.29	61	422604	89.388	ng		92
31) n-Hexane	7.32	57	8814	0.409	ng	#	81
32) Chloroform	7.39	83	59440	2.747	ng		99
34) Tetrahydrofuran (THF)	7.77	72	3710	0.558	ng	#	52
41) Benzene	8.91	78	40461	0.896	ng		99
43) Cyclohexane	9.23	84	2852	0.187	ng		91
46) Bromodichloromethane	10.09	83	1873	0.110	ng		86
47) Trichloroethene	10.16	130	4328	0.387	ng		91
48) 1,4-Dioxane	10.13	88	2340	0.301	ng		81
49) 2,2,4-Trimethylpentane...	10.24	57	74706	1.398	ng		87
51) n-Heptane	10.58	71	2413	0.240	ng	#	74
58) Toluene	12.57	91	78728	1.349	ng		100
59) 2-Hexanone	12.92	43	41273m	1.142	ng		
64) Tetrachloroethene	14.03	166	1277	0.079	ng		96
66) Ethylbenzene	15.41	91	6546	0.097	ng		93
67) m- & p-Xylenes	15.63	91	16793	0.307	ng		100
69) Styrene	16.10	104	4710	0.133	ng		96
70) o-Xylene	16.24	91	7695	0.144	ng	#	21
74) Cumene	17.03	105	3517	0.057	ng		98
75) alpha-Pinene	17.53	93	4294	0.134	ng		82
76) n-Propylbenzene	17.67	91	6467	0.084	ng		84
82) 1,2,4-Trimethylbenzene	18.43	105	7894	0.144	ng		85
88) 4-Isopropyltoluene (p-...	18.93	119	7387	0.123	ng		87
91) d-Limonene	19.08	68	7780	0.424	ng		94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

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Acq On : 16 Sep 2024 22:05 Operator: SC
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Misc : S37-08262404

Quant Time: Sep 17 16:11:16 2024
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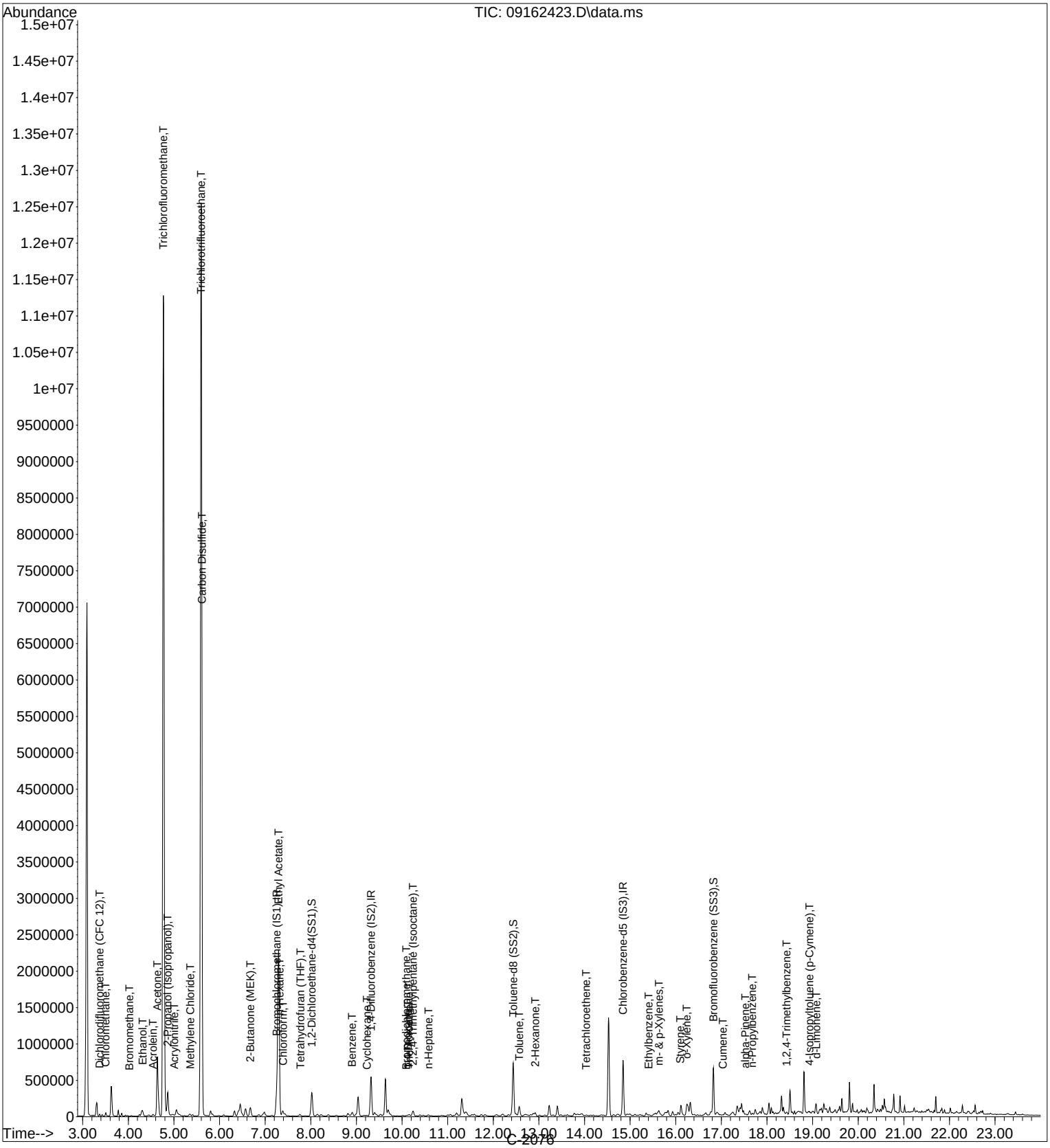
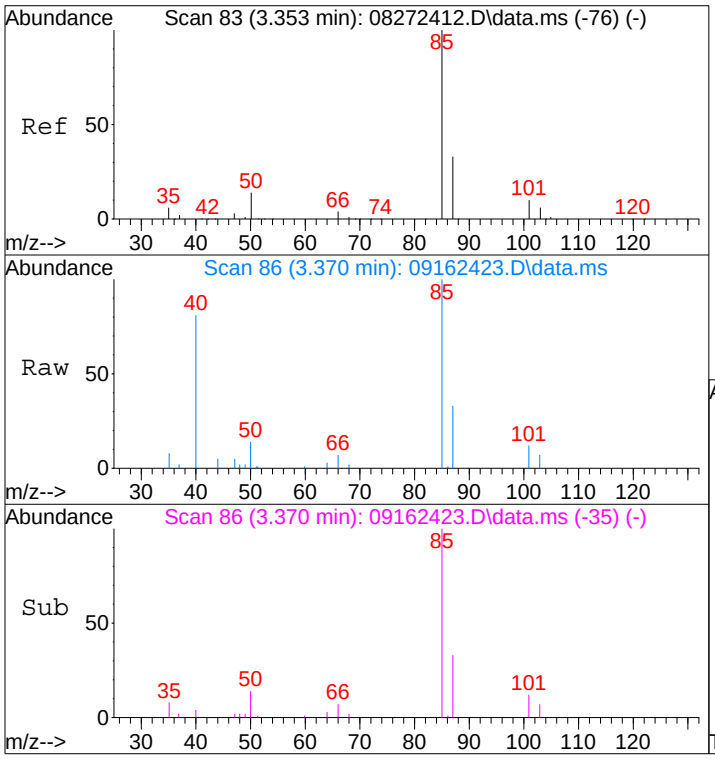
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

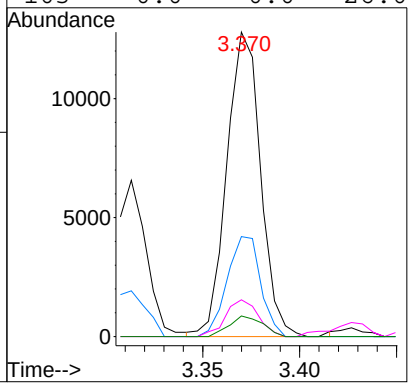


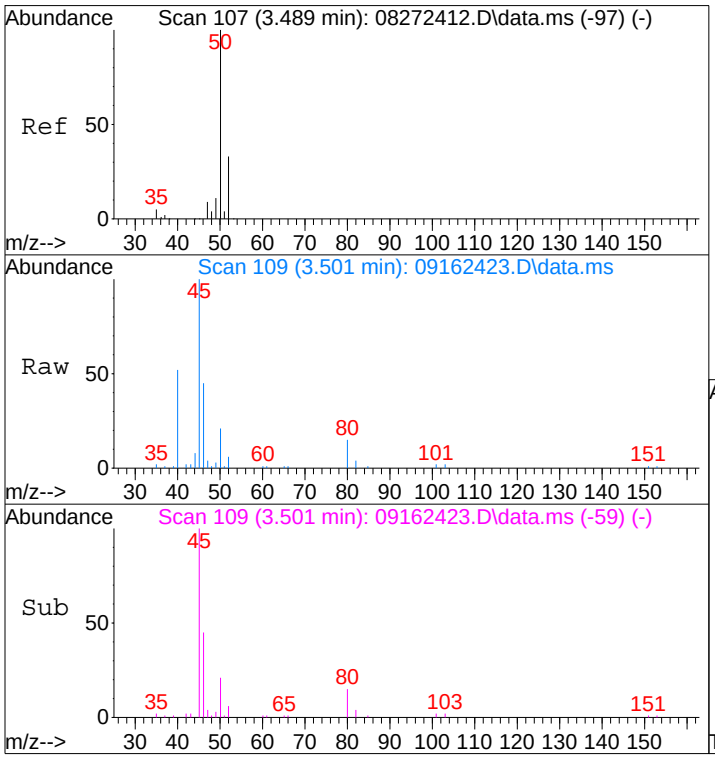


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.59 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.042 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 85 Resp: 15586

Ion	Ratio	Lower	Upper
85	100		
87	14.9	13.1	53.1
101	0.0	0.0	29.4
103	0.0	0.0	26.0

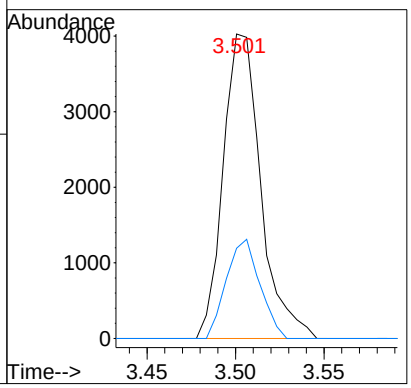


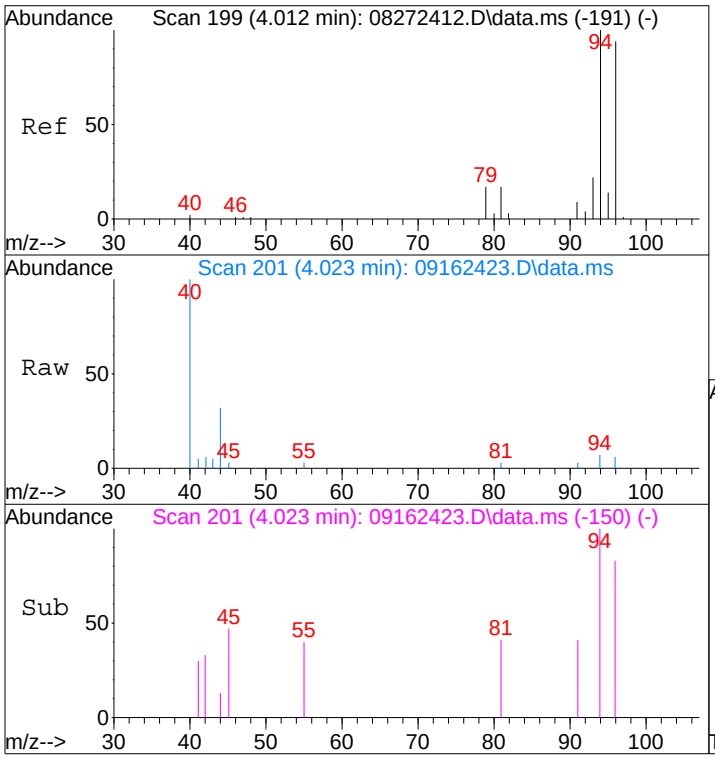


#4
Chloromethane
Concen: 0.29 ng
RT: 3.50 min Scan# 109
Delta R.T. 0.033 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 50 Resp: 5953

Ion	Ratio	Lower	Upper
50	100		
52	29.0	12.4	52.4

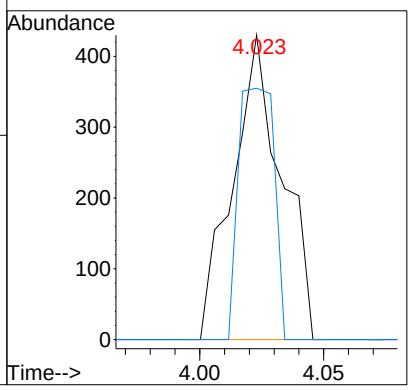


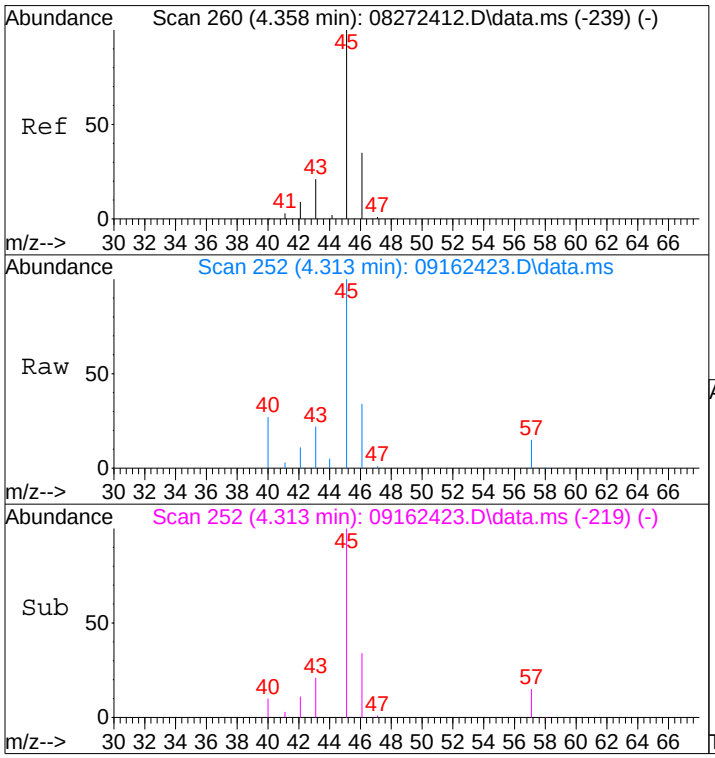


#8
Bromomethane
Concen: 0.07 ng
RT: 4.02 min Scan# 201
Delta R.T. 0.038 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 94 Resp: 591

Ion	Ratio	Lower	Upper
94	100		
96	60.7	74.2	114.2#

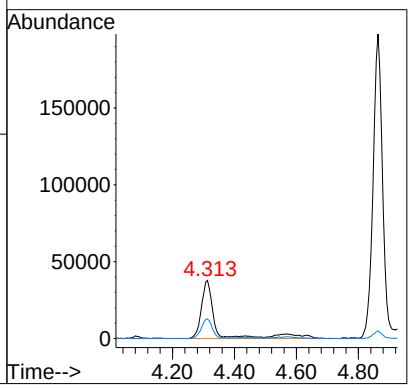


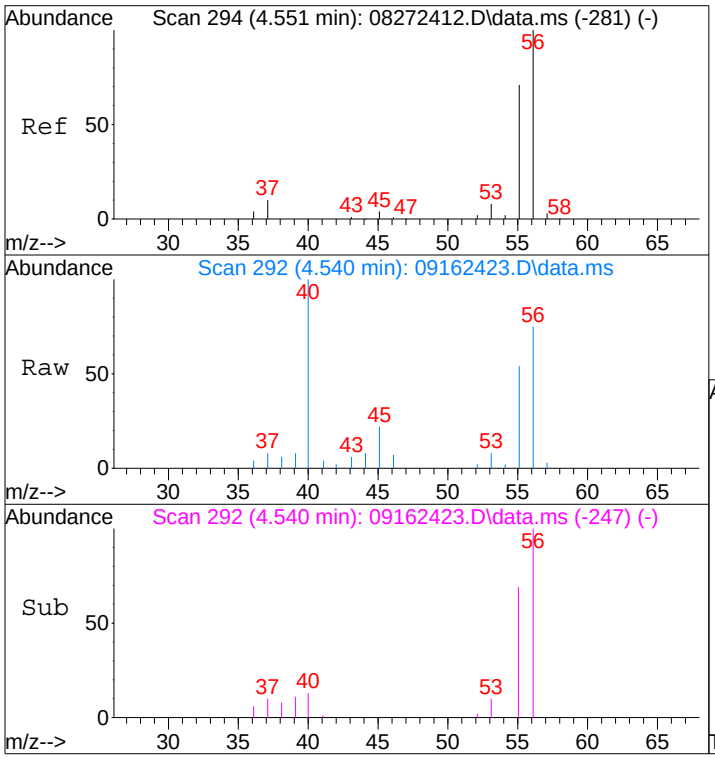


#10
Ethanol
Concen: 10.02 ng
RT: 4.31 min Scan# 252
Delta R.T. -0.060 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 45 Resp: 118076

Ion	Ratio	Lower	Upper
45	100		
46	34.0	14.2	54.2

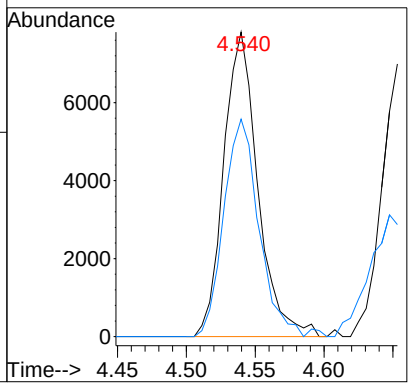


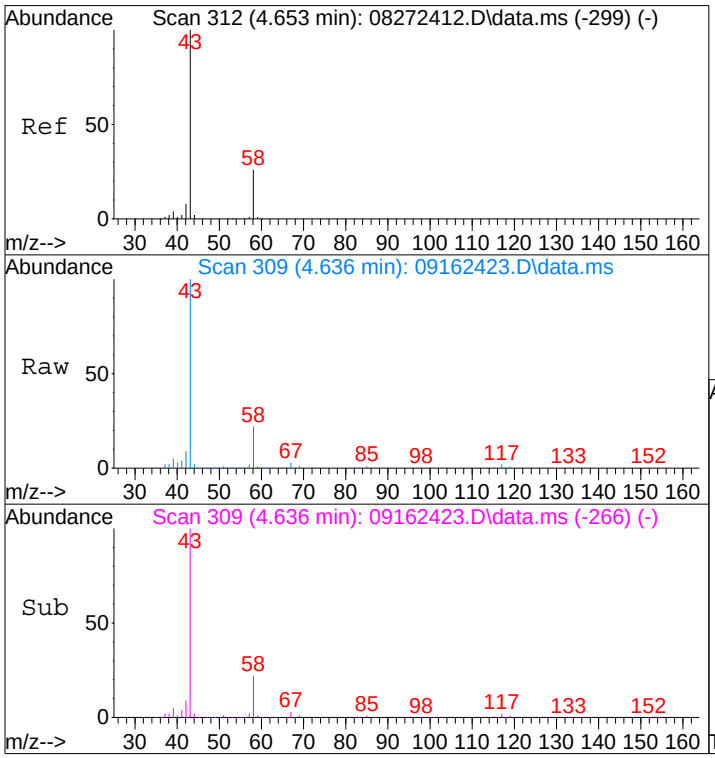


#12
Acrolein
Concen: 1.49 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.004 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 56 Resp: 13428

Ion	Ratio	Lower	Upper
56	100		
55	73.2	54.7	94.7

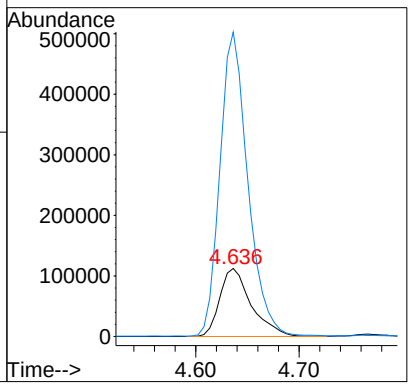


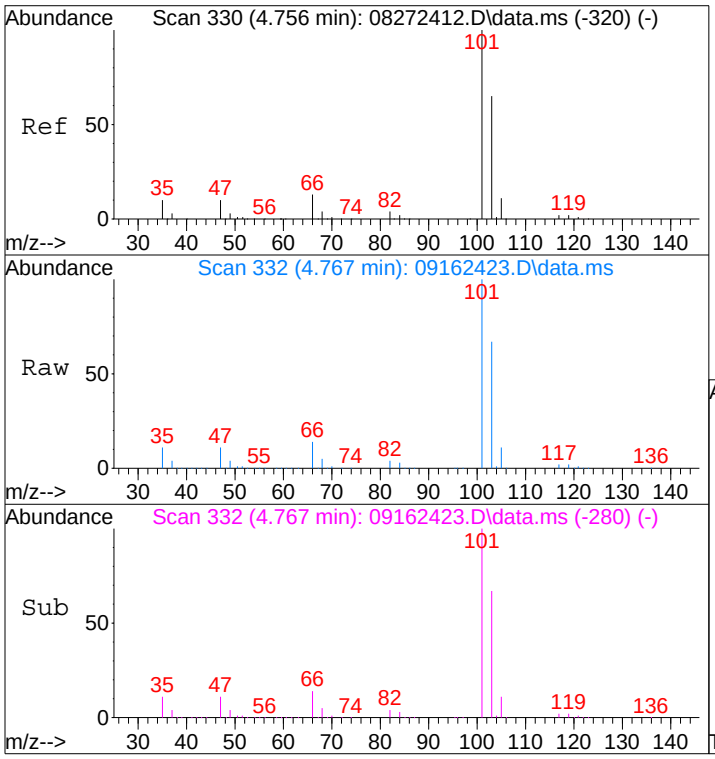


#13
Acetone
Concen: 23.91 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 58 Resp: 237794

Ion	Ratio	Lower	Upper
58	100		
43	395.4	347.3	407.3

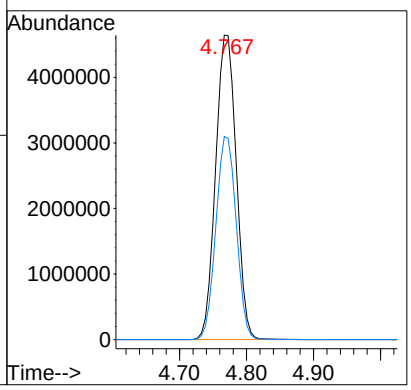


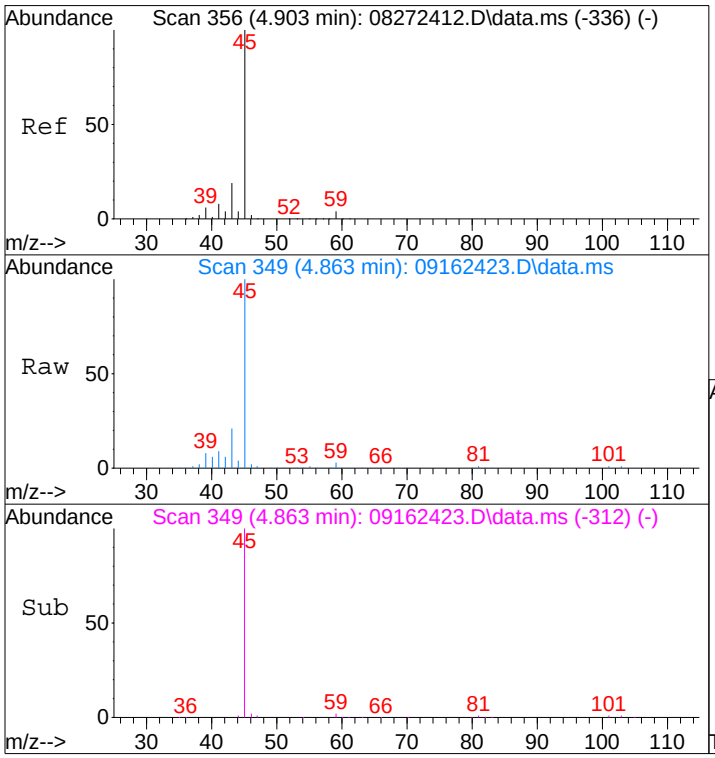


#14
Trichlorofluoromethane
Concen: 394.84 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.046 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:101 Resp: 9930616

Ion	Ratio	Lower	Upper
101	100		
103	66.0	44.9	84.9

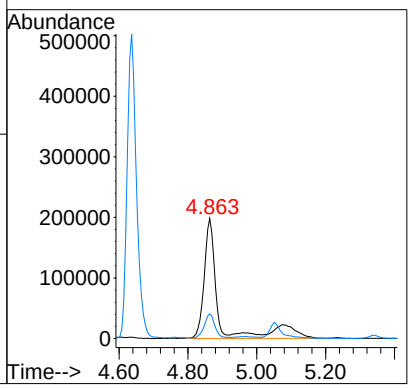


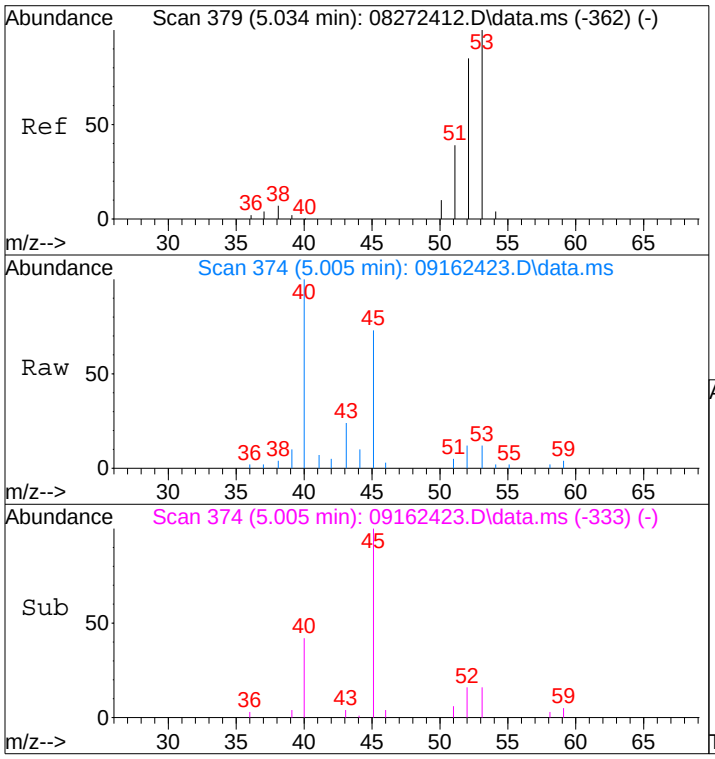


#15
2-Propanol (Isopropanol)
Concen: 14.50 ng
RT: 4.86 min Scan# 349
Delta R.T. -0.043 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 45 Resp: 567967

Ion	Ratio	Lower	Upper
45	100		
43	16.7	0.0	40.0

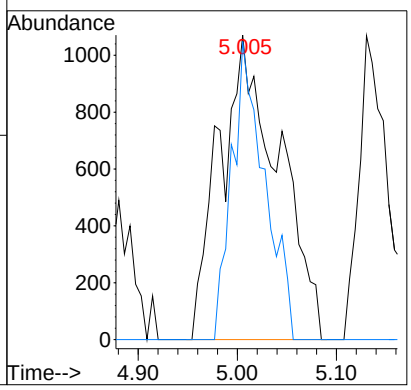


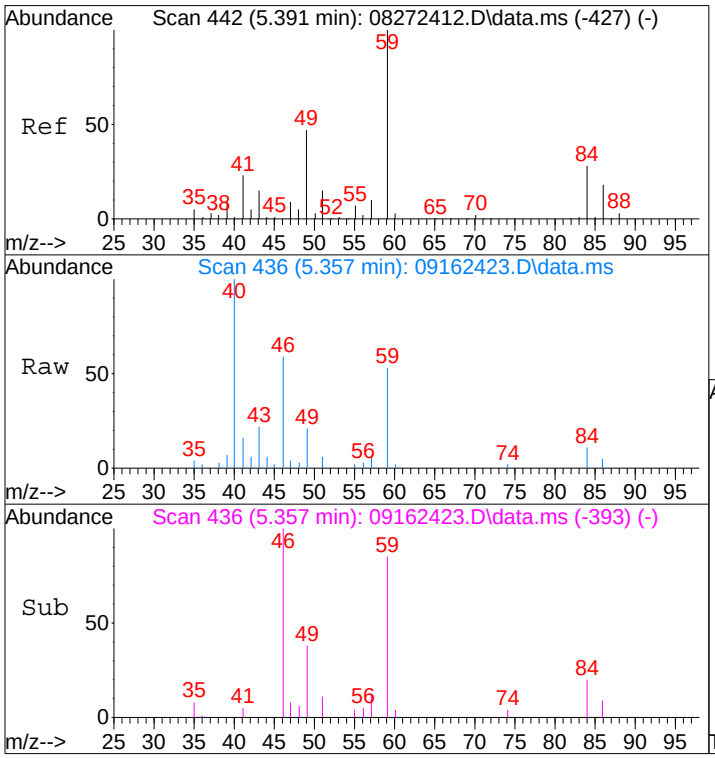


#16
Acrylonitrile
Concen: 0.24 ng
RT: 5.01 min Scan# 374
Delta R.T. -0.019 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 53 Resp: 4459

Ion	Ratio	Lower	Upper
53	100		
52	54.0	65.2	105.2#

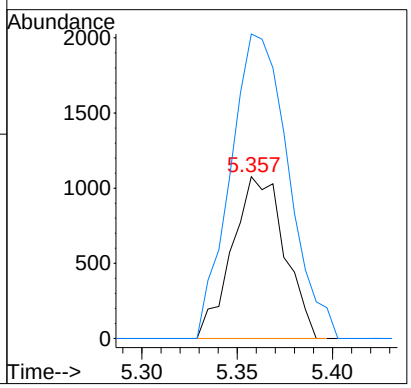


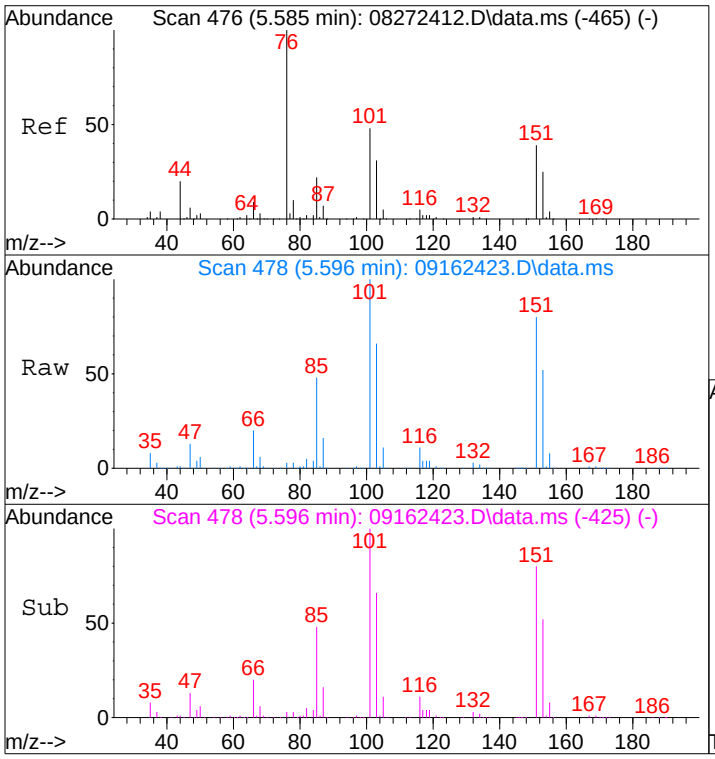


#19
Methylene Chloride
Concen: 0.18 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.004 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 84 Resp: 2053

Ion	Ratio	Lower	Upper
84	100		
49	209.2	151.1	201.1#

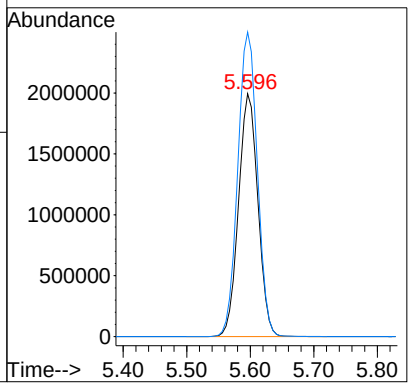


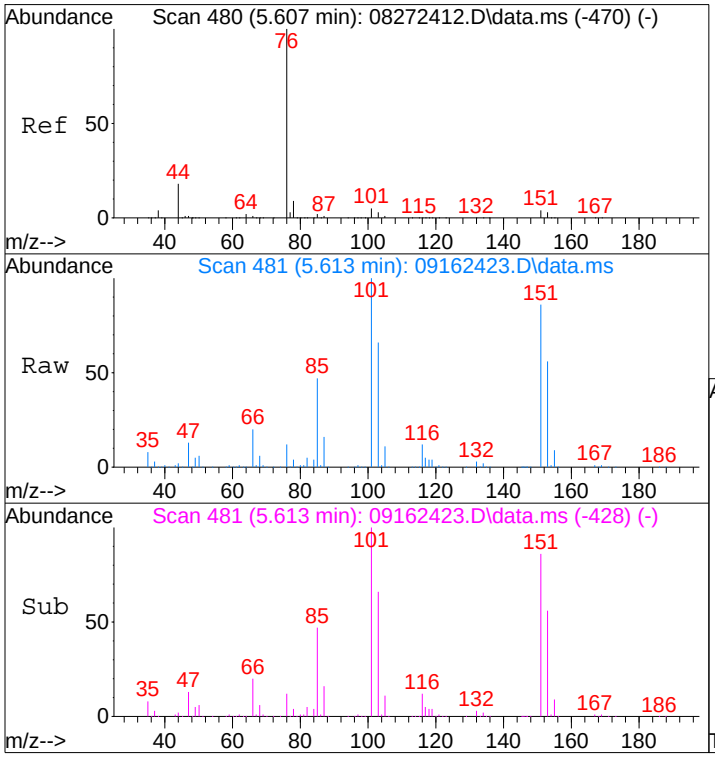


#21
Trichlorotrifluoroethane
Concen: 423.65 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.050 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:151 Resp: 4221322

Ion	Ratio	Lower	Upper
151	100		
101	126.7	103.4	143.4

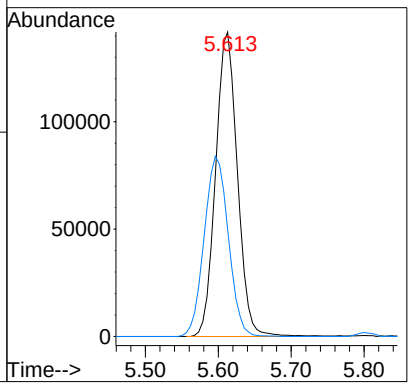


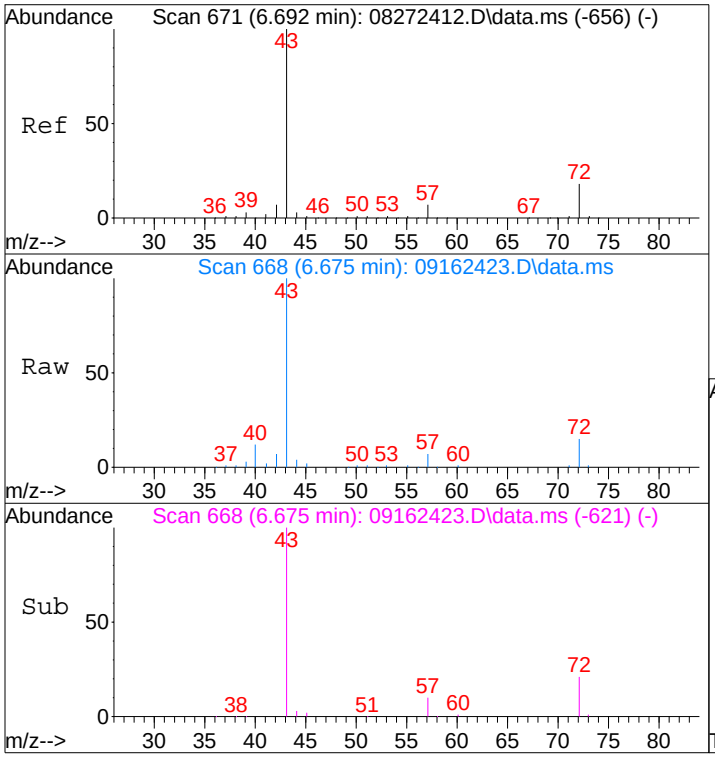


#22
Carbon Disulfide
Concen: 7.58 ng
RT: 5.61 min Scan# 481
Delta R.T. 0.050 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 76 Resp: 294368

Ion	Ratio	Lower	Upper
76	100		
78	65.6	0.0	29.6#

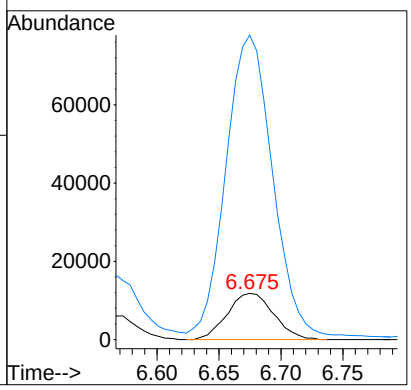


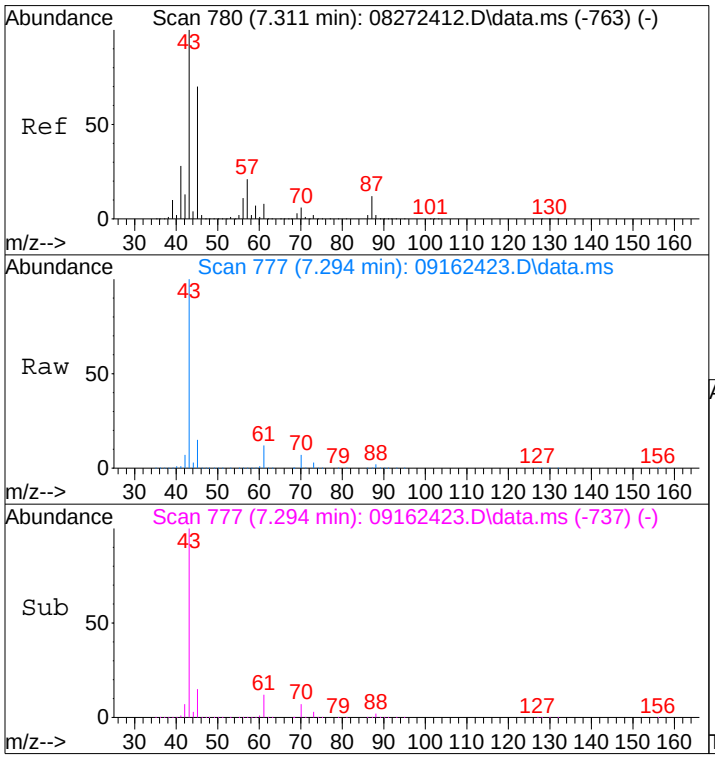


#27
2-Butanone (MEK)
Concen: 4.36 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.016 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 72 Resp: 30789

Ion	Ratio	Lower	Upper
72	100		
43	655.3	548.0	588.0#

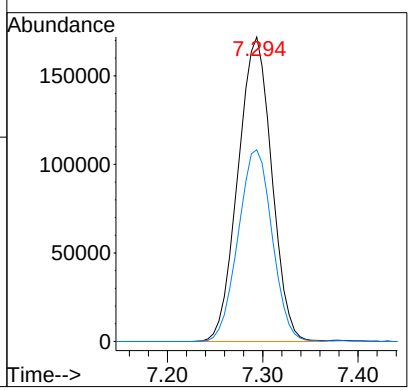


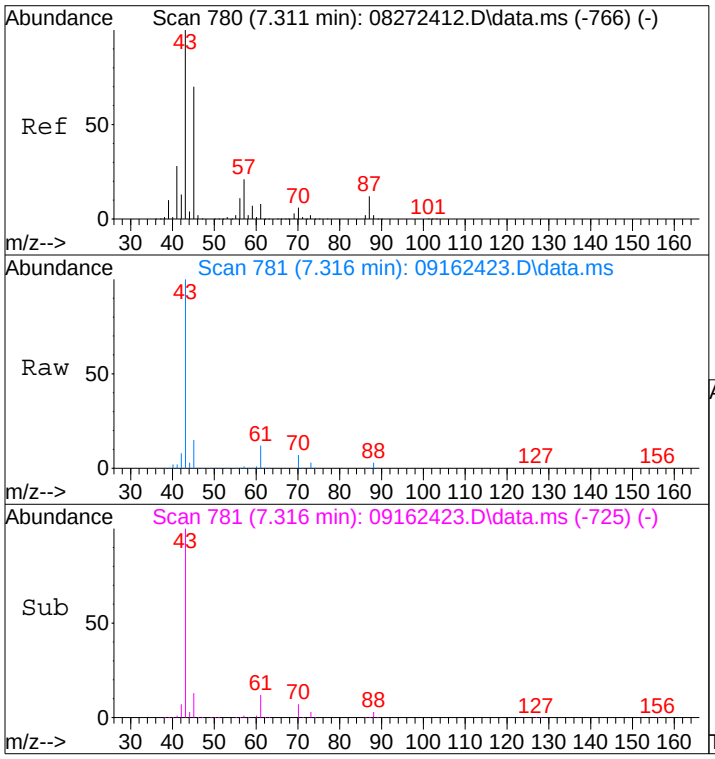


#30
Ethyl Acetate
Concen: 89.39 ng
RT: 7.29 min Scan# 777
Delta R.T. 0.029 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 61 Resp: 422604

Ion	Ratio	Lower	Upper
61	100		
70	63.6	49.9	89.9

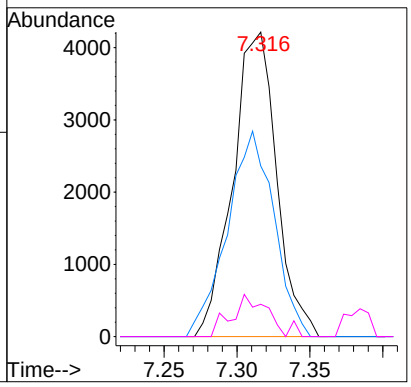


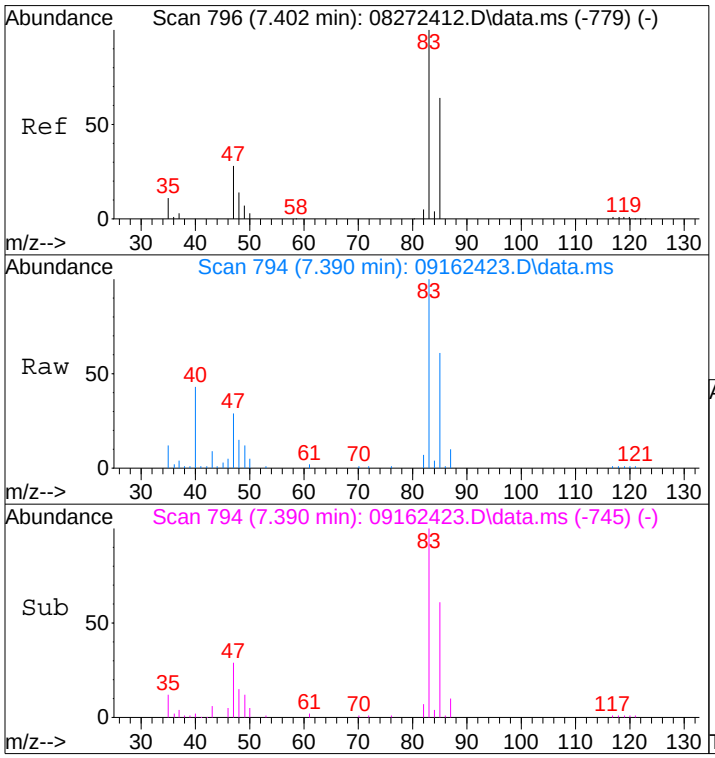


#31
n-Hexane
Concen: 0.41 ng
RT: 7.32 min Scan# 781
Delta R.T. 0.068 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 57 Resp: 8814

Ion	Ratio	Lower	Upper
57	100		
56	71.7	44.2	66.2#
86	10.7	9.3	13.9

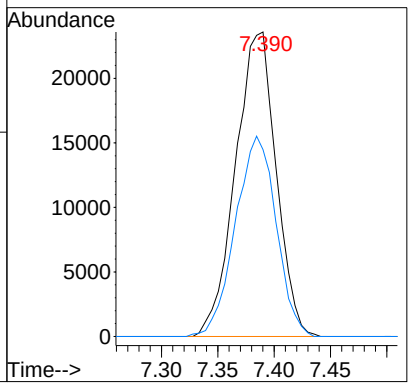


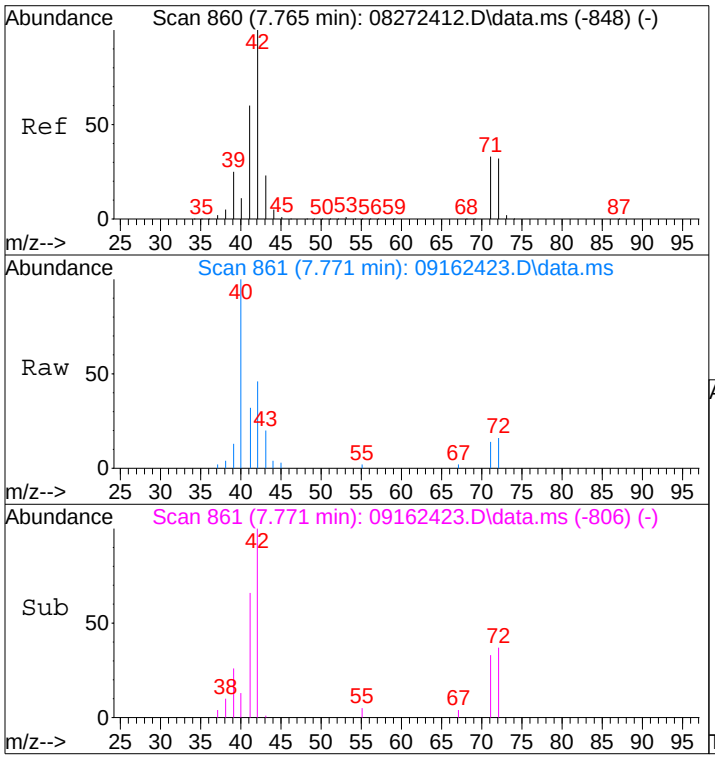


#32
Chloroform
Concen: 2.75 ng
RT: 7.39 min Scan# 794
Delta R.T. 0.030 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 83 Resp: 59440

Ion	Ratio	Lower	Upper
83	100		
85	65.9	45.3	85.3

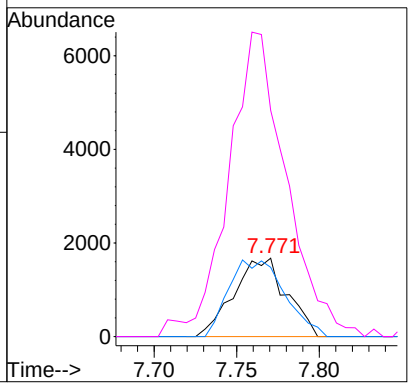


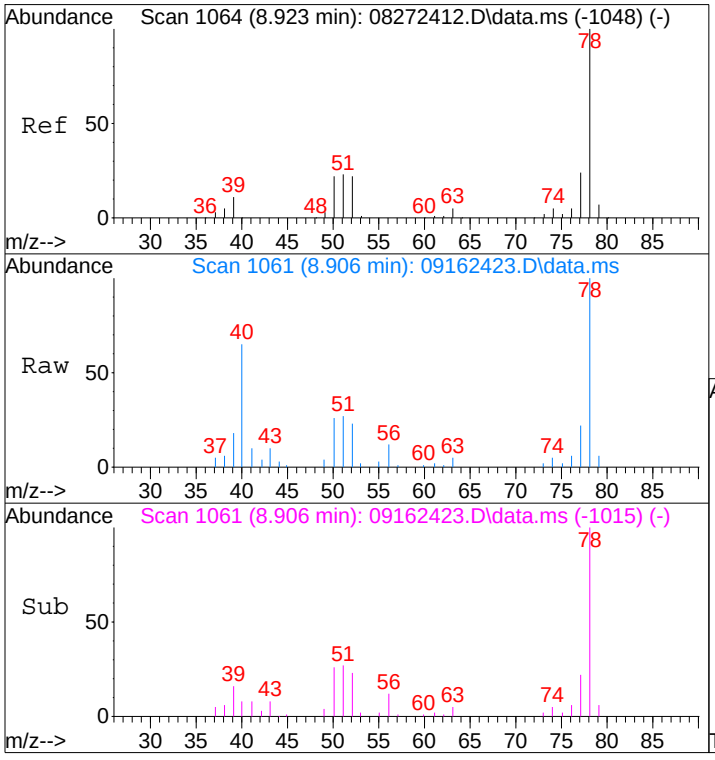


#34
Tetrahydrofuran (THF)
Concen: 0.56 ng
RT: 7.77 min Scan# 861
Delta R.T. 0.062 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 72 Resp: 3710

Ion	Ratio	Lower	Upper
72	100		
71	104.1	78.4	118.4
42	427.7	285.2	325.2#

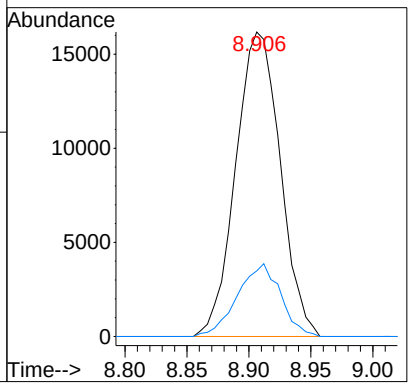


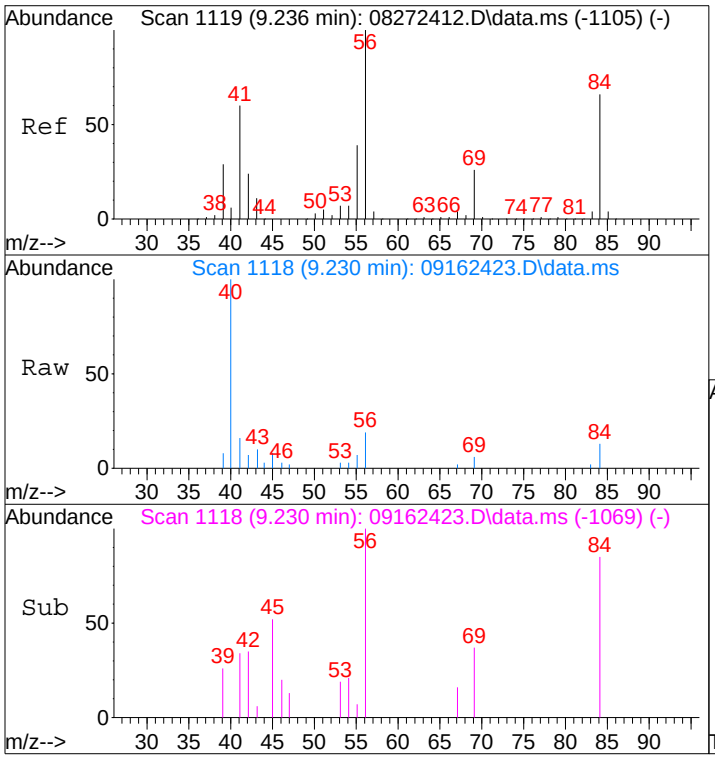


#41
Benzene
Concen: 0.90 ng
RT: 8.91 min Scan# 1061
Delta R.T. 0.009 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 78 Resp: 40461

Ion	Ratio	Lower	Upper
78	100		
77	23.2	3.9	43.9

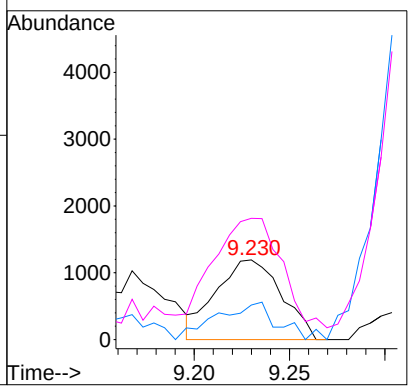


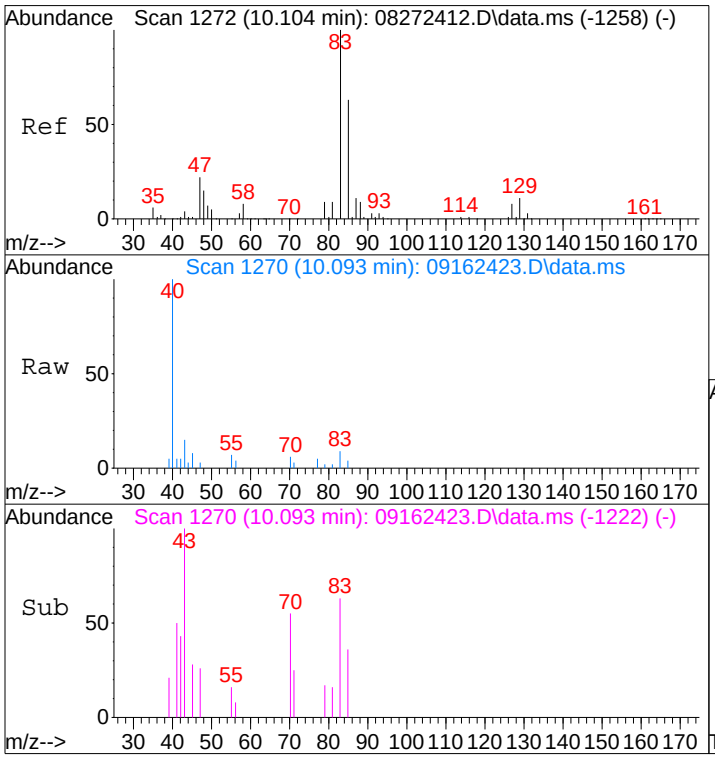


#43
Cyclohexane
Concen: 0.19 ng
RT: 9.23 min Scan# 1118
Delta R.T. 0.028 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 84 Resp: 2852

Ion	Ratio	Lower	Upper
84	100		
69	41.9	18.8	58.8
56	142.1	134.5	174.5

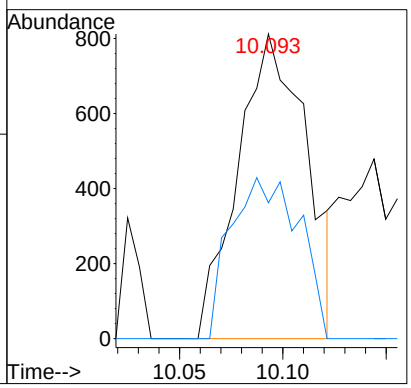


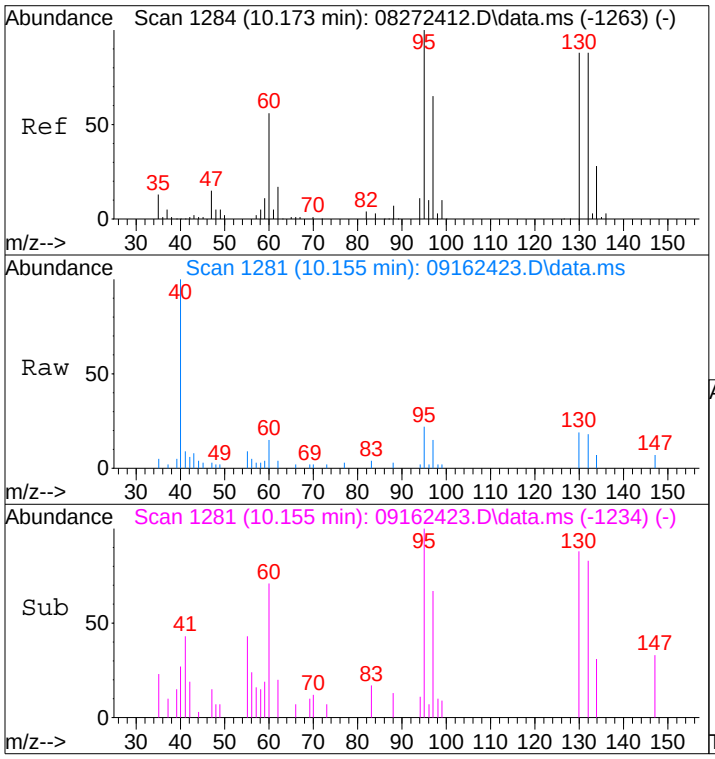


#46
Bromodichloromethane
Concen: 0.11 ng
RT: 10.09 min Scan# 1270
Delta R.T. 0.021 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 83 Resp: 1873

Ion	Ratio	Lower	Upper
83	100		
85	53.1	43.9	83.9

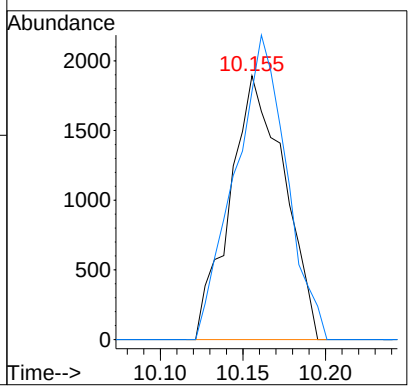


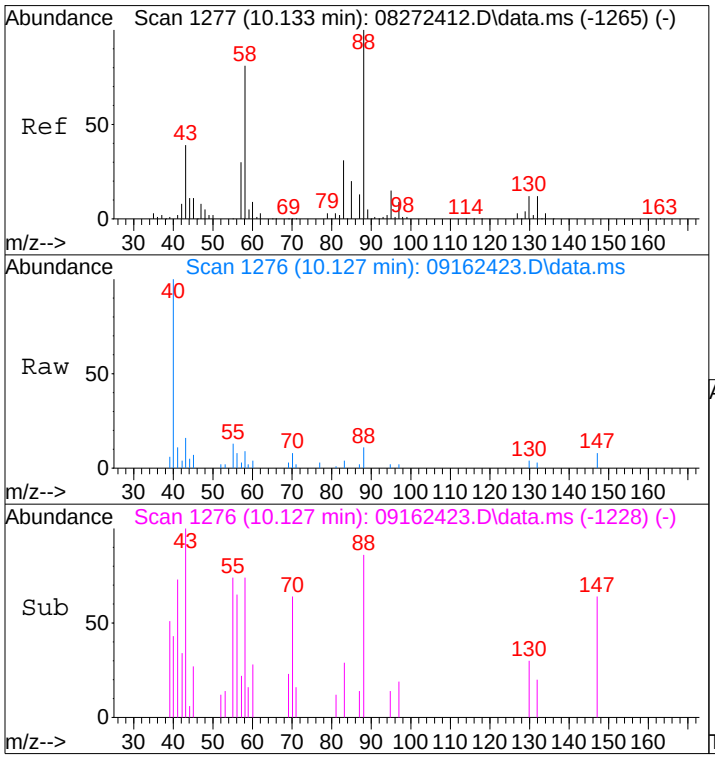


#47
Trichloroethene
Concen: 0.39 ng
RT: 10.16 min Scan# 1281
Delta R.T. 0.016 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:130 Resp: 4328

Ion	Ratio	Lower	Upper
130	100		
132	109.6	80.8	120.8

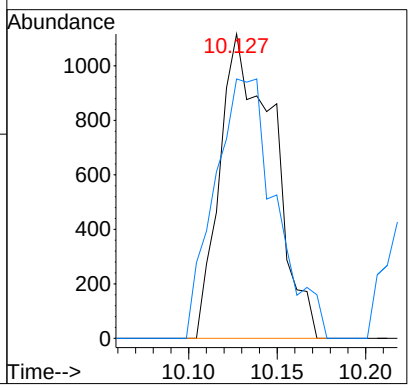


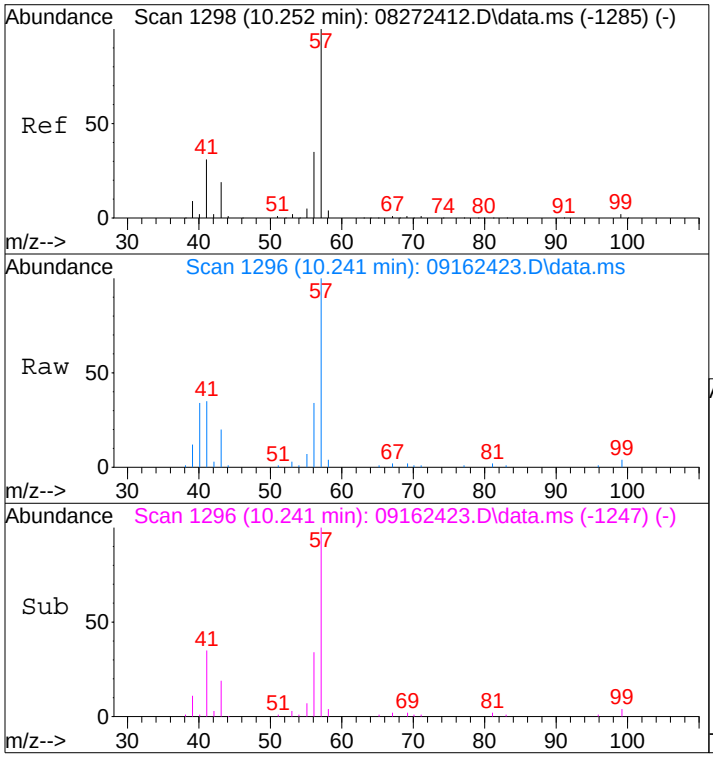


#48
1,4-Dioxane
Concen: 0.30 ng
RT: 10.13 min Scan# 1276
Delta R.T. 0.021 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 88 Resp: 2340

Ion	Ratio	Lower	Upper
88	100		
58	98.0	61.1	101.1

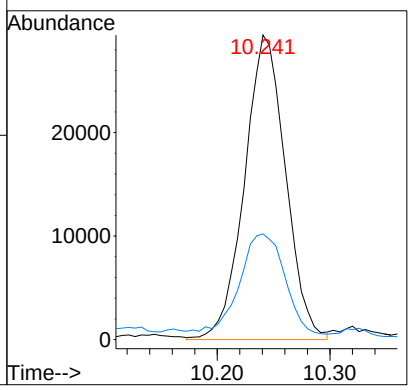


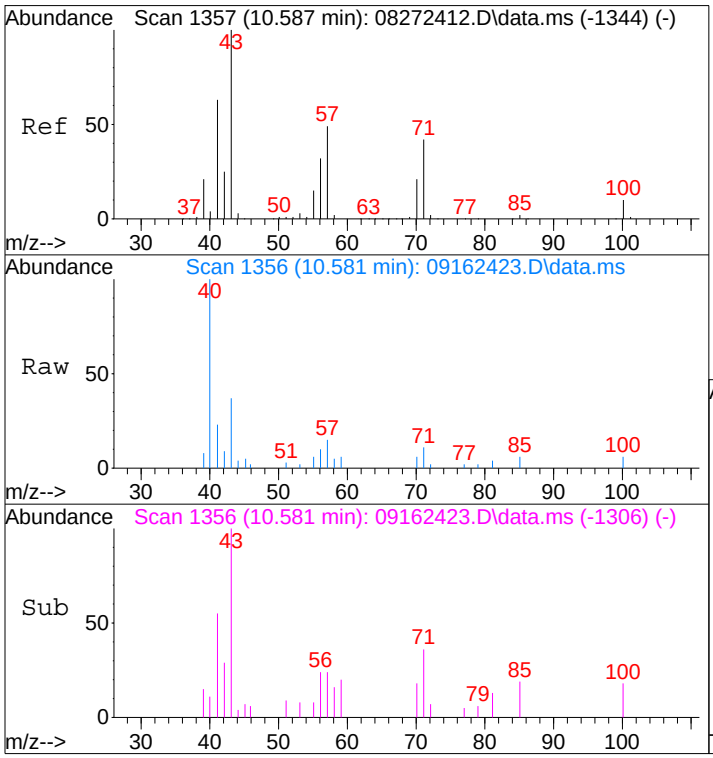


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 1.40 ng
RT: 10.24 min Scan# 1296
Delta R.T. 0.028 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 57 Resp: 74706

Ion	Ratio	Lower	Upper
57	100		
41	37.4	10.5	50.5

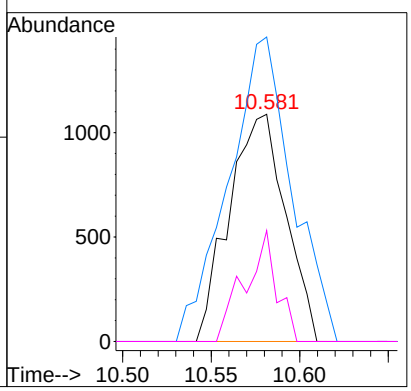


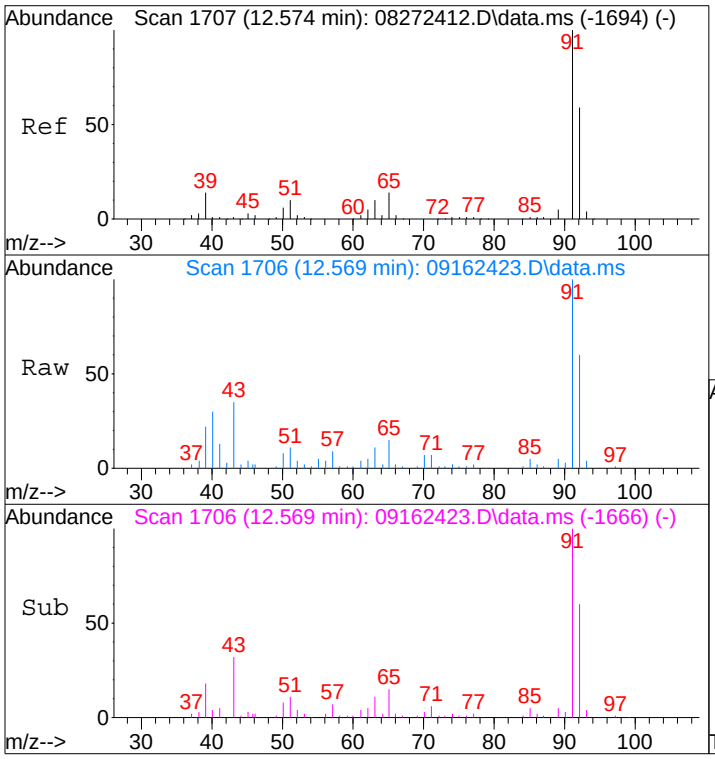


#51
n-Heptane
Concen: 0.24 ng
RT: 10.58 min Scan# 1356
Delta R.T. 0.035 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 71 Resp: 2413

Ion	Ratio	Lower	Upper
71	100		
57	150.4	97.1	137.1#
100	27.6	5.0	45.0

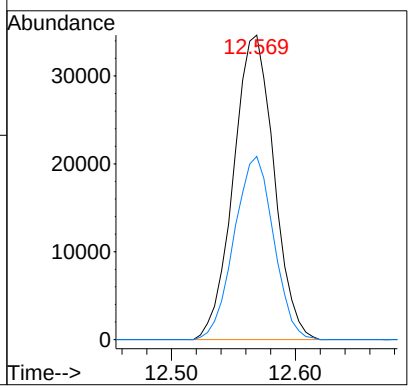


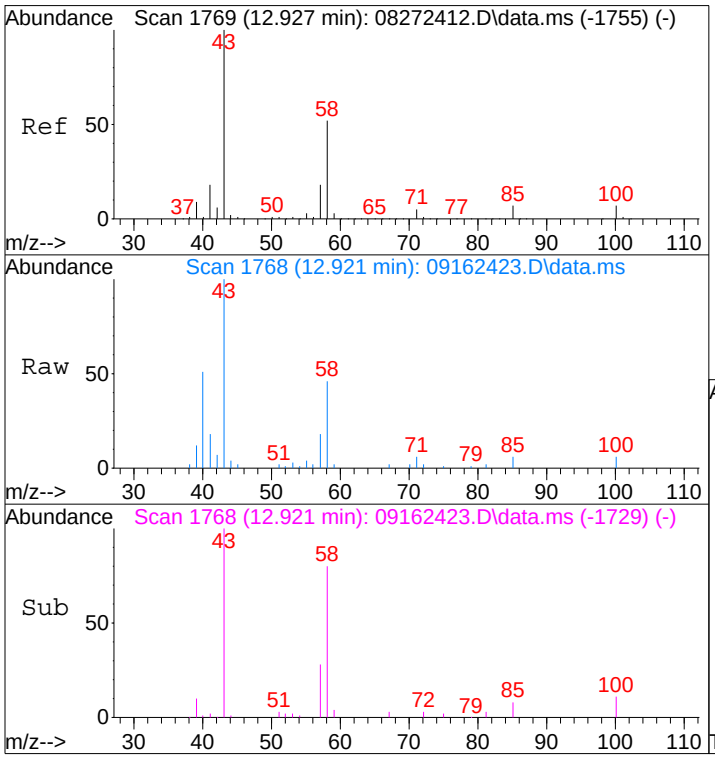


#58
Toluene
Concen: 1.35 ng
RT: 12.57 min Scan# 1706
Delta R.T. -0.023 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 91 Resp: 78728

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.5	78.5

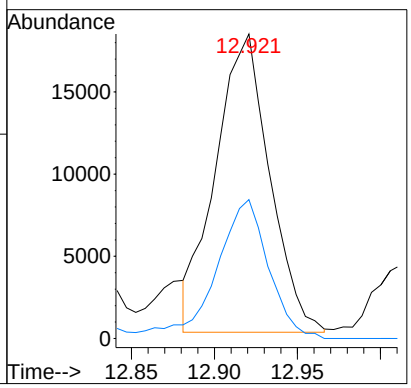


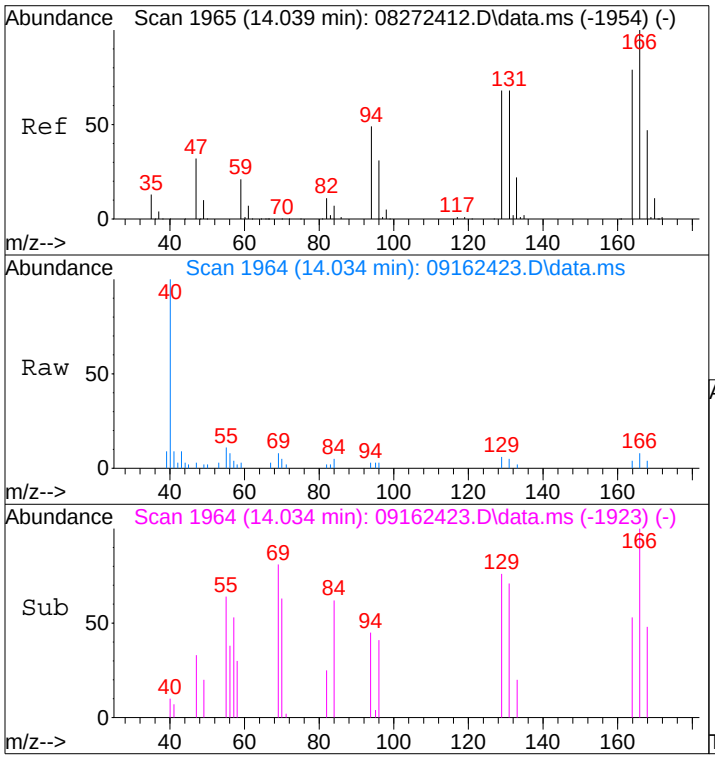


#59
2-Hexanone
Concen: 1.14 ng m
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 43 Resp: 41273

Ion	Ratio	Lower	Upper
43	100		
58	44.9	31.1	71.1

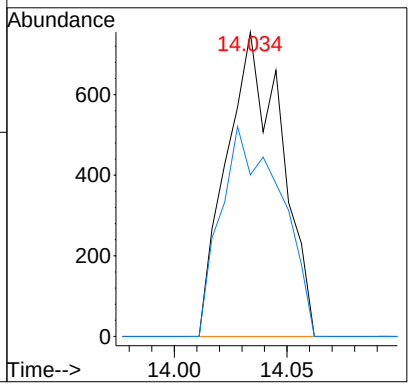


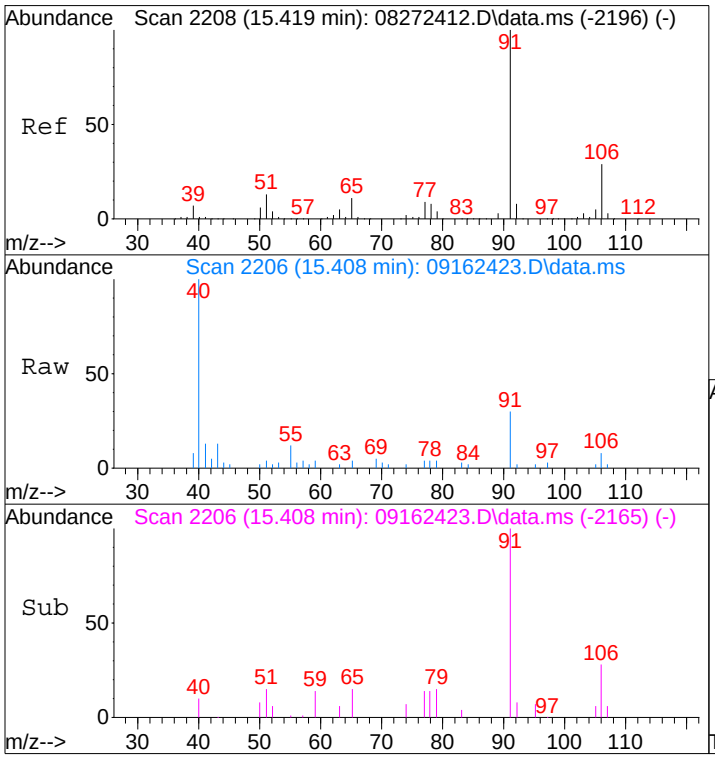


#64
Tetrachloroethene
Concen: 0.08 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.017 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:166 Resp: 1277

Ion	Ratio	Lower	Upper
166	100		
164	75.1	59.0	99.0

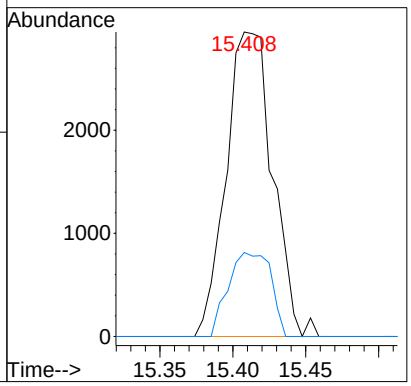


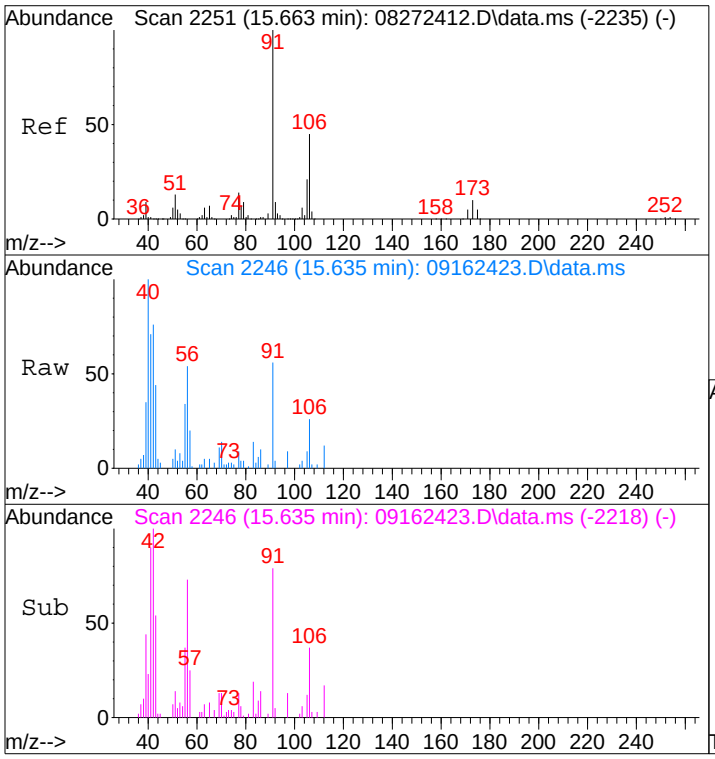


#66
Ethylbenzene
Concen: 0.10 ng
RT: 15.41 min Scan# 2206
Delta R.T. -0.017 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 91 Resp: 6546

Ion	Ratio	Lower	Upper
91	100		
106	25.2	9.2	49.2

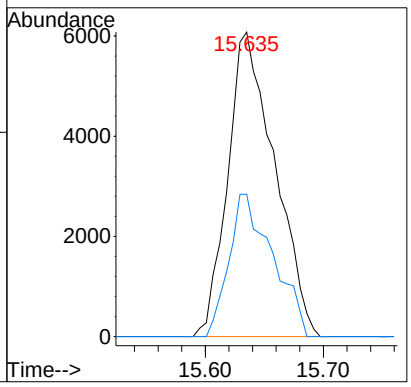


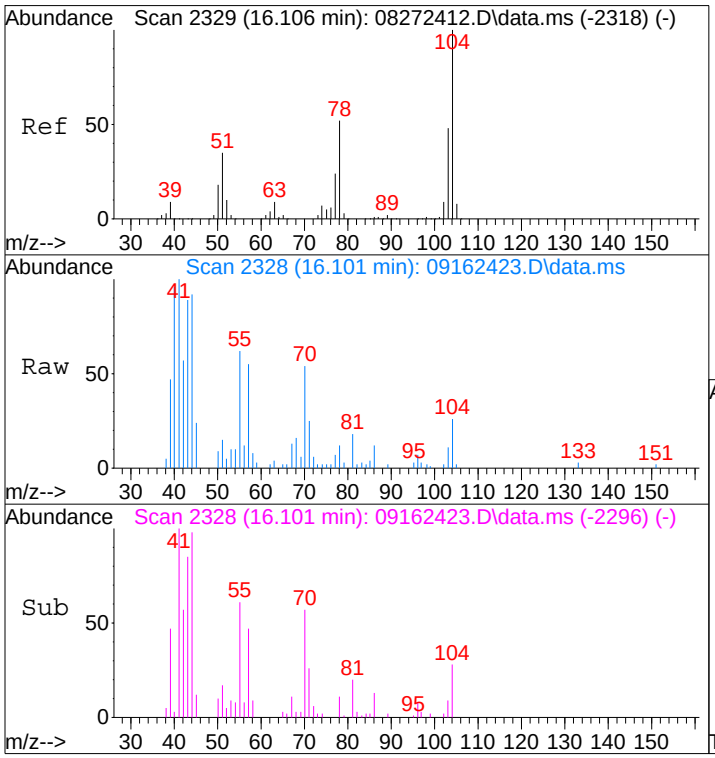


#67
m- & p-Xylenes
Concen: 0.31 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 91 Resp: 16793

Ion	Ratio	Lower	Upper
91	100		
106	43.6	23.8	63.8

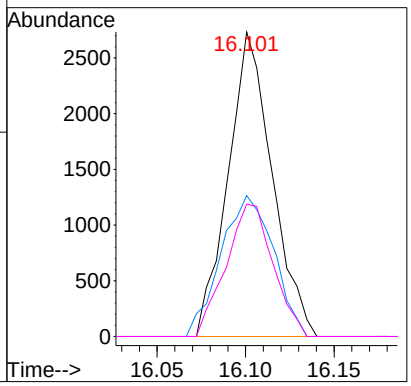


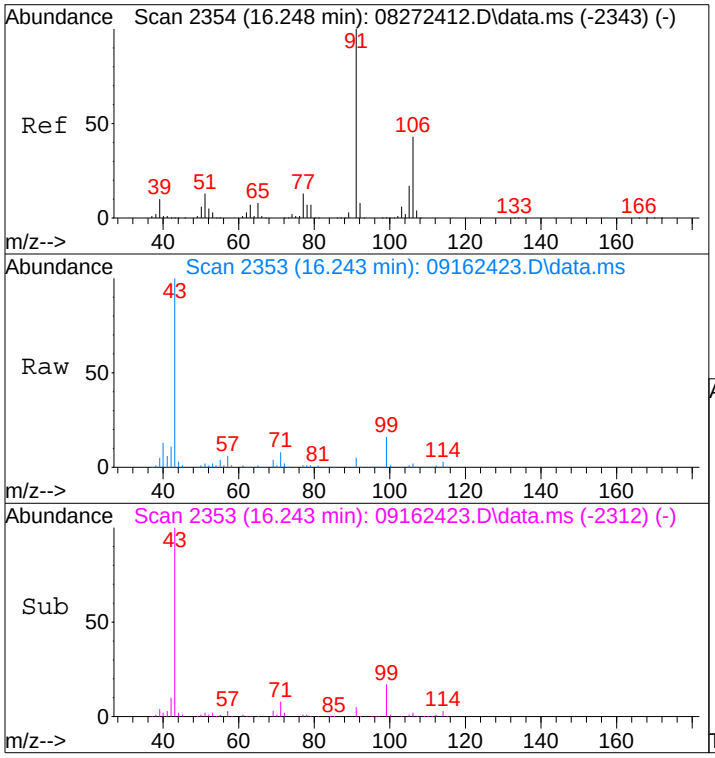


#69
Styrene
Concen: 0.13 ng
RT: 16.10 min Scan# 2328
Delta R.T. -0.017 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:104 Resp: 4710

Ion	Ratio	Lower	Upper
104	100		
78	55.4	32.2	72.2
103	46.5	28.3	68.3

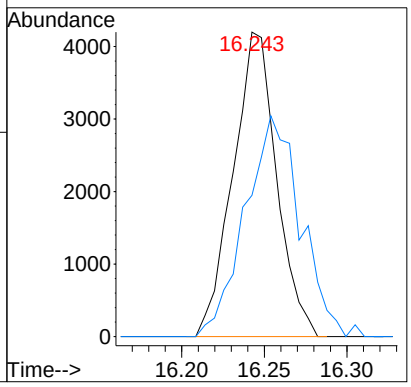


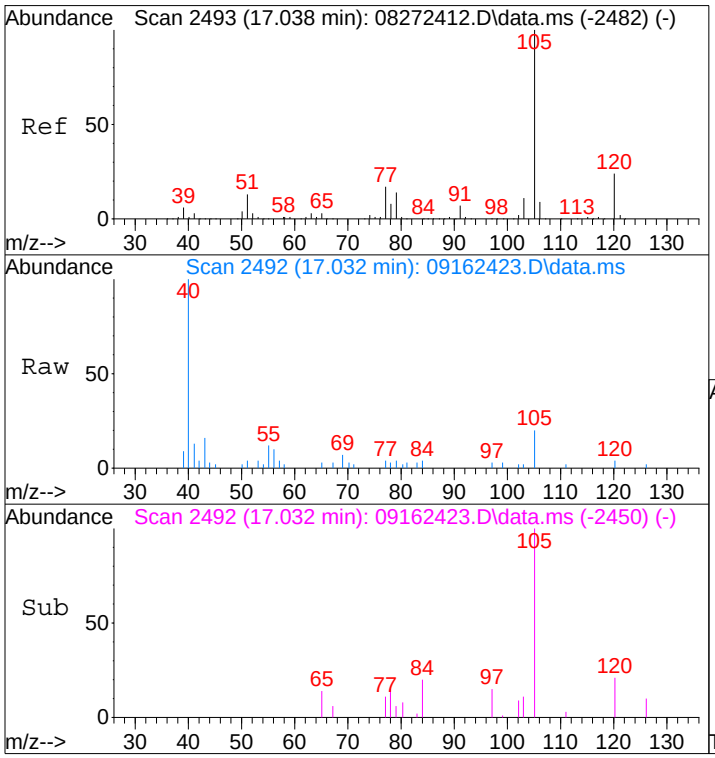


#70
o-Xylene
Concen: 0.14 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 91 Resp: 7695

Ion	Ratio	Lower	Upper
91	100		
106	92.6	22.5	62.5#

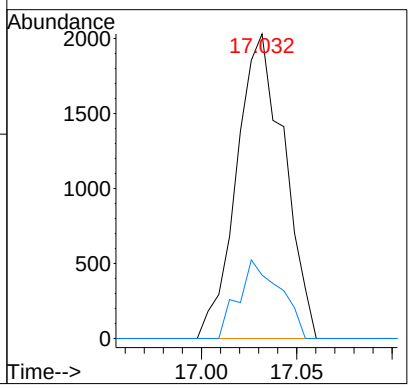


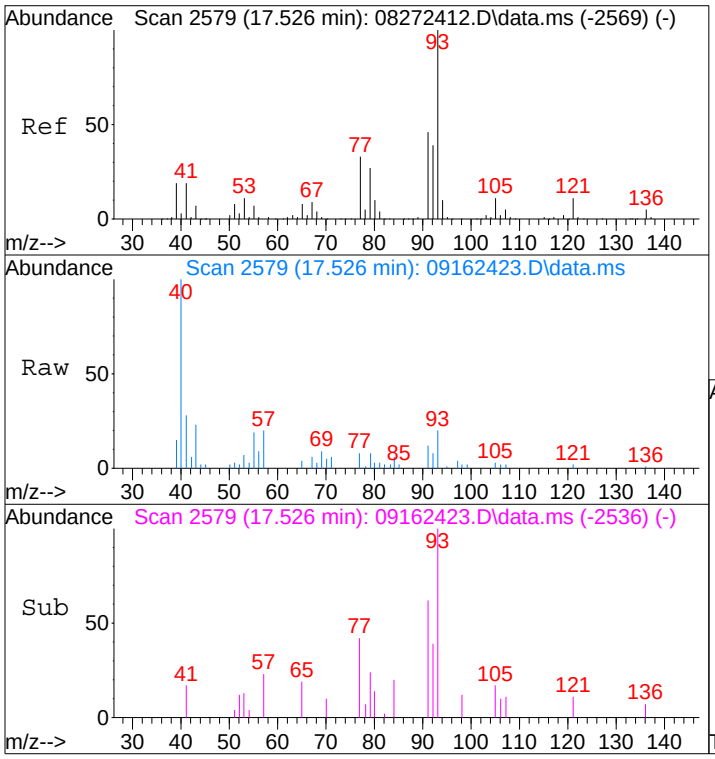


#74
Cumene
Concen: 0.06 ng
RT: 17.03 min Scan# 2492
Delta R.T. -0.011 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:105 Resp: 3517

Ion	Ratio	Lower	Upper
105	100		
120	22.6	3.7	43.7

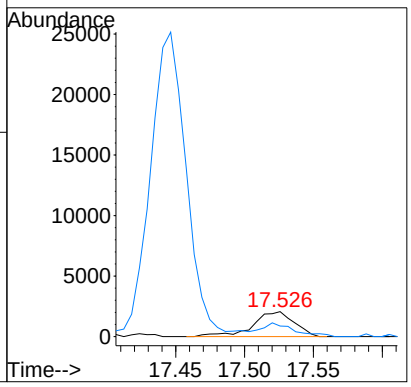


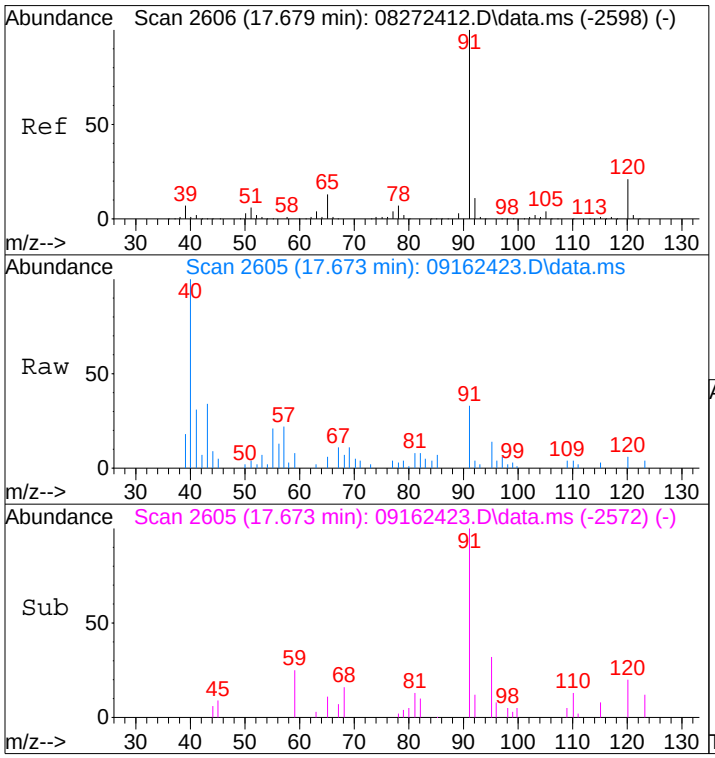


#75
alpha-Pinene
Concen: 0.13 ng
RT: 17.53 min Scan# 2579
Delta R.T. -0.006 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 93 Resp: 4294

Ion	Ratio	Lower	Upper
93	100		
77	43.1	13.1	53.1

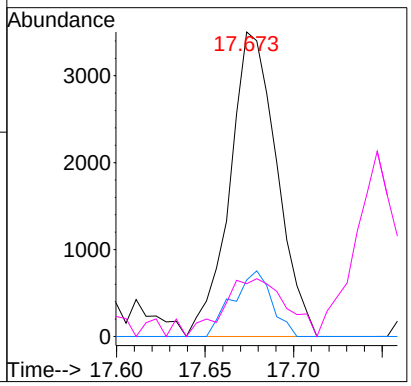


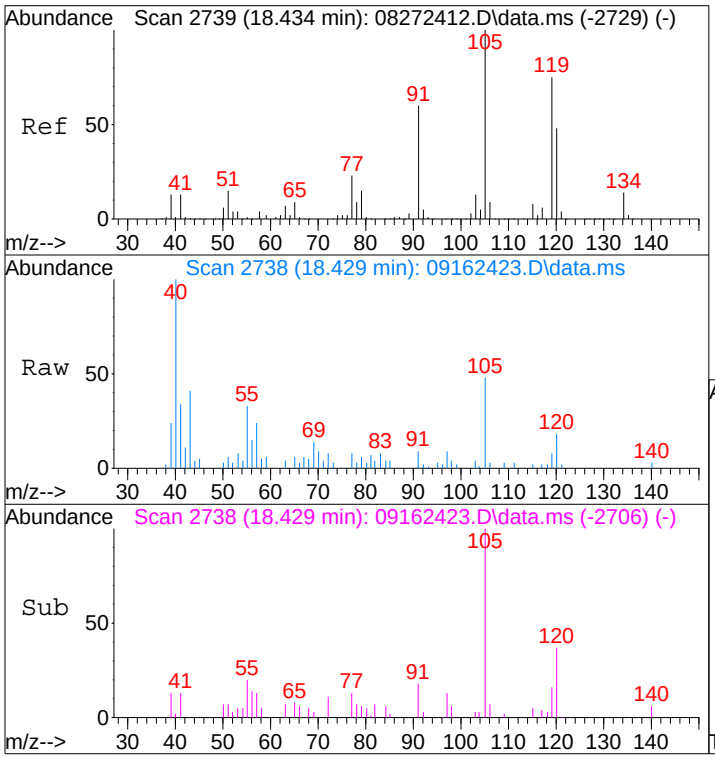


#76
n-Propylbenzene
Concen: 0.08 ng
RT: 17.67 min Scan# 2605
Delta R.T. -0.011 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 91 Resp: 6467

Ion	Ratio	Lower	Upper
91	100		
120	18.0	0.5	40.5
65	25.2	0.0	32.5

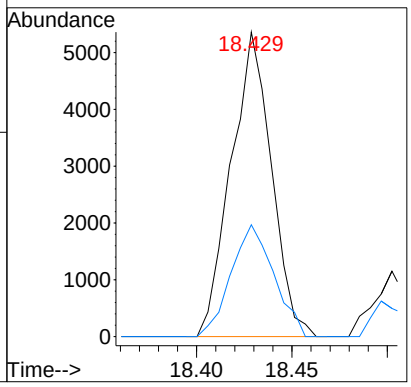


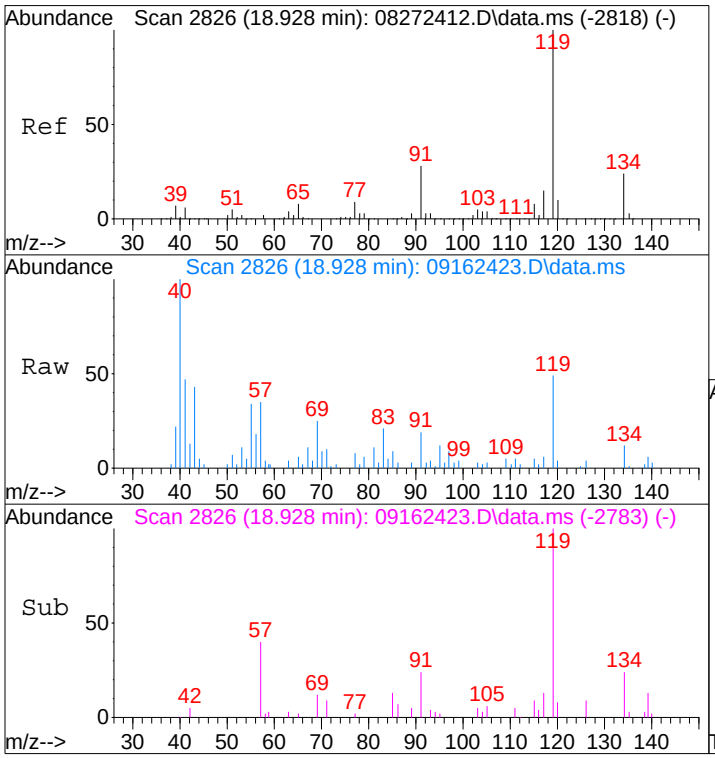


#82
1,2,4-Trimethylbenzene
Concen: 0.14 ng
RT: 18.43 min Scan# 2738
Delta R.T. -0.017 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:105 Resp: 7894

Ion	Ratio	Lower	Upper
105	100		
120	38.9	28.8	68.8

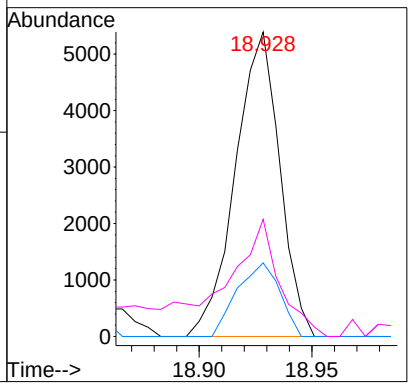


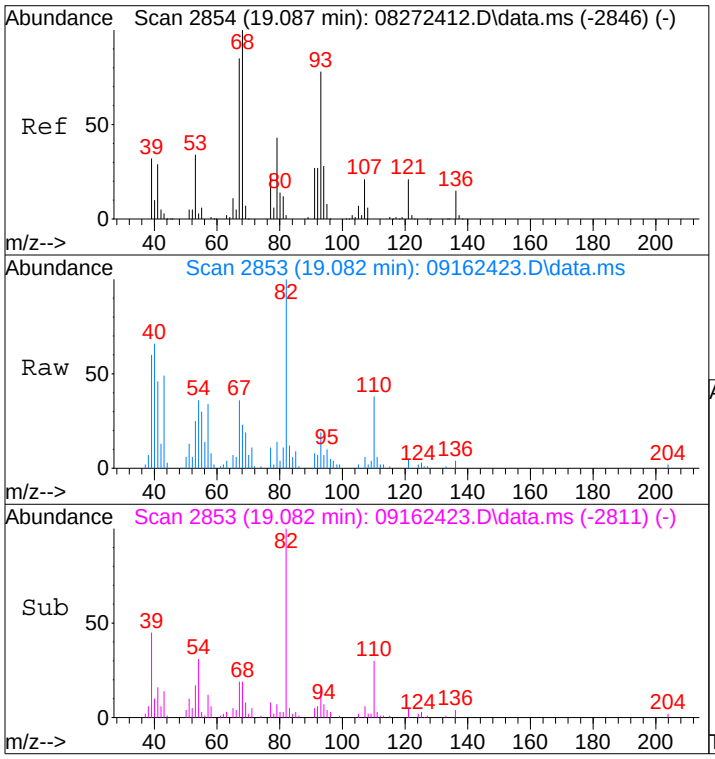


#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.12 ng
RT: 18.93 min Scan# 2826
Delta R.T. -0.006 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion:119 Resp: 7387

Ion	Ratio	Lower	Upper
119	100		
134	23.3	4.7	44.7
91	39.7	8.1	48.1

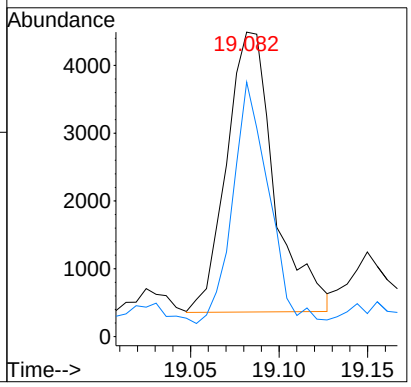




#91
d-Limonene
Concen: 0.42 ng
RT: 19.08 min Scan# 2853
Delta R.T. -0.011 min
Lab File: 09162423.D
Acq: 16 Sep 2024 22:05

Tgt Ion: 68 Resp: 7780

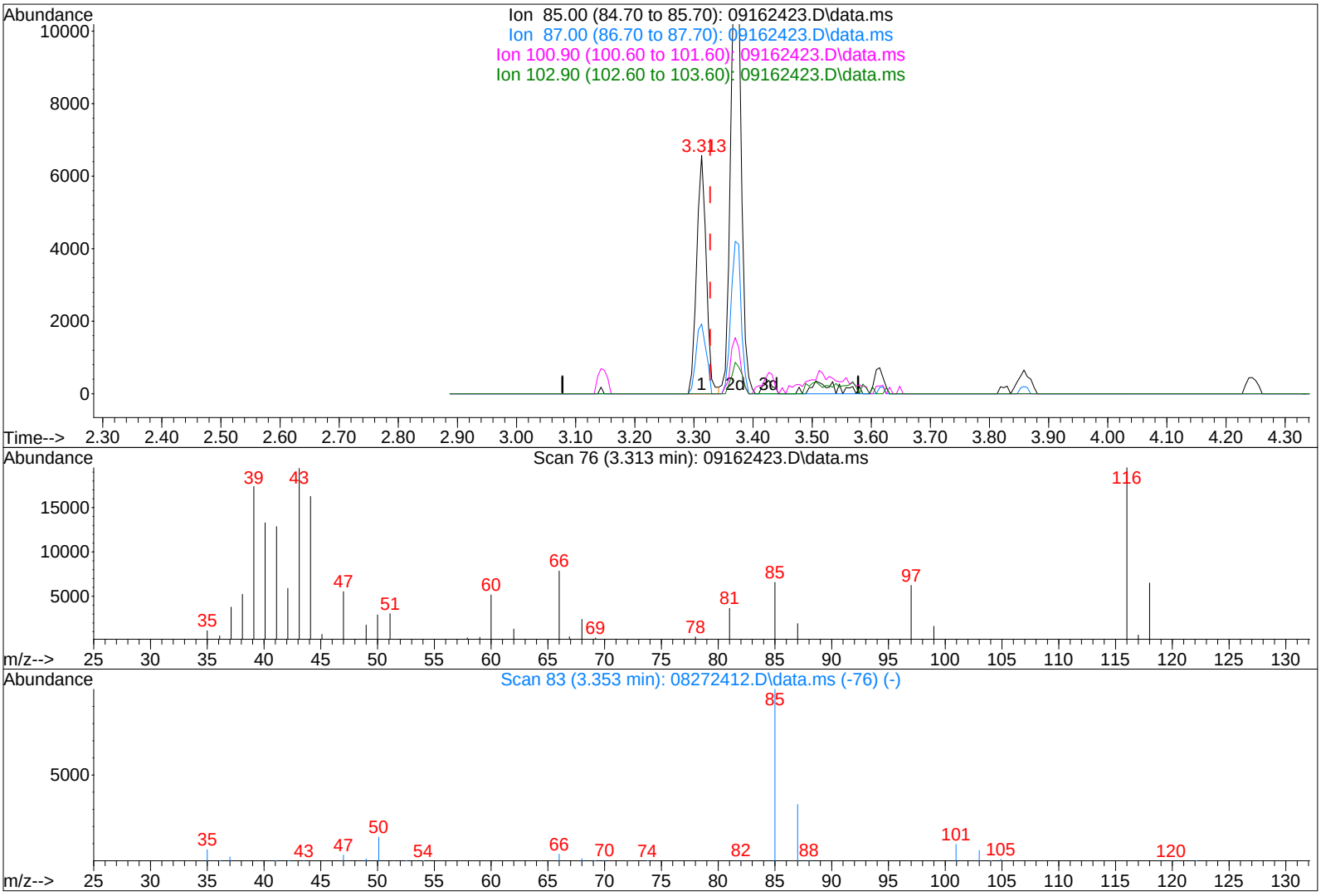
Ion	Ratio	Lower	Upper
68	100		
93	70.8	56.2	96.2



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.014) 0.28ng

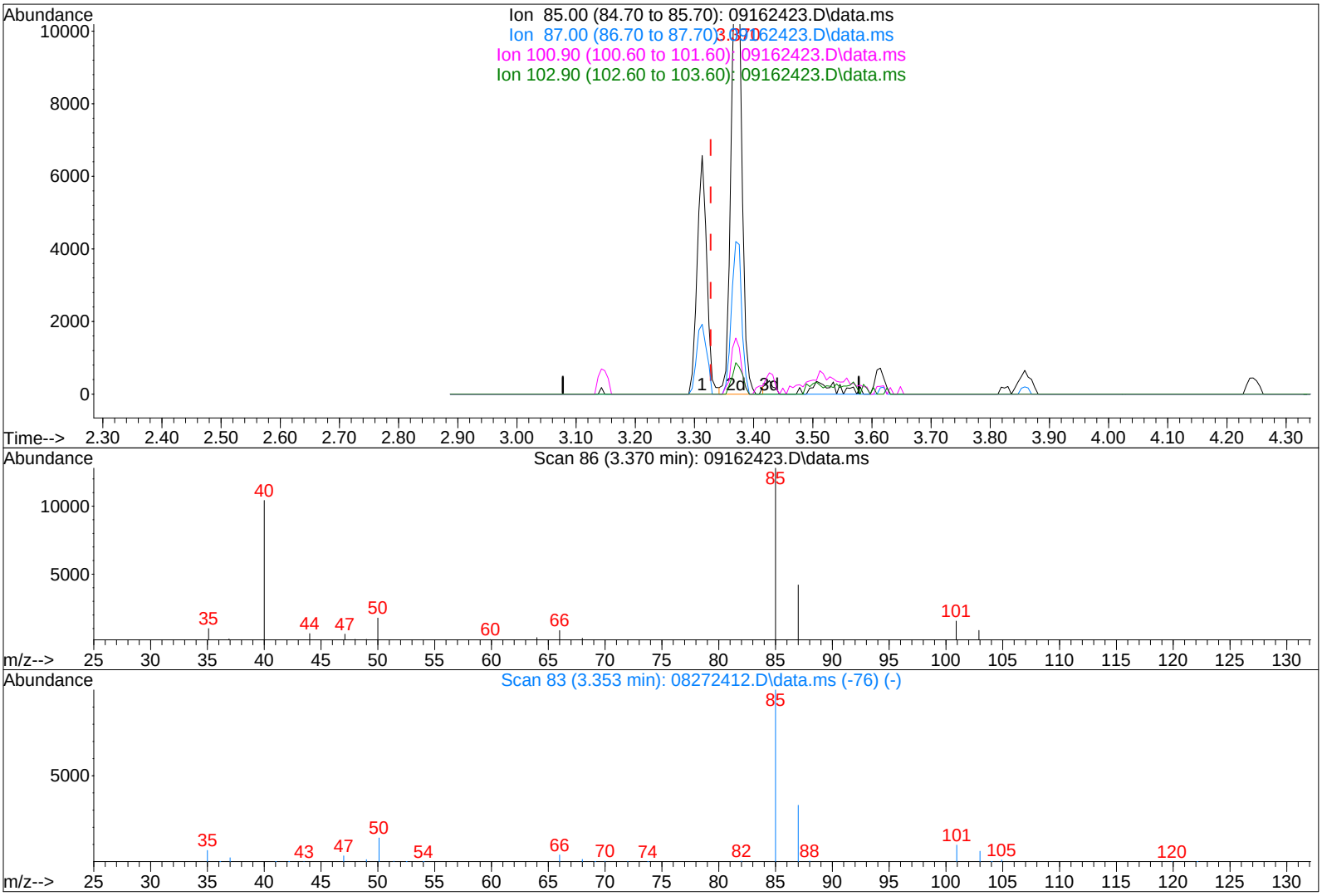
response 7420

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	31.28
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162423.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.042) 0.59ng m

response 15586

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	14.89
100.90	9.40	0.00
102.90	6.00	0.00

MP

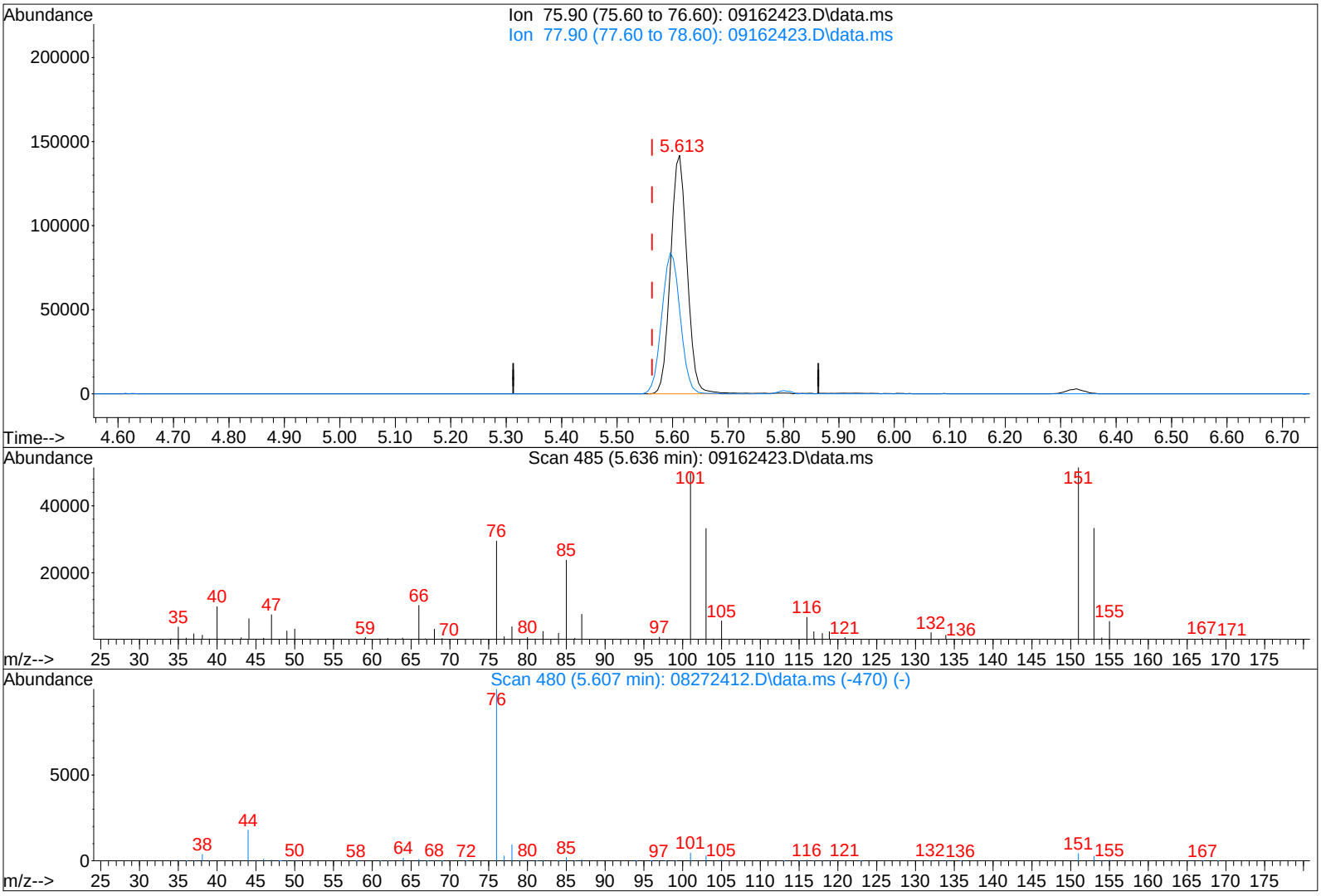
9/17/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162423.D\data.ms

(22) Carbon Disulfide (T)

5.613min (+0.050) 7.58ng

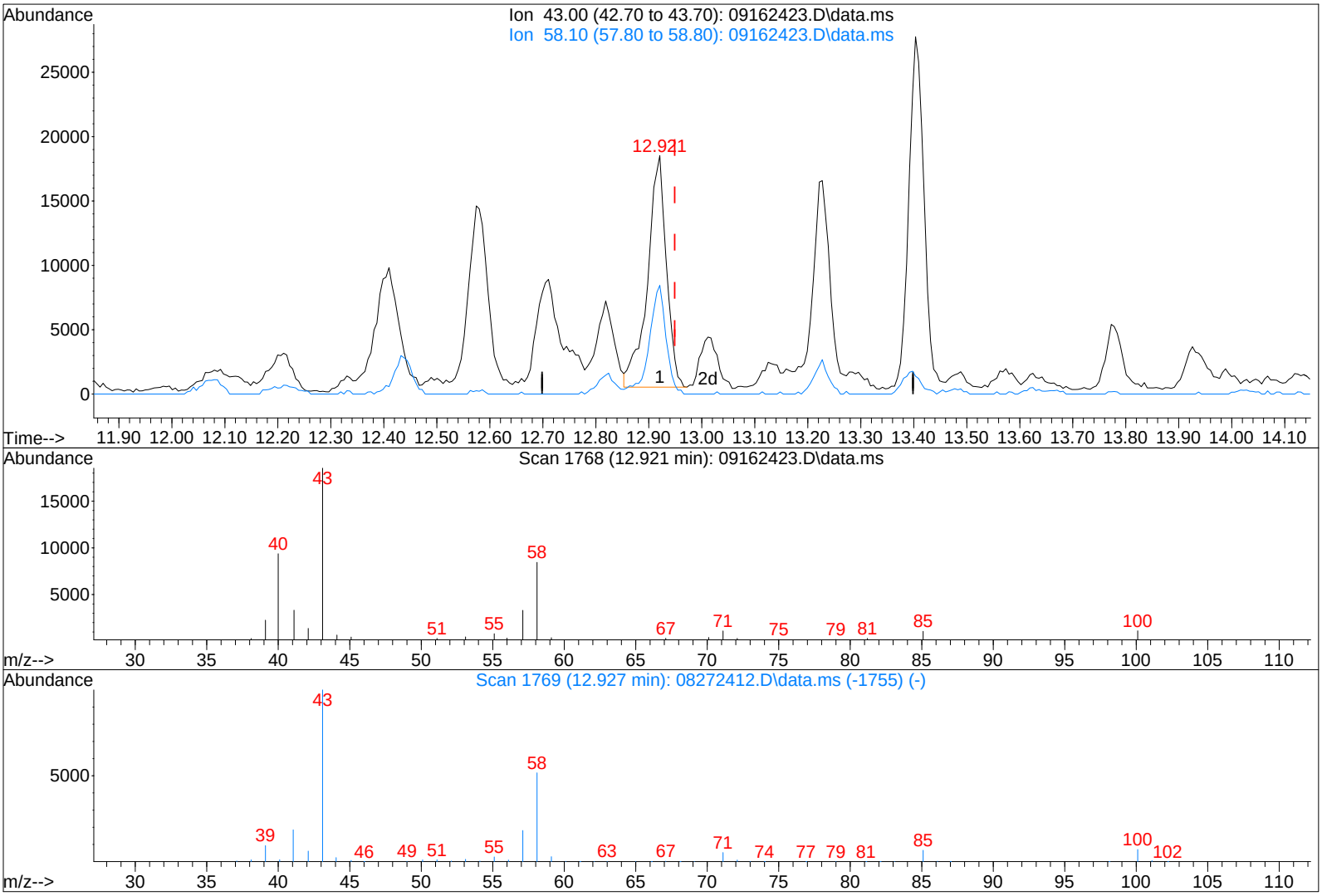
response 294368

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	65.59#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162423.D\data.ms

(59) 2-Hexanone (T)

12.921min (-0.028) 1.23ng

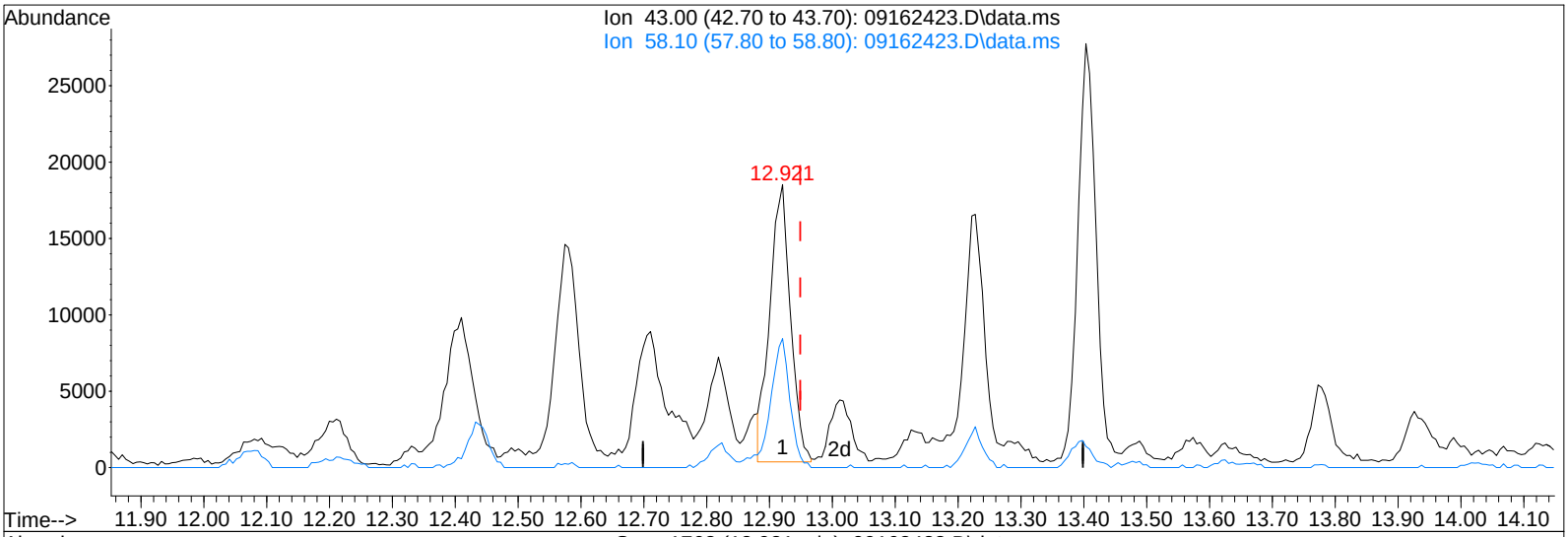
response 44365

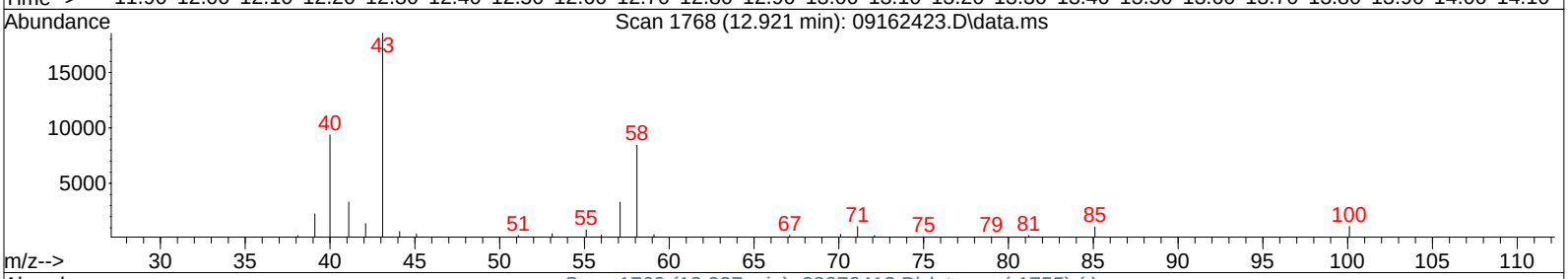
Ion	Exp%	Act%
43.00	100	100
58.10	51.10	41.79
0.00	0.00	0.00
0.00	0.00	0.00

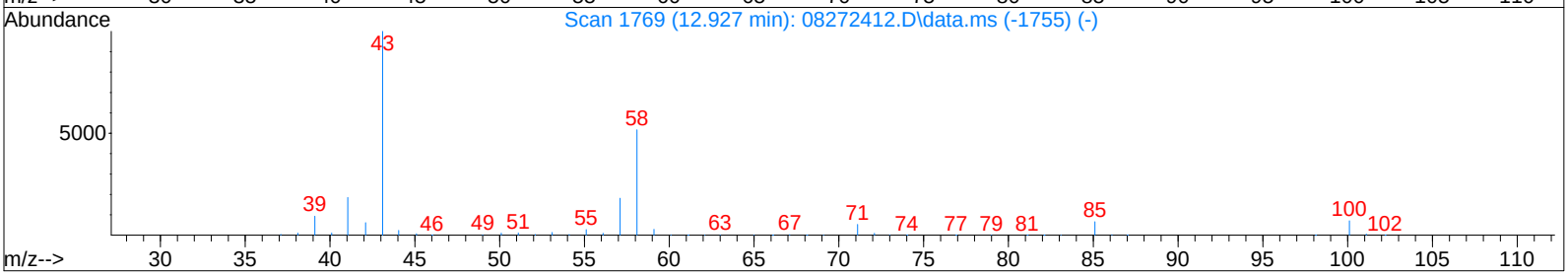
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162423.D Vial: 11
Acq On : 16 Sep 2024 22:05 Operator: SC
Sample : P2403661-063 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:33:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09162423.D\data.ms

(59) 2-Hexanone (T)

12.921min (-0.028) 1.14ng m

response 41273

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	44.93
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/17/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:05
Operator : SC
Sample : P2403661-063 (400mL)
Misc : S37-08262404
ALS Vial : 11 Sample Multiplier: 1

NOA 9/30/24

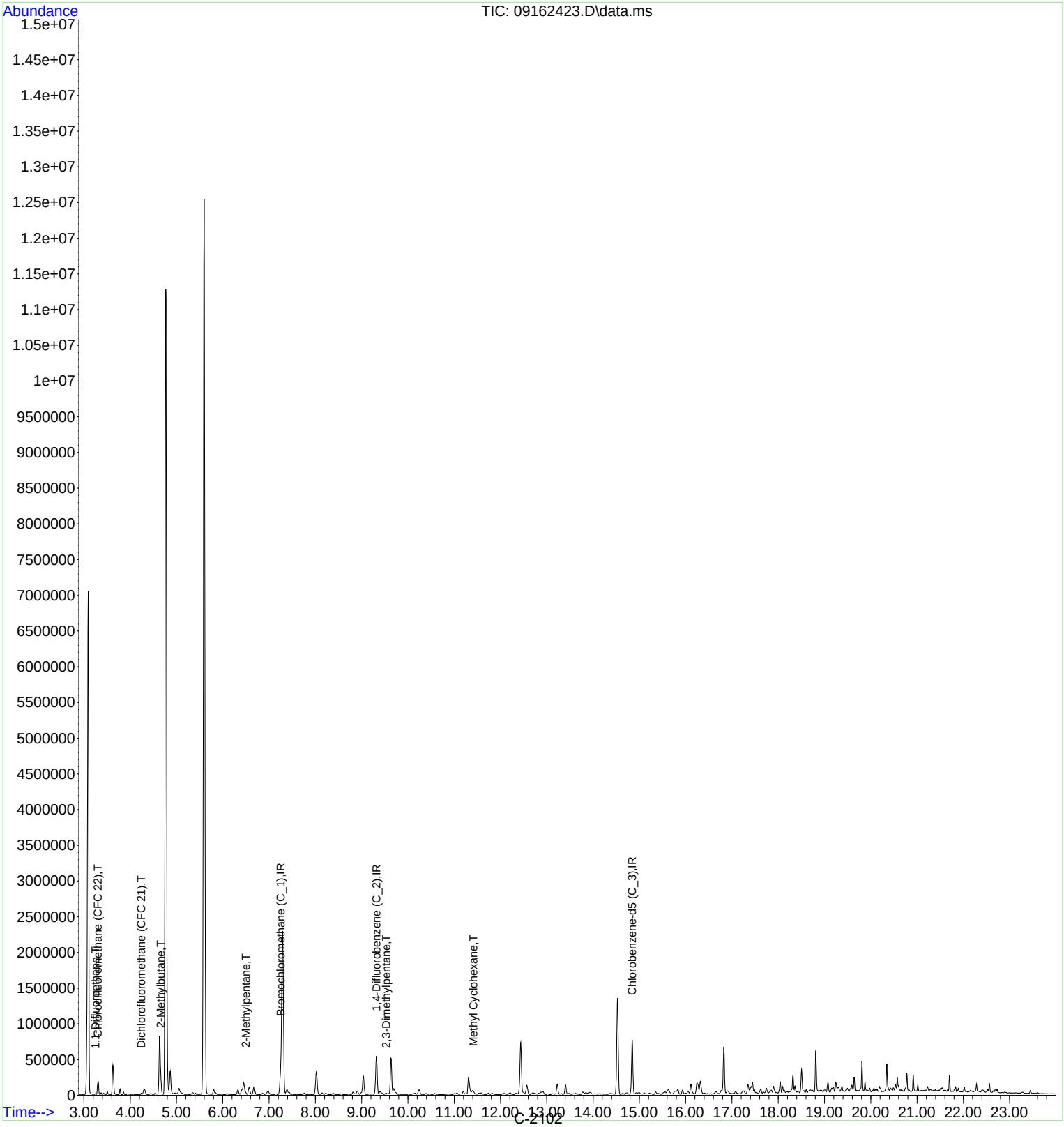
Quant Time: Sep 30 07:54:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (C_1)	7.25	130	108609	12.500 ng		0.00
16) 1,4-Difluorobenzene (C_2)	9.32	114	481507	12.500 ng		0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	154254	12.500 ng		0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	62	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D. d		
4) 1,1-Difluoroethane	3.25	65	1029	0.109 ng		93
5) Chlorodifluoromethane ...	3.30	67	1478	0.399 ng		92
6) 1-Chloro-1,1-Difluoroe...	3.51	65	414	N.D.		
7) Dichlorofluoromethane ...	4.24	67	17011	0.683 ng		97
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D. d		
10) 2-Methylbutane	4.66	57	50578	3.904 ng	#	66
11) Methyl Acetate	0.00	43	0	N.D. d		
12) 2-Methylpentane	6.50	71	5062	0.538 ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D. d		
17) 2,3-Dimethylpentane	9.53	56	10872	0.467 ng	#	96
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.42	55	4927	0.186 ng		98
21) 1,3-Dichloropropane	12.56	76	196	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.20	91	184	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D. d		
25) Bromobenzene	17.08	77	532	N.D.		
26) 2-Chlorotoluene	17.61	91	712	N.D.		
27) 4-Chlorotoluene	0.00	91	0	N.D. d		
28) Indane	19.11	117	1226	N.D.		
29) Indene	19.21	115	399	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	1618	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1618	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	3511	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:05
Operator : SC
Sample : P2403661-063 (400mL)
Misc : S37-08262404
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 30 07:54:20 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

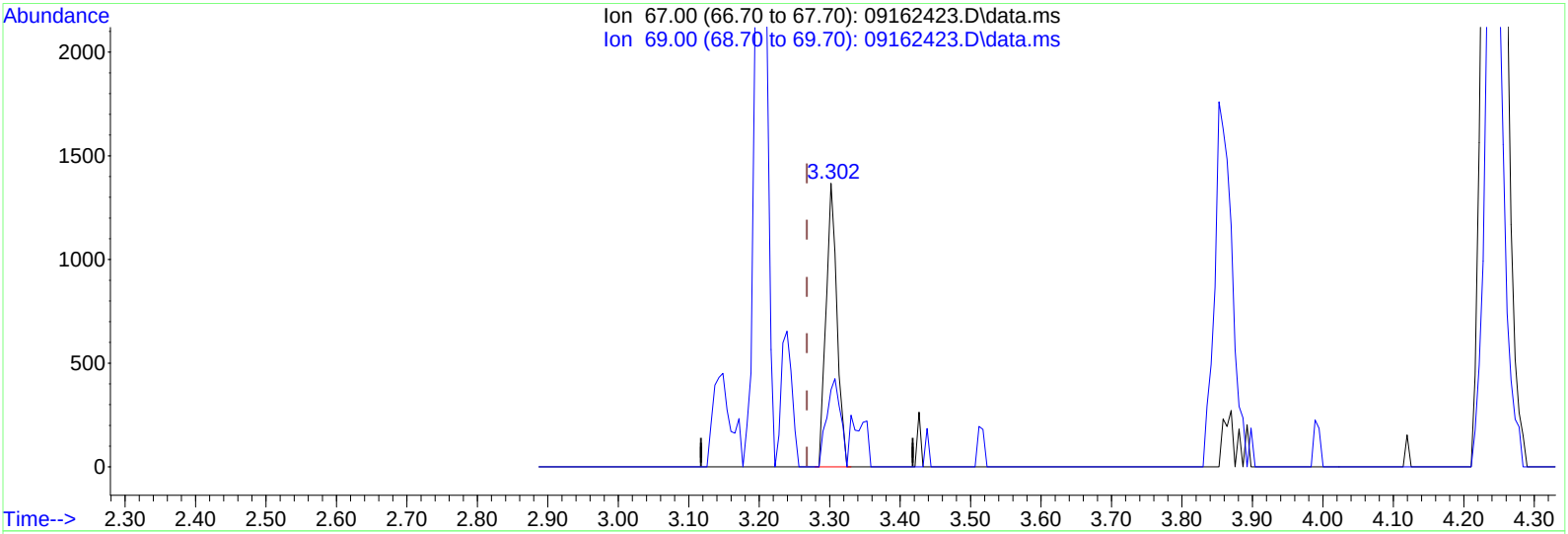


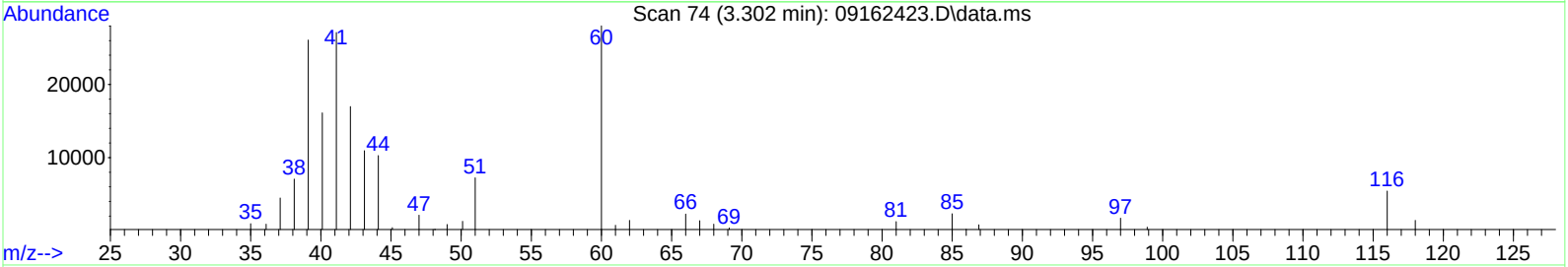
C-2102

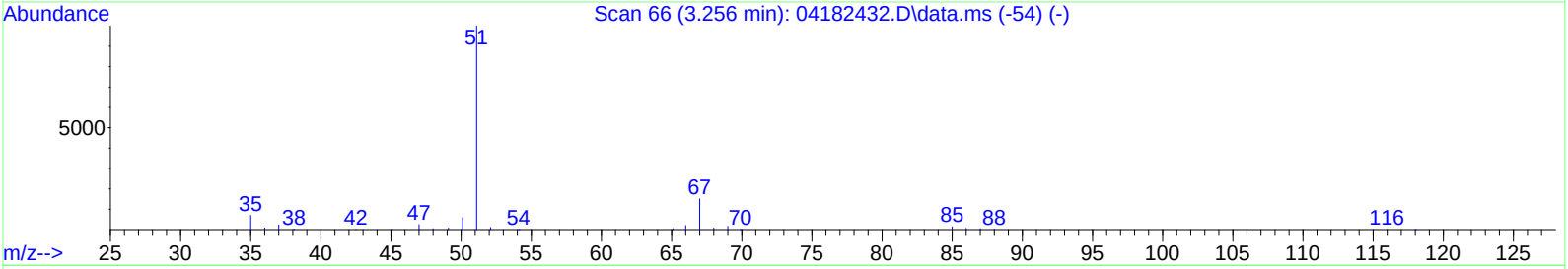
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:05
Operator : SC
Sample : P2403661-063 (400mL)
Misc : S37-08262404
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 30 07:14:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162423.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

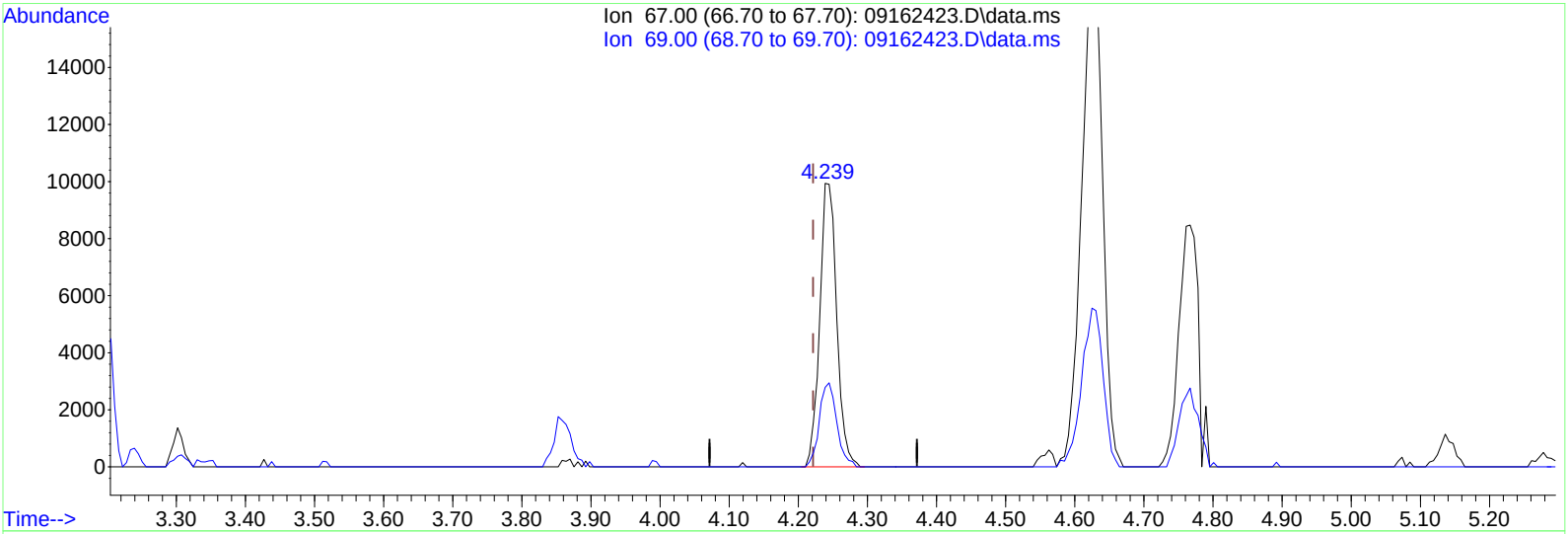
3.302min (+0.034) 0.40ng

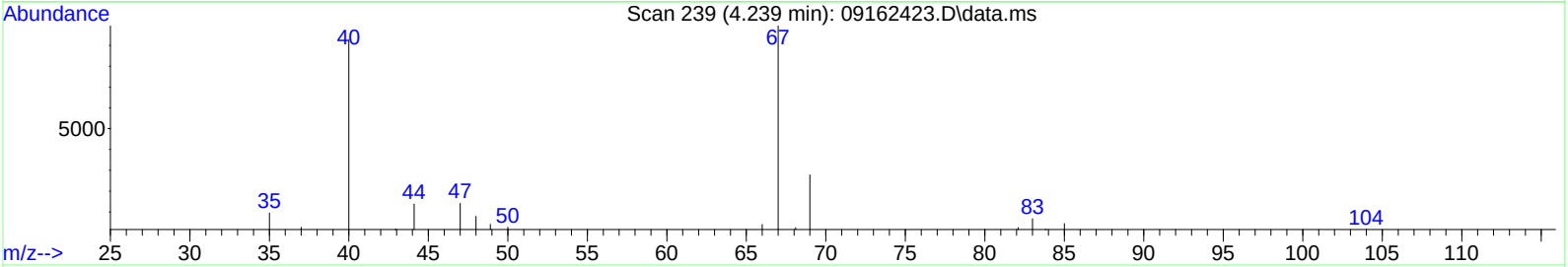
response 1478

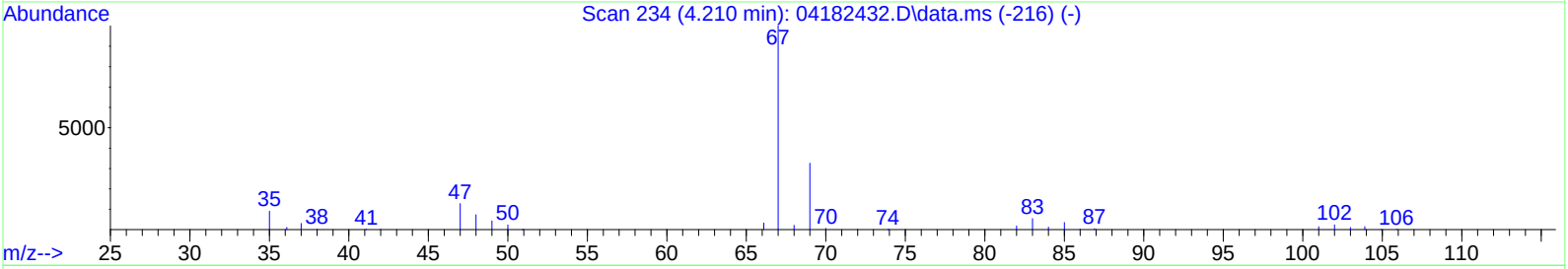
Ion	Exp%	Act%
67.00	100	100
69.00	34.30	39.17
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:05
Operator : SC
Sample : P2403661-063 (400mL)
Misc : S37-08262404
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 30 07:14:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162423.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.239min (+0.017) 0.68ng

response 17011

Ion	Exp%	Act%
67.00	100	100
69.00	32.40	30.54
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:30:26 2024 9/17/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	128634	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	573021	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	167887	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	336090	13.963	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.68%				
57) Toluene-d8 (SS2)	12.43	98	647802	10.999	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.00%				
73) Bromofluorobenzene (SS3)	16.82	174	221659	11.253	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.00%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.33	85	923	N.D.			
4) Chloromethane	3.52	50	919	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	11224	0.804	ng		98
11) Acetonitrile	4.45	41	1545	N.D.			
12) Acrolein	4.54	56	1386	0.130	ng		96
13) Acetone	4.64	58	24654m	2.093	ng		
14) Trichlorofluoromethane	4.76	101	1083825	36.384	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	69106	1.490	ng		96
16) Acrylonitrile	5.02	53	138	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.35	84	324	N.D.			
20) 3-Chloro-1-propene (Al...	5.40	41	511	N.D.			
21) Trichlorotrifluoroethane	5.58	151	432751	36.670	ng		98
22) Carbon Disulfide	5.60	76	31206	0.679	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	3311	0.396	ng	#	71
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	45753	8.171	ng		92
31) n-Hexane	7.30	57	794	N.D.			
32) Chloroform	7.36	83	6151	0.240	ng		93
34) Tetrahydrofuran (THF)	7.77	72	100	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.82	56	2487	No Calib		#	
41) Benzene	8.89	78	5531	0.103	ng		99
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.17	84	123	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	166	N.D.			
47) Trichloroethene	10.14	130	387	N.D.			
48) 1,4-Dioxane	10.13	88	213	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	7737	0.122	ng		90
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:30:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

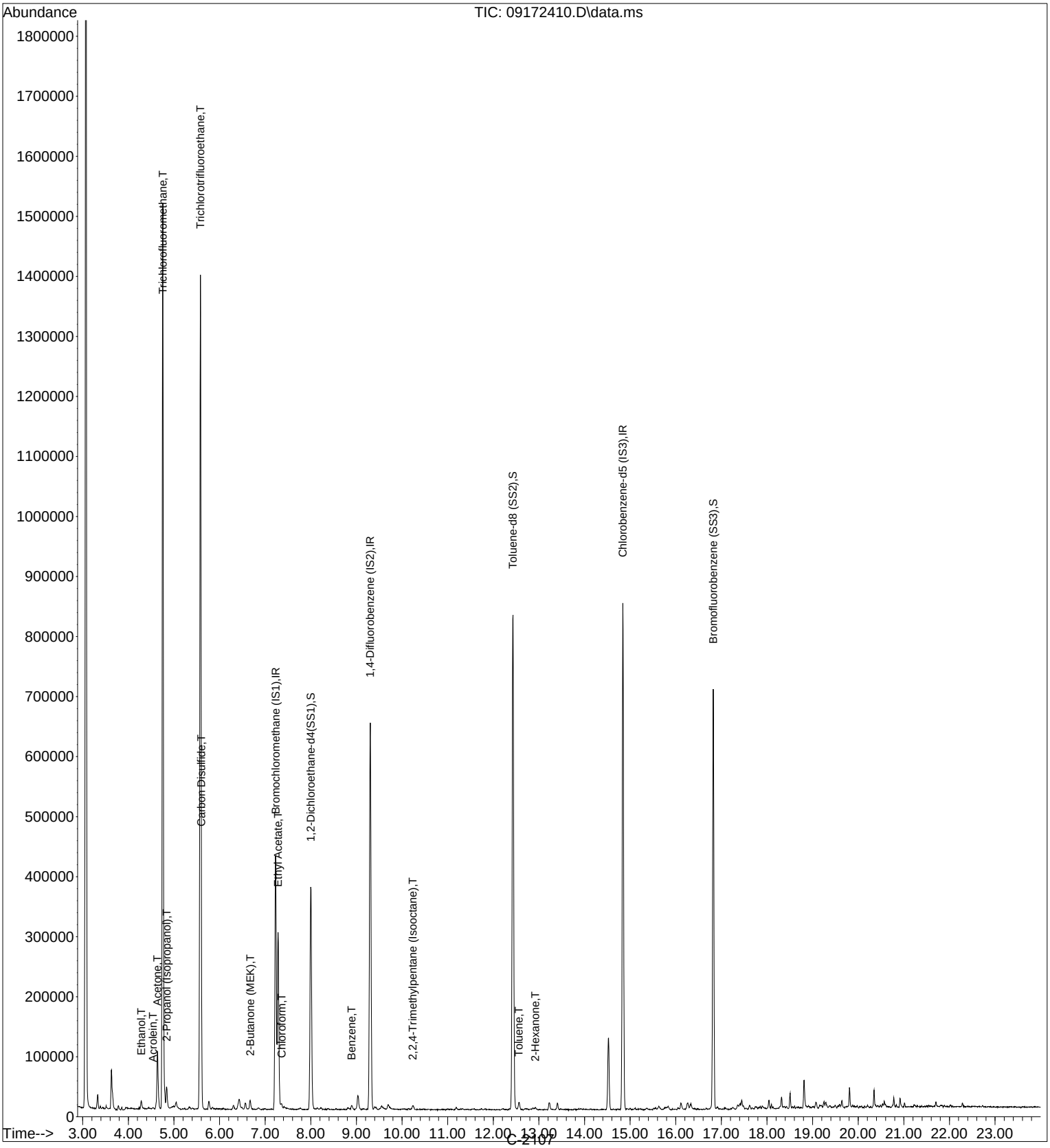
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.34	58	181	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	8429	0.132 ng	100
59) 2-Hexanone	12.92	43	4075	0.103 ng	83
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.79	43	1254	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.03	166	128	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	729	N.D.	
67) m- & p-Xylenes	15.64	91	2113	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	528	N.D.	
70) o-Xylene	16.24	91	779	N.D.	
71) n-Nonane	16.61	43	942	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	484	N.D.	
75) alpha-Pinene	17.53	93	348	N.D.	
76) n-Propylbenzene	17.68	91	926	N.D.	
77) 3-Ethyltoluene	17.03	105	484	No Calib	#
78) 4-Ethyltoluene	17.86	105	410	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	320	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	484	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	961	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.55	91	419	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	205	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	368	N.D.	
87) sec-Butylbenzene	18.74	105	388	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	852	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	484	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	246	N.D.	
91) d-Limonene	19.08	68	624	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	18.04	58	174	No Calib	#
94) 1,2,4-Trichlorobenzene	20.84	180	785	N.D.	
95) Naphthalene	20.94	128	1269	N.D.	
96) n-Dodecane	18.89	58	173	No Calib	#
97) Hexachlorobutadiene	21.30	225	282	N.D.	
98) Cyclohexanone	15.27	55	106	No Calib	#
99) tert-Butylbenzene	18.42	119	274	N.D.	
100) n-Butylbenzene	19.39	91	820	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

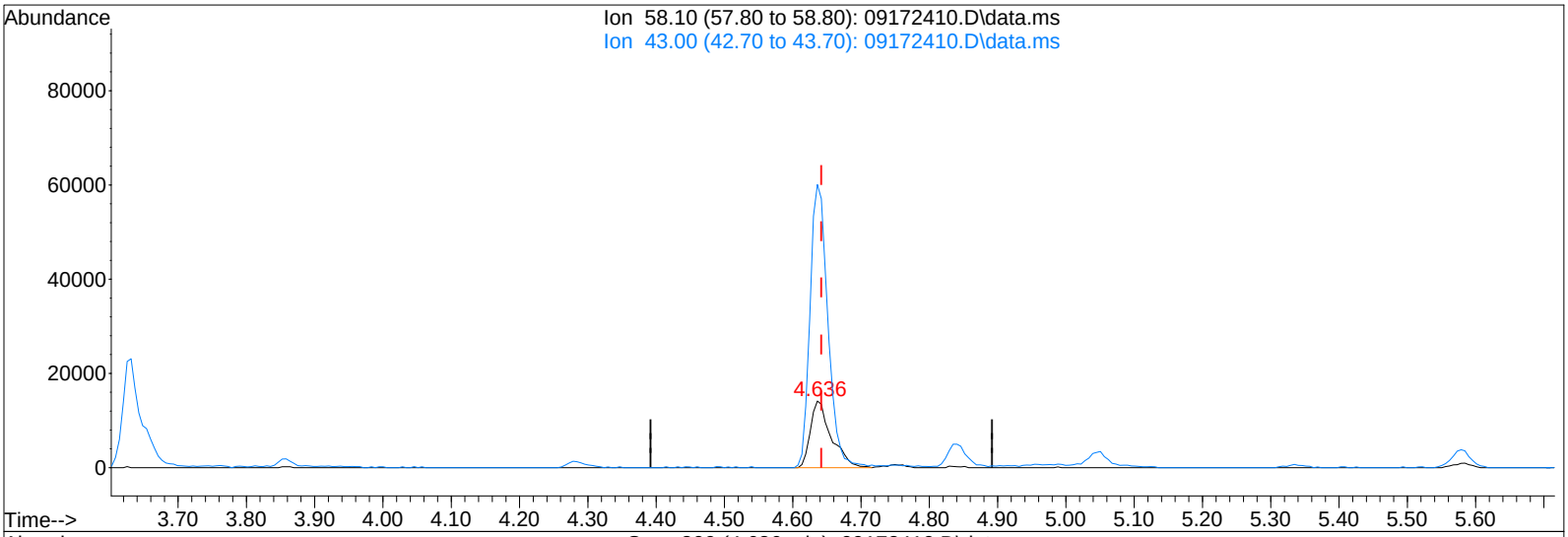
Quant Time: Sep 17 14:30:26 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

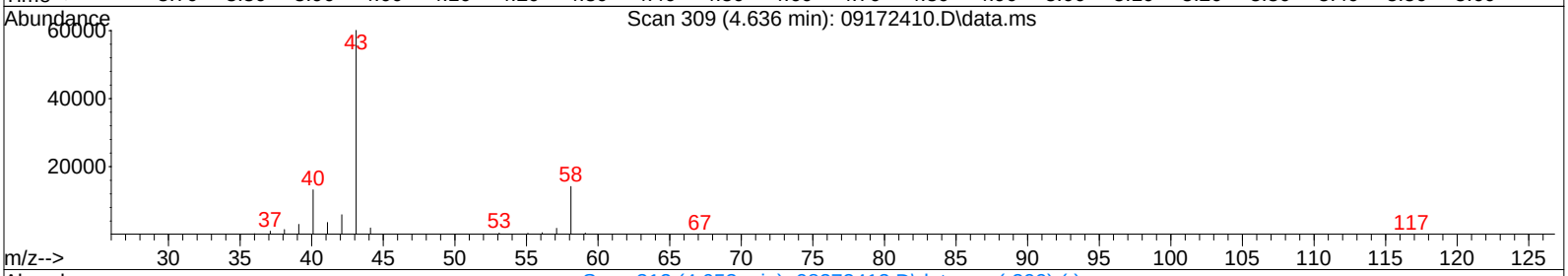


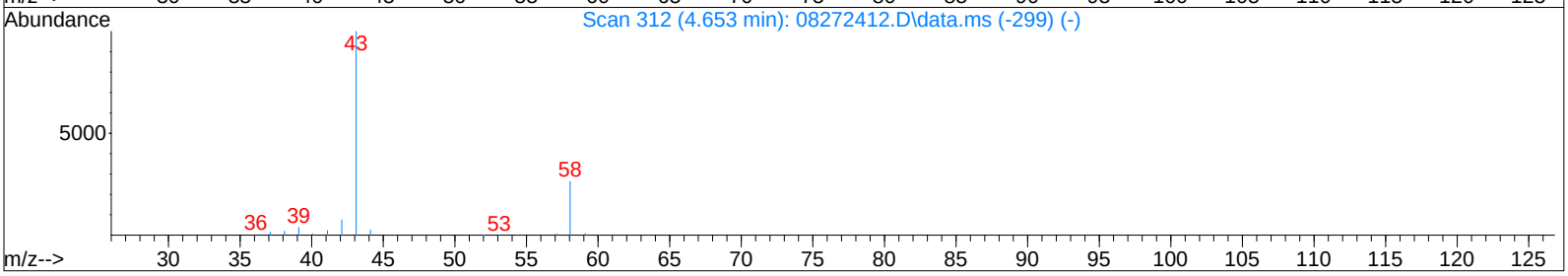
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:29:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09172410.D\data.ms

(13) Acetone (T)

4.636min (-0.006) 2.54ng

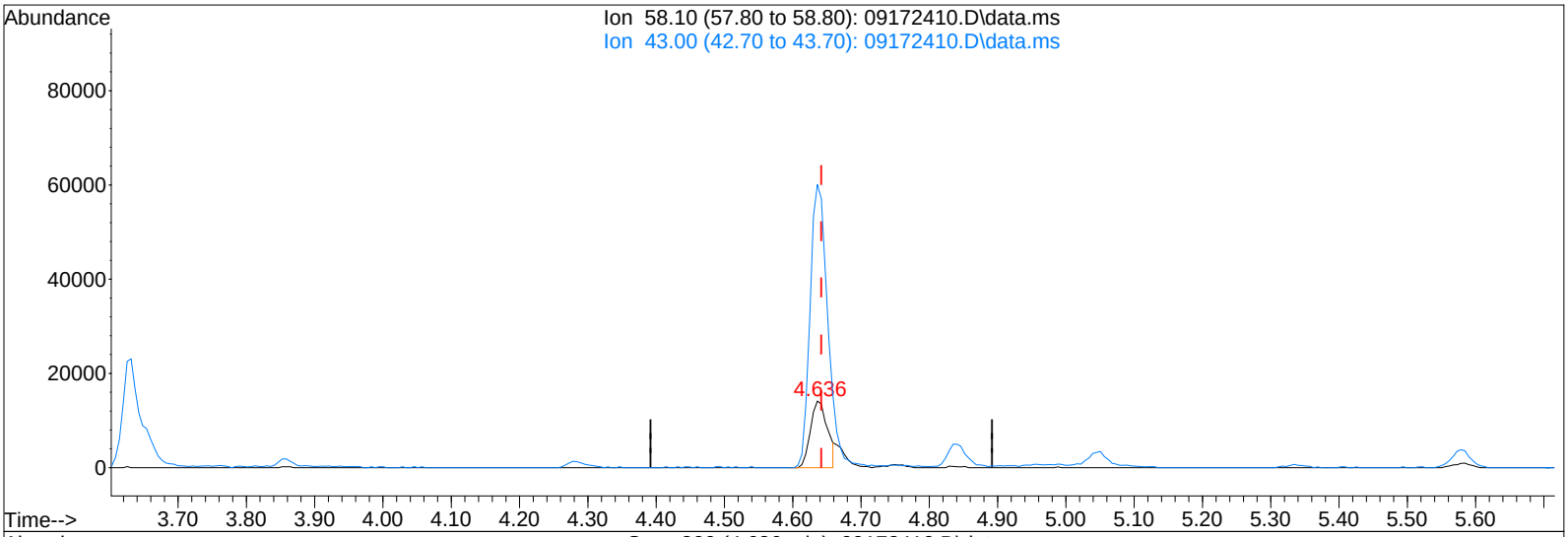
response 29970

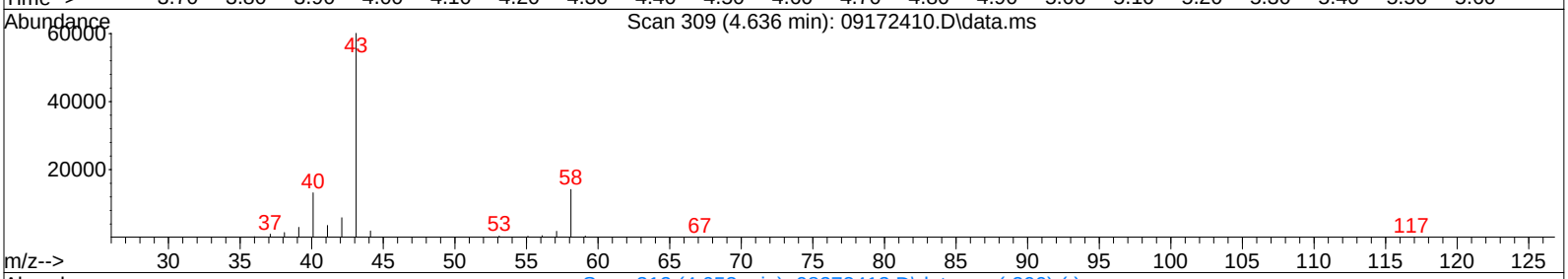
Ion	Exp%	Act%
58.10	100	100
43.00	377.30	367.86
0.00	0.00	0.00
0.00	0.00	0.00

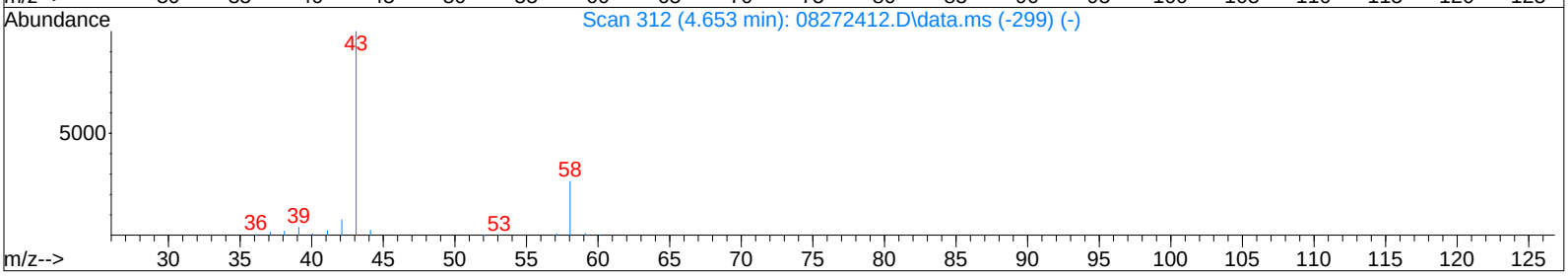
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:29:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09172410.D\data.ms

(13) Acetone (T)

4.636min (-0.006) 2.09ng m

response 24654

Ion	Exp%	Act%
58.10	100	100
43.00	377.30	447.18#
0.00	0.00	0.00
0.00	0.00	0.00

IPC

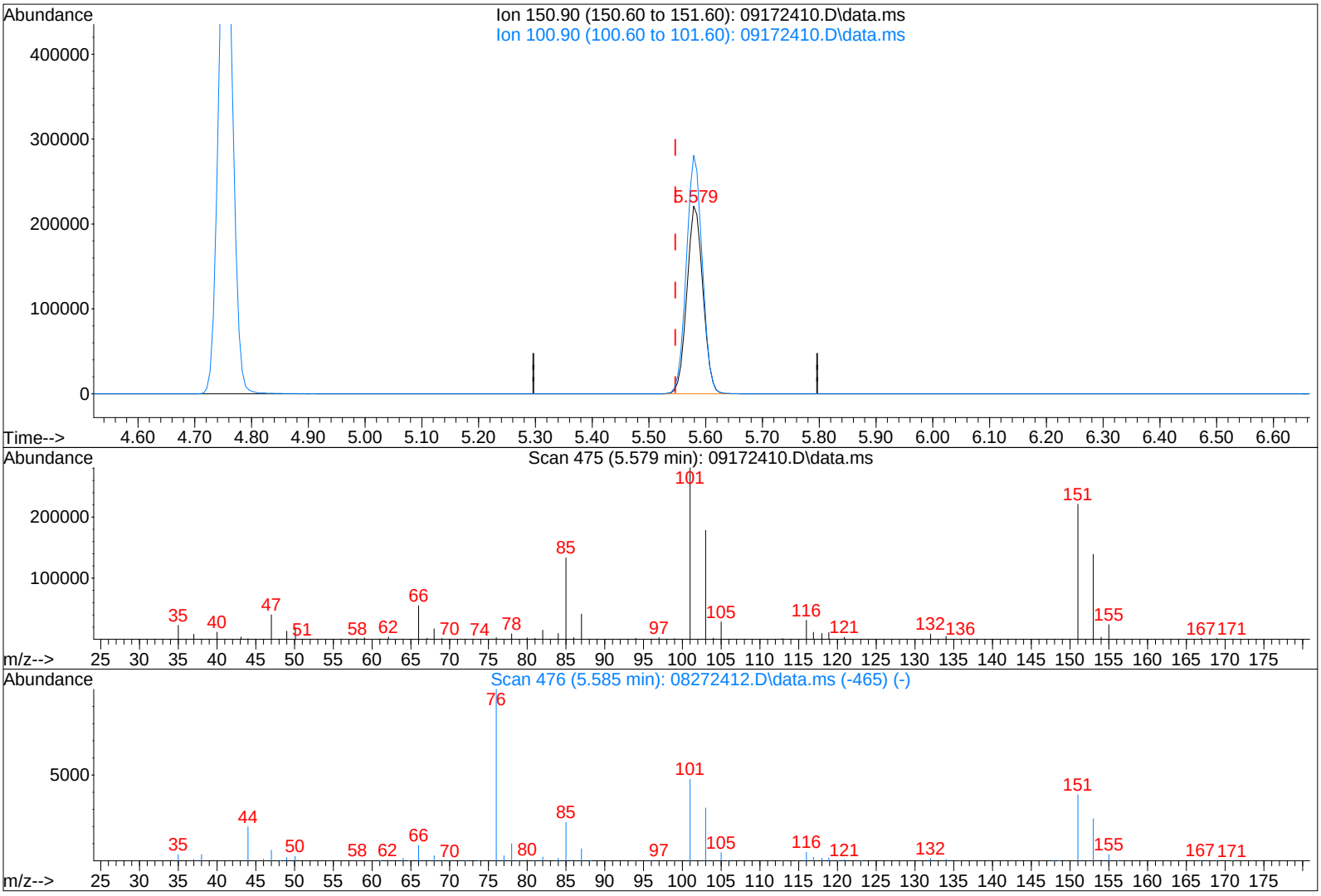
9/17/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:29:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172410.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.032) 36.67ng

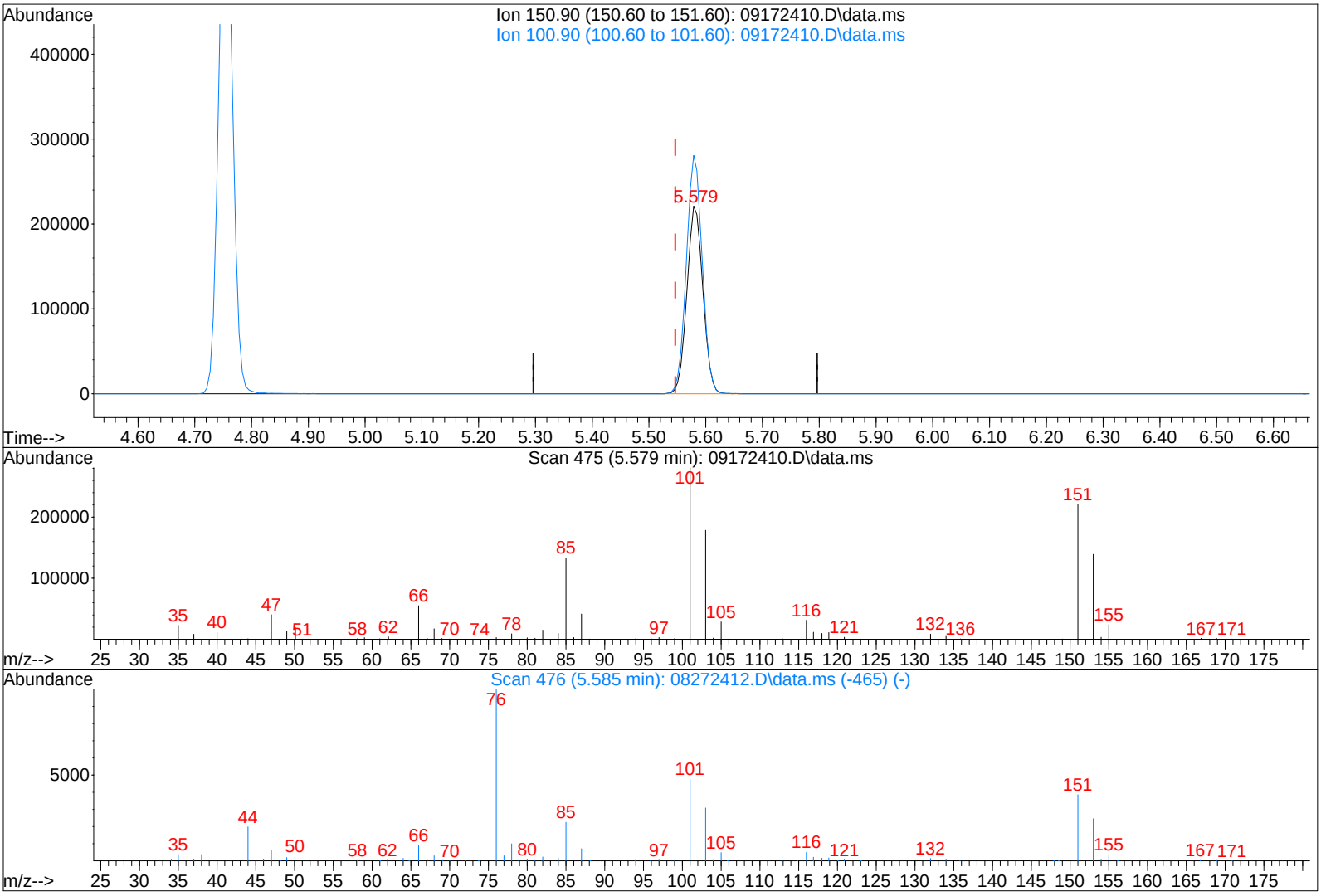
response 432751

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	126.13
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:29:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172410.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.032) 36.67ng

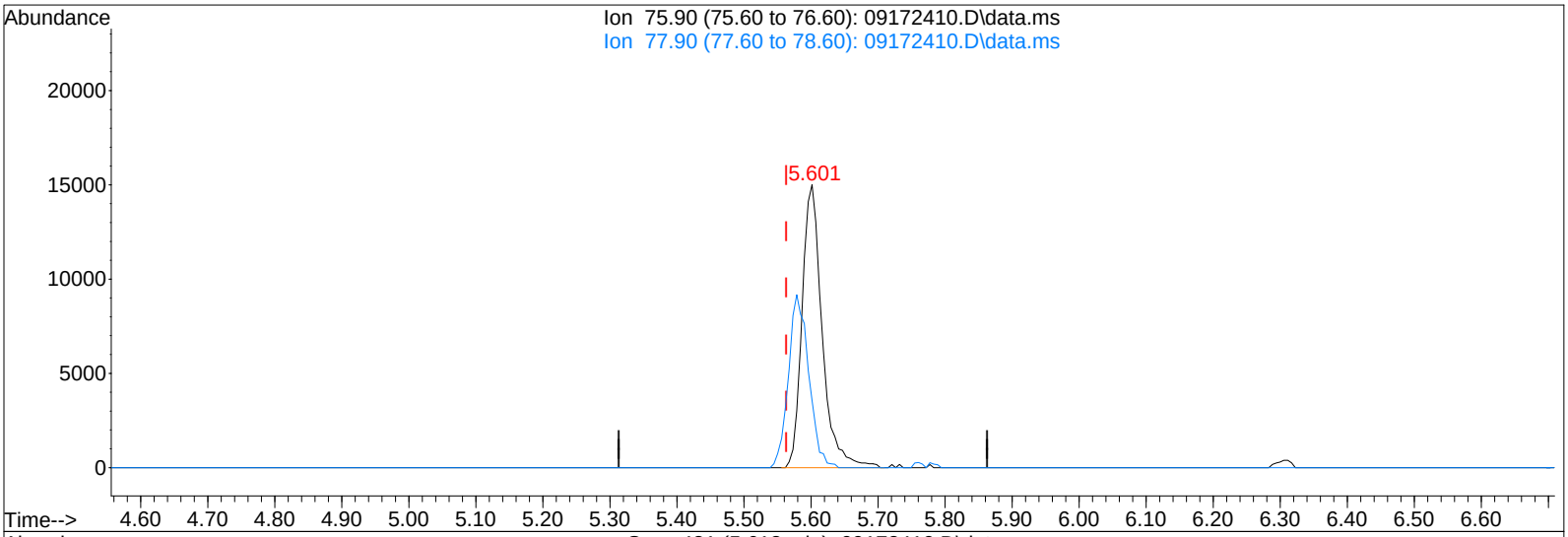
response 432751

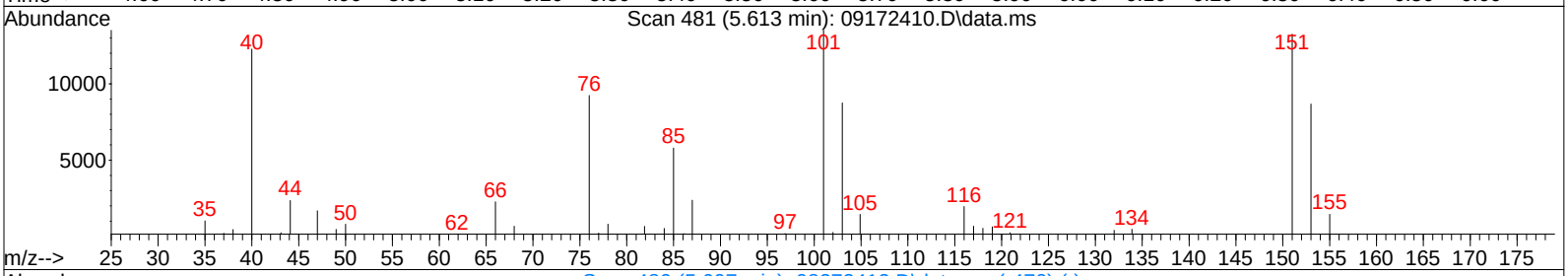
Ion	Exp%	Act%
150.90	100	100
100.90	123.40	126.13
0.00	0.00	0.00
0.00	0.00	0.00

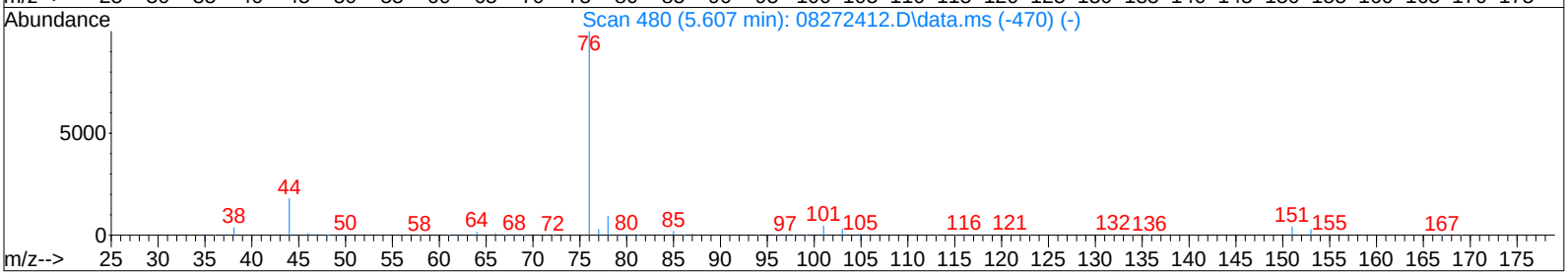
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172410.D Vial: 11
Acq On : 17 Sep 2024 13:51 Operator: SC
Sample : P2403661-063Dil (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:29:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09172410.D\data.ms

(22) Carbon Disulfide (T)

5.601min (+0.038) 0.68ng

response 31206

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	62.14#
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:05
Operator : SC
Sample : P2403661-063 (400mL)
Misc : S37-08262404
ALS Vial : 11 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162423.D\data.ms

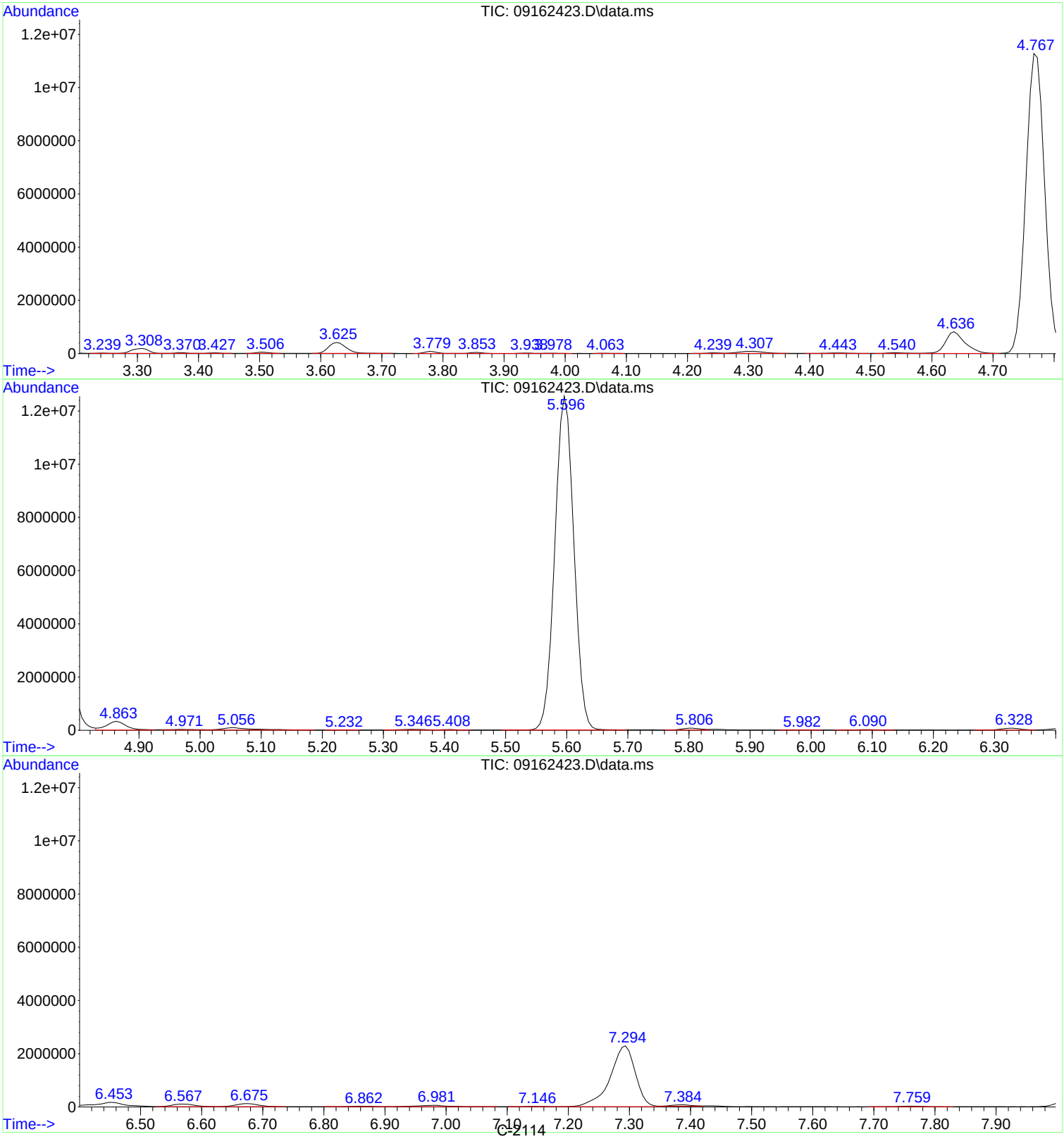
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.239	60	63	67	rBV2	10204	11237	0.04%	0.017%
2	3.308	67	75	82	rVB3	180833	346767	1.28%	0.536%
3	3.370	82	86	91	rVB	25385	30340	0.11%	0.047%
4	3.427	91	96	101	rBV	18690	24509	0.09%	0.038%
5	3.506	105	110	115	rBV	43557	61529	0.23%	0.095%
6	3.625	124	131	147	rVB3	410287	818983	3.02%	1.267%
7	3.779	153	158	165	rBV	77944	102965	0.38%	0.159%
8	3.853	165	171	181	rVB2	39645	55196	0.20%	0.085%
9	3.938	181	186	189	rBV2	13290	19099	0.07%	0.030%
10	3.978	189	193	199	rVB6	7763	13958	0.05%	0.022%
11	4.063	205	208	214	rVB4	7466	12484	0.05%	0.019%
12	4.239	233	239	243	rBV2	19724	33187	0.12%	0.051%
13	4.307	243	251	261	rVB3	75956	216001	0.80%	0.334%
14	4.443	266	275	285	rVV3	13869	44094	0.16%	0.068%
15	4.540	286	292	300	rVV3	22615	54876	0.20%	0.085%
16	4.636	300	309	322	rVV	816212	1784404	6.57%	2.760%
17	4.767	322	332	343	rVV	11272434	24237342	89.26%	37.484%
18	4.863	343	349	360	rVV	326889	725932	2.67%	1.123%
19	4.971	362	368	375	rVV4	22792	78110	0.29%	0.121%
20	5.056	375	383	406	rVV2	85986	306328	1.13%	0.474%
21	5.232	409	414	419	rVB4	6240	10756	0.04%	0.017%
22	5.346	426	434	441	rBV5	25295	66561	0.25%	0.103%
23	5.408	441	445	451	rVB2	17913	30786	0.11%	0.048%
24	5.596	460	478	496	rBV	12540187	27153228	100.00%	41.993%
25	5.806	507	515	520	rBV	66332	145447	0.54%	0.225%
26	5.982	540	546	552	rVB6	6501	15106	0.06%	0.023%
27	6.090	556	565	573	rBV2	16510	41036	0.15%	0.063%
28	6.328	596	607	614	rBV	69981	157992	0.58%	0.244%
29	6.453	614	629	642	rVV2	165198	587870	2.17%	0.909%
30	6.567	642	649	659	rVV4	97547	251109	0.92%	0.388%
31	6.675	659	668	679	rVB	113457	293449	1.08%	0.454%
32	6.862	690	701	708	rBV	17975	42159	0.16%	0.065%
33	6.981	708	722	740	rVB2	52054	170748	0.63%	0.264%
34	7.146	743	751	759	rVB4	8756	21123	0.08%	0.033%
35	7.294	759	777	787	rBV	2285857	6522260	24.02%	10.087%
36	7.384	787	793	799	rBV2	50559	111451	0.41%	0.172%
37	7.759	847	859	871	rBV4	21899	62895	0.23%	0.097%

Sum of corrected areas: 64661317

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:05
Operator : SC
Sample : P2403661-063 (400mL)
Misc : S37-08262404
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162423.D
Acq On : 16 Sep 2024 22:055
Operator : SCC
Sample : P2403661-063 (400mL))
Misc : S37-082624044
ALS Vial : 11 Sample Multiplier: 11

MOA 9/30/24

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162424.D Vial: 12
Acq On : 16 Sep 2024 22:37 Operator: SC
Sample : P2403661-064 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:05:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124950	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	554497	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	165800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	323557	13.838	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
57) Toluene-d8 (SS2)	12.43	98	643380	11.062	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
73) Bromofluorobenzene (SS3)	16.82	174	222756	11.451	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	18630	0.614	ng		99
4) Chloromethane	3.51	50	6559	0.276	ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	319	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.77	54	110	N.D.			
8) Bromomethane	4.03	94	113	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	38336	2.827	ng		80
11) Acetonitrile	4.51	41	333	N.D.			
12) Acrolein	4.53	56	2178	0.210	ng		100
13) Acetone	4.63	58	62356	5.450	ng		94
14) Trichlorofluoromethane	4.76	101	325837	11.261	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	53599	1.190	ng		94
16) Acrylonitrile	5.04	53	377	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d			
19) Methylene Chloride	5.36	84	1137	0.084	ng		91
20) 3-Chloro-1-propene (Al...	5.41	41	191	N.D.			
21) Trichlorotrifluoroethane	5.58	151	44613	3.892	ng		97
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	6219	0.766	ng	#	76
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D. d			
30) Ethyl Acetate	7.28	61	58254	10.710	ng		92
31) n-Hexane	7.30	57	4260	0.172	ng		98
32) Chloroform	7.36	83	668	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	469	0.061	ng	#	1
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	155	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	176	No Calib		#	
40) 1-Butanol	8.81	56	8490	No Calib		#	
41) Benzene	8.89	78	6806	0.131	ng		97
42) Carbon Tetrachloride	9.07	117	2124	0.099	ng		100
43) Cyclohexane	0.00	84	0	N.D. d			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	830	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162424.D Vial: 12
Acq On : 16 Sep 2024 22:37 Operator: SC
Sample : P2403661-064 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:05:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

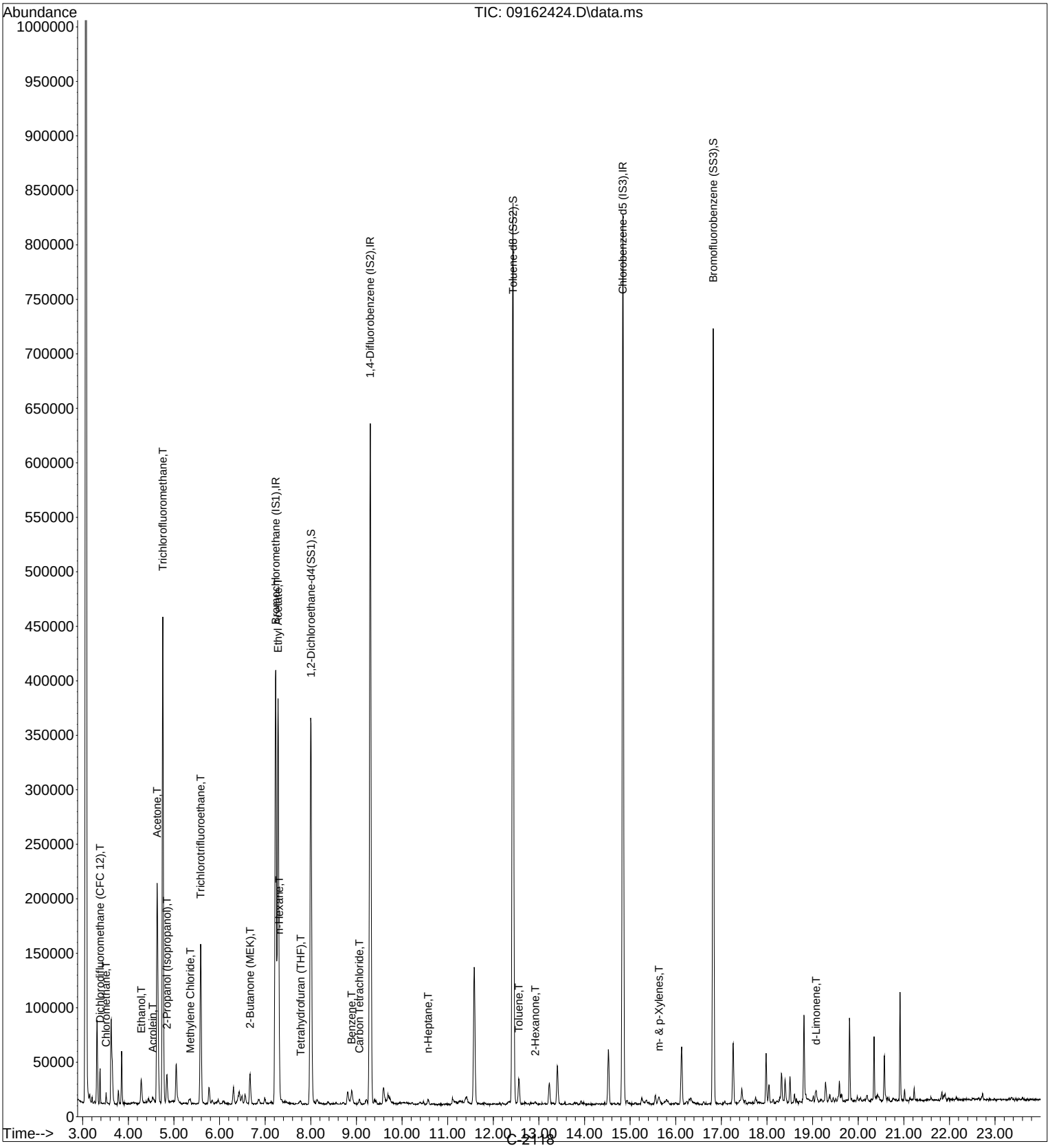
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.57	71	684	0.059 ng	#	55
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.33	58	188	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	16468	0.262 ng		96
59) 2-Hexanone	12.92	43	2898	0.074 ng	#	65
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.78	43	1993	N.D.		
63) n-Octane	13.93	57	477	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	1609	N.D.		
67) m- & p-Xylenes	15.63	91	4172	0.071 ng		91
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.10	104	833	N.D.		
70) o-Xylene	16.25	91	1828	N.D.		
71) n-Nonane	16.61	43	1347	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.30	83	208	N.D.		
74) Cumene	17.03	105	328	N.D.		
75) alpha-Pinene	17.52	93	1254	N.D.		
76) n-Propylbenzene	17.68	91	820	N.D.		
77) 3-Ethyltoluene	17.03	105	328	No Calib	#	
78) 4-Ethyltoluene	17.86	105	549	N.D.		
79) 1,3,5-Trimethylbenzene	17.97	105	272	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	328	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.42	105	1091	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	131	N.D.		
86) 1,4-Dichlorobenzene	18.58	146	131	N.D.		
87) sec-Butylbenzene	18.75	105	330	N.D.		
88) 4-Isopropyltoluene (p-...	18.92	119	916	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	328	No Calib	#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	19.08	68	1801	0.091 ng		95
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	17.98	58	2654	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	612	N.D.		
95) Naphthalene	20.94	128	861	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	404	N.D.		
98) Cyclohexanone	15.21	55	280	No Calib	#	
99) tert-Butylbenzene	18.43	119	345	N.D.		
100) n-Butylbenzene	19.38	91	599	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162424.D Vial: 12
Acq On : 16 Sep 2024 22:37 Operator: SC
Sample : P2403661-064 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:05:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162424.D Vial: 12
Acq On : 16 Sep 2024 22:37 Operator: SC
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QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124950	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	554497	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	165800	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	323557	13.838	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.72%				
57) Toluene-d8 (SS2)	12.43	98	643380	11.062	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.48%				
73) Bromofluorobenzene (SS3)	16.82	174	222756	11.451	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.60%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	18630	0.614	ng		99
4) Chloromethane	3.51	50	6559	0.276	ng		94
10) Ethanol	4.28	45	38336	2.827	ng		80
12) Acrolein	4.53	56	2178	0.210	ng		100
13) Acetone	4.63	58	62356	5.450	ng		94
14) Trichlorofluoromethane	4.76	101	325837	11.261	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	53599	1.190	ng		94
19) Methylene Chloride	5.36	84	1137	0.084	ng		91
21) Trichlorotrifluoroethane	5.58	151	44613	3.892	ng		97
27) 2-Butanone (MEK)	6.67	72	6219	0.766	ng	#	76
30) Ethyl Acetate	7.28	61	58254	10.710	ng		92
31) n-Hexane	7.30	57	4260	0.172	ng		98
34) Tetrahydrofuran (THF)	7.78	72	469	0.061	ng	#	1
41) Benzene	8.89	78	6806	0.131	ng		97
42) Carbon Tetrachloride	9.07	117	2124	0.099	ng		100
51) n-Heptane	10.57	71	684	0.059	ng	#	55
58) Toluene	12.56	91	16468	0.262	ng		96
59) 2-Hexanone	12.92	43	2898	0.074	ng	#	65
67) m- & p-Xylenes	15.63	91	4172	0.071	ng		91
91) d-Limonene	19.08	68	1801	0.091	ng		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162424.D Vial: 12
Acq On : 16 Sep 2024 22:37 Operator: SC
Sample : P2403661-064 (400mL) Inst : MS09
Misc : S37-08262404

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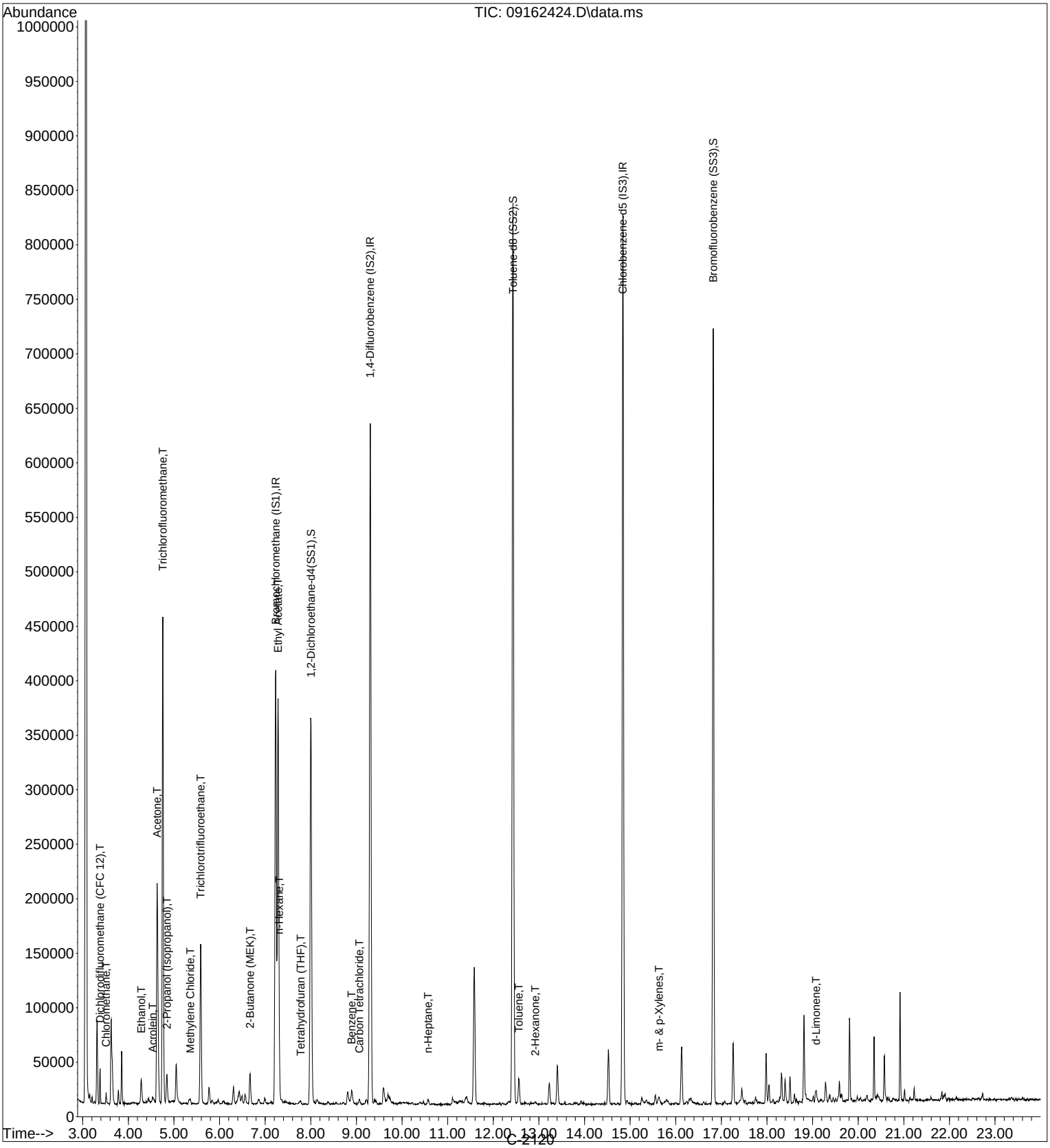
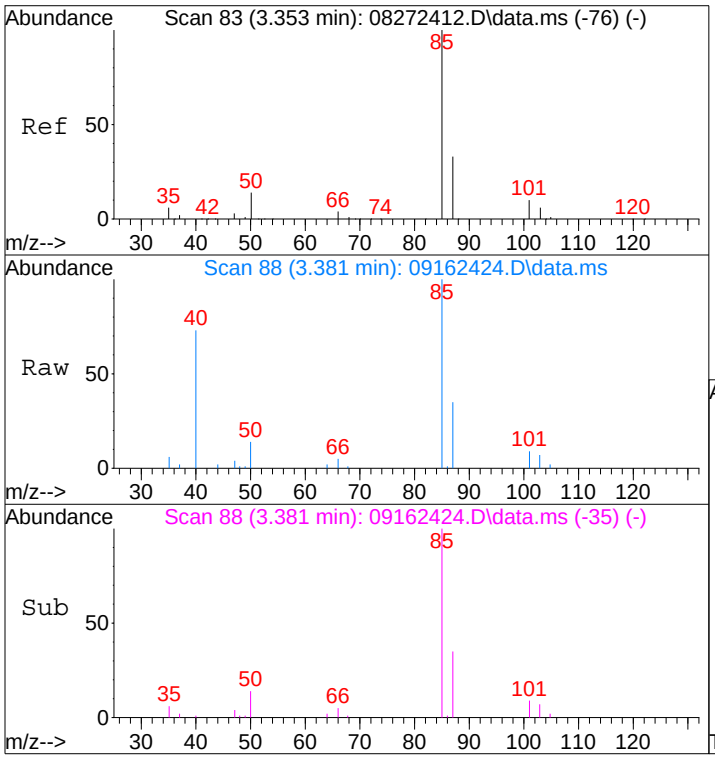
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

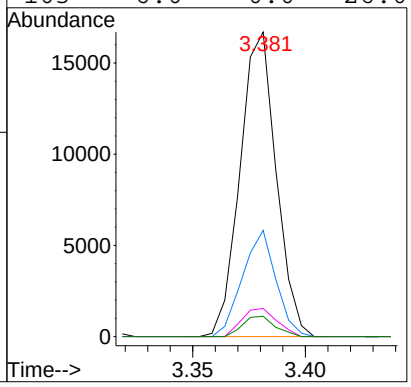


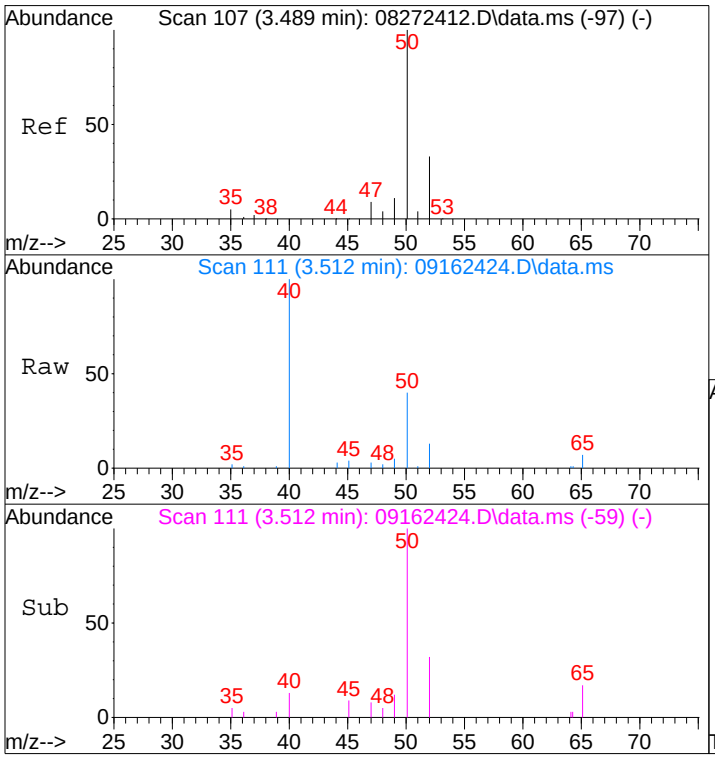


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.61 ng
RT: 3.38 min Scan# 88
Delta R.T. 0.054 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 85 Resp: 18630

Ion	Ratio	Lower	Upper
85	100		
87	32.3	13.1	53.1
101	9.0	0.0	29.4
103	6.0	0.0	26.0

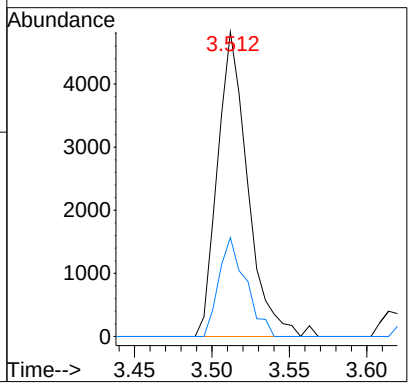


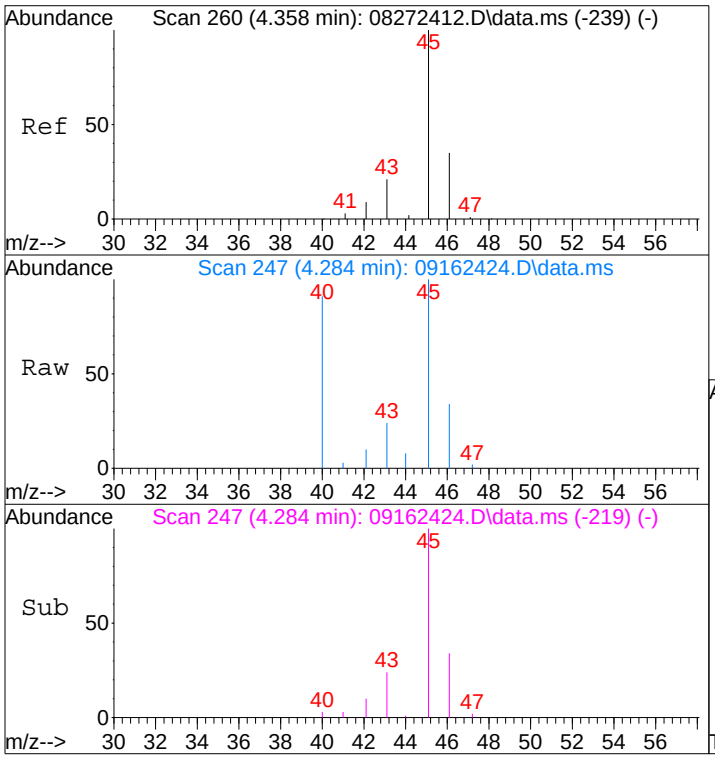


#4
Chloromethane
Concen: 0.28 ng
RT: 3.51 min Scan# 111
Delta R.T. 0.044 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 50 Resp: 6559

Ion	Ratio	Lower	Upper
50	100		
52	29.0	12.4	52.4

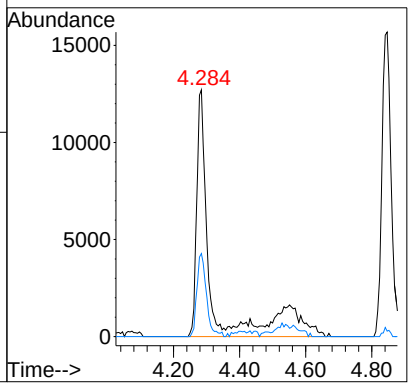


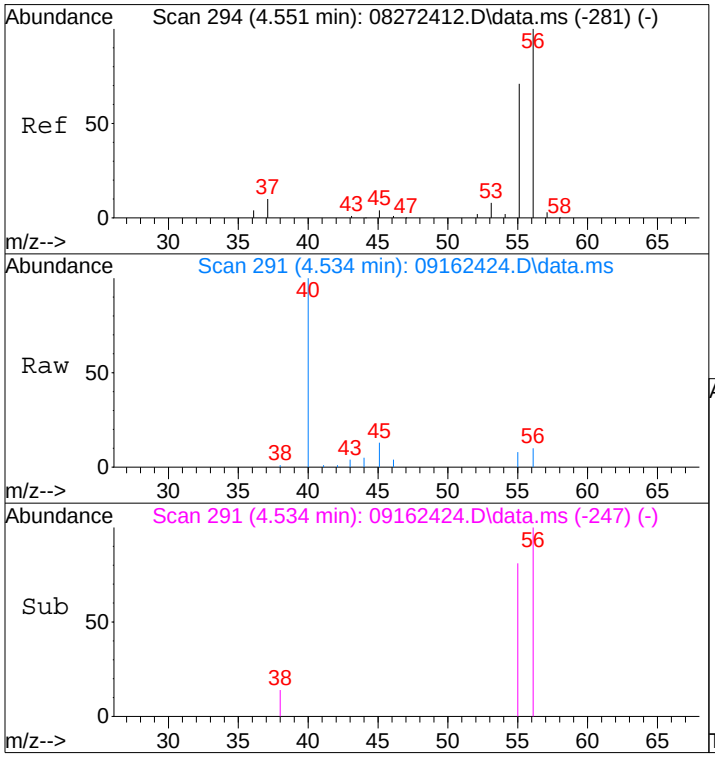


#10
Ethanol
Concen: 2.83 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 45 Resp: 38336

Ion	Ratio	Lower	Upper
45	100		
46	22.5	14.2	54.2

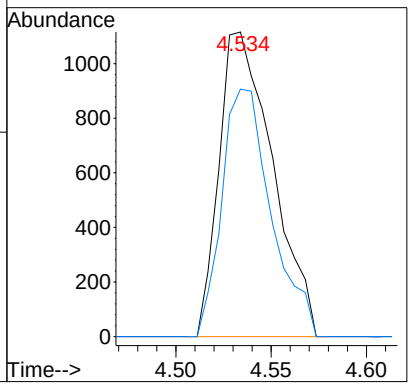


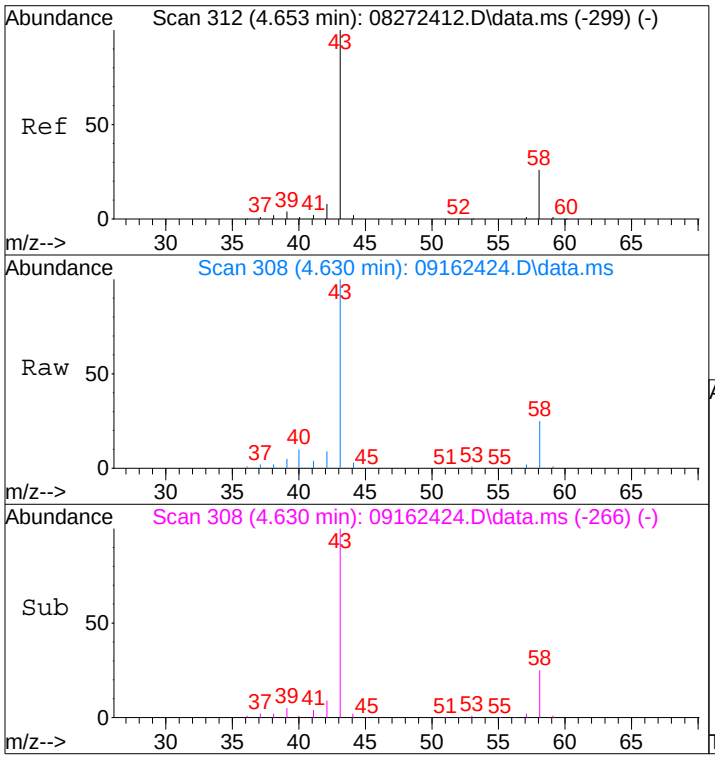


#12
Acrolein
Concen: 0.21 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.001 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 56 Resp: 2178

Ion	Ratio	Lower	Upper
56	100		
55	74.9	54.7	94.7

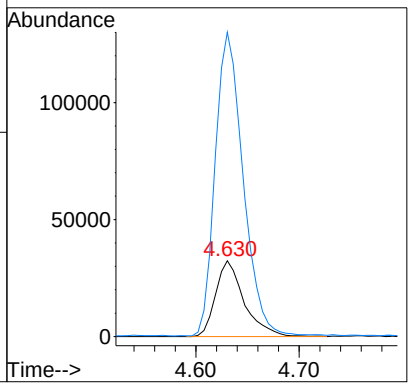


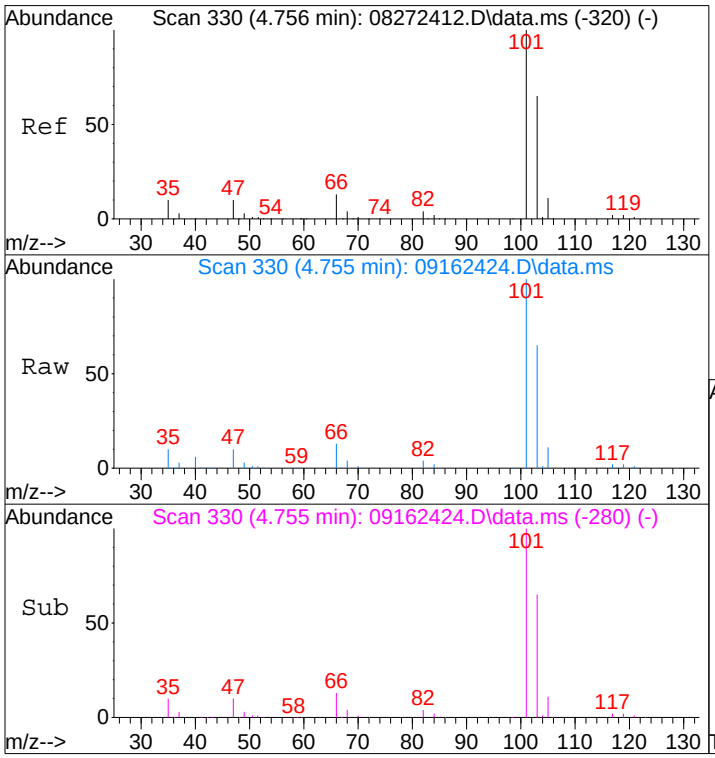


#13
Acetone
Concen: 5.45 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.012 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 58 Resp: 62356

Ion	Ratio	Lower	Upper
58	100		
43	391.3	347.3	407.3

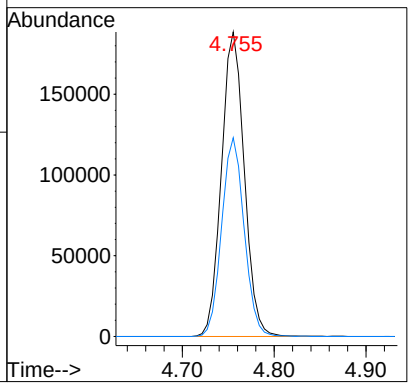


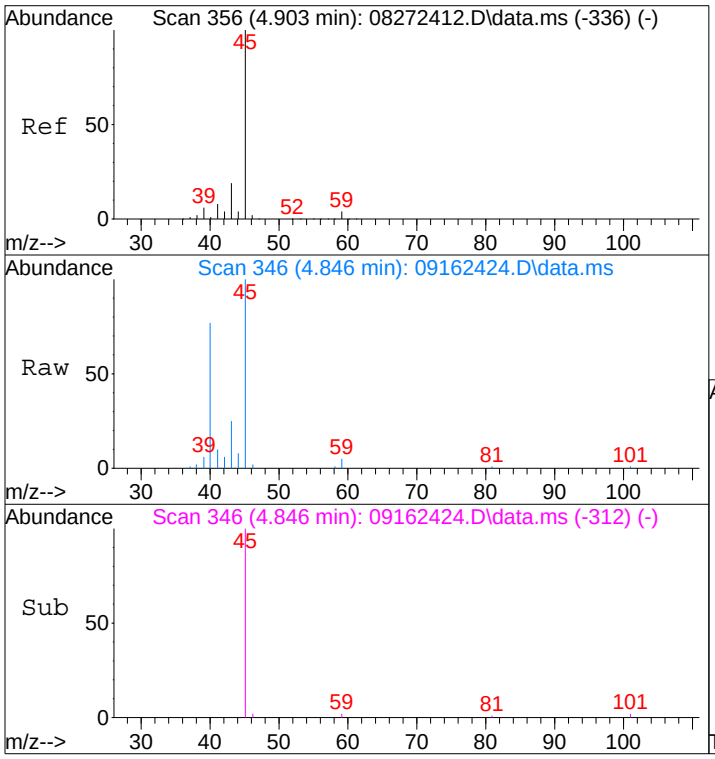


#14
Trichlorofluoromethane
Concen: 11.26 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion:101 Resp: 325837

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

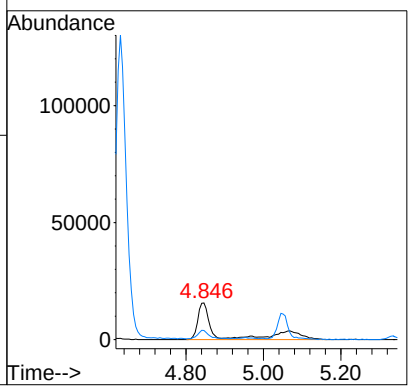


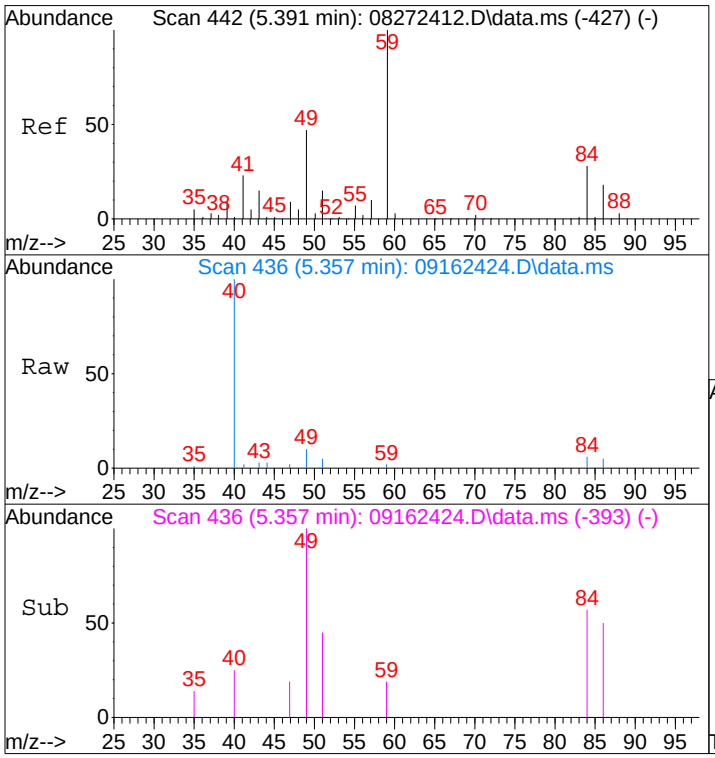


#15
2-Propanol (Isopropanol)
Concen: 1.19 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.060 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 45 Resp: 53599

Ion	Ratio	Lower	Upper
45	100		
43	17.5	0.0	40.0

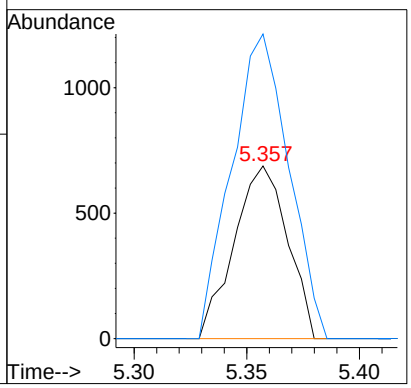


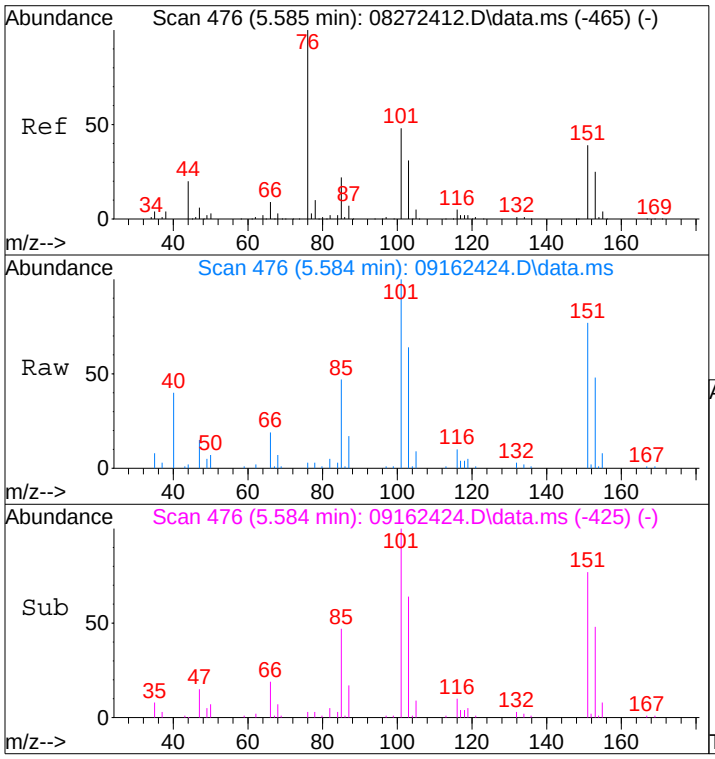


#19
Methylene Chloride
Concen: 0.08 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.004 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 84 Resp: 1137

Ion	Ratio	Lower	Upper
84	100		
49	188.5	151.1	201.1

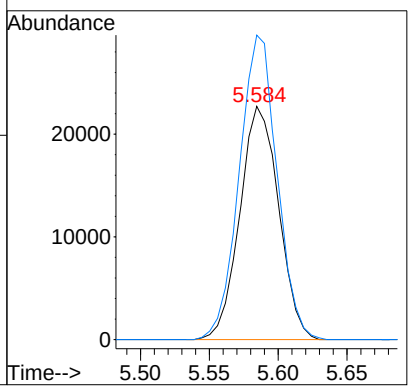


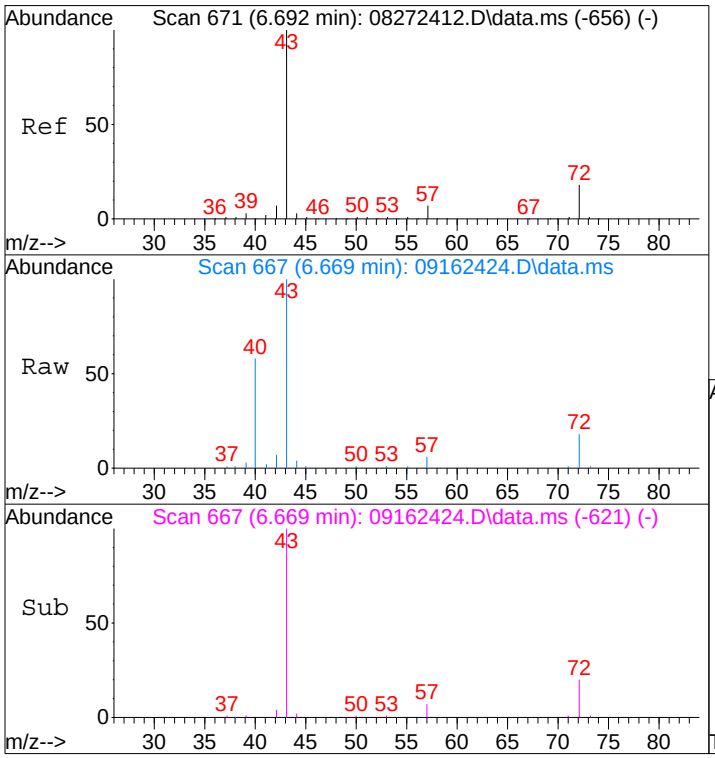


#21
Trichlorotrifluoroethane
Concen: 3.89 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion:151 Resp: 44613

Ion	Ratio	Lower	Upper
151	100		
101	127.1	103.4	143.4

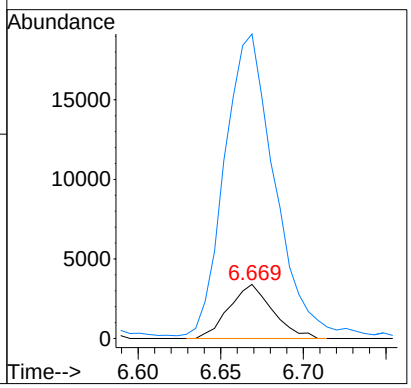


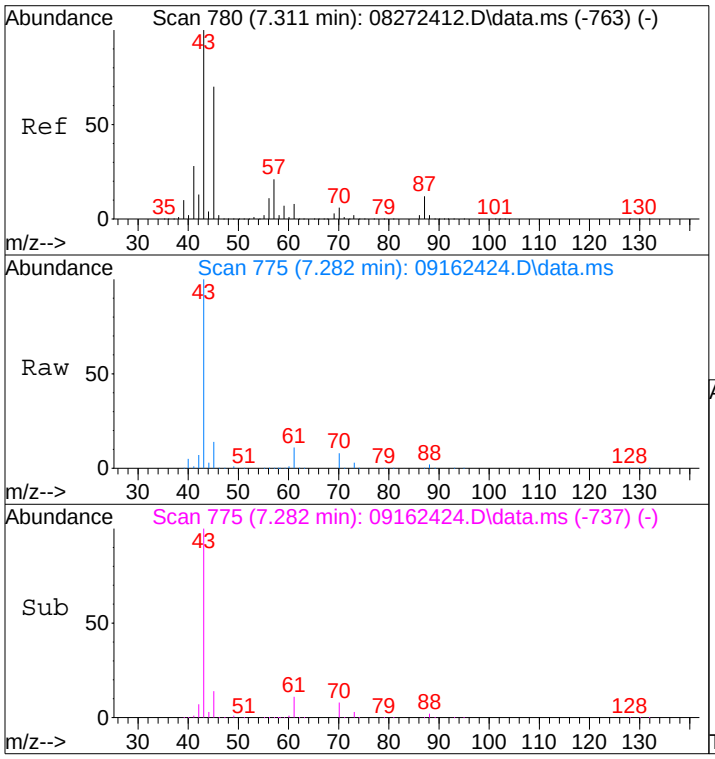


#27
2-Butanone (MEK)
Concen: 0.77 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 72 Resp: 6219

Ion	Ratio	Lower	Upper
72	100		
43	639.7	548.0	588.0#

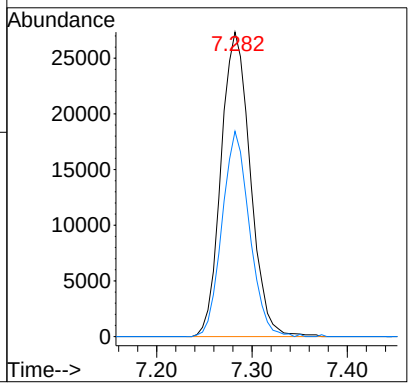


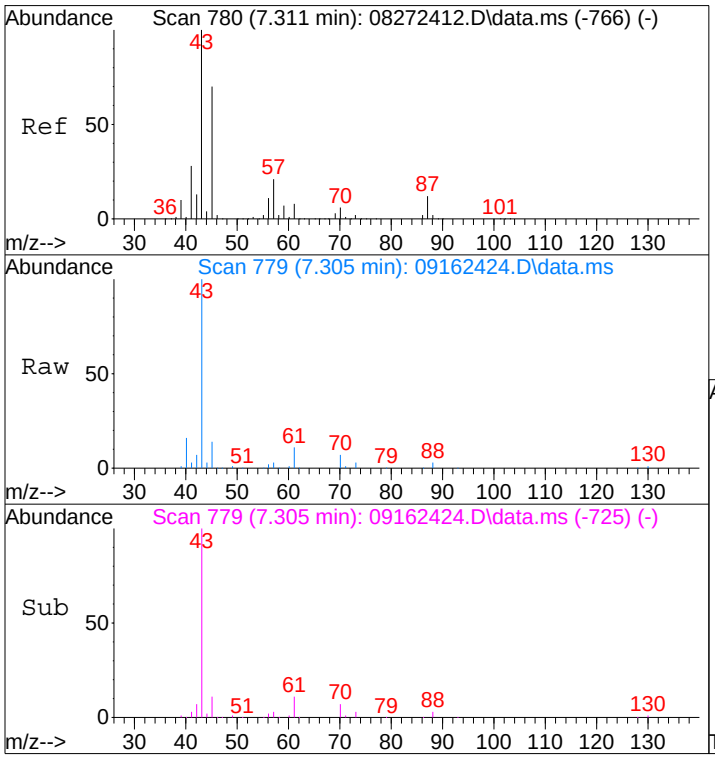


#30
Ethyl Acetate
Concen: 10.71 ng
RT: 7.28 min Scan# 775
Delta R.T. 0.017 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 61 Resp: 58254

Ion	Ratio	Lower	Upper
61	100		
70	63.3	49.9	89.9

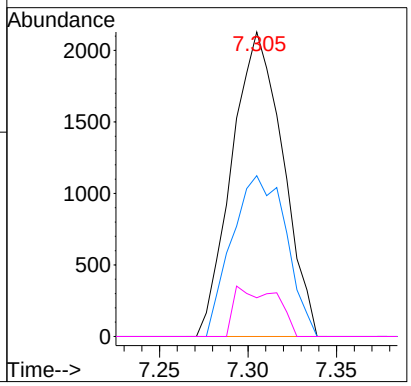


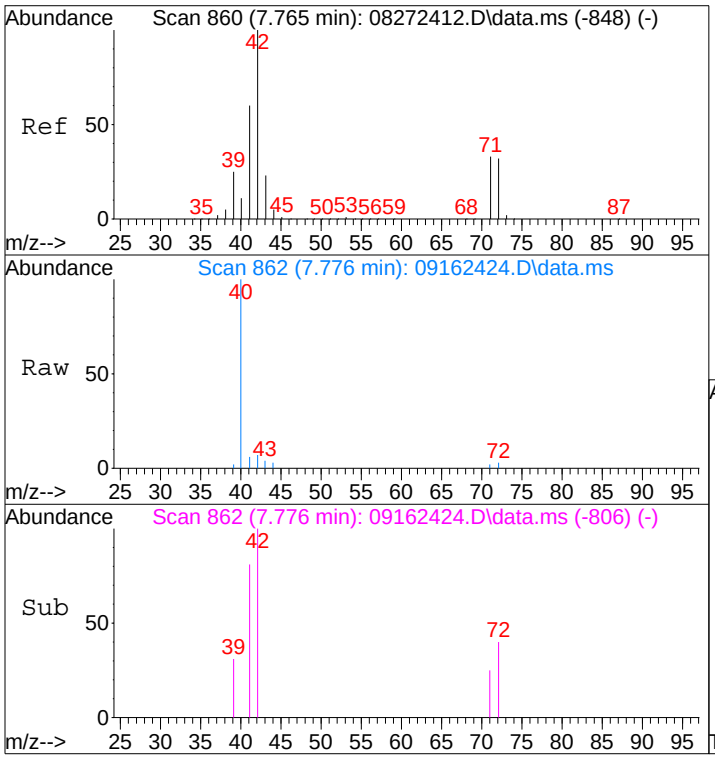


#31
n-Hexane
Concen: 0.17 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 57 Resp: 4260

Ion	Ratio	Lower	Upper
57	100		
56	56.2	44.2	66.2
86	13.6	9.3	13.9

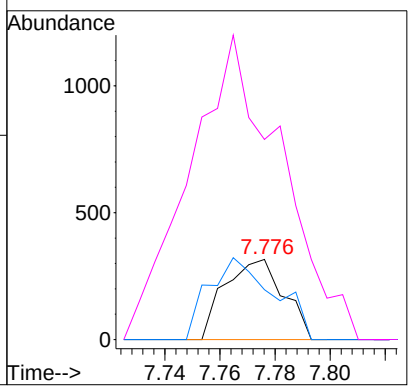


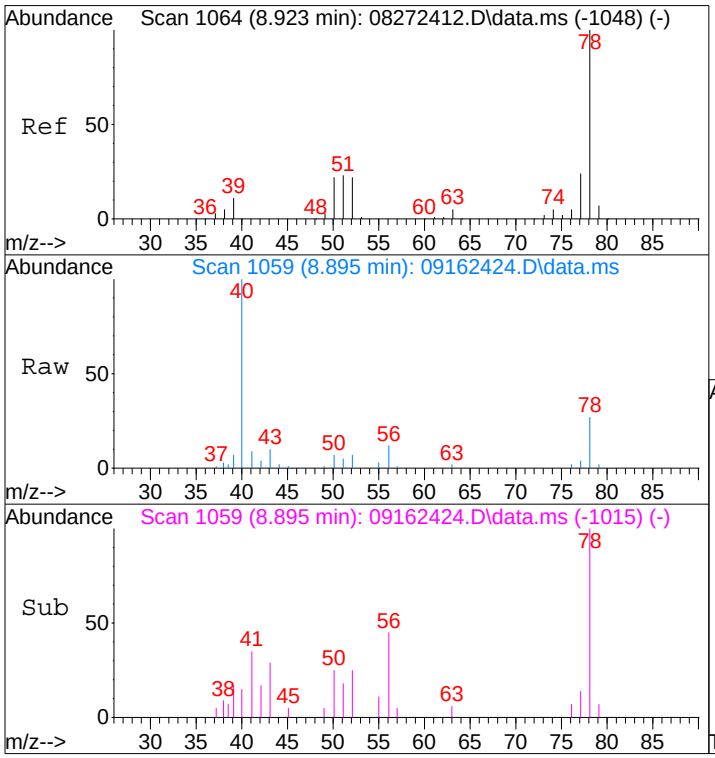


#34
Tetrahydrofuran (THF)
Concen: 0.06 ng
RT: 7.78 min Scan# 862
Delta R.T. 0.067 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 72 Resp: 469

Ion	Ratio	Lower	Upper
72	100		
71	113.0	78.4	118.4
42	595.7	285.2	325.2#

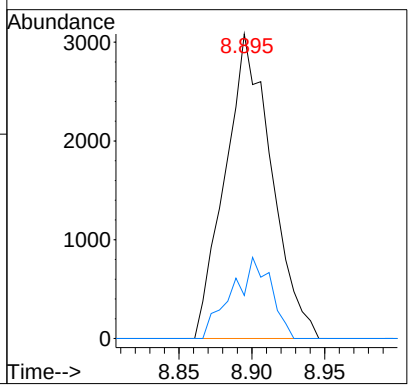


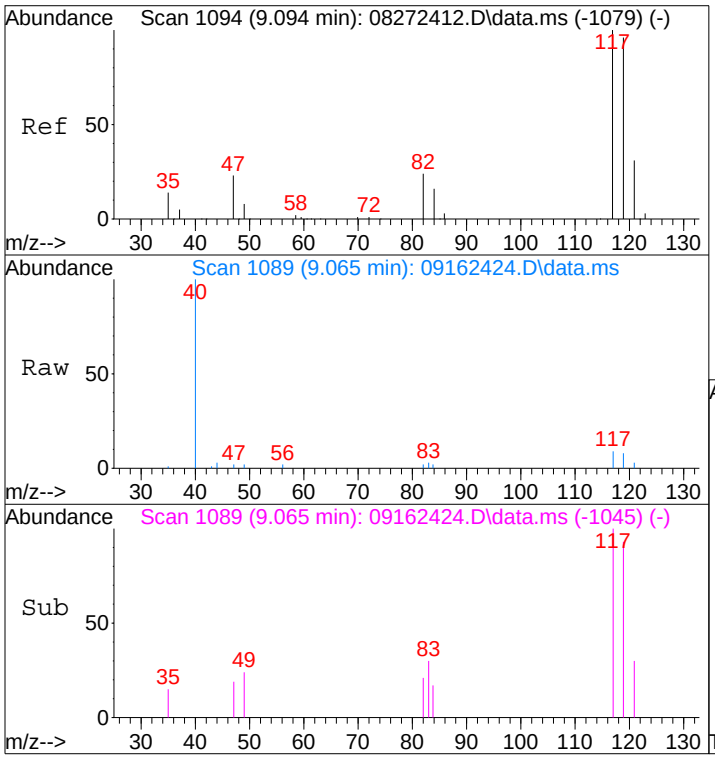


#41
Benzene
Concen: 0.13 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.002 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 78 Resp: 6806

Ion	Ratio	Lower	Upper
78	100		
77	22.6	3.9	43.9

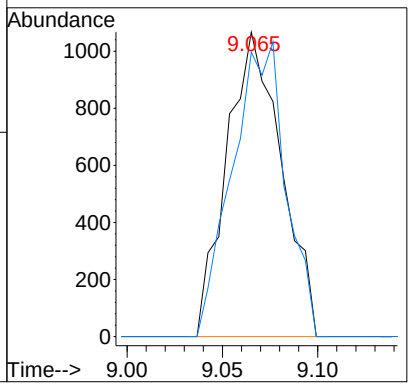


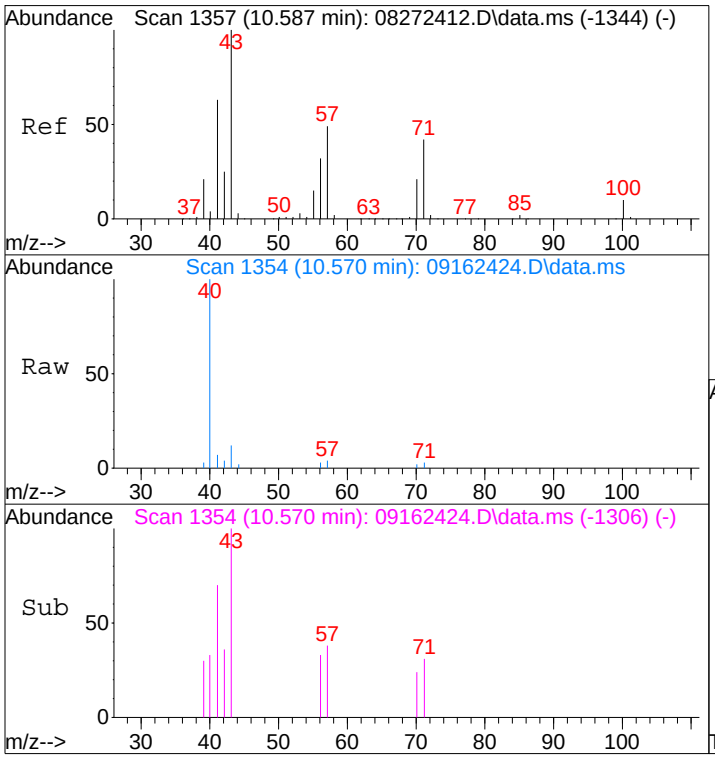


#42
Carbon Tetrachloride
Concen: 0.10 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion:117 Resp: 2124

Ion	Ratio	Lower	Upper
117	100		
119	94.6	75.1	115.1

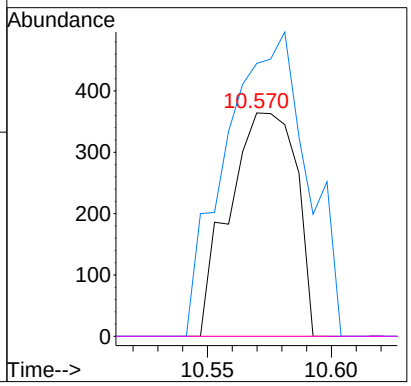


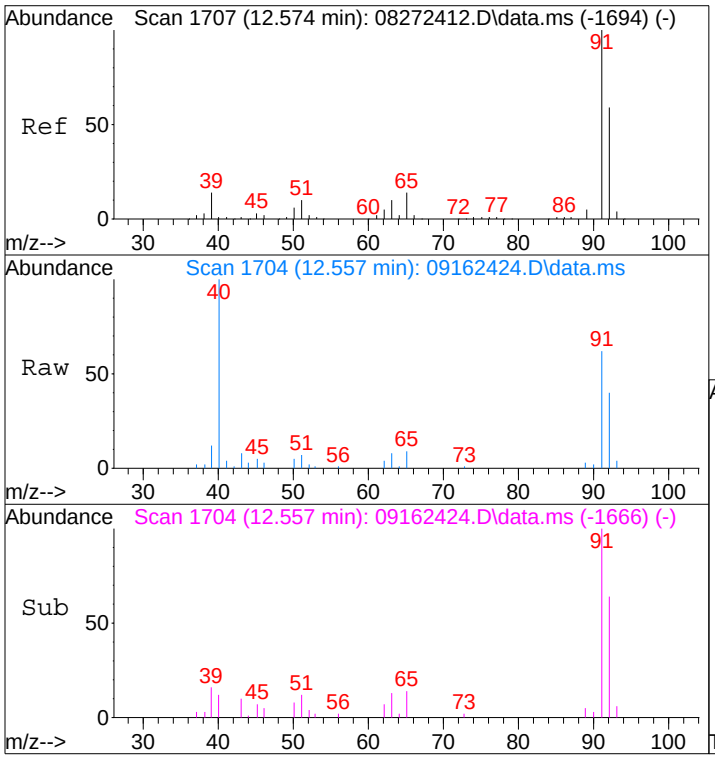


#51
n-Heptane
Concen: 0.06 ng
RT: 10.57 min Scan# 1354
Delta R.T. 0.024 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 71 Resp: 684

Ion	Ratio	Lower	Upper
71	100		
57	165.2	97.1	137.1#
100	0.0	5.0	45.0#

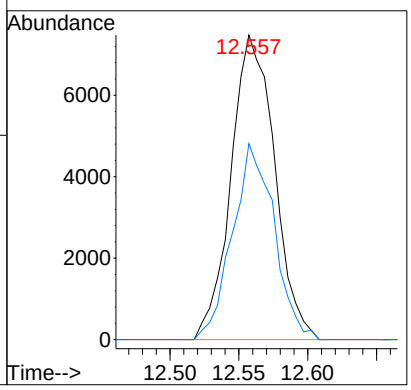


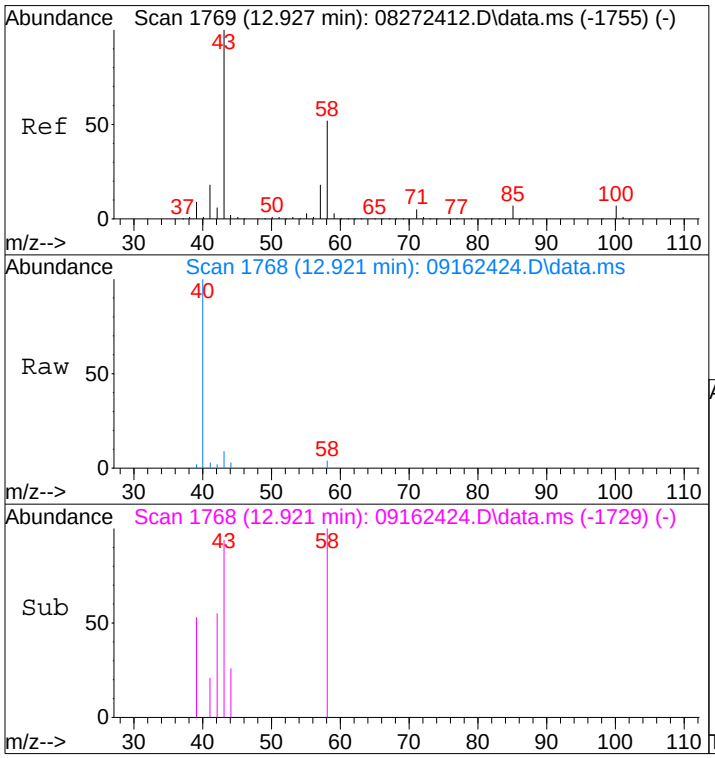


#58
Toluene
Concen: 0.26 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 91 Resp: 16468

Ion	Ratio	Lower	Upper
91	100		
92	61.5	38.5	78.5

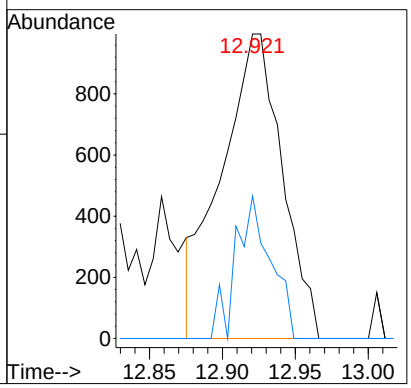


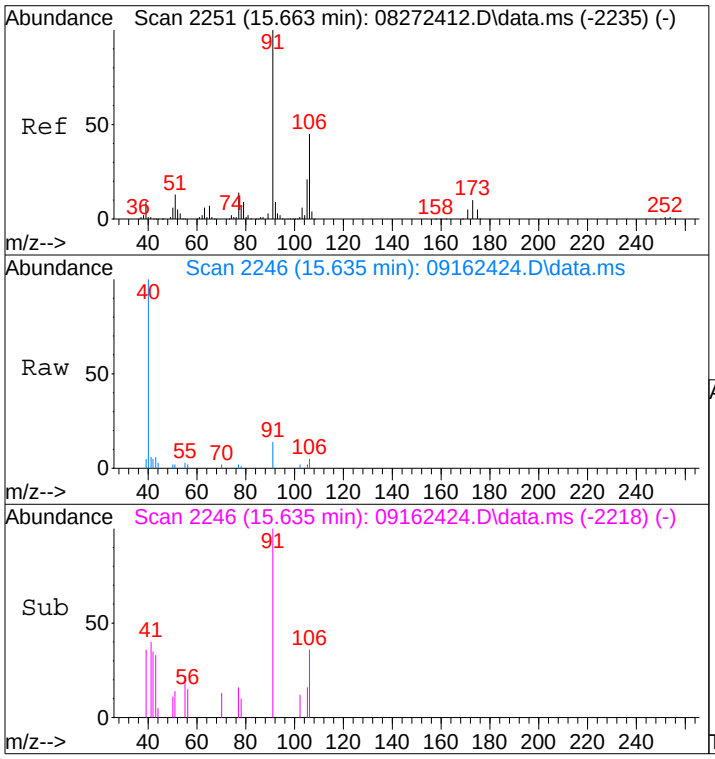


#59
2-Hexanone
Concen: 0.07 ng
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 43 Resp: 2898

Ion	Ratio	Lower	Upper
43	100		
58	26.8	31.1	71.1#

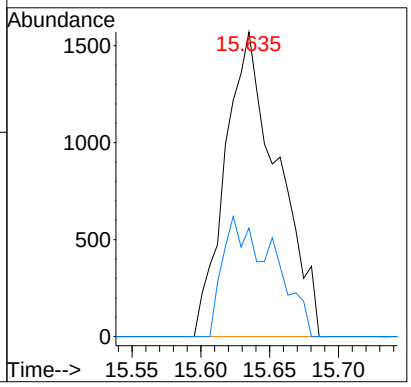


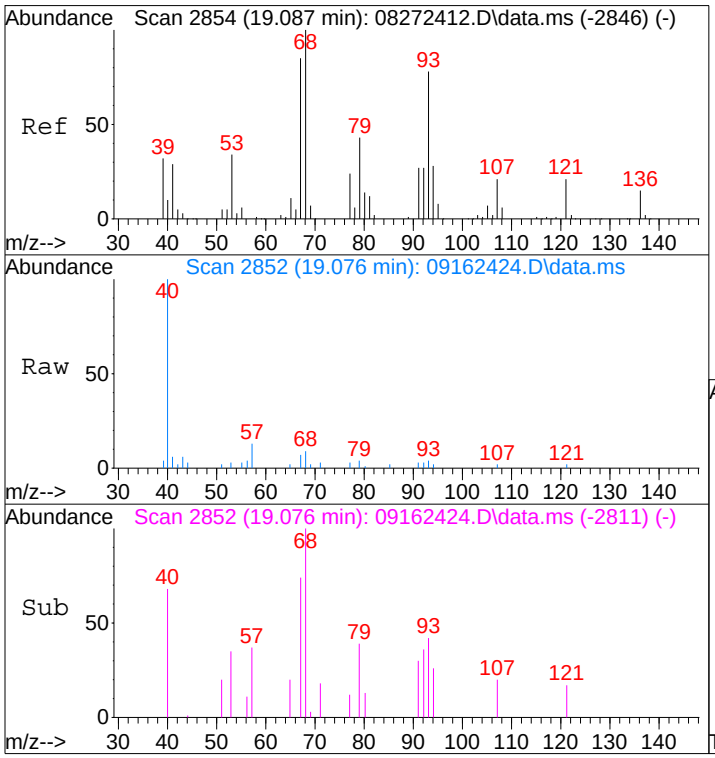


#67
m- & p-Xylenes
Concen: 0.07 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 91 Resp: 4172

Ion	Ratio	Lower	Upper
91	100		
106	38.0	23.8	63.8

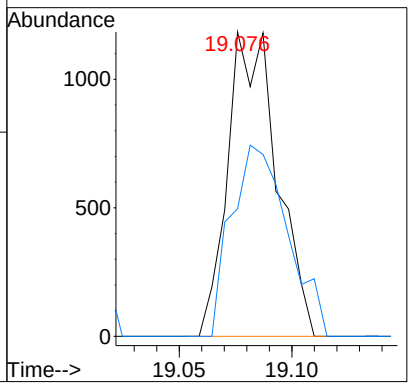




#91
d-Limonene
Concen: 0.09 ng
RT: 19.08 min Scan# 2852
Delta R.T. -0.017 min
Lab File: 09162424.D
Acq: 16 Sep 2024 22:37

Tgt Ion: 68 Resp: 1801

Ion	Ratio	Lower	Upper
68	100		
93	71.9	56.2	96.2



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162424.D
Acq On : 16 Sep 2024 22:37
Operator : SC
Sample : P2403661-064 (400mL)
Misc : S37-08262404
ALS Vial : 12 Sample Multiplier: 1

NOA 9/30/24

Quant Time: Sep 30 07:14:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

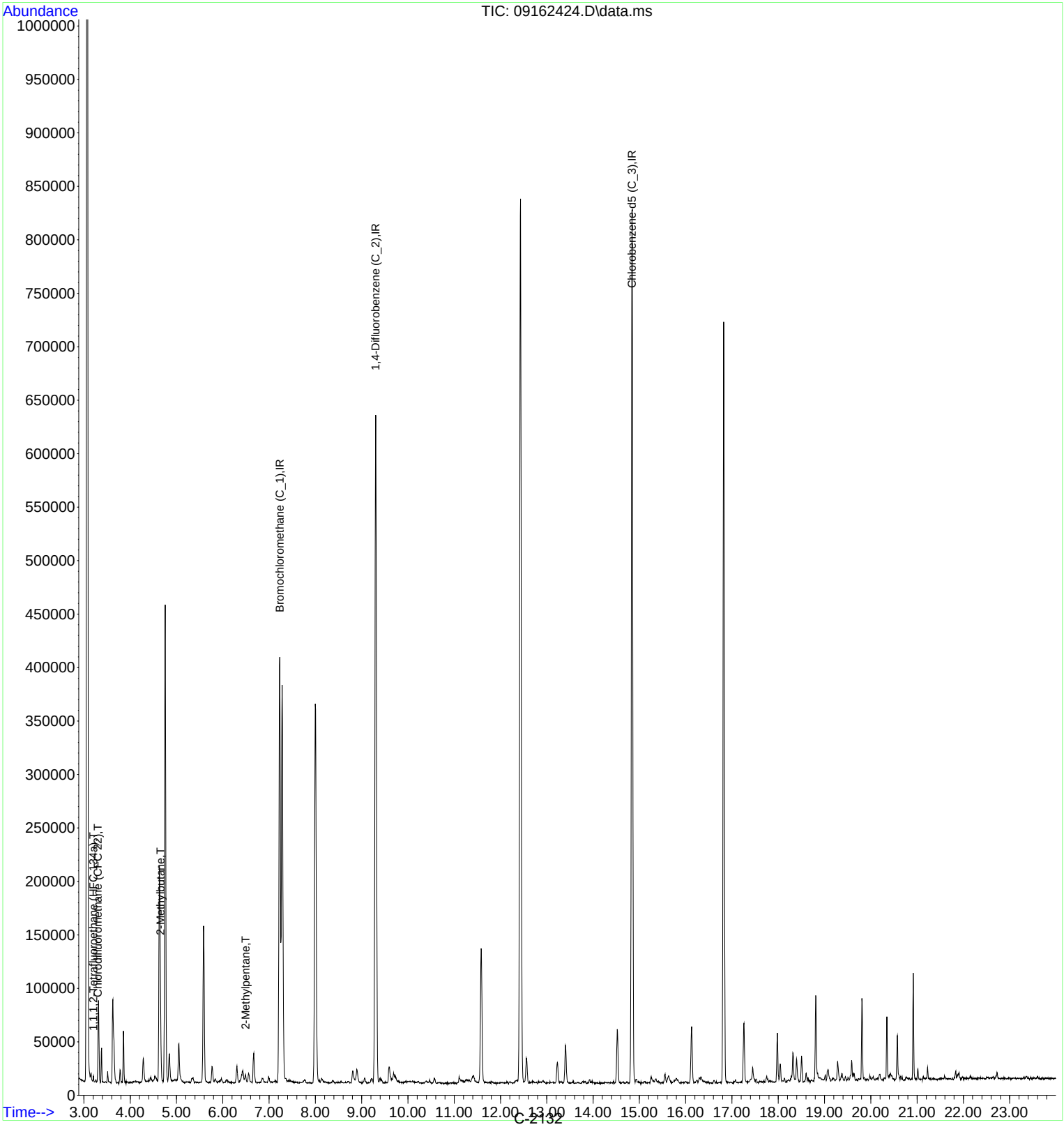
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	124950	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C_2)	9.30	114	555319	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	165800	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.16	85	98	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	2058	0.161	ng	#	72
4) 1,1-Difluoroethane	3.26	65	322	N.D.			
5) Chlorodifluoromethane ...	3.30	67	894	0.210	ng		97
6) 1-Chloro-1,1-Difluoroe...	3.51	65	733	N.D.			
7) Dichlorofluoromethane ...	4.25	67	694	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.65	57	15141	1.016	ng	#	72
11) Methyl Acetate	5.33	43	2932	N.D.			
12) 2-Methylpentane	6.49	71	1143	0.106	ng		82
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.07	84	196	N.D.			
17) 2,3-Dimethylpentane	9.52	56	61	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.41	55	2007	N.D.			
21) 1,3-Dichloropropane	12.55	76	57	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	129	N.D.			
27) 4-Chlorotoluene	17.68	91	820	N.D.			
28) Indane	19.10	117	54	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.			
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	164	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162424.D
Acq On : 16 Sep 2024 22:37
Operator : SC
Sample : P2403661-064 (400mL)
Misc : S37-08262404
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 30 07:14:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

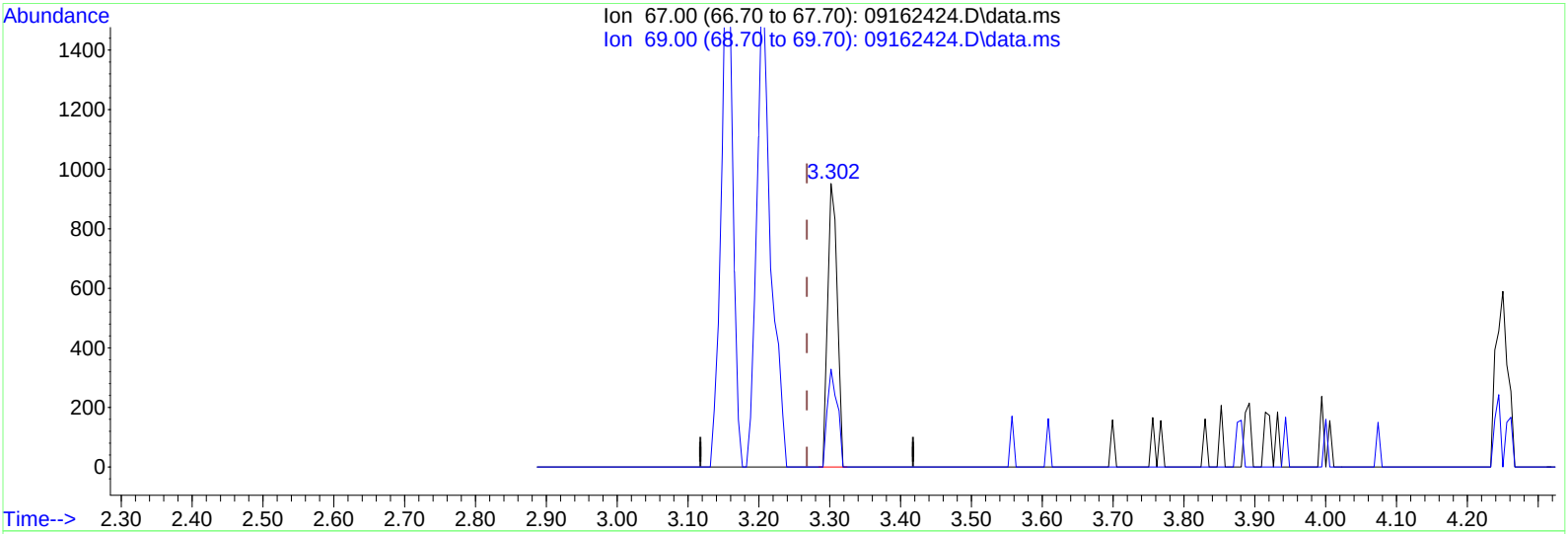


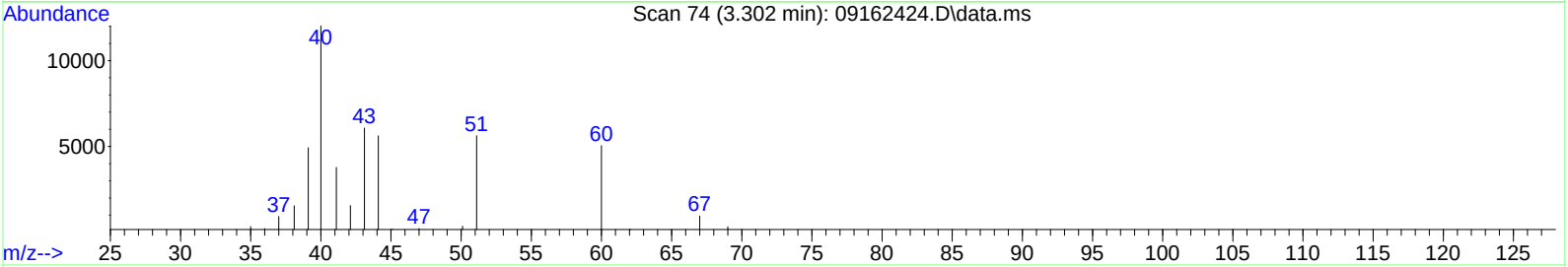
C-2132

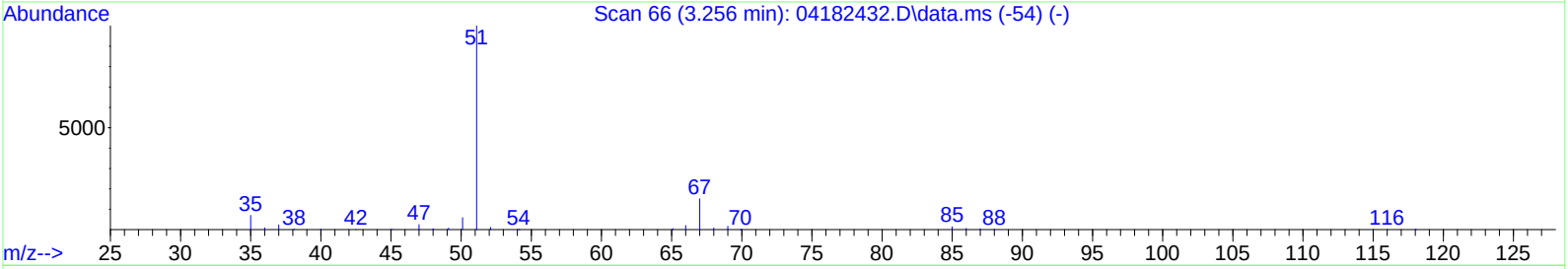
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162424.D
Acq On : 16 Sep 2024 22:37
Operator : SC
Sample : P2403661-064 (400mL)
Misc : S37-08262404
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 30 07:14:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162424.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.302min (+0.034) 0.21ng

response 894

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	36.02
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162424.D
Acq On : 16 Sep 2024 22:37
Operator : SC
Sample : P2403661-064 (400mL)
Misc : S37-08262404
ALS Vial : 12 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162424.D\data.ms

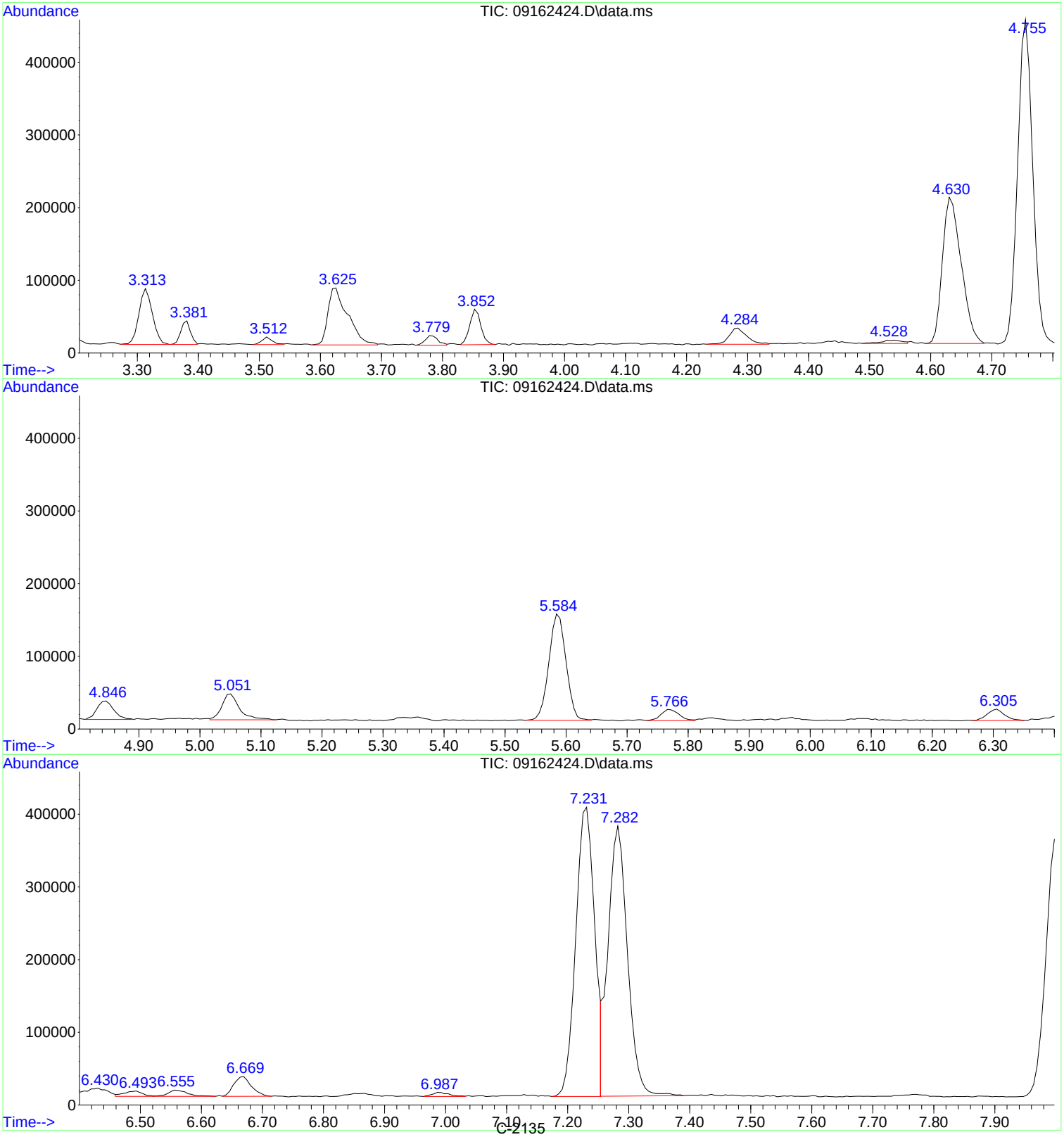
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	69	76	83	rVB2	77000	118362	13.75%	2.997%
2	3.381	83	88	91	rBV	32492	35922	4.17%	0.910%
3	3.512	107	111	116	rBV	10545	12233	1.42%	0.310%
4	3.625	124	131	143	rBV2	78339	175637	20.41%	4.448%
5	3.779	154	158	163	rBV	13321	19623	2.28%	0.497%
6	3.852	167	171	177	rVB	48585	61867	7.19%	1.567%
7	4.284	238	247	256	rBV	22259	44505	5.17%	1.127%
8	4.528	283	290	296	rBV4	4740	11436	1.33%	0.290%
9	4.630	301	308	318	rVV	201156	429937	49.95%	10.887%
10	4.755	322	330	340	rBV	446339	768900	89.33%	19.471%
11	4.846	340	346	354	rBV	25472	48959	5.69%	1.240%
12	5.051	376	382	395	rVB2	35594	70985	8.25%	1.798%
13	5.584	467	476	486	rBV	146408	285302	33.15%	7.225%
14	5.766	502	508	516	rBV	15357	31569	3.67%	0.799%
15	6.305	596	603	611	rBV2	15657	30484	3.54%	0.772%
16	6.430	615	625	630	rVV4	11367	33716	3.92%	0.854%
17	6.493	630	636	641	rVV4	7535	15297	1.78%	0.387%
18	6.555	641	647	659	rVV4	8735	18892	2.19%	0.478%
19	6.669	661	667	675	rVV	27318	54741	6.36%	1.386%
20	6.987	719	723	731	rBV2	5732	10449	1.21%	0.265%
21	7.231	756	766	770	rBV	398056	860733	100.00%	21.797%
22	7.282	770	775	794	rVB	371273	809380	94.03%	20.496%

Sum of corrected areas: 3948929

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162424.D
Acq On : 16 Sep 2024 22:37
Operator : SC
Sample : P2403661-064 (400mL)
Misc : S37-08262404
ALS Vial : 12 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162424.D
Acq On : 16 Sep 2024 22:377
Operator : SCC
Sample : P2403661-064 (400mL))
Misc : S37-082624044
ALS Vial : 12 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/30/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

					--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:02:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127579	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	565868	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	167234	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	332628	13.933	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
57) Toluene-d8 (SS2)	12.43	98	650391	11.086	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%				
73) Bromofluorobenzene (SS3)	16.82	174	228027	11.622	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.37	85	21490m	0.694	ng		
4) Chloromethane	3.50	50	1006	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	754	0.067	ng		82
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.80	54	196	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	25596	1.849	ng		74
11) Acetonitrile	4.49	41	142	N.D.			
12) Acrolein	4.54	56	3483	0.329	ng		95
13) Acetone	4.64	58	43071	3.687	ng		89
14) Trichlorofluoromethane	4.77	101	24492367	829.011	ng		94
15) 2-Propanol (Isopropanol)	4.85	45	6472	0.141	ng	#	56
16) Acrylonitrile	5.00	53	360	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	472	N.D.			
19) Methylene Chloride	5.36	84	505	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.60	151	5175542	442.183	ng		97
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	4256	0.513	ng	#	59
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.30	87	110	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D. d			
31) n-Hexane	7.29	57	181	N.D.			
32) Chloroform	7.36	83	31083	1.223	ng		99
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.62	61	6398	No Calib		#	
40) 1-Butanol	8.81	56	10298	No Calib		#	
41) Benzene	8.90	78	3342	0.063	ng		97
42) Carbon Tetrachloride	9.07	117	879	N.D.			
43) Cyclohexane	9.17	84	862	N.D.			
44) tert-Amyl Methyl Ether	9.61	73	111	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	6910	0.346	ng		98
47) Trichloroethene	10.14	130	3595	0.274	ng		100
48) 1,4-Dioxane	10.14	88	197	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	613	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:02:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

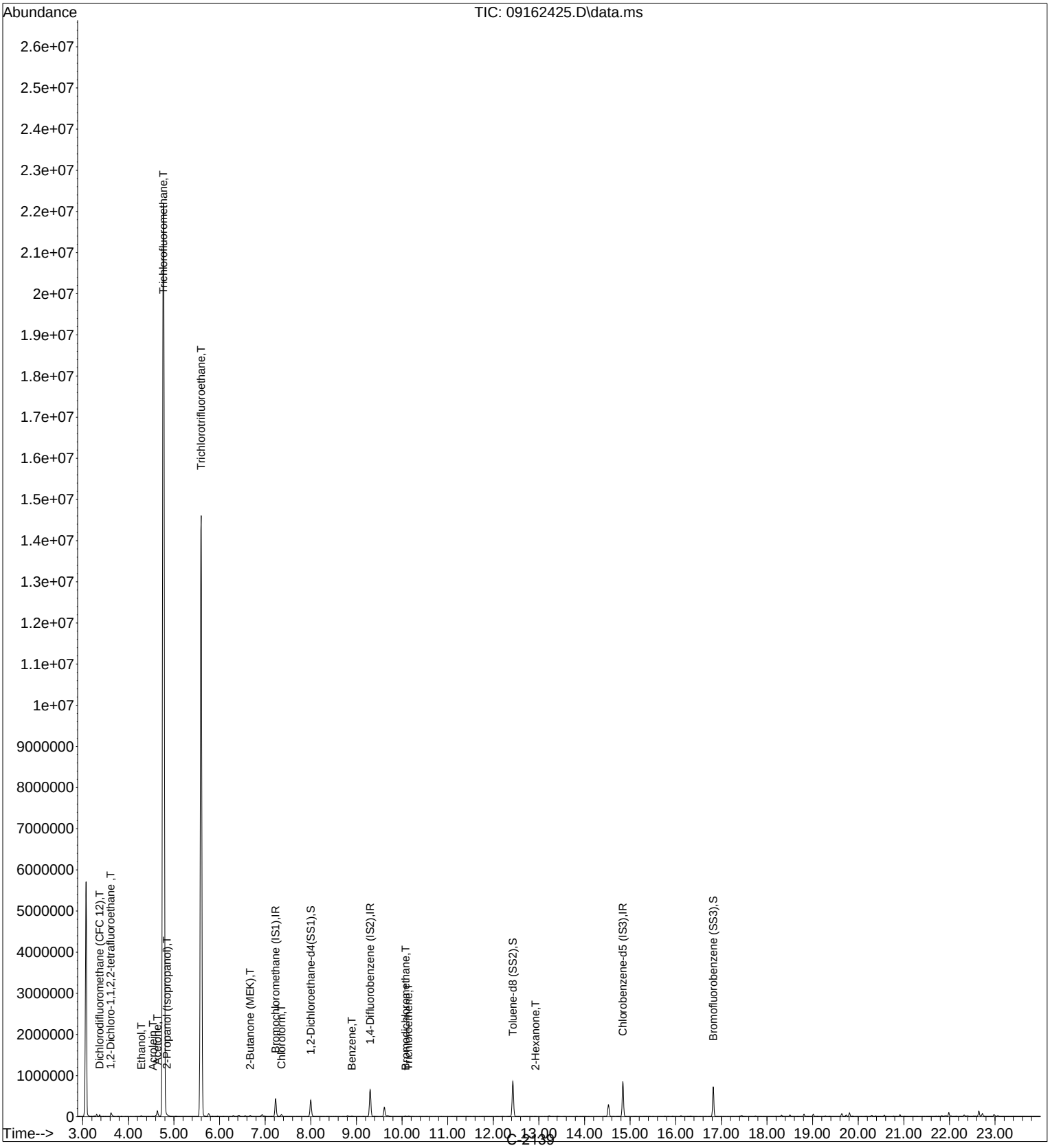
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	11.34	58	228	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2446	N.D.	
59) 2-Hexanone	12.93	43	4130	0.105 ng	75
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.82	43	238	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	14.02	166	269	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	641	N.D.	
67) m- & p-Xylenes	15.64	91	1920	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	571	N.D.	
70) o-Xylene	16.24	91	1063	N.D.	
71) n-Nonane	16.61	43	649	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.01	105	125	N.D.	
75) alpha-Pinene	17.52	93	347	N.D.	
76) n-Propylbenzene	17.68	91	293	N.D.	
77) 3-Ethyltoluene	17.01	105	125	No Calib	#
78) 4-Ethyltoluene	17.86	105	183	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.01	105	125	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	324	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.57	91	135	N.D.	
85) 1,3-Dichlorobenzene	18.57	146	123	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	308	N.D.	
87) sec-Butylbenzene	18.73	105	286	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	543	N.D.	
89) 1,2,3-Trimethylbenzene	17.01	105	125	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	117	N.D.	
91) d-Limonene	19.01	68	261	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	602	N.D.	
95) Naphthalene	20.94	128	951	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	286	N.D.	
98) Cyclohexanone	15.22	55	132	No Calib	#
99) tert-Butylbenzene	18.42	119	226	N.D.	
100) n-Butylbenzene	19.38	91	681	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:02:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
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Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

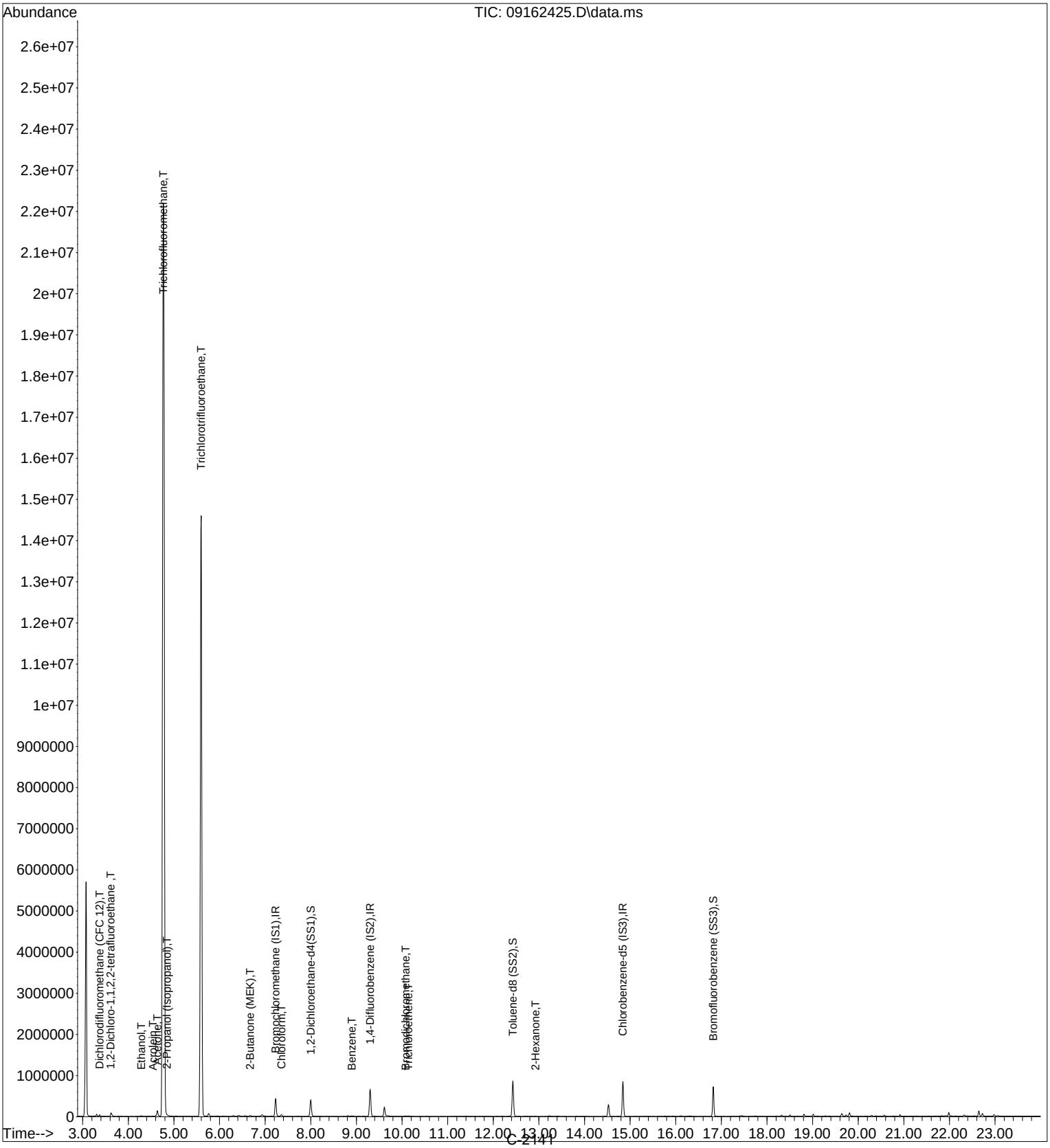
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127579	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	565868	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	167234	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	332628	13.933	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.44%				
57) Toluene-d8 (SS2)	12.43	98	650391	11.086	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%				
73) Bromofluorobenzene (SS3)	16.82	174	228027	11.622	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.96%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	21490m	0.694	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	754	0.067	ng		82
10) Ethanol	4.28	45	25596	1.849	ng		74
12) Acrolein	4.54	56	3483	0.329	ng		95
13) Acetone	4.64	58	43071	3.687	ng		89
14) Trichlorofluoromethane	4.77	101	24492367	829.011	ng		94
15) 2-Propanol (Isopropanol)	4.85	45	6472	0.141	ng	#	56
21) Trichlorotrifluoroethane	5.60	151	5175542	442.183	ng		97
27) 2-Butanone (MEK)	6.67	72	4256	0.513	ng	#	59
32) Chloroform	7.36	83	31083	1.223	ng		99
41) Benzene	8.90	78	3342	0.063	ng		97
46) Bromodichloromethane	10.08	83	6910	0.346	ng		98
47) Trichloroethene	10.14	130	3595	0.274	ng		100
59) 2-Hexanone	12.93	43	4130	0.105	ng		75

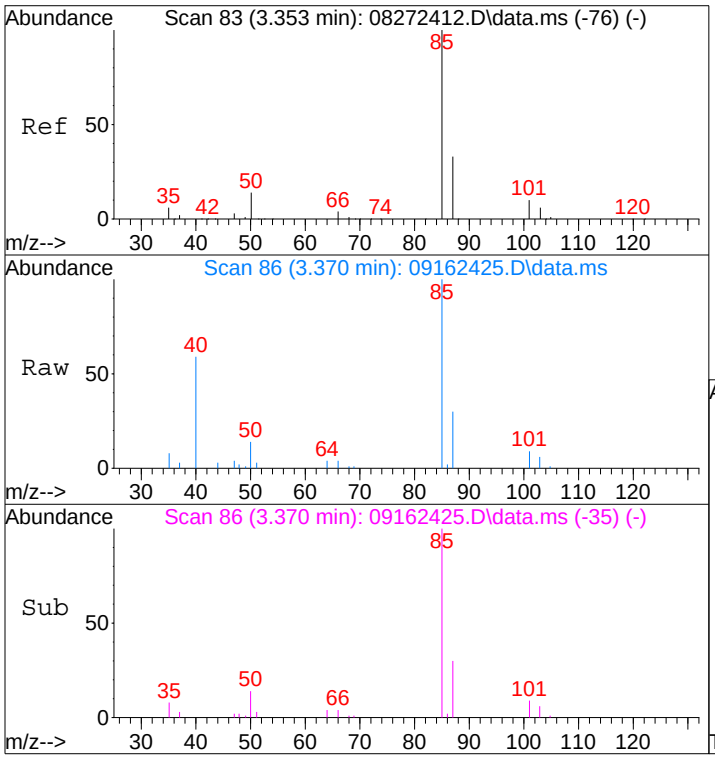
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:02:39 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

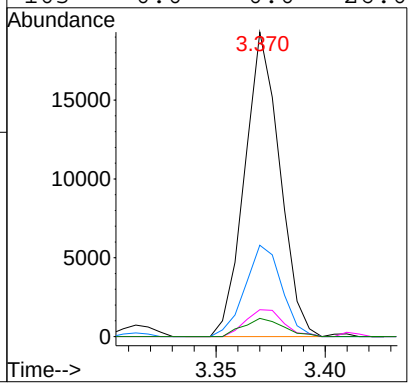


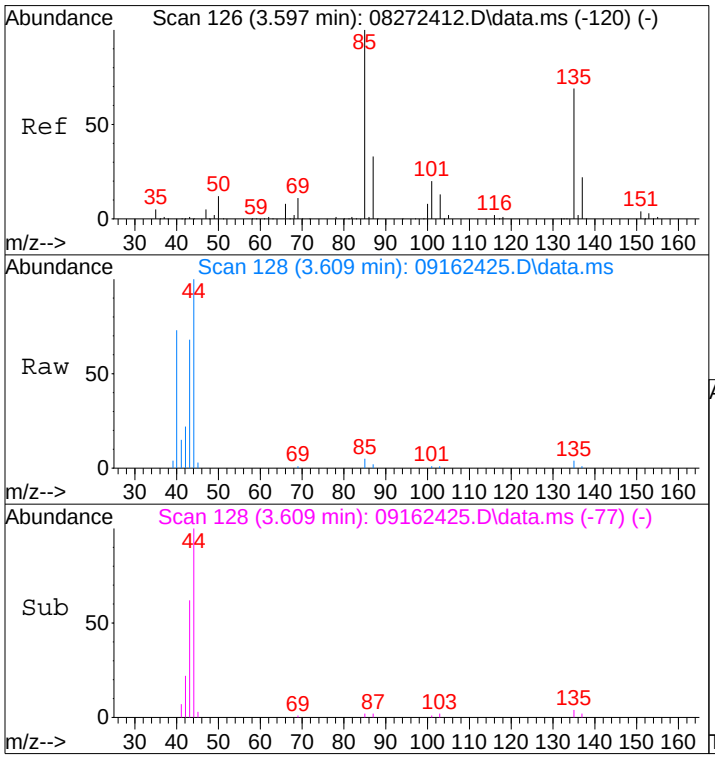


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.69 ng m
RT: 3.37 min Scan# 86
Delta R.T. 0.042 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 85 Resp: 21490

Ion	Ratio	Lower	Upper
85	100		
87	0.9	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

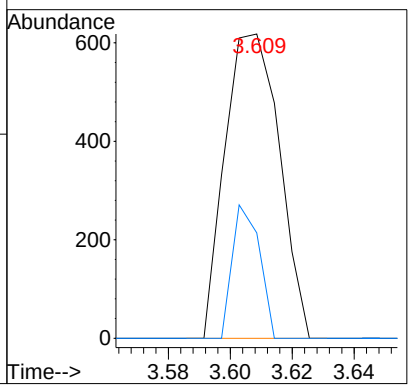


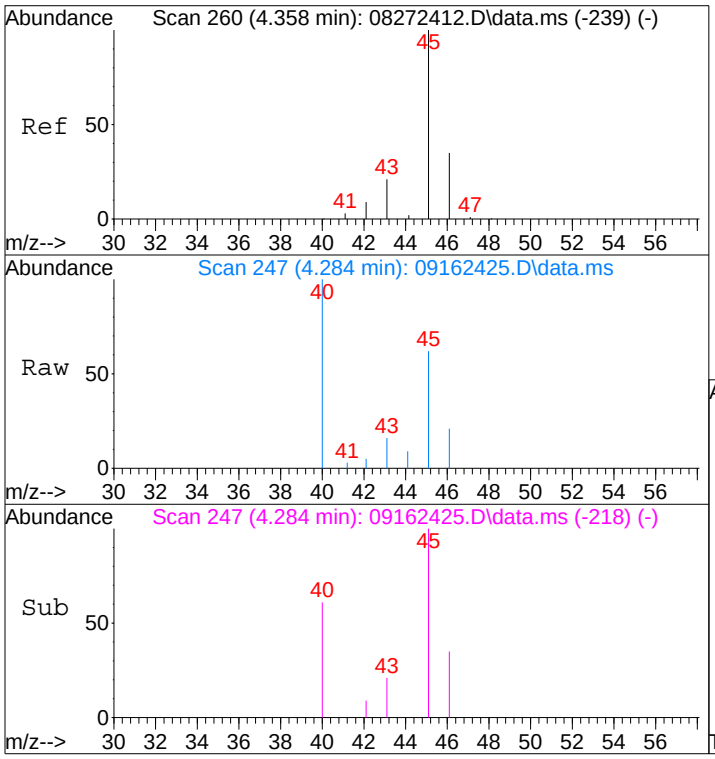


#5
1,2-Dichloro-1,1,2,2-tetrafluoroethane
Concen: 0.07 ng
RT: 3.61 min Scan# 128
Delta R.T. 0.039 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion:135 Resp: 754

Ion	Ratio	Lower	Upper
135	100		
137	21.9	11.6	51.6

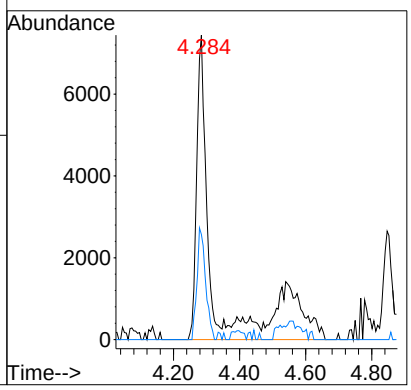


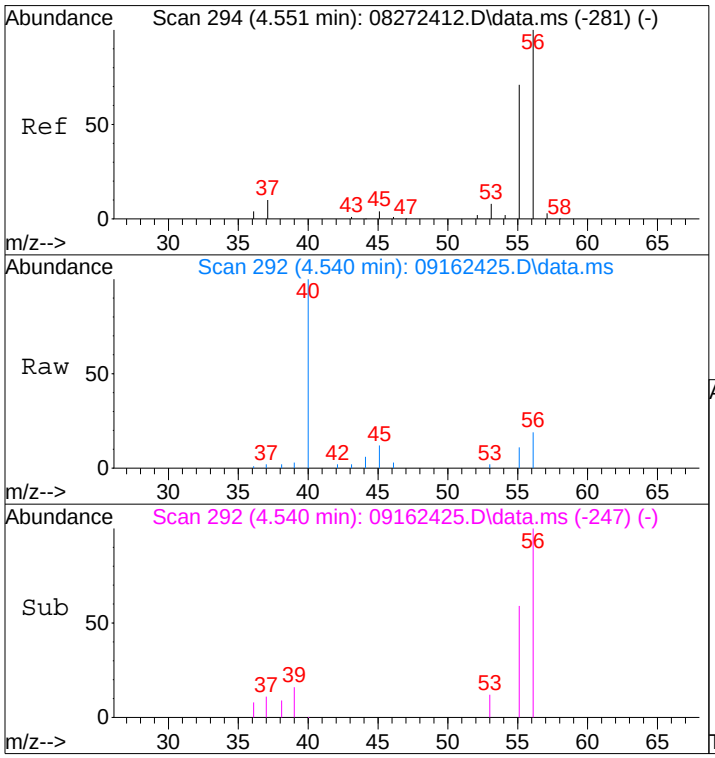


#10
Ethanol
Concen: 1.85 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 45 Resp: 25596

Ion	Ratio	Lower	Upper
45	100		
46	19.4	14.2	54.2

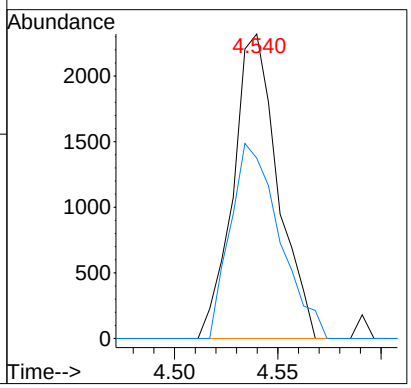


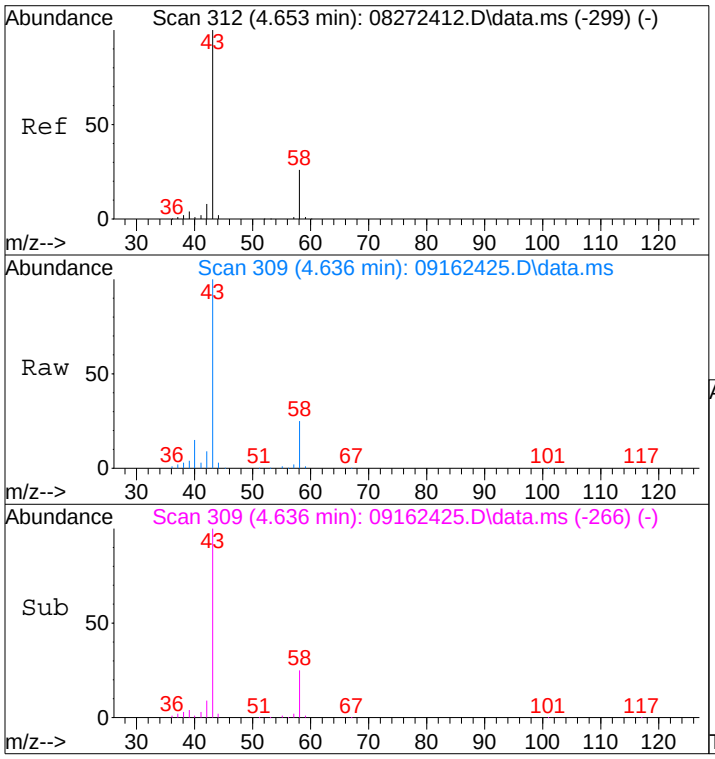


#12
Acrolein
Concen: 0.33 ng
RT: 4.54 min Scan# 292
Delta R.T. 0.005 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 56 Resp: 3483

Ion	Ratio	Lower	Upper
56	100		
55	70.7	54.7	94.7

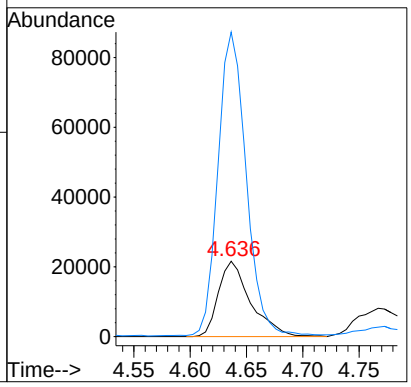


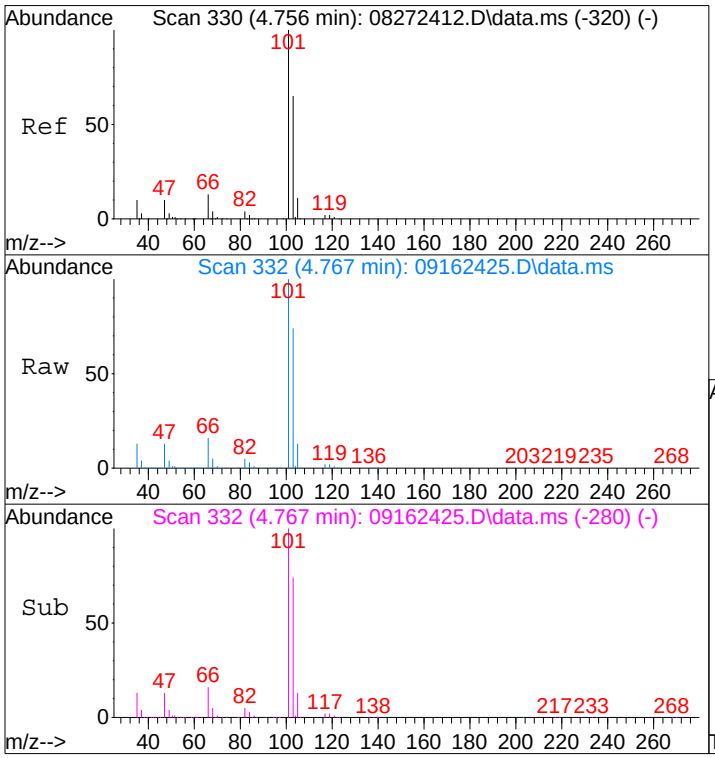


#13
Acetone
Concen: 3.69 ng
RT: 4.64 min Scan# 309
Delta R.T. -0.006 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 58 Resp: 43071

Ion	Ratio	Lower	Upper
58	100		
43	352.3	347.3	407.3

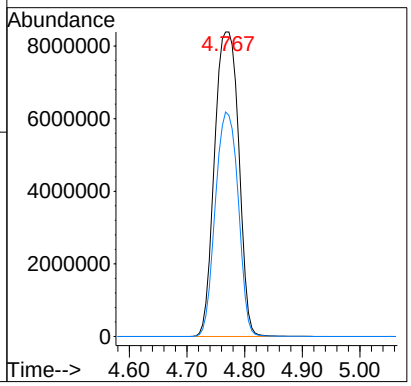


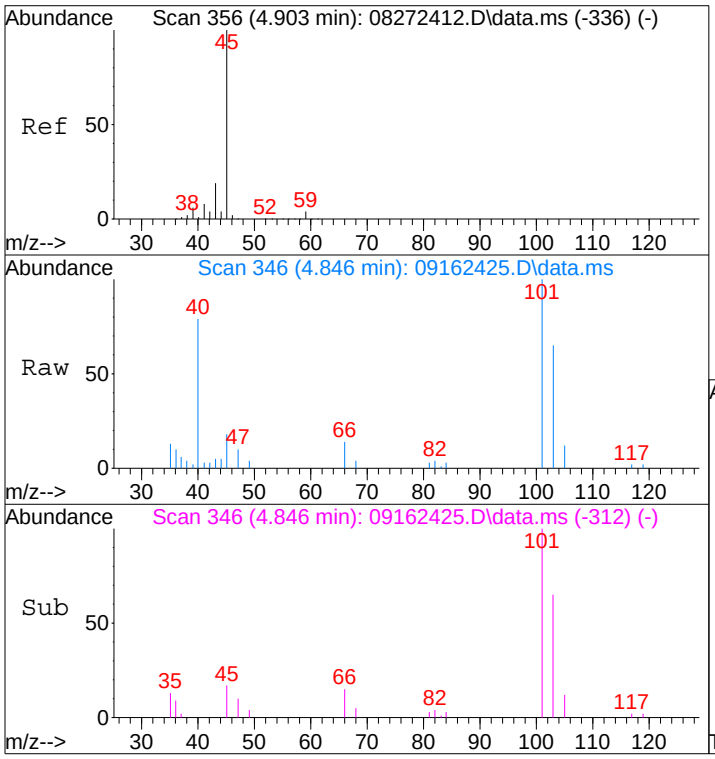


#14
Trichlorofluoromethane
Concen: 829.01 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.046 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion:101 Resp:24492367

Ion	Ratio	Lower	Upper
101	100		
103	69.6	44.9	84.9

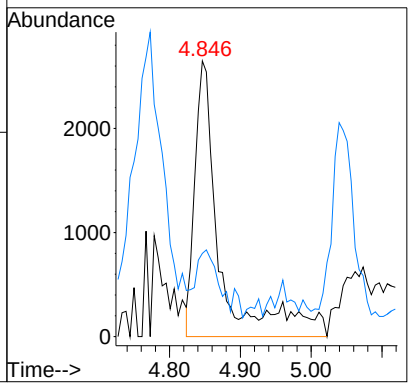


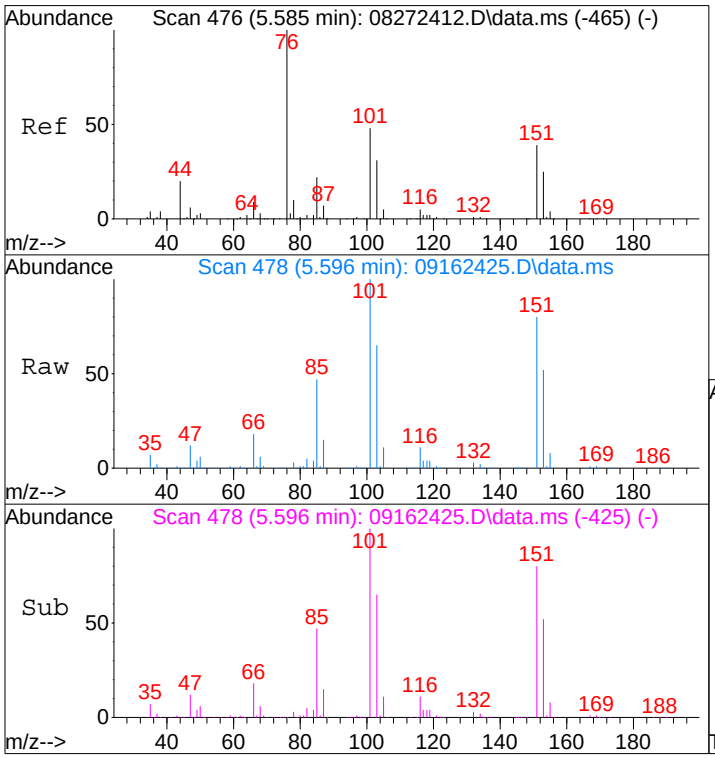


#15
2-Propanol (Isopropanol)
Concen: 0.14 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.060 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 45 Resp: 6472

Ion	Ratio	Lower	Upper
45	100		
43	0.0	0.0	40.0

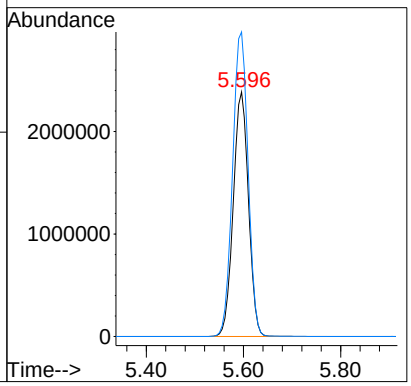


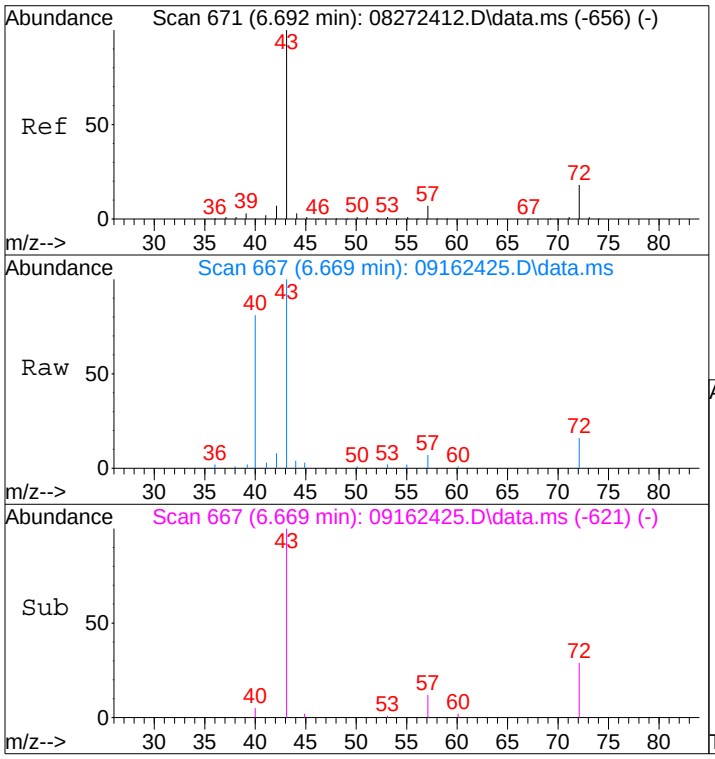


#21
Trichlorotrifluoroethane
Concen: 442.18 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.050 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion:151 Resp: 5175542

Ion	Ratio	Lower	Upper
151	100		
101	126.9	103.4	143.4

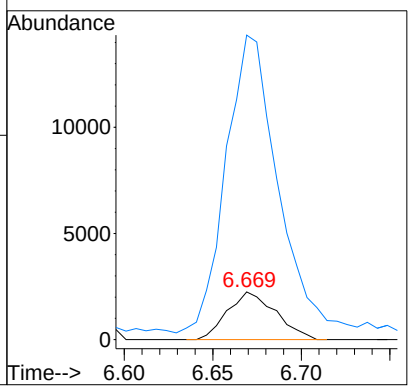


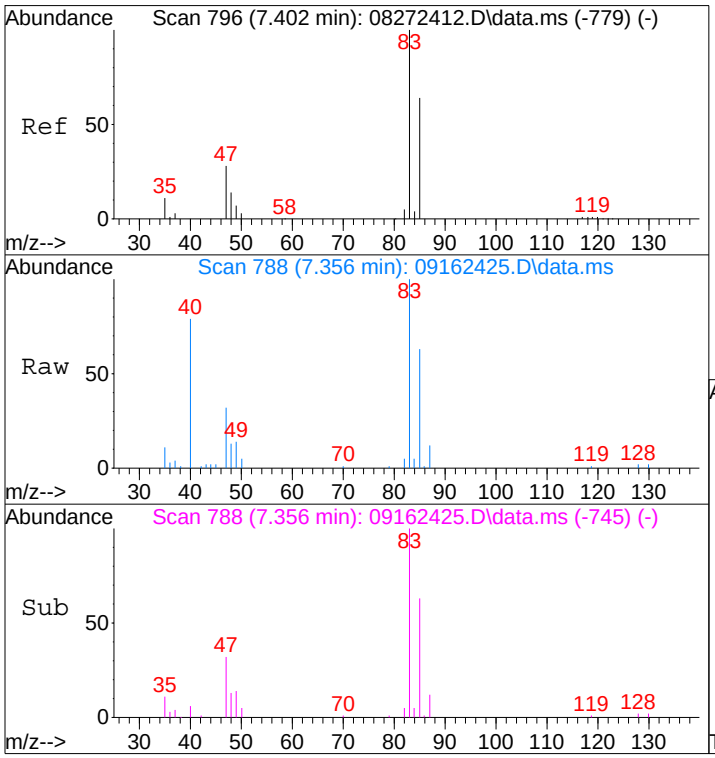


#27
2-Butanone (MEK)
Concen: 0.51 ng
RT: 6.67 min Scan# 667
Delta R.T. 0.011 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 72 Resp: 4256

Ion	Ratio	Lower	Upper
72	100		
43	691.0	548.0	588.0#

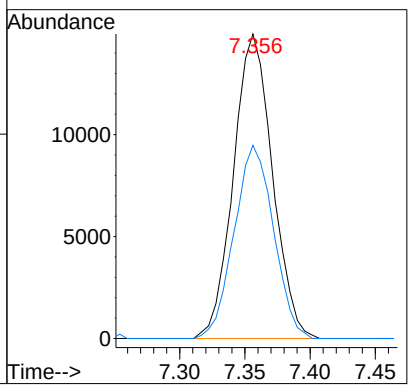


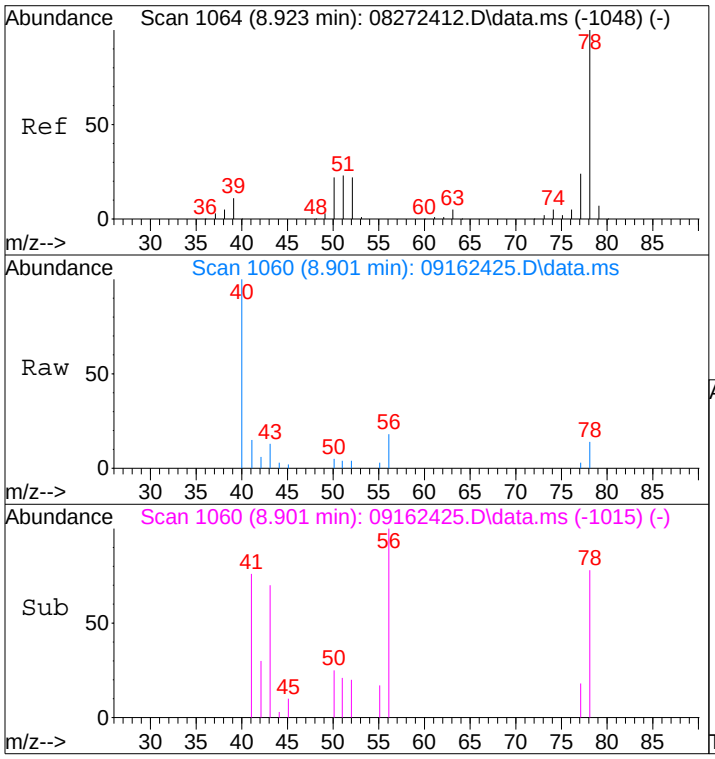


#32
Chloroform
Concen: 1.22 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.004 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 83 Resp: 31083

Ion	Ratio	Lower	Upper
83	100		
85	64.1	45.3	85.3

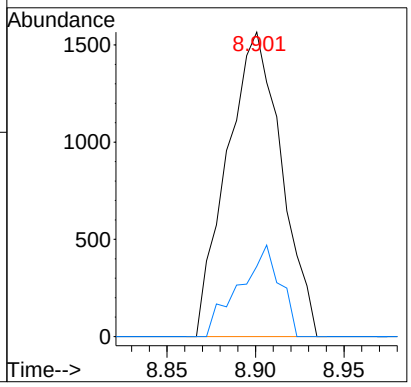


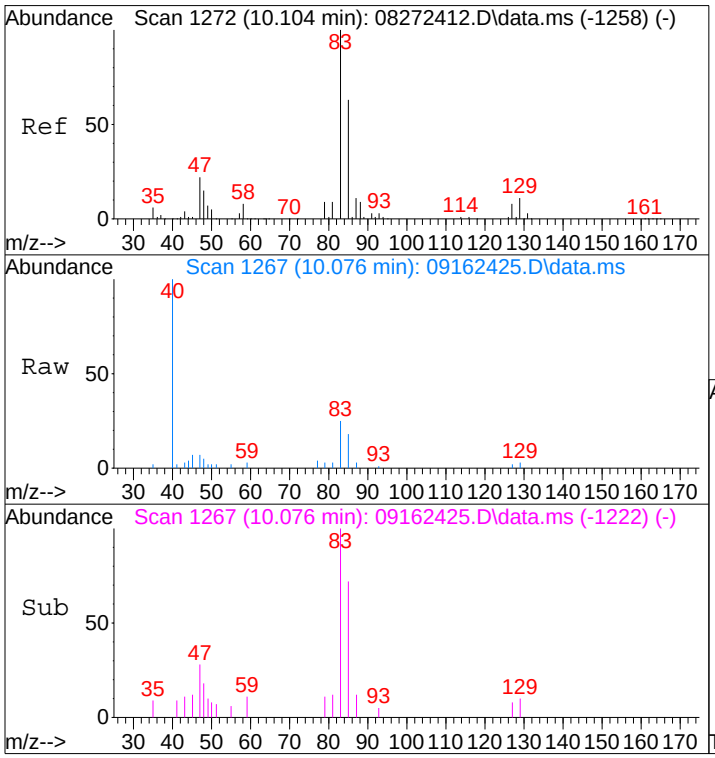


#41
Benzene
Concen: 0.06 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.004 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 78 Resp: 3342

Ion	Ratio	Lower	Upper
78	100		
77	22.6	3.9	43.9

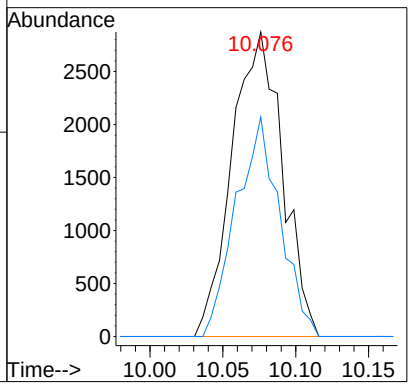


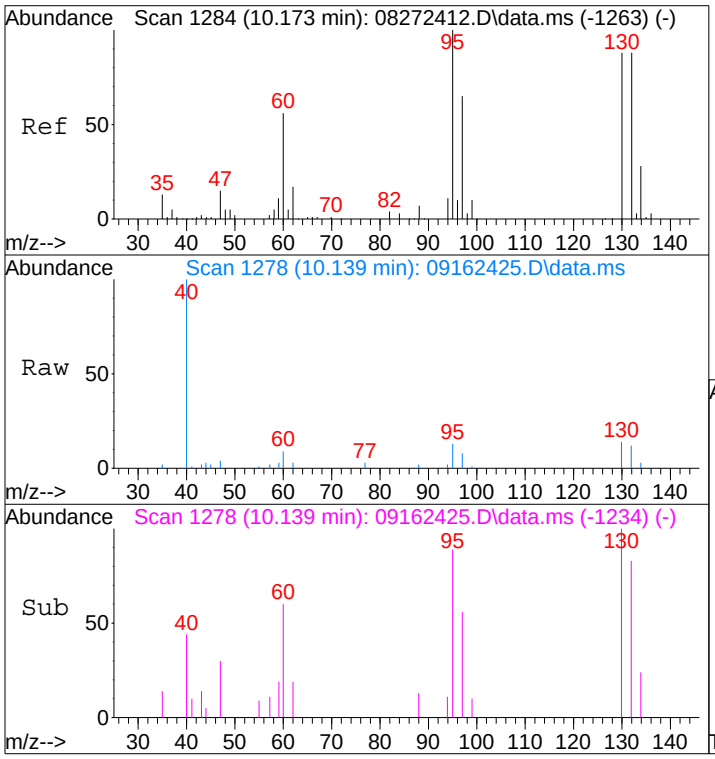


#46
Bromodichloromethane
Concen: 0.35 ng
RT: 10.08 min Scan# 1267
Delta R.T. 0.004 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 83 Resp: 6910

Ion	Ratio	Lower	Upper
83	100		
85	62.5	43.9	83.9

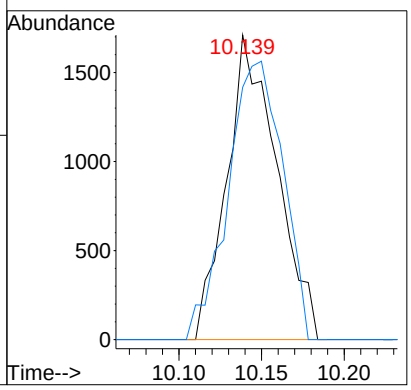


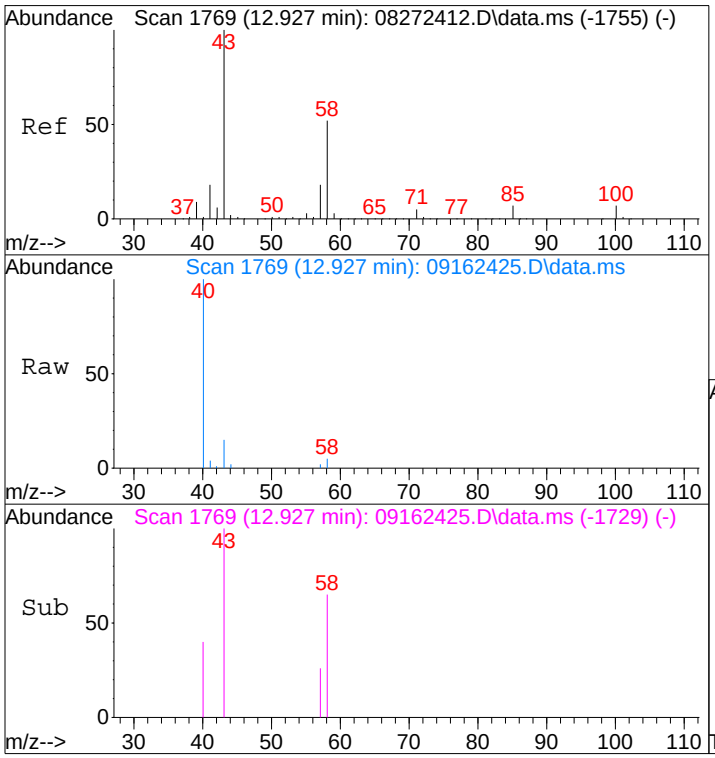


#47
Trichloroethene
Concen: 0.27 ng
RT: 10.14 min Scan# 1278
Delta R.T. -0.001 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion:130 Resp: 3595

Ion	Ratio	Lower	Upper
130	100		
132	100.4	80.8	120.8

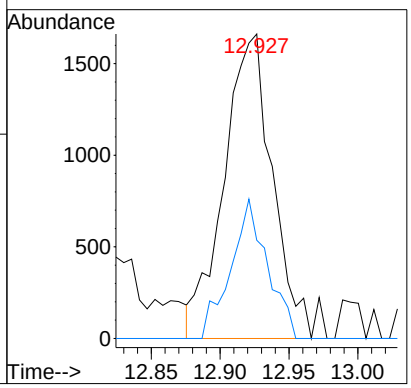




#59
2-Hexanone
Concen: 0.11 ng
RT: 12.93 min Scan# 1769
Delta R.T. -0.022 min
Lab File: 09162425.D
Acq: 16 Sep 2024 23:09

Tgt Ion: 43 Resp: 4130

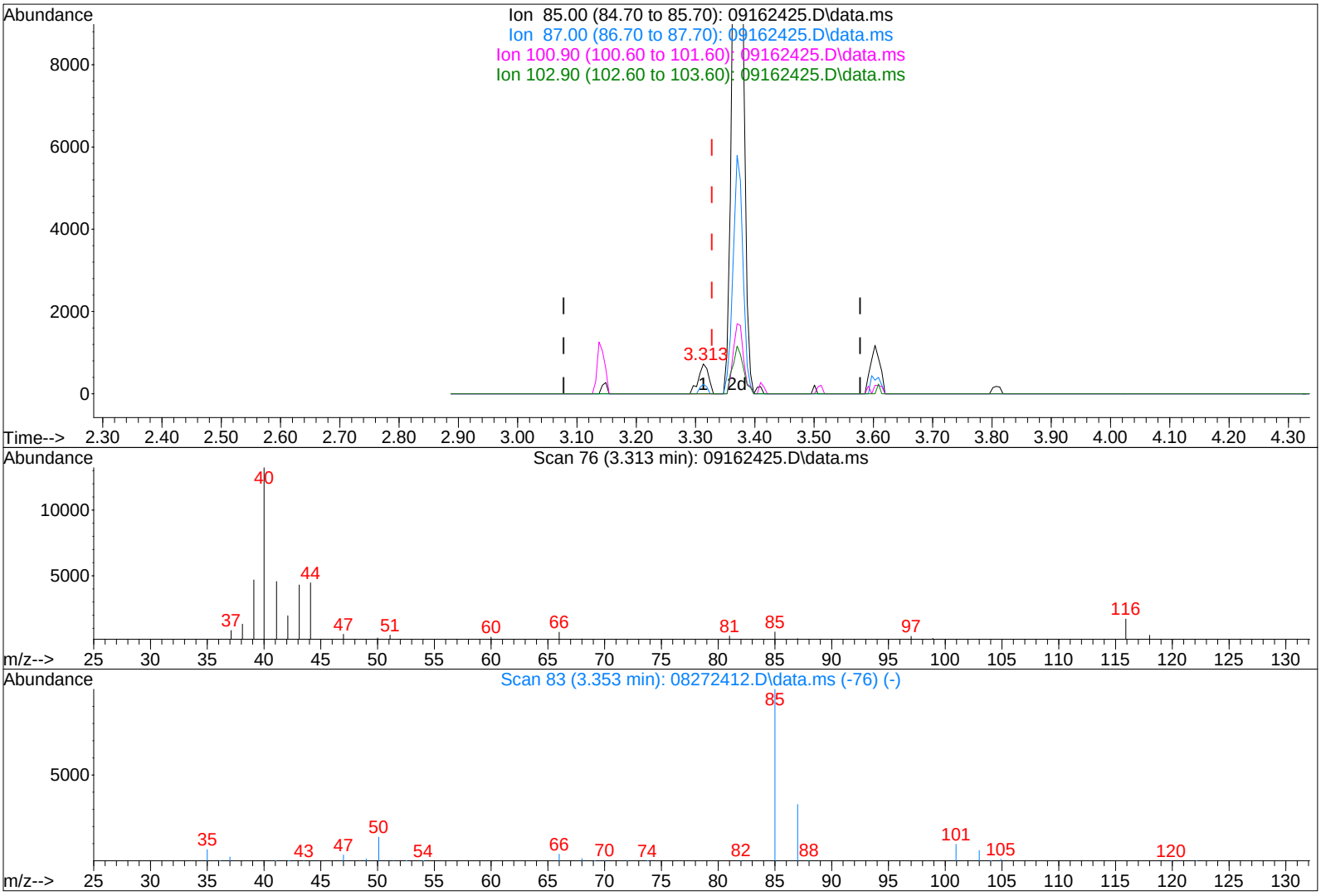
Ion	Ratio	Lower	Upper
43	100		
58	34.0	31.1	71.1



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:34:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162425.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.313min (-0.014) 0.03ng

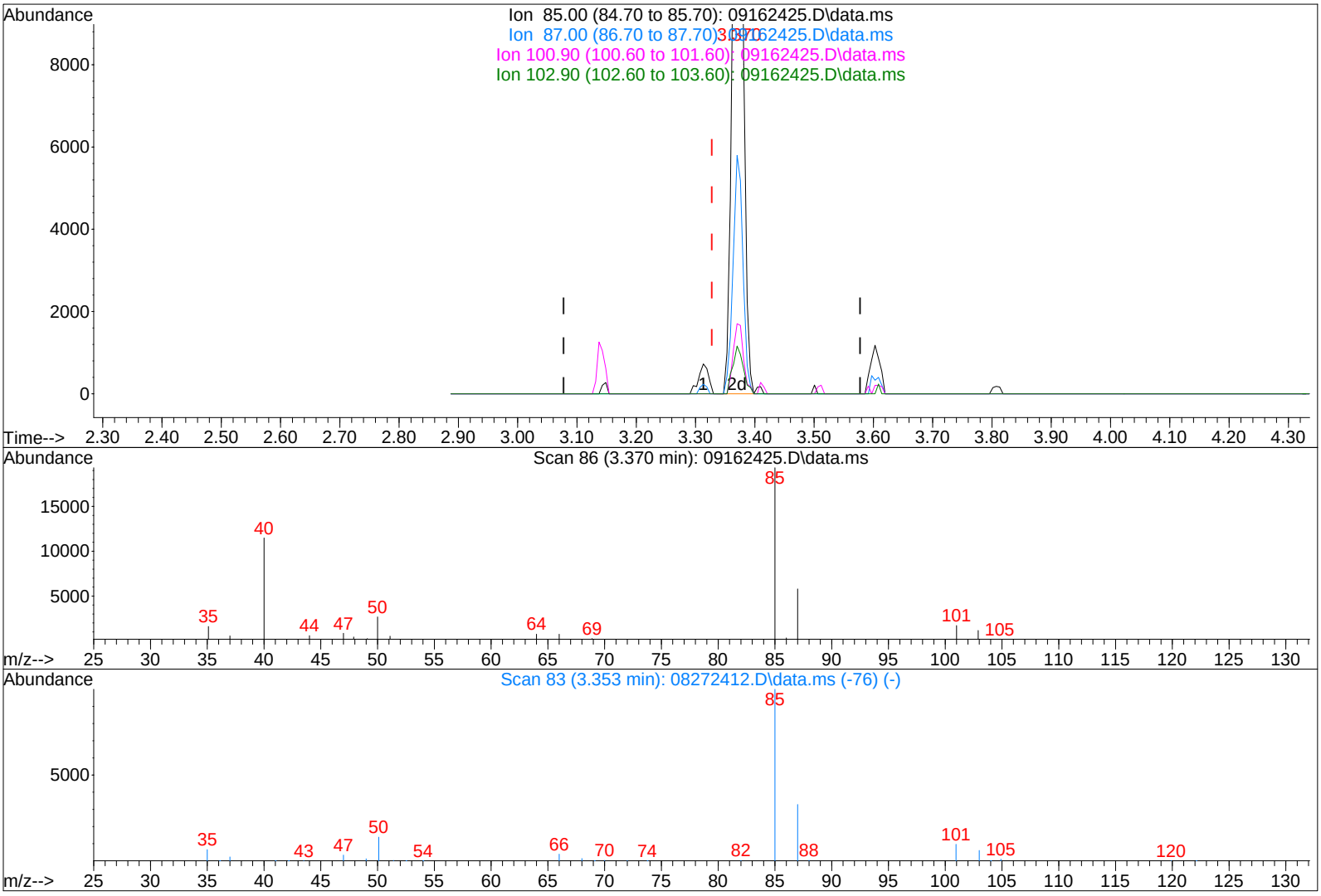
response 849

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	22.26
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162425.D Vial: 13
Acq On : 16 Sep 2024 23:09 Operator: SC
Sample : P2403661-065 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:34:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162425.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.370min (+0.042) 0.69ng m

response 21490

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.88#
100.90	9.40	0.00
102.90	6.00	0.00

MP

9/17/24

LH 9/30/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162425.D
Acq On : 16 Sep 2024 23:09
Operator : SC
Sample : P2403661-065 (400mL)
Misc : S37-08262404
ALS Vial : 13 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 07:55:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

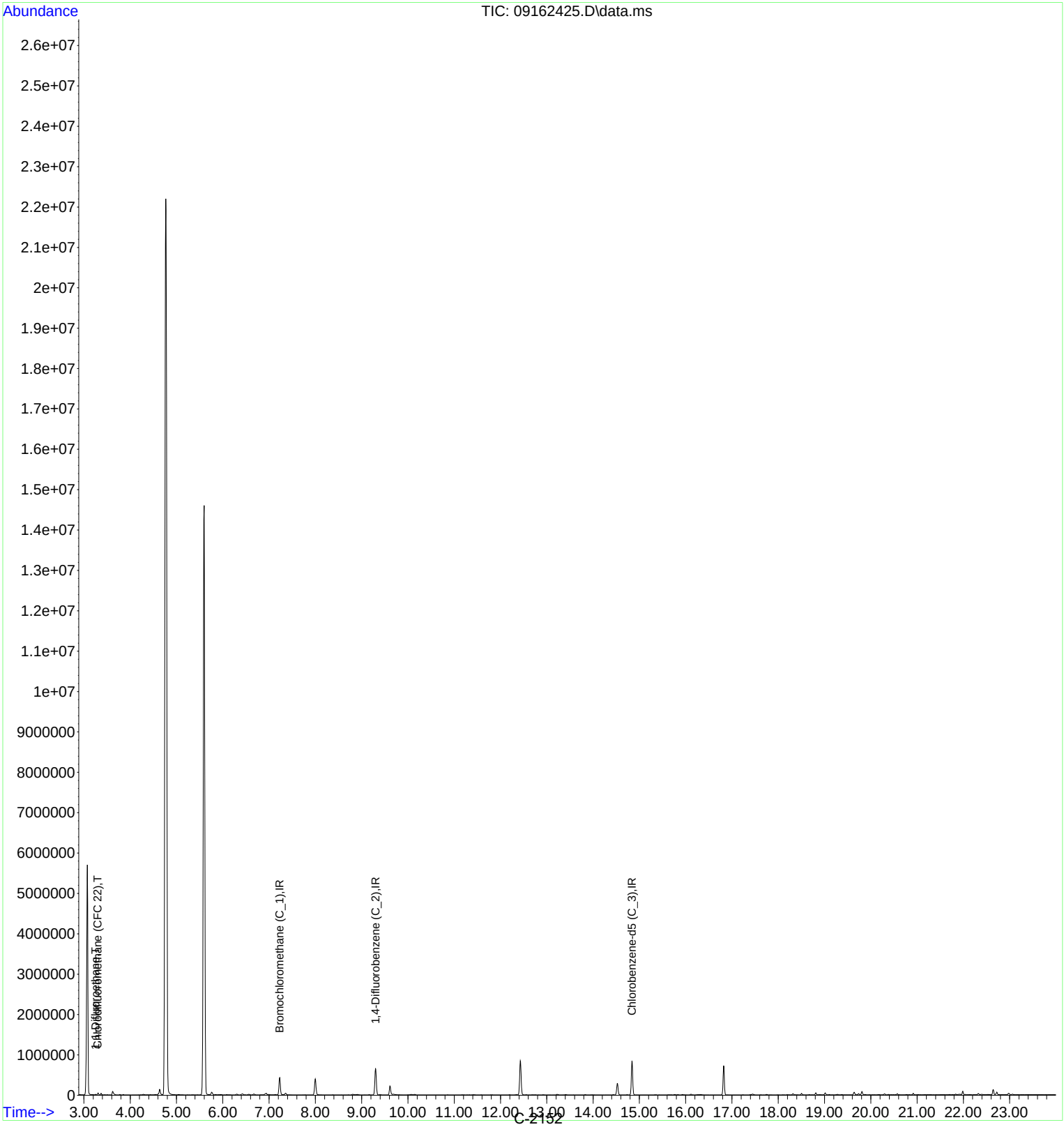
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	127579	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	565868	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	167234	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	162	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.	d	
4) 1,1-Difluoroethane	3.25	65	2620	0.235	ng	87
5) Chlorodifluoromethane ...	3.30	67	493	0.113	ng	86
6) 1-Chloro-1,1-Difluoroe...	3.50	65	513	N.D.		
7) Dichlorofluoromethane ...	4.22	67	1760	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	606	N.D.		
10) 2-Methylbutane	0.00	57	0	N.D.	d	
11) Methyl Acetate	5.34	43	1364	N.D.		
12) 2-Methylpentane	6.49	71	212	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	9.62	56	532	N.D.		
18) Dibromomethane	0.00	174	0	N.D.		
20) Methyl Cyclohexane	11.40	55	71	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	16.33	75	184	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.60	91	134	N.D.		
27) 4-Chlorotoluene	17.68	91	293	N.D.		
28) Indane	19.12	117	257	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	58	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162425.D
Acq On : 16 Sep 2024 23:09
Operator : SC
Sample : P2403661-065 (400mL)
Misc : S37-08262404
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 30 07:55:49 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration



C-2152

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172411.D Vial: 13
Acq On : 17 Sep 2024 14:23 Operator: SC
Sample : P2403661-065Dil (20mL) Inst : MS09
Misc : S37-08262404

9/17/24

Quant Time: Sep 17 14:46:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	127627	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	557053	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	162006	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	327318	13.706	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%			
57) Toluene-d8 (SS2)	12.43	98	633363	11.144	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%			
73) Bromofluorobenzene (SS3)	16.82	174	214795	11.301	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.40%			
Target Compounds						Qvalue
2) Propene	3.33	42	374	N.D.		
3) Dichlorodifluoromethan...	3.40	85	786	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.32	45	2188	0.158	ng	89
11) Acetonitrile	4.47	41	68	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.66	58	2261	0.193	ng	100
14) Trichlorofluoromethane	4.76	101	1207679	40.862	ng	100
15) 2-Propanol (Isopropanol)	4.93	45	546	N.D.		
16) Acrylonitrile	5.02	53	64	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.36	84	142	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	168579	14.397	ng	99
22) Carbon Disulfide	5.62	76	645	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.36	83	928	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	0.00	62	0	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.86	56	466	No Calib	#	
41) Benzene	8.90	78	1316	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	866	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172411.D Vial: 13
Acq On : 17 Sep 2024 14:23 Operator: SC
Sample : P2403661-065Dil (20mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:46:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

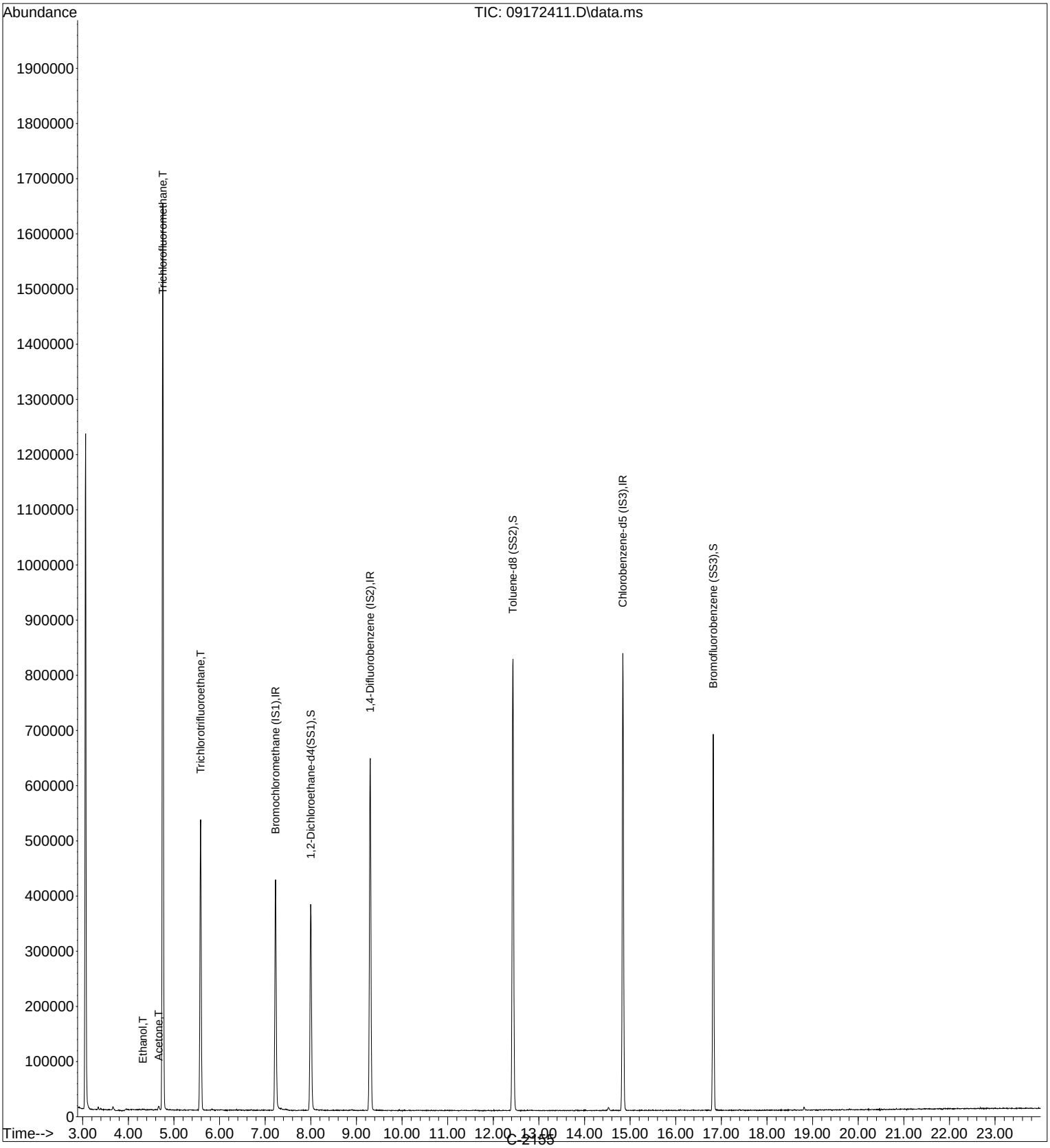
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.57	91	126	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	15.66	91	185	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	0.00	91	0	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	0.00	105	0	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	18.66	146	183	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	183	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.04	146	107	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	483	N.D.		
95) Naphthalene	20.94	128	458	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.31	225	185	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.44	119	106	N.D.		
100) n-Butylbenzene	19.38	91	139	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172411.D Vial: 13
Acq On : 17 Sep 2024 14:23 Operator: SC
Sample : P2403661-065Dil (20mL) Inst : MS09
Misc : S37-08262404

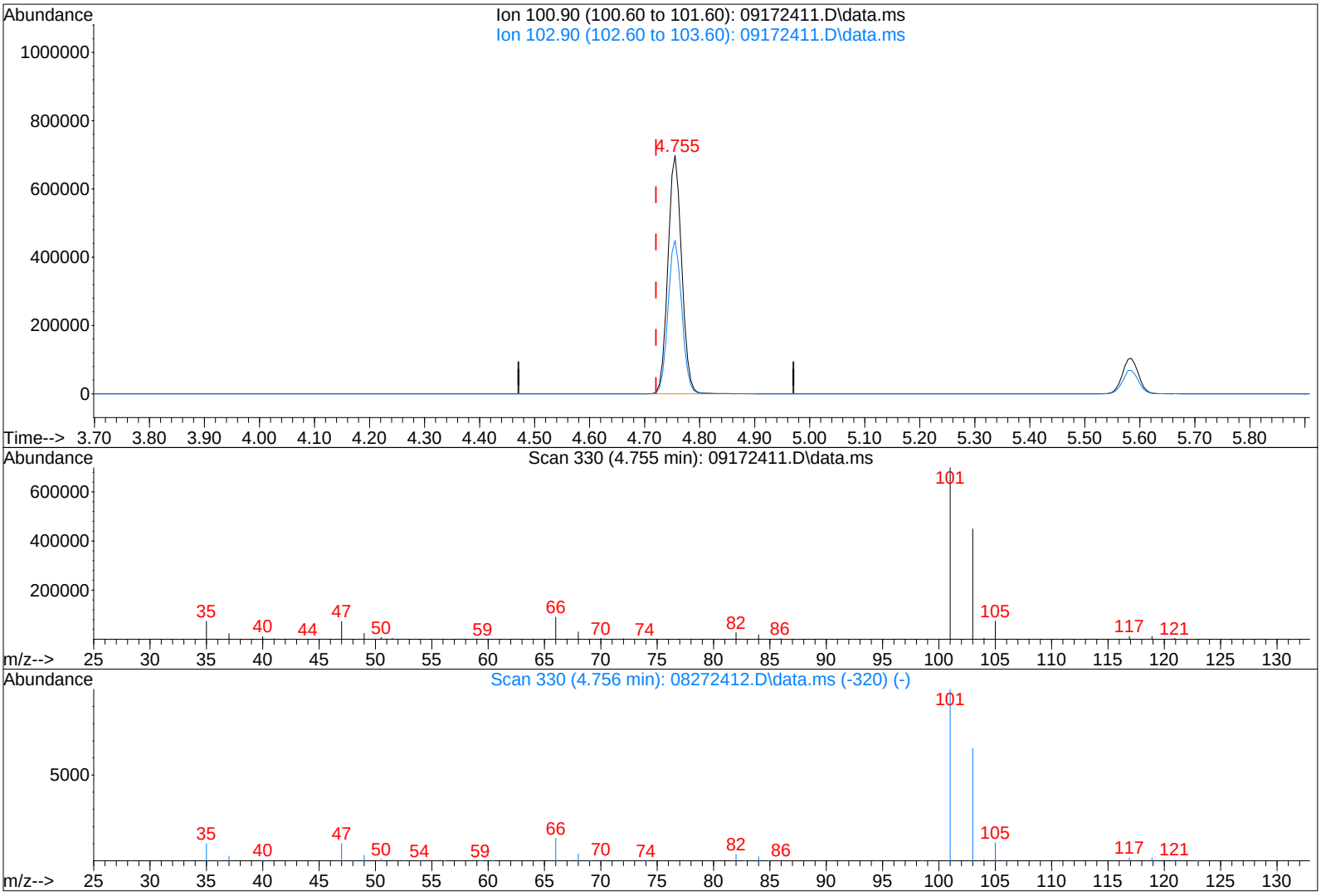
Quant Time: Sep 17 14:46:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172411.D Vial: 13
Acq On : 17 Sep 2024 14:23 Operator: SC
Sample : P2403661-065Dil (20mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:46:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172411.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.035) 40.86ng

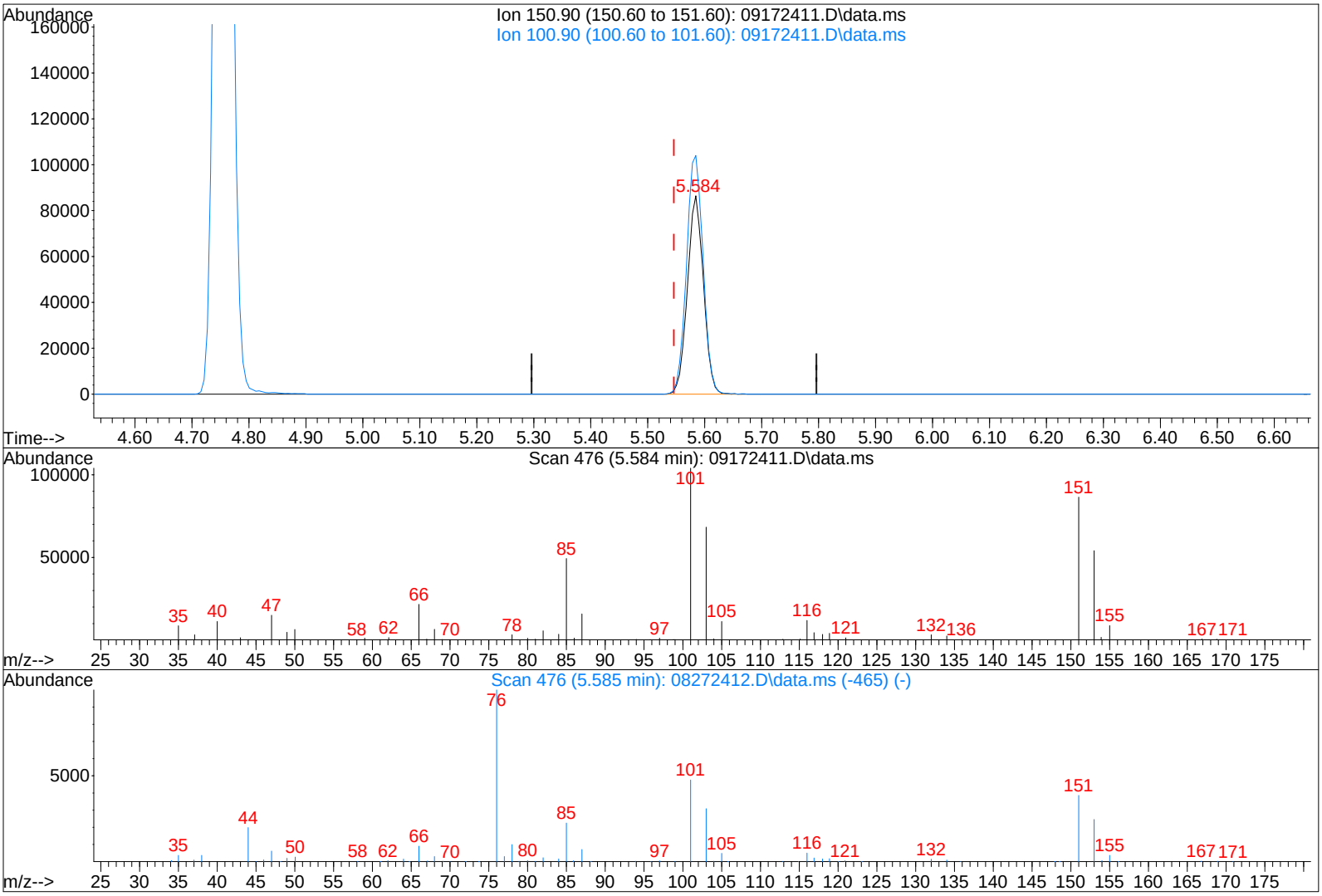
response 1207679

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172411.D Vial: 13
Acq On : 17 Sep 2024 14:23 Operator: SC
Sample : P2403661-065Dil (20mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 14:46:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172411.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.584min (+0.038) 14.40ng

response 168579

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	124.59
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162425.D
Acq On : 16 Sep 2024 23:09
Operator : SC
Sample : P2403661-065 (400mL)
Misc : S37-08262404
ALS Vial : 13 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162425.D\data.ms

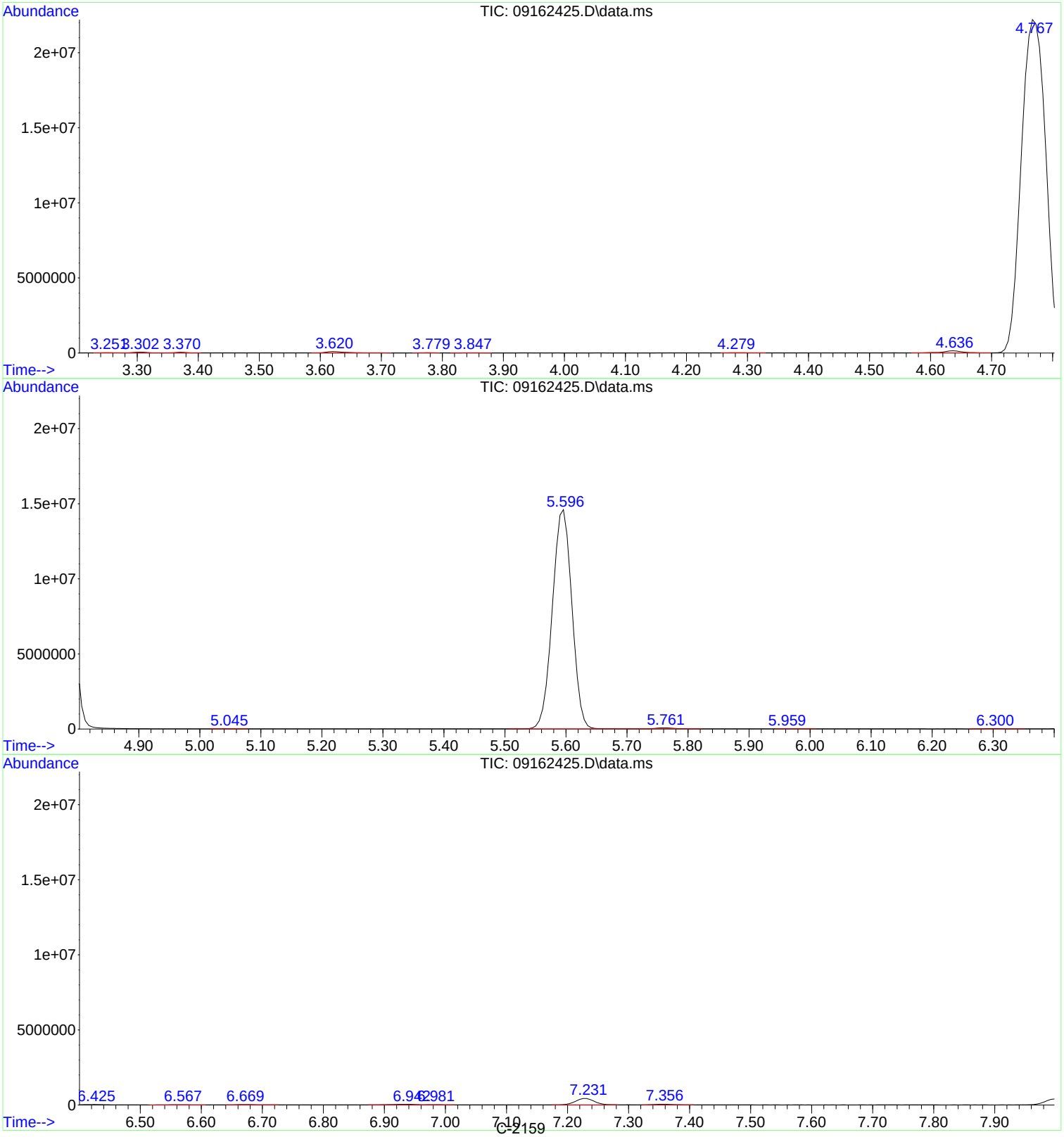
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.251	61	65	69	rVV	11617	13597	0.02%	0.014%
2	3.302	69	74	81	rVB3	47472	68549	0.11%	0.071%
3	3.370	81	86	92	rBV	37244	46095	0.07%	0.048%
4	3.620	124	130	147	rVB	85400	181801	0.30%	0.189%
5	3.779	153	158	161	rBV2	9075	12309	0.02%	0.013%
6	3.847	164	170	176	rVB2	8202	11744	0.02%	0.012%
7	4.279	242	246	255	rVB2	13573	26098	0.04%	0.027%
8	4.636	297	309	320	rVV	133639	276545	0.45%	0.288%
9	4.767	321	332	361	rBV	22190255	61470015	100.00%	64.050%
10	5.045	376	381	387	rVB4	6064	10613	0.02%	0.011%
11	5.596	462	478	499	rBV	14597268	32431565	52.76%	33.793%
12	5.761	499	507	518	rVB	64341	133914	0.22%	0.140%
13	5.959	539	542	551	rVB4	7864	13336	0.02%	0.014%
14	6.300	595	602	611	rBV	19670	41850	0.07%	0.044%
15	6.425	611	624	634	rVV3	23705	64089	0.10%	0.067%
16	6.567	640	649	656	rBV4	14507	34736	0.06%	0.036%
17	6.669	662	667	677	rBV	20251	40721	0.07%	0.042%
18	6.942	703	715	719	rBV	35110	88667	0.14%	0.092%
19	6.981	719	722	728	rVB4	6896	13173	0.02%	0.014%
20	7.231	756	766	775	rBV	425230	907117	1.48%	0.945%
21	7.356	782	788	797	rVB2	41125	85037	0.14%	0.089%

Sum of corrected areas: 95971571

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162425.D
Acq On : 16 Sep 2024 23:09
Operator : SC
Sample : P2403661-065 (400mL)
Misc : S37-08262404
ALS Vial : 13 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162425.D
Acq On : 16 Sep 2024 23:099
Operator : SCC
Sample : P2403661-065 (400mL))
Misc : S37-082624044
ALS Vial : 13 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

MOA 9/30/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:00:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124937	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	539105	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	160294	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	318454	13.621	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.96%				
57) Toluene-d8 (SS2)	12.43	98	615668	10.949	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
73) Bromofluorobenzene (SS3)	16.82	174	211193	11.230	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.38	85	2714m	0.089	ng		
4) Chloromethane	3.38	50	442	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	172	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.36	45	55	N.D.			
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.55	56	329	N.D.			
13) Acetone	4.65	58	4106	0.359	ng		91
14) Trichlorofluoromethane	4.76	101	12705885	439.160	ng		98
15) 2-Propanol (Isopropanol)	4.91	45	56	N.D.			
16) Acrylonitrile	0.00	53	0	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.35	59	108	N.D.			
19) Methylene Chloride	5.35	84	268	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	2593366	226.255	ng		96
22) Carbon Disulfide	5.60	76	57722	1.292	ng	#	1
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	6.69	72	122	N.D.			
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.31	87	250	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.34	83	1512	0.061	ng		95
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	0.00	62	0	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	2102	No Calib			
41) Benzene	8.90	78	1147	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	0.00	84	0	N.D.	d		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.06	83	629	N.D.			
47) Trichloroethene	10.14	130	645	0.052	ng		91
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:00:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

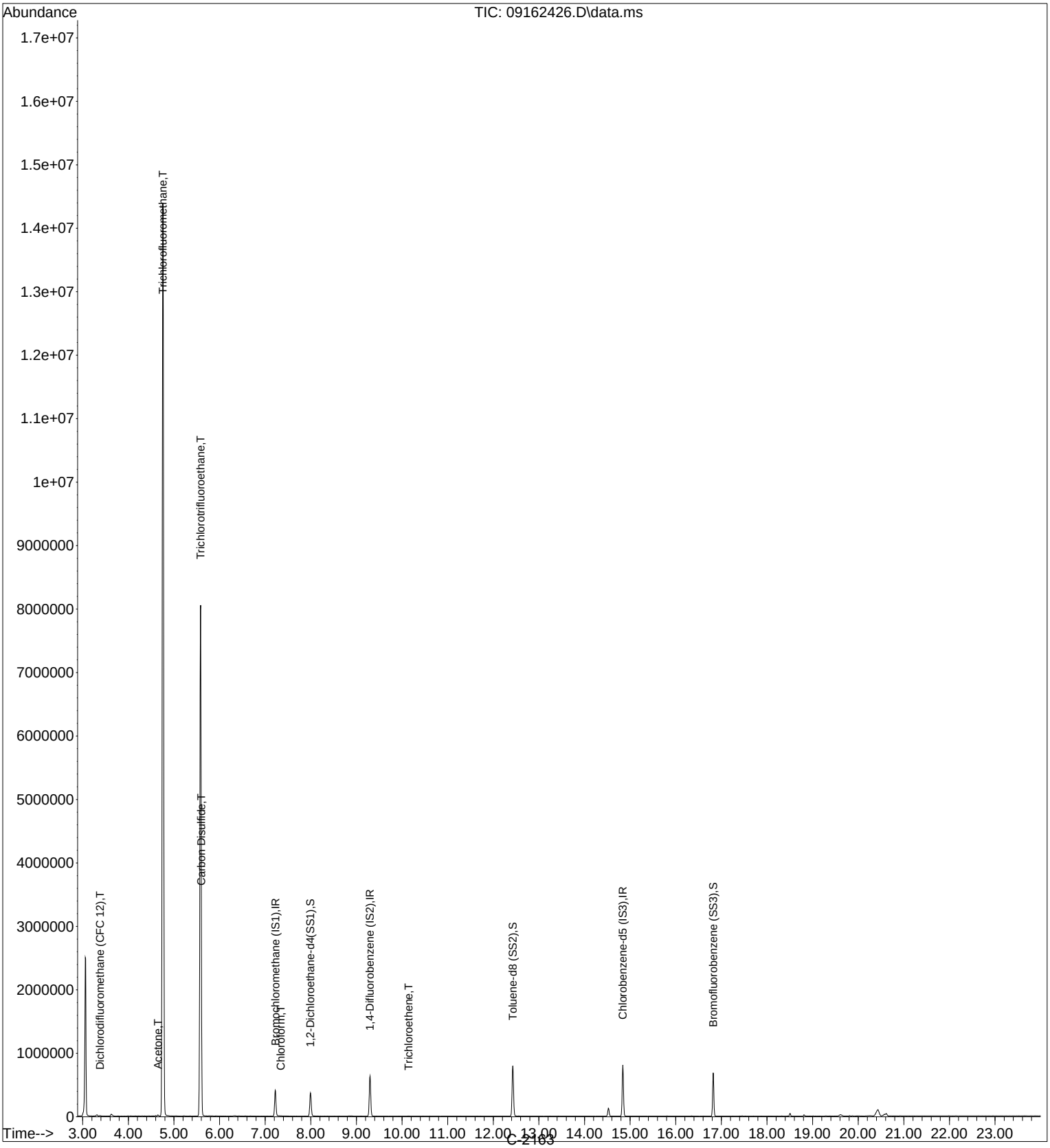
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	2290	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.02	166	120	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	15.66	91	162	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	126	N.D.		
71) n-Nonane	16.62	43	117	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	17.53	93	112	N.D.		
76) n-Propylbenzene	17.68	91	149	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	0.00	105	0	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.51	105	201	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	0.00	91	0	N.D.		
85) 1,3-Dichlorobenzene	0.00	146	0	N.D.		
86) 1,4-Dichlorobenzene	0.00	146	0	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	375	N.D.		
95) Naphthalene	20.94	128	235	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	251	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.50	119	1006	N.D.		
100) n-Butylbenzene	0.00	91	0	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:00:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

9/17/24

Quant Time: Sep 17 16:00:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

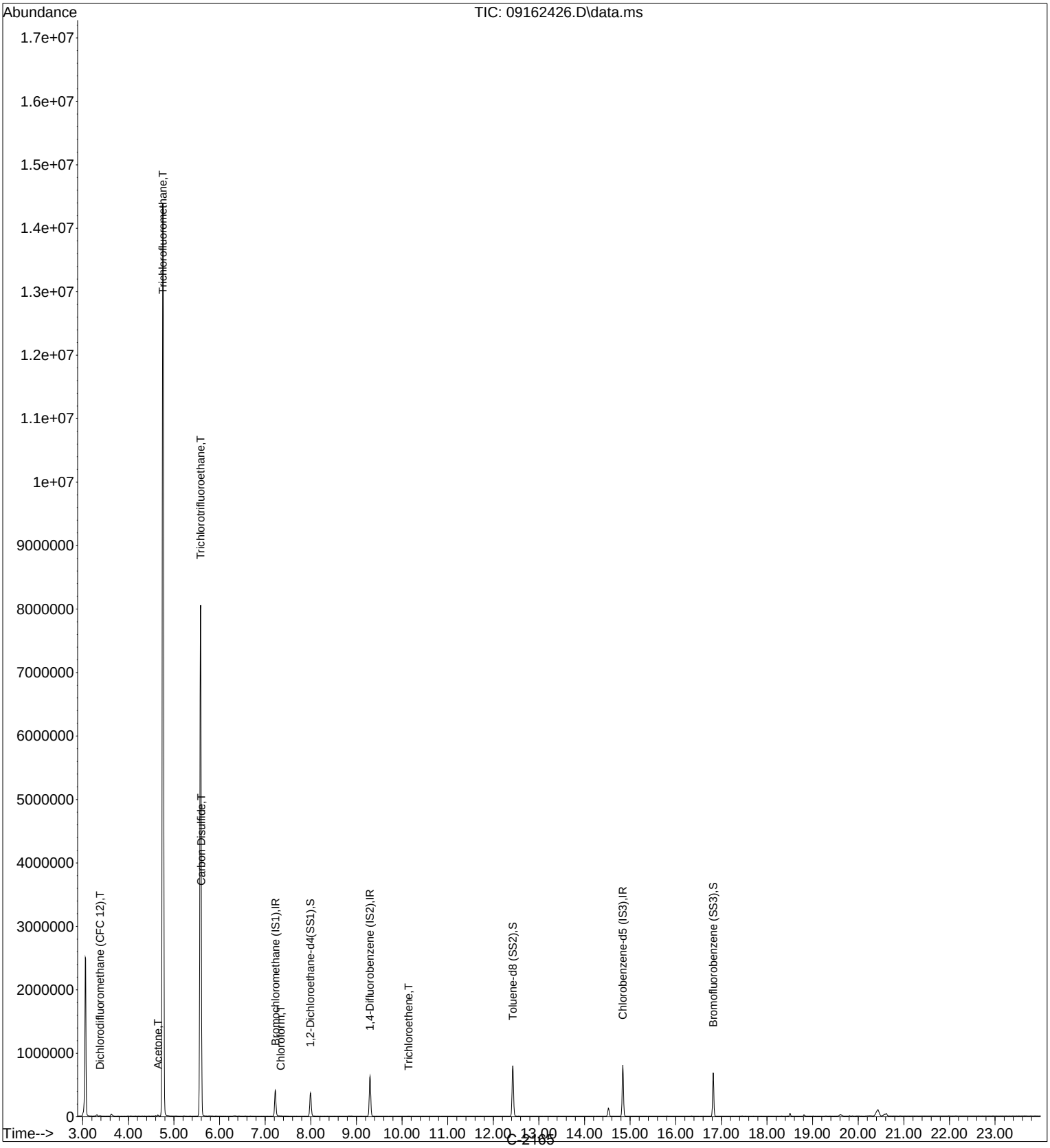
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124937	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	539105	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	160294	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	318454	13.621	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 108.96%				
57) Toluene-d8 (SS2)	12.43	98	615668	10.949	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
73) Bromofluorobenzene (SS3)	16.82	174	211193	11.230	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.84%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	2714m	0.089	ng		
13) Acetone	4.65	58	4106	0.359	ng		91
14) Trichlorofluoromethane	4.76	101	12705885	439.160	ng		98
21) Trichlorotrifluoroethane	5.58	151	2593366	226.255	ng		96
22) Carbon Disulfide	5.60	76	57722	1.292	ng	#	1
32) Chloroform	7.34	83	1512	0.061	ng		95
47) Trichloroethene	10.14	130	645	0.052	ng		91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

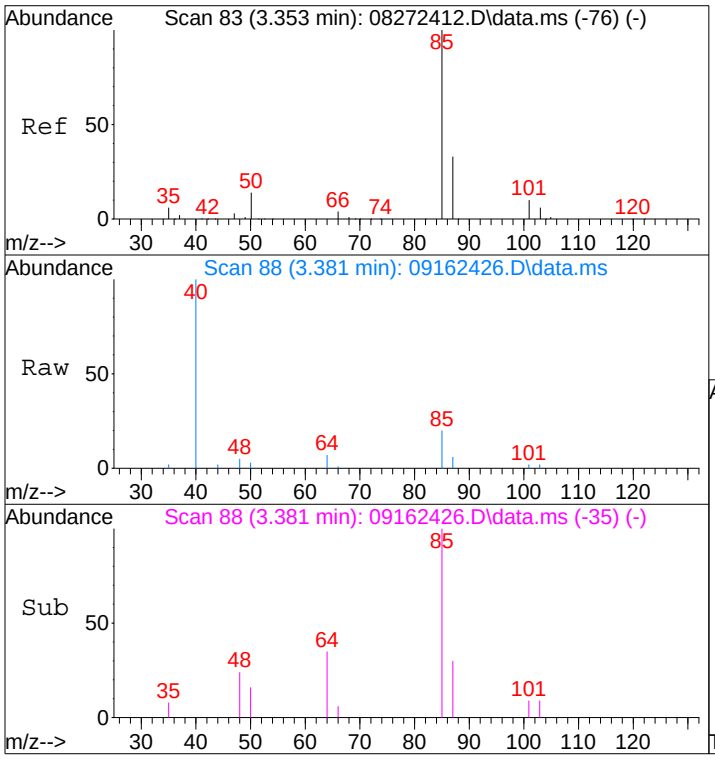
Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 16:00:08 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



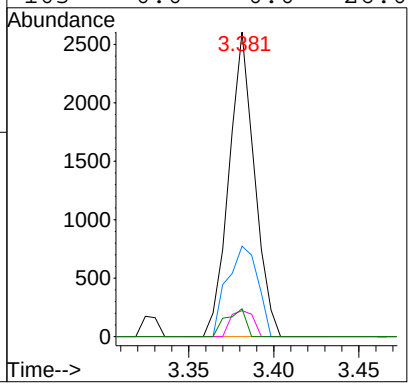
C-2165

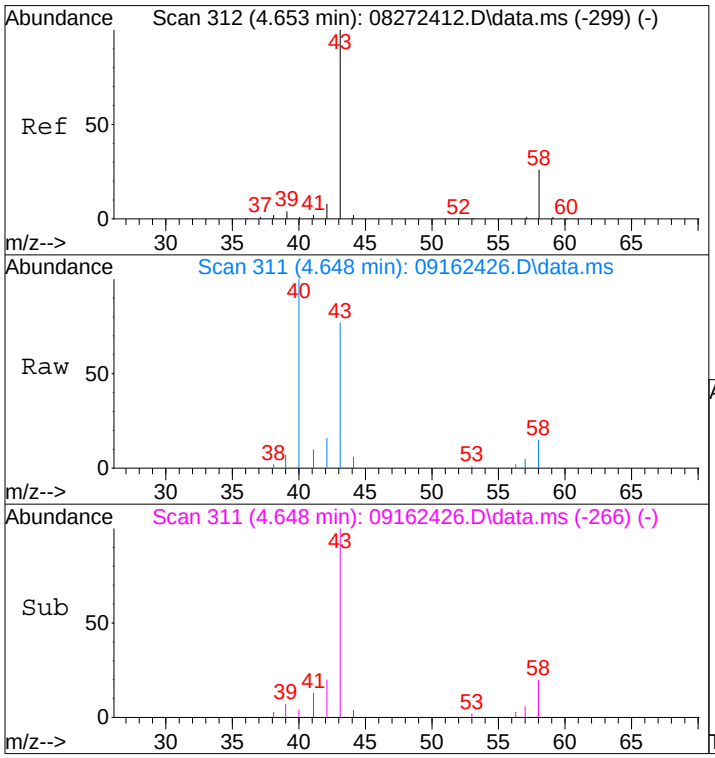


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.09 ng m
RT: 3.38 min Scan# 88
Delta R.T. 0.054 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion: 85 Resp: 2714

Ion	Ratio	Lower	Upper
85	100		
87	0.0	13.1	53.1#
101	0.0	0.0	29.4
103	0.0	0.0	26.0

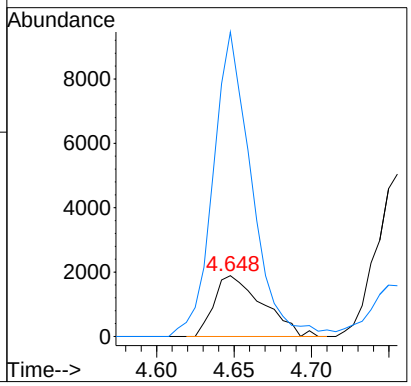


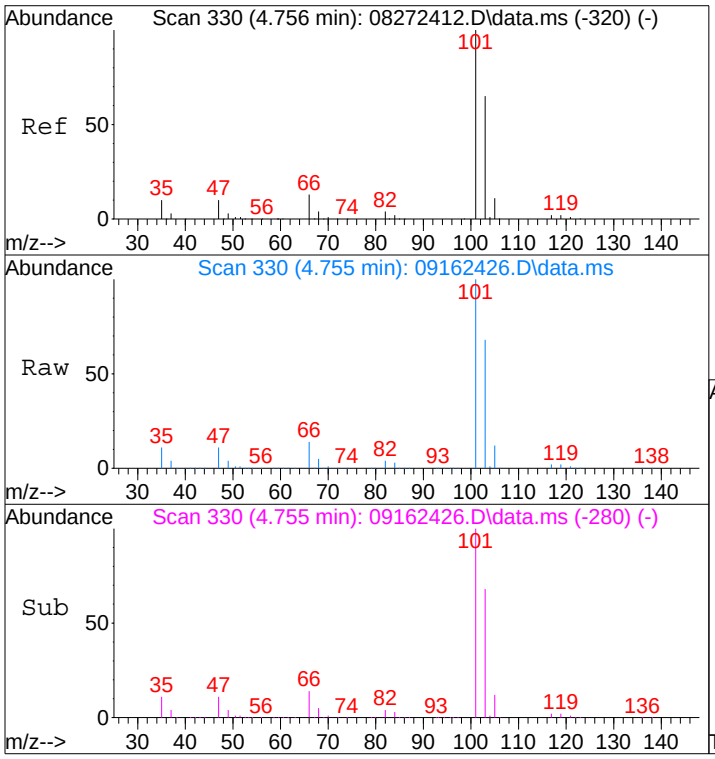


#13
Acetone
Concen: 0.36 ng
RT: 4.65 min Scan# 311
Delta R.T. 0.006 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion: 58 Resp: 4106

Ion	Ratio	Lower	Upper
58	100		
43	398.6	347.3	407.3

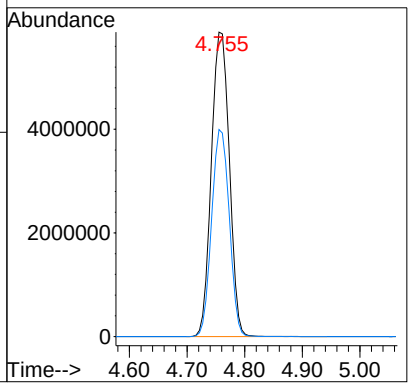


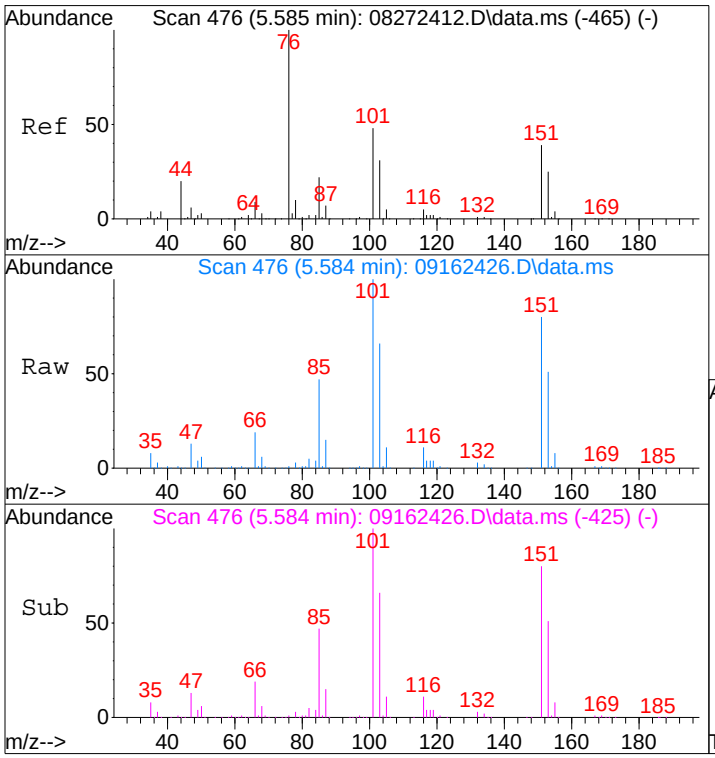


#14
Trichlorofluoromethane
Concen: 439.16 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion:101 Resp:12705885

Ion	Ratio	Lower	Upper
101	100		
103	66.7	44.9	84.9

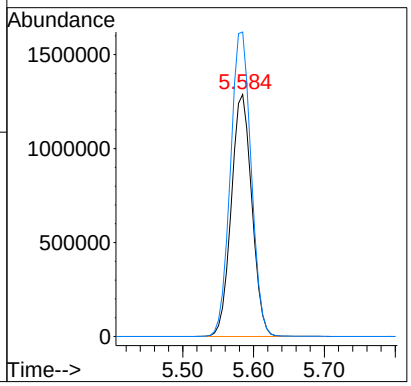


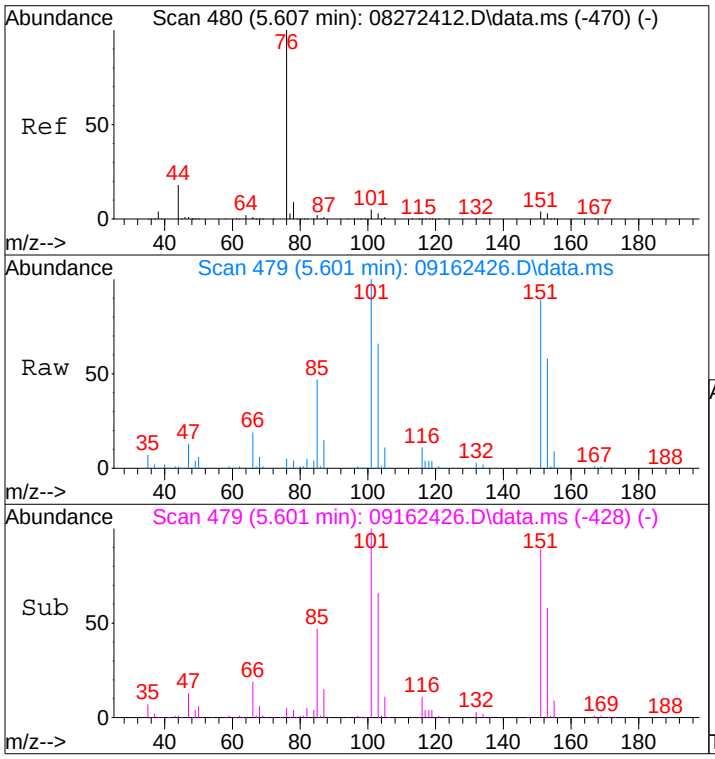


#21
Trichlorotrifluoroethane
Concen: 226.25 ng
RT: 5.58 min Scan# 476
Delta R.T. 0.038 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion:151 Resp: 2593366

Ion	Ratio	Lower	Upper
151	100		
101	127.4	103.4	143.4

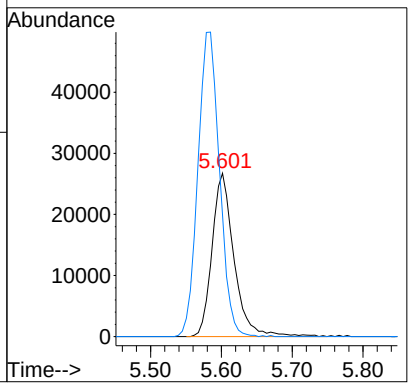


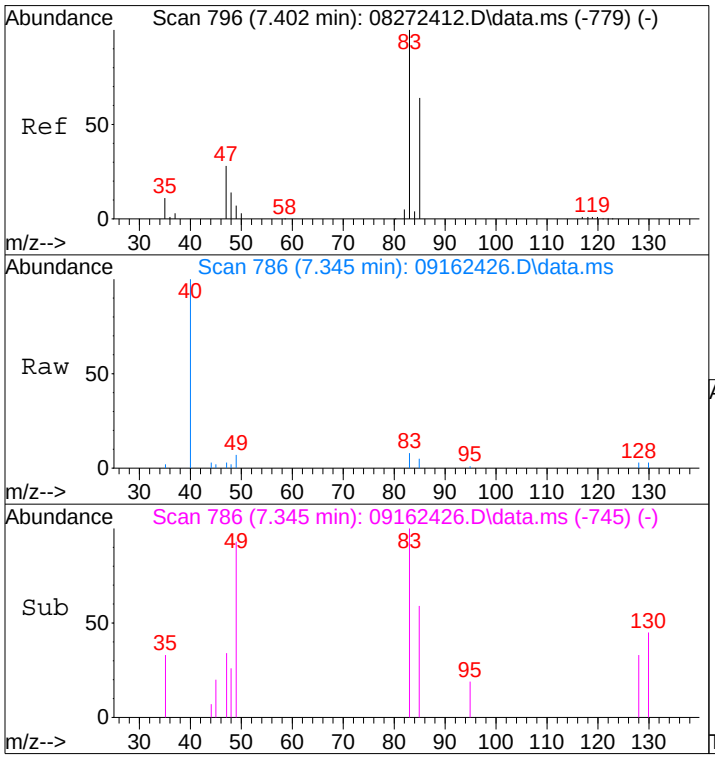


#22
Carbon Disulfide
Concen: 1.29 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion: 76 Resp: 57722

Ion	Ratio	Lower	Upper
76	100		
78	182.6	0.0	29.6#

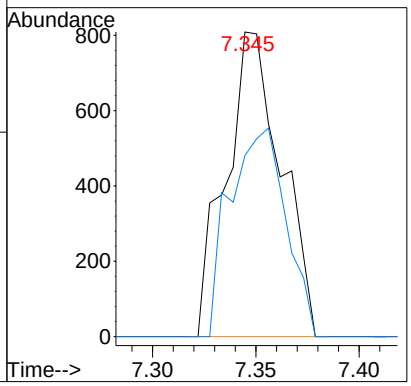


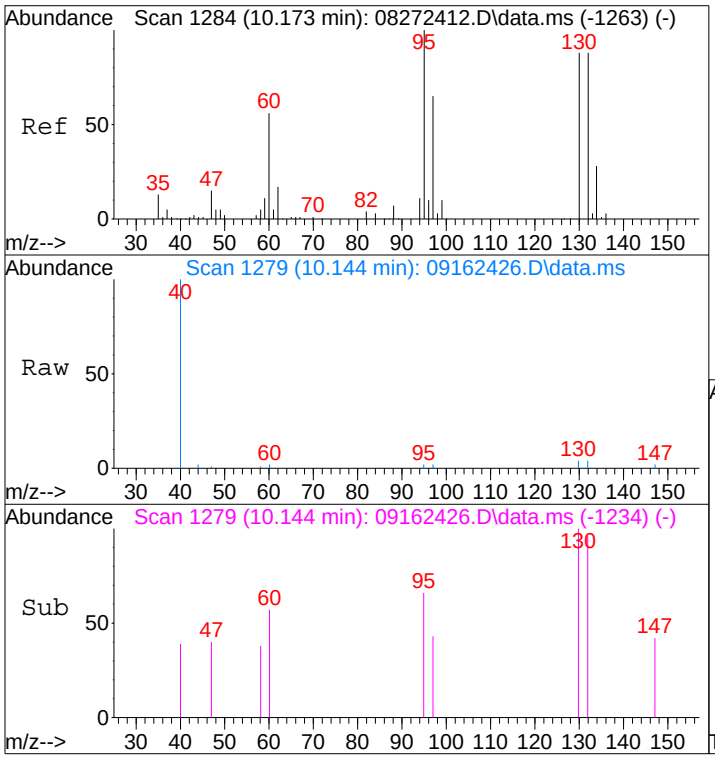


#32
Chloroform
Concen: 0.06 ng
RT: 7.34 min Scan# 786
Delta R.T. -0.016 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion: 83 Resp: 1512

Ion	Ratio	Lower	Upper
83	100		
85	69.2	45.3	85.3

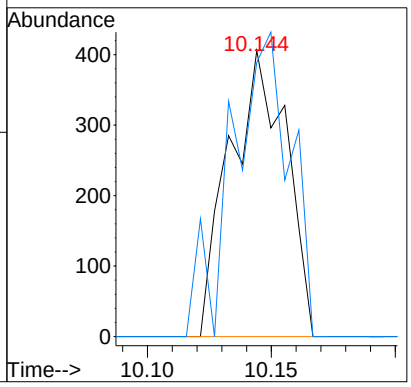




#47
Trichloroethene
Concen: 0.05 ng
RT: 10.14 min Scan# 1279
Delta R.T. 0.005 min
Lab File: 09162426.D
Acq: 16 Sep 2024 23:41

Tgt Ion:130 Resp: 645

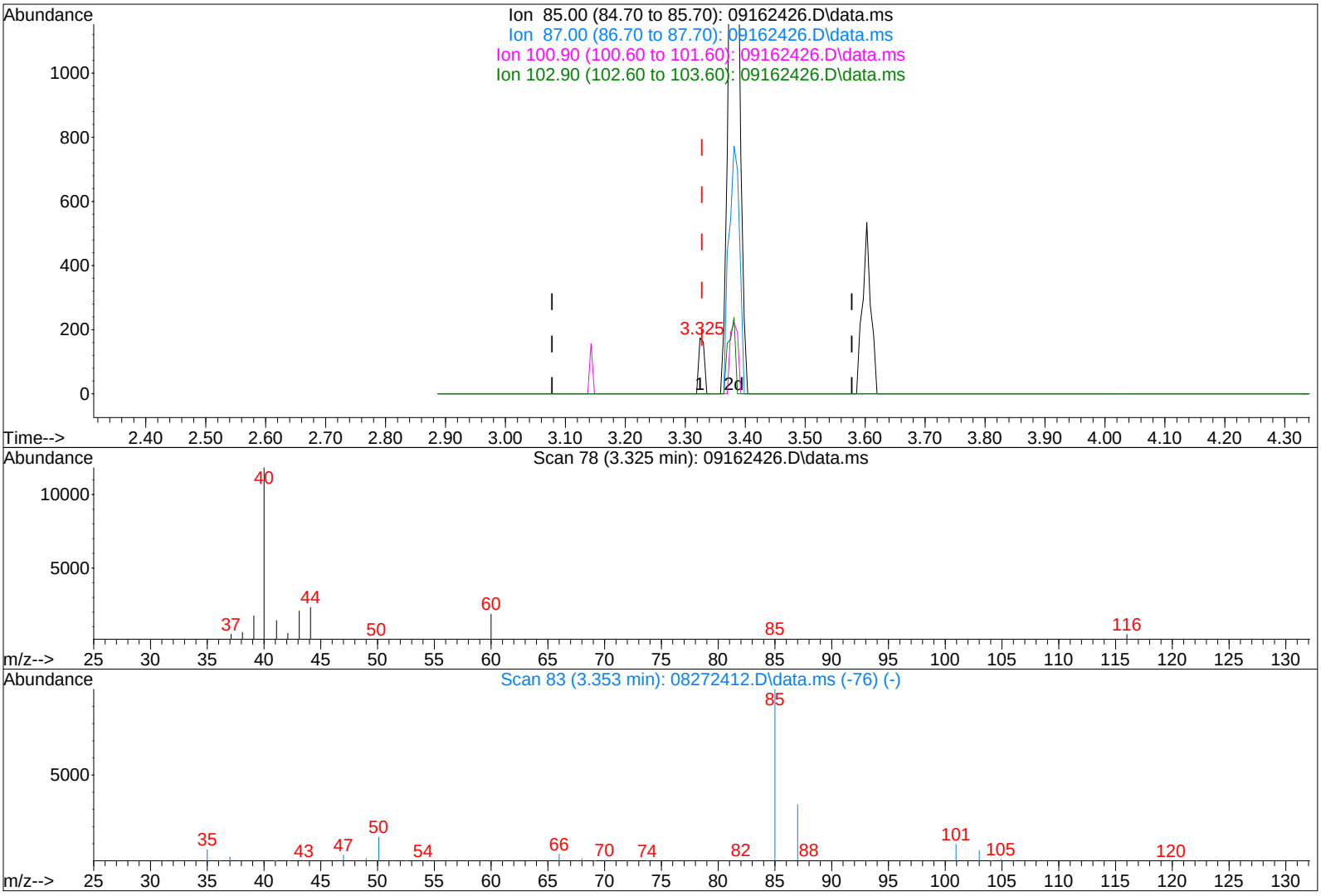
Ion	Ratio	Lower	Upper
130	100		
132	109.5	80.8	120.8



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:35:46 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.325min (-0.003) 0.00ng

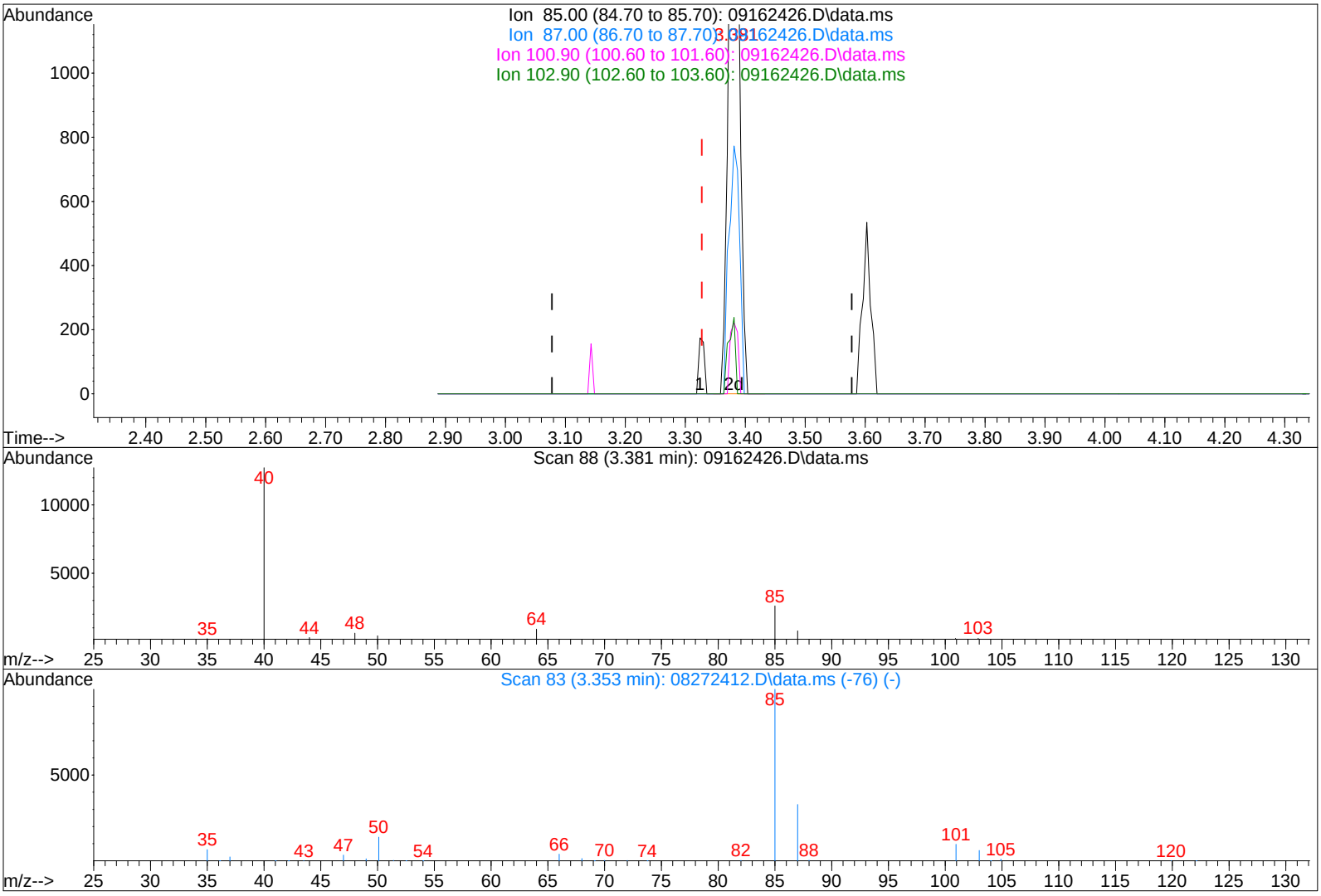
response 114

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:35:46 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162426.D\data.ms

(3) Dichlorodifluoromethane (CFC 12) (T)

3.381min (+0.054) 0.09ng m

response 2714

Ion	Exp%	Act%
85.00	100	100
87.00	33.10	0.00#
100.90	9.40	0.00
102.90	6.00	0.00

MP

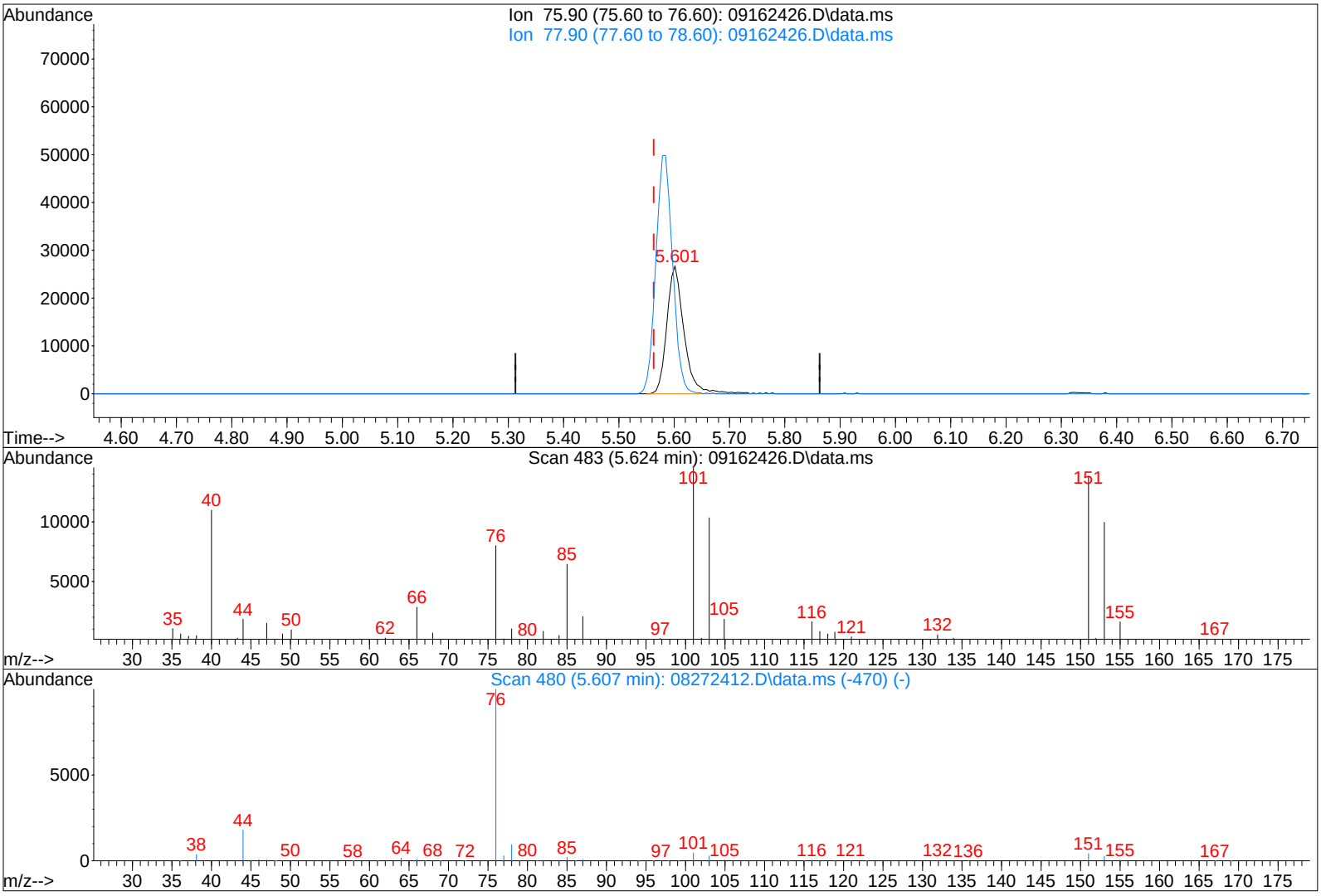
9/17/24

LH 9/30/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162426.D Vial: 14
Acq On : 16 Sep 2024 23:41 Operator: SC
Sample : P2403661-066 (40mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:35:46 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162426.D\data.ms

(22) Carbon Disulfide (T)

5.601min (+0.038) 1.29ng

response 57722

Ion	Exp%	Act%
75.90	100	100
77.90	9.60	182.59#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162426.D
Acq On : 16 Sep 2024 23:41
Operator : SC
Sample : P2403661-066 (40mL)
Misc : S37-08262404
ALS Vial : 14 Sample Multiplier: 1

9/30/24

Quant Time: Sep 30 07:14:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

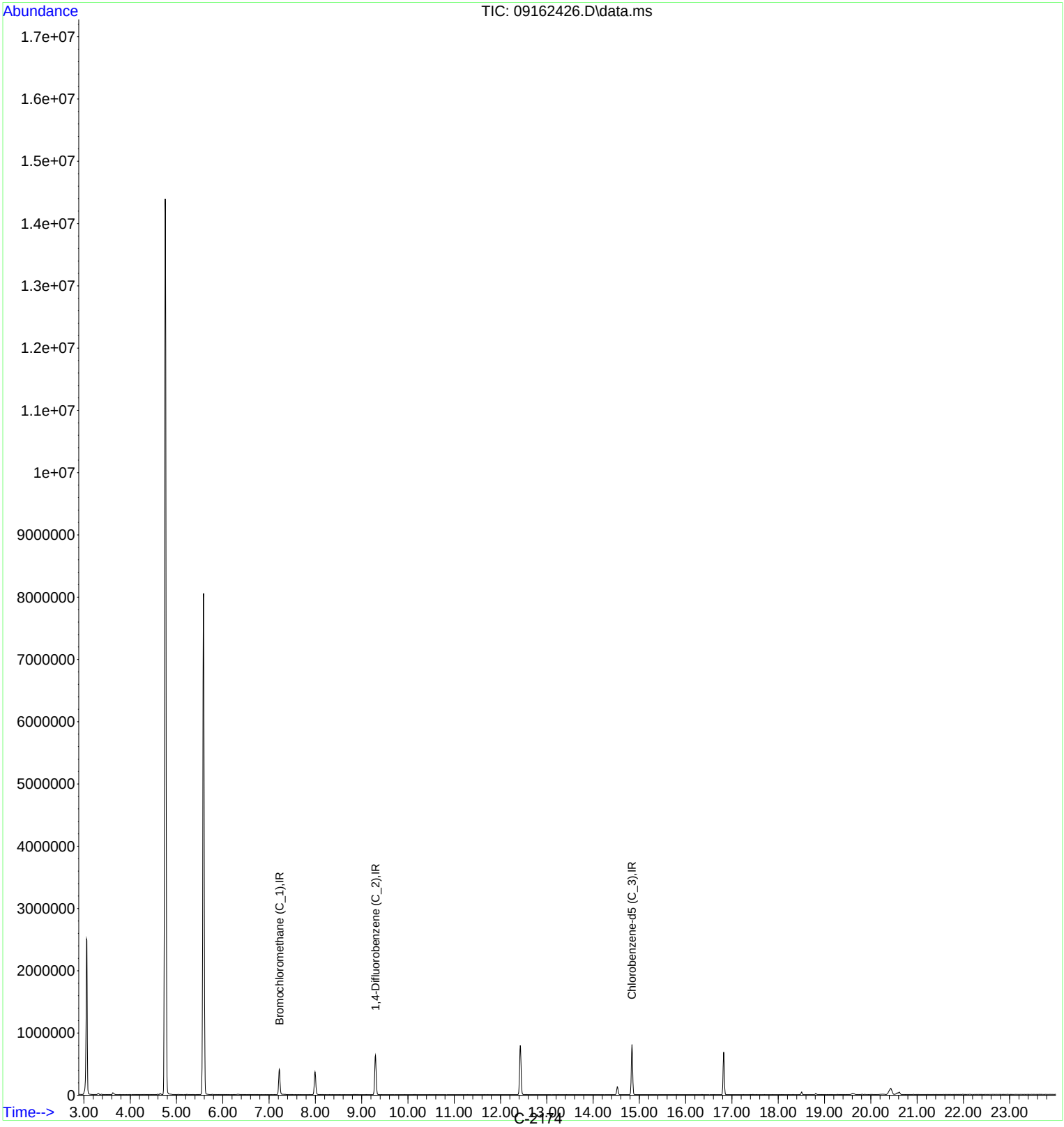
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	126189	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	540281	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	160294	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	131	N.D.		
4) 1,1-Difluoroethane	3.26	65	165	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.		
7) Dichlorofluoromethane ...	4.23	67	380	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	66	N.D.		
10) 2-Methylbutane	4.64	57	1484	N.D.		
11) Methyl Acetate	5.36	43	455	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	55	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	0.00	77	0	N.D.		
26) 2-Chlorotoluene	17.61	91	112	N.D.		
27) 4-Chlorotoluene	17.68	91	149	N.D.		
28) Indane	0.00	117	0	N.D.		
29) Indene	0.00	115	0	N.D.		
30) 1,2,4,5-Tetramethylben...	0.00	119	0	N.D.		
31) 1,2,3,4-Tetramethylben...	0.00	119	0	N.D.		
32) 1,2,3,5-Tetramethylben...	20.62	119	653	N.D.		
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162426.D
Acq On : 16 Sep 2024 23:41
Operator : SC
Sample : P2403661-066 (40mL)
Misc : S37-08262404
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 30 07:14:53 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration



C-2174

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172413.D Vial: 1
Acq On : 17 Sep 2024 15:29 Operator: SC
Sample : P2403661-066Dil (4.0mL) Inst : MS09
Misc : S37-08262404

9/17/24

Quant Time: Sep 17 15:53:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	118592	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	520904	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	157731	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	321931	14.507	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.08%				
57) Toluene-d8 (SS2)	12.43	98	586575	10.601	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.80%				
73) Bromofluorobenzene (SS3)	16.82	174	203714	11.008	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.33	85	549	N.D.			
4) Chloromethane	3.52	50	385	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	9687	0.753	ng		97
11) Acetonitrile	4.45	41	816	N.D.			
12) Acrolein	4.55	56	446	N.D.			
13) Acetone	0.00	58	0	N.D. d			
14) Trichlorofluoromethane	4.76	101	1371417	49.937	ng		99
15) 2-Propanol (Isopropanol)	4.84	45	107149	2.506	ng		91
16) Acrylonitrile	5.04	53	126	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.35	59	715	N.D.			
19) Methylene Chloride	5.37	84	914	0.071	ng		85
20) 3-Chloro-1-propene (Al...	5.41	41	530	N.D.			
21) Trichlorotrifluoroethane	5.58	151	234179	21.524	ng		97
22) Carbon Disulfide	0.00	76	0	N.D. d			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.68	72	562	0.073	ng	#	1
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.30	61	1354	0.262	ng		94
31) n-Hexane	7.31	57	1283	0.055	ng	#	83
32) Chloroform	7.36	83	348	N.D.			
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	907	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	861	No Calib		#	
41) Benzene	8.90	78	3619	0.074	ng		87
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	436	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	229	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	27344	0.473	ng		87
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172413.D Vial: 1
Acq On : 17 Sep 2024 15:29 Operator: SC
Sample : P2403661-066Dil (4.0mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:53:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

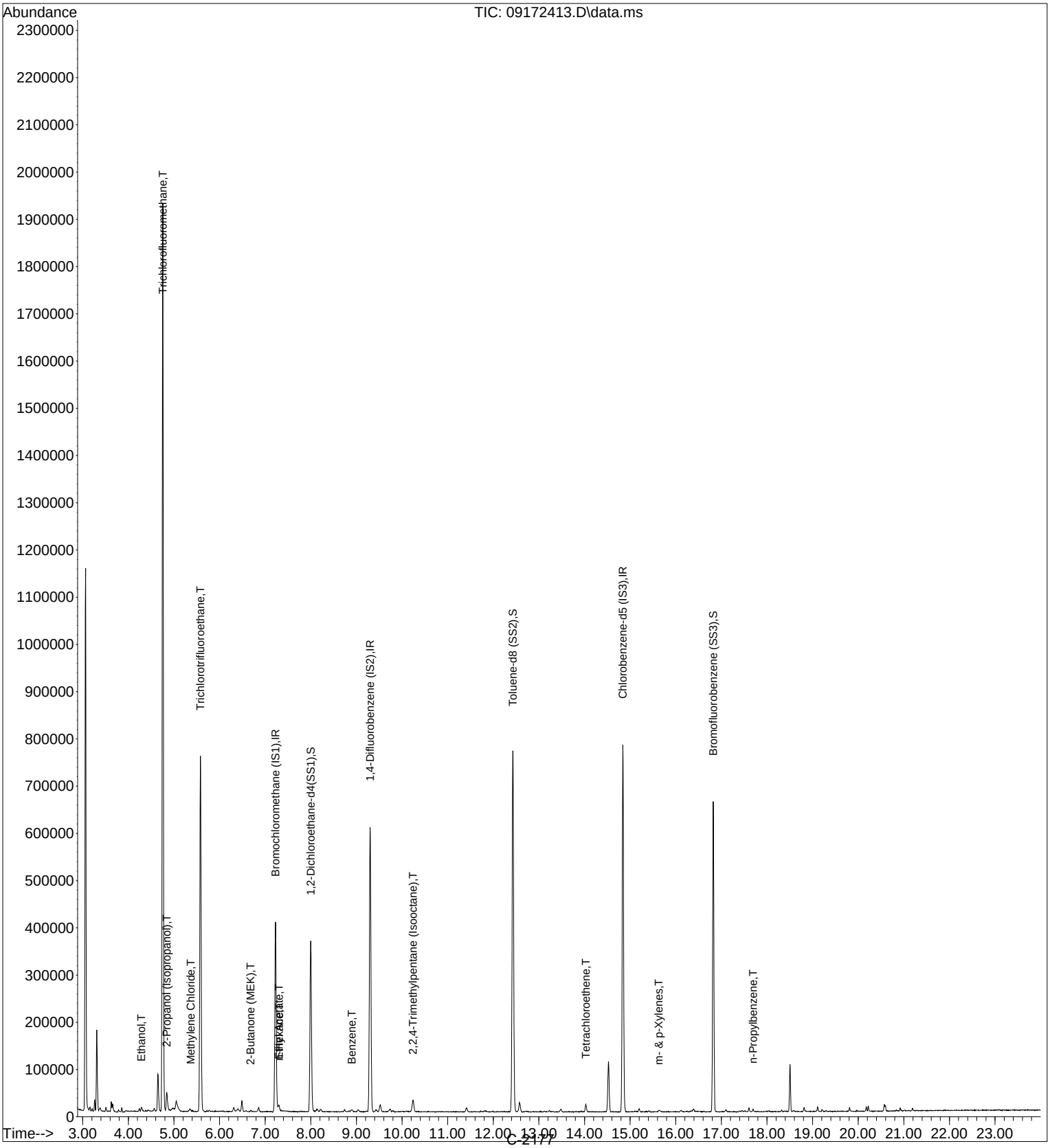
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	2941	N.D.	
59) 2-Hexanone	12.94	43	989	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.79	43	277	N.D.	
63) n-Octane	13.92	57	256	N.D.	
64) Tetrachloroethene	14.03	166	5280	0.318 ng	98
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	2055	N.D.	
67) m- & p-Xylenes	15.63	91	3994	0.071 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.09	104	1197	N.D.	
70) o-Xylene	16.24	91	1263	N.D.	
71) n-Nonane	16.61	43	606	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	403	N.D.	
75) alpha-Pinene	17.53	93	759	N.D.	
76) n-Propylbenzene	17.70	91	4079	0.052 ng #	67
77) 3-Ethyltoluene	17.03	105	403	No Calib #	
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	403	No Calib #	
82) 1,2,4-Trimethylbenzene	18.43	105	318	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.57	91	134	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	1048	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	444	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	434	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	403	No Calib #	
90) 1,2-Dichlorobenzene	19.04	146	203	N.D.	
91) d-Limonene	19.08	68	192	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	826	N.D.	
95) Naphthalene	20.94	128	1103	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	199	N.D.	
98) Cyclohexanone	15.20	55	2147	No Calib #	
99) tert-Butylbenzene	18.42	119	115	N.D.	
100) n-Butylbenzene	19.39	91	294	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D. d	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172413.D Vial: 1
Acq On : 17 Sep 2024 15:29 Operator: SC
Sample : P2403661-066Dil (4.0mL) Inst : MS09
Misc : S37-08262404

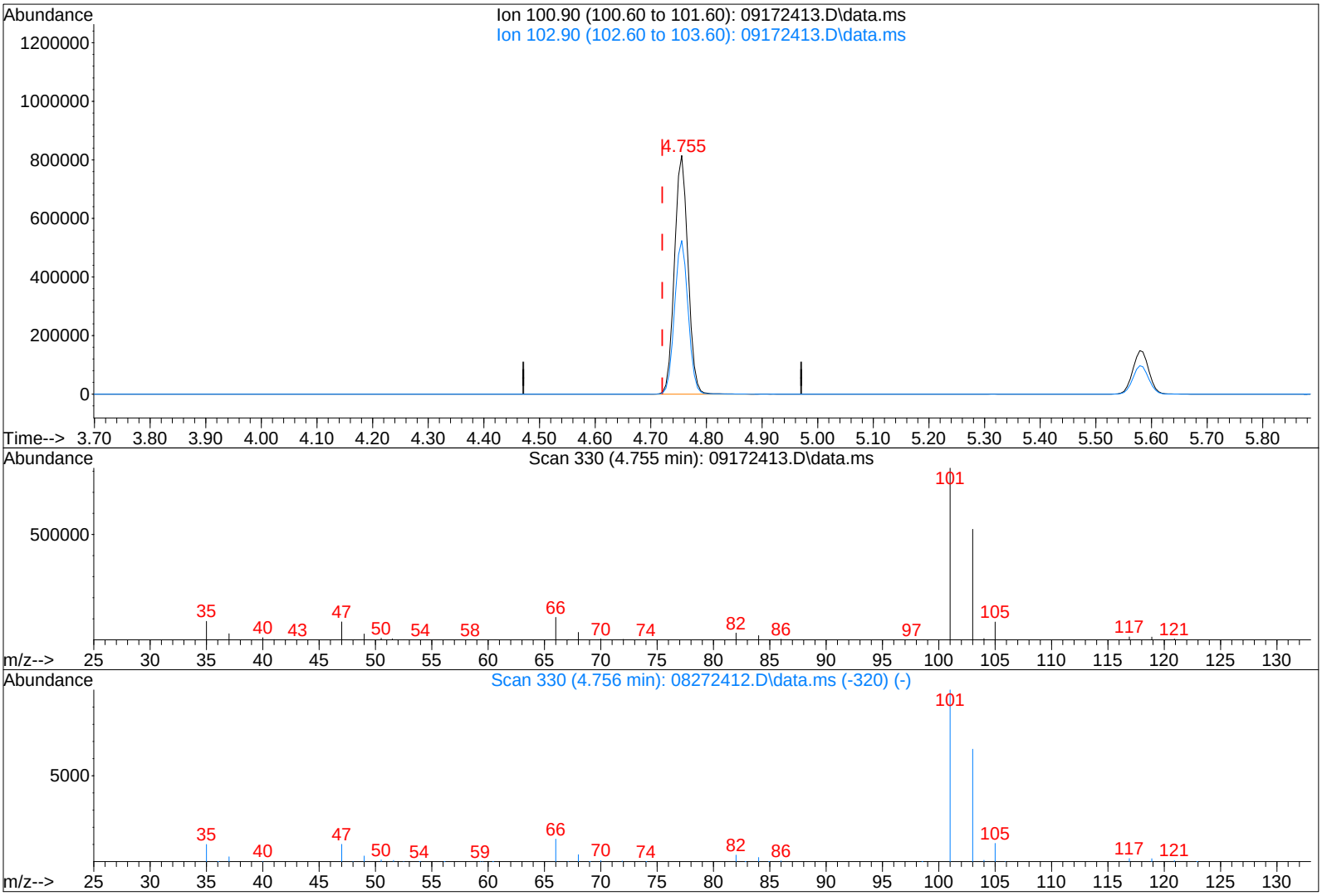
Quant Time: Sep 17 15:53:05 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172413.D Vial: 1
Acq On : 17 Sep 2024 15:29 Operator: SC
Sample : P2403661-066Dil (4.0mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:51:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172413.D\data.ms

(14) Trichlorofluoromethane (T)

4.755min (+0.035) 49.94ng

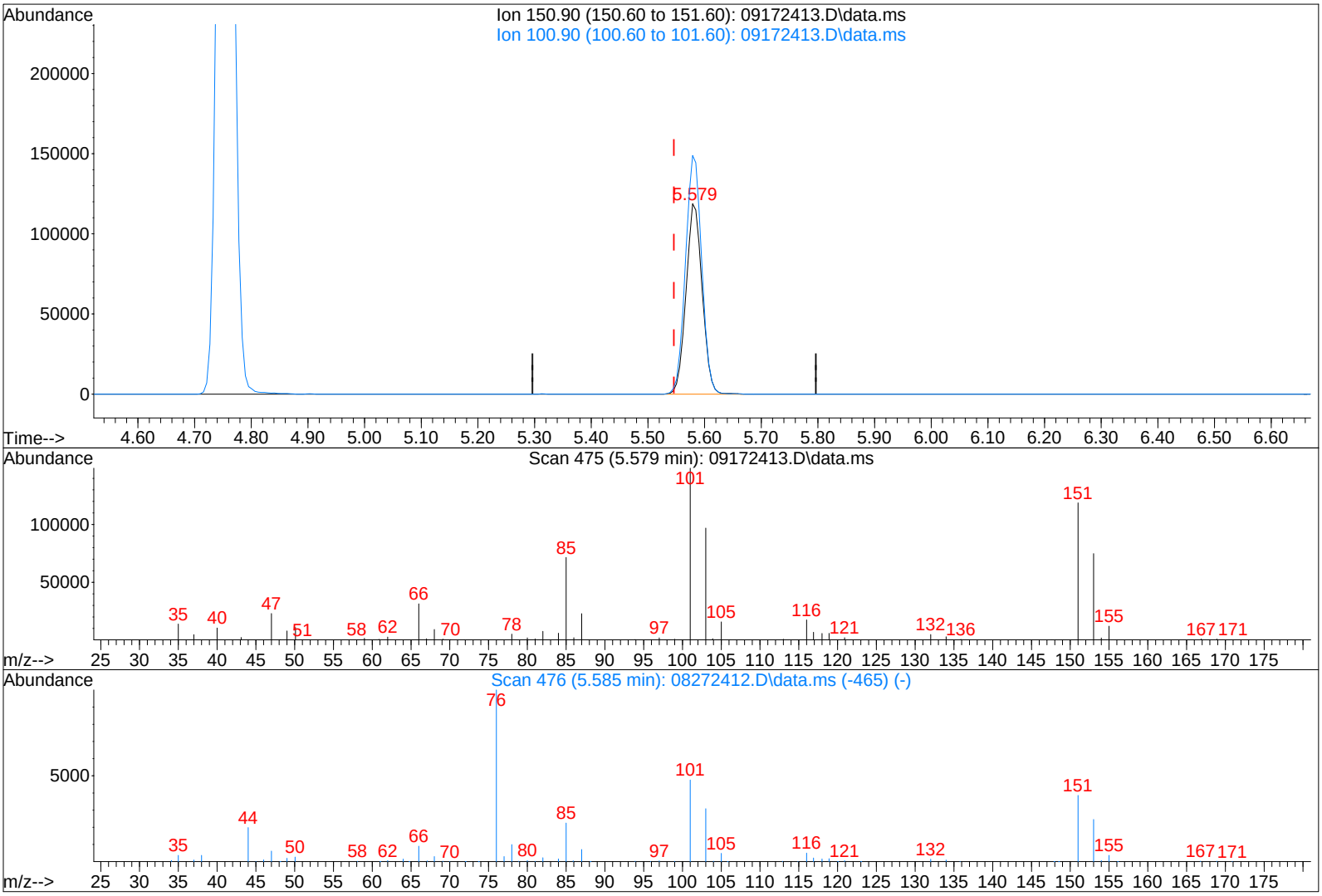
response 1371417

Ion	Exp%	Act%
100.90	100	100
102.90	64.90	64.48
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\17\09172413.D Vial: 1
Acq On : 17 Sep 2024 15:29 Operator: SC
Sample : P2403661-066Dil (4.0mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:51:33 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09172413.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (+0.033) 21.52ng

response 234179

Ion	Exp%	Act%
150.90	100	100
100.90	123.40	126.36
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162426.D
Acq On : 16 Sep 2024 23:41
Operator : SC
Sample : P2403661-066 (40mL)
Misc : S37-08262404
ALS Vial : 14 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162426.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.307	69	75	76	rBV	16237	26165	0.09%	0.054%
2	3.381	81	88	92	rVB2	6955	11396	0.04%	0.024%
3	3.625	126	131	140	rBV4	29799	67920	0.22%	0.141%
4	4.596	297	302	306	rBV3	6961	10842	0.04%	0.022%
5	4.648	306	311	319	rVB2	17187	30810	0.10%	0.064%
6	4.755	319	330	357	rBV	14386371	30699658	100.00%	63.664%
7	5.584	464	476	499	rBV	8048732	16497228	53.74%	34.211%
8	7.220	755	764	777	rBV	407717	877331	2.86%	1.819%

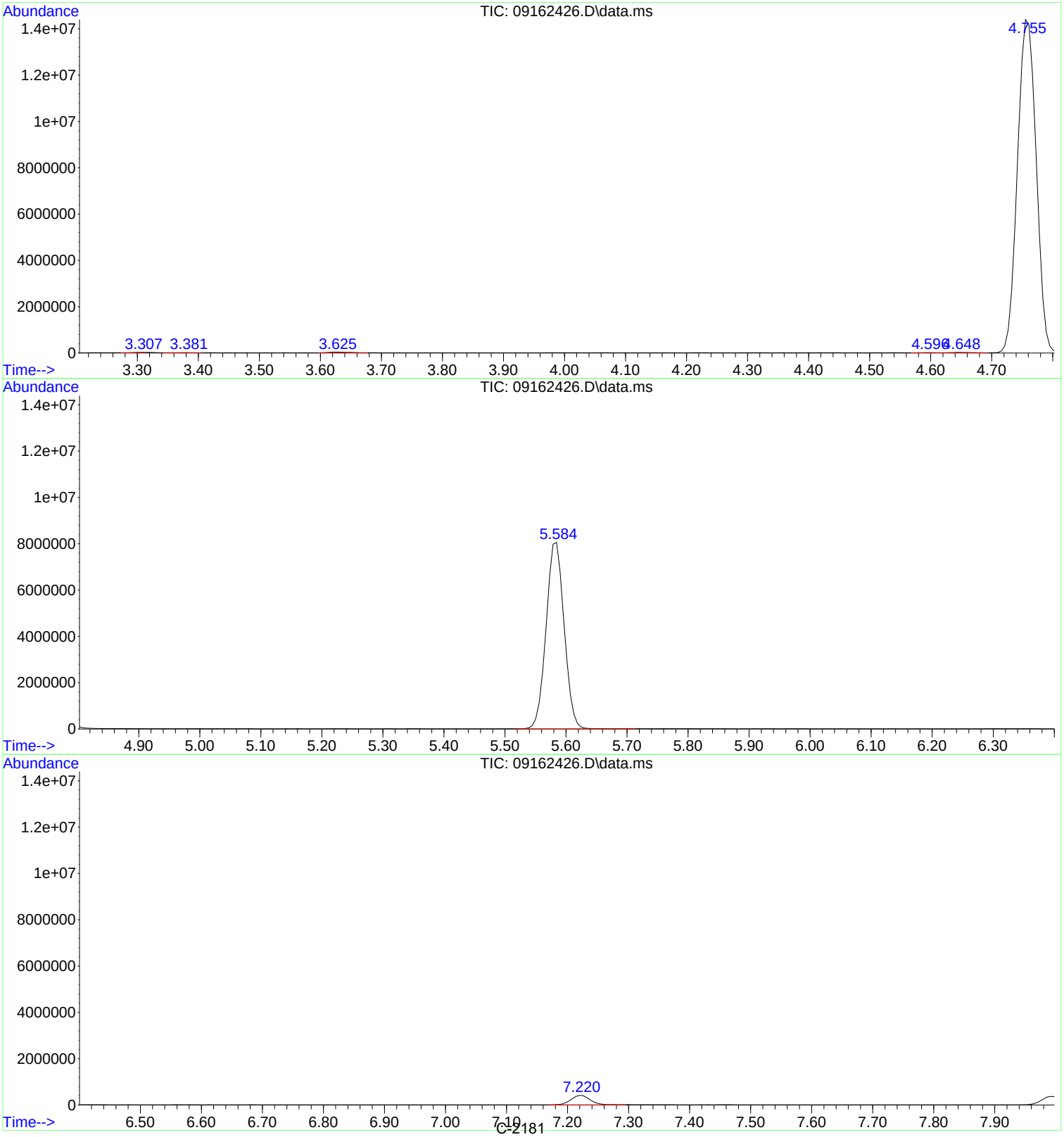
Sum of corrected areas: 48221350

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162426.D
Acq On : 16 Sep 2024 23:41
Operator : SC
Sample : P2403661-066 (40mL)
Misc : S37-08262404
ALS Vial : 14 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162426.D
Acq On : 16 Sep 2024 23:411
Operator : SCC
Sample : P2403661-066 (40mL))
Misc : S37-082624044
ALS Vial : 14 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

TIC Library : L:\DATABASE\NIST17\NIST17.LL

MOA 9/30/24

TIC Integration Parameters: LSCINT.PP

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

9/17/24

Quant Time: Sep 17 15:57:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	120842	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	525235	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	157705	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	318125	14.069	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.56%				
57) Toluene-d8 (SS2)	12.43	98	605650	10.947	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
73) Bromofluorobenzene (SS3)	16.82	174	212680	11.494	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	18418	0.628	ng		98
4) Chloromethane	3.51	50	8998	0.392	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	256	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	3.79	54	106	N.D.			
8) Bromomethane	4.02	94	126	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.28	45	30890	2.355	ng		76
11) Acetonitrile	0.00	41	0	N.D. d			
12) Acrolein	4.53	56	2672	0.267	ng		95
13) Acetone	4.63	58	78462	7.090	ng		89
14) Trichlorofluoromethane	4.76	101	87239	3.117	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	18574	0.426	ng		77
16) Acrylonitrile	5.05	53	451	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.33	59	1119	N.D.			
19) Methylene Chloride	5.35	84	970	0.074	ng	#	80
20) 3-Chloro-1-propene (Al...	5.40	41	233	N.D.			
21) Trichlorotrifluoroethane	5.59	151	15090	1.361	ng		95
22) Carbon Disulfide	5.60	76	13178	0.305	ng		91
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D. d			
27) 2-Butanone (MEK)	6.67	72	6617	0.843	ng	#	73
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	7.29	61	7894	1.501	ng		90
31) n-Hexane	7.30	57	6148	0.256	ng	#	96
32) Chloroform	7.36	83	359	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	272	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	219	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	9.59	61	1765	No Calib		#	
40) 1-Butanol	8.81	56	4379	No Calib		#	
41) Benzene	8.90	78	30204	0.613	ng		99
42) Carbon Tetrachloride	9.07	117	2253	0.110	ng		98
43) Cyclohexane	9.22	84	2433	0.146	ng		90
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.23	57	9889	0.170	ng		80
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:57:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

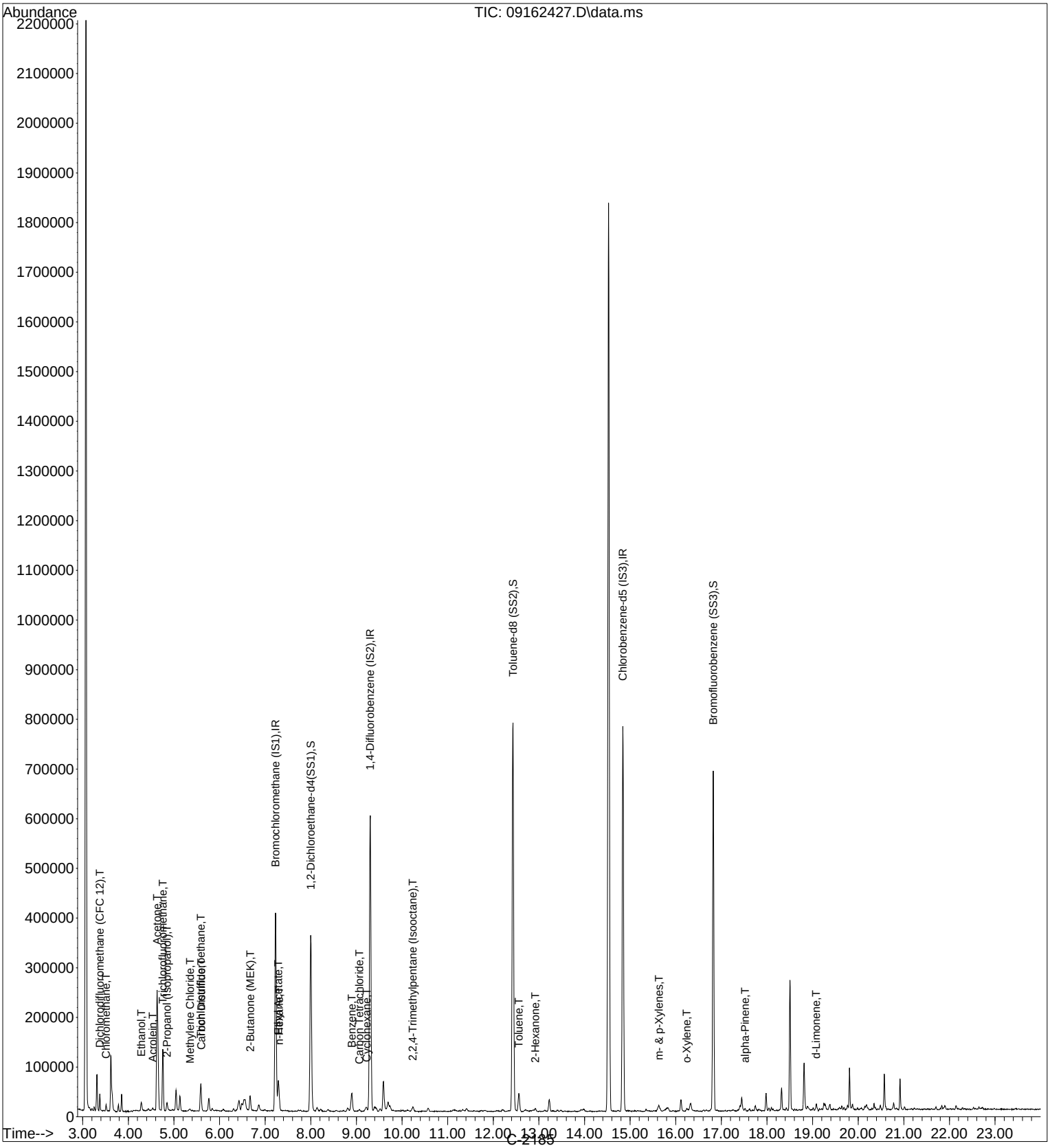
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D. d	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D. d	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	29507	0.493 ng	96
59) 2-Hexanone	12.92	43	5707m	0.154 ng	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.77	43	1314	N.D.	
63) n-Octane	13.91	57	611	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	1474	N.D.	
67) m- & p-Xylenes	15.63	91	8037	0.144 ng	100
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.10	104	1394	N.D.	
70) o-Xylene	16.24	91	3082	0.056 ng	99
71) n-Nonane	0.00	43	0	N.D. d	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	190	N.D.	
75) alpha-Pinene	17.52	93	2266	0.069 ng	98
76) n-Propylbenzene	17.67	91	597	N.D.	
77) 3-Ethyltoluene	17.03	105	190	No Calib #	
78) 4-Ethyltoluene	17.87	105	511	N.D.	
79) 1,3,5-Trimethylbenzene	17.96	105	812	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	190	No Calib #	
82) 1,2,4-Trimethylbenzene	18.42	105	2466	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	0.00	91	0	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	139	N.D.	
86) 1,4-Dichlorobenzene	18.65	146	357	N.D.	
87) sec-Butylbenzene	18.74	105	142	N.D.	
88) 4-Isopropyltoluene (p-...	18.92	119	1393	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	190	No Calib #	
90) 1,2-Dichlorobenzene	19.03	146	131	N.D.	
91) d-Limonene	19.08	68	1485	0.079 ng	98
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	17.98	58	2165	No Calib #	
94) 1,2,4-Trichlorobenzene	20.84	180	325	N.D.	
95) Naphthalene	20.94	128	1972	N.D.	
96) n-Dodecane	18.88	58	280	No Calib #	
97) Hexachlorobutadiene	21.30	225	317	N.D.	
98) Cyclohexanone	15.23	55	178	No Calib #	
99) tert-Butylbenzene	18.43	119	390	N.D.	
100) n-Butylbenzene	19.39	91	478	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:57:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:57:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

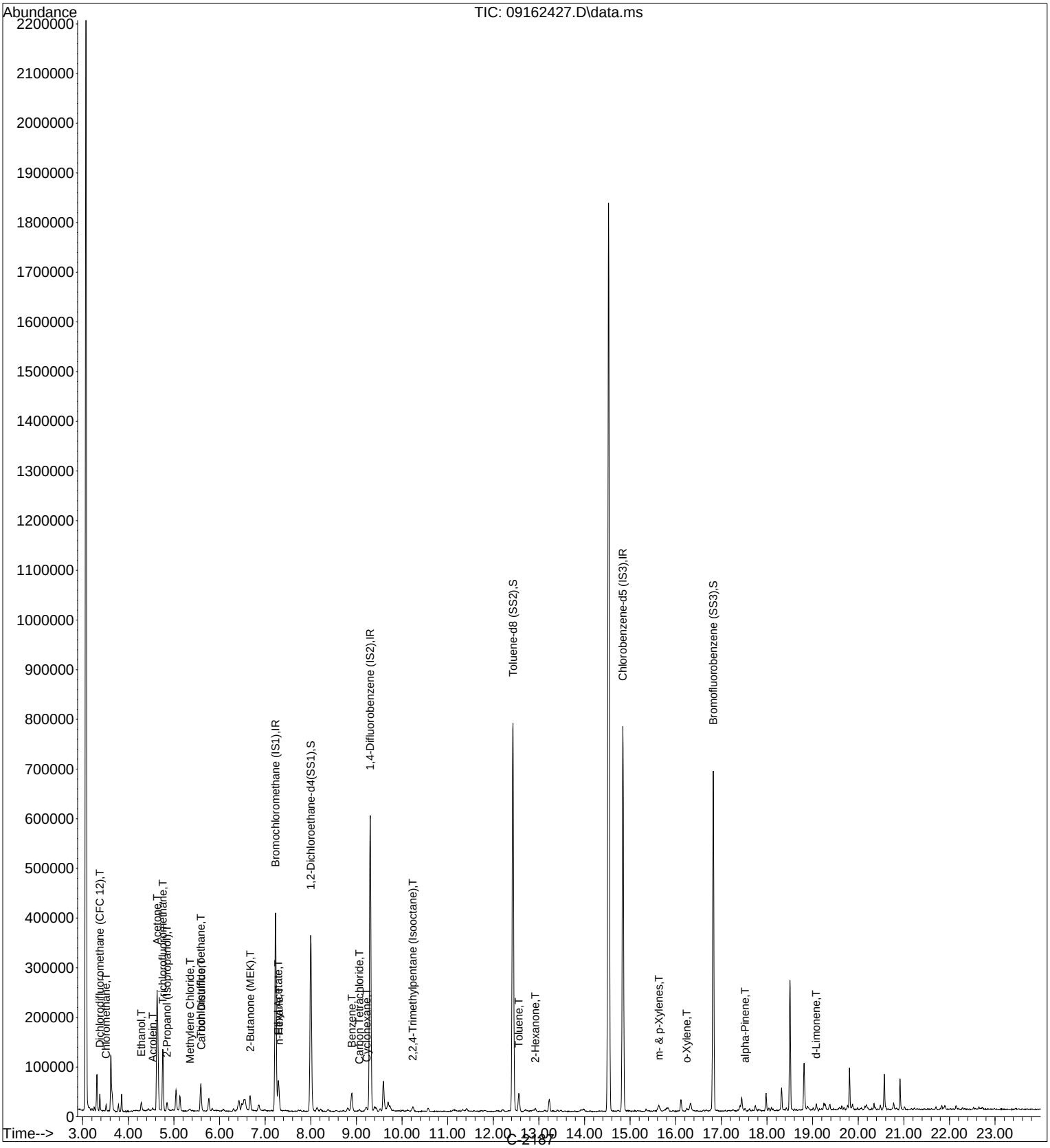
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	120842	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	525235	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	157705	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	318125	14.069	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.56%				
57) Toluene-d8 (SS2)	12.43	98	605650	10.947	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
73) Bromofluorobenzene (SS3)	16.82	174	212680	11.494	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	18418	0.628	ng		98
4) Chloromethane	3.51	50	8998	0.392	ng		99
10) Ethanol	4.28	45	30890	2.355	ng		76
12) Acrolein	4.53	56	2672	0.267	ng		95
13) Acetone	4.63	58	78462	7.090	ng		89
14) Trichlorofluoromethane	4.76	101	87239	3.117	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	18574	0.426	ng		77
19) Methylene Chloride	5.35	84	970	0.074	ng	#	80
21) Trichlorotrifluoroethane	5.59	151	15090	1.361	ng		95
22) Carbon Disulfide	5.60	76	13178	0.305	ng		91
27) 2-Butanone (MEK)	6.67	72	6617	0.843	ng	#	73
30) Ethyl Acetate	7.29	61	7894	1.501	ng		90
31) n-Hexane	7.30	57	6148	0.256	ng	#	96
41) Benzene	8.90	78	30204	0.613	ng		99
42) Carbon Tetrachloride	9.07	117	2253	0.110	ng		98
43) Cyclohexane	9.22	84	2433	0.146	ng		90
49) 2,2,4-Trimethylpentane...	10.23	57	9889	0.170	ng		80
58) Toluene	12.56	91	29507	0.493	ng		96
59) 2-Hexanone	12.92	43	5707m	0.154	ng		
67) m- & p-Xylenes	15.63	91	8037	0.144	ng		100
70) o-Xylene	16.24	91	3082	0.056	ng		99
75) alpha-Pinene	17.52	93	2266	0.069	ng		98
91) d-Limonene	19.08	68	1485	0.079	ng		98

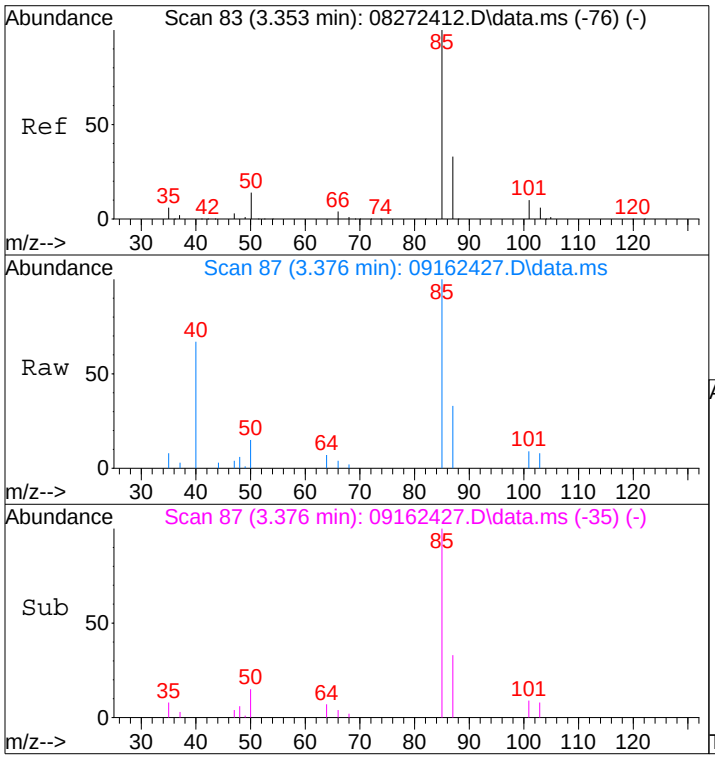
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 15:57:27 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

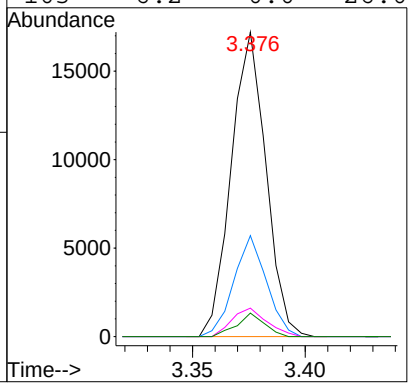


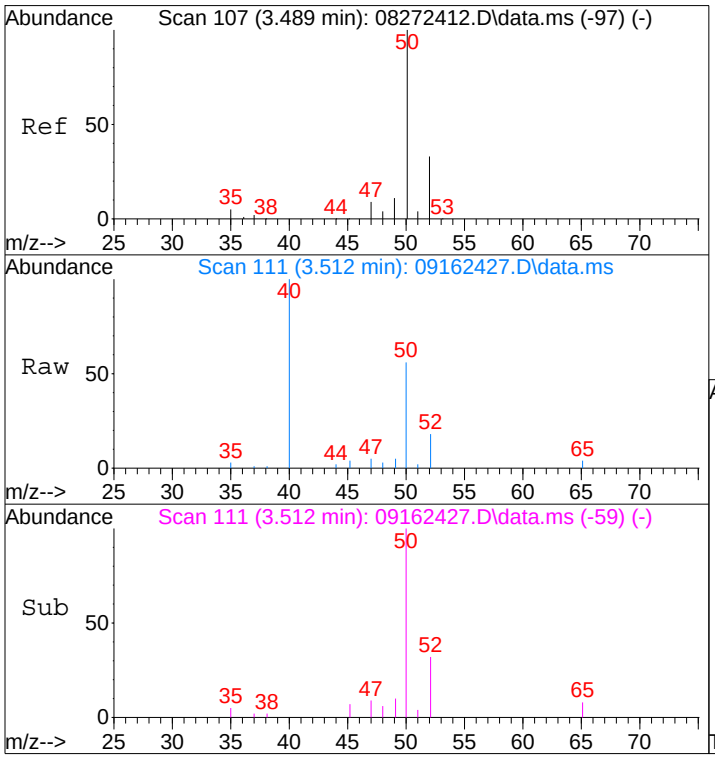


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.63 ng
RT: 3.38 min Scan# 87
Delta R.T. 0.048 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 85 Resp: 18418

Ion	Ratio	Lower	Upper
85	100		
87	31.3	13.1	53.1
101	9.4	0.0	29.4
103	6.2	0.0	26.0

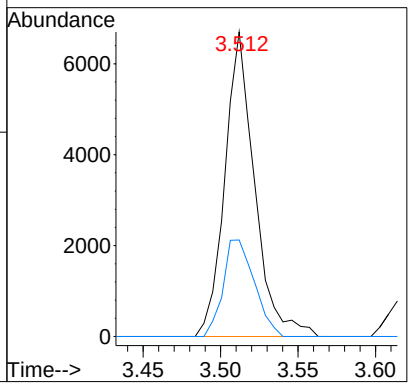


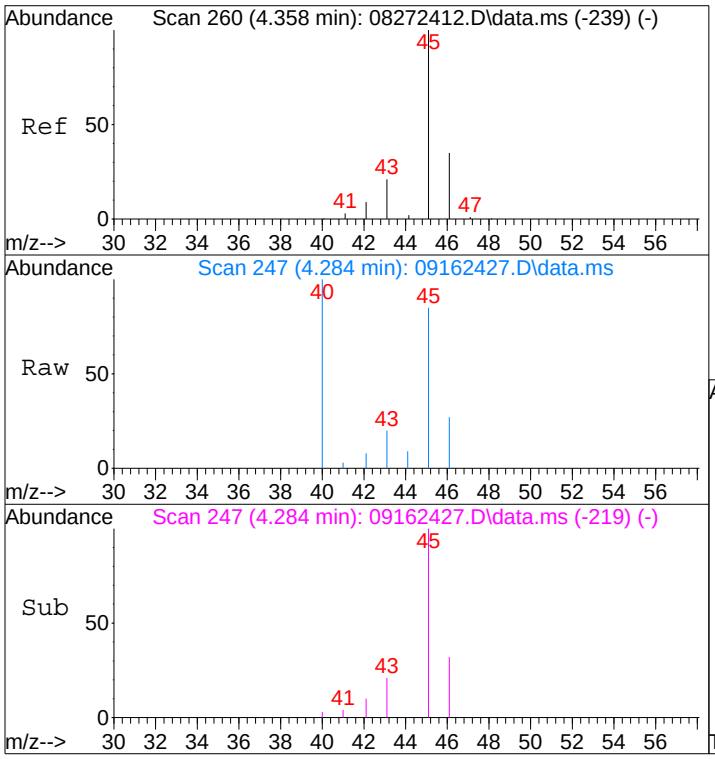


#4
Chloromethane
Concen: 0.39 ng
RT: 3.51 min Scan# 111
Delta R.T. 0.044 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 50 Resp: 8998

Ion	Ratio	Lower	Upper
50	100		
52	33.2	12.4	52.4

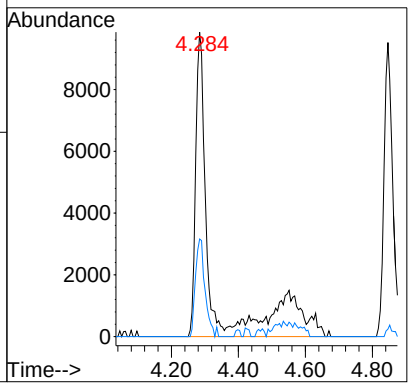


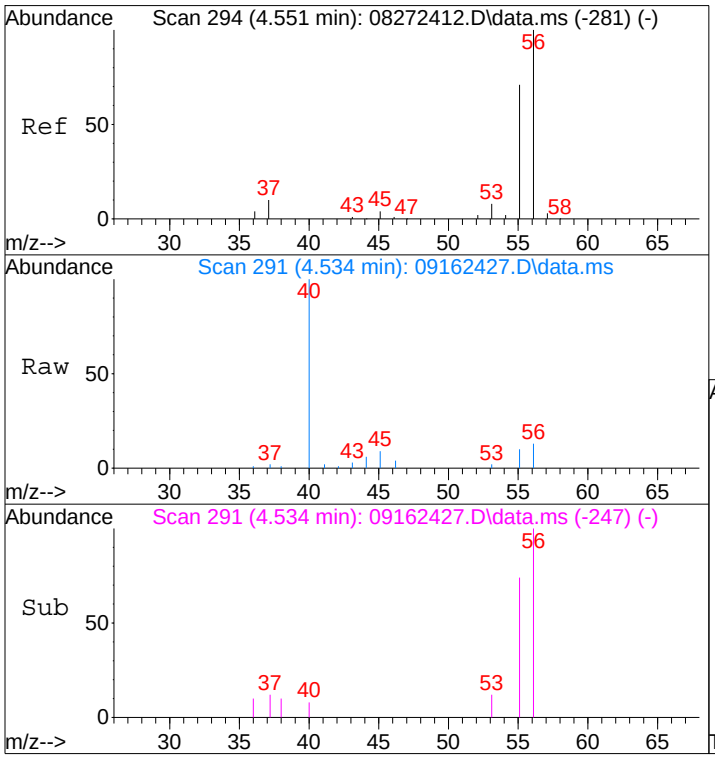


#10
Ethanol
Concen: 2.36 ng
RT: 4.28 min Scan# 247
Delta R.T. -0.088 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 45 Resp: 30890

Ion	Ratio	Lower	Upper
45	100		
46	20.3	14.2	54.2

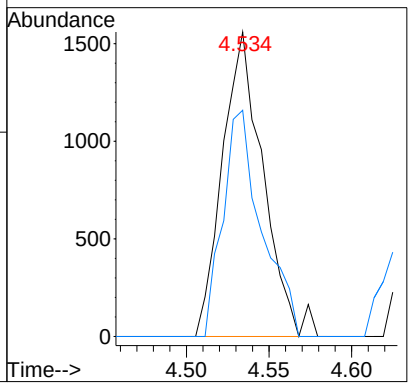


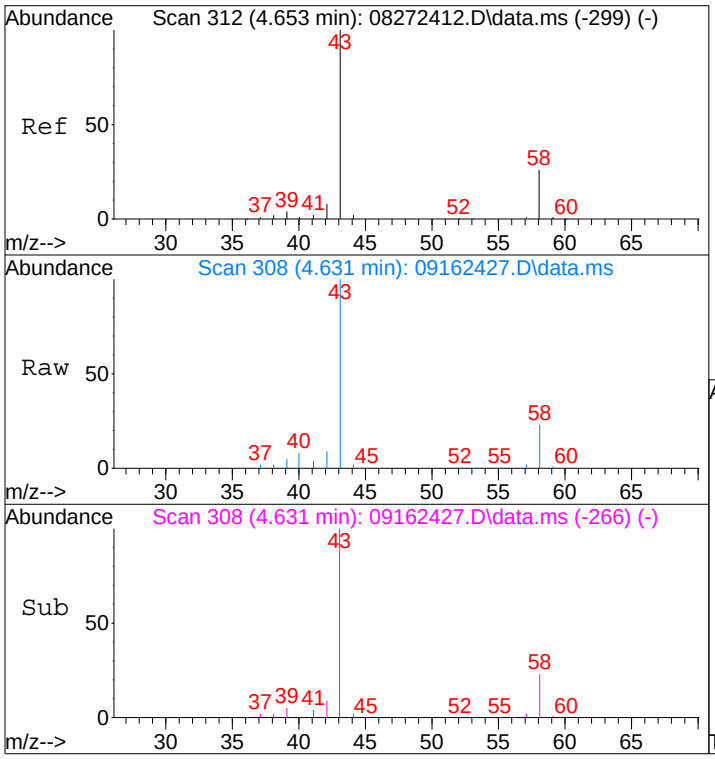


#12
Acrolein
Concen: 0.27 ng
RT: 4.53 min Scan# 291
Delta R.T. -0.001 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 56 Resp: 2672

Ion	Ratio	Lower	Upper
56	100		
55	70.5	54.7	94.7

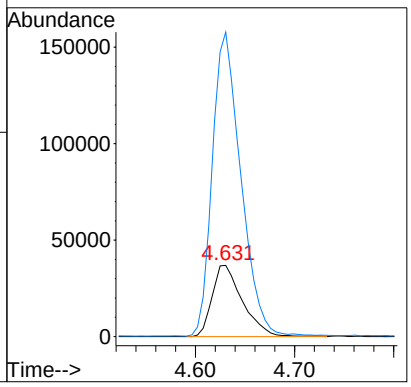


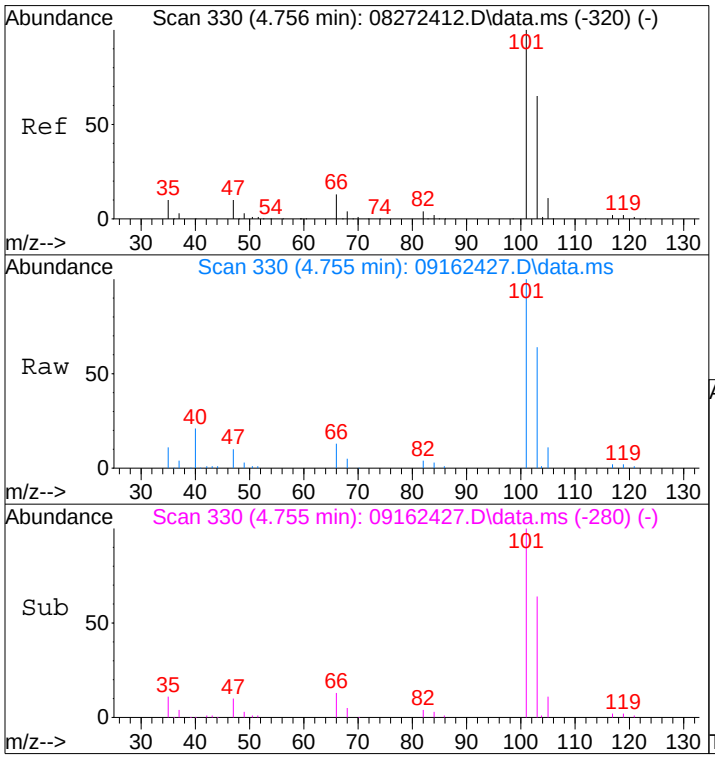


#13
Acetone
Concen: 7.09 ng
RT: 4.63 min Scan# 308
Delta R.T. -0.011 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 58 Resp: 78462

Ion	Ratio	Lower	Upper
58	100		
43	402.2	347.3	407.3

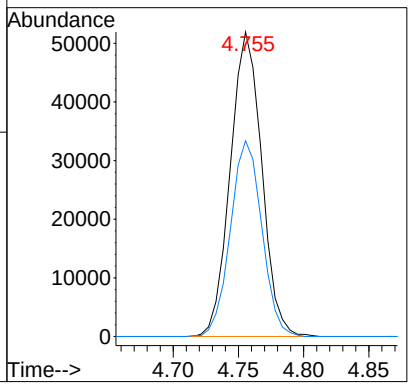


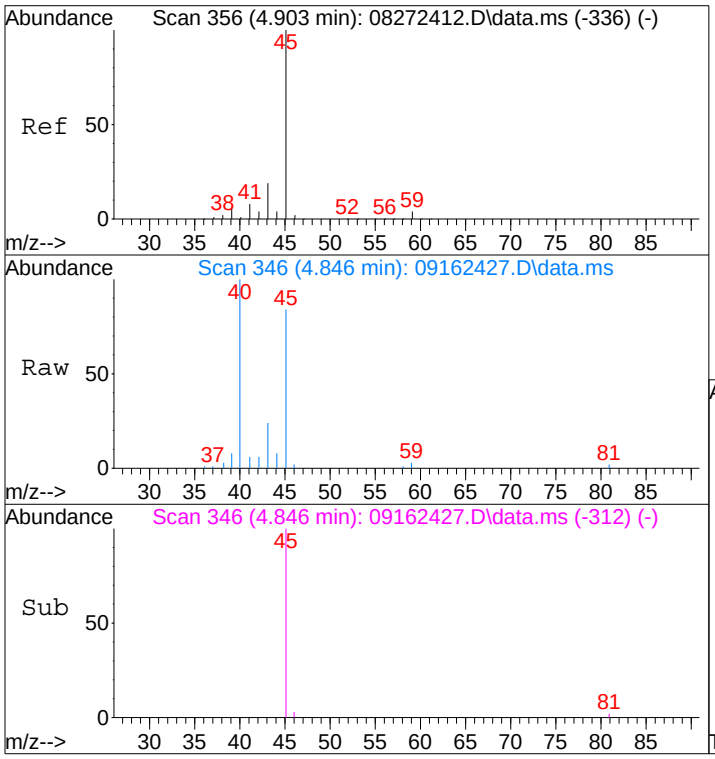


#14
Trichlorofluoromethane
Concen: 3.12 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.035 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion:101 Resp: 87239

Ion	Ratio	Lower	Upper
101	100		
103	64.2	44.9	84.9

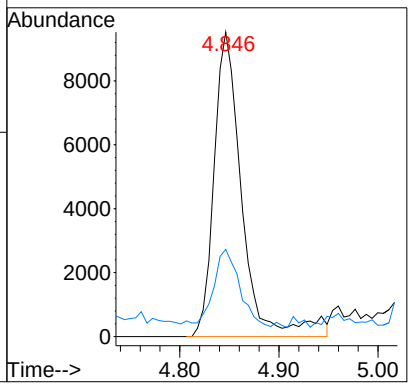


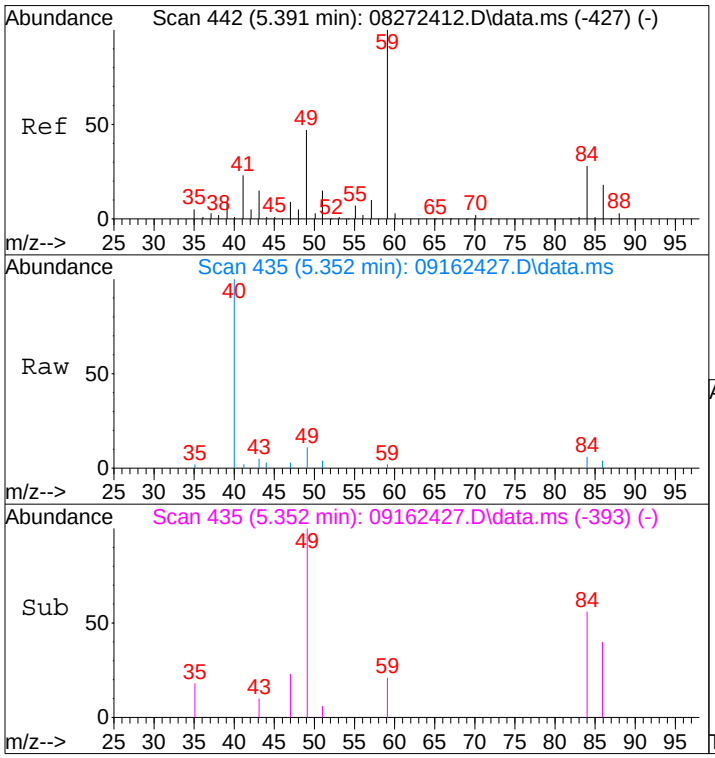


#15
2-Propanol (Isopropanol)
Concen: 0.43 ng
RT: 4.85 min Scan# 346
Delta R.T. -0.060 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 45 Resp: 18574

Ion	Ratio	Lower	Upper
45	100		
43	30.7	0.0	40.0

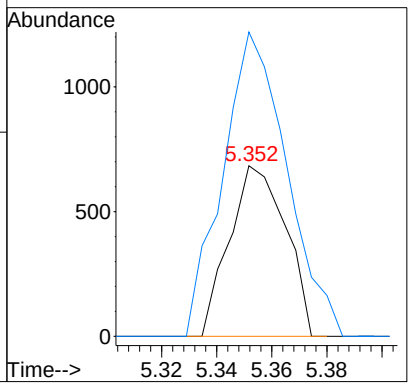


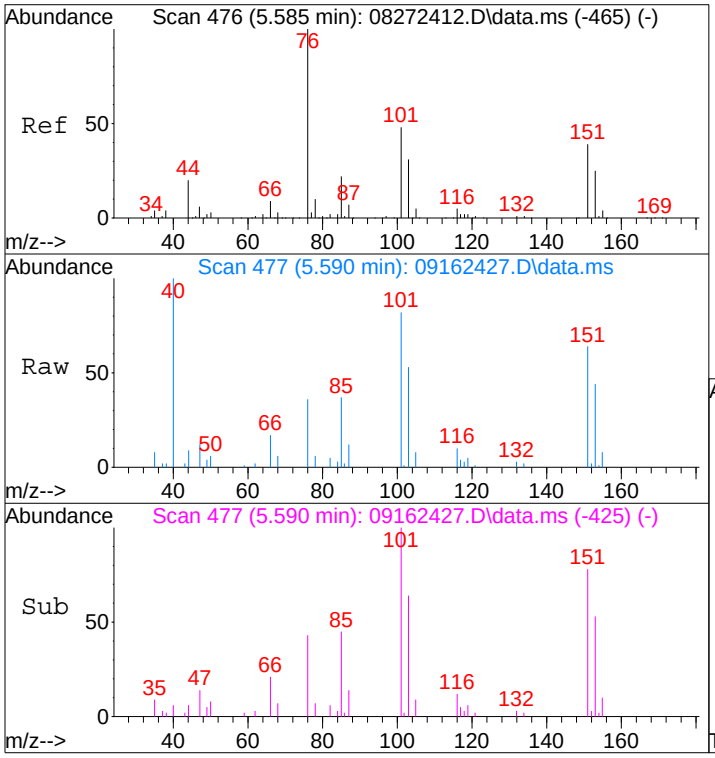


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.009 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 84 Resp: 970

Ion	Ratio	Lower	Upper
84	100		
49	203.5	151.1	201.1#

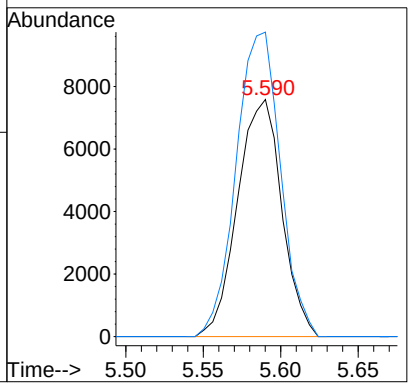


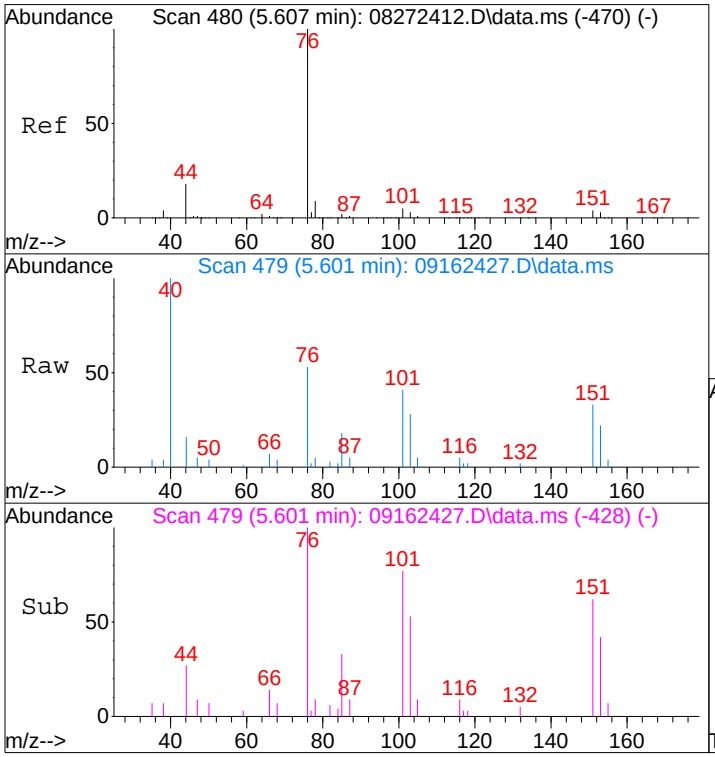


#21
Trichlorotrifluoroethane
Concen: 1.36 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.044 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion:151 Resp: 15090

Ion	Ratio	Lower	Upper
151	100		
101	128.8	103.4	143.4

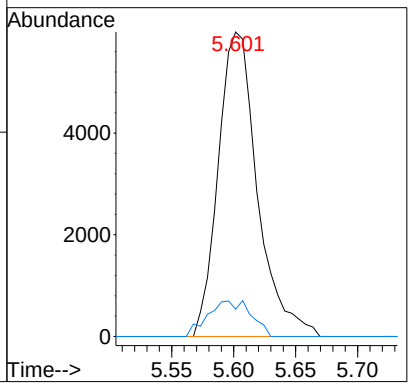


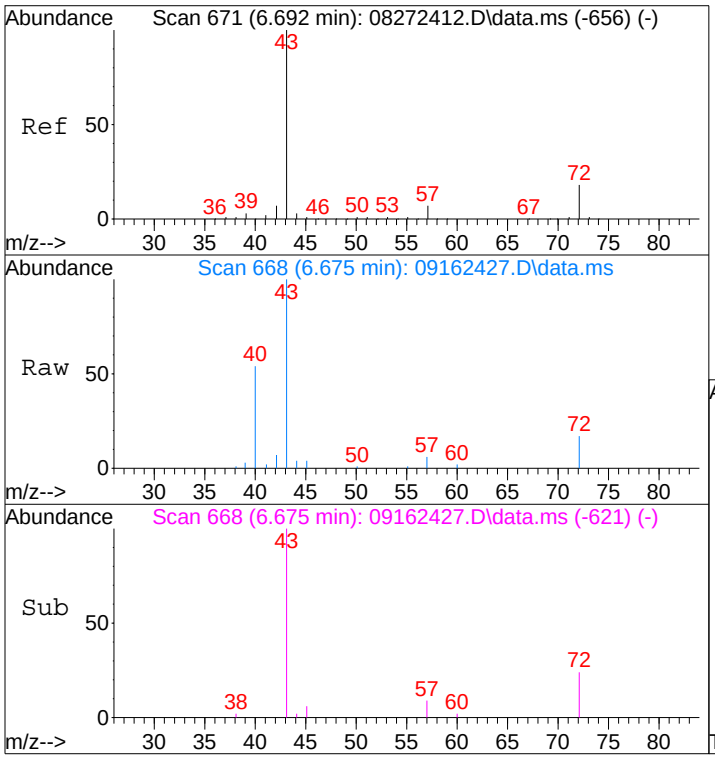


#22
Carbon Disulfide
Concen: 0.31 ng
RT: 5.60 min Scan# 479
Delta R.T. 0.038 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 76 Resp: 13178

Ion	Ratio	Lower	Upper
76	100		
78	12.9	0.0	29.6

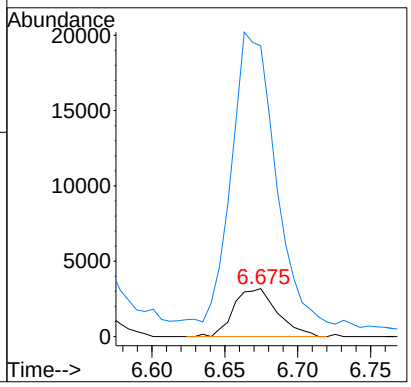


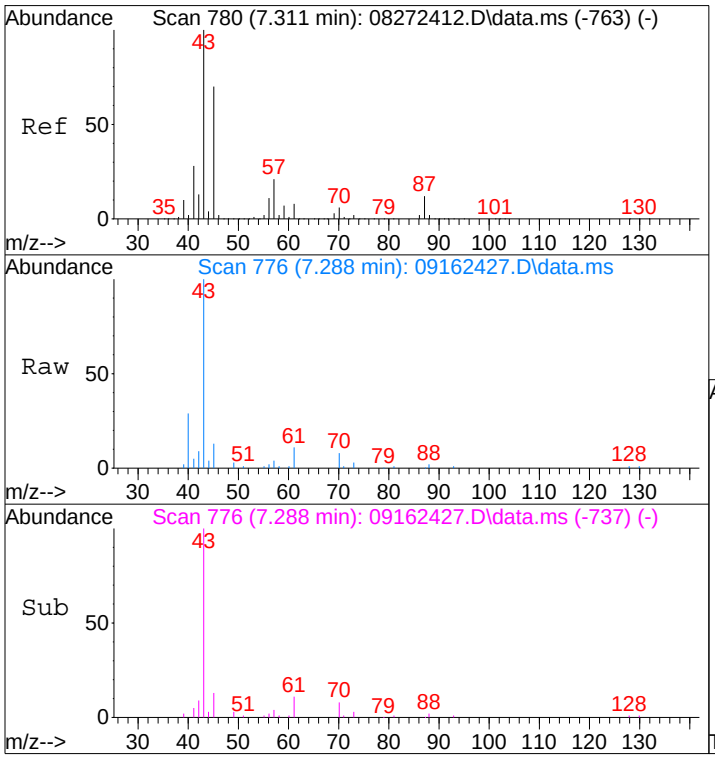


#27
2-Butanone (MEK)
Concen: 0.84 ng
RT: 6.67 min Scan# 668
Delta R.T. 0.016 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 72 Resp: 6617

Ion	Ratio	Lower	Upper
72	100		
43	650.5	548.0	588.0#

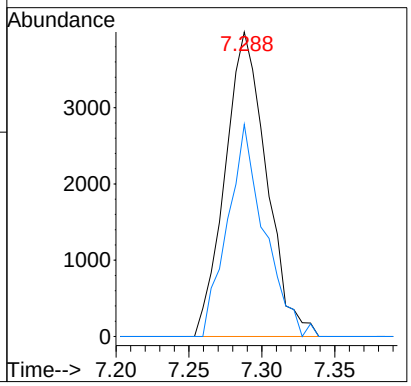


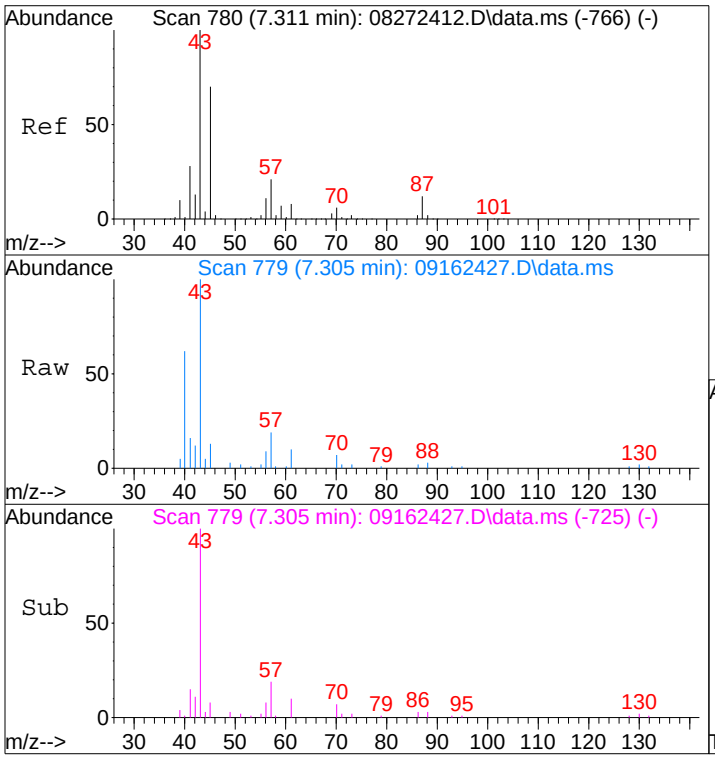


#30
Ethyl Acetate
Concen: 1.50 ng
RT: 7.29 min Scan# 776
Delta R.T. 0.023 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 61 Resp: 7894

Ion	Ratio	Lower	Upper
61	100		
70	61.9	49.9	89.9

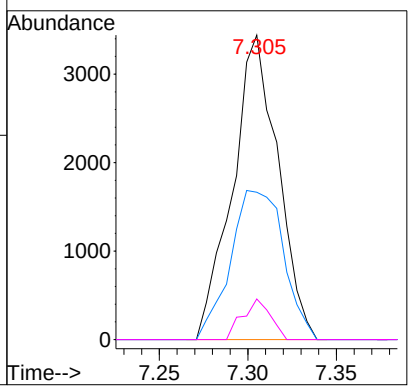


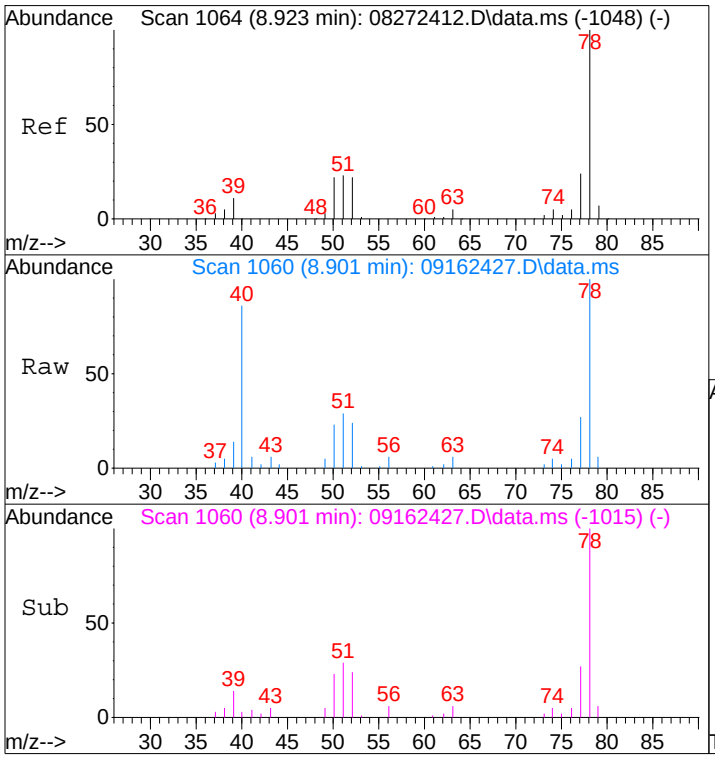


#31
n-Hexane
Concen: 0.26 ng
RT: 7.30 min Scan# 779
Delta R.T. 0.057 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 57 Resp: 6148

Ion	Ratio	Lower	Upper
57	100		
56	57.1	44.2	66.2
86	8.2	9.3	13.9#

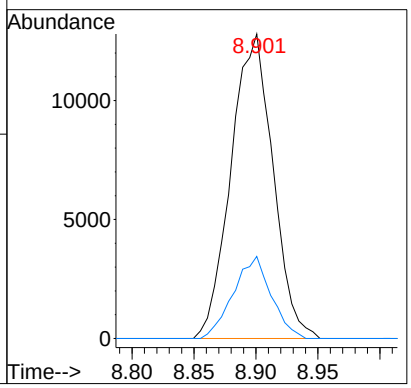


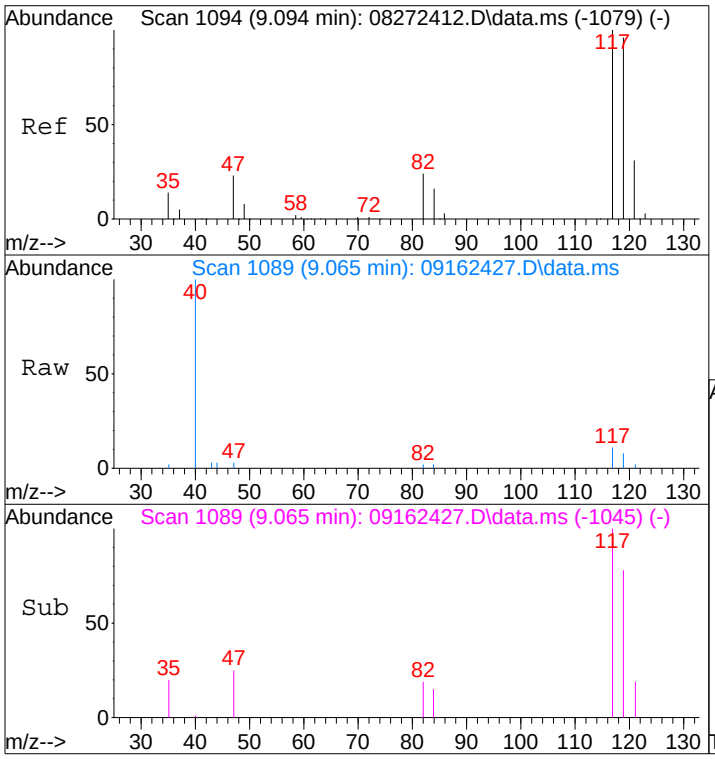


#41
Benzene
Concen: 0.61 ng
RT: 8.90 min Scan# 1060
Delta R.T. 0.003 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 78 Resp: 30204

Ion	Ratio	Lower	Upper
78	100		
77	24.3	3.9	43.9

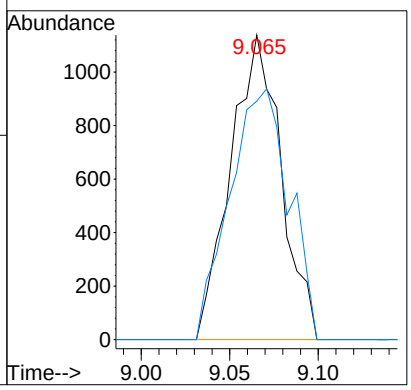


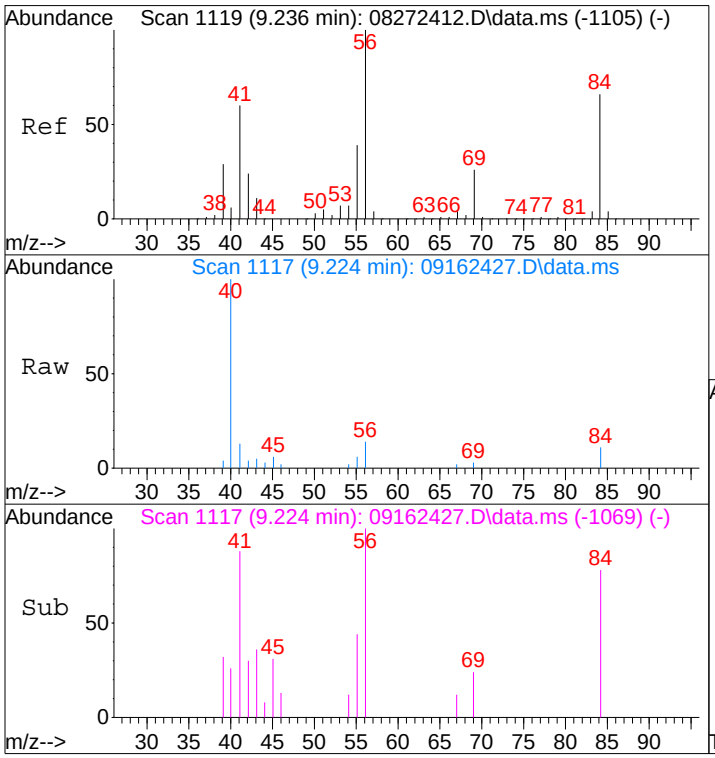


#42
Carbon Tetrachloride
Concen: 0.11 ng
RT: 9.07 min Scan# 1089
Delta R.T. -0.001 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion:117 Resp: 2253

Ion	Ratio	Lower	Upper
117	100		
119	96.9	75.1	115.1

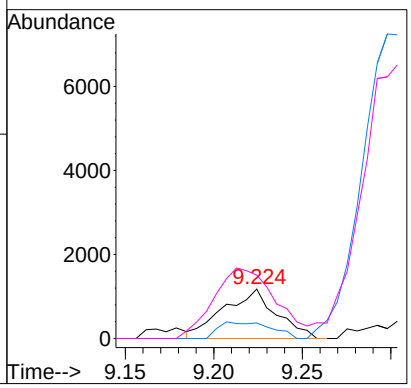


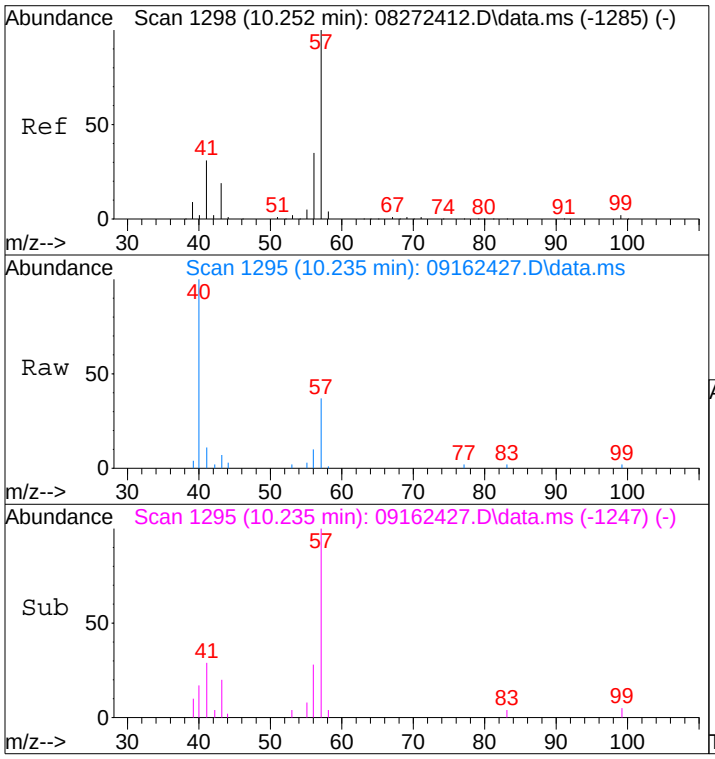


#43
Cyclohexane
Concen: 0.15 ng
RT: 9.22 min Scan# 1117
Delta R.T. 0.022 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 84 Resp: 2433

Ion	Ratio	Lower	Upper
84	100		
69	32.9	18.8	58.8
56	167.2	134.5	174.5

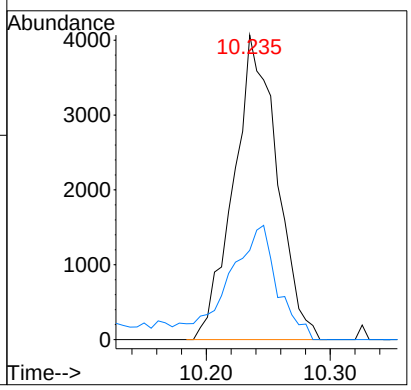


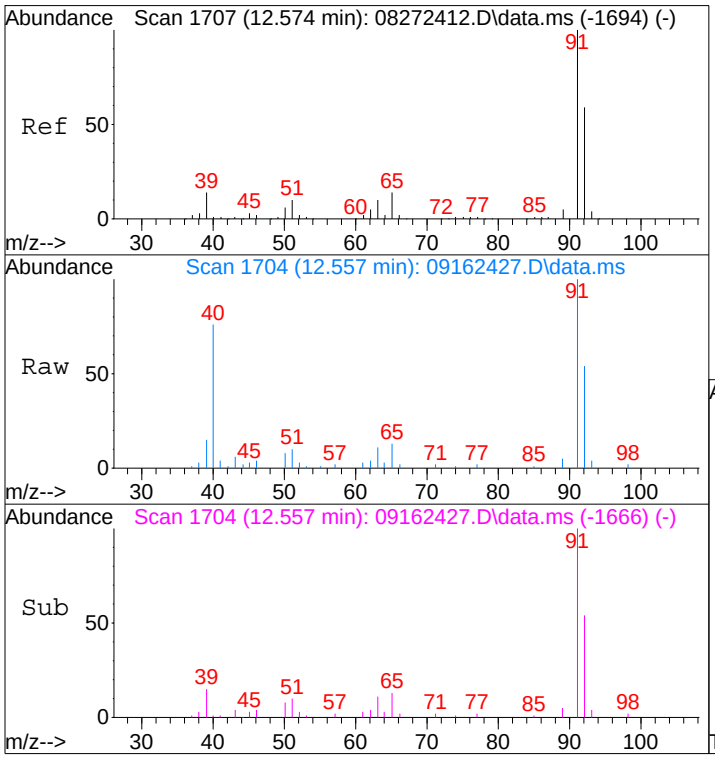


#49
2,2,4-Trimethylpentane (Isooctane)
Concen: 0.17 ng
RT: 10.23 min Scan# 1295
Delta R.T. 0.022 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 57 Resp: 9889

Ion	Ratio	Lower	Upper
57	100		
41	41.3	10.5	50.5

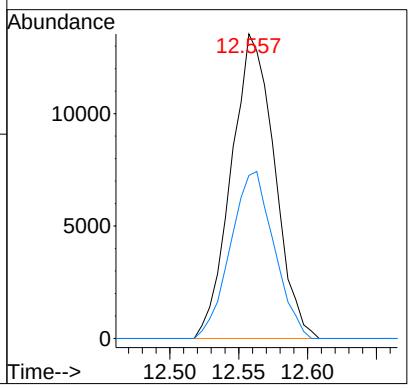


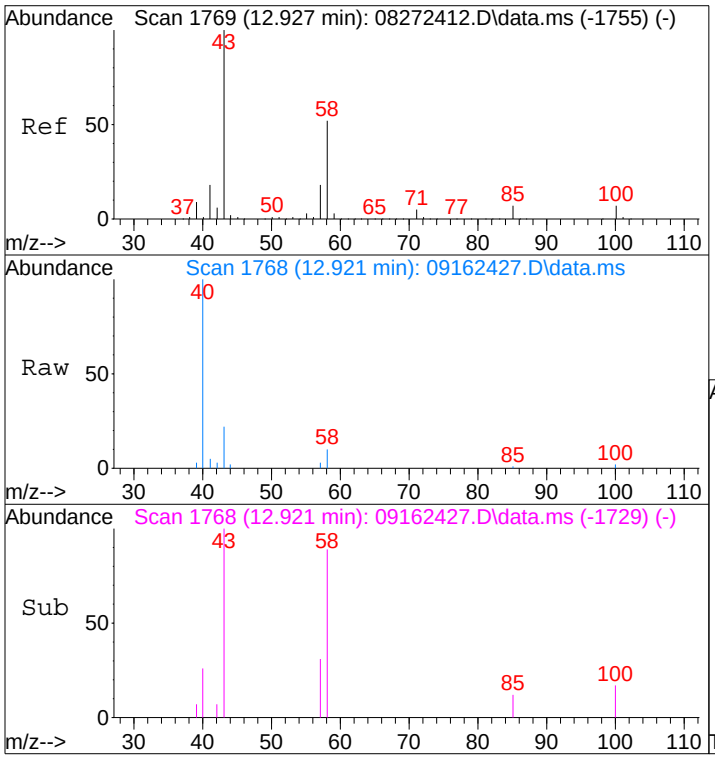


#58
Toluene
Concen: 0.49 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.034 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 91 Resp: 29507

Ion	Ratio	Lower	Upper
91	100		
92	55.4	38.5	78.5

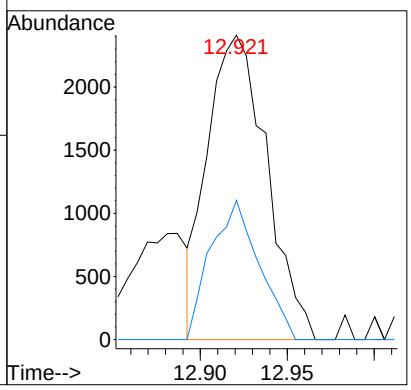


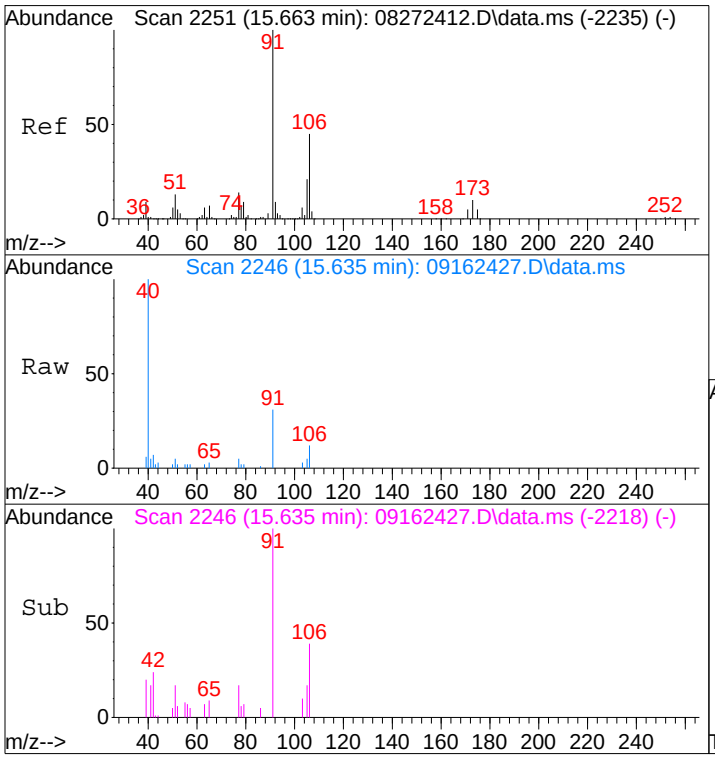


#59
2-Hexanone
Concen: 0.15 ng m
RT: 12.92 min Scan# 1768
Delta R.T. -0.028 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 43 Resp: 5707

Ion	Ratio	Lower	Upper
43	100		
58	37.5	31.1	71.1

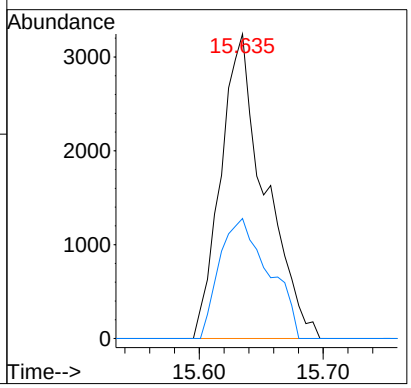


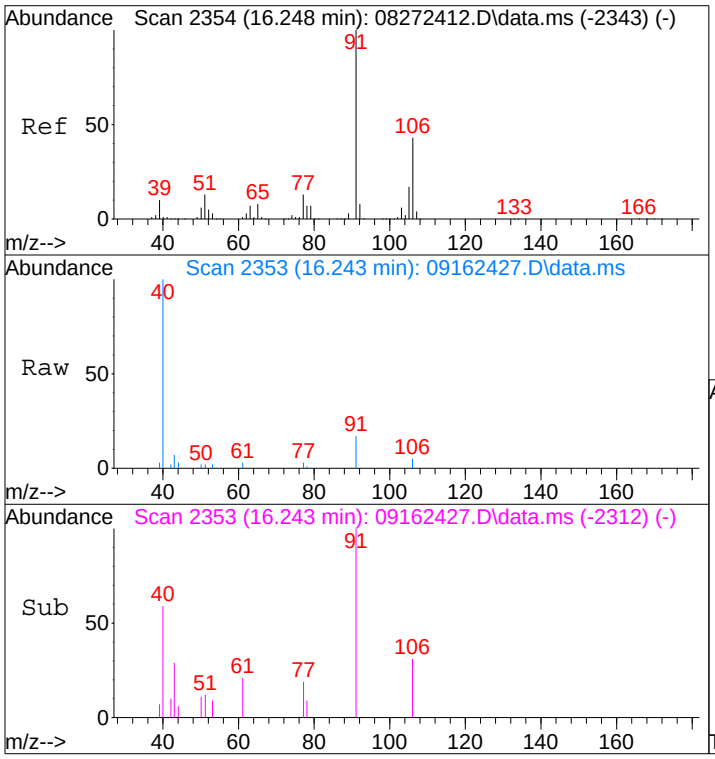


#67
m- & p-Xylenes
Concen: 0.14 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.040 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 91 Resp: 8037

Ion	Ratio	Lower	Upper
91	100		
106	44.0	23.8	63.8

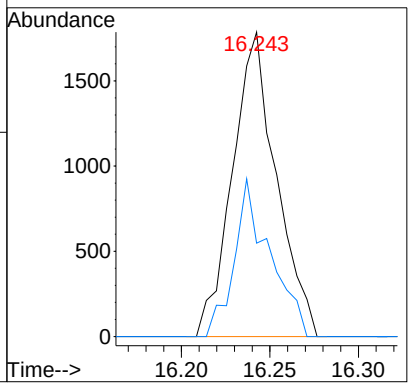


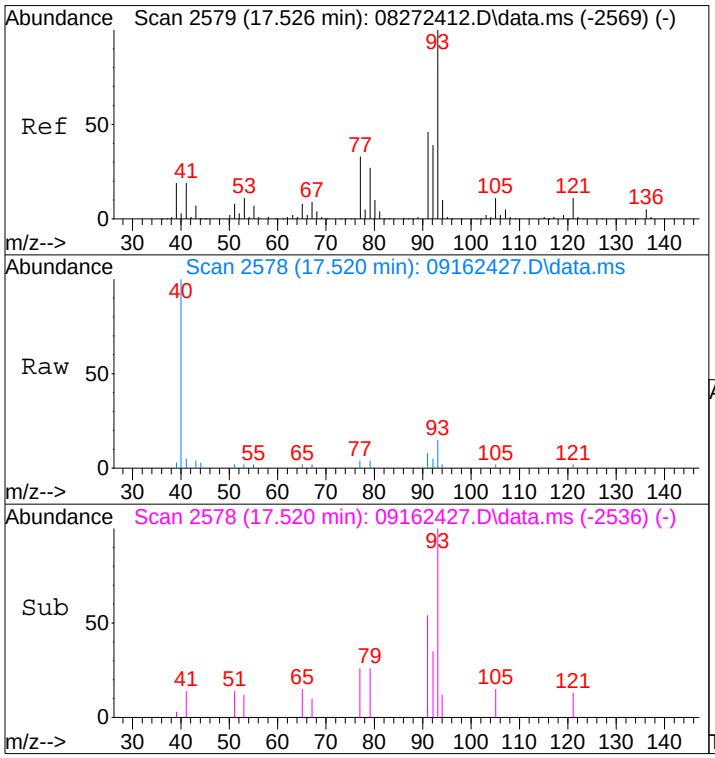


#70
o-Xylene
Concen: 0.06 ng
RT: 16.24 min Scan# 2353
Delta R.T. -0.017 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 91 Resp: 3082

Ion	Ratio	Lower	Upper
91	100		
106	41.9	22.5	62.5

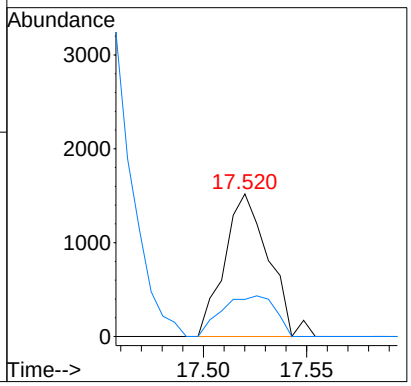


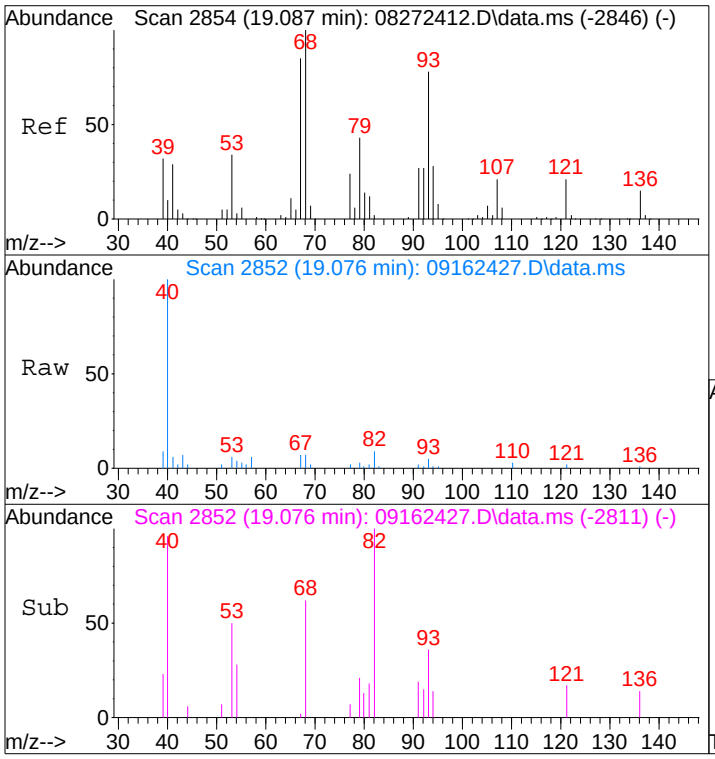


#75
alpha-Pinene
Concen: 0.07 ng
RT: 17.52 min Scan# 2578
Delta R.T. -0.011 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 93 Resp: 2266

Ion	Ratio	Lower	Upper
93	100		
77	34.4	13.1	53.1

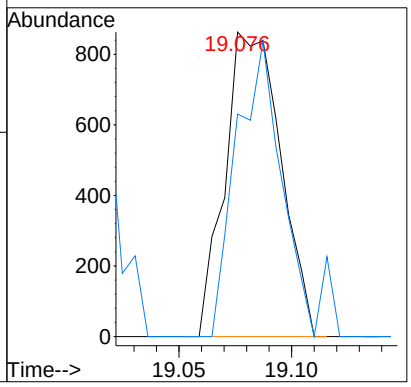




#91
d-Limonene
Concen: 0.08 ng
RT: 19.08 min Scan# 2852
Delta R.T. -0.017 min
Lab File: 09162427.D
Acq: 17 Sep 2024 00:14

Tgt Ion: 68 Resp: 1485

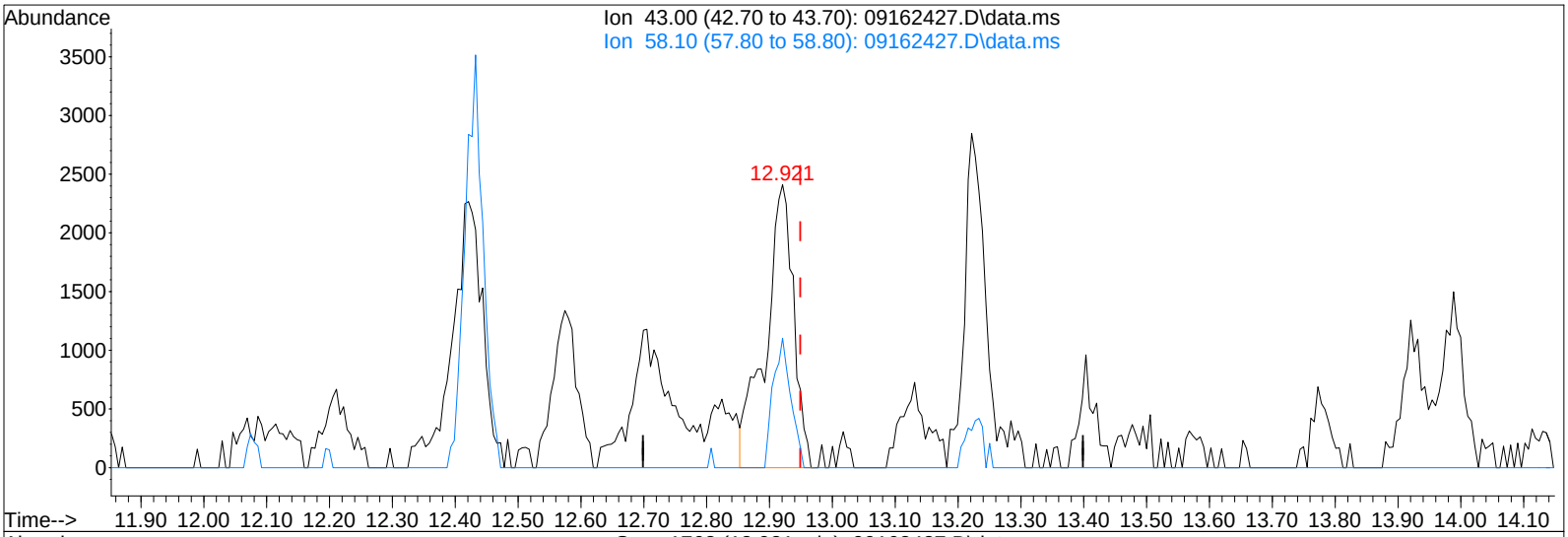
Ion	Ratio	Lower	Upper
68	100		
93	78.2	56.2	96.2

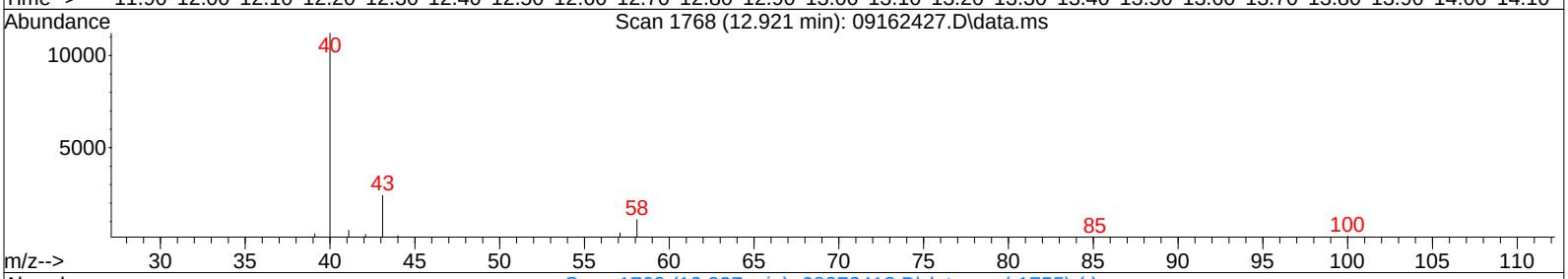


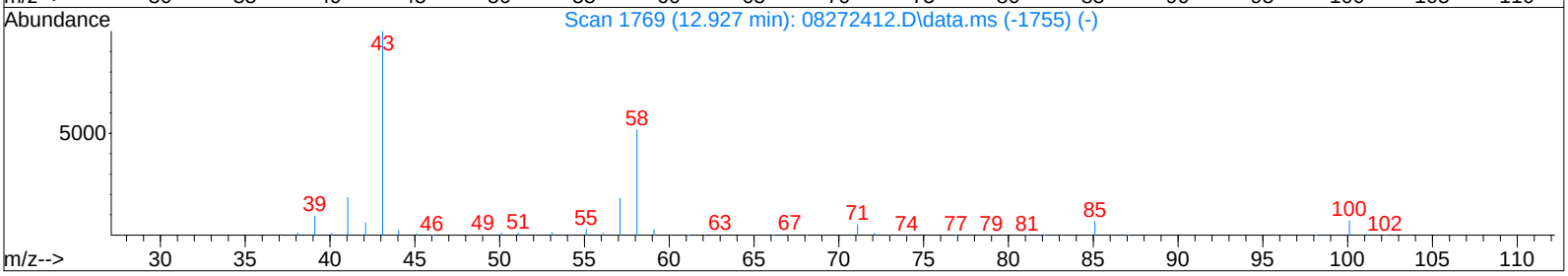
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:36:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 09162427.D\data.ms

(59) 2-Hexanone (T)

12.921min (-0.028) 0.20ng

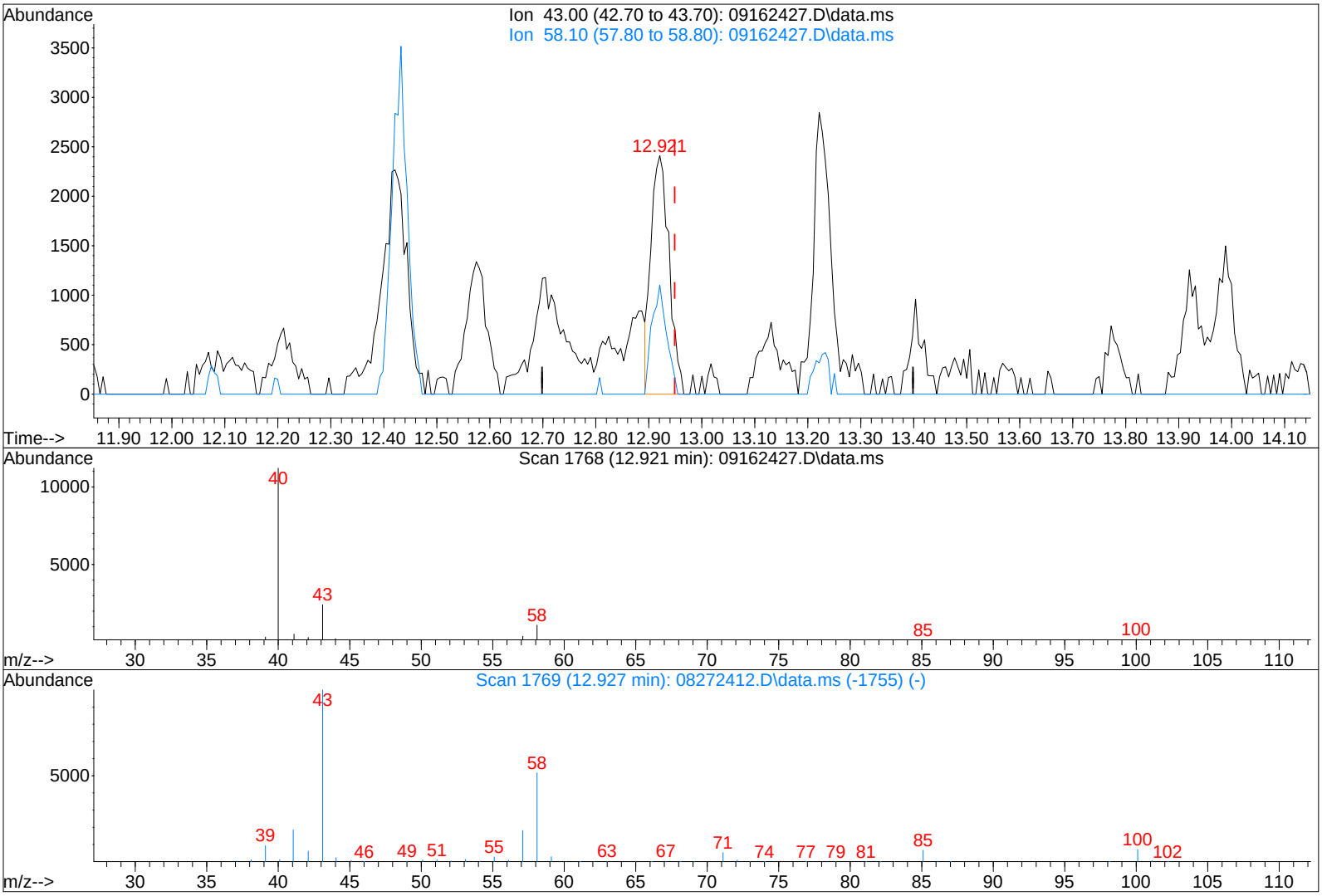
response 7426

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	28.82#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\16\09162427.D Vial: 15
Acq On : 17 Sep 2024 00:14 Operator: SC
Sample : P2403661-067 (400mL) Inst : MS09
Misc : S37-08262404

Quant Time: Sep 17 08:36:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09162427.D\data.ms

(59) 2-Hexanone (T)

12.921min (-0.028) 0.15ng m

response 5707

Ion	Exp%	Act%
43.00	100	100
58.10	51.10	37.50
0.00	0.00	0.00
0.00	0.00	0.00

IPC

9/17/24

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162427.D
Acq On : 17 Sep 2024 00:14
Operator : SC
Sample : P2403661-067 (400mL)
Misc : S37-08262404
ALS Vial : 15 Sample Multiplier: 1

MA 9/30/24

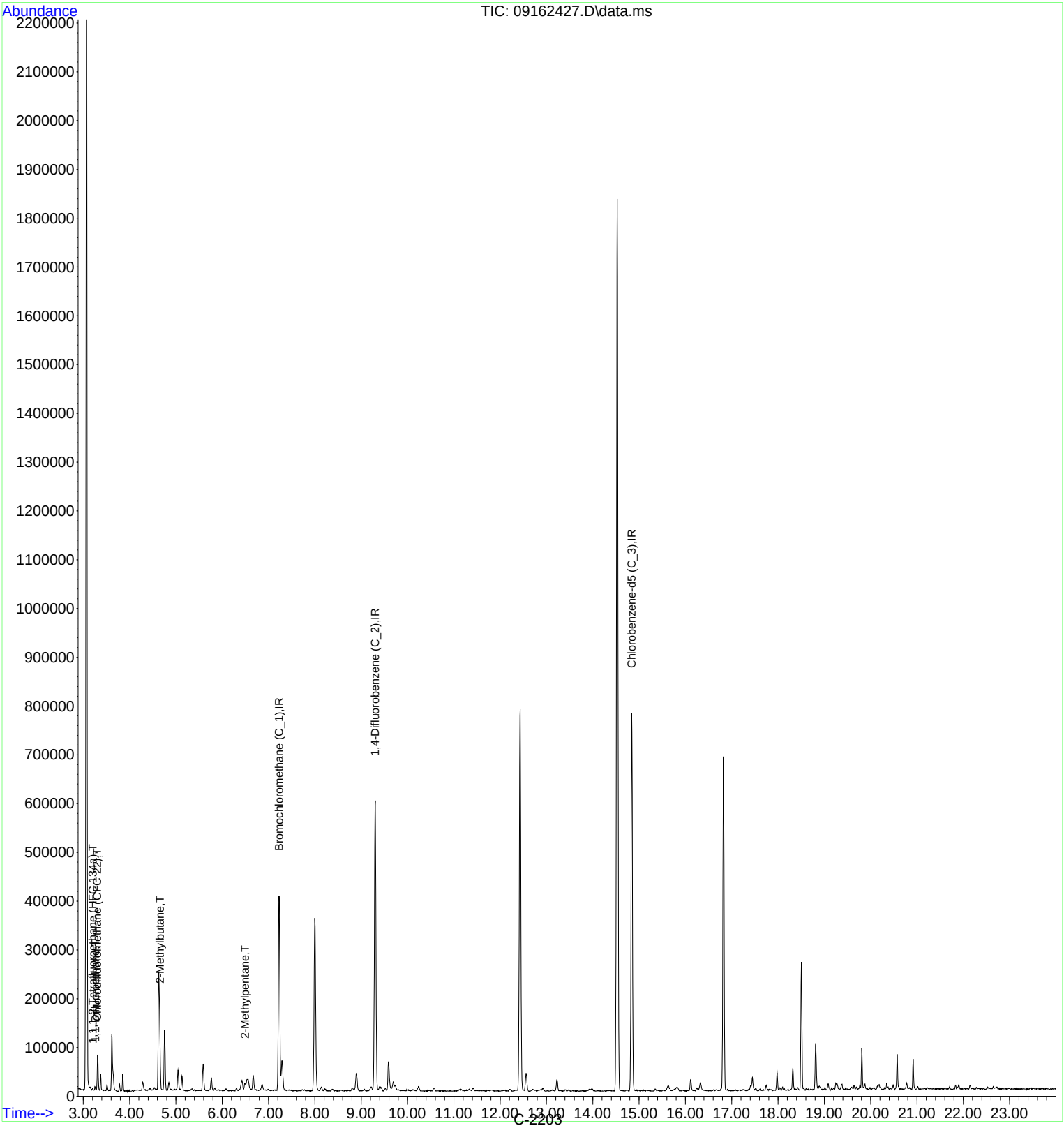
Quant Time: Sep 30 07:14:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	120842	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	525799	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	157705	12.500	ng		-0.01
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	90	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	1990	0.160	ng	#	76
4) 1,1-Difluoroethane	3.26	65	1642	0.156	ng		96
5) Chlorodifluoromethane ...	3.30	67	1120	0.272	ng		98
6) 1-Chloro-1,1-Difluoroe...	3.51	65	659	N.D.			
7) Dichlorofluoromethane ...	0.00	67	0	N.D.			
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	0.00	83	0	N.D.			
10) 2-Methylbutane	4.65	57	20175	1.400	ng	#	69
11) Methyl Acetate	5.33	43	2879	N.D.			
12) 2-Methylpentane	6.49	71	2368	0.226	ng	#	1
13) 2,2-Dichloropropane	0.00	77	0	N.D.			
14) 1,1-Dichloropropene	0.00	75	0	N.D.			
15) Thiophene	9.06	84	183	N.D.			
17) 2,3-Dimethylpentane	9.53	56	2420	N.D.			
18) Dibromomethane	9.79	174	53	N.D.			
20) Methyl Cyclohexane	11.42	55	2210	N.D.			
21) 1,3-Dichloropropane	0.00	76	0	N.D.			
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.			
23) 1-Chlorohexane	0.00	91	0	N.D.			
24) 1,2,3-Trichloropropane	16.32	75	521	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.61	91	59	N.D.			
27) 4-Chlorotoluene	17.67	91	597	N.D.			
28) Indane	19.10	117	53	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.21	119	303	N.D.			
31) 1,2,3,4-Tetramethylben...	20.21	119	303	N.D.			
32) 1,2,3,5-Tetramethylben...	20.60	119	205	N.D.			
33) 1,2,3-Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162427.D
Acq On : 17 Sep 2024 00:14
Operator : SC
Sample : P2403661-067 (400mL)
Misc : S37-08262404
ALS Vial : 15 Sample Multiplier: 1

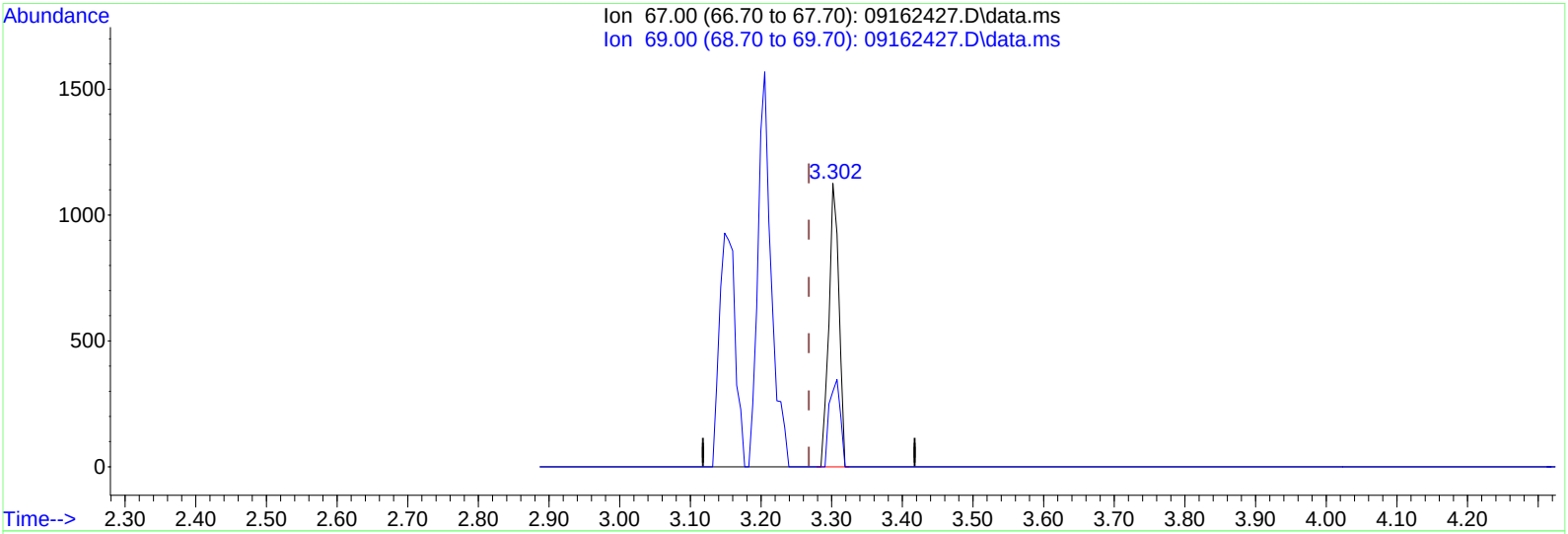
Quant Time: Sep 30 07:14:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

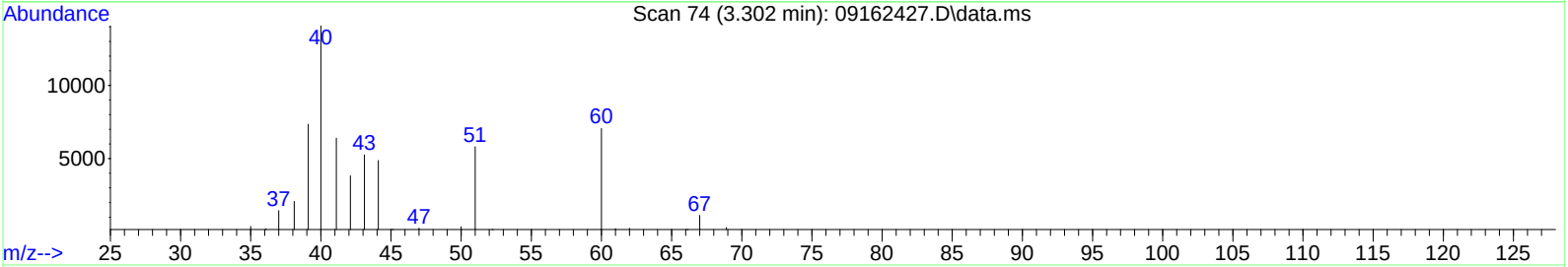


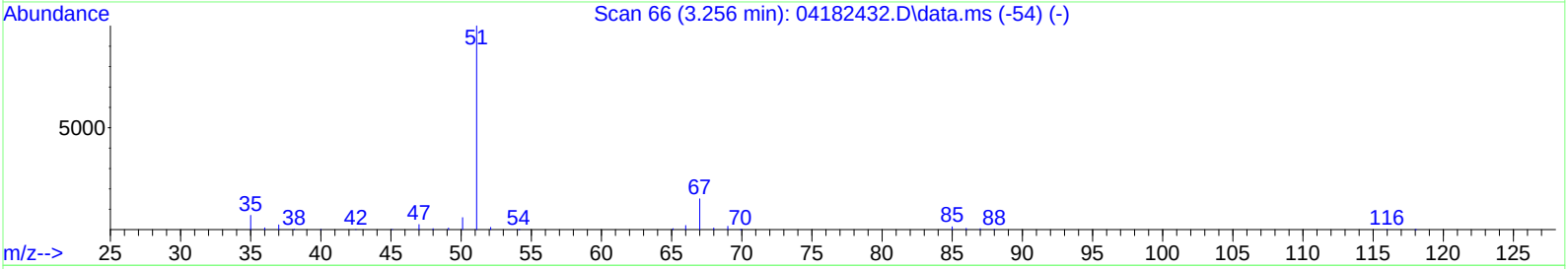
C-2203

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162427.D
Acq On : 17 Sep 2024 00:14
Operator : SC
Sample : P2403661-067 (400mL)
Misc : S37-08262404
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 30 07:14:54 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration







TIC: 09162427.D\data.ms

(5) Chlorodifluoromethane (CFC 22) (T)

3.302min (+0.034) 0.27ng

response 1120

Ion	Exp%	Act%
67.00	100	100
69.00	34.30	33.21
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162427.D
Acq On : 17 Sep 2024 00:14
Operator : SC
Sample : P2403661-067 (400mL)
Misc : S37-08262404
ALS Vial : 15 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 10000 Area counts
Start Thrs: 0.15 Max Peaks: 200
Stop Thrs : 0.05 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 09162427.D\data.ms

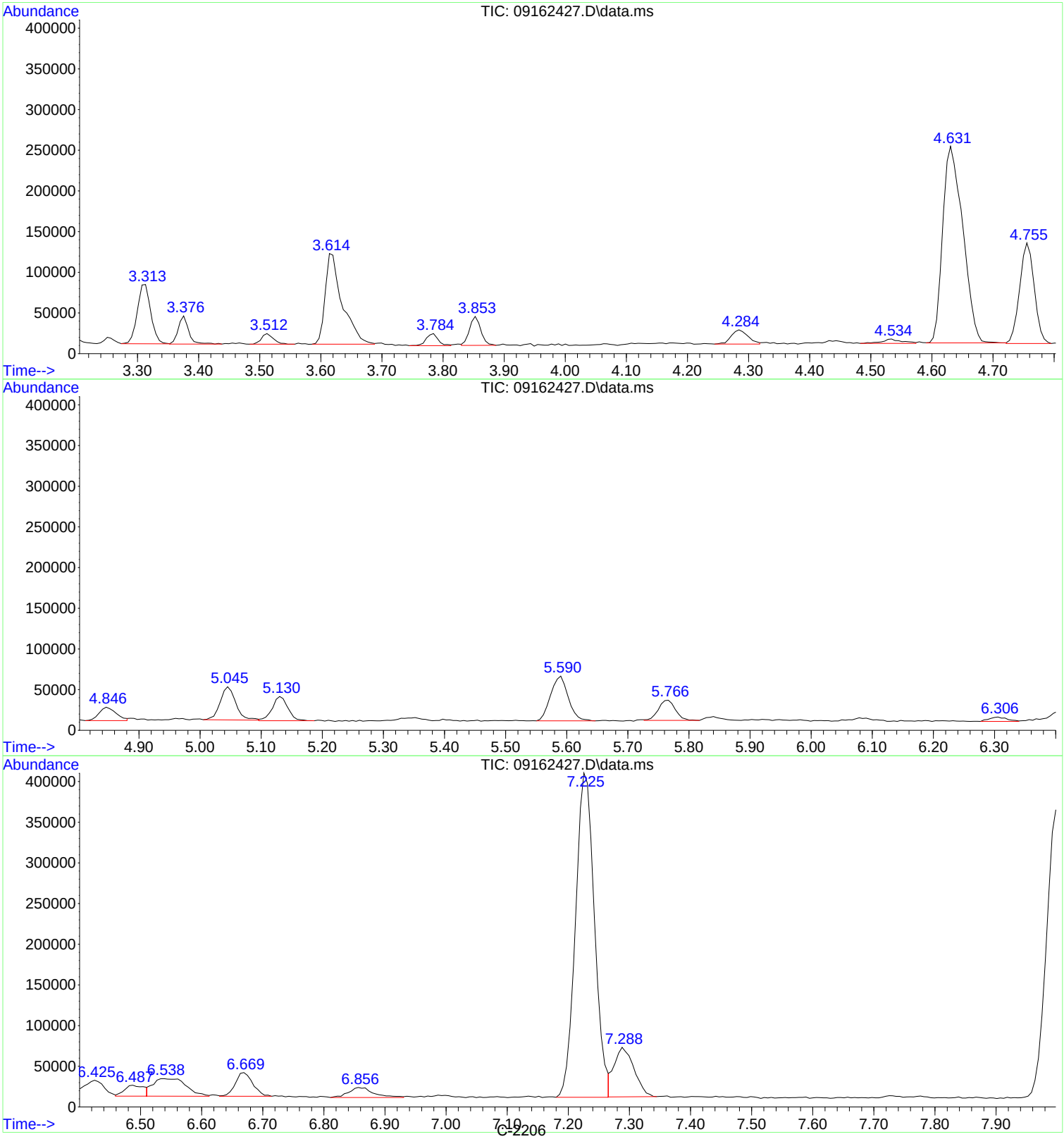
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.313	69	76	83	rVV2	72795	111347	12.95%	3.936%
2	3.376	83	87	98	rVB	34712	41052	4.77%	1.451%
3	3.512	106	111	119	rBV	13090	17954	2.09%	0.635%
4	3.614	124	129	142	rBV2	111505	216201	25.15%	7.643%
5	3.784	152	159	164	rBV2	14912	20249	2.36%	0.716%
6	3.853	167	171	177	rVB	35595	45382	5.28%	1.604%
7	4.284	240	247	253	rBV	17532	33283	3.87%	1.177%
8	4.534	282	291	298	rBV3	5373	11864	1.38%	0.419%
9	4.631	301	308	324	rVB	241636	553348	64.36%	19.561%
10	4.755	324	330	337	rVB	123752	205593	23.91%	7.268%
11	4.846	340	346	352	rBV	16548	31945	3.72%	1.129%
12	5.045	374	381	390	rBV	40574	72060	8.38%	2.547%
13	5.130	390	396	406	rVB2	29811	52397	6.09%	1.852%
14	5.590	470	477	487	rVB3	55059	109795	12.77%	3.881%
15	5.766	501	508	517	rVB	24785	47265	5.50%	1.671%
16	6.306	598	603	609	rBV3	5484	11032	1.28%	0.390%
17	6.425	615	624	630	rBV2	19445	47624	5.54%	1.684%
18	6.487	630	635	639	rVV2	13411	30535	3.55%	1.079%
19	6.538	639	644	657	rVV4	21572	80910	9.41%	2.860%
20	6.669	660	667	675	rVB2	29123	57873	6.73%	2.046%
21	6.856	692	700	713	rBV4	12340	35268	4.10%	1.247%
22	7.225	757	765	772	rBV	398585	859797	100.00%	30.394%
23	7.288	772	776	786	rVB	60674	136023	15.82%	4.809%

Sum of corrected areas: 2828797

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162427.D
Acq On : 17 Sep 2024 00:14
Operator : SC
Sample : P2403661-067 (400mL)
Misc : S37-08262404
ALS Vial : 15 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P



Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2024 09\16\\
Data File : 09162427.D
Acq On : 17 Sep 2024 00:144
Operator : SCC
Sample : P2403661-067 (400mL))
Misc : S37-082624044
ALS Vial : 15 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09082724.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 9/30/24

TIC Library : L:\DATABASE\NIST17\NIST17.LL
TIC Integration Parameters: LSCINT.PP

						--Internal Standard---			
TIC Top Hit name	RT	EstConc	Units	Response	#	RT	Resp	Conc

No Library Search Compounds Detected
****

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092404.D Vial: 2
Acq On : 9 Sep 2024 10:19 Operator: SC
Sample : MB R09090924 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 09 10:52:44 2024 9/9/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	165133	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	753408	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	199052	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	395584	12.802	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
57) Toluene-d8 (SS2)	12.43	98	835061	11.959	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.68%			
73) Bromofluorobenzene (SS3)	16.82	174	254505	10.898	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.20%			
Target Compounds						Qvalue
2) Propene	3.32	42	934	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	3.52	50	142	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.33	45	3290	0.184	ng	83
11) Acetonitrile	4.47	41	1928	N.D.		
12) Acrolein	4.56	56	587	N.D.		
13) Acetone	4.66	58	9525	0.630	ng	97
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.92	45	1227	N.D.		
16) Acrylonitrile	5.02	53	1247	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.35	84	569	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.62	76	1009	N.D.		
23) trans-1,2-Dichloroethene	6.14	61	149	N.D.		
24) 1,1-Dichloroethane	6.32	63	189	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	6.69	72	118	N.D.		
28) cis-1,2-Dichloroethene	7.08	61	355	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.36	83	266	N.D.		
34) Tetrahydrofuran (THF)	7.79	72	411	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	214	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.87	56	1607	No Calib	#	
41) Benzene	8.90	78	1180	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	999	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	10.14	130	104	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092404.D Vial: 2
Acq On : 9 Sep 2024 10:19 Operator: SC
Sample : MB R09090924 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 09 10:52:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

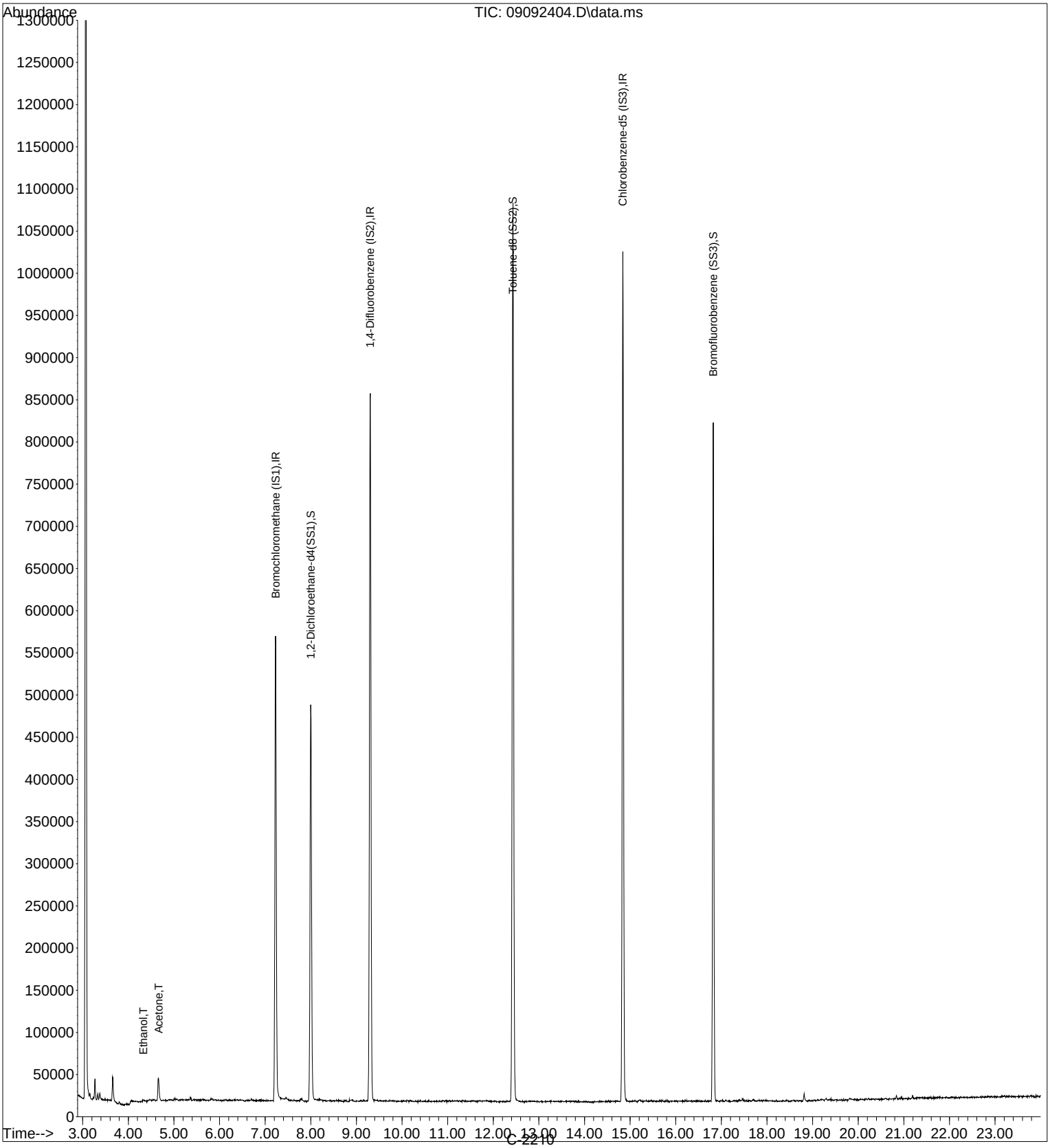
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	494	N.D.	
59) 2-Hexanone	12.95	43	261	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	13.81	43	117	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	173	N.D.	
66) Ethylbenzene	15.41	91	1139	N.D.	
67) m- & p-Xylenes	15.62	91	489	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.11	104	107	N.D.	
70) o-Xylene	16.25	91	373	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	16.20	83	171	N.D.	
74) Cumene	17.03	105	237	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.70	91	1571	N.D.	
77) 3-Ethyltoluene	17.03	105	237	No Calib	#
78) 4-Ethyltoluene	17.87	105	348	N.D.	
79) 1,3,5-Trimethylbenzene	17.87	105	348	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	237	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	327	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	662	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	308	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	435	N.D.	
87) sec-Butylbenzene	18.74	105	324	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	261	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	237	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	427	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	1253	N.D.	
95) Naphthalene	20.94	128	1557	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	335	N.D.	
98) Cyclohexanone	15.22	55	575	No Calib	#
99) tert-Butylbenzene	18.42	119	261	N.D.	
100) n-Butylbenzene	19.39	91	459	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092404.D Vial: 2
Acq On : 9 Sep 2024 10:19 Operator: SC
Sample : MB R09090924 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 09 10:52:44 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092404.D Vial: 2
Acq On : 9 Sep 2024 10:19 Operator: SC
Sample : MB R09090924 1000mL Inst : MS09
Misc : S37-06062402/AC00880

9/9/24

Quant Time: Sep 09 11:37:44 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

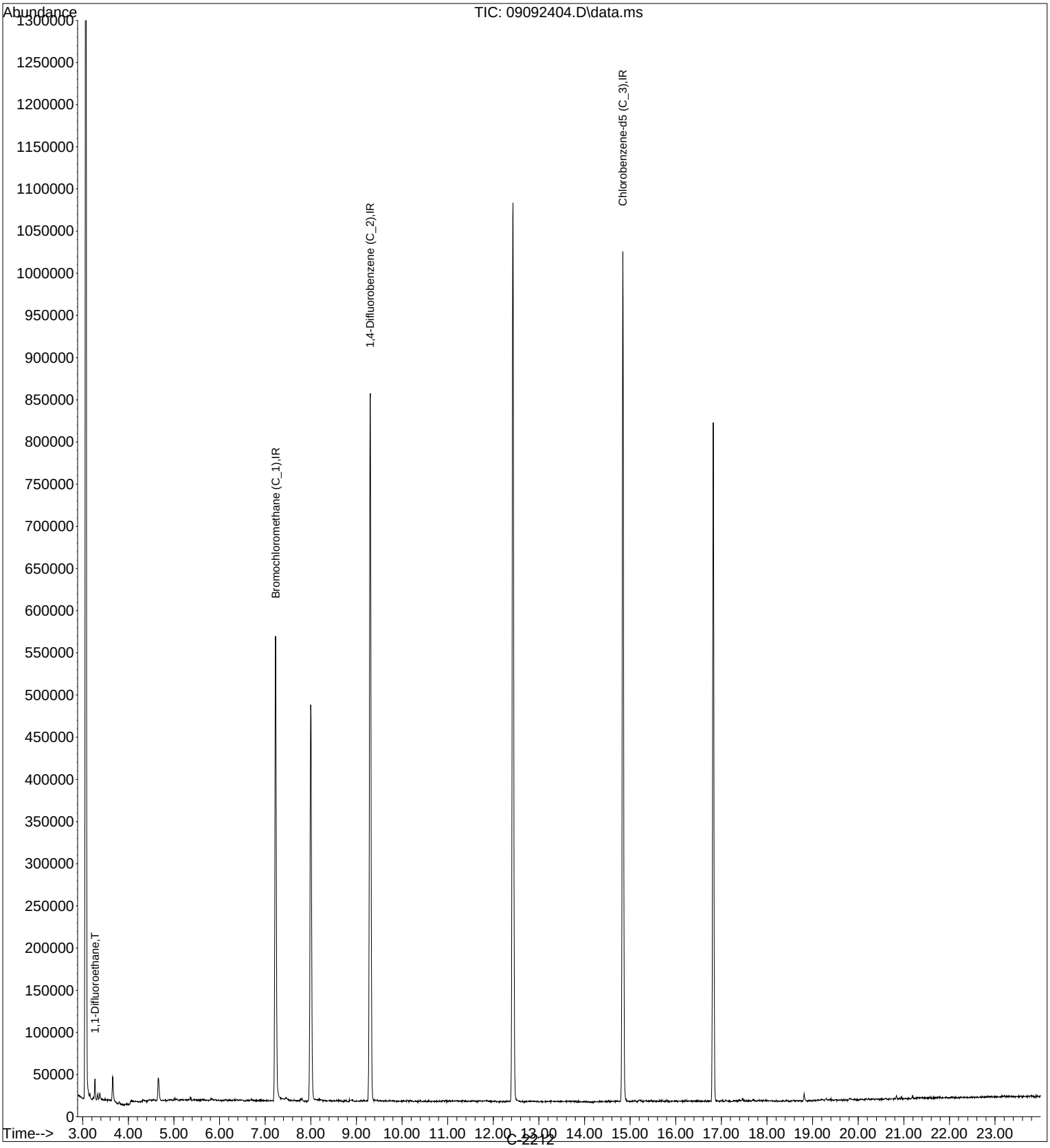
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	169826	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	755195	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	199052	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.17	85	165	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.23	83	88	N.D.		
4) 1,1-Difluoroethane	3.27	65	6434	0.434	ng	91
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.53	65	228	N.D.		
7) Dichlorofluoromethane ...	4.26	67	226	N.D.		
8) Vinylbromide	4.46	108	70	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	188	N.D.		
10) 2-Methylbutane	4.67	57	799	N.D.		
11) Methyl Acetate	5.35	43	1276	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	381	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.22	91	317	N.D.		
24) 1,2,3-Trichloropropane	16.38	75	118	N.D.		
25) Bromobenzene	17.11	77	595	N.D.		
26) 2-Chlorotoluene	17.61	91	716	N.D.		
27) 4-Chlorotoluene	17.70	91	1571	N.D.		
28) Indane	19.12	117	617	N.D.		
29) Indene	19.22	115	684	N.D.		
30) 1,2,4,5-Tetramethylben...	20.22	119	831	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	831	N.D.		
32) 1,2,3,5-Tetramethylben...	20.59	119	928	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	1398	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092404.D Vial: 2
Acq On : 9 Sep 2024 10:19 Operator: SC
Sample : MB R09090924 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 09 11:37:44 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102404.D Vial: 2
Acq On : 10 Sep 2024 10:46 Operator: SC
Sample : MB R09091024 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 10 11:30:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	141596	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	627961	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	177653	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	347654	13.121	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%			
57) Toluene-d8 (SS2)	12.43	98	708612	11.370	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%			
73) Bromofluorobenzene (SS3)	16.82	174	225736	10.830	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.64%			
Target Compounds						Qvalue
2) Propene	3.33	42	726	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.41	45	53	N.D.		
11) Acetonitrile	4.47	41	1332	N.D.		
12) Acrolein	4.56	56	525	N.D.		
13) Acetone	4.66	58	8474	0.654	ng	99
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.93	45	763	N.D.		
16) Acrylonitrile	5.02	53	810	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.36	84	418	N.D.		
20) 3-Chloro-1-propene (Al...	5.50	41	112	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.63	76	678	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.08	61	167	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	7.79	72	191	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	272	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.87	56	225	No Calib	#	
41) Benzene	8.91	78	541	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.28	84	949	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102404.D Vial: 2
Acq On : 10 Sep 2024 10:46 Operator: SC
Sample : MB R09091024 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 10 11:30:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

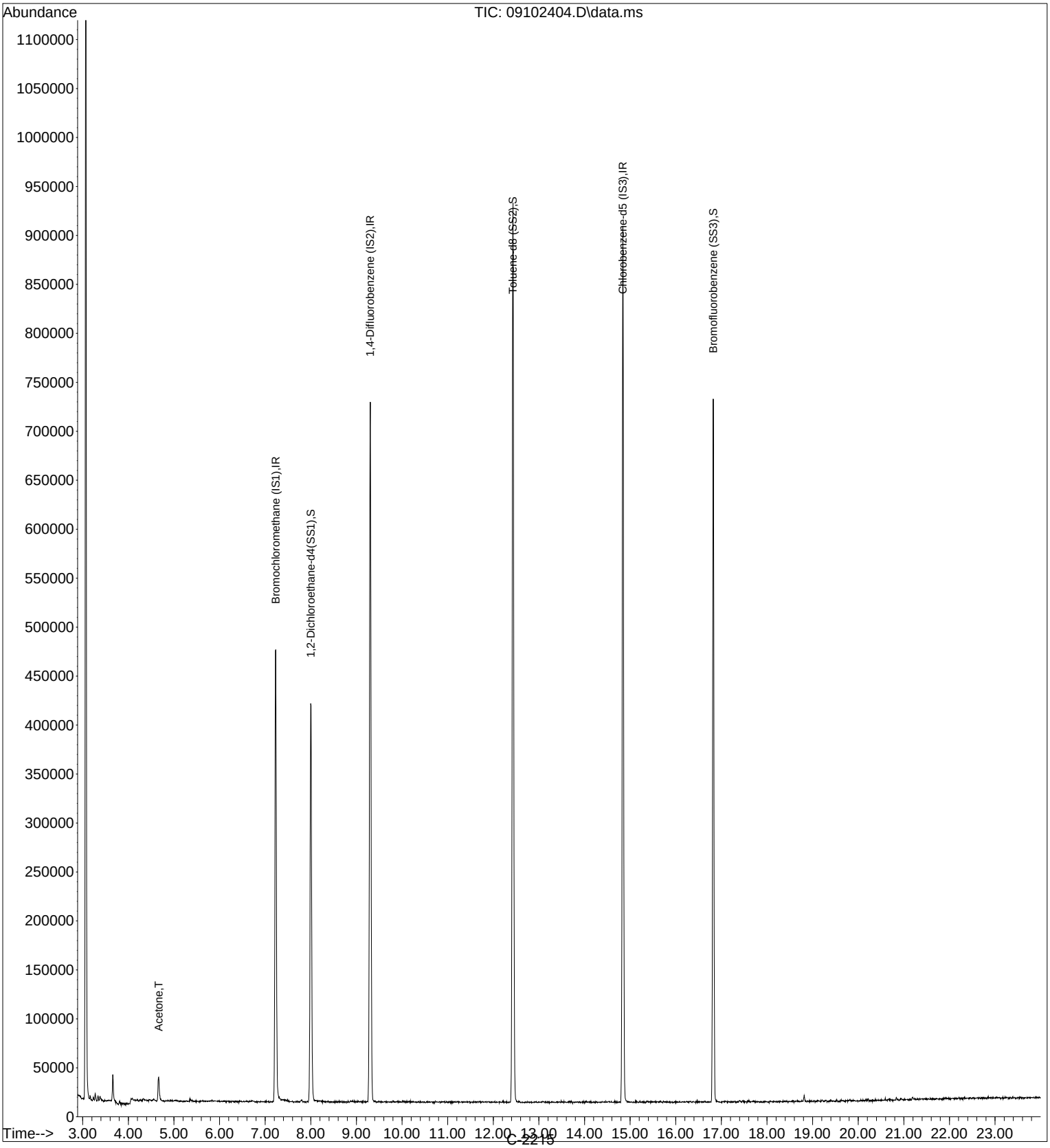
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	355	N.D.		
59) 2-Hexanone	12.97	43	115	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.42	91	318	N.D.		
67) m- & p-Xylenes	15.69	91	182	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.23	91	338	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	0.00	105	0	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.70	91	1196	N.D.		
77) 3-Ethyltoluene	0.00	105	0	N.D.		
78) 4-Ethyltoluene	17.86	105	176	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	0.00	105	0	N.D.		
82) 1,2,4-Trimethylbenzene	18.42	105	189	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	355	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	226	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	287	N.D.		
87) sec-Butylbenzene	18.75	105	204	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.		
90) 1,2-Dichlorobenzene	19.03	146	361	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	982	N.D.		
95) Naphthalene	20.94	128	1336	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	290	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.38	91	127	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102404.D Vial: 2
Acq On : 10 Sep 2024 10:46 Operator: SC
Sample : MB R09091024 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 10 11:30:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102404.D Vial: 2
Acq On : 10 Sep 2024 10:46 Operator: SC
Sample : MB R09091024 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 10 11:31:18 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

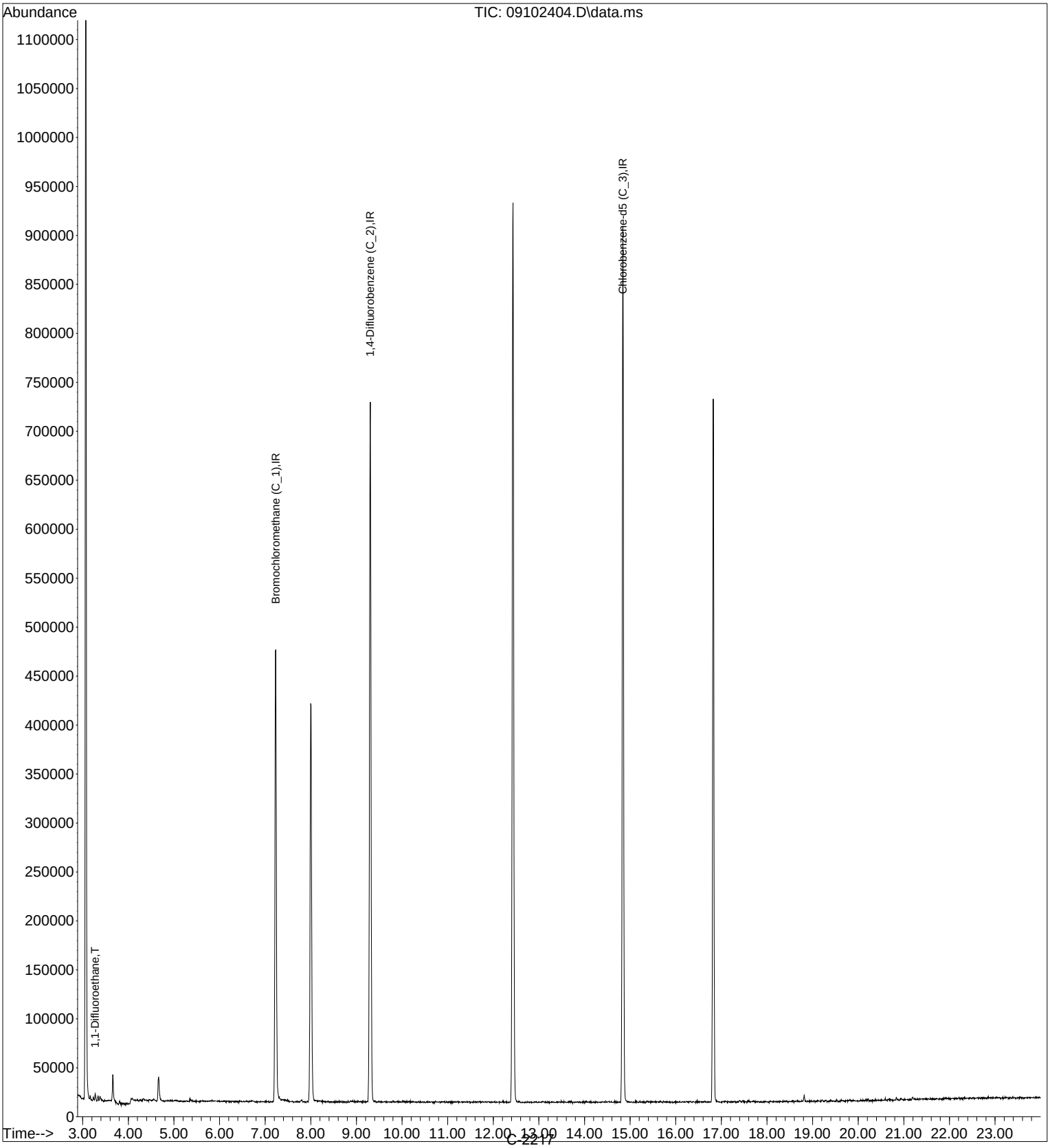
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	142842	12.500 ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	627961	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	177653	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.17	85	64	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.23	83	133	N.D.	
4) 1,1-Difluoroethane	3.27	65	1910	0.153 ng	89
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.53	65	318	N.D.	
7) Dichlorofluoromethane ...	4.27	67	279	N.D.	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	164	N.D.	
10) 2-Methylbutane	4.68	57	746	N.D.	
11) Methyl Acetate	5.36	43	1038	N.D.	
12) 2-Methylpentane	0.00	71	0	N.D.	
13) 2,2-Dichloropropane	0.00	77	0	N.D.	
14) 1,1-Dichloropropene	0.00	75	0	N.D.	
15) Thiophene	0.00	84	0	N.D.	
17) 2,3-Dimethylpentane	0.00	56	0	N.D.	
18) Dibromomethane	9.80	174	53	N.D.	
20) Methyl Cyclohexane	0.00	55	0	N.D.	
21) 1,3-Dichloropropane	0.00	76	0	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	15.24	91	110	N.D.	
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.	
25) Bromobenzene	17.09	77	580	N.D.	
26) 2-Chlorotoluene	17.61	91	697	N.D.	
27) 4-Chlorotoluene	17.70	91	1196	N.D.	
28) Indane	19.12	117	530	N.D.	
29) Indene	19.21	115	684	N.D.	
30) 1,2,4,5-Tetramethylben...	20.18	119	562	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	730	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	637	N.D.	
33) 1,2,3-Trichlorobenzene	21.19	180	1113	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102404.D Vial: 2
Acq On : 10 Sep 2024 10:46 Operator: SC
Sample : MB R09091024 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 10 11:31:18 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112404.D Vial: 2
Acq On : 11 Sep 2024 11:22 Operator: SC
Sample : MB R09091124 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 11 11:44:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	132703	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	590808	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	172055	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	340420	13.709	ng	0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.68%			
57) Toluene-d8 (SS2)	12.43	98	669624	11.094	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.72%			
73) Bromofluorobenzene (SS3)	16.82	174	219599	10.879	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.04%			
Target Compounds						Qvalue
2) Propene	3.33	42	768	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.43	45	113	N.D.		
11) Acetonitrile	4.47	41	999	N.D.		
12) Acrolein	4.57	56	484	N.D.		
13) Acetone	4.66	58	8469	0.697	ng	99
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.93	45	751	N.D.		
16) Acrylonitrile	5.01	53	643	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.36	84	294	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.62	76	597	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	128	N.D.		
34) Tetrahydrofuran (THF)	7.79	72	203	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	187	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	0.00	56	0	N.D.		
41) Benzene	8.91	78	914	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.	d	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112404.D Vial: 2
Acq On : 11 Sep 2024 11:22 Operator: SC
Sample : MB R09091124 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 11 11:44:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

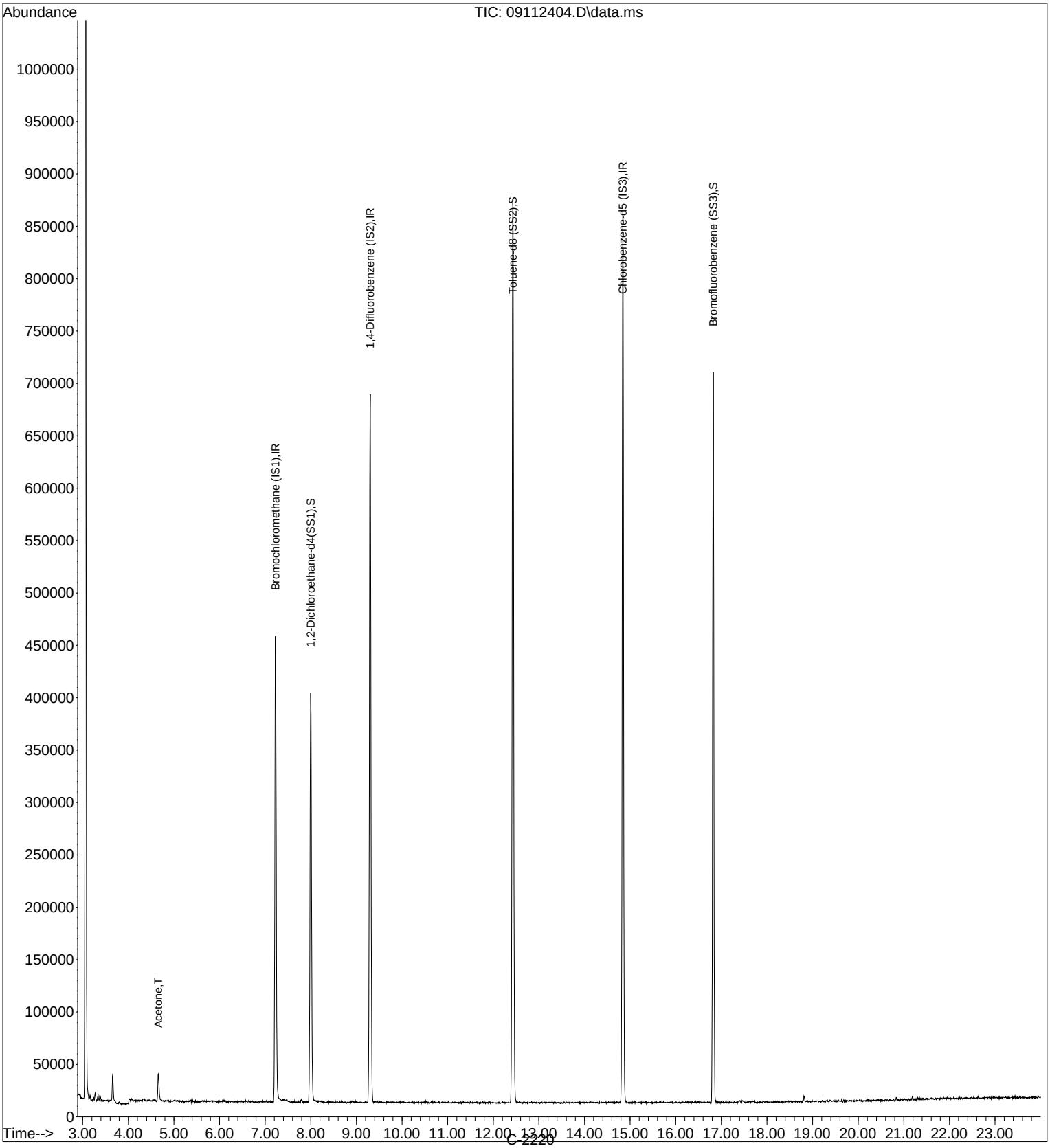
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.57	91	272	N.D.	
59) 2-Hexanone	0.00	43	0	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.42	91	491	N.D.	
67) m- & p-Xylenes	15.66	91	882	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.26	91	126	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	0.00	105	0	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.70	91	1322	N.D.	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.86	105	123	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	0.00	105	0	N.D.	
82) 1,2,4-Trimethylbenzene	18.44	105	268	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.57	91	395	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	214	N.D.	
86) 1,4-Dichlorobenzene	18.67	146	411	N.D.	
87) sec-Butylbenzene	18.74	105	138	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.03	146	238	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.83	180	840	N.D.	
95) Naphthalene	20.94	128	1134	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.30	225	189	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.39	91	417	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112404.D Vial: 2
Acq On : 11 Sep 2024 11:22 Operator: SC
Sample : MB R09091124 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 11 11:44:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112404.D Vial: 2
Acq On : 11 Sep 2024 11:22 Operator: SC
Sample : MB R09091124 1000mL Inst : MS09
Misc : S37-06062402/AC00880

9/11/24

Quant Time: Sep 11 11:45:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

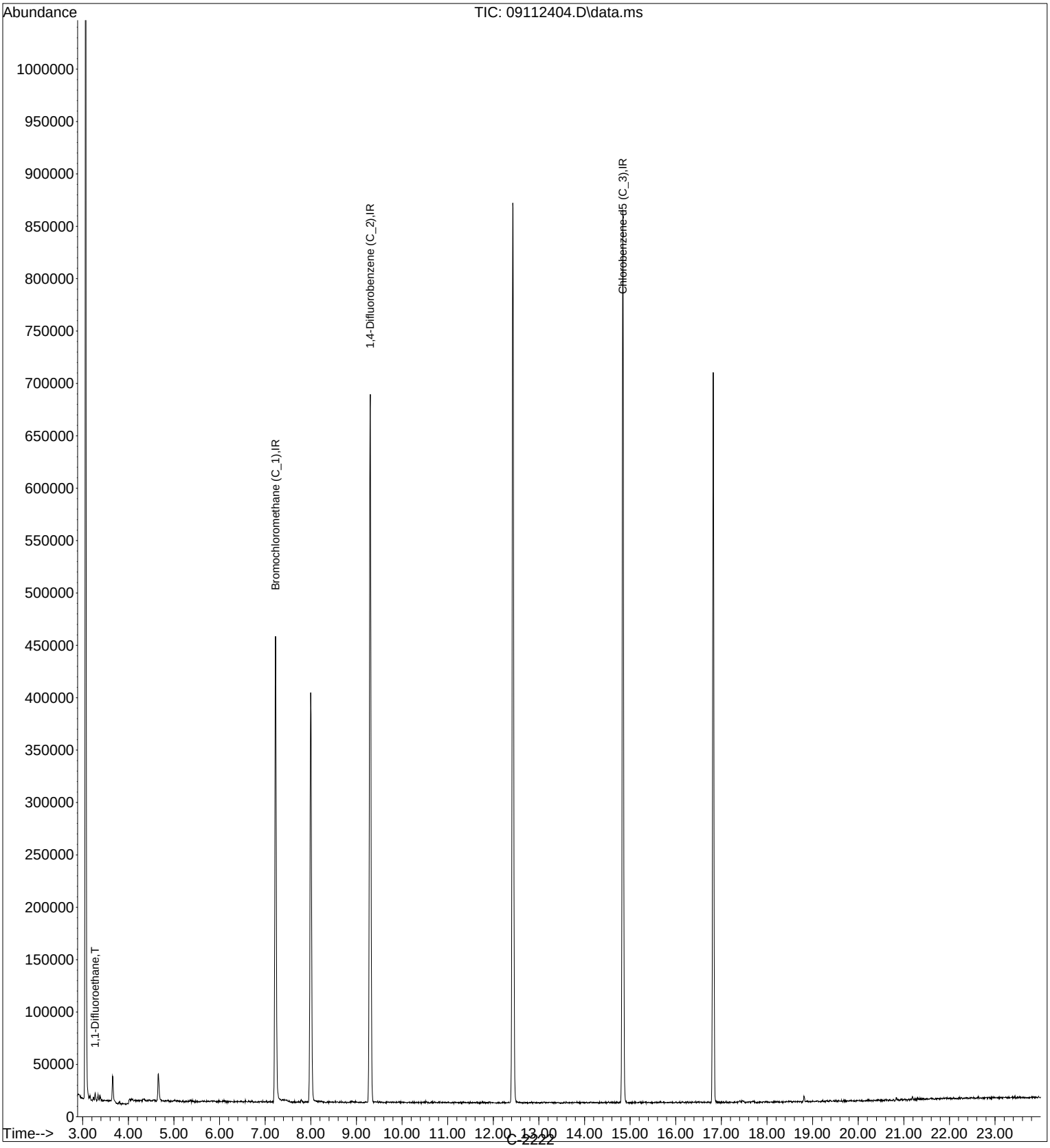
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	132787	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	592296	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	172055	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.17	85	71	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.23	83	154	N.D.		
4) 1,1-Difluoroethane	3.27	65	1603	0.138	ng	99
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.53	65	225	N.D.		
7) Dichlorofluoromethane ...	4.26	67	265	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.58	83	188	N.D.		
10) 2-Methylbutane	4.68	57	717	N.D.		
11) Methyl Acetate	5.35	43	1038	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	0.00	84	0	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	51	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	0.00	76	0	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.19	91	219	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	17.09	77	418	N.D.		
26) 2-Chlorotoluene	17.61	91	757	N.D.		
27) 4-Chlorotoluene	17.70	91	1322	N.D.		
28) Indane	19.10	117	599	N.D.		
29) Indene	19.21	115	630	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	881	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	726	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	677	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	1055	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112404.D Vial: 2
Acq On : 11 Sep 2024 11:22 Operator: SC
Sample : MB R09091124 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 11 11:45:24 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132404.D Vial: 2
Acq On : 13 Sep 2024 13:13 Operator: SC
Sample : MB R09091324 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 13 13:42:25 2024 9/13/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	124767	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	552164	12.500	ng	-0.01
56) Chlorobenzene-d5 (IS3)	14.84	54	162414	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	326416	13.981	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%			
57) Toluene-d8 (SS2)	12.43	98	627688	11.017	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.16%			
73) Bromofluorobenzene (SS3)	16.82	174	206753	10.850	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%			
Target Compounds						Qvalue
2) Propene	3.33	42	923	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	3.85	54	116	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.40	45	112	N.D.		
11) Acetonitrile	4.47	41	1132	N.D.		
12) Acrolein	0.00	56	0	N.D. d		
13) Acetone	4.65	58	6627	0.580	ng	92
14) Trichlorofluoromethane	4.78	101	121	N.D.		
15) 2-Propanol (Isopropanol)	4.91	45	703	N.D.		
16) Acrylonitrile	5.01	53	783	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.36	84	428	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	0.00	151	0	N.D.		
22) Carbon Disulfide	5.62	76	927	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.07	61	186	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	198	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.10	62	285	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.86	56	133	No Calib	#	
41) Benzene	8.89	78	1710	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.		
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132404.D Vial: 2
Acq On : 13 Sep 2024 13:13 Operator: SC
Sample : MB R09091324 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 13 13:42:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

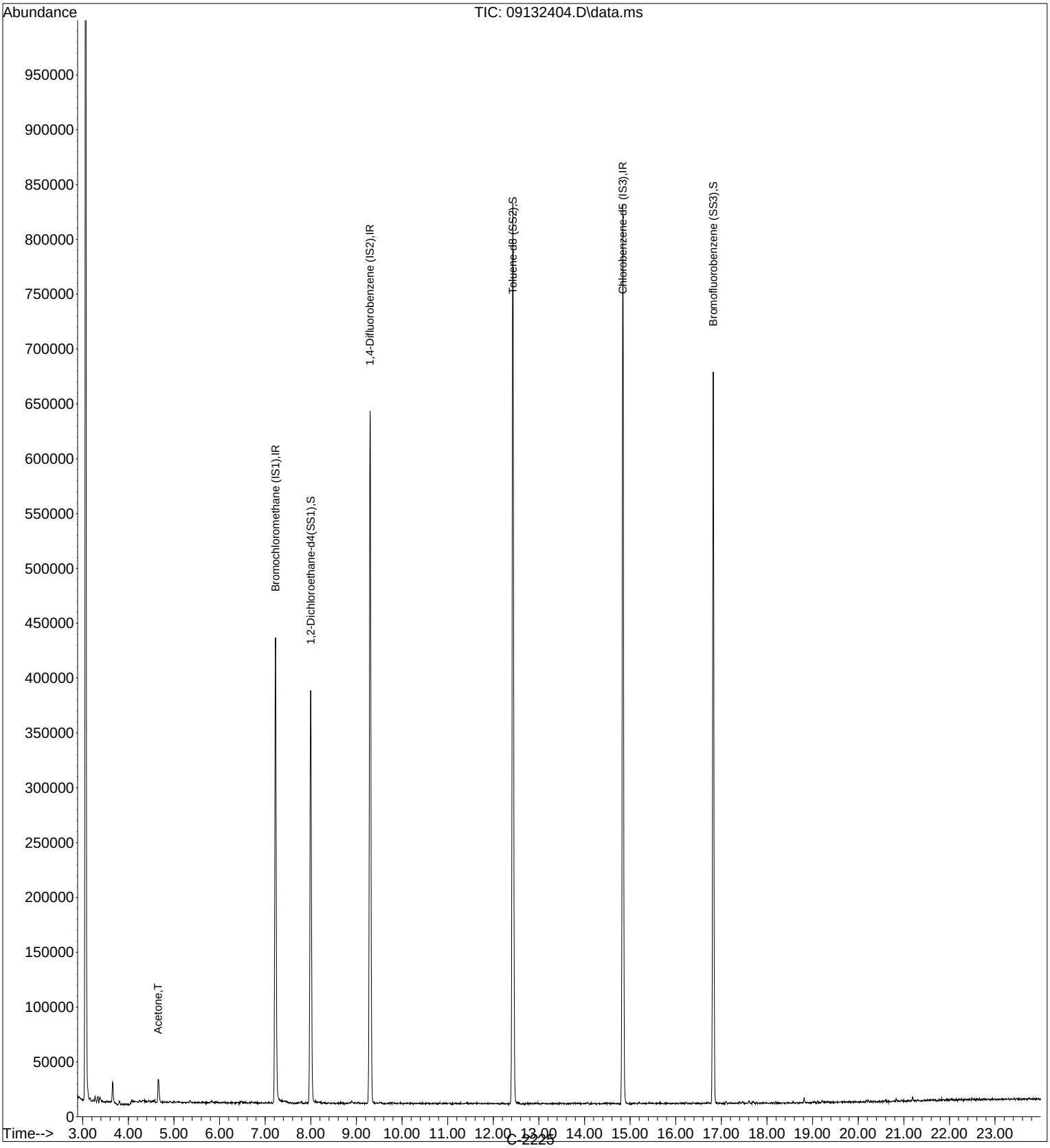
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.55	91	557	N.D.	
59) 2-Hexanone	12.95	43	125	N.D.	
60) Dibromochloromethane	0.00	129	0	N.D.	
61) 1,2-Dibromoethane	0.00	107	0	N.D.	
62) n-Butyl Acetate	0.00	43	0	N.D.	
63) n-Octane	0.00	57	0	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	14.90	112	380	N.D.	
66) Ethylbenzene	15.41	91	827	N.D.	
67) m- & p-Xylenes	15.65	91	882	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	0.00	104	0	N.D.	
70) o-Xylene	16.24	91	454	N.D.	
71) n-Nonane	0.00	43	0	N.D.	
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.	
74) Cumene	17.03	105	140	N.D.	
75) alpha-Pinene	0.00	93	0	N.D.	
76) n-Propylbenzene	17.69	91	1728	N.D.	
77) 3-Ethyltoluene	17.03	105	140	No Calib	#
78) 4-Ethyltoluene	0.00	105	0	N.D.	
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.	
80) alpha-Methylstyrene	0.00	118	0	N.D.	
81) 2-Ethyltoluene	17.03	105	140	No Calib	#
82) 1,2,4-Trimethylbenzene	18.43	105	190	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.57	91	459	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	282	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	437	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.	
89) 1,2,3-Trimethylbenzene	17.03	105	140	No Calib	#
90) 1,2-Dichlorobenzene	19.03	146	350	N.D.	
91) d-Limonene	0.00	68	0	N.D.	
92) 1,2-Dibromo-3-Chloropr...	19.51	157	102	N.D.	
93) n-Undecane	0.00	58	0	N.D.	
94) 1,2,4-Trichlorobenzene	20.84	180	944	N.D.	
95) Naphthalene	20.94	128	1045	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	21.29	225	224	N.D.	
98) Cyclohexanone	15.19	55	377	No Calib	#
99) tert-Butylbenzene	0.00	119	0	N.D.	
100) n-Butylbenzene	19.39	91	335	N.D.	
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132404.D Vial: 2
Acq On : 13 Sep 2024 13:13 Operator: SC
Sample : MB R09091324 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 13 13:42:25 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132404.D Vial: 2
Acq On : 13 Sep 2024 13:13 Operator: SC
Sample : MB R09091324 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 13 14:04:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

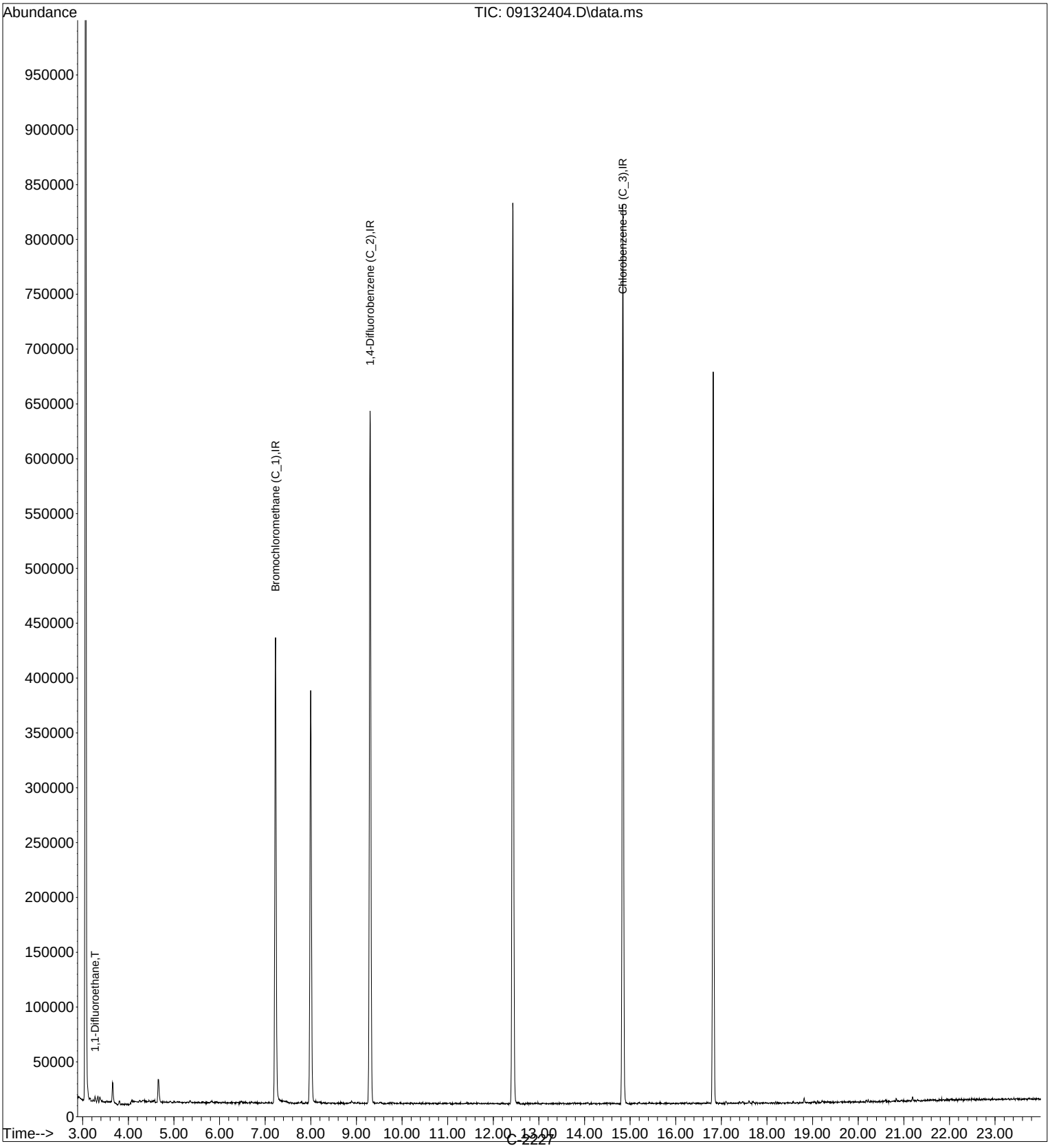
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	127079	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	553785	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	162414	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.17	85	337	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.23	83	431	N.D.	
4) 1,1-Difluoroethane	3.27	65	1322	0.119 ng	89
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.53	65	885	N.D.	
7) Dichlorofluoromethane ...	4.26	67	970	N.D.	
8) Vinylbromide	4.45	108	208	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	555	N.D.	
10) 2-Methylbutane	4.67	57	859	N.D.	
11) Methyl Acetate	5.36	43	1427	N.D.	
12) 2-Methylpentane	6.49	71	67	N.D.	
13) 2,2-Dichloropropane	7.40	77	187	N.D.	
14) 1,1-Dichloropropene	8.74	75	61	N.D.	
15) Thiophene	9.04	84	413	N.D.	
17) 2,3-Dimethylpentane	9.53	56	396	N.D.	
18) Dibromomethane	9.80	174	370	N.D.	
20) Methyl Cyclohexane	11.42	55	287	N.D.	
21) 1,3-Dichloropropane	12.59	76	219	N.D.	
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.	
23) 1-Chlorohexane	15.20	91	685	N.D.	
24) 1,2,3-Trichloropropane	16.38	75	401	N.D.	
25) Bromobenzene	17.10	77	977	N.D.	
26) 2-Chlorotoluene	17.61	91	1190	N.D.	
27) 4-Chlorotoluene	17.69	91	1728	N.D.	
28) Indane	19.12	117	982	N.D.	
29) Indene	19.21	115	1103	N.D.	
30) 1,2,4,5-Tetramethylben...	20.22	119	1047	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	1047	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	1129	N.D.	
33) 1,2,3-Trichlorobenzene	21.19	180	1346	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132404.D Vial: 2
Acq On : 13 Sep 2024 13:13 Operator: SC
Sample : MB R09091324 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 13 14:04:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162404.D Vial: 2
Acq On : 16 Sep 2024 10:19 Operator: SC
Sample : MB R09091624 1000mL Inst : MS09
Misc : S37-08262404/AC00880

9/16/24

Quant Time: Sep 16 10:46:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	137364	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	616857	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	168036	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	340149	13.233	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.84%				
57) Toluene-d8 (SS2)	12.43	98	701132	11.894	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
73) Bromofluorobenzene (SS3)	16.82	174	232017	11.769	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.16%				
Target Compounds							Qvalue
2) Propene	3.33	42	741	N.D.			
3) Dichlorodifluoromethan...	0.00	85	0	N.D.			
4) Chloromethane	3.53	50	124	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.			
6) Vinyl Chloride	0.00	62	0	N.D.			
7) 1,3-Butadiene	0.00	54	0	N.D.			
8) Bromomethane	0.00	94	0	N.D.			
9) Chloroethane	0.00	64	0	N.D.			
10) Ethanol	4.32	45	2486	0.167	ng		68
11) Acetonitrile	4.46	41	1105	N.D.			
12) Acrolein	4.56	56	737	0.065	ng	#	64
13) Acetone	4.66	58	8124	0.646	ng		98
14) Trichlorofluoromethane	0.00	101	0	N.D.			
15) 2-Propanol (Isopropanol)	4.93	45	616	N.D.			
16) Acrylonitrile	5.01	53	675	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.			
19) Methylene Chloride	5.36	84	360	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	0.00	151	0	N.D.			
22) Carbon Disulfide	5.62	76	900	N.D.			
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.			
24) 1,1-Dichloroethane	0.00	63	0	N.D.			
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.			
26) Vinyl Acetate	0.00	86	0	N.D.			
27) 2-Butanone (MEK)	0.00	72	0	N.D.			
28) cis-1,2-Dichloroethene	7.07	61	109	N.D.			
29) Diisopropyl Ether	0.00	87	0	N.D.			
30) Ethyl Acetate	0.00	61	0	N.D.			
31) n-Hexane	0.00	57	0	N.D.			
32) Chloroform	7.37	83	124	N.D.			
34) Tetrahydrofuran (THF)	7.79	72	405	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.11	62	149	N.D.			
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.			
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.88	56	645	No Calib		#	
41) Benzene	8.91	78	1781	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	589	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.			
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	10.08	83	104	N.D.			
47) Trichloroethene	0.00	130	0	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			
49) 2,2,4-Trimethylpentane...	10.24	57	137	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162404.D Vial: 2
Acq On : 16 Sep 2024 10:19 Operator: SC
Sample : MB R09091624 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 16 10:46:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

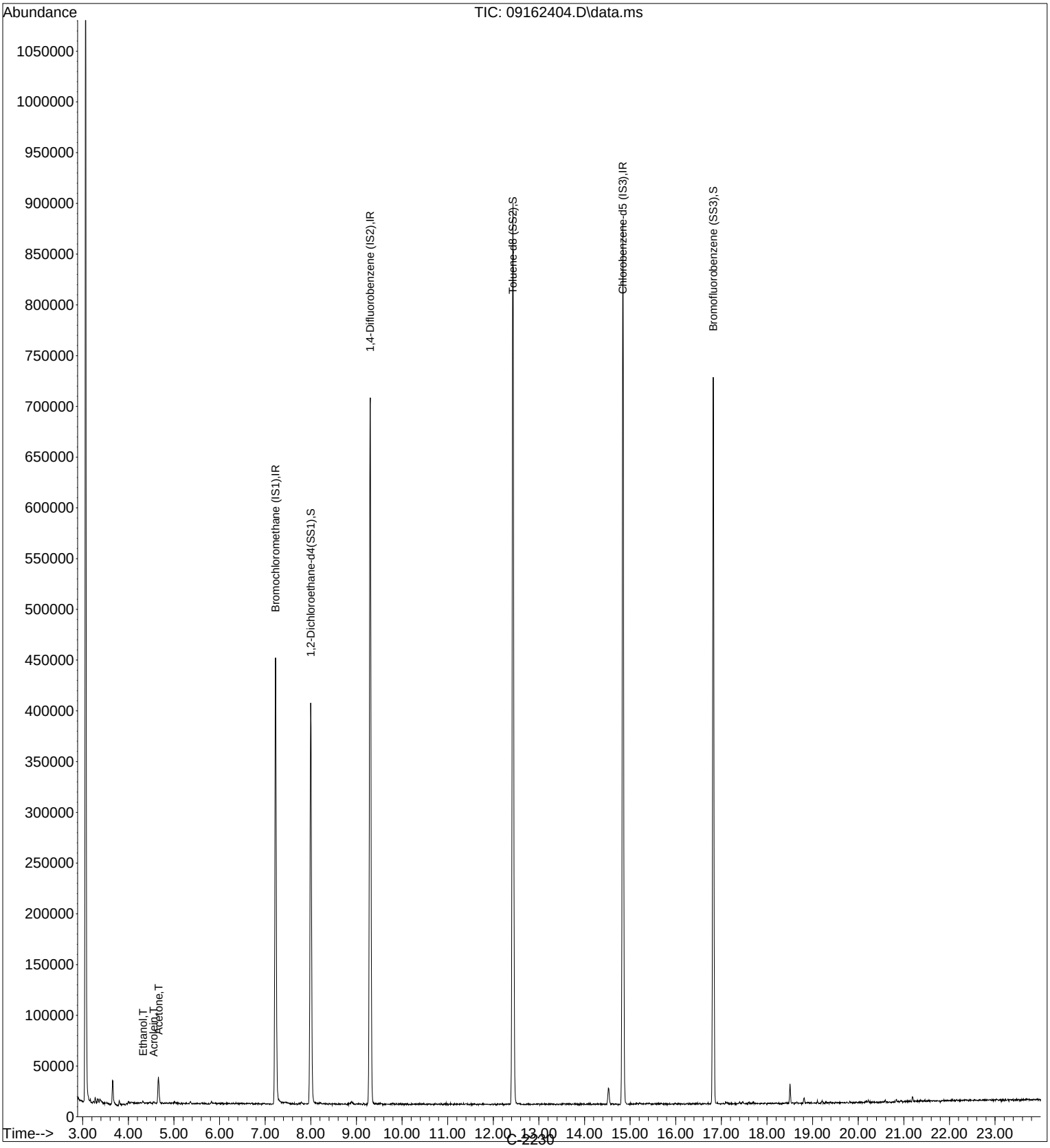
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.55	91	322	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	14.90	112	105	N.D.		
66) Ethylbenzene	15.41	91	747	N.D.		
67) m- & p-Xylenes	15.66	91	552	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	532	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	188	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.70	91	2179	N.D.		
77) 3-Ethyltoluene	17.04	105	188	No Calib	#	
78) 4-Ethyltoluene	17.86	105	235	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	188	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.42	105	109	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	601	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	204	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	490	N.D.		
87) sec-Butylbenzene	18.74	105	227	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	188	No Calib	#	
90) 1,2-Dichlorobenzene	19.03	146	339	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	1161	N.D.		
95) Naphthalene	20.94	128	1347	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	301	N.D.		
98) Cyclohexanone	15.20	55	404	No Calib	#	
99) tert-Butylbenzene	18.42	119	326	N.D.		
100) n-Butylbenzene	19.38	91	691	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162404.D Vial: 2
Acq On : 16 Sep 2024 10:19 Operator: SC
Sample : MB R09091624 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 16 10:46:01 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162404.D Vial: 2
Acq On : 16 Sep 2024 10:19 Operator: SC
Sample : MB R09091624 1000mL Inst : MS09
Misc : S37-06062402/AC00880

9/16/24

Quant Time: Sep 16 10:46:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

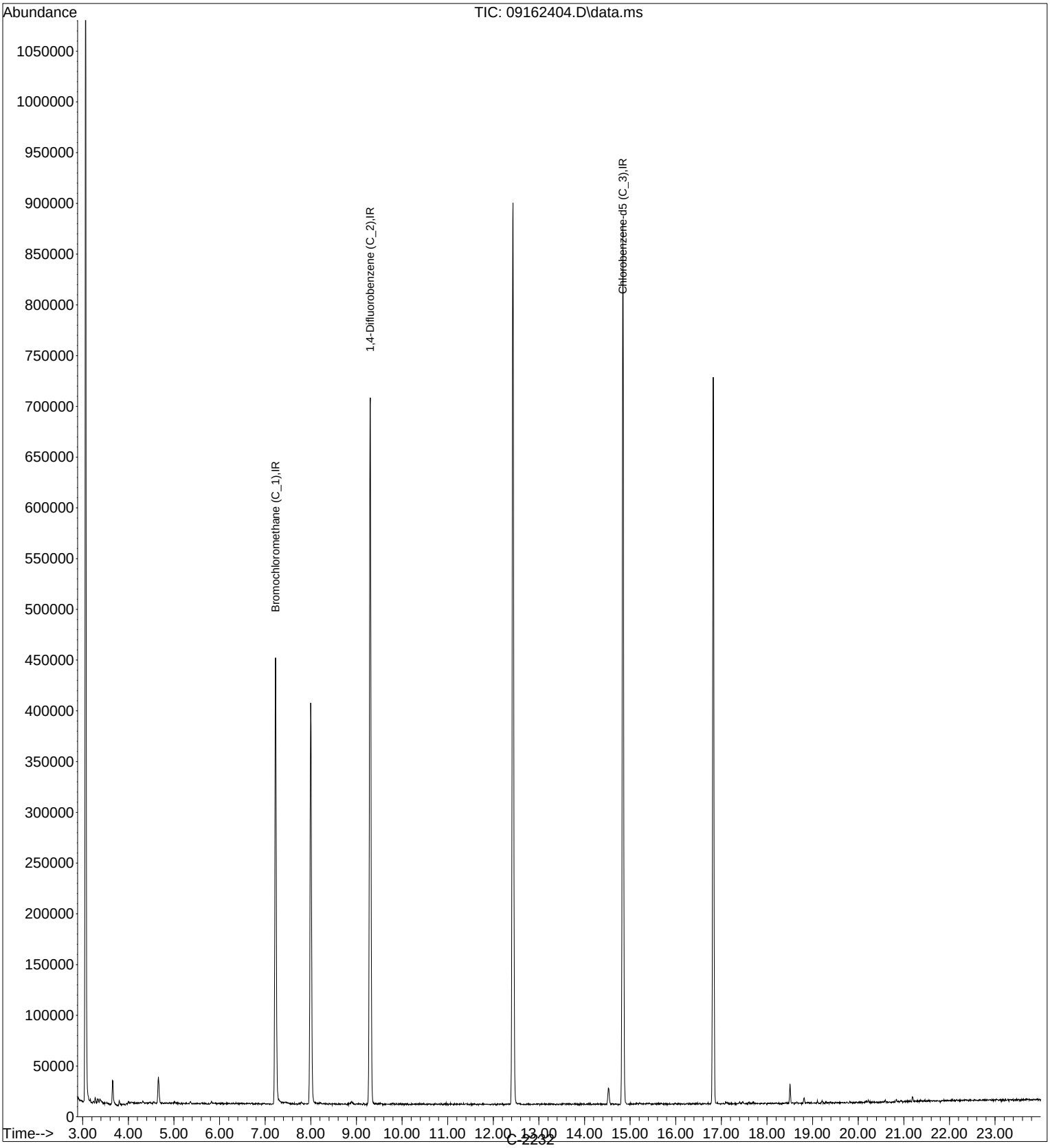
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	140460	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C 2)	9.30	114	618182	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	168036	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.17	85	308	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.23	83	219	N.D.		
4) 1,1-Difluoroethane	3.27	65	1093	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.53	65	762	N.D.		
7) Dichlorofluoromethane ...	4.26	67	664	N.D.		
8) Vinylbromide	4.45	108	135	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	444	N.D.		
10) 2-Methylbutane	4.68	57	872	N.D.		
11) Methyl Acetate	5.36	43	1273	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	8.74	75	55	N.D.		
15) Thiophene	9.04	84	523	N.D.		
17) 2,3-Dimethylpentane	9.52	56	379	N.D.		
18) Dibromomethane	9.80	174	339	N.D.		
20) Methyl Cyclohexane	0.00	55	0	N.D.		
21) 1,3-Dichloropropane	12.59	76	309	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.21	91	903	N.D.		
24) 1,2,3-Trichloropropane	16.39	75	414	N.D.		
25) Bromobenzene	17.09	77	1010	N.D.		
26) 2-Chlorotoluene	17.61	91	1321	N.D.		
27) 4-Chlorotoluene	17.61	91	1321	N.D.		
28) Indane	19.11	117	1034	N.D.		
29) Indene	19.21	115	1320	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	1398	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1191	N.D.		
32) 1,2,3,5-Tetramethylben...	20.59	119	1400	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	1635	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162404.D Vial: 2
Acq On : 16 Sep 2024 10:19 Operator: SC
Sample : MB R09091624 1000mL Inst : MS09
Misc : S37-06062402/AC00880

Quant Time: Sep 16 10:46:56 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172404.D Vial: 2
Acq On : 17 Sep 2024 10:38 Operator: SC
Sample : MB R09091724 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 17 11:05:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	120602	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	528010	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	156896	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	318906	14.131	ng	0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.04%			
57) Toluene-d8 (SS2)	12.43	98	595103	10.812	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%			
73) Bromofluorobenzene (SS3)	16.82	174	203241	11.041	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%			
Target Compounds						Qvalue
2) Propene	3.34	42	593	N.D.		
3) Dichlorodifluoromethan...	0.00	85	0	N.D.		
4) Chloromethane	0.00	50	0	N.D.		
5) 1,2-Dichloro-1,1,2,2-t...	0.00	135	0	N.D.		
6) Vinyl Chloride	0.00	62	0	N.D.		
7) 1,3-Butadiene	0.00	54	0	N.D.		
8) Bromomethane	0.00	94	0	N.D.		
9) Chloroethane	0.00	64	0	N.D.		
10) Ethanol	4.44	45	52	N.D.		
11) Acetonitrile	4.47	41	688	N.D.		
12) Acrolein	4.56	56	503	0.050	ng	94
13) Acetone	4.66	58	7683	0.696	ng	94
14) Trichlorofluoromethane	4.78	101	2282	0.082	ng	96
15) 2-Propanol (Isopropanol)	4.92	45	524	N.D.		
16) Acrylonitrile	5.01	53	448	N.D.		
17) 1,1-Dichloroethene	0.00	96	0	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D.		
19) Methylene Chloride	5.36	84	209	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.60	151	785	0.071	ng	89
22) Carbon Disulfide	5.63	76	736	N.D.		
23) trans-1,2-Dichloroethene	0.00	61	0	N.D.		
24) 1,1-Dichloroethane	0.00	63	0	N.D.		
25) Methyl tert-Butyl Ether	0.00	73	0	N.D.		
26) Vinyl Acetate	0.00	86	0	N.D.		
27) 2-Butanone (MEK)	0.00	72	0	N.D.		
28) cis-1,2-Dichloroethene	7.07	61	141	N.D.		
29) Diisopropyl Ether	0.00	87	0	N.D.		
30) Ethyl Acetate	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	0.00	83	0	N.D.		
34) Tetrahydrofuran (THF)	0.00	72	0	N.D.		
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.11	62	111	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	0.00	61	0	N.D.		
40) 1-Butanol	8.87	56	157	No Calib	#	
41) Benzene	8.91	78	487	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	0.00	84	0	N.D.	d	
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.		
45) 1,2-Dichloropropane	0.00	63	0	N.D.		
46) Bromodichloromethane	0.00	83	0	N.D.		
47) Trichloroethene	0.00	130	0	N.D.		
48) 1,4-Dioxane	0.00	88	0	N.D.		
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172404.D Vial: 2
Acq On : 17 Sep 2024 10:38 Operator: SC
Sample : MB R09091724 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 17 11:05:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

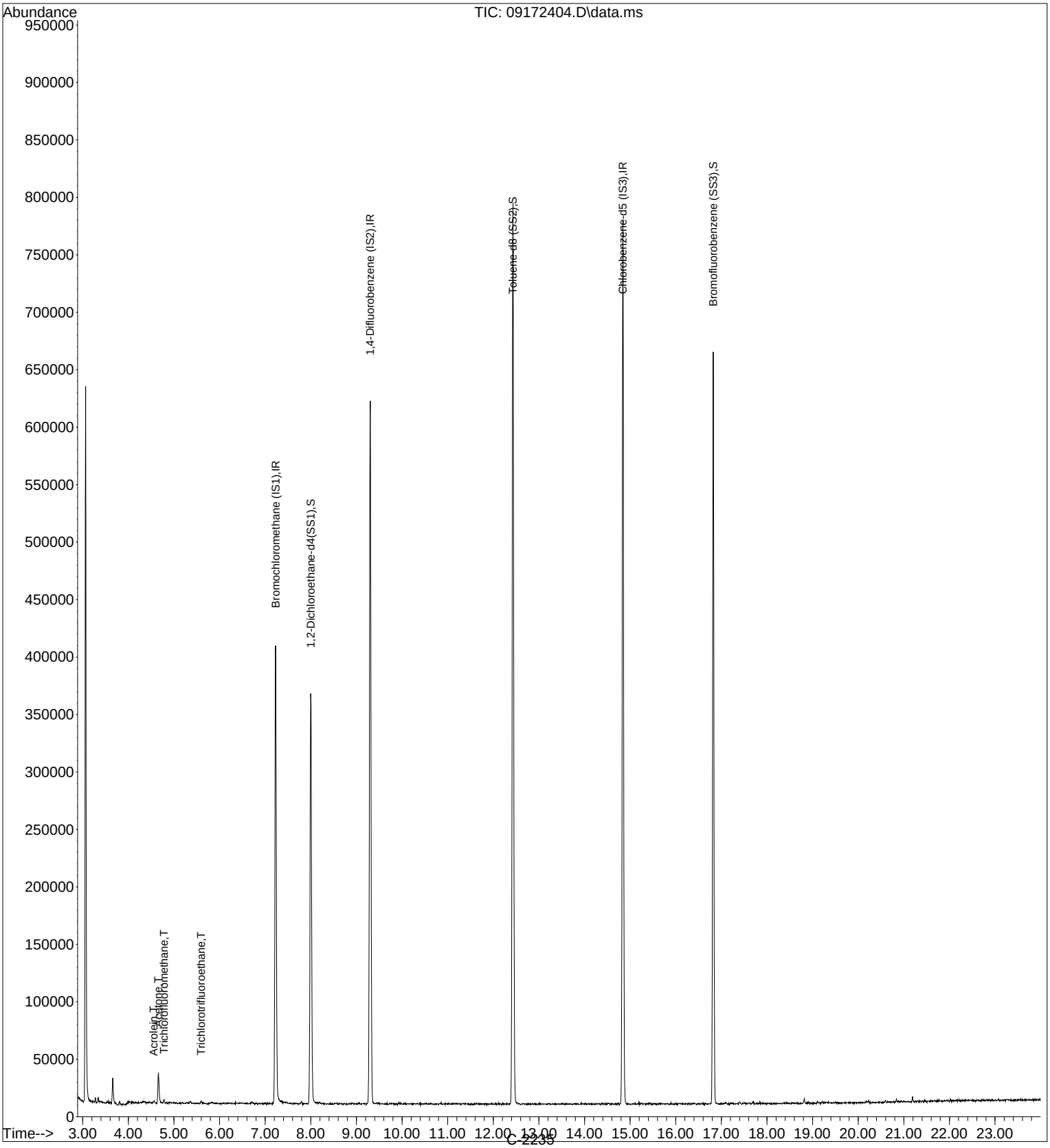
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.57	91	120	N.D.		
59) 2-Hexanone	0.00	43	0	N.D.		
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	0.00	43	0	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	0.00	166	0	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.40	91	723	N.D.		
67) m- & p-Xylenes	15.68	91	208	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.25	91	251	N.D.		
71) n-Nonane	0.00	43	0	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.04	105	110	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.70	91	1827	N.D.		
77) 3-Ethyltoluene	17.04	105	110	No Calib		#
78) 4-Ethyltoluene	17.87	105	283	N.D.		
79) 1,3,5-Trimethylbenzene	0.00	105	0	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.04	105	110	No Calib		#
82) 1,2,4-Trimethylbenzene	18.43	105	118	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	215	N.D.		
85) 1,3-Dichlorobenzene	18.58	146	256	N.D.		
86) 1,4-Dichlorobenzene	18.66	146	466	N.D.		
87) sec-Butylbenzene	0.00	105	0	N.D.		
88) 4-Isopropyltoluene (p-...	0.00	119	0	N.D.		
89) 1,2,3-Trimethylbenzene	17.04	105	110	No Calib		#
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.		
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	0.00	157	0	N.D.		
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	918	N.D.		
95) Naphthalene	20.94	128	997	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.29	225	190	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.		
100) n-Butylbenzene	19.38	91	290	N.D.		
101) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172404.D Vial: 2
Acq On : 17 Sep 2024 10:38 Operator: SC
Sample : MB R09091724 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 17 11:05:47 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172404.D Vial: 2
Acq On : 17 Sep 2024 10:38 Operator: SC
Sample : MB R09091724 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 17 13:08:36 2024 9/17/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

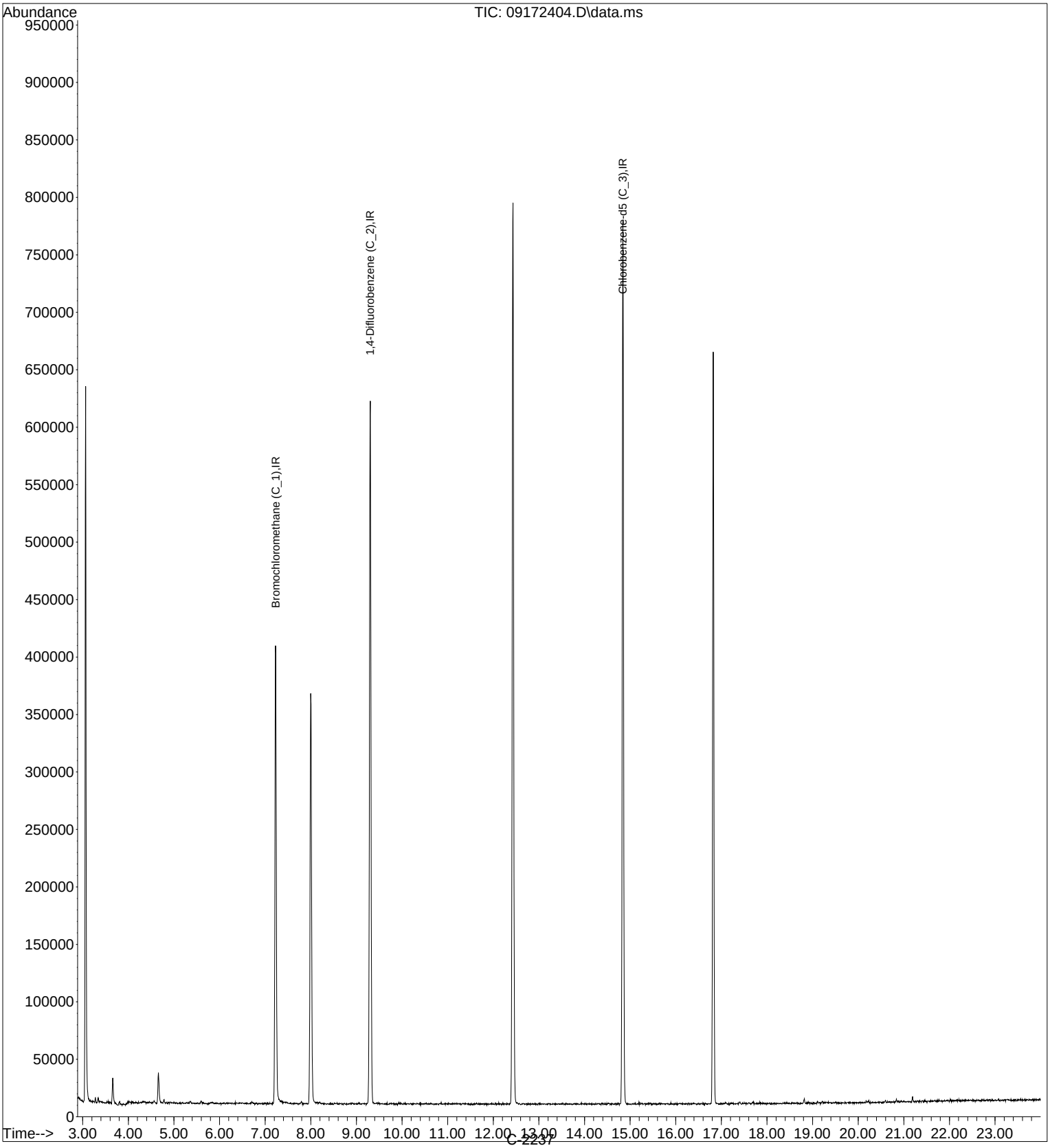
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	120602	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.30	114	528673	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	156896	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.17	85	302	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	3.23	83	261	N.D.		
4) 1,1-Difluoroethane	3.28	65	825	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.53	65	635	N.D.		
7) Dichlorofluoromethane ...	4.26	67	560	N.D.		
8) Vinylbromide	4.45	108	70	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	373	N.D.		
10) 2-Methylbutane	4.66	57	742	N.D.		
11) Methyl Acetate	5.36	43	1130	N.D.		
12) 2-Methylpentane	0.00	71	0	N.D.		
13) 2,2-Dichloropropane	0.00	77	0	N.D.		
14) 1,1-Dichloropropene	0.00	75	0	N.D.		
15) Thiophene	9.04	84	277	N.D.		
17) 2,3-Dimethylpentane	0.00	56	0	N.D.		
18) Dibromomethane	9.80	174	260	N.D.		
20) Methyl Cyclohexane	11.43	55	58	N.D.		
21) 1,3-Dichloropropane	12.58	76	123	N.D.		
22) 1,1,1,2-Tetrachloroethane	0.00	131	0	N.D.		
23) 1-Chlorohexane	15.20	91	162	N.D.		
24) 1,2,3-Trichloropropane	16.39	75	301	N.D.		
25) Bromobenzene	17.09	77	626	N.D.		
26) 2-Chlorotoluene	17.61	91	1156	N.D.		
27) 4-Chlorotoluene	17.70	91	1827	N.D.		
28) Indane	19.12	117	812	N.D.		
29) Indene	19.21	115	903	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	1090	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	1055	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	1001	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	1385	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172404.D Vial: 2
Acq On : 17 Sep 2024 10:38 Operator: SC
Sample : MB R09091724 1000mL Inst : MS09
Misc : S37-08262404/AC00880

Quant Time: Sep 17 13:08:36 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092405.D Vial: 2
Acq On : 9 Sep 2024 10:51 Operator: SC
Sample : LCS R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 09 11:27:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	163954	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	735999	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	201759	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	393550	12.828	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
57) Toluene-d8 (SS2)	12.44	98	836445	11.818	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
73) Bromofluorobenzene (SS3)	16.83	174	258651	10.927	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
2) Propene	3.28	42	687481	27.760	ng		97
3) Dichlorodifluoromethan...	3.36	85	902834	22.682	ng		99
4) Chloromethane	3.49	50	948256	30.461	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	387845	26.977	ng		99
6) Vinyl Chloride	3.69	62	637832	31.667	ng		98
7) 1,3-Butadiene	3.80	54	465882	33.306	ng		97
8) Bromomethane	4.02	94	365583	28.332	ng		99
9) Chloroethane	4.16	64	300891	27.261	ng		99
10) Ethanol	4.36	45	2603768	146.331	ng		98
11) Acetonitrile	4.48	41	1213156	30.160	ng		99
12) Acrolein	4.56	56	837390	61.602	ng		99
13) Acetone	4.66	58	1983393	132.103	ng		98
14) Trichlorofluoromethane	4.76	101	850129	22.391	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	3514582	59.454	ng		98
16) Acrylonitrile	5.04	53	1663008	59.370	ng		99
17) 1,1-Dichloroethene	5.27	96	401202	26.148	ng		96
18) 2-Methyl-2-Propanol (t...	5.38	59	2591041	53.659	ng		97
19) Methylene Chloride	5.39	84	432674	24.457	ng		86
20) 3-Chloro-1-propene (Al...	5.48	41	1011344	28.700	ng		96
21) Trichlorotrifluoroethane	5.59	151	366630	24.374	ng		94
22) Carbon Disulfide	5.61	76	3184942	54.341	ng		100
23) trans-1,2-Dichloroethene	6.17	61	792345	27.596	ng		97
24) 1,1-Dichloroethane	6.36	63	903349	26.209	ng		100
25) Methyl tert-Butyl Ether	6.39	73	1350405	25.793	ng		95
26) Vinyl Acetate	6.48	86	450034	147.463	ng	#	71
27) 2-Butanone (MEK)	6.70	72	545028	51.166	ng	#	80
28) cis-1,2-Dichloroethene	7.12	61	749343	26.481	ng		97
29) Diisopropyl Ether	7.30	87	623539	48.020	ng	#	68
30) Ethyl Acetate	7.31	61	367076	51.433	ng		94
31) n-Hexane	7.32	57	874647	26.877	ng		99
32) Chloroform	7.41	83	830377	25.421	ng		100
34) Tetrahydrofuran (THF)	7.77	72	490329	48.809	ng	#	79
35) Ethyl tert-Butyl Ether	7.84	87	962728	50.383	ng		90
36) 1,2-Dichloroethane	8.15	62	759462	23.458	ng		99
38) 1,1,1-Trichloroethane	8.42	97	750783	22.950	ng		97
39) Isopropyl Acetate	9.62	61	1233	No Calib		#	
40) 1-Butanol	8.84	56	5545	No Calib		#	
41) Benzene	8.93	78	1566707	22.703	ng		100
42) Carbon Tetrachloride	9.09	117	652632	22.825	ng		99
43) Cyclohexane	9.24	84	1160776	49.820	ng		92
44) tert-Amyl Methyl Ether	9.62	73	2406290	50.298	ng		96
45) 1,2-Dichloropropane	9.88	63	478807	26.210	ng		100
46) Bromodichloromethane	10.10	83	684164	26.356	ng		100
47) Trichloroethene	10.17	130	396055	23.179	ng		100
48) 1,4-Dioxane	10.14	88	318537	26.762	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	2181140	26.701	ng		100
50) Methyl Methacrylate	10.43	100	304159	50.687	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092405.D Vial: 2
Acq On : 9 Sep 2024 10:51 Operator: SC
Sample : LCS R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 09 11:27:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

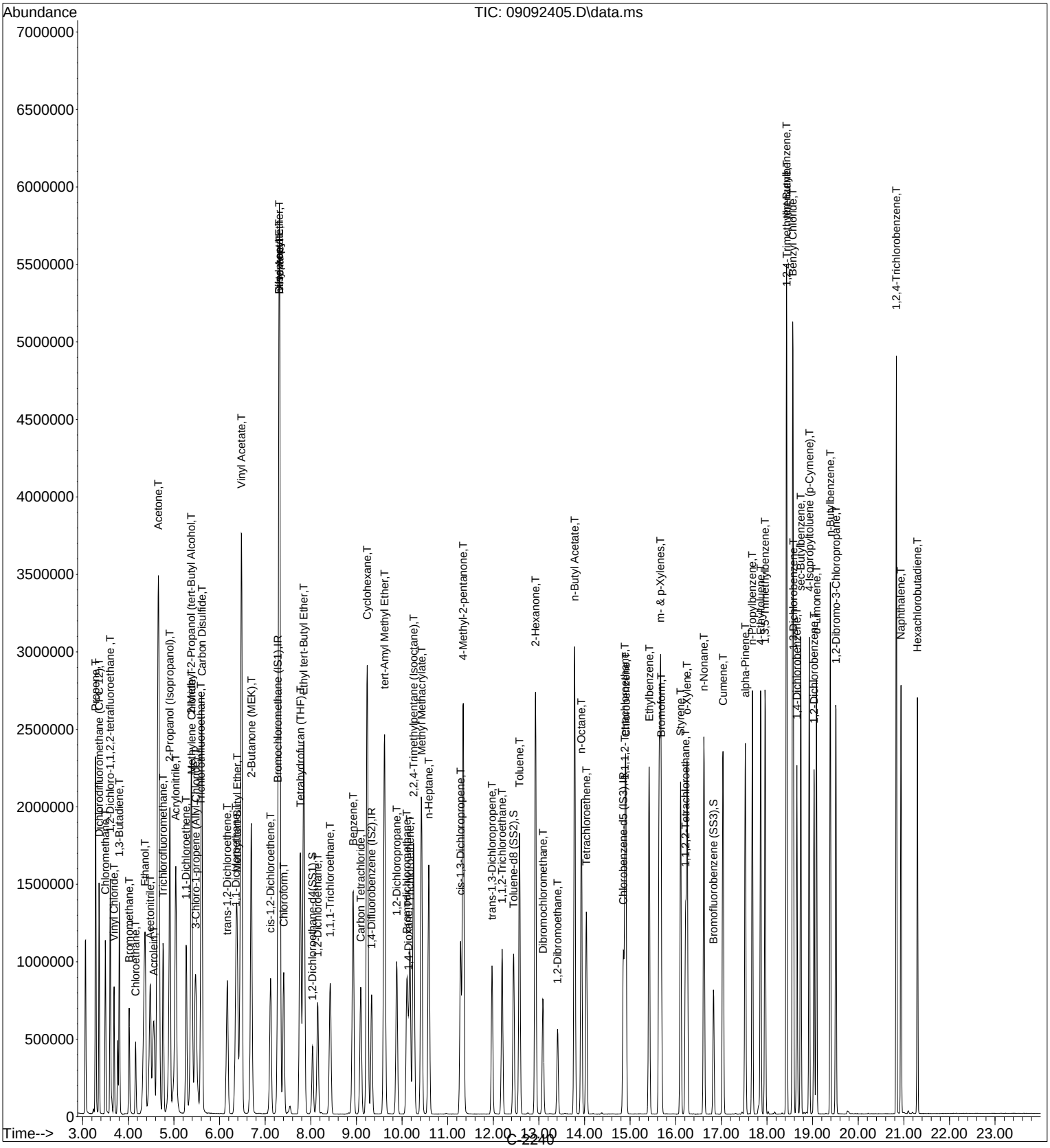
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	397156	25.829	ng		95
52) cis-1,3-Dichloropropene	11.29	75	768530	25.904	ng		99
53) 4-Methyl-2-pentanone	11.34	58	1010256	55.442	ng		93
54) trans-1,3-Dichloropropene	11.97	75	636094	24.434	ng		100
55) 1,1,2-Trichloroethane	12.19	97	412054	25.329	ng		98
58) Toluene	12.57	91	1569307	20.511	ng		100
59) 2-Hexanone	12.93	43	2606398	55.043	ng		97
60) Dibromochloromethane	13.09	129	487336	22.872	ng		99
61) 1,2-Dibromoethane	13.41	107	472647	23.358	ng		99
62) n-Butyl Acetate	13.78	43	2973943	56.040	ng		97
63) n-Octane	13.93	57	444609	24.719	ng		94
64) Tetrachloroethene	14.04	166	452622	21.343	ng		100
65) Chlorobenzene	14.91	112	1010124	21.739	ng		100
66) Ethylbenzene	15.42	91	1922183	21.835	ng		100
67) m- & p-Xylenes	15.66	91	3075850	42.971	ng		100
68) Bromoform	15.68	173	472703	24.424	ng		100
69) Styrene	16.11	104	1074131	23.209	ng		98
70) o-Xylene	16.25	91	1496792	21.419	ng		99
71) n-Nonane	16.62	43	1194782	26.072	ng		95
72) 1,1,2,2-Tetrachloroethane	16.21	83	725965	22.932	ng		99
74) Cumene	17.04	105	1745167	21.552	ng		99
75) alpha-Pinene	17.53	93	965143	22.913	ng		99
76) n-Propylbenzene	17.68	91	2212443	22.007	ng		99
77) 3-Ethyltoluene	17.04	105	1745167	No Calib			
78) 4-Ethyltoluene	17.86	105	1759784	22.326	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1495917	21.762	ng		100
80) alpha-Methylstyrene	17.04	118	3754	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1745167	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1507630	20.959	ng		100
83) n-Decane	17.05	58	18281	No Calib			
84) Benzyl Chloride	18.56	91	2814116	51.895	ng		99
85) 1,3-Dichlorobenzene	18.58	146	799535	20.098	ng		100
86) 1,4-Dichlorobenzene	18.66	146	784602	19.892	ng		100
87) sec-Butylbenzene	18.74	105	1927340	21.197	ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1544009	19.569	ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1745167	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	785235	19.799	ng		99
91) d-Limonene	19.09	68	577594	24.009	ng		95
92) 1,2-Dibromo-3-Chloropr...	19.51	157	619006	44.161	ng		91
93) n-Undecane	17.96	58	38916	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1240944	38.610	ng		99
95) Naphthalene	20.94	128	1566783	20.663	ng		100
96) n-Dodecane	18.93	58	51326	No Calib		#	
97) Hexachlorobutadiene	21.30	225	459393	17.861	ng		100
98) Cyclohexanone	15.31	55	920	No Calib		#	
99) tert-Butylbenzene	18.43	119	1348933	21.192	ng		100
100) n-Butylbenzene	19.39	91	1648065	21.938	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	409293	22.984	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092405.D Vial: 2
Acq On : 9 Sep 2024 10:51 Operator: SC
Sample : LCS R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 09 11:27:41 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092406.D Vial: 2
Acq On : 9 Sep 2024 11:23 Operator: SC
Sample : LCSD R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

9/9/24

Quant Time: Sep 09 11:45:32 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	167642	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	743663	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	202122	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	395338	12.602	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.80%				
57) Toluene-d8 (SS2)	12.44	98	834069	11.763	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
73) Bromofluorobenzene (SS3)	16.83	174	269555	11.367	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.96%				
Target Compounds							Qvalue
2) Propene	3.27	42	641331	25.327	ng		98
3) Dichlorodifluoromethan...	3.35	85	876521	21.536	ng		99
4) Chloromethane	3.49	50	903725	28.392	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	374393	25.468	ng		99
6) Vinyl Chloride	3.68	62	612790	29.755	ng		98
7) 1,3-Butadiene	3.80	54	466316	32.603	ng		98
8) Bromomethane	4.01	94	350435	26.560	ng		99
9) Chloroethane	4.15	64	296978	26.314	ng		98
10) Ethanol	4.36	45	2519449	138.477	ng		98
11) Acetonitrile	4.48	41	1139344	27.701	ng		100
12) Acrolein	4.55	56	792375	57.008	ng		100
13) Acetone	4.65	58	1896634	123.545	ng		99
14) Trichlorofluoromethane	4.76	101	844010	21.741	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	3437107	56.864	ng		98
16) Acrylonitrile	5.03	53	1630705	56.936	ng		99
17) 1,1-Dichloroethene	5.26	96	397391	25.330	ng		96
18) 2-Methyl-2-Propanol (t...	5.37	59	2613822	52.940	ng		97
19) Methylene Chloride	5.39	84	426844	23.597	ng		86
20) 3-Chloro-1-propene (Al...	5.47	41	1002842	27.832	ng		95
21) Trichlorotrifluoroethane	5.58	151	363081	23.607	ng		93
22) Carbon Disulfide	5.60	76	3146529	52.504	ng		100
23) trans-1,2-Dichloroethene	6.16	61	776865	26.462	ng		98
24) 1,1-Dichloroethane	6.35	63	894862	25.391	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1338902	25.011	ng		95
26) Vinyl Acetate	6.48	86	451567	144.710	ng	#	72
27) 2-Butanone (MEK)	6.69	72	540052	49.583	ng	#	81
28) cis-1,2-Dichloroethene	7.11	61	739326	25.552	ng		97
29) Diisopropyl Ether	7.30	87	616600	46.441	ng	#	69
30) Ethyl Acetate	7.31	61	364677	49.973	ng		94
31) n-Hexane	7.31	57	858099	25.789	ng		99
32) Chloroform	7.40	83	823385	24.652	ng		100
34) Tetrahydrofuran (THF)	7.76	72	481335	46.860	ng	#	81
35) Ethyl tert-Butyl Ether	7.84	87	954329	48.845	ng	#	90
36) 1,2-Dichloroethane	8.15	62	742529	22.431	ng		99
38) 1,1,1-Trichloroethane	8.42	97	754673	22.831	ng		98
39) Isopropyl Acetate	9.62	61	1322	No Calib		#	
40) 1-Butanol	8.83	56	5255	No Calib		#	
41) Benzene	8.92	78	1563688	22.426	ng		99
42) Carbon Tetrachloride	9.09	117	650839	22.527	ng		99
43) Cyclohexane	9.24	84	1136554	48.278	ng		93
44) tert-Amyl Methyl Ether	9.62	73	2360803	48.838	ng		97
45) 1,2-Dichloropropane	9.88	63	463187	25.093	ng		99
46) Bromodichloromethane	10.10	83	671181	25.589	ng		100
47) Trichloroethene	10.17	130	391591	22.682	ng		99
48) 1,4-Dioxane	10.13	88	313352	26.055	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	2102828	25.477	ng		100
50) Methyl Methacrylate	10.43	100	302948	49.965	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092406.D Vial: 2
Acq On : 9 Sep 2024 11:23 Operator: SC
Sample : LCSD R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 09 11:45:32 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

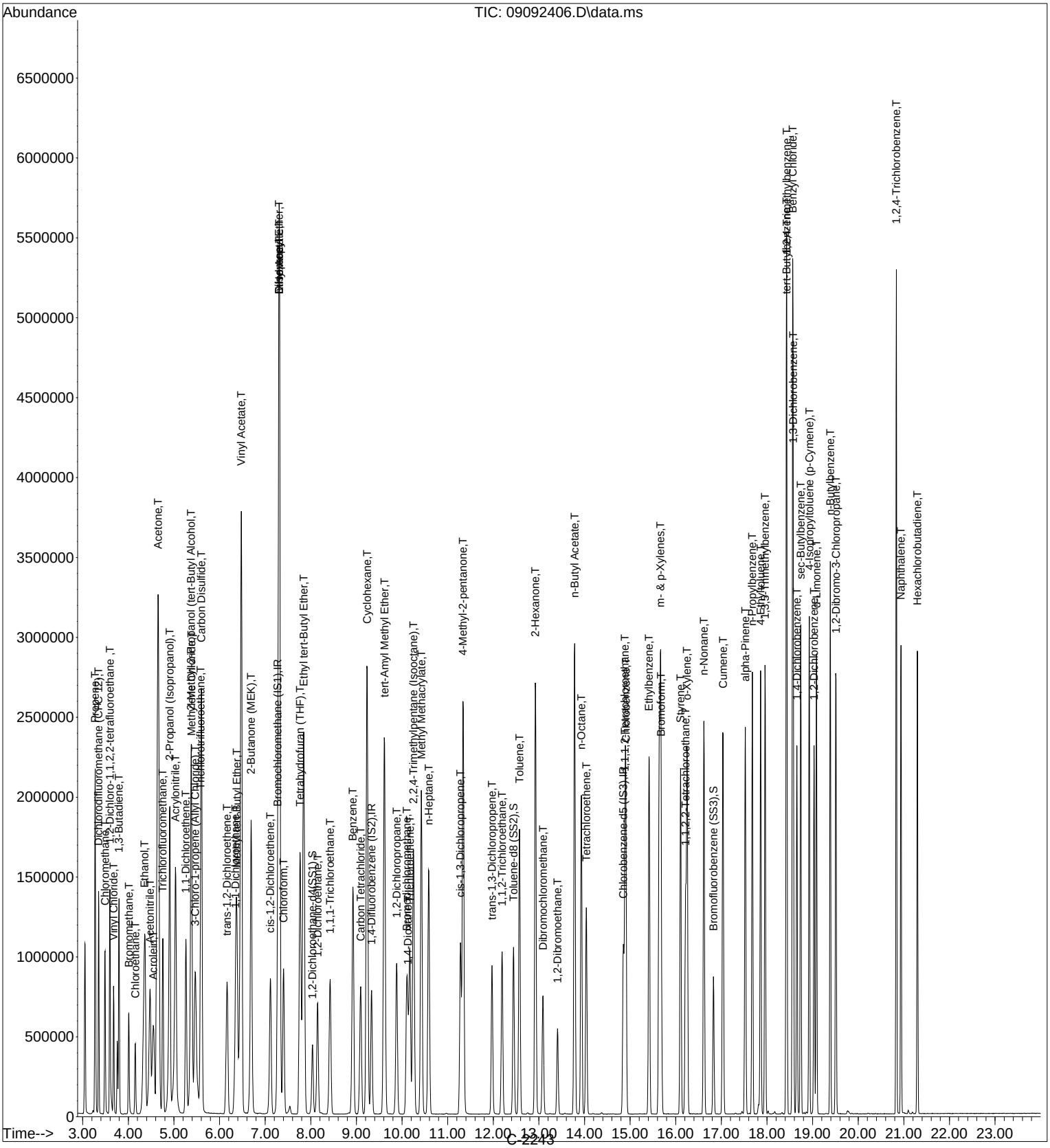
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	383644	24.693	ng		95
52) cis-1,3-Dichloropropene	11.28	75	752113	25.090	ng		99
53) 4-Methyl-2-pentanone	11.34	58	980482	53.253	ng		93
54) trans-1,3-Dichloropropene	11.97	75	630151	23.957	ng		100
55) 1,1,2-Trichloroethane	12.19	97	397726	24.196	ng		98
58) Toluene	12.57	91	1557940	20.326	ng		99
59) 2-Hexanone	12.92	43	2579175	54.370	ng		97
60) Dibromochloromethane	13.09	129	484613	22.704	ng		100
61) 1,2-Dibromoethane	13.41	107	465355	22.956	ng		100
62) n-Butyl Acetate	13.78	43	2910939	54.754	ng		98
63) n-Octane	13.93	57	437516	24.281	ng		95
64) Tetrachloroethene	14.04	166	449179	21.143	ng		100
65) Chlorobenzene	14.91	112	1008661	21.668	ng		99
66) Ethylbenzene	15.41	91	1914744	21.711	ng		100
67) m- & p-Xylenes	15.66	91	3083273	42.997	ng		100
68) Bromoform	15.68	173	476141	24.558	ng		99
69) Styrene	16.11	104	1086868	23.442	ng		99
70) o-Xylene	16.25	91	1537359	21.960	ng		99
71) n-Nonane	16.62	43	1202463	26.193	ng		94
72) 1,1,2,2-Tetrachloroethane	16.21	83	756142	23.842	ng		99
74) Cumene	17.04	105	1777699	21.915	ng		99
75) alpha-Pinene	17.53	93	981908	23.269	ng		99
76) n-Propylbenzene	17.68	91	2253296	22.374	ng		99
77) 3-Ethyltoluene	17.04	105	1777699	No Calib			
78) 4-Ethyltoluene	17.86	105	1786516	22.624	ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1507101	21.885	ng		100
80) alpha-Methylstyrene	17.03	118	4095	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1777699	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1546606	21.462	ng		99
83) n-Decane	17.04	58	20670	No Calib			
84) Benzyl Chloride	18.56	91	2920377	53.758	ng		99
85) 1,3-Dichlorobenzene	18.58	146	822950	20.649	ng		100
86) 1,4-Dichlorobenzene	18.66	146	810652	20.516	ng		100
87) sec-Butylbenzene	18.74	105	1936072	21.255	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1592580	20.148	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	1777699	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	812472	20.449	ng		100
91) d-Limonene	19.09	68	592805	24.597	ng		95
92) 1,2-Dibromo-3-Chloropr...	19.51	157	659169	46.941	ng		92
93) n-Undecane	17.96	58	38593	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1348732	41.888	ng		99
95) Naphthalene	20.94	128	1713596	22.559	ng		100
96) n-Dodecane	18.93	58	48812	No Calib		#	
97) Hexachlorobutadiene	21.30	225	487596	18.924	ng		99
98) Cyclohexanone	15.29	55	197	No Calib		#	
99) tert-Butylbenzene	18.43	119	1369348	21.474	ng		99
100) n-Butylbenzene	19.39	91	1702970	22.628	ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	405668	22.740	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092406.D Vial: 2
Acq On : 9 Sep 2024 11:23 Operator: SC
Sample : LCSD R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 09 11:45:32 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102405.D Vial: 2
Acq On : 10 Sep 2024 11:18 Operator: SC
Sample : LCS R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 10 12:06:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	147384	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	650458	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	185328	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	367613	13.329	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.44	98	739642	11.377	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
73) Bromofluorobenzene (SS3)	16.83	174	240605	11.066	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
Target Compounds							Qvalue
2) Propene	3.28	42	569103	25.563	ng		98
3) Dichlorodifluoromethan...	3.35	85	790346	22.088	ng		99
4) Chloromethane	3.49	50	793988	28.373	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	335066	25.926	ng		99
6) Vinyl Chloride	3.68	62	579802	32.023	ng		98
7) 1,3-Butadiene	3.80	54	449737	35.766	ng		98
8) Bromomethane	4.01	94	321746	27.738	ng		99
9) Chloroethane	4.15	64	257943	25.997	ng		99
10) Ethanol	4.36	45	2203841	137.780	ng		98
11) Acetonitrile	4.48	41	1000222	27.662	ng		99
12) Acrolein	4.55	56	684980	56.055	ng		100
13) Acetone	4.66	58	1636211	121.231	ng		96
14) Trichlorofluoromethane	4.76	101	751964	22.032	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2967359	55.840	ng		99
16) Acrylonitrile	5.03	53	1380818	54.838	ng		99
17) 1,1-Dichloroethene	5.27	96	335014	24.289	ng		92
18) 2-Methyl-2-Propanol (t...	5.37	59	2294657	52.864	ng		97
19) Methylene Chloride	5.39	84	358541	22.545	ng		83
20) 3-Chloro-1-propene (Al...	5.47	41	856022	27.023	ng		95
21) Trichlorotrifluoroethane	5.59	151	313191	23.162	ng		94
22) Carbon Disulfide	5.61	76	2663391	50.551	ng		99
23) trans-1,2-Dichloroethene	6.16	61	672628	26.060	ng		97
24) 1,1-Dichloroethane	6.36	63	767363	24.766	ng		99
25) Methyl tert-Butyl Ether	6.38	73	1154720	24.535	ng		96
26) Vinyl Acetate	6.48	86	378368	137.918	ng	#	64
27) 2-Butanone (MEK)	6.70	72	452340	47.239	ng	#	77
28) cis-1,2-Dichloroethene	7.12	61	637338	25.055	ng		96
29) Diisopropyl Ether	7.30	87	521372	44.666	ng	#	65
30) Ethyl Acetate	7.31	61	303806	47.354	ng		94
31) n-Hexane	7.31	57	728094	24.889	ng		99
32) Chloroform	7.40	83	720565	24.539	ng		99
34) Tetrahydrofuran (THF)	7.77	72	412117	45.636	ng	#	78
35) Ethyl tert-Butyl Ether	7.84	87	832966	48.493	ng	#	90
36) 1,2-Dichloroethane	8.15	62	670049	23.023	ng		99
38) 1,1,1-Trichloroethane	8.42	97	674208	23.319	ng		97
39) Isopropyl Acetate	9.62	61	1064	No Calib		#	
40) 1-Butanol	8.83	56	3808	No Calib		#	
41) Benzene	8.92	78	1345507	22.062	ng		99
42) Carbon Tetrachloride	9.09	117	581077	22.995	ng		99
43) Cyclohexane	9.24	84	980699	47.627	ng		92
44) tert-Amyl Methyl Ether	9.62	73	2047931	48.437	ng		95
45) 1,2-Dichloropropane	9.88	63	397757	24.636	ng		99
46) Bromodichloromethane	10.10	83	589319	25.688	ng		99
47) Trichloroethene	10.17	130	336788	22.303	ng		100
48) 1,4-Dioxane	10.13	88	268532	25.528	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	1828269	25.324	ng		99
50) Methyl Methacrylate	10.43	100	256766	48.417	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102405.D Vial: 2
Acq On : 10 Sep 2024 11:18 Operator: SC
Sample : LCS R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 10 12:06:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

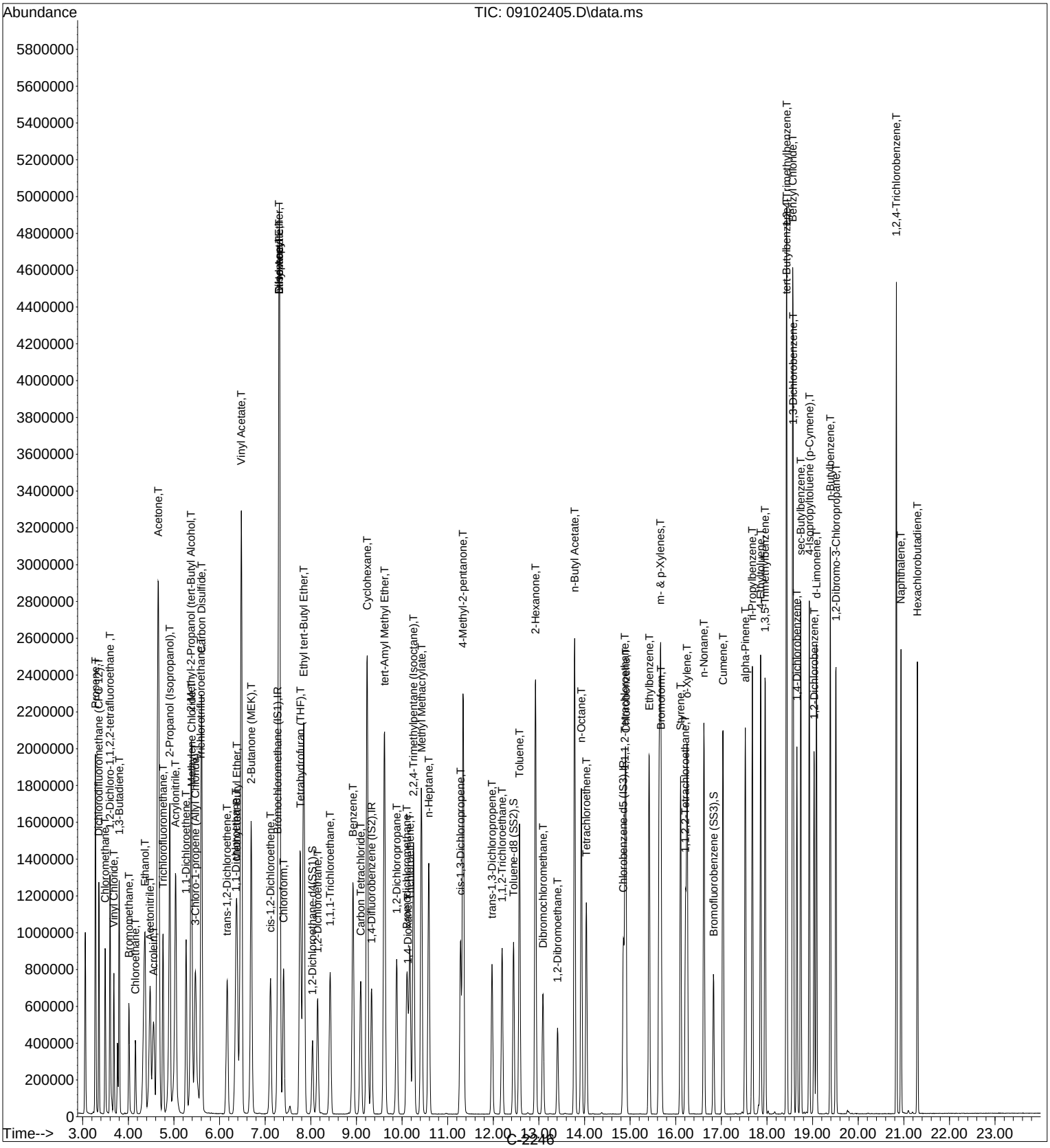
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	330922	24.352 ng		95
52) cis-1,3-Dichloropropene	11.29	75	648118	24.719 ng		100
53) 4-Methyl-2-pentanone	11.34	58	847835	52.647 ng		90
54) trans-1,3-Dichloropropene	11.97	75	546587	23.757 ng		100
55) 1,1,2-Trichloroethane	12.19	97	346621	24.109 ng		98
58) Toluene	12.57	91	1355642	19.289 ng		100
59) 2-Hexanone	12.93	43	2273901	52.279 ng		96
60) Dibromochloromethane	13.09	129	424574	21.693 ng		100
61) 1,2-Dibromoethane	13.41	107	403344	21.700 ng		100
62) n-Butyl Acetate	13.78	43	2555071	52.415 ng		97
63) n-Octane	13.93	57	384945	23.299 ng		93
64) Tetrachloroethene	14.04	166	390729	20.058 ng		100
65) Chlorobenzene	14.91	112	867149	20.316 ng		99
66) Ethylbenzene	15.42	91	1638785	20.266 ng		100
67) m- & p-Xylenes	15.66	91	2646667	40.253 ng		100
68) Bromoform	15.68	173	412002	23.175 ng		100
69) Styrene	16.11	104	917524	21.583 ng		99
70) o-Xylene	16.25	91	1321368	20.585 ng		100
71) n-Nonane	16.62	43	1049194	24.925 ng		93
72) 1,1,2,2-Tetrachloroethane	16.21	83	632781	21.760 ng		100
74) Cumene	17.04	105	1547234	20.802 ng		100
75) alpha-Pinene	17.53	93	855633	22.114 ng		99
76) n-Propylbenzene	17.68	91	1958218	21.206 ng		99
77) 3-Ethyltoluene	17.04	105	1547234	No Calib		
78) 4-Ethyltoluene	17.86	105	1550990	21.422 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1306159	20.686 ng		100
80) alpha-Methylstyrene	17.04	118	3809	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1547234	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1335998	20.219 ng		100
83) n-Decane	17.04	58	14355	No Calib		
84) Benzyl Chloride	18.56	91	2514130	50.474 ng		98
85) 1,3-Dichlorobenzene	18.58	146	700059	19.157 ng		100
86) 1,4-Dichlorobenzene	18.66	146	690202	19.050 ng		99
87) sec-Butylbenzene	18.74	105	1711240	20.489 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1373006	18.944 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1547234	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	691412	18.979 ng		100
91) d-Limonene	19.09	68	511532	23.148 ng		95
92) 1,2-Dibromo-3-Chloropr...	19.51	157	554403	43.058 ng		88
93) n-Undecane	17.96	58	33991	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1115638	37.789 ng		100
95) Naphthalene	20.94	128	1426292	20.478 ng		100
96) n-Dodecane	18.92	58	51740	No Calib	#	
97) Hexachlorobutadiene	21.30	225	409186	17.320 ng		99
98) Cyclohexanone	15.21	55	153	No Calib	#	
99) tert-Butylbenzene	18.43	119	1193019	20.405 ng		99
100) n-Butylbenzene	19.39	91	1468203	21.277 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	354887	21.696 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102405.D Vial: 2
Acq On : 10 Sep 2024 11:18 Operator: SC
Sample : LCS R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 10 12:06:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102406.D Vial: 2
Acq On : 10 Sep 2024 11:50 Operator: SC
Sample : LCSD R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 10 12:14:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	148693	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	662686	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	185783	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	364914	13.115	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	12.44	98	753126	11.556	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%				
73) Bromofluorobenzene (SS3)	16.83	174	238208	10.928	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
Target Compounds							Qvalue
2) Propene	3.27	42	561128	24.983	ng		98
3) Dichlorodifluoromethan...	3.35	85	790639	21.902	ng		99
4) Chloromethane	3.49	50	792410	28.068	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	329527	25.273	ng		99
6) Vinyl Chloride	3.68	62	553689	30.311	ng		97
7) 1,3-Butadiene	3.80	54	452540	35.672	ng		97
8) Bromomethane	4.01	94	320367	27.376	ng		100
9) Chloroethane	4.15	64	258783	25.852	ng		99
10) Ethanol	4.36	45	2248308	139.322	ng		98
11) Acetonitrile	4.48	41	1025617	28.114	ng		99
12) Acrolein	4.55	56	700926	56.855	ng		100
13) Acetone	4.65	58	1669938	122.641	ng		96
14) Trichlorofluoromethane	4.76	101	760939	22.099	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	3034214	56.596	ng		99
16) Acrylonitrile	5.03	53	1410087	55.508	ng		99
17) 1,1-Dichloroethene	5.26	96	344229	24.737	ng		94
18) 2-Methyl-2-Propanol (t...	5.37	59	2421545	55.296	ng		98
19) Methylene Chloride	5.39	84	369538	23.032	ng		85
20) 3-Chloro-1-propene (Al...	5.47	41	888940	27.815	ng		95
21) Trichlorotrifluoroethane	5.58	151	318848	23.373	ng		94
22) Carbon Disulfide	5.60	76	2722863	51.225	ng		100
23) trans-1,2-Dichloroethene	6.16	61	689573	26.482	ng		97
24) 1,1-Dichloroethane	6.35	63	784361	25.092	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1182716	24.908	ng		96
26) Vinyl Acetate	6.48	86	390147	140.960	ng	#	66
27) 2-Butanone (MEK)	6.69	72	469318	48.580	ng	#	78
28) cis-1,2-Dichloroethene	7.11	61	645265	25.143	ng		97
29) Diisopropyl Ether	7.30	87	538144	45.697	ng	#	67
30) Ethyl Acetate	7.31	61	311926	48.192	ng		94
31) n-Hexane	7.31	57	746408	25.291	ng		99
32) Chloroform	7.40	83	732758	24.735	ng		99
34) Tetrahydrofuran (THF)	7.76	72	426292	46.790	ng	#	78
35) Ethyl tert-Butyl Ether	7.84	87	859493	49.597	ng		91
36) 1,2-Dichloroethane	8.15	62	681626	23.215	ng		99
38) 1,1,1-Trichloroethane	8.42	97	681608	23.140	ng		97
39) Isopropyl Acetate	9.62	61	1114	No Calib		#	
40) 1-Butanol	8.83	56	4436	No Calib			
41) Benzene	8.92	78	1392959	22.418	ng		99
42) Carbon Tetrachloride	9.09	117	588937	22.876	ng		99
43) Cyclohexane	9.24	84	1019021	48.575	ng		93
44) tert-Amyl Methyl Ether	9.61	73	2121181	49.243	ng		96
45) 1,2-Dichloropropane	9.88	63	413480	25.138	ng		100
46) Bromodichloromethane	10.10	83	603220	25.808	ng		99
47) Trichloroethene	10.17	130	347048	22.558	ng		100
48) 1,4-Dioxane	10.13	88	277597	25.902	ng		94
49) 2,2,4-Trimethylpentane...	10.25	57	1898897	25.817	ng		99
50) Methyl Methacrylate	10.42	100	264817	49.013	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102406.D Vial: 2
Acq On : 10 Sep 2024 11:50 Operator: SC
Sample : LCSD R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 10 12:14:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

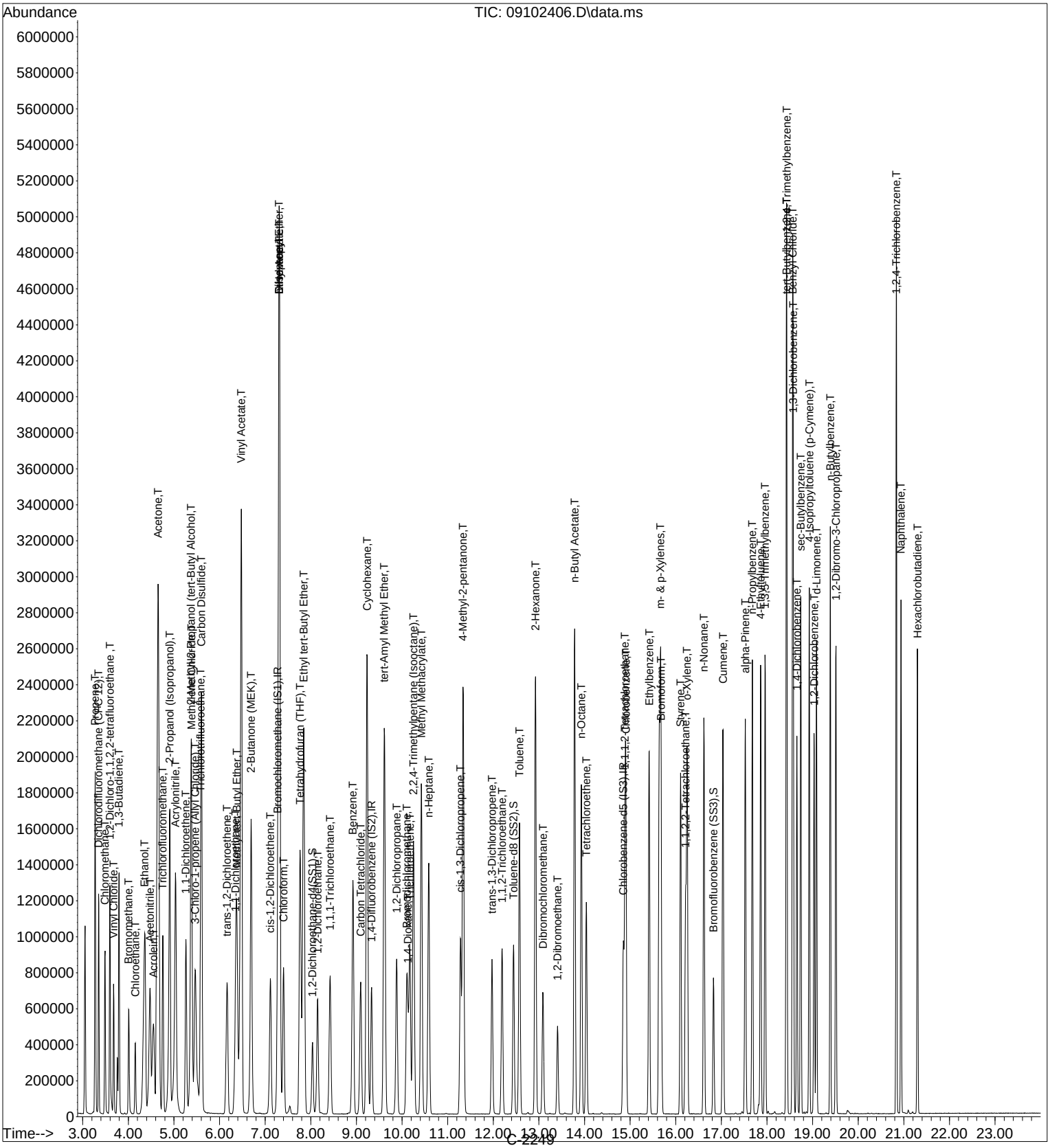
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	347282	25.084 ng		96
52) cis-1,3-Dichloropropene	11.28	75	676382	25.321 ng		99
53) 4-Methyl-2-pentanone	11.34	58	879620	53.613 ng		90
54) trans-1,3-Dichloropropene	11.97	75	567512	24.212 ng		100
55) 1,1,2-Trichloroethane	12.19	97	359454	24.540 ng		97
58) Toluene	12.57	91	1396652	19.824 ng		100
59) 2-Hexanone	12.93	43	2351530	53.931 ng		96
60) Dibromochloromethane	13.09	129	433689	22.105 ng		99
61) 1,2-Dibromoethane	13.41	107	418897	22.482 ng		99
62) n-Butyl Acetate	13.78	43	2654680	54.325 ng		97
63) n-Octane	13.93	57	395989	23.909 ng		94
64) Tetrachloroethene	14.04	166	399750	20.471 ng		100
65) Chlorobenzene	14.91	112	891561	20.837 ng		100
66) Ethylbenzene	15.42	91	1699598	20.966 ng		99
67) m- & p-Xylenes	15.66	91	2742071	41.602 ng		100
68) Bromoform	15.68	173	421568	23.655 ng		99
69) Styrene	16.11	104	955064	22.411 ng		99
70) o-Xylene	16.25	91	1361186	21.154 ng		100
71) n-Nonane	16.62	43	1074546	25.465 ng		94
72) 1,1,2,2-Tetrachloroethane	16.21	83	664576	22.798 ng		99
74) Cumene	17.04	105	1591032	21.338 ng		99
75) alpha-Pinene	17.53	93	882336	22.748 ng		99
76) n-Propylbenzene	17.68	91	2028422	21.912 ng		99
77) 3-Ethyltoluene	17.04	105	1591032	No Calib		
78) 4-Ethyltoluene	17.86	105	1607911	22.153 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1368193	21.616 ng		99
80) alpha-Methylstyrene	17.04	118	3393	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1591032	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1393733	21.042 ng		99
83) n-Decane	17.03	58	17821	No Calib		
84) Benzyl Chloride	18.56	91	2648740	53.046 ng		99
85) 1,3-Dichlorobenzene	18.58	146	737741	20.139 ng		100
86) 1,4-Dichlorobenzene	18.66	146	736688	20.284 ng		100
87) sec-Butylbenzene	18.74	105	1790695	21.388 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1439899	19.819 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1591032	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	737798	20.203 ng		100
91) d-Limonene	19.09	68	541781	24.457 ng		94
92) 1,2-Dibromo-3-Chloropr...	19.51	157	596928	46.248 ng		89
93) n-Undecane	17.96	58	39075	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1247132	42.139 ng		99
95) Naphthalene	20.94	128	1594105	22.831 ng		100
96) n-Dodecane	18.93	58	44339	No Calib	#	
97) Hexachlorobutadiene	21.30	225	442785	18.696 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1238691	21.134 ng		99
100) n-Butylbenzene	19.39	91	1552243	22.440 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	364868	22.251 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102406.D Vial: 2
Acq On : 10 Sep 2024 11:50 Operator: SC
Sample : LCSD R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 10 12:14:13 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Sep 10 12:14:03 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112405.D Vial: 2
Acq On : 11 Sep 2024 11:54 Operator: SC
Sample : LCS R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 11 12:17:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	140782	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.34	114	618841	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	182441	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	354891	13.472	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.76%				
57) Toluene-d8 (SS2)	12.45	98	707128	11.049	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.40%				
73) Bromofluorobenzene (SS3)	16.83	174	234843	10.971	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.76%				
Target Compounds							Qvalue
2) Propene	3.28	42	511594	24.058	ng		99
3) Dichlorodifluoromethan...	3.36	85	739321	21.631	ng		99
4) Chloromethane	3.49	50	723544	27.069	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	313697	25.411	ng		99
6) Vinyl Chloride	3.69	62	529987	30.644	ng		98
7) 1,3-Butadiene	3.80	54	413340	34.413	ng		96
8) Bromomethane	4.02	94	297416	26.843	ng		99
9) Chloroethane	4.16	64	233636	24.651	ng		99
10) Ethanol	4.37	45	2020166	132.219	ng		99
11) Acetonitrile	4.48	41	906091	26.233	ng		99
12) Acrolein	4.56	56	627672	53.774	ng		100
13) Acetone	4.66	58	1500701	116.405	ng		92
14) Trichlorofluoromethane	4.77	101	715937	21.960	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2741244	54.004	ng		100
16) Acrylonitrile	5.04	53	1265887	52.632	ng		100
17) 1,1-Dichloroethene	5.27	96	310069	23.535	ng		92
18) 2-Methyl-2-Propanol (t...	5.39	59	2157585	52.037	ng		97
19) Methylene Chloride	5.39	84	331848	21.845	ng		84
20) 3-Chloro-1-propene (Al...	5.48	41	792895	26.204	ng		94
21) Trichlorotrifluoroethane	5.60	151	295026	22.842	ng		95
22) Carbon Disulfide	5.61	76	2445154	48.585	ng		100
23) trans-1,2-Dichloroethene	6.17	61	626832	25.425	ng		96
24) 1,1-Dichloroethane	6.36	63	707572	23.908	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1080245	24.029	ng		97
26) Vinyl Acetate	6.48	86	346904	132.379	ng	#	61
27) 2-Butanone (MEK)	6.70	72	414386	45.304	ng	#	73
28) cis-1,2-Dichloroethene	7.12	61	588513	24.220	ng		96
29) Diisopropyl Ether	7.31	87	484617	43.465	ng	#	64
30) Ethyl Acetate	7.32	61	279897	45.673	ng		94
31) n-Hexane	7.32	57	669922	23.975	ng		99
32) Chloroform	7.41	83	677105	24.141	ng		100
34) Tetrahydrofuran (THF)	7.77	72	380064	44.060	ng	#	84
35) Ethyl tert-Butyl Ether	7.85	87	777879	47.410	ng	#	90
36) 1,2-Dichloroethane	8.15	62	642608	23.116	ng		99
38) 1,1,1-Trichloroethane	8.43	97	639123	23.235	ng		98
39) Isopropyl Acetate	9.62	61	1004	No Calib		#	
40) 1-Butanol	8.84	56	3422	No Calib		#	
41) Benzene	8.93	78	1239011	21.353	ng		99
42) Carbon Tetrachloride	9.10	117	555716	23.115	ng		99
43) Cyclohexane	9.24	84	910962	46.500	ng		93
44) tert-Amyl Methyl Ether	9.62	73	1911461	47.519	ng		95
45) 1,2-Dichloropropane	9.89	63	365587	23.801	ng		100
46) Bromodichloromethane	10.11	83	556831	25.511	ng		100
47) Trichloroethene	10.18	130	313227	21.802	ng		100
48) 1,4-Dioxane	10.14	88	247286	24.709	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	1683183	24.506	ng		97
50) Methyl Methacrylate	10.43	100	235448	46.665	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112405.D Vial: 2
Acq On : 11 Sep 2024 11:54 Operator: SC
Sample : LCS R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 11 12:17:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

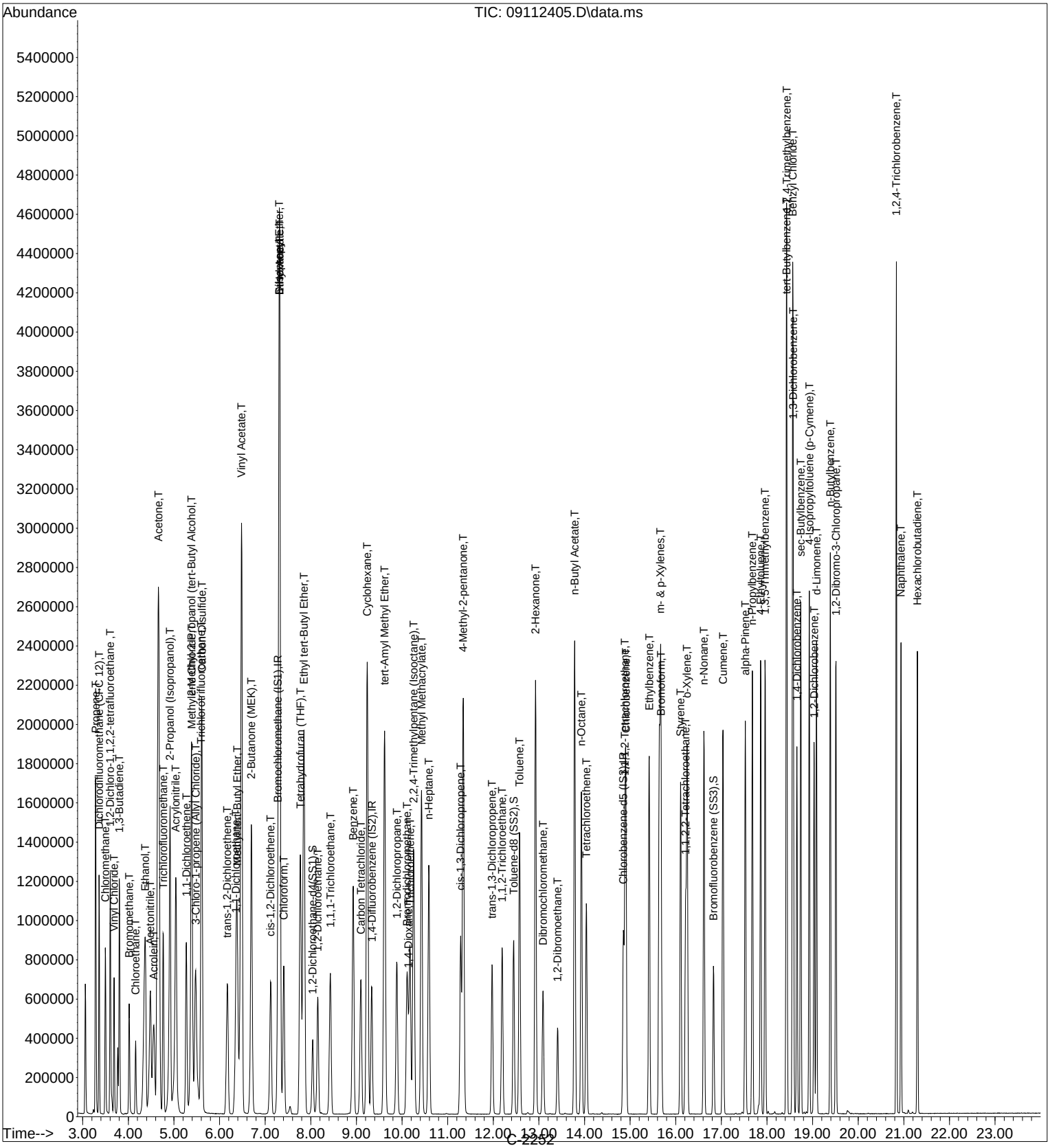
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	306771	23.728 ng		95
52) cis-1,3-Dichloropropene	11.29	75	602769	24.164 ng		99
53) 4-Methyl-2-pentanone	11.34	58	786600	51.340 ng		89
54) trans-1,3-Dichloropropene	11.97	75	509323	23.269 ng		100
55) 1,1,2-Trichloroethane	12.19	97	322085	23.547 ng		99
58) Toluene	12.57	91	1246317	18.014 ng		99
59) 2-Hexanone	12.93	43	2109392	49.264 ng		95
60) Dibromochloromethane	13.09	129	399879	20.755 ng		99
61) 1,2-Dibromoethane	13.41	107	373915	20.435 ng		100
62) n-Butyl Acetate	13.78	43	2364909	49.282 ng		96
63) n-Octane	13.93	57	353449	21.731 ng		94
64) Tetrachloroethene	14.04	166	363787	18.971 ng		100
65) Chlorobenzene	14.91	112	800800	19.059 ng		100
66) Ethylbenzene	15.42	91	1531458	19.238 ng		99
67) m- & p-Xylenes	15.66	91	2486730	38.419 ng		99
68) Bromoform	15.68	173	388340	22.190 ng		99
69) Styrene	16.11	104	851875	20.355 ng		100
70) o-Xylene	16.25	91	1234976	19.544 ng		99
71) n-Nonane	16.62	43	956751	23.089 ng		94
72) 1,1,2,2-Tetrachloroethane	16.21	83	583281	20.375 ng		100
74) Cumene	17.04	105	1436346	19.617 ng		100
75) alpha-Pinene	17.53	93	795455	20.884 ng		98
76) n-Propylbenzene	17.68	91	1829650	20.127 ng		98
77) 3-Ethyltoluene	17.04	105	1436346	No Calib		
78) 4-Ethyltoluene	17.86	105	1454492	20.407 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1236118	19.887 ng		99
80) alpha-Methylstyrene	17.04	118	3530	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1436346	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1262931	19.416 ng		99
83) n-Decane	17.05	58	15330	No Calib		
84) Benzyl Chloride	18.56	91	2363115	48.193 ng		98
85) 1,3-Dichlorobenzene	18.58	146	662972	18.429 ng		100
86) 1,4-Dichlorobenzene	18.66	146	652901	18.306 ng		100
87) sec-Butylbenzene	18.74	105	1601337	19.477 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1301138	18.237 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1436346	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	653784	18.230 ng		100
91) d-Limonene	19.09	68	477811	21.965 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.51	157	525869	41.489 ng		87
93) n-Undecane	17.96	58	30526	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1075035	36.990 ng		99
95) Naphthalene	20.94	128	1369037	19.967 ng		100
96) n-Dodecane	18.93	58	37673	No Calib	#	
97) Hexachlorobutadiene	21.30	225	398141	17.119 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1125789	19.559 ng		100
100) n-Butylbenzene	19.39	91	1388569	20.441 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	331399	20.580 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112405.D Vial: 2
Acq On : 11 Sep 2024 11:54 Operator: SC
Sample : LCS R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 11 12:17:04 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112406.D Vial: 2
Acq On : 11 Sep 2024 12:26 Operator: SC
Sample : LCSD R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 11 12:47:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	144456	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	645084	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	185326	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	360801	13.348	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.80%				
57) Toluene-d8 (SS2)	12.44	98	729122	11.215	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%				
73) Bromofluorobenzene (SS3)	16.83	174	239321	11.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.08%				
Target Compounds							Qvalue
2) Propene	3.28	42	529854	24.283	ng		99
3) Dichlorodifluoromethan...	3.36	85	750578	21.402	ng		99
4) Chloromethane	3.49	50	730316	26.627	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	314428	24.822	ng		100
6) Vinyl Chloride	3.68	62	516026	29.078	ng		98
7) 1,3-Butadiene	3.80	54	429267	34.830	ng		98
8) Bromomethane	4.01	94	300203	26.405	ng		99
9) Chloroethane	4.15	64	243394	25.028	ng		99
10) Ethanol	4.36	45	2111395	134.676	ng		99
11) Acetonitrile	4.48	41	955179	26.951	ng		98
12) Acrolein	4.55	56	656664	54.827	ng		100
13) Acetone	4.65	58	1578007	119.289	ng		95
14) Trichlorofluoromethane	4.76	101	740032	22.122	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2867736	55.059	ng		99
16) Acrylonitrile	5.03	53	1326664	53.756	ng		99
17) 1,1-Dichloroethene	5.27	96	326223	24.131	ng		94
18) 2-Methyl-2-Propanol (t...	5.37	59	2219567	52.170	ng		97
19) Methylene Chloride	5.39	84	348285	22.344	ng		85
20) 3-Chloro-1-propene (Al...	5.47	41	818958	26.377	ng		95
21) Trichlorotrifluoroethane	5.59	151	302193	22.802	ng		94
22) Carbon Disulfide	5.61	76	2566995	49.709	ng		100
23) trans-1,2-Dichloroethene	6.17	61	655203	25.900	ng		96
24) 1,1-Dichloroethane	6.35	63	737041	24.270	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1121886	24.320	ng		97
26) Vinyl Acetate	6.48	86	363234	135.086	ng	#	65
27) 2-Butanone (MEK)	6.69	72	438362	46.707	ng	#	77
28) cis-1,2-Dichloroethene	7.12	61	615501	24.687	ng		97
29) Diisopropyl Ether	7.30	87	506298	44.254	ng	#	65
30) Ethyl Acetate	7.31	61	295335	46.967	ng		95
31) n-Hexane	7.31	57	703889	24.550	ng		99
32) Chloroform	7.40	83	703721	24.451	ng		99
34) Tetrahydrofuran (THF)	7.76	72	398440	45.016	ng	#	78
35) Ethyl tert-Butyl Ether	7.84	87	808163	48.003	ng	#	89
36) 1,2-Dichloroethane	8.15	62	656770	23.024	ng		98
38) 1,1,1-Trichloroethane	8.42	97	658096	22.951	ng		98
39) Isopropyl Acetate	9.62	61	1003	No Calib		#	
40) 1-Butanol	8.83	56	3788	No Calib		#	
41) Benzene	8.92	78	1306456	21.600	ng		99
42) Carbon Tetrachloride	9.09	117	569478	22.724	ng		99
43) Cyclohexane	9.24	84	958527	46.938	ng		93
44) tert-Amyl Methyl Ether	9.62	73	2005154	47.820	ng		95
45) 1,2-Dichloropropane	9.88	63	389168	24.305	ng		100
46) Bromodichloromethane	10.10	83	583825	25.660	ng		100
47) Trichloroethene	10.17	130	328994	21.968	ng		99
48) 1,4-Dioxane	10.13	88	262275	25.141	ng		94
49) 2,2,4-Trimethylpentane...	10.25	57	1778080	24.834	ng		98
50) Methyl Methacrylate	10.42	100	253867	48.269	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112406.D Vial: 2
Acq On : 11 Sep 2024 12:26 Operator: SC
Sample : LCSD R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 11 12:47:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

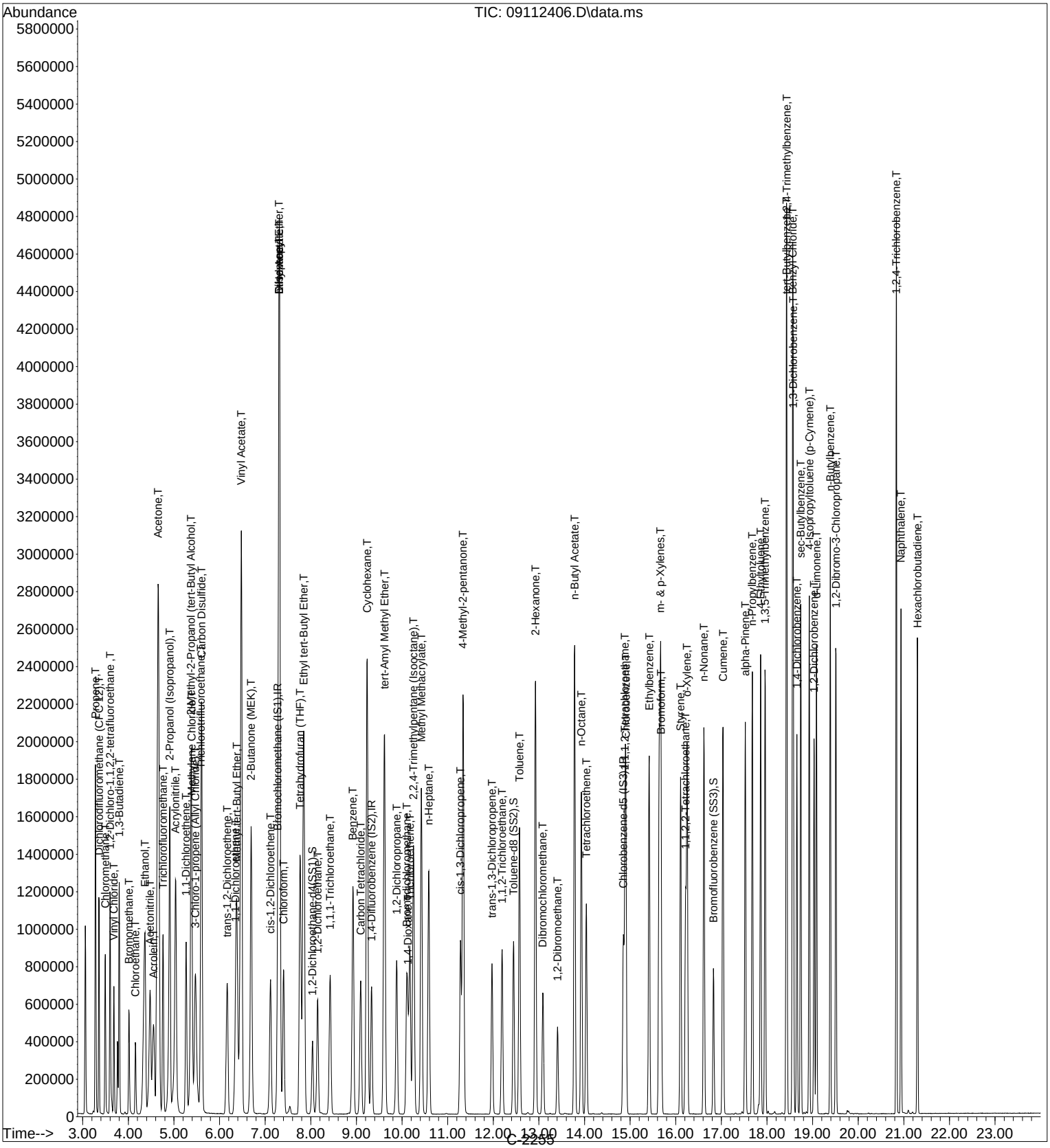
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.59	71	319041	23.673 ng	95
52) cis-1,3-Dichloropropene	11.28	75	634171	24.388 ng	100
53) 4-Methyl-2-pentanone	11.34	58	829246	51.922 ng	91
54) trans-1,3-Dichloropropene	11.97	75	535136	23.453 ng	100
55) 1,1,2-Trichloroethane	12.19	97	338325	23.728 ng	98
58) Toluene	12.57	91	1319128	18.770 ng	99
59) 2-Hexanone	12.93	43	2216368	50.957 ng	96
60) Dibromochloromethane	13.09	129	418220	21.369 ng	99
61) 1,2-Dibromoethane	13.41	107	396997	21.359 ng	100
62) n-Butyl Acetate	13.78	43	2486552	51.010 ng	97
63) n-Octane	13.93	57	371566	22.490 ng	95
64) Tetrachloroethene	14.04	166	380872	19.552 ng	100
65) Chlorobenzene	14.91	112	847728	19.861 ng	99
66) Ethylbenzene	15.42	91	1615931	19.983 ng	99
67) m- & p-Xylenes	15.66	91	2606176	39.638 ng	100
68) Bromoform	15.68	173	402545	22.643 ng	99
69) Styrene	16.11	104	899211	21.152 ng	100
70) o-Xylene	16.25	91	1295611	20.184 ng	100
71) n-Nonane	16.62	43	1007637	23.938 ng	94
72) 1,1,2,2-Tetrachloroethane	16.21	83	621263	21.364 ng	99
74) Cumene	17.04	105	1511595	20.323 ng	100
75) alpha-Pinene	17.53	93	833507	21.542 ng	98
76) n-Propylbenzene	17.68	91	1935670	20.962 ng	99
77) 3-Ethyltoluene	17.04	105	1511595	No Calib	
78) 4-Ethyltoluene	17.86	105	1502099	20.746 ng	98
79) 1,3,5-Trimethylbenzene	17.96	105	1304338	20.658 ng	99
80) alpha-Methylstyrene	17.04	118	3457	No Calib #	
81) 2-Ethyltoluene	17.04	105	1511595	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1327364	20.089 ng	100
83) n-Decane	17.03	58	13813	No Calib	
84) Benzyl Chloride	18.56	91	2531255	50.818 ng	98
85) 1,3-Dichlorobenzene	18.58	146	703525	19.252 ng	100
86) 1,4-Dichlorobenzene	18.66	146	695054	19.184 ng	100
87) sec-Butylbenzene	18.74	105	1693568	20.278 ng	99
88) 4-Isopropyltoluene (p-...	18.93	119	1375765	18.983 ng	99
89) 1,2,3-Trimethylbenzene	17.04	105	1511595	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	696204	19.111 ng	100
91) d-Limonene	19.09	68	506884	22.938 ng	95
92) 1,2-Dibromo-3-Chloropr...	19.51	157	569026	44.195 ng	88
93) n-Undecane	17.96	58	32949	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1190276	40.317 ng	99
95) Naphthalene	20.94	128	1524070	21.882 ng	100
96) n-Dodecane	18.92	58	40798	No Calib #	
97) Hexachlorobutadiene	21.30	225	432300	18.298 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1179881	20.180 ng	100
100) n-Butylbenzene	19.39	91	1476280	21.394 ng	99
101) 1,1,1,2-Tetrachloroethane	14.89	131	350734	21.442 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112406.D Vial: 2
Acq On : 11 Sep 2024 12:26 Operator: SC
Sample : LCSD R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08132404 (9/12)

Quant Time: Sep 11 12:47:35 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 12:16:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132405.D Vial: 2
Acq On : 13 Sep 2024 13:45 Operator: SC
Sample : LCS R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08152401 (9/14)

Quant Time: Sep 13 14:08:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	127261	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.34	114	558282	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	168214	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	332155	13.948	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.60%				
57) Toluene-d8 (SS2)	12.45	98	640245	10.850	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	16.83	174	218522	11.072	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.56%				
Target Compounds							Qvalue
2) Propene	3.28	42	530868	27.616	ng		99
3) Dichlorodifluoromethan...	3.36	85	816483	26.427	ng		99
4) Chloromethane	3.49	50	755643	31.273	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	343567	30.787	ng		99
6) Vinyl Chloride	3.69	62	560330	35.841	ng		98
7) 1,3-Butadiene	3.80	54	460762	42.437	ng		97
8) Bromomethane	4.02	94	311365	31.087	ng		99
9) Chloroethane	4.16	64	242510	28.306	ng		100
10) Ethanol	4.37	45	2120966	153.565	ng		99
11) Acetonitrile	4.48	41	943700	30.225	ng		99
12) Acrolein	4.56	56	665040	63.029	ng		99
13) Acetone	4.66	58	1576738	135.298	ng	#	87
14) Trichlorofluoromethane	4.76	101	795095	26.979	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2958184	64.470	ng		99
16) Acrylonitrile	5.05	53	1340452	61.653	ng		100
17) 1,1-Dichloroethene	5.27	96	333645	28.015	ng		89
18) 2-Methyl-2-Propanol (t...	5.39	59	2476258	66.068	ng		97
19) Methylene Chloride	5.39	84	351807	25.620	ng		82
20) 3-Chloro-1-propene (Al...	5.48	41	841250	30.756	ng		94
21) Trichlorotrifluoroethane	5.59	151	318838	27.309	ng		96
22) Carbon Disulfide	5.61	76	2622922	57.655	ng		99
23) trans-1,2-Dichloroethene	6.18	61	670417	30.082	ng		96
24) 1,1-Dichloroethane	6.36	63	758391	28.347	ng		100
25) Methyl tert-Butyl Ether	6.39	73	1168065	28.743	ng		97
26) Vinyl Acetate	6.48	86	376841	159.082	ng	#	62
27) 2-Butanone (MEK)	6.70	72	448270	54.216	ng	#	76
28) cis-1,2-Dichloroethene	7.12	61	640069	29.141	ng		95
29) Diisopropyl Ether	7.31	87	527164	52.304	ng	#	68
30) Ethyl Acetate	7.32	61	303485	54.784	ng		94
31) n-Hexane	7.32	57	715853	28.340	ng		99
32) Chloroform	7.41	83	741596	29.249	ng		100
34) Tetrahydrofuran (THF)	7.77	72	406325	52.109	ng	#	78
35) Ethyl tert-Butyl Ether	7.85	87	844927	56.968	ng	#	90
36) 1,2-Dichloroethane	8.15	62	716931	28.529	ng		100
38) 1,1,1-Trichloroethane	8.43	97	711323	28.665	ng		98
39) Isopropyl Acetate	9.62	61	1234	No Calib	#		
40) 1-Butanol	8.84	56	2612	No Calib	#		
41) Benzene	8.93	78	1327971	25.369	ng		100
42) Carbon Tetrachloride	9.10	117	627647	28.939	ng		100
43) Cyclohexane	9.24	84	972887	55.048	ng		93
44) tert-Amyl Methyl Ether	9.62	73	2093761	57.697	ng		95
45) 1,2-Dichloropropane	9.89	63	392260	28.307	ng		99
46) Bromodichloromethane	10.11	83	619132	31.443	ng		100
47) Trichloroethene	10.18	130	339682	26.208	ng		99
48) 1,4-Dioxane	10.14	88	280631	31.083	ng		93
49) 2,2,4-Trimethylpentane...	10.25	57	1795763	28.981	ng		96
50) Methyl Methacrylate	10.43	100	259776	57.072	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132405.D Vial: 2
Acq On : 13 Sep 2024 13:45 Operator: SC
Sample : LCS R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08152401 (9/14)

Quant Time: Sep 13 14:08:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

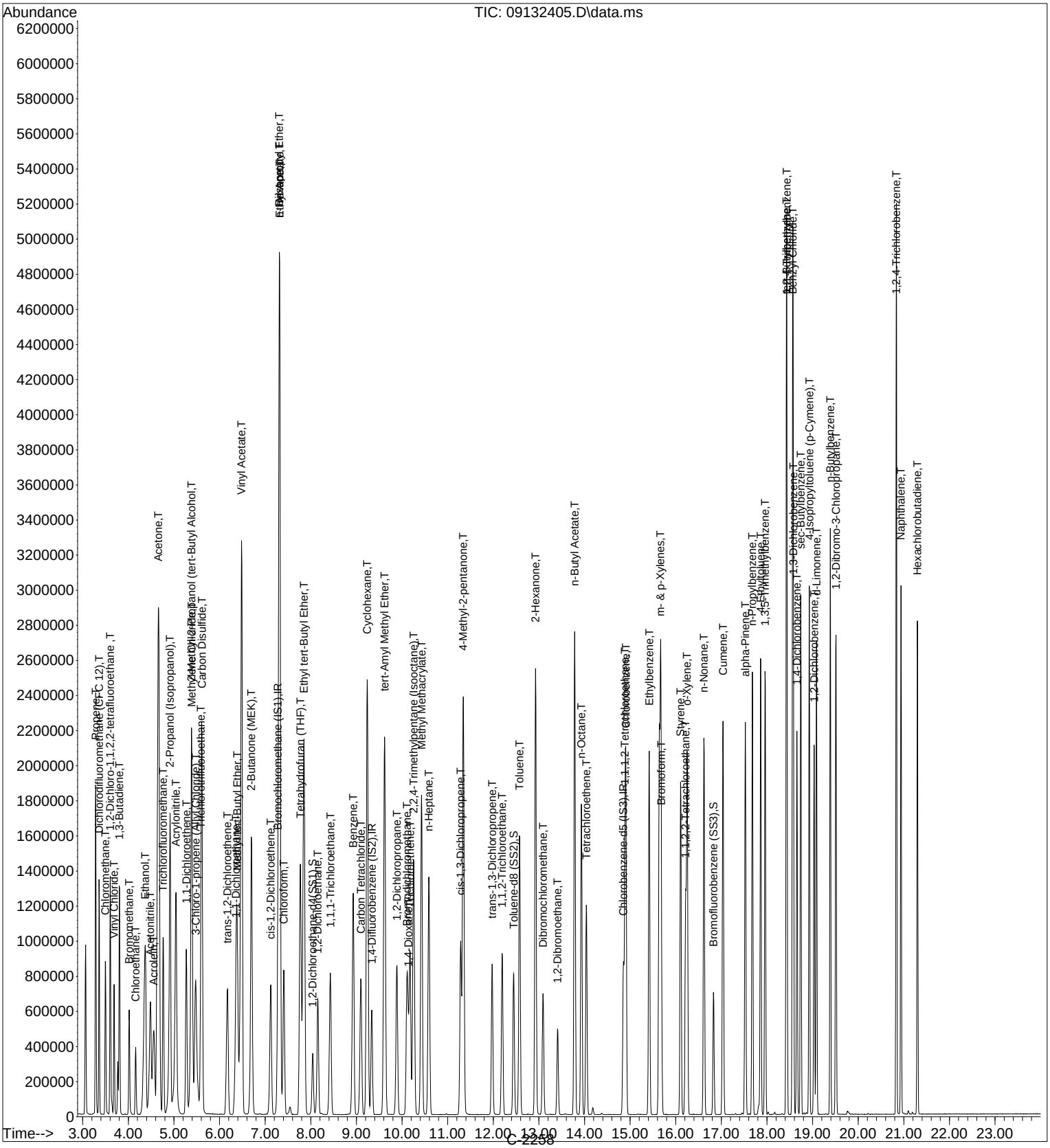
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.59	71	324465	27.819 ng	95
52) cis-1,3-Dichloropropene	11.29	75	660125	29.333 ng	99
53) 4-Methyl-2-pentanone	11.34	58	869604	62.915 ng	89
54) trans-1,3-Dichloropropene	11.98	75	570459	28.889 ng	100
55) 1,1,2-Trichloroethane	12.19	97	348848	28.270 ng	99
58) Toluene	12.57	91	1354602	21.235 ng	99
59) 2-Hexanone	12.93	43	2395863	60.687 ng	95
60) Dibromochloromethane	13.09	129	444582	25.027 ng	99
61) 1,2-Dibromoethane	13.41	107	413807	24.528 ng	99
62) n-Butyl Acetate	13.78	43	2669556	60.335 ng	96
63) n-Octane	13.93	57	381625	25.448 ng	94
64) Tetrachloroethene	14.04	166	400330	22.642 ng	100
65) Chlorobenzene	14.91	112	881000	22.741 ng	100
66) Ethylbenzene	15.42	91	1679432	22.881 ng	99
67) m- & p-Xylenes	15.66	91	2766671	46.359 ng	98
68) Bromoform	15.69	173	437495	27.113 ng	98
69) Styrene	16.11	104	940248	24.367 ng	99
70) o-Xylene	16.25	91	1367870	23.478 ng	99
71) n-Nonane	16.62	43	1042278	27.280 ng	93
72) 1,1,2,2-Tetrachloroethane	16.21	83	646650	24.500 ng	99
74) Cumene	17.04	105	1596110	23.642 ng	100
75) alpha-Pinene	17.53	93	876479	24.957 ng	97
76) n-Propylbenzene	17.68	91	2024113	24.149 ng	98
77) 3-Ethyltoluene	17.04	105	1596110	No Calib	
78) 4-Ethyltoluene	17.86	105	1604804	24.420 ng	99
79) 1,3,5-Trimethylbenzene	17.96	105	1378101	24.046 ng	98
80) alpha-Methylstyrene	17.04	118	3406	No Calib #	
81) 2-Ethyltoluene	17.04	105	1596110	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1426397	23.784 ng	98
83) n-Decane	17.02	58	14887	No Calib	
84) Benzyl Chloride	18.56	91	2776885	61.421 ng	98
85) 1,3-Dichlorobenzene	18.58	146	749999	22.612 ng	100
86) 1,4-Dichlorobenzene	18.66	146	743121	22.598 ng	100
87) sec-Butylbenzene	18.74	105	1780114	23.482 ng	99
88) 4-Isopropyltoluene (p-...	18.93	119	1460718	22.205 ng	98
89) 1,2,3-Trimethylbenzene	17.04	105	1596110	No Calib	
90) 1,2-Dichlorobenzene	19.04	146	737546	22.305 ng	100
91) d-Limonene	19.09	68	534466	26.647 ng	97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	621051	53.142 ng	88
93) n-Undecane	17.96	58	32106	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1307667	48.799 ng	99
95) Naphthalene	20.94	128	1691481	26.756 ng	100
96) n-Dodecane	18.93	58	41143	No Calib #	
97) Hexachlorobutadiene	21.30	225	468237	21.836 ng	99
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1260244	23.747 ng	99
100) n-Butylbenzene	19.39	91	1580689	25.238 ng	99
101) 1,1,1,2-Tetrachloroethane	14.89	131	372632	25.098 ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132405.D Vial: 2
Acq On : 13 Sep 2024 13:45 Operator: SC
Sample : LCS R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08152401 (9/14)

Quant Time: Sep 13 14:08:34 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132406.D Vial: 2
Acq On : 13 Sep 2024 14:18 Operator: SC
Sample : LCSD R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08152401 (9/14)

Quant Time: Sep 13 14:39:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

V 9/13/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	135042	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.34	114	604724	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	179278	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	347954	13.770	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.16%				
57) Toluene-d8 (SS2)	12.44	98	687317	10.929	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.44%				
73) Bromofluorobenzene (SS3)	16.83	174	233469	11.100	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.80%				
Target Compounds							Qvalue
2) Propene	3.28	42	533422	26.150	ng		100
3) Dichlorodifluoromethan...	3.36	85	808043	24.647	ng		99
4) Chloromethane	3.49	50	786380	30.670	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	338461	28.582	ng		98
6) Vinyl Chloride	3.69	62	563936	33.993	ng		98
7) 1,3-Butadiene	3.80	54	474036	41.144	ng		97
8) Bromomethane	4.02	94	322351	30.330	ng		99
9) Chloroethane	4.16	64	254879	28.036	ng		99
10) Ethanol	4.37	45	2261066	154.276	ng		99
11) Acetonitrile	4.48	41	1018251	30.734	ng		99
12) Acrolein	4.56	56	723576	64.626	ng		100
13) Acetone	4.66	58	1694996	137.065	ng		91
14) Trichlorofluoromethane	4.76	101	814443	26.044	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	3150898	64.713	ng		100
16) Acrylonitrile	5.04	53	1432776	62.102	ng		99
17) 1,1-Dichloroethene	5.27	96	356827	28.235	ng		92
18) 2-Methyl-2-Propanol (t...	5.39	59	2602107	65.426	ng		97
19) Methylene Chloride	5.39	84	380557	26.117	ng		86
20) 3-Chloro-1-propene (Al...	5.48	41	889445	30.644	ng		95
21) Trichlorotrifluoroethane	5.59	151	334488	26.998	ng		95
22) Carbon Disulfide	5.61	76	2791523	57.825	ng		100
23) trans-1,2-Dichloroethene	6.17	61	716296	30.289	ng		95
24) 1,1-Dichloroethane	6.36	63	809310	28.508	ng		100
25) Methyl tert-Butyl Ether	6.39	73	1240909	28.776	ng		97
26) Vinyl Acetate	6.48	86	404864	161.064	ng	#	66
27) 2-Butanone (MEK)	6.70	72	478476	54.535	ng	#	77
28) cis-1,2-Dichloroethene	7.12	61	676366	29.019	ng		96
29) Diisopropyl Ether	7.30	87	558841	52.252	ng	#	70
30) Ethyl Acetate	7.32	61	321685	54.723	ng		95
31) n-Hexane	7.32	57	764003	28.504	ng		99
32) Chloroform	7.41	83	774373	28.782	ng		99
34) Tetrahydrofuran (THF)	7.77	72	435150	52.591	ng	#	79
35) Ethyl tert-Butyl Ether	7.85	87	889009	56.486	ng	#	89
36) 1,2-Dichloroethane	8.15	62	739865	27.745	ng		99
38) 1,1,1-Trichloroethane	8.43	97	736204	27.389	ng		98
39) Isopropyl Acetate	9.62	61	1171	No Calib		#	
40) 1-Butanol	8.84	56	2223	No Calib			
41) Benzene	8.93	78	1419398	25.033	ng		99
42) Carbon Tetrachloride	9.09	117	643676	27.398	ng		99
43) Cyclohexane	9.24	84	1036572	54.147	ng		93
44) tert-Amyl Methyl Ether	9.62	73	2212262	56.280	ng		95
45) 1,2-Dichloropropane	9.88	63	418843	27.904	ng		99
46) Bromodichloromethane	10.10	83	644081	30.198	ng		99
47) Trichloroethene	10.18	130	359854	25.632	ng		99
48) 1,4-Dioxane	10.14	88	304484	31.134	ng		94
49) 2,2,4-Trimethylpentane...	10.25	57	1912282	28.491	ng		97
50) Methyl Methacrylate	10.43	100	275513	55.881	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132406.D Vial: 2
Acq On : 13 Sep 2024 14:18 Operator: SC
Sample : LCSD R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08152401 (9/14)

Quant Time: Sep 13 14:39:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

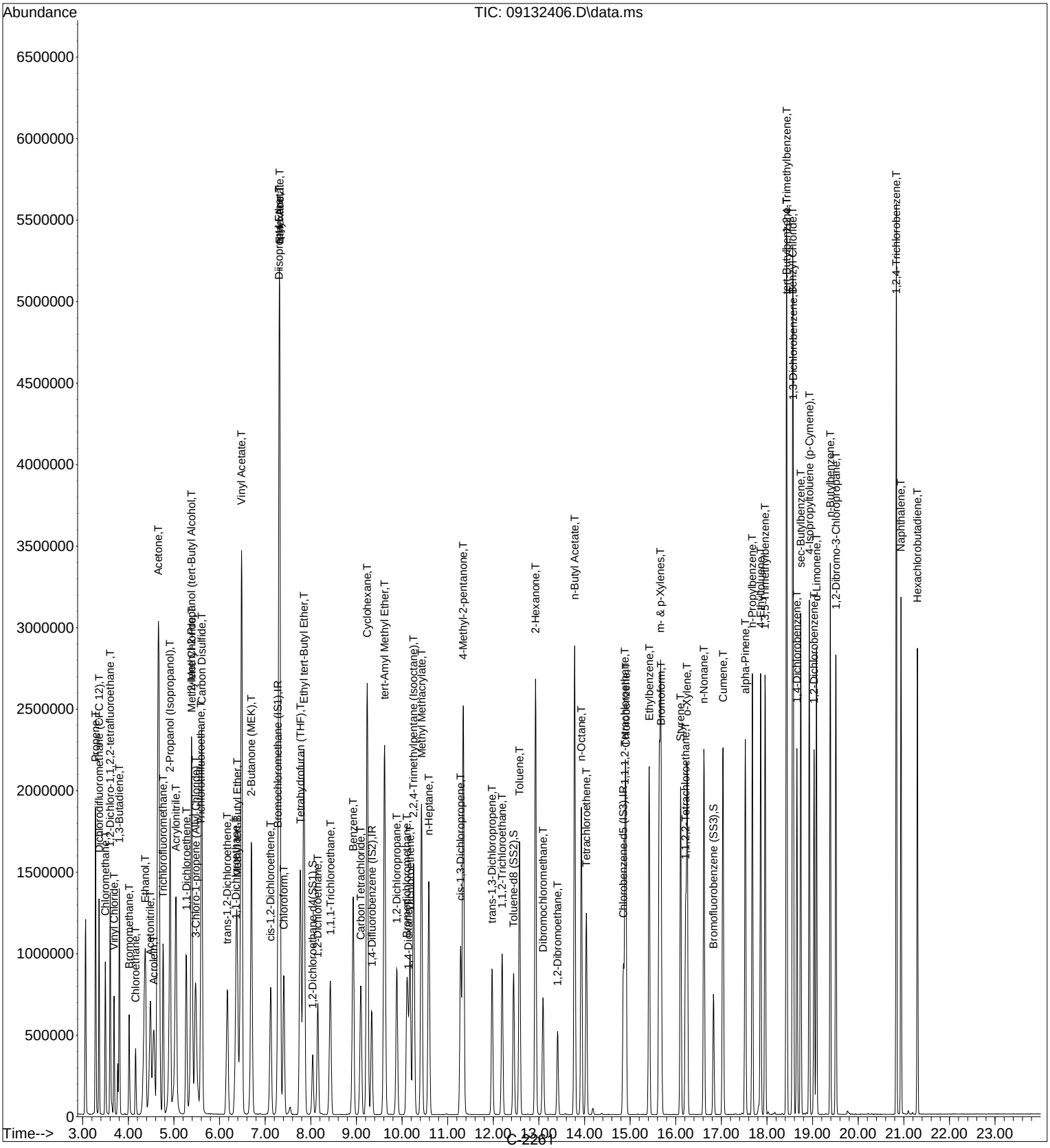
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	348197	27.561 ng		95
52) cis-1,3-Dichloropropene	11.29	75	703657	28.866 ng		100
53) 4-Methyl-2-pentanone	11.34	58	928810	62.037 ng		91
54) trans-1,3-Dichloropropene	11.97	75	605027	28.286 ng		100
55) 1,1,2-Trichloroethane	12.19	97	373153	27.917 ng		99
58) Toluene	12.57	91	1447133	21.286 ng		100
59) 2-Hexanone	12.93	43	2520405	59.902 ng		95
60) Dibromochloromethane	13.09	129	464244	24.521 ng		99
61) 1,2-Dibromoethane	13.41	107	435303	24.210 ng		100
62) n-Butyl Acetate	13.78	43	2804831	59.481 ng		97
63) n-Octane	13.93	57	401266	25.107 ng		95
64) Tetrachloroethene	14.04	166	418789	22.224 ng		99
65) Chlorobenzene	14.91	112	924309	22.386 ng		100
66) Ethylbenzene	15.42	91	1762794	22.535 ng		99
67) m- & p-Xylenes	15.66	91	2897736	45.559 ng		98
68) Bromoform	15.68	173	457190	26.585 ng		100
69) Styrene	16.11	104	1003003	24.389 ng		100
70) o-Xylene	16.25	91	1431896	23.060 ng		100
71) n-Nonane	16.62	43	1085842	26.666 ng		94
72) 1,1,2,2-Tetrachloroethane	16.21	83	682943	24.278 ng		99
74) Cumene	17.04	105	1665332	23.145 ng		100
75) alpha-Pinene	17.53	93	917399	24.510 ng		98
76) n-Propylbenzene	17.68	91	2130123	23.846 ng		98
77) 3-Ethyltoluene	17.04	105	1665332	No Calib		
78) 4-Ethyltoluene	17.86	105	1696444	24.221 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1445913	23.672 ng		99
80) alpha-Methylstyrene	17.04	118	3990	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1665332	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1501277	23.488 ng		98
83) n-Decane	17.02	58	17325	No Calib		
84) Benzyl Chloride	18.56	91	2918072	60.560 ng		98
85) 1,3-Dichlorobenzene	18.58	146	789417	22.331 ng		100
86) 1,4-Dichlorobenzene	18.66	146	780364	22.266 ng		99
87) sec-Butylbenzene	18.74	105	1872621	23.178 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1528863	21.807 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1665332	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	778026	22.077 ng		100
91) d-Limonene	19.09	68	565016	26.431 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.51	157	647542	51.989 ng		88
93) n-Undecane	17.96	58	34019	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1385099	48.499 ng		99
95) Naphthalene	20.94	128	1802762	26.756 ng		100
96) n-Dodecane	18.93	58	47818	No Calib	#	
97) Hexachlorobutadiene	21.30	225	488242	21.363 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1317456	23.293 ng		100
100) n-Butylbenzene	19.39	91	1639142	24.556 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	385975	24.393 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132406.D Vial: 2
Acq On : 13 Sep 2024 14:18 Operator: SC
Sample : LCSD R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08152401 (9/14)

Quant Time: Sep 13 14:39:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162405.D Vial: 2
Acq On : 16 Sep 2024 10:52 Operator: SC
Sample : LCS R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 16 11:36:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/16/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	143742	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	638232	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	178579	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	358489	13.328	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.64%				
57) Toluene-d8 (SS2)	12.44	98	724646	11.567	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
73) Bromofluorobenzene (SS3)	16.83	174	243702	11.632	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%				
Target Compounds							Qvalue
2) Propene	3.28	42	542773	24.998	ng		99
3) Dichlorodifluoromethan...	3.36	85	867398	24.856	ng		99
4) Chloromethane	3.49	50	805638	29.519	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	372541	29.556	ng		99
6) Vinyl Chloride	3.68	62	599704	33.961	ng		98
7) 1,3-Butadiene	3.80	54	477686	38.952	ng		99
8) Bromomethane	4.01	94	346603	30.638	ng		99
9) Chloroethane	4.15	64	270122	27.914	ng		100
10) Ethanol	4.36	45	2240704	143.634	ng		99
11) Acetonitrile	4.48	41	985761	27.952	ng		99
12) Acrolein	4.56	56	723820	60.735	ng		100
13) Acetone	4.66	58	1723835	130.960	ng		97
14) Trichlorofluoromethane	4.76	101	858584	25.793	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	3102955	59.871	ng		100
16) Acrylonitrile	5.04	53	1419917	57.820	ng		100
17) 1,1-Dichloroethene	5.27	96	370919	27.573	ng		94
18) 2-Methyl-2-Propanol (t...	5.38	59	2678778	63.277	ng		98
19) Methylene Chloride	5.39	84	391408	25.236	ng		92
20) 3-Chloro-1-propene (Al...	5.48	41	868010	28.096	ng		98
21) Trichlorotrifluoroethane	5.59	151	360822	27.361	ng		98
22) Carbon Disulfide	5.61	76	2912540	56.680	ng		100
23) trans-1,2-Dichloroethene	6.17	61	730729	29.029	ng		98
24) 1,1-Dichloroethane	6.36	63	834156	27.604	ng		99
25) Methyl tert-Butyl Ether	6.38	73	1302280	28.371	ng		99
26) Vinyl Acetate	6.48	86	425670	159.092	ng	#	86
27) 2-Butanone (MEK)	6.70	72	493008	52.790	ng	#	88
28) cis-1,2-Dichloroethene	7.12	61	689032	27.773	ng		97
29) Diisopropyl Ether	7.30	87	590849	51.901	ng	#	85
30) Ethyl Acetate	7.32	61	330106	52.757	ng		98
31) n-Hexane	7.31	57	780670	27.363	ng		100
32) Chloroform	7.41	83	810419	28.299	ng		99
34) Tetrahydrofuran (THF)	7.77	72	445963	50.635	ng		93
35) Ethyl tert-Butyl Ether	7.84	87	947735	56.573	ng		95
36) 1,2-Dichloroethane	8.15	62	759551	26.760	ng		99
38) 1,1,1-Trichloroethane	8.42	97	778362	27.437	ng		99
39) Isopropyl Acetate	9.61	61	1097	No Calib		#	
40) 1-Butanol	8.83	56	3164	No Calib		#	
41) Benzene	8.92	78	1471313	24.586	ng		100
42) Carbon Tetrachloride	9.09	117	681028	27.466	ng		99
43) Cyclohexane	9.24	84	1088851	53.892	ng		96
44) tert-Amyl Methyl Ether	9.62	73	2326734	56.085	ng		98
45) 1,2-Dichloropropane	9.88	63	427066	26.958	ng		99
46) Bromodichloromethane	10.10	83	674237	29.952	ng		100
47) Trichloroethene	10.18	130	379555	25.616	ng		100
48) 1,4-Dioxane	10.13	88	317471	30.758	ng		98
49) 2,2,4-Trimethylpentane...	10.25	57	1943547	27.437	ng		99
50) Methyl Methacrylate	10.43	100	291839	56.084	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162405.D Vial: 2
Acq On : 16 Sep 2024 10:52 Operator: SC
Sample : LCS R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 16 11:36:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

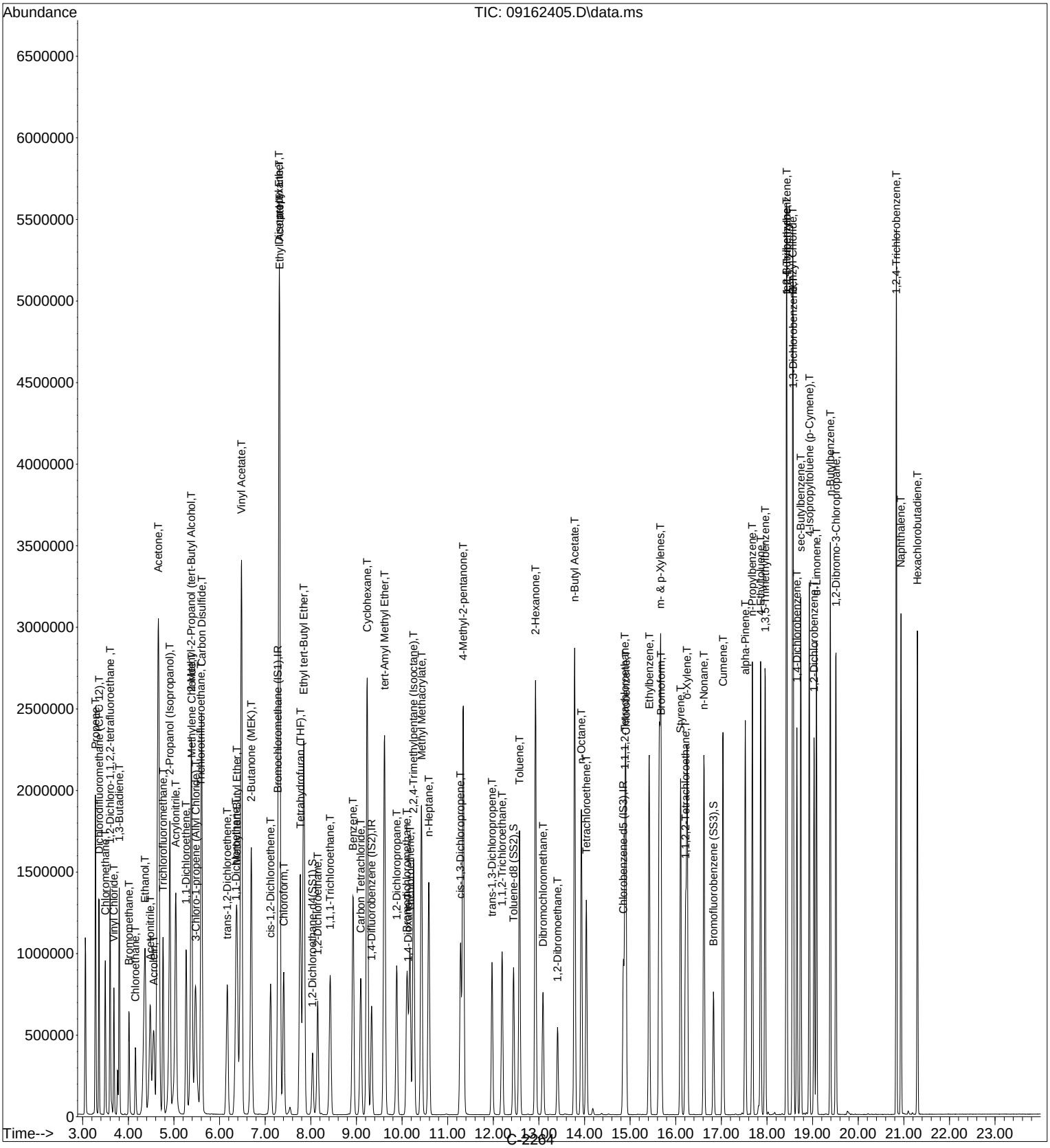
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	359433	26.956 ng		98
52) cis-1,3-Dichloropropene	11.28	75	731846	28.447 ng		99
53) 4-Methyl-2-pentanone	11.34	58	945327	59.826 ng		97
54) trans-1,3-Dichloropropene	11.97	75	627158	27.781 ng		100
55) 1,1,2-Trichloroethane	12.19	97	388184	27.517 ng		99
58) Toluene	12.57	91	1517701	22.411 ng		100
59) 2-Hexanone	12.93	43	2464893	58.812 ng		98
60) Dibromochloromethane	13.09	129	494804	26.237 ng		100
61) 1,2-Dibromoethane	13.41	107	456662	25.497 ng		100
62) n-Butyl Acetate	13.78	43	2744831	58.436 ng		99
63) n-Octane	13.93	57	407305	25.584 ng		97
64) Tetrachloroethene	14.04	166	451147	24.035 ng		99
65) Chlorobenzene	14.91	112	977853	23.776 ng		99
66) Ethylbenzene	15.42	91	1862858	23.907 ng		99
67) m- & p-Xylenes	15.66	91	3048474	48.116 ng		99
68) Bromoform	15.68	173	484299	28.271 ng		99
69) Styrene	16.11	104	1039451	25.375 ng		100
70) o-Xylene	16.25	91	1499759	24.247 ng		99
71) n-Nonane	16.62	43	1064310	26.240 ng		96
72) 1,1,2,2-Tetrachloroethane	16.21	83	700016	24.982 ng		100
74) Cumene	17.04	105	1757221	24.518 ng		100
75) alpha-Pinene	17.53	93	972866	26.094 ng		99
76) n-Propylbenzene	17.68	91	2213997	24.882 ng		99
77) 3-Ethyltoluene	17.04	105	1757221	No Calib		
78) 4-Ethyltoluene	17.86	105	1777700	25.481 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1518139	24.952 ng		99
80) alpha-Methylstyrene	17.04	118	3628	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1757221	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1571812	24.687 ng		99
83) n-Decane	17.03	58	13608	No Calib		
84) Benzyl Chloride	18.56	91	2985431	62.201 ng		99
85) 1,3-Dichlorobenzene	18.58	146	823453	23.386 ng		100
86) 1,4-Dichlorobenzene	18.66	146	810703	23.222 ng		99
87) sec-Butylbenzene	18.74	105	1957165	24.319 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1601388	22.931 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1757221	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	804584	22.920 ng		100
91) d-Limonene	19.09	68	576139	27.057 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	665546	53.644 ng		92
93) n-Undecane	17.96	58	34976	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1393204	48.974 ng		99
95) Naphthalene	20.94	128	1761653	26.249 ng		100
96) n-Dodecane	18.92	58	54242	No Calib	#	
97) Hexachlorobutadiene	21.30	225	515007	22.623 ng		100
98) Cyclohexanone	15.22	55	253	No Calib	#	
99) tert-Butylbenzene	18.43	119	1397458	24.805 ng		100
100) n-Butylbenzene	19.39	91	1686876	25.370 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	412692	26.183 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162405.D Vial: 2
Acq On : 16 Sep 2024 10:52 Operator: SC
Sample : LCS R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 16 11:36:40 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162406.D Vial: 2
Acq On : 16 Sep 2024 11:24 Operator: SC
Sample : LCSD R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 16 11:47:28 2024 9/16/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 11:47:12 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	144493	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.34	114	640020	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	177971	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	354702	13.119	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
57) Toluene-d8 (SS2)	12.45	98	729119	11.678	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
73) Bromofluorobenzene (SS3)	16.83	174	246553	11.808	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
Target Compounds							Qvalue
2) Propene	3.28	42	550548	25.225	ng		100
3) Dichlorodifluoromethan...	3.36	85	874334	24.924	ng		99
4) Chloromethane	3.49	50	806806	29.408	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	376917	29.747	ng		99
6) Vinyl Chloride	3.69	62	609447	34.333	ng		98
7) 1,3-Butadiene	3.80	54	486516	39.465	ng		98
8) Bromomethane	4.02	94	344159	30.264	ng		100
9) Chloroethane	4.16	64	269639	27.719	ng		99
10) Ethanol	4.37	45	2263703	144.354	ng		99
11) Acetonitrile	4.49	41	995667	28.087	ng		99
12) Acrolein	4.56	56	732759	61.165	ng		99
13) Acetone	4.66	58	1741367	131.604	ng		97
14) Trichlorofluoromethane	4.77	101	866556	25.898	ng		99
15) 2-Propanol (Isopropanol)	4.92	45	3135625	60.187	ng		99
16) Acrylonitrile	5.04	53	1439022	58.293	ng		100
17) 1,1-Dichloroethene	5.27	96	376385	27.834	ng		96
18) 2-Methyl-2-Propanol (t...	5.39	59	2669421	62.728	ng		98
19) Methylene Chloride	5.40	84	401757	25.768	ng		94
20) 3-Chloro-1-propene (Al...	5.48	41	877784	28.265	ng		98
21) Trichlorotrifluoroethane	5.60	151	365048	27.538	ng		98
22) Carbon Disulfide	5.61	76	2935531	56.831	ng		100
23) trans-1,2-Dichloroethene	6.17	61	742529	29.344	ng		98
24) 1,1-Dichloroethane	6.36	63	841455	27.701	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1325391	28.725	ng		99
26) Vinyl Acetate	6.49	86	430159	159.934	ng	#	84
27) 2-Butanone (MEK)	6.70	72	503326	53.615	ng	#	91
28) cis-1,2-Dichloroethene	7.12	61	701476	28.128	ng		97
29) Diisopropyl Ether	7.31	87	605316	52.896	ng	#	87
30) Ethyl Acetate	7.32	61	337010	53.580	ng		98
31) n-Hexane	7.32	57	796252	27.764	ng		99
32) Chloroform	7.41	83	817423	28.395	ng		100
34) Tetrahydrofuran (THF)	7.77	72	457464	51.671	ng		94
35) Ethyl tert-Butyl Ether	7.85	87	959499	56.977	ng		94
36) 1,2-Dichloroethane	8.16	62	766931	26.879	ng		99
38) 1,1,1-Trichloroethane	8.43	97	788848	27.729	ng		99
39) Isopropyl Acetate	9.63	61	1051	No Calib		#	
40) 1-Butanol	8.84	56	2972	No Calib			
41) Benzene	8.93	78	1494612	24.906	ng		100
42) Carbon Tetrachloride	9.10	117	692399	27.847	ng		100
43) Cyclohexane	9.24	84	1109839	54.777	ng		97
44) tert-Amyl Methyl Ether	9.62	73	2365005	56.848	ng		98
45) 1,2-Dichloropropane	9.88	63	435742	27.429	ng		100
46) Bromodichloromethane	10.11	83	683701	30.288	ng		100
47) Trichloroethene	10.18	130	385583	25.950	ng		100
48) 1,4-Dioxane	10.14	88	320771	30.991	ng		97
49) 2,2,4-Trimethylpentane...	10.25	57	1972614	27.769	ng		99
50) Methyl Methacrylate	10.43	100	296589	56.838	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162406.D Vial: 2
Acq On : 16 Sep 2024 11:24 Operator: SC
Sample : LCSD R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 16 11:47:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 11:47:12 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

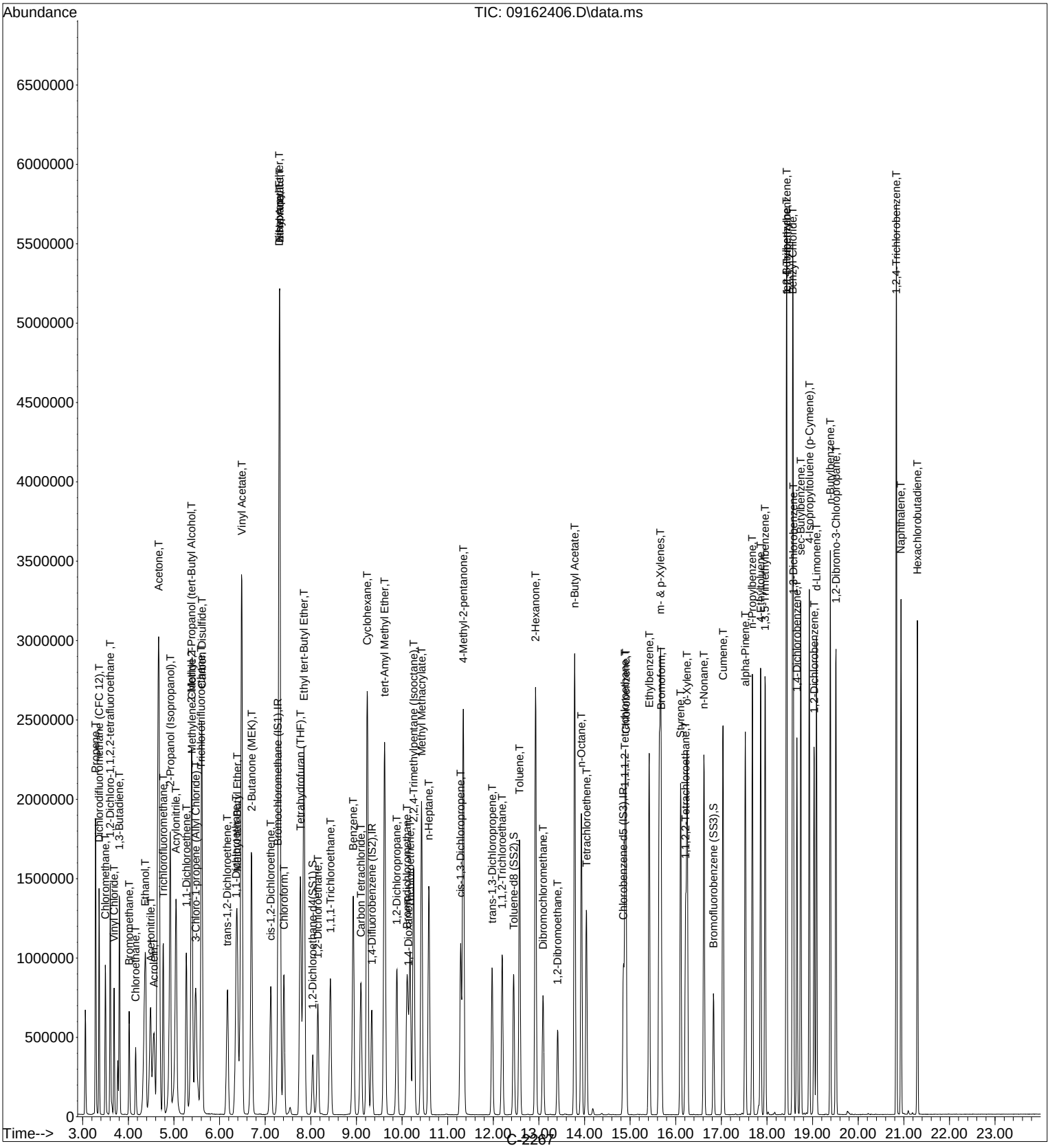
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	371243	27.764 ng		98
52) cis-1,3-Dichloropropene	11.29	75	740039	28.685 ng		99
53) 4-Methyl-2-pentanone	11.34	58	955962	60.330 ng		97
54) trans-1,3-Dichloropropene	11.98	75	634615	28.033 ng		100
55) 1,1,2-Trichloroethane	12.19	97	392659	27.756 ng		100
58) Toluene	12.57	91	1527289	22.630 ng		100
59) 2-Hexanone	12.93	43	2504813	59.968 ng		98
60) Dibromochloromethane	13.09	129	498960	26.548 ng		100
61) 1,2-Dibromoethane	13.41	107	462889	25.933 ng		100
62) n-Butyl Acetate	13.78	43	2790420	59.610 ng		99
63) n-Octane	13.93	57	416909	26.277 ng		98
64) Tetrachloroethene	14.04	166	454824	24.314 ng		99
65) Chlorobenzene	14.91	112	993209	24.232 ng		100
66) Ethylbenzene	15.42	91	1887526	24.307 ng		99
67) m- & p-Xylenes	15.66	91	3095264	49.022 ng		99
68) Bromoform	15.68	173	490066	28.706 ng		99
69) Styrene	16.11	104	1057403	25.901 ng		100
70) o-Xylene	16.25	91	1525162	24.742 ng		99
71) n-Nonane	16.62	43	1073460	26.556 ng		97
72) 1,1,2,2-Tetrachloroethane	16.21	83	712973	25.531 ng		100
74) Cumene	17.04	105	1785230	24.994 ng		100
75) alpha-Pinene	17.53	93	986134	26.540 ng		99
76) n-Propylbenzene	17.68	91	2251932	25.394 ng		99
77) 3-Ethyltoluene	17.04	105	1785230	No Calib		
78) 4-Ethyltoluene	17.86	105	1802003	25.917 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1542400	25.437 ng		99
80) alpha-Methylstyrene	17.03	118	3818	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1785230	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1584912	24.978 ng		99
83) n-Decane	17.04	58	17556	No Calib		
84) Benzyl Chloride	18.56	91	3046548	63.691 ng		99
85) 1,3-Dichlorobenzene	18.58	146	834104	23.769 ng		100
86) 1,4-Dichlorobenzene	18.66	146	820781	23.591 ng		99
87) sec-Butylbenzene	18.74	105	1980684	24.696 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1639548	23.557 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1785230	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	820924	23.465 ng		100
91) d-Limonene	19.09	68	584714	27.554 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	689039	55.727 ng		93
93) n-Undecane	17.96	58	34732	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1462458	51.584 ng		99
95) Naphthalene	20.94	128	1874928	28.032 ng		100
96) n-Dodecane	18.93	58	43462	No Calib	#	
97) Hexachlorobutadiene	21.30	225	529540	23.340 ng		99
98) Cyclohexanone	15.23	55	179	No Calib	#	
99) tert-Butylbenzene	18.43	119	1407171	25.062 ng		100
100) n-Butylbenzene	19.39	91	1719461	25.948 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	420117	26.745 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162406.D Vial: 2
Acq On : 16 Sep 2024 11:24 Operator: SC
Sample : LCSD R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 16 11:47:28 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 11:47:12 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172405.D Vial: 2
Acq On : 17 Sep 2024 11:10 Operator: SC
Sample : LCS R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 17 11:41:54 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	124055	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	551539	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	167258	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	332084	14.305	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.48%				
57) Toluene-d8 (SS2)	12.44	98	625367	10.658	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.28%				
73) Bromofluorobenzene (SS3)	16.83	174	218595	11.139	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.12%				
Target Compounds							Qvalue
2) Propene	3.27	42	473096	25.247	ng		98
3) Dichlorodifluoromethan...	3.35	85	770950	25.598	ng		99
4) Chloromethane	3.49	50	695630	29.533	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	322279	29.626	ng		100
6) Vinyl Chloride	3.68	62	519379	34.080	ng		98
7) 1,3-Butadiene	3.80	54	435285	41.127	ng		97
8) Bromomethane	4.01	94	291394	29.845	ng		99
9) Chloroethane	4.15	64	220878	26.448	ng		100
10) Ethanol	4.36	45	1932516	143.537	ng		100
11) Acetonitrile	4.48	41	847749	27.854	ng		98
12) Acrolein	4.55	56	609329	59.242	ng		99
13) Acetone	4.65	58	1450046	127.642	ng	#	85
14) Trichlorofluoromethane	4.76	101	768948	26.766	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2724076	60.902	ng		99
16) Acrylonitrile	5.04	53	1219923	57.559	ng		100
17) 1,1-Dichloroethene	5.27	96	312967	26.957	ng		89
18) 2-Methyl-2-Propanol (t...	5.38	59	2315544	63.377	ng		96
19) Methylene Chloride	5.39	84	326577	24.397	ng		84
20) 3-Chloro-1-propene (Al...	5.47	41	758283	28.439	ng		96
21) Trichlorotrifluoroethane	5.59	151	308302	27.089	ng		98
22) Carbon Disulfide	5.61	76	2437166	54.956	ng		100
23) trans-1,2-Dichloroethene	6.17	61	629331	28.968	ng		96
24) 1,1-Dichloroethane	6.36	63	707648	27.134	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1116680	28.188	ng		99
26) Vinyl Acetate	6.48	86	352161	152.505	ng	#	66
27) 2-Butanone (MEK)	6.69	72	412264	51.150	ng	#	76
28) cis-1,2-Dichloroethene	7.12	61	593318	27.710	ng		95
29) Diisopropyl Ether	7.30	87	495249	50.407	ng	#	73
30) Ethyl Acetate	7.31	61	275463	51.010	ng		97
31) n-Hexane	7.31	57	657548	26.705	ng		99
32) Chloroform	7.41	83	705826	28.558	ng		99
34) Tetrahydrofuran (THF)	7.76	72	374182	49.227	ng	#	87
35) Ethyl tert-Butyl Ether	7.84	87	803441	55.571	ng		92
36) 1,2-Dichloroethane	8.15	62	692838	28.283	ng		99
38) 1,1,1-Trichloroethane	8.42	97	689911	28.142	ng		98
39) Isopropyl Acetate	9.60	61	1248	No Calib		#	
40) 1-Butanol	8.83	56	2101	No Calib		#	
41) Benzene	8.93	78	1225111	23.690	ng		100
42) Carbon Tetrachloride	9.09	117	610397	28.487	ng		99
43) Cyclohexane	9.24	84	904087	51.781	ng		94
44) tert-Amyl Methyl Ether	9.61	73	1973816	55.057	ng		95
45) 1,2-Dichloropropane	9.88	63	358346	26.176	ng		100
46) Bromodichloromethane	10.10	83	589683	30.313	ng		100
47) Trichloroethene	10.17	130	323323	25.251	ng		100
48) 1,4-Dioxane	10.13	88	266713	29.902	ng		97
49) 2,2,4-Trimethylpentane...	10.25	57	1646566	26.898	ng		95
50) Methyl Methacrylate	10.43	100	244334	54.336	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172405.D Vial: 2
Acq On : 17 Sep 2024 11:10 Operator: SC
Sample : LCS R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 17 11:41:54 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

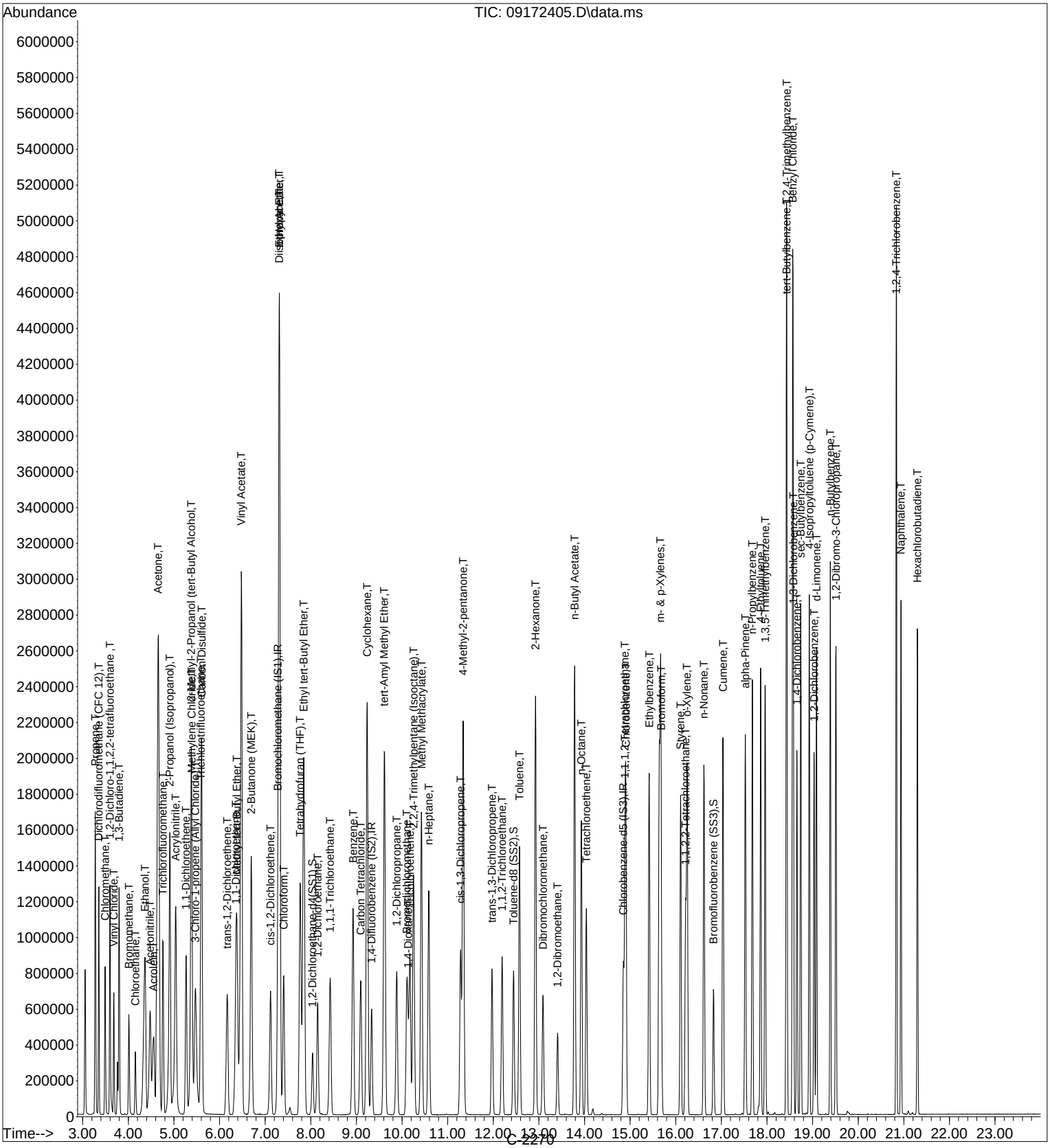
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	302126	26.220 ng		95
52) cis-1,3-Dichloropropene	11.29	75	617733	27.785 ng		100
53) 4-Methyl-2-pentanone	11.34	58	802268	58.753 ng		91
54) trans-1,3-Dichloropropene	11.97	75	537808	27.568 ng		100
55) 1,1,2-Trichloroethane	12.19	97	325601	26.709 ng		99
58) Toluene	12.57	91	1270591	20.032 ng		100
59) 2-Hexanone	12.93	43	2193524	55.879 ng		95
60) Dibromochloromethane	13.09	129	430423	24.368 ng		100
61) 1,2-Dibromoethane	13.41	107	386744	23.055 ng		99
62) n-Butyl Acetate	13.78	43	2429110	55.215 ng		96
63) n-Octane	13.93	57	347102	23.278 ng		96
64) Tetrachloroethene	14.04	166	385301	21.916 ng		100
65) Chlorobenzene	14.91	112	832872	21.621 ng		99
66) Ethylbenzene	15.42	91	1583231	21.694 ng		99
67) m- & p-Xylenes	15.66	91	2622245	44.190 ng		98
68) Bromoform	15.68	173	423758	26.412 ng		99
69) Styrene	16.11	104	876300	22.840 ng		98
70) o-Xylene	16.25	91	1296712	22.384 ng		99
71) n-Nonane	16.62	43	945170	24.880 ng		95
72) 1,1,2,2-Tetrachloroethane	16.21	83	597695	22.774 ng		100
74) Cumene	17.04	105	1516266	22.588 ng		100
75) alpha-Pinene	17.53	93	840890	24.081 ng		97
76) n-Propylbenzene	17.68	91	1925607	23.105 ng		98
77) 3-Ethyltoluene	17.04	105	1516266	No Calib		
78) 4-Ethyltoluene	17.86	105	1544230	23.632 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1326699	23.281 ng		99
80) alpha-Methylstyrene	17.04	118	3546	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1516266	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1382354	23.181 ng		98
83) n-Decane	17.03	58	16325	No Calib		
84) Benzyl Chloride	18.56	91	2624927	58.392 ng		98
85) 1,3-Dichlorobenzene	18.58	146	717708	21.762 ng		100
86) 1,4-Dichlorobenzene	18.66	146	703687	21.521 ng		100
87) sec-Butylbenzene	18.74	105	1698135	22.529 ng		98
88) 4-Isopropyltoluene (p-...	18.93	119	1408309	21.531 ng		98
89) 1,2,3-Trimethylbenzene	17.04	105	1516266	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	708353	21.545 ng		100
91) d-Limonene	19.09	68	498717	25.007 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	596342	51.319 ng		87
93) n-Undecane	17.96	58	30211	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1263416	47.417 ng		99
95) Naphthalene	20.94	128	1593634	25.352 ng		100
96) n-Dodecane	18.92	58	41731	No Calib	#	
97) Hexachlorobutadiene	21.30	225	463350	21.731 ng		99
98) Cyclohexanone	15.21	55	177	No Calib	#	
99) tert-Butylbenzene	18.43	119	1218780	23.097 ng		99
100) n-Butylbenzene	19.39	91	1493001	23.974 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	359102	24.325 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172405.D Vial: 2
Acq On : 17 Sep 2024 11:10 Operator: SC
Sample : LCS R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 17 11:41:54 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172406.D Vial: 2
Acq On : 17 Sep 2024 11:42 Operator: SC
Sample : LCSD R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 17 12:22:52 2024 9/17/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	129287	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	573370	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	171701	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	341490	14.115	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.96%				
57) Toluene-d8 (SS2)	12.44	98	653834	10.855	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	16.83	174	227236	11.280	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 90.24%				
Target Compounds							Qvalue
2) Propene	3.27	42	499711	25.588	ng		99
3) Dichlorodifluoromethan...	3.35	85	787432	25.087	ng		99
4) Chloromethane	3.48	50	714344	29.100	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	329155	29.033	ng		99
6) Vinyl Chloride	3.68	62	525963	33.115	ng		98
7) 1,3-Butadiene	3.80	54	452285	41.004	ng		97
8) Bromomethane	4.01	94	301999	29.680	ng		100
9) Chloroethane	4.15	64	235844	27.097	ng		100
10) Ethanol	4.36	45	2046595	145.859	ng		99
11) Acetonitrile	4.48	41	900120	28.378	ng		98
12) Acrolein	4.55	56	650533	60.688	ng		100
13) Acetone	4.65	58	1548080	130.757	ng		89
14) Trichlorofluoromethane	4.76	101	794778	26.546	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2867539	61.515	ng		99
16) Acrylonitrile	5.03	53	1296849	58.713	ng		100
17) 1,1-Dichloroethene	5.26	96	330499	27.316	ng		90
18) 2-Methyl-2-Propanol (t...	5.37	59	2426149	63.717	ng		97
19) Methylene Chloride	5.39	84	349834	25.077	ng		87
20) 3-Chloro-1-propene (Al...	5.47	41	803150	28.903	ng		96
21) Trichlorotrifluoroethane	5.58	151	321033	27.066	ng		97
22) Carbon Disulfide	5.60	76	2580914	55.842	ng		99
23) trans-1,2-Dichloroethene	6.16	61	662366	29.255	ng		97
24) 1,1-Dichloroethane	6.35	63	755000	27.778	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1178607	28.548	ng		98
26) Vinyl Acetate	6.48	86	376344	156.383	ng	#	71
27) 2-Butanone (MEK)	6.69	72	440689	52.464	ng	#	80
28) cis-1,2-Dichloroethene	7.11	61	629929	28.230	ng		95
29) Diisopropyl Ether	7.30	87	528065	51.572	ng	#	76
30) Ethyl Acetate	7.31	61	297567	52.874	ng		96
31) n-Hexane	7.31	57	701644	27.343	ng		100
32) Chloroform	7.40	83	737357	28.626	ng		100
34) Tetrahydrofuran (THF)	7.76	72	400562	50.565	ng	#	88
35) Ethyl tert-Butyl Ether	7.84	87	851275	56.496	ng		93
36) 1,2-Dichloroethane	8.15	62	711211	27.858	ng		99
38) 1,1,1-Trichloroethane	8.42	97	721129	28.295	ng		99
39) Isopropyl Acetate	9.62	61	1105	No Calib		#	
40) 1-Butanol	8.84	56	2290	No Calib			
41) Benzene	8.92	78	1313059	24.424	ng		100
42) Carbon Tetrachloride	9.09	117	632472	28.394	ng		99
43) Cyclohexane	9.24	84	965372	53.185	ng		94
44) tert-Amyl Methyl Ether	9.61	73	2095540	56.226	ng		96
45) 1,2-Dichloropropane	9.88	63	382925	26.906	ng		100
46) Bromodichloromethane	10.10	83	615910	30.456	ng		100
47) Trichloroethene	10.17	130	340545	25.584	ng		100
48) 1,4-Dioxane	10.13	88	280429	30.243	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	1751357	27.520	ng		96
50) Methyl Methacrylate	10.43	100	259159	55.438	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172406.D Vial: 2
Acq On : 17 Sep 2024 11:42 Operator: SC
Sample : LCSD R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 17 12:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

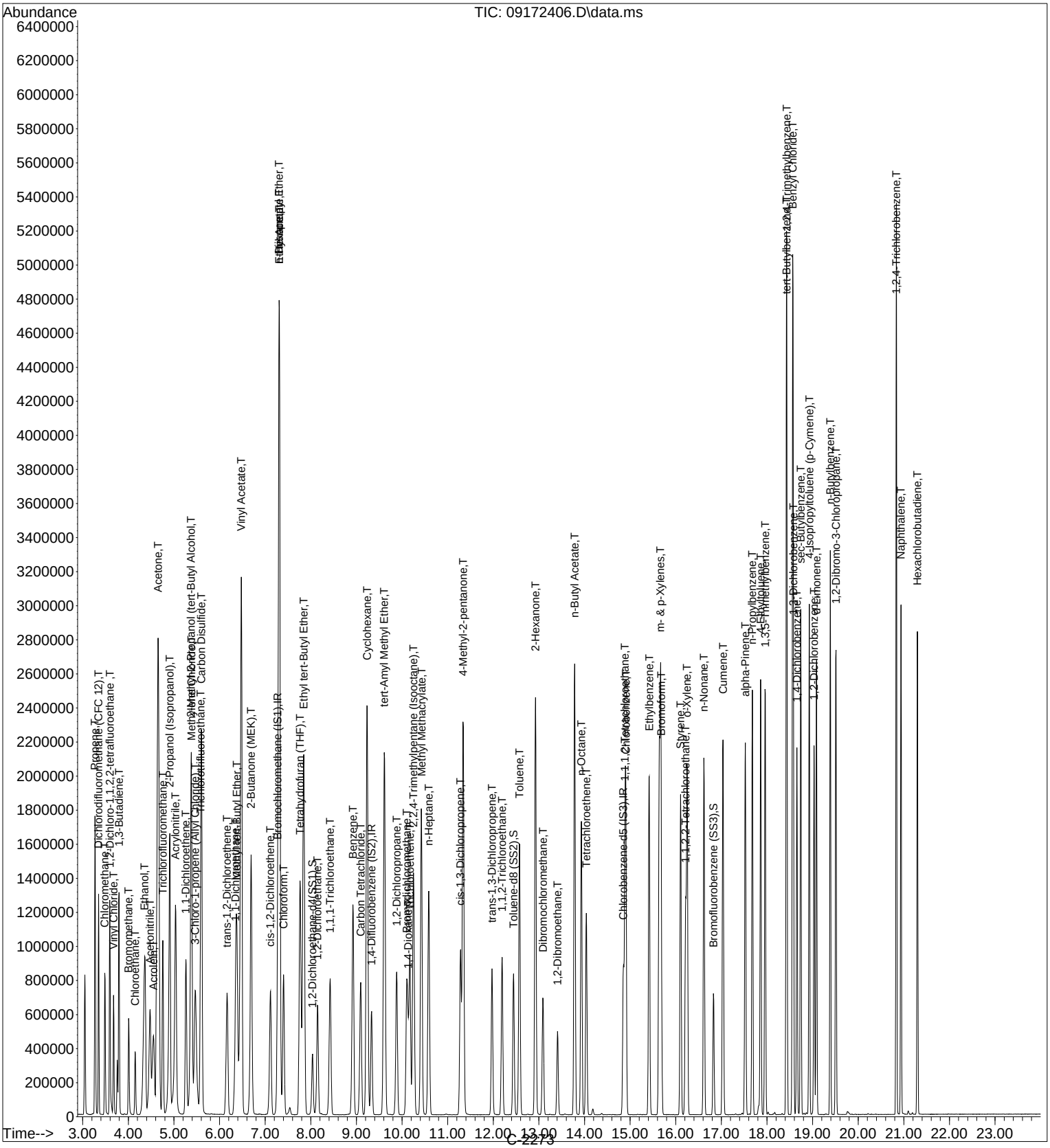
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	324992	27.130 ng		96
52) cis-1,3-Dichloropropene	11.28	75	657975	28.468 ng		100
53) 4-Methyl-2-pentanone	11.34	58	852107	60.026 ng		92
54) trans-1,3-Dichloropropene	11.97	75	566775	27.947 ng		100
55) 1,1,2-Trichloroethane	12.19	97	347673	27.433 ng		100
58) Toluene	12.57	91	1355530	20.818 ng		100
59) 2-Hexanone	12.93	43	2316165	57.477 ng		96
60) Dibromochloromethane	13.09	129	448207	24.719 ng		100
61) 1,2-Dibromoethane	13.41	107	410821	23.857 ng		100
62) n-Butyl Acetate	13.78	43	2561415	56.716 ng		97
63) n-Octane	13.93	57	369118	24.114 ng		96
64) Tetrachloroethene	14.04	166	400872	22.212 ng		100
65) Chlorobenzene	14.91	112	876366	22.162 ng		99
66) Ethylbenzene	15.42	91	1669762	22.288 ng		99
67) m- & p-Xylenes	15.66	91	2751817	45.174 ng		99
68) Bromoform	15.68	173	441157	26.785 ng		99
69) Styrene	16.11	104	933601	23.704 ng		99
70) o-Xylene	16.25	91	1366088	22.971 ng		99
71) n-Nonane	16.62	43	990272	25.392 ng		95
72) 1,1,2,2-Tetrachloroethane	16.21	83	632902	23.492 ng		100
74) Cumene	17.04	105	1595644	23.155 ng		100
75) alpha-Pinene	17.53	93	878021	24.494 ng		97
76) n-Propylbenzene	17.68	91	2014622	23.548 ng		98
77) 3-Ethyltoluene	17.04	105	1595644	No Calib		
78) 4-Ethyltoluene	17.86	105	1615951	24.090 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1390700	23.773 ng		99
80) alpha-Methylstyrene	17.03	118	3497	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1595644	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1435653	23.452 ng		98
83) n-Decane	17.04	58	15781	No Calib		
84) Benzyl Chloride	18.56	91	2746421	59.513 ng		98
85) 1,3-Dichlorobenzene	18.58	146	749793	22.147 ng		99
86) 1,4-Dichlorobenzene	18.66	146	741638	22.095 ng		100
87) sec-Butylbenzene	18.74	105	1787001	23.095 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1472238	21.926 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1595644	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	742744	22.006 ng		100
91) d-Limonene	19.09	68	529306	25.854 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	622482	52.183 ng		89
93) n-Undecane	17.96	58	30724	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1324894	48.438 ng		98
95) Naphthalene	20.94	128	1685895	26.126 ng		100
96) n-Dodecane	18.93	58	39875	No Calib	#	
97) Hexachlorobutadiene	21.30	225	481539	22.000 ng		99
98) Cyclohexanone	15.23	55	121	No Calib	#	
99) tert-Butylbenzene	18.43	119	1268541	23.418 ng		100
100) n-Butylbenzene	19.39	91	1569123	24.544 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	372682	24.592 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172406.D Vial: 2
Acq On : 17 Sep 2024 11:42 Operator: SC
Sample : LCSD R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09102409 (10/10)

Quant Time: Sep 17 12:22:52 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Aug 28 10:13:17 2024
Response Via : Initial Calibration

8/28/24

Calibration Files
0.1 =08272419.D 0.2 =08272408.D 0.5 =08272409.D 1.0 =08272410.D 5.0 =08272411.D 25 =08272
100 =08272414.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------									
2)	T	Propene	1.692	2.696	1.903	1.764	1.938	1.726	1.702	1.685	1.888	18.03
3)	T	Dichlorodifluo...	2.717	3.344	3.256	3.245	3.312	2.978	2.755	2.670	3.035	9.50
4)	T	Chloromethane	2.188	2.561	2.543	2.472	2.485	2.555	2.333	1.849	2.373	10.44
5)	T	1,2-Dichloro-1...	0.856	1.090	1.111	1.104	1.135	1.114	1.191	1.168	1.096	9.38
6)	T	Vinyl Chloride	1.191	1.438	1.504	1.494	1.517	1.519	1.739	1.884	1.536	13.36
7)	T	1,3-Butadiene	0.875	0.942	1.031	1.092	1.095	1.111	1.105	1.280	1.066	11.43
8)	T	Bromomethane	1.063	1.013	1.059	1.012	0.774	0.996	1.077	0.876	0.984	10.75
9)	T	Chloroethane	0.741	0.797	0.884	0.866	0.841	0.868	0.862	0.873	0.842	5.81
10)	T	Ethanol	1.165	1.585	1.461	1.384	1.392	1.345	1.294	1.227	1.357	9.76
11)	T	Acetonitrile	2.752	2.930	2.927	3.043	3.172	3.068	3.034	3.607	3.067	8.20
12)	T	Acrolein	0.777	1.035	1.024	1.046	1.126	1.105	1.093	1.085	1.036	10.70
13)	T	Acetone	1.192	1.311	1.175	1.135	1.146	1.091	1.065	1.042	1.145	7.46
14)	T	Trichlorofluor...	2.719	3.061	2.878	2.909	3.005	2.919	2.857	2.811	2.895	3.70
15)	T	2-Propanol (Is...	4.495	5.105	4.720	4.699	4.495	4.660	4.143	3.739	4.507	9.13
16)	T	Acrylonitrile	1.767	2.125	2.092	2.163	2.332	2.226	2.192	2.188	2.136	7.75
17)	T	1,1-Dichloroet...	1.070	1.149	1.145	1.173	1.210	1.202	1.194	1.217	1.170	4.15
18)	T	2-Methyl-2-Pro...	3.676	4.010	4.193	4.147	3.777	4.304	3.222	2.122	3.681	19.55
19)	T	Methylene Chlo...	1.466	1.328	1.309	1.350	1.349	1.330	1.324	1.333	1.349	3.65
20)	T	3-Chloro-1-pro...	2.288	2.594	3.028	2.567	3.164	2.811	2.611	2.429	2.687	11.03
21)	T	Trichlorotrifl...	0.999	1.097	1.153	1.182	1.202	1.190	1.180	1.170	1.147	5.90
22)	T	Carbon Disulfide	3.925	4.484	4.426	4.493	4.692	4.660	4.583	4.485	4.469	5.34
23)	T	trans-1,2-Dich...	1.766	2.171	2.147	2.169	2.305	2.321	2.316	2.318	2.189	8.55
24)	T	1,1-Dichloroet...	2.456	2.750	2.674	2.612	2.682	2.649	2.608	2.591	2.628	3.28
25)	T	Methyl tert-Bu...	3.583	3.841	3.817	3.951	4.211	4.248	4.198	4.086	3.992	5.89
26)	T	Vinyl Acetate	0.151	0.207	0.220	0.219	0.258	0.267	0.268	0.271	0.233	18.06
27)	T	2-Butanone (MEK)	0.637	0.967	0.771	0.776	0.857	0.827	0.828	0.833	0.812	11.45
28)	T	cis-1,2-Dichlo...	1.967	2.224	2.132	2.128	2.221	2.207	2.187	2.195	2.157	3.96
29)	T	Diisopropyl Ether	0.953	1.090	0.936	0.987	0.986	0.994	0.989	0.986	0.990	4.57
30)	T	Ethyl Acetate	0.394	0.581	0.547	0.564	0.568	0.576	0.570	0.553	0.544	11.36
31)	T	n-Hexane	2.262	2.733	2.517	2.592	2.552	2.480	2.418	2.294	2.481	6.26
32)	T	Chloroform	2.174	2.418	2.482	2.526	2.635	2.596	2.563	2.529	2.490	5.80
33)	S	1,2-Dichloroet...	2.217	2.354	2.354	2.334	2.385	2.354	2.370	2.345	2.339	2.20
34)	T	Tetrahydrofura...	0.617	0.865	0.735	0.773	0.799	0.776	0.780	0.782	0.766	9.17
35)	T	Ethyl tert-But...	1.159	1.411	1.419	1.424	1.560	1.562	1.557	1.562	1.457	9.57
36)	T	1,2-Dichloroet...	2.148	2.593	2.430	2.402	2.616	2.581	2.514	2.463	2.468	6.14
37)	IR	1,4-Difluorobenzen...	----------ISTD----------									
38)	T	1,1,1-Trichlor...	0.468	0.550	0.554	0.557	0.577	0.592	0.581	0.565	0.556	6.89
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.203	1.310	1.146	1.160	1.157	1.142	1.135	1.124	1.172	5.15
42)	T	Carbon Tetrach...	0.375	0.477	0.486	0.477	0.514	0.531	0.518	0.507	0.486	10.05
43)	T	Cyclohexane	0.344	0.387	0.399	0.402	0.411	0.411	0.407	0.404	0.396	5.66
44)	T	tert-Amyl Meth...	0.695	0.793	0.791	0.829	0.858	0.862	0.846	0.826	0.813	6.71
45)	T	1,2-Dichloropr...	0.289	0.333	0.297	0.311	0.316	0.313	0.313	0.310	0.310	4.19
46)	T	Bromodichlorom...	0.337	0.443	0.419	0.440	0.470	0.481	0.473	0.465	0.441	10.60
47)	T	Trichloroethene	0.258	0.287	0.311	0.284	0.296	0.299	0.295	0.292	0.290	5.27
48)	T	1,4-Dioxane	0.160	0.180	0.188	0.202	0.218	0.222	0.224	0.222	0.202	11.83
49)	T	2,2,4-Trimethy...	1.219	1.434	1.426	1.414	1.445	1.422	1.393	1.346	1.387	5.38
50)	T	Methyl Methacr...	0.077	0.104	0.098	0.099	0.108	0.110	0.110	0.110	0.102	11.20
51)	T	n-Heptane	0.201	0.278	0.258	0.273	0.276	0.269	0.269	0.266	0.261	9.68
52)	T	cis-1,3-Dichlo...	0.375	0.469	0.479	0.481	0.542	0.567	0.563	0.555	0.504	13.06
53)	T	4-Methyl-2-pen...	0.254	0.313	0.311	0.306	0.327	0.330	0.324	0.311	0.309	7.75
54)	T	trans-1,3-Dich...	0.291	0.395	0.395	0.431	0.489	0.513	0.514	0.509	0.442	18.02

55)	T	1,1,2-Trichlor...	0.234	0.269	0.273	0.282	0.289	0.290	0.287	0.286	0.276	6.72
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	4.594	4.346	4.412	4.342	4.277	4.339	4.383	4.387	4.385	2.13
58)	T	Toluene	4.195	7.220	4.840	4.432	4.336	4.313	4.321	4.265	4.740	21.54
59)	T	2-Hexanone	2.404	2.849	2.879	3.025	3.216	3.207	3.078	2.813	2.934	9.01
60)	T	Dibromochlorom...	1.046	1.276	1.276	1.279	1.370	1.439	1.443	1.431	1.320	10.11
61)	T	1,2-Dibromoethane	0.870	1.154	1.228	1.277	1.342	1.381	1.391	1.387	1.254	14.10
62)	T	n-Butyl Acetate	2.553	3.199	3.225	3.417	3.651	3.646	3.470	3.141	3.288	10.80
63)	T	n-Octane	0.946	1.241	1.125	1.116	1.147	1.136	1.119	1.086	1.114	7.36
64)	T	Tetrachloroethene	1.202	1.311	1.329	1.310	1.339	1.348	1.345	1.328	1.314	3.60
65)	T	Chlorobenzene	2.707	3.080	2.791	2.837	2.873	2.924	2.934	2.884	2.879	3.82
66)	T	Ethylbenzene	5.019	6.706	5.450	5.297	5.337	5.357	5.317	5.151	5.454	9.59
67)	T	m- & p-Xylenes	3.991	5.199	4.424	4.348	4.384	4.462	4.428	4.242	4.435	7.76
68)	T	Bromoform	1.059	1.080	1.091	1.131	1.213	1.341	1.352	1.325	1.199	10.44
69)	T	Styrene	2.155	2.603	2.733	2.935	3.055	3.149	3.171	3.137	2.867	12.36
70)	T	o-Xylene	3.997	4.786	4.290	4.315	4.365	4.376	4.328	4.177	4.329	5.15
71)	T	n-Nonane	2.462	3.379	2.912	2.908	2.917	2.884	2.745	2.507	2.839	10.06
72)	T	1,1,2,2-Tetrac...	1.849	1.986	1.909	1.914	1.991	2.020	2.025	1.997	1.961	3.22
73)	S	Bromofluoroben...	1.502	1.453	1.462	1.454	1.463	1.449	1.485	1.464	1.467	1.23
74)	T	Cumene	4.485	5.384	4.930	5.014	5.106	5.187	5.105	4.922	5.017	5.21
75)	T	alpha-Pinene	2.127	2.512	2.516	2.663	2.755	2.815	2.788	2.702	2.610	8.67
76)	T	n-Propylbenzene	5.526	6.470	6.196	6.369	6.448	6.432	6.339	6.048	6.228	5.10
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	4.343	4.827	4.798	4.971	4.999	5.176	5.039	4.914	4.883	5.10
79)	T	1,3,5-Trimethy...	3.657	4.290	4.368	4.274	4.414	4.443	4.407	4.217	4.259	6.00
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	3.474	4.808	4.629	4.411	4.634	4.723	4.632	4.342	4.457	9.54
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride	1.703	2.719	2.876	3.347	3.990	4.274	4.198	3.769	3.360	26.36
85)	T	1,3-Dichlorobe...	2.078	2.577	2.507	2.479	2.530	2.579	2.531	2.437	2.465	6.63
86)	T	1,4-Dichlorobe...	1.945	2.585	2.413	2.485	2.523	2.581	2.546	2.470	2.444	8.58
87)	T	sec-Butylbenzene	5.265	5.949	5.640	5.716	5.758	5.771	5.657	5.310	5.633	4.15
88)	T	4-Isopropyltol...			5.486	4.983	4.819	4.842	4.738	4.461	4.888	6.96
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	2.098	2.623	2.470	2.530	2.489	2.541	2.491	2.414	2.457	6.40
91)	T	d-Limonene	1.061	1.495	1.428	1.492	1.593	1.642	1.637	1.575	1.490	12.69
92)	T	1,2-Dibromo-3-...	0.565	0.766	0.812	0.872	0.966	1.011	0.998	0.956	0.868	17.41
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	1.191	1.820	1.918	2.100	2.219	2.288	2.262	2.133	1.991	18.20
95)	T	Naphthalene	2.082	4.343	4.284	4.985	5.416	5.626	5.562	5.284	4.698	25.05
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.657	1.659	1.510	1.538	1.565	1.645	1.617	1.557	1.593	3.65
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	3.662	3.953	4.009	3.965	4.027	4.109	4.008	3.817	3.944	3.56
100)	T	n-Butylbenzene	3.692	4.877	4.573	4.791	4.909	4.973	4.870	4.549	4.654	8.99
101)	T	1,1,1,2-Tetrac...	0.875	1.102	1.086	1.115	1.140	1.187	1.177	1.146	1.103	8.94

(#) = Out of Range

R09082724.M Wed Aug 28 10:16:21 2024

Primary Source Standards Concentrations (Working & Initial Calibration)

8/29/24

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S37-08022405, S37-0826241	200ng/L Std. ID:	S37-08262408
20ng/L Std. ID:	S37-08262409	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000
	Source Std.			Primary Working Standards			
Compounds	mg/m³	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L
Propene	1.05	1050	210	42.0	21.0	4.20	1.05
Dichlorodifluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01
Chloromethane	1.06	1060	212	42.4	21.2	4.24	1.06
Freon-114	1.08	1080	216	43.2	21.6	4.32	1.08
Vinyl Chloride	1.06	1060	212	42.4	21.2	4.24	1.06
1,3-Butadiene	1.06	1060	212	42.4	21.2	4.24	1.06
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02
Chloroethane	1.10	1100	220	44.0	22.0	4.40	1.10
Ethanol	5.25	5250	1050	210.0	105.0	21.00	5.25
Acetonitrile	1.03	1030	206	41.2	20.6	4.12	1.03
Acrolein	2.18	2180	436	87.2	43.6	8.72	2.18
Acetone	5.12	5120	1024	204.8	102.4	20.48	5.12
Trichlorofluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01
Isopropanol	2.06	2060	412	82.4	41.2	8.24	2.06
Acrylonitrile	2.08	2080	416	83.2	41.6	8.32	2.08
1,1-Dichloroethene	0.91	910	182	36.4	18.2	3.64	0.91
tert-Butanol	2.09	2090	418	83.6	41.8	8.36	2.09
Methylene Chloride	0.91	910	182	36.4	18.2	3.64	0.91
Allyl Chloride	1.09	1090	218	43.6	21.8	4.36	1.09
Trichlorotrifluoroethane	0.92	920	184	36.8	18.4	3.68	0.92
Carbon Disulfide	2.07	2070	414	82.8	41.4	8.28	2.07
trans-1,2-Dichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05
1,1-Dichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03
Methyl tert-Butyl Ether	1.06	1060	212	42.4	21.2	4.24	1.06
Vinyl Acetate	5.29	5290	1058	211.6	105.8	21.16	5.29
2-Butanone	2.04	2040	408	81.6	40.8	8.16	2.04
cis-1,2-Dichloroethene	1.03	1030	206	41.2	20.6	4.12	1.03
Diisopropyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09
Ethyl Acetate	1.95	1950	390	78.0	39.0	7.80	1.95
n-Hexane	1.04	1040	208	41.6	20.8	4.16	1.04
Chloroform	1.06	1060	212	42.4	21.2	4.24	1.06
Tetrahydrofuran	1.90	1900	380	76.0	38.0	7.60	1.90
Ethyl tert-Butyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09
1,2-Dichloroethane	1.01	1010	202	40.4	20.2	4.04	1.01
1,1,1-Trichloroethane	1.03	1030	206	41.2	20.6	4.12	1.03
Benzene	1.02	1020	204	40.8	20.4	4.08	1.02
Carbon Tetrachloride	1.02	1020	204	40.8	20.4	4.08	1.02
Cyclohexane	2.08	2080	416	83.2	41.6	8.32	2.08
tert-Amyl Methyl Ether	2.10	2100	420	84.0	42.0	8.40	2.10
1,2-Dichloropropane	1.07	1070	214	42.8	21.4	4.28	1.07
Bromodichloromethane	1.07	1070	214	42.8	21.4	4.28	1.07
Trichloroethene	1.05	1050	210	42.0	21.0	4.20	1.05
1,4-Dioxane	1.06	1060	212	42.4	21.2	4.24	1.06
Isooctane	1.06	1060	212	42.4	21.2	4.24	1.06
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12
n-Heptane	1.04	1040	208	41.6	20.8	4.16	1.04

Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
Propene	0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Dichlorodifluoromethane	0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
Chloromethane	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Freon-114	0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Vinyl Chloride	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,3-Butadiene	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Bromomethane	0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Ethanol	0.525	1.050	2.625	5.25	26.25	131.25	262.5	525
Acetonitrile	0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Acrolein	0.218	0.436	1.090	2.18	10.90	54.50	109.0	218
Acetone	0.512	1.024	2.560	5.12	25.60	128.00	256.0	512
Trichlorofluoromethane	0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
Isopropanol	0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Acrylonitrile	0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
1,1-Dichloroethene	0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
tert-Butanol	0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Methylene Chloride	0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Allyl Chloride	0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Trichlorotrifluoroethane	0.092	0.184	0.460	0.92	4.60	23.00	46.0	92
Carbon Disulfide	0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
trans-1,2-Dichloroethene	0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1-Dichloroethane	0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Methyl tert-Butyl Ether	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Vinyl Acetate	0.529	1.058	2.645	5.29	26.45	132.25	264.5	529
2-Butanone	0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
cis-1,2-Dichloroethene	0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Diisopropyl Ether	0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Ethyl Acetate	0.195	0.390	0.975	1.95	9.75	48.75	97.5	195
n-Hexane	0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
Chloroform	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrahydrofuran	0.190	0.380	0.950	1.90	9.50	47.50	95.0	190
Ethyl tert-Butyl Ether	0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloroethane	0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,1-Trichloroethane	0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
Benzene	0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Carbon Tetrachloride	0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Cyclohexane	0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
tert-Amyl Methyl Ether	0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
1,2-Dichloropropane	0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Bromodichloromethane	0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Trichloroethene	0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,4-Dioxane	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Isooctane	0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Methyl Methacrylate	0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	0.104	0.208	0.520	1.04	5.20	26.00	52.0	104

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	37-08022405, S37-0826241	200ng/L Std. ID:	S37-08262408
20ng/L Std. ID:	S37-08262409	1000ng/L Std. ID:	

Dilution Factors:		1	5	25	50	250	1000	Working STD Conc.(ng/L):	4	4	20	20	20	200	200	200
	Source Std.			Primary Working Standards				Injection (L):	0.025	0.050	0.0250	0.050	0.25	0.125	0.25	0.50
Compounds	mg/m^3	1000ng/L	200ng/L	40ng/L	20ng/L	4ng/L	1ng/L	ICAL Points:	0.1ng	0.2ng	0.5ng	1ng	5ng	25ng	50ng	100ng
cis-1,3-Dichloropropene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
4-Methyl-2-pentanone	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
trans-1,3-Dichloropropene	0.99	990	198	39.6	19.8	3.96	0.99		0.099	0.198	0.495	0.99	4.95	24.75	49.5	99
1,1,2-Trichloroethane	1.10	1100	220	44.0	22.0	4.40	1.10		0.110	0.220	0.550	1.10	5.50	27.50	55.0	110
Toluene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
2-Hexanone	2.08	2080	416	83.2	41.6	8.32	2.08		0.208	0.416	1.040	2.08	10.40	52.00	104.0	208
Dibromochloromethane	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,2-Dibromoethane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Butyl Acetate	2.10	2100	420	84.0	42.0	8.40	2.10		0.210	0.420	1.050	2.10	10.50	52.50	105.0	210
n-Octane	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
Tetrachloroethene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Chlorobenzene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
Ethylbenzene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
m-&p-Xylene	2.14	2140	428	85.6	42.8	8.56	2.14		0.214	0.428	1.070	2.14	10.70	53.50	107.0	214
Bromoform	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Styrene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
o-Xylene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
n-Nonane	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
1,1,2,2-Tetrachloroethane	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
Cumene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
alpha-Pinene	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107
n-Propylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
4-Ethyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,3,5-Trimethylbenzene	1.08	1080	216	43.2	21.6	4.32	1.08		0.108	0.216	0.540	1.08	5.40	27.00	54.0	108
1,2,4-Trimethylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
Benzyl Chloride	2.15	2150	430	86.0	43.0	8.60	2.15		0.215	0.430	1.075	2.15	10.75	53.75	107.5	215
1,3-Dichlorobenzene	1.06	1060	212	42.4	21.2	4.24	1.06		0.106	0.212	0.530	1.06	5.30	26.50	53.0	106
1,4-Dichlorobenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
sec-Butylbenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
p-Isopropyltoluene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
1,2-Dichlorobenzene	1.04	1040	208	41.6	20.8	4.16	1.04		0.104	0.208	0.520	1.04	5.20	26.00	52.0	104
d-Limonene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,2-Dibromo-3-chloropropane	2.11	2110	422	84.4	42.2	8.44	2.11		0.211	0.422	1.055	2.11	10.55	52.75	105.5	211
1,2,4-Trichlorobenzene	2.17	2170	434	86.8	43.4	8.68	2.17		0.217	0.434	1.085	2.17	10.85	54.25	108.5	217
Naphthalene	1.09	1090	218	43.6	21.8	4.36	1.09		0.109	0.218	0.545	1.09	5.45	27.25	54.5	109
Hexachloro-1,3-butadiene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
tert-Butylbenzene	1.05	1050	210	42.0	21.0	4.20	1.05		0.105	0.210	0.525	1.05	5.25	26.25	52.5	105
n-Butylbenzene	1.03	1030	206	41.2	20.6	4.12	1.03		0.103	0.206	0.515	1.03	5.15	25.75	51.5	103
1,1,1,2-Tetrachloroethane	1.07	1070	214	42.8	21.4	4.28	1.07		0.107	0.214	0.535	1.07	5.35	26.75	53.5	107

Calibration Status Report MS09

Method : I:\MS09\METHODS\R09082724.M (RTE Integrator)
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Aug 28 13:40:16 2024
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2024_08\27\08272419.D
2	0.2	0	13	I:\MS09\DATA\2024_08\27\08272408.D
3	0.5	1	13	I:\MS09\DATA\2024_08\27\08272409.D
4	1.0	1	13	I:\MS09\DATA\2024_08\27\08272410.D
5	5.0	5	13	I:\MS09\DATA\2024_08\27\08272411.D
6	25	26	13	I:\MS09\DATA\2024_08\27\08272412.D
7	50	53	13	I:\MS09\DATA\2024_08\27\08272413.D
8	100	105	13	I:\MS09\DATA\2024_08\27\08272414.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Aug 28 10:11 2024	Aug 28 10:09 2024	28 Aug 2024 9:41
2	0.2	Aug 28 10:11 2024	Aug 28 08:29 2024	27 Aug 2024 14:25
3	0.5	Aug 28 10:12 2024	Aug 28 08:27 2024	27 Aug 2024 14:57
4	1.0	Aug 28 10:12 2024	Aug 28 08:26 2024	27 Aug 2024 15:30
5	5.0	Aug 28 10:12 2024	Aug 28 08:24 2024	27 Aug 2024 16:02
6	25	Aug 28 10:12 2024	Aug 28 08:23 2024	27 Aug 2024 16:34
7	50	Aug 28 10:13 2024	Aug 28 08:33 2024	27 Aug 2024 17:06
8	100	Aug 28 10:13 2024	Aug 28 08:34 2024	27 Aug 2024 17:38

R09082724.M Thu Aug 29 12:12:21 2024

8/29/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

Quant Time: Aug 28 10:09:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/28/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	148323	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.30	114	661155	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.84	54	162492	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	328899	11.777	ng		0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	12.43	98	746423	13.154	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.20%				
73) Bromofluorobenzene (SS3)	16.82	174	244023	12.832	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.64%				
Target Compounds							Qvalue
2) Propene	3.33	42	2108	0.064	ng		92
3) Dichlorodifluoromethan...	3.40	85	3256	0.088	ng		93
4) Chloromethane	3.54	50	2752m	0.096	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.64	135	1097	0.082	ng		96
6) Vinyl Chloride	3.72	62	1498	0.080	ng		94
7) 1,3-Butadiene	3.84	54	1101	0.084	ng	#	70
8) Bromomethane	4.05	94	1287	0.110	ng		96
9) Chloroethane	4.19	64	967	0.093	ng		77
10) Ethanol	4.31	45	7258	0.445	ng		93
11) Acetonitrile	4.45	41	3364	0.090	ng	#	39
12) Acrolein	4.55	56	2009	0.159	ng		90
13) Acetone	4.66	58	7243	0.492	ng		89
14) Trichlorofluoromethane	4.78	101	3258	0.094	ng		95
15) 2-Propanol (Isopropanol)	4.88	45	10988	0.190	ng		91
16) Acrylonitrile	5.00	53	4360	0.167	ng		94
17) 1,1-Dichloroethene	5.28	96	1155	0.082	ng		99
18) 2-Methyl-2-Propanol (t...	5.42	59	9117	0.204	ng		64
19) Methylene Chloride	5.36	84	1583	0.099	ng		96
20) 3-Chloro-1-propene (Al...	5.46	41	2959m	0.090	ng		
21) Trichlorotrifluoroethane	5.59	151	1091	0.078	ng		96
22) Carbon Disulfide	5.62	76	9641	0.177	ng		95
23) trans-1,2-Dichloroethene	6.14	61	2200	0.082	ng		97
24) 1,1-Dichloroethane	6.32	63	3002	0.096	ng		92
25) Methyl tert-Butyl Ether	6.41	73	4506	0.095	ng		95
26) Vinyl Acetate	6.45	86	945	0.333	ng	#	26
27) 2-Butanone (MEK)	6.69	72	1543	0.132	ng	#	62
28) cis-1,2-Dichloroethene	7.07	61	2404	0.091	ng		79
29) Diisopropyl Ether	7.31	87	2363	0.197	ng	#	81
30) Ethyl Acetate	7.29	61	911	0.135	ng		85
31) n-Hexane	7.30	57	2792	0.090	ng	#	92
32) Chloroform	7.36	83	2734	0.091	ng		94
34) Tetrahydrofuran (THF)	7.78	72	1392	0.137	ng	#	83
35) Ethyl tert-Butyl Ether	7.85	87	2874	0.163	ng		91
36) 1,2-Dichloroethane	8.12	62	2574	0.085	ng		97
38) 1,1,1-Trichloroethane	8.39	97	2550	0.086	ng		87
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.87	56	571	No Calib		#	
41) Benzene	8.89	78	6489	0.094	ng		95
42) Carbon Tetrachloride	9.07	117	2024	0.078	ng		99
43) Cyclohexane	9.22	84	3781	0.174	ng		96
44) tert-Amyl Methyl Ether	9.62	73	7718	0.177	ng		97
45) 1,2-Dichloropropane	9.86	63	1637	0.099	ng		80
46) Bromodichloromethane	10.08	83	1908	0.079	ng		92
47) Trichloroethene	10.15	130	1433	0.090	ng		93
48) 1,4-Dioxane	10.14	88	896	0.082	ng		87
49) 2,2,4-Trimethylpentane...	10.24	57	6834	0.090	ng		99
50) Methyl Methacrylate	10.42	100	859	0.157	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

Quant Time: Aug 28 10:09:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

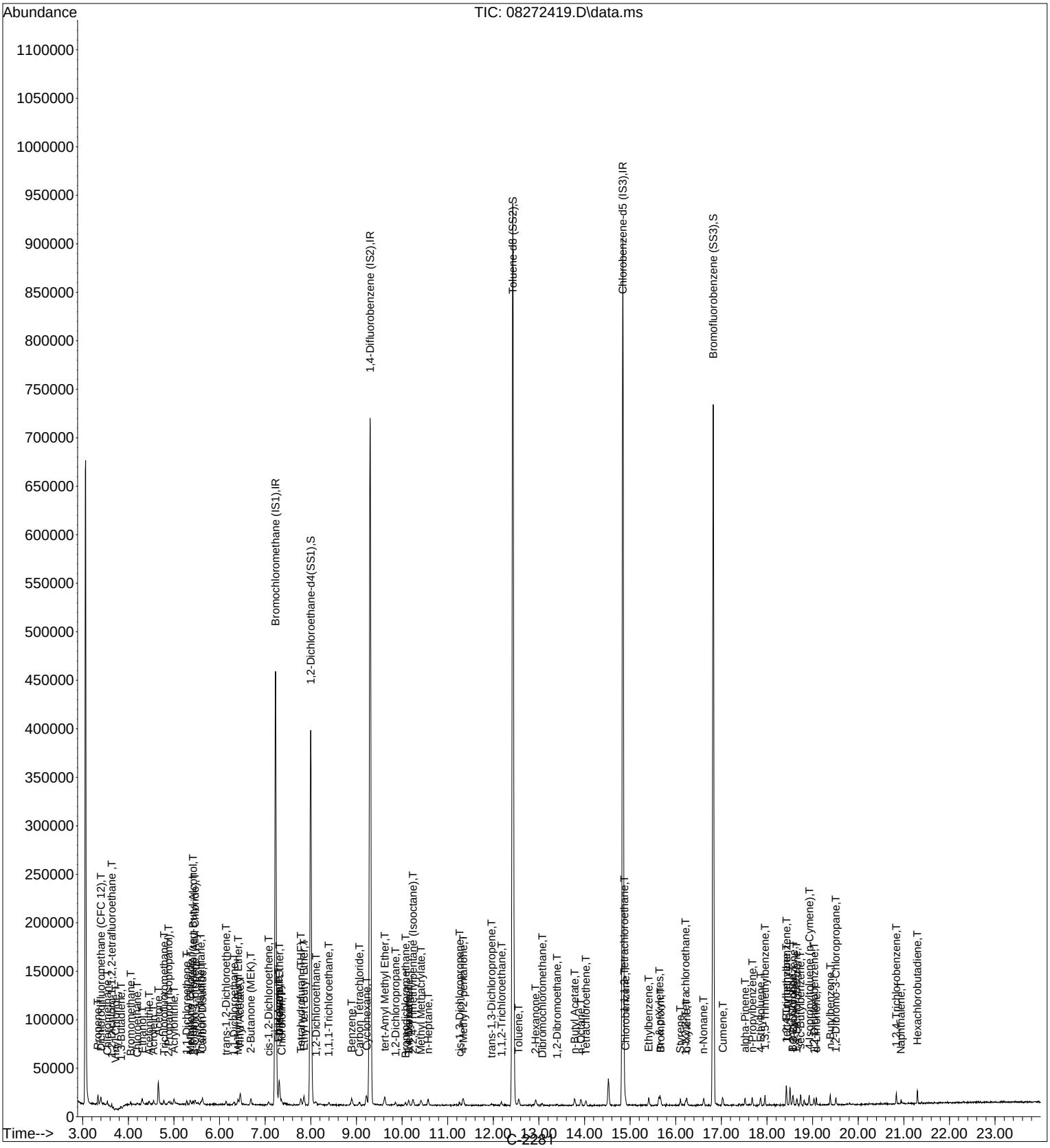
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	1103	0.072 ng	#	77
52) cis-1,3-Dichloropropene	11.26	75	2085	0.077 ng		99
53) 4-Methyl-2-pentanone	11.34	58	2823	0.169 ng		98
54) trans-1,3-Dichloropropene	11.96	75	1522	0.064 ng		75
55) 1,1,2-Trichloroethane	12.18	97	1364	0.093 ng		92
58) Toluene	12.55	91	5944	0.064 ng		99
59) 2-Hexanone	12.93	43	6499	0.166 ng		97
60) Dibromochloromethane	13.07	129	1401	0.080 ng		95
61) 1,2-Dibromoethane	13.40	107	1188	0.071 ng		89
62) n-Butyl Acetate	13.78	43	6970	0.159 ng		98
63) n-Octane	13.92	57	1303	0.084 ng		91
64) Tetrachloroethene	14.03	166	1672	0.096 ng		96
65) Chlorobenzene	14.90	112	3765	0.099 ng		99
66) Ethylbenzene	15.41	91	7112	0.082 ng		97
67) m- & p-Xylenes	15.64	91	11102	0.165 ng		98
68) Bromoform	15.67	173	1501	0.096 ng		97
69) Styrene	16.10	104	2970	0.078 ng		90
70) o-Xylene	16.24	91	5612	0.089 ng		99
71) n-Nonane	16.61	43	3360	0.077 ng		93
72) 1,1,2,2-Tetrachloroethane	16.21	83	2596	0.100 ng		93
74) Cumene	17.03	105	6122	0.088 ng		96
75) alpha-Pinene	17.52	93	2958	0.085 ng		95
76) n-Propylbenzene	17.68	91	7471	0.089 ng		96
77) 3-Ethyltoluene	17.03	105	6122	No Calib		
78) 4-Ethyltoluene	17.86	105	5872	0.088 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	5134	0.089 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	6122	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	4742	0.075 ng		91
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	4761	0.107 ng		93
85) 1,3-Dichlorobenzene	18.58	146	2863	0.086 ng		93
86) 1,4-Dichlorobenzene	18.65	146	2655	0.080 ng		98
87) sec-Butylbenzene	18.74	105	7118	0.095 ng		97
88) 4-Isopropyltoluene (p-...	18.93	119	5349	0.047 ng		94
89) 1,2,3-Trimethylbenzene	17.03	105	6122	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	2836	0.086 ng		100
91) d-Limonene	19.08	68	1421	0.067 ng		80
92) 1,2-Dibromo-3-Chloropr...	19.51	157	1551	0.133 ng	#	74
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	3360	0.124 ng		98
95) Naphthalene	20.94	128	2950	0.046 ng		87
96) n-Dodecane	18.92	58	213	No Calib	#	
97) Hexachlorobutadiene	21.30	225	2262	0.107 ng		99
98) Cyclohexanone	15.29	55	105	No Calib	#	
99) tert-Butylbenzene	18.42	119	4999	0.095 ng		98
100) n-Butylbenzene	19.39	91	4943	0.079 ng		97
101) 1,1,1,2-Tetrachloroethane	14.87	131	1217	0.083 ng	#	91

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

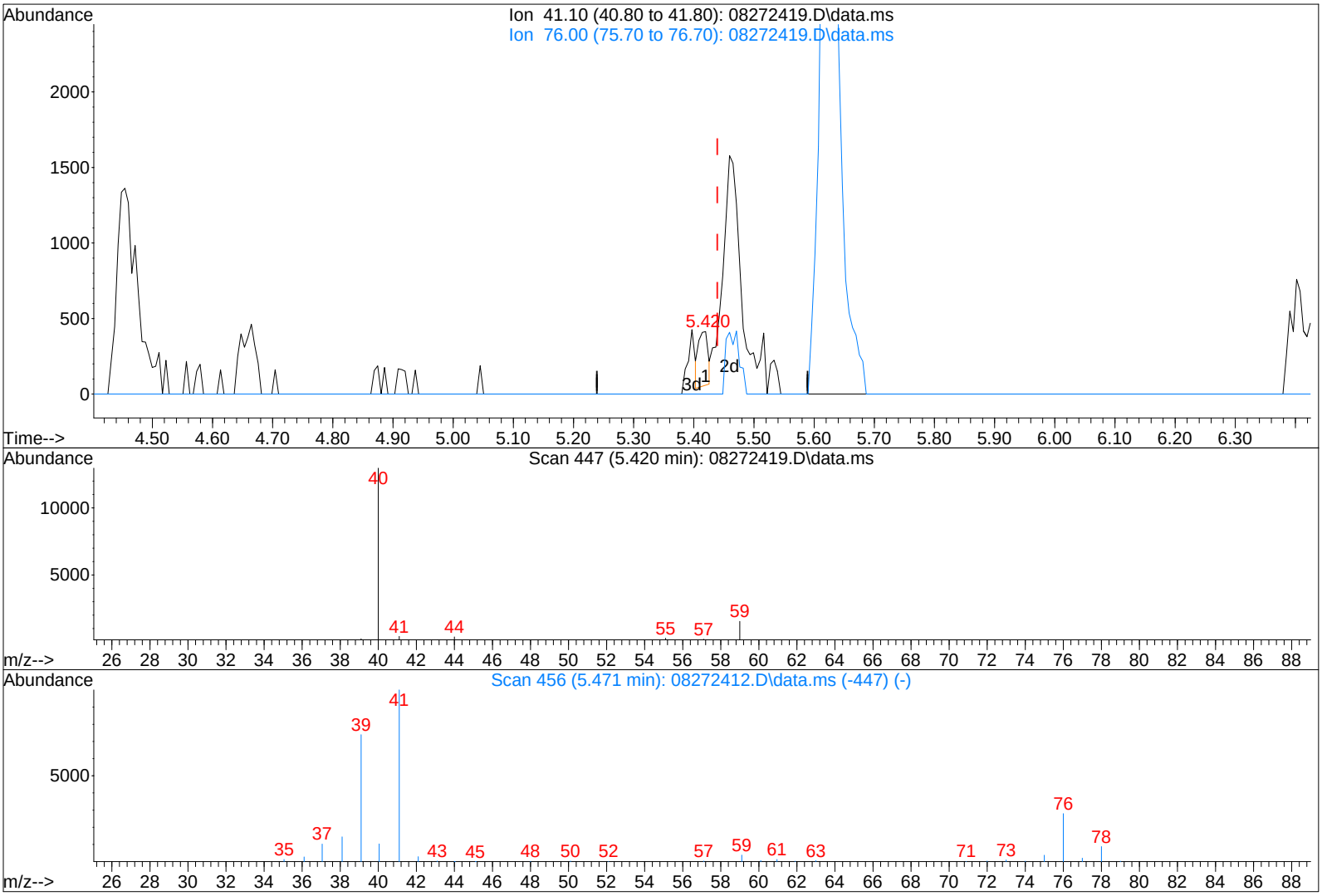
Quant Time: Aug 28 10:09:06 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

Quant Time: Aug 28 10:06:53 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08272419.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.420min (-0.020) 0.01ng

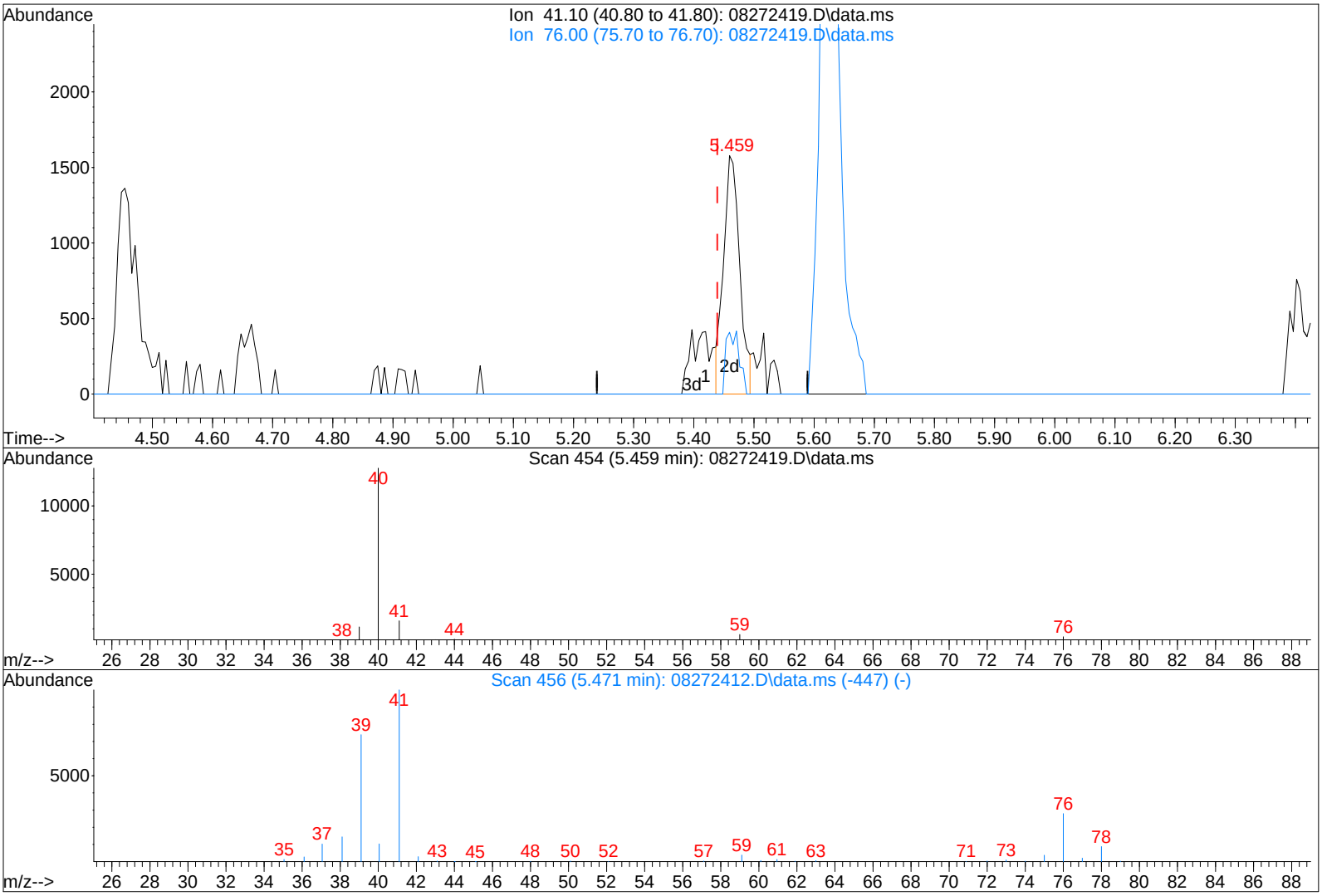
response 404

Ion	Exp%	Act%
41.10	100	100
76.00	23.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

Quant Time: Aug 28 10:06:53 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08272419.D\data.ms

(20) 3-Chloro-1-propene (Allyl Chloride) (T)

5.459min (+0.020) 0.09ng m

response 2959

Ion	Exp%	Act%
41.10	100	100
76.00	23.20	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

WP

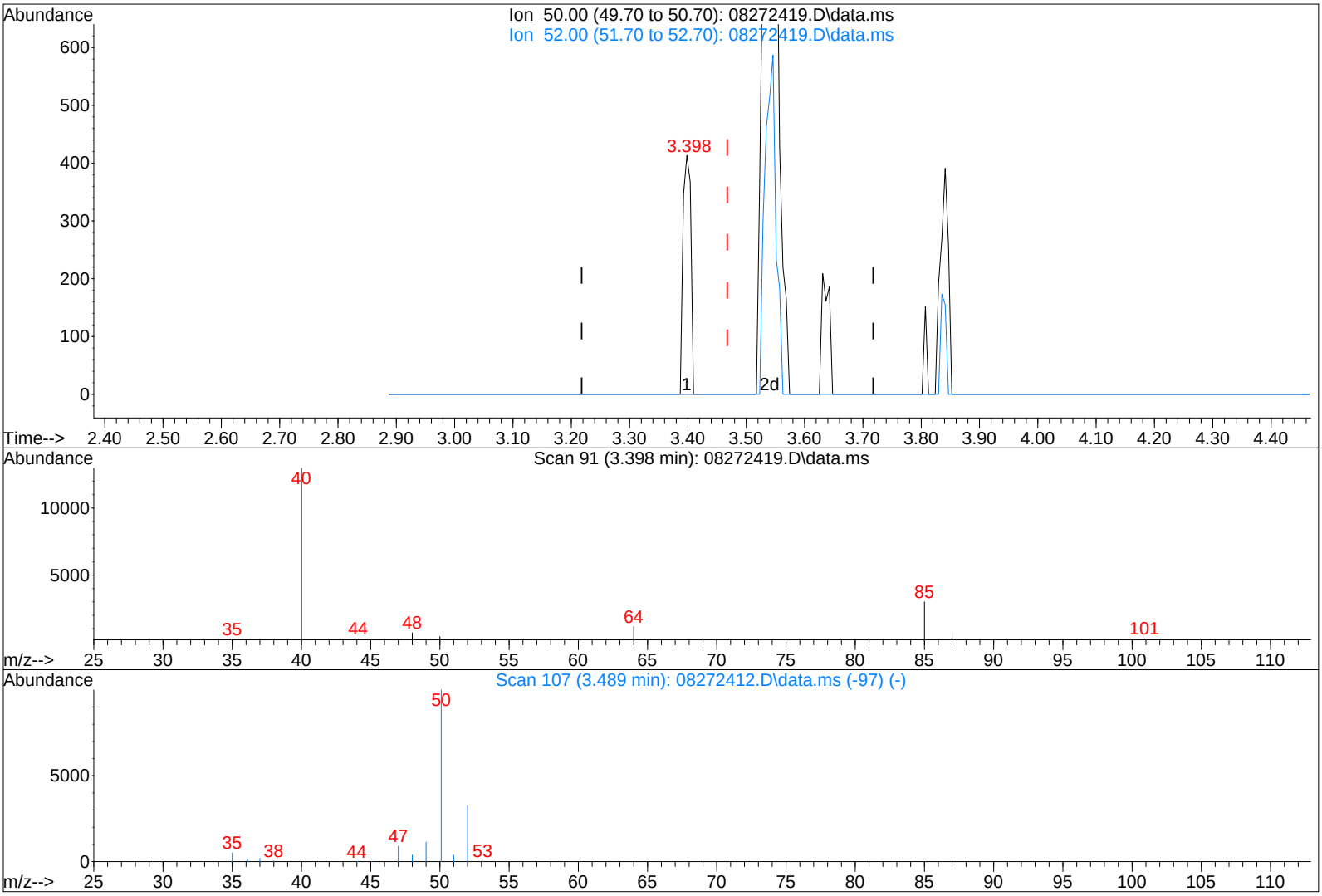
8/28/24

9/11/24

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

Quant Time: Aug 28 10:06:53 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08272419.D\data.ms

(4) Chloromethane (T)

3.398min (-0.070) 0.01ng

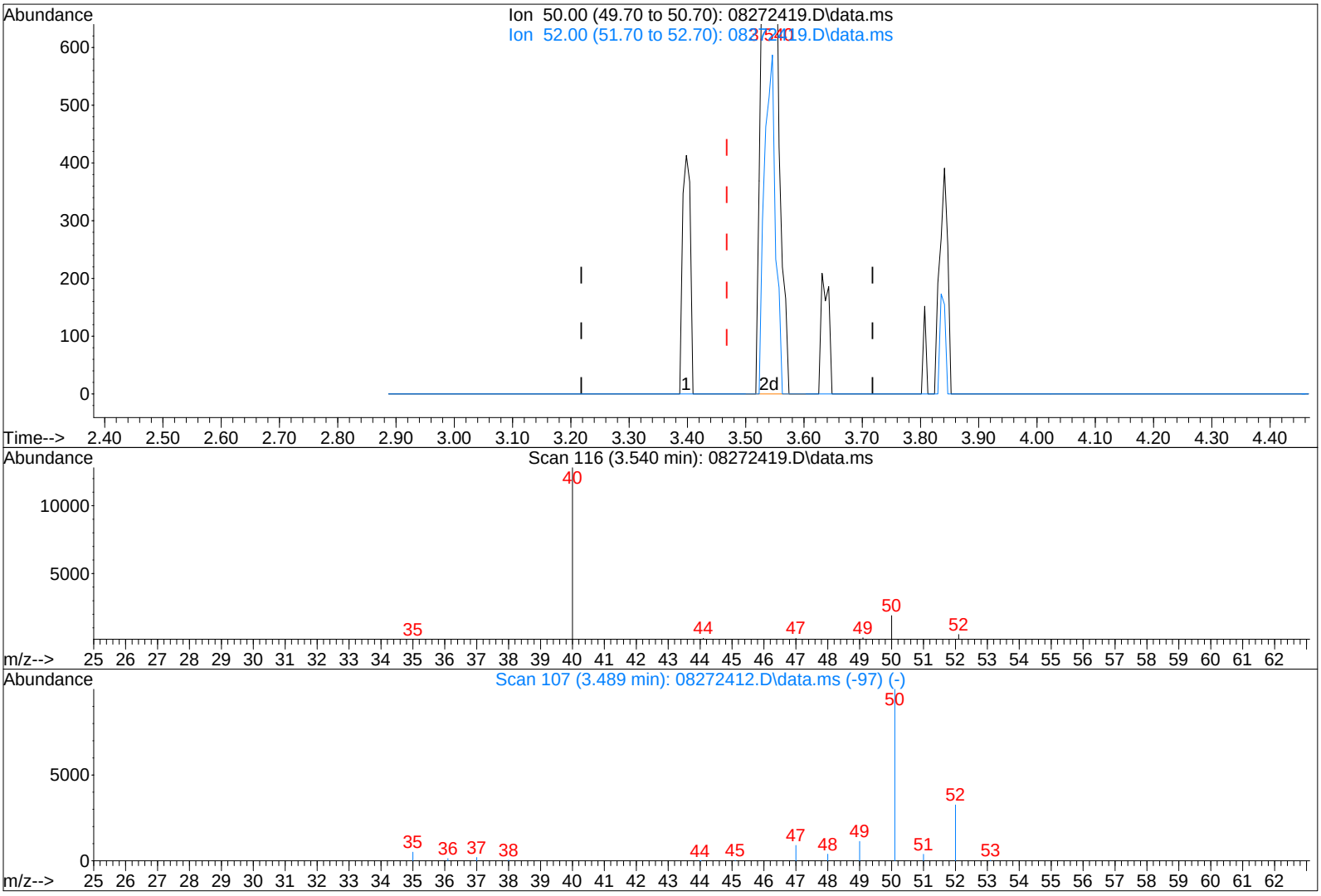
response 384

Ion	Exp%	Act%
50.00	100	100
52.00	32.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272419.D Vial: 12
Acq On : 28 Aug 2024 9:41 Operator: SC
Sample : 0.1ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08022405 (9/1)

Quant Time: Aug 28 10:06:53 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:06:41 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08272419.D\data.ms

(4) Chloromethane (T)

3.540min (+0.072) 0.10ng m

response 2752

Ion	Exp%	Act%
50.00	100	100
52.00	32.40	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

8/28/24

9/11/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272408.D Vial: 9
Acq On : 27 Aug 2024 14:25 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262410 (9/25)

Quant Time: Aug 28 08:29:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/28/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	130375	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	578468	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	149197	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	306845	14.491	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.92%				
57) Toluene-d8 (SS2)	12.43	98	648423	11.394	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.12%				
73) Bromofluorobenzene (SS3)	16.82	174	216846	12.317	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
Target Compounds							Qvalue
2) Propene	3.32	42	5904	0.282	ng		91
3) Dichlorodifluoromethan...	3.39	85	7046	0.250	ng		99
4) Chloromethane	3.53	50	5663	0.207	ng		96
5) 1,2-Dichloro-1,1,2,2-t...	3.63	135	2456	0.202	ng		92
6) Vinyl Chloride	3.72	62	3179	0.163	ng		97
7) 1,3-Butadiene	3.82	54	2082	0.150	ng	#	75
8) Bromomethane	4.03	94	2155	0.207	ng		94
9) Chloroethane	4.18	64	1828	0.188	ng		100
10) Ethanol	4.29	45	17357	1.238	ng		75
11) Acetonitrile	4.44	41	6295	0.187	ng	#	45
12) Acrolein	4.55	56	4706	0.400	ng		95
13) Acetone	4.65	58	14007	1.069	ng		93
14) Trichlorofluoromethane	4.77	101	6449	0.231	ng		92
15) 2-Propanol (Isopropanol)	4.87	45	21936	0.432	ng		84
16) Acrylonitrile	5.00	53	9222	0.394	ng		92
17) 1,1-Dichloroethene	5.28	96	2181	0.184	ng		90
18) 2-Methyl-2-Propanol (t...	5.52	59	17483m	0.457	ng		
19) Methylene Chloride	5.36	84	2521	0.178	ng		85
20) 3-Chloro-1-propene (Al...	5.45	41	5897	0.230	ng		99
21) Trichlorotrifluoroethane	5.59	151	2106	0.183	ng		100
22) Carbon Disulfide	5.62	76	19364	0.403	ng		97
23) trans-1,2-Dichloroethene	6.14	61	4756	0.210	ng		95
24) 1,1-Dichloroethane	6.32	63	5909	0.214	ng		95
25) Methyl tert-Butyl Ether	6.40	73	8493	0.214	ng		98
26) Vinyl Acetate	6.45	86	2285	0.910	ng	#	70
27) 2-Butanone (MEK)	6.67	72	4117	0.385	ng	#	81
28) cis-1,2-Dichloroethene	7.07	61	4778	0.209	ng		95
29) Diisopropyl Ether	7.30	87	4751	0.475	ng	#	91
30) Ethyl Acetate	7.29	61	2363	0.404	ng		84
31) n-Hexane	7.30	57	5930	0.218	ng	#	99
32) Chloroform	7.36	83	5346	0.220	ng		93
34) Tetrahydrofuran (THF)	7.76	72	3429	0.379	ng	#	89
35) Ethyl tert-Butyl Ether	7.84	87	6153	0.420	ng		94
36) 1,2-Dichloroethane	8.11	62	5464	0.232	ng		92
38) 1,1,1-Trichloroethane	8.39	97	5241	0.232	ng		95
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	199	No Calib		#	
41) Benzene	8.89	78	12365	0.203	ng		99
42) Carbon Tetrachloride	9.07	117	4500	0.216	ng		96
43) Cyclohexane	9.22	84	7455	0.389	ng		91
44) tert-Amyl Methyl Ether	9.62	73	15419	0.421	ng		96
45) 1,2-Dichloropropane	9.86	63	3298	0.223	ng		96
46) Bromodichloromethane	10.08	83	4384	0.233	ng		99
47) Trichloroethene	10.15	130	2793	0.198	ng		100
48) 1,4-Dioxane	10.13	88	1769	0.185	ng		93
49) 2,2,4-Trimethylpentane...	10.25	57	14064	0.207	ng		99
50) Methyl Methacrylate	10.41	100	2045	0.430	ng	#	84

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272408.D Vial: 9
Acq On : 27 Aug 2024 14:25 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262410 (9/25)

Quant Time: Aug 28 08:29:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

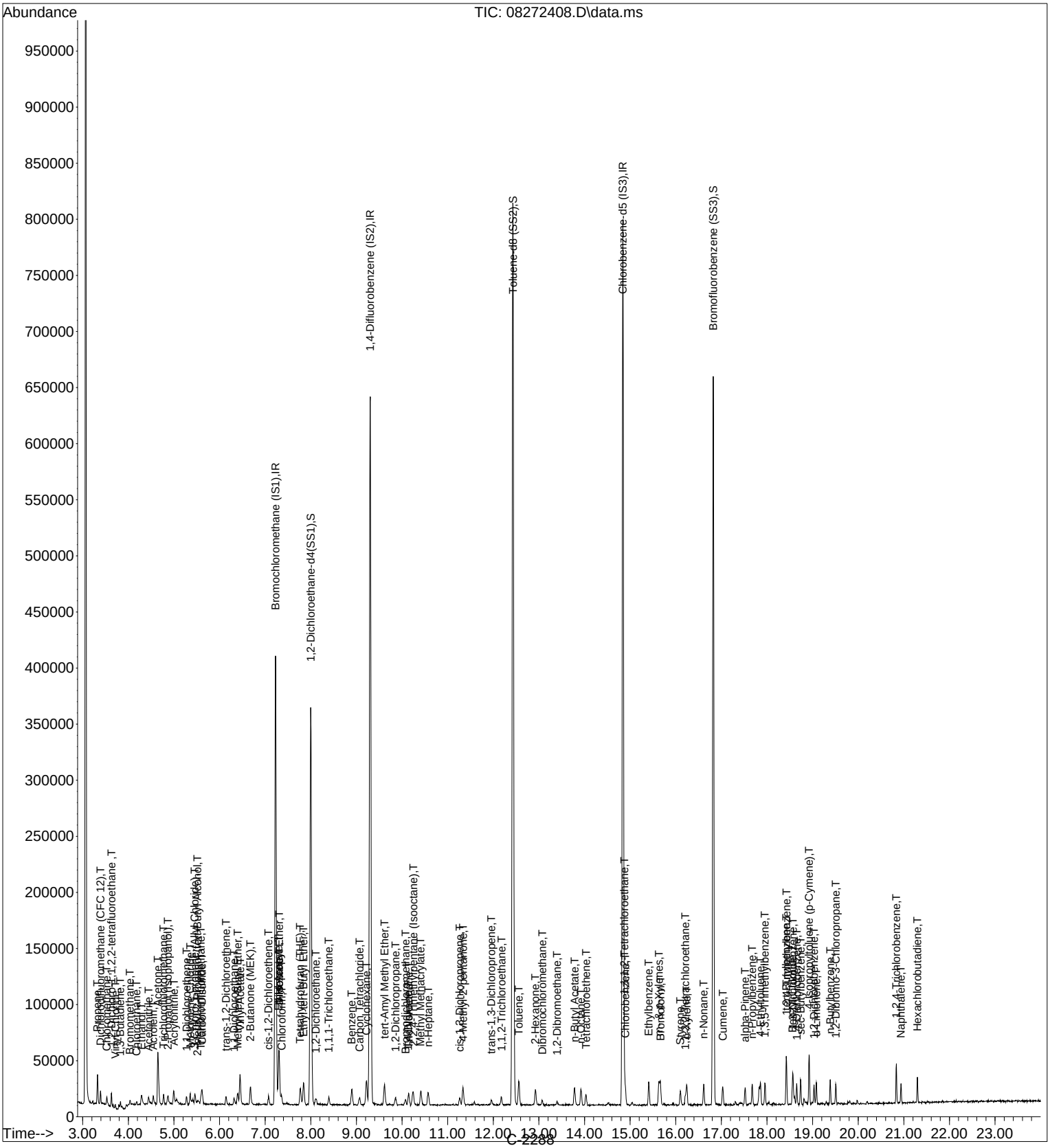
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	2674	0.195 ng		97
52) cis-1,3-Dichloropropene	11.26	75	4556	0.197 ng		98
53) 4-Methyl-2-pentanone	11.34	58	6083	0.421 ng		91
54) trans-1,3-Dichloropropene	11.96	75	3621	0.184 ng		98
55) 1,1,2-Trichloroethane	12.18	97	2734	0.218 ng		100
58) Toluene	12.56	91	18787	0.197 ng		98
59) 2-Hexanone	12.92	43	14145	0.357 ng		90
60) Dibromochloromethane	13.07	129	3137	0.178 ng		93
61) 1,2-Dibromoethane	13.40	107	2892	0.165 ng		91
62) n-Butyl Acetate	13.78	43	16039	0.364 ng		97
63) n-Octane	13.92	57	3141	0.191 ng		96
64) Tetrachloroethene	14.03	166	3348	0.181 ng		94
65) Chlorobenzene	14.89	112	7867	0.192 ng		98
66) Ethylbenzene	15.41	91	17448	0.204 ng		97
67) m- & p-Xylenes	15.63	91	26558	0.404 ng		99
68) Bromoform	15.67	173	2811	0.192 ng		97
69) Styrene	16.10	104	6587	0.164 ng		97
70) o-Xylene	16.24	91	12340	0.198 ng		97
71) n-Nonane	16.61	43	8470	0.183 ng		96
72) 1,1,2,2-Tetrachloroethane	16.21	83	5120	0.192 ng		99
74) Cumene	17.03	105	13495	0.186 ng		98
75) alpha-Pinene	17.52	93	6416	0.187 ng		94
76) n-Propylbenzene	17.67	91	16063	0.195 ng		98
77) 3-Ethyltoluene	17.03	105	13495	No Calib		
78) 4-Ethyltoluene	17.85	105	11983	0.172 ng		97
79) 1,3,5-Trimethylbenzene	17.95	105	11060	0.189 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	13495	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	12051	0.190 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	13956	0.323 ng		99
85) 1,3-Dichlorobenzene	18.57	146	6521	0.191 ng		97
86) 1,4-Dichlorobenzene	18.66	146	6479	0.183 ng		99
87) sec-Butylbenzene	18.74	105	14770	0.193 ng		98
88) 4-Isopropyltoluene (p-...	18.92	119	23467	0.190 ng		98
89) 1,2,3-Trimethylbenzene	17.03	105	13495	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	6512	0.191 ng		93
91) d-Limonene	19.08	68	3677	0.164 ng		92
92) 1,2-Dibromo-3-Chloropr...	19.51	157	3857	0.325 ng		90
93) n-Undecane	17.95	58	203	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	9427	0.357 ng		96
95) Naphthalene	20.94	128	11300	0.159 ng		96
96) n-Dodecane	18.93	58	785	No Calib	#	
97) Hexachlorobutadiene	21.30	225	4158	0.216 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	9907	0.182 ng		100
100) n-Butylbenzene	19.39	91	11991	0.197 ng		96
101) 1,1,1,2-Tetrachloroethane	14.87	131	2814	0.194 ng		93

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272408.D Vial: 9
Acq On : 27 Aug 2024 14:25 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262410 (9/25)

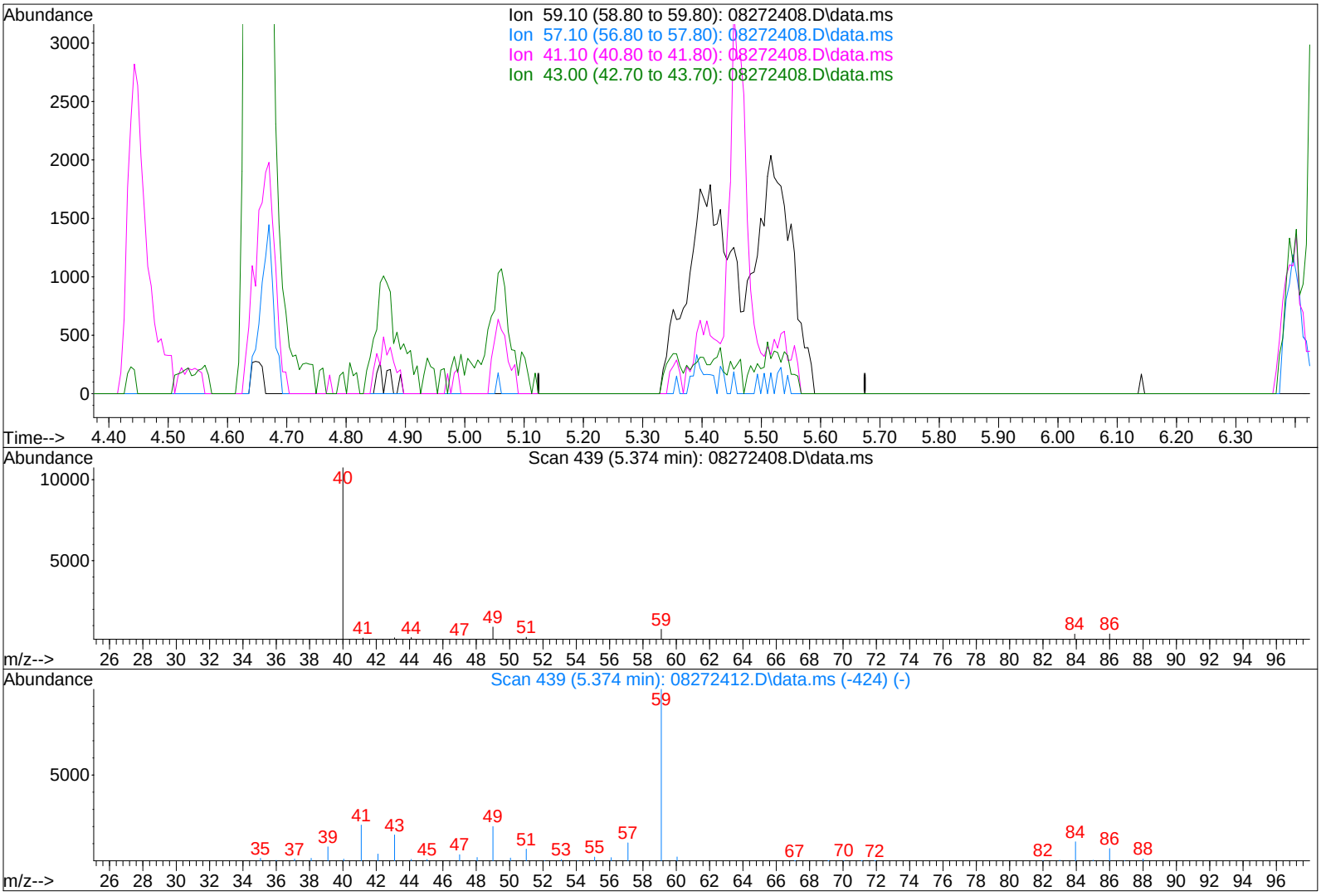
Quant Time: Aug 28 08:29:37 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272408.D Vial: 9
Acq On : 27 Aug 2024 14:25 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262410 (9/25)

Quant Time: Aug 28 08:29:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08272408.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.374min (-5.374) 0.00ng

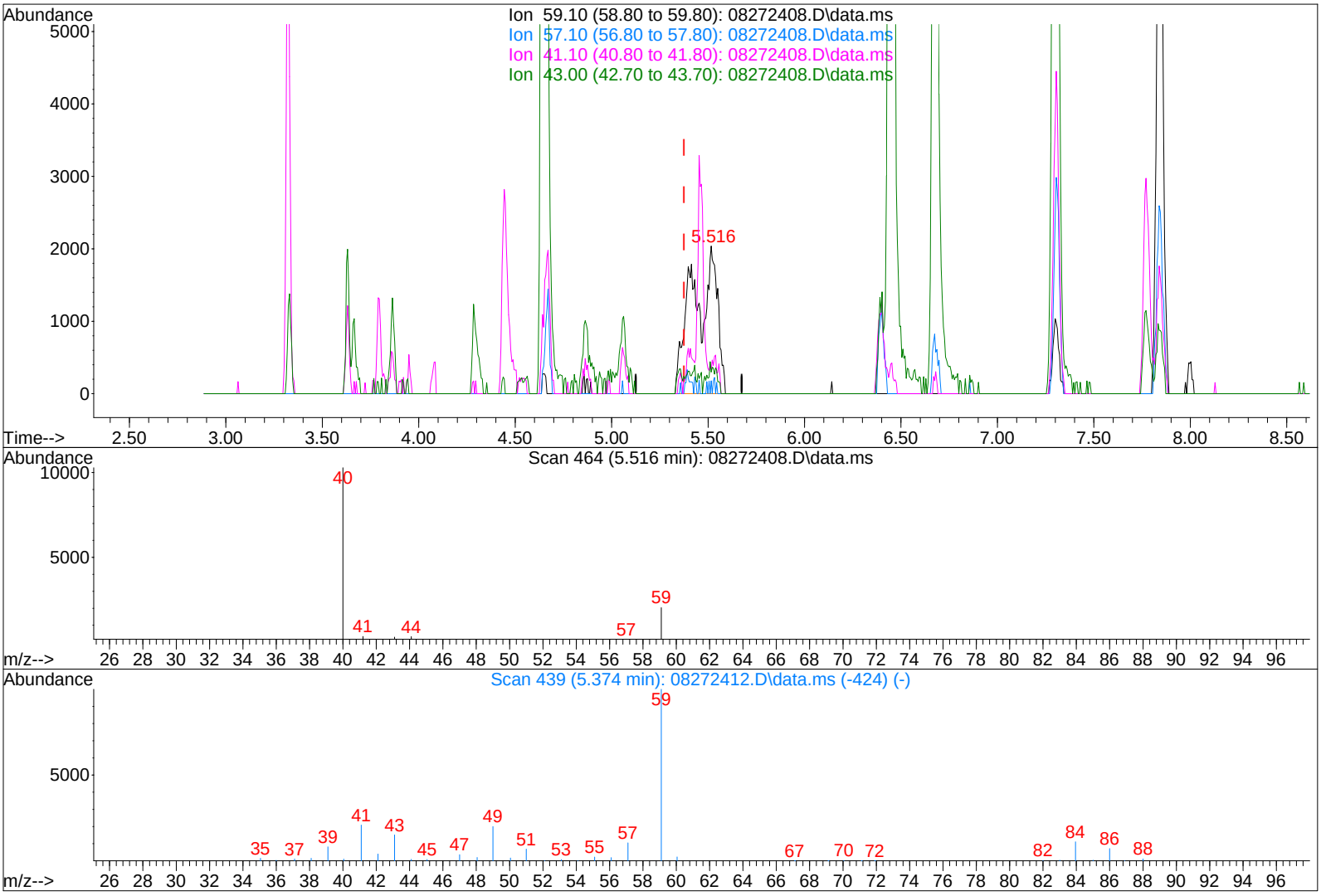
response 0

Ion	Exp%	Act%
59.10	100	0.00
57.10	10.40	0.00
41.10	17.20	0.00
43.00	15.30	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272408.D Vial: 9
Acq On : 27 Aug 2024 14:25 Operator: SC
Sample : 0.2ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262410 (9/25)

Quant Time: Aug 28 08:29:15 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 08272408.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.516min (+0.142) 0.46ng m

response 17483

Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	17.20	0.00
43.00	15.30	0.00

MP

8/28/24

9/11/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272409.D Vial: 10
Acq On : 27 Aug 2024 14:57 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:27:48 2024 8/28/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	126089	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	557252	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	142664	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	296839	14.495	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.92%				
57) Toluene-d8 (SS2)	12.43	98	629432	11.567	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.56%				
73) Bromofluorobenzene (SS3)	16.82	174	208533	12.387	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	3.31	42	10076	0.498	ng		96
3) Dichlorodifluoromethan...	3.38	85	16588	0.609	ng		97
4) Chloromethane	3.52	50	13597	0.515	ng		97
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	6052	0.514	ng		99
6) Vinyl Chloride	3.70	62	8039	0.426	ng		99
7) 1,3-Butadiene	3.82	54	5514	0.411	ng		93
8) Bromomethane	4.03	94	5447	0.541	ng		97
9) Chloroethane	4.17	64	4906	0.521	ng		99
10) Ethanol	4.28	45	38695	2.854	ng		83
11) Acetonitrile	4.44	41	15205	0.466	ng	#	66
12) Acrolein	4.53	56	11262	0.989	ng		100
13) Acetone	4.64	58	30349	2.396	ng		100
14) Trichlorofluoromethane	4.77	101	14660	0.544	ng		100
15) 2-Propanol (Isopropanol)	4.85	45	49036	0.998	ng		85
16) Acrylonitrile	4.99	53	21943	0.969	ng		94
17) 1,1-Dichloroethene	5.27	96	5254	0.458	ng		98
18) 2-Methyl-2-Propanol (t...	5.52	59	44202m	1.196	ng		
19) Methylene Chloride	5.35	84	6009	0.438	ng		99
20) 3-Chloro-1-propene (Al...	5.46	41	16649	0.672	ng		94
21) Trichlorotrifluoroethane	5.59	151	5352	0.482	ng		96
22) Carbon Disulfide	5.61	76	46207	0.994	ng		99
23) trans-1,2-Dichloroethene	6.13	61	11369	0.518	ng		98
24) 1,1-Dichloroethane	6.32	63	13892	0.521	ng		98
25) Methyl tert-Butyl Ether	6.39	73	20404	0.531	ng		100
26) Vinyl Acetate	6.44	86	5871	2.419	ng	#	94
27) 2-Butanone (MEK)	6.67	72	7937	0.768	ng	#	70
28) cis-1,2-Dichloroethene	7.07	61	11074	0.502	ng		96
29) Diisopropyl Ether	7.29	87	9864	1.019	ng	#	84
30) Ethyl Acetate	7.29	61	5379	0.950	ng		98
31) n-Hexane	7.30	57	13200	0.502	ng		100
32) Chloroform	7.36	83	13267	0.564	ng		97
34) Tetrahydrofuran (THF)	7.75	72	7045	0.806	ng		94
35) Ethyl tert-Butyl Ether	7.84	87	14961	1.055	ng		97
36) 1,2-Dichloroethane	8.12	62	12378	0.543	ng		99
38) 1,1,1-Trichloroethane	8.39	97	12715	0.583	ng		98
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.86	56	269	No Calib		#	
41) Benzene	8.89	78	26046	0.444	ng		99
42) Carbon Tetrachloride	9.07	117	11060	0.550	ng		98
43) Cyclohexane	9.22	84	18510	1.003	ng		97
44) tert-Amyl Methyl Ether	9.60	73	37003	1.049	ng		97
45) 1,2-Dichloropropane	9.86	63	7079	0.496	ng		98
46) Bromodichloromethane	10.08	83	9993	0.552	ng		100
47) Trichloroethene	10.14	130	7270	0.534	ng		97
48) 1,4-Dioxane	10.13	88	4446	0.483	ng		96
49) 2,2,4-Trimethylpentane...	10.24	57	33682	0.515	ng		100
50) Methyl Methacrylate	10.41	100	4612	1.007	ng		100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272409.D Vial: 10
Acq On : 27 Aug 2024 14:57 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:27:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

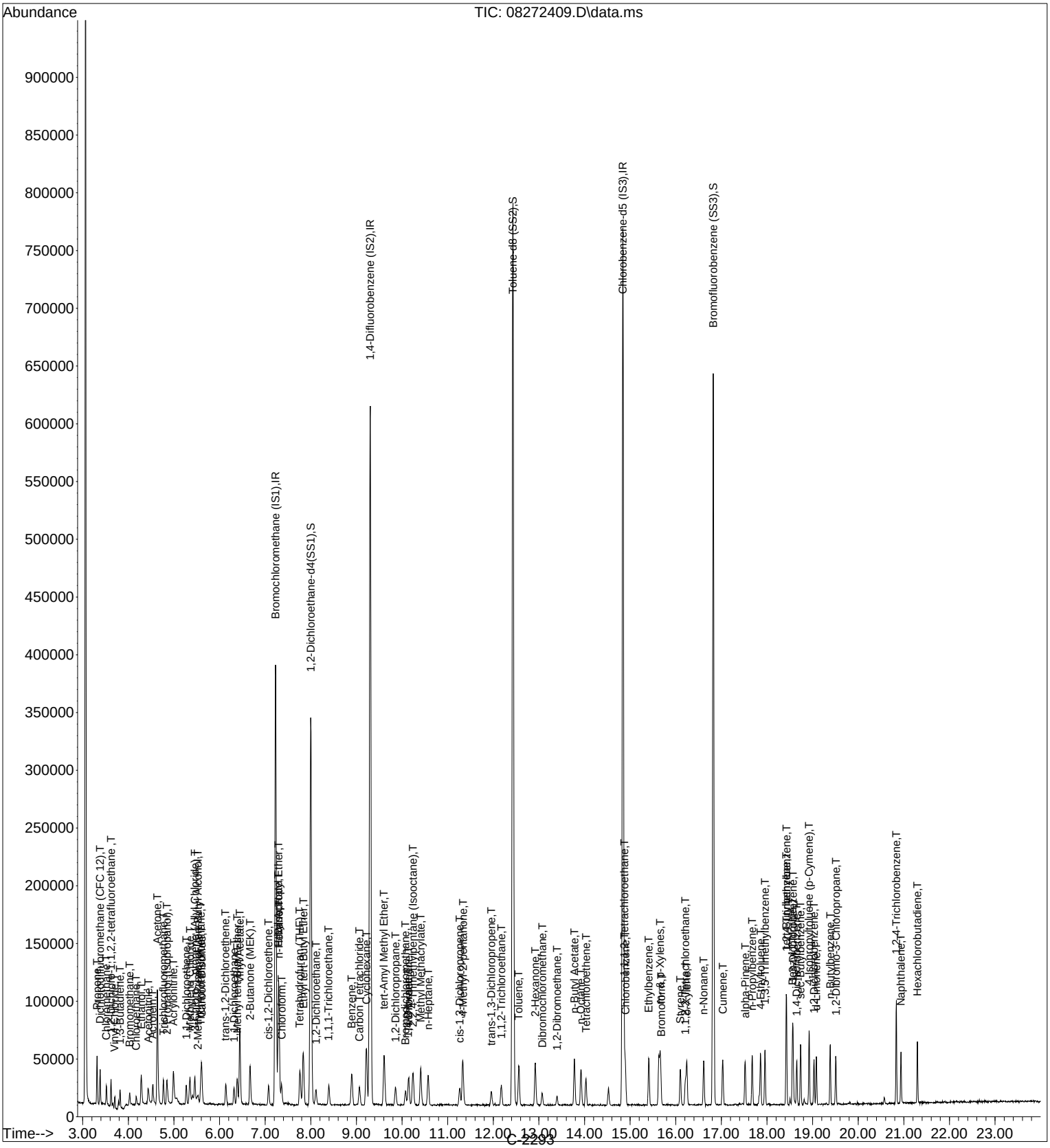
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	5975	0.452 ng		98
52) cis-1,3-Dichloropropene	11.26	75	11220	0.503 ng		100
53) 4-Methyl-2-pentanone	11.34	58	14536	1.043 ng		96
54) trans-1,3-Dichloropropene	11.96	75	8711	0.459 ng		99
55) 1,1,2-Trichloroethane	12.18	97	6703	0.554 ng		93
58) Toluene	12.56	91	30104	0.330 ng		99
59) 2-Hexanone	12.92	43	34167	0.902 ng		98
60) Dibromochloromethane	13.07	129	7498	0.444 ng		100
61) 1,2-Dibromoethane	13.40	107	7358	0.438 ng		99
62) n-Butyl Acetate	13.78	43	38652	0.918 ng		98
63) n-Octane	13.92	57	6804	0.433 ng		97
64) Tetrachloroethene	14.03	166	8114	0.459 ng		98
65) Chlorobenzene	14.90	112	17044	0.434 ng		96
66) Ethylbenzene	15.41	91	33901	0.414 ng		98
67) m- & p-Xylenes	15.66	91	54029	0.860 ng		100
68) Bromoform	15.68	173	6784	0.485 ng		98
69) Styrene	16.10	104	16532	0.431 ng		99
70) o-Xylene	16.24	91	26442	0.443 ng		98
71) n-Nonane	16.61	43	17448	0.395 ng		99
72) 1,1,2,2-Tetrachloroethane	16.21	83	11764	0.461 ng		96
74) Cumene	17.03	105	29543	0.426 ng		100
75) alpha-Pinene	17.53	93	15362	0.467 ng		94
76) n-Propylbenzene	17.68	91	36771	0.467 ng		98
77) 3-Ethyltoluene	17.03	105	29543	No Calib		
78) 4-Ethyltoluene	17.86	105	28476	0.428 ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	26922	0.482 ng		98
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	29543	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	27738	0.458 ng		96
83) n-Decane	17.04	58	158	No Calib	#	
84) Benzyl Chloride	18.56	91	35285	0.854 ng		97
85) 1,3-Dichlorobenzene	18.57	146	15164	0.466 ng		98
86) 1,4-Dichlorobenzene	18.65	146	14460	0.427 ng		100
87) sec-Butylbenzene	18.74	105	33473	0.457 ng		99
88) 4-Isopropyltoluene (p-...	18.92	119	32561	0.276 ng		100
89) 1,2,3-Trimethylbenzene	17.03	105	29543	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	14661	0.450 ng		98
91) d-Limonene	19.08	68	8391	0.391 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	9780	0.861 ng		94
93) n-Undecane	17.96	58	641	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	23751	0.941 ng		99
95) Naphthalene	20.94	128	26649	0.393 ng		99
96) n-Dodecane	18.93	58	1038	No Calib	#	
97) Hexachlorobutadiene	21.30	225	9048	0.492 ng		95
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	24019	0.462 ng		97
100) n-Butylbenzene	19.39	91	26880	0.463 ng		100
101) 1,1,1,2-Tetrachloroethane	14.87	131	6630	0.479 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272409.D Vial: 10
Acq On : 27 Aug 2024 14:57 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

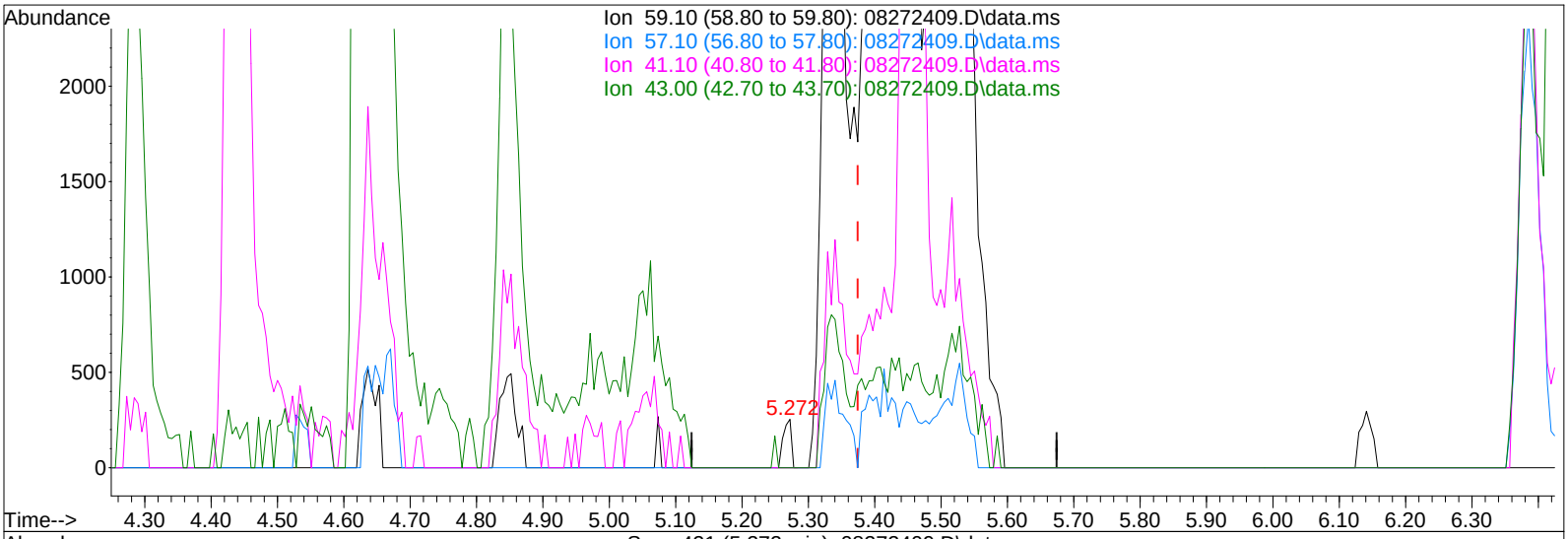
Quant Time: Aug 28 08:27:48 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

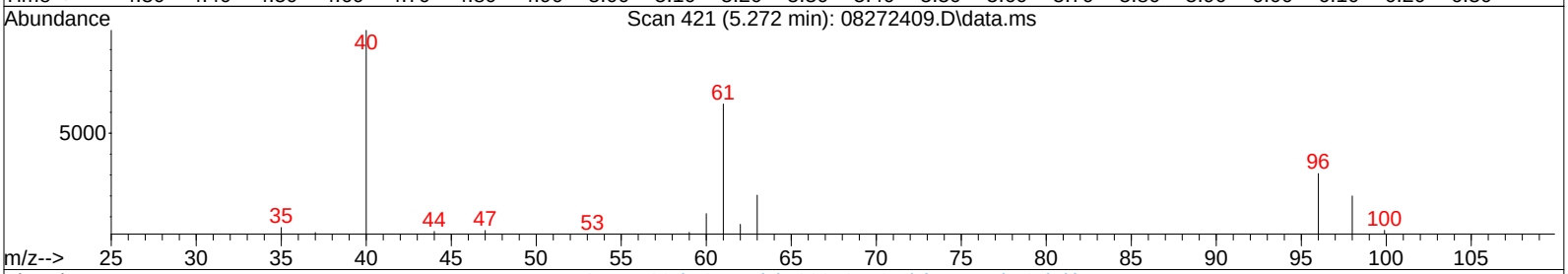


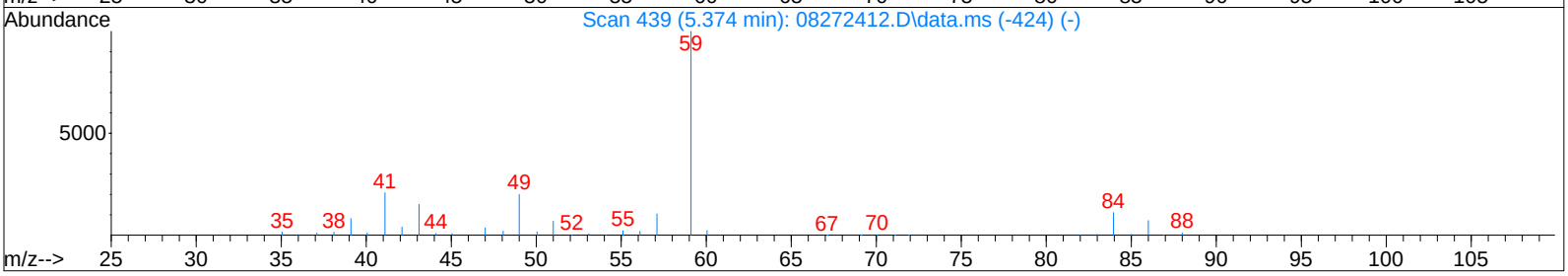
Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272409.D Vial: 10
Acq On : 27 Aug 2024 14:57 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:27:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M







TIC: 08272409.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.272min (-0.102) 0.01ng

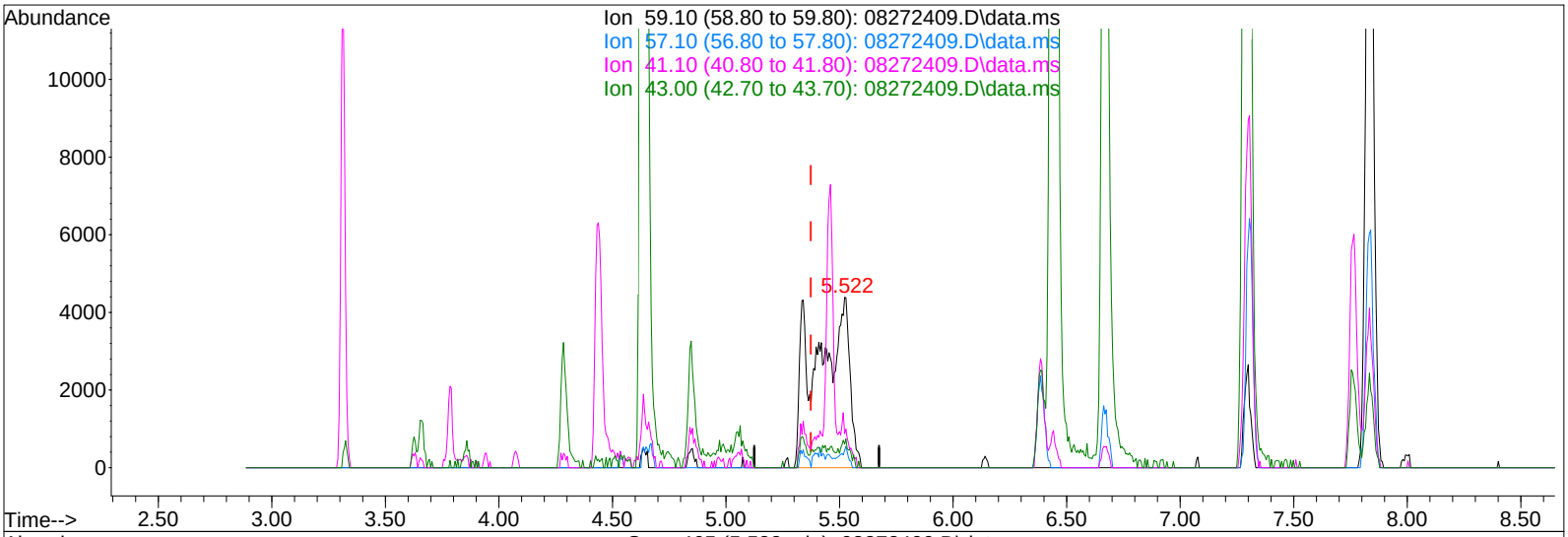
response 215

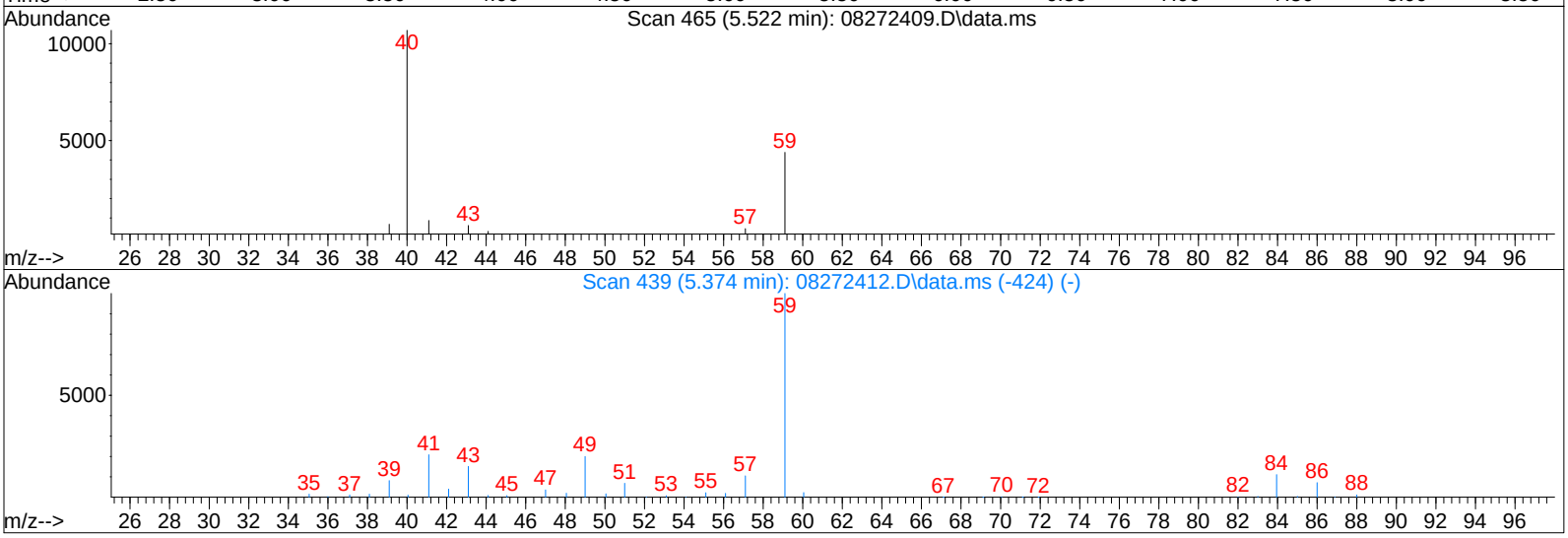
Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	17.20	0.00
43.00	15.30	26.51

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 08\27\08272409.D Vial: 10
Acq On : 27 Aug 2024 14:57 Operator: SC
Sample : 0.5ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:27:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M





TIC: 08272409.D\data.ms

(18) 2-Methyl-2-Propanol (tert-Butyl Alcohol (T)

5.522min (+0.147) 1.20ng m

response 44202

Ion	Exp%	Act%
59.10	100	100
57.10	10.40	0.00
41.10	17.20	0.00
43.00	15.30	0.13

MP

8/28/24

9/11/24

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272410.D Vial: 10
Acq On : 27 Aug 2024 15:30 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/28/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	126293	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.30	114	551725	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	142758	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	294724	14.368	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.96%				
57) Toluene-d8 (SS2)	12.43	98	619879	11.384	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%				
73) Bromofluorobenzene (SS3)	16.83	174	207585	12.323	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.56%				
Target Compounds							Qvalue
2) Propene	3.31	42	18713	0.924	ng		97
3) Dichlorodifluoromethan...	3.38	85	33114	1.214	ng		99
4) Chloromethane	3.51	50	26476	1.001	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	12044	1.021	ng		99
6) Vinyl Chloride	3.70	62	15998	0.846	ng		96
7) 1,3-Butadiene	3.81	54	11698	0.871	ng		99
8) Bromomethane	4.02	94	10430	1.034	ng		99
9) Chloroethane	4.16	64	9621	1.021	ng		99
10) Ethanol	4.28	45	73403	5.405	ng		83
11) Acetonitrile	4.43	41	31665	0.969	ng		92
12) Acrolein	4.53	56	23041	2.021	ng		98
13) Acetone	4.63	58	58705	4.626	ng		98
14) Trichlorofluoromethane	4.77	101	29685	1.099	ng		96
15) 2-Propanol (Isopropanol)	4.84	45	97794	1.988	ng		90
16) Acrylonitrile	4.99	53	45450	2.005	ng		99
17) 1,1-Dichloroethene	5.27	96	10782	0.938	ng		98
18) 2-Methyl-2-Propanol (t...	5.33	59	87568	2.365	ng		93
19) Methylene Chloride	5.35	84	12415	0.904	ng		100
20) 3-Chloro-1-propene (Al...	5.45	41	28273	1.140	ng		99
21) Trichlorotrifluoroethane	5.58	151	10986	0.988	ng		99
22) Carbon Disulfide	5.60	76	93966	2.019	ng		100
23) trans-1,2-Dichloroethene	6.14	61	23007	1.047	ng		98
24) 1,1-Dichloroethane	6.32	63	27186	1.017	ng		98
25) Methyl tert-Butyl Ether	6.38	73	42316	1.099	ng		98
26) Vinyl Acetate	6.44	86	11687	4.807	ng	#	68
27) 2-Butanone (MEK)	6.67	72	15995	1.545	ng	#	87
28) cis-1,2-Dichloroethene	7.07	61	22141	1.002	ng		100
29) Diisopropyl Ether	7.29	87	20845	2.151	ng	#	92
30) Ethyl Acetate	7.29	61	11115	1.960	ng		94
31) n-Hexane	7.30	57	27232	1.035	ng	#	98
32) Chloroform	7.36	83	27051	1.147	ng		99
34) Tetrahydrofuran (THF)	7.76	72	14836	1.694	ng		97
35) Ethyl tert-Butyl Ether	7.83	87	30072	2.118	ng		95
36) 1,2-Dichloroethane	8.12	62	24511	1.073	ng		94
38) 1,1,1-Trichloroethane	8.40	97	25333	1.174	ng		95
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	214	No Calib		#	
41) Benzene	8.90	78	52234	0.899	ng		99
42) Carbon Tetrachloride	9.07	117	21485	1.080	ng		97
43) Cyclohexane	9.22	84	36880	2.018	ng		98
44) tert-Amyl Methyl Ether	9.60	73	76870	2.201	ng		99
45) 1,2-Dichloropropane	9.86	63	14689	1.039	ng		98
46) Bromodichloromethane	10.08	83	20770	1.158	ng		100
47) Trichloroethene	10.16	130	13145	0.976	ng		93
48) 1,4-Dioxane	10.13	88	9470	1.038	ng		96
49) 2,2,4-Trimethylpentane...	10.24	57	66178	1.022	ng		100
50) Methyl Methacrylate	10.41	100	9238	2.036	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272410.D Vial: 10
Acq On : 27 Aug 2024 15:30 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

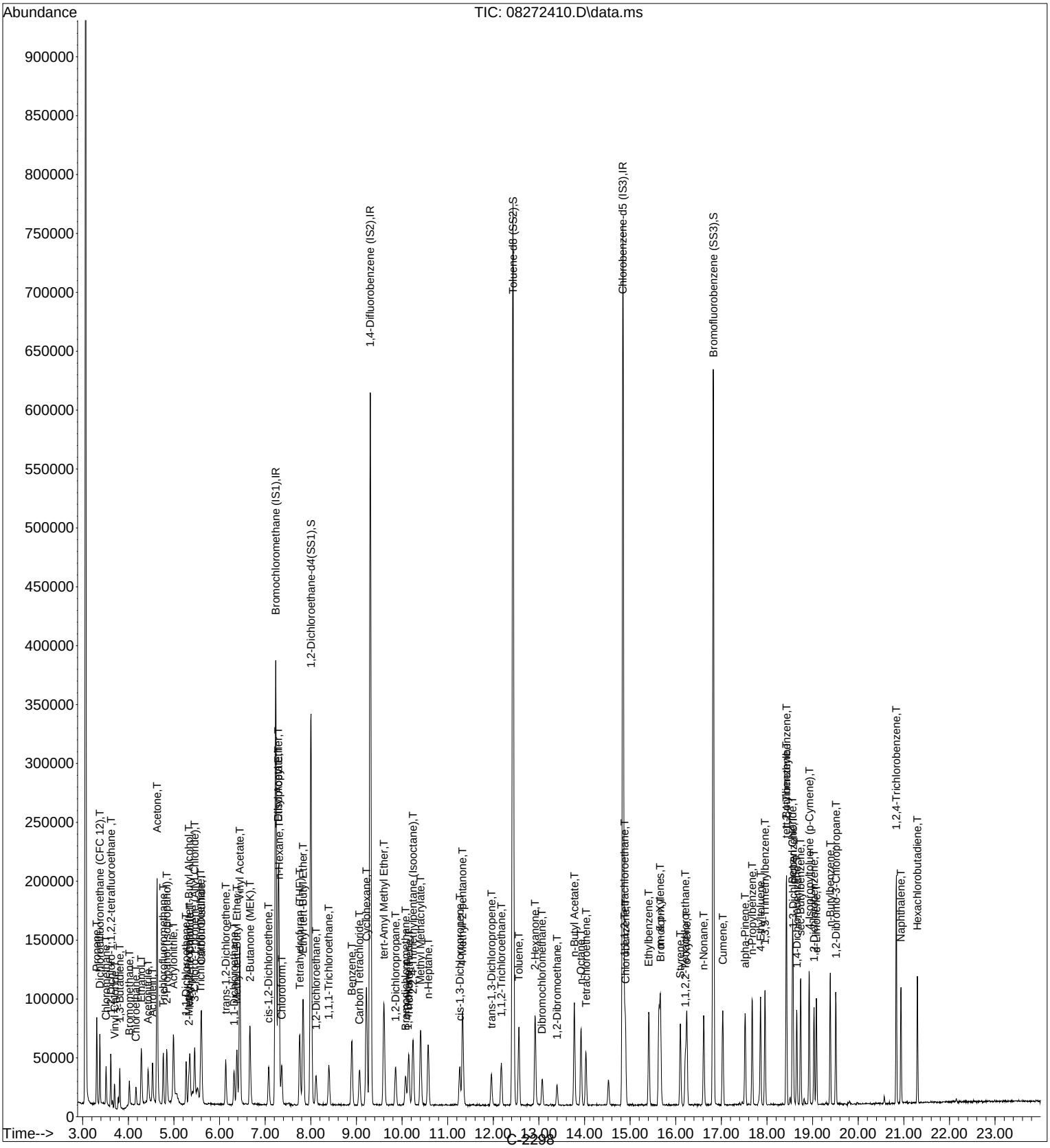
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	12540	0.958 ng		96
52) cis-1,3-Dichloropropene	11.27	75	22293	1.009 ng		99
53) 4-Methyl-2-pentanone	11.33	58	28391	2.058 ng		93
54) trans-1,3-Dichloropropene	11.96	75	18830	1.003 ng		99
55) 1,1,2-Trichloroethane	12.18	97	13692	1.143 ng		99
58) Toluene	12.56	91	55176	0.604 ng		98
59) 2-Hexanone	12.91	43	71847	1.896 ng		98
60) Dibromochloromethane	13.07	129	15048	0.891 ng		99
61) 1,2-Dibromoethane	13.40	107	15309	0.912 ng		99
62) n-Butyl Acetate	13.78	43	81945	1.945 ng		98
63) n-Octane	13.92	57	13513	0.859 ng		99
64) Tetrachloroethene	14.03	166	16007	0.905 ng		100
65) Chlorobenzene	14.90	112	34672	0.882 ng		97
66) Ethylbenzene	15.41	91	65939	0.806 ng		100
67) m- & p-Xylenes	15.66	91	106257	1.690 ng		100
68) Bromoform	15.67	173	14084	1.006 ng		98
69) Styrene	16.10	104	35528	0.926 ng		97
70) o-Xylene	16.24	91	53227	0.891 ng		99
71) n-Nonane	16.61	43	34868	0.788 ng		99
72) 1,1,2,2-Tetrachloroethane	16.21	83	23602	0.925 ng		99
74) Cumene	17.03	105	60126	0.866 ng		100
75) alpha-Pinene	17.52	93	32547	0.990 ng		97
76) n-Propylbenzene	17.68	91	75646	0.960 ng		99
77) 3-Ethyltoluene	17.03	105	60126	No Calib		
78) 4-Ethyltoluene	17.86	105	59045	0.888 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	52720	0.943 ng		100
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	60126	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	52894	0.872 ng		99
83) n-Decane	17.04	58	616	No Calib	#	
84) Benzyl Chloride	18.56	91	82181	1.988 ng		98
85) 1,3-Dichlorobenzene	18.58	146	30009	0.921 ng		99
86) 1,4-Dichlorobenzene	18.66	146	29801	0.879 ng		98
87) sec-Butylbenzene	18.74	105	67888	0.926 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	59188	0.501 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	60126	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	30050	0.923 ng		98
91) d-Limonene	19.08	68	17553	0.817 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	21024	1.849 ng		93
93) n-Undecane	17.96	58	1594	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	52042	2.060 ng		98
95) Naphthalene	20.94	128	62053	0.914 ng		99
96) n-Dodecane	18.92	58	1879	No Calib	#	
97) Hexachlorobutadiene	21.30	225	18441	1.002 ng		98
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	47543	0.914 ng		98
100) n-Butylbenzene	19.39	91	56355	0.970 ng		99
101) 1,1,1,2-Tetrachloroethane	14.88	131	13620	0.983 ng		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272410.D Vial: 10
Acq On : 27 Aug 2024 15:30 Operator: SC
Sample : 1.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:26:02 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272411.D Vial: 10
Acq On : 27 Aug 2024 16:02 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:24:46 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/28/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	124165	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	552516	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	145523	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	296091	14.682	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 117.44%				
57) Toluene-d8 (SS2)	12.43	98	622464	11.214	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.68%				
73) Bromofluorobenzene (SS3)	16.83	174	212837	12.395	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.12%				
Target Compounds							Qvalue
2) Propene	3.28	42	101081	5.074	ng		99
3) Dichlorodifluoromethan...	3.36	85	166137	6.193	ng		98
4) Chloromethane	3.49	50	130817	5.033	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	60869	5.248	ng		99
6) Vinyl Chloride	3.68	62	79881	4.297	ng		100
7) 1,3-Butadiene	3.80	54	57640	4.365	ng		98
8) Bromomethane	4.01	94	39195	3.954	ng		100
9) Chloroethane	4.15	64	45938	4.958	ng		100
10) Ethanol	4.31	45	362985	27.184	ng		100
11) Acetonitrile	4.44	41	162290	5.051	ng		80
12) Acrolein	4.52	56	121920	10.878	ng		99
13) Acetone	4.63	58	291431	23.360	ng		98
14) Trichlorofluoromethane	4.76	101	150727	5.678	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	459899	9.509	ng		96
16) Acrylonitrile	5.01	53	240903	10.808	ng		98
17) 1,1-Dichloroethene	5.26	96	54680	4.837	ng		99
18) 2-Methyl-2-Propanol (t...	5.33	59	392075	10.773	ng		96
19) Methylene Chloride	5.36	84	60957	4.514	ng		98
20) 3-Chloro-1-propene (Al...	5.45	41	171297	7.026	ng		94
21) Trichlorotrifluoroethane	5.58	151	54936	5.025	ng		99
22) Carbon Disulfide	5.60	76	482399	10.541	ng		100
23) trans-1,2-Dichloroethene	6.14	61	120191	5.564	ng		100
24) 1,1-Dichloroethane	6.33	63	137205	5.220	ng		99
25) Methyl tert-Butyl Ether	6.37	73	221677	5.856	ng		100
26) Vinyl Acetate	6.45	86	67912	28.413	ng	#	89
27) 2-Butanone (MEK)	6.67	72	86820	8.531	ng		100
28) cis-1,2-Dichloroethene	7.09	61	113638	5.231	ng		100
29) Diisopropyl Ether	7.29	87	102350	10.741	ng	#	86
30) Ethyl Acetate	7.29	61	55035	9.871	ng		100
31) n-Hexane	7.30	57	131828	5.094	ng		99
32) Chloroform	7.38	83	138741	5.985	ng		99
34) Tetrahydrofuran (THF)	7.75	72	75420	8.759	ng		99
35) Ethyl tert-Butyl Ether	7.83	87	161963	11.603	ng		99
36) 1,2-Dichloroethane	8.12	62	131209	5.843	ng		99
38) 1,1,1-Trichloroethane	8.41	97	131445	6.082	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	1502	No Calib			
41) Benzene	8.91	78	260768	4.482	ng		99
42) Carbon Tetrachloride	9.08	117	115954	5.819	ng		100
43) Cyclohexane	9.22	84	189069	10.333	ng		99
44) tert-Amyl Methyl Ether	9.60	73	398358	11.391	ng		99
45) 1,2-Dichloropropane	9.87	63	74630	5.273	ng		100
46) Bromodichloromethane	10.09	83	111108	6.185	ng		99
47) Trichloroethene	10.16	130	68682	5.092	ng		100
48) 1,4-Dioxane	10.13	88	51069	5.592	ng		99
49) 2,2,4-Trimethylpentane...	10.24	57	338544	5.220	ng		100
50) Methyl Methacrylate	10.41	100	50466	11.109	ng		99

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272411.D Vial: 10
Acq On : 27 Aug 2024 16:02 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:24:46 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

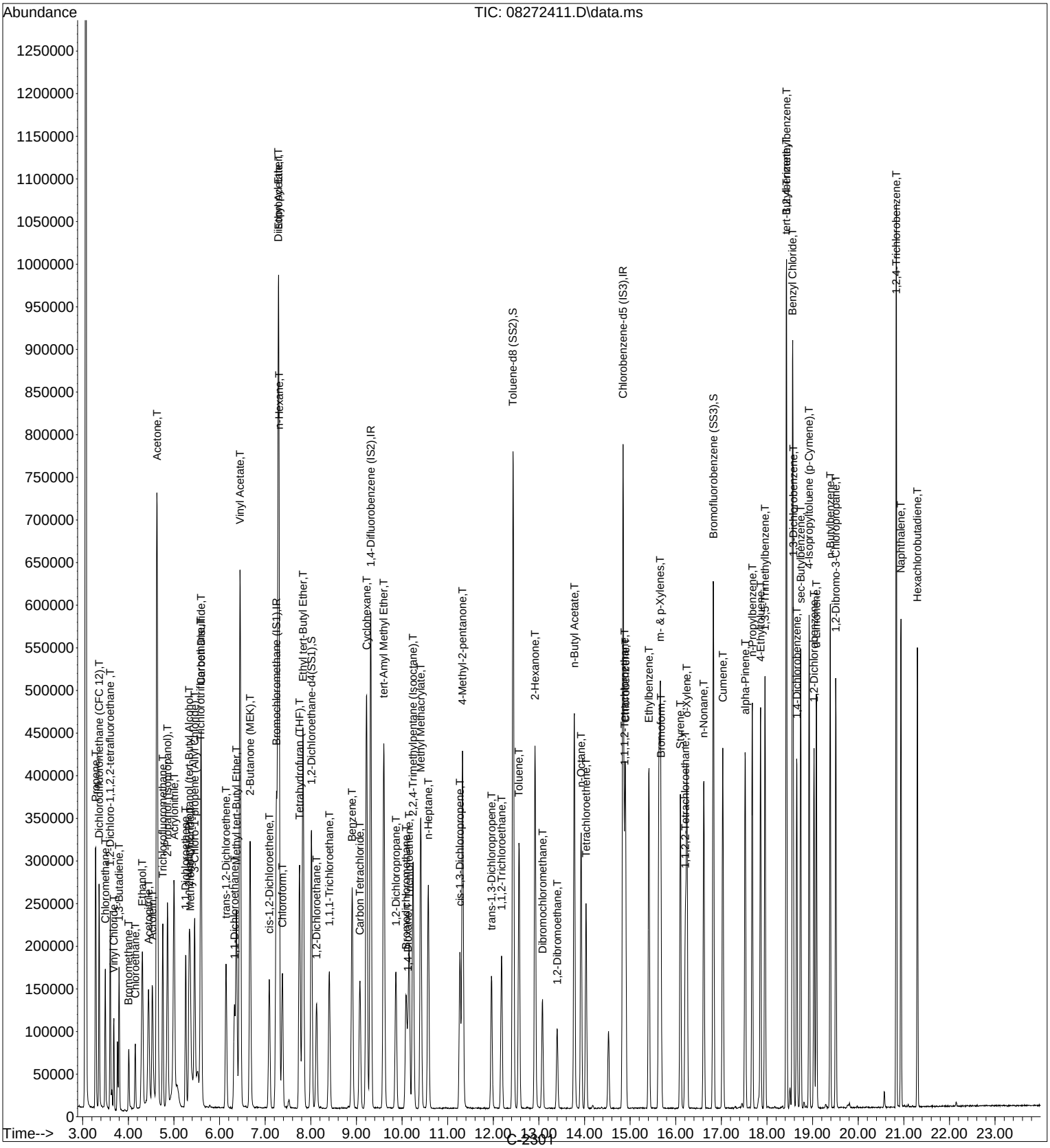
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	63408	4.838 ng		99
52) cis-1,3-Dichloropropene	11.27	75	125698	5.679 ng		99
53) 4-Methyl-2-pentanone	11.33	58	151931	10.998 ng		98
54) trans-1,3-Dichloropropene	11.96	75	107003	5.689 ng		98
55) 1,1,2-Trichloroethane	12.18	97	70196	5.851 ng		97
58) Toluene	12.56	91	275093	2.952 ng		100
59) 2-Hexanone	12.91	43	389364	10.081 ng		99
60) Dibromochloromethane	13.08	129	82135	4.772 ng		100
61) 1,2-Dibromoethane	13.40	107	82010	4.791 ng		100
62) n-Butyl Acetate	13.78	43	446284	10.393 ng		99
63) n-Octane	13.93	57	70751	4.412 ng		98
64) Tetrachloroethene	14.03	166	83394	4.623 ng		99
65) Chlorobenzene	14.90	112	178968	4.469 ng		100
66) Ethylbenzene	15.41	91	338623	4.058 ng		99
67) m- & p-Xylenes	15.66	91	546135	8.520 ng		100
68) Bromoform	15.67	173	76936	5.392 ng		99
69) Styrene	16.10	104	188527	4.822 ng		99
70) o-Xylene	16.24	91	274389	4.504 ng		99
71) n-Nonane	16.61	43	178265	3.951 ng		100
72) 1,1,2,2-Tetrachloroethane	16.21	83	125173	4.812 ng		100
74) Cumene	17.03	105	312066	4.408 ng		100
75) alpha-Pinene	17.53	93	171613	5.119 ng		98
76) n-Propylbenzene	17.68	91	390331	4.860 ng		99
77) 3-Ethyltoluene	17.03	105	312066	No Calib		
78) 4-Ethyltoluene	17.86	105	302637	4.463 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	277495	4.867 ng		99
80) alpha-Methylstyrene	17.04	118	982	No Calib	#	
81) 2-Ethyltoluene	17.03	105	312066	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	283239	4.581 ng		100
83) n-Decane	17.04	58	3072	No Calib		
84) Benzyl Chloride	18.56	91	499375	11.851 ng		99
85) 1,3-Dichlorobenzene	18.58	146	156116	4.699 ng		99
86) 1,4-Dichlorobenzene	18.66	146	154217	4.463 ng		99
87) sec-Butylbenzene	18.74	105	348573	4.666 ng		100
88) 4-Isopropyltoluene (p-...	18.92	119	291739	2.423 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	312066	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	150705	4.540 ng		100
91) d-Limonene	19.08	68	95503	4.363 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	118615	10.236 ng		97
93) n-Undecane	17.96	58	7130	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	280242	10.884 ng		100
95) Naphthalene	20.94	128	343611	4.963 ng		100
96) n-Dodecane	18.92	58	10624	No Calib		
97) Hexachlorobutadiene	21.30	225	95654	5.100 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	246102	4.641 ng		100
100) n-Butylbenzene	19.39	91	294345	4.969 ng		99
101) 1,1,1,2-Tetrachloroethane	14.88	131	71015	5.026 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272411.D Vial: 10
Acq On : 27 Aug 2024 16:02 Operator: SC
Sample : 5.0ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262409 (9/25)

Quant Time: Aug 28 08:24:46 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272412.D Vial: 11
Acq On : 27 Aug 2024 16:34 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:23:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

8/28/24

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	127179	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	561900	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	147206	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.04	65	299408	14.495	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.92%			
57) Toluene-d8 (SS2)	12.44	98	638787	11.377	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.04%			
73) Bromofluorobenzene (SS3)	16.83	174	213351	12.283	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.24%			
Target Compounds						Qvalue
2) Propene	3.27	42	460977	22.592	ng	100
3) Dichlorodifluoromethan...	3.35	85	765039	27.844	ng	100
4) Chloromethane	3.49	50	688806	25.871	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	305916	25.750	ng	100
6) Vinyl Chloride	3.68	62	409432	21.500	ng	100
7) 1,3-Butadiene	3.80	54	299452	22.141	ng	100
8) Bromomethane	4.01	94	258448	25.453	ng	100
9) Chloroethane	4.15	64	242992	25.606	ng	100
10) Ethanol	4.36	45	1795890	131.307	ng	100
11) Acetonitrile	4.48	41	803717	24.421	ng	99
12) Acrolein	4.55	56	612802	53.378	ng	100
13) Acetone	4.65	58	1421307	111.227	ng	100
14) Trichlorofluoromethane	4.76	101	749823	27.577	ng	100
15) 2-Propanol (Isopropanol)	4.90	45	2441753	49.292	ng	100
16) Acrylonitrile	5.03	53	1177667	51.582	ng	100
17) 1,1-Dichloroethene	5.27	96	278207	24.025	ng	100
18) 2-Methyl-2-Propanol (t...	5.37	59	2288221	61.381	ng	100
19) Methylene Chloride	5.39	84	307914	22.263	ng	100
20) 3-Chloro-1-propene (Al...	5.47	41	779430	31.212	ng	100
21) Trichlorotrifluoroethane	5.58	151	278432	24.867	ng	100
22) Carbon Disulfide	5.61	76	2453578	52.343	ng	100
23) trans-1,2-Dichloroethene	6.16	61	619964	28.017	ng	100
24) 1,1-Dichloroethane	6.35	63	694041	25.781	ng	100
25) Methyl tert-Butyl Ether	6.38	73	1145318	29.537	ng	100
26) Vinyl Acetate	6.48	86	359872	146.995	ng	100
27) 2-Butanone (MEK)	6.69	72	429260	41.182	ng	100
28) cis-1,2-Dichloroethene	7.11	61	578129	25.980	ng	100
29) Diisopropyl Ether	7.31	87	528266	54.127	ng	100
30) Ethyl Acetate	7.31	61	285784	50.042	ng	100
31) n-Hexane	7.31	57	656004	24.749	ng	100
32) Chloroform	7.40	83	700038	29.485	ng	100
34) Tetrahydrofuran (THF)	7.76	72	374784	42.493	ng	100
35) Ethyl tert-Butyl Ether	7.84	87	830292	58.074	ng	100
36) 1,2-Dichloroethane	8.15	62	663159	28.834	ng	100
38) 1,1,1-Trichloroethane	8.42	97	685542	31.192	ng	100
39) Isopropyl Acetate	9.61	61	976	No Calib	#	
40) 1-Butanol	8.84	56	2403	No Calib		
41) Benzene	8.92	78	1308921	22.124	ng	100
42) Carbon Tetrachloride	9.09	117	608177	30.013	ng	100
43) Cyclohexane	9.24	84	961805	51.687	ng	100
44) tert-Amyl Methyl Ether	9.61	73	2033249	57.170	ng	100
45) 1,2-Dichloropropane	9.88	63	376655	26.169	ng	100
46) Bromodichloromethane	10.10	83	577989	31.635	ng	100
47) Trichloroethene	10.17	130	352660	25.708	ng	100
48) 1,4-Dioxane	10.13	88	265020	28.536	ng	100
49) 2,2,4-Trimethylpentane...	10.25	57	1694433	25.690	ng	100
50) Methyl Methacrylate	10.43	100	261719	56.650	ng	100

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272412.D Vial: 11
Acq On : 27 Aug 2024 16:34 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:23:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

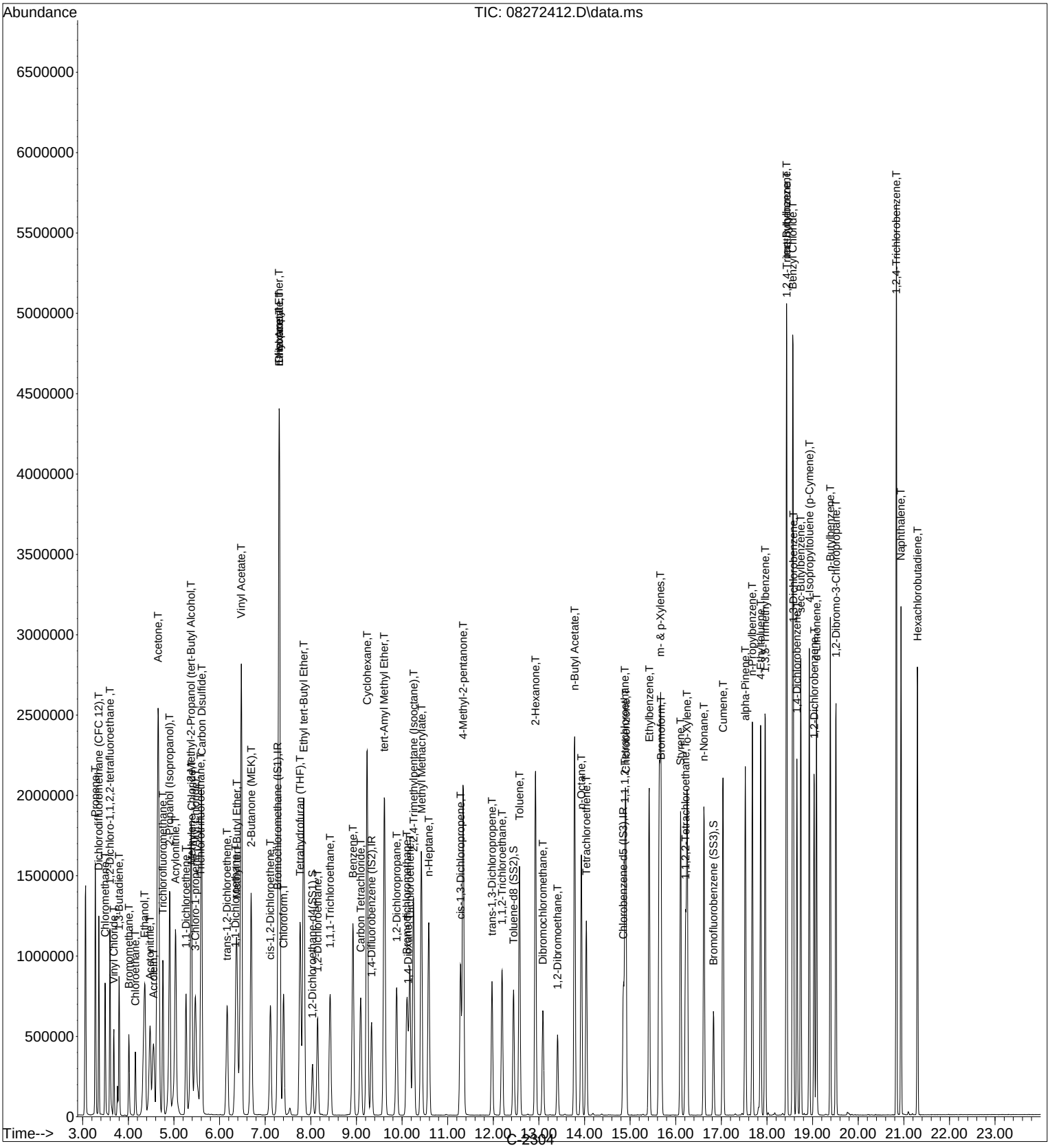
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.59	71	314348	23.585 ng	100
52) cis-1,3-Dichloropropene	11.29	75	668773	29.712 ng	100
53) 4-Methyl-2-pentanone	11.34	58	778182	55.390 ng	100
54) trans-1,3-Dichloropropene	11.97	75	570456	29.822 ng	100
55) 1,1,2-Trichloroethane	12.19	97	358813	29.406 ng	100
58) Toluene	12.57	91	1383984	14.682 ng	100
59) 2-Hexanone	12.93	43	1963930	50.266 ng	100
60) Dibromochloromethane	13.09	129	436441	25.068 ng	100
61) 1,2-Dibromoethane	13.41	107	427013	24.661 ng	100
62) n-Butyl Acetate	13.78	43	2254176	51.893 ng	100
63) n-Octane	13.93	57	354406	21.847 ng	100
64) Tetrachloroethene	14.04	166	424624	23.271 ng	100
65) Chlorobenzene	14.91	112	921146	22.737 ng	100
66) Ethylbenzene	15.42	91	1718998	20.365 ng	100
67) m- & p-Xylenes	15.66	91	2811477	43.358 ng	100
68) Bromoform	15.68	173	430310	29.814 ng	100
69) Styrene	16.11	104	982885	24.851 ng	100
70) o-Xylene	16.25	91	1391534	22.579 ng	100
71) n-Nonane	16.62	43	891455	19.534 ng	100
72) 1,1,2,2-Tetrachloroethane	16.21	83	642273	24.411 ng	100
74) Cumene	17.04	105	1603548	22.390 ng	100
75) alpha-Pinene	17.53	93	886695	26.149 ng	100
76) n-Propylbenzene	17.68	91	1969340	24.238 ng	100
77) 3-Ethyltoluene	17.04	105	1603548	No Calib	
78) 4-Ethyltoluene	17.86	105	1584852	23.107 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	1412635	24.495 ng	100
80) alpha-Methylstyrene	17.03	118	3103	No Calib	
81) 2-Ethyltoluene	17.04	105	1603548	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1459900	23.344 ng	100
83) n-Decane	17.04	58	16150	No Calib	
84) Benzyl Chloride	18.57	91	2705435	63.472 ng	100
85) 1,3-Dichlorobenzene	18.58	146	804760	23.943 ng	100
86) 1,4-Dichlorobenzene	18.66	146	797941	22.831 ng	100
87) sec-Butylbenzene	18.74	105	1766873	23.383 ng	100
88) 4-Isopropyltoluene (p-...	18.93	119	1482599	12.172 ng	100
89) 1,2,3-Trimethylbenzene	17.04	105	1603548	No Calib	
90) 1,2-Dichlorobenzene	19.04	146	778011	23.169 ng	100
91) d-Limonene	19.09	68	497939	22.486 ng	100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	628301	53.598 ng	100
93) n-Undecane	17.96	58	30688	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1461815	56.124 ng	100
95) Naphthalene	20.94	128	1805586	25.780 ng	100
96) n-Dodecane	18.92	58	44524	No Calib #	
97) Hexachlorobutadiene	21.30	225	508450	26.799 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1270285	23.684 ng	100
100) n-Butylbenzene	19.39	91	1507971	25.164 ng	100
101) 1,1,1,2-Tetrachloroethane	14.89	131	373780	26.154 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272412.D Vial: 11
Acq On : 27 Aug 2024 16:34 Operator: SC
Sample : 25ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:23:21 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272413.D Vial: 11
Acq On : 27 Aug 2024 17:06 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:33:18 2024 8/28/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	132034	12.500	ng		0.01
37) 1,4-Difluorobenzene (IS2)	9.34	114	587667	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	152993	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	312934	14.593	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.72%				
57) Toluene-d8 (SS2)	12.45	98	670582	11.491	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 91.92%				
73) Bromofluorobenzene (SS3)	16.83	174	227257	12.588	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.72%				
Target Compounds							Qvalue
2) Propene	3.27	42	943889	44.558	ng		100
3) Dichlorodifluoromethan...	3.34	85	1469784	51.527	ng		100
4) Chloromethane	3.48	50	1306338	47.261	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	679402	55.086	ng		100
6) Vinyl Chloride	3.68	62	973455	49.238	ng		99
7) 1,3-Butadiene	3.79	54	618735	44.066	ng		97
8) Bromomethane	4.01	94	580339	55.051	ng		99
9) Chloroethane	4.15	64	501022	50.854	ng		100
10) Ethanol	4.38	45	3588289	252.711	ng		100
11) Acetonitrile	4.49	41	1650634	48.311	ng		100
12) Acrolein	4.55	56	1258488	105.589	ng		99
13) Acetone	4.66	58	2878832	217.005	ng		95
14) Trichlorofluoromethane	4.76	101	1523988	53.988	ng		100
15) 2-Propanol (Isopropanol)	4.92	45	4507732	87.653	ng		100
16) Acrylonitrile	5.04	53	2407770	101.583	ng		100
17) 1,1-Dichloroethene	5.27	96	573842	47.733	ng		100
18) 2-Methyl-2-Propanol (t...	5.39	59	3556006	91.882	ng		97
19) Methylene Chloride	5.39	84	636440	44.325	ng		97
20) 3-Chloro-1-propene (Al...	5.48	41	1503163	57.981	ng		96
21) Trichlorotrifluoroethane	5.58	151	573271	49.316	ng		100
22) Carbon Disulfide	5.61	76	5009806	102.946	ng		100
23) trans-1,2-Dichloroethene	6.17	61	1284181	55.901	ng		100
24) 1,1-Dichloroethane	6.36	63	1418474	50.754	ng		99
25) Methyl tert-Butyl Ether	6.38	73	2350042	58.377	ng		100
26) Vinyl Acetate	6.49	86	750096	295.122	ng	#	84
27) 2-Butanone (MEK)	6.70	72	892130	82.440	ng	#	93
28) cis-1,2-Dichloroethene	7.12	61	1189420	51.486	ng		99
29) Diisopropyl Ether	7.31	87	1091593	107.734	ng	#	87
30) Ethyl Acetate	7.32	61	586904	98.990	ng		99
31) n-Hexane	7.31	57	1328082	48.261	ng		99
32) Chloroform	7.41	83	1435074	58.221	ng		99
34) Tetrahydrofuran (THF)	7.78	72	782419	85.449	ng		97
35) Ethyl tert-Butyl Ether	7.85	87	1718566	115.784	ng		98
36) 1,2-Dichloroethane	8.16	62	1340769	56.152	ng		99
38) 1,1,1-Trichloroethane	8.43	97	1407369	61.228	ng		100
39) Isopropyl Acetate	9.62	61	2128	No Calib		#	
40) 1-Butanol	8.84	56	3953	No Calib		#	
41) Benzene	8.93	78	2721461	43.982	ng		100
42) Carbon Tetrachloride	9.10	117	1241603	58.585	ng		99
43) Cyclohexane	9.24	84	1991107	102.310	ng		98
44) tert-Amyl Methyl Ether	9.62	73	4178657	112.341	ng		99
45) 1,2-Dichloropropane	9.89	63	786658	52.259	ng		100
46) Bromodichloromethane	10.11	83	1190463	62.301	ng		99
47) Trichloroethene	10.18	130	728605	50.784	ng		100
48) 1,4-Dioxane	10.14	88	557344	57.381	ng		99
49) 2,2,4-Trimethylpentane...	10.26	57	3471402	50.325	ng		99
50) Methyl Methacrylate	10.43	100	548951	113.612	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272413.D Vial: 11
Acq On : 27 Aug 2024 17:06 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:33:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

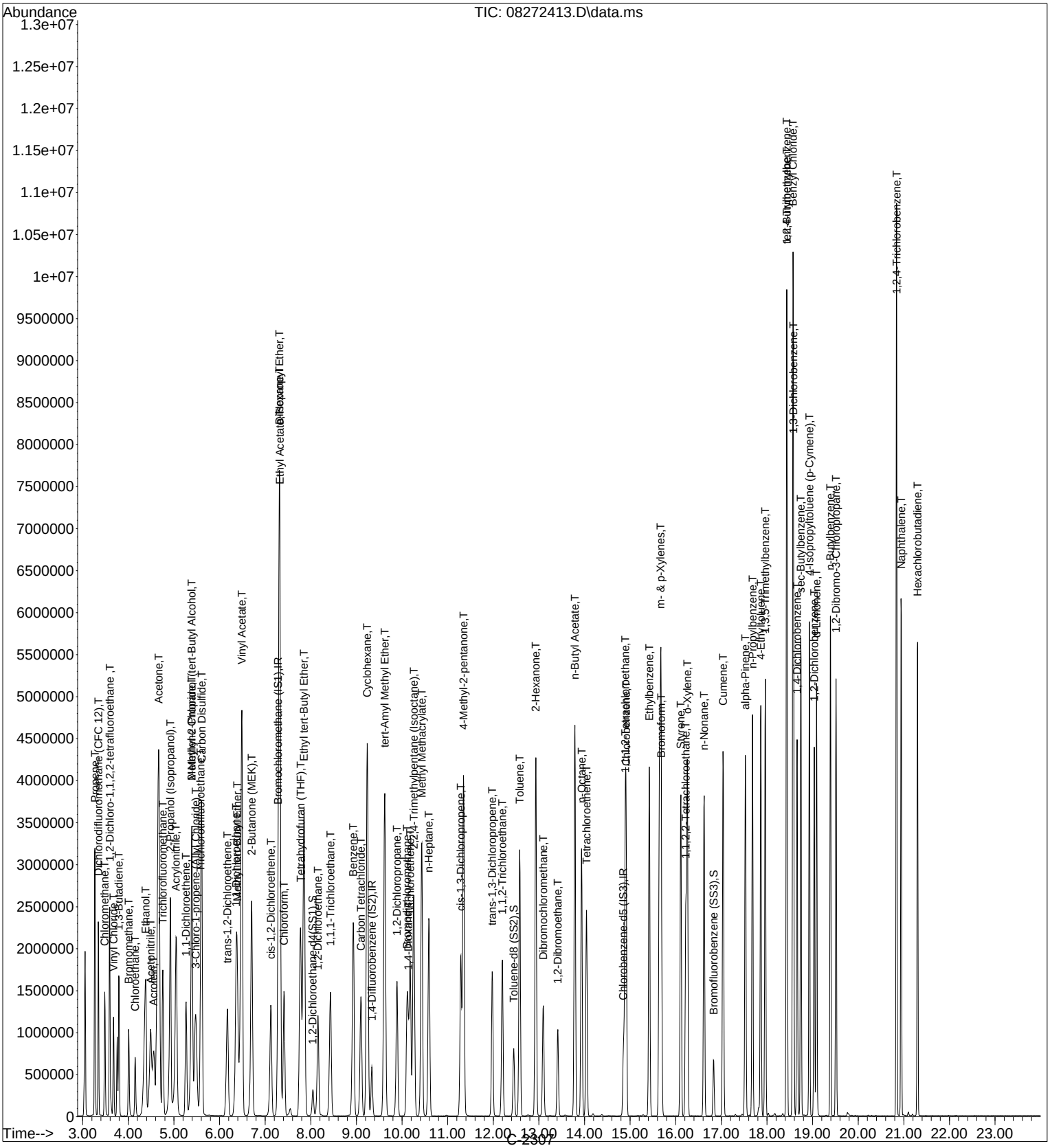
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	658354	47.230	ng		99
52) cis-1,3-Dichloropropene	11.29	75	1389077	59.007	ng		99
53) 4-Methyl-2-pentanone	11.35	58	1599661	108.870	ng		96
54) trans-1,3-Dichloropropene	11.98	75	1196977	59.830	ng		100
55) 1,1,2-Trichloroethane	12.20	97	743002	58.222	ng		100
58) Toluene	12.58	91	2882253	29.419	ng		100
59) 2-Hexanone	12.93	43	3917860	96.483	ng		97
60) Dibromochloromethane	13.10	129	909493	50.263	ng		99
61) 1,2-Dibromoethane	13.41	107	893583	49.655	ng		100
62) n-Butyl Acetate	13.79	43	4459741	98.783	ng		98
63) n-Octane	13.94	57	725971	43.059	ng		99
64) Tetrachloroethene	14.04	166	880609	46.434	ng		100
65) Chlorobenzene	14.91	112	1920960	45.621	ng		100
66) Ethylbenzene	15.42	91	3546549	40.426	ng		100
67) m- & p-Xylenes	15.67	91	5798962	86.047	ng		99
68) Bromoform	15.69	173	902179	60.144	ng		99
69) Styrene	16.11	104	2056906	50.039	ng		100
70) o-Xylene	16.25	91	2860750	44.662	ng		100
71) n-Nonane	16.62	43	1764124	37.195	ng		97
72) 1,1,2,2-Tetrachloroethane	16.22	83	1338646	48.953	ng		99
74) Cumene	17.04	105	3280359	44.069	ng		99
75) alpha-Pinene	17.53	93	1825370	51.794	ng		100
76) n-Propylbenzene	17.68	91	4034736	47.780	ng		100
77) 3-Ethyltoluene	17.04	105	3280359	No Calib			
78) 4-Ethyltoluene	17.87	105	3207257	44.992	ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	2912459	48.593	ng		100
80) alpha-Methylstyrene	17.04	118	6023	No Calib		#	
81) 2-Ethyltoluene	17.04	105	3280359	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	2976073	45.787	ng		99
83) n-Decane	17.03	58	28618	No Calib			
84) Benzyl Chloride	18.57	91	5523824	124.691	ng		99
85) 1,3-Dichlorobenzene	18.58	146	1642026	47.006	ng		100
86) 1,4-Dichlorobenzene	18.66	146	1636082	45.041	ng		99
87) sec-Butylbenzene	18.74	105	3600266	45.844	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	3015532	23.822	ng		100
89) 1,2,3-Trimethylbenzene	17.04	105	3280359	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	1585696	45.435	ng		100
91) d-Limonene	19.09	68	1031993	44.841	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	1288559	105.764	ng		98
93) n-Undecane	17.96	58	62432	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	3003460	110.951	ng		99
95) Naphthalene	20.94	128	3710298	50.971	ng		99
96) n-Dodecane	18.93	58	77603	No Calib		#	
97) Hexachlorobutadiene	21.30	225	1039143	52.698	ng		99
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.43	119	2575293	46.198	ng		99
100) n-Butylbenzene	19.39	91	3069632	49.286	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	770587	51.879	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272413.D Vial: 11
Acq On : 27 Aug 2024 17:06 Operator: SC
Sample : 50ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:33:18 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272414.D Vial: 11
Acq On : 27 Aug 2024 17:38 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

8/28/24

Quant Time: Aug 28 08:34:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	134828	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.35	114	607760	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.86	54	158515	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	316120	14.436	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 115.52%				
57) Toluene-d8 (SS2)	12.46	98	695388	11.501	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.00%				
73) Bromofluorobenzene (SS3)	16.83	174	232103	12.409	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.28%				
Target Compounds							Qvalue
2) Propene	3.28	42	1907904	88.200	ng		100
3) Dichlorodifluoromethan...	3.36	85	2908468	99.850	ng		99
4) Chloromethane	3.51	50	2114314	74.907	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	1361158	108.075	ng		99
6) Vinyl Chloride	3.70	62	2154023	106.695	ng		100
7) 1,3-Butadiene	3.81	54	1463846	102.094	ng		92
8) Bromomethane	4.03	94	963859	89.538	ng		99
9) Chloroethane	4.17	64	1035676	102.944	ng		100
10) Ethanol	4.42	45	6945935	479.042	ng		99
11) Acetonitrile	4.52	41	4007847	114.871	ng		95
12) Acrolein	4.58	56	2550999	209.598	ng		100
13) Acetone	4.69	58	5752209	424.613	ng	#	86
14) Trichlorofluoromethane	4.77	101	3061876	106.222	ng		100
15) 2-Propanol (Isopropanol)	4.96	45	8307669	158.195	ng		100
16) Acrylonitrile	5.08	53	4909724	202.847	ng		99
17) 1,1-Dichloroethene	5.28	96	1194201	97.277	ng		97
18) 2-Methyl-2-Propanol (t...	5.43	59	4783372	121.034	ng	#	40
19) Methylene Chloride	5.42	84	1308787	89.262	ng		100
20) 3-Chloro-1-propene (Al...	5.50	41	2856172	107.887	ng		91
21) Trichlorotrifluoroethane	5.61	151	1161286	97.831	ng		100
22) Carbon Disulfide	5.62	76	10014163	201.516	ng		99
23) trans-1,2-Dichloroethene	6.19	61	2625154	111.906	ng		99
24) 1,1-Dichloroethane	6.38	63	2878305	100.854	ng		99
25) Methyl tert-Butyl Ether	6.41	73	4671155	113.631	ng		100
26) Vinyl Acetate	6.52	86	1544356	595.030	ng	#	71
27) 2-Butanone (MEK)	6.73	72	1831846	165.770	ng	#	84
28) cis-1,2-Dichloroethene	7.15	61	2438496	103.366	ng		99
29) Diisopropyl Ether	7.33	87	2222018	214.755	ng	#	69
30) Ethyl Acetate	7.34	61	1163061	192.103	ng		96
31) n-Hexane	7.33	57	2573536	91.582	ng		99
32) Chloroform	7.44	83	2891809	114.890	ng		100
34) Tetrahydrofuran (THF)	7.79	72	1602885	171.425	ng		97
35) Ethyl tert-Butyl Ether	7.87	87	3520744	232.286	ng		94
36) 1,2-Dichloroethane	8.18	62	2683051	110.039	ng		98
38) 1,1,1-Trichloroethane	8.45	97	2829813	119.041	ng		100
39) Isopropyl Acetate	9.63	61	4217	No Calib		#	
40) 1-Butanol	8.86	56	7982	No Calib		#	
41) Benzene	8.95	78	5575382	87.125	ng		100
42) Carbon Tetrachloride	9.12	117	2512710	114.643	ng		99
43) Cyclohexane	9.25	84	4083834	202.904	ng		95
44) tert-Amyl Methyl Ether	9.64	73	8431396	219.180	ng		98
45) 1,2-Dichloropropane	9.91	63	1615022	103.742	ng		99
46) Bromodichloromethane	10.13	83	2417177	122.317	ng		99
47) Trichloroethene	10.20	130	1489911	100.414	ng		100
48) 1,4-Dioxane	10.16	88	1145965	114.081	ng		97
49) 2,2,4-Trimethylpentane...	10.27	57	6936051	97.227	ng		99
50) Methyl Methacrylate	10.45	100	1138381	227.812	ng		96

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272414.D Vial: 11
Acq On : 27 Aug 2024 17:38 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:34:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

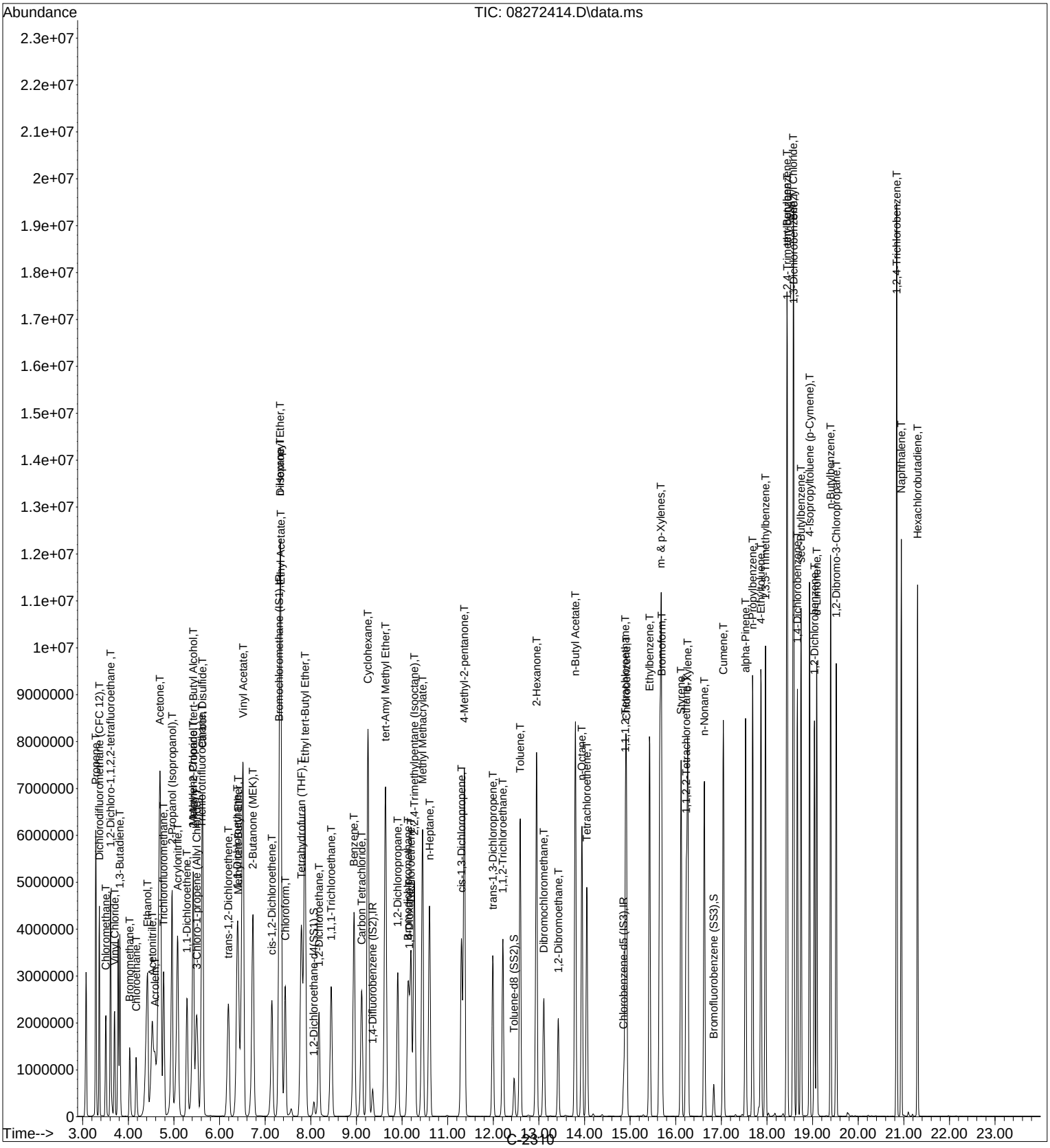
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.60	71	1344177	93.242	ng		98
52) cis-1,3-Dichloropropene	11.30	75	2833936	116.404	ng		99
53) 4-Methyl-2-pentanone	11.36	58	3172295	208.762	ng		89
54) trans-1,3-Dichloropropene	11.99	75	2452007	118.510	ng		100
55) 1,1,2-Trichloroethane	12.21	97	1527616	115.747	ng		100
58) Toluene	12.59	91	5895586	58.080	ng		99
59) 2-Hexanone	12.95	43	7420547	176.376	ng		94
60) Dibromochloromethane	13.11	129	1869545	99.721	ng		99
61) 1,2-Dibromoethane	13.43	107	1846422	99.029	ng		100
62) n-Butyl Acetate	13.80	43	8364749	178.825	ng		94
63) n-Octane	13.94	57	1459176	83.533	ng		97
64) Tetrachloroethene	14.05	166	1801556	91.687	ng		100
65) Chlorobenzene	14.92	112	3913767	89.711	ng		100
66) Ethylbenzene	15.42	91	7119606	78.327	ng		98
67) m- & p-Xylenes	15.67	91	11511477	164.860	ng		97
68) Bromoform	15.69	173	1831354	117.834	ng		99
69) Styrene	16.12	104	4216418	99.000	ng		99
70) o-Xylene	16.26	91	5720440	86.196	ng		98
71) n-Nonane	16.63	43	3338093	67.929	ng		93
72) 1,1,2,2-Tetrachloroethane	16.23	83	2735192	96.539	ng		100
74) Cumene	17.04	105	6553834	84.979	ng		98
75) alpha-Pinene	17.53	93	3666459	100.410	ng		100
76) n-Propylbenzene	17.68	91	7975851	91.161	ng		99
77) 3-Ethyltoluene	17.04	105	6553834	No Calib			
78) 4-Ethyltoluene	17.87	105	6480479	87.743	ng		98
79) 1,3,5-Trimethylbenzene	17.97	105	5776059	93.013	ng		98
80) alpha-Methylstyrene	17.04	118	11203	No Calib		#	
81) 2-Ethyltoluene	17.04	105	6553834	No Calib			
82) 1,2,4-Trimethylbenzene	18.45	105	5782080	85.858	ng		97
83) n-Decane	17.04	58	55043	No Calib			
84) Benzyl Chloride	18.58	91	10275692	223.877	ng		95
85) 1,3-Dichlorobenzene	18.59	146	3276055	90.516	ng		99
86) 1,4-Dichlorobenzene	18.67	146	3289309	87.400	ng		99
87) sec-Butylbenzene	18.75	105	7002980	86.067	ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	5883542	44.859	ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	6553834	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	3184222	88.059	ng		100
91) d-Limonene	19.09	68	2057253	86.275	ng		99
92) 1,2-Dibromo-3-Chloropr...	19.52	157	2559335	202.751	ng		94
93) n-Undecane	17.97	58	123541	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	5869380	209.269	ng		99
95) Naphthalene	20.94	128	7304004	96.845	ng		98
96) n-Dodecane	18.93	58	153127	No Calib		#	
97) Hexachlorobutadiene	21.30	225	2073205	101.476	ng		99
98) Cyclohexanone	15.25	55	329	No Calib		#	
99) tert-Butylbenzene	18.44	119	5081988	87.990	ng		98
100) n-Butylbenzene	19.39	91	5942079	92.083	ng		98
101) 1,1,1,2-Tetrachloroethane	14.90	131	1554579	101.015	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272414.D Vial: 11
Acq On : 27 Aug 2024 17:38 Operator: SC
Sample : 100ng TO-15 ICAL STD Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Aug 28 08:34:30 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 08:23:16 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-2310

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272420.D Vial: 2
Acq On : 28 Aug 2024 10:13 Operator: SC
Sample : ICV R09082624 25ng Inst : MS09
Misc : S37-08262404/S37-08132404 (9/12)

Quant Time: Aug 28 10:39:42 2024 8/28/24
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:13:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	148590	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	655219	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	162758	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	332316	11.952	ng		0.07
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.60%				
57) Toluene-d8 (SS2)	12.44	98	737107	12.910	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.28%				
73) Bromofluorobenzene (SS3)	16.83	174	245337	12.848	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.80%				
Target Compounds							Qvalue
2) Propene	3.28	42	539554	24.039	ng		99
3) Dichlorodifluoromethan...	3.36	85	843437	23.381	ng		100
4) Chloromethane	3.49	50	760624	26.960	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	338139	25.951	ng		99
6) Vinyl Chloride	3.69	62	468425	25.661	ng		99
7) 1,3-Butadiene	3.80	54	333691	26.322	ng		99
8) Bromomethane	4.02	94	324826	27.776	ng		98
9) Chloroethane	4.16	64	267865	26.778	ng		100
10) Ethanol	4.36	45	2115948	131.211	ng		99
11) Acetonitrile	4.48	41	933292	25.601	ng		100
12) Acrolein	4.56	56	697613	56.626	ng		99
13) Acetone	4.66	58	1680634	123.512	ng		93
14) Trichlorofluoromethane	4.76	101	820043	23.832	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2759637	51.510	ng		99
16) Acrylonitrile	5.04	53	1365847	53.803	ng		100
17) 1,1-Dichloroethene	5.27	96	381148	27.409	ng		97
18) 2-Methyl-2-Propanol (t...	5.38	59	2338932	53.446	ng		99
19) Methylene Chloride	5.39	84	402127	25.081	ng		97
20) 3-Chloro-1-propene (Al...	5.48	41	804900	25.203	ng		99
21) Trichlorotrifluoroethane	5.59	151	368688	27.045	ng		100
22) Carbon Disulfide	5.61	76	2893545	54.474	ng		100
23) trans-1,2-Dichloroethene	6.17	61	720541	27.690	ng		99
24) 1,1-Dichloroethane	6.36	63	827364	26.486	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1299651	27.390	ng		100
26) Vinyl Acetate	6.48	86	422225	152.656	ng	#	94
27) 2-Butanone (MEK)	6.70	72	501793	51.978	ng		95
28) cis-1,2-Dichloroethene	7.12	61	682319	26.605	ng		100
29) Diisopropyl Ether	7.31	87	608646	51.720	ng		97
30) Ethyl Acetate	7.31	61	332902	51.468	ng		99
31) n-Hexane	7.32	57	771084	26.145	ng		99
32) Chloroform	7.41	83	797431	26.937	ng		100
34) Tetrahydrofuran (THF)	7.77	72	459775	50.500	ng		97
35) Ethyl tert-Butyl Ether	7.85	87	950582	54.892	ng		99
36) 1,2-Dichloroethane	8.15	62	716019	24.403	ng		99
38) 1,1,1-Trichloroethane	8.43	97	754987	25.923	ng		100
39) Isopropyl Acetate	9.63	61	1174	No Calib		#	
40) 1-Butanol	8.84	56	4271	No Calib		#	
41) Benzene	8.93	78	1521800	24.771	ng		99
42) Carbon Tetrachloride	9.09	117	666057	26.166	ng		100
43) Cyclohexane	9.24	84	1132547	54.601	ng		99
44) tert-Amyl Methyl Ether	9.62	73	2323244	54.549	ng		99
45) 1,2-Dichloropropane	9.88	63	433570	26.659	ng		99
46) Bromodichloromethane	10.10	83	658642	28.501	ng		99
47) Trichloroethene	10.17	130	399796	26.283	ng		99
48) 1,4-Dioxane	10.14	88	310357	29.289	ng		98
49) 2,2,4-Trimethylpentane...	10.25	57	1946070	26.760	ng		98
50) Methyl Methacrylate	10.43	100	305635	57.213	ng		97

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272420.D Vial: 2
Acq On : 28 Aug 2024 10:13 Operator: SC
Sample : ICV R09082624 25ng Inst : MS09
Misc : S37-08262404/S37-08132404 (9/12)

Quant Time: Aug 28 10:39:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:13:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

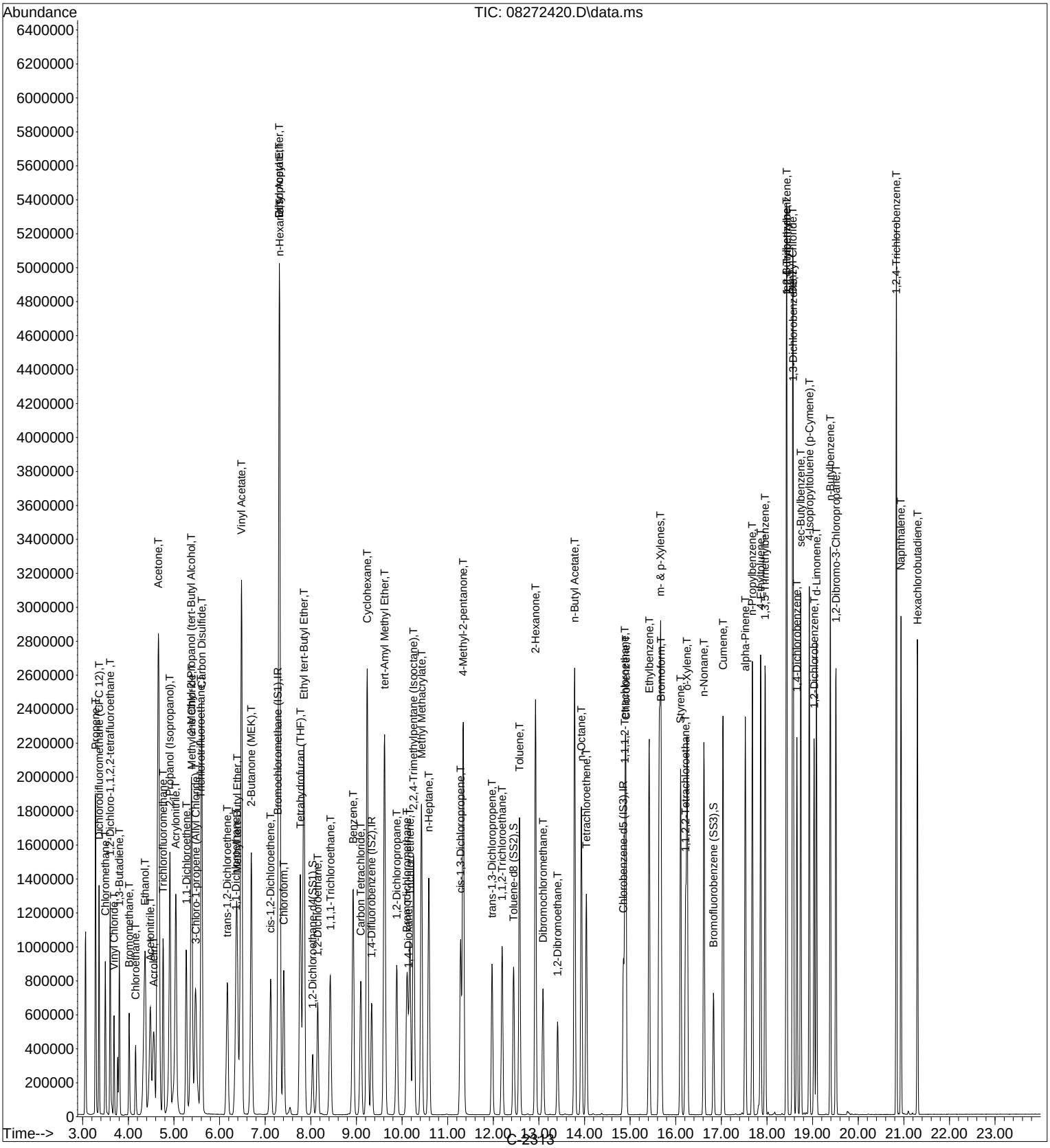
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	374931	27.390	ng		99
52) cis-1,3-Dichloropropene	11.29	75	743660	28.156	ng		100
53) 4-Methyl-2-pentanone	11.34	58	896912	55.290	ng		98
54) trans-1,3-Dichloropropene	11.97	75	627216	27.064	ng		99
55) 1,1,2-Trichloroethane	12.19	97	400054	27.623	ng		99
58) Toluene	12.57	91	1556806	25.223	ng		100
59) 2-Hexanone	12.93	43	2213526	57.948	ng		98
60) Dibromochloromethane	13.09	129	502490	29.235	ng		100
61) 1,2-Dibromoethane	13.41	107	472427	28.942	ng		100
62) n-Butyl Acetate	13.78	43	2499067	58.376	ng		99
63) n-Octane	13.93	57	403591	27.815	ng		99
64) Tetrachloroethene	14.04	166	470947	27.529	ng		100
65) Chlorobenzene	14.91	112	1019559	27.199	ng		99
66) Ethylbenzene	15.42	91	1893204	26.659	ng		100
67) m- & p-Xylenes	15.66	91	3073793	53.232	ng		99
68) Bromoform	15.68	173	486623	31.168	ng		98
69) Styrene	16.11	104	1078763	28.894	ng		98
70) o-Xylene	16.25	91	1514544	26.867	ng		99
71) n-Nonane	16.62	43	998331	27.006	ng		98
72) 1,1,2,2-Tetrachloroethane	16.21	83	702288	27.499	ng		100
74) Cumene	17.04	105	1785842	27.339	ng		99
75) alpha-Pinene	17.53	93	981974	28.899	ng		99
76) n-Propylbenzene	17.68	91	2211198	27.266	ng		100
77) 3-Ethyltoluene	17.04	105	1785842	No Calib			
78) 4-Ethyltoluene	17.86	105	1780888	28.008	ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1517650	27.369	ng		100
80) alpha-Methylstyrene	17.04	118	3627	No Calib		#	
81) 2-Ethyltoluene	17.04	105	1785842	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1552972	26.762	ng		99
83) n-Decane	17.03	58	15545	No Calib			
84) Benzyl Chloride	18.56	91	2877322	65.776	ng		100
85) 1,3-Dichlorobenzene	18.58	146	838209	26.119	ng		100
86) 1,4-Dichlorobenzene	18.66	146	821805	25.828	ng		100
87) sec-Butylbenzene	18.74	105	1953268	26.630	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1606839	25.245	ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1785842	No Calib			
90) 1,2-Dichlorobenzene	19.04	146	813155	25.416	ng		100
91) d-Limonene	19.09	68	559051	28.807	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	660246	58.390	ng		98
93) n-Undecane	17.96	58	34940	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1372870	52.950	ng		99
95) Naphthalene	20.94	128	1713150	28.007	ng		100
96) n-Dodecane	18.92	58	55975	No Calib		#	
97) Hexachlorobutadiene	21.30	225	502649	24.226	ng		99
98) Cyclohexanone	15.23	55	118	No Calib		#	
99) tert-Butylbenzene	18.43	119	1408725	27.435	ng		100
100) n-Butylbenzene	19.39	91	1635201	26.983	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	419042	29.170	ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 08\27\08272420.D Vial: 2
Acq On : 28 Aug 2024 10:13 Operator: SC
Sample : ICV R09082624 25ng Inst : MS09
Misc : S37-08262404/S37-08132404 (9/12)

Quant Time: Aug 28 10:39:42 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Aug 28 10:13:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

LCS Acceptance Criteria

8/28/24

ICV R09082624_25ng

	RT
Bromochloromethane (IS1)	7.28
1,4-Difluorobenzene (IS2)	9.33
Chlorobenzene-d5 (IS3)	14.85

Datafile: 08272420.D
Instrument: MS-09
Date: 8/28/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
115-07-1	Propene	24.039	26.500	91	50-133	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	23.381	25.500	92	66-122	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	26.960	26.000	104	56-131	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	25.951	26.000	100	63-120	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	25.661	26.500	97	57-129	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	26.322	26.500	99	62-132	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	27.776	26.250	106	72-120	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	26.778	26.500	101	67-123	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	131.211	139.3	94	52-120	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	25.601	26.750	96	50-114	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	56.626	53.250	106	63-125	ok	70-130	ok	62-126	ok
67-64-1	Acetone	123.512	132.3	93	61-120	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	23.832	26.250	91	65-122	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	51.510	52.250	99	59-132	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	53.803	53.000	102	60-128	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	27.409	26.000	105	75-120	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	53.446	51.250	104	60-143	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	25.081	26.000	96	71-123	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	25.203	26.750	94	50-118	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	27.045	26.250	103	65-121	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	54.474	53.750	101	69-115	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	27.690	27.250	102	67-123	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	26.486	27.000	98	66-120	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	27.390	27.000	101	65-124	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	152.656	136.5	112	76-147	ok	70-130	ok	56-139	ok
78-93-3	2-Butanone	51.978	51.750	100	70-125	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	26.605	27.000	99	64-120	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	51.720	53.250	97	64-120	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	51.468	49.750	103	56-120	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	26.145	26.500	99	60-125	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	26.937	27.000	100	64-121	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	50.500	50.500	100	67-117	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	54.892	53.000	104	69-121	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	24.403	25.750	95	64-138	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	25.923	26.250	99	67-125	ok	70-130	ok	68-125	ok
108-21-4	Isopropyl Acetate	0.000	-	-	-	-	70-130	-	65-129	-
71-36-3	1-Butanol	0.000	-	-	-	-	70-130	-	62-133	-
71-43-2	Benzene	24.771	25.750	96	73-128	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	26.166	26.250	100	71-134	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	54.601	53.500	102	71-118	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	54.549	53.000	103	70-126	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	26.659	26.750	100	68-121	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	28.501	27.250	105	70-125	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	26.283	26.750	98	68-124	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	29.289	26.750	109	76-127	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	26.760	26.750	100	62-124	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	57.213	53.500	107	77-118	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	27.390	26.750	102	72-121	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	28.156	26.500	106	87-137	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	55.290	53.250	104	67-137	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

ICV R09082624_25ng

	RT
Bromochloromethane (IS1)	7.28
1,4-Difluorobenzene (IS2)	9.33
Chlorobenzene-d5 (IS3)	14.85

Datafile: 08272420.D
Instrument: MS-09
Date: 8/28/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	ALS Pass/Fail	70-130 LCS Limits	70-130 Pass/Fail	DOD LCS Limits	DOD Pass/Fail
10061-02-6	trans-1,3-Dichloropropene	27.064	24.500	110	73-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	27.623	27.000	102	71-119	ok	70-130	ok	73-119	ok
108-88-3	Toluene	25.223	26.750	94	64-121	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	57.948	53.250	109	70-136	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	29.235	26.750	109	67-128	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	28.942	25.750	112	69-129	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	58.376	53.250	110	70-135	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	27.815	26.750	104	66-124	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	27.529	26.750	103	55-132	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	27.199	27.250	100	63-124	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	26.659	27.250	98	64-119	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	53.232	54.000	99	64-121	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	31.168	27.250	114	63-132	ok	70-130	ok	66-139	ok
100-42-5	Styrene	28.894	26.750	108	71-125	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	26.867	27.000	100	66-122	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	27.006	26.750	101	65-129	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	27.499	27.000	102	71-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	27.339	26.500	103	66-126	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	28.899	27.000	107	65-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	27.266	26.750	102	67-126	ok	70-130	ok	69-123	ok
620-14-4	3-Ethyltoluene	0.000	-	-	-	-	70-130	-	62-123	-
622-96-8	4-Ethyltoluene	28.008	27.250	103	67-128	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	27.369	27.250	100	66-125	ok	70-130	ok	67-130	ok
98-83-9	alpha-Methylstyrene	0.000	-	-	-	-	70-130	-	67-128	-
611-14-3	2-Ethyltoluene	0.000	-	-	-	-	70-130	-	66-121	-
95-63-6	1,2,4-Trimethylbenzene	26.762	26.500	101	67-130	ok	70-130	ok	66-132	ok
124-18-5	n-Decane	0.000	-	-	-	-	70-130	-	70-118	-
100-44-7	Benzyl Chloride	65.776	53.750	122	58-151	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	26.119	26.750	98	57-135	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	25.828	26.750	97	56-129	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	26.630	26.500	100	64-132	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	25.245	26.250	96	65-125	ok	70-130	ok	67-130	ok
526-73-8	1,2,3-Trimethylbenzene	0.000	-	-	-	-	70-130	-	60-134	-
95-50-1	1,2-Dichlorobenzene	25.416	26.500	96	57-138	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	28.807	26.000	111	70-129	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	58.390	53.250	110	63-138	ok	70-130	ok	73-133	ok
1120-21-4	n-Undecane	0.000	-	-	-	-	70-130	-	69-123	-
120-82-1	1,2,4-Trichlorobenzene	52.950	55.000	96	50-137	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	28.007	27.500	102	50-157	ok	70-130	ok	57-138	ok
112-40-3	n-Dodecane	0.000	-	-	-	-	70-130	-	62-147	-
87-68-3	Hexachloro-1,3-butadiene	24.226	26.750	91	50-133	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	-	-	-	-	70-130	-	61-132	-
98-06-6	tert-Butylbenzene	27.435	26.750	103	63-130	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	26.983	26.250	103	69-133	ok	70-130	ok	66-130	ok

Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : C09041824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Fri Apr 19 11:07:52 2024
Response Via : Initial Calibration

4/19/24

Calibration Files
0.40=04182428.D 1.0 =04182429.D 2.5 =04182430.D 5.0 =04182431.D 25 =04182432.D 50 =04182

		Compound	0.40	1.0	2.5	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Chloropentaflu...	1.847	1.723	1.621	1.619	1.477	1.365	1.233	1.555	13.60
3)	T	1,1,1,2-Tetraf...	1.479	1.392	1.321	1.294	1.217	1.182	1.093	1.283	10.19
4)	T	1,1-Difluoroet...	1.308	1.174	1.107	1.083	1.043	1.013	0.912	1.091	11.52
5)	T	Chlorodifluoro...	0.484	0.448	0.432	0.428	0.411	0.400	0.378	0.426	8.10
6)	T	1-Chloro-1,1-D...	3.256	3.006	2.887	2.826	2.670	2.598	2.470	2.816	9.42
7)	T	Dichlorofluoro...	3.244	3.057	2.921	2.876	2.754	2.673	2.540	2.866	8.29
8)	T	Vinylbromide	1.221	1.134	1.070	1.047	1.042	1.007	0.966	1.070	7.92
9)	T	2,2-Dichloro-1...	1.981	1.829	1.725	1.735	1.658	1.641	1.573	1.735	7.83
10)	T	2-Methylbutane	1.762	1.590	1.501	1.493	1.408	1.376	1.307	1.491	10.14
11)	T	Methyl Acetate	4.737	4.411	4.247	4.192	4.068	4.019	3.813	4.212	7.08
12)	T	2-Methylpentane	1.246	1.137	1.083	1.069	1.034	1.025	0.981	1.082	8.08
13)	T	2,2-Dichloropr...	2.172	2.039	2.013	2.027	2.017	2.029	1.972	2.038	3.08
14)	T	1,1-Dichloropr...	2.012	1.863	1.743	1.742	1.731	1.726	1.660	1.782	6.60
15)	T	Thiophene	2.870	2.624	2.549	2.511	2.484	2.446	2.341	2.546	6.57
16)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
17)	T	2,3-Dimethylpe...	0.689	0.634	0.602	0.599	0.583	0.575	0.552	0.605	7.45
18)	T	Dibromomethane	0.257	0.225	0.217	0.214	0.218	0.216	0.210	0.222	7.13
19)	IR	Chlorobenzene-d5 (...	----------	ISTD	----------						
20)	T	Methyl Cyclohe...	2.458	2.253	2.108	2.118	2.078	2.024	1.975	2.145	7.60
21)	T	1,3-Dichloropr...	1.857	1.738	1.640	1.642	1.622	1.599	1.567	1.666	5.96
22)	T	1,1,1,2-Tetrac...	1.183	1.111	1.085	1.089	1.103	1.087	1.054	1.102	3.63
23)	T	1-Chlorohexane	1.697	1.552	1.491	1.529	1.540	1.526	1.488	1.546	4.58
24)	T	1,2,3-Trichlor...	1.791	1.678	1.613	1.615	1.688	1.666	1.630	1.669	3.70
25)	T	Bromobenzene	2.054	1.977	1.852	1.848	2.001	1.999	1.974	1.958	4.00
26)	T	2-Chlorotoluene	4.040	3.714	3.489	3.496	3.602	3.530	3.391	3.609	5.96
27)	T	4-Chlorotoluene	4.021	3.674	3.472	3.469	3.740	3.675	3.539	3.655	5.28
28)	T	Indane	4.320	4.110	4.034	4.059	4.339	4.187	3.890	4.134	3.89
29)	T	Indene	2.823	2.822	2.840	2.921	3.715	3.630	3.446	3.171	12.86
30)	T	1,2,4,5-Tetram...	4.113	4.029	3.992	4.111	4.799	4.560	4.319	4.275	7.09
31)	T	1,2,3,4-Tetram...	4.339	4.291	4.214	4.224	4.612	4.467	4.029	4.311	4.37
32)	T	1,2,3,5-Tetram...	3.953	3.912	3.861	3.924	4.546	4.382	4.059	4.091	6.50
33)	T	1,2,3-Trichlor...	1.359	1.323	1.296	1.317	1.754	1.732	1.673	1.494	14.31

(#) = Out of Range

C09041824.M Fri Apr 19 11:08:06 2024

4/25/24

Std#: **Working Standards**

(1)	200 ng/L Working Std. ID:	S37-04092404
(2)	20 ng/L Working Std. ID:	S37-04092405

Injection Amts.(L):	0.020	0.050	0.125	0.250	0.125	0.250	0.500
Standards Used:	(2)	(2)	(2)	(2)	(1)	(1)	(1)
Compounds/ Concentrations (ng):	0.4ng	1.0ng	2.5ng	5.0ng	25ng	50ng	100ng
Vinyl bromide	0.400	1.000	2.500	5.00	25.00	50.0	100
2-Methylbutane (Isopentane)	0.408	1.020	2.550	5.10	25.50	51.0	102
2-Methylpentane	0.400	1.000	2.500	5.00	25.00	50.0	100
2,2-Dichloropropane	0.396	0.990	2.475	4.95	24.75	49.5	99
1,1-Dichloropropene	0.416	1.040	2.600	5.20	26.00	52.0	104
Thiophene	0.404	1.010	2.525	5.05	25.25	50.5	101
2,3-Dimethylpentane	0.416	1.040	2.600	5.20	26.00	52.0	104
Dibromomethane	0.428	1.070	2.675	5.35	26.75	53.5	107
1,3-Dichloropropane	0.416	1.040	2.600	5.20	26.00	52.0	104
1,1,1,2-Tetrachloroethane	0.348	0.870	2.175	4.35	21.75	43.5	87
1-Chlorohexane	0.412	1.030	2.575	5.15	25.75	51.5	103
1,2,3-Trichloropropane	0.420	1.050	2.625	5.25	26.25	52.5	105
Bromobenzene	0.420	1.050	2.625	5.25	26.25	52.5	105
2-Chlorotoluene	0.424	1.060	2.650	5.30	26.50	53.0	106
4-Chlorotoluene	0.404	1.010	2.525	5.05	25.25	50.5	101
Indane	0.396	0.990	2.475	4.95	24.75	49.5	99
Indene	0.376	0.940	2.350	4.70	23.50	47.0	94
1,2,4,5-Tetramethylbenzene	0.404	1.010	2.525	5.05	25.25	50.5	101
1,2,3,4-Tetramethylbenzene	0.412	1.030	2.575	5.15	25.75	51.5	103
1,2,3,5-Tetramethylbenzene	0.404	1.010	2.525	5.05	25.25	50.5	101
1,2,3-Trichlorobenzene	0.420	1.050	2.625	5.25	26.25	52.5	105
Chloropentafluoroethane (R115)	0.396	0.990	2.475	4.95	24.75	49.5	99
2,2-Dichloro-1,1,1-trifluoroethane (R123)	0.416	1.040	2.600	5.20	26.00	52.0	104
1,1-Difluoroethane (R152a)	0.424	1.060	2.650	5.30	26.50	53.0	106
Chlorodifluoromethane (R22)	0.416	1.040	2.600	5.20	26.00	52.0	104
Dichlorofluoromethane (R21)	0.396	0.990	2.475	4.95	24.75	49.5	99
1,1,1,2-Tetrafluoroethane (R134a)	0.400	1.000	2.500	5.00	25.00	50.0	100
1-Chloro-1,1-Difluoroethane	0.416	1.040	2.600	5.20	26.00	52.0	104
Methyl Acetate	0.384	0.960	2.400	4.80	24.00	48.0	96
Methylcyclohexane	0.428	1.070	2.675	5.35	26.75	53.5	107
Chlorotrifluoroethene	0.408	1.020	2.550	5.10	25.50	51.0	102

Calibration Status Report MS09

Method : I:\MS09\METHODS\C09041824.M (RTE Integrator)
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration

4/19/24

#	ID	Conc	ISTD Conc	Path\File
1	0.40	0	13	I:\MS09\DATA\2024_04\18\04182428.D
2	1.0	1	13	I:\MS09\DATA\2024_04\18\04182429.D
3	2.5	2	13	I:\MS09\DATA\2024_04\18\04182430.D
4	5.0	5	13	I:\MS09\DATA\2024_04\18\04182431.D
5	25	25	13	I:\MS09\DATA\2024_04\18\04182432.D
6	50	50	13	I:\MS09\DATA\2024_04\18\04182433.D
7	100	99	13	I:\MS09\DATA\2024_04\18\04182434.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.40	Apr 19 11:06 2024	Apr 19 11:00 2024	19 Apr 2024 00:34
2	1.0	Apr 19 11:06 2024	Apr 19 10:59 2024	19 Apr 2024 1:06
3	2.5	Apr 19 11:06 2024	Apr 19 10:58 2024	19 Apr 2024 1:38
4	5.0	Apr 19 11:07 2024	Apr 19 10:57 2024	19 Apr 2024 2:10
5	25	Apr 19 11:07 2024	Apr 19 10:55 2024	19 Apr 2024 2:42
6	50	Apr 19 11:07 2024	Apr 19 11:01 2024	19 Apr 2024 3:14
7	100	Apr 19 11:07 2024	Apr 19 11:03 2024	19 Apr 2024 3:46

C09041824.M Fri Apr 19 11:11:02 2024

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182428.D Vial: 14
Acq On : 19 Apr 2024 00:34 Operator: SC
Sample : 0.4ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

Quant Time: Apr 19 11:00:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/19/24

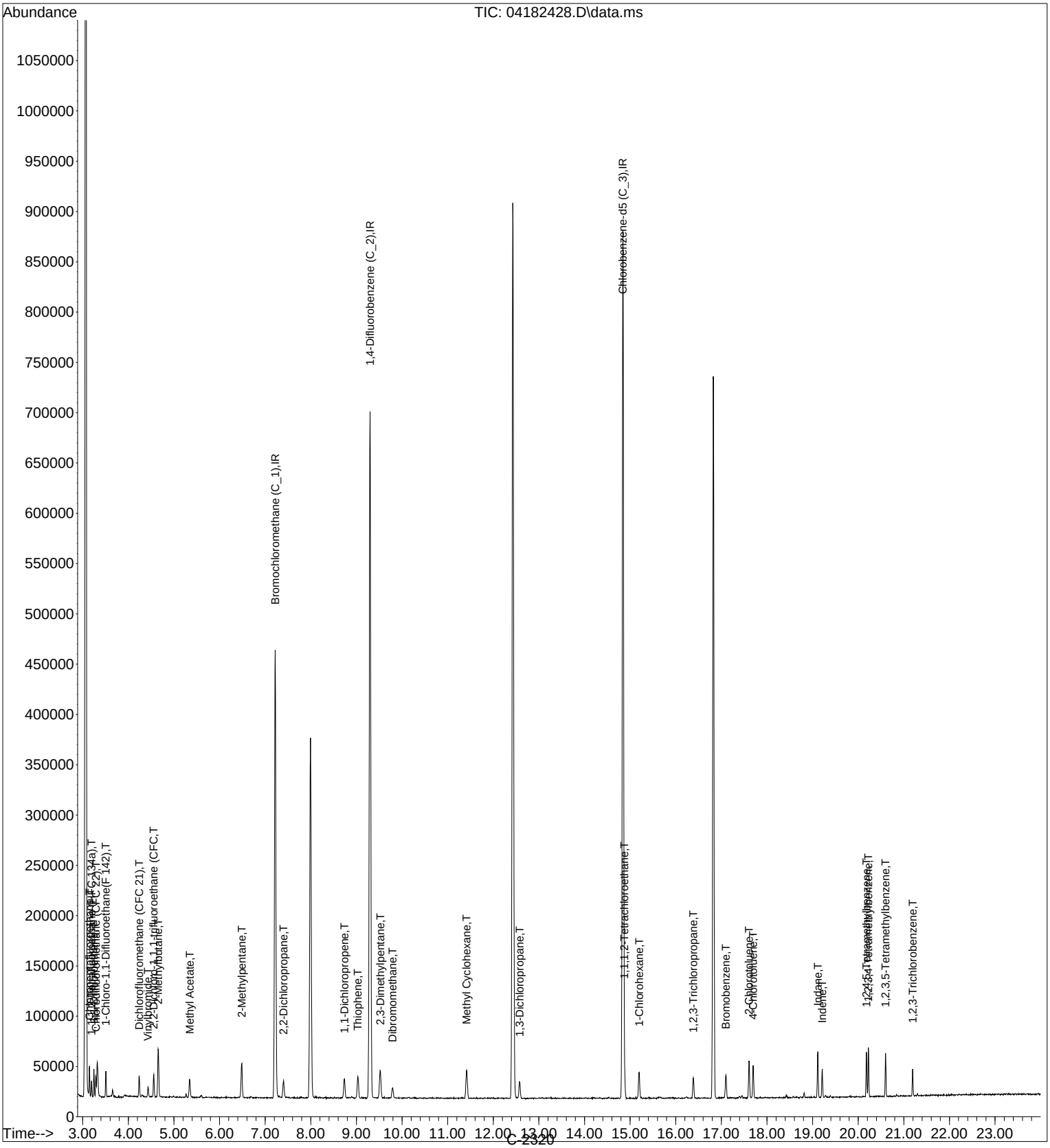
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	147263	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C 2)	9.30	114	635436	12.500	ng		0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	156061	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	8618	0.529	ng		99
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	6968	0.610	ng		99
4) 1,1-Difluoroethane	3.24	65	6533	0.536	ng		86
5) Chlorodifluoromethane ...	3.29	67	2373	0.638	ng		97
6) 1-Chloro-1,1-Difluoroe...	3.51	65	15955	0.655	ng	#	99
7) Dichlorofluoromethane ...	4.24	67	15135	0.529	ng		99
8) Vinylbromide	4.43	108	5755	0.477	ng		100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	9710	0.505	ng		99
10) 2-Methylbutane	4.66	57	8468	0.654	ng		96
11) Methyl Acetate	5.35	43	21428	0.701	ng		99
12) 2-Methylpentane	6.49	71	5872	0.499	ng		93
13) 2,2-Dichloropropane	7.40	77	10134	0.566	ng		98
14) 1,1-Dichloropropene	8.74	75	9859	0.540	ng		97
15) Thiophene	9.03	84	13658	0.480	ng		99
17) 2,3-Dimethylpentane	9.53	56	14574	0.638	ng		99
18) Dibromomethane	9.79	174	5584	0.504	ng		96
20) Methyl Cyclohexane	11.42	55	13134	0.471	ng		98
21) 1,3-Dichloropropane	12.58	76	9644	0.333	ng		99
22) 1,1,1,2-Tetrachloroethane	14.87	131	5139	0.280	ng		99
23) 1-Chlorohexane	15.20	91	8731	0.318	ng		99
24) 1,2,3-Trichloropropane	16.38	75	9389	0.332	ng		98
25) Bromobenzene	17.10	77	10770	0.328	ng		98
26) 2-Chlorotoluene	17.61	91	21387	0.367	ng		99
27) 4-Chlorotoluene	17.70	91	20280	0.335	ng		95
28) Indane	19.12	117	21357	0.303	ng		97
29) Indene	19.21	115	13252	0.232	ng		99
30) 1,2,4,5-Tetramethylben...	20.18	119	20748	0.360	ng		97
31) 1,2,3,4-Tetramethylben...	20.22	119	22319	0.366	ng		99
32) 1,2,3,5-Tetramethylben...	20.60	119	19937	0.376	ng		99
33) 1,2,3-Trichlorobenzene	21.19	180	7127	0.334	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182428.D Vial: 14
Acq On : 19 Apr 2024 00:34 Operator: SC
Sample : 0.4ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

Quant Time: Apr 19 11:00:35 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182429.D Vial: 14
Acq On : 19 Apr 2024 1:06 Operator: SC
Sample : 1.0ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

Quant Time: Apr 19 10:59:06 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/19/24

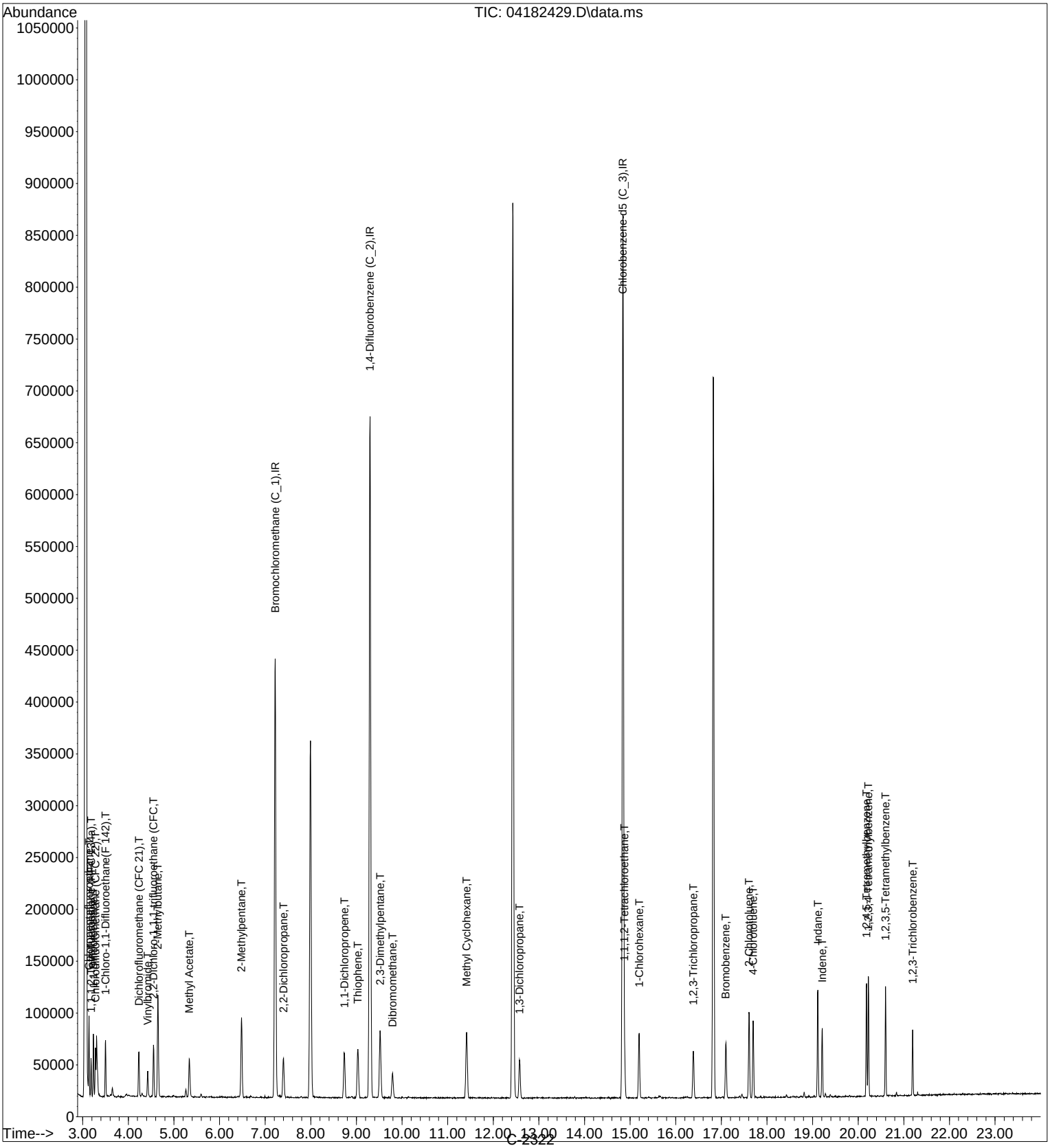
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	143906	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C 2)	9.30	114	619156	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	150972	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	19643	1.235	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	16031	1.437	ng	99
4) 1,1-Difluoroethane	3.23	65	14331	1.203	ng	92
5) Chlorodifluoromethane ...	3.28	67	5368	1.476	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.50	65	35986	1.511	ng	99
7) Dichlorofluoromethane ...	4.23	67	34842	1.246	ng	99
8) Vinylbromide	4.43	108	13050	1.107	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	21902	1.166	ng	100
10) 2-Methylbutane	4.65	57	18671	1.475	ng	95
11) Methyl Acetate	5.33	43	48755	1.631	ng	100
12) 2-Methylpentane	6.48	71	13095	1.139	ng	94
13) 2,2-Dichloropropane	7.40	77	23241	1.329	ng	98
14) 1,1-Dichloropropene	8.74	75	22309	1.251	ng	97
15) Thiophene	9.03	84	30513	1.098	ng	100
17) 2,3-Dimethylpentane	9.52	56	32666	1.468	ng	98
18) Dibromomethane	9.79	174	11922	1.105	ng	99
20) Methyl Cyclohexane	11.42	55	29117	1.079	ng	100
21) 1,3-Dichloropropane	12.57	76	21831	0.780	ng	100
22) 1,1,1,2-Tetrachloroethane	14.87	131	11675	0.656	ng	97
23) 1-Chlorohexane	15.20	91	19309	0.726	ng	98
24) 1,2,3-Trichloropropane	16.38	75	21285	0.777	ng	100
25) Bromobenzene	17.09	77	25072	0.790	ng	99
26) 2-Chlorotoluene	17.61	91	47544	0.843	ng	99
27) 4-Chlorotoluene	17.70	91	44812	0.765	ng	97
28) Indane	19.12	117	49148	0.721	ng	99
29) Indene	19.21	115	32042	0.580	ng	99
30) 1,2,4,5-Tetramethylben...	20.18	119	49152	0.881	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	53379	0.905	ng	98
32) 1,2,3,5-Tetramethylben...	20.60	119	47721	0.929	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	16784	0.812	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182429.D Vial: 14
Acq On : 19 Apr 2024 1:06 Operator: SC
Sample : 1.0ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

Quant Time: Apr 19 10:59:06 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182430.D Vial: 14
Acq On : 19 Apr 2024 1:38 Operator: SC
Sample : 2.5ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

4/19/24

Quant Time: Apr 19 10:58:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

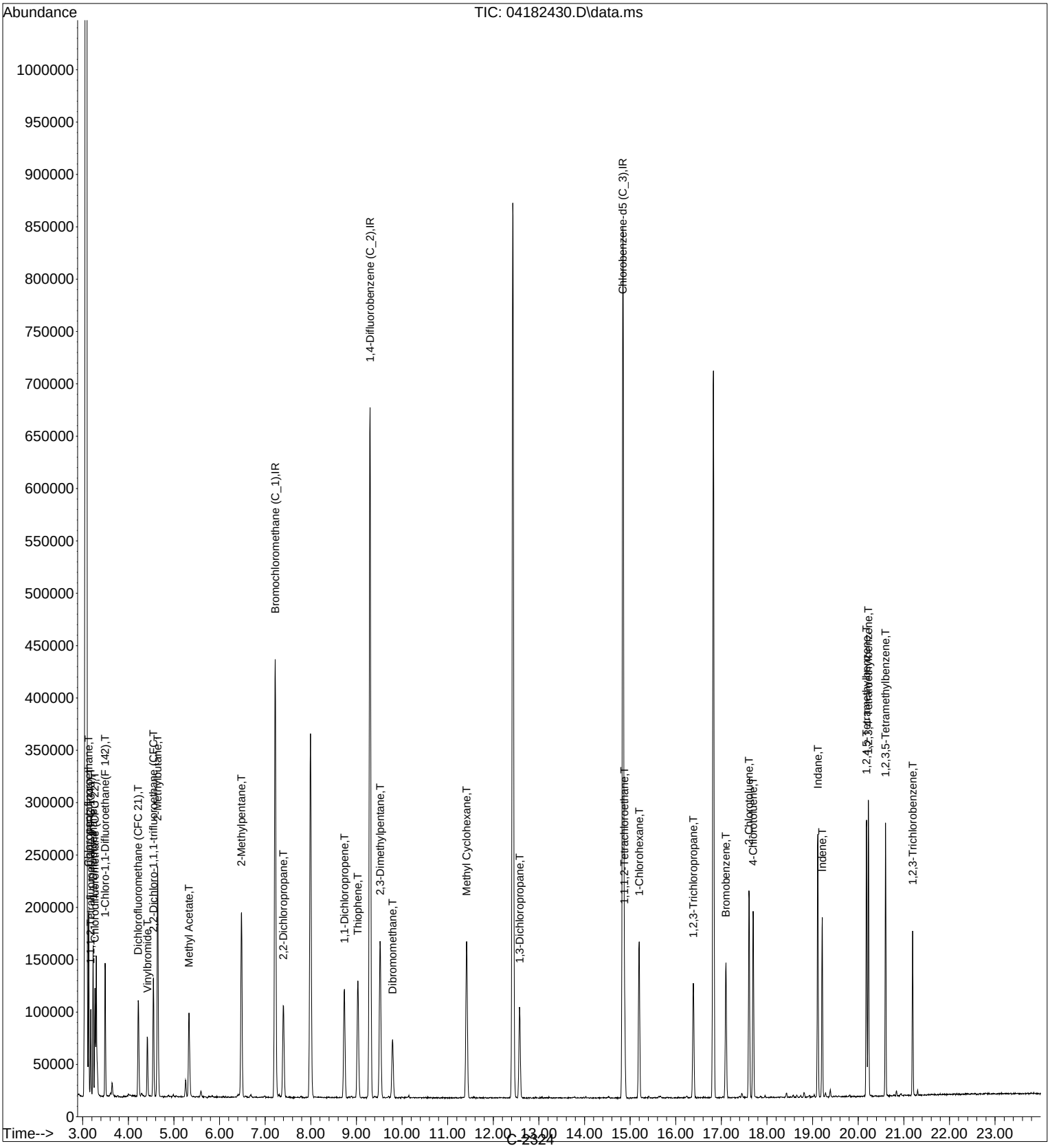
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.22	130	142497	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C 2)	9.30	114	621413	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	150477	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	45736	2.903	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	37654	3.408	ng	100
4) 1,1-Difluoroethane	3.23	65	33451	2.835	ng	92
5) Chlorodifluoromethane ...	3.27	67	12810	3.558	ng	98
6) 1-Chloro-1,1-Difluoroe...	3.49	65	85569	3.629	ng	99
7) Dichlorofluoromethane ...	4.22	67	82417	2.977	ng	99
8) Vinylbromide	4.42	108	30498	2.613	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	51137	2.750	ng	100
10) 2-Methylbutane	4.64	57	43632	3.481	ng	97
11) Methyl Acetate	5.33	43	116198	3.926	ng	99
12) 2-Methylpentane	6.48	71	30866	2.711	ng	94
13) 2,2-Dichloropropane	7.40	77	56803	3.281	ng	99
14) 1,1-Dichloropropene	8.74	75	51659	2.926	ng	99
15) Thiophene	9.03	84	73359	2.665	ng	99
17) 2,3-Dimethylpentane	9.52	56	77850	3.485	ng	99
18) Dibromomethane	9.79	174	28855	2.664	ng	99
20) Methyl Cyclohexane	11.42	55	67896	2.524	ng	98
21) 1,3-Dichloropropane	12.58	76	51323	1.840	ng	99
22) 1,1,1,2-Tetrachloroethane	14.87	131	28409	1.603	ng	99
23) 1-Chlorohexane	15.20	91	46217	1.743	ng	97
24) 1,2,3-Trichloropropane	16.38	75	50973	1.867	ng	100
25) Bromobenzene	17.10	77	58530	1.849	ng	99
26) 2-Chlorotoluene	17.61	91	111297	1.979	ng	100
27) 4-Chlorotoluene	17.70	91	105525	1.807	ng	99
28) Indane	19.12	117	120201	1.768	ng	99
29) Indene	19.21	115	80354	1.460	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	121340	2.181	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	130627	2.222	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	117359	2.293	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	40953	1.989	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182430.D Vial: 14
Acq On : 19 Apr 2024 1:38 Operator: SC
Sample : 2.5ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

Quant Time: Apr 19 10:58:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182431.D Vial: 14
Acq On : 19 Apr 2024 2:10 Operator: SC
Sample : 5.0ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

4/19/24

Quant Time: Apr 19 10:57:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

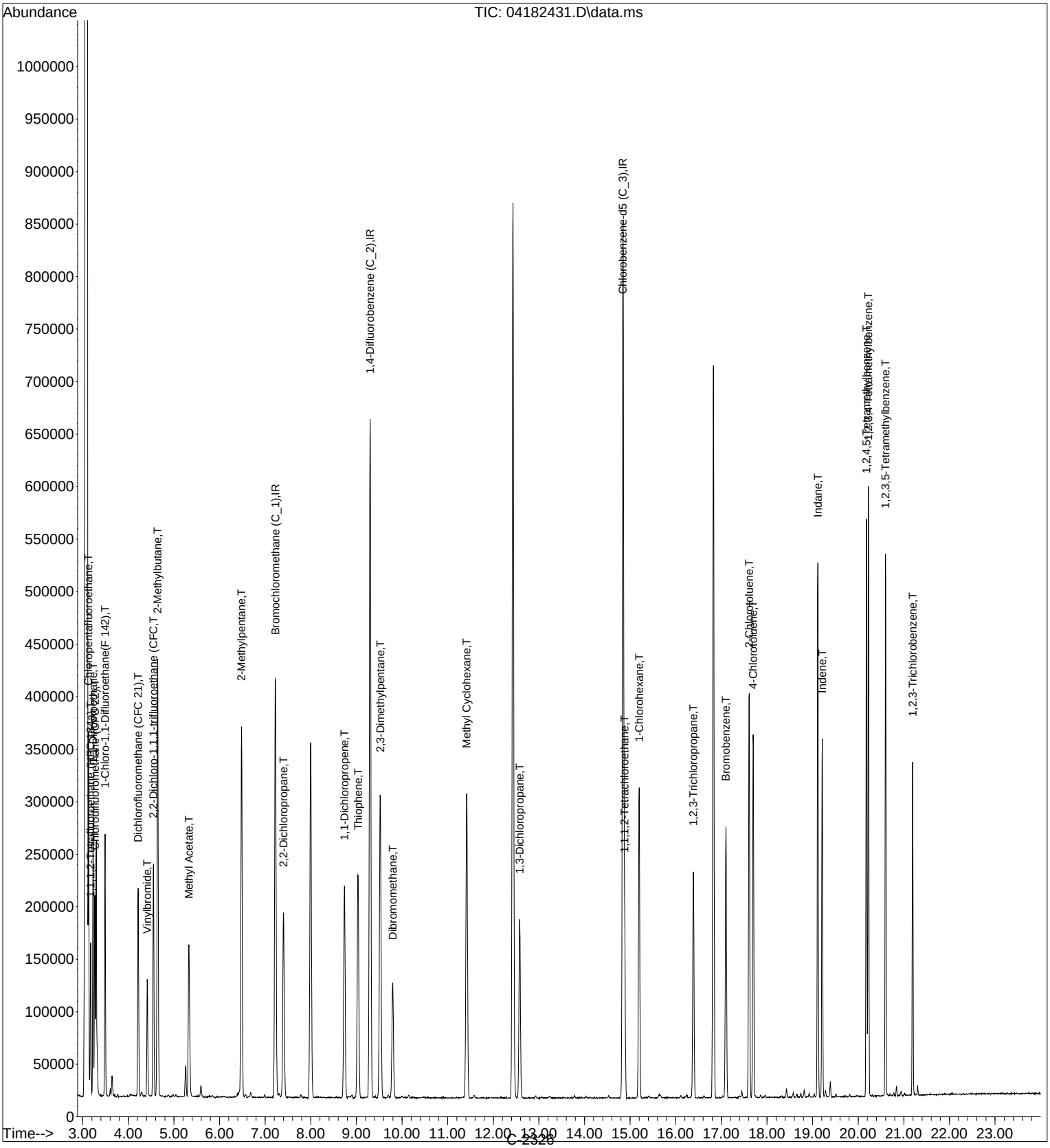
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	140225	12.500	ng	0.00
16) 1,4-Difluorobenzene (C 2)	9.30	114	611807	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	148306	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	89881	5.798	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	72564	6.674	ng	98
4) 1,1-Difluoroethane	3.23	65	64375	5.544	ng	93
5) Chlorodifluoromethane ...	3.27	67	24978	7.050	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	164829	7.103	ng	100
7) Dichlorofluoromethane ...	4.22	67	159676	5.860	ng	100
8) Vinylbromide	4.41	108	58741	5.114	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	101180	5.530	ng	100
10) 2-Methylbutane	4.64	57	85417	6.925	ng	98
11) Methyl Acetate	5.33	43	225722	7.750	ng	99
12) 2-Methylpentane	6.48	71	59985	5.353	ng	94
13) 2,2-Dichloropropane	7.40	77	112559	6.607	ng	99
14) 1,1-Dichloropropene	8.74	75	101620	5.849	ng	100
15) Thiophene	9.04	84	142229	5.251	ng	100
17) 2,3-Dimethylpentane	9.53	56	152345	6.928	ng	99
18) Dibromomethane	9.80	174	55965	5.248	ng	99
20) Methyl Cyclohexane	11.42	55	134455	5.072	ng	100
21) 1,3-Dichloropropane	12.58	76	101273	3.685	ng	100
22) 1,1,1,2-Tetrachloroethane	14.88	131	56204	3.217	ng	100
23) 1-Chlorohexane	15.20	91	93435	3.576	ng	100
24) 1,2,3-Trichloropropane	16.38	75	100570	3.737	ng	100
25) Bromobenzene	17.10	77	115094	3.690	ng	98
26) 2-Chlorotoluene	17.61	91	219850	3.966	ng	100
27) 4-Chlorotoluene	17.70	91	207821	3.610	ng	100
28) Indane	19.12	117	238356	3.558	ng	100
29) Indene	19.21	115	162885	3.003	ng	99
30) 1,2,4,5-Tetramethylben...	20.18	119	246287	4.491	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	258096	4.455	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	235082	4.660	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	82042	4.042	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182431.D Vial: 14
Acq On : 19 Apr 2024 2:10 Operator: SC
Sample : 5.0ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042405 (5/4)

Quant Time: Apr 19 10:57:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182432.D Vial: 15
Acq On : 19 Apr 2024 2:42 Operator: SC
Sample : 25ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042404 (5/4)

4/19/24

Quant Time: Apr 19 10:55:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:55:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

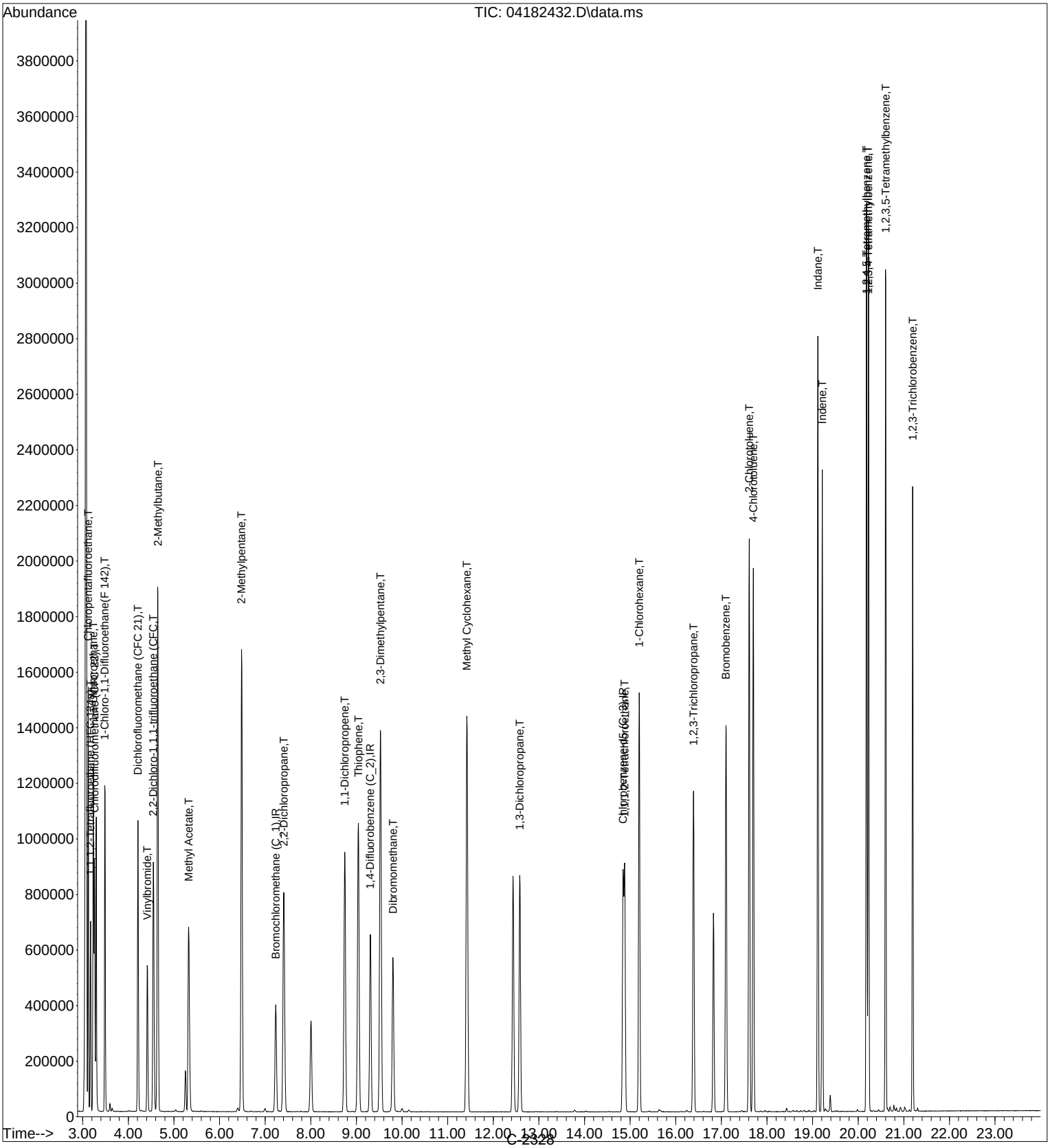
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.23	130	141875	12.500	ng	0.00
16) 1,4-Difluorobenzene (C 2)	9.30	114	613182	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	150877	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.12	85	414990	26.457	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	345389	31.397	ng	100
4) 1,1-Difluoroethane	3.23	65	313636	26.696	ng	90
5) Chlorodifluoromethane ...	3.26	67	121161	33.802	ng	98
6) 1-Chloro-1,1-Difluoroe...	3.48	65	787929	33.559	ng	100
7) Dichlorofluoromethane ...	4.21	67	773582	28.061	ng	100
8) Vinylbromide	4.41	108	295681	25.443	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	489170	26.426	ng	100
10) 2-Methylbutane	4.65	57	407391	32.644	ng	95
11) Methyl Acetate	5.32	43	1108009	37.603	ng	99
12) 2-Methylpentane	6.48	71	293494	25.888	ng	99
13) 2,2-Dichloropropane	7.41	77	566482	32.867	ng	100
14) 1,1-Dichloropropene	8.74	75	510959	29.067	ng	100
15) Thiophene	9.04	84	711888	25.976	ng	99
17) 2,3-Dimethylpentane	9.53	56	743931	33.754	ng	99
18) Dibromomethane	9.80	174	286128	26.772	ng	98
20) Methyl Cyclohexane	11.42	55	670865	24.875	ng	99
21) 1,3-Dichloropropane	12.58	76	509121	18.209	ng	100
22) 1,1,1,2-Tetrachloroethane	14.88	131	289440	16.284	ng	98
23) 1-Chlorohexane	15.20	91	478619	18.004	ng	99
24) 1,2,3-Trichloropropane	16.39	75	534816	19.536	ng	100
25) Bromobenzene	17.10	77	634073	19.981	ng	96
26) 2-Chlorotoluene	17.61	91	1152281	20.433	ng	100
27) 4-Chlorotoluene	17.70	91	1139995	19.467	ng	100
28) Indane	19.12	117	1296361	19.023	ng	100
29) Indene	19.21	115	1053874	19.098	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	1462457	26.216	ng	99
31) 1,2,3,4-Tetramethylben...	20.22	119	1433440	24.324	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	1385371	26.995	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	555685	26.912	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182432.D Vial: 15
Acq On : 19 Apr 2024 2:42 Operator: SC
Sample : 25ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042404 (5/4)

Quant Time: Apr 19 10:55:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:55:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182433.D Vial: 15
Acq On : 19 Apr 2024 3:14 Operator: SC
Sample : 50ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042404 (5/4)

Quant Time: Apr 19 11:01:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/19/24

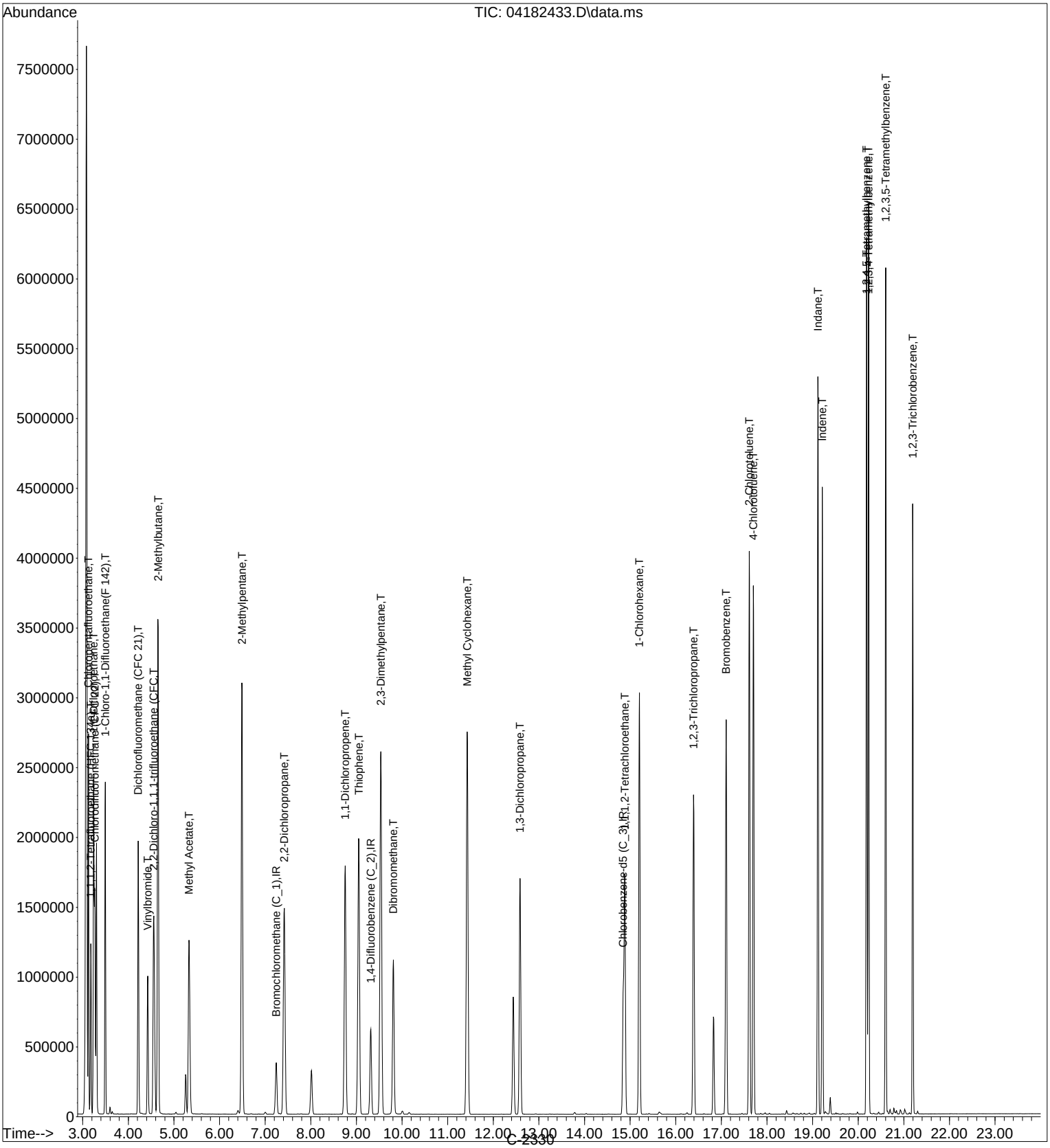
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	141063	12.500	ng	0.01
16) 1,4-Difluorobenzene (C 2)	9.31	114	609582	12.500	ng	0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	151721	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	762380	48.883	ng	100
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	666744	60.957	ng	99
4) 1,1-Difluoroethane	3.24	65	605930	51.873	ng	99
5) Chlorodifluoromethane ...	3.26	67	234890	65.908	ng	99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	1524743	65.315	ng	100
7) Dichlorofluoromethane ...	4.22	67	1493283	54.480	ng	100
8) Vinylbromide	4.43	108	568165	49.172	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	962981	52.322	ng	100
10) 2-Methylbutane	4.65	57	791752	63.809	ng	99
11) Methyl Acetate	5.33	43	2177200	74.313	ng	100
12) 2-Methylpentane	6.49	71	578457	51.318	ng	98
13) 2,2-Dichloropropane	7.42	77	1133174	66.125	ng	100
14) 1,1-Dichloropropene	8.75	75	1012828	57.948	ng	100
15) Thiophene	9.05	84	1394070	51.162	ng	99
17) 2,3-Dimethylpentane	9.54	56	1457697	66.529	ng	100
18) Dibromomethane	9.81	174	563028	52.993	ng	99
20) Methyl Cyclohexane	11.43	55	1314504	48.469	ng	100
21) 1,3-Dichloropropane	12.59	76	1009301	35.897	ng	99
22) 1,1,1,2-Tetrachloroethane	14.89	131	573915	32.108	ng	100
23) 1-Chlorohexane	15.20	91	953777	35.679	ng	100
24) 1,2,3-Trichloropropane	16.39	75	1061932	38.575	ng	100
25) Bromobenzene	17.11	77	1273867	39.919	ng	99
26) 2-Chlorotoluene	17.61	91	2270564	40.039	ng	100
27) 4-Chlorotoluene	17.70	91	2252431	38.249	ng	100
28) Indane	19.12	117	2515858	36.712	ng	99
29) Indene	19.21	115	2070974	37.320	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	2795310	49.830	ng	100
31) 1,2,3,4-Tetramethylben...	20.23	119	2792137	47.116	ng	100
32) 1,2,3,5-Tetramethylben...	20.60	119	2685833	52.045	ng	100
33) 1,2,3-Trichlorobenzene	21.19	180	1103849	53.162	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182433.D Vial: 15
Acq On : 19 Apr 2024 3:14 Operator: SC
Sample : 50ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042404 (5/4)

Quant Time: Apr 19 11:01:46 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182434.D Vial: 15
Acq On : 19 Apr 2024 3:46 Operator: SC
Sample : 100ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042404 (5/4)

Quant Time: Apr 19 11:03:31 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

4/19/24

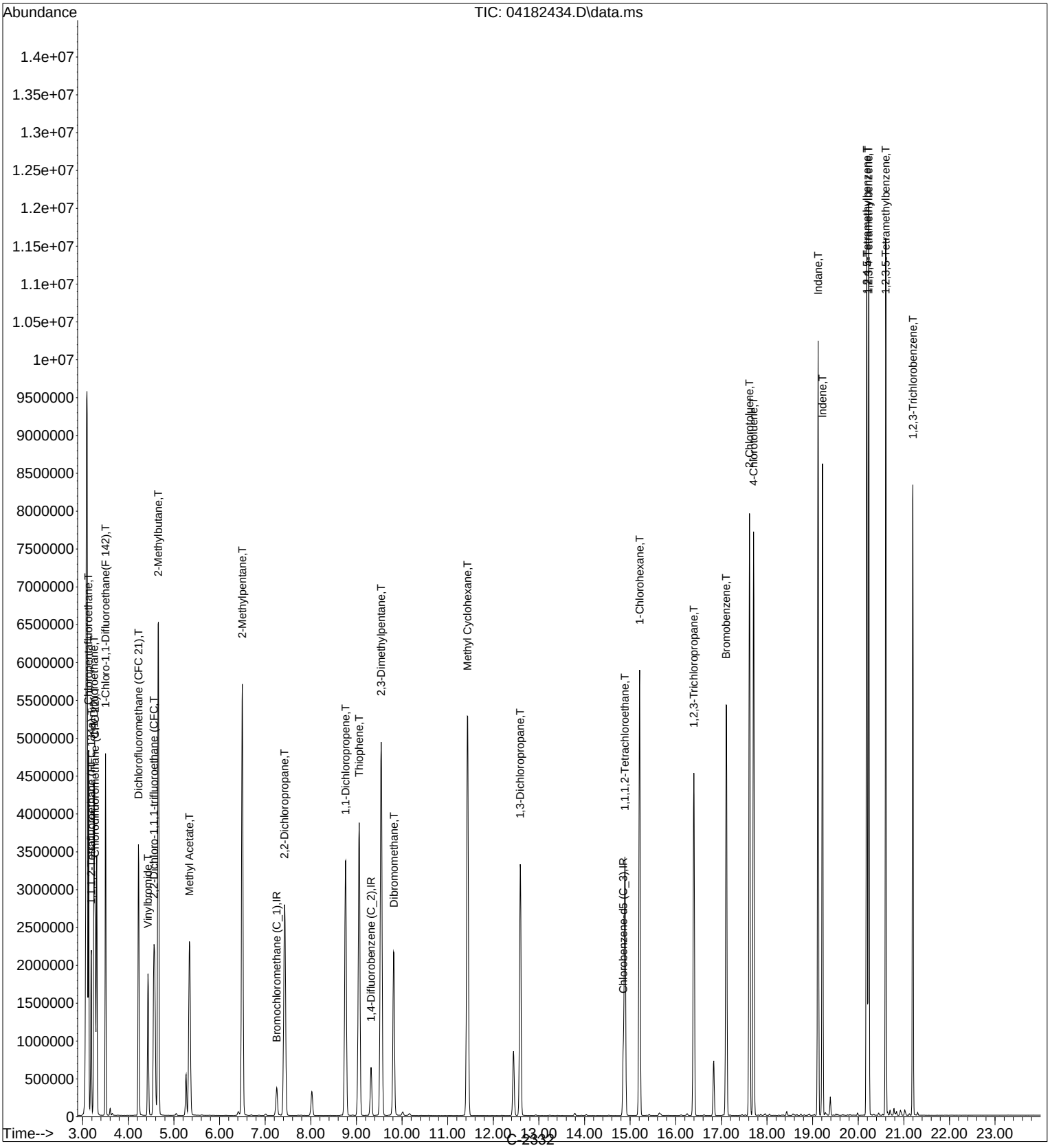
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.25	130	146085	12.500	ng	0.02
16) 1,4-Difluorobenzene (C 2)	9.32	114	627116	12.500	ng	0.02
19) Chlorobenzene-d5 (C_3)	14.85	54	155220	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	1426260	88.307	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	1277745	112.802	ng	99
4) 1,1-Difluoroethane	3.25	65	1129221	93.347	ng	99
5) Chlorodifluoromethane ...	3.27	67	459326	124.452	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.50	65	3002422	124.193	ng	100
7) Dichlorofluoromethane ...	4.22	67	2938485	103.521	ng	99
8) Vinylbromide	4.43	108	1128751	94.330	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1912080	100.318	ng	100
10) 2-Methylbutane	4.66	57	1558277	121.267	ng	99
11) Methyl Acetate	5.34	43	4277598	140.986	ng	99
12) 2-Methylpentane	6.50	71	1146046	98.176	ng	96
13) 2,2-Dichloropropane	7.42	77	2282131	128.592	ng	100
14) 1,1-Dichloropropene	8.76	75	2017584	111.467	ng	99
15) Thiophene	9.06	84	2763042	97.917	ng	98
17) 2,3-Dimethylpentane	9.54	56	2879416	127.742	ng	99
18) Dibromomethane	9.82	174	1125829	103.001	ng	97
20) Methyl Cyclohexane	11.43	55	2624617	94.594	ng	99
21) 1,3-Dichloropropane	12.59	76	2023148	70.333	ng	99
22) 1,1,1,2-Tetrachloroethane	14.89	131	1138905	62.281	ng	100
23) 1-Chlorohexane	15.21	91	1902983	69.582	ng	100
24) 1,2,3-Trichloropropane	16.40	75	2124826	75.445	ng	100
25) Bromobenzene	17.11	77	2573791	78.836	ng	97
26) 2-Chlorotoluene	17.62	91	4463359	76.933	ng	100
27) 4-Chlorotoluene	17.71	91	4438155	73.666	ng	100
28) Indane	19.12	117	4782288	68.211	ng	98
29) Indene	19.22	115	4022238	70.849	ng	100
30) 1,2,4,5-Tetramethylben...	20.19	119	5416452	94.378	ng	99
31) 1,2,3,4-Tetramethylben...	20.23	119	5153038	84.994	ng	98
32) 1,2,3,5-Tetramethylben...	20.60	119	5090846	96.425	ng	99
33) 1,2,3-Trichlorobenzene	21.20	180	2180976	102.670	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182434.D Vial: 15
Acq On : 19 Apr 2024 3:46 Operator: SC
Sample : 100ng TO-15 Custom ICAL Inst : MS09
Misc : S37-03252401/S37-04042404 (5/4)

Quant Time: Apr 19 11:03:31 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 10:57:22 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182437.D Vial: 16
Acq On : 19 Apr 2024 5:22 Operator: SC
Sample : ICV R09041824 25ng Inst : MS09
Misc : S37-03252401/S37-04092401 (5/9)

Quant Time: Apr 19 11:20:28 2024 4/19/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:18:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

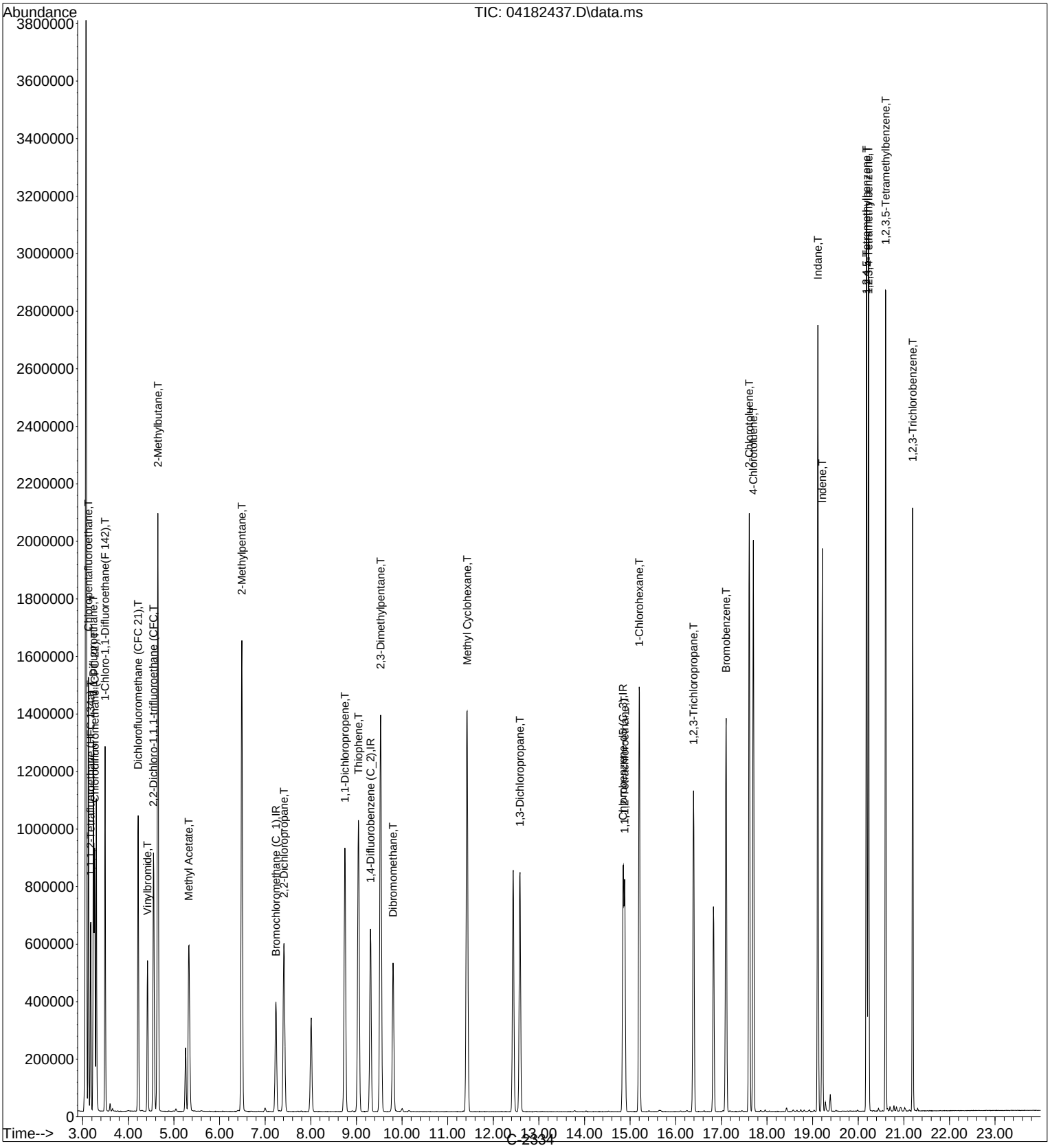
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	144348	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	614223	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	151147	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	428252	23.849	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	350752	23.681	ng	99
4) 1,1-Difluoroethane	3.23	65	320394	25.422	ng	99
5) Chlorodifluoromethane ...	3.26	67	121707	24.743	ng	99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	806878	24.812	ng	100
7) Dichlorofluoromethane ...	4.22	67	780567	23.582	ng	100
8) Vinylbromide	4.42	108	285142	23.086	ng	99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	478770	23.902	ng	100
10) 2-Methylbutane	4.65	57	422804	24.558	ng	91
11) Methyl Acetate	5.32	43	996845	20.493	ng	100
12) 2-Methylpentane	6.49	71	286843	22.951	ng	98
13) 2,2-Dichloropropane	7.41	77	426622	18.123	ng	99
14) 1,1-Dichloropropene	8.75	75	499576	24.270	ng	100
15) Thiophene	9.04	84	702913	23.905	ng	99
17) 2,3-Dimethylpentane	9.53	56	746100	25.102	ng	100
18) Dibromomethane	9.80	174	265885	24.344	ng	99
20) Methyl Cyclohexane	11.43	55	662282	25.534	ng	100
21) 1,3-Dichloropropane	12.59	76	500950	24.863	ng	99
22) 1,1,1,2-Tetrachloroethane	14.88	131	250826	18.829	ng	99
23) 1-Chlorohexane	15.20	91	472467	25.271	ng	100
24) 1,2,3-Trichloropropane	16.39	75	515992	25.573	ng	100
25) Bromobenzene	17.11	77	627535	26.507	ng	100
26) 2-Chlorotoluene	17.61	91	1155375	26.477	ng	99
27) 4-Chlorotoluene	17.70	91	1148319	25.979	ng	100
28) Indane	19.12	117	1261146	25.227	ng	100
29) Indene	19.21	115	904310	23.583	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	1388917	26.871	ng	100
31) 1,2,3,4-Tetramethylben...	20.23	119	1370412	26.291	ng	100
32) 1,2,3,5-Tetramethylben...	20.60	119	1314792	26.580	ng	100
33) 1,2,3-Trichlorobenzene	21.19	180	520610	28.828	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 04\18\04182437.D Vial: 16
Acq On : 19 Apr 2024 5:22 Operator: SC
Sample : ICV R09041824 25ng Inst : MS09
Misc : S37-03252401/S37-04092401 (5/9)

Quant Time: Apr 19 11:20:28 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:18:24 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



ALS Environmental

ICV / LCS Custom Report Acceptance Criteria

ICV R09041824_25ng

4/19/24

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.31
Chlorobenzene-d5 (IS3)	14.85

Datafile: 04182437.D
Instrument: MS-09
Date: 4/19/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	Pass/Fail
76-15-3	Chloropentafluoroethane	23.849	25.5	94	-	#VALUE!
811-97-2	1,1,1,2-Tetrafluoroethane (HFC 134a)	23.681	25.3	94	70-130	ok
75-37-6	1,1-Difluoroethane	25.422	26.3	97	70-130	ok
75-45-6	Chlorodifluoromethane (CFC 22)	24.743	26.3	94	70-130	ok
75-68-3	1-Chloro-1,1-Difluoroethane(F 142)	24.812	26.0	95	70-130	ok
75-43-4	Dichlorofluoromethane (CFC 21)	23.582	25.0	94	70-130	ok
593-60-2	Vinylbromide	23.086	24.8	93	70-130	ok
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (CFC	23.902	26.3	91	70-130	ok
78-78-4	2-Methylbutane	24.558	25.5	96	70-130	ok
79-20-9	Methyl Acetate	20.493	24.5	84	70-130	ok
107-83-5	2-Methylpentane	22.951	25.0	92	70-130	ok
594-20-7	2,2-Dichloropropane	18.123	24.8	73	70-130	ok
563-58-6	1,1-Dichloropropene	24.270	25.8	94	70-130	ok
110-02-1	Thiophene	23.905	25.3	94	70-130	ok
565-59-3	2,3-Dimethylpentane	25.102	26.0	97	70-130	ok
74-95-3	Dibromomethane	24.344	26.8	91	70-130	ok
108-87-2	Methyl Cyclohexane	25.534	26.8	95	70-130	ok
142-28-9	1,3-Dichloropropane	24.863	26.0	96	70-130	ok
630-20-6	1,1,1,2-Tetrachloroethane	18.829	27.3	69	70-130	FAIL
544-10-5	1-Chlorohexane	25.271	25.8	98	70-130	ok
96-18-4	1,2,3-Trichloropropane	25.573	26.3	97	70-130	ok
108-86-1	Bromobenzene	26.507	26.3	101	70-130	ok
95-49-8	2-Chlorotoluene	26.477	26.5	100	70-130	ok
106-43-4	4-Chlorotoluene	25.979	25.3	103	70-130	ok
496-11-7	Indan	25.227	24.8	102	70-130	ok
95-13-6	Indene	23.583	23.5	100	70-130	ok
95-93-2	1,2,4,5-Tetramethylbenzene	26.871	25.0	107	70-130	ok
488-23-3	1,2,3,4-Tetramethylbenzene	26.291	25.5	103	70-130	ok
527-53-7	1,2,3,5-Tetramethylbenzene	26.580	25.0	106	70-130	ok
87-61-6	1,2,3-Trichlorobenzene	28.828	25.8	112	70-130	ok

ALS Environmental

ICV / LCS Custom Report Acceptance Criteria

ICV R09041824_25ng

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.31
Chlorobenzene-d5 (IS3)	14.85

Datafile: 04182437.D
Instrument: MS-09
Date: 4/19/2024

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	Pass/Fail

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 09 09:41:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	135	0.05
2	T	Propene	1.888	2.167	-14.8	170	0.02
3	T	Dichlorodifluoromethane (CF	3.035	2.888	4.8	131	0.02
4	T	Chloromethane	2.373	3.044	-28.3	161	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.096	1.162	-6.0	141	0.03
6	T	Vinyl Chloride	1.536	2.114	-37.6#	189	0.02
7	T	1,3-Butadiene	1.066	1.525	-43.1#	186	0.02
8	T	Bromomethane	0.984	1.116	-13.4	152	0.03
9	T	Chloroethane	0.842	0.959	-13.9	150	0.03
10	T	Ethanol	1.357	1.624	-19.7	164	-0.01
11	T	Acetonitrile	3.067	3.874	-26.3	171	0.00
12	T	Acrolein	1.036	1.287	-24.2	158	0.02
13	T	Acetone	1.145	1.257	-9.8	156	0.01
14	T	Trichlorofluoromethane	2.895	2.733	5.6	127	0.04
15	T	2-Propanol (Isopropanol)	4.507	5.544	-23.0	161	0.00
16	T	Acrylonitrile	2.136	2.672	-25.1	163	0.00
17	T	1,1-Dichloroethene	1.170	1.211	-3.5	137	0.03
18	T	2-Methyl-2-Propanol (tert-B	3.681	3.958	-7.5	125	0.00
19	T	Methylene Chloride	1.349	1.364	-1.1	139	0.02
20	T	3-Chloro-1-propene (Allyl C	2.687	3.374	-25.6	163	0.03
21	T	Trichlorotrifluoroethane	1.147	1.104	3.7	126	0.04
22	T	Carbon Disulfide	4.469	4.933	-10.4	143	0.04
23	T	trans-1,2-Dichloroethene	2.189	2.440	-11.5	142	0.04
24	T	1,1-Dichloroethane	2.628	2.774	-5.6	142	0.04
25	T	Methyl tert-Butyl Ether	3.992	4.097	-2.6	131	0.04
26	T	Vinyl Acetate	0.233	0.284	-21.9	144	0.03
27	T	2-Butanone (MEK)	0.812	0.881	-8.5	144	0.03
28	T	cis-1,2-Dichloroethene	2.157	2.291	-6.2	141	0.04
29	T	Diisopropyl Ether	0.990	0.979	1.1	133	0.06
30	T	Ethyl Acetate	0.544	0.624	-14.7	147	0.05
31	T	n-Hexane	2.481	2.743	-10.6	150	0.06
32	T	Chloroform	2.490	2.516	-1.0	131	0.04
33	S	1,2-Dichloroethane-d4(SS1)	2.339	2.370	-1.3	136	0.06
34	T	Tetrahydrofuran (THF)	0.766	0.813	-6.1	142	0.06
35	T	Ethyl tert-Butyl Ether	1.457	1.508	-3.5	131	0.06
36	T	1,2-Dichloroethane	2.468	2.462	0.2	129	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	139	0.03
38	T	1,1,1-Trichloroethane	0.556	0.528	5.0	124	0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	128	0.04
40	T	1-Butanol	0.000	0.000	0.0	238#	0.03
41	T	Benzene	1.172	1.146	2.2	139	0.03
42	T	Carbon Tetrachloride	0.486	0.461	5.1	121	0.03
43	T	Cyclohexane	0.396	0.405	-2.3	137	0.03
44	T	tert-Amyl Methyl Ether	0.813	0.817	-0.5	132	0.02
45	T	1,2-Dichloropropane	0.310	0.332	-7.1	147	0.03
46	T	Bromodichloromethane	0.441	0.450	-2.0	130	0.03
47	T	Trichloroethene	0.290	0.275	5.2	128	0.03
48	T	1,4-Dioxane	0.202	0.213	-5.4	133	0.03
49	T	2,2,4-Trimethylpentane (Iso	1.387	1.519	-9.5	148	0.04
50	T	Methyl Methacrylate	0.102	0.105	-2.9	133	0.03
51	T	n-Heptane	0.261	0.274	-5.0	141	0.04
52	T	cis-1,3-Dichloropropene	0.504	0.541	-7.3	132	0.04
53	T	4-Methyl-2-pentanone	0.309	0.347	-12.3	146	0.03
54	T	trans-1,3-Dichloropropene	0.442	0.479	-8.4	130	0.05
55	T	1,1,2-Trichloroethane	0.276	0.278	-0.7	133	0.05

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 09 09:41:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	143	0.01
57	S	Toluene-d8 (SS2)	4.385	4.145	5.5	137	-0.01
58	T	Toluene	4.740	3.990	15.8	132	-0.02
59	T	2-Hexanone	2.934	3.390	-15.5	151	-0.03
60	T	Dibromochloromethane	1.320	1.238	6.2	123	-0.02
61	T	1,2-Dibromoethane	1.254	1.255	-0.1	130	-0.02
62	T	n-Butyl Acetate	3.288	3.886	-18.2	153	-0.02
63	T	n-Octane	1.114	1.154	-3.6	145	-0.01
64	T	Tetrachloroethene	1.314	1.161	11.6	123	-0.01
65	T	Chlorobenzene	2.879	2.608	9.4	128	-0.02
66	T	Ethylbenzene	5.454	4.847	11.1	129	-0.01
67	T	m- & p-Xylenes	4.435	3.946	11.0	127	-0.01
68	T	Bromoform	1.199	1.140	4.9	122	-0.01
69	T	Styrene	2.867	2.794	2.5	127	-0.01
70	T	o-Xylene	4.329	3.858	10.9	126	-0.01
71	T	n-Nonane	2.839	3.102	-9.3	154	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.961	1.929	1.6	137	-0.02
73	S	Bromofluorobenzene (SS3)	1.467	1.305	11.0	129	0.00
74	T	Cumene	5.017	4.567	9.0	126	-0.01
75	T	alpha-Pinene	2.610	2.497	4.3	127	0.00
76	T	n-Propylbenzene	6.228	5.771	7.3	128	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	126	-0.01
78	T	4-Ethyltoluene	4.883	4.367	10.6	121	0.00
79	T	1,3,5-Trimethylbenzene	4.259	3.764	11.6	121	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	143	-0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	126	-0.01
82	T	1,2,4-Trimethylbenzene	4.457	4.065	8.8	123	-0.01
83	T	n-Decane	0.000	0.000	0.0	155	0.00
84	T	Benzyl Chloride	3.360	3.699	-10.1	124	-0.01
85	T	1,3-Dichlorobenzene	2.465	2.148	12.9	119	-0.01
86	T	1,4-Dichlorobenzene	2.444	2.160	11.6	120	-0.01
87	T	sec-Butylbenzene	5.633	5.157	8.5	128	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.888	4.168	14.7	123	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	126	-0.01
90	T	1,2-Dichlorobenzene	2.457	2.182	11.2	123	-0.01
91	T	d-Limonene	1.490	1.572	-5.5	137	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.868	0.860	0.9	122	0.00
93	T	n-Undecane	0.000	0.000	0.0	143	-0.01
94	T	1,2,4-Trichlorobenzene	1.991	1.828	8.2	114	0.00
95	T	Naphthalene	4.698	4.478	4.7	114	0.00
96	T	n-Dodecane	0.000	0.000	0.0	163	-0.01
97	T	Hexachlorobutadiene	1.593	1.317	17.3	115	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.04
99	T	tert-Butylbenzene	3.944	3.500	11.3	122	-0.01
100	T	n-Butylbenzene	4.654	4.472	3.9	129	0.00
101	T	1,1,1,2-Tetrachloroethane	1.103	1.021	7.4	123	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 09 09:41:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	172281	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	779950	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	210669	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	408256	12.664	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.28%				
57) Toluene-d8 (SS2)	12.44	98	873295	11.817	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
73) Bromofluorobenzene (SS3)	16.83	174	274864	11.121	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.96%				
Target Compounds							Qvalue
2) Propene	3.27	42	783944	30.125	ng		98
3) Dichlorodifluoromethan...	3.35	85	1004988	24.028	ng		99
4) Chloromethane	3.49	50	1111825	33.990	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	432420	28.623	ng		99
6) Vinyl Chloride	3.68	62	772191	36.485	ng		98
7) 1,3-Butadiene	3.80	54	557002m	37.895	ng		
8) Bromomethane	4.01	94	392223	28.927	ng		99
9) Chloroethane	4.15	64	363612	31.351	ng		100
10) Ethanol	4.36	45	2938462	157.158	ng		98
11) Acetonitrile	4.48	41	1375000	32.531	ng		100
12) Acrolein	4.55	56	966601	67.671	ng		100
13) Acetone	4.65	58	2217934	140.584	ng		99
14) Trichlorofluoromethane	4.76	101	951027	23.838	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	3934854	63.346	ng		98
16) Acrylonitrile	5.03	53	1915125	65.067	ng		98
17) 1,1-Dichloroethene	5.26	96	379866	23.561	ng		96
18) 2-Methyl-2-Propanol (t...	5.37	59	2850073	56.171	ng		97
19) Methylene Chloride	5.39	84	427680	23.006	ng		82
20) 3-Chloro-1-propene (Al...	5.47	41	1267092	34.219	ng		95
21) Trichlorotrifluoroethane	5.58	151	350008	22.144	ng		93
22) Carbon Disulfide	5.60	76	3518724	57.134	ng		100
23) trans-1,2-Dichloroethene	6.16	61	882613	29.254	ng		97
24) 1,1-Dichloroethane	6.35	63	984416	27.180	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1496368	27.199	ng		95
26) Vinyl Acetate	6.48	86	517765	161.456	ng	#	68
27) 2-Butanone (MEK)	6.69	72	619050	55.306	ng	#	78
28) cis-1,2-Dichloroethene	7.11	61	812932	27.339	ng		97
29) Diisopropyl Ether	7.31	87	704713	51.649	ng	#	66
30) Ethyl Acetate	7.31	61	418995	55.870	ng		93
31) n-Hexane	7.31	57	982947	28.746	ng		99
32) Chloroform	7.40	83	919029	26.775	ng		99
34) Tetrahydrofuran (THF)	7.77	72	532291	50.425	ng	#	77
35) Ethyl tert-Butyl Ether	7.84	87	1085692	54.072	ng	#	88
36) 1,2-Dichloroethane	8.15	62	856805	25.186	ng		99
38) 1,1,1-Trichloroethane	8.42	97	848635	24.479	ng		97
39) Isopropyl Acetate	9.62	61	1253	No Calib		#	
40) 1-Butanol	8.84	56	5710	No Calib		#	
41) Benzene	8.92	78	1822916	24.927	ng		99
42) Carbon Tetrachloride	9.09	117	733104	24.194	ng		99
43) Cyclohexane	9.23	84	1313848	53.212	ng		92
44) tert-Amyl Methyl Ether	9.61	73	2675631	52.776	ng		95
45) 1,2-Dichloropropane	9.88	63	553409	28.586	ng		99
46) Bromodichloromethane	10.10	83	751335	27.312	ng		100
47) Trichloroethene	10.17	130	450044	24.855	ng		100
48) 1,4-Dioxane	10.13	88	352585	27.953	ng		93
49) 2,2,4-Trimethylpentane...	10.25	57	2510924	29.006	ng		100
50) Methyl Methacrylate	10.42	100	346921	54.556	ng		93

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 09 09:41:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

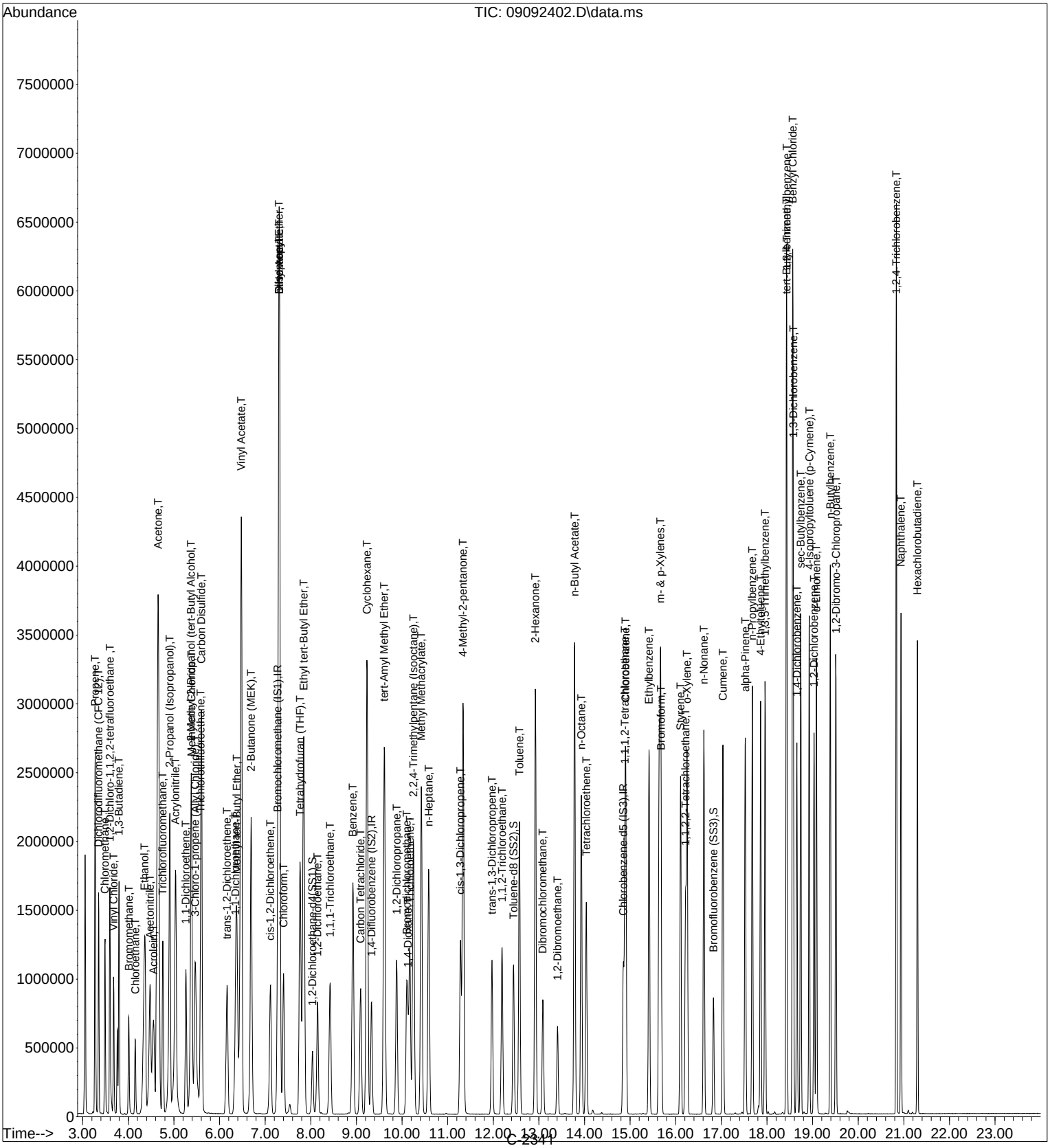
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
51) n-Heptane	10.59	71	444435	27.275	ng		95
52) cis-1,3-Dichloropropene	11.28	75	885602	28.168	ng		100
53) 4-Methyl-2-pentanone	11.34	58	1137203	58.892	ng		92
54) trans-1,3-Dichloropropene	11.97	75	739963	26.823	ng		100
55) 1,1,2-Trichloroethane	12.19	97	477174	27.679	ng		98
58) Toluene	12.57	91	1832432	22.937	ng		99
59) 2-Hexanone	12.92	43	2970952	60.088	ng		96
60) Dibromochloromethane	13.09	129	537413	24.156	ng		99
61) 1,2-Dibromoethane	13.41	107	555120	26.273	ng		98
62) n-Butyl Acetate	13.78	43	3437982	62.044	ng		97
63) n-Octane	13.93	57	515241	27.434	ng		94
64) Tetrachloroethene	14.04	166	523629	23.647	ng		100
65) Chlorobenzene	14.90	112	1175987	24.238	ng		100
66) Ethylbenzene	15.41	91	2225815	24.214	ng		100
67) m- & p-Xylenes	15.66	91	3557797	47.602	ng		99
68) Bromoform	15.68	173	523634	25.911	ng		99
69) Styrene	16.11	104	1247957	25.824	ng		99
70) o-Xylene	16.25	91	1755498	24.059	ng		99
71) n-Nonane	16.62	43	1372352	28.680	ng		93
72) 1,1,2,2-Tetrachloroethane	16.21	83	877715	26.552	ng		99
74) Cumene	17.03	105	2020377	23.896	ng		99
75) alpha-Pinene	17.53	93	1125543	25.591	ng		99
76) n-Propylbenzene	17.68	91	2528764	24.090	ng		99
77) 3-Ethyltoluene	17.03	105	2020377	No Calib			
78) 4-Ethyltoluene	17.86	105	1913553	23.250	ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1712694	23.862	ng		100
80) alpha-Methylstyrene	17.03	118	4443	No Calib		#	
81) 2-Ethyltoluene	17.03	105	2020377	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1798375	23.943	ng		99
83) n-Decane	17.04	58	25085	No Calib			
84) Benzyl Chloride	18.57	91	3350794	59.179	ng		99
85) 1,3-Dichlorobenzene	18.58	146	959515	23.099	ng		99
86) 1,4-Dichlorobenzene	18.66	146	955666	23.205	ng		100
87) sec-Butylbenzene	18.74	105	2259921	23.804	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1826468	22.170	ng		100
89) 1,2,3-Trimethylbenzene	17.03	105	2020377	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	956287	23.092	ng		100
91) d-Limonene	19.08	68	682365	27.165	ng		94
92) 1,2-Dibromo-3-Chloropr...	19.51	157	764897	52.261	ng		92
93) n-Undecane	17.96	58	43987	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1671580	49.809	ng		99
95) Naphthalene	20.94	128	2056383	25.973	ng		100
96) n-Dodecane	18.92	58	72437	No Calib		#	
97) Hexachlorobutadiene	21.30	225	582545	21.691	ng		99
98) Cyclohexanone	15.29	55	375	No Calib		#	
99) tert-Butylbenzene	18.43	119	1548494	23.299	ng		100
100) n-Butylbenzene	19.39	91	1940949	24.744	ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	460210	24.750	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

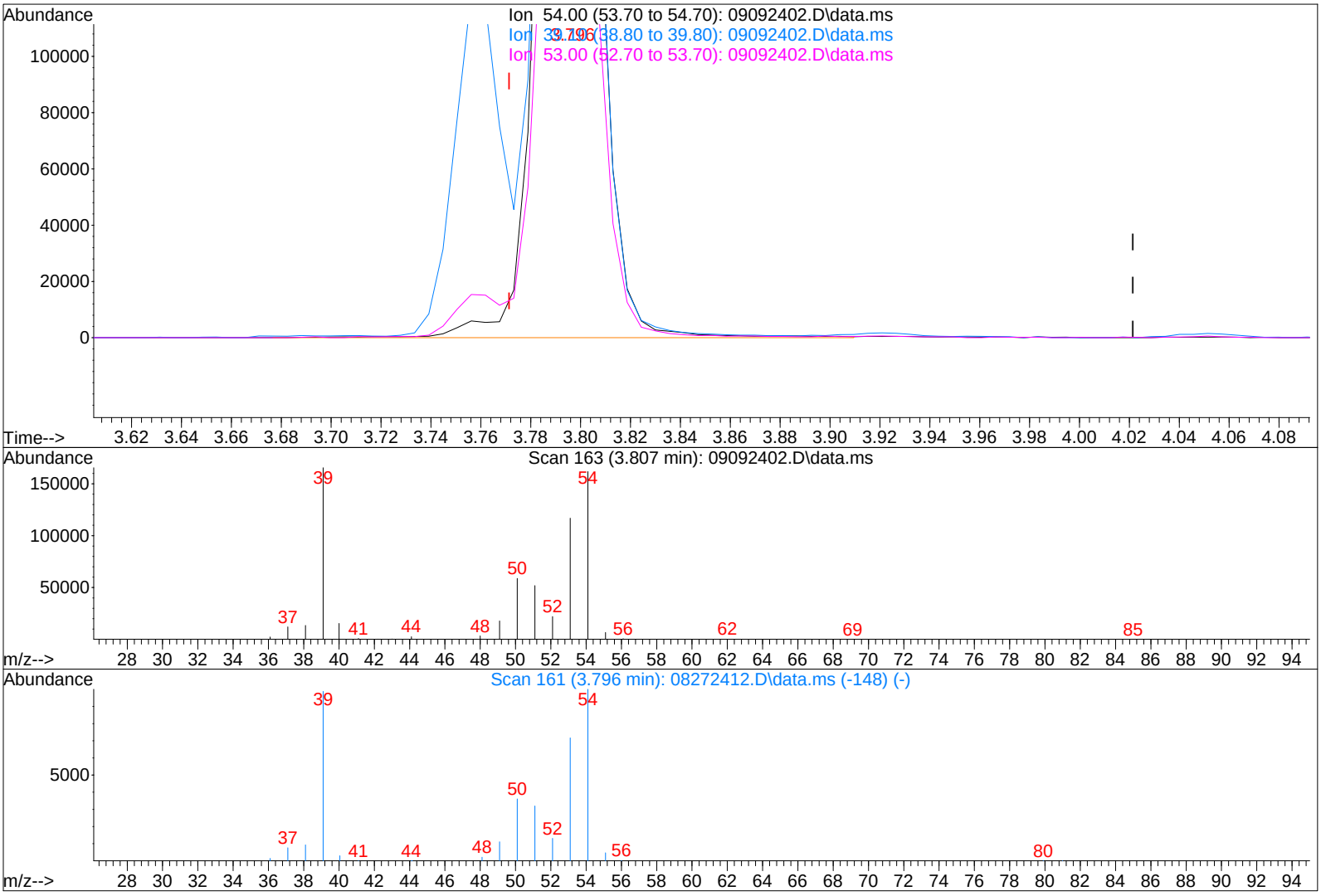
Quant Time: Sep 09 09:41:17 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 09 09:36:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092402.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (+0.025) 39.41ng

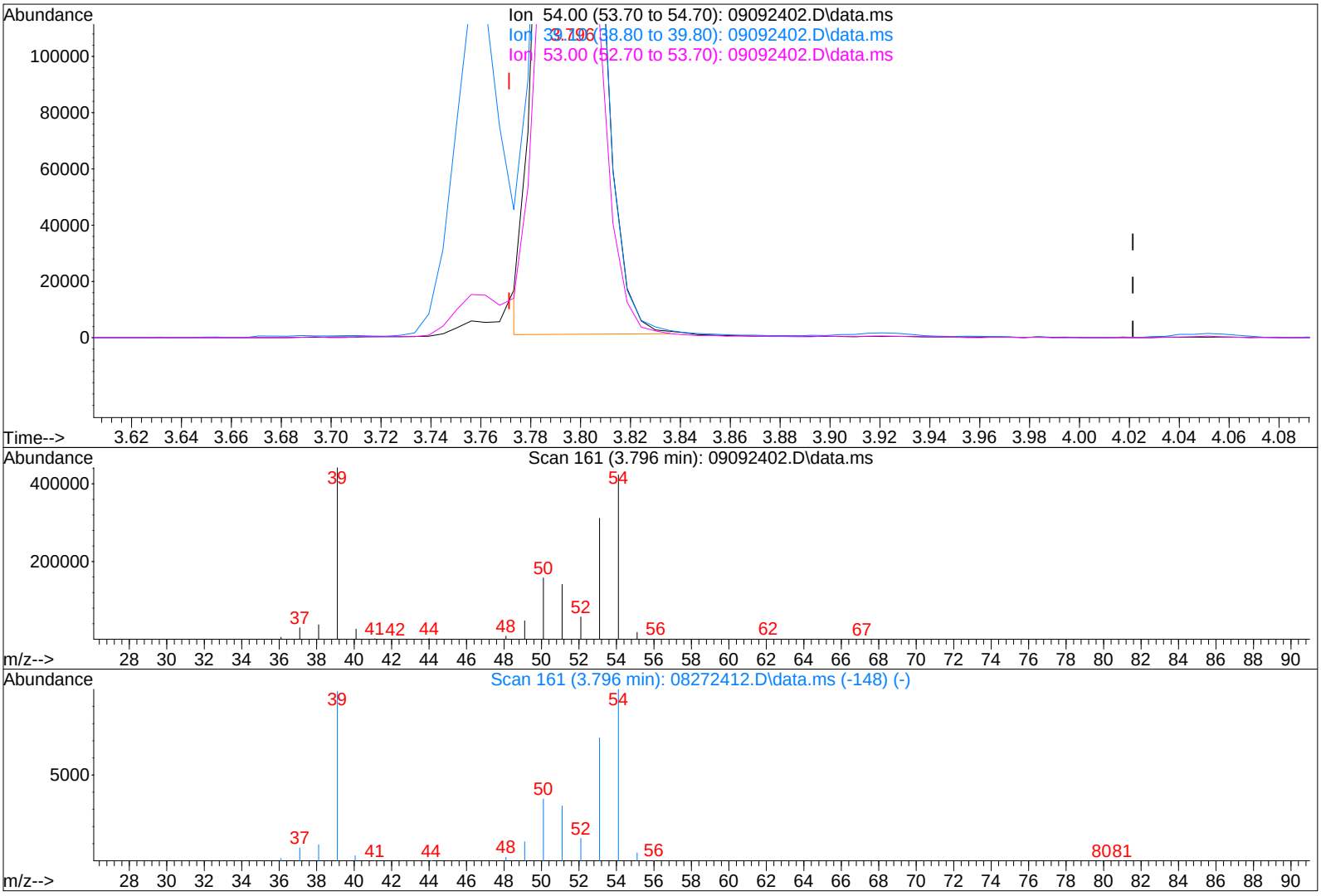
response 579295

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	102.95
53.00	72.80	75.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\09\09092402.D Vial: 2
Acq On : 9 Sep 2024 9:15 Operator: SC
Sample : CCV R09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 09 09:36:58 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09092402.D\data.ms

(7) 1,3-Butadiene (T)

3.796min (+0.025) 37.90ng m

response 557002

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	107.07
53.00	72.80	78.12
0.00	0.00	0.00

IPC

9/9/24

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\09\09092403.D Vial: 3
Acq On : 9 Sep 2024 9:47 Operator: SC
Sample : CCV C09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 09 10:30:25 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	119	-0.02
2	T	Chloropentafluoroethane	1.555	1.707	-9.8	138	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.283	1.348	-5.1	132	-0.01
4	T	1,1-Difluoroethane	1.091	1.213	-11.2	139	-0.01
5	T	Chlorodifluoromethane (CFC	0.426	0.458	-7.5	133	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.816	2.980	-5.8	133	0.00
7	T	Dichlorofluoromethane (CFC	2.866	3.221	-12.4	140	0.00
8	T	Vinylbromide	1.070	1.132	-5.8	130	0.00
9	T	2,2-Dichloro-1,1,1-trifluor	1.735	1.962	-13.1	141	0.00
10	T	2-Methylbutane	1.491	1.666	-11.7	141	0.00
11	T	Methyl Acetate	4.212	4.674	-11.0	137	-0.01
12	T	2-Methylpentane	1.082	1.186	-9.6	137	-0.01
13	T	2,2-Dichloropropane	2.038	2.232	-9.5	132	-0.01
14	T	1,1-Dichloropropene	1.782	1.940	-8.9	134	-0.02
15	T	Thiophene	2.546	2.744	-7.8	132	-0.01
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	123	-0.01
17	T	2,3-Dimethylpentane	0.605	0.697	-15.2	147	-0.01
18	T	Dibromomethane	0.222	0.217	2.3	123	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	133	0.00
20	T	Methyl Cyclohexane	2.145	2.163	-0.8	139	-0.01
21	T	1,3-Dichloropropane	1.666	1.694	-1.7	139	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.102	0.984	10.7	119	0.00
23	T	1-Chlorohexane	1.546	1.563	-1.1	135	-0.01
24	T	1,2,3-Trichloropropane	1.669	1.716	-2.8	136	-0.01
25	T	Bromobenzene	1.958	1.974	-0.8	132	0.00
26	T	2-Chlorotoluene	3.609	3.465	4.0	128	-0.01
27	T	4-Chlorotoluene	3.655	3.594	1.7	128	-0.01
28	T	Indane	4.134	3.697	10.6	114	-0.01
29	T	Indene	3.171	2.746	13.4	99	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.275	3.979	6.9	111	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.311	3.875	10.1	112	0.00
32	T	1,2,3,5-Tetramethylbenzene	4.091	3.813	6.8	112	0.00
33	T	1,2,3-Trichlorobenzene	1.494	1.587	-6.2	121	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092403.D Vial: 3
Acq On : 9 Sep 2024 9:47 Operator: SC
Sample : CCV C09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 09 10:30:25 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/9/24

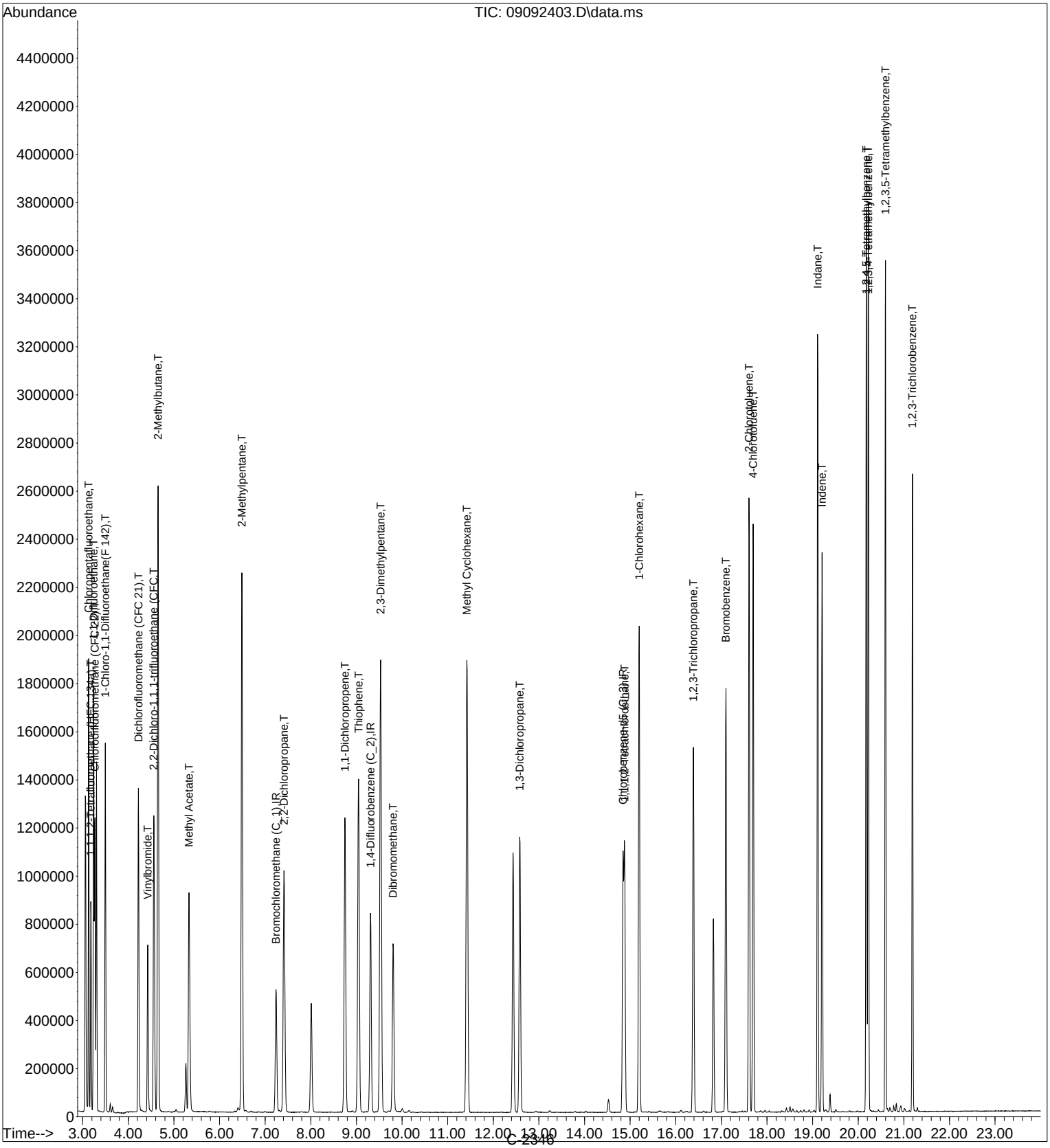
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	169302	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	753486	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	201256	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	572066	27.162	ng	93
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	456385	26.272	ng	98
4) 1,1-Difluoroethane	3.24	65	435481	29.461	ng	97
5) Chlorodifluoromethane ...	3.27	67	161333	27.964	ng	99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	1049486	27.516	ng	99
7) Dichlorofluoromethane ...	4.22	67	1079838	27.815	ng	99
8) Vinylbromide	4.43	108	383387	26.465	ng	97
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	690887	29.407	ng	99
10) 2-Methylbutane	4.65	57	575498	28.500	ng	95
11) Methyl Acetate	5.33	43	1519193	26.628	ng	99
12) 2-Methylpentane	6.49	71	401452	27.386	ng	99
13) 2,2-Dichloropropane	7.41	77	748099	27.096	ng	99
14) 1,1-Dichloropropene	8.75	75	683186	28.299	ng	96
15) Thiophene	9.05	84	938474	27.212	ng	94
17) 2,3-Dimethylpentane	9.53	56	1092062	29.951	ng	92
18) Dibromomethane	9.80	174	350685	26.174	ng	93
20) Methyl Cyclohexane	11.42	55	931694	26.978	ng	96
21) 1,3-Dichloropropane	12.58	76	709337	26.440	ng	96
22) 1,1,1,2-Tetrachloroethane	14.88	131	344503	19.422	ng	99
23) 1-Chlorohexane	15.20	91	648061	26.033	ng	96
24) 1,2,3-Trichloropropane	16.38	75	725035	26.987	ng	98
25) Bromobenzene	17.10	77	834395	26.469	ng	90
26) 2-Chlorotoluene	17.61	91	1478391	25.444	ng	92
27) 4-Chlorotoluene	17.70	91	1461179	24.827	ng	93
28) Indane	19.11	117	1473266	22.133	ng	99
29) Indene	19.21	115	1039145	20.352	ng	98
30) 1,2,4,5-Tetramethylben...	20.18	119	1617494	23.502	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	1606572	23.147	ng	100
32) 1,2,3,5-Tetramethylben...	20.60	119	1550016	23.534	ng	100
33) 1,2,3-Trichlorobenzene	21.19	180	670727	27.893	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\09\09092403.D Vial: 3
Acq On : 9 Sep 2024 9:47 Operator: SC
Sample : CCV C09090924 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 09 10:30:25 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



C-2345

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 10 10:05:19 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	111	0.05
2	T	Propene	1.888	1.989	-5.3	129	0.03
3	T	Dichlorodifluoromethane (CF	3.035	2.912	4.1	109	0.03
4	T	Chloromethane	2.373	2.842	-19.8	124	0.03
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.096	1.150	-4.9	115	0.03
6	T	Vinyl Chloride	1.536	2.055	-33.8#	151	0.02
7	T	1,3-Butadiene	1.066	1.568	-47.1#	157	0.03
8	T	Bromomethane	0.984	1.139	-15.8	127	0.03
9	T	Chloroethane	0.842	0.913	-8.4	117	0.03
10	T	Ethanol	1.357	1.521	-12.1	126	0.00
11	T	Acetonitrile	3.067	3.566	-16.3	130	0.00
12	T	Acrolein	1.036	1.197	-15.5	121	0.02
13	T	Acetone	1.145	1.159	-1.2	118	0.02
14	T	Trichlorofluoromethane	2.895	2.790	3.6	107	0.04
15	T	2-Propanol (Isopropanol)	4.507	5.219	-15.8	125	0.00
16	T	Acrylonitrile	2.136	2.458	-15.1	123	0.02
17	T	1,1-Dichloroethene	1.170	1.157	1.1	107	0.04
18	T	2-Methyl-2-Propanol (tert-B	3.681	3.949	-7.3	102	0.01
19	T	Methylene Chloride	1.349	1.310	2.9	110	0.03
20	T	3-Chloro-1-propene (Allyl C	2.687	3.195	-18.9	127	0.03
21	T	Trichlorotrifluoroethane	1.147	1.100	4.1	103	0.04
22	T	Carbon Disulfide	4.469	4.685	-4.8	112	0.04
23	T	trans-1,2-Dichloroethene	2.189	2.340	-6.9	112	0.04
24	T	1,1-Dichloroethane	2.628	2.639	-0.4	111	0.04
25	T	Methyl tert-Butyl Ether	3.992	4.012	-0.5	105	0.05
26	T	Vinyl Acetate	0.233	0.265	-13.7	110	0.04
27	T	2-Butanone (MEK)	0.812	0.819	-0.9	110	0.04
28	T	cis-1,2-Dichloroethene	2.157	2.242	-3.9	113	0.05
29	T	Diisopropyl Ether	0.990	0.925	6.6	104	0.06
30	T	Ethyl Acetate	0.544	0.577	-6.1	112	0.05
31	T	n-Hexane	2.481	2.564	-3.3	115	0.06
32	T	Chloroform	2.490	2.495	-0.2	107	0.05
33	S	1,2-Dichloroethane-d4(SS1)	2.339	2.511	-7.4	119	0.06
34	T	Tetrahydrofuran (THF)	0.766	0.769	-0.4	111	0.06
35	T	Ethyl tert-Butyl Ether	1.457	1.461	-0.3	104	0.06
36	T	1,2-Dichloroethane	2.468	2.522	-2.2	109	0.06
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	112	0.03
38	T	1,1,1-Trichloroethane	0.556	0.549	1.3	104	0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	111	0.04
40	T	1-Butanol	0.000	0.000	0.0	132	0.03
41	T	Benzene	1.172	1.098	6.3	108	0.03
42	T	Carbon Tetrachloride	0.486	0.482	0.8	102	0.03
43	T	Cyclohexane	0.396	0.388	2.0	106	0.03
44	T	tert-Amyl Methyl Ether	0.813	0.808	0.6	105	0.03
45	T	1,2-Dichloropropane	0.310	0.316	-1.9	114	0.03
46	T	Bromodichloromethane	0.441	0.451	-2.3	106	0.03
47	T	Trichloroethene	0.290	0.268	7.6	101	0.03
48	T	1,4-Dioxane	0.202	0.204	-1.0	103	0.03
49	T	2,2,4-Trimethylpentane (Iso	1.387	1.443	-4.0	114	0.04
50	T	Methyl Methacrylate	0.102	0.101	1.0	103	0.03
51	T	n-Heptane	0.261	0.261	0.0	109	0.04
52	T	cis-1,3-Dichloropropene	0.504	0.529	-5.0	105	0.04
53	T	4-Methyl-2-pentanone	0.309	0.331	-7.1	113	0.04
54	T	trans-1,3-Dichloropropene	0.442	0.476	-7.7	104	0.05
55	T	1,1,2-Trichloroethane	0.276	0.269	2.5	104	0.05

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 10 10:05:19 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	124	0.01
57	S	Toluene-d8 (SS2)	4.385	3.915	10.7	111	-0.01
58	T	Toluene	4.740	3.648	23.0	105	-0.02
59	T	2-Hexanone	2.934	3.102	-5.7	120	-0.02
60	T	Dibromochloromethane	1.320	1.172	11.2	101	-0.02
61	T	1,2-Dibromoethane	1.254	1.148	8.5	103	-0.02
62	T	n-Butyl Acetate	3.288	3.519	-7.0	119	-0.02
63	T	n-Octane	1.114	1.036	7.0	113	-0.01
64	T	Tetrachloroethene	1.314	1.070	18.6	98	-0.01
65	T	Chlorobenzene	2.879	2.412	16.2	102	-0.01
66	T	Ethylbenzene	5.454	4.488	17.7	104	0.00
67	T	m- & p-Xylenes	4.435	3.704	16.5	103	-0.01
68	T	Bromoform	1.199	1.089	9.2	100	-0.01
69	T	Styrene	2.867	2.606	9.1	102	-0.01
70	T	o-Xylene	4.329	3.650	15.7	103	-0.01
71	T	n-Nonane	2.839	2.847	-0.3	122	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.961	1.771	9.7	108	-0.02
73	S	Bromofluorobenzene (SS3)	1.467	1.284	12.5	109	0.00
74	T	Cumene	5.017	4.271	14.9	102	0.00
75	T	alpha-Pinene	2.610	2.355	9.8	103	0.00
76	T	n-Propylbenzene	6.228	5.463	12.3	105	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	102	0.00
78	T	4-Ethyltoluene	4.883	4.291	12.1	102	0.00
79	T	1,3,5-Trimethylbenzene	4.259	3.674	13.7	102	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	123	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	102	0.00
82	T	1,2,4-Trimethylbenzene	4.457	3.894	12.6	102	-0.01
83	T	n-Decane	0.000	0.000	0.0	107	-0.02
84	T	Benzyl Chloride	3.360	3.494	-4.0	101	-0.01
85	T	1,3-Dichlorobenzene	2.465	2.036	17.4	98	0.00
86	T	1,4-Dichlorobenzene	2.444	2.047	16.2	98	-0.01
87	T	sec-Butylbenzene	5.633	4.889	13.2	105	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.888	3.953	19.1	101	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	102	0.00
90	T	1,2-Dichlorobenzene	2.457	2.072	15.7	101	0.00
91	T	d-Limonene	1.490	1.453	2.5	109	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.868	0.813	6.3	99	0.00
93	T	n-Undecane	0.000	0.000	0.0	121	-0.01
94	T	1,2,4-Trichlorobenzene	1.991	1.745	12.4	94	0.00
95	T	Naphthalene	4.698	4.224	10.1	93	0.00
96	T	n-Dodecane	0.000	0.000	0.0	109	0.00
97	T	Hexachlorobutadiene	1.593	1.279	19.7	96	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.25#
99	T	tert-Butylbenzene	3.944	3.319	15.8	100	-0.01
100	T	n-Butylbenzene	4.654	4.238	8.9	105	0.00
101	T	1,1,1,2-Tetrachloroethane	1.103	0.962	12.8	100	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

9/10/24

Quant Time: Sep 10 10:05:19 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	141801	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	631796	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	181883	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	356116	13.421	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 107.36%				
57) Toluene-d8 (SS2)	12.44	98	712134	11.161	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 89.28%				
73) Bromofluorobenzene (SS3)	16.83	174	233572	10.946	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.60%				
Target Compounds							Qvalue
2) Propene	3.28	42	592367	27.656	ng		99
3) Dichlorodifluoromethan...	3.35	85	834211	24.232	ng		99
4) Chloromethane	3.49	50	854464	31.737	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	352347	28.336	ng		99
6) Vinyl Chloride	3.68	62	617731	35.461	ng		98
7) 1,3-Butadiene	3.80	54	471293m	38.956	ng		
8) Bromomethane	4.01	94	329498	29.524	ng		99
9) Chloroethane	4.15	64	284788	29.833	ng		99
10) Ethanol	4.36	45	2264932	147.174	ng		98
11) Acetonitrile	4.48	41	1041719	29.943	ng		98
12) Acrolein	4.55	56	740208	62.960	ng		100
13) Acetone	4.66	58	1683366	129.636	ng		93
14) Trichlorofluoromethane	4.76	101	799205	24.338	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	3049056	59.637	ng		99
16) Acrylonitrile	5.04	53	1450164	59.860	ng		99
17) 1,1-Dichloroethene	5.27	96	298549	22.497	ng		92
18) 2-Methyl-2-Propanol (t...	5.38	59	2340631	56.046	ng		97
19) Methylene Chloride	5.39	84	338170	22.102	ng		82
20) 3-Chloro-1-propene (Al...	5.47	41	987652	32.406	ng		95
21) Trichlorotrifluoroethane	5.59	151	286906	22.054	ng		95
22) Carbon Disulfide	5.61	76	2750149	54.253	ng		100
23) trans-1,2-Dichloroethene	6.17	61	696863	28.062	ng		97
24) 1,1-Dichloroethane	6.36	63	770849	25.859	ng		100
25) Methyl tert-Butyl Ether	6.39	73	1206110	26.636	ng		97
26) Vinyl Acetate	6.48	86	397230	150.495	ng	#	63
27) 2-Butanone (MEK)	6.70	72	473722	51.419	ng	#	74
28) cis-1,2-Dichloroethene	7.12	61	654992	26.762	ng		95
29) Diisopropyl Ether	7.30	87	548472	48.838	ng	#	64
30) Ethyl Acetate	7.32	61	319129	51.701	ng		94
31) n-Hexane	7.31	57	756215	26.868	ng		99
32) Chloroform	7.41	83	750073	26.550	ng		100
34) Tetrahydrofuran (THF)	7.77	72	414447	47.701	ng	#	76
35) Ethyl tert-Butyl Ether	7.84	87	865913	52.396	ng	#	89
36) 1,2-Dichloroethane	8.15	62	722486	25.802	ng		99
38) 1,1,1-Trichloroethane	8.42	97	714871	25.456	ng		97
39) Isopropyl Acetate	9.62	61	1087	No Calib		#	
40) 1-Butanol	8.83	56	3169	No Calib		#	
41) Benzene	8.92	78	1414606	23.880	ng		100
42) Carbon Tetrachloride	9.09	117	621640	25.327	ng		100
43) Cyclohexane	9.24	84	1020207	51.009	ng		92
44) tert-Amyl Methyl Ether	9.62	73	2144437	52.217	ng		95
45) 1,2-Dichloropropane	9.88	63	427529	27.262	ng		99
46) Bromodichloromethane	10.10	83	609837	27.367	ng		99
47) Trichloroethene	10.17	130	356058	24.275	ng		100
48) 1,4-Dioxane	10.14	88	273340	26.752	ng		94
49) 2,2,4-Trimethylpentane...	10.25	57	1932883	27.564	ng		98
50) Methyl Methacrylate	10.43	100	269917	52.400	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 10 10:05:19 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

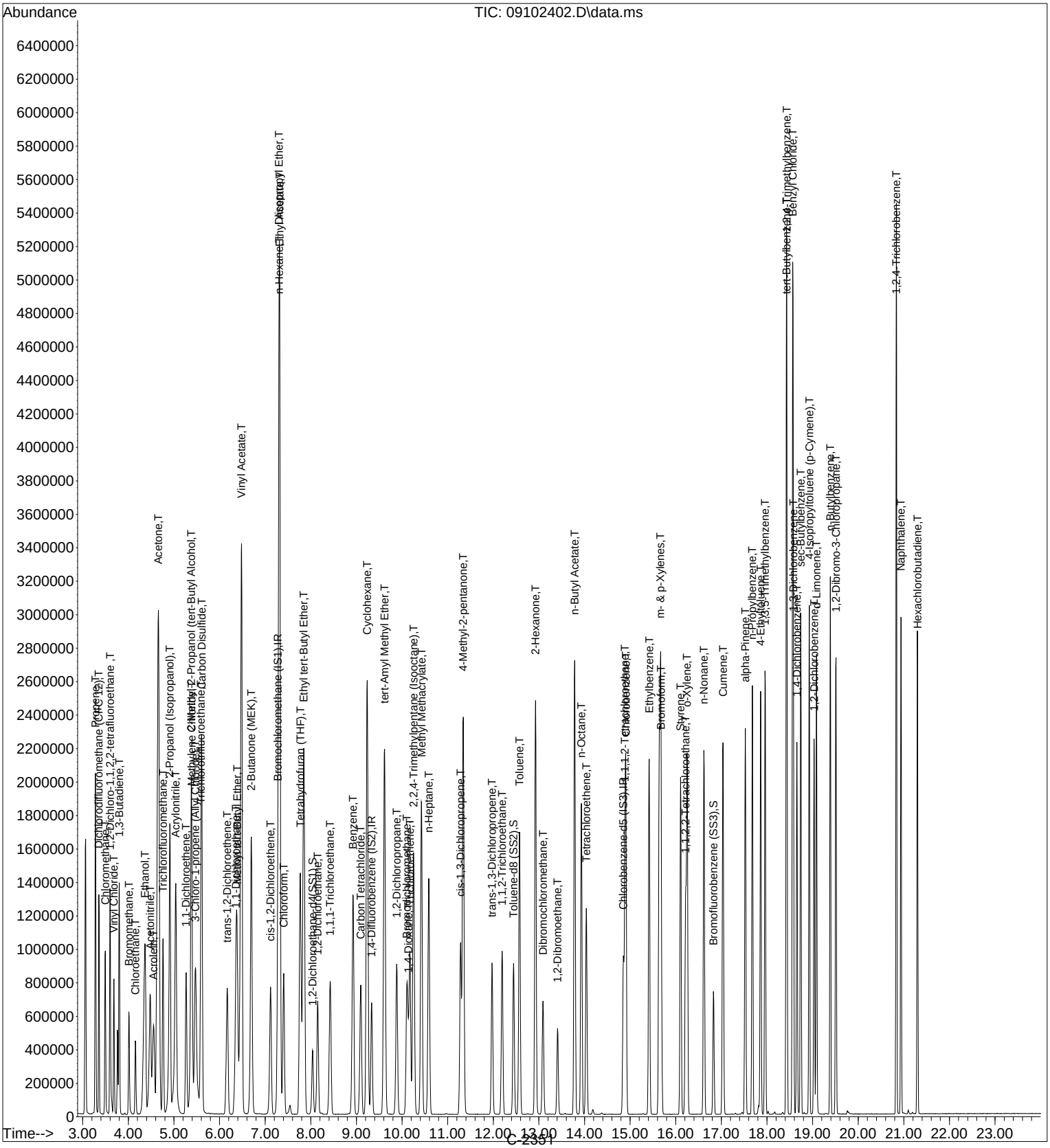
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.59	71	342925	25.980 ng	95
52) cis-1,3-Dichloropropene	11.29	75	702421	27.581 ng	100
53) 4-Methyl-2-pentanone	11.34	58	877977	56.129 ng	89
54) trans-1,3-Dichloropropene	11.97	75	595716	26.657 ng	100
55) 1,1,2-Trichloroethane	12.19	97	373377	26.737 ng	98
58) Toluene	12.57	91	1446528	20.972 ng	99
59) 2-Hexanone	12.93	43	2347338	54.989 ng	95
60) Dibromochloromethane	13.09	129	439269	22.869 ng	99
61) 1,2-Dibromoethane	13.41	107	438570	24.042 ng	99
62) n-Butyl Acetate	13.78	43	2687899	56.184 ng	96
63) n-Octane	13.93	57	399625	24.646 ng	94
64) Tetrachloroethene	14.04	166	416559	21.789 ng	99
65) Chlorobenzene	14.91	112	938750	22.410 ng	100
66) Ethylbenzene	15.42	91	1779452	22.422 ng	99
67) m- & p-Xylenes	15.66	91	2883355	44.684 ng	99
68) Bromoform	15.68	173	431619	24.738 ng	100
69) Styrene	16.11	104	1004860	24.085 ng	99
70) o-Xylene	16.25	91	1433877	22.761 ng	100
71) n-Nonane	16.62	43	1087491	26.324 ng	93
72) 1,1,2,2-Tetrachloroethane	16.21	83	695658	24.376 ng	99
74) Cumene	17.04	105	1631163	22.346 ng	100
75) alpha-Pinene	17.53	93	916548	24.137 ng	98
76) n-Propylbenzene	17.68	91	2066814	22.806 ng	99
77) 3-Ethyltoluene	17.04	105	1631163	No Calib	
78) 4-Ethyltoluene	17.86	105	1623182	22.843 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	1443451	23.294 ng	99
80) alpha-Methylstyrene	17.04	118	3811	No Calib #	
81) 2-Ethyltoluene	17.04	105	1631163	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1487237	22.935 ng	99
83) n-Decane	17.03	58	17359	No Calib	
84) Benzyl Chloride	18.56	91	2732677	55.901 ng	99
85) 1,3-Dichlorobenzene	18.58	146	785161	21.893 ng	99
86) 1,4-Dichlorobenzene	18.66	146	781714	21.985 ng	99
87) sec-Butylbenzene	18.74	105	1849614	22.566 ng	99
88) 4-Isopropyltoluene (p-...	18.93	119	1495380	21.024 ng	99
89) 1,2,3-Trimethylbenzene	17.04	105	1631163	No Calib	
90) 1,2-Dichlorobenzene	19.04	146	783776	21.922 ng	100
91) d-Limonene	19.09	68	544495	25.107 ng	96
92) 1,2-Dibromo-3-Chloropr...	19.51	157	624349	49.409 ng	89
93) n-Undecane	17.96	58	37242	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1377837	47.554 ng	99
95) Naphthalene	20.94	128	1674824	24.502 ng	100
96) n-Dodecane	18.93	58	48584	No Calib #	
97) Hexachlorobutadiene	21.30	225	488686	21.076 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1267674	22.092 ng	99
100) n-Butylbenzene	19.39	91	1587910	23.447 ng	99
101) 1,1,1,2-Tetrachloroethane	14.89	131	374339	23.318 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

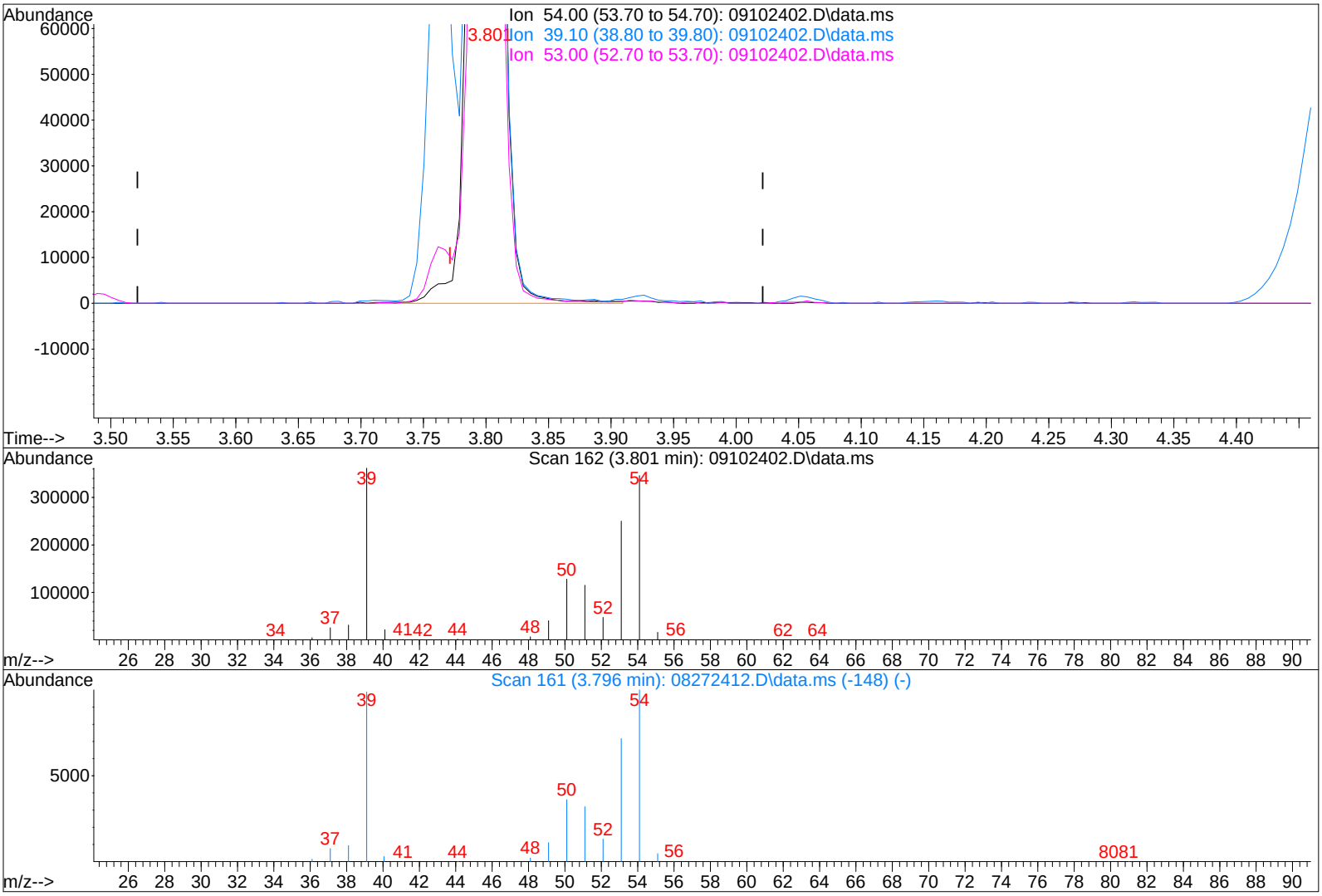
Quant Time: Sep 10 10:05:19 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 10 10:04:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102402.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (+0.030) 39.63ng

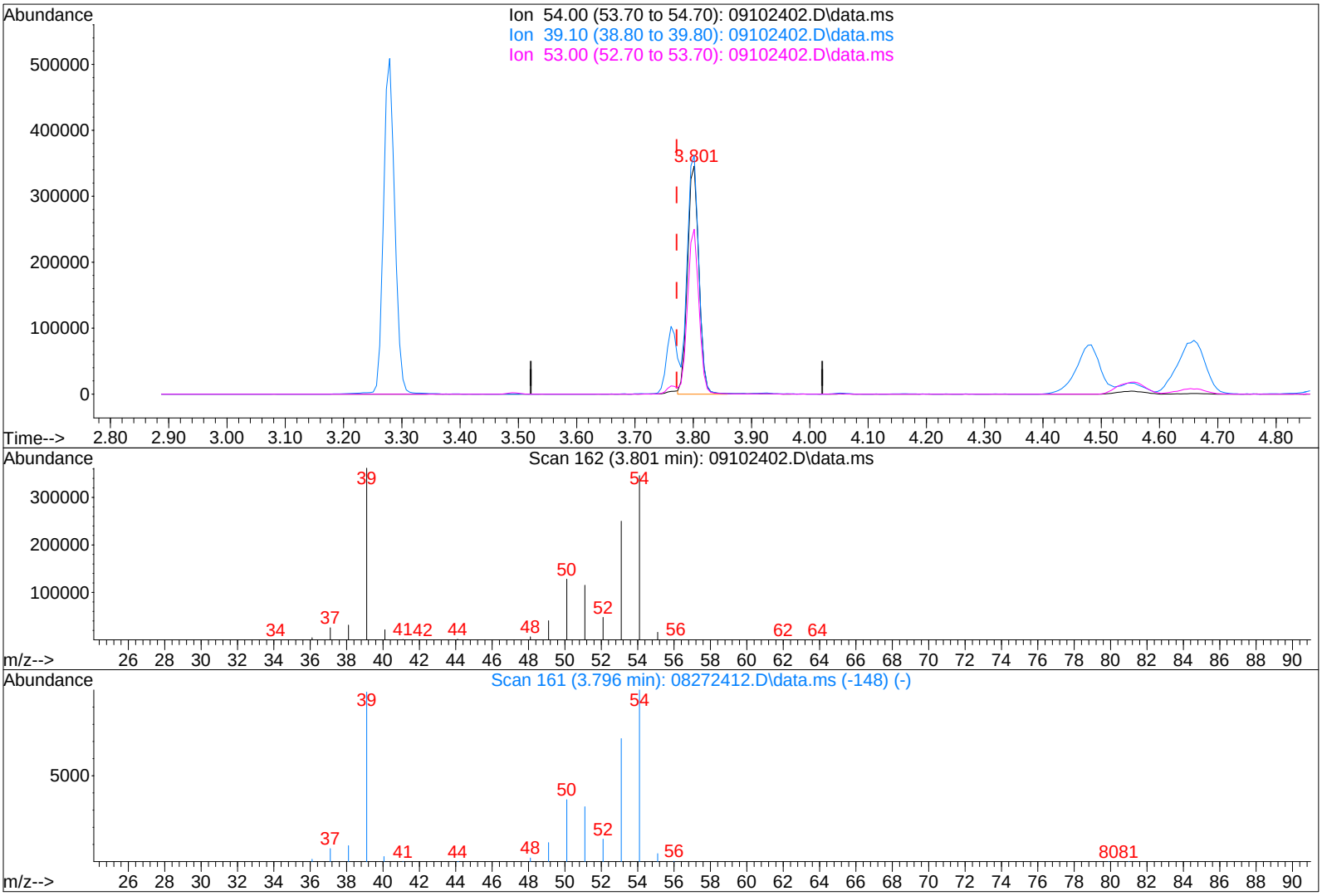
response 479488

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	103.65
53.00	72.80	74.53
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\10\09102402.D Vial: 2
Acq On : 10 Sep 2024 9:42 Operator: SC
Sample : CCV R09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 10 10:04:45 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 09 08:42:17 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09102402.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (+0.030) 38.96ng m

response 471293

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	105.45
53.00	72.80	75.83
0.00	0.00	0.00

IPC

9/10/24

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\10\09102403.D Vial: 3
Acq On : 10 Sep 2024 10:14 Operator: SC
Sample : CCV C09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 10 10:44:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/10/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	102	-0.02
2	T	Chloropentafluoroethane	1.555	1.684	-8.3	116	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.283	1.387	-8.1	116	-0.01
4	T	1,1-Difluoroethane	1.091	1.163	-6.6	113	-0.01
5	T	Chlorodifluoromethane (CFC	0.426	0.472	-10.8	117	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.816	3.084	-9.5	117	0.00
7	T	Dichlorofluoromethane (CFC	2.866	3.172	-10.7	117	0.00
8	T	Vinylbromide	1.070	1.087	-1.6	106	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.735	1.883	-8.5	116	0.00
10	T	2-Methylbutane	1.491	1.588	-6.5	115	-0.01
11	T	Methyl Acetate	4.212	4.457	-5.8	111	-0.01
12	T	2-Methylpentane	1.082	1.133	-4.7	111	-0.01
13	T	2,2-Dichloropropane	2.038	2.250	-10.4	113	-0.01
14	T	1,1-Dichloropropene	1.782	1.891	-6.1	111	-0.02
15	T	Thiophene	2.546	2.631	-3.3	108	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	103	-0.01
17	T	2,3-Dimethylpentane	0.605	0.677	-11.9	119	-0.01
18	T	Dibromomethane	0.222	0.217	2.3	102	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	118	-0.01
20	T	Methyl Cyclohexane	2.145	2.020	5.8	114	-0.01
21	T	1,3-Dichloropropane	1.666	1.582	5.0	115	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.102	0.950	13.8	101	0.00
23	T	1-Chlorohexane	1.546	1.436	7.1	110	-0.01
24	T	1,2,3-Trichloropropane	1.669	1.615	3.2	112	-0.01
25	T	Bromobenzene	1.958	1.861	5.0	109	0.00
26	T	2-Chlorotoluene	3.609	3.313	8.2	108	-0.01
27	T	4-Chlorotoluene	3.655	3.410	6.7	107	-0.01
28	T	Indane	4.134	3.484	15.7	94	-0.01
29	T	Indene	3.171	2.592	18.3	82	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.275	3.791	11.3	93	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.311	3.708	14.0	95	0.00
32	T	1,2,3,5-Tetramethylbenzene	4.091	3.690	9.8	95	0.00
33	T	1,2,3-Trichlorobenzene	1.494	1.526	-2.1	102	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102403.D Vial: 3
Acq On : 10 Sep 2024 10:14 Operator: SC
Sample : CCV C09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

9/10/24

Quant Time: Sep 10 10:44:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

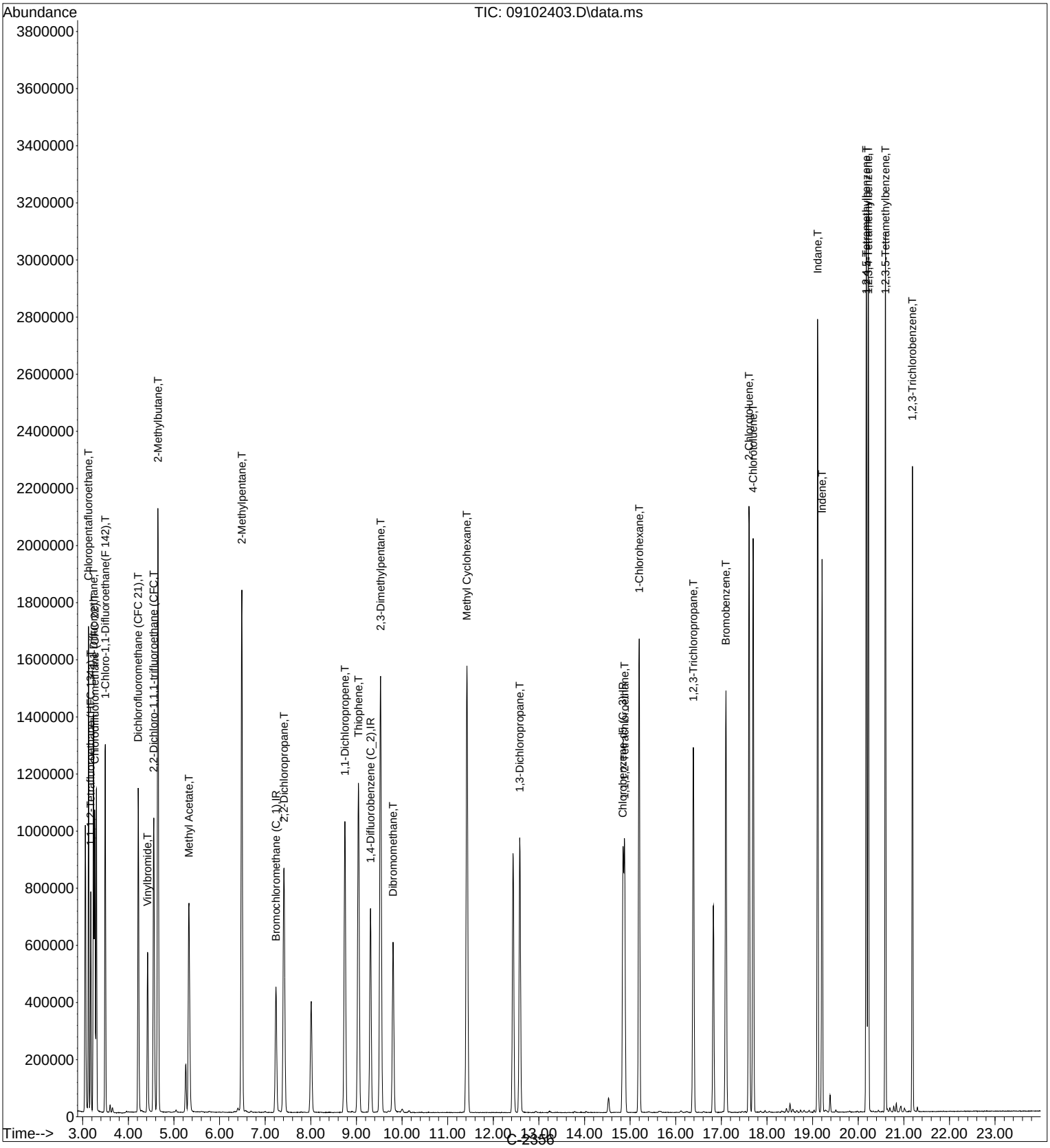
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	144299	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	631435	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	177342	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	481154	26.804	ng	94
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	400181	27.028	ng	98
4) 1,1-Difluoroethane	3.24	65	355818	28.242	ng	98
5) Chlorodifluoromethane ...	3.26	67	141685	28.814	ng	99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	925525	28.470	ng	99
7) Dichlorofluoromethane ...	4.22	67	906253	27.388	ng	98
8) Vinylbromide	4.42	108	313686	25.406	ng	96
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	565074	28.220	ng	99
10) 2-Methylbutane	4.65	57	467441	27.160	ng	96
11) Methyl Acetate	5.33	43	1234872	25.395	ng	99
12) 2-Methylpentane	6.49	71	326869	26.162	ng	99
13) 2,2-Dichloropropane	7.41	77	642832	27.317	ng	99
14) 1,1-Dichloropropene	8.75	75	567689	27.589	ng	97
15) Thiophene	9.04	84	766785	26.086	ng	93
17) 2,3-Dimethylpentane	9.53	56	888872	29.091	ng	92
18) Dibromomethane	9.80	174	292661	26.066	ng	94
20) Methyl Cyclohexane	11.42	55	766579	25.190	ng	95
21) 1,3-Dichloropropane	12.58	76	583516	24.683	ng	97
22) 1,1,1,2-Tetrachloroethane	14.88	131	293159	18.757	ng	100
23) 1-Chlorohexane	15.20	91	524720	23.920	ng	94
24) 1,2,3-Trichloropropane	16.38	75	601465	25.406	ng	99
25) Bromobenzene	17.10	77	693232	24.957	ng	89
26) 2-Chlorotoluene	17.61	91	1245714	24.330	ng	92
27) 4-Chlorotoluene	17.70	91	1221651	23.556	ng	92
28) Indane	19.11	117	1223222	20.855	ng	98
29) Indene	19.21	115	864233	19.209	ng	98
30) 1,2,4,5-Tetramethylben...	20.18	119	1357993	22.392	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	1354647	22.150	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	1321767	22.774	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	568461	26.828	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\10\09102403.D Vial: 3
Acq On : 10 Sep 2024 10:14 Operator: SC
Sample : CCV C09091024 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 10 10:44:03 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

9/11/24

Quant Time: Sep 11 10:39:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	104	0.06
2	T	Propene	1.888	1.958	-3.7	118	0.03
3	T	Dichlorodifluoromethane (CF	3.035	2.913	4.0	102	0.03
4	T	Chloromethane	2.373	2.784	-17.3	113	0.03
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.096	1.145	-4.5	107	0.04
6	T	Vinyl Chloride	1.536	2.018	-31.4#	138	0.03
7	T	1,3-Butadiene	1.066	1.568	-47.1#	147	0.03
8	T	Bromomethane	0.984	1.123	-14.1	117	0.03
9	T	Chloroethane	0.842	0.888	-5.5	106	0.03
10	T	Ethanol	1.357	1.486	-9.5	115	0.00
11	T	Acetonitrile	3.067	3.469	-13.1	117	0.00
12	T	Acrolein	1.036	1.172	-13.1	110	0.02
13	T	Acetone	1.145	1.138	0.6	108	0.02
14	T	Trichlorofluoromethane	2.895	2.860	1.2	102	0.04
15	T	2-Propanol (Isopropanol)	4.507	5.139	-14.0	115	0.00
16	T	Acrylonitrile	2.136	2.410	-12.8	112	0.02
17	T	1,1-Dichloroethene	1.170	1.150	1.7	99	0.04
18	T	2-Methyl-2-Propanol (tert-B	3.681	3.987	-8.3	96	0.02
19	T	Methylene Chloride	1.349	1.298	3.8	101	0.03
20	T	3-Chloro-1-propene (Allyl C	2.687	3.149	-17.2	116	0.04
21	T	Trichlorotrifluoroethane	1.147	1.103	3.8	96	0.05
22	T	Carbon Disulfide	4.469	4.632	-3.6	103	0.05
23	T	trans-1,2-Dichloroethene	2.189	2.339	-6.9	105	0.05
24	T	1,1-Dichloroethane	2.628	2.629	-0.0	103	0.05
25	T	Methyl tert-Butyl Ether	3.992	3.996	-0.1	98	0.05
26	T	Vinyl Acetate	0.233	0.258	-10.7	100	0.04
27	T	2-Butanone (MEK)	0.812	0.808	0.5	101	0.04
28	T	cis-1,2-Dichloroethene	2.157	2.219	-2.9	104	0.05
29	T	Diisopropyl Ether	0.990	0.916	7.5	96	0.06
30	T	Ethyl Acetate	0.544	0.566	-4.0	102	0.05
31	T	n-Hexane	2.481	2.511	-1.2	105	0.07
32	T	Chloroform	2.490	2.516	-1.0	101	0.05
33	S	1,2-Dichloroethane-d4(SS1)	2.339	2.552	-9.1	113	0.07
34	T	Tetrahydrofuran (THF)	0.766	0.753	1.7	101	0.06
35	T	Ethyl tert-Butyl Ether	1.457	1.462	-0.3	97	0.06
36	T	1,2-Dichloroethane	2.468	2.578	-4.5	104	0.07
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	104	0.03
38	T	1,1,1-Trichloroethane	0.556	0.561	-0.9	99	0.03
39	T	Isopropyl Acetate	0.000	0.000	0.0	124	0.04
40	T	1-Butanol	0.000	0.000	0.0	120	0.04
41	T	Benzene	1.172	1.083	7.6	99	0.03
42	T	Carbon Tetrachloride	0.486	0.497	-2.3	98	0.03
43	T	Cyclohexane	0.396	0.382	3.5	97	0.04
44	T	tert-Amyl Methyl Ether	0.813	0.803	1.2	97	0.04
45	T	1,2-Dichloropropane	0.310	0.311	-0.3	104	0.04
46	T	Bromodichloromethane	0.441	0.462	-4.8	100	0.04
47	T	Trichloroethene	0.290	0.268	7.6	94	0.04
48	T	1,4-Dioxane	0.202	0.202	0.0	95	0.04
49	T	2,2,4-Trimethylpentane (Iso	1.387	1.422	-2.5	104	0.05
50	T	Methyl Methacrylate	0.102	0.100	2.0	95	0.04
51	T	n-Heptane	0.261	0.257	1.5	100	0.05
52	T	cis-1,3-Dichloropropene	0.504	0.527	-4.6	97	0.05
53	T	4-Methyl-2-pentanone	0.309	0.327	-5.8	104	0.05
54	T	trans-1,3-Dichloropropene	0.442	0.478	-8.1	97	0.06
55	T	1,1,2-Trichloroethane	0.276	0.267	3.3	96	0.06

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 11 10:39:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	119	0.01
57	S	Toluene-d8 (SS2)	4.385	3.793	13.5	104	-0.01
58	T	Toluene	4.740	3.521	25.7	97	-0.02
59	T	2-Hexanone	2.934	2.982	-1.6	110	-0.02
60	T	Dibromochloromethane	1.320	1.159	12.2	95	-0.02
61	T	1,2-Dibromoethane	1.254	1.117	10.9	96	-0.02
62	T	n-Butyl Acetate	3.288	3.374	-2.6	110	-0.02
63	T	n-Octane	1.114	1.003	10.0	105	-0.01
64	T	Tetrachloroethene	1.314	1.059	19.4	93	-0.01
65	T	Chlorobenzene	2.879	2.339	18.8	95	-0.01
66	T	Ethylbenzene	5.454	4.371	19.9	97	0.00
67	T	m- & p-Xylenes	4.435	3.630	18.2	96	-0.01
68	T	Bromoform	1.199	1.074	10.4	95	-0.01
69	T	Styrene	2.867	2.512	12.4	95	-0.01
70	T	o-Xylene	4.329	3.600	16.8	98	-0.01
71	T	n-Nonane	2.839	2.747	3.2	113	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.961	1.704	13.1	100	-0.02
73	S	Bromofluorobenzene (SS3)	1.467	1.290	12.1	106	0.00
74	T	Cumene	5.017	4.194	16.4	96	0.00
75	T	alpha-Pinene	2.610	2.298	12.0	97	0.00
76	T	n-Propylbenzene	6.228	5.338	14.3	98	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	96	0.00
78	T	4-Ethyltoluene	4.883	4.199	14.0	96	0.00
79	T	1,3,5-Trimethylbenzene	4.259	3.603	15.4	96	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	117	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	96	0.00
82	T	1,2,4-Trimethylbenzene	4.457	3.854	13.5	97	-0.01
83	T	n-Decane	0.000	0.000	0.0	102	0.00
84	T	Benzyl Chloride	3.360	3.475	-3.4	96	-0.01
85	T	1,3-Dichlorobenzene	2.465	2.013	18.3	93	-0.01
86	T	1,4-Dichlorobenzene	2.444	2.012	17.7	92	-0.01
87	T	sec-Butylbenzene	5.633	4.780	15.1	98	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.888	3.902	20.2	96	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	96	0.00
90	T	1,2-Dichlorobenzene	2.457	2.016	17.9	94	0.00
91	T	d-Limonene	1.490	1.415	5.0	102	-0.01
92	T	1,2-Dibromo-3-Chloropropane	0.868	0.808	6.9	95	0.00
93	T	n-Undecane	0.000	0.000	0.0	115	-0.01
94	T	1,2,4-Trichlorobenzene	1.991	1.721	13.6	89	0.00
95	T	Naphthalene	4.698	4.165	11.3	88	0.00
96	T	n-Dodecane	0.000	0.000	0.0	99	0.00
97	T	Hexachlorobutadiene	1.593	1.279	19.7	92	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.25#
99	T	tert-Butylbenzene	3.944	3.281	16.8	95	-0.01
100	T	n-Butylbenzene	4.654	4.176	10.3	100	0.00
101	T	1,1,1,2-Tetrachloroethane	1.103	0.948	14.1	95	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 11 10:39:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/11/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	132069	12.500	ng		0.06
37) 1,4-Difluorobenzene (IS2)	9.33	114	586791	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	174609	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	336985	13.636	ng		0.07
Spiked Amount 12.500	Range 70 - 130		Recovery = 109.12%				
57) Toluene-d8 (SS2)	12.44	98	662234	10.811	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.48%				
73) Bromofluorobenzene (SS3)	16.83	174	225225	10.994	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.92%				
Target Compounds							Qvalue
2) Propene	3.28	42	542965	27.217	ng		99
3) Dichlorodifluoromethan...	3.35	85	776999	24.233	ng		100
4) Chloromethane	3.49	50	779618	31.091	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	326551	28.197	ng		99
6) Vinyl Chloride	3.68	62	565064	34.828	ng		98
7) 1,3-Butadiene	3.80	54	438905m	38.952	ng		
8) Bromomethane	4.01	94	302551	29.108	ng		98
9) Chloroethane	4.15	64	257965	29.014	ng		99
10) Ethanol	4.36	45	2060637	143.766	ng		99
11) Acetonitrile	4.48	41	943804	29.128	ng		99
12) Acrolein	4.55	56	674745	61.621	ng		100
13) Acetone	4.66	58	1539366	127.282	ng		89
14) Trichlorofluoromethane	4.76	101	763030	24.949	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2796142	58.720	ng		100
16) Acrylonitrile	5.04	53	1324102	58.684	ng		99
17) 1,1-Dichloroethene	5.27	96	276386	22.362	ng		91
18) 2-Methyl-2-Propanol (t...	5.38	59	2200852	56.582	ng		97
19) Methylene Chloride	5.39	84	312017	21.895	ng	#	82
20) 3-Chloro-1-propene (Al...	5.47	41	906688	31.942	ng		95
21) Trichlorotrifluoroethane	5.59	151	267932	22.113	ng		95
22) Carbon Disulfide	5.61	76	2532876	53.649	ng		100
23) trans-1,2-Dichloroethene	6.17	61	648719	28.049	ng		95
24) 1,1-Dichloroethane	6.36	63	715332	25.764	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1118955	26.532	ng		97
26) Vinyl Acetate	6.48	86	360901	146.807	ng	#	61
27) 2-Butanone (MEK)	6.70	72	435307	50.731	ng	#	74
28) cis-1,2-Dichloroethene	7.12	61	603579	26.479	ng		96
29) Diisopropyl Ether	7.31	87	505772	48.355	ng	#	65
30) Ethyl Acetate	7.31	61	291396	50.687	ng		95
31) n-Hexane	7.31	57	689914	26.319	ng		99
32) Chloroform	7.40	83	704534	26.776	ng		99
34) Tetrahydrofuran (THF)	7.76	72	378106	46.725	ng	#	76
35) Ethyl tert-Butyl Ether	7.84	87	807254	52.446	ng	#	90
36) 1,2-Dichloroethane	8.15	62	687805	26.374	ng		99
38) 1,1,1-Trichloroethane	8.42	97	677923	25.992	ng		98
39) Isopropyl Acetate	9.62	61	1212	No Calib		#	
40) 1-Butanol	8.84	56	2876	No Calib		#	
41) Benzene	8.92	78	1296364	23.562	ng		100
42) Carbon Tetrachloride	9.09	117	595044	26.102	ng		100
43) Cyclohexane	9.24	84	932741	50.212	ng		92
44) tert-Amyl Methyl Ether	9.62	73	1977831	51.854	ng		94
45) 1,2-Dichloropropane	9.88	63	390026	26.779	ng		99
46) Bromodichloromethane	10.10	83	580200	28.034	ng		100
47) Trichloroethene	10.17	130	330452	24.257	ng		100
48) 1,4-Dioxane	10.14	88	250903	26.440	ng		94
49) 2,2,4-Trimethylpentane...	10.25	57	1768871	27.160	ng		97
50) Methyl Methacrylate	10.43	100	248449	51.931	ng		94

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 11 10:39:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

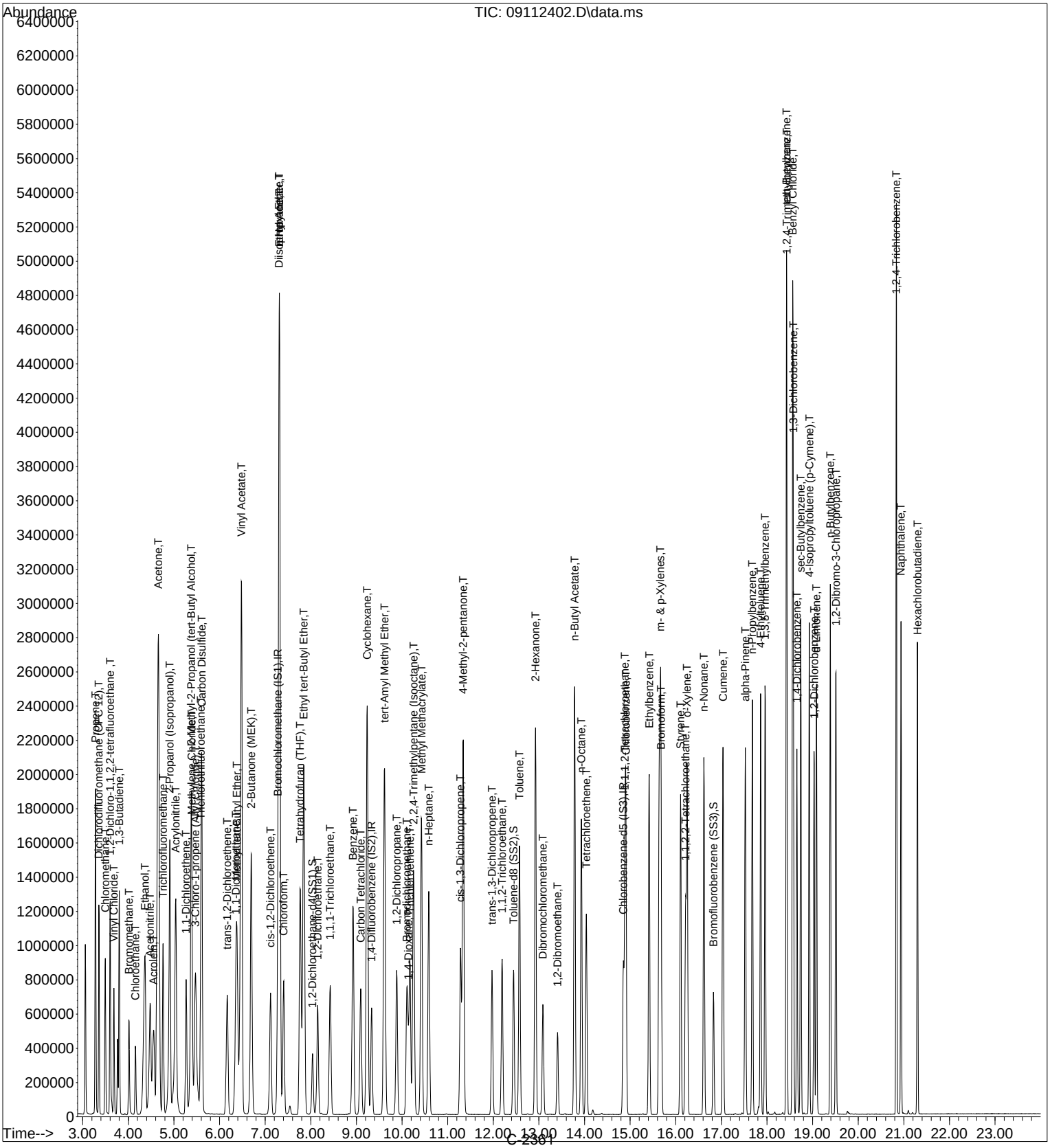
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	313960	25.610 ng		95
52) cis-1,3-Dichloropropene	11.28	75	649795	27.471 ng		99
53) 4-Methyl-2-pentanone	11.34	58	805795	55.466 ng		88
54) trans-1,3-Dichloropropene	11.97	75	555253	26.752 ng		100
55) 1,1,2-Trichloroethane	12.19	97	344179	26.536 ng		98
58) Toluene	12.57	91	1340186	20.240 ng		100
59) 2-Hexanone	12.93	43	2165902	52.853 ng		95
60) Dibromochloromethane	13.09	129	416729	22.600 ng		99
61) 1,2-Dibromoethane	13.41	107	409637	23.392 ng		99
62) n-Butyl Acetate	13.78	43	2474715	53.883 ng		96
63) n-Octane	13.93	57	371301	23.853 ng		94
64) Tetrachloroethene	14.04	166	395635	21.557 ng		99
65) Chlorobenzene	14.91	112	873908	21.731 ng		99
66) Ethylbenzene	15.42	91	1663861	21.839 ng		99
67) m- & p-Xylenes	15.66	91	2712504	43.787 ng		99
68) Bromoform	15.68	173	408789	24.406 ng		100
69) Styrene	16.11	104	929688	23.211 ng		100
70) o-Xylene	16.25	91	1357593	22.448 ng		100
71) n-Nonane	16.62	43	1007438	25.402 ng		93
72) 1,1,2,2-Tetrachloroethane	16.21	83	642733	23.459 ng		99
74) Cumene	17.04	105	1537882	21.946 ng		100
75) alpha-Pinene	17.53	93	858821	23.559 ng		98
76) n-Propylbenzene	17.68	91	1938798	22.284 ng		98
77) 3-Ethyltoluene	17.04	105	1537882	No Calib		
78) 4-Ethyltoluene	17.86	105	1524955	22.355 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1358916	22.843 ng		99
80) alpha-Methylstyrene	17.04	118	3615	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1537882	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1413121	22.700 ng		98
83) n-Decane	17.04	58	16457	No Calib		
84) Benzyl Chloride	18.56	91	2609135	55.597 ng		98
85) 1,3-Dichlorobenzene	18.58	146	744993	21.638 ng		100
86) 1,4-Dichlorobenzene	18.66	146	737825	21.615 ng		100
87) sec-Butylbenzene	18.74	105	1736179	22.064 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1416980	20.751 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1537882	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	732204	21.332 ng		100
91) d-Limonene	19.08	68	508945	24.445 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	595046	49.052 ng		88
93) n-Undecane	17.96	58	35350	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1303942	46.878 ng		100
95) Naphthalene	20.94	128	1585353	24.159 ng		100
96) n-Dodecane	18.93	58	44167	No Calib	#	
97) Hexachlorobutadiene	21.30	225	468897	21.065 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1203021	21.839 ng		100
100) n-Butylbenzene	19.39	91	1502000	23.103 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	354350	22.993 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 11 10:39:50 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

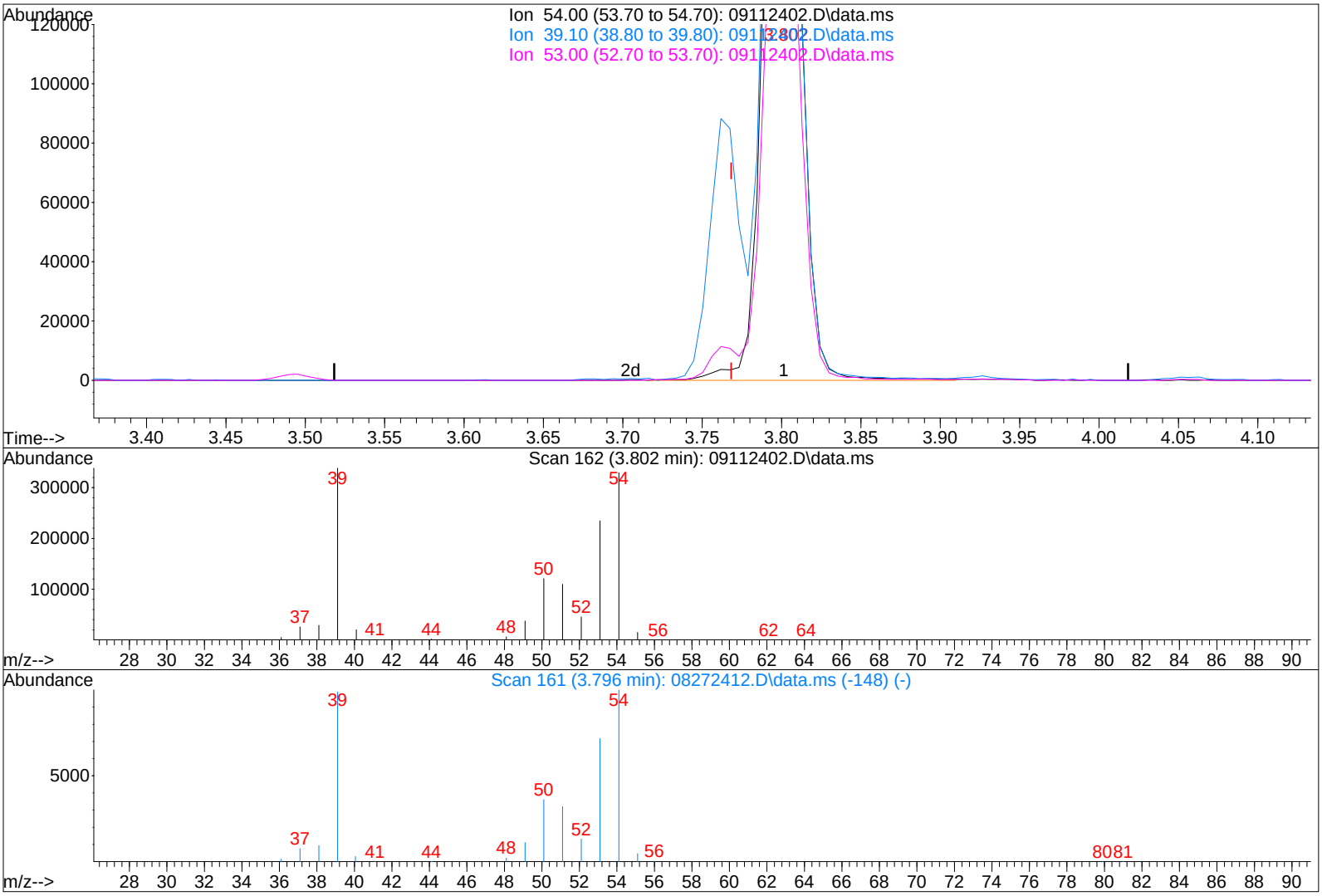


C-2301

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 11 10:39:12 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112402.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.033) 39.60ng

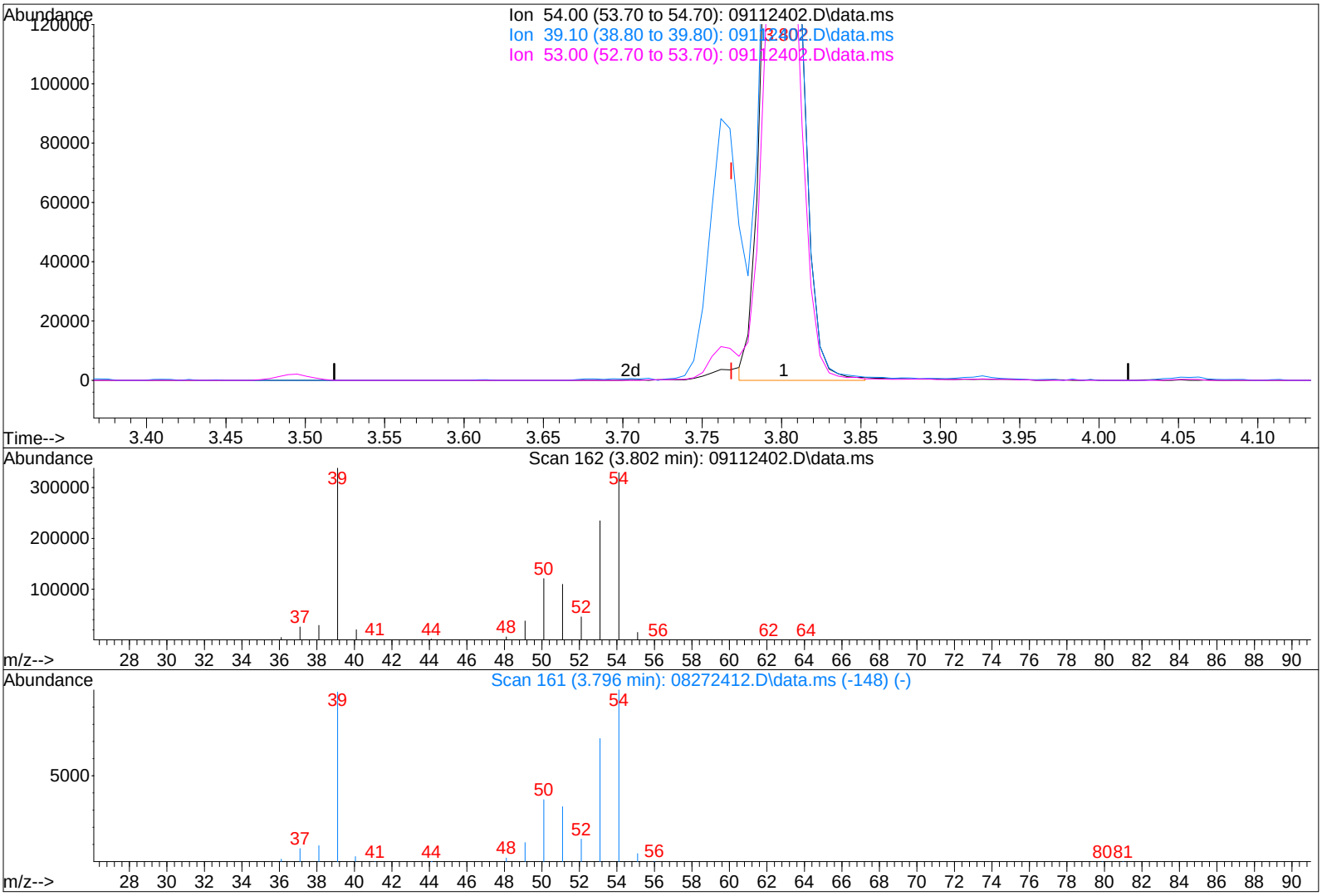
response 446212

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	102.93
53.00	72.80	73.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\11\09112402.D Vial: 2
Acq On : 11 Sep 2024 10:17 Operator: SC
Sample : CCV R09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 11 10:39:12 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Wed Sep 11 08:23:54 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09112402.D\data.ms

(7) 1,3-Butadiene (T)

3.802min (+0.033) 38.95ng m

response 438905

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	104.64
53.00	72.80	75.21
0.00	0.00	0.00

IPC

9/11/24

9/11/24

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\11\09112403.D Vial: 3
Acq On : 11 Sep 2024 10:49 Operator: SC
Sample : CCV C09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 11 11:27:15 2024 9/11/24
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	96	-0.02
2	T	Chloropentafluoroethane	1.555	1.642	-5.6	107	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.283	1.395	-8.7	111	-0.02
4	T	1,1-Difluoroethane	1.091	1.131	-3.7	105	-0.02
5	T	Chlorodifluoromethane (CFC	0.426	0.475	-11.5	112	-0.01
6	T	1-Chloro-1,1-Difluoroethane	2.816	3.111	-10.5	112	-0.01
7	T	Dichlorofluoromethane (CFC	2.866	3.113	-8.6	109	0.00
8	T	Vinylbromide	1.070	1.060	0.9	98	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.735	1.848	-6.5	108	-0.01
10	T	2-Methylbutane	1.491	1.526	-2.3	105	-0.01
11	T	Methyl Acetate	4.212	4.340	-3.0	103	-0.02
12	T	2-Methylpentane	1.082	1.093	-1.0	102	-0.02
13	T	2,2-Dichloropropane	2.038	2.240	-9.9	107	-0.02
14	T	1,1-Dichloropropene	1.782	1.872	-5.1	104	-0.02
15	T	Thiophene	2.546	2.557	-0.4	99	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	99	-0.01
17	T	2,3-Dimethylpentane	0.605	0.647	-6.9	110	-0.01
18	T	Dibromomethane	0.222	0.210	5.4	96	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	116	0.00
20	T	Methyl Cyclohexane	2.145	1.905	11.2	106	-0.01
21	T	1,3-Dichloropropane	1.666	1.492	10.4	106	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.102	0.909	17.5	95	0.00
23	T	1-Chlorohexane	1.546	1.343	13.1	101	-0.01
24	T	1,2,3-Trichloropropane	1.669	1.523	8.7	104	-0.01
25	T	Bromobenzene	1.958	1.752	10.5	101	0.00
26	T	2-Chlorotoluene	3.609	3.123	13.5	100	-0.01
27	T	4-Chlorotoluene	3.655	3.237	11.4	100	-0.01
28	T	Indane	4.134	3.302	20.1	88	-0.01
29	T	Indene	3.171	2.426	23.5	76	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.275	3.645	14.7	88	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.311	3.535	18.0	89	0.00
32	T	1,2,3,5-Tetramethylbenzene	4.091	3.511	14.2	89	0.00
33	T	1,2,3-Trichlorobenzene	1.494	1.457	2.5	96	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112403.D Vial: 3
Acq On : 11 Sep 2024 10:49 Operator: SC
Sample : CCV C09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

9/11/24

Quant Time: Sep 11 11:27:15 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

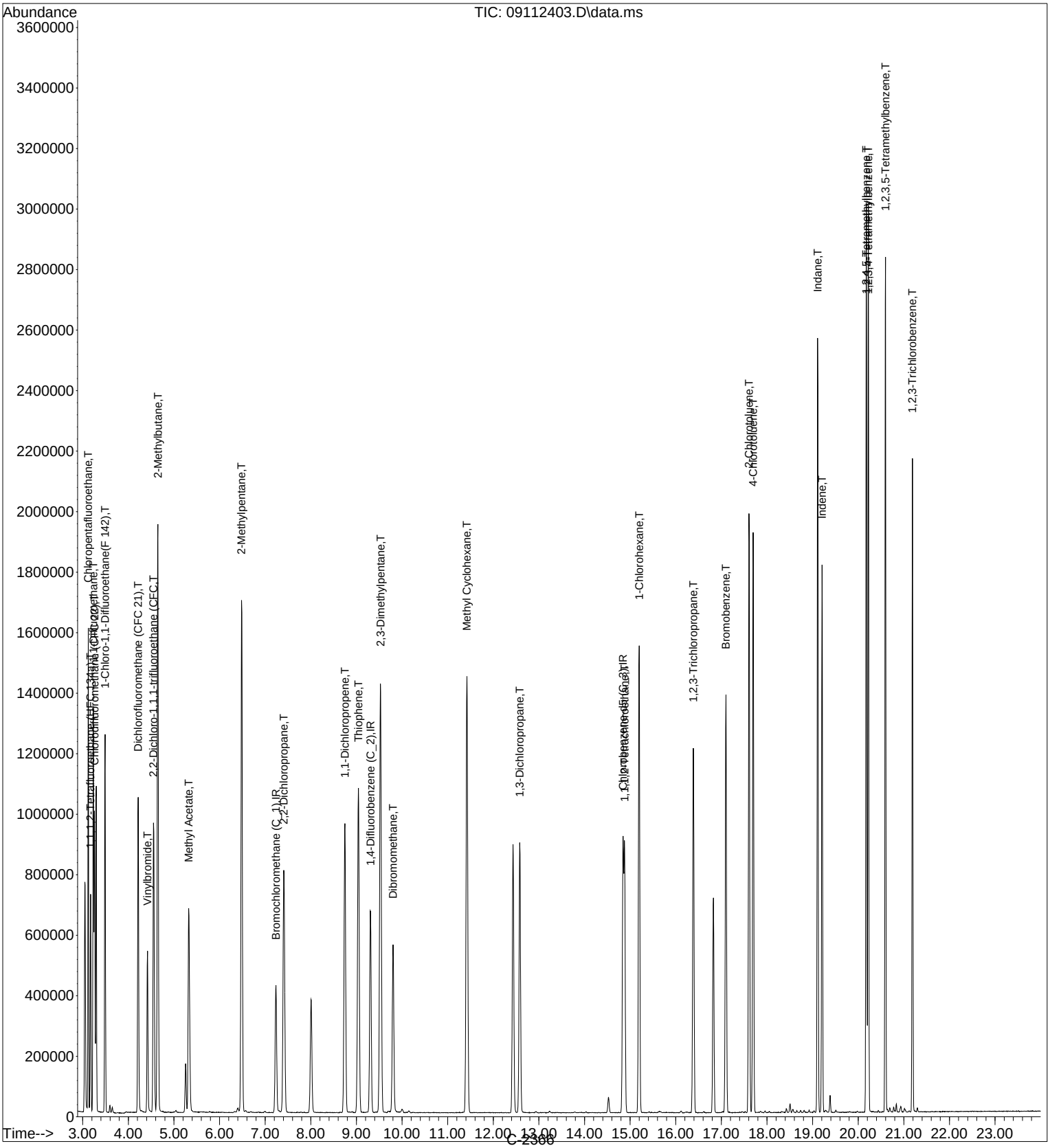
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	136848	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	609463	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	174580	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.12	85	444803	26.128	ng	95
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	381767	27.188	ng	95
4) 1,1-Difluoroethane	3.23	65	328009	27.452	ng	95
5) Chlorodifluoromethane ...	3.26	67	135141	28.980	ng	98
6) 1-Chloro-1,1-Difluoroe...	3.49	65	885585	28.725	ng	98
7) Dichlorofluoromethane ...	4.22	67	843388	26.876	ng	98
8) Vinylbromide	4.42	108	290183	24.782	ng	95
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	525957	27.696	ng	99
10) 2-Methylbutane	4.65	57	426004	26.100	ng	98
11) Methyl Acetate	5.32	43	1140294	24.726	ng	99
12) 2-Methylpentane	6.48	71	299052	25.239	ng	99
13) 2,2-Dichloropropane	7.41	77	606970	27.198	ng	98
14) 1,1-Dichloropropene	8.75	75	532764	27.301	ng	98
15) Thiophene	9.04	84	706928	25.359	ng	93
17) 2,3-Dimethylpentane	9.53	56	819836	27.799	ng	92
18) Dibromomethane	9.80	174	273651	25.251	ng	94
20) Methyl Cyclohexane	11.42	55	711717	23.757	ng	95
21) 1,3-Dichloropropane	12.58	76	541854	23.283	ng	98
22) 1,1,1,2-Tetrachloroethane	14.88	131	276047	17.941	ng	99
23) 1-Chlorohexane	15.20	91	482909	22.363	ng	93
24) 1,2,3-Trichloropropane	16.38	75	558426	23.961	ng	100
25) Bromobenzene	17.10	77	642345	23.491	ng	90
26) 2-Chlorotoluene	17.61	91	1155935	22.934	ng	92
27) 4-Chlorotoluene	17.70	91	1141632	22.361	ng	92
28) Indane	19.11	117	1141255	19.765	ng	98
29) Indene	19.21	115	796328	17.980	ng	98
30) 1,2,4,5-Tetramethylben...	20.18	119	1285466	21.531	ng	99
31) 1,2,3,4-Tetramethylben...	20.22	119	1271333	21.116	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	1238154	21.671	ng	98
33) 1,2,3-Trichlorobenzene	21.19	180	534198	25.610	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\11\09112403.D Vial: 3
Acq On : 11 Sep 2024 10:49 Operator: SC
Sample : CCV C09091124 25ng Inst : MS09
Misc : S37-06062402/S37-08142402 (9/13)

Quant Time: Sep 11 11:27:15 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 13 12:35:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	0.05
2	T	Propene	1.888	1.847	2.2	103	0.03
3	T	Dichlorodifluoromethane (CF	3.035	2.934	3.3	95	0.03
4	T	Chloromethane	2.373	2.676	-12.8	101	0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.096	1.142	-4.2	98	0.03
6	T	Vinyl Chloride	1.536	1.925	-25.3	122	0.03
7	T	1,3-Butadiene	1.066	1.554	-45.8#	134	0.03
8	T	Bromomethane	0.984	1.087	-10.5	105	0.03
9	T	Chloroethane	0.842	0.838	0.5	93	0.03
10	T	Ethanol	1.357	1.434	-5.7	102	-0.02
11	T	Acetonitrile	3.067	3.303	-7.7	103	0.00
12	T	Acrolein	1.036	1.122	-8.3	97	0.01
13	T	Acetone	1.145	1.100	3.9	97	0.01
14	T	Trichlorofluoromethane	2.895	2.898	-0.1	95	0.04
15	T	2-Propanol (Isopropanol)	4.507	5.046	-12.0	104	0.00
16	T	Acrylonitrile	2.136	2.323	-8.8	100	0.01
17	T	1,1-Dichloroethene	1.170	1.111	5.0	89	0.04
18	T	2-Methyl-2-Propanol (tert-B	3.681	3.961	-7.6	88	0.00
19	T	Methylene Chloride	1.349	1.262	6.4	91	0.03
20	T	3-Chloro-1-propene (Allyl C	2.687	3.101	-15.4	106	0.03
21	T	Trichlorotrifluoroethane	1.147	1.098	4.3	89	0.04
22	T	Carbon Disulfide	4.469	4.512	-1.0	93	0.04
23	T	trans-1,2-Dichloroethene	2.189	2.305	-5.3	95	0.04
24	T	1,1-Dichloroethane	2.628	2.576	2.0	93	0.04
25	T	Methyl tert-Butyl Ether	3.992	3.988	0.1	90	0.04
26	T	Vinyl Acetate	0.233	0.252	-8.2	91	0.03
27	T	2-Butanone (MEK)	0.812	0.785	3.3	91	0.03
28	T	cis-1,2-Dichloroethene	2.157	2.194	-1.7	95	0.04
29	T	Diisopropyl Ether	0.990	0.907	8.4	88	0.05
30	T	Ethyl Acetate	0.544	0.552	-1.5	92	0.04
31	T	n-Hexane	2.481	2.456	1.0	95	0.06
32	T	Chloroform	2.490	2.518	-1.1	93	0.04
33	S	1,2-Dichloroethane-d4(SS1)	2.339	2.685	-14.8	109	0.05
34	T	Tetrahydrofuran (THF)	0.766	0.737	3.8	91	0.06
35	T	Ethyl tert-Butyl Ether	1.457	1.459	-0.1	90	0.05
36	T	1,2-Dichloroethane	2.468	2.631	-6.6	98	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	0.02
38	T	1,1,1-Trichloroethane	0.556	0.563	-1.3	93	0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	98	0.03
40	T	1-Butanol	0.000	0.000	0.0	90	0.02
41	T	Benzene	1.172	1.047	10.7	89	0.02
42	T	Carbon Tetrachloride	0.486	0.502	-3.3	92	0.02
43	T	Cyclohexane	0.396	0.374	5.6	89	0.03
44	T	tert-Amyl Methyl Ether	0.813	0.799	1.7	90	0.02
45	T	1,2-Dichloropropane	0.310	0.298	3.9	93	0.03
46	T	Bromodichloromethane	0.441	0.459	-4.1	93	0.03
47	T	Trichloroethene	0.290	0.262	9.7	85	0.03
48	T	1,4-Dioxane	0.202	0.197	2.5	86	0.02
49	T	2,2,4-Trimethylpentane (Iso	1.387	1.377	0.7	94	0.03
50	T	Methyl Methacrylate	0.102	0.098	3.9	87	0.03
51	T	n-Heptane	0.261	0.250	4.2	91	0.03
52	T	cis-1,3-Dichloropropene	0.504	0.517	-2.6	89	0.03
53	T	4-Methyl-2-pentanone	0.309	0.320	-3.6	95	0.03
54	T	trans-1,3-Dichloropropene	0.442	0.478	-8.1	91	0.04
55	T	1,1,2-Trichloroethane	0.276	0.263	4.7	88	0.04

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 13 12:35:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	115	0.00
57	S	Toluene-d8 (SS2)	4.385	3.687	15.9	98	-0.01
58	T	Toluene	4.740	3.323	29.9	89	-0.02
59	T	2-Hexanone	2.934	2.843	3.1	102	-0.02
60	T	Dibromochloromethane	1.320	1.112	15.8	89	-0.02
61	T	1,2-Dibromoethane	1.254	1.055	15.9	88	-0.02
62	T	n-Butyl Acetate	3.288	3.193	2.9	101	-0.02
63	T	n-Octane	1.114	0.936	16.0	95	-0.01
64	T	Tetrachloroethene	1.314	1.011	23.1	86	-0.01
65	T	Chlorobenzene	2.879	2.217	23.0	87	-0.01
66	T	Ethylbenzene	5.454	4.169	23.6	90	0.00
67	T	m- & p-Xylenes	4.435	3.464	21.9	89	-0.01
68	T	Bromoform	1.199	1.034	13.8	89	-0.01
69	T	Styrene	2.867	2.383	16.9	87	-0.01
70	T	o-Xylene	4.329	3.431	20.7	90	-0.01
71	T	n-Nonane	2.839	2.592	8.7	103	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.961	1.606	18.1	91	-0.02
73	S	Bromofluorobenzene (SS3)	1.467	1.252	14.7	99	0.00
74	T	Cumene	5.017	4.001	20.3	89	0.00
75	T	alpha-Pinene	2.610	2.195	15.9	90	0.00
76	T	n-Propylbenzene	6.228	5.089	18.3	91	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	89	0.00
78	T	4-Ethyltoluene	4.883	4.029	17.5	90	0.00
79	T	1,3,5-Trimethylbenzene	4.259	3.455	18.9	89	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	106	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	89	0.00
82	T	1,2,4-Trimethylbenzene	4.457	3.688	17.3	90	-0.01
83	T	n-Decane	0.000	0.000	0.0	87	-0.02
84	T	Benzyl Chloride	3.360	3.338	0.7	90	-0.01
85	T	1,3-Dichlorobenzene	2.465	1.927	21.8	86	-0.01
86	T	1,4-Dichlorobenzene	2.444	1.911	21.8	85	-0.01
87	T	sec-Butylbenzene	5.633	4.580	18.7	91	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.888	3.748	23.3	89	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	89	0.00
90	T	1,2-Dichlorobenzene	2.457	1.942	21.0	88	-0.01
91	T	d-Limonene	1.490	1.343	9.9	94	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.868	0.773	10.9	88	0.00
93	T	n-Undecane	0.000	0.000	0.0	108	0.00
94	T	1,2,4-Trichlorobenzene	1.991	1.654	16.9	83	0.00
95	T	Naphthalene	4.698	3.968	15.5	81	0.00
96	T	n-Dodecane	0.000	0.000	0.0	89	0.00
97	T	Hexachlorobutadiene	1.593	1.242	22.0	87	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.25#
99	T	tert-Butylbenzene	3.944	3.171	19.6	89	-0.01
100	T	n-Butylbenzene	4.654	4.009	13.9	93	0.00
101	T	1,1,1,2-Tetrachloroethane	1.103	0.910	17.5	88	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

9/13/24

Quant Time: Sep 13 12:35:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	122059	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	547461	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	169335	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	327787	14.351	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 114.80%				
57) Toluene-d8 (SS2)	12.44	98	624332	10.510	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.08%				
73) Bromofluorobenzene (SS3)	16.83	174	212075	10.675	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.36%				
Target Compounds							Qvalue
2) Propene	3.28	42	473435	25.678	ng		99
3) Dichlorodifluoromethan...	3.36	85	723362	24.411	ng		99
4) Chloromethane	3.49	50	692371	29.876	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	301013	28.123	ng		100
6) Vinyl Chloride	3.69	62	498084	33.217	ng		98
7) 1,3-Butadiene	3.80	54	402068m	38.610	ng		
8) Bromomethane	4.02	94	270751	28.184	ng		98
9) Chloroethane	4.16	64	225073	27.391	ng		99
10) Ethanol	4.36	45	1837796	138.734	ng		99
11) Acetonitrile	4.48	41	830412	27.730	ng		100
12) Acrolein	4.55	56	597190	59.011	ng		99
13) Acetone	4.66	58	1375326	123.044	ng	#	84
14) Trichlorofluoromethane	4.76	101	714425	25.275	ng		100
15) 2-Propanol (Isopropanol)	4.91	45	2537549	57.660	ng		99
16) Acrylonitrile	5.04	53	1179755	56.574	ng		100
17) 1,1-Dichloroethene	5.27	96	246747	21.601	ng	#	87
18) 2-Methyl-2-Propanol (t...	5.38	59	2020761	56.213	ng		96
19) Methylene Chloride	5.39	84	280398	21.290	ng	#	81
20) 3-Chloro-1-propene (Al...	5.47	41	825008	31.448	ng		94
21) Trichlorotrifluoroethane	5.59	151	246650	22.026	ng		96
22) Carbon Disulfide	5.61	76	2279946	52.252	ng		100
23) trans-1,2-Dichloroethene	6.17	61	590922	27.645	ng		95
24) 1,1-Dichloroethane	6.36	63	647625	25.239	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1031907	26.475	ng		97
26) Vinyl Acetate	6.48	86	325808	143.400	ng	#	58
27) 2-Butanone (MEK)	6.69	72	390981	49.302	ng	#	71
28) cis-1,2-Dichloroethene	7.12	61	551729	26.189	ng		95
29) Diisopropyl Ether	7.30	87	462922	47.887	ng	#	65
30) Ethyl Acetate	7.31	61	262657	49.434	ng		96
31) n-Hexane	7.31	57	623595	25.740	ng		99
32) Chloroform	7.40	83	651610	26.795	ng		100
34) Tetrahydrofuran (THF)	7.77	72	342056	45.737	ng	#	76
35) Ethyl tert-Butyl Ether	7.84	87	744161	52.312	ng	#	90
36) 1,2-Dichloroethane	8.15	62	648586	26.910	ng		99
38) 1,1,1-Trichloroethane	8.42	97	635486	26.115	ng		98
39) Isopropyl Acetate	9.62	61	953	No Calib		#	
40) 1-Butanol	8.83	56	2152	No Calib			
41) Benzene	8.92	78	1168811	22.770	ng		100
42) Carbon Tetrachloride	9.09	117	560275	26.343	ng		100
43) Cyclohexane	9.24	84	851952	49.158	ng		94
44) tert-Amyl Methyl Ether	9.62	73	1836266	51.601	ng		94
45) 1,2-Dichloropropane	9.88	63	349405	25.713	ng		99
46) Bromodichloromethane	10.10	83	537245	27.823	ng		100
47) Trichloroethene	10.17	130	301398	23.714	ng		99
48) 1,4-Dioxane	10.13	88	228224	25.778	ng		95
49) 2,2,4-Trimethylpentane...	10.25	57	1598034	26.300	ng		95
50) Methyl Methacrylate	10.43	100	227941	51.068	ng		95

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 13 12:35:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

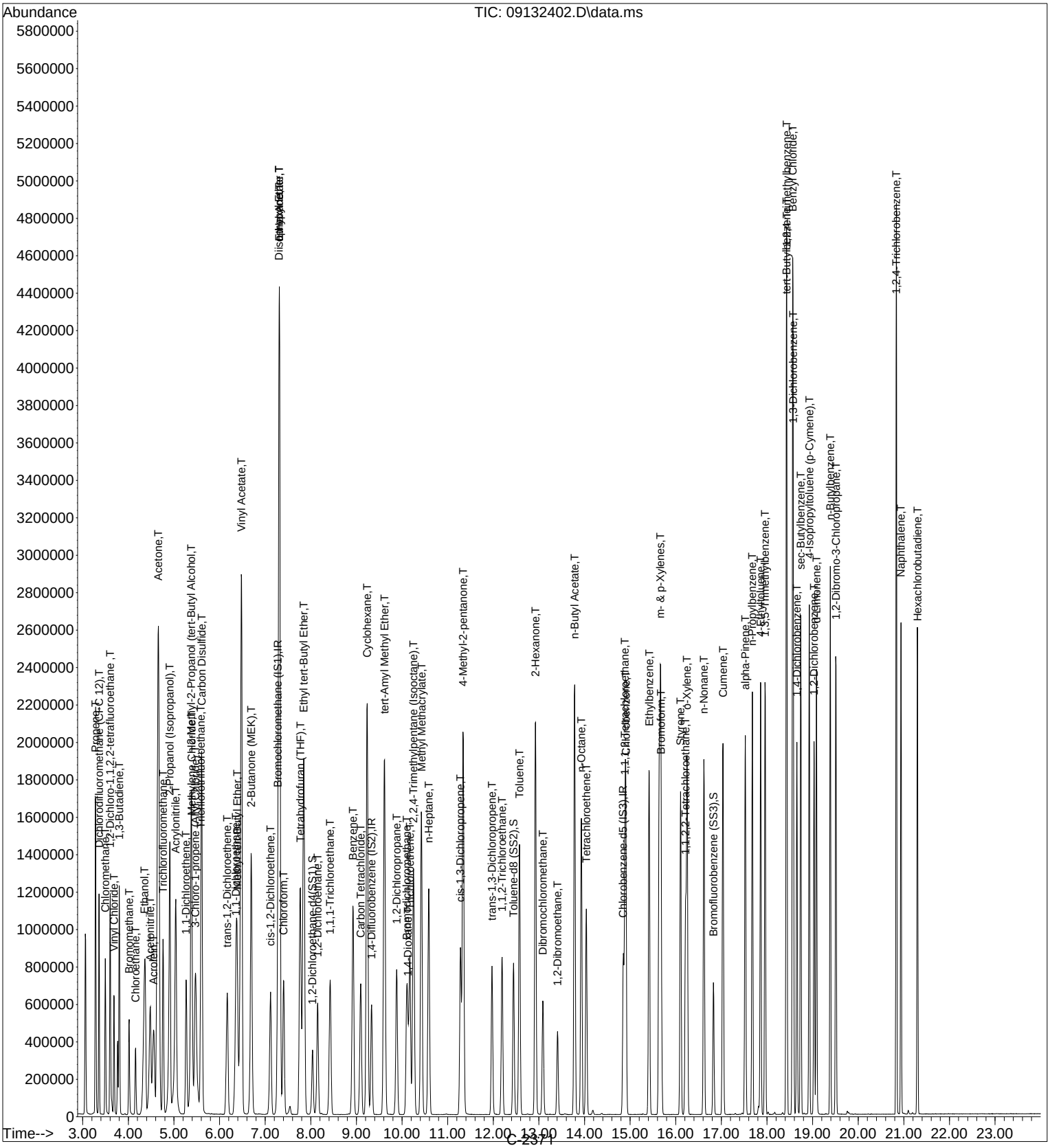
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
51) n-Heptane	10.59	71	285012	24.919 ng	96
52) cis-1,3-Dichloropropene	11.28	75	594857	26.956 ng	100
53) 4-Methyl-2-pentanone	11.34	58	736611	54.346 ng	88
54) trans-1,3-Dichloropropene	11.97	75	518389	26.771 ng	100
55) 1,1,2-Trichloroethane	12.19	97	316348	26.143 ng	99
58) Toluene	12.57	91	1226677	19.103 ng	100
59) 2-Hexanone	12.93	43	2002691	50.392 ng	94
60) Dibromochloromethane	13.09	129	387854	21.689 ng	99
61) 1,2-Dibromoethane	13.41	107	375246	22.095 ng	100
62) n-Butyl Acetate	13.78	43	2270862	50.985 ng	96
63) n-Octane	13.93	57	335931	22.253 ng	95
64) Tetrachloroethene	14.04	166	366460	20.589 ng	100
65) Chlorobenzene	14.91	112	803518	20.603 ng	100
66) Ethylbenzene	15.42	91	1539021	20.830 ng	99
67) m- & p-Xylenes	15.66	91	2510902	41.795 ng	99
68) Bromoform	15.68	173	381690	23.498 ng	99
69) Styrene	16.11	104	855620	22.027 ng	99
70) o-Xylene	16.25	91	1255015	21.398 ng	99
71) n-Nonane	16.62	43	921875	23.969 ng	93
72) 1,1,2,2-Tetrachloroethane	16.21	83	587450	22.109 ng	100
74) Cumene	17.04	105	1422665	20.934 ng	100
75) alpha-Pinene	17.53	93	795406	22.499 ng	97
76) n-Propylbenzene	17.68	91	1792468	21.244 ng	98
77) 3-Ethyltoluene	17.04	105	1422665	No Calib	
78) 4-Ethyltoluene	17.86	105	1419131	21.452 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	1263879	21.907 ng	99
80) alpha-Methylstyrene	17.04	118	3282	No Calib #	
81) 2-Ethyltoluene	17.04	105	1422665	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1311295	21.720 ng	98
83) n-Decane	17.03	58	14047	No Calib	
84) Benzyl Chloride	18.56	91	2430587	53.405 ng	98
85) 1,3-Dichlorobenzene	18.58	146	691698	20.716 ng	100
86) 1,4-Dichlorobenzene	18.66	146	679470	20.525 ng	100
87) sec-Butylbenzene	18.74	105	1613143	21.139 ng	99
88) 4-Isopropyltoluene (p-...	18.93	119	1320261	19.937 ng	98
89) 1,2,3-Trimethylbenzene	17.04	105	1422665	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	684097	20.552 ng	100
91) d-Limonene	19.09	68	468501	23.203 ng	97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	552172	46.935 ng	86
93) n-Undecane	17.97	58	33057	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1215193	45.048 ng	99
95) Naphthalene	20.94	128	1464720	23.016 ng	100
96) n-Dodecane	18.93	58	39717	No Calib #	
97) Hexachlorobutadiene	21.30	225	441599	20.457 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1127470	21.105 ng	100
100) n-Butylbenzene	19.39	91	1398560	22.182 ng	99
101) 1,1,1,2-Tetrachloroethane	14.89	131	329691	22.059 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 13 12:35:56 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

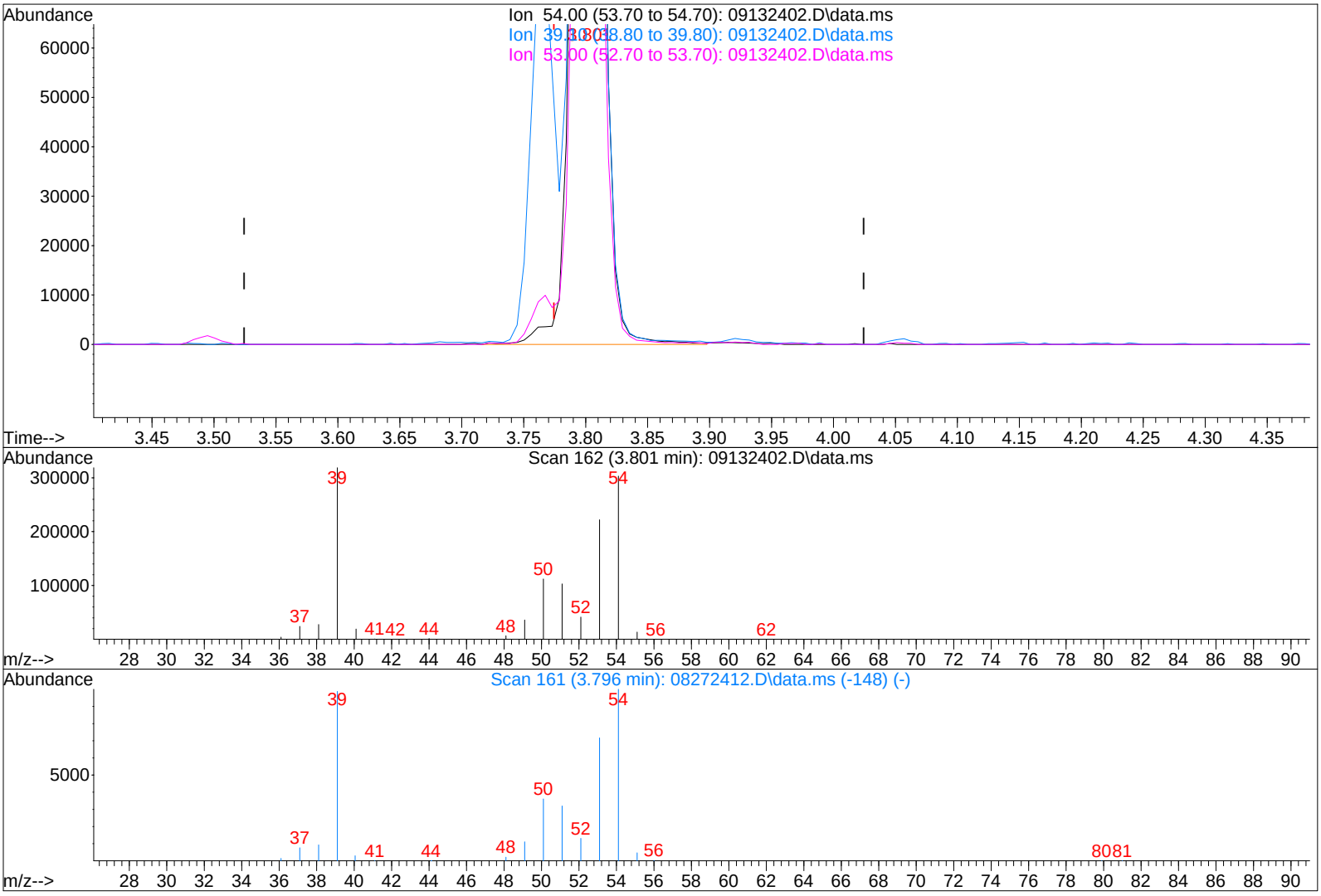


C-2371

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 13 12:34:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09132402.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (+0.027) 39.24ng

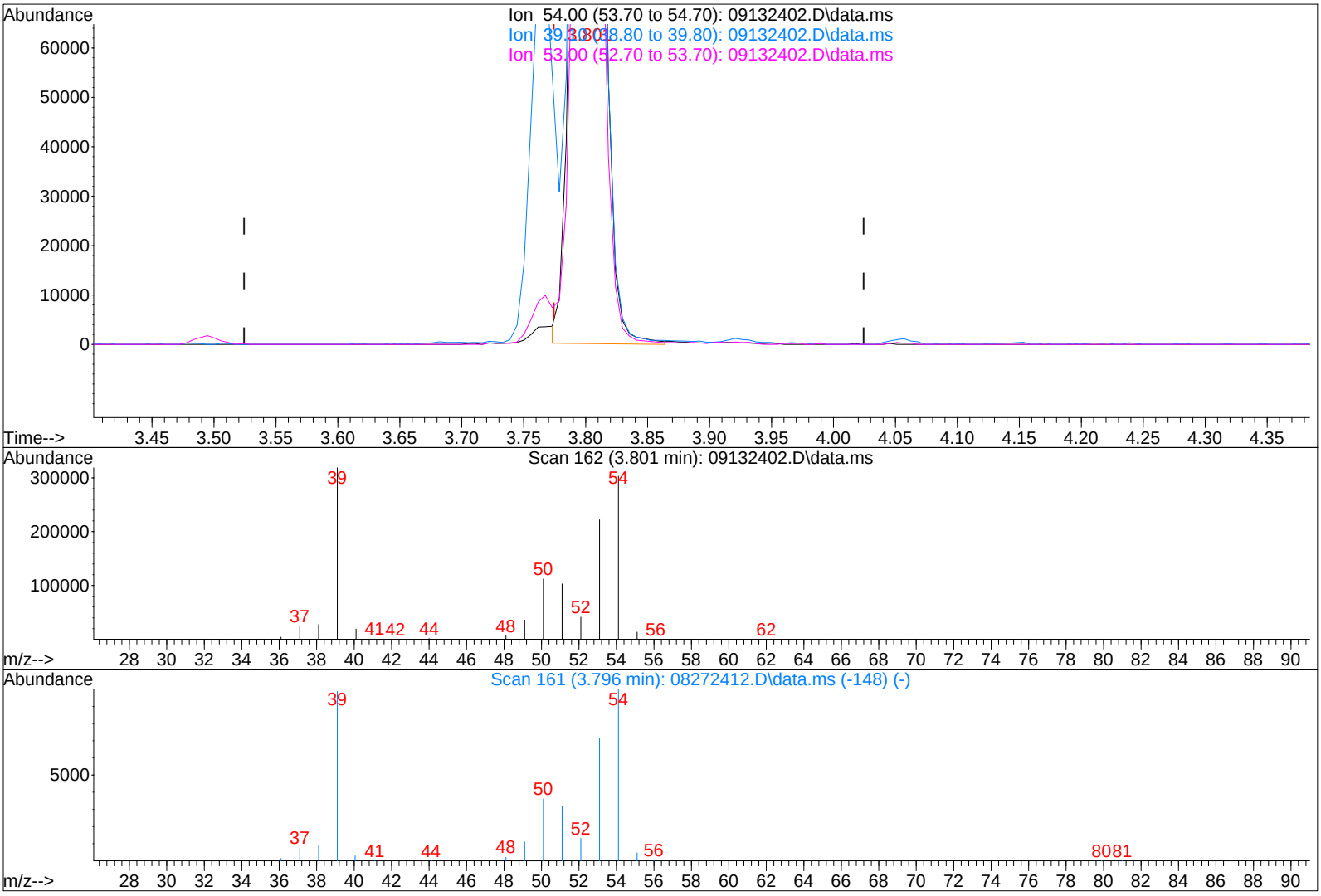
response 408672

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	104.59
53.00	72.80	74.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : I:\MS09\DATA\2024 09\13\09132402.D Vial: 2
Acq On : 13 Sep 2024 12:08 Operator: SC
Sample : CCV R09091324 25ng Inst : MS09
Misc : S37-06062402/S37-08262408 (9/25)

Quant Time: Sep 13 12:34:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



TIC: 09132402.D\data.ms

(7) 1,3-Butadiene (T)

3.801min (+0.027) 38.61ng m

response 402068

Ion	Exp%	Act%
54.00	100	100
39.10	100.00	106.31
53.00	72.80	76.03
0.00	0.00	0.00

IPC

9/13/24

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\13\09132403.D Vial: 3
Acq On : 13 Sep 2024 12:41 Operator: SC
Sample : CCV C09091324 25ng Inst : MS09
Misc : S37-06062402/S37-09122406 (10/12)

Quant Time: Sep 13 13:41:15 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	91	-0.02
2	T	Chloropentafluoroethane	1.555	1.728	-11.1	107	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.283	1.502	-17.1	112	-0.01
4	T	1,1-Difluoroethane	1.091	1.164	-6.7	102	-0.01
5	T	Chlorodifluoromethane (CFC	0.426	0.511	-20.0	113	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.816	3.336	-18.5	114	0.00
7	T	Dichlorofluoromethane (CFC	2.866	3.242	-13.1	107	0.00
8	T	Vinylbromide	1.070	1.111	-3.8	97	0.00
9	T	2,2-Dichloro-1,1,1-trifluor	1.735	1.894	-9.2	104	0.00
10	T	2-Methylbutane	1.491	1.567	-5.1	101	-0.01
11	T	Methyl Acetate	4.212	4.362	-3.6	98	-0.01
12	T	2-Methylpentane	1.082	1.115	-3.0	98	-0.01
13	T	2,2-Dichloropropane	2.038	2.447	-20.1	111	-0.01
14	T	1,1-Dichloropropene	1.782	1.959	-9.9	103	-0.02
15	T	Thiophene	2.546	2.638	-3.6	97	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	92	-0.01
17	T	2,3-Dimethylpentane	0.605	0.678	-12.1	107	-0.01
18	T	Dibromomethane	0.222	0.227	-2.3	96	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	111	0.00
20	T	Methyl Cyclohexane	2.145	1.957	8.8	104	-0.01
21	T	1,3-Dichloropropane	1.666	1.536	7.8	105	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.102	0.959	13.0	96	0.00
23	T	1-Chlorohexane	1.546	1.389	10.2	100	-0.01
24	T	1,2,3-Trichloropropane	1.669	1.574	5.7	103	-0.01
25	T	Bromobenzene	1.958	1.869	4.5	103	0.00
26	T	2-Chlorotoluene	3.609	3.259	9.7	100	-0.01
27	T	4-Chlorotoluene	3.655	3.449	5.6	102	-0.01
28	T	Indane	4.134	3.472	16.0	89	-0.01
29	T	Indene	3.171	3.145	0.8	94	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.275	3.855	9.8	89	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.311	3.770	12.5	90	0.00
32	T	1,2,3,5-Tetramethylbenzene	4.091	3.703	9.5	90	0.00
33	T	1,2,3-Trichlorobenzene	1.494	1.547	-3.5	98	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132403.D Vial: 3
Acq On : 13 Sep 2024 12:41 Operator: SC
Sample : CCV C09091324 25ng Inst : MS09
Misc : S37-06062402/S37-09122406 (10/12)

Quant Time: Sep 13 13:41:15 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/13/24

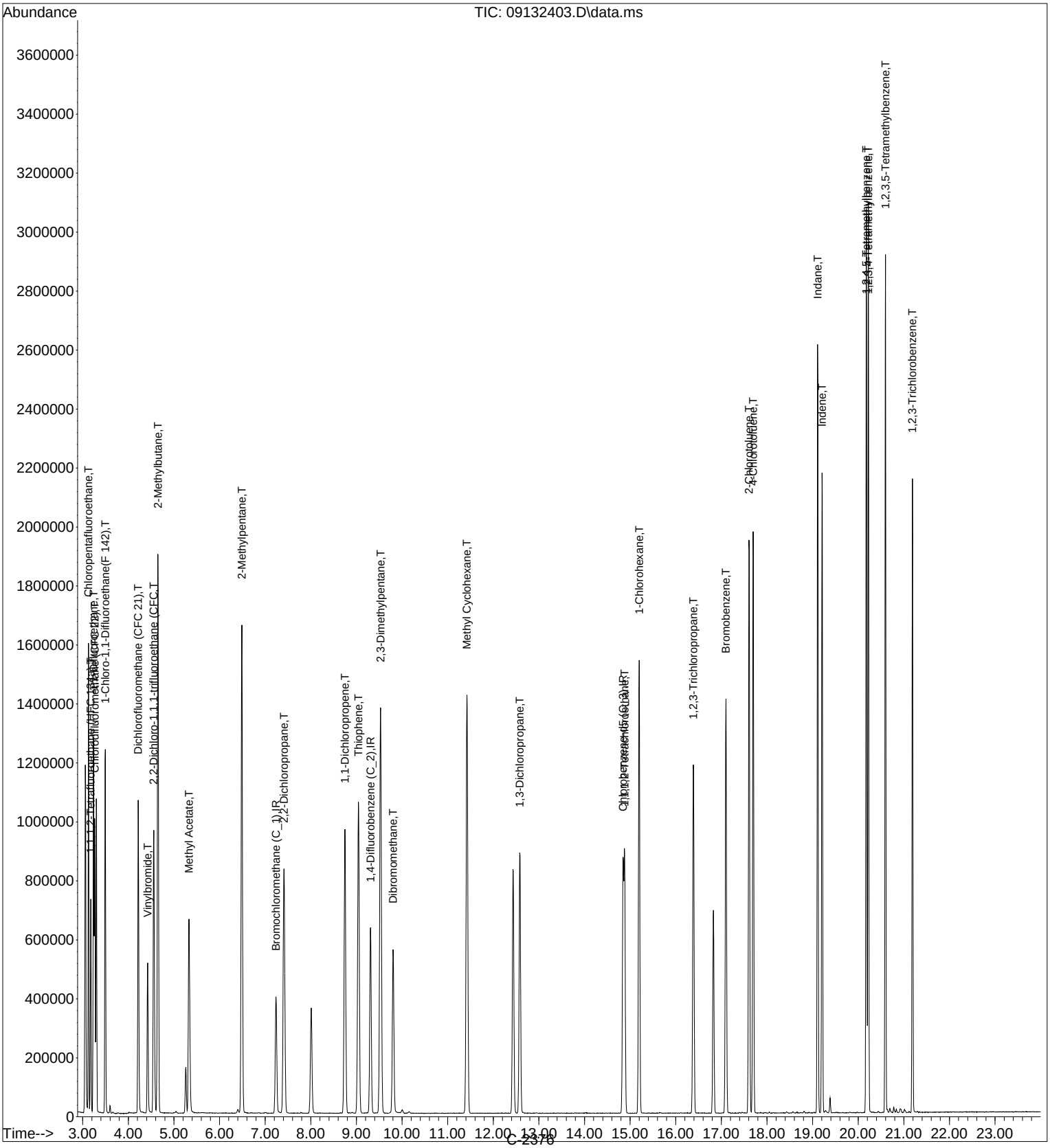
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	129272	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	564110	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	166911	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	442249	27.500	ng	94
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	388314	29.275	ng	90
4) 1,1-Difluoroethane	3.24	65	319004	28.263	ng	92
5) Chlorodifluoromethane ...	3.26	67	137366	31.183	ng	98
6) 1-Chloro-1,1-Difluoroe...	3.49	65	896876	30.796	ng	97
7) Dichlorofluoromethane ...	4.22	67	829936	27.997	ng	98
8) Vinylbromide	4.43	108	287255	25.969	ng	98
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	509189	28.385	ng	99
10) 2-Methylbutane	4.65	57	413167	26.797	ng	97
11) Methyl Acetate	5.33	43	1082735	24.854	ng	99
12) 2-Methylpentane	6.49	71	288310	25.758	ng	99
13) 2,2-Dichloropropane	7.41	77	626446	29.716	ng	98
14) 1,1-Dichloropropene	8.75	75	526705	28.573	ng	98
15) Thiophene	9.04	84	688968	26.164	ng	92
17) 2,3-Dimethylpentane	9.53	56	795604	29.146	ng	93
18) Dibromomethane	9.80	174	273738	27.290	ng	94
20) Methyl Cyclohexane	11.42	55	699022	24.405	ng	95
21) 1,3-Dichloropropane	12.58	76	533189	23.964	ng	99
22) 1,1,1,2-Tetrachloroethane	14.88	131	278657	18.943	ng	100
23) 1-Chlorohexane	15.20	91	477630	23.134	ng	93
24) 1,2,3-Trichloropropane	16.38	75	551675	24.759	ng	99
25) Bromobenzene	17.10	77	655003	25.054	ng	89
26) 2-Chlorotoluene	17.61	91	1153286	23.933	ng	92
27) 4-Chlorotoluene	17.70	91	1163003	23.827	ng	92
28) Indane	19.11	117	1147341	20.783	ng	98
29) Indene	19.21	115	986766	23.303	ng	99
30) 1,2,4,5-Tetramethylben...	20.18	119	1299849	22.773	ng	98
31) 1,2,3,4-Tetramethylben...	20.22	119	1296345	22.521	ng	98
32) 1,2,3,5-Tetramethylben...	20.60	119	1248591	22.858	ng	98
33) 1,2,3-Trichlorobenzene	21.19	180	542210	27.188	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\13\09132403.D Vial: 3
Acq On : 13 Sep 2024 12:41 Operator: SC
Sample : CCV C09091324 25ng Inst : MS09
Misc : S37-06062402/S37-09122406 (10/12)

Quant Time: Sep 13 13:41:15 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\16\09162402.D Vial: 2
Acq On : 16 Sep 2024 9:15 Operator: SC
Sample : CCV R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 16 09:57:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/16/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	119	0.05
2	T	Propene	1.888	1.770	6.2	122	0.03
3	T	Dichlorodifluoromethane (CF	3.035	2.815	7.2	113	0.03
4	T	Chloromethane	2.373	2.522	-6.3	118	0.03
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.096	1.124	-2.6	120	0.03
6	T	Vinyl Chloride	1.536	1.730	-12.6	136	0.02
7	T	1,3-Butadiene	1.066	1.459	-36.9#	156	0.03
8	T	Bromomethane	0.984	1.046	-6.3	125	0.03
9	T	Chloroethane	0.842	0.850	-1.0	117	0.03
10	T	Ethanol	1.357	1.355	0.1	120	-0.01
11	T	Acetonitrile	3.067	3.137	-2.3	122	0.00
12	T	Acrolein	1.036	1.090	-5.2	117	0.02
13	T	Acetone	1.145	1.080	5.7	118	0.02
14	T	Trichlorofluoromethane	2.895	2.739	5.4	112	0.04
15	T	2-Propanol (Isopropanol)	4.507	4.717	-4.7	121	0.00
16	T	Acrylonitrile	2.136	2.237	-4.7	120	0.00
17	T	1,1-Dichloroethene	1.170	1.134	3.1	112	0.04
18	T	2-Methyl-2-Propanol (tert-B	3.681	3.798	-3.2	105	0.00
19	T	Methylene Chloride	1.349	1.264	6.3	113	0.02
20	T	3-Chloro-1-propene (Allyl C	2.687	2.805	-4.4	119	0.03
21	T	Trichlorotrifluoroethane	1.147	1.095	4.5	110	0.04
22	T	Carbon Disulfide	4.469	4.498	-0.6	115	0.04
23	T	trans-1,2-Dichloroethene	2.189	2.240	-2.3	115	0.04
24	T	1,1-Dichloroethane	2.628	2.536	3.5	114	0.04
25	T	Methyl tert-Butyl Ether	3.992	3.976	0.4	111	0.04
26	T	Vinyl Acetate	0.233	0.254	-9.0	113	0.03
27	T	2-Butanone (MEK)	0.812	0.790	2.7	114	0.03
28	T	cis-1,2-Dichloroethene	2.157	2.118	1.8	114	0.04
29	T	Diisopropyl Ether	0.990	0.923	6.8	111	0.06
30	T	Ethyl Acetate	0.544	0.549	-0.9	113	0.05
31	T	n-Hexane	2.481	2.428	2.1	117	0.06
32	T	Chloroform	2.490	2.440	2.0	112	0.04
33	S	1,2-Dichloroethane-d4(SS1)	2.339	2.444	-4.5	124	0.06
34	T	Tetrahydrofuran (THF)	0.766	0.734	4.2	113	0.06
35	T	Ethyl tert-Butyl Ether	1.457	1.460	-0.2	111	0.06
36	T	1,2-Dichloroethane	2.468	2.424	1.8	112	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	119	0.03
38	T	1,1,1-Trichloroethane	0.556	0.549	1.3	111	0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	107	0.04
40	T	1-Butanol	0.000	0.000	0.0	162	0.03
41	T	Benzene	1.172	1.071	8.6	112	0.03
42	T	Carbon Tetrachloride	0.486	0.484	0.4	109	0.03
43	T	Cyclohexane	0.396	0.379	4.3	110	0.03
44	T	tert-Amyl Methyl Ether	0.813	0.805	1.0	111	0.02
45	T	1,2-Dichloropropane	0.310	0.299	3.5	114	0.03
46	T	Bromodichloromethane	0.441	0.445	-0.9	111	0.03
47	T	Trichloroethene	0.290	0.268	7.6	107	0.03
48	T	1,4-Dioxane	0.202	0.198	2.0	106	0.03
49	T	2,2,4-Trimethylpentane (Iso	1.387	1.357	2.2	114	0.04
50	T	Methyl Methacrylate	0.102	0.101	1.0	110	0.03
51	T	n-Heptane	0.261	0.252	3.4	112	0.04
52	T	cis-1,3-Dichloropropene	0.504	0.521	-3.4	110	0.04
53	T	4-Methyl-2-pentanone	0.309	0.314	-1.6	114	0.03
54	T	trans-1,3-Dichloropropene	0.442	0.475	-7.5	111	0.05
55	T	1,1,2-Trichloroethane	0.276	0.266	3.6	109	0.05

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\16\09162402.D Vial: 2
Acq On : 16 Sep 2024 9:15 Operator: SC
Sample : CCV R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 16 09:57:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	125	0.00
57	S	Toluene-d8 (SS2)	4.385	4.147	5.4	120	-0.01
58	T	Toluene	4.740	3.787	20.1	110	-0.02
59	T	2-Hexanone	2.934	2.950	-0.5	115	-0.03
60	T	Dibromochloromethane	1.320	1.241	6.0	108	-0.02
61	T	1,2-Dibromoethane	1.254	1.182	5.7	107	-0.02
62	T	n-Butyl Acetate	3.288	3.336	-1.5	115	-0.02
63	T	n-Octane	1.114	1.021	8.3	113	-0.01
64	T	Tetrachloroethene	1.314	1.143	13.0	106	-0.01
65	T	Chlorobenzene	2.879	2.508	12.9	107	-0.01
66	T	Ethylbenzene	5.454	4.646	14.8	109	-0.01
67	T	m- & p-Xylenes	4.435	3.860	13.0	108	-0.01
68	T	Bromoform	1.199	1.152	3.9	108	-0.01
69	T	Styrene	2.867	2.688	6.2	107	-0.01
70	T	o-Xylene	4.329	3.798	12.3	109	-0.01
71	T	n-Nonane	2.839	2.655	6.5	115	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.961	1.784	9.0	111	-0.02
73	S	Bromofluorobenzene (SS3)	1.467	1.382	5.8	119	0.00
74	T	Cumene	5.017	4.439	11.5	107	0.00
75	T	alpha-Pinene	2.610	2.417	7.4	108	0.00
76	T	n-Propylbenzene	6.228	5.551	10.9	108	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	107	0.00
78	T	4-Ethyltoluene	4.883	4.406	9.8	107	0.00
79	T	1,3,5-Trimethylbenzene	4.259	3.817	10.4	108	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	112	-0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	107	0.00
82	T	1,2,4-Trimethylbenzene	4.457	4.068	8.7	108	-0.01
83	T	n-Decane	0.000	0.000	0.0	98	-0.02
84	T	Benzyl Chloride	3.360	3.645	-8.5	107	-0.01
85	T	1,3-Dichlorobenzene	2.465	2.136	13.3	104	-0.01
86	T	1,4-Dichlorobenzene	2.444	2.096	14.2	102	-0.01
87	T	sec-Butylbenzene	5.633	4.992	11.4	108	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.888	4.112	15.9	106	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	107	0.00
90	T	1,2-Dichlorobenzene	2.457	2.130	13.3	105	-0.01
91	T	d-Limonene	1.490	1.452	2.6	111	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.868	0.847	2.4	105	0.00
93	T	n-Undecane	0.000	0.000	0.0	111	-0.01
94	T	1,2,4-Trichlorobenzene	1.991	1.808	9.2	99	0.00
95	T	Naphthalene	4.698	4.281	8.9	95	0.00
96	T	n-Dodecane	0.000	0.000	0.0	112	0.00
97	T	Hexachlorobutadiene	1.593	1.356	14.9	103	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	0.06
99	T	tert-Butylbenzene	3.944	3.494	11.4	107	-0.01
100	T	n-Butylbenzene	4.654	4.292	7.8	108	0.00
101	T	1,1,1,2-Tetrachloroethane	1.103	1.024	7.2	108	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162402.D Vial: 2
Acq On : 16 Sep 2024 9:15 Operator: SC
Sample : CCV R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 16 09:57:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/16/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	151402	12.500	ng		0.04
37) 1,4-Difluorobenzene (IS2)	9.33	114	670623	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	184456	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	369968	13.059	ng		0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.48%				
57) Toluene-d8 (SS2)	12.44	98	764921	11.821	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.56%				
73) Bromofluorobenzene (SS3)	16.83	174	254867	11.777	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
Target Compounds							Qvalue
2) Propene	3.28	42	562818	24.610	ng		100
3) Dichlorodifluoromethan...	3.35	85	860809	23.419	ng		99
4) Chloromethane	3.49	50	809393	28.156	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	367495	27.680	ng		100
6) Vinyl Chloride	3.68	62	555135	29.847	ng		98
7) 1,3-Butadiene	3.80	54	468261	36.251	ng		99
8) Bromomethane	4.01	94	323114	27.116	ng		100
9) Chloroethane	4.16	64	283234	27.788	ng		100
10) Ethanol	4.36	45	2154600	131.126	ng		99
11) Acetonitrile	4.48	41	978465	26.342	ng		99
12) Acrolein	4.55	56	719534	57.321	ng		100
13) Acetone	4.66	58	1675026	120.814	ng		97
14) Trichlorofluoromethane	4.76	101	837656	23.891	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	2942503	53.903	ng		99
16) Acrylonitrile	5.03	53	1408933	54.470	ng		99
17) 1,1-Dichloroethene	5.27	96	312470	22.053	ng		96
18) 2-Methyl-2-Propanol (t...	5.37	59	2403360	53.899	ng		98
19) Methylene Chloride	5.39	84	348222	21.315	ng		93
20) 3-Chloro-1-propene (Al...	5.47	41	925757	28.449	ng		99
21) Trichlorotrifluoroethane	5.59	151	305173	21.970	ng		97
22) Carbon Disulfide	5.61	76	2819086	52.086	ng		100
23) trans-1,2-Dichloroethene	6.17	61	712283	26.864	ng		98
24) 1,1-Dichloroethane	6.35	63	791079	24.854	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1276164	26.396	ng		99
26) Vinyl Acetate	6.48	86	407503	144.596	ng	#	83
27) 2-Butanone (MEK)	6.69	72	487908	49.601	ng	#	91
28) cis-1,2-Dichloroethene	7.11	61	660593	25.280	ng		97
29) Diisopropyl Ether	7.30	87	584419	48.739	ng	#	86
30) Ethyl Acetate	7.31	61	323985	49.159	ng		98
31) n-Hexane	7.31	57	764656	25.446	ng		99
32) Chloroform	7.40	83	783320	25.968	ng		100
34) Tetrahydrofuran (THF)	7.76	72	422537	45.548	ng	#	87
35) Ethyl tert-Butyl Ether	7.84	87	923892	52.359	ng		95
36) 1,2-Dichloroethane	8.15	62	741401	24.799	ng		99
38) 1,1,1-Trichloroethane	8.42	97	758185	25.435	ng		99
39) Isopropyl Acetate	9.62	61	1047	No Calib		#	
40) 1-Butanol	8.83	56	3891	No Calib		#	
41) Benzene	8.92	78	1464575	23.292	ng		100
42) Carbon Tetrachloride	9.09	117	661699	25.398	ng		99
43) Cyclohexane	9.24	84	1058412	49.855	ng		96
44) tert-Amyl Methyl Ether	9.61	73	2266965	52.005	ng		98
45) 1,2-Dichloropropane	9.88	63	429477	25.801	ng		100
46) Bromodichloromethane	10.10	83	638941	27.013	ng		100
47) Trichloroethene	10.17	130	377630	24.255	ng		100
48) 1,4-Dioxane	10.13	88	281032	25.913	ng		98
49) 2,2,4-Trimethylpentane...	10.25	57	1929105	25.918	ng		99
50) Methyl Methacrylate	10.42	100	287070	52.503	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162402.D Vial: 2
Acq On : 16 Sep 2024 9:15 Operator: SC
Sample : CCV R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 16 09:57:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

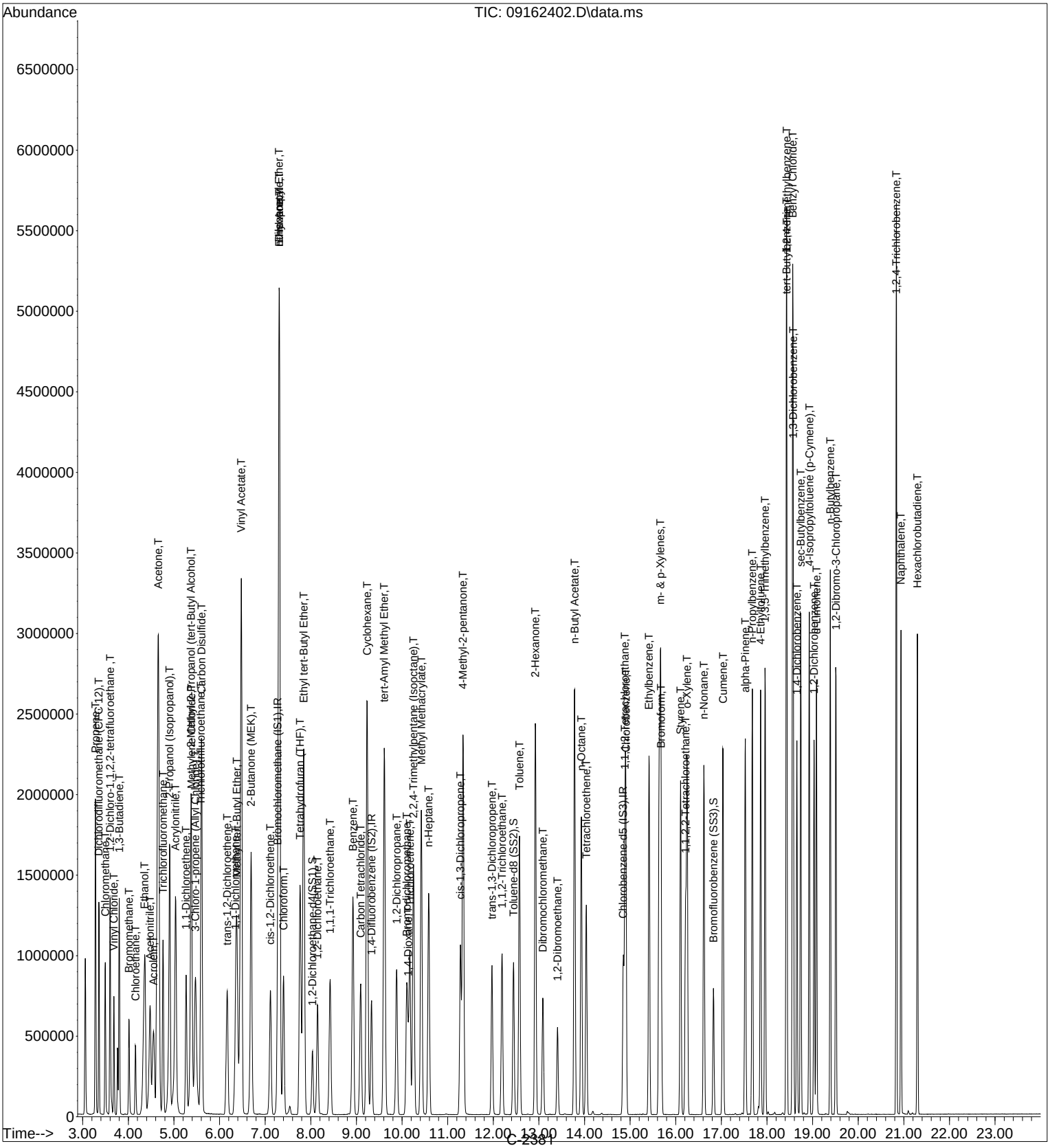
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.58	71	351871	25.115 ng		97
52) cis-1,3-Dichloropropene	11.28	75	734325	27.164 ng		100
53) 4-Methyl-2-pentanone	11.34	58	883346	53.203 ng		96
54) trans-1,3-Dichloropropene	11.97	75	630807	26.593 ng		99
55) 1,1,2-Trichloroethane	12.19	97	392333	26.468 ng		100
58) Toluene	12.57	91	1522998	21.773 ng		100
59) 2-Hexanone	12.92	43	2263503	52.286 ng		98
60) Dibromochloromethane	13.09	129	471613	24.211 ng		99
61) 1,2-Dibromoethane	13.41	107	457939	24.754 ng		100
62) n-Butyl Acetate	13.78	43	2584638	53.272 ng		99
63) n-Octane	13.93	57	399450	24.291 ng		97
64) Tetrachloroethene	14.04	166	451053	23.264 ng		100
65) Chlorobenzene	14.91	112	990036	23.305 ng		100
66) Ethylbenzene	15.41	91	1868331	23.214 ng		99
67) m- & p-Xylenes	15.66	91	3047375	46.567 ng		100
68) Bromoform	15.68	173	463228	26.180 ng		99
69) Styrene	16.11	104	1051103	24.842 ng		100
70) o-Xylene	16.25	91	1513024	23.683 ng		99
71) n-Nonane	16.62	43	1028546	24.550 ng		98
72) 1,1,2,2-Tetrachloroethane	16.21	83	710952	24.564 ng		99
74) Cumene	17.04	105	1719424	23.226 ng		100
75) alpha-Pinene	17.53	93	954227	24.779 ng		99
76) n-Propylbenzene	17.68	91	2129615	23.171 ng		99
77) 3-Ethyltoluene	17.04	105	1719424	No Calib		
78) 4-Ethyltoluene	17.86	105	1690531	23.459 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1520696	24.198 ng		100
80) alpha-Methylstyrene	17.03	118	3462	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1719424	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1575738	23.961 ng		99
83) n-Decane	17.02	58	15752	No Calib		
84) Benzyl Chloride	18.56	91	2891398	58.322 ng		99
85) 1,3-Dichlorobenzene	18.58	146	835095	22.961 ng		99
86) 1,4-Dichlorobenzene	18.66	146	811849	22.514 ng		98
87) sec-Butylbenzene	18.74	105	1915223	23.040 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1577818	21.873 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1719424	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	817148	22.536 ng		100
91) d-Limonene	19.09	68	551872	25.092 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.51	157	659301	51.447 ng		94
93) n-Undecane	17.96	58	33945	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1447051	49.246 ng		99
95) Naphthalene	20.94	128	1721558	24.834 ng		100
96) n-Dodecane	18.93	58	50021	No Calib	#	
97) Hexachlorobutadiene	21.30	225	525072	22.330 ng		99
98) Cyclohexanone	15.32	55	113	No Calib	#	
99) tert-Butylbenzene	18.43	119	1353534	23.259 ng		100
100) n-Butylbenzene	19.39	91	1630696	23.743 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	404230	24.829 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162402.D Vial: 2
Acq On : 16 Sep 2024 9:15 Operator: SC
Sample : CCV R09091624 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 16 09:57:49 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Sep 13 08:21:50 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\16\09162403.D Vial: 3
Acq On : 16 Sep 2024 9:47 Operator: SC
Sample : CCV C09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09122406 (10/12)

Quant Time: Sep 16 10:09:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/16/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	103	-0.02
2	T	Chloropentafluoroethane	1.555	1.751	-12.6	122	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.283	1.467	-14.3	124	-0.01
4	T	1,1-Difluoroethane	1.091	1.191	-9.2	118	-0.01
5	T	Chlorodifluoromethane (CFC	0.426	0.494	-16.0	124	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.816	3.227	-14.6	125	0.00
7	T	Dichlorofluoromethane (CFC	2.866	3.247	-13.3	121	0.00
8	T	Vinylbromide	1.070	1.143	-6.8	113	0.00
9	T	2,2-Dichloro-1,1,1-trifluor	1.735	1.938	-11.7	120	0.00
10	T	2-Methylbutane	1.491	1.567	-5.1	115	-0.01
11	T	Methyl Acetate	4.212	4.152	1.4	105	-0.01
12	T	2-Methylpentane	1.082	1.148	-6.1	114	-0.01
13	T	2,2-Dichloropropane	2.038	2.435	-19.5	124	-0.01
14	T	1,1-Dichloropropene	1.782	1.991	-11.7	118	-0.02
15	T	Thiophene	2.546	2.704	-6.2	112	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	105	-0.01
17	T	2,3-Dimethylpentane	0.605	0.669	-10.6	120	-0.01
18	T	Dibromomethane	0.222	0.234	-5.4	112	-0.02
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	116	0.00
20	T	Methyl Cyclohexane	2.145	2.085	2.8	117	-0.01
21	T	1,3-Dichloropropane	1.666	1.684	-1.1	121	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.102	1.052	4.5	111	0.00
23	T	1-Chlorohexane	1.546	1.535	0.7	116	-0.01
24	T	1,2,3-Trichloropropane	1.669	1.700	-1.9	117	-0.01
25	T	Bromobenzene	1.958	2.014	-2.9	117	0.00
26	T	2-Chlorotoluene	3.609	3.602	0.2	116	-0.01
27	T	4-Chlorotoluene	3.655	3.731	-2.1	116	-0.01
28	T	Indane	4.134	3.822	7.5	102	-0.01
29	T	Indene	3.171	3.364	-6.1	105	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.275	4.236	0.9	103	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.311	4.130	4.2	104	0.00
32	T	1,2,3,5-Tetramethylbenzene	4.091	4.034	1.4	103	0.00
33	T	1,2,3-Trichlorobenzene	1.494	1.632	-9.2	108	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162403.D Vial: 3
Acq On : 16 Sep 2024 9:47 Operator: SC
Sample : CCV C09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09122406 (10/12)

Quant Time: Sep 16 10:09:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/16/24

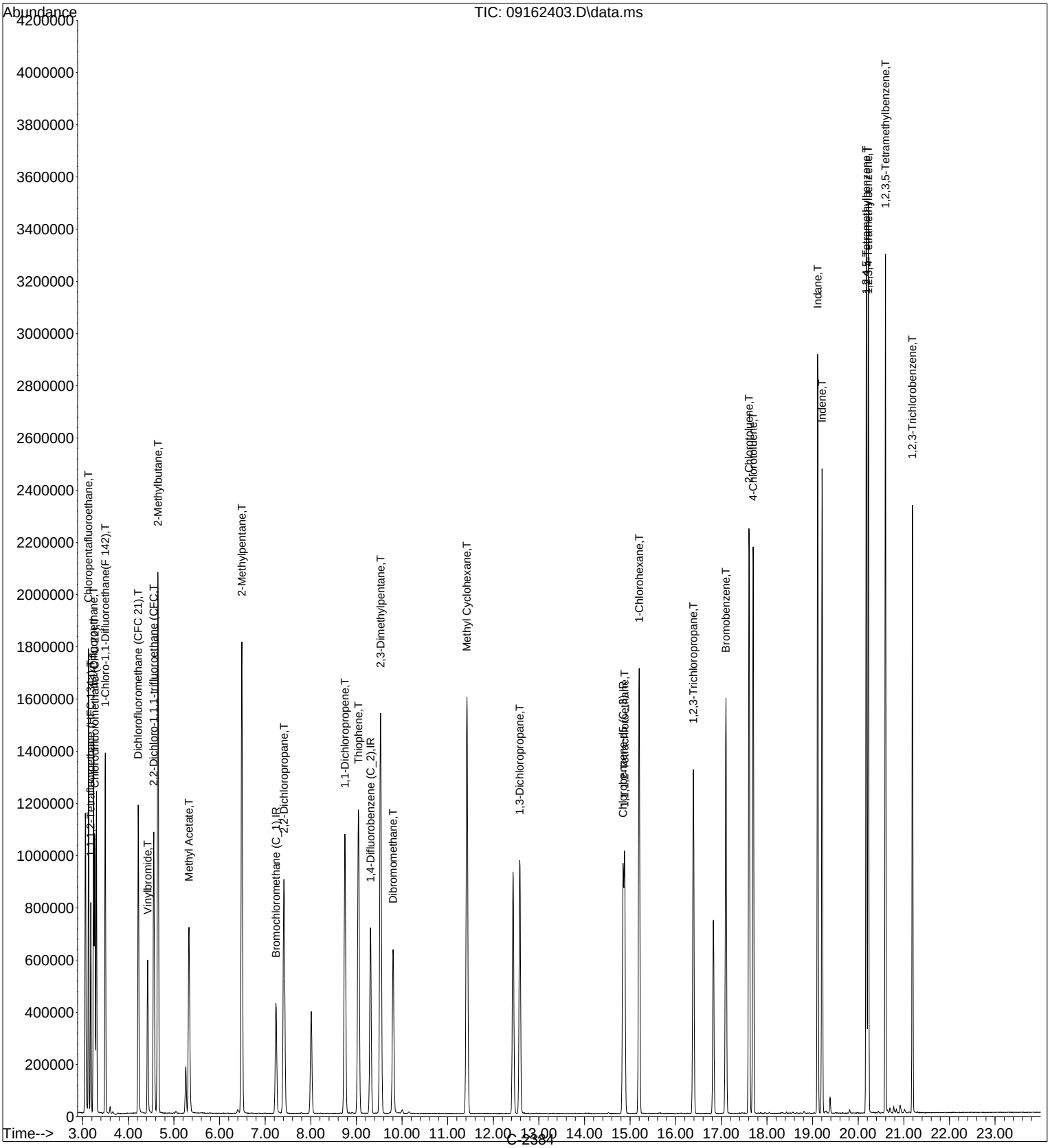
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	146159	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C 2)	9.31	114	641502	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	175455	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	506695	27.867	ng	96
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	428827	28.594	ng	94
4) 1,1-Difluoroethane	3.24	65	369023	28.918	ng	98
5) Chlorodifluoromethane ...	3.26	67	150282	30.174	ng	99
6) 1-Chloro-1,1-Difluoroe...	3.49	65	981104	29.796	ng	99
7) Dichlorofluoromethane ...	4.22	67	939577	28.034	ng	99
8) Vinylbromide	4.43	108	334155	26.719	ng	97
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	589249	29.053	ng	98
10) 2-Methylbutane	4.65	57	467191	26.800	ng	92
11) Methyl Acetate	5.33	43	1165081	23.654	ng	98
12) 2-Methylpentane	6.49	71	335455	26.507	ng	89
13) 2,2-Dichloropropane	7.41	77	704542	29.559	ng	98
14) 1,1-Dichloropropene	8.75	75	605403	29.047	ng	94
15) Thiophene	9.04	84	798336	26.814	ng	95
17) 2,3-Dimethylpentane	9.53	56	892228	28.742	ng	91
18) Dibromomethane	9.80	174	321588	28.192	ng	98
20) Methyl Cyclohexane	11.42	55	782783	25.999	ng	98
21) 1,3-Dichloropropane	12.58	76	614447	26.271	ng	93
22) 1,1,1,2-Tetrachloroethane	14.88	131	321029	20.761	ng	100
23) 1-Chlorohexane	15.20	91	554712	25.559	ng	96
24) 1,2,3-Trichloropropane	16.38	75	626431	26.745	ng	99
25) Bromobenzene	17.10	77	742042	27.001	ng	91
26) 2-Chlorotoluene	17.61	91	1339886	26.451	ng	92
27) 4-Chlorotoluene	17.70	91	1322484	25.774	ng	92
28) Indane	19.11	117	1327720	22.880	ng	98
29) Indene	19.21	115	1109486	24.925	ng	99
30) 1,2,4,5-Tetramethylben...	20.18	119	1501312	25.021	ng	99
31) 1,2,3,4-Tetramethylben...	20.22	119	1492635	24.668	ng	98
32) 1,2,3,5-Tetramethylben...	20.60	119	1429817	24.901	ng	98
33) 1,2,3-Trichlorobenzene	21.19	180	601418	28.689	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\16\09162403.D Vial: 3
Acq On : 16 Sep 2024 9:47 Operator: SC
Sample : CCV C09091624 25ng Inst : MS09
Misc : S37-08262404/S37-09122406 (10/12)

Quant Time: Sep 16 10:09:26 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\17\09172402.D Vial: 2
Acq On : 17 Sep 2024 9:33 Operator: SC
Sample : CCV R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 17 10:06:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	94	0.05
2	T	Propene	1.888	1.733	8.2	94	0.03
3	T	Dichlorodifluoromethane (CF	3.035	2.951	2.8	93	0.03
4	T	Chloromethane	2.373	2.506	-5.6	92	0.03
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.096	1.112	-1.5	93	0.03
6	T	Vinyl Chloride	1.536	1.819	-18.4	112	0.02
7	T	1,3-Butadiene	1.066	1.548	-45.2#	130	0.03
8	T	Bromomethane	0.984	1.017	-3.4	95	0.03
9	T	Chloroethane	0.842	0.786	6.7	85	0.03
10	T	Ethanol	1.357	1.329	2.1	92	-0.01
11	T	Acetonitrile	3.067	3.034	1.1	93	0.00
12	T	Acrolein	1.036	1.043	-0.7	88	0.02
13	T	Acetone	1.145	1.029	10.1	88	0.02
14	T	Trichlorofluoromethane	2.895	2.938	-1.5	94	0.04
15	T	2-Propanol (Isopropanol)	4.507	4.754	-5.5	95	0.00
16	T	Acrylonitrile	2.136	2.154	-0.8	91	0.00
17	T	1,1-Dichloroethene	1.170	1.070	8.5	83	0.04
18	T	2-Methyl-2-Propanol (tert-B	3.681	3.839	-4.3	83	0.00
19	T	Methylene Chloride	1.349	1.192	11.6	84	0.02
20	T	3-Chloro-1-propene (Allyl C	2.687	2.855	-6.3	95	0.03
21	T	Trichlorotrifluoroethane	1.147	1.084	5.5	85	0.04
22	T	Carbon Disulfide	4.469	4.287	4.1	86	0.04
23	T	trans-1,2-Dichloroethene	2.189	2.200	-0.5	89	0.04
24	T	1,1-Dichloroethane	2.628	2.471	6.0	87	0.04
25	T	Methyl tert-Butyl Ether	3.992	3.922	1.8	86	0.04
26	T	Vinyl Acetate	0.233	0.241	-3.4	84	0.03
27	T	2-Butanone (MEK)	0.812	0.740	8.9	84	0.03
28	T	cis-1,2-Dichloroethene	2.157	2.102	2.5	89	0.04
29	T	Diisopropyl Ether	0.990	0.877	11.4	83	0.06
30	T	Ethyl Acetate	0.544	0.518	4.8	84	0.05
31	T	n-Hexane	2.481	2.352	5.2	89	0.06
32	T	Chloroform	2.490	2.471	0.8	89	0.04
33	S	1,2-Dichloroethane-d4(SS1)	2.339	2.729	-16.7	108	0.06
34	T	Tetrahydrofuran (THF)	0.766	0.694	9.4	84	0.06
35	T	Ethyl tert-Butyl Ether	1.457	1.436	1.4	86	0.06
36	T	1,2-Dichloroethane	2.468	2.626	-6.4	95	0.05
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	93	0.03
38	T	1,1,1-Trichloroethane	0.556	0.585	-5.2	92	0.02
39	T	Isopropyl Acetate	0.000	0.000	0.0	104	0.02
40	T	1-Butanol	0.000	0.000	0.0	99	0.03
41	T	Benzene	1.172	1.018	13.1	83	0.03
42	T	Carbon Tetrachloride	0.486	0.522	-7.4	91	0.03
43	T	Cyclohexane	0.396	0.364	8.1	82	0.03
44	T	tert-Amyl Methyl Ether	0.813	0.790	2.8	85	0.02
45	T	1,2-Dichloropropane	0.310	0.286	7.7	85	0.03
46	T	Bromodichloromethane	0.441	0.464	-5.2	90	0.03
47	T	Trichloroethene	0.290	0.264	9.0	82	0.03
48	T	1,4-Dioxane	0.202	0.188	6.9	79	0.03
49	T	2,2,4-Trimethylpentane (Iso	1.387	1.320	4.8	86	0.04
50	T	Methyl Methacrylate	0.102	0.097	4.9	81	0.03
51	T	n-Heptane	0.261	0.242	7.3	83	0.04
52	T	cis-1,3-Dichloropropene	0.504	0.510	-1.2	83	0.04
53	T	4-Methyl-2-pentanone	0.309	0.306	1.0	86	0.03
54	T	trans-1,3-Dichloropropene	0.442	0.474	-7.2	86	0.05
55	T	1,1,2-Trichloroethane	0.276	0.259	6.2	83	0.04

Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\17\09172402.D Vial: 2
Acq On : 17 Sep 2024 9:33 Operator: SC
Sample : CCV R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 17 10:06:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	110	0.01
57	S	Toluene-d8 (SS2)	4.385	3.690	15.8	93	-0.01
58	T	Toluene	4.740	3.268	31.1#	83	-0.02
59	T	2-Hexanone	2.934	2.699	8.0	92	-0.03
60	T	Dibromochloromethane	1.320	1.122	15.0	85	-0.02
61	T	1,2-Dibromoethane	1.254	1.036	17.4	82	-0.02
62	T	n-Butyl Acetate	3.288	3.040	7.5	91	-0.02
63	T	n-Octane	1.114	0.905	18.8	87	-0.01
64	T	Tetrachloroethene	1.314	1.018	22.5	83	-0.01
65	T	Chlorobenzene	2.879	2.204	23.4	83	-0.01
66	T	Ethylbenzene	5.454	4.122	24.4	84	-0.01
67	T	m- & p-Xylenes	4.435	3.477	21.6	85	-0.01
68	T	Bromoform	1.199	1.066	11.1	87	-0.01
69	T	Styrene	2.867	2.361	17.6	82	-0.01
70	T	o-Xylene	4.329	3.421	21.0	86	-0.01
71	T	n-Nonane	2.839	2.475	12.8	94	-0.01
72	T	1,1,2,2-Tetrachloroethane	1.961	1.546	21.2	84	-0.02
73	S	Bromofluorobenzene (SS3)	1.467	1.295	11.7	98	0.00
74	T	Cumene	5.017	4.023	19.8	85	0.00
75	T	alpha-Pinene	2.610	2.195	15.9	85	0.00
76	T	n-Propylbenzene	6.228	5.106	18.0	87	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	85	0.00
78	T	4-Ethyltoluene	4.883	4.063	16.8	86	0.00
79	T	1,3,5-Trimethylbenzene	4.259	3.513	17.5	87	-0.01
80	T	alpha-Methylstyrene	0.000	0.000	0.0	96	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	85	0.00
82	T	1,2,4-Trimethylbenzene	4.457	3.777	15.3	88	-0.01
83	T	n-Decane	0.000	0.000	0.0	78	0.00
84	T	Benzyl Chloride	3.360	3.384	-0.7	87	-0.01
85	T	1,3-Dichlorobenzene	2.465	1.950	20.9	83	-0.01
86	T	1,4-Dichlorobenzene	2.444	1.940	20.6	82	-0.01
87	T	sec-Butylbenzene	5.633	4.614	18.1	88	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.888	3.789	22.5	86	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	85	0.00
90	T	1,2-Dichlorobenzene	2.457	1.961	20.2	85	-0.01
91	T	d-Limonene	1.490	1.318	11.5	88	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.868	0.794	8.5	86	0.00
93	T	n-Undecane	0.000	0.000	0.0	87	-0.01
94	T	1,2,4-Trichlorobenzene	1.991	1.704	14.4	82	0.00
95	T	Naphthalene	4.698	3.970	15.5	77	0.00
96	T	n-Dodecane	0.000	0.000	0.0	81	0.00
97	T	Hexachlorobutadiene	1.593	1.295	18.7	86	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.25#
99	T	tert-Butylbenzene	3.944	3.218	18.4	86	-0.01
100	T	n-Butylbenzene	4.654	4.025	13.5	89	0.00
101	T	1,1,1,2-Tetrachloroethane	1.103	0.932	15.5	86	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172402.D Vial: 2
Acq On : 17 Sep 2024 9:33 Operator: SC
Sample : CCV R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 17 10:06:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	118938	12.500	ng		0.05
37) 1,4-Difluorobenzene (IS2)	9.33	114	520898	12.500	ng		0.03
56) Chlorobenzene-d5 (IS3)	14.85	54	161358	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	324624	14.586	ng		0.06
Spiked Amount 12.500	Range 70 - 130		Recovery = 116.72%				
57) Toluene-d8 (SS2)	12.44	98	595486	10.520	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 84.16%				
73) Bromofluorobenzene (SS3)	16.83	174	209018	11.041	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 88.32%				
Target Compounds							Qvalue
2) Propene	3.28	42	432774	24.089	ng		98
3) Dichlorodifluoromethan...	3.36	85	708955	24.552	ng		99
4) Chloromethane	3.49	50	631784	27.977	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	285725	27.395	ng		100
6) Vinyl Chloride	3.68	62	458592	31.386	ng		98
7) 1,3-Butadiene	3.80	54	390299	38.463	ng		97
8) Bromomethane	4.01	94	246726	26.357	ng		99
9) Chloroethane	4.15	64	205764	25.698	ng		99
10) Ethanol	4.36	45	1659549	128.566	ng		100
11) Acetonitrile	4.48	41	743451	25.478	ng		99
12) Acrolein	4.55	56	540816	54.843	ng		99
13) Acetone	4.66	58	1252889	115.032	ng	#	79
14) Trichlorofluoromethane	4.76	101	705965	25.631	ng		99
15) 2-Propanol (Isopropanol)	4.90	45	2329397	54.319	ng		98
16) Acrylonitrile	5.03	53	1065906	52.456	ng		99
17) 1,1-Dichloroethene	5.27	96	231702	20.816	ng	#	86
18) 2-Methyl-2-Propanol (t...	5.37	59	1908527	54.484	ng		96
19) Methylene Chloride	5.39	84	257958	20.100	ng		83
20) 3-Chloro-1-propene (Al...	5.47	41	740189	28.955	ng		95
21) Trichlorotrifluoroethane	5.59	151	237287	21.746	ng		98
22) Carbon Disulfide	5.61	76	2110888	49.647	ng		100
23) trans-1,2-Dichloroethene	6.16	61	549569	26.385	ng		95
24) 1,1-Dichloroethane	6.35	63	605469	24.215	ng		100
25) Methyl tert-Butyl Ether	6.38	73	988846	26.035	ng		99
26) Vinyl Acetate	6.48	86	302859	136.798	ng	#	61
27) 2-Butanone (MEK)	6.69	72	359064	46.466	ng	#	74
28) cis-1,2-Dichloroethene	7.11	61	514903	25.083	ng		95
29) Diisopropyl Ether	7.30	87	436170	46.304	ng	#	71
30) Ethyl Acetate	7.31	61	240109	46.376	ng		97
31) n-Hexane	7.31	57	581885	24.649	ng		100
32) Chloroform	7.40	83	623153	26.297	ng		99
34) Tetrahydrofuran (THF)	7.76	72	313565	43.027	ng	#	85
35) Ethyl tert-Butyl Ether	7.84	87	713716	51.489	ng		93
36) 1,2-Dichloroethane	8.15	62	630822	26.859	ng		100
38) 1,1,1-Trichloroethane	8.42	97	628205	27.132	ng		98
39) Isopropyl Acetate	9.60	61	1018	No Calib		#	
40) 1-Butanol	8.83	56	2367	No Calib		#	
41) Benzene	8.92	78	1081874	22.151	ng		100
42) Carbon Tetrachloride	9.09	117	554911	27.421	ng		100
43) Cyclohexane	9.23	84	788571	47.821	ng		95
44) tert-Amyl Methyl Ether	9.61	73	1728728	51.057	ng		94
45) 1,2-Dichloropropane	9.88	63	319127	24.682	ng		99
46) Bromodichloromethane	10.10	83	517544	28.170	ng		100
47) Trichloroethene	10.17	130	289066	23.904	ng		99
48) 1,4-Dioxane	10.13	88	208071	24.700	ng		96
49) 2,2,4-Trimethylpentane...	10.25	57	1457209	25.205	ng		94
50) Methyl Methacrylate	10.42	100	213265	50.216	ng		98

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172402.D Vial: 2
Acq On : 17 Sep 2024 9:33 Operator: SC
Sample : CCV R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 17 10:06:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

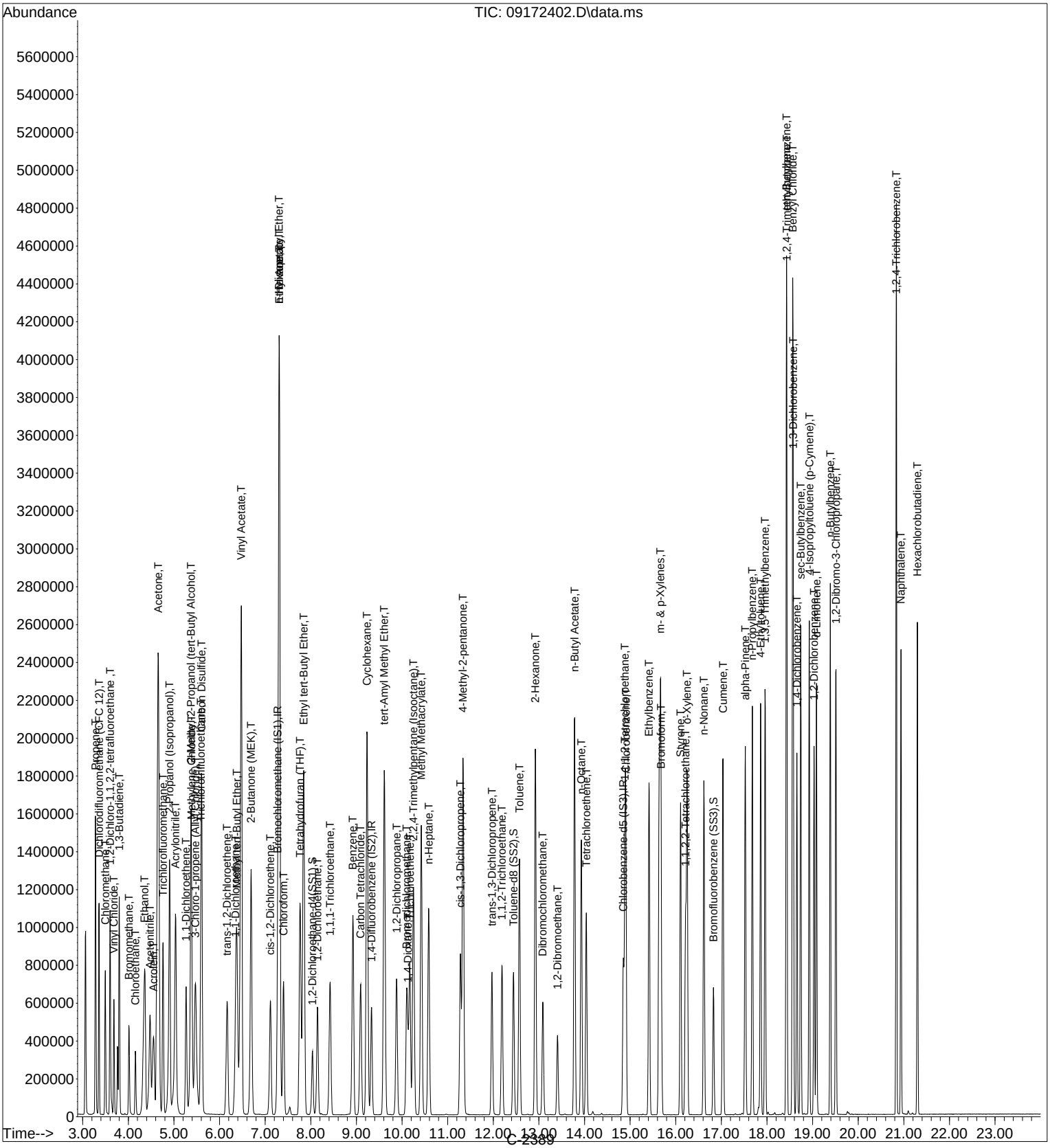
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
51) n-Heptane	10.59	71	261843	24.061 ng		96
52) cis-1,3-Dichloropropene	11.28	75	557644	26.558 ng		99
53) 4-Methyl-2-pentanone	11.34	58	669171	51.888 ng		88
54) trans-1,3-Dichloropropene	11.97	75	488407	26.509 ng		100
55) 1,1,2-Trichloroethane	12.19	97	296431	25.746 ng		100
58) Toluene	12.57	91	1149439	18.785 ng		100
59) 2-Hexanone	12.92	43	1811917	47.846 ng		94
60) Dibromochloromethane	13.09	129	373085	21.894 ng		99
61) 1,2-Dibromoethane	13.41	107	351139	21.698 ng		100
62) n-Butyl Acetate	13.78	43	2060174	48.541 ng		96
63) n-Octane	13.93	57	309577	21.521 ng		95
64) Tetrachloroethene	14.04	166	351580	20.730 ng		100
65) Chlorobenzene	14.91	112	761174	20.482 ng		99
66) Ethylbenzene	15.41	91	1450074	20.596 ng		99
67) m- & p-Xylenes	15.66	91	2400965	41.941 ng		98
68) Bromoform	15.68	173	374964	24.225 ng		99
69) Styrene	16.11	104	807554	21.818 ng		98
70) o-Xylene	16.25	91	1192166	21.332 ng		99
71) n-Nonane	16.62	43	838669	22.883 ng		94
72) 1,1,2,2-Tetrachloroethane	16.21	83	538763	21.279 ng		99
74) Cumene	17.04	105	1363065	21.048 ng		100
75) alpha-Pinene	17.53	93	757805	22.495 ng		96
76) n-Propylbenzene	17.68	91	1713636	21.314 ng		98
77) 3-Ethyltoluene	17.04	105	1363065	No Calib		
78) 4-Ethyltoluene	17.86	105	1363772	21.634 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1224501	22.274 ng		98
80) alpha-Methylstyrene	17.04	118	2982	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1363065	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1279738	22.245 ng		97
83) n-Decane	17.04	58	12557	No Calib		
84) Benzyl Chloride	18.56	91	2347646	54.133 ng		98
85) 1,3-Dichlorobenzene	18.58	146	667098	20.967 ng		99
86) 1,4-Dichlorobenzene	18.66	146	657401	20.840 ng		100
87) sec-Butylbenzene	18.74	105	1548581	21.296 ng		98
88) 4-Isopropyltoluene (p-...	18.93	119	1271837	20.155 ng		98
89) 1,2,3-Trimethylbenzene	17.04	105	1363065	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	658184	20.751 ng		100
91) d-Limonene	19.09	68	438179	22.775 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	540813	48.242 ng		87
93) n-Undecane	17.96	58	26738	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1193122	46.417 ng		99
95) Naphthalene	20.94	128	1396424	23.027 ng		100
96) n-Dodecane	18.93	58	35940	No Calib	#	
97) Hexachlorobutadiene	21.30	225	438978	21.341 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1090341	21.419 ng		100
100) n-Butylbenzene	19.39	91	1338065	22.271 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	321908	22.603 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172402.D Vial: 2
Acq On : 17 Sep 2024 9:33 Operator: SC
Sample : CCV R09091724 25ng Inst : MS09
Misc : S37-08262404/S37-08262408 (9/25)

Quant Time: Sep 17 10:06:10 2024
Quant Method : I:\MS09\METHODS\R09082724.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Mon Sep 16 12:19:53 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Evaluate Continuing Calibration Report

Data File : I:\MS09\DATA\2024 09\17\09172403.D Vial: 3
Acq On : 17 Sep 2024 10:05 Operator: SC
Sample : CCV C09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09122406 (10/12)

Quant Time: Sep 17 10:34:08 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (C 1)	1.000	1.000	0.0	85	-0.01
2	T	Chloropentafluoroethane	1.555	1.762	-13.3	102	0.00
3	T	1,1,1,2-Tetrafluoroethane (	1.283	1.583	-23.4	111	-0.01
4	T	1,1-Difluoroethane	1.091	1.172	-7.4	96	-0.01
5	T	Chlorodifluoromethane (CFC	0.426	0.541	-27.0	112	0.00
6	T	1-Chloro-1,1-Difluoroethane	2.816	3.507	-24.5	112	0.00
7	T	Dichlorofluoromethane (CFC	2.866	3.317	-15.7	103	0.00
8	T	Vinylbromide	1.070	1.123	-5.0	92	0.00
9	T	2,2-Dichloro-1,1,1-trifluor	1.735	1.902	-9.6	98	0.00
10	T	2-Methylbutane	1.491	1.549	-3.9	94	0.00
11	T	Methyl Acetate	4.212	4.295	-2.0	90	-0.01
12	T	2-Methylpentane	1.082	1.123	-3.8	93	-0.01
13	T	2,2-Dichloropropane	2.038	2.515	-23.4	106	-0.01
14	T	1,1-Dichloropropene	1.782	1.993	-11.8	98	-0.02
15	T	Thiophene	2.546	2.660	-4.5	91	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	87	-0.01
17	T	2,3-Dimethylpentane	0.605	0.666	-10.1	99	-0.01
18	T	Dibromomethane	0.222	0.231	-4.1	92	-0.01
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	104	-0.01
20	T	Methyl Cyclohexane	2.145	1.950	9.1	97	-0.01
21	T	1,3-Dichloropropane	1.666	1.538	7.7	98	0.00
22	T	1,1,1,2-Tetrachloroethane	1.102	0.998	9.4	94	0.00
23	T	1-Chlorohexane	1.546	1.397	9.6	94	-0.01
24	T	1,2,3-Trichloropropane	1.669	1.585	5.0	97	-0.01
25	T	Bromobenzene	1.958	1.875	4.2	97	0.00
26	T	2-Chlorotoluene	3.609	3.351	7.1	96	-0.01
27	T	4-Chlorotoluene	3.655	3.512	3.9	97	-0.01
28	T	Indane	4.134	3.555	14.0	85	-0.01
29	T	Indene	3.171	3.147	0.8	88	-0.01
30	T	1,2,4,5-Tetramethylbenzene	4.275	4.009	6.2	86	-0.01
31	T	1,2,3,4-Tetramethylbenzene	4.311	3.950	8.4	89	0.00
32	T	1,2,3,5-Tetramethylbenzene	4.091	3.863	5.6	88	0.00
33	T	1,2,3-Trichlorobenzene	1.494	1.566	-4.8	92	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172403.D Vial: 3
Acq On : 17 Sep 2024 10:05 Operator: SC
Sample : CCV C09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09122406 (10/12)

Quant Time: Sep 17 10:34:08 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M

9/17/24

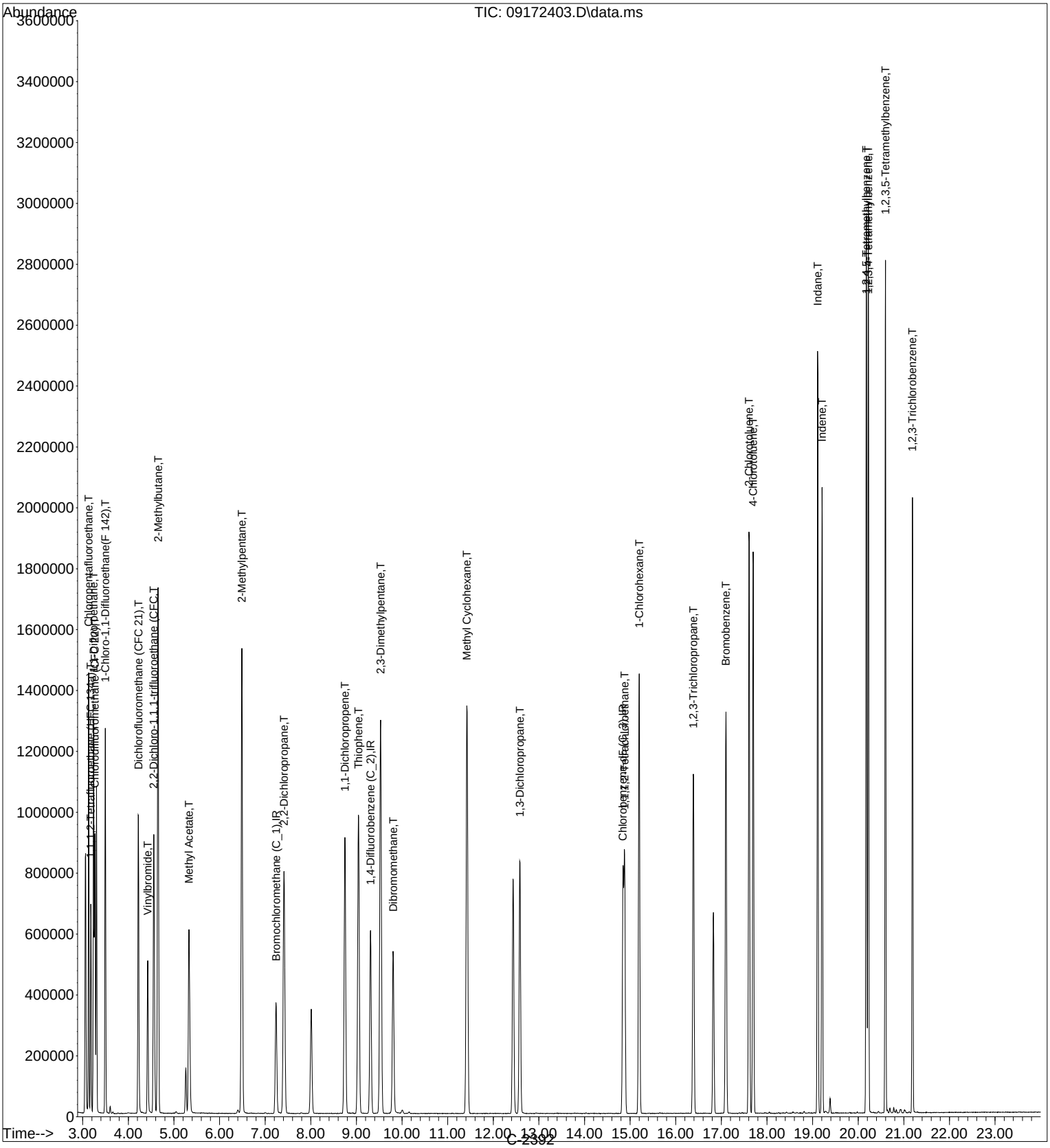
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C 1)	7.24	130	121025	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C 2)	9.31	114	531099	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	156194	12.500	ng	-0.01
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	422180	28.041	ng	96
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	383087	30.849	ng	87
4) 1,1-Difluoroethane	3.24	65	300661	28.454	ng	89
5) Chlorodifluoromethane ...	3.27	67	136095	33.000	ng	97
6) 1-Chloro-1,1-Difluoroe...	3.49	65	882706	32.375	ng	97
7) Dichlorofluoromethane ...	4.22	67	794757	28.638	ng	98
8) Vinylbromide	4.43	108	271807	26.247	ng	97
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	478772	28.508	ng	99
10) 2-Methylbutane	4.65	57	382540	26.501	ng	96
11) Methyl Acetate	5.33	43	998084	24.472	ng	99
12) 2-Methylpentane	6.49	71	271904	25.948	ng	95
13) 2,2-Dichloropropane	7.41	77	602707	30.538	ng	98
14) 1,1-Dichloropropene	8.75	75	501694	29.070	ng	98
15) Thiophene	9.04	84	650223	26.375	ng	93
17) 2,3-Dimethylpentane	9.53	56	735591	28.622	ng	93
18) Dibromomethane	9.81	174	263091	27.859	ng	96
20) Methyl Cyclohexane	11.42	55	651711	24.315	ng	96
21) 1,3-Dichloropropane	12.59	76	499810	24.005	ng	98
22) 1,1,1,2-Tetrachloroethane	14.88	131	271241	19.704	ng	100
23) 1-Chlorohexane	15.20	91	449430	23.262	ng	93
24) 1,2,3-Trichloropropane	16.38	75	519959	24.937	ng	98
25) Bromobenzene	17.10	77	614916	25.135	ng	91
26) 2-Chlorotoluene	17.61	91	1109706	24.609	ng	92
27) 4-Chlorotoluene	17.70	91	1108140	24.260	ng	92
28) Indane	19.11	117	1099297	21.279	ng	98
29) Indene	19.21	115	924224	23.324	ng	98
30) 1,2,4,5-Tetramethylben...	20.18	119	1264958	23.682	ng	98
31) 1,2,3,4-Tetramethylben...	20.22	119	1270903	23.594	ng	97
32) 1,2,3,5-Tetramethylben...	20.60	119	1218768	23.843	ng	98
33) 1,2,3-Trichlorobenzene	21.19	180	513570	27.519	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : I:\MS09\DATA\2024 09\17\09172403.D Vial: 3
Acq On : 17 Sep 2024 10:05 Operator: SC
Sample : CCV C09091724 25ng Inst : MS09
Misc : S37-08262404/S37-09122406 (10/12)

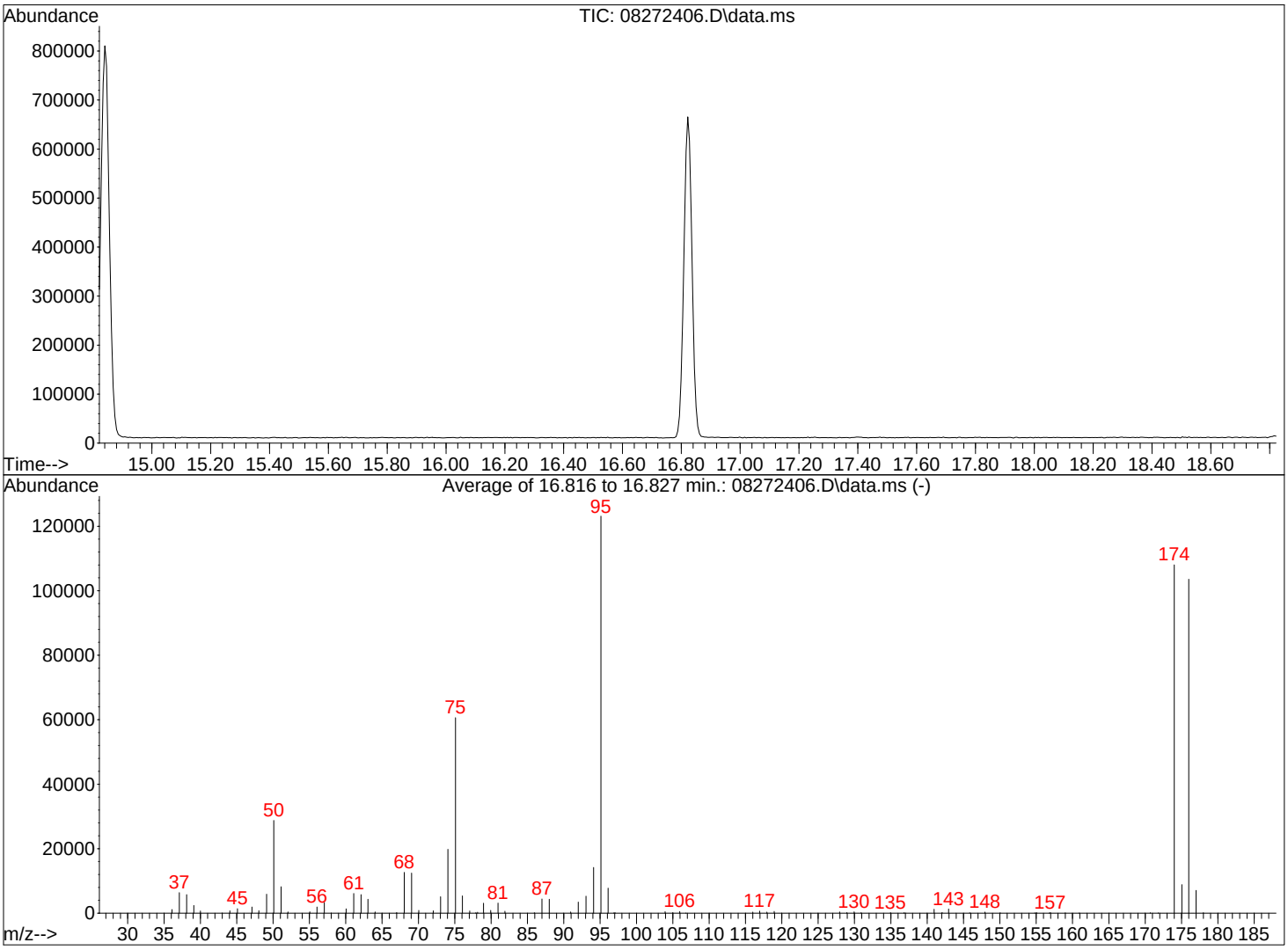
Quant Time: Sep 17 10:34:08 2024
Quant Method : I:\MS09\METHODS\C09041824.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Fri Apr 19 11:07:52 2024
Response via : Initial Calibration
DataAcq Meth:TO15.M



Data Path : I:\MS09\DATA\2024 08\27\
Data File : 08272406.D
Acq On : 27 Aug 2024 13:20
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S37-08262404
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Aug 28 08:23:16 2024



AutoFind: Scans 2454, 2455, 2456; Background Corrected with Scan 2446

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	23.4	28781	PASS
75	95	30	66	49.2	60629	PASS
95	95	100	100	100.0	123120	PASS
96	95	5	9	6.3	7790	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.7	108035	PASS
175	174	4	9	8.2	8873	PASS
176	174	93	101	95.9	103571	PASS
177	176	5	9	6.8	7080	PASS

8/28/24

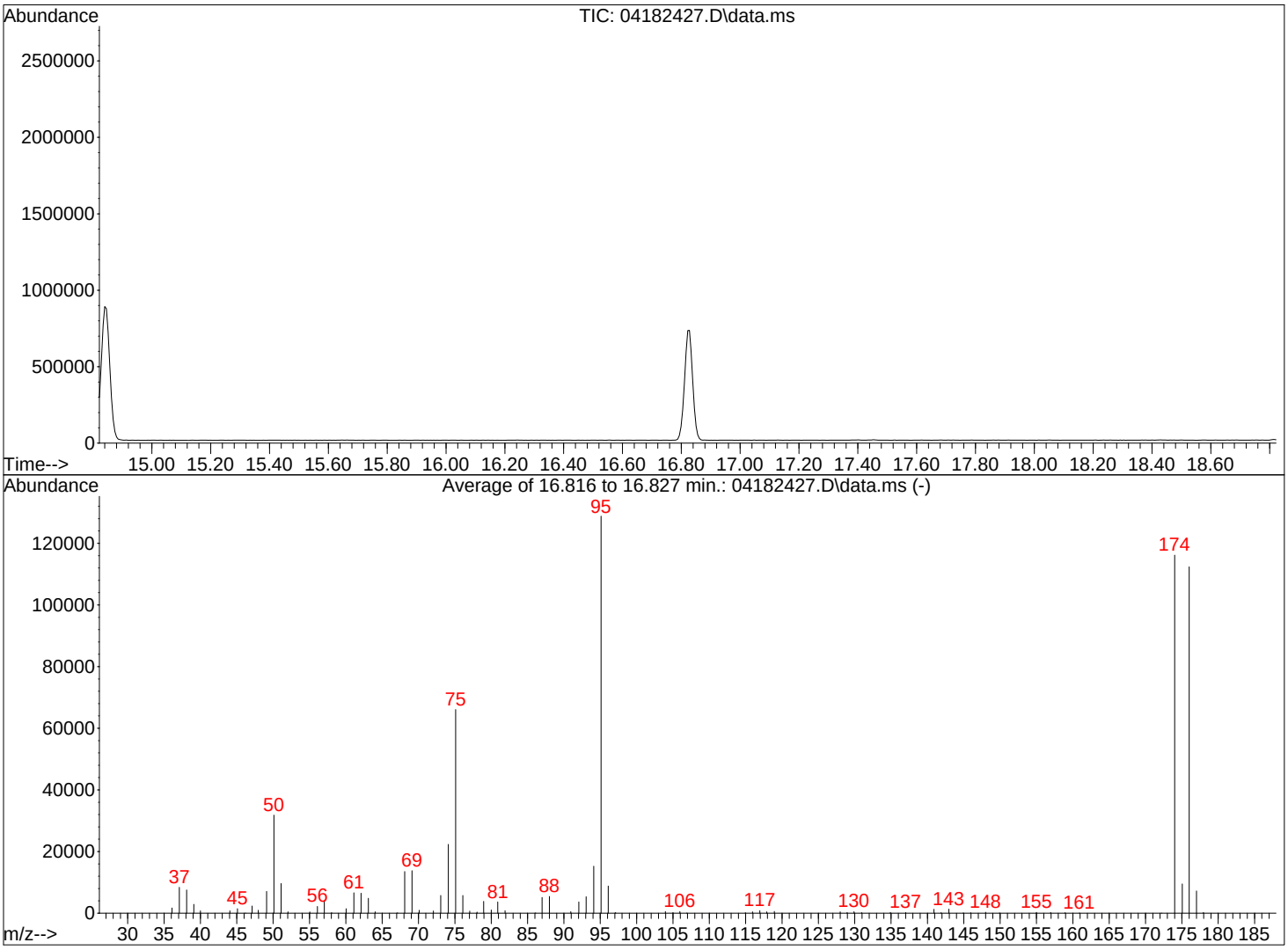
BFB

Data Path : I:\MS09\DATA\2024 04\18\
Data File : 04182427.D
Acq On : 19 Apr 2024 00:02
Operator : SC
Sample : 12.5ng TO-15 Custom BFB
Misc : S37-03252401
ALS Vial : 2 Sample Multiplier: 1

4/19/24

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C09041824.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Fri Apr 19 10:57:22 2024



AutoFind: Scans 2454, 2455, 2456; Background Corrected with Scan 2445

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	24.7	31811	PASS
75	95	30	66	51.3	66085	PASS
95	95	100	100	100.0	128813	PASS
96	95	5	9	6.9	8838	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	90.2	116160	PASS
175	174	4	9	8.2	9482	PASS
176	174	93	101	96.7	112363	PASS
177	176	5	9	6.4	7235	PASS

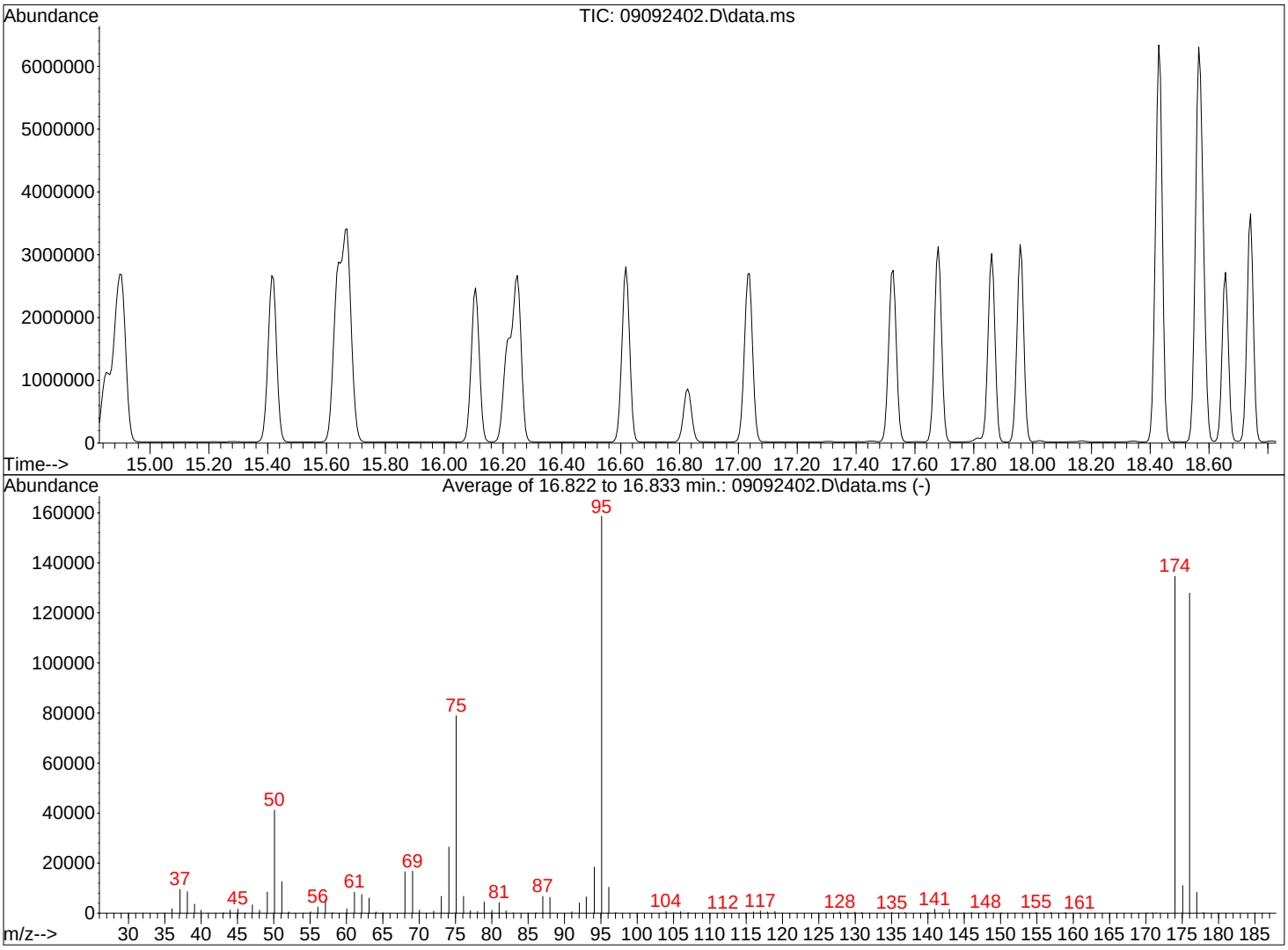
BFB

Data Path : I:\MS09\DATA\2024 09\09\
Data File : 09092402.D
Acq On : 9 Sep 2024 9:15
Operator : SC
Sample : CCV R09090924 25ng
Misc : S37-06062402/S37-08262408 (9/25)
ALS Vial : 2 Sample Multiplier: 1

9/9/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Sep 09 08:42:17 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2446

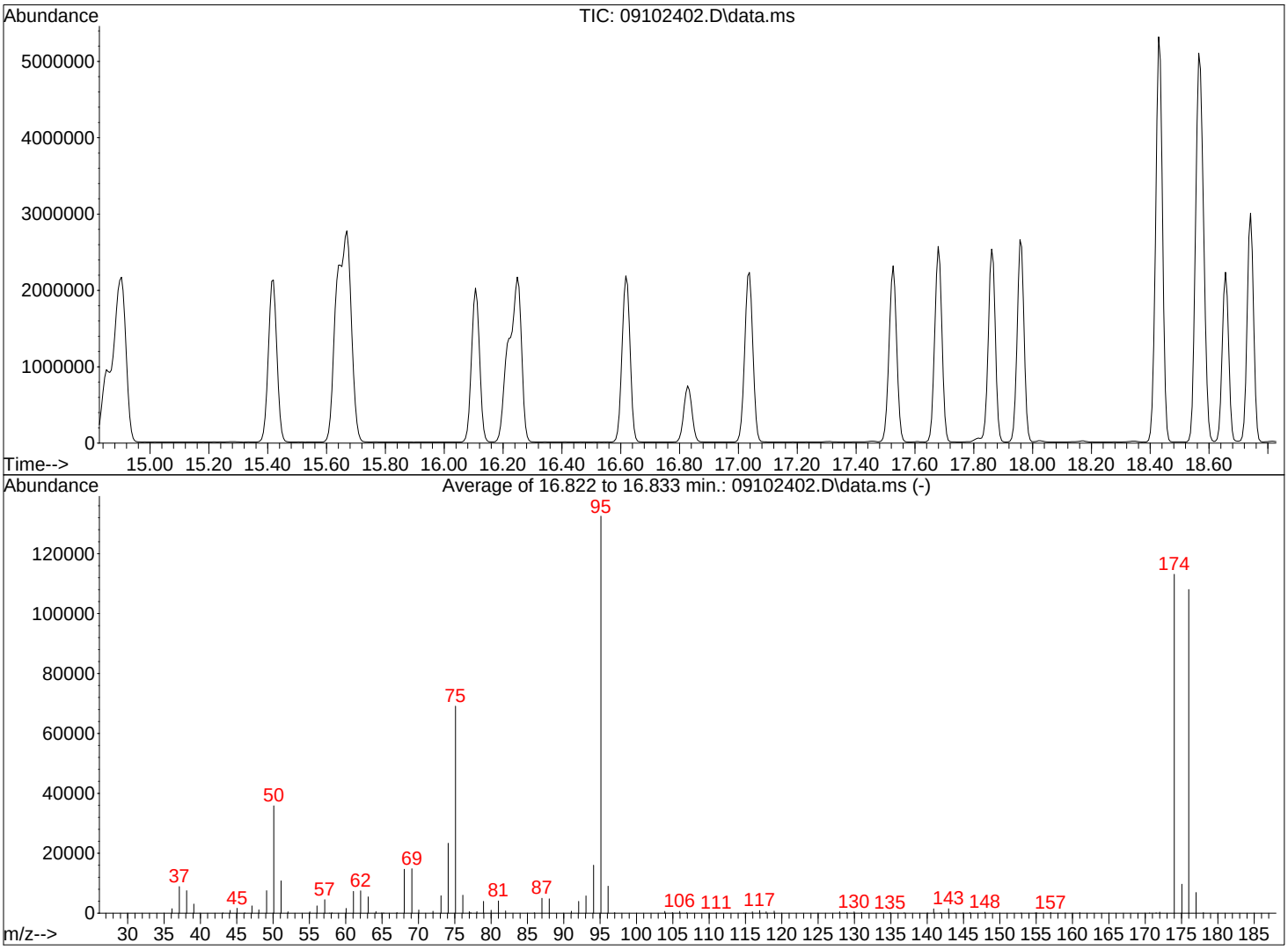
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	25.9	41171	PASS
75	95	30	66	49.7	78907	PASS
95	95	100	100	100.0	158656	PASS
96	95	5	9	6.6	10405	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	84.8	134576	PASS
175	174	4	9	8.2	11079	PASS
176	174	93	101	95.0	127880	PASS
177	176	5	9	6.5	8317	PASS

BFB

Data Path : I:\MS09\DATA\2024 09\10\
Data File : 09102402.D
Acq On : 10 Sep 2024 9:42
Operator : SC
Sample : CCV R09091024 25ng
Misc : S37-06062402/S37-08262408 (9/25)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Sep 09 08:42:17 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2446

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	27.1	35867	PASS
75	95	30	66	52.2	69115	PASS
95	95	100	100	100.0	132528	PASS
96	95	5	9	6.8	9025	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	85.4	113139	PASS
175	174	4	9	8.6	9689	PASS
176	174	93	101	95.5	108077	PASS
177	176	5	9	6.4	6930	PASS

9/10/24

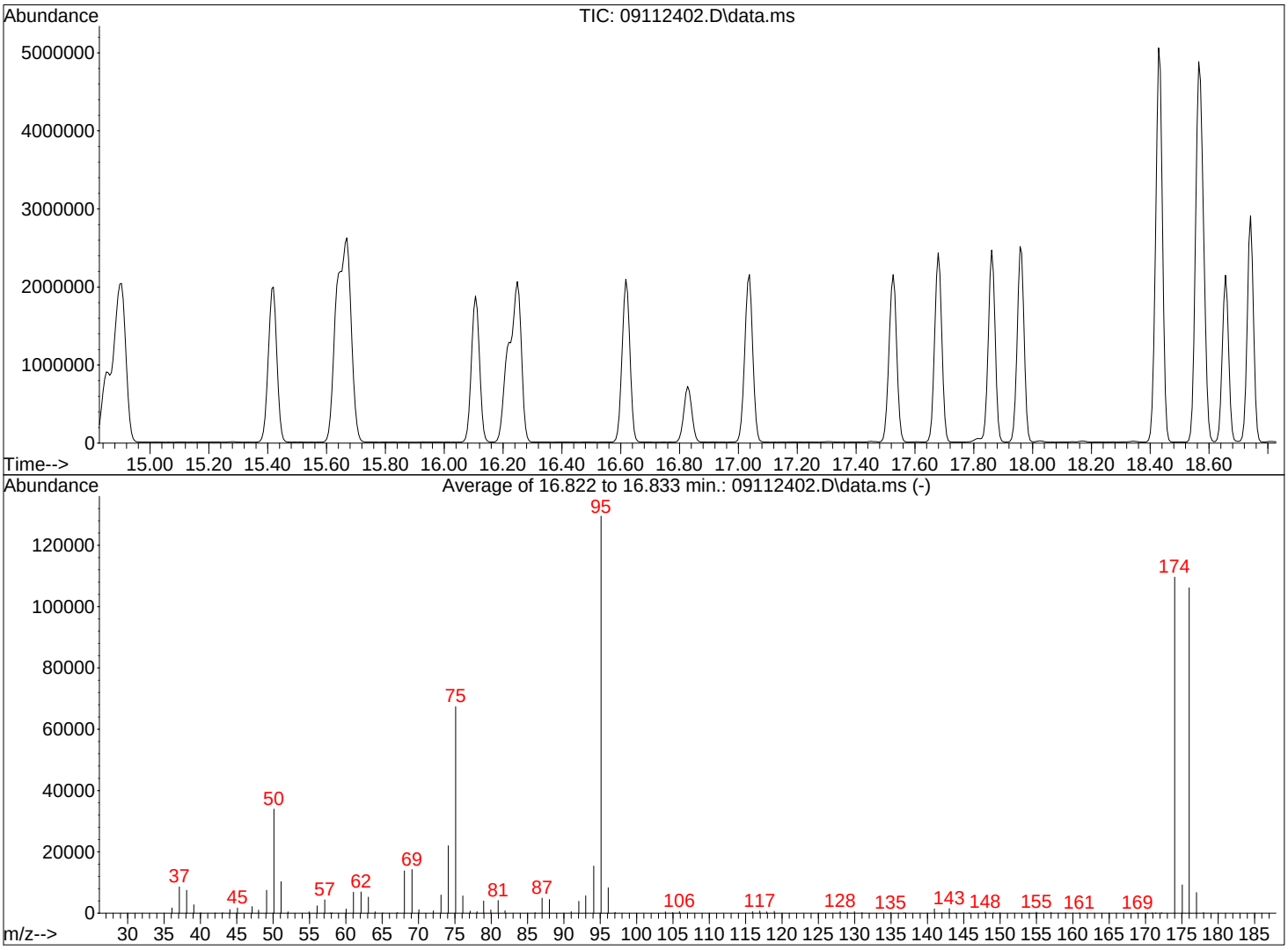
BFB

Data Path : I:\MS09\DATA\2024 09\11\
Data File : 09112402.D
Acq On : 11 Sep 2024 10:17
Operator : SC
Sample : CCV R09091124 25ng
Misc : S37-06062402/S37-08262408 (9/25)
ALS Vial : 2 Sample Multiplier: 1

9/11/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Wed Sep 11 08:23:54 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2447

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	26.2	33971	PASS
75	95	30	66	52.0	67355	PASS
95	95	100	100	100.0	129512	PASS
96	95	5	9	6.4	8307	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	84.7	109656	PASS
175	174	4	9	8.4	9249	PASS
176	174	93	101	96.8	106133	PASS
177	176	5	9	6.4	6762	PASS

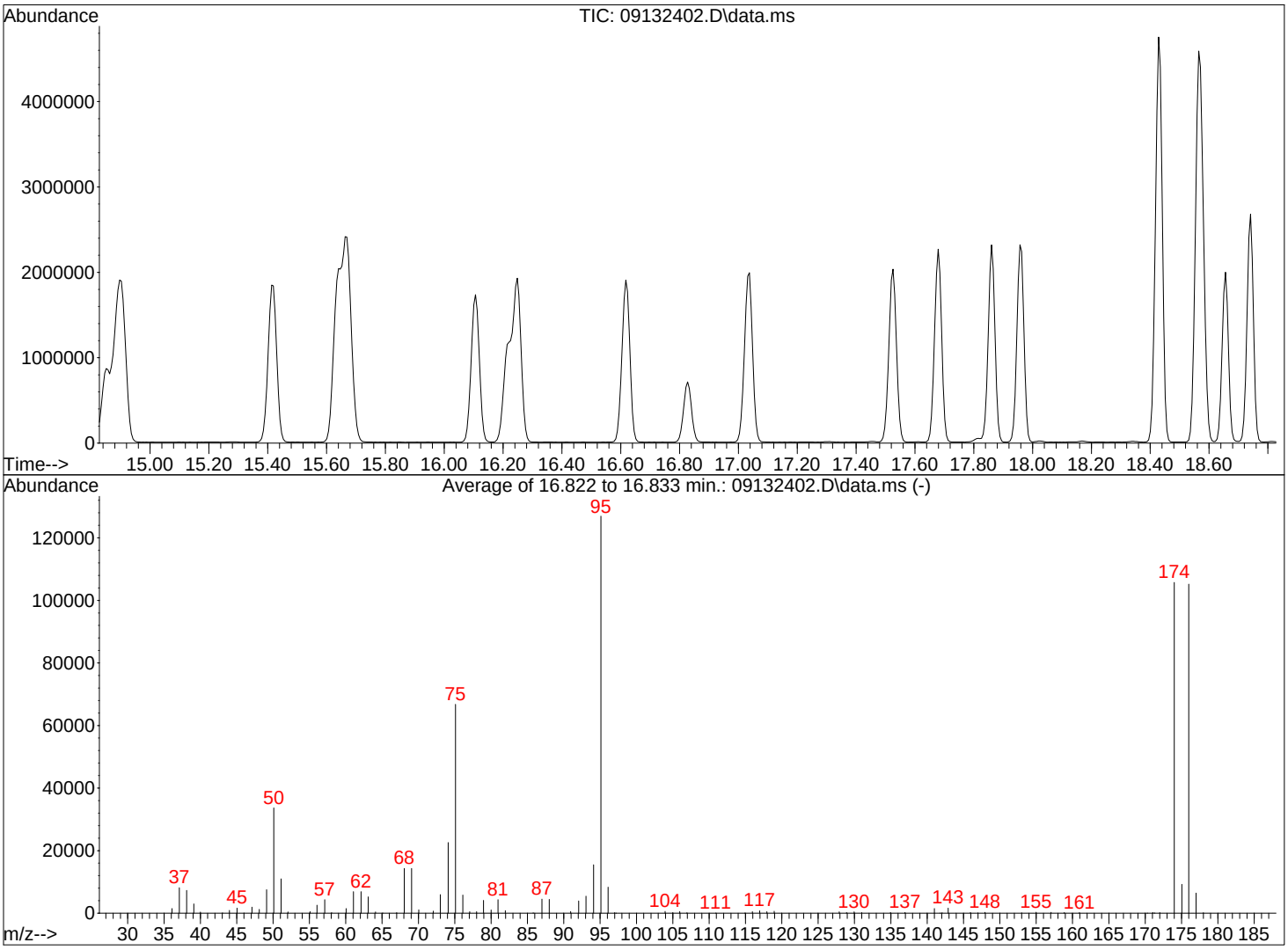
BFB

Data Path : I:\MS09\DATA\2024 09\13\
Data File : 09132402.D
Acq On : 13 Sep 2024 12:08
Operator : SC
Sample : CCV R09091324 25ng
Misc : S37-06062402/S37-08262408 (9/25)
ALS Vial : 2 Sample Multiplier: 1

9/13/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Sep 13 08:21:50 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2447

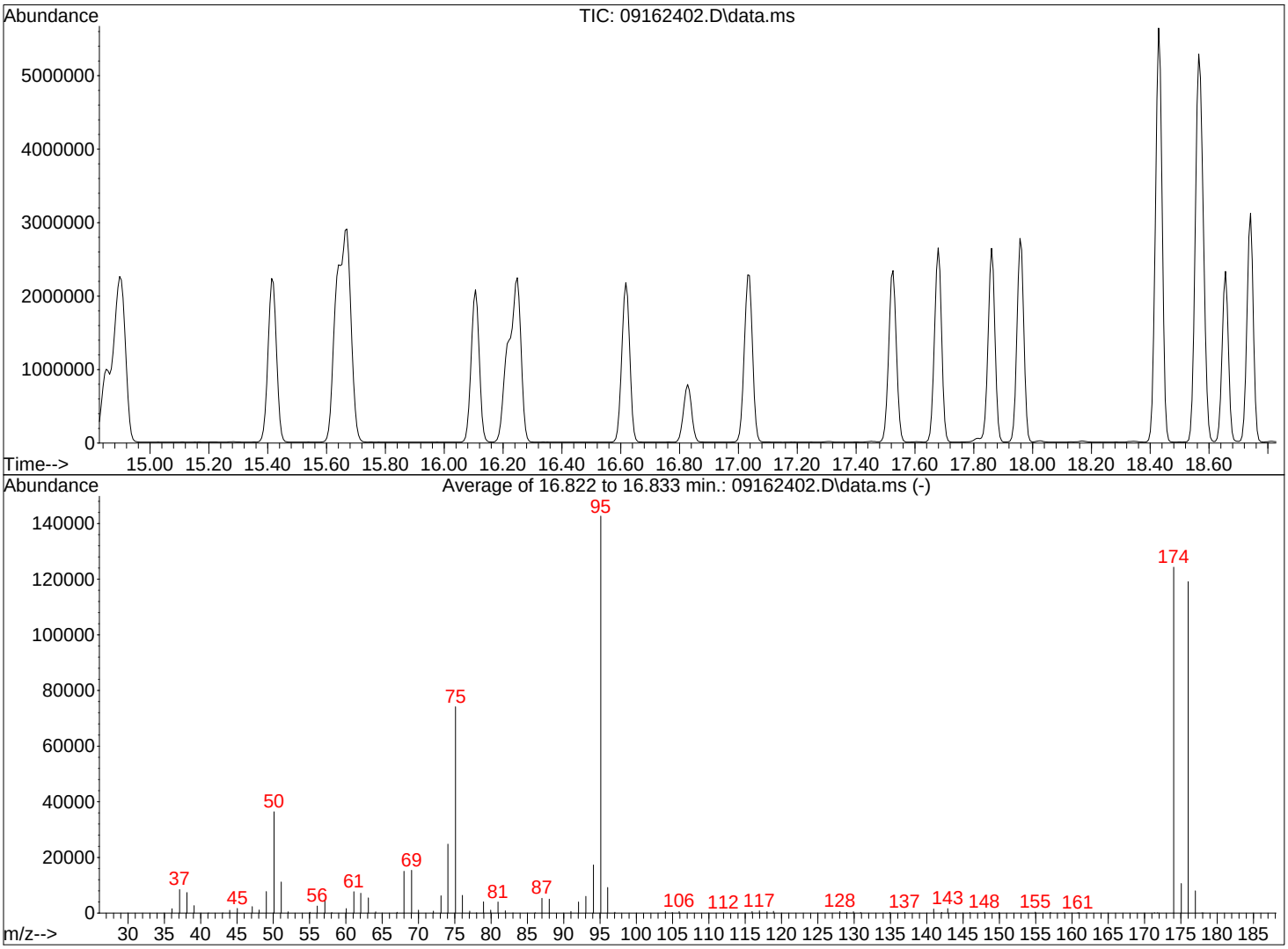
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	26.5	33643	PASS
75	95	30	66	52.6	66792	PASS
95	95	100	100	100.0	126933	PASS
96	95	5	9	6.6	8330	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	83.3	105741	PASS
175	174	4	9	8.7	9234	PASS
176	174	93	101	99.5	105203	PASS
177	176	5	9	6.1	6452	PASS

Data Path : I:\MS09\DATA\2024 09\16\
Data File : 09162402.D
Acq On : 16 Sep 2024 9:15
Operator : SC
Sample : CCV R09091624 25ng
Misc : S37-08262404/S37-08262408 (9/25)
ALS Vial : 2 Sample Multiplier: 1

9/16/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Sep 16 12:19:53 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2446

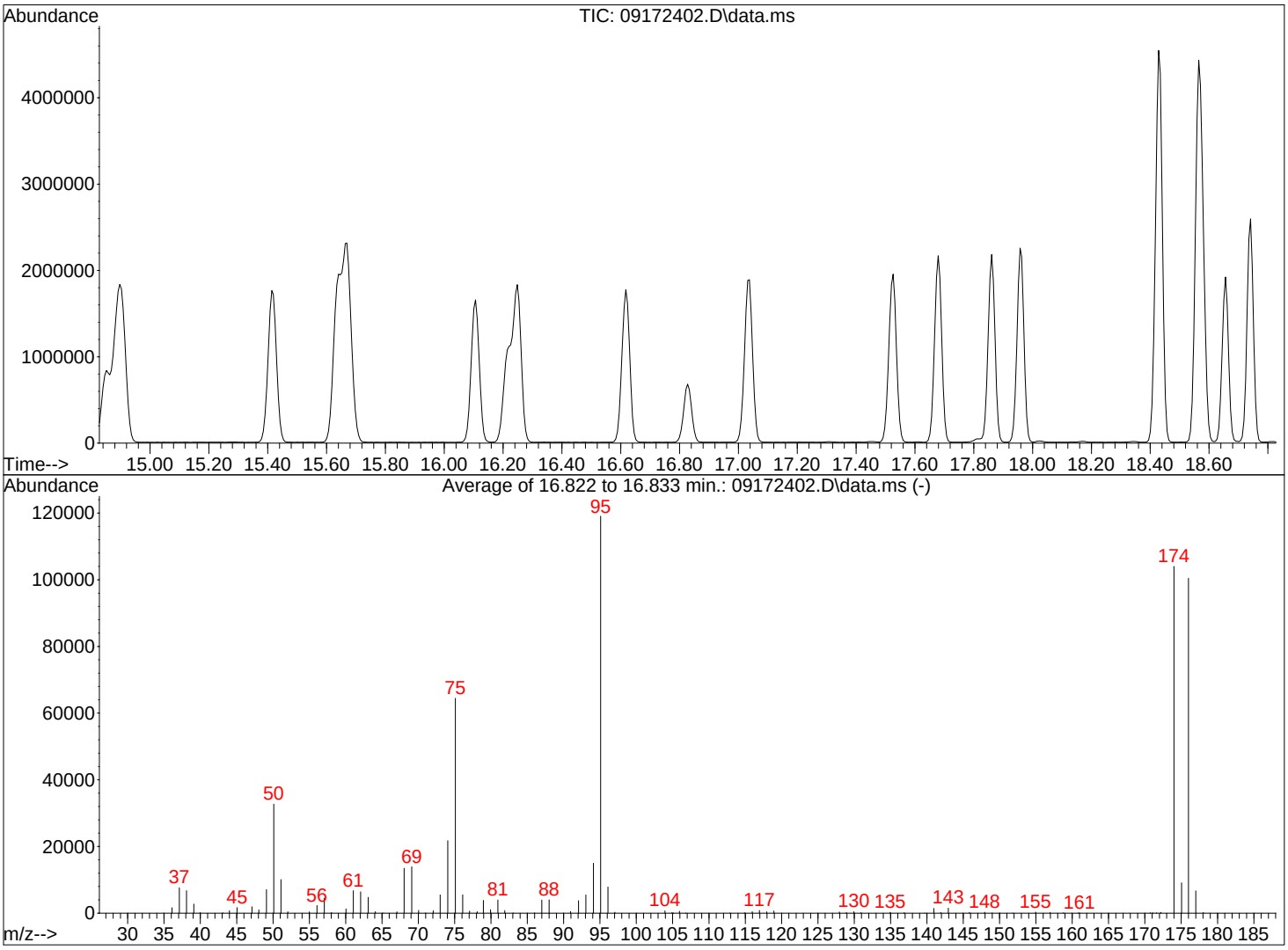
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	25.5	36400	PASS
75	95	30	66	52.0	74160	PASS
95	95	100	100	100.0	142677	PASS
96	95	5	9	6.4	9185	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.2	124347	PASS
175	174	4	9	8.5	10604	PASS
176	174	93	101	95.8	119120	PASS
177	176	5	9	6.7	7981	PASS

Data Path : I:\MS09\DATA\2024 09\17\
Data File : 09172402.D
Acq On : 17 Sep 2024 9:33
Operator : SC
Sample : CCV R09091724 25ng
Misc : S37-08262404/S37-08262408 (9/25)
ALS Vial : 2 Sample Multiplier: 1

9/17/24

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09082724.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Mon Sep 16 12:19:53 2024



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2446

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	27.5	32696	PASS
75	95	30	66	54.1	64440	PASS
95	95	100	100	100.0	119069	PASS
96	95	5	9	6.6	7834	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	87.4	104008	PASS
175	174	4	9	8.8	9126	PASS
176	174	93	101	96.6	100451	PASS
177	176	5	9	6.7	6697	PASS

Injection Log

Directory: J:\MS09\DATA\2024_08\27\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	8/27/24 9:34	08272401.D	Blank (100mL)	S37-08262404	SC	2	
2	8/27/24 10:25	08272402.D	Blank (100mL)	S37-08262404	SC	2	
3	8/27/24 11:20	08272403.D	Blank (100mL)	S37-08262404	SC	2	
4	8/27/24 12:09	08272404.D	Blank (100mL)	S37-08262404	SC	2	
5	8/27/24 12:47	08272405.D	Blank (100mL)	S37-08262404	SC	2	
6	8/27/24 13:20	08272406.D	12.5ng TO-15 BFB STD	S37-08262404	SC	2	Passed
7	8/27/24 13:53	08272407.D	0.1ng TO-15 ICAL STD	S37-08262404/S37-08262410 (9/25)	SC	9	not used
8	8/27/24 14:25	08272408.D	0.2ng TO-15 ICAL STD	S37-08262404/S37-08262410 (9/25)	SC	9	
9	8/27/24 14:57	08272409.D	0.5ng TO-15 ICAL STD	S37-08262404/S37-08262409 (9/25)	SC	10	
10	8/27/24 15:30	08272410.D	1.0ng TO-15 ICAL STD	S37-08262404/S37-08262409 (9/25)	SC	10	
11	8/27/24 16:02	08272411.D	5.0ng TO-15 ICAL STD	S37-08262404/S37-08262409 (9/25)	SC	10	
12	8/27/24 16:34	08272412.D	25ng TO-15 ICAL STD	S37-08262404/S37-08262408 (9/25)	SC	11	
13	8/27/24 17:06	08272413.D	50ng TO-15 ICAL STD	S37-08262404/S37-08262408 (9/25)	SC	11	
14	8/27/24 17:38	08272414.D	100ng TO-15 ICAL STD	S37-08262404/S37-08262408 (9/25)	SC	11	
15	8/27/24 18:10	08272415.D	Blank (100mL)	S37-08262404	SC	2	
16	8/27/24 18:42	08272416.D	ICV R09082624_25ng	S37-08262404/S37-08132404 (9/12)	SC	2	not used
17	8/27/24 19:15	08272417.D	ICV R09082624_25ng	S37-08262404/S37-08132404 (9/12)	SC	2	not used
18	8/28/24 9:09	08272418.D	Blank (100mL)	S37-08262404	SC	2	
19	8/28/24 9:41	08272419.D	0.1ng TO-15 ICAL STD	S37-08262404/S37-08022405 (9/1)	SC	12	
20	8/28/24 10:13	08272420.D	ICV R09082624_25ng	S37-08262404/S37-08132404 (9/12)	SC	2	Passed
21						15	
22							
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36							
37							

8/29/24

Injection Log

Directory: J:\MS09\DATA\2024_04\18\

27	4/19/24 0:02	04182427.D	12.5ng TO-15 Custom BFB	S37-03252401	SC	2	passed
28	4/19/24 0:34	04182428.D	0.4ng TO-15 Custom ICAL	S37-03252401/S37-04042405 (5/4)	SC	14	
29	4/19/24 1:06	04182429.D	1.0ng TO-15 Custom ICAL	S37-03252401/S37-04042405 (5/4)	SC	14	
30	4/19/24 1:38	04182430.D	2.5ng TO-15 Custom ICAL	S37-03252401/S37-04042405 (5/4)	SC	14	
31	4/19/24 2:10	04182431.D	5.0ng TO-15 Custom ICAL	S37-03252401/S37-04042405 (5/4)	SC	14	
32	4/19/24 2:42	04182432.D	25ng TO-15 Custom ICAL	S37-03252401/S37-04042404 (5/4)	SC	15	
33	4/19/24 3:14	04182433.D	50ng TO-15 Custom ICAL	S37-03252401/S37-04042404 (5/4)	SC	15	
34	4/19/24 3:46	04182434.D	100ng TO-15 Custom ICAL	S37-03252401/S37-04042404 (5/4)	SC	15	
35	4/19/24 4:18	04182435.D	Blank (100mL)	S37-03252401	SC	2	
36	4/19/24 4:50	04182436.D	ICV R09041824_25ng	S37-03252401/S37-04092401 (5/9)	SC	16	
37	4/19/24 5:22	04182437.D	ICV R09041824_25ng	S37-03252401/S37-04092401 (5/9)	SC	16	passed

Injection Log

Directory: I:\MS09\DATA\2024_09\09\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/9/24 8:42	09092401.D	Blank	S37-08262404	SC	1	
2	9/9/24 9:15	09092402.D	CCV R09090924_25ng	S37-06062402/S37-08262408 (9/25)	SC	2	Passed
3	9/9/24 9:47	09092403.D	CCV C09090924_25ng	S37-06062402/S37-08142402 (9/13)	SC	3	Passed
4	9/9/24 10:19	09092404.D	MB R09090924_1000mL	S37-06062402/AC00880	SC	2	Passed
5	9/9/24 10:51	09092405.D	LCS R09090924_25ng	S37-06062402/S37-08132404 (9/12)	SC	2	Passed
6	9/9/24 11:23	09092406.D	LCSD R09090924_25ng	S37-06062402/S37-08132404 (9/12)	SC	2	Passed
7	9/9/24 11:55	09092407.D	Blank	S37-06062402	SC	1	
8	9/9/24 12:27	09092408.D	P2403443-011Dil (40mL)	S37-06062402	SC	15	
9	9/9/24 13:14	09092409.D	AC02301	S37-06062402	SC	5	Passed
10	9/9/24 13:46	09092410.D	AS01651	S37-06062402	SC	6	Passed
11	9/9/24 14:36	09092411.D	P2403661-006 (20mL)	S37-06062402	SC	9	
12	9/9/24 15:08	09092412.D	P2403661-007 (20mL)	S37-06062402	SC	10	
13	9/9/24 15:40	09092413.D	P2403661-001 (400mL)	S37-06062402	SC	4	
14	9/9/24 16:12	09092414.D	P2403661-002 (400mL)	S37-06062402	SC	5	
15	9/9/24 16:45	09092415.D	P2403661-006Dil (2.0mL)	S37-06062402	SC	1	not used
16	9/9/24 17:17	09092416.D	P2403661-007Dil (2.0mL)	S37-06062402	SC	1	
17	9/9/24 17:49	09092417.D	P2403661-016 (20mL)	S37-06062402	SC	4	
18	9/9/24 18:21	09092418.D	P2403661-017 (400mL)	S37-06062402	SC	5	
19	9/9/24 18:54	09092419.D	P2403661-003 (400mL)	S37-06062402	SC	6	
20	9/9/24 19:26	09092420.D	P2403661-004 (400mL)	S37-06062402	SC	7	
21	9/9/24 19:58	09092421.D	P2403661-005 (400mL)	S37-06062402	SC	8	
22	9/9/24 20:30	09092422.D	P2403661-014 (400mL)	S37-06062402	SC	9	
23	9/9/24 21:03	09092423.D	P2403661-015 (400mL)	S37-06062402	SC	10	
24	9/9/24 21:35	09092424.D	P2403661-008 (400mL)	S37-06062402	SC	11	
25	9/9/24 22:08	09092425.D	P2403661-009 (400mL)	S37-06062402	SC	12	
26	9/9/24 22:40	09092426.D	P2403661-010 (400mL)	S37-06062402	SC	13	
27	9/9/24 23:12	09092427.D	P2403661-011 (400mL)	S37-06062402	SC	14	
28	9/9/24 23:45	09092428.D	P2403661-012 (400mL)	S37-06062402	SC	15	
29	9/10/24 0:17	09092429.D	P2403661-013 (400mL)	S37-06062402	SC	16	
30	9/10/24 8:38	09092430.D	P2403661-006Dil (0.5mL)	S37-06062402	SC	1	

9/10/24

Injection Log

Directory: I:\MS09\DATA\2024_09\10\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/10/24 9:10	09102401.D	Blank	S37-08262404	SC	1	
2	9/10/24 9:42	09102402.D	CCV R09091024_25ng	S37-06062402/S37-08262408 (9/25)	SC	2	Passed
3	9/10/24 10:14	09102403.D	CCV C09091024_25ng	S37-06062402/S37-08142402 (9/13)	SC	3	Passed
4	9/10/24 10:46	09102404.D	MB R09091024_1000mL	S37-06062402/AC00880	SC	2	Passed
5	9/10/24 11:18	09102405.D	LCS R09091024_25ng	S37-06062402/S37-08132404 (9/12)	SC	2	Passed
6	9/10/24 11:50	09102406.D	LCSD R09091024_25ng	S37-06062402/S37-08132404 (9/12)	SC	2	Passed
7	9/10/24 12:22	09102407.D	P2403661-016 (400mL)	S37-06062402	SC	4	
8	9/10/24 12:55	09102408.D	P2403661-004Dil (40mL)	S37-06062402	SC	7	
9	9/10/24 13:27	09102409.D	P2403661-005Dil (40mL)	S37-06062402	SC	8	
10	9/10/24 13:59	09102410.D	P2403661-012Dil (40mL)	S37-06062402	SC	15	
11	9/10/24 14:31	09102411.D	P2403661-018 (400mL)	S37-06062402	SC	4	
12	9/10/24 15:03	09102412.D	P2403661-019 (400mL)	S37-06062402	SC	5	
13	9/10/24 15:35	09102413.D	P2403661-020 (400mL)	S37-06062402	SC	6	
14	9/10/24 16:08	09102414.D	P2403661-018Dil (40mL)	S37-06062402	SC	4	
15	9/10/24 17:17	09102415.D	P2403661-021 (400mL)	S37-06062402	SC	7	
16	9/10/24 17:49	09102416.D	P2403661-022 (400mL)	S37-06062402	SC	8	
17	9/10/24 18:21	09102417.D	P2403661-023 (20mL)	S37-06062402	SC	9	
18	9/10/24 18:54	09102418.D	P2403661-035 (400mL)	S37-06062402	SC	10	
19	9/10/24 19:26	09102419.D	P2403661-025 (400mL)	S37-06062402	SC	11	
20	9/10/24 19:58	09102420.D	P2403661-026 (400mL)	S37-06062402	SC	12	
21	9/10/24 20:30	09102421.D	P2403661-027 (400mL)	S37-06062402	SC	13	
22	9/10/24 21:03	09102422.D	P2403661-028 (400mL)	S37-06062402	SC	14	
23	9/10/24 21:35	09102423.D	P2403661-029 (400mL)	S37-06062402	SC	15	
24	9/10/24 22:07	09102424.D	P2403661-030 (400mL)	S37-06062402	SC	16	
25	9/10/24 22:39	09102425.D	P2403661-031 (400mL)	S37-06062402	SC	4	
26	9/10/24 23:12	09102426.D	P2403661-032 (400mL)	S37-06062402	SC	5	
27	9/10/24 23:44	09102427.D	P2403661-034 (400mL)	S37-06062402	SC	6	
28	9/11/24 8:42	09102428.D	P2403661-022Dil (20mL)	S37-06062402	SC	8	
29	9/11/24 9:14	09102429.D	P2403661-035Dil (40mL)	S37-06062402	SC	10	

9/11/24

Injection Log

Directory: I:\MS09\DATA\2024_09\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/11/24 9:45	09112401.D	Blank	S37-08262404	SC	1	
2	9/11/24 10:17	09112402.D	CCV R09091124_25ng	S37-06062402/S37-08262408 (9/25)	SC	2	Passed
3	9/11/24 10:49	09112403.D	CCV C09091124_25ng	S37-06062402/S37-08142402 (9/13)	SC	3	Passed
4	9/11/24 11:22	09112404.D	MB R09091124_1000mL	S37-06062402/AC00880	SC	2	Passed
5	9/11/24 11:54	09112405.D	LCS R09091124_25ng	S37-06062402/S37-08132404 (9/12)	SC	2	Passed
6	9/11/24 12:26	09112406.D	LCSD R09091124_25ng	S37-06062402/S37-08132404 (9/12)	SC	2	Passed
7	9/11/24 12:58	09112407.D	P2403661-025Dil (20mL)	S37-06062402	SC	11	not used
8	9/11/24 13:30	09112408.D	P2403661-029Dil (40mL)	S37-06062402	SC	15	
9	9/11/24 14:03	09112409.D	P2403661-031Dil (40mL)	S37-06062402	SC	4	
10	9/11/24 14:35	09112410.D	P2403661-023Dil (0.5mL)	S37-06062402	SC	1	not used
11	9/11/24 15:07	09112411.D	P2403661-024 (400mL)PF2	S37-06062402	SC	9	
12	9/11/24 15:39	09112412.D	P2403462-001Dil (5.0mL)	S37-06062402	SC	1	not used
13	9/11/24 16:18	09112413.D	P2403462-002Dil (5.0mL)	S37-06062402	SC	1	not used
14	9/11/24 16:53	09112414.D	P2403661-025Dil (10mL)	S37-06062402	SC	1	
15	9/11/24 17:25	09112415.D	P2403661-023Dil (0.2mL)	S37-06062402	SC	1	
16	9/11/24 17:57	09112416.D	P2403661-036 (400mL)	S37-06062402	SC	4	
17	9/11/24 18:29	09112417.D	P2403661-037 (400mL)	S37-06062402	SC	5	
18	9/11/24 19:02	09112418.D	P2403661-038 (400mL)	S37-06062402	SC	6	
19	9/11/24 19:34	09112419.D	P2403661-039 (400mL)	S37-06062402	SC	7	
20	9/11/24 20:06	09112420.D	P2403661-040 (40mL)	S37-06062402	SC	8	
21	9/11/24 20:38	09112421.D	P2403661-041 (400mL)	S37-06062402	SC	9	
22	9/11/24 21:10	09112422.D	P2403661-042 (400mL)	S37-06062402	SC	10	
23	9/11/24 21:43	09112423.D	P2403661-043 (400mL)	S37-06062402	SC	11	
24	9/11/24 22:16	09112424.D	P2403661-044 (40mL)	S37-06062402	SC	12	
25	9/11/24 22:48	09112425.D	P2403661-045 (400mL)	S37-06062402	SC	13	
26	9/11/24 23:21	09112426.D	P2403661-046 (400mL)	S37-06062402	SC	14	
27	9/11/24 23:53	09112427.D	P2403661-047 (400mL)	S37-06062402	SC	15	
28	9/12/24 0:26	09112428.D	P2403462-003 (1000mL)	S37-06062402	SC	16	not used
29	9/12/24 1:01	09112429.D	P2403462-003 (1000mL)	S37-06062402	SC	16	
30	9/12/24 9:03	09112430.D	P2403462-002 (15mL)	S37-06062402	SC	1	
31	9/12/24 9:35	09112431.D	P2403462-001 (50mL)	S37-06062402	SC	5	
32	9/12/24 10:07	09112432.D	P2403661-044Dil (4.0mL)	S37-06062402	SC	1	

9/12/24

Injection Log

Directory: I:\MS09\DATA\2024_09\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/13/24 12:08	09132402.D	CCV R09091324_25ng	S37-06062402/S37-08262408 (9/25)	SC	2	pass
2	9/13/24 12:41	09132403.D	CCV C09091324_25ng	S37-06062402/S37-09122406 (10/12)	SC	3	pass
3	9/13/24 13:13	09132404.D	MB R09091324_1000mL	S37-06062402/AC00880	SC	2	pass
4	9/13/24 13:45	09132405.D	LCS R09091324_25ng	S37-06062402/S37-08152401 (9/14)	SC	2	pass
5	9/13/24 14:18	09132406.D	LCSD R09091324_25ng	S37-06062402/S37-08152401 (9/14)	SC	2	pass
6	9/13/24 14:58	09132407.D	P2403633-003Dil (0.5mL)	S37-06062402	SC	1	
7	9/13/24 15:33	09132408.D	P2403633-003 (10mL)	S37-06062402	SC	1	
8	9/13/24 16:25	09132409.D	P2403633-003Dil (1.0mL)	S37-06062402	SC/LS	1	
9	9/13/24 16:57	09132410.D	P2403633-001 (400mL)	S37-06062402	SC/LS	3	40mL dil
10	9/13/24 17:29	09132411.D	P2403633-002 (400mL)	S37-06062402	SC/LS	4	
11	9/13/24 18:01	09132412.D	P2403633-004 (50mL)	S37-06062402	SC/LS	5	200mL, overdiluted
12	9/13/24 18:33	09132413.D	P2403633-005 (50mL)	S37-06062402	SC/LS	6	
13	9/13/24 19:06	09132414.D	P2403633-005dup (50mL)	S37-06062402	SC/LS	6	pass
14	9/13/24 19:38	09132415.D	P2403633-006 (250mL)	S37-06062402	SC/LS	7	
15	9/13/24 20:11	09132416.D	P2403633-007 (400mL)	S37-06062402	SC/LS	8	
16	9/13/24 20:43	09132417.D	P2403633-008 (400mL)	S37-06062402	SC/LS	9	
17	9/13/24 21:16	09132418.D	P2403635-001 (400mL)	S37-06062402	SC/LS	10	
18	9/13/24 21:48	09132419.D	P2403635-001dil (40mL)	S37-06062402	SC/LS	10	
19	9/13/24 22:20	09132420.D	P2403635-002 (400mL)	S37-06062402	SC/LS	11	
20	9/13/24 22:52	09132421.D	P2403635-003 (400mL)	S37-06062402	SC/LS	12	
21	9/13/24 23:25	09132422.D	P2403635-004 (400mL)	S37-06062402	SC/LS	13	
22	9/13/24 23:57	09132423.D	P2403635-005 (400mL)	S37-06062402	SC/LS	14	40mL dil
23	9/14/24 0:29	09132424.D	P2403635-006 (400mL)	S37-06062402	SC/LS	15	
24	9/14/24 1:01	09132425.D	P2403635-006dil (40mL)	S37-06062402	SC/LS	15	
25	9/14/24 1:34	09132426.D	P2403635-007 (400mL)	S37-06062402	SC/LS	16	

CG 9/14/24

Injection Log

Directory: I:\MS09\DATA\2024_09\13\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment

Injection Log

Directory: I:\MS09\DATA\2024_09\16\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/16/24 9:15	09162402.D	CCV R09091624_25ng	S37-08262404/S37-08262408 (9/25)	SC	2	passed
2	9/16/24 9:47	09162403.D	CCV C09091624_25ng	S37-08262404/S37-09122406 (10/12)	SC	3	passed
3	9/16/24 10:19	09162404.D	MB R09091624_1000mL	S37-08262404/AC00880	SC	2	passed
4	9/16/24 10:52	09162405.D	LCS R09091624_25ng	S37-08262404/S37-09102409 (10/10)	SC	2	passed
5	9/16/24 11:24	09162406.D	LCSD R09091624_25ng	S37-08262404/S37-09102409 (10/10)	SC	2	passed
6	9/16/24 11:56	09162407.D	Blank	S37-08262404	SC	1	
7	9/16/24 13:11	09162408.D	P2403558-001 (0.5mL)	S37-08262404	SC	1	not used
8	9/16/24 14:02	09162409.D	P2403558-001 (2.0mL)	S37-08262404	SC	1	
9	9/16/24 14:44	09162410.D	P2403560-001 (0.5mL)	S37-08262404	SC	1	not used
10	9/16/24 15:17	09162411.D	P2403664-006Dil (40mL)	S37-08262404	SC	11	
11	9/16/24 15:49	09162412.D	P2403560-001 (2.0mL)	S37-08262404	SC	1	
12	9/16/24 16:26	09162413.D	P2403560-002 (2.0mL)	S37-08262404	SC	1	
13	9/16/24 17:14	09162414.D	P2403661-056 (0.2mL)	S37-08262404	SC	1	
14	9/16/24 17:46	09162415.D	P2403661-055 (400mL)	S37-08262404	SC	4	
15	9/16/24 18:19	09162416.D	P2403661-057 (20mL)	S37-08262404	SC	5	
16	9/16/24 18:51	09162417.D	P2403661-058 (40mL)	S37-08262404	SC	6	
17	9/16/24 19:23	09162418.D	P2403661-058dup (40mL)	S37-08262404	SC	6	passed
18	9/16/24 19:56	09162419.D	P2403661-059 (400mL)	S37-08262404	SC	7	
19	9/16/24 20:28	09162420.D	P2403661-060 (40mL)	S37-08262404	SC	8	
20	9/16/24 21:00	09162421.D	P2403661-061 (400mL)	S37-08262404	SC	9	
21	9/16/24 21:33	09162422.D	P2403661-062 (400mL)	S37-08262404	SC	10	
22	9/16/24 22:05	09162423.D	P2403661-063 (400mL)	S37-08262404	SC	11	
23	9/16/24 22:37	09162424.D	P2403661-064 (400mL)	S37-08262404	SC	12	
24	9/16/24 23:09	09162425.D	P2403661-065 (400mL)	S37-08262404	SC	13	
25	9/16/24 23:41	09162426.D	P2403661-066 (40mL)	S37-08262404	SC	14	
26	9/17/24 0:14	09162427.D	P2403661-067 (400mL)	S37-08262404	SC	15	
27	9/17/24 0:46	09162428.D	GEO00114	S37-08262404	SC	16	
							9/17/24

Injection Log

Directory: I:\MS09\DATA\2024_09\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	9/17/24 9:01	09172401.D	Blank	S37-08262404	SC	1	
2	9/17/24 9:33	09172402.D	CCV R09091724_25ng	S37-08262404/S37-08262408 (9/25)	SC	2	Passed
3	9/17/24 10:05	09172403.D	CCV C09091724_25ng	S37-08262404/S37-09122406 (10/12)	SC	3	Passed
4	9/17/24 10:38	09172404.D	MB R09091724_1000mL	S37-08262404/AC00880	SC	2	Passed
5	9/17/24 11:10	09172405.D	LCS R09091724_25ng	S37-08262404/S37-09102409 (10/10)	SC	2	Passed
6	9/17/24 11:42	09172406.D	LCSD R09091724_25ng	S37-08262404/S37-09102409 (10/10)	SC	2	Passed
7	9/17/24 12:14	09172407.D	P2403661-055Dil (40mL)	S37-08262404	SC	4	
8	9/17/24 12:46	09172408.D	P2403661-058 (400mL)	S37-08262404	SC	6	
9	9/17/24 13:19	09172409.D	P2403661-060 (100mL)	S37-08262404	SC	8	
10	9/17/24 13:51	09172410.D	P2403661-063Dil (40mL)	S37-08262404	SC	11	
11	9/17/24 14:23	09172411.D	P2403661-065Dil (20mL)	S37-08262404	SC	13	
12	9/17/24 14:56	09172412.D	P2403661-057Dil (4.0mL)	S37-08262404	SC	1	
13	9/17/24 15:29	09172413.D	P2403661-066Dil (4.0mL)	S37-08262404	SC	1	
14	9/17/24 16:01	09172414.D	system	S37-08262404/S37-09102409 (10/10)	SC	2	
15	9/17/24 16:57	09172415.D	P2403664-005Dil (20mL)	S37-08262404	SC	4	
16	9/17/24 17:30	09172416.D	P2403664-012Dil (30mL)	S37-08262404	SC	5	
17	9/17/24 18:02	09172417.D	P2403664-013 (40mL)	S37-08262404	SC	6	
18	9/17/24 18:34	09172418.D	P2403664-013dup (40mL)	S37-08262404	SC	6	Passed
19	9/17/24 19:06	09172419.D	P2403664-014 (80mL)	S37-08262404	SC	7	
20	9/17/24 19:38	09172420.D	P2403664-015 (400mL)	S37-08262404	SC	8	
21	9/17/24 20:11	09172421.D	P2403664-016 (400mL)	S37-08262404	SC	9	
22	9/17/24 20:43	09172422.D	P2403664-017 (400mL)	S37-08262404	SC	10	
23	9/17/24 21:15	09172423.D	P2403633-001 (400mL)PF2	S37-08262404	SC	11	
24	9/17/24 21:48	09172424.D	P2403633-004 (50mL)PF2	S37-08262404	SC	12	
25	9/17/24 22:20	09172425.D	GEO00106	S37-08262404	SC	13	Passed
26	9/17/24 22:52	09172426.D	GEO00104	S37-08262404	SC	14	Passed
27	9/17/24 23:24	09172427.D	GEO00225	S37-08262404	SC	15	Passed
28	9/17/24 23:56	09172428.D	GEO00090	S37-08262404	SC	16	Passed
29	9/18/24 8:55	09172429.D	P2403664-013 (400mL)	S37-08262404	SC	6	
30	9/18/24 9:27	09172430.D	P2403664-014 (400mL)	S37-08262404	SC	7	

9/18/24