National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
White Sands Test Facility
P.O. Box 20
Las Cruces, NM 88004-0020

April 7, 2025

Reply to Attn of: RE-25-047

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

Subject: Supplemental Soil Vapor Analytical Data (Appendix G) for the 300-001-GSV Well Completion Report (WCR)

NASA submitted the *Well Completion Report (WCR) for NASA White Sands Test Facility (WSTF) 300-001-GSV* on October 4, 2024. The WCR indicated that initial set of soil vapor samples collected on September 9, 2024, did not meet final laboratory canister pressure requirements. Soil vapor samples collected on December 12, 2024 exceeded holding times as a result of power outages at the laboratory related to wildfires in California. The results for soil vapor samples collected on February 19, 2025 are enclosed to populate Appendix G and complete the WCR for 300-001-GSV.

This submittal includes an electronic copy of 300-001-GSV WCR Appendix G as Enclosure 1.

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.

Timothy Davis
Digitally signed by Timothy Davis
Date: 2025.04.07 15:13:47 -06'00'

Timothy J. Davis
Chief, Environmental Office

cc:
Ms. Naomi Davidson
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505

ALS Environmental
2655 Park Center Dr., Suite A
Simi Valley, CA 93065
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LABORATORY REPORT

March 20, 2025

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 February 24, 2025. For your reference, these analyses have been assigned our service request number P2500665.

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

Denise Posada
By denise.posada at 3/20/25

Denise Posada
Project Manager

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

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

Service Request No: P2500665

CASE NARRATIVE

The samples were received intact under chain of custody on February 24, 2025 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 tentatively identified compounds 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 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.

ALS Environmental
2655 Park Center Dr., Suite A
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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	203013
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/labCert.shtm	CA012627
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 only)
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: P2500665

Project ID: NASA White Sands Test Facility (WSTF)

Date Received: 2/24/2025

Time Received: 10:07

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-15 - VOC Cans
2502191255	P2500665-001	Soil Gas	2/19/2025	12:55	1SS01443	-14.17	5.49	X
2502191300	P2500665-002	Soil Gas	2/19/2025	13:00	1SS01197	-2.16	5.84	X
2502191309	P2500665-003	Soil Gas	2/19/2025	13:09	1SS01436	-2.21	5.76	X
2502191317	P2500665-004	Soil Gas	2/19/2025	13:17	1SS01535	-2.76	6.17	X
2502191328	P2500665-005	Soil Gas	2/19/2025	13:28	1SS01627	-3.14	6.33	X
2502191329	P2500665-006	Soil Gas	2/19/2025	13:29	1SS01753	-3.16	5.58	X
2502191350	P2500665-007	Soil Gas	2/19/2025	13:50	1SS01424	-2.29	5.80	X
2502191351	P2500665-008	Soil Gas	2/19/2025	13:51	1SS01651	-2.23	5.69	X

Date 2-20-25

WSTF CHAIN OF CUSTODY RECORD P2500665

Laboratory: ALS PO# 24EC017B

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

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

Analytical Requirements: Method TO-15; 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
2502191255	300-001-GSV 10'	1	G	HNMV	FINAL CANISTER PRESSURE = NA
2502191300	"	1	G	"	" = 0
2502191309	300-001-GSV 40'	1	G	"	" = 0
2502191317	300-001-GSV 80'	1	G	"	" = -1
2502191328	300-001-GSV 100'	1	G	"	" = -1
2502191329	"	1	G	"	" = -1
2502191350	300-002-GSV 80'	1	G	"	" = 0
2502191351	"	1	G	"	" = 0

Relinquished By:	Date/Time:	Accepted By:	Date/Time:
Lori W Minnick FEDEX	2-20-25 1100 HRS.	FEDEX	AV 2-24
			~~2-21-25 / 1028~~
			2-24-25 / 1007

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

ALS Environmental
Sample Acceptance Check Form

Client: NASA White Sands Test Facility Work order: P2500665

Project: NASA White Sands Test Facility (WSTF)

Sample(s) received on: 2/24/2025 Date opened: 2/24/2025 by: ANTHONY.VASQUEZ

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
P2500665-001.01	1.0 L Source Silonite Canister					
P2500665-002.01	1.0 L Source Silonite Canister					
P2500665-003.01	1.0 L Source Silonite Canister					
P2500665-004.01	1.0 L Source Silonite Canister					
P2500665-005.01	1.0 L Source Silonite Canister					
P2500665-006.01	1.0 L Source Silonite Canister					
P2500665-007.01	1.0 L Source Silonite Canister					
P2500665-008.01	1.0 L Source Silonite Canister					

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: **2502191255** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-001

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01443

Initial Pressure (psig): -14.17 Final Pressure (psig): 5.49

Container Dilution Factor: 38.09

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	48	6.3	ND	8.7	1.2	
79-34-5	1,1,2,2-Tetrachloroethane	ND	48	7.0	ND	6.9	1.0	
79-00-5	1,1,2-Trichloroethane	ND	48	5.1	ND	8.7	0.94	
75-34-3	1,1-Dichloroethane	ND	48	7.4	ND	12	1.8	
75-35-4	1,1-Dichloroethene	ND	48	7.0	ND	12	1.8	
120-82-1	1,2,4-Trichlorobenzene	ND	48	12	ND	6.4	1.7	
95-63-6	1,2,4-Trimethylbenzene	ND	48	7.0	ND	9.7	1.4	
106-93-4	1,2-Dibromoethane (EDB)	ND	48	5.9	ND	6.2	0.77	
95-50-1	1,2-Dichlorobenzene	ND	48	7.5	ND	7.9	1.3	
107-06-2	1,2-Dichloroethane	ND	48	5.6	ND	12	1.4	
78-87-5	1,2-Dichloropropane	ND	48	6.3	ND	10	1.4	
108-67-8	1,3,5-Trimethylbenzene	ND	48	7.3	ND	9.7	1.5	
106-99-0	1,3-Butadiene	ND	48	8.4	ND	22	3.8	
541-73-1	1,3-Dichlorobenzene	ND	48	7.6	ND	7.9	1.3	
106-46-7	1,4-Dichlorobenzene	ND	48	7.8	ND	7.9	1.3	
123-91-1	1,4-Dioxane	ND	48	6.0	ND	13	1.7	
540-84-1	2,2,4-Trimethylpentane	ND	48	7.6	ND	10	1.6	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	**14**	480	10	**4.7**	160	3.6	**J**
591-78-6	2-Hexanone	ND	48	6.3	ND	12	1.5	
67-63-0	2-Propanol	**28**	95	21	**12**	39	8.5	**J**
107-05-1	3-Chloropropene	ND	48	6.9	ND	15	2.2	
622-96-8	4-Ethyltoluene	ND	48	8.1	ND	9.7	1.6	

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: **2502191255** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-001

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01443

Initial Pressure (psig): -14.17 Final Pressure (psig): 5.49

Container Dilution Factor: 38.09

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	48	7.0	ND	12	1.7	
67-64-1	Acetone	ND	480	110	ND	200	48	
100-44-7	alpha-Chlorotoluene	ND	48	11	ND	9.2	2.2	
71-43-2	Benzene	ND	48	7.3	ND	15	2.3	
75-27-4	Bromodichloromethane	ND	48	7.3	ND	7.1	1.1	
75-25-2	Bromoform	ND	48	10	ND	4.6	1.0	
74-83-9	Bromomethane	ND	48	7.0	ND	12	1.8	
75-15-0	Carbon Disulfide	ND	480	15	ND	150	4.9	
56-23-5	Carbon Tetrachloride	ND	48	7.0	ND	7.6	1.1	
108-90-7	Chlorobenzene	ND	48	6.8	ND	10	1.5	
75-00-3	Chloroethane	ND	48	6.3	ND	18	2.4	
67-66-3	Chloroform	ND	48	6.8	ND	9.8	1.4	
74-87-3	Chloromethane	ND	48	8.2	ND	23	4.0	
156-59-2	cis-1,2-Dichloroethene	ND	48	7.1	ND	12	1.8	
10061-01-5	cis-1,3-Dichloropropene	ND	48	7.9	ND	10	1.7	
98-82-8	Cumene	ND	48	7.3	ND	9.7	1.5	
110-82-7	Cyclohexane	ND	95	14	ND	28	4.2	
124-48-1	Dibromochloromethane	ND	48	6.7	ND	5.6	0.78	
64-17-5	Ethanol	**120**	480	35	**63**	250	19	**J**
100-41-4	Ethyl Benzene	ND	48	7.1	ND	11	1.6	
75-69-4	Freon 11	ND	48	7.7	ND	8.5	1.4	

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: P2500665
Client Sample ID: **2502191255** ALS Sample ID: P2500665-001
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01443

Initial Pressure (psig): -14.17 Final Pressure (psig): 5.49

Container Dilution Factor: 38.09

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	48	7.2	ND	6.2	0.94	
76-14-2	Freon 114	ND	48	8.0	ND	6.8	1.1	
75-71-8	Freon 12	ND	48	8.3	ND	9.6	1.7	
306-83-2	Freon 123	ND	48	23	ND	7.6	3.7	**X**
75-43-4	Freon 21	ND	48	23	ND	11	5.4	**X**
142-82-5	Heptane	ND	48	8.1	ND	12	2.0	
87-68-3	Hexachlorobutadiene	ND	48	10	ND	4.5	0.98	
110-54-3	Hexane	ND	48	10	ND	14	3.0	
179601-23-1	m,p-Xylene	ND	95	13	ND	22	3.1	
1634-04-4	Methyl tert-butyl ether	ND	48	6.0	ND	13	1.7	
75-09-2	Methylene Chloride	**21**	48	14	**6.2**	14	4.1	**J**
95-47-6	o-Xylene	ND	48	7.3	ND	11	1.7	
103-65-1	Propylbenzene	ND	48	7.3	ND	9.7	1.5	
100-42-5	Styrene	ND	48	8.2	ND	11	1.9	
127-18-4	Tetrachloroethene	ND	48	6.6	ND	7.0	0.97	
109-99-9	Tetrahydrofuran	ND	48	6.4	ND	16	2.2	
108-88-3	Toluene	**28**	48	6.2	**7.5**	13	1.6	**J**
156-60-5	trans-1,2-Dichloroethene	ND	48	7.0	ND	12	1.8	
10061-02-6	trans-1,3-Dichloropropene	ND	48	10	ND	10	2.3	
79-01-6	Trichloroethene	ND	48	6.9	ND	8.9	1.3	
75-01-4	Vinyl Chloride	ND	48	5.4	ND	19	2.1	

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.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2502191255** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-001

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao	Date Analyzed:	3/18/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01443		

Initial Pressure (psig): -14.17 Final Pressure (psig): 5.49

Container Dilution Factor: 38.09

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: **2502191300** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-002

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01197

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84

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	**0.98**	2.1	0.26	**0.27**	0.57	0.072	**J**
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)	**1.6**	21	0.45	**0.54**	7.0	0.15	**J**
591-78-6	2-Hexanone	**0.31**	2.1	0.27	**0.075**	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: **2502191300** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-002

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01197

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84

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	**8.6**	21	4.9	**3.6**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	**0.35**	2.1	0.32	**0.11**	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	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	**0.39**	2.1	0.29	**0.079**	0.42	0.060	**J**
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	**5.3**	21	1.5	**2.8**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**54**	2.1	0.33	**9.7**	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: P2500665
Client Sample ID: **2502191300** ALS Sample ID: P2500665-002
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.040 Liter(s)
Container ID: 1SS01197

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84

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	**540**	21	3.1	**70**	2.7	0.41	**D**
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.0**	2.1	0.36	**0.41**	0.41	0.072	**J**
306-83-2	Freon 123	ND	2.1	0.98	ND	0.33	0.16	**X**
75-43-4	Freon 21	**12**	2.1	0.98	**2.9**	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	**0.49**	2.1	0.27	**0.17**	0.70	0.093	**J**
108-88-3	Toluene	**0.30**	2.1	0.27	**0.078**	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	**1.7**	2.1	0.30	**0.32**	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: **2502191300** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-002

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao	Date Analyzed:	3/18/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.040 Liter(s)
Container ID:	1SS01197		

Initial Pressure (psig): -2.16 Final Pressure (psig): 5.84

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: **2502191309** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-003

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS01436

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.76

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	**0.29**	2.1	0.26	**0.081**	0.57	0.072	**J**
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)	**1.4**	21	0.45	**0.49**	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	**0.96**	4.1	0.90	**0.39**	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: **2502191309** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-003

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS01436

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.76

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	**11**	21	4.9	**4.6**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	**1.6**	2.1	0.32	**0.49**	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	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	**0.56**	2.1	0.27	**0.21**	0.78	0.10	**J**
67-66-3	Chloroform	**6.8**	2.1	0.29	**1.4**	0.42	0.060	
74-87-3	Chloromethane	**1.0**	2.1	0.35	**0.50**	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	**4.1**	21	1.5	**2.2**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**240**	2.1	0.33	**43**	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: P2500665
Client Sample ID: **2502191309** ALS Sample ID: P2500665-003
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes: 0.020 Liter(s)
Container ID: 1SS01436

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.76

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	**2,800**	41	6.2	**360**	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	**2.2**	2.1	0.36	**0.44**	0.41	0.072	
306-83-2	Freon 123	**1.4**	2.1	0.98	**0.22**	0.33	0.16	**J, X**
75-43-4	Freon 21	**18**	2.1	0.98	**4.4**	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	**1.3**	2.1	0.45	**0.37**	0.58	0.13	**J**
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	**0.93**	2.1	0.27	**0.25**	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	**5.0**	2.1	0.30	**0.93**	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.
D = The reported result is from a dilution.
X = See case narrative.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2502191309** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-003

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao	Date Analyzed:	3/18/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			0.020 Liter(s)
Container ID:	1SS01436		

Initial Pressure (psig): -2.21 Final Pressure (psig): 5.76

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: **2502191317** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-004

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS01535

Initial Pressure (psig): -2.76 Final Pressure (psig): 6.17

Container Dilution Factor: 1.75

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	8.0	1.1	
79-34-5	1,1,2,2-Tetrachloroethane	ND	44	6.5	ND	6.4	0.94	
79-00-5	1,1,2-Trichloroethane	ND	44	4.7	ND	8.0	0.87	
75-34-3	1,1-Dichloroethane	ND	44	6.8	ND	11	1.7	
75-35-4	1,1-Dichloroethene	ND	44	6.5	ND	11	1.6	
120-82-1	1,2,4-Trichlorobenzene	ND	44	11	ND	5.9	1.5	
95-63-6	1,2,4-Trimethylbenzene	ND	44	6.5	ND	8.9	1.3	
106-93-4	1,2-Dibromoethane (EDB)	ND	44	5.4	ND	5.7	0.71	
95-50-1	1,2-Dichlorobenzene	ND	44	6.9	ND	7.3	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	9.5	1.3	
108-67-8	1,3,5-Trimethylbenzene	ND	44	6.7	ND	8.9	1.4	
106-99-0	1,3-Butadiene	ND	44	7.7	ND	20	3.5	
541-73-1	1,3-Dichlorobenzene	ND	44	7.0	ND	7.3	1.2	
106-46-7	1,4-Dichlorobenzene	ND	44	7.2	ND	7.3	1.2	
123-91-1	1,4-Dioxane	ND	44	5.5	ND	12	1.5	
540-84-1	2,2,4-Trimethylpentane	ND	44	7.0	ND	9.4	1.5	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	440	9.6	ND	150	3.3	
591-78-6	2-Hexanone	ND	44	5.8	ND	11	1.4	
67-63-0	2-Propanol	ND	88	19	ND	36	7.8	
107-05-1	3-Chloropropene	ND	44	6.3	ND	14	2.0	
622-96-8	4-Ethyltoluene	ND	44	7.4	ND	8.9	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: **2502191317** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-004

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS01535

Initial Pressure (psig): -2.76 Final Pressure (psig): 6.17

Container Dilution Factor: 1.75

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	6.4	ND	11	1.6	
67-64-1	Acetone	ND	440	110	ND	180	44	
100-44-7	alpha-Chlorotoluene	ND	44	11	ND	8.5	2.0	
71-43-2	Benzene	ND	44	6.7	ND	14	2.1	
75-27-4	Bromodichloromethane	ND	44	6.7	ND	6.5	1.0	
75-25-2	Bromoform	ND	44	9.6	ND	4.2	0.93	
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	6.2	ND	9.5	1.3	
75-00-3	Chloroethane	ND	44	5.8	ND	17	2.2	
67-66-3	Chloroform	**46**	44	6.2	**9.4**	9.0	1.3	
74-87-3	Chloromethane	ND	44	7.5	ND	21	3.6	
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	9.6	1.6	
98-82-8	Cumene	ND	44	6.7	ND	8.9	1.4	
110-82-7	Cyclohexane	ND	88	13	ND	25	3.8	
124-48-1	Dibromochloromethane	ND	44	6.1	ND	5.1	0.72	
64-17-5	Ethanol	ND	440	32	ND	230	17	
100-41-4	Ethyl Benzene	ND	44	6.6	ND	10	1.5	
75-69-4	Freon 11	**12,000**	58	9.5	**2,100**	10	1.7	**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: P2500665
Client Sample ID: **2502191317** ALS Sample ID: P2500665-004
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.020 Liter(s)
Test Notes: 0.015 Liter(s)
Container ID: 1SS01535

Initial Pressure (psig): -2.76 Final Pressure (psig): 6.17

Container Dilution Factor: 1.75

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**	58	8.9	**1,400**	7.6	1.2	**D**
76-14-2	Freon 114	ND	44	7.4	ND	6.3	1.1	
75-71-8	Freon 12	ND	44	7.6	ND	8.9	1.5	
306-83-2	Freon 123	ND	44	21	ND	7.0	3.4	**X**
75-43-4	Freon 21	**590**	44	21	**140**	10	5.0	**X**
142-82-5	Heptane	ND	44	7.4	ND	11	1.8	
87-68-3	Hexachlorobutadiene	ND	44	9.6	ND	4.1	0.90	
110-54-3	Hexane	ND	44	9.6	ND	12	2.7	
179601-23-1	m,p-Xylene	ND	88	12	ND	20	2.8	
1634-04-4	Methyl tert-butyl ether	ND	44	5.5	ND	12	1.5	
75-09-2	Methylene Chloride	ND	44	13	ND	13	3.8	
95-47-6	o-Xylene	ND	44	6.7	ND	10	1.6	
103-65-1	Propylbenzene	ND	44	6.7	ND	8.9	1.4	
100-42-5	Styrene	ND	44	7.5	ND	10	1.8	
127-18-4	Tetrachloroethene	ND	44	6.0	ND	6.5	0.89	
109-99-9	Tetrahydrofuran	ND	44	5.9	ND	15	2.0	
108-88-3	Toluene	ND	44	5.7	ND	12	1.5	
156-60-5	trans-1,2-Dichloroethene	ND	44	6.5	ND	11	1.6	
10061-02-6	trans-1,3-Dichloropropene	ND	44	9.6	ND	9.6	2.1	
79-01-6	Trichloroethene	**9.2**	44	6.3	**1.7**	8.1	1.2	**J**
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.
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: **2502191317** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-004

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao	Date Analyzed:	3/18 - 3/19/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.020 Liter(s)
Test Notes:	**T**		0.015 Liter(s)
Container ID:	1SS01535		

Initial Pressure (psig): -2.76 Final Pressure (psig): 6.17

Container Dilution Factor: 1.75

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.61	Freon 123a	**300**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2502191328** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-005

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao/Topacio Zavala Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01627

Initial Pressure (psig): -3.14 Final Pressure (psig): 6.33

Container Dilution Factor: 1.82

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	61	8.0	ND	11	1.5	
79-34-5	1,1,2,2-Tetrachloroethane	ND	61	9.0	ND	8.8	1.3	
79-00-5	1,1,2-Trichloroethane	ND	61	6.6	ND	11	1.2	
75-34-3	1,1-Dichloroethane	ND	61	9.5	ND	15	2.3	
75-35-4	1,1-Dichloroethene	ND	61	9.0	ND	15	2.3	
120-82-1	1,2,4-Trichlorobenzene	ND	61	16	ND	8.2	2.1	
95-63-6	1,2,4-Trimethylbenzene	ND	61	9.0	ND	12	1.8	
106-93-4	1,2-Dibromoethane (EDB)	ND	61	7.5	ND	7.9	0.98	
95-50-1	1,2-Dichlorobenzene	ND	61	9.6	ND	10	1.6	
107-06-2	1,2-Dichloroethane	ND	61	7.2	ND	15	1.8	
78-87-5	1,2-Dichloropropane	ND	61	8.0	ND	13	1.7	
108-67-8	1,3,5-Trimethylbenzene	ND	61	9.3	ND	12	1.9	
106-99-0	1,3-Butadiene	ND	61	11	ND	27	4.8	
541-73-1	1,3-Dichlorobenzene	ND	61	9.7	ND	10	1.6	
106-46-7	1,4-Dichlorobenzene	ND	61	9.9	ND	10	1.7	
123-91-1	1,4-Dioxane	ND	61	7.6	ND	17	2.1	
540-84-1	2,2,4-Trimethylpentane	ND	61	9.7	ND	13	2.1	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	610	13	ND	210	4.5	
591-78-6	2-Hexanone	ND	61	8.0	ND	15	2.0	
67-63-0	2-Propanol	ND	120	27	ND	49	11	
107-05-1	3-Chloropropene	ND	61	8.7	ND	19	2.8	
622-96-8	4-Ethyltoluene	ND	61	10	ND	12	2.1	

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.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2502191328** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-005

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao/Topacio Zavala Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01627

Initial Pressure (psig): -3.14 Final Pressure (psig): 6.33

Container Dilution Factor: 1.82

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	61	8.9	ND	15	2.2	
67-64-1	Acetone	ND	610	150	ND	260	61	
100-44-7	alpha-Chlorotoluene	ND	61	15	ND	12	2.8	
71-43-2	Benzene	ND	61	9.3	ND	19	2.9	
75-27-4	Bromodichloromethane	ND	61	9.3	ND	9.1	1.4	
75-25-2	Bromoform	ND	61	13	ND	5.9	1.3	
74-83-9	Bromomethane	ND	61	9.0	ND	16	2.3	
75-15-0	Carbon Disulfide	ND	610	19	ND	190	6.2	
56-23-5	Carbon Tetrachloride	ND	61	9.0	ND	9.6	1.4	
108-90-7	Chlorobenzene	ND	61	8.6	ND	13	1.9	
75-00-3	Chloroethane	**11**	61	8.0	**4.0**	23	3.0	**J**
67-66-3	Chloroform	**25**	61	8.6	**5.2**	12	1.8	**J**
74-87-3	Chloromethane	ND	61	10	ND	29	5.1	
156-59-2	cis-1,2-Dichloroethene	ND	61	9.1	ND	15	2.3	
10061-01-5	cis-1,3-Dichloropropene	ND	61	10	ND	13	2.2	
98-82-8	Cumene	ND	61	9.3	ND	12	1.9	
110-82-7	Cyclohexane	ND	120	18	ND	35	5.3	
124-48-1	Dibromochloromethane	ND	61	8.5	ND	7.1	1.0	
64-17-5	Ethanol	ND	610	45	ND	320	24	
100-41-4	Ethyl Benzene	ND	61	9.1	ND	14	2.1	
75-69-4	Freon 11	**15,000**	180	29	**2,700**	32	5.2	**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: P2500665
Client Sample ID: **2502191328** ALS Sample ID: P2500665-005
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao/Topacio Zavala Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01627

Initial Pressure (psig): -3.14 Final Pressure (psig): 6.33

Container Dilution Factor: 1.82

CAS #	Compound	Result µg/m³	MRL µg/m³	MDL µg/m³	Result ppbV	MRL ppbV	MDL ppbV	Data Qualifier
76-13-1	Freon 113	**21,000**	180	28	**2,700**	24	3.6	**D**
76-14-2	Freon 114	ND	61	10	ND	8.7	1.5	
75-71-8	Freon 12	**12**	61	11	**2.5**	12	2.1	**J**
306-83-2	Freon 123	ND	61	29	ND	9.7	4.7	**X**
75-43-4	Freon 21	**4,700**	61	29	**1,100**	14	6.9	**X**
142-82-5	Heptane	ND	61	10	ND	15	2.5	
87-68-3	Hexachlorobutadiene	ND	61	13	ND	5.7	1.3	
110-54-3	Hexane	ND	61	13	ND	17	3.8	
179601-23-1	m,p-Xylene	ND	120	17	ND	28	3.9	
1634-04-4	Methyl tert-butyl ether	ND	61	7.6	ND	17	2.1	
75-09-2	Methylene Chloride	ND	61	18	ND	17	5.2	
95-47-6	o-Xylene	ND	61	9.3	ND	14	2.2	
103-65-1	Propylbenzene	ND	61	9.3	ND	12	1.9	
100-42-5	Styrene	ND	61	10	ND	14	2.5	
127-18-4	Tetrachloroethene	**12**	61	8.4	**1.8**	8.9	1.2	**J**
109-99-9	Tetrahydrofuran	ND	61	8.1	ND	21	2.8	
108-88-3	Toluene	ND	61	7.9	ND	16	2.1	
156-60-5	trans-1,2-Dichloroethene	ND	61	9.0	ND	15	2.3	
10061-02-6	trans-1,3-Dichloropropene	ND	61	13	ND	13	2.9	
79-01-6	Trichloroethene	**15**	61	8.7	**2.7**	11	1.6	**J**
75-01-4	Vinyl Chloride	ND	61	6.9	ND	24	2.7	

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: **2502191328** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-005

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao/Topacio Zavala	Date Analyzed:	3/18 - 3/19/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.015 Liter(s)
Test Notes:	**T**		0.0050 Liter(s)
Container ID:	1SS01627		

Initial Pressure (psig): -3.14 Final Pressure (psig): 6.33

Container Dilution Factor: 1.82

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

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

Client: **NASA White Sands Test Facility**
Client Sample ID: **2502191329** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-006

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao/Topacio Zavala Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01753

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.58

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	59	7.7	ND	11	1.4	
79-34-5	1,1,2,2-Tetrachloroethane	ND	59	8.7	ND	8.5	1.3	
79-00-5	1,1,2-Trichloroethane	ND	59	6.3	ND	11	1.2	
75-34-3	1,1-Dichloroethane	ND	59	9.2	ND	15	2.3	
75-35-4	1,1-Dichloroethene	ND	59	8.7	ND	15	2.2	
120-82-1	1,2,4-Trichlorobenzene	ND	59	15	ND	7.9	2.1	
95-63-6	1,2,4-Trimethylbenzene	ND	59	8.7	ND	12	1.8	
106-93-4	1,2-Dibromoethane (EDB)	ND	59	7.3	ND	7.6	0.95	
95-50-1	1,2-Dichlorobenzene	ND	59	9.3	ND	9.8	1.5	
107-06-2	1,2-Dichloroethane	ND	59	6.9	ND	15	1.7	
78-87-5	1,2-Dichloropropane	ND	59	7.7	ND	13	1.7	
108-67-8	1,3,5-Trimethylbenzene	ND	59	9.0	ND	12	1.8	
106-99-0	1,3-Butadiene	ND	59	10	ND	27	4.7	
541-73-1	1,3-Dichlorobenzene	ND	59	9.4	ND	9.8	1.6	
106-46-7	1,4-Dichlorobenzene	ND	59	9.6	ND	9.8	1.6	
123-91-1	1,4-Dioxane	ND	59	7.4	ND	16	2.1	
540-84-1	2,2,4-Trimethylpentane	ND	59	9.4	ND	13	2.0	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	ND	590	13	ND	200	4.4	
591-78-6	2-Hexanone	ND	59	7.7	ND	14	1.9	
67-63-0	2-Propanol	ND	120	26	ND	48	11	
107-05-1	3-Chloropropene	ND	59	8.4	ND	19	2.7	
622-96-8	4-Ethyltoluene	ND	59	10	ND	12	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.

Client: **NASA White Sands Test Facility**
Client Sample ID: **2502191329** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-006

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao/Topacio Zavala Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01753

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.58

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	59	8.6	ND	14	2.1	
67-64-1	Acetone	ND	590	140	ND	250	59	
100-44-7	alpha-Chlorotoluene	ND	59	14	ND	11	2.7	
71-43-2	Benzene	ND	59	9.0	ND	18	2.8	
75-27-4	Bromodichloromethane	ND	59	9.0	ND	8.8	1.3	
75-25-2	Bromoform	ND	59	13	ND	5.7	1.2	
74-83-9	Bromomethane	ND	59	8.7	ND	15	2.2	
75-15-0	Carbon Disulfide	ND	590	19	ND	190	6.0	
56-23-5	Carbon Tetrachloride	ND	59	8.7	ND	9.3	1.4	
108-90-7	Chlorobenzene	ND	59	8.3	ND	13	1.8	
75-00-3	Chloroethane	ND	59	7.7	ND	22	2.9	
67-66-3	Chloroform	**14**	59	8.3	**2.8**	12	1.7	**J**
74-87-3	Chloromethane	ND	59	10	ND	28	4.9	
156-59-2	cis-1,2-Dichloroethene	ND	59	8.8	ND	15	2.2	
10061-01-5	cis-1,3-Dichloropropene	ND	59	9.7	ND	13	2.1	
98-82-8	Cumene	ND	59	9.0	ND	12	1.8	
110-82-7	Cyclohexane	ND	120	18	ND	34	5.1	
124-48-1	Dibromochloromethane	ND	59	8.2	ND	6.9	0.96	
64-17-5	Ethanol	ND	590	43	ND	310	23	
100-41-4	Ethyl Benzene	ND	59	8.8	ND	14	2.0	
75-69-4	Freon 11	**9,200**	59	9.5	**1,600**	10	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.

Client: **NASA White Sands Test Facility** ALS Project ID: P2500665
Client Sample ID: **2502191329** ALS Sample ID: P2500665-006
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao/Topacio Zavala Date Analyzed: 3/18 - 3/19/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.015 Liter(s)
Test Notes: 0.0050 Liter(s)
Container ID: 1SS01753

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.58

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	**7,900**	180	27	**1,000**	23	3.5	**D**
76-14-2	Freon 114	ND	59	9.9	ND	8.4	1.4	
75-71-8	Freon 12	ND	59	10	ND	12	2.1	
306-83-2	Freon 123	ND	59	28	ND	9.4	4.5	**X**
75-43-4	Freon 21	**2,500**	59	28	**600**	14	6.7	**X**
142-82-5	Heptane	ND	59	10	ND	14	2.4	
87-68-3	Hexachlorobutadiene	ND	59	13	ND	5.5	1.2	
110-54-3	Hexane	ND	59	13	ND	17	3.7	
179601-23-1	m,p-Xylene	ND	120	16	ND	27	3.8	
1634-04-4	Methyl tert-butyl ether	ND	59	7.4	ND	16	2.1	
75-09-2	Methylene Chloride	ND	59	18	ND	17	5.1	
95-47-6	o-Xylene	ND	59	9.0	ND	14	2.1	
103-65-1	Propylbenzene	ND	59	9.0	ND	12	1.8	
100-42-5	Styrene	ND	59	10	ND	14	2.4	
127-18-4	Tetrachloroethene	ND	59	8.1	ND	8.7	1.2	
109-99-9	Tetrahydrofuran	ND	59	7.9	ND	20	2.7	
108-88-3	Toluene	ND	59	7.6	ND	16	2.0	
156-60-5	trans-1,2-Dichloroethene	ND	59	8.7	ND	15	2.2	
10061-02-6	trans-1,3-Dichloropropene	ND	59	13	ND	13	2.8	
79-01-6	Trichloroethene	ND	59	8.4	ND	11	1.6	
75-01-4	Vinyl Chloride	ND	59	6.7	ND	23	2.6	

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: **2502191329** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-006

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao/Topacio Zavala	Date Analyzed:	3/18 - 3/19/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.015 Liter(s)
Test Notes:	**T**		0.0050 Liter(s)
Container ID:	1SS01753		

Initial Pressure (psig): -3.16 Final Pressure (psig): 5.58

Container Dilution Factor: 1.76

GC/MS Retention Time	**Compound Identification**	**Concentration µg/m³**	**Data Qualifier**
4.60	Freon 123a	**540**	

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

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **2502191350** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-007

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01424

Initial Pressure (psig): -2.29 Final Pressure (psig): 5.80

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	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)	**0.68**	21	0.45	**0.23**	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	ND	4.1	0.91	ND	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: **2502191350** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-007

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01424

Initial Pressure (psig): -2.29 Final Pressure (psig): 5.80

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	**5.4**	21	5.0	**2.3**	8.7	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.50	ND	0.40	0.096	
71-43-2	Benzene	ND	2.1	0.32	ND	0.65	0.099	
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	0.31	ND	0.53	0.079	
75-15-0	Carbon Disulfide	**1.1**	21	0.66	**0.34**	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	ND	2.1	0.27	ND	0.78	0.10	
67-66-3	Chloroform	**0.80**	2.1	0.29	**0.16**	0.42	0.060	**J**
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	ND	21	1.5	ND	11	0.81	
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.48	0.071	
75-69-4	Freon 11	**28**	2.1	0.33	**4.9**	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: P2500665
Client Sample ID: **2502191350** ALS Sample ID: P2500665-007
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01424

Initial Pressure (psig): -2.29 Final Pressure (psig): 5.80

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	**30**	2.1	0.31	**4.0**	0.27	0.041	
76-14-2	Freon 114	ND	2.1	0.35	ND	0.30	0.050	
75-71-8	Freon 12	**2.1**	2.1	0.36	**0.42**	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	**1.7**	2.1	0.99	**0.41**	0.49	0.24	**J, 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	**0.47**	2.1	0.28	**0.069**	0.30	0.042	**J**
109-99-9	Tetrahydrofuran	ND	2.1	0.28	ND	0.70	0.094	
108-88-3	Toluene	**2.5**	2.1	0.27	**0.65**	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.

Client: **NASA White Sands Test Facility**

Client Sample ID: **2502191350** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-007

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao	Date Analyzed:	3/18/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01424		

Initial Pressure (psig): -2.29 Final Pressure (psig): 5.80

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: **2502191351** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-008

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01651

Initial Pressure (psig): -2.23 Final Pressure (psig): 5.69

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)	**2.7**	21	0.45	**0.91**	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	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: **2502191351** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-008

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01651

Initial Pressure (psig): -2.23 Final Pressure (psig): 5.69

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	**12**	21	4.9	**5.2**	8.6	2.1	**J**
100-44-7	alpha-Chlorotoluene	ND	2.1	0.49	ND	0.40	0.095	
71-43-2	Benzene	**0.46**	2.1	0.32	**0.15**	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	**0.37**	2.1	0.30	**0.059**	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	**0.63**	2.1	0.35	**0.30**	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	**2.2**	21	1.5	**1.1**	11	0.81	**J**
100-41-4	Ethyl Benzene	ND	2.1	0.31	ND	0.47	0.071	
75-69-4	Freon 11	**1.5**	2.1	0.33	**0.26**	0.36	0.059	**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: P2500665
Client Sample ID: **2502191351** ALS Sample ID: P2500665-008
Client Project ID: **NASA White Sands Test Facility (WSTF)**

Test Code: EPA TO-15 Date Collected: 2/19/25
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 2/24/25
Analyst: Simon Cao Date Analyzed: 3/18/25
Sampling Media: 1.0 L Silonite Summa Canister Volume(s) Analyzed: 0.40 Liter(s)
Test Notes:
Container ID: 1SS01651

Initial Pressure (psig): -2.23 Final Pressure (psig): 5.69

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	**0.93**	2.1	0.31	**0.12**	0.27	0.041	**J**
76-14-2	Freon 114	ND	2.1	0.34	ND	0.29	0.049	
75-71-8	Freon 12	**2.1**	2.1	0.36	**0.43**	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	**0.48**	2.1	0.45	**0.13**	0.58	0.13	**J**
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	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: **2502191351** ALS Project ID: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P2500665-008

Tentatively Identified Compounds

Test Code:	EPA TO-15	Date Collected:	2/19/25
Instrument ID:	Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9	Date Received:	2/24/25
Analyst:	Simon Cao	Date Analyzed:	3/18/25
Sampling Media:	1.0 L Silonite Summa Canister	Volume(s) Analyzed:	0.40 Liter(s)
Test Notes:			
Container ID:	1SS01651		

Initial Pressure (psig): -2.23 Final Pressure (psig): 5.69

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: **Method Blank** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250317-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: 3/17/25
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: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250317-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: 3/17/25
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: P2500665
Client Sample ID: **Method Blank** ALS Sample ID: P250317-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: 3/17/25
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:	P2500665
Client Project ID:	**NASA White Sands Test Facility (WSTF)**	ALS Sample ID:	P250317-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:	3/17/25
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

RESULTS OF ANALYSIS

Client: **NASA White Sands Test Facility**
Client Sample ID: **Method Blank** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250319-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: 3/19/25
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: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250319-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: 3/19/25
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: P2500665
Client Sample ID: **Method Blank** ALS Sample ID: P250319-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: 3/19/25
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: P2500665

Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250319-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:	3/19/25
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: P2500665

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 2/19/25
Analyst: Simon Cao/Topacio Zavala Date(s) Received: 2/24/25
Sampling Media: 1.0 L Silonite Summa Canister(s) Date(s) Analyzed: 3/17 - 3/19/25
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	P250317-MB	**92**	**104**	**104**	70-130	
Method Blank	P250319-MB	**96**	**102**	**101**	70-130	
Lab Control Sample	P250317-LCS	**94**	**102**	**105**	70-130	
Lab Control Sample	P250319-LCS	**94**	**100**	**101**	70-130	
Duplicate Lab Control Sample	P250317-DLCS	**94**	**104**	**102**	70-130	
Duplicate Lab Control Sample	P250319-DLCS	**96**	**100**	**101**	70-130	
2502191255	P2500665-001	**94**	**100**	**105**	70-130	
2502191300	P2500665-002	**95**	**99**	**105**	70-130	
2502191309	P2500665-003	**94**	**100**	**105**	70-130	
2502191317	P2500665-004	**95**	**100**	**104**	70-130	
2502191328	P2500665-005	**94**	**101**	**106**	70-130	
2502191329	P2500665-006	**93**	**101**	**106**	70-130	
2502191350	P2500665-007	**94**	**100**	**106**	70-130	
2502191351	P2500665-008	**94**	**100**	**105**	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.

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: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250317-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: 3/18/25
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	210	215	**100**	**102**	67-125	2	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	225	238	**104**	**110**	71-128	6	25	
79-00-5	1,1,2-Trichloroethane	216	220	222	**102**	**103**	71-119	1	25	
75-34-3	1,1-Dichloroethane	218	200	206	**92**	**94**	66-120	2	25	
75-35-4	1,1-Dichloroethene	208	204	212	**98**	**102**	75-120	4	25	
120-82-1	1,2,4-Trichlorobenzene	436	385	422	**88**	**97**	50-137	10	25	
95-63-6	1,2,4-Trimethylbenzene	212	226	237	**107**	**112**	67-130	5	25	
106-93-4	1,2-Dibromoethane (EDB)	204	223	234	**109**	**115**	69-129	5	25	
95-50-1	1,2-Dichlorobenzene	212	208	221	**98**	**104**	57-138	6	25	
107-06-2	1,2-Dichloroethane	204	186	190	**91**	**93**	64-138	2	25	
78-87-5	1,2-Dichloropropane	214	208	212	**97**	**99**	68-121	2	25	
108-67-8	1,3,5-Trimethylbenzene	216	228	240	**106**	**111**	66-125	5	25	
106-99-0	1,3-Butadiene	212	174	186	**82**	**88**	62-132	7	25	
541-73-1	1,3-Dichlorobenzene	212	215	227	**101**	**107**	57-135	6	25	
106-46-7	1,4-Dichlorobenzene	212	206	218	**97**	**103**	56-129	6	25	
123-91-1	1,4-Dioxane	214	243	248	**114**	**116**	76-127	2	25	
540-84-1	2,2,4-Trimethylpentane	214	208	212	**97**	**99**	62-124	2	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	412	414	428	**100**	**104**	70-125	4	25	
591-78-6	2-Hexanone	424	501	535	**118**	**126**	70-136	7	25	
67-63-0	2-Propanol	416	403	422	**97**	**101**	59-132	4	25	
107-05-1	3-Chloropropene	214	175	181	**82**	**85**	50-118	4	25	
622-96-8	4-Ethyltoluene	218	234	245	**107**	**112**	67-128	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.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250317-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: 3/18/25
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	480	490	**113**	**115**	67-137	2	25	
67-64-1	Acetone	1,050	977	1020	**93**	**97**	61-120	4	25	
100-44-7	alpha-Chlorotoluene	426	490	521	**115**	**122**	58-151	6	25	
71-43-2	Benzene	206	192	197	**93**	**96**	73-128	3	25	
75-27-4	Bromodichloromethane	218	227	231	**104**	**106**	70-125	2	25	
75-25-2	Bromoform	218	262	276	**120**	**127**	63-132	6	25	
74-83-9	Bromomethane	210	199	208	**95**	**99**	72-120	4	25	
75-15-0	Carbon Disulfide	430	406	421	**94**	**98**	69-115	4	25	
56-23-5	Carbon Tetrachloride	210	210	215	**100**	**102**	71-134	2	25	
108-90-7	Chlorobenzene	216	217	228	**100**	**106**	63-124	6	25	
75-00-3	Chloroethane	212	193	203	**91**	**96**	67-123	5	25	
67-66-3	Chloroform	216	202	207	**94**	**96**	64-121	2	25	
74-87-3	Chloromethane	208	235	240	**113**	**115**	56-131	2	25	
156-59-2	cis-1,2-Dichloroethene	214	201	207	**94**	**97**	64-120	3	25	
10061-01-5	cis-1,3-Dichloropropene	212	225	228	**106**	**108**	87-137	2	25	
98-82-8	Cumene	214	224	235	**105**	**110**	66-126	5	25	
110-82-7	Cyclohexane	430	429	440	**100**	**102**	71-118	2	25	
124-48-1	Dibromochloromethane	216	237	250	**110**	**116**	67-128	5	25	
64-17-5	Ethanol	1,050	977	1030	**93**	**98**	52-120	5	25	
100-41-4	Ethyl Benzene	218	226	237	**104**	**109**	64-119	5	25	
75-69-4	Freon 11	208	188	195	**90**	**94**	65-122	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.

Client: **NASA White Sands Test Facility**
Client Sample ID: **Duplicate Lab Control Sample** ALS Project ID: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250317-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: 3/18/25
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	206	214	**98**	**102**	65-121	4	25	
76-14-2	Freon 114	208	202	209	**97**	**100**	63-120	3	25	
75-71-8	Freon 12	206	187	194	**91**	**94**	66-122	3	25	
142-82-5	Heptane	214	214	218	**100**	**102**	72-121	2	25	
87-68-3	Hexachlorobutadiene	212	206	221	**97**	**104**	50-133	7	25	
110-54-3	Hexane	212	206	212	**97**	**100**	60-125	3	25	
179601-23-1	m,p-Xylene	432	452	475	**105**	**110**	64-121	5	25	
1634-04-4	Methyl tert-butyl ether	216	226	206	**105**	**95**	65-124	10	25	
75-09-2	Methylene Chloride	204	189	197	**93**	**97**	71-123	4	25	
95-47-6	o-Xylene	216	224	236	**104**	**109**	66-122	5	25	
103-65-1	Propylbenzene	214	225	235	**105**	**110**	67-126	5	25	
100-42-5	Styrene	214	223	235	**104**	**110**	71-125	6	25	
127-18-4	Tetrachloroethene	214	218	231	**102**	**108**	55-132	6	25	
109-99-9	Tetrahydrofuran	404	387	399	**96**	**99**	67-117	3	25	
108-88-3	Toluene	216	217	229	**100**	**106**	64-121	6	25	
156-60-5	trans-1,2-Dichloroethene	218	205	212	**94**	**97**	67-123	3	25	
10061-02-6	trans-1,3-Dichloropropene	196	204	207	**104**	**106**	73-127	2	25	
79-01-6	Trichloroethene	214	213	218	**100**	**102**	68-124	2	25	
75-01-4	Vinyl Chloride	210	206	224	**98**	**107**	57-129	9	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: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250319-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: 3/19/25
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	209	211	**100**	**100**	67-125	0	25	
79-34-5	1,1,2,2-Tetrachloroethane	216	224	226	**104**	**105**	71-128	1	25	
79-00-5	1,1,2-Trichloroethane	216	222	223	**103**	**103**	71-119	0	25	
75-34-3	1,1-Dichloroethane	218	202	206	**93**	**94**	66-120	1	25	
75-35-4	1,1-Dichloroethene	208	204	208	**98**	**100**	75-120	2	25	
120-82-1	1,2,4-Trichlorobenzene	436	406	414	**93**	**95**	50-137	2	25	
95-63-6	1,2,4-Trimethylbenzene	212	224	225	**106**	**106**	67-130	0	25	
106-93-4	1,2-Dibromoethane (EDB)	204	215	218	**105**	**107**	69-129	2	25	
95-50-1	1,2-Dichlorobenzene	212	205	206	**97**	**97**	57-138	0	25	
107-06-2	1,2-Dichloroethane	204	187	191	**92**	**94**	64-138	2	25	
78-87-5	1,2-Dichloropropane	214	212	215	**99**	**100**	68-121	1	25	
108-67-8	1,3,5-Trimethylbenzene	216	224	226	**104**	**105**	66-125	1	25	
106-99-0	1,3-Butadiene	212	181	185	**85**	**87**	62-132	2	25	
541-73-1	1,3-Dichlorobenzene	212	213	214	**100**	**101**	57-135	1	25	
106-46-7	1,4-Dichlorobenzene	212	201	203	**95**	**96**	56-129	1	25	
123-91-1	1,4-Dioxane	214	245	248	**114**	**116**	76-127	2	25	
540-84-1	2,2,4-Trimethylpentane	214	213	215	**100**	**100**	62-124	0	25	
78-93-3	2-Butanone (Methyl Ethyl Ketone)	412	418	425	**101**	**103**	70-125	2	25	
591-78-6	2-Hexanone	424	502	512	**118**	**121**	70-136	3	25	
67-63-0	2-Propanol	416	408	421	**98**	**101**	59-132	3	25	
107-05-1	3-Chloropropene	214	175	177	**82**	**83**	50-118	1	25	
622-96-8	4-Ethyltoluene	218	229	230	**105**	**106**	67-128	0.9	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: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250319-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: 3/19/25
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	496	502	**116**	**118**	67-137	2	25	
67-64-1	Acetone	1,050	1000	1020	**95**	**97**	61-120	2	25	
100-44-7	alpha-Chlorotoluene	426	487	496	**114**	**116**	58-151	2	25	
71-43-2	Benzene	206	195	197	**95**	**96**	73-128	1	25	
75-27-4	Bromodichloromethane	218	229	231	**105**	**106**	70-125	0.9	25	
75-25-2	Bromoform	218	253	256	**116**	**117**	63-132	0.9	25	
74-83-9	Bromomethane	210	197	202	**94**	**96**	72-120	2	25	
75-15-0	Carbon Disulfide	430	416	421	**97**	**98**	69-115	1	25	
56-23-5	Carbon Tetrachloride	210	208	210	**99**	**100**	71-134	1	25	
108-90-7	Chlorobenzene	216	212	213	**98**	**99**	63-124	1	25	
75-00-3	Chloroethane	212	195	199	**92**	**94**	67-123	2	25	
67-66-3	Chloroform	216	203	207	**94**	**96**	64-121	2	25	
74-87-3	Chloromethane	208	177	196	**85**	**94**	56-131	10	25	
156-59-2	cis-1,2-Dichloroethene	214	203	207	**95**	**97**	64-120	2	25	
10061-01-5	cis-1,3-Dichloropropene	212	226	230	**107**	**108**	87-137	0.9	25	
98-82-8	Cumene	214	218	220	**102**	**103**	66-126	1	25	
110-82-7	Cyclohexane	430	434	437	**101**	**102**	71-118	1	25	
124-48-1	Dibromochloromethane	216	228	231	**106**	**107**	67-128	0.9	25	
64-17-5	Ethanol	1,050	997	1030	**95**	**98**	52-120	3	25	
100-41-4	Ethyl Benzene	218	221	223	**101**	**102**	64-119	1	25	
75-69-4	Freon 11	208	188	190	**90**	**91**	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: P2500665
Client Project ID: **NASA White Sands Test Facility (WSTF)** ALS Sample ID: P250319-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: 3/19/25
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	204	206	**97**	**98**	65-121	1	25	
76-14-2	Freon 114	208	200	204	**96**	**98**	63-120	2	25	
75-71-8	Freon 12	206	188	191	**91**	**93**	66-122	2	25	
142-82-5	Heptane	214	219	220	**102**	**103**	72-121	1	25	
87-68-3	Hexachlorobutadiene	212	209	211	**99**	**100**	50-133	1	25	
110-54-3	Hexane	212	215	217	**101**	**102**	60-125	1	25	
179601-23-1	m,p-Xylene	432	445	449	**103**	**104**	64-121	1	25	
1634-04-4	Methyl tert-butyl ether	216	176	193	**81**	**89**	65-124	9	25	
75-09-2	Methylene Chloride	204	190	194	**93**	**95**	71-123	2	25	
95-47-6	o-Xylene	216	220	222	**102**	**103**	66-122	1	25	
103-65-1	Propylbenzene	214	221	223	**103**	**104**	67-126	1	25	
100-42-5	Styrene	214	216	220	**101**	**103**	71-125	2	25	
127-18-4	Tetrachloroethene	214	210	212	**98**	**99**	55-132	1	25	
109-99-9	Tetrahydrofuran	404	390	398	**97**	**99**	67-117	2	25	
108-88-3	Toluene	216	212	215	**98**	**100**	64-121	2	25	
156-60-5	trans-1,2-Dichloroethene	218	207	212	**95**	**97**	67-123	2	25	
10061-02-6	trans-1,3-Dichloropropene	196	203	207	**104**	**106**	73-127	2	25	
79-01-6	Trichloroethene	214	213	215	**100**	**100**	68-124	0	25	
75-01-4	Vinyl Chloride	210	213	220	**101**	**105**	57-129	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.

Client: **NASA White Sands Test Facility** ALS Project ID: P2500665

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: 03172502.D

Analyst: Simon Cao Date Analyzed: 3/17/25

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 22:12

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	180997	7.28	772863	9.33	128077	14.85
	Upper Limit	253396	7.61	1082008	9.66	179308	15.18
	Lower Limit	108598	6.95	463718	9.00	76846	14.52
	Client Sample ID						
01	Method Blank	169791	7.23	717223	9.30	113138	14.84
02	Lab Control Sample	174686	7.27	740287	9.33	118497	14.85
03	Duplicate Lab Control Sample	186392	7.27	784975	9.33	119717	14.85
04	2502191255	181975	7.23	764168	9.30	126238	14.83
05	2502191300	173053	7.23	734188	9.30	123550	14.84
06	2502191309	173942	7.24	737129	9.30	123041	14.84
07	2502191317	170099	7.23	727505	9.30	120377	14.84
08	2502191328	168386	7.23	713256	9.30	117187	14.84
09	2502191329	167048	7.23	698897	9.30	114890	14.84
10	2502191350	162891	7.23	690342	9.30	115624	14.84
11	2502191351	163078	7.23	686563	9.30	114543	14.84
12	2502191300 (Dilution)	161355	7.23	681105	9.30	112384	14.84
13	2502191309 (Dilution)	158064	7.23	666317	9.30	109997	14.84
14							
15							
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
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: P2500665

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: 03182502.D

Analyst: Simon Cao Date Analyzed: 3/18/25

Sampling Media: 1.0 L Silonite Summa Canister(s) Time Analyzed: 23:19

Test Notes:

		IS1 (BCM)		IS2 (DFB)		IS3 (CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	24 Hour Standard	166450	7.28	703284	9.33	118318	14.85
	Upper Limit	233030	7.61	984598	9.66	165645	15.18
	Lower Limit	99870	6.95	421970	9.00	70991	14.52
	Client Sample ID						
01	Method Blank	158363	7.23	675988	9.30	108622	14.84
02	Lab Control Sample	165942	7.28	696811	9.33	115294	14.85
03	Duplicate Lab Control Sample	166385	7.28	704388	9.33	116071	14.85
04	2502191317 (Dilution)	170762	7.22	720823	9.29	110607	14.83
05	2502191328 (Dilution)	183755	7.22	774014	9.29	120670	14.83
06	2502191329 (Dilution)	160738	7.23	671531	9.30	106063	14.84
07							
08							
09							
10							
11							
12							
13							
14							
15							
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
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.

Quantitation Report (QT/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 18 17:05:32 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	181975	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	764168	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.83	54	126238	12.500	ng		-0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	264944	11.744	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	12.43	98	857173	12.526	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	16.82	174	266104	13.175	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
2) Propene	3.33	42	843	N.D.			
3) Dichlorodifluoromethan...	3.34	85	232	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	4.30	45	18106	1.251	ng		84
11) Acetonitrile	4.47	41	1444	N.D.			
12) Acrolein	4.55	56	1022	0.078	ng		85
13) Acetone	4.65	58	15012	1.087	ng	#	39
14) Trichlorofluoromethane	4.77	101	705	N.D.			
15) 2-Propanol (Isopropanol)	4.86	45	13533	0.299	ng		98
16) Acrylonitrile	5.02	53	327	N.D.			
17) 1,1-Dichloroethene	0.00	96	0	N.D.			
18) 2-Methyl-2-Propanol (t...	5.35	59	367	N.D.			
19) Methylene Chloride	5.36	84	4633	0.225	ng		99
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.59	151	240	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)	6.68	72	1751	0.144	ng	#	72
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	12670	1.862	ng		91
31) n-Hexane	7.30	57	2005	0.070	ng	#	95
32) Chloroform	0.00	83	0	N.D.			
34) Tetrahydrofuran (THF)	7.78	72	105	N.D.			
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.			
36) 1,2-Dichloroethane	8.10	62	748	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	3931	No Calib			
41) Benzene	8.89	78	4892	0.066	ng		95
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.22	84	3553	0.139	ng		98
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	499	N.D.			
48) 1,4-Dioxane	10.14	88	315	N.D.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 18 17:05:32 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

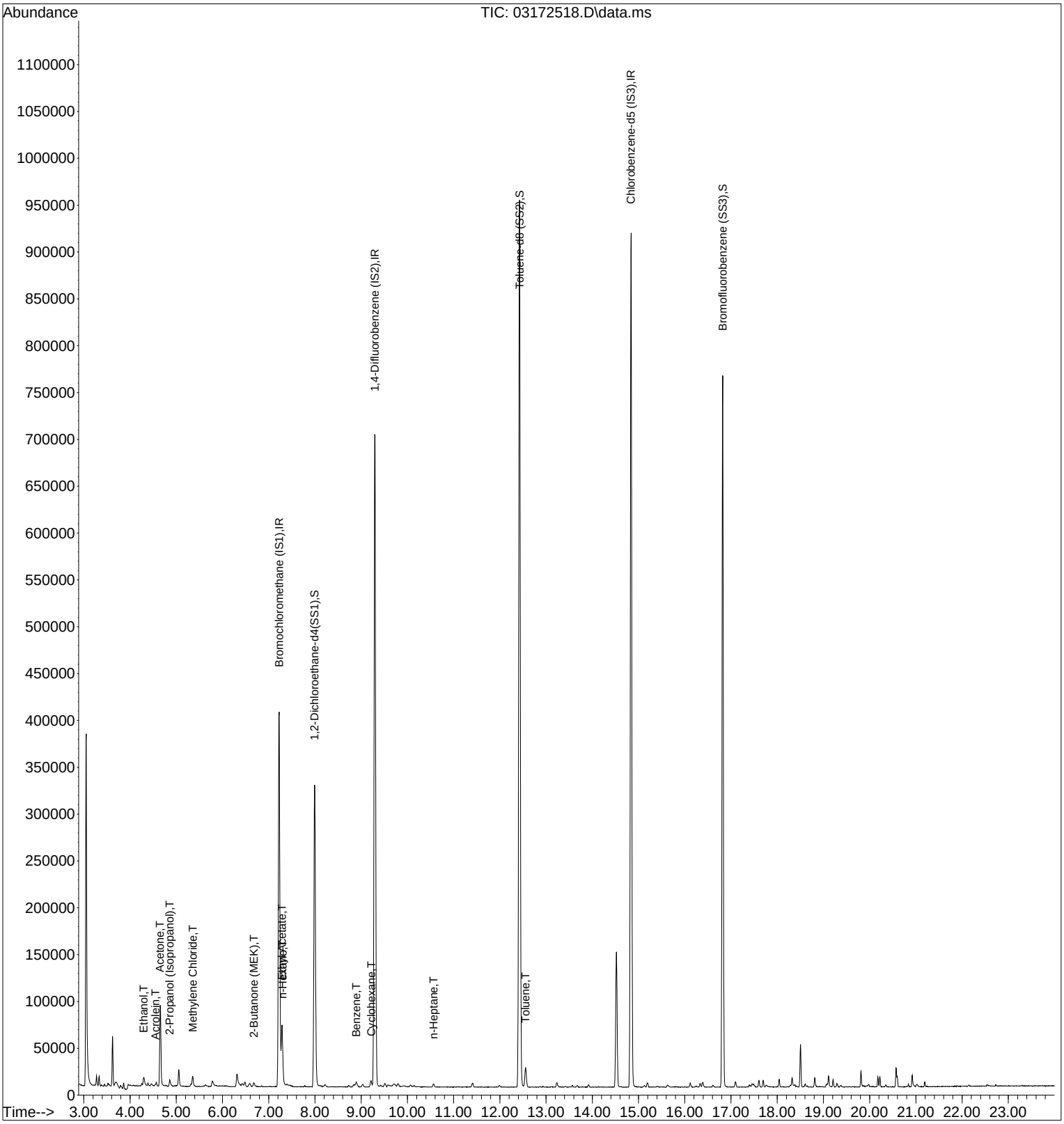
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.22	57	382	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	10.56	71	1040	0.062 ng #	83
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	20059	0.295 ng	99
59) 2-Hexanone	12.93	43	651	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	13.93	57	415	N.D.	
64) Tetrachloroethene	0.00	166	0	N.D.	
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	15.41	91	1349	N.D.	
67) m- & p-Xylenes	15.63	91	2884	N.D.	
68) Bromoform	0.00	173	0	N.D.	
69) Styrene	16.10	104	479	N.D.	
70) o-Xylene	16.24	91	1145	N.D.	
71) n-Nonane	16.61	43	1006	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	445	N.D.	
76) n-Propylbenzene	0.00	91	0	N.D. d	
77) 3-Ethyltoluene	0.00	105	0	N.D.	
78) 4-Ethyltoluene	17.82	105	166	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	435	N.D.	
83) n-Decane	0.00	58	0	N.D.	
84) Benzyl Chloride	18.56	91	397	N.D.	
85) 1,3-Dichlorobenzene	18.58	146	192	N.D.	
86) 1,4-Dichlorobenzene	18.66	146	316	N.D.	
87) sec-Butylbenzene	0.00	105	0	N.D.	
88) 4-Isopropyltoluene (p-...	18.93	119	617	N.D.	
89) 1,2,3-Trimethylbenzene	0.00	105	0	N.D.	
90) 1,2-Dichlorobenzene	19.03	146	112	N.D.	
91) d-Limonene	19.08	68	850	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	739	N.D.	
95) Naphthalene	20.94	128	1732	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	15.19	55	1494	No Calib #	
99) tert-Butylbenzene	18.50	119	993	N.D.	
100) n-Butylbenzene	19.38	91	567	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 18 17:05:32 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 17:05:32 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

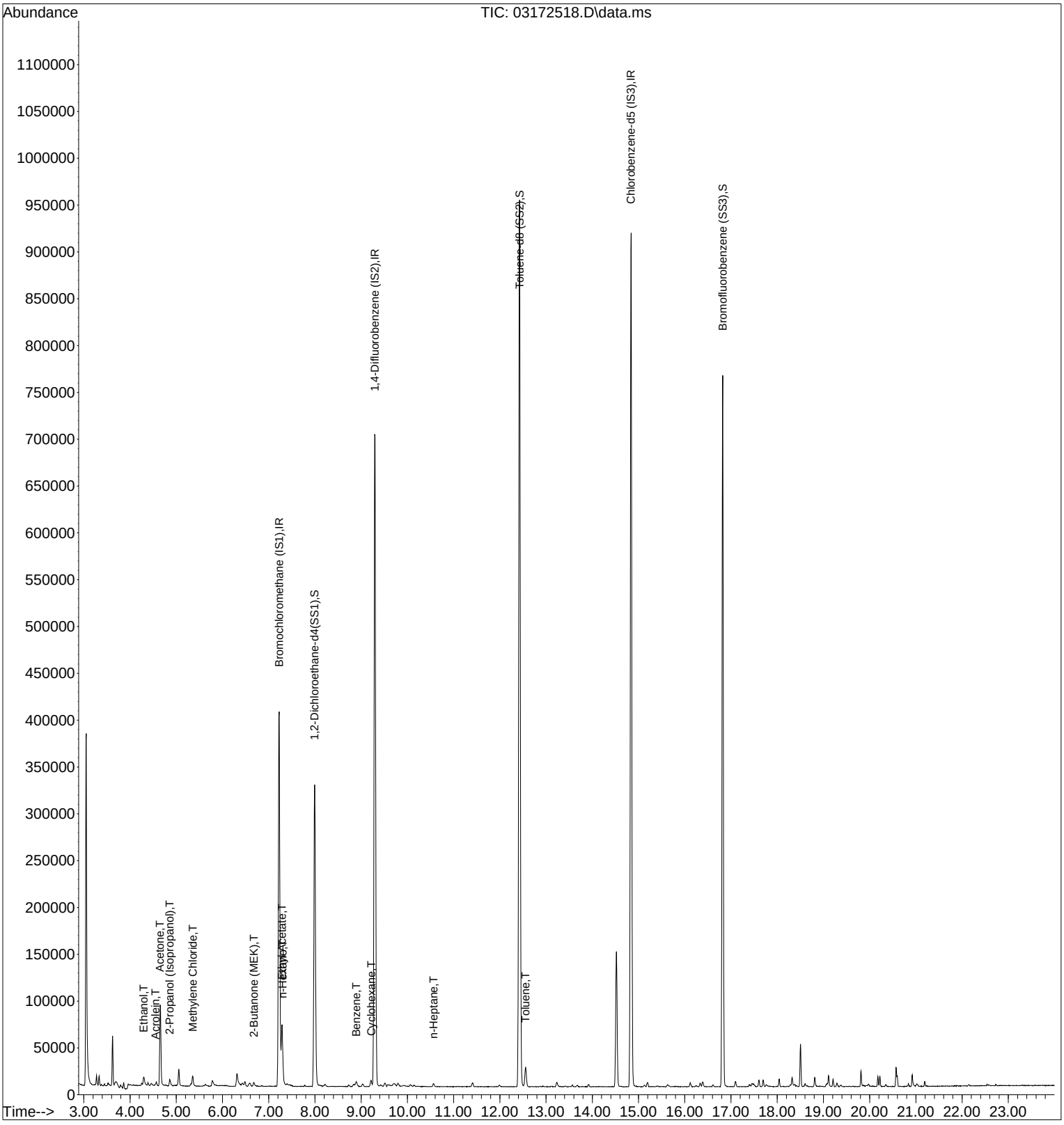
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	181975	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	764168	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.83	54	126238	12.500	ng		-0.02
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	264944	11.744	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.92%				
57) Toluene-d8 (SS2)	12.43	98	857173	12.526	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	16.82	174	266104	13.175	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.36%				
Target Compounds							Qvalue
10) Ethanol	4.30	45	18106	1.251	ng		84
12) Acrolein	4.55	56	1022	0.078	ng		85
13) Acetone	4.65	58	15012	1.087	ng	#	39
15) 2-Propanol (Isopropanol)	4.86	45	13533	0.299	ng		98
19) Methylene Chloride	5.36	84	4633	0.225	ng		99
27) 2-Butanone (MEK)	6.68	72	1751	0.144	ng	#	72
30) Ethyl Acetate	7.29	61	12670	1.862	ng		91
31) n-Hexane	7.30	57	2005	0.070	ng	#	95
41) Benzene	8.89	78	4892	0.066	ng		95
43) Cyclohexane	9.22	84	3553	0.139	ng		98
51) n-Heptane	10.56	71	1040	0.062	ng	#	83
58) Toluene	12.56	91	20059	0.295	ng		99

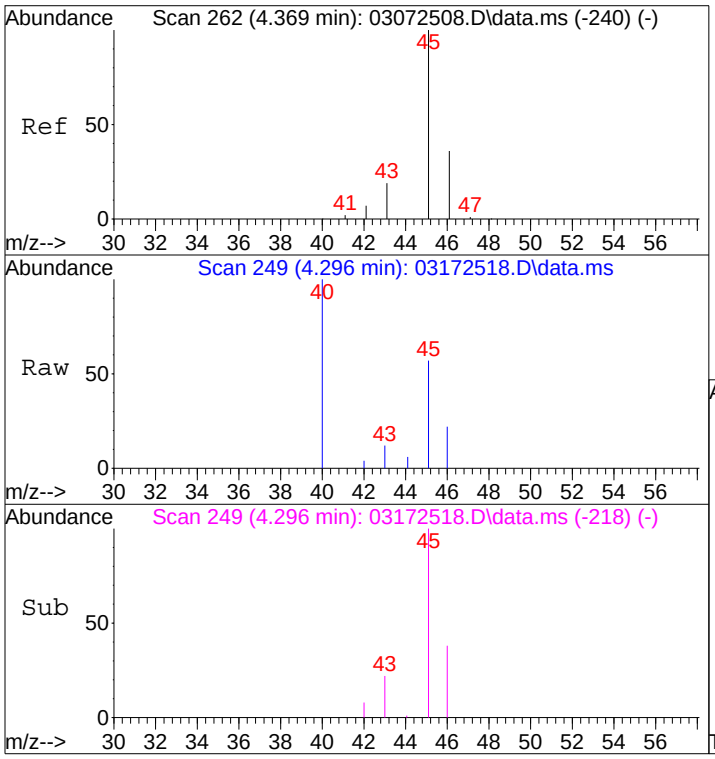
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 18 17:05:32 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

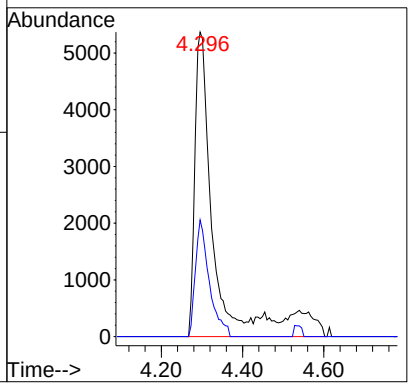


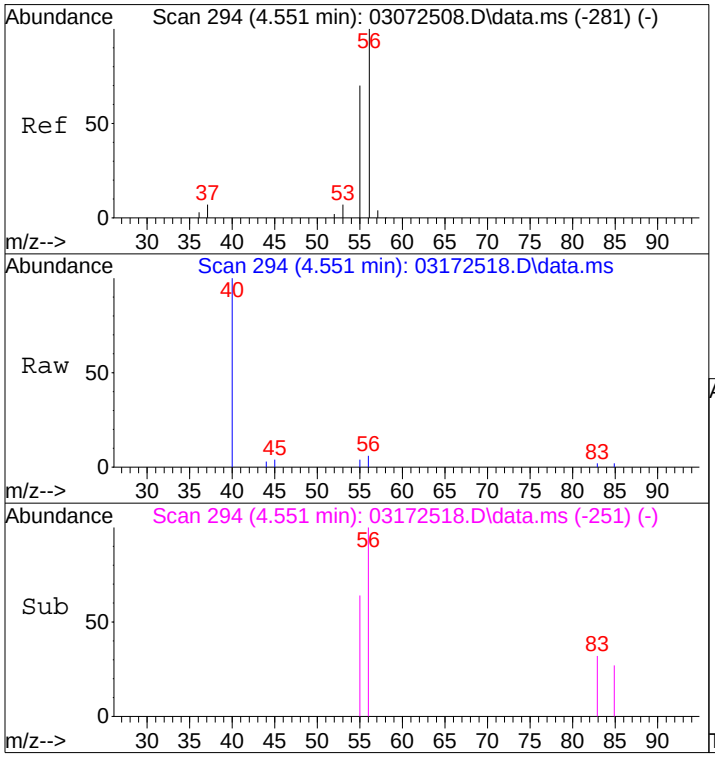


#10
Ethanol
Concen: 1.25 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.074 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 45 Resp: 18106

Ion	Ratio	Lower	Upper
45	100		
46	26.9	16.1	56.1

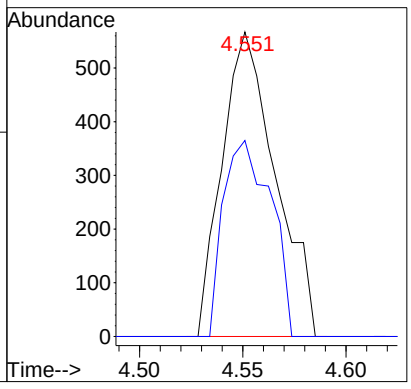


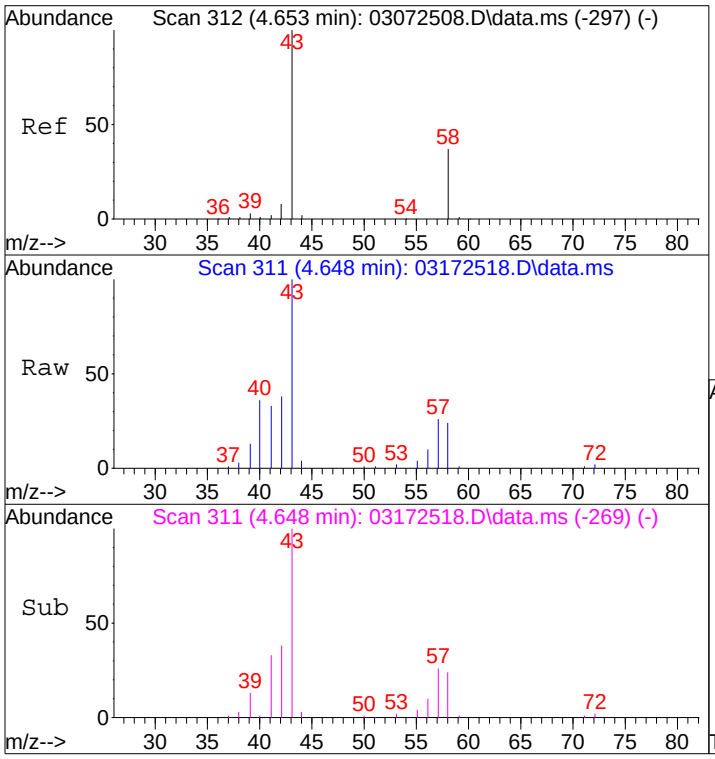


#12
Acrolein
Concen: 0.08 ng
RT: 4.55 min Scan# 294
Delta R.T. -0.006 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 56 Resp: 1022

Ion	Ratio	Lower	Upper
56	100		
55	57.3	49.6	89.6

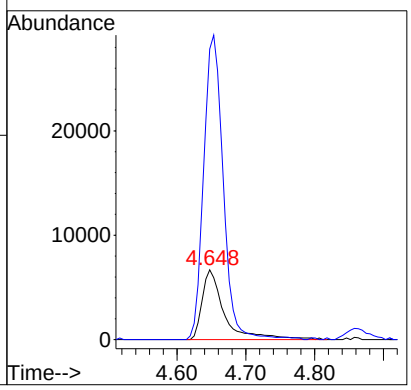


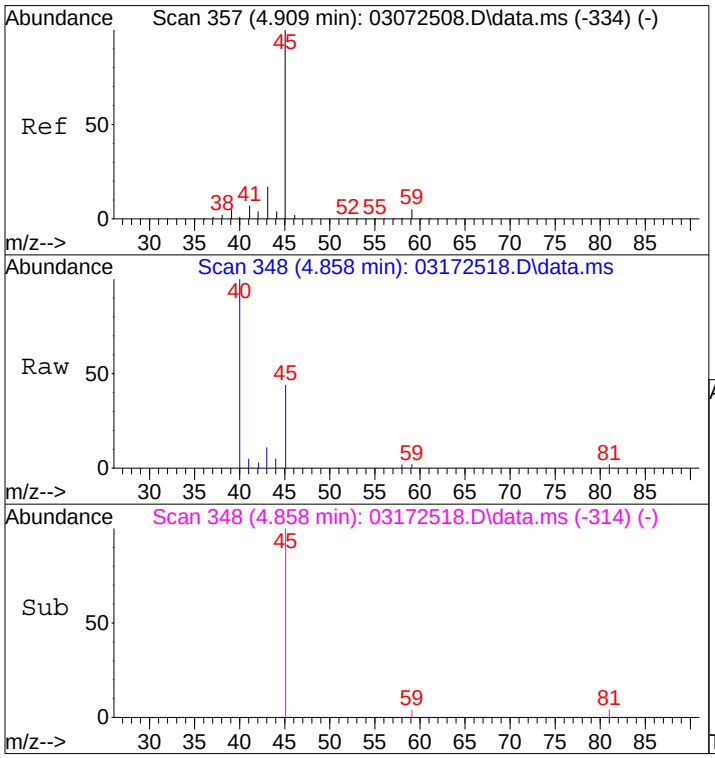


#13
Acetone
Concen: 1.09 ng
RT: 4.65 min Scan# 311
Delta R.T. -0.011 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 58 Resp: 15012

Ion	Ratio	Lower	Upper
58	100		
43	383.9	241.6	301.6#

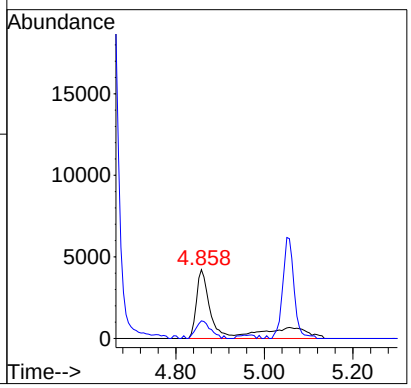


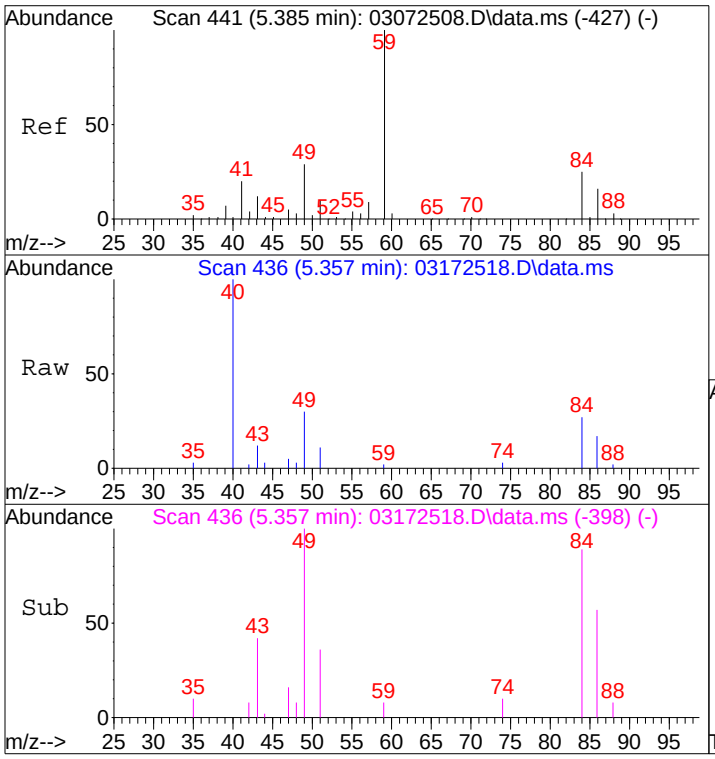


#15
2-Propanol (Isopropanol)
Concen: 0.30 ng
RT: 4.86 min Scan# 348
Delta R.T. -0.057 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 45 Resp: 13533

Ion	Ratio	Lower	Upper
45	100		
43	18.4	0.0	37.5

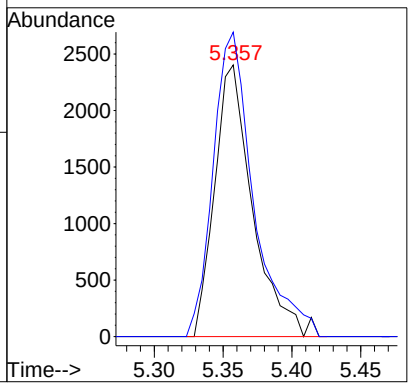


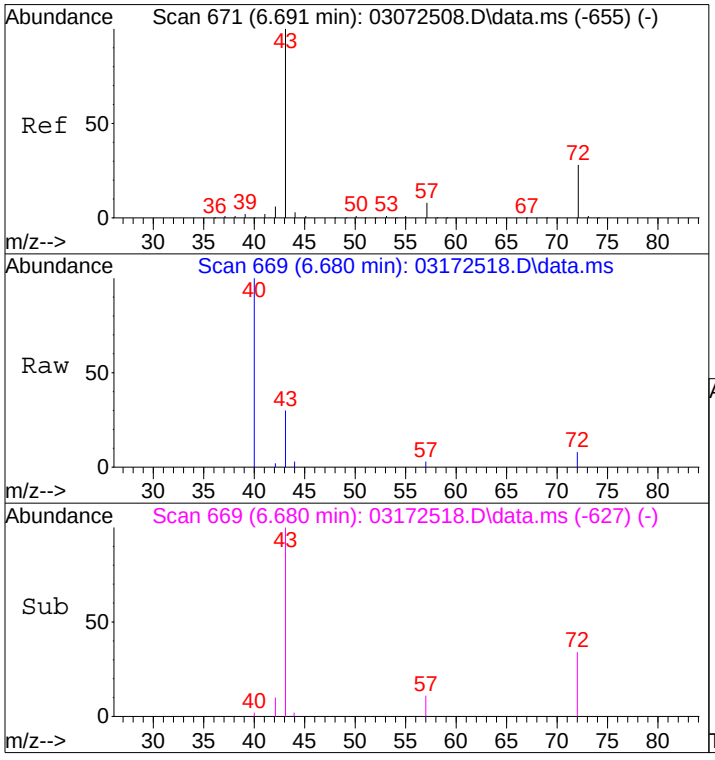


#19
Methylene Chloride
Concen: 0.22 ng
RT: 5.36 min Scan# 436
Delta R.T. -0.034 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 84 Resp: 4633

Ion	Ratio	Lower	Upper
84	100		
49	119.1	93.5	143.5

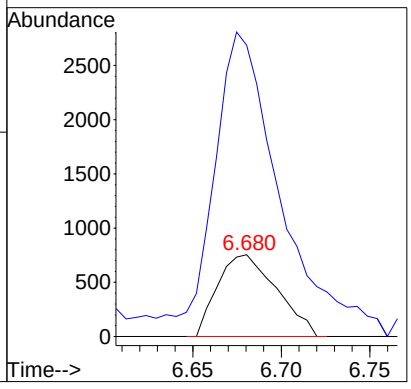


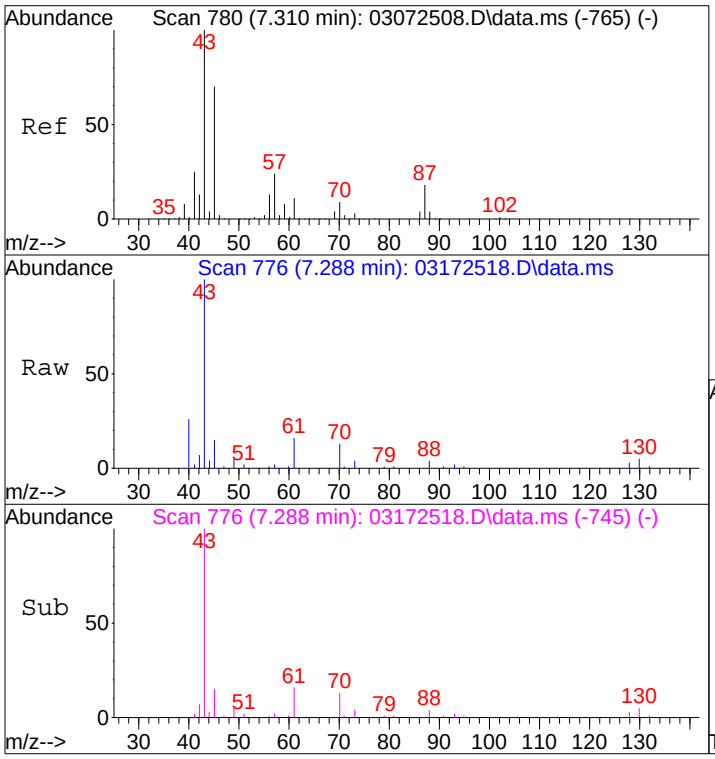


#27
2-Butanone (MEK)
Concen: 0.14 ng
RT: 6.68 min Scan# 669
Delta R.T. -0.011 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 72 Resp: 1751

Ion	Ratio	Lower	Upper
72	100		
43	415.9	335.4	375.4#

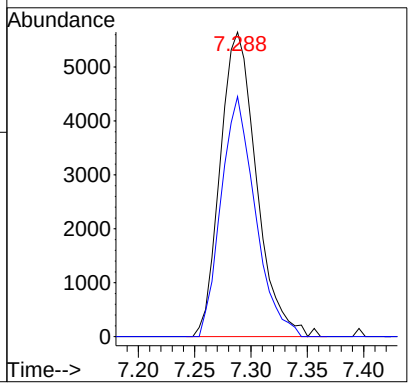


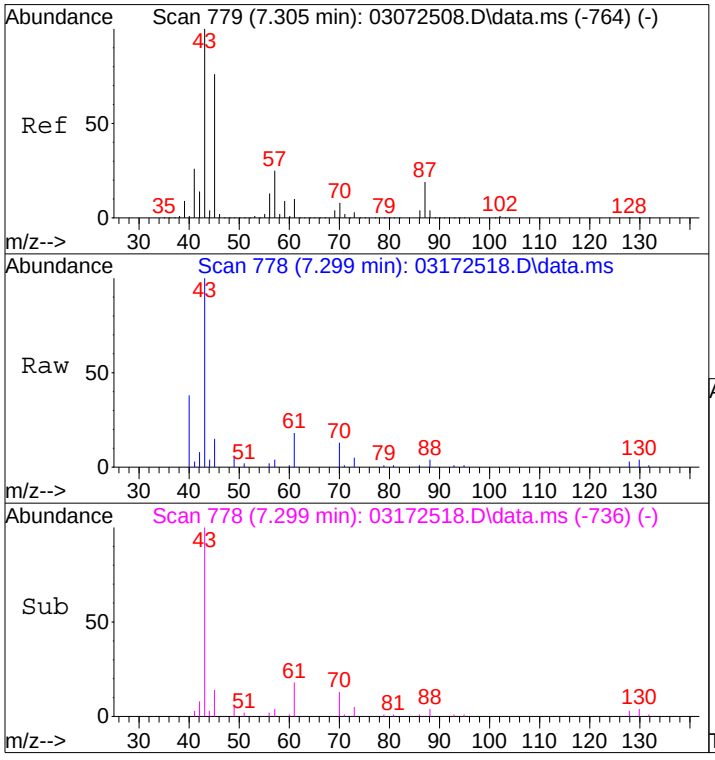


#30
Ethyl Acetate
Concen: 1.86 ng
RT: 7.29 min Scan# 776
Delta R.T. -0.023 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 61 Resp: 12670

Ion	Ratio	Lower	Upper
61	100		
70	74.3	62.6	102.6

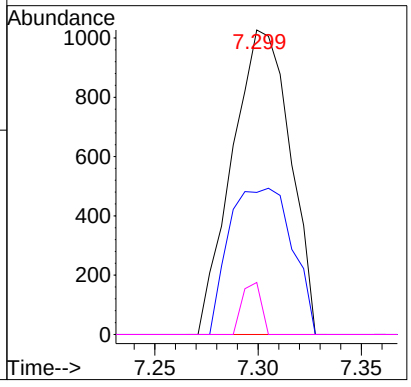


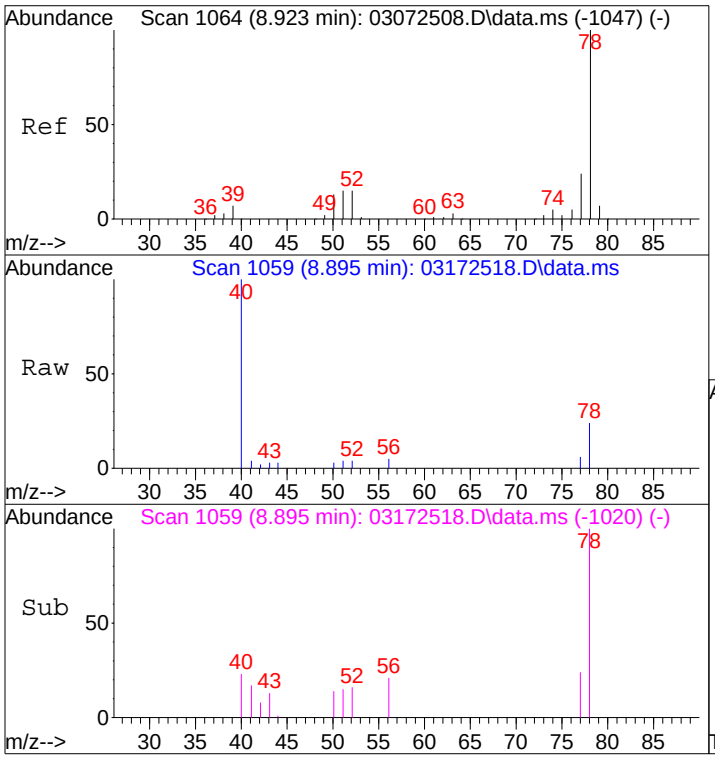


#31
n-Hexane
Concen: 0.07 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.011 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 57 Resp: 2005

Ion	Ratio	Lower	Upper
57	100		
56	52.4	41.8	62.8
86	5.6	11.5	17.3#

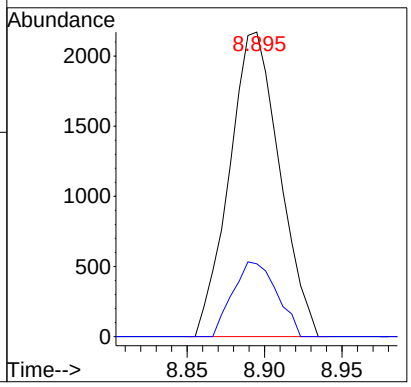


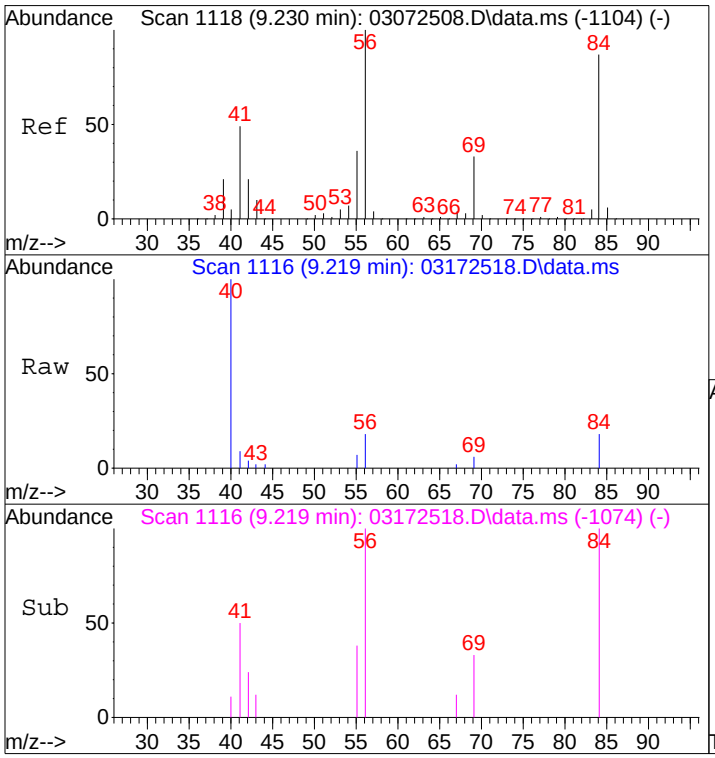


#41
Benzene
Concen: 0.07 ng
RT: 8.89 min Scan# 1059
Delta R.T. -0.028 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 78 Resp: 4892

Ion	Ratio	Lower	Upper
78	100		
77	21.5	3.9	43.9

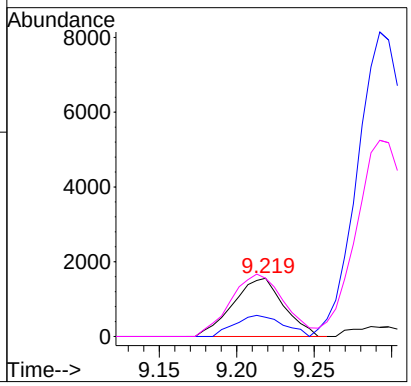


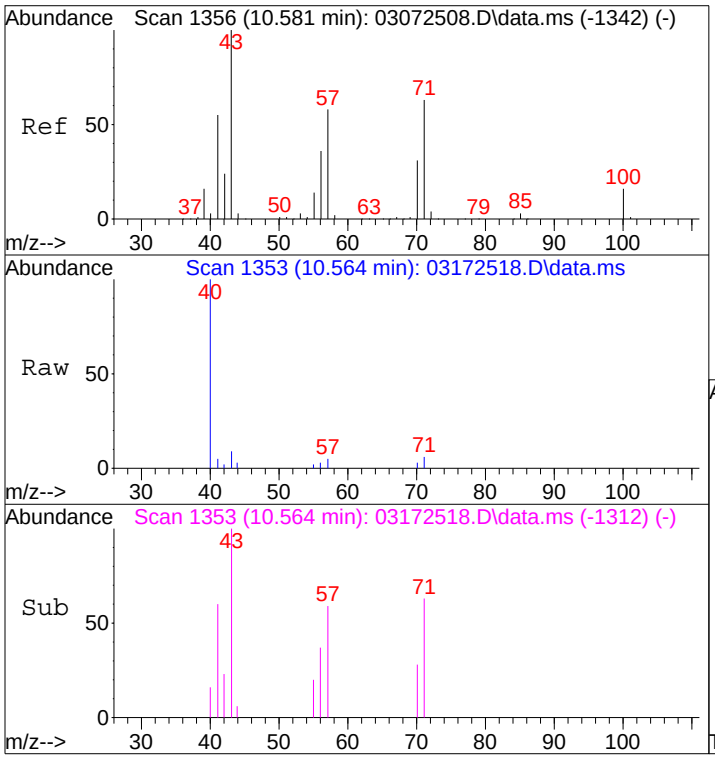


#43
Cyclohexane
Concen: 0.14 ng
RT: 9.22 min Scan# 1116
Delta R.T. -0.011 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 84 Resp: 3553

Ion	Ratio	Lower	Upper
84	100		
69	34.7	18.1	58.1
56	114.4	95.4	135.4

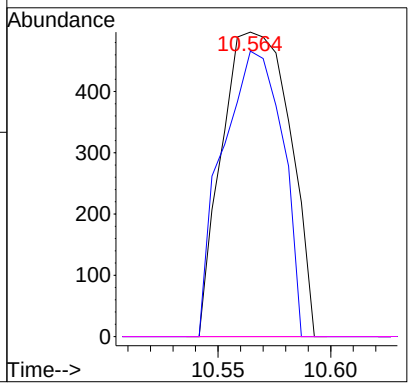


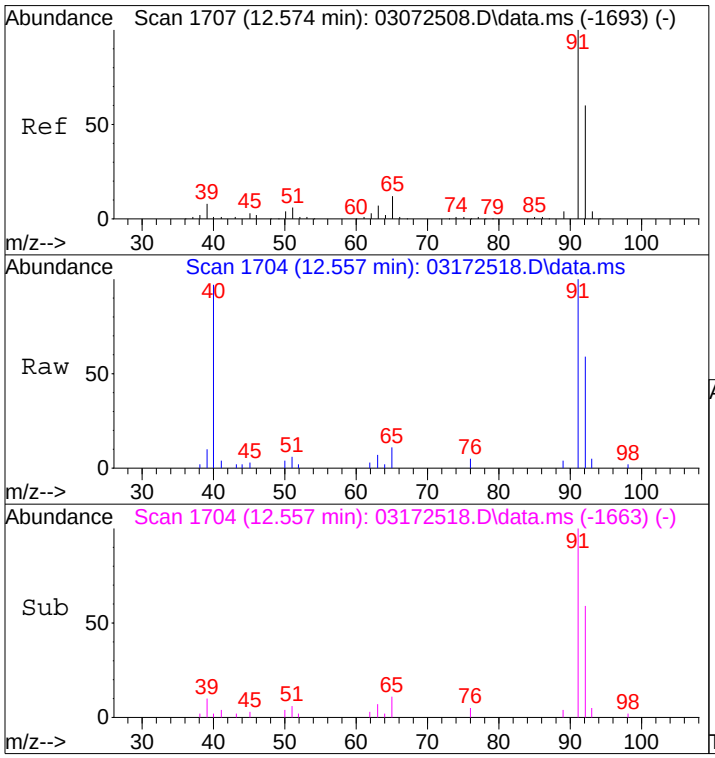


#51
n-Heptane
Concen: 0.06 ng
RT: 10.56 min Scan# 1353
Delta R.T. -0.017 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 71 Resp: 1040

Ion	Ratio	Lower	Upper
71	100		
57	83.0	70.9	110.9
100	0.0	5.2	45.2#

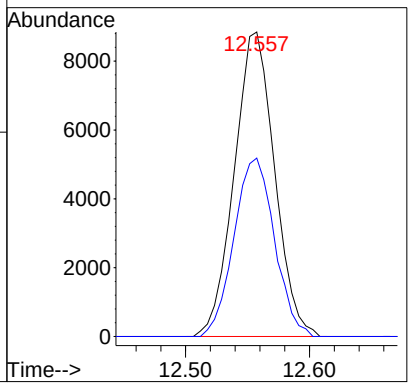




#58
Toluene
Concen: 0.29 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.017 min
Lab File: 03172518.D
Acq: 18 Mar 2025 15:15

Tgt Ion: 91 Resp: 20059

Ion	Ratio	Lower	Upper
91	100		
92	58.7	39.7	79.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 06:34:37 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

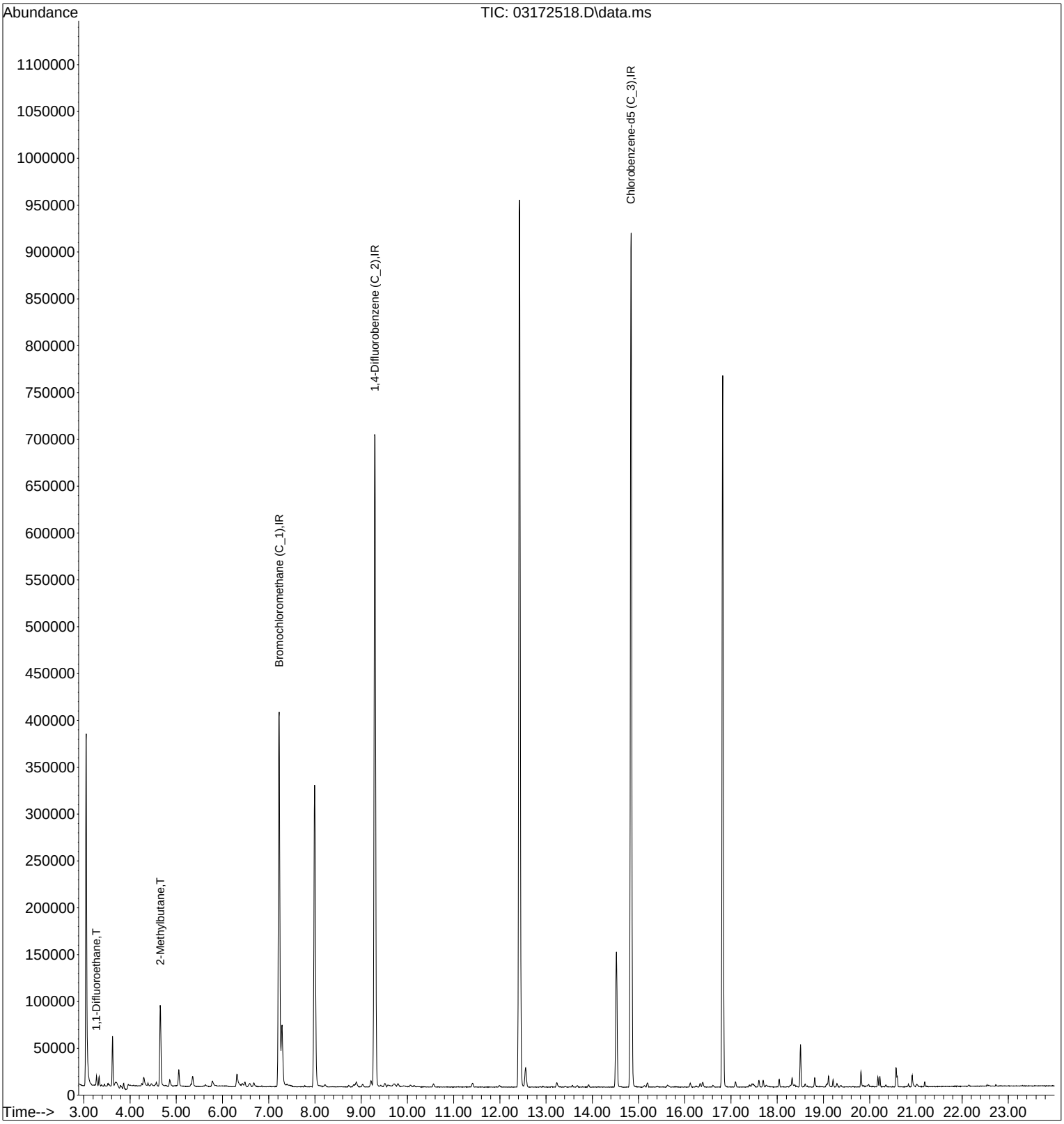
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	181772	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	764240	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.83	54	126238	12.500 ng	-0.01
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.16	85	319	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.22	83	111	N.D.	
4) 1,1-Difluoroethane	3.27	65	3376	0.301 ng	91
5) Chlorodifluoromethane ...	0.00	67	0	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.52	65	2308	N.D.	
7) Dichlorofluoromethane ...	4.26	67	2765	N.D.	
8) Vinylbromide	4.46	108	1076	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	1814	N.D.	
10) 2-Methylbutane	4.66	57	18336	1.422 ng	88
11) Methyl Acetate	5.35	43	3397	N.D.	
12) 2-Methylpentane	6.48	71	1310	N.D.	
13) 2,2-Dichloropropane	7.40	77	1026	N.D.	
14) 1,1-Dichloropropene	8.74	75	1694	N.D.	
15) Thiophene	9.04	84	3141	N.D.	
17) 2,3-Dimethylpentane	9.51	56	2235	N.D.	
18) Dibromomethane	9.80	174	1455	N.D.	
20) Methyl Cyclohexane	11.40	55	1970	N.D.	
21) 1,3-Dichloropropane	12.58	76	2511	N.D.	
22) 1,1,1,2-Tetrachloroethane	14.87	131	1100	N.D.	
23) 1-Chlorohexane	15.19	91	2175	N.D.	
24) 1,2,3-Trichloropropane	16.38	75	2868	N.D.	
25) Bromobenzene	17.10	77	3512	N.D.	
26) 2-Chlorotoluene	17.61	91	5645	N.D.	
27) 4-Chlorotoluene	17.70	91	6149	N.D.	
28) Indane	19.11	117	6662	N.D.	
29) Indene	19.21	115	4441	N.D.	
30) 1,2,4,5-Tetramethylben...	20.18	119	5441	N.D.	
31) 1,2,3,4-Tetramethylben...	20.22	119	5546	N.D.	
32) 1,2,3,5-Tetramethylben...	20.60	119	5147	N.D.	
33) 1,2,3-Trichlorobenzene	21.19	180	1831	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Mar 19 06:34:37 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172518.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.273	66	69	75	rVB	10383	12791	0.59%	0.127%
2	3.330	75	79	85	rVB3	10521	14459	0.66%	0.143%
3	3.620	125	130	136	rBV	53123	71828	3.30%	0.712%
4	3.694	136	143	156	rVB3	6550	27316	1.26%	0.271%
5	3.961	184	190	194	rBV2	5190	11240	0.52%	0.111%
6	4.296	244	249	262	rVB	8633	19554	0.90%	0.194%
7	4.653	305	312	330	rBV2	86394	162624	7.47%	1.611%
8	4.858	343	348	358	rBV	7178	15093	0.69%	0.150%
9	5.051	377	382	397	rVB	17666	31128	1.43%	0.308%
10	5.352	430	435	449	rVB2	10843	22505	1.03%	0.223%
11	5.783	503	511	520	rBV	6050	16923	0.78%	0.168%
12	6.311	598	604	617	rBV	13361	37410	1.72%	0.371%
13	6.487	630	635	643	rVB2	5054	10618	0.49%	0.105%
14	7.225	755	765	772	rBV	400093	898859	41.30%	8.906%
15	7.288	772	776	790	rVB	64538	142163	6.53%	1.408%
16	7.992	891	900	923	rBV	322320	750024	34.46%	7.431%
17	8.895	1052	1059	1068	rVB2	5170	13657	0.63%	0.135%
18	9.213	1107	1115	1120	rBV3	6795	15013	0.69%	0.149%
19	9.292	1120	1129	1146	rVB	696120	1624808	74.66%	16.098%
20	12.427	1670	1681	1696	rBV	947115	2176391	100.00%	21.563%
21	12.557	1696	1704	1721	rVB2	20754	51633	2.37%	0.512%
22	13.233	1817	1823	1834	rBV4	4904	11590	0.53%	0.115%
23	14.522	2041	2050	2065	rBV	144442	316413	14.54%	3.135%
24	14.840	2096	2106	2122	rBV	911693	1902932	87.44%	18.854%
25	16.390	2374	2379	2386	rVB5	5056	10004	0.46%	0.099%
26	16.822	2446	2455	2474	rBV	759558	1439249	66.13%	14.260%
27	17.094	2497	2503	2510	rVB2	5559	10558	0.49%	0.105%
28	17.605	2587	2593	2599	rVB	7108	11664	0.54%	0.116%
29	17.696	2603	2609	2616	rVB	7072	11891	0.55%	0.118%
30	18.043	2665	2670	2677	rVB2	8224	13119	0.60%	0.130%
31	18.321	2715	2719	2727	rVB	8107	11344	0.52%	0.112%
32	18.502	2745	2751	2759	rVB	45425	69125	3.18%	0.685%
33	18.809	2801	2805	2816	rBV2	9927	16470	0.76%	0.163%
34	19.110	2854	2858	2867	rVB	11596	18349	0.84%	0.182%
35	19.207	2871	2875	2883	rVB2	7974	11741	0.54%	0.116%
36	19.814	2977	2982	2987	rBV	16733	23336	1.07%	0.231%
37	20.178	3041	3046	3050	rBV	10454	13697	0.63%	0.136%
38	20.223	3050	3054	3058	rVB	10937	13921	0.64%	0.138%
39	20.569	3110	3115	3118	rBV2	20369	29383	1.35%	0.291%
40	20.598	3118	3120	3128	rVB	11326	12383	0.57%	0.123%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

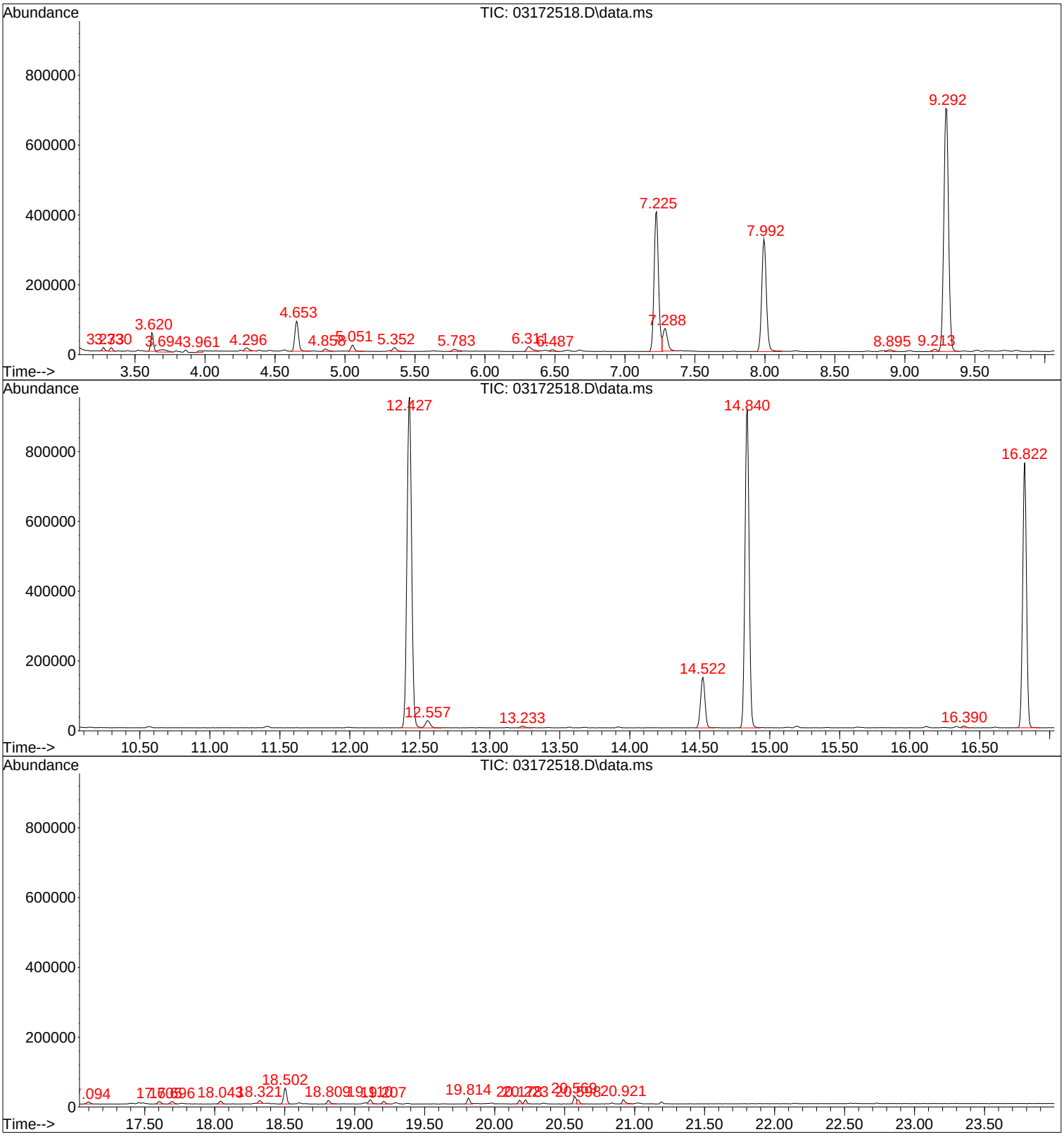
41	20.921	3172	3177	3189	rBV3	12197	20025	0.92%	0.198%

Sum of corrected areas: 10093231

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:15
Operator : SC
Sample : P2500665-001 (400mL)
Misc : S38-03052512
ALS Vial : 4 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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\2025 03\17\\
Data File : 03172518.D
Acq On : 18 Mar 2025 15:155
Operator : SCC
Sample : P2500665-001 (400mL))
Misc : S38-030525122
ALS Vial : 4 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09030725.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 3/18/25

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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 18 17:09:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	173053	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	734188	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	123550	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	255766	11.922	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	12.43	98	830367	12.398	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	16.82	174	258348	13.069	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.37	85	17472	0.498	ng		98
4) Chloromethane	3.51	50	802	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	379	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	4.16	64	193	N.D.			
10) Ethanol	4.31	45	17772	1.291	ng		98
11) Acetonitrile	0.00	41	0	N.D.	d		
12) Acrolein	4.57	56	1552	0.125	ng		96
13) Acetone	4.65	58	27606	2.102	ng		97
14) Trichlorofluoromethane	4.76	101	406325	13.227	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	6394	0.149	ng	#	45
16) Acrylonitrile	5.04	53	266	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	5.37	84	339	N.D.			
20) 3-Chloro-1-propene (Al...	5.39	41	351	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1952675	138.007	ng		99
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	546	N.D.			
26) Vinyl Acetate	6.48	86	1484	0.424	ng	#	85
27) 2-Butanone (MEK)	6.69	72	4439	0.385	ng		94
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.	d		
29) Diisopropyl Ether	7.36	87	115	N.D.			
30) Ethyl Acetate	7.30	61	2962	0.458	ng		91
31) n-Hexane	7.31	57	1733	0.064	ng	#	87
32) Chloroform	7.36	83	2831	0.094	ng		97
34) Tetrahydrofuran (THF)	7.78	72	1327	0.120	ng	#	70
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	10491	No Calib		#	
41) Benzene	8.90	78	6133	0.086	ng		95
42) Carbon Tetrachloride	9.07	117	476	N.D.			
43) Cyclohexane	9.22	84	455	N.D.			
44) tert-Amyl Methyl Ether	0.00	73	0	N.D.	d		
45) 1,2-Dichloropropane	0.00	63	0	N.D.			
46) Bromodichloromethane	0.00	83	0	N.D.			
47) Trichloroethene	10.14	130	7331	0.418	ng		98
48) 1,4-Dioxane	10.13	88	2939	0.239	ng		94

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 18 17:09:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

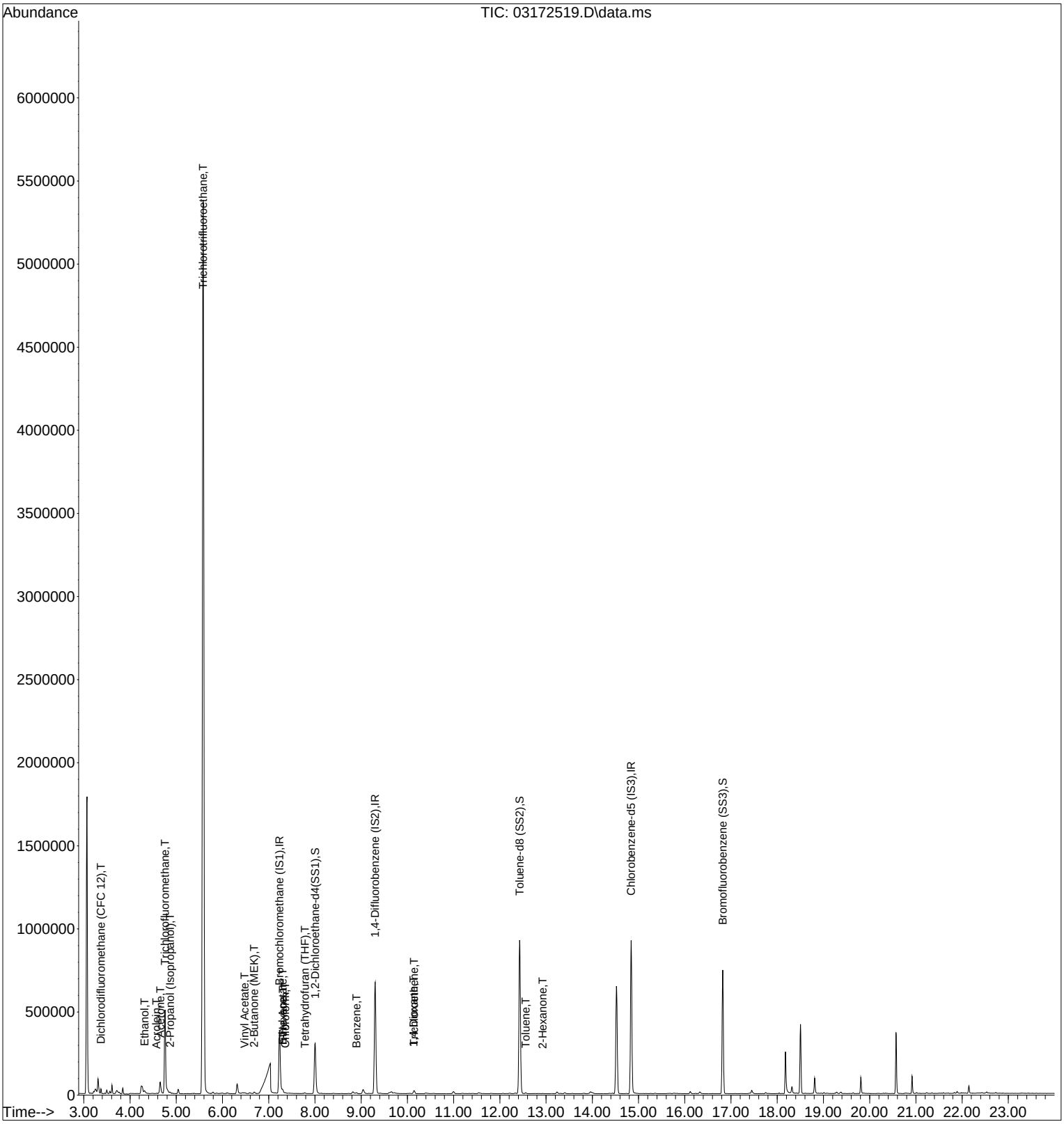
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	528	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	10.57	71	497	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	11.34	58	264	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	4783	0.072 ng		99
59) 2-Hexanone	12.93	43	2124	0.075 ng	#	65
60) Dibromochloromethane	0.00	129	0	N.D.		
61) 1,2-Dibromoethane	0.00	107	0	N.D.		
62) n-Butyl Acetate	13.81	43	911	N.D.		
63) n-Octane	13.92	57	199	N.D.		
64) Tetrachloroethene	14.03	166	505	N.D.		
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	277	N.D.		
67) m- & p-Xylenes	15.64	91	899	N.D.		
68) Bromoform	15.67	173	677	N.D.		
69) Styrene	16.11	104	163	N.D.		
70) o-Xylene	16.24	91	204	N.D.		
71) n-Nonane	16.61	43	817	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	307	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	18.42	105	203	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	227	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-...	18.92	119	340	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	19.09	68	367	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	164	N.D.		
95) Naphthalene	20.94	128	1181	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	N.D.	d	
100) n-Butylbenzene	19.38	91	1416	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 18 17:09:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 17:09:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

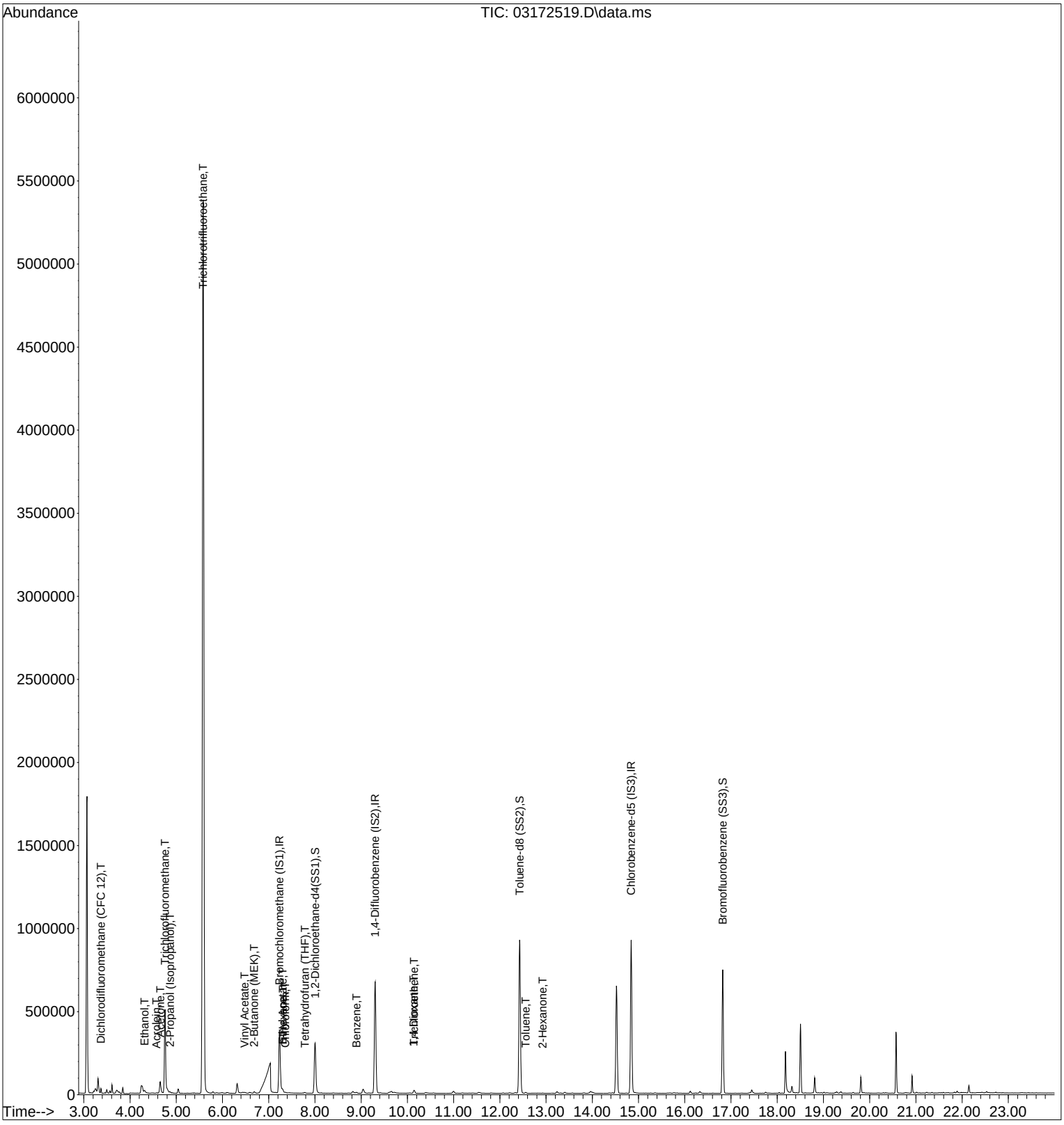
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	173053	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	734188	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	123550	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	255766	11.922	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.36%				
57) Toluene-d8 (SS2)	12.43	98	830367	12.398	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.20%				
73) Bromofluorobenzene (SS3)	16.82	174	258348	13.069	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.56%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.37	85	17472	0.498	ng		98
10) Ethanol	4.31	45	17772	1.291	ng		98
12) Acrolein	4.57	56	1552	0.125	ng		96
13) Acetone	4.65	58	27606	2.102	ng		97
14) Trichlorofluoromethane	4.76	101	406325	13.227	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	6394	0.149	ng	#	45
21) Trichlorotrifluoroethane	5.58	151	1952675	138.007	ng		99
26) Vinyl Acetate	6.48	86	1484	0.424	ng	#	85
27) 2-Butanone (MEK)	6.69	72	4439	0.385	ng		94
30) Ethyl Acetate	7.30	61	2962	0.458	ng		91
31) n-Hexane	7.31	57	1733	0.064	ng	#	87
32) Chloroform	7.36	83	2831	0.094	ng		97
34) Tetrahydrofuran (THF)	7.78	72	1327	0.120	ng	#	70
41) Benzene	8.90	78	6133	0.086	ng		95
47) Trichloroethene	10.14	130	7331	0.418	ng		98
48) 1,4-Dioxane	10.13	88	2939	0.239	ng		94
58) Toluene	12.56	91	4783	0.072	ng		99
59) 2-Hexanone	12.93	43	2124	0.075	ng	#	65

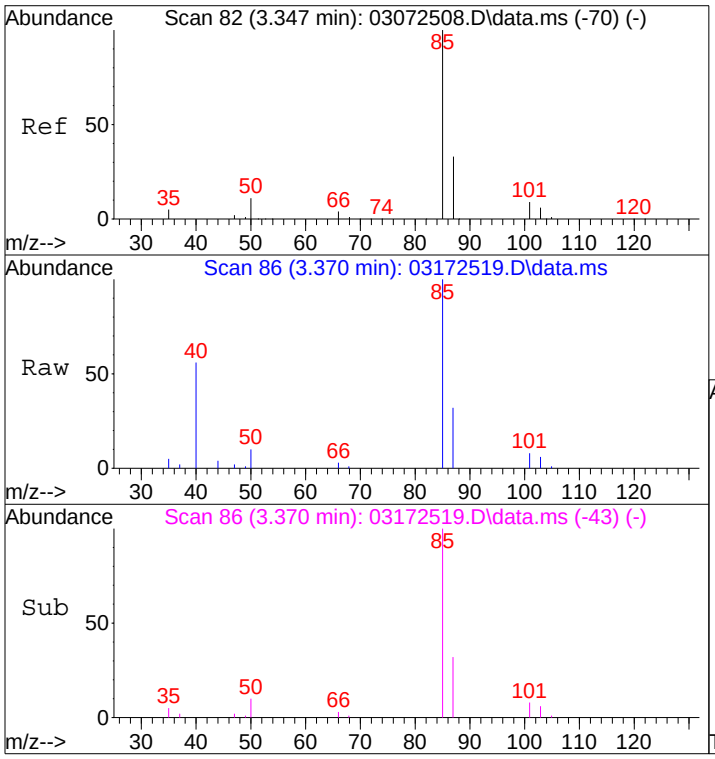
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 18 17:09:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

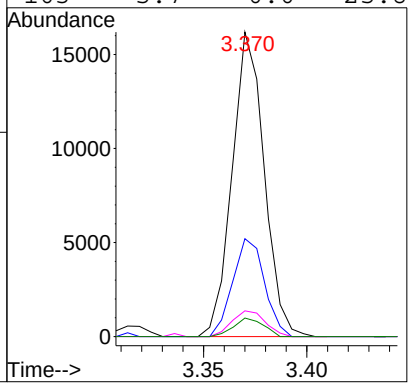


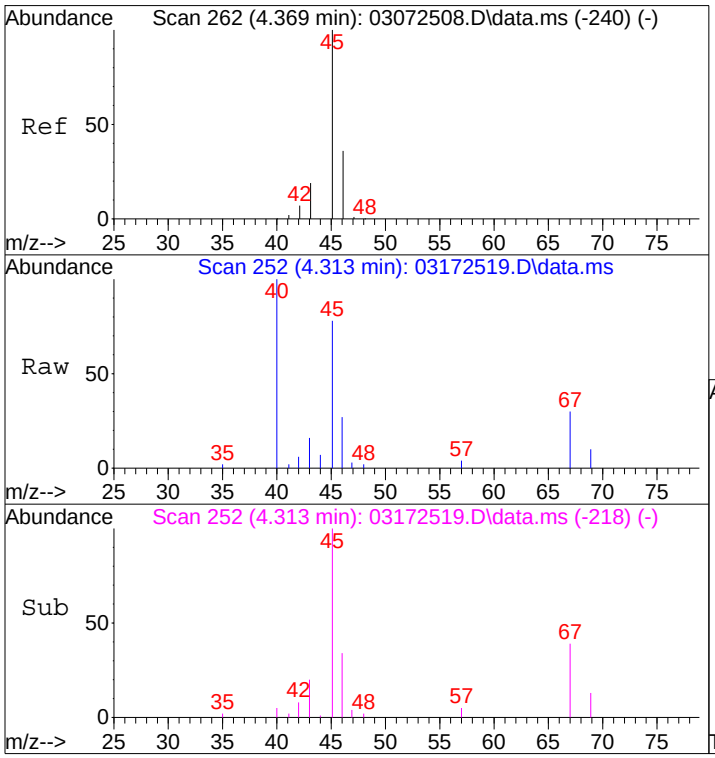


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.50 ng
RT: 3.37 min Scan# 86
Delta R.T. -0.003 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 85 Resp: 17472

Ion	Ratio	Lower	Upper
85	100		
87	31.8	13.2	53.2
101	8.9	0.0	28.9
103	5.7	0.0	25.8

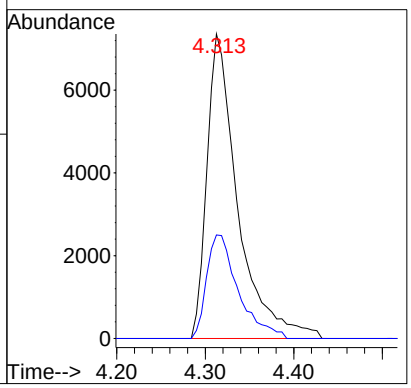


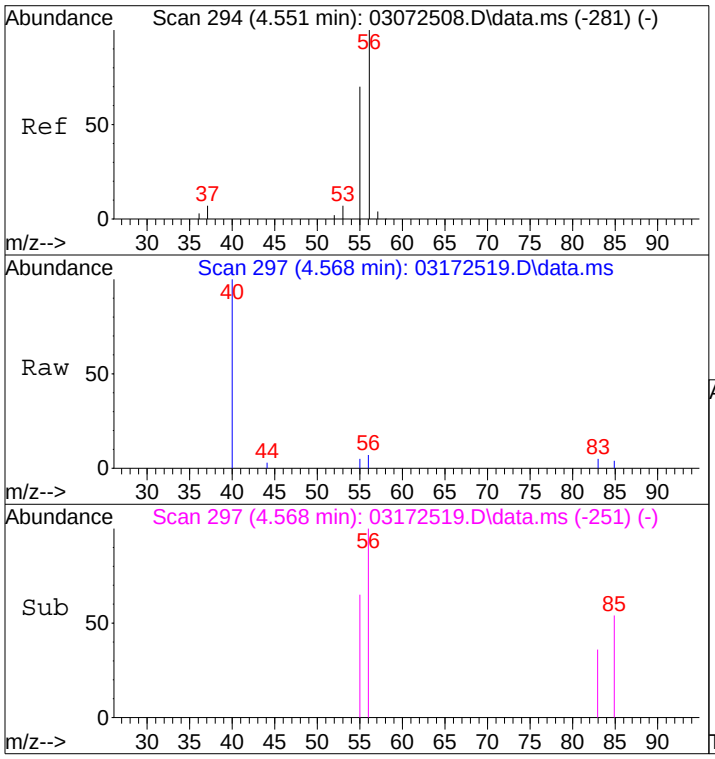


#10
Ethanol
Concen: 1.29 ng
RT: 4.31 min Scan# 252
Delta R.T. -0.057 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 45 Resp: 17772

Ion	Ratio	Lower	Upper
45	100		
46	34.9	16.1	56.1

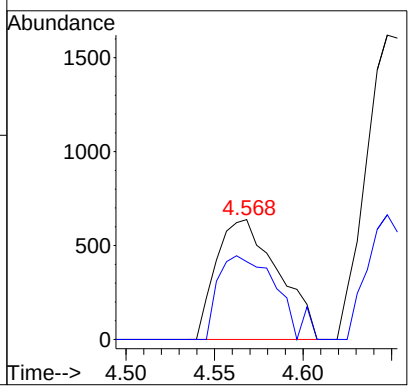


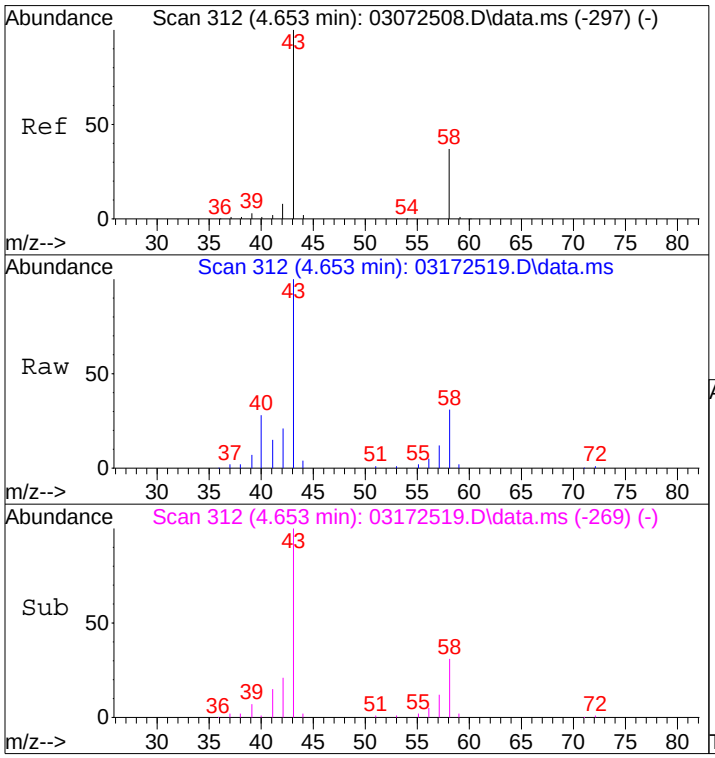


#12
Acrolein
Concen: 0.13 ng
RT: 4.57 min Scan# 297
Delta R.T. 0.011 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 56 Resp: 1552

Ion	Ratio	Lower	Upper
56	100		
55	66.2	49.6	89.6

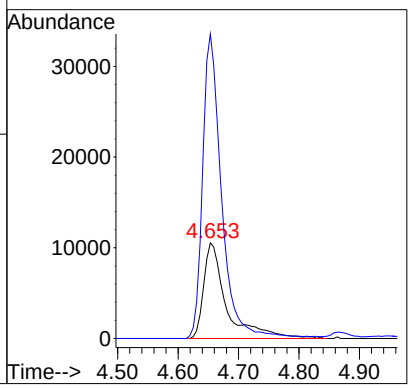


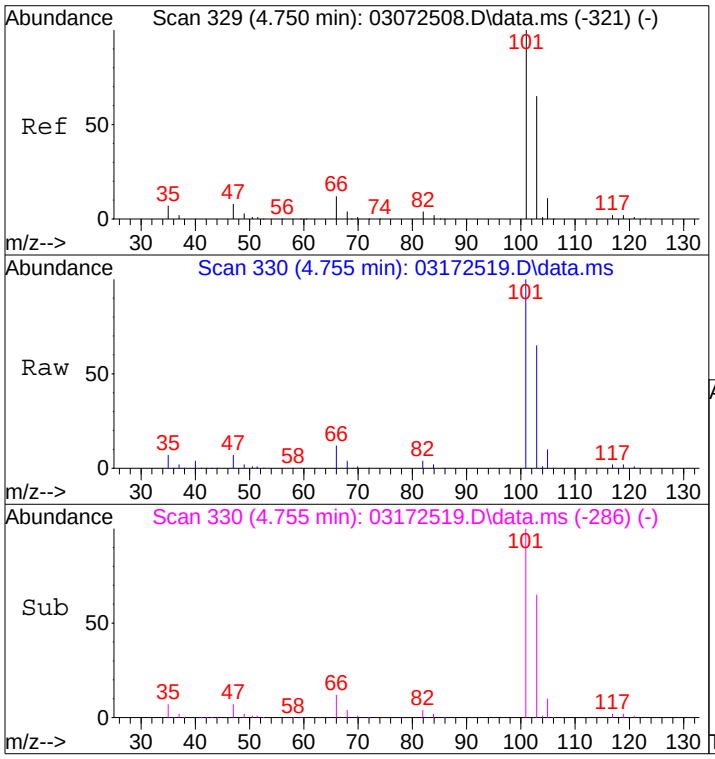


#13
Acetone
Concen: 2.10 ng
RT: 4.65 min Scan# 312
Delta R.T. -0.006 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 58 Resp: 27606

Ion	Ratio	Lower	Upper
58	100		
43	266.0	241.6	301.6

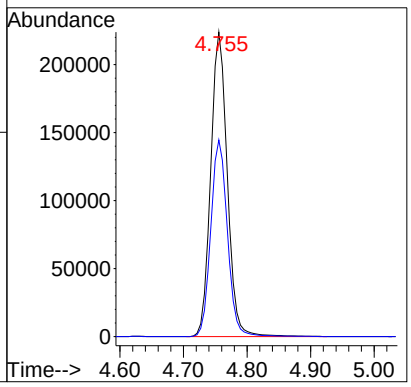


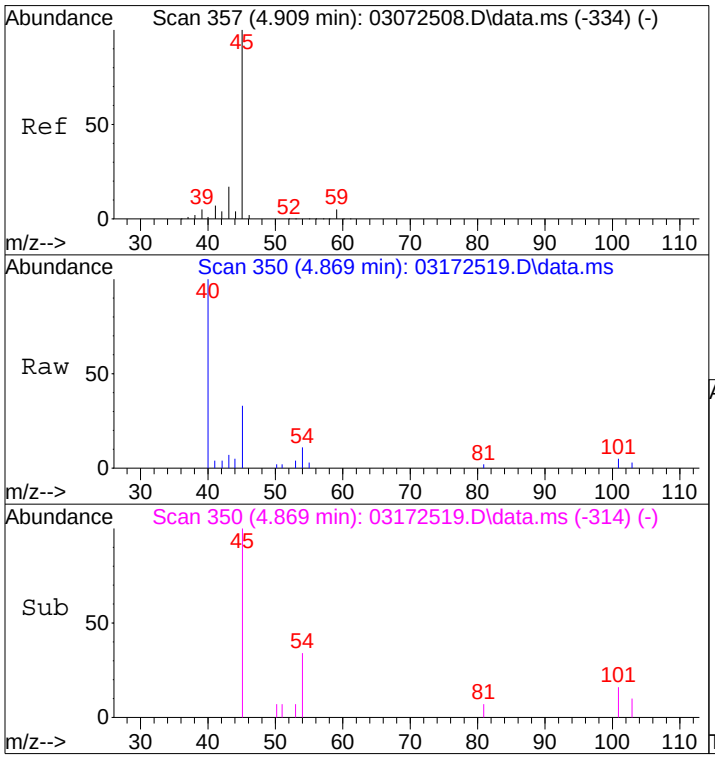


#14
Trichlorofluoromethane
Concen: 13.23 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.000 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion:101 Resp: 406325

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.7	84.7

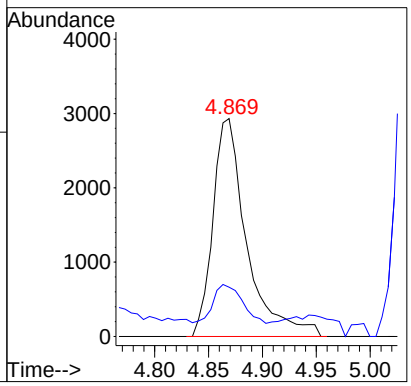


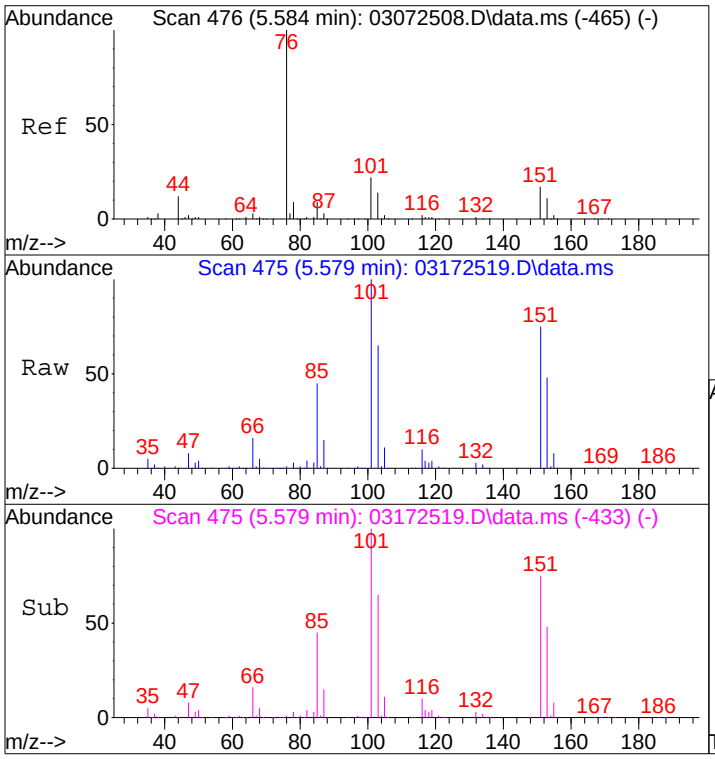


#15
2-Propanol (Isopropanol)
Concen: 0.15 ng
RT: 4.87 min Scan# 350
Delta R.T. -0.045 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 45 Resp: 6394

Ion	Ratio	Lower	Upper
45	100		
43	41.6	0.0	37.5#

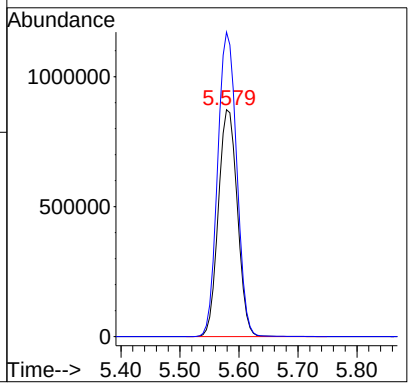


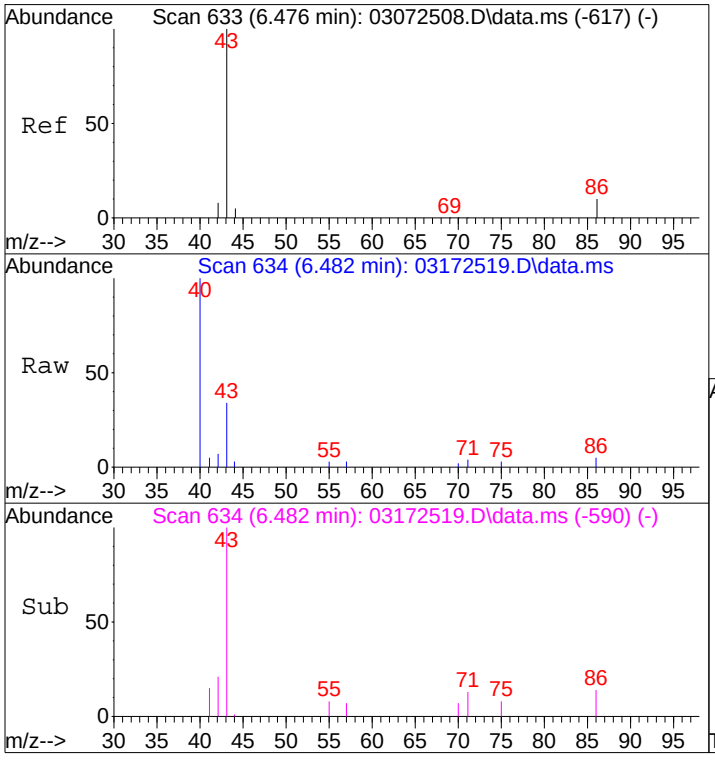


#21
Trichlorotrifluoroethane
Concen: 138.01 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.011 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion:151 Resp: 1952675

Ion	Ratio	Lower	Upper
151	100		
101	134.2	112.5	152.5

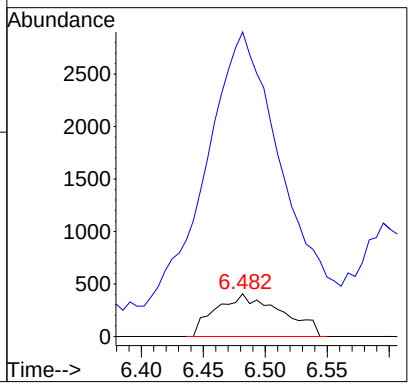


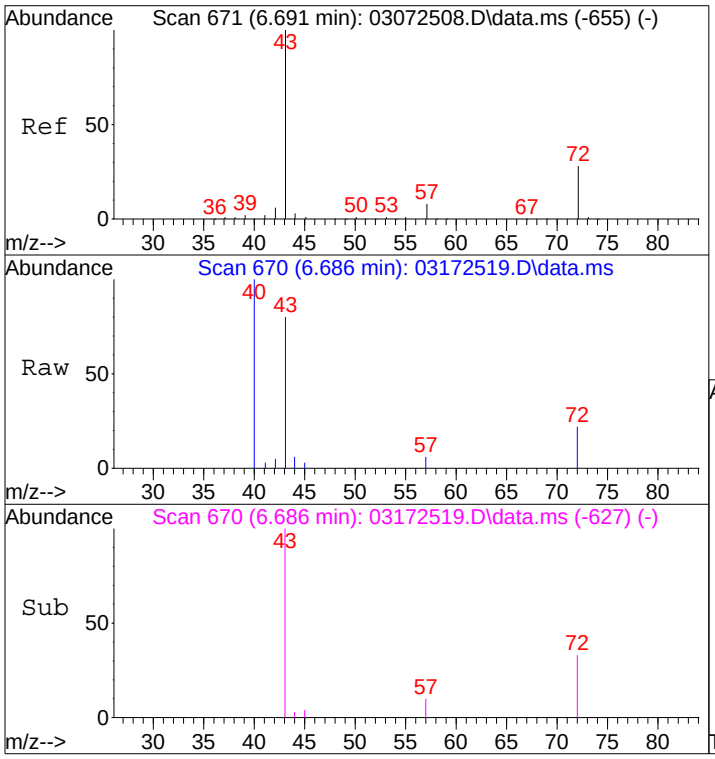


#26
Vinyl Acetate
Concen: 0.42 ng
RT: 6.48 min Scan# 634
Delta R.T. 0.000 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 86 Resp: 1484

Ion	Ratio	Lower	Upper
86	100		
43	959.8	1007.7	1047.7#

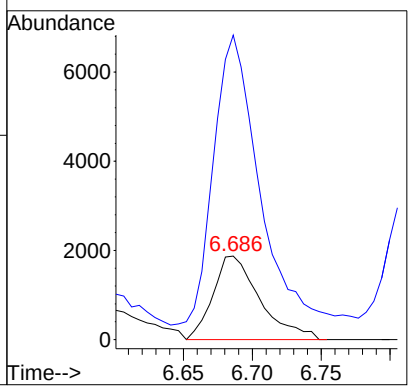


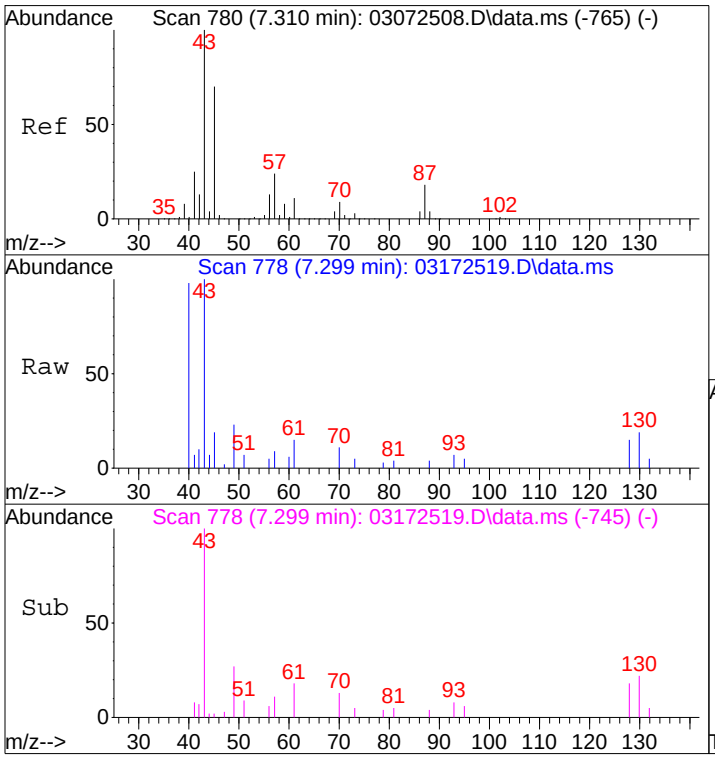


#27
2-Butanone (MEK)
Concen: 0.38 ng
RT: 6.69 min Scan# 670
Delta R.T. -0.006 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 72 Resp: 4439

Ion	Ratio	Lower	Upper
72	100		
43	341.2	335.4	375.4

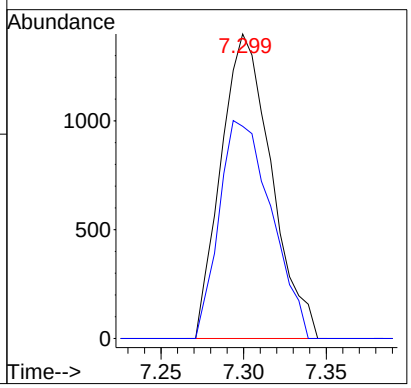


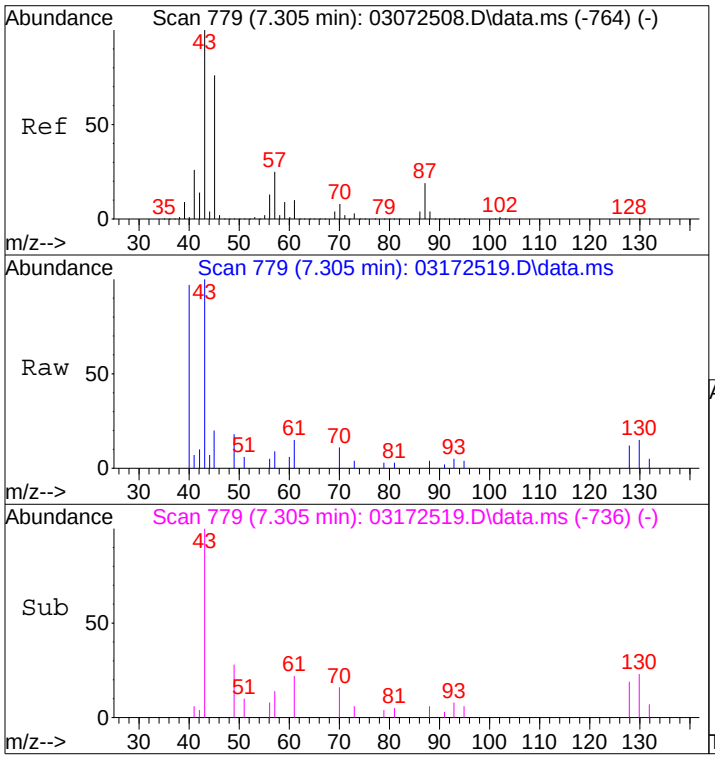


#30
Ethyl Acetate
Concen: 0.46 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.011 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 61 Resp: 2962

Ion	Ratio	Lower	Upper
61	100		
70	74.1	62.6	102.6

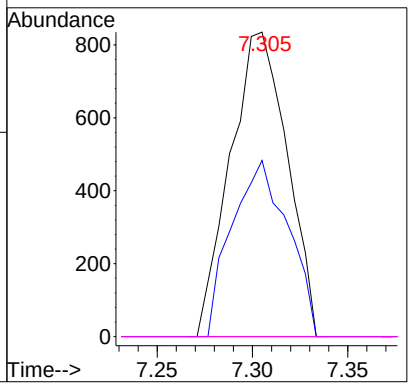


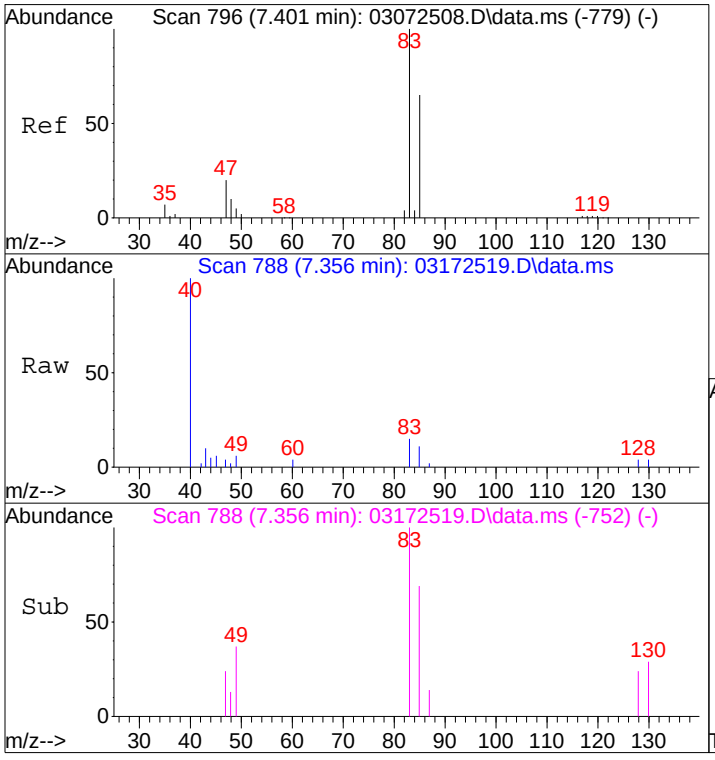


#31
n-Hexane
Concen: 0.06 ng
RT: 7.31 min Scan# 779
Delta R.T. -0.006 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 57 Resp: 1733

Ion	Ratio	Lower	Upper
57	100		
56	57.2	41.8	62.8
86	0.0	11.5	17.3#

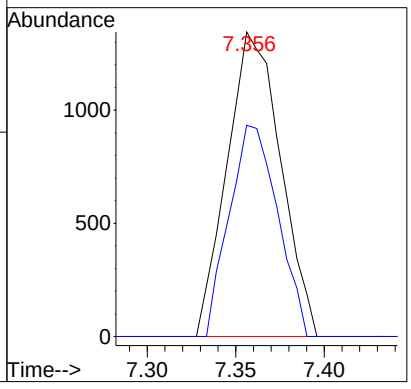


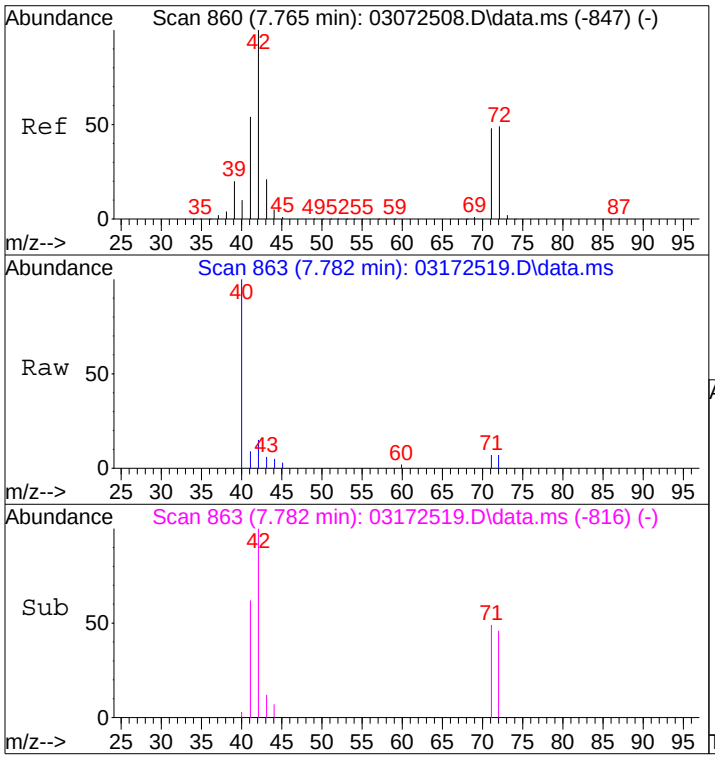


#32
Chloroform
Concen: 0.09 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.045 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 83 Resp: 2831

Ion	Ratio	Lower	Upper
83	100		
85	62.6	44.9	84.9

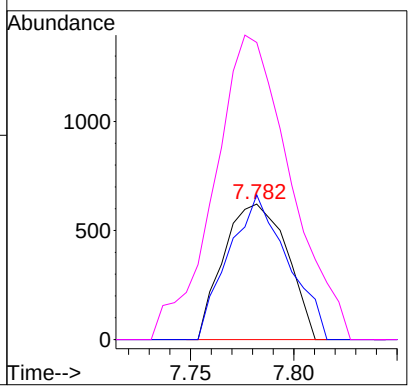


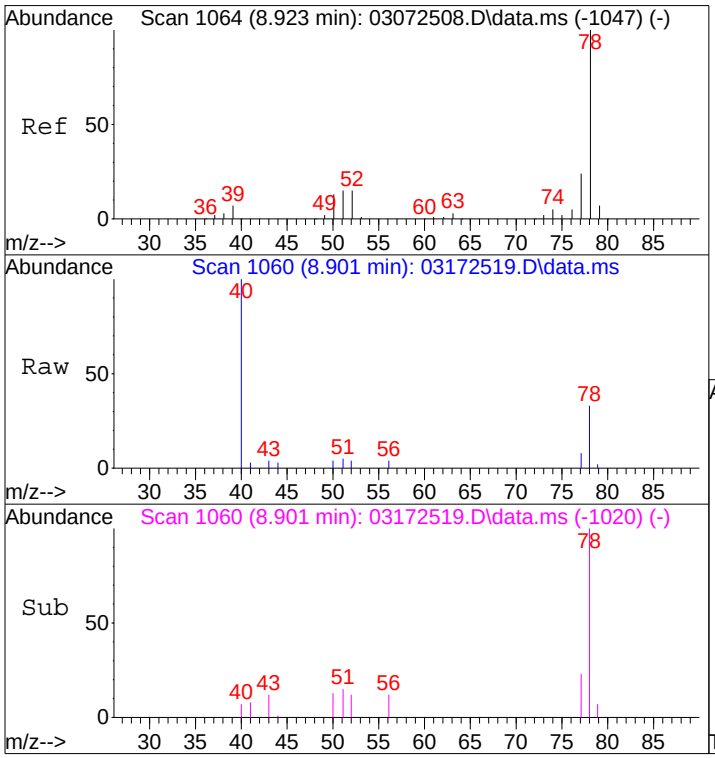


#34
Tetrahydrofuran (THF)
Concen: 0.12 ng
RT: 7.78 min Scan# 863
Delta R.T. 0.017 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 72 Resp: 1327

Ion	Ratio	Lower	Upper
72	100		
71	99.3	77.6	117.6
42	270.2	183.2	223.2#

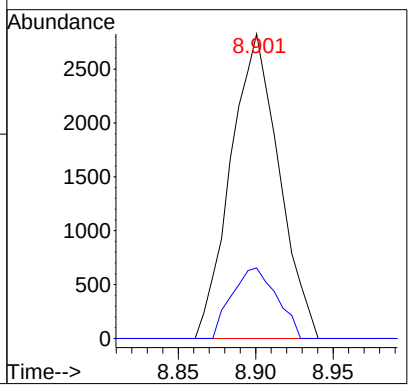


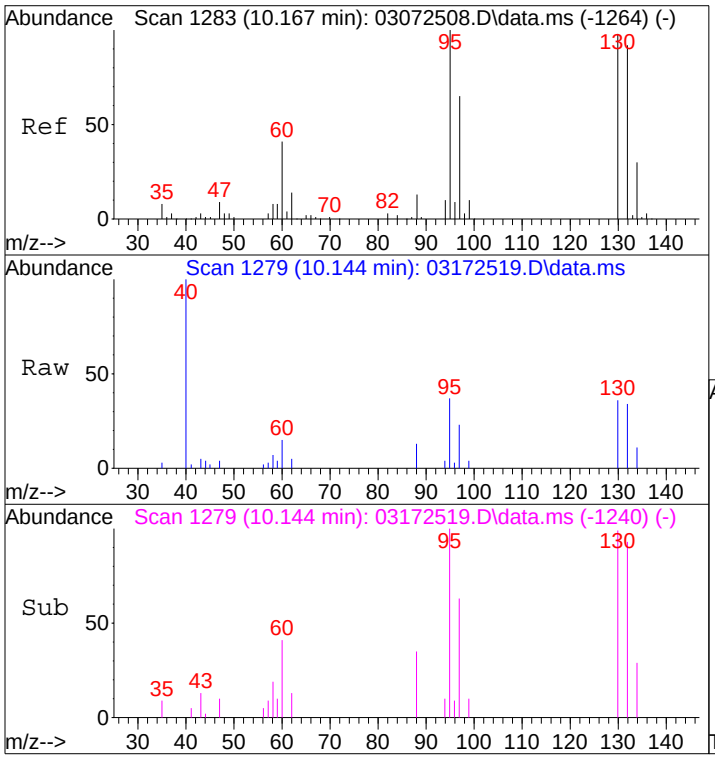


#41
Benzene
Concen: 0.09 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.023 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 78 Resp: 6133

Ion	Ratio	Lower	Upper
78	100		
77	21.6	3.9	43.9

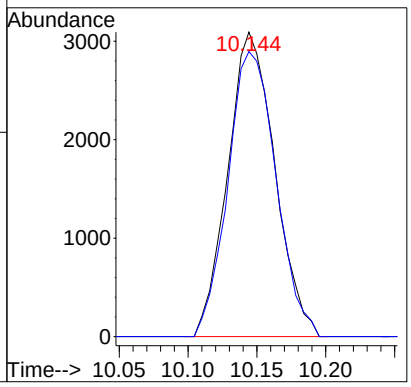


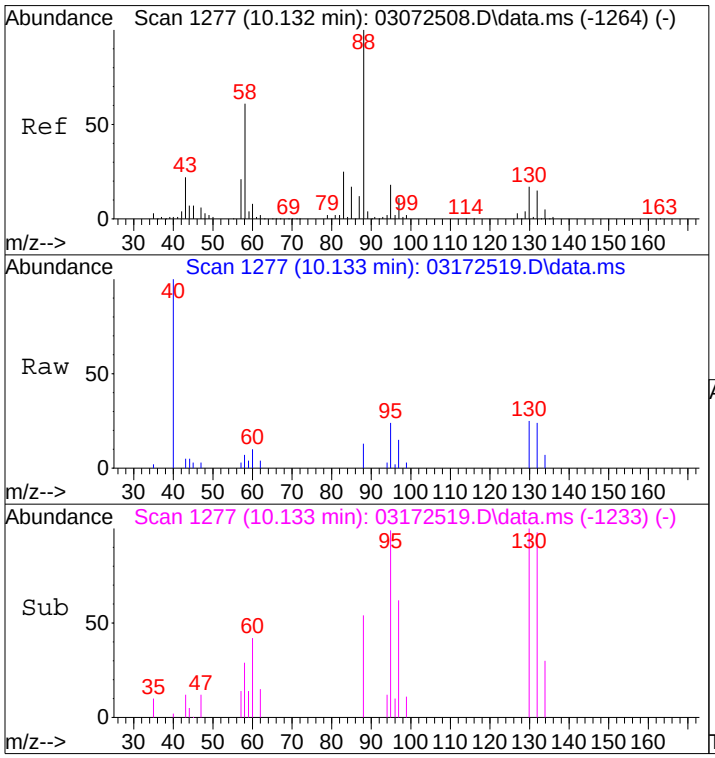


#47
Trichloroethene
Concen: 0.42 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.028 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion:130 Resp: 7331

Ion	Ratio	Lower	Upper
130	100		
132	95.8	74.1	114.1

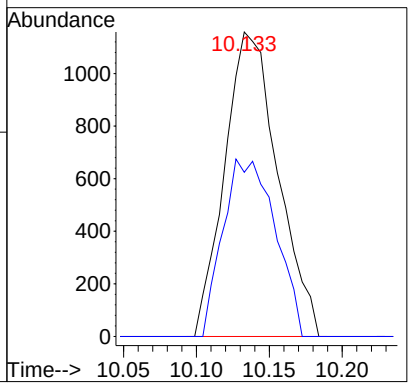


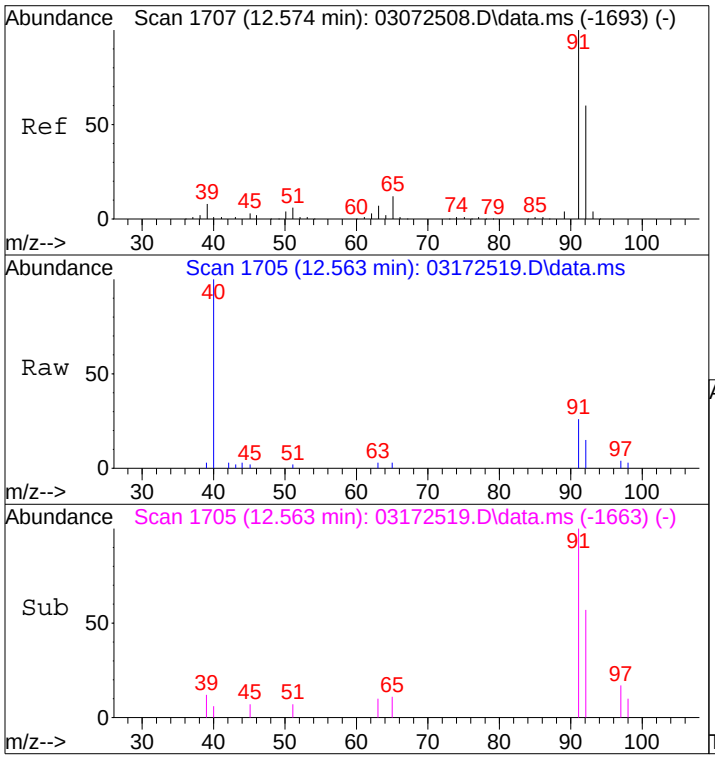


#48
1,4-Dioxane
Concen: 0.24 ng
RT: 10.13 min Scan# 1277
Delta R.T. 0.000 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 88 Resp: 2939

Ion	Ratio	Lower	Upper
88	100		
58	57.0	41.3	81.3

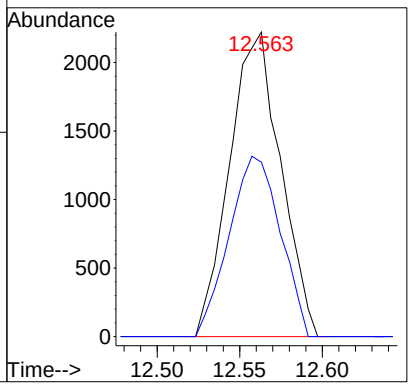


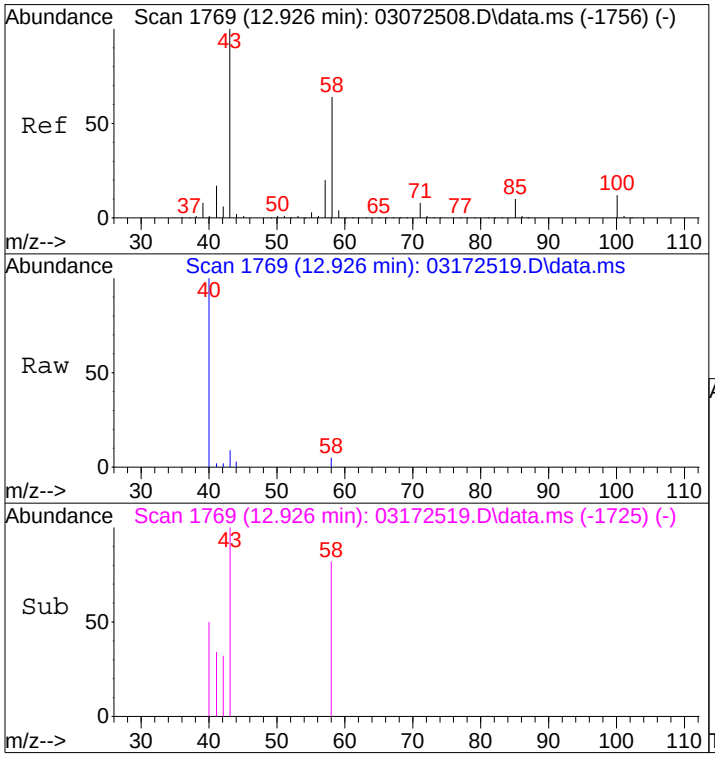


#58
Toluene
Concen: 0.07 ng
RT: 12.56 min Scan# 1705
Delta R.T. -0.011 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 91 Resp: 4783

Ion	Ratio	Lower	Upper
91	100		
92	59.2	39.7	79.7

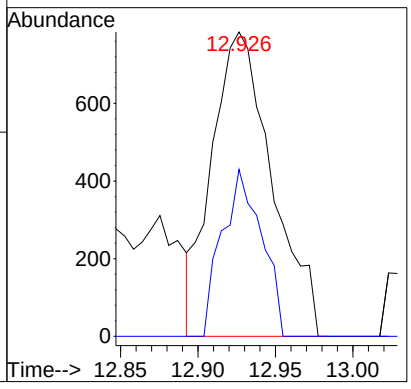




#59
2-Hexanone
Concen: 0.07 ng
RT: 12.93 min Scan# 1769
Delta R.T. 0.000 min
Lab File: 03172519.D
Acq: 18 Mar 2025 15:48

Tgt Ion: 43 Resp: 2124

Ion	Ratio	Lower	Upper
43	100		
58	36.1	43.6	83.6#



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

NOA 3/19/25

Quant Time: Mar 19 06:55:15 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

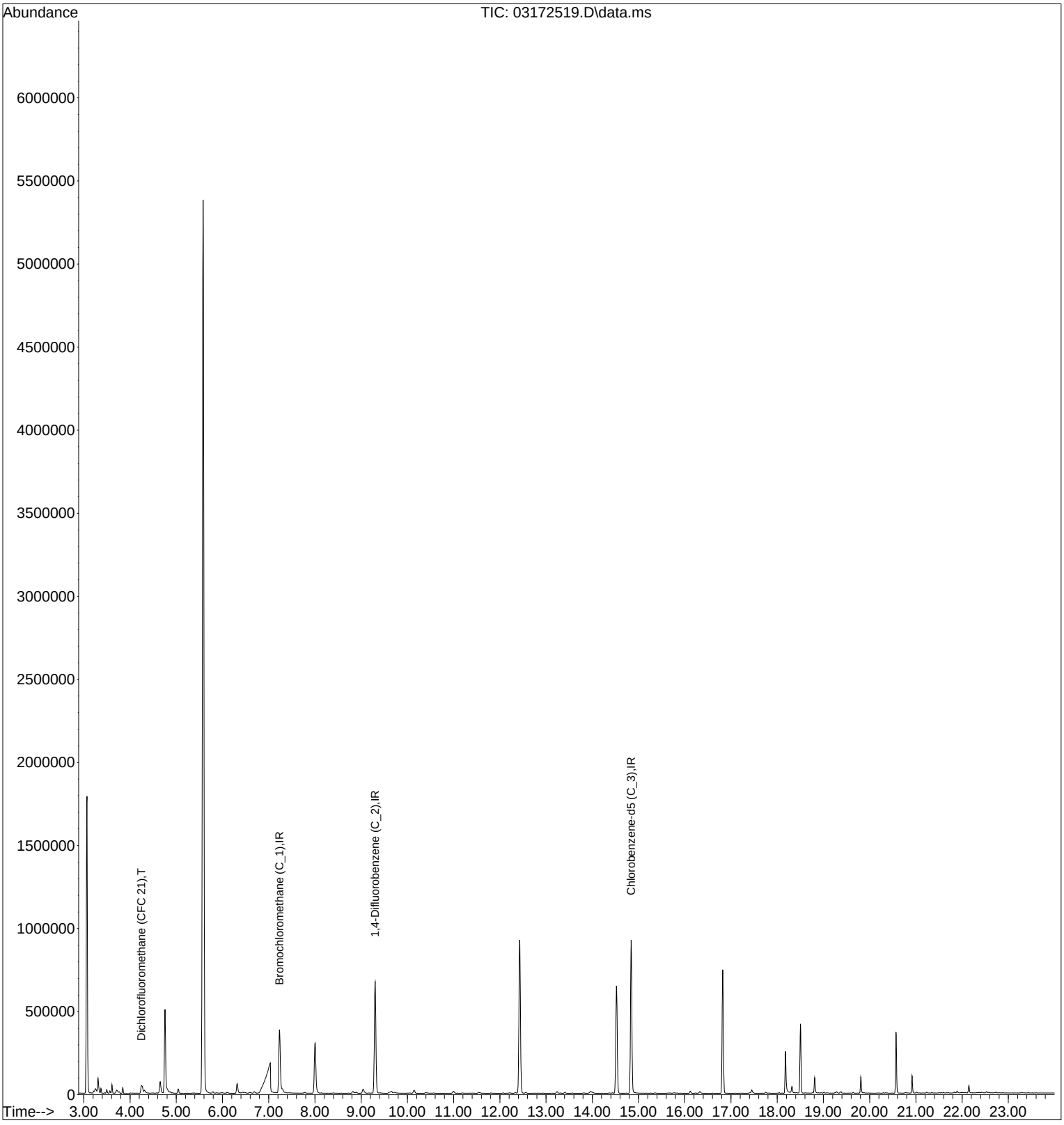
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	174597	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	734188	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	123550	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.15	85	153	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	1119	N.D.	
4) 1,1-Difluoroethane	3.25	65	690	N.D.	
5) Chlorodifluoromethane ...	3.31	67	332	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.51	65	358	N.D.	
7) Dichlorofluoromethane ...	4.24	67	84541m	2.934 ng	
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.58	83	1333	N.D.	
10) 2-Methylbutane	0.00	57	0	N.D. d	
11) Methyl Acetate	5.36	43	686	N.D.	
12) 2-Methylpentane	6.48	71	684	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	1932	N.D.	
17) 2,3-Dimethylpentane	9.66	56	1386	N.D.	
18) Dibromomethane	9.80	174	174	N.D.	
20) Methyl Cyclohexane	11.41	55	294	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	360	N.D.	
25) Bromobenzene	0.00	77	0	N.D.	
26) 2-Chlorotoluene	17.68	91	307	N.D.	
27) 4-Chlorotoluene	17.68	91	307	N.D.	
28) Indane	19.01	117	317	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...	20.57	119	1101	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)

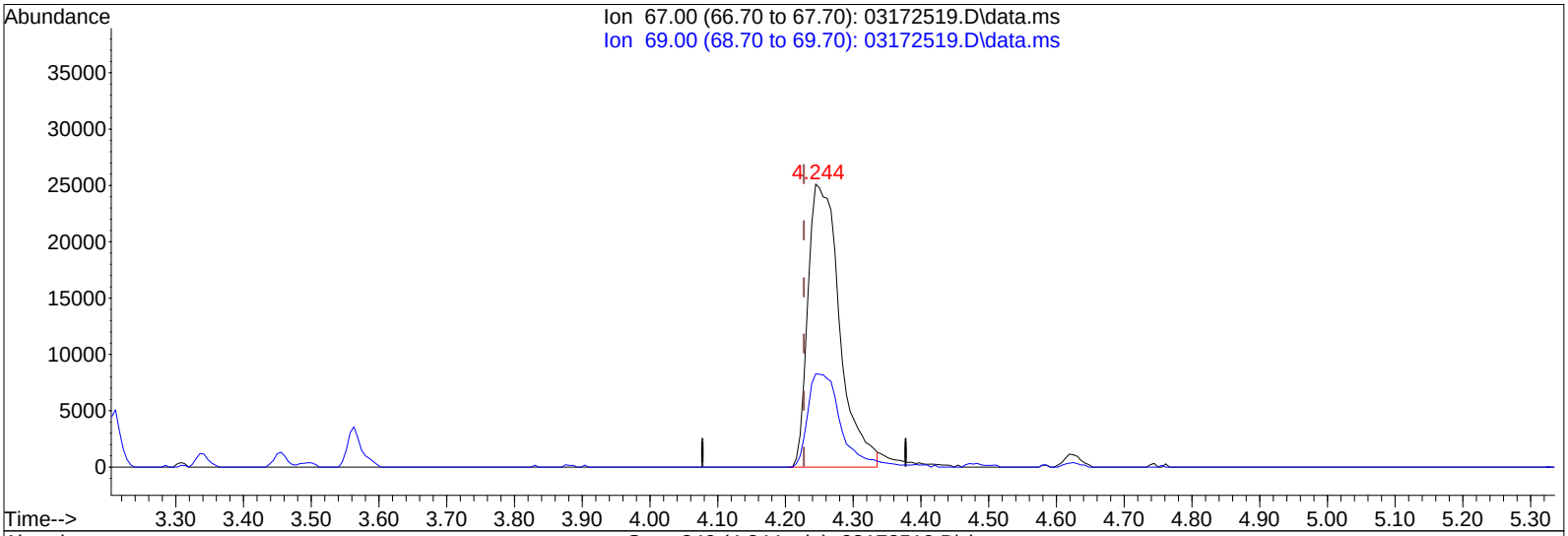
Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

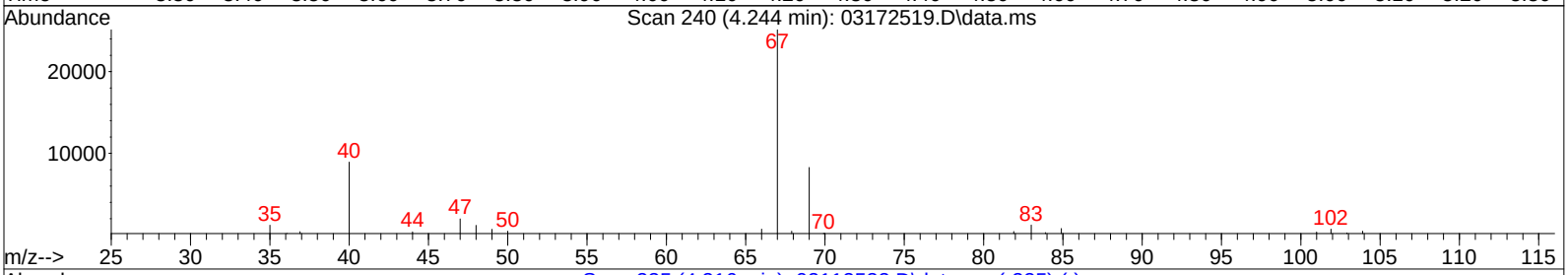
Quant Time: Mar 19 06:55:15 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

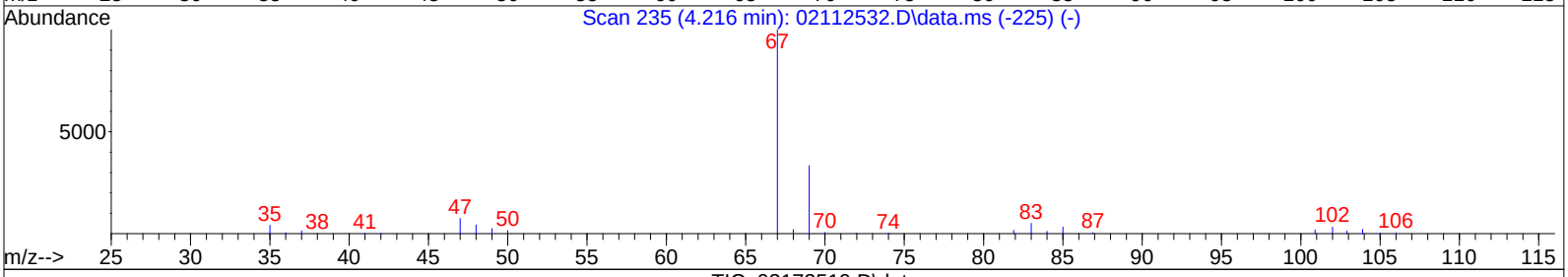


Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 19 06:34:38 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172519.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.244min (+0.017) 2.83ng

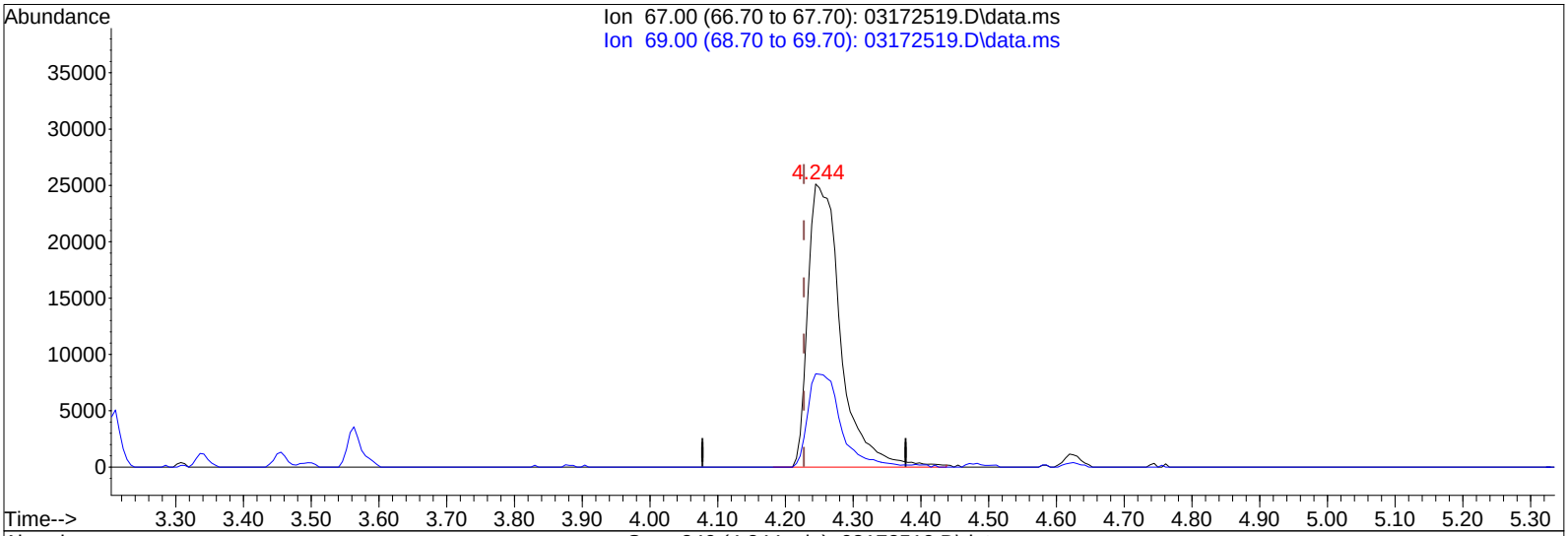
response 81667

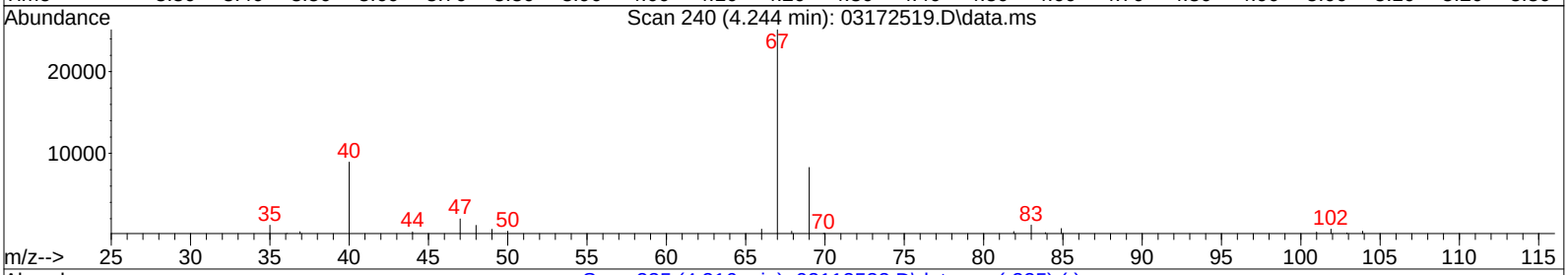
Ion	Exp%	Act%
67.00	100	100
69.00	33.30	33.45
0.00	0.00	0.00
0.00	0.00	0.00

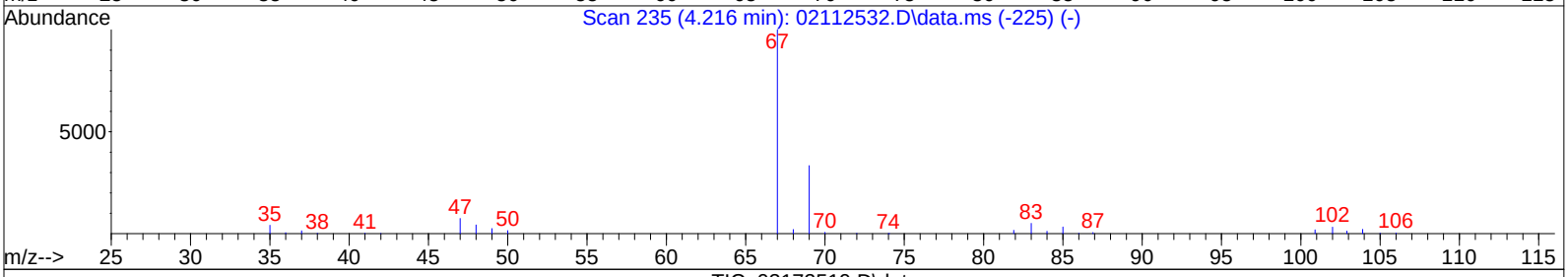
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 19 06:50:27 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172519.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.244min (+0.017) 2.93ng m

response 84541

Ion	Exp%	Act%
67.00	100	100
69.00	33.30	32.32
0.00	0.00	0.00
0.00	0.00	0.00

IC-

3/19/25

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172526.D
Acq On : 18 Mar 2025 19:34
Operator : SC
Sample : P2500665-002Dil (40mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 19 06:18:56 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	161355	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	681105	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	112384	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	233575	11.677	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.44%				
57) Toluene-d8 (SS2)	12.43	98	763315	12.530	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.24%				
73) Bromofluorobenzene (SS3)	16.82	174	237650	13.216	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.76%				
Target Compounds							Qvalue
2) Propene	3.33	42	463	N.D.			
3) Dichlorodifluoromethan...	3.40	85	1337	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	1231	0.096	ng		72
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.66	58	2148	0.175	ng	#	84
14) Trichlorofluoromethane	4.77	101	33533	1.171	ng		98
15) 2-Propanol (Isopropanol)	4.89	45	111	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	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	172972	13.111	ng		99
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	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	8.87	56	473	No Calib		#	
41) Benzene	8.89	78	1480	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	539	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	466	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172526.D
Acq On : 18 Mar 2025 19:34
Operator : SC
Sample : P2500665-002Dil (40mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 19 06:18:56 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

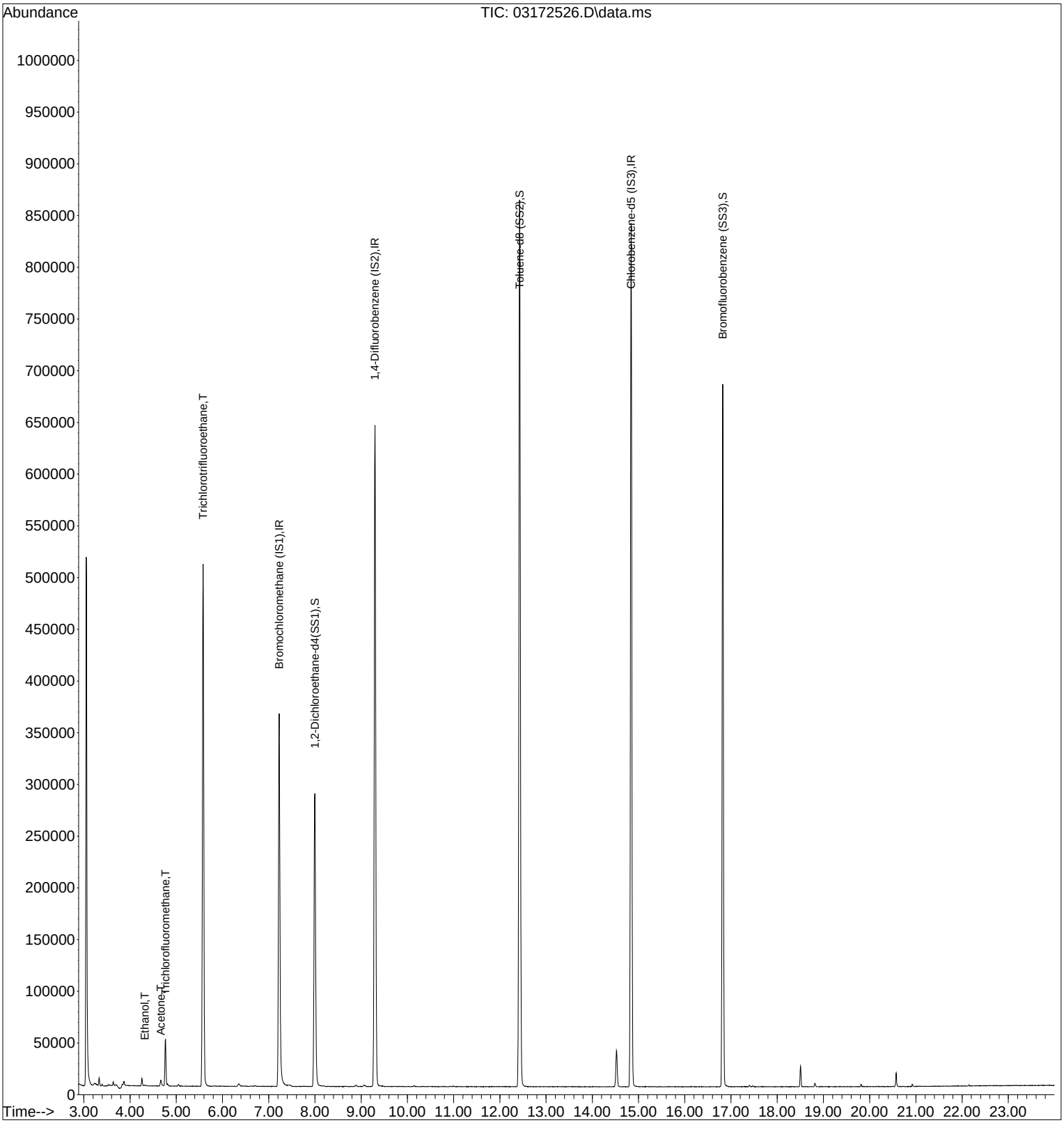
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0			N.D.
50) Methyl Methacrylate	0.00	100	0			N.D.
51) n-Heptane	0.00	71	0			N.D.
52) cis-1,3-Dichloropropene	0.00	75	0			N.D.
53) 4-Methyl-2-pentanone	0.00	58	0			N.D.
54) trans-1,3-Dichloropropene	0.00	75	0			N.D.
55) 1,1,2-Trichloroethane	0.00	97	0			N.D.
58) Toluene	12.56	91	331			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	0.00	91	0			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	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	0.00	180	0			N.D.
95) Naphthalene	0.00	128	0			N.D.
96) n-Dodecane	0.00	58	0			N.D.
97) Hexachlorobutadiene	0.00	225	0			N.D.
98) Cyclohexanone	0.00	55	0			N.D.
99) tert-Butylbenzene	18.50	119	443			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 Path : I:\MS09\DATA\2025 03\17\
Data File : 03172526.D
Acq On : 18 Mar 2025 19:34
Operator : SC
Sample : P2500665-002Dil (40mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

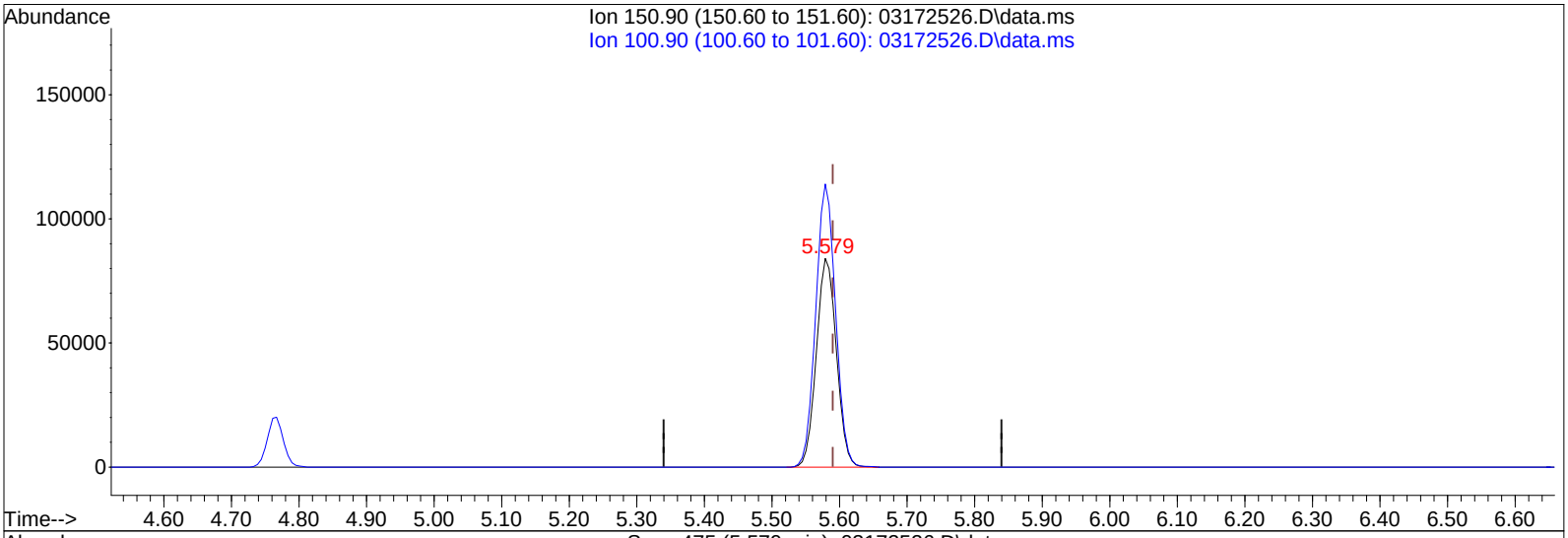
Quant Time: Mar 19 06:18:56 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

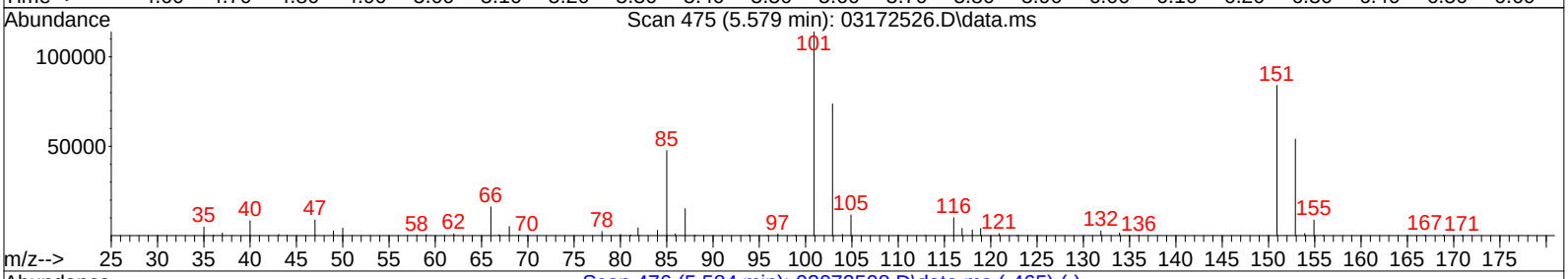


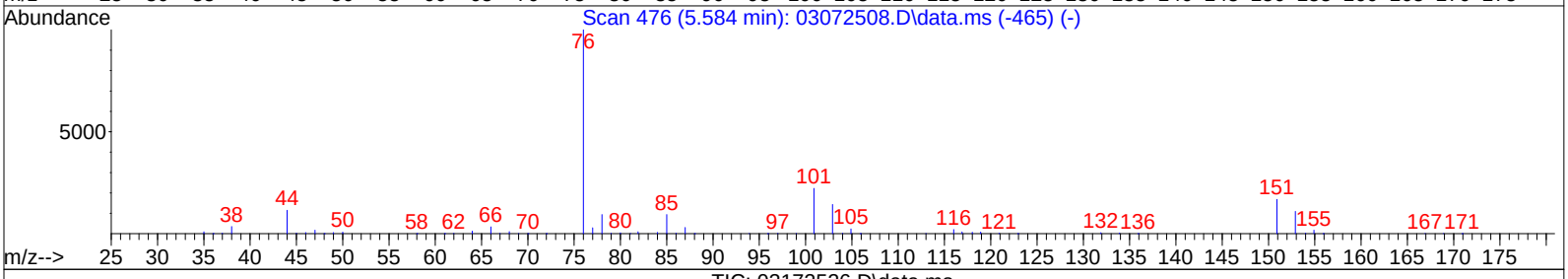
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172526.D
Acq On : 18 Mar 2025 19:34
Operator : SC
Sample : P2500665-002Dil (40mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 18 20:27:28 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03172526.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.011) 13.11ng

response 172972

Ion	Exp%	Act%
150.90	100	100
100.90	132.50	134.23
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172519.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.211	54	58	60	rBV	11700	15214	0.13%	0.054%
2	3.251	60	65	70	rVV	27137	64990	0.54%	0.231%
3	3.308	70	75	83	rVV	89194	154933	1.29%	0.550%
4	3.370	83	86	93	rVB	28248	30229	0.25%	0.107%
5	3.495	104	108	115	rVV	21716	29293	0.24%	0.104%
6	3.563	115	120	124	rVV	14991	20955	0.17%	0.074%
7	3.608	124	128	137	rVV	50943	63979	0.53%	0.227%
8	3.711	138	146	154	rVV	19760	62524	0.52%	0.222%
9	3.767	154	156	164	rVV	10493	14786	0.12%	0.052%
10	3.841	164	169	177	rVB	36442	48660	0.40%	0.173%
11	4.012	188	199	203	rBV4	4437	13203	0.11%	0.047%
12	4.244	234	240	249	rBV	45359	135894	1.13%	0.482%
13	4.313	249	252	263	rVB	16402	35957	0.30%	0.128%
14	4.653	303	312	322	rBV2	68249	141805	1.18%	0.503%
15	4.756	322	330	346	rVV	503235	969495	8.07%	3.442%
16	4.863	346	349	356	rVB2	7866	13096	0.11%	0.046%
17	5.039	375	380	388	rBV	26099	42708	0.36%	0.152%
18	5.579	464	475	500	rBV	5377867	12014919	100.00%	42.654%
19	5.789	506	512	521	rVB	8569	17758	0.15%	0.063%
20	6.096	563	566	578	rVB2	5031	11340	0.09%	0.040%
21	6.317	598	605	619	rBV	58467	130074	1.08%	0.462%
22	6.431	619	625	631	rBV5	4288	11246	0.09%	0.040%
23	6.590	646	653	663	rBV4	4668	13264	0.11%	0.047%
24	6.686	664	670	682	rVB	9609	21495	0.18%	0.076%
25	7.032	686	731	748	rBV	179794	1296532	10.79%	4.603%
26	7.231	757	766	797	rVB	380784	937469	7.80%	3.328%
27	8.003	892	902	922	rBV	303122	724878	6.03%	2.573%
28	8.821	1039	1046	1054	rBV3	10884	28977	0.24%	0.103%
29	8.901	1054	1060	1069	rVB3	5713	14392	0.12%	0.051%
30	9.043	1078	1085	1103	rBV2	24123	64845	0.54%	0.230%
31	9.304	1120	1131	1146	rBV	669554	1562116	13.00%	5.546%
32	9.656	1177	1193	1198	rBV3	11223	46142	0.38%	0.164%
33	9.713	1199	1203	1217	rVB4	4947	15577	0.13%	0.055%
34	10.144	1272	1279	1289	rVB4	18622	46204	0.38%	0.164%
35	10.394	1317	1323	1337	rBV3	4397	14613	0.12%	0.052%
36	10.996	1421	1429	1438	rVB2	12249	31466	0.26%	0.112%
37	11.547	1519	1526	1539	rBV5	5626	18461	0.15%	0.066%
38	12.336	1658	1665	1671	rBV4	3990	10560	0.09%	0.037%
39	12.427	1671	1681	1698	rVV	923123	2116033	17.61%	7.512%
40	12.563	1699	1705	1716	rVB2	5673	12256	0.10%	0.044%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

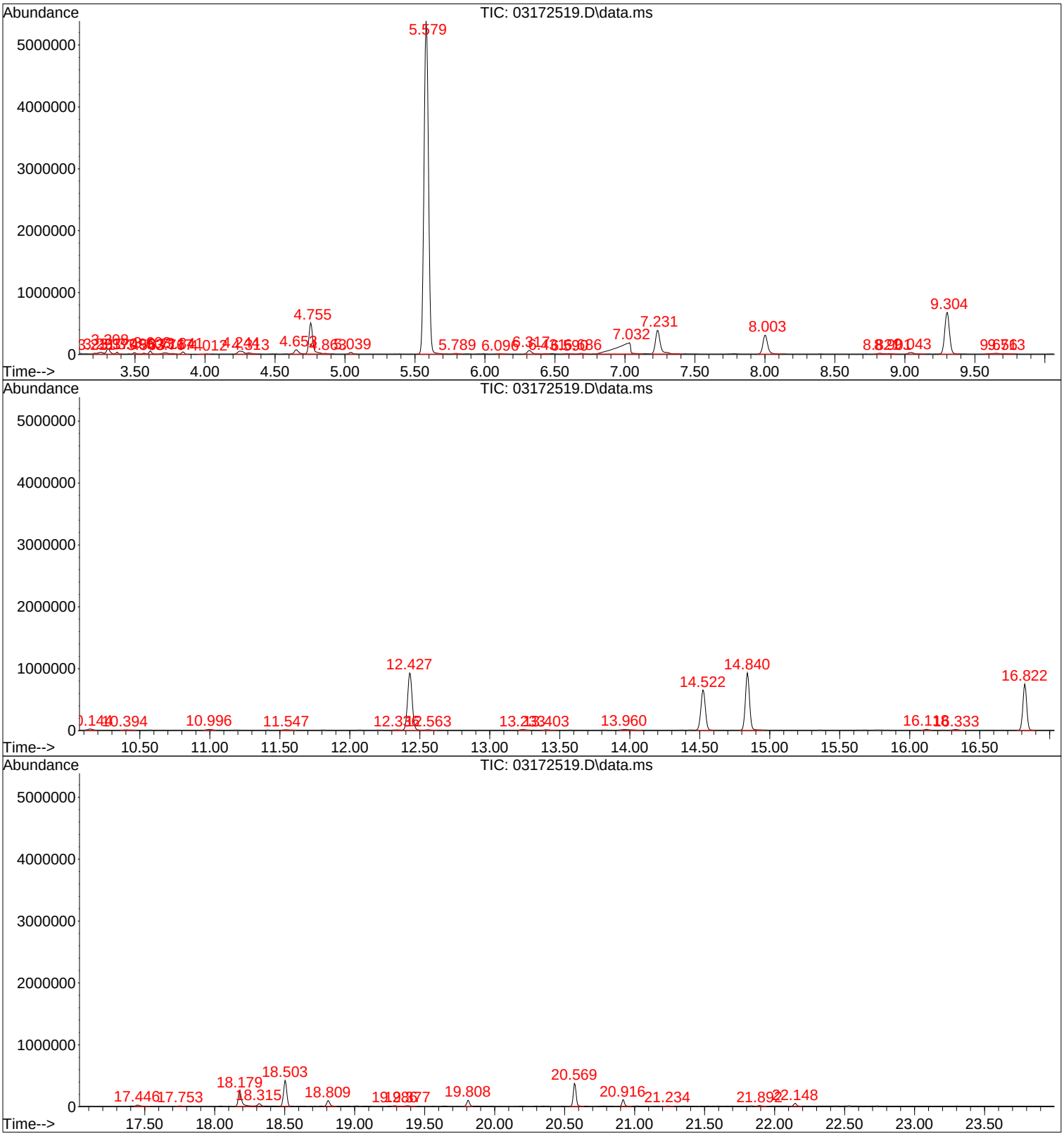
41	13.233	1817	1823	1833	rBV3	10307	24921	0.21%	0.088%
42	13.403	1847	1853	1865	rBV4	6522	14454	0.12%	0.051%
43	13.960	1945	1951	1974	rVB3	11679	44088	0.37%	0.157%
44	14.522	2041	2050	2064	rBV	646898	1434152	11.94%	5.091%
45	14.840	2096	2106	2126	rBV	921732	1910320	15.90%	6.782%
46	16.118	2325	2331	2338	rVB4	12572	23137	0.19%	0.082%
47	16.333	2360	2369	2379	rVB3	10066	23886	0.20%	0.085%
48	16.822	2445	2455	2469	rBV	744423	1411152	11.74%	5.010%
49	17.446	2561	2565	2581	rVB2	19893	42897	0.36%	0.152%
50	17.753	2613	2619	2626	rBV3	6592	13332	0.11%	0.047%
51	18.179	2688	2694	2712	rBV	252060	429782	3.58%	1.526%
52	18.315	2713	2718	2724	rVB	37407	61773	0.51%	0.219%
53	18.503	2744	2751	2758	rVB	415949	665919	5.54%	2.364%
54	18.809	2799	2805	2816	rVB	91898	137701	1.15%	0.489%
55	19.286	2885	2889	2897	rVB3	9007	15991	0.13%	0.057%
56	19.377	2897	2905	2915	rVB4	8796	19687	0.16%	0.070%
57	19.809	2975	2981	2987	rBV2	97230	134553	1.12%	0.478%
58	20.569	3109	3115	3127	rBV2	368069	512943	4.27%	1.821%
59	20.916	3172	3176	3187	rVB	105045	131339	1.09%	0.466%
60	21.234	3226	3232	3240	rBV5	5589	12036	0.10%	0.043%
61	21.892	3342	3348	3357	rBV5	11102	18084	0.15%	0.064%
62	22.148	3387	3393	3401	rBV	45718	67917	0.57%	0.241%

Sum of corrected areas: 28168402

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:48
Operator : SC
Sample : P2500665-002 (400mL)
Misc : S38-03052512
ALS Vial : 5 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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\2025 03\17\\
Data File : 03172519.D
Acq On : 18 Mar 2025 15:488
Operator : SCC
Sample : P2500665-002 (400mL))
Misc : S38-030525122
ALS Vial : 5 Sample Multiplier: 11

Quant Method : I:\MS09\METHODS\R09030725.MM
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS))

VOA 3/18/25

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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 18 17:13:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	173942	12.500 ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.30	114	737129	12.500 ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	123041	12.500 ng		-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	254704	11.812 ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%			
57) Toluene-d8 (SS2)	12.43	98	833478	12.496 ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%			
73) Bromofluorobenzene (SS3)	16.82	174	258731	13.143 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.38	85	18746	0.531 ng		92
4) Chloromethane	3.51	50	4630	0.250 ng		94
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	459	N.D.		
6) Vinyl Chloride	3.70	62	1244	0.051 ng		94
7) 1,3-Butadiene	3.77	54	344	N.D.		
8) Bromomethane	4.03	94	1135	0.068 ng		99
9) Chloroethane	4.16	64	1740	0.137 ng		87
10) Ethanol	4.31	45	13862	1.002 ng		90
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.56	56	1684	0.135 ng		99
13) Acetone	4.65	58	34996	2.651 ng	#	61
14) Trichlorofluoromethane	4.76	101	1829151	59.239 ng		99
15) 2-Propanol (Isopropanol)	4.86	45	10068	0.233 ng		91
16) Acrylonitrile	0.00	53	0	N.D. d		
17) 1,1-Dichloroethene	5.27	96	306	N.D.		
18) 2-Methyl-2-Propanol (t...	0.00	59	0	N.D. d		
19) Methylene Chloride	5.37	84	2136	0.109 ng		96
20) 3-Chloro-1-propene (Al...	5.40	41	1233	N.D.		
21) Trichlorotrifluoroethane	5.60	151	6179235	434.492 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)	6.68	72	4073	0.351 ng	#	85
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	7131	1.096 ng		96
31) n-Hexane	7.30	57	8801	0.322 ng		95
32) Chloroform	7.36	83	50365	1.670 ng		100
34) Tetrahydrofuran (THF)	7.78	72	598	0.054 ng	#	74
35) Ethyl tert-Butyl Ether	0.00	87	0	N.D.		
36) 1,2-Dichloroethane	8.12	62	449	N.D.		
38) 1,1,1-Trichloroethane	0.00	97	0	N.D.		
39) Isopropyl Acetate	9.57	61	782	No Calib	#	
40) 1-Butanol	8.82	56	9233	No Calib		
41) Benzene	8.91	78	27219	0.382 ng		98
42) Carbon Tetrachloride	9.08	117	419	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	10.15	130	21532	1.223 ng		97
48) 1,4-Dioxane	10.14	88	879	0.071 ng		95

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 18 17:13:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

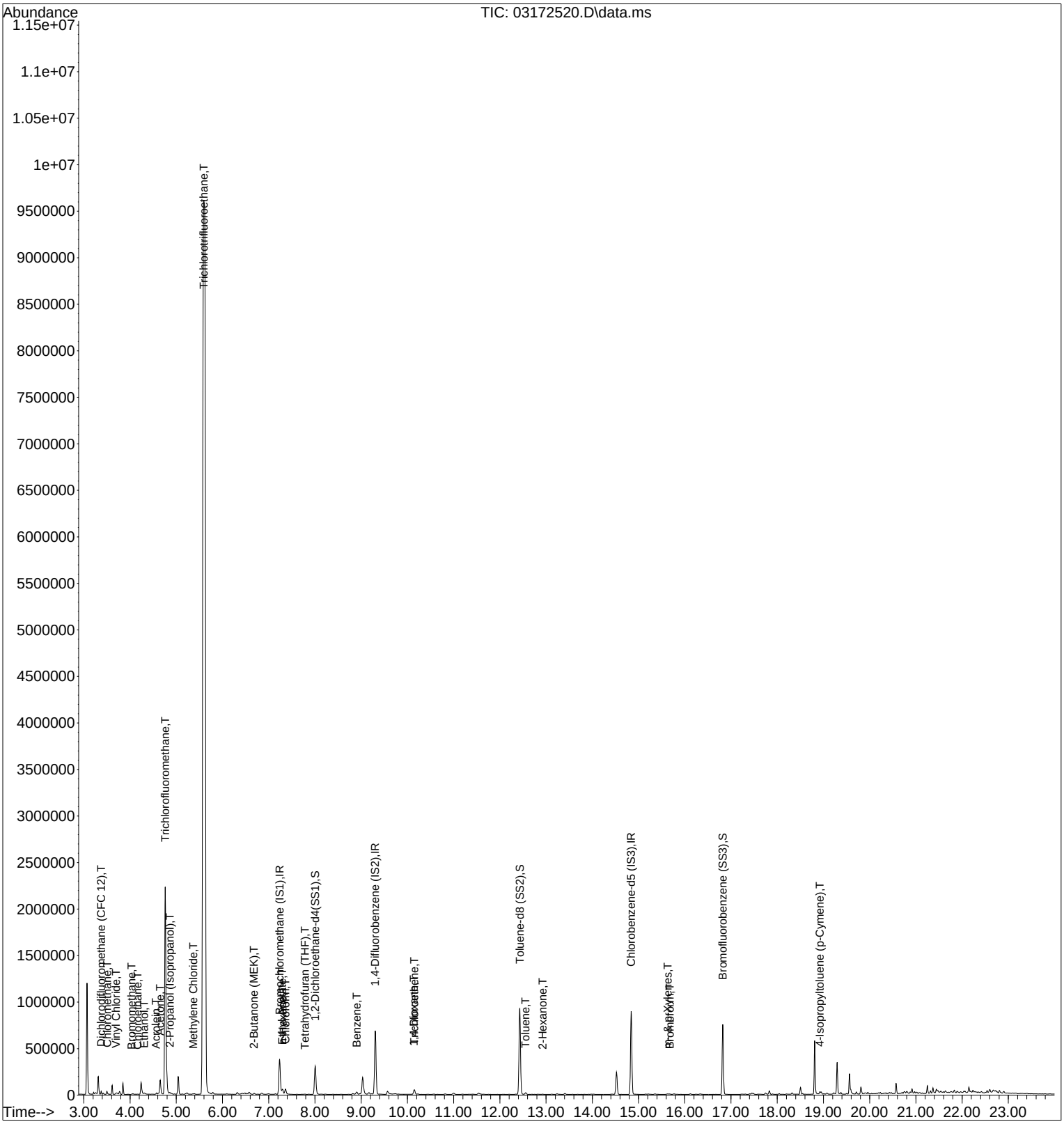
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			
51) n-Heptane	10.57	71	780	N.D.			
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	15023	0.226	ng		99
59) 2-Hexanone	12.93	43	1489	0.052	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	526	N.D.			
63) n-Octane	0.00	57	0	N.D.			
64) Tetrachloroethene	14.03	166	693	N.D.			
65) Chlorobenzene	0.00	112	0	N.D.			
66) Ethylbenzene	15.41	91	996	N.D.			
67) m- & p-Xylenes	15.63	91	3510	0.061	ng		89
68) Bromoform	15.67	173	1483	0.108	ng		86
69) Styrene	16.11	104	182	N.D.			
70) o-Xylene	16.24	91	1532	N.D.			
71) n-Nonane	16.61	43	346	N.D.			
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.			
74) Cumene	17.03	105	245	N.D.			
75) alpha-Pinene	17.52	93	117	N.D.			
76) n-Propylbenzene	17.67	91	251	N.D.			
77) 3-Ethyltoluene	17.03	105	245	No Calib		#	
78) 4-Ethyltoluene	17.83	105	1182	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	245	No Calib		#	
82) 1,2,4-Trimethylbenzene	18.43	105	306	N.D.			
83) n-Decane	0.00	58	0	N.D.			
84) Benzyl Chloride	18.55	91	1019	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-...	18.92	119	14006	0.220	ng		95
89) 1,2,3-Trimethylbenzene	17.03	105	245	No Calib		#	
90) 1,2-Dichlorobenzene	0.00	146	0	N.D.			
91) d-Limonene	19.09	68	466	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	106	N.D.			
95) Naphthalene	20.94	128	1233	N.D.			
96) n-Dodecane	18.93	58	494	No Calib		#	
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	15.21	55	686	No Calib		#	
99) tert-Butylbenzene	18.50	119	1603	N.D.			
100) n-Butylbenzene	19.38	91	792	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 18 17:13:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 17:13:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

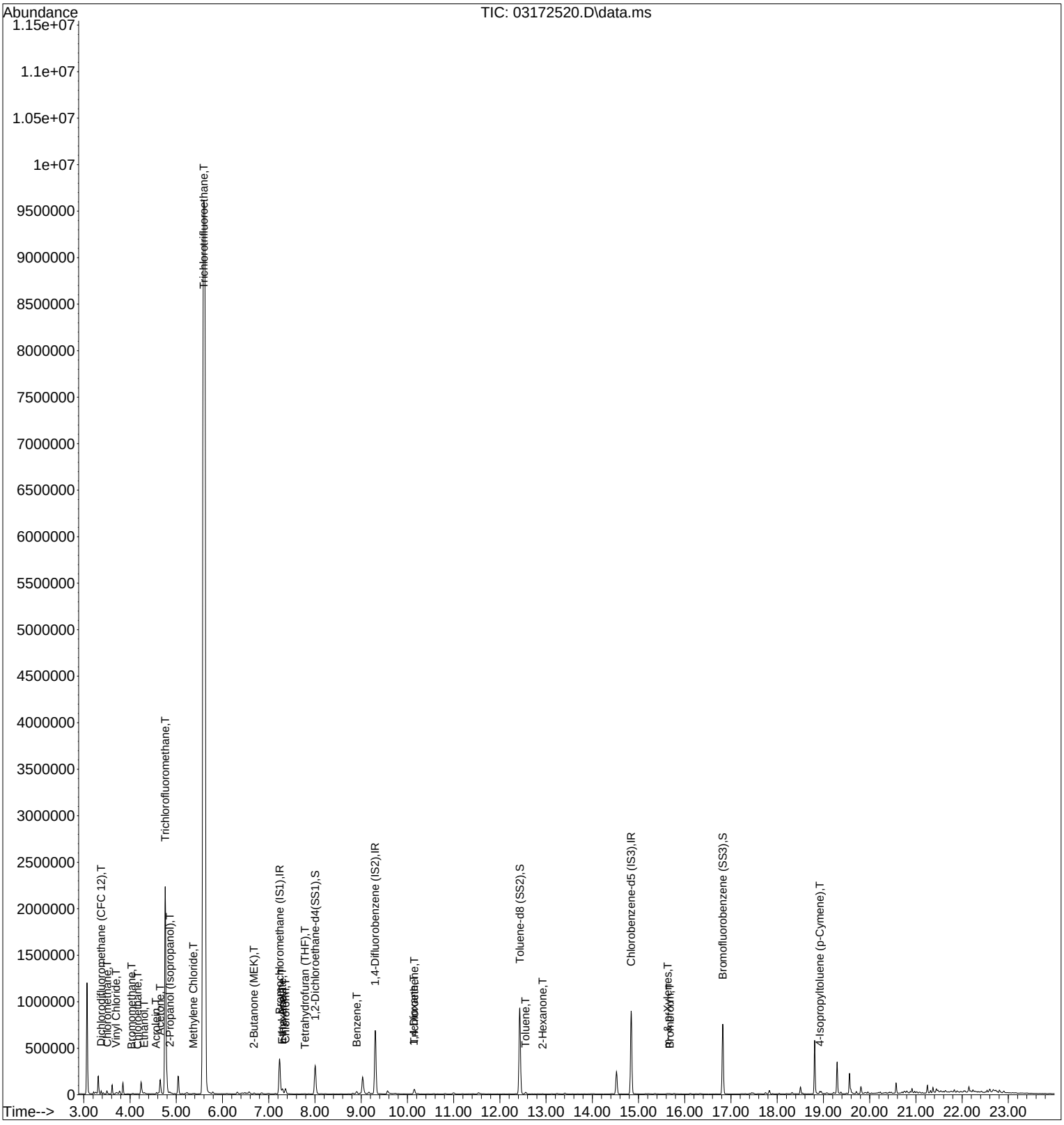
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.24	130	173942	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.30	114	737129	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	123041	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	254704	11.812	ng		-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	12.43	98	833478	12.496	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.00%				
73) Bromofluorobenzene (SS3)	16.82	174	258731	13.143	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.12%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	18746	0.531	ng		92
4) Chloromethane	3.51	50	4630	0.250	ng		94
6) Vinyl Chloride	3.70	62	1244	0.051	ng		94
8) Bromomethane	4.03	94	1135	0.068	ng		99
9) Chloroethane	4.16	64	1740	0.137	ng		87
10) Ethanol	4.31	45	13862	1.002	ng		90
12) Acrolein	4.56	56	1684	0.135	ng		99
13) Acetone	4.65	58	34996	2.651	ng	#	61
14) Trichlorofluoromethane	4.76	101	1829151	59.239	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	10068	0.233	ng		91
19) Methylene Chloride	5.37	84	2136	0.109	ng		96
21) Trichlorotrifluoroethane	5.60	151	6179235	434.492	ng		96
27) 2-Butanone (MEK)	6.68	72	4073	0.351	ng	#	85
30) Ethyl Acetate	7.29	61	7131	1.096	ng		96
31) n-Hexane	7.30	57	8801	0.322	ng		95
32) Chloroform	7.36	83	50365	1.670	ng		100
34) Tetrahydrofuran (THF)	7.78	72	598	0.054	ng	#	74
41) Benzene	8.91	78	27219	0.382	ng		98
47) Trichloroethene	10.15	130	21532	1.223	ng		97
48) 1,4-Dioxane	10.14	88	879	0.071	ng		95
58) Toluene	12.56	91	15023	0.226	ng		99
59) 2-Hexanone	12.93	43	1489	0.052	ng	#	65
67) m- & p-Xylenes	15.63	91	3510	0.061	ng		89
68) Bromoform	15.67	173	1483	0.108	ng		86
88) 4-Isopropyltoluene (p-...	18.92	119	14006	0.220	ng		95

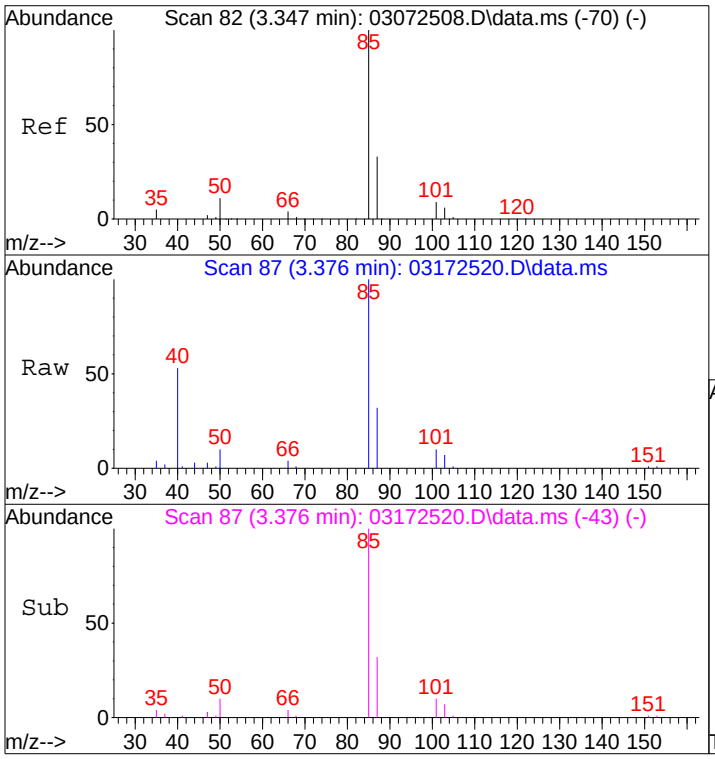
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 18 17:13:08 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

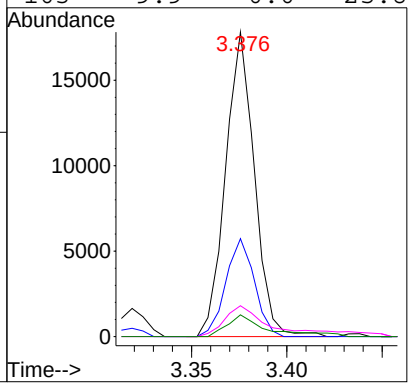


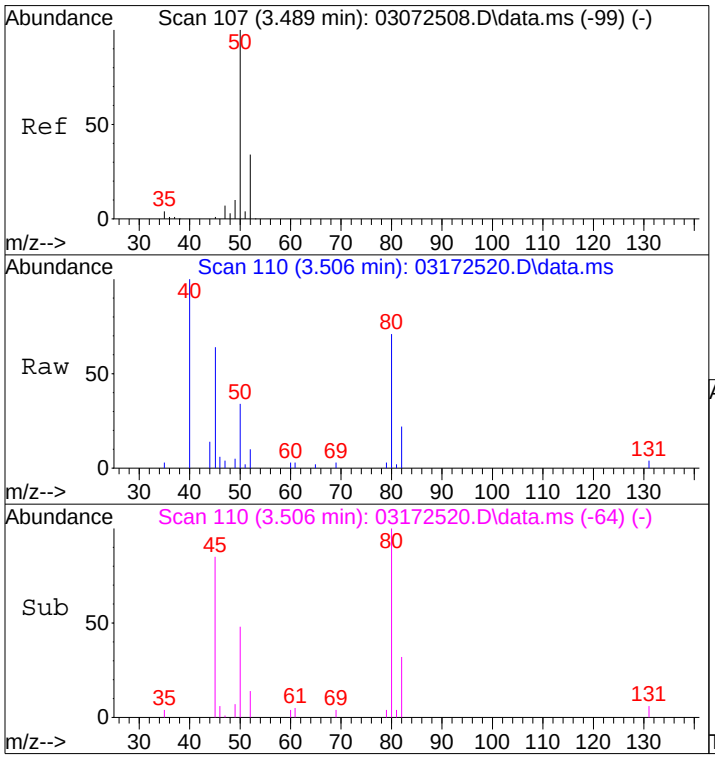


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.53 ng
RT: 3.38 min Scan# 87
Delta R.T. 0.003 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 85 Resp: 18746

Ion	Ratio	Lower	Upper
85	100		
87	31.8	13.2	53.2
101	17.5	0.0	28.9
103	9.9	0.0	25.8

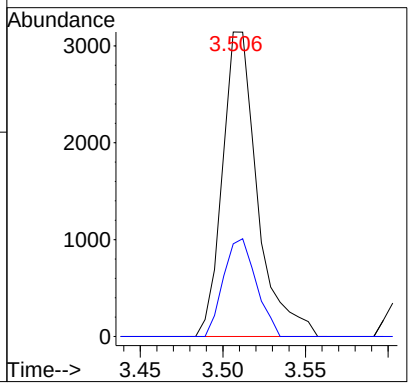


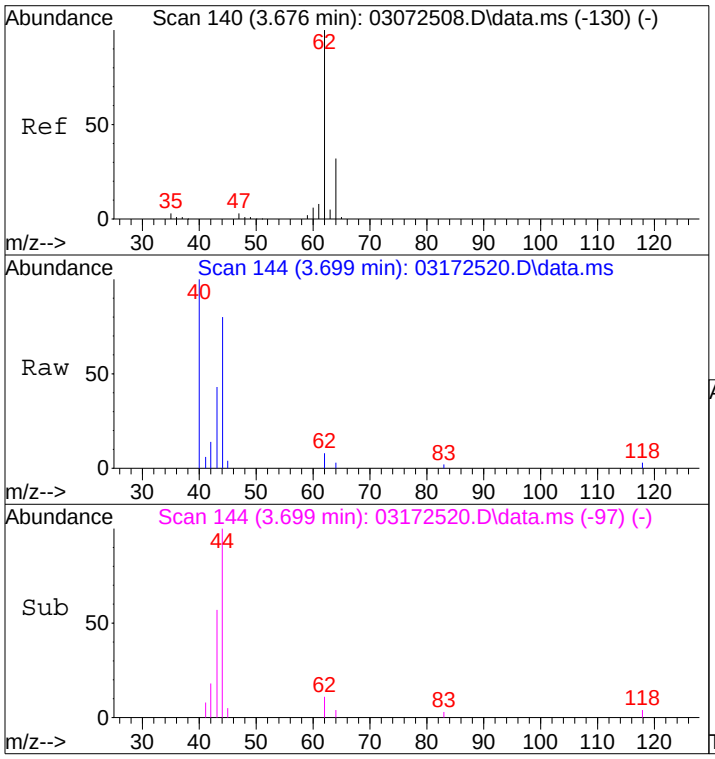


#4
Chloromethane
Concen: 0.25 ng
RT: 3.51 min Scan# 110
Delta R.T. 0.011 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 50 Resp: 4630

Ion	Ratio	Lower	Upper
50	100		
52	30.0	13.6	53.6

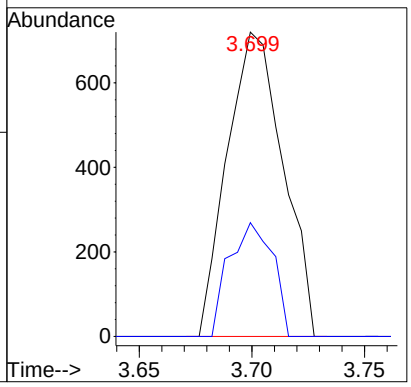


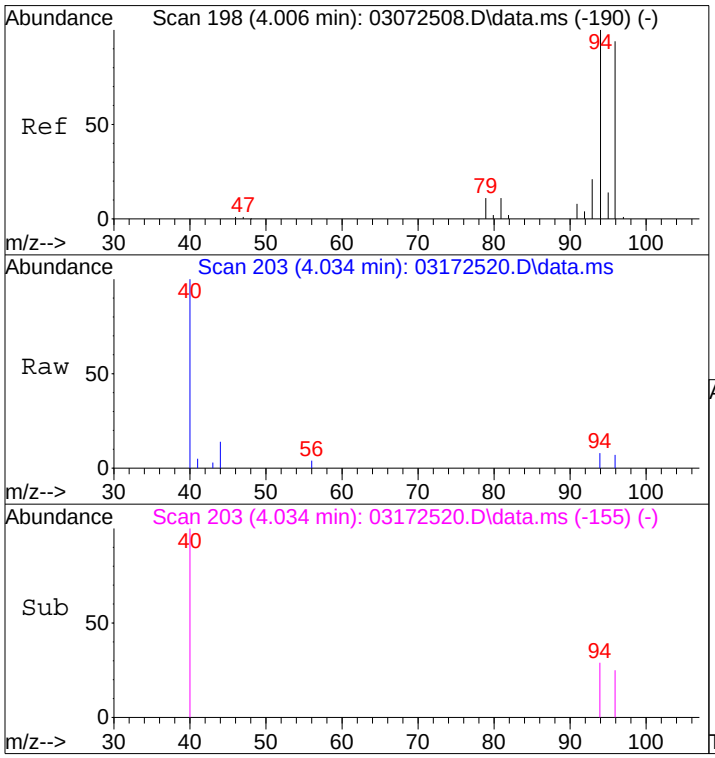


#6
Vinyl Chloride
Concen: 0.05 ng
RT: 3.70 min Scan# 144
Delta R.T. 0.017 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 62 Resp: 1244

Ion	Ratio	Lower	Upper
62	100		
64	29.2	12.4	52.4

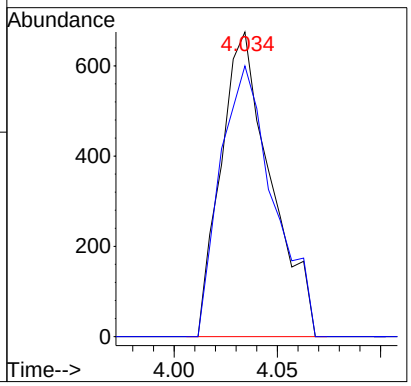


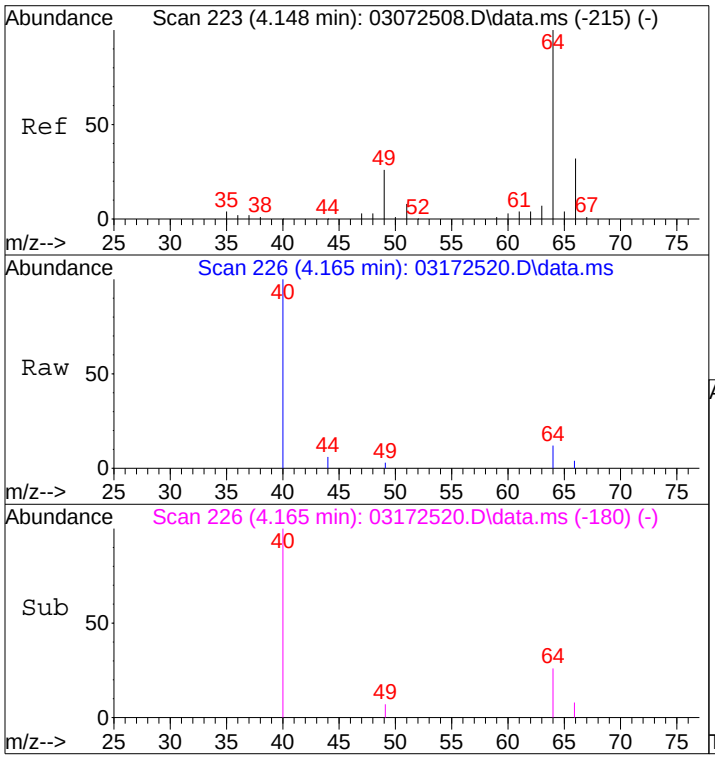


#8
Bromomethane
Concen: 0.07 ng
RT: 4.03 min Scan# 203
Delta R.T. 0.023 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 94 Resp: 1135

Ion	Ratio	Lower	Upper
94	100		
96	94.7	74.2	114.2

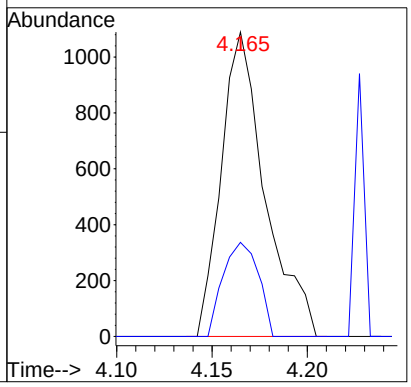


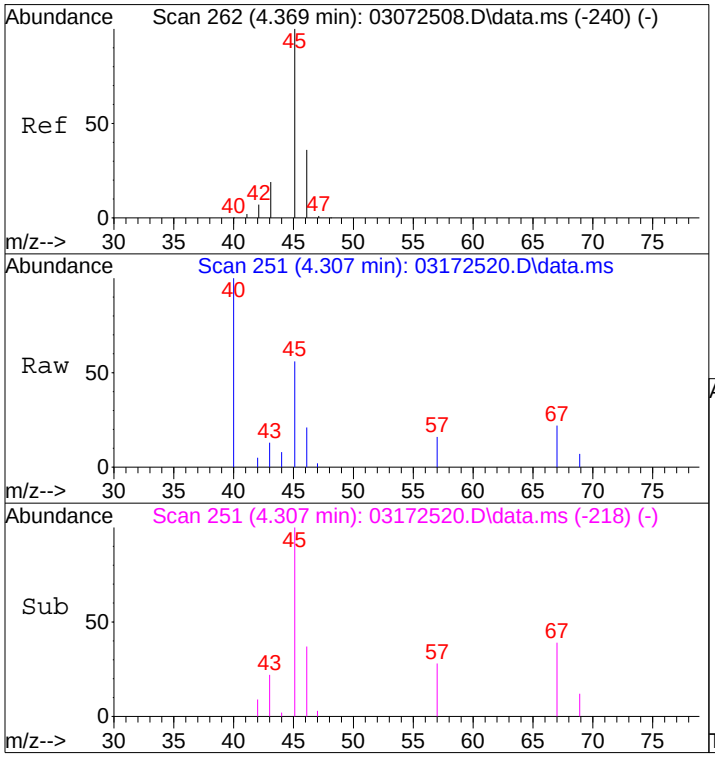


#9
Chloroethane
Concen: 0.14 ng
RT: 4.16 min Scan# 226
Delta R.T. 0.011 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 64 Resp: 1740

Ion	Ratio	Lower	Upper
64	100		
66	25.0	12.5	52.5

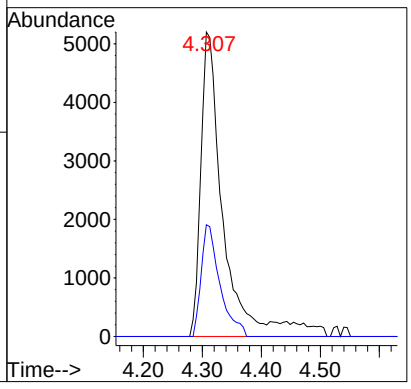


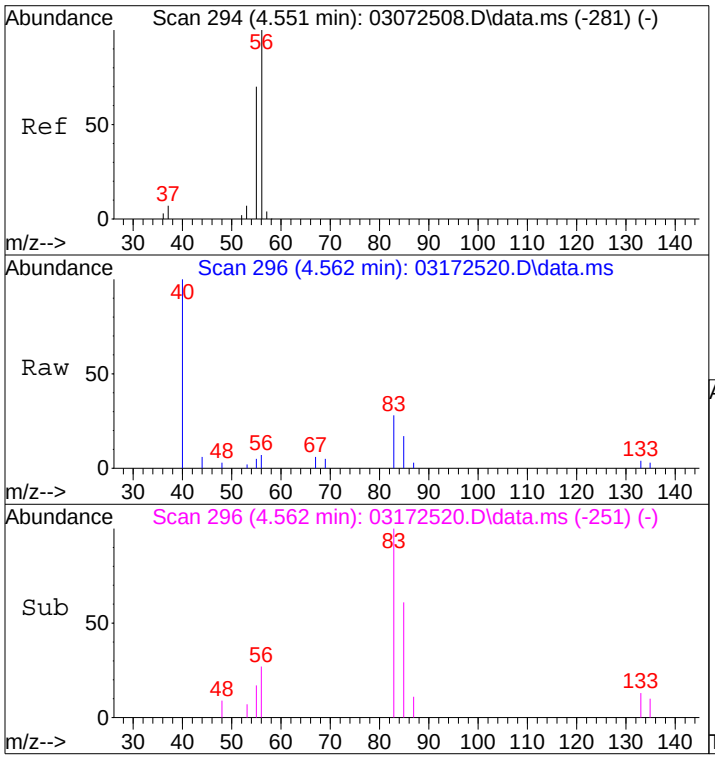


#10
Ethanol
Concen: 1.00 ng
RT: 4.31 min Scan# 251
Delta R.T. -0.062 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 45 Resp: 13862

Ion	Ratio	Lower	Upper
45	100		
46	30.3	16.1	56.1

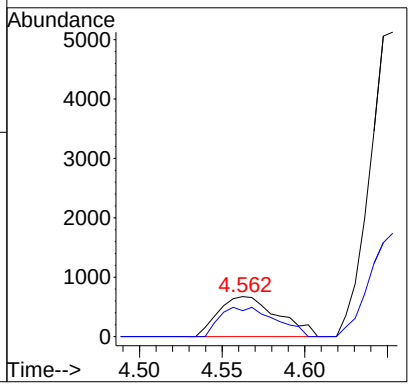


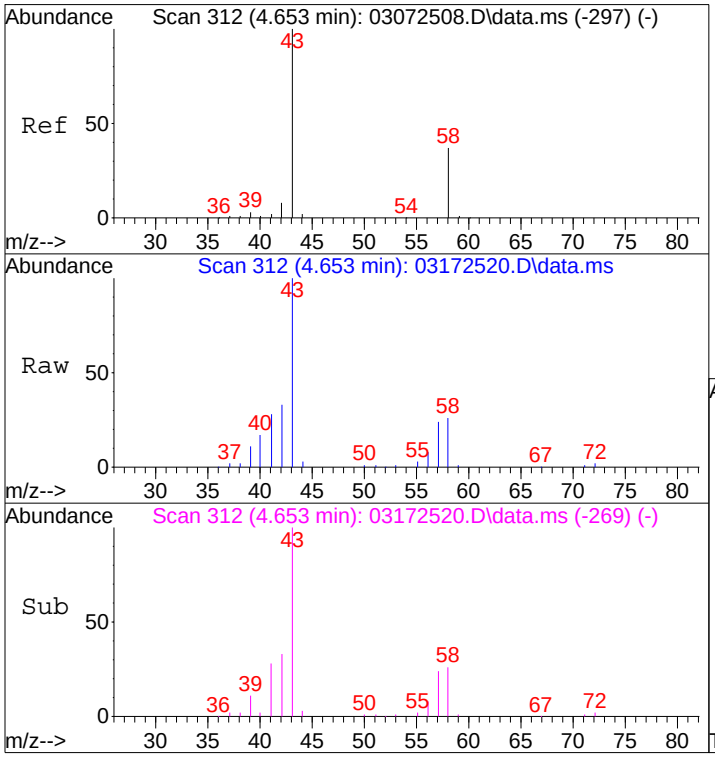


#12
Acrolein
Concen: 0.14 ng
RT: 4.56 min Scan# 296
Delta R.T. 0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 56 Resp: 1684

Ion	Ratio	Lower	Upper
56	100		
55	68.4	49.6	89.6

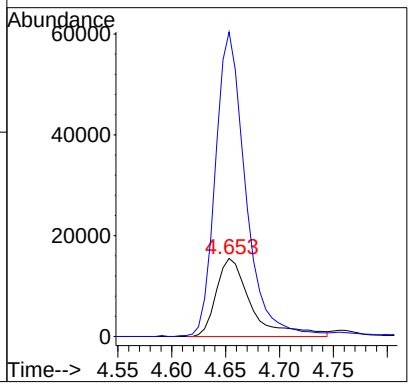


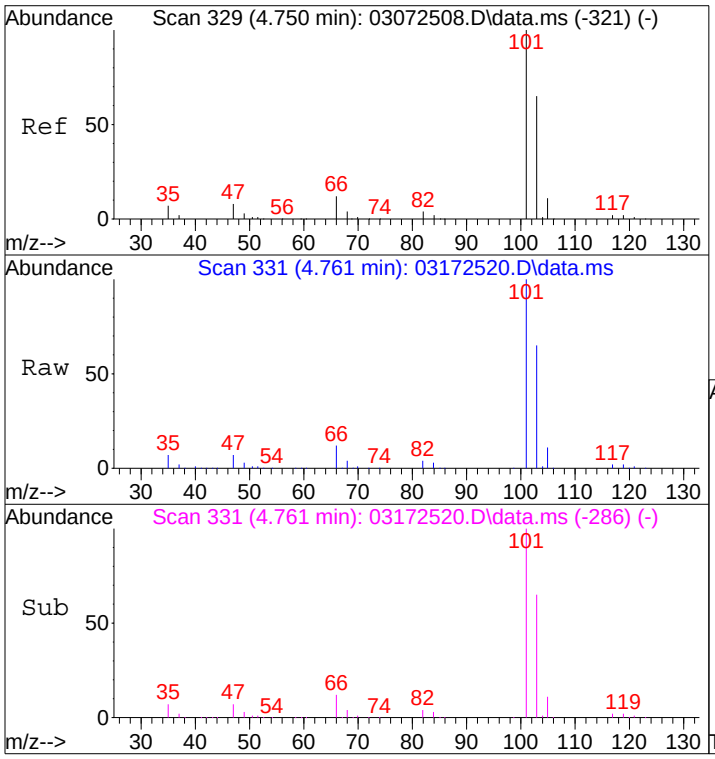


#13
Acetone
Concen: 2.65 ng
RT: 4.65 min Scan# 312
Delta R.T. -0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 58 Resp: 34996

Ion	Ratio	Lower	Upper
58	100		
43	343.8	241.6	301.6#

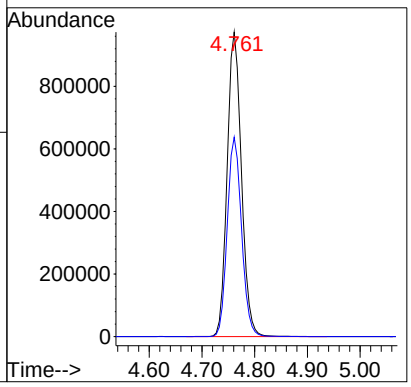


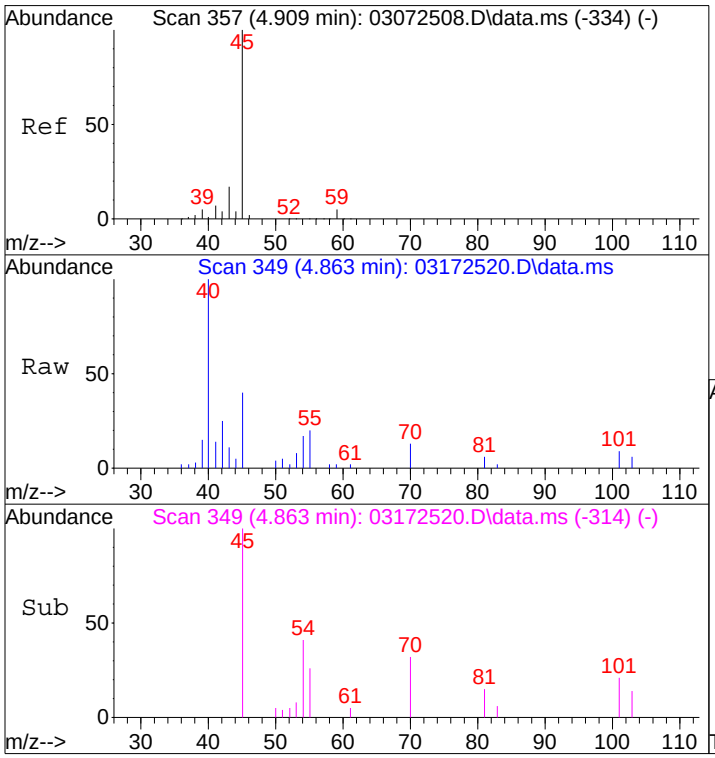


#14
Trichlorofluoromethane
Concen: 59.24 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion:101 Resp: 1829151

Ion	Ratio	Lower	Upper
101	100		
103	65.5	44.7	84.7

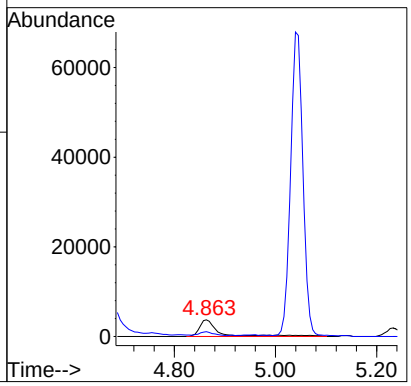


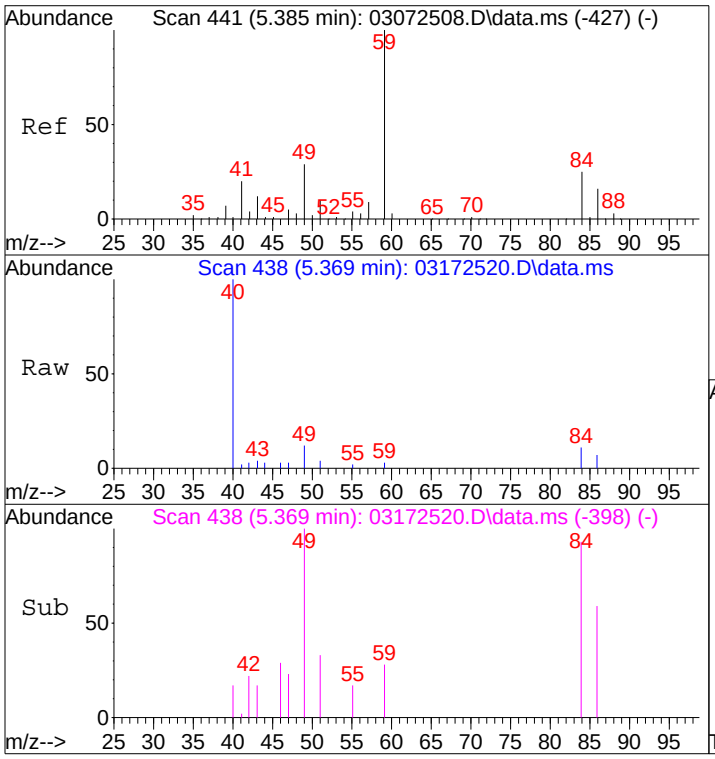


#15
2-Propanol (Isopropanol)
Concen: 0.23 ng
RT: 4.86 min Scan# 349
Delta R.T. -0.051 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 45 Resp: 10068

Ion	Ratio	Lower	Upper
45	100		
43	21.4	0.0	37.5

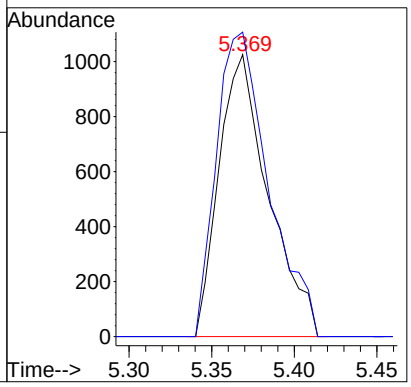


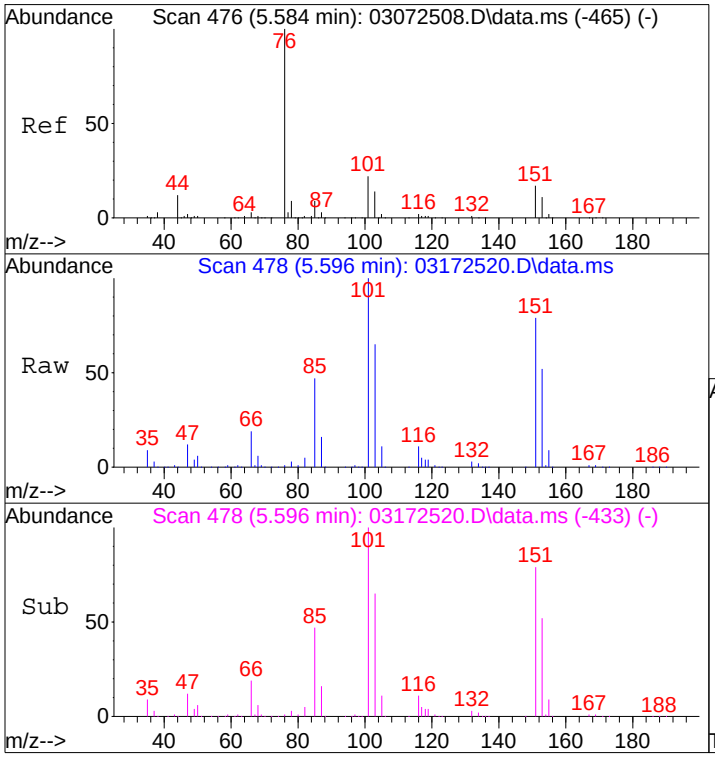


#19
Methylene Chloride
Concen: 0.11 ng
RT: 5.37 min Scan# 438
Delta R.T. -0.023 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 84 Resp: 2136

Ion	Ratio	Lower	Upper
84	100		
49	114.0	93.5	143.5

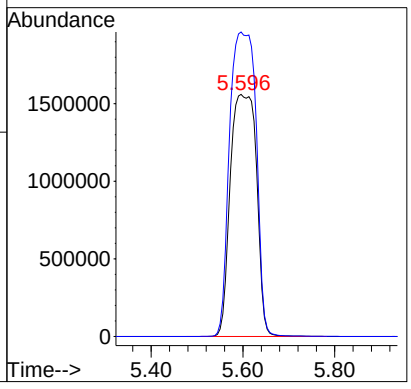


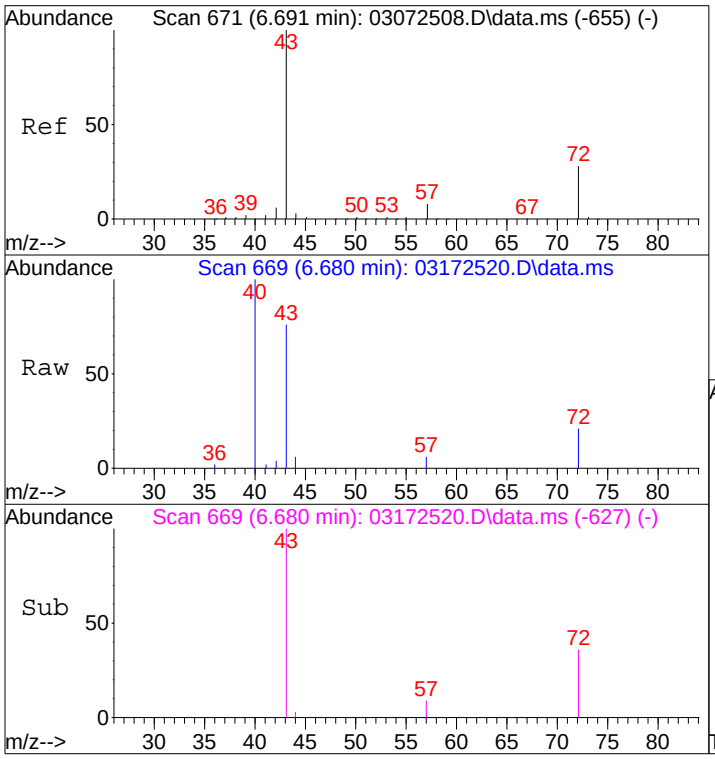


#21
Trichlorotrifluoroethane
Concen: 434.49 ng
RT: 5.60 min Scan# 478
Delta R.T. 0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion:151 Resp: 6179235

Ion	Ratio	Lower	Upper
151	100		
101	127.3	112.5	152.5

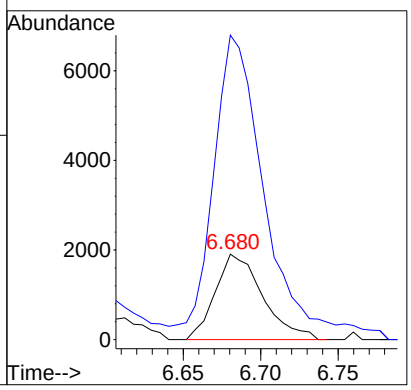


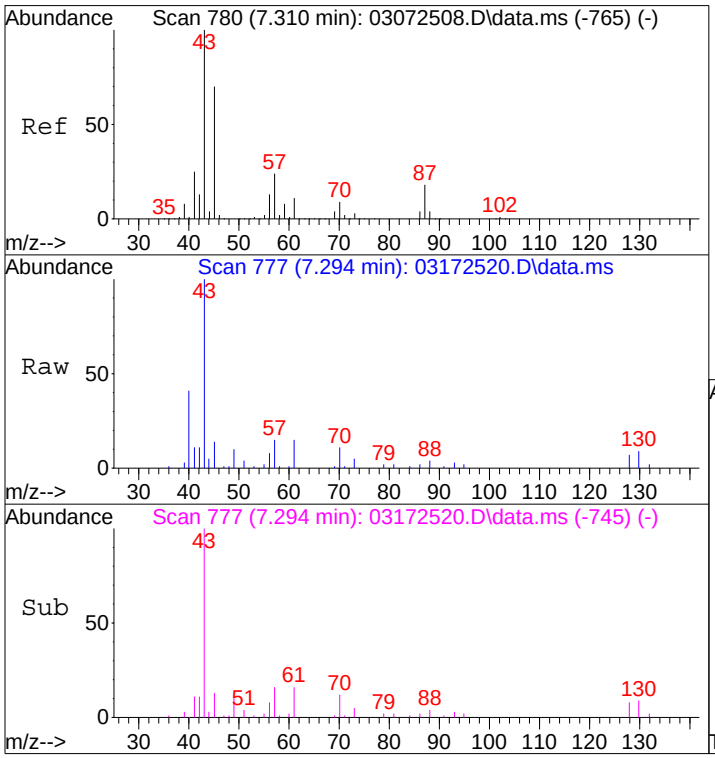


#27
2-Butanone (MEK)
Concen: 0.35 ng
RT: 6.68 min Scan# 669
Delta R.T. -0.011 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 72 Resp: 4073

Ion	Ratio	Lower	Upper
72	100		
43	389.1	335.4	375.4#

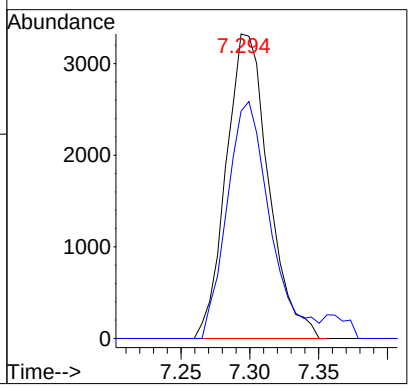


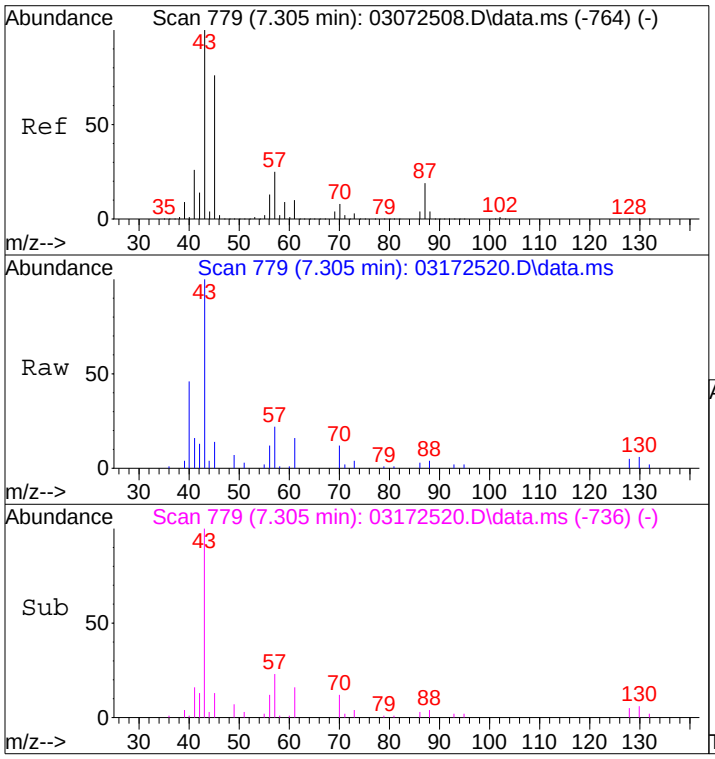


#30
Ethyl Acetate
Concen: 1.10 ng
RT: 7.29 min Scan# 777
Delta R.T. -0.017 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 61 Resp: 7131

Ion	Ratio	Lower	Upper
61	100		
70	78.9	62.6	102.6

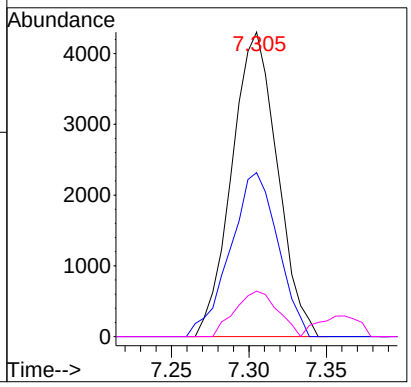


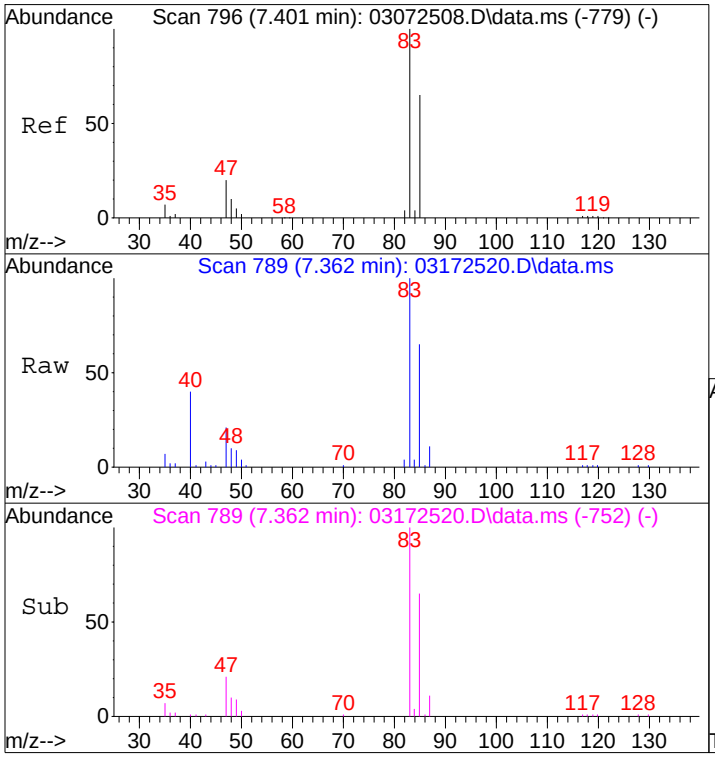


#31
n-Hexane
Concen: 0.32 ng
RT: 7.30 min Scan# 779
Delta R.T. -0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 57 Resp: 8801

Ion	Ratio	Lower	Upper
57	100		
56	56.4	41.8	62.8
86	14.1	11.5	17.3

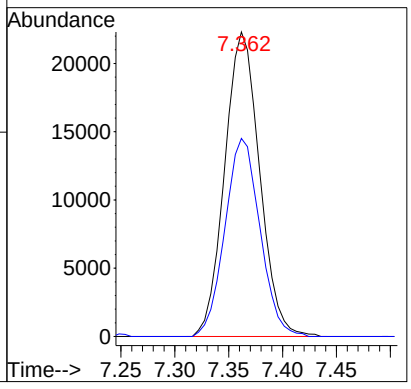


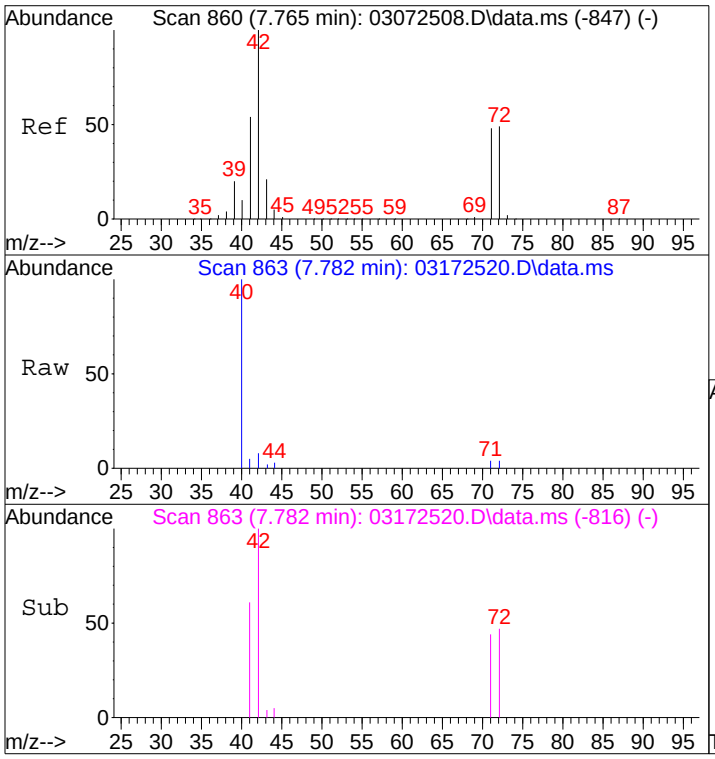


#32
Chloroform
Concen: 1.67 ng
RT: 7.36 min Scan# 789
Delta R.T. -0.040 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 83 Resp: 50365

Ion	Ratio	Lower	Upper
83	100		
85	65.2	44.9	84.9

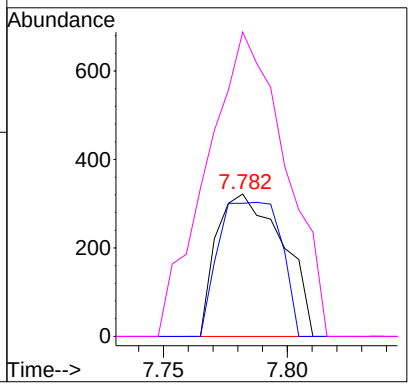


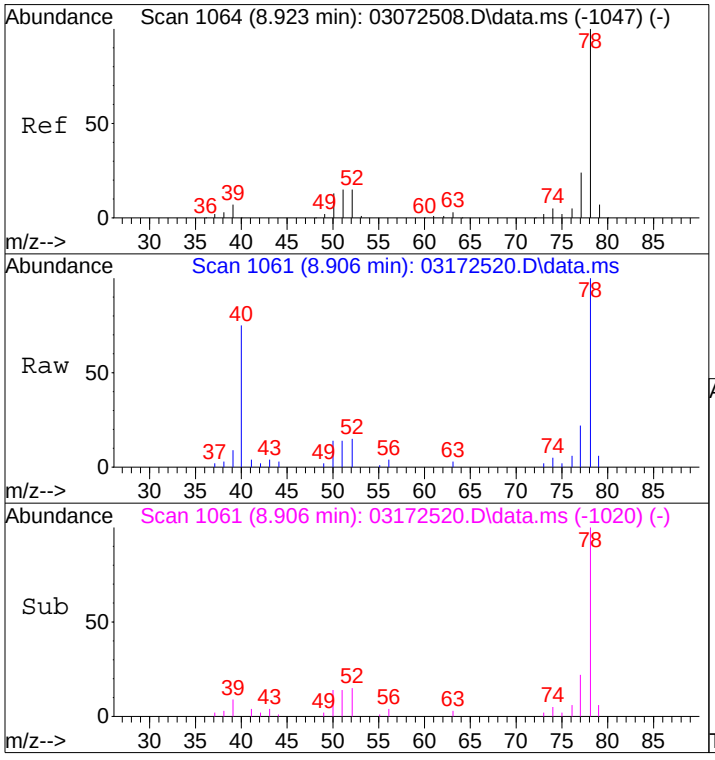


#34
Tetrahydrofuran (THF)
Concen: 0.05 ng
RT: 7.78 min Scan# 863
Delta R.T. 0.017 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 72 Resp: 598

Ion	Ratio	Lower	Upper
72	100		
71	89.0	77.6	117.6
42	255.4	183.2	223.2#

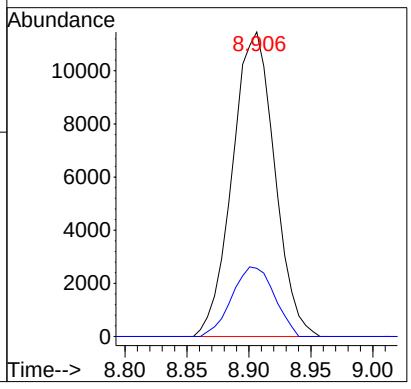


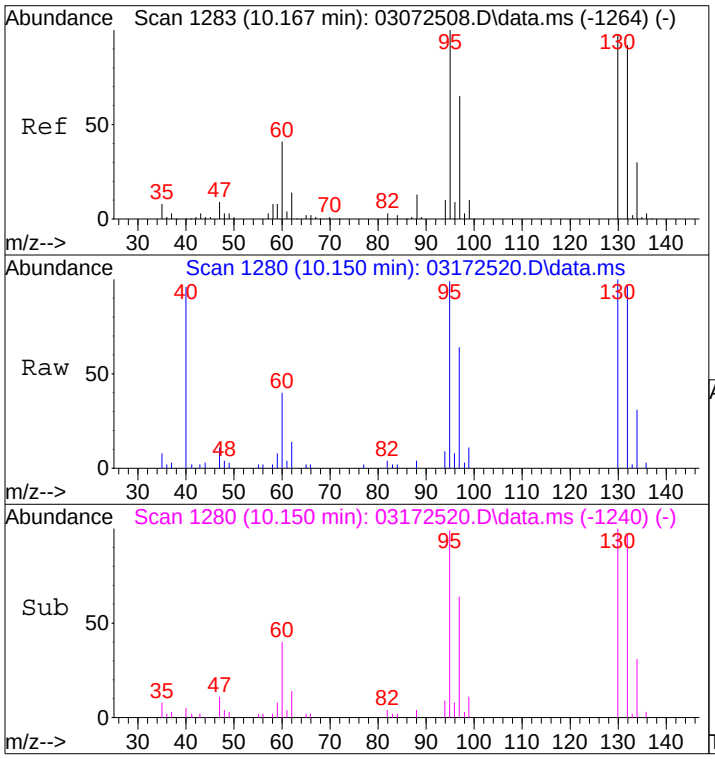


#41
Benzene
Concen: 0.38 ng
RT: 8.91 min Scan# 1061
Delta R.T. -0.017 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 78 Resp: 27219

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.9	43.9

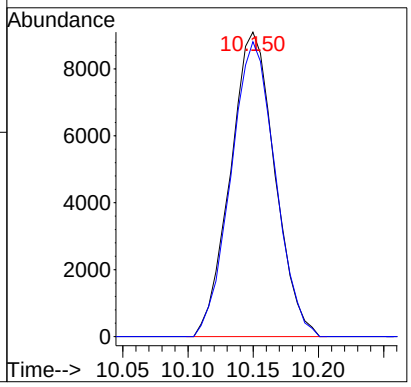


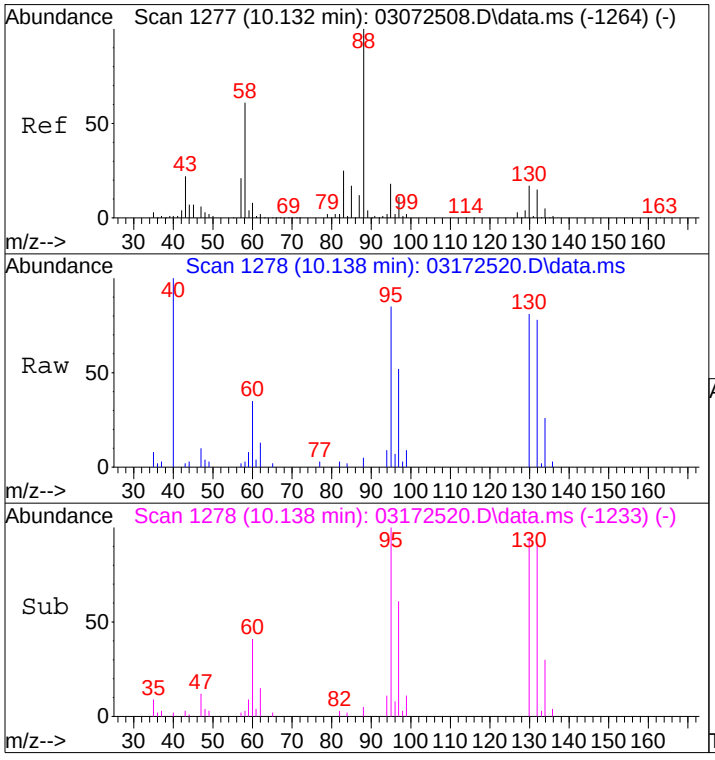


#47
Trichloroethene
Concen: 1.22 ng
RT: 10.15 min Scan# 1280
Delta R.T. -0.023 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion:130 Resp: 21532

Ion	Ratio	Lower	Upper
130	100		
132	96.7	74.1	114.1

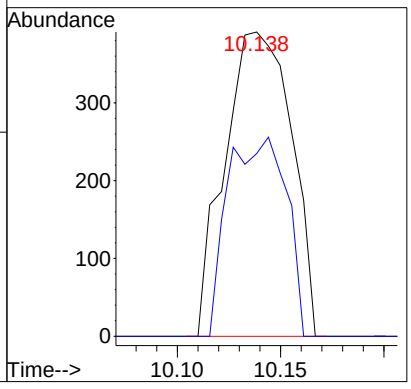


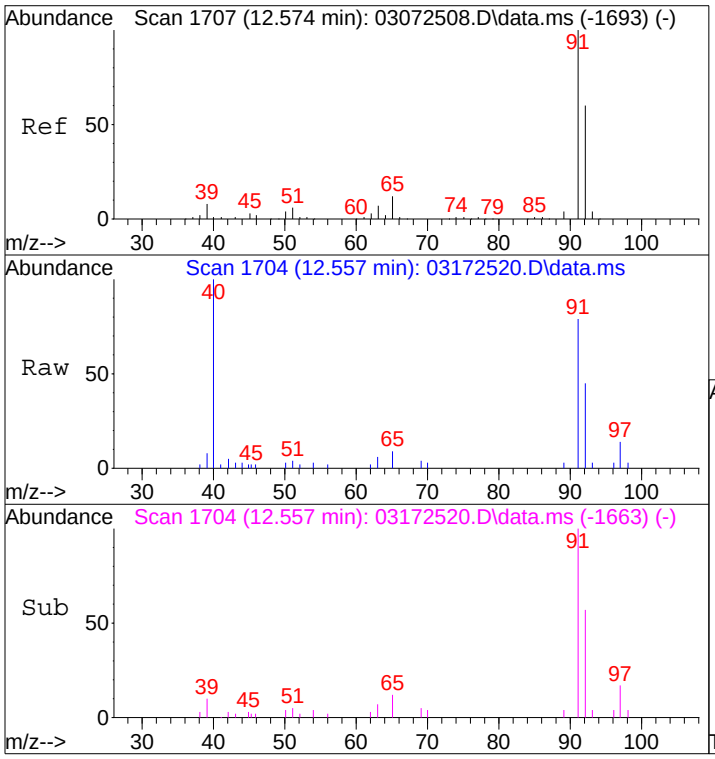


#48
1,4-Dioxane
Concen: 0.07 ng
RT: 10.14 min Scan# 1278
Delta R.T. 0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 88 Resp: 879

Ion	Ratio	Lower	Upper
88	100		
58	57.5	41.3	81.3

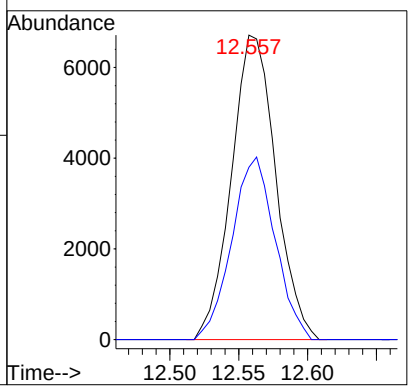


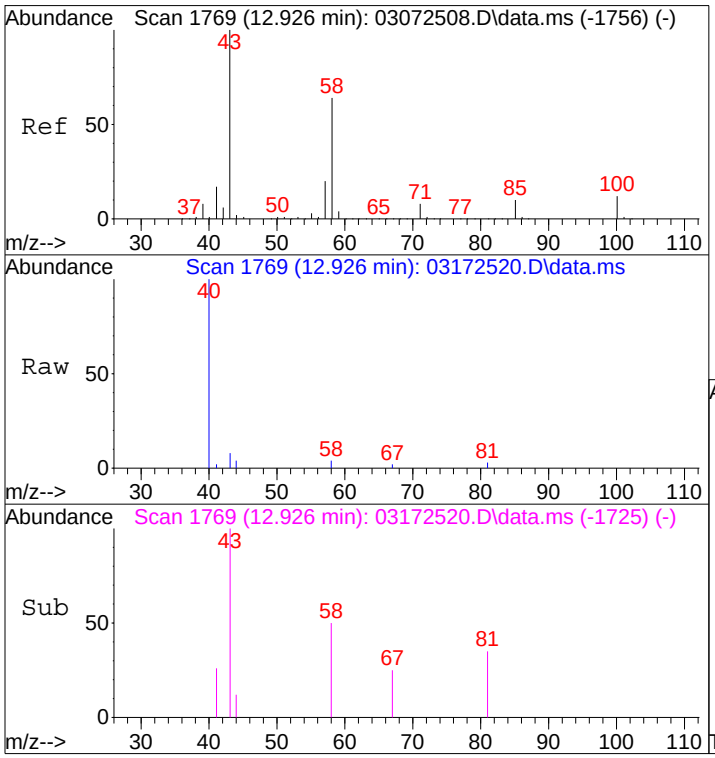


#58
Toluene
Concen: 0.23 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.017 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 91 Resp: 15023

Ion	Ratio	Lower	Upper
91	100		
92	58.6	39.7	79.7

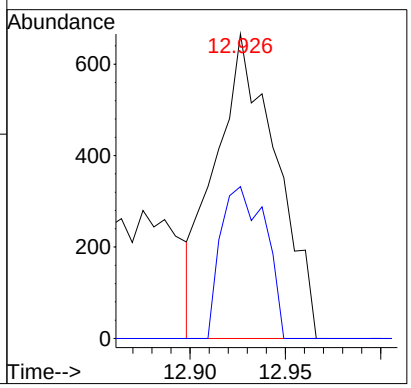


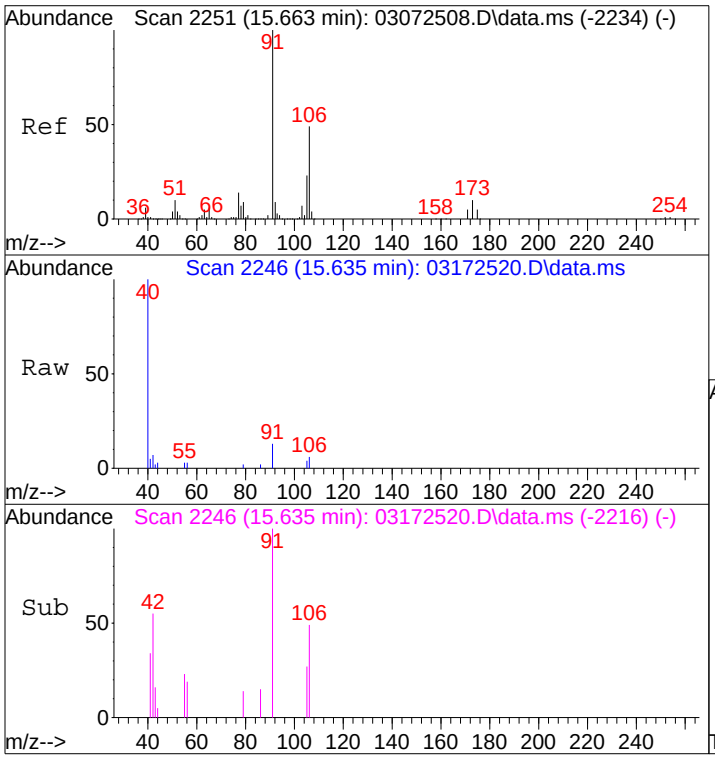


#59
2-Hexanone
Concen: 0.05 ng
RT: 12.93 min Scan# 1769
Delta R.T. 0.000 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 43 Resp: 1489

Ion	Ratio	Lower	Upper
43	100		
58	36.4	43.6	83.6#

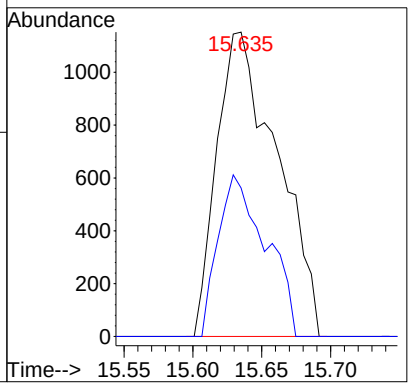


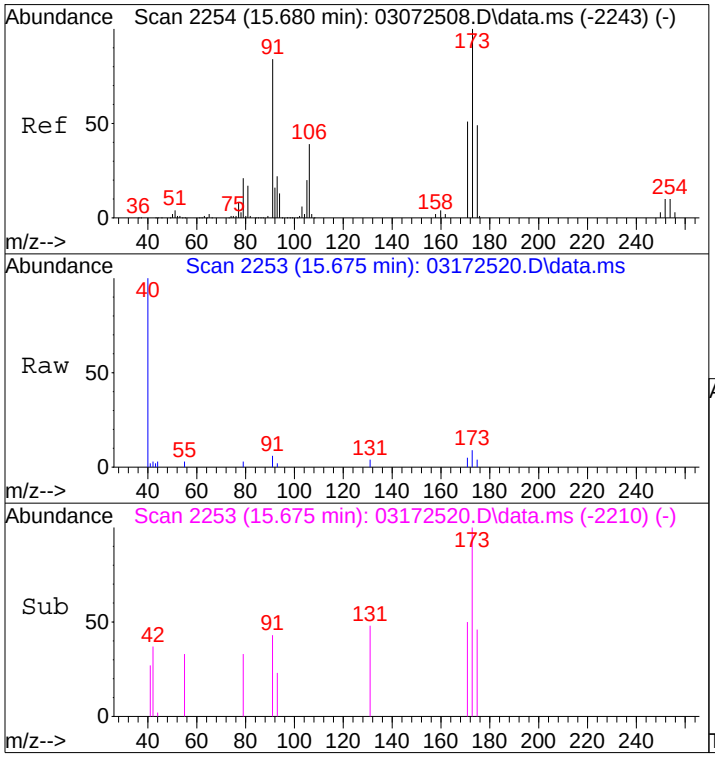


#67
m- & p-Xylenes
Concen: 0.06 ng
RT: 15.63 min Scan# 2246
Delta R.T. -0.028 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion: 91 Resp: 3510

Ion	Ratio	Lower	Upper
91	100		
106	41.9	29.2	69.2

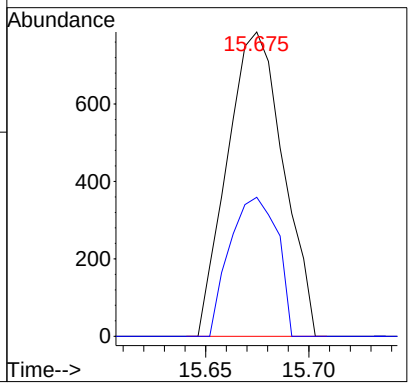


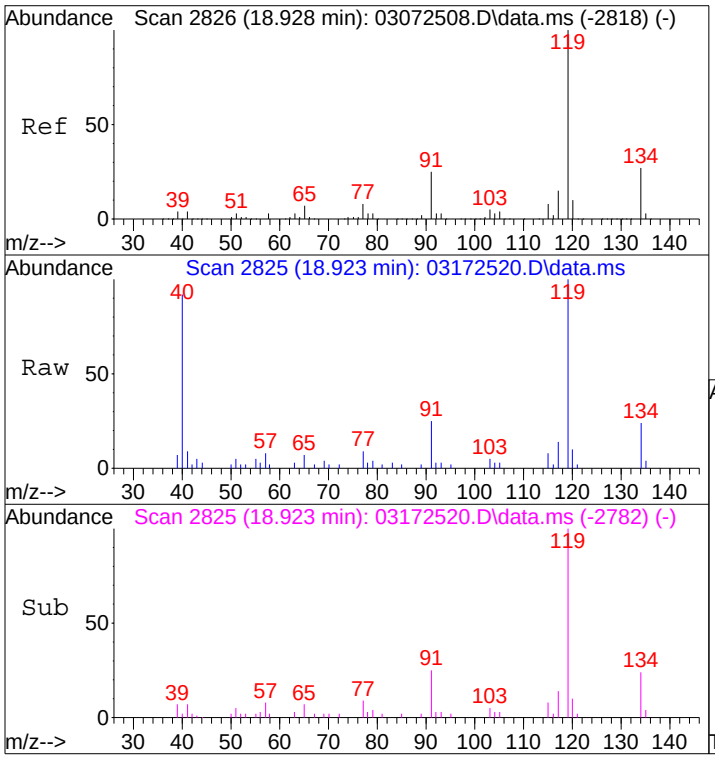


#68
Bromoform
Concen: 0.11 ng
RT: 15.67 min Scan# 2253
Delta R.T. -0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion:173 Resp: 1483

Ion	Ratio	Lower	Upper
173	100		
175	39.1	28.6	68.6

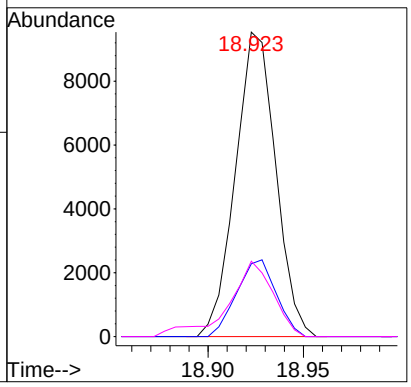




#88
4-Isopropyltoluene (p-Cymene)
Concen: 0.22 ng
RT: 18.92 min Scan# 2825
Delta R.T. -0.006 min
Lab File: 03172520.D
Acq: 18 Mar 2025 16:20

Tgt Ion:119 Resp: 14006

Ion	Ratio	Lower	Upper
119	100		
134	24.7	7.1	47.1
91	27.4	4.6	44.6



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 06:56:33 2025 3/19/25
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

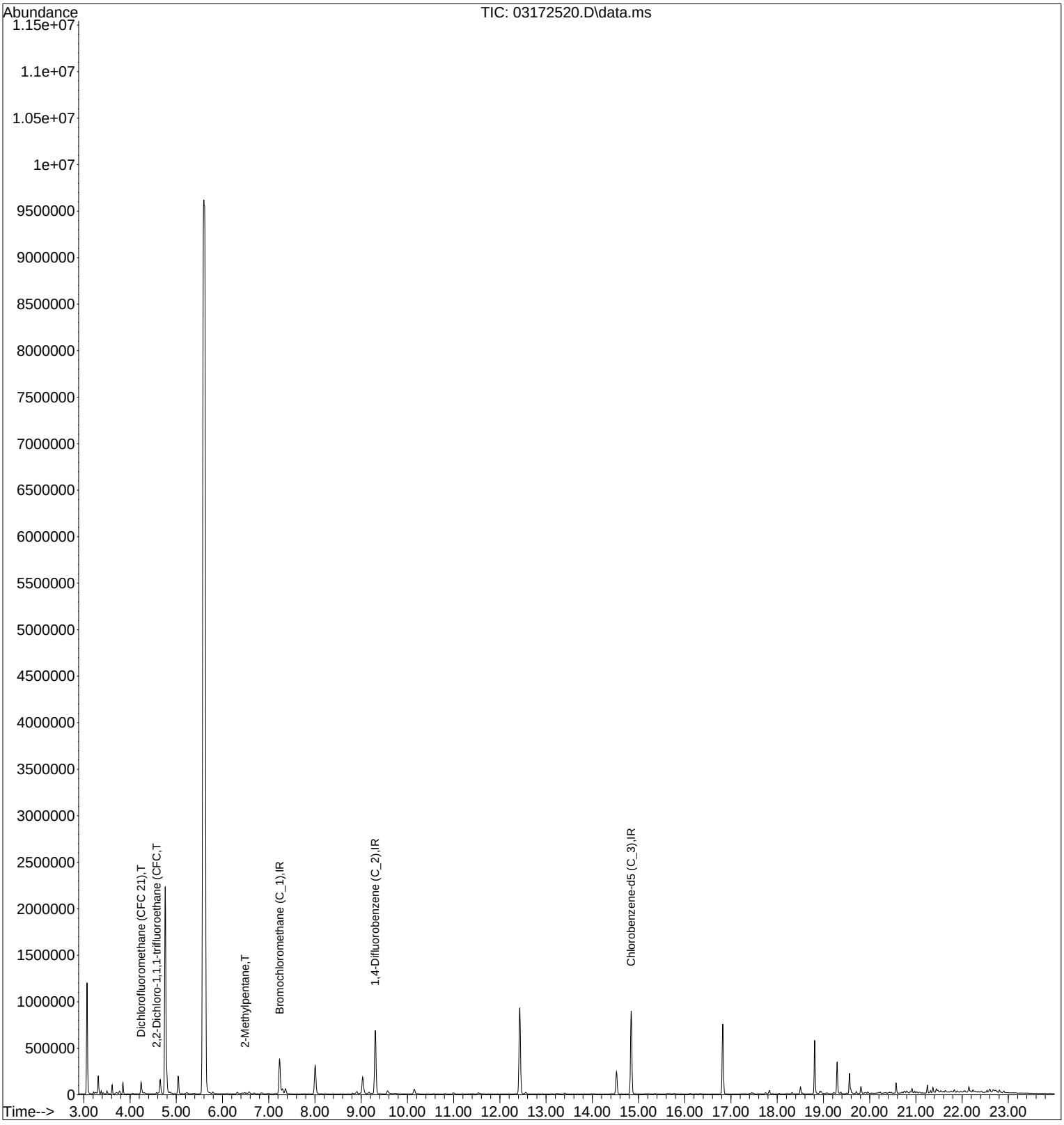
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	174879	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C_2)	9.30	114	737143	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	123041	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.15	85	186	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	1112	N.D.			
4) 1,1-Difluoroethane	3.25	65	1275	N.D.			
5) Chlorodifluoromethane ...	3.31	67	304	N.D.			
6) 1-Chloro-1,1-Difluoroe...	3.52	65	396	N.D.			
7) Dichlorofluoromethane ...	4.24	67	129974	4.504	ng		98
8) Vinylbromide	0.00	108	0	N.D.			
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	7334m	0.340	ng		
10) 2-Methylbutane	0.00	57	0	N.D.	d		
11) Methyl Acetate	5.36	43	1343	N.D.			
12) 2-Methylpentane	6.49	71	3101	0.242	ng	#	22
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	283	N.D.			
18) Dibromomethane	9.81	174	712	N.D.			
20) Methyl Cyclohexane	11.42	55	305	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	53	N.D.			
25) Bromobenzene	0.00	77	0	N.D.			
26) 2-Chlorotoluene	17.59	91	163	N.D.			
27) 4-Chlorotoluene	17.67	91	251	N.D.			
28) Indane	19.01	117	220	N.D.			
29) Indene	0.00	115	0	N.D.			
30) 1,2,4,5-Tetramethylben...	20.22	119	57	N.D.			
31) 1,2,3,4-Tetramethylben...	20.22	119	57	N.D.			
32) 1,2,3,5-Tetramethylben...	20.57	119	371	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)

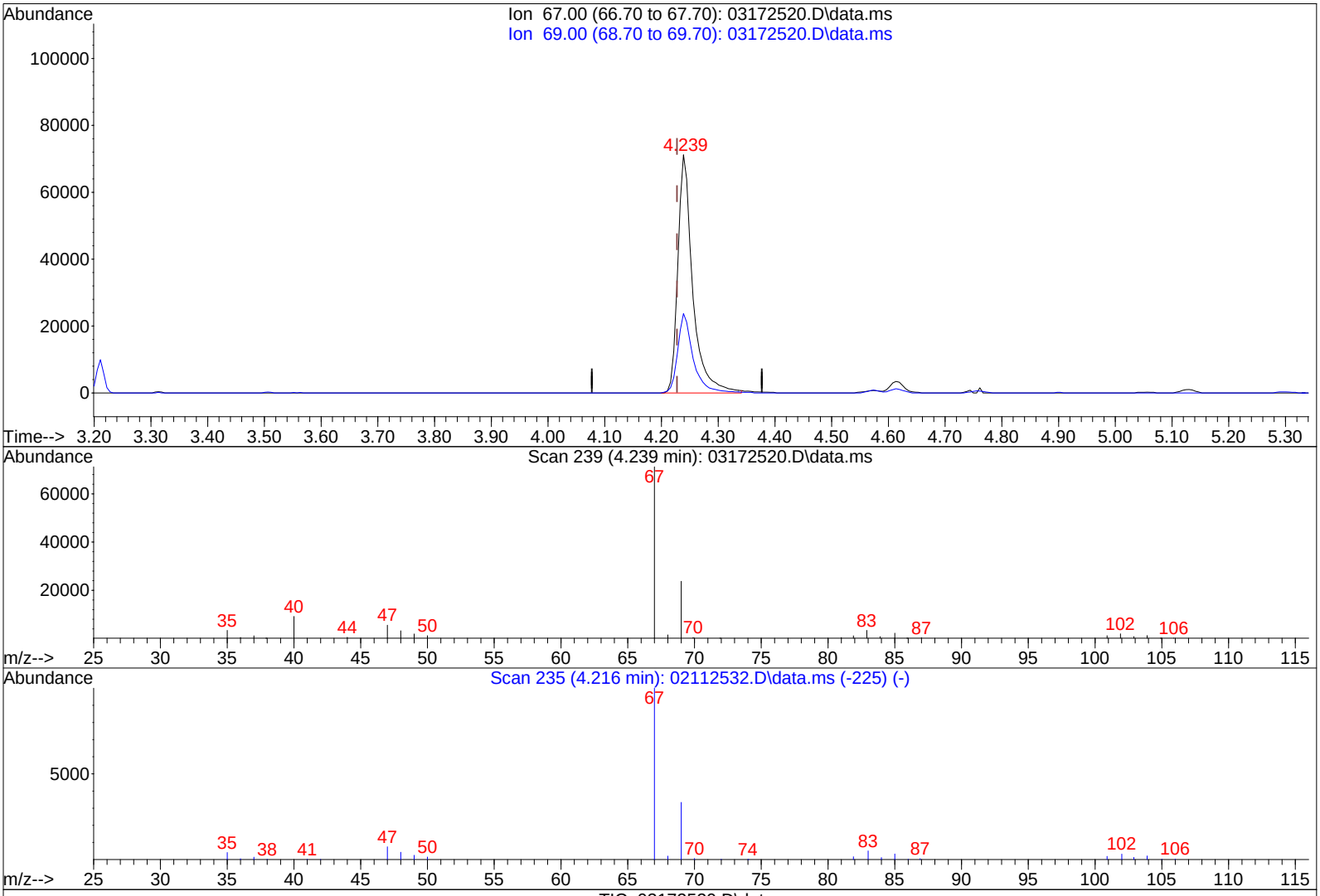
Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 06:56:33 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 06:34:39 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



TIC: 03172520.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

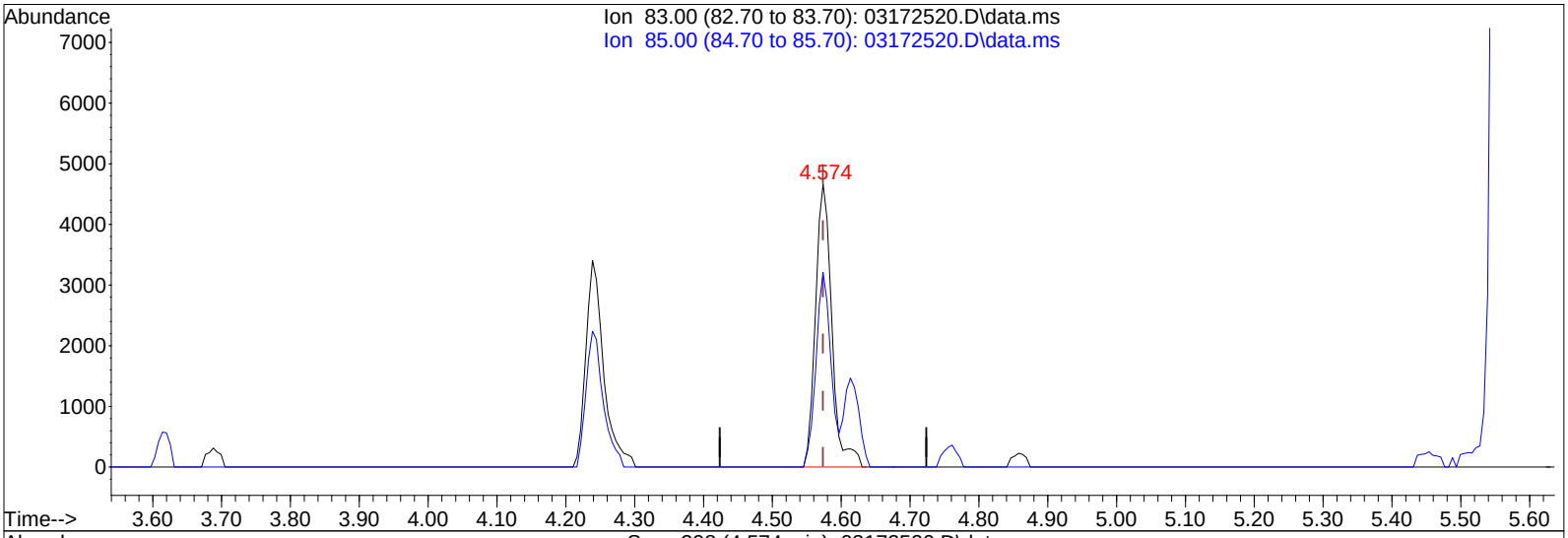
4.239min (+0.011) 4.50ng

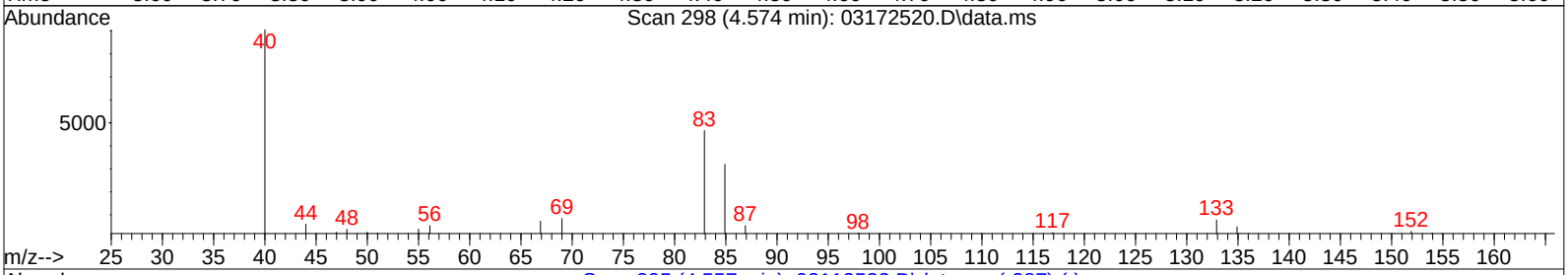
response 129974

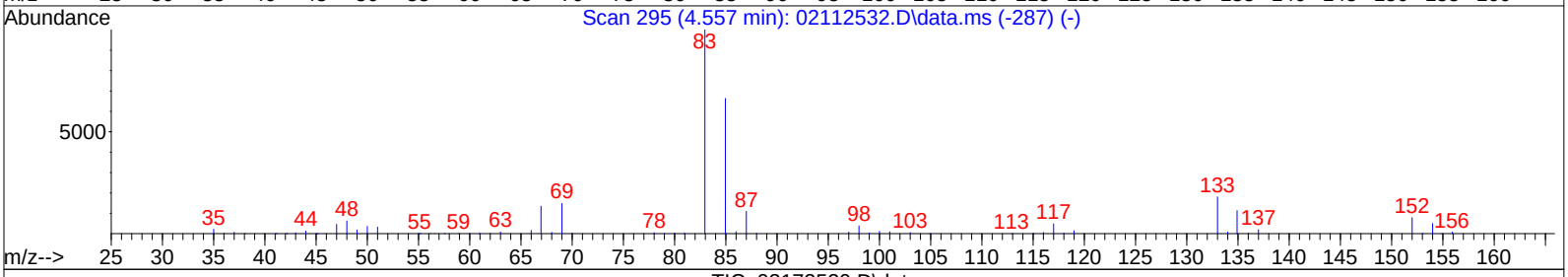
Ion	Exp%	Act%
67.00	100	100
69.00	33.30	34.54
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 06:52:01 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172520.D\data.ms

(9) 2,2-Dichloro-1,1,1-trifluoroethane (CFC (T)

4.574min (-0.000) 0.36ng

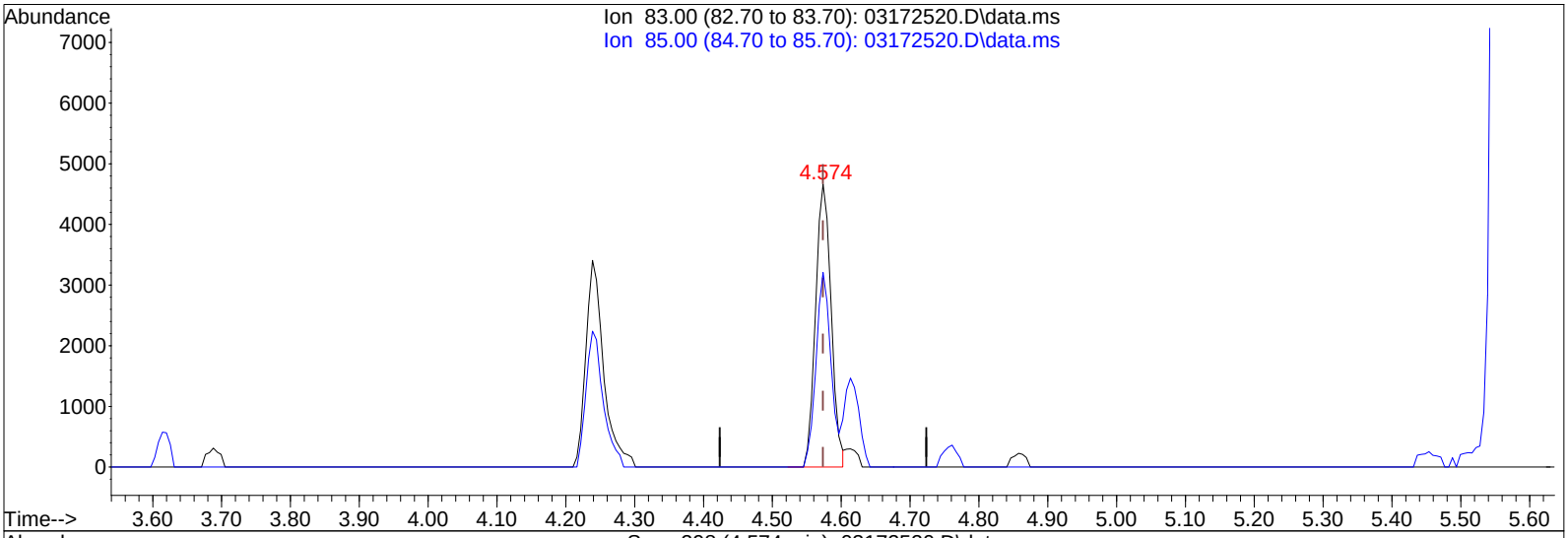
response 7697

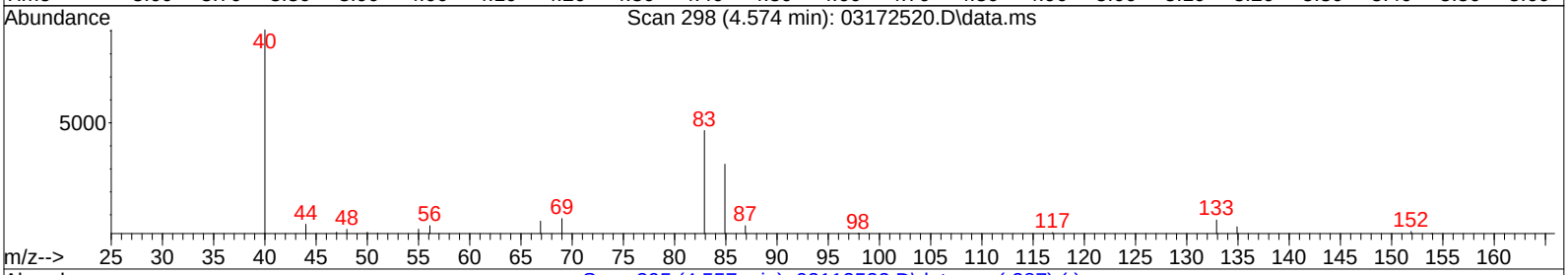
Ion	Exp%	Act%
83.00	100	100
85.00	66.40	63.10
0.00	0.00	0.00
0.00	0.00	0.00

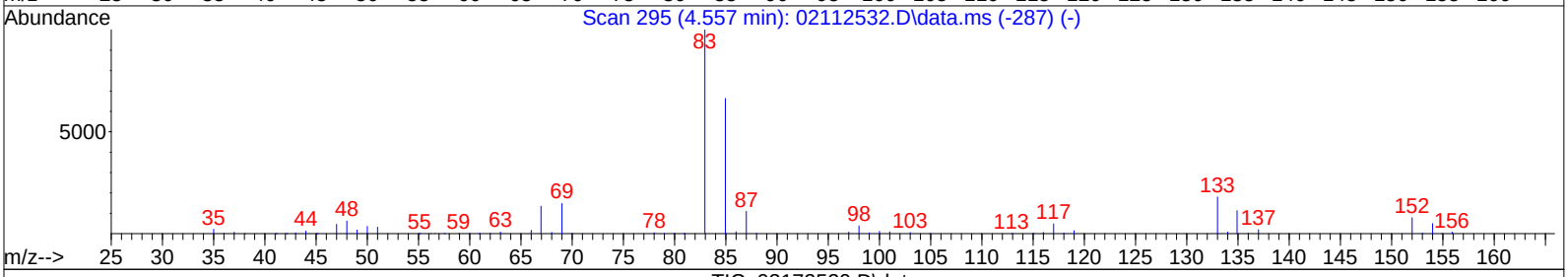
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 06:52:01 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172520.D\data.ms

(9) 2,2-Dichloro-1,1,1-trifluoroethane (CFC (T)

4.574min (-0.000) 0.34ng m

response 7334

Ion	Exp%	Act%
83.00	100	100
85.00	66.40	66.23
0.00	0.00	0.00
0.00	0.00	0.00

IPC

3/19/25

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172527.D
Acq On : 18 Mar 2025 20:06
Operator : SC
Sample : P2500665-003Dil (20mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 06:19:45 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	158064	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	666317	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	109997	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	230451	11.760	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.08%				
57) Toluene-d8 (SS2)	12.43	98	749751	12.574	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
73) Bromofluorobenzene (SS3)	16.82	174	230951	13.123	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.96%				
Target Compounds							Qvalue
2) Propene	3.34	42	618	N.D.			
3) Dichlorodifluoromethan...	3.40	85	545	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	4.34	45	171	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.68	58	955	0.080	ng	#	44
14) Trichlorofluoromethane	4.76	101	62988	2.245	ng		99
15) 2-Propanol (Isopropanol)	0.00	45	0	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	0.00	84	0	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	435348	33.686	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)	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	1495	0.055	ng		96
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	1368	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	492	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	589	N.D.			
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172527.D
Acq On : 18 Mar 2025 20:06
Operator : SC
Sample : P2500665-003Dil (20mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 19 06:19:45 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

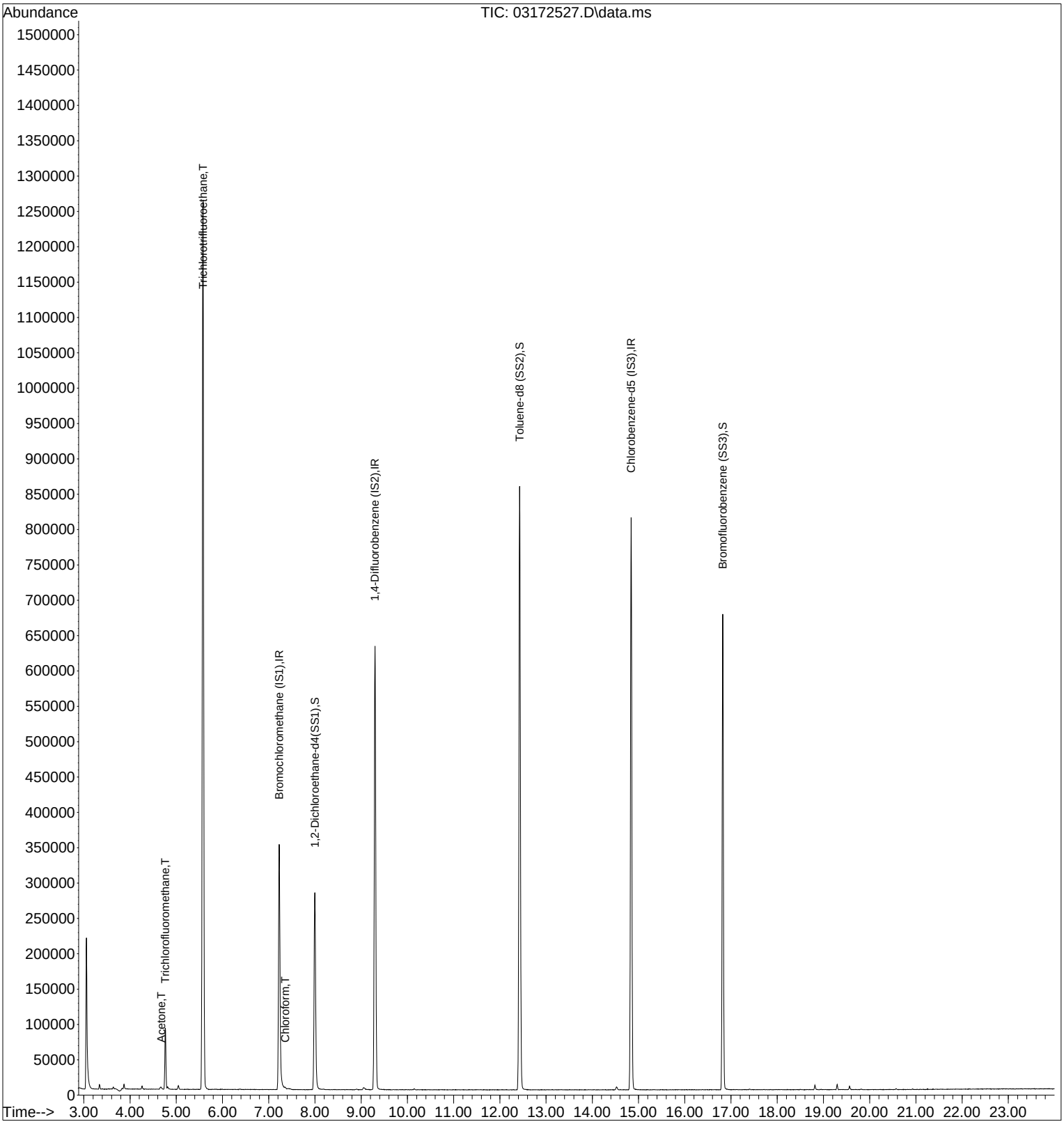
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0		N.D.	
50) Methyl Methacrylate	0.00	100	0		N.D.	
51) n-Heptane	0.00	71	0		N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0		N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0		N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0		N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0		N.D.	
58) Toluene	12.56	91	490		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	0.00	91	0		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	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	216		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	0.00	180	0		N.D.	
95) Naphthalene	0.00	128	0		N.D.	
96) n-Dodecane	0.00	58	0		N.D.	
97) Hexachlorobutadiene	0.00	225	0		N.D.	
98) Cyclohexanone	0.00	55	0		N.D.	
99) tert-Butylbenzene	0.00	119	0		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 Path : I:\MS09\DATA\2025 03\17\
Data File : 03172527.D
Acq On : 18 Mar 2025 20:06
Operator : SC
Sample : P2500665-003Dil (20mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

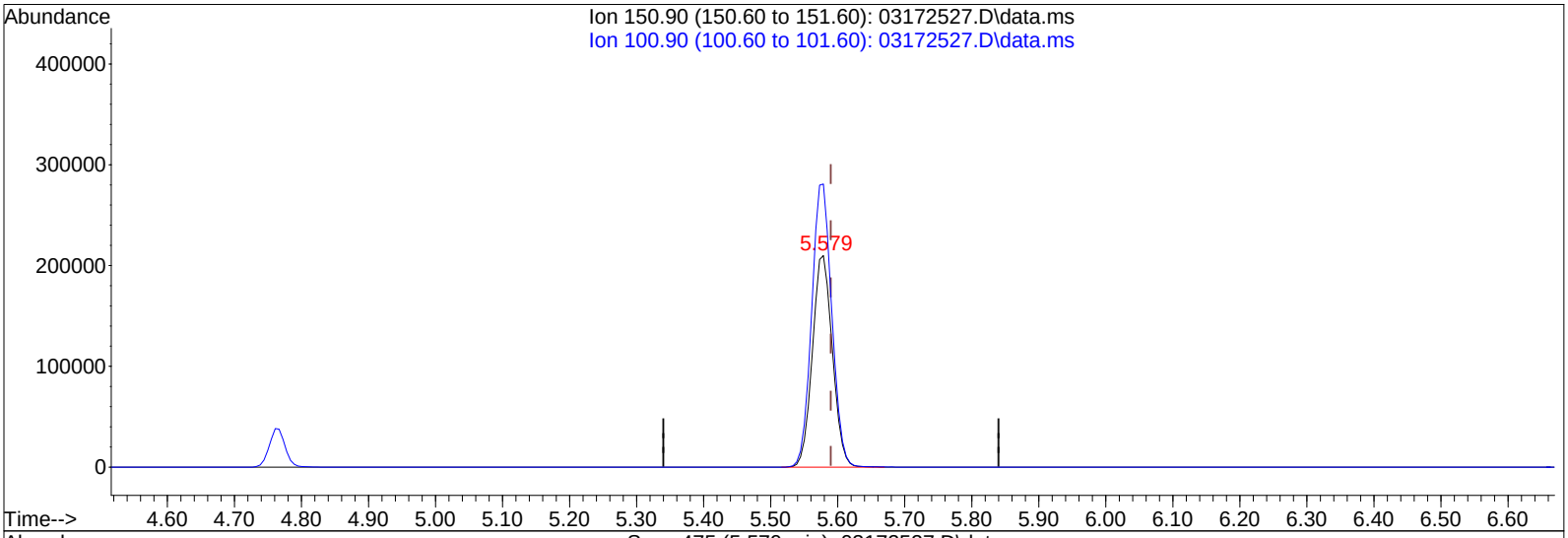
Quant Time: Mar 19 06:19:45 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

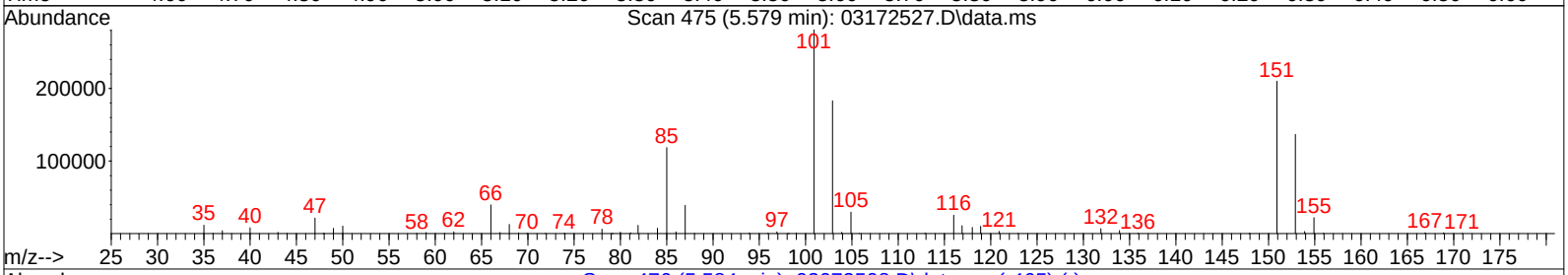


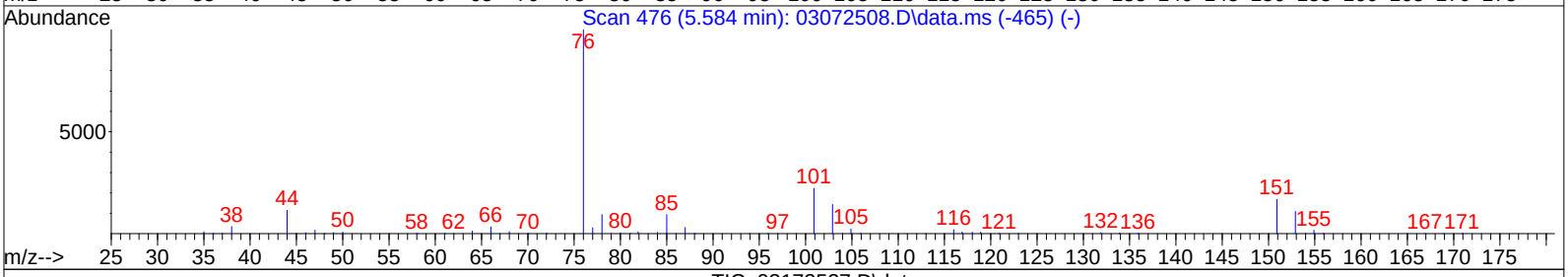
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172527.D
Acq On : 18 Mar 2025 20:06
Operator : SC
Sample : P2500665-003Dil (20mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 18 20:32:49 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03172527.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.011) 33.69ng

response 435348

Ion	Exp%	Act%
150.90	100	100
100.90	132.50	134.84
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172520.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.211	54	58	61	rBV	19788	21558	0.06%	0.037%
2	3.251	61	65	71	rVV2	16887	39663	0.10%	0.068%
3	3.313	71	76	83	rVV	191153	280693	0.74%	0.478%
4	3.376	83	87	91	rVV	31591	33067	0.09%	0.056%
5	3.421	91	95	103	rVB	12564	16632	0.04%	0.028%
6	3.501	104	109	117	rBV2	32573	45965	0.12%	0.078%
7	3.614	123	129	137	rBV	96362	117045	0.31%	0.199%
8	3.711	137	146	152	rVV3	15074	46116	0.12%	0.079%
9	3.773	152	157	164	rVV	32127	54576	0.14%	0.093%
10	3.847	164	170	180	rVB	124220	173898	0.46%	0.296%
11	4.239	231	239	248	rBV	128177	231942	0.61%	0.395%
12	4.307	248	251	268	rVB2	12841	31119	0.08%	0.053%
13	4.574	291	298	302	rBV2	14132	23363	0.06%	0.040%
14	4.653	306	312	322	rVB	148093	264601	0.70%	0.451%
15	4.761	323	331	345	rBV	2224628	4421930	11.64%	7.530%
16	4.858	345	348	353	rVB2	12182	18568	0.05%	0.032%
17	5.039	373	380	391	rVB	190481	321754	0.85%	0.548%
18	5.232	403	414	422	rBV2	14639	39938	0.11%	0.068%
19	5.369	431	438	440	rBV3	5172	11070	0.03%	0.019%
20	5.397	440	443	449	rVB	6533	10009	0.03%	0.017%
21	5.596	465	478	507	rBV2	9611045	37999420	100.00%	64.712%
22	5.789	507	512	522	rVB	18520	38197	0.10%	0.065%
23	6.317	598	605	613	rBV	19262	41784	0.11%	0.071%
24	6.431	613	625	630	rBV5	8515	27976	0.07%	0.048%
25	6.482	630	634	639	rVB2	8849	15500	0.04%	0.026%
26	6.572	646	650	662	rVB3	21756	48749	0.13%	0.083%
27	6.680	665	669	681	rVB	9745	19725	0.05%	0.034%
28	6.851	691	699	711	rBV3	12317	31219	0.08%	0.053%
29	6.993	716	724	734	rVB8	4787	15864	0.04%	0.027%
30	7.146	744	751	757	rVB3	5165	11408	0.03%	0.019%
31	7.237	757	767	774	rBV	373822	876712	2.31%	1.493%
32	7.299	774	778	783	rVV2	55183	118010	0.31%	0.201%
33	7.362	783	789	810	rVB	56173	138474	0.36%	0.236%
34	8.003	892	902	921	rBV	303697	721549	1.90%	1.229%
35	8.815	1039	1045	1052	rBV2	7637	18742	0.05%	0.032%
36	8.906	1053	1061	1068	rVV	24305	56953	0.15%	0.097%
37	8.980	1068	1074	1075	rVV3	7143	11179	0.03%	0.019%
38	9.031	1075	1083	1098	rVB	177920	434812	1.14%	0.740%
39	9.167	1100	1107	1113	rBV	15645	32671	0.09%	0.056%
40	9.304	1121	1131	1144	rVB	682162	1565863	4.12%	2.667%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

41	9.571	1172	1178	1196	rBV	33572	96710	0.25%	0.165%
42	9.735	1200	1207	1215	rVB7	5542	18723	0.05%	0.032%
43	10.150	1271	1280	1288	rBV2	50151	119134	0.31%	0.203%
44	10.224	1288	1293	1301	rVB2	5137	11176	0.03%	0.019%
45	10.820	1390	1398	1405	rBV4	4864	11441	0.03%	0.019%
46	11.001	1422	1430	1440	rVB	12840	33061	0.09%	0.056%
47	11.535	1518	1524	1538	rBV2	12755	37991	0.10%	0.065%
48	12.432	1671	1682	1697	rBV	921661	2121377	5.58%	3.613%
49	12.557	1697	1704	1714	rVB	18219	38988	0.10%	0.066%
50	13.233	1815	1823	1832	rBV3	5917	14683	0.04%	0.025%
51	13.403	1847	1853	1862	rBV2	9060	19475	0.05%	0.033%
52	14.522	2040	2050	2061	rBV	237305	516848	1.36%	0.880%
53	14.840	2097	2106	2117	rBV	892200	1852886	4.88%	3.155%
54	15.351	2190	2196	2203	rBV3	4929	11290	0.03%	0.019%
55	15.629	2237	2245	2249	rBV5	4420	12132	0.03%	0.021%
56	15.771	2262	2270	2278	rBV4	5033	12961	0.03%	0.022%
57	16.123	2326	2332	2341	rBV5	5760	11531	0.03%	0.020%
58	16.333	2363	2369	2383	rVB3	4865	13327	0.04%	0.023%
59	16.822	2445	2455	2470	rBV	752281	1435072	3.78%	2.444%
60	17.407	2552	2558	2562	rBV5	4893	10989	0.03%	0.019%
61	17.452	2562	2566	2569	rVV2	13424	24270	0.06%	0.041%
62	17.480	2569	2571	2581	rVB2	10580	17077	0.04%	0.029%
63	17.747	2613	2618	2626	rBV3	14854	31477	0.08%	0.054%
64	17.827	2626	2632	2641	rVB	37262	69902	0.18%	0.119%
65	18.043	2664	2670	2677	rVB2	7206	11819	0.03%	0.020%
66	18.201	2692	2698	2707	rBV4	4136	12704	0.03%	0.022%
67	18.321	2708	2719	2732	rVV5	14599	30825	0.08%	0.052%
68	18.502	2745	2751	2757	rBV	75148	120375	0.32%	0.205%
69	18.548	2757	2759	2764	rVB2	9327	12350	0.03%	0.021%
70	18.809	2798	2805	2818	rBV	575670	828585	2.18%	1.411%
71	18.923	2820	2825	2828	rVV	26338	44646	0.12%	0.076%
72	18.951	2828	2830	2836	rVB	23582	31247	0.08%	0.053%
73	19.070	2845	2851	2863	rVB5	10369	27480	0.07%	0.047%
74	19.224	2869	2878	2884	rBV3	13451	33065	0.09%	0.056%
75	19.297	2884	2891	2901	rVV	342981	536415	1.41%	0.914%
76	19.377	2901	2905	2916	rVB	18449	29941	0.08%	0.051%
77	19.502	2922	2927	2932	rBV3	6496	11388	0.03%	0.019%
78	19.564	2932	2938	2959	rVV	219935	397294	1.05%	0.677%
79	19.712	2959	2964	2971	rVB	22263	31412	0.08%	0.053%
80	19.814	2975	2982	2989	rBV2	75304	126096	0.33%	0.215%
81	19.899	2995	2997	3004	rVB4	8882	16692	0.04%	0.028%
82	19.962	3004	3008	3014	rVB3	16209	24933	0.07%	0.042%
83	20.229	3051	3055	3060	rVB2	15677	23814	0.06%	0.041%
84	20.302	3060	3068	3070	rBV5	6390	12285	0.03%	0.021%
85	20.354	3074	3077	3081	rVB3	9973	13569	0.04%	0.023%

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

86	20.427	3087	3090	3093	rBV3	9585	11629	0.03%	0.020%
87	20.467	3093	3097	3102	rVB3	12644	20424	0.05%	0.035%
88	20.569	3110	3115	3123	rVB2	111192	159614	0.42%	0.272%
89	20.700	3135	3138	3142	rVB2	10713	12816	0.03%	0.022%
90	20.751	3142	3147	3152	rVV4	19739	42818	0.11%	0.073%
91	20.802	3152	3156	3164	rVV6	21666	46960	0.12%	0.080%
92	20.882	3164	3170	3172	rVV2	16414	26831	0.07%	0.046%
93	20.916	3172	3176	3182	rVV2	49334	75285	0.20%	0.128%
94	20.972	3182	3186	3190	rVV	18698	28947	0.08%	0.049%
95	21.024	3190	3195	3200	rVV5	14996	27274	0.07%	0.046%
96	21.075	3200	3204	3212	rVB6	10438	23805	0.06%	0.041%
97	21.251	3229	3235	3241	rBV	84832	119949	0.32%	0.204%
98	21.319	3241	3247	3250	rBV	25816	34068	0.09%	0.058%
99	21.370	3250	3256	3264	rBV	55449	87420	0.23%	0.149%
100	21.444	3264	3269	3272	rBV2	36967	60145	0.16%	0.102%
101	21.540	3283	3286	3292	rVB2	13143	18567	0.05%	0.032%
102	21.637	3299	3303	3311	rVB3	16637	28619	0.08%	0.049%
103	21.762	3318	3325	3332	rBV9	11735	28634	0.08%	0.049%
104	21.830	3333	3337	3344	rVB2	27469	41682	0.11%	0.071%
105	21.892	3344	3348	3357	rVB4	15503	31151	0.08%	0.053%
106	21.972	3357	3362	3369	rBV5	10887	23157	0.06%	0.039%
107	22.040	3370	3374	3376	rBV2	13792	19386	0.05%	0.033%
108	22.148	3387	3393	3397	rBV	56917	90027	0.24%	0.153%
109	22.182	3397	3399	3404	rVB3	10731	14275	0.04%	0.024%
110	22.233	3404	3408	3413	rBV3	21112	32489	0.09%	0.055%
111	22.420	3435	3441	3452	rVB5	13418	33195	0.09%	0.057%
112	22.540	3458	3462	3466	rBV	20175	24469	0.06%	0.042%
113	22.596	3466	3472	3479	rBV	32107	63726	0.17%	0.109%
114	22.676	3480	3486	3492	rBV6	21593	51606	0.14%	0.088%
115	22.807	3505	3509	3519	rVB	28906	55903	0.15%	0.095%
116	22.903	3520	3526	3535	rVB2	18766	37895	0.10%	0.065%

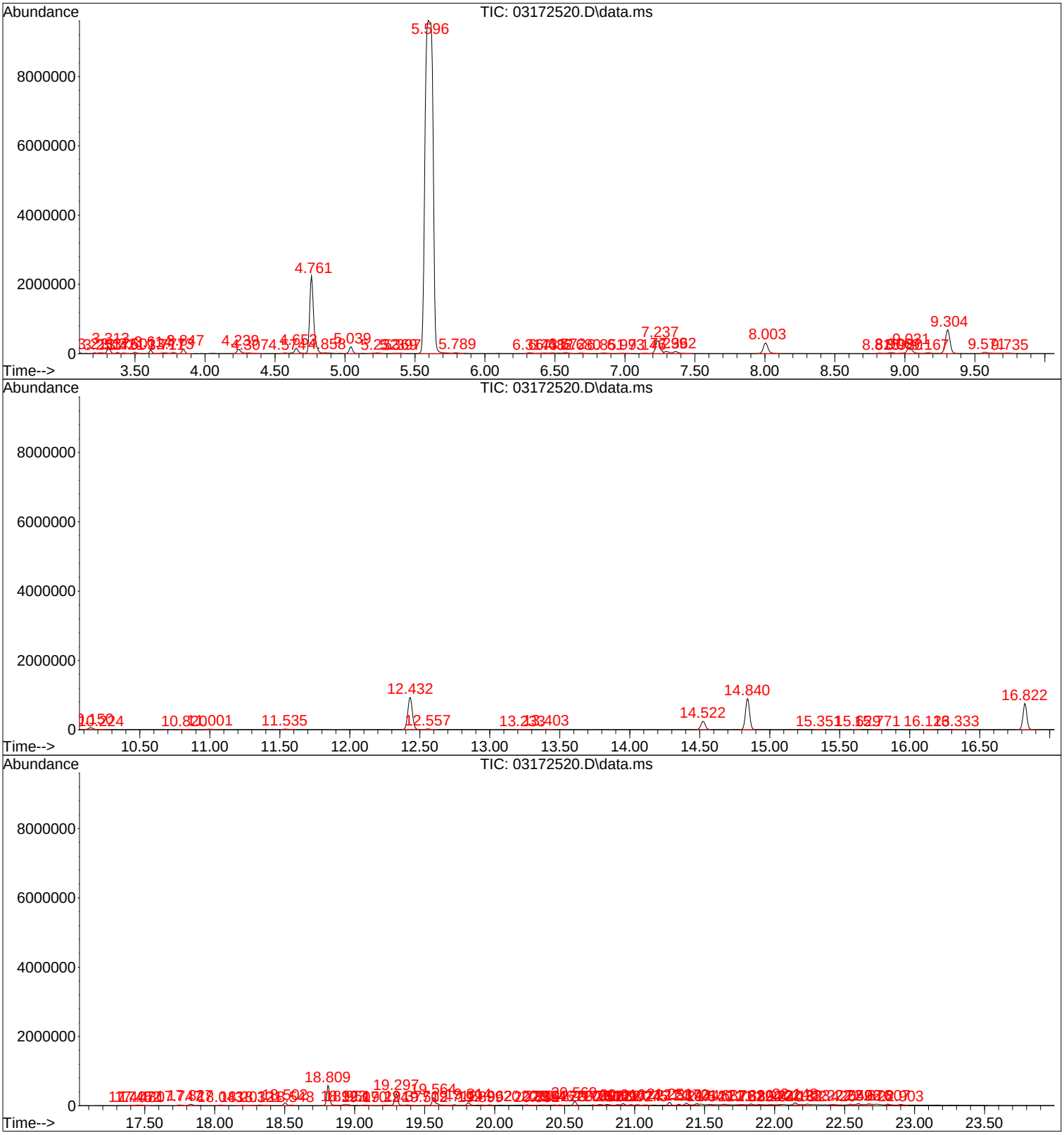
Sum of corrected areas: 58720536

LSC Report - Integrated Chromatogram

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:20
Operator : SC
Sample : P2500665-003 (400mL)
Misc : S38-03052512
ALS Vial : 6 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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\2025 03\17\\
Data File : 03172520.D
Acq On : 18 Mar 2025 16:200
Operator : SCC
Sample : P2500665-003 (400mL))
Misc : S38-030525122
ALS Vial : 6 Sample Multiplier: 11

MOA 3/18/25

Quant Method : I:\MS09\METHODS\R09030725.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

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Quantitation Report (QT/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

NOA 3/19/25

Quant Time: Mar 18 19:22:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	170099	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	727505	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	120377	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	251189	11.912	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%				
57) Toluene-d8 (SS2)	12.43	98	818676	12.546	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%				
73) Bromofluorobenzene (SS3)	16.82	174	250510	13.007	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.34	85	855	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	4.16	64	180	N.D.			
10) Ethanol	4.33	45	549	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.68	58	1822	0.141	ng	#	1
14) Trichlorofluoromethane	4.76	101	3339741	110.605	ng		99
15) 2-Propanol (Isopropanol)	0.00	45	0	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	284	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1416647	101.862	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)	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	15519	0.526	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	8.88	56	243	No Calib		#	
41) Benzene	8.90	78	537	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.29	84	528	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	1833	0.105	ng		96
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 18 19:22:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

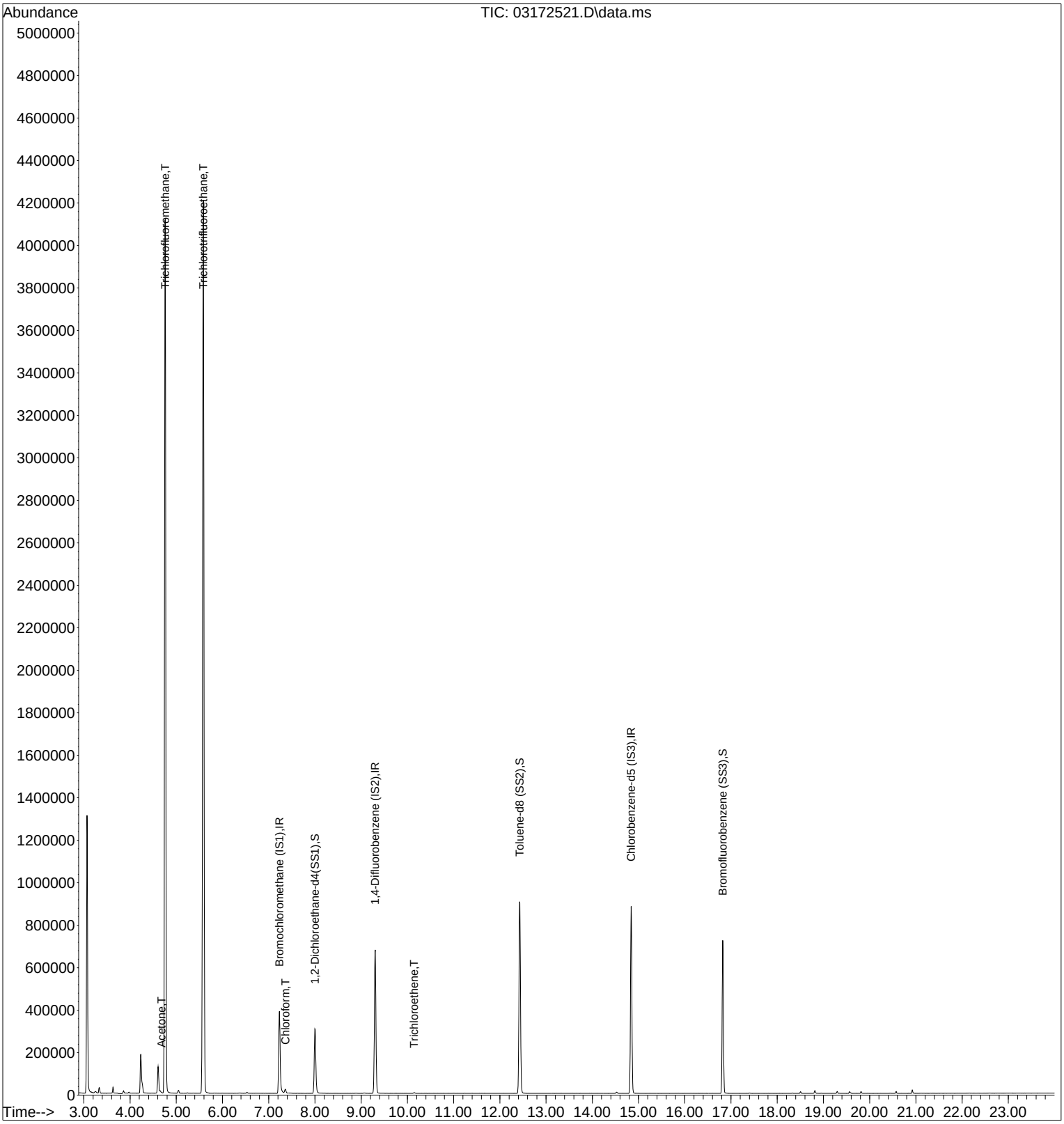
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	0.00	91	0	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	0.00	91	0	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	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	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 18 19:22:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 19:22:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

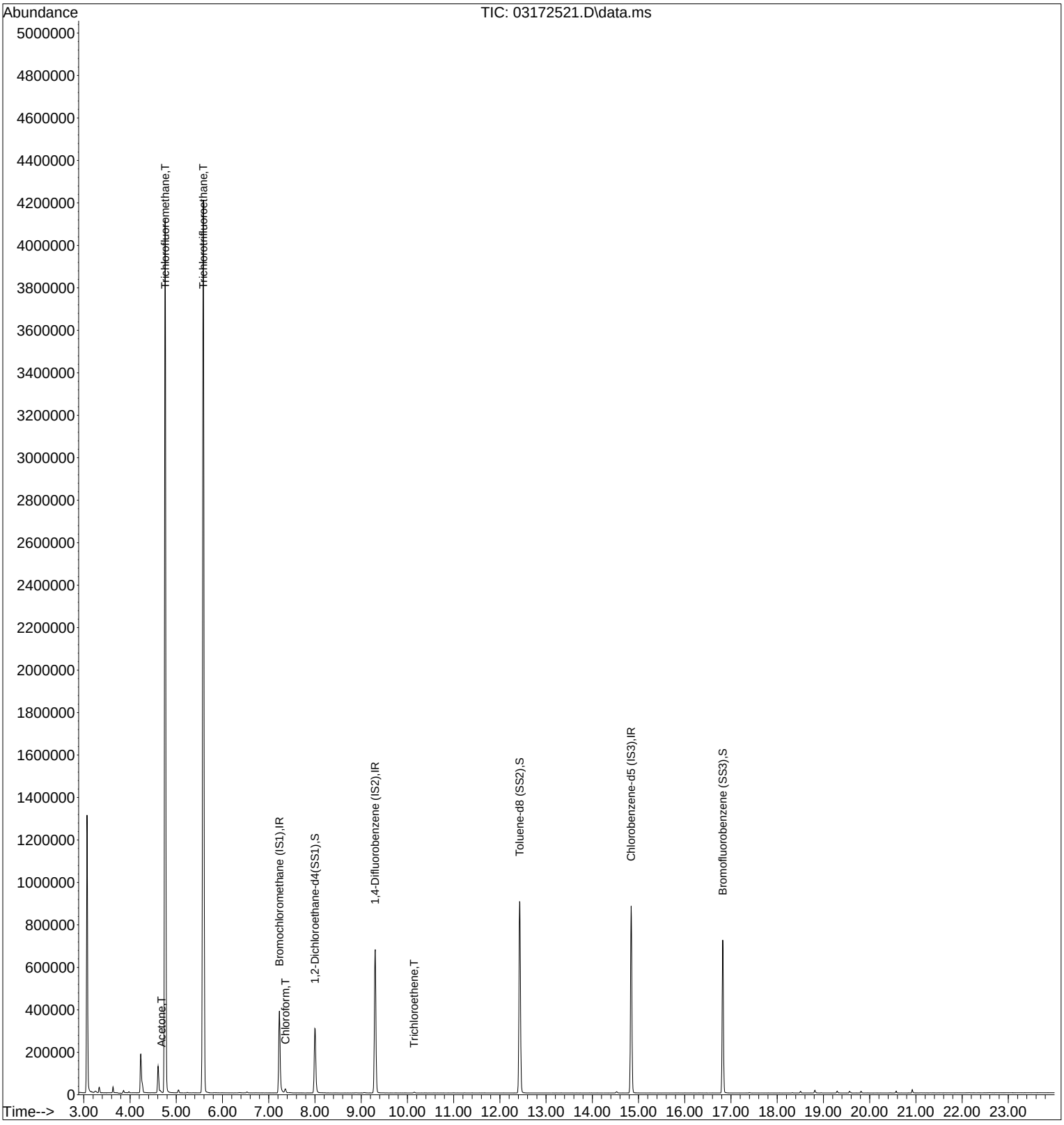
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	170099	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	727505	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	120377	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	251189	11.912	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.28%			
57) Toluene-d8 (SS2)	12.43	98	818676	12.546	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.40%			
73) Bromofluorobenzene (SS3)	16.82	174	250510	13.007	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.08%			
Target Compounds						Qvalue
13) Acetone	4.68	58	1822	0.141	ng	# 1
14) Trichlorofluoromethane	4.76	101	3339741	110.605	ng	99
21) Trichlorotrifluoroethane	5.58	151	1416647	101.862	ng	98
32) Chloroform	7.36	83	15519	0.526	ng	100
47) Trichloroethene	10.14	130	1833	0.105	ng	96

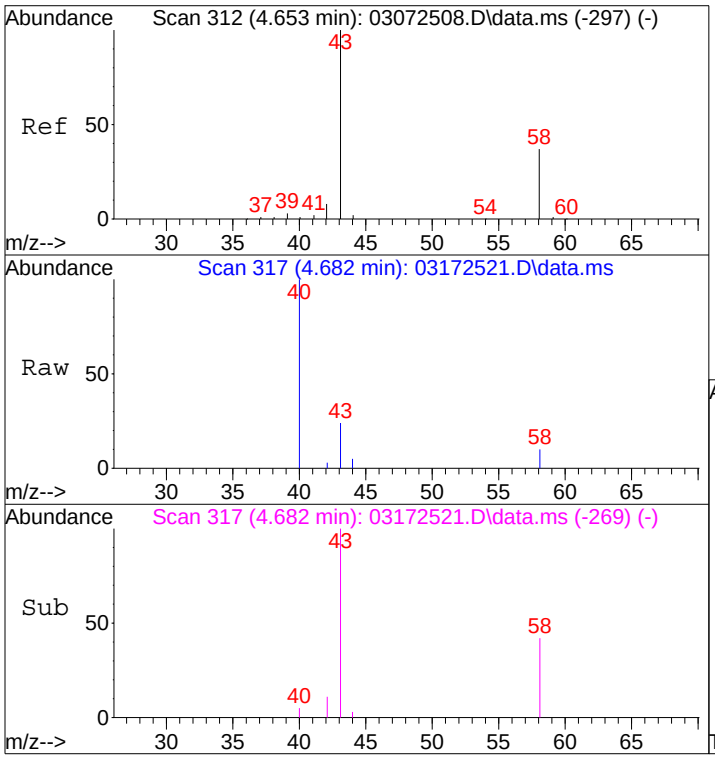
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 18 19:22:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

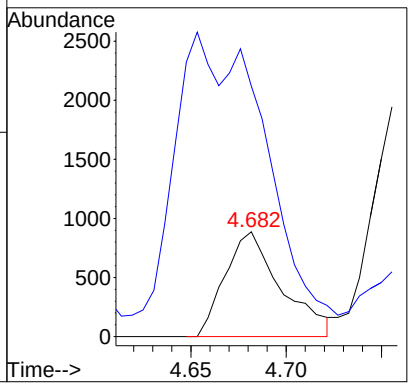


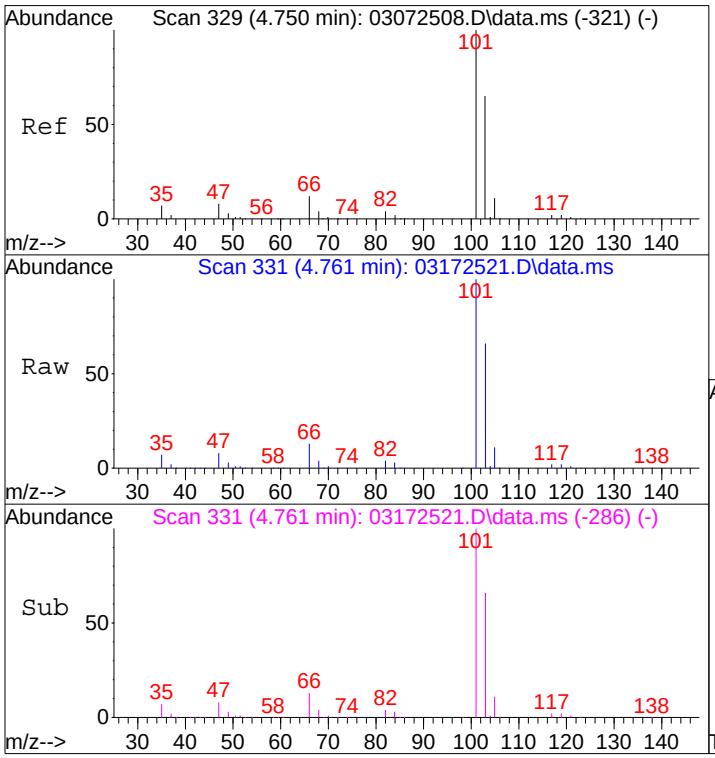


#13
Acetone
Concen: 0.14 ng
RT: 4.68 min Scan# 317
Delta R.T. 0.023 min
Lab File: 03172521.D
Acq: 18 Mar 2025 16:52

Tgt Ion: 58 Resp: 1822

Ion	Ratio	Lower	Upper
58	100		
43	473.2	241.6	301.6#

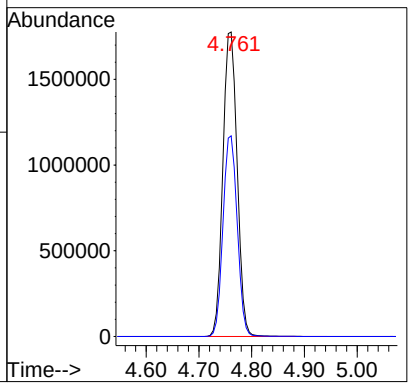


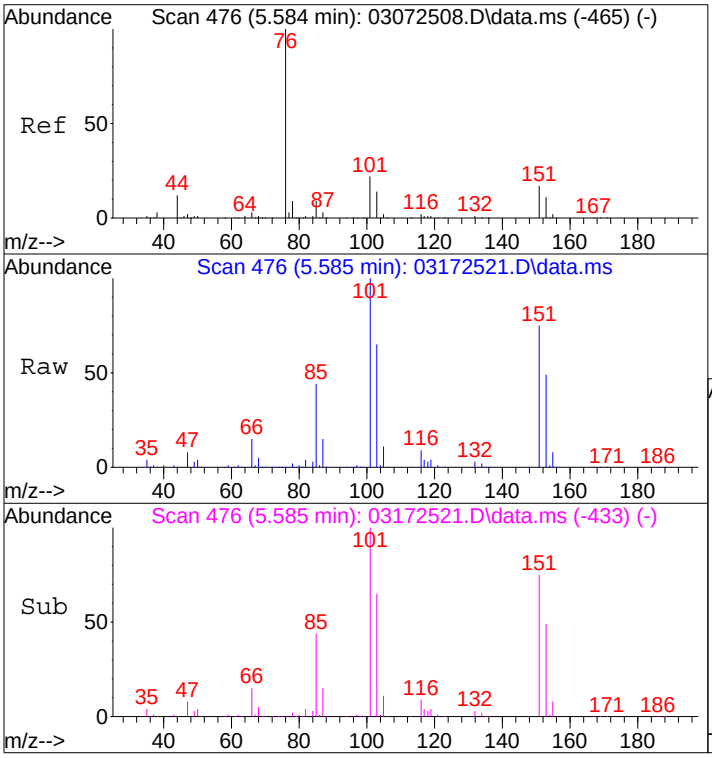


#14
Trichlorofluoromethane
Concen: 110.60 ng
RT: 4.76 min Scan# 331
Delta R.T. 0.006 min
Lab File: 03172521.D
Acq: 18 Mar 2025 16:52

Tgt Ion:101 Resp: 3339741

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.7	84.7

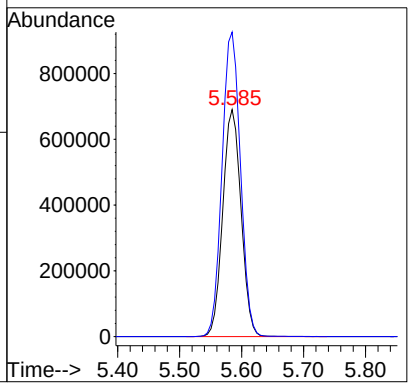


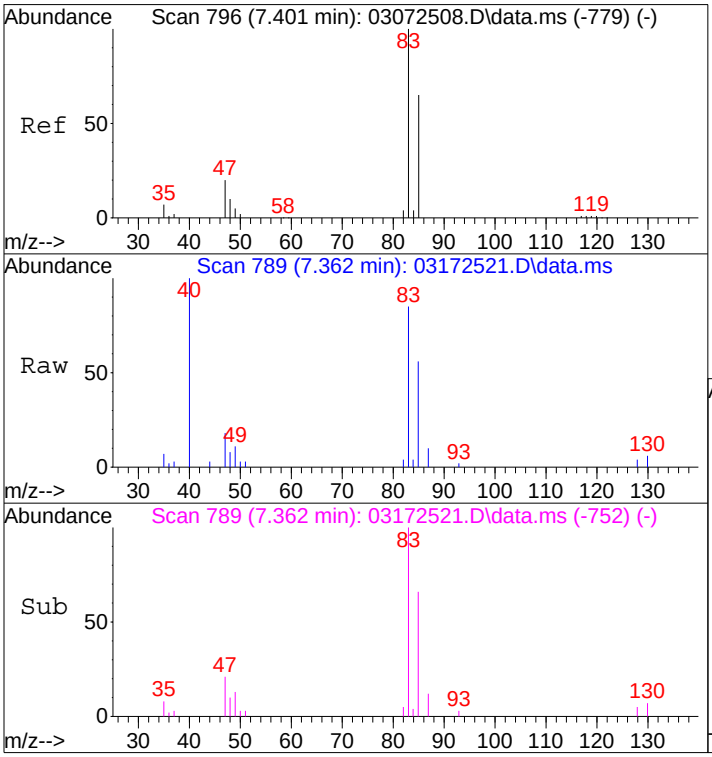


#21
Trichlorotrifluoroethane
Concen: 101.86 ng
RT: 5.58 min Scan# 476
Delta R.T. -0.006 min
Lab File: 03172521.D
Acq: 18 Mar 2025 16:52

Tgt Ion:151 Resp: 1416647

Ion	Ratio	Lower	Upper
151	100		
101	135.0	112.5	152.5

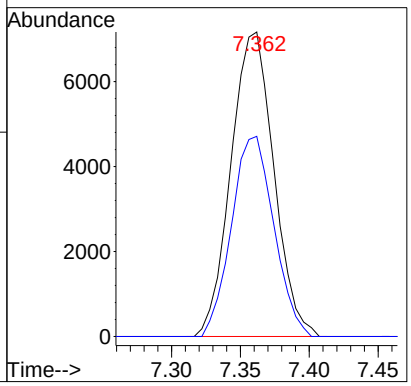


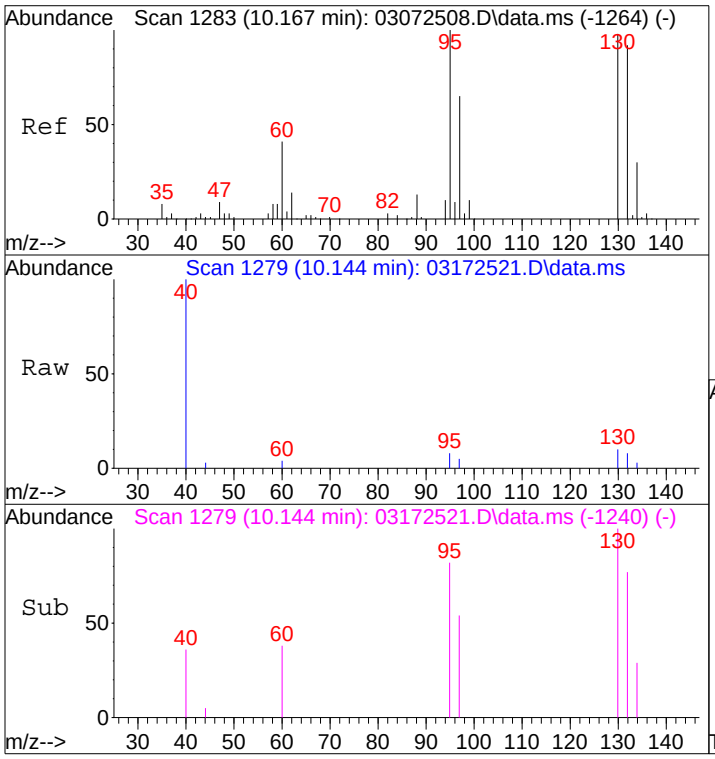


#32
Chloroform
Concen: 0.53 ng
RT: 7.36 min Scan# 789
Delta R.T. -0.040 min
Lab File: 03172521.D
Acq: 18 Mar 2025 16:52

Tgt Ion: 83 Resp: 15519

Ion	Ratio	Lower	Upper
83	100		
85	65.0	44.9	84.9

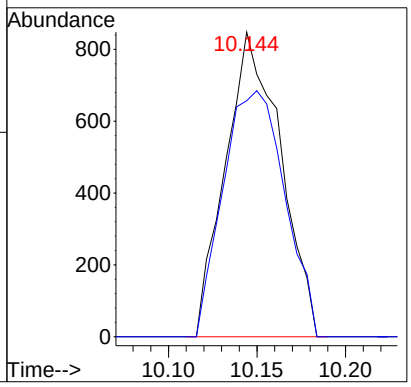




#47
Trichloroethene
Concen: 0.11 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.028 min
Lab File: 03172521.D
Acq: 18 Mar 2025 16:52

Tgt Ion:130 Resp: 1833

Ion	Ratio	Lower	Upper
130	100		
132	90.6	74.1	114.1



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 06:56:53 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

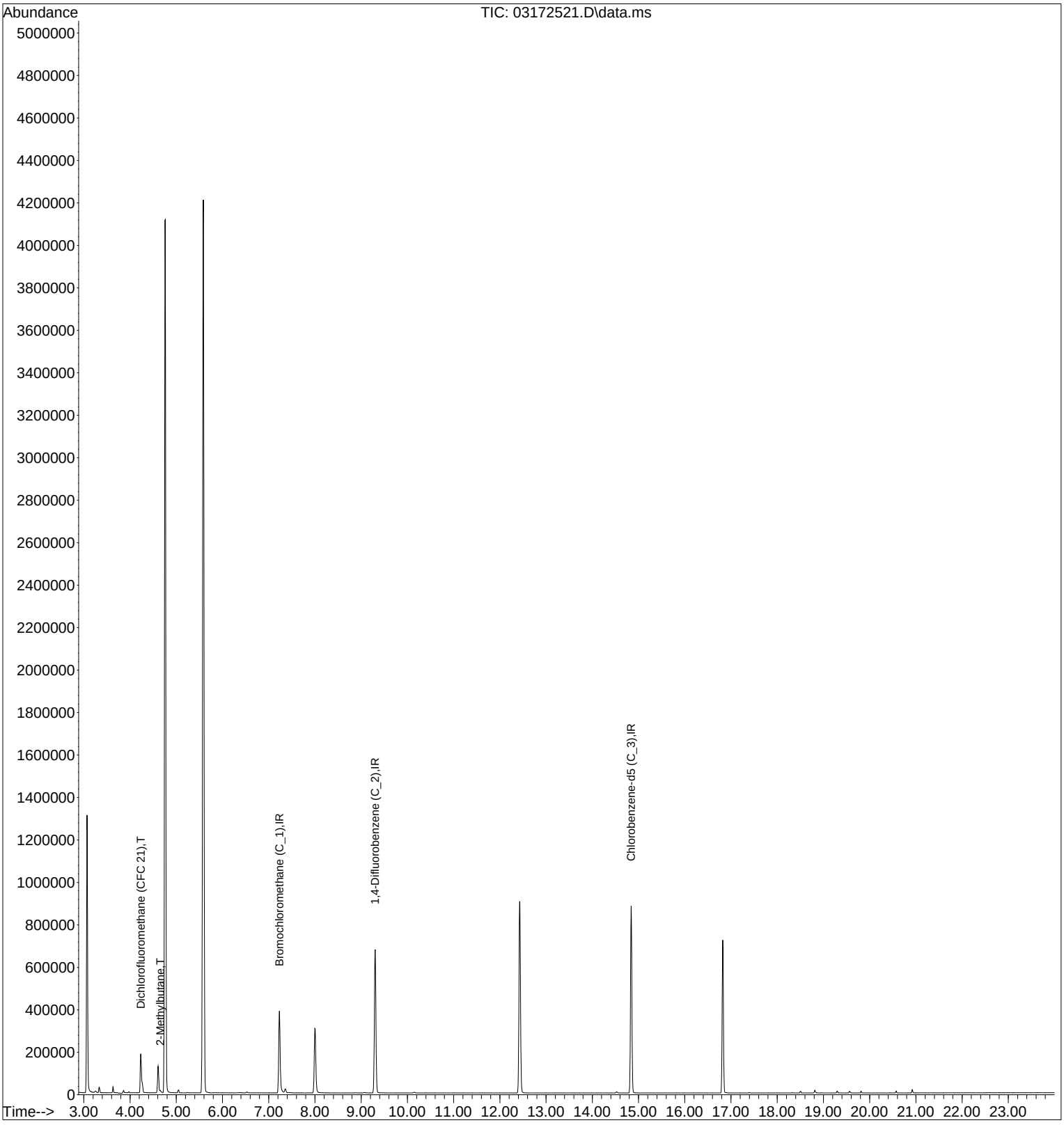
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	171750	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	727588	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	120377	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	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.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.23	67	191312	6.750 ng	88
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	3128	0.257 ng	89
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	0.00	91	0	N.D.	
27) 4-Chlorotoluene	0.00	91	0	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)

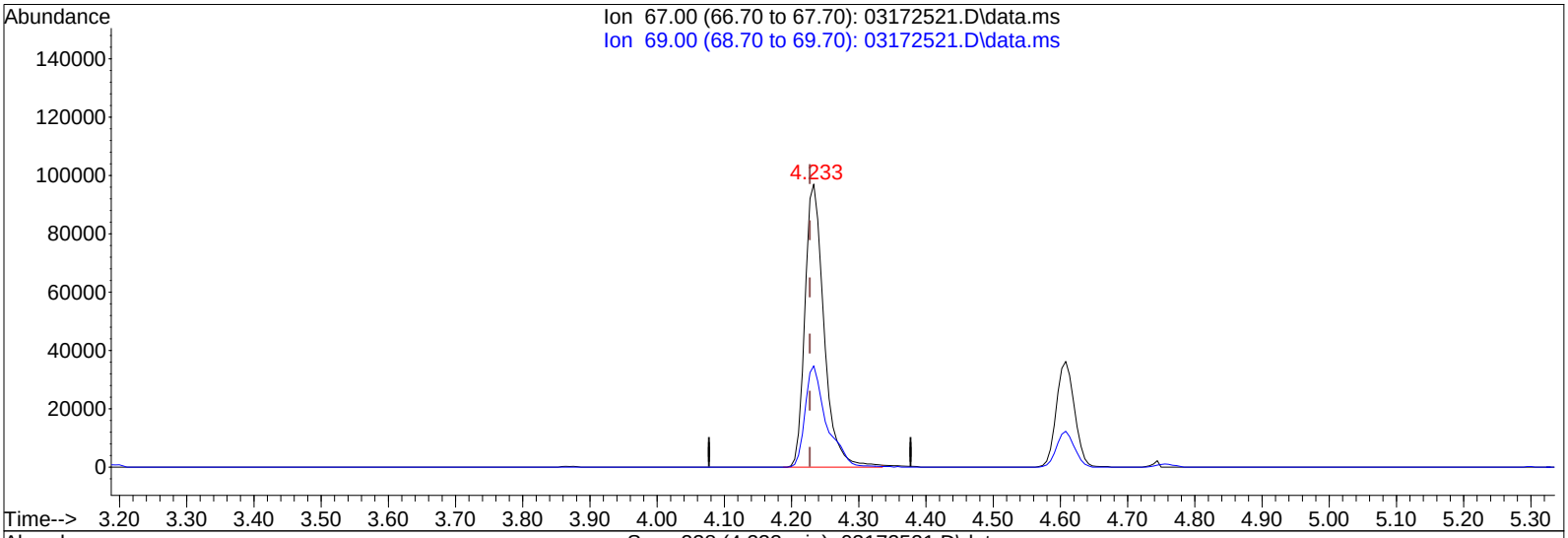
Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

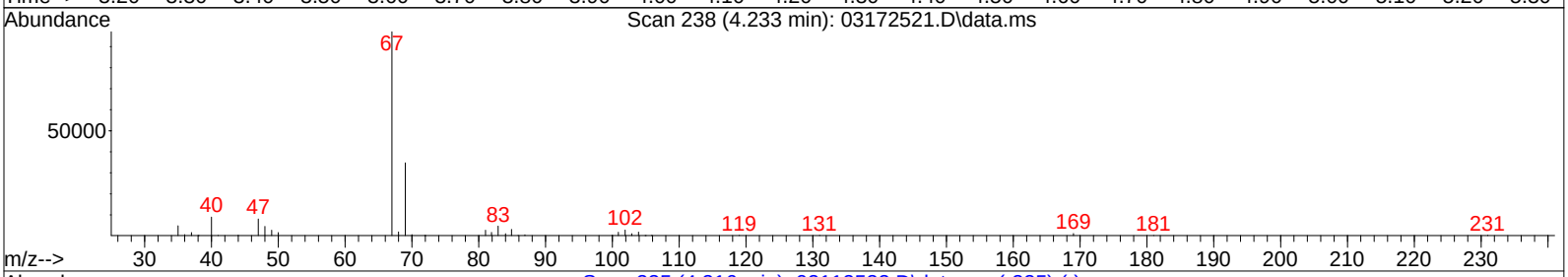
Quant Time: Mar 19 06:56:53 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

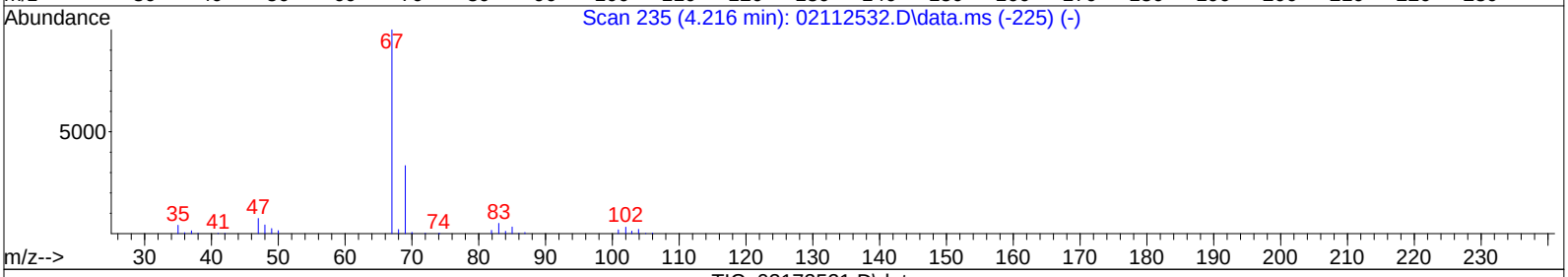


Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 06:34:40 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172521.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.233min (+0.006) 6.75ng

response 191312

Ion	Exp%	Act%
67.00	100	100
69.00	33.30	39.95
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182507.D
Acq On : 19 Mar 2025 6:28
Operator : SC
Sample : P2500665-004dil (15mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 07:52:25 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	170762	12.500 ng		-0.06
37) 1,4-Difluorobenzene (IS2)	9.29	114	720823	12.500 ng		-0.04
56) Chlorobenzene-d5 (IS3)	14.83	54	110607	12.500 ng		-0.02
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	249607	11.791 ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%			
57) Toluene-d8 (SS2)	12.42	98	784416	13.083 ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%			
73) Bromofluorobenzene (SS3)	16.82	174	225387	12.736 ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.33	85	758	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	4.15	64	238	N.D.		
10) Ethanol	4.31	45	3552	0.261 ng		92
11) Acetonitrile	0.00	41	0	N.D. d		
12) Acrolein	4.56	56	460	N.D.		
13) Acetone	4.65	58	4476	0.345 ng	#	60
14) Trichlorofluoromethane	4.75	101	3026086	99.828 ng		99
15) 2-Propanol (Isopropanol)	4.88	45	1417	N.D.		
16) Acrylonitrile	5.02	53	1383	0.062 ng		94
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	487	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.57	151	1281704	91.801 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	463	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	0.00	61	0	N.D.		
31) n-Hexane	0.00	57	0	N.D.		
32) Chloroform	7.35	83	13322	0.450 ng		99
34) Tetrahydrofuran (THF)	7.78	72	1258	0.115 ng	#	88
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	5327	No Calib		
41) Benzene	8.89	78	1588	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	10.14	130	1757	0.102 ng		98
48) 1,4-Dioxane	10.16	88	218	N.D.		

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182507.D
Acq On : 19 Mar 2025 6:28
Operator : SC
Sample : P2500665-004dil (15mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 07:52:25 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

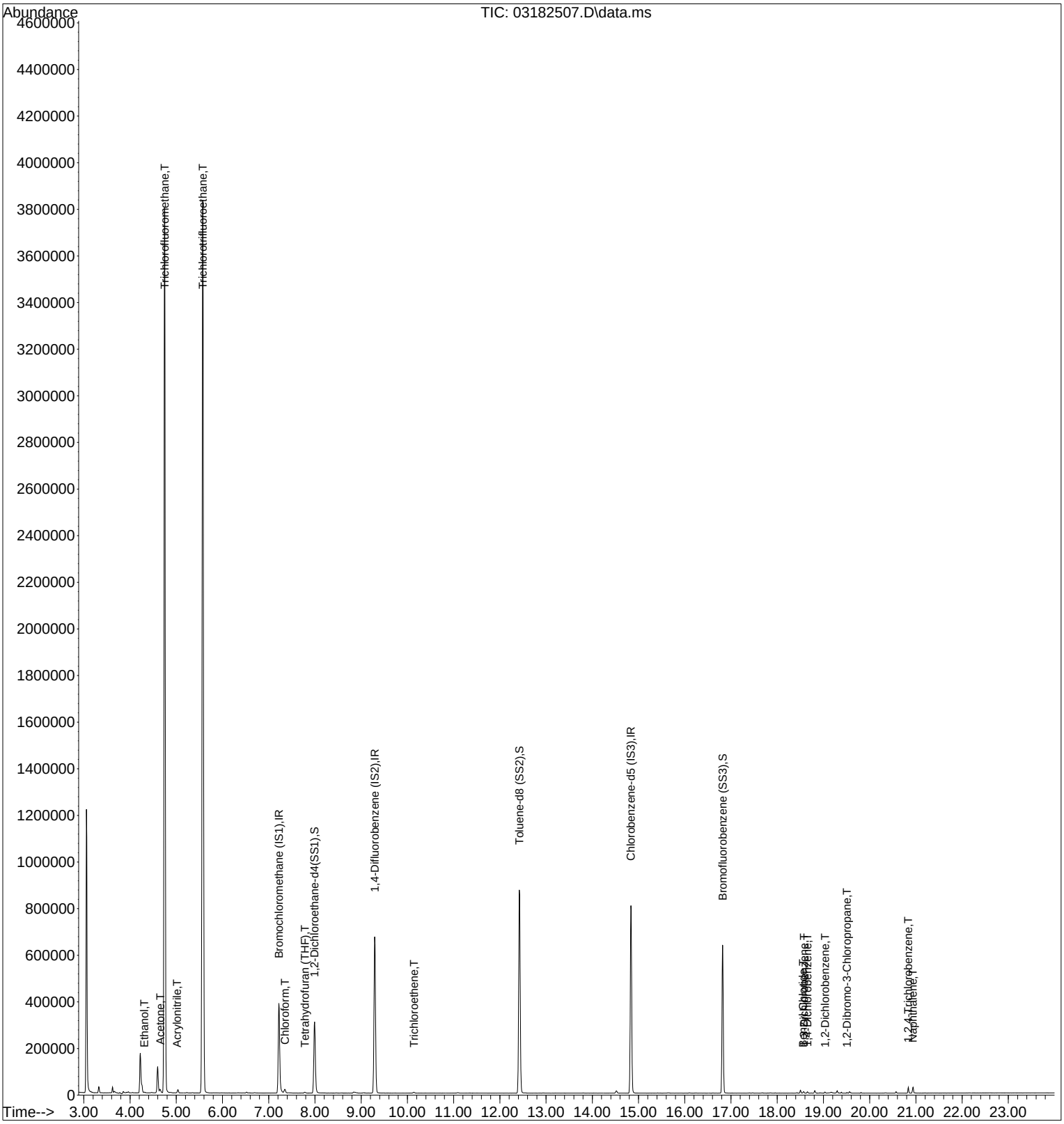
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.55	91	1352	N.D.		
59) 2-Hexanone	12.94	43	1220	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	727	N.D.		
63) n-Octane	0.00	57	0	N.D.		
64) Tetrachloroethene	14.02	166	110	N.D.		
65) Chlorobenzene	14.89	112	1192	N.D.		
66) Ethylbenzene	15.41	91	1072	N.D.		
67) m- & p-Xylenes	15.65	91	2252	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	16.11	104	1387	N.D.		
70) o-Xylene	16.25	91	816	N.D.		
71) n-Nonane	16.61	43	453	N.D.		
72) 1,1,2,2-Tetrachloroethane	16.21	83	181	N.D.		
74) Cumene	17.03	105	520	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	17.68	91	2186	N.D.		
77) 3-Ethyltoluene	17.03	105	520	No Calib	#	
78) 4-Ethyltoluene	17.86	105	1553	N.D.		
79) 1,3,5-Trimethylbenzene	17.96	105	905	N.D.		
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	520	No Calib	#	
82) 1,2,4-Trimethylbenzene	18.43	105	1476	N.D.		
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	3412	0.084 ng		91
85) 1,3-Dichlorobenzene	18.58	146	2466	0.081 ng		98
86) 1,4-Dichlorobenzene	18.66	146	3032	0.096 ng		99
87) sec-Butylbenzene	18.74	105	818	N.D.		
88) 4-Isopropyltoluene (p-...	18.93	119	1115	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	520	No Calib	#	
90) 1,2-Dichlorobenzene	19.04	146	2225	0.071 ng		98
91) d-Limonene	0.00	68	0	N.D.		
92) 1,2-Dibromo-3-Chloropr...	19.51	157	915	0.088 ng	#	81
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	7345	0.345 ng		97
95) Naphthalene	20.94	128	18295	0.275 ng		96
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	18.43	119	368	N.D.		
100) n-Butylbenzene	19.39	91	2205	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\2025 03\18\
Data File : 03182507.D
Acq On : 19 Mar 2025 6:28
Operator : SC
Sample : P2500665-004dil (15mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

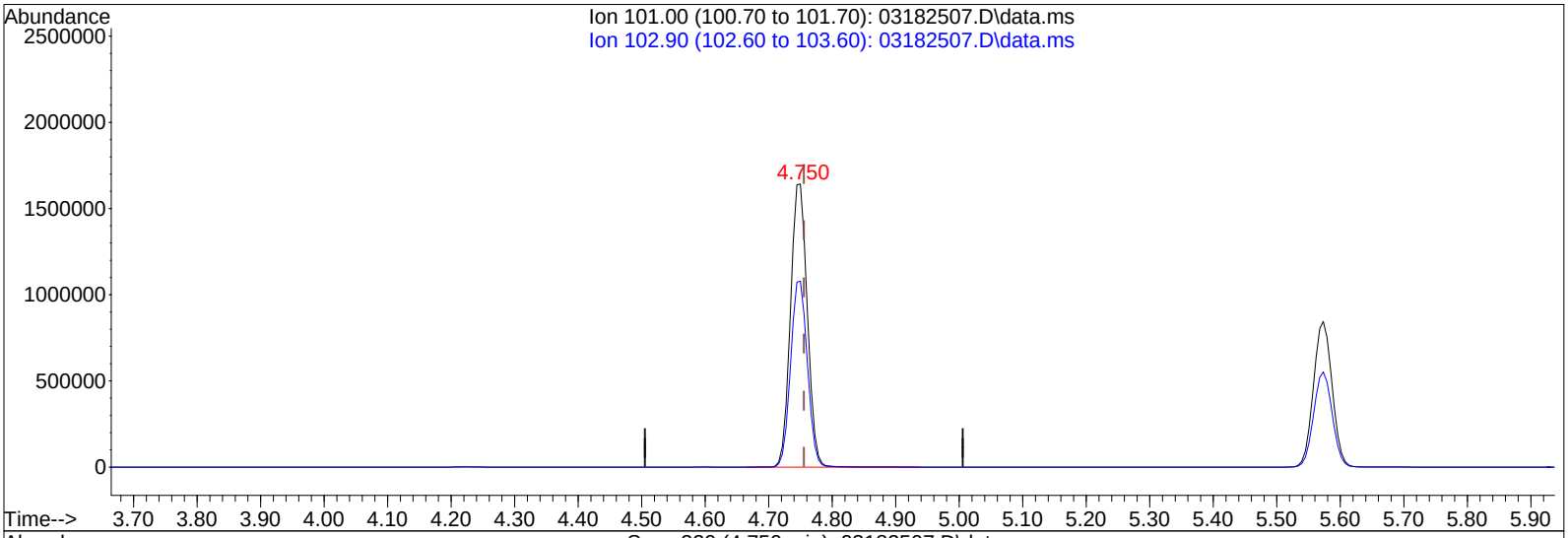
Quant Time: Mar 19 07:52:25 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

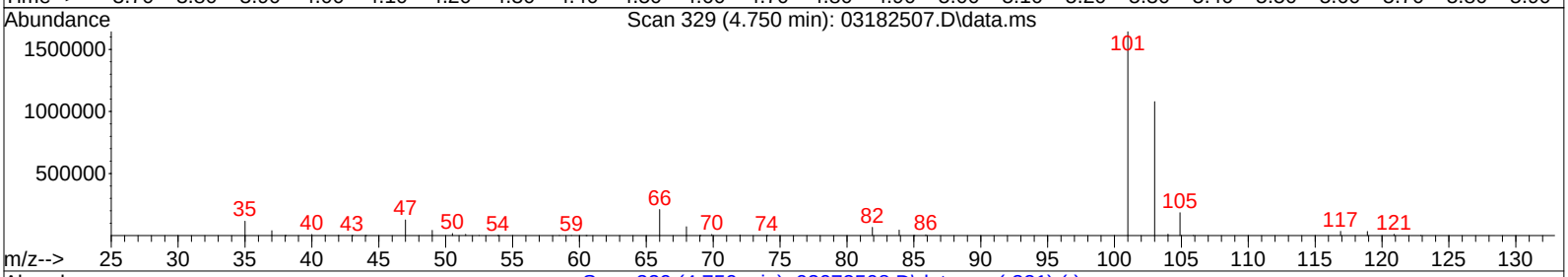


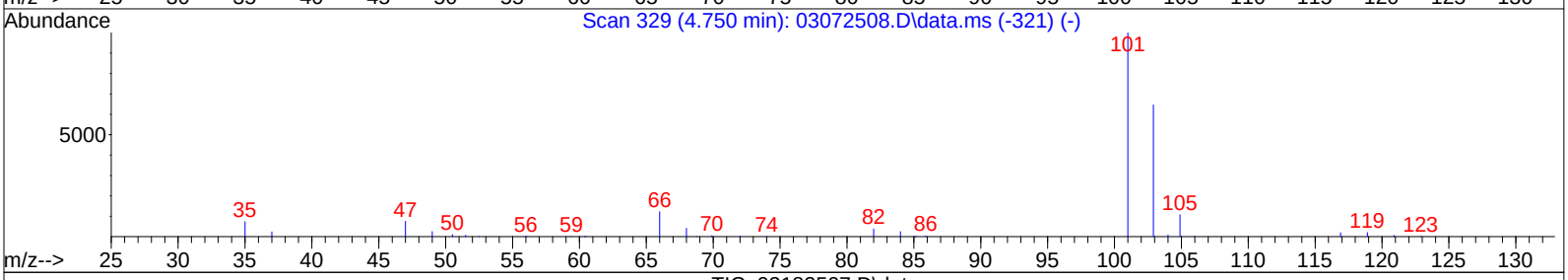
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182507.D
Acq On : 19 Mar 2025 6:28
Operator : SC
Sample : P2500665-004dil (15mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 07:52:25 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03182507.D\data.ms

(14) Trichlorofluoromethane (T)

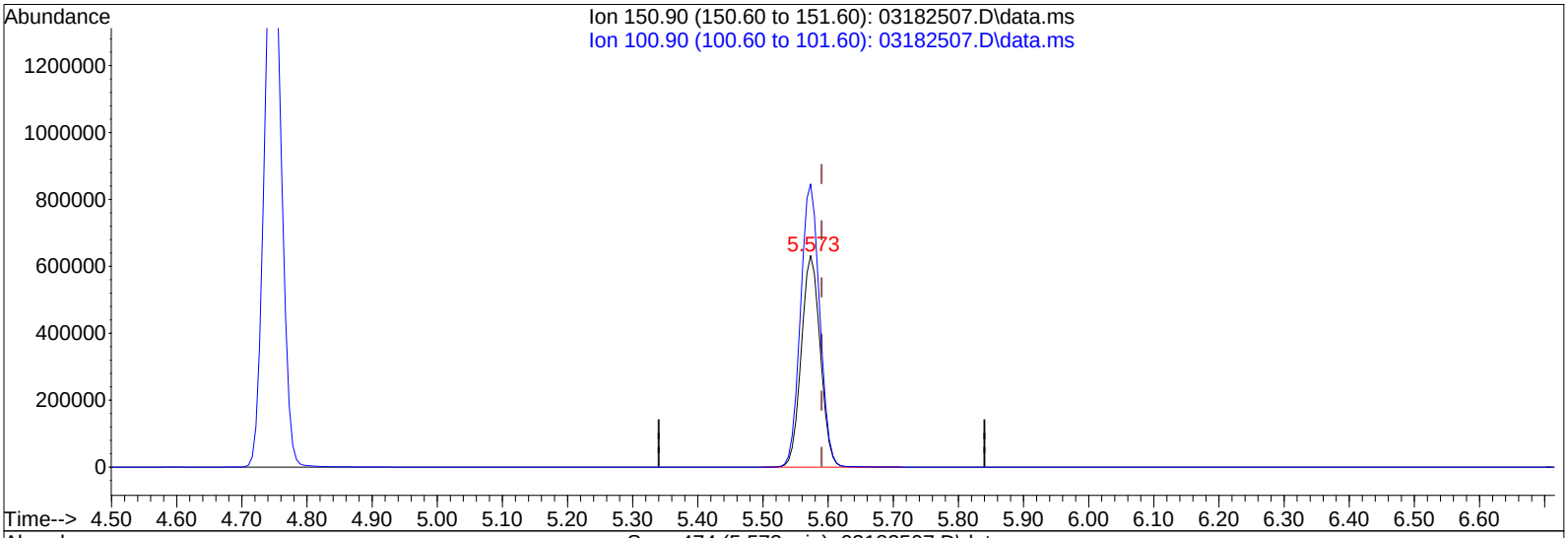
4.750min (-0.005) 99.83ng

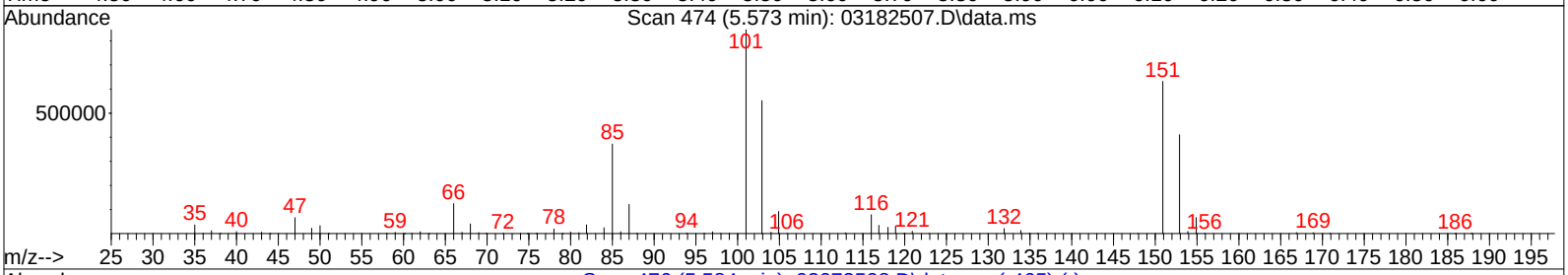
response 3026086

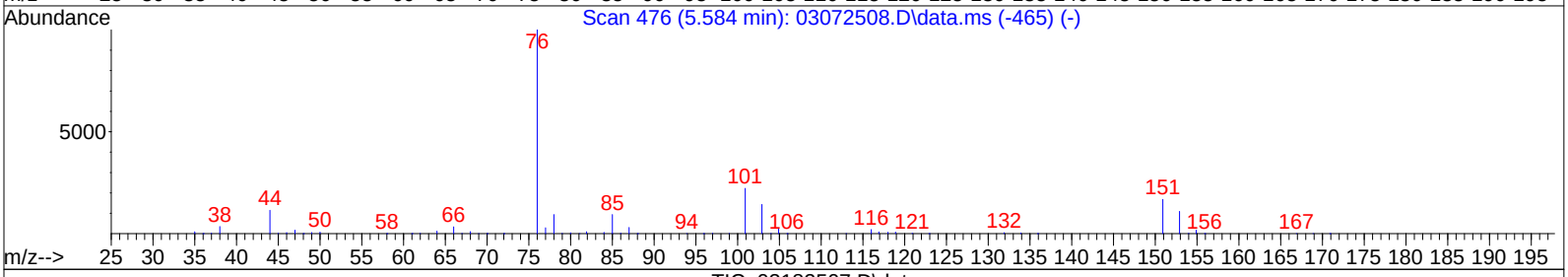
Ion	Exp%	Act%
101.00	100	100
102.90	64.70	65.67
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182507.D
Acq On : 19 Mar 2025 6:28
Operator : SC
Sample : P2500665-004dil (15mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 19 07:52:25 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03182507.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.573min (-0.017) 91.80ng

response 1281704

Ion	Exp%	Act%
150.90	100	100
100.90	132.50	134.72
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172521.D\data.ms

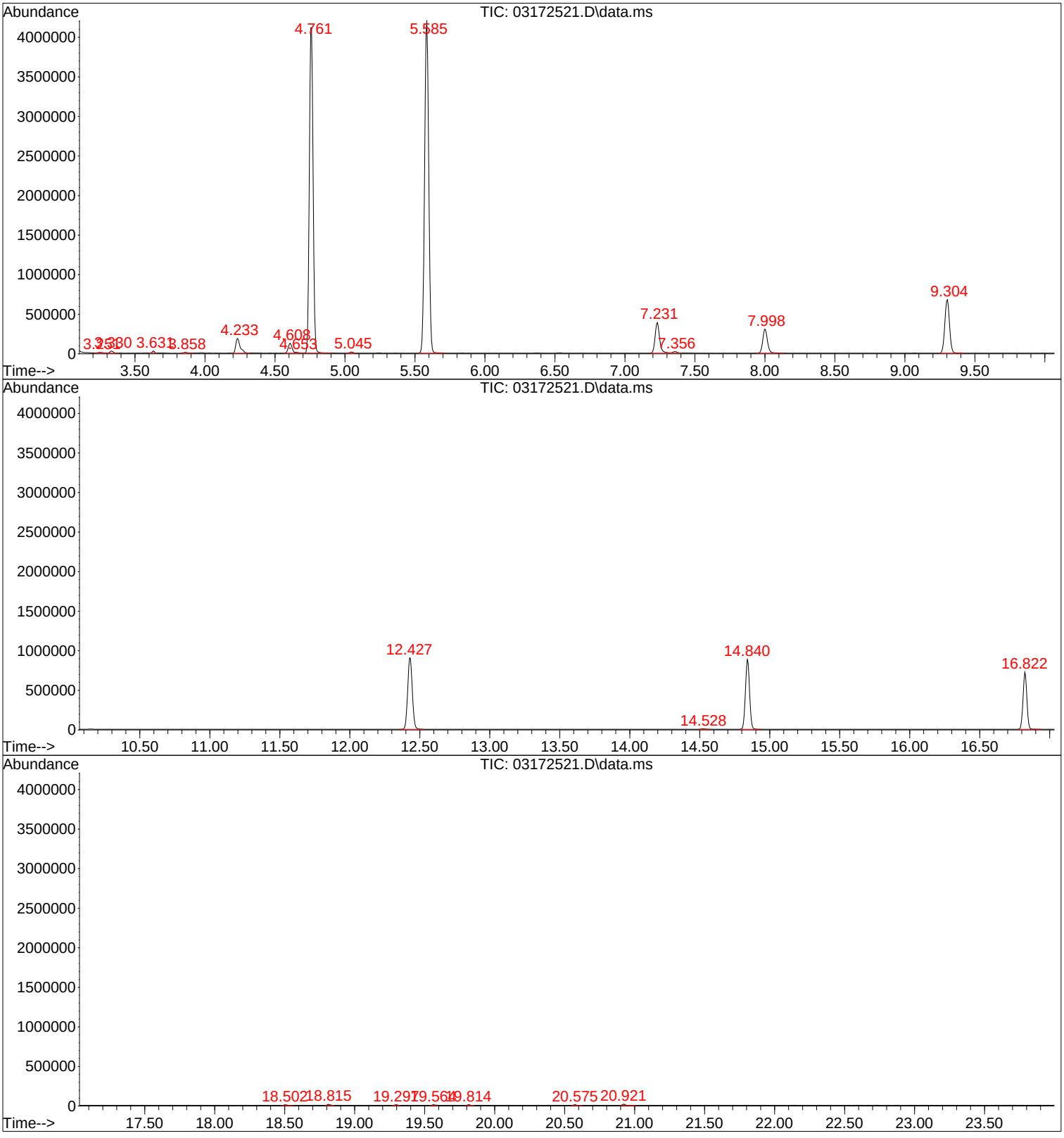
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.251	58	65	74	rVV	6927	18819	0.22%	0.073%
2	3.330	74	79	88	rVB2	26377	43278	0.50%	0.169%
3	3.631	127	132	137	rBV	26930	30869	0.36%	0.120%
4	3.858	165	172	182	rBV	13875	30116	0.35%	0.117%
5	4.233	231	238	254	rBV	183955	397055	4.59%	1.546%
6	4.608	295	304	310	rBV	124993	234795	2.72%	0.914%
7	4.653	310	312	322	rVV3	11251	20158	0.23%	0.079%
8	4.761	322	331	356	rVB	4112166	7694798	89.04%	29.966%
9	5.045	374	381	388	rBV	13576	24062	0.28%	0.094%
10	5.585	465	476	499	rBV	4206005	8642304	100.00%	33.656%
11	7.231	756	766	782	rBV	385766	867238	10.03%	3.377%
12	7.356	782	788	797	rVB	18355	41380	0.48%	0.161%
13	7.998	890	901	925	rBV	303279	711037	8.23%	2.769%
14	9.304	1120	1131	1152	rBV	675492	1548532	17.92%	6.031%
15	12.427	1668	1681	1699	rBV	902288	2079396	24.06%	8.098%
16	14.528	2044	2051	2060	rVB	5910	12668	0.15%	0.049%
17	14.840	2096	2106	2123	rBV	880184	1810673	20.95%	7.051%
18	16.822	2446	2455	2476	rBV	720671	1364502	15.79%	5.314%
19	18.502	2746	2751	2762	rVB3	8208	12065	0.14%	0.047%
20	18.815	2801	2806	2813	rBV	13263	21457	0.25%	0.084%
21	19.297	2885	2891	2896	rBV2	9117	13404	0.16%	0.052%
22	19.564	2933	2938	2942	rBV	8063	12914	0.15%	0.050%
23	19.814	2978	2982	2989	rVB2	8308	12075	0.14%	0.047%
24	20.575	3111	3116	3125	rVB2	8946	12374	0.14%	0.048%
25	20.921	3173	3177	3192	rVB2	15269	22318	0.26%	0.087%

Sum of corrected areas: 25678287

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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



Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

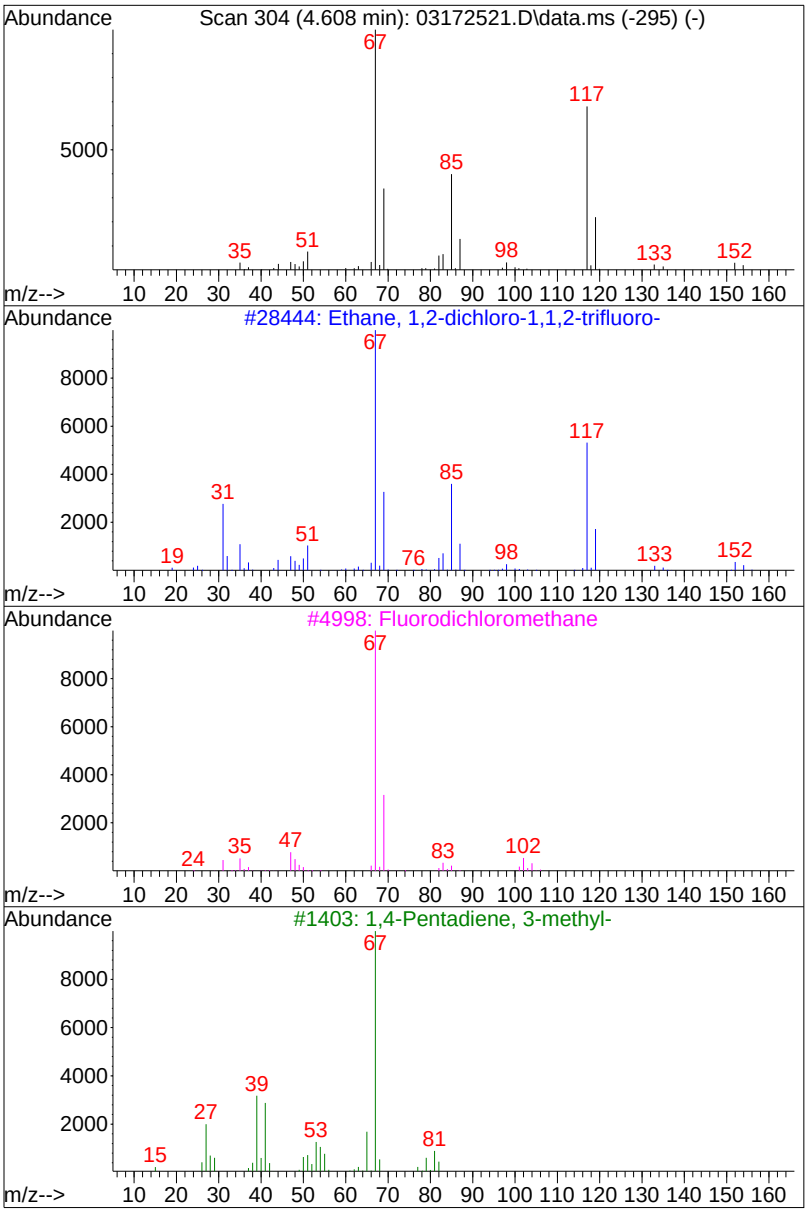
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

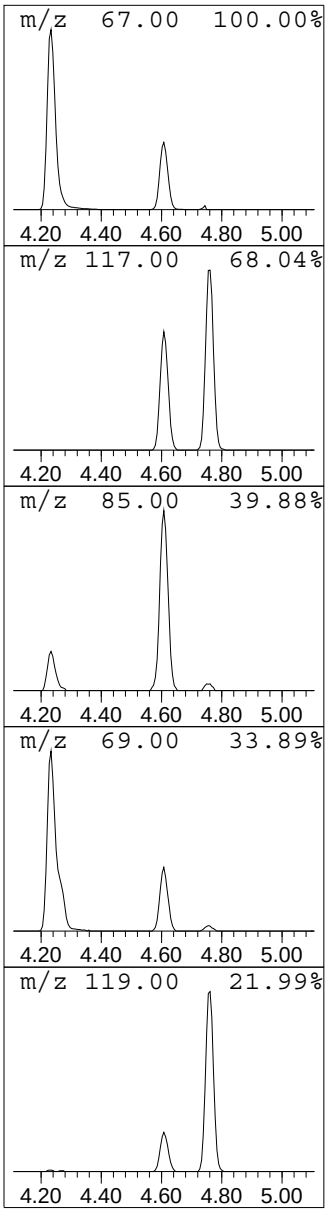
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.608	3.38 ng	234795	Bromochloromethane (IS1)	7.231

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	25
3	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	9
4	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	9
5	2,4-Hexadiene	82	C6H10	000592-46-1	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2025_03\17\
Data File : 03172521.D
Acq On : 18 Mar 2025 16:52
Operator : SC
Sample : P2500665-004 (20mL)
Misc : S38-03052512
ALS Vial : 7 Sample Multiplier: 1

MOA 3/18/25

Quant Method : I:\MS09\METHODS\R09030725.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...	4.608	3.4	ng	234795	1	7.231	867238	12.5

Quantitation Report (QT/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

3/19/25

Quant Time: Mar 18 19:23:50 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	168386	12.500 ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	713256	12.500 ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	117187	12.500 ng	-0.01
System Monitoring Compounds					
33) 1,2-Dichloroethane-d4(...	8.00	65	246138	11.791 ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%		
57) Toluene-d8 (SS2)	12.43	98	802035	12.626 ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%		
73) Bromofluorobenzene (SS3)	16.82	174	248417	13.249 ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%		
Target Compounds					Qvalue
2) Propene	0.00	42	0	N.D. d	
3) Dichlorodifluoromethan...	3.33	85	3529	0.103 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	4.16	64	1074	0.087 ng	94
10) Ethanol	4.33	45	319	N.D.	
11) Acetonitrile	0.00	41	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) Acetone	4.67	58	2346	0.184 ng #	1
14) Trichlorofluoromethane	4.76	101	4017942	134.419 ng	99
15) 2-Propanol (Isopropanol)	0.00	45	0	N.D.	
16) Acrylonitrile	5.05	53	123	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	432	N.D.	
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.	
21) Trichlorotrifluoroethane	5.58	151	2421472	175.883 ng	100
22) Carbon Disulfide	5.63	76	1772	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	7.35	87	521	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	6124	0.210 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	0.00	56	0	N.D.	
41) Benzene	0.00	78	0	N.D.	
42) Carbon Tetrachloride	0.00	117	0	N.D.	
43) Cyclohexane	9.28	84	537	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	2043	0.120 ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.	

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 18 19:23:50 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

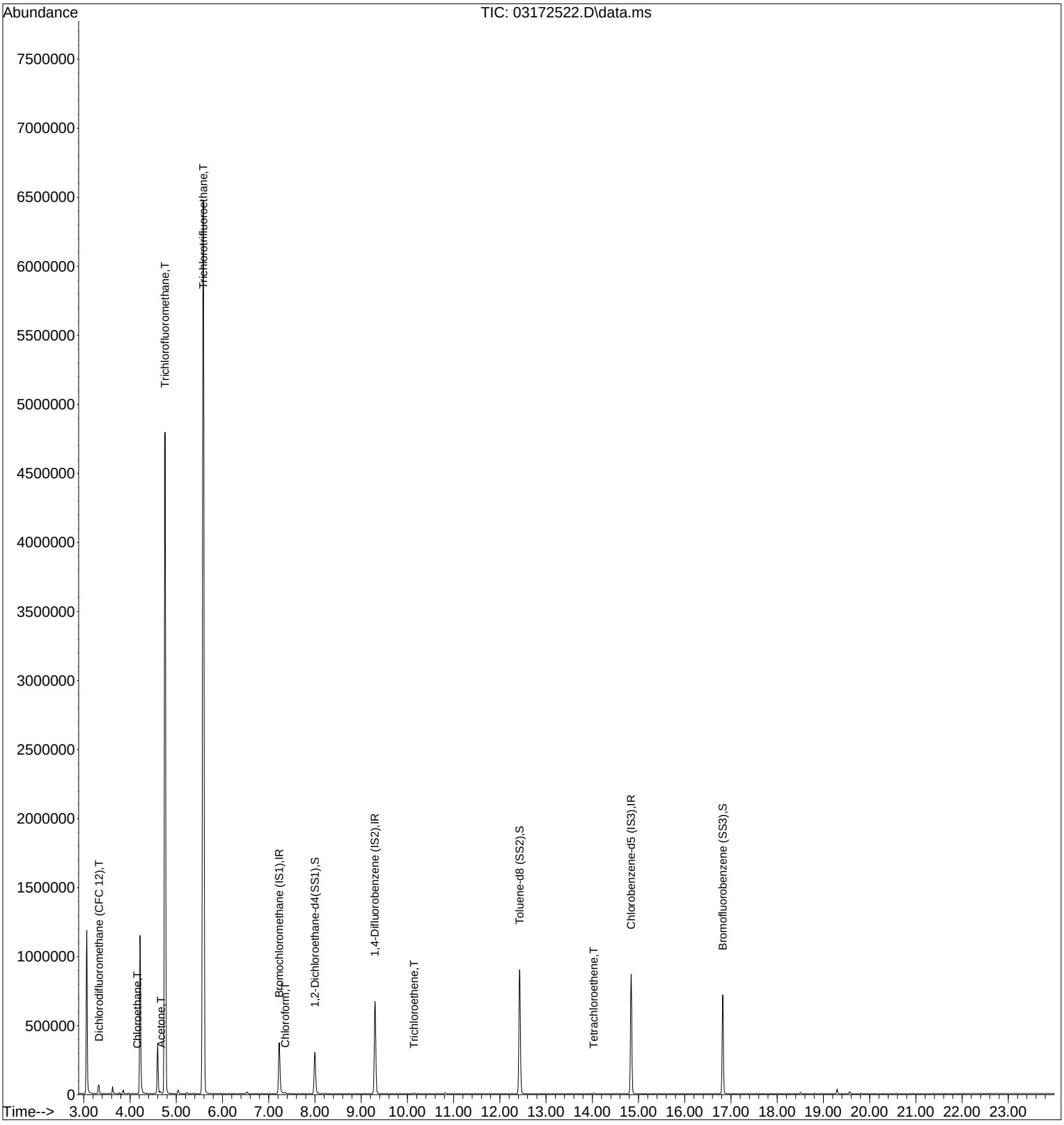
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	230	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	14.03	166	1785	0.103	ng	98
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	0.00	91	0	N.D.		
67) m- & p-Xylenes	0.00	91	0	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	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	0.00	180	0	N.D.		
95) Naphthalene	0.00	128	0	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.50	119	104	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 18 19:23:50 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

MA 3/18/25

Quant Time: Mar 18 19:23:50 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

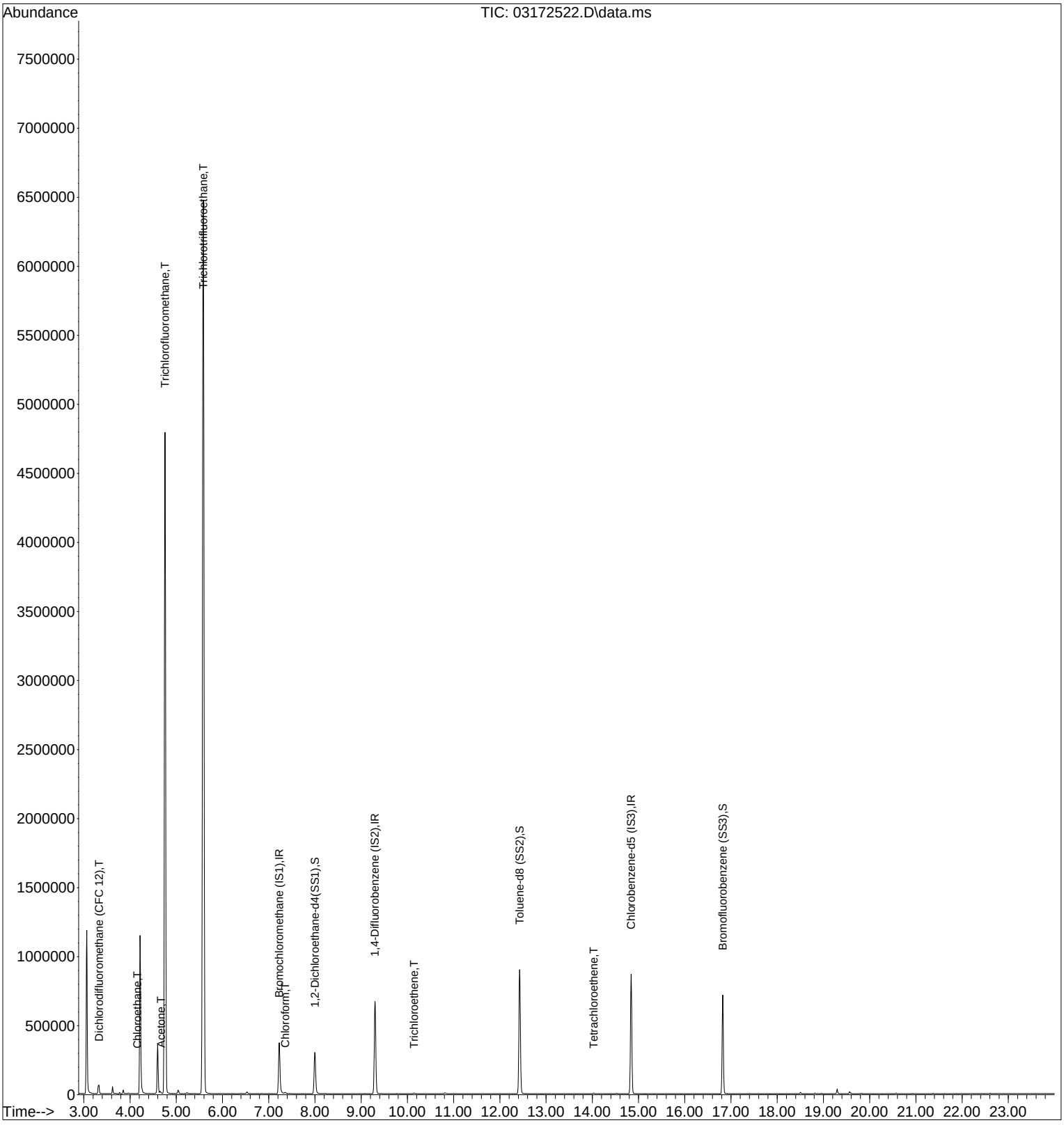
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	168386	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	713256	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	117187	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	246138	11.791	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.32%				
57) Toluene-d8 (SS2)	12.43	98	802035	12.626	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.04%				
73) Bromofluorobenzene (SS3)	16.82	174	248417	13.249	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.00%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.33	85	3529	0.103	ng	#	92
9) Chloroethane	4.16	64	1074	0.087	ng		94
13) Acetone	4.67	58	2346	0.184	ng	#	1
14) Trichlorofluoromethane	4.76	101	4017942	134.419	ng		99
21) Trichlorotrifluoroethane	5.58	151	2421472	175.883	ng		100
32) Chloroform	7.36	83	6124	0.210	ng		98
47) Trichloroethene	10.14	130	2043	0.120	ng		98
64) Tetrachloroethene	14.03	166	1785	0.103	ng		98

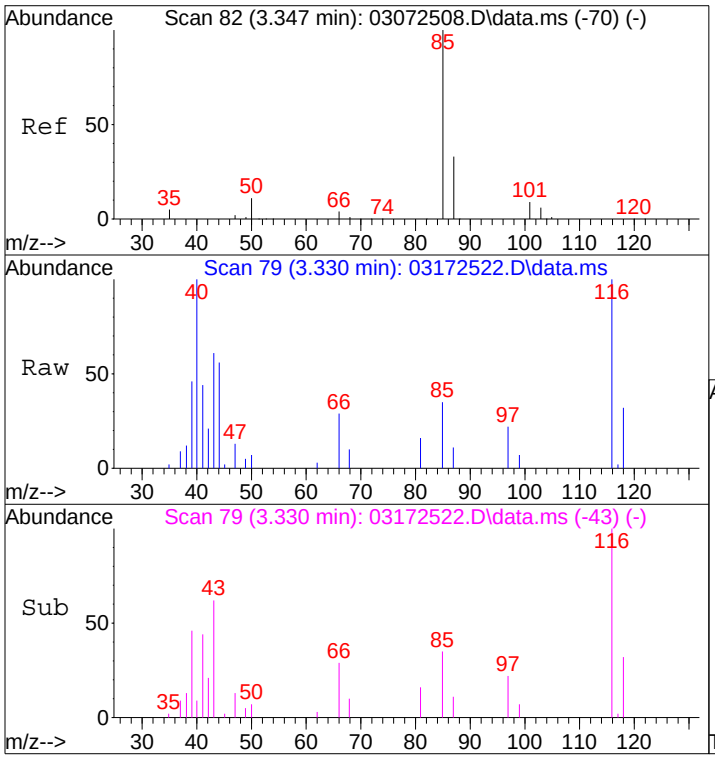
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 18 19:23:50 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

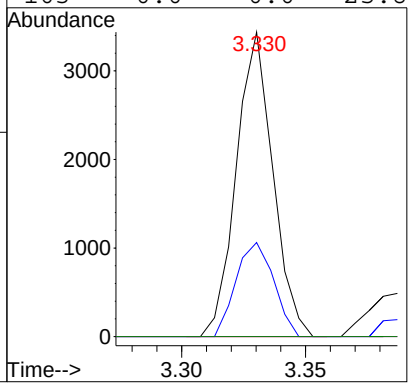


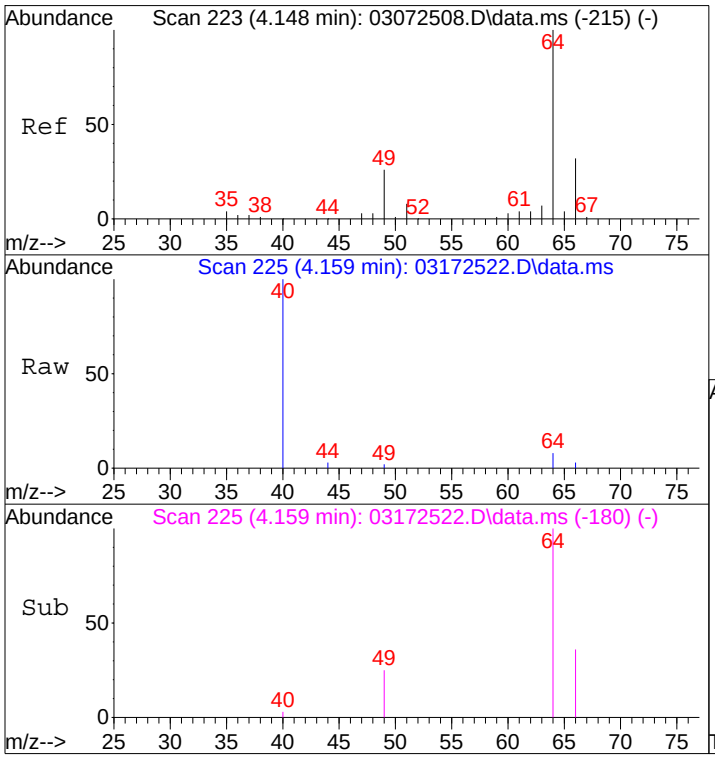


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.10 ng
RT: 3.33 min Scan# 79
Delta R.T. -0.043 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion: 85 Resp: 3529

Ion	Ratio	Lower	Upper
85	100		
87	31.9	13.2	53.2
101	0.0	0.0	28.9
103	0.0	0.0	25.8

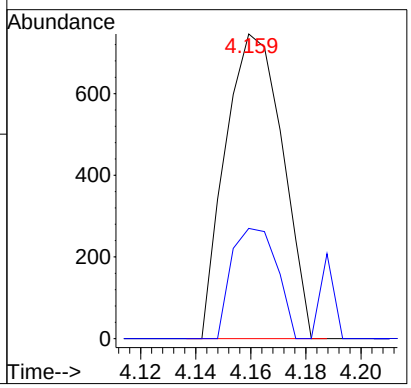


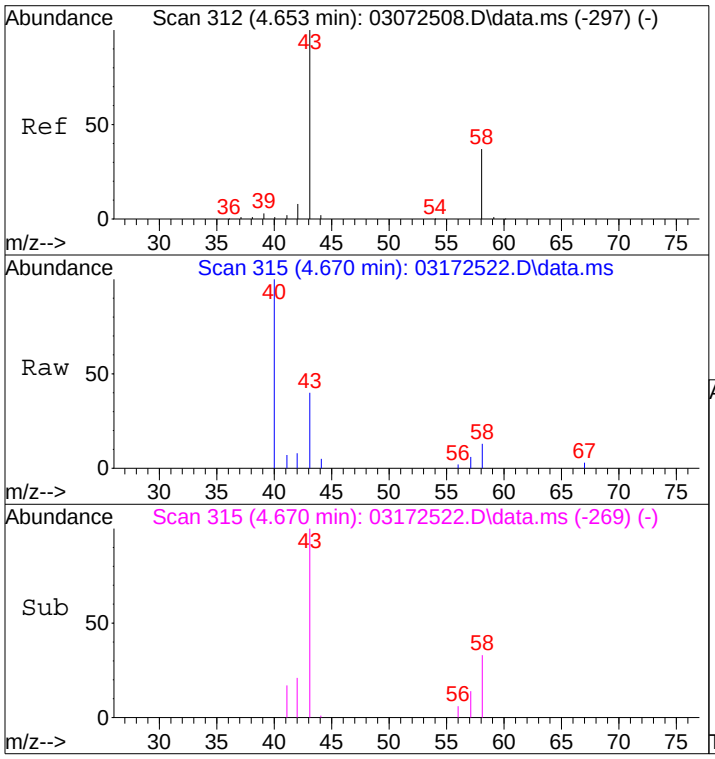


#9
Chloroethane
Concen: 0.09 ng
RT: 4.16 min Scan# 225
Delta R.T. 0.006 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion: 64 Resp: 1074

Ion	Ratio	Lower	Upper
64	100		
66	28.9	12.5	52.5

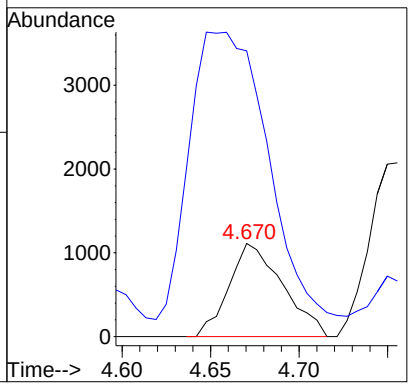


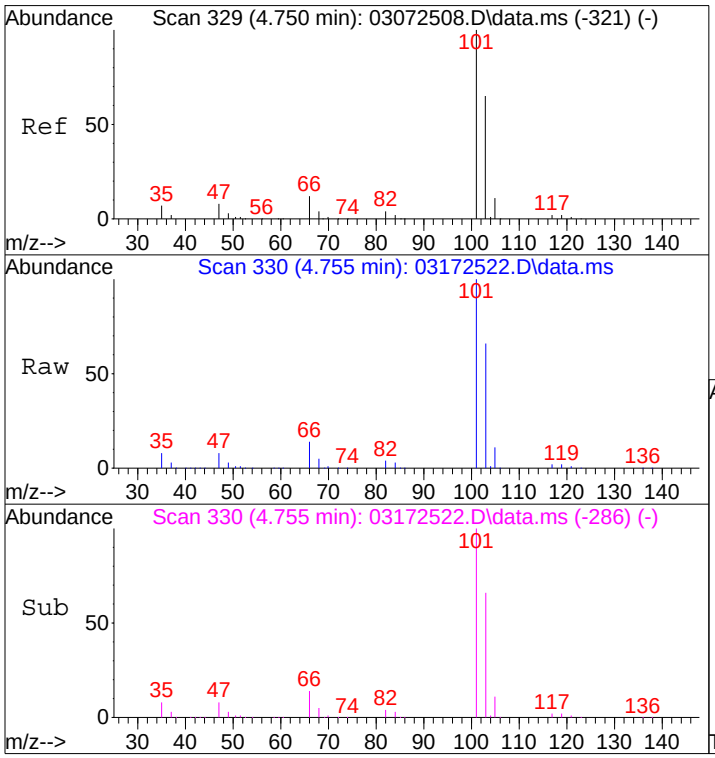


#13
Acetone
Concen: 0.18 ng
RT: 4.67 min Scan# 315
Delta R.T. 0.011 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion: 58 Resp: 2346

Ion	Ratio	Lower	Upper
58	100		
43	500.4	241.6	301.6#

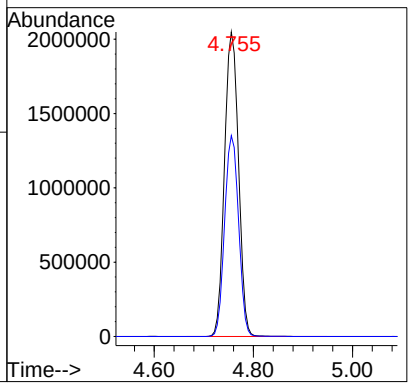


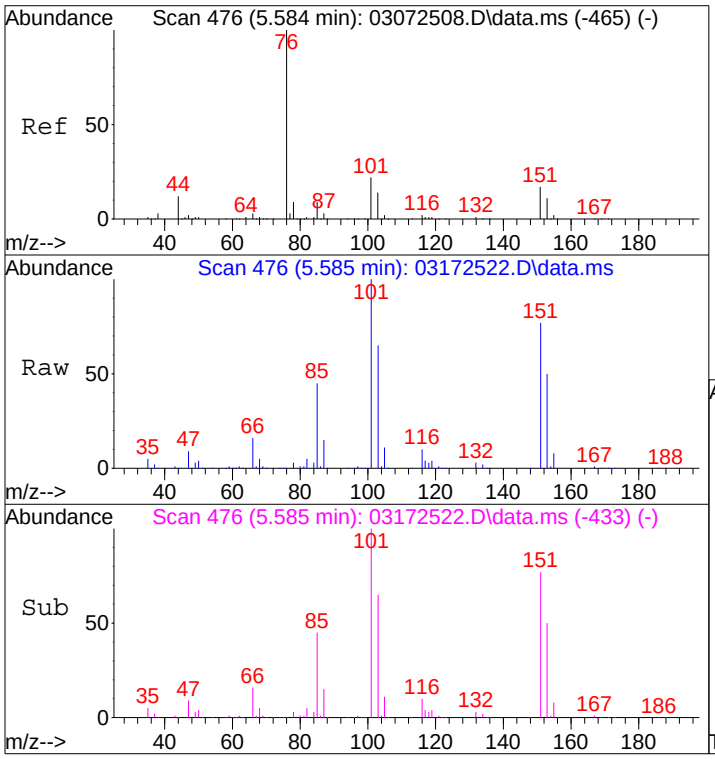


#14
Trichlorofluoromethane
Concen: 134.42 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.000 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion:101 Resp: 4017942

Ion	Ratio	Lower	Upper
101	100		
103	65.7	44.7	84.7

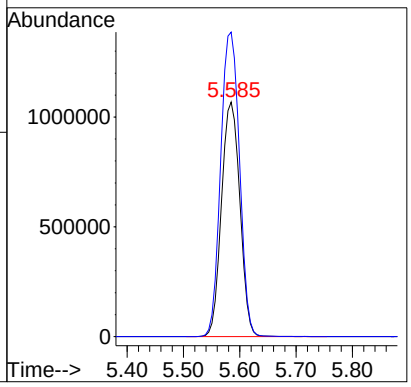


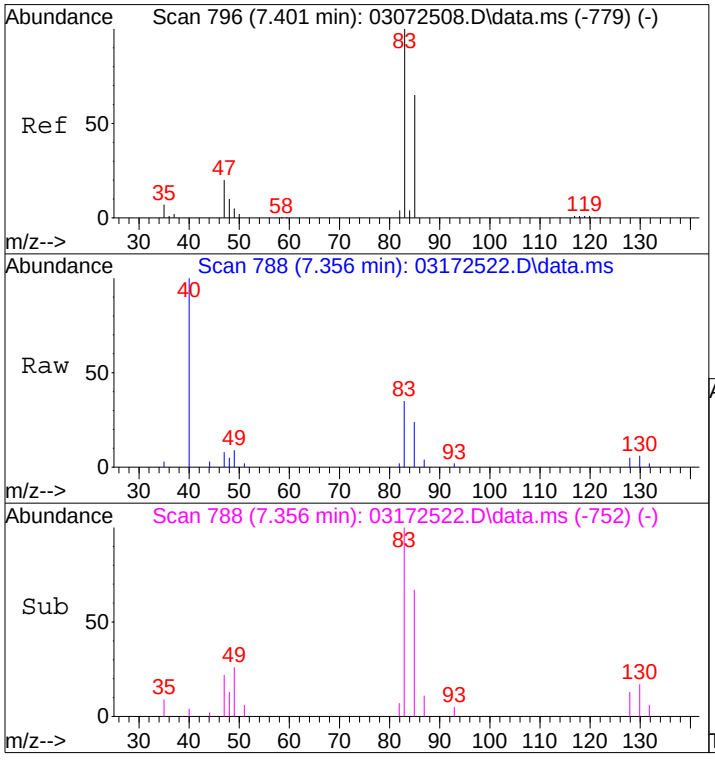


#21
Trichlorotrifluoroethane
Concen: 175.88 ng
RT: 5.58 min Scan# 476
Delta R.T. -0.006 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion:151 Resp: 2421472

Ion	Ratio	Lower	Upper
151	100		
101	132.8	112.5	152.5

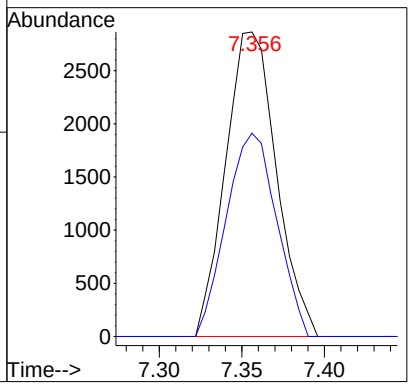


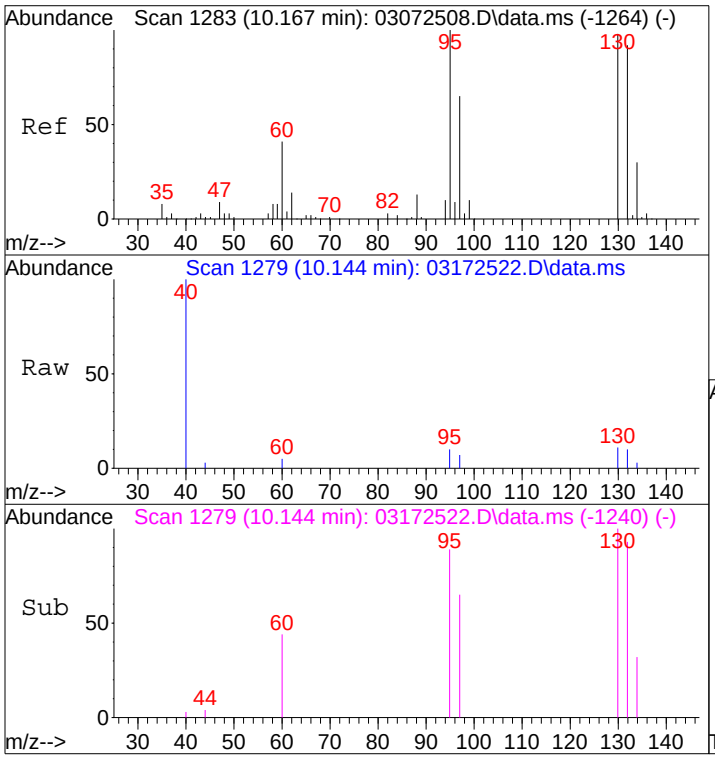


#32
Chloroform
Concen: 0.21 ng
RT: 7.36 min Scan# 788
Delta R.T. -0.045 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion: 83 Resp: 6124

Ion	Ratio	Lower	Upper
83	100		
85	66.2	44.9	84.9

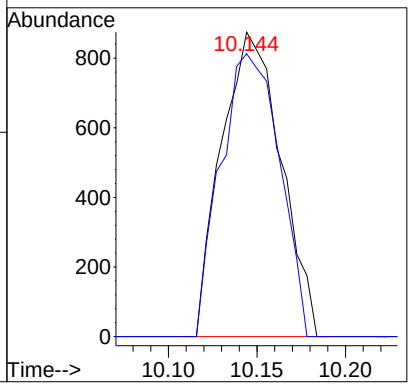


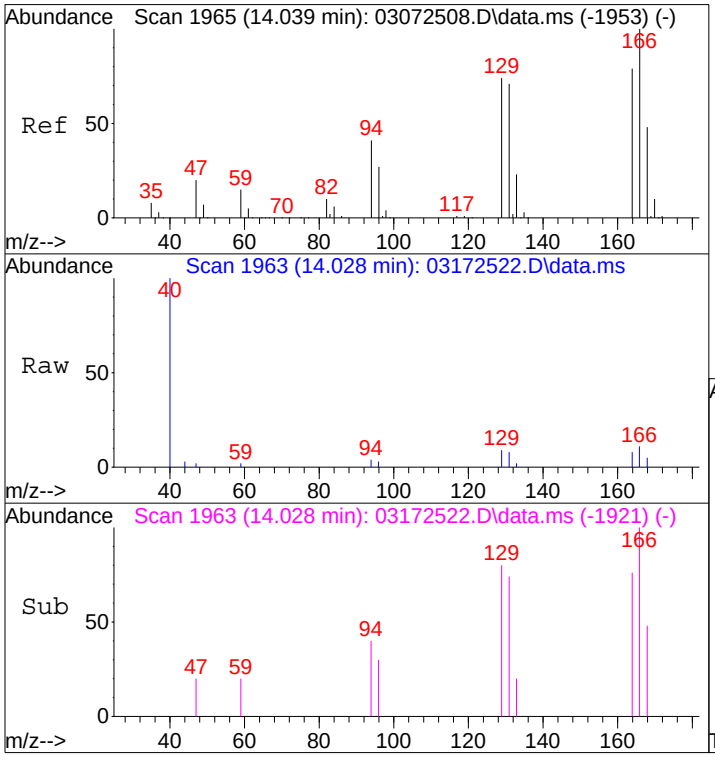


#47
Trichloroethene
Concen: 0.12 ng
RT: 10.14 min Scan# 1279
Delta R.T. -0.028 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion:130 Resp: 2043

Ion	Ratio	Lower	Upper
130	100		
132	92.1	74.1	114.1

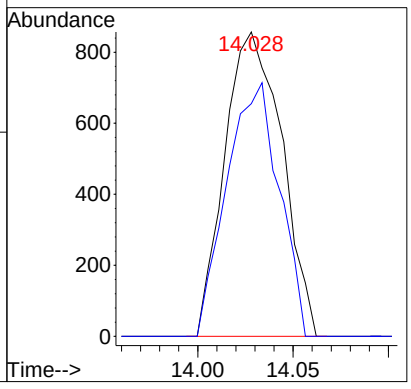




#64
Tetrachloroethene
Concen: 0.10 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.011 min
Lab File: 03172522.D
Acq: 18 Mar 2025 17:24

Tgt Ion:166 Resp: 1785

Ion	Ratio	Lower	Upper
166	100		
164	76.6	58.5	98.5



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

MDA 3/19/25

Quant Time: Mar 19 06:53:17 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

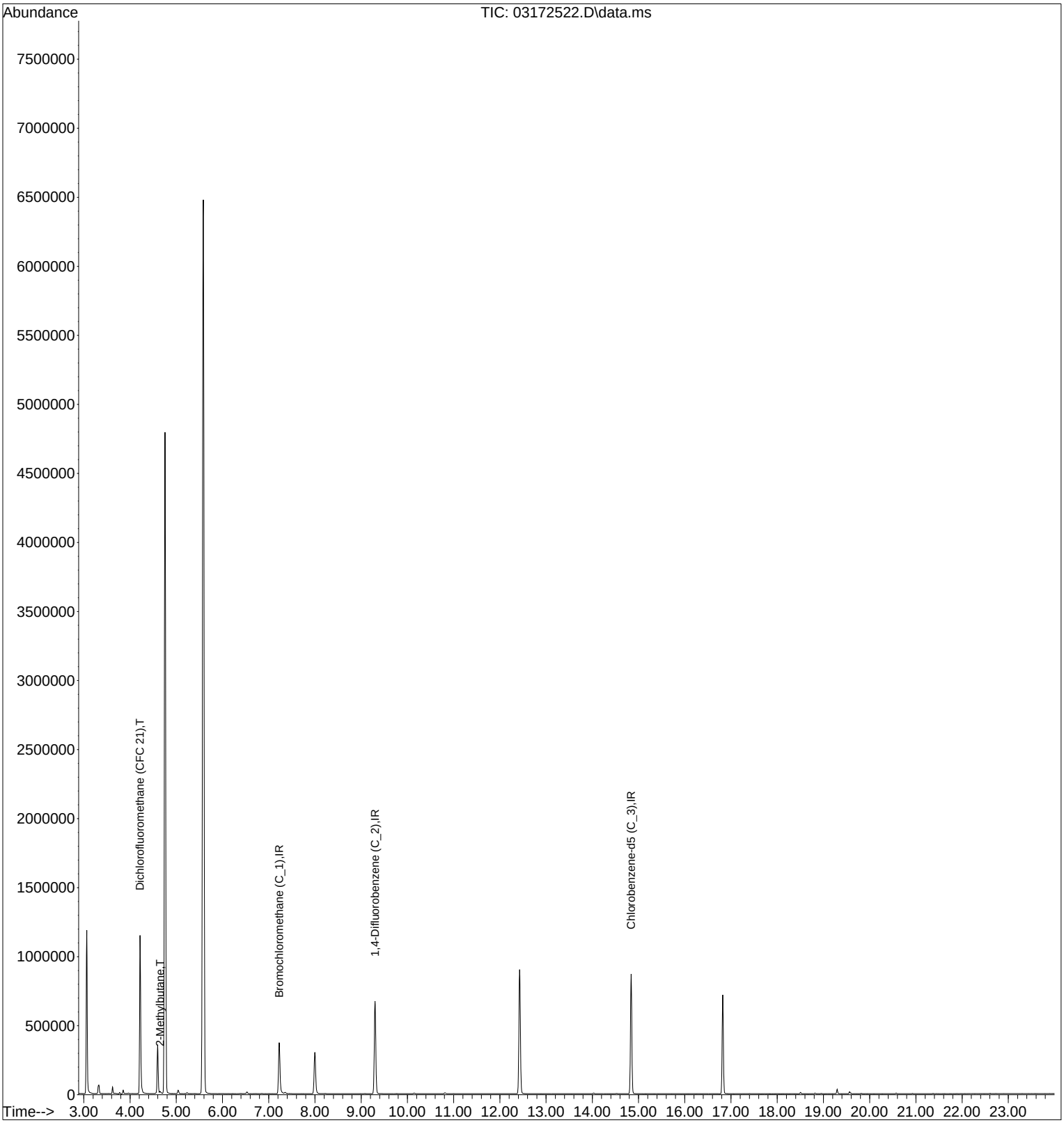
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	168259	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	713354	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	117187	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	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.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.22	67	1066771	38.420 ng	100
8) Vinylbromide	0.00	108	0	N.D.	
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	2589	N.D.	
10) 2-Methylbutane	4.65	57	4356	0.365 ng	88
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	11.58	55	51	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	0.00	91	0	N.D.	
27) 4-Chlorotoluene	0.00	91	0	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\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

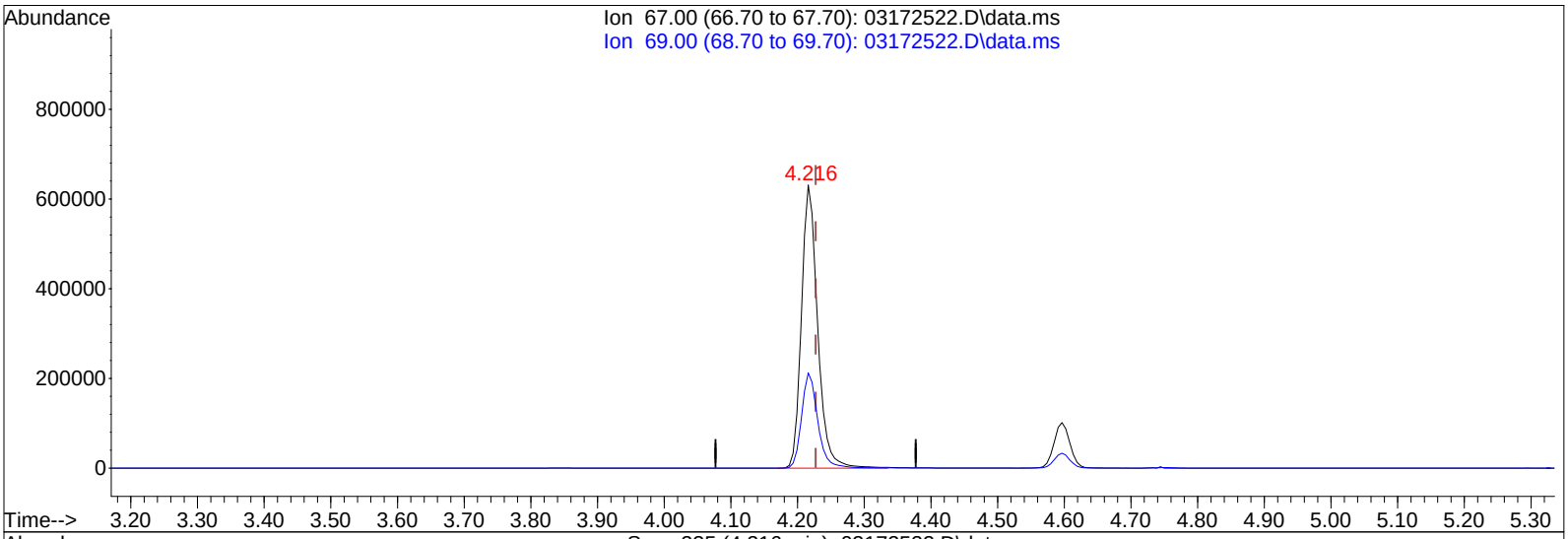
Quant Time: Mar 19 06:53:17 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

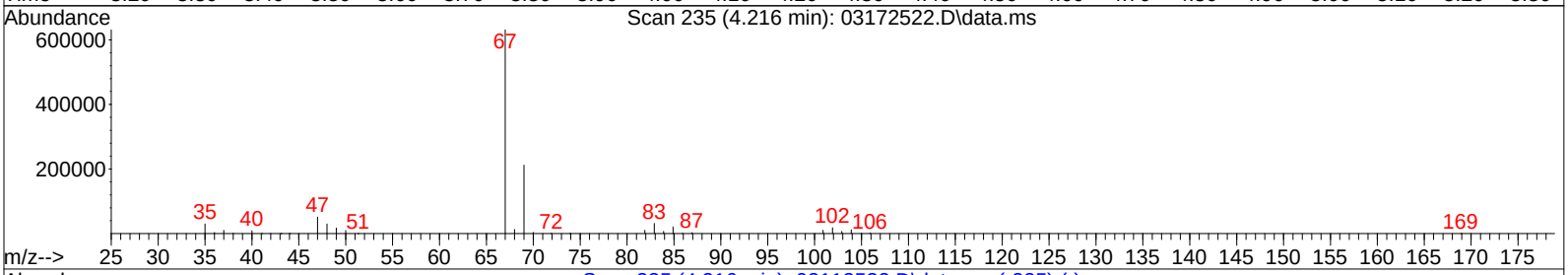


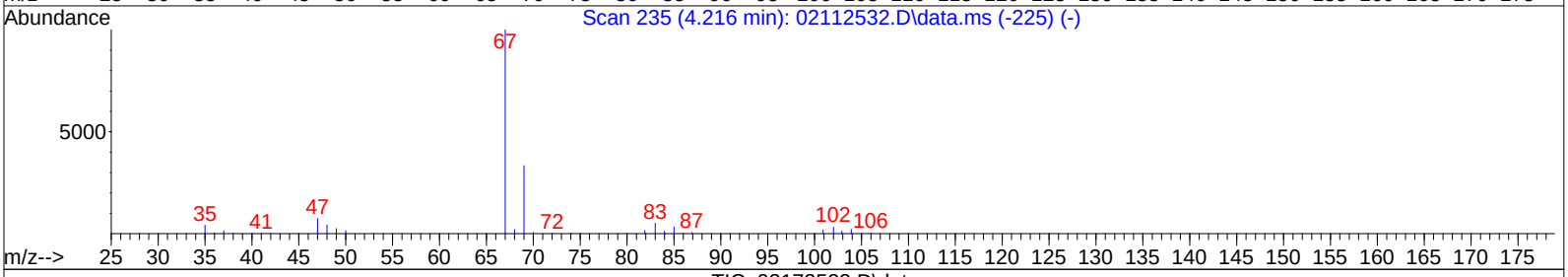
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 06:34:41 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172522.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

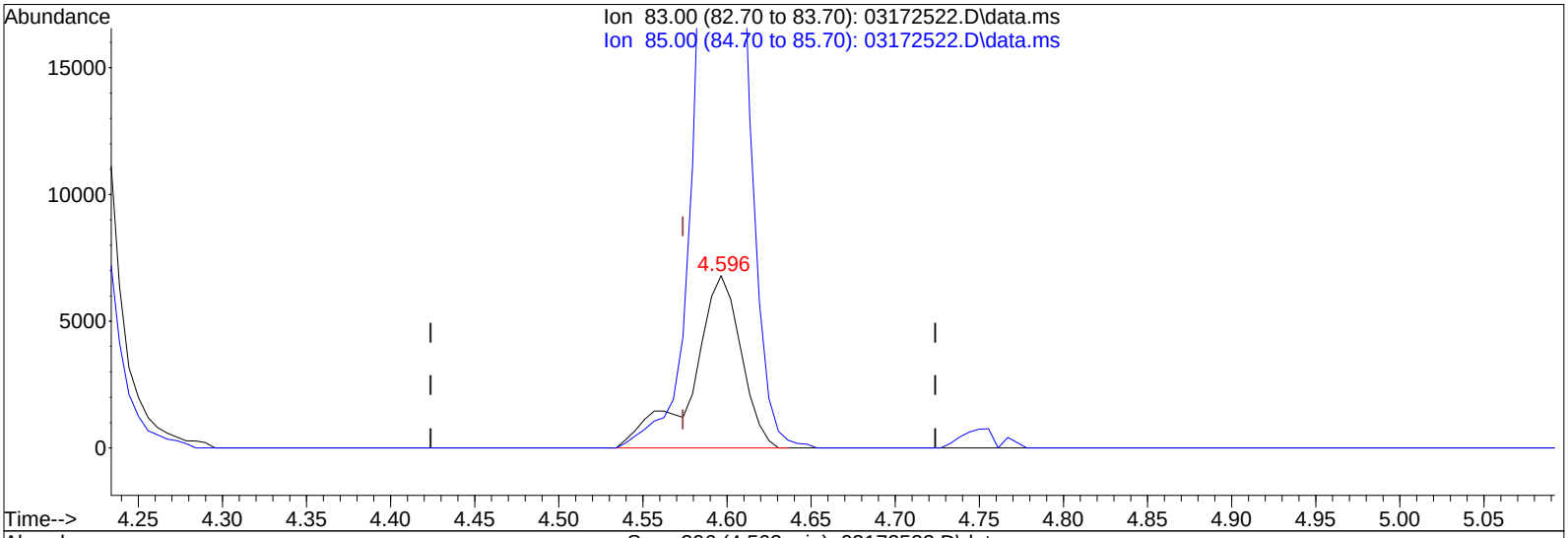
4.216min (-0.011) 38.42ng

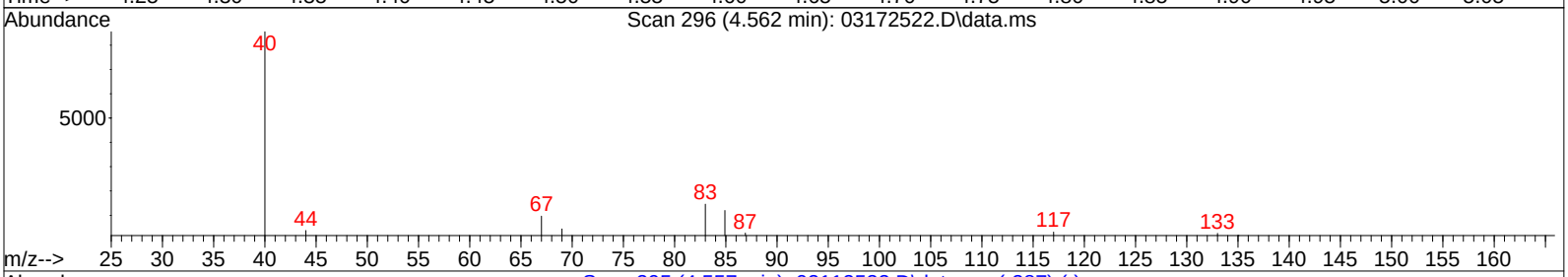
response 1066771

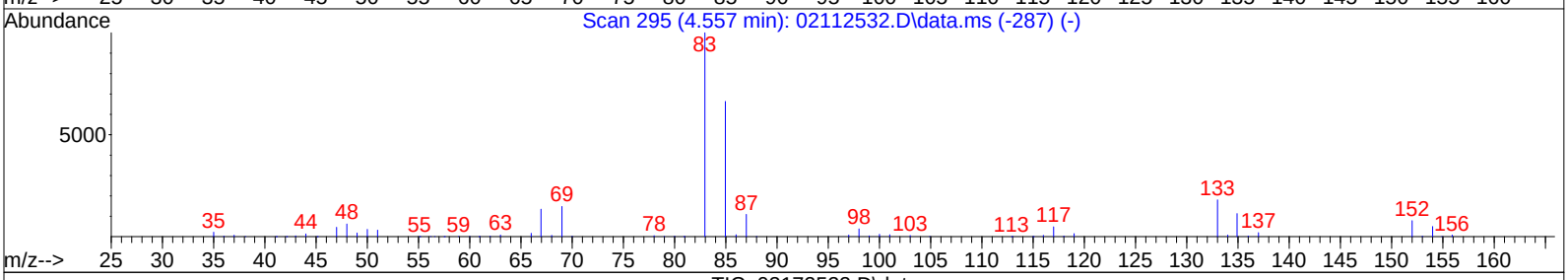
Ion	Exp%	Act%
67.00	100	100
69.00	33.30	33.57
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 19 06:34:41 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172522.D\data.ms

(9) 2,2-Dichloro-1,1,1-trifluoroethane (CFC (T)

4.596min (+0.023) 0.65ng

response 13598

Ion	Exp%	Act%
83.00	100	100
85.00	66.40	513.60#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182508.D
Acq On : 19 Mar 2025 8:00
Operator : TZ
Sample : P2500665-005dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 13:31:01 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.22	130	183755	12.500	ng	-0.06
37) 1,4-Difluorobenzene (IS2)	9.29	114	774014	12.500	ng	-0.04
56) Chlorobenzene-d5 (IS3)	14.83	54	120670	12.500	ng	-0.02
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	266922	11.717	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%			
57) Toluene-d8 (SS2)	12.42	98	849007	12.979	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.84%			
73) Bromofluorobenzene (SS3)	16.82	174	245913	12.737	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%			
Target Compounds						Qvalue
2) Propene	0.00	42	0	N.D. d		
3) Dichlorodifluoromethan...	3.32	85	1022	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	4.15	64	196	N.D.		
10) Ethanol	4.31	45	1238	0.085	ng	83
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.66	58	4707	0.338	ng	92
14) Trichlorofluoromethane	4.74	101	1372116	42.064	ng	99
15) 2-Propanol (Isopropanol)	4.87	45	1045	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	282	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.57	151	847770	56.427	ng	98
22) Carbon Disulfide	5.62	76	488	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	7.34	83	1772	0.056	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	0.00	61	0	N.D.		
40) 1-Butanol	8.88	56	176	No Calib	#	
41) Benzene	8.89	78	2559	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	10.14	130	2494	0.135	ng	98
48) 1,4-Dioxane	0.00	88	0	N.D.		

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182508.D
Acq On : 19 Mar 2025 8:00
Operator : TZ
Sample : P2500665-005dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 13:31:01 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

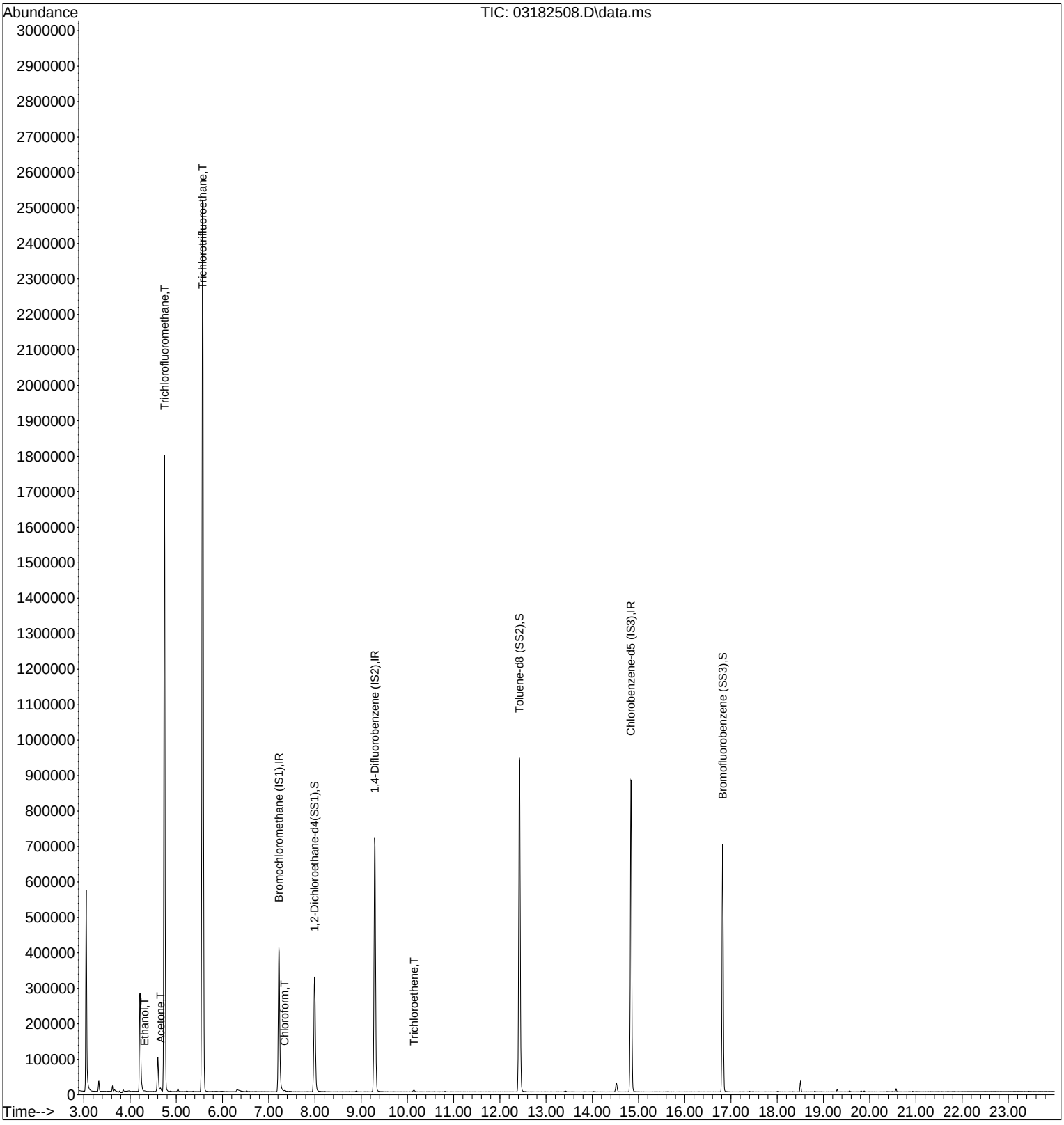
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0			N.D.
50) Methyl Methacrylate	0.00	100	0			N.D.
51) n-Heptane	0.00	71	0			N.D.
52) cis-1,3-Dichloropropene	0.00	75	0			N.D.
53) 4-Methyl-2-pentanone	0.00	58	0			N.D.
54) trans-1,3-Dichloropropene	0.00	75	0			N.D.
55) 1,1,2-Trichloroethane	0.00	97	0			N.D.
58) Toluene	12.56	91	492			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	14.03	166	465			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	551			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	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	0.00	180	0			N.D.
95) Naphthalene	20.95	128	288			N.D.
96) n-Dodecane	0.00	58	0			N.D.
97) Hexachlorobutadiene	0.00	225	0			N.D.
98) Cyclohexanone	0.00	55	0			N.D.
99) tert-Butylbenzene	0.00	119	0			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)

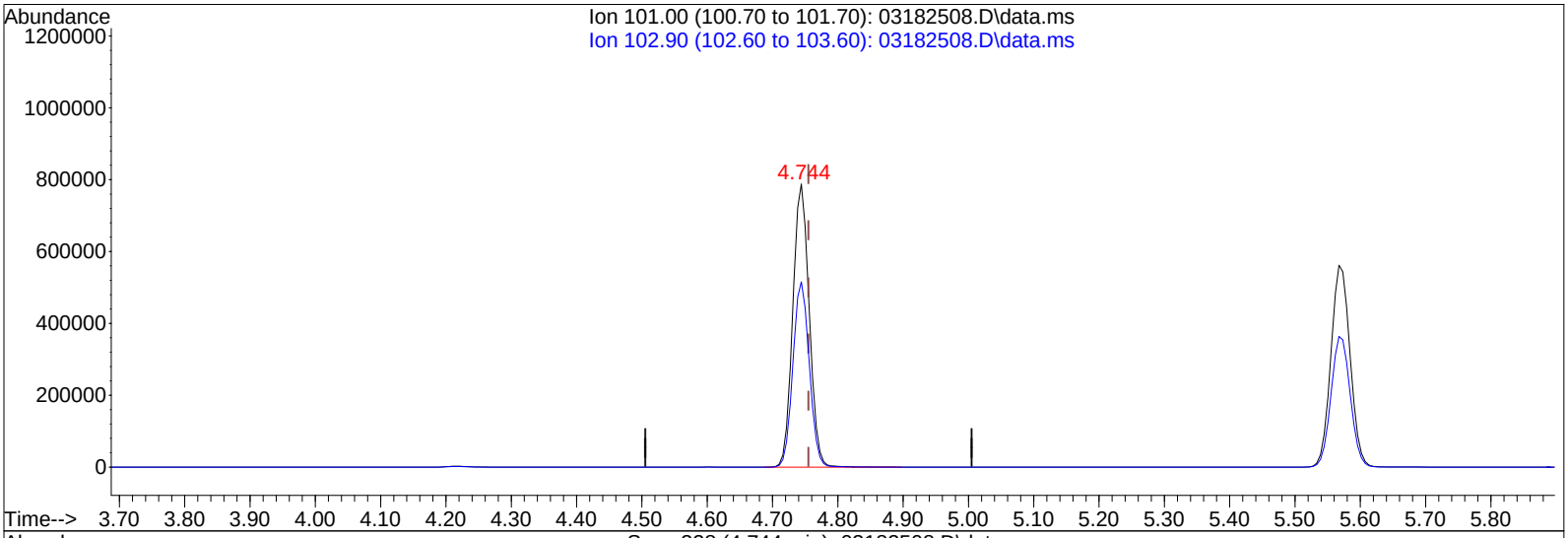
Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182508.D
Acq On : 19 Mar 2025 8:00
Operator : TZ
Sample : P2500665-005dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

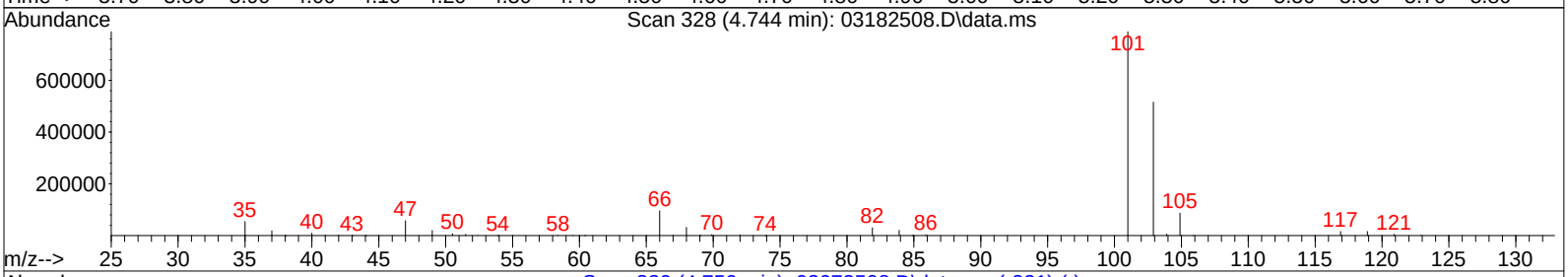
Quant Time: Mar 19 13:31:01 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

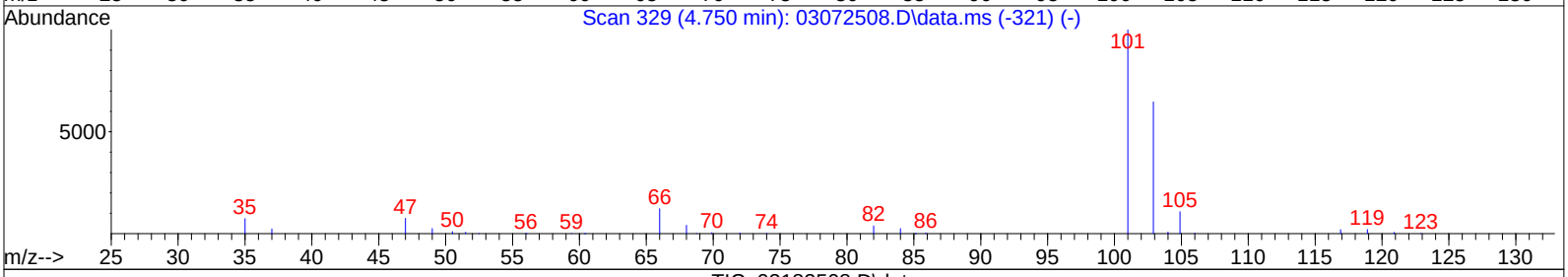


Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182508.D
Acq On : 19 Mar 2025 8:00
Operator : TZ
Sample : P2500665-005dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 08:37:43 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03182508.D\data.ms

(14) Trichlorofluoromethane (T)

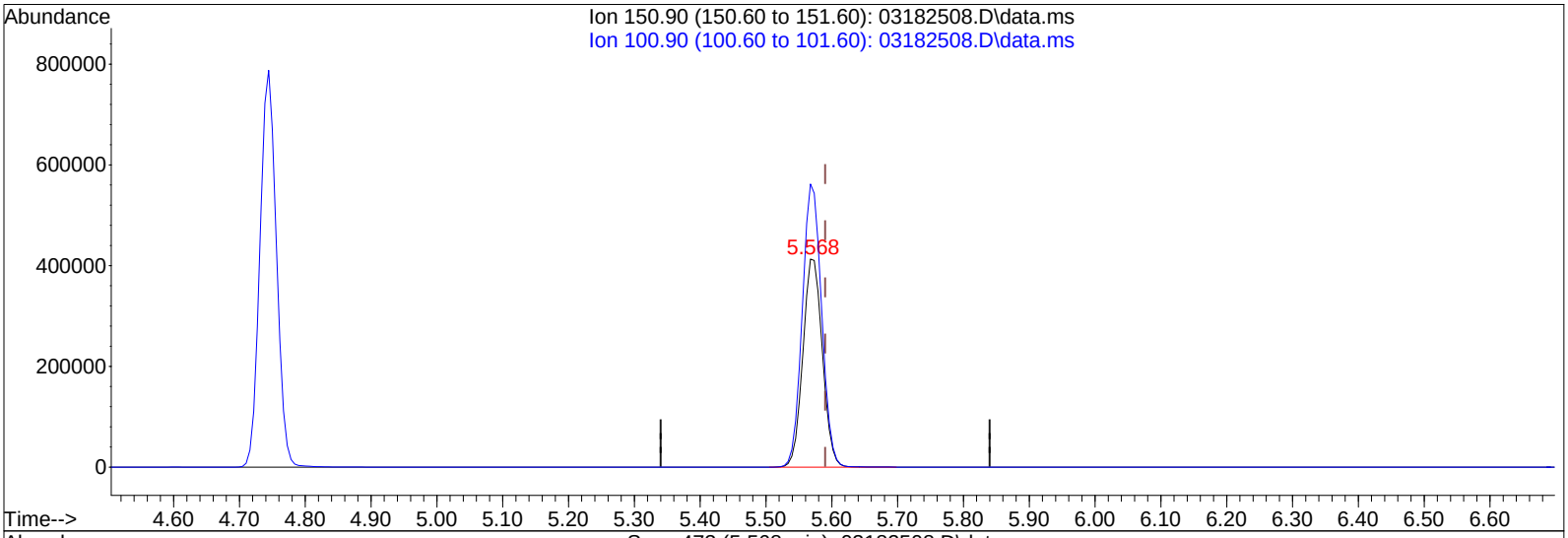
4.744min (-0.011) 42.06ng

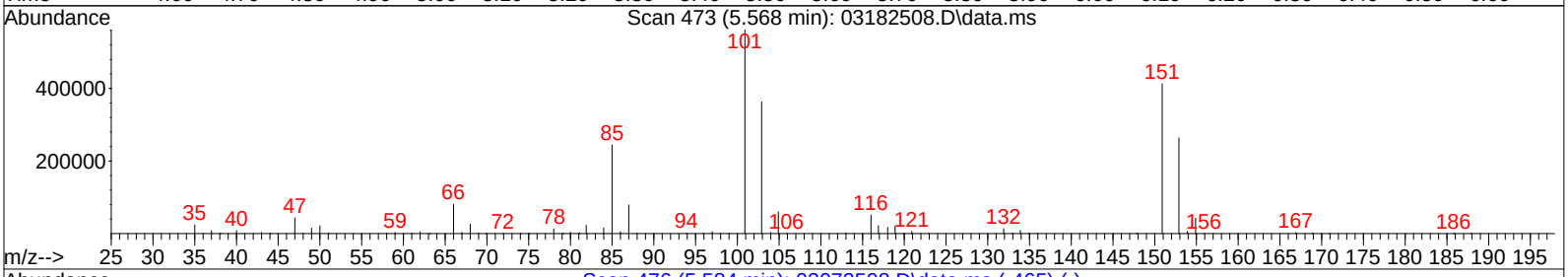
response 1372116

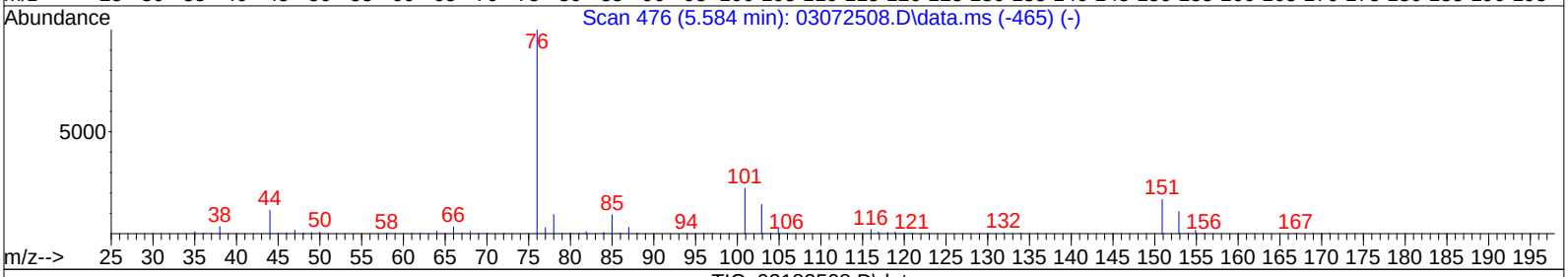
Ion	Exp%	Act%
101.00	100	100
102.90	64.70	65.50
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182508.D
Acq On : 19 Mar 2025 8:00
Operator : TZ
Sample : P2500665-005dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 08:37:43 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03182508.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.568min (-0.023) 56.43ng

response 847770

Ion	Exp%	Act%
150.90	100	100
100.90	132.50	134.92
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172522.D\data.ms

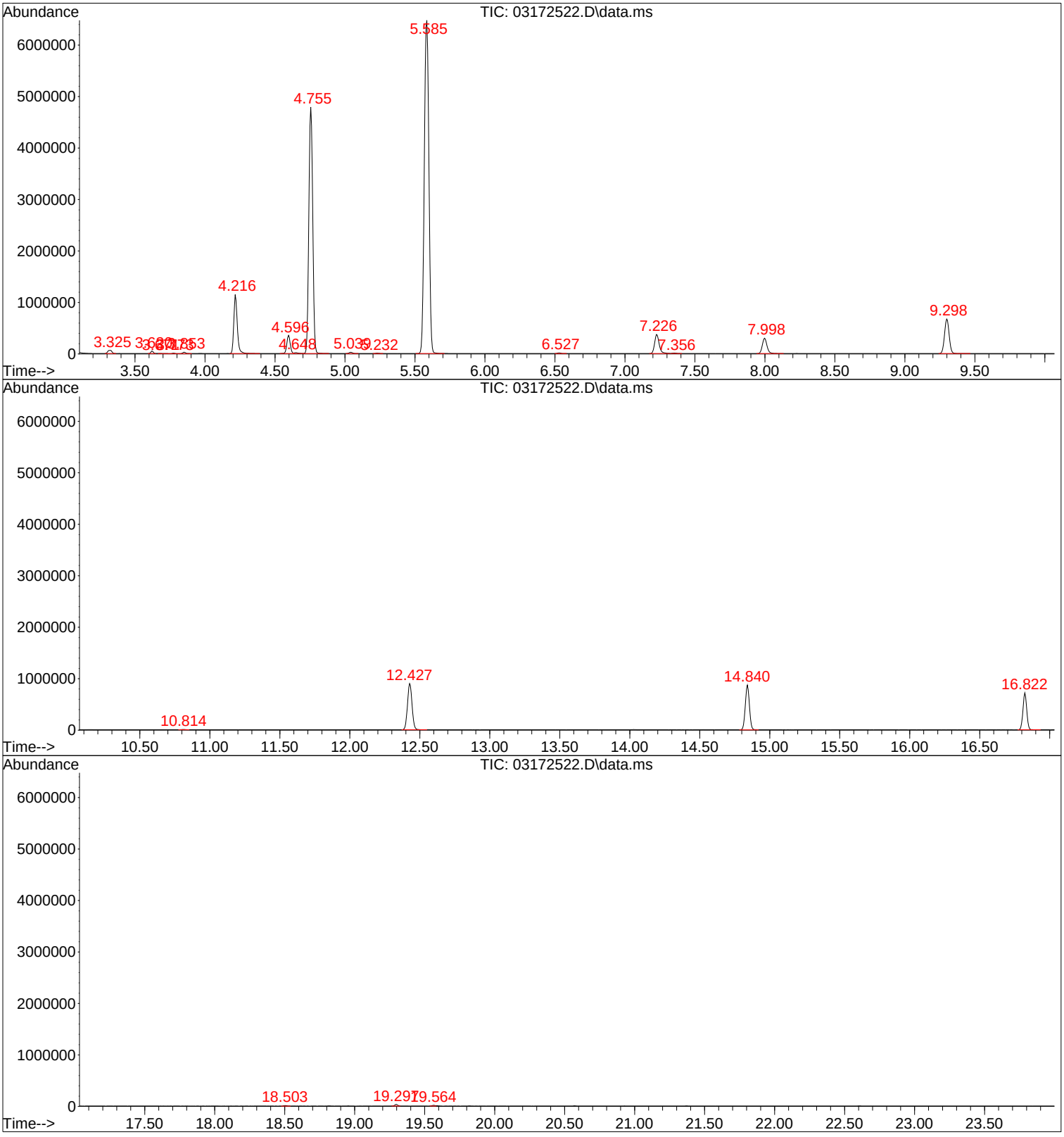
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.325	71	78	85	rVB3	61186	124562	0.84%	0.354%
2	3.620	125	130	135	rBV	47114	56230	0.38%	0.160%
3	3.671	138	139	153	rVB2	4728	12446	0.08%	0.035%
4	3.773	153	157	163	rVB2	10221	14029	0.10%	0.040%
5	3.853	163	171	180	rBV	28022	48868	0.33%	0.139%
6	4.216	228	235	266	rBV	1144714	1934765	13.11%	5.491%
7	4.596	291	302	308	rBV	352107	582390	3.95%	1.653%
8	4.648	308	311	321	rVV2	15891	33409	0.23%	0.095%
9	4.755	321	330	353	rVB	4788730	9283222	62.90%	26.347%
10	5.039	374	380	390	rVB	24685	42071	0.29%	0.119%
11	5.232	408	414	421	rBV2	6369	11078	0.08%	0.031%
12	5.585	462	476	498	rBV	6473402	14758723	100.00%	41.887%
13	6.527	637	642	652	rVB3	11619	21914	0.15%	0.062%
14	7.226	756	765	782	rBV	369149	844827	5.72%	2.398%
15	7.356	783	788	797	rVB	7723	17563	0.12%	0.050%
16	7.998	891	901	925	rBV	299204	691146	4.68%	1.962%
17	9.298	1120	1130	1160	rBV	670235	1514867	10.26%	4.299%
18	10.814	1390	1397	1404	rVB3	5980	13265	0.09%	0.038%
19	12.427	1671	1681	1703	rBV	898398	2039688	13.82%	5.789%
20	14.840	2096	2106	2120	rBV	866899	1772185	12.01%	5.030%
21	16.822	2446	2455	2475	rBV	715562	1339741	9.08%	3.802%
22	18.503	2746	2751	2758	rBV2	9371	13905	0.09%	0.039%
23	19.297	2885	2891	2896	rBV	31213	44123	0.30%	0.125%
24	19.564	2933	2938	2941	rBV	13586	19309	0.13%	0.055%

Sum of corrected areas: 35234326

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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



Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

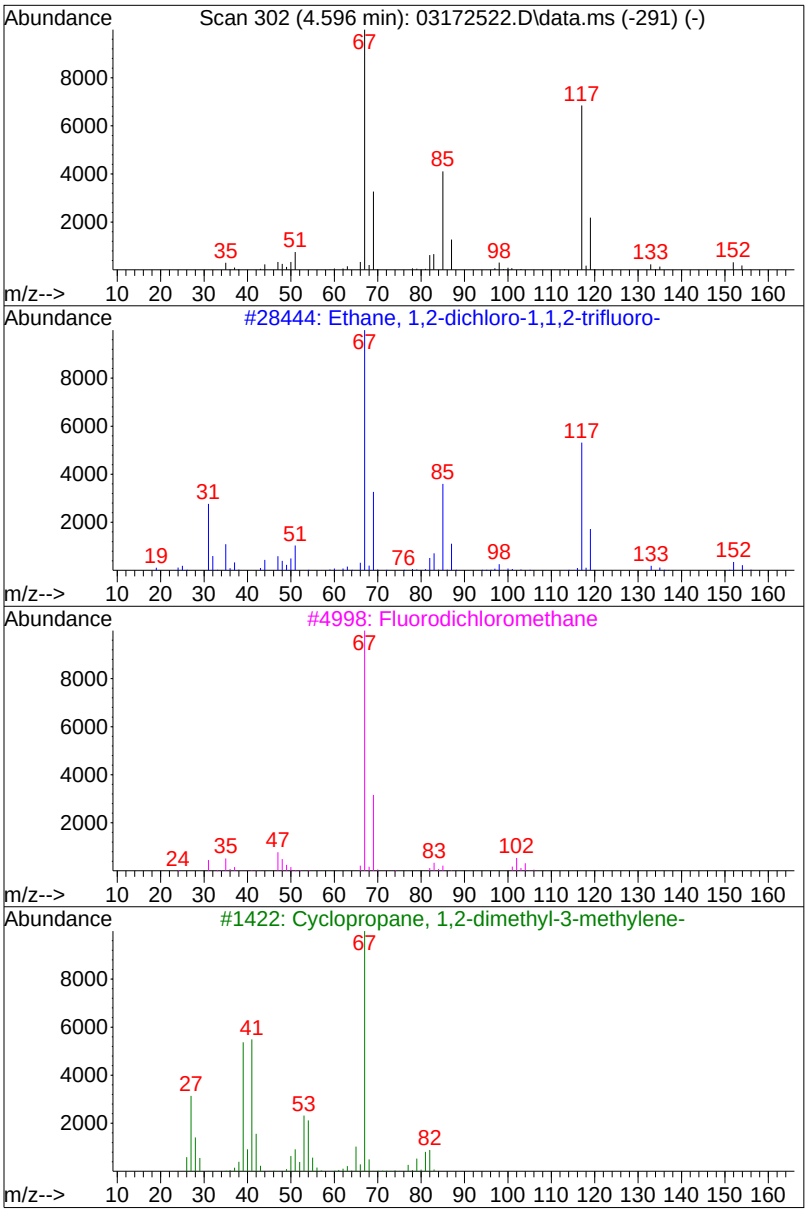
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

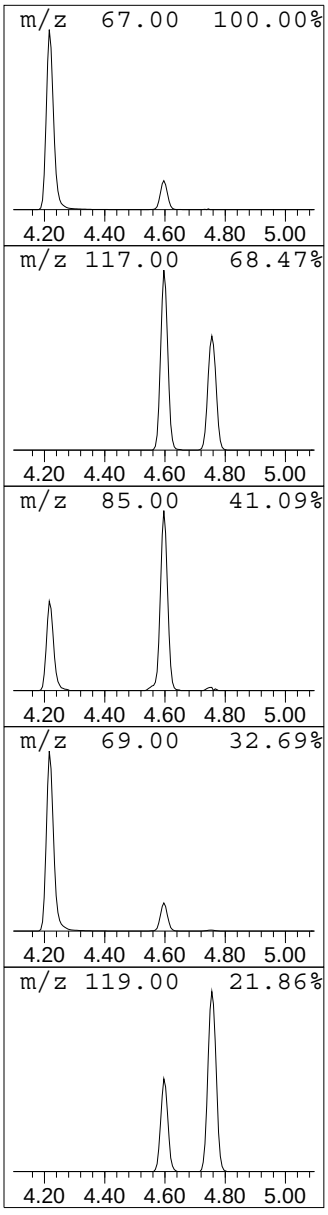
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.596	8.62 ng	582390	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	94
2	Fluorodichloromethane	102	CHCl2F	000075-43-4	25
3	Cyclopropane, 1,2-dimethyl-3-met...	82	C6H10	062338-02-7	9
4	Methyl 2-butynoate	98	C5H6O2	023326-27-4	9
5	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2025_03\17\
Data File : 03172522.D
Acq On : 18 Mar 2025 17:24
Operator : SC
Sample : P2500665-005 (15mL)
Misc : S38-03052512
ALS Vial : 8 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

VOA 3/18/25

TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc
Ethane, 1,2-dic...	4.596	8.6	ng	582390	1	7.226	844827	12.5

Quantitation Report (QT/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

VOA 3/19/25

Quant Time: Mar 18 19:26:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	167048	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	698897	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	114890	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	240403	11.609	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	12.43	98	787693	12.648	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
73) Bromofluorobenzene (SS3)	16.82	174	243704	13.257	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.33	85	1802	0.053	ng	#	93
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	4.15	64	566	N.D.			
10) Ethanol	4.32	45	567	N.D.			
11) Acetonitrile	0.00	41	0	N.D.			
12) Acrolein	0.00	56	0	N.D.			
13) Acetone	4.66	58	7810	0.616	ng		84
14) Trichlorofluoromethane	4.75	101	2319395	78.216	ng		99
15) 2-Propanol (Isopropanol)	0.00	45	0	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	274	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	1407194	103.030	ng		99
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	0.00	57	0	N.D.			
32) Chloroform	7.35	83	3407	0.118	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	8.88	56	173	No Calib		#	
41) Benzene	8.90	78	1261	N.D.			
42) Carbon Tetrachloride	0.00	117	0	N.D.			
43) Cyclohexane	9.28	84	600	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	1053	0.063	ng		91
48) 1,4-Dioxane	0.00	88	0	N.D.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 18 19:26:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

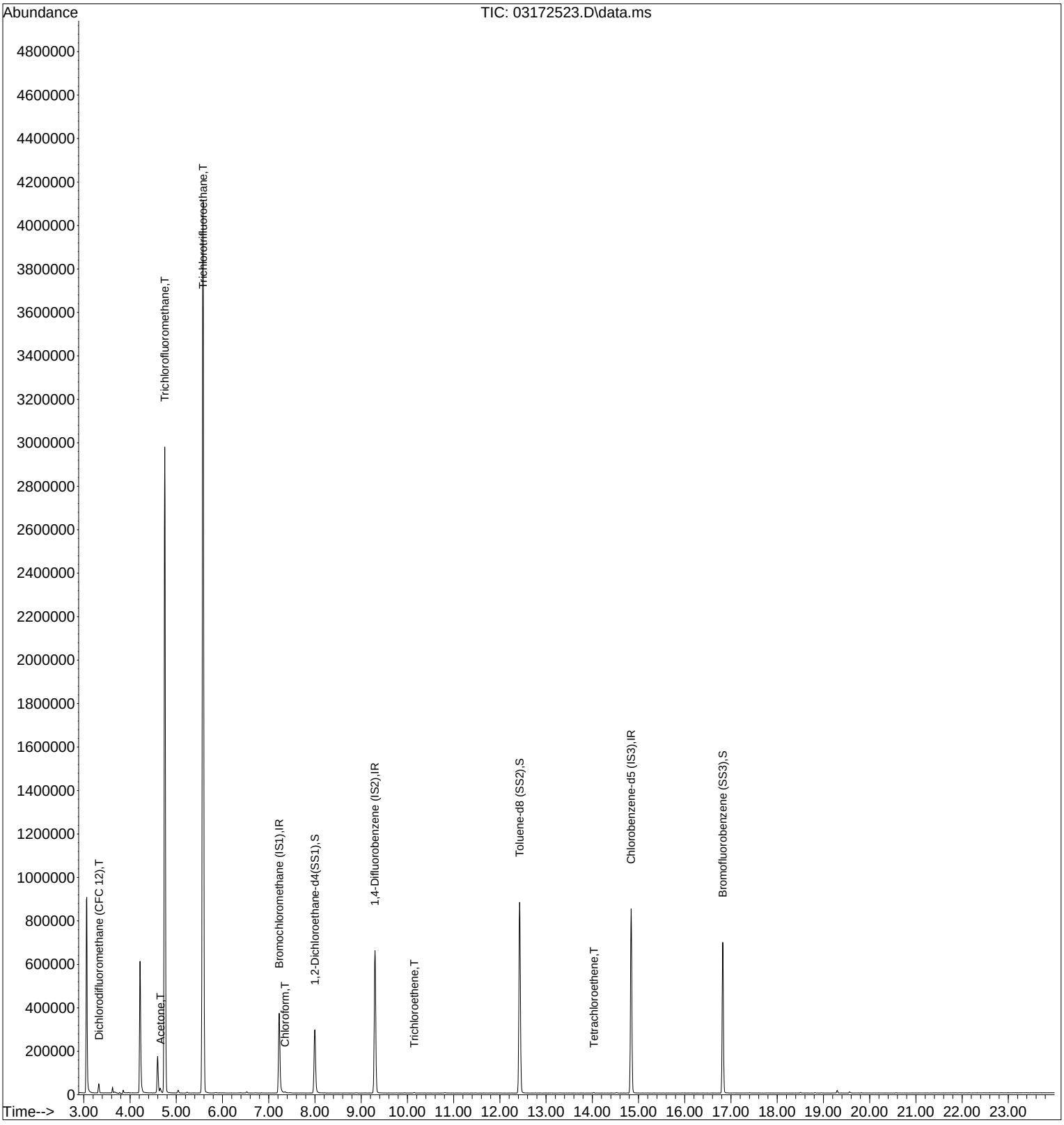
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.	
50) Methyl Methacrylate	0.00	100	0	N.D.	
51) n-Heptane	0.00	71	0	N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.	
58) Toluene	12.56	91	107	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	14.03	166	901	0.053 ng	83
65) Chlorobenzene	0.00	112	0	N.D.	
66) Ethylbenzene	0.00	91	0	N.D.	
67) m- & p-Xylenes	0.00	91	0	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	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	0.00	180	0	N.D.	
95) Naphthalene	0.00	128	0	N.D.	
96) n-Dodecane	0.00	58	0	N.D.	
97) Hexachlorobutadiene	0.00	225	0	N.D.	
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	0.00	119	0	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 18 19:26:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

MOA 3/18/25

Quant Time: Mar 18 19:26:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

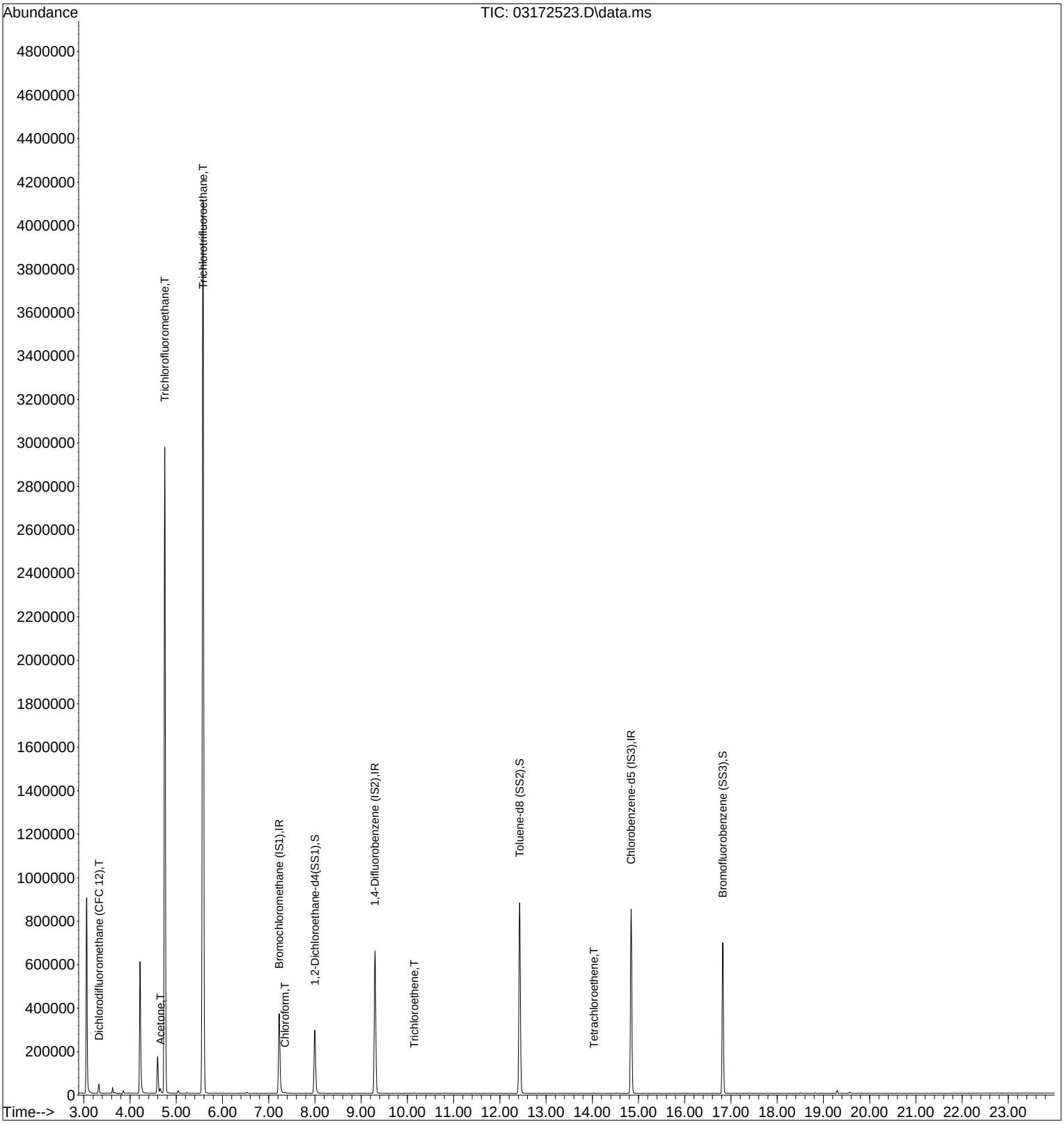
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	167048	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	698897	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	114890	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	240403	11.609	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.88%				
57) Toluene-d8 (SS2)	12.43	98	787693	12.648	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
73) Bromofluorobenzene (SS3)	16.82	174	243704	13.257	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.08%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.33	85	1802	0.053	ng	#	93
13) Acetone	4.66	58	7810	0.616	ng		84
14) Trichlorofluoromethane	4.75	101	2319395	78.216	ng		99
21) Trichlorotrifluoroethane	5.58	151	1407194	103.030	ng		99
32) Chloroform	7.35	83	3407	0.118	ng		98
47) Trichloroethene	10.15	130	1053	0.063	ng		91
64) Tetrachloroethene	14.03	166	901	0.053	ng		83

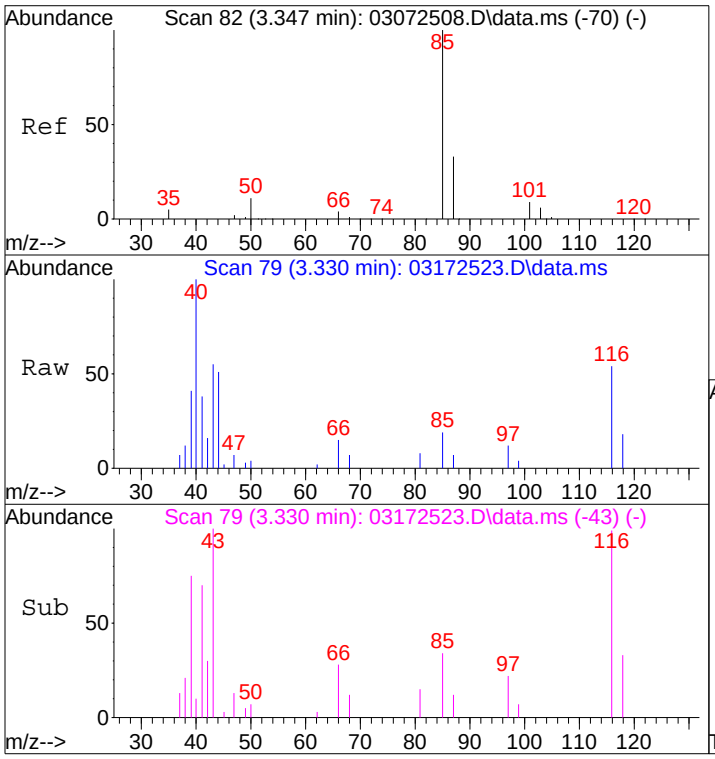
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 18 19:26:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

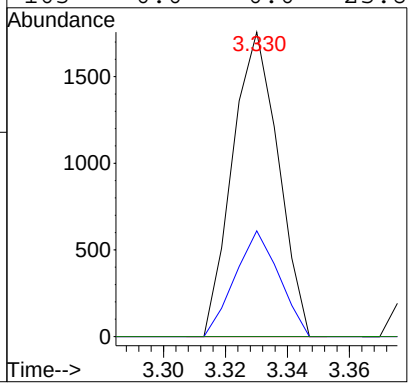


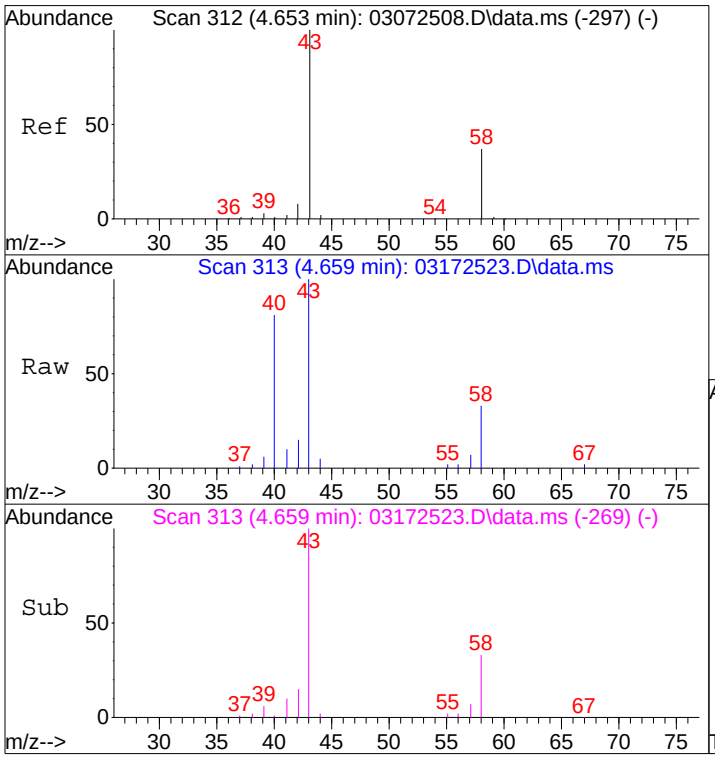


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.05 ng
RT: 3.33 min Scan# 79
Delta R.T. -0.043 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion: 85 Resp: 1802

Ion	Ratio	Lower	Upper
85	100		
87	33.6	13.2	53.2
101	0.0	0.0	28.9
103	0.0	0.0	25.8

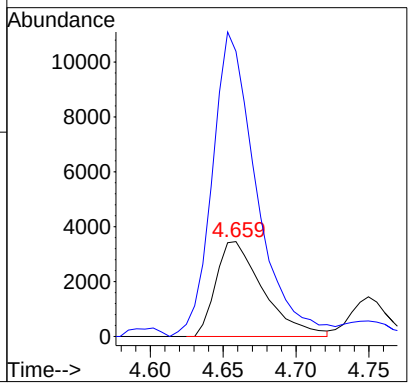


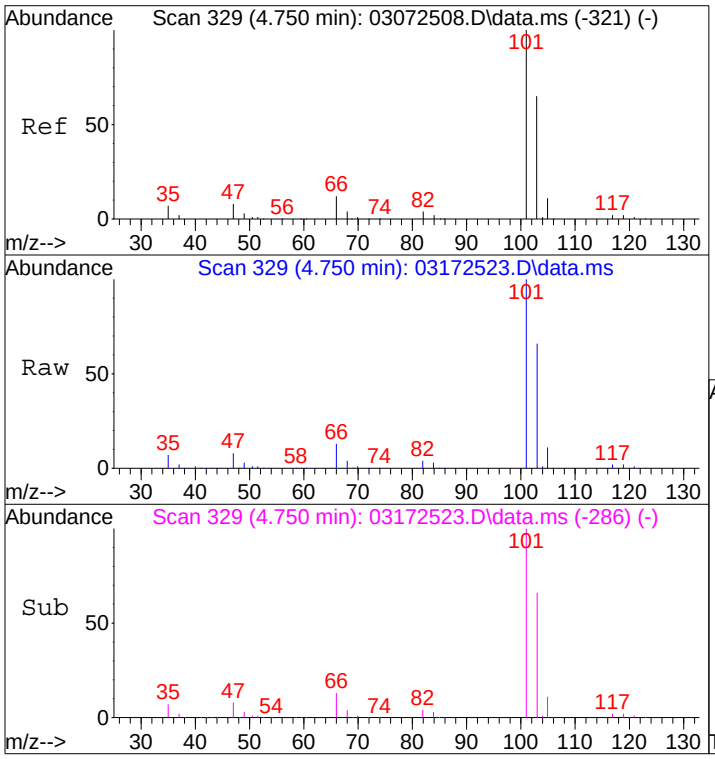


#13
Acetone
Concen: 0.62 ng
RT: 4.66 min Scan# 313
Delta R.T. -0.000 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion: 58 Resp: 7810

Ion	Ratio	Lower	Upper
58	100		
43	300.7	241.6	301.6

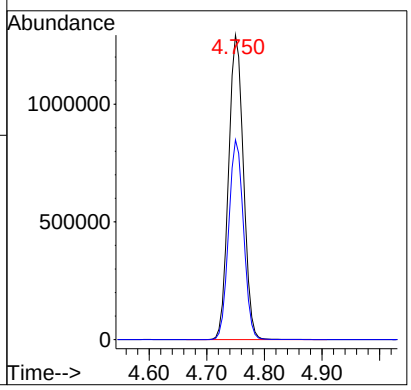


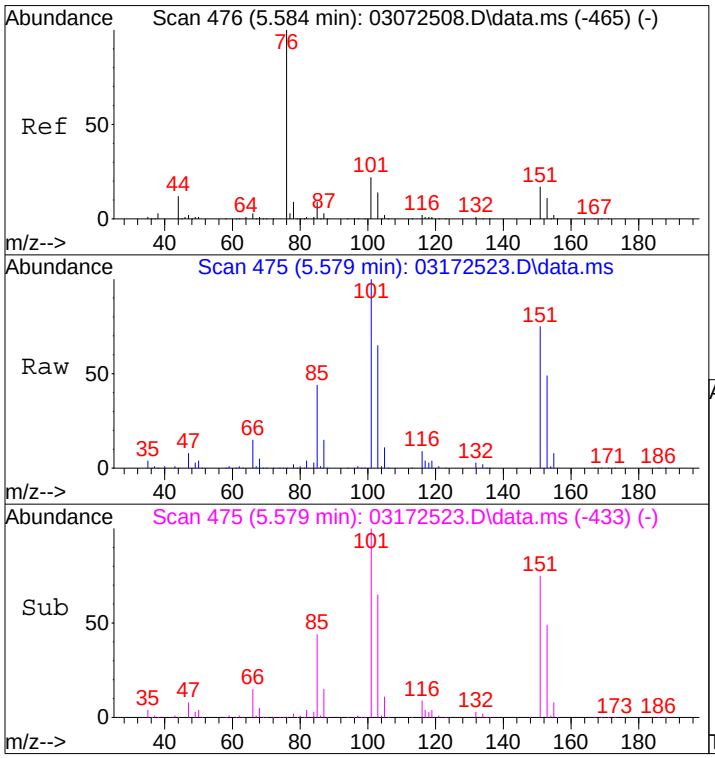


#14
Trichlorofluoromethane
Concen: 78.22 ng
RT: 4.75 min Scan# 329
Delta R.T. -0.006 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion:101 Resp: 2319395

Ion	Ratio	Lower	Upper
101	100		
103	65.6	44.7	84.7

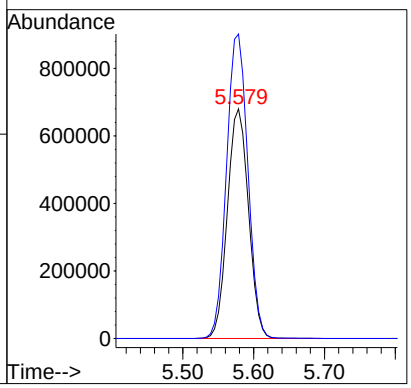


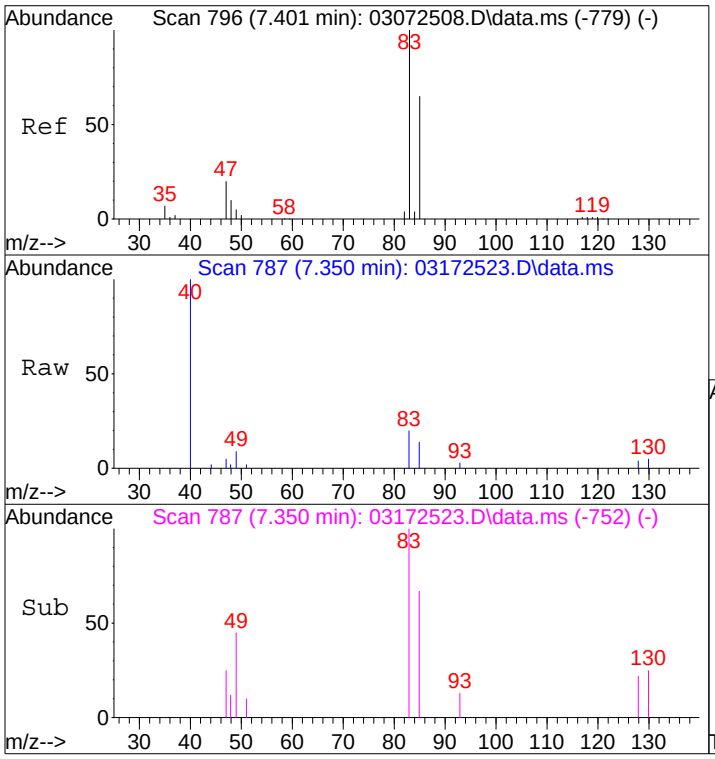


#21
Trichlorotrifluoroethane
Concen: 103.03 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.011 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion:151 Resp: 1407194

Ion	Ratio	Lower	Upper
151	100		
101	134.1	112.5	152.5

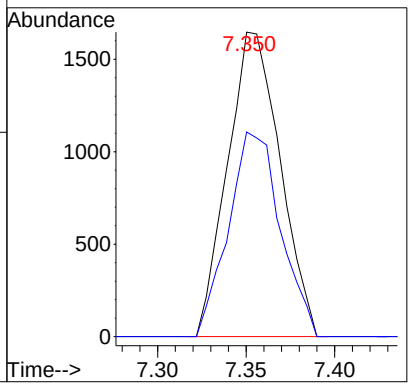


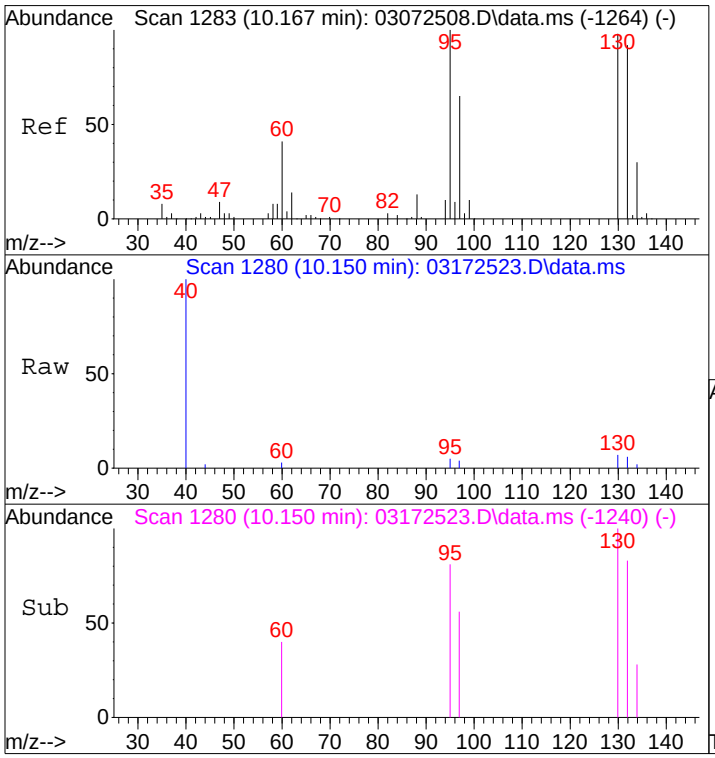


#32
Chloroform
Concen: 0.12 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.051 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion: 83 Resp: 3407

Ion	Ratio	Lower	Upper
83	100		
85	66.3	44.9	84.9

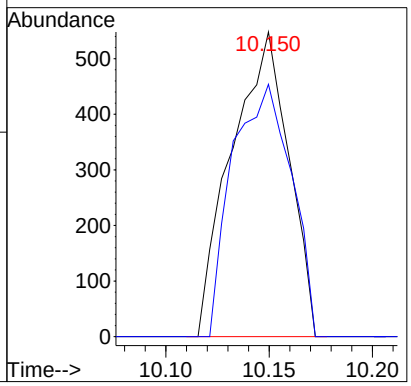


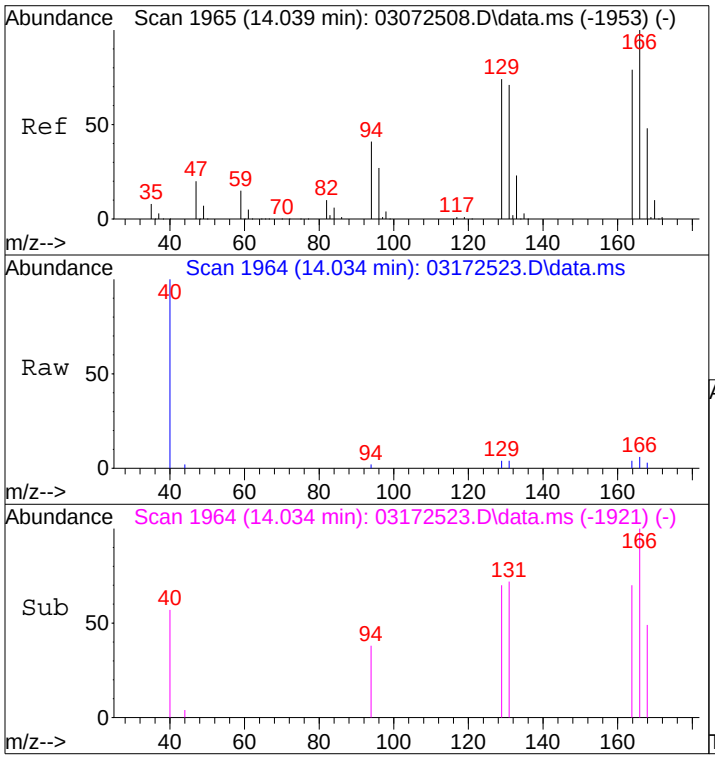


#47
Trichloroethene
Concen: 0.06 ng
RT: 10.15 min Scan# 1280
Delta R.T. -0.023 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion:130 Resp: 1053

Ion	Ratio	Lower	Upper
130	100		
132	85.5	74.1	114.1

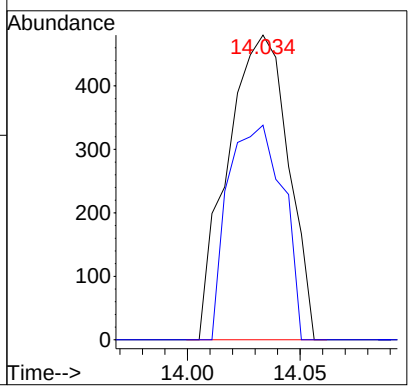




#64
Tetrachloroethene
Concen: 0.05 ng
RT: 14.03 min Scan# 1964
Delta R.T. -0.006 min
Lab File: 03172523.D
Acq: 18 Mar 2025 17:57

Tgt Ion:166 Resp: 901

Ion	Ratio	Lower	Upper
166	100		
164	63.7	58.5	98.5



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 19 06:57:57 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

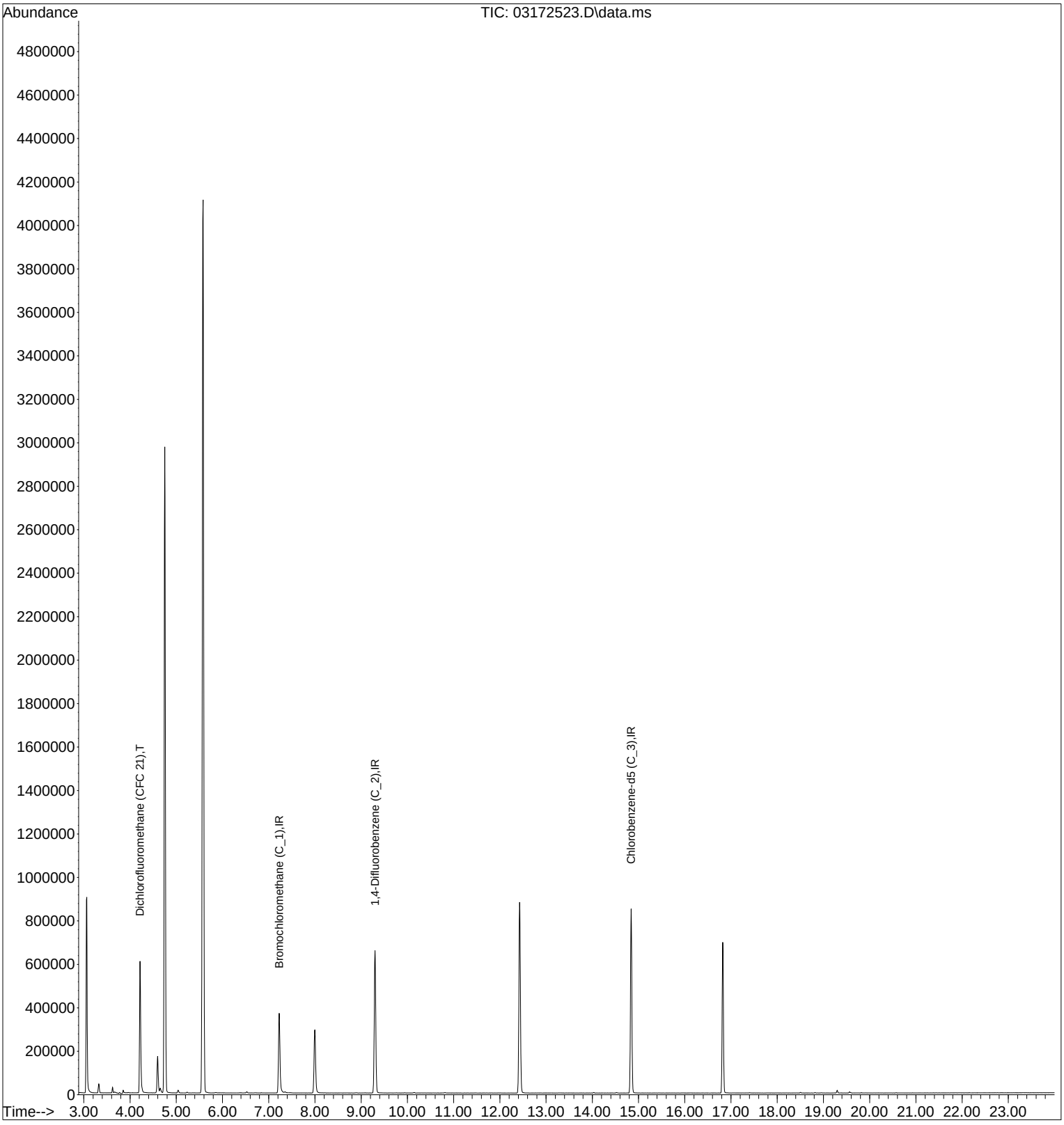
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	166836	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	698989	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	114890	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	0.00	85	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.	
6) 1-Chloro-1,1-Difluoroe...	0.00	65	0	N.D.	
7) Dichlorofluoromethane ...	4.22	67	590202	21.437 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	0.00	57	0	N.D. 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	0.00	91	0	N.D.	
27) 4-Chlorotoluene	0.00	91	0	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)

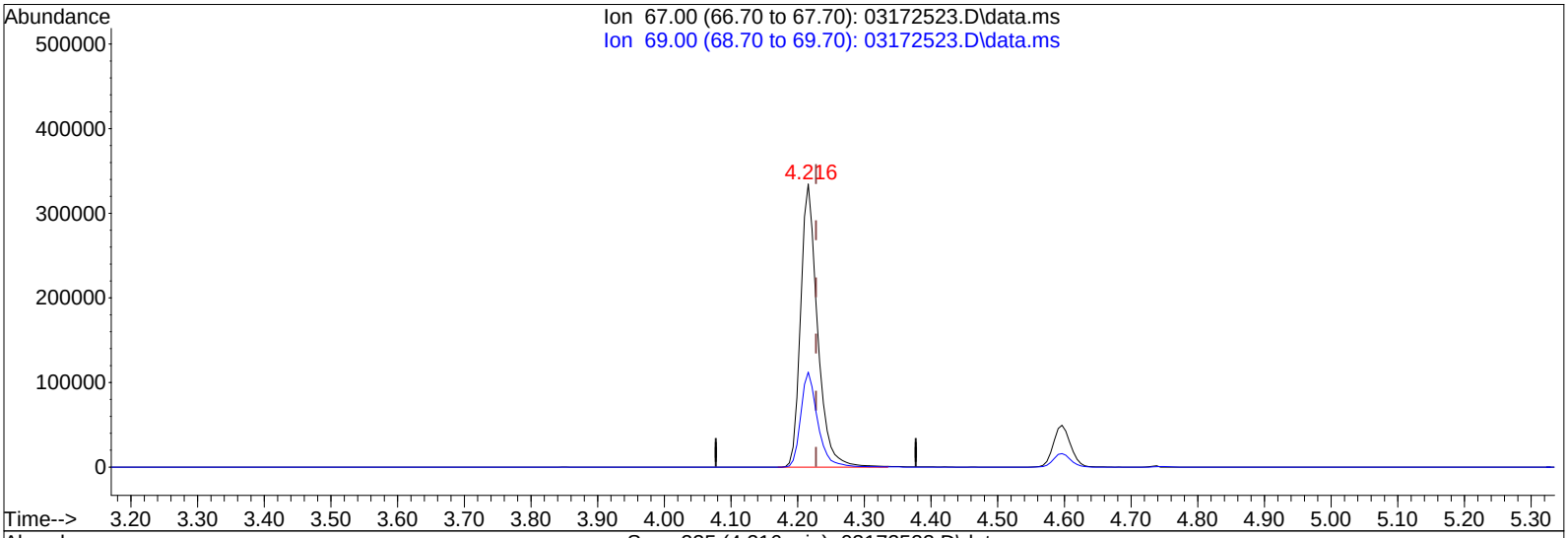
Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

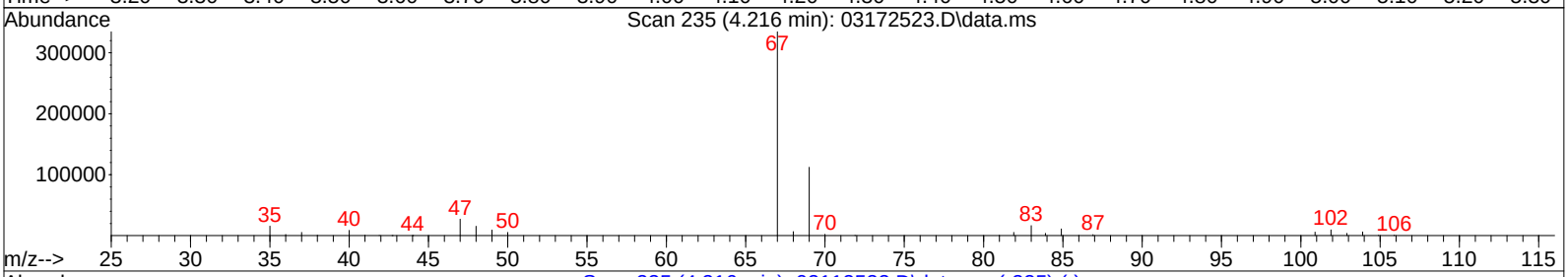
Quant Time: Mar 19 06:57:57 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

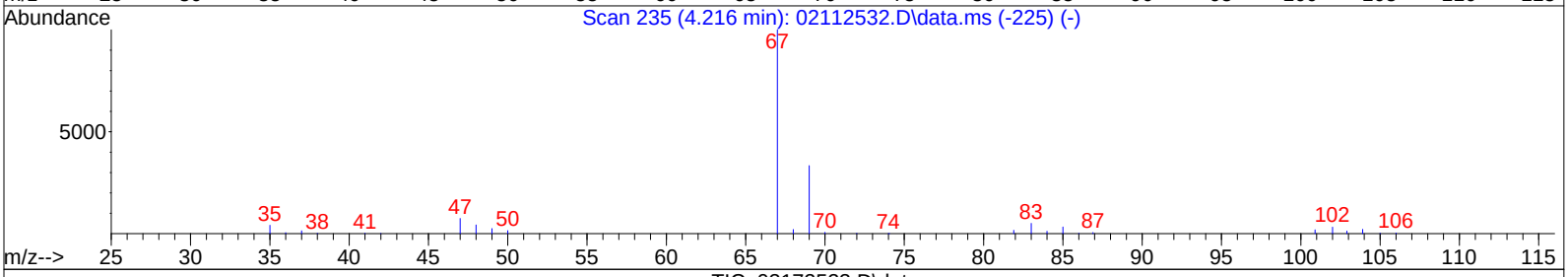


Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Mar 19 06:34:42 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172523.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.216min (-0.011) 21.44ng

response 590202

Ion	Exp%	Act%
67.00	100	100
69.00	33.30	33.52
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182509.D
Acq On : 19 Mar 2025 8:32
Operator : TZ
Sample : P2500665-006dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 09:00:15 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	160738	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	671531	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	106063	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	231805	11.633	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.04%			
57) Toluene-d8 (SS2)	12.43	98	741569	12.898	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.20%			
73) Bromofluorobenzene (SS3)	16.82	174	214653	12.649	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	3.34	42	723	N.D.		
3) Dichlorodifluoromethan...	3.34	85	260	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	4.33	45	465	N.D.		
11) Acetonitrile	0.00	41	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.67	58	2881	0.236	ng	94
14) Trichlorofluoromethane	4.75	101	489514	17.156	ng	99
15) 2-Propanol (Isopropanol)	4.88	45	818	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	0.00	84	0	N.D.		
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.		
21) Trichlorotrifluoroethane	5.58	151	294080	22.377	ng	98
22) Carbon Disulfide	5.63	76	721	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	542	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	862	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	572	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	2060	0.128	ng	97
48) 1,4-Dioxane	0.00	88	0	N.D.		

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182509.D
Acq On : 19 Mar 2025 8:32
Operator : TZ
Sample : P2500665-006dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 09:00:15 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

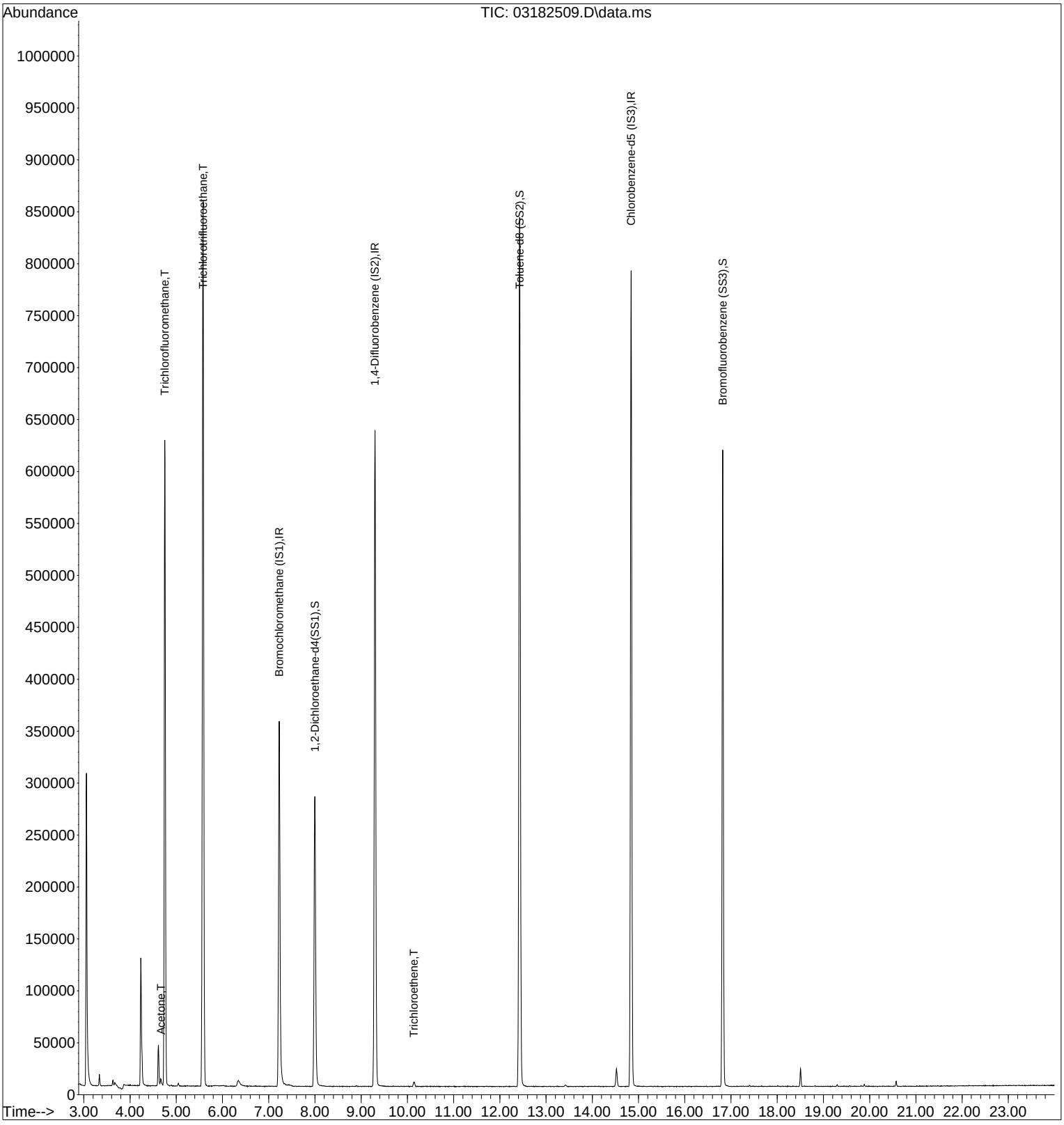
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0		N.D.	
50) Methyl Methacrylate	0.00	100	0		N.D.	
51) n-Heptane	0.00	71	0		N.D.	
52) cis-1,3-Dichloropropene	0.00	75	0		N.D.	
53) 4-Methyl-2-pentanone	0.00	58	0		N.D.	
54) trans-1,3-Dichloropropene	0.00	75	0		N.D.	
55) 1,1,2-Trichloroethane	0.00	97	0		N.D.	
58) Toluene	12.56	91	246		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	15.65	91	373		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	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	0.00	180	0		N.D.	
95) Naphthalene	0.00	128	0		N.D.	
96) n-Dodecane	0.00	58	0		N.D.	
97) Hexachlorobutadiene	0.00	225	0		N.D.	
98) Cyclohexanone	0.00	55	0		N.D.	
99) tert-Butylbenzene	18.50	119	317		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)

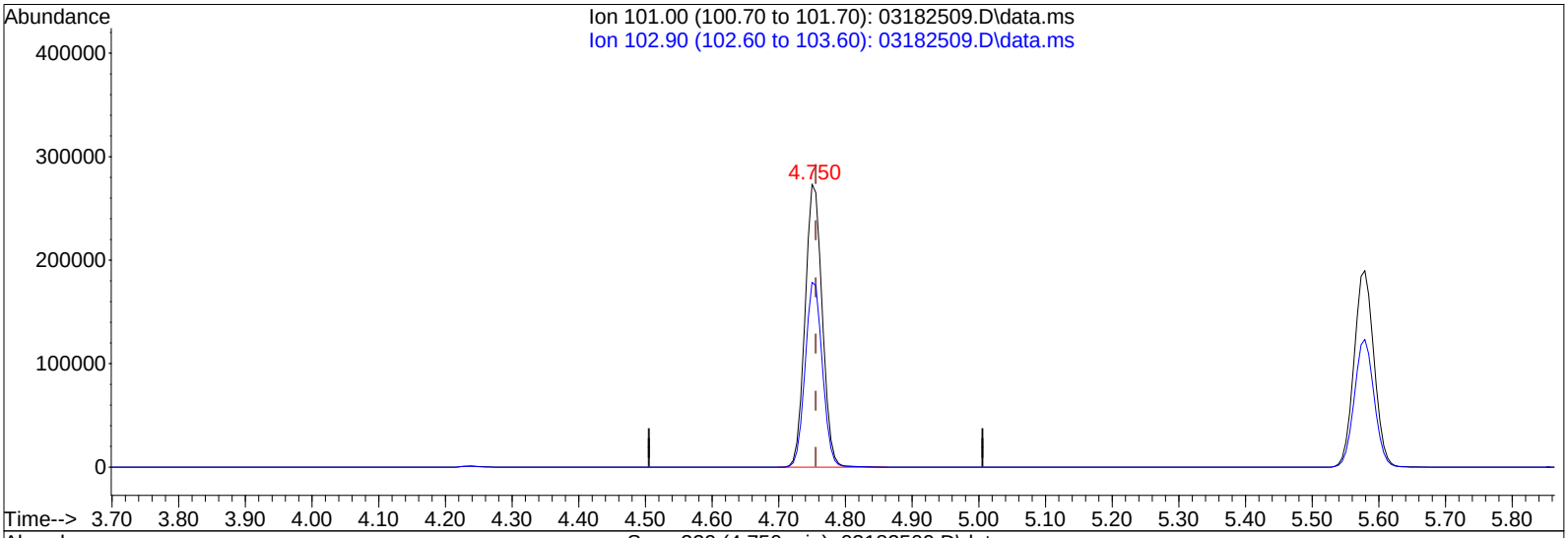
Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182509.D
Acq On : 19 Mar 2025 8:32
Operator : TZ
Sample : P2500665-006dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

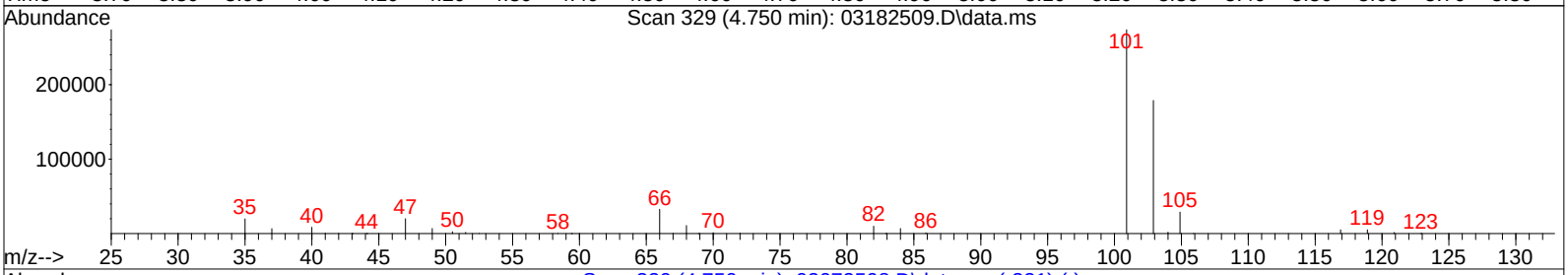
Quant Time: Mar 19 09:00:15 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

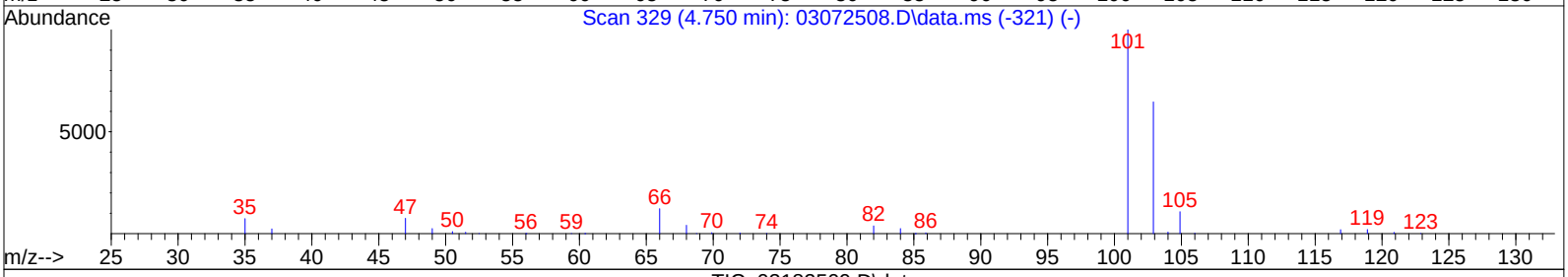


Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182509.D
Acq On : 19 Mar 2025 8:32
Operator : TZ
Sample : P2500665-006dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 09:00:15 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03182509.D\data.ms

(14) Trichlorofluoromethane (T)

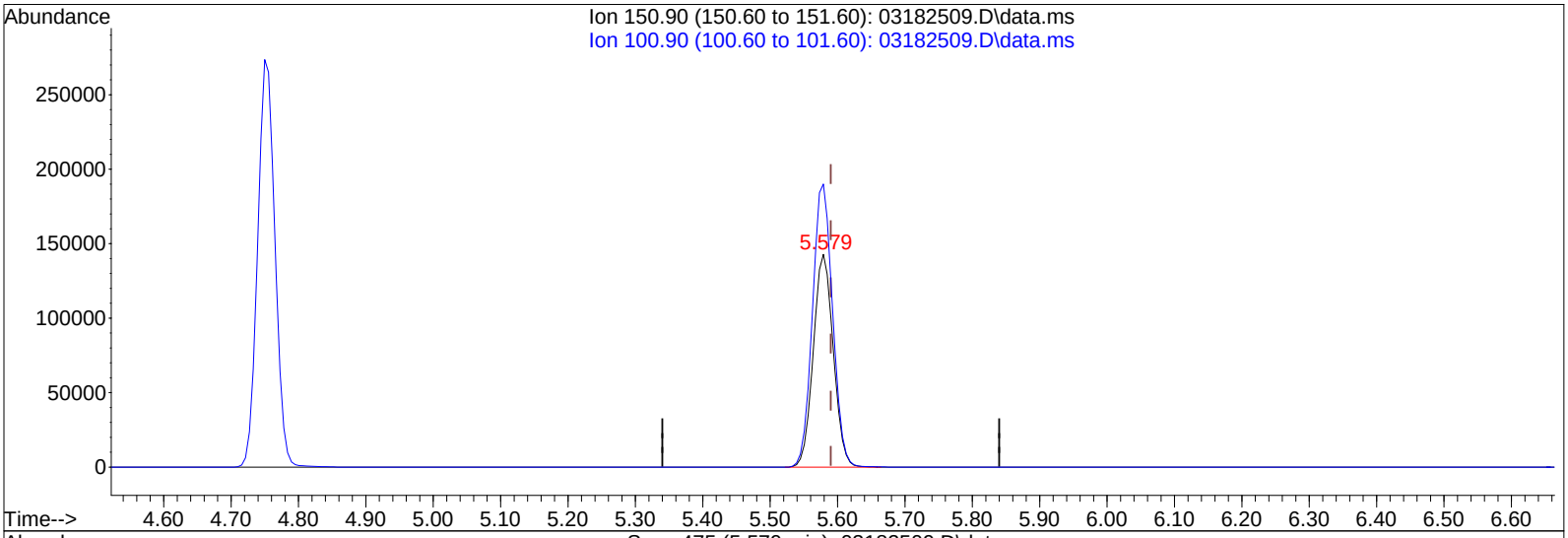
4.750min (-0.005) 17.16ng

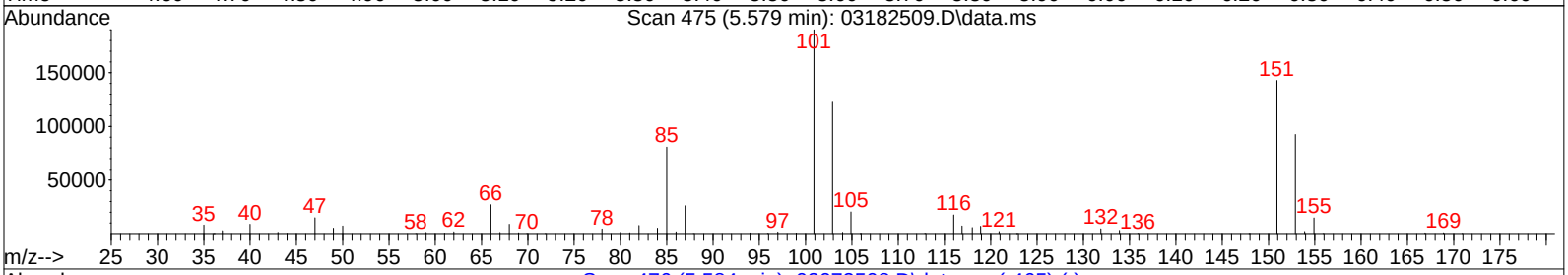
response 489514

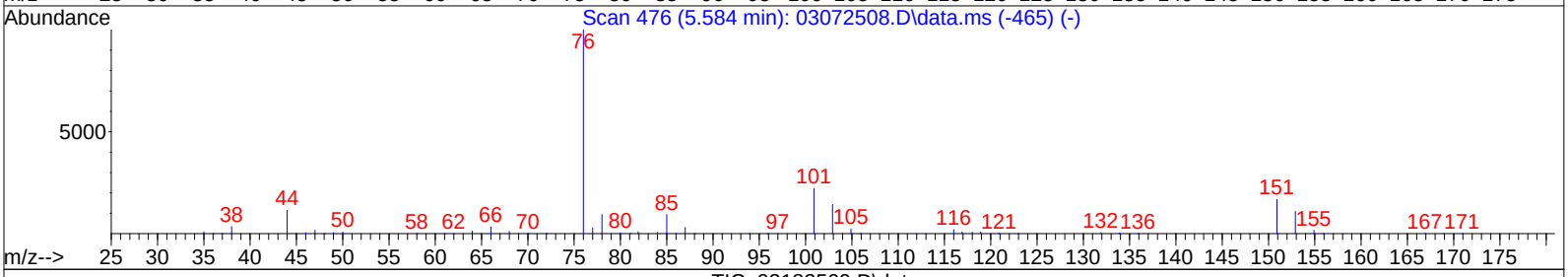
Ion	Exp%	Act%
101.00	100	100
102.90	64.70	65.70
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182509.D
Acq On : 19 Mar 2025 8:32
Operator : TZ
Sample : P2500665-006dil (5.0mL)
Misc : S38-03052512
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Mar 19 09:00:15 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration







TIC: 03182509.D\data.ms

(21) Trichlorotrifluoroethane (T)

5.579min (-0.011) 22.38ng

response 294080

Ion	Exp%	Act%
150.90	100	100
100.90	132.50	134.27
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172523.D\data.ms

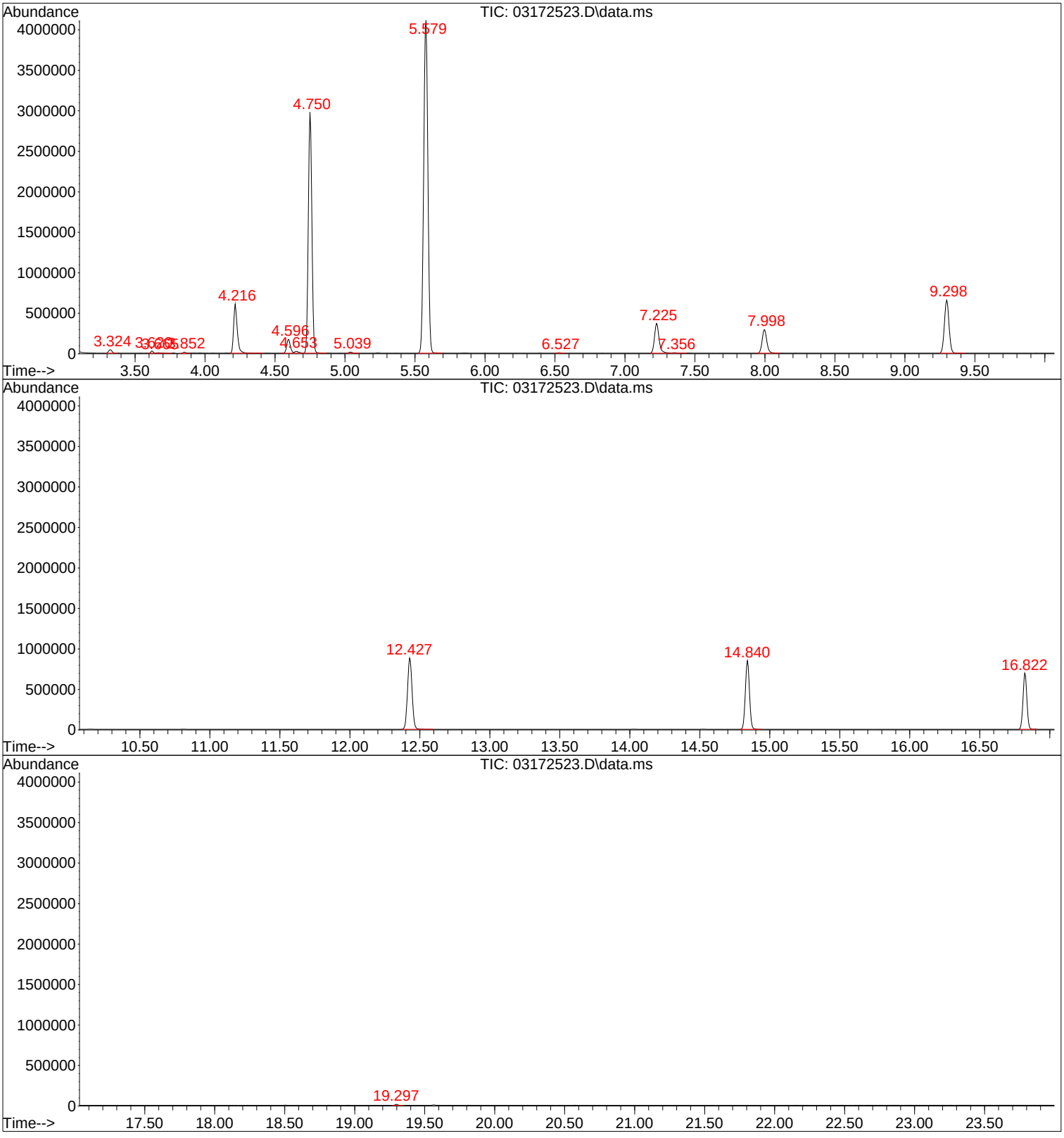
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.324	72	78	87	rBV2	41072	69370	0.81%	0.295%
2	3.620	125	130	135	rBV	25720	32257	0.38%	0.137%
3	3.665	135	138	154	rVB2	6620	19160	0.22%	0.081%
4	3.852	165	171	178	rBV2	15275	26124	0.31%	0.111%
5	4.216	228	235	271	rBV	605839	1072355	12.56%	4.557%
6	4.596	292	302	308	rBV	169395	305369	3.58%	1.298%
7	4.653	308	312	321	rVV2	21681	44181	0.52%	0.188%
8	4.750	321	329	350	rVB	2972516	5302131	62.09%	22.532%
9	5.039	374	380	392	rVB	12388	20570	0.24%	0.087%
10	5.579	464	475	496	rBV	4109645	8539526	100.00%	36.289%
11	6.527	637	642	650	rBV2	5988	10020	0.12%	0.043%
12	7.225	756	765	784	rBV	366769	833167	9.76%	3.541%
13	7.356	784	788	803	rVB2	4536	11021	0.13%	0.047%
14	7.998	890	901	921	rBV	291314	678146	7.94%	2.882%
15	9.298	1120	1130	1154	rBV	655090	1485571	17.40%	6.313%
16	12.427	1670	1681	1710	rBV	878432	2001548	23.44%	8.506%
17	14.840	2096	2106	2124	rBV	847629	1743318	20.41%	7.408%
18	16.822	2447	2455	2470	rBV	693459	1318762	15.44%	5.604%
19	19.297	2885	2891	2900	rBV	12614	19080	0.22%	0.081%

Sum of corrected areas: 23531676

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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



Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

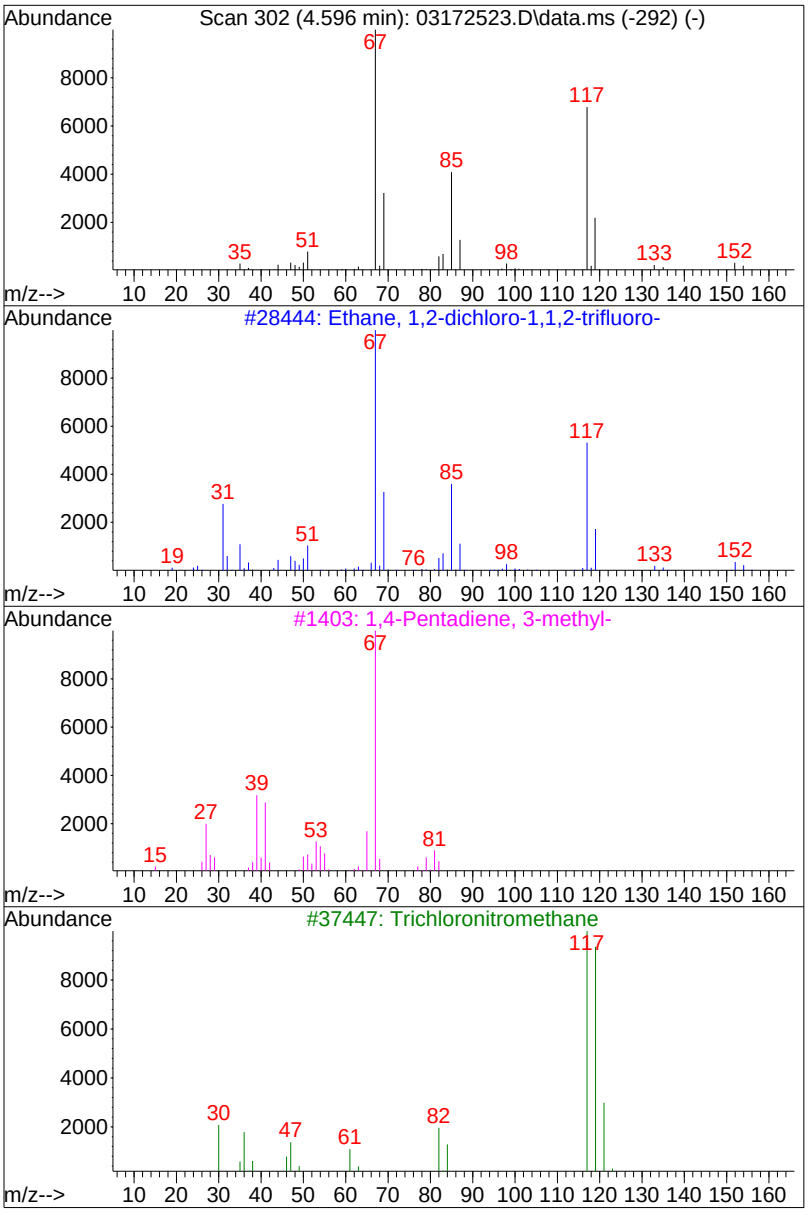
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

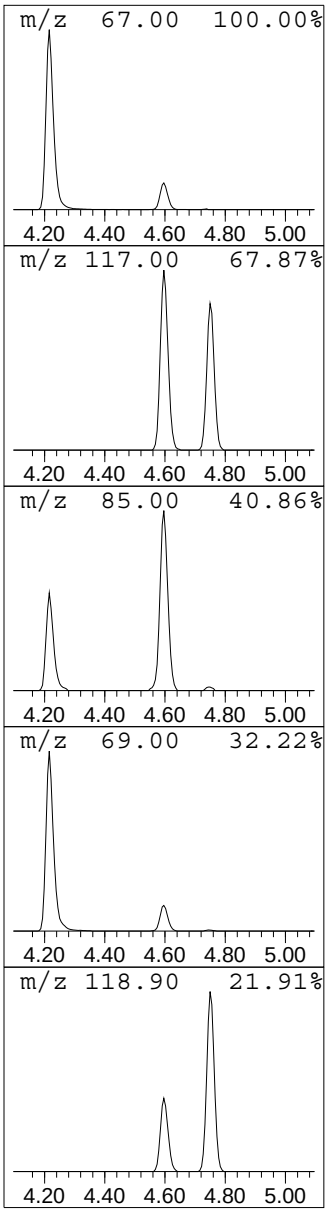
TIC Library : L:\DATABASE\NIST17\NIST17.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Ethane, 1,2-dichloro-1,1,2-... Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.596	4.58 ng	305369	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	1,4-Pentadiene, 3-methyl-	82	C6H10	001115-08-8	9
3	Trichloronitromethane	163	CCl3NO2	000076-06-2	9
4	Benzene, (2-chlorocyclopropyl)-	152	C9H9Cl	1000327-31-4	9
5	3-Chloro-5-propyl-1H-1,2,4-triazole	145	C5H8ClN3	063580-18-7	9





Tentatively Identified Compound (LSC) summary

Data Path : I:\MS09\DATA\2025_03\17\
Data File : 03172523.D
Acq On : 18 Mar 2025 17:57
Operator : SC
Sample : P2500665-006 (15mL)
Misc : S38-03052512
ALS Vial : 9 Sample Multiplier: 1

VOA 3/18/25

Quant Method : I:\MS09\METHODS\R09030725.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	4.6	ng	305369	1	7.225	833167	12.5

Quantitation Report (QT/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 18 19:28:03 2025 3/19/25
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	162891	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	690342	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	115624	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	237874	11.780	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	12.43	98	779995	12.445	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	16.82	174	245426	13.266	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D.	d		
3) Dichlorodifluoromethan...	3.38	85	16614	0.503	ng		98
4) Chloromethane	3.53	50	357	N.D.			
5) 1,2-Dichloro-1,1,2,2-t...	3.61	135	374	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	3810	0.294	ng		90
11) Acetonitrile	4.47	41	622	N.D.			
12) Acrolein	4.55	56	827	0.071	ng		95
13) Acetone	4.64	58	16257	1.315	ng		99
14) Trichlorofluoromethane	4.76	101	194262	6.718	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	2331	0.058	ng	#	31
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	250	N.D.			
19) Methylene Chloride	5.36	84	456	N.D.			
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.58	151	98013	7.359	ng		99
22) Carbon Disulfide	5.62	76	15470	0.256	ng		76
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	6.44	86	244	0.074	ng	#	1
27) 2-Butanone (MEK)	6.68	72	1789	0.165	ng	#	76
28) cis-1,2-Dichloroethene	0.00	61	0	N.D.			
29) Diisopropyl Ether	7.36	87	478	N.D.			
30) Ethyl Acetate	7.29	61	6137	1.007	ng		90
31) n-Hexane	7.31	57	1278	N.D.			
32) Chloroform	7.35	83	5469	0.194	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	0.00	61	0	N.D.			
40) 1-Butanol	8.83	56	3128	No Calib			
41) Benzene	8.90	78	3406	0.051	ng		92
42) Carbon Tetrachloride	9.07	117	343	N.D.			
43) Cyclohexane	9.21	84	114	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	432	N.D.			
47) Trichloroethene	10.14	130	836	0.051	ng		89
48) 1,4-Dioxane	10.14	88	271	N.D.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 18 19:28:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

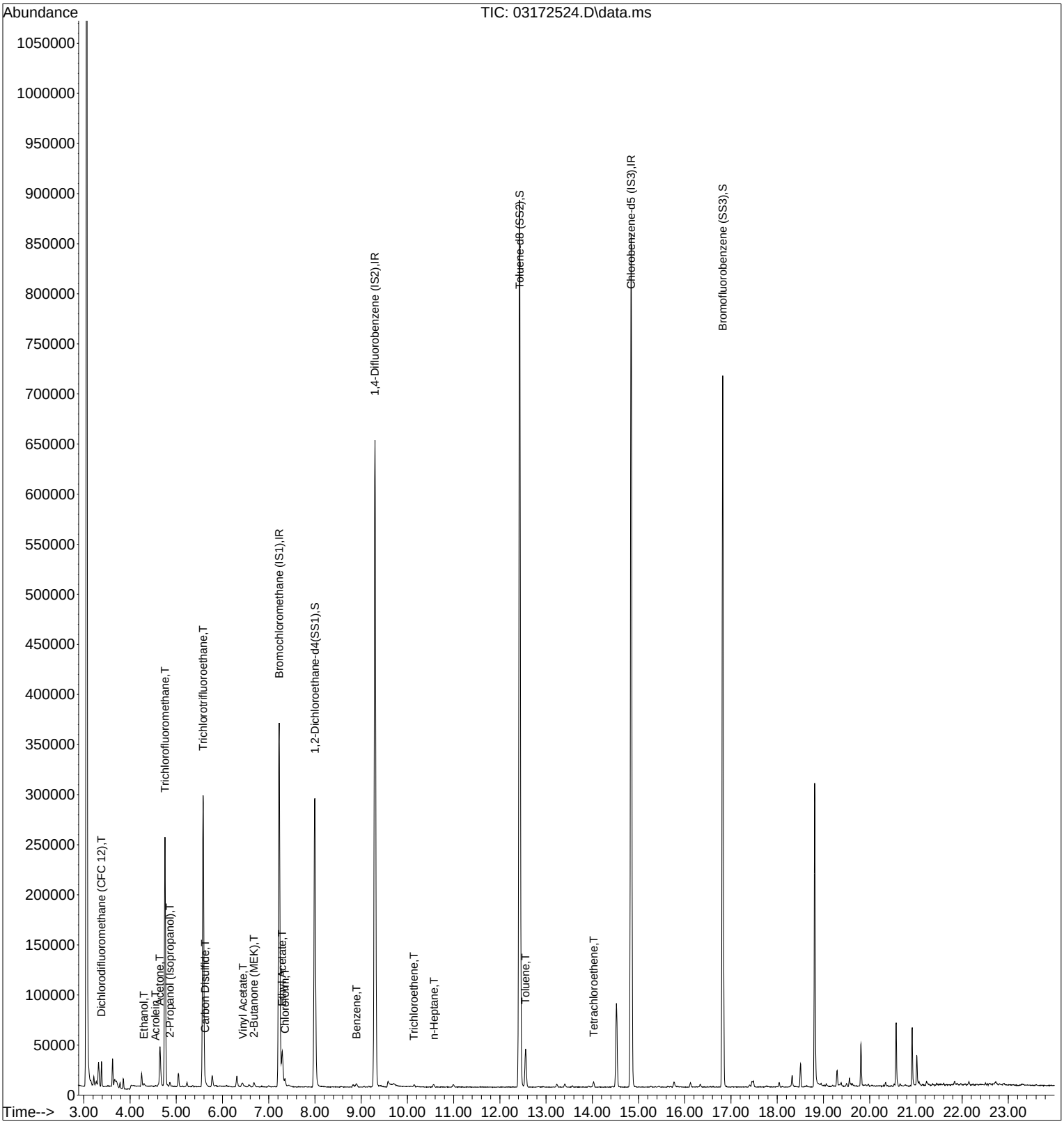
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	10.58	71	810	0.053 ng	#	84
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	37286	0.598 ng		99
59) 2-Hexanone	12.93	43	616	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	13.93	57	115	N.D.		
64) Tetrachloroethene	14.03	166	1931	0.113 ng		98
65) Chlorobenzene	0.00	112	0	N.D.		
66) Ethylbenzene	15.41	91	192	N.D.		
67) m- & p-Xylenes	15.64	91	729	N.D.		
68) Bromoform	0.00	173	0	N.D.		
69) Styrene	0.00	104	0	N.D.		
70) o-Xylene	16.24	91	252	N.D.		
71) n-Nonane	16.61	43	345	N.D.		
72) 1,1,2,2-Tetrachloroethane	0.00	83	0	N.D.		
74) Cumene	17.03	105	168	N.D.		
75) alpha-Pinene	0.00	93	0	N.D.		
76) n-Propylbenzene	0.00	91	0	N.D.		
77) 3-Ethyltoluene	17.03	105	168	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	168	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	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-...	18.92	119	140	N.D.		
89) 1,2,3-Trimethylbenzene	17.03	105	168	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	0.00	180	0	N.D.		
95) Naphthalene	20.93	128	311	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.50	119	475	N.D.		
100) n-Butylbenzene	19.38	91	527	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/LSC Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 18 19:28:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 19:28:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

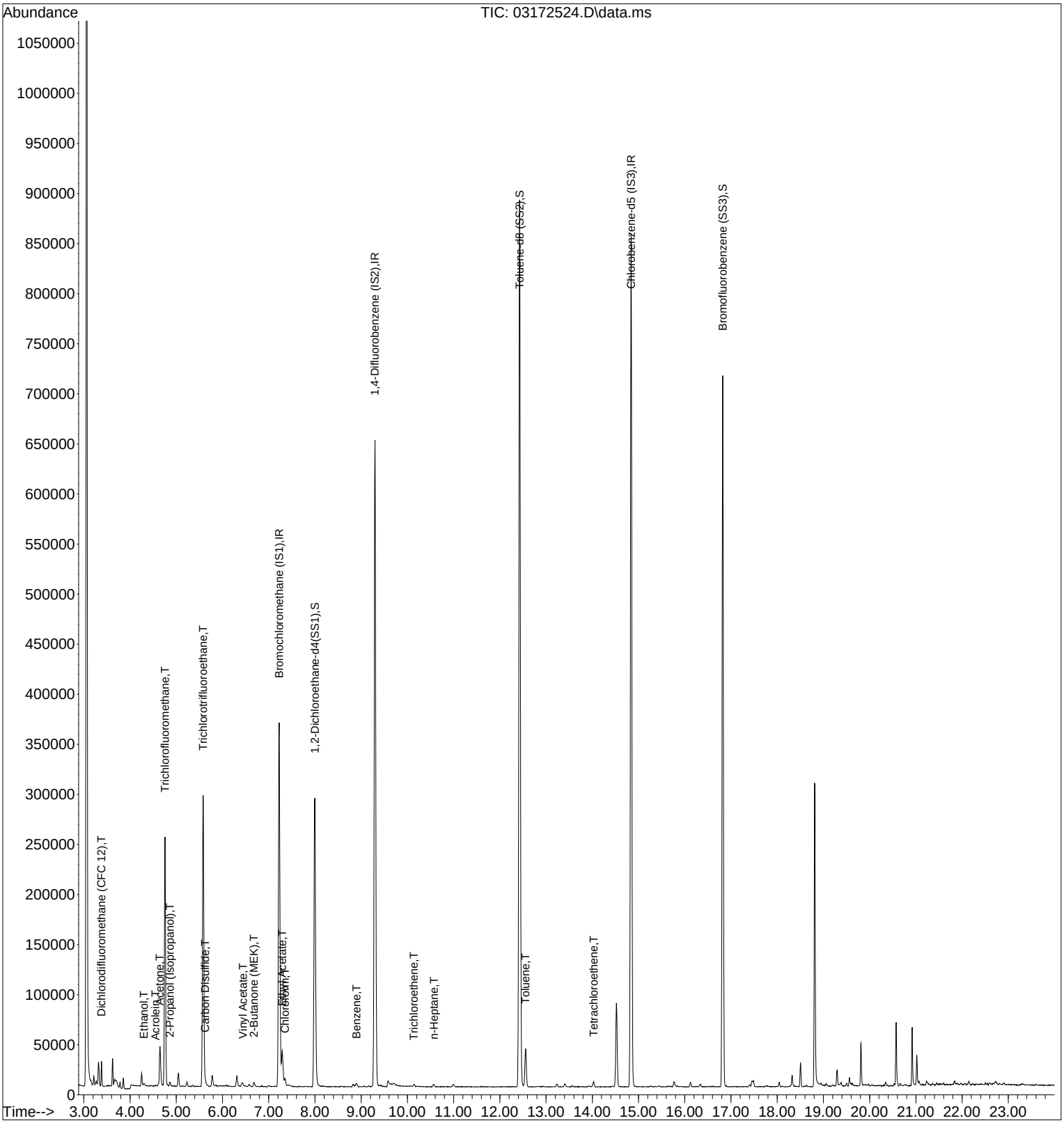
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	162891	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	690342	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	115624	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	237874	11.780	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.24%				
57) Toluene-d8 (SS2)	12.43	98	779995	12.445	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.52%				
73) Bromofluorobenzene (SS3)	16.82	174	245426	13.266	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 106.16%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	16614	0.503	ng		98
10) Ethanol	4.30	45	3810	0.294	ng		90
12) Acrolein	4.55	56	827	0.071	ng		95
13) Acetone	4.64	58	16257	1.315	ng		99
14) Trichlorofluoromethane	4.76	101	194262	6.718	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	2331	0.058	ng	#	31
21) Trichlorotrifluoroethane	5.58	151	98013	7.359	ng		99
22) Carbon Disulfide	5.62	76	15470	0.256	ng		76
26) Vinyl Acetate	6.44	86	244	0.074	ng	#	1
27) 2-Butanone (MEK)	6.68	72	1789	0.165	ng	#	76
30) Ethyl Acetate	7.29	61	6137	1.007	ng		90
32) Chloroform	7.35	83	5469	0.194	ng		99
41) Benzene	8.90	78	3406	0.051	ng		92
47) Trichloroethene	10.14	130	836	0.051	ng		89
51) n-Heptane	10.58	71	810	0.053	ng	#	84
58) Toluene	12.56	91	37286	0.598	ng		99
64) Tetrachloroethene	14.03	166	1931	0.113	ng		98

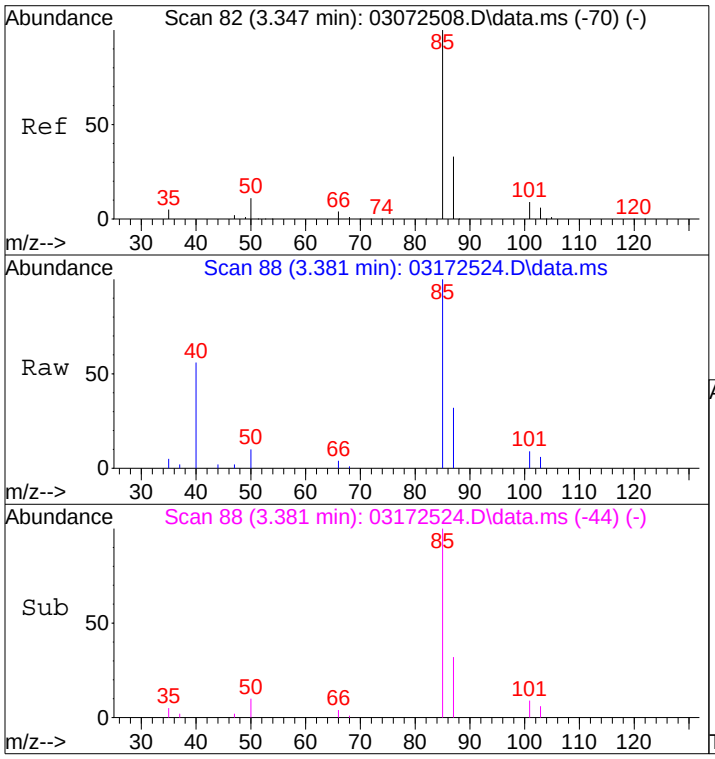
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 18 19:28:03 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

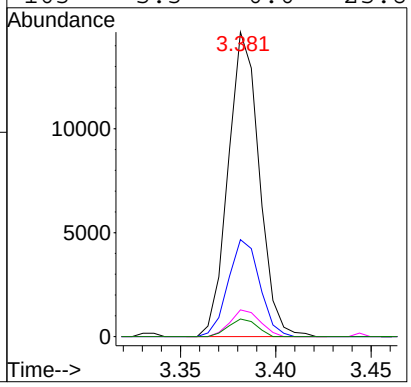


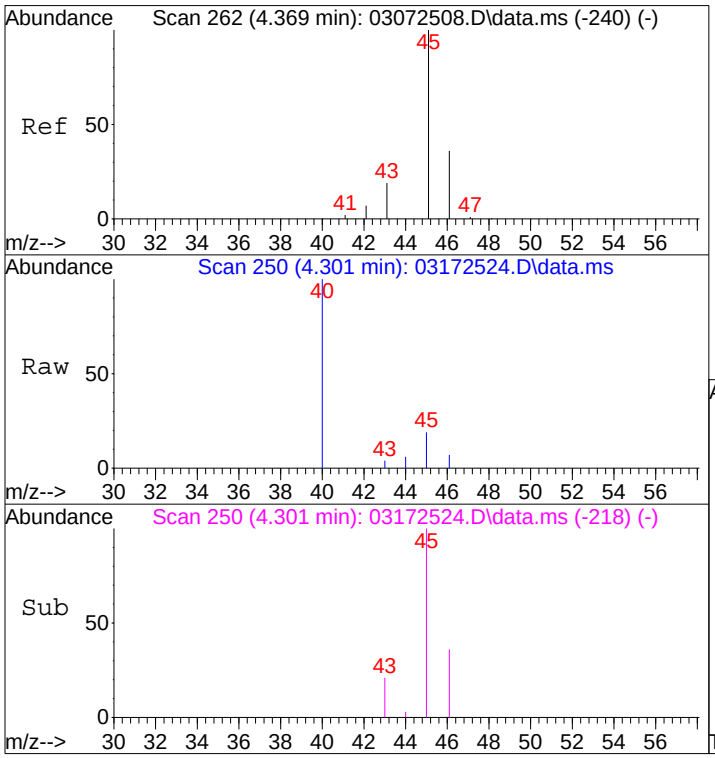


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.50 ng
RT: 3.38 min Scan# 88
Delta R.T. -0.002 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 85 Resp: 16614

Ion	Ratio	Lower	Upper
85	100		
87	32.3	13.2	53.2
101	8.5	0.0	28.9
103	5.3	0.0	25.8

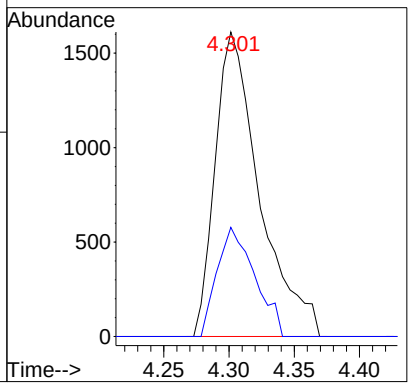


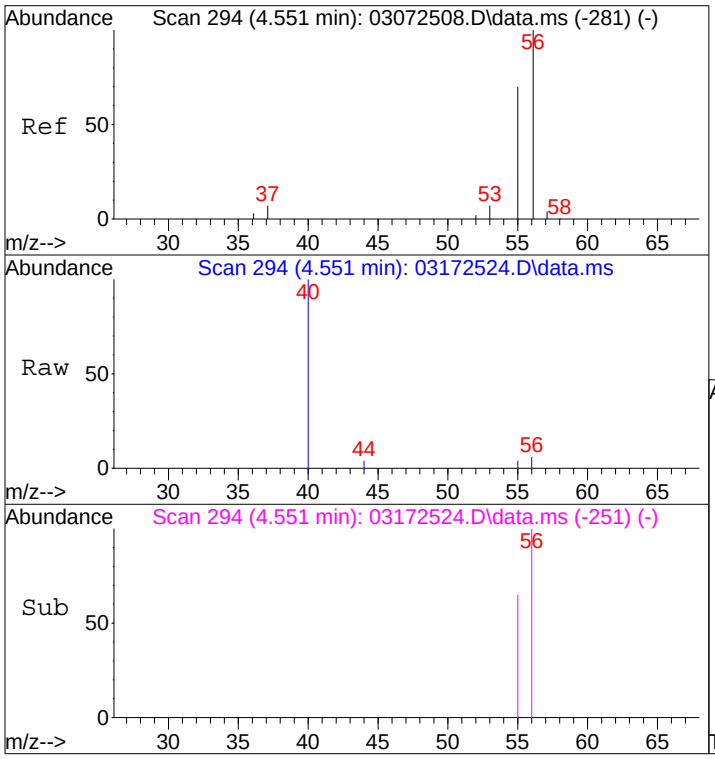


#10
Ethanol
Concen: 0.29 ng
RT: 4.30 min Scan# 250
Delta R.T. -0.068 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 45 Resp: 3810

Ion	Ratio	Lower	Upper
45	100		
46	30.5	16.1	56.1

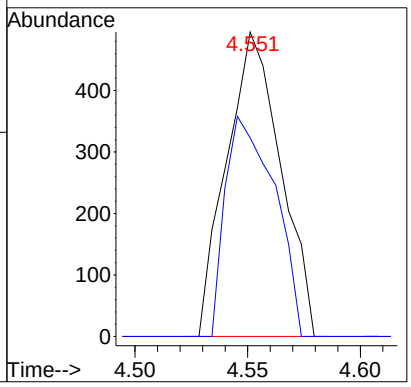


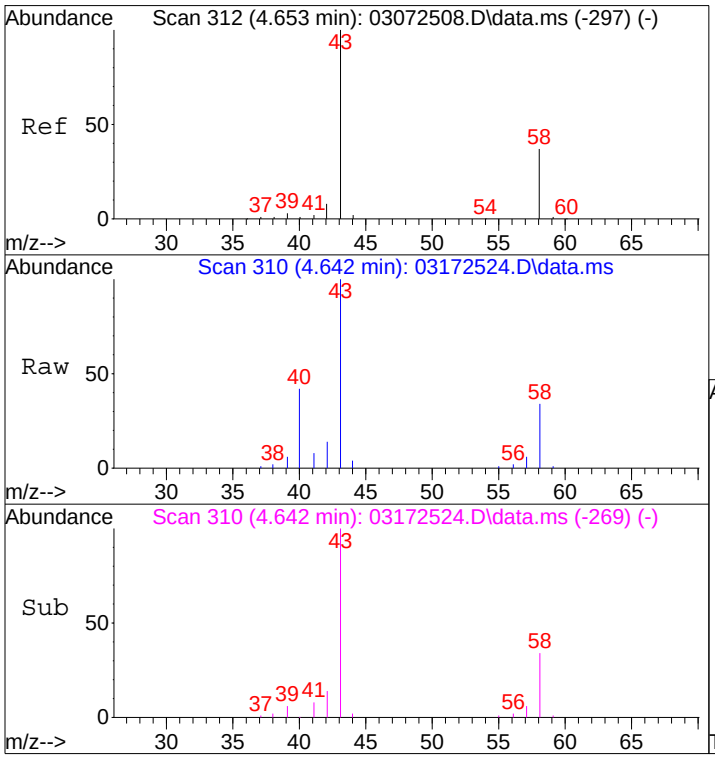


#12
Acrolein
Concen: 0.07 ng
RT: 4.55 min Scan# 294
Delta R.T. -0.005 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 56 Resp: 827

Ion	Ratio	Lower	Upper
56	100		
55	65.9	49.6	89.6

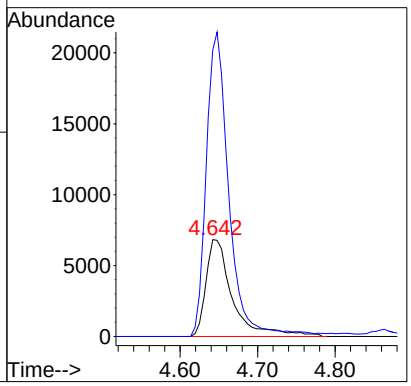


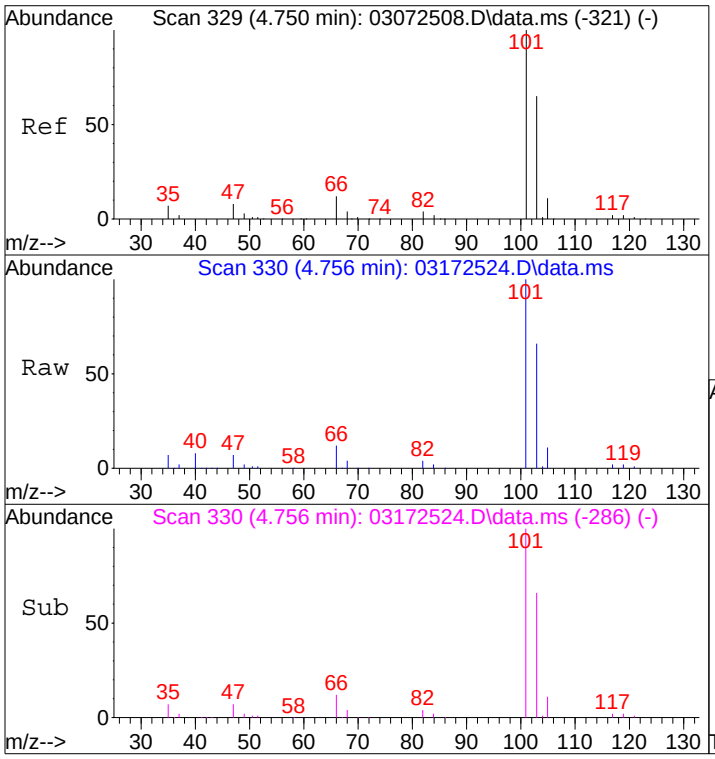


#13
Acetone
Concen: 1.32 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.017 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 58 Resp: 16257

Ion	Ratio	Lower	Upper
58	100		
43	270.6	241.6	301.6

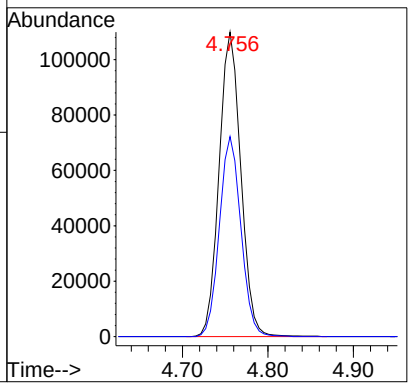


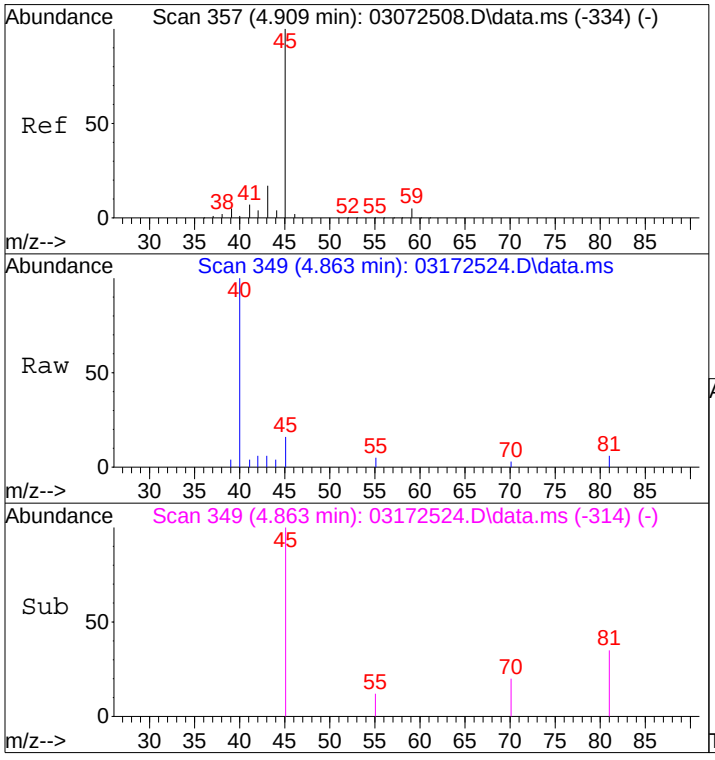


#14
Trichlorofluoromethane
Concen: 6.72 ng
RT: 4.76 min Scan# 330
Delta R.T. 0.000 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion:101 Resp: 194262

Ion	Ratio	Lower	Upper
101	100		
103	65.0	44.7	84.7

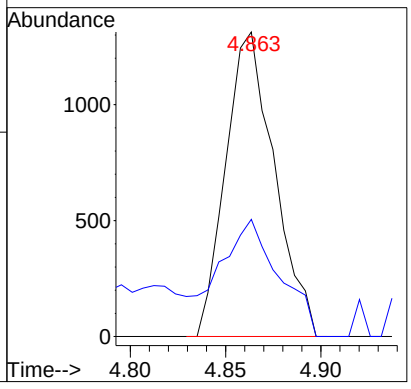


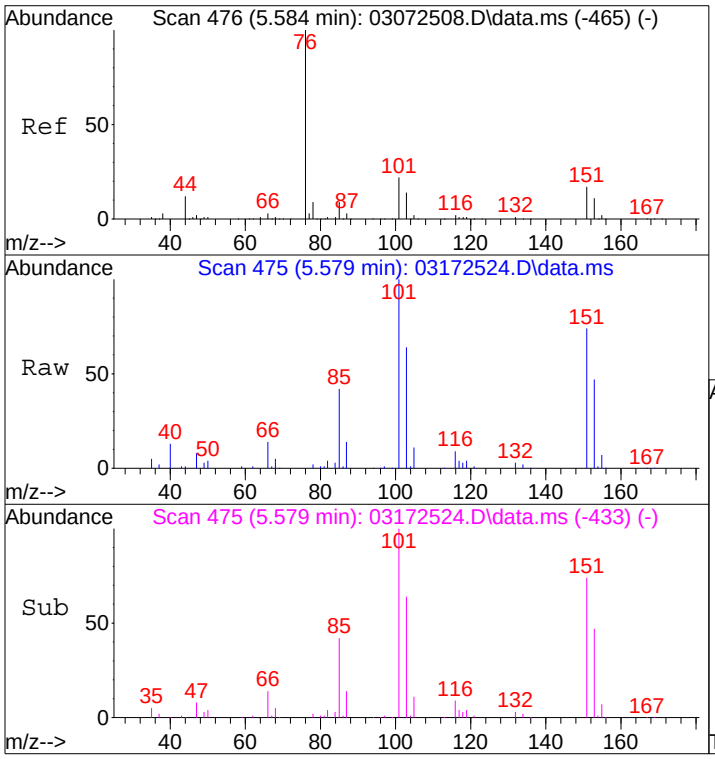


#15
2-Propanol (Isopropanol)
Concen: 0.06 ng
RT: 4.86 min Scan# 349
Delta R.T. -0.051 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 45 Resp: 2331

Ion	Ratio	Lower	Upper
45	100		
43	47.9	0.0	37.5#

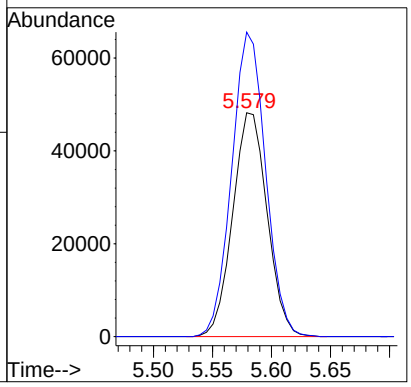


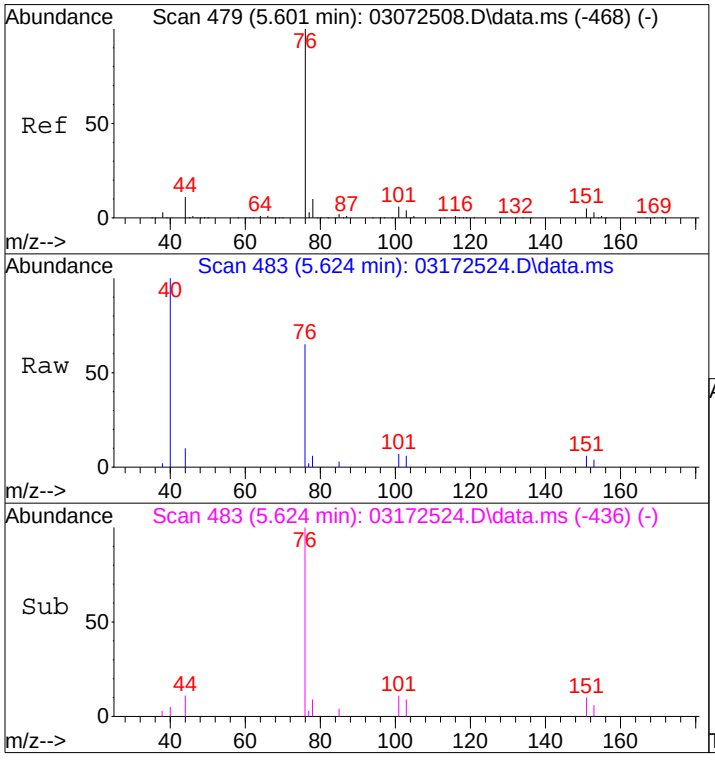


#21
Trichlorotrifluoroethane
Concen: 7.36 ng
RT: 5.58 min Scan# 475
Delta R.T. -0.011 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion:151 Resp: 98013

Ion	Ratio	Lower	Upper
151	100		
101	134.0	112.5	152.5

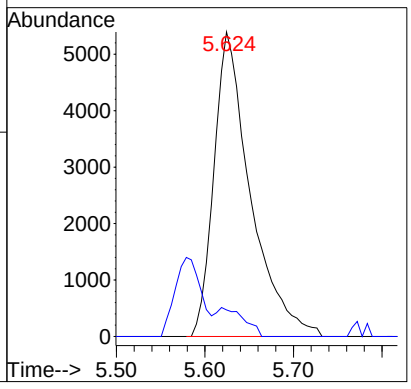


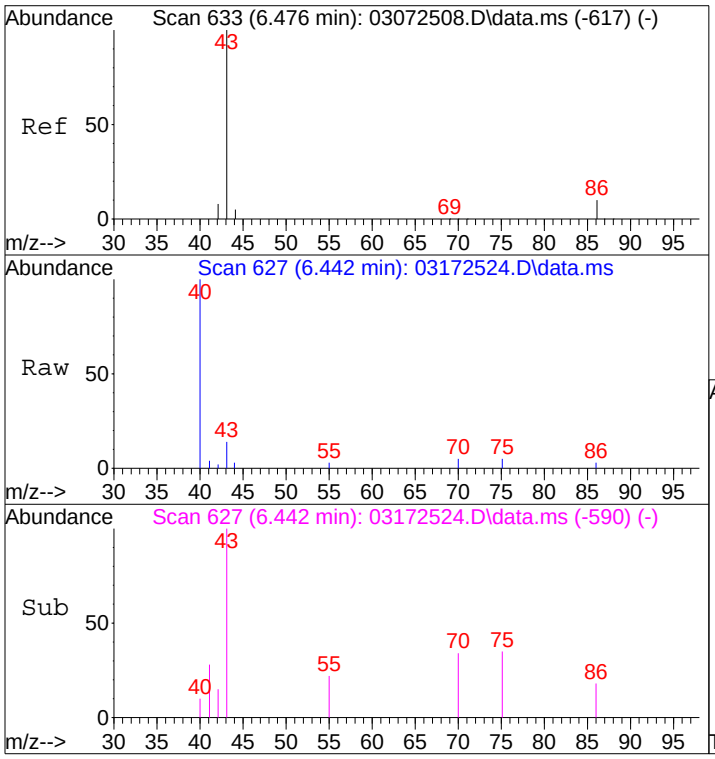


#22
Carbon Disulfide
Concen: 0.26 ng
RT: 5.62 min Scan# 483
Delta R.T. 0.017 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 76 Resp: 15470

Ion	Ratio	Lower	Upper
76	100		
78	18.7	0.0	29.7

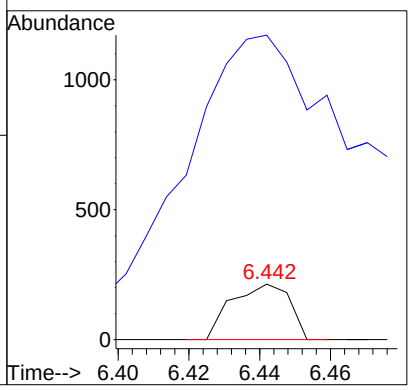


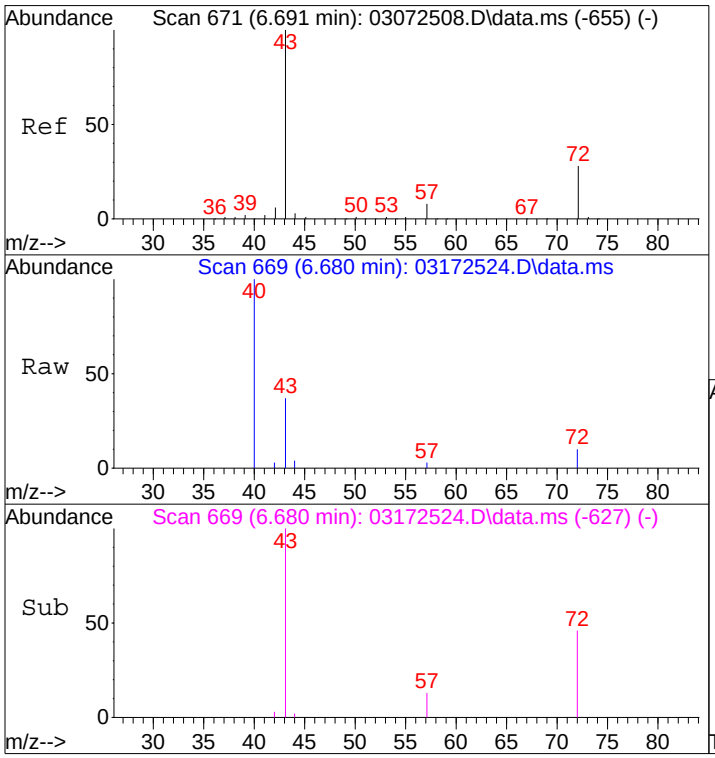


#26
Vinyl Acetate
Concen: 0.07 ng
RT: 6.44 min Scan# 627
Delta R.T. -0.040 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 86 Resp: 244

Ion	Ratio	Lower	Upper
86	100		
43	2039.8	1007.7	1047.7#

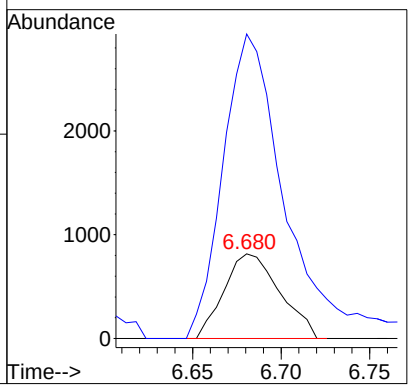


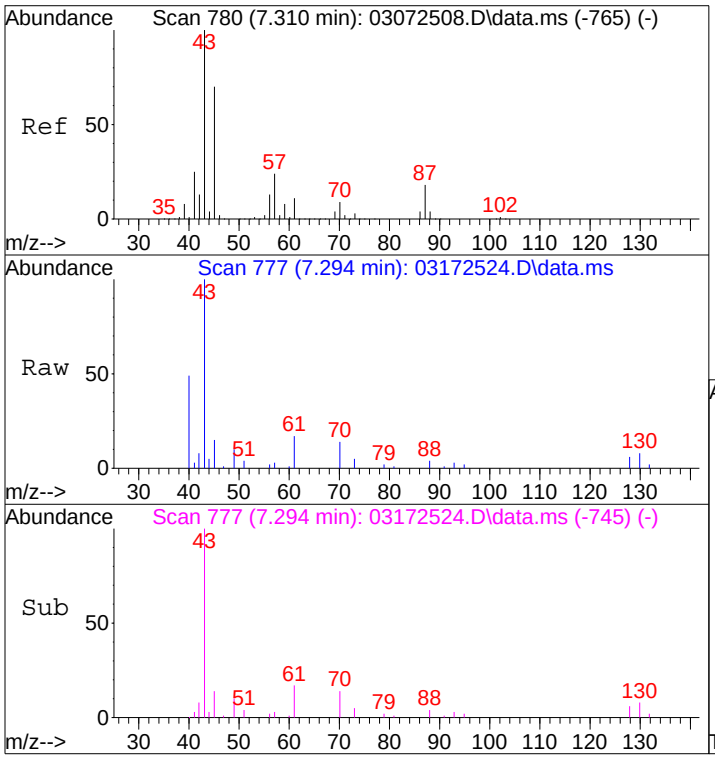


#27
2-Butanone (MEK)
Concen: 0.16 ng
RT: 6.68 min Scan# 669
Delta R.T. -0.011 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 72 Resp: 1789

Ion	Ratio	Lower	Upper
72	100		
43	406.9	335.4	375.4#

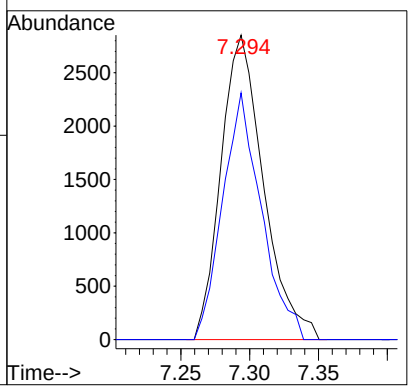


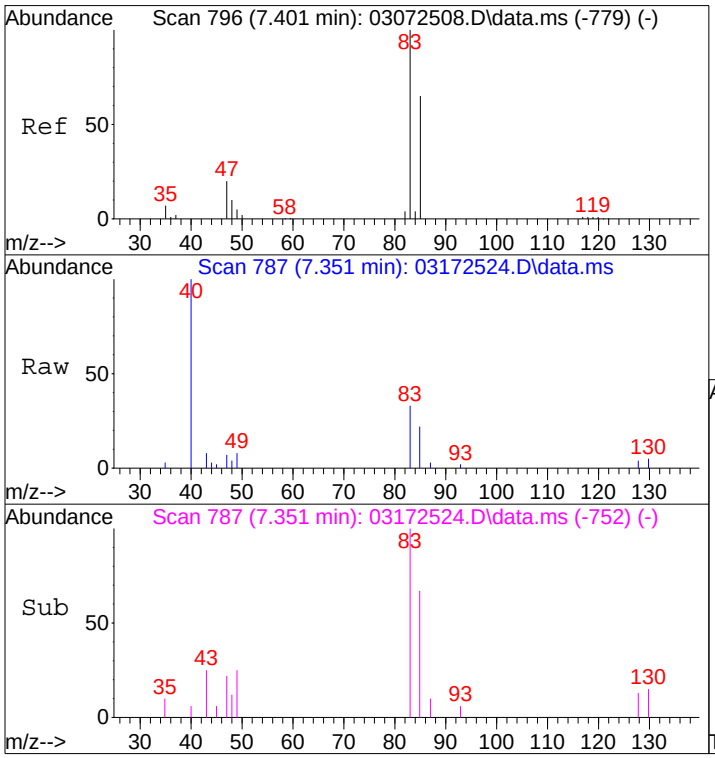


#30
Ethyl Acetate
Concen: 1.01 ng
RT: 7.29 min Scan# 777
Delta R.T. -0.017 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 61 Resp: 6137

Ion	Ratio	Lower	Upper
61	100		
70	73.6	62.6	102.6

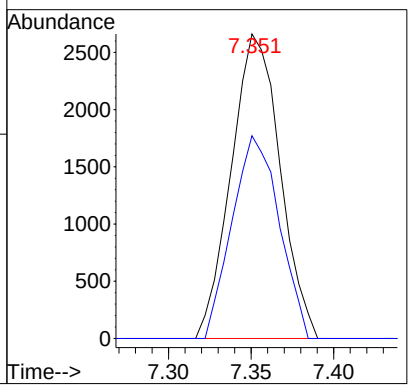


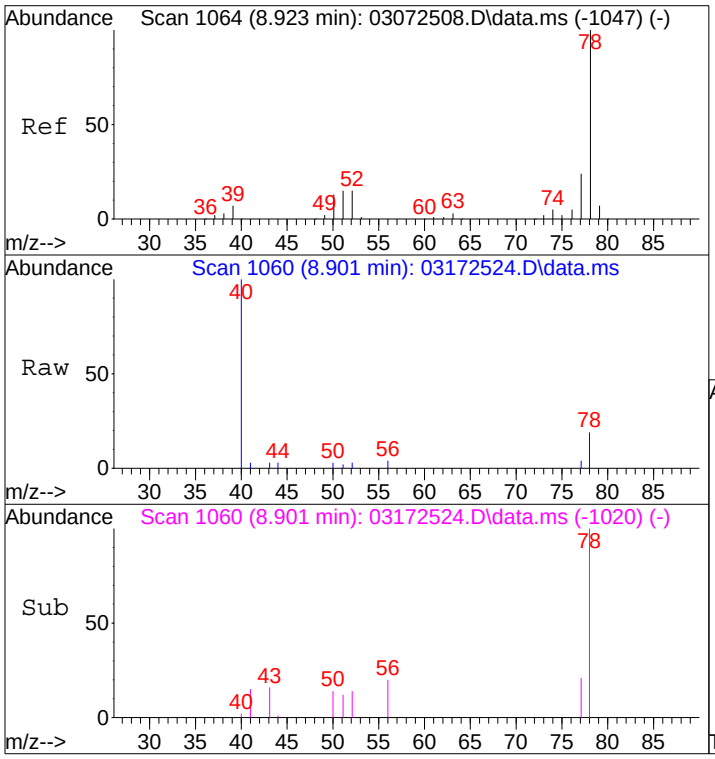


#32
Chloroform
Concen: 0.19 ng
RT: 7.35 min Scan# 787
Delta R.T. -0.051 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 83 Resp: 5469

Ion	Ratio	Lower	Upper
83	100		
85	64.1	44.9	84.9

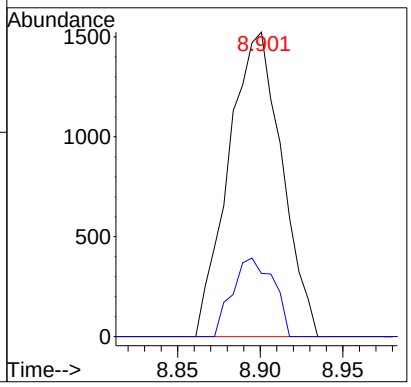


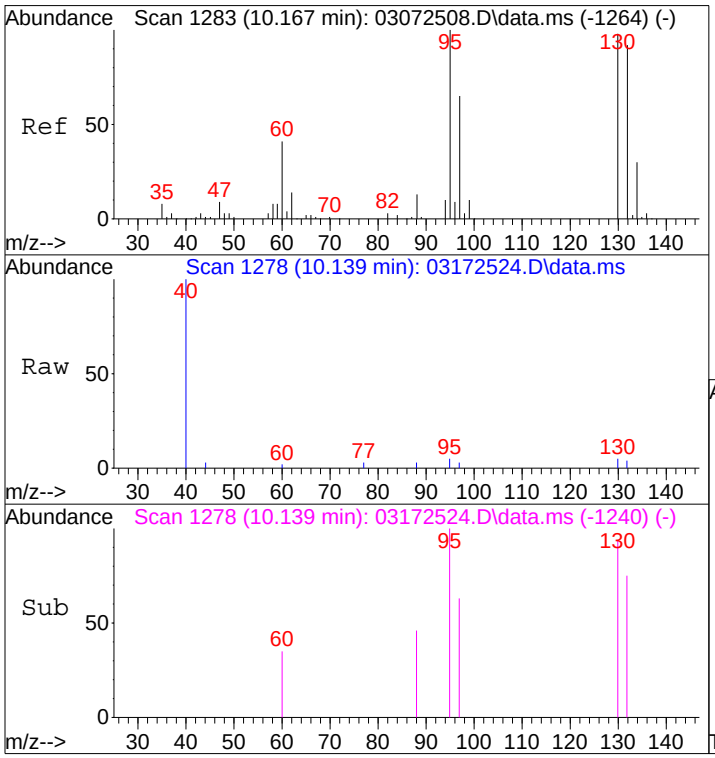


#41
Benzene
Concen: 0.05 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.023 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 78 Resp: 3406

Ion	Ratio	Lower	Upper
78	100		
77	19.9	3.9	43.9

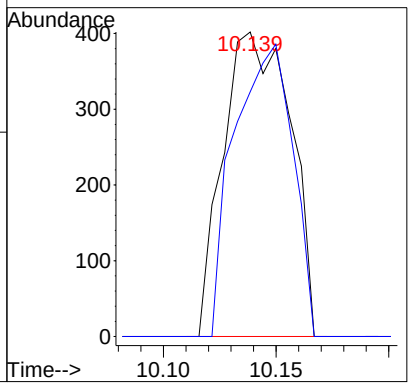


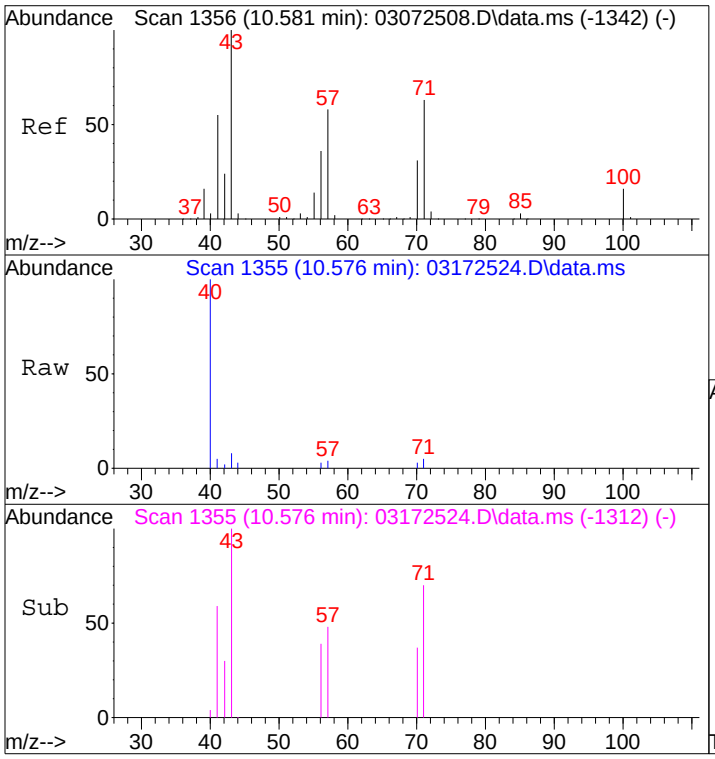


#47
Trichloroethene
Concen: 0.05 ng
RT: 10.14 min Scan# 1278
Delta R.T. -0.034 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion:130 Resp: 836

Ion	Ratio	Lower	Upper
130	100		
132	83.5	74.1	114.1

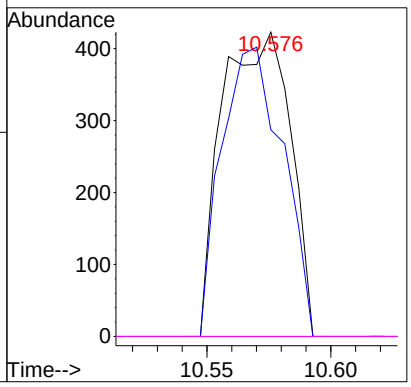


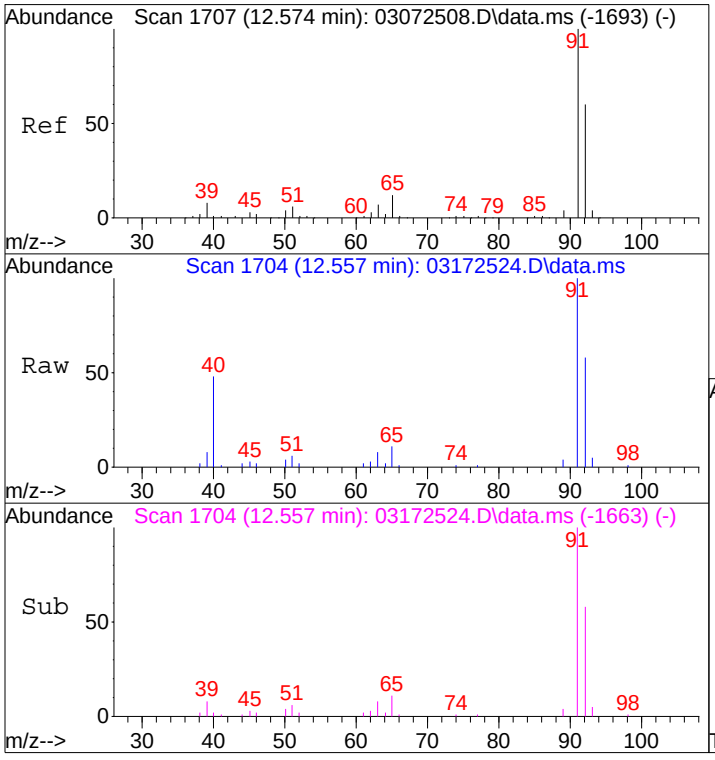


#51
n-Heptane
Concen: 0.05 ng
RT: 10.58 min Scan# 1355
Delta R.T. -0.006 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 71 Resp: 810

Ion	Ratio	Lower	Upper
71	100		
57	85.2	70.9	110.9
100	0.0	5.2	45.2#

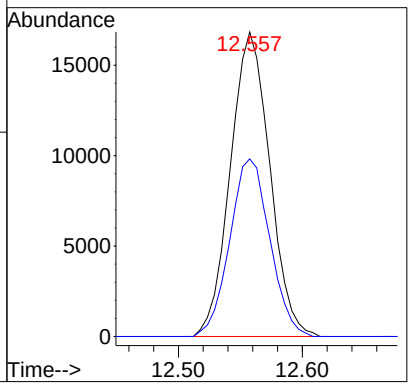


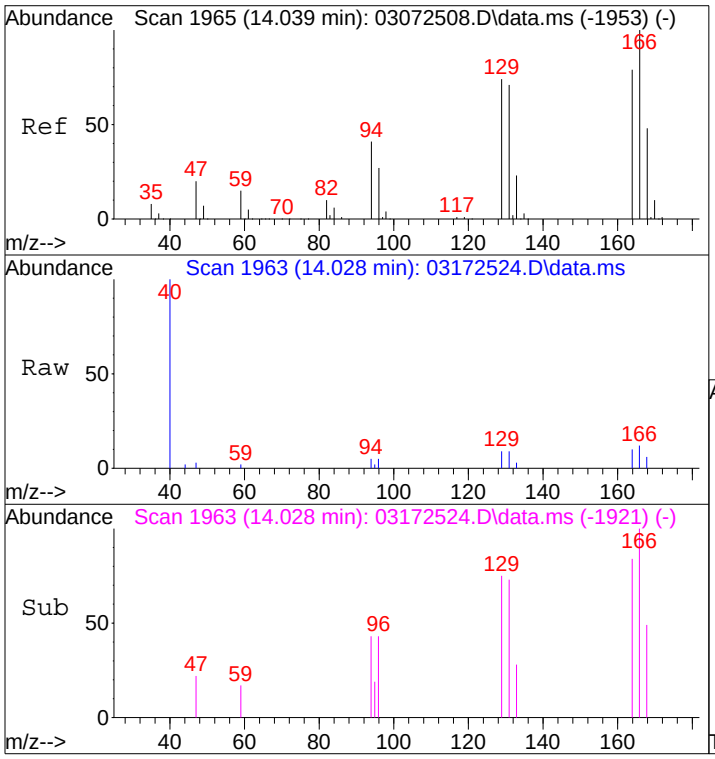


#58
Toluene
Concen: 0.60 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.017 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion: 91 Resp: 37286

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.7	79.7

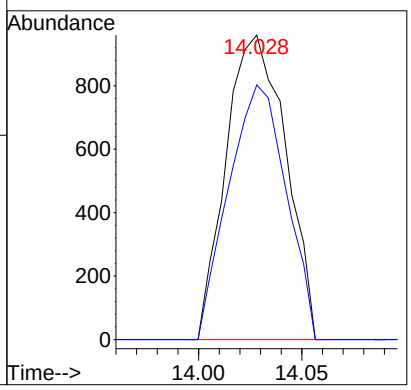




#64
Tetrachloroethene
Concen: 0.11 ng
RT: 14.03 min Scan# 1963
Delta R.T. -0.011 min
Lab File: 03172524.D
Acq: 18 Mar 2025 18:29

Tgt Ion:166 Resp: 1931

Ion	Ratio	Lower	Upper
166	100		
164	80.6	58.5	98.5



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 19 06:58:20 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

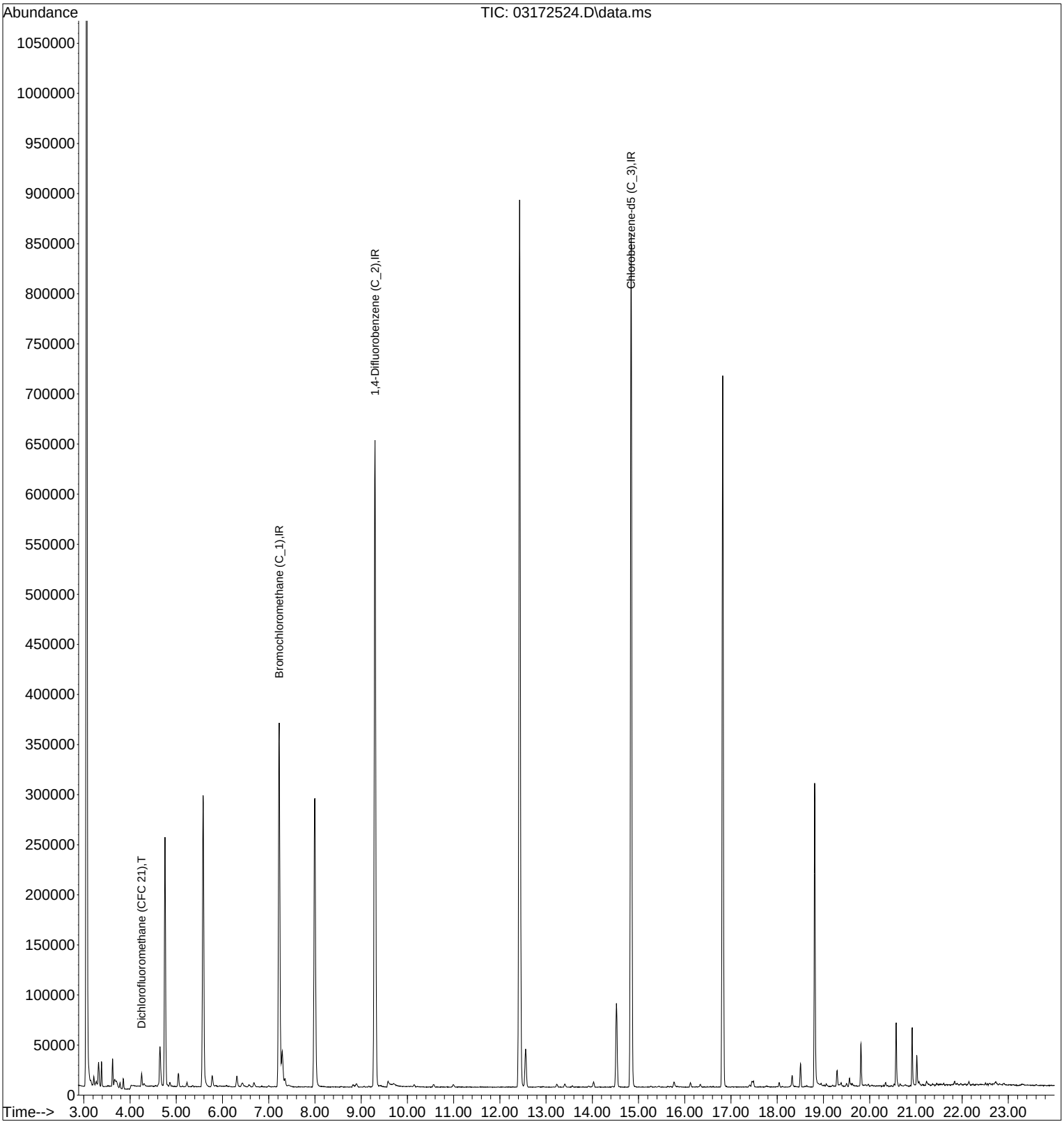
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	164212	12.500 ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	690460	12.500 ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	115624	12.500 ng	0.00
Target Compounds					Qvalue
2) Chloropentafluoroethane	3.16	85	199	N.D.	
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	901	N.D.	
4) 1,1-Difluoroethane	3.27	65	609	N.D.	
5) Chlorodifluoromethane ...	3.31	67	194	N.D.	
6) 1-Chloro-1,1-Difluoroe...	3.51	65	297	N.D.	
7) Dichlorofluoromethane ...	4.25	67	11415	0.421 ng	99
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	303	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	52	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	17.69	91	65	N.D.	
27) 4-Chlorotoluene	17.69	91	65	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)

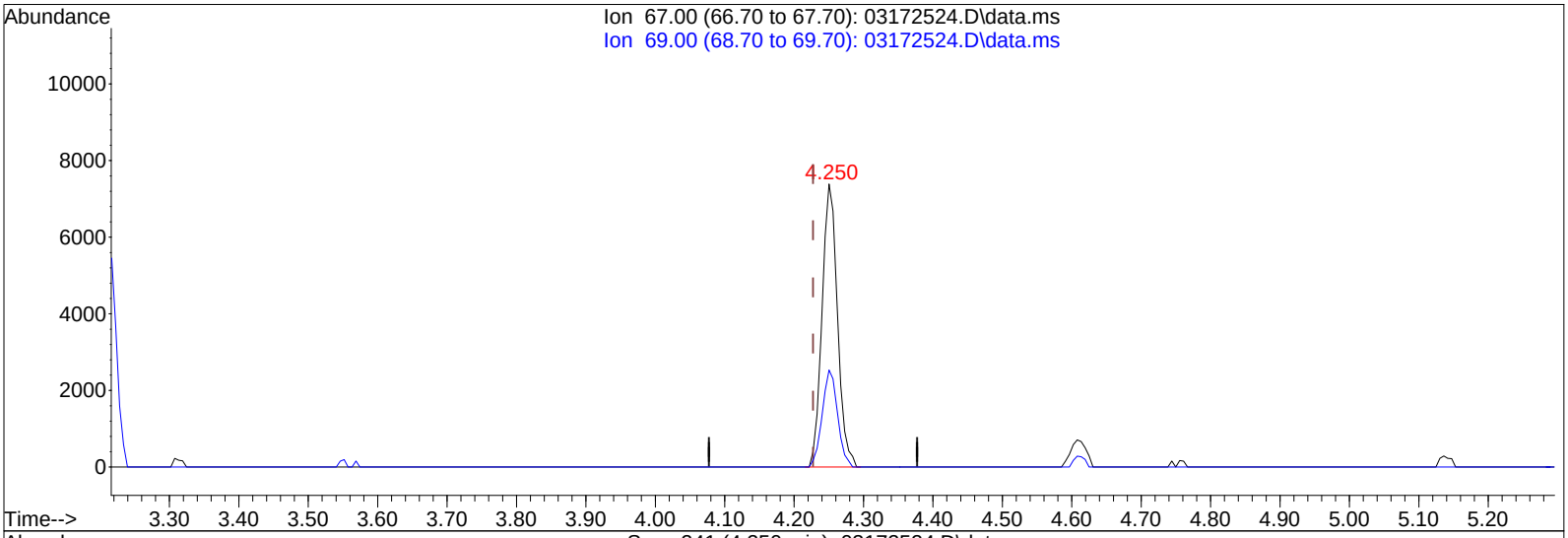
Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

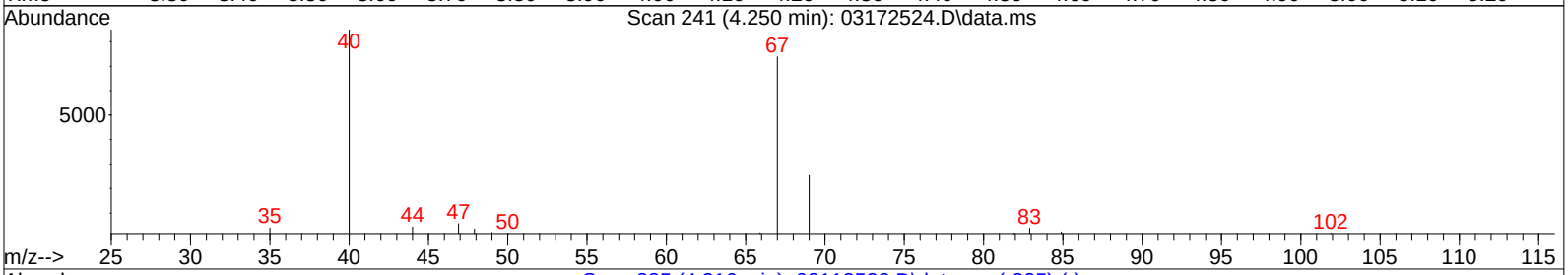
Quant Time: Mar 19 06:58:20 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

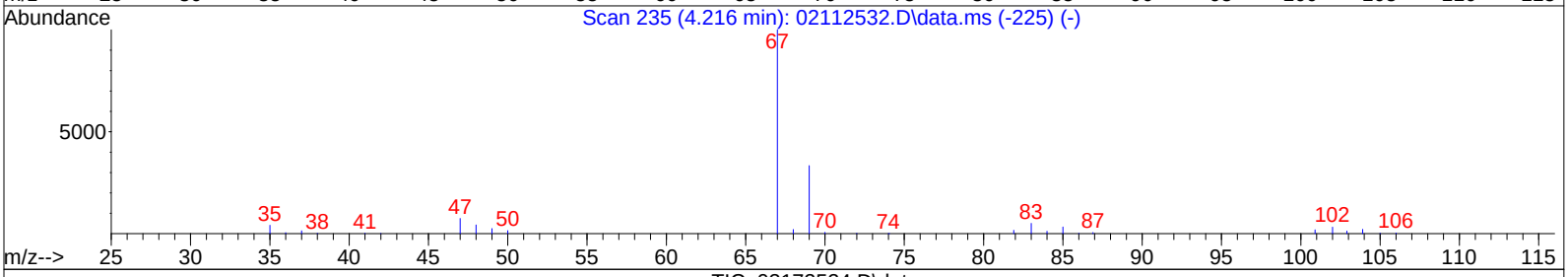


Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Mar 19 06:34:43 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration







TIC: 03172524.D\data.ms

(7) Dichlorofluoromethane (CFC 21) (T)

4.250min (+0.023) 0.42ng

response 11415

Ion	Exp%	Act%
67.00	100	100
69.00	33.30	34.14
0.00	0.00	0.00
0.00	0.00	0.00

LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172524.D\data.ms

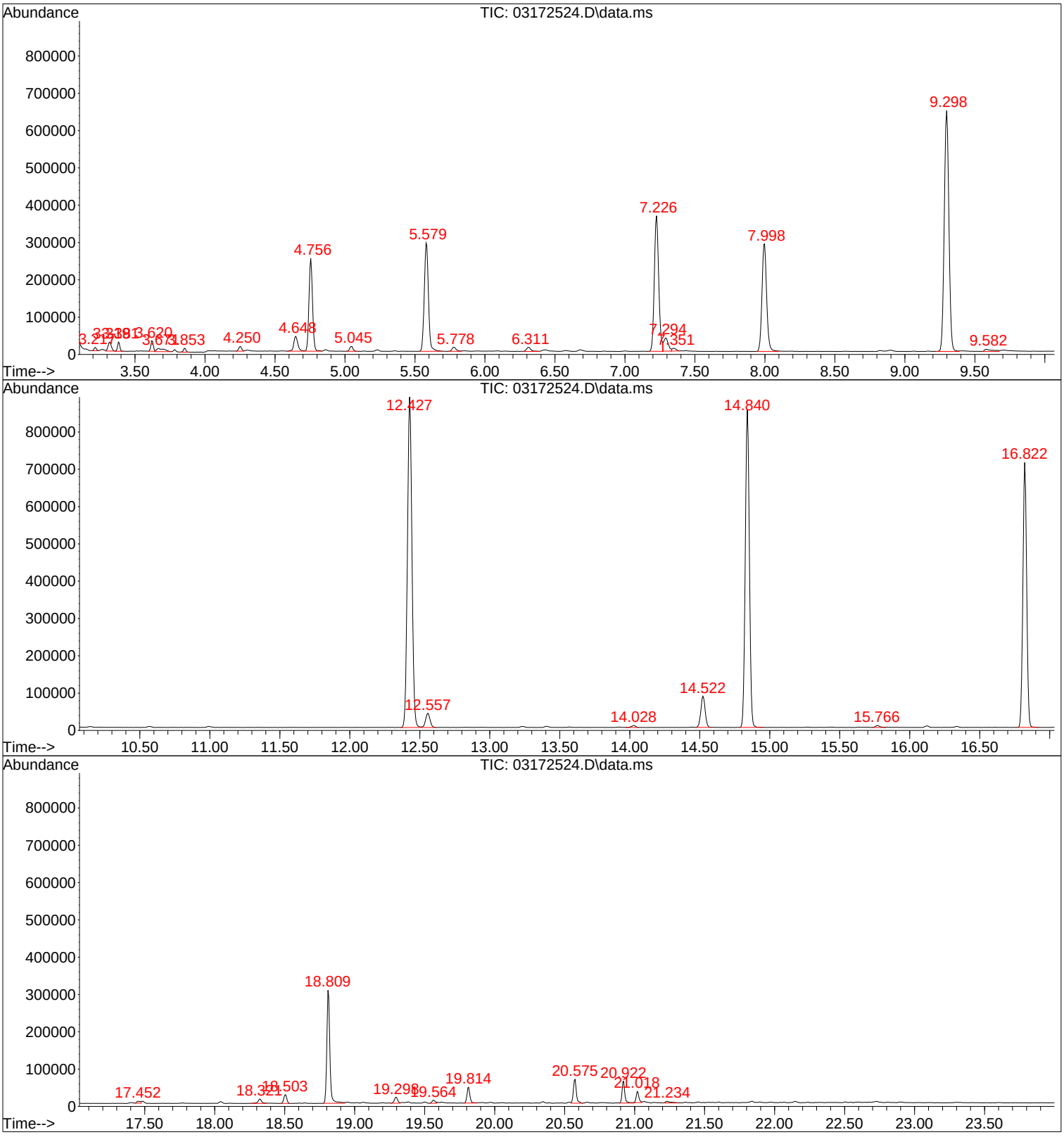
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	3.217	55	59	63	rVB2	8497	10147	0.51%	0.096%
2	3.319	72	77	84	rVB2	24013	39809	2.01%	0.375%
3	3.381	84	88	95	rVB	25038	28404	1.44%	0.267%
4	3.620	126	130	134	rBV	27783	35219	1.78%	0.332%
5	3.671	134	139	155	rVB3	8306	32978	1.67%	0.310%
6	3.853	166	171	177	rVB	10487	13889	0.70%	0.131%
7	4.250	236	241	246	rBV	12927	19301	0.98%	0.182%
8	4.648	300	311	322	rBV2	39782	81737	4.13%	0.770%
9	4.756	323	330	344	rVB	248632	438425	22.15%	4.128%
10	5.045	375	381	389	rVB	13097	21830	1.10%	0.206%
11	5.579	467	475	496	rBV	290772	600624	30.35%	5.655%
12	5.778	503	510	520	rBV	10937	22781	1.15%	0.214%
13	6.311	597	604	618	rBV	10978	23830	1.20%	0.224%
14	7.226	756	765	773	rBV	363152	803923	40.62%	7.569%
15	7.294	773	777	784	rVV	35152	77937	3.94%	0.734%
16	7.351	784	787	794	rVB	7257	13545	0.68%	0.128%
17	7.998	891	901	920	rBV	288344	670411	33.87%	6.312%
18	9.298	1117	1130	1146	rBV	645491	1469703	74.26%	13.837%
19	9.582	1175	1180	1196	rBV2	5986	24674	1.25%	0.232%
20	12.427	1670	1681	1695	rBV	885799	1979251	100.00%	18.634%
21	12.557	1696	1704	1714	rVB	38196	84879	4.29%	0.799%
22	14.028	1953	1963	1969	rVB3	5494	11882	0.60%	0.112%
23	14.522	2041	2050	2060	rBV	83518	177526	8.97%	1.671%
24	14.840	2096	2106	2126	rVB	851830	1746177	88.22%	16.440%
25	15.766	2263	2269	2280	rBV4	5222	12454	0.63%	0.117%
26	16.822	2446	2455	2472	rBV	710167	1331391	67.27%	12.535%
27	17.452	2562	2566	2570	rBV	5052	10299	0.52%	0.097%
28	18.321	2708	2719	2728	rBV3	11350	20909	1.06%	0.197%
29	18.503	2746	2751	2756	rBV2	23389	35238	1.78%	0.332%
30	18.809	2799	2805	2826	rBV	303169	456557	23.07%	4.298%
31	19.298	2884	2891	2896	rBV2	15915	26690	1.35%	0.251%
32	19.564	2933	2938	2942	rBV2	8439	13614	0.69%	0.128%
33	19.814	2976	2982	2993	rBV2	42390	60963	3.08%	0.574%
34	20.575	3111	3116	3126	rVB2	63659	92104	4.65%	0.867%
35	20.922	3172	3177	3190	rBV	58403	80092	4.05%	0.754%
36	21.018	3190	3194	3200	rBV	29743	40510	2.05%	0.381%
37	21.234	3227	3232	3246	rVB6	4521	11860	0.60%	0.112%

Sum of corrected areas: 10621563

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:29
Operator : SC
Sample : P2500665-007 (400mL)
Misc : S38-03052512
ALS Vial : 10 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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\2025 03\17\\
Data File : 03172524.D
Acq On : 18 Mar 2025 18:299
Operator : SCC
Sample : P2500665-007 (400mL))
Misc : S38-030525122
ALS Vial : 10 Sample Multiplier: 11

MA 3/18/25

Quant Method : I:\MS09\METHODS\R09030725.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\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

MOA 3/19/25

Quant Time: Mar 19 06:16:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	163078	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	686563	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	114543	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	237637	11.754	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	12.43	98	773698	12.461	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.82	174	241477	13.176	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
Target Compounds							Qvalue
2) Propene	0.00	42	0	N.D. d			
3) Dichlorodifluoromethan...	3.38	85	17150	0.518	ng		99
4) Chloromethane	3.53	50	2660	0.153	ng		90
5) 1,2-Dichloro-1,1,2,2-t...	3.63	135	366	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	6843	0.527	ng		95
11) Acetonitrile	4.46	41	837	N.D.			
12) Acrolein	4.55	56	332	N.D.			
13) Acetone	4.64	58	37314	3.015	ng	#	73
14) Trichlorofluoromethane	4.77	101	10301	0.356	ng		99
15) 2-Propanol (Isopropanol)	4.86	45	1475	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	1280	0.069	ng		97
20) 3-Chloro-1-propene (Al...	0.00	41	0	N.D.			
21) Trichlorotrifluoroethane	5.59	151	3010	0.226	ng		97
22) Carbon Disulfide	5.62	76	170	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	7107	0.654	ng		92
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	2975	0.116	ng	#	95
32) Chloroform	7.36	83	251	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	1661	No Calib		#	
41) Benzene	8.90	78	7530	0.113	ng		95
42) Carbon Tetrachloride	9.06	117	1898	0.091	ng		98
43) Cyclohexane	9.21	84	1104	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.			

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 19 06:16:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

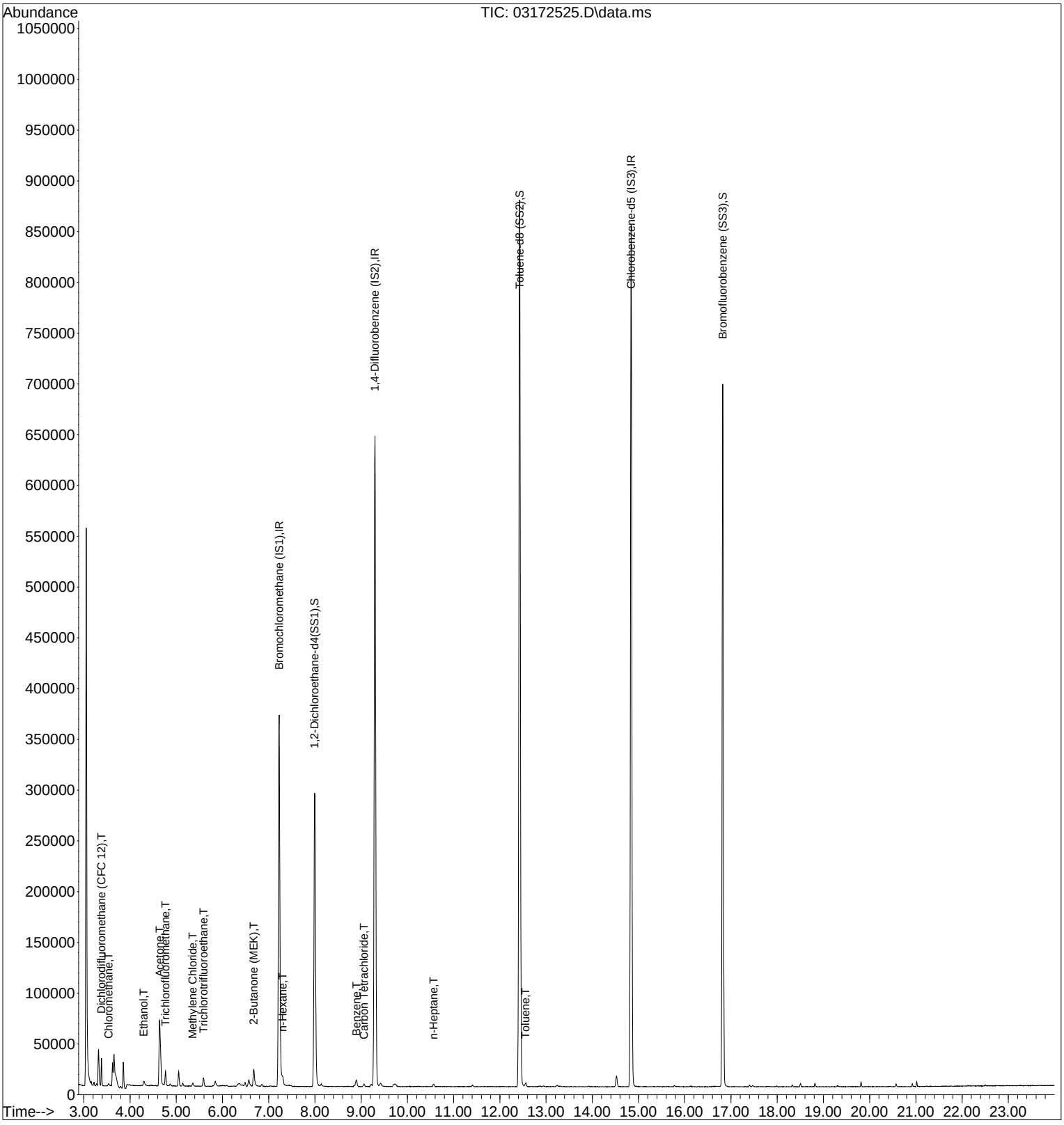
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	338	N.D.			
50) Methyl Methacrylate	0.00	100	0	N.D.			
51) n-Heptane	10.56	71	792	0.052	ng	#	86
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.			
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.			
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.			
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.			
58) Toluene	12.56	91	3964	0.064	ng		95
59) 2-Hexanone	12.94	43	1135	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	460	N.D.			
67) m- & p-Xylenes	15.63	91	329	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	16.61	43	198	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	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	0.00	180	0	N.D.			
95) Naphthalene	20.94	128	169	N.D.			
96) n-Dodecane	0.00	58	0	N.D.			
97) Hexachlorobutadiene	0.00	225	0	N.D.			
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	0.00	119	0	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 Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 19 06:16:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

MOA 3/19/25

Quant Time: Mar 19 06:16:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

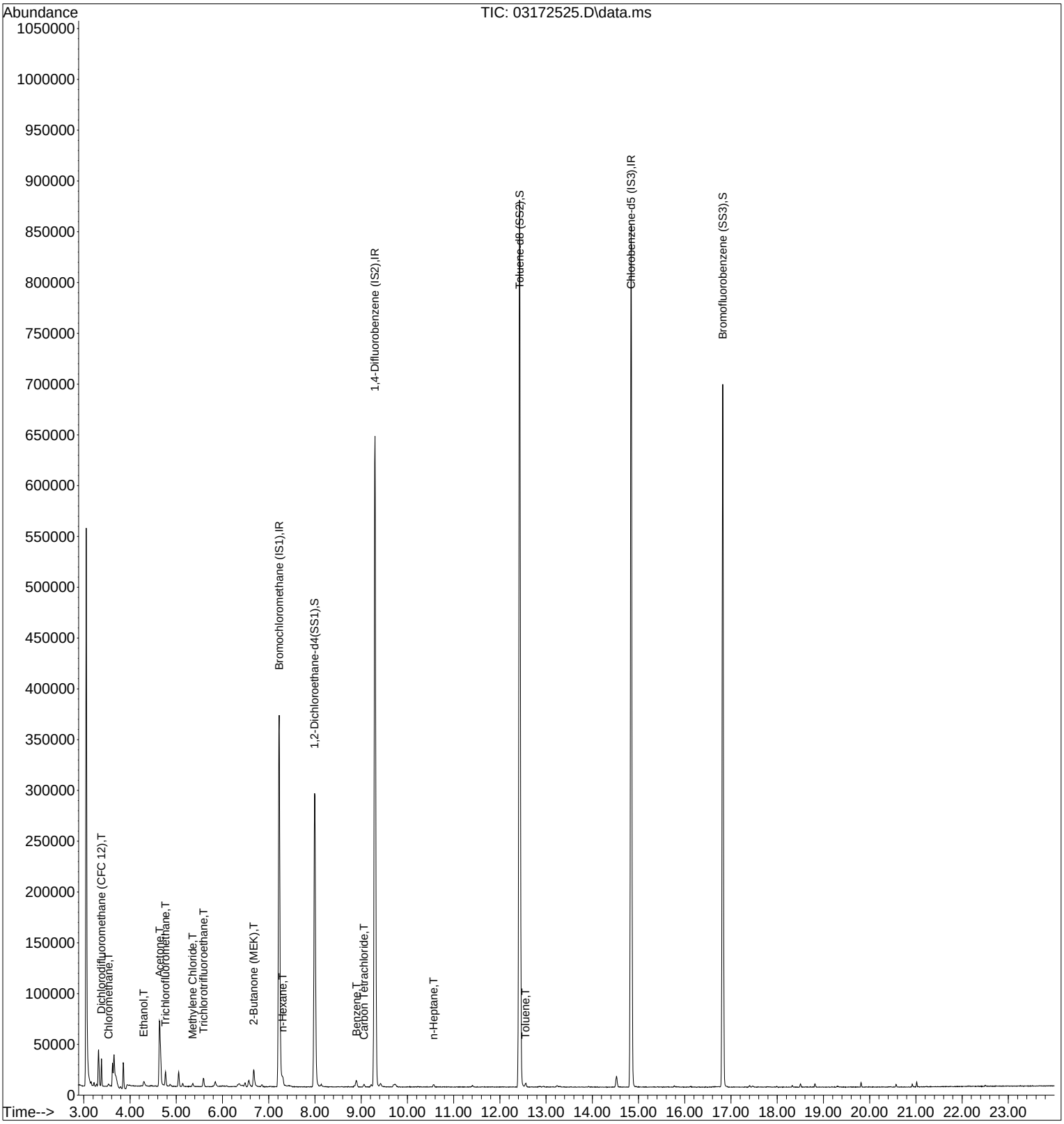
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	163078	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	686563	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	114543	12.500	ng		-0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	237637	11.754	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.00%				
57) Toluene-d8 (SS2)	12.43	98	773698	12.461	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.68%				
73) Bromofluorobenzene (SS3)	16.82	174	241477	13.176	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 105.44%				
Target Compounds							Qvalue
3) Dichlorodifluoromethan...	3.38	85	17150	0.518	ng		99
4) Chloromethane	3.53	50	2660	0.153	ng		90
10) Ethanol	4.30	45	6843	0.527	ng		95
13) Acetone	4.64	58	37314	3.015	ng	#	73
14) Trichlorofluoromethane	4.77	101	10301	0.356	ng		99
19) Methylene Chloride	5.35	84	1280	0.069	ng		97
21) Trichlorotrifluoroethane	5.59	151	3010	0.226	ng		97
27) 2-Butanone (MEK)	6.67	72	7107	0.654	ng		92
31) n-Hexane	7.30	57	2975	0.116	ng	#	95
41) Benzene	8.90	78	7530	0.113	ng		95
42) Carbon Tetrachloride	9.06	117	1898	0.091	ng		98
51) n-Heptane	10.56	71	792	0.052	ng	#	86
58) Toluene	12.56	91	3964	0.064	ng		95

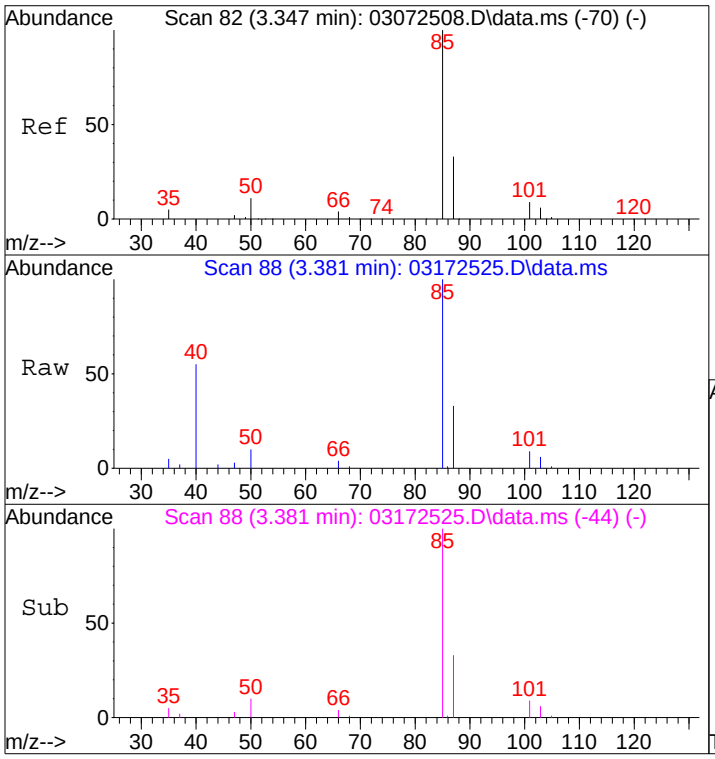
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 19 06:16:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

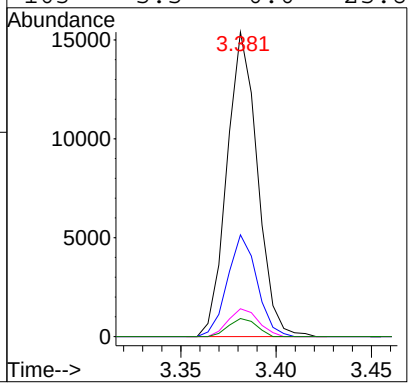


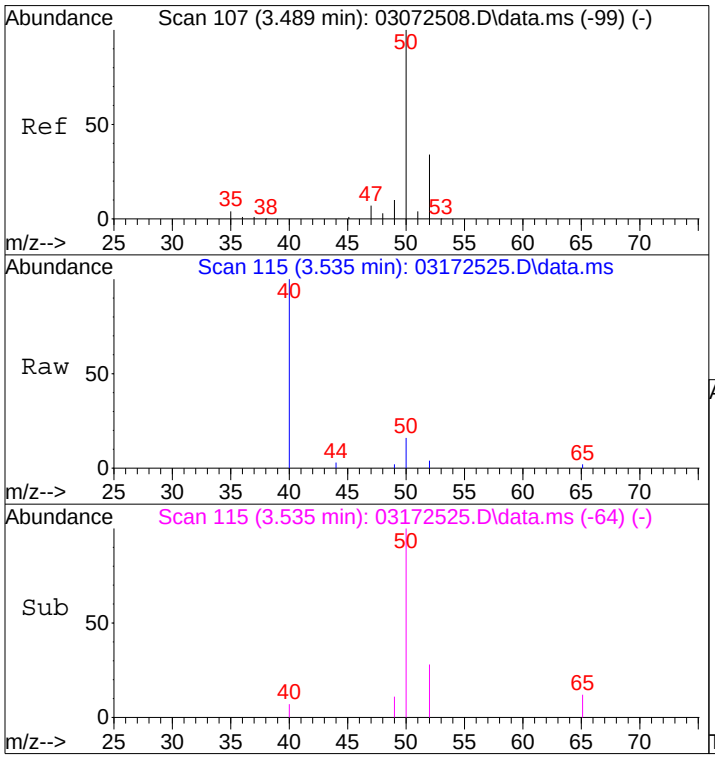


#3
Dichlorodifluoromethane (CFC 12)
Concen: 0.52 ng
RT: 3.38 min Scan# 88
Delta R.T. -0.002 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 85 Resp: 17150

Ion	Ratio	Lower	Upper
85	100		
87	32.3	13.2	53.2
101	9.1	0.0	28.9
103	5.5	0.0	25.8

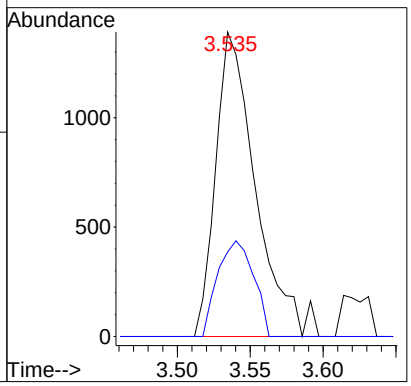


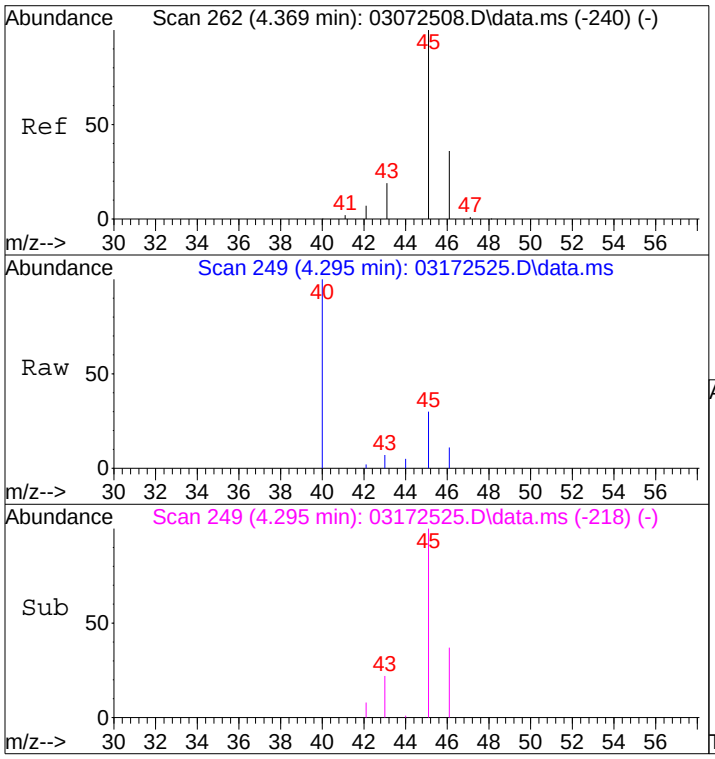


#4
Chloromethane
Concen: 0.15 ng
RT: 3.53 min Scan# 115
Delta R.T. 0.040 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 50 Resp: 2660

Ion	Ratio	Lower	Upper
50	100		
52	28.1	13.6	53.6

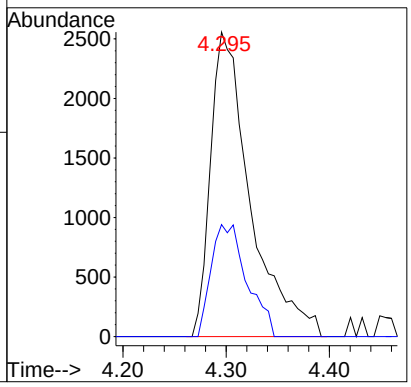


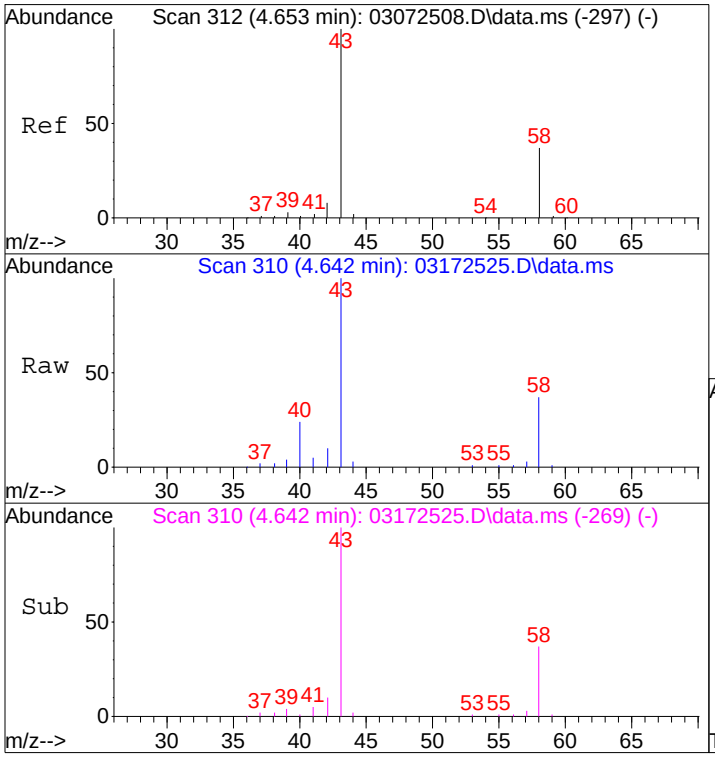


#10
Ethanol
Concen: 0.53 ng
RT: 4.30 min Scan# 249
Delta R.T. -0.074 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 45 Resp: 6843

Ion	Ratio	Lower	Upper
45	100		
46	33.1	16.1	56.1

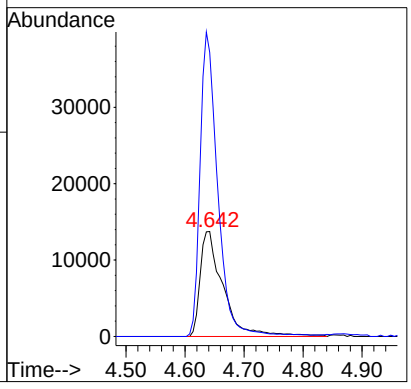


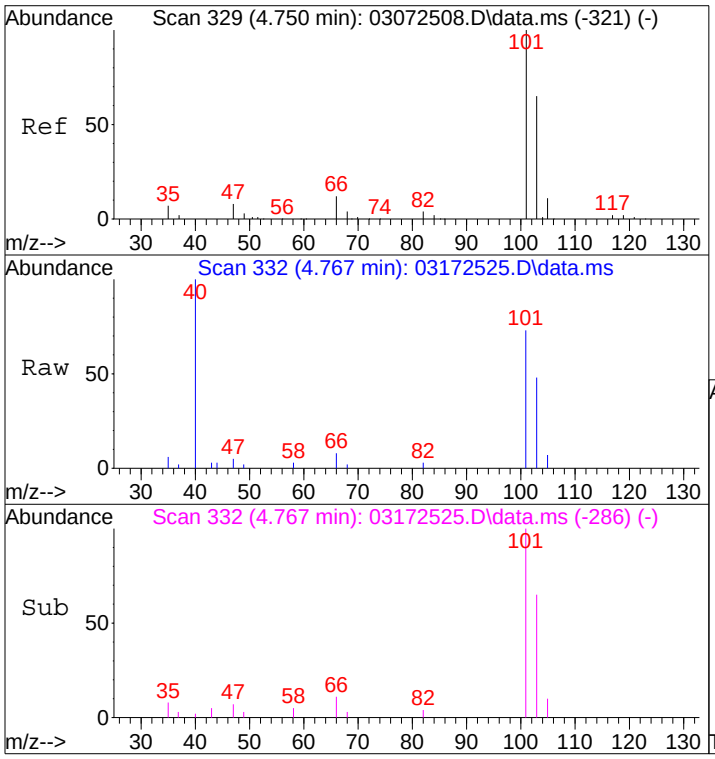


#13
Acetone
Concen: 3.02 ng
RT: 4.64 min Scan# 310
Delta R.T. -0.017 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 58 Resp: 37314

Ion	Ratio	Lower	Upper
58	100		
43	222.4	241.6	301.6#

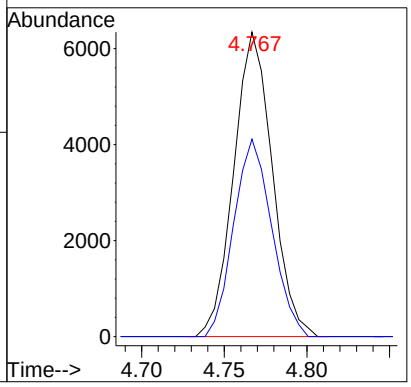


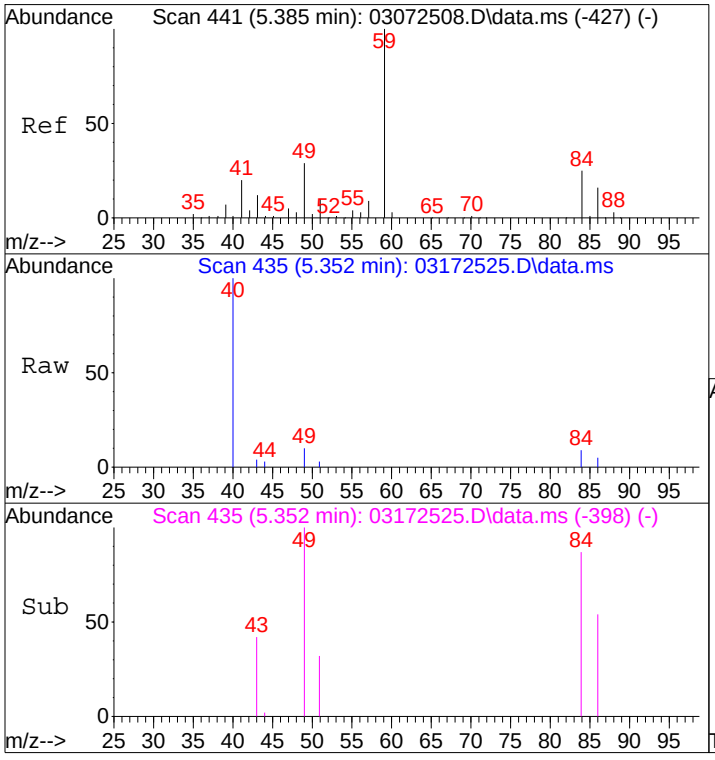


#14
Trichlorofluoromethane
Concen: 0.36 ng
RT: 4.77 min Scan# 332
Delta R.T. 0.011 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion:101 Resp: 10301

Ion	Ratio	Lower	Upper
101	100		
103	63.9	44.7	84.7

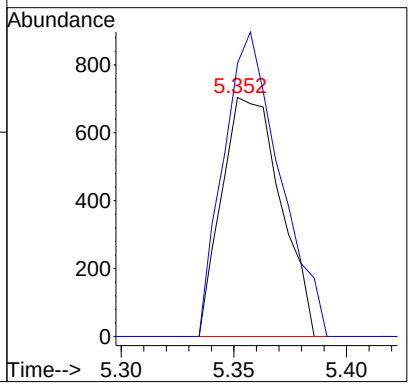


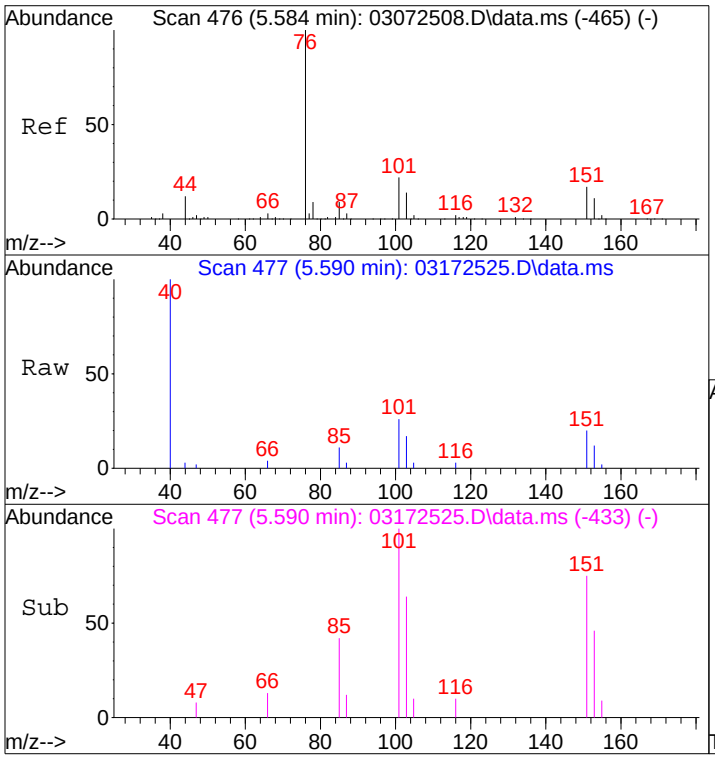


#19
Methylene Chloride
Concen: 0.07 ng
RT: 5.35 min Scan# 435
Delta R.T. -0.040 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 84 Resp: 1280

Ion	Ratio	Lower	Upper
84	100		
49	122.0	93.5	143.5

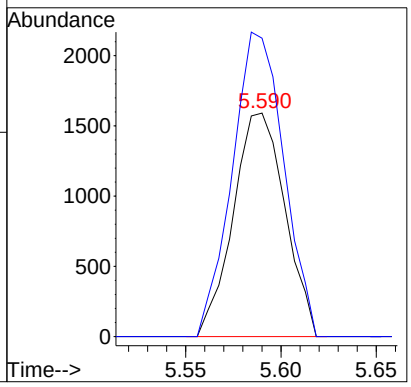


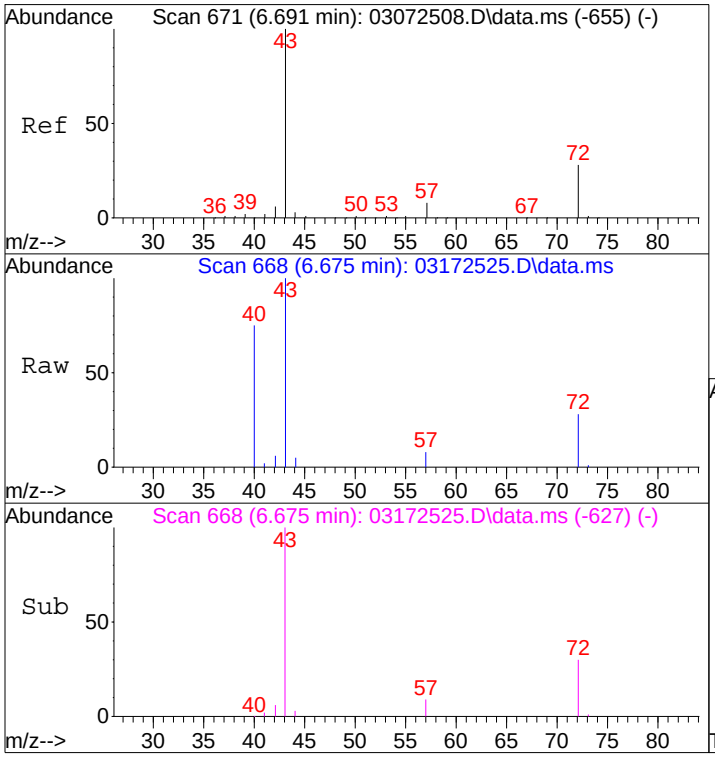


#21
Trichlorotrifluoroethane
Concen: 0.23 ng
RT: 5.59 min Scan# 477
Delta R.T. 0.000 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion:151 Resp: 3010

Ion	Ratio	Lower	Upper
151	100		
101	135.5	112.5	152.5

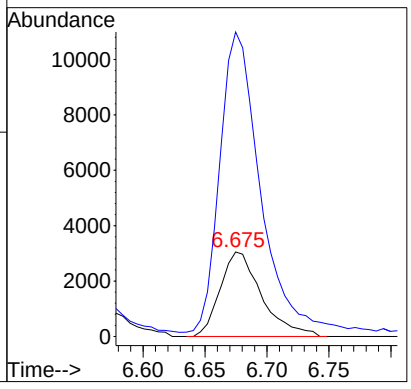


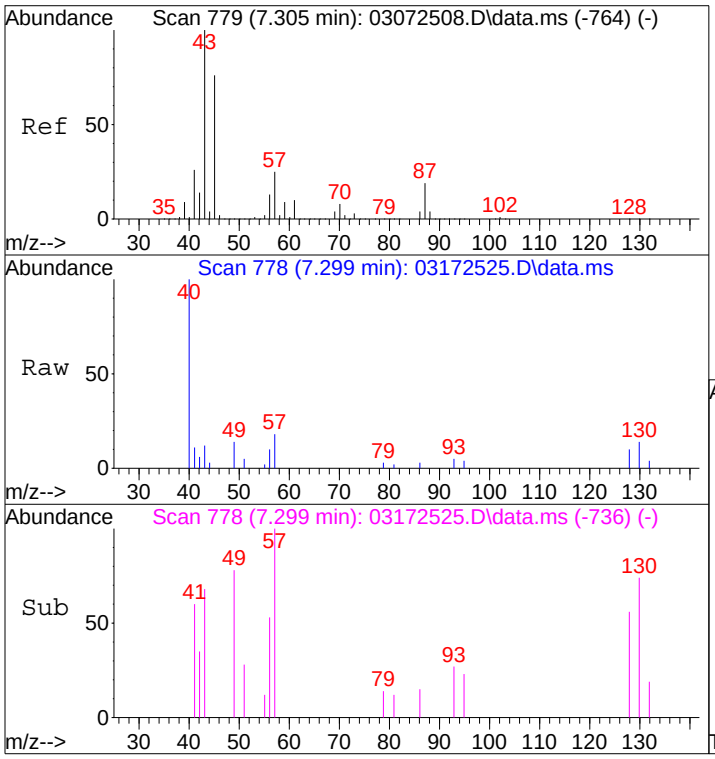


#27
2-Butanone (MEK)
Concen: 0.65 ng
RT: 6.67 min Scan# 668
Delta R.T. -0.017 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 72 Resp: 7107

Ion	Ratio	Lower	Upper
72	100		
43	372.8	335.4	375.4

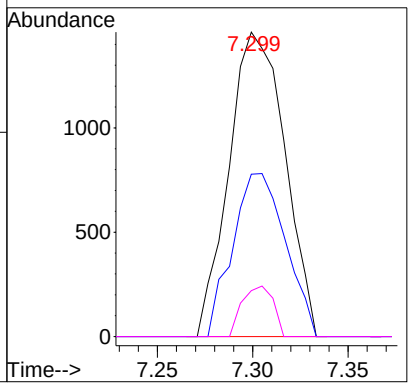


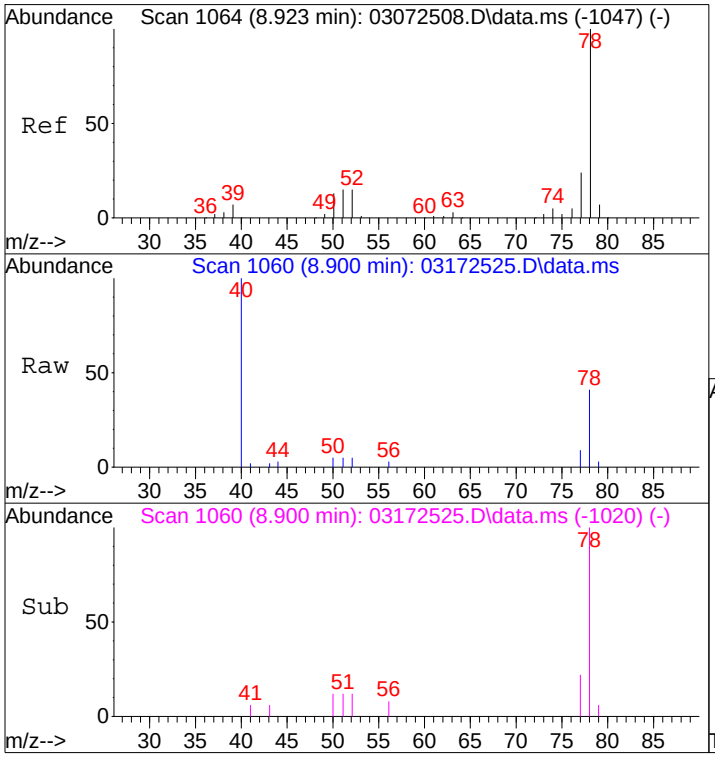


#31
n-Hexane
Concen: 0.12 ng
RT: 7.30 min Scan# 778
Delta R.T. -0.011 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 57 Resp: 2975

Ion	Ratio	Lower	Upper
57	100		
56	50.7	41.8	62.8
86	9.2	11.5	17.3#

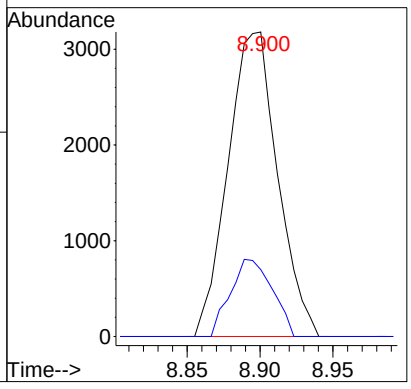


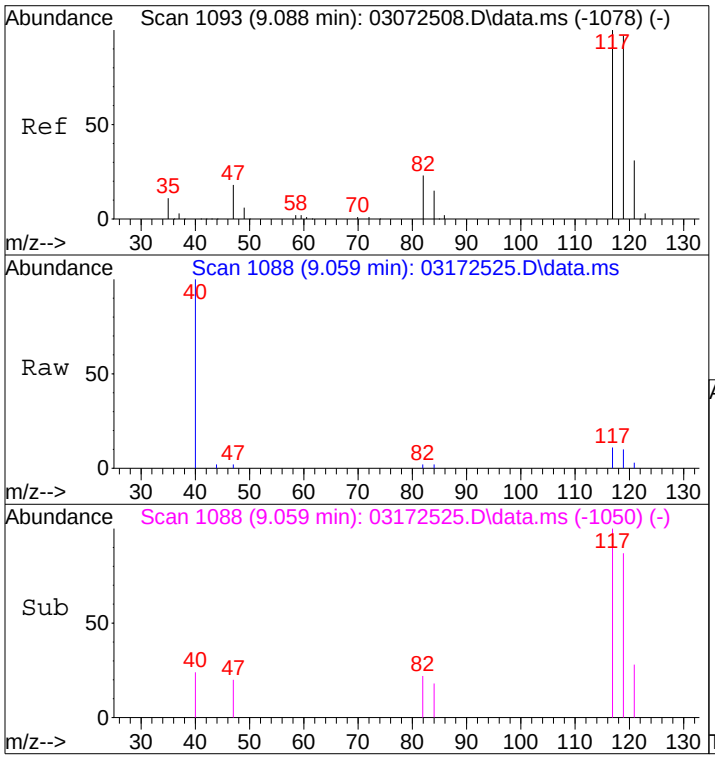


#41
Benzene
Concen: 0.11 ng
RT: 8.90 min Scan# 1060
Delta R.T. -0.023 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 78 Resp: 7530

Ion	Ratio	Lower	Upper
78	100		
77	21.4	3.9	43.9

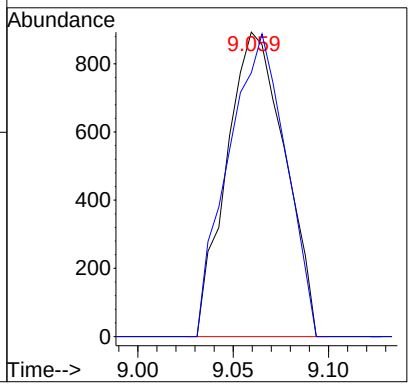


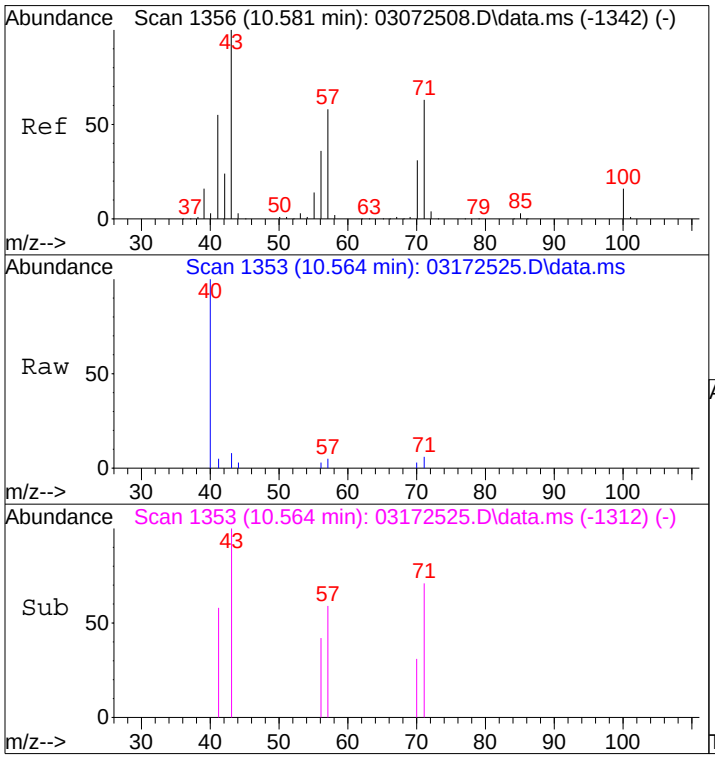


#42
Carbon Tetrachloride
Concen: 0.09 ng
RT: 9.06 min Scan# 1088
Delta R.T. -0.034 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion:117 Resp: 1898

Ion	Ratio	Lower	Upper
117	100		
119	98.5	76.8	116.8

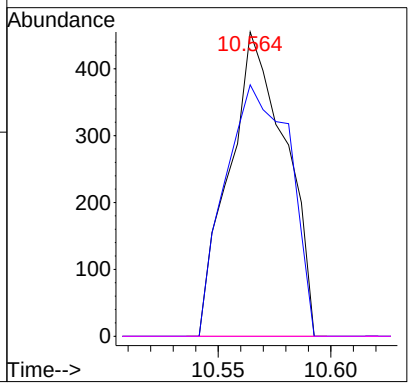


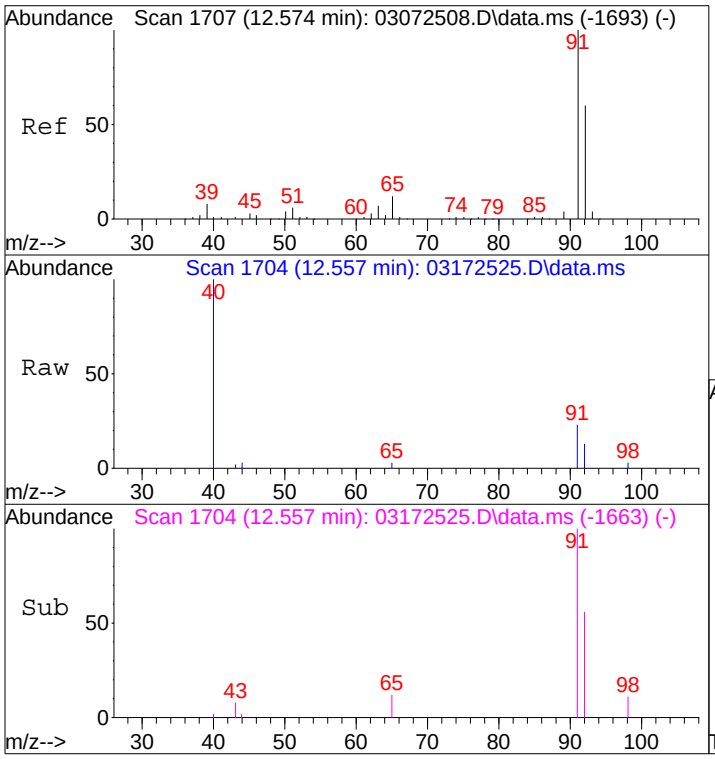


#51
n-Heptane
Concen: 0.05 ng
RT: 10.56 min Scan# 1353
Delta R.T. -0.017 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 71 Resp: 792

Ion	Ratio	Lower	Upper
71	100		
57	94.7	70.9	110.9
100	0.0	5.2	45.2#

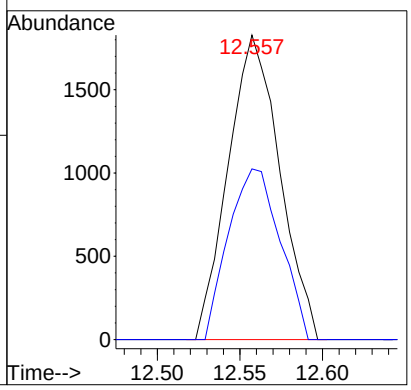




#58
Toluene
Concen: 0.06 ng
RT: 12.56 min Scan# 1704
Delta R.T. -0.017 min
Lab File: 03172525.D
Acq: 18 Mar 2025 19:01

Tgt Ion: 91 Resp: 3964

Ion	Ratio	Lower	Upper
91	100		
92	56.2	39.7	79.7



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 06:58:46 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

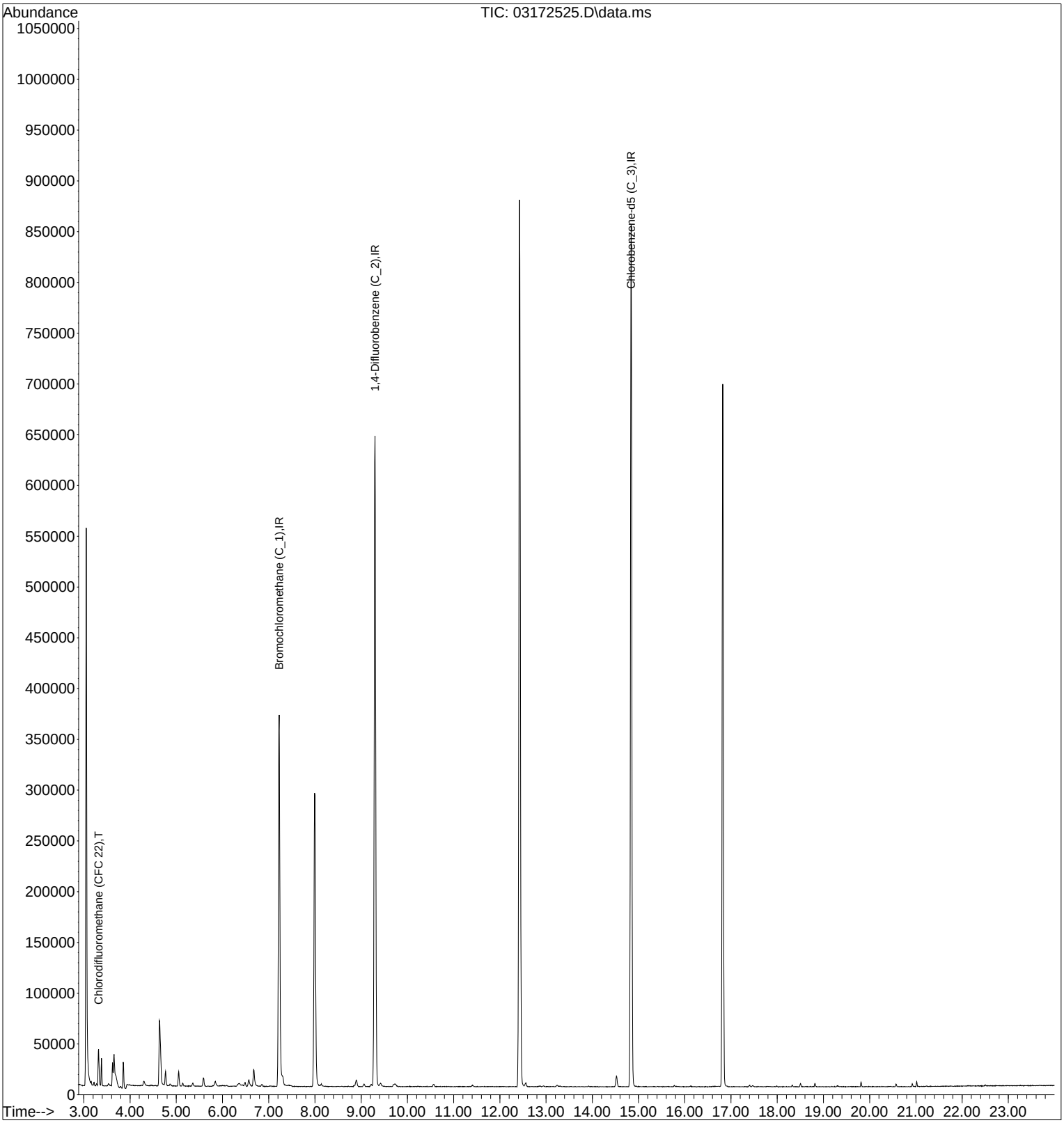
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	163871	12.500	ng		-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	686631	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	114543	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.16	85	213	N.D.			
3) 1,1,1,2-Tetrafluoroeth...	3.22	83	1586	N.D.			
4) 1,1-Difluoroethane	3.27	65	574	N.D.			
5) Chlorodifluoromethane ...	3.32	67	634	0.205	ng	#	73
6) 1-Chloro-1,1-Difluoroe...	3.52	65	542	N.D.			
7) Dichlorofluoromethane ...	4.25	67	459	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	562	N.D.			
12) 2-Methylpentane	6.49	71	983	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	53	N.D.			
17) 2,3-Dimethylpentane	0.00	56	0	N.D.			
18) Dibromomethane	0.00	174	0	N.D.			
20) Methyl Cyclohexane	11.41	55	949	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	0.00	91	0	N.D.			
27) 4-Chlorotoluene	0.00	91	0	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\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Mar 19 06:58:46 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



LSC Area Percent Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
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\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

Signal : TIC: 03172525.D\data.ms

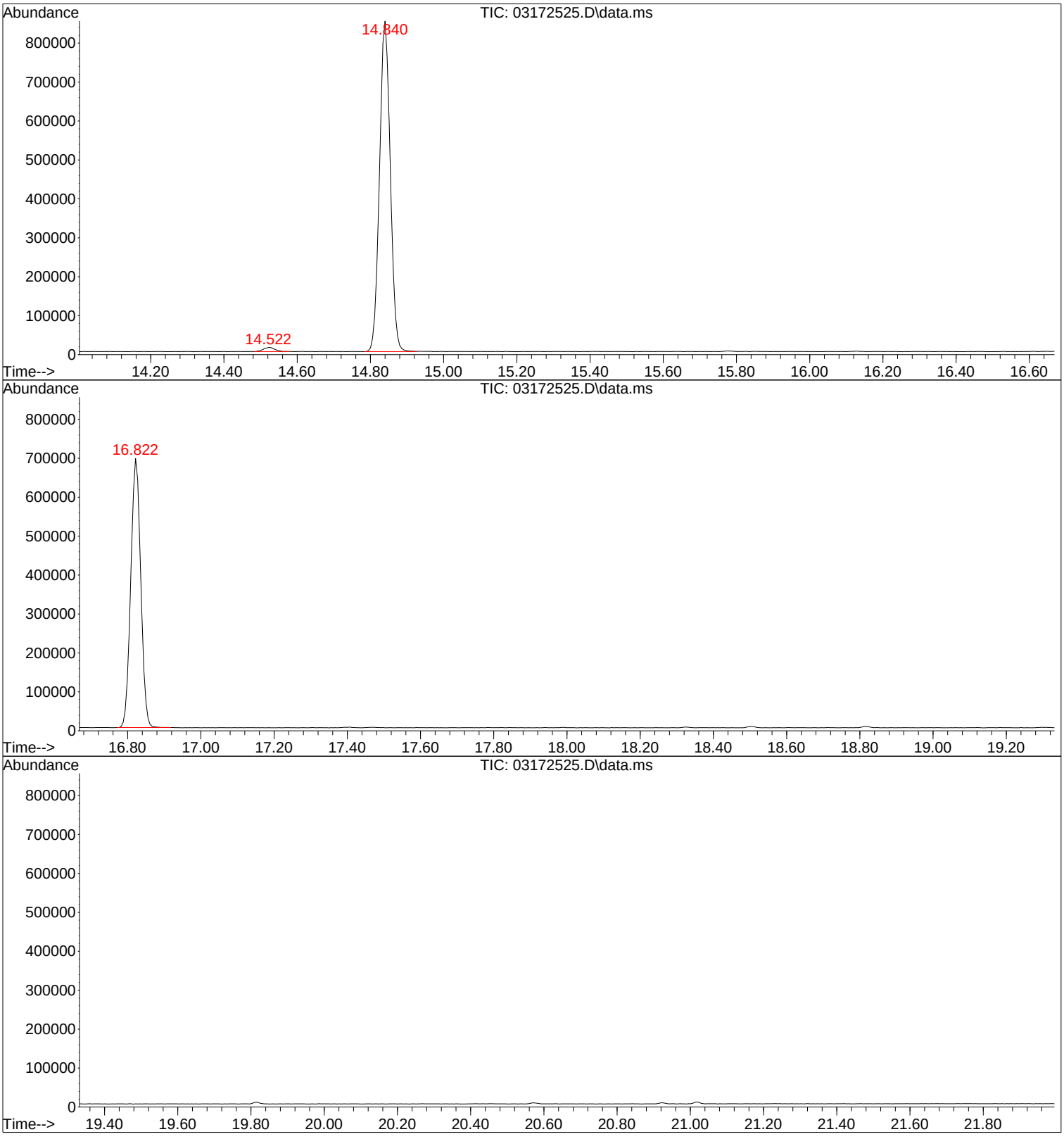
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	14.522	2043	2050	2060	rBV	10517	23025	1.33%	0.754%
2	14.840	2096	2106	2121	rBV	848883	1725807	100.00%	56.507%
3	16.822	2446	2455	2472	rBV	691467	1305321	75.64%	42.739%

Sum of corrected areas: 3054153

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:01
Operator : SC
Sample : P2500665-008 (400mL)
Misc : S38-03052512
ALS Vial : 11 Sample Multiplier: 1

Quant Method : I:\MS09\METHODS\R09030725.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\2025 03\17\\
Data File : 03172525.D
Acq On : 18 Mar 2025 19:011
Operator : SCC
Sample : P2500665-008 (400mL))
Misc : S38-030525122
ALS Vial : 11 Sample Multiplier: 11

MOA 3/19/25

Quant Method : I:\MS09\METHODS\R09030725.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
****

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172504.D
Acq On : 17 Mar 2025 23:16
Operator : SC
Sample : MB R09031725 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

VOA 3/18/25

Quant Time: Mar 18 06:19:05 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	169791	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	717223	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	113138	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	7.99	65	243328	11.560	ng	-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 92.48%			
57) Toluene-d8 (SS2)	12.43	98	795194	12.966	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 103.76%			
73) Bromofluorobenzene (SS3)	16.82	174	235406	13.004	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.00%			
Target Compounds						Qvalue
2) Propene	3.35	42	119	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	4.34	45	1192	0.088	ng #	64
11) Acetonitrile	4.48	41	231	N.D.		
12) Acrolein	4.56	56	53	N.D.		
13) Acetone	4.66	58	3353	0.260	ng	96
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.91	45	282	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	0.00	84	0	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	0.00	76	0	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	8.89	78	1260	N.D.		
42) Carbon Tetrachloride	0.00	117	0	N.D.		
43) Cyclohexane	9.29	84	476	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.		

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172504.D
Acq On : 17 Mar 2025 23:16
Operator : SC
Sample : MB R09031725 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:19:05 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

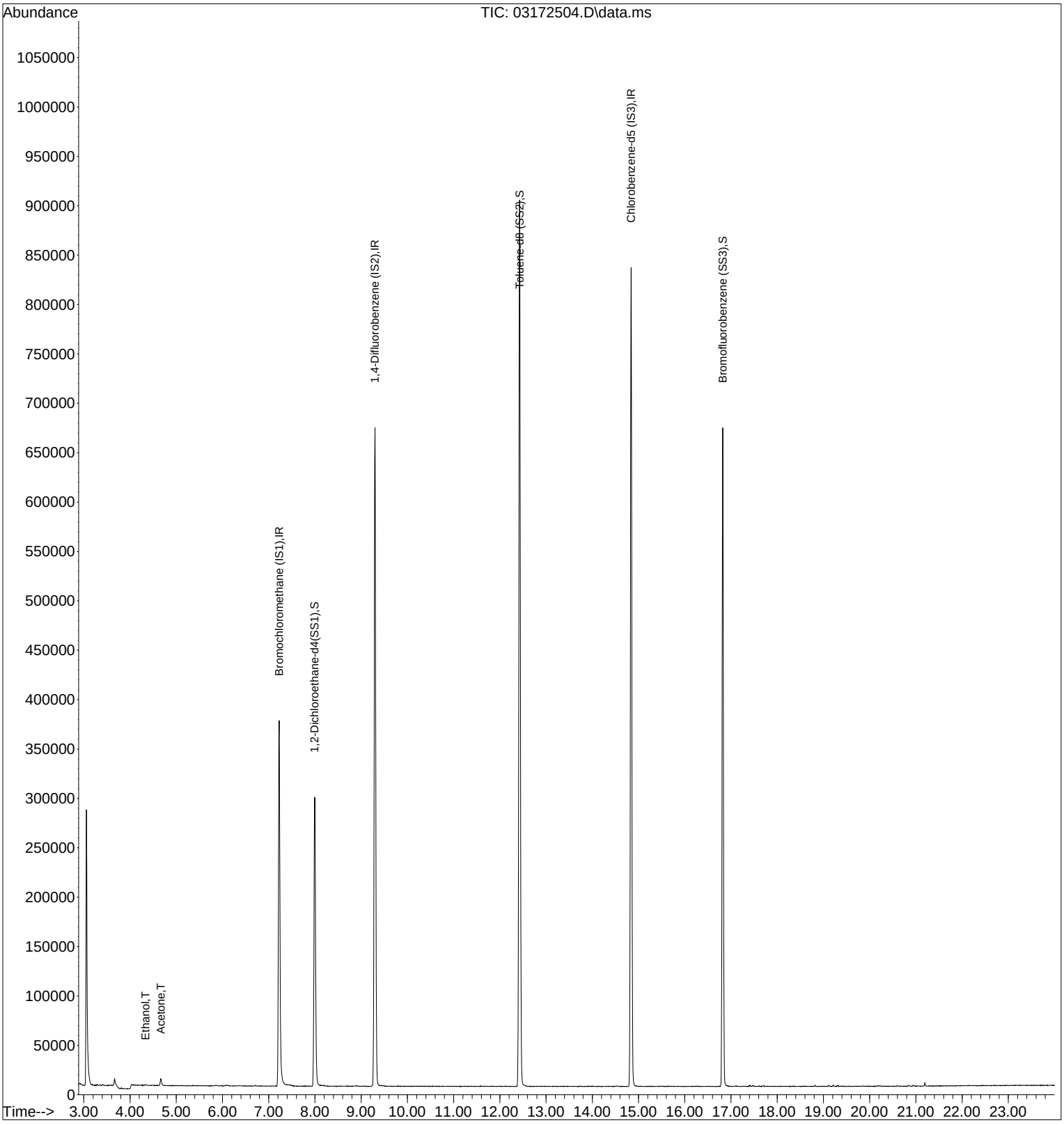
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	12.56	91	110	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	15.45	91	168	N.D.		
67) m- & p-Xylenes	15.64	91	180	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	17.70	91	1156	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	18.58	91	374	N.D.		
85) 1,3-Dichlorobenzene	18.67	146	118	N.D.		
86) 1,4-Dichlorobenzene	18.67	146	118	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	718	N.D.		
95) Naphthalene	20.95	128	1230	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	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 Path : I:\MS09\DATA\2025 03\17\
Data File : 03172504.D
Acq On : 17 Mar 2025 23:16
Operator : SC
Sample : MB R09031725 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:19:05 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172504.D
Acq On : 17 Mar 2025 23:16
Operator : SC
Sample : MB R09031725 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 06:30:21 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

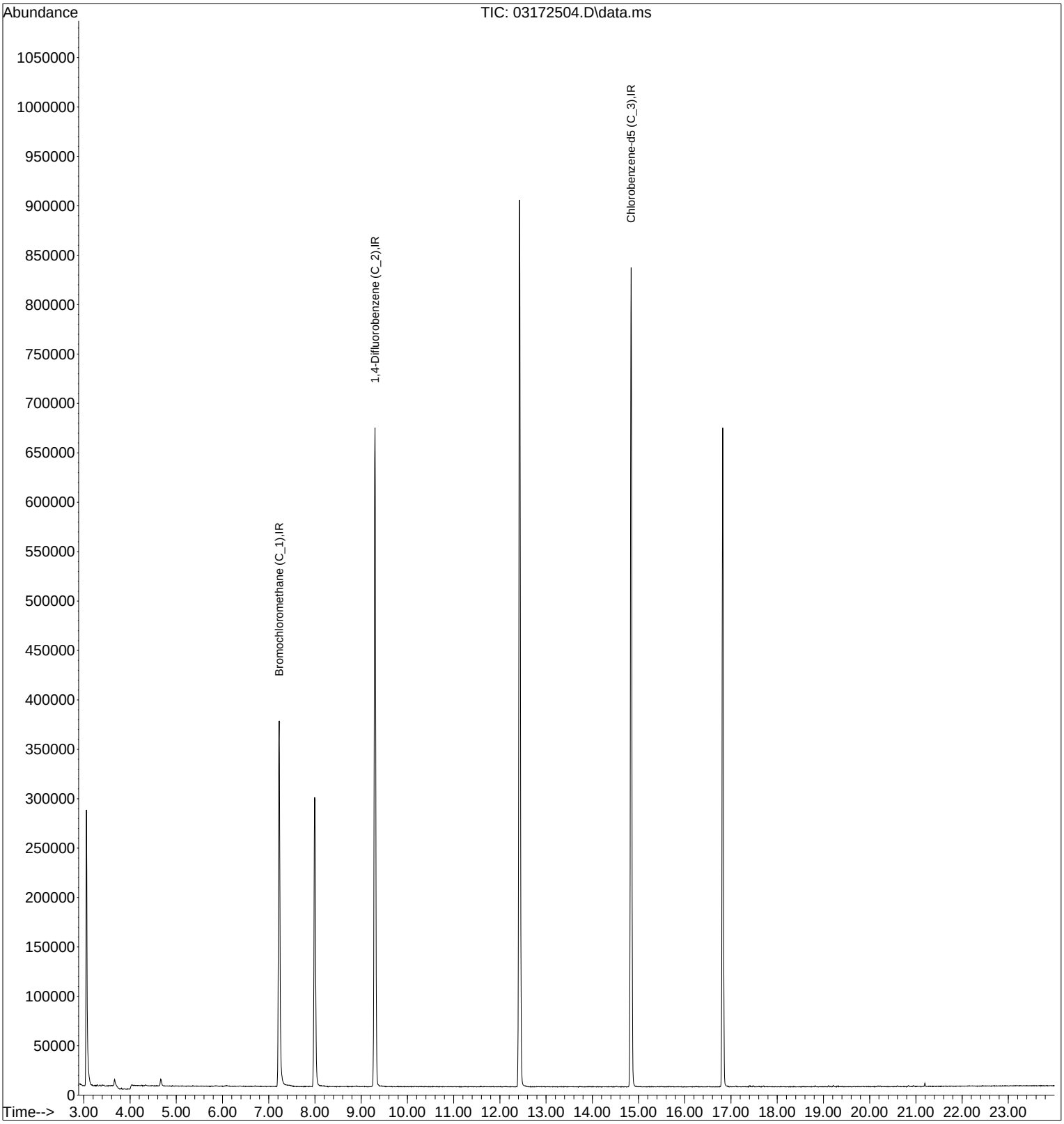
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	169476	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	717278	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	113138	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.29	65	381	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.55	65	364	N.D.		
7) Dichlorofluoromethane ...	4.26	67	380	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	115	N.D.		
10) 2-Methylbutane	4.68	57	234	N.D.		
11) Methyl Acetate	5.36	43	361	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	65	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	17.10	77	545	N.D.		
26) 2-Chlorotoluene	17.61	91	587	N.D.		
27) 4-Chlorotoluene	17.70	91	1156	N.D.		
28) Indane	19.12	117	648	N.D.		
29) Indene	19.21	115	864	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	792	N.D.		
31) 1,2,3,4-Tetramethylben...	20.18	119	792	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	860	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	1062	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172504.D
Acq On : 17 Mar 2025 23:16
Operator : SC
Sample : MB R09031725 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:30:21 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182504.D
Acq On : 19 Mar 2025 00:24
Operator : SC
Sample : MB R09031825 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

NOA 3/19/25

Quant Time: Mar 19 06:39:41 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	158363	12.500	ng	-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	675988	12.500	ng	-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	108622	12.500	ng	-0.01
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.00	65	235473	11.994	ng	-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.92%			
57) Toluene-d8 (SS2)	12.43	98	753697	12.800	ng	-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.40%			
73) Bromofluorobenzene (SS3)	16.82	174	219076	12.605	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.88%			
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	0.00	45	0	N.D. d		
11) Acetonitrile	4.49	41	117	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) Acetone	4.67	58	3390	0.282	ng	99
14) Trichlorofluoromethane	0.00	101	0	N.D.		
15) 2-Propanol (Isopropanol)	4.93	45	168	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	0.00	84	0	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	0.00	76	0	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	8.89	78	902	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.		

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182504.D
Acq On : 19 Mar 2025 00:24
Operator : SC
Sample : MB R09031825 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:39:41 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

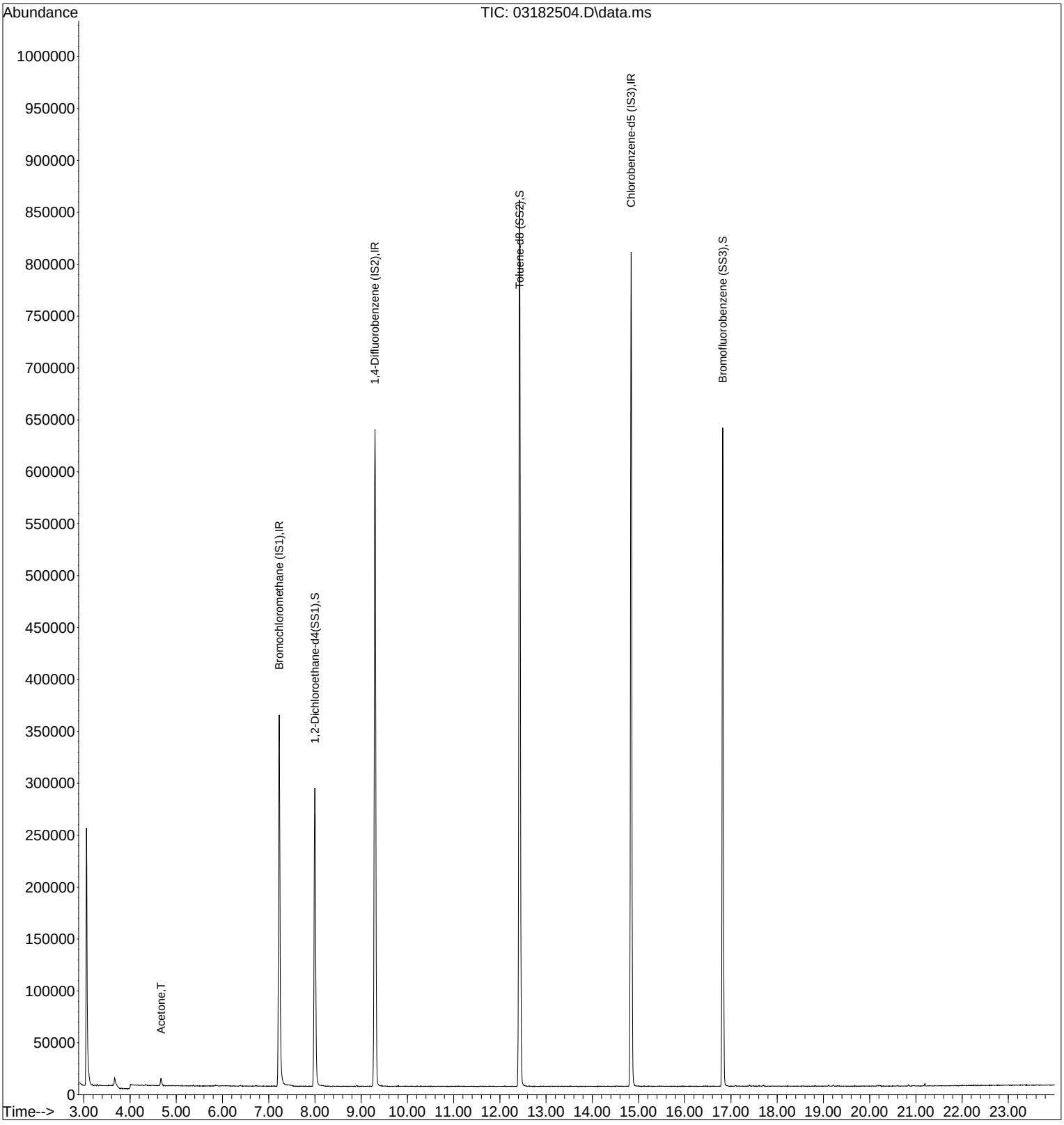
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	0.00	57	0	N.D.		
50) Methyl Methacrylate	0.00	100	0	N.D.		
51) n-Heptane	0.00	71	0	N.D.		
52) cis-1,3-Dichloropropene	0.00	75	0	N.D.		
53) 4-Methyl-2-pentanone	0.00	58	0	N.D.		
54) trans-1,3-Dichloropropene	0.00	75	0	N.D.		
55) 1,1,2-Trichloroethane	0.00	97	0	N.D.		
58) Toluene	0.00	91	0	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	15.41	91	217	N.D.		
67) m- & p-Xylenes	15.64	91	106	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	17.70	91	1029	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	18.58	91	134	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	639	N.D.		
95) Naphthalene	20.94	128	1099	N.D.		
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	0.00	225	0	N.D.		
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	0.00	119	0	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 Path : I:\MS09\DATA\2025 03\18\
Data File : 03182504.D
Acq On : 19 Mar 2025 00:24
Operator : SC
Sample : MB R09031825 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:39:41 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182504.D
Acq On : 19 Mar 2025 00:24
Operator : SC
Sample : MB R09031825 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 06:45:31 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

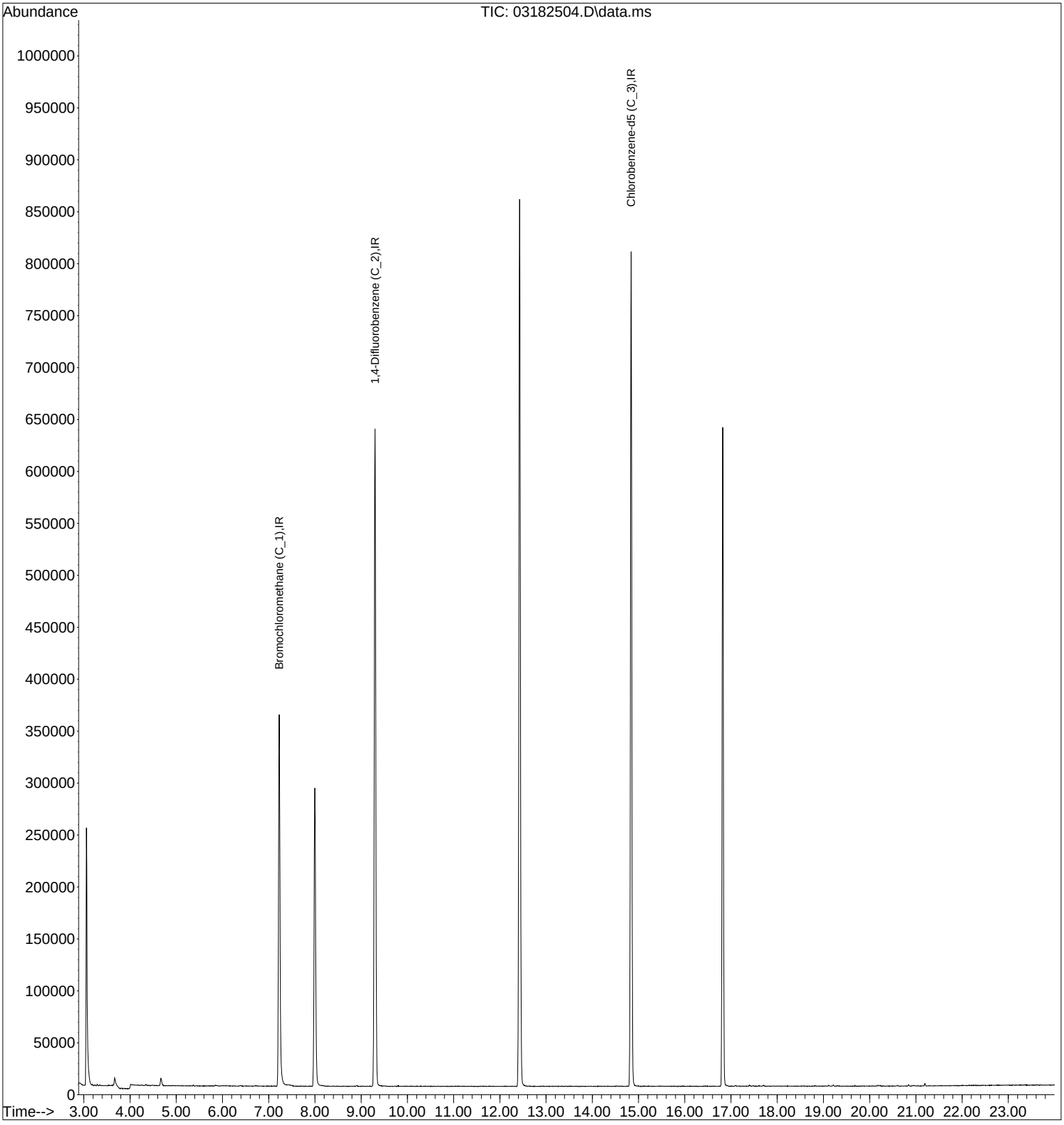
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	160010	12.500	ng	-0.03
16) 1,4-Difluorobenzene (C_2)	9.30	114	676115	12.500	ng	-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	108622	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	0.00	85	0	N.D.		
3) 1,1,1,2-Tetrafluoroeth...	0.00	83	0	N.D.		
4) 1,1-Difluoroethane	3.29	65	306	N.D.		
5) Chlorodifluoromethane ...	0.00	67	0	N.D.		
6) 1-Chloro-1,1-Difluoroe...	3.55	65	401	N.D.		
7) Dichlorofluoromethane ...	4.26	67	521	N.D.		
8) Vinylbromide	0.00	108	0	N.D.		
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	195	N.D.		
10) 2-Methylbutane	4.68	57	355	N.D.		
11) Methyl Acetate	5.36	43	337	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	9.03	84	171	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	0.00	91	0	N.D.		
24) 1,2,3-Trichloropropane	0.00	75	0	N.D.		
25) Bromobenzene	17.10	77	532	N.D.		
26) 2-Chlorotoluene	17.61	91	627	N.D.		
27) 4-Chlorotoluene	17.70	91	1029	N.D.		
28) Indane	19.12	117	713	N.D.		
29) Indene	19.22	115	848	N.D.		
30) 1,2,4,5-Tetramethylben...	20.18	119	766	N.D.		
31) 1,2,3,4-Tetramethylben...	20.22	119	676	N.D.		
32) 1,2,3,5-Tetramethylben...	20.60	119	759	N.D.		
33) 1,2,3-Trichlorobenzene	21.19	180	994	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182504.D
Acq On : 19 Mar 2025 00:24
Operator : SC
Sample : MB R09031825 1000mL
Misc : S38-03052512/AC00880
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:45:31 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172505.D
Acq On : 17 Mar 2025 23:48
Operator : SC
Sample : LCS R09031725 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

3/18/25

Quant Time: Mar 18 06:19:07 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	174686	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	740287	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	118497	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	253753	11.717	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.76%				
57) Toluene-d8 (SS2)	12.44	98	820898	12.780	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.24%				
73) Bromofluorobenzene (SS3)	16.83	174	247898	13.075	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.64%				
Target Compounds							Qvalue
2) Propene	3.27	42	429588	23.159	ng		99
3) Dichlorodifluoromethan...	3.35	85	827845	23.357	ng		100
4) Chloromethane	3.49	50	545967	29.394	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	422710	25.224	ng		100
6) Vinyl Chloride	3.68	62	624049	25.690	ng		100
7) 1,3-Butadiene	3.79	54	324359	21.732	ng		96
8) Bromomethane	4.01	94	413830	24.832	ng		100
9) Chloroethane	4.15	64	307559	24.151	ng		99
10) Ethanol	4.36	45	1697421	122.148	ng		100
11) Acetonitrile	4.48	41	739732	22.172	ng		100
12) Acrolein	4.55	56	627119	50.098	ng		97
13) Acetone	4.65	58	1619559	122.177	ng		98
14) Trichlorofluoromethane	4.76	101	729070	23.511	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2184791	50.363	ng		99
16) Acrylonitrile	5.03	53	1151175	50.475	ng		100
17) 1,1-Dichloroethene	5.26	96	434950	25.512	ng		100
18) 2-Methyl-2-Propanol (t...	5.38	59	1764107	60.564	ng		97
19) Methylene Chloride	5.39	84	467588	23.653	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	576708	21.880	ng		96
21) Trichlorotrifluoroethane	5.58	151	367177	25.708	ng		99
22) Carbon Disulfide	5.60	76	3290365	50.749	ng		100
23) trans-1,2-Dichloroethene	6.16	61	635004	25.666	ng		98
24) 1,1-Dichloroethane	6.35	63	777273	24.982	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1179542	28.188	ng		99
26) Vinyl Acetate	6.48	86	512673	145.112	ng	#	95
27) 2-Butanone (MEK)	6.69	72	602493	51.753	ng		98
28) cis-1,2-Dichloroethene	7.11	61	597406	25.124	ng		98
29) Diisopropyl Ether	7.30	87	690167	51.530	ng		100
30) Ethyl Acetate	7.31	61	336950	51.574	ng		97
31) n-Hexane	7.30	57	707263	25.769	ng		100
32) Chloroform	7.40	83	766819	25.312	ng		100
34) Tetrahydrofuran (THF)	7.76	72	542101	48.371	ng		98
35) Ethyl tert-Butyl Ether	7.84	87	1027778	52.437	ng		100
36) 1,2-Dichloroethane	8.15	62	536878	23.288	ng		99
38) 1,1,1-Trichloroethane	8.42	97	663005	26.292	ng		100
39) Isopropyl Acetate	9.60	61	787	No Calib		#	
40) 1-Butanol	8.90	56	111	No Calib		#	
41) Benzene	8.92	78	1718560	23.998	ng		100
42) Carbon Tetrachloride	9.09	117	592262	26.271	ng		99
43) Cyclohexane	9.23	84	1325245	53.659	ng		99
44) tert-Amyl Methyl Ether	9.61	73	2449344	56.644	ng		99
45) 1,2-Dichloropropane	9.88	63	444769	26.029	ng		100
46) Bromodichloromethane	10.10	83	621639	28.345	ng		100
47) Trichloroethene	10.17	130	471653	26.676	ng		99
48) 1,4-Dioxane	10.13	88	377631	30.400	ng		99

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172505.D
Acq On : 17 Mar 2025 23:48
Operator : SC
Sample : LCS R09031725 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:19:07 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

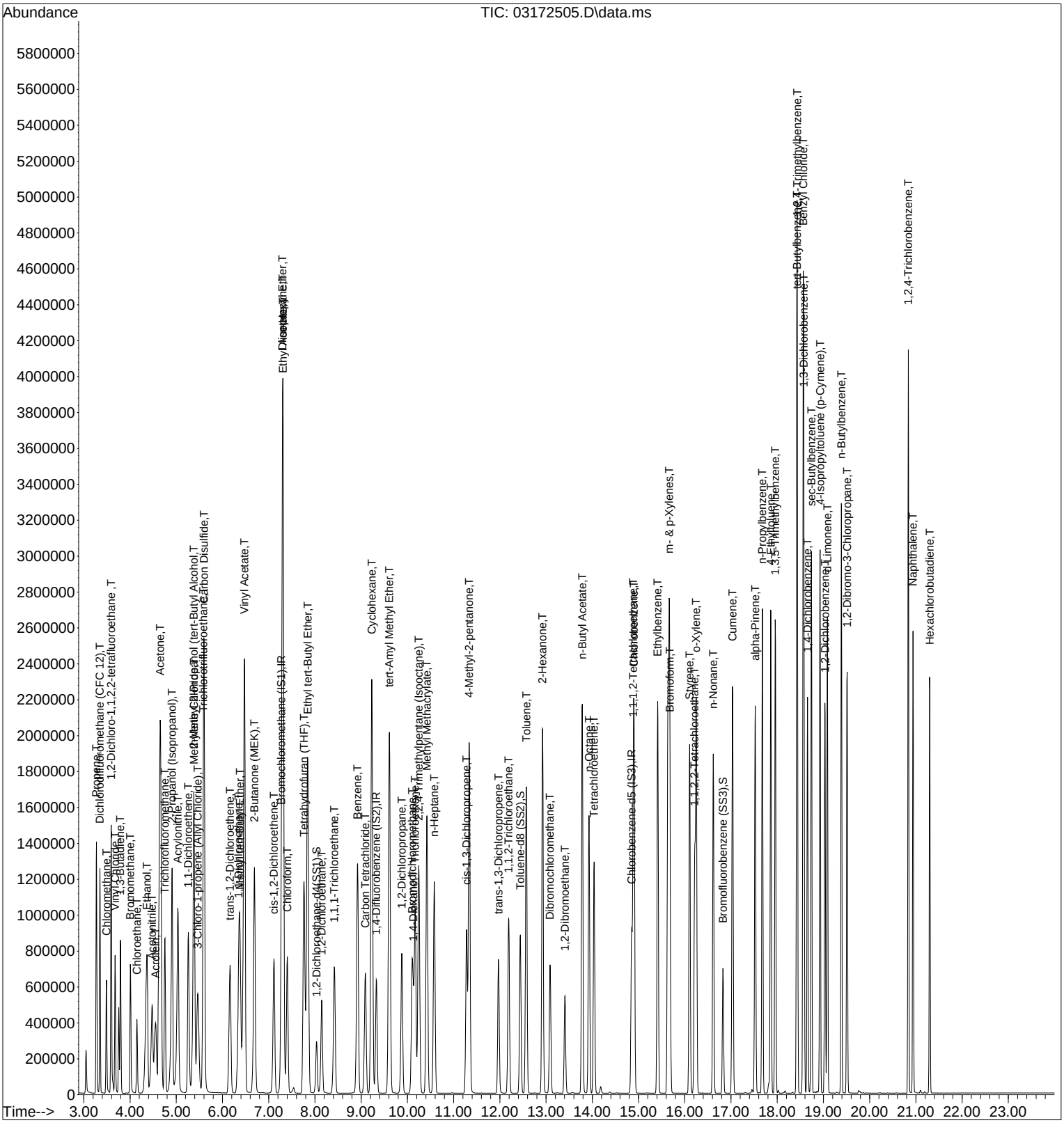
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1738882	25.945 ng		99
50) Methyl Methacrylate	10.42	100	344720	56.945 ng		100
51) n-Heptane	10.58	71	437688	26.719 ng		99
52) cis-1,3-Dichloropropene	11.28	75	784840	28.154 ng		99
53) 4-Methyl-2-pentanone	11.34	58	834442	59.997 ng		98
54) trans-1,3-Dichloropropene	11.97	75	599044	25.495 ng		99
55) 1,1,2-Trichloroethane	12.19	97	444482	27.529 ng		99
58) Toluene	12.57	91	1731580	27.101 ng		100
59) 2-Hexanone	12.92	43	1710565	62.588 ng		100
60) Dibromochloromethane	13.09	129	528126	29.648 ng		99
61) 1,2-Dibromoethane	13.41	107	504261	27.871 ng		99
62) n-Butyl Acetate	13.78	43	1933802	59.194 ng		100
63) n-Octane	13.93	57	368783	28.021 ng		100
64) Tetrachloroethene	14.04	166	480230	27.311 ng		100
65) Chlorobenzene	14.90	112	1172553	27.126 ng		100
66) Ethylbenzene	15.41	91	1981860	28.243 ng		100
67) m- & p-Xylenes	15.66	91	3122023	56.524 ng		100
68) Bromoform	15.68	173	433789	32.759 ng		99
69) Styrene	16.11	104	1184738	27.891 ng		99
70) o-Xylene	16.25	91	1558116	28.020 ng		100
71) n-Nonane	16.62	43	772917	28.031 ng		100
72) 1,1,2,2-Tetrachloroethane	16.21	83	813352	28.187 ng		99
74) Cumene	17.03	105	1882938	27.947 ng		100
75) alpha-Pinene	17.53	93	1020713	29.064 ng		100
76) n-Propylbenzene	17.68	91	2326346	28.111 ng		99
77) 3-Ethyltoluene	17.03	105	1882938	No Calib		
78) 4-Ethyltoluene	17.86	105	1886169	29.232 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1568116	28.559 ng		100
80) alpha-Methylstyrene	17.04	118	3762	No Calib	#	
81) 2-Ethyltoluene	17.03	105	1882938	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1546046	28.204 ng		97
83) n-Decane	17.03	58	16947	No Calib		
84) Benzyl Chloride	18.56	91	2651557	61.234 ng		99
85) 1,3-Dichlorobenzene	18.58	146	878864	26.930 ng		100
86) 1,4-Dichlorobenzene	18.66	146	873535	25.703 ng		100
87) sec-Butylbenzene	18.74	105	2094089	28.060 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1719291	28.074 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	1882938	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	879468	26.062 ng		100
91) d-Limonene	19.09	68	610166	29.780 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	653986	58.476 ng		98
93) n-Undecane	17.96	58	38540	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1096080	48.080 ng		99
95) Naphthalene	20.94	128	1633805	22.934 ng		99
96) n-Dodecane	18.93	58	44655	No Calib	#	
97) Hexachlorobutadiene	21.30	225	390509	25.786 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1448038	28.012 ng		100
100) n-Butylbenzene	19.39	91	1697759	28.407 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	428968	29.526 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172505.D
Acq On : 17 Mar 2025 23:48
Operator : SC
Sample : LCS R09031725 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:19:07 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172507.D
Acq On : 18 Mar 2025 6:40
Operator : SC
Sample : LCSD R09031725 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

MA 3/18/25

Quant Time: Mar 18 07:25:38 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	186392	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	784975	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	119717	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	270497	11.706	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 93.68%				
57) Toluene-d8 (SS2)	12.44	98	844934	13.020	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 104.16%				
73) Bromofluorobenzene (SS3)	16.83	174	244670	12.773	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 102.16%				
Target Compounds							Qvalue
2) Propene	3.27	42	491394	24.827	ng		99
3) Dichlorodifluoromethan...	3.35	85	916875	24.244	ng		100
4) Chloromethane	3.49	50	595437	30.044	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	467639	26.153	ng		100
6) Vinyl Chloride	3.68	62	724537	27.954	ng		100
7) 1,3-Butadiene	3.80	54	371020	23.297	ng		96
8) Bromomethane	4.01	94	463035	26.040	ng		100
9) Chloroethane	4.15	64	345092	25.397	ng		100
10) Ethanol	4.37	45	1903036	128.343	ng		100
11) Acetonitrile	4.48	41	837820	23.535	ng		100
12) Acrolein	4.56	56	703201	52.648	ng		97
13) Acetone	4.66	58	1799397	127.219	ng		99
14) Trichlorofluoromethane	4.76	101	804654	24.319	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2442582	52.770	ng		99
16) Acrylonitrile	5.04	53	1291771	53.083	ng		100
17) 1,1-Dichloroethene	5.26	96	482560	26.527	ng		100
18) 2-Methyl-2-Propanol (t...	5.39	59	1841242	59.243	ng		97
19) Methylene Chloride	5.39	84	519215	24.615	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	637045	22.651	ng		96
21) Trichlorotrifluoroethane	5.58	151	407153	26.717	ng		100
22) Carbon Disulfide	5.60	76	3639050	52.602	ng		100
23) trans-1,2-Dichloroethene	6.16	61	700072	26.518	ng		98
24) 1,1-Dichloroethane	6.35	63	855991	25.784	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1150824	25.774	ng		99
26) Vinyl Acetate	6.48	86	572704	151.923	ng	#	95
27) 2-Butanone (MEK)	6.69	72	664827	53.520	ng		98
28) cis-1,2-Dichloroethene	7.12	61	655196	25.824	ng		98
29) Diisopropyl Ether	7.30	87	757566	53.010	ng		98
30) Ethyl Acetate	7.31	61	370464	53.142	ng		97
31) n-Hexane	7.30	57	774577	26.449	ng		100
32) Chloroform	7.40	83	836416	25.876	ng		100
34) Tetrahydrofuran (THF)	7.76	72	596333	49.868	ng		97
35) Ethyl tert-Butyl Ether	7.84	87	1130663	54.063	ng		100
36) 1,2-Dichloroethane	8.15	62	584800	23.774	ng		99
38) 1,1,1-Trichloroethane	8.42	97	717378	26.829	ng		100
39) Isopropyl Acetate	9.60	61	804	No Calib		#	
40) 1-Butanol	8.83	56	12418	No Calib			
41) Benzene	8.92	78	1872328	24.657	ng		100
42) Carbon Tetrachloride	9.09	117	641050	26.816	ng		99
43) Cyclohexane	9.23	84	1439739	54.976	ng		99
44) tert-Amyl Methyl Ether	9.61	73	2671044	58.255	ng		99
45) 1,2-Dichloropropane	9.88	63	480122	26.499	ng		99
46) Bromodichloromethane	10.10	83	670220	28.821	ng		100
47) Trichloroethene	10.17	130	511603	27.289	ng		99
48) 1,4-Dioxane	10.13	88	408600	31.021	ng		99

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172507.D
Acq On : 18 Mar 2025 6:40
Operator : SC
Sample : LCSD R09031725 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 07:25:38 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

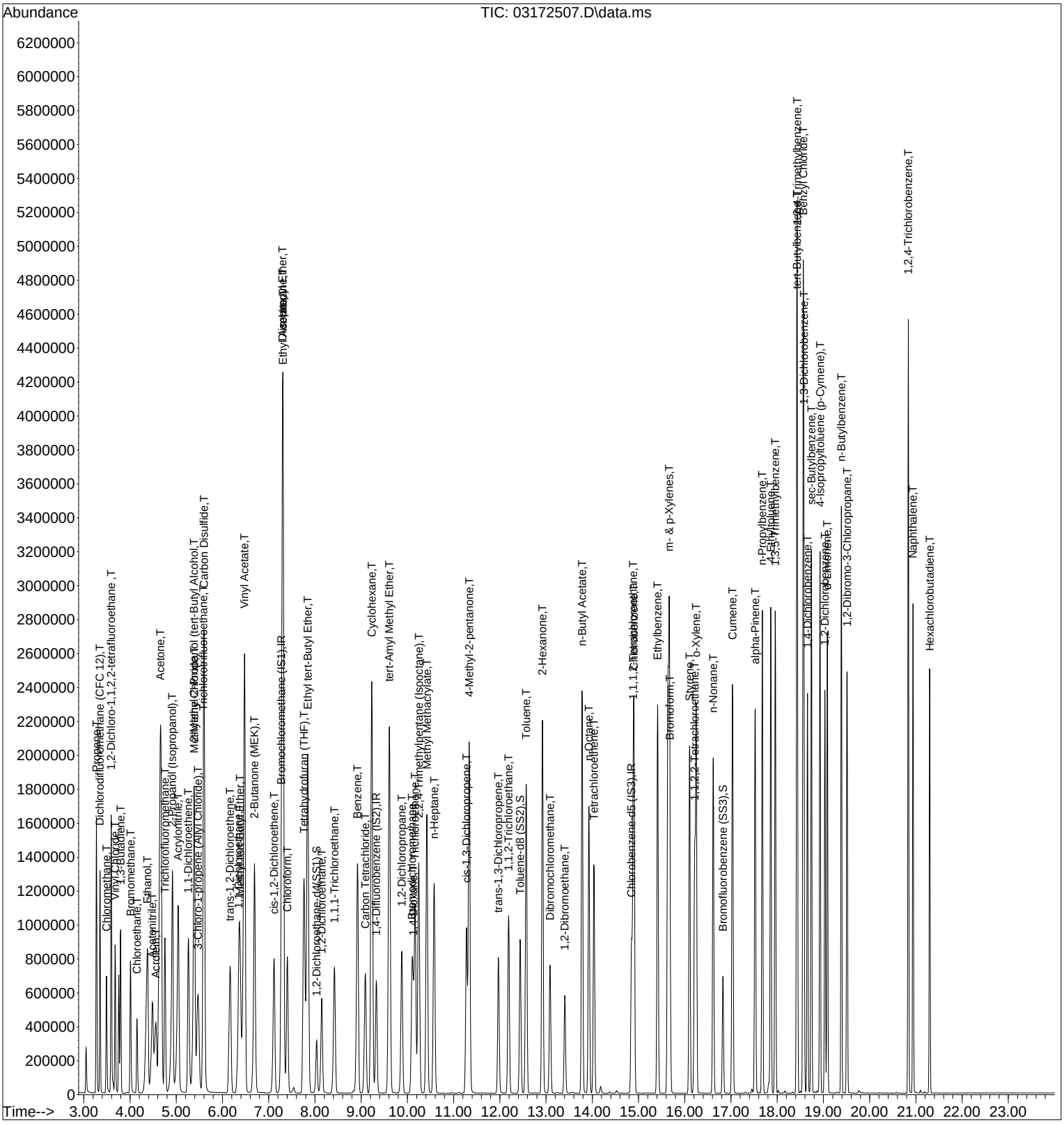
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1879002	26.440	ng		99
50) Methyl Methacrylate	10.42	100	375174	58.448	ng		99
51) n-Heptane	10.58	71	472454	27.200	ng		99
52) cis-1,3-Dichloropropene	11.28	75	843848	28.547	ng		100
53) 4-Methyl-2-pentanone	11.34	58	902828	61.218	ng		98
54) trans-1,3-Dichloropropene	11.97	75	643663	25.834	ng		99
55) 1,1,2-Trichloroethane	12.19	97	475959	27.800	ng		99
58) Toluene	12.57	91	1850335	28.665	ng		100
59) 2-Hexanone	12.92	43	1848229	66.935	ng		100
60) Dibromochloromethane	13.09	129	561999	31.228	ng		99
61) 1,2-Dibromoethane	13.40	107	535363	29.288	ng		99
62) n-Butyl Acetate	13.78	43	2093300	63.423	ng		100
63) n-Octane	13.93	57	390820	29.393	ng		100
64) Tetrachloroethene	14.03	166	513361	28.898	ng		100
65) Chlorobenzene	14.90	112	1246540	28.544	ng		100
66) Ethylbenzene	15.41	91	2101676	29.646	ng		100
67) m- & p-Xylenes	15.66	91	3313530	59.380	ng		100
68) Bromoform	15.68	173	461846	34.523	ng		99
69) Styrene	16.11	104	1261020	29.384	ng		99
70) o-Xylene	16.25	91	1655114	29.461	ng		100
71) n-Nonane	16.62	43	820598	29.457	ng		100
72) 1,1,2,2-Tetrachloroethane	16.21	83	867556	29.759	ng		99
74) Cumene	17.03	105	2001486	29.404	ng		100
75) alpha-Pinene	17.53	93	1080703	30.459	ng		100
76) n-Propylbenzene	17.68	91	2455764	29.373	ng		99
77) 3-Ethyltoluene	17.03	105	2001486	No Calib			
78) 4-Ethyltoluene	17.86	105	1999090	30.667	ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1662262	29.965	ng		100
80) alpha-Methylstyrene	17.04	118	3790	No Calib		#	
81) 2-Ethyltoluene	17.03	105	2001486	No Calib			
82) 1,2,4-Trimethylbenzene	18.43	105	1639229	29.599	ng		97
83) n-Decane	17.03	58	18241	No Calib			
84) Benzyl Chloride	18.56	91	2849020	65.124	ng		99
85) 1,3-Dichlorobenzene	18.58	146	937465	28.433	ng		100
86) 1,4-Dichlorobenzene	18.66	146	934795	27.225	ng		100
87) sec-Butylbenzene	18.74	105	2212997	29.351	ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1822272	29.452	ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	2001486	No Calib			
90) 1,2-Dichlorobenzene	19.03	146	940014	27.572	ng		100
91) d-Limonene	19.08	68	646100	31.212	ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	707711	62.635	ng		98
93) n-Undecane	17.96	58	40447	No Calib			
94) 1,2,4-Trichlorobenzene	20.84	180	1216357	52.812	ng		99
95) Naphthalene	20.94	128	1824203	25.346	ng		99
96) n-Dodecane	18.93	58	48281	No Calib		#	
97) Hexachlorobutadiene	21.30	225	421720	27.563	ng		100
98) Cyclohexanone	0.00	55	0	N.D.			
99) tert-Butylbenzene	18.43	119	1535642	29.404	ng		100
100) n-Butylbenzene	19.39	91	1799916	29.810	ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	453980	30.929	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172507.D
Acq On : 18 Mar 2025 6:40
Operator : SC
Sample : LCSD R09031725 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 07:25:38 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182505.D
Acq On : 19 Mar 2025 00:56
Operator : SC
Sample : LCS R09031825 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

NOA 3/19/25

Quant Time: Mar 19 06:38:00 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	165942	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	696811	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	115294	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	242866	11.806	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 94.48%				
57) Toluene-d8 (SS2)	12.44	98	779090	12.466	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	16.83	174	231882	12.570	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.56%				
Target Compounds							Qvalue
2) Propene	3.27	42	404992	22.983	ng		100
3) Dichlorodifluoromethan...	3.35	85	790319	23.473	ng		100
4) Chloromethane	3.49	50	389478	22.074	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	397400	24.964	ng		100
6) Vinyl Chloride	3.68	62	615497	26.673	ng		100
7) 1,3-Butadiene	3.80	54	320669	22.616	ng		92
8) Bromomethane	4.01	94	389368	24.596	ng		100
9) Chloroethane	4.15	64	294455	24.341	ng		99
10) Ethanol	4.37	45	1645836	124.676	ng		100
11) Acetonitrile	4.48	41	718829	22.681	ng		100
12) Acrolein	4.55	56	603205	50.727	ng		97
13) Acetone	4.66	58	1580508	125.514	ng		99
14) Trichlorofluoromethane	4.76	101	690820	23.452	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2101853	51.005	ng		99
16) Acrylonitrile	5.04	53	1114807	51.456	ng		100
17) 1,1-Dichloroethene	5.26	96	413327	25.521	ng		99
18) 2-Methyl-2-Propanol (t...	5.39	59	1386318	50.102	ng		98
19) Methylene Chloride	5.39	84	447017	23.804	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	546820	21.839	ng		96
21) Trichlorotrifluoroethane	5.59	151	345237	25.446	ng		98
22) Carbon Disulfide	5.60	76	3206121	52.055	ng		100
23) trans-1,2-Dichloroethene	6.17	61	608830	25.904	ng		99
24) 1,1-Dichloroethane	6.36	63	745732	25.231	ng		100
25) Methyl tert-Butyl Ether	6.38	73	875718	22.030	ng		100
26) Vinyl Acetate	6.48	86	488664	145.604	ng	#	90
27) 2-Butanone (MEK)	6.70	72	577679	52.236	ng		100
28) cis-1,2-Dichloroethene	7.12	61	573766	25.402	ng		100
29) Diisopropyl Ether	7.30	87	666500	52.385	ng		96
30) Ethyl Acetate	7.31	61	331291	53.380	ng		96
31) n-Hexane	7.31	57	700209	26.856	ng		99
32) Chloroform	7.41	83	731642	25.424	ng		100
34) Tetrahydrofuran (THF)	7.76	72	518704	48.722	ng		96
35) Ethyl tert-Butyl Ether	7.84	87	974649	52.347	ng		98
36) 1,2-Dichloroethane	8.15	62	512777	23.415	ng		99
38) 1,1,1-Trichloroethane	8.42	97	620611	26.147	ng		99
39) Isopropyl Acetate	9.62	61	847	No Calib		#	
40) 1-Butanol	8.84	56	2792	No Calib			
41) Benzene	8.92	78	1643569	24.383	ng		99
42) Carbon Tetrachloride	9.09	117	552548	26.038	ng		99
43) Cyclohexane	9.23	84	1262134	54.292	ng		99
44) tert-Amyl Methyl Ether	9.61	73	2332827	57.316	ng		100
45) 1,2-Dichloropropane	9.88	63	427069	26.553	ng		99
46) Bromodichloromethane	10.10	83	591343	28.646	ng		100
47) Trichloroethene	10.17	130	443645	26.658	ng		99
48) 1,4-Dioxane	10.13	88	357863	30.606	ng		100

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182505.D
Acq On : 19 Mar 2025 00:56
Operator : SC
Sample : LCS R09031825 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:38:00 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

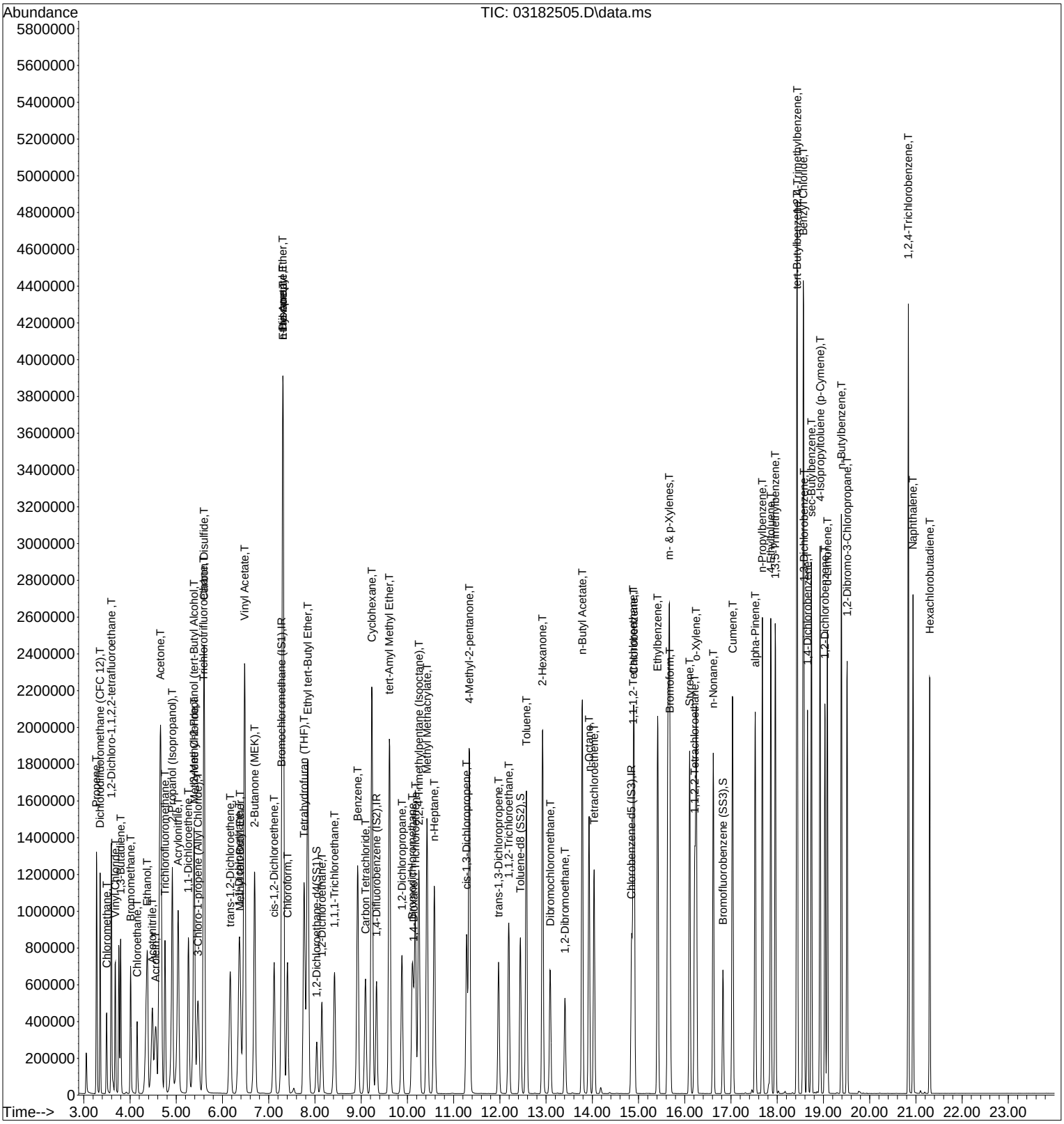
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1681823	26.660 ng		99
50) Methyl Methacrylate	10.42	100	322255	56.556 ng		96
51) n-Heptane	10.58	71	421251	27.320 ng		99
52) cis-1,3-Dichloropropene	11.28	75	742365	28.291 ng		100
53) 4-Methyl-2-pentanone	11.34	58	811522	61.989 ng		99
54) trans-1,3-Dichloropropene	11.97	75	562318	25.425 ng		99
55) 1,1,2-Trichloroethane	12.19	97	421766	27.752 ng		99
58) Toluene	12.57	91	1646008	26.478 ng		100
59) 2-Hexanone	12.92	43	1670180	62.808 ng		100
60) Dibromochloromethane	13.09	129	494662	28.541 ng		98
61) 1,2-Dibromoethane	13.41	107	473321	26.887 ng		99
62) n-Butyl Acetate	13.78	43	1890409	59.473 ng		100
63) n-Octane	13.93	57	356060	27.806 ng		99
64) Tetrachloroethene	14.04	166	448757	26.230 ng		100
65) Chlorobenzene	14.90	112	1112598	26.454 ng		99
66) Ethylbenzene	15.41	91	1883327	27.585 ng		100
67) m- & p-Xylenes	15.66	91	2988139	55.603 ng		100
68) Bromoform	15.68	173	407558	31.633 ng		99
69) Styrene	16.11	104	1118221	27.056 ng		99
70) o-Xylene	16.25	91	1487400	27.492 ng		100
71) n-Nonane	16.62	43	753101	28.071 ng		100
72) 1,1,2,2-Tetrachloroethane	16.21	83	786704	28.020 ng		99
74) Cumene	17.04	105	1788311	27.280 ng		100
75) alpha-Pinene	17.53	93	969327	28.368 ng		100
76) n-Propylbenzene	17.68	91	2229047	27.684 ng		99
77) 3-Ethyltoluene	17.04	105	1788311	No Calib		
78) 4-Ethyltoluene	17.86	105	1797709	28.635 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1495558	27.994 ng		100
80) alpha-Methylstyrene	17.03	118	3673	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1788311	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1494383	28.019 ng		97
83) n-Decane	17.03	58	16063	No Calib		
84) Benzyl Chloride	18.56	91	2566780	60.923 ng		99
85) 1,3-Dichlorobenzene	18.58	146	844878	26.608 ng		100
86) 1,4-Dichlorobenzene	18.66	146	829768	25.093 ng		100
87) sec-Butylbenzene	18.74	105	2005912	27.625 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1644917	27.606 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1788311	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	840695	25.605 ng		100
91) d-Limonene	19.09	68	589387	29.565 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	645157	59.289 ng		97
93) n-Undecane	17.96	58	36989	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1126030	50.766 ng		99
95) Naphthalene	20.94	128	1689425	24.374 ng		99
96) n-Dodecane	18.93	58	43694	No Calib	#	
97) Hexachlorobutadiene	21.30	225	384905	26.122 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1394380	27.724 ng		99
100) n-Butylbenzene	19.39	91	1651037	28.393 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	404823	28.638 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182505.D
Acq On : 19 Mar 2025 00:56
Operator : SC
Sample : LCS R09031825 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:38:00 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182506.D
Acq On : 19 Mar 2025 1:28
Operator : SC
Sample : LCSD R09031825 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

MA 3/19/25

Quant Time: Mar 19 06:38:02 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	166385	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	704388	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	116071	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	246999	11.975	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%				
57) Toluene-d8 (SS2)	12.44	98	785963	12.492	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.92%				
73) Bromofluorobenzene (SS3)	16.83	174	233329	12.564	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 100.48%				
Target Compounds							Qvalue
2) Propene	3.27	42	423514	23.970	ng		100
3) Dichlorodifluoromethan...	3.35	85	804860	23.841	ng		100
4) Chloromethane	3.49	50	432598	24.452	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	406485	25.466	ng		100
6) Vinyl Chloride	3.68	62	636273	27.500	ng		100
7) 1,3-Butadiene	3.80	54	328663	23.119	ng		96
8) Bromomethane	4.01	94	400220	25.214	ng		100
9) Chloroethane	4.15	64	301379	24.847	ng		100
10) Ethanol	4.37	45	1704906	128.807	ng		100
11) Acetonitrile	4.48	41	740879	23.314	ng		100
12) Acrolein	4.55	56	619327	51.944	ng		97
13) Acetone	4.66	58	1613653	127.805	ng		99
14) Trichlorofluoromethane	4.76	101	702168	23.773	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2174381	52.624	ng		99
16) Acrylonitrile	5.04	53	1144886	52.704	ng		100
17) 1,1-Dichloroethene	5.26	96	422694	26.030	ng		99
18) 2-Methyl-2-Propanol (t...	5.39	59	1474167	53.135	ng		98
19) Methylene Chloride	5.39	84	455477	24.190	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	554023	22.068	ng		96
21) Trichlorotrifluoroethane	5.58	151	350777	25.785	ng		98
22) Carbon Disulfide	5.60	76	3246312	52.567	ng		100
23) trans-1,2-Dichloroethene	6.16	61	624566	26.503	ng		100
24) 1,1-Dichloroethane	6.36	63	763584	25.766	ng		100
25) Methyl tert-Butyl Ether	6.38	73	960097	24.088	ng		100
26) Vinyl Acetate	6.48	86	498412	148.113	ng	#	89
27) 2-Butanone (MEK)	6.69	72	588861	53.105	ng		99
28) cis-1,2-Dichloroethene	7.12	61	586015	25.875	ng		100
29) Diisopropyl Ether	7.30	87	674019	52.835	ng		95
30) Ethyl Acetate	7.31	61	334652	53.778	ng		96
31) n-Hexane	7.30	57	708104	27.087	ng		99
32) Chloroform	7.41	83	745212	25.826	ng		100
34) Tetrahydrofuran (THF)	7.76	72	531294	49.772	ng		96
35) Ethyl tert-Butyl Ether	7.84	87	996666	53.387	ng		98
36) 1,2-Dichloroethane	8.15	62	523396	23.836	ng		99
38) 1,1,1-Trichloroethane	8.42	97	633037	26.383	ng		100
39) Isopropyl Acetate	9.62	61	888	No Calib		#	
40) 1-Butanol	8.84	56	2797	No Calib			
41) Benzene	8.92	78	1677209	24.614	ng		100
42) Carbon Tetrachloride	9.09	117	562405	26.218	ng		99
43) Cyclohexane	9.23	84	1284323	54.652	ng		99
44) tert-Amyl Methyl Ether	9.61	73	2392766	58.156	ng		100
45) 1,2-Dichloropropane	9.88	63	437314	26.897	ng		99
46) Bromodichloromethane	10.10	83	601629	28.831	ng		100
47) Trichloroethene	10.17	130	451296	26.826	ng		99
48) 1,4-Dioxane	10.13	88	366291	30.990	ng		100

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182506.D
Acq On : 19 Mar 2025 1:28
Operator : SC
Sample : LCSD R09031825 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:38:02 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

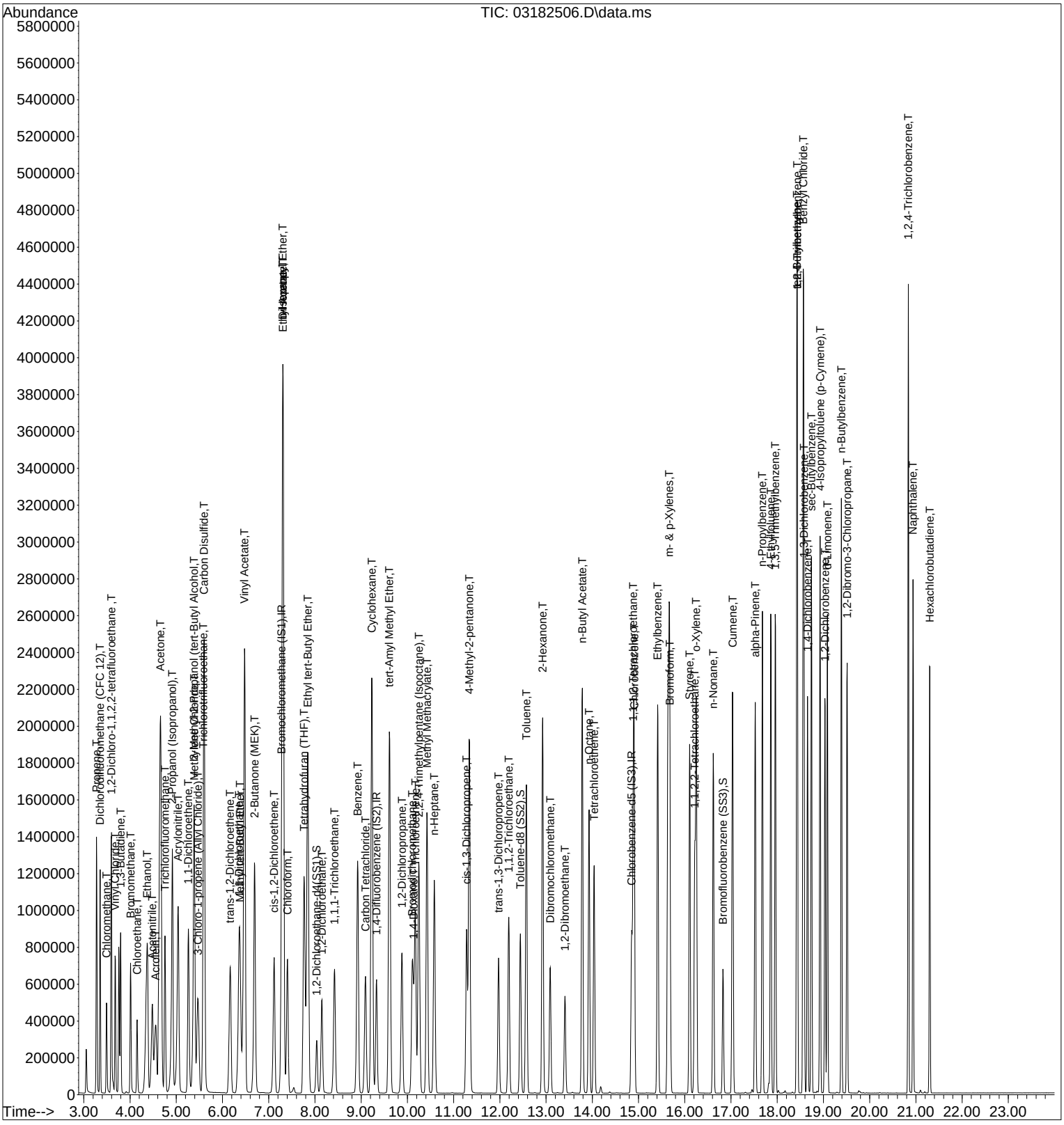
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1715825	26.906 ng		99
50) Methyl Methacrylate	10.42	100	330888	57.446 ng		97
51) n-Heptane	10.58	71	428590	27.497 ng		100
52) cis-1,3-Dichloropropene	11.28	75	761676	28.715 ng		100
53) 4-Methyl-2-pentanone	11.34	58	830803	62.780 ng		99
54) trans-1,3-Dichloropropene	11.97	75	578697	25.884 ng		100
55) 1,1,2-Trichloroethane	12.19	97	428835	27.913 ng		100
58) Toluene	12.57	91	1679584	26.837 ng		100
59) 2-Hexanone	12.93	43	1713918	64.021 ng		99
60) Dibromochloromethane	13.09	129	504351	28.905 ng		99
61) 1,2-Dibromoethane	13.41	107	482579	27.230 ng		99
62) n-Butyl Acetate	13.78	43	1938679	60.584 ng		100
63) n-Octane	13.93	57	363308	28.182 ng		99
64) Tetrachloroethene	14.04	166	455631	26.454 ng		100
65) Chlorobenzene	14.91	112	1129271	26.671 ng		100
66) Ethylbenzene	15.41	91	1914786	27.858 ng		100
67) m- & p-Xylenes	15.66	91	3035986	56.115 ng		100
68) Bromoform	15.68	173	414470	31.954 ng		100
69) Styrene	16.11	104	1142512	27.459 ng		99
70) o-Xylene	16.25	91	1511337	27.747 ng		100
71) n-Nonane	16.62	43	770753	28.536 ng		99
72) 1,1,2,2-Tetrachloroethane	16.21	83	798385	28.246 ng		99
74) Cumene	17.04	105	1815792	27.514 ng		100
75) alpha-Pinene	17.53	93	990562	28.795 ng		100
76) n-Propylbenzene	17.68	91	2260036	27.881 ng		99
77) 3-Ethyltoluene	17.04	105	1815792	No Calib		
78) 4-Ethyltoluene	17.86	105	1820739	28.808 ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	1518082	28.226 ng		100
80) alpha-Methylstyrene	17.03	118	3583	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1815792	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1508929	28.102 ng		97
83) n-Decane	17.03	58	16955	No Calib		
84) Benzyl Chloride	18.56	91	2629139	61.986 ng		99
85) 1,3-Dichlorobenzene	18.58	146	854729	26.738 ng		100
86) 1,4-Dichlorobenzene	18.66	146	846395	25.425 ng		100
87) sec-Butylbenzene	18.74	105	2024939	27.700 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1663405	27.729 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1815792	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	850338	25.725 ng		100
91) d-Limonene	19.09	68	599721	29.882 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	650688	59.397 ng		96
93) n-Undecane	17.96	58	37621	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1154302	51.692 ng		99
95) Naphthalene	20.94	128	1751171	25.096 ng		99
96) n-Dodecane	18.93	58	46755	No Calib	#	
97) Hexachlorobutadiene	21.30	225	390732	26.340 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1411347	27.873 ng		99
100) n-Butylbenzene	19.39	91	1664845	28.439 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	409394	28.767 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182506.D
Acq On : 19 Mar 2025 1:28
Operator : SC
Sample : LCSD R09031825 25ng
Misc : S38-03052512/S38-03112504 (4/10)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:38:02 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS) LH 3/8/25
Last Update : Fri Mar 07 23:50:59 2025
Response Via : Initial Calibration

Calibration Files
0.1 =03072503.D 0.2 =03072504.D 0.5 =03072505.D 1.0 =03072506.D 5.0 =03072507.D 25 =03072
100 =03072510.D

		Compound	0.1	0.2	0.5	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------							
2)	T	Propene	1.371	1.328	1.276	1.257	1.285	1.286	1.339	1.476	1.327	5.36
3)	T	Dichlorodifluo...	2.499	2.546	2.557	2.522	2.496	2.414	2.462	2.795	2.536	4.49
4)	T	Chloromethane	1.663	1.430	1.552	1.217	1.020	1.522	1.292	0.935	1.329	19.57
5)	T	1,2-Dichloro-1...	1.146	1.209	1.185	1.195	1.179	1.154	1.175	1.350	1.199	5.35
6)	T	Vinyl Chloride	1.423	1.569	1.699	1.779	1.881	1.768	1.805	1.982	1.738	10.13
7)	T	1,3-Butadiene	1.260	1.094	1.107	1.048	1.018	0.956	0.971	1.090	1.068	8.97
8)	T	Bromomethane	1.072	1.177	1.160	1.190	1.165	1.157	1.202	1.417	1.192	8.29
9)	T	Chloroethane	0.802	0.877	0.873	0.883	0.906	0.890	0.935	1.124	0.911	10.31
10)	T	Ethanol	1.013	1.014	0.977	0.973	0.998	0.950	0.977	1.054	0.994	3.25
11)	T	Acetonitrile	2.145	2.278	2.172	2.168	2.255	2.183	2.612	3.288	2.387	16.50
12)	T	Acrolein	0.775	0.825	0.827	0.850	0.906	0.894	0.946	1.142	0.896	12.65
13)	T	Acetone	0.968	0.931	0.927	0.929	0.944	0.915	0.933	1.041	0.949	4.26
14)	T	Trichlorofluor...	2.120	2.215	2.201	2.180	2.169	2.096	2.174	2.598	2.219	7.12
15)	T	2-Propanol (Is...	2.954	3.063	3.084	3.065	2.988	3.094	3.144	3.441	3.104	4.79
16)	T	Acrylonitrile	1.188	1.429	1.559	1.656	1.702	1.654	1.757	2.110	1.632	16.28
17)	T	1,1-Dichloroet...	1.043	1.162	1.165	1.189	1.204	1.190	1.257	1.548	1.220	11.95
18)	T	2-Methyl-2-Pro...	2.468	2.248	2.770	2.326	1.117	2.369	1.943	1.434	2.084	26.67
19)	T	Methylene Chlo...	1.377	1.413	1.355	1.352	1.365	1.351	1.406	1.698	1.415	8.26
20)	T	3-Chloro-1-pro...	1.948	1.747	2.022	1.882	1.809	1.751	1.811	2.119	1.886	7.11
21)	T	Trichlorotrifl...	0.939	1.008	1.000	1.002	1.021	1.005	1.026	1.175	1.022	6.59
22)	T	Carbon Disulfide	4.538	4.677	4.630	4.687	4.793	4.603	4.503	4.684	4.639	1.99
23)	T	trans-1,2-Dich...	1.479	1.613	1.631	1.689	1.783	1.779	1.881	2.308	1.770	14.13
24)	T	1,1-Dichloroet...	2.008	2.179	2.140	2.140	2.177	2.165	2.264	2.739	2.226	9.83
25)	T	Methyl tert-Bu...	3.237	3.147	3.340	2.985	2.679	3.143	2.994	2.429	2.994	10.12
26)	T	Vinyl Acetate		0.196	0.209	0.233	0.261	0.276	0.281	0.314	0.253	16.65
27)	T	2-Butanone (MEK)	0.615	0.719	0.784	0.812	0.864	0.870	0.913	1.087	0.833	16.76
28)	T	cis-1,2-Dichlo...	1.449	1.587	1.631	1.635	1.681	1.683	1.779	2.168	1.701	12.39
29)	T	Diisopropyl Ether	0.882	0.984	0.964	0.972	0.992	0.969	0.931	0.972	0.958	3.72
30)	T	Ethyl Acetate	0.359	0.442	0.457	0.477	0.511	0.506	0.479	0.509	0.468	10.77
31)	T	n-Hexane	1.928	1.990	2.013	2.043	2.083	1.989	1.838	1.827	1.964	4.72
32)	T	Chloroform	2.011	2.099	2.108	2.088	2.107	2.097	2.191	2.642	2.168	9.12
33)	S	1,2-Dichloroet...	1.481	1.497	1.484	1.468	1.455	1.478	1.575	1.959	1.550	10.93
34)	T	Tetrahydrofura...	0.728	0.733	0.746	0.757	0.796	0.803	0.846	1.007	0.802	11.48
35)	T	Ethyl tert-But...	1.208	1.283	1.346	1.363	1.405	1.431	1.482	1.702	1.403	10.55
36)	T	1,2-Dichloroet...	1.586	1.578	1.566	1.568	1.596	1.590	1.676	2.037	1.650	9.72
37)	IR	1,4-Difluorobenzen...	----------	ISTD	----------							
38)	T	1,1,1-Trichlor...	0.419	0.414	0.417	0.423	0.436	0.438	0.435	0.424	0.426	2.15
39)	T	Isopropyl Acetate									0.000	-1.00
40)	T	1-Butanol									0.000	-1.00
41)	T	Benzene	1.396	1.284	1.180	1.189	1.203	1.174	1.149	1.098	1.209	7.59
42)	T	Carbon Tetrach...	0.364	0.368	0.378	0.375	0.391	0.395	0.393	0.382	0.381	3.05
43)	T	Cyclohexane	0.411	0.423	0.422	0.427	0.438	0.432	0.415	0.368	0.417	5.18
44)	T	tert-Amyl Meth...	0.668	0.700	0.723	0.743	0.777	0.789	0.761	0.681	0.730	6.12
45)	T	1,2-Dichloropr...	0.283	0.288	0.290	0.287	0.292	0.292	0.292	0.285	0.289	1.15
46)	T	Bromodichlorom...	0.352	0.352	0.359	0.366	0.383	0.388	0.388	0.374	0.370	4.14
47)	T	Trichloroethene	0.277	0.294	0.300	0.304	0.312	0.311	0.304	0.286	0.299	4.12
48)	T	1,4-Dioxane		0.155	0.199	0.210	0.221	0.233	0.232	0.219	0.210	12.85
49)	T	2,2,4-Trimethy...	1.107	1.140	1.139	1.147	1.169	1.153	1.135	1.063	1.132	2.88
50)	T	Methyl Methacr...		0.083	0.093	0.100	0.111	0.113	0.111	0.104	0.102	10.85
51)	T	n-Heptane	0.256	0.265	0.281	0.280	0.286	0.287	0.286	0.272	0.277	4.14
52)	T	cis-1,3-Dichlo...	0.380	0.416	0.432	0.462	0.513	0.528	0.529	0.506	0.471	12.02
53)	T	4-Methyl-2-pen...	0.184	0.207	0.226	0.248	0.269	0.269	0.261	0.233	0.235	12.49
54)	T	trans-1,3-Dich...			0.315	0.345	0.412	0.434	0.442	0.432	0.397	13.53

55)	T	1,1,2-Trichlor...	0.250	0.260	0.272	0.276	0.287	0.285	0.282	0.269	0.273	4.66
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------									
57)	S	Toluene-d8 (SS2)	6.799	6.791	6.842	6.816	6.844	6.773	6.690	6.652	6.776	1.03
58)	T	Toluene	7.064	6.924	6.961	6.912	7.055	6.789	6.451	5.764	6.740	6.52
59)	T	2-Hexanone	2.230	2.508	2.731	2.959	3.321	3.373	3.180	2.762	2.883	13.94
60)	T	Dibromochlorom...	1.566	1.759	1.797	1.860	2.035	2.057	2.023	1.936	1.879	8.99
61)	T	1,2-Dibromoethane	1.690	1.799	1.826	1.902	2.051	2.051	2.019	1.931	1.909	6.87
62)	T	n-Butyl Acetate			3.004	3.291	3.770	3.857	3.640	3.115	3.446	10.39
63)	T	n-Octane	1.267	1.346	1.423	1.413	1.469	1.460	1.427	1.301	1.388	5.38
64)	T	Tetrachloroethene	1.773	1.866	1.898	1.897	1.939	1.911	1.844	1.712	1.855	4.14
65)	T	Chlorobenzene	4.604	4.823	4.623	4.699	4.833	4.698	4.413	3.786	4.560	7.45
66)	T	Ethylbenzene	7.102	7.508	7.396	7.681	8.036	7.809	7.326	6.360	7.402	6.92
67)	T	m- & p-Xylenes	5.634	5.948	5.939	6.145	6.446	6.239	5.690	4.571	5.826	9.87
68)	T	Bromoform	1.183	1.270	1.323	1.381	1.563	1.616	1.527	1.312	1.397	11.06
69)	T	Styrene		4.073	4.050	4.419	4.970	4.958	4.722	4.174	4.481	9.00
70)	T	o-Xylene	5.497	5.960	5.971	6.104	6.348	6.184	5.836	5.027	5.866	7.21
71)	T	n-Nonane	2.915	2.859	2.841	2.940	3.125	3.092	2.946	2.551	2.909	6.06
72)	T	1,1,2,2-Tetrac...	2.912	3.016	2.972	3.101	3.273	3.221	3.109	2.748	3.044	5.58
73)	S	Bromofluoroben...	1.974	1.998	2.003	2.008	2.029	2.023	1.995	1.970	2.000	1.04
74)	T	Cumene	6.888	7.141	7.202	7.426	7.786	7.508	6.983	5.924	7.107	7.88
75)	T	alpha-Pinene	3.322	3.453	3.577	3.820	4.160	4.121	3.868	3.316	3.705	9.11
76)	T	n-Propylbenzene	8.468	8.792	8.728	9.237	9.737	9.284	8.512	7.078	8.730	9.11
77)	T	3-Ethyltoluene									0.000	-1.00
78)	T	4-Ethyltoluene	6.090	6.680	6.861	6.982	7.745	7.459	6.878	5.757	6.806	9.58
79)	T	1,3,5-Trimethy...	5.507	5.893	5.756	6.046	6.443	6.178	5.720	4.793	5.792	8.59
80)	T	alpha-Methylst...									0.000	-1.00
81)	T	2-Ethyltoluene									0.000	-1.00
82)	T	1,2,4-Trimethy...	5.552	6.139	5.860	6.205	6.787	6.280	5.343	4.093	5.782	14.13
83)	T	n-Decane									0.000	-1.00
84)	T	Benzyl Chloride		3.927	3.675	4.276	5.499	5.446	4.583		4.568	16.76
85)	T	1,3-Dichlorobe...	3.511	3.727	3.471	3.658	3.882	3.661	3.207	2.423	3.443	13.30
86)	T	1,4-Dichlorobe...	3.547	3.718	3.475	3.655	3.894	3.787	3.563	3.043	3.585	7.20
87)	T	sec-Butylbenzene	7.531	8.204	7.954	8.352	8.876	8.387	7.585	6.091	7.872	10.72
88)	T	4-Isopropyltol...	6.291	6.700	6.302	6.816	7.351	6.935	6.253	5.034	6.460	10.68
89)	T	1,2,3-Trimethy...									0.000	-1.00
90)	T	1,2-Dichlorobe...	3.519	3.782	3.422	3.663	3.854	3.715	3.506	3.017	3.560	7.42
91)	T	d-Limonene	1.839	1.942	1.916	2.151	2.506	2.533	2.397	2.008	2.161	12.96
92)	T	1,2-Dibromo-3-...	1.031	1.136	1.062	1.201	1.388	1.336	1.244	1.039	1.180	11.56
93)	T	n-Undecane									0.000	-1.00
94)	T	1,2,4-Trichlor...	2.537	2.731	2.083	2.424	2.803	2.647	2.303	1.710	2.405	15.23
95)	T	Naphthalene	7.636	8.640	6.020	7.180	8.612	8.294	7.627	6.111	7.515	13.70
96)	T	n-Dodecane									0.000	-1.00
97)	T	Hexachlorobuta...	1.568	1.690	1.423	1.565	1.714	1.714	1.663	1.443	1.598	7.34
98)	T	Cyclohexanone									0.000	-1.00
99)	T	tert-Butylbenzene	5.522	5.934	5.700	5.885	6.264	5.713	4.851	3.754	5.453	14.64
100)	T	n-Butylbenzene	5.855	6.531	6.045	6.575	7.230	6.891	6.257	5.053	6.304	10.66
101)	T	1,1,1,2-Tetrac...	1.419	1.519	1.545	1.560	1.658	1.639	1.554	1.365	1.533	6.51

(#) = Out of Range

R09030725.M Sat Mar 08 00:18:16 2025

LH 3/8/25

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S38-03072503 (04/06)	200ng/L Std. ID:	S38-03072501 (04/06)
20ng/L Std. ID:	S38-03072502 (04/06)	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/m³	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
Propene	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
Dichlorodifluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
Chloromethane	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
Freon-114	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
Vinyl Chloride	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
1,3-Butadiene	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
Bromomethane	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Chloroethane	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
Ethanol	5.25	5250	1050	210.0	105.0	21.00	5.25		0.525	1.050	2.625	5.25	26.25	131.25	262.5	525
Acetonitrile	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
Acrolein	2.18	2180	436	87.2	43.6	8.72	2.18		0.218	0.436	1.090	2.18	10.90	54.50	109.0	218
Acetone	5.12	5120	1024	204.8	102.4	20.48	5.12		0.512	1.024	2.560	5.12	25.60	128.00	256.0	512
Trichlorofluoromethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
Isopropanol	2.06	2060	412	82.4	41.2	8.24	2.06		0.206	0.412	1.030	2.06	10.30	51.50	103.0	206
Acrylonitrile	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
1,1-Dichloroethene	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
tert-Butanol	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Methylene Chloride	0.91	910	182	36.4	18.2	3.64	0.91		0.091	0.182	0.455	0.91	4.55	22.75	45.5	91
Allyl Chloride	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
Trichlorotrifluoroethane	0.92	920	184	36.8	18.4	3.68	0.92		0.092	0.184	0.460	0.92	4.60	23.00	46.0	92
Carbon Disulfide	2.07	2070	414	82.8	41.4	8.28	2.07		0.207	0.414	1.035	2.07	10.35	51.75	103.5	207
trans-1,2-Dichloroethene	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-Dichloroethane	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
Methyl tert-Butyl Ether	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
Vinyl Acetate	5.29	5290	1058	211.6	105.8	21.16	5.29		0.529	1.058	2.645	5.29	26.45	132.25	264.5	529
2-Butanone	2.04	2040	408	81.6	40.8	8.16	2.04		0.204	0.408	1.020	2.04	10.20	51.00	102.0	204
cis-1,2-Dichloroethene	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
Diisopropyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
Ethyl Acetate	1.95	1950	390	78.0	39.0	7.80	1.95		0.195	0.390	0.975	1.95	9.75	48.75	97.5	195
n-Hexane	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
Chloroform	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
Tetrahydrofuran	1.90	1900	380	76.0	38.0	7.60	1.90		0.190	0.380	0.950	1.90	9.50	47.50	95.0	190
Ethyl tert-Butyl Ether	2.09	2090	418	83.6	41.8	8.36	2.09		0.209	0.418	1.045	2.09	10.45	52.25	104.5	209
1,2-Dichloroethane	1.01	1010	202	40.4	20.2	4.04	1.01		0.101	0.202	0.505	1.01	5.05	25.25	50.5	101
1,1,1-Trichloroethane	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
Benzene	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Carbon Tetrachloride	1.02	1020	204	40.8	20.4	4.08	1.02		0.102	0.204	0.510	1.02	5.10	25.50	51.0	102
Cyclohexane	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
tert-Amyl Methyl Ether	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
1,2-Dichloropropane	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
Bromodichloromethane	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
Trichloroethene	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
1,4-Dioxane	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
Isooctane	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
Methyl Methacrylate	2.12	2120	424	84.8	42.4	8.48	2.12		0.212	0.424	1.060	2.12	10.60	53.00	106.0	212
n-Heptane	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

Primary Source Standards Concentrations (Working & Initial Calibration)

1ng/L Std. ID:		40ng/L Std. ID:	
4ng/L Std. ID:	S38-03072503 (04/06)	200ng/L Std. ID:	S38-03072501 (04/06)
20ng/L Std. ID:	S38-03072502 (04/06)	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\R09030725.M (RTE Integrator)
Title   : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Mar 07 23:50:59 2025
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	0	13	I:\MS09\DATA\2025_03\07\03072503.D
2	0.2	0	13	I:\MS09\DATA\2025_03\07\03072504.D
3	0.5	1	13	I:\MS09\DATA\2025_03\07\03072505.D
4	1.0	1	13	I:\MS09\DATA\2025_03\07\03072506.D
5	5.0	5	13	I:\MS09\DATA\2025_03\07\03072507.D
6	25	26	13	I:\MS09\DATA\2025_03\07\03072508.D
7	50	53	13	I:\MS09\DATA\2025_03\07\03072509.D
8	100	105	13	I:\MS09\DATA\2025_03\07\03072510.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Mar 07 23:29 2025	Mar 07 23:27 2025	7 Mar 2025 18:23
2	0.2	Mar 07 23:30 2025	Mar 07 23:29 2025	7 Mar 2025 18:56
3	0.5	Mar 07 23:30 2025	Mar 07 23:25 2025	7 Mar 2025 19:28
4	1.0	Mar 07 23:30 2025	Mar 07 23:25 2025	7 Mar 2025 20:00
5	5.0	Mar 07 23:30 2025	Mar 07 23:26 2025	7 Mar 2025 20:32
6	25	Mar 07 23:30 2025	Mar 07 23:26 2025	7 Mar 2025 21:04
7	50	Mar 07 23:30 2025	Mar 07 23:26 2025	7 Mar 2025 21:36
8	100	Mar 07 23:31 2025	Mar 07 23:26 2025	7 Mar 2025 22:08

R09030725.M Sat Mar 08 00:16:09 2025

LH 3/8/25

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072503.D
Acq On : 7 Mar 2025 18:23
Operator : SC
Sample : 0.1ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:27:27 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	173833	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	746504	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	123868	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	257446	14.005	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.08%				
57) Toluene-d8 (SS2)	12.43	98	842236	10.867	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.96%				
73) Bromofluorobenzene (SS3)	16.82	174	244508	9.782	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.24%				
Target Compounds							Qvalue
2) Propene	3.33	42	2002	0.132	ng		94
3) Dichlorodifluoromethan...	3.40	85	3510	0.104	ng	#	93
4) Chloromethane	3.55	50	2452m	0.135	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.64	135	1721	0.097	ng		89
6) Vinyl Chloride	3.73	62	2097	0.101	ng		90
7) 1,3-Butadiene	3.85	54	1857	0.142	ng		90
8) Bromomethane	4.06	94	1521	0.089	ng		98
9) Chloroethane	4.19	64	1227	0.104	ng		92
10) Ethanol	4.30	45	7394	0.653	ng		84
11) Acetonitrile	4.47	41	3072	0.109	ng	#	1
12) Acrolein	4.56	56	2350	0.214	ng		96
13) Acetone	4.65	58	6890	0.562	ng		87
14) Trichlorofluoromethane	4.78	101	2977	0.098	ng		100
15) 2-Propanol (Isopropanol)	4.86	45	8463	0.221	ng		100
16) Acrylonitrile	5.01	53	3436	0.167	ng		98
17) 1,1-Dichloroethene	5.28	96	1320	0.075	ng		98
18) 2-Methyl-2-Propanol (t...	5.35	59	7173	0.236	ng		92
19) Methylene Chloride	5.36	84	1743	0.088	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	2953	0.132	ng		76
21) Trichlorotrifluoroethane	5.59	151	1202	0.075	ng		89
22) Carbon Disulfide	5.64	76	13063	0.210	ng		95
23) trans-1,2-Dichloroethene	6.15	61	2159	0.095	ng		91
24) 1,1-Dichloroethane	6.32	63	2876	0.098	ng		98
25) Methyl tert-Butyl Ether	6.40	73	4771	0.118	ng		97
26) Vinyl Acetate	6.45	86	1046	0.318	ng	#	1
27) 2-Butanone (MEK)	6.69	72	1746	0.155	ng	#	22
28) cis-1,2-Dichloroethene	7.08	61	2075	0.095	ng		100
29) Diisopropyl Ether	7.30	87	2564	0.188	ng	#	82
30) Ethyl Acetate	7.30	61	974	0.162	ng		100
31) n-Hexane	7.31	57	2789	0.109	ng	#	97
32) Chloroform	7.35	83	2964	0.100	ng		99
34) Tetrahydrofuran (THF)	7.77	72	1924	0.182	ng	#	89
35) Ethyl tert-Butyl Ether	7.84	87	3512	0.181	ng		93
36) 1,2-Dichloroethane	8.11	62	2227	0.106	ng		92
38) 1,1,1-Trichloroethane	8.40	97	2577	0.102	ng		95
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	8502	0.115	ng		95
42) Carbon Tetrachloride	9.07	117	2217	0.098	ng		99
43) Cyclohexane	9.22	84	5110	0.206	ng		100
44) tert-Amyl Methyl Ether	9.62	73	8373	0.194	ng		94
45) 1,2-Dichloropropane	9.85	63	1810	0.110	ng		91
46) Bromodichloromethane	10.07	83	2250	0.106	ng		90
47) Trichloroethene	10.14	130	1737	0.087	ng		96
48) 1,4-Dioxane	10.14	88	784	0.072	ng		75

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072503.D
Acq On : 7 Mar 2025 18:23
Operator : SC
Sample : 0.1ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 07 23:27:27 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

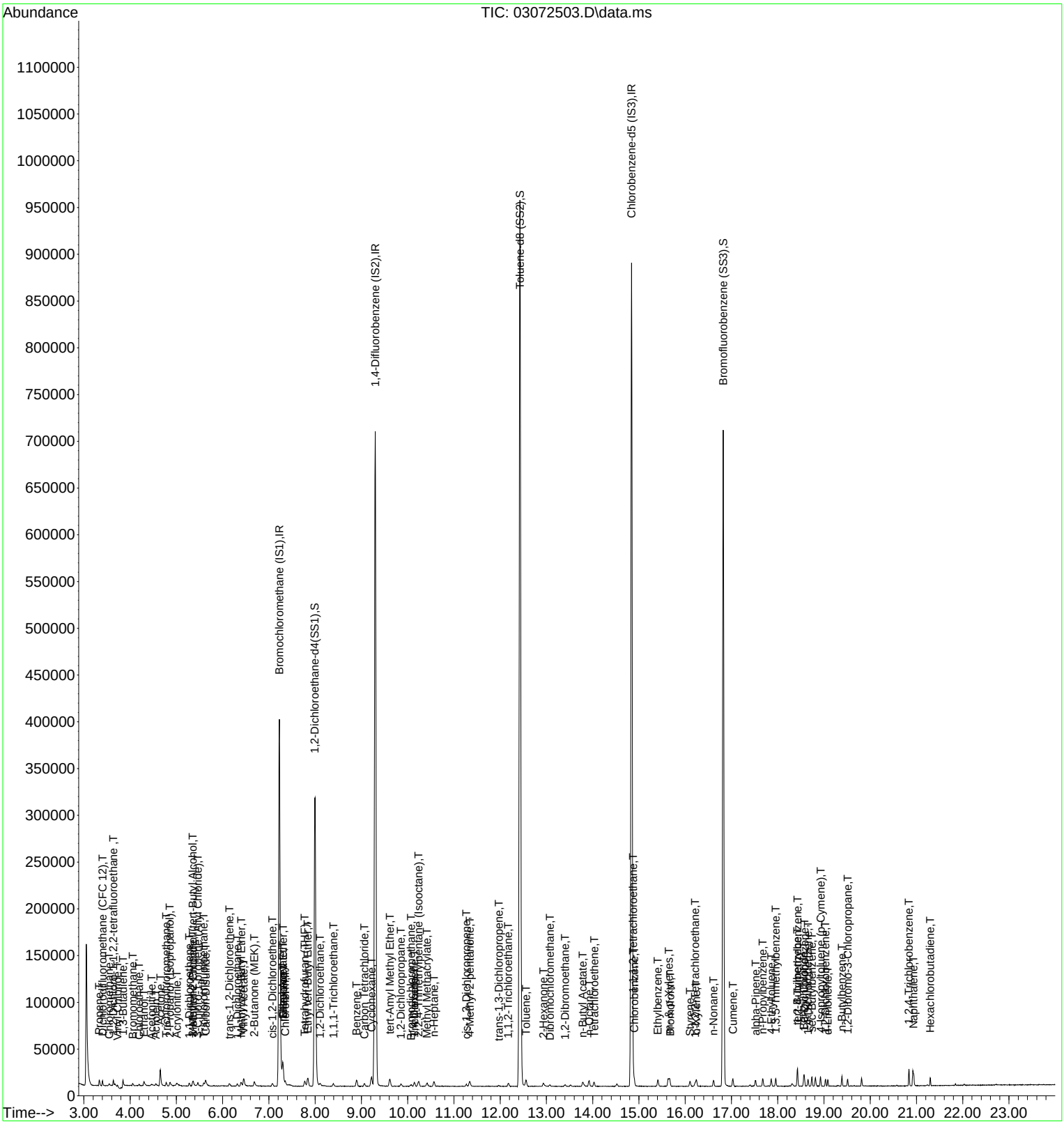
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	7009	0.110 ng		96
50) Methyl Methacrylate	10.42	100	828	0.138 ng	#	66
51) n-Heptane	10.57	71	1588	0.098 ng		93
52) cis-1,3-Dichloropropene	11.27	75	2383	0.091 ng		97
53) 4-Methyl-2-pentanone	11.34	58	2302	0.181 ng		80
54) trans-1,3-Dichloropropene	11.97	75	1352	0.067 ng		67
55) 1,1,2-Trichloroethane	12.17	97	1645	0.096 ng		99
58) Toluene	12.56	91	7630	0.091 ng		95
59) 2-Hexanone	12.94	43	4597	0.157 ng		85
60) Dibromochloromethane	13.07	129	1598	0.071 ng		99
61) 1,2-Dibromoethane	13.40	107	1758	0.076 ng		94
62) n-Butyl Acetate	13.78	43	5455	0.166 ng		91
63) n-Octane	13.93	57	1331	0.087 ng		92
64) Tetrachloroethene	14.03	166	1880	0.074 ng		99
65) Chlorobenzene	14.90	112	4882	0.083 ng		97
66) Ethylbenzene	15.41	91	7671	0.086 ng		98
67) m- & p-Xylenes	15.65	91	11948	0.170 ng		98
68) Bromoform	15.67	173	1278	0.073 ng		87
69) Styrene	16.11	104	3968	0.078 ng		98
70) o-Xylene	16.24	91	5883	0.083 ng		95
71) n-Nonane	16.61	43	3033	0.100 ng		91
72) 1,1,2,2-Tetrachloroethane	16.21	83	3116	0.087 ng		97
74) Cumene	17.03	105	7167	0.080 ng		98
75) alpha-Pinene	17.53	93	3522	0.080 ng		76
76) n-Propylbenzene	17.68	91	8727	0.083 ng		96
77) 3-Ethyltoluene	17.03	105	7167	No Calib		
78) 4-Ethyltoluene	17.86	105	6276	0.075 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	5894	0.082 ng		96
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	7167	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	5777	0.082 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	6946	0.144 ng		96
85) 1,3-Dichlorobenzene	18.58	146	3688	0.081 ng		96
86) 1,4-Dichlorobenzene	18.66	146	3691	0.079 ng		97
87) sec-Butylbenzene	18.74	105	7761	0.079 ng		98
88) 4-Isopropyltoluene (p-...	18.93	119	6483	0.081 ng		97
89) 1,2,3-Trimethylbenzene	17.03	105	7167	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	3627	0.078 ng		99
91) d-Limonene	19.08	68	1877	0.081 ng		93
92) 1,2-Dibromo-3-Chloropr...	19.51	157	2156	0.153 ng		95
93) n-Undecane	0.00	58	0	N.D.		
94) 1,2,4-Trichlorobenzene	20.84	180	5455	0.199 ng		98
95) Naphthalene	20.94	128	8248	0.120 ng		97
96) n-Dodecane	0.00	58	0	N.D.		
97) Hexachlorobutadiene	21.30	225	1632	0.076 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	5746	0.084 ng		94
100) n-Butylbenzene	19.39	91	5976	0.081 ng		98
101) 1,1,1,2-Tetrachloroethane	14.87	131	1505	0.079 ng	#	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072503.D
Acq On : 7 Mar 2025 18:23
Operator : SC
Sample : 0.1ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

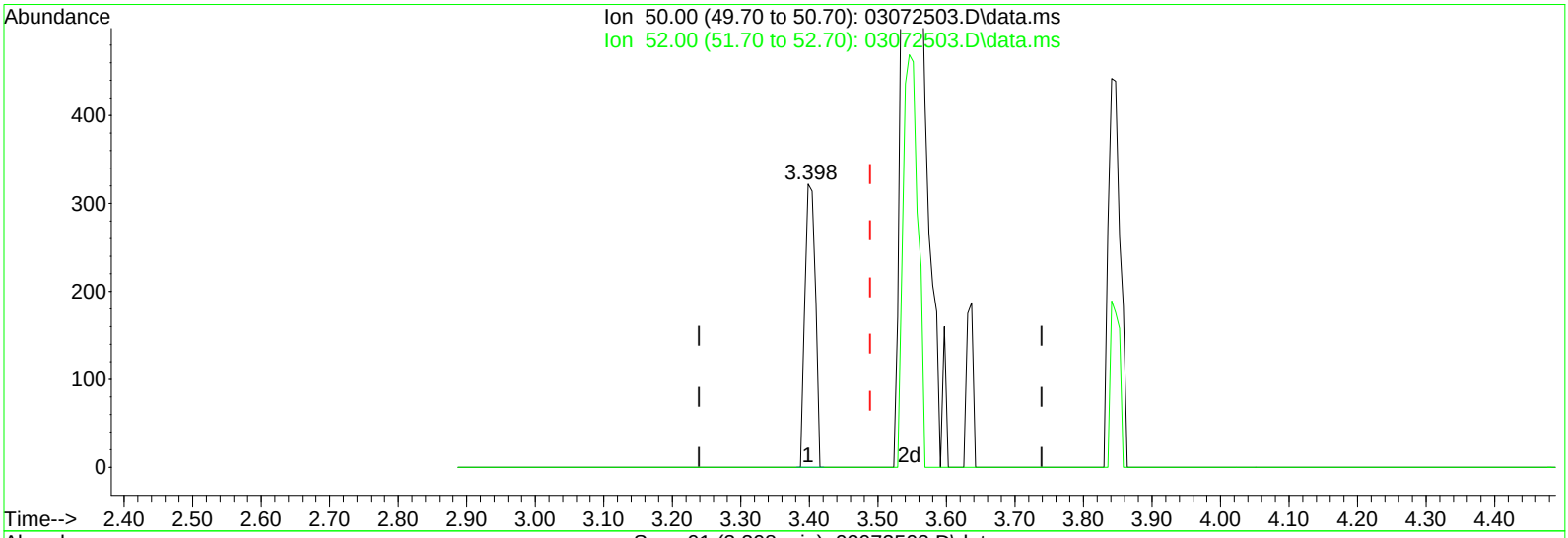
Quant Time: Mar 07 23:27:27 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

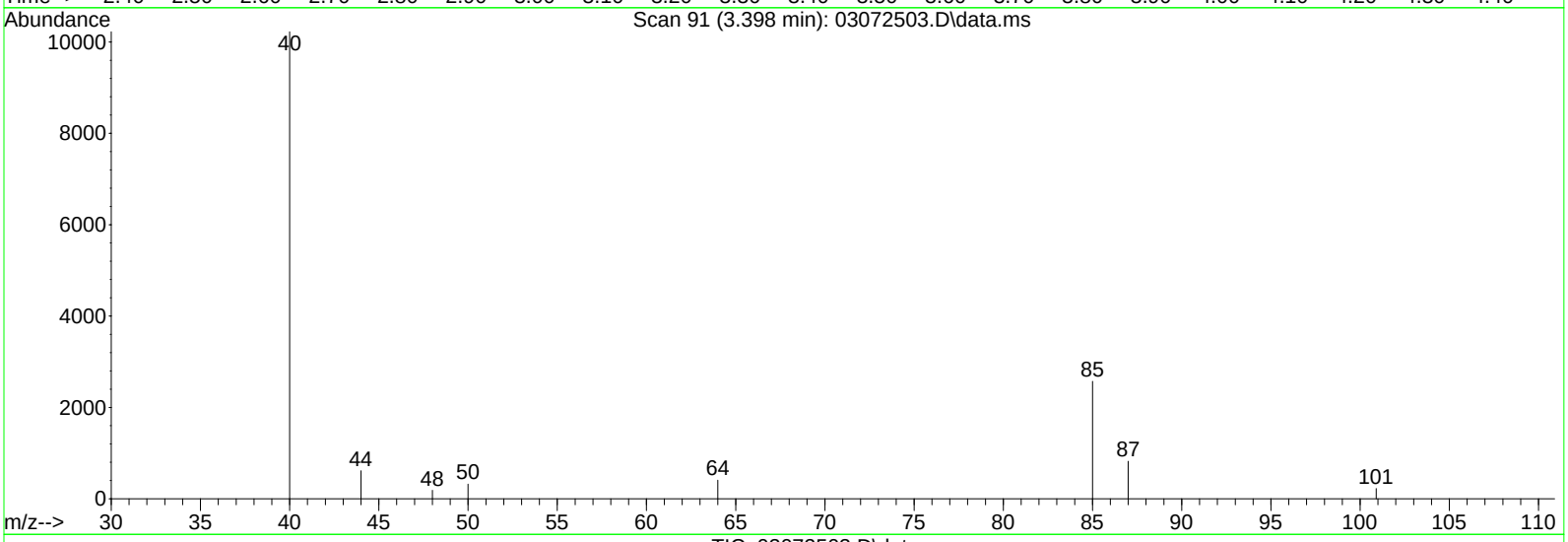


Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072503.D
Acq On : 7 Mar 2025 18:23
Operator : SC
Sample : 0.1ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 07 23:25:51 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration





TIC: 03072503.D\data.ms

(4) Chloromethane (T)

3.398min (-0.091) 0.02ng

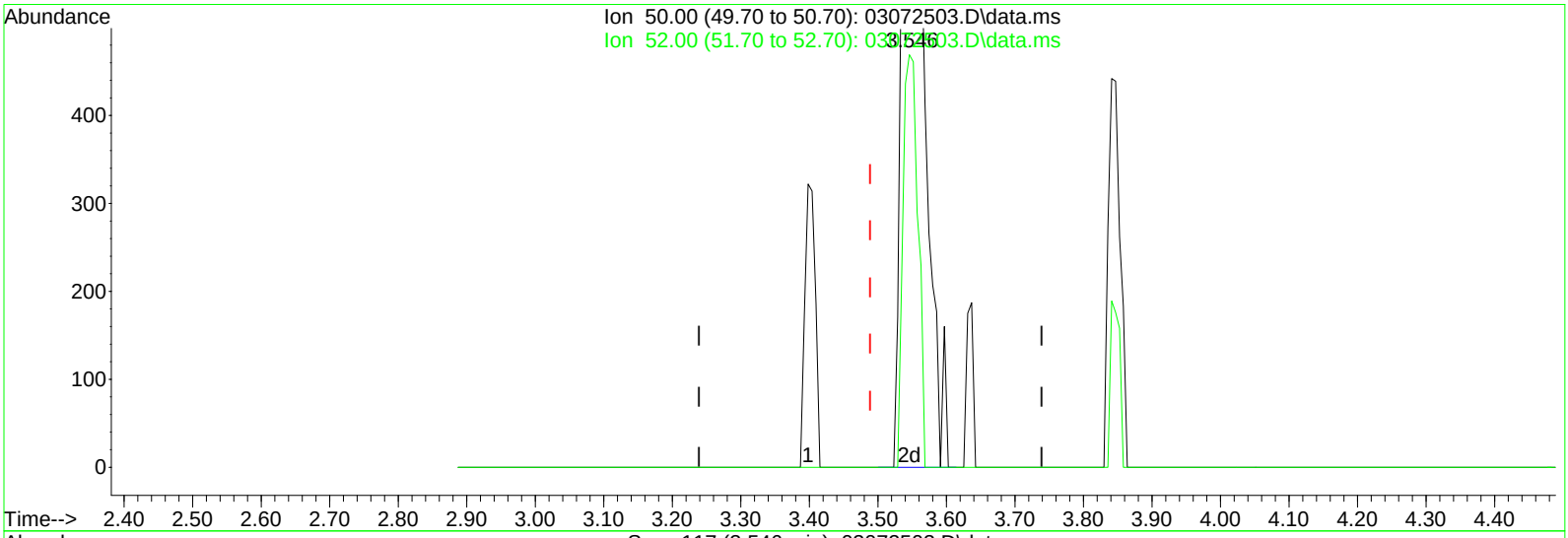
response 339

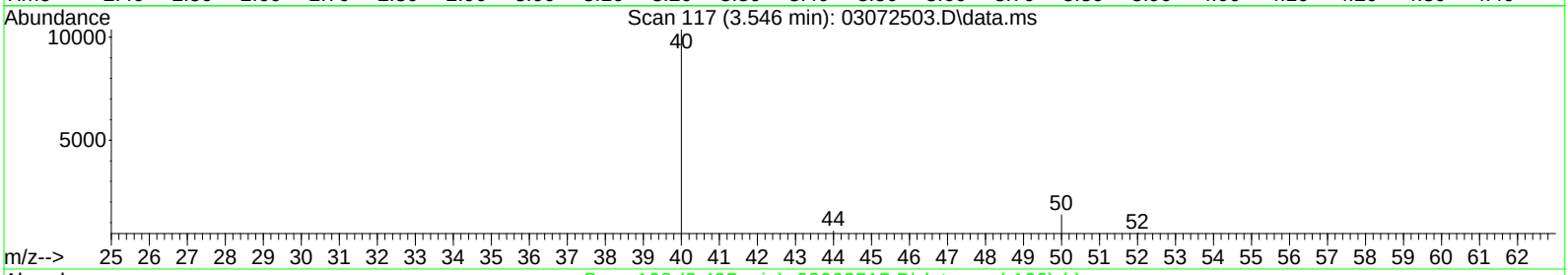
Ion	Exp%	Act%
50.00	100	100
52.00	33.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

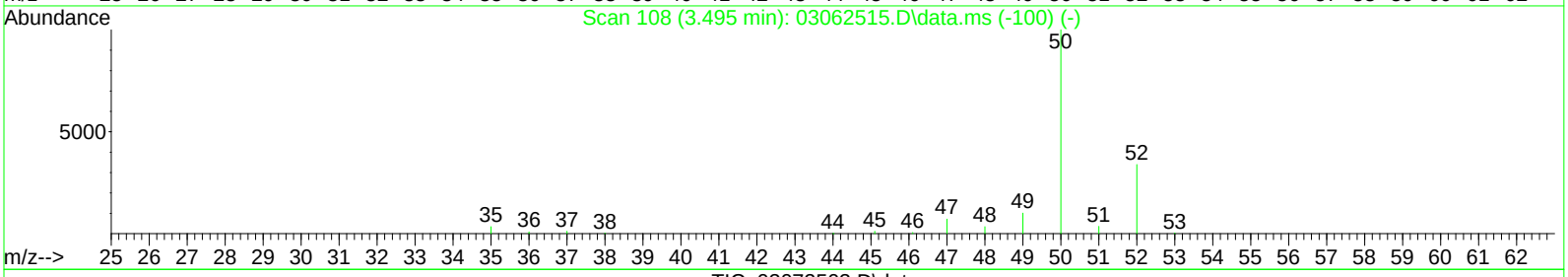
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072503.D
Acq On : 7 Mar 2025 18:23
Operator : SC
Sample : 0.1ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 07 23:25:51 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration







TIC: 03072503.D\data.ms

(4) Chloromethane (T)

3.546min (+0.057) 0.13ng m

response 2452

Ion	Exp%	Act%
50.00	100	100
52.00	33.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

LH 3/7/25

3/9/25

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072504.D
Acq On : 7 Mar 2025 18:56
Operator : SC
Sample : 0.2ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:29:39 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	170492	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	738770	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	121652	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	255267	14.159	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 113.28%				
57) Toluene-d8 (SS2)	12.43	98	826115	10.854	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.80%				
73) Bromofluorobenzene (SS3)	16.82	174	243049	9.901	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.20%				
Target Compounds							Qvalue
2) Propene	3.33	42	3804	0.255	ng		98
3) Dichlorodifluoromethan...	3.40	85	7014	0.212	ng		98
4) Chloromethane	3.54	50	4135m	0.232	ng		
5) 1,2-Dichloro-1,1,2,2-t...	3.64	135	3563	0.205	ng		99
6) Vinyl Chloride	3.72	62	4536	0.224	ng		94
7) 1,3-Butadiene	3.84	54	3162	0.246	ng		96
8) Bromomethane	4.05	94	3276	0.196	ng		97
9) Chloroethane	4.19	64	2631	0.228	ng		95
10) Ethanol	4.29	45	14523	1.308	ng		90
11) Acetonitrile	4.46	41	6400	0.232	ng	#	1
12) Acrolein	4.55	56	4907	0.456	ng		97
13) Acetone	4.64	58	13009	1.083	ng		85
14) Trichlorofluoromethane	4.78	101	6102	0.205	ng		99
15) 2-Propanol (Isopropanol)	4.85	45	17215	0.459	ng		79
16) Acrylonitrile	5.01	53	8109	0.403	ng		97
17) 1,1-Dichloroethene	5.28	96	2885	0.168	ng		99
18) 2-Methyl-2-Propanol (t...	5.35	59	12819	0.430	ng		94
19) Methylene Chloride	5.36	84	3507	0.181	ng		99
20) 3-Chloro-1-propene (Al...	5.47	41	5194	0.236	ng		85
21) Trichlorotrifluoroethane	5.60	151	2529	0.161	ng		98
22) Carbon Disulfide	5.63	76	26411	0.434	ng		96
23) trans-1,2-Dichloroethene	6.15	61	4620	0.208	ng		99
24) 1,1-Dichloroethane	6.32	63	6123	0.212	ng		97
25) Methyl tert-Butyl Ether	6.40	73	9100	0.229	ng		99
26) Vinyl Acetate	6.45	86	2830	0.877	ng	#	74
27) 2-Butanone (MEK)	6.67	72	4003	0.363	ng	#	86
28) cis-1,2-Dichloroethene	7.08	61	4458	0.209	ng		99
29) Diisopropyl Ether	7.29	87	5611	0.419	ng		96
30) Ethyl Acetate	7.29	61	2353	0.398	ng		89
31) n-Hexane	7.30	57	5647	0.224	ng		99
32) Chloroform	7.36	83	6068	0.209	ng		100
34) Tetrahydrofuran (THF)	7.76	72	3801	0.367	ng		91
35) Ethyl tert-Butyl Ether	7.84	87	7316	0.383	ng		94
36) 1,2-Dichloroethane	8.11	62	4349	0.211	ng		97
38) 1,1,1-Trichloroethane	8.39	97	5045	0.201	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	15481	0.212	ng		99
42) Carbon Tetrachloride	9.07	117	4431	0.199	ng		98
43) Cyclohexane	9.22	84	10388	0.422	ng		100
44) tert-Amyl Methyl Ether	9.61	73	17370	0.406	ng		97
45) 1,2-Dichloropropane	9.86	63	3640	0.224	ng		96
46) Bromodichloromethane	10.08	83	4450	0.212	ng		98
47) Trichloroethene	10.14	130	3645	0.185	ng		98
48) 1,4-Dioxane	10.14	88	1941	0.180	ng		97

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072504.D
Acq On : 7 Mar 2025 18:56
Operator : SC
Sample : 0.2ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 07 23:29:39 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

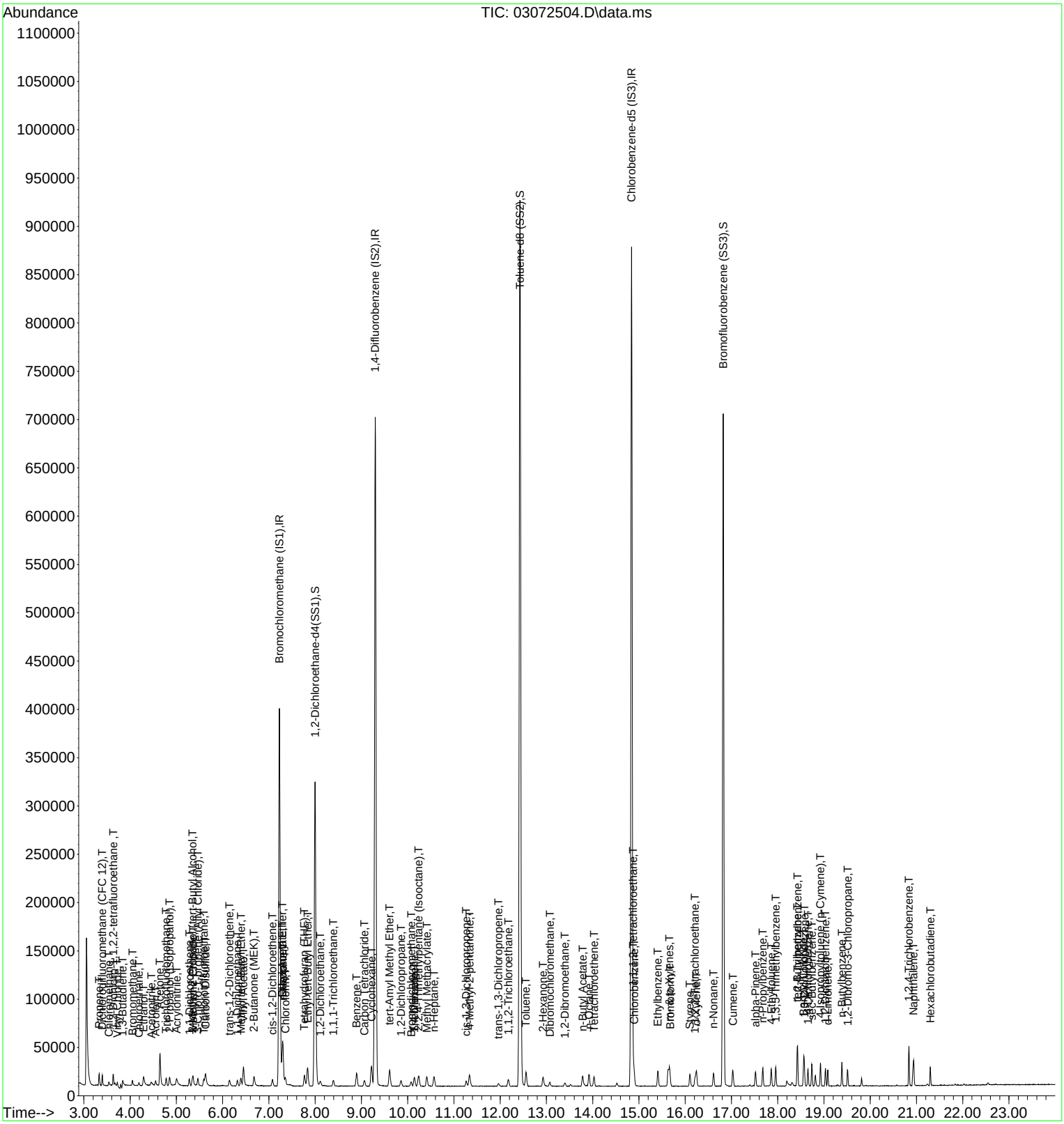
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	14280	0.227 ng		99
50) Methyl Methacrylate	10.42	100	2087	0.351 ng	#	86
51) n-Heptane	10.57	71	3255	0.204 ng		99
52) cis-1,3-Dichloropropene	11.26	75	5167	0.199 ng		96
53) 4-Methyl-2-pentanone	11.34	58	5136	0.408 ng		88
54) trans-1,3-Dichloropropene	11.96	75	3495	0.175 ng		92
55) 1,1,2-Trichloroethane	12.18	97	3376	0.198 ng		99
58) Toluene	12.56	91	14689	0.179 ng		99
59) 2-Hexanone	12.93	43	10154	0.352 ng		90
60) Dibromochloromethane	13.07	129	3526	0.159 ng		96
61) 1,2-Dibromoethane	13.40	107	3677	0.161 ng		98
62) n-Butyl Acetate	13.78	43	11648	0.362 ng		94
63) n-Octane	13.92	57	2778	0.185 ng		98
64) Tetrachloroethene	14.03	166	3886	0.155 ng		97
65) Chlorobenzene	14.90	112	10045	0.174 ng		99
66) Ethylbenzene	15.41	91	15929	0.182 ng		98
67) m- & p-Xylenes	15.66	91	24775	0.359 ng		99
68) Bromoform	15.67	173	2695	0.157 ng		98
69) Styrene	16.10	104	8404	0.168 ng		98
70) o-Xylene	16.24	91	12528	0.180 ng		97
71) n-Nonane	16.61	43	5843	0.197 ng		95
72) 1,1,2,2-Tetrachloroethane	16.21	83	6340	0.179 ng		100
74) Cumene	17.03	105	14595	0.166 ng		99
75) alpha-Pinene	17.52	93	7192	0.167 ng		86
76) n-Propylbenzene	17.68	91	17797	0.172 ng		98
77) 3-Ethyltoluene	17.03	105	14595	No Calib		
78) 4-Ethyltoluene	17.86	105	13522	0.164 ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	12389	0.177 ng		97
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	14595	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	12547	0.181 ng		98
83) n-Decane	0.00	58	0	N.D.		
84) Benzyl Chloride	18.56	91	16434	0.348 ng		97
85) 1,3-Dichlorobenzene	18.58	146	7690	0.171 ng		100
86) 1,4-Dichlorobenzene	18.66	146	7598	0.166 ng		100
87) sec-Butylbenzene	18.74	105	16607	0.172 ng		98
88) 4-Isopropyltoluene (p-...	18.92	119	13563	0.172 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	14595	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	7656	0.168 ng		97
91) d-Limonene	19.08	68	3893	0.171 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.51	157	4664	0.337 ng		93
93) n-Undecane	17.96	58	224	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	11535	0.429 ng		100
95) Naphthalene	20.94	128	18331	0.271 ng		98
96) n-Dodecane	18.92	58	613	No Calib	#	
97) Hexachlorobutadiene	21.30	225	3454	0.165 ng		97
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	12128	0.180 ng		97
100) n-Butylbenzene	19.39	91	13093	0.180 ng		97
101) 1,1,1,2-Tetrachloroethane	14.87	131	3164	0.168 ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

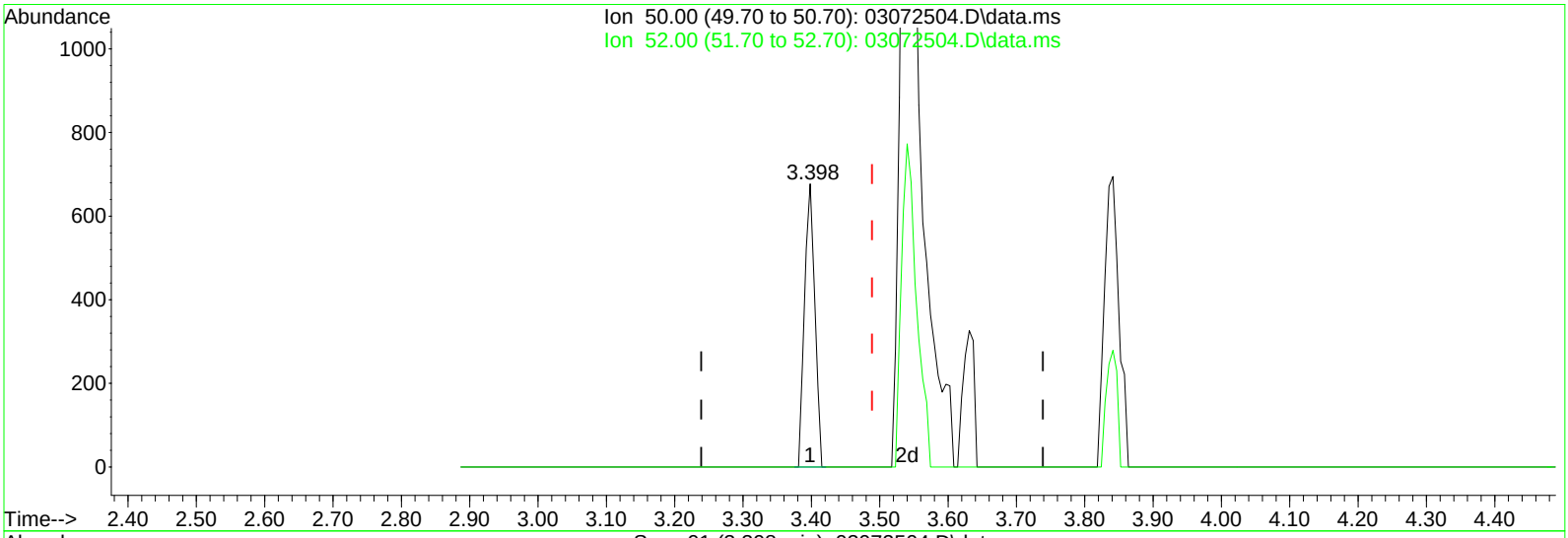
Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072504.D
Acq On : 7 Mar 2025 18:56
Operator : SC
Sample : 0.2ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

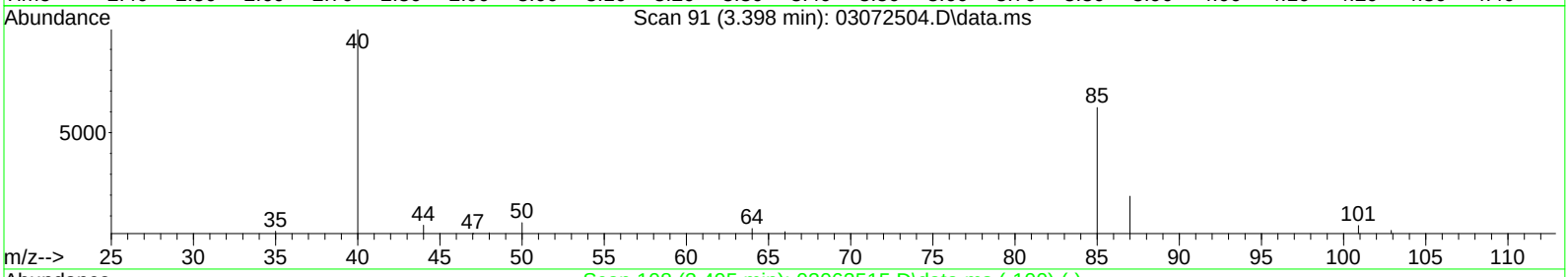
Quant Time: Mar 07 23:29:39 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

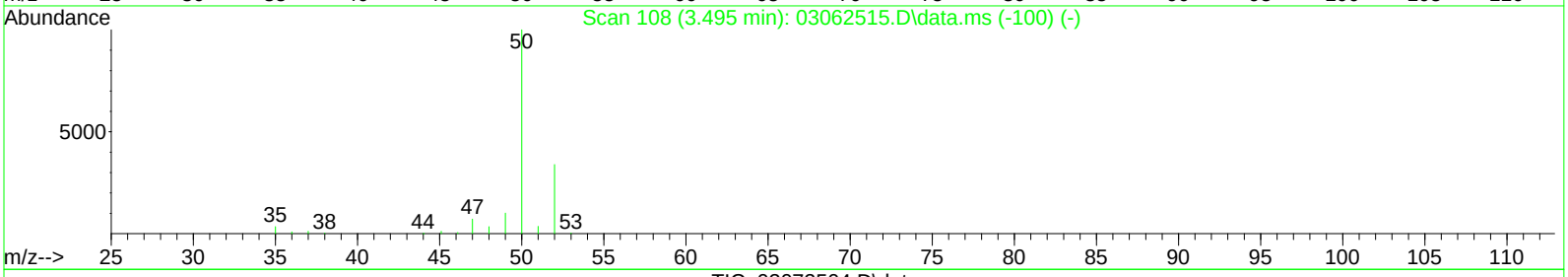


Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072504.D
Acq On : 7 Mar 2025 18:56
Operator : SC
Sample : 0.2ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 07 23:25:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration







TIC: 03072504.D\data.ms

(4) Chloromethane (T)

3.398min (-0.091) 0.04ng

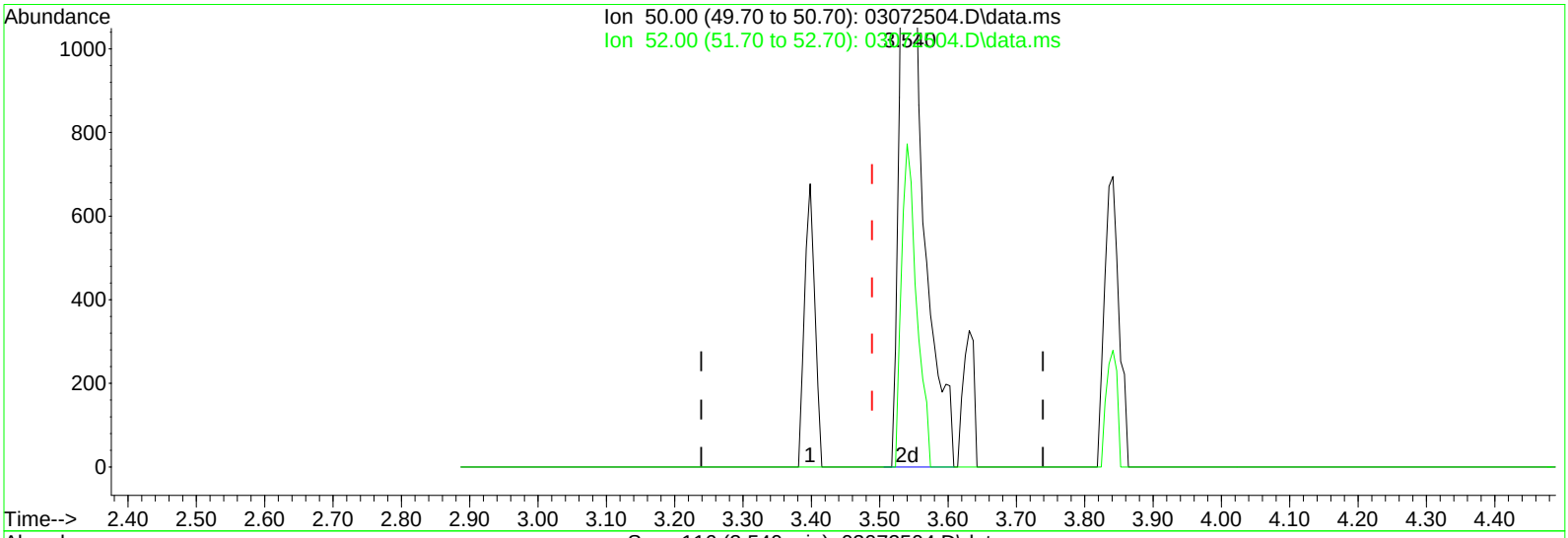
response 708

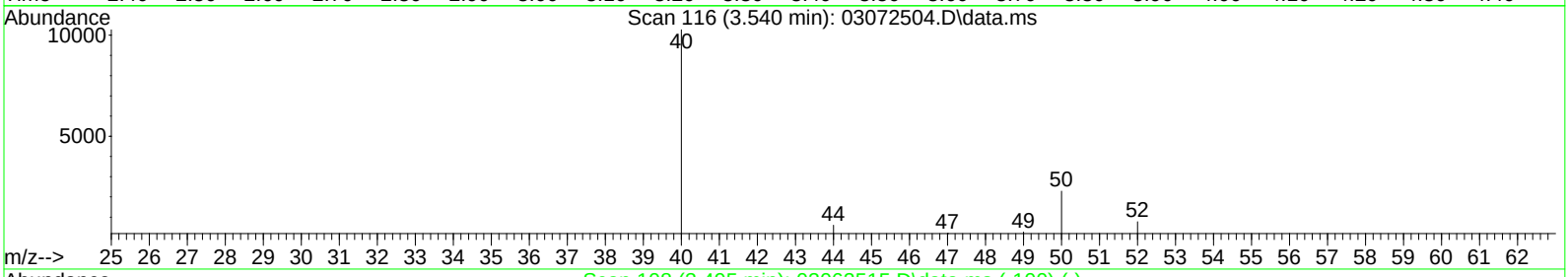
Ion	Exp%	Act%
50.00	100	100
52.00	33.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

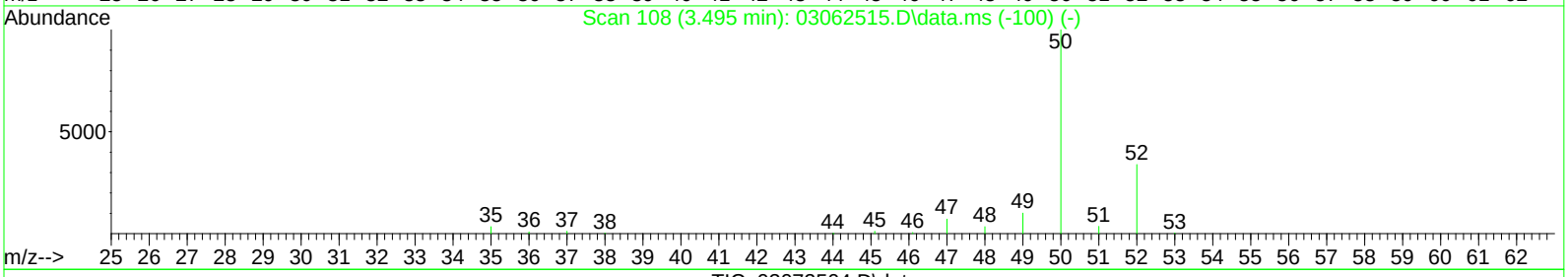
Quantitation Report (Qedit)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072504.D
Acq On : 7 Mar 2025 18:56
Operator : SC
Sample : 0.2ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072503 (4/6)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Mar 07 23:25:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration







TIC: 03072504.D\data.ms

(4) Chloromethane (T)

3.540min (+0.051) 0.23ng m

response 4135

Ion	Exp%	Act%
50.00	100	100
52.00	33.70	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

MP

LH 3/7/25

3/9/25

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072505.D
Acq On : 7 Mar 2025 19:28
Operator : SC
Sample : 0.5ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:25:56 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	171156	12.500	ng		-0.05
37) 1,4-Difluorobenzene (IS2)	9.30	114	739713	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	120874	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	7.99	65	254008	14.034	ng		-0.05
Spiked Amount 12.500	Range 70 - 130		Recovery = 112.24%				
57) Toluene-d8 (SS2)	12.43	98	827036	10.936	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	16.82	174	242142	9.927	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.44%				
Target Compounds							Qvalue
2) Propene	3.31	42	9169	0.612	ng		98
3) Dichlorodifluoromethan...	3.38	85	17679	0.531	ng		97
4) Chloromethane	3.52	50	11266	0.630	ng		95
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	8761	0.501	ng		99
6) Vinyl Chloride	3.70	62	12332	0.606	ng		98
7) 1,3-Butadiene	3.82	54	8032	0.624	ng		98
8) Bromomethane	4.03	94	8097	0.483	ng		100
9) Chloroethane	4.18	64	6573	0.566	ng		98
10) Ethanol	4.28	45	35121	3.150	ng		98
11) Acetonitrile	4.44	41	15317	0.553	ng		93
12) Acrolein	4.53	56	12347	1.144	ng		97
13) Acetone	4.62	58	32486	2.693	ng		93
14) Trichlorofluoromethane	4.77	101	15222	0.510	ng		98
15) 2-Propanol (Isopropanol)	4.83	45	43489	1.154	ng		87
16) Acrylonitrile	4.99	53	22206	1.099	ng		96
17) 1,1-Dichloroethene	5.27	96	7260	0.421	ng		100
18) 2-Methyl-2-Propanol (t...	5.32	59	39634	1.324	ng		95
19) Methylene Chloride	5.35	84	8442	0.434	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	15087	0.684	ng		82
21) Trichlorotrifluoroethane	5.58	151	6298	0.400	ng		99
22) Carbon Disulfide	5.61	76	65613	1.073	ng		98
23) trans-1,2-Dichloroethene	6.14	61	11723	0.526	ng		99
24) 1,1-Dichloroethane	6.31	63	15092	0.521	ng		98
25) Methyl tert-Butyl Ether	6.38	73	24241	0.608	ng		98
26) Vinyl Acetate	6.44	86	7575	2.338	ng	#	80
27) 2-Butanone (MEK)	6.66	72	10943	0.988	ng	#	87
28) cis-1,2-Dichloroethene	7.07	61	11498	0.537	ng		98
29) Diisopropyl Ether	7.29	87	13794	1.027	ng		94
30) Ethyl Acetate	7.29	61	6105	1.029	ng		98
31) n-Hexane	7.30	57	14336	0.567	ng		99
32) Chloroform	7.35	83	15299	0.526	ng		99
34) Tetrahydrofuran (THF)	7.75	72	9698	0.932	ng		95
35) Ethyl tert-Butyl Ether	7.83	87	19259	1.005	ng		98
36) 1,2-Dichloroethane	8.11	62	10829	0.523	ng		98
38) 1,1,1-Trichloroethane	8.38	97	12720	0.506	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	35618	0.487	ng		99
42) Carbon Tetrachloride	9.06	117	11406	0.511	ng		99
43) Cyclohexane	9.21	84	25974	1.054	ng		100
44) tert-Amyl Methyl Ether	9.60	73	44928	1.048	ng		98
45) 1,2-Dichloropropane	9.85	63	9174	0.563	ng		98
46) Bromodichloromethane	10.08	83	11368	0.542	ng		97
47) Trichloroethene	10.14	130	9317	0.472	ng		100
48) 1,4-Dioxane	10.13	88	6237	0.576	ng		98

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072505.D
Acq On : 7 Mar 2025 19:28
Operator : SC
Sample : 0.5ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 07 23:25:56 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

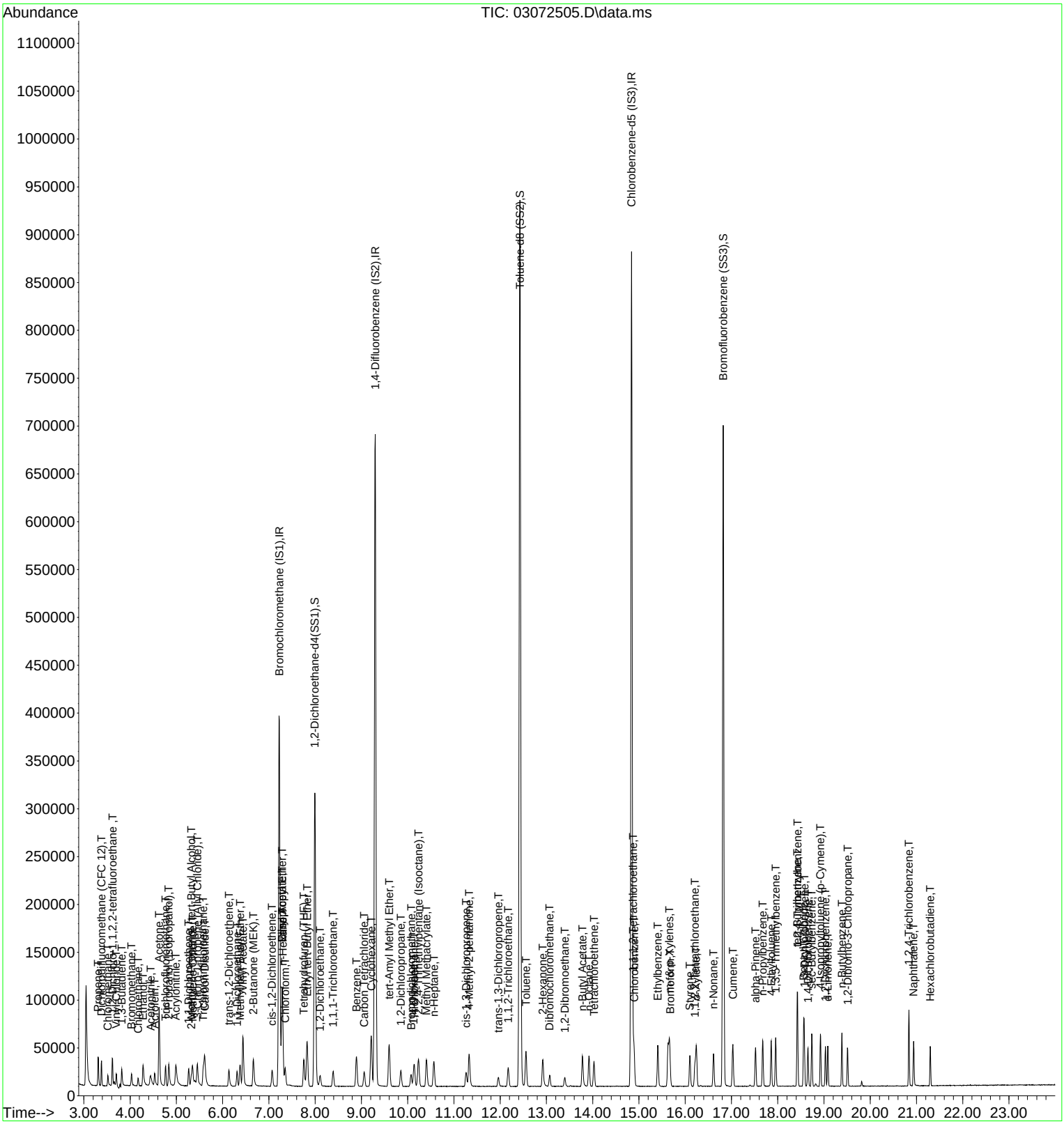
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	35729	0.567 ng		99
50) Methyl Methacrylate	10.41	100	5817	0.978 ng		95
51) n-Heptane	10.57	71	8637	0.541 ng		100
52) cis-1,3-Dichloropropene	11.26	75	13418	0.515 ng		98
53) 4-Methyl-2-pentanone	11.33	58	14033	1.112 ng		92
54) trans-1,3-Dichloropropene	11.96	75	9214	0.462 ng		93
55) 1,1,2-Trichloroethane	12.17	97	8864	0.520 ng		99
58) Toluene	12.56	91	36684	0.450 ng		99
59) 2-Hexanone	12.92	43	27463	0.959 ng		96
60) Dibromochloromethane	13.07	129	8949	0.405 ng		98
61) 1,2-Dibromoethane	13.40	107	9268	0.408 ng		99
62) n-Butyl Acetate	13.78	43	30498	0.953 ng		97
63) n-Octane	13.92	57	7295	0.488 ng		97
64) Tetrachloroethene	14.03	166	9817	0.394 ng		100
65) Chlorobenzene	14.90	112	23916	0.418 ng		98
66) Ethylbenzene	15.41	91	38977	0.449 ng		100
67) m- & p-Xylenes	15.66	91	61452	0.897 ng		99
68) Bromoform	15.67	173	6970	0.409 ng		97
69) Styrene	16.10	104	20757	0.419 ng		98
70) o-Xylene	16.24	91	31179	0.452 ng		98
71) n-Nonane	16.61	43	14421	0.489 ng		96
72) 1,1,2,2-Tetrachloroethane	16.21	83	15520	0.442 ng		100
74) Cumene	17.03	105	36563	0.419 ng		97
75) alpha-Pinene	17.52	93	18507	0.432 ng		98
76) n-Propylbenzene	17.67	91	43889	0.426 ng		98
77) 3-Ethyltoluene	17.03	105	36563	No Calib		
78) 4-Ethyltoluene	17.86	105	34501	0.421 ng		97
79) 1,3,5-Trimethylbenzene	17.96	105	30054	0.431 ng		99
80) alpha-Methylstyrene	0.00	118	0	N.D.		
81) 2-Ethyltoluene	17.03	105	36563	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	29751	0.431 ng		100
83) n-Decane	17.02	58	222	No Calib	#	
84) Benzyl Chloride	18.56	91	38203	0.814 ng		97
85) 1,3-Dichlorobenzene	18.58	146	17789	0.398 ng		99
86) 1,4-Dichlorobenzene	18.66	146	17642	0.389 ng		98
87) sec-Butylbenzene	18.74	105	39994	0.416 ng		98
88) 4-Isopropyltoluene (p-...	18.92	119	31688	0.404 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	36563	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	17206	0.381 ng		98
91) d-Limonene	19.08	68	9540	0.422 ng		96
92) 1,2-Dibromo-3-Chloropr...	19.51	157	10838	0.787 ng		98
93) n-Undecane	17.96	58	748	No Calib	#	
94) 1,2,4-Trichlorobenzene	20.84	180	21858	0.817 ng		98
95) Naphthalene	20.94	128	31725	0.471 ng		97
96) n-Dodecane	18.92	58	1156	No Calib	#	
97) Hexachlorobutadiene	21.30	225	7224	0.347 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	28938	0.432 ng		98
100) n-Butylbenzene	19.39	91	30102	0.417 ng		97
101) 1,1,1,2-Tetrachloroethane	14.87	131	7995	0.428 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072505.D
Acq On : 7 Mar 2025 19:28
Operator : SC
Sample : 0.5ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 07 23:25:56 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072506.D
Acq On : 7 Mar 2025 20:00
Operator : SC
Sample : 1.0ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:25:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.23	130	170454	12.500	ng		-0.04
37) 1,4-Difluorobenzene (IS2)	9.30	114	734292	12.500	ng		-0.03
56) Chlorobenzene-d5 (IS3)	14.84	54	120690	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.00	65	250209	13.881	ng		-0.04
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.04%				
57) Toluene-d8 (SS2)	12.43	98	822656	10.894	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.12%				
73) Bromofluorobenzene (SS3)	16.82	174	242389	9.952	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.60%				
Target Compounds							Qvalue
2) Propene	3.31	42	17998	1.206	ng		99
3) Dichlorodifluoromethan...	3.38	85	34731	1.048	ng		99
4) Chloromethane	3.52	50	17594	0.987	ng		99
5) 1,2-Dichloro-1,1,2,2-t...	3.62	135	17603	1.011	ng		100
6) Vinyl Chloride	3.70	62	25711	1.268	ng		98
7) 1,3-Butadiene	3.81	54	15155	1.182	ng		99
8) Bromomethane	4.03	94	16557	0.992	ng		98
9) Chloroethane	4.17	64	13246	1.146	ng		98
10) Ethanol	4.29	45	69633	6.272	ng		100
11) Acetonitrile	4.44	41	30445	1.103	ng		81
12) Acrolein	4.53	56	25255	2.350	ng		99
13) Acetone	4.62	58	64853	5.398	ng		94
14) Trichlorofluoromethane	4.77	101	30019	1.010	ng		100
15) 2-Propanol (Isopropanol)	4.84	45	86093	2.295	ng		91
16) Acrylonitrile	4.99	53	46979	2.336	ng		99
17) 1,1-Dichloroethene	5.27	96	14759	0.859	ng		99
18) 2-Methyl-2-Propanol (t...	5.32	59	66294	2.223	ng		93
19) Methylene Chloride	5.35	84	16782	0.867	ng		99
20) 3-Chloro-1-propene (Al...	5.45	41	27972	1.272	ng		89
21) Trichlorotrifluoroethane	5.58	151	12575	0.802	ng		99
22) Carbon Disulfide	5.61	76	132310	2.174	ng		98
23) trans-1,2-Dichloroethene	6.14	61	24188	1.090	ng		98
24) 1,1-Dichloroethane	6.32	63	30057	1.042	ng		100
25) Methyl tert-Butyl Ether	6.37	73	43146	1.087	ng		99
26) Vinyl Acetate	6.44	86	16809	5.210	ng	#	92
27) 2-Butanone (MEK)	6.67	72	22588	2.047	ng	#	91
28) cis-1,2-Dichloroethene	7.08	61	22961	1.077	ng		99
29) Diisopropyl Ether	7.29	87	27709	2.072	ng		94
30) Ethyl Acetate	7.29	61	12684	2.147	ng		100
31) n-Hexane	7.30	57	28967	1.151	ng		99
32) Chloroform	7.36	83	30178	1.041	ng		99
34) Tetrahydrofuran (THF)	7.75	72	19621	1.893	ng		98
35) Ethyl tert-Butyl Ether	7.83	87	38838	2.036	ng		97
36) 1,2-Dichloroethane	8.11	62	21591	1.046	ng		99
38) 1,1,1-Trichloroethane	8.39	97	25592	1.026	ng		99
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	0.00	56	0	N.D.			
41) Benzene	8.89	78	71259	0.982	ng		100
42) Carbon Tetrachloride	9.07	117	22489	1.015	ng		98
43) Cyclohexane	9.21	84	52134	2.132	ng		99
44) tert-Amyl Methyl Ether	9.60	73	91615	2.153	ng		98
45) 1,2-Dichloropropane	9.85	63	18011	1.114	ng		99
46) Bromodichloromethane	10.08	83	22977	1.103	ng		99
47) Trichloroethene	10.15	130	18781	0.958	ng		100
48) 1,4-Dioxane	10.12	88	13047	1.214	ng		99

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072506.D
Acq On : 7 Mar 2025 20:00
Operator : SC
Sample : 1.0ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 07 23:25:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

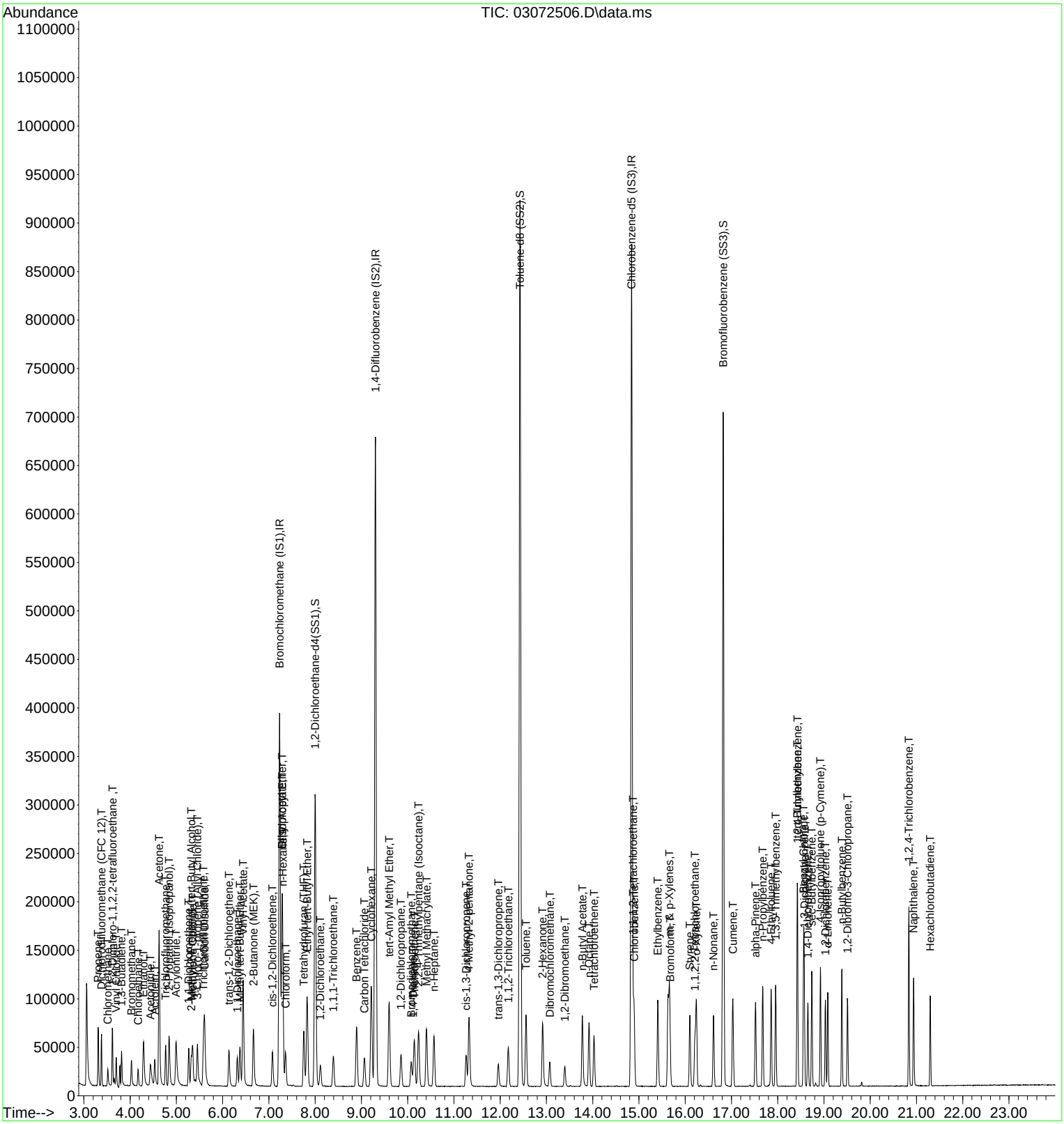
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.24	57	71404	1.141 ng		99
50) Methyl Methacrylate	10.41	100	12444	2.107 ng		98
51) n-Heptane	10.57	71	17099	1.078 ng		99
52) cis-1,3-Dichloropropene	11.26	75	28511	1.102 ng		99
53) 4-Methyl-2-pentanone	11.33	58	29563	2.361 ng		95
54) trans-1,3-Dichloropropene	11.96	75	20071	1.013 ng		98
55) 1,1,2-Trichloroethane	12.18	97	17833	1.054 ng		99
58) Toluene	12.56	91	72747	0.893 ng		99
59) 2-Hexanone	12.92	43	59424	2.078 ng		96
60) Dibromochloromethane	13.07	129	18501	0.838 ng		98
61) 1,2-Dibromoethane	13.40	107	19279	0.850 ng		100
62) n-Butyl Acetate	13.78	43	66734	2.089 ng		98
63) n-Octane	13.92	57	14463	0.969 ng		99
64) Tetrachloroethene	14.03	166	19602	0.787 ng		99
65) Chlorobenzene	14.90	112	48545	0.849 ng		99
66) Ethylbenzene	15.41	91	80832	0.932 ng		99
67) m- & p-Xylenes	15.66	91	126973	1.856 ng		100
68) Bromoform	15.67	173	14531	0.854 ng		98
69) Styrene	16.10	104	45224	0.913 ng		98
70) o-Xylene	16.24	91	63653	0.923 ng		99
71) n-Nonane	16.61	43	29808	1.012 ng		97
72) 1,1,2,2-Tetrachloroethane	16.21	83	32333	0.923 ng		100
74) Cumene	17.03	105	75287	0.865 ng		98
75) alpha-Pinene	17.52	93	39461	0.923 ng		98
76) n-Propylbenzene	17.67	91	92757	0.902 ng		98
77) 3-Ethyltoluene	17.03	105	75287	No Calib		
78) 4-Ethyltoluene	17.86	105	70108	0.856 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	63048	0.906 ng		100
80) alpha-Methylstyrene	17.03	118	263	No Calib	#	
81) 2-Ethyltoluene	17.03	105	75287	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	62901	0.912 ng		99
83) n-Decane	17.04	58	640	No Calib	#	
84) Benzyl Chloride	18.56	91	88770	1.894 ng		98
85) 1,3-Dichlorobenzene	18.58	146	37437	0.840 ng		100
86) 1,4-Dichlorobenzene	18.65	146	37053	0.818 ng		99
87) sec-Butylbenzene	18.74	105	83868	0.875 ng		99
88) 4-Isopropyltoluene (p-...	18.92	119	68441	0.874 ng		99
89) 1,2,3-Trimethylbenzene	17.03	105	75287	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	36782	0.815 ng		99
91) d-Limonene	19.08	68	21388	0.948 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	24458	1.779 ng		97
93) n-Undecane	17.96	58	1429	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	50789	1.902 ng		99
95) Naphthalene	20.94	128	75560	1.124 ng		98
96) n-Dodecane	18.92	58	2266	No Calib	#	
97) Hexachlorobutadiene	21.30	225	15863	0.763 ng		99
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	59663	0.892 ng		99
100) n-Butylbenzene	19.39	91	65391	0.907 ng		97
101) 1,1,1,2-Tetrachloroethane	14.87	131	16117	0.865 ng		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072506.D
Acq On : 7 Mar 2025 20:00
Operator : SC
Sample : 1.0ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 07 23:25:58 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072507.D
Acq On : 7 Mar 2025 20:32
Operator : SC
Sample : 5.0ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:26:00 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.25	130	170442	12.500	ng		-0.02
37) 1,4-Difluorobenzene (IS2)	9.31	114	729894	12.500	ng		-0.02
56) Chlorobenzene-d5 (IS3)	14.84	54	119829	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.01	65	247940	13.756	ng		-0.02
Spiked Amount 12.500	Range 70 - 130		Recovery = 110.08%				
57) Toluene-d8 (SS2)	12.43	98	820110	10.939	ng		-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 87.52%				
73) Bromofluorobenzene (SS3)	16.83	174	243112	10.054	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.40%				
Target Compounds							Qvalue
2) Propene	3.28	42	92017	6.168	ng		98
3) Dichlorodifluoromethan...	3.36	85	171858	5.186	ng		100
4) Chloromethane	3.49	50	73724	4.138	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	86812	4.985	ng		100
6) Vinyl Chloride	3.68	62	135927	6.704	ng		100
7) 1,3-Butadiene	3.79	54	73582	5.738	ng		99
8) Bromomethane	4.01	94	81008	4.856	ng		100
9) Chloroethane	4.15	64	67946	5.878	ng		99
10) Ethanol	4.32	45	357294	32.182	ng		99
11) Acetonitrile	4.44	41	158335	5.737	ng		100
12) Acrolein	4.52	56	134664	12.531	ng		99
13) Acetone	4.62	58	329486	27.427	ng		97
14) Trichlorofluoromethane	4.75	101	149382	5.026	ng		100
15) 2-Propanol (Isopropanol)	4.87	45	419659	11.186	ng		95
16) Acrylonitrile	5.00	53	241343	11.999	ng		99
17) 1,1-Dichloroethene	5.26	96	74706	4.350	ng		98
18) 2-Methyl-2-Propanol (t...	5.34	59	159101	5.335	ng		88
19) Methylene Chloride	5.36	84	84679	4.375	ng		100
20) 3-Chloro-1-propene (Al...	5.45	41	134417	6.115	ng		96
21) Trichlorotrifluoroethane	5.57	151	64009	4.082	ng		100
22) Carbon Disulfide	5.59	76	676453	11.114	ng		99
23) trans-1,2-Dichloroethene	6.14	61	127664	5.753	ng		100
24) 1,1-Dichloroethane	6.32	63	152840	5.301	ng		100
25) Methyl tert-Butyl Ether	6.36	73	193628	4.876	ng		99
26) Vinyl Acetate	6.45	86	93968	29.129	ng	#	94
27) 2-Butanone (MEK)	6.67	72	120143	10.889	ng		97
28) cis-1,2-Dichloroethene	7.09	61	118016	5.535	ng		100
29) Diisopropyl Ether	7.28	87	141328	10.566	ng		94
30) Ethyl Acetate	7.29	61	67957	11.505	ng		99
31) n-Hexane	7.30	57	147706	5.868	ng		99
32) Chloroform	7.37	83	152238	5.253	ng		100
34) Tetrahydrofuran (THF)	7.75	72	103063	9.944	ng		96
35) Ethyl tert-Butyl Ether	7.83	87	200210	10.496	ng		99
36) 1,2-Dichloroethane	8.12	62	109897	5.326	ng		100
38) 1,1,1-Trichloroethane	8.40	97	131136	5.289	ng		100
39) Isopropyl Acetate	0.00	61	0	N.D.			
40) 1-Butanol	8.84	56	511	No Calib		#	
41) Benzene	8.90	78	358374	4.968	ng		100
42) Carbon Tetrachloride	9.07	117	116438	5.288	ng		100
43) Cyclohexane	9.22	84	266246	10.951	ng		99
44) tert-Amyl Methyl Ether	9.60	73	476145	11.255	ng		99
45) 1,2-Dichloropropane	9.86	63	91323	5.680	ng		99
46) Bromodichloromethane	10.08	83	119629	5.779	ng		100
47) Trichloroethene	10.16	130	95790	4.918	ng		99
48) 1,4-Dioxane	10.12	88	68513	6.413	ng		97

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072507.D
Acq On : 7 Mar 2025 20:32
Operator : SC
Sample : 5.0ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 07 23:26:00 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

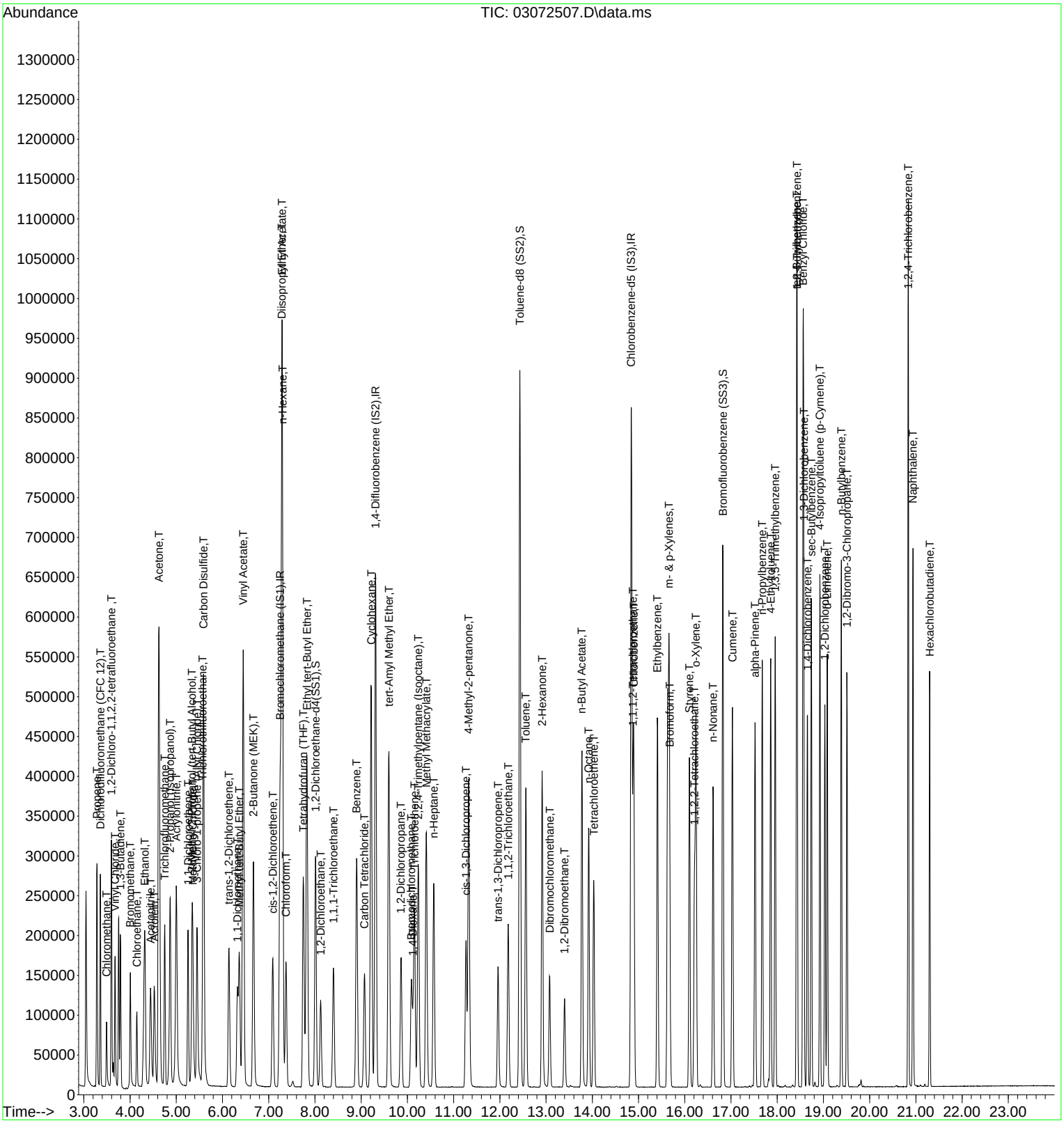
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.23	57	361658	5.815 ng		100
50) Methyl Methacrylate	10.41	100	68970	11.748 ng		100
51) n-Heptane	10.57	71	86918	5.513 ng		99
52) cis-1,3-Dichloropropene	11.27	75	157122	6.111 ng		99
53) 4-Methyl-2-pentanone	11.33	58	159085	12.779 ng		97
54) trans-1,3-Dichloropropene	11.96	75	119019	6.043 ng		100
55) 1,1,2-Trichloroethane	12.18	97	92248	5.483 ng		99
58) Toluene	12.56	91	368584	4.557 ng		99
59) 2-Hexanone	12.92	43	331127	11.663 ng		98
60) Dibromochloromethane	13.08	129	100444	4.584 ng		99
61) 1,2-Dibromoethane	13.40	107	103232	4.586 ng		99
62) n-Butyl Acetate	13.77	43	379503	11.967 ng		99
63) n-Octane	13.92	57	74613	5.037 ng		100
64) Tetrachloroethene	14.03	166	99428	4.022 ng		100
65) Chlorobenzene	14.90	112	247868	4.366 ng		99
66) Ethylbenzene	15.41	91	419821	4.877 ng		99
67) m- & p-Xylenes	15.66	91	661217	9.735 ng		100
68) Bromoform	15.67	173	81649	4.835 ng		100
69) Styrene	16.10	104	252508	5.136 ng		99
70) o-Xylene	16.24	91	328622	4.802 ng		100
71) n-Nonane	16.61	43	157294	5.380 ng		99
72) 1,1,2,2-Tetrachloroethane	16.21	83	169412	4.869 ng		100
74) Cumene	17.03	105	391862	4.533 ng		99
75) alpha-Pinene	17.52	93	213345	5.026 ng		100
76) n-Propylbenzene	17.67	91	485395	4.753 ng		99
77) 3-Ethyltoluene	17.03	105	391862	No Calib		
78) 4-Ethyltoluene	17.86	105	386066	4.747 ng		98
79) 1,3,5-Trimethylbenzene	17.96	105	333541	4.826 ng		99
80) alpha-Methylstyrene	17.03	118	1041	No Calib	#	
81) 2-Ethyltoluene	17.03	105	391862	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	341602	4.991 ng		99
83) n-Decane	17.03	58	3433	No Calib		
84) Benzyl Chloride	18.56	91	566681	12.177 ng		99
85) 1,3-Dichlorobenzene	18.58	146	197248	4.456 ng		100
86) 1,4-Dichlorobenzene	18.66	146	195987	4.359 ng		99
87) sec-Butylbenzene	18.74	105	442471	4.648 ng		98
88) 4-Isopropyltoluene (p-...	18.92	119	366455	4.716 ng		98
89) 1,2,3-Trimethylbenzene	17.03	105	391862	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	192096	4.287 ng		100
91) d-Limonene	19.08	68	123714	5.524 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	140424	10.288 ng		98
93) n-Undecane	17.96	58	7735	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	291550	10.999 ng		99
95) Naphthalene	20.94	128	449917	6.744 ng		99
96) n-Dodecane	18.92	58	11956	No Calib	#	
97) Hexachlorobutadiene	21.30	225	86265	4.178 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.42	119	315246	4.746 ng		99
100) n-Butylbenzene	19.39	91	356928	4.988 ng		99
101) 1,1,1,2-Tetrachloroethane	14.88	131	85031	4.596 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072507.D
Acq On : 7 Mar 2025 20:32
Operator : SC
Sample : 5.0ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072502 (4/6)
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Mar 07 23:26:00 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072508.D
Acq On : 7 Mar 2025 21:04
Operator : SC
Sample : 25ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6) LH 3/7/25
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:02 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.27	130	176509	12.500	ng	0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	759688	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	125427	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.04	65	260916	13.979	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 111.84%			
57) Toluene-d8 (SS2)	12.44	98	849455	10.824	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 86.56%			
73) Bromofluorobenzene (SS3)	16.83	174	253709	10.024	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 80.16%			
Target Compounds						Qvalue
2) Propene	3.27	42	476655	30.850	ng	100
3) Dichlorodifluoromethan...	3.35	85	860802	25.082	ng	100
4) Chloromethane	3.49	50	569646	30.873	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	440004	24.400	ng	100
6) Vinyl Chloride	3.68	62	661463	31.503	ng	100
7) 1,3-Butadiene	3.79	54	357882	26.947	ng	100
8) Bromomethane	4.01	94	416492	24.109	ng	100
9) Chloroethane	4.15	64	345735	28.880	ng	100
10) Ethanol	4.37	45	1760312	153.105	ng	100
11) Acetonitrile	4.48	41	793638	27.770	ng	100
12) Acrolein	4.55	56	687959	61.819	ng	100
13) Acetone	4.65	58	1654484	132.987	ng	100
14) Trichlorofluoromethane	4.75	101	747188	24.274	ng	100
15) 2-Propanol (Isopropanol)	4.91	45	2250095	57.913	ng	100
16) Acrylonitrile	5.03	53	1214689	58.316	ng	100
17) 1,1-Dichloroethene	5.26	96	382294	21.497	ng	100
18) 2-Methyl-2-Propanol (t...	5.38	59	1747948	56.601	ng	100
19) Methylene Chloride	5.39	84	433956	21.649	ng	100
20) 3-Chloro-1-propene (Al...	5.46	41	673777	29.600	ng	100
21) Trichlorotrifluoroethane	5.58	151	326250	20.092	ng	100
22) Carbon Disulfide	5.60	76	3363630	53.362	ng	100
23) trans-1,2-Dichloroethene	6.16	61	659526	28.701	ng	100
24) 1,1-Dichloroethane	6.35	63	787233	26.365	ng	100
25) Methyl tert-Butyl Ether	6.38	73	1176273	28.605	ng	100
26) Vinyl Acetate	6.48	86	515118	154.190	ng	100
27) 2-Butanone (MEK)	6.69	72	626478	54.828	ng	100
28) cis-1,2-Dichloroethene	7.11	61	611963	27.713	ng	100
29) Diisopropyl Ether	7.30	87	715220	51.635	ng	100
30) Ethyl Acetate	7.31	61	348009	56.891	ng	100
31) n-Hexane	7.30	57	730121	28.007	ng	100
32) Chloroform	7.40	83	784777	26.148	ng	100
34) Tetrahydrofuran (THF)	7.76	72	538273	50.151	ng	100
35) Ethyl tert-Butyl Ether	7.84	87	1055996	53.456	ng	100
36) 1,2-Dichloroethane	8.15	62	566966	26.532	ng	100
38) 1,1,1-Trichloroethane	8.42	97	685087	26.545	ng	100
39) Isopropyl Acetate	9.60	61	824	No Calib	#	
40) 1-Butanol	8.84	56	2505	No Calib		
41) Benzene	8.92	78	1819687	24.238	ng	100
42) Carbon Tetrachloride	9.09	117	611920	26.702	ng	100
43) Cyclohexane	9.23	84	1364832	53.937	ng	100
44) tert-Amyl Methyl Ether	9.61	73	2518447	57.197	ng	100
45) 1,2-Dichloropropane	9.88	63	474073	28.331	ng	100
46) Bromodichloromethane	10.10	83	631081	29.289	ng	100
47) Trichloroethene	10.17	130	495718	24.453	ng	100
48) 1,4-Dioxane	10.13	88	374744	33.703	ng	100

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072508.D
Acq On : 7 Mar 2025 21:04
Operator : SC
Sample : 25ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:02 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

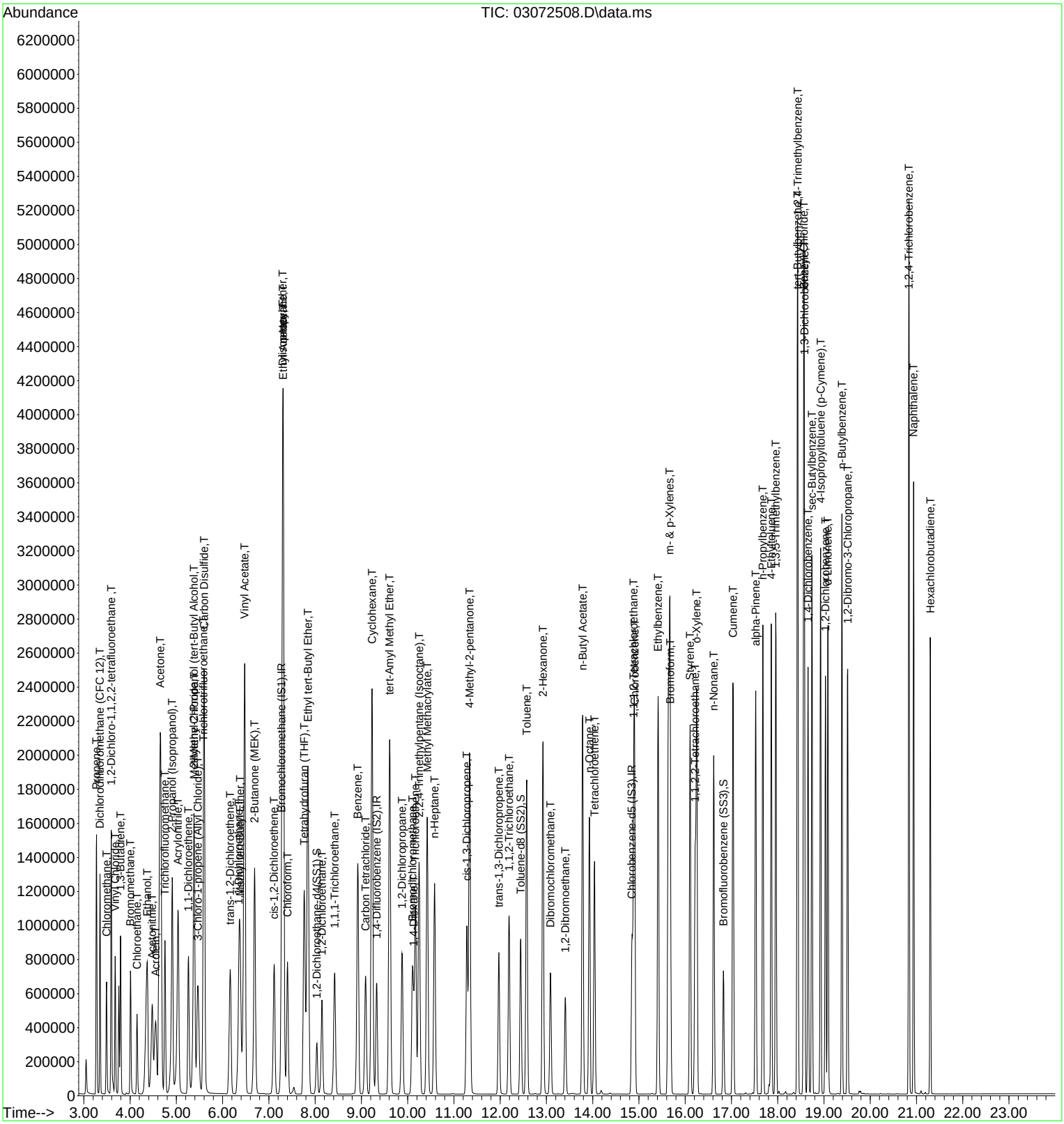
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1857245	28.692 ng	100
50) Methyl Methacrylate	10.42	100	363221	59.443 ng	100
51) n-Heptane	10.58	71	453680	27.647 ng	100
52) cis-1,3-Dichloropropene	11.28	75	841892	31.462 ng	100
53) 4-Methyl-2-pentanone	11.34	58	859264	66.317 ng	100
54) trans-1,3-Dichloropropene	11.97	75	653500	31.879 ng	100
55) 1,1,2-Trichloroethane	12.19	97	475913	27.180 ng	100
58) Toluene	12.57	91	1856229	21.927 ng	100
59) 2-Hexanone	12.93	43	1759957	59.222 ng	100
60) Dibromochloromethane	13.09	129	531521	23.175 ng	100
61) 1,2-Dibromoethane	13.41	107	540264	22.929 ng	100
62) n-Butyl Acetate	13.78	43	2032019	61.216 ng	100
63) n-Octane	13.93	57	388263	25.039 ng	100
64) Tetrachloroethene	14.04	166	512864	19.818 ng	100
65) Chlorobenzene	14.91	112	1260941	21.218 ng	100
66) Ethylbenzene	15.41	91	2135326	23.698 ng	100
67) m- & p-Xylenes	15.66	91	3349127	47.109 ng	100
68) Bromoform	15.68	173	441855	24.999 ng	100
69) Styrene	16.11	104	1318308	25.619 ng	100
70) o-Xylene	16.25	91	1675332	23.388 ng	100
71) n-Nonane	16.62	43	814536	26.618 ng	100
72) 1,1,2,2-Tetrachloroethane	16.21	83	872741	23.962 ng	100
74) Cumene	17.03	105	1977560	21.853 ng	100
75) alpha-Pinene	17.53	93	1106155	24.894 ng	100
76) n-Propylbenzene	17.68	91	2422095	22.657 ng	100
77) 3-Ethyltoluene	17.03	105	1977560	No Calib	
78) 4-Ethyltoluene	17.86	105	1946043	22.860 ng	100
79) 1,3,5-Trimethylbenzene	17.96	105	1673799	23.135 ng	100
80) alpha-Methylstyrene	17.04	118	3617	No Calib	
81) 2-Ethyltoluene	17.03	105	1977560	No Calib	
82) 1,2,4-Trimethylbenzene	18.43	105	1654258	23.089 ng	100
83) n-Decane	17.03	58	17714	No Calib	
84) Benzyl Chloride	18.56	91	2937428	60.304 ng	100
85) 1,3-Dichlorobenzene	18.58	146	973588	21.010 ng	100
86) 1,4-Dichlorobenzene	18.66	146	997424	21.192 ng	100
87) sec-Butylbenzene	18.74	105	2187951	21.957 ng	100
88) 4-Isopropyltoluene (p-...	18.93	119	1809137	22.242 ng	100
89) 1,2,3-Trimethylbenzene	17.03	105	1977560	No Calib	
90) 1,2-Dichlorobenzene	19.03	146	969173	20.662 ng	100
91) d-Limonene	19.08	68	654552	27.925 ng	100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	707323	49.509 ng	100
93) n-Undecane	17.96	58	40317	No Calib	
94) 1,2,4-Trichlorobenzene	20.84	180	1441157	51.942 ng	100
95) Naphthalene	20.94	128	2267764	32.474 ng	100
96) n-Dodecane	18.93	58	48696	No Calib #	
97) Hexachlorobutadiene	21.30	225	451397	20.888 ng	100
98) Cyclohexanone	0.00	55	0	N.D.	
99) tert-Butylbenzene	18.43	119	1504829	21.645 ng	100
100) n-Butylbenzene	19.39	91	1780422	23.771 ng	100
101) 1,1,1,2-Tetrachloroethane	14.89	131	440038	22.725 ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072508.D
Acq On : 7 Mar 2025 21:04
Operator : SC
Sample : 25ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:02 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072509.D
Acq On : 7 Mar 2025 21:36
Operator : SC
Sample : 50ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:26:05 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.29	130	168390	12.500	ng	0.02
37) 1,4-Difluorobenzene (IS2)	9.34	114	766478	12.500	ng	0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	127843	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.05	65	265221	14.894	ng	0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 119.12%			
57) Toluene-d8 (SS2)	12.45	98	855258	10.692	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.52%			
73) Bromofluorobenzene (SS3)	16.83	174	255081	9.888	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 79.12%			
Target Compounds						Qvalue
2) Propene	3.27	42	947251	64.264	ng	100
3) Dichlorodifluoromethan...	3.35	85	1674791	51.153	ng	99
4) Chloromethane	3.49	50	922441	52.404	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	854797	49.688	ng	100
6) Vinyl Chloride	3.68	62	1289072	64.353	ng	100
7) 1,3-Butadiene	3.80	54	693053	54.700	ng	98
8) Bromomethane	4.01	94	825512	50.089	ng	99
9) Chloroethane	4.15	64	692461	60.632	ng	100
10) Ethanol	4.39	45	3454626	314.957	ng	100
11) Acetonitrile	4.50	41	1811821	66.453	ng	99
12) Acrolein	4.57	56	1389621	130.889	ng	100
13) Acetone	4.67	58	3218156	271.147	ng	98
14) Trichlorofluoromethane	4.76	101	1478733	50.355	ng	100
15) 2-Propanol (Isopropanol)	4.93	45	4362051	117.684	ng	100
16) Acrylonitrile	5.06	53	2460893	123.842	ng	99
17) 1,1-Dichloroethene	5.27	96	770687	45.427	ng	100
18) 2-Methyl-2-Propanol (t...	5.40	59	2734673	92.822	ng	97
19) Methylene Chloride	5.40	84	861575	45.054	ng	94
20) 3-Chloro-1-propene (Al...	5.48	41	1329439	61.220	ng	98
21) Trichlorotrifluoroethane	5.59	151	635966	41.054	ng	99
22) Carbon Disulfide	5.61	76	6278306	104.404	ng	99
23) trans-1,2-Dichloroethene	6.18	61	1330187	60.677	ng	100
24) 1,1-Dichloroethane	6.36	63	1570434	55.131	ng	100
25) Methyl tert-Butyl Ether	6.39	73	2137882	54.497	ng	100
26) Vinyl Acetate	6.49	86	1001952	314.373	ng	99
27) 2-Butanone (MEK)	6.71	72	1254723	115.105	ng	97
28) cis-1,2-Dichloroethene	7.13	61	1234508	58.601	ng	100
29) Diisopropyl Ether	7.31	87	1310724	99.190	ng	95
30) Ethyl Acetate	7.33	61	628827	107.755	ng	97
31) n-Hexane	7.31	57	1287770	51.779	ng	99
32) Chloroform	7.42	83	1564320	54.636	ng	100
34) Tetrahydrofuran (THF)	7.78	72	1082799	105.748	ng	99
35) Ethyl tert-Butyl Ether	7.85	87	2086238	110.699	ng	99
36) 1,2-Dichloroethane	8.16	62	1140501	55.944	ng	100
38) 1,1,1-Trichloroethane	8.44	97	1372999	52.728	ng	100
39) Isopropyl Acetate	9.62	61	1700	No Calib	#	
40) 1-Butanol	8.85	56	4251	No Calib		
41) Benzene	8.93	78	3594535	47.455	ng	99
42) Carbon Tetrachloride	9.10	117	1228523	53.133	ng	100
43) Cyclohexane	9.24	84	2648607	103.744	ng	100
44) tert-Amyl Methyl Ether	9.62	73	4896712	110.225	ng	99
45) 1,2-Dichloropropane	9.89	63	956380	56.649	ng	100
46) Bromodichloromethane	10.11	83	1274328	58.619	ng	100
47) Trichloroethene	10.18	130	979260	47.877	ng	100
48) 1,4-Dioxane	10.14	88	753289	67.147	ng	99

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072509.D
Acq On : 7 Mar 2025 21:36
Operator : SC
Sample : 50ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:05 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

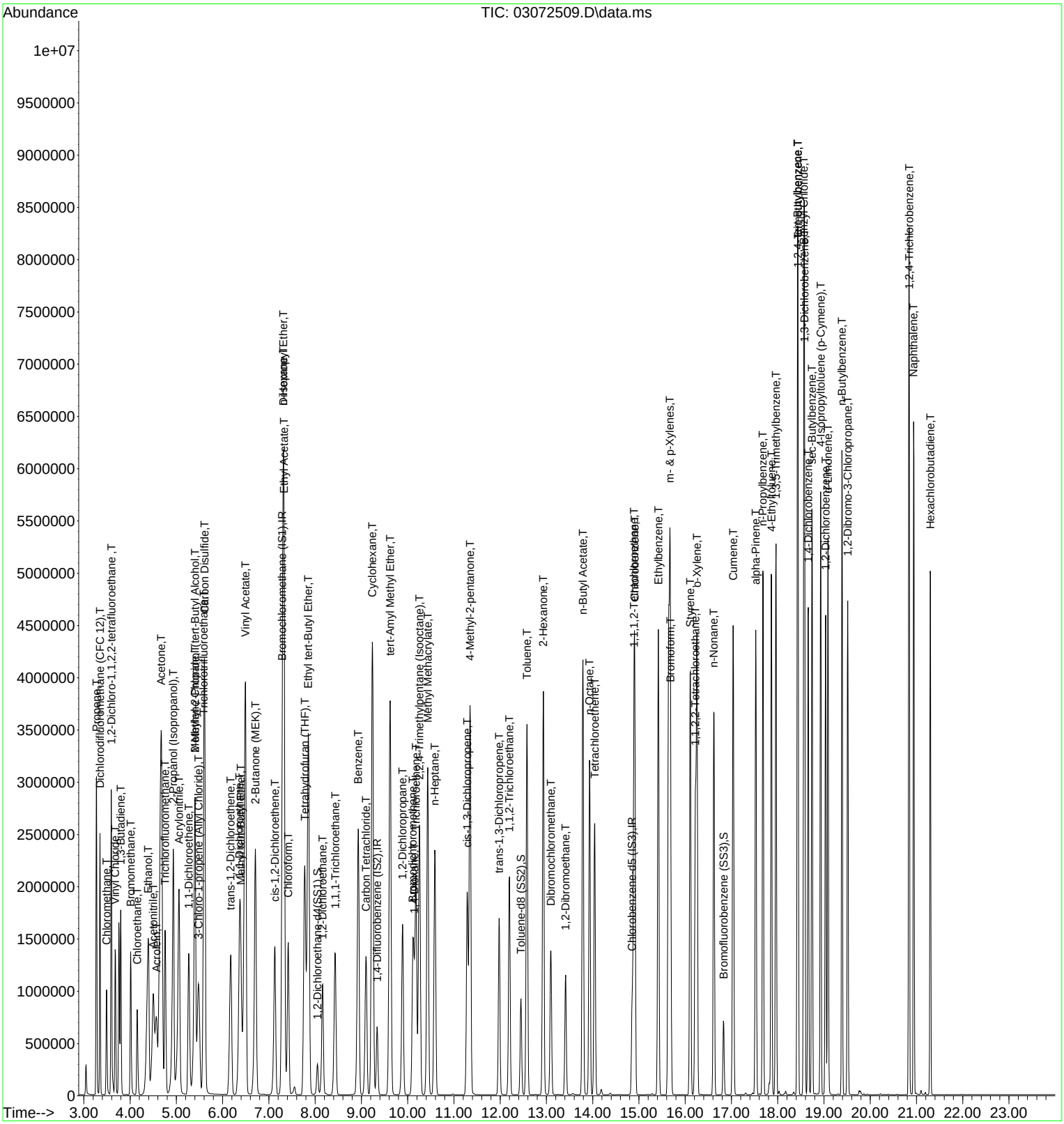
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	3689623	56.496 ng		99
50) Methyl Methacrylate	10.43	100	724543	117.526 ng		100
51) n-Heptane	10.59	71	912541	55.117 ng		100
52) cis-1,3-Dichloropropene	11.29	75	1702391	63.055 ng		99
53) 4-Methyl-2-pentanone	11.35	58	1683200	128.757 ng		98
54) trans-1,3-Dichloropropene	11.98	75	1341936	64.883 ng		100
55) 1,1,2-Trichloroethane	12.20	97	949838	53.766 ng		100
58) Toluene	12.58	91	3595699	41.671 ng		99
59) 2-Hexanone	12.93	43	3382551	111.671 ng		99
60) Dibromochloromethane	13.10	129	1065651	45.586 ng		100
61) 1,2-Dibromoethane	13.41	107	1084045	45.138 ng		100
62) n-Butyl Acetate	13.79	43	3908564	115.523 ng		99
63) n-Octane	13.93	57	773354	48.931 ng		100
64) Tetrachloroethene	14.05	166	1008939	38.251 ng		99
65) Chlorobenzene	14.91	112	2414599	39.864 ng		99
66) Ethylbenzene	15.42	91	4083478	44.463 ng		99
67) m- & p-Xylenes	15.67	91	6226251	85.923 ng		100
68) Bromoform	15.69	173	851233	47.251 ng		100
69) Styrene	16.11	104	2559770	48.805 ng		99
70) o-Xylene	16.25	91	3223221	44.147 ng		100
71) n-Nonane	16.62	43	1581640	50.710 ng		99
72) 1,1,2,2-Tetrachloroethane	16.22	83	1717191	46.256 ng		100
74) Cumene	17.04	105	3749251	40.648 ng		99
75) alpha-Pinene	17.53	93	2116311	46.728 ng		98
76) n-Propylbenzene	17.68	91	4527041	41.548 ng		98
77) 3-Ethyltoluene	17.04	105	3749251	No Calib		
78) 4-Ethyltoluene	17.87	105	3657657	42.155 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	3159158	42.841 ng		99
80) alpha-Methylstyrene	17.04	118	6425	No Calib	#	
81) 2-Ethyltoluene	17.04	105	3749251	No Calib		
82) 1,2,4-Trimethylbenzene	18.44	105	2868788	39.283 ng		100
83) n-Decane	17.04	58	33962	No Calib		
84) Benzyl Chloride	18.56	91	5038962	101.493 ng		98
85) 1,3-Dichlorobenzene	18.58	146	1738336	36.805 ng		100
86) 1,4-Dichlorobenzene	18.66	146	1912950	39.876 ng		100
87) sec-Butylbenzene	18.74	105	4033948	39.718 ng		98
88) 4-Isopropyltoluene (p-...	18.93	119	3325561	40.113 ng		98
89) 1,2,3-Trimethylbenzene	17.04	105	3749251	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	1864733	39.003 ng		100
91) d-Limonene	19.09	68	1262628	52.849 ng		99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	1342804	92.212 ng		98
93) n-Undecane	17.96	58	77544	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	2555820	90.376 ng		100
95) Naphthalene	20.94	128	4251157	59.725 ng		99
96) n-Dodecane	18.93	58	88079	No Calib	#	
97) Hexachlorobutadiene	21.30	225	893021	40.543 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	2604768	36.757 ng		99
100) n-Butylbenzene	19.39	91	3295533	43.168 ng		99
101) 1,1,1,2-Tetrachloroethane	14.89	131	850485	43.092 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072509.D
Acq On : 7 Mar 2025 21:36
Operator : SC
Sample : 50ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:05 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072510.D
Acq On : 7 Mar 2025 22:08
Operator : SC
Sample : 100ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

LH 3/7/25

Quant Time: Mar 07 23:26:07 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.30	130	136939	12.500	ng		0.03
37) 1,4-Difluorobenzene (IS2)	9.35	114	771221	12.500	ng		0.02
56) Chlorobenzene-d5 (IS3)	14.86	54	129513	12.500	ng		0.01
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.07	65	268258	18.525	ng		0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 148.16%#				
57) Toluene-d8 (SS2)	12.46	98	861557	10.632	ng		0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 85.04%				
73) Bromofluorobenzene (SS3)	16.83	174	255102	9.761	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 78.08%				
Target Compounds							Qvalue
2) Propene	3.28	42	1698368	141.685	ng		99
3) Dichlorodifluoromethan...	3.35	85	3092053	116.129	ng		98
4) Chloromethane	3.50	50	1086205	75.880	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	1596808	114.138	ng		99
6) Vinyl Chloride	3.69	62	2301998	141.315	ng		99
7) 1,3-Butadiene	3.81	54	1266297	122.899	ng		95
8) Bromomethane	4.02	94	1583700	118.163	ng		99
9) Chloroethane	4.16	64	1354873	145.879	ng		100
10) Ethanol	4.43	45	6059349	679.306	ng		100
11) Acetonitrile	4.53	41	3709977	167.326	ng		96
12) Acrolein	4.59	56	2728323	316.003	ng		99
13) Acetone	4.70	58	5839888	605.050	ng		98
14) Trichlorofluoromethane	4.77	101	2874190	120.354	ng		100
15) 2-Propanol (Isopropanol)	4.97	45	7766358	257.652	ng		100
16) Acrylonitrile	5.08	53	4808867	297.581	ng		99
17) 1,1-Dichloroethene	5.28	96	1543363	111.866	ng		99
18) 2-Methyl-2-Propanol (t...	5.43	59	3282572	137.009	ng	#	13
19) Methylene Chloride	5.42	84	1692594	108.838	ng		95
20) 3-Chloro-1-propene (Al...	5.49	41	2530745	143.305	ng		94
21) Trichlorotrifluoroethane	5.60	151	1184587	94.032	ng		98
22) Carbon Disulfide	5.62	76	10622677	217.219	ng		98
23) trans-1,2-Dichloroethene	6.19	61	2655203	148.936	ng		100
24) 1,1-Dichloroethane	6.39	63	3090386	133.406	ng		99
25) Methyl tert-Butyl Ether	6.40	73	2820556	88.413	ng		99
26) Vinyl Acetate	6.52	86	1818431	701.592	ng	#	88
27) 2-Butanone (MEK)	6.73	72	2429749	274.094	ng		93
28) cis-1,2-Dichloroethene	7.15	61	2446508	142.805	ng		100
29) Diisopropyl Ether	7.32	87	2226090	207.152	ng	#	93
30) Ethyl Acetate	7.35	61	1086823	229.010	ng		96
31) n-Hexane	7.32	57	2081182	102.900	ng		99
32) Chloroform	7.44	83	3068117	131.768	ng		100
34) Tetrahydrofuran (THF)	7.79	72	2096054	251.720	ng		97
35) Ethyl tert-Butyl Ether	7.87	87	3896235	254.223	ng		96
36) 1,2-Dichloroethane	8.18	62	2253813	135.946	ng		100
38) 1,1,1-Trichloroethane	8.45	97	2694720	102.851	ng		99
39) Isopropyl Acetate	9.64	61	3411	No Calib		#	
40) 1-Butanol	8.87	56	7805	No Calib			
41) Benzene	8.95	78	6907030	90.626	ng		99
42) Carbon Tetrachloride	9.11	117	2403737	103.321	ng		100
43) Cyclohexane	9.25	84	4722575	183.842	ng		99
44) tert-Amyl Methyl Ether	9.64	73	8829852	197.538	ng		98
45) 1,2-Dichloropropane	9.91	63	1883789	110.895	ng		100
46) Bromodichloromethane	10.13	83	2471310	112.980	ng		100
47) Trichloroethene	10.20	130	1851973	89.988	ng		100
48) 1,4-Dioxane	10.16	88	1432793	126.931	ng		99

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072510.D
Acq On : 7 Mar 2025 22:08
Operator : SC
Sample : 100ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:07 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration

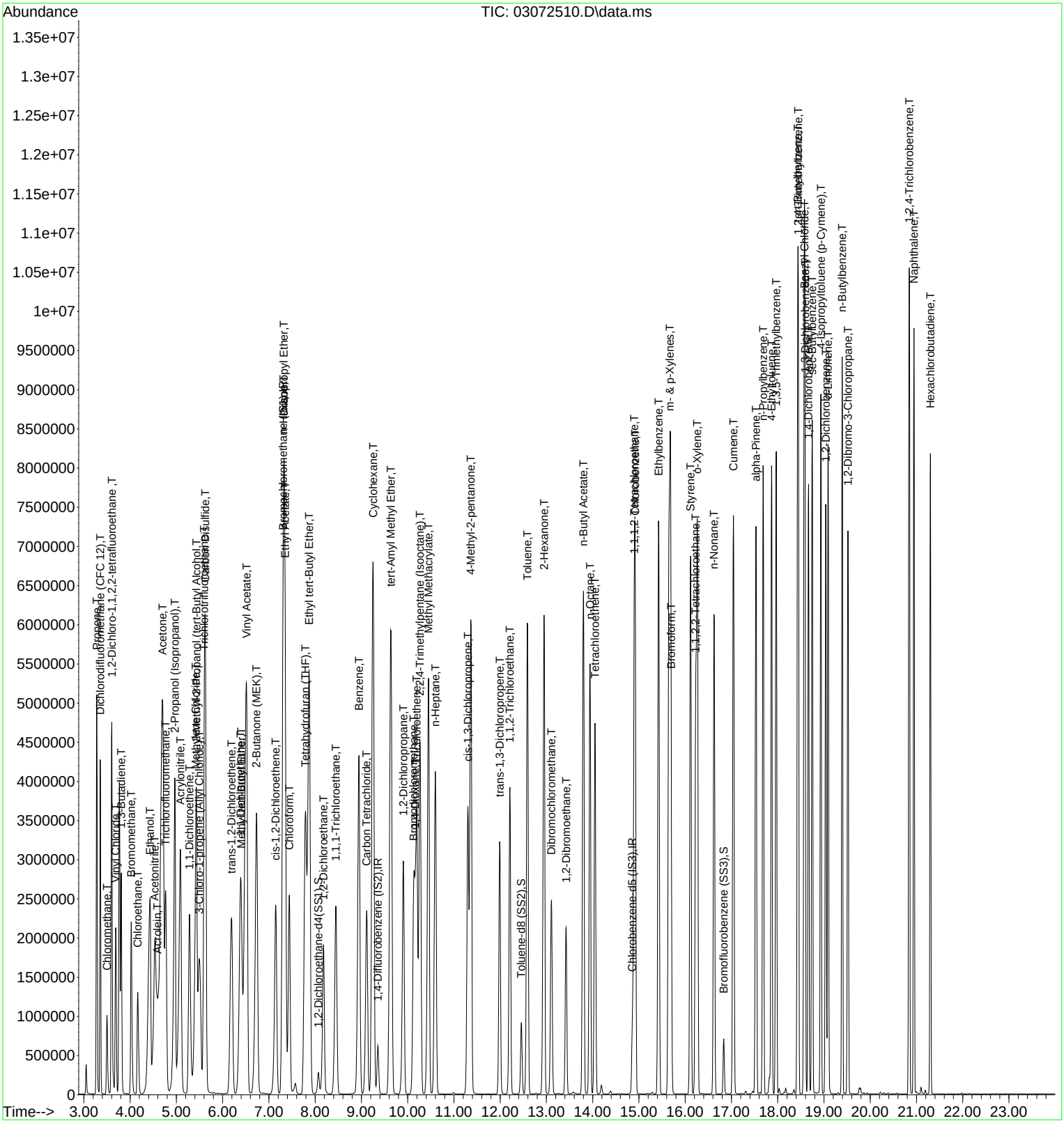
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.26	57	6954811	105.837 ng		98
50) Methyl Methacrylate	10.45	100	1359043	219.090 ng		98
51) n-Heptane	10.60	71	1746561	104.843 ng		100
52) cis-1,3-Dichloropropene	11.30	75	3279131	120.709 ng		99
53) 4-Methyl-2-pentanone	11.36	58	3013538	229.105 ng		95
54) trans-1,3-Dichloropropene	11.99	75	2641537	126.934 ng		99
55) 1,1,2-Trichloroethane	12.21	97	1825952	102.723 ng		99
58) Toluene	12.59	91	6510138	74.475 ng		98
59) 2-Hexanone	12.95	43	5952229	193.973 ng		99
60) Dibromochloromethane	13.11	129	2065958	87.238 ng		99
61) 1,2-Dibromoethane	13.43	107	2101275	86.365 ng		100
62) n-Butyl Acetate	13.80	43	6777082	197.723 ng		98
63) n-Octane	13.94	57	1428732	89.232 ng		100
64) Tetrachloroethene	14.05	166	1897711	71.018 ng		99
65) Chlorobenzene	14.92	112	4197227	68.401 ng		99
66) Ethylbenzene	15.42	91	7183030	77.204 ng		98
67) m- & p-Xylenes	15.67	91	10134335	138.052 ng		99
68) Bromoform	15.70	173	1481806	81.192 ng		99
69) Styrene	16.12	104	4584025	86.272 ng		97
70) o-Xylene	16.26	91	5624645	76.045 ng		99
71) n-Nonane	16.62	43	2775792	87.849 ng		97
72) 1,1,2,2-Tetrachloroethane	16.23	83	3075047	81.765 ng		99
74) Cumene	17.04	105	6444809	68.972 ng		97
75) alpha-Pinene	17.53	93	3676703	80.134 ng		96
76) n-Propylbenzene	17.68	91	7627017	69.096 ng		96
77) 3-Ethyltoluene	17.04	105	6444809	No Calib		
78) 4-Ethyltoluene	17.87	105	6203742	70.577 ng		98
79) 1,3,5-Trimethylbenzene	17.97	105	5363056	71.790 ng		99
80) alpha-Methylstyrene	17.04	118	10942	No Calib	#	
81) 2-Ethyltoluene	17.04	105	6444809	No Calib		
82) 1,2,4-Trimethylbenzene	18.45	105	4452530	60.184 ng		100
83) n-Decane	17.04	58	59291	No Calib		
84) Benzyl Chloride	18.58	91	7416661	147.457 ng		98
85) 1,3-Dichlorobenzene	18.59	146	2661634	55.626 ng		99
86) 1,4-Dichlorobenzene	18.67	146	3309989	68.108 ng		99
87) sec-Butylbenzene	18.75	105	6563877	63.794 ng		96
88) 4-Isopropyltoluene (p-...	18.93	119	5424811	64.590 ng		95
89) 1,2,3-Trimethylbenzene	17.04	105	6444809	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	3250885	67.119 ng		99
91) d-Limonene	19.09	68	2142394	88.516 ng		97
92) 1,2-Dibromo-3-Chloropr...	19.52	157	2271615	153.984 ng		96
93) n-Undecane	17.96	58	127779	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	3843760	134.165 ng		99
95) Naphthalene	20.94	128	6901084	95.705 ng		97
96) n-Dodecane	18.93	58	142794	No Calib	#	
97) Hexachlorobutadiene	21.30	225	1569804	70.350 ng		99
98) Cyclohexanone	15.26	55	236	No Calib	#	
99) tert-Butylbenzene	18.43	119	4083886	56.887 ng		98
100) n-Butylbenzene	19.39	91	5392284	69.723 ng		97
101) 1,1,1,2-Tetrachloroethane	14.90	131	1513281	75.686 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072510.D
Acq On : 7 Mar 2025 22:08
Operator : SC
Sample : 100ng TO-15 ICAL STD
Misc : S38-03052512/S38-03072501 (4/6)
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Mar 07 23:26:07 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:21:29 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072512.D
Acq On : 7 Mar 2025 23:12
Operator : SC
Sample : ICV R09030725 25ng
Misc : S38-03052512/S38-02282501 (3/30)
ALS Vial : 8 Sample Multiplier: 1

LH 3/8/25

Quant Time: Mar 08 00:14:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:50:59 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	175319	12.500	ng	-0.03
37) 1,4-Difluorobenzene (IS2)	9.33	114	759334	12.500	ng	-0.02
56) Chlorobenzene-d5 (IS3)	14.85	54	122085	12.500	ng	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4(...	8.04	65	260260	11.975	ng	-0.03
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.76%			
57) Toluene-d8 (SS2)	12.44	98	841678	12.718	ng	-0.01
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.76%			
73) Bromofluorobenzene (SS3)	16.83	174	247132	12.652	ng	0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%			
Target Compounds						Qvalue
2) Propene	3.27	42	484358	26.017	ng	100
3) Dichlorodifluoromethan...	3.35	85	890662	25.039	ng	100
4) Chloromethane	3.49	50	527425	28.293	ng	100
5) 1,2-Dichloro-1,1,2,2-t...	3.59	135	453777	26.980	ng	100
6) Vinyl Chloride	3.68	62	672318	27.577	ng	100
7) 1,3-Butadiene	3.80	54	346851	23.155	ng	99
8) Bromomethane	4.01	94	439306	26.266	ng	100
9) Chloroethane	4.15	64	332345	26.003	ng	100
10) Ethanol	4.37	45	1838381	131.814	ng	100
11) Acetonitrile	4.48	41	804503	24.026	ng	100
12) Acrolein	4.55	56	655588	52.183	ng	100
13) Acetone	4.66	58	1732022	130.190	ng	100
14) Trichlorofluoromethane	4.76	101	771624	24.794	ng	100
15) 2-Propanol (Isopropanol)	4.91	45	2324454	53.389	ng	100
16) Acrylonitrile	5.04	53	1254171	54.793	ng	100
17) 1,1-Dichloroethene	5.26	96	472234	27.599	ng	99
18) 2-Methyl-2-Propanol (t...	5.39	59	1660842	56.813	ng	99
19) Methylene Chloride	5.39	84	502717	25.338	ng	99
20) 3-Chloro-1-propene (Al...	5.47	41	626460	23.682	ng	99
21) Trichlorotrifluoroethane	5.58	151	393606	27.459	ng	99
22) Carbon Disulfide	5.60	76	3536330	54.346	ng	100
23) trans-1,2-Dichloroethene	6.16	61	695950	28.027	ng	99
24) 1,1-Dichloroethane	6.35	63	845287	27.069	ng	100
25) Methyl tert-Butyl Ether	6.38	73	1138085	27.099	ng	100
26) Vinyl Acetate	6.48	86	541073	152.597	ng	97
27) 2-Butanone (MEK)	6.69	72	650020	55.633	ng	99
28) cis-1,2-Dichloroethene	7.12	61	653338	27.377	ng	100
29) Diisopropyl Ether	7.31	87	743448	55.308	ng	99
30) Ethyl Acetate	7.31	61	359510	54.828	ng	99
31) n-Hexane	7.31	57	760187	27.597	ng	100
32) Chloroform	7.40	83	826247	27.176	ng	100
34) Tetrahydrofuran (THF)	7.77	72	588487	52.320	ng	99
35) Ethyl tert-Butyl Ether	7.84	87	1107858	56.319	ng	99
36) 1,2-Dichloroethane	8.15	62	587340	25.385	ng	100
38) 1,1,1-Trichloroethane	8.42	97	713219	27.574	ng	100
39) Isopropyl Acetate	9.60	61	830	No Calib	#	
40) 1-Butanol	8.83	56	11045	No Calib		
41) Benzene	8.92	78	1880936	25.606	ng	100
42) Carbon Tetrachloride	9.09	117	639749	27.665	ng	100
43) Cyclohexane	9.23	84	1435485	56.664	ng	100
44) tert-Amyl Methyl Ether	9.61	73	2633968	59.386	ng	100
45) 1,2-Dichloropropane	9.88	63	483665	27.596	ng	100
46) Bromodichloromethane	10.10	83	671676	29.859	ng	100
47) Trichloroethene	10.17	130	510727	28.162	ng	100
48) 1,4-Dioxane	10.13	88	408995	32.099	ng	100

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072512.D
Acq On : 7 Mar 2025 23:12
Operator : SC
Sample : ICV R09030725 25ng
Misc : S38-03052512/S38-02282501 (3/30)
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 00:14:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:50:59 2025
Response via : Initial Calibration

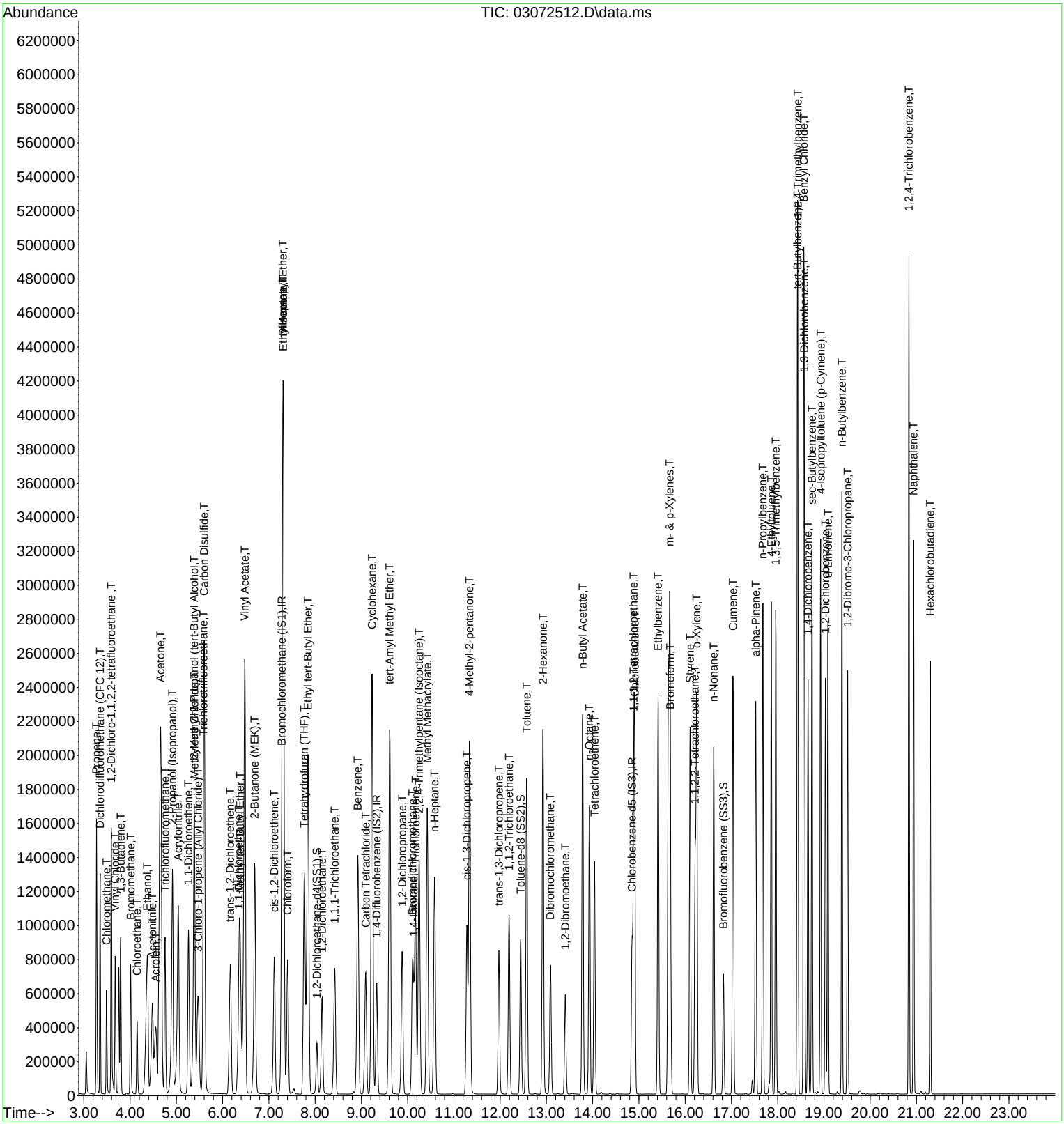
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1907384	27.746 ng		100
50) Methyl Methacrylate	10.42	100	379530	61.123 ng		99
51) n-Heptane	10.58	71	477481	28.417 ng		100
52) cis-1,3-Dichloropropene	11.28	75	856495	29.953 ng		100
53) 4-Methyl-2-pentanone	11.34	58	890246	62.404 ng		100
54) trans-1,3-Dichloropropene	11.97	75	663347	27.523 ng		100
55) 1,1,2-Trichloroethane	12.19	97	481965	29.102 ng		100
58) Toluene	12.57	91	1889817	28.709 ng		100
59) 2-Hexanone	12.93	43	1833335	65.108 ng		100
60) Dibromochloromethane	13.09	129	564913	30.781 ng		100
61) 1,2-Dibromoethane	13.41	107	546616	29.324 ng		100
62) n-Butyl Acetate	13.78	43	2052002	60.966 ng		100
63) n-Octane	13.93	57	403845	29.784 ng		100
64) Tetrachloroethene	14.04	166	524308	28.941 ng		100
65) Chlorobenzene	14.91	112	1276188	28.656 ng		100
66) Ethylbenzene	15.41	91	2150861	29.751 ng		100
67) m- & p-Xylenes	15.66	91	3369332	59.209 ng		100
68) Bromoform	15.68	173	465836	34.145 ng		99
69) Styrene	16.11	104	1304132	29.799 ng		100
70) o-Xylene	16.25	91	1689549	29.491 ng		100
71) n-Nonane	16.62	43	848294	29.860 ng		100
72) 1,1,2,2-Tetrachloroethane	16.21	83	872938	29.362 ng		100
74) Cumene	17.03	105	2036278	29.335 ng		100
75) alpha-Pinene	17.53	93	1098551	30.362 ng		100
76) n-Propylbenzene	17.68	91	2499178	29.312 ng		100
77) 3-Ethyltoluene	17.03	105	2036278	No Calib		
78) 4-Ethyltoluene	17.86	105	2038767	30.669 ng		100
79) 1,3,5-Trimethylbenzene	17.96	105	1686833	29.818 ng		100
80) alpha-Methylstyrene	17.03	118	3651	No Calib	#	
81) 2-Ethyltoluene	17.03	105	2036278	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1657733	29.353 ng		100
83) n-Decane	17.03	58	17901	No Calib		
84) Benzyl Chloride	18.57	91	2913331	65.302 ng		100
85) 1,3-Dichlorobenzene	18.58	146	970455	28.862 ng		100
86) 1,4-Dichlorobenzene	18.66	146	990838	28.297 ng		100
87) sec-Butylbenzene	18.74	105	2236259	29.084 ng		100
88) 4-Isopropyltoluene (p-...	18.93	119	1841834	29.191 ng		100
89) 1,2,3-Trimethylbenzene	17.03	105	2036278	No Calib		
90) 1,2-Dichlorobenzene	19.03	146	968546	27.858 ng		100
91) d-Limonene	19.09	68	653050	30.936 ng		100
92) 1,2-Dibromo-3-Chloropr...	19.51	157	706082	61.279 ng		100
93) n-Undecane	17.96	58	40454	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1352682	57.592 ng		100
95) Naphthalene	20.94	128	2107381	28.713 ng		100
96) n-Dodecane	18.92	58	54210	No Calib	#	
97) Hexachlorobutadiene	21.30	225	436272	27.961 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1549755	29.099 ng		100
100) n-Butylbenzene	19.39	91	1815352	29.482 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	456952	30.528 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072512.D
Acq On : 7 Mar 2025 23:12
Operator : SC
Sample : ICV R09030725 25ng
Misc : S38-03052512/S38-02282501 (3/30)
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Mar 08 00:14:14 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Mar 07 23:50:59 2025
Response via : Initial Calibration



ALS Environmental

LCS Acceptance Criteria

LH 3/8/25

ICV R09030725_25ng

	RT
Bromochloromethane (IS1)	7.28
1,4-Difluorobenzene (IS2)	9.33
Chlorobenzene-d5 (IS3)	14.85

Datafile: 03072512.D
Instrument: MS-09
Date: 3/7/25

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	26.017	26.500	98	50-133	ok	70-130	ok	57-136	ok
75-71-8	Dichlorodifluoromethane	25.039	25.750	97	66-122	ok	70-130	ok	59-128	ok
74-87-3	Chloromethane	28.293	26.000	109	56-131	ok	70-130	ok	59-132	ok
76-14-2	Freon 114	26.980	26.000	104	63-120	ok	70-130	ok	63-121	ok
75-01-4	Vinyl Chloride	27.577	26.250	105	57-129	ok	70-130	ok	64-127	ok
106-99-0	1,3-Butadiene	23.155	26.500	87	62-132	ok	70-130	ok	66-134	ok
74-83-9	Bromomethane	26.266	26.250	100	72-120	ok	70-130	ok	63-134	ok
75-00-3	Chloroethane	26.003	26.500	98	67-123	ok	70-130	ok	63-127	ok
64-17-5	Ethanol	131.814	131.5	100	52-120	ok	70-130	ok	59-125	ok
75-05-8	Acetonitrile	24.026	26.500	91	50-114	ok	70-130	ok	63-132	ok
107-02-8	Acrolein	52.183	52.750	99	63-125	ok	70-130	ok	62-126	ok
67-64-1	Acetone	130.190	131.8	99	61-120	ok	70-130	ok	58-128	ok
75-69-4	Trichlorofluoromethane	24.794	26.000	95	65-122	ok	70-130	ok	62-126	ok
67-63-0	Isopropanol	53.389	52.000	103	59-132	ok	70-130	ok	52-125	ok
107-13-1	Acrylonitrile	54.793	52.500	104	60-128	ok	70-130	ok	71-137	ok
75-35-4	1,1-Dichloroethene	27.599	26.000	106	75-120	ok	70-130	ok	61-133	ok
75-65-0	tert-Butanol	56.813	51.500	110	60-143	ok	70-130	ok	24-150	ok
75-09-2	Methylene Chloride	25.338	25.500	99	71-123	ok	70-130	ok	62-115	ok
107-05-1	Allyl Chloride	23.682	26.750	89	50-118	ok	70-130	ok	71-131	ok
76-13-1	Trichlorotrifluoroethane	27.459	26.250	105	65-121	ok	70-130	ok	66-126	ok
75-15-0	Carbon Disulfide	54.346	53.750	101	69-115	ok	70-130	ok	57-134	ok
156-60-5	trans-1,2-Dichloroethene	28.027	27.250	103	67-123	ok	70-130	ok	67-124	ok
75-34-3	1,1-Dichloroethane	27.069	27.250	99	66-120	ok	70-130	ok	68-126	ok
1634-04-4	Methyl tert-Butyl Ether	27.099	27.000	100	65-124	ok	70-130	ok	66-126	ok
108-05-4	Vinyl Acetate	152.597	136.3	112	76-147	ok	70-130	ok	56-139	ok
78-93-3	2-Butanone	55.633	51.500	108	70-125	ok	70-130	ok	67-130	ok
156-59-2	cis-1,2-Dichloroethene	27.377	26.750	102	64-120	ok	70-130	ok	70-121	ok
108-20-3	Diisopropyl Ether	55.308	53.250	104	64-120	ok	70-130	ok	70-117	ok
141-78-6	Ethyl Acetate	54.828	49.750	110	56-120	ok	70-130	ok	65-128	ok
110-54-3	n-Hexane	27.597	26.500	104	60-125	ok	70-130	ok	63-120	ok
67-66-3	Chloroform	27.176	27.000	101	64-121	ok	70-130	ok	68-123	ok
109-99-9	Tetrahydrofuran	52.320	50.500	104	67-117	ok	70-130	ok	64-123	ok
637-92-3	Ethyl tert-Butyl Ether	56.319	53.250	106	69-121	ok	70-130	ok	61-130	ok
107-06-2	1,2-Dichloroethane	25.385	25.500	100	64-138	ok	70-130	ok	65-128	ok
71-55-6	1,1,1-Trichloroethane	27.574	26.250	105	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	25.606	25.750	99	73-128	ok	70-130	ok	69-119	ok
56-23-5	Carbon Tetrachloride	27.665	26.250	105	71-134	ok	70-130	ok	68-132	ok
110-82-7	Cyclohexane	56.664	53.750	105	71-118	ok	70-130	ok	70-117	ok
994-05-8	tert-Amyl Methyl Ether	59.386	53.500	111	70-126	ok	70-130	ok	62-133	ok
78-87-5	1,2-Dichloropropane	27.596	26.750	103	68-121	ok	70-130	ok	69-123	ok
75-27-4	Bromodichloromethane	29.859	27.250	110	70-125	ok	70-130	ok	72-128	ok
79-01-6	Trichloroethene	28.162	26.750	105	68-124	ok	70-130	ok	71-123	ok
123-91-1	1,4-Dioxane	32.099	26.750	120	76-127	ok	70-130	ok	71-122	ok
540-84-1	Isooctane	27.746	26.750	104	62-124	ok	70-130	ok	68-121	ok
80-62-6	Methyl Methacrylate	61.123	53.500	114	77-118	ok	70-130	ok	70-128	ok
142-82-5	n-Heptane	28.417	26.750	106	72-121	ok	70-130	ok	69-123	ok
10061-01-5	cis-1,3-Dichloropropene	29.953	26.500	113	87-137	ok	70-130	ok	70-128	ok
108-10-1	4-Methyl-2-pentanone	62.404	53.250	117	67-137	ok	70-130	ok	67-130	ok

ALS Environmental

LCS Acceptance Criteria

ICV R09030725_25ng

	RT
Bromochloromethane (IS1)	7.28
1,4-Difluorobenzene (IS2)	9.33
Chlorobenzene-d5 (IS3)	14.85

Datafile: 03072512.D
Instrument: MS-09
Date: 3/7/25

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	27.523	24.500	112	73-127	ok	70-130	ok	75-133	ok
79-00-5	1,1,2-Trichloroethane	29.102	27.000	108	71-119	ok	70-130	ok	73-119	ok
108-88-3	Toluene	28.709	27.000	106	64-121	ok	70-130	ok	66-119	ok
591-78-6	2-Hexanone	65.108	53.000	123	70-136	ok	70-130	ok	62-128	ok
124-48-1	Dibromochloromethane	30.781	27.000	114	67-128	ok	70-130	ok	70-130	ok
106-93-4	1,2-Dibromoethane	29.324	25.500	115	69-129	ok	70-130	ok	74-122	ok
123-86-4	Butyl Acetate	60.966	52.750	116	70-135	ok	70-130	ok	65-134	ok
111-65-9	n-Octane	29.784	26.750	111	66-124	ok	70-130	ok	69-121	ok
127-18-4	Tetrachloroethene	28.941	26.750	108	55-132	ok	70-130	ok	66-124	ok
108-90-7	Chlorobenzene	28.656	27.000	106	63-124	ok	70-130	ok	70-119	ok
100-41-4	Ethylbenzene	29.751	27.250	109	64-119	ok	70-130	ok	70-124	ok
179601-23-1	m- & p-Xylene	59.209	54.000	110	64-121	ok	70-130	ok	61-134	ok
75-25-2	Bromoform	34.145	27.250	125	63-132	ok	70-130	ok	66-139	ok
100-42-5	Styrene	29.799	26.750	111	71-125	ok	70-130	ok	73-127	ok
95-47-6	o-Xylene	29.491	27.000	109	66-122	ok	70-130	ok	67-125	ok
111-84-2	n-Nonane	29.860	26.750	112	65-129	ok	70-130	ok	63-128	ok
79-34-5	1,1,2,2-Tetrachloroethane	29.362	27.000	109	71-128	ok	70-130	ok	65-127	ok
98-82-8	Cumene	29.335	26.750	110	66-126	ok	70-130	ok	68-124	ok
80-56-8	alpha-Pinene	30.362	27.000	112	65-129	ok	70-130	ok	62-136	ok
103-65-1	n-Propylbenzene	29.312	26.750	110	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	30.669	27.250	113	67-128	ok	70-130	ok	67-129	ok
108-67-8	1,3,5-Trimethylbenzene	29.818	27.000	110	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	29.353	26.500	111	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	65.302	53.250	123	58-151	ok	70-130	ok	50-147	ok
541-73-1	1,3-Dichlorobenzene	28.862	26.500	109	57-135	ok	70-130	ok	65-130	ok
106-46-7	1,4-Dichlorobenzene	28.297	26.500	107	56-129	ok	70-130	ok	60-131	ok
135-98-8	sec-Butylbenzene	29.084	26.500	110	64-132	ok	70-130	ok	68-125	ok
99-87-6	p-Isopropyltoluene	29.191	26.500	110	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	27.858	26.500	105	57-138	ok	70-130	ok	63-129	ok
5989-27-5	d-Limonene	30.936	26.000	119	70-129	ok	70-130	ok	65-136	ok
96-12-8	1,2-Dibromo-3-Chloropropane	61.279	53.500	115	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	57.592	54.500	106	50-137	ok	70-130	ok	55-142	ok
91-20-3	Naphthalene	28.713	27.250	105	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	27.961	26.500	106	50-133	ok	70-130	ok	56-138	ok
108-94-1	Cyclohexanone	0.000	-	-	-	-	70-130	-	61-132	-
98-06-6	tert-Butylbenzene	29.099	26.750	109	63-130	ok	70-130	ok	65-124	ok
104-51-8	n-Butylbenzene	29.482	26.250	112	69-133	ok	70-130	ok	66-130	ok

Response Factor Report MS09

Method Path : I:\MS09\METHODS\
Method File : C09021125.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD

NA 2/12/25

Last Update : Wed Feb 12 06:17:06 2025
Response Via : Initial Calibration

Calibration Files
0.40=02112528.D 1.0 =02112529.D 2.5 =02112530.D 5.0 =02112531.D 25 =02112532.D 50 =02112

		Compound	0.40	1.0	2.5	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------	ISTD	----------						
2)	T	Chloropentaflu...	1.566	1.386	1.355	1.322	1.283	1.203	1.070	1.312	11.78
3)	T	1,1,1,2-Tetraf...	0.988	0.843	0.831	0.806	0.809	0.772	0.686	0.819	11.08
4)	T	1,1-Difluoroet...	0.947	0.866	0.833	0.746	0.797	0.710	0.500	0.771	18.52
5)	T	Chlorodifluoro...	0.266	0.240	0.240	0.234	0.240	0.230	0.200	0.236	8.35
6)	T	1-Chloro-1,1-D...	1.738	1.608	1.525	1.496	1.480	1.420	1.357	1.518	8.25
7)	T	Dichlorofluoro...	2.383	2.142	2.105	2.044	2.024	1.935	1.805	2.063	8.74
8)	T	Vinylbromide	1.100	0.982	0.995	0.990	0.996	0.961	0.910	0.990	5.77
9)	T	2,2-Dichloro-1...	1.764	1.596	1.555	1.528	1.499	1.454	1.402	1.542	7.57
10)	T	2-Methylbutane	1.003	0.920	0.917	0.899	0.872	0.835	0.763	0.887	8.48
11)	T	Methyl Acetate	1.846	1.725	1.775	1.774	1.746	1.714	1.658	1.748	3.36
12)	T	2-Methylpentane	0.971	0.904	0.943	0.933	0.923	0.893	0.840	0.915	4.58
13)	T	2,2-Dichloropr...	1.266	1.179	1.182	1.149	1.253	1.211	1.191	1.205	3.49
14)	T	1,1-Dichloropr...	1.442	1.338	1.356	1.365	1.383	1.361	1.302	1.364	3.15
15)	T	Thiophene	2.599	2.348	2.344	2.313	2.309	2.234	2.102	2.321	6.44
16)	IR	1,4-Difluorobenzen...	----------	ISTD	----------						
17)	T	2,3-Dimethylpe...	0.434	0.390	0.385	0.381	0.380	0.363	0.340	0.382	7.46
18)	T	Dibromomethane	0.233	0.207	0.203	0.200	0.207	0.204	0.198	0.208	5.64
19)	IR	Chlorobenzene-d5 (...	----------	ISTD	----------						
20)	T	Methyl Cyclohe...	2.411	2.272	2.316	2.347	2.376	2.296	2.124	2.306	4.04
21)	T	1,3-Dichloropr...	3.160	2.868	2.881	2.849	2.924	2.832	2.671	2.884	5.06
22)	T	1,1,1,2-Tetrac...	1.865	1.749	1.762	1.775	1.869	1.825	1.759	1.801	2.85
23)	T	1-Chlorohexane	2.709	2.566	2.736	2.776	2.936	2.844	2.655	2.746	4.43
24)	T	1,2,3-Trichlor...	2.938	2.719	2.732	2.759	2.829	2.737	2.557	2.753	4.20
25)	T	Bromobenzene	3.613	3.284	3.218	3.231	3.410	3.298	3.059	3.302	5.24
26)	T	2-Chlorotoluene	6.018	5.772	5.922	5.962	6.117	5.778	5.154	5.818	5.46
27)	T	4-Chlorotoluene	6.412	6.116	6.271	6.244	6.457	6.096	5.468	6.152	5.37
28)	T	Indane	6.815	6.947	7.453	7.649	7.781	7.080	5.965	7.099	8.69
29)	T	Indene	5.353	5.681	6.107	6.261	6.848	6.348	5.527	6.018	8.75
30)	T	1,2,4,5-Tetram...	5.602	6.291	7.020	7.288	7.836	7.114	6.112	6.752	11.49
31)	T	1,2,3,4-Tetram...	6.872	7.116	7.317	7.347	7.657	7.001	5.699	7.001	8.99
32)	T	1,2,3,5-Tetram...	5.904	6.297	6.814	6.933	7.573	6.908	5.832	6.609	9.50
33)	T	1,2,3-Trichlor...	2.818	2.728	2.825	2.856	3.238	3.115	2.797	2.911	6.49

(#) = Out of Range

C09021125.M Wed Feb 12 06:17:20 2025

MA 2/12/25

Std#: **Working Standards**

(1) **200 ng/L Working Std. ID:** S37-02112504

(2) **20 ng/L Working Std. ID:** S37-02112505

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\C09021125.M (RTE Integrator)
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

2/12/25

#	ID	Conc	ISTD Conc	Path\File
1	0.40	0	13	I:\MS09\DATA\2025_02\11\02112528.D
2	1.0	1	13	I:\MS09\DATA\2025_02\11\02112529.D
3	2.5	2	13	I:\MS09\DATA\2025_02\11\02112530.D
4	5.0	5	13	I:\MS09\DATA\2025_02\11\02112531.D
5	25	25	13	I:\MS09\DATA\2025_02\11\02112532.D
6	50	50	13	I:\MS09\DATA\2025_02\11\02112533.D
7	100	99	13	I:\MS09\DATA\2025_02\11\02112534.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.40	Feb 12 06:15 2025	Feb 12 06:13 2025	11 Feb 2025 20:36
2	1.0	Feb 12 06:15 2025	Feb 12 06:13 2025	11 Feb 2025 21:08
3	2.5	Feb 12 06:16 2025	Feb 12 06:13 2025	11 Feb 2025 21:40
4	5.0	Feb 12 06:16 2025	Feb 12 06:13 2025	11 Feb 2025 22:12
5	25	Feb 12 06:16 2025	Feb 12 06:13 2025	11 Feb 2025 22:44
6	50	Feb 12 06:16 2025	Feb 12 06:13 2025	11 Feb 2025 23:16
7	100	Feb 12 06:17 2025	Feb 12 06:13 2025	11 Feb 2025 23:48

C09021125.M Wed Feb 12 06:19:23 2025

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112528.D
Acq On : 11 Feb 2025 20:36
Operator : SC
Sample : 0.4ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

NOA 2/12/25

Quant Time: Feb 12 06:13:05 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

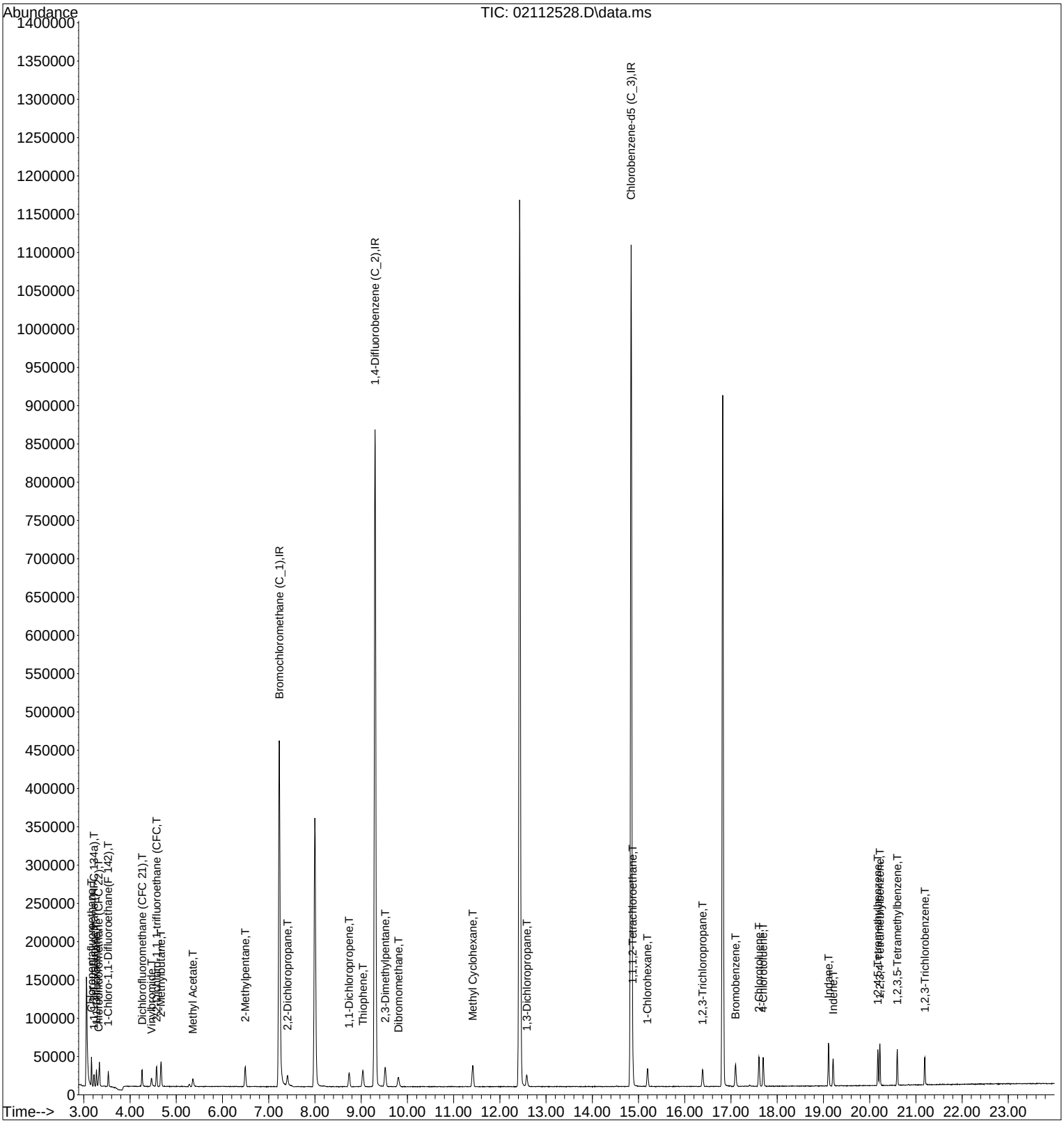
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	238282	12.500	ng		-0.01
16) 1,4-Difluorobenzene (C_2)	9.30	114	997091	12.500	ng		-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	130415	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.17	85	11825	0.410	ng		98
3) 1,1,1,2-Tetrafluoroeth...	3.22	83	7536	0.362	ng		97
4) 1,1-Difluoroethane	3.27	65	7658	0.409	ng		91
5) Chlorodifluoromethane ...	3.32	67	2113	0.333	ng		98
6) 1-Chloro-1,1-Difluoroe...	3.53	65	13786	0.333	ng		100
7) Dichlorofluoromethane ...	4.26	67	17990	0.383	ng		99
8) Vinylbromide	4.47	108	8390	0.423	ng		96
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	13986	0.431	ng		99
10) 2-Methylbutane	4.67	57	7800	0.352	ng		91
11) Methyl Acetate	5.36	43	13511	0.262	ng		96
12) 2-Methylpentane	6.49	71	7401	0.382	ng		91
13) 2,2-Dichloropropane	7.41	77	9559	0.324	ng		93
14) 1,1-Dichloropropene	8.74	75	11439	0.381	ng		99
15) Thiophene	9.04	84	20013	0.427	ng		98
17) 2,3-Dimethylpentane	9.52	56	14394	0.376	ng		99
18) Dibromomethane	9.81	174	7962	0.477	ng		98
20) Methyl Cyclohexane	11.42	55	10765	0.458	ng		95
21) 1,3-Dichloropropane	12.59	76	13716	0.582	ng		99
22) 1,1,1,2-Tetrachloroethane	14.87	131	6770	0.430	ng		97
23) 1-Chlorohexane	15.19	91	11644	0.503	ng		95
24) 1,2,3-Trichloropropane	16.38	75	12872	0.550	ng		98
25) Bromobenzene	17.10	77	15832	0.572	ng		99
26) 2-Chlorotoluene	17.61	91	26620	0.524	ng		100
27) 4-Chlorotoluene	17.70	91	27027	0.505	ng		98
28) Indane	19.11	117	28158	0.475	ng	#	94
29) Indene	19.21	115	21000	0.420	ng		98
30) 1,2,4,5-Tetramethylben...	20.18	119	23612	0.398	ng		99
31) 1,2,3,4-Tetramethylben...	20.22	119	29538	0.497	ng		98
32) 1,2,3,5-Tetramethylben...	20.60	119	24884	0.439	ng		98
33) 1,2,3-Trichlorobenzene	21.19	180	12348	0.526	ng		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112528.D
Acq On : 11 Feb 2025 20:36
Operator : SC
Sample : 0.4ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 12 06:13:05 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112529.D
Acq On : 11 Feb 2025 21:08
Operator : SC
Sample : 1.0ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

NOA 2/12/25

Quant Time: Feb 12 06:13:06 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

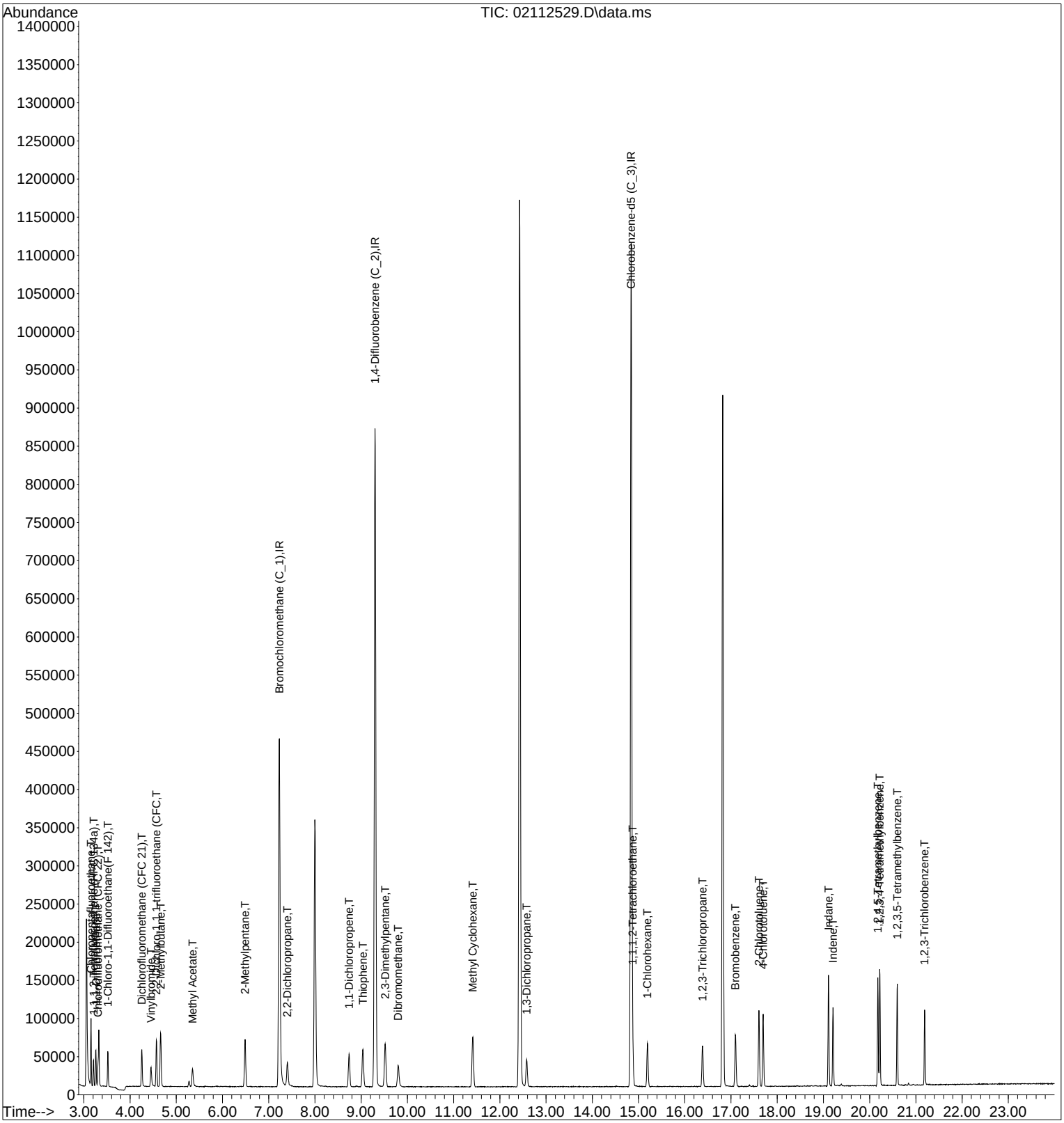
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	243642	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C_2)	9.30	114	1013401	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	132192	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	26749	0.908	ng	100
3) 1,1,1,2-Tetrafluoroeth...	3.21	83	16424	0.772	ng	98
4) 1,1-Difluoroethane	3.26	65	17899	0.934	ng	93
5) Chlorodifluoromethane ...	3.31	67	4867	0.751	ng	97
6) 1-Chloro-1,1-Difluoroe...	3.52	65	32587	0.770	ng	99
7) Dichlorofluoromethane ...	4.26	67	41341	0.860	ng	99
8) Vinylbromide	4.45	108	19139	0.944	ng	98
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	32344	0.975	ng	100
10) 2-Methylbutane	4.66	57	18293	0.807	ng	96
11) Methyl Acetate	5.35	43	32283	0.612	ng	98
12) 2-Methylpentane	6.49	71	17621	0.891	ng	94
13) 2,2-Dichloropropane	7.40	77	22760	0.755	ng	98
14) 1,1-Dichloropropene	8.74	75	27127	0.883	ng	98
15) Thiophene	9.04	84	46220	0.965	ng	99
17) 2,3-Dimethylpentane	9.52	56	32858	0.844	ng	99
18) Dibromomethane	9.80	174	17967	1.058	ng	99
20) Methyl Cyclohexane	11.42	55	25705	1.080	ng	97
21) 1,3-Dichloropropane	12.58	76	31539	1.319	ng	99
22) 1,1,1,2-Tetrachloroethane	14.87	131	16095	1.008	ng	99
23) 1-Chlorohexane	15.19	91	27949	1.192	ng	96
24) 1,2,3-Trichloropropane	16.38	75	30191	1.273	ng	99
25) Bromobenzene	17.09	77	36465	1.300	ng	99
26) 2-Chlorotoluene	17.61	91	64708	1.257	ng	99
27) 4-Chlorotoluene	17.70	91	65323	1.205	ng	98
28) Indane	19.11	117	72730	1.210	ng	97
29) Indene	19.21	115	56470	1.114	ng	99
30) 1,2,4,5-Tetramethylben...	20.18	119	67199	1.119	ng	99
31) 1,2,3,4-Tetramethylben...	20.22	119	77515	1.286	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	67260	1.170	ng	98
33) 1,2,3-Trichlorobenzene	21.19	180	30289	1.272	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112529.D
Acq On : 11 Feb 2025 21:08
Operator : SC
Sample : 1.0ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 12 06:13:06 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112530.D
Acq On : 11 Feb 2025 21:40
Operator : SC
Sample : 2.5ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

2/12/25

Quant Time: Feb 12 06:13:07 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

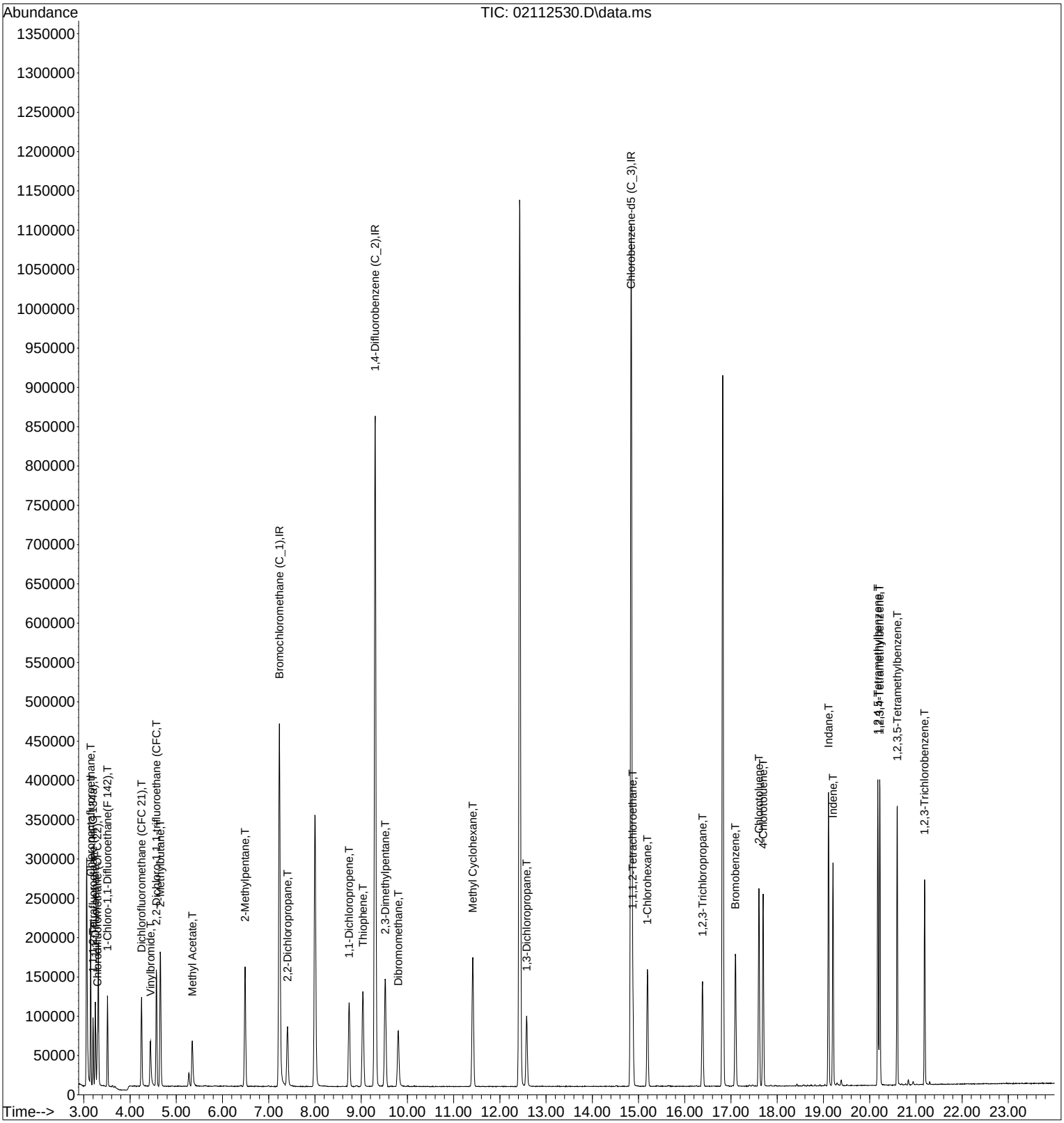
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	238951	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C_2)	9.30	114	1001058	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	129656	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.15	85	64103	2.218	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.20	83	39690	1.901	ng	97
4) 1,1-Difluoroethane	3.25	65	42186	2.245	ng	93
5) Chlorodifluoromethane ...	3.30	67	11942	1.879	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.51	65	75819	1.827	ng	100
7) Dichlorofluoromethane ...	4.25	67	99588	2.113	ng	100
8) Vinylbromide	4.44	108	47538	2.390	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	77282	2.375	ng	100
10) 2-Methylbutane	4.65	57	44694	2.011	ng	98
11) Methyl Acetate	5.35	43	81423	1.574	ng	98
12) 2-Methylpentane	6.49	71	45072	2.323	ng	98
13) 2,2-Dichloropropane	7.41	77	55942	1.893	ng	99
14) 1,1-Dichloropropene	8.74	75	67387	2.237	ng	98
15) Thiophene	9.04	84	113129	2.409	ng	100
17) 2,3-Dimethylpentane	9.52	56	80135	2.083	ng	100
18) Dibromomethane	9.80	174	43595	2.600	ng	99
20) Methyl Cyclohexane	11.42	55	64261	2.753	ng	98
21) 1,3-Dichloropropane	12.58	76	77697	3.314	ng	100
22) 1,1,1,2-Tetrachloroethane	14.87	131	39753	2.540	ng	100
23) 1-Chlorohexane	15.19	91	73080	3.178	ng	98
24) 1,2,3-Trichloropropane	16.38	75	74396	3.199	ng	99
25) Bromobenzene	17.09	77	87609	3.184	ng	100
26) 2-Chlorotoluene	17.61	91	162784	3.225	ng	99
27) 4-Chlorotoluene	17.70	91	164228	3.089	ng	99
28) Indane	19.11	117	191323	3.245	ng	98
29) Indene	19.21	115	148862	2.993	ng	99
30) 1,2,4,5-Tetramethylben...	20.18	119	183865	3.121	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	195430	3.305	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	178472	3.166	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	76907	3.294	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112530.D
Acq On : 11 Feb 2025 21:40
Operator : SC
Sample : 2.5ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 12 06:13:07 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112531.D
Acq On : 11 Feb 2025 22:12
Operator : SC
Sample : 5.0ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

MA 2/12/25

Quant Time: Feb 12 06:13:08 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

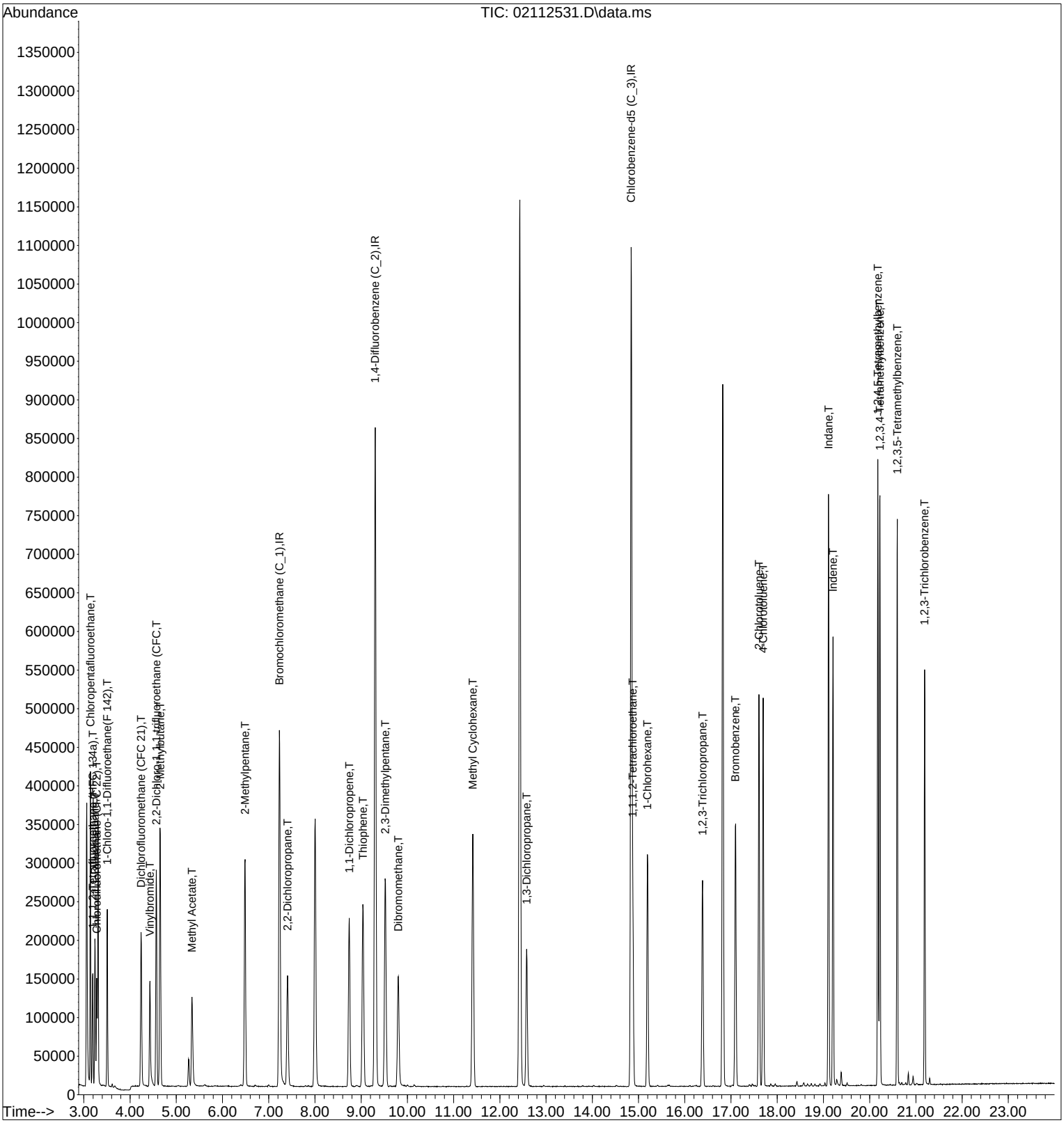
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.23	130	240474	12.500	ng	-0.01
16) 1,4-Difluorobenzene (C_2)	9.30	114	1004948	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	129910	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.14	85	125896	4.328	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.19	83	77541	3.691	ng	99
4) 1,1-Difluoroethane	3.24	65	76035	4.020	ng	97
5) Chlorodifluoromethane ...	3.28	67	23359	3.652	ng	98
6) 1-Chloro-1,1-Difluoroe...	3.51	65	149700	3.584	ng	99
7) Dichlorofluoromethane ...	4.24	67	194659	4.104	ng	100
8) Vinylbromide	4.43	108	95180	4.755	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	152837	4.667	ng	100
10) 2-Methylbutane	4.65	57	88232	3.945	ng	97
11) Methyl Acetate	5.34	43	163813	3.147	ng	99
12) 2-Methylpentane	6.49	71	89730	4.595	ng	98
13) 2,2-Dichloropropane	7.41	77	109458	3.681	ng	100
14) 1,1-Dichloropropene	8.74	75	136502	4.503	ng	99
15) Thiophene	9.04	84	224669	4.753	ng	100
17) 2,3-Dimethylpentane	9.52	56	159272	4.125	ng	100
18) Dibromomethane	9.80	174	86195	5.120	ng	99
20) Methyl Cyclohexane	11.42	55	130497	5.579	ng	99
21) 1,3-Dichloropropane	12.58	76	153963	6.554	ng	99
22) 1,1,1,2-Tetrachloroethane	14.87	131	80244	5.116	ng	100
23) 1-Chlorohexane	15.19	91	148586	6.449	ng	98
24) 1,2,3-Trichloropropane	16.38	75	150545	6.460	ng	99
25) Bromobenzene	17.09	77	176300	6.394	ng	100
26) 2-Chlorotoluene	17.61	91	328401	6.492	ng	99
27) 4-Chlorotoluene	17.70	91	327696	6.152	ng	99
28) Indane	19.11	117	393503	6.662	ng	99
29) Indene	19.21	115	305840	6.138	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	382510	6.480	ng	99
31) 1,2,3,4-Tetramethylben...	20.22	119	393224	6.637	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	363846	6.441	ng	99
33) 1,2,3-Trichlorobenzene	21.19	180	155803	6.660	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112531.D
Acq On : 11 Feb 2025 22:12
Operator : SC
Sample : 5.0ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112505 (3/13)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 12 06:13:08 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112532.D
Acq On : 11 Feb 2025 22:44
Operator : SC
Sample : 25ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112504 (3/13)
ALS Vial : 4 Sample Multiplier: 1

2/12/25

Quant Time: Feb 12 06:13:09 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

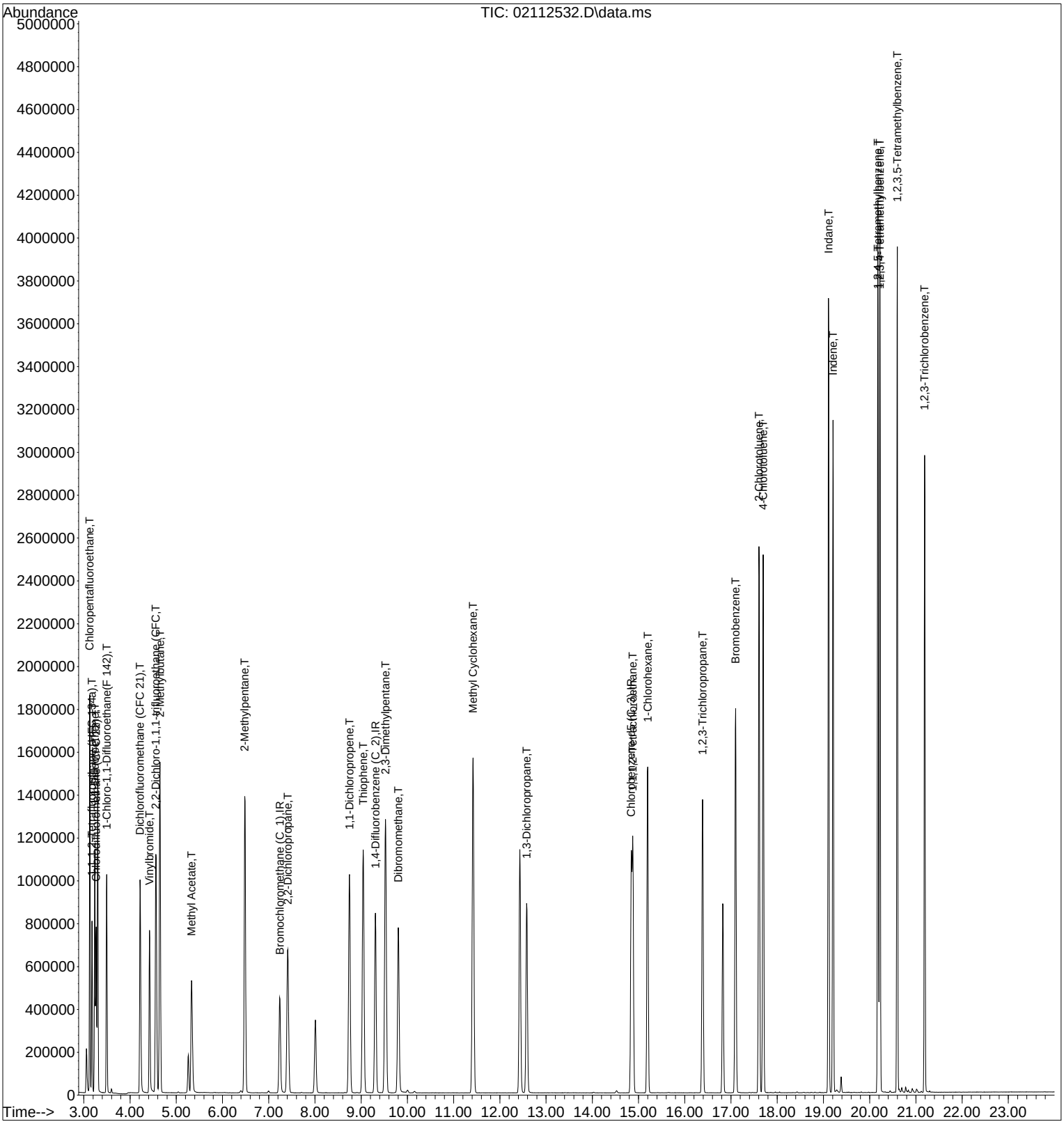
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	242533	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	9.31	114	1006779	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.84	54	128368	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	615927	20.996	ng	100
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	392519	18.524	ng	100
4) 1,1-Difluoroethane	3.24	65	409787	21.483	ng	100
5) Chlorodifluoromethane ...	3.27	67	120931	18.746	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	746679	17.725	ng	100
7) Dichlorofluoromethane ...	4.22	67	972011	20.320	ng	100
8) Vinylbromide	4.42	108	482986	23.923	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	756312	22.897	ng	100
10) 2-Methylbutane	4.65	57	431397	19.125	ng	100
11) Methyl Acetate	5.33	43	813189	15.489	ng	100
12) 2-Methylpentane	6.48	71	447784	22.734	ng	100
13) 2,2-Dichloropropane	7.41	77	601908	20.068	ng	100
14) 1,1-Dichloropropene	8.75	75	697514	22.814	ng	100
15) Thiophene	9.04	84	1131189	23.727	ng	100
17) 2,3-Dimethylpentane	9.53	56	796683	20.596	ng	100
18) Dibromomethane	9.80	174	446605	26.482	ng	100
20) Methyl Cyclohexane	11.42	55	652640	28.237	ng	100
21) 1,3-Dichloropropane	12.58	76	780824	33.636	ng	100
22) 1,1,1,2-Tetrachloroethane	14.87	131	417404	26.932	ng	100
23) 1-Chlorohexane	15.20	91	776348	34.102	ng	100
24) 1,2,3-Trichloropropane	16.38	75	762501	33.114	ng	100
25) Bromobenzene	17.10	77	919134	33.738	ng	100
26) 2-Chlorotoluene	17.61	91	1664639	33.305	ng	100
27) 4-Chlorotoluene	17.70	91	1674392	31.814	ng	100
28) Indane	19.11	117	1977712	33.883	ng	100
29) Indene	19.21	115	1652711	33.567	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	2032030	34.839	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	2024801	34.587	ng	100
32) 1,2,3,5-Tetramethylben...	20.60	119	1963670	35.180	ng	100
33) 1,2,3-Trichlorobenzene	21.19	180	872839	37.760	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112532.D
Acq On : 11 Feb 2025 22:44
Operator : SC
Sample : 25ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112504 (3/13)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 12 06:13:09 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112533.D
Acq On : 11 Feb 2025 23:16
Operator : SC
Sample : 50ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112504 (3/13)
ALS Vial : 4 Sample Multiplier: 1

2/12/25

Quant Time: Feb 12 06:13:10 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

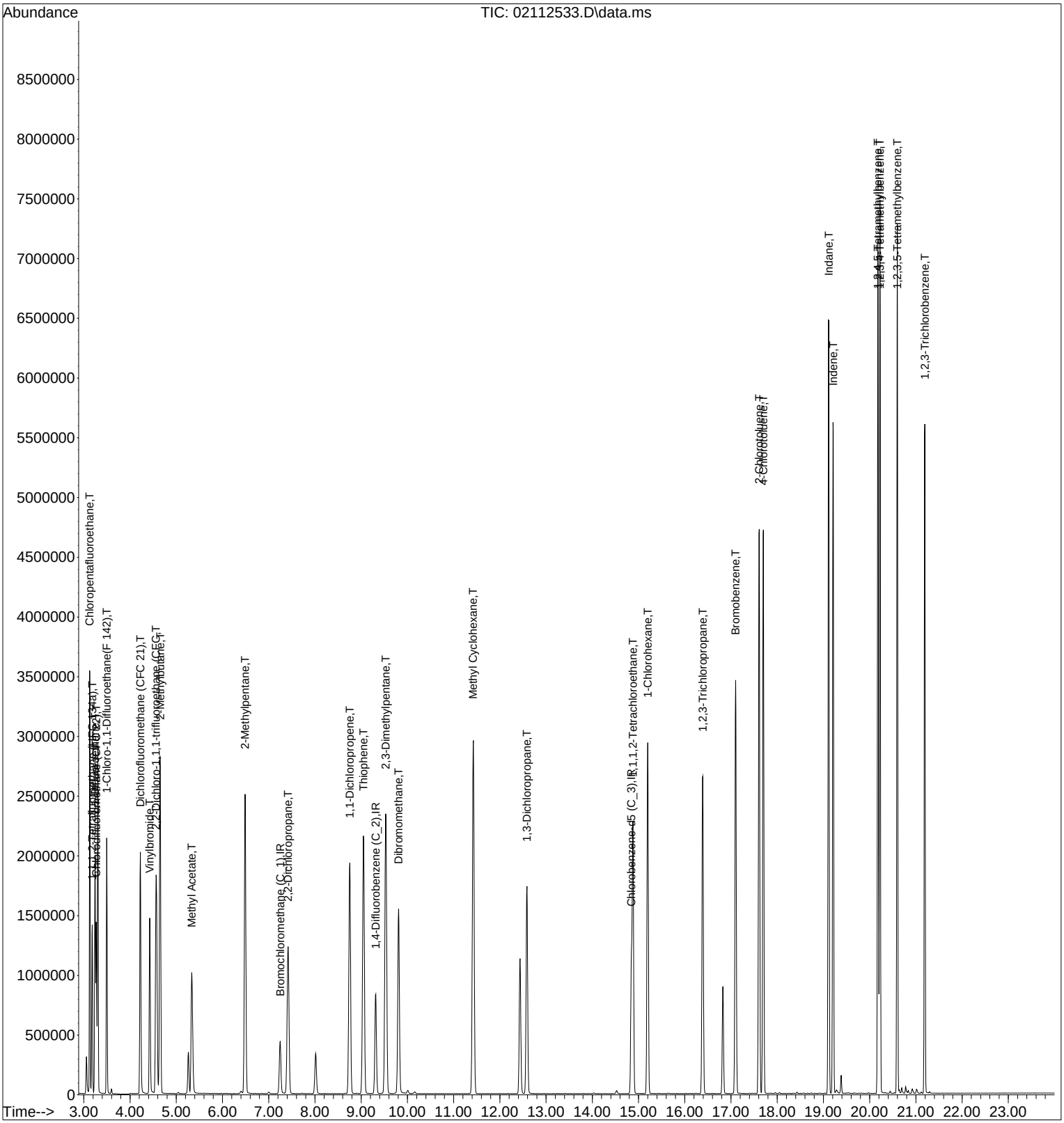
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.25	130	244848	12.500	ng	0.00
16) 1,4-Difluorobenzene (C_2)	9.32	114	1015420	12.500	ng	0.00
19) Chlorobenzene-d5 (C_3)	14.85	54	129751	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	1166744	39.397	ng	99
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	755829	35.332	ng	99
4) 1,1-Difluoroethane	3.25	65	736991	38.272	ng	99
5) Chlorodifluoromethane ...	3.27	67	234550	36.014	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	1446569	34.014	ng	100
7) Dichlorofluoromethane ...	4.22	67	1876356	38.855	ng	99
8) Vinylbromide	4.43	108	941522	46.194	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	1480885	44.408	ng	100
10) 2-Methylbutane	4.65	57	834123	36.629	ng	98
11) Methyl Acetate	5.33	43	1611281	30.401	ng	100
12) 2-Methylpentane	6.49	71	874255	43.966	ng	98
13) 2,2-Dichloropropane	7.42	77	1174315	38.782	ng	100
14) 1,1-Dichloropropene	8.75	75	1386534	44.921	ng	100
15) Thiophene	9.05	84	2210146	45.921	ng	99
17) 2,3-Dimethylpentane	9.53	56	1534722	39.338	ng	100
18) Dibromomethane	9.81	174	888659	52.246	ng	100
20) Methyl Cyclohexane	11.42	55	1274949	54.573	ng	100
21) 1,3-Dichloropropane	12.59	76	1528479	65.141	ng	100
22) 1,1,1,2-Tetrachloroethane	14.88	131	824064	52.605	ng	100
23) 1-Chlorohexane	15.20	91	1520078	66.060	ng	99
24) 1,2,3-Trichloropropane	16.39	75	1491726	64.093	ng	99
25) Bromobenzene	17.10	77	1797106	65.262	ng	100
26) 2-Chlorotoluene	17.61	91	3178693	62.919	ng	99
27) 4-Chlorotoluene	17.70	91	3195719	60.072	ng	99
28) Indane	19.12	117	3638020	61.663	ng	99
29) Indene	19.21	115	3096727	62.225	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	3729291	63.256	ng	99
31) 1,2,3,4-Tetramethylben...	20.22	119	3742723	63.250	ng	99
32) 1,2,3,5-Tetramethylben...	20.60	119	3621251	64.185	ng	100
33) 1,2,3-Trichlorobenzene	21.19	180	1697304	72.644	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112533.D
Acq On : 11 Feb 2025 23:16
Operator : SC
Sample : 50ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112504 (3/13)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 12 06:13:10 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112534.D
Acq On : 11 Feb 2025 23:48
Operator : SC
Sample : 100ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112504 (3/13)
ALS Vial : 4 Sample Multiplier: 1

MDA 2/12/25

Quant Time: Feb 12 06:13:11 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration

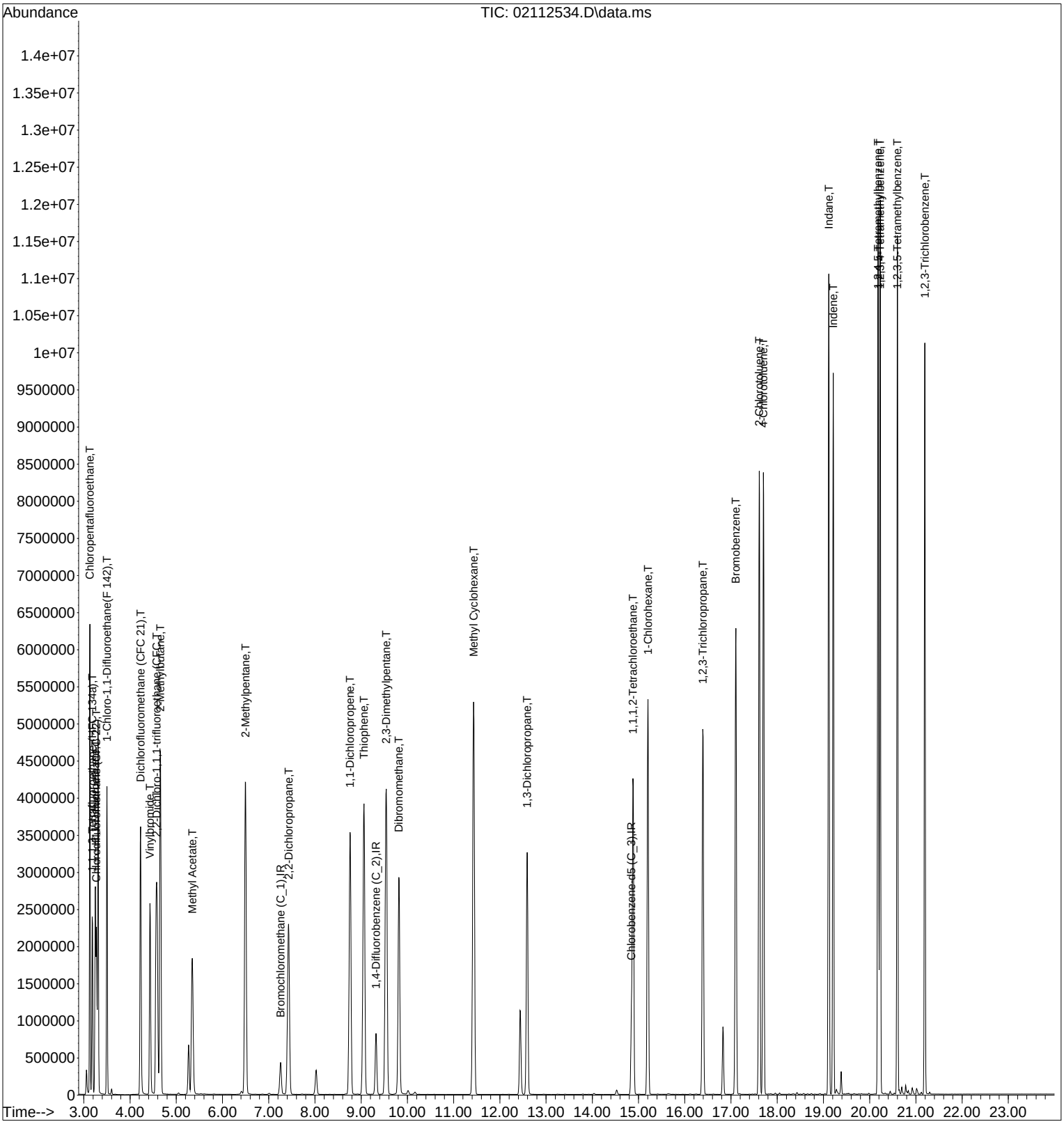
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.26	130	247892	12.500	ng	0.02
16) 1,4-Difluorobenzene (C_2)	9.32	114	1022075	12.500	ng	0.01
19) Chlorobenzene-d5 (C_3)	14.85	54	131046	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	2101452	70.088	ng	97
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	1361232	62.851	ng	97
4) 1,1-Difluoroethane	3.25	65	1051484	53.933	ng	95
5) Chlorodifluoromethane ...	3.27	67	412043	62.490	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.50	65	2798577	64.997	ng	100
7) Dichlorofluoromethane ...	4.23	67	3544470	72.497	ng	99
8) Vinylbromide	4.43	108	1803968	87.422	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.57	83	2890630	85.619	ng	100
10) 2-Methylbutane	4.66	57	1542684	66.913	ng	97
11) Methyl Acetate	5.35	43	3157255	58.837	ng	99
12) 2-Methylpentane	6.50	71	1665740	82.740	ng	95
13) 2,2-Dichloropropane	7.43	77	2337565	76.250	ng	100
14) 1,1-Dichloropropene	8.76	75	2686024	85.954	ng	99
15) Thiophene	9.06	84	4209736	86.393	ng	99
17) 2,3-Dimethylpentane	9.54	56	2890221	73.599	ng	99
18) Dibromomethane	9.81	174	1733329	101.243	ng	99
20) Methyl Cyclohexane	11.43	55	2382633	100.979	ng	99
21) 1,3-Dichloropropane	12.59	76	2912293	122.891	ng	99
22) 1,1,1,2-Tetrachloroethane	14.88	131	1604165	101.391	ng	100
23) 1-Chlorohexane	15.20	91	2867321	123.377	ng	99
24) 1,2,3-Trichloropropane	16.39	75	2814513	119.732	ng	98
25) Bromobenzene	17.11	77	3367190	121.071	ng	100
26) 2-Chlorotoluene	17.61	91	5727356	112.247	ng	98
27) 4-Chlorotoluene	17.70	91	5790235	107.768	ng	99
28) Indane	19.12	117	6191145	103.901	ng	97
29) Indene	19.21	115	5446485	108.360	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	6471685	108.688	ng	98
31) 1,2,3,4-Tetramethylben...	20.23	119	6153983	102.971	ng	98
32) 1,2,3,5-Tetramethylben...	20.60	119	6175447	108.375	ng	98
33) 1,2,3-Trichlorobenzene	21.19	180	3078990	130.478	ng	99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112534.D
Acq On : 11 Feb 2025 23:48
Operator : SC
Sample : 100ng TO-15 Custom ICAL STD
Misc : S37-01272501/S37-02112504 (3/13)
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 12 06:13:11 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:08:49 2025
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112537.D
Acq On : 12 Feb 2025 1:24
Operator : SC
Sample : ICV C09021125 25ng
Misc : S37-01272501/S37-02112503 (3/13)
ALS Vial : 5 Sample Multiplier: 1

NOA 2/12/25

Quant Time: Feb 12 06:31:06 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

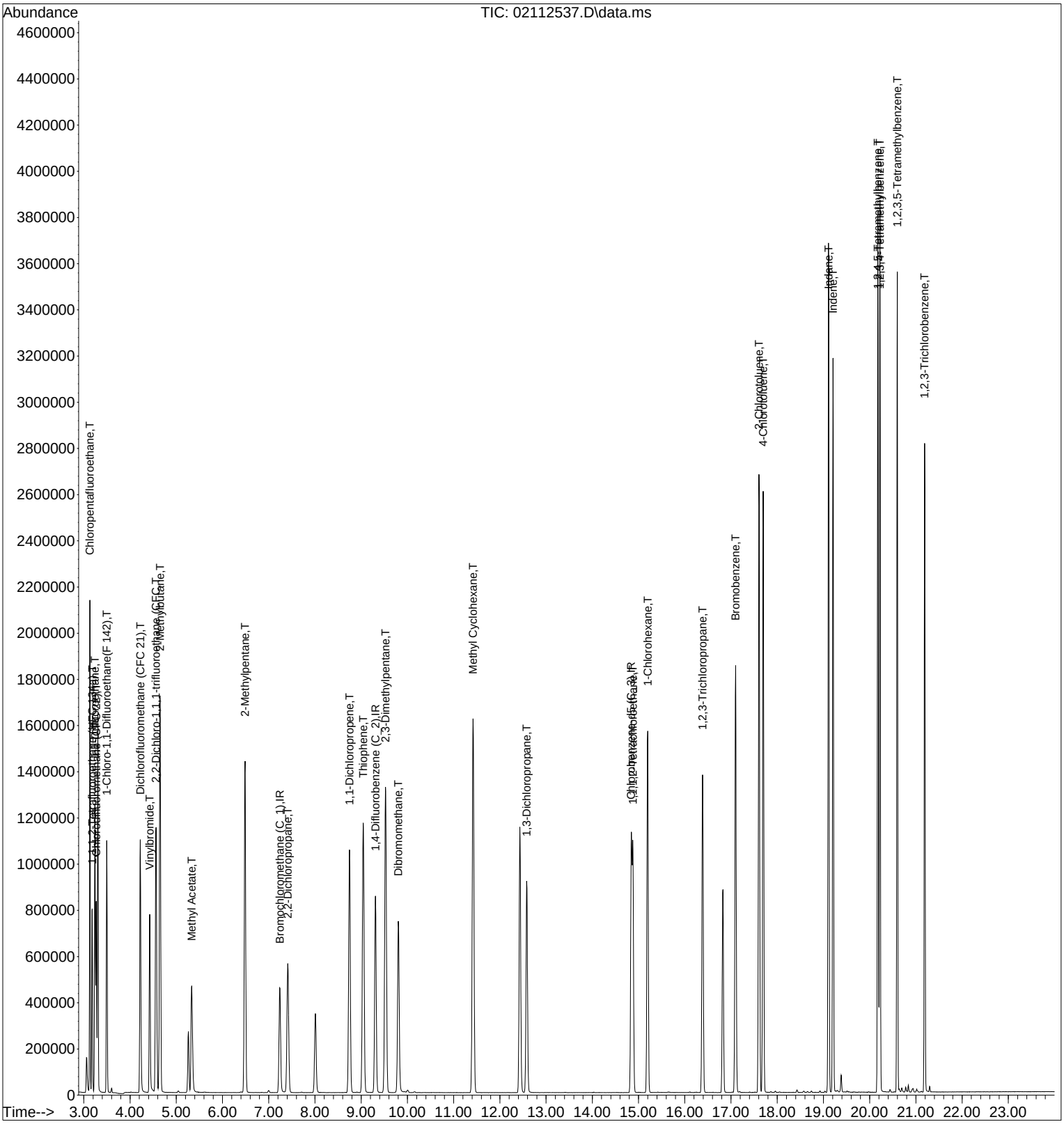
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	249936	12.500	ng	-0.02
16) 1,4-Difluorobenzene (C_2)	9.31	114	1014129	12.500	ng	-0.01
19) Chlorobenzene-d5 (C_3)	14.84	54	129357	12.500	ng	0.00
Target Compounds						Qvalue
2) Chloropentafluoroethane	3.13	85	644792	24.574	ng	100
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	408907	24.962	ng	100
4) 1,1-Difluoroethane	3.24	65	440349	28.552	ng	100
5) Chlorodifluoromethane ...	3.27	67	126596	26.859	ng	100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	781895	25.763	ng	100
7) Dichlorofluoromethane ...	4.22	67	1019703	24.723	ng	100
8) Vinylbromide	4.43	108	486804	24.581	ng	100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	768321	24.913	ng	100
10) 2-Methylbutane	4.65	57	465548	26.251	ng	95
11) Methyl Acetate	5.33	43	720212	20.603	ng	99
12) 2-Methylpentane	6.49	71	460149	25.146	ng	100
13) 2,2-Dichloropropane	7.41	77	490322	20.356	ng	100
14) 1,1-Dichloropropene	8.75	75	716697	26.280	ng	100
15) Thiophene	9.04	84	1166700	25.139	ng	100
17) 2,3-Dimethylpentane	9.53	56	829733	26.783	ng	100
18) Dibromomethane	9.80	174	429072	25.459	ng	99
20) Methyl Cyclohexane	11.42	55	676246	28.339	ng	99
21) 1,3-Dichloropropane	12.58	76	797794	26.735	ng	99
22) 1,1,1,2-Tetrachloroethane	14.88	131	379106	20.346	ng	100
23) 1-Chlorohexane	15.20	91	795922	28.009	ng	99
24) 1,2,3-Trichloropropane	16.38	75	766203	26.895	ng	100
25) Bromobenzene	17.10	77	935997	27.394	ng	100
26) 2-Chlorotoluene	17.61	91	1743093	28.953	ng	100
27) 4-Chlorotoluene	17.70	91	1712571	26.900	ng	100
28) Indane	19.11	117	1987239	27.052	ng	100
29) Indene	19.21	115	1658413	26.630	ng	100
30) 1,2,4,5-Tetramethylben...	20.18	119	1871130	26.779	ng	100
31) 1,2,3,4-Tetramethylben...	20.22	119	1879856	25.946	ng	100
32) 1,2,3,5-Tetramethylben...	20.60	119	1754614	25.656	ng	100
33) 1,2,3-Trichlorobenzene	21.19	180	818634	27.177	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112537.D
Acq On : 12 Feb 2025 1:24
Operator : SC
Sample : ICV C09021125 25ng
Misc : S37-01272501/S37-02112503 (3/13)
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 12 06:31:06 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



ALS Environmental

ICV / LCS Custom Report Acceptance Criteria

ICV C09021125_25ng

2/12/25

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.31
Chlorobenzene-d5 (IS3)	14.84

Datafile: 02112536.D
Instrument: MS-09
Date: 2/12/25

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	Pass/Fail
76-15-3	Chloropentafluoroethane	24.880	25.8	96	70-130	ok
811-97-2	1,1,1,2-Tetrafluoroethane (HFC 134a)	25.230	25.5	99	70-130	ok
75-37-6	1,1-Difluoroethane	28.982	26.8	108	70-130	ok
75-45-6	Chlorodifluoromethane (CFC 22)	27.047	26.5	102	70-130	ok
75-68-3	1-Chloro-1,1-Difluoroethane(F 142)	25.997	26.0	100	70-130	ok
75-43-4	Dichlorofluoromethane (CFC 21)	24.742	25.3	98	70-130	ok
593-60-2	Vinylbromide	24.652	24.5	101	70-130	ok
306-83-2	2,2-Dichloro-1,1,1-trifluoroethane (CFC	24.985	27.0	93	70-130	ok
78-78-4	2-Methylbutane	26.384	27.8	95	70-130	ok
79-20-9	Methyl Acetate	20.590	22.0	94	70-130	ok
107-83-5	2-Methylpentane	25.139	24.5	103	70-130	ok
594-20-7	2,2-Dichloropropane	20.213	18.8	108	70-130	ok
563-58-6	1,1-Dichloropropene	26.232	25.8	102	70-130	ok
110-02-1	Thiophene	25.142	25.3	99	70-130	ok
565-59-3	2,3-Dimethylpentane	26.668	26.0	103	70-130	ok
74-95-3	Dibromomethane	25.344	25.5	99	70-130	ok
108-87-2	Methyl Cyclohexane	28.449	26.5	107	70-130	ok
142-28-9	1,3-Dichloropropane	26.604	26.3	101	70-130	ok
630-20-6	1,1,1,2-Tetrachloroethane	20.266	19.0	107	70-130	ok
544-10-5	1-Chlorohexane	28.021	25.8	109	70-130	ok
96-18-4	1,2,3-Trichloropropane	26.824	26.3	102	70-130	ok
108-86-1	Bromobenzene	27.361	26.5	103	70-130	ok
95-49-8	2-Chlorotoluene	28.874	27.3	106	70-130	ok
106-43-4	4-Chlorotoluene	26.809	25.8	104	70-130	ok
496-11-7	Indan	26.911	25.0	108	70-130	ok
95-13-6	Indene	26.318	24.0	110	70-130	ok
95-93-2	1,2,4,5-Tetramethylbenzene	26.510	25.8	103	70-130	ok
488-23-3	1,2,3,4-Tetramethylbenzene	25.553	26.3	97	70-130	ok
527-53-7	1,2,3,5-Tetramethylbenzene	25.090	25.8	97	70-130	ok
87-61-6	1,2,3-Trichlorobenzene	25.933	26.0	100	70-130	ok

ALS Environmental

ICV / LCS Custom Report Acceptance Criteria

ICV C09021125_25ng

	RT
Bromochloromethane (IS1)	7.24
1,4-Difluorobenzene (IS2)	9.31
Chlorobenzene-d5 (IS3)	14.84

Datafile: 02112536.D
Instrument: MS-09
Date: 2/12/25

CAS No	Analyte	Amount Found	Spike Amount	% REC	ALS LCS Limits	Pass/Fail

Evaluate Continuing Calibration Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172502.D
Acq On : 17 Mar 2025 22:12
Operator : SC
Sample : CCV R09031725 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

VOA 3/18/25

Quant Time: Mar 18 06:17:48 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

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	103	0.00
2	T	Propene	1.327	1.237	6.8	99	0.00
3	T	Dichlorodifluoromethane (CF	2.536	2.341	7.7	99	0.00
4	T	Chloromethane	1.329	1.594	-19.9	107	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.199	1.094	8.8	97	0.00
6	T	Vinyl Chloride	1.738	1.733	0.3	101	0.00
7	T	1,3-Butadiene	1.068	0.914	14.4	98	0.00
8	T	Bromomethane	1.192	1.136	4.7	101	0.00
9	T	Chloroethane	0.911	0.873	4.2	101	0.00
10	T	Ethanol	0.994	0.959	3.5	104	0.00
11	T	Acetonitrile	2.387	2.166	9.3	102	0.00
12	T	Acrolein	0.896	0.884	1.3	101	0.00
13	T	Acetone	0.949	0.915	3.6	102	0.00
14	T	Trichlorofluoromethane	2.219	2.045	7.8	100	0.00
15	T	2-Propanol (Isopropanol)	3.104	3.134	-1.0	104	0.00
16	T	Acrylonitrile	1.632	1.637	-0.3	101	0.00
17	T	1,1-Dichloroethene	1.220	1.152	5.6	99	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.084	2.587	-24.1	112	0.00
19	T	Methylene Chloride	1.415	1.321	6.6	100	0.00
20	T	3-Chloro-1-propene (Allyl C	1.886	1.747	7.4	102	0.00
21	T	Trichlorotrifluoroethane	1.022	0.966	5.5	99	0.00
22	T	Carbon Disulfide	4.639	4.498	3.0	100	0.00
23	T	trans-1,2-Dichloroethene	1.770	1.734	2.0	100	0.00
24	T	1,1-Dichloroethane	2.226	2.110	5.2	100	0.00
25	T	Methyl tert-Butyl Ether	2.994	3.254	-8.7	106	0.00
26	T	Vinyl Acetate	0.253	0.275	-8.7	102	0.00
27	T	2-Butanone (MEK)	0.833	0.853	-2.4	101	0.00
28	T	cis-1,2-Dichloroethene	1.701	1.630	4.2	99	0.00
29	T	Diisopropyl Ether	0.958	0.940	1.9	99	0.00
30	T	Ethyl Acetate	0.468	0.499	-6.6	101	0.00
31	T	n-Hexane	1.964	1.946	0.9	100	0.00
32	T	Chloroform	2.168	2.027	6.5	99	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.550	1.498	3.4	104	0.00
34	T	Tetrahydrofuran (THF)	0.802	0.788	1.7	101	0.00
35	T	Ethyl tert-Butyl Ether	1.403	1.402	0.1	100	0.00
36	T	1,2-Dichloroethane	1.650	1.536	6.9	99	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	102	0.00
38	T	1,1,1-Trichloroethane	0.426	0.426	0.0	99	-0.05
39	T	Isopropyl Acetate	0.000	0.000	0.0	87	0.00
40	T	1-Butanol	0.000	0.000	0.0	123	-0.05
41	T	Benzene	1.209	1.133	6.3	98	0.00
42	T	Carbon Tetrachloride	0.381	0.385	-1.0	99	0.00
43	T	Cyclohexane	0.417	0.419	-0.5	99	0.00
44	T	tert-Amyl Methyl Ether	0.730	0.784	-7.4	101	0.00
45	T	1,2-Dichloropropane	0.289	0.285	1.4	99	0.00
46	T	Bromodichloromethane	0.370	0.378	-2.2	99	0.00
47	T	Trichloroethene	0.299	0.299	0.0	98	0.00
48	T	1,4-Dioxane	0.210	0.238	-13.3	104	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.132	1.117	1.3	99	0.00
50	T	Methyl Methacrylate	0.102	0.109	-6.9	98	0.00
51	T	n-Heptane	0.277	0.278	-0.4	99	0.00
52	T	cis-1,3-Dichloropropene	0.471	0.512	-8.7	99	0.00
53	T	4-Methyl-2-pentanone	0.235	0.273	-16.2	103	0.00

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172502.D
Acq On : 17 Mar 2025 22:12
Operator : SC
Sample : CCV R09031725 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:17:48 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

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)
54	T	trans-1,3-Dichloropropene	0.397	0.419	-5.5	98	0.00
55	T	1,1,2-Trichloroethane	0.273	0.275	-0.7	98	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	102	0.00
57	S	Toluene-d8 (SS2)	6.776	6.760	0.2	102	0.00
58	T	Toluene	6.740	6.522	3.2	98	0.00
59	T	2-Hexanone	2.883	3.465	-20.2	105	0.00
60	T	Dibromochloromethane	1.879	1.985	-5.6	99	0.00
61	T	1,2-Dibromoethane	1.909	1.973	-3.4	98	0.00
62	T	n-Butyl Acetate	3.446	3.957	-14.8	105	0.00
63	T	n-Octane	1.388	1.409	-1.5	99	0.00
64	T	Tetrachloroethene	1.855	1.811	2.4	97	0.00
65	T	Chlorobenzene	4.560	4.501	1.3	98	0.00
66	T	Ethylbenzene	7.402	7.455	-0.7	97	0.00
67	T	m- & p-Xylenes	5.826	5.990	-2.8	98	0.00
68	T	Bromoform	1.397	1.539	-10.2	97	0.00
69	T	Styrene	4.481	4.681	-4.5	96	0.00
70	T	o-Xylene	5.866	5.945	-1.3	98	0.00
71	T	n-Nonane	2.909	3.003	-3.2	99	0.00
72	T	1,1,2,2-Tetrachloroethane	3.044	3.140	-3.2	100	0.00
73	S	Bromofluorobenzene (SS3)	2.000	2.039	-2.0	103	0.00
74	T	Cumene	7.107	7.177	-1.0	98	0.00
75	T	alpha-Pinene	3.705	3.896	-5.2	97	0.00
76	T	n-Propylbenzene	8.730	8.895	-1.9	98	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	98	0.00
78	T	4-Ethyltoluene	6.806	7.137	-4.9	98	0.00
79	T	1,3,5-Trimethylbenzene	5.792	5.962	-2.9	99	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	106	0.00
81	T	2-Ethyltoluene	0.000	0.000	0.0	98	0.00
82	T	1,2,4-Trimethylbenzene	5.782	6.078	-5.1	99	0.00
83	T	n-Decane	0.000	0.000	0.0	98	-0.01
84	T	Benzyl Chloride	4.568	5.203	-13.9	98	0.00
85	T	1,3-Dichlorobenzene	3.443	3.466	-0.7	97	0.00
86	T	1,4-Dichlorobenzene	3.585	3.541	1.2	95	0.00
87	T	sec-Butylbenzene	7.872	8.095	-2.8	99	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.460	6.658	-3.1	98	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	98	0.00
90	T	1,2-Dichlorobenzene	3.560	3.539	0.6	97	0.00
91	T	d-Limonene	2.161	2.416	-11.8	97	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.180	1.307	-10.8	100	0.00
93	T	n-Undecane	0.000	0.000	0.0	102	0.00
94	T	1,2,4-Trichlorobenzene	2.405	2.421	-0.7	93	0.00
95	T	Naphthalene	7.515	7.387	1.7	91	0.00
96	T	n-Dodecane	0.000	0.000	0.0	110	0.00
97	T	Hexachlorobutadiene	1.598	1.613	-0.9	96	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.26#
99	T	tert-Butylbenzene	5.453	5.474	-0.4	98	0.00
100	T	n-Butylbenzene	6.304	6.674	-5.9	99	0.00
101	T	1,1,1,2-Tetrachloroethane	1.533	1.580	-3.1	98	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172502.D
Acq On : 17 Mar 2025 22:12
Operator : SC
Sample : CCV R09031725 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

MA 3/18/25

Quant Time: Mar 18 06:17:48 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	180997	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	772863	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	128077	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	271052	12.080	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 96.64%				
57) Toluene-d8 (SS2)	12.44	98	865760	12.470	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 99.76%				
73) Bromofluorobenzene (SS3)	16.83	174	261174	12.745	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.92%				
Target Compounds							Qvalue
2) Propene	3.28	42	470335	24.471	ng		99
3) Dichlorodifluoromethan...	3.35	85	855738	23.302	ng		99
4) Chloromethane	3.49	50	611453	31.772	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	427778	24.637	ng		100
6) Vinyl Chloride	3.68	62	664846	26.415	ng		100
7) 1,3-Butadiene	3.80	54	350531	22.666	ng		97
8) Bromomethane	4.01	94	419584	24.300	ng		100
9) Chloroethane	4.15	64	347546	26.340	ng		99
10) Ethanol	4.37	45	1821962	126.538	ng		100
11) Acetonitrile	4.48	41	807673	23.364	ng		100
12) Acrolein	4.56	56	697684	53.792	ng		97
13) Acetone	4.66	58	1695192	123.424	ng		100
14) Trichlorofluoromethane	4.76	101	747665	23.270	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2337270	52.000	ng		99
16) Acrylonitrile	5.04	53	1232298	52.148	ng		100
17) 1,1-Dichloroethene	5.27	96	379611	21.490	ng		98
18) 2-Methyl-2-Propanol (t...	5.38	59	1957157	64.849	ng		96
19) Methylene Chloride	5.39	84	435301	21.252	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	689469	25.246	ng		94
21) Trichlorotrifluoroethane	5.59	151	321705	21.739	ng		98
22) Carbon Disulfide	5.61	76	3370699	50.175	ng		100
23) trans-1,2-Dichloroethene	6.17	61	659169	25.713	ng		100
24) 1,1-Dichloroethane	6.36	63	786763	24.405	ng		100
25) Methyl tert-Butyl Ether	6.38	73	1248458	28.794	ng		100
26) Vinyl Acetate	6.48	86	526740	143.895	ng	#	88
27) 2-Butanone (MEK)	6.69	72	630098	52.237	ng		98
28) cis-1,2-Dichloroethene	7.12	61	607748	24.668	ng		100
29) Diisopropyl Ether	7.30	87	711047	51.238	ng		95
30) Ethyl Acetate	7.31	61	352147	52.021	ng		97
31) n-Hexane	7.31	57	732554	25.760	ng		100
32) Chloroform	7.40	83	777862	24.782	ng		100
34) Tetrahydrofuran (THF)	7.76	72	542276	46.699	ng		96
35) Ethyl tert-Butyl Ether	7.84	87	1060449	52.217	ng		98
36) 1,2-Dichloroethane	8.15	62	561516	23.507	ng		99
38) 1,1,1-Trichloroethane	8.42	97	678022	25.755	ng		100
39) Isopropyl Acetate	9.61	61	713	No Calib		#	
40) 1-Butanol	8.84	56	3093	No Calib			
41) Benzene	8.92	78	1786298	23.892	ng		100
42) Carbon Tetrachloride	9.09	117	606948	25.787	ng		99
43) Cyclohexane	9.23	84	1347085	52.244	ng		99
44) tert-Amyl Methyl Ether	9.61	73	2543710	56.347	ng		100
45) 1,2-Dichloropropane	9.88	63	471380	26.424	ng		100
46) Bromodichloromethane	10.10	83	624572	27.279	ng		100
47) Trichloroethene	10.17	130	485388	26.296	ng		99
48) 1,4-Dioxane	10.13	88	390457	30.108	ng		100

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172502.D
Acq On : 17 Mar 2025 22:12
Operator : SC
Sample : CCV R09031725 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:17:48 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

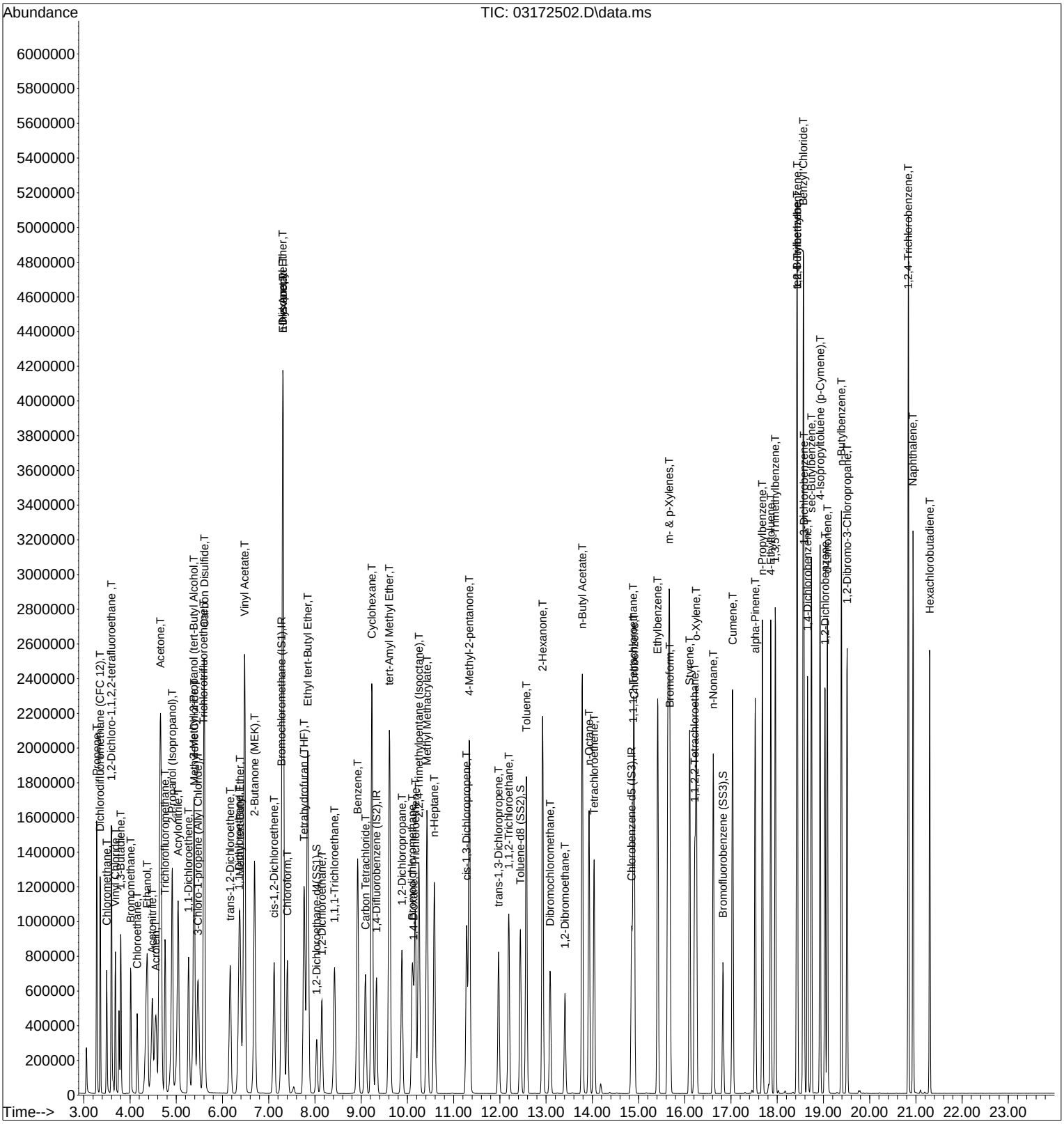
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
49) 2,2,4-Trimethylpentane...	10.25	57	1830834	26.166 ng		100
50) Methyl Methacrylate	10.42	100	357727	56.603 ng		99
51) n-Heptane	10.58	71	447486	26.166 ng		100
52) cis-1,3-Dichloropropene	11.28	75	830931	28.551 ng		99
53) 4-Methyl-2-pentanone	11.34	58	885038	60.952 ng		99
54) trans-1,3-Dichloropropene	11.97	75	641073	26.134 ng		100
55) 1,1,2-Trichloroethane	12.19	97	467716	27.747 ng		99
58) Toluene	12.57	91	1820893	26.367 ng		100
59) 2-Hexanone	12.93	43	1846111	62.495 ng		99
60) Dibromochloromethane	13.09	129	523669	27.199 ng		99
61) 1,2-Dibromoethane	13.41	107	530567	27.131 ng		99
62) n-Butyl Acetate	13.78	43	2128411	60.278 ng		100
63) n-Octane	13.93	57	382588	26.896 ng		99
64) Tetrachloroethene	14.04	166	496420	26.120 ng		100
65) Chlorobenzene	14.91	112	1233592	26.403 ng		99
66) Ethylbenzene	15.41	91	2081562	27.445 ng		100
67) m- & p-Xylenes	15.66	91	3283688	55.004 ng		100
68) Bromoform	15.68	173	429729	30.025 ng		100
69) Styrene	16.11	104	1270909	27.682 ng		99
70) o-Xylene	16.25	91	1644555	27.363 ng		100
71) n-Nonane	16.62	43	807625	27.099 ng		99
72) 1,1,2,2-Tetrachloroethane	16.21	83	868584	27.849 ng		99
74) Cumene	17.04	105	1930372	26.508 ng		100
75) alpha-Pinene	17.53	93	1067940	28.135 ng		100
76) n-Propylbenzene	17.68	91	2369738	26.494 ng		99
77) 3-Ethyltoluene	17.04	105	1930372	No Calib		
78) 4-Ethyltoluene	17.86	105	1901202	27.261 ng		99
79) 1,3,5-Trimethylbenzene	17.96	105	1649317	27.791 ng		100
80) alpha-Methylstyrene	17.04	118	3816	No Calib	#	
81) 2-Ethyltoluene	17.04	105	1930372	No Calib		
82) 1,2,4-Trimethylbenzene	18.43	105	1634818	27.593 ng		98
83) n-Decane	17.03	58	17342	No Calib		
84) Benzyl Chloride	18.56	91	2865288	61.221 ng		99
85) 1,3-Dichlorobenzene	18.58	146	941037	26.678 ng		99
86) 1,4-Dichlorobenzene	18.66	146	952440	25.928 ng		100
87) sec-Butylbenzene	18.74	105	2156523	26.735 ng		99
88) 4-Isopropyltoluene (p-...	18.93	119	1773608	26.795 ng		99
89) 1,2,3-Trimethylbenzene	17.04	105	1930372	No Calib		
90) 1,2-Dichlorobenzene	19.04	146	942777	25.848 ng		100
91) d-Limonene	19.09	68	637431	28.783 ng		98
92) 1,2-Dibromo-3-Chloropr...	19.51	157	706507	58.447 ng		96
93) n-Undecane	17.96	58	40996	No Calib		
94) 1,2,4-Trichlorobenzene	20.84	180	1345830	54.619 ng		99
95) Naphthalene	20.94	128	2062528	26.787 ng		99
96) n-Dodecane	18.93	58	53609	No Calib	#	
97) Hexachlorobutadiene	21.30	225	433931	26.510 ng		100
98) Cyclohexanone	0.00	55	0	N.D.		
99) tert-Butylbenzene	18.43	119	1472308	26.351 ng		99
100) n-Butylbenzene	19.39	91	1760832	27.259 ng		100
101) 1,1,1,2-Tetrachloroethane	14.89	131	433092	27.580 ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172502.D
Acq On : 17 Mar 2025 22:12
Operator : SC
Sample : CCV R09031725 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 18 06:17:48 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172503.D
Acq On : 17 Mar 2025 22:44
Operator : SC
Sample : CCV C09031725 25ng
Misc : S38-03052512/S38-03052507 (4/5)
ALS Vial : 3 Sample Multiplier: 1

MA 3/18/25

Quant Time: Mar 18 06:29:19 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

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	74	-0.02
2	T	Chloropentafluoroethane	1.312	1.437	-9.5	83	0.00
3	T	1,1,1,2-Tetrafluoroethane (	0.819	0.949	-15.9	86	-0.01
4	T	1,1-Difluoroethane	0.771	0.929	-20.5	86	-0.02
5	T	Chlorodifluoromethane (CFC	0.236	0.291	-23.3	89	-0.01
6	T	1-Chloro-1,1-Difluoroethane	1.518	1.850	-21.9	92	-0.01
7	T	Dichlorofluoromethane (CFC	2.063	2.430	-17.8	88	-0.01
8	T	Vinylbromide	0.990	1.028	-3.8	76	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.542	1.644	-6.6	81	-0.02
10	T	2-Methylbutane	0.887	1.102	-24.2	93	-0.02
11	T	Methyl Acetate	1.748	2.298	-31.5#	97	-0.02
12	T	2-Methylpentane	0.915	1.059	-15.7	85	-0.02
13	T	2,2-Dichloropropane	1.205	1.472	-22.2	87	-0.02
14	T	1,1-Dichloropropene	1.364	1.565	-14.7	83	-0.02
15	T	Thiophene	2.321	2.477	-6.7	79	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	75	-0.02
17	T	2,3-Dimethylpentane	0.382	0.448	-17.3	88	-0.02
18	T	Dibromomethane	0.208	0.185	11.1	67	-0.01
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	93	0.00
20	T	Methyl Cyclohexane	2.306	2.241	2.8	88	-0.02
21	T	1,3-Dichloropropane	2.884	2.558	11.3	82	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.801	1.471	18.3	74	0.00
23	T	1-Chlorohexane	2.746	2.448	10.9	78	0.00
24	T	1,2,3-Trichloropropane	2.753	2.502	9.1	83	0.00
25	T	Bromobenzene	3.302	2.879	12.8	79	0.00
26	T	2-Chlorotoluene	5.818	5.061	13.0	77	0.00
27	T	4-Chlorotoluene	6.152	5.282	14.1	76	0.00
28	T	Indane	7.099	5.999	15.5	72	0.00
29	T	Indene	6.018	5.181	13.9	71	0.00
30	T	1,2,4,5-Tetramethylbenzene	6.752	6.120	9.4	73	0.00
31	T	1,2,3,4-Tetramethylbenzene	7.001	6.010	14.2	73	0.00
32	T	1,2,3,5-Tetramethylbenzene	6.609	5.916	10.5	73	0.00
33	T	1,2,3-Trichlorobenzene	2.911	2.287	21.4	66	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172503.D
Acq On : 17 Mar 2025 22:44
Operator : SC
Sample : CCV C09031725 25ng
Misc : S38-03052512/S38-03052507 (4/5)
ALS Vial : 3 Sample Multiplier: 1

MA 3/18/25

Quant Time: Mar 18 06:29:19 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

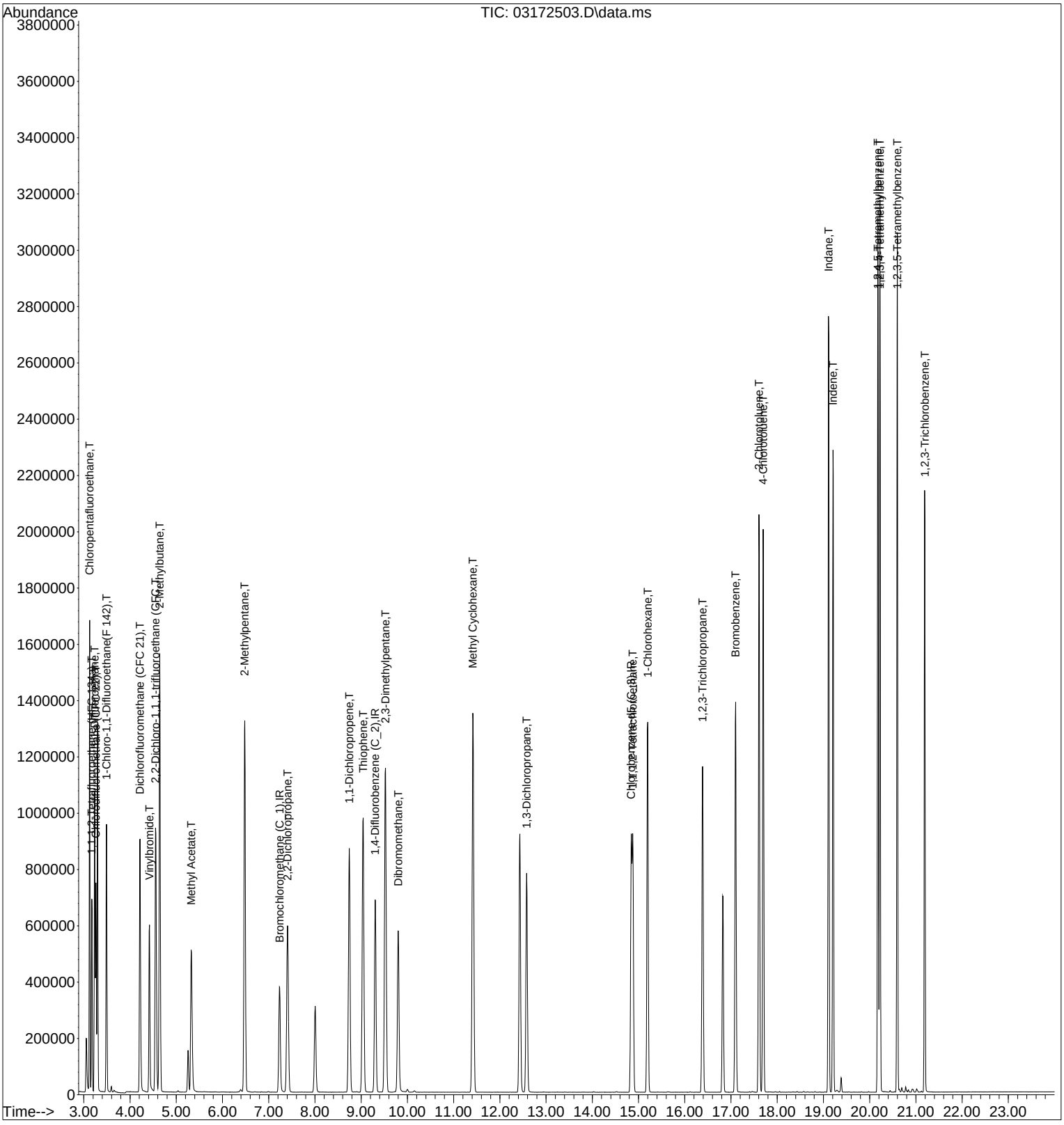
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	178730	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C_2)	9.30	114	751738	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	119941	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	508406	27.096	ng		94
3) 1,1,1,2-Tetrafluoroeth...	3.17	83	339118	28.949	ng		99
4) 1,1-Difluoroethane	3.23	65	352040	31.920	ng		97
5) Chlorodifluoromethane ...	3.26	67	108097	32.071	ng		100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	687585	31.681	ng		97
7) Dichlorofluoromethane ...	4.22	67	859983	29.158	ng		100
8) Vinylbromide	4.42	108	367337	25.938	ng		99
9) 2,2-Dichloro-1,1,1-tri...	4.55	83	611182	27.714	ng		100
10) 2-Methylbutane	4.64	57	401805	31.683	ng		92
11) Methyl Acetate	5.32	43	788531	31.544	ng		93
12) 2-Methylpentane	6.48	71	378490	28.924	ng		80
13) 2,2-Dichloropropane	7.41	77	520842	30.237	ng		98
14) 1,1-Dichloropropene	8.74	75	581744	29.831	ng		93
15) Thiophene	9.04	84	894422	26.950	ng	#	92
17) 2,3-Dimethylpentane	9.53	56	701277	30.538	ng		95
18) Dibromomethane	9.80	174	298092	23.861	ng		83
20) Methyl Cyclohexane	11.42	55	575282	26.001	ng		88
21) 1,3-Dichloropropane	12.58	76	638139	23.064	ng		95
22) 1,1,1,2-Tetrachloroethane	14.87	131	306921	17.765	ng		99
23) 1-Chlorohexane	15.20	91	604787	22.954	ng		91
24) 1,2,3-Trichloropropane	16.38	75	630287	23.861	ng		95
25) Bromobenzene	17.10	77	725156	22.889	ng		86
26) 2-Chlorotoluene	17.61	91	1286940	23.055	ng		95
27) 4-Chlorotoluene	17.70	91	1279775	21.680	ng		95
28) Indane	19.11	117	1424719	20.917	ng		99
29) Indene	19.21	115	1168304	20.233	ng		99
30) 1,2,4,5-Tetramethylben...	20.18	119	1482712	22.886	ng		97
31) 1,2,3,4-Tetramethylben...	20.22	119	1484975	22.105	ng		97
32) 1,2,3,5-Tetramethylben...	20.60	119	1433392	22.604	ng		97
33) 1,2,3-Trichlorobenzene	21.19	180	576150	20.629	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172503.D
Acq On : 17 Mar 2025 22:44
Operator : SC
Sample : CCV C09031725 25ng
Misc : S38-03052512/S38-03052507 (4/5)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 18 06:29:19 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182502.D
Acq On : 18 Mar 2025 23:19
Operator : SC
Sample : CCV R09031825 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

NOA 3/19/25

Quant Time: Mar 19 06:37:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

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	0.00
2	T	Propene	1.327	1.141	14.0	84	0.00
3	T	Dichlorodifluoromethane (CF	2.536	2.336	7.9	91	0.00
4	T	Chloromethane	1.329	1.037	22.0	64	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.199	1.097	8.5	90	0.00
6	T	Vinyl Chloride	1.738	1.770	-1.8	94	0.00
7	T	1,3-Butadiene	1.068	0.908	15.0	90	0.00
8	T	Bromomethane	1.192	1.114	6.5	91	0.00
9	T	Chloroethane	0.911	0.852	6.5	90	0.00
10	T	Ethanol	0.994	0.943	5.1	94	0.00
11	T	Acetonitrile	2.387	2.110	11.6	91	0.00
12	T	Acrolein	0.896	0.866	3.3	91	0.00
13	T	Acetone	0.949	0.917	3.4	95	0.00
14	T	Trichlorofluoromethane	2.219	2.040	8.1	92	0.00
15	T	2-Propanol (Isopropanol)	3.104	3.046	1.9	93	0.00
16	T	Acrylonitrile	1.632	1.624	0.5	93	0.00
17	T	1,1-Dichloroethene	1.220	1.142	6.4	90	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.084	1.980	5.0	79	0.00
19	T	Methylene Chloride	1.415	1.317	6.9	92	0.00
20	T	3-Chloro-1-propene (Allyl C	1.886	1.627	13.7	88	0.00
21	T	Trichlorotrifluoroethane	1.022	0.955	6.6	90	0.00
22	T	Carbon Disulfide	4.639	4.564	1.6	94	0.00
23	T	trans-1,2-Dichloroethene	1.770	1.712	3.3	91	0.00
24	T	1,1-Dichloroethane	2.226	2.088	6.2	91	0.00
25	T	Methyl tert-Butyl Ether	2.994	2.266	24.3	68	0.00
26	T	Vinyl Acetate	0.253	0.274	-8.3	94	0.00
27	T	2-Butanone (MEK)	0.833	0.848	-1.8	92	0.00
28	T	cis-1,2-Dichloroethene	1.701	1.626	4.4	91	0.00
29	T	Diisopropyl Ether	0.958	0.953	0.5	93	0.00
30	T	Ethyl Acetate	0.468	0.511	-9.2	95	0.00
31	T	n-Hexane	1.964	2.008	-2.2	95	0.00
32	T	Chloroform	2.168	2.030	6.4	91	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.550	1.474	4.9	94	0.00
34	T	Tetrahydrofuran (THF)	0.802	0.788	1.7	93	0.00
35	T	Ethyl tert-Butyl Ether	1.403	1.391	0.9	92	0.00
36	T	1,2-Dichloroethane	1.650	1.532	7.2	91	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	93	0.00
38	T	1,1,1-Trichloroethane	0.426	0.424	0.5	90	-0.05
39	T	Isopropyl Acetate	0.000	0.000	0.0	98	0.00
40	T	1-Butanol	0.000	0.000	0.0	108	-0.05
41	T	Benzene	1.209	1.144	5.4	90	0.00
42	T	Carbon Tetrachloride	0.381	0.383	-0.5	90	0.00
43	T	Cyclohexane	0.417	0.423	-1.4	91	0.00
44	T	tert-Amyl Methyl Ether	0.730	0.789	-8.1	92	0.00
45	T	1,2-Dichloropropane	0.289	0.290	-0.3	92	0.00
46	T	Bromodichloromethane	0.370	0.382	-3.2	91	0.00
47	T	Trichloroethene	0.299	0.302	-1.0	90	0.00
48	T	1,4-Dioxane	0.210	0.240	-14.3	96	0.00
49	T	2,2,4-Trimethylpentane (Iso	1.132	1.135	-0.3	91	0.00
50	T	Methyl Methacrylate	0.102	0.109	-6.9	89	0.00
51	T	n-Heptane	0.277	0.283	-2.2	91	0.00
52	T	cis-1,3-Dichloropropene	0.471	0.517	-9.8	91	0.00
53	T	4-Methyl-2-pentanone	0.235	0.279	-18.7	96	0.00

Evaluate Continuing Calibration Report

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182502.D
Acq On : 18 Mar 2025 23:19
Operator : SC
Sample : CCV R09031825 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:37:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

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)
54	T	trans-1,3-Dichloropropene	0.397	0.419	-5.5	89	0.00
55	T	1,1,2-Trichloroethane	0.273	0.278	-1.8	90	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	94	0.00
57	S	Toluene-d8 (SS2)	6.776	6.665	1.6	93	0.00
58	T	Toluene	6.740	6.519	3.3	91	0.00
59	T	2-Hexanone	2.883	3.488	-21.0	98	0.00
60	T	Dibromochloromethane	1.879	1.976	-5.2	91	0.00
61	T	1,2-Dibromoethane	1.909	1.958	-2.6	90	0.00
62	T	n-Butyl Acetate	3.446	3.996	-16.0	98	0.00
63	T	n-Octane	1.388	1.422	-2.4	92	0.00
64	T	Tetrachloroethene	1.855	1.802	2.9	89	0.00
65	T	Chlorobenzene	4.560	4.523	0.8	91	0.00
66	T	Ethylbenzene	7.402	7.481	-1.1	90	0.00
67	T	m- & p-Xylenes	5.826	6.060	-4.0	92	0.00
68	T	Bromoform	1.397	1.549	-10.9	90	0.00
69	T	Styrene	4.481	4.684	-4.5	89	0.00
70	T	o-Xylene	5.866	5.977	-1.9	91	0.00
71	T	n-Nonane	2.909	3.027	-4.1	92	0.00
72	T	1,1,2,2-Tetrachloroethane	3.044	3.179	-4.4	93	0.00
73	S	Bromofluorobenzene (SS3)	2.000	2.025	-1.2	94	0.00
74	T	Cumene	7.107	7.198	-1.3	90	0.00
75	T	alpha-Pinene	3.705	3.904	-5.4	89	0.00
76	T	n-Propylbenzene	8.730	9.012	-3.2	92	0.00
77	T	3-Ethyltoluene	0.000	0.000	0.0	90	0.00
78	T	4-Ethyltoluene	6.806	7.199	-5.8	91	0.00
79	T	1,3,5-Trimethylbenzene	5.792	6.044	-4.4	92	0.00
80	T	alpha-Methylstyrene	0.000	0.000	0.0	102	-0.01
81	T	2-Ethyltoluene	0.000	0.000	0.0	90	0.00
82	T	1,2,4-Trimethylbenzene	5.782	6.228	-7.7	94	0.00
83	T	n-Decane	0.000	0.000	0.0	92	-0.01
84	T	Benzyl Chloride	4.568	5.294	-15.9	92	0.00
85	T	1,3-Dichlorobenzene	3.443	3.544	-2.9	91	0.00
86	T	1,4-Dichlorobenzene	3.585	3.573	0.3	89	0.00
87	T	sec-Butylbenzene	7.872	8.218	-4.4	92	0.00
88	T	4-Isopropyltoluene (p-Cymen	6.460	6.761	-4.7	92	0.00
89	T	1,2,3-Trimethylbenzene	0.000	0.000	0.0	90	0.00
90	T	1,2-Dichlorobenzene	3.560	3.579	-0.5	91	0.00
91	T	d-Limonene	2.161	2.445	-13.1	91	0.00
92	T	1,2-Dibromo-3-Chloropropane	1.180	1.332	-12.9	94	0.00
93	T	n-Undecane	0.000	0.000	0.0	95	0.00
94	T	1,2,4-Trichlorobenzene	2.405	2.504	-4.1	89	0.00
95	T	Naphthalene	7.515	7.510	0.1	85	0.00
96	T	n-Dodecane	0.000	0.000	0.0	94	0.00
97	T	Hexachlorobutadiene	1.598	1.633	-2.2	90	0.00
98	T	Cyclohexanone	0.000	0.000	0.0	0#	-15.26#
99	T	tert-Butylbenzene	5.453	5.590	-2.5	92	0.00
100	T	n-Butylbenzene	6.304	6.809	-8.0	93	0.00
101	T	1,1,1,2-Tetrachloroethane	1.533	1.590	-3.7	91	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182502.D
Acq On : 18 Mar 2025 23:19
Operator : SC
Sample : CCV R09031825 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

MOA 3/19/25

Quant Time: Mar 19 06:37:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (IS1)	7.28	130	166450	12.500	ng		0.00
37) 1,4-Difluorobenzene (IS2)	9.33	114	703284	12.500	ng		0.00
56) Chlorobenzene-d5 (IS3)	14.85	54	118318	12.500	ng		0.00
System Monitoring Compounds							
33) 1,2-Dichloroethane-d4(...	8.04	65	245275	11.886	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 95.12%				
57) Toluene-d8 (SS2)	12.44	98	788556	12.295	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 98.32%				
73) Bromofluorobenzene (SS3)	16.83	174	239542	12.653	ng		0.00
Spiked Amount 12.500	Range 70 - 130		Recovery = 101.20%				
Target Compounds							Qvalue
2) Propene	3.28	42	398701	22.557	ng		100
3) Dichlorodifluoromethan...	3.35	85	785443	23.257	ng		100
4) Chloromethane	3.49	50	365947	20.677	ng		100
5) 1,2-Dichloro-1,1,2,2-t...	3.60	135	394393	24.699	ng		100
6) Vinyl Chloride	3.68	62	624459	26.979	ng		100
7) 1,3-Butadiene	3.80	54	320441	22.531	ng		94
8) Bromomethane	4.01	94	378418	23.831	ng		100
9) Chloroethane	4.15	64	311874	25.702	ng		100
10) Ethanol	4.37	45	1648553	124.501	ng		100
11) Acetonitrile	4.48	41	723540	22.760	ng		100
12) Acrolein	4.56	56	628542	52.696	ng		97
13) Acetone	4.66	58	1563777	123.806	ng		99
14) Trichlorofluoromethane	4.76	101	685955	23.215	ng		99
15) 2-Propanol (Isopropanol)	4.91	45	2088898	50.536	ng		99
16) Acrylonitrile	5.04	53	1124350	51.739	ng		100
17) 1,1-Dichloroethene	5.26	96	345891	21.292	ng		98
18) 2-Methyl-2-Propanol (t...	5.38	59	1377842	49.644	ng		99
19) Methylene Chloride	5.39	84	398873	21.175	ng		98
20) 3-Chloro-1-propene (Al...	5.47	41	590334	23.505	ng		97
21) Trichlorotrifluoroethane	5.58	151	292405	21.486	ng		97
22) Carbon Disulfide	5.60	76	3145375	50.913	ng		100
23) trans-1,2-Dichloroethene	6.17	61	598433	25.384	ng		100
24) 1,1-Dichloroethane	6.36	63	715915	24.148	ng		100
25) Methyl tert-Butyl Ether	6.38	73	799468	20.050	ng		100
26) Vinyl Acetate	6.48	86	482040	143.192	ng	#	88
27) 2-Butanone (MEK)	6.69	72	576134	51.937	ng		98
28) cis-1,2-Dichloroethene	7.12	61	557547	24.608	ng		100
29) Diisopropyl Ether	7.31	87	663214	51.968	ng		94
30) Ethyl Acetate	7.31	61	331742	53.289	ng		96
31) n-Hexane	7.31	57	695063	26.578	ng		99
32) Chloroform	7.40	83	716313	24.815	ng		100
34) Tetrahydrofuran (THF)	7.77	72	498665	46.697	ng		95
35) Ethyl tert-Butyl Ether	7.84	87	967568	51.808	ng		98
36) 1,2-Dichloroethane	8.15	62	515226	23.455	ng		99
38) 1,1,1-Trichloroethane	8.42	97	613700	25.618	ng		99
41) Benzene	8.92	78	1641589	24.129	ng		100
42) Carbon Tetrachloride	9.09	117	550010	25.680	ng		99
43) Cyclohexane	9.23	84	1238965	52.805	ng		99
44) tert-Amyl Methyl Ether	9.61	73	2329471	56.707	ng		100
45) 1,2-Dichloropropane	9.88	63	435921	26.854	ng		99
46) Bromodichloromethane	10.10	83	574919	27.594	ng		100
47) Trichloroethene	10.17	130	446283	26.570	ng		99
48) 1,4-Dioxane	10.13	88	357978	30.334	ng		100
49) 2,2,4-Trimethylpentane...	10.25	57	1691931	26.573	ng		99
50) Methyl Methacrylate	10.42	100	324649	56.451	ng		96

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182502.D
Acq On : 18 Mar 2025 23:19
Operator : SC
Sample : CCV R09031825 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:37:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration

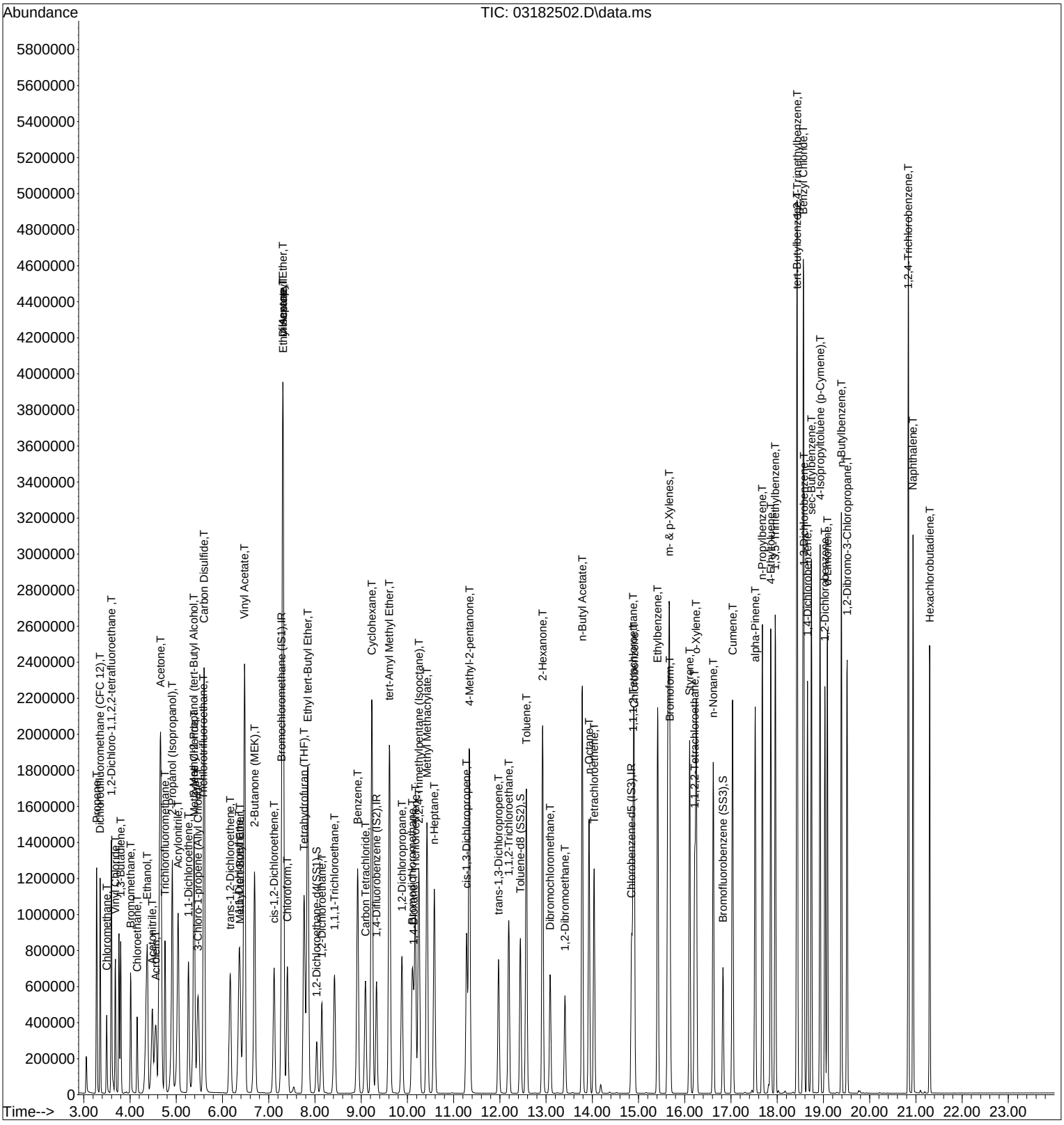
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
51) n-Heptane	10.58	71	413535	26.573	ng	100
52) cis-1,3-Dichloropropene	11.28	75	762946	28.808	ng	99
53) 4-Methyl-2-pentanone	11.34	58	823196	62.302	ng	99
54) trans-1,3-Dichloropropene	11.97	75	583638	26.146	ng	99
55) 1,1,2-Trichloroethane	12.19	97	430670	28.077	ng	100
58) Toluene	12.57	91	1681452	26.356	ng	100
59) 2-Hexanone	12.93	43	1716960	62.917	ng	99
60) Dibromochloromethane	13.09	129	481617	27.078	ng	99
61) 1,2-Dibromoethane	13.41	107	486452	26.927	ng	99
62) n-Butyl Acetate	13.78	43	1985994	60.884	ng	100
63) n-Octane	13.93	57	356567	27.134	ng	98
64) Tetrachloroethene	14.04	166	456239	25.986	ng	100
65) Chlorobenzene	14.91	112	1145125	26.531	ng	99
66) Ethylbenzene	15.41	91	1929604	27.540	ng	100
67) m- & p-Xylenes	15.66	91	3068951	55.647	ng	100
68) Bromoform	15.68	173	399622	30.225	ng	100
69) Styrene	16.11	104	1174823	27.699	ng	99
70) o-Xylene	16.25	91	1527643	27.514	ng	100
71) n-Nonane	16.62	43	752208	27.321	ng	99
72) 1,1,2,2-Tetrachloroethane	16.21	83	812502	28.200	ng	99
74) Cumene	17.04	105	1788556	26.586	ng	100
75) alpha-Pinene	17.53	93	988565	28.192	ng	100
76) n-Propylbenzene	17.68	91	2217824	26.840	ng	99
78) 4-Ethyltoluene	17.86	105	1771629	27.499	ng	98
79) 1,3,5-Trimethylbenzene	17.96	105	1544544	28.172	ng	100
82) 1,2,4-Trimethylbenzene	18.43	105	1547496	28.273	ng	98
84) Benzyl Chloride	18.57	91	2693465	62.296	ng	99
85) 1,3-Dichlorobenzene	18.58	146	888939	27.280	ng	100
86) 1,4-Dichlorobenzene	18.66	146	887735	26.160	ng	100
87) sec-Butylbenzene	18.74	105	2022513	27.142	ng	99
88) 4-Isopropyltoluene (p-...	18.93	119	1663975	27.212	ng	99
90) 1,2-Dichlorobenzene	19.03	146	880818	26.141	ng	100
91) d-Limonene	19.09	68	595987	29.132	ng	99
92) 1,2-Dibromo-3-Chloropr...	19.51	157	665318	59.579	ng	96
94) 1,2,4-Trichlorobenzene	20.84	180	1286028	56.497	ng	99
95) Naphthalene	20.94	128	1937190	27.234	ng	99
97) Hexachlorobutadiene	21.30	225	405823	26.838	ng	100
99) tert-Butylbenzene	18.43	119	1388879	26.909	ng	99
100) n-Butylbenzene	19.39	91	1659541	27.810	ng	99
101) 1,1,1,2-Tetrachloroethane	14.89	131	402605	27.753	ng	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182502.D
Acq On : 18 Mar 2025 23:19
Operator : SC
Sample : CCV R09031825 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Mar 19 06:37:54 2025
Quant Method : I:\MS09\METHODS\R09030725.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Mar 18 06:13:16 2025
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182503.D
Acq On : 18 Mar 2025 23:51
Operator : SC
Sample : CCV C09031825 25ng
Misc : S38-03052512/S38-03052507 (4/5)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 06:44:07 2025 3/19/25
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

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	68	-0.02
2	T	Chloropentafluoroethane	1.312	1.447	-10.3	77	0.00
3	T	1,1,1,2-Tetrafluoroethane (	0.819	0.938	-14.5	79	0.00
4	T	1,1-Difluoroethane	0.771	0.847	-9.9	72	-0.02
5	T	Chlorodifluoromethane (CFC	0.236	0.284	-20.3	81	-0.01
6	T	1-Chloro-1,1-Difluoroethane	1.518	1.887	-24.3	87	-0.01
7	T	Dichlorofluoromethane (CFC	2.063	2.477	-20.1	83	-0.01
8	T	Vinylbromide	0.990	1.041	-5.2	71	-0.01
9	T	2,2-Dichloro-1,1,1-trifluor	1.542	1.674	-8.6	76	-0.02
10	T	2-Methylbutane	0.887	1.127	-27.1	88	-0.01
11	T	Methyl Acetate	1.748	2.342	-34.0#	91	-0.02
12	T	2-Methylpentane	0.915	1.086	-18.7	80	-0.02
13	T	2,2-Dichloropropane	1.205	1.442	-19.7	78	-0.02
14	T	1,1-Dichloropropene	1.364	1.589	-16.5	78	-0.02
15	T	Thiophene	2.321	2.510	-8.1	74	-0.02
16	IR	1,4-Difluorobenzene (C 2)	1.000	1.000	0.0	69	-0.02
17	T	2,3-Dimethylpentane	0.382	0.458	-19.9	83	-0.02
18	T	Dibromomethane	0.208	0.185	11.1	62	-0.01
19	IR	Chlorobenzene-d5 (C 3)	1.000	1.000	0.0	88	0.00
20	T	Methyl Cyclohexane	2.306	2.241	2.8	83	-0.01
21	T	1,3-Dichloropropane	2.884	2.551	11.5	77	-0.01
22	T	1,1,1,2-Tetrachloroethane	1.801	1.447	19.7	68	0.00
23	T	1-Chlorohexane	2.746	2.428	11.6	73	0.00
24	T	1,2,3-Trichloropropane	2.753	2.509	8.9	78	0.00
25	T	Bromobenzene	3.302	2.877	12.9	74	0.00
26	T	2-Chlorotoluene	5.818	5.043	13.3	72	0.00
27	T	4-Chlorotoluene	6.152	5.250	14.7	71	0.00
28	T	Indane	7.099	5.961	16.0	67	0.00
29	T	Indene	6.018	5.146	14.5	66	0.00
30	T	1,2,4,5-Tetramethylbenzene	6.752	6.084	9.9	68	0.00
31	T	1,2,3,4-Tetramethylbenzene	7.001	5.995	14.4	69	0.00
32	T	1,2,3,5-Tetramethylbenzene	6.609	5.881	11.0	68	0.00
33	T	1,2,3-Trichlorobenzene	2.911	2.275	21.8	62	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182503.D
Acq On : 18 Mar 2025 23:51
Operator : SC
Sample : CCV C09031825 25ng
Misc : S38-03052512/S38-03052507 (4/5)
ALS Vial : 3 Sample Multiplier: 1

3/19/25

Quant Time: Mar 19 06:44:07 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

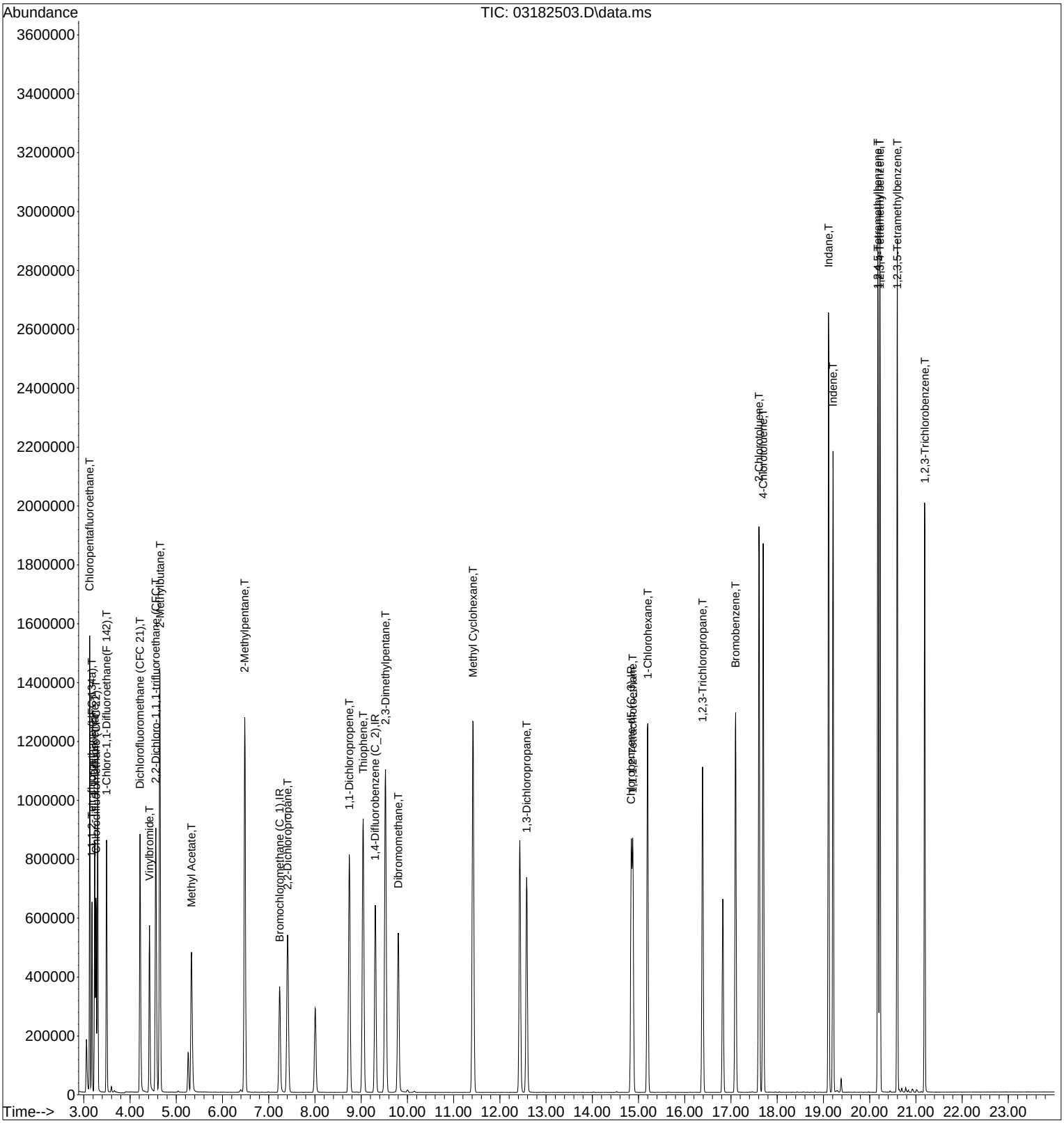
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane (C_1)	7.24	130	165082	12.500	ng		-0.02
16) 1,4-Difluorobenzene (C_2)	9.30	114	696099	12.500	ng		-0.02
19) Chlorobenzene-d5 (C_3)	14.84	54	112833	12.500	ng		0.00
Target Compounds							Qvalue
2) Chloropentafluoroethane	3.13	85	473127	27.300	ng		93
3) 1,1,1,2-Tetrafluoroeth...	3.18	83	309807	28.633	ng		99
4) 1,1-Difluoroethane	3.23	65	296515	29.108	ng		97
5) Chlorodifluoromethane ...	3.26	67	97577	31.343	ng		100
6) 1-Chloro-1,1-Difluoroe...	3.49	65	647904	32.321	ng		97
7) Dichlorofluoromethane ...	4.22	67	809502	29.715	ng		100
8) Vinylbromide	4.42	108	343656	26.272	ng		100
9) 2,2-Dichloro-1,1,1-tri...	4.56	83	574851	28.221	ng		100
10) 2-Methylbutane	4.65	57	379658	32.412	ng		91
11) Methyl Acetate	5.33	43	742211	32.145	ng		93
12) 2-Methylpentane	6.48	71	358511	29.662	ng		80
13) 2,2-Dichloropropane	7.41	77	471203	29.617	ng		98
14) 1,1-Dichloropropene	8.74	75	545484	30.284	ng		92
15) Thiophene	9.04	84	836918	27.302	ng	#	91
17) 2,3-Dimethylpentane	9.53	56	663281	31.192	ng		95
18) Dibromomethane	9.80	174	275631	23.827	ng	#	81
20) Methyl Cyclohexane	11.42	55	541016	25.993	ng		87
21) 1,3-Dichloropropane	12.58	76	598791	23.005	ng		95
22) 1,1,1,2-Tetrachloroethane	14.87	131	284104	17.481	ng		100
23) 1-Chlorohexane	15.20	91	564240	22.764	ng		90
24) 1,2,3-Trichloropropane	16.38	75	594477	23.923	ng		95
25) Bromobenzene	17.10	77	681599	22.870	ng		85
26) 2-Chlorotoluene	17.61	91	1206269	22.971	ng		95
27) 4-Chlorotoluene	17.70	91	1196532	21.547	ng		95
28) Indane	19.11	117	1331632	20.782	ng		99
29) Indene	19.21	115	1091689	20.097	ng		99
30) 1,2,4,5-Tetramethylben...	20.18	119	1386584	22.750	ng		97
31) 1,2,3,4-Tetramethylben...	20.22	119	1393395	22.048	ng		97
32) 1,2,3,5-Tetramethylben...	20.60	119	1340487	22.471	ng		98
33) 1,2,3-Trichlorobenzene	21.19	180	539057	20.517	ng		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182503.D
Acq On : 18 Mar 2025 23:51
Operator : SC
Sample : CCV C09031825 25ng
Misc : S38-03052512/S38-03052507 (4/5)
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Mar 19 06:44:07 2025
Quant Method : I:\MS09\METHODS\C09021125.M
Quant Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
QLast Update : Wed Feb 12 06:17:06 2025
Response via : Initial Calibration

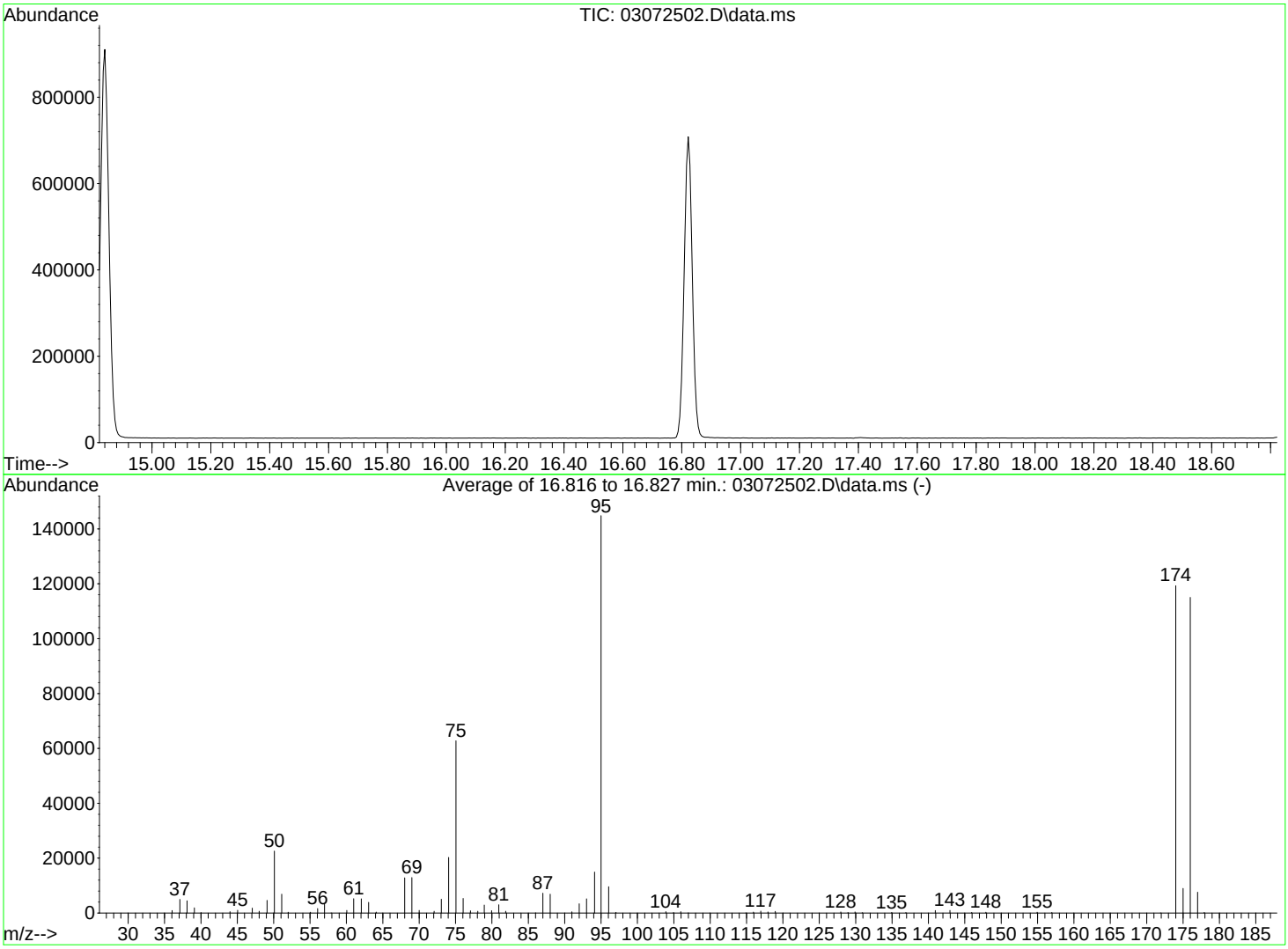


BFB

Data Path : I:\MS09\DATA\2025 03\07\
Data File : 03072502.D
Acq On : 7 Mar 2025 17:51
Operator : SC
Sample : 12.5ng TO-15 BFB STD
Misc : S38-03052512
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Mar 07 23:21:29 2025



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	15.6	22595	PASS
75	95	30	66	43.3	62760	PASS
95	95	100	100	100.0	144811	PASS
96	95	5	9	6.6	9580	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	82.4	119309	PASS
175	174	4	9	7.5	9003	PASS
176	174	93	101	96.4	115048	PASS
177	176	5	9	6.6	7591	PASS

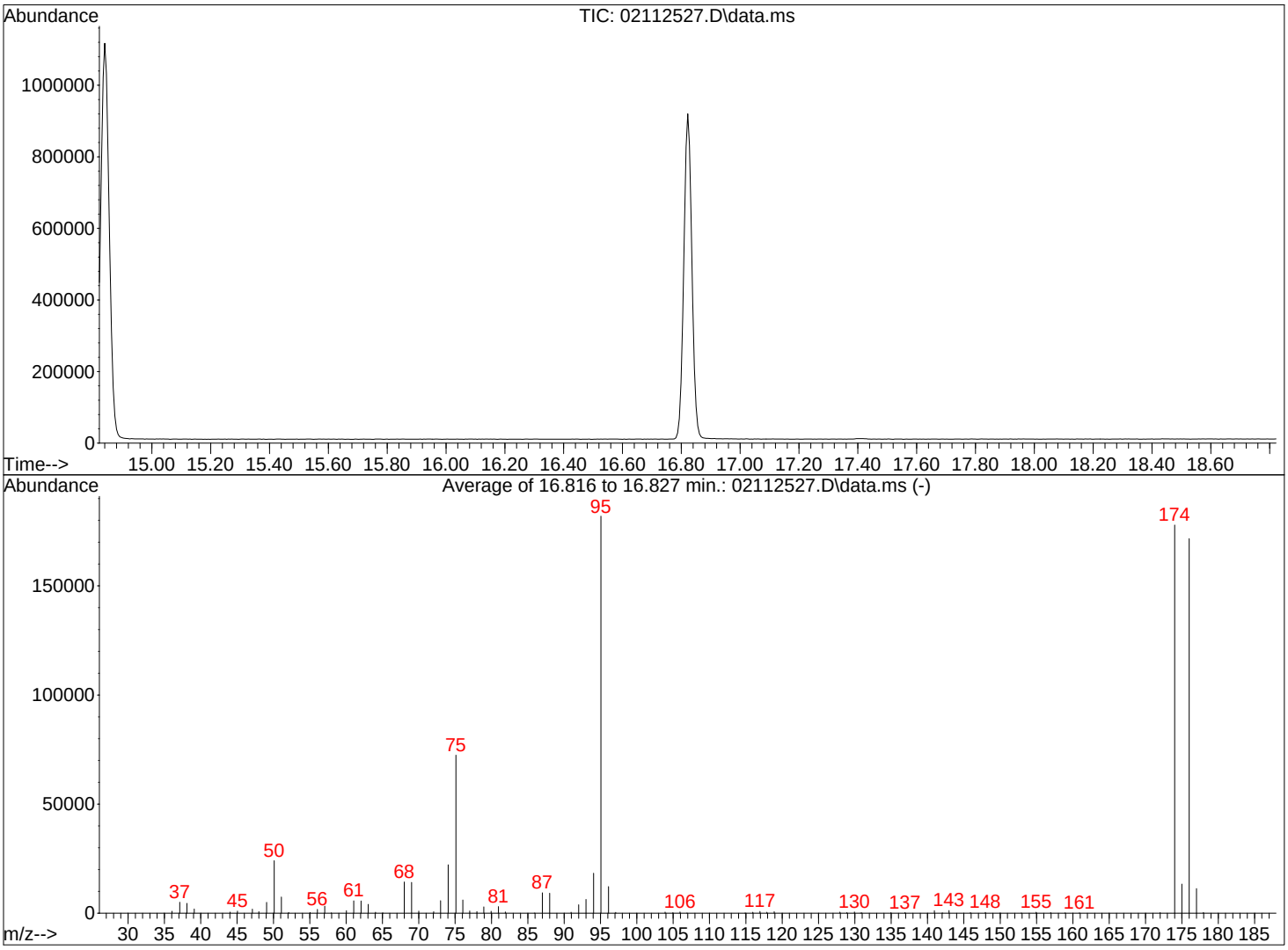
LH 3/7/25

BFB

Data Path : I:\MS09\DATA\2025 02\11\
Data File : 02112527.D
Acq On : 11 Feb 2025 20:04
Operator : SC
Sample : 12.5ng TO-15 Custom BFB
Misc : S37-01272501
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINTVB.P

Method : I:\MS09\METHODS\C09021125.M
Title : TO-15 Tekmar AutoCan/HP 6890/HP 5975 MSD
Last Update : Wed Feb 12 06:17:06 2025



AutoFind: Scans 2454, 2455, 2456; Background Corrected with Scan 2444

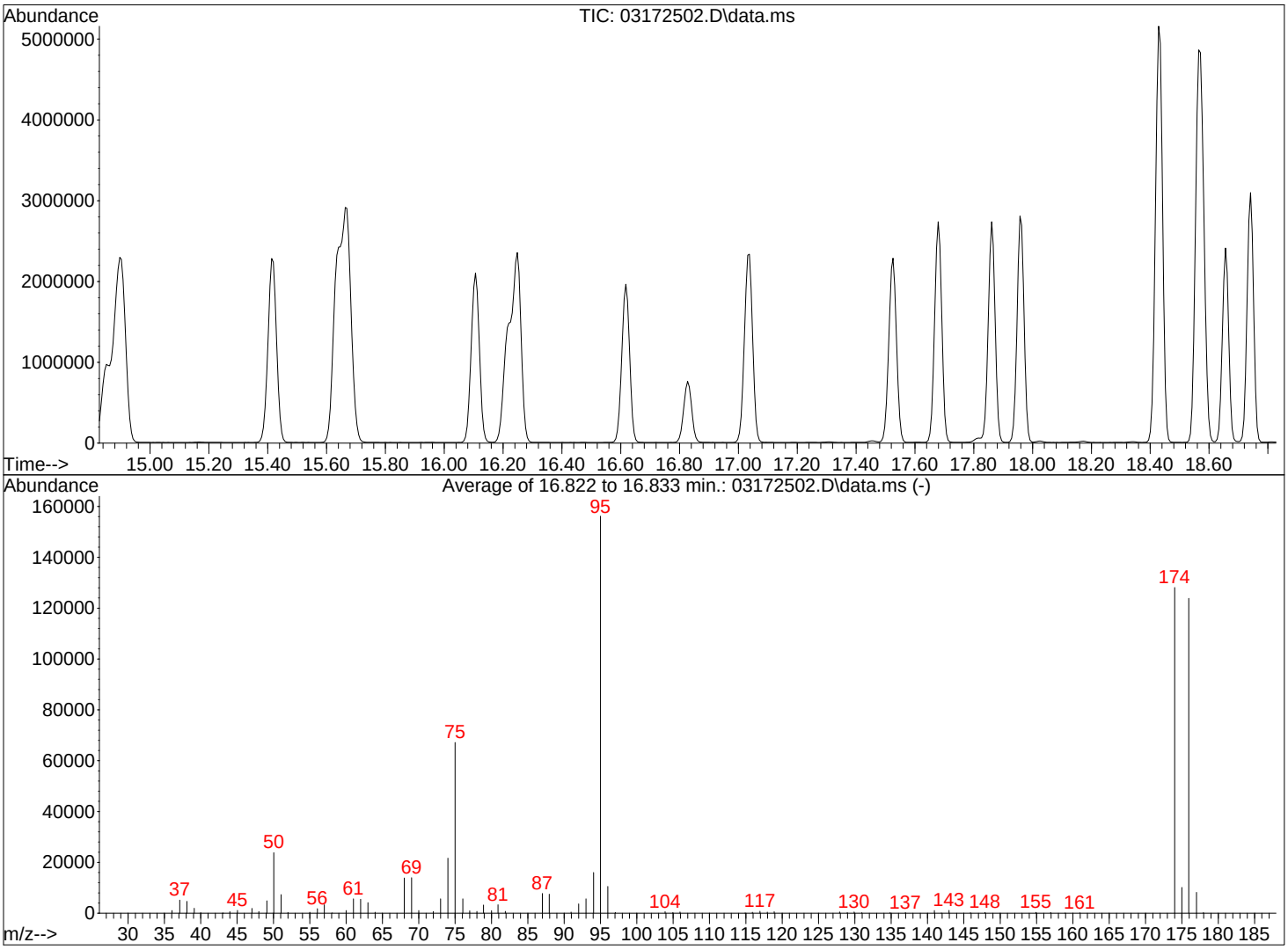
2/12/25

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.2	24048	PASS
75	95	30	66	39.8	72413	PASS
95	95	100	100	100.0	181952	PASS
96	95	5	9	6.7	12215	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.8	177899	PASS
175	174	4	9	7.5	13361	PASS
176	174	93	101	96.5	171627	PASS
177	176	5	9	6.6	11295	PASS

Data Path : I:\MS09\DATA\2025 03\17\
Data File : 03172502.D
Acq On : 17 Mar 2025 22:12
Operator : SC
Sample : CCV R09031725 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 18 06:13:16 2025



AutoFind: Scans 2455, 2456, 2457; Background Corrected with Scan 2447

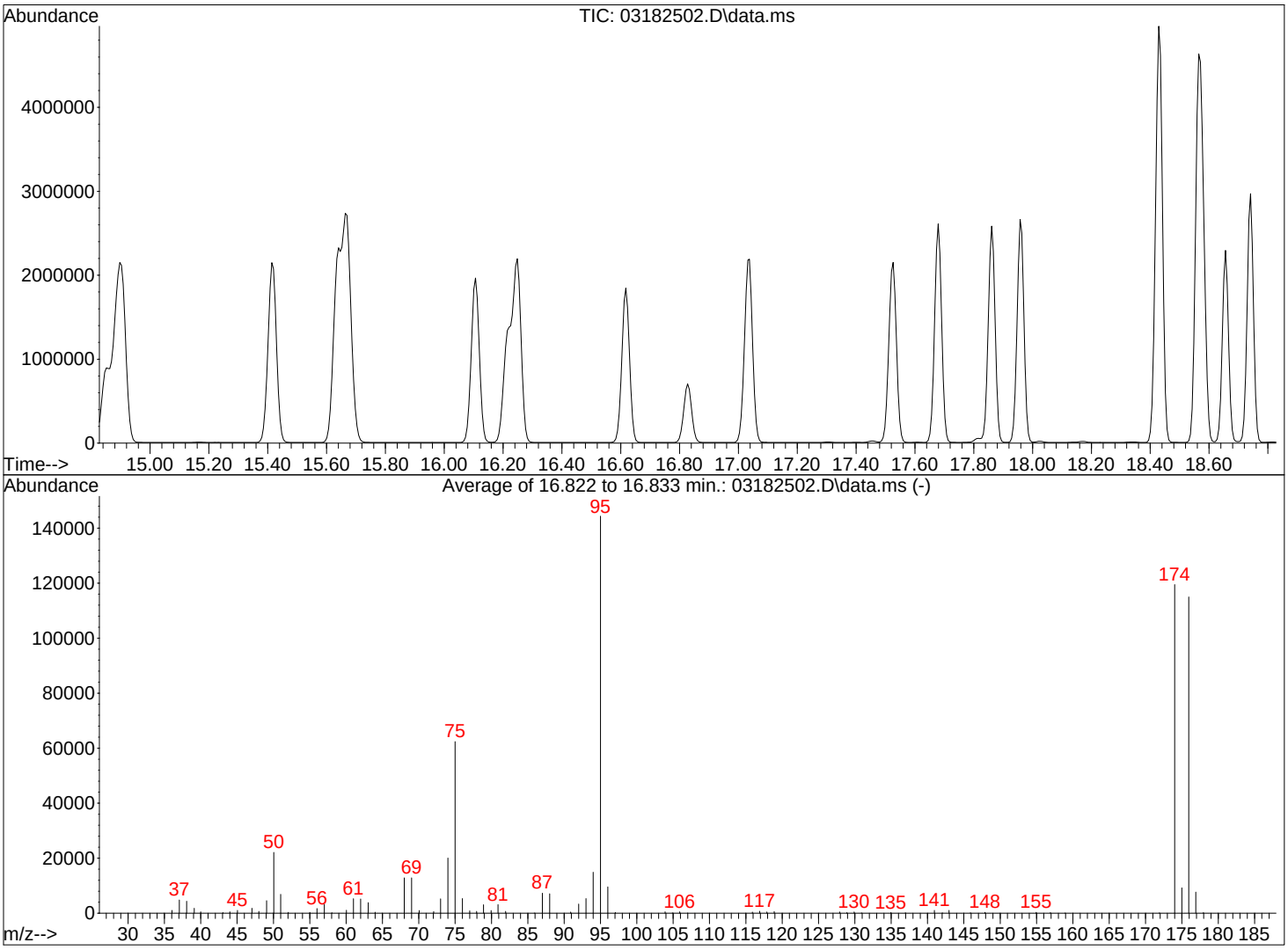
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.3	23835	PASS
75	95	30	66	43.0	67179	PASS
95	95	100	100	100.0	156181	PASS
96	95	5	9	6.7	10511	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	82.0	128128	PASS
175	174	4	9	7.9	10146	PASS
176	174	93	101	96.7	123869	PASS
177	176	5	9	6.6	8214	PASS

NOA 3/18/25

Data Path : I:\MS09\DATA\2025 03\18\
Data File : 03182502.D
Acq On : 18 Mar 2025 23:19
Operator : SC
Sample : CCV R09031825 25ng
Misc : S38-03052512/S38-03102509 (4/9)
ALS Vial : 2 Sample Multiplier: 1

Integration File: LSCINT.P

Method : I:\MS09\METHODS\R09030725.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Mar 18 06:13:16 2025



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	15.3	22109	PASS
75	95	30	66	43.2	62384	PASS
95	95	100	100	100.0	144363	PASS
96	95	5	9	6.6	9591	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	82.8	119512	PASS
175	174	4	9	7.7	9231	PASS
176	174	93	101	96.2	114995	PASS
177	176	5	9	6.7	7657	PASS

3/19/25

Injection Log

Directory: J:\MS09\DATA\2025_03\07\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/7/25 17:19	03072501.D	Blank (100mL)	S38-03052512	SC	2	
2	3/7/25 17:51	03072502.D	12.5ng TO-15 BFB STD	S38-03052512	SC	2	passed
3	3/7/25 18:23	03072503.D	0.1ng TO-15 ICAL STD	S38-03052512/S38-03072503 (4/6)	SC	5	
4	3/7/25 18:56	03072504.D	0.2ng TO-15 ICAL STD	S38-03052512/S38-03072503 (4/6)	SC	5	
5	3/7/25 19:28	03072505.D	0.5ng TO-15 ICAL STD	S38-03052512/S38-03072502 (4/6)	SC	6	
6	3/7/25 20:00	03072506.D	1.0ng TO-15 ICAL STD	S38-03052512/S38-03072502 (4/6)	SC	6	
7	3/7/25 20:32	03072507.D	5.0ng TO-15 ICAL STD	S38-03052512/S38-03072502 (4/6)	SC	6	
8	3/7/25 21:04	03072508.D	25ng TO-15 ICAL STD	S38-03052512/S38-03072501 (4/6)	SC	7	**R09030725.M**
9	3/7/25 21:36	03072509.D	50ng TO-15 ICAL STD	S38-03052512/S38-03072501 (4/6)	SC	7	
10	3/7/25 22:08	03072510.D	100ng TO-15 ICAL STD	S38-03052512/S38-03072501 (4/6)	SC	7	
11	3/7/25 22:40	03072511.D	Blank (100mL)	S38-03052512	SC	2	
12	3/7/25 23:12	03072512.D	ICV R09030725_25ng	S38-03052512/S38-02282501 (3/30)	SC	8	Passed
13	3/7/25 23:44	03072513.D	ICV R09030725_25ng	S38-03052512/S38-02282501 (3/30)	SC	8	not used
	ICAL R09030725.M passed for all compounds 0.1ng-100ng, except: vinyl acetate 1.0ng-500ng, 1,4-dioxane, styrene 0.2ng-100ng,						
	methyl methacrylate 04ng-200ng, trans-1,3-dichloropropene 0.5ng-100ng, butyl acetate 1.0ng-200ng, benzyl chloride 0.4ng-100ng						
					LH 3/8/25		
##							
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##							Passed
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Injection Log

Directory: J:\MS09\DATA\2025_02\11\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
26	2/11/25 19:32	02112526.D	Blank (100mL)	S37-01272501	SC	1	
27	2/11/25 20:04	02112527.D	12.5ng TO-15 Custom BFB	S37-01272501	SC	2	pass
28	2/11/25 20:36	02112528.D	0.4ng TO-15 Custom ICAL STD	S37-01272501/S37-02112505 (3/13)	SC	3	
29	2/11/25 21:08	02112529.D	1.0ng TO-15 Custom ICAL STD	S37-01272501/S37-02112505 (3/13)	SC	3	
30	2/11/25 21:40	02112530.D	2.5ng TO-15 Custom ICAL STD	S37-01272501/S37-02112505 (3/13)	SC	3	
31	2/11/25 22:12	02112531.D	5.0ng TO-15 Custom ICAL STD	S37-01272501/S37-02112505 (3/13)	SC	3	**C09021125.M**
32	2/11/25 22:44	02112532.D	25ng TO-15 Custom ICAL STD	S37-01272501/S37-02112504 (3/13)	SC	4	
33	2/11/25 23:16	02112533.D	50ng TO-15 Custom ICAL STD	S37-01272501/S37-02112504 (3/13)	SC	4	
34	2/11/25 23:48	02112534.D	100ng TO-15 Custom ICAL STD	S37-01272501/S37-02112504 (3/13)	SC	4	
35	2/12/25 0:20	02112535.D	Blank (100mL)	S37-01272501	SC	1	
36	2/12/25 0:52	02112536.D	ICV C09021125_25ng	S37-01272501/S37-02112503 (3/13)	SC	5	pass
37	2/12/25 1:24	02112537.D	ICV C09021125_25ng	S37-01272501/S37-02112503 (3/13)	SC	5	pass

2/12/25

Injection Log

Directory: I:\MS09\DATA\2025_03\17\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/17/25 21:40	03172501.D	Blank	S38-03052512	SC	1	
2	3/17/25 22:12	03172502.D	CCV R09031725_25ng	S38-03052512/S38-03102509 (4/9)	SC	2	Pass
3	3/17/25 22:44	03172503.D	CCV C09031725_25ng	S38-03052512/S38-03052507 (4/5)	SC	3	Pass
4	3/17/25 23:16	03172504.D	MB R09031725_1000mL	S38-03052512/AC00880	SC	2	Pass
5	3/17/25 23:48	03172505.D	LCS R09031725_25ng	S38-03052512/S38-03112504 (4/10)	SC	2	Pass
6	3/18/25 0:20	03172506.D	xLCSDx R09031725_25ng - rerun	S38-03052512/S38-03112504 (4/10)	SC	2	
7	3/18/25 6:40	03172507.D	LCSD R09031725_25ng	S38-03052512/S38-03112504 (4/10)	SC	2	Pass
8	3/18/25 9:22	03172508.D	P2500783-001Dil (50mL)	S38-03052512	SC	5	
9	3/18/25 9:54	03172509.D	P2500783-002 (400mL)	S38-03052512	SC	6	
10	3/18/25 10:25	03172510.D	P2500783-003 (400mL)	S38-03052512	SC	7	
11	3/18/25 10:57	03172511.D	P2500783-001 (400mL)	S38-03052512	SC	5	
12	3/18/25 11:30	03172512.D	P2500873-001 (1000mL)	S38-03052512	SC	8	
13	3/18/25 12:02	03172513.D	P2500873-002 (1000mL)	S38-03052512	SC	9	
14	3/18/25 12:35	03172514.D	P2500873-003 (1000mL)	S38-03052512	SC	10	
15	3/18/25 13:07	03172515.D	P2500873-004 (1000mL)	S38-03052512	SC	11	
16	3/18/25 13:40	03172516.D	P2500873-005 (1000mL)	S38-03052512	SC	12	
17	3/18/25 14:12	03172517.D	P2500873-005dup (1000mL)	S38-03052512	SC	12	Pass
18	3/18/25 15:15	03172518.D	P2500665-001 (400mL)	S38-03052512	SC	4	
19	3/18/25 15:48	03172519.D	P2500665-002 (400mL)	S38-03052512	SC	5	
20	3/18/25 16:20	03172520.D	P2500665-003 (400mL)	S38-03052512	SC	6	
21	3/18/25 16:52	03172521.D	P2500665-004 (20mL)	S38-03052512	SC	7	*need dil*
22	3/18/25 17:24	03172522.D	P2500665-005 (15mL)	S38-03052512	SC	8	*need dil*
23	3/18/25 17:57	03172523.D	P2500665-006 (15mL)	S38-03052512	SC	9	*need dil*
24	3/18/25 18:29	03172524.D	P2500665-007 (400mL)	S38-03052512	SC	10	
25	3/18/25 19:01	03172525.D	P2500665-008 (400mL)	S38-03052512	SC	11	
26	3/18/25 19:34	03172526.D	P2500665-002Dil (40mL)	S38-03052512	SC	5	
27	3/18/25 20:06	03172527.D	P2500665-003Dil (20mL)	S38-03052512	SC	6	
28	3/18/25 20:38	03172528.D	P2500876-001 (1000mL)	S38-03052512	SC	13	
29	3/18/25 21:10	03172529.D	P2500876-002 (1000mL)	S38-03052512	SC	14	
30	3/18/25 21:42	03172530.D	P2500876-003 (1000mL)	S38-03052512	SC	15	
31	3/18/25 22:15	03172531.D	P2500876-004 (1000mL)	S38-03052512	SC	16	

3/19/25

Injection Log

Directory: I:\MS09\DATA\2025_03\18\

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	3/18/25 22:47	03182501.D	Blank	S38-03052512	SC	1	
2	3/18/25 23:19	03182502.D	CCV R09031825_25ng	S38-03052512/S38-03102509 (4/9)	SC	2	Pass
3	3/18/25 23:51	03182503.D	CCV C09031825_25ng	S38-03052512/S38-03052507 (4/5)	SC	3	Pass
4	3/19/25 0:24	03182504.D	MB R09031825_1000mL	S38-03052512/AC00880	SC	2	Pass
5	3/19/25 0:56	03182505.D	LCS R09031825_25ng	S38-03052512/S38-03112504 (4/10)	SC	2	Pass
6	3/19/25 1:28	03182506.D	LCSD R09031825_25ng	S38-03052512/S38-03112504 (4/10)	SC	2	Pass
7	3/19/25 6:28	03182507.D	P2500665-004dil (15mL)	S38-03052512	SC	7	
8	3/19/25 8:00	03182508.D	P2500665-005dil (5.0mL)	S38-03052512	TZ	1	
9	3/19/25 8:32	03182509.D	P2500665-006dil (5.0mL)	S38-03052512	TZ	1	
10	3/19/25 9:15	03182510.D	P2500873-003 (1000mL)conf	S38-03052512	SC	12	
11	3/19/25 9:48	03182511.D	P2500876-004 (1000mL)	S38-03052512	SC	16	
12	3/19/25 10:37	03182512.D	P2500781-001 (10mL)	S38-03052512	SC	1	
13	3/19/25 11:09	03182513.D	P2500713-001 (4.0mL)	S38-03052512	SC	1	
14	3/19/25 11:42	03182514.D	P2500713-001Dil (1.0mL)	S38-03052512	SC	1	
15	3/19/25 12:14	03182515.D	P2500713-002 (4.0mL)	S38-03052512	SC	1	
16	3/19/25 12:46	03182516.D	P2500713-002Dil (1.0mL)	S38-03052512	SC	1	
17	3/19/25 13:40	03182517.D	STD maph R09031825_0.5ng	S38-03052512/S38-01222503 (3/23)	SC	3	test method
18	3/19/25 14:25	03182518.D	STD maph R09031825_25ng	S38-03052512/S38-03102509 (4/9)	SC	2	
19	3/19/25 14:57	03182519.D	Blank	S38-03052512	SC	1	
20	3/19/25 15:29	03182520.D	P2500736-001 (400mL)	S38-03052512	SC	4	
21	3/19/25 16:01	03182521.D	P2500736-002 (400mL)	S38-03052512	SC	5	
22	3/19/25 16:33	03182522.D	P2500736-003 (400mL)	S38-03052512	SC	6	
23	3/19/25 17:08	03182523.D	P2500736-004 (400mL)	S38-03052512	SC	7	
24	3/19/25 17:41	03182524.D	P2500736-005 (400mL)	S38-03052512	SC	8	
25	3/19/25 18:13	03182525.D	P2500736-006 (400mL)	S38-03052512	SC	9	
26	3/19/25 18:45	03182526.D	P2500736-007 (400mL)	S38-03052512	SC	10	
27	3/19/25 19:17	03182527.D	P2500736-008 (400mL)	S38-03052512	SC	11	
28	3/19/25 19:49	03182528.D	P2500736-009 (400mL)	S38-03052512	SC	12	
29	3/19/25 20:21	03182529.D	P2500736-010 (400mL)	S38-03052512	SC	13	*need dil*
30	3/19/25 20:54	03182530.D	P2500736-011 (400mL)	S38-03052512	SC	14	*need dil*
31	3/19/25 21:26	03182531.D	P2500736-012 (400mL)	S38-03052512	SC	15	
32	3/19/25 21:58	03182532.D	P2500736-013 (400mL)	S38-03052512	SC	16	
33	3/19/25 22:30	03182533.D	P2500736-014 (400mL)	S38-03052512	SC	4	

3/20/25

Injection Log

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	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment